# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| FCC ID | : | Q87-03418 |
| Equipment | : | LINKSYS E2500 N600 Dual-Band WIFI ROUTER,<br>LINKSYS E5350 AC1000 Dual-Band WIFI ROUTER,<br>LINKSYS E5400 AC1200 Dual-Band WIFI ROUTER,<br>LINKSYS E5300 AC750 Dual-Band WIFI ROUTER |
| Brand Name | : | LINKSYS |
| Model Name | : | E2500 V4, E5350, E5400, E5300 |
| Applicant | : | Linksys LLC<br>121 Theory, Irvine CA 92617, United States |
| Standard | : | 47 CFR FCC Part 15.247 |

The product was received on Oct. 31, 2018, and testing was started from Oct. 31, 2018 and completed on Dec. 27, 2018. 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: Sam Chen

*SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory*
*No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)*

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**Appendix H. Test Photos**

**Photographs of EUT v01**

# History of this test report

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR8N1905AA | 01 | Initial issue of report | Jan. 25, 2019 |
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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:** |
| 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: Sandy Chuang**

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

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

| Band | Mode | BWch (MHz) | Nant |
|---|---|---|---|
| 2.4-2.4835GHz | 802.11b | 20 | 2TX |
| 2.4-2.4835GHz | 802.11g | 20 | 2TX |
| 2.4-2.4835GHz | 802.11n HT20 | 20 | 2TX |
| 2.4-2.4835GHz | 802.11n HT40 | 40 | 2TX |

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.
- 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.

### 1.1.2 Antenna Information

| Ant. | Brand | P/N | Antenna Type | Connector | Gain (dBi) | |
|---|---|---|---|---|---|---|
| | | | | | 2.4Gz | 5GHz |
| 1 | FIT | 4TS4009-A0001-JH | Dipole Antenna | I-PEX | 2.52 | 3.37 |
| 2 | FIT | 4TS4009-A0002JH | Dipole Antenna | I-PEX | 2.53 | 3.28 |

Note1: The above information was declared by manufacturer.

Note2: The EUT has two antennas.

**For WLAN 2.4GHz (2TX/2RX):**

Ant. 1 (Port 1) and Ant. 2 (Port 2) could transmit/receive simultaneously.

**For WLAN 5GHz (2TX/2RX):**

Ant. 1 (Port 1) and Ant. 2 (Port 2) could transmit/receive simultaneously.

### 1.1.3 Mode Test Duty Cycle

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) ≥ 1/T |
|---|---|---|---|---|
| 802.11b | 0.981 | 0.083 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11g | 0.941 | 0.264 | 1.397m | 1k |
| 802.11n HT20 | 0.923 | 0.348 | 1.309m | 1k |
| 802.11n HT40 | 0.85 | 0.706 | 650u | 3k |

### 1.1.4 EUT Operational Condition

| | | | | |
|---|---|---|---|---|
| **EUT Power Type** | From Power Adapter | | | |
| **Beamforming Function** | ☒ | With beamforming for 802.11a/n/ac in 5GHz | ☐ | Without beamforming |
| **Function** | ☒ | Point-to-multipoint | ☐ | Point-to-point |
| **Test Software Version** | QATool_0.0.1.85 | | | |

Note: The above information was declared by manufacturer.

### 1.1.5 Table for Multiple Listing

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

| Item | Equipment Name | Model Name |
|---|---|---|
| 1 | LINKSYS E2500 N600 Dual-Band WIFI ROUTER | E2500 V4 |
| 2 | LINKSYS E5350 AC1000 Dual-Band WIFI ROUTER | E5350 |
| 3 | LINKSYS E5400 AC1200 Dual-Band WIFI ROUTER | E5400 |
| 4 | LINKSYS E5300 AC750 Dual-Band WIFI ROUTER | E5300 |

| Item | Radio Type | | | | | Description |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n | 802.11a | 802.11ac | |
| 1 | V | V | V | V | X | The difference equipment and model name served as marketing strategy and supporting radio type. |
| 2 | V | V | V | V | V | |
| 3 | V | V | V | V | V | |
| 4 | V | V | V | V | V | |

From the above models, model: E5400 is the highest speed of this series and include all functions and standard, so it was selected as representative model for the test and its data was recorded in this report.

## 1.2 Testing Applied 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 v05
- FCC KDB 662911 D01 v02r01

## 1.3 Testing Location Information

| Testing Location | | | | | | | |
|---|---|---|---|---|---|---|---|
| ☐ | 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 |
| ☒ | 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 | Remark |
|---|---|---|---|---|---|
| RF Conducted | TH01-CB | Paul Chen | 22°C / 64% | Nov. 23, 2018~ Dec. 04, 2018 | - |
| Radiated | 03CH01-CB (Below 1GHz) | Cola Fan | 22°C / 54% | Dec. 01, 2018 | - |
| | 03CH01-CB (Above1GHz) | Stim Sung | 22°C / 54% | Oct. 31, 2018~ Dec. 01, 2018 | - |
| AC Conduction | CO01-CB | Peter Wu | 23°C / 59% | Dec. 24, 2018 | Adapter 1 |
| | | | | Dec. 27, 2018 | Adapter 2 |

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) | 3.6 dB | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz) | 3.7 dB | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz) | 3.5 dB | Confidence levels of 95% |
| Conducted Emission | 1.7 dB | Confidence levels of 95% |
| Output Power Measurement | 1.33 dB | Confidence levels of 95% |
| Power Density Measurement | 1.27 dB | Confidence levels of 95% |
| Bandwidth Measurement | $9.74 \times 10^{-8}$ | Confidence levels of 95% |

# 2 Test Configuration of EUT

## 2.1 Test Channel Mode

| Mode | PowerSetting |
|---|---|
| 802.11b_Nss1,(1Mbps)_2TX | - |
| 2412MHz | 21 |
| 2417MHz | 24 |
| 2422MHz | 24 |
| 2427MHz | 25 |
| 2437MHz | 25 |
| 2442MHz | 25 |
| 2447MHz | 24 |
| 2452MHz | 24 |
| 2457MHz | 23 |
| 2462MHz | 23 |
| 802.11g_Nss1,(6Mbps)_2TX | - |
| 2412MHz | 1A |
| 2417MHz | 2F |
| 2437MHz | 2F |
| 2452MHz | 2F |
| 2457MHz | 22 |
| 2462MHz | 1B |
| 802.11n HT20_Nss1,(MCS0)_2TX | - |
| 2412MHz | 18 |
| 2417MHz | 21 |
| 2422MHz | 2F |
| 2437MHz | 2F |
| 2447MHz | 2F |
| 2452MHz | 22 |
| 2457MHz | 1F |
| 2462MHz | 17 |
| 802.11n HT40_Nss1,(MCS0)_2TX | - |
| 2422MHz | 13 |
| 2427MHz | 16 |
| 2432MHz | 1A |
| 2437MHz | 1D |
| 2442MHz | 1A |
| 2447MHz | 17 |
| 2452MHz | 14 |

## 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 | EUT with Adapter 1 |
| 2 | EUT with Adapter 2 |
| 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<br>Maximum Conducted Output Power<br>Power Spectral Density<br>Emissions in Non-restricted Frequency Bands |
| **Test Condition** | Conducted measurement at transmit chains |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Emissions in Restricted Frequency Bands |
| **Test Condition** | Radiated measurement<br>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 |
| The EUT can be placed in Y-axis and Z-axis. After evaluating, “Z axis” generated the worst test result, So the measurement will follow this same test configuration. | |
| 1 | Place EUT in Z axis with Adapter 1 |
| 2 | Place EUT in Z axis with Adapter 2 |
| For operating mode 2 is the worst case and it was record in this test report. | |
| **Operating Mode > 1GHz** | CTX |
| The EUT can be placed in Y-axis and Z-axis. After evaluating, “Y axis” generated the worst test result, So the measurement will follow this same test configuration. | |
| 1 | Place EUT in Y axis |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Simultaneous Transmission Analysis - Radiated Emission Co-location |
| **Test Condition** | Radiated measurement |
| **Operating Mode** | Normal Link |
| The EUT can be placed in Y-axis and Z-axis. After evaluating, “Z axis” generated the worst test result, So the measurement will follow this same test configuration. | |
| 1 | Place EUT in Z axis with WLAN 2.4GHz+ WLAN 5GHz |
| Refer to Appendix G for Radiated Emission Co-location. | |

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation |
| **Operating Mode** | |
| 1 | WLAN 2.4GHz+ WLAN 5GHz |
| Refer to Sporton Test Report No.: FA8N1905 for Co-location RF Exposure Evaluation. | |

## 2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

## 2.4 Accessories

| Accessories | | | | |
|---|---|---|---|---|
| **No.** | **Equipment Name** | **Brand Name** | **Model Name** | **Rating** |
| 1 | Adapter | LEI | MU06AY120050-A1 | INPUT: 100-240V~, 50/60Hz, 0.2A<br>OUTPUT: 12V, 0.5A |
| 2 | Adapter | Ktec | KSAS0051200050VUD | INPUT: 100-240V~50/60Hz, 0.18A<br>OUTPUT: 12V, 0.5A |
| **Other** | | | | |
| RJ-45 cable*1, Non-shielded, 0.88m | | | | |

## 2.5 Support Equipment

**For Test Site No: CO01-CB**

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| A | LAN NB | DELL | E6430 | N/A |
| B | WAN NB | DELL | E6430 | N/A |
| C | 2.4G NB | DELL | E6430 | N/A |
| D | 5G NB | DELL | E6430 | N/A |

**For Test Site No: 03CH01-CB (below 1GHz)**

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

**For Test Site No: 03CH01-CB (above 1GHz)**

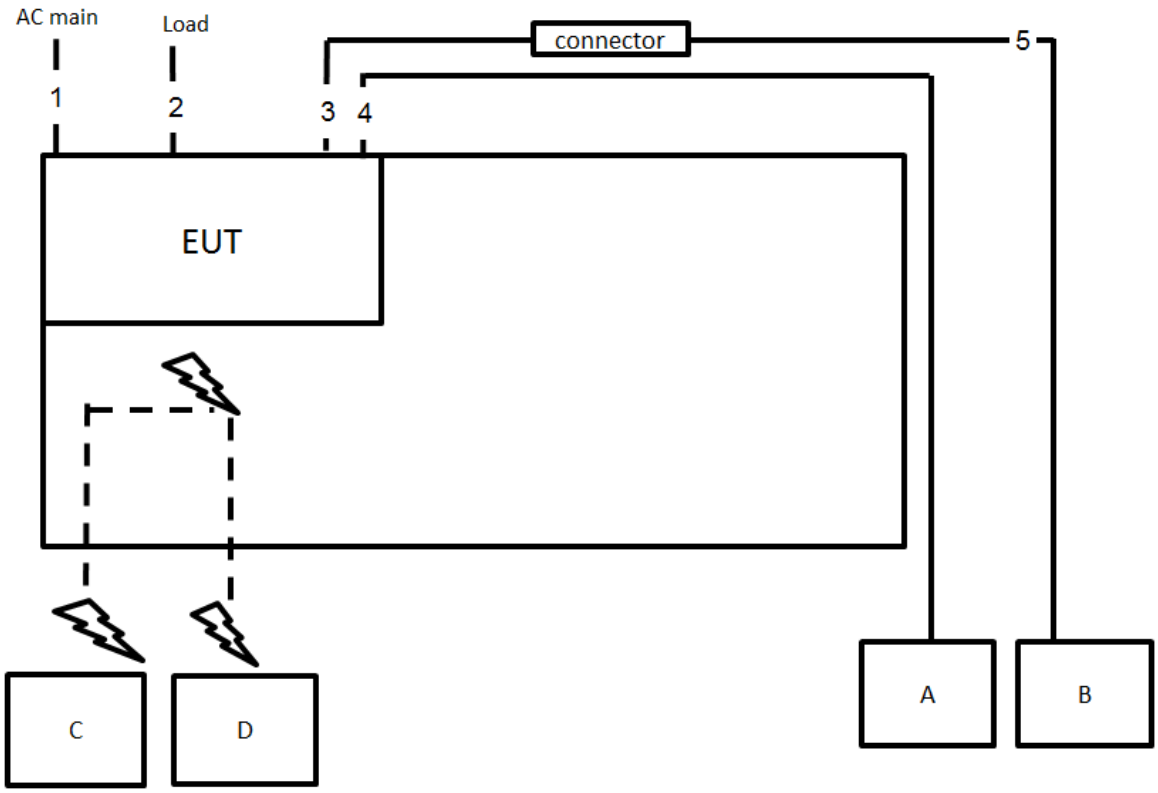
| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| A | NB | DELL | E4300 | N/A |

**For Test Site No: TH01-CB**

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

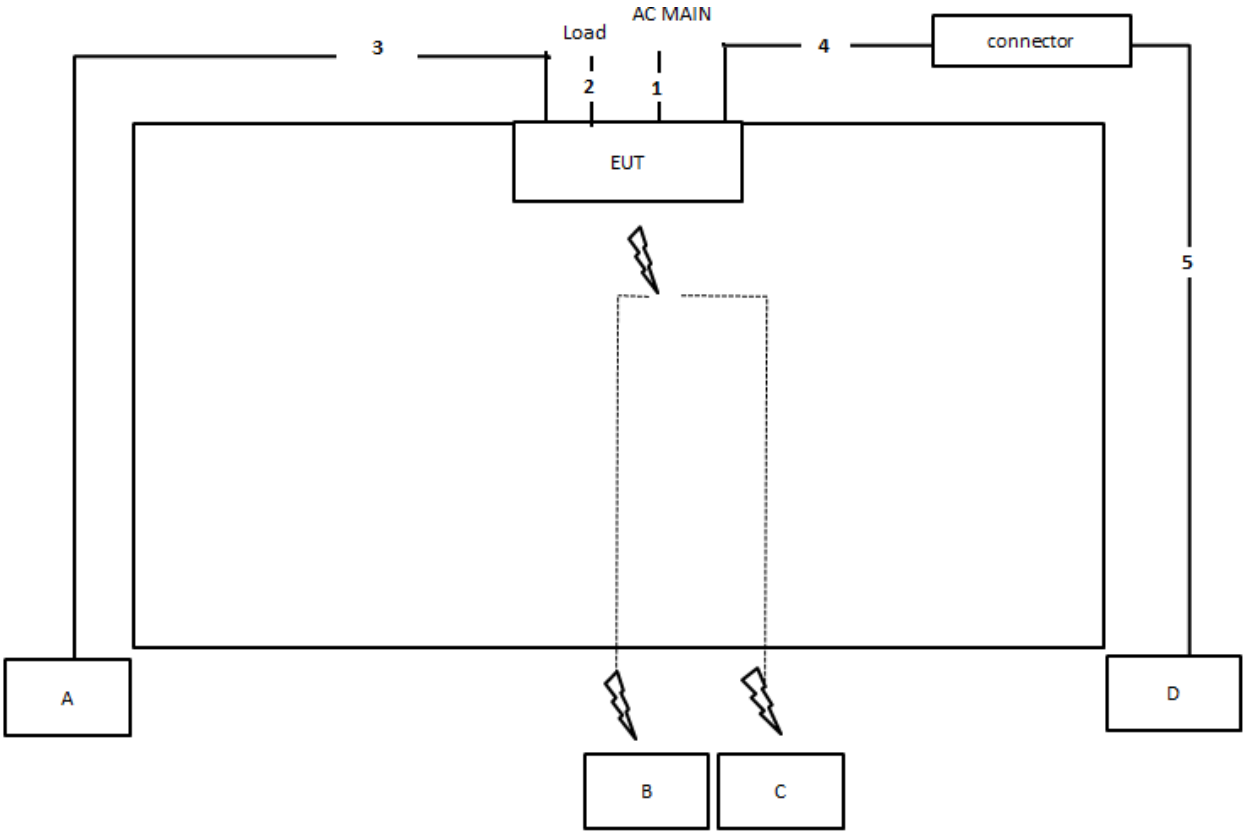
## 2.6 Test Setup Diagram

**Test Setup Diagram – AC Line Conducted Emission Test**



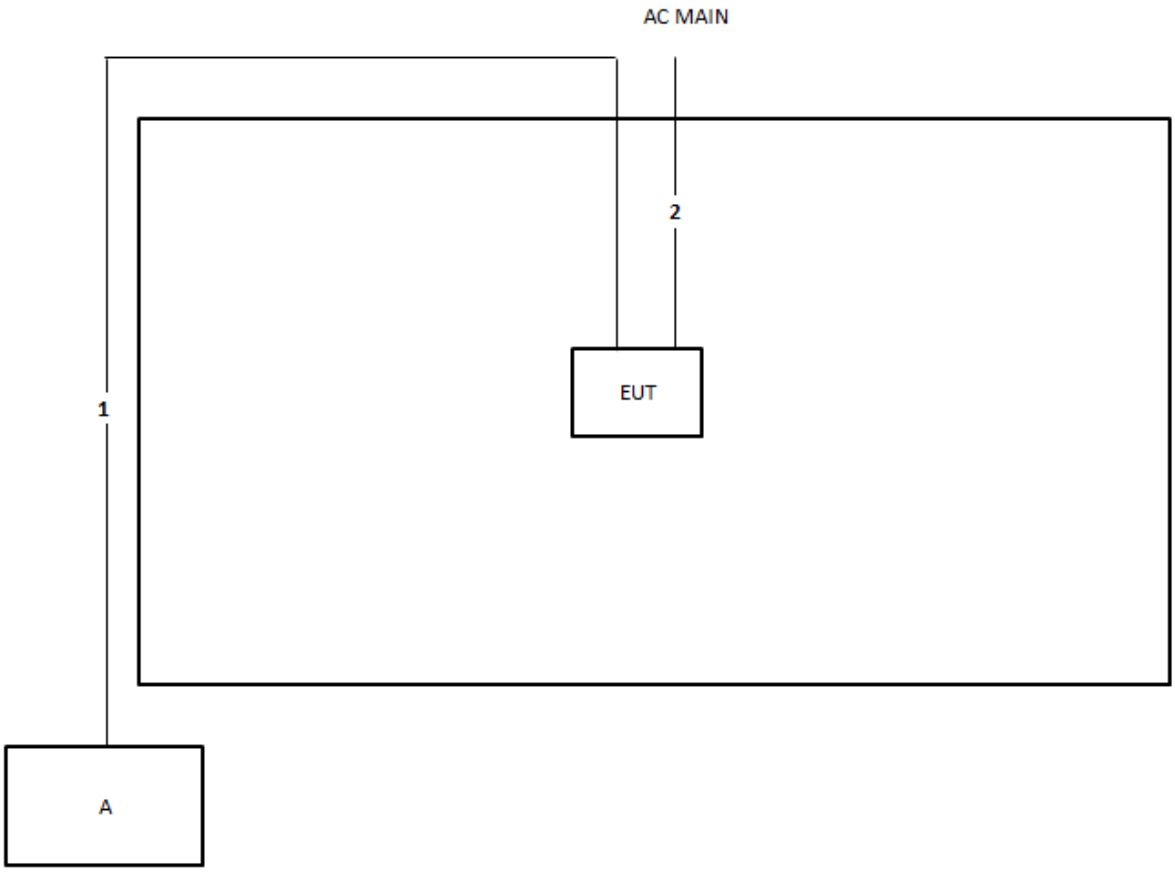

| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | Power cable | No | 1.5m |
| 2 | RJ-45 cable*3 | No | 1.5m |
| 3 | RJ-45 cable | No | 0.88m |
| 4 | RJ-45 cable | No | 10m |
| 5 | RJ-45 cable | No | 10m |

**Test Setup Diagram - Radiated Test < 1GHz**




| Item | Connection | Shielded | Length |
|---|---|---|---|
| 1 | Power cable | No | 1.5m |
| 2 | RJ-45 cable*3 | No | 1.5m |
| 3 | RJ-45 cable | No | 10m |
| 4 | RJ-45 cable | No | 0.88m |
| 5 | RJ-45 cable | No | 10m |

**Test Setup Diagram - Radiated Test > 1GHz**




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

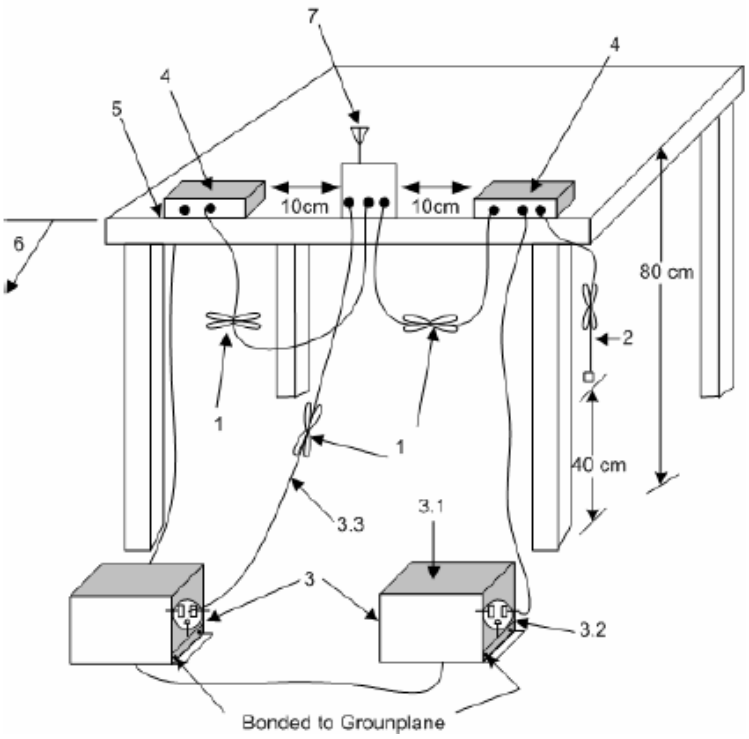
Refer a test equipment and calibration data table in this test report.

### 3.1.3 Test Procedures

| Test Method |
|---|
| ☒ 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 50 Ω 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 ≥ 500 kHz. |

### 3.2.2 Measuring Instruments

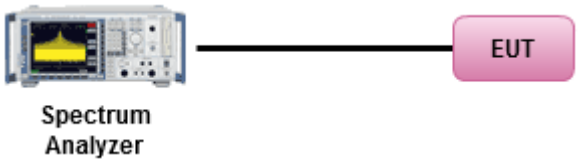
Refer a test equipment and calibration data table in this test report.

### 3.2.3 Test Procedures

| Test Method | |
|---|---|
| ▪ For the emission bandwidth shall be measured using one of the options below: | |
| | ☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement. |
| | ☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement. |
| | ☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing. |

### 3.2.4 Test Setup

**Emission Bandwidth**




### 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 | | |
|---|---|---|
| | ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W) | |
| | ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm | |
| | ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm | |
| | ▪ Smart antenna system (SAS): | |
| | | - 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 $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm |
| **$P_{Out}$** = maximum peak conducted output power or maximum conducted output power in dBm,<br>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | | |

### 3.3.2 Measuring Instruments

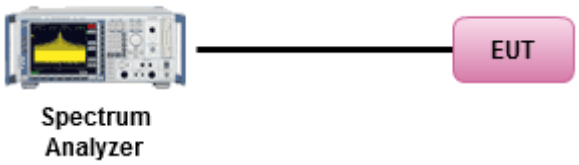
Refer a test equipment and calibration data table in this test report.

### 3.3.3 Test Procedures

| Test Method | |
|---|---|
| ▪ Maximum Peak Conducted Output Power | |
| | ☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method). |
| | ☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter). |
| ▪ Maximum Conducted Output Power | |
| | [duty cycle ≥ 98% or external video / power trigger] |
| | ☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1. |
| | ☐ 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 |
| | ☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2. |
| | ☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative) |
| | ☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3 |
| | ☐ 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) |
| | ☒ 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). |
| | ☐ 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. | |
| | ▪ If the EUT supports multiple transmit chains using options given below:<br>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:<br>$P_{total} = P_1 + P_2 + \ldots + P_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = P_{total} + DG$ |

### 3.3.4 Test Setup

**Maximum Conducted Output Power (Spectrum Analyzer)**




### 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) ≤ 8 dBm/3kHz |

## 3.4.2 Measuring Instruments

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

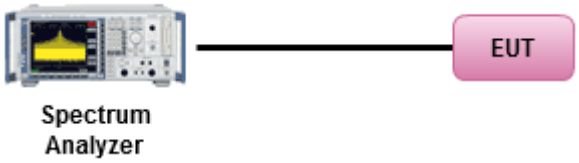
## 3.4.3 Test Procedures

| 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). | | |
| | ☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD. | |
| | [duty cycle ≥ 98% or external video / power trigger] | |
| | ☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1. | |
| | ☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2. | |
| | ☐ 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 | |
| | ☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A. (alternative). | |
| | ☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A. (alternative) | |
| | ☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A. (alternative) | |
| ▪ For conducted measurement. | | |
| | ▪ If The EUT supports multiple transmit chains using options given below: | |
| | | ☒ 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. |
| | | ☐ 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

**Power Spectral Density**




### 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 (dB)** |
| 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

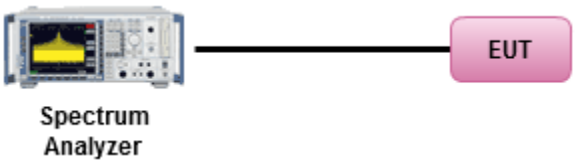
Refer a test equipment and calibration data table in this test report.

## 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

**Emissions in Non-restricted Frequency Bands**




## 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.

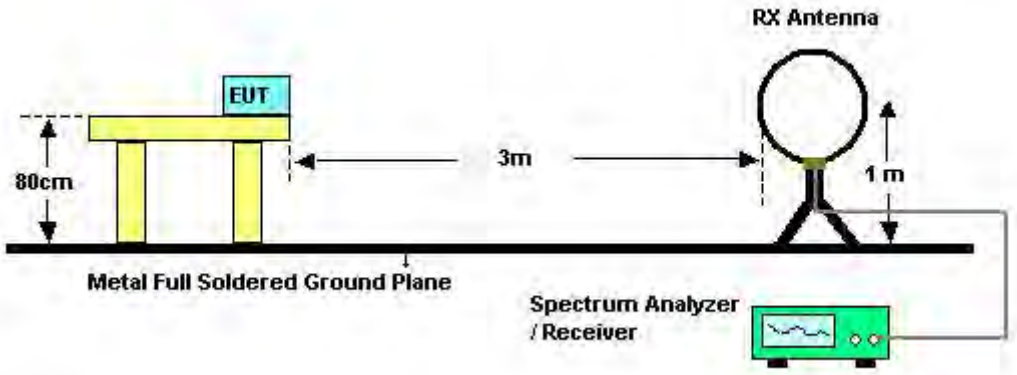
### 3.6.3 Test Procedures

| Test Method | | | |
|---|---|---|---|
| ▪ The average emission levels shall be measured in [duty cycle ≥ 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. | | |
| | | ☐ | Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%). |
| | | ☐ | Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor). |
| | | ☒ | Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T). |
| | | ☐ | Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time. |
| | | ☐ | Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions. |
| | | ☒ | 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).<br>Devices with multiple transmit chains using options given below:<br>(1) Measure and sum the spectra across the outputs or<br>(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. | | |

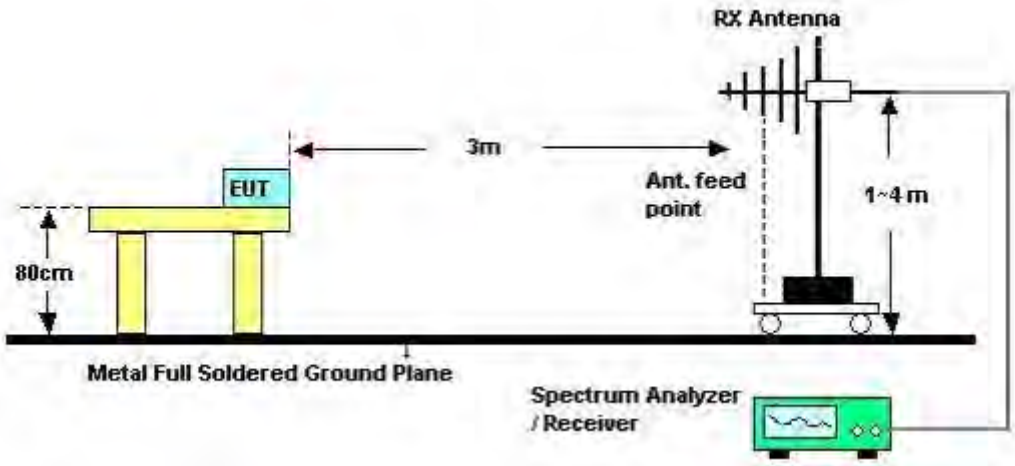
### 3.6.4 Test Setup

**Radiated - Emissions in Restricted Frequency Bands**

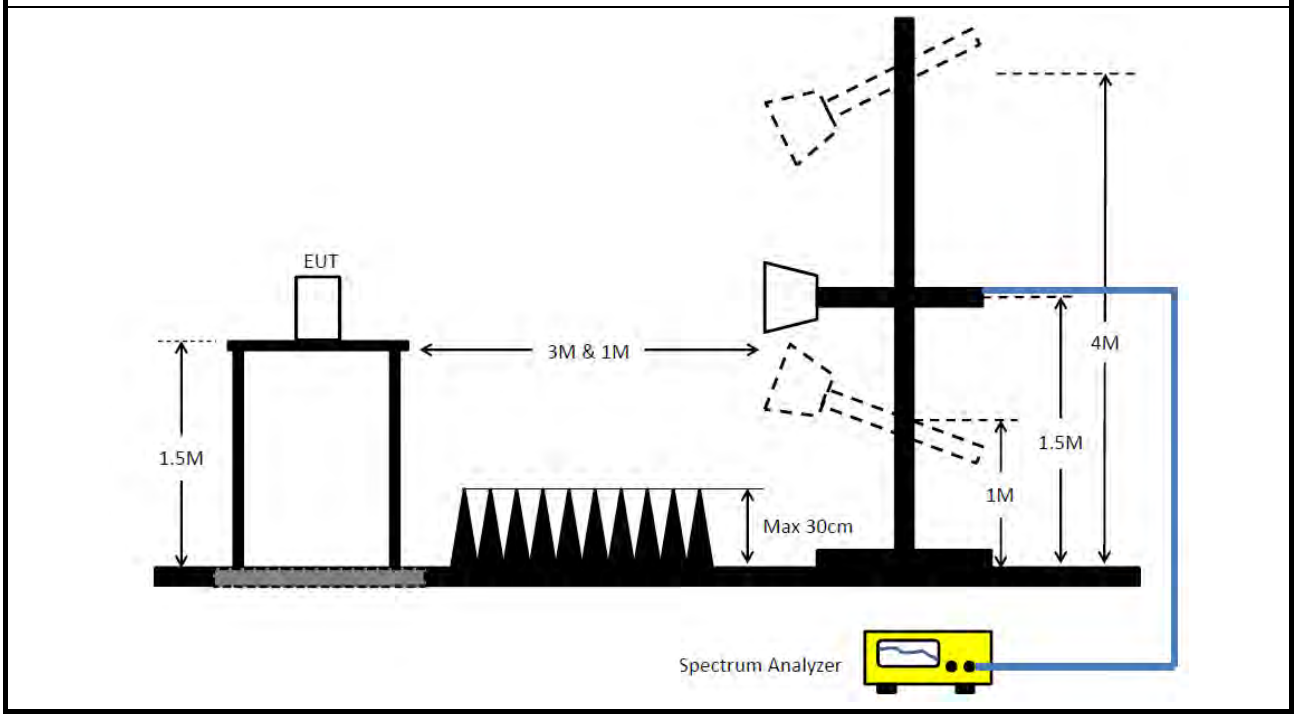
**9kHz ~30MHz**




**30MHz~1GHz**



**Above 1GHz**




### 3.6.5 Emissions in Restricted Frequency Bands (Below 30MHz)

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.

### 3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

# 4 Test Equipment and Calibration Data

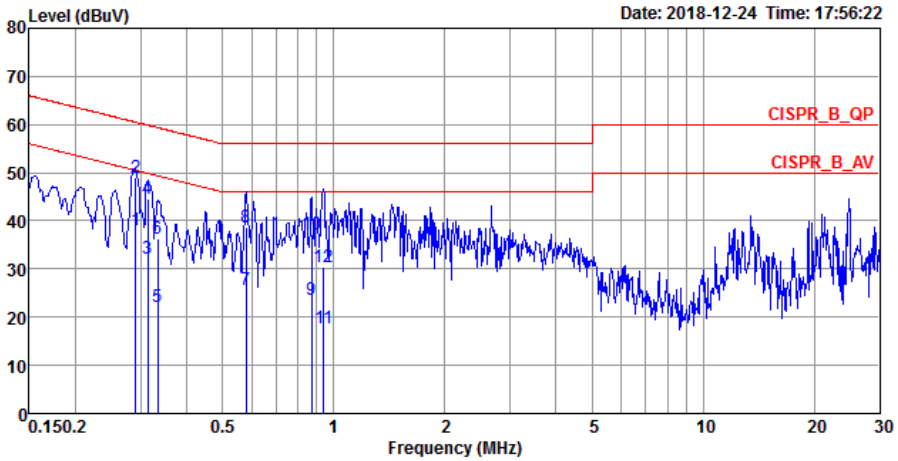
| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|---|---|---|---|---|---|---|---|
| EMI Receiver | Agilent | N9038A | My52260123 | 9kHz ~ 8.45GHz | Jan. 31, 2018 | Jan. 30, 2019 | Conduction (CO01-CB) |
| LISN | F.C.C. | FCC-LISN-50-16-2 | 04083 | 150kHz ~ 100MHz | Dec. 24, 2018 | Dec. 23, 2019 | Conduction (CO01-CB) |
| LISN | Schwarzbeck | NSLK 8127 | 8127478 | 9kHz ~ 30MHz | Nov. 05, 2018 | Nov. 04, 2019 | Conduction (CO01-CB) |
| COND Cable | Woken | Cable | Low cable-CO01 | 150kHz ~ 30MHz | May 22, 2018 | May 21, 2019 | Conduction (CO01-CB) |
| Software | Audix | E3 | 6.120210n | - | N.C.R. | N.C.R. | Conduction (CO01-CB) |
| BILOG ANTENNA with 6dB Attenuator | TESEQ & EMCI | CBL6112D & N-6-06 | 37880 & AT-N0609 | 20MHz ~ 2GHz | Aug. 27, 2018 | Aug. 26, 2019 | Radiation (03CH01-CB) |
| Loop Antenna | Teseq | HLA 6120 | 24155 | 9kHz - 30 MHz | Mar. 16, 2018 | Mar. 15, 2019 | Radiation (03CH01-CB) |
| Horn Antenna | EMCO | 3115 | 9610-4976 | 1GHz ~ 18GHz | Apr. 25, 2018 | Apr. 24, 2019 | Radiation (03CH01-CB) |
| Horn Antenna | Schwarzbeck | BBHA 9170 | BBHA9170252 | 15GHz ~ 40GHz | Jun. 28, 2018 | Jun. 27, 2019 | Radiation (03CH01-CB) |
| Pre-Amplifier | EMCI | EMC330N | 980332 | 20MHz ~ 3GHz | May 02, 2018 | May 01, 2019 | Radiation (03CH01-CB) |
| Pre-Amplifier | Agilent | 8449B | 3008A02310 | 1GHz ~ 26.5GHz | Jan. 09, 2018 | Jan. 08, 2019 | Radiation (03CH01-CB) |
| Pre-Amplifier | MITEQ | TTA1840-35-HG | 1864479 | 18GHz ~ 40GHz | Jul. 04, 2018 | Jul. 03, 2019 | Radiation (03CH01-CB) |
| Spectrum analyzer | R&S | FSP40 | 100080 | 9kHz~40GHz | Oct. 03, 2018 | Oct. 02, 2019 | Radiation (03CH01-CB) |
| EMI Test Receiver | R&S | ESCS | 100359 | 9kHz ~ 2.75GHz | Jul. 03, 2018 | Jul. 02, 2019 | Radiation (03CH01-CB) |
| RF Cable-low | Woken | Low Cable-16+17 | N/A | 30 MHz ~ 1 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16 | N/A | 1 GHz ~ 18 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16+17 | N/A | 1 GHz ~ 18 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G#1 | N/A | 18GHz ~ 40 GHz | Jul. 27, 2018 | Jul. 26, 2019 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G#2 | N/A | 18GHz ~ 40 GHz | Jul. 27, 2018 | Jul. 26, 2019 | Radiation (03CH01-CB) |
| Test Software | Audix | E3 | 6.2009-l0-7 | N/A | N/A | N/A | Radiation (03CH01-CB) |
| Spectrum analyzer | R&S | FSV40 | 100979 | 9kHz~40GHz | Dec. 21, 2017 | Dec. 20, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-06 | 1 GHz – 26.5 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Conducted (TH01-CB) |

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|---|---|---|---|---|---|---|---|
| RF Cable-high | Woken | RG402 | High Cable-07 | 1 GHz –26.5 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-08 | 1 GHz –26.5 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-09 | 1 GHz –26.5 GHz | Oct. 08, 2018 | Oct. 07, 2019 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz –26.5 GHz | Oct. 08, 2018 | Oct. 07, 2019 | 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) |

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

NCR means Non-Calibration required.

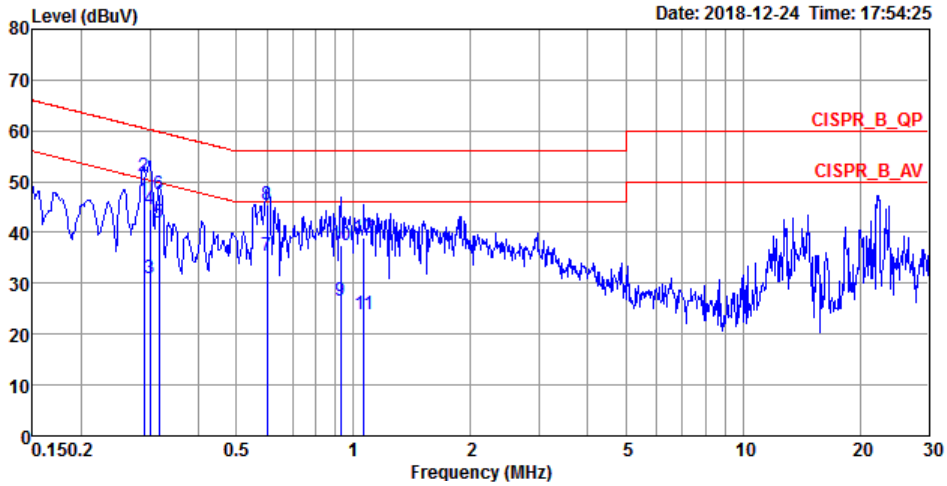
| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Power Phase** | Line |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | | |
| 1 | 0.2909 | 37.94 | -12.56 | 50.50 | 37.77 | 0.04 | 0.13 | Average | LINE |
| 2 | 0.2909 | 48.99 | -11.51 | 60.50 | 48.82 | 0.04 | 0.13 | QP | LINE |
| 3 | 0.3133 | 32.22 | -17.66 | 49.88 | 32.05 | 0.04 | 0.13 | Average | LINE |
| 4 | 0.3133 | 44.69 | -15.19 | 59.88 | 44.52 | 0.04 | 0.13 | QP | LINE |
| 5 | 0.3338 | 22.18 | -27.17 | 49.35 | 22.01 | 0.04 | 0.13 | Average | LINE |
| 6 | 0.3338 | 36.31 | -23.04 | 59.35 | 36.14 | 0.04 | 0.13 | QP | LINE |
| 7 | 0.5792 | 25.81 | -20.19 | 46.00 | 25.61 | 0.05 | 0.15 | Average | LINE |
| 8 | 0.5792 | 38.60 | -17.40 | 56.00 | 38.40 | 0.05 | 0.15 | QP | LINE |
| 9 | 0.8710 | 23.50 | -22.50 | 46.00 | 23.25 | 0.06 | 0.19 | Average | LINE |
| 10 | 0.8710 | 37.16 | -18.84 | 56.00 | 36.91 | 0.06 | 0.19 | QP | LINE |
| 11 | 0.9381 | 17.76 | -28.24 | 46.00 | 17.51 | 0.06 | 0.19 | Average | LINE |
| 12 | 0.9381 | 30.55 | -25.45 | 56.00 | 30.30 | 0.06 | 0.19 | QP | LINE |

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.)

| AC Power-line Conducted Emissions Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Power Phase** | Neutral |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | | |
| 1 | 0.2893 | 46.21 | -4.33 | 50.54 | 46.03 | 0.05 | 0.13 | Average | NEUTRAL |
| 2 | 0.2893 | 51.19 | -9.35 | 60.54 | 51.01 | 0.05 | 0.13 | QP | NEUTRAL |
| 3 | 0.3003 | 30.88 | -19.36 | 50.24 | 30.70 | 0.05 | 0.13 | Average | NEUTRAL |
| 4 | 0.3003 | 44.48 | -15.76 | 60.24 | 44.30 | 0.05 | 0.13 | QP | NEUTRAL |
| 5 | 0.3166 | 41.99 | -7.81 | 49.80 | 41.81 | 0.05 | 0.13 | Average | NEUTRAL |
| 6 | 0.3166 | 47.65 | -12.15 | 59.80 | 47.47 | 0.05 | 0.13 | QP | NEUTRAL |
| 7 | 0.6011 | 35.57 | -10.43 | 46.00 | 35.36 | 0.05 | 0.16 | Average | NEUTRAL |
| 8 | 0.6011 | 45.44 | -10.56 | 56.00 | 45.23 | 0.05 | 0.16 | QP | NEUTRAL |
| 9 | 0.9282 | 26.64 | -19.36 | 46.00 | 26.39 | 0.06 | 0.19 | Average | NEUTRAL |
| 10 | 0.9282 | 37.43 | -18.57 | 56.00 | 37.18 | 0.06 | 0.19 | QP | NEUTRAL |
| 11 | 1.0653 | 23.81 | -22.19 | 46.00 | 23.55 | 0.06 | 0.20 | Average | NEUTRAL |
| 12 | 1.0653 | 39.03 | -16.97 | 56.00 | 38.77 | 0.06 | 0.20 | QP | NEUTRAL |

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.)

## 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)_2TX | 10.075M | 16.717M | 16M7G1D | 10M | 14.993M |
| 802.11g_Nss1,(6Mbps)_2TX | 15.1M | 17.291M | 17M3D1D | 14.375M | 16.342M |
| 802.11n HT20_Nss1,(MCS0)_2TX | 15.05M | 18.166M | 18M2D1D | 14.4M | 17.516M |
| 802.11n HT40_Nss1,(MCS0)_2TX | 35.05M | 36.132M | 36M1D1D | 30.05M | 35.732M |

**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

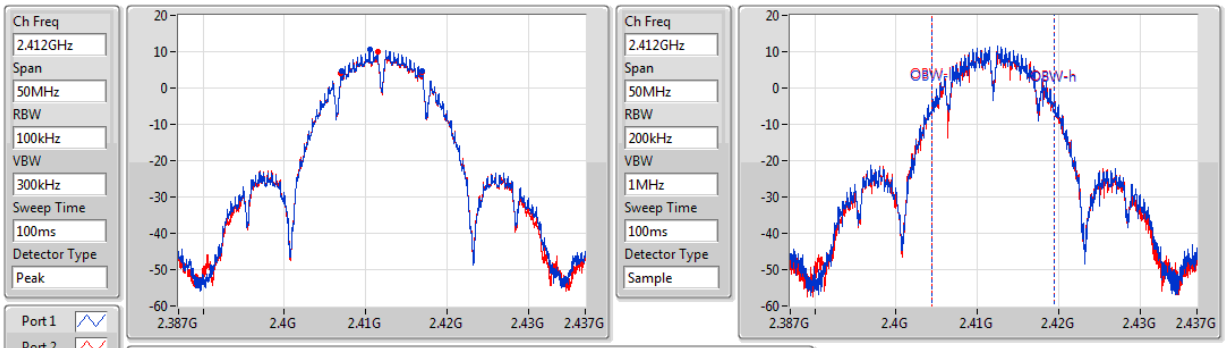
| Mode | Result | Limit (Hz) | Port 1-N dB (Hz) | Port 1-OBW (Hz) | Port 2-N dB (Hz) | Port 2-OBW (Hz) |
|---|---|---|---|---|---|---|
| 802.11b_Nss1,(1Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 10M | 14.993M | 10.05M | 15.017M |
| 2437MHz | Pass | 500k | 10.075M | 15.767M | 10.075M | 16.717M |
| 2462MHz | Pass | 500k | 10.05M | 15.467M | 10.05M | 15.367M |
| 802.11g_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 15.1M | 16.342M | 15.1M | 16.442M |
| 2437MHz | Pass | 500k | 15.05M | 16.592M | 15M | 17.291M |
| 2462MHz | Pass | 500k | 15.1M | 16.392M | 14.375M | 16.417M |
| 802.11n HT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 500k | 15.05M | 17.516M | 14.4M | 17.516M |
| 2437MHz | Pass | 500k | 15.05M | 17.791M | 14.975M | 18.166M |
| 2462MHz | Pass | 500k | 15.05M | 17.516M | 15M | 17.516M |
| 802.11n HT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2422MHz | Pass | 500k | 35.05M | 35.782M | 35M | 35.932M |
| 2437MHz | Pass | 500k | 35M | 35.732M | 33.8M | 36.132M |
| 2452MHz | Pass | 500k | 33.8M | 35.832M | 30.05M | 35.832M |

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

## 802.11b_Nss1,(1Mbps)_2TX — EBW

### 2412MHz

23/11/2018

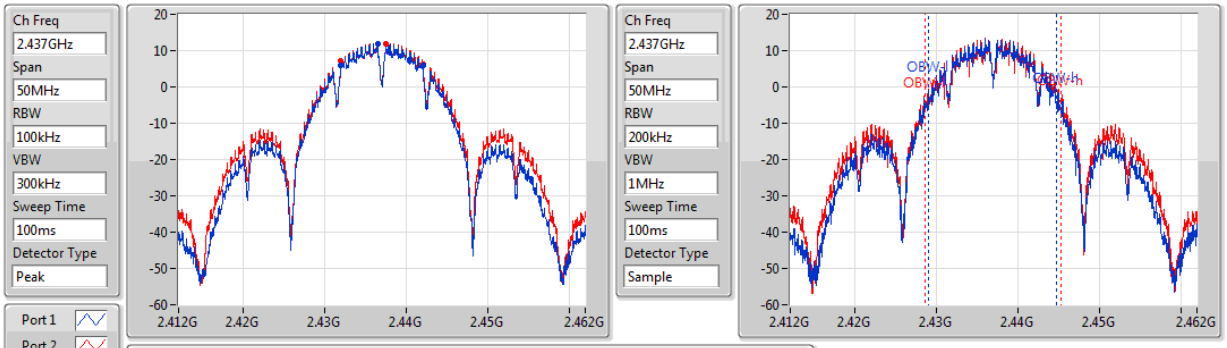



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 10M | 2.407G | 2.417G | 14.993M | 2.404454G | 2.419446G | 500k | 1 |
| 10.05M | 2.40695G | 2.417G | 15.017M | 2.404429G | 2.419446G | 500k | 2 |

## 802.11b_Nss1,(1Mbps)_2TX — EBW

### 2437MHz

23/11/2018

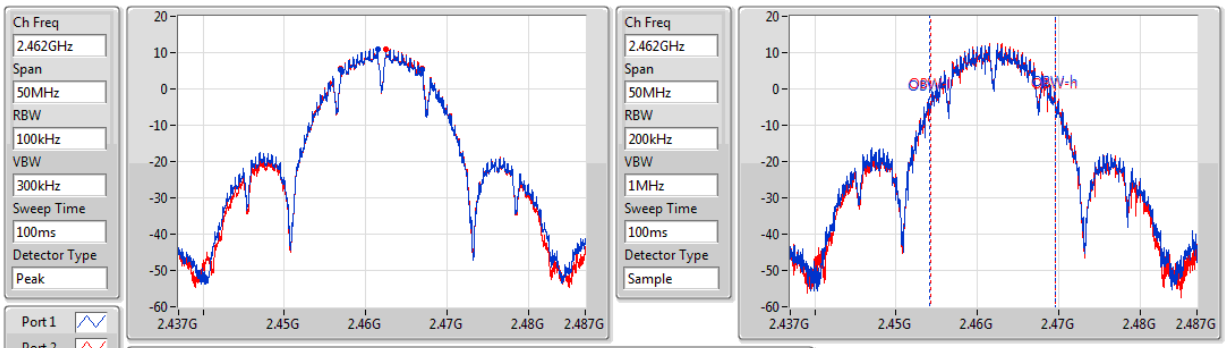



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 10.075M | 2.43195G | 2.442025G | 15.767M | 2.428979G | 2.444746G | 500k | 1 |
| 10.075M | 2.43195G | 2.442025G | 16.717M | 2.428604G | 2.445321G | 500k | 2 |

## 802.11b_Nss1,(1Mbps)_2TX — EBW

### 2462MHz

23/11/2018

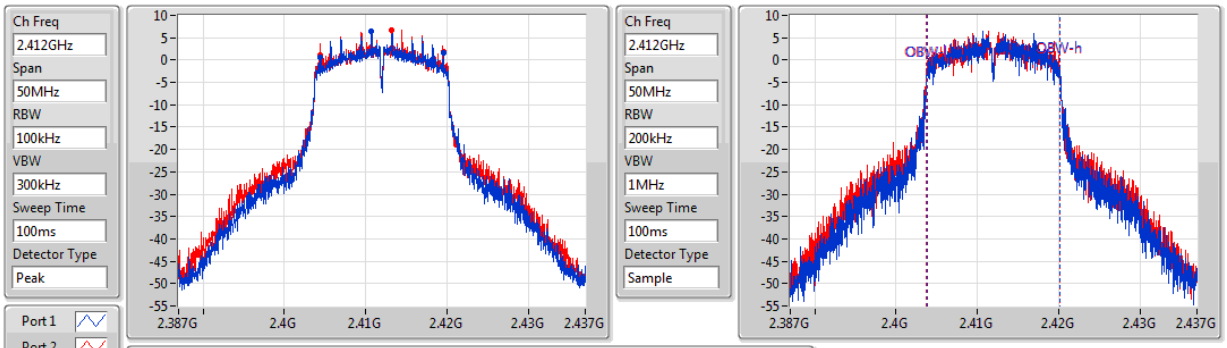



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 10.05M | 2.45695G | 2.467G | 15.467M | 2.454104G | 2.469571G | 500k | 1 |
| 10.05M | 2.45695G | 2.467G | 15.367M | 2.454279G | 2.469646G | 500k | 2 |

## 802.11g_Nss1,(6Mbps)_2TX EBW

### 2412MHz

24/11/2018

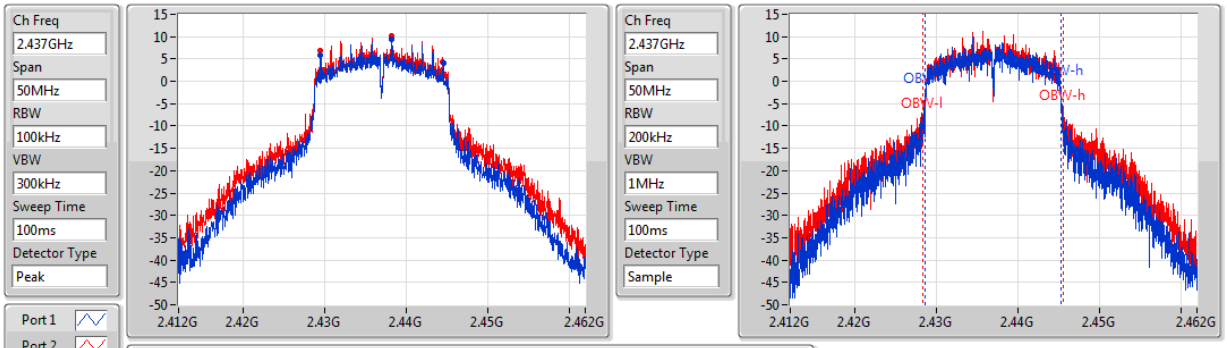



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.1M | 2.404425G | 2.419525G | 16.342M | 2.403804G | 2.420146G | 500k | 1 |
| 15.1M | 2.404425G | 2.419525G | 16.442M | 2.403729G | 2.420171G | 500k | 2 |

## 802.11g_Nss1,(6Mbps)_2TX EBW

### 2437MHz

23/11/2018

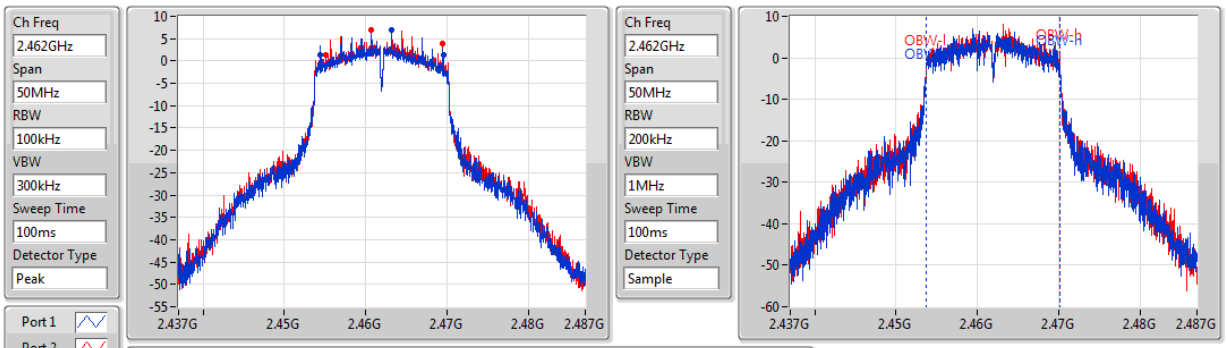



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.429475G | 2.444525G | 16.592M | 2.428629G | 2.445221G | 500k | 1 |
| 15M | 2.429475G | 2.444475G | 17.291M | 2.428254G | 2.445546G | 500k | 2 |

## 802.11g_Nss1,(6Mbps)_2TX EBW

### 2462MHz

24/11/2018

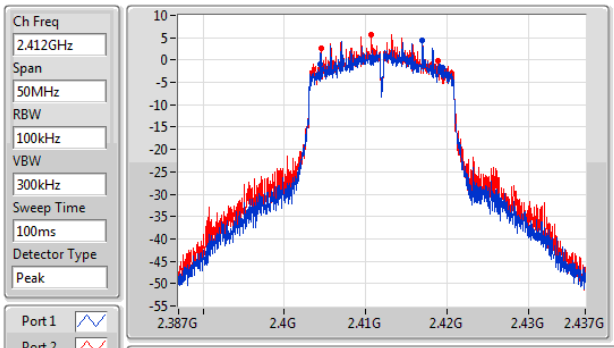


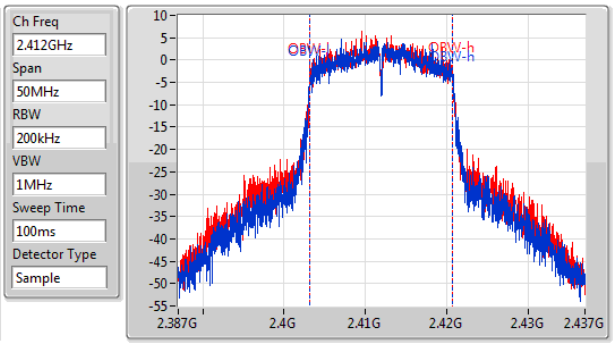

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.1M | 2.454425G | 2.469525G | 16.392M | 2.453729G | 2.470121G | 500k | 1 |
| 14.375M | 2.4551G | 2.469475G | 16.417M | 2.453729G | 2.470146G | 500k | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX EBW

### 2412MHz

24/11/2018



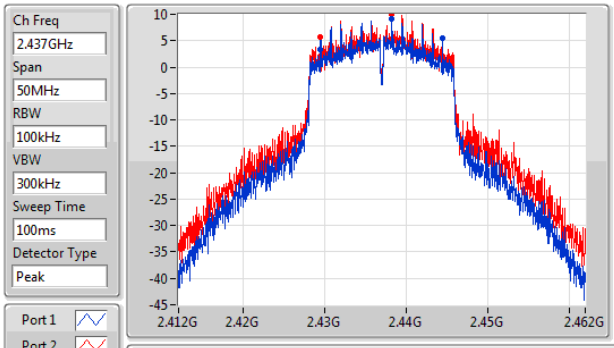



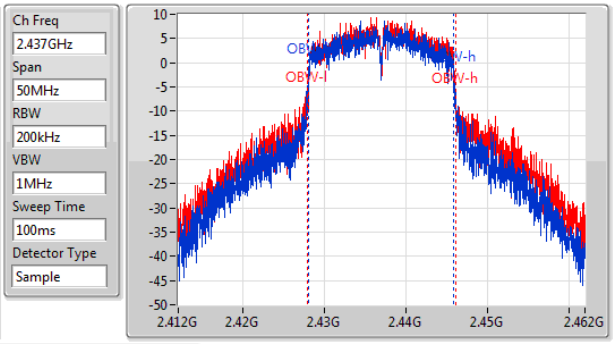

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.404425G | 2.419475G | 17.516M | 2.403204G | 2.420721G | 500k | 1 |
| 14.4M | 2.4045G | 2.4189G | 17.516M | 2.403204G | 2.420721G | 500k | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX EBW

### 2437MHz

24/11/2018



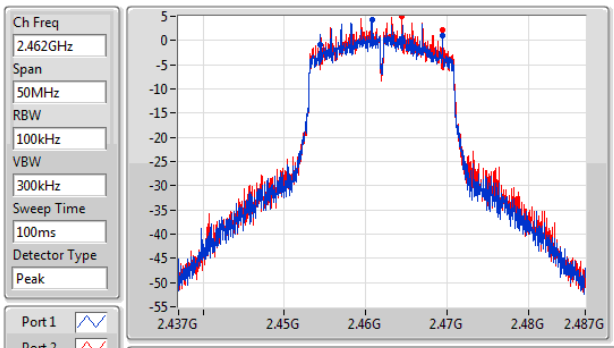



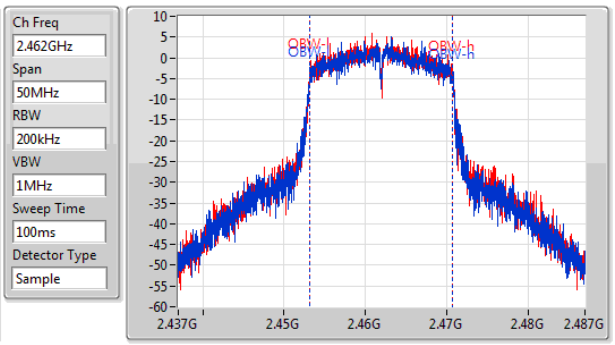

| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.429425G | 2.444475G | 17.791M | 2.428029G | 2.445821G | 500k | 1 |
| 14.975M | 2.42945G | 2.444425G | 18.166M | 2.427905G | 2.44607G | 500k | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX EBW

### 2462MHz

24/11/2018



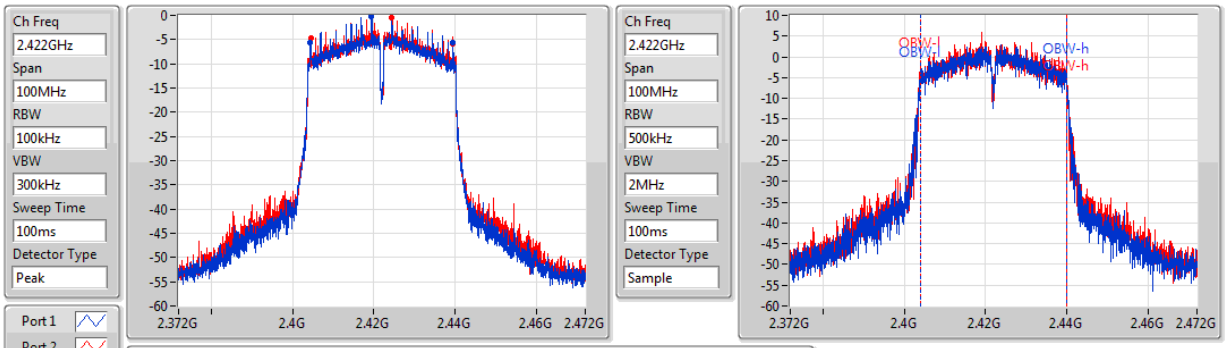




| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 15.05M | 2.454425G | 2.469475G | 17.516M | 2.453204G | 2.470721G | 500k | 1 |
| 15M | 2.454475G | 2.469475G | 17.516M | 2.453204G | 2.470721G | 500k | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX EBW

### 2422MHz

23/11/2018

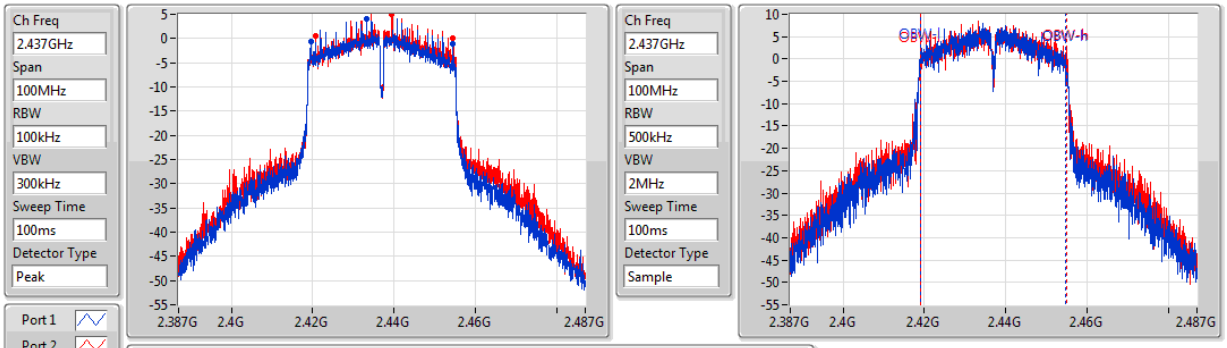



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35.05M | 2.40445G | 2.4395G | 35.782M | 2.404059G | 2.439841G | 500k | 1 |
| 35M | 2.4045G | 2.4395G | 35.932M | 2.403959G | 2.439891G | 500k | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX EBW

### 2437MHz

23/11/2018

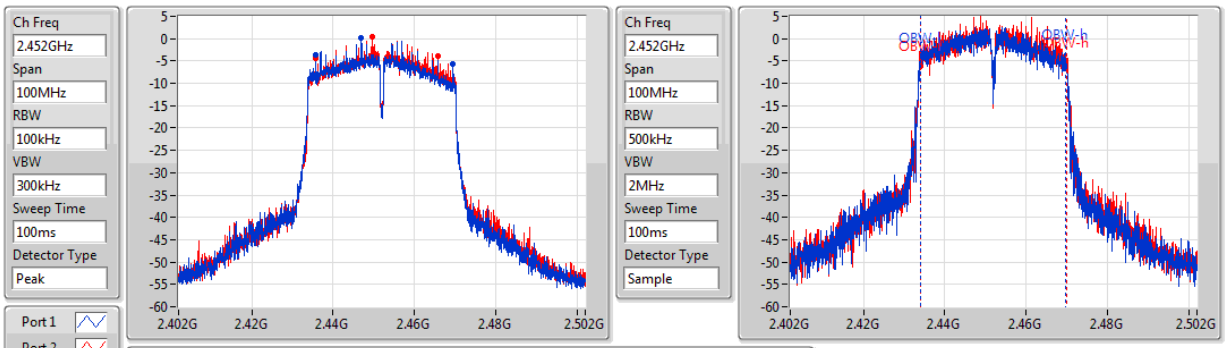



| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 35M | 2.4195G | 2.4545G | 35.732M | 2.418959G | 2.454691G | 500k | 1 |
| 33.8M | 2.4207G | 2.4545G | 36.132M | 2.418909G | 2.455041G | 500k | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX EBW

### 2452MHz

23/11/2018




| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---|---|---|---|---|---|---|---|
| 33.8M | 2.4357G | 2.4695G | 35.832M | 2.433959G | 2.469791G | 500k | 1 |
| 30.05M | 2.4357G | 2.46575G | 35.832M | 2.434009G | 2.469841G | 500k | 2 |

## Summary

| Mode | Total Power (dBm) | Total Power (W) |
|---|---|---|
| 2.4-2.4835GHz | - | - |
| 802.11b_Nss1,(1Mbps)_2TX | 25.84 | 0.38371 |
| 802.11g_Nss1,(6Mbps)_2TX | 23.49 | 0.22336 |
| 802.11n HT20_Nss1,(MCS0)_2TX | 23.38 | 0.21777 |
| 802.11n HT40_Nss1,(MCS0)_2TX | 20.83 | 0.12106 |

## Result

| Mode | Result | DG (dBi) | Port 1 (dBm) | Port 2 (dBm) | Total Power (dBm) | Power Limit (dBm) |
|---|---|---|---|---|---|---|
| 802.11b_Nss1,(1Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 2.53 | 20.49 | 20.79 | 23.65 | 30.00 |
| 2417MHz | Pass | 2.53 | 21.91 | 21.90 | 24.92 | 30.00 |
| 2422MHz | Pass | 2.53 | 21.94 | 21.73 | 24.85 | 30.00 |
| 2427MHz | Pass | 2.53 | 22.25 | 22.46 | 25.37 | 30.00 |
| 2432MHz | | | | | | |
| 2437MHz | Pass | 2.53 | 22.62 | 23.03 | 25.84 | 30.00 |
| 2442MHz | Pass | 2.53 | 22.21 | 22.52 | 25.38 | 30.00 |
| 2447MHz | Pass | 2.53 | 21.88 | 21.98 | 24.94 | 30.00 |
| 2452MHz | Pass | 2.53 | 21.67 | 21.99 | 24.84 | 30.00 |
| 2457MHz | Pass | 2.53 | 21.28 | 21.40 | 24.35 | 30.00 |
| 2462MHz | Pass | 2.53 | 21.48 | 21.51 | 24.51 | 30.00 |
| 802.11g_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 2.53 | 17.34 | 17.17 | 20.27 | 30.00 |
| 2417MHz | Pass | 2.53 | 19.87 | 19.92 | 22.91 | 30.00 |
| 2437MHz | Pass | 2.53 | 19.86 | 21.03 | 23.49 | 30.00 |
| 2452MHz | Pass | 2.53 | 19.72 | 20.44 | 23.11 | 30.00 |
| 2457MHz | Pass | 2.53 | 18.75 | 20.11 | 22.49 | 30.00 |
| 2462MHz | Pass | 2.53 | 17.49 | 17.62 | 20.57 | 30.00 |
| 802.11n HT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 2.53 | 16.22 | 16.44 | 19.34 | 30.00 |
| 2417MHz | Pass | 2.53 | 19.91 | 20.07 | 23.00 | 30.00 |
| 2422MHz | Pass | 2.53 | 19.89 | 20.17 | 23.04 | 30.00 |
| 2437MHz | Pass | 2.53 | 19.67 | 20.97 | 23.38 | 30.00 |
| 2447MHz | Pass | 2.53 | 19.33 | 20.53 | 22.98 | 30.00 |
| 2452MHz | Pass | 2.53 | 18.93 | 20.23 | 22.64 | 30.00 |
| 2457MHz | Pass | 2.53 | 18.64 | 19.22 | 21.95 | 30.00 |
| 2462MHz | Pass | 2.53 | 15.65 | 15.94 | 18.81 | 30.00 |
| 802.11n HT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2422MHz | Pass | 2.53 | 12.87 | 13.04 | 15.97 | 30.00 |
| 2427MHz | Pass | 2.53 | 14.00 | 14.14 | 17.08 | 30.00 |
| 2432MHz | Pass | 2.53 | 16.05 | 16.14 | 19.11 | 30.00 |
| 2437MHz | Pass | 2.53 | 17.71 | 17.93 | 20.83 | 30.00 |
| 2442MHz | Pass | 2.53 | 15.92 | 16.08 | 19.01 | 30.00 |
| 2447MHz | Pass | 2.53 | 14.35 | 14.49 | 17.43 | 30.00 |
| 2452MHz | Pass | 2.53 | 13.34 | 13.52 | 16.44 | 30.00 |

**DG** = Directional Gain; **Port X** = Port X output power
**Note : Conducted average output power is for reference only**

## Summary

| Mode | PD (dBm/RBW) |
|---|---|
| 2.4-2.4835GHz | - |
| 802.11b_Nss1,(1Mbps)_2TX | -6.86 |
| 802.11g_Nss1,(6Mbps)_2TX | -4.00 |
| 802.11n HT20_Nss1,(MCS0)_2TX | -4.71 |
| 802.11n HT40_Nss1,(MCS0)_2TX | -8.36 |

RBW=3kHz.

## Result

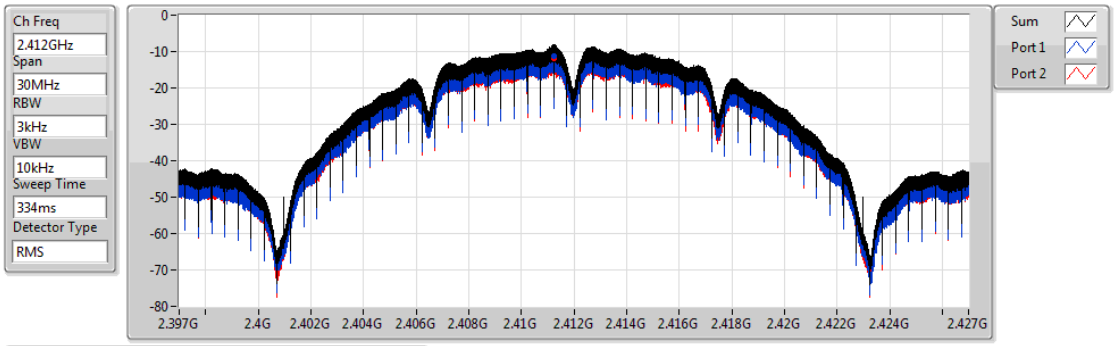
| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | Port 2 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|---|---|---|---|---|---|---|
| 802.11b_Nss1,(1Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 5.54 | -11.20 | -11.91 | -8.62 | 8.00 |
| 2437MHz | Pass | 5.54 | -9.58 | -9.71 | -6.86 | 8.00 |
| 2462MHz | Pass | 5.54 | -10.52 | -10.49 | -7.49 | 8.00 |
| 802.11g_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 5.54 | -9.69 | -8.59 | -7.70 | 8.00 |
| 2437MHz | Pass | 5.54 | -7.32 | -6.21 | -4.00 | 8.00 |
| 2462MHz | Pass | 5.54 | -9.99 | -8.88 | -6.90 | 8.00 |
| 802.11n HT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2412MHz | Pass | 5.54 | -11.45 | -10.26 | -8.64 | 8.00 |
| 2437MHz | Pass | 5.54 | -6.40 | -6.63 | -4.71 | 8.00 |
| 2462MHz | Pass | 5.54 | -11.57 | -9.16 | -7.51 | 8.00 |
| 802.11n HT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 2422MHz | Pass | 5.54 | -16.39 | -16.40 | -13.41 | 8.00 |
| 2437MHz | Pass | 5.54 | -11.77 | -10.71 | -8.36 | 8.00 |
| 2452MHz | Pass | 5.54 | -15.34 | -14.25 | -13.12 | 8.00 |

**DG** = Directional Gain; RBW=3kHz;
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

## 802.11b_Nss1,(1Mbps)_2TX PSD

### 2412MHz

23/11/2018

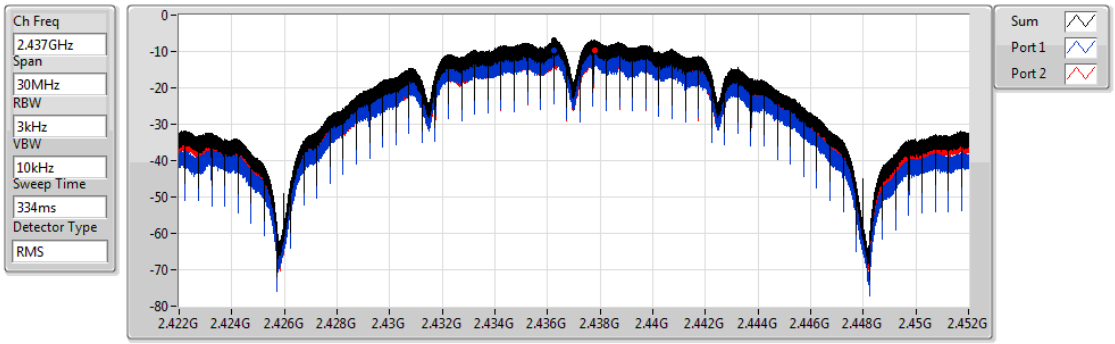



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -8.62 | -8.62 | -11.20 | -11.91 |

## 802.11b_Nss1,(1Mbps)_2TX PSD

### 2437MHz

23/11/2018

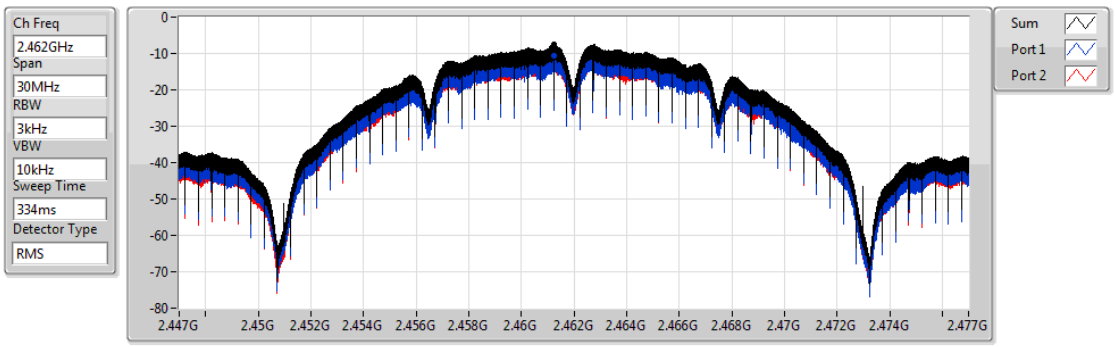



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.86 | -6.86 | -9.58 | -9.71 |

## 802.11b_Nss1,(1Mbps)_2TX PSD

### 2462MHz

23/11/2018

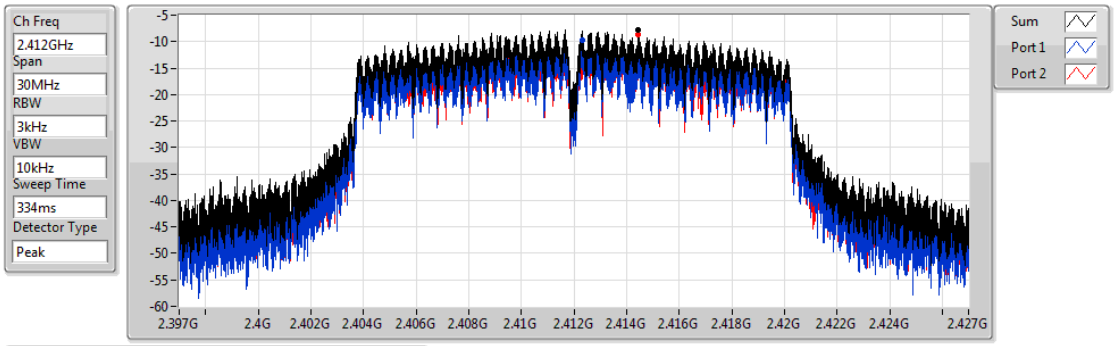



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.49 | -7.49 | -10.52 | -10.49 |

## 802.11g_Nss1,(6Mbps)_2TX PSD

### 2412MHz

24/11/2018

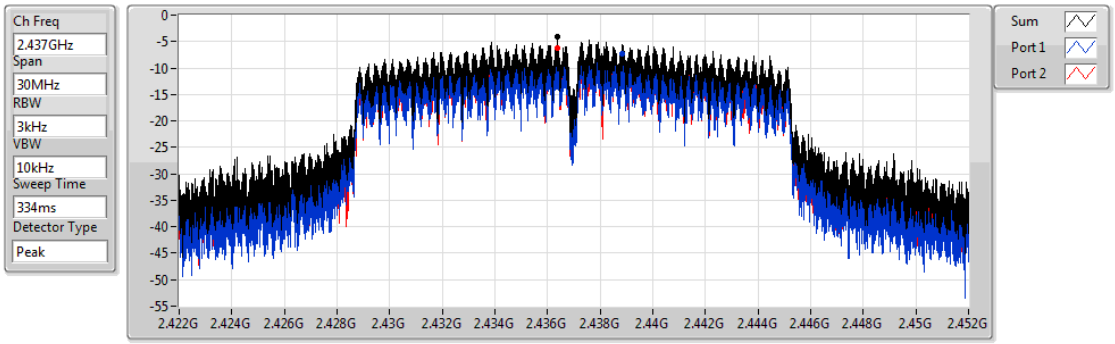



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.70 | -7.70 | -9.69 | -8.59 |

## 802.11g_Nss1,(6Mbps)_2TX PSD

### 2437MHz

23/11/2018

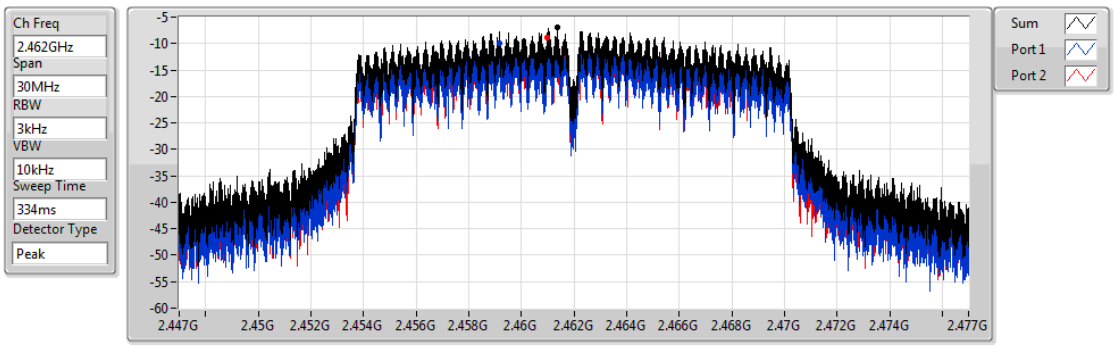



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.00 | -4.00 | -7.32 | -6.21 |

## 802.11g_Nss1,(6Mbps)_2TX PSD

### 2462MHz

24/11/2018

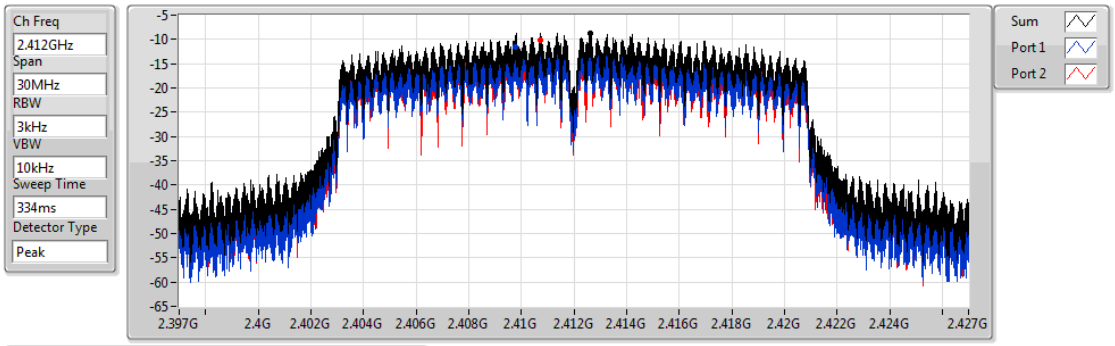



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.90 | -6.90 | -9.99 | -8.88 |

## 802.11n HT20_Nss1,(MCS0)_2TX PSD

### 2412MHz

24/11/2018

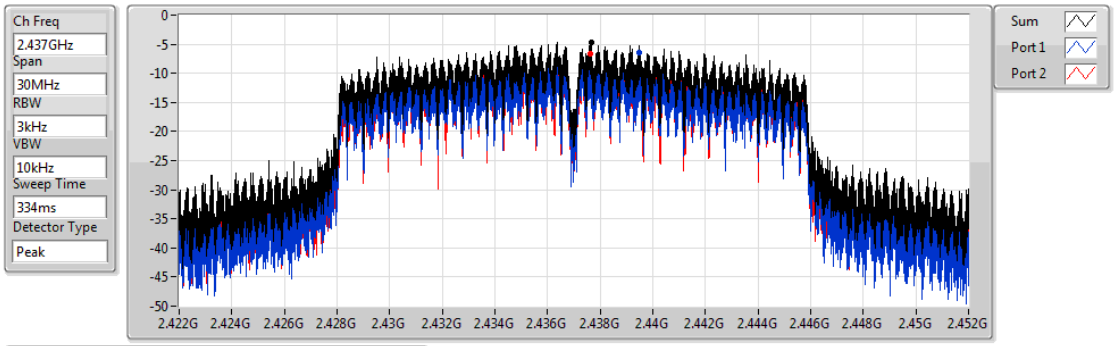



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -8.64 | -8.64 | -11.45 | -10.26 |

## 802.11n HT20_Nss1,(MCS0)_2TX PSD

### 2437MHz

24/11/2018

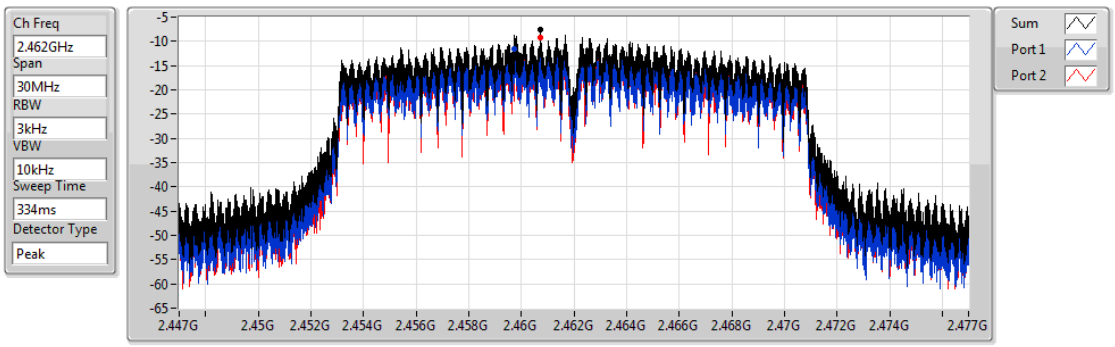



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.71 | -4.71 | -6.40 | -6.63 |

## 802.11n HT20_Nss1,(MCS0)_2TX PSD

### 2462MHz

24/11/2018

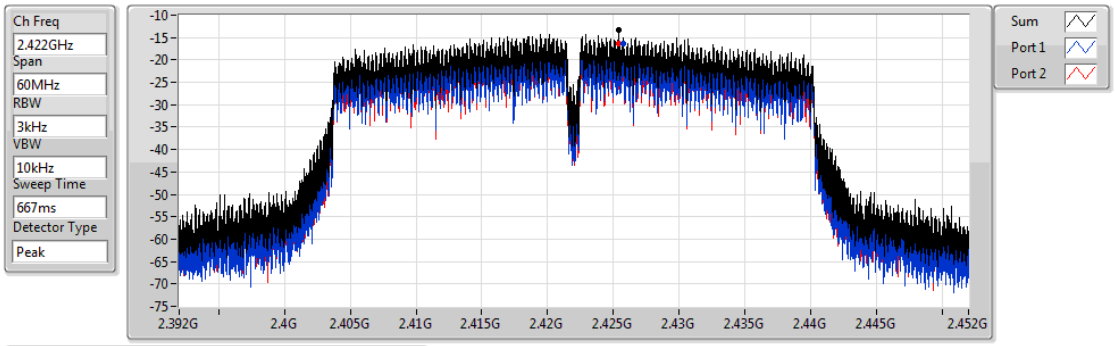



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.51 | -7.51 | -11.57 | -9.16 |

## 802.11n HT40_Nss1,(MCS0)_2TX PSD

### 2422MHz

23/11/2018

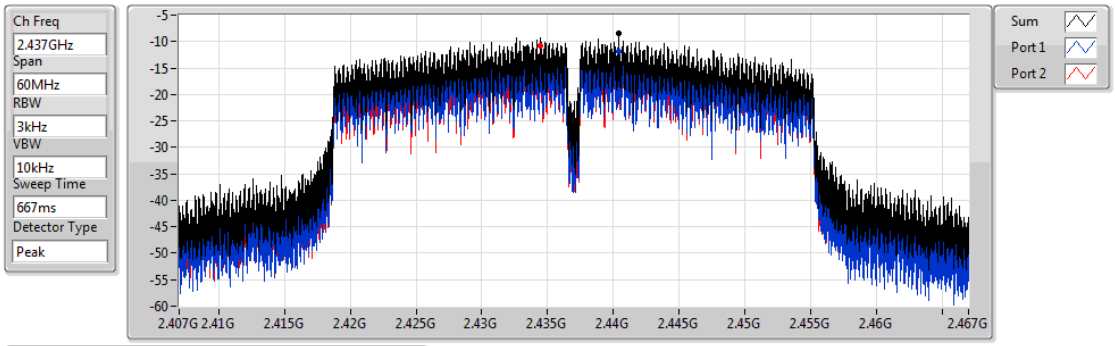



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -13.41 | -13.41 | -16.39 | -16.40 |

## 802.11n HT40_Nss1,(MCS0)_2TX PSD

### 2437MHz

23/11/2018

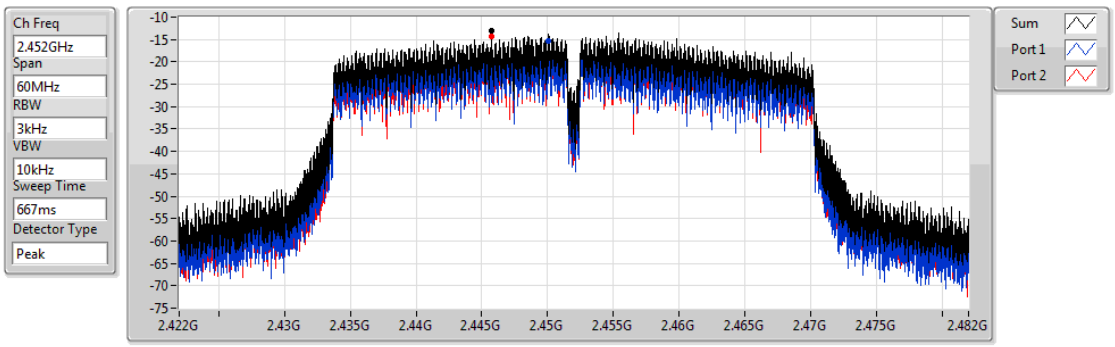



| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -8.36 | -8.36 | -11.77 | -10.71 |

## 802.11n HT40_Nss1,(MCS0)_2TX PSD

### 2452MHz

23/11/2018




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -13.12 | -13.12 | -15.34 | -14.25 |

## Summary

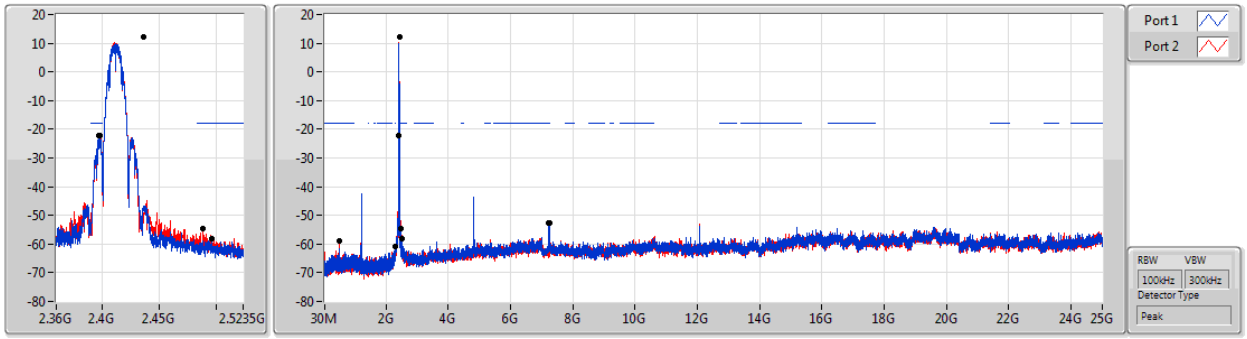
| Mode | Result | Ref (Hz) | Ref (dBm) | Limit (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Freq (Hz) | Level (dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.4-2.4835GHz | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_2TX | Pass | 2.436406G | 12.16 | -17.84 | 479.69M | -58.76 | 2.398G | -22.23 | 2.4887G | -54.65 | 7.235136G | -52.66 | 2 |
| 802.11g_Nss1,(6Mbps)_2TX | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -53.74 | 2.39992G | -21.51 | 2.5095G | -53.53 | 17.012414G | -55.11 | 2 |
| 802.11n HT20_Nss1,(MCS0)_2TX | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -54.94 | 2.39976G | -23.54 | 2.48822G | -55.03 | 16.944984G | -54.96 | 2 |
| 802.11n HT40_Nss1,(MCS0)_2TX | Pass | 2.434402G | 5.49 | -24.51 | 479.985M | -51.99 | 2.39952G | -25.99 | 2.48366G | -43.16 | 16.227329G | -54.05 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11b_Nss1,(1Mbps)_2TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.436406G | 12.16 | -17.84 | 2.307575G | -60.79 | 2.39704G | -22.38 | 2.49638G | -58.29 | 7.232327G | -52.68 | 1 |
| 2412MHz | Pass | 2.436406G | 12.16 | -17.84 | 479.69M | -58.76 | 2.398G | -22.23 | 2.4887G | -54.65 | 7.235136G | -52.66 | 2 |
| 2437MHz | Pass | 2.436406G | 12.16 | -17.84 | 32.33M | -57.59 | 2.39904G | -52.37 | 2.48886G | -55.56 | 16.562884G | -55.20 | 1 |
| 2437MHz | Pass | 2.436406G | 12.16 | -17.84 | 32.33M | -50.94 | 2.39752G | -41.25 | 2.48446G | -44.21 | 17.67828G | -56.04 | 2 |
| 2462MHz | Pass | 2.436406G | 12.16 | -17.84 | 479.69M | -59.93 | 2.39992G | -56.47 | 2.48798G | -40.86 | 16.942175G | -55.01 | 1 |
| 2462MHz | Pass | 2.436406G | 12.16 | -17.84 | 479.69M | -58.20 | 2.39904G | -53.07 | 2.4875G | -43.03 | 21.676288G | -55.51 | 2 |
| 802.11g_Nss1,(6Mbps)_2TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -56.82 | 2.39992G | -24.65 | 2.50446G | -53.23 | 7.235136G | -54.71 | 1 |
| 2412MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -53.74 | 2.39992G | -21.51 | 2.5095G | -53.53 | 17.012414G | -55.11 | 2 |
| 2437MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -55.35 | 2.39328G | -47.28 | 2.50574G | -50.79 | 15.205865G | -55.24 | 1 |
| 2437MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -54.86 | 2.39936G | -48.72 | 2.48502G | -50.99 | 16.936556G | -55.16 | 2 |
| 2462MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -57.22 | 2.39888G | -52.83 | 2.48382G | -41.44 | 16.489835G | -54.82 | 1 |
| 2462MHz | Pass | 2.435738G | 10.12 | -19.88 | 479.69M | -54.29 | 2.3996G | -50.87 | 2.48358G | -39.82 | 2.529119G | -55.19 | 2 |
| 802.11n HT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2412MHz | Pass | 2.438243G | 10.03 | -19.97 | 2.30175G | -57.52 | 2.39992G | -26.19 | 2.4995G | -55.37 | 24.949428G | -55.33 | 1 |
| 2412MHz | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -54.94 | 2.39976G | -23.54 | 2.48822G | -55.03 | 16.944984G | -54.96 | 2 |
| 2437MHz | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -57.17 | 2.3932G | -48.75 | 2.50574G | -49.70 | 17.478801G | -55.13 | 1 |
| 2437MHz | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -54.77 | 2.39856G | -45.55 | 2.48382G | -49.49 | 24.87357G | -55.23 | 2 |
| 2462MHz | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -57.39 | 2.39832G | -52.04 | 2.48374G | -44.14 | 16.531979G | -55.15 | 1 |
| 2462MHz | Pass | 2.438243G | 10.03 | -19.97 | 479.69M | -55.11 | 2.39512G | -53.04 | 2.48446G | -42.81 | 24.848284G | -54.28 | 2 |
| 802.11n HT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2422MHz | Pass | 2.434402G | 5.49 | -24.51 | 2.309695G | -56.93 | 2.39952G | -37.89 | 2.50686G | -54.39 | 15.212077G | -54.83 | 1 |
| 2422MHz | Pass | 2.434402G | 5.49 | -24.51 | 479.985M | -51.83 | 2.39824G | -36.03 | 2.48926G | -54.84 | 21.785971G | -55.60 | 2 |
| 2437MHz | Pass | 2.434402G | 5.49 | -24.51 | 32.29M | -55.12 | 2.39984G | -33.33 | 2.4851G | -46.17 | 15.299018G | -54.74 | 1 |
| 2437MHz | Pass | 2.434402G | 5.49 | -24.51 | 479.985M | -51.99 | 2.39952G | -25.99 | 2.48366G | -43.16 | 16.227329G | -54.05 | 2 |
| 2452MHz | Pass | 2.434402G | 5.49 | -24.51 | 479.985M | -57.53 | 2.3944G | -53.04 | 2.48446G | -40.46 | 16.37597G | -55.53 | 1 |
| 2452MHz | Pass | 2.434402G | 5.49 | -24.51 | 479.985M | -54.47 | 2.39584G | -50.94 | 2.4843G | -41.47 | 16.636795G | -55.57 | 2 |

## 802.11b_Nss1,(1Mbps)_2TX
## 2412MHz
**CSE NdB**

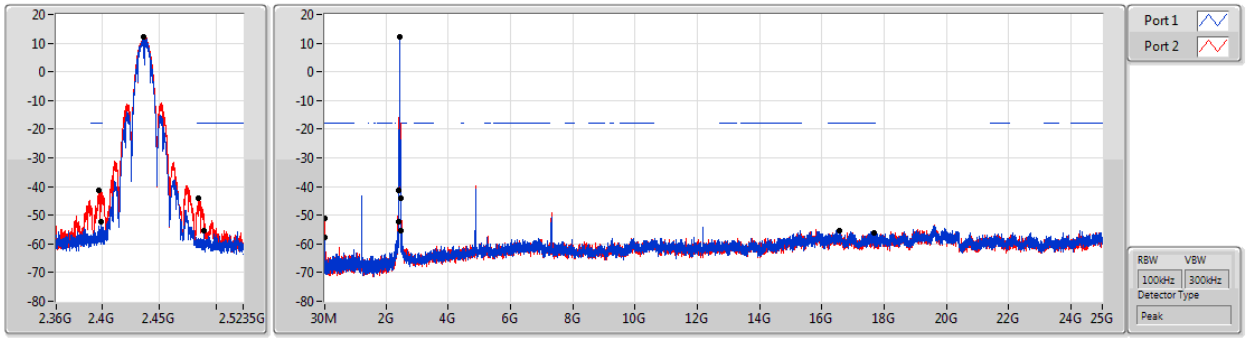
23/11/2018




| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.436406G | 12.16 | -17.84 | 2.307575G | -60.79 | 2.39704G | -22.38 | 2.49638G | -58.29 | 7.232327G | -52.68 | 1 |
| 2.436406G | 12.16 | -17.84 | 479.69M | -58.76 | 2.398G | -22.23 | 2.4887G | -54.65 | 7.235136G | -52.66 | 2 |

## 802.11b_Nss1,(1Mbps)_2TX
## 2437MHz
**CSE NdB**

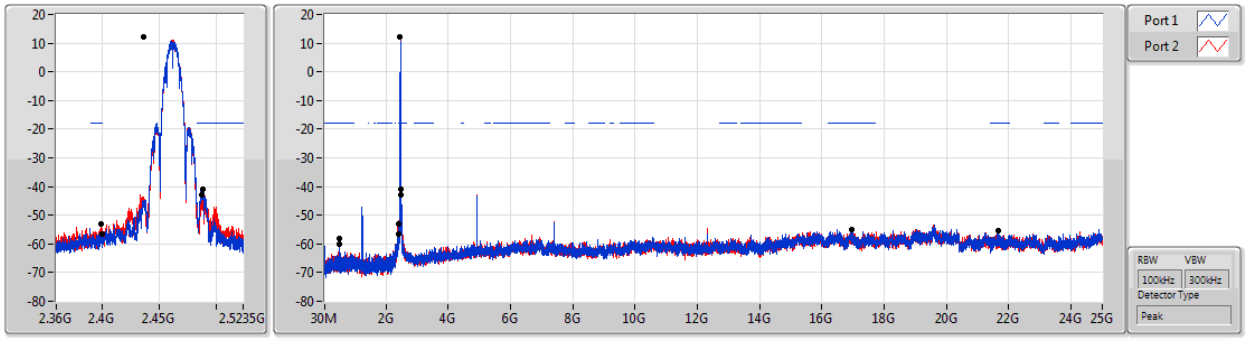
23/11/2018




| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.436406G | 12.16 | -17.84 | 32.33M | -57.59 | 2.39904G | -52.37 | 2.48886G | -55.56 | 16.562884G | -55.20 | 1 |
| 2.436406G | 12.16 | -17.84 | 32.33M | -50.94 | 2.39752G | -41.25 | 2.48446G | -44.21 | 17.67828G | -56.04 | 2 |

## 802.11b_Nss1,(1Mbps)_2TX
## 2462MHz
**CSE NdB**

23/11/2018

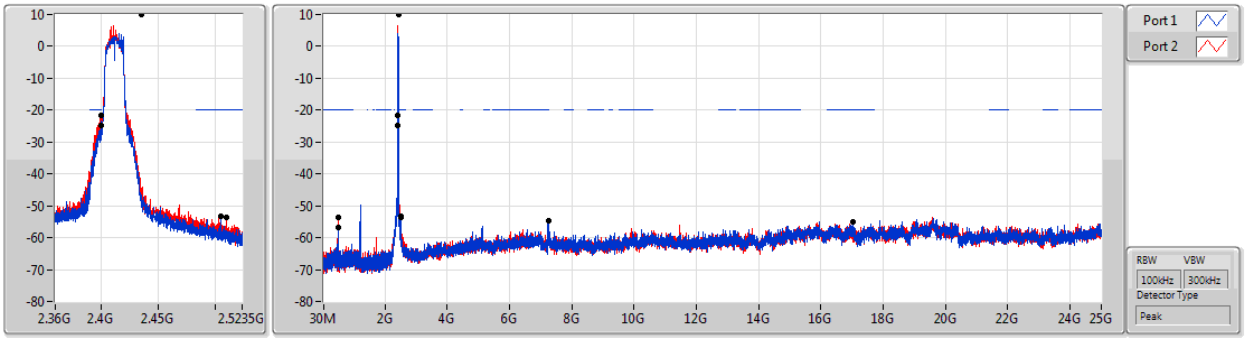



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.436406G | 12.16 | -17.84 | 479.69M | -59.93 | 2.39992G | -56.47 | 2.48798G | -40.86 | 16.942175G | -55.01 | 1 |
| 2.436406G | 12.16 | -17.84 | 479.69M | -58.20 | 2.39904G | -53.07 | 2.4875G | -43.03 | 21.676288G | -55.51 | 2 |

## 802.11g_Nss1,(6Mbps)_2TX CSE NdB

### 2412MHz

24/11/2018

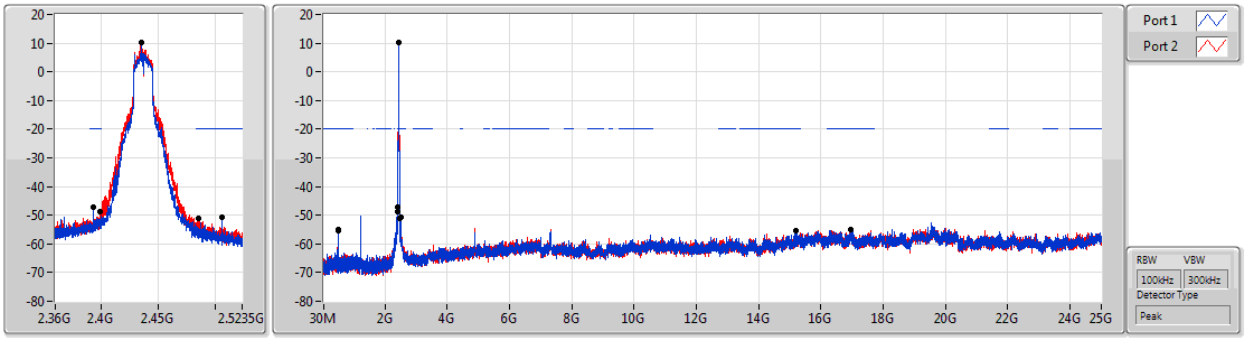



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.435738G | 10.12 | -19.88 | 479.69M | -56.82 | 2.39992G | -24.65 | 2.50446G | -53.23 | 7.235136G | -54.71 | 1 |
| 2.435738G | 10.12 | -19.88 | 479.69M | -53.74 | 2.39992G | -21.51 | 2.5095G | -53.53 | 17.012414G | -55.11 | 2 |

## 802.11g_Nss1,(6Mbps)_2TX CSE NdB

### 2437MHz

23/11/2018

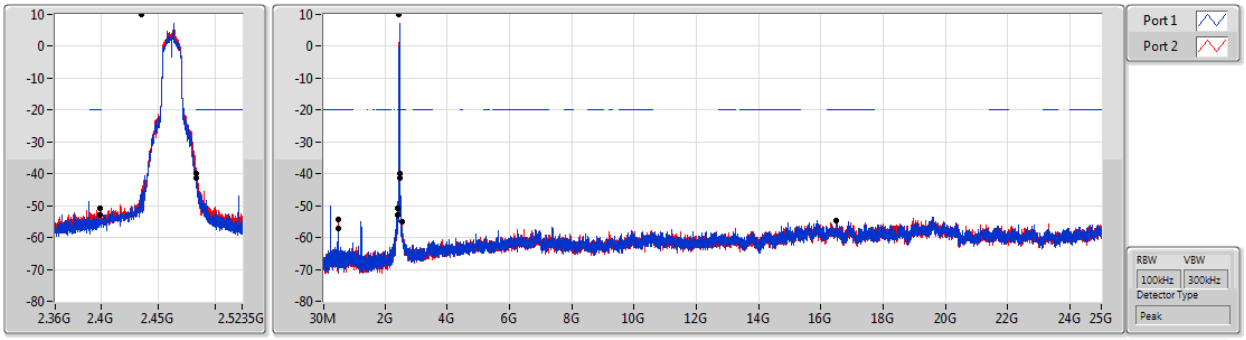



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.435738G | 10.12 | -19.88 | 479.69M | -55.35 | 2.39328G | -47.28 | 2.50574G | -50.79 | 15.205865G | -55.24 | 1 |
| 2.435738G | 10.12 | -19.88 | 479.69M | -54.86 | 2.39936G | -48.72 | 2.48502G | -50.99 | 16.936556G | -55.16 | 2 |

## 802.11g_Nss1,(6Mbps)_2TX CSE NdB

### 2462MHz

24/11/2018

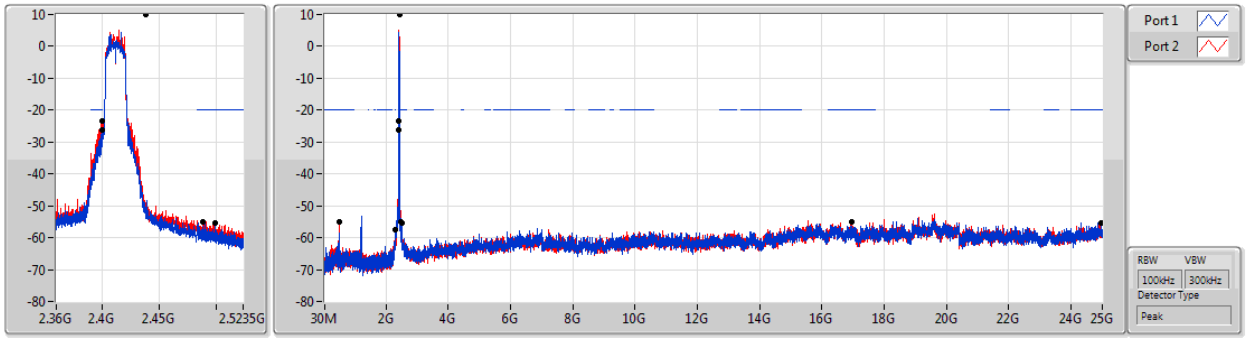



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.435738G | 10.12 | -19.88 | 479.69M | -57.22 | 2.39888G | -52.83 | 2.48382G | -41.44 | 16.489835G | -54.82 | 1 |
| 2.435738G | 10.12 | -19.88 | 479.69M | -54.29 | 2.3996G | -50.87 | 2.48358G | -39.82 | 2.529119G | -55.19 | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX CSE NdB

### 2412MHz

24/11/2018

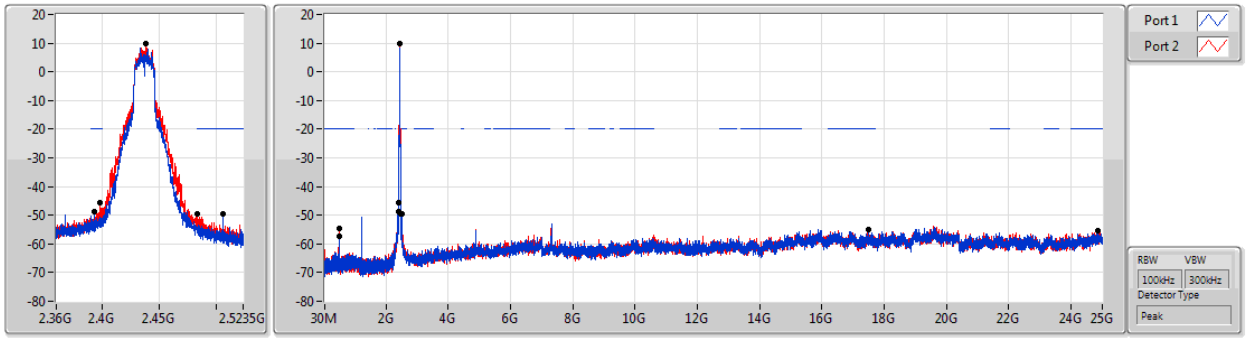



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.438243G | 10.03 | -19.97 | 2.30175G | -57.52 | 2.39992G | -26.19 | 2.4995G | -55.37 | 24.949428G | -55.33 | 1 |
| 2.438243G | 10.03 | -19.97 | 479.69M | -54.94 | 2.39976G | -23.54 | 2.48822G | -55.03 | 16.944984G | -54.96 | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX CSE NdB

### 2437MHz

24/11/2018

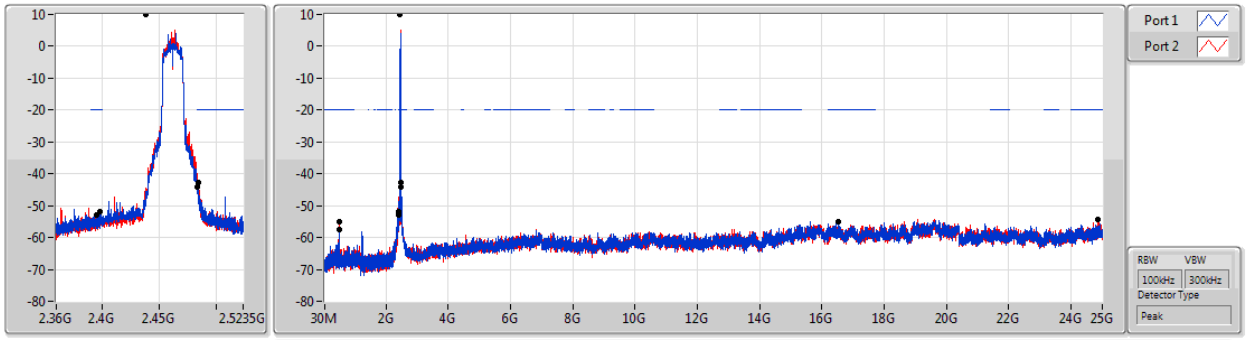



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.438243G | 10.03 | -19.97 | 479.69M | -57.17 | 2.3932G | -48.75 | 2.50574G | -49.70 | 17.478801G | -55.13 | 1 |
| 2.438243G | 10.03 | -19.97 | 479.69M | -54.77 | 2.39856G | -45.55 | 2.48382G | -49.49 | 24.87357G | -55.23 | 2 |

## 802.11n HT20_Nss1,(MCS0)_2TX CSE NdB

### 2462MHz

24/11/2018

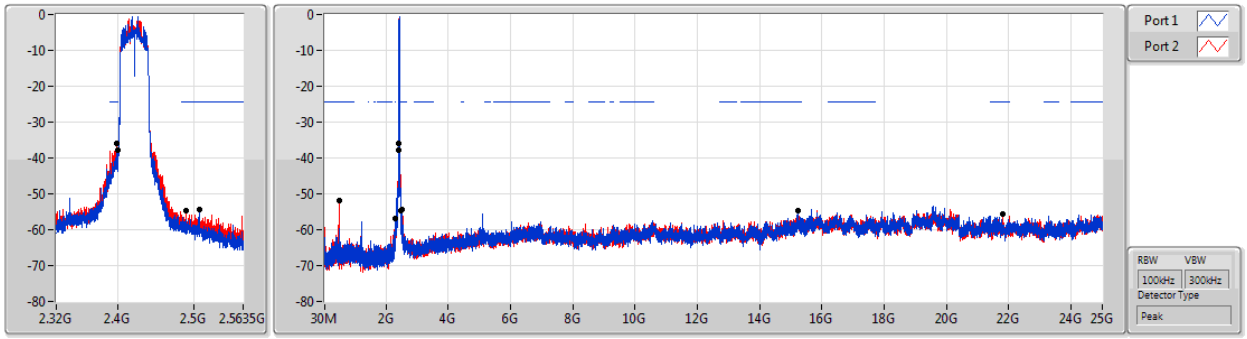



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.438243G | 10.03 | -19.97 | 479.69M | -57.39 | 2.39832G | -52.04 | 2.48374G | -44.14 | 16.531979G | -55.15 | 1 |
| 2.438243G | 10.03 | -19.97 | 479.69M | -55.11 | 2.39512G | -53.04 | 2.48446G | -42.81 | 24.848284G | -54.28 | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX — CSE NdB

### 2422MHz

23/11/2018

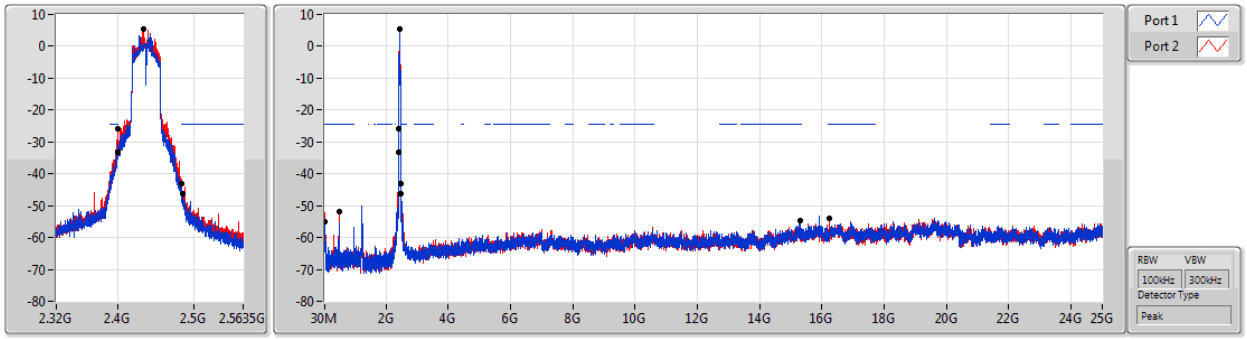



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.434402G | 5.49 | -24.51 | 2.309695G | -56.93 | 2.39952G | -37.89 | 2.50686G | -54.39 | 15.212077G | -54.83 | 1 |
| 2.434402G | 5.49 | -24.51 | 479.985M | -51.83 | 2.39824G | -36.03 | 2.48926G | -54.84 | 21.785971G | -55.60 | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX — CSE NdB

### 2437MHz

23/11/2018

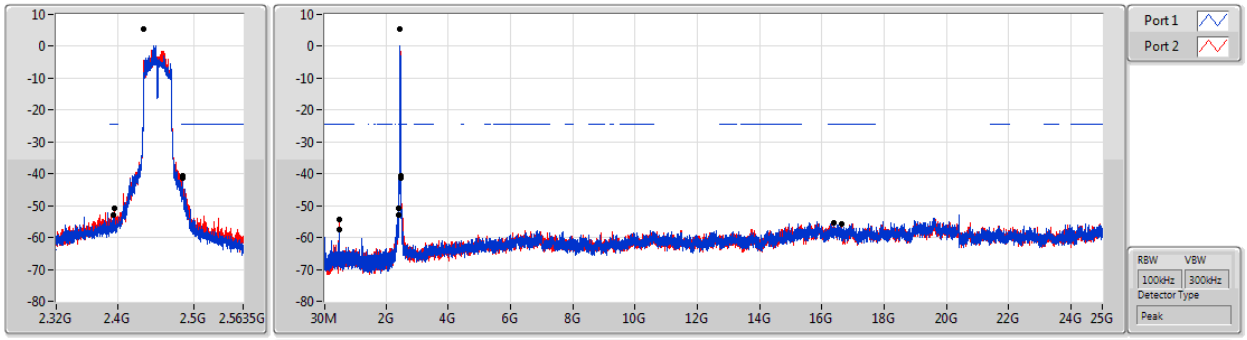



| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.434402G | 5.49 | -24.51 | 32.29M | -55.12 | 2.39984G | -33.33 | 2.4851G | -46.17 | 15.299018G | -54.74 | 1 |
| 2.434402G | 5.49 | -24.51 | 479.985M | -51.99 | 2.39952G | -25.99 | 2.48366G | -43.16 | 16.227329G | -54.05 | 2 |

## 802.11n HT40_Nss1,(MCS0)_2TX — CSE NdB

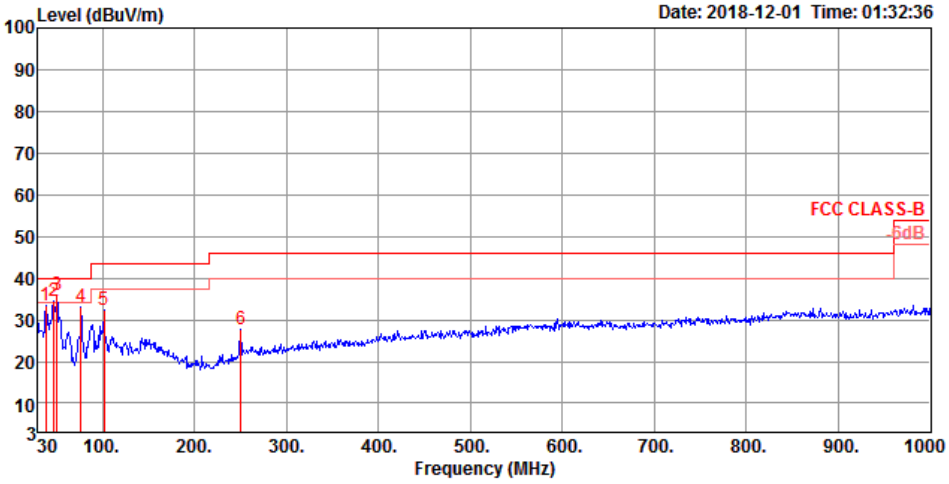
### 2452MHz

23/11/2018




| Ref(Hz) | Ref(dBm) | Limit(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Freq(Hz) | Level(dBm) | Port |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.434402G | 5.49 | -24.51 | 479.985M | -57.53 | 2.3944G | -53.04 | 2.48446G | -40.46 | 16.37597G | -55.53 | 1 |
| 2.434402G | 5.49 | -24.51 | 479.985M | -54.47 | 2.39584G | -50.94 | 2.4843G | -41.47 | 16.636795G | -55.57 | 2 |

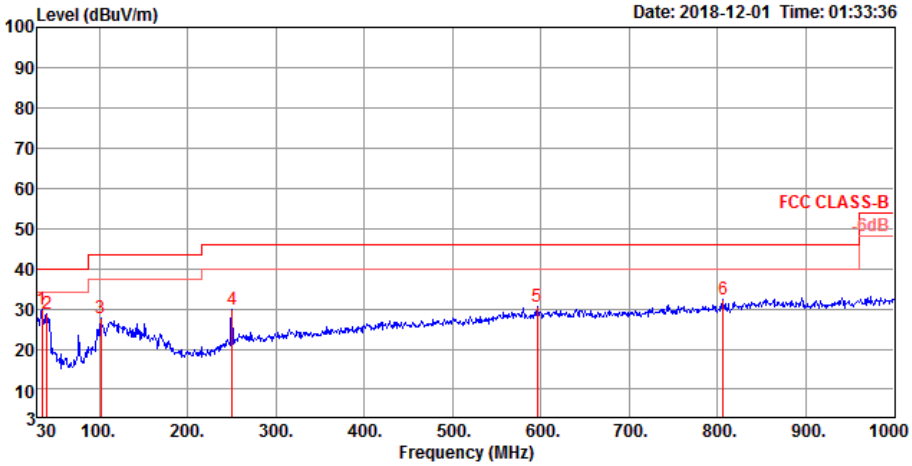
| RSE below 1GHz Result | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Polarization** | Vertical |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 38.73 | 33.53 | 40.00 | -6.47 | 41.14 | 0.72 | 20.21 | 28.54 | 100 | 185 | Peak | VERTICAL |
| 2 | 47.46 | 34.65 | 40.00 | -5.35 | 46.93 | 0.92 | 15.34 | 28.54 | 100 | 338 | Peak | VERTICAL |
| 3 | 50.37 | 35.99 | 40.00 | -4.01 | 49.43 | 0.94 | 14.16 | 28.54 | 100 | 338 | Peak | VERTICAL |
| 4 | 76.56 | 33.17 | 40.00 | -6.83 | 47.90 | 1.07 | 12.69 | 28.49 | 150 | 155 | Peak | VERTICAL |
| 5 | 101.78 | 32.21 | 43.50 | -11.29 | 42.55 | 1.24 | 16.85 | 28.43 | 100 | 1 | Peak | VERTICAL |
| 6 | 250.19 | 27.84 | 46.00 | -18.16 | 36.03 | 1.73 | 18.03 | 27.95 | 100 | 40 | Peak | VERTICAL |

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.)

| RSE below 1GHz Result | | | |
|---|---|---|---|
| **Operating Mode** | 2 | **Polarization** | Horizontal |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 34.85 | 29.99 | 40.00 | -10.01 | 35.59 | 0.70 | 22.24 | 28.54 | 200 | 348 | Peak | HORIZONTAL |
| 2 | 40.67 | 28.83 | 40.00 | -11.17 | 37.56 | 0.75 | 19.06 | 28.54 | 200 | 0 | Peak | HORIZONTAL |
| 3 | 101.78 | 27.71 | 43.50 | -15.79 | 38.05 | 1.24 | 16.85 | 28.43 | 300 | 100 | Peak | HORIZONTAL |
| 4 | 250.19 | 29.76 | 46.00 | -16.24 | 37.95 | 1.73 | 18.03 | 27.95 | 125 | 114 | Peak | HORIZONTAL |
| 5 | 595.51 | 30.50 | 46.00 | -15.50 | 33.03 | 2.61 | 24.25 | 29.39 | 150 | 115 | Peak | HORIZONTAL |
| 6 | 806.00 | 32.44 | 46.00 | -13.56 | 32.73 | 3.14 | 25.69 | 29.12 | 200 | 280 | Peak | HORIZONTAL |

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.)

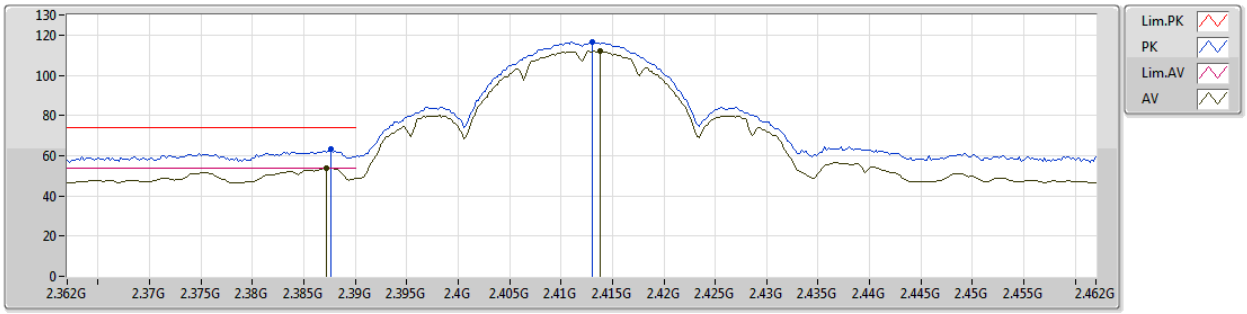
## Summary

| 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| 802.11b_Nss1,(1Mbps)_2TX | Pass | AV | 2.3872G | 53.99 | 54.00 | -0.01 | 33.16 | 3 | Vertical | 318 | 1.80 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2412MHz_TX

01/11/2018



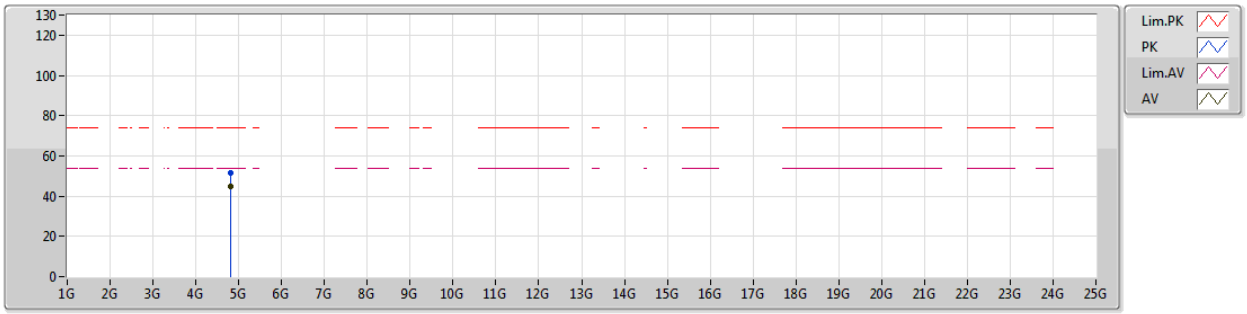

EUT Y_2TX
Setting 21
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3876G | 63.19 | 74.00 | -10.81 | 33.16 | 3 | Vertical | 318 | 1.80 | - |
| AV | 2.3872G | 53.99 | 54.00 | -0.01 | 33.16 | 3 | Vertical | 318 | 1.80 | - |
| PK | 2.413G | 116.63 | Inf | -Inf | 33.17 | 3 | Vertical | 318 | 1.80 | - |
| AV | 2.4138G | 111.91 | Inf | -Inf | 33.17 | 3 | Vertical | 318 | 1.80 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2412MHz_TX

01/11/2018



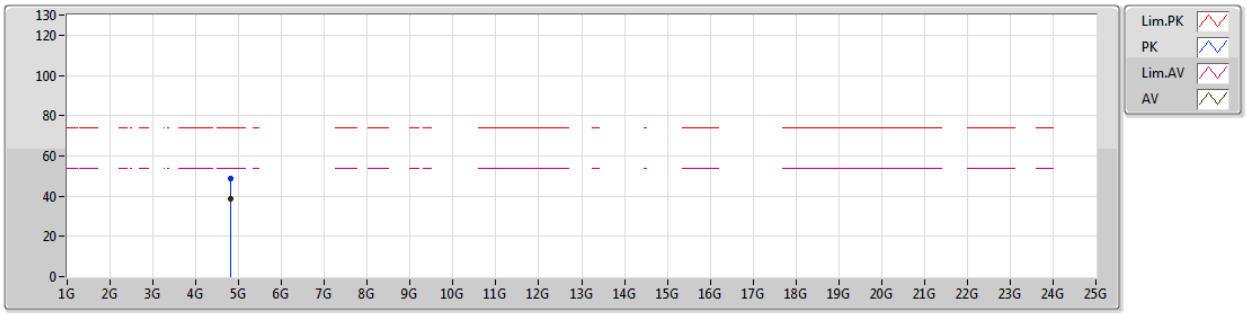

EUT Y_2TX
Setting 21
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.82404G | 51.60 | 74.00 | -22.40 | 6.87 | 3 | Vertical | 346 | 1.48 | - |
| AV | 4.82397G | 44.92 | 54.00 | -9.08 | 6.87 | 3 | Vertical | 346 | 1.48 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2412MHz_TX

01/11/2018



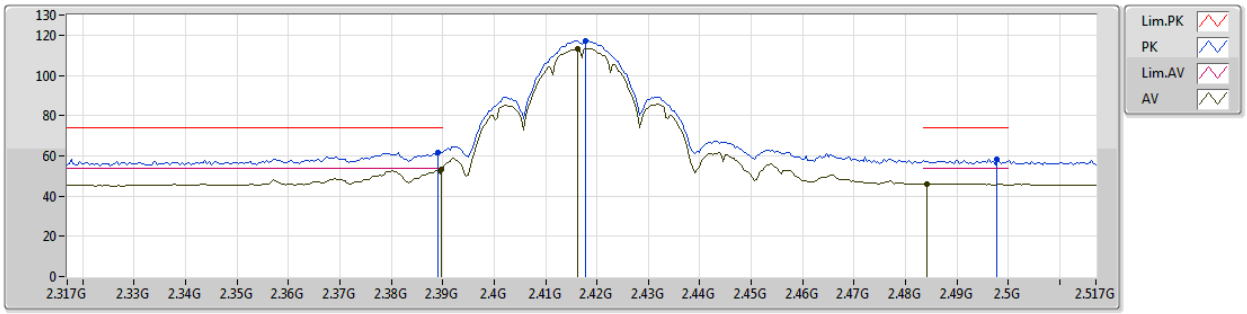

EUT Y_2TX
Setting 21
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.82418G | 48.60 | 74.00 | -25.40 | 6.87 | 3 | Horizontal | 210 | 2.36 | - |
| AV | 4.82395G | 38.53 | 54.00 | -15.47 | 6.87 | 3 | Horizontal | 210 | 2.36 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2417MHz_TX

22/11/2018



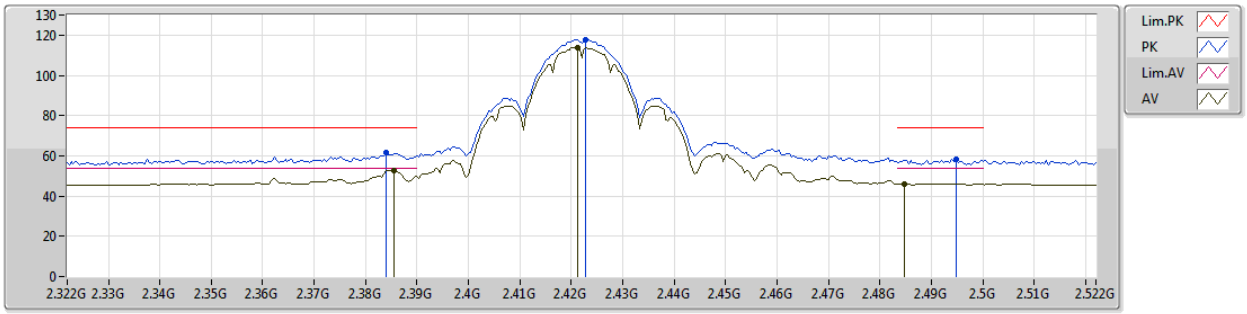

EUT Y_2TX
Setting 24
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.389G | 61.88 | 74.00 | -12.12 | 33.08 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.3898G | 53.29 | 54.00 | -0.71 | 33.08 | 3 | Vertical | 323 | 1.50 | - |
| PK | 2.4178G | 117.21 | Inf | -Inf | 33.15 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.4162G | 113.13 | Inf | -Inf | 33.14 | 3 | Vertical | 323 | 1.50 | - |
| PK | 2.4978G | 58.49 | 74.00 | -15.51 | 33.41 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.4842G | 46.17 | 54.00 | -7.83 | 33.36 | 3 | Vertical | 323 | 1.50 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2422MHz_TX

22/11/2018



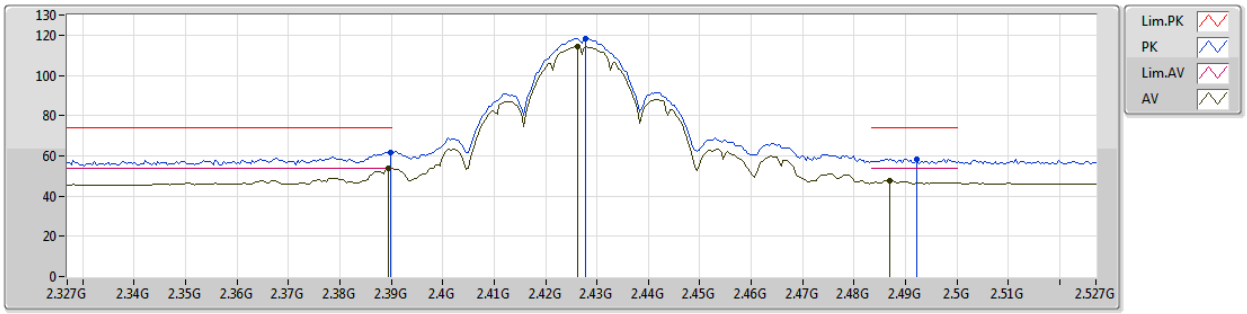

EUT Y_2TX
Setting 24
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.384G | 61.50 | 74.00 | -12.50 | 33.08 | 3 | Vertical | 325 | 1.60 | - |
| AV | 2.3856G | 52.67 | 54.00 | -1.33 | 33.07 | 3 | Vertical | 325 | 1.60 | - |
| PK | 2.4228G | 117.70 | Inf | -Inf | 33.17 | 3 | Vertical | 325 | 1.60 | - |
| AV | 2.4212G | 113.71 | Inf | -Inf | 33.16 | 3 | Vertical | 325 | 1.60 | - |
| PK | 2.4948G | 58.55 | 74.00 | -15.45 | 33.39 | 3 | Vertical | 325 | 1.60 | - |
| AV | 2.4848G | 46.21 | 54.00 | -7.79 | 33.36 | 3 | Vertical | 325 | 1.60 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2427MHz_TX

22/11/2018



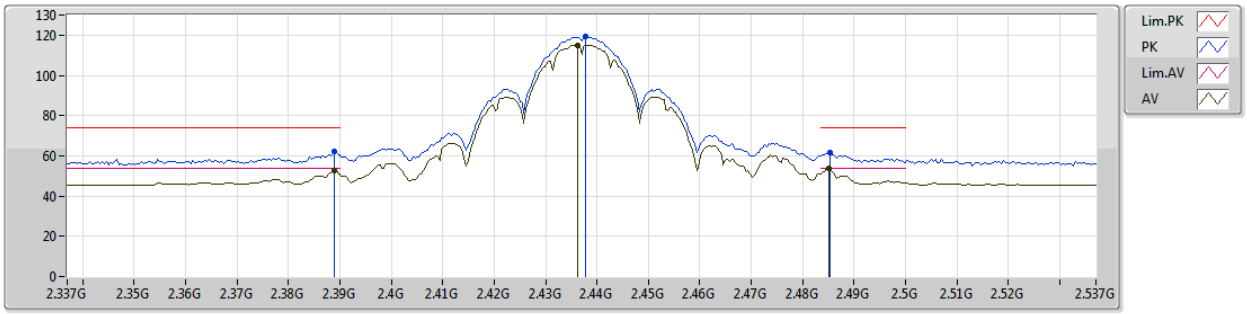

EUT Y_2TX
Setting 25
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3898G | 61.84 | 74.00 | -12.16 | 33.08 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.3894G | 53.90 | 54.00 | -0.10 | 33.08 | 3 | Vertical | 323 | 1.50 | - |
| PK | 2.4278G | 118.06 | Inf | -Inf | 33.18 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.4262G | 114.30 | Inf | -Inf | 33.17 | 3 | Vertical | 323 | 1.50 | - |
| PK | 2.4922G | 58.55 | 74.00 | -15.45 | 33.38 | 3 | Vertical | 323 | 1.50 | - |
| AV | 2.487G | 47.89 | 54.00 | -6.11 | 33.36 | 3 | Vertical | 323 | 1.50 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2437MHz_TX

01/11/2018



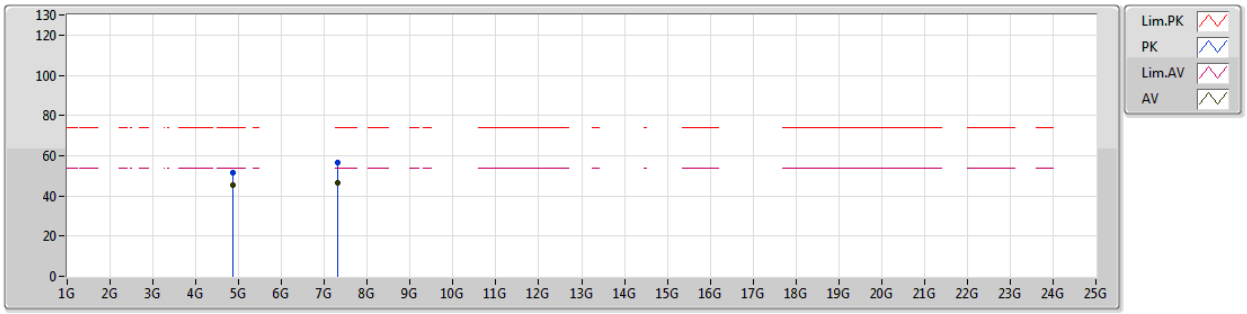

EUT Y_2TX
Setting 25
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.389G | 62.06 | 74.00 | -11.94 | 33.17 | 3 | Vertical | 311 | 1.56 | - |
| AV | 2.389G | 52.90 | 54.00 | -1.10 | 33.17 | 3 | Vertical | 311 | 1.56 | - |
| PK | 2.4378G | 119.10 | Inf | -Inf | 33.17 | 3 | Vertical | 311 | 1.56 | - |
| AV | 2.4362G | 115.11 | Inf | -Inf | 33.18 | 3 | Vertical | 311 | 1.56 | - |
| PK | 2.4854G | 61.56 | 74.00 | -12.44 | 33.19 | 3 | Vertical | 311 | 1.56 | - |
| AV | 2.485G | 53.68 | 54.00 | -0.32 | 33.18 | 3 | Vertical | 311 | 1.56 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2437MHz_TX

01/11/2018



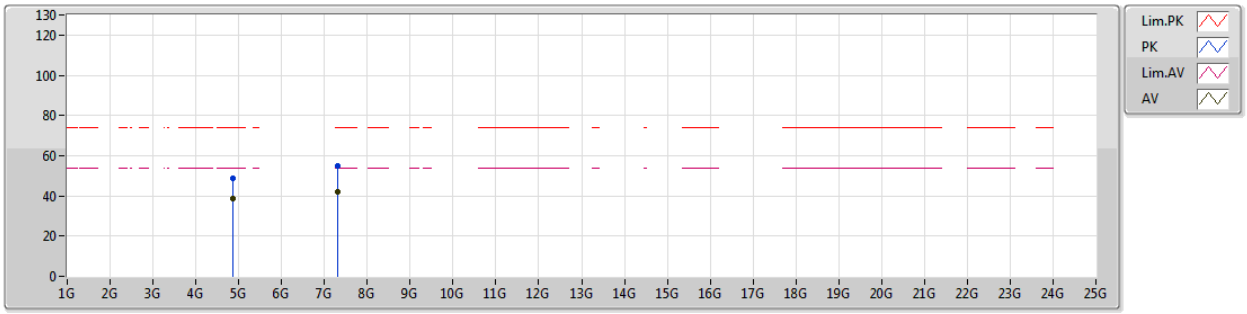

EUT Y_2TX
Setting 25
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.87391G | 51.82 | 74.00 | -22.18 | 6.98 | 3 | Vertical | 345 | 1.50 | - |
| AV | 4.87401G | 45.17 | 54.00 | -8.83 | 6.98 | 3 | Vertical | 345 | 1.50 | - |
| PK | 7.31188G | 56.36 | 74.00 | -17.64 | 11.70 | 3 | Vertical | 165 | 1.96 | - |
| AV | 7.31172G | 46.62 | 54.00 | -7.38 | 11.70 | 3 | Vertical | 165 | 1.96 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2437MHz_TX

01/11/2018



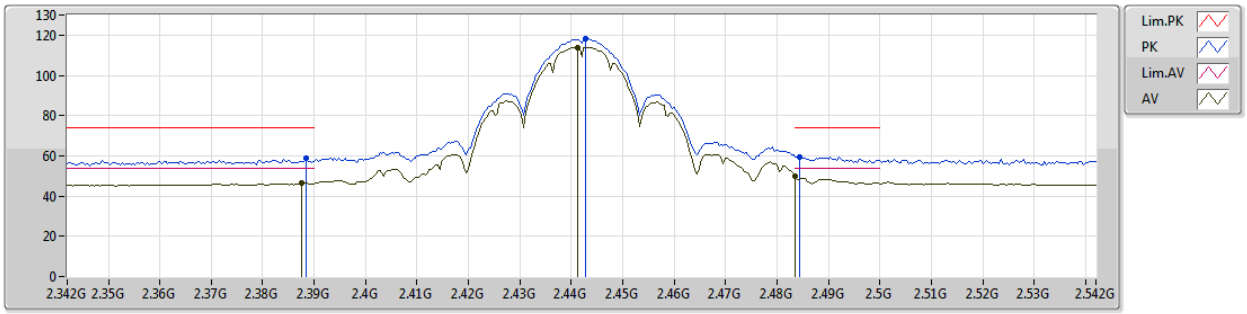

EUT Y_2TX
Setting 25
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.8741G | 48.88 | 74.00 | -25.12 | 6.98 | 3 | Horizontal | 214 | 2.37 | - |
| AV | 4.87404G | 38.45 | 54.00 | -15.55 | 6.98 | 3 | Horizontal | 214 | 2.37 | - |
| PK | 7.31224G | 54.96 | 74.00 | -19.04 | 11.70 | 3 | Horizontal | 123 | 2.70 | - |
| AV | 7.31168G | 42.18 | 54.00 | -11.82 | 11.70 | 3 | Horizontal | 123 | 2.70 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2442MHz_TX

22/11/2018



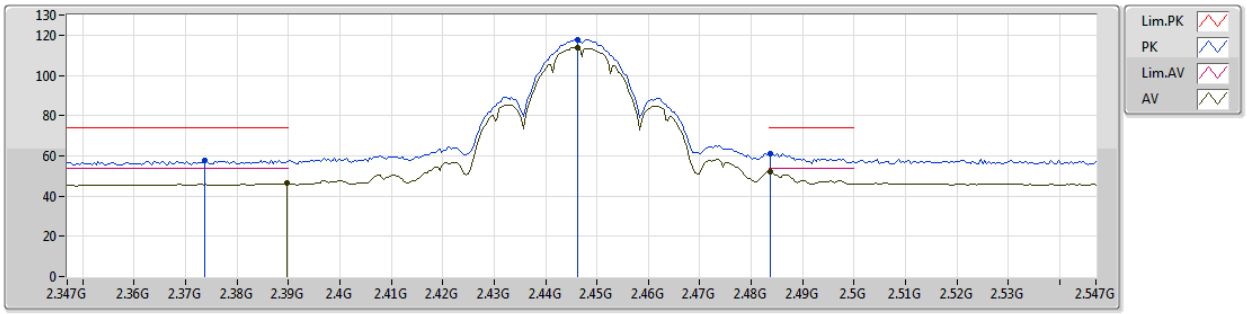

EUT Y_2TX
Setting 25
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3884G | 58.88 | 74.00 | -15.12 | 33.08 | 3 | Vertical | 323 | 1.19 | - |
| AV | 2.3876G | 46.64 | 54.00 | -7.36 | 33.08 | 3 | Vertical | 323 | 1.19 | - |
| PK | 2.4428G | 118.10 | Inf | -Inf | 33.23 | 3 | Vertical | 323 | 1.19 | - |
| AV | 2.4412G | 114.01 | Inf | -Inf | 33.22 | 3 | Vertical | 323 | 1.19 | - |
| PK | 2.4844G | 59.57 | 74.00 | -14.43 | 33.36 | 3 | Vertical | 323 | 1.19 | - |
| AV | 2.4835G | 49.75 | 54.00 | -4.25 | 33.36 | 3 | Vertical | 323 | 1.19 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2447MHz_TX

22/11/2018



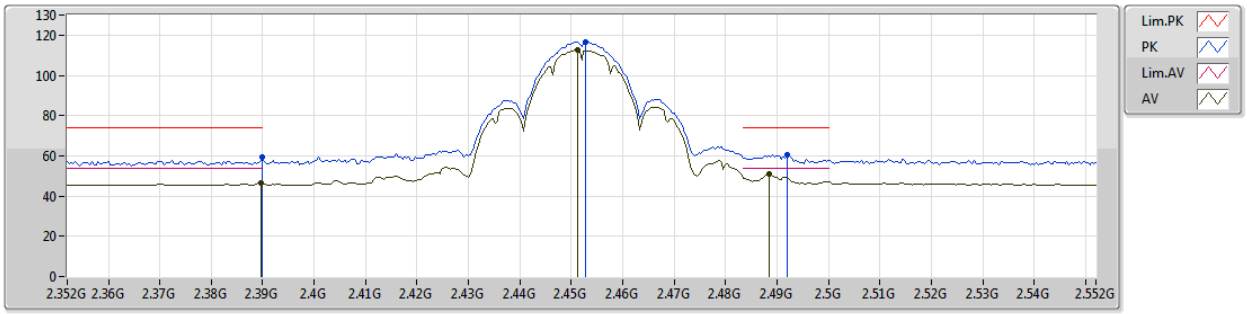

EUT Y_2TX
Setting 24
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3738G | 57.51 | 74.00 | -16.49 | 33.07 | 3 | Vertical | 322 | 1.17 | - |
| AV | 2.3898G | 46.25 | 54.00 | -7.75 | 33.08 | 3 | Vertical | 322 | 1.17 | - |
| PK | 2.4462G | 117.78 | Inf | -Inf | 33.24 | 3 | Vertical | 322 | 1.17 | - |
| AV | 2.4462G | 113.73 | Inf | -Inf | 33.24 | 3 | Vertical | 322 | 1.17 | - |
| PK | 2.4838G | 61.11 | 74.00 | -12.89 | 33.36 | 3 | Vertical | 322 | 1.17 | - |
| AV | 2.4838G | 52.31 | 54.00 | -1.69 | 33.36 | 3 | Vertical | 322 | 1.17 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2452MHz_TX

22/11/2018



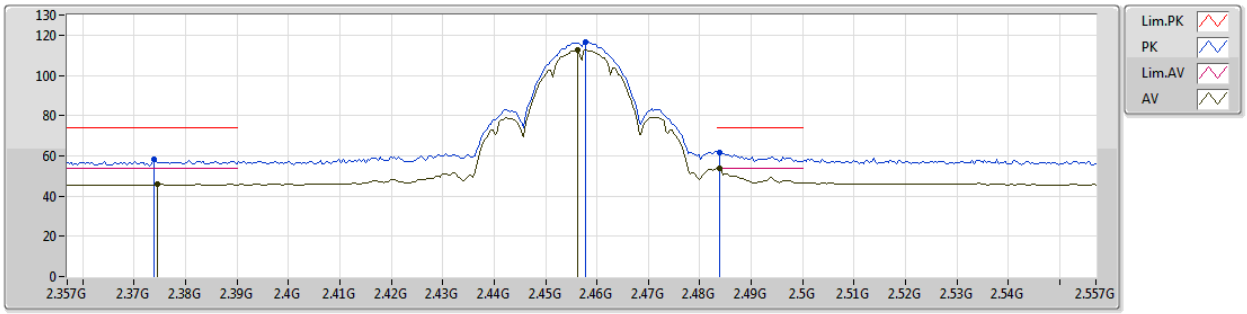

EUT Y_2TX
Setting 24
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.39G | 59.41 | 74.00 | -14.59 | 33.08 | 3 | Vertical | 322 | 1.59 | - |
| AV | 2.3896G | 46.68 | 54.00 | -7.32 | 33.08 | 3 | Vertical | 322 | 1.59 | - |
| PK | 2.4528G | 116.53 | Inf | -Inf | 33.26 | 3 | Vertical | 322 | 1.59 | - |
| AV | 2.4512G | 112.56 | Inf | -Inf | 33.25 | 3 | Vertical | 322 | 1.59 | - |
| PK | 2.492G | 60.47 | 74.00 | -13.53 | 33.38 | 3 | Vertical | 322 | 1.59 | - |
| AV | 2.4884G | 50.73 | 54.00 | -3.27 | 33.38 | 3 | Vertical | 322 | 1.59 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2457MHz_TX

22/11/2018



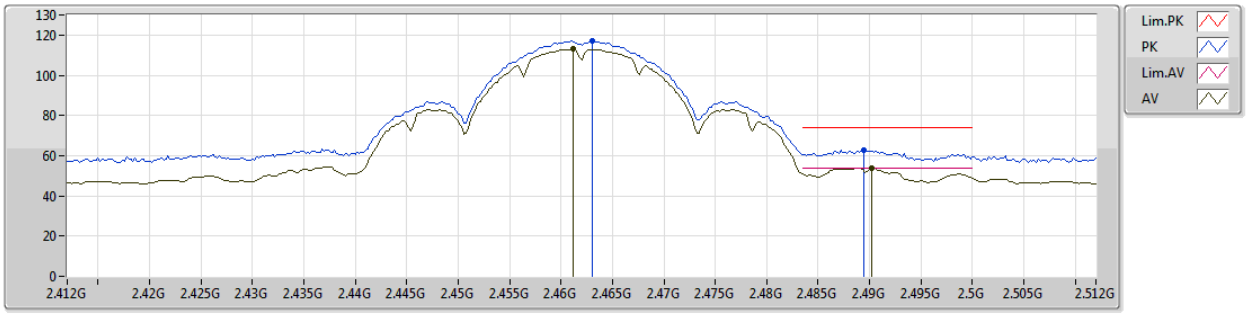

EUT Y_2TX
Setting 23
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3738G | 58.08 | 74.00 | -15.92 | 33.07 | 3 | Vertical | 322 | 1.50 | - |
| AV | 2.3746G | 45.87 | 54.00 | -8.13 | 33.07 | 3 | Vertical | 322 | 1.50 | - |
| PK | 2.4578G | 116.47 | Inf | -Inf | 33.28 | 3 | Vertical | 322 | 1.50 | - |
| AV | 2.4562G | 112.40 | Inf | -Inf | 33.27 | 3 | Vertical | 322 | 1.50 | - |
| PK | 2.4838G | 61.84 | 74.00 | -12.16 | 33.36 | 3 | Vertical | 322 | 1.50 | - |
| AV | 2.4838G | 53.73 | 54.00 | -0.27 | 33.36 | 3 | Vertical | 322 | 1.50 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2462MHz_TX

01/11/2018



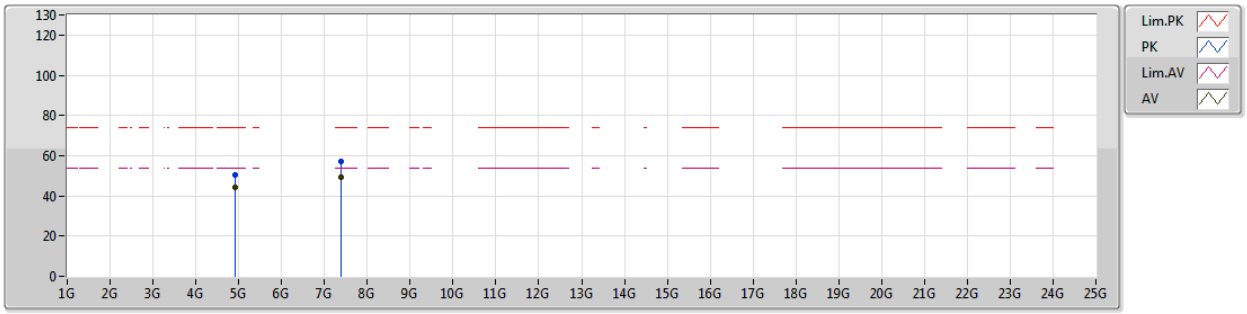

EUT Y_2TX
Setting 23
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.463G | 116.89 | Inf | -Inf | 33.19 | 3 | Vertical | 317 | 1.50 | - |
| AV | 2.4612G | 112.97 | Inf | -Inf | 33.18 | 3 | Vertical | 317 | 1.50 | - |
| PK | 2.4894G | 62.85 | 74.00 | -11.15 | 33.19 | 3 | Vertical | 317 | 1.50 | - |
| AV | 2.4902G | 53.89 | 54.00 | -0.11 | 33.18 | 3 | Vertical | 317 | 1.50 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2462MHz_TX

01/11/2018



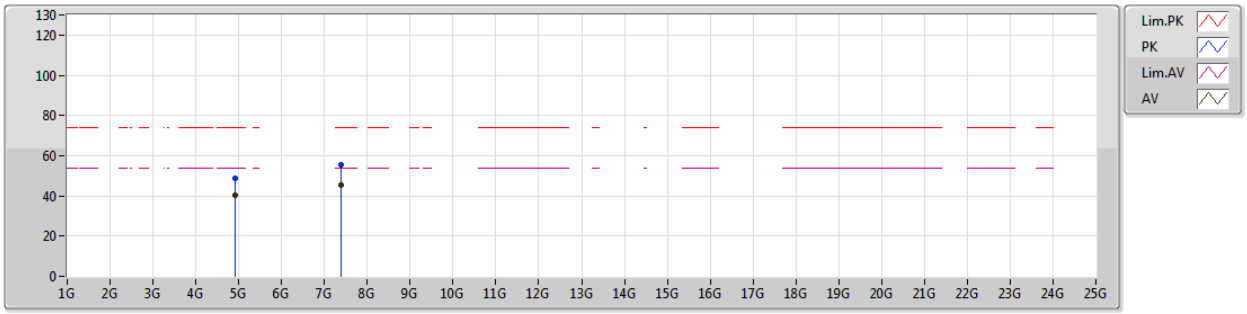

EUT Y_2TX
Setting 23
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.92411G | 50.67 | 74.00 | -23.33 | 7.11 | 3 | Vertical | 341 | 1.50 | - |
| AV | 4.92397G | 44.25 | 54.00 | -9.75 | 7.11 | 3 | Vertical | 341 | 1.50 | - |
| PK | 7.38488G | 57.36 | 74.00 | -16.64 | 11.68 | 3 | Vertical | 162 | 1.89 | - |
| AV | 7.3852G | 49.32 | 54.00 | -4.68 | 11.68 | 3 | Vertical | 162 | 1.89 | - |

## 802.11b_Nss1,(1Mbps)_2TX

## 2462MHz_TX

01/11/2018



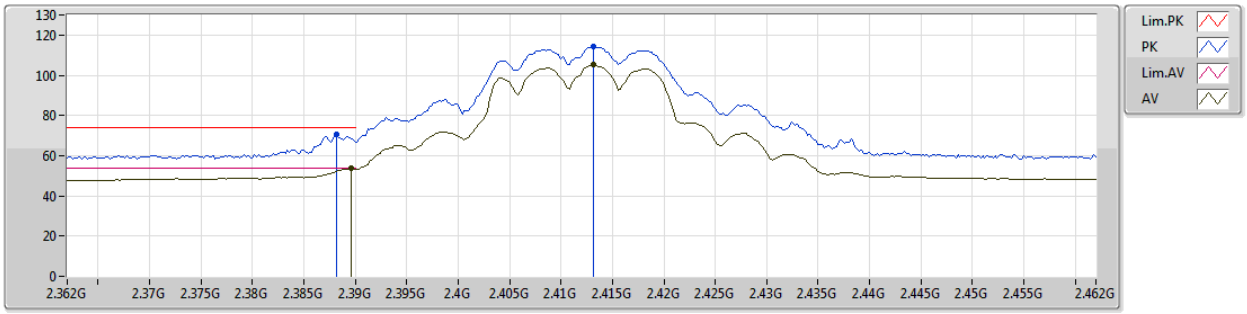

EUT Y_2TX
Setting 23
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.92414G | 48.59 | 74.00 | -25.41 | 7.11 | 3 | Horizontal | 335 | 1.01 | - |
| AV | 4.92398G | 40.27 | 54.00 | -13.73 | 7.11 | 3 | Horizontal | 335 | 1.01 | - |
| PK | 7.3856G | 55.61 | 74.00 | -18.39 | 11.68 | 3 | Horizontal | 122 | 1.92 | - |
| AV | 7.3868G | 45.41 | 54.00 | -8.59 | 11.68 | 3 | Horizontal | 122 | 1.92 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2412MHz_TX

01/11/2018



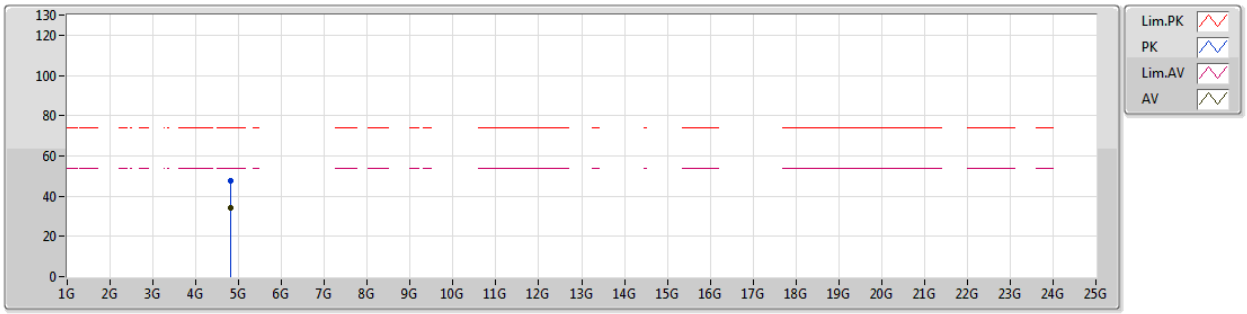

EUT Y_2TX
Setting 1A
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3882G | 70.76 | 74.00 | -3.24 | 33.17 | 3 | Vertical | 330 | 1.50 | - |
| AV | 2.3896G | 53.76 | 54.00 | -0.24 | 33.17 | 3 | Vertical | 330 | 1.50 | - |
| PK | 2.4132G | 114.24 | Inf | -Inf | 33.17 | 3 | Vertical | 330 | 1.50 | - |
| AV | 2.4132G | 105.12 | Inf | -Inf | 33.17 | 3 | Vertical | 330 | 1.50 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2412MHz_TX

01/11/2018



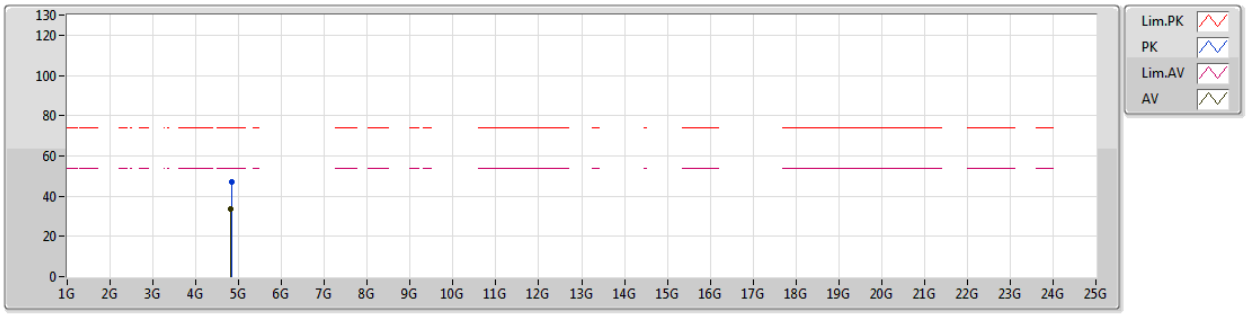

EUT Y_2TX
Setting 1A
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.82374G | 47.47 | 74.00 | -26.53 | 6.87 | 3 | Vertical | 186 | 1.01 | - |
| AV | 4.82398G | 34.26 | 54.00 | -19.74 | 6.87 | 3 | Vertical | 186 | 1.01 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2412MHz_TX

01/11/2018



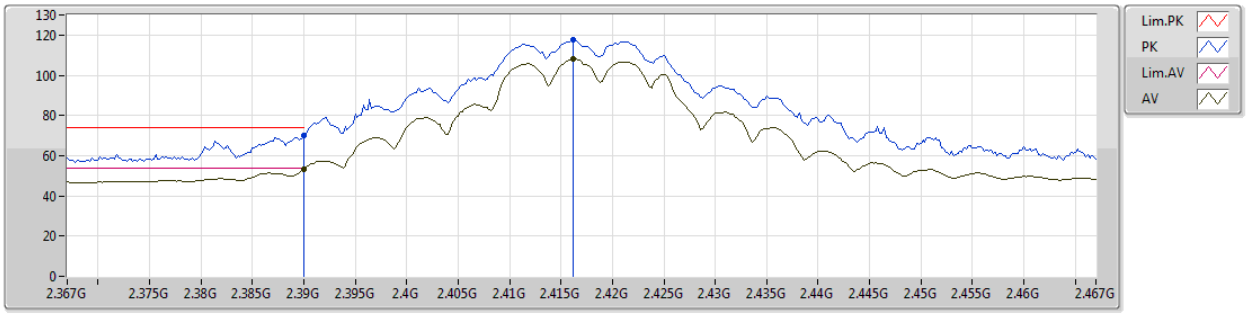

EUT Y_2TX
Setting 1A
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.82688G | 46.99 | 74.00 | -27.01 | 6.88 | 3 | Horizontal | 247 | 2.99 | - |
| AV | 4.82364G | 33.45 | 54.00 | -20.55 | 6.86 | 3 | Horizontal | 247 | 2.99 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2417MHz_TX

23/11/2018



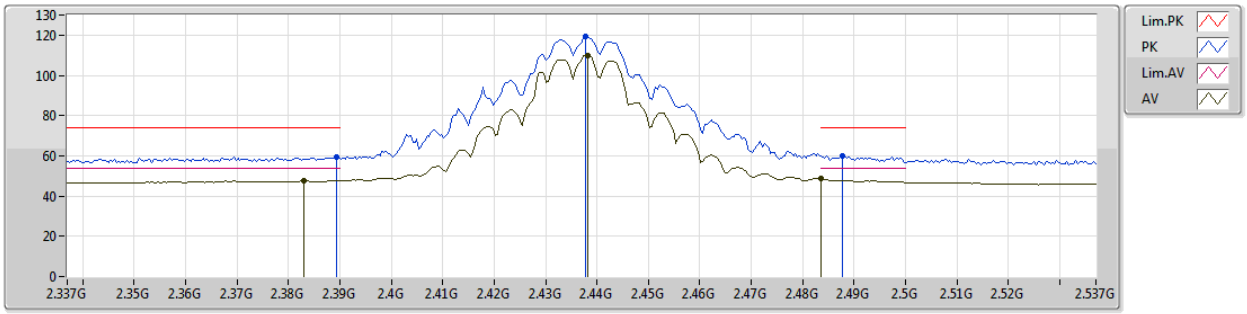

EUT Y_2TX
Setting 2F
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.39G | 70.22 | 74.00 | -3.78 | 32.13 | 3 | Vertical | 308 | 1.45 | - |
| AV | 2.39G | 53.50 | 54.00 | -0.50 | 32.13 | 3 | Vertical | 308 | 1.45 | - |
| PK | 2.4162G | 117.80 | Inf | -Inf | 32.21 | 3 | Vertical | 308 | 1.45 | - |
| AV | 2.4162G | 107.97 | Inf | -Inf | 32.21 | 3 | Vertical | 308 | 1.45 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2437MHz_TX

01/11/2018



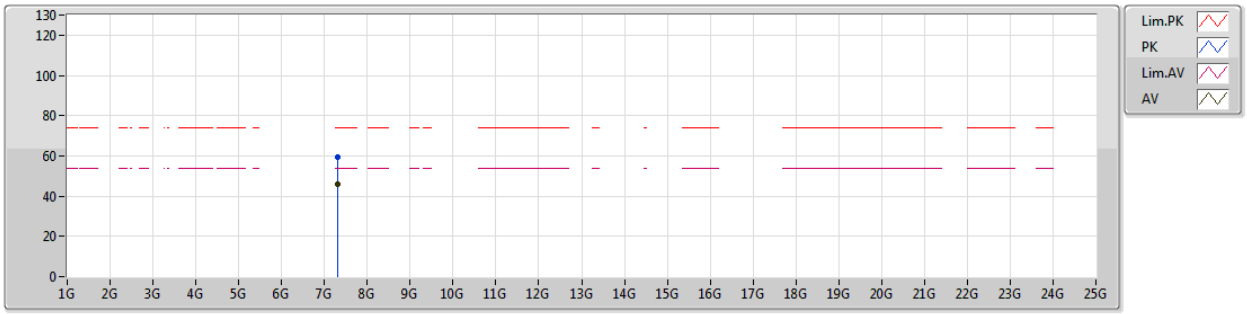

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3894G | 59.52 | 74.00 | -14.48 | 33.17 | 3 | Vertical | 330 | 1.76 | - |
| AV | 2.383G | 47.64 | 54.00 | -6.36 | 33.16 | 3 | Vertical | 330 | 1.76 | - |
| PK | 2.4378G | 119.47 | Inf | -Inf | 33.17 | 3 | Vertical | 330 | 1.76 | - |
| AV | 2.4382G | 110.09 | Inf | -Inf | 33.17 | 3 | Vertical | 330 | 1.76 | - |
| PK | 2.4878G | 60.15 | 74.00 | -13.85 | 33.19 | 3 | Vertical | 330 | 1.76 | - |
| AV | 2.4835G | 48.71 | 54.00 | -5.29 | 33.18 | 3 | Vertical | 330 | 1.76 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2437MHz_TX

01/11/2018



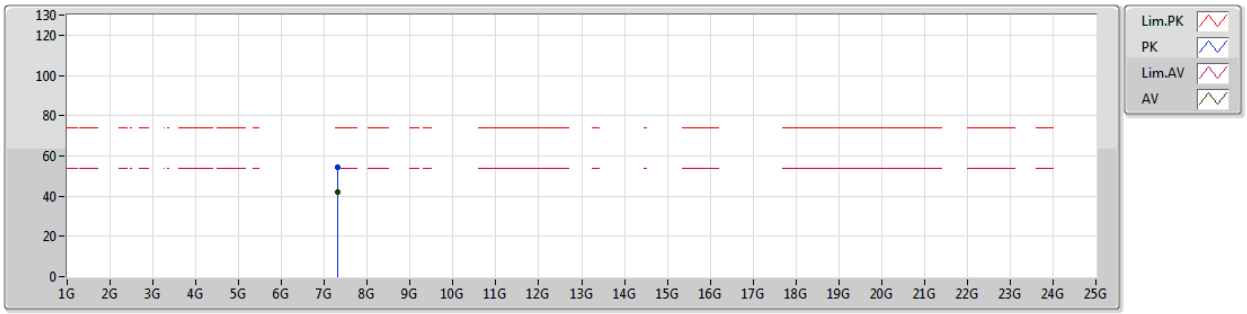

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.30852G | 59.64 | 74.00 | -14.36 | 11.69 | 3 | Vertical | 179 | 1.99 | - |
| AV | 7.313G | 45.82 | 54.00 | -8.18 | 11.70 | 3 | Vertical | 179 | 1.99 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2437MHz_TX

01/11/2018



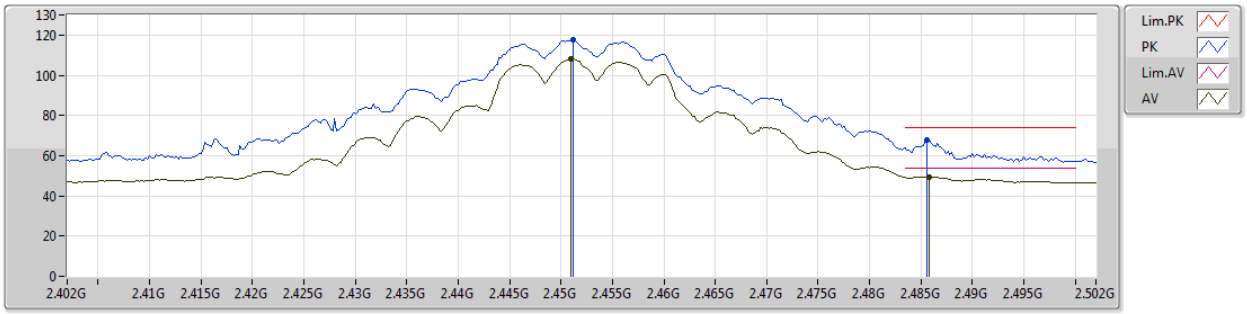

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.31316G | 54.62 | 74.00 | -19.38 | 11.70 | 3 | Horizontal | 137 | 2.62 | - |
| AV | 7.3126G | 41.85 | 54.00 | -12.15 | 11.70 | 3 | Horizontal | 137 | 2.62 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2452MHz_TX

23/11/2018



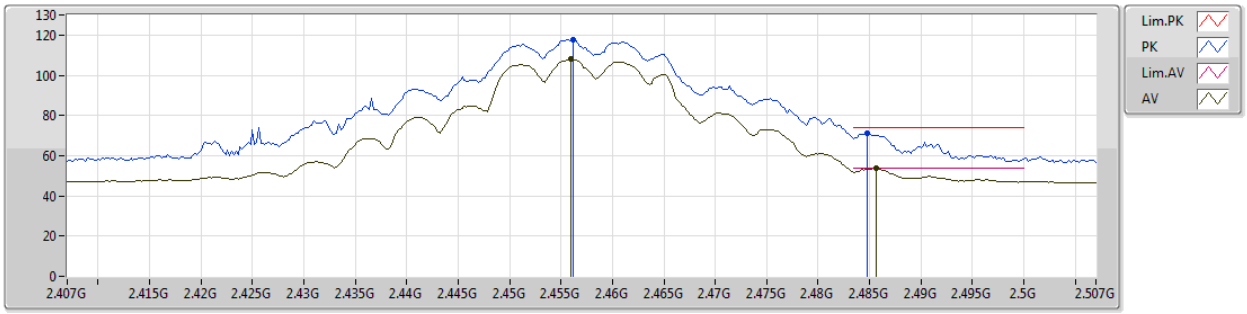

EUT Y_2TX
Setting 2F
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.4512G | 117.70 | Inf | -Inf | 32.31 | 3 | Vertical | 307 | 1.59 | - |
| AV | 2.451G | 107.91 | Inf | -Inf | 32.31 | 3 | Vertical | 307 | 1.59 | - |
| PK | 2.4856G | 67.86 | 74.00 | -6.14 | 32.42 | 3 | Vertical | 307 | 1.59 | - |
| AV | 2.4858G | 49.57 | 54.00 | -4.43 | 32.42 | 3 | Vertical | 307 | 1.59 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2457MHz_TX

23/11/2018



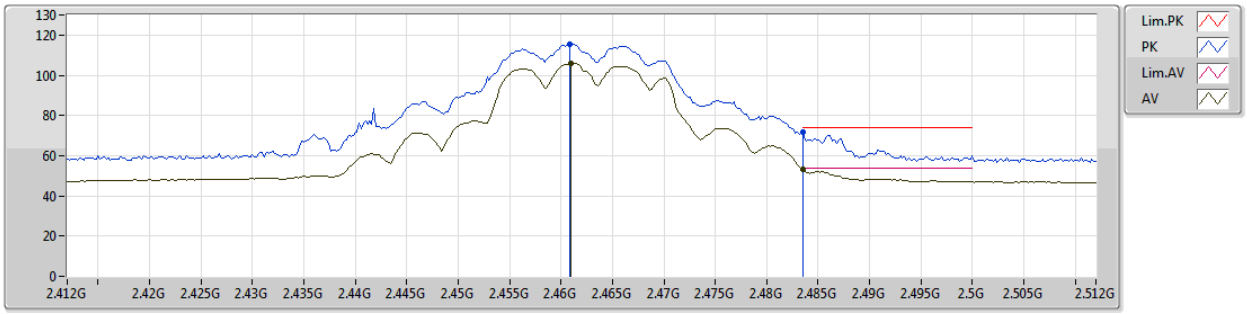

EUT Y_2TX
Setting 22
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.4562G | 117.63 | Inf | -Inf | 32.32 | 3 | Vertical | 306 | 1.58 | - |
| AV | 2.456G | 107.99 | Inf | -Inf | 32.32 | 3 | Vertical | 306 | 1.58 | - |
| PK | 2.4848G | 71.44 | 74.00 | -2.56 | 32.42 | 3 | Vertical | 306 | 1.58 | - |
| AV | 2.4856G | 53.61 | 54.00 | -0.39 | 32.42 | 3 | Vertical | 306 | 1.58 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2462MHz_TX

01/11/2018



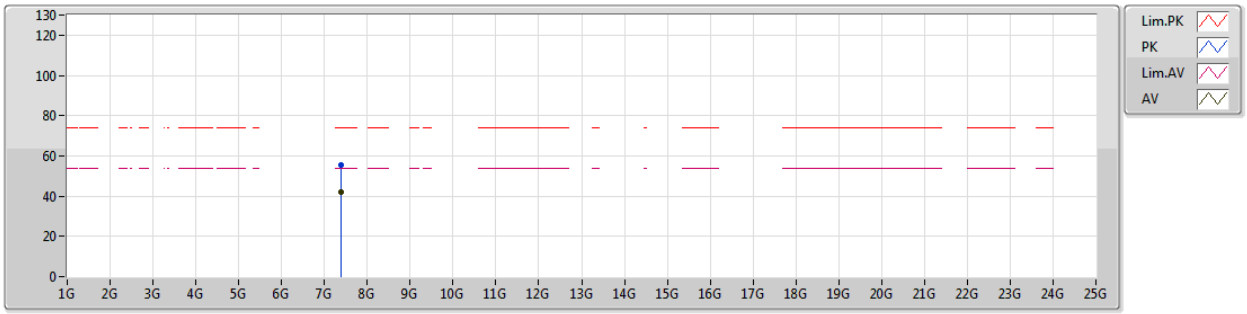

EUT Y_2TX
Setting 1B
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.4608G | 115.42 | Inf | -Inf | 33.18 | 3 | Vertical | 297 | 1.50 | - |
| AV | 2.461G | 105.96 | Inf | -Inf | 33.18 | 3 | Vertical | 297 | 1.50 | - |
| PK | 2.4835G | 71.50 | 74.00 | -2.50 | 33.18 | 3 | Vertical | 297 | 1.50 | - |
| AV | 2.4835G | 53.47 | 54.00 | -0.53 | 33.18 | 3 | Vertical | 297 | 1.50 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2462MHz_TX

01/11/2018



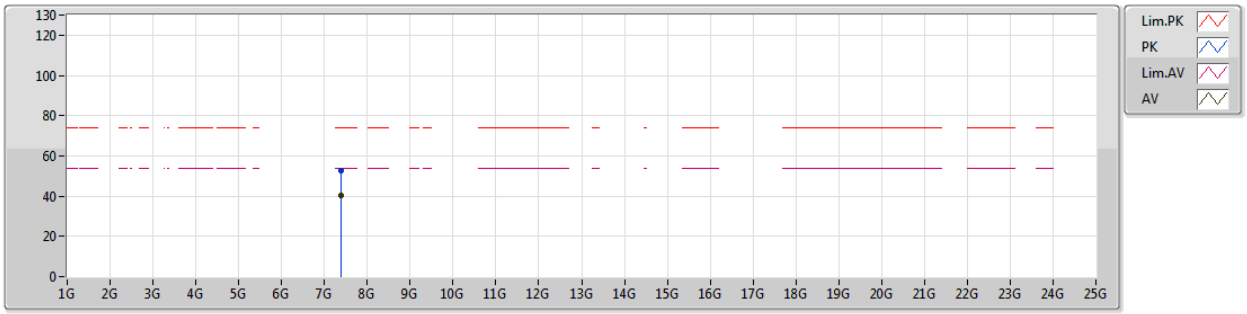

EUT Y_2TX
Setting 1B
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.3875G | 55.44 | 74.00 | -18.56 | 11.68 | 3 | Vertical | 181 | 2.40 | - |
| AV | 7.3878G | 42.09 | 54.00 | -11.91 | 11.68 | 3 | Vertical | 181 | 2.40 | - |

## 802.11g_Nss1,(6Mbps)_2TX

## 2462MHz_TX

01/11/2018



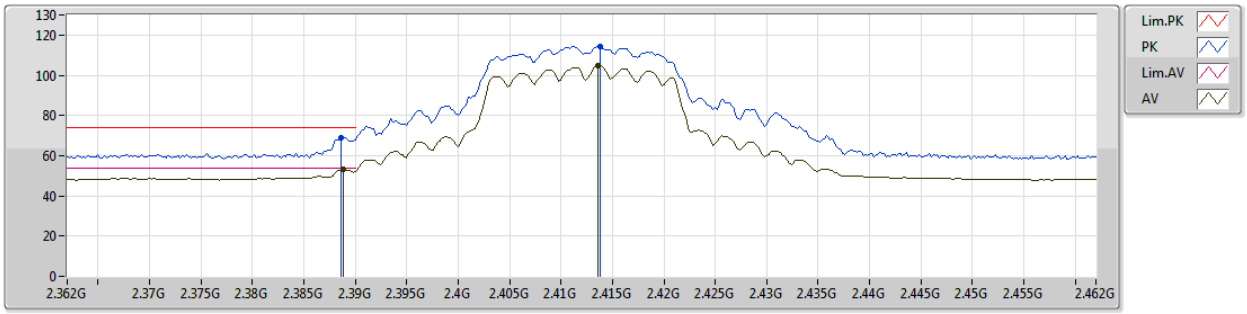

EUT Y_2TX
Setting 1B
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.3832G | 52.83 | 74.00 | -21.17 | 11.69 | 3 | Horizontal | 127 | 2.98 | - |
| AV | 7.3834G | 40.23 | 54.00 | -13.77 | 11.68 | 3 | Horizontal | 127 | 2.98 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2412MHz_TX

01/11/2018



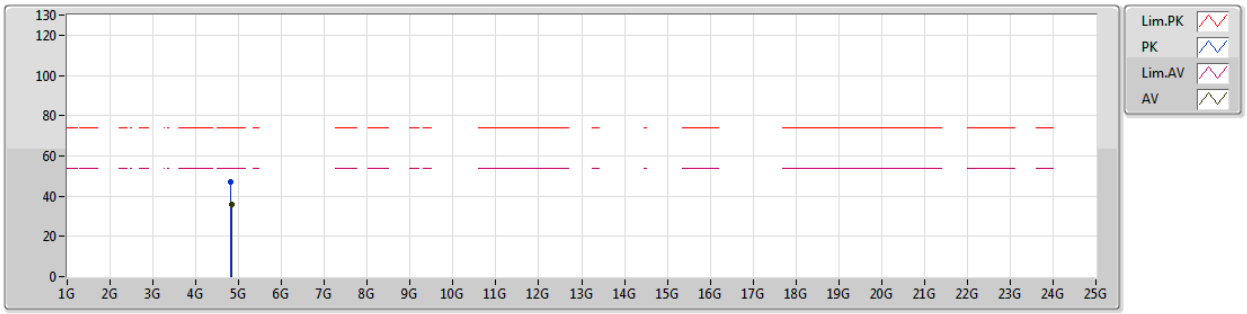

EUT Y_2TX
Setting 18
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3886G | 68.89 | 74.00 | -5.11 | 33.17 | 3 | Vertical | 279 | 1.88 | - |
| AV | 2.3888G | 53.12 | 54.00 | -0.88 | 33.17 | 3 | Vertical | 279 | 1.88 | - |
| PK | 2.4138G | 114.33 | Inf | -Inf | 33.17 | 3 | Vertical | 279 | 1.88 | - |
| AV | 2.4136G | 104.64 | Inf | -Inf | 33.17 | 3 | Vertical | 279 | 1.88 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2412MHz_TX

01/11/2018



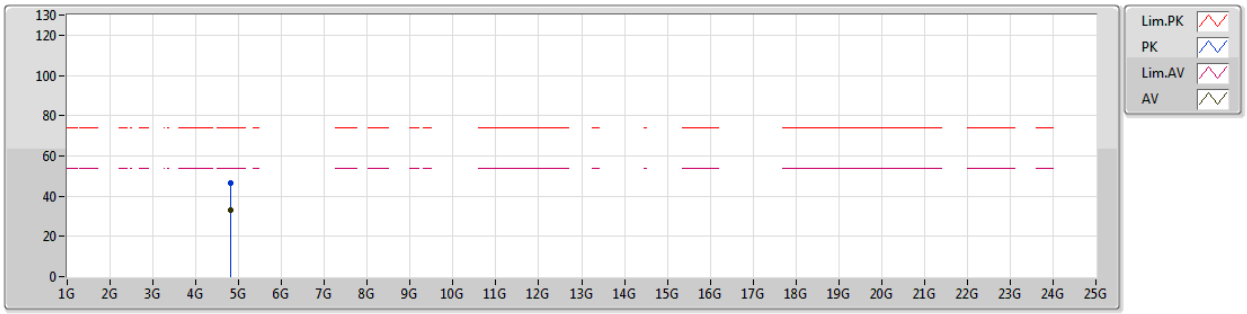

EUT Y_2TX
Setting 18
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.81508G | 46.80 | 74.00 | -27.20 | 6.84 | 3 | Vertical | 27 | 1.50 | - |
| AV | 4.834G | 35.67 | 54.00 | -18.33 | 6.89 | 3 | Vertical | 27 | 1.50 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2412MHz_TX

01/11/2018



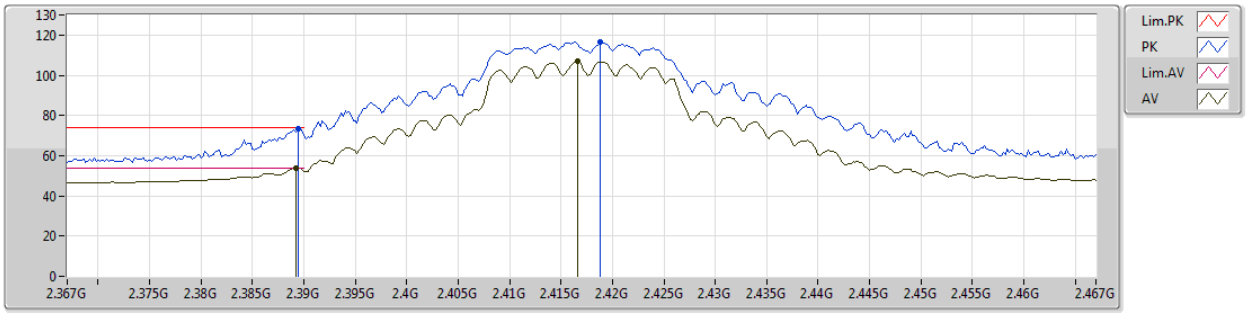

EUT Y_2TX
Setting 18
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 4.81772G | 46.52 | 74.00 | -27.48 | 6.85 | 3 | Horizontal | 150 | 1.50 | - |
| AV | 4.823G | 33.32 | 54.00 | -20.68 | 6.86 | 3 | Horizontal | 150 | 1.50 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2417MHz_TX

23/11/2018



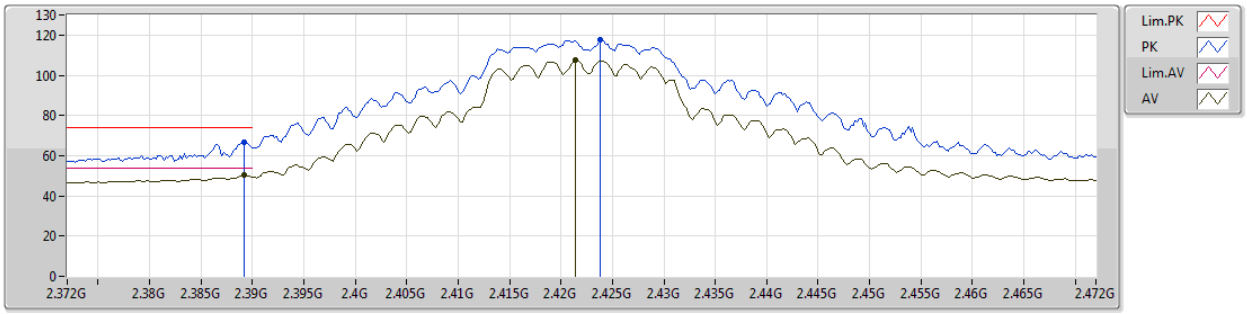

EUT Y_2TX
Setting 21
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3894G | 73.53 | 74.00 | -0.47 | 32.13 | 3 | Vertical | 305 | 1.64 | - |
| AV | 2.3892G | 53.66 | 54.00 | -0.34 | 32.13 | 3 | Vertical | 305 | 1.64 | - |
| PK | 2.4188G | 116.80 | Inf | -Inf | 32.22 | 3 | Vertical | 305 | 1.64 | - |
| AV | 2.4166G | 106.82 | Inf | -Inf | 32.21 | 3 | Vertical | 305 | 1.64 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2422MHz_TX

23/11/2018



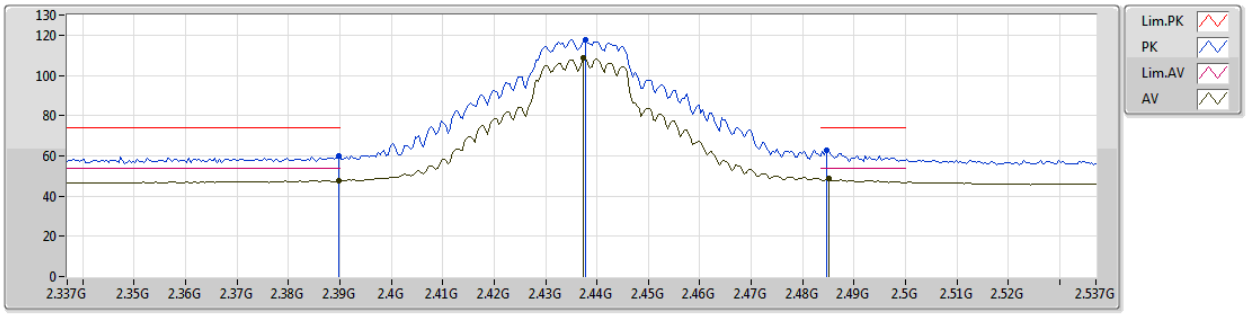

EUT Y_2TX
Setting 2F
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3892G | 66.93 | 74.00 | -7.07 | 32.13 | 3 | Vertical | 306 | 1.62 | - |
| AV | 2.3892G | 50.27 | 54.00 | -3.73 | 32.13 | 3 | Vertical | 306 | 1.62 | - |
| PK | 2.4238G | 117.43 | Inf | -Inf | 32.23 | 3 | Vertical | 306 | 1.62 | - |
| AV | 2.4214G | 107.35 | Inf | -Inf | 32.23 | 3 | Vertical | 306 | 1.62 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



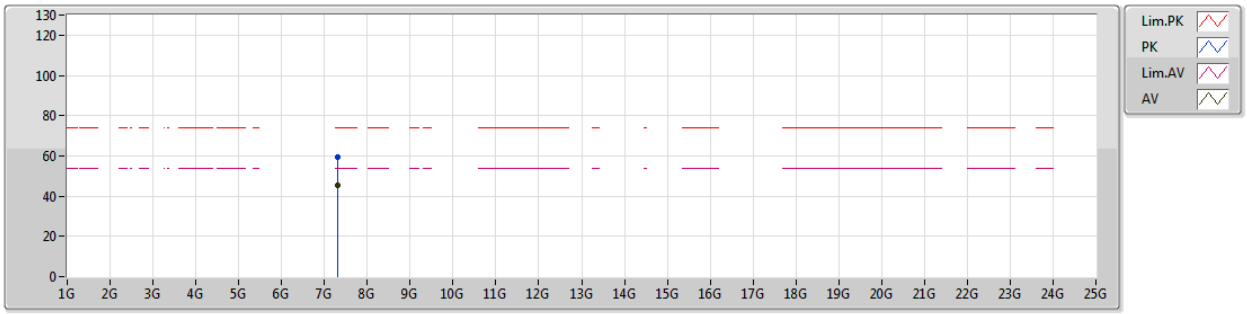

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3898G | 59.78 | 74.00 | -14.22 | 33.17 | 3 | Vertical | 331 | 1.78 | - |
| AV | 2.3898G | 47.59 | 54.00 | -6.41 | 33.17 | 3 | Vertical | 331 | 1.78 | - |
| PK | 2.4378G | 117.47 | Inf | -Inf | 33.17 | 3 | Vertical | 331 | 1.78 | - |
| AV | 2.4374G | 108.54 | Inf | -Inf | 33.17 | 3 | Vertical | 331 | 1.78 | - |
| PK | 2.4846G | 62.59 | 74.00 | -11.41 | 33.18 | 3 | Vertical | 331 | 1.78 | - |
| AV | 2.485G | 48.50 | 54.00 | -5.50 | 33.18 | 3 | Vertical | 331 | 1.78 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



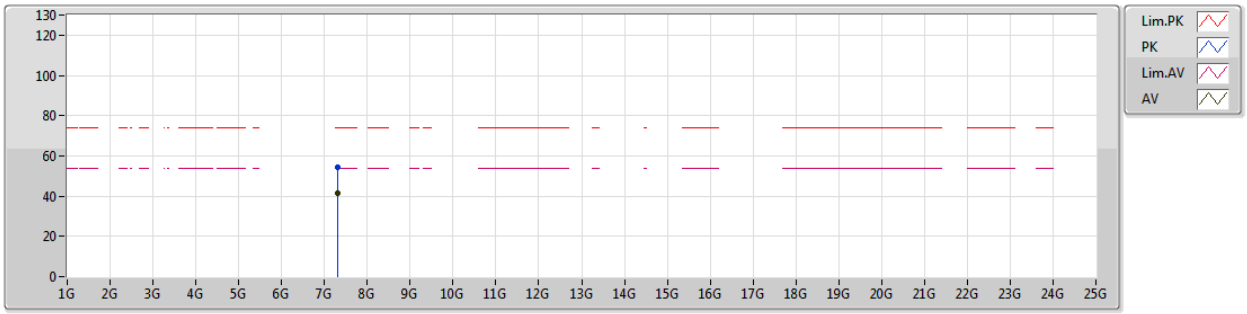

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.3073G | 59.43 | 74.00 | -14.57 | 11.70 | 3 | Vertical | 178 | 2.10 | - |
| AV | 7.3094G | 45.12 | 54.00 | -8.88 | 11.69 | 3 | Vertical | 178 | 2.10 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



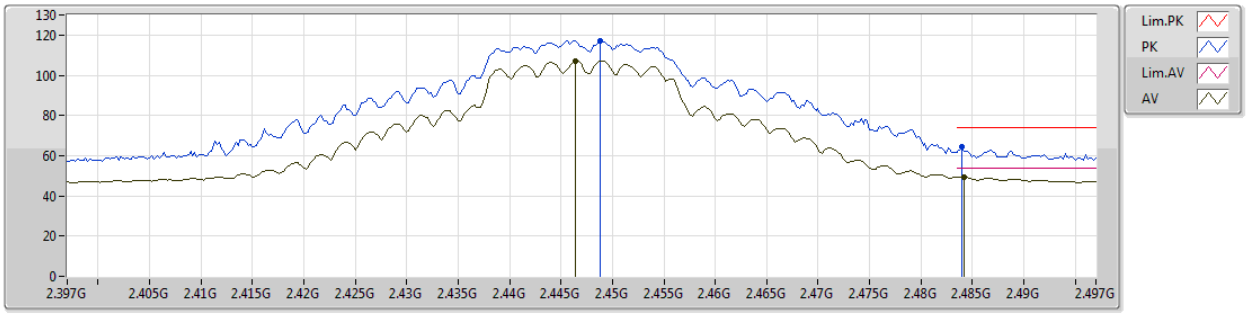

EUT Y_2TX
Setting 2F
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.3142G | 54.10 | 74.00 | -19.90 | 11.70 | 3 | Horizontal | 119 | 2.84 | - |
| AV | 7.3118G | 41.30 | 54.00 | -12.70 | 11.70 | 3 | Horizontal | 119 | 2.84 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2447MHz_TX

23/11/2018



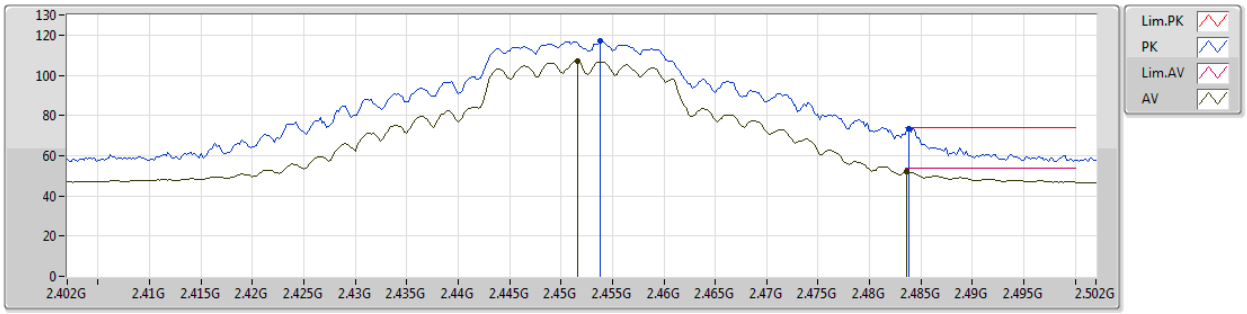

EUT Y_2TX
Setting 2F
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.4488G | 117.37 | Inf | -Inf | 32.31 | 3 | Vertical | 306 | 1.58 | - |
| AV | 2.4464G | 107.29 | Inf | -Inf | 32.30 | 3 | Vertical | 306 | 1.58 | - |
| PK | 2.484G | 64.23 | 74.00 | -9.77 | 32.41 | 3 | Vertical | 306 | 1.58 | - |
| AV | 2.4842G | 49.54 | 54.00 | -4.46 | 32.42 | 3 | Vertical | 306 | 1.58 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2452MHz_TX

23/11/2018



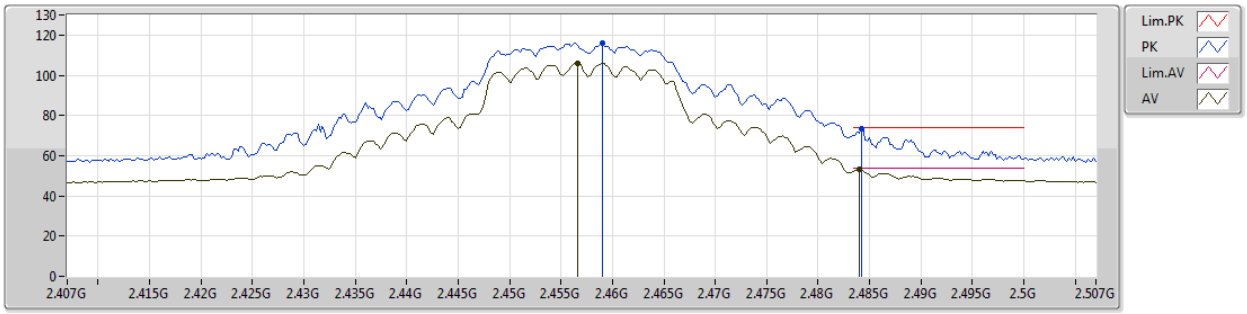

EUT Y_2TX
Setting 22
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.4538G | 117.06 | Inf | -Inf | 32.32 | 3 | Vertical | 305 | 1.61 | - |
| AV | 2.4516G | 107.06 | Inf | -Inf | 32.31 | 3 | Vertical | 305 | 1.61 | - |
| PK | 2.4838G | 73.65 | 74.00 | -0.35 | 32.41 | 3 | Vertical | 305 | 1.61 | - |
| AV | 2.4836G | 51.95 | 54.00 | -2.05 | 32.41 | 3 | Vertical | 305 | 1.61 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2457MHz_TX

23/11/2018



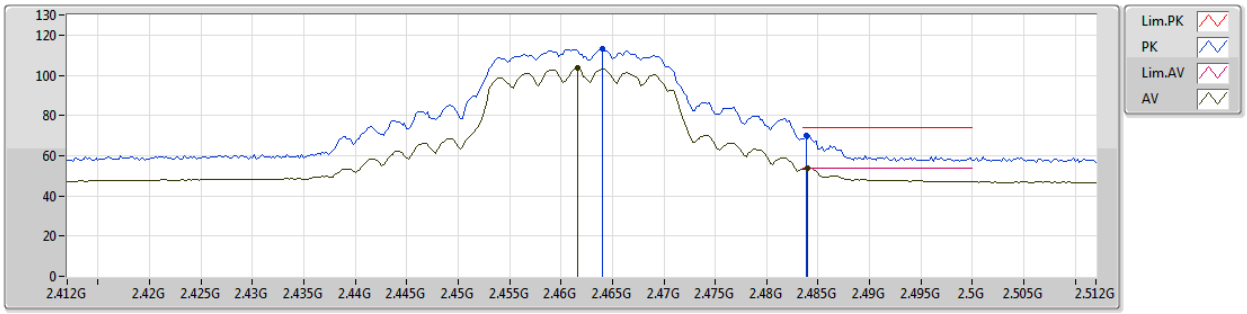

EUT Y_2TX
Setting 1F
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.459G | 115.82 | Inf | -Inf | 32.34 | 3 | Vertical | 305 | 1.50 | - |
| AV | 2.4566G | 106.01 | Inf | -Inf | 32.33 | 3 | Vertical | 305 | 1.50 | - |
| PK | 2.4842G | 73.58 | 74.00 | -0.42 | 32.42 | 3 | Vertical | 305 | 1.50 | - |
| AV | 2.484G | 53.09 | 54.00 | -0.91 | 32.41 | 3 | Vertical | 305 | 1.50 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2462MHz_TX

01/11/2018



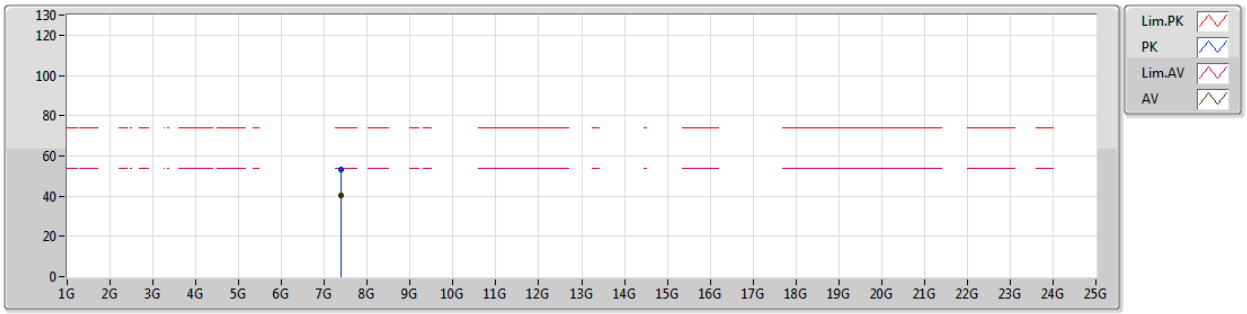

EUT Y_2TX
Setting 17
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.464G | 113.34 | Inf | -Inf | 33.18 | 3 | Vertical | 298 | 1.50 | - |
| AV | 2.4616G | 103.43 | Inf | -Inf | 33.18 | 3 | Vertical | 298 | 1.50 | - |
| PK | 2.4838G | 69.84 | 74.00 | -4.16 | 33.18 | 3 | Vertical | 298 | 1.50 | - |
| AV | 2.484G | 53.98 | 54.00 | -0.02 | 33.18 | 3 | Vertical | 298 | 1.50 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2462MHz_TX

01/11/2018



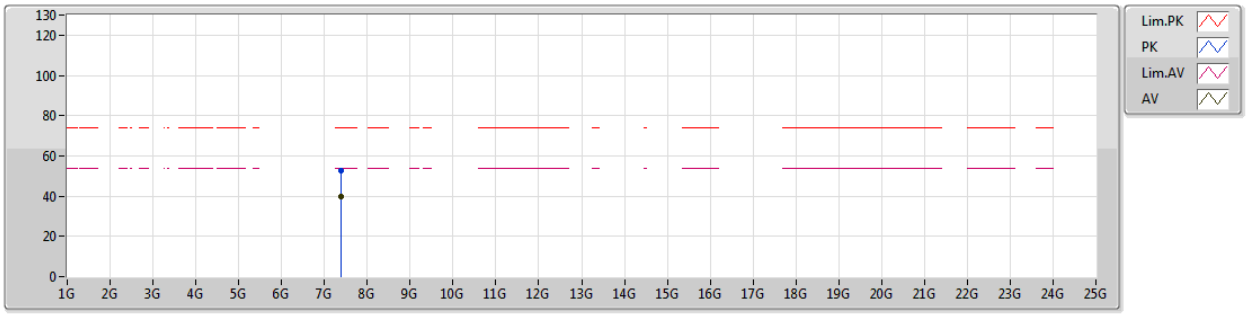

EUT Y_2TX
Setting 17
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.39638G | 53.14 | 74.00 | -20.86 | 11.68 | 3 | Vertical | 193 | 2.41 | - |
| AV | 7.3821G | 40.23 | 54.00 | -13.77 | 11.69 | 3 | Vertical | 193 | 2.41 | - |

## 802.11n HT20_Nss1,(MCS0)_2TX

## 2462MHz_TX

01/11/2018



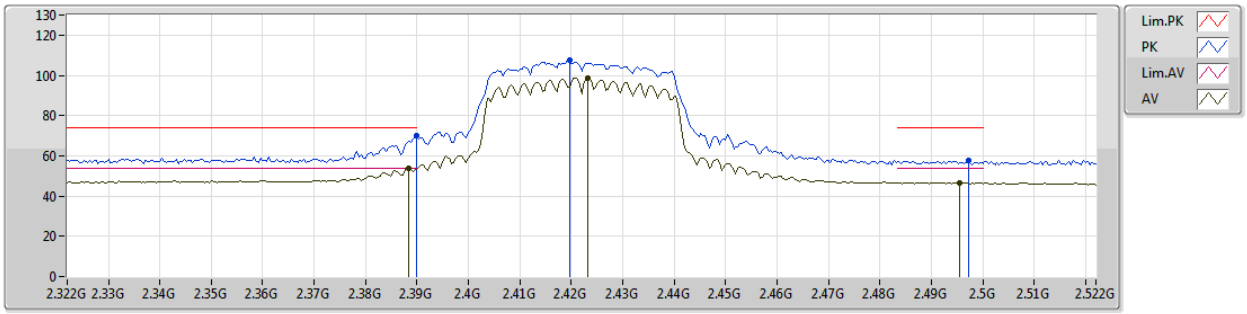

EUT Y_2TX
Setting 17
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.39158G | 52.86 | 74.00 | -21.14 | 11.69 | 3 | Horizontal | 356 | 1.01 | - |
| AV | 7.38978G | 39.89 | 54.00 | -14.11 | 11.69 | 3 | Horizontal | 356 | 1.01 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2422MHz_TX

01/11/2018



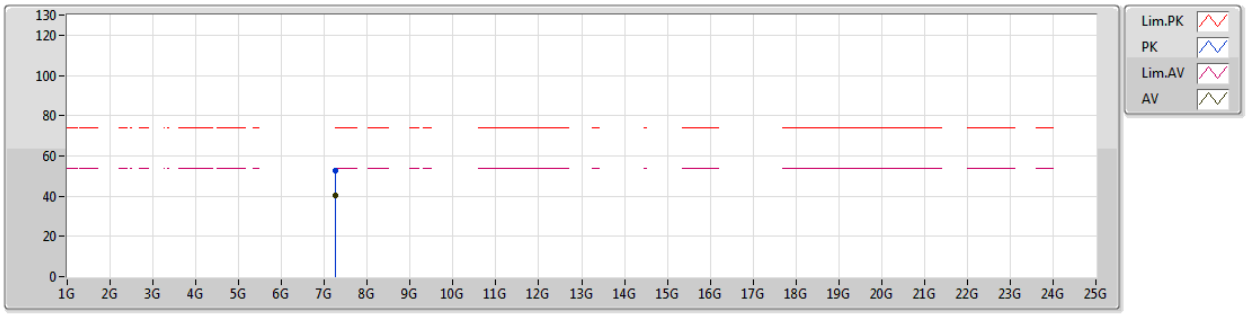

EUT Y_2TX
Setting 13
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.39G | 69.80 | 74.00 | -4.20 | 33.17 | 3 | Vertical | 349 | 1.79 | - |
| AV | 2.3884G | 53.71 | 54.00 | -0.29 | 33.17 | 3 | Vertical | 349 | 1.79 | - |
| PK | 2.4196G | 107.36 | Inf | -Inf | 33.17 | 3 | Vertical | 349 | 1.79 | - |
| AV | 2.4232G | 98.86 | Inf | -Inf | 33.18 | 3 | Vertical | 349 | 1.79 | - |
| PK | 2.4972G | 57.68 | 74.00 | -16.32 | 33.19 | 3 | Vertical | 349 | 1.79 | - |
| AV | 2.4956G | 46.62 | 54.00 | -7.38 | 33.19 | 3 | Vertical | 349 | 1.79 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2422MHz_TX

01/11/2018



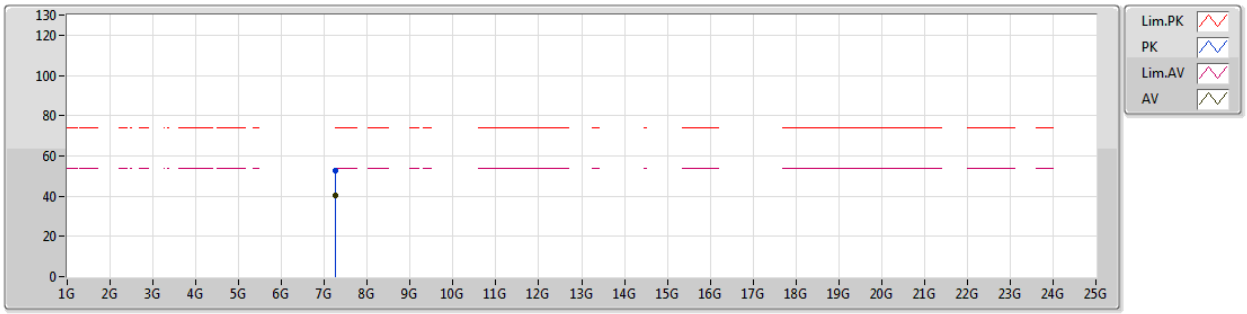

EUT Y_2TX
Setting 13
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.25984G | 52.74 | 74.00 | -21.26 | 11.71 | 3 | Vertical | 152 | 1.50 | - |
| AV | 7.25776G | 40.53 | 54.00 | -13.47 | 11.71 | 3 | Vertical | 152 | 1.50 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2422MHz_TX

01/11/2018



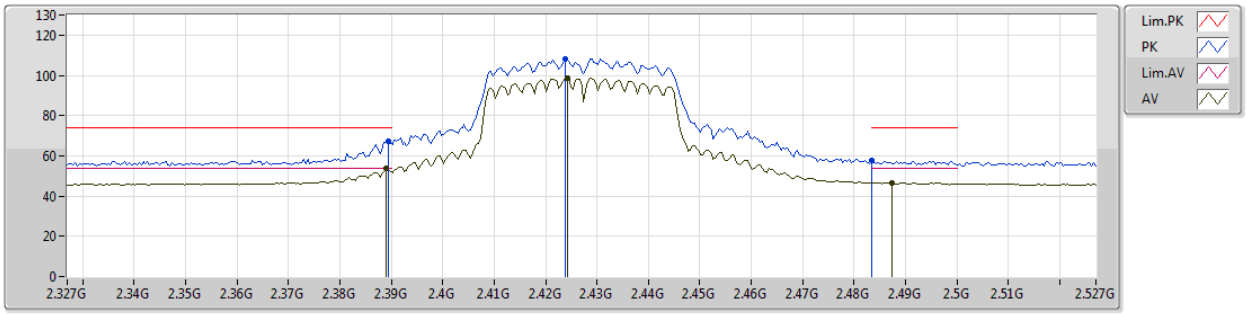

EUT Y_2TX
Setting 13
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.26776G | 52.76 | 74.00 | -21.24 | 11.72 | 3 | Horizontal | 311 | 1.50 | - |
| AV | 7.25912G | 40.35 | 54.00 | -13.65 | 11.71 | 3 | Horizontal | 311 | 1.50 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2427MHz_TX

23/11/2018



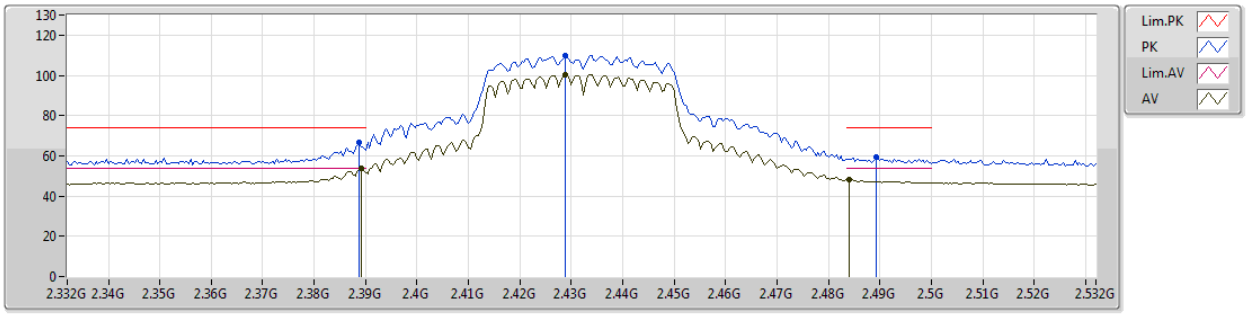

EUT Y_2TX
Setting 16
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3894G | 67.33 | 74.00 | -6.67 | 32.13 | 3 | Vertical | 306 | 1.60 | - |
| AV | 2.389G | 53.80 | 54.00 | -0.20 | 32.12 | 3 | Vertical | 306 | 1.60 | - |
| PK | 2.4238G | 108.24 | Inf | -Inf | 32.23 | 3 | Vertical | 306 | 1.60 | - |
| AV | 2.4242G | 98.64 | Inf | -Inf | 32.23 | 3 | Vertical | 306 | 1.60 | - |
| PK | 2.4835G | 57.84 | 74.00 | -16.16 | 32.41 | 3 | Vertical | 306 | 1.60 | - |
| AV | 2.4874G | 46.58 | 54.00 | -7.42 | 32.42 | 3 | Vertical | 306 | 1.60 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2432MHz_TX

23/11/2018



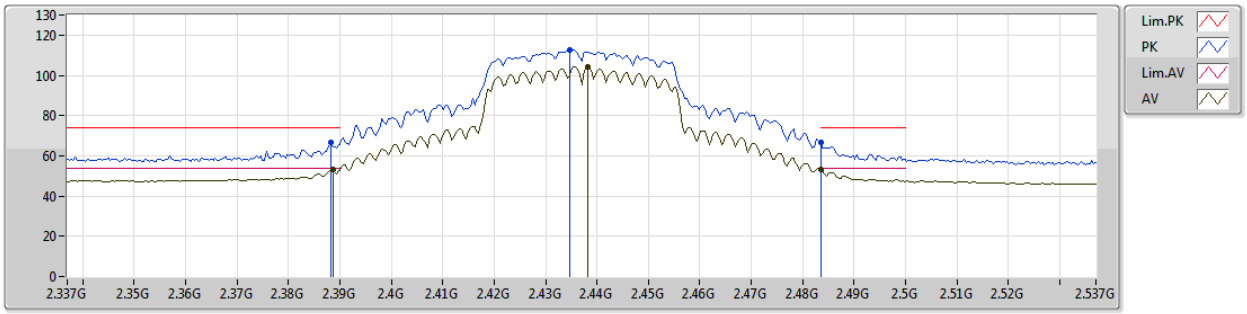

EUT Y_2TX
Setting 1A
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3888G | 66.59 | 74.00 | -7.41 | 32.12 | 3 | Vertical | 305 | 1.63 | - |
| AV | 2.3892G | 53.73 | 54.00 | -0.27 | 32.13 | 3 | Vertical | 305 | 1.63 | - |
| PK | 2.4288G | 110.03 | Inf | -Inf | 32.24 | 3 | Vertical | 305 | 1.63 | - |
| AV | 2.4288G | 100.41 | Inf | -Inf | 32.24 | 3 | Vertical | 305 | 1.63 | - |
| PK | 2.4892G | 59.13 | 74.00 | -14.87 | 32.43 | 3 | Vertical | 305 | 1.63 | - |
| AV | 2.484G | 48.20 | 54.00 | -5.80 | 32.41 | 3 | Vertical | 305 | 1.63 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



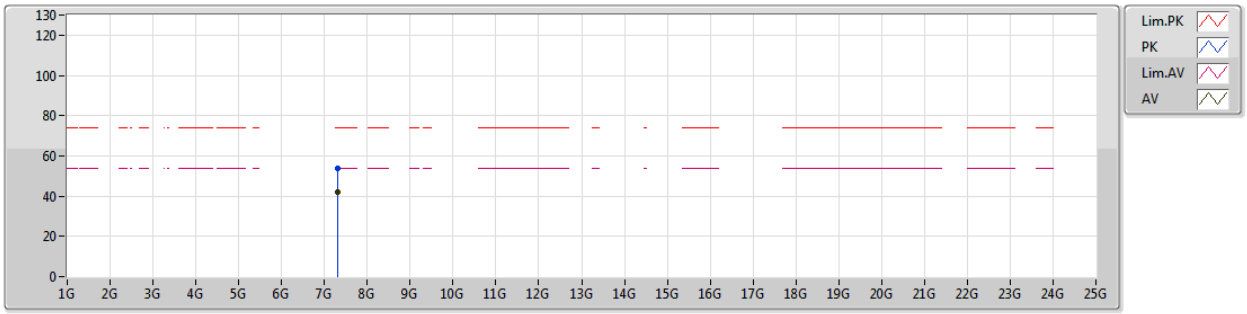

EUT Y_2TX
Setting 1D
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3882G | 66.52 | 74.00 | -7.48 | 33.17 | 3 | Vertical | 348 | 1.75 | - |
| AV | 2.3886G | 53.22 | 54.00 | -0.78 | 33.17 | 3 | Vertical | 348 | 1.75 | - |
| PK | 2.4346G | 112.68 | Inf | -Inf | 33.18 | 3 | Vertical | 348 | 1.75 | - |
| AV | 2.4382G | 104.25 | Inf | -Inf | 33.17 | 3 | Vertical | 348 | 1.75 | - |
| PK | 2.4835G | 66.88 | 74.00 | -7.12 | 33.18 | 3 | Vertical | 348 | 1.75 | - |
| AV | 2.4835G | 53.46 | 54.00 | -0.54 | 33.18 | 3 | Vertical | 348 | 1.75 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



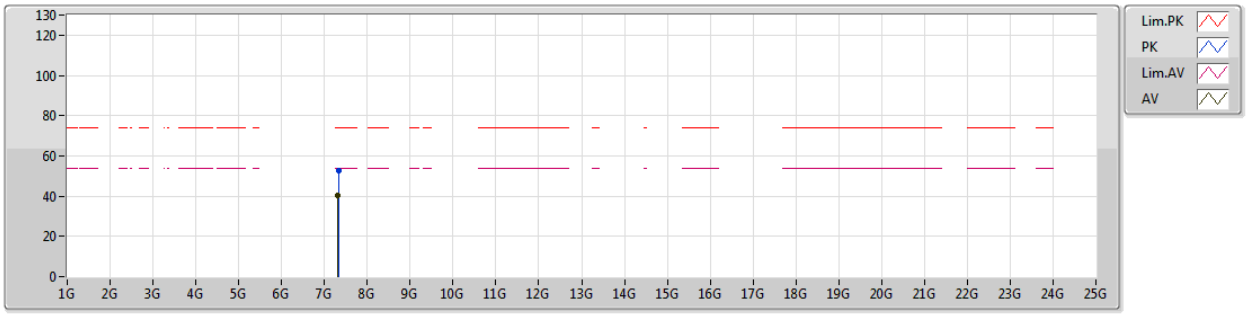

EUT Y_2TX
Setting 1D
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.31668G | 53.99 | 74.00 | -20.01 | 11.69 | 3 | Vertical | 179 | 2.00 | - |
| AV | 7.3142G | 41.89 | 54.00 | -12.11 | 11.70 | 3 | Vertical | 179 | 2.00 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2437MHz_TX

01/11/2018



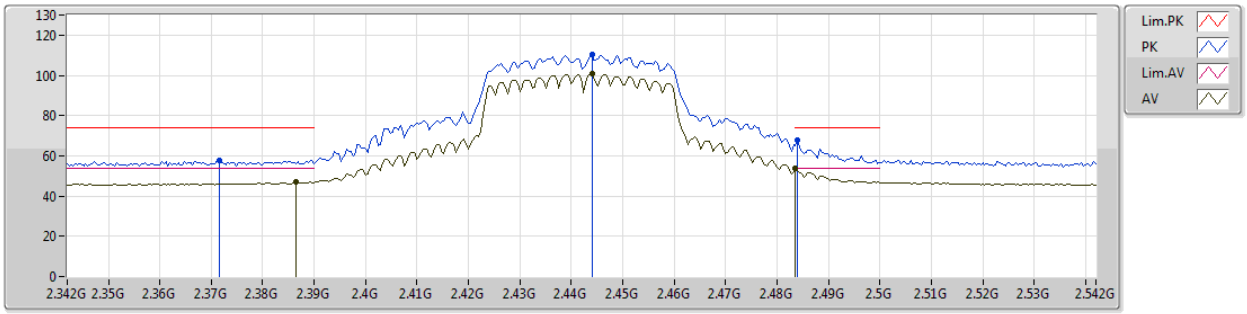

EUT Y_2TX
Setting 1D
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.32556G | 52.51 | 74.00 | -21.49 | 11.69 | 3 | Horizontal | 177 | 1.50 | - |
| AV | 7.32036G | 40.41 | 54.00 | -13.59 | 11.70 | 3 | Horizontal | 177 | 1.50 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2442MHz_TX

23/11/2018



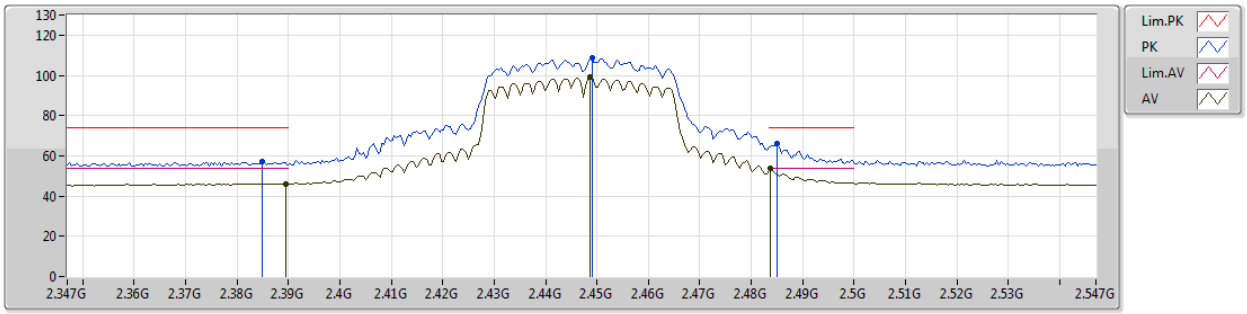

EUT Y_2TX
Setting 1A
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3716G | 57.86 | 74.00 | -16.14 | 32.05 | 3 | Vertical | 304 | 1.60 | - |
| AV | 2.3864G | 46.95 | 54.00 | -7.05 | 32.11 | 3 | Vertical | 304 | 1.60 | - |
| PK | 2.444G | 110.32 | Inf | -Inf | 32.30 | 3 | Vertical | 304 | 1.60 | - |
| AV | 2.444G | 100.85 | Inf | -Inf | 32.30 | 3 | Vertical | 304 | 1.60 | - |
| PK | 2.484G | 67.54 | 74.00 | -6.46 | 32.41 | 3 | Vertical | 304 | 1.60 | - |
| AV | 2.4836G | 53.63 | 54.00 | -0.37 | 32.41 | 3 | Vertical | 304 | 1.60 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2447MHz_TX

23/11/2018



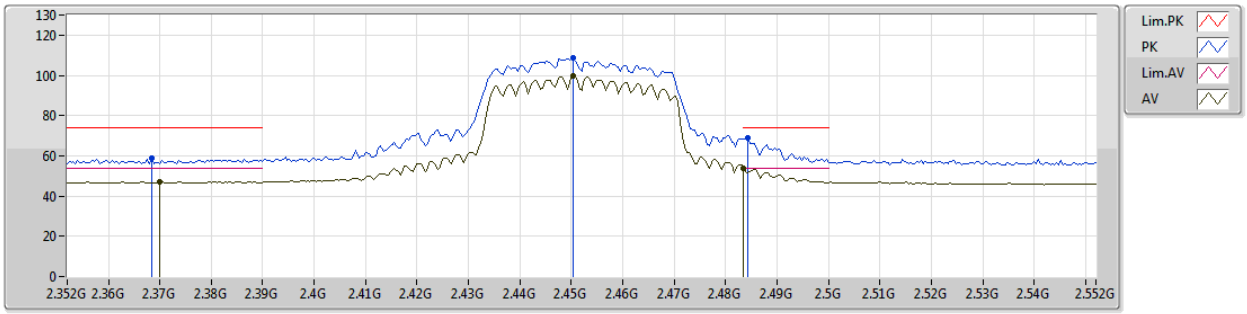

EUT Y_2TX
Setting 17
06-S-5
FSP(100080)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.385G | 57.13 | 74.00 | -16.87 | 32.11 | 3 | Vertical | 303 | 1.62 | - |
| AV | 2.3894G | 46.16 | 54.00 | -7.84 | 32.13 | 3 | Vertical | 303 | 1.62 | - |
| PK | 2.449G | 108.53 | Inf | -Inf | 32.31 | 3 | Vertical | 303 | 1.62 | - |
| AV | 2.4486G | 99.03 | Inf | -Inf | 32.31 | 3 | Vertical | 303 | 1.62 | - |
| PK | 2.485G | 65.96 | 74.00 | -8.04 | 32.42 | 3 | Vertical | 303 | 1.62 | - |
| AV | 2.4838G | 53.63 | 54.00 | -0.37 | 32.41 | 3 | Vertical | 303 | 1.62 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2452MHz_TX

01/11/2018



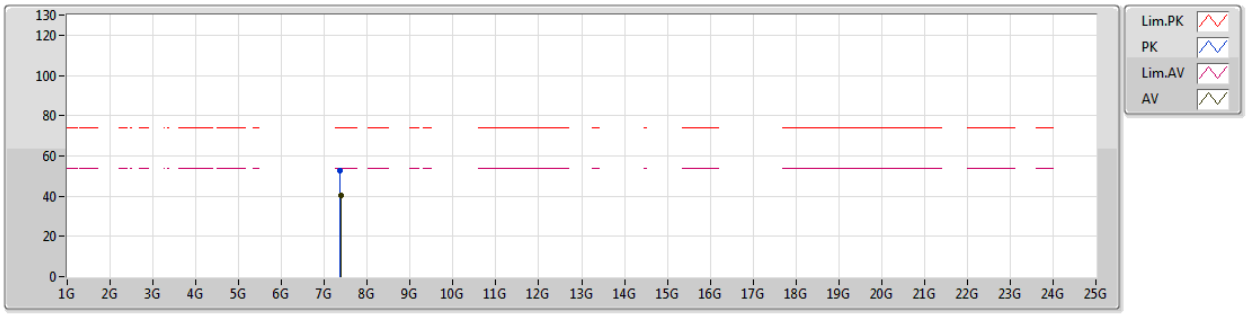

EUT Y_2TX
Setting 14
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 2.3684G | 58.79 | 74.00 | -15.21 | 33.15 | 3 | Vertical | 344 | 1.97 | - |
| AV | 2.37G | 47.13 | 54.00 | -6.87 | 33.15 | 3 | Vertical | 344 | 1.97 | - |
| PK | 2.4504G | 108.47 | Inf | -Inf | 33.18 | 3 | Vertical | 344 | 1.97 | - |
| AV | 2.4504G | 99.69 | Inf | -Inf | 33.18 | 3 | Vertical | 344 | 1.97 | - |
| PK | 2.4844G | 68.78 | 74.00 | -5.22 | 33.18 | 3 | Vertical | 344 | 1.97 | - |
| AV | 2.4835G | 53.63 | 54.00 | -0.37 | 33.18 | 3 | Vertical | 344 | 1.97 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2452MHz_TX

01/11/2018



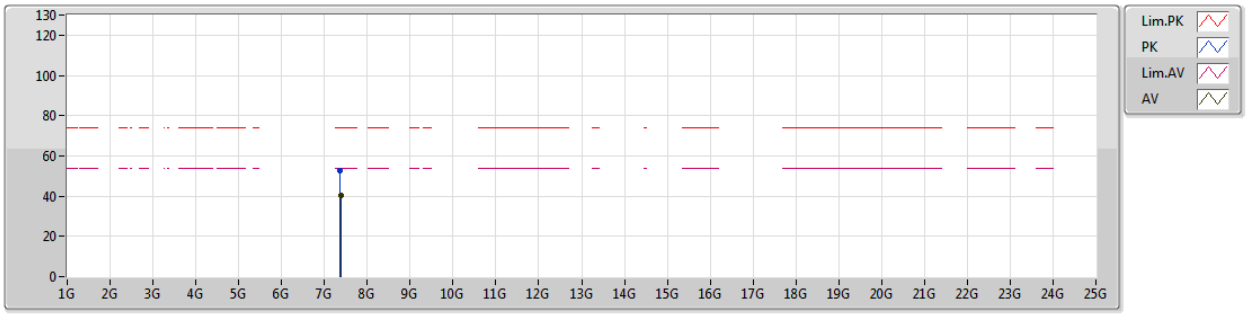

EUT Y_2TX
Setting 14
04-E-4
FSP(100142)

| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.36168G | 52.53 | 74.00 | -21.47 | 11.68 | 3 | Vertical | 91 | 2.03 | - |
| AV | 7.37496G | 40.32 | 54.00 | -13.68 | 11.69 | 3 | Vertical | 91 | 2.03 | - |

## 802.11n HT40_Nss1,(MCS0)_2TX

## 2452MHz_TX

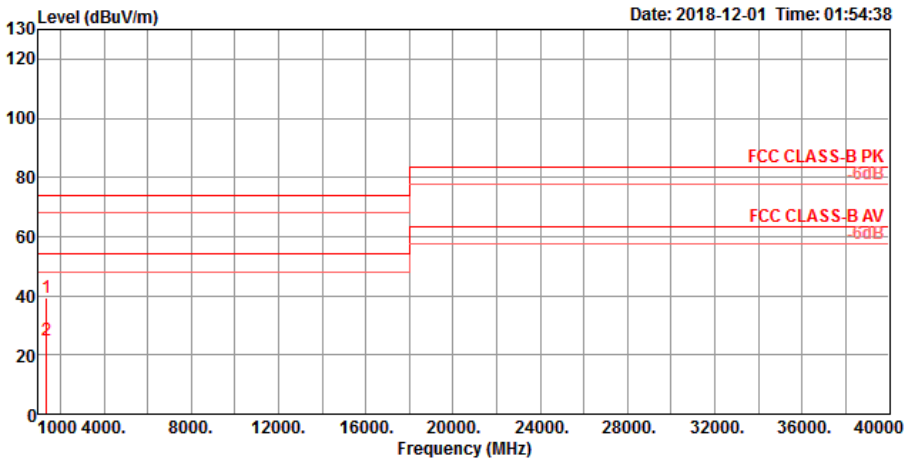
01/11/2018




EUT Y_2TX
Setting 14
04-E-4
FSP(100142)

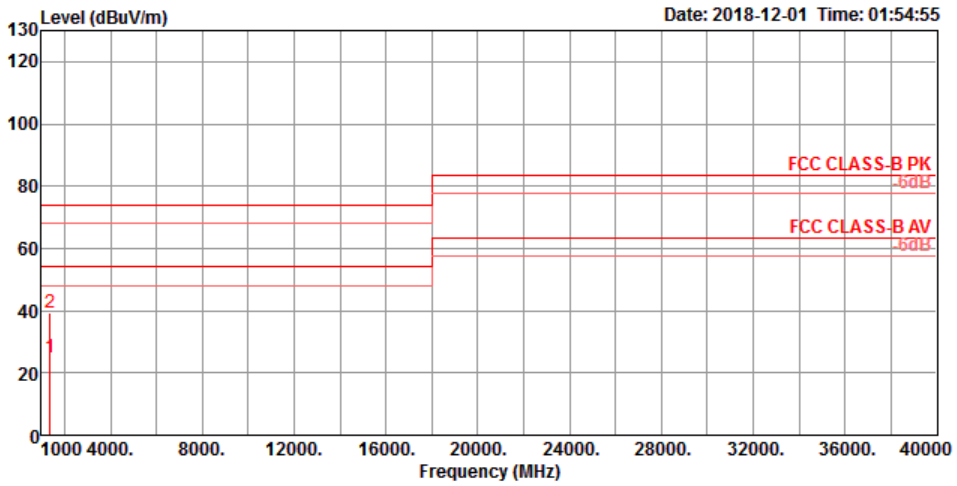
| Type | Freq | Level | Limit | Margin | Factor | Dist | Condition | Azimuth | Height | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Hz) | (dBuV/m) | (dBuV/m) | (dB) | (dB) | (m) | | (°) | (m) | |
| PK | 7.37232G | 52.48 | 74.00 | -21.52 | 11.68 | 3 | Horizontal | 217 | 1.66 | - |
| AV | 7.37472G | 40.20 | 54.00 | -13.80 | 11.69 | 3 | Horizontal | 217 | 1.66 | - |

| RSE Co-location Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Polarization** | Horizontal |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 1374.31 | 39.28 | 74.00 | -34.72 | 45.68 | 3.38 | 24.69 | 34.47 | 105 | 245 | Peak | HORIZONTAL |
| 2 | 1376.14 | 25.18 | 54.00 | -28.82 | 31.58 | 3.38 | 24.69 | 34.47 | 105 | 245 | Average | HORIZONTAL |

| RSE Co-location Result | | | |
|---|---|---|---|
| **Operating Mode** | 1 | **Polarization** | Vertical |
| **Operating Function** | Normal Link | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 1362.24 | 25.15 | 54.00 | -28.85 | 31.62 | 3.36 | 24.63 | 34.46 | 112 | 21 | Average | VERTICAL |
| 2 | 1363.48 | 39.18 | 74.00 | -34.82 | 45.65 | 3.36 | 24.63 | 34.46 | 112 | 21 | Peak | VERTICAL |