

# FCC Test Report

**Equipment** : 802.11ac 2x2 MIMO PCI Express Mini Card  
**Brand Name** : LITE-ON  
**Model No.** : WM862FEMD  
**FCC ID** : PPQ-WM862FEMD  
**Standard** : 47 CFR FCC Part 15.407  
**Operating Band** : 5150 MHz – 5250 MHz  
5250 MHz – 5350 MHz  
5470 MHz – 5725 MHz  
5725 MHz – 5850 MHz  
**Applicant** : LITE-ON Technology Corp.  
Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei City,  
23585 Taiwan  
**Manufacturer** : Lite-On Network Communication (Dongguan) Limited  
30#Keji Rd., Yin Hu Industrial Area, Qingxi  
Town, DongGuan City, Guangdong, China  
**TPC Function** : TPC

This report was evaluated for permissive change. The product sample received on Nov. 14, 2017 and completely tested on Nov. 24, 2017. We, SPORTON, 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 test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Phoenix Chen / Assistant Manager



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### APPENDIX A. TEST RESULTS OF UNWANTED EMISSIONS

### APPENDIX B. TEST PHOTOS

### PHOTOGRAPHS OF EUT v01



## Summary of Test Result

| Conformance Test Specifications |                  |                     |          |
|---------------------------------|------------------|---------------------|----------|
| Report Clause                   | Ref. Std. Clause | Description         | Result   |
| 1.1.2                           | 15.203           | Antenna Requirement | Complied |
| 3.1                             | 15.407(b)        | Unwanted Emissions  | Complied |

## Revision History

[illegible]

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| Frequency Range (MHz) | IEEE Std. 802.11        | Ch. Frequency (MHz) | Channel Number |
|-----------------------|-------------------------|---------------------|----------------|
| 5150-5250             | a, n (HT20), ac (VHT20) | 5180-5240           | 36-48 [4]      |
| 5250-5350             |                         | 5260-5320           | 52-64 [4]      |
| 5470-5725             |                         | 5500-5720           | 100-144 [12]   |
| 5725-5850             |                         | 5745-5825           | 149-165 [5]    |
| 5150-5250             | n (HT40), ac (VHT40)    | 5190-5230           | 38-46 [2]      |
| 5250-5350             |                         | 5270-5310           | 54-62 [2]      |
| 5470-5725             |                         | 5510-5710           | 102-142 [6]    |
| 5725-5850             |                         | 5755-5795           | 151-159 [2]    |
| 5150-5250             | ac (VHT80)              | 5210                | 42 [1]         |
| 5250-5350             |                         | 5290                | 58 [1]         |
| 5470-5725             |                         | 5530-5690           | 106-138 [3]    |
| 5725-5850             |                         | 5775                | 155 [1]        |

| Band          | Mode           | BWch (MHz) | Nant |
|---------------|----------------|------------|------|
| 5.15-5.25GHz  | 802.11a        | 20         | 2TX  |
| 5.25-5.35GHz  | 802.11a        | 20         | 2TX  |
| 5.47-5.725GHz | 802.11a        | 20         | 2TX  |
| 5.725-5.85GHz | 802.11a        | 20         | 2TX  |
| 5.15-5.25GHz  | 802.11n HT20   | 20         | 2TX  |
| 5.25-5.35GHz  | 802.11n HT20   | 20         | 2TX  |
| 5.47-5.725GHz | 802.11n HT20   | 20         | 2TX  |
| 5.725-5.85GHz | 802.11n HT20   | 20         | 2TX  |
| 5.15-5.25GHz  | 802.11ac VHT20 | 20         | 2TX  |
| 5.25-5.35GHz  | 802.11ac VHT20 | 20         | 2TX  |
| 5.47-5.725GHz | 802.11ac VHT20 | 20         | 2TX  |
| 5.725-5.85GHz | 802.11ac VHT20 | 20         | 2TX  |

|               |                |    |     |
|---------------|----------------|----|-----|
| 5.15-5.25GHz  | 802.11n HT40   | 40 | 2TX |
| 5.25-5.35GHz  | 802.11n HT40   | 40 | 2TX |
| 5.47-5.725GHz | 802.11n HT40   | 40 | 2TX |
| 5.725-5.85GHz | 802.11n HT40   | 40 | 2TX |
| 5.15-5.25GHz  | 802.11ac VHT40 | 40 | 2TX |
| 5.25-5.35GHz  | 802.11ac VHT40 | 40 | 2TX |
| 5.47-5.725GHz | 802.11ac VHT40 | 40 | 2TX |
| 5.725-5.85GHz | 802.11ac VHT40 | 40 | 2TX |
| 5.15-5.25GHz  | 802.11ac VHT80 | 80 | 2TX |
| 5.25-5.35GHz  | 802.11ac VHT80 | 80 | 2TX |
| 5.47-5.725GHz | 802.11ac VHT80 | 80 | 2TX |
| 5.725-5.85GHz | 802.11ac VHT80 | 80 | 2TX |

**Note:**

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

**1.1.2 Antenna Information**

| Ant. | Port | Brand                           | Model Name   | Antenna Type | Connector |
|------|------|---------------------------------|--------------|--------------|-----------|
| 1    | 1    | Master Wave Technology Co., Ltd | 98P7RPIPF000 | PCB Antenna  | I-PEX     |
| 2    | 2    | Master Wave Technology Co., Ltd | 98P7RPIPF001 | PCB Antenna  | I-PEX     |

| Ant. | Gain (dBi) |       |       |       |       |
|------|------------|-------|-------|-------|-------|
|      | 2.4G       | 5G B1 | 5G B2 | 5G B3 | 5G B4 |
| 1    | 6.5        | 4.7   | 4.7   | 5.6   | 6.0   |
| 2    | 6.5        | 4.8   | 5.4   | 5.8   | 5.5   |

Note 1: The EUT has two antennas.

**For 2.4GHz function:**

For IEEE 802.11 b/g/n/ac mode (2TX/2RX)

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

**For 5GHz function:**

For IEEE 802.11 a/n/ac mode (2TX/2RX)

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

### 1.1.3 EUT Information

| Operational Condition               |                                                                               |                                                         |     |
|-------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------|-----|
| EUT Power Type                      | From PoE                                                                      |                                                         |     |
| Beamforming Function                | <input type="checkbox"/> With beamforming                                     | <input checked="" type="checkbox"/> Without beamforming |     |
| Weather Band                        | <input checked="" type="checkbox"/> With 5600~5650MHz                         | <input type="checkbox"/> Without 5600~5650MHz           |     |
| Type of EUT                         |                                                                               |                                                         |     |
| <input checked="" type="checkbox"/> | Stand-alone                                                                   |                                                         |     |
| <input type="checkbox"/>            | Combined (EUT where the radio part is fully integrated within another device) |                                                         |     |
|                                     | Combined Equipment - Brand Name / Model No.:                                  |                                                         | ... |
| <input type="checkbox"/>            | Plug-in radio (EUT intended for a variety of host systems)                    |                                                         |     |
|                                     | Host System - Brand Name / Model No.:                                         |                                                         | ... |
| <input type="checkbox"/>            | Other:                                                                        |                                                         |     |

### 1.1.4 Mode Test Duty Cycle

| Mode           | DC | DCF(dB) | T(s)           | VBW(Hz) ≥ 1/T  |
|----------------|----|---------|----------------|----------------|
| 802.11a        | 1  | 0       | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11ac VHT40 | 1  | 0       | n/a (DC>=0.98) | n/a (DC>=0.98) |

### 1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR741722-01AB

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

| Modifications                                        | Performance Checking                                                     |
|------------------------------------------------------|--------------------------------------------------------------------------|
| Single module approval from limited module approval. | The worst case of Emissions in Restricted Frequency Bands was evaluated. |

## 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
- ♦ KDB 789033 D02 v01r04
- ♦ KDB 644545 D03 v01
- ♦ KDB 662911 D01 v02r01

### 1.3 Testing Location Information

| Testing Location                           |        |                                                                              |                      |
|--------------------------------------------|--------|------------------------------------------------------------------------------|----------------------|
| <input checked="" type="checkbox"/>        | HWA YA | ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)    |                      |
|                                            |        | TEL : 886-3-327-3456                                                         | FAX : 886-3-327-0973 |
| Test site Designation No. TW1190 with FCC. |        |                                                                              |                      |
| <input type="checkbox"/>                   | JHUBEI | ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.) |                      |
|                                            |        | TEL : 886-3-656-9065                                                         | FAX : 886-3-656-9085 |
| Test site Designation No. TW0006 with FCC. |        |                                                                              |                      |

| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date   |
|----------------|---------------|---------------|------------------|-------------|
| Radiated       | 03CH02-HY     | Jerry         | 25.5°C / 55%     | 24/Nov/2017 |

### 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)  | 3.6 dB      | Confidence levels of 95% |
| Radiated Emission (30MHz ~ 1,000MHz) | 2.1 dB      | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz)     | 2.6 dB      | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz)    | 2.9 dB      | Confidence levels of 95% |
| Conducted Emission                   | 1.3 dB      | Confidence levels of 95% |

## 2 Test Configuration of EUT

### 2.1 Test Condition

| RF Conducted | Abbreviation | Remark |
|--------------|--------------|--------|
| TnomVnom     | Tnom         | 20°C   |
| -            | Vnom         | 120V   |

### 2.2 Test Channel Mode

| Test Software | Tool |
|---------------|------|
|---------------|------|

| Mode                           | Power Setting |
|--------------------------------|---------------|
| 802.11a_Nss1,(6Mbps)_2TX       | -             |
| 5200MHz                        | 18            |
| 5745MHz                        | 22            |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | -             |
| 5270MHz                        | 22            |
| 5550MHz                        | 24            |

### 2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests |                                                                                                                                                                                                                                                     |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tests Item</b>                                   | Unwanted Emissions                                                                                                                                                                                                                                  |
| <b>Test Condition</b>                               | 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. |
| <b>Operating Mode &lt; 1GHz</b>                     | CTX                                                                                                                                                                                                                                                 |
| 1                                                   | PoE mode                                                                                                                                                                                                                                            |
| <b>Operating Mode &gt; 1GHz</b>                     | CTX                                                                                                                                                                                                                                                 |
| <b>Orthogonal Planes of EUT</b>                     | <b>Z Plane</b>                                                                                                                                                                                                                                      |
|                                                     |                                                                                                                                                                 |
| <b>Worst Planes of EUT</b>                          | V                                                                                                                                                                                                                                                   |

## 2.4 Support Equipment

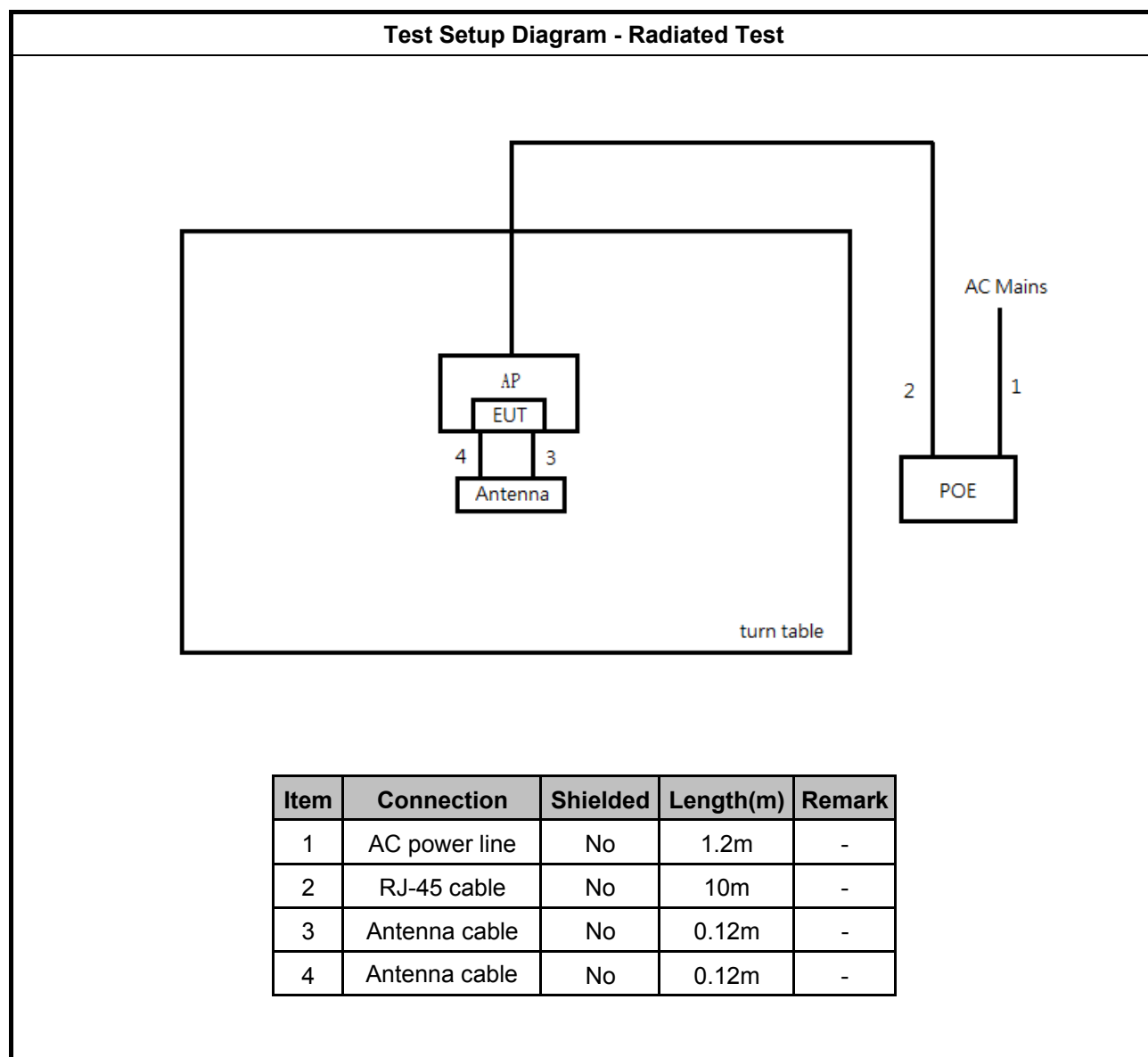
| Support Equipment – RF Conducted |                |            |            |        |
|----------------------------------|----------------|------------|------------|--------|
| No.                              | Equipment      | Brand Name | Model Name | FCC ID |
| 1                                | Notebook       | DELL       | E5410      | DoC    |
| 2                                | Adapter for NB | DELL       | HA65NM130  | DoC    |
| 3                                | AP             | LITEON     | WP9333     | -      |
| 4                                | PoE            | Microsemi  | PD-9001G   | -      |

Note: Support equipment No.3 and 4 was provided by customer.

| Support Equipment – Radiated Emission |           |            |            |        |
|---------------------------------------|-----------|------------|------------|--------|
| No.                                   | Equipment | Brand Name | Model Name | FCC ID |
| 1                                     | PoE       | Microsemi  | PD-9001G   | -      |
| 2                                     | AP        | LITEON     | WP9333     | -      |

Note: Support equipment No.1 and 2 was provided by customer.

## 2.5 Test Setup Diagram



### 3 Transmitter Test Result

#### 3.1 Unwanted Emissions

##### 3.1.1 Transmitter Radiated Unwanted Emissions Limit

| Unwanted emissions below 1 GHz and restricted band emissions above 1GHz 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.

| Un-restricted band emissions above 1GHz Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Band                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5.15 - 5.25 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.25 - 5.35 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.47 - 5.725 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.725 - 5.85 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m]<br>5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m]<br>5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m]<br>5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m]<br>5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m]<br>5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/m@3m]<br>Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| Note 1: 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). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

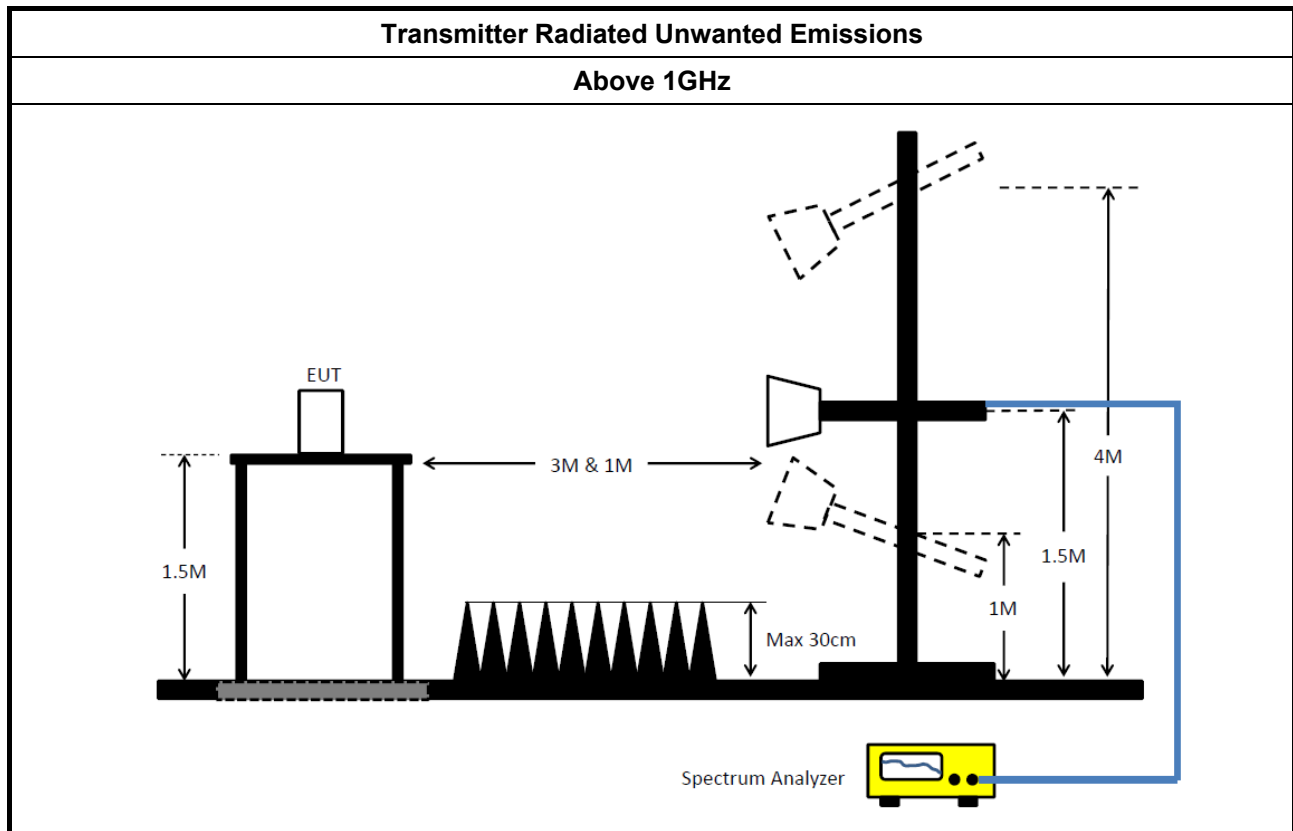
### 3.1.2 Measuring Instruments

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

### 3.1.3 Test Procedures

| Test Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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).</li> </ul> |                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>For the transmitter unwanted emissions shall be measured using following options below:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.</li> </ul>                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands.</li> </ul>                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Refer as KDB 789033, G)6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.</li> <li><input checked="" type="checkbox"/> Refer as KDB 789033, clause G)5) (ANSI C63.10, clause 4.1.4.2.2), measurement procedure peak limit.</li> </ul> |
| <ul style="list-style-type: none"> <li>For radiated measurement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.</li> </ul>                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.</li> </ul>                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.</li> </ul>                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>The any unwanted emissions level shall not exceed the fundamental emission level.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                          |

### 3.1.4 Test Setup



### 3.1.5 Transmitter Unwanted Emissions (Below 30MHz)

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

### 3.1.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix A

## 4 Test Equipment and Calibration Data

### Instrument for Radiated Test

| Instrument        | Manufacturer   | Model No.   | Serial No.         | Spec.         | Calibration Date | Calibration Due Date |
|-------------------|----------------|-------------|--------------------|---------------|------------------|----------------------|
| Spectrum Analyzer | R&S            | FSP40       | 100305             | 9kHz - 40GHz  | 30/Dec/2016      | 29/Dec/2017          |
| 3m Semi Anechoic  | SIDT FRANKONIA | SAC-3M      | 03CH02-HY          | 30MHz-1GHz    | 20/Oct/2017      | 19/Oct/2018          |
| 3m Semi Anechoic  | SIDT FRANKONIA | SAC-3M      | 03CH02-HY          | 1GHz ~ 18GHz  | 12/Dec/2016      | 11/Dec/2017          |
| Amplifier         | Agilent        | 8447D       | 2944A11149         | 100KHz-1.3GHz | 29/Jun/2017      | 28/Jun/2018          |
| Amplifier         | Ketsight       | 8449B       | 3008A02602         | 1GHz-26.5GHz  | 19/Sep/2017      | 18/Sep/2018          |
| Horn Antenna      | SCHWARZBECK    | BBHA9120D   | BBHA9120D<br>01531 | 1GHz-18GHz    | 11/May/2017      | 10/May/2018          |
| Horn Antenna      | SCHWARZBECK    | BBHA9170    | BBHA9170154        | 18GHz-40GHz   | 06/Feb/2017      | 05/Feb/2018          |
| RF Cable-high     | SUHNER         | SUCOFLEX104 | MY34918/4          | 1GHz ~ 40GHz  | 26/Jan/2017      | 25/Jan/2018          |
| RF Cable-R03m     | Jye Bao        | RG142       | CB017              | 9kHz ~ 1GHz   | 26/Jan/2017      | 25/Jan/2018          |
| Receiver          | R&S            | ESU3        | 102052             | 9kHz ~ 3.6GHz | 29/Apr/2017      | 28/Apr/2018          |

## Summary

| Mode                           | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|--------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                   | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11a_Nss1,(6Mbps)_2TX       | Pass   | AV   | 10.39862G    | 53.63             | 54.00             | -0.37          | 12.44          | 3           | Vertical  | 201            | 2.43          | -        |
| 5.25-5.35GHz                   | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | Pass   | AV   | 10.54042G    | 53.45             | 54.00             | -0.55          | 12.81          | 3           | Vertical  | 1.58           | 2.61          | -        |
| 5.47-5.725GHz                  | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | Pass   | PK   | 5.4672G      | 67.38             | 68.20             | -0.82          | 2.91           | 3           | Vertical  | 140            | 2.80          | -        |
| 5.725-5.85GHz                  | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11a_Nss1,(6Mbps)_2TX       | Pass   | PK   | 5.505G       | 61.19             | 68.20             | -7.01          | 2.94           | 3           | Vertical  | 143            | 2.45          | -        |

**Result**

| Mode                           | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|--------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11a_Nss1,(6Mbps)_2TX       | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| 5200MHz                        | Pass   | AV   | 5.1496G      | 44.08             | 54.00             | -9.92          | 2.73           | 3           | Horizontal | 109            | 1.07          | -        |
| 5200MHz                        | Pass   | AV   | 5.1936G      | 99.05             | Inf               | -Inf           | 2.76           | 3           | Horizontal | 109            | 1.07          | -        |
| 5200MHz                        | Pass   | PK   | 5.1496G      | 56.76             | 74.00             | -17.24         | 2.73           | 3           | Horizontal | 109            | 1.07          | -        |
| 5200MHz                        | Pass   | PK   | 5.1984G      | 109.09            | Inf               | -Inf           | 2.76           | 3           | Horizontal | 109            | 1.07          | -        |
| 5200MHz                        | Pass   | AV   | 5.149995G    | 43.64             | 54.00             | -10.36         | 2.73           | 3           | Vertical   | 92             | 2.30          | -        |
| 5200MHz                        | Pass   | AV   | 5.2028G      | 97.33             | Inf               | -Inf           | 2.76           | 3           | Vertical   | 92             | 2.30          | -        |
| 5200MHz                        | Pass   | PK   | 5.1404G      | 56.32             | 74.00             | -17.68         | 2.72           | 3           | Vertical   | 92             | 2.30          | -        |
| 5200MHz                        | Pass   | PK   | 5.198G       | 107.83            | Inf               | -Inf           | 2.76           | 3           | Vertical   | 92             | 2.30          | -        |
| 5200MHz                        | Pass   | AV   | 10.40012G    | 52.61             | 54.00             | -1.39          | 12.44          | 3           | Horizontal | 181            | 2.17          | -        |
| 5200MHz                        | Pass   | PK   | 10.40078G    | 66.86             | 74.00             | -7.14          | 12.44          | 3           | Horizontal | 181            | 2.17          | -        |
| 5200MHz                        | Pass   | AV   | 10.39862G    | 53.63             | 54.00             | -0.37          | 12.44          | 3           | Vertical   | 201            | 2.43          | -        |
| 5200MHz                        | Pass   | PK   | 10.4039G     | 70.81             | 74.00             | -3.19          | 12.45          | 3           | Vertical   | 201            | 2.43          | -        |
| 5745MHz                        | Pass   | AV   | 5.7426G      | 102.22            | Inf               | -Inf           | 3.42           | 3           | Horizontal | 170            | 1.23          | -        |
| 5745MHz                        | Pass   | PK   | 5.565G       | 58.62             | 68.20             | -9.58          | 3.06           | 3           | Horizontal | 170            | 1.23          | -        |
| 5745MHz                        | Pass   | PK   | 5.7426G      | 111.87            | Inf               | -Inf           | 3.42           | 3           | Horizontal | 170            | 1.23          | -        |
| 5745MHz                        | Pass   | PK   | 5.9454G      | 57.11             | 68.20             | -11.09         | 3.84           | 3           | Horizontal | 170            | 1.23          | -        |
| 5745MHz                        | Pass   | AV   | 5.7402G      | 102.56            | Inf               | -Inf           | 3.42           | 3           | Vertical   | 143            | 2.45          | -        |
| 5745MHz                        | Pass   | PK   | 5.505G       | 61.19             | 68.20             | -7.01          | 2.94           | 3           | Vertical   | 143            | 2.45          | -        |
| 5745MHz                        | Pass   | PK   | 5.7402G      | 112.30            | Inf               | -Inf           | 3.42           | 3           | Vertical   | 143            | 2.45          | -        |
| 5745MHz                        | Pass   | PK   | 5.9838G      | 57.25             | 68.20             | -10.95         | 3.92           | 3           | Vertical   | 143            | 2.45          | -        |
| 5745MHz                        | Pass   | AV   | 11.49018G    | 43.63             | 54.00             | -10.37         | 13.36          | 3           | Horizontal | 134            | 2.44          | -        |
| 5745MHz                        | Pass   | PK   | 11.4843G     | 57.20             | 74.00             | -16.80         | 13.37          | 3           | Horizontal | 134            | 2.44          | -        |
| 5745MHz                        | Pass   | AV   | 11.49G       | 46.73             | 54.00             | -7.27          | 13.36          | 3           | Vertical   | 12             | 3.33          | -        |
| 5745MHz                        | Pass   | PK   | 11.49G       | 60.29             | 74.00             | -13.71         | 13.36          | 3           | Vertical   | 12             | 3.33          | -        |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| 5270MHz                        | Pass   | AV   | 5.2652G      | 96.45             | Inf               | -Inf           | 2.80           | 3           | Horizontal | 0              | 1.26          | -        |
| 5270MHz                        | Pass   | AV   | 5.350005G    | 50.96             | 54.00             | -3.04          | 2.85           | 3           | Horizontal | 0              | 1.26          | -        |
| 5270MHz                        | Pass   | PK   | 5.2656G      | 108.16            | Inf               | -Inf           | 2.80           | 3           | Horizontal | 0              | 1.26          | -        |
| 5270MHz                        | Pass   | PK   | 5.3508G      | 66.41             | 74.00             | -7.59          | 2.85           | 3           | Horizontal | 0              | 1.26          | -        |
| 5270MHz                        | Pass   | AV   | 5.2588G      | 94.02             | Inf               | -Inf           | 2.80           | 3           | Vertical   | 89             | 2.63          | -        |
| 5270MHz                        | Pass   | AV   | 5.3508G      | 47.58             | 54.00             | -6.42          | 2.85           | 3           | Vertical   | 89             | 2.63          | -        |
| 5270MHz                        | Pass   | PK   | 5.2576G      | 105.98            | Inf               | -Inf           | 2.79           | 3           | Vertical   | 89             | 2.63          | -        |
| 5270MHz                        | Pass   | PK   | 5.3552G      | 60.80             | 74.00             | -13.20         | 2.85           | 3           | Vertical   | 89             | 2.63          | -        |
| 5270MHz                        | Pass   | AV   | 10.53694G    | 52.01             | 54.00             | -1.99          | 12.80          | 3           | Horizontal | 181            | 2.32          | -        |
| 5270MHz                        | Pass   | PK   | 10.53676G    | 66.57             | 74.00             | -7.43          | 12.80          | 3           | Horizontal | 181            | 2.32          | -        |
| 5270MHz                        | Pass   | AV   | 10.54042G    | 53.45             | 54.00             | -0.55          | 12.81          | 3           | Vertical   | 158            | 2.61          | -        |
| 5270MHz                        | Pass   | PK   | 10.54024G    | 68.69             | 74.00             | -5.31          | 12.81          | 3           | Vertical   | 158            | 2.61          | -        |
| 5550MHz                        | Pass   | AV   | 5.456G       | 47.67             | 54.00             | -6.33          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        |
| 5550MHz                        | Pass   | AV   | 5.554G       | 81.86             | Inf               | -Inf           | 3.04           | 3           | Horizontal | 165            | 1.35          | -        |
| 5550MHz                        | Pass   | PK   | 5.456G       | 65.31             | 74.00             | -8.69          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        |
| 5550MHz                        | Pass   | PK   | 5.4684G      | 66.93             | 68.20             | -1.27          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        |
| 5550MHz                        | Pass   | PK   | 5.5516G      | 107.79            | Inf               | -Inf           | 3.03           | 3           | Horizontal | 165            | 1.35          | -        |
| 5550MHz                        | Pass   | AV   | 5.4576G      | 48.51             | 54.00             | -5.49          | 2.91           | 3           | Vertical   | 140            | 2.80          | -        |
| 5550MHz                        | Pass   | AV   | 5.5376G      | 85.41             | Inf               | -Inf           | 3.01           | 3           | Vertical   | 140            | 2.80          | -        |
| 5550MHz                        | Pass   | PK   | 5.4568G      | 66.20             | 74.00             | -7.80          | 2.91           | 3           | Vertical   | 140            | 2.80          | -        |
| 5550MHz                        | Pass   | PK   | 5.4672G      | 67.38             | 68.20             | -0.82          | 2.91           | 3           | Vertical   | 140            | 2.80          | -        |
| 5550MHz                        | Pass   | PK   | 5.5576G      | 111.70            | Inf               | -Inf           | 3.05           | 3           | Vertical   | 140            | 2.80          | -        |



## RSE TX above 1GHz Result

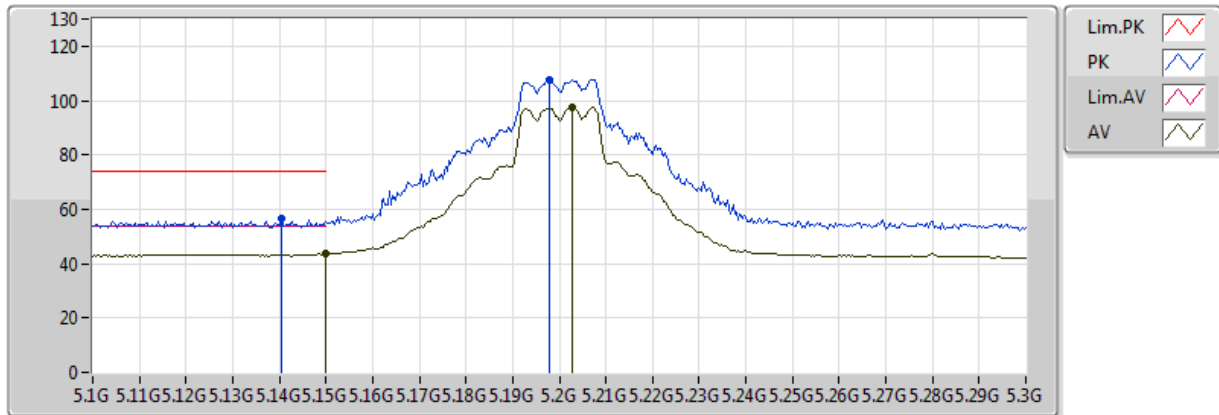
## Appendix A

| Mode    | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|---------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 5550MHz | Pass   | AV   | 11.0985G     | 44.28             | 54.00             | -9.72          | 13.90          | 3           | Horizontal | 9              | 2.34          | -        |
| 5550MHz | Pass   | PK   | 11.09634G    | 58.49             | 74.00             | -15.51         | 13.90          | 3           | Horizontal | 9              | 2.34          | -        |
| 5550MHz | Pass   | AV   | 11.0991G     | 46.66             | 54.00             | -7.34          | 13.90          | 3           | Vertical   | 2              | 3.24          | -        |
| 5550MHz | Pass   | PK   | 11.09688G    | 60.48             | 74.00             | -13.52         | 13.90          | 3           | Vertical   | 2              | 3.24          | -        |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5200MHz\_TX

24/11/2017

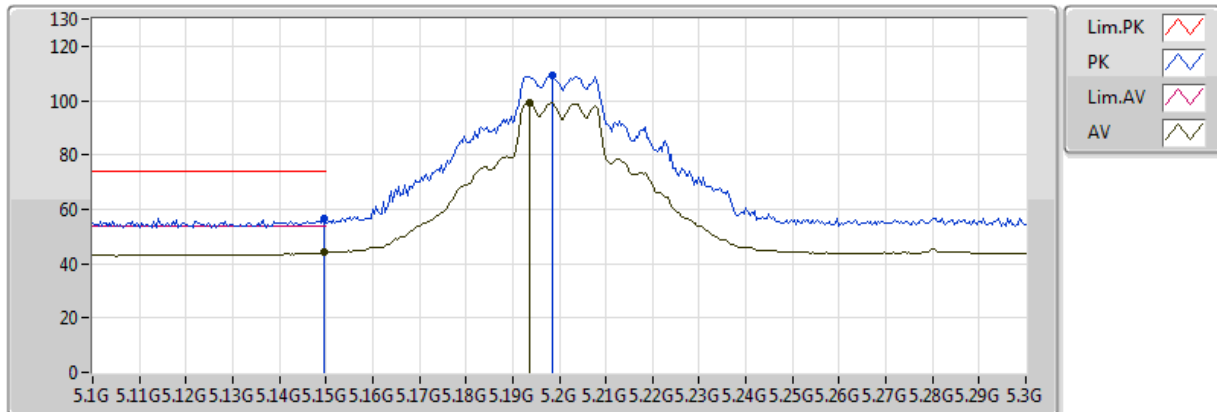


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.149995G    | 43.64             | 54.00             | -10.36         | 2.73           | 3           | Vertical  | 92             | 2.30          | -        | 40.91         | 31.66      | 5.62       | 34.55      |
| AV   | 5.2028G      | 97.33             | Inf               | -Inf           | 2.76           | 3           | Vertical  | 92             | 2.30          | -        | 94.57         | 31.68      | 5.63       | 34.55      |
| PK   | 5.1404G      | 56.32             | 74.00             | -17.68         | 2.72           | 3           | Vertical  | 92             | 2.30          | -        | 53.59         | 31.66      | 5.62       | 34.55      |
| PK   | 5.198G       | 107.83            | Inf               | -Inf           | 2.76           | 3           | Vertical  | 92             | 2.30          | -        | 105.07        | 31.68      | 5.63       | 34.55      |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5200MHz\_TX

24/11/2017

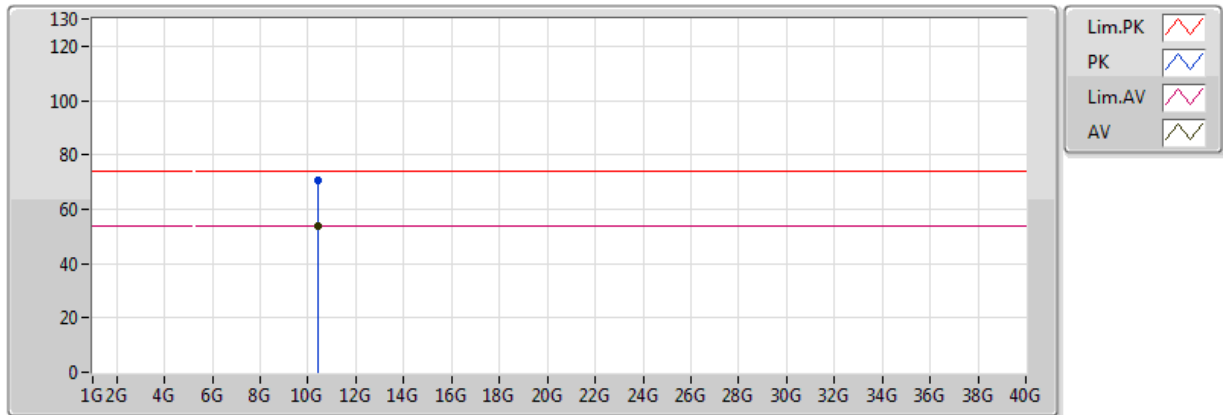


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.1496G      | 44.08             | 54.00             | -9.92          | 2.73           | 3           | Horizontal | 109            | 1.07          | -        | 41.35         | 31.66      | 5.62       | 34.55      |
| AV   | 5.1936G      | 99.05             | Inf               | -Inf           | 2.76           | 3           | Horizontal | 109            | 1.07          | -        | 96.30         | 31.68      | 5.63       | 34.55      |
| PK   | 5.1496G      | 56.76             | 74.00             | -17.24         | 2.73           | 3           | Horizontal | 109            | 1.07          | -        | 54.03         | 31.66      | 5.62       | 34.55      |
| PK   | 5.1984G      | 109.09            | Inf               | -Inf           | 2.76           | 3           | Horizontal | 109            | 1.07          | -        | 106.33        | 31.68      | 5.63       | 34.55      |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5200MHz\_TX

24/11/2017

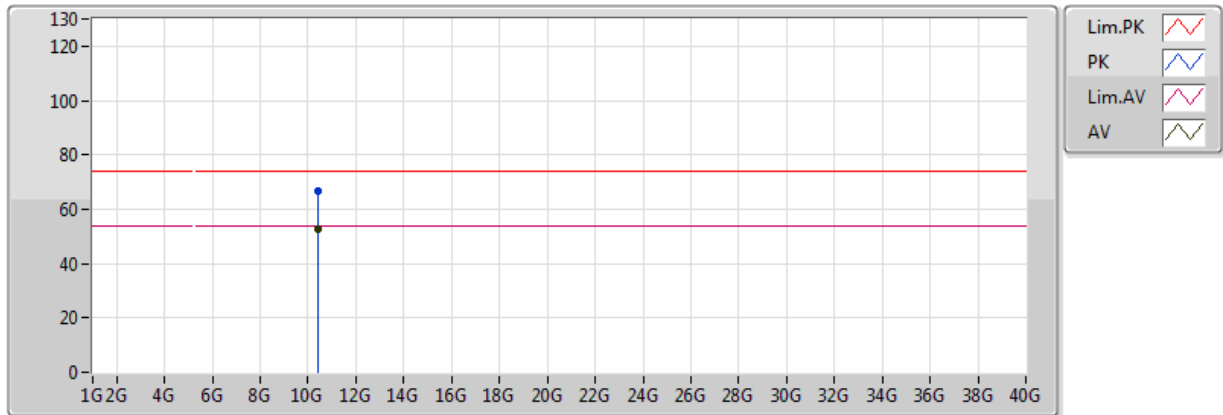


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.39862G    | 53.63             | 54.00             | -0.37          | 12.44          | 3           | Vertical  | 201            | 2.43          | -        | 41.19         | 39.56      | 7.95       | 35.07      |
| PK   | 10.4039G     | 70.81             | 74.00             | -3.19          | 12.45          | 3           | Vertical  | 201            | 2.43          | -        | 58.36         | 39.57      | 7.95       | 35.07      |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5200MHz\_TX

24/11/2017

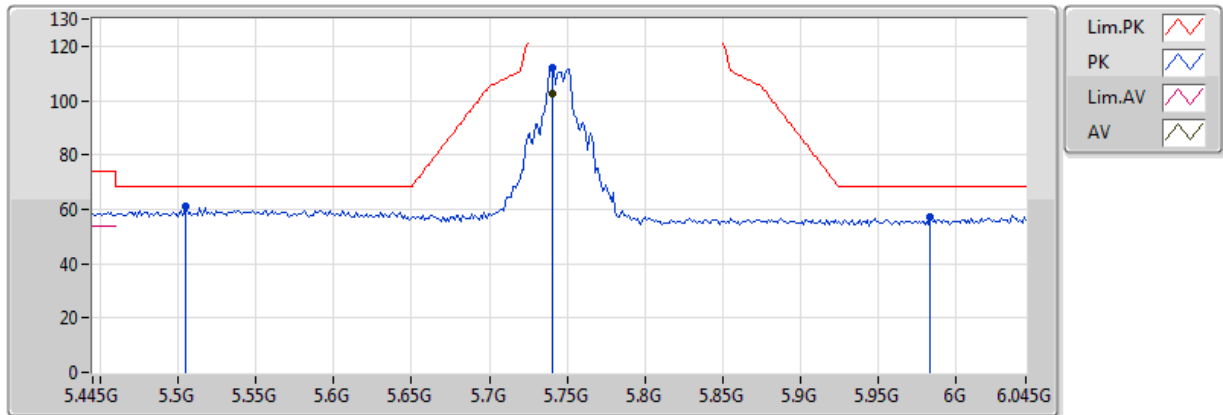


| Type | Freq      | Level    | Limit    | Margin | Factor | Dist | Condition  | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|-----------|----------|----------|--------|--------|------|------------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)      | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |            | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 10.40012G | 52.61    | 54.00    | -1.39  | 12.44  | 3    | Horizontal | 181     | 2.17   | -        | 40.17  | 39.56 | 7.95 | 35.07 |
| PK   | 10.40078G | 66.86    | 74.00    | -7.14  | 12.44  | 3    | Horizontal | 181     | 2.17   | -        | 54.42  | 39.56 | 7.95 | 35.07 |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5745MHz\_TX

24/11/2017

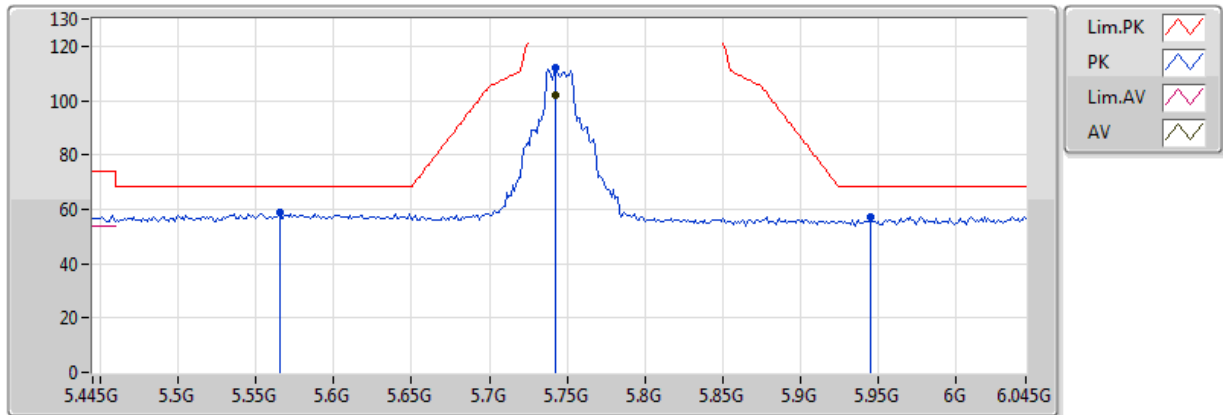


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.7402G      | 102.56            | Inf               | -Inf           | 3.42           | 3           | Vertical  | 143            | 2.45          | -        | 99.14         | 32.18      | 5.84       | 34.61      |
| PK   | 5.505G       | 61.19             | 68.20             | -7.01          | 2.94           | 3           | Vertical  | 143            | 2.45          | -        | 58.25         | 31.81      | 5.67       | 34.54      |
| PK   | 5.7402G      | 112.30            | Inf               | -Inf           | 3.42           | 3           | Vertical  | 143            | 2.45          | -        | 108.88        | 32.18      | 5.84       | 34.61      |
| PK   | 5.9838G      | 57.25             | 68.20             | -10.95         | 3.92           | 3           | Vertical  | 143            | 2.45          | -        | 53.33         | 32.57      | 6.02       | 34.68      |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5745MHz\_TX

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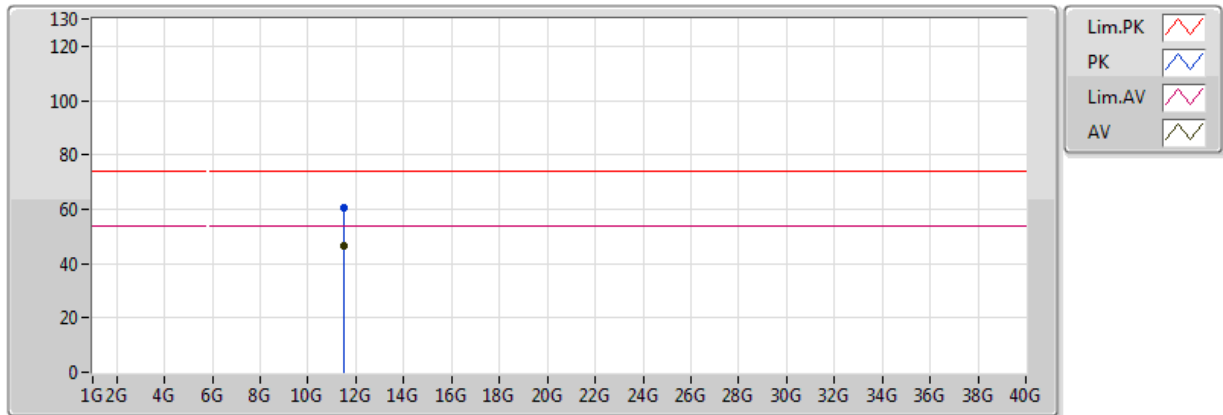


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.7426G      | 102.22            | Inf               | -Inf           | 3.42           | 3           | Horizontal | 170            | 1.23          | -        | 98.80         | 32.19      | 5.84       | 34.61      |
| PK   | 5.565G       | 58.62             | 68.20             | -9.58          | 3.06           | 3           | Horizontal | 170            | 1.23          | -        | 55.56         | 31.90      | 5.72       | 34.56      |
| PK   | 5.7426G      | 111.87            | Inf               | -Inf           | 3.42           | 3           | Horizontal | 170            | 1.23          | -        | 108.45        | 32.19      | 5.84       | 34.61      |
| PK   | 5.9454G      | 57.11             | 68.20             | -11.09         | 3.84           | 3           | Horizontal | 170            | 1.23          | -        | 53.27         | 32.51      | 5.99       | 34.66      |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5745MHz\_TX

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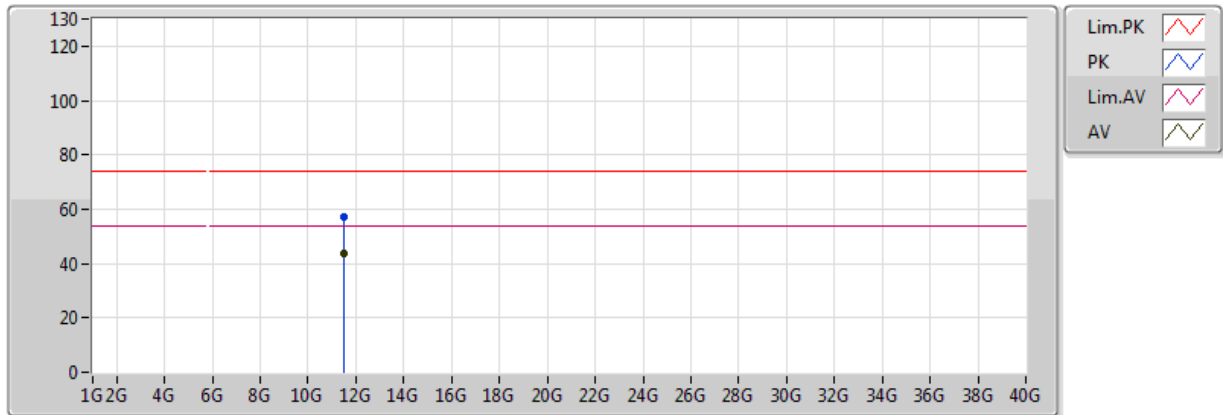


| Type | Freq   | Level    | Limit    | Margin | Factor | Dist | Condition | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|--------|----------|----------|--------|--------|------|-----------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)   | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |           | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 11.49G | 46.73    | 54.00    | -7.27  | 13.36  | 3    | Vertical  | 12      | 3.33   | -        | 33.37  | 39.71 | 8.35 | 34.70 |
| PK   | 11.49G | 60.29    | 74.00    | -13.71 | 13.36  | 3    | Vertical  | 12      | 3.33   | -        | 46.93  | 39.71 | 8.35 | 34.70 |

## 802.11a\_Nss1,(6Mbps)\_2TX

## 5745MHz\_TX

24/11/2017

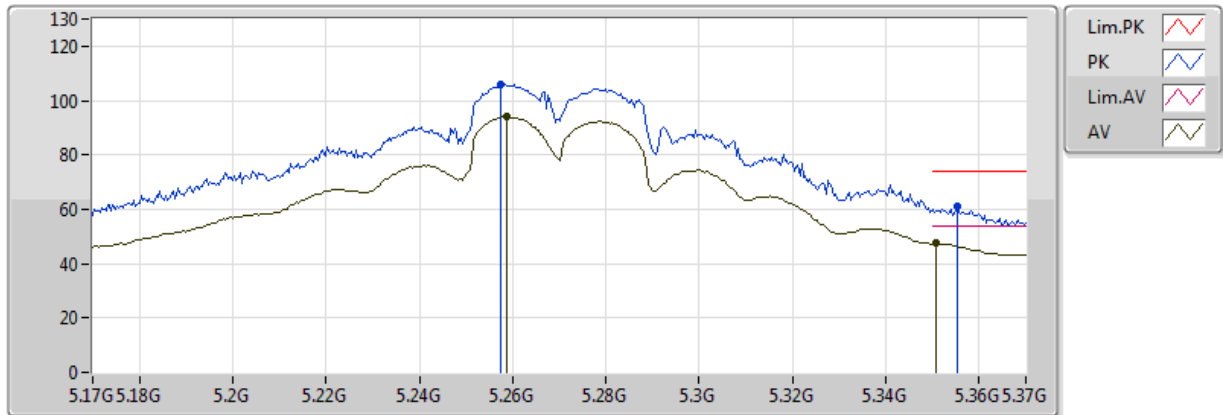


| Type | Freq      | Level    | Limit    | Margin | Factor | Dist | Condition  | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|-----------|----------|----------|--------|--------|------|------------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)      | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |            | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 11.49018G | 43.63    | 54.00    | -10.37 | 13.36  | 3    | Horizontal | 134     | 2.44   | -        | 30.27  | 39.71 | 8.35 | 34.70 |
| PK   | 11.4843G  | 57.20    | 74.00    | -16.80 | 13.37  | 3    | Horizontal | 134     | 2.44   | -        | 43.83  | 39.72 | 8.35 | 34.70 |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5270MHz\_TX

24/11/2017

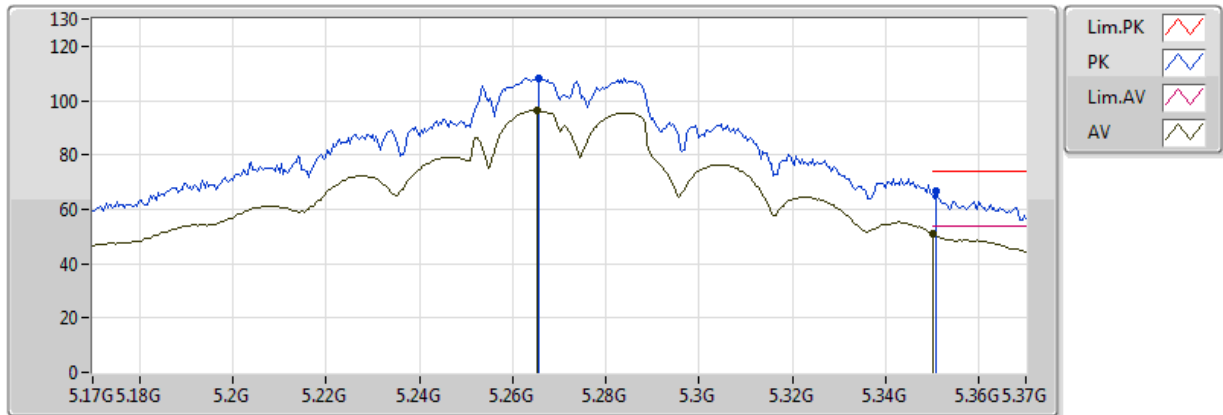


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.2588G      | 94.02             | Inf               | -Inf           | 2.80           | 3           | Vertical  | 89             | 2.63          | -        | 91.22         | 31.70      | 5.64       | 34.54      |
| AV   | 5.3508G      | 47.58             | 54.00             | -6.42          | 2.85           | 3           | Vertical  | 89             | 2.63          | -        | 44.73         | 31.74      | 5.65       | 34.54      |
| PK   | 5.2576G      | 105.98            | Inf               | -Inf           | 2.79           | 3           | Vertical  | 89             | 2.63          | -        | 103.19        | 31.70      | 5.64       | 34.54      |
| PK   | 5.3552G      | 60.80             | 74.00             | -13.20         | 2.85           | 3           | Vertical  | 89             | 2.63          | -        | 57.95         | 31.74      | 5.65       | 34.54      |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5270MHz\_TX

24/11/2017

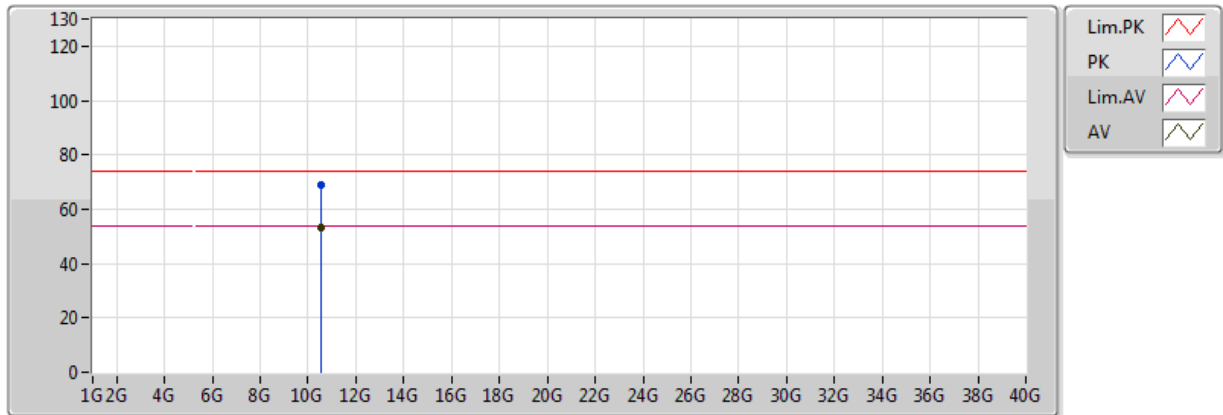


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.2652G      | 96.45             | Inf               | -Inf           | 2.80           | 3           | Horizontal | 0              | 1.26          | -        | 93.65         | 31.71      | 5.64       | 34.54      |
| AV   | 5.350005G    | 50.96             | 54.00             | -3.04          | 2.85           | 3           | Horizontal | 0              | 1.26          | -        | 48.11         | 31.74      | 5.65       | 34.54      |
| PK   | 5.2656G      | 108.16            | Inf               | -Inf           | 2.80           | 3           | Horizontal | 0              | 1.26          | -        | 105.36        | 31.71      | 5.64       | 34.54      |
| PK   | 5.3508G      | 66.41             | 74.00             | -7.59          | 2.85           | 3           | Horizontal | 0              | 1.26          | -        | 63.56         | 31.74      | 5.65       | 34.54      |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5270MHz\_TX

24/11/2017

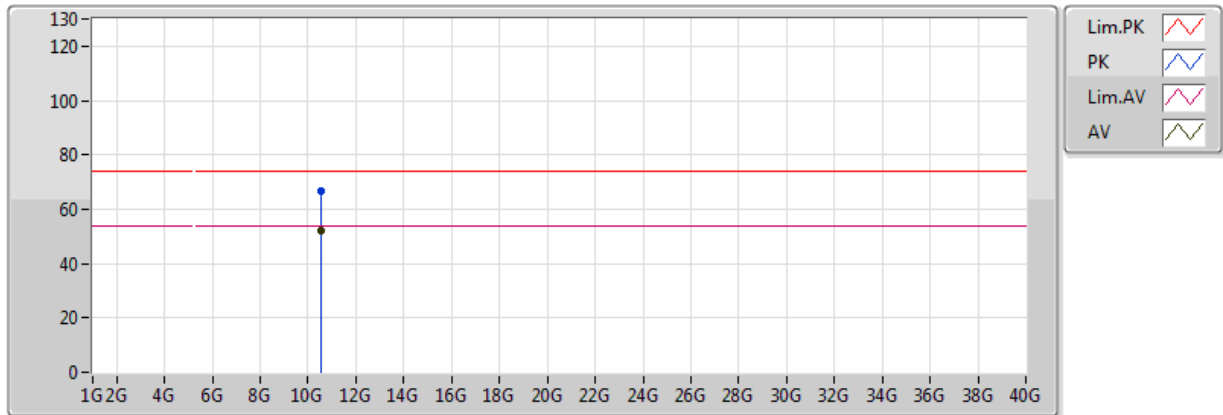


| Type | Freq      | Level    | Limit    | Margin | Factor | Dist | Condition | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|-----------|----------|----------|--------|--------|------|-----------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)      | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |           | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 10.54042G | 53.45    | 54.00    | -0.55  | 12.81  | 3    | Vertical  | 1.58    | 2.61   | -        | 40.64  | 39.76 | 8.01 | 34.96 |
| PK   | 10.54024G | 68.69    | 74.00    | -5.31  | 12.81  | 3    | Vertical  | 158     | 2.61   | -        | 55.88  | 39.76 | 8.01 | 34.96 |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5270MHz\_TX

24/11/2017

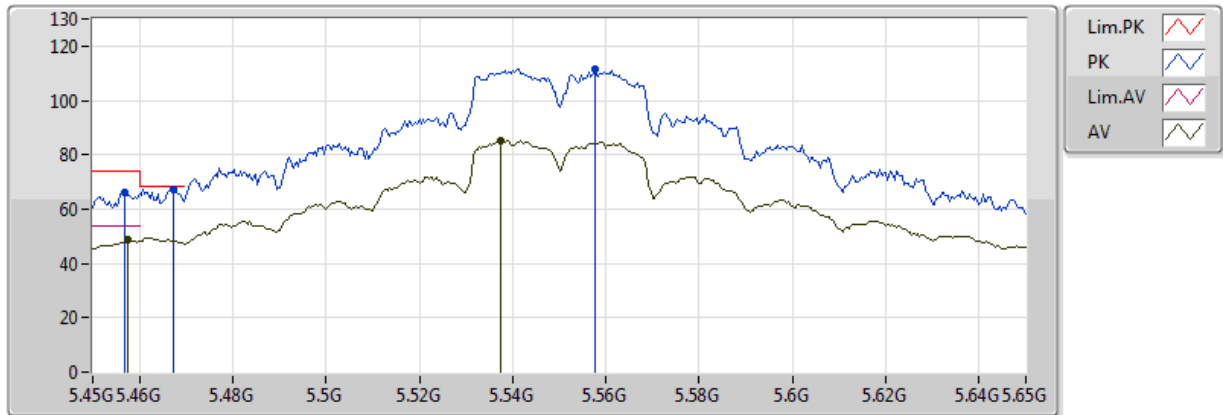


| Type | Freq      | Level    | Limit    | Margin | Factor | Dist | Condition  | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|-----------|----------|----------|--------|--------|------|------------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)      | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |            | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 10.53694G | 52.01    | 54.00    | -1.99  | 12.80  | 3    | Horizontal | 181     | 2.32   | -        | 39.21  | 39.75 | 8.01 | 34.96 |
| PK   | 10.53676G | 66.57    | 74.00    | -7.43  | 12.80  | 3    | Horizontal | 181     | 2.32   | -        | 53.76  | 39.75 | 8.01 | 34.96 |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5550MHz\_TX

24/11/2017

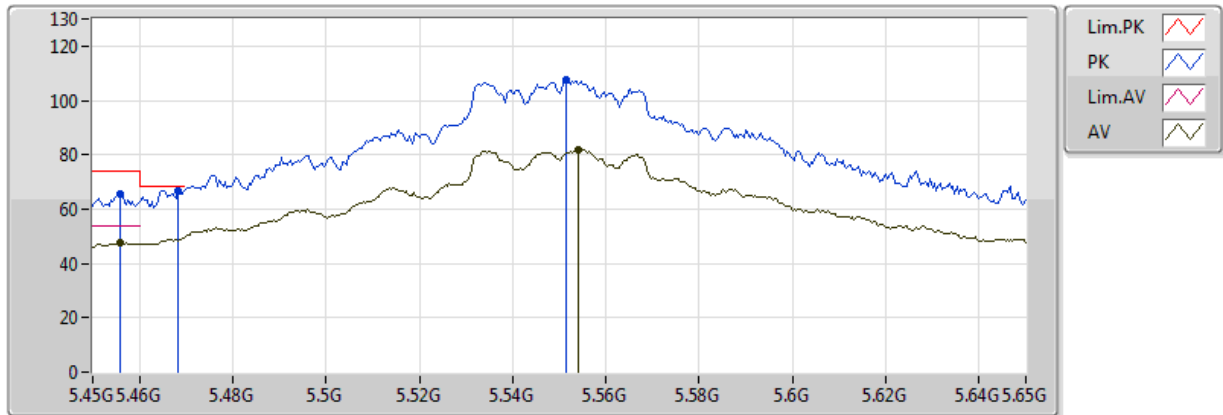


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.4576G      | 48.51             | 54.00             | -5.49          | 2.91           | 3           | Vertical  | 140            | 2.80          | -        | 45.60         | 31.78      | 5.67       | 34.54      |
| AV   | 5.5376G      | 85.41             | Inf               | -Inf           | 3.01           | 3           | Vertical  | 140            | 2.80          | -        | 82.40         | 31.86      | 5.70       | 34.55      |
| PK   | 5.4568G      | 66.20             | 74.00             | -7.80          | 2.91           | 3           | Vertical  | 140            | 2.80          | -        | 63.29         | 31.78      | 5.67       | 34.54      |
| PK   | 5.4672G      | 67.38             | 68.20             | -0.82          | 2.91           | 3           | Vertical  | 140            | 2.80          | -        | 64.47         | 31.79      | 5.67       | 34.54      |
| PK   | 5.5576G      | 111.70            | Inf               | -Inf           | 3.05           | 3           | Vertical  | 140            | 2.80          | -        | 108.65        | 31.89      | 5.71       | 34.56      |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5550MHz\_TX

24/11/2017

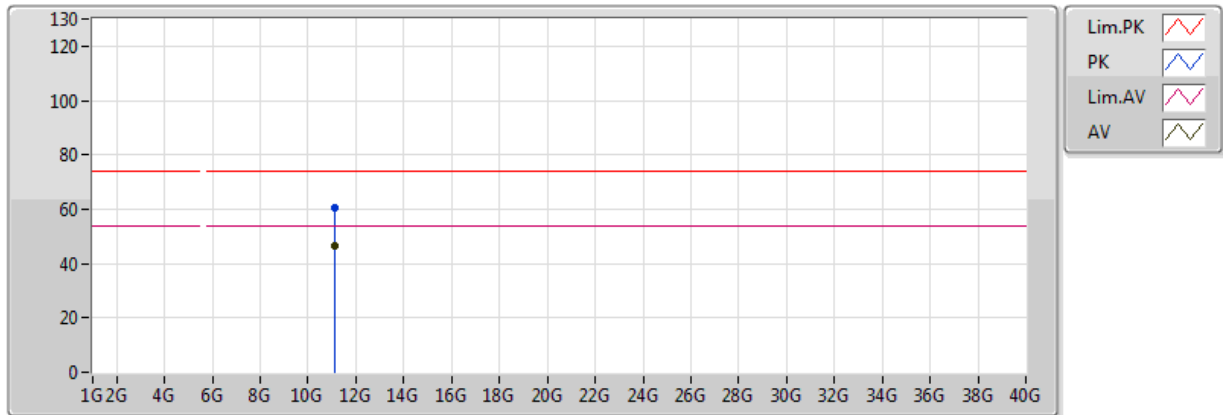


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.456G       | 47.67             | 54.00             | -6.33          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        | 44.76         | 31.78      | 5.67       | 34.54      |
| AV   | 5.554G       | 81.86             | Inf               | -Inf           | 3.04           | 3           | Horizontal | 165            | 1.35          | -        | 78.82         | 31.89      | 5.71       | 34.56      |
| PK   | 5.456G       | 65.31             | 74.00             | -8.69          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        | 62.40         | 31.78      | 5.67       | 34.54      |
| PK   | 5.4684G      | 66.93             | 68.20             | -1.27          | 2.91           | 3           | Horizontal | 165            | 1.35          | -        | 64.01         | 31.79      | 5.67       | 34.54      |
| PK   | 5.5516G      | 107.79            | Inf               | -Inf           | 3.03           | 3           | Horizontal | 165            | 1.35          | -        | 104.76        | 31.88      | 5.71       | 34.56      |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5550MHz\_TX

24/11/2017

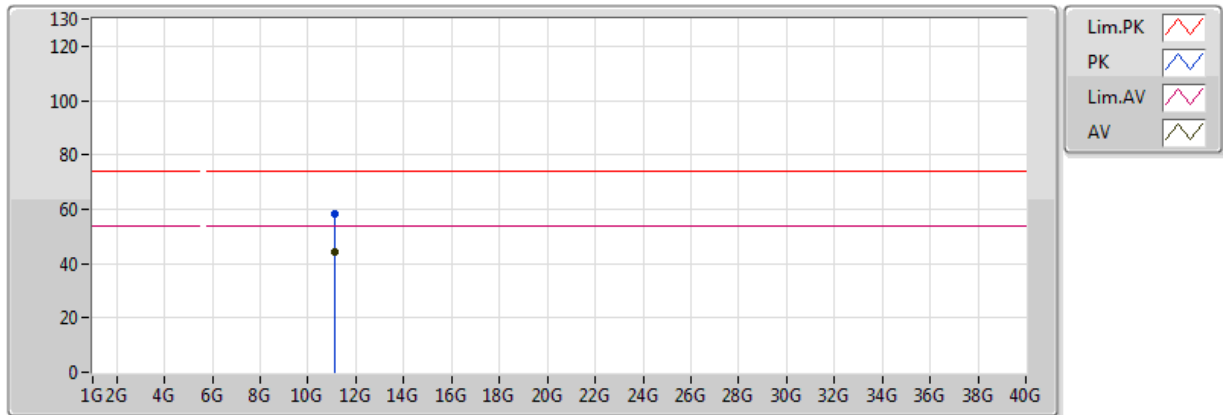


| Type | Freq      | Level    | Limit    | Margin | Factor | Dist | Condition | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|-----------|----------|----------|--------|--------|------|-----------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)      | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |           | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 11.0991G  | 46.66    | 54.00    | -7.34  | 13.90  | 3    | Vertical  | 2       | 3.24   | -        | 32.76  | 40.26 | 8.25 | 34.61 |
| PK   | 11.09688G | 60.48    | 74.00    | -13.52 | 13.90  | 3    | Vertical  | 2       | 3.24   | -        | 46.58  | 40.26 | 8.25 | 34.61 |

## 802.11ac VHT40\_Nss1,(MCS0)\_2TX

## 5550MHz\_TX

24/11/2017



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 11.0985G     | 44.28             | 54.00             | -9.72          | 13.90          | 3           | Horizontal | 9              | 2.34          | -        | 30.39         | 40.26      | 8.25       | 34.61      |
| PK   | 11.09634G    | 58.49             | 74.00             | -15.51         | 13.90          | 3           | Horizontal | 9              | 2.34          | -        | 44.59         | 40.27      | 8.25       | 34.61      |