



FCC RADIO TEST REPORT

FCC ID : Z8H89FT0058
Equipment : Wireless Access Point
Brand Name : Cambium Networks
Model Name : REG-XV3-8
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA
Manufacturer : Cambium Networks, Ltd.
Ashburton, TQ13 7UP, UK
Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 23, 2019, and testing was started from Sep. 26, 2019 and completed on Feb. 07, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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Appendix A. Test Results of AC Power-line Conducted Emissions

Appendix B. Test Results of DTS Bandwidth

Appendix C. Test Results of Maximum Conducted Output Power

Appendix D. Test Results of Power Spectral Density

Appendix E. Test Results of Emissions in Non-restricted Frequency Bands

Appendix F. Test Results of Emissions in Restricted Frequency Bands

Appendix G. Test Photos

Photographs of EUT v01



History of this test report

| Report No. | Version | Description | Issued Date |
|---------------|---------|-------------------------|---------------|
| FR912418-02AA | 01 | Initial issue of report | Feb. 28, 2020 |
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Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---------------|-----------------|---------------------------------------------|--------------------|--------|
| 1.1.2 | 15.203 | Antenna Requirement | PASS | - |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | PASS | - |
| 3.2 | 15.247(a) | DTS Bandwidth | PASS | - |
| 3.3 | 15.247(b) | Maximum Conducted Output Power | PASS | - |
| 3.4 | 15.247(e) | Power Spectral Density | PASS | - |
| 3.5 | 15.247(d) | Emissions in Non-restricted Frequency Bands | PASS | - |
| 3.6 | 15.247(d) | Emissions in Restricted Frequency Bands | PASS | - |

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen**Report Producer: Cindy Peng**



1 General Description

1.1 Information

1.1.1 RF General Information

<DBS mode>

| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Frequency (MHz) | Channel Number |
|-----------------------|-----------------------------------|---------------------|----------------|
| 2400-2483.5 | b, g, n (HT20), VHT20, ax (HEW20) | 2412-2462 | 1-11 [11] |
| 2400-2483.5 | n (HT40), VHT40, ax (HEW40) | 2422-2452 | 3-9 [7] |

| Band | Mode | BWch (MHz) | Nant |
|---------------|-------------------|------------|------|
| 2.4-2.4835GHz | 802.11b | 20 | 4TX |
| 2.4-2.4835GHz | 802.11g | 20 | 4TX |
| 2.4-2.4835GHz | 802.11n HT20 | 20 | 4TX |
| 2.4-2.4835GHz | 802.11n HT20-BF | 20 | 4TX |
| 2.4-2.4835GHz | VHT20 | 20 | 4TX |
| 2.4-2.4835GHz | VHT20-BF | 20 | 4TX |
| 2.4-2.4835GHz | 802.11ax HEW20 | 20 | 4TX |
| 2.4-2.4835GHz | 802.11ax HEW20-BF | 20 | 4TX |
| 2.4-2.4835GHz | 802.11n HT40 | 40 | 4TX |
| 2.4-2.4835GHz | 802.11n HT40-BF | 40 | 4TX |
| 2.4-2.4835GHz | VHT40 | 40 | 4TX |
| 2.4-2.4835GHz | VHT40-BF | 40 | 4TX |
| 2.4-2.4835GHz | 802.11ax HEW40 | 40 | 4TX |
| 2.4-2.4835GHz | 802.11ax HEW40-BF | 40 | 4TX |

Note:

- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



<Scan Radio>

| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Frequency (MHz) | Channel Number |
|-----------------------|-----------------------|---------------------|----------------|
| 2400-2483.5 | b, g, n (HT20), VHT20 | 2412-2462 | 1-11 [11] |
| 2400-2483.5 | n (HT40), VHT40 | 2422-2452 | 3-9 [7] |

| Band | Mode | BWch (MHz) | Nant |
|---------------|--------------|------------|------|
| 2.4-2.4835GHz | 802.11b | 20 | 1TX |
| 2.4-2.4835GHz | 802.11g | 20 | 1TX |
| 2.4-2.4835GHz | 802.11n HT20 | 20 | 1TX |
| 2.4-2.4835GHz | VHT20 | 20 | 1TX |
| 2.4-2.4835GHz | 802.11n HT40 | 40 | 1TX |
| 2.4-2.4835GHz | VHT40 | 40 | 1TX |

Note:

- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

For Antenna Gain:

| Radio | Ant. | Port | | Brand | Model Name | Type | Connector | Antenna Gain (dBi) | | | | Function | | | | | |
|-------|------|-------------|-------------|--------|-------------------|-------------------|-----------|--------------------|----------------|----------------|----------------|----------------------------------------|--|--|--|--|--|
| 1 | 1 | 1 | | ANGeei | 120G0000032 5A | PIFA | I-PEX | 5.13 | | | | WLAN 2.4GHz (DBS mode) | | | | | |
| | 2 | 2 | | ANGeei | 120G0000032 5A | PIFA | I-PEX | 5.13 | | | | | | | | | |
| | 3 | 3 | | ANGeei | 120G0000032 5A | PIFA | I-PEX | 5.13 | | | | | | | | | |
| | 4 | 4 | | ANGeei | 120G0000032 5A | PIFA | I-PEX | 5.13 | | | | | | | | | |
| 2 | Ant. | Port | | Brand | Model Name | Type | Connector | Antenna Gain (dBi) | | | | Function | | | | | |
| | | DBS mode | SBS mode | | | | | DBS mode | | SBS mode | | | | | | | |
| | | | | | | | | 5GHz Band 1 | 5GHz Band 4 | 5GHz Band 1 | 5GHz Band 4 | | | | | | |
| | 5 | 1 | 1 | ANGeei | 120G0000032 5A | PIFA | I-PEX | 6.72 | 6.70 | - | 6.70 | | | | | | |
| 3 | 6 | 2 | 2 | ANGeei | 120G0000032 5A | PIFA | I-PEX | 6.72 | 6.70 | - | 6.70 | WLAN 5GHz (DBS mode or SBS mode) | | | | | |
| | 7 | 3 | 3 | ANGeei | 120G0000032 5A | PIFA | I-PEX | 6.72 | 6.70 | - | 6.70 | | | | | | |
| | 8 | 4 | 4 | ANGeei | 120G0000032 5A | PIFA | I-PEX | 6.72 | 6.70 | - | 6.70 | | | | | | |
| | 9 | 5 | 1 | ANGeei | 120G0000032 5A | PIFA | I-PEX | 6.72 | 6.70 | 6.19 | - | | | | | | |
| 4 | Ant. | Port | | Brand | Model Name | Type | Connector | Antenna Gain (dBi) | | | | Function | | | | | |
| | | 1 | | | | | | 2.4GHz | | 5GHz | | | | | | | |
| | | 13 | 1 | | ANGeei | 120G0000032 5A | PIFA | I-PEX | 5.08 | | 6.27 | | | | | | |
| | | 14 | 1 | | WIESON | GT128V007S-001 | PIFA | I-PEX | 4.90 | | | | | | | | |



For Composite Gain:

| Radio | Ant. | Port | Composite Gain (dBi) | | Function |
|-------|------|------|----------------------|------------------|-----------------------------------|
| | | | Beamforming mode | | |
| 1 | 1~4 | 1~4 | 9.25 | | WLAN 2.4GHz (DBS mode) |
| Radio | Ant. | Port | Composite Gain (dBi) | | Function |
| | | | 5GHz Band 1 | 5GHz Band 4 | |
| | | | Beamforming mode | Beamforming mode | |
| 2+3 | 5~12 | 1~8 | 11.66 | 11.41 | WLAN 5GHz (DBS mode) |
| Radio | Ant. | Port | Composite Gain (dBi) | | Function |
| | | | Beamforming mode | | |
| 2 | 5~8 | 1~4 | 8.79 | | WLAN 5GHz Band 4 (SBS mode) |
| 3 | 9~12 | 1~4 | 9.58 | | WLAN 5GHz Band 1 (SBS mode) |

Note1: The above information was declared by manufacturer.

Note2: The EUT has fourteen antennas.

Note3: The non-beamforming mode follows $10\log(N)$ and beamforming mode follows composite gain for directional gain.

<DBS mode>

| Radio | Ant. | Port | WLAN 2.4GHz function |
|-------|------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 1~4 | 1~4 | IEEE 802.11b/g/n/VHT/ax mode (4TX/4RX): Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously. |
| Radio | Ant. | Port | WLAN 5GHz Band 1, 4 functions |
| 2 | 5~8 | 1~4 | IEEE 802.11a/n/ac/ax mode (8TX/8RX): Port 1, Port 2, Port 3, Port 4, Port 5, Port 6, Port 7 and Port 8 could transmit/receive simultaneously. |

<SBS mode>

| Radio | Ant. | Port | WLAN 5GHz High Band function |
|-------|------|------|------------------------------------------------------------------------------------------------------------------|
| 2 | 5~8 | 1~4 | IEEE 802.11a/n/ac/ax mode (4TX/4RX): Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously. |
| Radio | Ant. | Port | WLAN 5GHz Low Band function |
| 3 | 9~12 | 1~4 | IEEE 802.11a/n/ac/ax mode (4TX/4RX): Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously. |

<Scan Radio>

| Radio | Ant. | Port | WLAN 2.4GHz function |
|-------|------|------|--------------------------------------------------------------------------------------------|
| 4 | 13 | 1 | IEEE 802.11b/g/n/VHT mode (1TX/1RX): Only Port 1 can be used as transmitting/receiving. |
| Radio | Ant. | Port | WLAN 5GHz Band 1, 4 functions |
| 4 | 13 | 1 | IEEE 802.11a/n/ac mode (1TX/1RX): Only Port 1 can be used as transmitting/receiving. |

<Bluetooth Radio>

| Radio | Ant. | Port | Bluetooth function (1TX/1RX) |
|-------|------|------|----------------------------------------------------|
| 5 | 14 | 1 | Only Port 1 can be used as transmitting/receiving. |



1.1.3 Mode Test Duty Cycle

For non-beamforming mode:

<DBS mode>

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) ≥ 1/T |
|----------------|-------|---------|--------|---------------|
| 802.11b | 0.655 | 1.84 | 692.5u | 3k |
| 802.11g | 0.938 | 0.28 | 1.98m | 1k |
| 802.11ax HEW20 | 0.947 | 0.24 | 5.448m | 300 |
| 802.11ax HEW40 | 0.919 | 0.37 | 5.448m | 300 |

<Scan Radio>

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) ≥ 1/T |
|---------|-------|---------|----------------|----------------|
| 802.11b | 0.993 | 0.03 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11g | 0.967 | 0.15 | 2.033m | 1k |
| VHT20 | 0.963 | 0.16 | 1.893m | 1k |
| VHT40 | 0.923 | 0.35 | 932.5u | 3k |

For beamforming mode:

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) ≥ 1/T |
|-------------------|-------|---------|--------|---------------|
| 802.11ax HEW20-BF | 0.911 | 0.4 | 1.768m | 1k |
| 802.11ax HEW40-BF | 0.975 | 0.11 | 1.766m | 1k |

Note:

- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

| | | | |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------|--|
| EUT Power Type | From power adapter or PoE | | |
| Beamforming Function | <input checked="" type="checkbox"/> With beamforming | <input type="checkbox"/> Without beamforming | |
| The product has beamforming function for 11n/VHT/11ax in 2.4GHz and 11n/11ac/11ax in 5GHz. | | | |
| Function | <input checked="" type="checkbox"/> Point-to-multipoint | <input type="checkbox"/> Point-to-point | |
| Test Software Version | For non-beamforming mode: QSPR For beamforming mode: Telnet | | |

Note: The above information was declared by manufacturer.



1.2 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 558074 D01 v05r02
- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

| Testing Location | | | | |
|-------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------|--|--|
| <input type="checkbox"/> | HWA YA | ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973 | | |
| <input checked="" type="checkbox"/> | JHUBEI | ADD : 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 Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
|---------------------------------|---------------|---------------|----------------------|-----------------------------|
| RF Conducted | TH01-CB | Owen Hsu | 23.6~24.9°C / 55~58% | Oct. 22, 2019~Feb. 07, 2020 |
| Radiated below 1GHz | 03CH05-CB | KJ Huang | 23.7~25.5°C / 60~63% | Sep. 26, 2019~Oct. 24, 2019 |
| Radiated above 1GHz | 03CH06-CB | Eason Chen | 23~24.8°C / 50~55% | Oct. 14, 2019~Jan. 16, 2020 |
| AC Conduction for mode 1~mode 3 | CO01-CB | Peter Wu | 24~25°C / 60~62% | Dec. 02, 2019 |
| AC Conduction for mode 4~mode 6 | CO01-CB | Max Lin | 24~25°C / 60~62% | Dec. 02, 2019 |

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

| Test Items | Uncertainty | Remark |
|--------------------------------------|-------------|--------------------------|
| Conducted Emission (150kHz ~ 30MHz) | 2.0 dB | Confidence levels of 95% |
| Radiated Emission (30MHz ~ 1,000MHz) | 4.3 dB | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz) | 4.3 dB | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz) | 5.1 dB | Confidence levels of 95% |
| Conducted Emission | 2.4 dB | Confidence levels of 95% |
| Output Power Measurement | 1.5 dB | Confidence levels of 95% |
| Power Density Measurement | 2.4 dB | Confidence levels of 95% |
| Bandwidth Measurement | 2% | Confidence levels of 95% |



2 Test Configuration of EUT

2.1 Test Channel Mode

For non-beamforming mode:

<DBS mode>

| Mode | Power Setting |
|--------------------------------|---------------|
| 802.11b_Nss1,(1Mbps)_4TX | - |
| 2412MHz | 17 |
| 2437MHz | 15.5 |
| 2462MHz | 14.5 |
| 802.11g_Nss1,(6Mbps)_4TX | - |
| 2412MHz | 17 |
| 2417MHz | 20.5 |
| 2437MHz | 22.5 |
| 2457MHz | 19 |
| 2462MHz | 16.5 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | - |
| 2412MHz | 16 |
| 2417MHz | 18.5 |
| 2437MHz | 21 |
| 2457MHz | 18 |
| 2462MHz | 15.5 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | - |
| 2422MHz | 15 |
| 2427MHz | 15.5 |
| 2437MHz | 17 |
| 2447MHz | 15.5 |
| 2452MHz | 15.5 |



<Scan Radio>

| Mode | Power Setting |
|--------------------------|---------------|
| 802.11b_Nss1,(1Mbps)_1TX | - |
| 2412MHz | 23 |
| 2437MHz | 23 |
| 2462MHz | 21.5 |
| 802.11g_Nss1,(6Mbps)_1TX | - |
| 2412MHz | 20 |
| 2417MHz | 23.5 |
| 2437MHz | 30 |
| 2457MHz | 26 |
| 2462MHz | 23.5 |
| VHT20_Nss1,(MCS0)_1TX | - |
| 2412MHz | 20 |
| 2417MHz | 24 |
| 2437MHz | 30 |
| 2457MHz | 26 |
| 2462MHz | 23 |
| VHT40_Nss1,(MCS0)_1TX | - |
| 2422MHz | 15 |
| 2427MHz | 19.5 |
| 2437MHz | 20.5 |
| 2447MHz | 21.5 |
| 2452MHz | 18.5 |

For beamforming mode:

| Mode | Power Setting |
|-----------------------------------|---------------|
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | - |
| 2412MHz | 22 |
| 2437MHz | 24 |
| 2462MHz | 21 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | - |
| 2422MHz | 20 |
| 2437MHz | 21 |
| 2452MHz | 19 |

Note:

- There are two modes of EUT for 11n/VHT/11ax in 2.4GHz and 11n/11ac/11ax in 5GHz. One is beamforming mode, and the other is non-beamforming mode. Both beamforming mode and non-beamforming mode were selected and recorded in this report.



2.2 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests | |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Tests Item | AC power-line conducted emissions |
| Condition | AC power-line conducted measurement for line and neutral |
| Operating Mode | Normal Link |
| 1 | Normal Link with Adapter-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio |
| 2 | Normal Link with Adapter-DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band)+ Scan Radio (5GHz) + Bluetooth Radio |
| Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode. | |
| 3 | Normal Link with PoE-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio |
| 4 | Normal Link with Adapter-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (2.4GHz) + Bluetooth Radio |
| 5 | Normal Link with Adapter-DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band)+ Scan Radio (2.4GHz) + Bluetooth Radio |
| Mode 5 has been evaluated to be the worst case among Mode 4~5, thus measurement for Mode 6 will follow this same test mode. | |
| 6 | Normal Link with PoE- DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band) + Scan Radio (2.4GHz) + Bluetooth Radio |
| For operating mode 1 is the worst case and it was record in this test report. | |

| The Worst Case Mode for Following Conformance Tests | |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Tests Item | DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands |
| Test Condition | Conducted measurement at transmit chains. |
| Operating Mode | |
| 1 | <u>For non-beamforming mode:</u> DBS mode |
| 2 | <u>For non-beamforming mode:</u> Scan Radio |
| 3 | <u>For beamforming mode:</u> DBS mode |



| The Worst Case Mode for Following Conformance Tests | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tests Item | Emissions in Restricted Frequency Bands |
| Test Condition | Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type. |
| Operating Mode < 1GHz | Normal Link |
| 1 | Normal Link with Adapter-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio-EUT in Z axis |
| 2 | Normal Link with Adapter-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio-EUT in Y axis |
| Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode. | |
| 3 | Normal Link with Adapter-DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band)+ Scan Radio (5GHz) + Bluetooth Radio-EUT in Y axis |
| Mode 2 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode. | |
| 4 | Normal Link with PoE-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio-EUT in Y axis |
| 5 | Normal Link with Adapter-DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio-EUT in Y axis |
| 6 | Normal Link with Adapter-DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band)+ Scan Radio (2.4GHz) + Bluetooth Radio -EUT in Y axis |
| Mode 6 has been evaluated to be the worst case among Mode 5~6, thus measurement for Mode 7 will follow this same test mode. | |
| 7 | Normal Link with PoE-DBS Mode (2.4GHz) + SBS Mode (5GHz low band) + SBS Mode (5GHz high band)+ Scan Radio (2.4GHz) + Bluetooth Radio -EUT in Y axis |
| For operating mode 2 is the worst case and it was record in this test report. | |
| Operating Mode > 1GHz | CTX |
| The EUT was performed at Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration. | |
| 1 | For non-beamforming mode: EUT Y axis - DBS mode |
| 2 | For non-beamforming mode: EUT Y axis - Scan Radio |
| 3 | For beamforming mode: EUT Y axis - DBS mode |



| The Worst Case Mode for Following Conformance Tests | |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Tests Item | Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation |
| Operating Mode | |
| 1 | DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (2.4GHz) + Bluetooth Radio |
| 2 | DBS Mode (2.4GHz) + DBS Mode (5GHz) + Scan Radio (5GHz) + Bluetooth Radio |
| 3 | SBS Mode (5GHz low band) + SBS Mode (5GHz high band) + DBS Mode (2.4GHz) + Scan Radio (2.4GHz) + Bluetooth Radio |
| 4 | SBS Mode (5GHz low band) + SBS Mode (5GHz high band) + DBS Mode (2.4GHz) + Scan Radio (5GHz) + Bluetooth Radio |

Refer to Sporton Test Report No.: FA912418-02 for Co-location RF Exposure Evaluation.

Note: For EUT + PoE, the PoE is for measurement only, would not be marketed.

| Equipment | Brand Name | Model Name | FCC ID |
|-----------|------------|------------|--------|
| PoE | Cambium | P060V04 | N/A |

2.3 EUT Operation during Test

For CTX Mode:

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by Wireless Access Point and transmit duty cycle no less than 98%.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

| Accessories | | | | | |
|-------------|---------------------------------|------------|-------------|-----------------------------------------------------------|---------------------------------------|
| No. | Equipment Name | Brand Name | Model Name | Rating | Remark |
| 1 | Adapter | CWT | KPL-040F-VI | INPUT: 100-240V, 50/60Hz, 1.7A OUTPUT: 12V, 3.33A, 40W | With the cable: Non-shielded, 1.3m |
| No. | Others | | | | |
| 2 | Wall-mounted rack*1 | | | | |
| 3 | Power cable*1: Non-shielded, 2m | | | | |



2.5 Support Equipment

For AC Conduction:

| Support Equipment | | | | |
|-------------------|---------------|------------|--------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| A | Flash disk3.0 | Transcend | JetFlash-700 | N/A |
| B | 5G LAN PC | DELL | T3400 | N/A |
| C | 2.4G NB | DELL | E6430 | N/A |
| D | 5G NB | DELL | E6430 | N/A |
| E | 1G LAN NB | DELL | E6430 | N/A |
| G | Scan Radio NB | DELL | E6430 | N/A |

For Radiated (below 1GHz):

| Support Equipment | | | | |
|-------------------|---------------|------------|--------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| A | Flash disk3.0 | Transcend | JetFlash-700 | N/A |
| B | Notebook | DELL | E4300 | N/A |
| C | Notebook | DELL | E4300 | N/A |
| D | Notebook | DELL | E4300 | N/A |
| E | Notebook | DELL | E4300 | N/A |
| F | PC | DELL | OPTIPLEX 380 | N/A |

For Radiated (above 1GHz) and RF Conducted:

For non-beamforming mode:

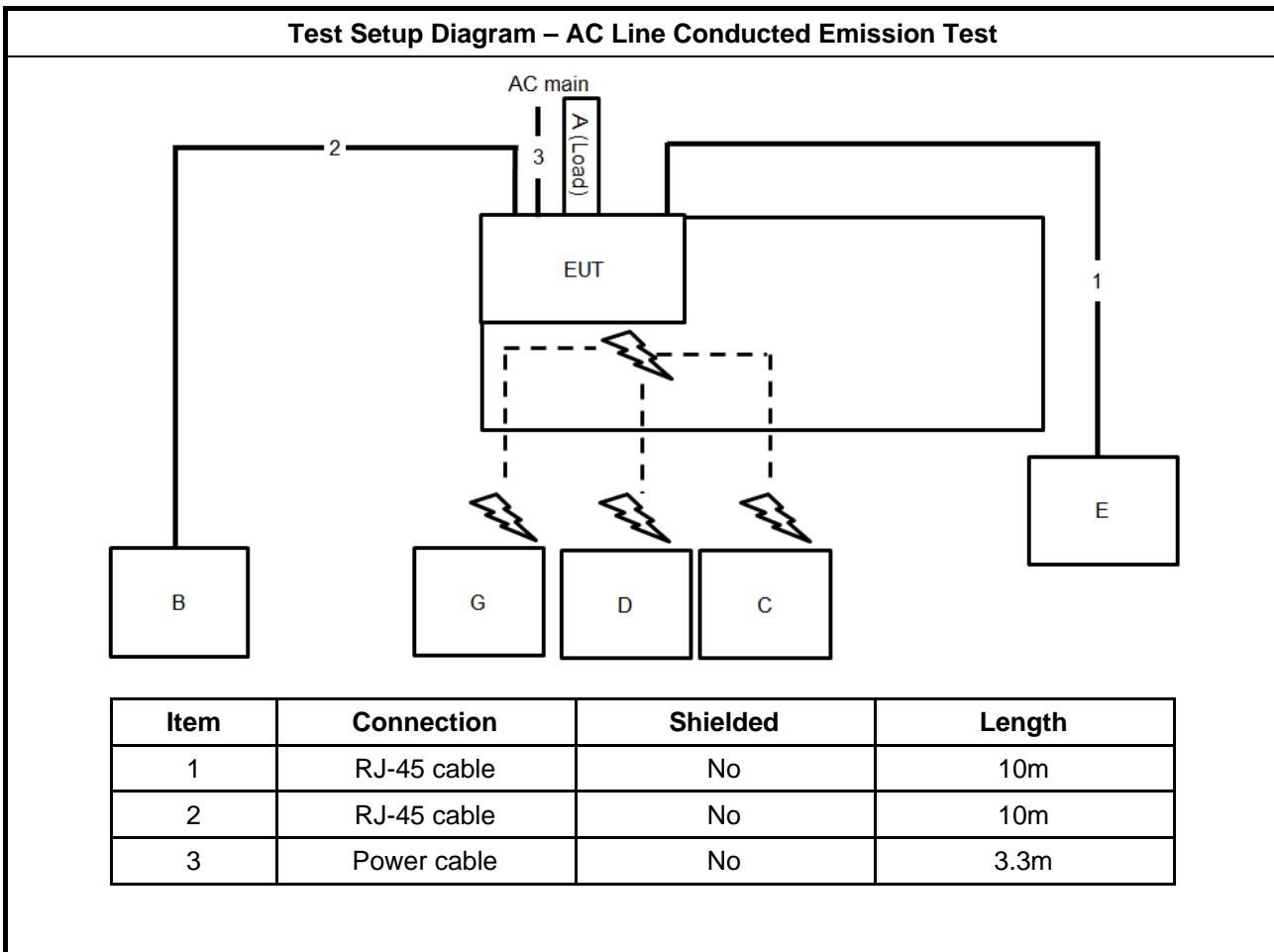
| Support Equipment | | | | |
|-------------------|-----------|------------|------------|--------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| A | NB | DELL | E4300 | N/A |

For beamforming mode:

| Support Equipment | | | | |
|-------------------|--------------------------------|------------------|------------|-------------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| A | NB | DELL | E4300 | N/A |
| B | NB | DELL | E4300 | N/A |
| C | Wireless Access Point (Client) | Cambium Networks | REG-XV3-8 | Z8H89FT0058 |

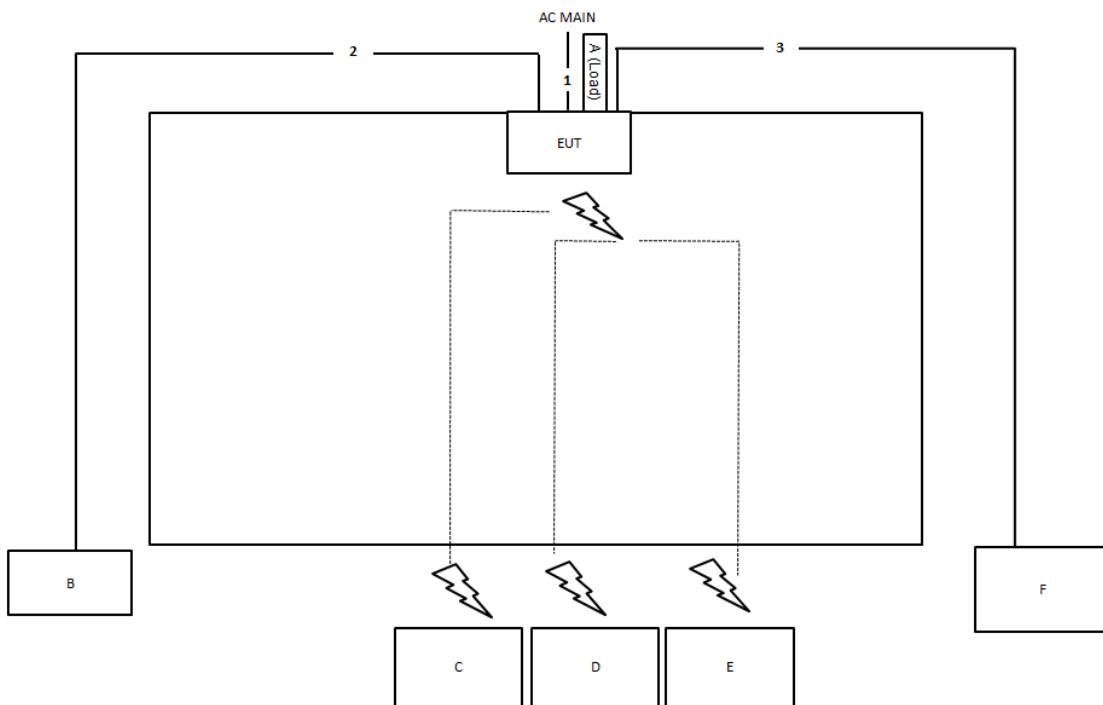


2.6 Test Setup Diagram

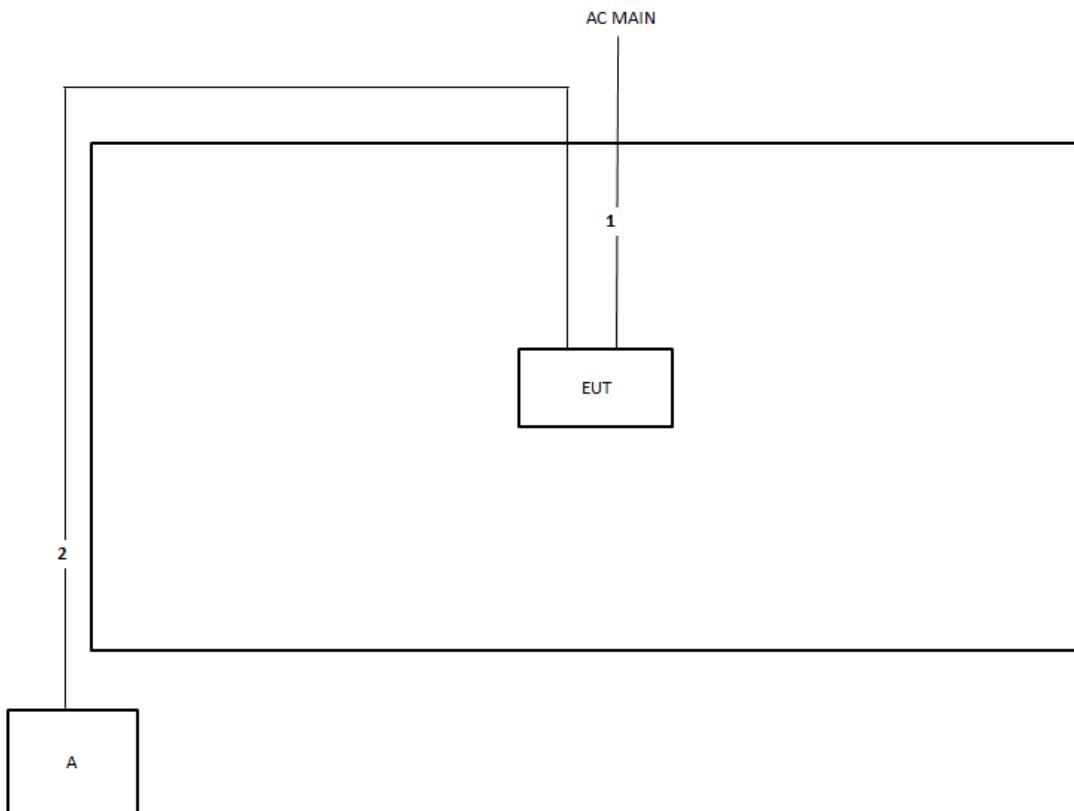




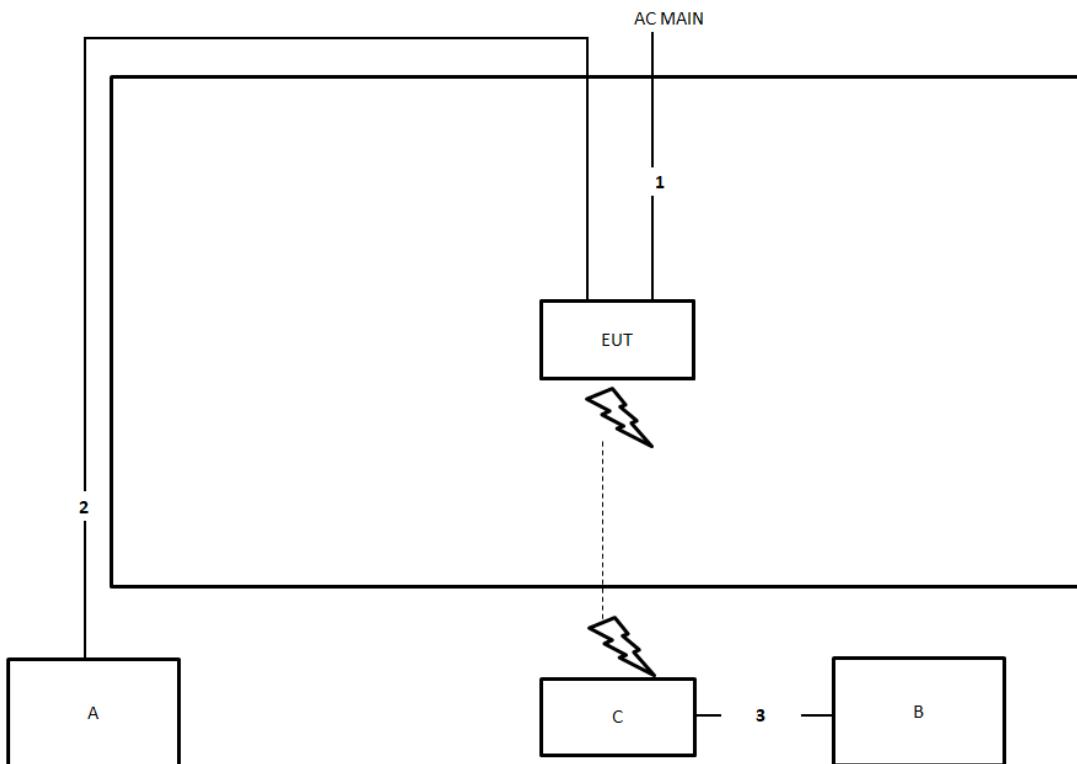
Test Setup Diagram - Radiated Test < 1GHz



| Item | Connection | Shielded | Length |
|------|-------------|----------|--------|
| 1 | Power cable | No | 3.3m |
| 2 | RJ-45 cable | No | 10m |
| 3 | RJ-45 cable | No | 10m |

**Test Setup Diagram - Radiated Test > 1GHz**For non-beamforming mode:

| Item | Connection | Shielded | Length |
|------|-------------|----------|--------|
| 1 | Power cable | No | 3.3m |
| 2 | RJ-45 cable | No | 10m |

**Test Setup Diagram - Radiated Test > 1GHz**For beamforming mode:

| Item | Connection | Shielded | Length |
|------|-------------|----------|--------|
| 1 | Power cable | No | 3.3m |
| 2 | RJ-45 cable | No | 10m |
| 3 | RJ-45 cable | No | 1.5m |



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

| AC Power-line Conducted Emissions Limit | | |
|-----------------------------------------|------------|-----------|
| Frequency Emission (MHz) | Quasi-Peak | Average |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

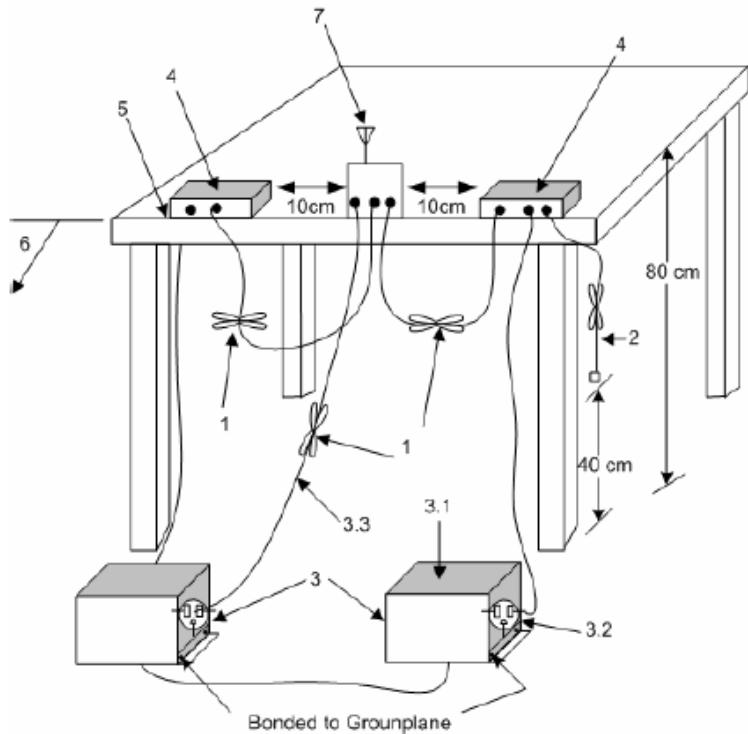
3.1.3 Test Procedures

| Test Method |
|------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. |



3.1.4 Test Setup

AC Power-line Conducted Emissions



- 1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
- 2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
- 3.1—All other equipment powered from additional LISN(s).
- 3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
- 3.3—LISN at least 80 cm from nearest part of EUT chassis.
- 4—Non-EUT components of EUT system being tested.
- 5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
- 6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
- 7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

| 6dB Bandwidth Limit |
|-----------------------------------------------------|
| Systems using digital modulation techniques: |
| ▪ 6 dB bandwidth \geq 500 kHz. |

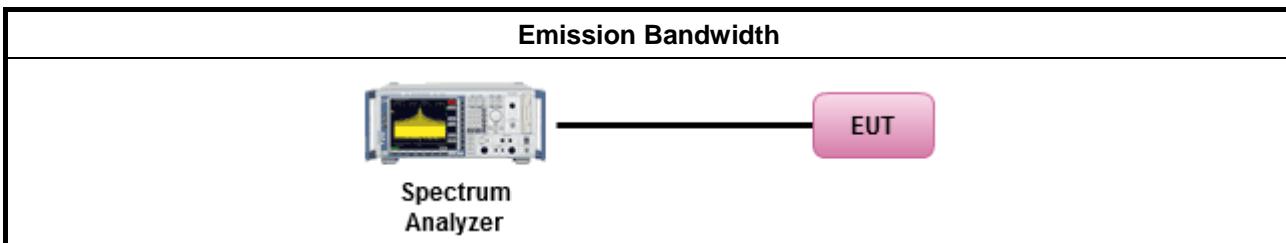
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

| Test Method |
|-----------------------------------------------------------------------------------------------------------------------------------------|
| ▪ For the emission bandwidth shall be measured using one of the options below: |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement. |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement. |
| <input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing. |

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

| Maximum Conducted Output Power Limit | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none">▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W) |
| | <ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm |
| | <ul style="list-style-type: none">▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm |
| | <ul style="list-style-type: none">▪ Smart antenna system (SAS):<ul style="list-style-type: none">- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8dB$ dBm |

P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm,

G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

| Test Method | |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none">▪ Maximum Peak Conducted Output Power |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW \geq EBW method). |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter). |
| | <ul style="list-style-type: none">▪ Maximum Conducted Output Power |
| [duty cycle \geq 98% or external video / power trigger] | |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1. |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative) |
| duty cycle $<$ 98% and average over on/off periods with duty factor | |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2. |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative) |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3 |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative) |
| Measurement using a power meter (PM) | |
| <input type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter). |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter). |



- For conducted measurement.

- | | |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

| Power Spectral Density Limit |
|--------------------------------------------------|
| ▪ Power Spectral Density (PSD) \leq 8 dBm/3kHz |

3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

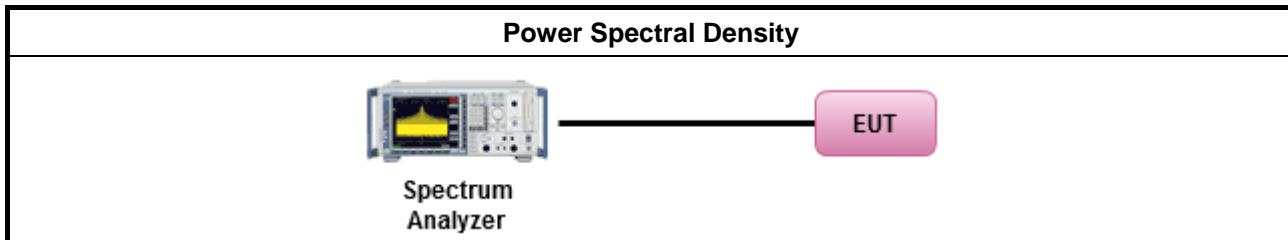
3.4.3 Test Procedures

| Test Method | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option). | | | |
| <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD. [duty cycle \geq 98% or external video / power trigger] | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1. | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2. | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPSD-3. | | | |
| duty cycle $<$ 98% and average over on/off periods with duty factor | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A. (alternative). | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A. (alternative) | | | |
| <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A. (alternative) | | | |
| ▪ For conducted measurement. | | | |
| <table border="1"><tr><td>▪ If The EUT supports multiple transmit chains using options given below:</td></tr><tr><td><input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.</td></tr><tr><td><input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,</td></tr></table> | ▪ If The EUT supports multiple transmit chains using options given below: | <input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace. | <input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits, |
| ▪ If The EUT supports multiple transmit chains using options given below: | | | |
| <input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace. | | | |
| <input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits, | | | |



- Option 3: Measure and add $10 \log(N)$ dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D



3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

| Un-restricted Band Emissions Limit | |
|------------------------------------|-------------|
| RF output power procedure | Limit (dBc) |
| Peak output power procedure | 20 |
| Average output power procedure | 30 |

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

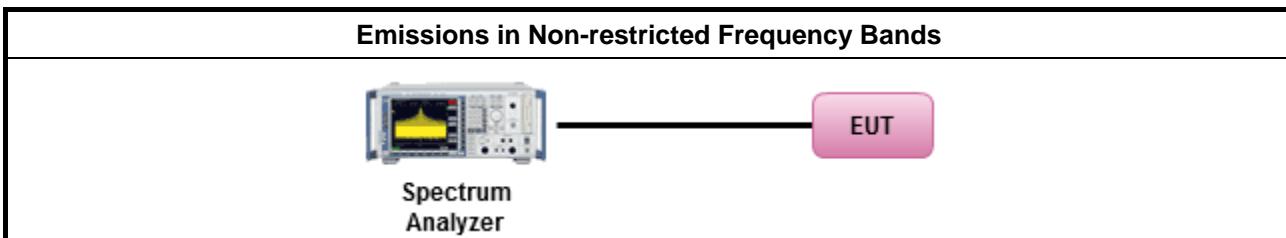
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

| Test Method |
|-----------------------------------------------------------------------------------------|
| ▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands. |

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E



3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

| Restricted Band Emissions Limit | | | |
|---------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz) | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

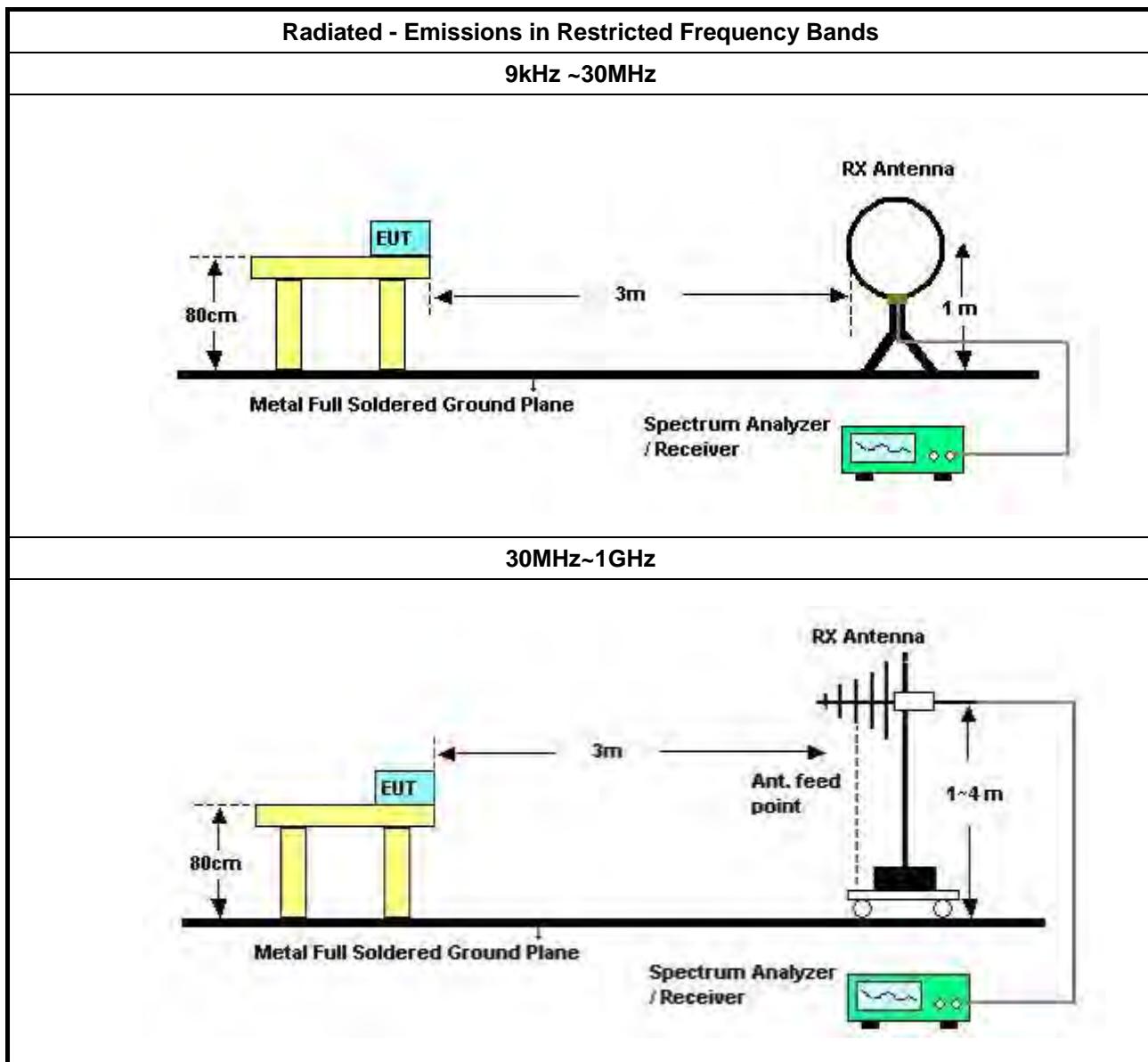


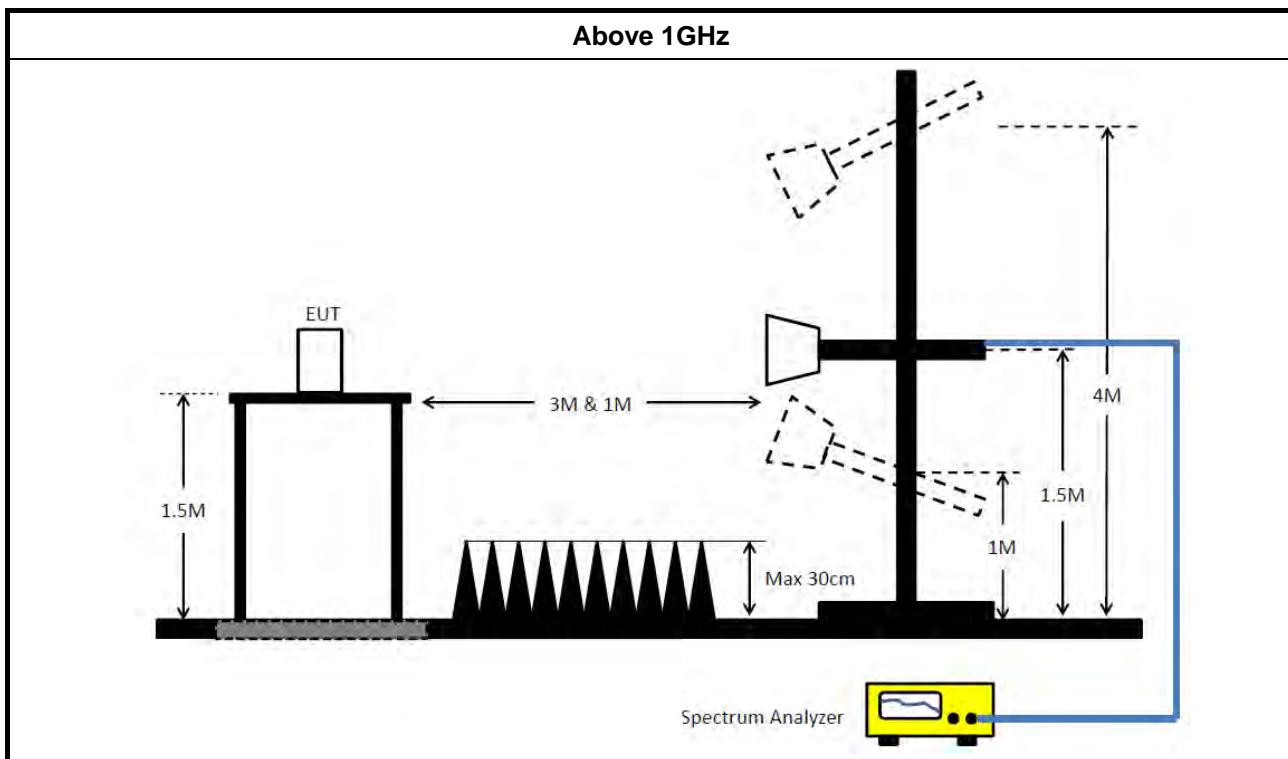
3.6.3 Test Procedures

| Test Method | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. | |
| ▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. | |
| ▪ For the transmitter unwanted emissions shall be measured using following options below: | |
| | ▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands. |
| | <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle \geq 98%). |
| | <input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor). |
| | <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW \geq 1/T). |
| | <input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW \geq 1/T, where T is pulse time. |
| | <input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions. |
| | <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit. |
| ▪ For the transmitter band-edge emissions shall be measured using following options below: | |
| | ▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below. |
| | ▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements. |
| | ▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz). |
| | ▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add $10 \log(N)$ dB |
| | ▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred. |



3.6.4 Test Setup





3.6.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|-----------------------------------|---------------|--------------------|------------------|------------------|------------------|----------------------|-----------------------|
| EMI Receiver | Agilent | N9038A | My52260123 | 9kHz ~ 8.45GHz | Jan. 28, 2019 | Jan. 29, 2020 | Conduction (CO01-CB) |
| LISN | F.C.C. | FCC-LISN-5 0-16-2 | 04083 | 150kHz ~ 100MHz | Dec. 24, 2018 | Dec. 23, 2019 | Conduction (CO01-CB) |
| LISN | Schwarzbeck | NSLK 8127 | 8127647 | 9kHz ~ 30MHz | Jan. 11, 2019 | Jan. 10, 2020 | Conduction (CO01-CB) |
| COND Cable | Woken | Cable | Low cable-CO01 | 9kHz ~ 30MHz | May 21, 2019 | May 20, 2020 | Conduction (CO01-CB) |
| Software | Audix | E3 | 6.120210n | - | N.C.R. | N.C.R. | Conduction (CO01-CB) |
| Loop Antenna | Teseq | HLA 6120 | 24155 | 9kHz - 30 MHz | Mar. 29, 2019 | Mar. 28, 2020 | Radiation (03CH05-CB) |
| Bilog Antenna with 6dB Attenuator | TESE & EMC | CBL 6112D & N-6-06 | 35236 & AT-N0610 | 30MHz ~ 2GHz | Mar. 28, 2019 | Mar. 27, 2020 | Radiation (03CH05-CB) |
| Pre-Amplifier | EMCI | EMC330N | 980331 | 20MHz ~ 3GHz | May 01, 2019 | Apr. 30, 2020 | Radiation (03CH05-CB) |
| Spectrum Analyzer | R&S | FSP40 | 100304 | 9kHz ~ 40GHz | Aug. 15, 2019 | Aug. 14, 2020 | Radiation (03CH05-CB) |
| EMI Test Receiver | R&S | ESCS | 826547/017 | 9kHz ~ 2.75GHz | May 15, 2019 | May 14, 2020 | Radiation (03CH05-CB) |
| RF Cable-low | Woken | RG402 | LOW Cable-04+23 | 30MHz~1GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH05-CB) |
| RF Cable-low | Woken | RG402 | LOW Cable-04+23 | 30MHz~1GHz | Oct. 07, 2019 | Oct. 06, 2020 | Radiation (03CH05-CB) |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 9120D-1292 | 1GHz~18GHz | Jul. 17, 2019 | Jul. 16, 2020 | Radiation (03CH06-CB) |
| Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170507 | 15GHz ~ 40GHz | Jun. 12, 2019 | Jun. 11, 2020 | Radiation (03CH06-CB) |
| Pre-Amplifier | Agilent | 83017A | MY53270064 | 0.5GHz ~ 26.5GHz | May 08, 2019 | May 07, 2020 | Radiation (03CH06-CB) |
| Pre-Amplifier | MITEQ | TTA1840-35-HG | 1864479 | 18GHz ~ 40GHz | Jul. 03, 2019 | Jul. 02, 2020 | Radiation (03CH06-CB) |
| Spectrum analyzer | R&S | FSP40 | 100080 | 9kHz~40GHz | Oct. 03, 2018 | Oct. 02, 2019 | Radiation (03CH06-CB) |
| Spectrum analyzer | R&S | FSP40 | 100080 | 9kHz~40GHz | Oct. 21, 2019 | Oct. 20, 2020 | Radiation (03CH06-CB) |
| RF Cable-high | HUBER+SUHN ER | RG402 | High Cable-05 | 1GHz~18GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH06-CB) |
| RF Cable-high | HUBER+SUHN ER | RG402 | High Cable-05 | 1GHz~18GHz | Oct. 07, 2019 | Oct. 06, 2020 | Radiation (03CH06-CB) |
| RF Cable-high | HUBER+SUHN ER | RG402 | High Cable-05+24 | 1GHz~18GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH06-CB) |
| RF Cable-high | HUBER+SUHN ER | RG402 | High Cable-05+24 | 1GHz~18GHz | Oct. 07, 2019 | Oct. 06, 2020 | Radiation (03CH06-CB) |

**FCC RADIO TEST REPORT**

Report No. : FR912418-02AA

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|-------------------|--------------|-----------|------------------|------------------|------------------|----------------------|-----------------------|
| RF Cable-high | Woken | RG402 | High Cable-40G#1 | 18GHz ~ 40 GHz | Jul. 24, 2019 | Jul. 23, 2020 | Radiation (03CH06-CB) |
| RF Cable-high | Woken | RG402 | High Cable-40G#2 | 18GHz ~ 40 GHz | Jul. 24, 2019 | Jul. 23, 2020 | Radiation (03CH06-CB) |
| Spectrum analyzer | R&S | FSV40 | 100979 | 9kHz~40GHz | Feb. 25, 2019 | Feb. 24, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-06 | 1 GHz – 26.5 GHz | Oct. 07, 2019 | Oct. 06, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-07 | 1 GHz – 26.5 GHz | Oct. 07, 2019 | Oct. 06, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-08 | 1 GHz – 26.5 GHz | Oct. 07, 2019 | Oct. 06, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-09 | 1 GHz – 26.5 GHz | Oct. 07, 2019 | Oct. 06, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz – 26.5 GHz | Oct. 07, 2019 | Oct. 06, 2020 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-28 | 1 GHz – 26.5 GHz | Nov. 19, 2018 | Nov. 18, 2019 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-28 | 1 GHz – 26.5 GHz | Nov. 18, 2019 | Nov. 17, 2020 | Conducted (TH01-CB) |
| Power Sensor | Anritsu | MA2411B | 1126203 | 300MHz~40GHz | Sep. 11, 2019 | Sep. 10, 2020 | Conducted (TH01-CB) |
| Power Meter | Anritsu | ML2495A | 1210004 | 300MHz~40GHz | Sep. 11, 2019 | Sep. 10, 2020 | Conducted (TH01-CB) |

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

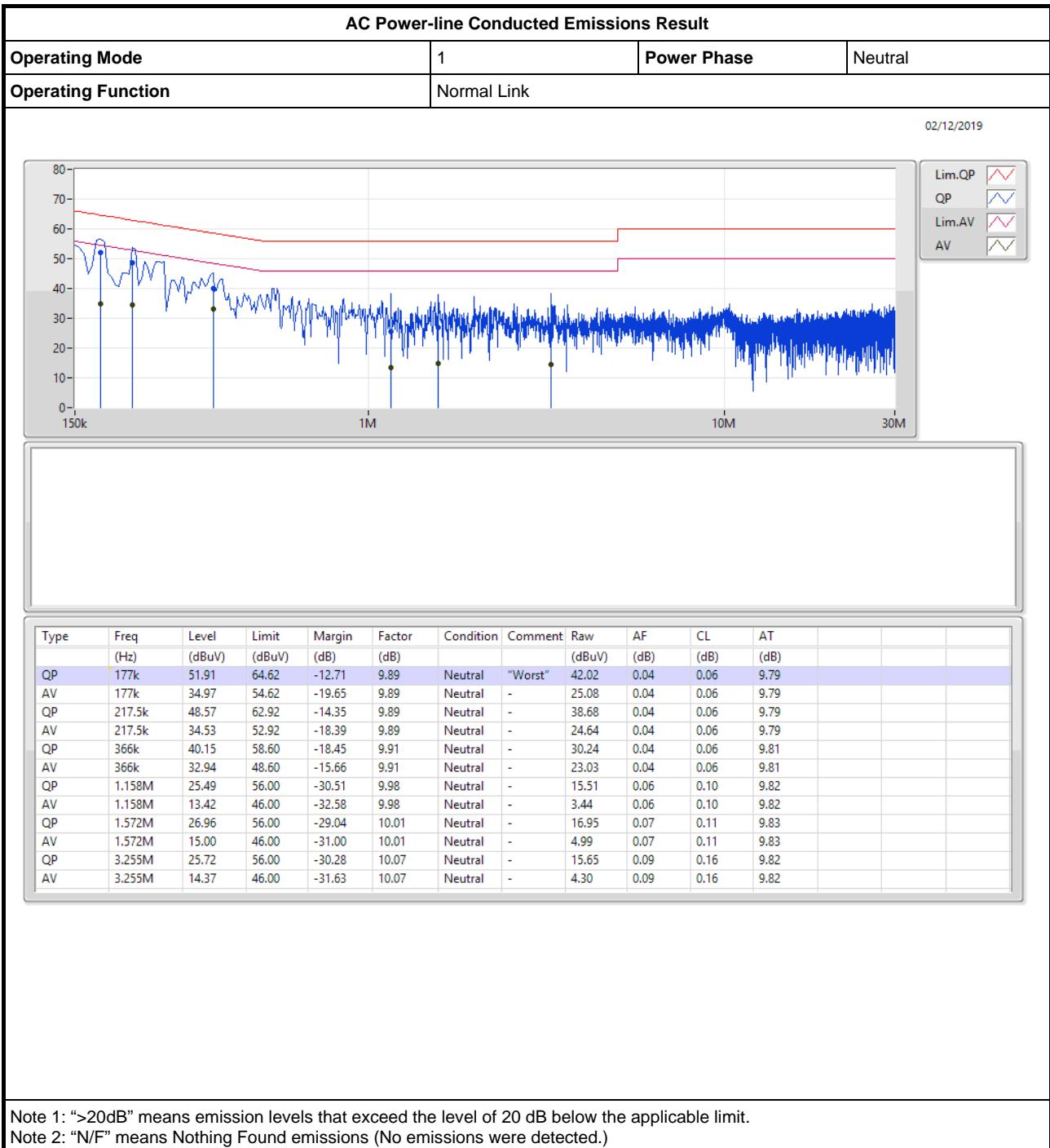
N.C.R. means Non-Calibration required.



AC Power-line Conducted Emissions Result

Appendix A







For non-beamforming mode:

<DBS mode>

Summary

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|--------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4-2.4835GHz | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_4TX | 8.525M | 13.118M | 13M1G1D | 7.025M | 12.794M |
| 802.11g_Nss1,(6Mbps)_4TX | 16.325M | 21.189M | 21M2D1D | 15.3M | 16.317M |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | 18.925M | 19.09M | 19M1D1D | 15.75M | 18.741M |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | 38.1M | 37.881M | 37M9D1D | 32M | 37.331M |

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

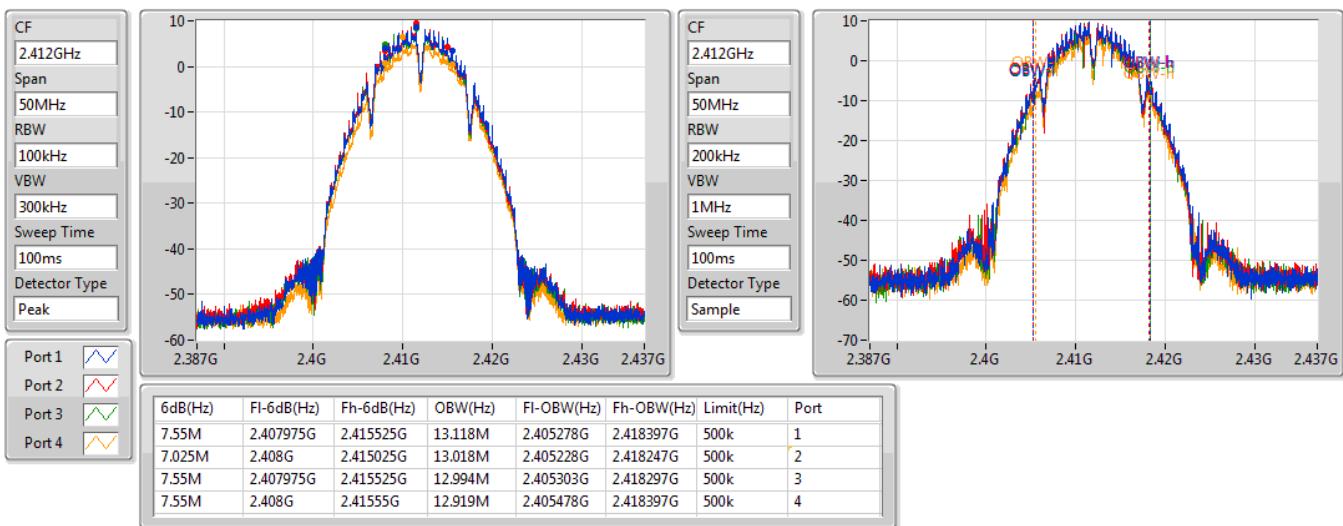
**Result**

| Mode | Result | Limit (Hz) | Port 1-N dB (Hz) | Port 1-OBW (Hz) | Port 2-N dB (Hz) | Port 2-OBW (Hz) | Port 3-N dB (Hz) | Port 3-OBW (Hz) | Port 4-N dB (Hz) | Port 4-OBW (Hz) |
|--------------------------------|--------|---------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| 802.11b_Nss1,(1Mbps)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 7.55M | 13.118M | 7.025M | 13.018M | 7.55M | 12.994M | 7.55M | 12.919M |
| 2437MHz | Pass | 500k | 7.575M | 12.844M | 7.025M | 12.944M | 7.525M | 12.969M | 8.525M | 12.894M |
| 2462MHz | Pass | 500k | 8M | 13.018M | 8M | 12.794M | 7.075M | 12.944M | 7.075M | 12.969M |
| 802.11g_Nss1,(6Mbps)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 16.025M | 16.367M | 16.25M | 16.317M | 16.3M | 16.492M | 16M | 16.367M |
| 2437MHz | Pass | 500k | 15.7M | 21.189M | 15.625M | 19.39M | 16.275M | 20.365M | 16.275M | 19.49M |
| 2462MHz | Pass | 500k | 16.3M | 16.467M | 15.675M | 16.442M | 15.3M | 16.317M | 16.325M | 16.417M |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 18.8M | 18.966M | 18.55M | 18.941M | 15.75M | 18.741M | 18.125M | 18.916M |
| 2437MHz | Pass | 500k | 18.325M | 19.04M | 18.675M | 19.065M | 17.05M | 18.966M | 18.225M | 19.09M |
| 2462MHz | Pass | 500k | 18.5M | 18.866M | 18.825M | 18.941M | 18.925M | 18.941M | 18.925M | 18.966M |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 500k | 38M | 37.781M | 37.7M | 37.781M | 37.5M | 37.831M | 38.1M | 37.881M |
| 2437MHz | Pass | 500k | 36.95M | 37.531M | 32.35M | 37.431M | 37.85M | 37.731M | 37.6M | 37.731M |
| 2452MHz | Pass | 500k | 37.35M | 37.681M | 32M | 37.331M | 36.95M | 37.631M | 37.65M | 37.681M |

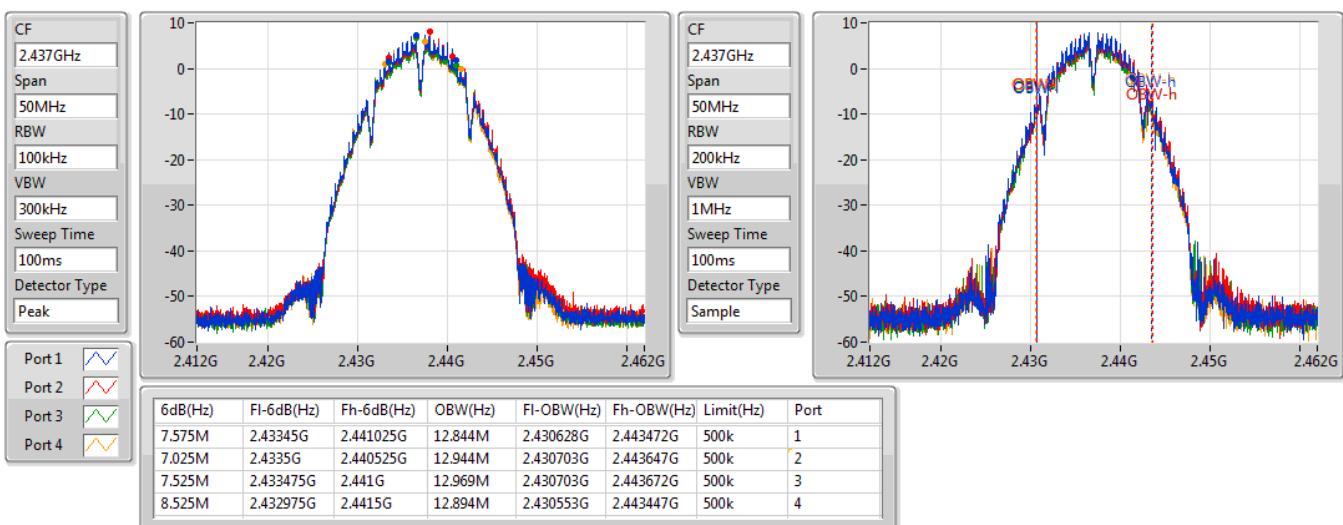
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_4TX
EBW
2412MHz

23/10/2019

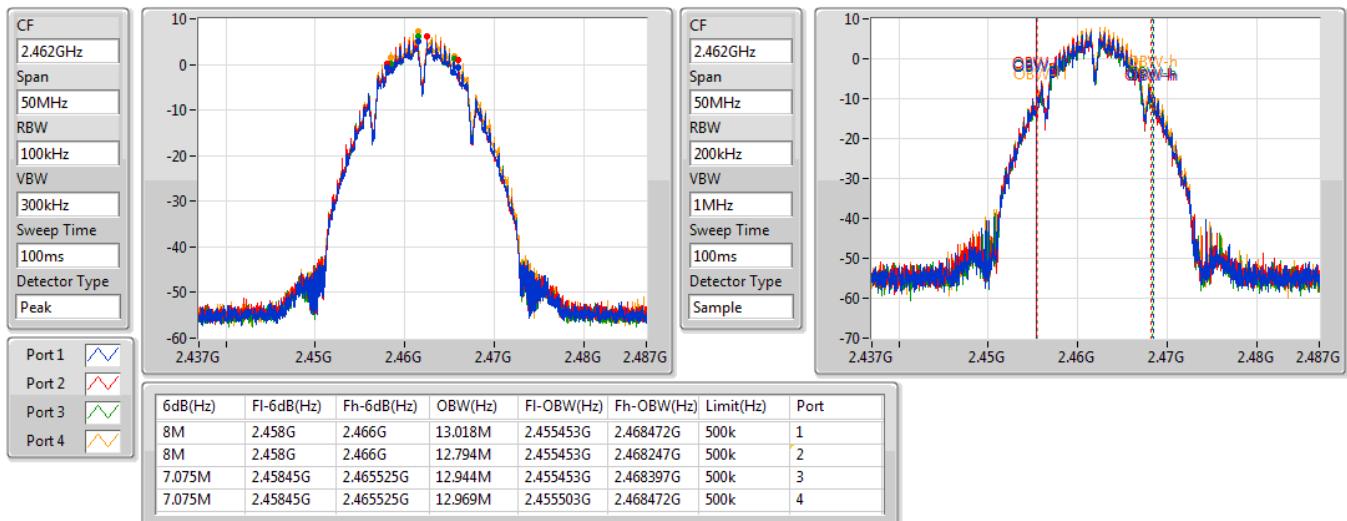

802.11b_Nss1,(1Mbps)_4TX
EBW
2437MHz

23/10/2019

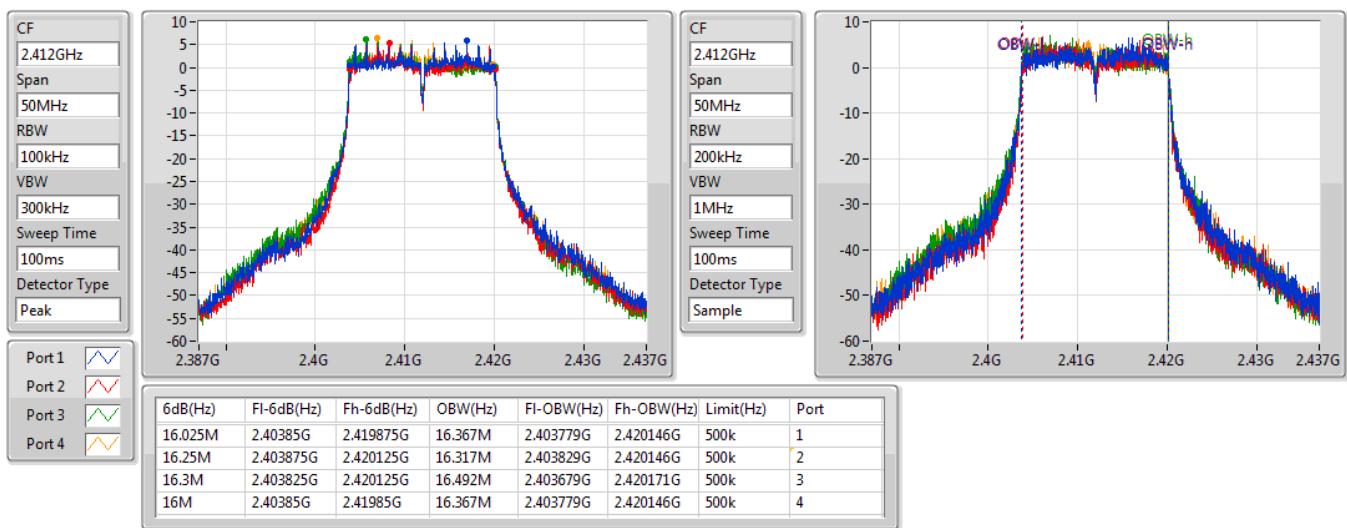


802.11b_Nss1,(1Mbps)_4TX
EBW
2462MHz

23/10/2019

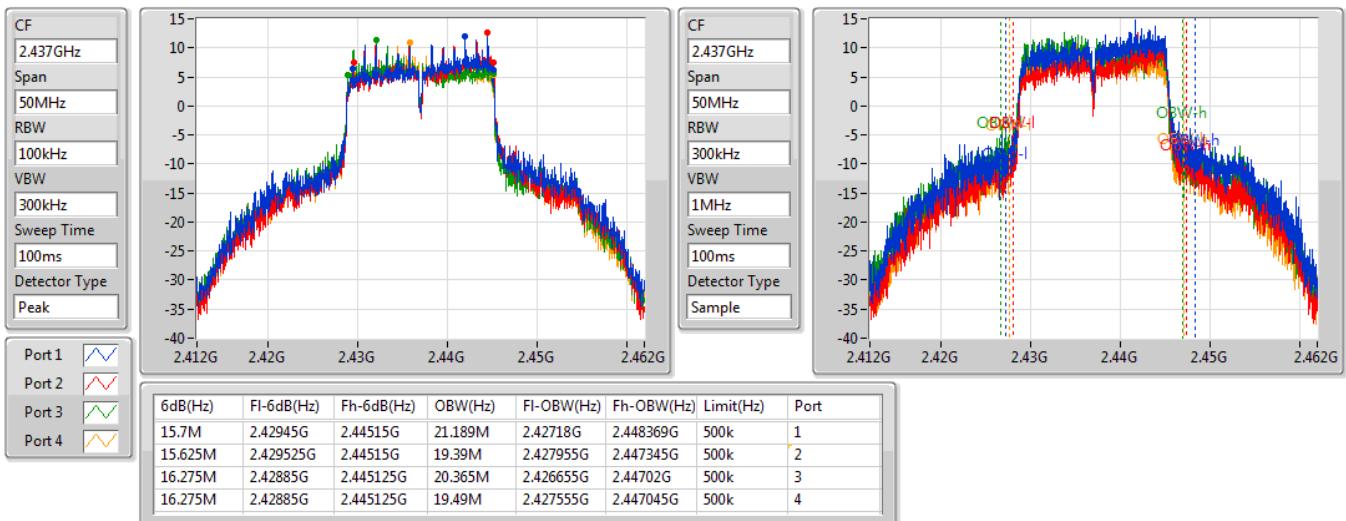

802.11g_Nss1,(6Mbps)_4TX
EBW
2412MHz

23/10/2019

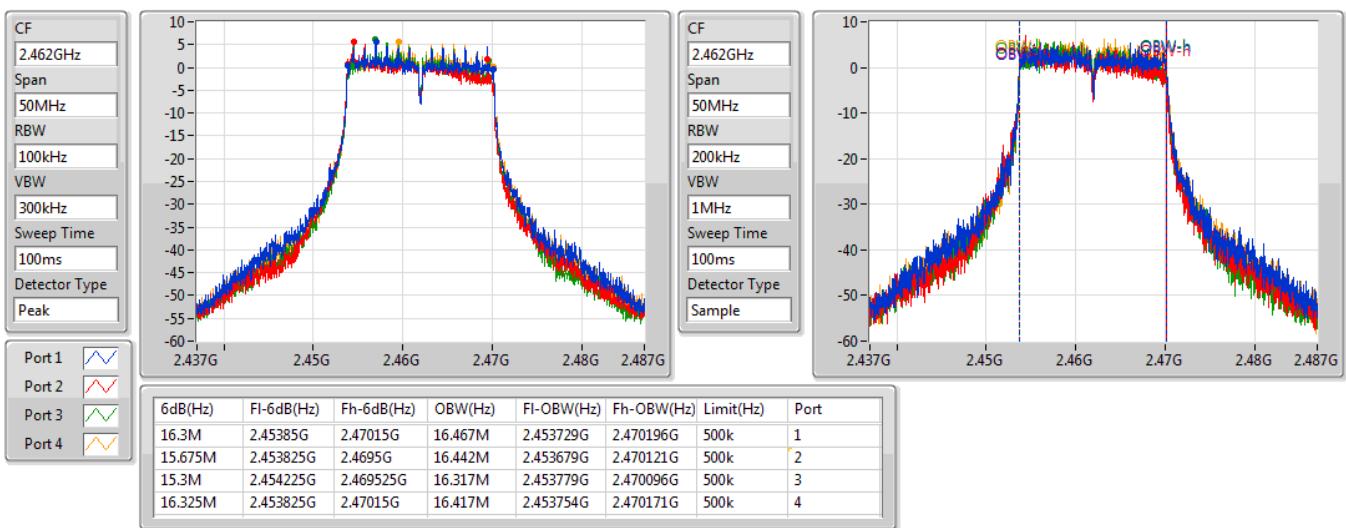


802.11g_Nss1,(6Mbps)_4TX
EBW
2437MHz

23/10/2019

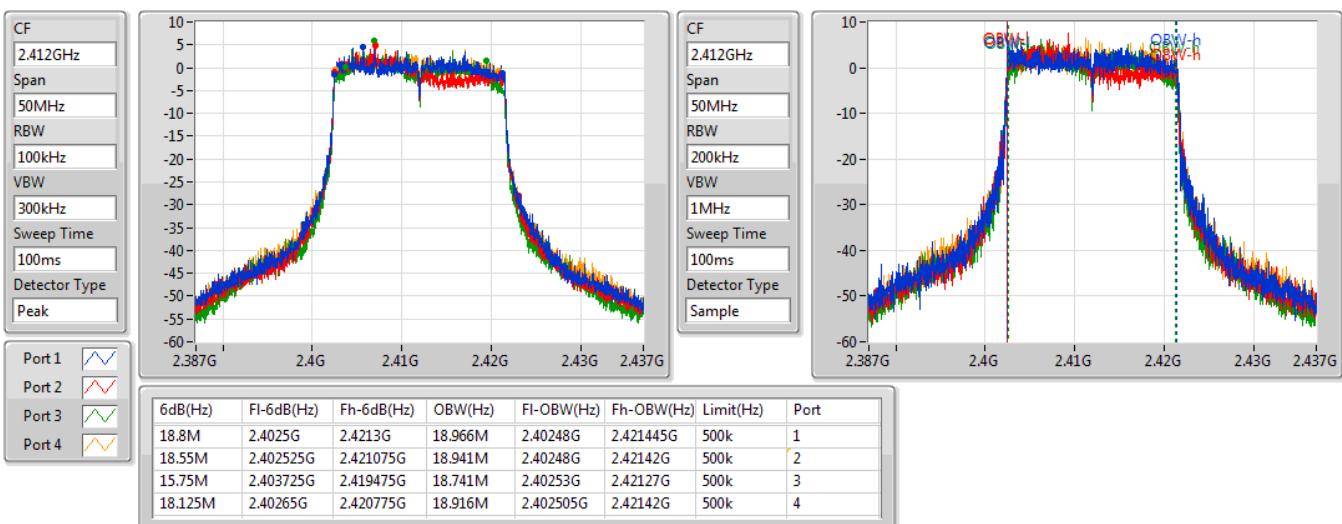

802.11g_Nss1,(6Mbps)_4TX
EBW
2462MHz

23/10/2019

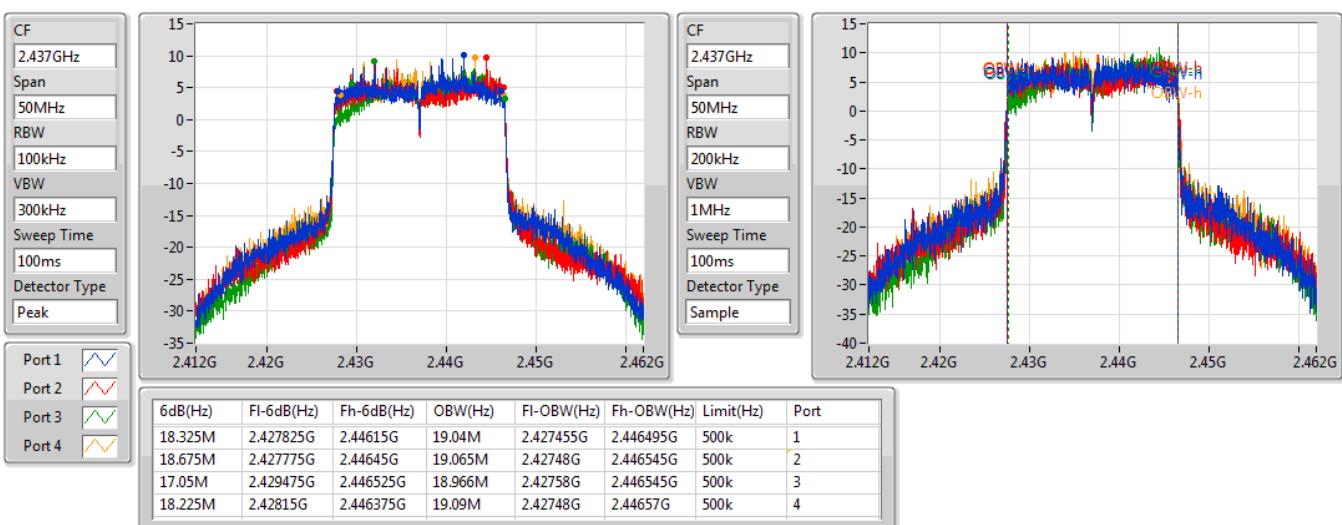


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
2412MHz

23/10/2019

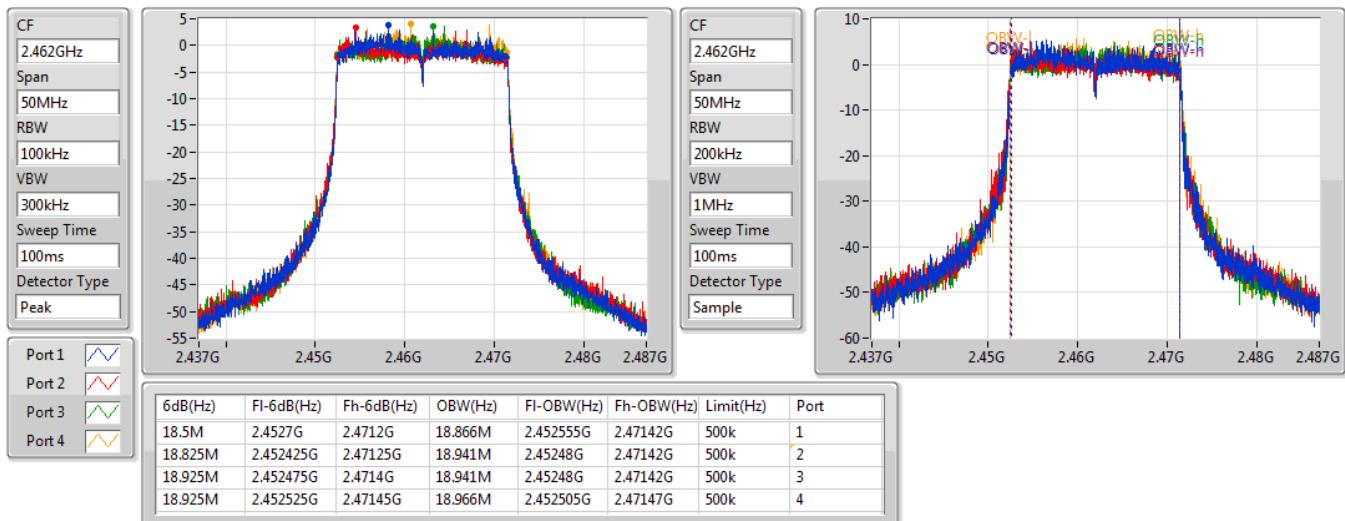

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
2437MHz

23/10/2019

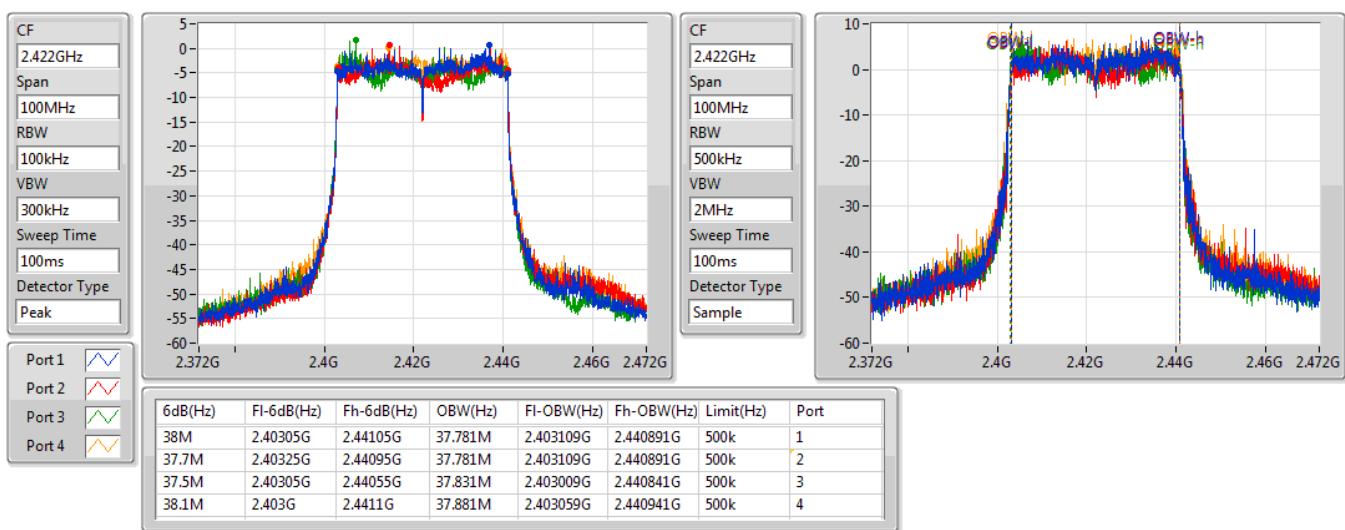


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
2462MHz

23/10/2019

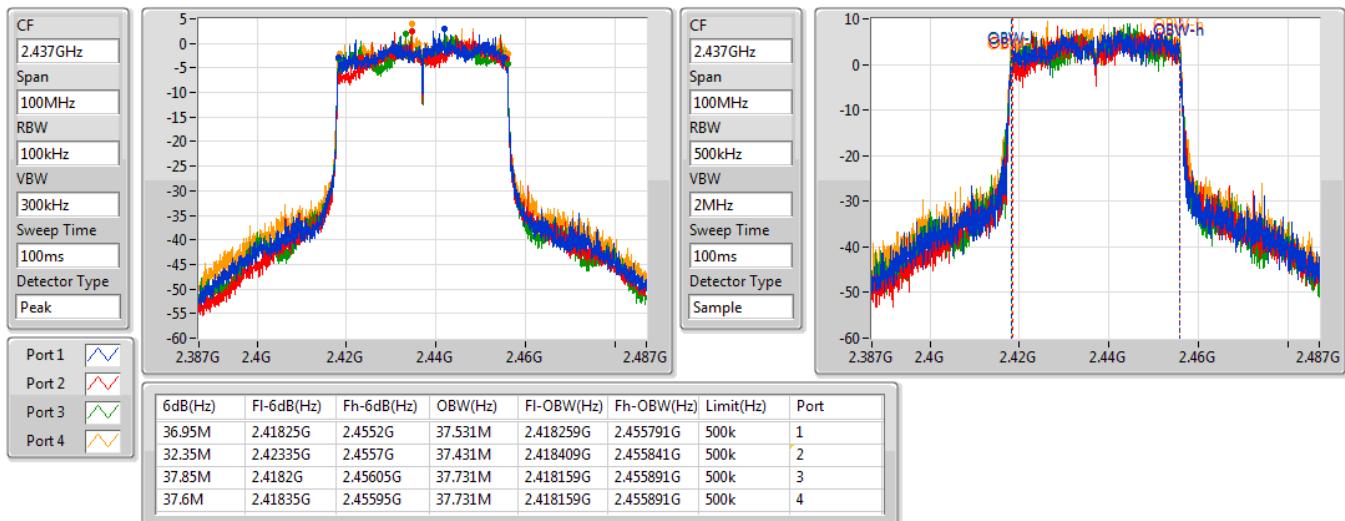

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
2422MHz

23/10/2019

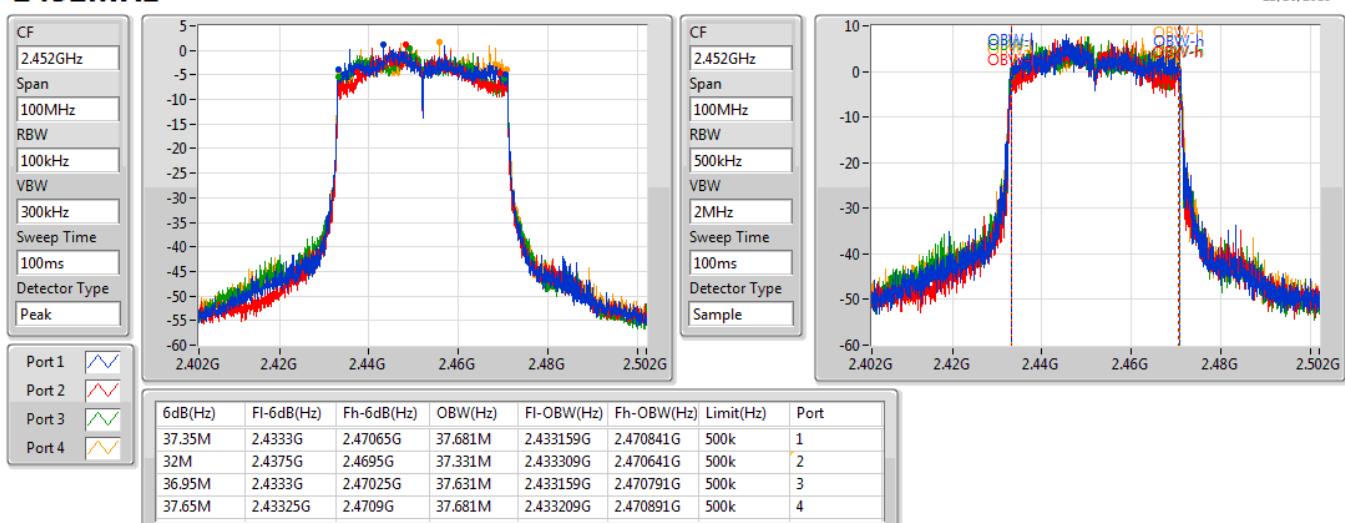


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
2437MHz

23/10/2019


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
2452MHz

23/10/2019



**<Scan Radio>
Summary**

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|--------------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4-2.4835GHz | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_1TX | 7.075M | 13.477M | 13M5G1D | 7.05M | 12.818M |
| 802.11g_Nss1,(6Mbps)_1TX | 16.3M | 32.405M | 32M4D1D | 15.975M | 17.04M |
| VHT20_Nss1,(MCS0)_1TX | 17.5M | 33.703M | 33M7D1D | 16.525M | 18.013M |
| VHT40_Nss1,(MCS0)_1TX | 35.9M | 36.603M | 36M6D1D | 35.3M | 36.243M |

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

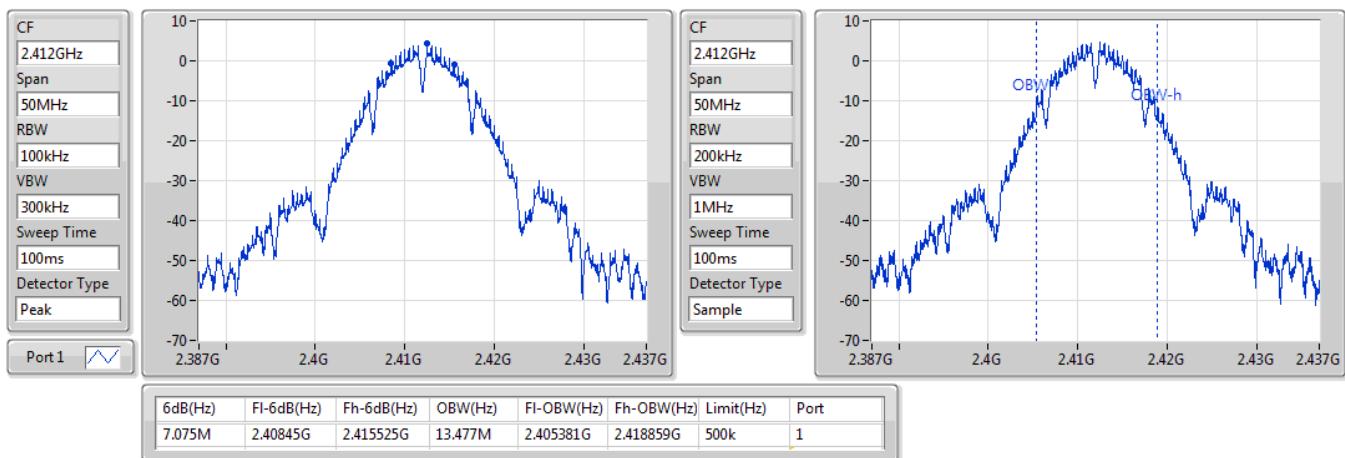
**Result**

| Mode | Result | Limit (Hz) | Port 1-N dB (Hz) | Port 1-OBW (Hz) |
|--------------------------|--------|---------------|---------------------|--------------------|
| 802.11b_Nss1,(1Mbps)_1TX | - | - | - | - |
| 2412MHz | Pass | 500k | 7.075M | 13.477M |
| 2437MHz | Pass | 500k | 7.075M | 13.343M |
| 2462MHz | Pass | 500k | 7.05M | 12.818M |
| 802.11g_Nss1,(6Mbps)_1TX | - | - | - | - |
| 2412MHz | Pass | 500k | 15.975M | 17.04M |
| 2437MHz | Pass | 500k | 16.3M | 32.405M |
| 2462MHz | Pass | 500k | 16.3M | 21.383M |
| VHT20_Nss1,(MCS0)_1TX | - | - | - | - |
| 2412MHz | Pass | 500k | 16.625M | 18.013M |
| 2437MHz | Pass | 500k | 17.5M | 33.703M |
| 2462MHz | Pass | 500k | 16.525M | 20.806M |
| VHT40_Nss1,(MCS0)_1TX | - | - | - | - |
| 2422MHz | Pass | 500k | 35.9M | 36.243M |
| 2437MHz | Pass | 500k | 35.3M | 36.603M |
| 2452MHz | Pass | 500k | 35.4M | 36.271M |

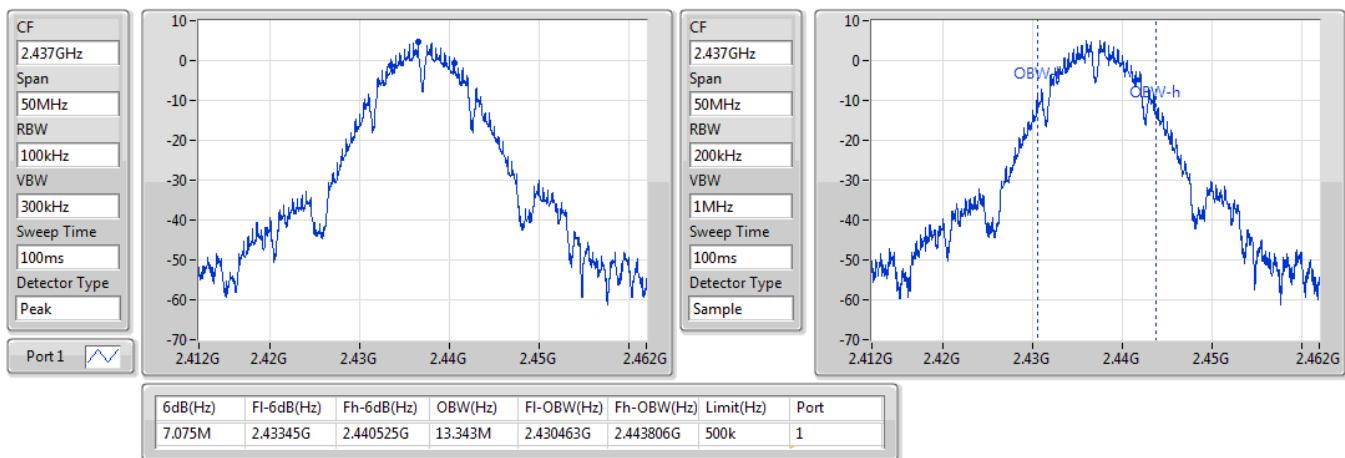
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_1TX
EBW
2412MHz

25/10/2019

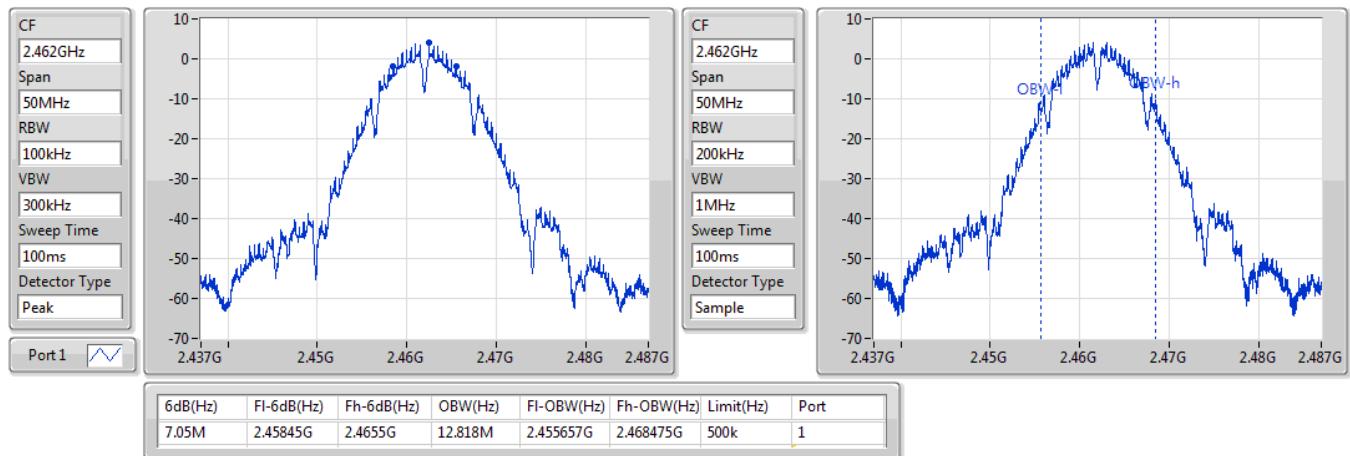

802.11b_Nss1,(1Mbps)_1TX
EBW
2437MHz

25/10/2019

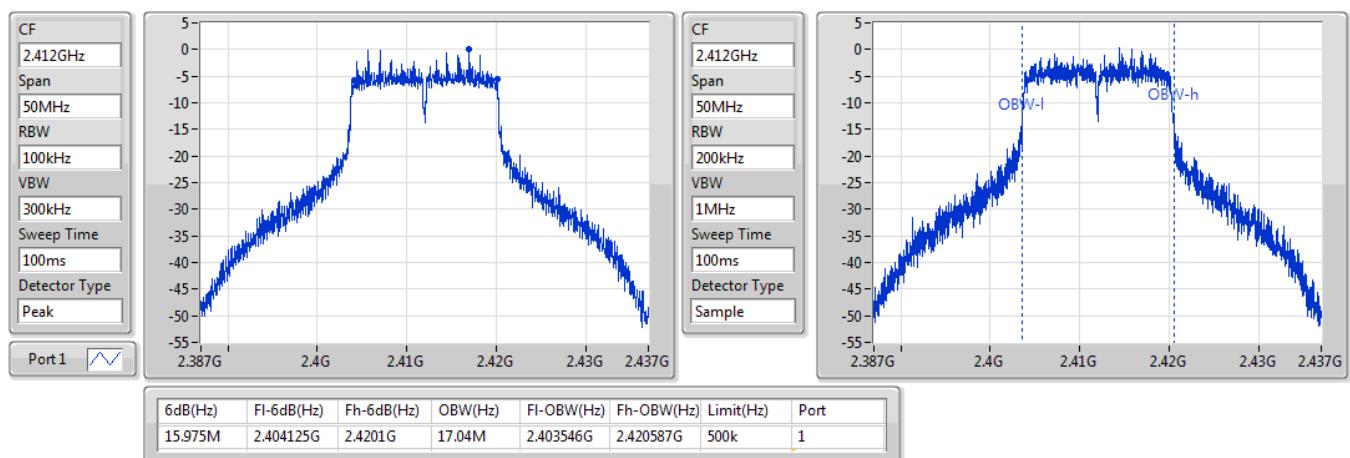


802.11b_Nss1,(1Mbps)_1TX
EBW
2462MHz

25/10/2019

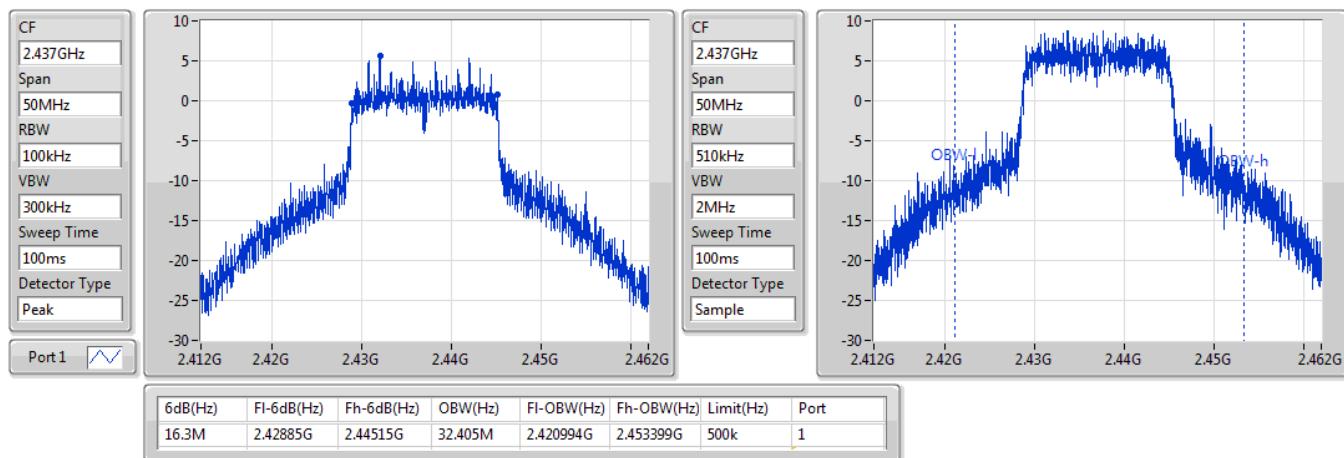

802.11g_Nss1,(6Mbps)_1TX
EBW
2412MHz

25/10/2019

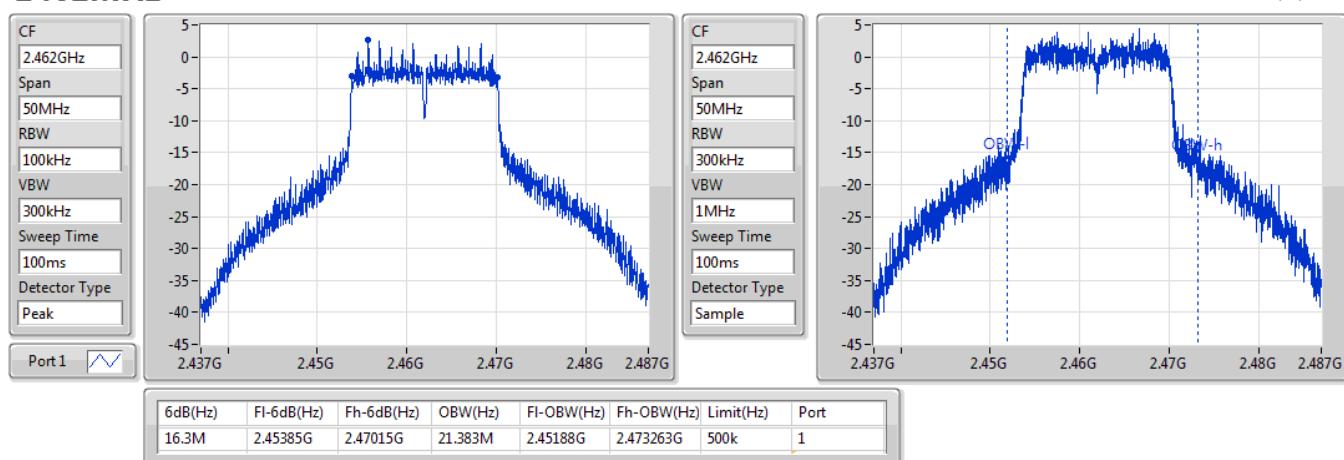


802.11g_Nss1,(6Mbps)_1TX
EBW
2437MHz

25/10/2019

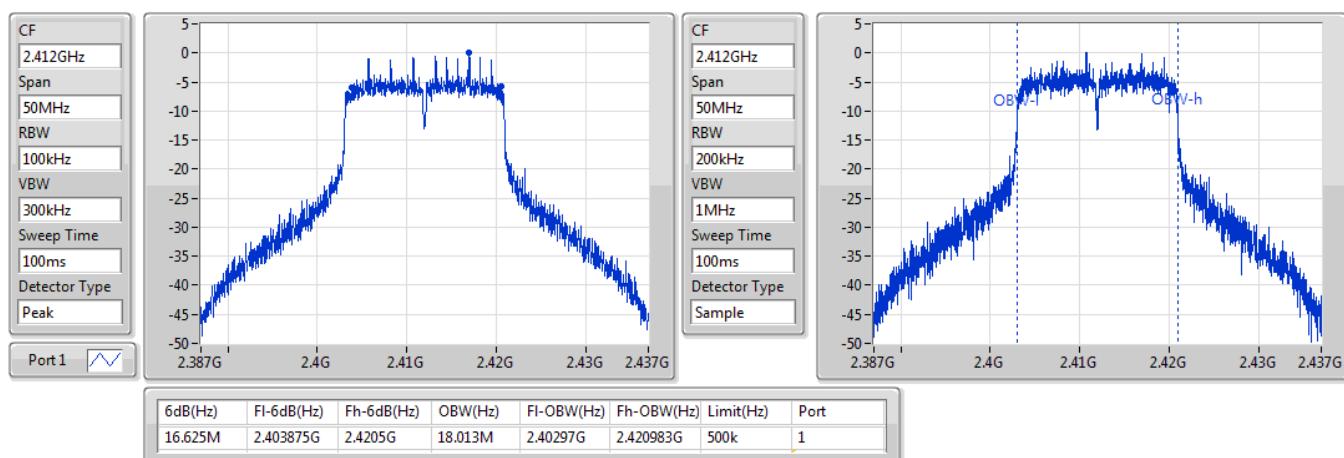

802.11g_Nss1,(6Mbps)_1TX
EBW
2462MHz

25/10/2019

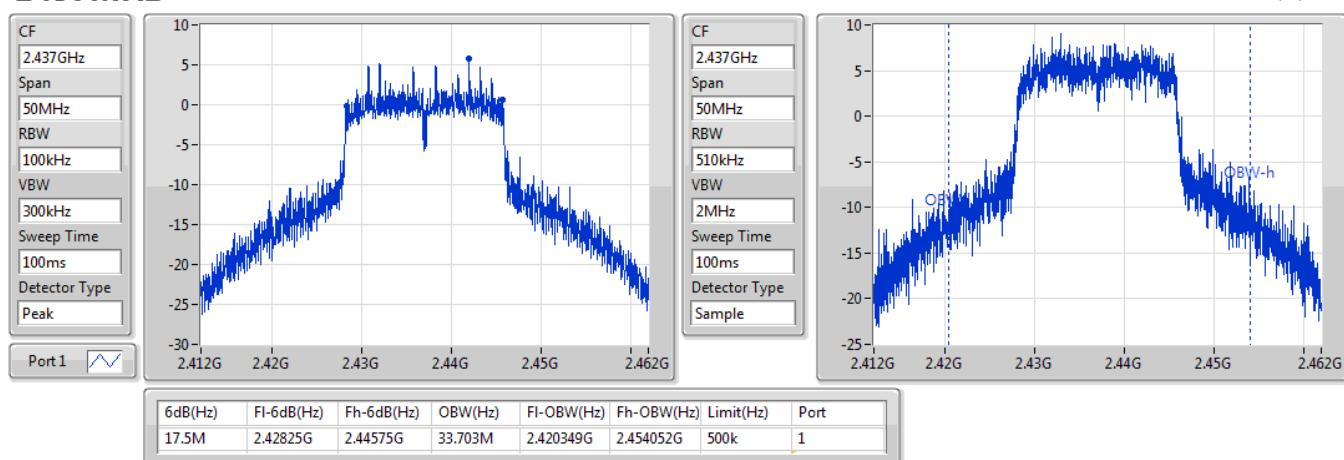


VHT20_Nss1,(MCS0)_1TX
EBW
2412MHz

25/10/2019

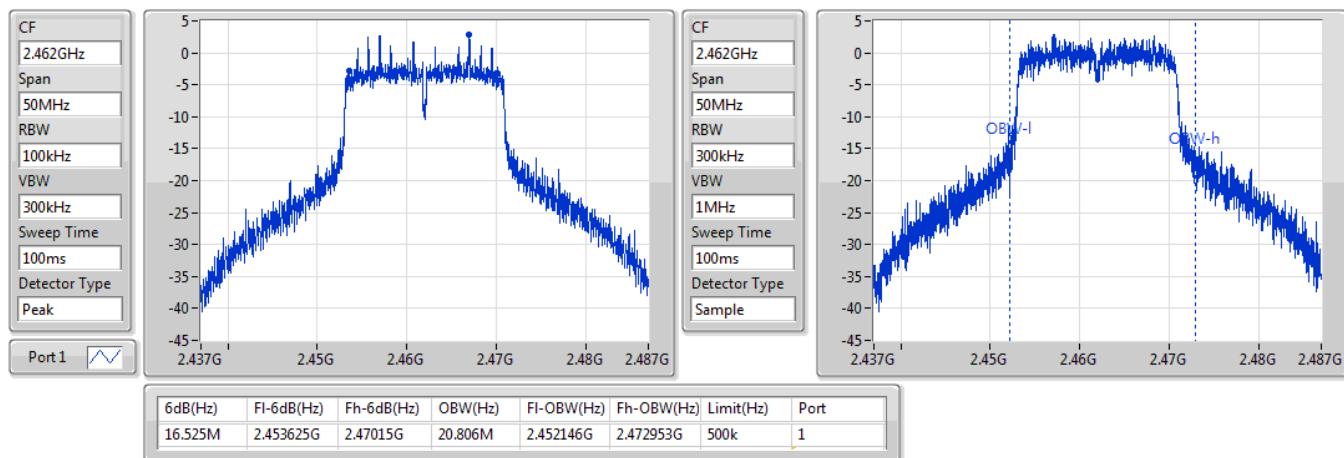

VHT20_Nss1,(MCS0)_1TX
EBW
2437MHz

25/10/2019

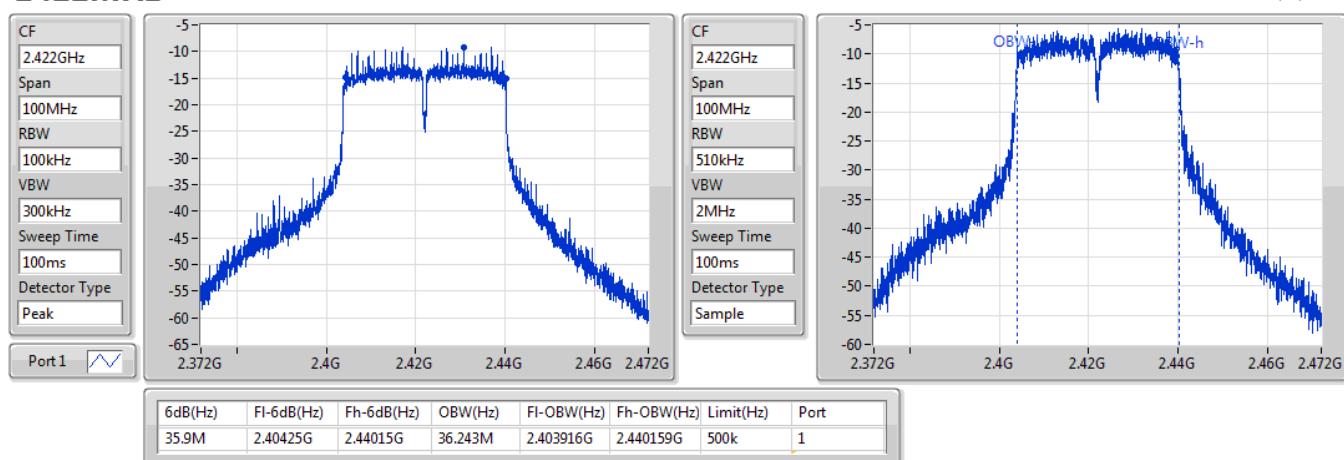


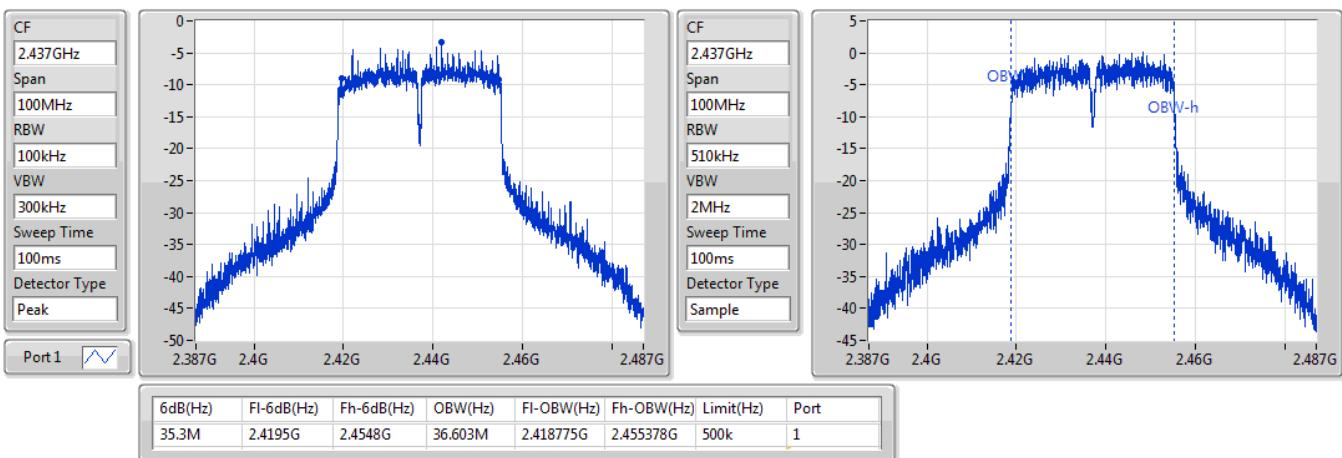
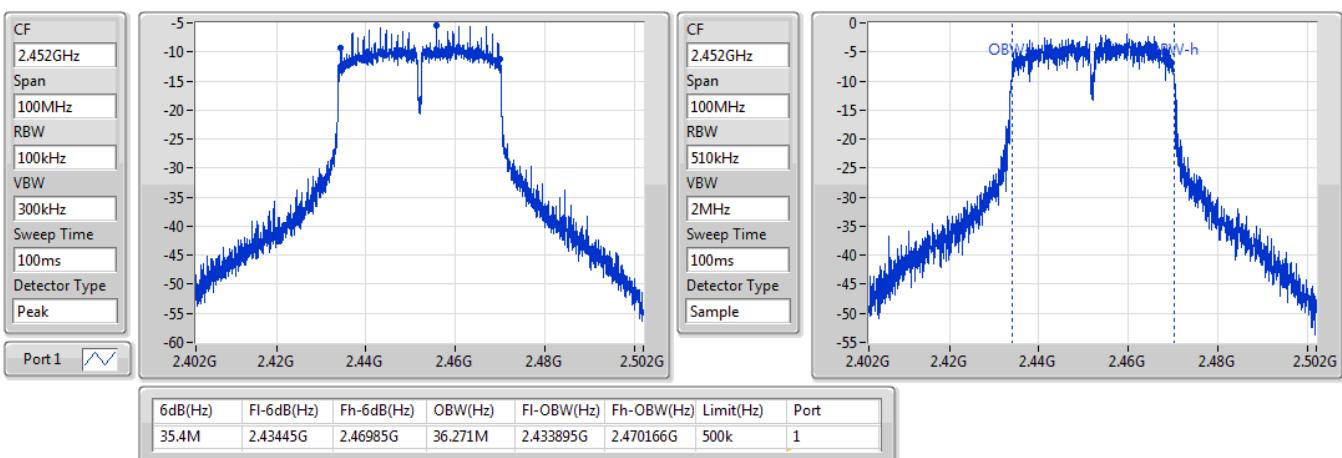
VHT20_Nss1,(MCS0)_1TX
EBW
2462MHz

25/10/2019


VHT40_Nss1,(MCS0)_1TX
EBW
2422MHz

25/10/2019



**VHT40_Nss1,(MCS0)_1TX****EBW****2437MHz****VHT40_Nss1,(MCS0)_1TX****EBW****2452MHz**



For beamforming mode:

Summary

| Mode | Max-N dB (Hz) | Max-OBW (Hz) | ITU-Code | Min-N dB (Hz) | Min-OBW (Hz) |
|-----------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4-2.4835GHz | - | - | - | - | - |
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | 18.825M | 18.941M | 18M9D1D | 15.25M | 18.691M |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | 36.5M | 37.931M | 37M9D1D | 17.55M | 37.531M |

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;



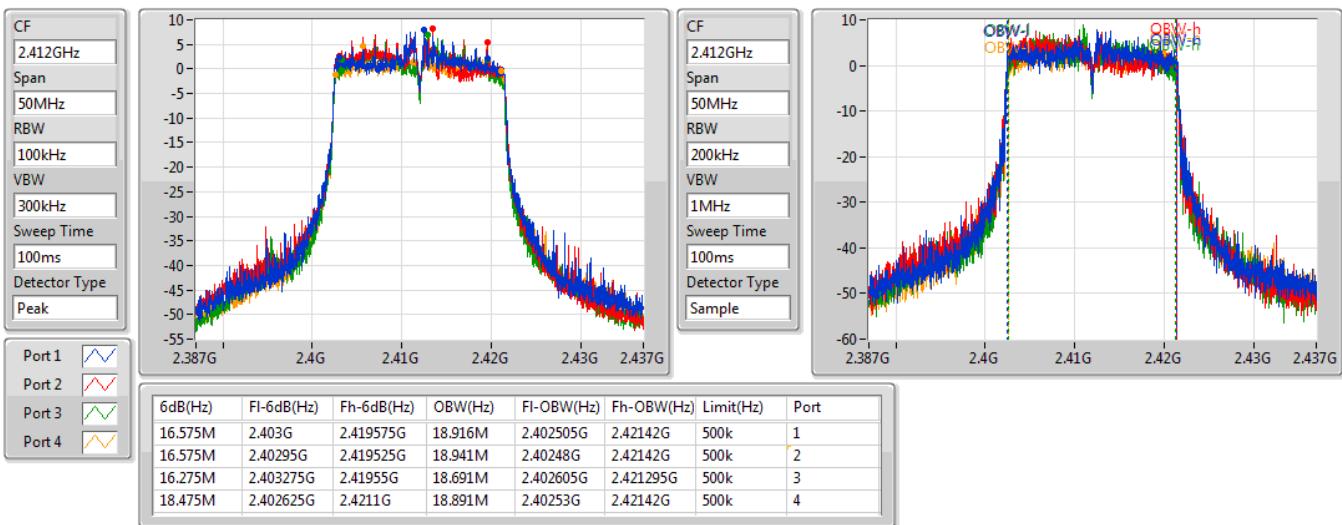
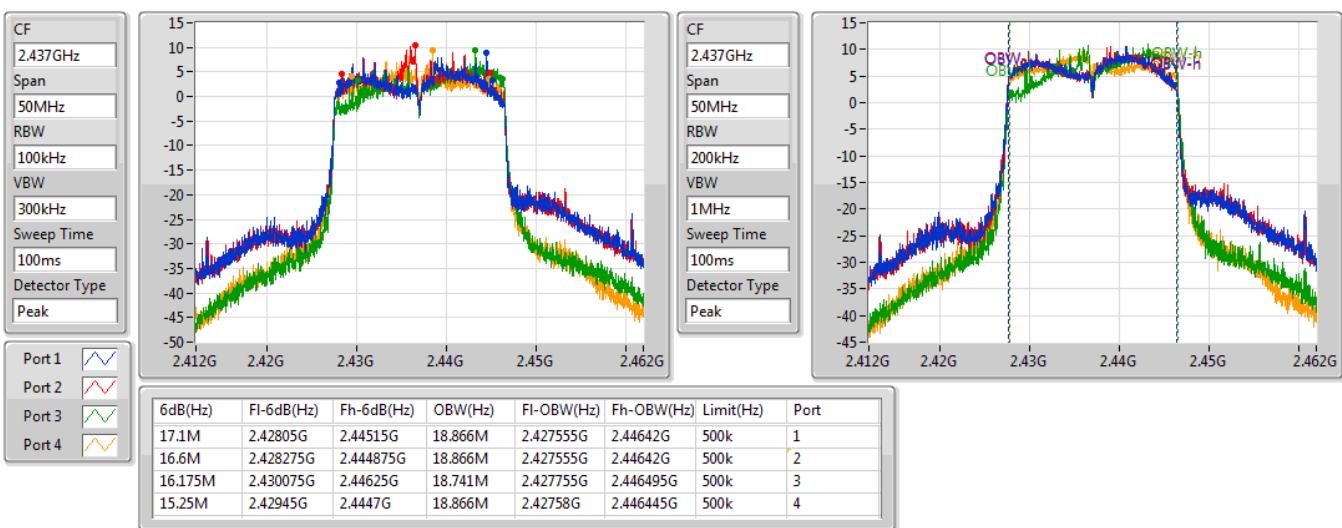
EBW Result

Appendix B.3

Result

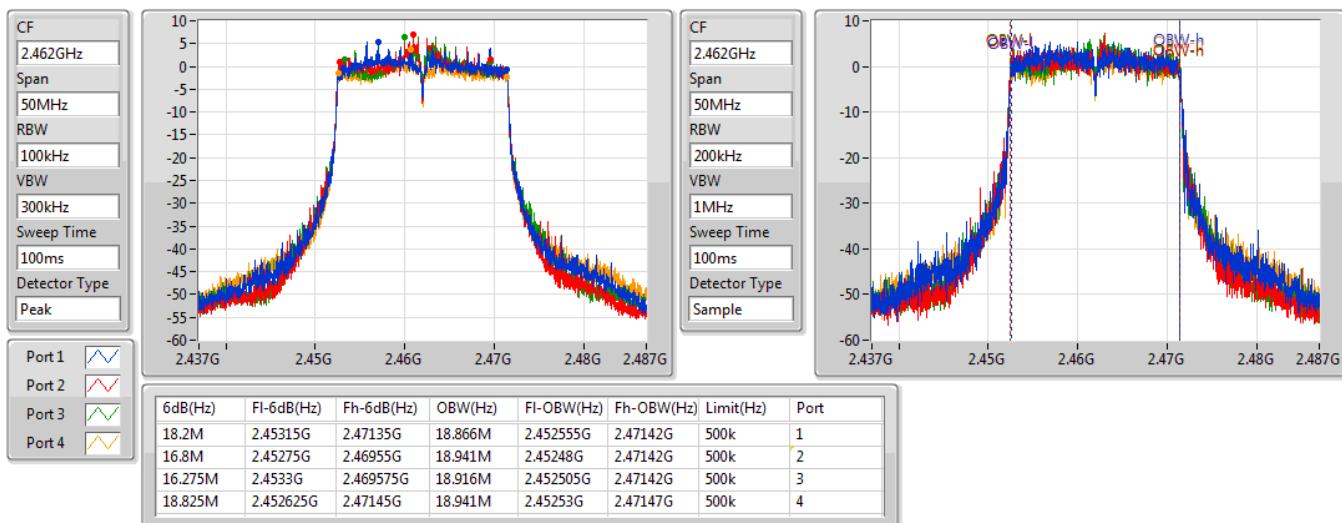
| Mode | Result | Limit (Hz) | Port 1-N dB (Hz) | Port 1-OBW (Hz) | Port 2-N dB (Hz) | Port 2-OBW (Hz) | Port 3-N dB (Hz) | Port 3-OBW (Hz) | Port 4-N dB (Hz) | Port 4-OBW (Hz) |
|-----------------------------------|--------|---------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 16.575M | 18.916M | 16.575M | 18.941M | 16.275M | 18.691M | 18.475M | 18.891M |
| 2437MHz | Pass | 500k | 17.1M | 18.866M | 16.6M | 18.866M | 16.175M | 18.741M | 15.25M | 18.866M |
| 2462MHz | Pass | 500k | 18.2M | 18.866M | 16.8M | 18.941M | 16.275M | 18.916M | 18.825M | 18.941M |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 500k | 29.95M | 37.631M | 31.3M | 37.581M | 32.55M | 37.931M | 36.5M | 37.831M |
| 2437MHz | Pass | 500k | 31.25M | 37.581M | 26.45M | 37.581M | 34.4M | 37.731M | 34.55M | 37.731M |
| 2452MHz | Pass | 500k | 22.5M | 37.531M | 17.55M | 37.531M | 31.25M | 37.631M | 33.05M | 37.531M |

Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

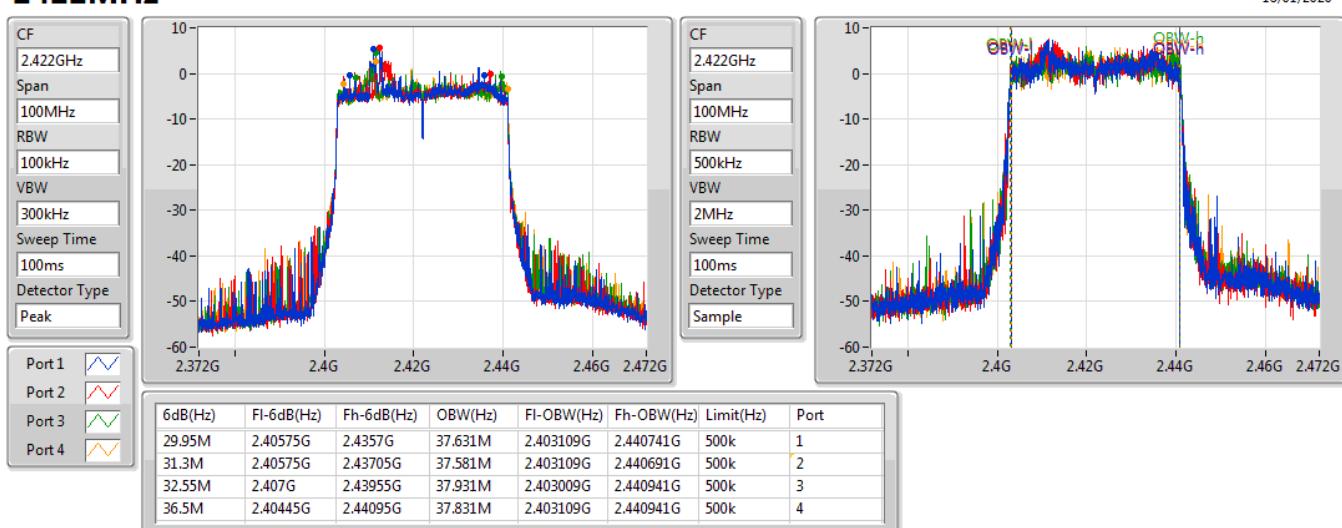
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
2412MHz

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
2437MHz


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
2462MHz

16/01/2020

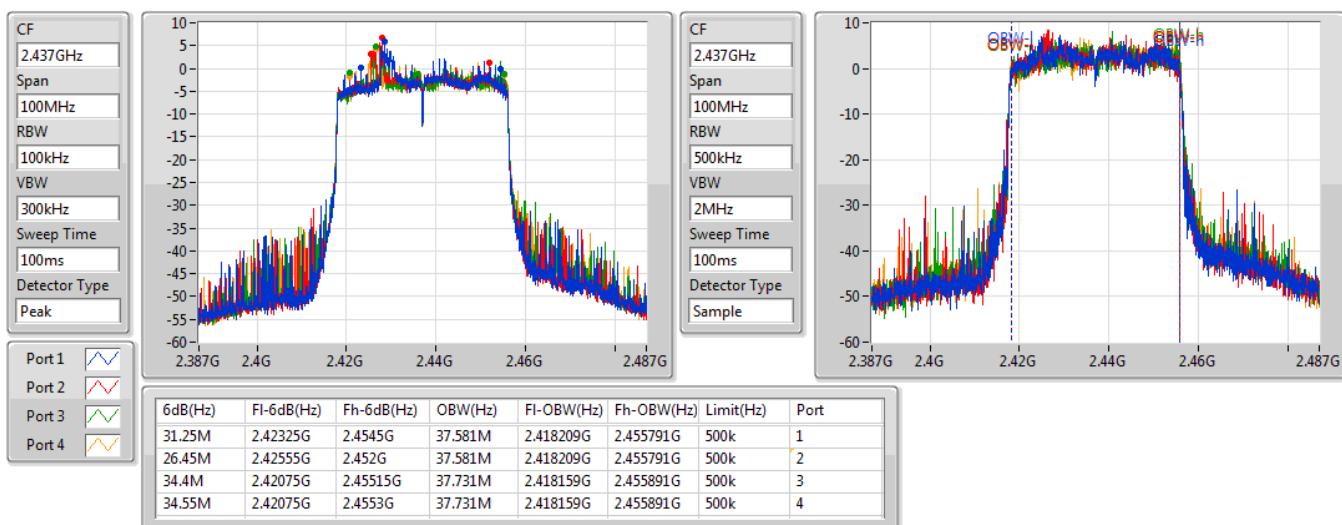

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
2422MHz

16/01/2020

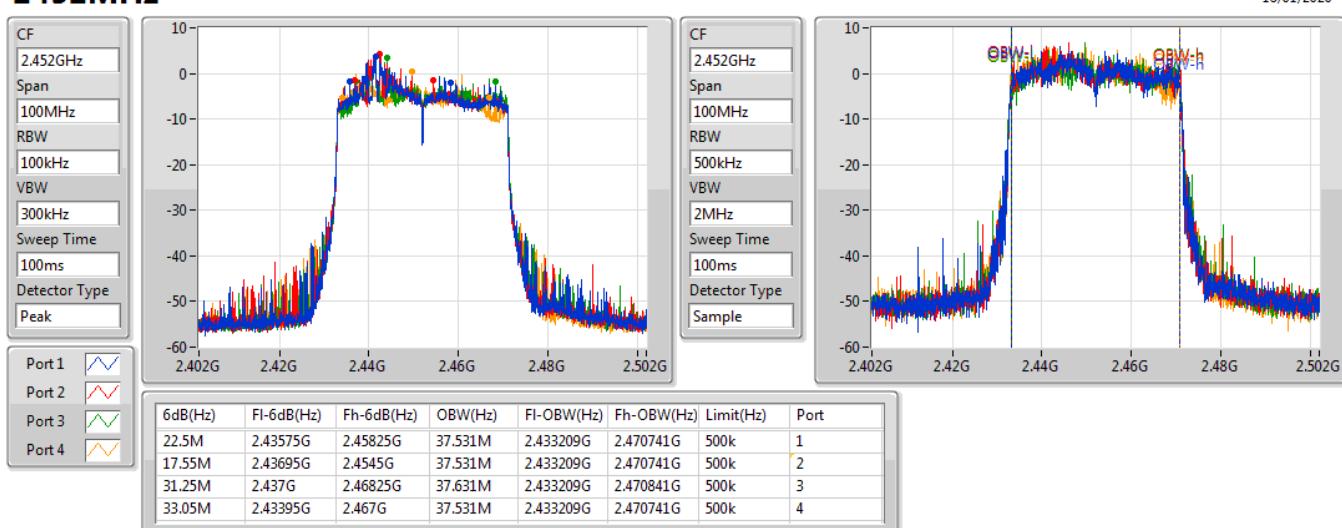


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
2437MHz

16/01/2020


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
2452MHz

16/01/2020





Average Power Result

Appendix C.1

For non-beamforming mode:

<DBS mode>

Summary

| Mode | Total Power (dBm) | Total Power (W) |
|--------------------------------|----------------------|--------------------|
| 2.4-2.4835GHz | - | - |
| 802.11b_Nss1,(1Mbps)_4TX | 23.36 | 0.21677 |
| 802.11g_Nss1,(6Mbps)_4TX | 27.74 | 0.59429 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | 26.53 | 0.44978 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | 23.17 | 0.20749 |



Average Power Result

Appendix C.1

Result

| Mode | Result | DG (dBi) | Port 1 (dBm) | Port 2 (dBm) | Port 3 (dBm) | Port 4 (dBm) | Total Power (dBm) | Power Limit (dBm) |
|--------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|----------------------|----------------------|
| 802.11b_Nss1,(1Mbps)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 5.13 | 17.50 | 17.87 | 17.43 | 16.42 | 23.36 | 30.00 |
| 2437MHz | Pass | 5.13 | 15.89 | 15.98 | 15.12 | 15.07 | 21.56 | 30.00 |
| 2462MHz | Pass | 5.13 | 14.16 | 14.73 | 14.52 | 15.57 | 20.80 | 30.00 |
| 802.11g_Nss1,(6Mbps)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 5.13 | 16.91 | 16.51 | 16.87 | 17.11 | 22.88 | 30.00 |
| 2417MHz | Pass | 5.13 | 19.95 | 19.57 | 19.97 | 20.26 | 25.96 | 30.00 |
| 2437MHz | Pass | 5.13 | 21.91 | 21.78 | 21.52 | 21.64 | 27.74 | 30.00 |
| 2457MHz | Pass | 5.13 | 18.80 | 18.06 | 18.75 | 19.16 | 24.73 | 30.00 |
| 2462MHz | Pass | 5.13 | 16.39 | 15.88 | 16.48 | 17.08 | 22.50 | 30.00 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 5.13 | 16.26 | 15.64 | 15.73 | 16.51 | 22.07 | 30.00 |
| 2417MHz | Pass | 5.13 | 18.60 | 18.11 | 18.06 | 18.72 | 24.40 | 30.00 |
| 2437MHz | Pass | 5.13 | 20.65 | 20.28 | 20.24 | 20.85 | 26.53 | 30.00 |
| 2457MHz | Pass | 5.13 | 18.07 | 17.36 | 17.93 | 18.61 | 24.04 | 30.00 |
| 2462MHz | Pass | 5.13 | 15.59 | 15.10 | 15.50 | 16.15 | 21.62 | 30.00 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 5.13 | 15.07 | 14.65 | 14.57 | 15.78 | 21.07 | 30.00 |
| 2427MHz | Pass | 5.13 | 15.56 | 15.39 | 15.09 | 16.18 | 21.59 | 30.00 |
| 2437MHz | Pass | 5.13 | 17.10 | 16.81 | 16.88 | 17.75 | 23.17 | 30.00 |
| 2447MHz | Pass | 5.13 | 15.46 | 15.22 | 15.52 | 16.17 | 21.63 | 30.00 |
| 2452MHz | Pass | 5.13 | 15.65 | 15.10 | 15.67 | 16.06 | 21.65 | 30.00 |

DG = Directional Gain; **Port X** = Port X output power



Average Power Result

Appendix C.2

<Scan Radio> Summary

| Mode | Total Power (dBm) | Total Power (W) |
|--------------------------|----------------------|--------------------|
| 2.4-2.4835GHz | - | - |
| 802.11b_Nss1,(1Mbps)_1TX | 22.69 | 0.18578 |
| 802.11g_Nss1,(6Mbps)_1TX | 25.32 | 0.34041 |
| VHT20_Nss1,(MCS0)_1TX | 25.28 | 0.33729 |
| VHT40_Nss1,(MCS0)_1TX | 20.54 | 0.11324 |



Average Power Result

Appendix C.2

Result

| Mode | Result | DG (dBi) | Port 1 (dBm) | Total Power (dBm) | Power Limit (dBm) |
|--------------------------|--------|-------------|-----------------|----------------------|----------------------|
| 802.11b_Nss1,(1Mbps)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | 22.39 | 22.39 | 30.00 |
| 2437MHz | Pass | 5.08 | 22.69 | 22.69 | 30.00 |
| 2462MHz | Pass | 5.08 | 21.74 | 21.74 | 30.00 |
| 802.11g_Nss1,(6Mbps)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | 19.86 | 19.86 | 30.00 |
| 2417MHz | Pass | 5.08 | 22.45 | 22.45 | 30.00 |
| 2437MHz | Pass | 5.08 | 25.32 | 25.32 | 30.00 |
| 2457MHz | Pass | 5.08 | 24.35 | 24.35 | 30.00 |
| 2462MHz | Pass | 5.08 | 22.62 | 22.62 | 30.00 |
| VHT20_Nss1,(MCS0)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | 19.66 | 19.66 | 30.00 |
| 2417MHz | Pass | 5.08 | 22.56 | 22.56 | 30.00 |
| 2437MHz | Pass | 5.08 | 25.28 | 25.28 | 30.00 |
| 2457MHz | Pass | 5.08 | 24.22 | 24.22 | 30.00 |
| 2462MHz | Pass | 5.08 | 22.25 | 22.25 | 30.00 |
| VHT40_Nss1,(MCS0)_1TX | - | - | - | - | - |
| 2422MHz | Pass | 5.08 | 14.34 | 14.34 | 30.00 |
| 2427MHz | Pass | 5.08 | 18.73 | 18.73 | 30.00 |
| 2437MHz | Pass | 5.08 | 19.69 | 19.69 | 30.00 |
| 2447MHz | Pass | 5.08 | 20.54 | 20.54 | 30.00 |
| 2452MHz | Pass | 5.08 | 17.91 | 17.91 | 30.00 |

DG = Directional Gain; **Port X** = Port X output power



Average Power Result

Appendix C.3

For beamforming mode:

Summary

| Mode | Total Power (dBm) | Total Power (W) |
|-----------------------------------|----------------------|--------------------|
| 2.4-2.4835GHz | - | - |
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | 24.28 | 0.26792 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | 21.79 | 0.15101 |



Average Power Result

Appendix C.3

Result

| Mode | Result | DG (dBi) | Port 1 (dBm) | Port 2 (dBm) | Port 3 (dBm) | Port 4 (dBm) | Total Power (dBm) | Power Limit (dBm) |
|-----------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|----------------------|----------------------|
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 9.25 | 17.01 | 16.47 | 17.14 | 16.08 | 22.72 | 26.75 |
| 2437MHz | Pass | 9.25 | 18.08 | 18.35 | 18.33 | 18.29 | 24.28 | 26.75 |
| 2462MHz | Pass | 9.25 | 16.17 | 15.12 | 15.96 | 14.94 | 21.60 | 26.75 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 9.25 | 14.97 | 14.31 | 14.75 | 14.81 | 20.74 | 26.75 |
| 2437MHz | Pass | 9.25 | 15.78 | 15.67 | 15.75 | 15.88 | 21.79 | 26.75 |
| 2452MHz | Pass | 9.25 | 13.80 | 13.72 | 13.93 | 13.46 | 19.75 | 26.75 |

DG = Directional Gain; **Port X** = Port X output power



For non-beamforming mode:

<DBS mode>

Summary

| Mode | PD (dBm/RBW) |
|--------------------------------|-----------------|
| 2.4-2.4835GHz | - |
| 802.11b_Nss1,(1Mbps)_4TX | -1.95 |
| 802.11g_Nss1,(6Mbps)_4TX | -0.79 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | -3.02 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | -9.58 |

RBW=3 kHz.

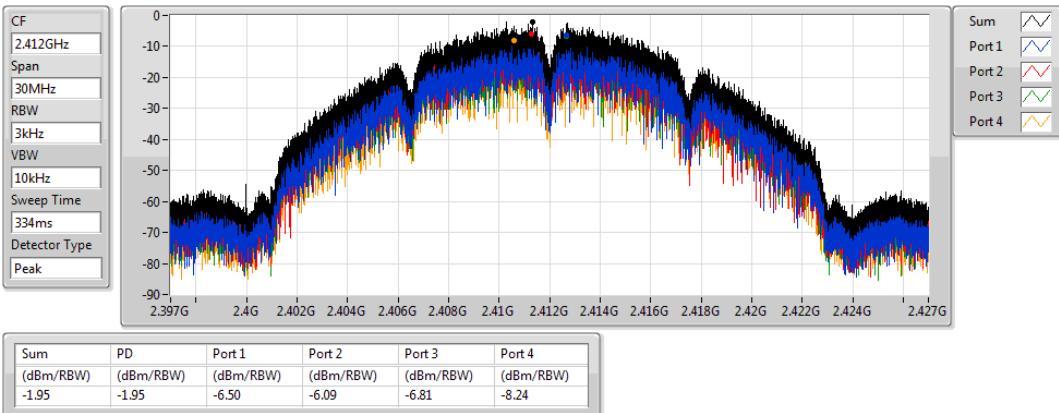
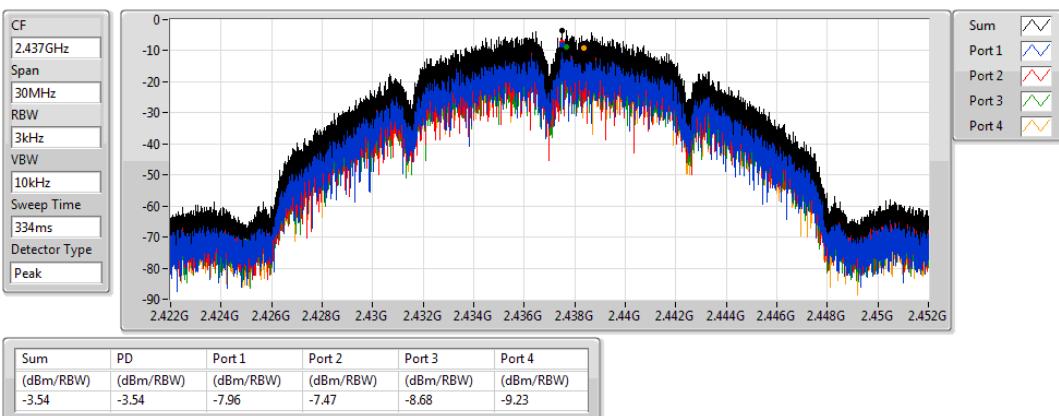
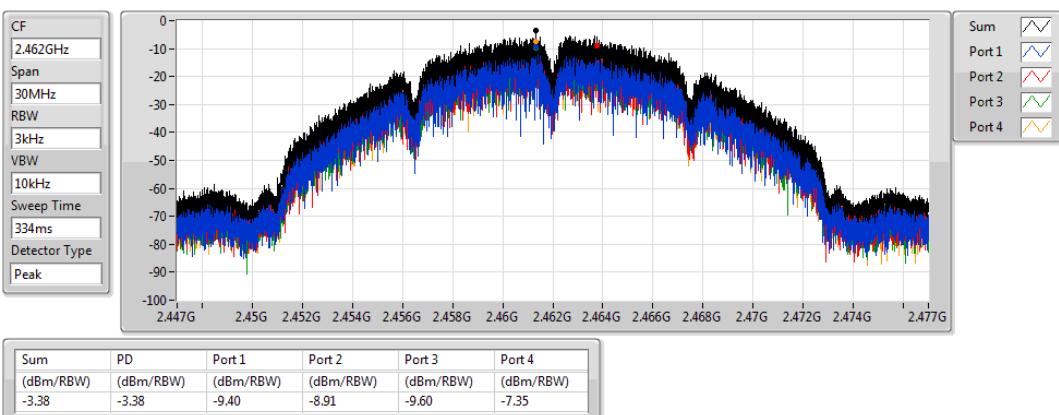


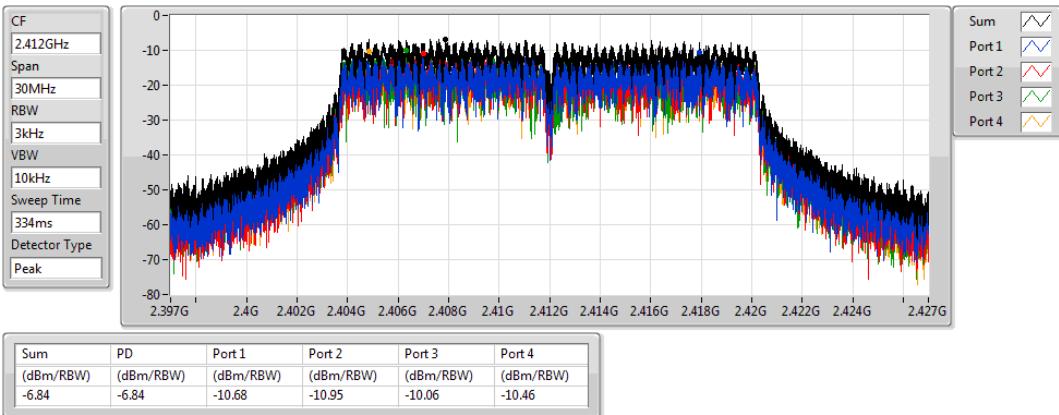
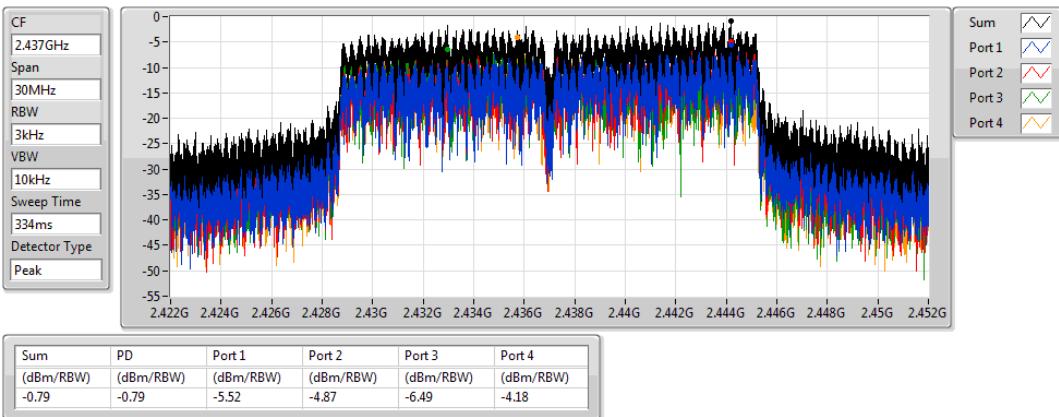
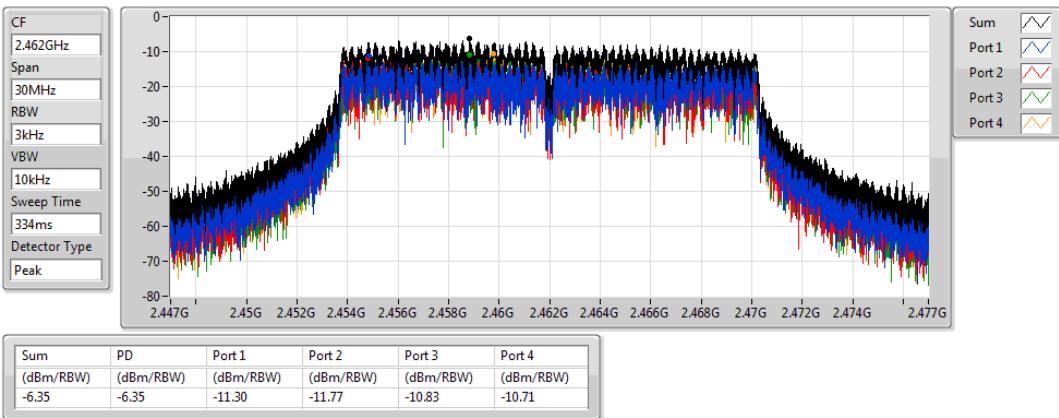
Result

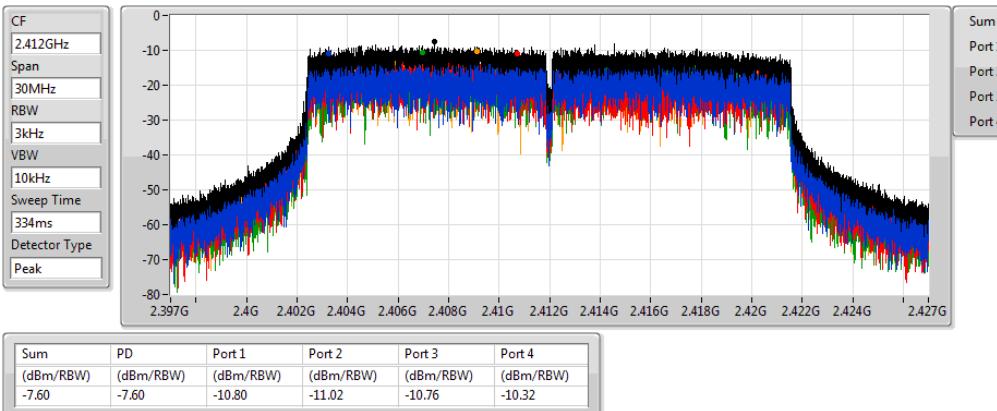
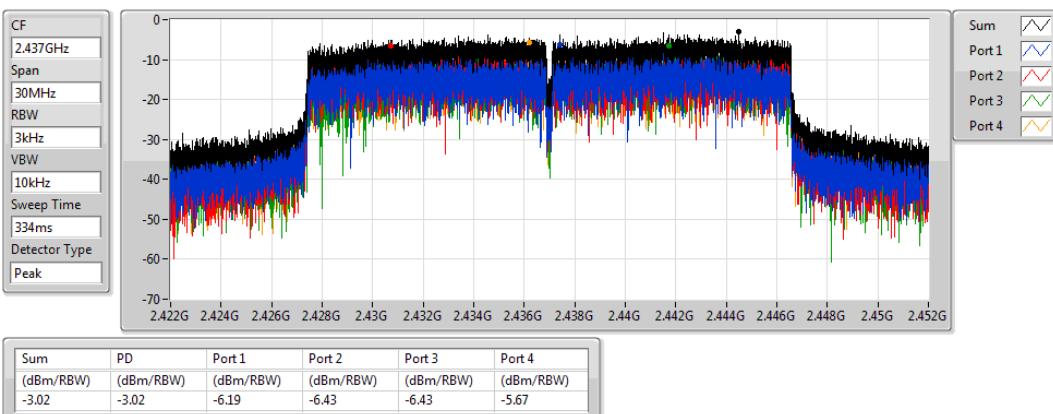
| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | Port 2 (dBm/RBW) | Port 3 (dBm/RBW) | Port 4 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|--------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|
| 802.11b_Nss1,(1Mbps)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 11.15 | -6.50 | -6.09 | -6.81 | -8.24 | -1.95 | 2.85 |
| 2437MHz | Pass | 11.15 | -7.96 | -7.47 | -8.68 | -9.23 | -3.54 | 2.85 |
| 2462MHz | Pass | 11.15 | -9.40 | -8.91 | -9.60 | -7.35 | -3.38 | 2.85 |
| 802.11g_Nss1,(6Mbps)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 11.15 | -10.68 | -10.95 | -10.06 | -10.46 | -6.84 | 2.85 |
| 2437MHz | Pass | 11.15 | -5.52 | -4.87 | -6.49 | -4.18 | -0.79 | 2.85 |
| 2462MHz | Pass | 11.15 | -11.30 | -11.77 | -10.83 | -10.71 | -6.35 | 2.85 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 11.15 | -10.80 | -11.02 | -10.76 | -10.32 | -7.60 | 2.85 |
| 2437MHz | Pass | 11.15 | -6.19 | -6.43 | -6.43 | -5.67 | -3.02 | 2.85 |
| 2462MHz | Pass | 11.15 | -10.96 | -12.76 | -11.43 | -11.47 | -9.00 | 2.85 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 11.15 | -15.30 | -15.46 | -14.56 | -13.38 | -11.82 | 2.85 |
| 2437MHz | Pass | 11.15 | -12.48 | -13.02 | -12.36 | -12.29 | -9.58 | 2.85 |
| 2452MHz | Pass | 11.15 | -13.07 | -12.76 | -13.29 | -12.98 | -9.94 | 2.85 |

DG = Directional Gain; **RBW=3 kHz**;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

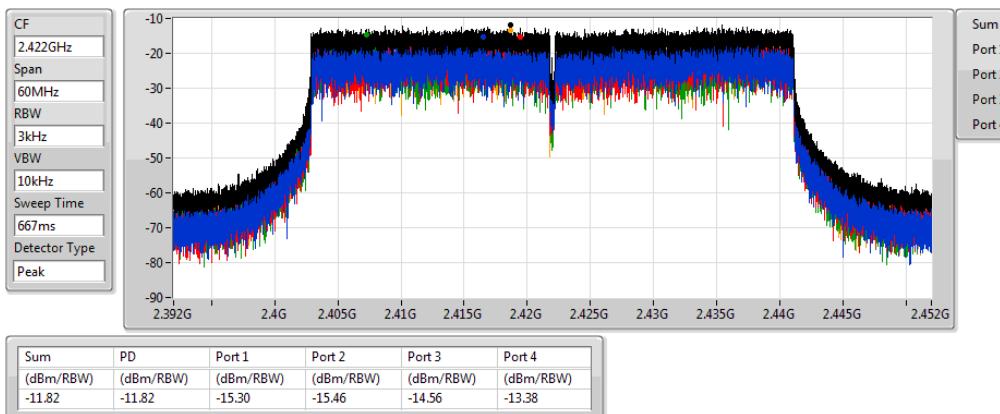
802.11b_Nss1,(1Mbps)_4TX
2412MHz

802.11b_Nss1,(1Mbps)_4TX
2437MHz

802.11b_Nss1,(1Mbps)_4TX
2462MHz


802.11g_Nss1,(6Mbps)_4TX
2412MHz

802.11g_Nss1,(6Mbps)_4TX
2437MHz

802.11g_Nss1,(6Mbps)_4TX
2462MHz


802.11ax HEW20_Nss1,(MCS0)_4TX
2412MHz

802.11ax HEW20_Nss1,(MCS0)_4TX
2437MHz

802.11ax HEW20_Nss1,(MCS0)_4TX
2462MHz


802.11ax HEW40_Nss1,(MCS0)_4TX
PSD

23/10/2019

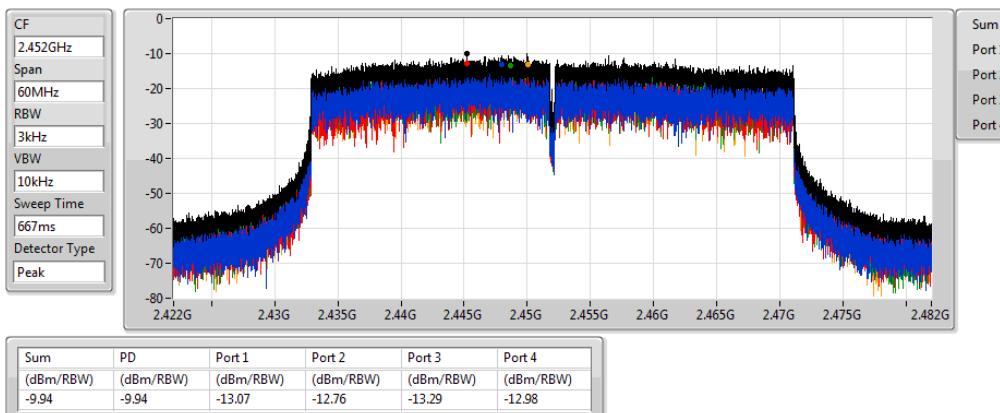
2422MHz

802.11ax HEW40_Nss1,(MCS0)_4TX
PSD

23/10/2019

2437MHz

802.11ax HEW40_Nss1,(MCS0)_4TX
PSD

23/10/2019

2452MHz


**<Scan Radio>
Summary**

| Mode | PD (dBm/RBW) |
|--------------------------|-----------------|
| 2.4-2.4835GHz | - |
| 802.11b_Nss1,(1Mbps)_1TX | -9.35 |
| 802.11g_Nss1,(6Mbps)_1TX | -6.09 |
| VHT20_Nss1,(MCS0)_1TX | -5.95 |
| VHT40_Nss1,(MCS0)_1TX | -18.14 |

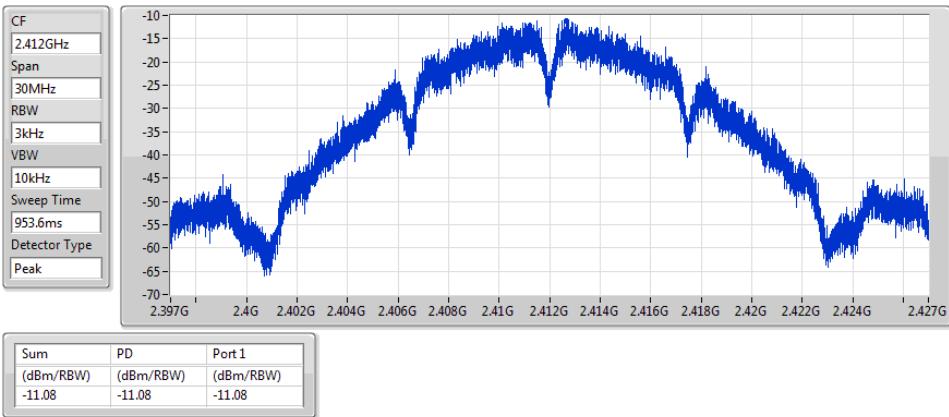
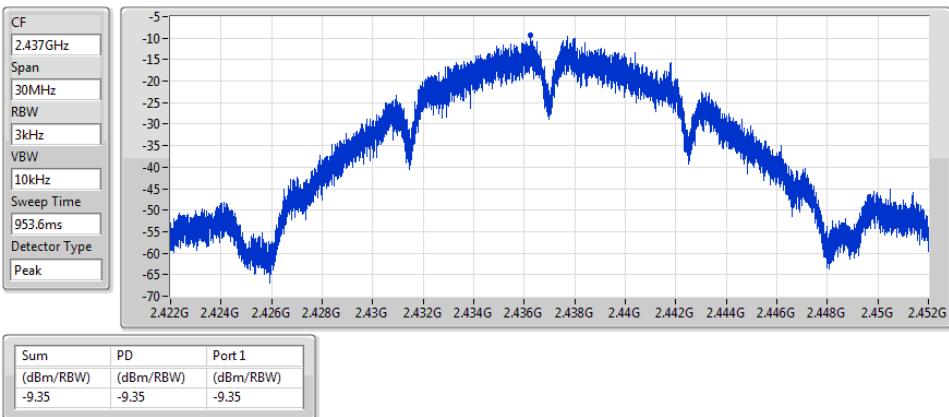
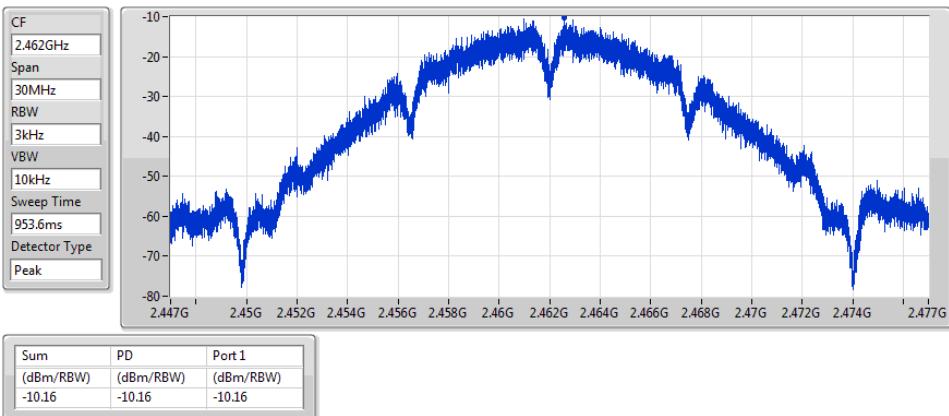
RBW=3 kHz.

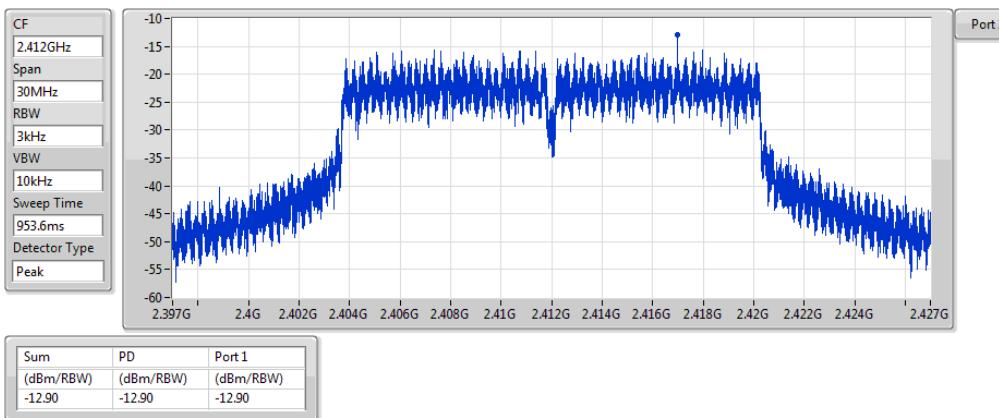
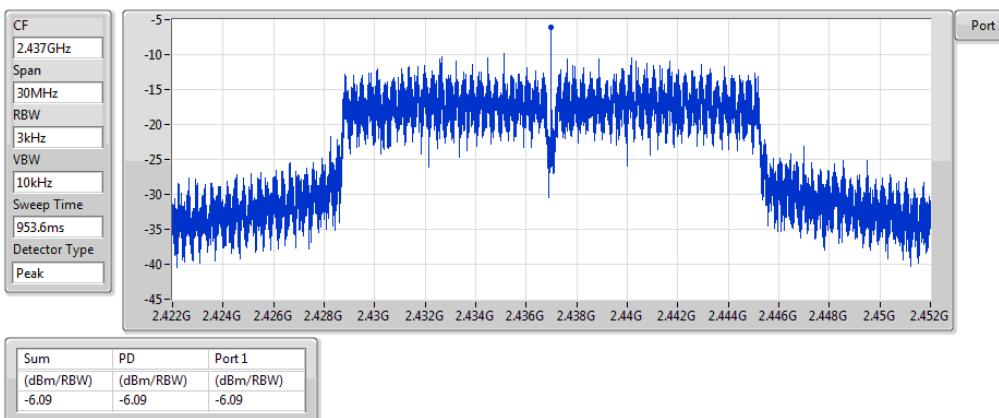
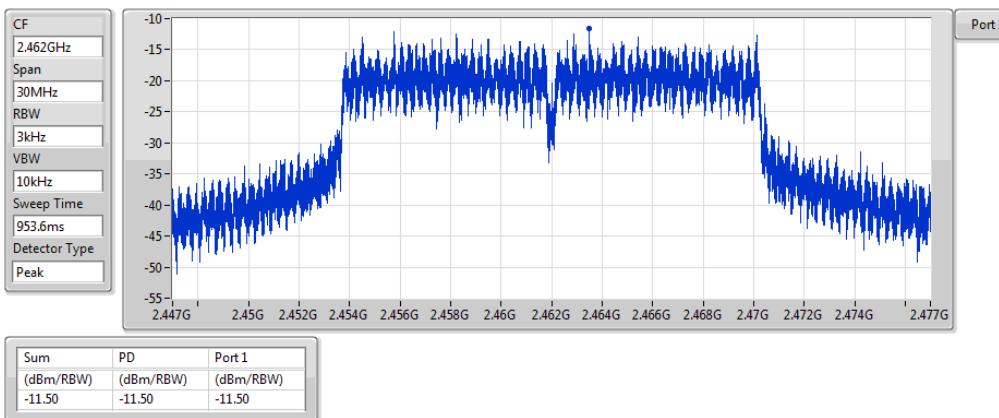
**Result**

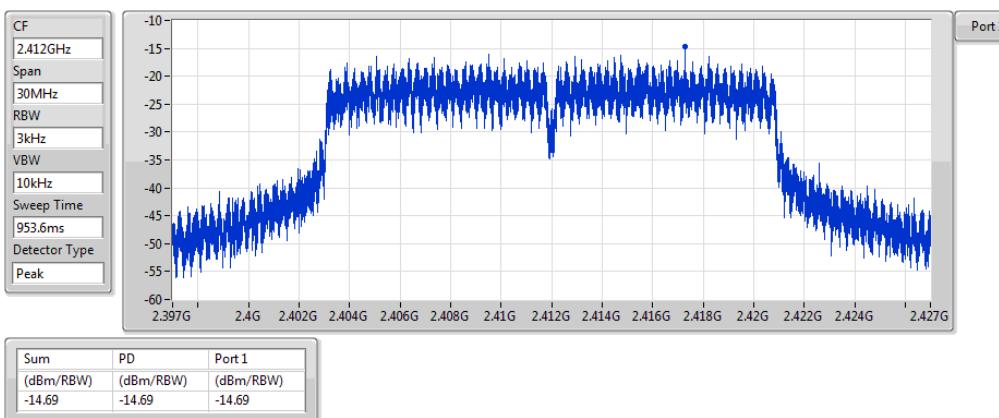
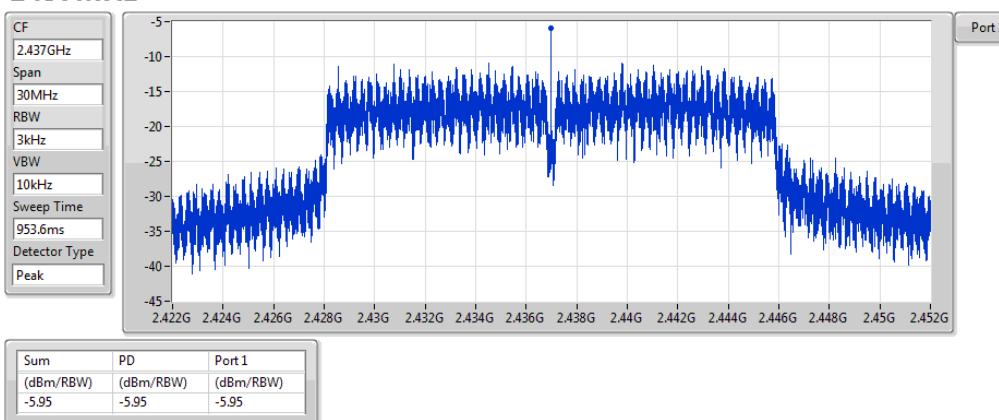
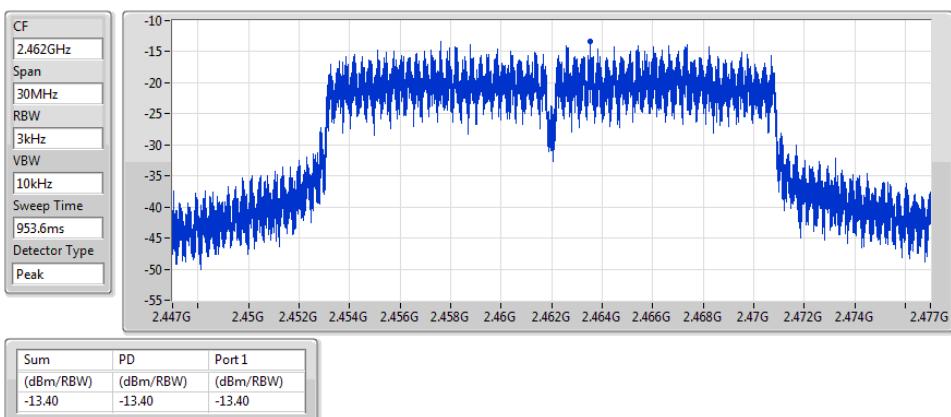
| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|--------------------------|--------|-------------|---------------------|-----------------|-----------------------|
| 802.11b_Nss1,(1Mbps)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | -11.08 | -11.08 | 8.00 |
| 2437MHz | Pass | 5.08 | -9.35 | -9.35 | 8.00 |
| 2462MHz | Pass | 5.08 | -10.16 | -10.16 | 8.00 |
| 802.11g_Nss1,(6Mbps)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | -12.90 | -12.90 | 8.00 |
| 2437MHz | Pass | 5.08 | -6.09 | -6.09 | 8.00 |
| 2462MHz | Pass | 5.08 | -11.50 | -11.50 | 8.00 |
| VHT20_Nss1,(MCS0)_1TX | - | - | - | - | - |
| 2412MHz | Pass | 5.08 | -14.69 | -14.69 | 8.00 |
| 2437MHz | Pass | 5.08 | -5.95 | -5.95 | 8.00 |
| 2462MHz | Pass | 5.08 | -13.40 | -13.40 | 8.00 |
| VHT40_Nss1,(MCS0)_1TX | - | - | - | - | - |
| 2422MHz | Pass | 5.08 | -22.80 | -22.80 | 8.00 |
| 2437MHz | Pass | 5.08 | -18.14 | -18.14 | 8.00 |
| 2452MHz | Pass | 5.08 | -20.06 | -20.06 | 8.00 |

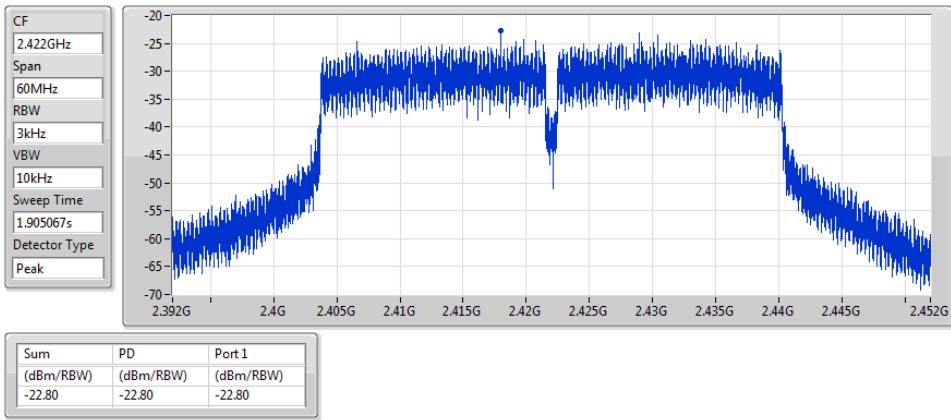
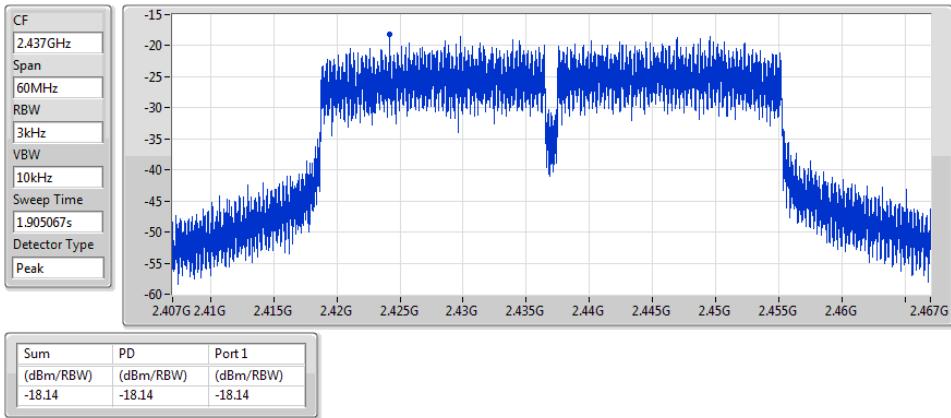
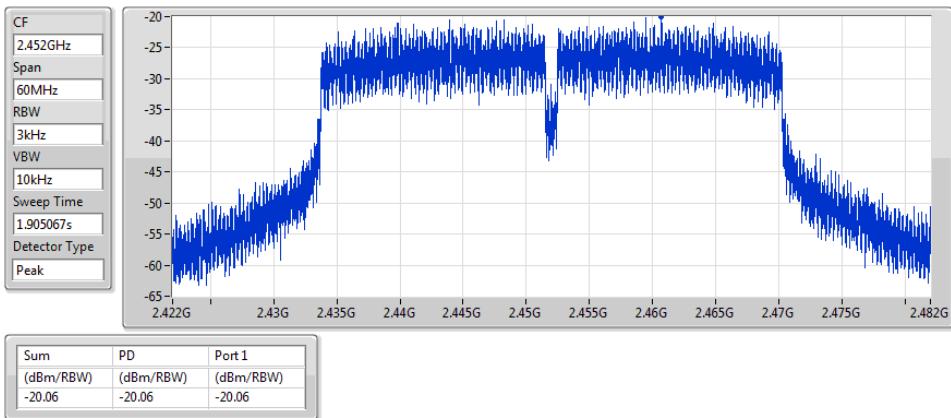
DG = Directional Gain; RBW=3 kHz;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_Nss1,(1Mbps)_1TX
2412MHz

802.11b_Nss1,(1Mbps)_1TX
2437MHz

802.11b_Nss1,(1Mbps)_1TX
2462MHz


802.11g_Nss1,(6Mbps)_1TX
2412MHz

802.11g_Nss1,(6Mbps)_1TX
2437MHz

802.11g_Nss1,(6Mbps)_1TX
2462MHz


VHT20_Nss1,(MCS0)_1TX
2412MHz

VHT20_Nss1,(MCS0)_1TX
2437MHz

VHT20_Nss1,(MCS0)_1TX
2462MHz


VHT40_Nss1,(MCS0)_1TX
2422MHz

VHT40_Nss1,(MCS0)_1TX
2437MHz

VHT40_Nss1,(MCS0)_1TX
2452MHz




For beamforming mode:

Summary

| Mode | PD (dBm/RBW) |
|-----------------------------------|-----------------|
| 2.4-2.4835GHz | - |
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | -4.54 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | -7.70 |

RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;



PSD Result

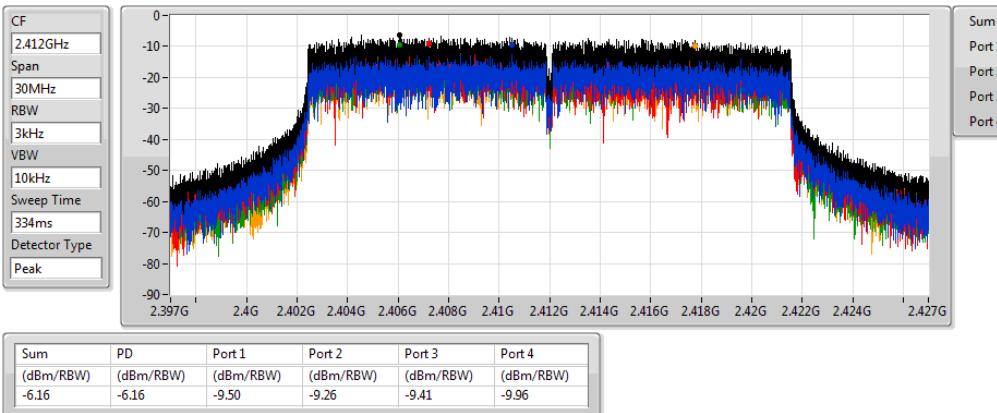
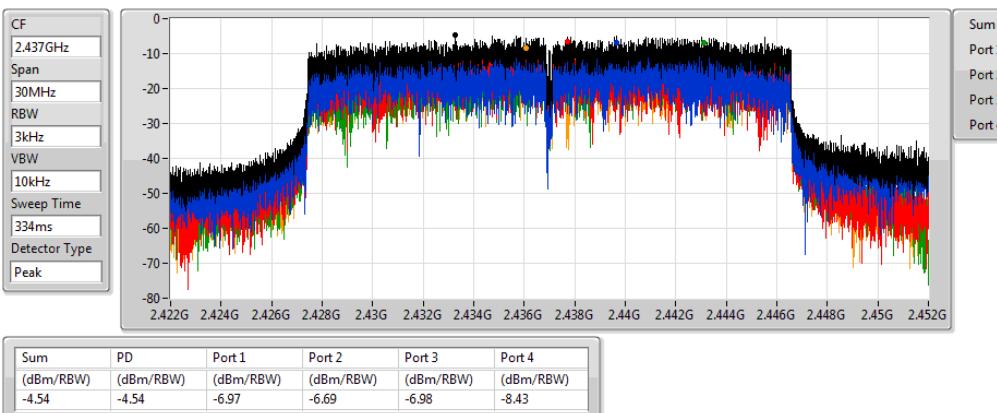
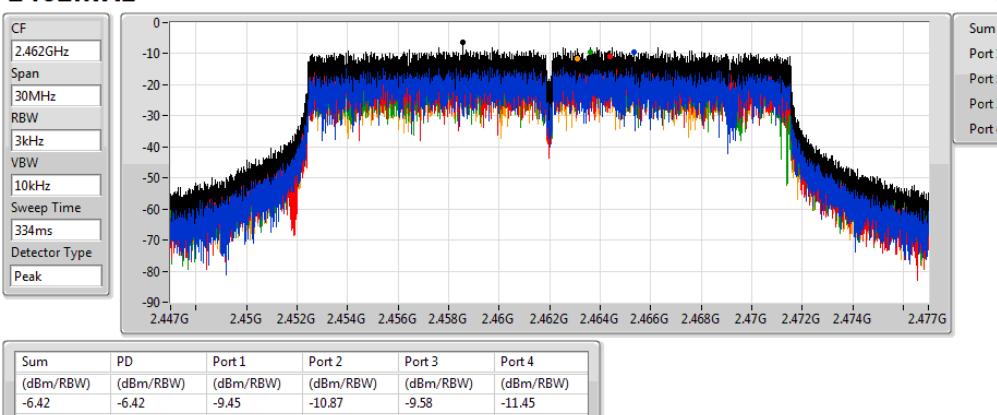
Appendix D.3

Result

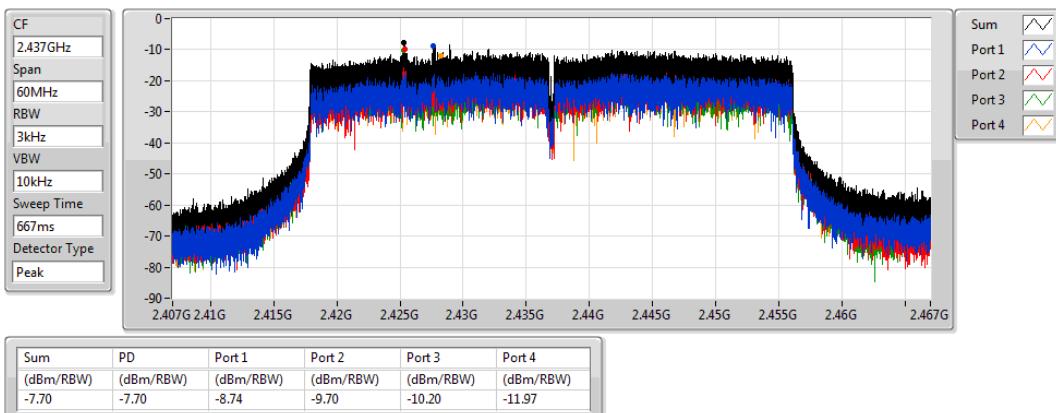
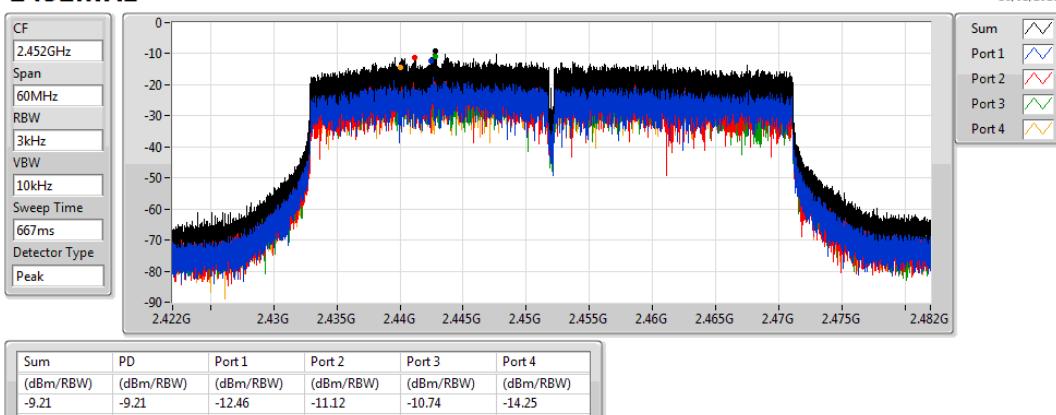
| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | Port 2 (dBm/RBW) | Port 3 (dBm/RBW) | Port 4 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|-----------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 9.25 | -9.50 | -9.26 | -9.41 | -9.96 | -6.16 | 4.75 |
| 2437MHz | Pass | 9.25 | -6.97 | -6.69 | -6.98 | -8.43 | -4.54 | 4.75 |
| 2462MHz | Pass | 9.25 | -9.45 | -10.87 | -9.58 | -11.45 | -6.42 | 4.75 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 9.25 | -11.27 | -9.43 | -10.44 | -14.14 | -9.16 | 4.75 |
| 2437MHz | Pass | 9.25 | -8.74 | -9.70 | -10.20 | -11.97 | -7.70 | 4.75 |
| 2452MHz | Pass | 9.25 | -12.46 | -11.12 | -10.74 | -14.25 | -9.21 | 4.75 |

DG = Directional Gain; **RBW** = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
2412MHz

PSD
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
2437MHz

PSD
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
2462MHz

PSD

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2422MHz

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2437MHz

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2452MHz




For non-beamforming mode:

<DBS mode>

Summary

| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Port |
|--------------------------------|--------|----------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_4TX | Pass | 2.41298G | 9.34 | -20.66 | 1.63828G | -52.74 | 2.39982G | -40.71 | 2.49656G | -51.43 | 24.81457G | -43.75 | 3 |
| 802.11g_Nss1,(6Mbps)_4TX | Pass | 2.44446G | 12.40 | -17.60 | 625.32M | -52.82 | 2.39988G | -29.17 | 2.4926G | -51.48 | 21.52738G | -45.08 | 3 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | Pass | 2.442G | 10.85 | -19.15 | 544.06M | -52.30 | 2.3997G | -29.63 | 2.48484G | -51.24 | 15.23115G | -45.18 | 4 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -52.92 | 2.3984G | -36.72 | 2.48586G | -43.77 | 24.69991G | -44.82 | 4 |



Result

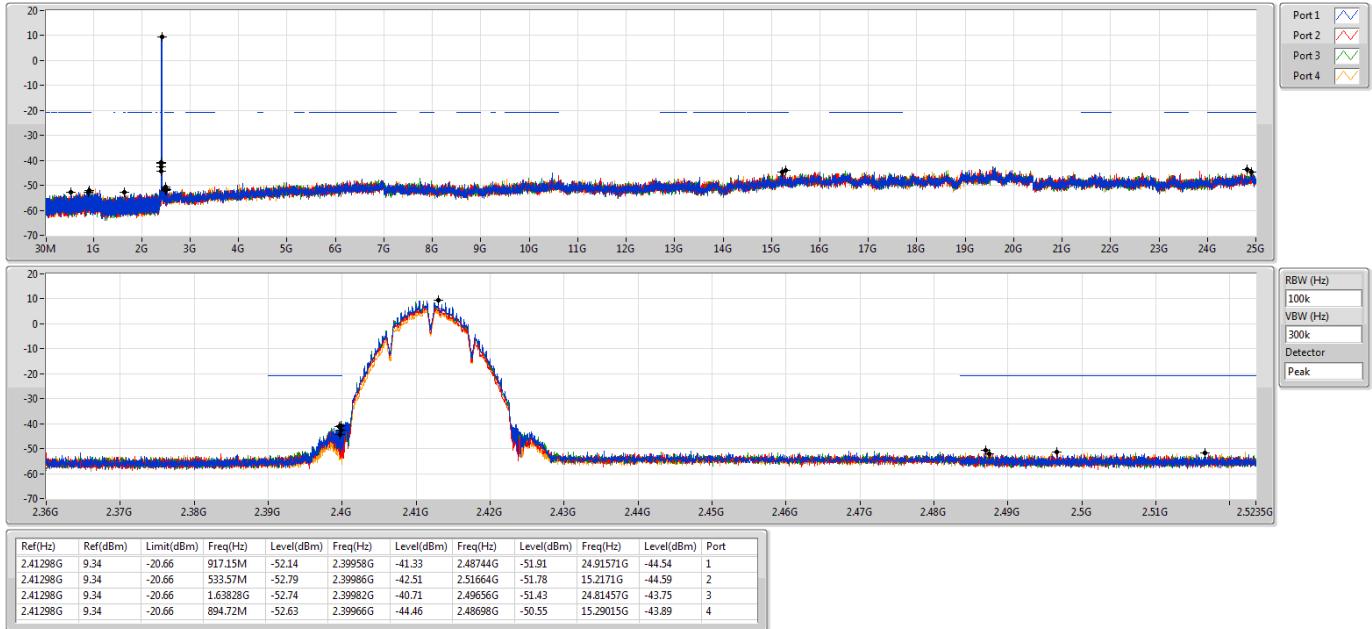
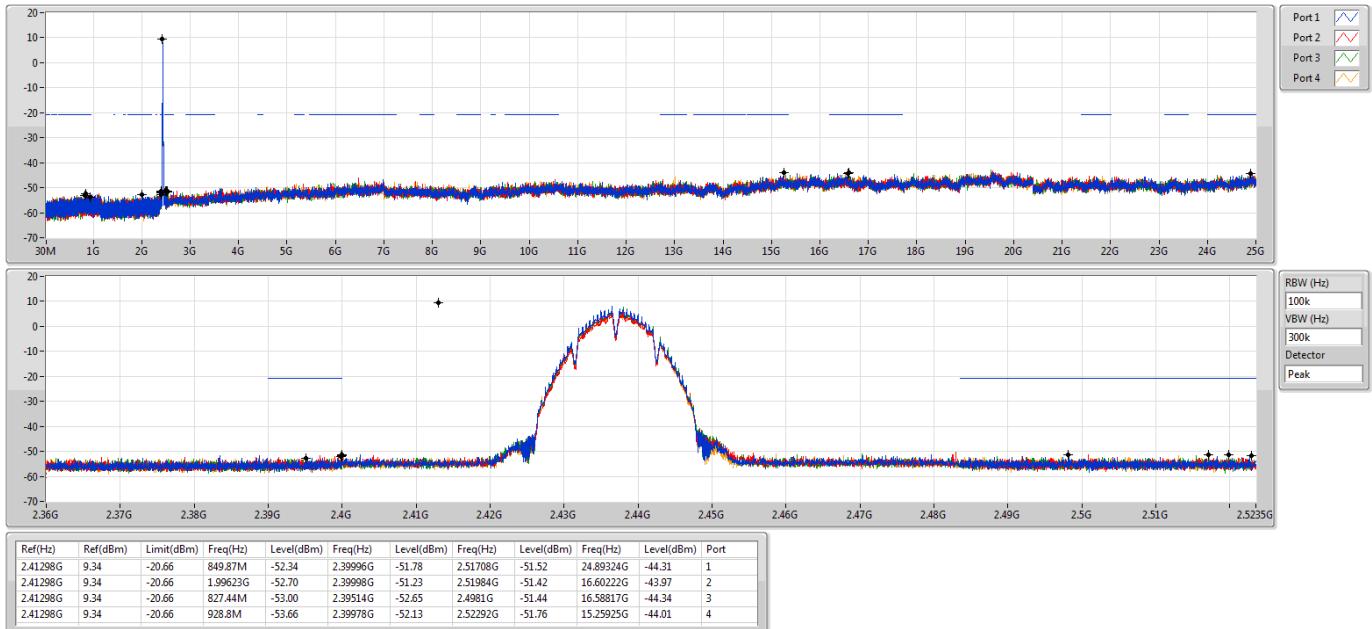
| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Port |
|--------------------------------|--------|----------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|------|
| 802.11b_Nss1,(1Mbps)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.41298G | 9.34 | -20.66 | 917.15M | -52.14 | 2.39958G | -41.33 | 2.48744G | -51.91 | 24.91571G | -44.54 | 1 |
| 2412MHz | Pass | 2.41298G | 9.34 | -20.66 | 533.57M | -52.79 | 2.39986G | -42.51 | 2.51664G | -51.78 | 15.2171G | -44.59 | 2 |
| 2412MHz | Pass | 2.41298G | 9.34 | -20.66 | 1.63828G | -52.74 | 2.39982G | -40.71 | 2.49656G | -51.43 | 24.81457G | -43.75 | 3 |
| 2412MHz | Pass | 2.41298G | 9.34 | -20.66 | 894.72M | -52.63 | 2.39966G | -44.46 | 2.48698G | -50.55 | 15.29015G | -43.89 | 4 |
| 2437MHz | Pass | 2.41298G | 9.34 | -20.66 | 849.87M | -52.34 | 2.39996G | -51.78 | 2.51708G | -51.52 | 24.89324G | -44.31 | 1 |
| 2437MHz | Pass | 2.41298G | 9.34 | -20.66 | 1.99623G | -52.70 | 2.39998G | -51.23 | 2.51984G | -51.42 | 16.60222G | -43.97 | 2 |
| 2437MHz | Pass | 2.41298G | 9.34 | -20.66 | 827.44M | -53.00 | 2.39514G | -52.65 | 2.4981G | -51.44 | 16.58817G | -44.34 | 3 |
| 2437MHz | Pass | 2.41298G | 9.34 | -20.66 | 928.8M | -53.66 | 2.39978G | -52.13 | 2.52292G | -51.76 | 15.25925G | -44.01 | 4 |
| 2462MHz | Pass | 2.41298G | 9.34 | -20.66 | 720.26M | -52.83 | 2.39454G | -52.29 | 2.50996G | -51.25 | 16.43364G | -44.62 | 1 |
| 2462MHz | Pass | 2.41298G | 9.34 | -20.66 | 914.53M | -52.78 | 2.39368G | -51.54 | 2.48432G | -51.83 | 24.93257G | -43.73 | 2 |
| 2462MHz | Pass | 2.41298G | 9.34 | -20.66 | 2.00293G | -53.13 | 2.3996G | -53.00 | 2.49968G | -51.88 | 17.52937G | -43.90 | 3 |
| 2462MHz | Pass | 2.41298G | 9.34 | -20.66 | 745.89M | -52.71 | 2.39338G | -52.78 | 2.4898G | -51.77 | 24.88762G | -44.29 | 4 |
| 802.11g_Nss1,(6Mbps)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.44446G | 12.40 | -17.60 | 820.45M | -52.96 | 2.39988G | -31.55 | 2.5216G | -51.55 | 24.88481G | -44.31 | 1 |
| 2412MHz | Pass | 2.44446G | 12.40 | -17.60 | 2.12962G | -52.80 | 2.39976G | -33.67 | 2.5044G | -52.00 | 16.43645G | -44.73 | 2 |
| 2412MHz | Pass | 2.44446G | 12.40 | -17.60 | 625.32M | -52.82 | 2.39988G | -29.17 | 2.4926G | -51.48 | 21.52738G | -45.08 | 3 |
| 2412MHz | Pass | 2.44446G | 12.40 | -17.60 | 2.14506G | -53.05 | 2.39996G | -30.51 | 2.52104G | -51.45 | 24.91571G | -44.16 | 4 |
| 2437MHz | Pass | 2.44446G | 12.40 | -17.60 | 2.18467G | -52.29 | 2.39976G | -37.12 | 2.48448G | -39.69 | 17.48161G | -43.77 | 1 |
| 2437MHz | Pass | 2.44446G | 12.40 | -17.60 | 2.0804G | -53.51 | 2.39828G | -39.05 | 2.48376G | -42.82 | 16.41117G | -44.56 | 2 |
| 2437MHz | Pass | 2.44446G | 12.40 | -17.60 | 839.68M | -51.88 | 2.39982G | -37.15 | 2.4845G | -42.06 | 16.3634G | -44.45 | 3 |
| 2437MHz | Pass | 2.44446G | 12.40 | -17.60 | 798.61M | -53.20 | 2.39976G | -36.88 | 2.48418G | -43.74 | 24.93257G | -44.09 | 4 |
| 2462MHz | Pass | 2.44446G | 12.40 | -17.60 | 821.91M | -53.08 | 2.39998G | -49.64 | 2.48446G | -42.01 | 16.46736G | -44.59 | 1 |
| 2462MHz | Pass | 2.44446G | 12.40 | -17.60 | 2.11593G | -52.27 | 2.39674G | -51.52 | 2.48448G | -48.21 | 15.28172G | -43.96 | 2 |
| 2462MHz | Pass | 2.44446G | 12.40 | -17.60 | 802.4M | -52.58 | 2.39842G | -52.43 | 2.48364G | -47.68 | 24.63757G | -44.52 | 3 |
| 2462MHz | Pass | 2.44446G | 12.40 | -17.60 | 631.43M | -52.33 | 2.39872G | -51.26 | 2.4839G | -44.68 | 24.91571G | -43.55 | 4 |
| 802.11ax HEW20_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.442G | 10.85 | -19.15 | 1.95429G | -51.92 | 2.39978G | -29.86 | 2.4913G | -51.61 | 16.54884G | -44.97 | 1 |
| 2412MHz | Pass | 2.442G | 10.85 | -19.15 | 883.65M | -53.10 | 2.39998G | -33.28 | 2.48996G | -51.62 | 16.90003G | -43.98 | 2 |
| 2412MHz | Pass | 2.442G | 10.85 | -19.15 | 543.77M | -51.37 | 2.39964G | -34.43 | 2.49942G | -51.89 | 24.93257G | -45.24 | 3 |
| 2412MHz | Pass | 2.442G | 10.85 | -19.15 | 544.06M | -52.30 | 2.3997G | -29.63 | 2.48484G | -51.24 | 15.23115G | -45.18 | 4 |
| 2437MHz | Pass | 2.442G | 10.85 | -19.15 | 2.12409G | -52.20 | 2.39982G | -39.72 | 2.48404G | -44.64 | 17.50128G | -44.55 | 1 |
| 2437MHz | Pass | 2.442G | 10.85 | -19.15 | 795.99M | -52.61 | 2.39892G | -41.91 | 2.48584G | -48.49 | 16.90284G | -44.59 | 2 |
| 2437MHz | Pass | 2.442G | 10.85 | -19.15 | 778.8M | -52.45 | 2.39776G | -40.59 | 2.48406G | -48.20 | 21.63414G | -44.83 | 3 |
| 2437MHz | Pass | 2.442G | 10.85 | -19.15 | 671.92M | -51.98 | 2.39998G | -39.16 | 2.48456G | -45.85 | 21.57795G | -44.53 | 4 |
| 2462MHz | Pass | 2.442G | 10.85 | -19.15 | 853.36M | -51.85 | 2.39944G | -50.48 | 2.4842G | -46.97 | 24.94381G | -43.76 | 1 |
| 2462MHz | Pass | 2.442G | 10.85 | -19.15 | 544.06M | -51.24 | 2.39668G | -51.73 | 2.48426G | -47.96 | 16.63312G | -44.98 | 2 |
| 2462MHz | Pass | 2.442G | 10.85 | -19.15 | 544.06M | -50.83 | 2.39992G | -51.65 | 2.48386G | -47.05 | 24.98314G | -44.52 | 3 |
| 2462MHz | Pass | 2.442G | 10.85 | -19.15 | 544.06M | -52.79 | 2.3993G | -52.38 | 2.48388G | -45.93 | 24.32851G | -43.55 | 4 |
| 802.11ax HEW40_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 2.44196G | 4.07 | -25.93 | 794.57M | -52.12 | 2.3998G | -37.67 | 2.48534G | -51.26 | 16.49096G | -44.82 | 1 |
| 2422MHz | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -52.40 | 2.39976G | -39.71 | 2.50074G | -51.51 | 16.44889G | -43.97 | 2 |
| 2422MHz | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -53.16 | 2.39968G | -39.19 | 2.55542G | -50.82 | 16.52461G | -44.29 | 3 |
| 2422MHz | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -51.94 | 2.3999G | -37.03 | 2.5323G | -52.27 | 16.63679G | -44.56 | 4 |
| 2437MHz | Pass | 2.44196G | 4.07 | -25.93 | 1.62584G | -52.77 | 2.39608G | -39.75 | 2.48518G | -45.35 | 21.78878G | -44.89 | 1 |
| 2437MHz | Pass | 2.44196G | 4.07 | -25.93 | 898.48M | -52.15 | 2.39948G | -42.90 | 2.48494G | -46.67 | 16.90884G | -44.65 | 2 |
| 2437MHz | Pass | 2.44196G | 4.07 | -25.93 | 843.52M | -52.55 | 2.3998G | -39.69 | 2.48414G | -47.73 | 16.59753G | -44.51 | 3 |
| 2437MHz | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -52.92 | 2.3984G | -36.72 | 2.48586G | -43.77 | 24.69991G | -44.82 | 4 |

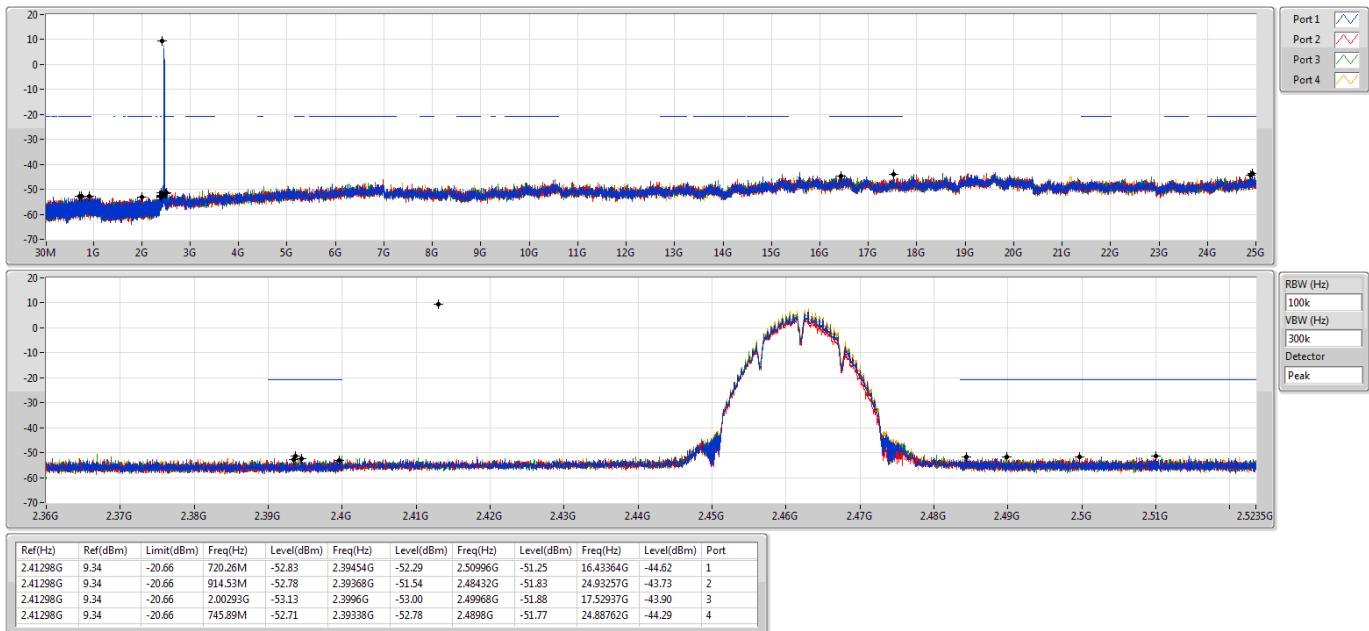
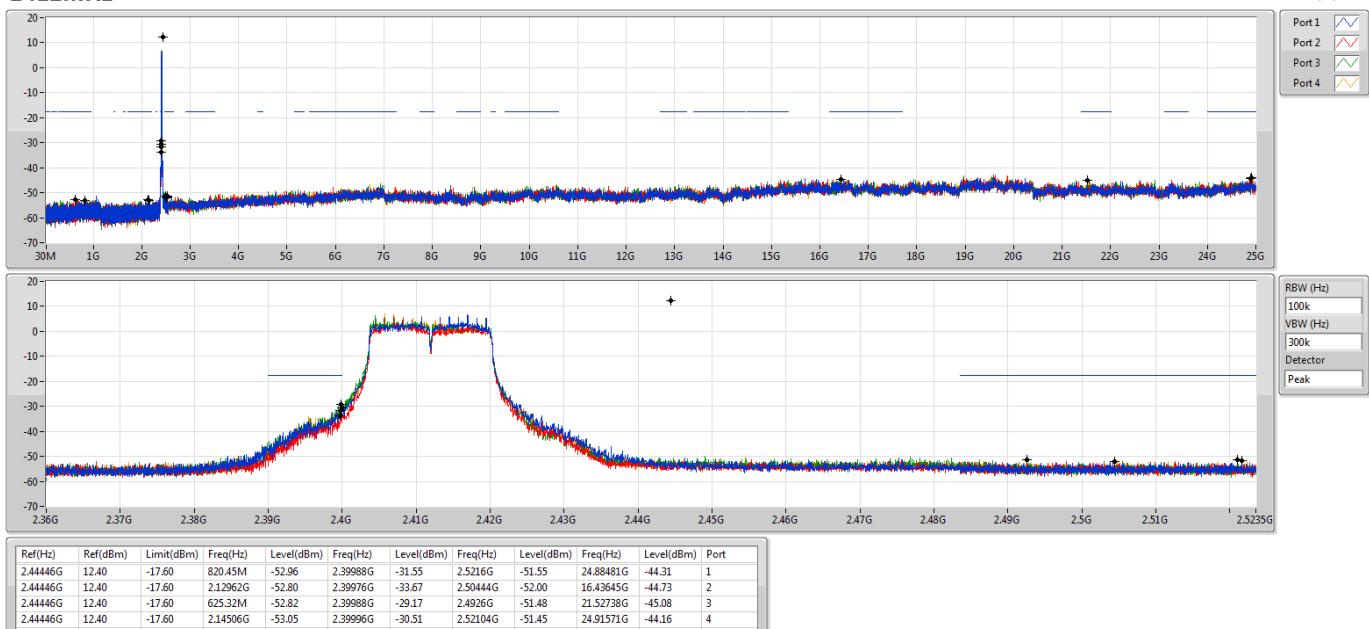


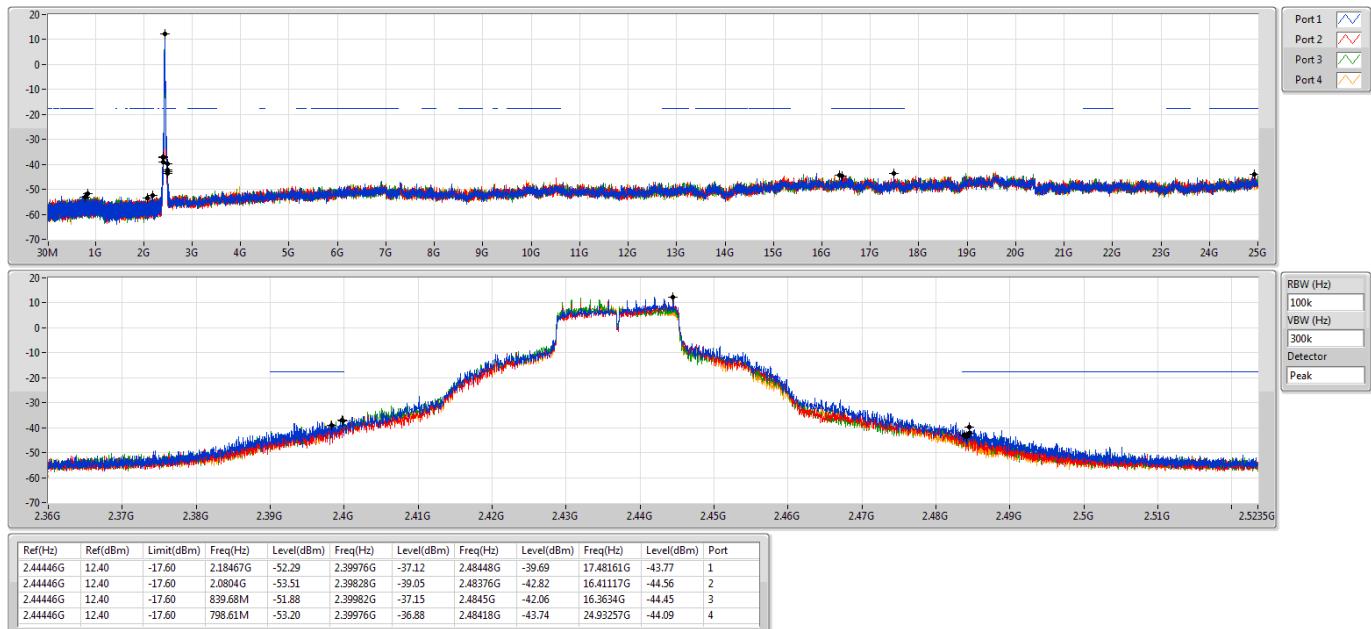
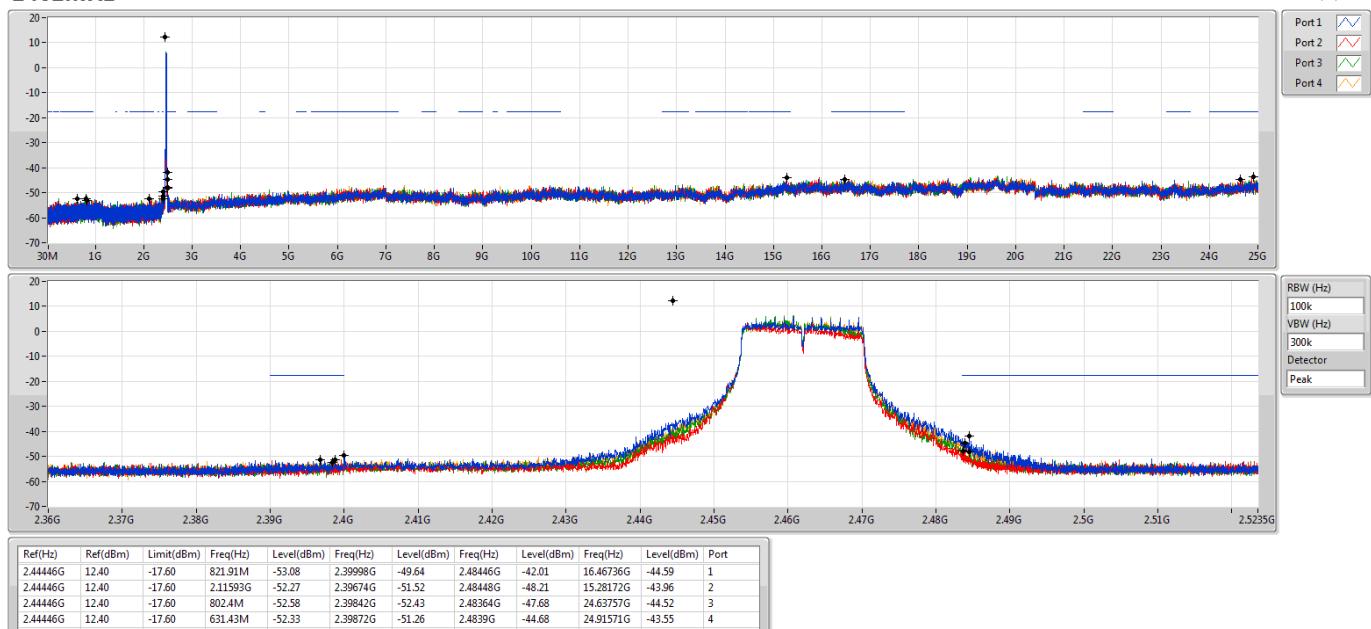
CSE(Non-restricted Band) Result

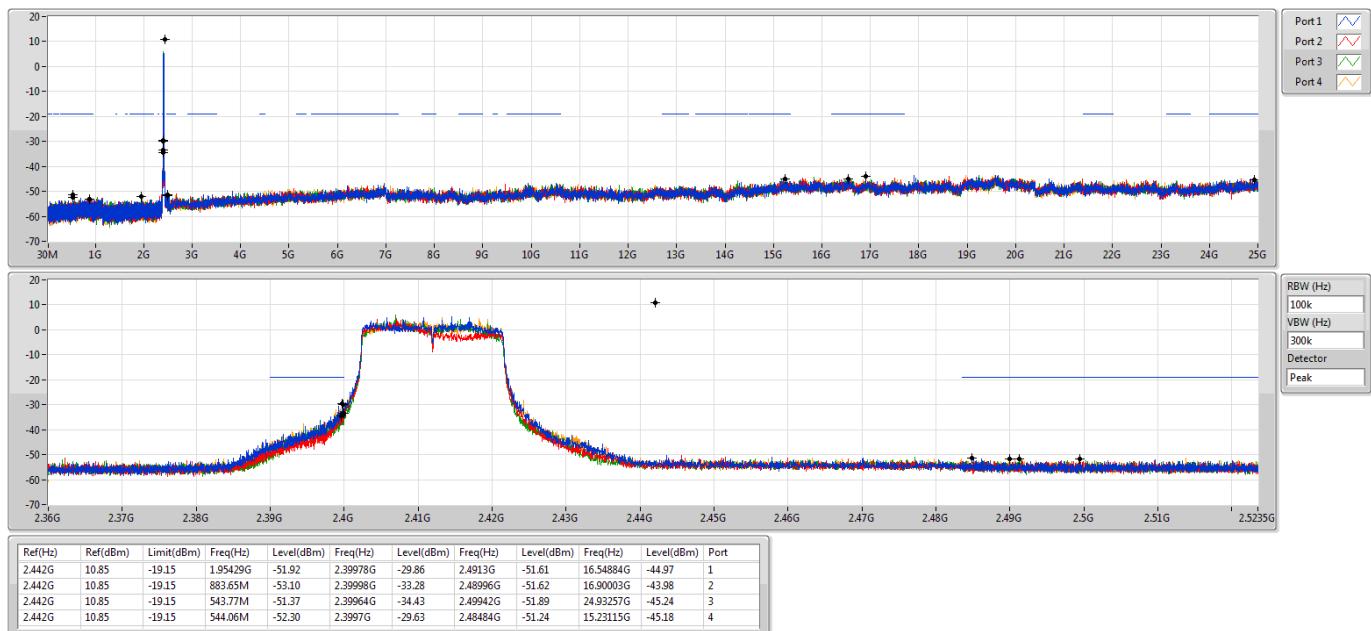
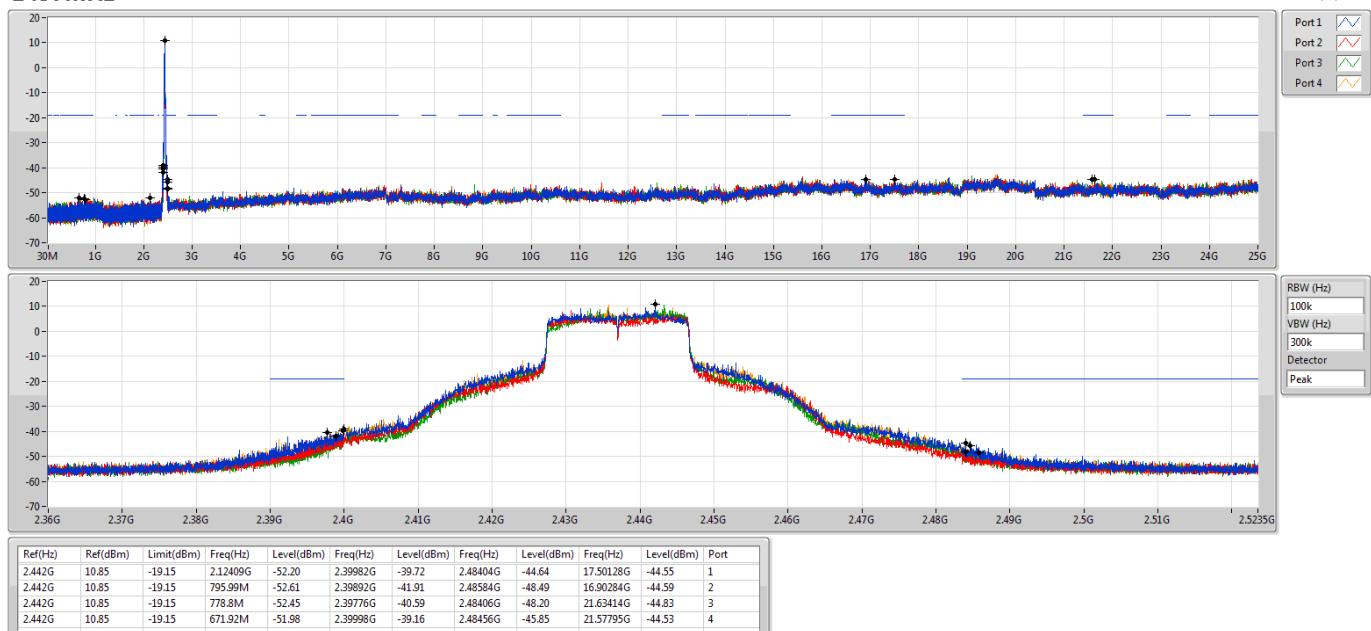
Appendix E.1

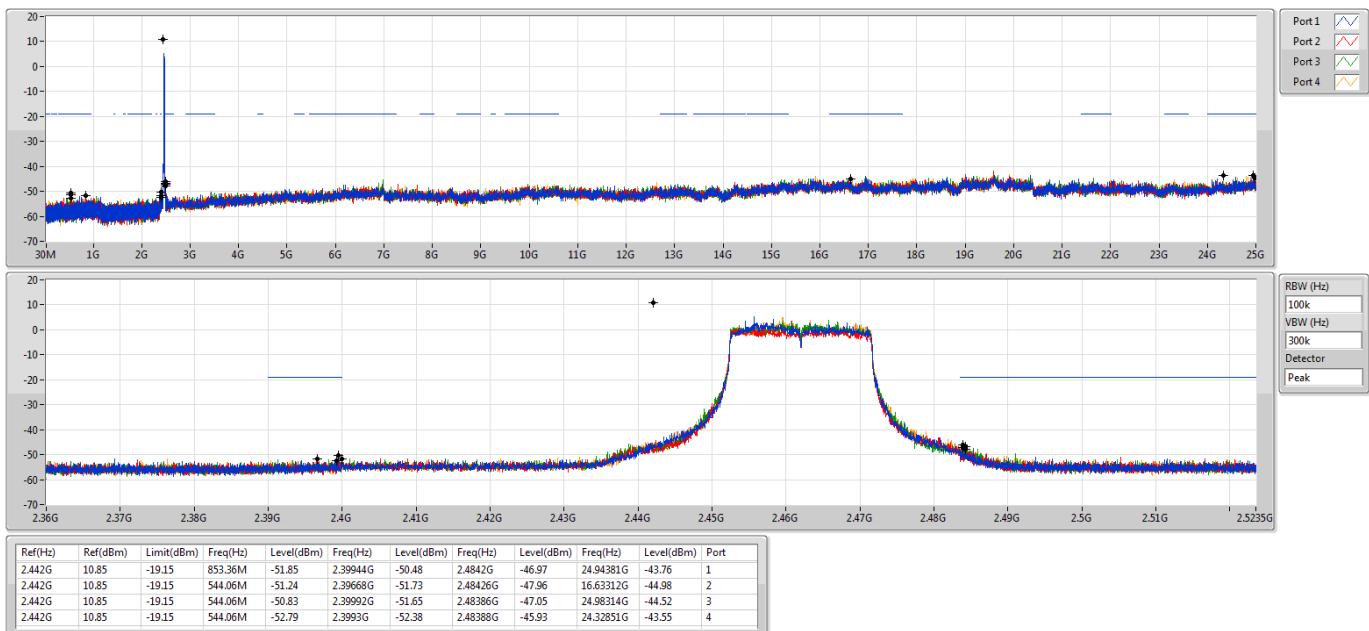
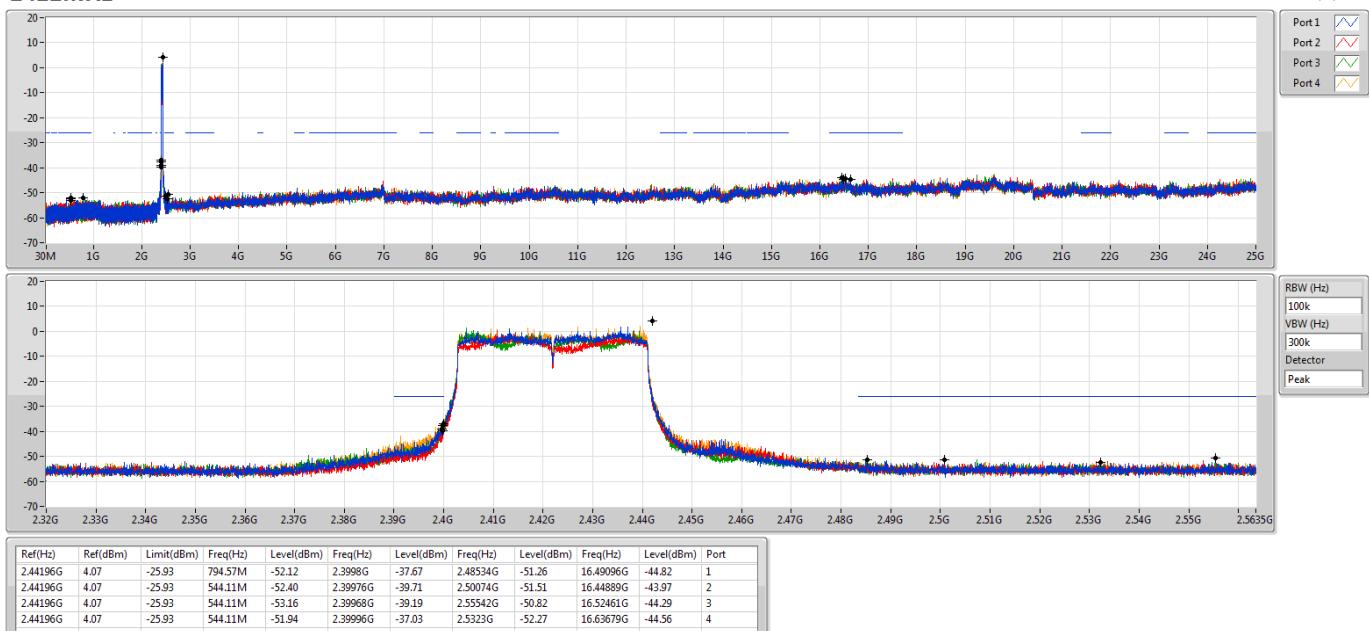
| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|---------|--------|-------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|------|
| 2452MHz | Pass | 2.44196G | 4.07 | -25.93 | 2.1265G | -52.27 | 2.3968G | -52.52 | 2.48446G | -42.44 | 16.89481G | -44.58 | 1 |
| 2452MHz | Pass | 2.44196G | 4.07 | -25.93 | 544.11M | -51.74 | 2.39216G | -52.60 | 2.48358G | -44.53 | 17.54547G | -44.83 | 2 |
| 2452MHz | Pass | 2.44196G | 4.07 | -25.93 | 866.42M | -51.95 | 2.39812G | -52.13 | 2.48446G | -43.99 | 16.3928G | -44.32 | 3 |
| 2452MHz | Pass | 2.44196G | 4.07 | -25.93 | 572.16M | -52.71 | 2.398G | -52.78 | 2.48894G | -44.94 | 16.89201G | -44.80 | 4 |

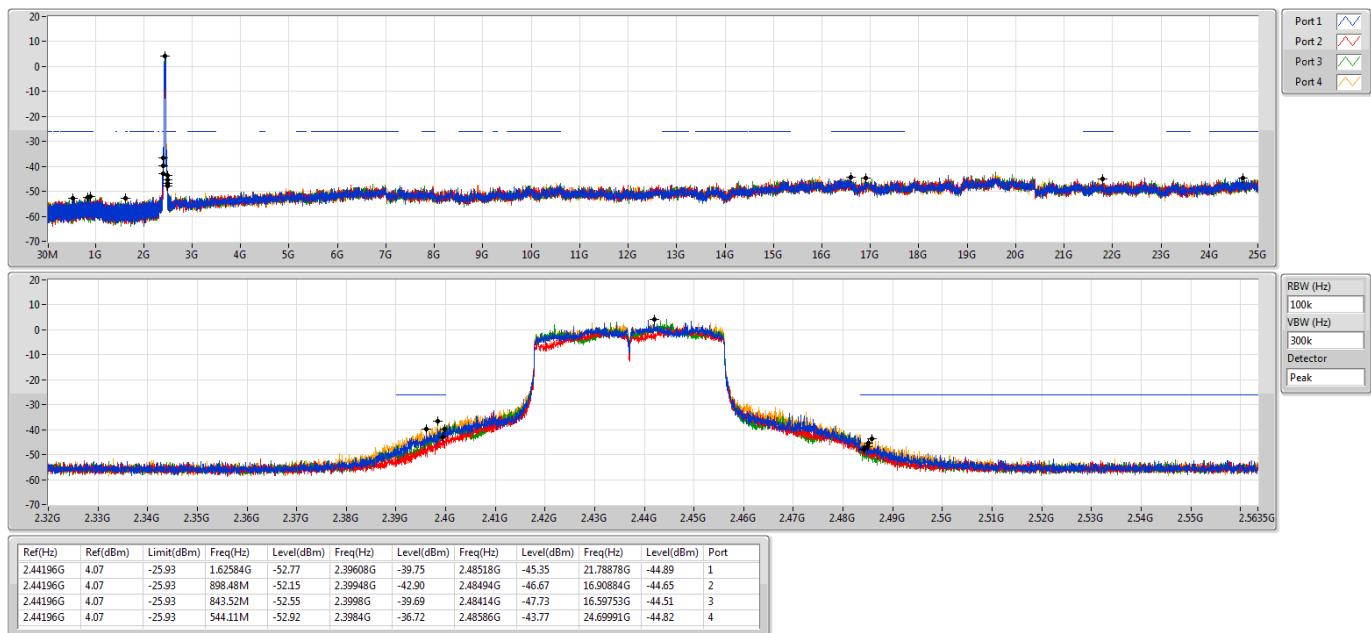
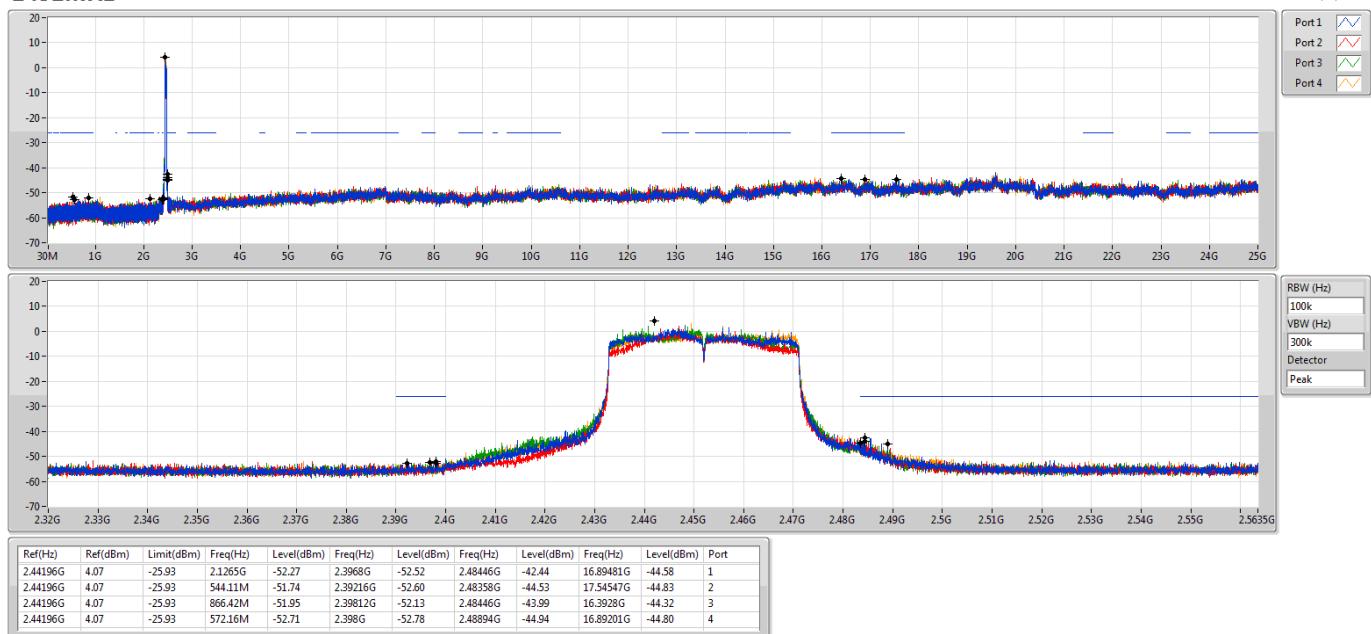
802.11b_Nss1,(1Mbps)_4TX
2412MHz

802.11b_Nss1,(1Mbps)_4TX
2437MHz


802.11b_Nss1,(1Mbps)_4TX
CSE NdB
2462MHz

802.11g_Nss1,(6Mbps)_4TX
CSE NdB
2412MHz


802.11g_Nss1,(6Mbps)_4TX
CSE NdB
2437MHz

802.11g_Nss1,(6Mbps)_4TX
CSE NdB
2462MHz


802.11ax HEW20_Nss1,(MCS0)_4TX
2412MHz

802.11ax HEW20_Nss1,(MCS0)_4TX
2437MHz


802.11ax HEW20_Nss1,(MCS0)_4TX
2462MHz

802.11ax HEW40_Nss1,(MCS0)_4TX
2422MHz


802.11ax HEW40_Nss1,(MCS0)_4TX
2437MHz

802.11ax HEW40_Nss1,(MCS0)_4TX
2452MHz




**<Scan Radio>
Summary**

| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|--------------------------|--------|-------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_1TX | Pass | 2.43649G | 3.70 | -26.30 | 2.187G | -55.99 | 2.39898G | -32.97 | 2.50728G | -55.22 | 24.90447G | -44.58 | 1 |
| 802.11g_Nss1,(6Mbps)_1TX | Pass | 2.43198G | 4.50 | -25.50 | 2.18962G | -56.57 | 2.39982G | -26.66 | 2.49822G | -54.52 | 24.82019G | -45.10 | 1 |
| VHT20_Nss1,(MCS0)_1TX | Pass | 2.43198G | 4.06 | -25.94 | 2.15176G | -56.30 | 2.3995G | -26.30 | 2.49458G | -54.16 | 24.90728G | -44.63 | 1 |
| VHT40_Nss1,(MCS0)_1TX | Pass | 2.4483G | -5.16 | -35.16 | 2.17945G | -56.23 | 2.39956G | -35.67 | 2.48358G | -41.25 | 24.98878G | -44.96 | 1 |

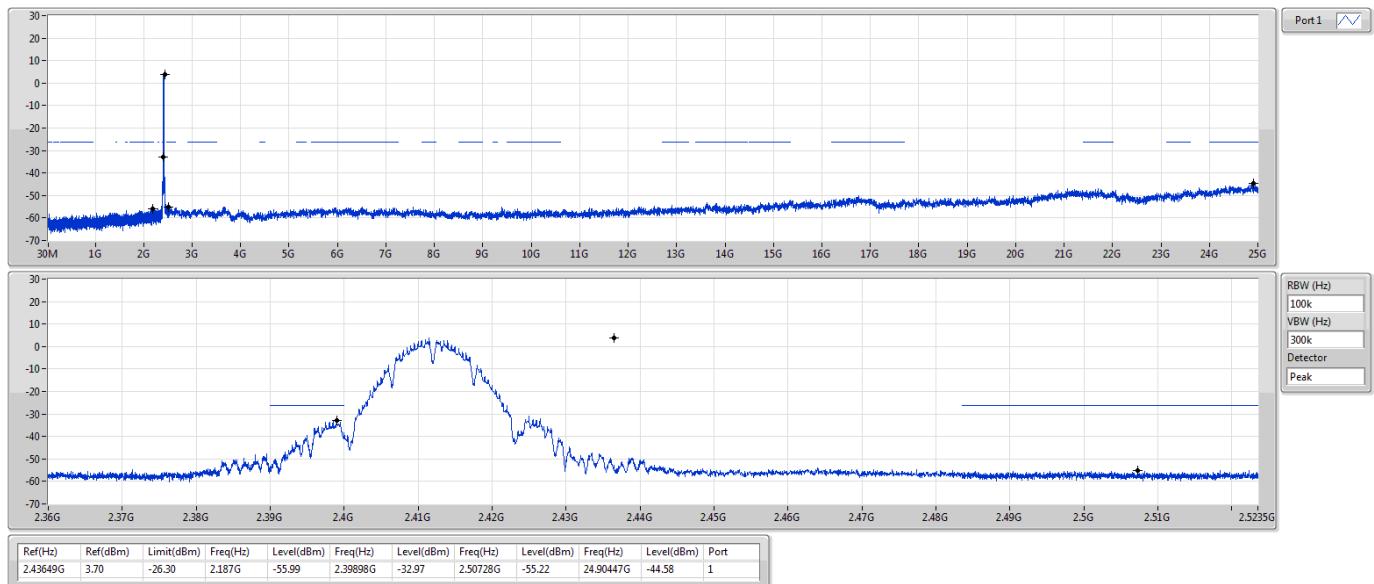


Result

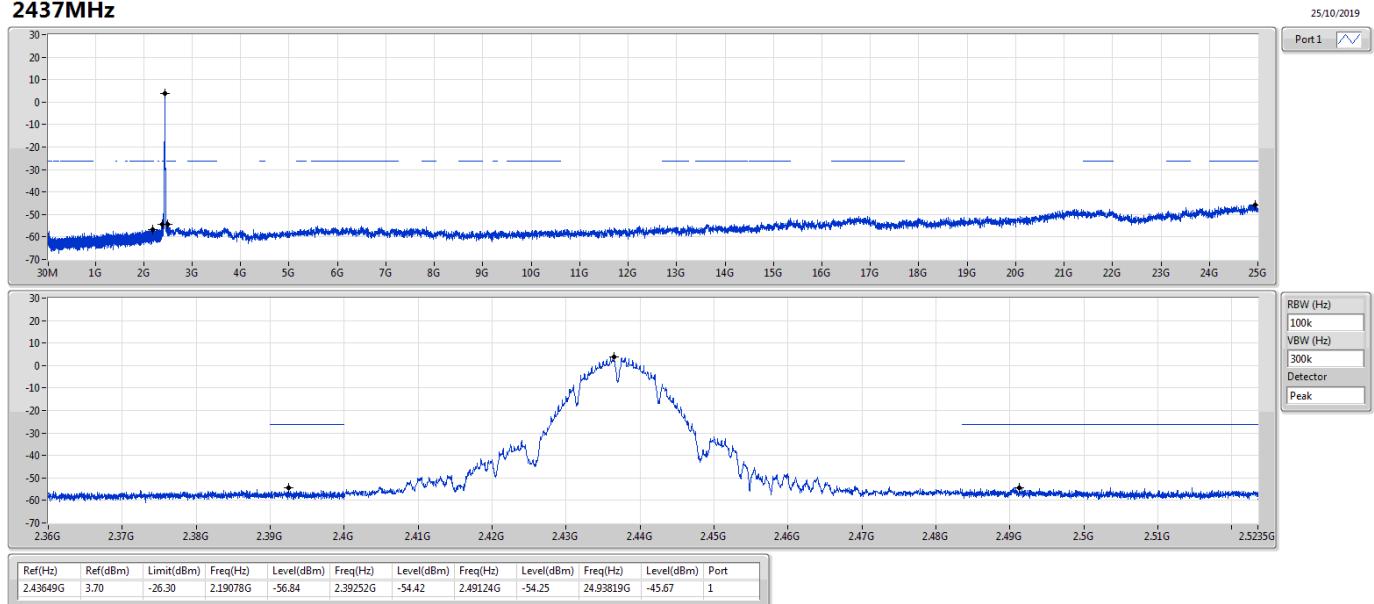
| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|--------------------------|--------|-------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|------|
| 802.11b_Nss1,(1Mbps)_1TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.43649G | 3.70 | -26.30 | 2.187G | -55.99 | 2.39898G | -32.97 | 2.50728G | -55.22 | 24.90447G | -44.58 | 1 |
| 2437MHz | Pass | 2.43649G | 3.70 | -26.30 | 2.19078G | -56.84 | 2.39252G | -54.42 | 2.49124G | -54.25 | 24.93819G | -45.67 | 1 |
| 2462MHz | Pass | 2.43649G | 3.70 | -26.30 | 2.03555G | -56.47 | 2.39748G | -55.42 | 2.48604G | -53.10 | 24.93819G | -45.26 | 1 |
| 802.11g_Nss1,(6Mbps)_1TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.43198G | 4.50 | -25.50 | 2.18962G | -56.57 | 2.39982G | -26.66 | 2.49822G | -54.52 | 24.82019G | -45.10 | 1 |
| 2437MHz | Pass | 2.43198G | 4.50 | -25.50 | 2.06613G | -56.71 | 2.3998G | -31.88 | 2.48388G | -37.61 | 24.94943G | -45.01 | 1 |
| 2462MHz | Pass | 2.43198G | 4.50 | -25.50 | 2.04895G | -56.63 | 2.39926G | -55.27 | 2.48446G | -30.12 | 24.88762G | -44.55 | 1 |
| VHT20_Nss1,(MCS0)_1TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.43198G | 4.06 | -25.94 | 2.15176G | -56.30 | 2.3995G | -26.30 | 2.49458G | -54.16 | 24.90728G | -44.63 | 1 |
| 2437MHz | Pass | 2.43198G | 4.06 | -25.94 | 2.30991G | -56.01 | 2.39886G | -32.65 | 2.48386G | -36.44 | 24.49147G | -45.06 | 1 |
| 2462MHz | Pass | 2.43198G | 4.06 | -25.94 | 2.16545G | -56.50 | 2.39658G | -55.37 | 2.48354G | -29.89 | 24.86795G | -44.74 | 1 |
| VHT40_Nss1,(MCS0)_1TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 2.4483G | -5.16 | -35.16 | 2.18231G | -55.54 | 2.39944G | -36.55 | 2.52422G | -54.70 | 24.95513G | -45.00 | 1 |
| 2437MHz | Pass | 2.4483G | -5.16 | -35.16 | 2.17945G | -56.23 | 2.39956G | -35.67 | 2.48358G | -41.25 | 24.98878G | -44.96 | 1 |
| 2452MHz | Pass | 2.4483G | -5.16 | -35.16 | 2.11562G | -56.04 | 2.39952G | -49.92 | 2.48446G | -36.90 | 24.9383G | -44.62 | 1 |

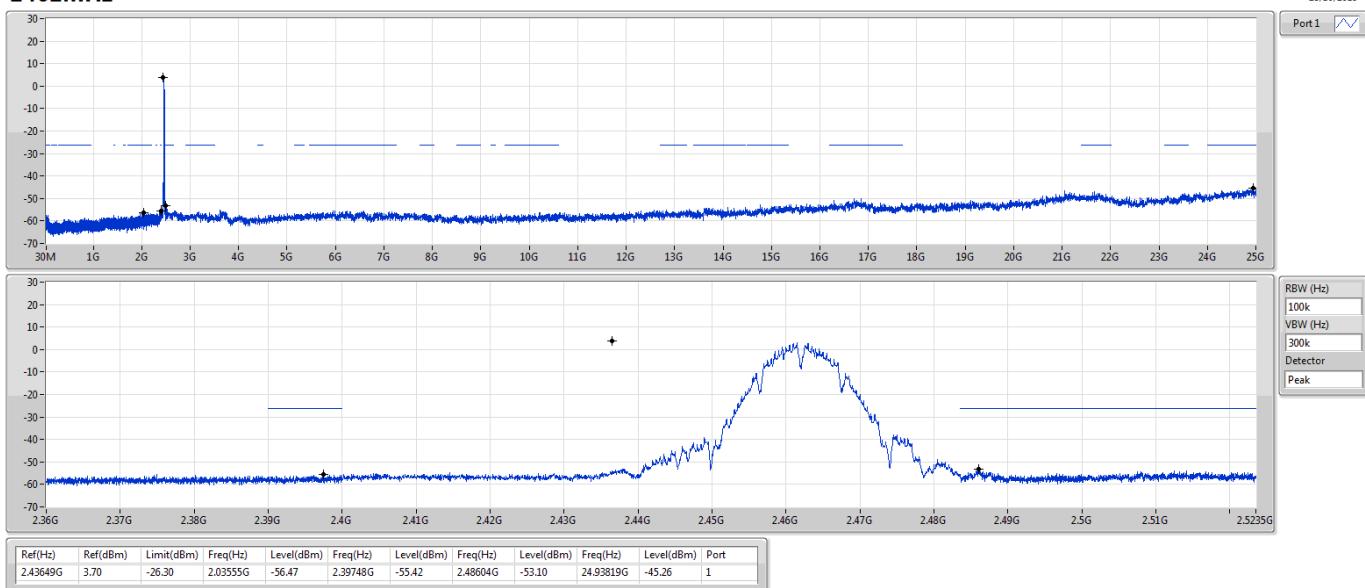
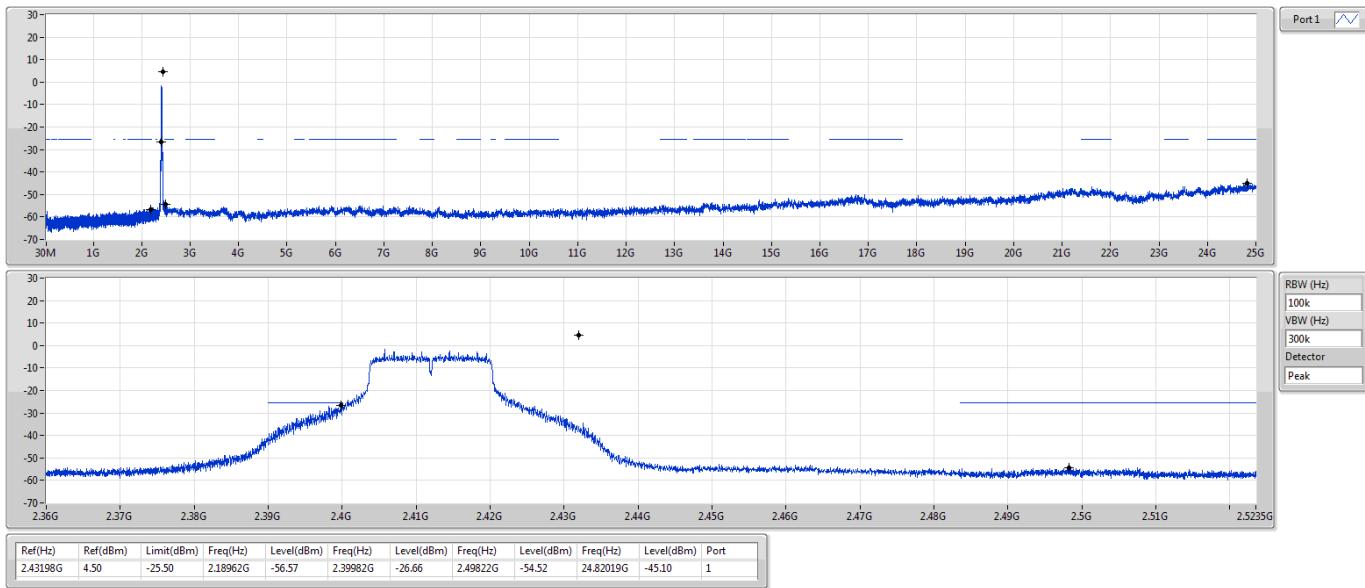
802.11b_Nss1,(1Mbps)_1TX
2412MHz
CSE NdB

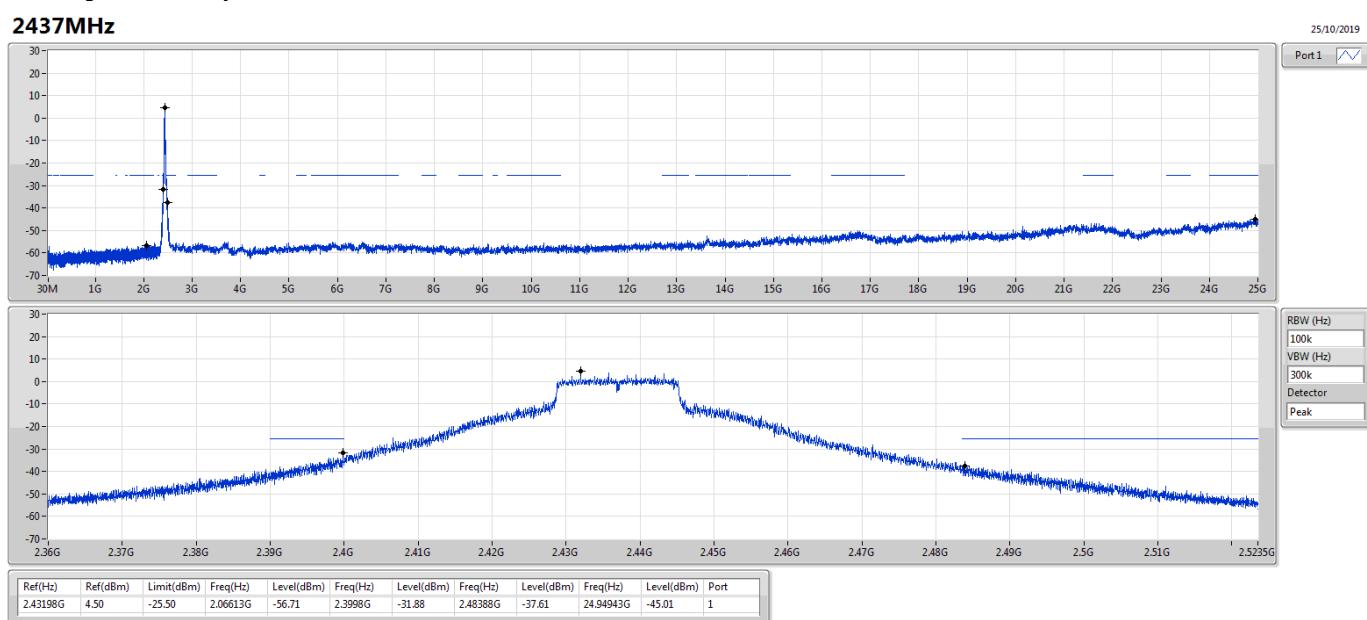
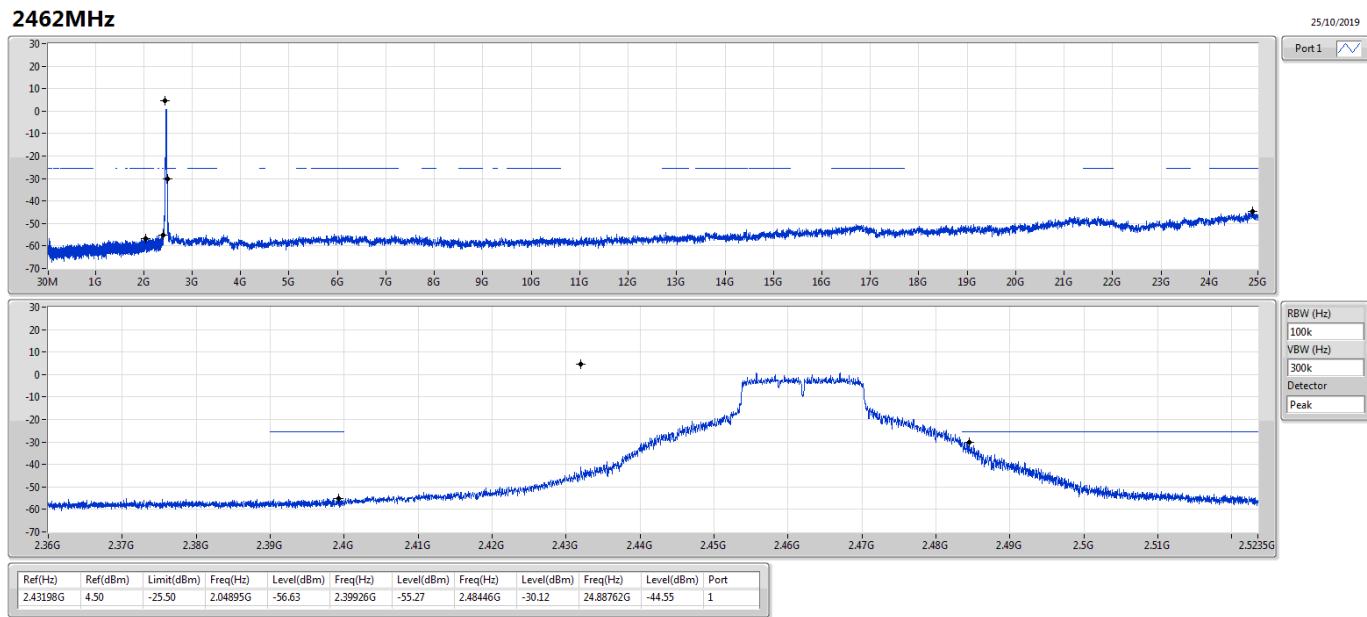
25/10/2019

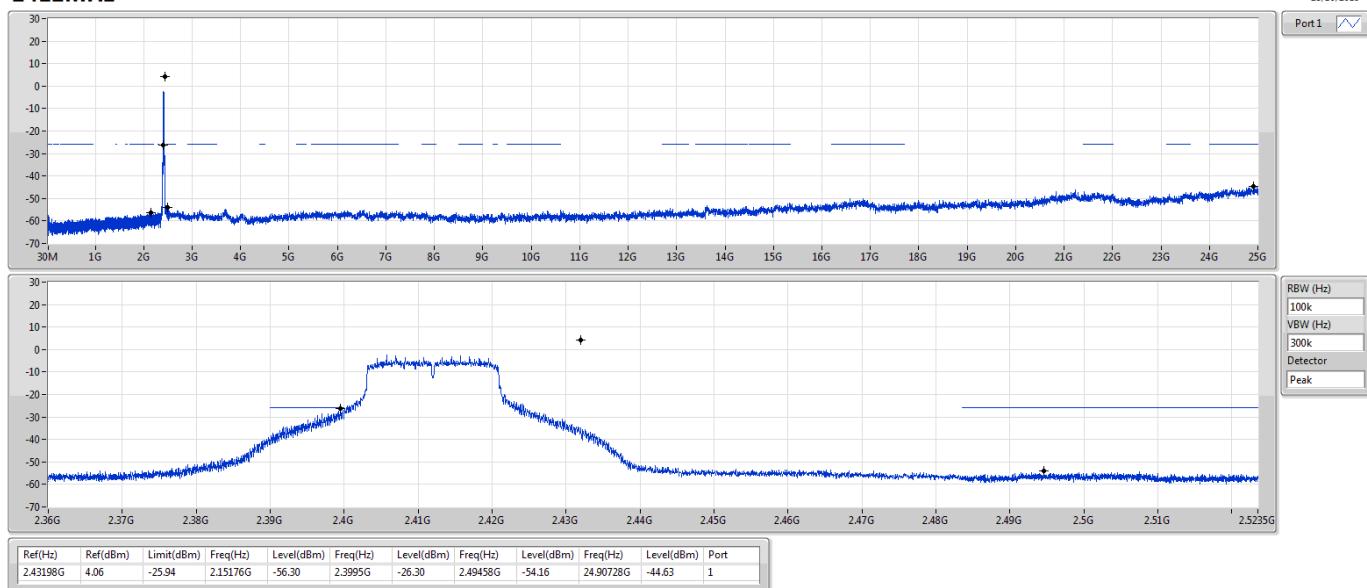
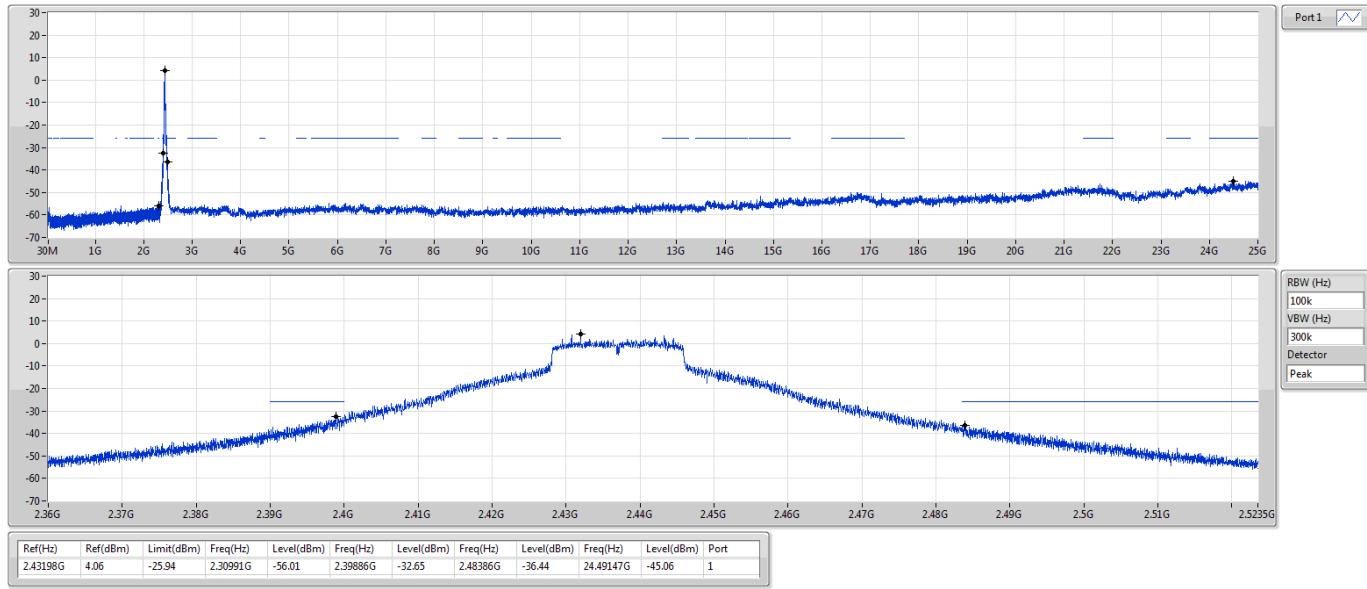
Port 1

802.11b_Nss1,(1Mbps)_1TX
2437MHz
CSE NdB

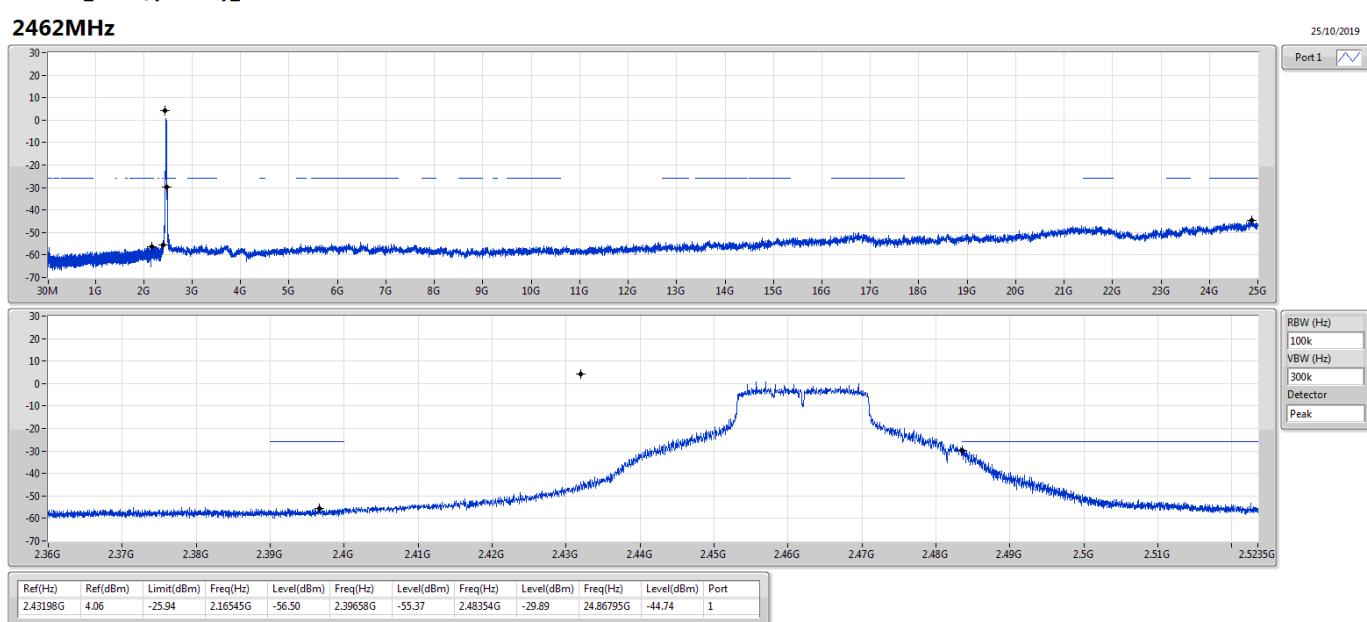
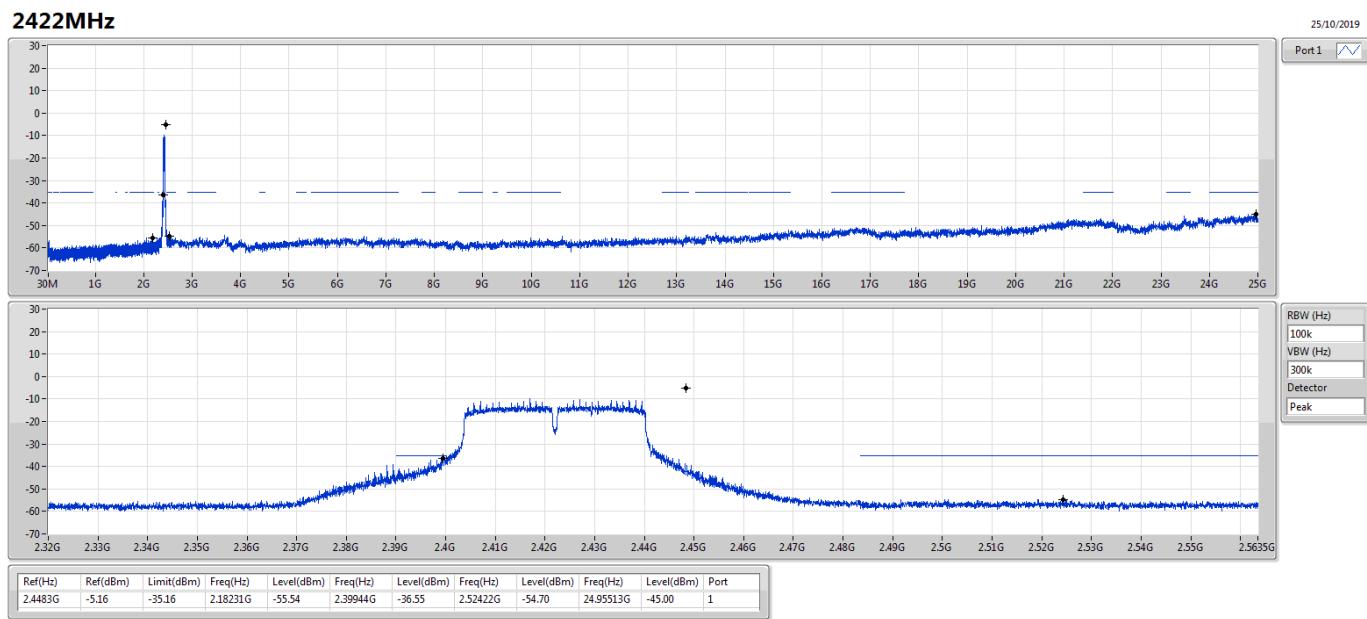
25/10/2019

Port 1


802.11b_Nss1,(1Mbps)_1TX
2462MHz

802.11g_Nss1,(6Mbps)_1TX
2412MHz


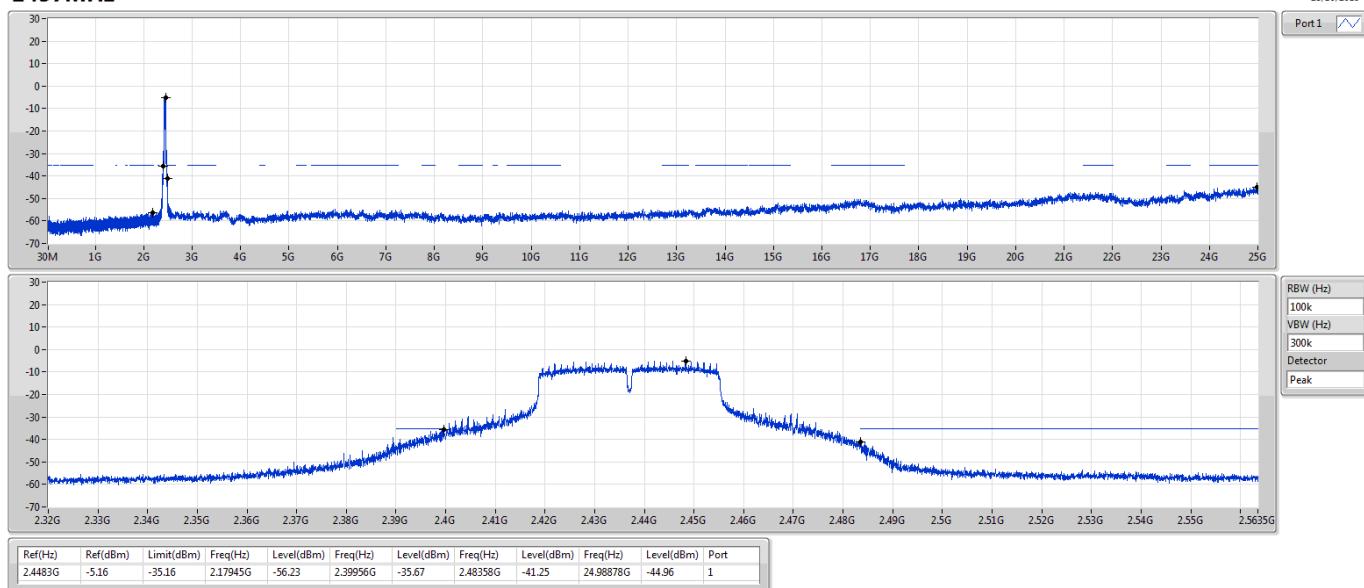
802.11g_Nss1,(6Mbps)_1TX
2437MHz

802.11g_Nss1,(6Mbps)_1TX
2462MHz


VHT20_Nss1,(MCS0)_1TX
2412MHz

VHT20_Nss1,(MCS0)_1TX
2437MHz


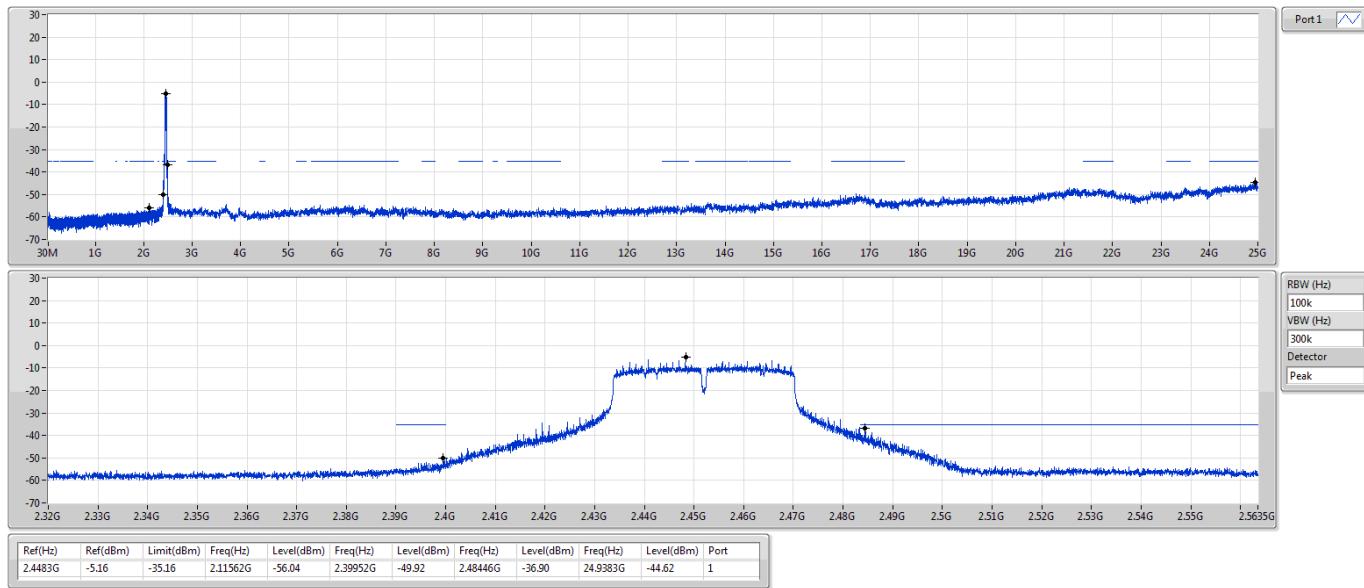
VHT20_Nss1,(MCS0)_1TX
2462MHz

VHT40_Nss1,(MCS0)_1TX
2422MHz


VHT40_Nss1,(MCS0)_1TX
2437MHz
CSE NdB

25/10/2019

 Port 1

VHT40_Nss1,(MCS0)_1TX
2452MHz
CSE NdB

25/10/2019

 Port 1




CSE(Non-restricted Band) Result

Appendix E.3

For beamforming mode:

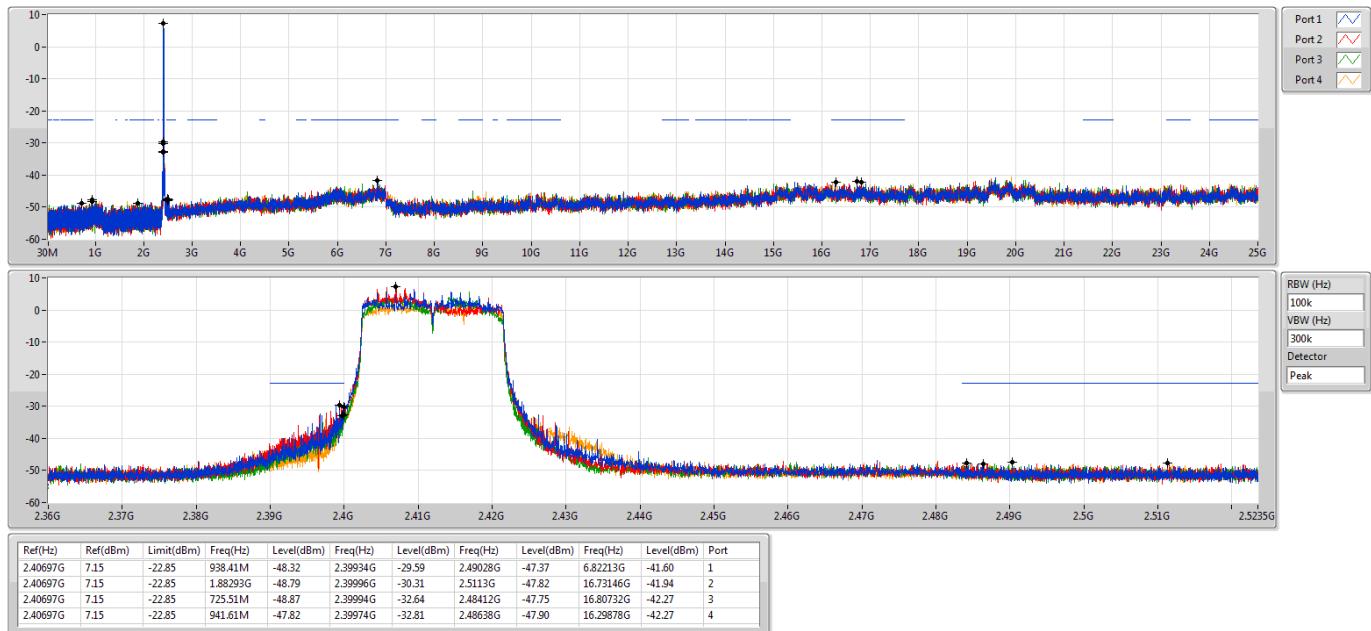
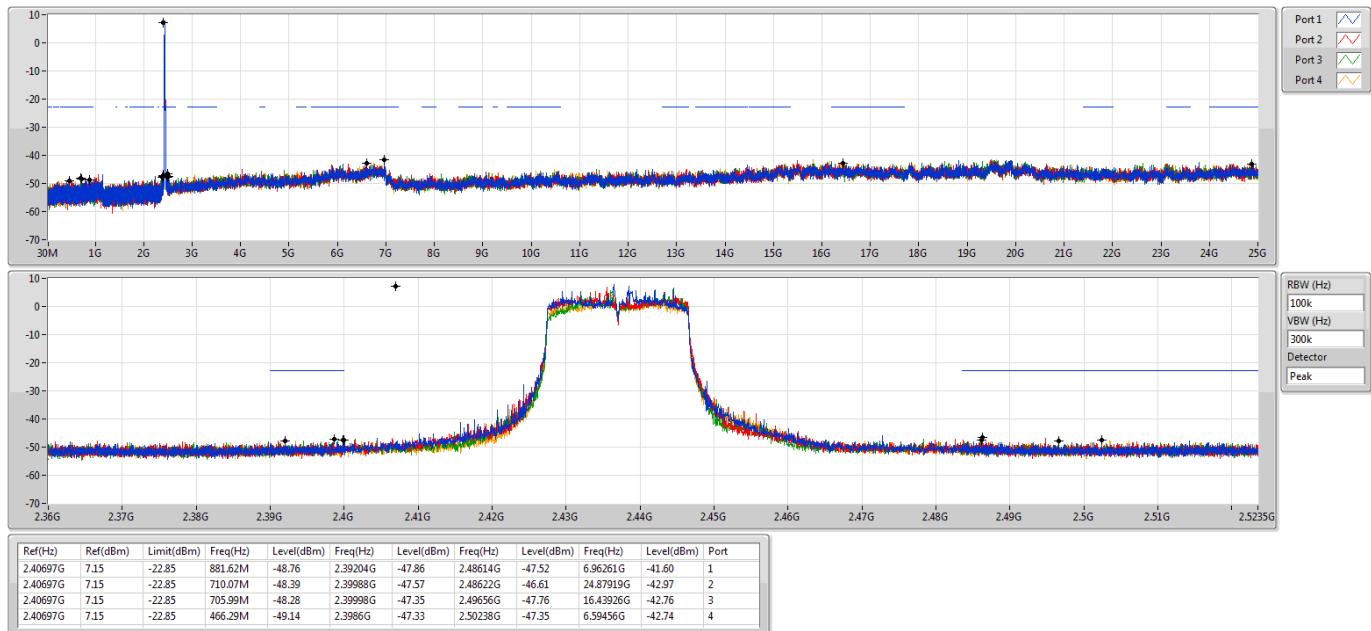
Summary

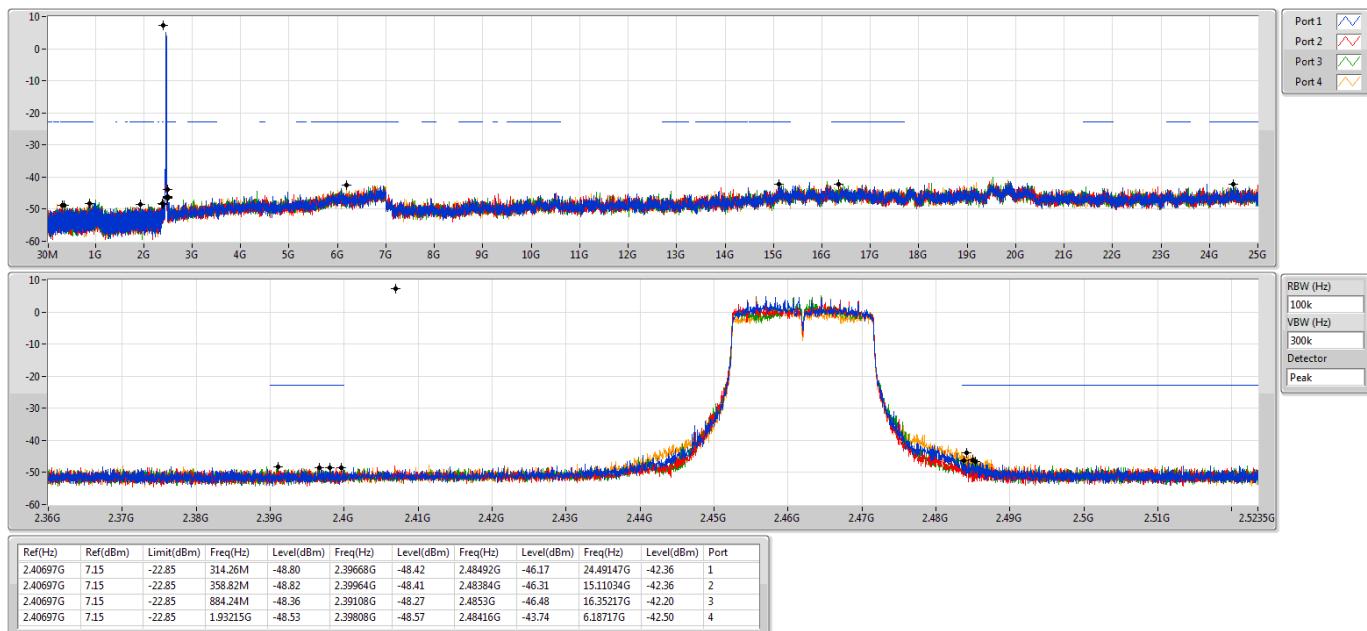
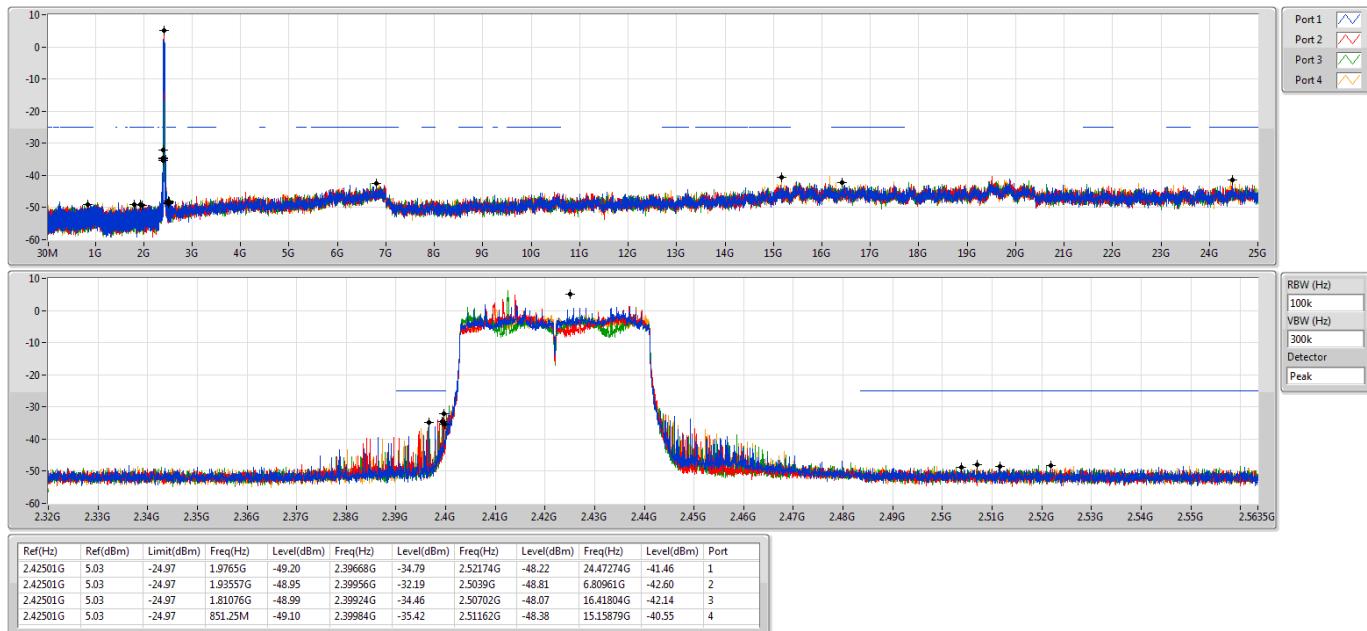
| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|-----------------------------------|--------|-------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | Pass | 2.40697G | 7.15 | -22.85 | 938.41M | -48.32 | 2.39934G | -29.59 | 2.49028G | -47.37 | 6.82213G | -41.60 | 1 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | Pass | 2.42501G | 5.03 | -24.97 | 1.93557G | -48.95 | 2.39956G | -32.19 | 2.5039G | -48.81 | 6.80961G | -42.60 | 2 |

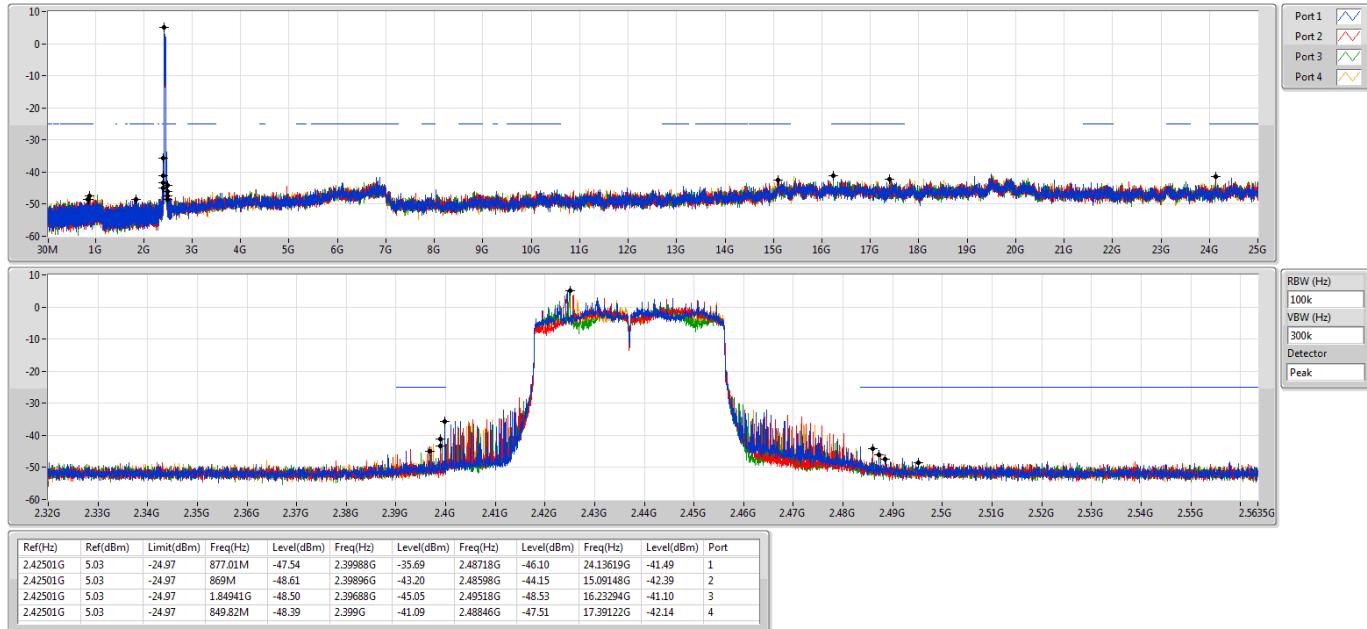
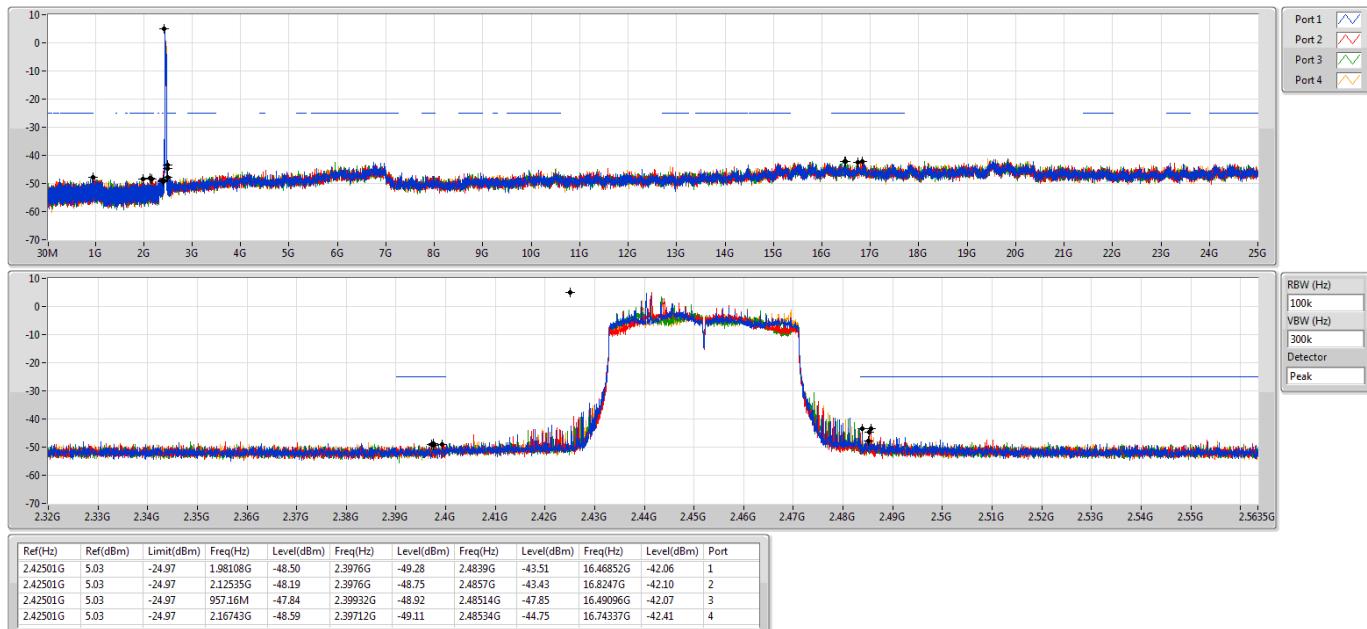


Result

| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|-----------------------------------|--------|-------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|------|
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.40697G | 7.15 | -22.85 | 938.41M | -48.32 | 2.39934G | -29.59 | 2.49028G | -47.37 | 6.82213G | -41.60 | 1 |
| 2412MHz | Pass | 2.40697G | 7.15 | -22.85 | 1.88293G | -48.79 | 2.39996G | -30.31 | 2.5113G | -47.82 | 16.73146G | -41.94 | 2 |
| 2412MHz | Pass | 2.40697G | 7.15 | -22.85 | 725.51M | -48.87 | 2.39994G | -32.64 | 2.48412G | -47.75 | 16.80732G | -42.27 | 3 |
| 2412MHz | Pass | 2.40697G | 7.15 | -22.85 | 941.61M | -47.82 | 2.39974G | -32.81 | 2.48638G | -47.90 | 16.29878G | -42.27 | 4 |
| 2437MHz | Pass | 2.40697G | 7.15 | -22.85 | 881.62M | -48.76 | 2.39204G | -47.86 | 2.48614G | -47.52 | 6.96261G | -41.60 | 1 |
| 2437MHz | Pass | 2.40697G | 7.15 | -22.85 | 710.07M | -48.39 | 2.39988G | -47.57 | 2.48622G | -46.61 | 24.87919G | -42.97 | 2 |
| 2437MHz | Pass | 2.40697G | 7.15 | -22.85 | 705.99M | -48.28 | 2.39998G | -47.35 | 2.49656G | -47.76 | 16.43926G | -42.76 | 3 |
| 2437MHz | Pass | 2.40697G | 7.15 | -22.85 | 466.29M | -49.14 | 2.3996G | -47.33 | 2.50238G | -47.35 | 6.59456G | -42.74 | 4 |
| 2462MHz | Pass | 2.40697G | 7.15 | -22.85 | 314.26M | -48.80 | 2.39668G | -48.42 | 2.48492G | -46.17 | 24.49147G | -42.36 | 1 |
| 2462MHz | Pass | 2.40697G | 7.15 | -22.85 | 358.82M | -48.82 | 2.39964G | -48.41 | 2.48384G | -46.31 | 15.11034G | -42.36 | 2 |
| 2462MHz | Pass | 2.40697G | 7.15 | -22.85 | 884.24M | -48.36 | 2.39108G | -48.27 | 2.4853G | -46.48 | 16.35217G | -42.20 | 3 |
| 2462MHz | Pass | 2.40697G | 7.15 | -22.85 | 1.93215G | -48.53 | 2.39808G | -48.57 | 2.48416G | -43.74 | 6.18717G | -42.50 | 4 |
| 802.11ax HEW40-BF_Nss1,(MCS0)_4TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 2.42501G | 5.03 | -24.97 | 1.9765G | -49.20 | 2.39668G | -34.79 | 2.52174G | -48.22 | 24.47274G | -41.46 | 1 |
| 2422MHz | Pass | 2.42501G | 5.03 | -24.97 | 1.93557G | -48.95 | 2.39956G | -32.19 | 2.5039G | -48.81 | 6.80961G | -42.60 | 2 |
| 2422MHz | Pass | 2.42501G | 5.03 | -24.97 | 1.81076G | -48.99 | 2.39924G | -34.46 | 2.50702G | -48.07 | 16.41804G | -42.14 | 3 |
| 2422MHz | Pass | 2.42501G | 5.03 | -24.97 | 851.25M | -49.10 | 2.39984G | -35.42 | 2.51162G | -48.38 | 15.15879G | -40.55 | 4 |
| 2437MHz | Pass | 2.42501G | 5.03 | -24.97 | 877.01M | -47.54 | 2.39988G | -35.69 | 2.48718G | -46.10 | 24.13619G | -41.49 | 1 |
| 2437MHz | Pass | 2.42501G | 5.03 | -24.97 | 869M | -48.61 | 2.39896G | -43.20 | 2.48598G | -44.15 | 15.09148G | -42.39 | 2 |
| 2437MHz | Pass | 2.42501G | 5.03 | -24.97 | 1.84941G | -48.50 | 2.39688G | -45.05 | 2.49518G | -48.53 | 16.23294G | -41.10 | 3 |
| 2437MHz | Pass | 2.42501G | 5.03 | -24.97 | 849.82M | -48.39 | 2.399G | -41.09 | 2.48846G | -47.51 | 17.39122G | -42.14 | 4 |
| 2452MHz | Pass | 2.42501G | 5.03 | -24.97 | 1.98108G | -48.50 | 2.3976G | -49.28 | 2.4839G | -43.51 | 16.46852G | -42.06 | 1 |
| 2452MHz | Pass | 2.42501G | 5.03 | -24.97 | 2.12535G | -48.19 | 2.3976G | -48.75 | 2.4857G | -43.43 | 16.8247G | -42.10 | 2 |
| 2452MHz | Pass | 2.42501G | 5.03 | -24.97 | 957.16M | -47.84 | 2.39932G | -48.92 | 2.48514G | -47.85 | 16.49096G | -42.07 | 3 |
| 2452MHz | Pass | 2.42501G | 5.03 | -24.97 | 2.16743G | -48.59 | 2.39712G | -49.11 | 2.48534G | -44.75 | 16.74337G | -42.41 | 4 |

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
CSE NdB
2412MHz

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
CSE NdB
2437MHz


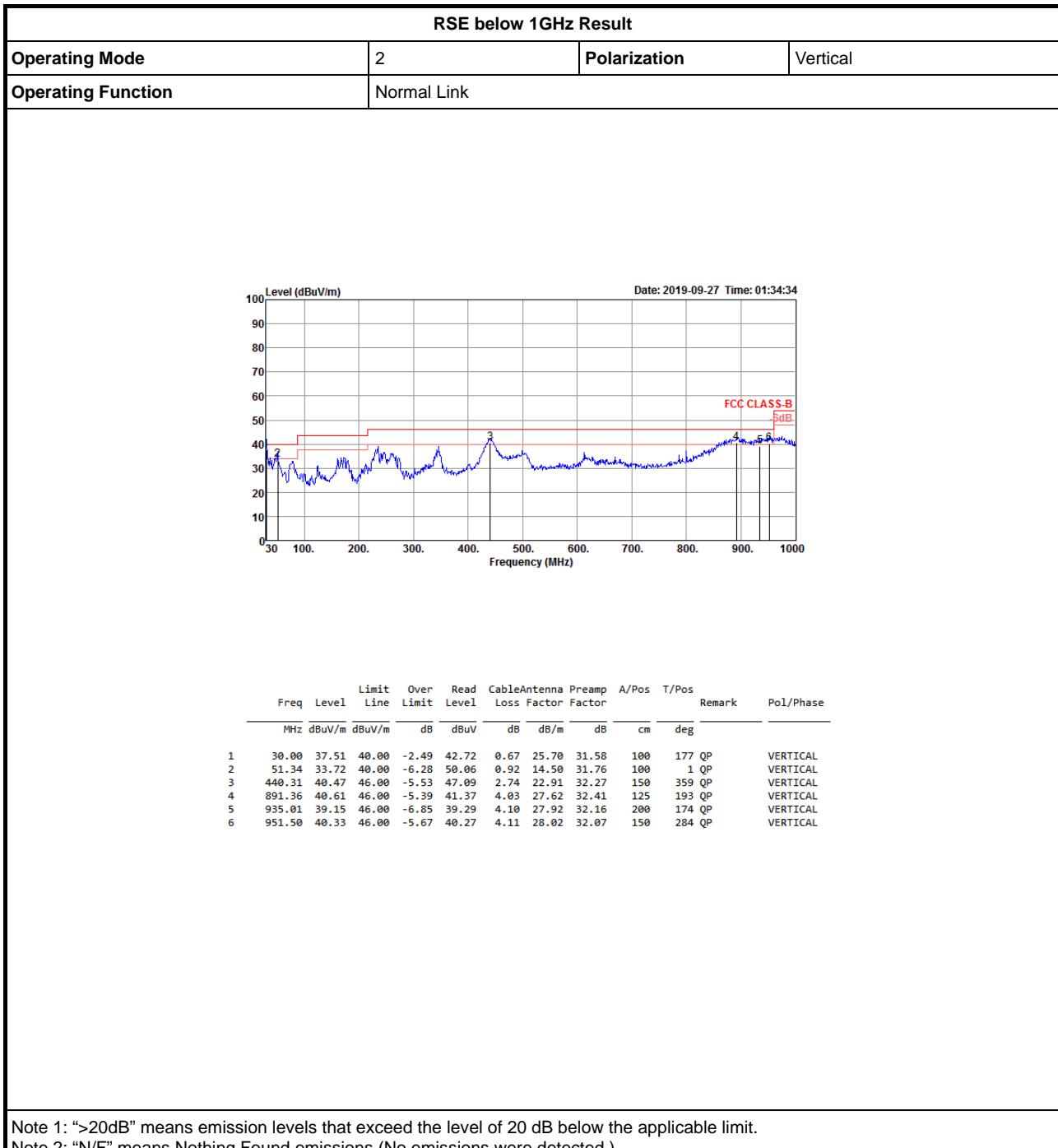
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
2462MHz

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2422MHz


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2437MHz

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
2452MHz




RSE below 1GHz Result

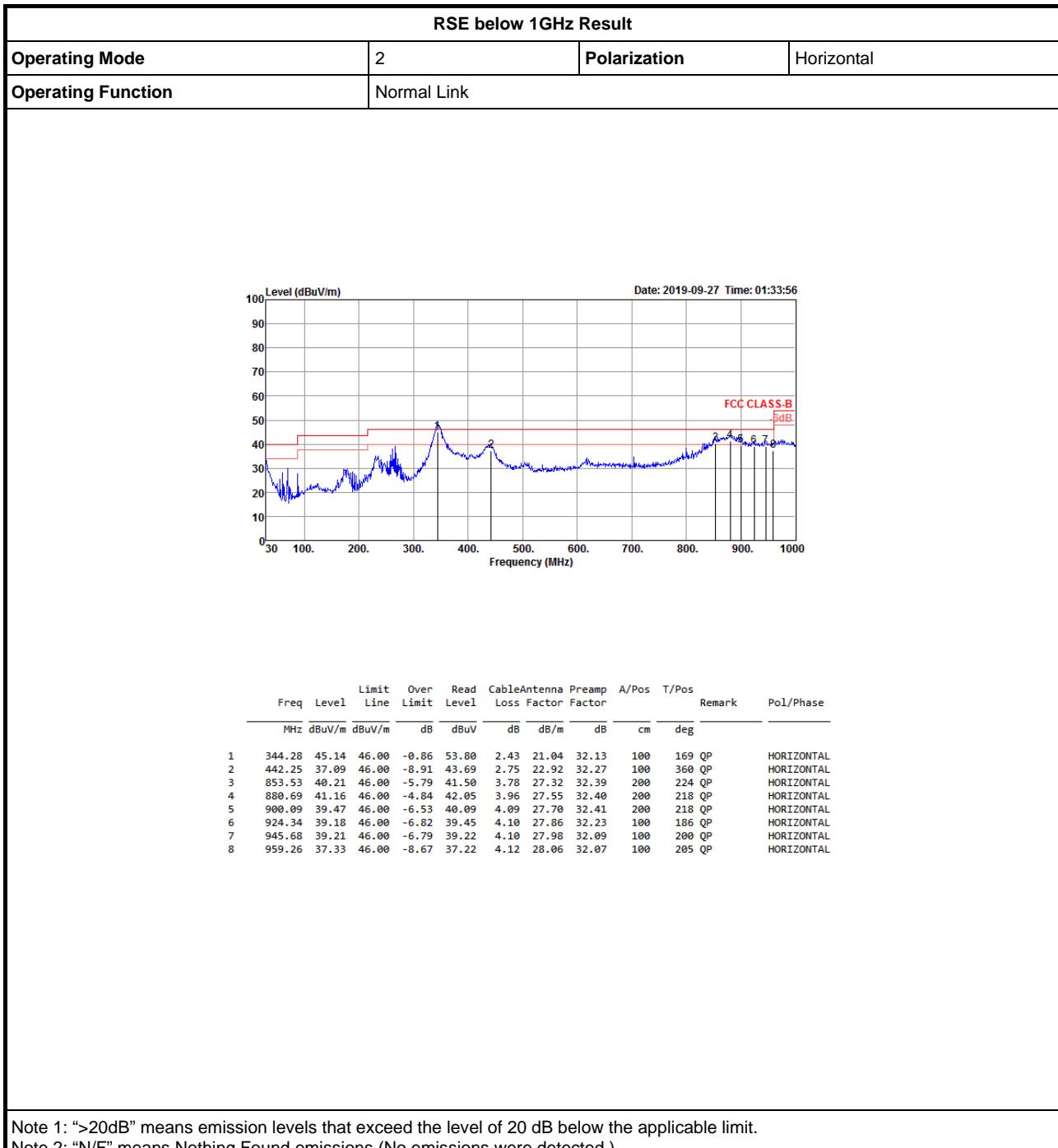
Appendix F.1





RSE below 1GHz Result

Appendix F.1



Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



For non-beamforming mode:

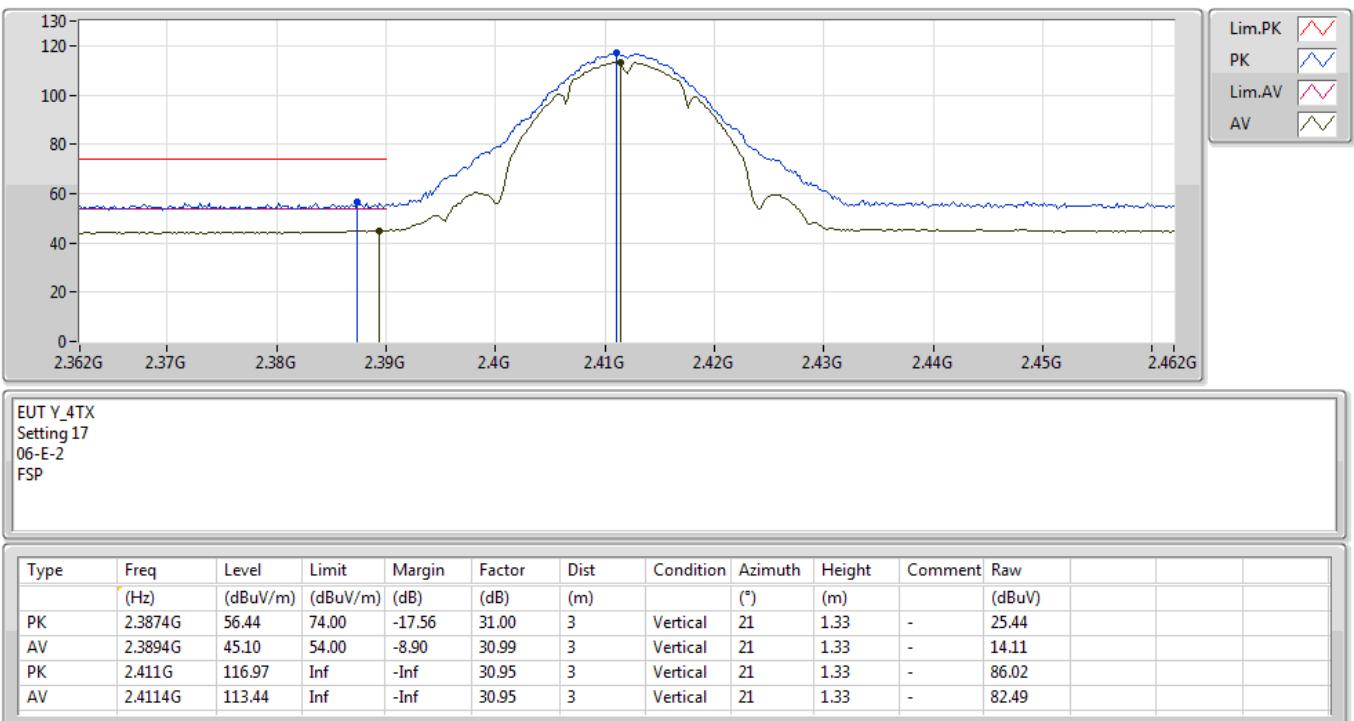
<DBS mode>

Summary

| Mode | Result | Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comments |
|--------------------------|--------|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|----------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11g_Nss1,(6Mbps)_4TX | Pass | AV | 2.3874G | 53.97 | 54.00 | -0.03 | 31.00 | 3 | Vertical | 22 | 1.63 | - |

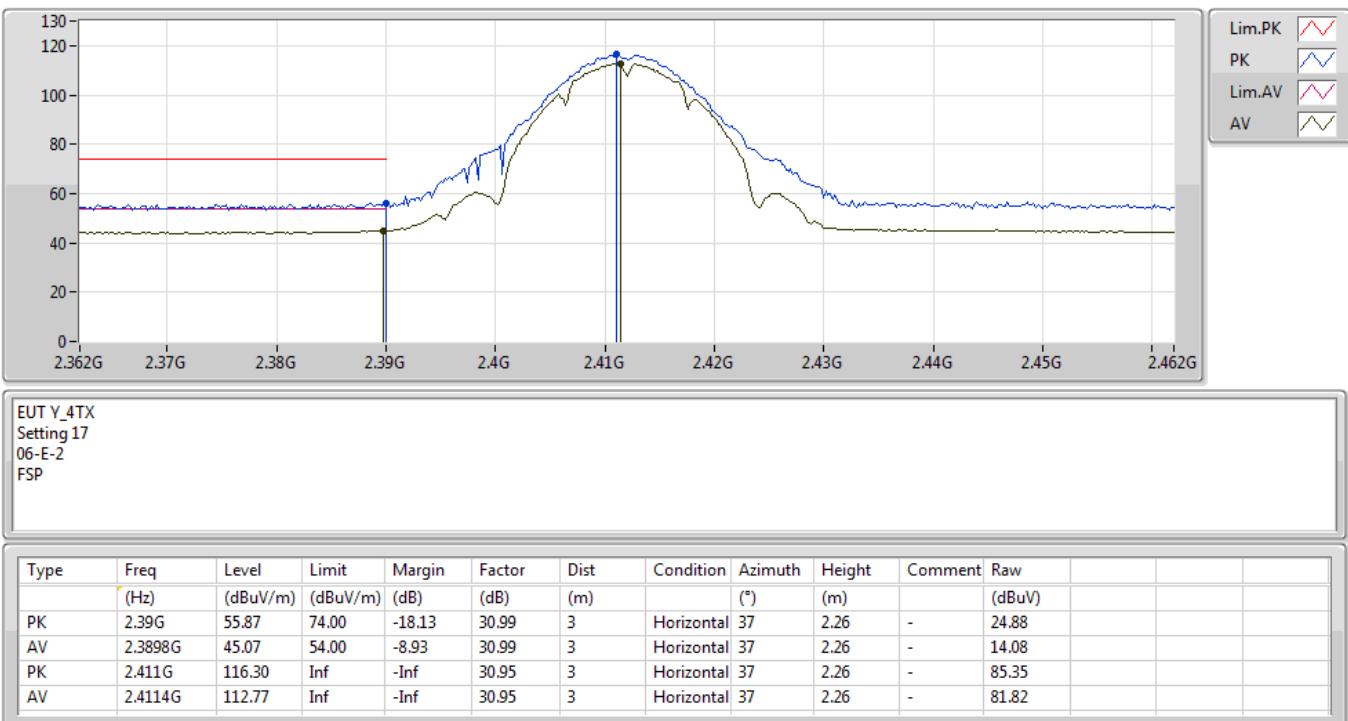
802.11b_Nss1,(1Mbps)_4TX

15/10/2019

2412MHz_TX


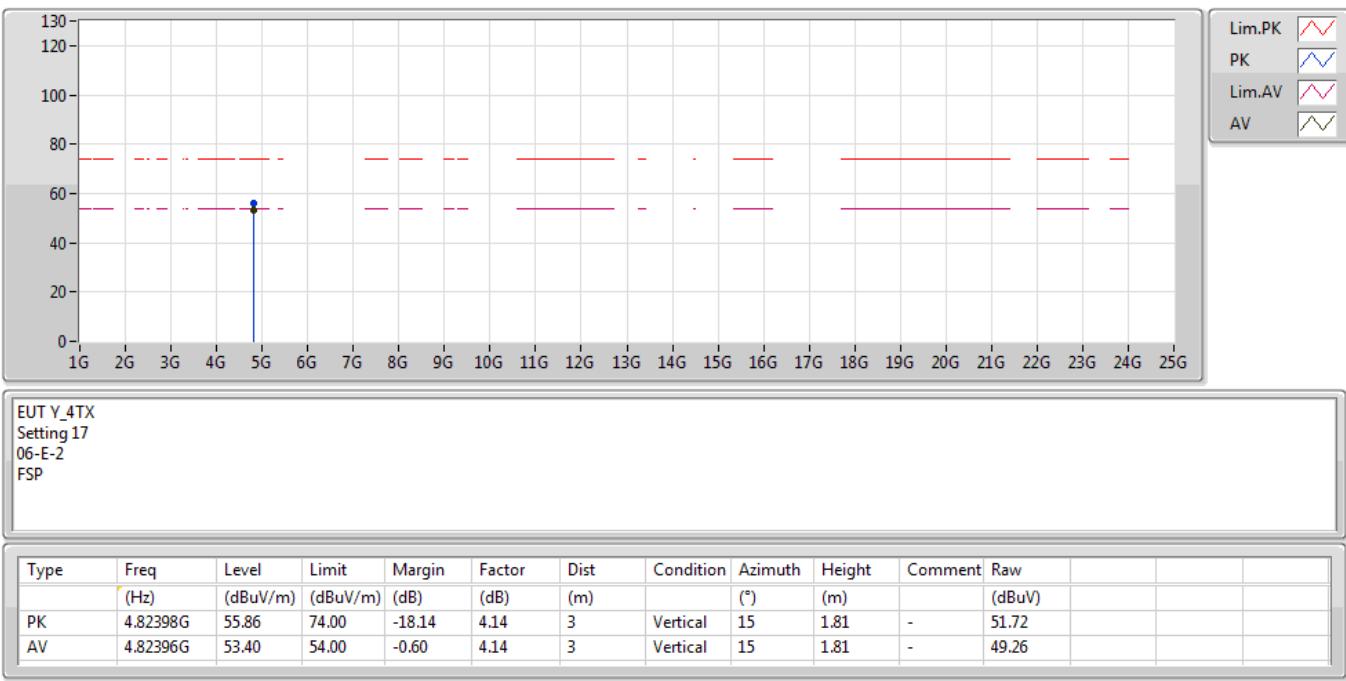
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15/10/2019

2412MHz_TX


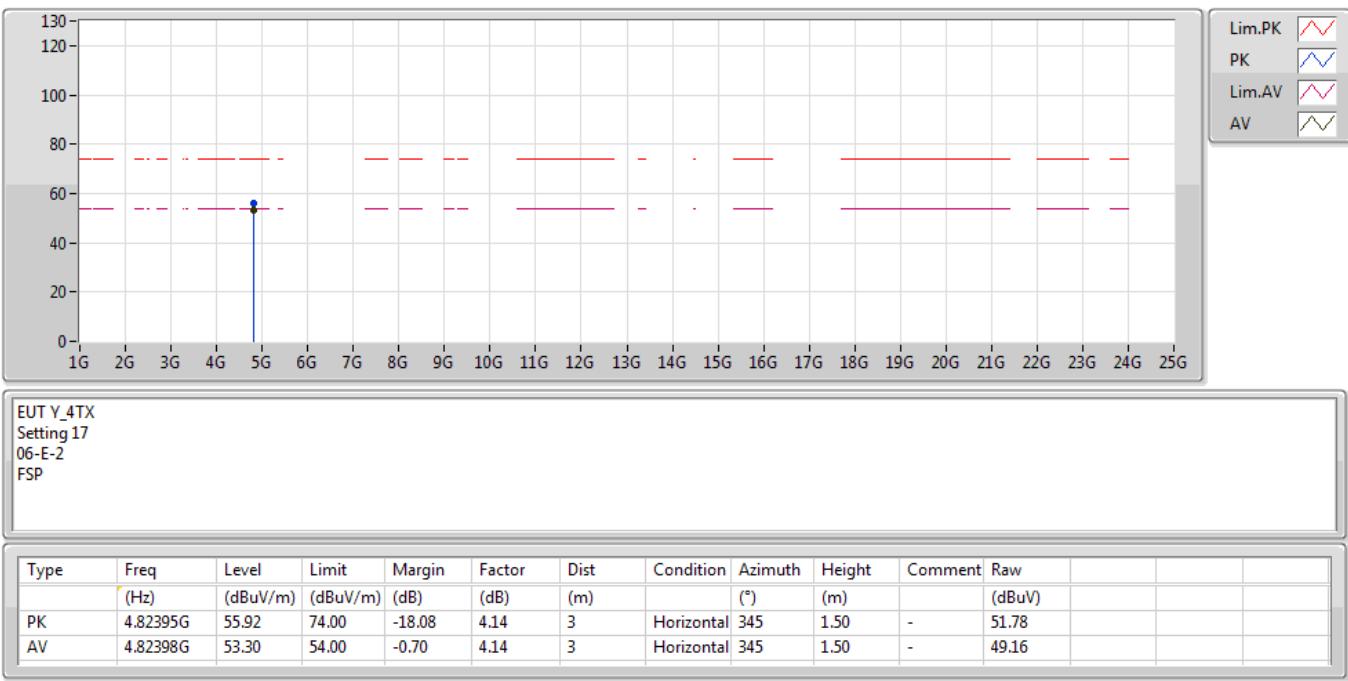
**802.11b_Nss1,(1Mbps)_4TX**

15/10/2019

2412MHz_TX

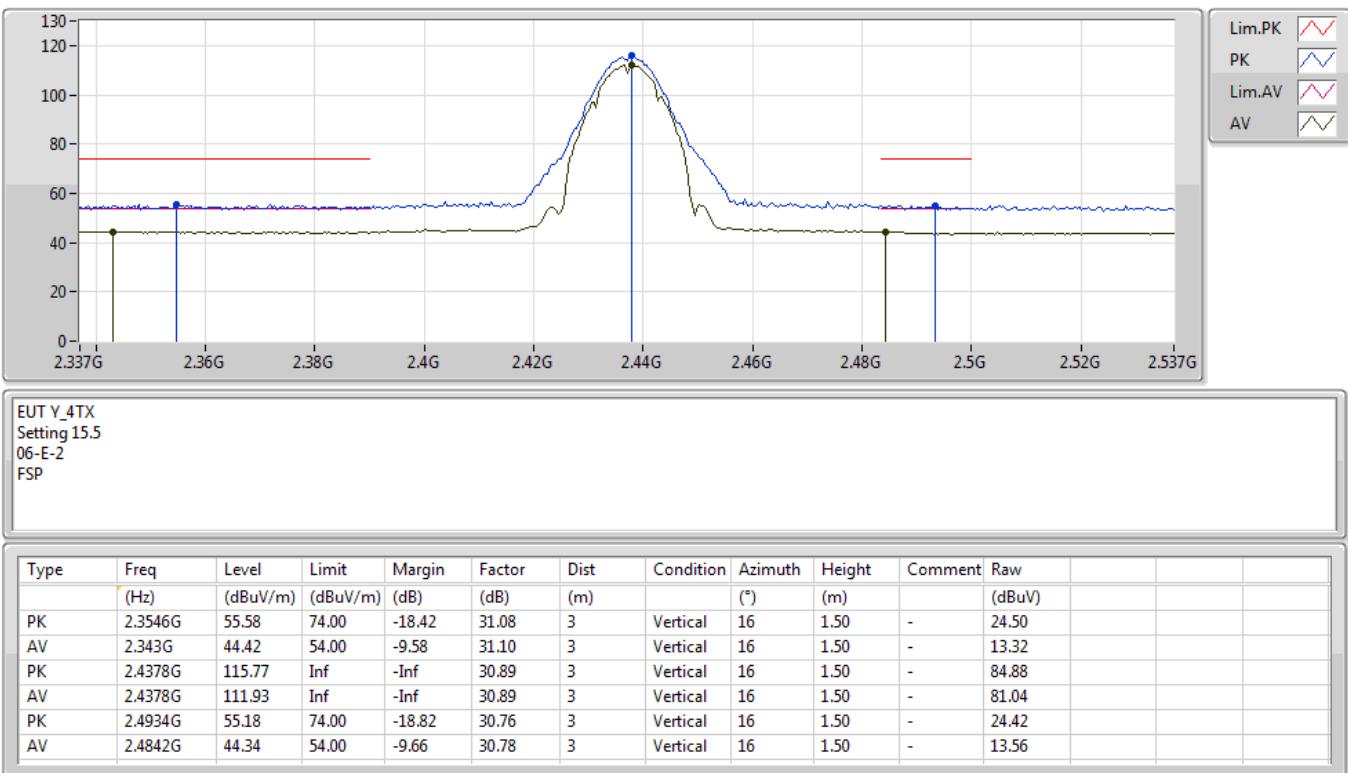
**802.11b_Nss1,(1Mbps)_4TX**

15/10/2019

2412MHz_TX

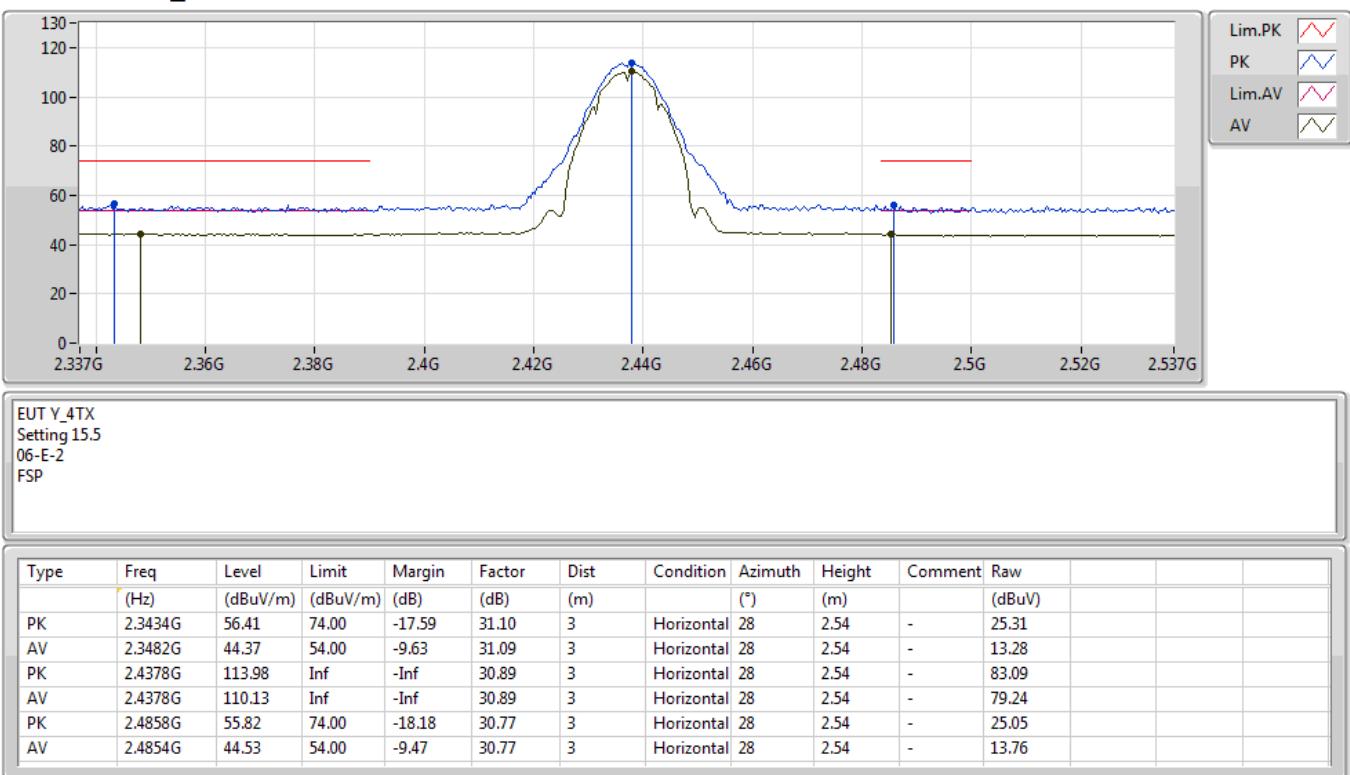
802.11b_Nss1,(1Mbps)_4TX

15/10/2019

2437MHz_TX


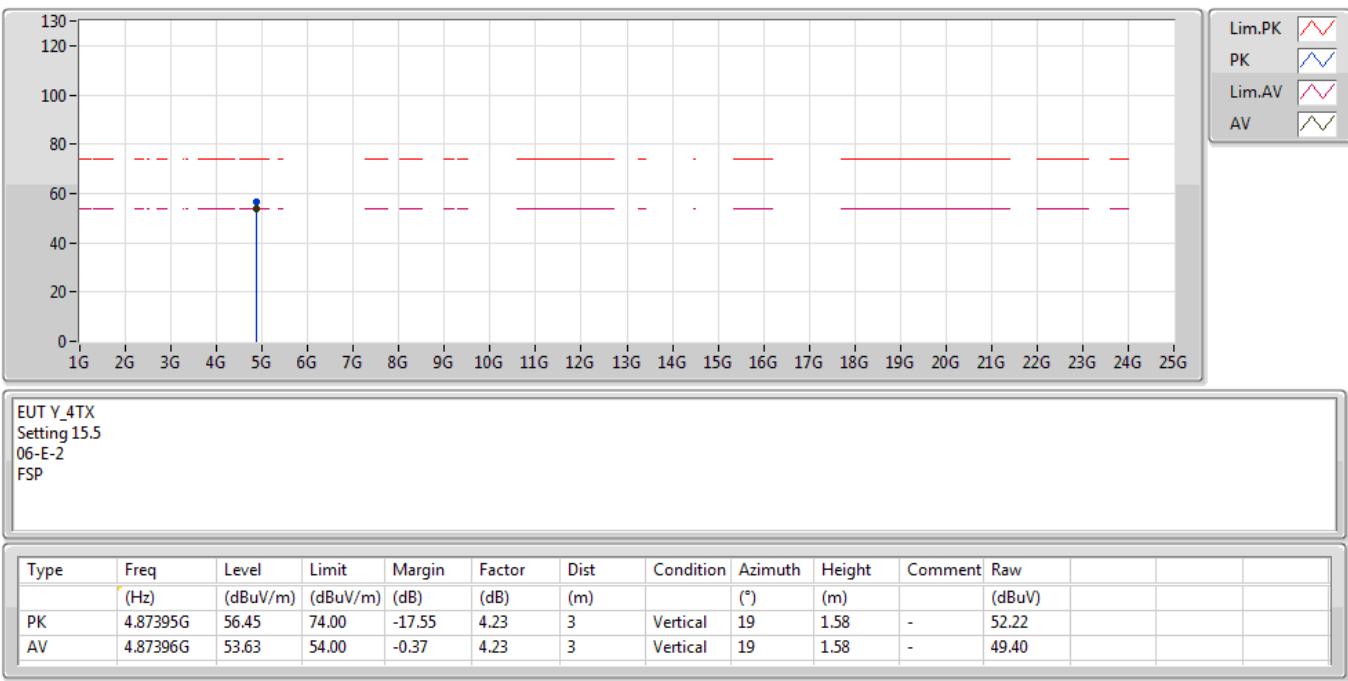
802.11b_Nss1,(1Mbps)_4TX

15/10/2019

2437MHz_TX


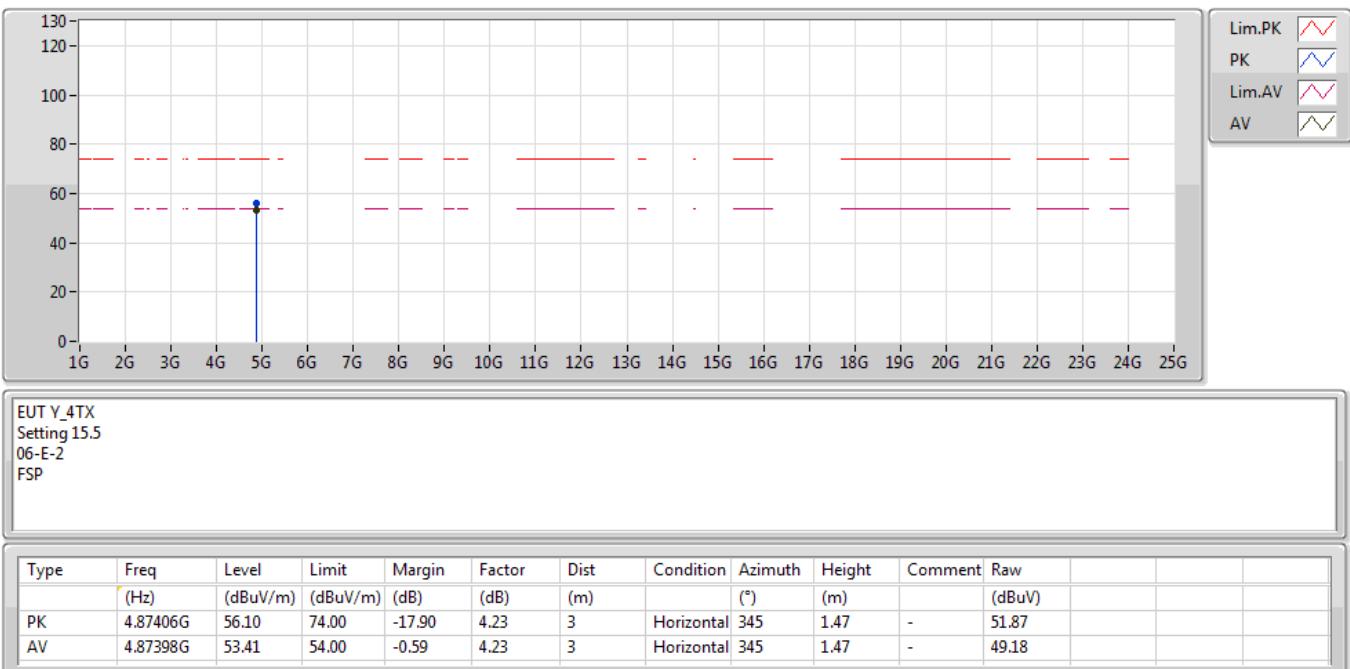
**802.11b_Nss1,(1Mbps)_4TX**

15/10/2019

2437MHz_TX

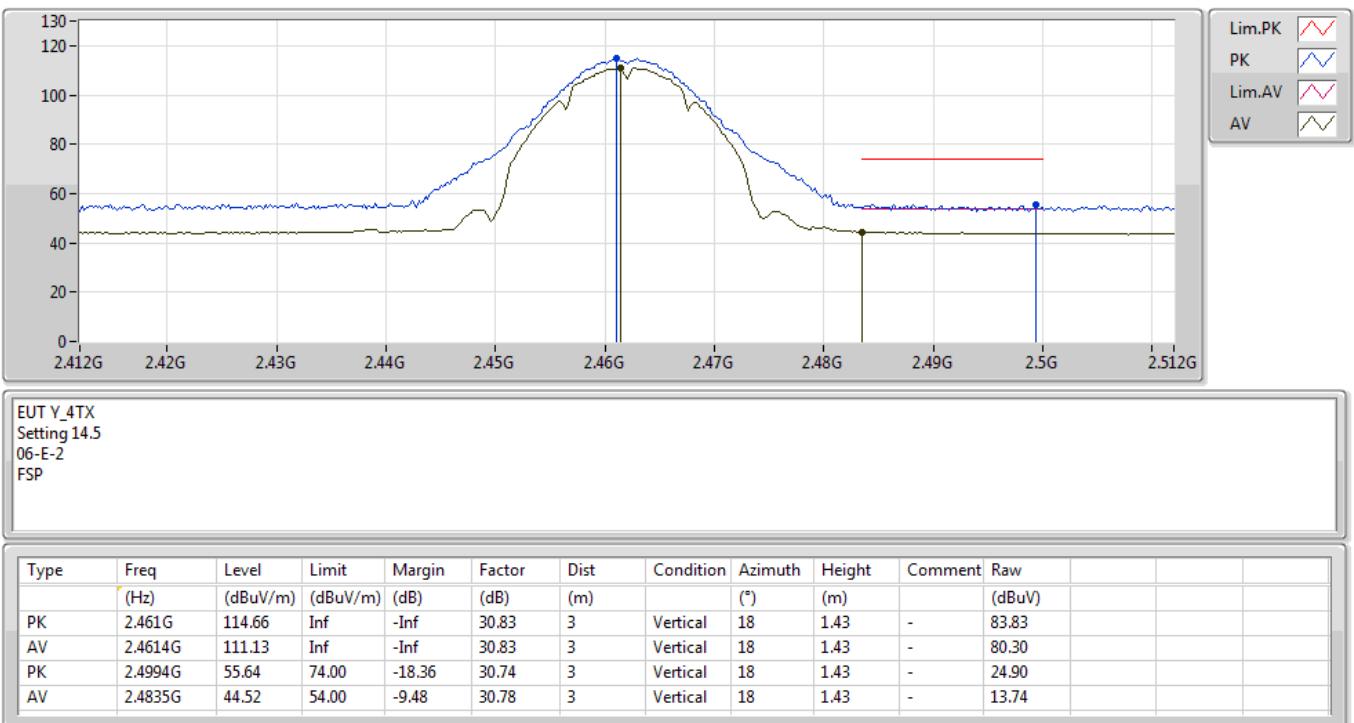
802.11b_Nss1,(1Mbps)_4TX

15/10/2019

2437MHz_TX


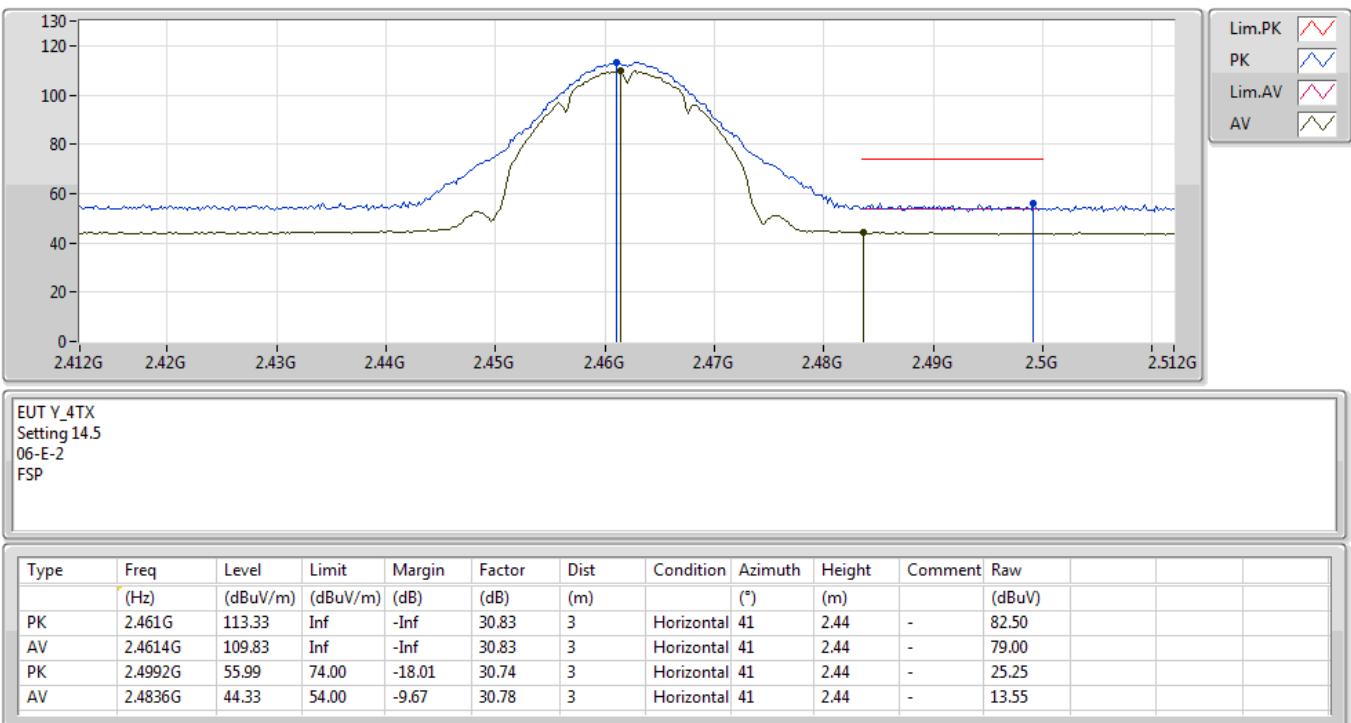
802.11b_Nss1,(1Mbps)_4TX

15/10/2019

2462MHz_TX


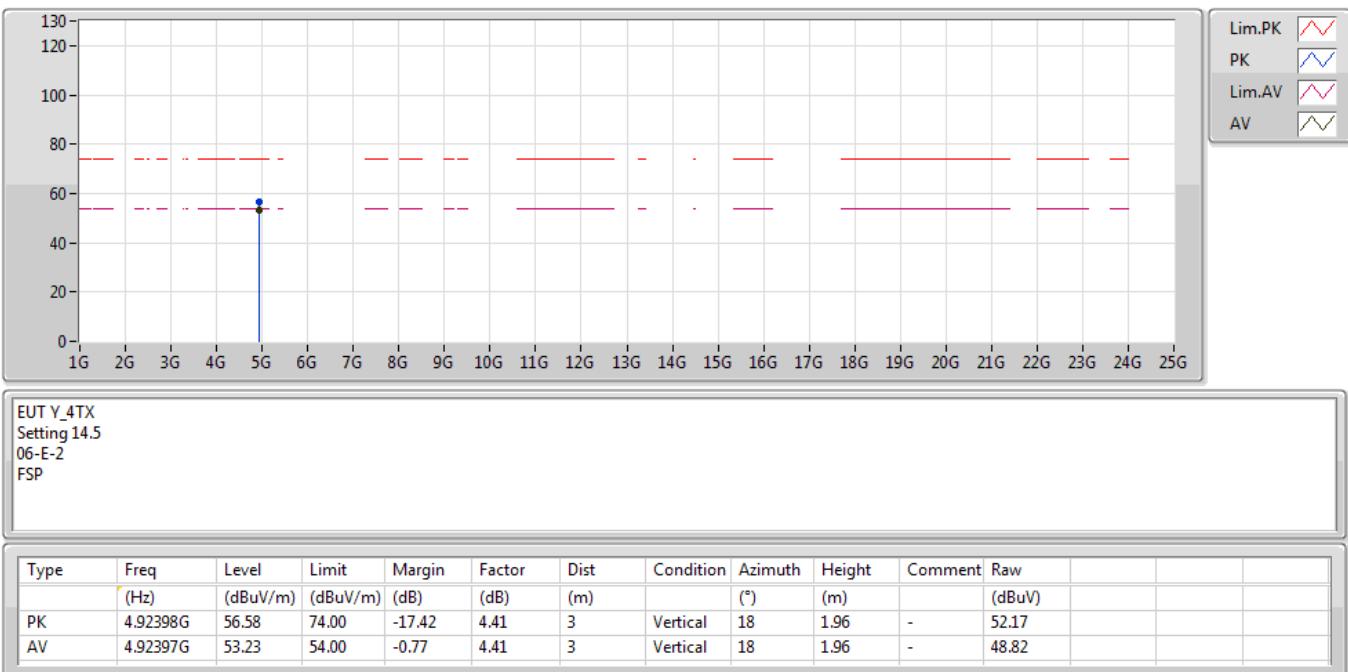
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15/10/2019

2462MHz_TX


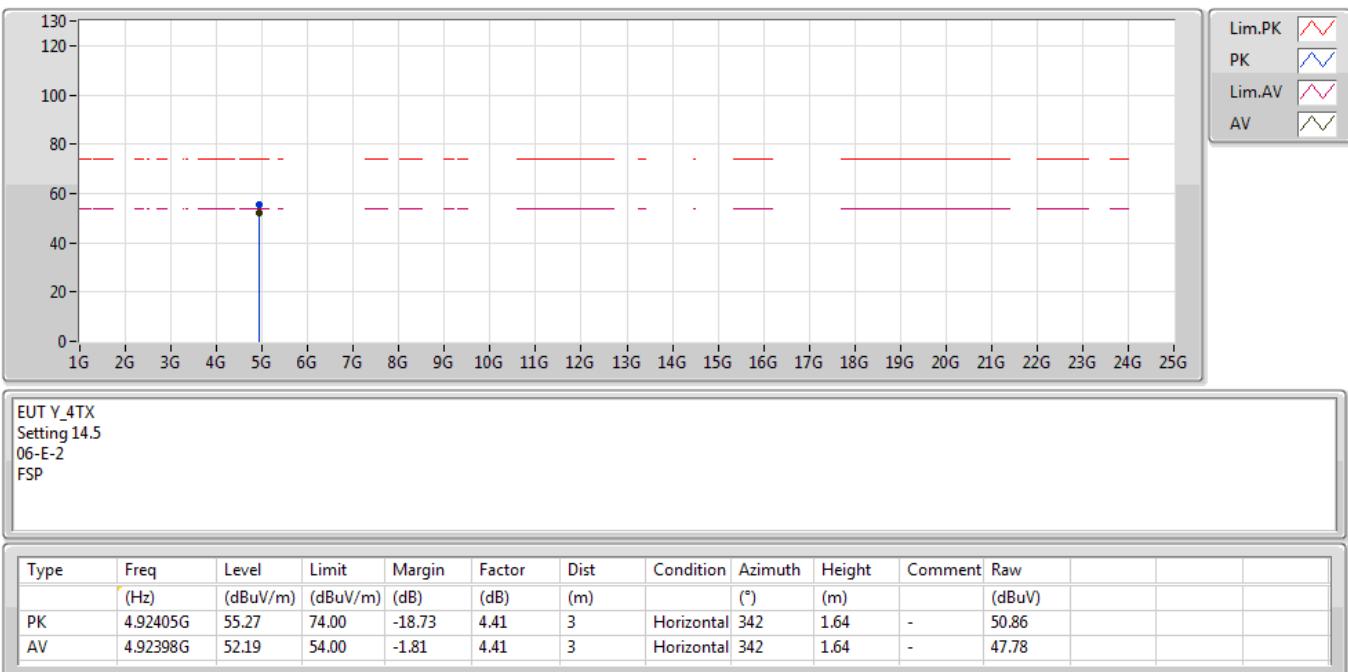
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15/10/2019

2462MHz_TX

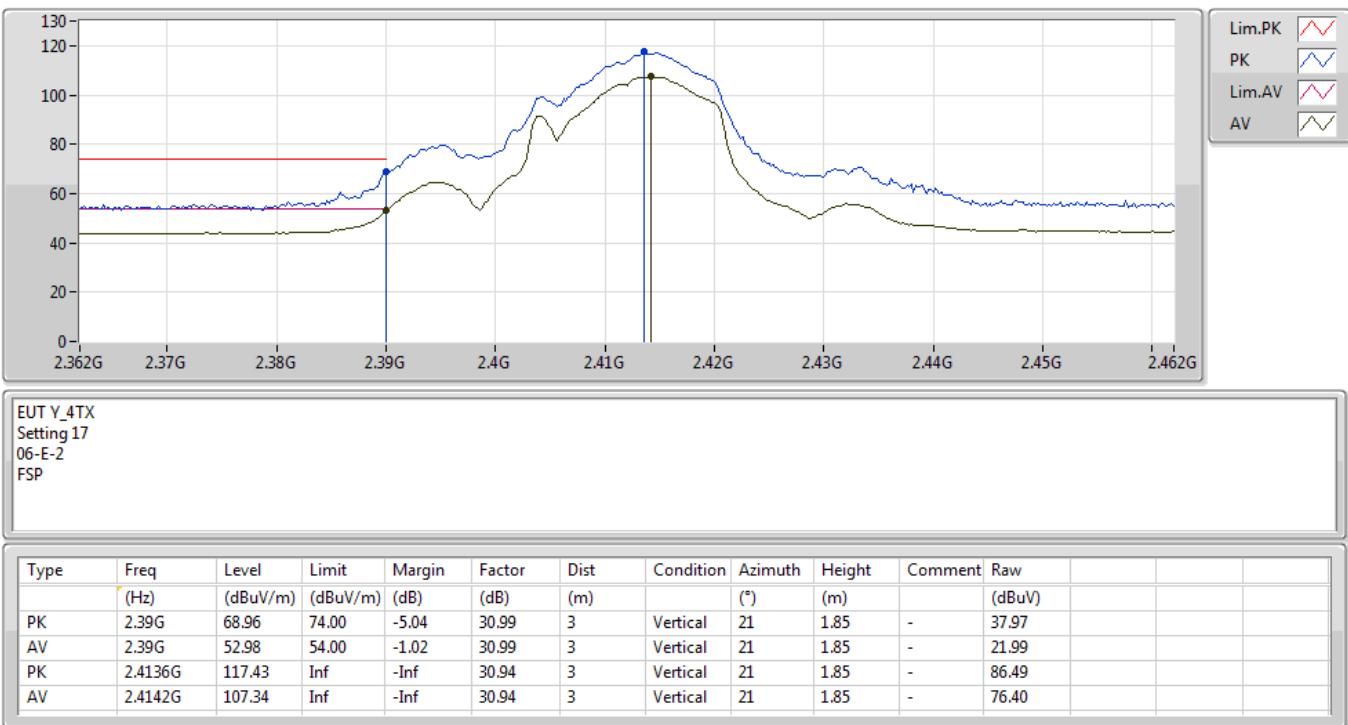
**802.11b_Nss1,(1Mbps)_4TX**

15/10/2019

2462MHz_TX

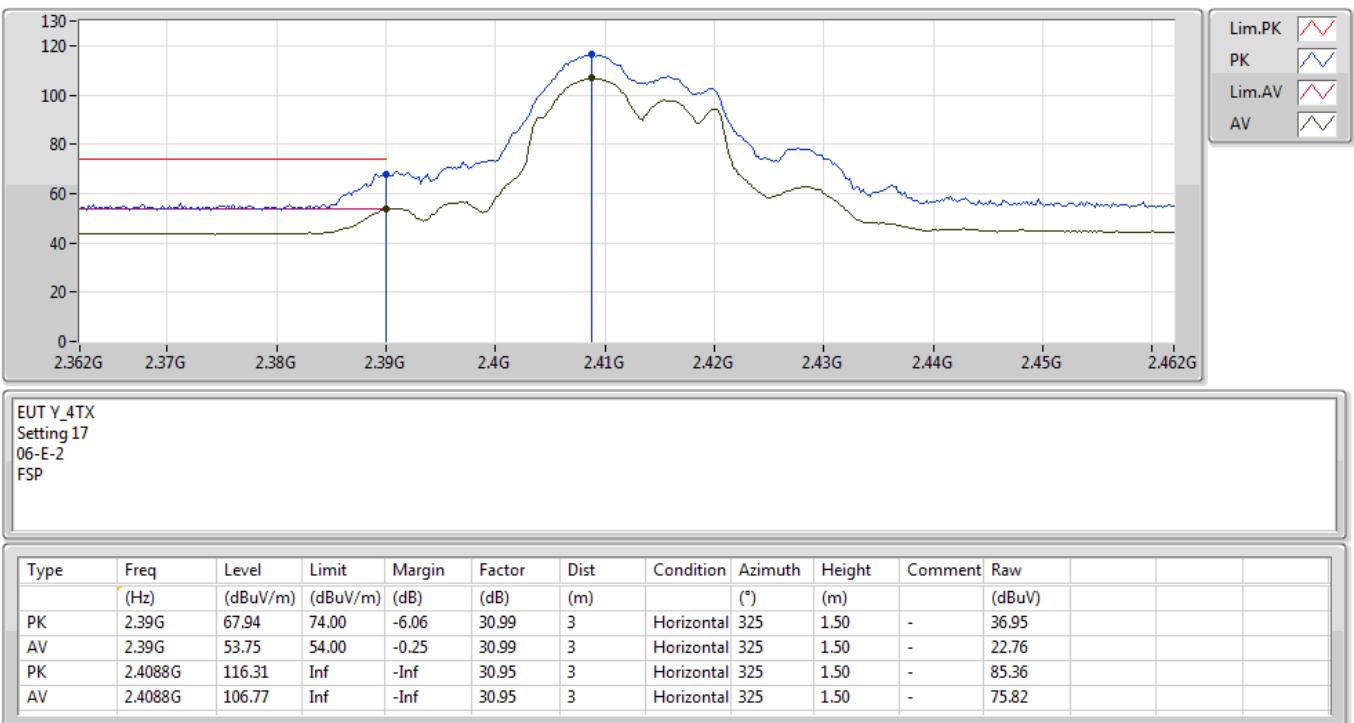
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2412MHz_TX


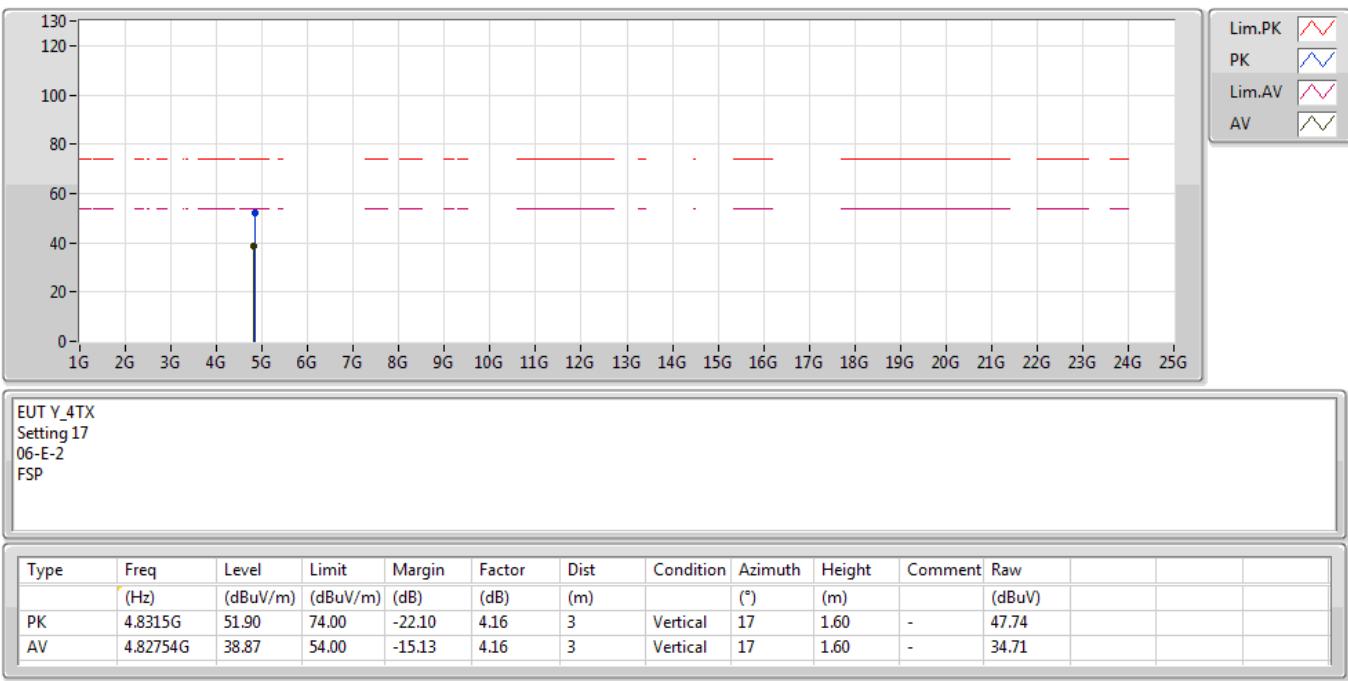
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2412MHz_TX


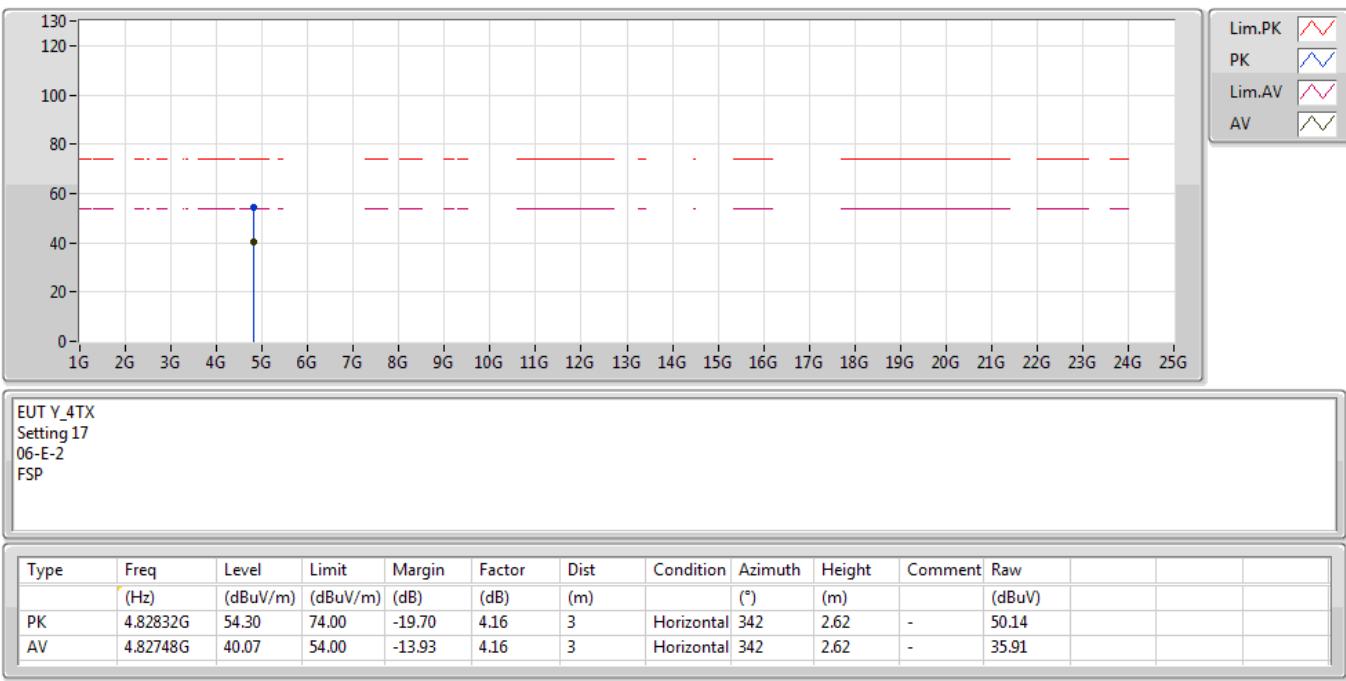
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

2412MHz_TX

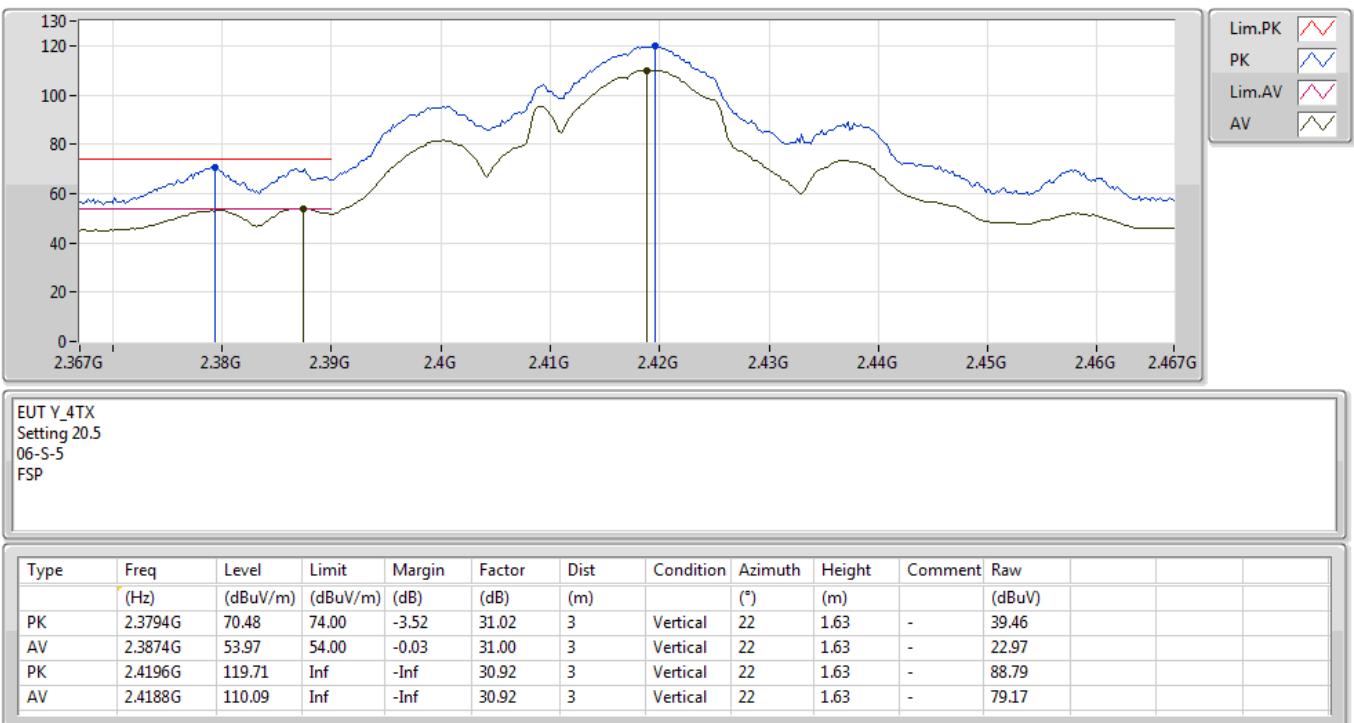
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

2412MHz_TX

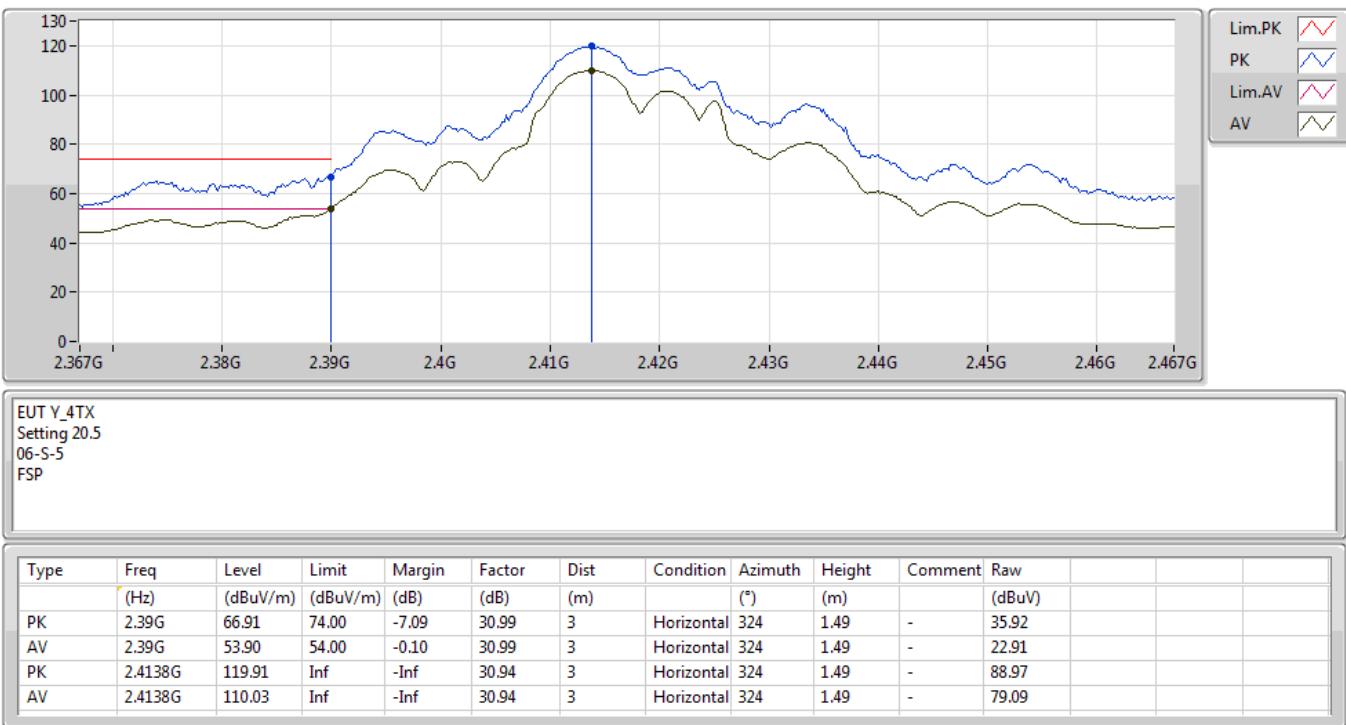
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2417MHz_TX


802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2417MHz_TX


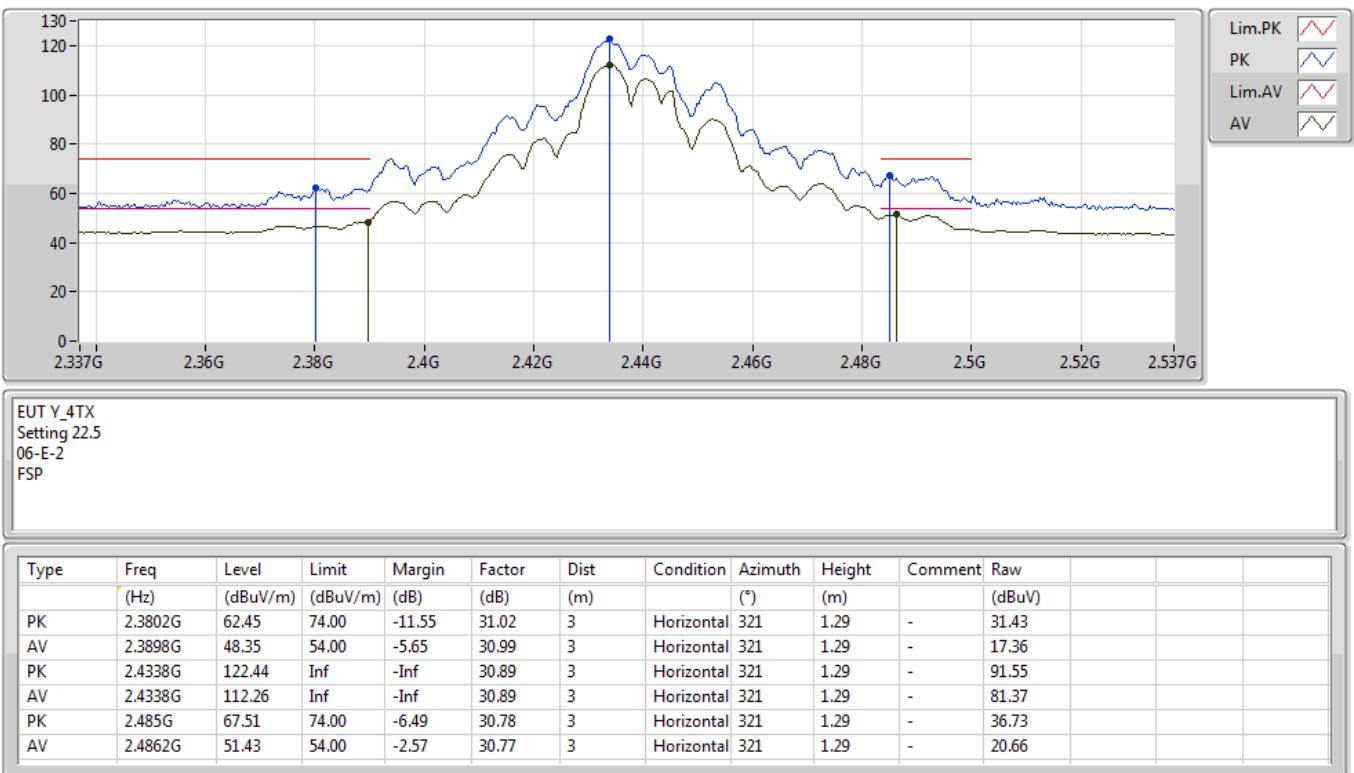
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2437MHz_TX

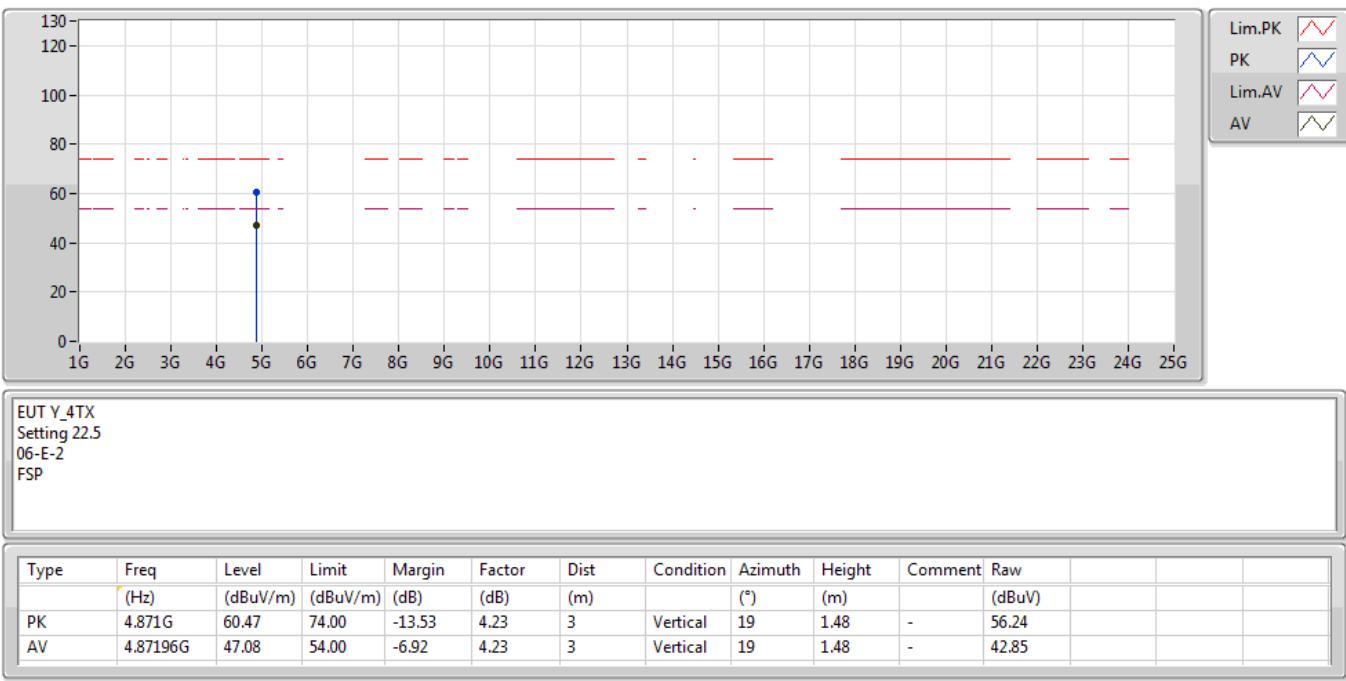

802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2437MHz_TX


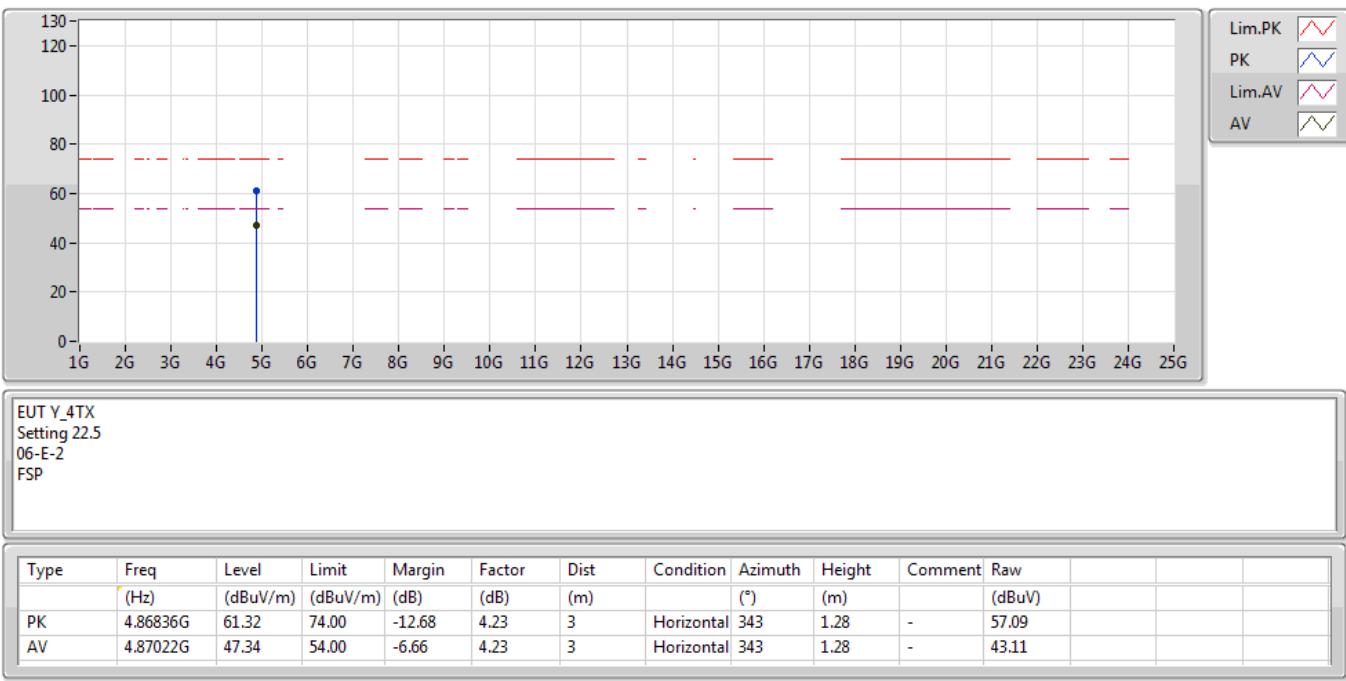
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

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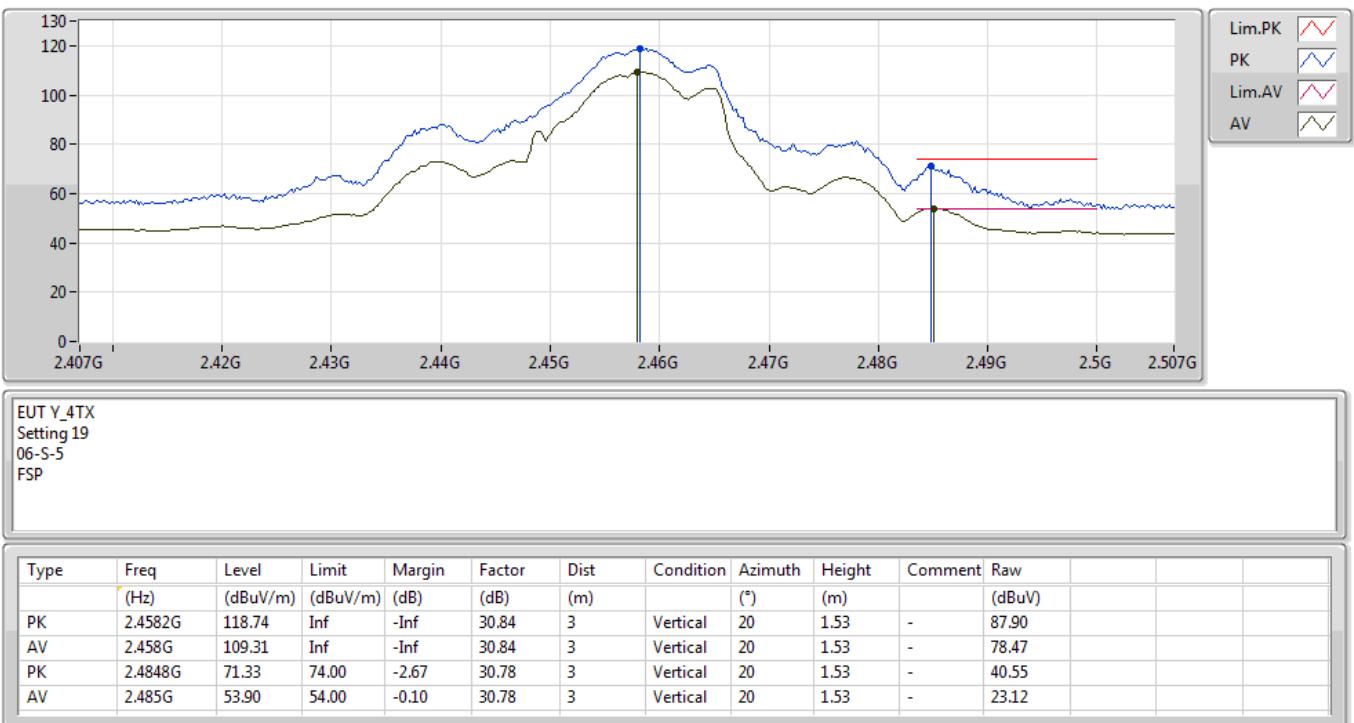
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

2437MHz_TX

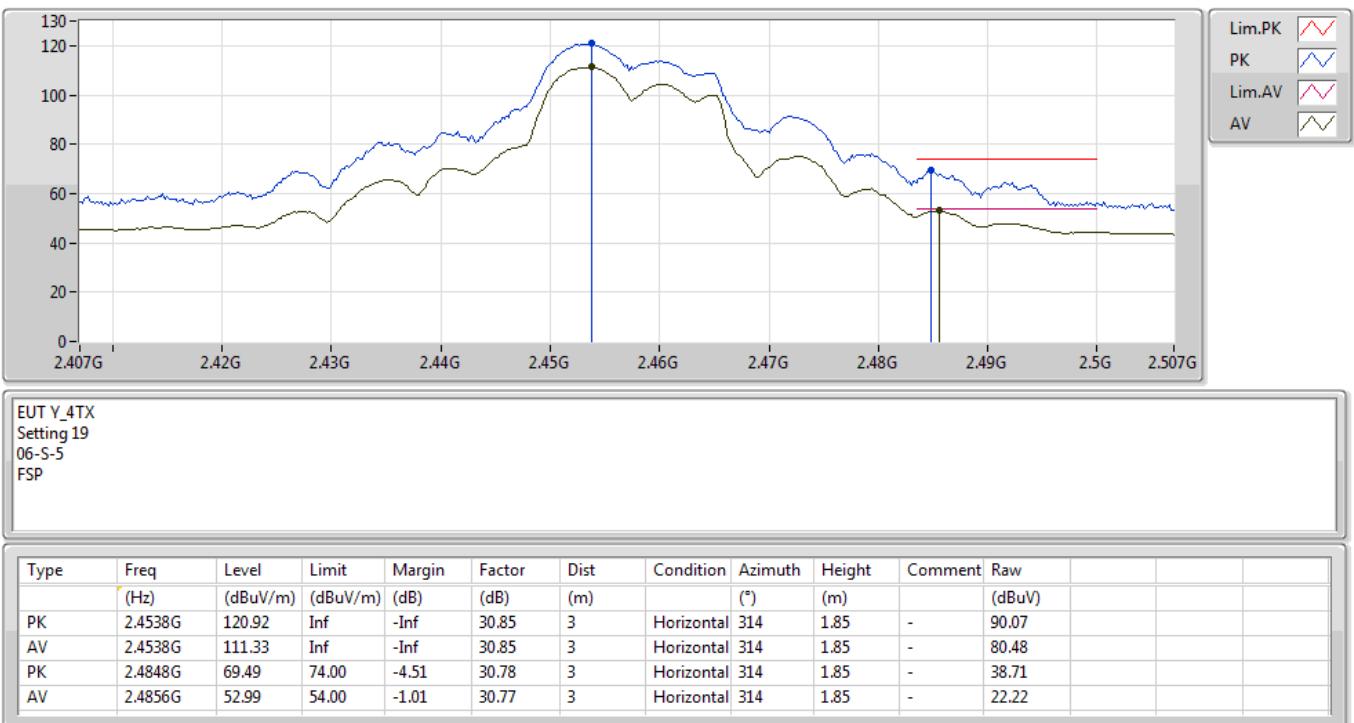
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2457MHz_TX


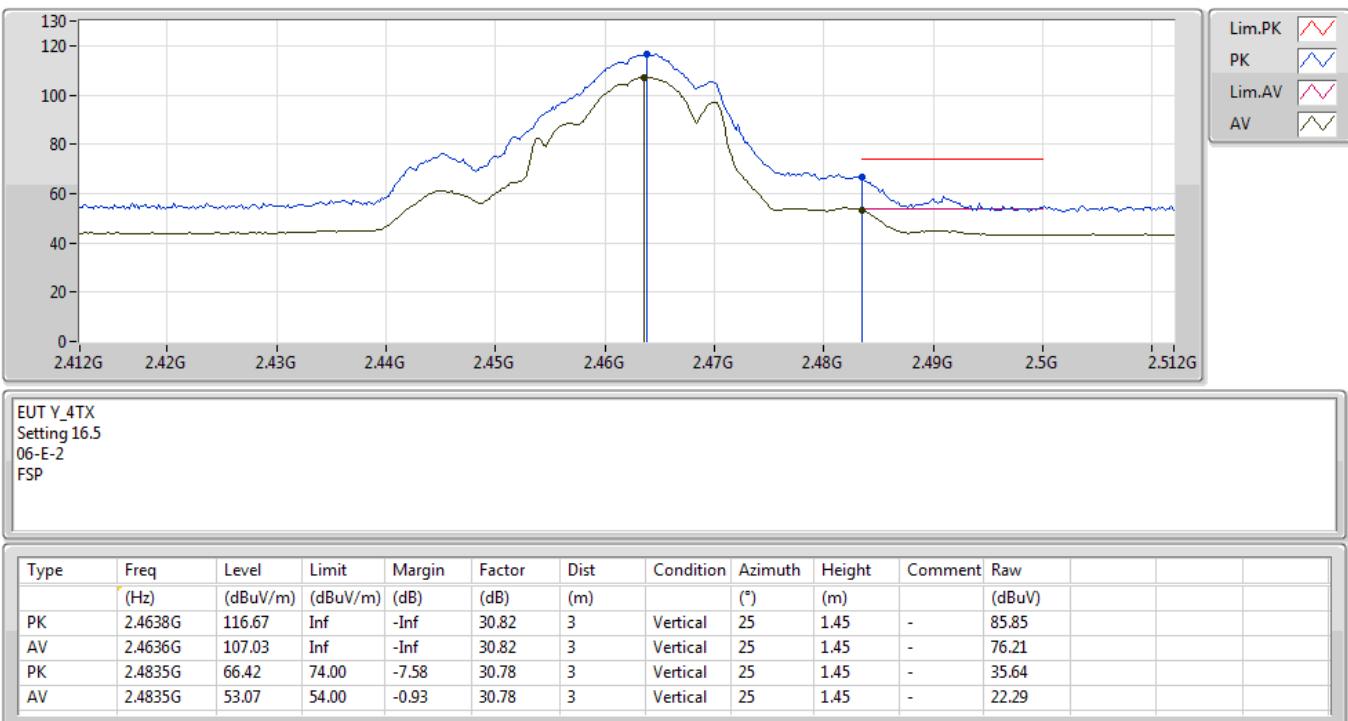
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2457MHz_TX


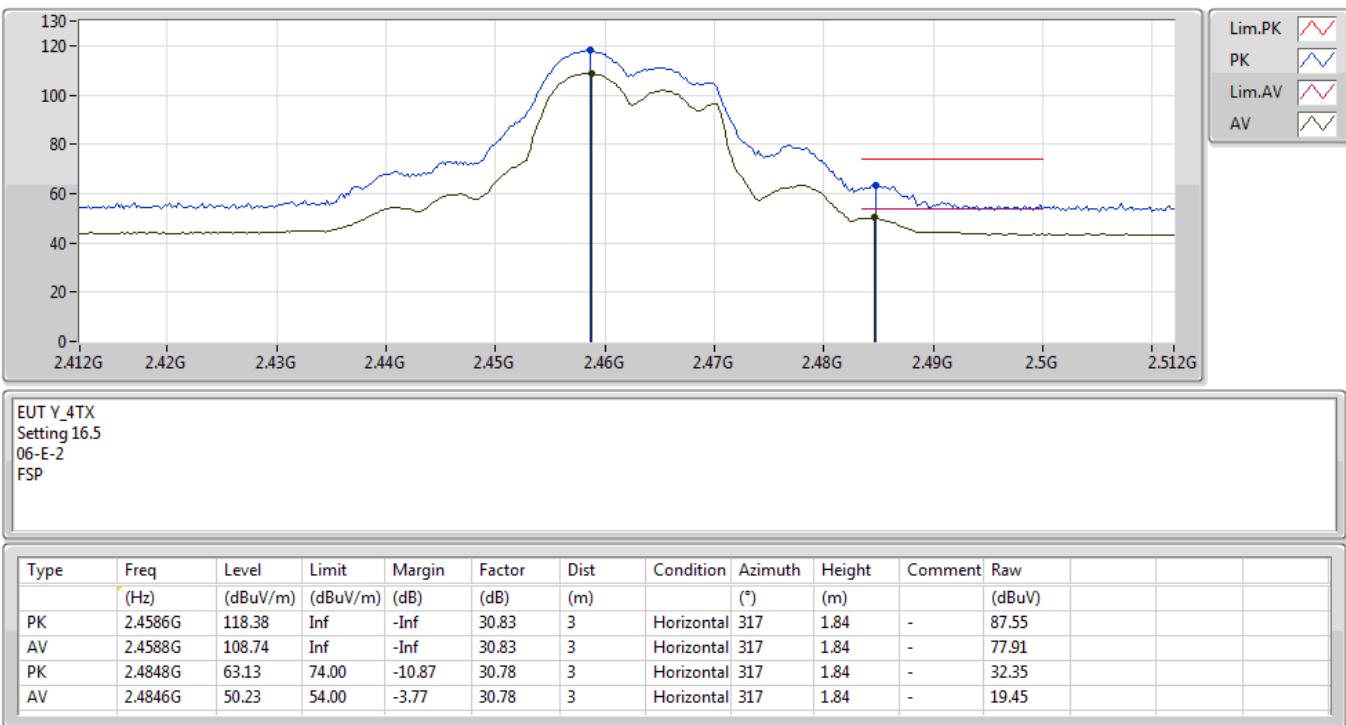
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2462MHz_TX


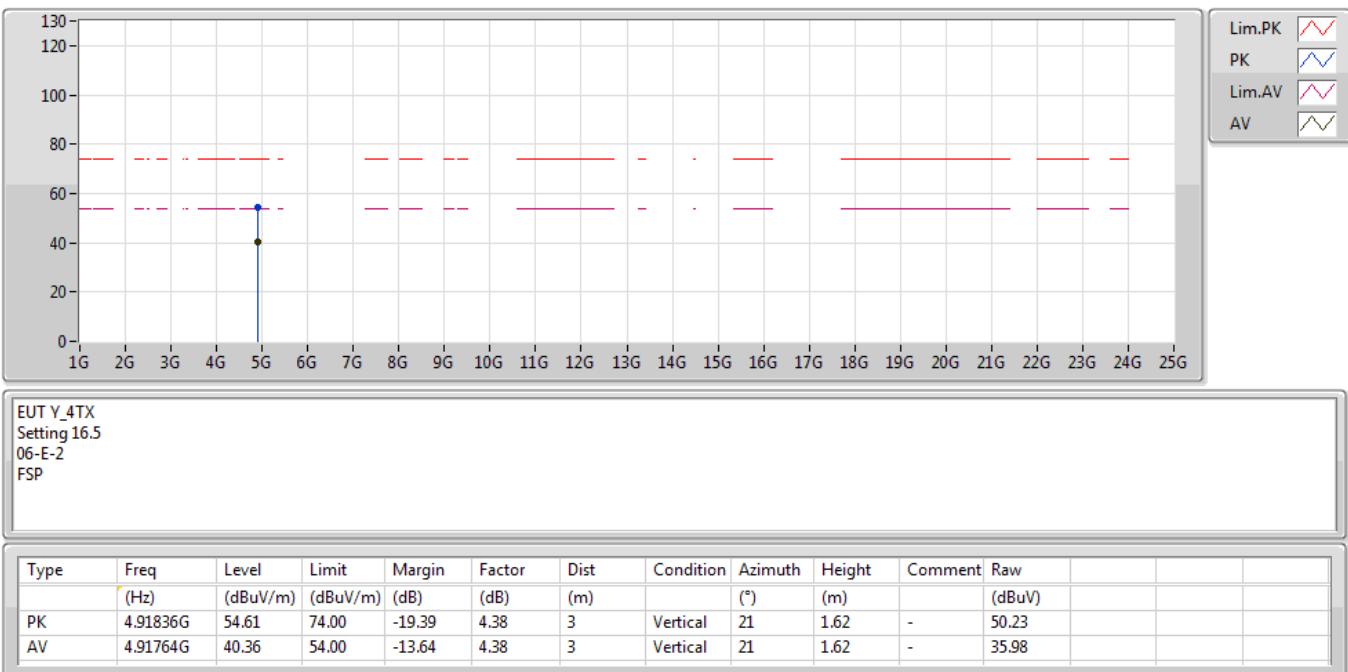
802.11g_Nss1,(6Mbps)_4TX

15/10/2019

2462MHz_TX


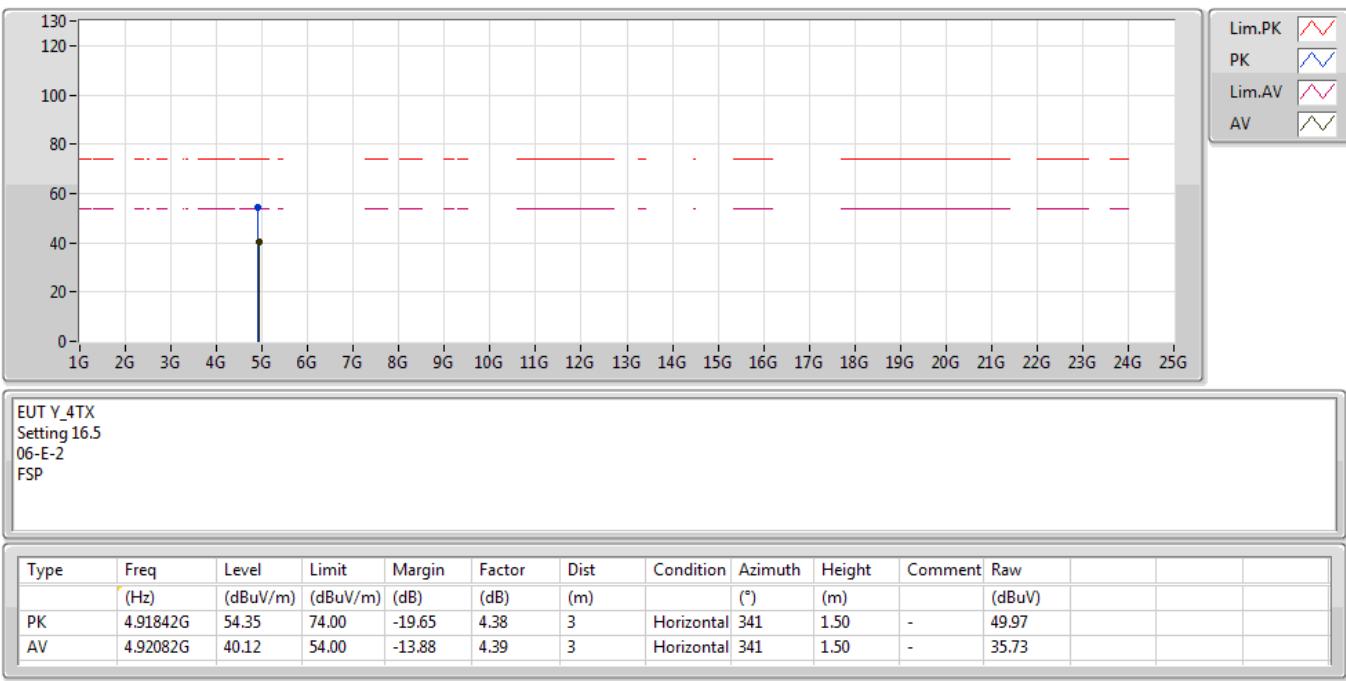
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

2462MHz_TX

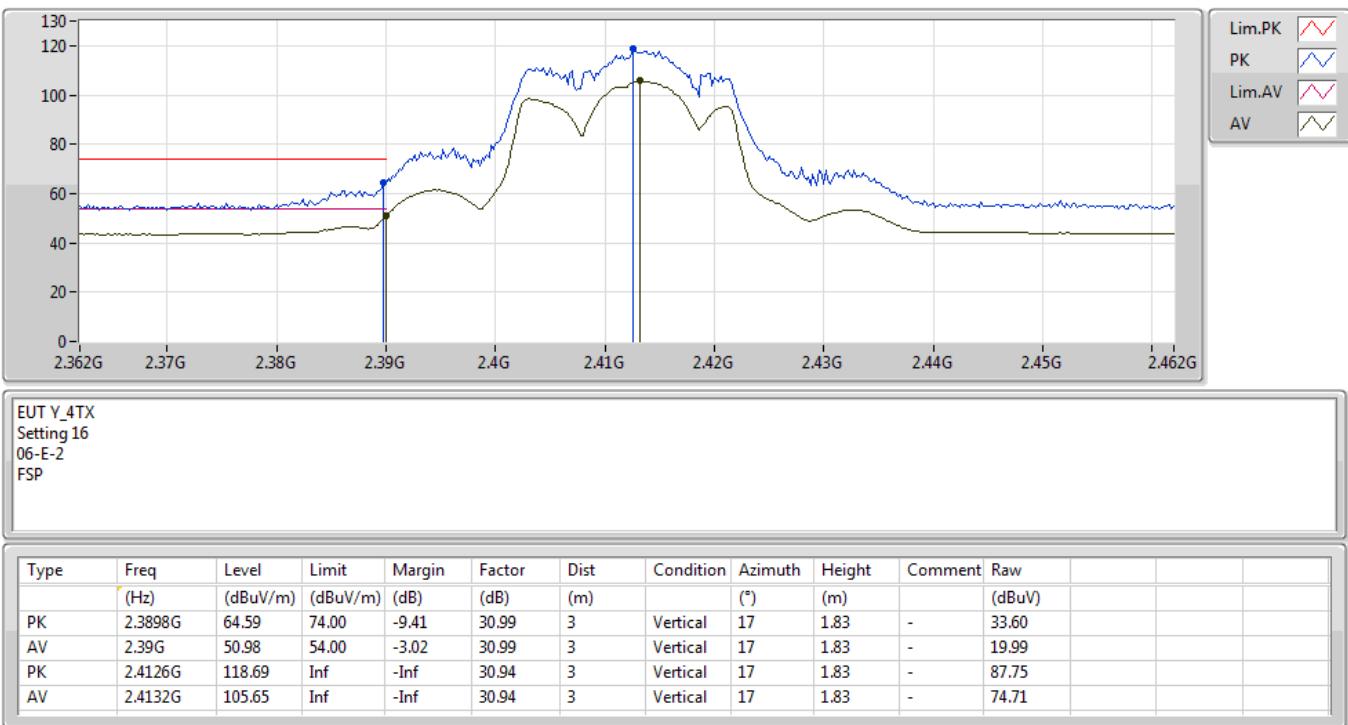
**802.11g_Nss1,(6Mbps)_4TX**

15/10/2019

2462MHz_TX

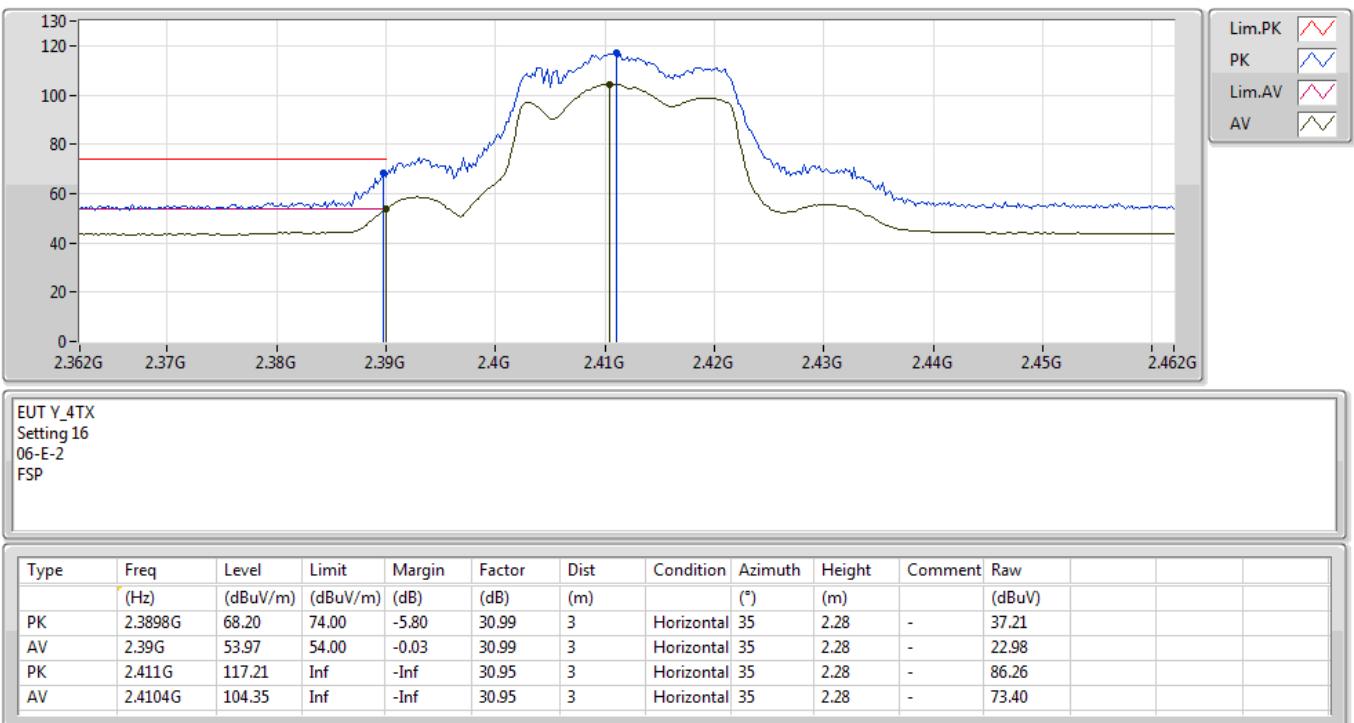
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2412MHz_TX


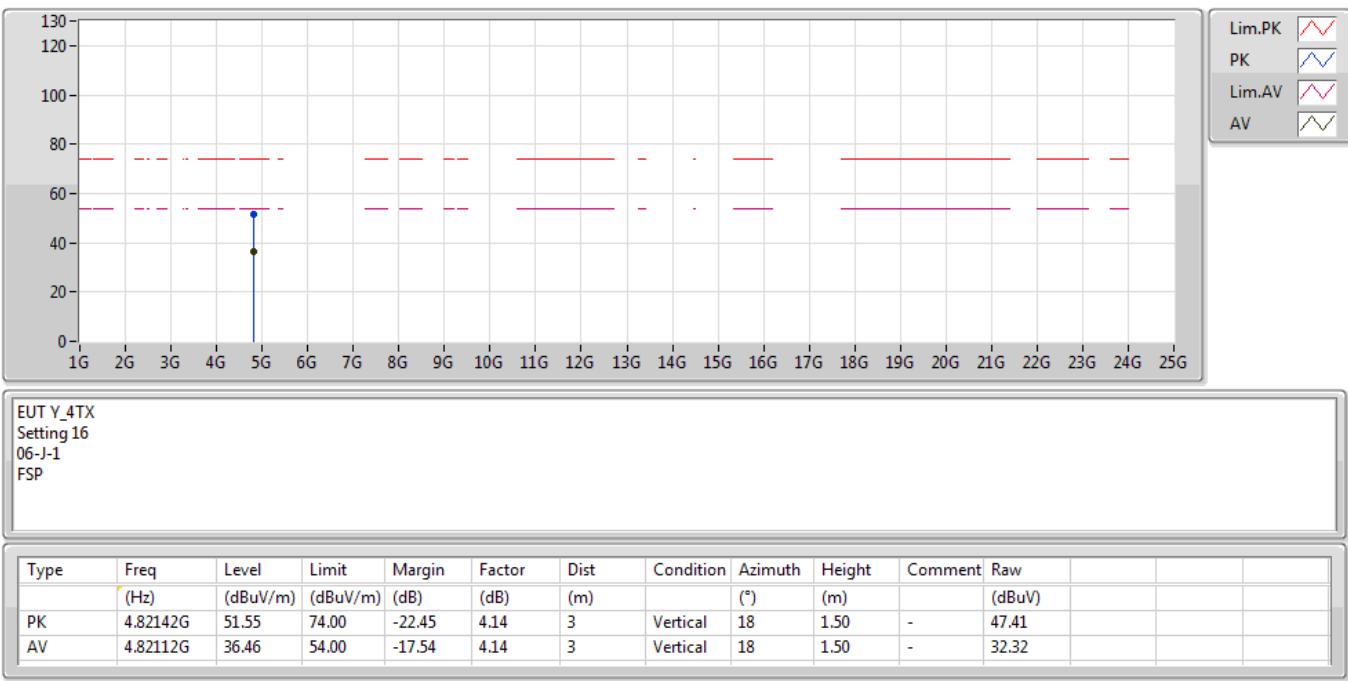
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2412MHz_TX


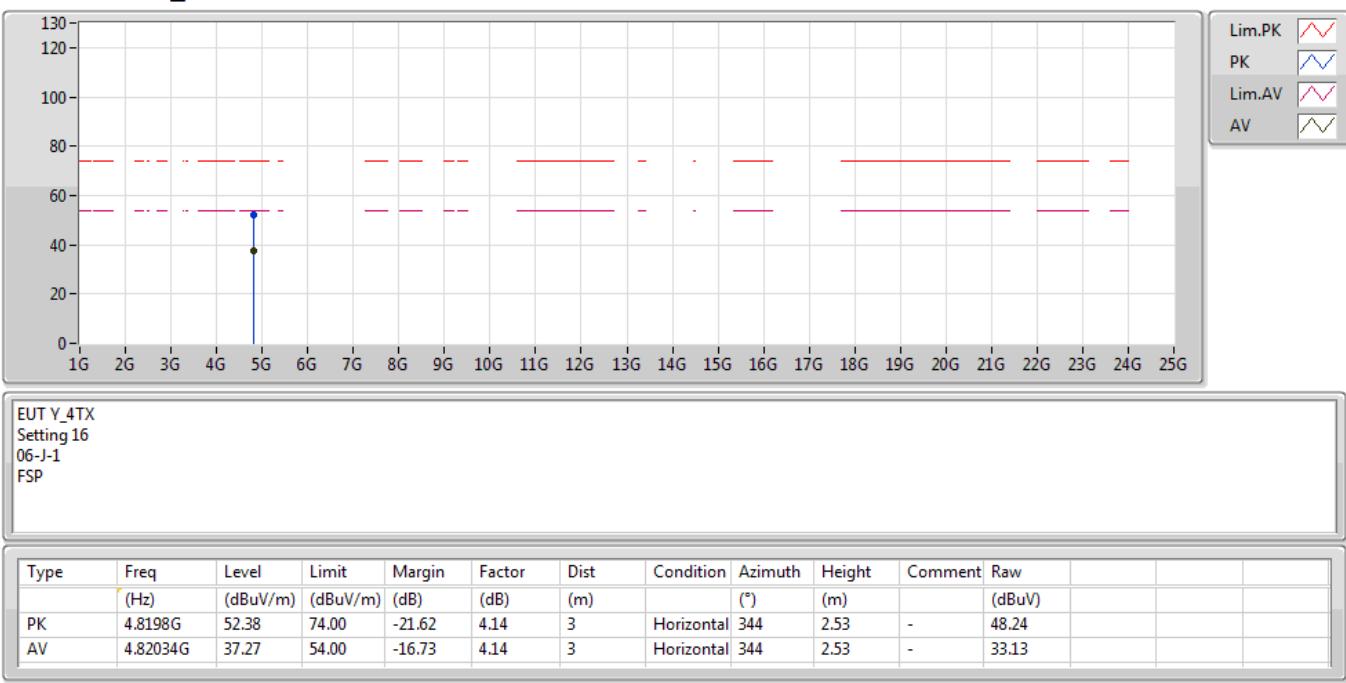
**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2412MHz_TX

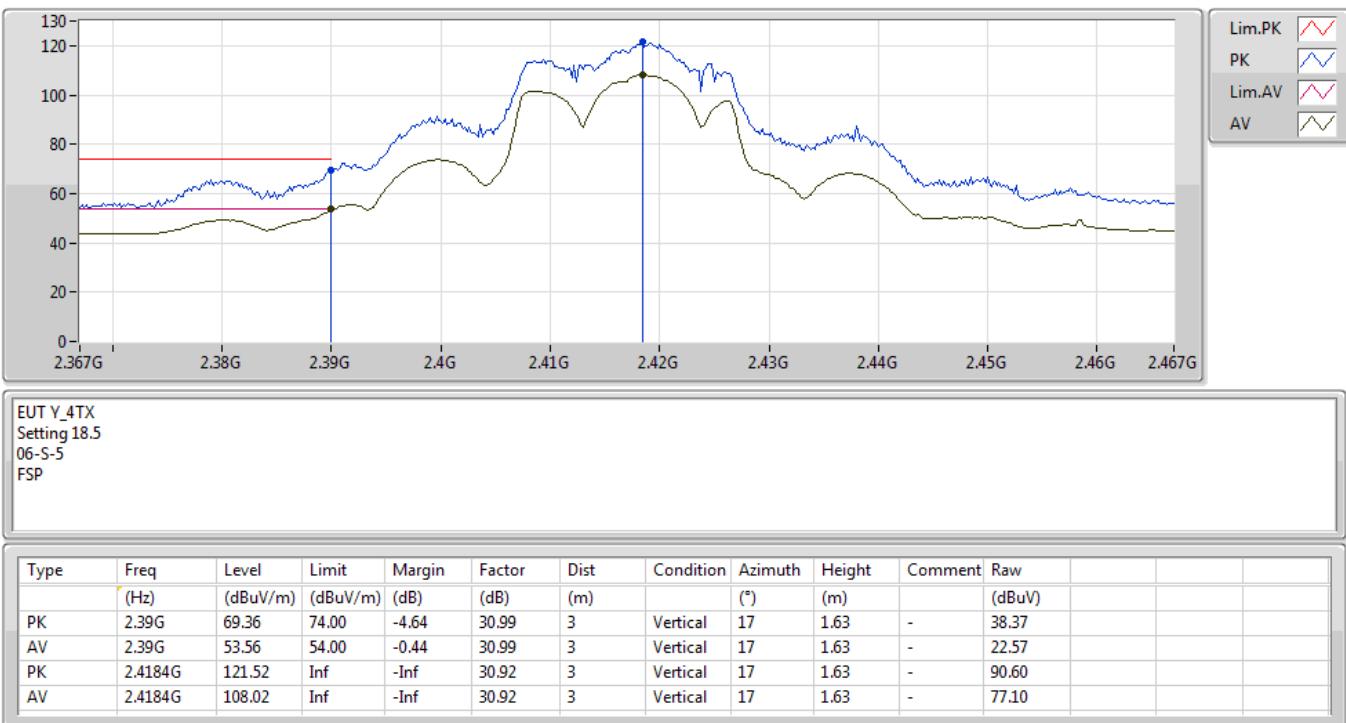
**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2412MHz_TX

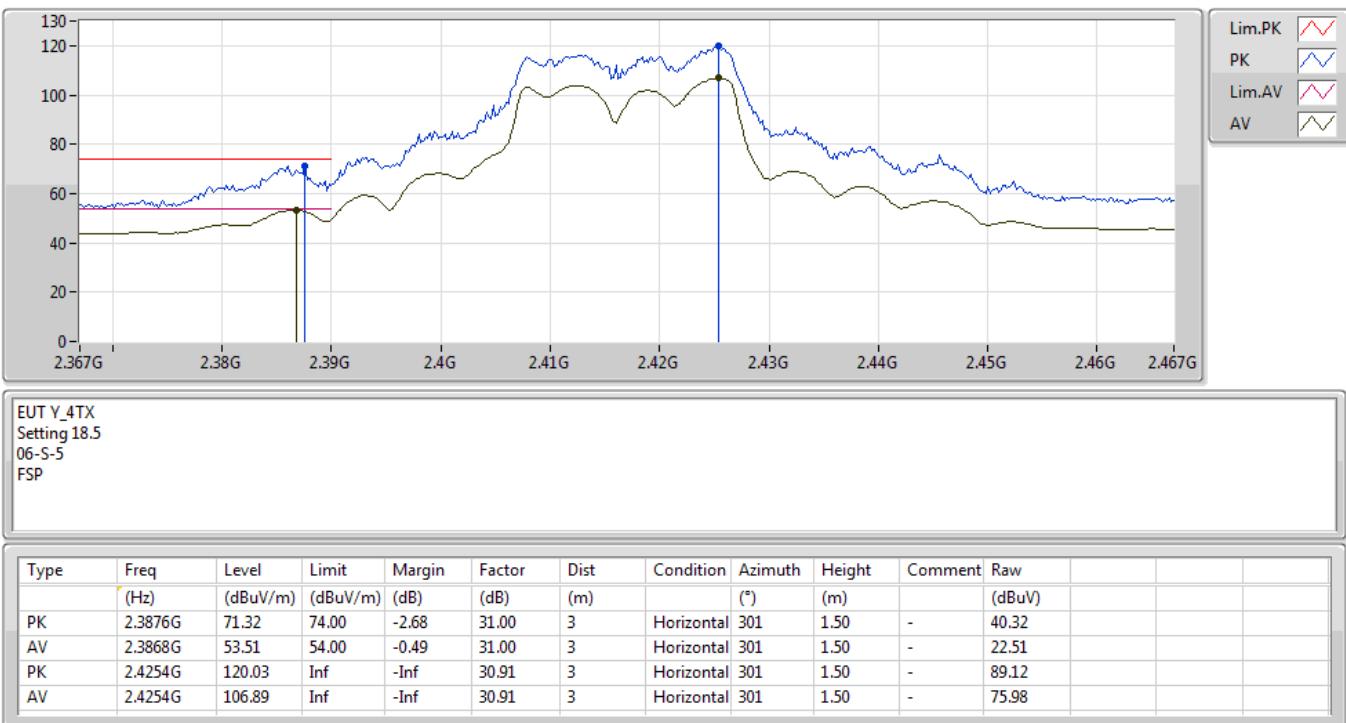
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2417MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2417MHz_TX


802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2437MHz_TX

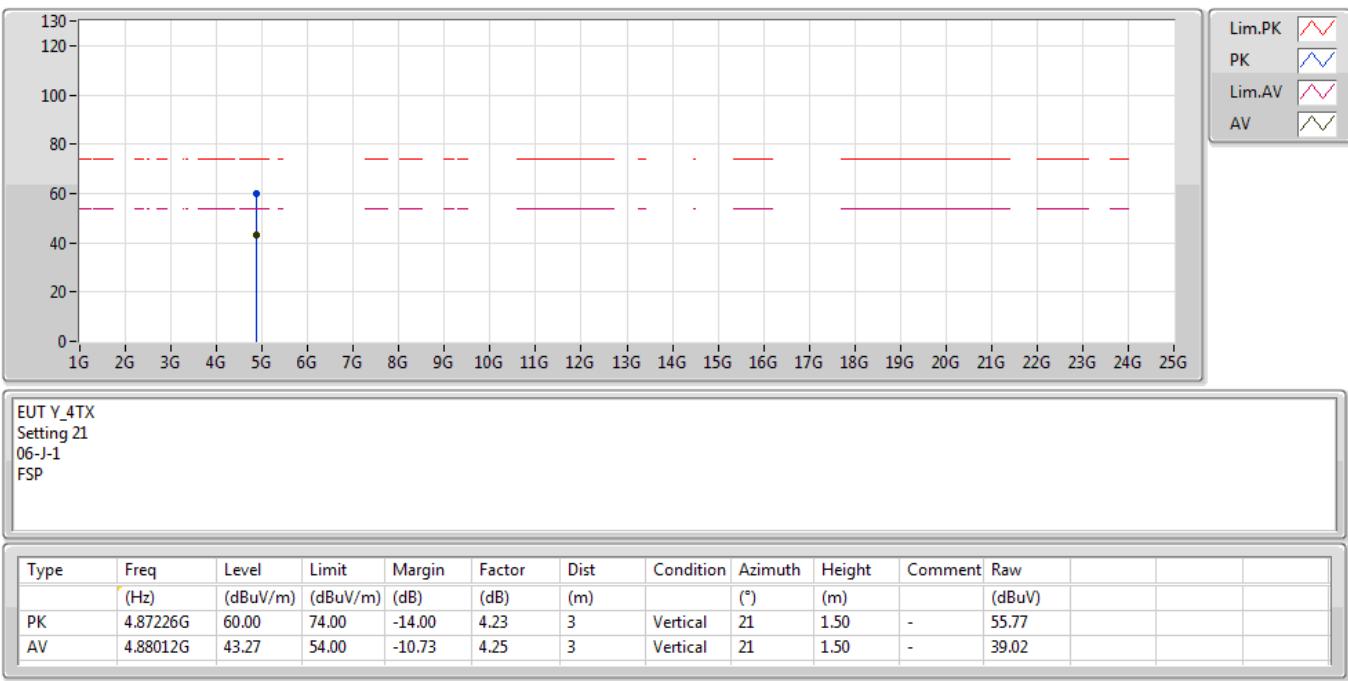

802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2437MHz_TX

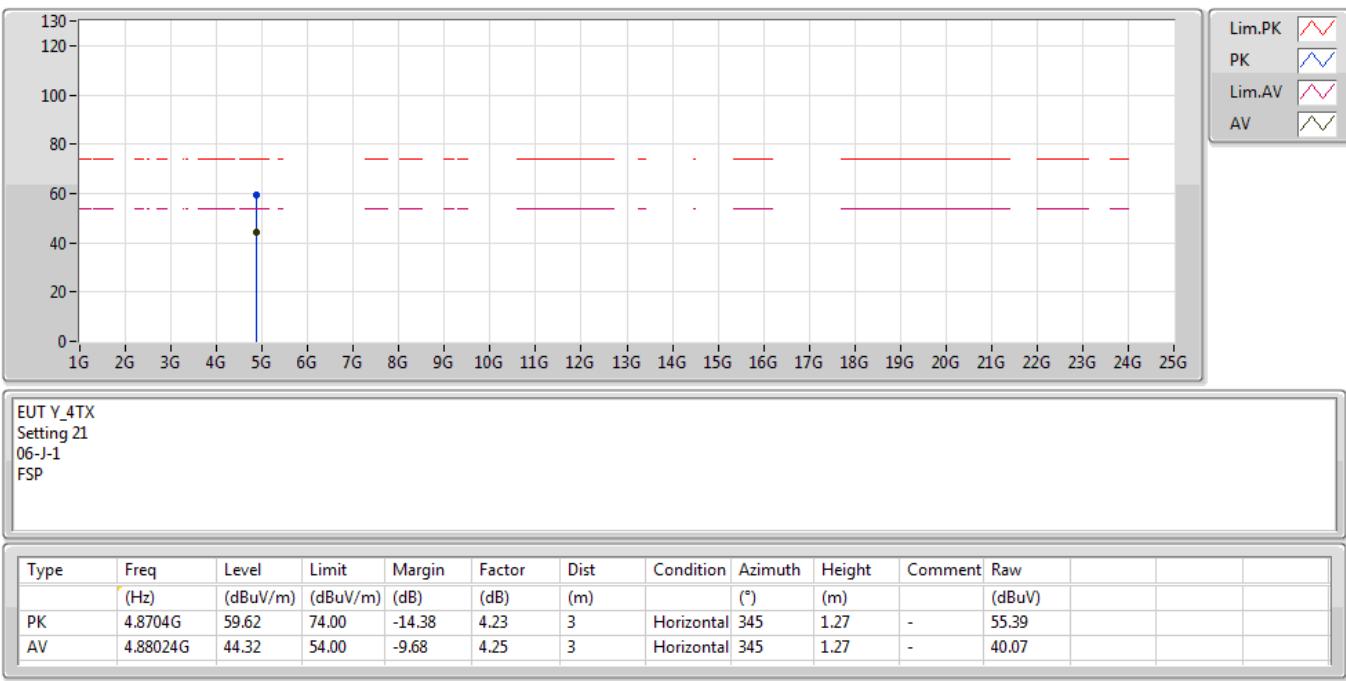

**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2437MHz_TX

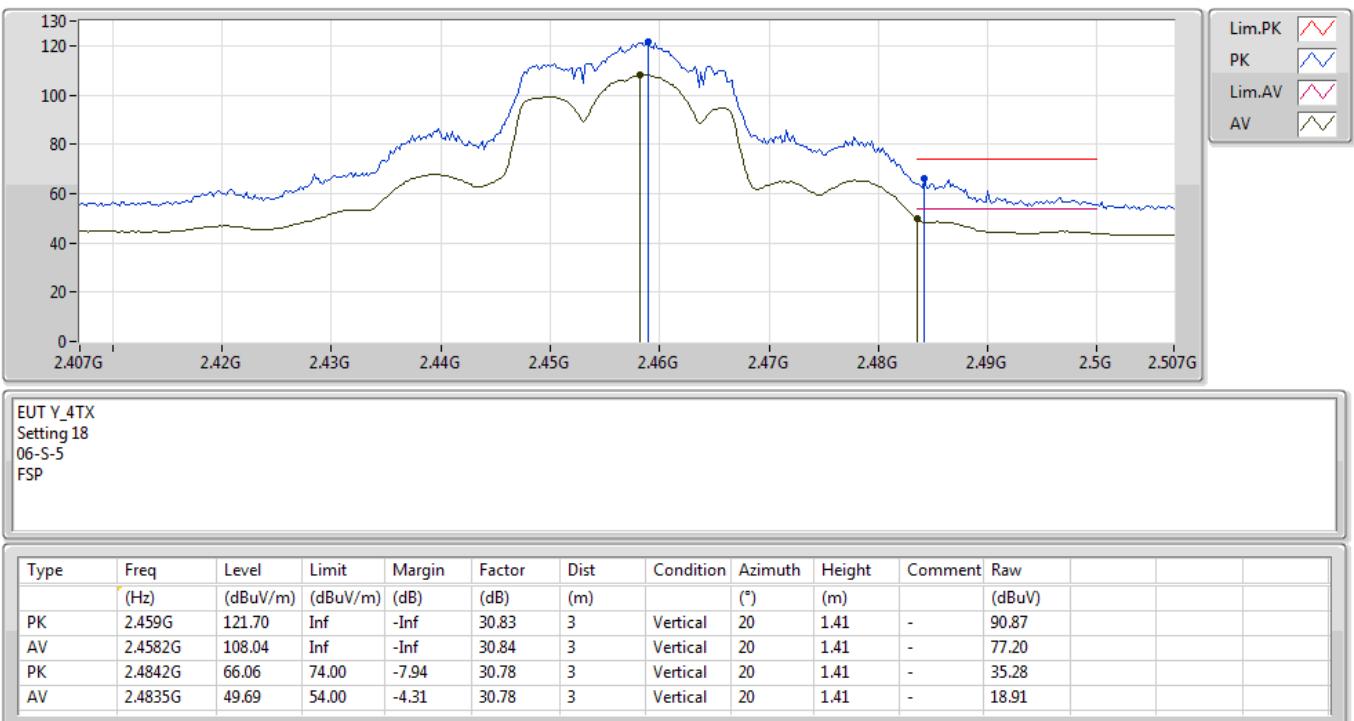
**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2437MHz_TX

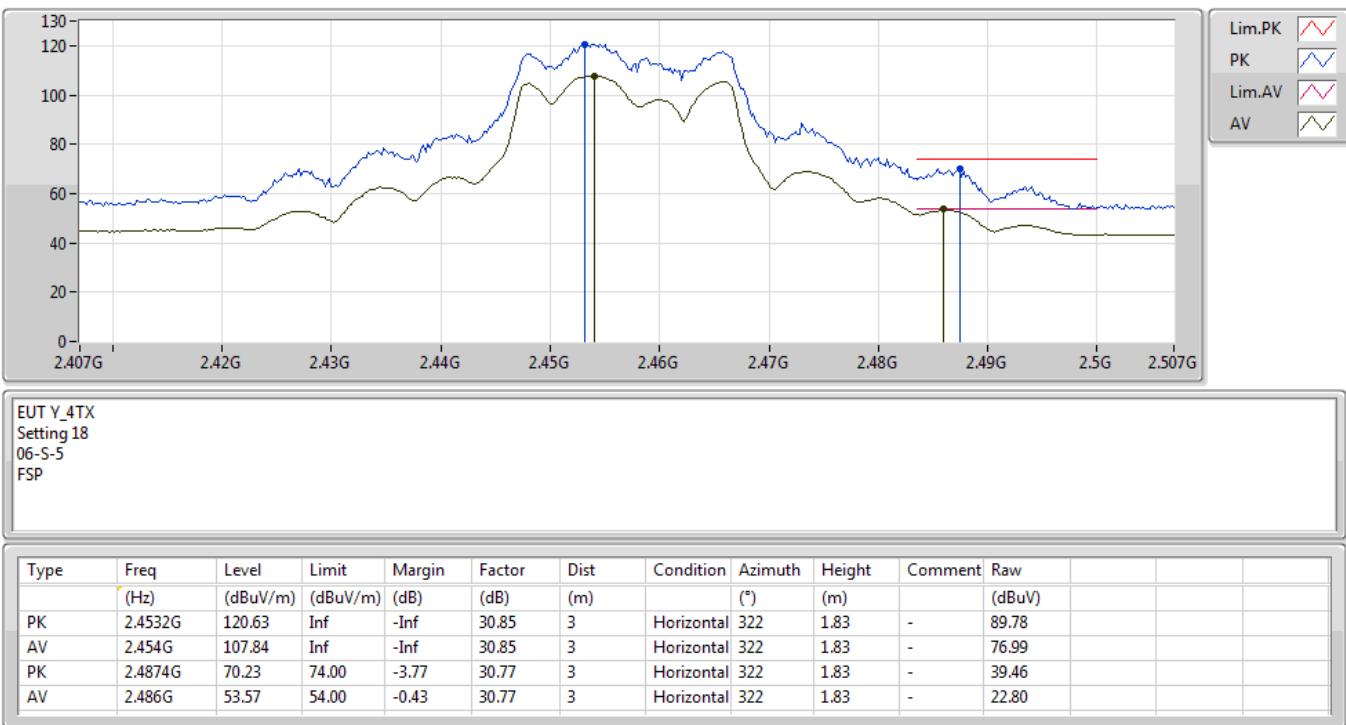
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2457MHz_TX


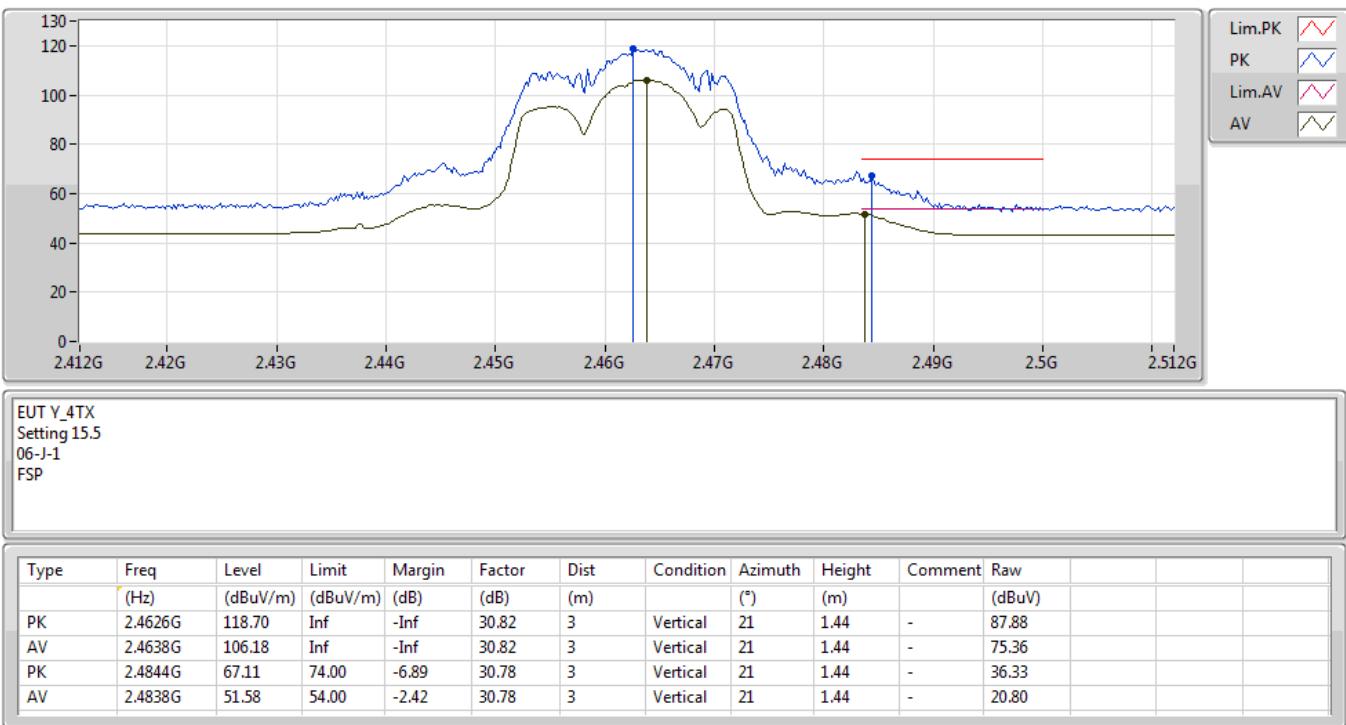
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2457MHz_TX


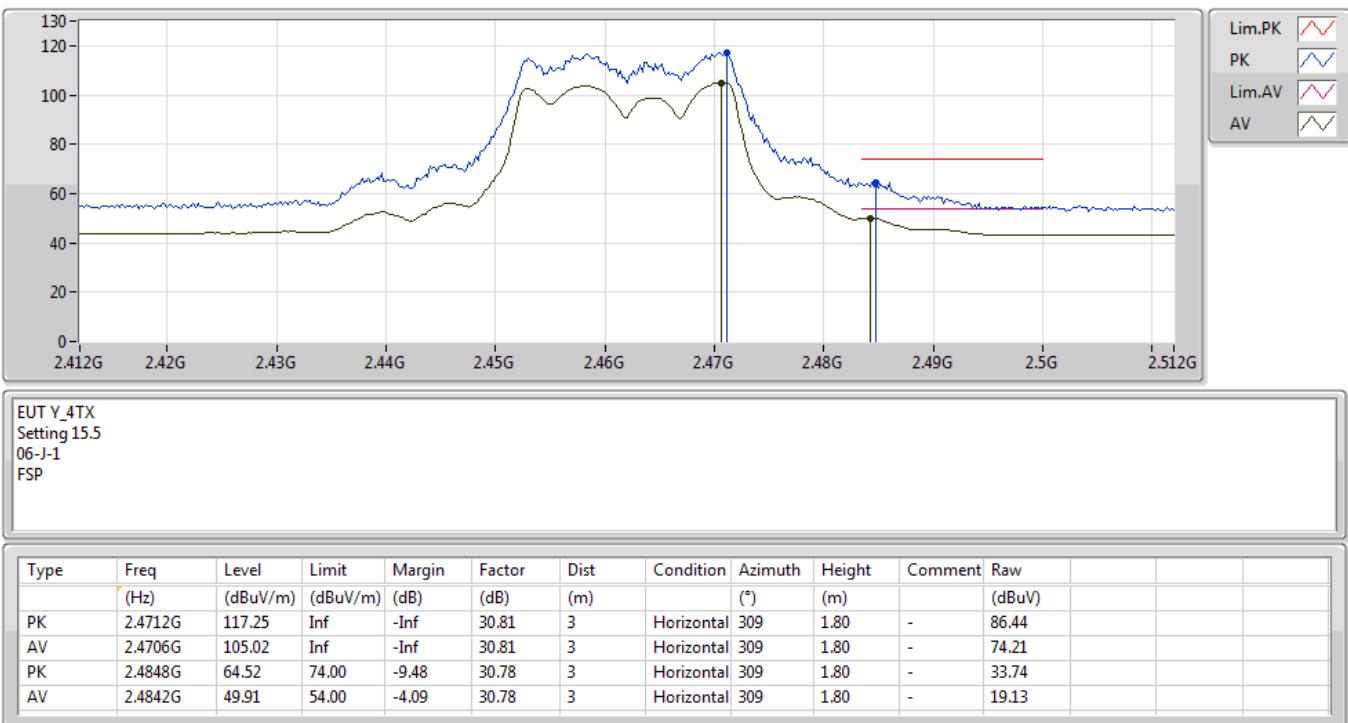
802.11ax HEW20_Nss1,(MCS0)_4TX

15/10/2019

2462MHz_TX


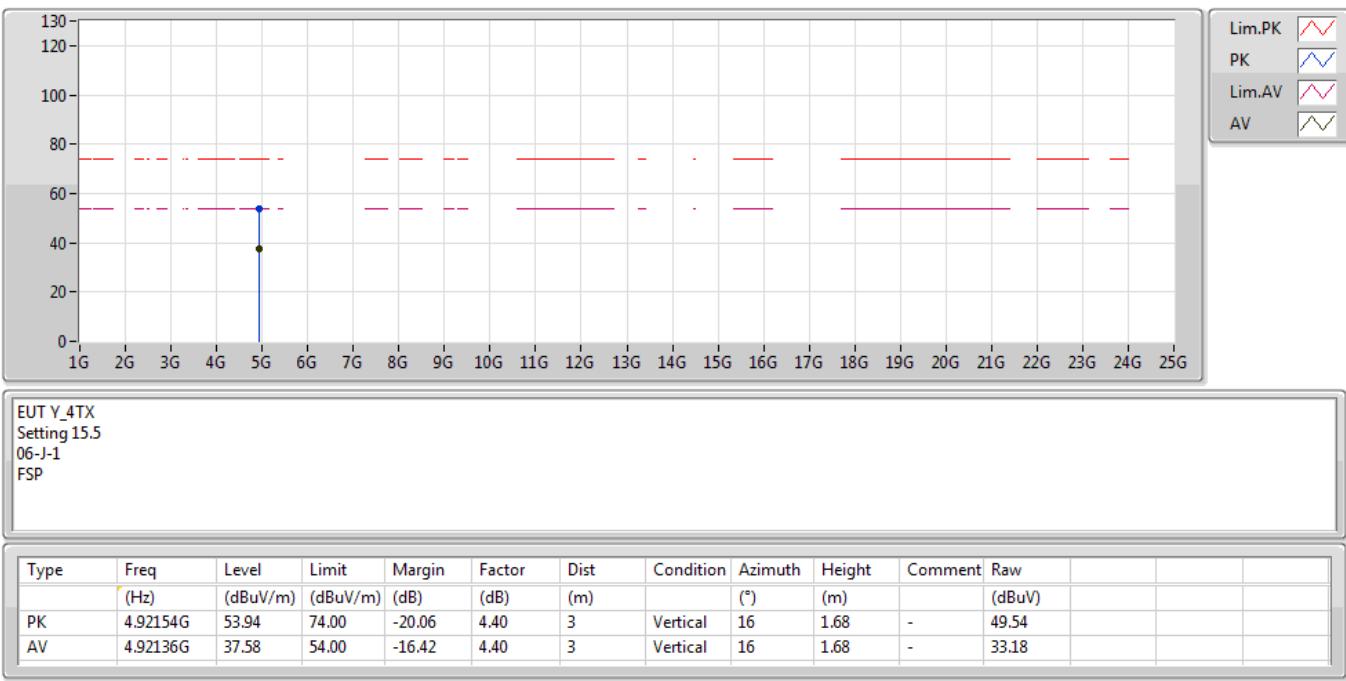
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15/10/2019

2462MHz_TX


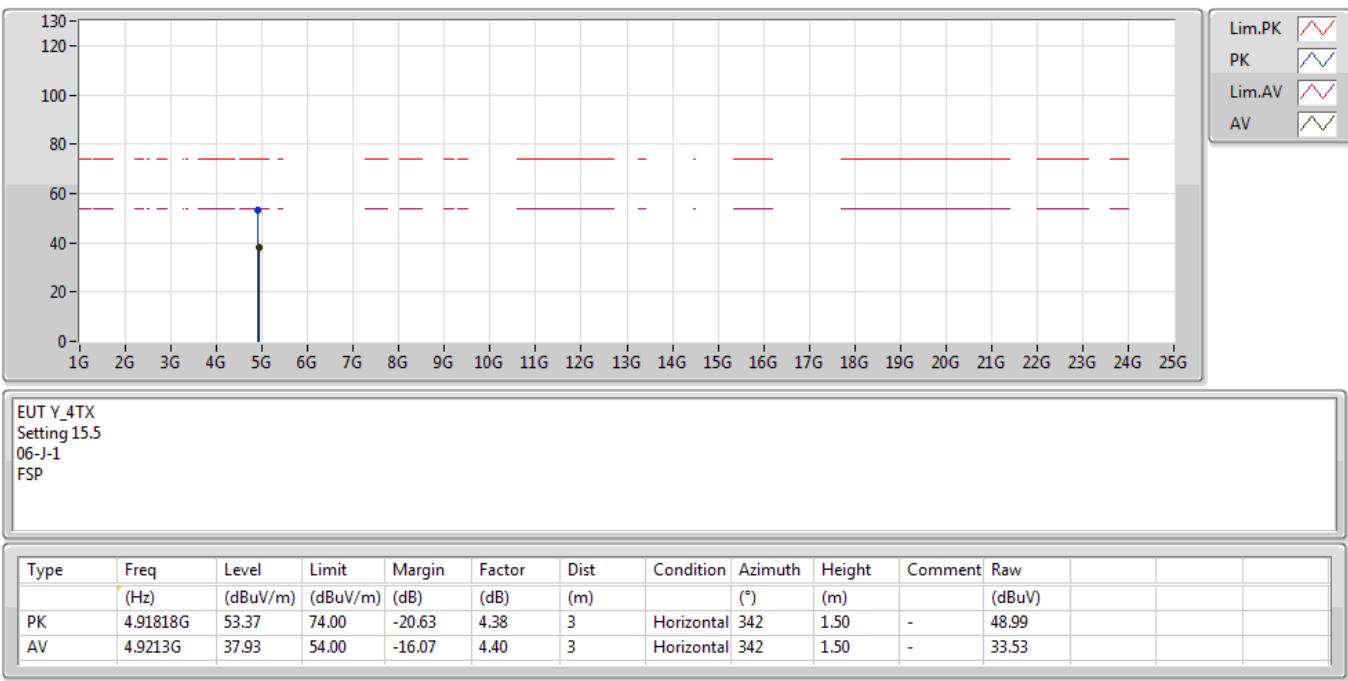
**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2462MHz_TX

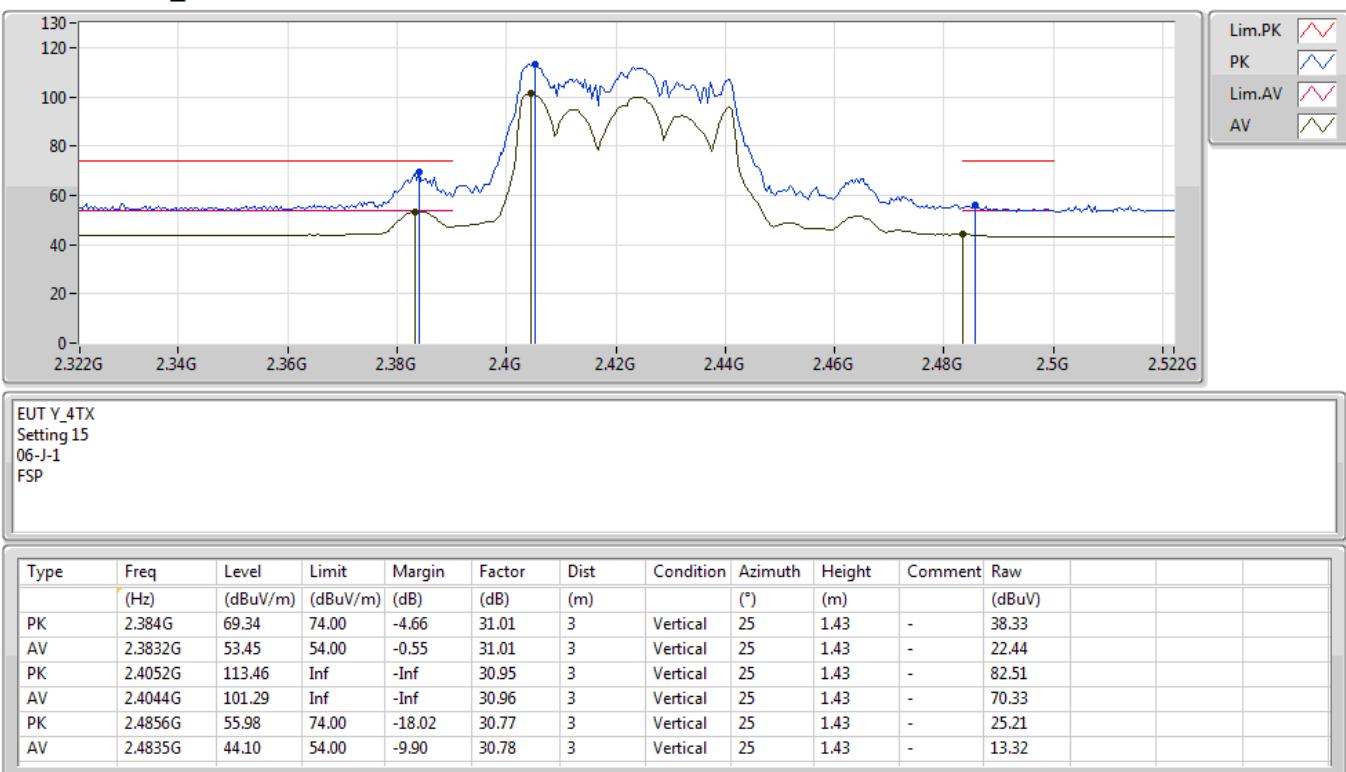
**802.11ax HEW20_Nss1,(MCS0)_4TX**

15/10/2019

2462MHz_TX

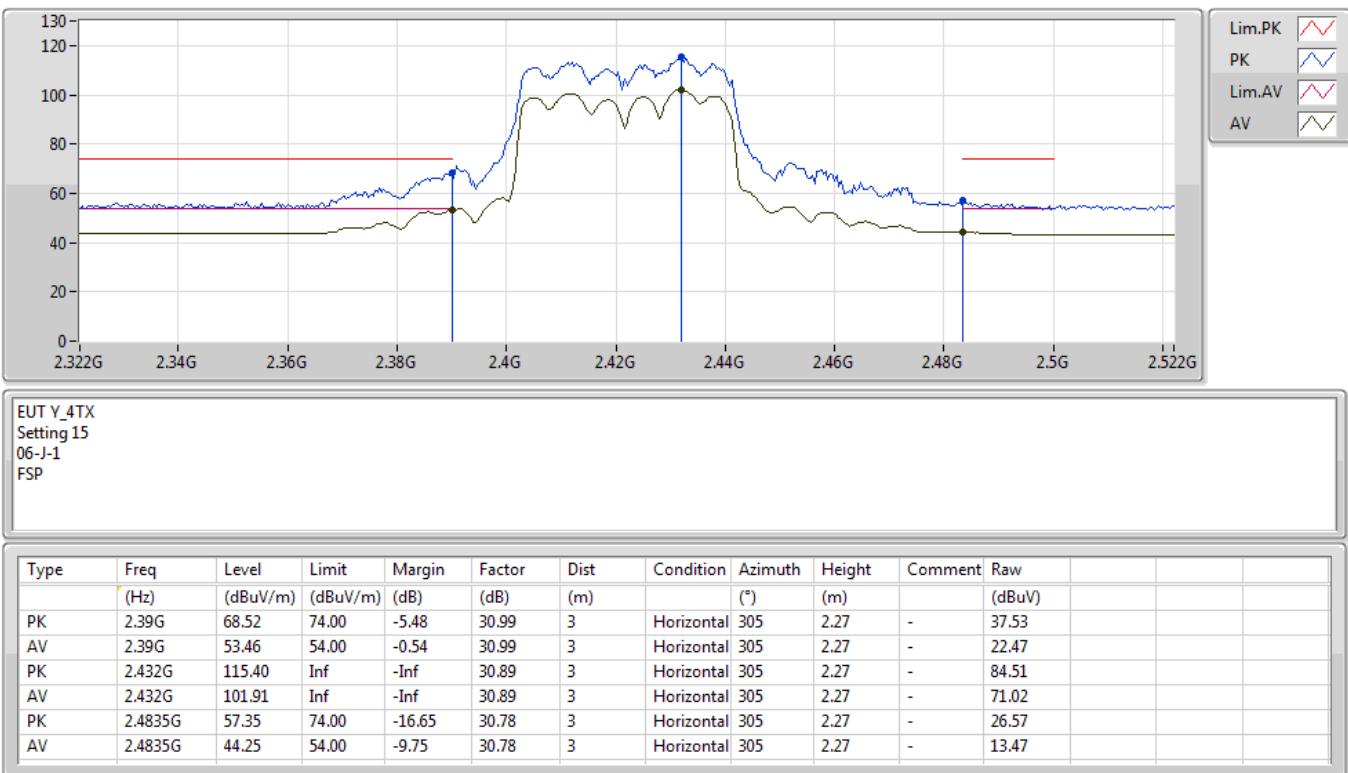
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2422MHz_TX


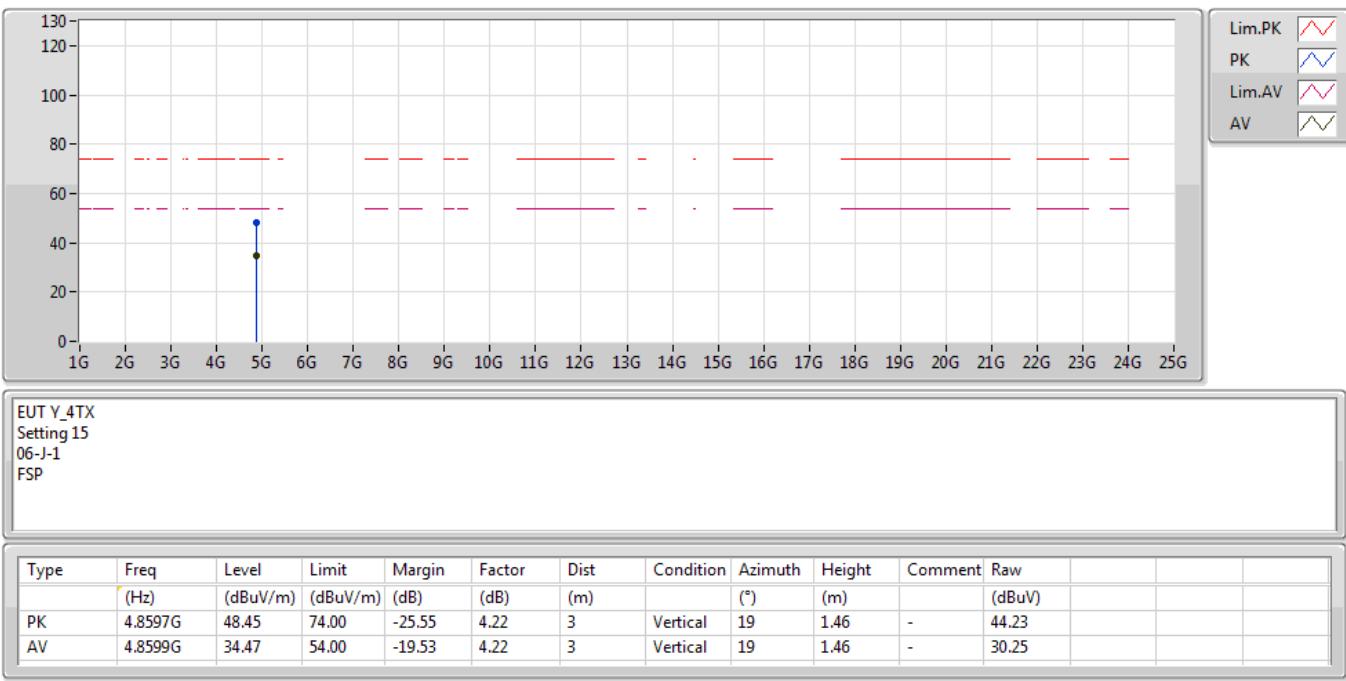
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2422MHz_TX


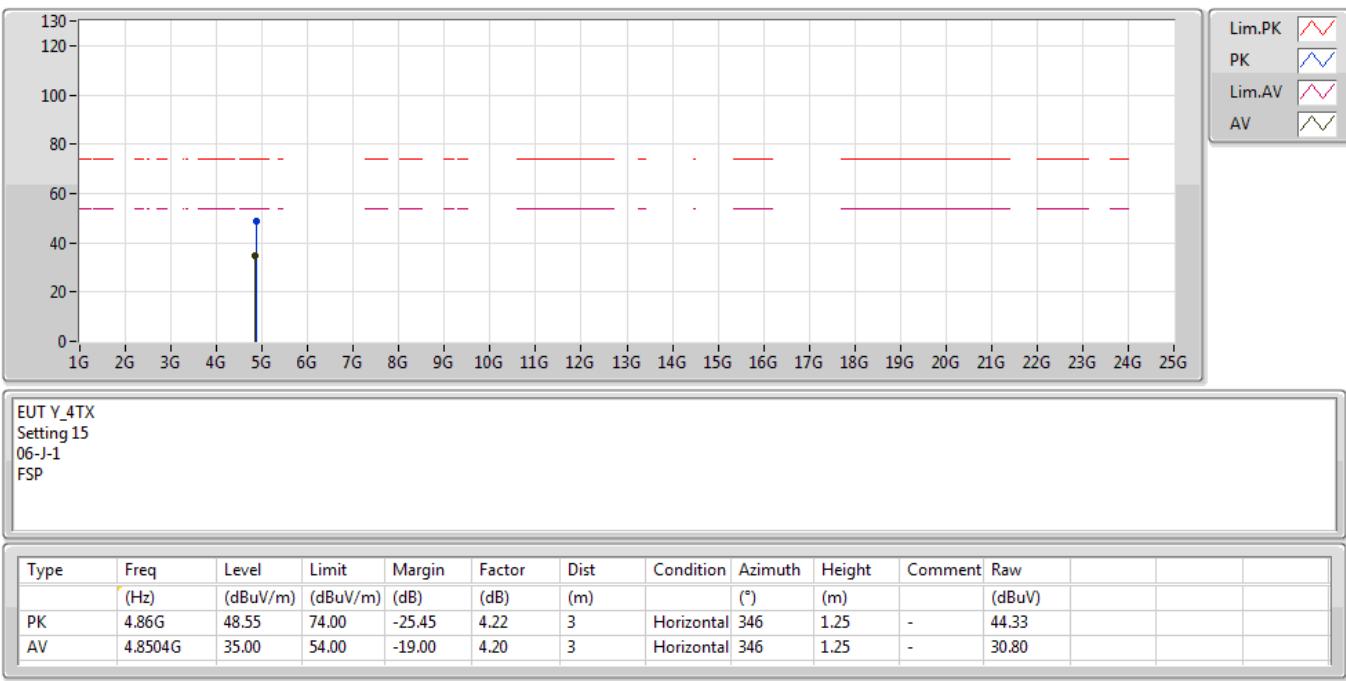
**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

2422MHz_TX

**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

2422MHz_TX

802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2427MHz_TX

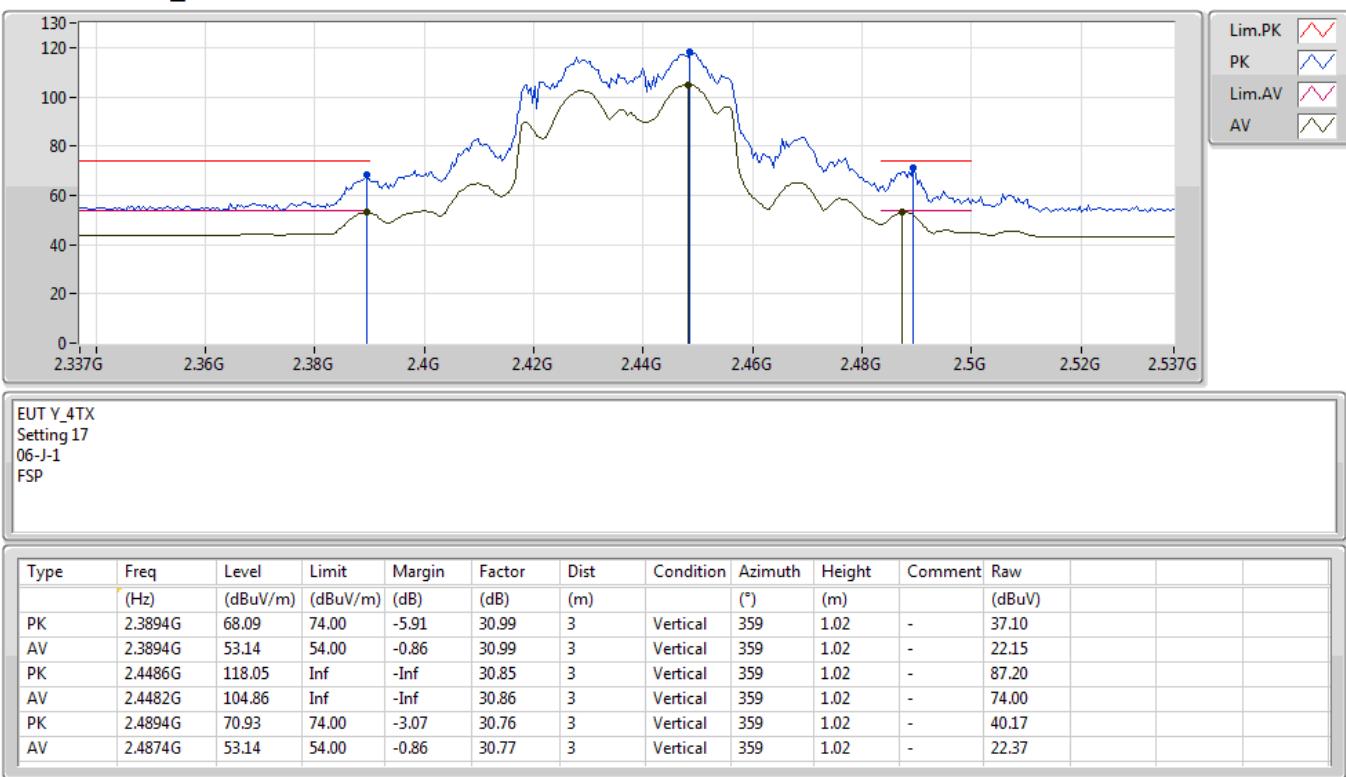

802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2427MHz_TX

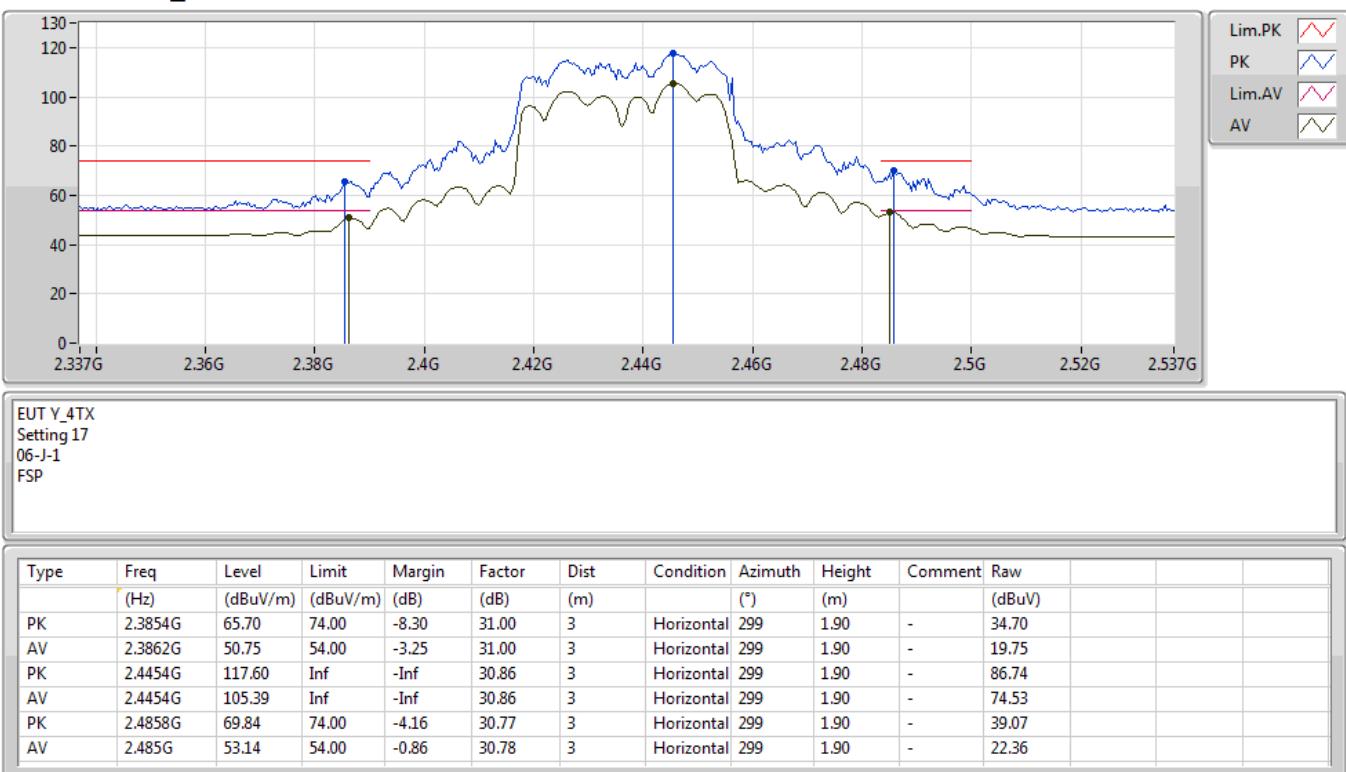

802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2437MHz_TX


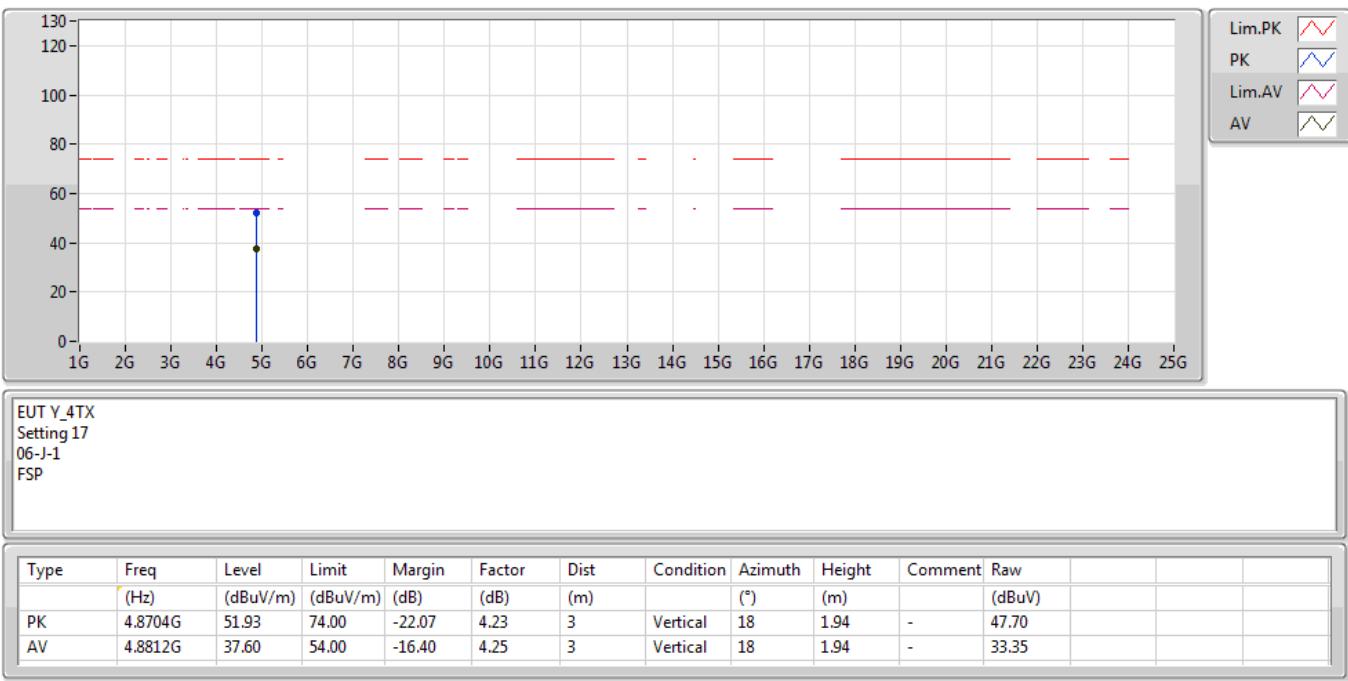
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2437MHz_TX


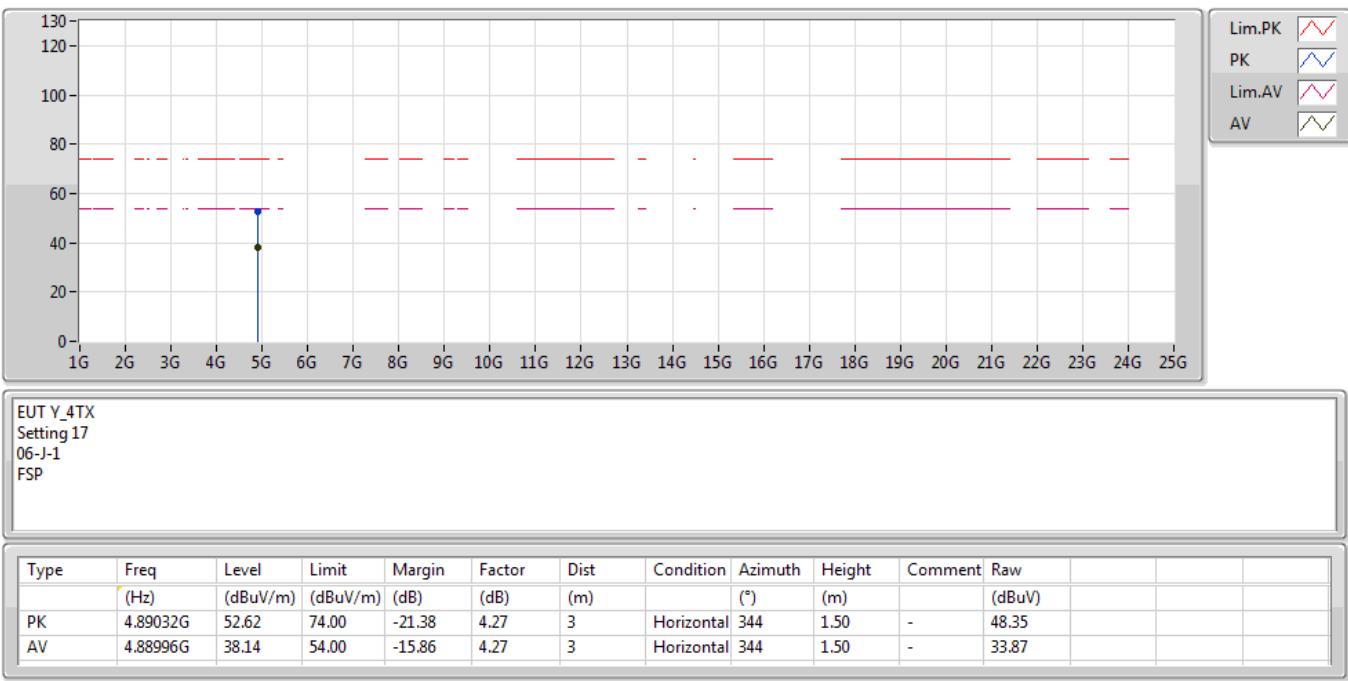
**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

2437MHz_TX

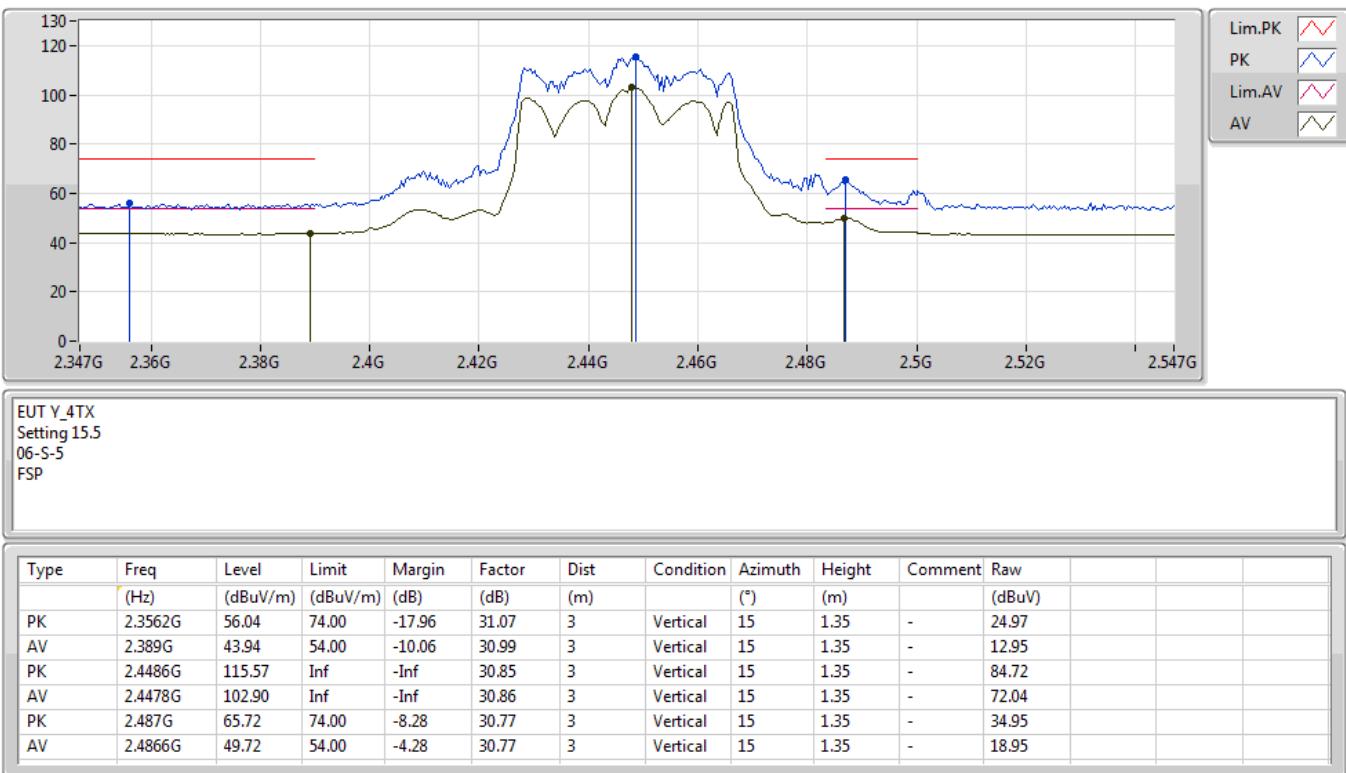
**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

2437MHz_TX

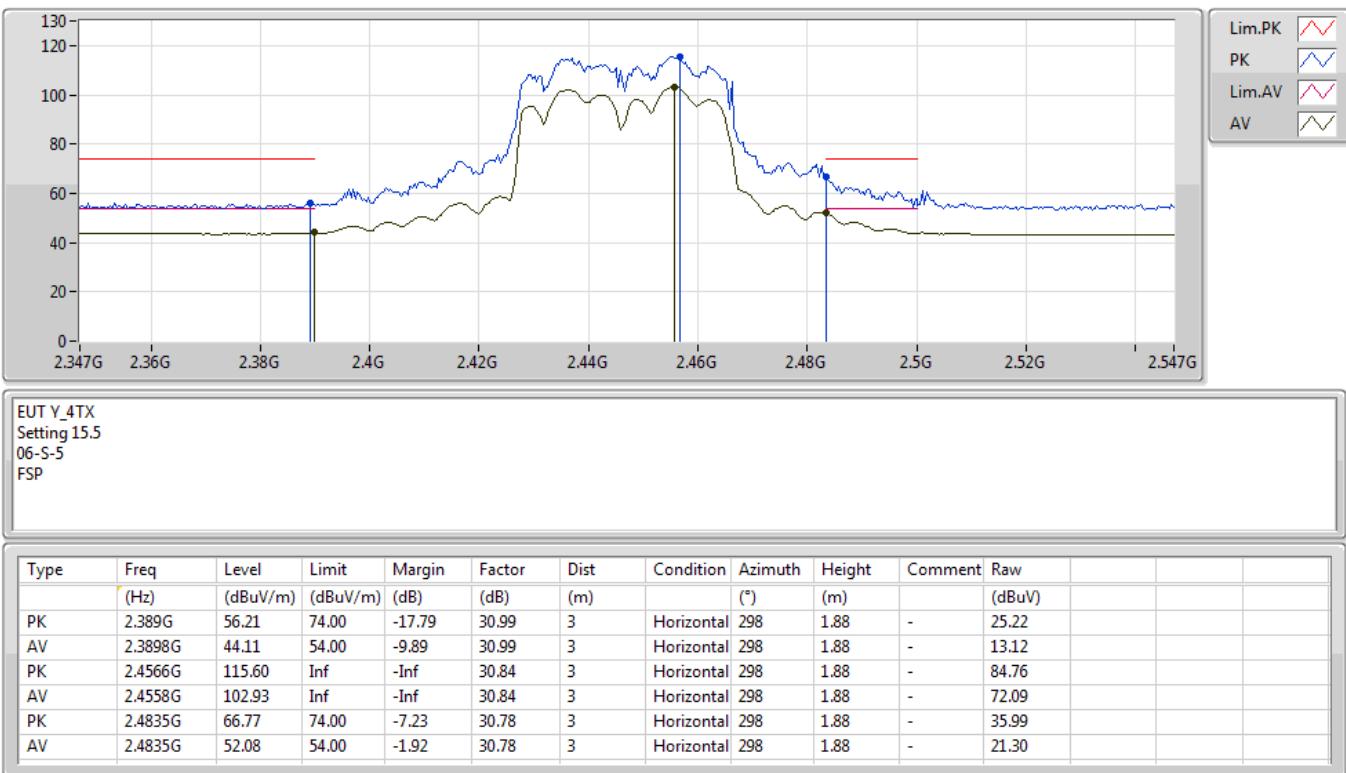
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2447MHz_TX


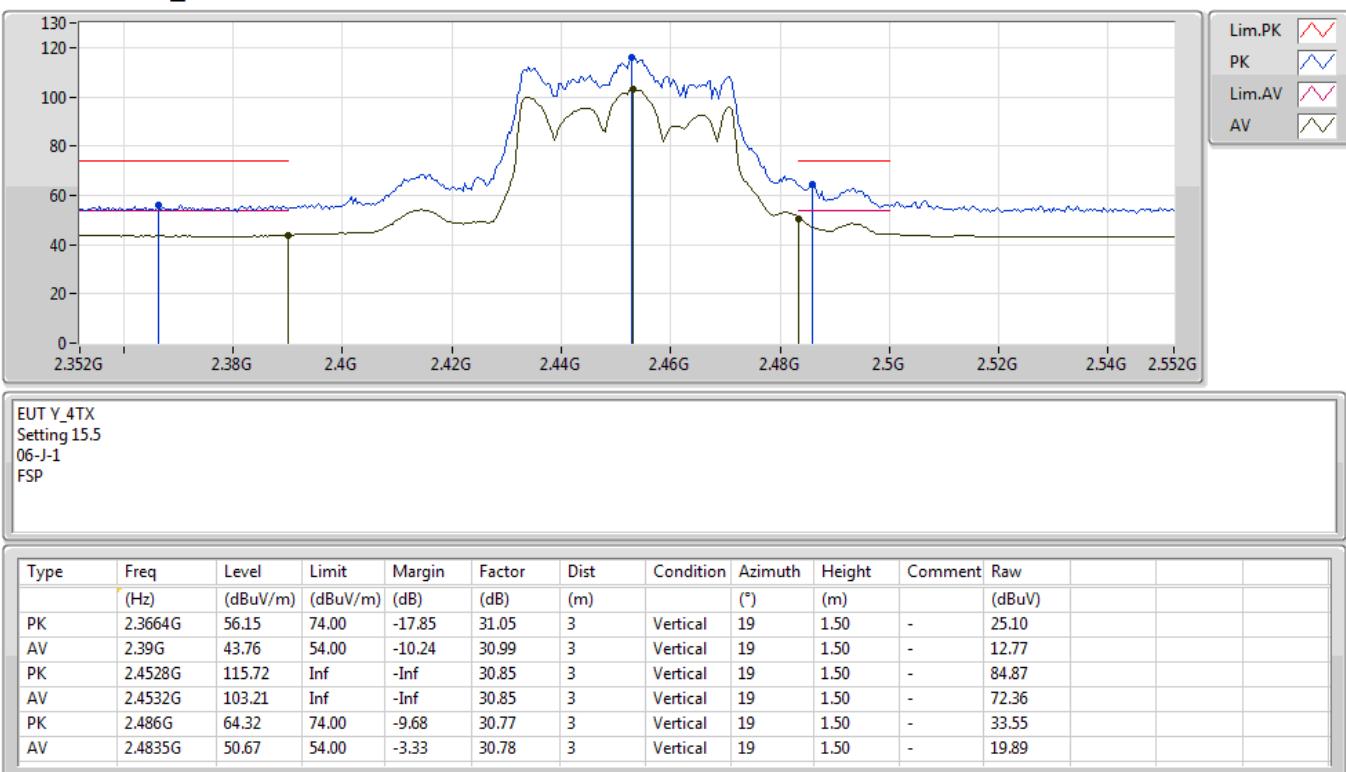
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2447MHz_TX


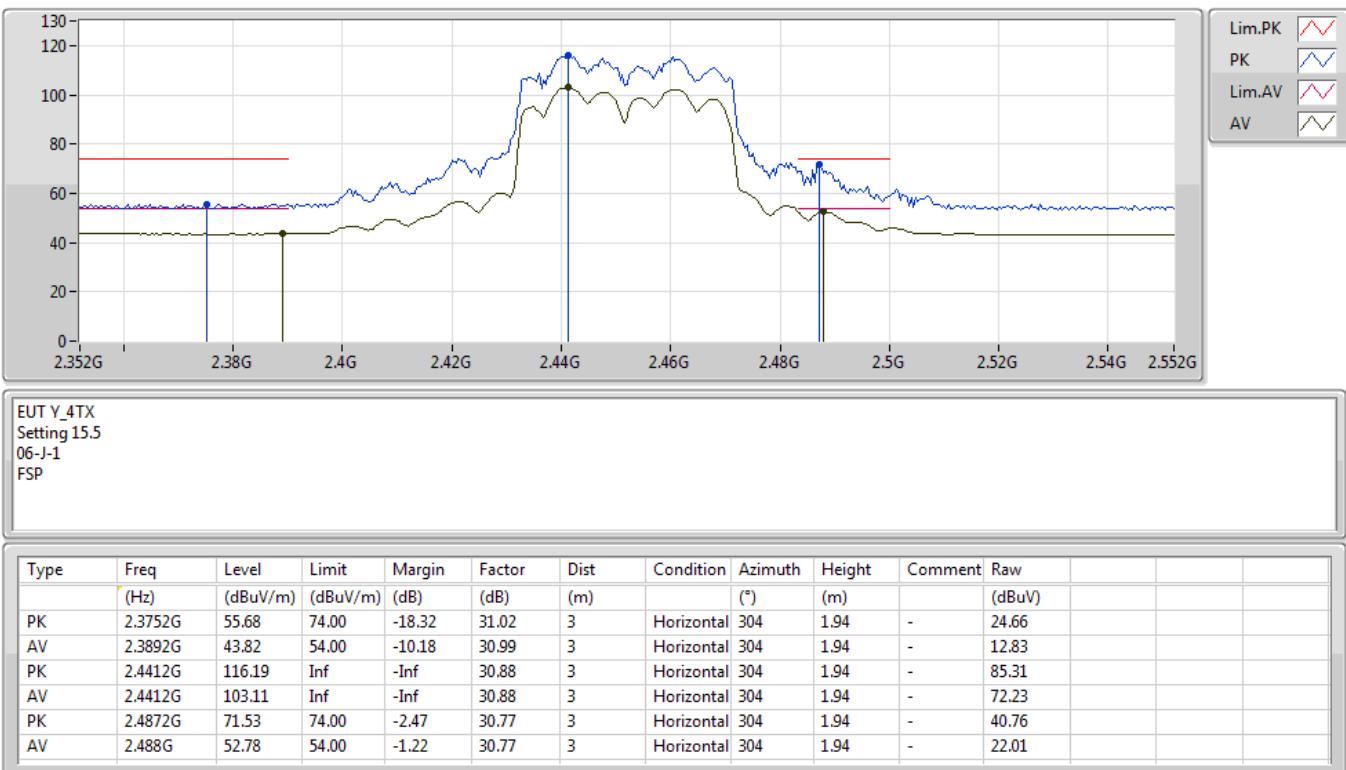
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2452MHz_TX


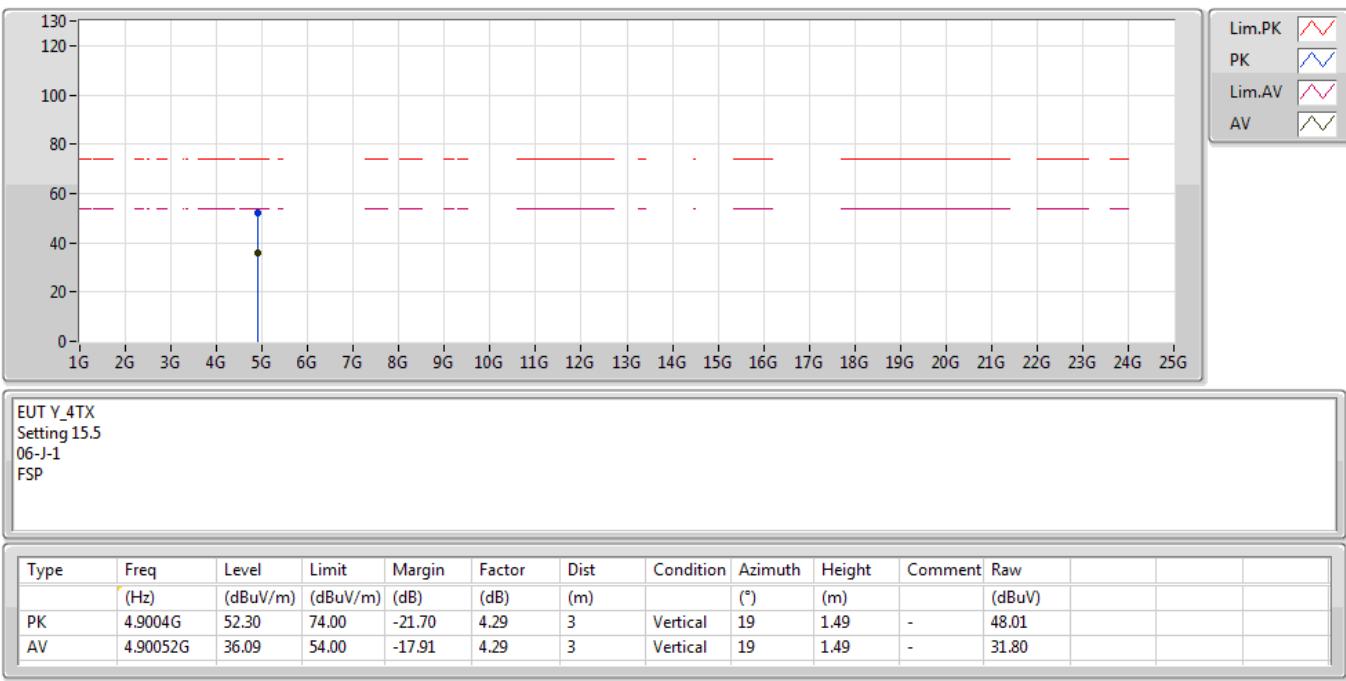
802.11ax HEW40_Nss1,(MCS0)_4TX

15/10/2019

2452MHz_TX


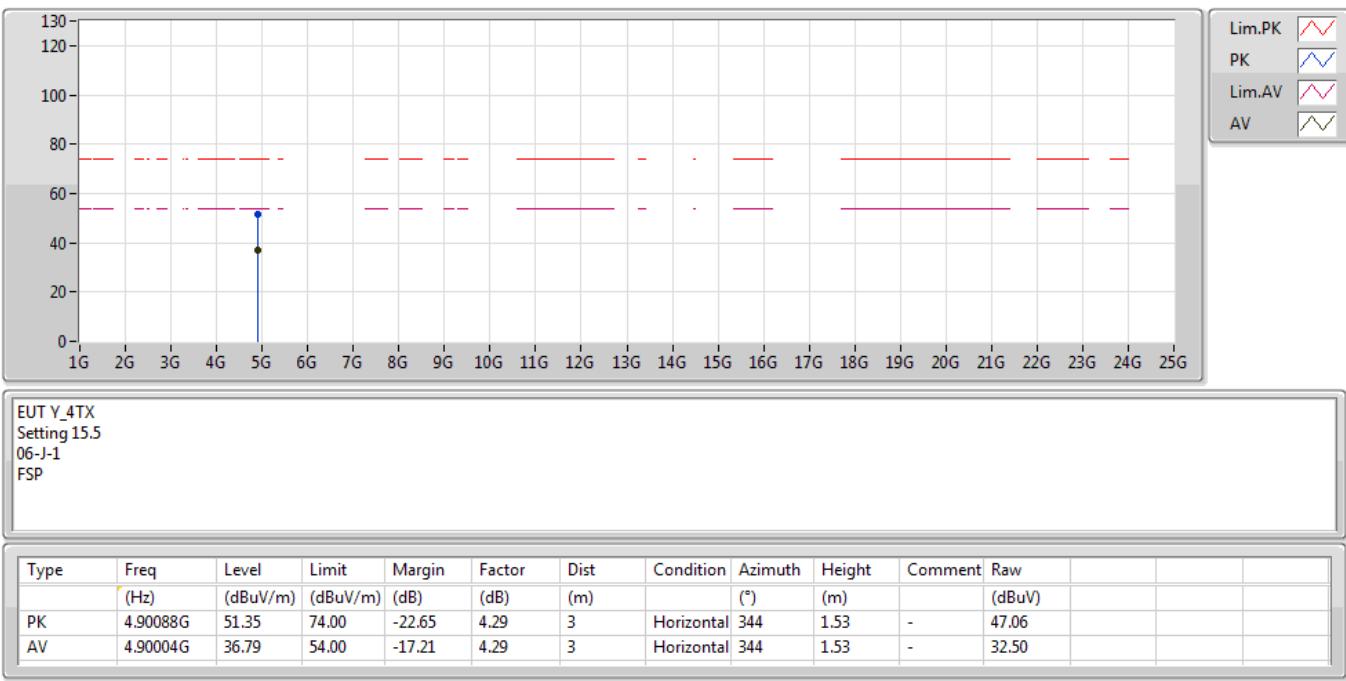
**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

2452MHz_TX

**802.11ax HEW40_Nss1,(MCS0)_4TX**

15/10/2019

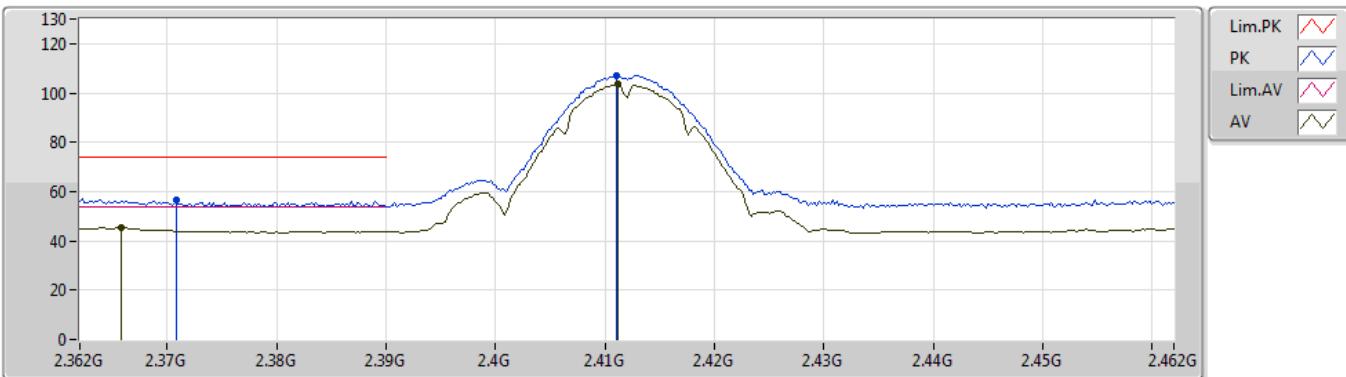
2452MHz_TX

**<Scan Radio>
Summary**

| Mode | Result | Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comments |
|-----------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - |
| VHT20_Nss1,(MCS0)_1TX | Pass | AV | 2.4835G | 53.96 | 54.00 | -0.04 | 30.78 | 3 | Vertical | 335 | 1.16 | - |

802.11b_Nss1,(1Mbps)_1TX

24/10/2019

2412MHz_TX


EUT Y_1TX

Setting 23

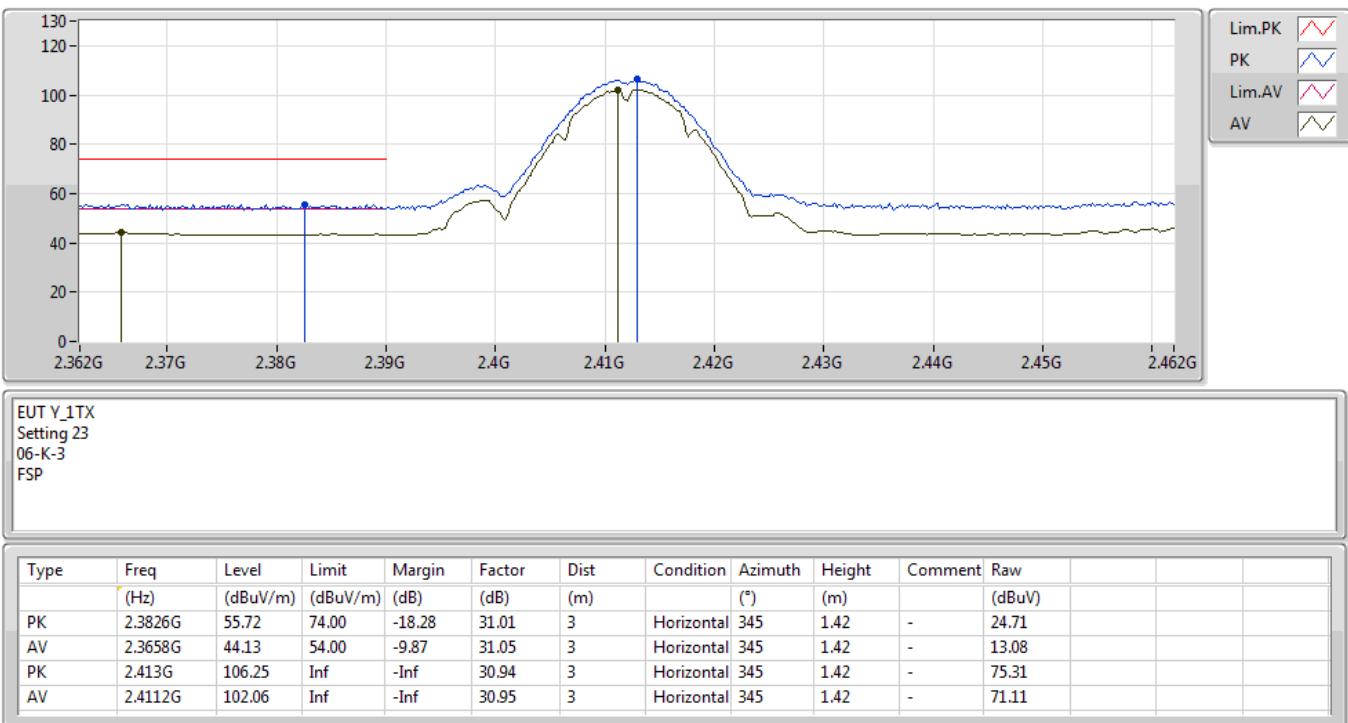
06-K-3

FSP

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3708G | 56.43 | 74.00 | -17.57 | 31.04 | 3 | Vertical | 356 | 1.99 | - | 25.39 | | | |
| AV | 2.3658G | 45.42 | 54.00 | -8.58 | 31.05 | 3 | Vertical | 356 | 1.99 | - | 14.37 | | | |
| PK | 2.411G | 107.19 | Inf | -Inf | 30.95 | 3 | Vertical | 356 | 1.99 | - | 76.24 | | | |
| AV | 2.4112G | 103.40 | Inf | -Inf | 30.95 | 3 | Vertical | 356 | 1.99 | - | 72.45 | | | |

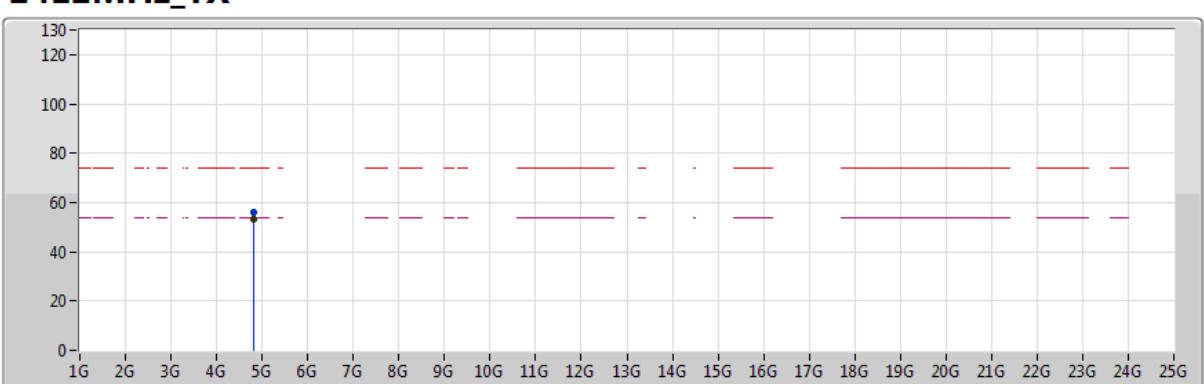
802.11b_Nss1,(1Mbps)_1TX

24/10/2019

2412MHz_TX


**802.11b_Nss1,(1Mbps)_1TX**

2412MHz_TX



Legend:
Lim.PK (Red Dashed)
PK (Blue Line)
Lim.AV (Pink Dashed)
AV (Pink Line)

EUT Y_1TX
Setting 23
06-K-3
FSP

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.82396G | 55.83 | 74.00 | -18.17 | 4.14 | 3 | Vertical | 304 | 1.61 | - | 51.69 | | | |
| AV | 4.82396G | 53.18 | 54.00 | -0.82 | 4.14 | 3 | Vertical | 304 | 1.61 | - | 49.04 | | | |

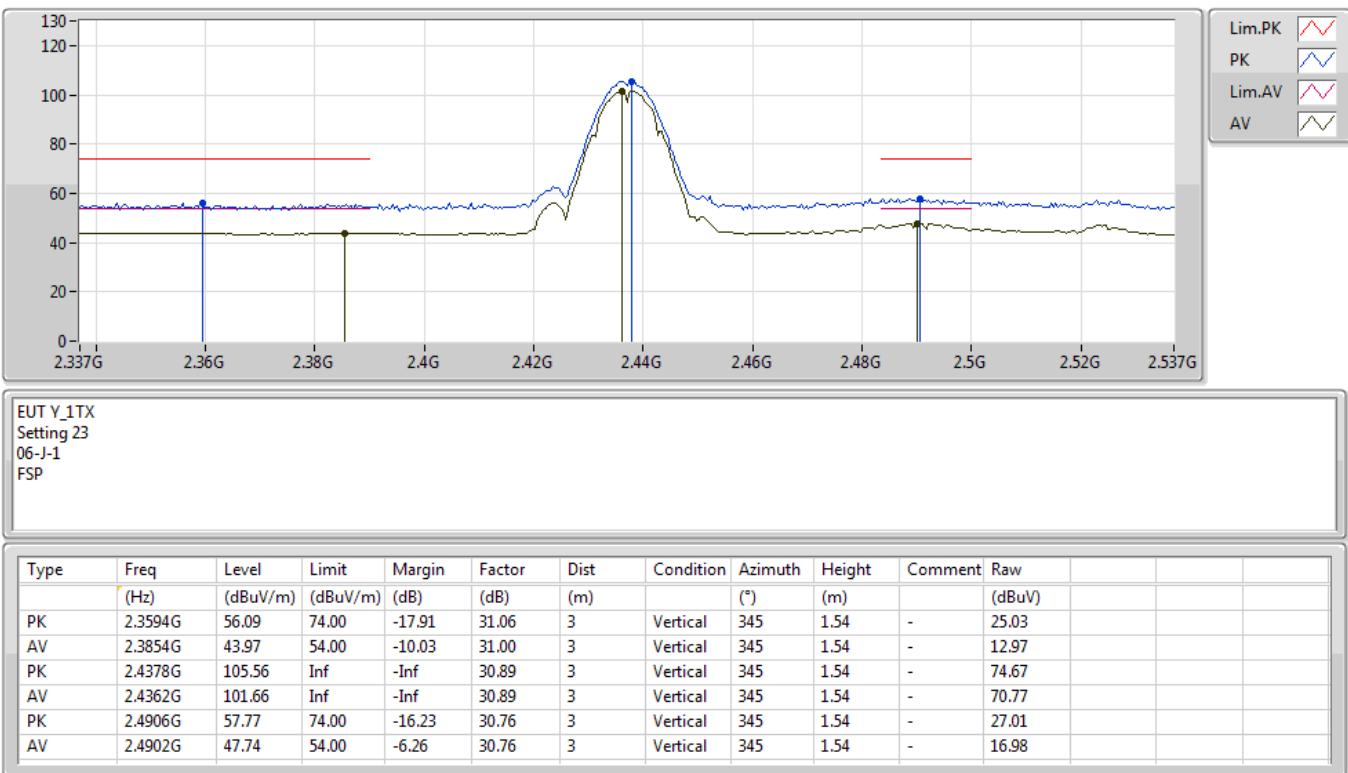
**802.11b_Nss1,(1Mbps)_1TX**

2410/2019

2412MHz_TX

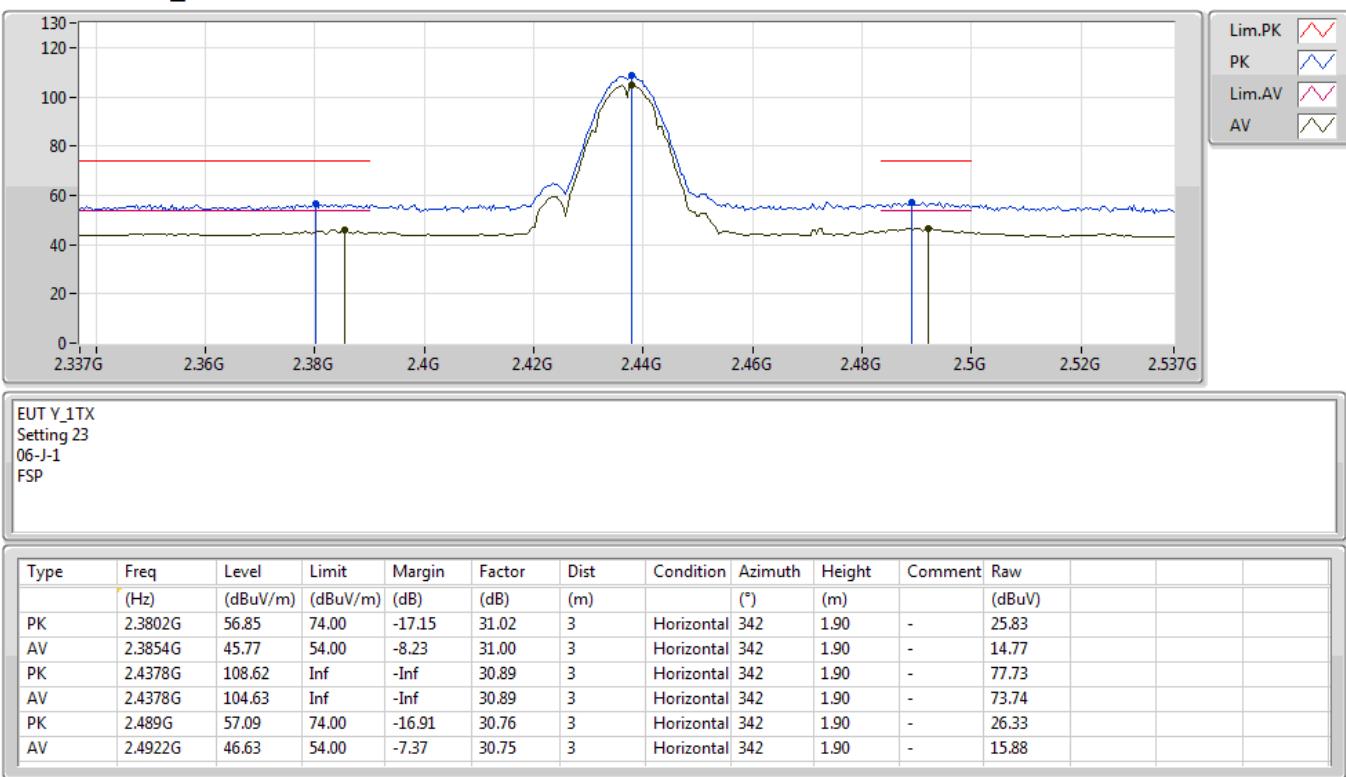
802.11b_Nss1,(1Mbps)_1TX

17/10/2019

2437MHz_TX


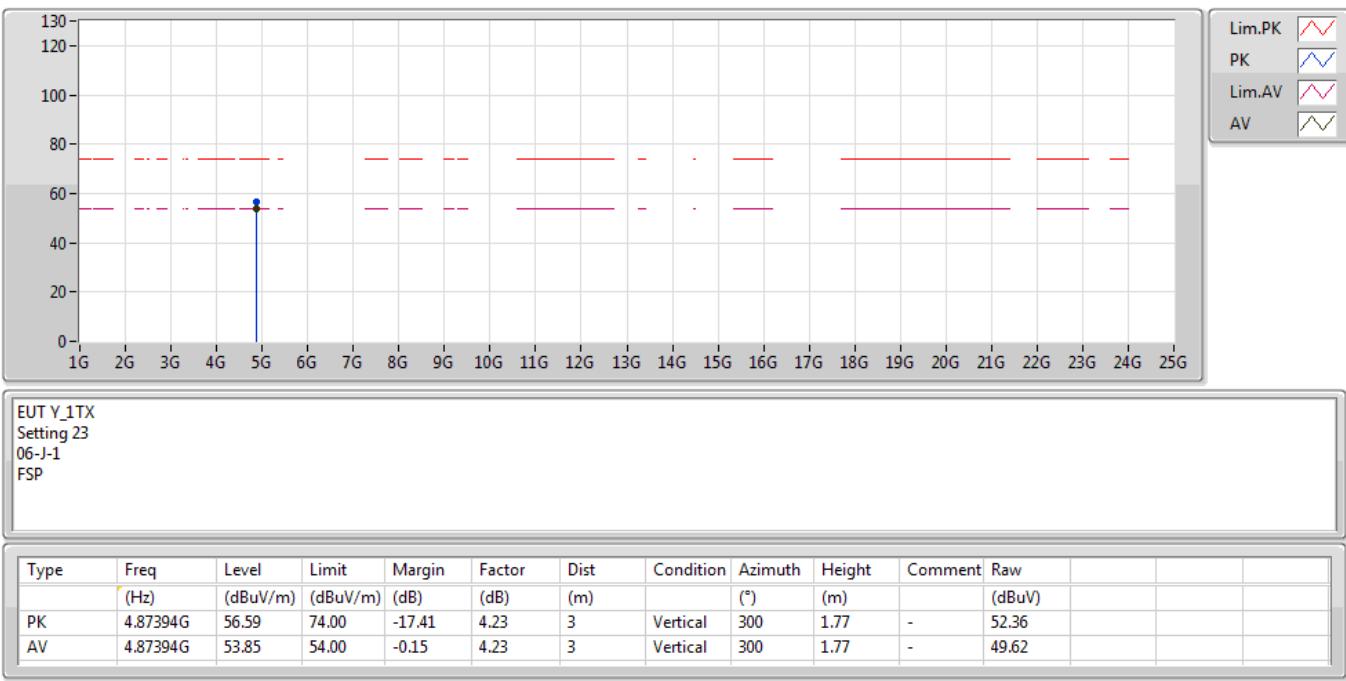
802.11b_Nss1,(1Mbps)_1TX

17/10/2019

2437MHz_TX


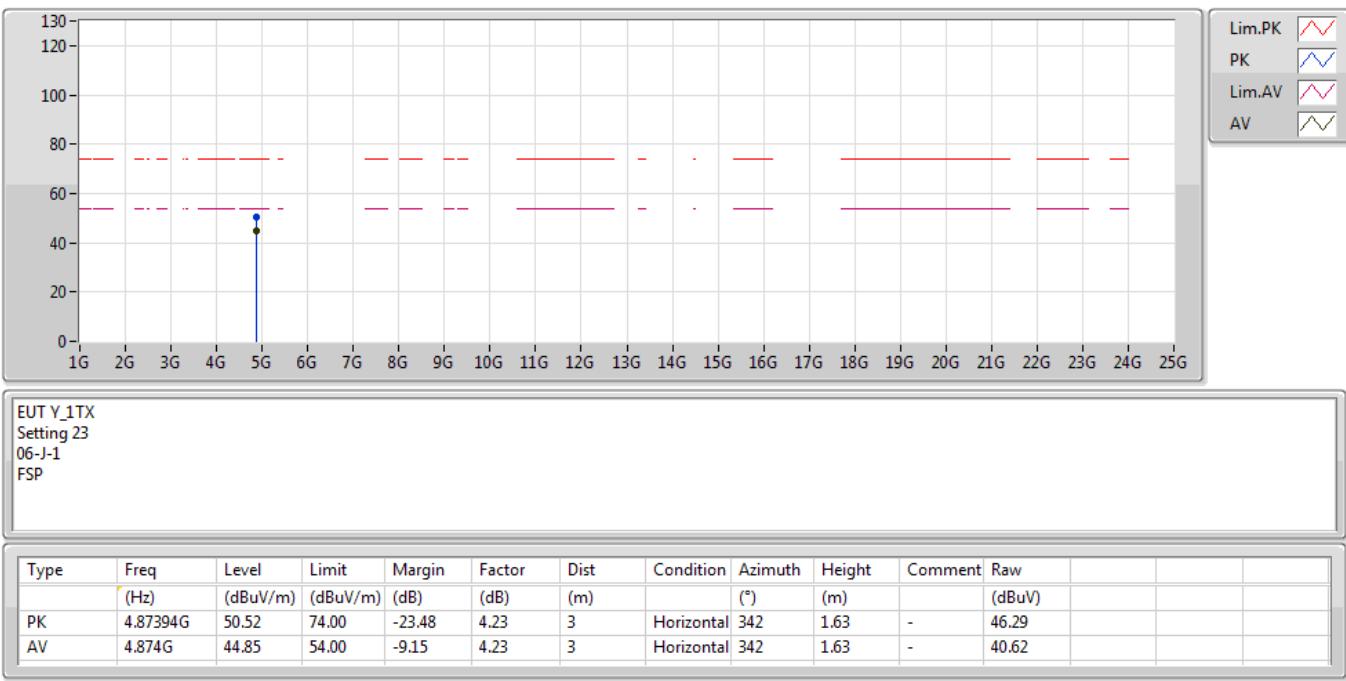
**802.11b_Nss1,(1Mbps)_1TX**

17/10/2019

2437MHz_TX

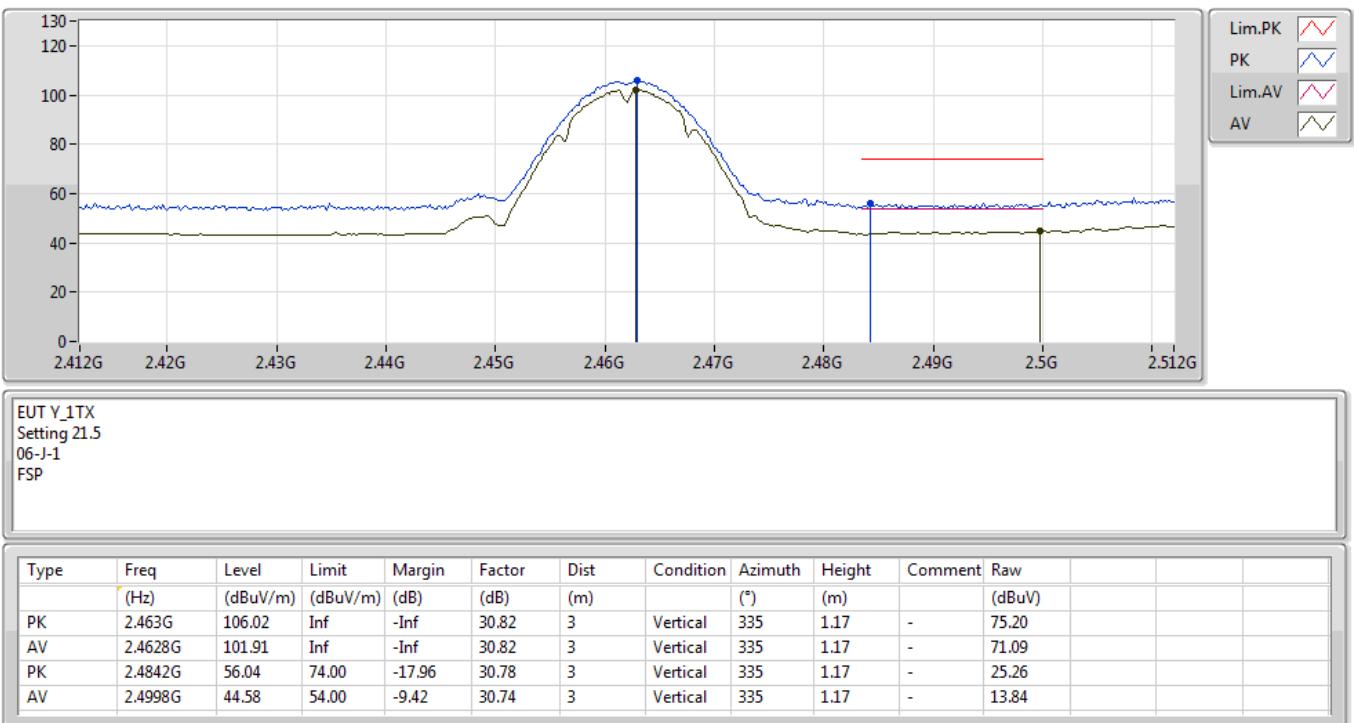
**802.11b_Nss1,(1Mbps)_1TX**

17/10/2019

2437MHz_TX

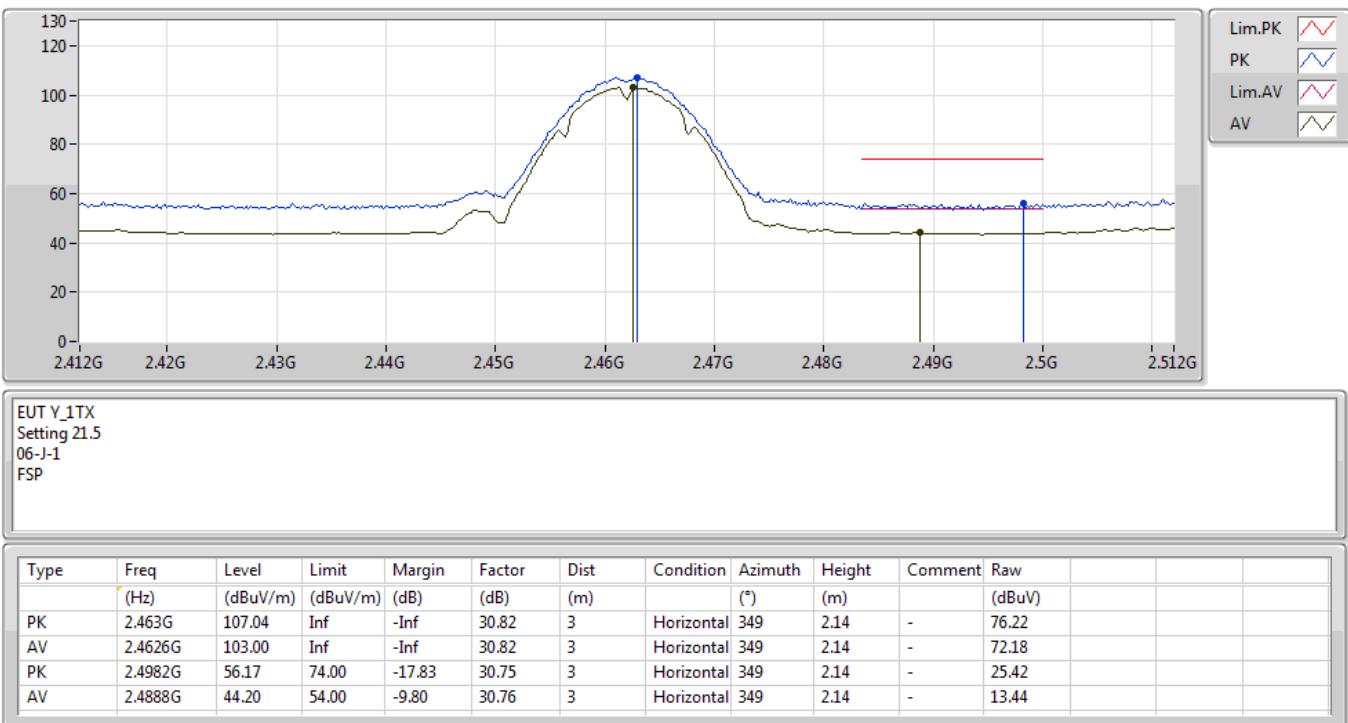
802.11b_Nss1,(1Mbps)_1TX

17/10/2019

2462MHz_TX


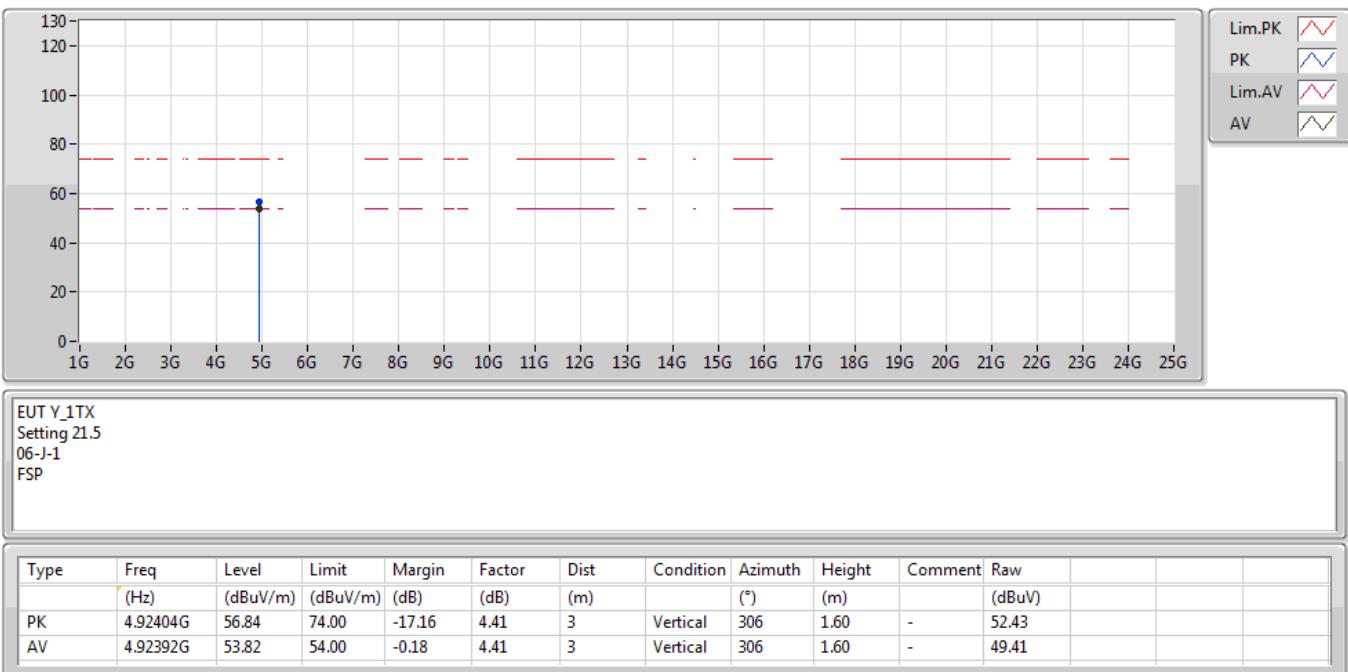
802.11b_Nss1,(1Mbps)_1TX

17/10/2019

2462MHz_TX


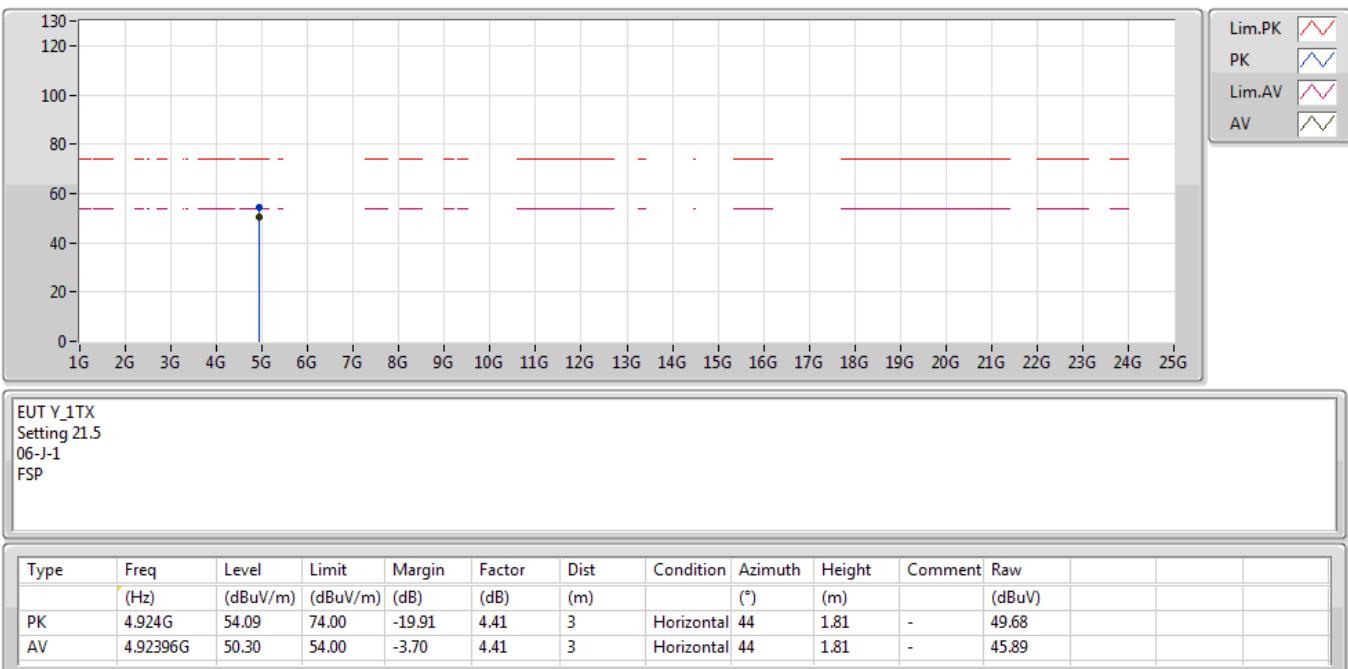
**802.11b_Nss1,(1Mbps)_1TX**

17/10/2019

2462MHz_TX

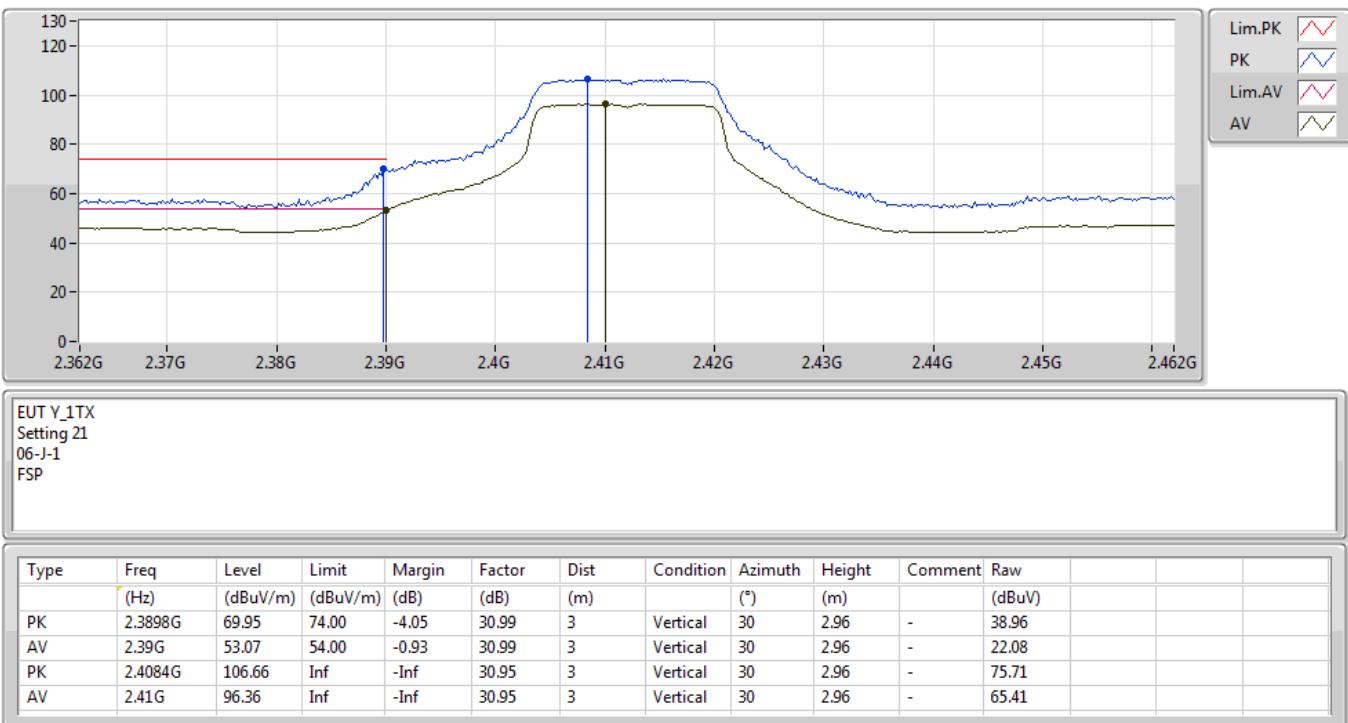
**802.11b_Nss1,(1Mbps)_1TX**

17/10/2019

2462MHz_TX

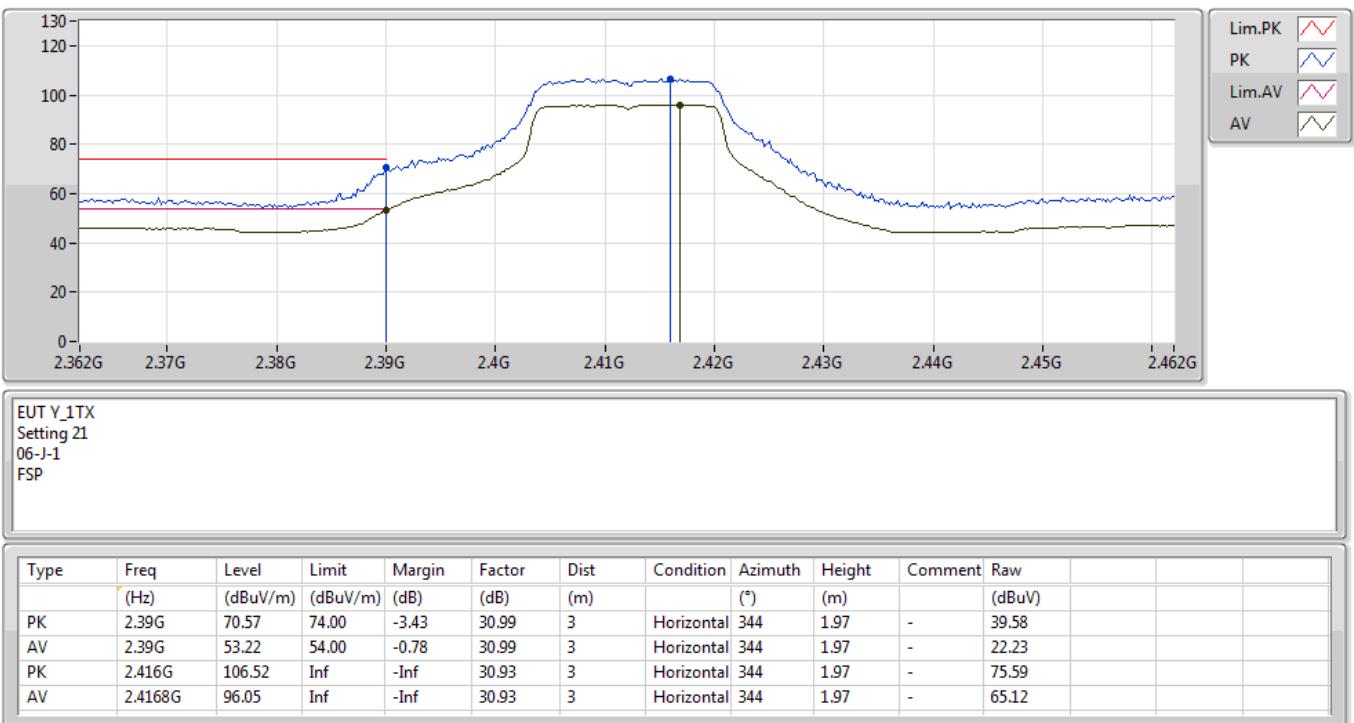
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2412MHz_TX


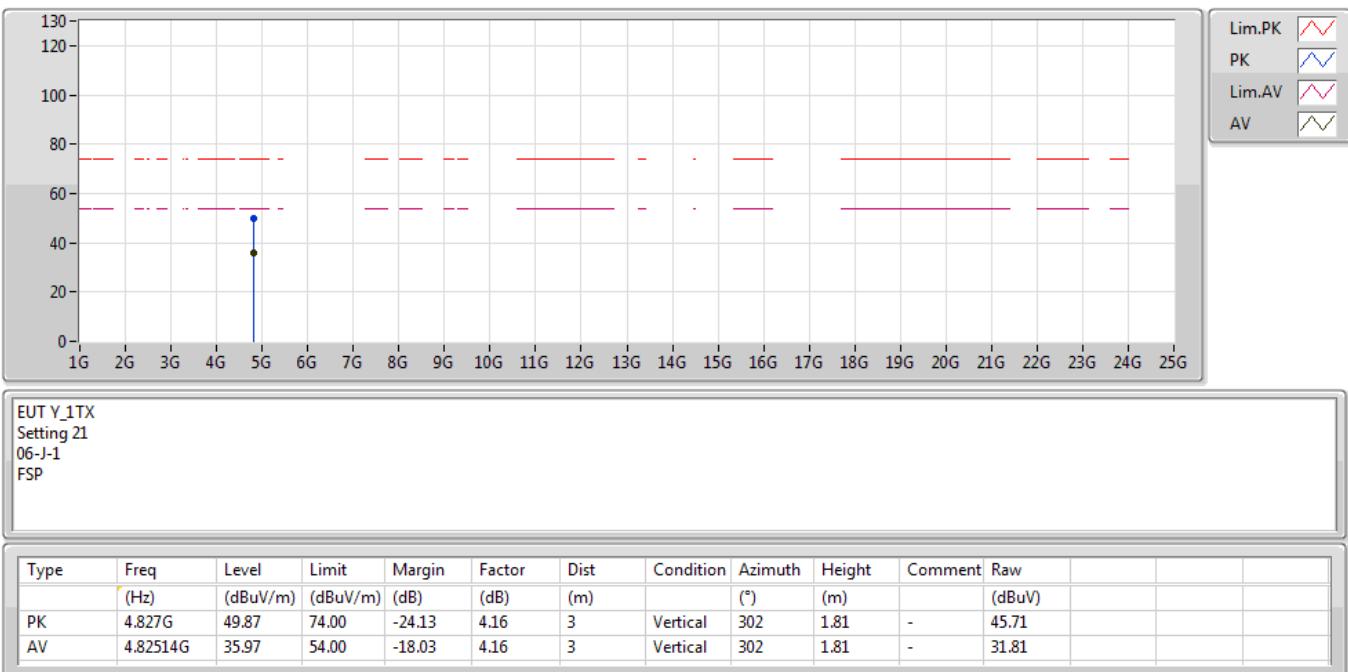
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2412MHz_TX


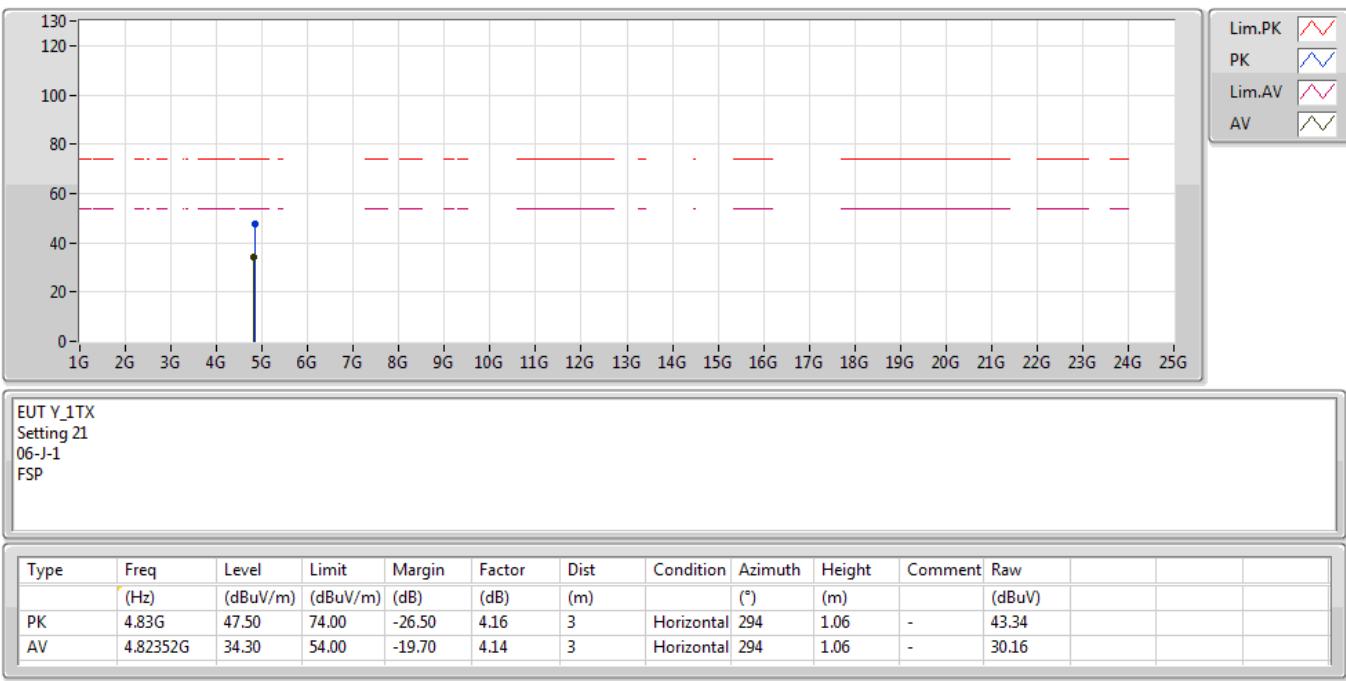
**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2412MHz_TX

**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2412MHz_TX

802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2417MHz_TX

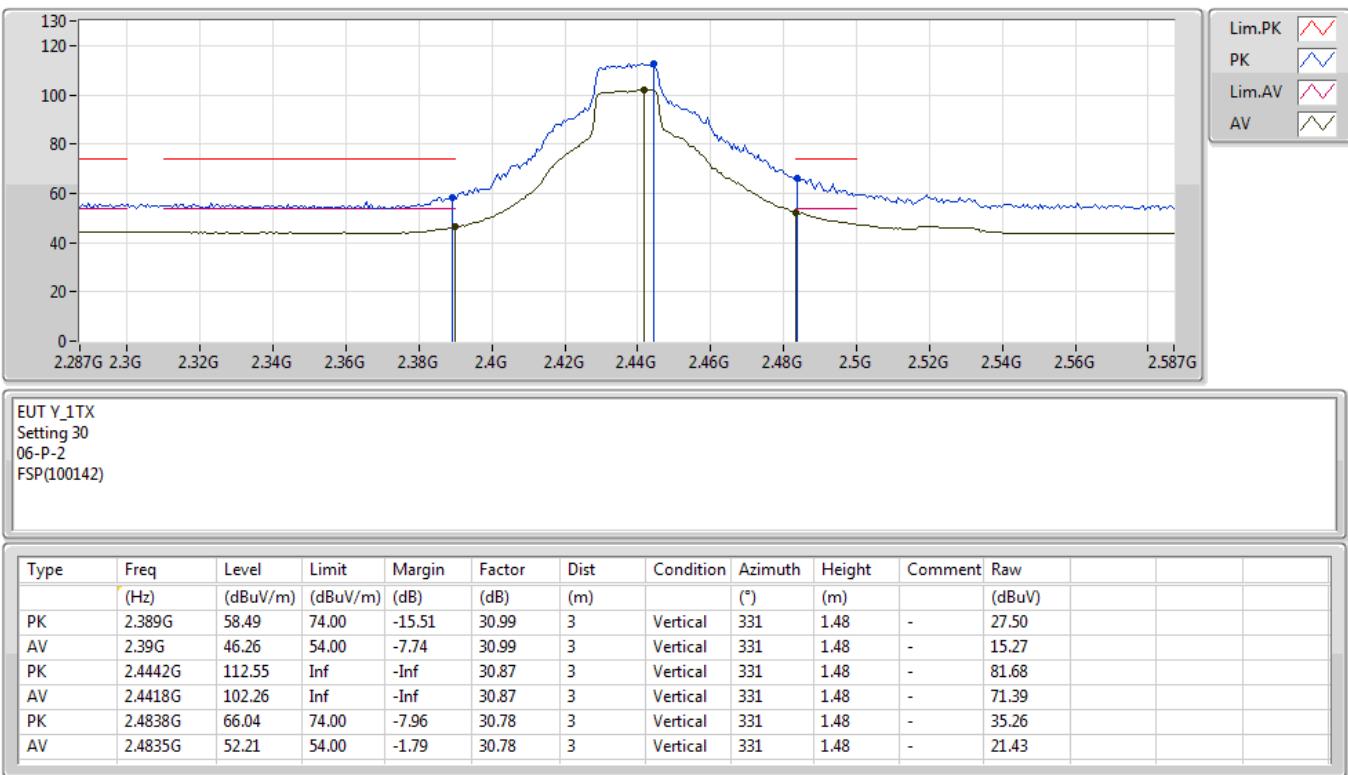

802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2417MHz_TX

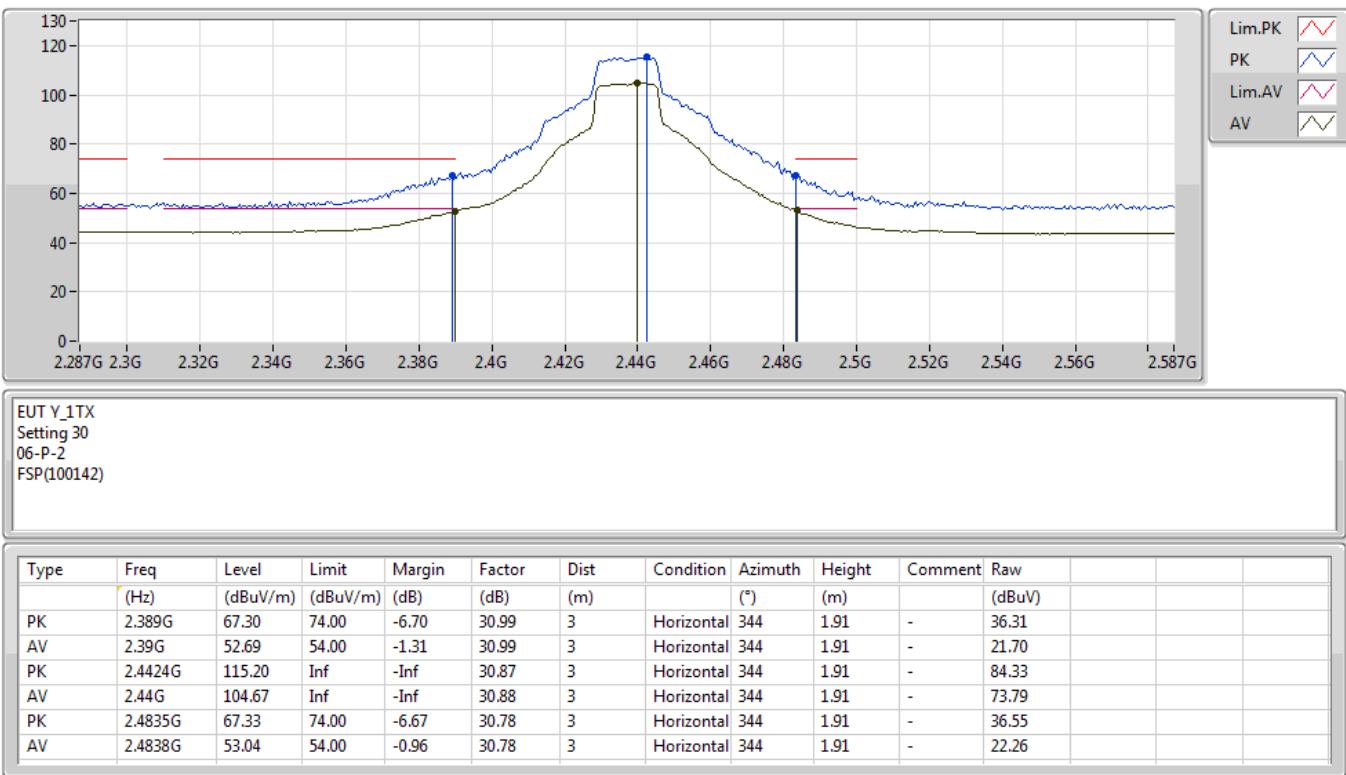

802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2437MHz_TX


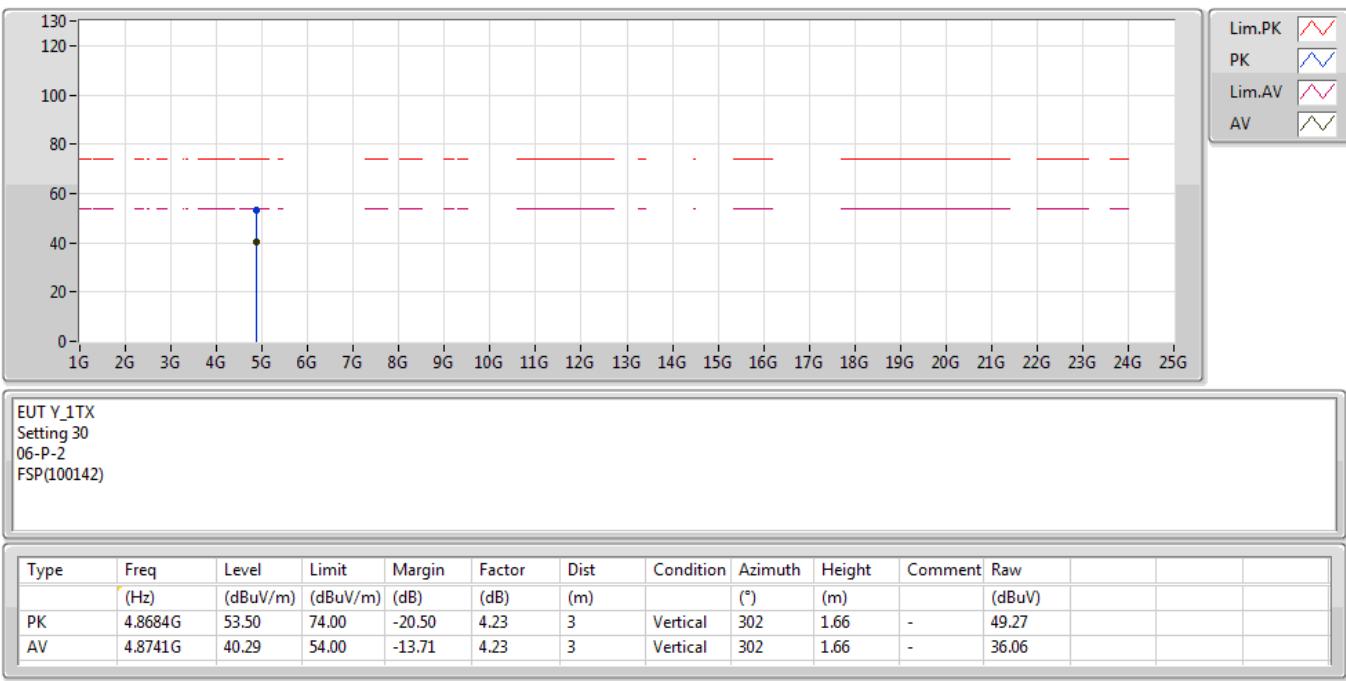
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2437MHz_TX


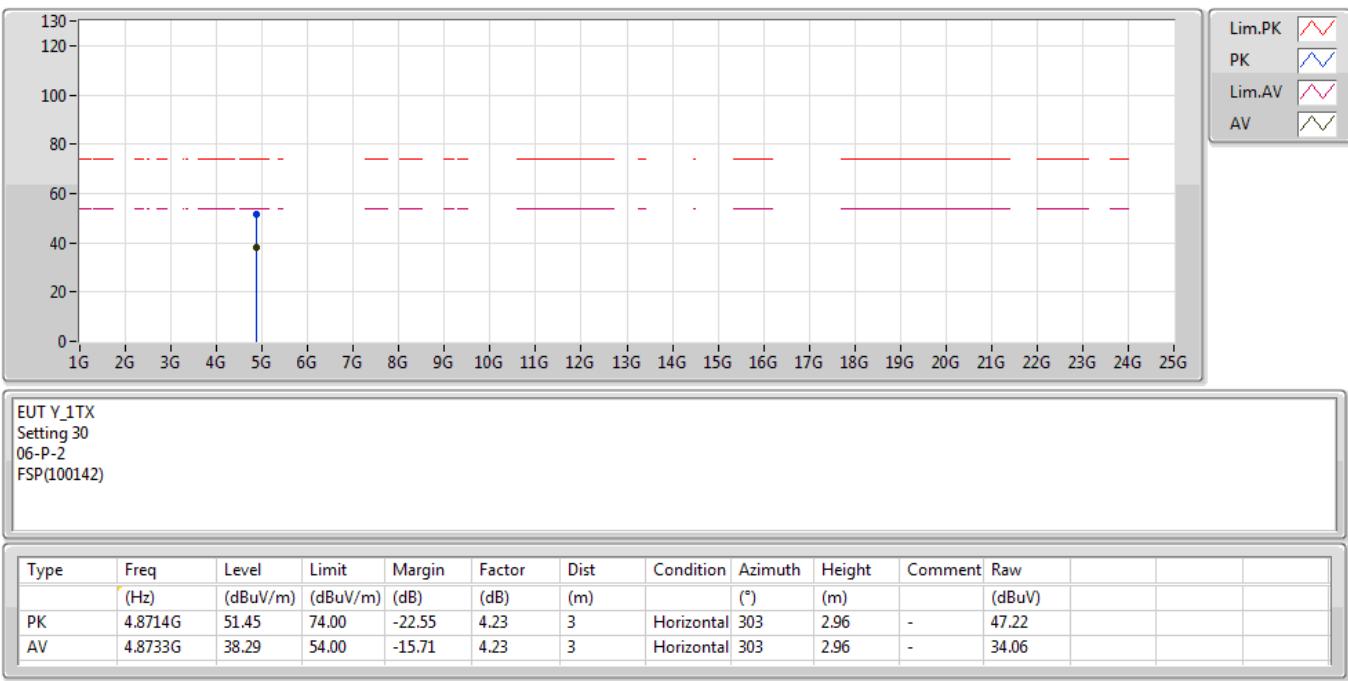
**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2437MHz_TX

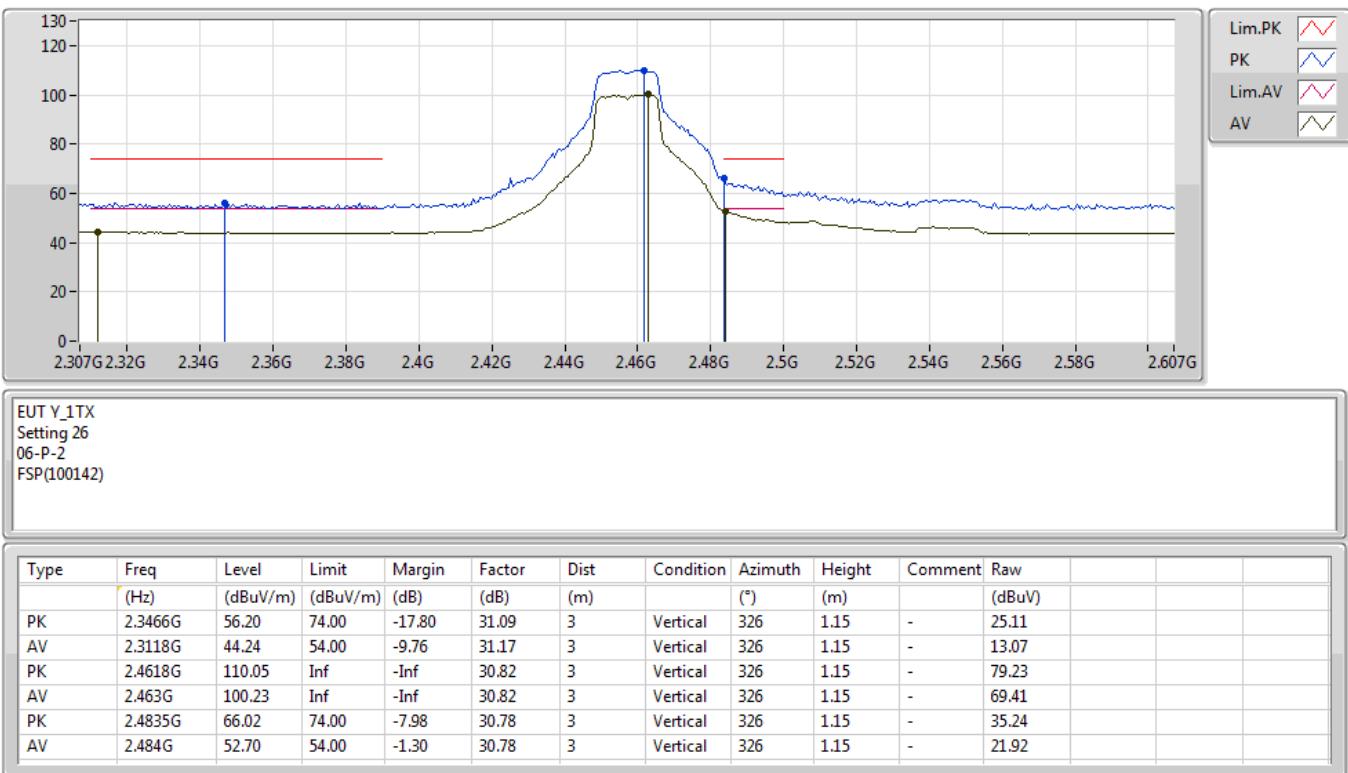
**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2437MHz_TX

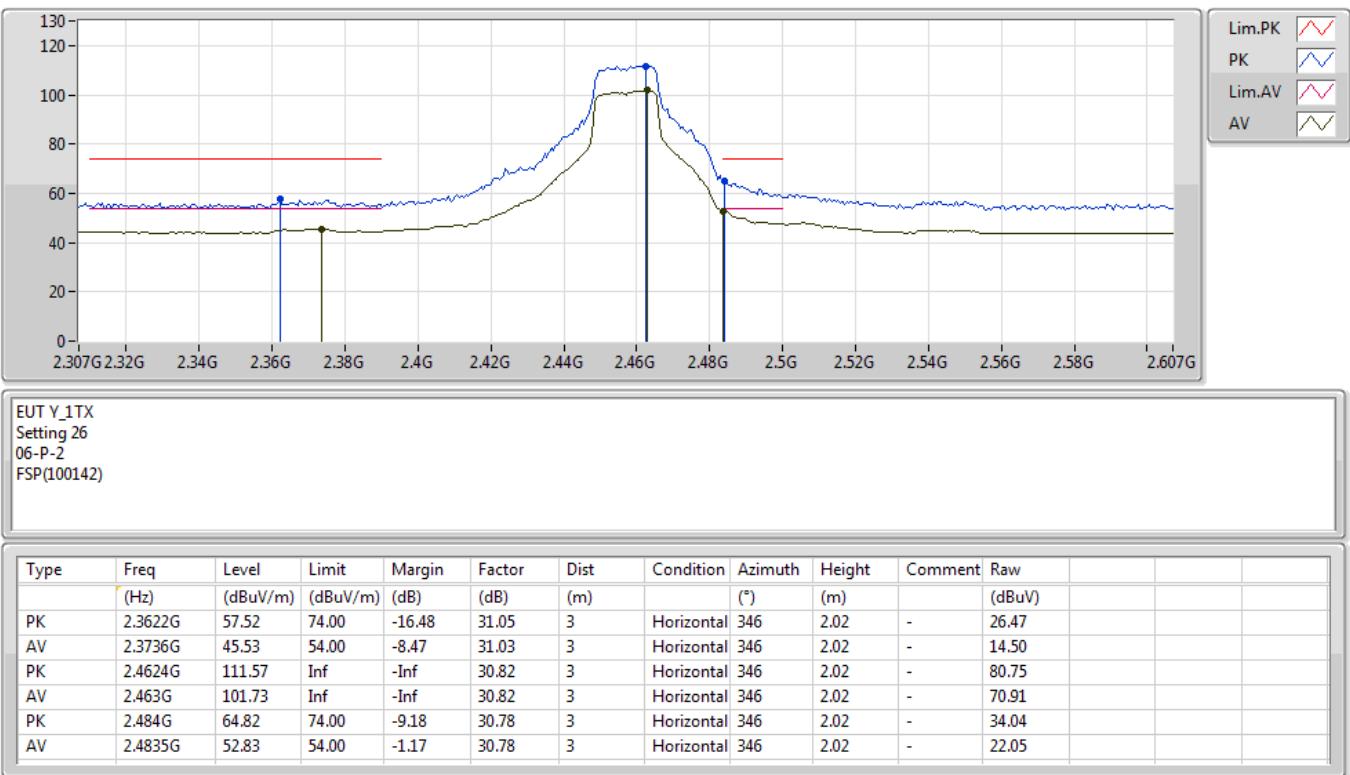
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2457MHz_TX


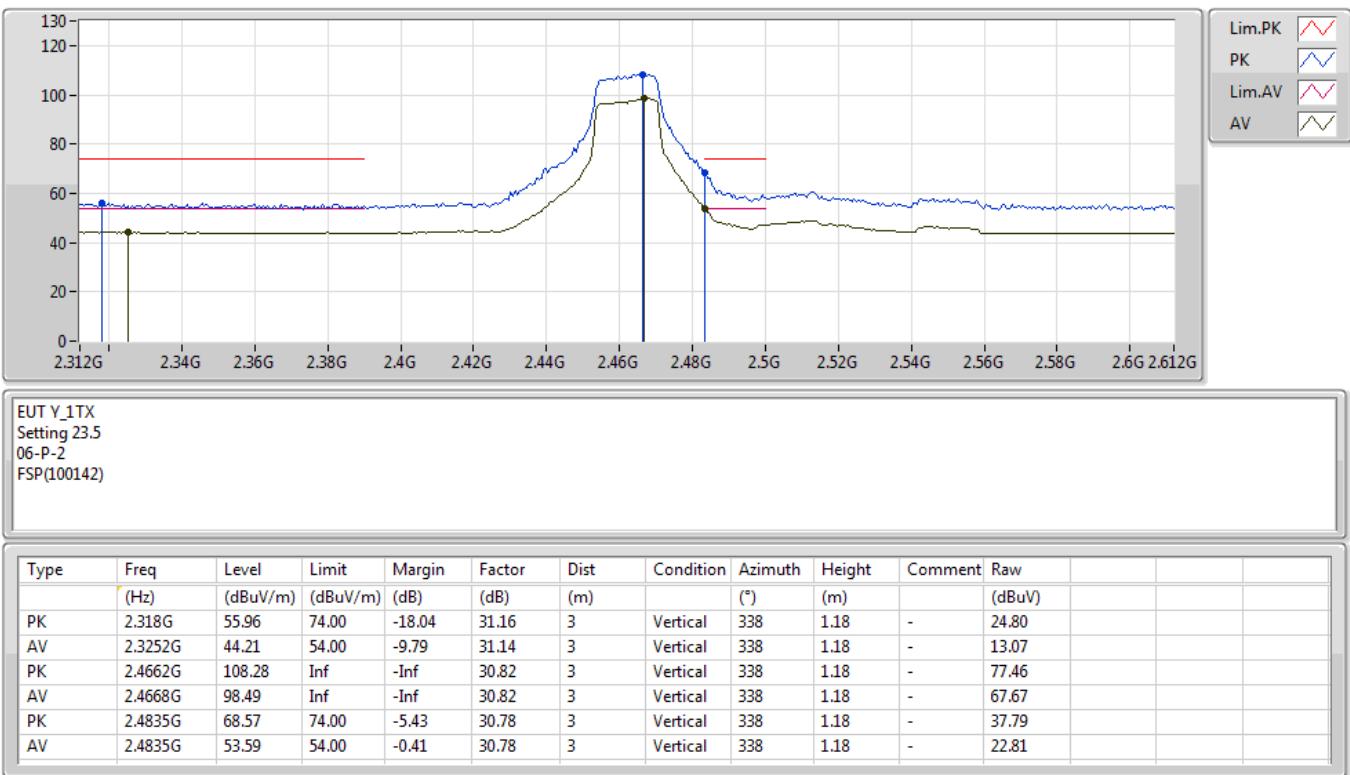
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2457MHz_TX


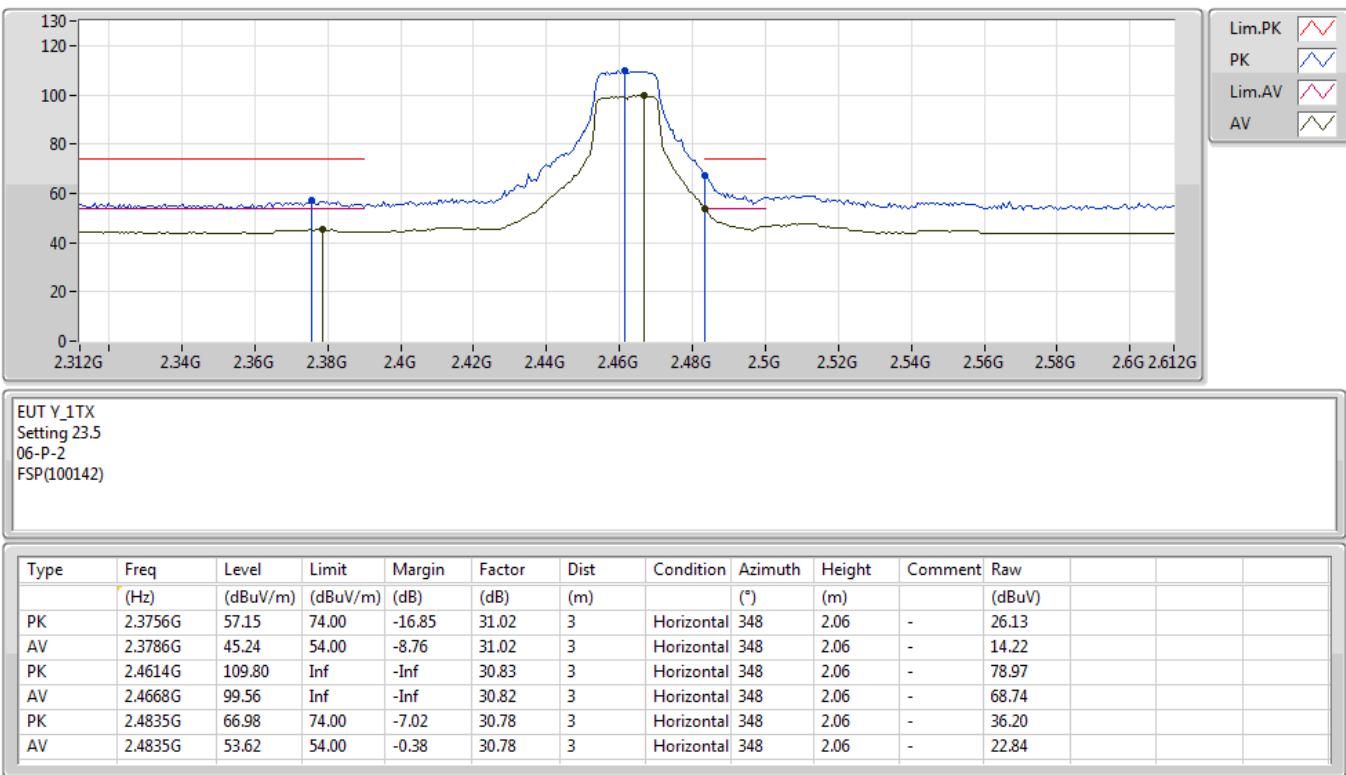
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2462MHz_TX


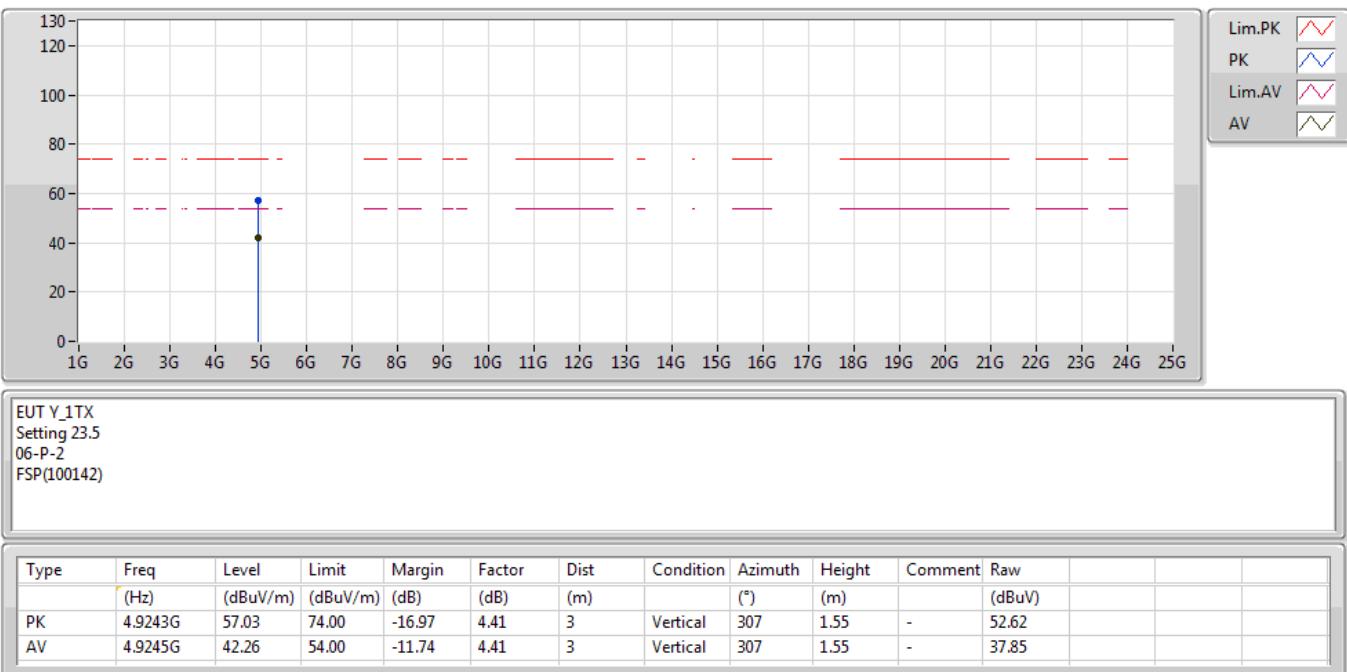
802.11g_Nss1,(6Mbps)_1TX

17/10/2019

2462MHz_TX


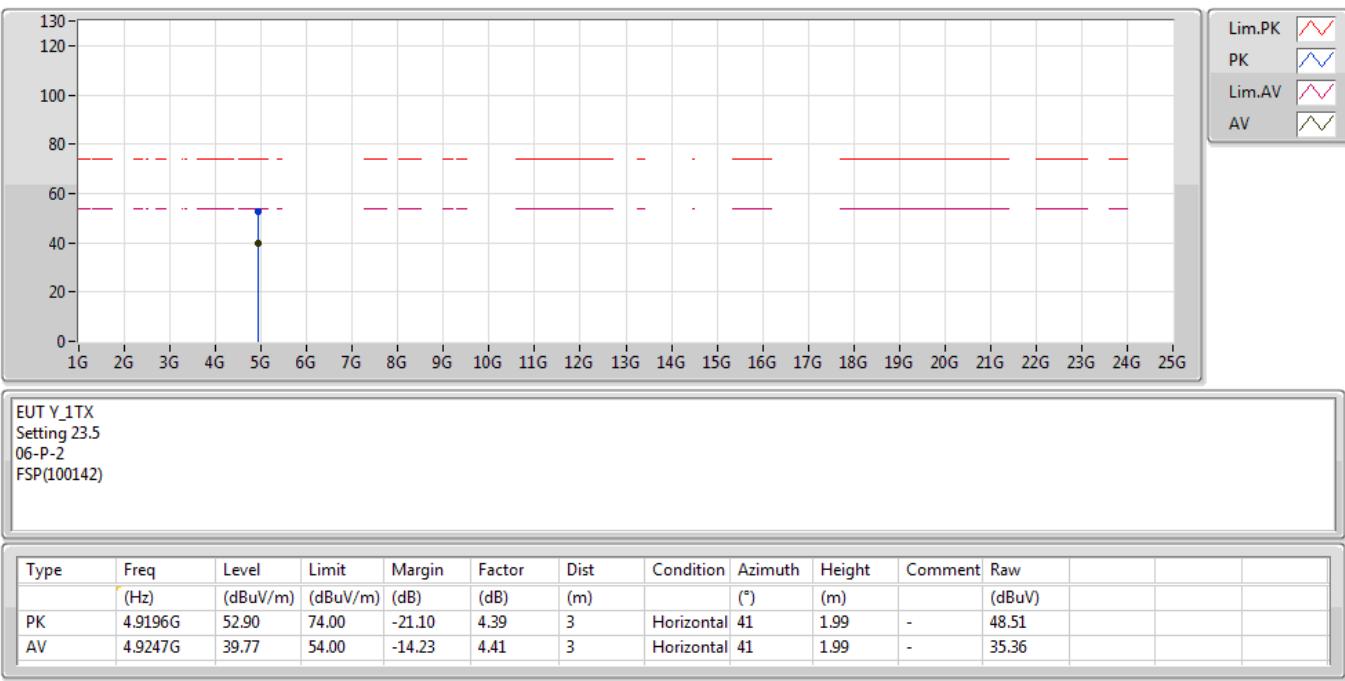
**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2462MHz_TX

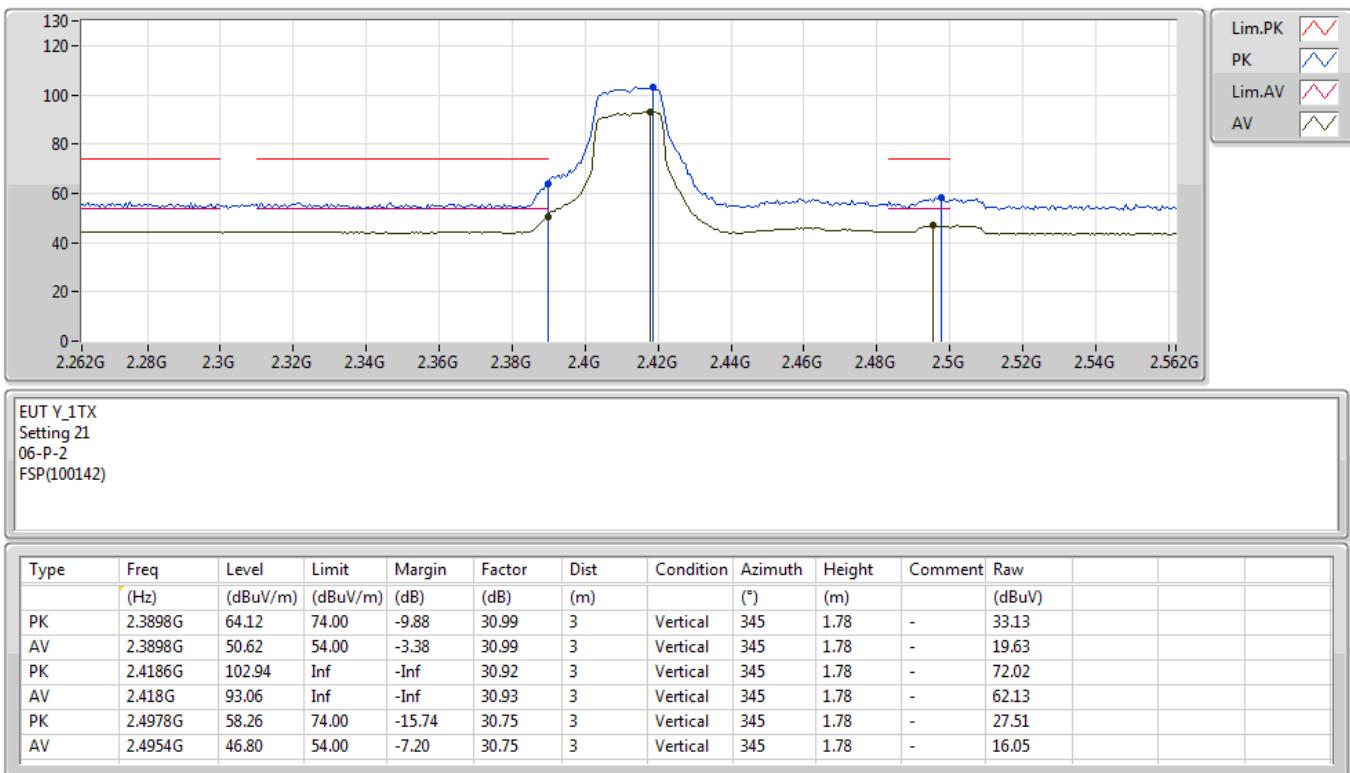
**802.11g_Nss1,(6Mbps)_1TX**

17/10/2019

2462MHz_TX

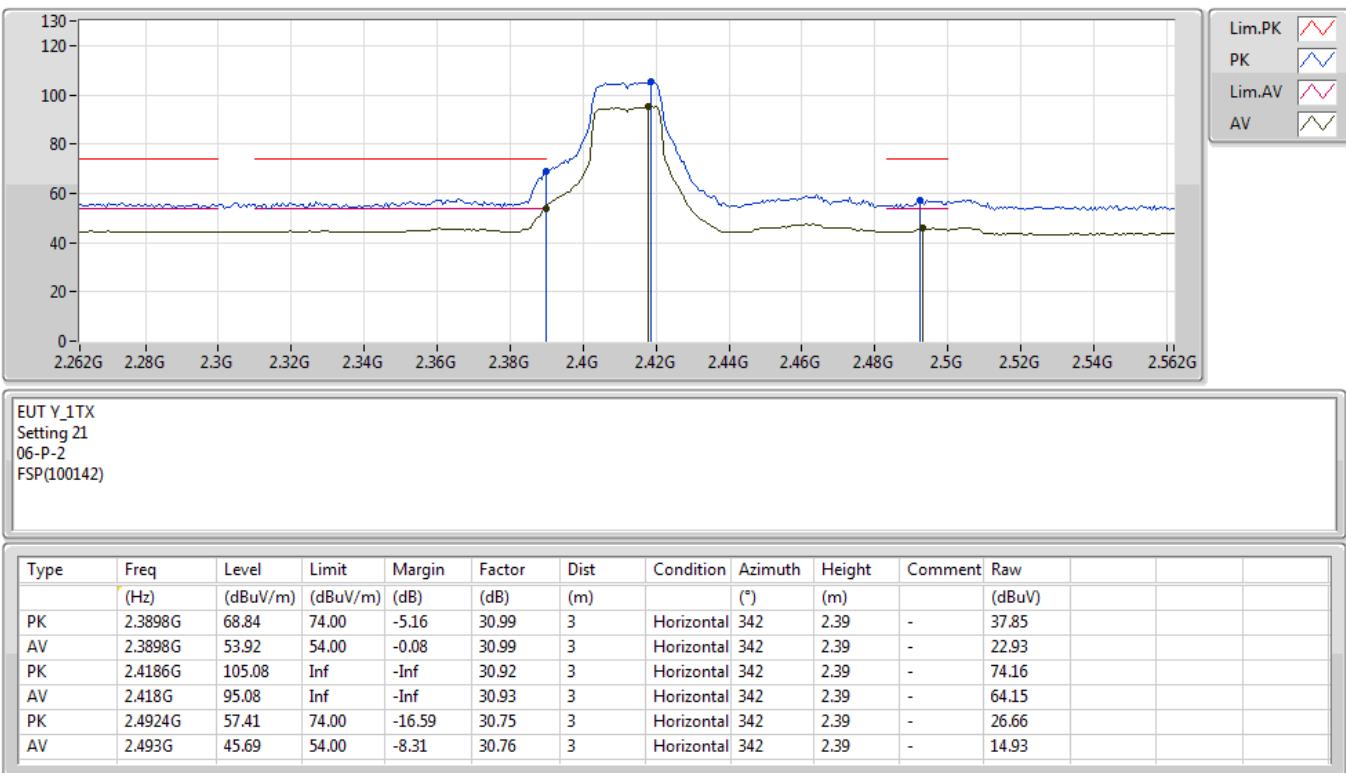
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2412MHz_TX


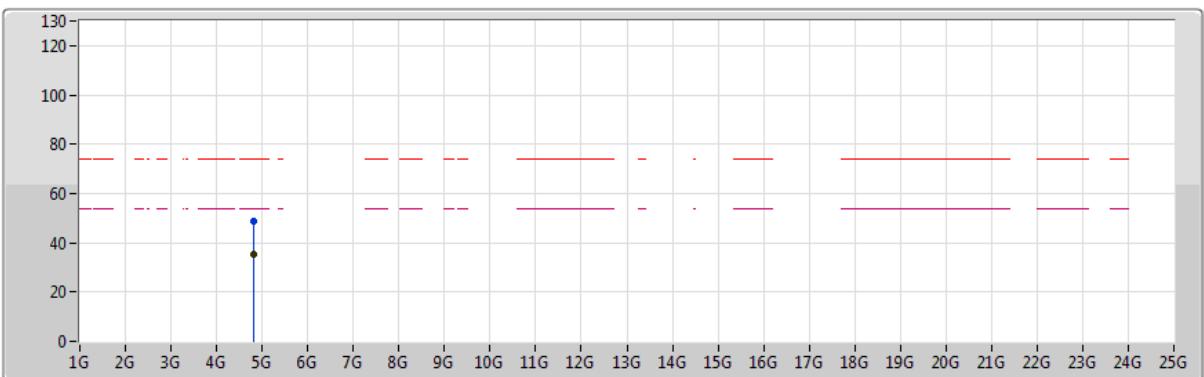
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2412MHz_TX


**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2412MHz_TX

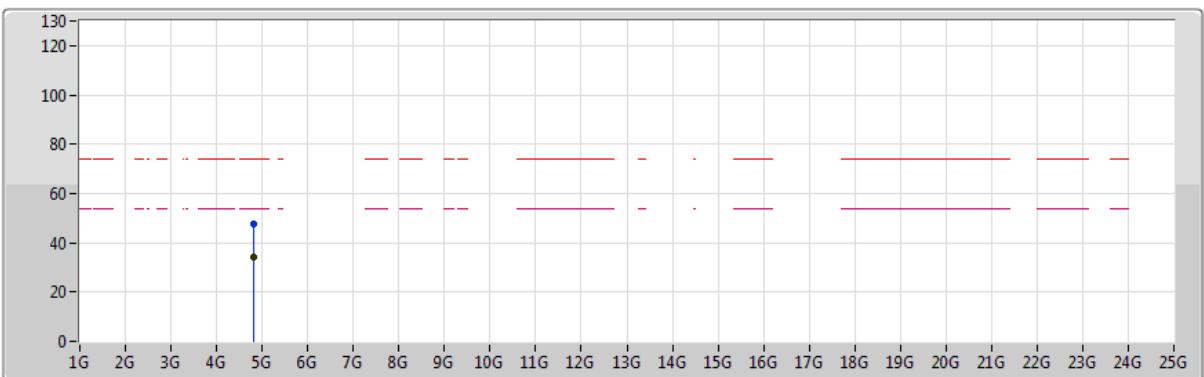
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 21
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.8191G | 48.89 | 74.00 | -25.11 | 4.14 | 3 | Vertical | 295 | 1.50 | - | 44.75 | | | |
| AV | 4.8236G | 35.45 | 54.00 | -18.55 | 4.14 | 3 | Vertical | 295 | 1.50 | - | 31.31 | | | |

**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2412MHz_TX

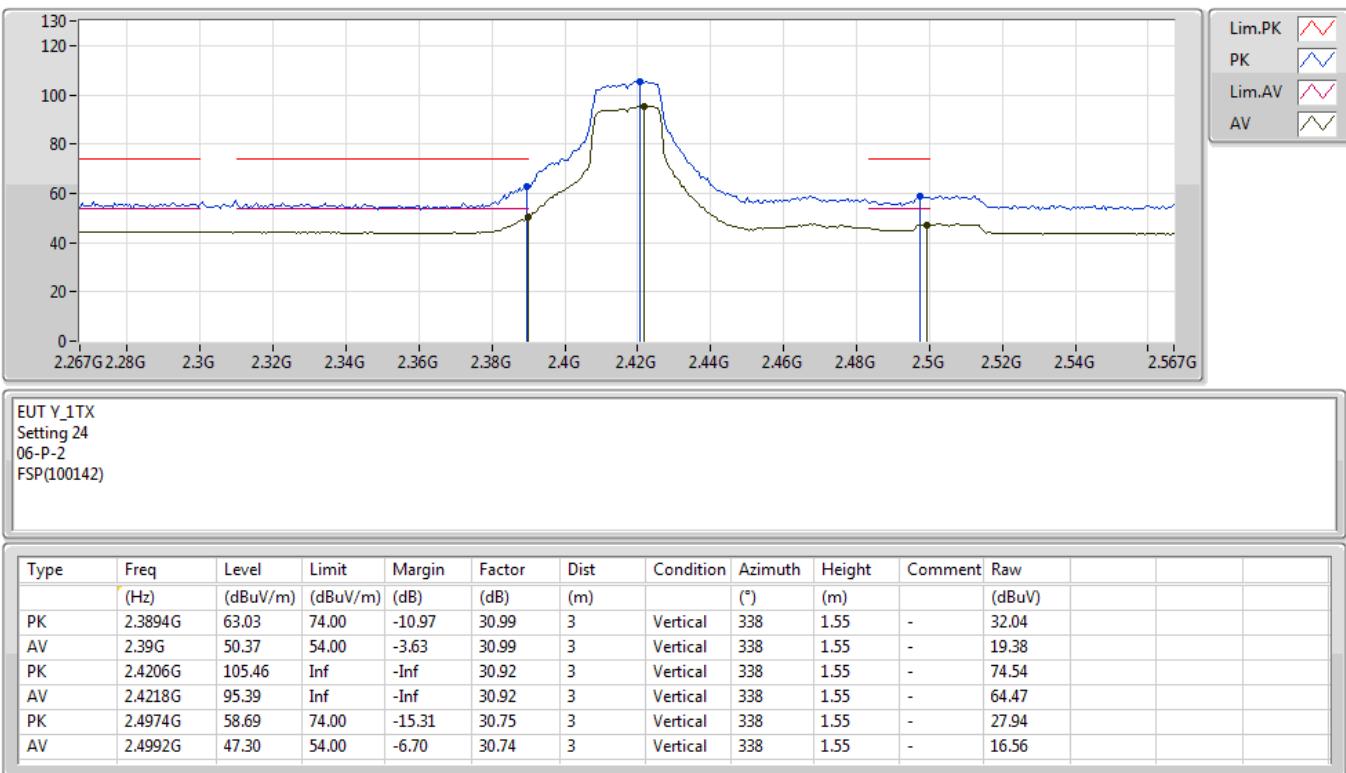
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 21
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.8238G | 47.85 | 74.00 | -26.15 | 4.14 | 3 | Horizontal | 279 | 2.45 | - | 43.71 | | | |
| AV | 4.8239G | 34.44 | 54.00 | -19.56 | 4.14 | 3 | Horizontal | 279 | 2.45 | - | 30.30 | | | |

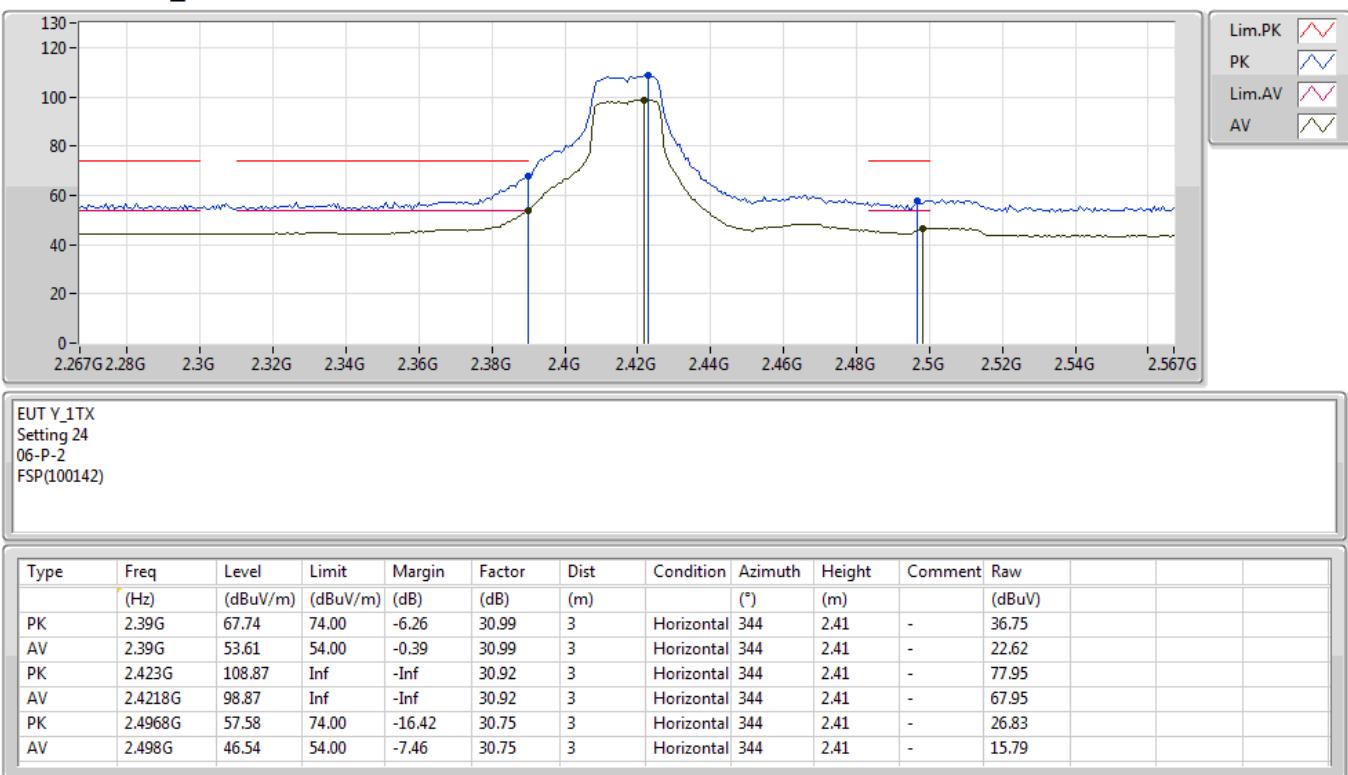
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2417MHz_TX


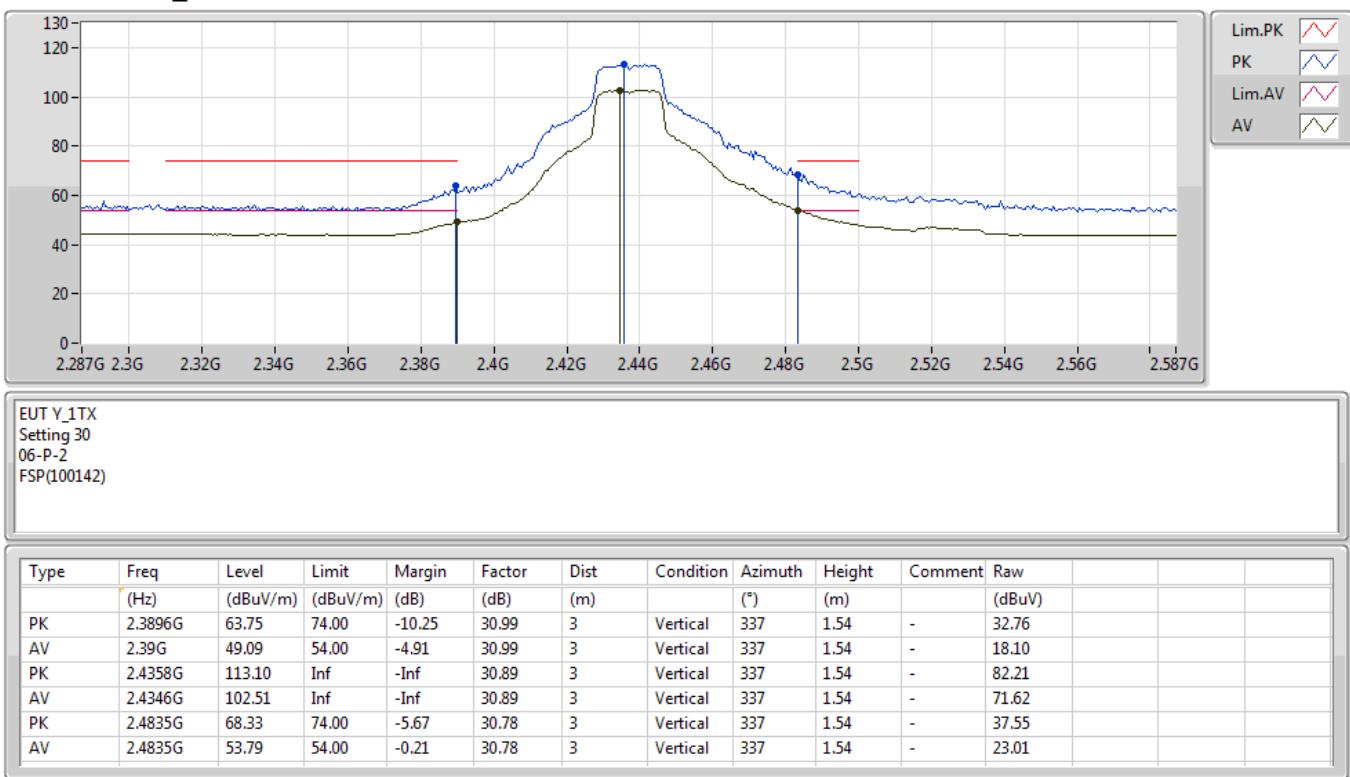
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2417MHz_TX


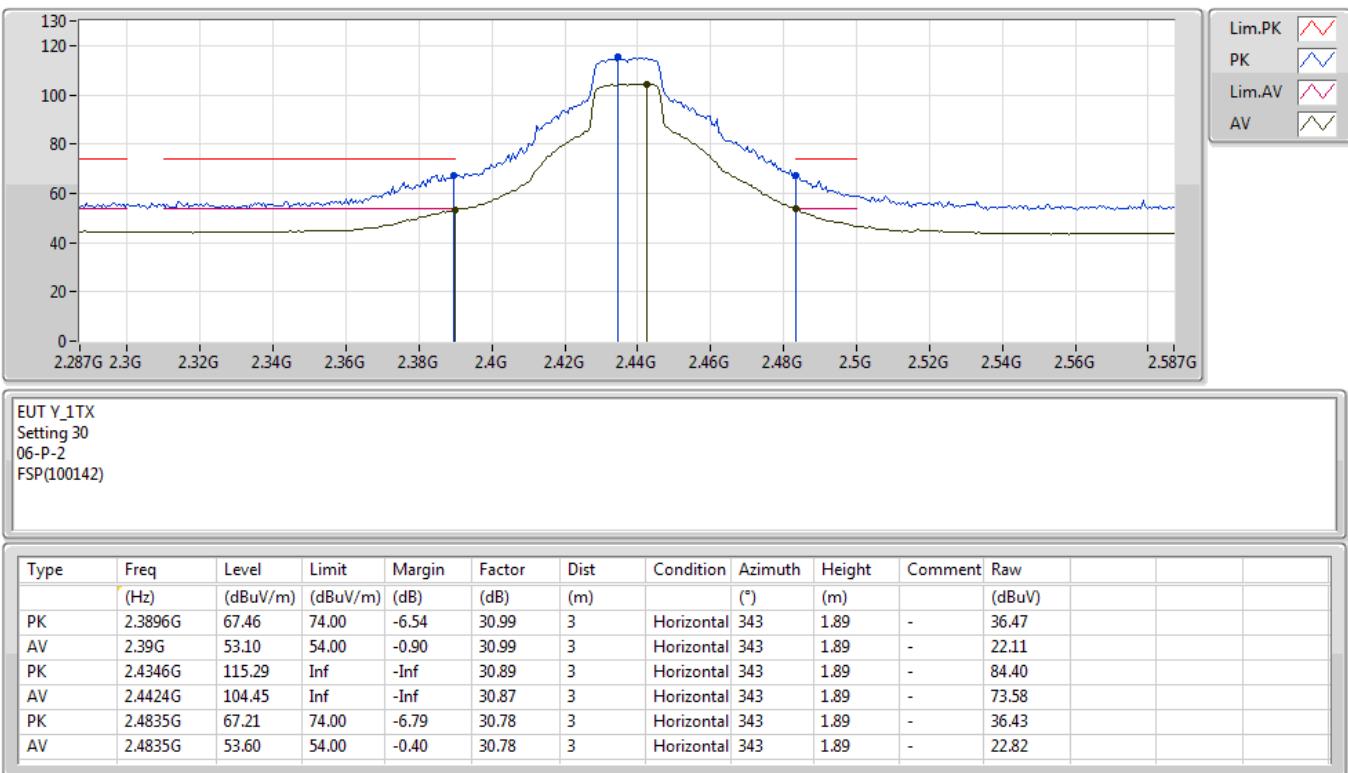
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2437MHz_TX


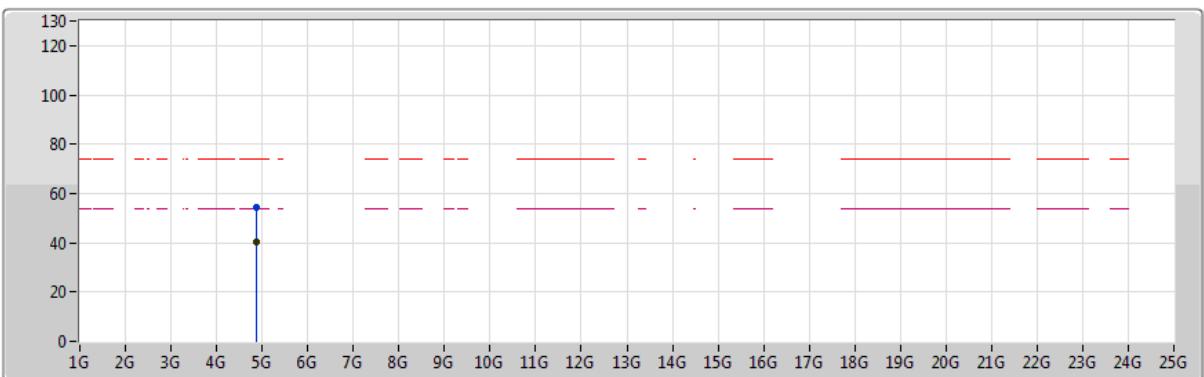
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2437MHz_TX


**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2437MHz_TX

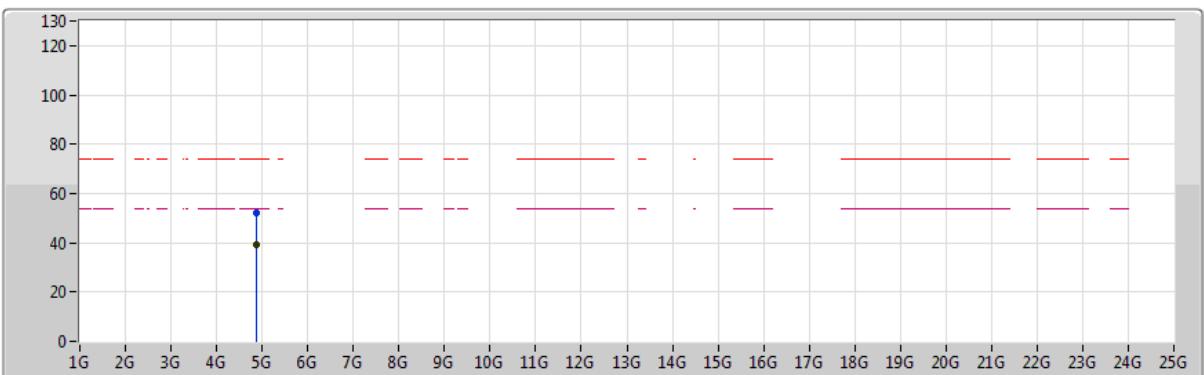
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 30
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.8756G | 54.13 | 74.00 | -19.87 | 4.25 | 3 | Vertical | 304 | 1.65 | - | 49.88 | | | |
| AV | 4.8752G | 40.40 | 54.00 | -13.60 | 4.25 | 3 | Vertical | 304 | 1.65 | - | 36.15 | | | |

**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2437MHz_TX

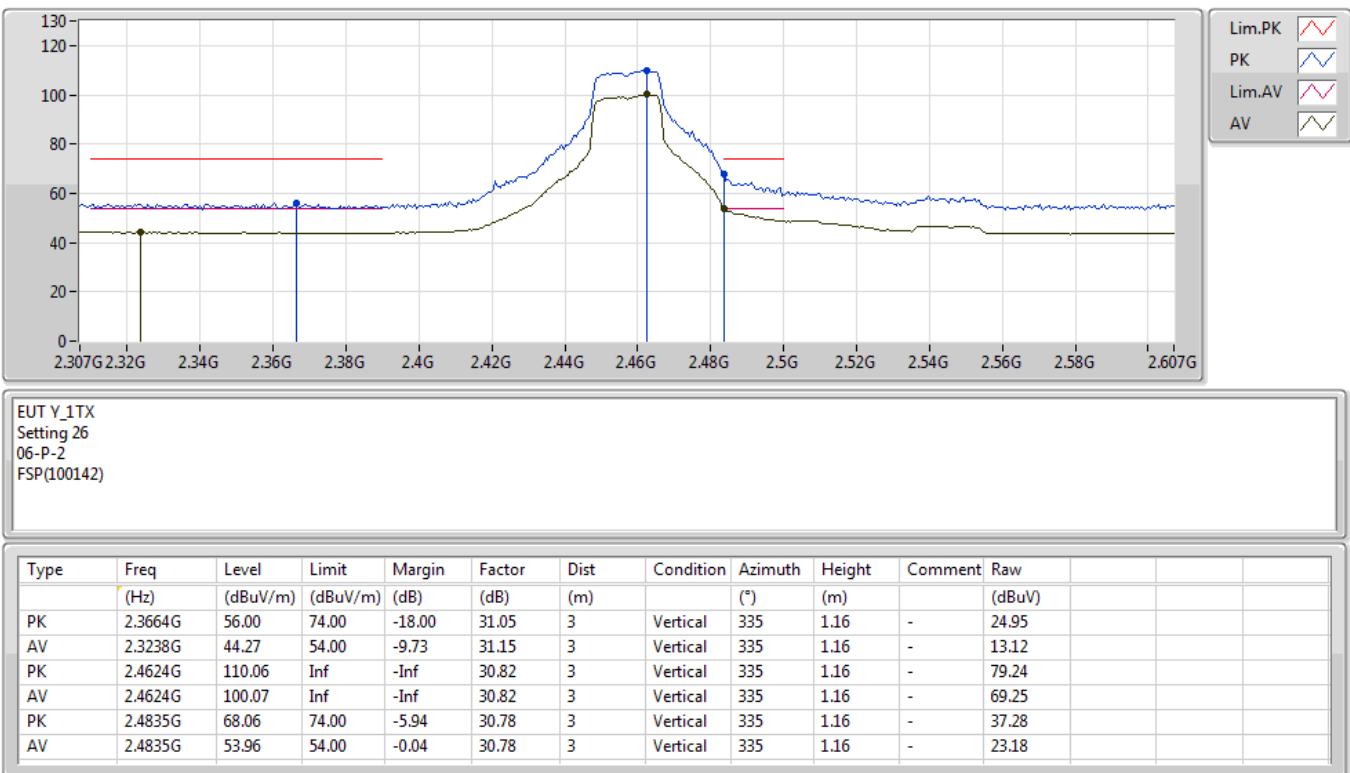
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 30
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.8759G | 51.98 | 74.00 | -22.02 | 4.25 | 3 | Horizontal | 339 | 1.87 | - | 47.73 | | | |
| AV | 4.8736G | 39.16 | 54.00 | -14.84 | 4.23 | 3 | Horizontal | 339 | 1.87 | - | 34.93 | | | |

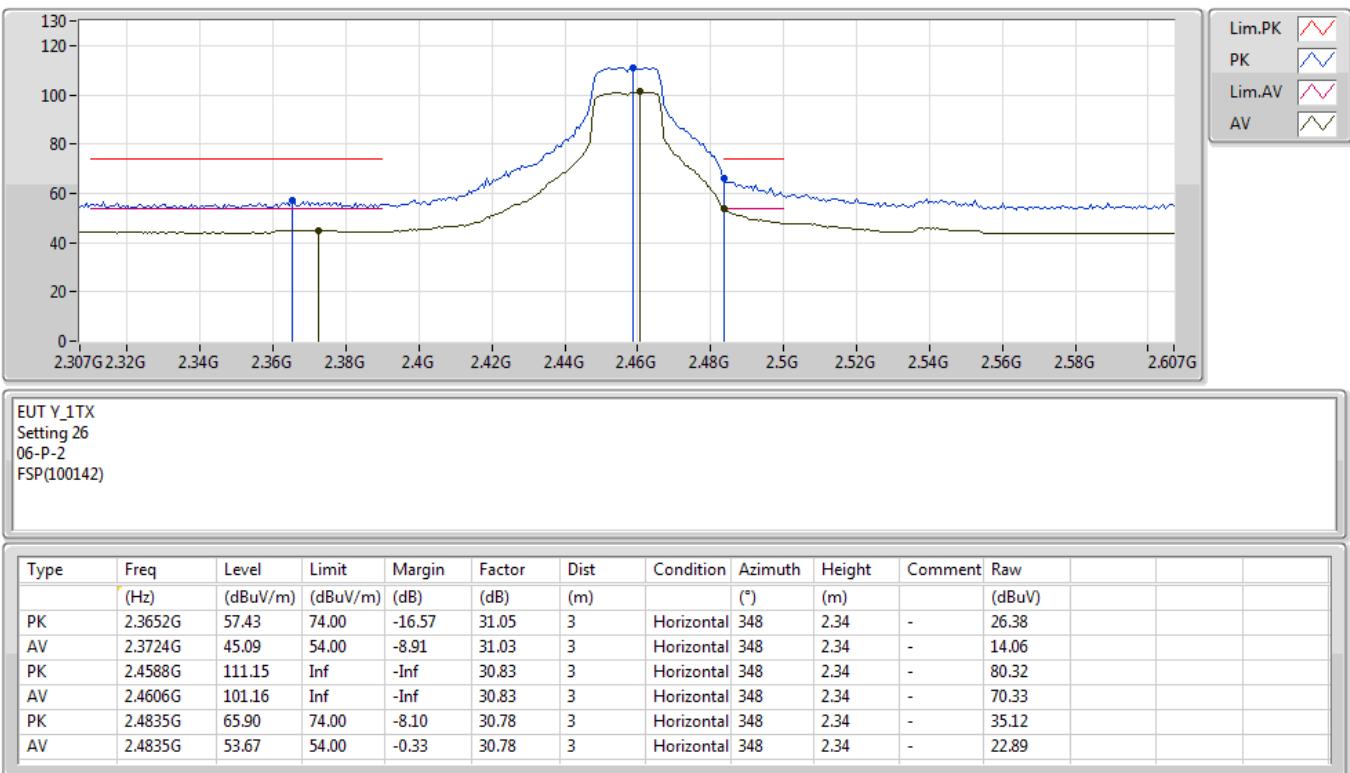
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2457MHz_TX


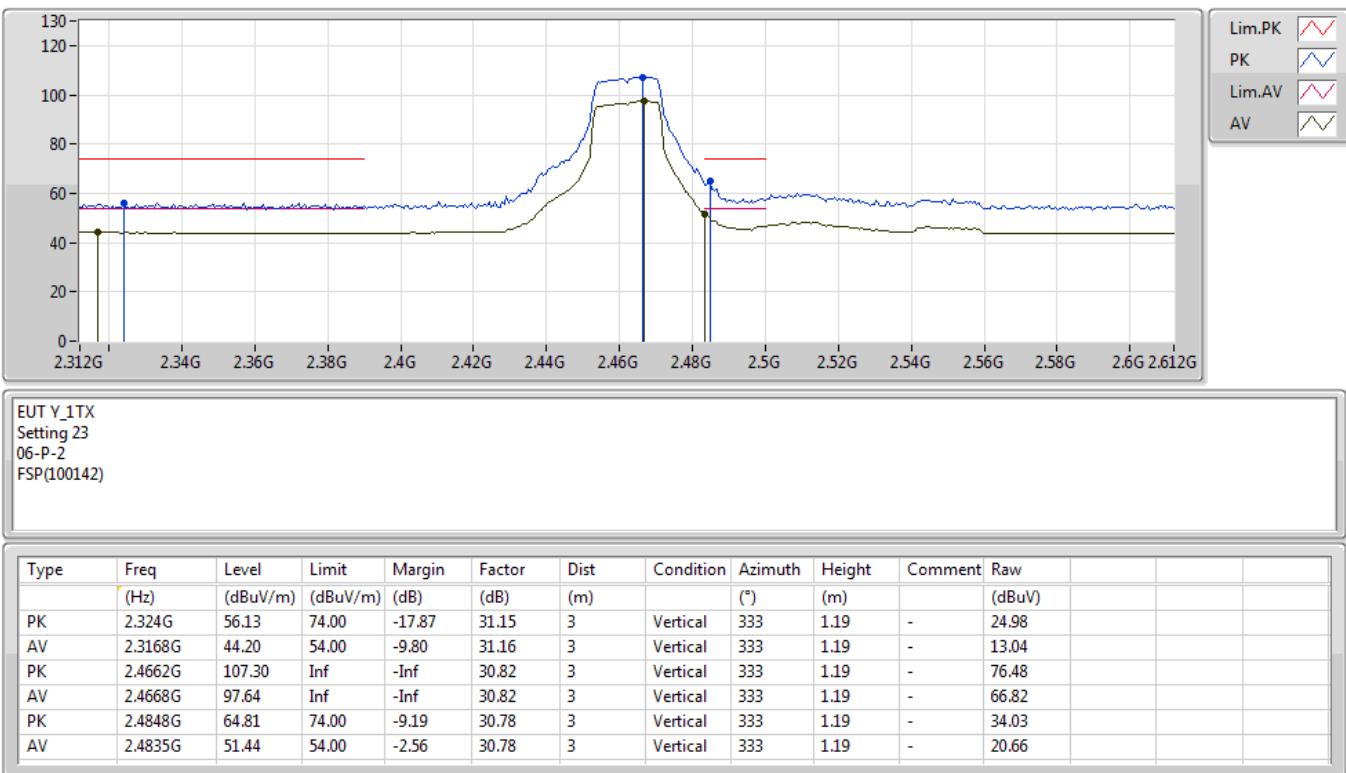
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2457MHz_TX


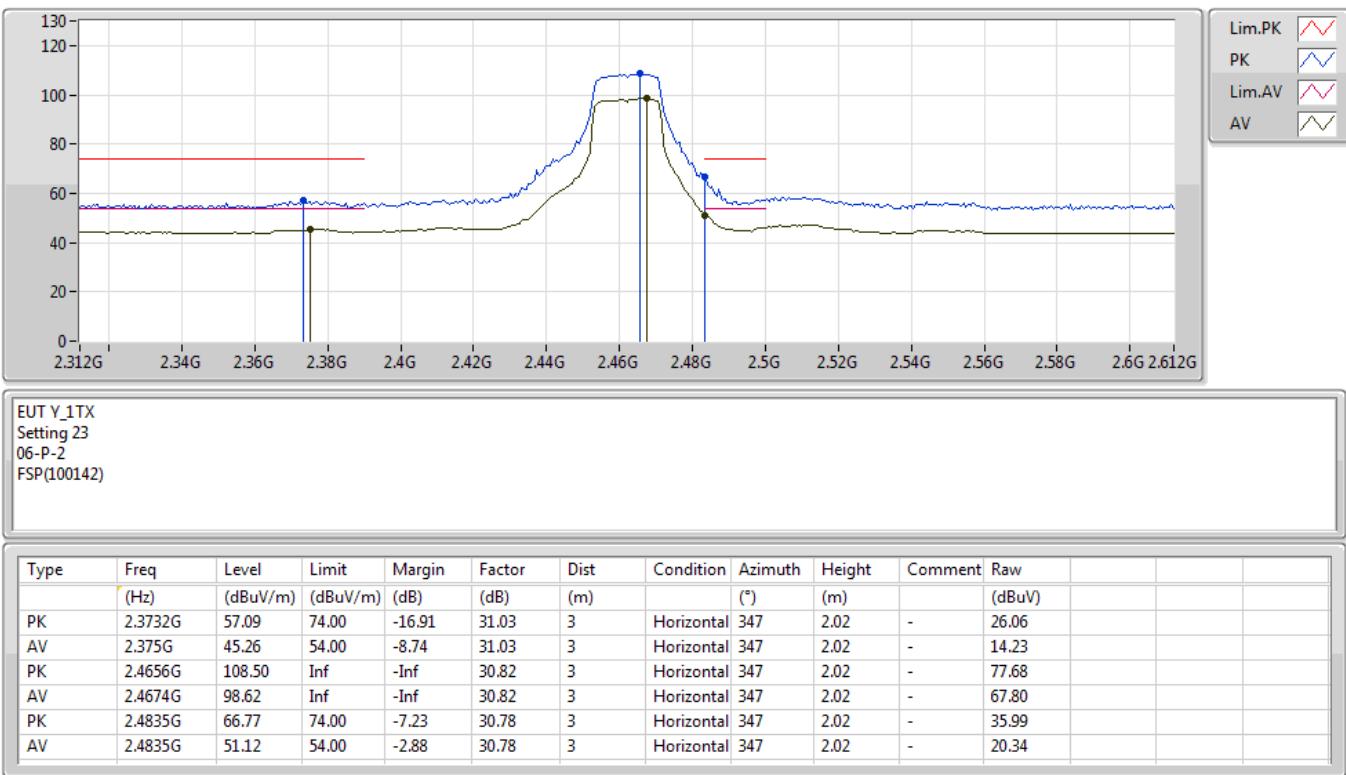
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2462MHz_TX


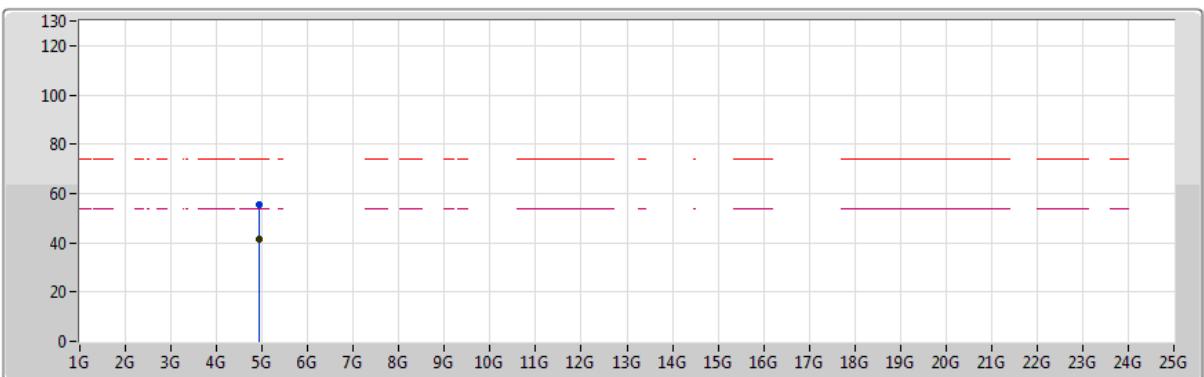
VHT20_Nss1,(MCS0)_1TX

17/10/2019

2462MHz_TX


**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2462MHz_TX

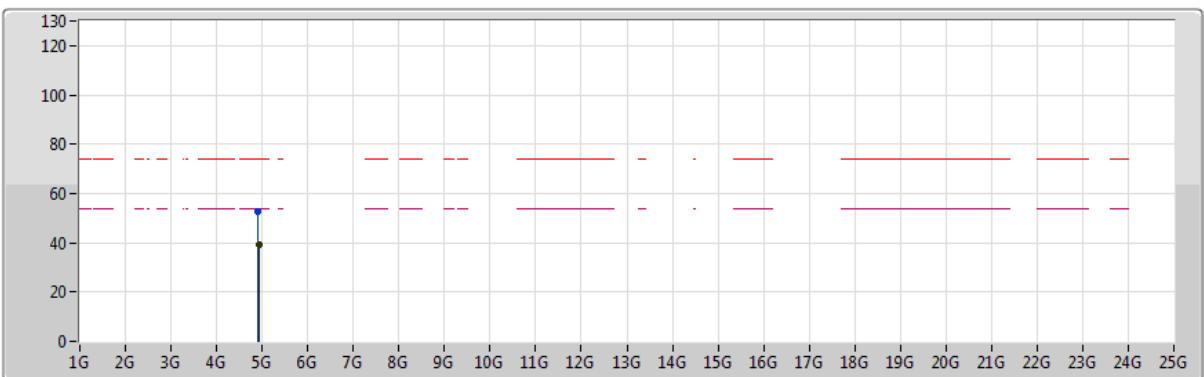
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 23
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.9227G | 55.43 | 74.00 | -18.57 | 4.40 | 3 | Vertical | 300 | 1.55 | - | 51.03 | | | |
| AV | 4.9251G | 41.32 | 54.00 | -12.68 | 4.42 | 3 | Vertical | 300 | 1.55 | - | 36.90 | | | |

**VHT20_Nss1,(MCS0)_1TX**

17/10/2019

2462MHz_TX

| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 23
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.9163G | 52.64 | 74.00 | -21.36 | 4.37 | 3 | Horizontal | 42 | 2.48 | - | 48.27 | | | |
| AV | 4.9253G | 39.38 | 54.00 | -14.62 | 4.42 | 3 | Horizontal | 42 | 2.48 | - | 34.96 | | | |

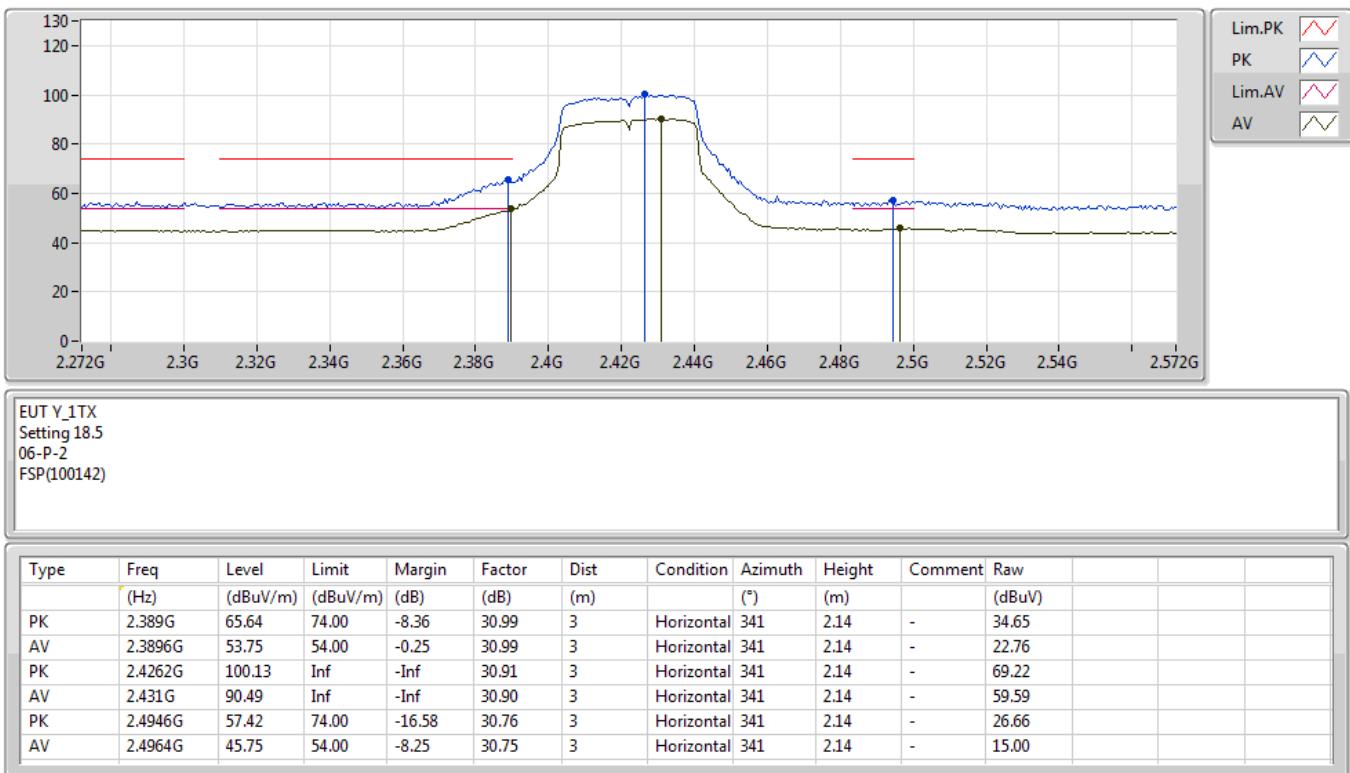
VHT40_Nss1,(MCS0)_1TX

17/10/2019

2422MHz_TX

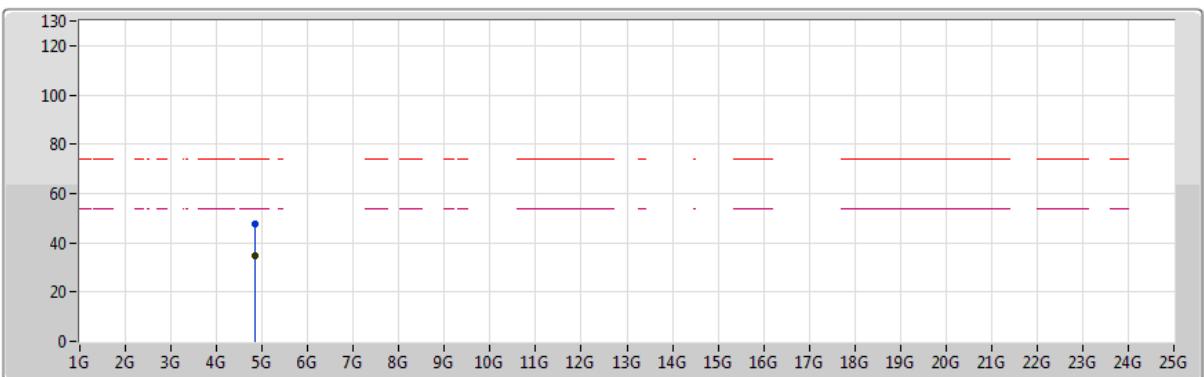

VHT40_Nss1,(MCS0)_1TX

17/10/2019

2422MHz_TX


**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

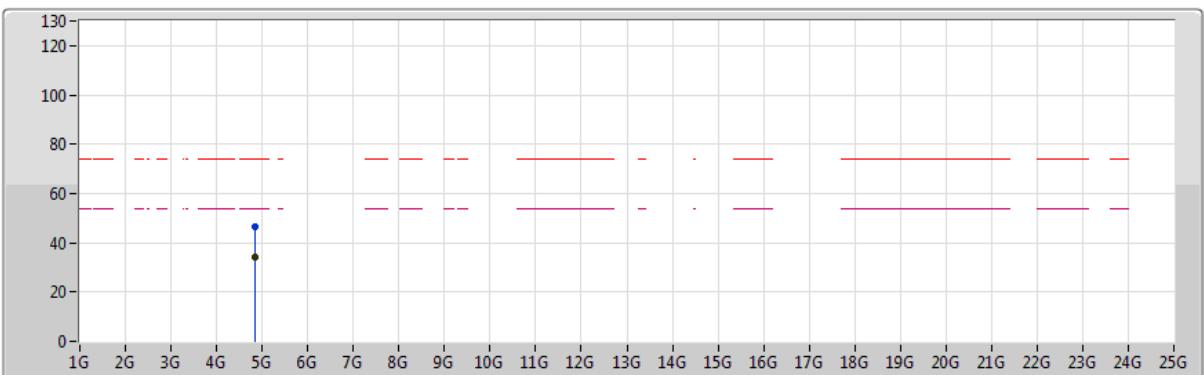
2422MHz_TX

EUT Y_1TX
Setting 18.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.84748G | 47.70 | 74.00 | -26.30 | 4.19 | 3 | Vertical | 303 | 1.62 | - | 43.51 | | | |
| AV | 4.84368G | 34.83 | 54.00 | -19.17 | 4.18 | 3 | Vertical | 303 | 1.62 | - | 30.65 | | | |

**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

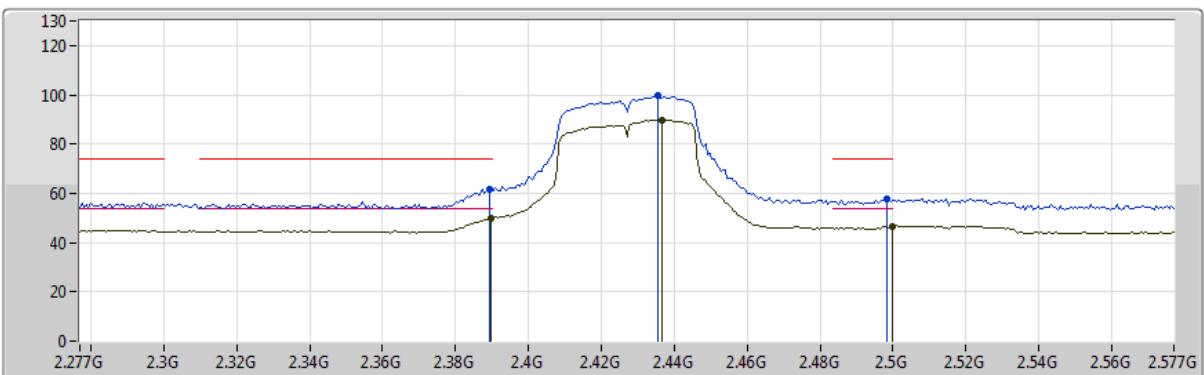
2422MHz_TX

EUT Y_1TX
Setting 18.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.84898G | 46.39 | 74.00 | -27.61 | 4.19 | 3 | Horizontal | 44 | 2.83 | - | 42.20 | | | |
| AV | 4.84474G | 34.19 | 54.00 | -19.81 | 4.18 | 3 | Horizontal | 44 | 2.83 | - | 30.01 | | | |

VHT40_Nss1,(MCS0)_1TX

17/10/2019

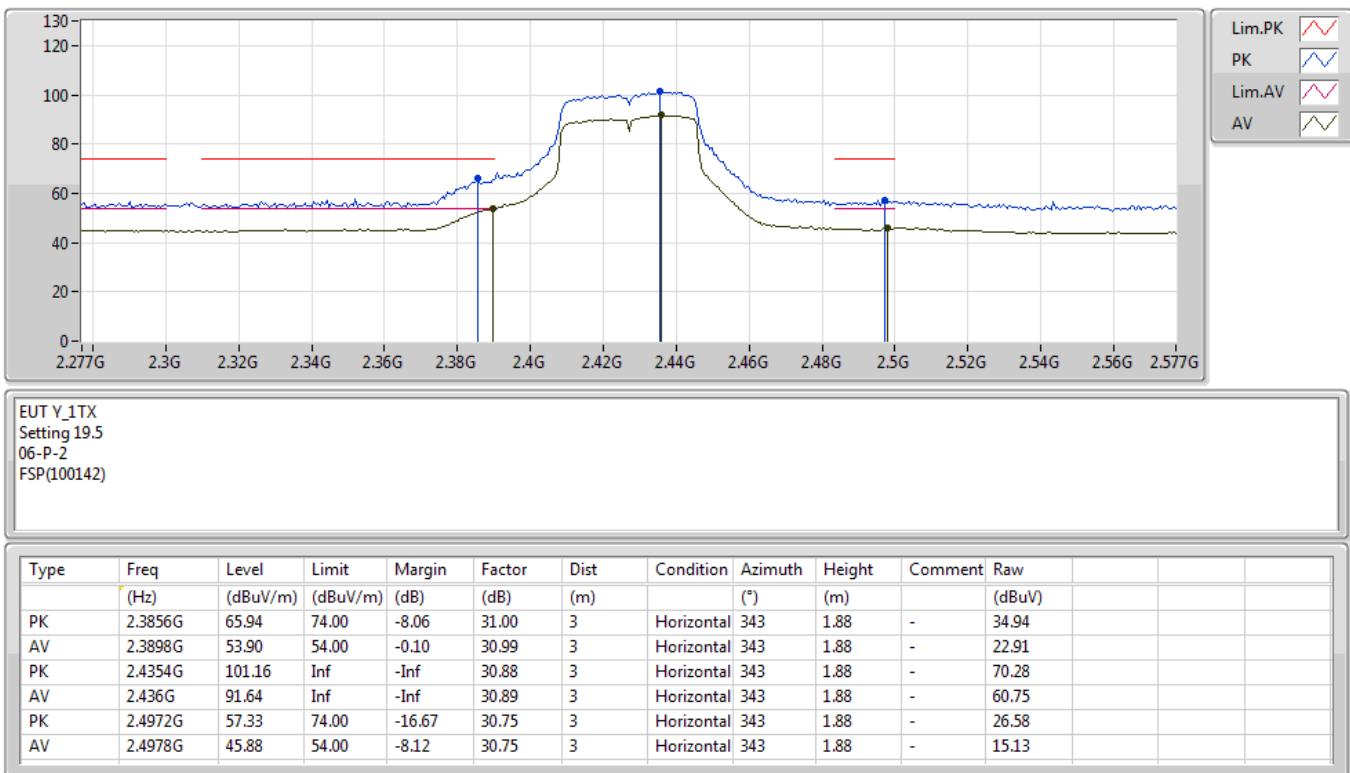
2427MHz_TX


EUT Y_1TX
 Setting 19.5
 06-P-2
 FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3892G | 61.89 | 74.00 | -12.11 | 30.99 | 3 | Vertical | 340 | 1.54 | - | 30.90 | | | |
| AV | 2.3898G | 49.67 | 54.00 | -4.33 | 30.99 | 3 | Vertical | 340 | 1.54 | - | 18.68 | | | |
| PK | 2.4354G | 99.75 | Inf | -Inf | 30.88 | 3 | Vertical | 340 | 1.54 | - | 68.87 | | | |
| AV | 2.4366G | 89.82 | Inf | -Inf | 30.89 | 3 | Vertical | 340 | 1.54 | - | 58.93 | | | |
| PK | 2.4984G | 57.56 | 74.00 | -16.44 | 30.74 | 3 | Vertical | 340 | 1.54 | - | 26.82 | | | |
| AV | 2.5G | 46.59 | 54.00 | -7.41 | 30.74 | 3 | Vertical | 340 | 1.54 | - | 15.85 | | | |

VHT40_Nss1,(MCS0)_1TX

17/10/2019

2427MHz_TX


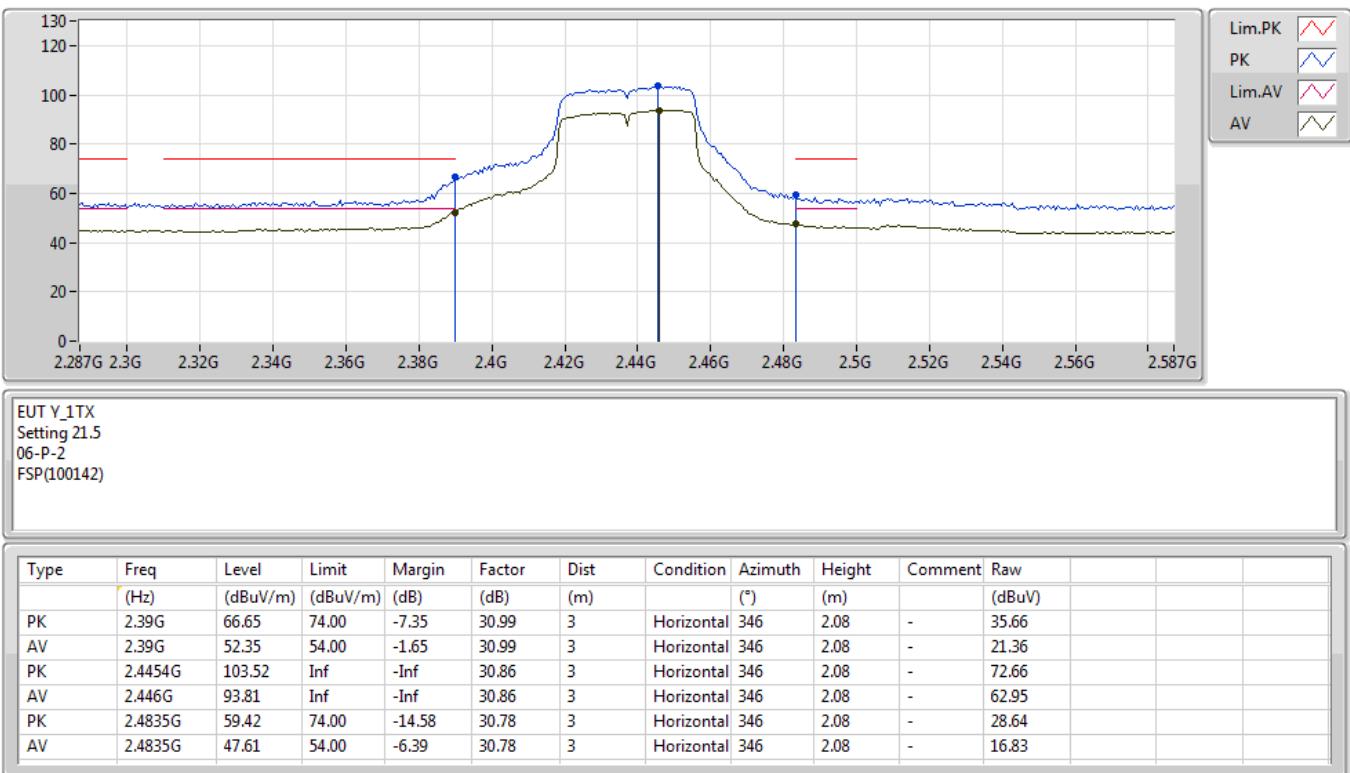
VHT40_Nss1,(MCS0)_1TX

17/10/2019

2437MHz_TX

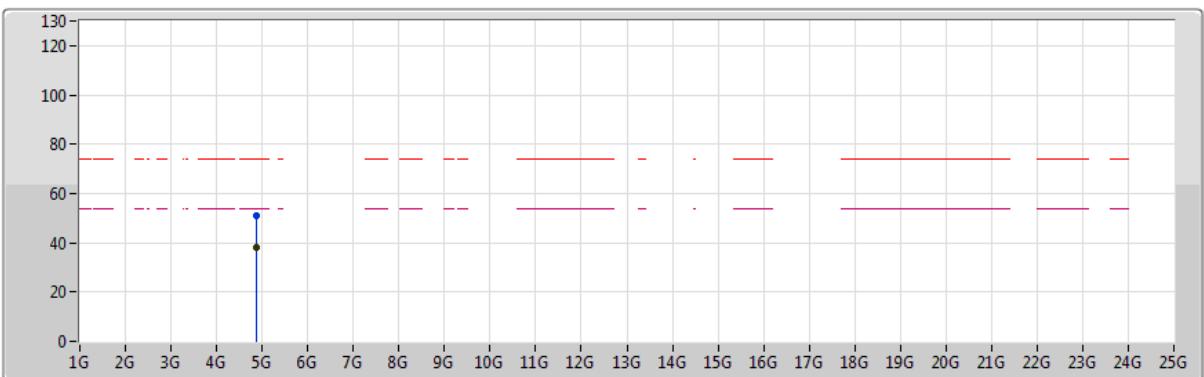

VHT40_Nss1,(MCS0)_1TX

17/10/2019

2437MHz_TX


**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

2437MHz_TX

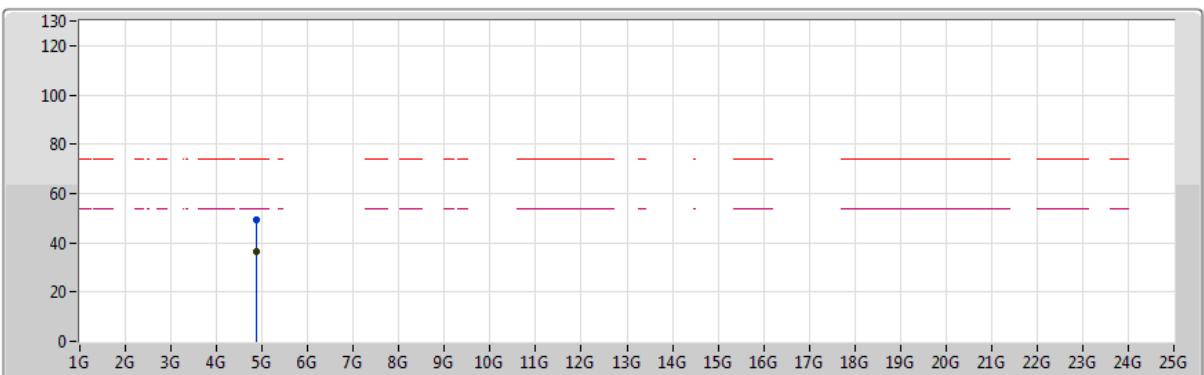
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 21.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.8727G | 50.89 | 74.00 | -23.11 | 4.23 | 3 | Vertical | 305 | 1.67 | - | 46.66 | | | |
| AV | 4.87428G | 37.85 | 54.00 | -16.15 | 4.23 | 3 | Vertical | 305 | 1.67 | - | 33.62 | | | |

**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

2437MHz_TX

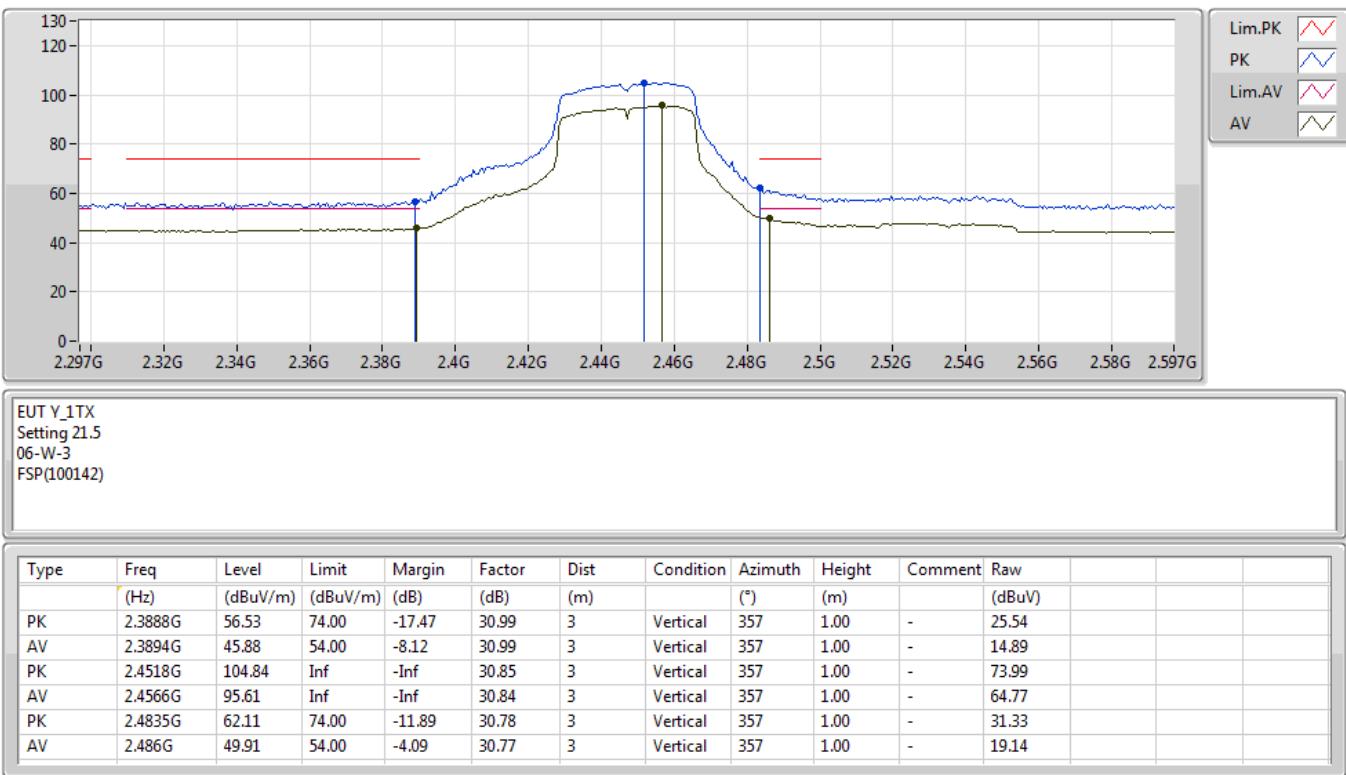
| | |
|--------|--|
| Lim.PK | |
| PK | |
| Lim.AV | |
| AV | |

EUT Y_1TX
Setting 21.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.87024G | 49.08 | 74.00 | -24.92 | 4.23 | 3 | Horizontal | 41 | 2.96 | - | 44.85 | | | |
| AV | 4.87512G | 36.69 | 54.00 | -17.31 | 4.25 | 3 | Horizontal | 41 | 2.96 | - | 32.44 | | | |

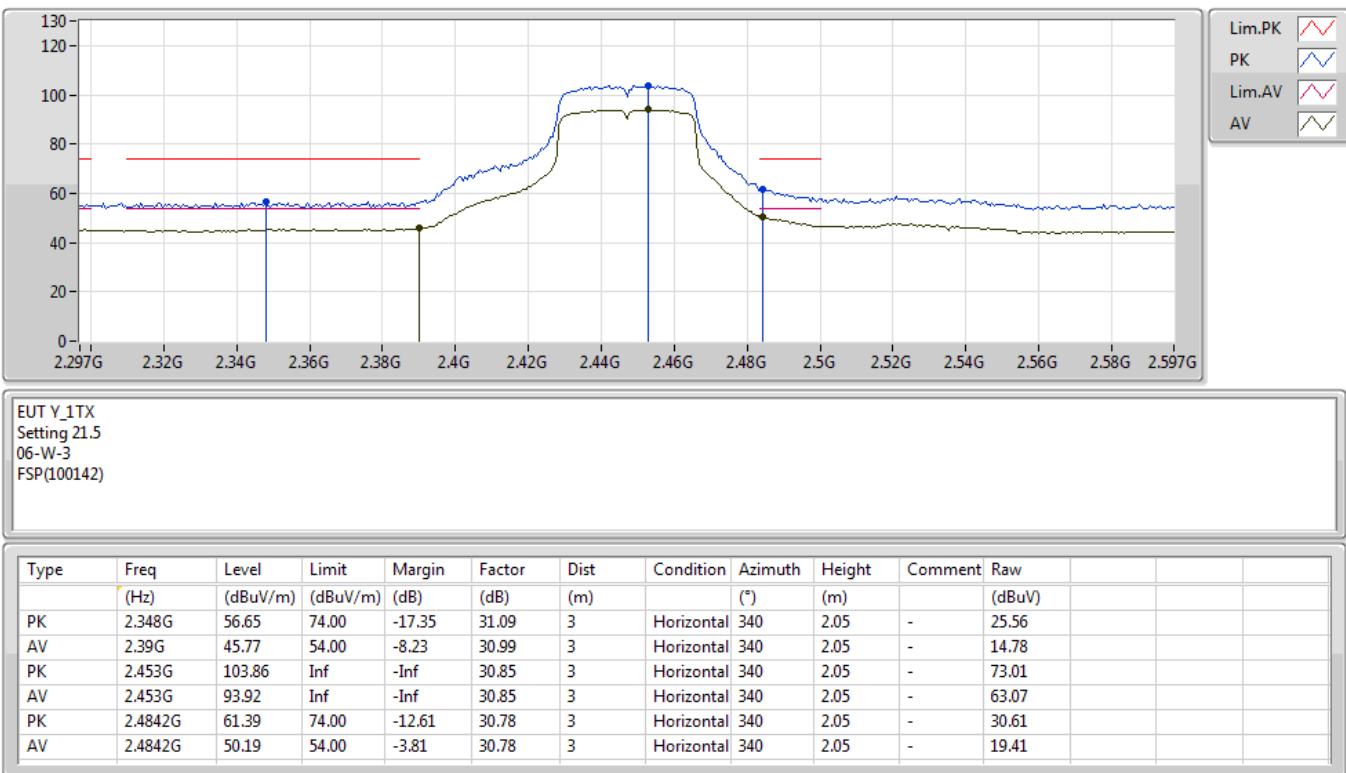
VHT40_Nss1,(MCS0)_1TX

24/10/2019

2447MHz_TX


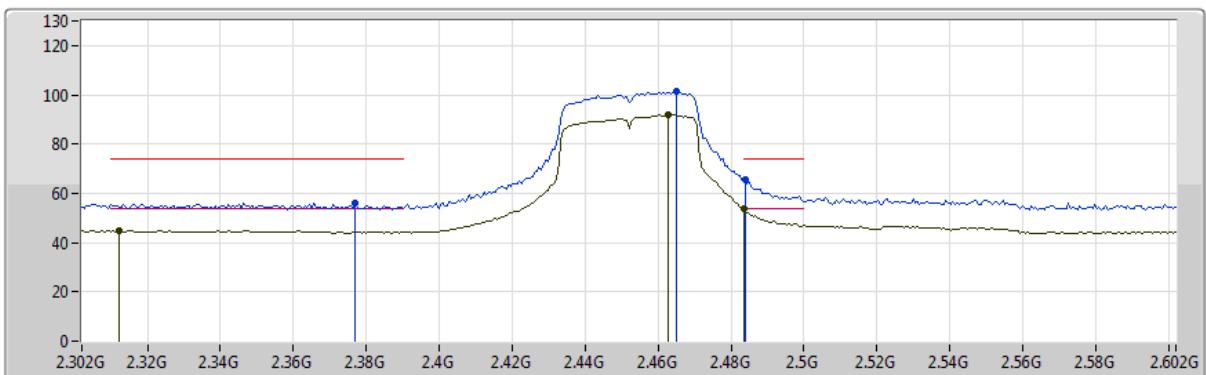
VHT40_Nss1,(MCS0)_1TX

24/10/2019

2447MHz_TX


VHT40_Nss1,(MCS0)_1TX

17/10/2019

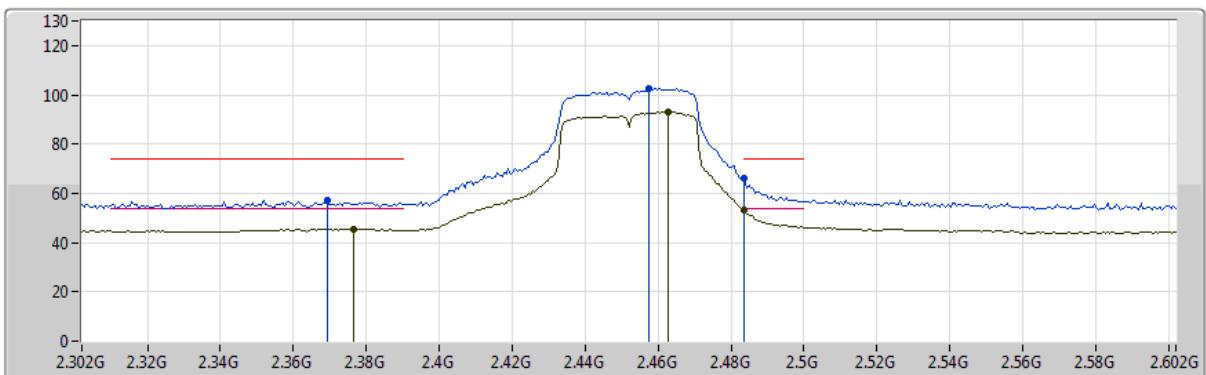
2452MHz_TX


EUT Y_1TX
 Setting 20.5
 06-P-2
 FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 2.377G | 55.93 | 74.00 | -18.07 | 31.02 | 3 | Vertical | 328 | 1.15 | - | 24.91 | | | |
| AV | 2.3122G | 44.70 | 54.00 | -9.30 | 31.17 | 3 | Vertical | 328 | 1.15 | - | 13.53 | | | |
| PK | 2.4652G | 101.36 | Inf | -Inf | 30.82 | 3 | Vertical | 328 | 1.15 | - | 70.54 | | | |
| AV | 2.4628G | 91.75 | Inf | -Inf | 30.82 | 3 | Vertical | 328 | 1.15 | - | 60.93 | | | |
| PK | 2.4838G | 65.65 | 74.00 | -8.35 | 30.78 | 3 | Vertical | 328 | 1.15 | - | 34.87 | | | |
| AV | 2.4835G | 53.83 | 54.00 | -0.17 | 30.78 | 3 | Vertical | 328 | 1.15 | - | 23.05 | | | |

VHT40_Nss1,(MCS0)_1TX

17/10/2019

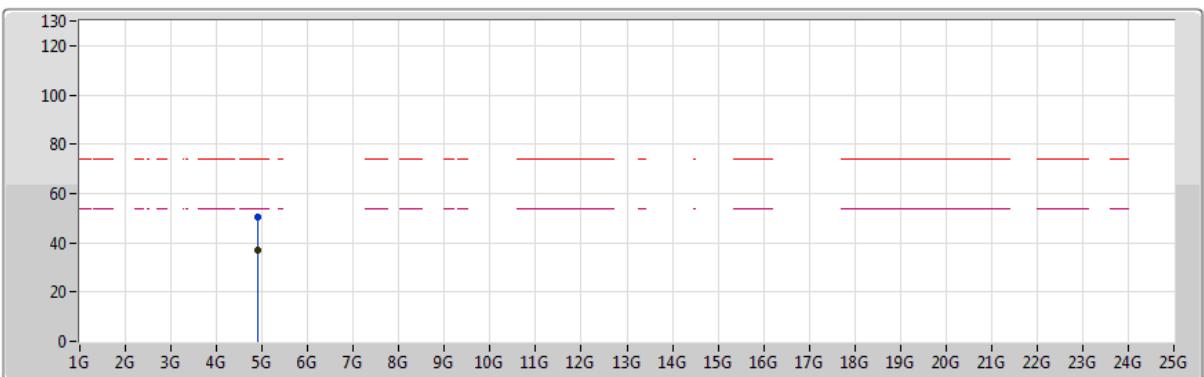
2452MHz_TX


EUT Y_1TX
Setting 20.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (*) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3692G | 57.11 | 74.00 | -16.89 | 31.04 | 3 | Horizontal | 345 | 2.01 | - | 26.07 | | | |
| AV | 2.3764G | 45.59 | 54.00 | -8.41 | 31.02 | 3 | Horizontal | 345 | 2.01 | - | 14.57 | | | |
| PK | 2.4574G | 102.53 | Inf | -Inf | 30.84 | 3 | Horizontal | 345 | 2.01 | - | 71.69 | | | |
| AV | 2.4628G | 93.23 | Inf | -Inf | 30.82 | 3 | Horizontal | 345 | 2.01 | - | 62.41 | | | |
| PK | 2.4835G | 66.17 | 74.00 | -7.83 | 30.78 | 3 | Horizontal | 345 | 2.01 | - | 35.39 | | | |
| AV | 2.4835G | 53.45 | 54.00 | -0.55 | 30.78 | 3 | Horizontal | 345 | 2.01 | - | 22.67 | | | |

**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

2452MHz_TX

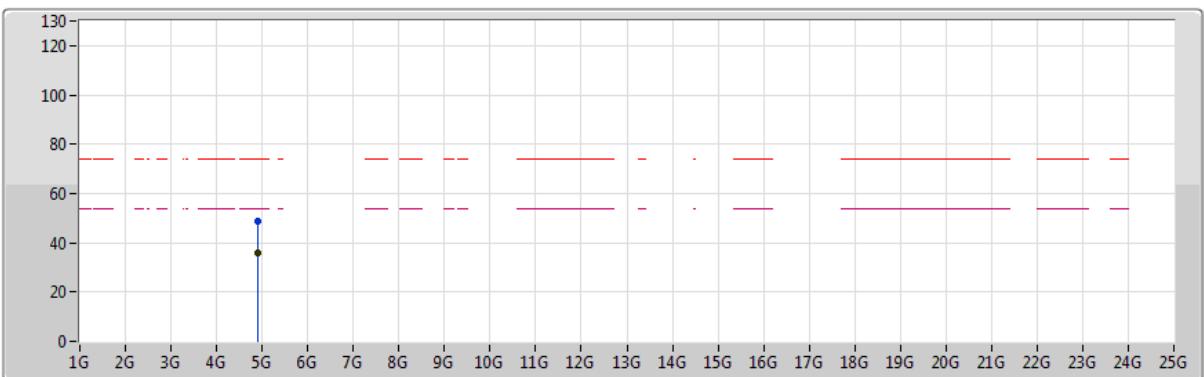
Legend:
Lim.PK (Red Dashed)
PK (Blue Line)
Lim.AV (Pink Dashed)
AV (Green Line)

EUT Y_1TX
Setting 20.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.90056G | 50.57 | 74.00 | -23.43 | 4.29 | 3 | Vertical | 305 | 1.57 | - | 46.28 | | | |
| AV | 4.90488G | 37.20 | 54.00 | -16.80 | 4.31 | 3 | Vertical | 305 | 1.57 | - | 32.89 | | | |

**VHT40_Nss1,(MCS0)_1TX**

17/10/2019

2452MHz_TX

Legend:
Lim.PK
PK
Lim.AV
AV

EUT Y_1TX
Setting 20.5
06-P-2
FSP(100142)

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.907G | 48.67 | 74.00 | -25.33 | 4.32 | 3 | Horizontal | 45 | 2.52 | - | 44.35 | | | |
| AV | 4.9039G | 35.66 | 54.00 | -18.34 | 4.31 | 3 | Horizontal | 45 | 2.52 | - | 31.35 | | | |



RSE TX above 1GHz Result

Appendix F.4

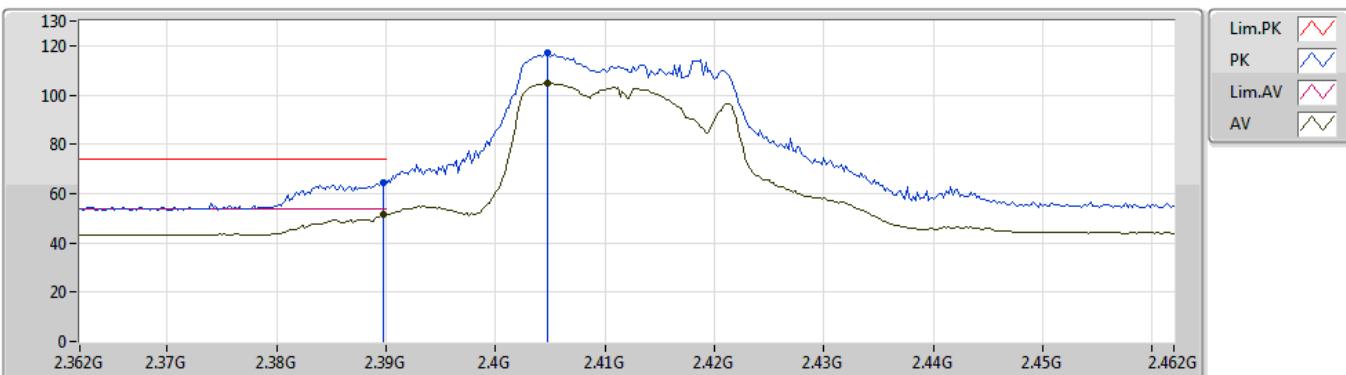
For beamforming mode:

Summary

| Mode | Result | Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comments |
|-----------------------------------|--------|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|----------|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11ax HEW20-BF_Nss1,(MCS0)_4TX | Pass | AV | 4.824G | 53.11 | 54.00 | -0.89 | 3.51 | 3 | Vertical | 16 | 1.89 | - |

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

03/01/2020

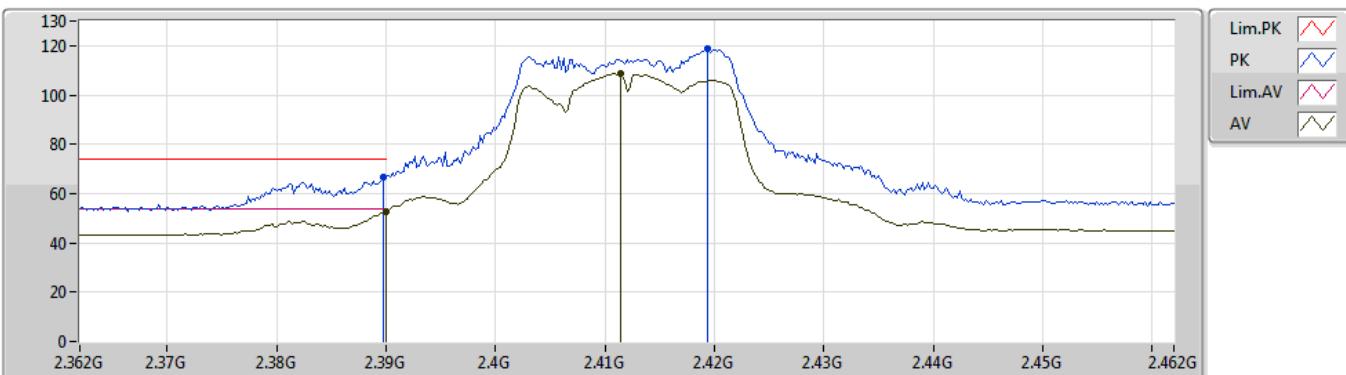
2412MHz_TX


EUT Y_4TX
Setting 22
04-F-C-5

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3898G | 64.50 | 74.00 | -9.50 | 30.21 | 3 | Vertical | 0 | 1.43 | - | 34.29 | | | |
| AV | 2.3898G | 51.50 | 54.00 | -2.50 | 30.21 | 3 | Vertical | 0 | 1.43 | - | 21.29 | | | |
| PK | 2.4048G | 117.15 | Inf | -Inf | 30.22 | 3 | Vertical | 0 | 1.43 | - | 86.93 | | | |
| AV | 2.4048G | 104.70 | Inf | -Inf | 30.22 | 3 | Vertical | 0 | 1.43 | - | 74.48 | | | |

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

03/01/2020

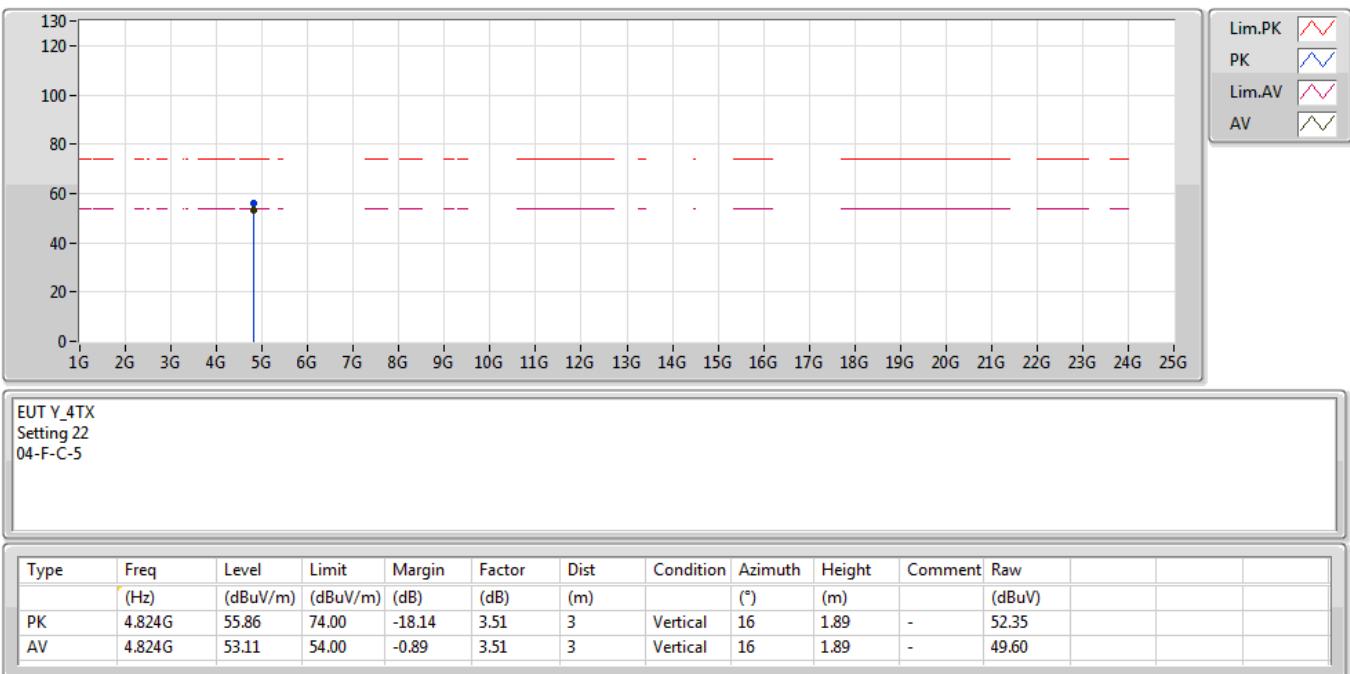
2412MHz_TX


EUT Y_4TX
 Setting 22
 04-F-C-5

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (*) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3898G | 66.63 | 74.00 | -7.37 | 30.21 | 3 | Horizontal | 59 | 2.20 | - | 36.42 | | | |
| AV | 2.39G | 52.86 | 54.00 | -1.14 | 30.21 | 3 | Horizontal | 59 | 2.20 | - | 22.65 | | | |
| PK | 2.4194G | 118.83 | Inf | -Inf | 30.28 | 3 | Horizontal | 59 | 2.20 | - | 88.55 | | | |
| AV | 2.4114G | 108.82 | Inf | -Inf | 30.25 | 3 | Horizontal | 59 | 2.20 | - | 78.57 | | | |

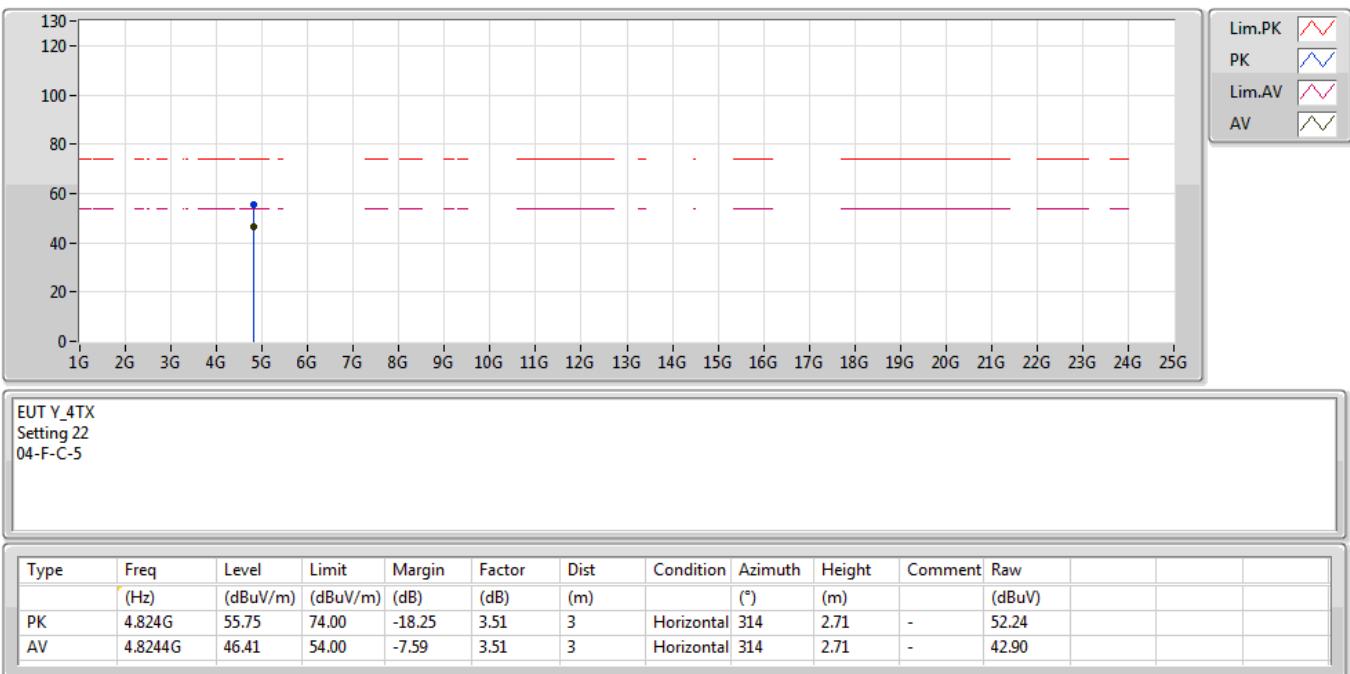
**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

03/01/2020

2412MHz_TX

**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

03/01/2020

2412MHz_TX

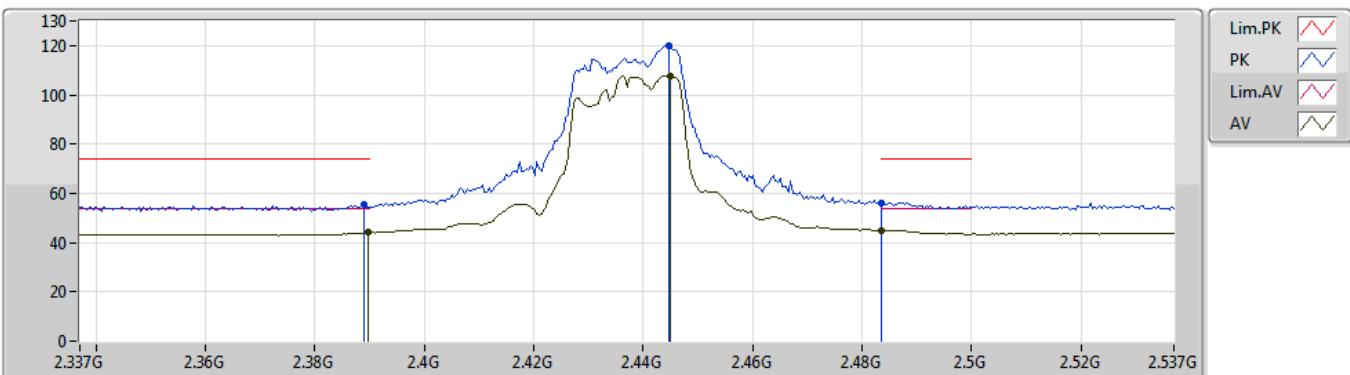
802.11ax HEW20-BF_Nss1,(MCS0)_4TX

04/01/2020

2437MHz_TX


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

04/01/2020

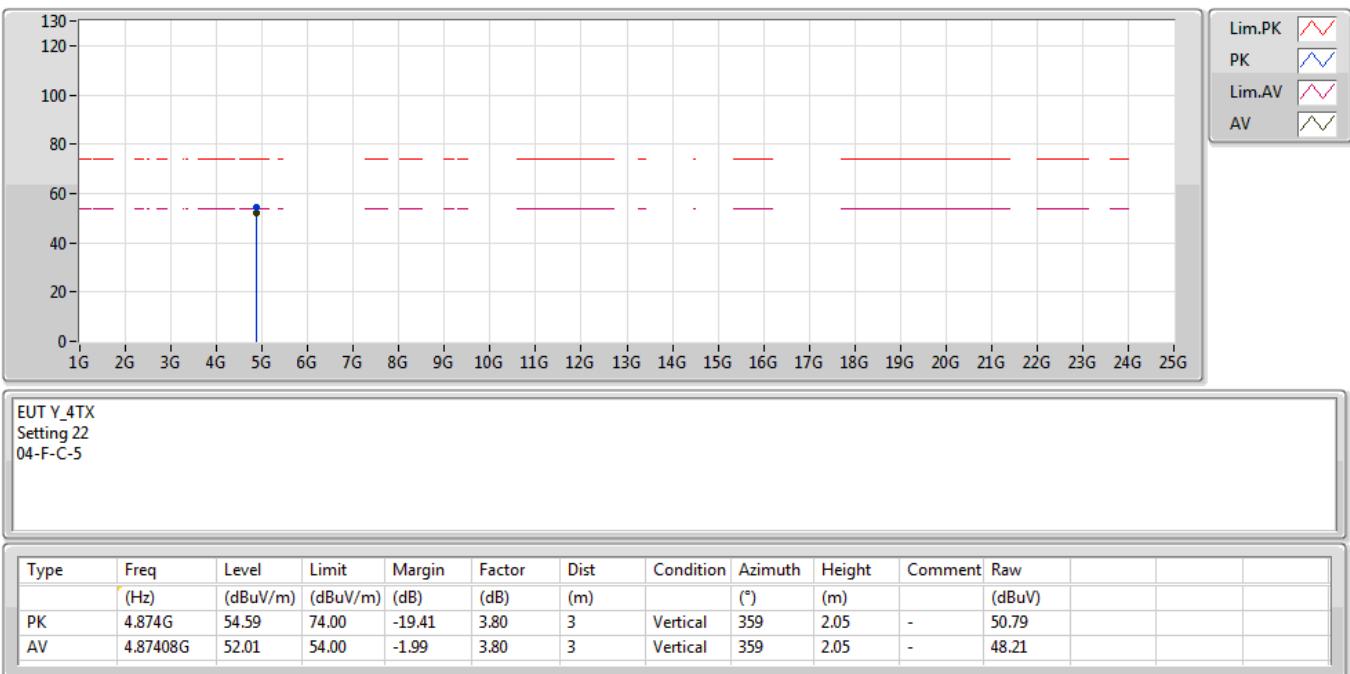
2437MHz_TX


EUT Y_4TX
Setting 22
04-F-C-5

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 2.389G | 55.30 | 74.00 | -18.70 | 30.21 | 3 | Horizontal | 60 | 2.48 | - | 25.09 | | | |
| AV | 2.3898G | 43.99 | 54.00 | -10.01 | 30.21 | 3 | Horizontal | 60 | 2.48 | - | 13.78 | | | |
| PK | 2.4446G | 120.16 | Inf | -Inf | 30.38 | 3 | Horizontal | 60 | 2.48 | - | 89.78 | | | |
| AV | 2.445G | 107.81 | Inf | -Inf | 30.38 | 3 | Horizontal | 60 | 2.48 | - | 77.43 | | | |
| PK | 2.4835G | 56.28 | 74.00 | -17.72 | 30.53 | 3 | Horizontal | 60 | 2.48 | - | 25.75 | | | |
| AV | 2.4835G | 45.01 | 54.00 | -8.99 | 30.53 | 3 | Horizontal | 60 | 2.48 | - | 14.48 | | | |

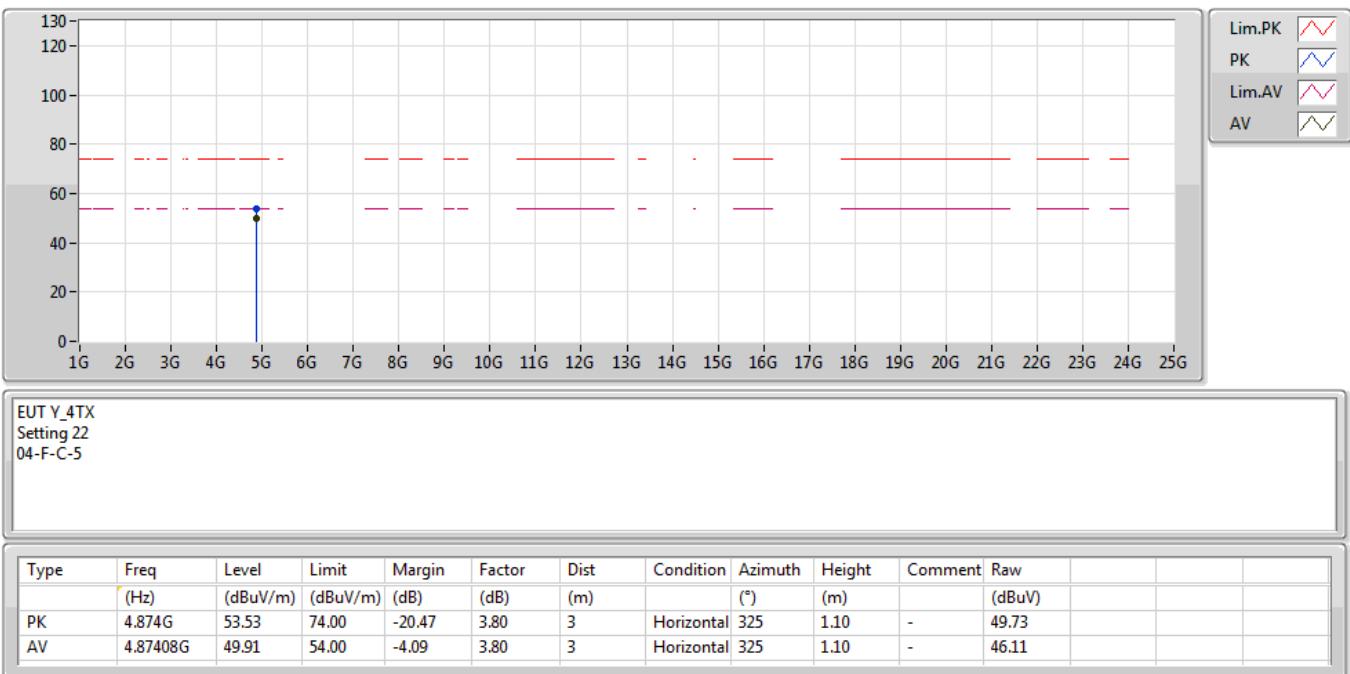
**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

04/01/2020

2437MHz_TX

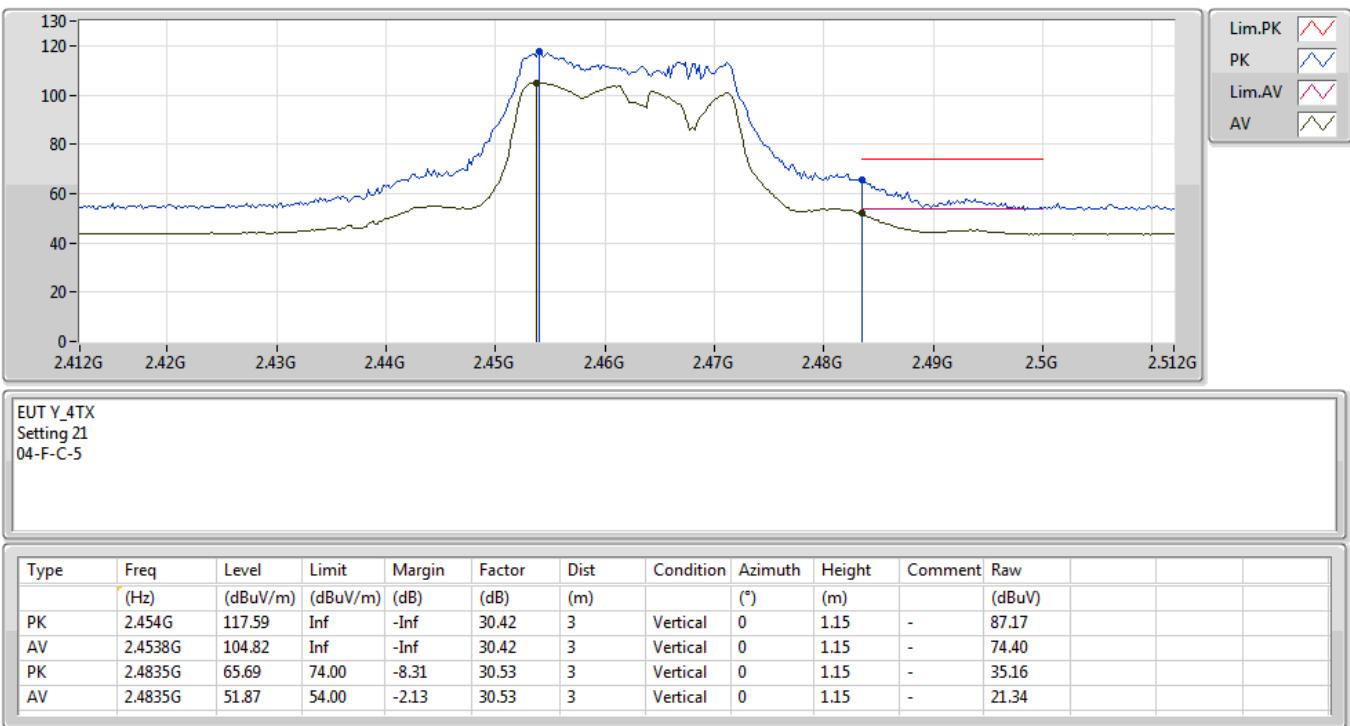
**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

04/01/2020

2437MHz_TX

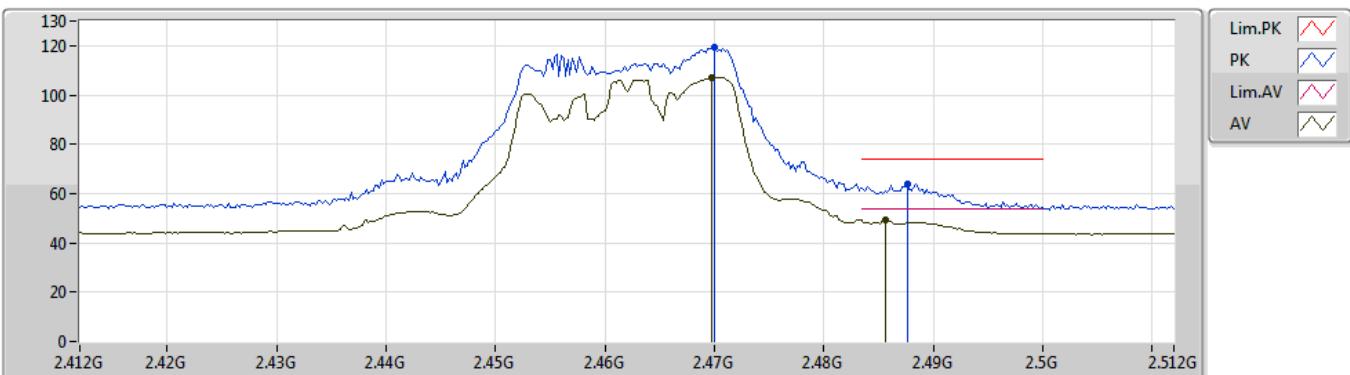
802.11ax HEW20-BF_Nss1,(MCS0)_4TX

04/01/2020

2462MHz_TX


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

04/01/2020

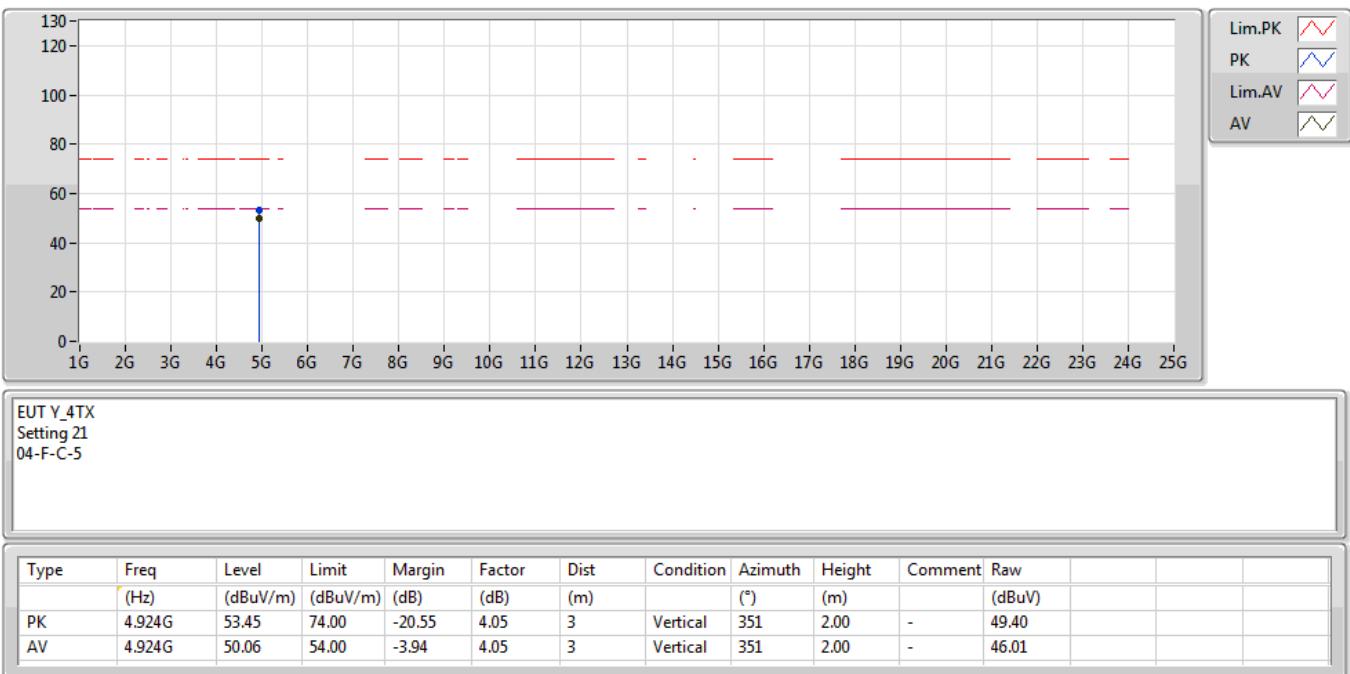
2462MHz_TX


EUT Y_4TX
Setting 21
04-F-C-5

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (*) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 2.47G | 119.38 | Inf | -Inf | 30.48 | 3 | Horizontal | 65 | 2.21 | - | 88.90 | | | |
| AV | 2.4698G | 107.09 | Inf | -Inf | 30.48 | 3 | Horizontal | 65 | 2.21 | - | 76.61 | | | |
| PK | 2.4876G | 64.09 | 74.00 | -9.91 | 30.55 | 3 | Horizontal | 65 | 2.21 | - | 33.54 | | | |
| AV | 2.4856G | 49.30 | 54.00 | -4.70 | 30.54 | 3 | Horizontal | 65 | 2.21 | - | 18.76 | | | |

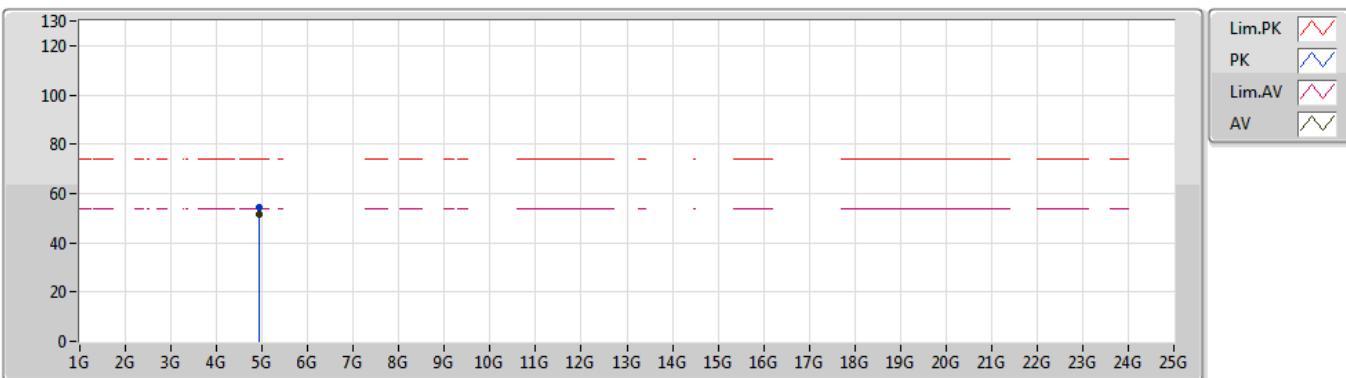
**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

04/01/2020

2462MHz_TX

**802.11ax HEW20-BF_Nss1,(MCS0)_4TX**

04/01/2020

2462MHz_TX

EUT Y_4TX
Setting 21
04-F-C-5

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 4.92416G | 54.45 | 74.00 | -19.55 | 4.05 | 3 | Horizontal | 319 | 1.50 | - | 50.40 | | | |
| AV | 4.924G | 51.35 | 54.00 | -2.65 | 4.05 | 3 | Horizontal | 319 | 1.50 | - | 47.30 | | | |

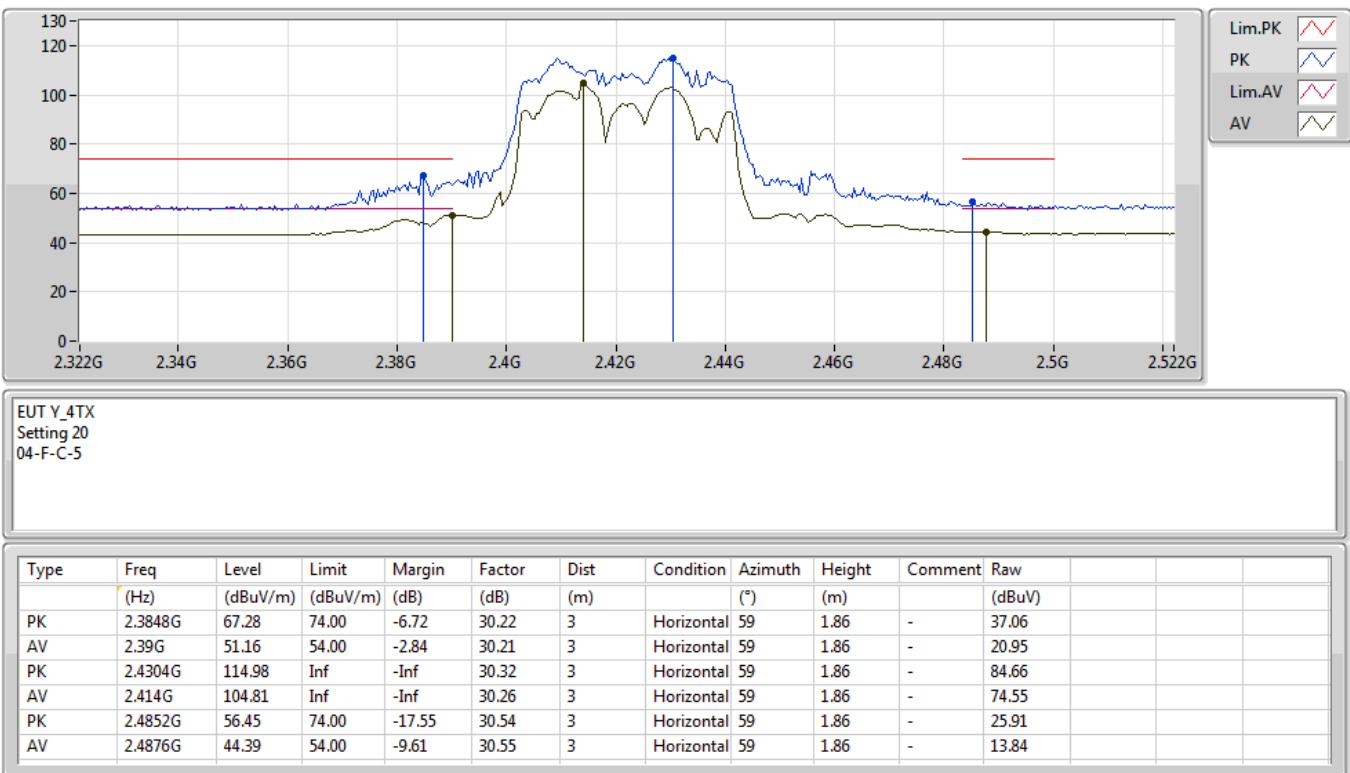
802.11ax HEW40-BF_Nss1,(MCS0)_4TX

04/01/2020

2422MHz_TX

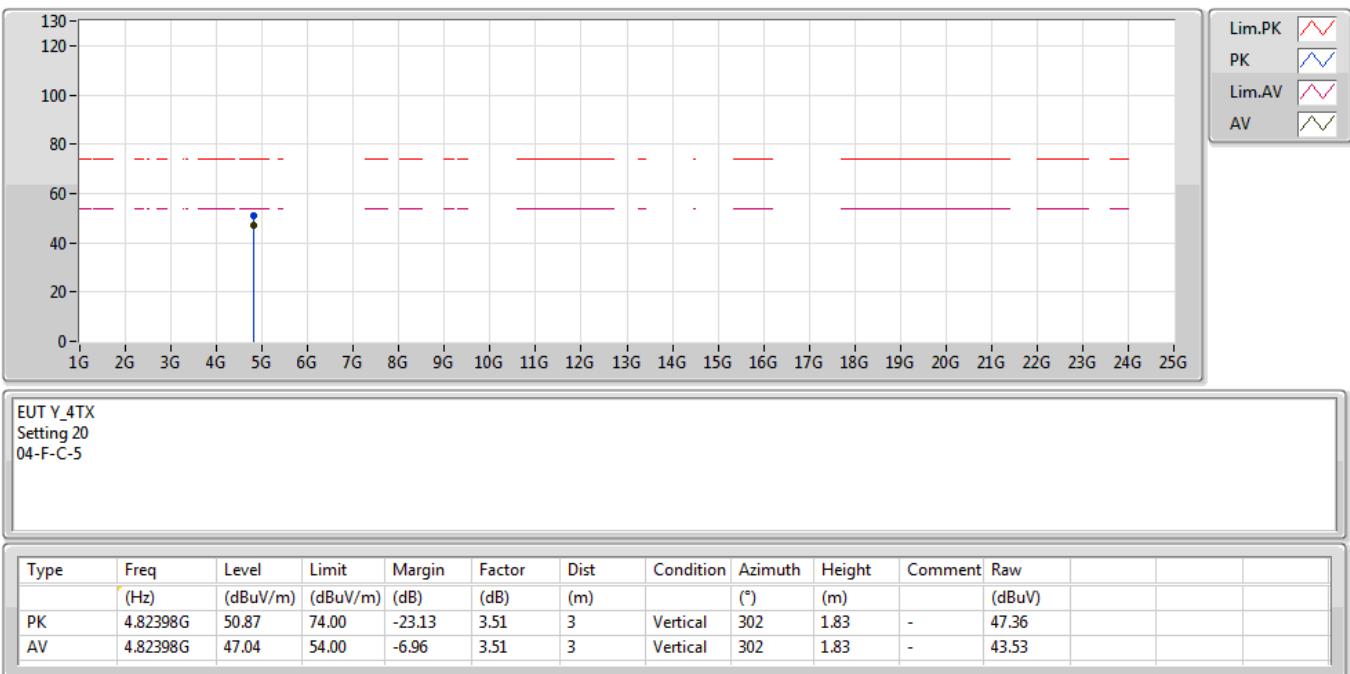

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

04/01/2020

2422MHz_TX


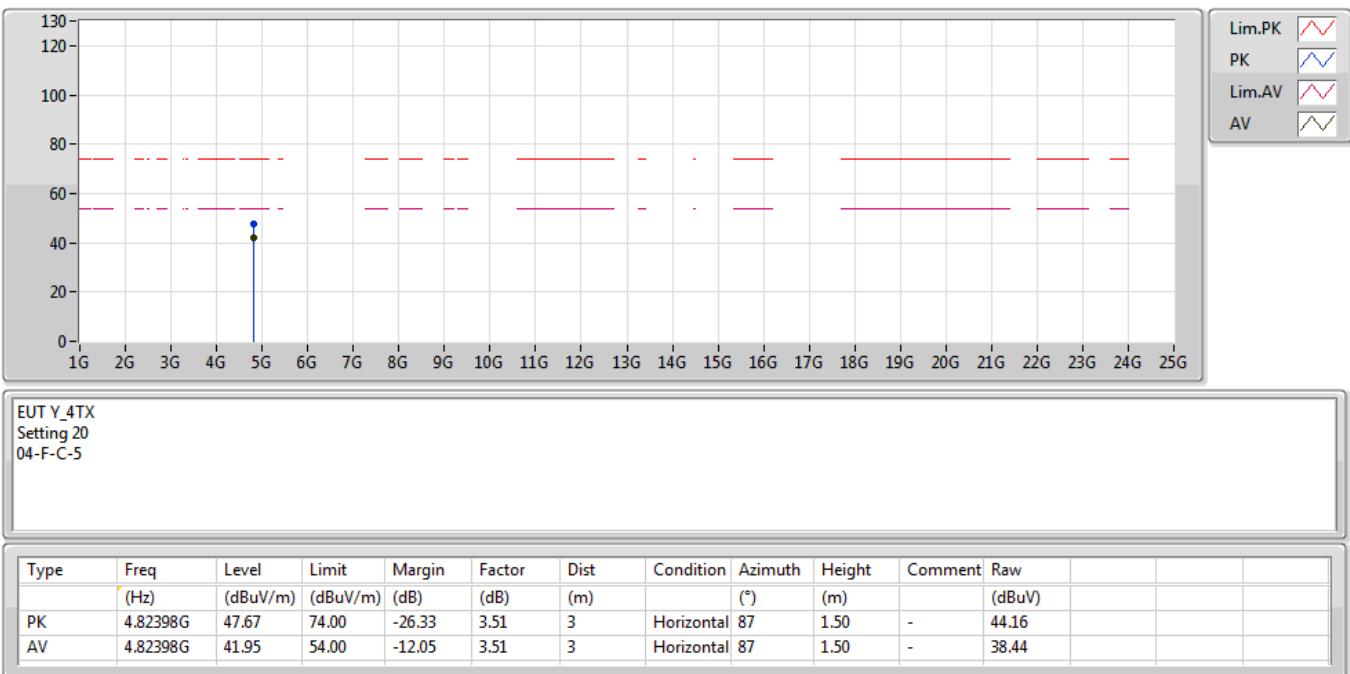
**802.11ax HEW40-BF_Nss1,(MCS0)_4TX**

04/01/2020

2422MHz_TX

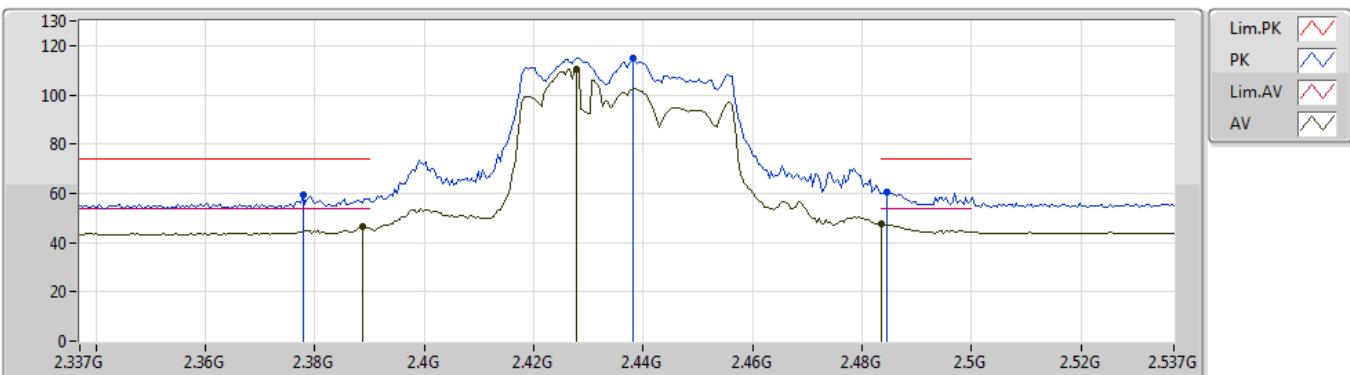
**802.11ax HEW40-BF_Nss1,(MCS0)_4TX**

04/01/2020

2422MHz_TX

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

06/01/2020

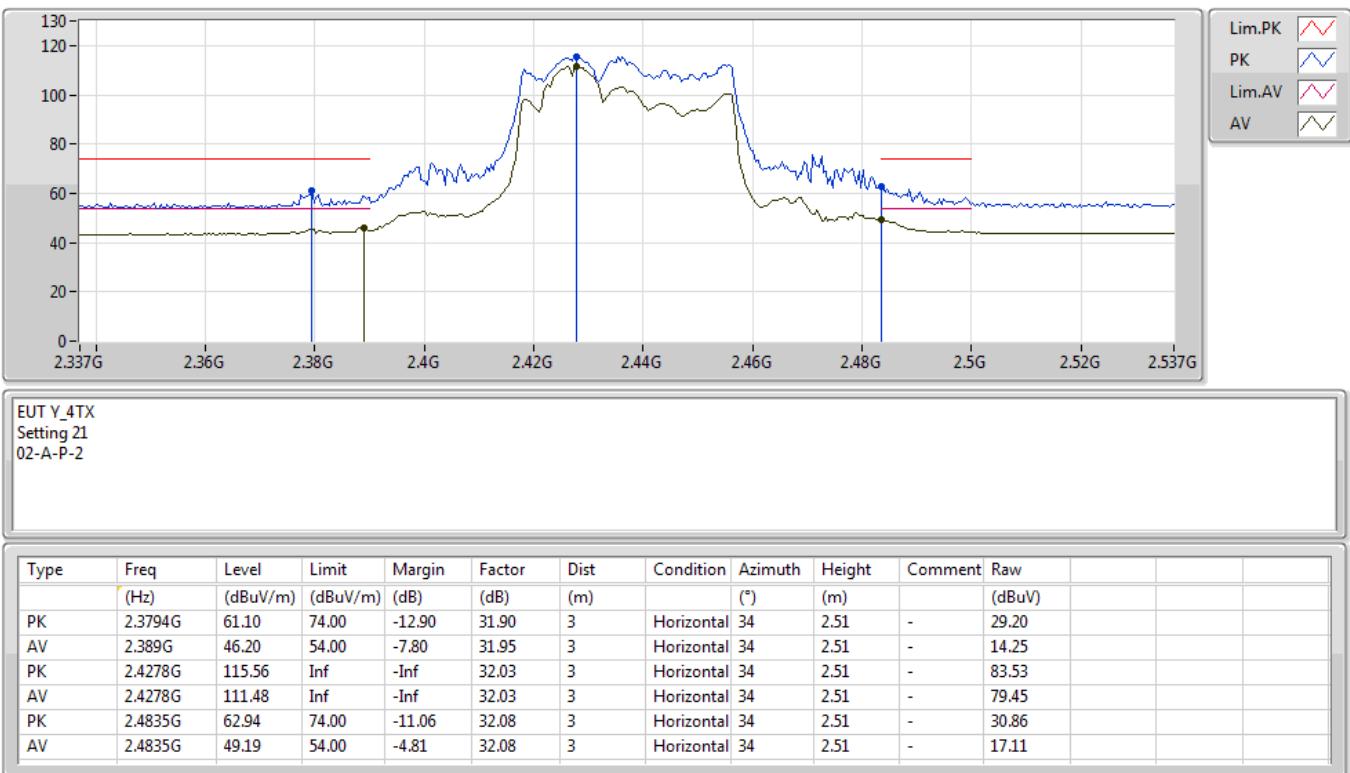
2437MHz_TX


EUT Y_4TX
Setting 21
02-A-P-2

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3778G | 59.40 | 74.00 | -14.60 | 31.89 | 3 | Vertical | 20 | 1.53 | - | 27.51 | | | |
| AV | 2.3886G | 46.78 | 54.00 | -7.22 | 31.94 | 3 | Vertical | 20 | 1.53 | - | 14.84 | | | |
| PK | 2.4382G | 114.97 | Inf | -Inf | 32.04 | 3 | Vertical | 20 | 1.53 | - | 82.93 | | | |
| AV | 2.4278G | 110.64 | Inf | -Inf | 32.03 | 3 | Vertical | 20 | 1.53 | - | 78.61 | | | |
| PK | 2.4846G | 60.65 | 74.00 | -13.35 | 32.08 | 3 | Vertical | 20 | 1.53 | - | 28.57 | | | |
| AV | 2.4835G | 47.45 | 54.00 | -6.55 | 32.08 | 3 | Vertical | 20 | 1.53 | - | 15.37 | | | |

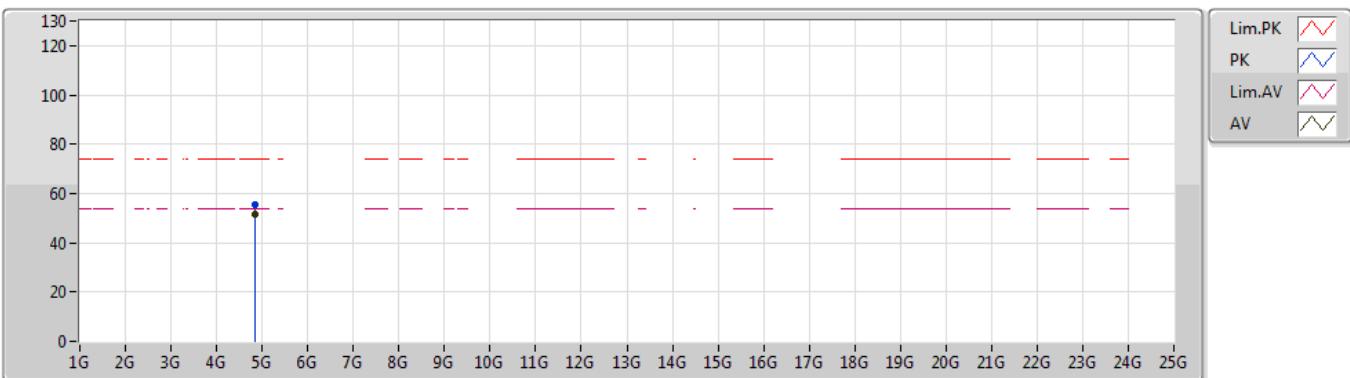
802.11ax HEW40-BF_Nss1,(MCS0)_4TX

06/01/2020

2437MHz_TX


**802.11ax HEW40-BF_Nss1,(MCS0)_4TX**

06/01/2020

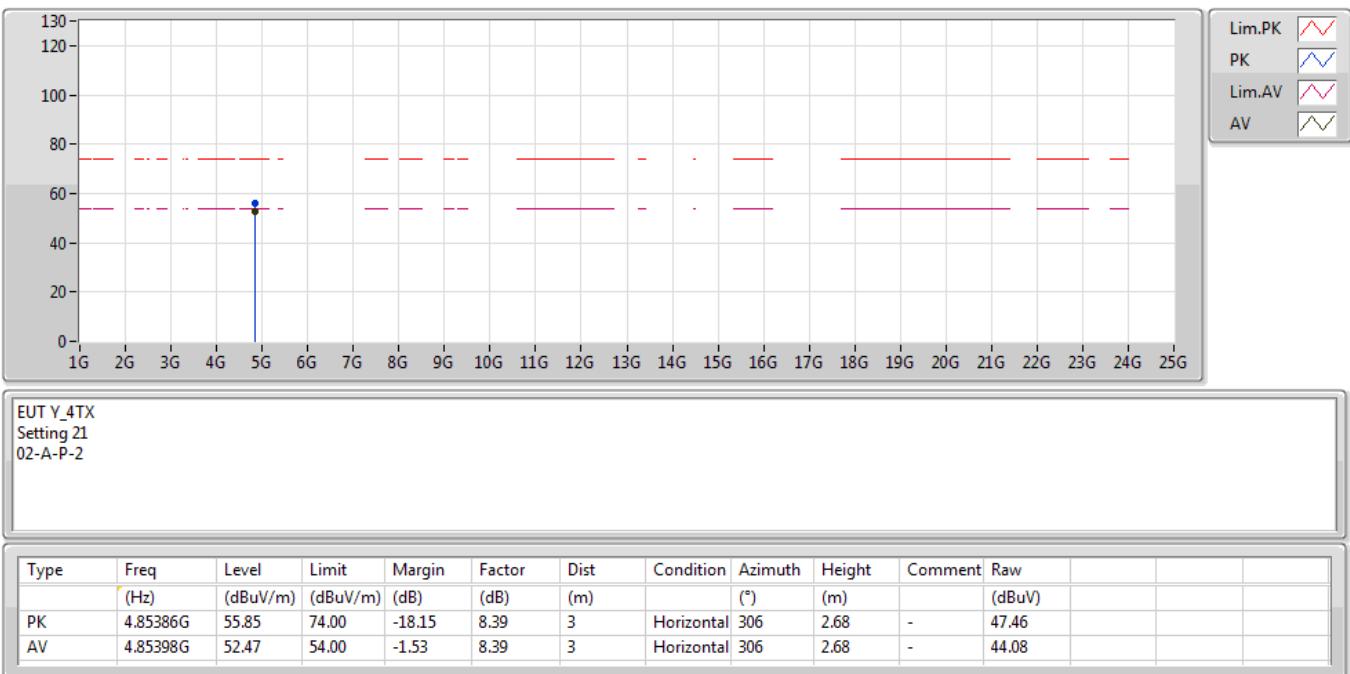
2437MHz_TX

EUT Y_4TX
Setting 21
02-A-P-2

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (*) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|
| PK | 4.85408G | 55.42 | 74.00 | -18.58 | 8.39 | 3 | Vertical | 19 | 2.50 | - | 47.03 | | | |
| AV | 4.854G | 51.56 | 54.00 | -2.44 | 8.39 | 3 | Vertical | 19 | 2.50 | - | 43.17 | | | |

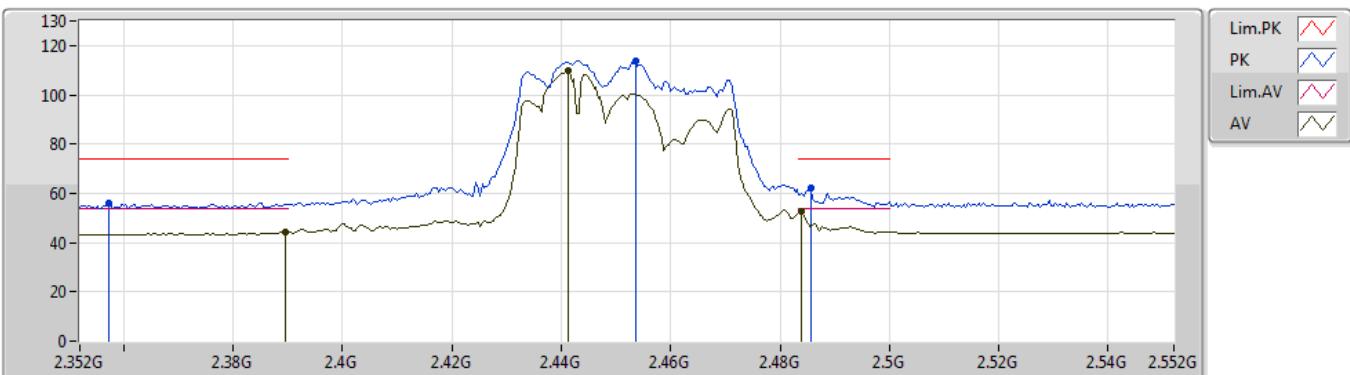
**802.11ax HEW40-BF_Nss1,(MCS0)_4TX**

06/01/2020

2437MHz_TX

**802.11ax HEW40-BF_Nss1,(MCS0)_4TX**

06/01/2020

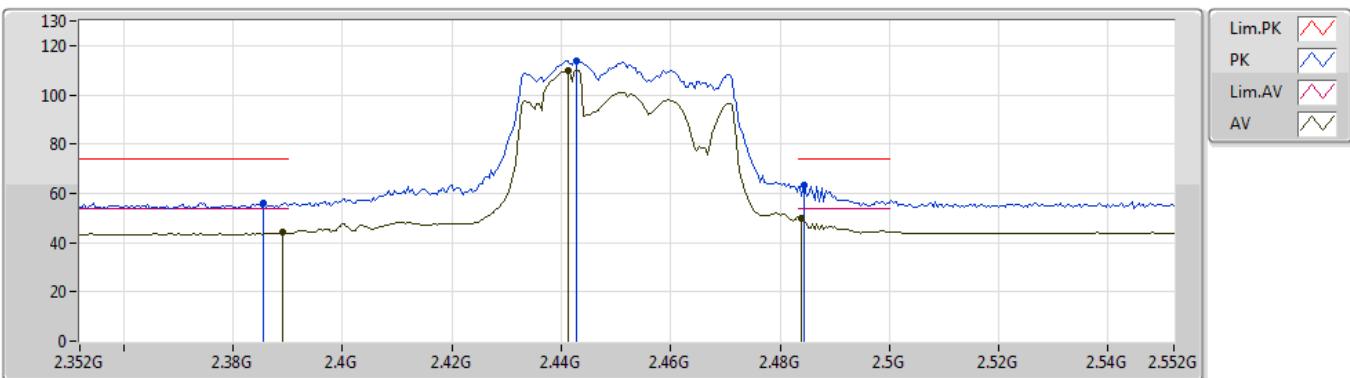
2452MHz_TX

EUT Y_4TX
Setting 19
02-A-P-2

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|-----------|-------------|------------|---------|------------|--|--|--|--|
| PK | 2.3572G | 56.30 | 74.00 | -17.70 | 31.79 | 3 | Vertical | 21 | 1.34 | - | 24.51 | | | | |
| AV | 2.3896G | 44.22 | 54.00 | -9.78 | 31.95 | 3 | Vertical | 21 | 1.34 | - | 12.27 | | | | |
| PK | 2.4536G | 113.70 | Inf | -Inf | 32.05 | 3 | Vertical | 21 | 1.34 | - | 81.65 | | | | |
| AV | 2.4412G | 109.76 | Inf | -Inf | 32.04 | 3 | Vertical | 21 | 1.34 | - | 77.72 | | | | |
| PK | 2.4856G | 62.42 | 74.00 | -11.58 | 32.09 | 3 | Vertical | 21 | 1.34 | - | 30.33 | | | | |
| AV | 2.484G | 52.46 | 54.00 | -1.54 | 32.08 | 3 | Vertical | 21 | 1.34 | - | 20.38 | | | | |

802.11ax HEW40-BF_Nss1,(MCS0)_4TX

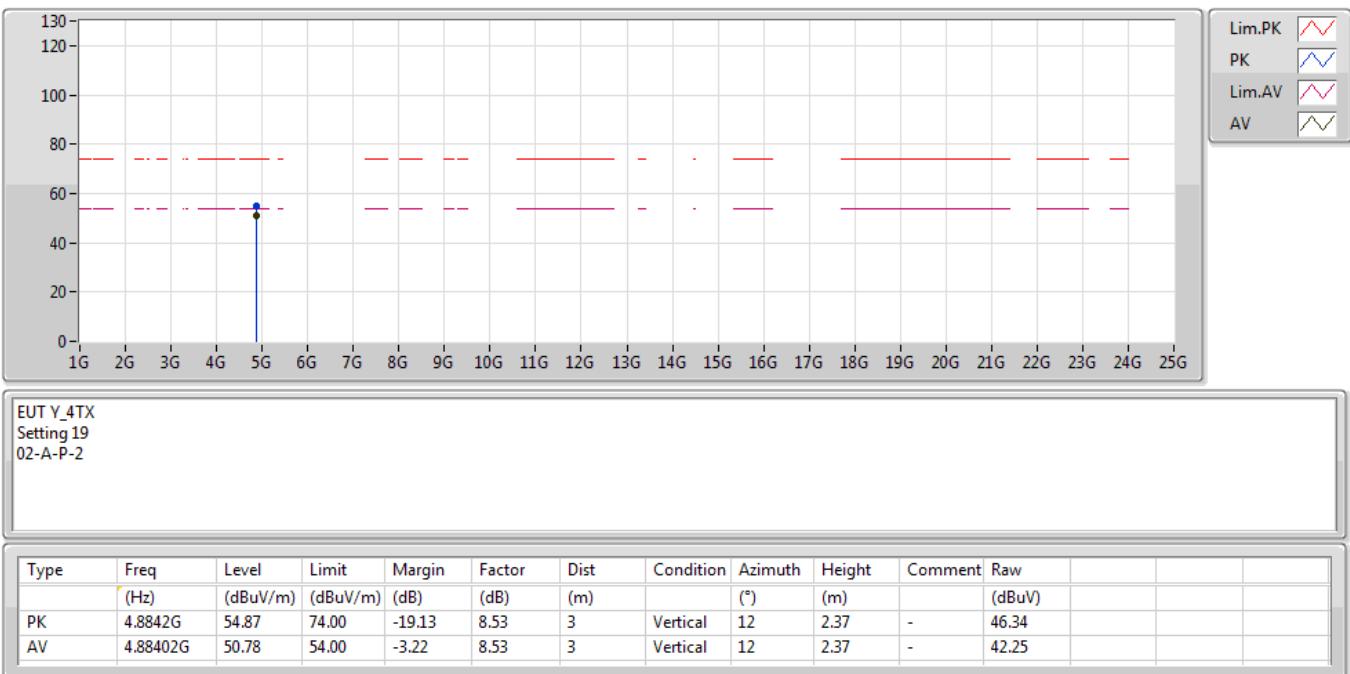
06/01/2020

2452MHz_TX

 EUT Y_4TX
 Setting 19
 02-A-P-2

| Type | Freq (Hz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Factor (dB) | Dist (m) | Condition | Azimuth (°) | Height (m) | Comment | Raw (dBuV) | | | |
|------|-----------|----------------|----------------|-------------|-------------|----------|------------|-------------|------------|---------|------------|--|--|--|
| PK | 2.3856G | 56.30 | 74.00 | -17.70 | 31.93 | 3 | Horizontal | 39 | 2.52 | - | 24.37 | | | |
| AV | 2.3892G | 44.14 | 54.00 | -9.86 | 31.95 | 3 | Horizontal | 39 | 2.52 | - | 12.19 | | | |
| PK | 2.4428G | 113.80 | Inf | -Inf | 32.04 | 3 | Horizontal | 39 | 2.52 | - | 81.76 | | | |
| AV | 2.4412G | 110.10 | Inf | -Inf | 32.04 | 3 | Horizontal | 39 | 2.52 | - | 78.06 | | | |
| PK | 2.4844G | 63.43 | 74.00 | -10.57 | 32.08 | 3 | Horizontal | 39 | 2.52 | - | 31.35 | | | |
| AV | 2.484G | 50.09 | 54.00 | -3.91 | 32.08 | 3 | Horizontal | 39 | 2.52 | - | 18.01 | | | |

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2452MHz_TX