



# RF TEST REPORT

**Applicant**    Quectel Wireless Solutions Co., Ltd  
**FCC ID**        XMR201911SC600WF  
**Product**       Smart Module  
**Brand**          Quectel  
**Model**          SC600T-WF, SC600Y-WF  
**Marketing**    Quectel SC600T-WF, Quectel SC600Y-WF  
**Report No.**   R1910A0590-R3  
**Issue Date**   November 18, 2019

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2018)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Performed by: Peng Tao

Approved by: Kai Xu

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## TABLE OF CONTENT

|                                                     |     |
|-----------------------------------------------------|-----|
| 1. Test Laboratory .....                            | 4   |
| 1.1. Notes of the test report.....                  | 4   |
| 1.2. Testing Location.....                          | 4   |
| 2. General Description of Equipment under Test..... | 5   |
| 2.1. Applicant and Manufacturer Information.....    | 5   |
| 2.2. General information.....                       | 5   |
| 3. Applied Standards .....                          | 6   |
| 4. Test Configuration .....                         | 7   |
| 5. Test Case Results .....                          | 9   |
| 5.1. Average Power Output –Conducted.....           | 9   |
| 5.2. Unwanted Emission .....                        | 17  |
| 5.3. Conducted Emission .....                       | 104 |
| 6. Main Test Instruments.....                       | 107 |

## Summary of measurement results

| Number                                             | Test Case                      | Clause in FCC rules | Verdict |
|----------------------------------------------------|--------------------------------|---------------------|---------|
| 1                                                  | Average conducted output power | 15.407(a)           | PASS    |
| 2                                                  | Unwanted Emissions             | 15.407(b)           | PASS    |
| 3                                                  | Conducted Emissions            | 15.207              | PASS    |
| Date of Testing:October 16, 2019 ~November 1, 2019 |                                |                     |         |

Only Conducted power , Unwanted Emissions and Conducted Emissions were tested for SC600T-WF, SC600Y-WF in this report. Other conducted test items refer to the SC600Y-NA ,SC600T-NA Module report (Report No. : HR/2019/5000603).



## 1. Test Laboratory

### 1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

### 1.2. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
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City: Shanghai  
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## 2. General Description of Equipment under Test

### 2.1. Applicant and Manufacturer Information

|                             |                                                                                                                          |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>            | Quectel Wireless Solutions Co., Ltd                                                                                      |
| <b>Applicant address</b>    | Building 5, Shanghai Business Park Phase III (Area B), No.1016<br>Tianlin Road, Minhang District, Shanghai, China 200233 |
| <b>Manufacturer</b>         | Quectel Wireless Solutions Co., Ltd                                                                                      |
| <b>Manufacturer address</b> | Building 5, Shanghai Business Park Phase III (Area B), No.1016<br>Tianlin Road, Minhang District, Shanghai, China 200233 |

### 2.2. General information

| EUT Description                                                     |                                                                                                                                         |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Model                                                               | SC600T-WF, SC600Y-WF                                                                                                                    |
| IMEI                                                                | P1A19IJ58000023                                                                                                                         |
| Hardware Version                                                    | R1.0                                                                                                                                    |
| Software Version                                                    | SC600YWFPAR05A04                                                                                                                        |
| Power Supply                                                        | External Power Supply                                                                                                                   |
| Antenna Type                                                        | The EUT don't have standard Adapter and Antenna. The adapter and Antenna used for testing in this report is the after-market accessory. |
| Antenna Gain                                                        | 5 dBi                                                                                                                                   |
| Directional Gain                                                    | NA                                                                                                                                      |
| Test Mode(s)                                                        | U-NII-1(5150MHz-5250MHz)<br>U-NII-2A(5250MHz-5350MHz)<br>U-NII-2C(5470MHz-5725MHz without 5600MHz -5650MHz)<br>U-NII-3(5725MHz-5850MHz) |
| Modulation Type                                                     | 802.11a/n (HT20/HT40) : OFDM<br>802.11ac (VHT20/VHT40/VHT80): OFDM                                                                      |
| Max. Conducted Power                                                | 13.50 dBm                                                                                                                               |
| Operating Frequency Range(s)                                        | U-NII-1: 5150-5250MHz<br>U-NII-2A:5250-5350MHz<br>U-NII-2C:5470-5725MHz (without 5600MHz -5650MHz)<br>U-NII-3: 5725-5850MHz             |
| Operating temperature range:                                        | -35 ° C to 65° C                                                                                                                        |
| Operating voltage range:                                            | 3.55 V to 4.4 V                                                                                                                         |
| State AC voltage:                                                   | 3.8V                                                                                                                                    |
| Note:1. The information of the EUT is declared by the manufacturer. |                                                                                                                                         |



### 3. Applied Standards

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

**Test standards:**

**FCC CFR47 Part 15E (2018)** Unlicensed National Information Infrastructure Devices

**ANSI C63.10 (2013)**

**Reference standard:**

**KDB 789033 D02 General UNII Test Procedures New Rules v02r01**

## 4. Test Configuration

### Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

| Band           | Data Rate |
|----------------|-----------|
| 802.11a        | 6 Mbps    |
| 802.11n HT20   | MCS0      |
| 802.11n HT40   | MCS0      |
| 802.11ac VHT20 | MCS0      |
| 802.11ac VHT40 | MCS0      |
| 802.11ac VHT80 | MCS0      |

### Wireless Technology and Frequency Range

| Wireless Technology                                                                                        |          | Bandwidth | Channel | Frequency |
|------------------------------------------------------------------------------------------------------------|----------|-----------|---------|-----------|
| Wi-Fi                                                                                                      | U-NII-1  | 20 MHz    | 36      | 5180MHz   |
|                                                                                                            |          |           | 44      | 5220MHz   |
|                                                                                                            |          |           | 48      | 5240MHz   |
|                                                                                                            |          | 40 MHz    | 38      | 5190MHz   |
|                                                                                                            |          |           | 46      | 5230MHz   |
|                                                                                                            |          |           | 80 MHz  | 42        |
|                                                                                                            | U-NII-2A | 20 MHz    | 52      | 5260MHz   |
|                                                                                                            |          |           | 60      | 5300MHz   |
|                                                                                                            |          |           | 64      | 5320MHz   |
|                                                                                                            |          | 40 MHz    | 54      | 5270MHz   |
|                                                                                                            |          |           | 62      | 5310MHz   |
|                                                                                                            |          | 80 MHz    | 58      | 5290MHz   |
|                                                                                                            | U-NII-2C | 20 MHz    | 100     | 5500MHz   |
|                                                                                                            |          |           | 116     | 5580MHz   |
|                                                                                                            |          |           | 140     | 5700MHz   |
|                                                                                                            |          | 40 MHz    | 102     | 5510MHz   |
|                                                                                                            |          |           | 134     | 5670MHz   |
|                                                                                                            |          |           | 142     | 5710MHz   |
|                                                                                                            |          | 80 MHz    | 106     | 5530MHz   |
|                                                                                                            | U-NII-3  | 20 MHz    | 149     | 5745MHz   |
|                                                                                                            |          |           | 157     | 5785MHz   |
|                                                                                                            |          |           | 165     | 5825MHz   |
|                                                                                                            |          | 40 MHz    | 151     | 5755MHz   |
|                                                                                                            |          |           | 159     | 5795MHz   |
|                                                                                                            |          | 80 MHz    | 155     | 5775MHz   |
| Does this device support TPC Function? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |          |           |         |           |
| Does this device support TDWR Band? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    |          |           |         |           |

## 5. Test Case Results

### 5.1. Average Power Output –Conducted

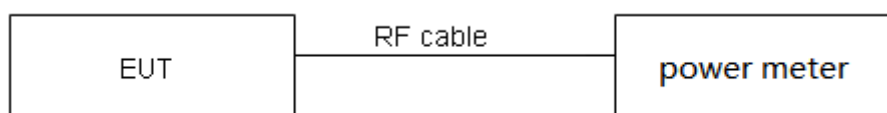
#### Ambient condition

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C ~25°C  | 45%~50%           | 101.5kPa |

#### Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

#### Test Setup



#### Limits

Rule FCC Part 15.407(a)(1)(2)(3)

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23

dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U = 0.44 \text{ dB}$ .



## Test Results

| Band                                                                   | T <sub>on</sub> (ms) | T <sub>(on+off)</sub> (ms) | Duty cycle | Duty cycle correction Factor(dB) |
|------------------------------------------------------------------------|----------------------|----------------------------|------------|----------------------------------|
| 802.11a                                                                | 1.36                 | 1.56                       | 0.87       | 0.60                             |
| 802.11n HT20                                                           | 1.28                 | 1.48                       | 0.86       | 0.63                             |
| 802.11n HT40                                                           | 0.49                 | 0.69                       | 0.71       | 1.47                             |
| 802.11ac VHT20                                                         | 0.98                 | 1.18                       | 0.83       | 0.80                             |
| 802.11ac VHT40                                                         | 0.49                 | 0.69                       | 0.71       | 1.47                             |
| 802.11ac VHT80                                                         | 0.25                 | 0.45                       | 0.55       | 2.62                             |
| Note: when Duty cycle>0.98, Duty cycle correction Factor not required. |                      |                            |            |                                  |

|                | Single Antenna Power Index |      |       |       |       |       |       |       |       |       |       |       |
|----------------|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Packet Type    | CH36                       | CH44 | CH48  | CH52  | CH60  | CH64  | CH100 | CH116 | CH140 | CH149 | CH157 | CH165 |
| 802.11a        | 13                         | 13   | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    |
| 802.11n HT20   | 13                         | 13   | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    |
| 802.11ac VHT20 | 13                         | 13   | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    |
| Packet Type    | CH38                       | CH46 | CH54  | CH62  | CH102 | CH110 | CH134 | CH151 | CH159 | /     | /     | /     |
| 802.11n HT40   | 13                         | 13   | 13    | 13    | 13    | 13    | 13    | 13    | 13    | /     | /     | /     |
| 802.11ac VHT40 | 13                         | 13   | 13    | 13    | 13    | 13    | 13    | 13    | 13    | /     | /     | /     |
| Packet Type    | CH42                       | CH58 | CH106 | CH155 | /     | /     | /     | /     | /     | /     | /     | /     |
| 802.11ac VHT80 | 12                         | 12   | 12    | 12    | /     | /     | /     | /     | /     | /     | /     | /     |



| Network Standards |                | Channel/Frequency (MHz) | B=26 dB bandwidth (MHz) | Limit 11 dBm + 10 log B (dBm) | Final Limit(dBm) |
|-------------------|----------------|-------------------------|-------------------------|-------------------------------|------------------|
| U-NII-2A          | 802.11a        | 52/5260                 | 22.26                   | 24.48>24                      | 24               |
|                   |                | 60/5300                 | 22.14                   | 24.45>24                      | 24               |
|                   |                | 64/5320                 | 22.34                   | 24.49>24                      | 24               |
|                   | 802.11n HT20   | 52/5260                 | 22.50                   | 24.52>24                      | 24               |
|                   |                | 60/5300                 | 22.62                   | 24.54>24                      | 24               |
|                   |                | 64/5320                 | 22.90                   | 24.60>24                      | 24               |
|                   | 802.11n HT40   | 54/5270                 | 43.24                   | 27.36>24                      | 24               |
|                   |                | 62/5310                 | 43.80                   | 27.41>24                      | 24               |
|                   | 802.11ac VHT20 | 52/5260                 | 22.18                   | 24.46>24                      | 24               |
|                   |                | 60/5300                 | 22.22                   | 24.47>24                      | 24               |
|                   |                | 64/5320                 | 22.30                   | 24.48>24                      | 24               |
|                   | 802.11ac VHT40 | 54/5270                 | 43.24                   | 27.36>24                      | 24               |
|                   |                | 62/5310                 | 43.24                   | 27.36>24                      | 24               |
|                   | 802.11ac VHT80 | 58/5290                 | 84.56                   | 30.27>24                      | 24               |
| U-NII-2C          | 802.11a        | 100/5500                | 22.24                   | 24.47>24                      | 24               |
|                   |                | 116/5580                | 22.30                   | 24.48>24                      | 24               |
|                   |                | 140/5700                | 22.06                   | 24.44>24                      | 24               |
|                   | 802.11n HT20   | 100/5500                | 22.70                   | 24.56>24                      | 24               |
|                   |                | 116/5580                | 22.58                   | 24.54>24                      | 24               |
|                   |                | 140/5700                | 22.70                   | 24.56>24                      | 24               |
|                   | 802.11n HT40   | 102/5510                | 43.72                   | 27.41>24                      | 24               |
|                   |                | 110/5550                | 42.92                   | 27.33>24                      | 24               |
|                   |                | 134/5670                | 44.04                   | 27.44>24                      | 24               |
|                   | 802.11ac VHT20 | 100/5500                | 22.18                   | 24.46>24                      | 24               |
|                   |                | 116/5580                | 22.22                   | 24.47>24                      | 24               |
|                   |                | 140/5700                | 22.23                   | 24.47>24                      | 24               |
|                   | 802.11ac VHT40 | 102/5510                | 43.08                   | 27.34>24                      | 24               |
|                   |                | 110/5550                | 43.00                   | 27.33>24                      | 24               |
|                   |                | 134/5670                | 43.16                   | 27.35>24                      | 24               |
|                   | 802.11ac VHT80 | 106/5530                | 84.40                   | 30.26>24                      | 24               |

Note: 250mW=24dBm



Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor

**U-NII-1**

| Network Standards                                                                            | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|----------------------------------------------------------------------------------------------|--------------------------|------------------------------|--------------------------------------|-------------|------------|
| 802.11a                                                                                      | 36/5180                  | 12.65                        | 13.25                                | 24          | PASS       |
|                                                                                              | 44/5220                  | 12.72                        | 13.32                                | 24          | PASS       |
|                                                                                              | 48/5240                  | 12.44                        | 13.04                                | 24          | PASS       |
| 802.11n HT20                                                                                 | 36/5180                  | 12.87                        | 13.50                                | 24          | PASS       |
|                                                                                              | 44/5220                  | 12.79                        | 13.42                                | 24          | PASS       |
|                                                                                              | 48/5240                  | 12.54                        | 13.17                                | 24          | PASS       |
| 802.11n HT40                                                                                 | 38/5190                  | 11.74                        | 13.21                                | 24          | PASS       |
|                                                                                              | 46/5230                  | 11.64                        | 13.11                                | 24          | PASS       |
| 802.11ac VHT20                                                                               | 36/5180                  | 12.44                        | 13.24                                | 24          | PASS       |
|                                                                                              | 44/5220                  | 12.32                        | 13.12                                | 24          | PASS       |
|                                                                                              | 48/5240                  | 12.19                        | 12.99                                | 24          | PASS       |
| 802.11ac VHT40                                                                               | 38/5190                  | 11.58                        | 13.05                                | 24          | PASS       |
|                                                                                              | 46/5230                  | 11.69                        | 13.16                                | 24          | PASS       |
| 802.11ac VHT80                                                                               | 42/5210                  | 10.05                        | 12.67                                | 24          | PASS       |
| Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1), |                          |                              |                                      |             |            |



## U-NII-2A

| Network Standards | Channel/<br>Frequency<br>(MHz) | Average<br>Power<br>Measured<br>(dBm) | Average<br>Power<br>with duty<br>factor<br>(dBm) | Limit<br>(dBm) | Conclusion |
|-------------------|--------------------------------|---------------------------------------|--------------------------------------------------|----------------|------------|
| 802.11a           | 52/5260                        | 12.47                                 | 13.07                                            | 24.00          | PASS       |
|                   | 60/5300                        | 12.53                                 | 13.13                                            | 24.00          | PASS       |
|                   | 64/5320                        | 12.36                                 | 12.96                                            | 24.00          | PASS       |
| 802.11n<br>HT20   | 52/5260                        | 12.42                                 | 13.05                                            | 24.00          | PASS       |
|                   | 60/5300                        | 12.72                                 | 13.35                                            | 24.00          | PASS       |
|                   | 64/5320                        | 12.38                                 | 13.01                                            | 24.00          | PASS       |
| 802.11n<br>HT40   | 54/5270                        | 11.77                                 | 13.24                                            | 24.00          | PASS       |
|                   | 62/5310                        | 11.69                                 | 13.16                                            | 24.00          | PASS       |
| 802.11ac<br>VHT20 | 52/5260                        | 12.29                                 | 13.09                                            | 24.00          | PASS       |
|                   | 60/5300                        | 12.37                                 | 13.17                                            | 24.00          | PASS       |
|                   | 64/5320                        | 12.11                                 | 12.91                                            | 24.00          | PASS       |
| 802.11ac<br>VHT40 | 54/5270                        | 11.53                                 | 13.00                                            | 24.00          | PASS       |
|                   | 62/5310                        | 11.65                                 | 13.12                                            | 24.00          | PASS       |
| 802.11ac VHT80    | 58/5290                        | 10.38                                 | 13.00                                            | 24.00          | PASS       |

Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor



## U-NII-2C

| Network Standards                                                                           | Channel/<br>Frequency<br>(MHz) | Average<br>Power<br>Measured<br>(dBm) | Average<br>Power<br>with duty<br>factor<br>(dBm) | Limit<br>(dBm) | Conclusion |
|---------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|--------------------------------------------------|----------------|------------|
| 802.11a                                                                                     | 100/5500                       | 12.48                                 | 13.08                                            | 24.00          | PASS       |
|                                                                                             | 116/5580                       | 12.42                                 | 13.02                                            | 24.00          | PASS       |
|                                                                                             | 140/5700                       | 12.23                                 | 12.83                                            | 24.00          | PASS       |
| 802.11n<br>HT20                                                                             | 100/5500                       | 12.42                                 | 13.05                                            | 24.00          | PASS       |
|                                                                                             | 116/5580                       | 12.36                                 | 12.99                                            | 24.00          | PASS       |
|                                                                                             | 140/5700                       | 12.28                                 | 12.91                                            | 24.00          | PASS       |
| 802.11n<br>HT40                                                                             | 102/5510                       | 11.74                                 | 13.21                                            | 24.00          | PASS       |
|                                                                                             | 110/5550                       | 11.62                                 | 13.09                                            | 24.00          | PASS       |
|                                                                                             | 134/5670                       | 11.52                                 | 12.99                                            | 24.00          | PASS       |
| 802.11ac<br>VHT20                                                                           | 100/5500                       | 12.53                                 | 13.33                                            | 24.00          | PASS       |
|                                                                                             | 116/5580                       | 12.47                                 | 13.27                                            | 24.00          | PASS       |
|                                                                                             | 140/5700                       | 12.25                                 | 13.05                                            | 24.00          | PASS       |
| 802.11ac<br>VHT40                                                                           | 102/5510                       | 11.85                                 | 13.32                                            | 24.00          | PASS       |
|                                                                                             | 110/5550                       | 11.76                                 | 13.23                                            | 24.00          | PASS       |
|                                                                                             | 134/5670                       | 11.59                                 | 13.06                                            | 24.00          | PASS       |
| 802.11ac VHT80                                                                              | 106/5530                       | 10.31                                 | 12.93                                            | 24.00          | PASS       |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor |                                |                                       |                                                  |                |            |



## U-NII-3

| Network Standards                                                                           | Channel/<br>Frequency<br>(MHz) | Average Power<br>Measured<br>(dBm) | Average<br>Power with<br>duty factor<br>(dBm) | Limit<br>(dBm) | Conclusion |
|---------------------------------------------------------------------------------------------|--------------------------------|------------------------------------|-----------------------------------------------|----------------|------------|
| 802.11a                                                                                     | 149/5745                       | 11.78                              | 12.38                                         | 30             | PASS       |
|                                                                                             | 157/5785                       | 11.84                              | 12.44                                         | 30             | PASS       |
|                                                                                             | 165/5825                       | 11.79                              | 12.39                                         | 30             | PASS       |
| 802.11n<br>HT20                                                                             | 149/5745                       | 11.44                              | 12.07                                         | 30             | PASS       |
|                                                                                             | 157/5785                       | 11.57                              | 12.20                                         | 30             | PASS       |
|                                                                                             | 165/5825                       | 11.64                              | 12.27                                         | 30             | PASS       |
| 802.11n<br>HT40                                                                             | 151/5755                       | 10.78                              | 12.25                                         | 30             | PASS       |
|                                                                                             | 159/5795                       | 10.89                              | 12.36                                         | 30             | PASS       |
| 802.11ac<br>VHT20                                                                           | 149/5745                       | 11.58                              | 12.38                                         | 30             | PASS       |
|                                                                                             | 157/5785                       | 11.66                              | 12.46                                         | 30             | PASS       |
|                                                                                             | 165/5825                       | 11.38                              | 12.18                                         | 30             | PASS       |
| 802.11ac<br>VHT40                                                                           | 151/5755                       | 10.78                              | 12.25                                         | 30             | PASS       |
|                                                                                             | 159/5795                       | 10.69                              | 12.16                                         | 30             | PASS       |
| 802.11ac VHT80                                                                              | 155/5775                       | 9.43                               | 12.05                                         | 30             | PASS       |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor |                                |                                    |                                               |                |            |

## 5.2. Unwanted Emission

### Ambient condition

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C ~25°C  | 45%~50%           | 101.5kPa |

### Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration. Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

Below 1GHz (detector: Peak and Quasi-Peak)

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz (detector: Peak):

I) Peak emission levels are measured by setting the instrument as follows:

- 1) RBW = 1 MHz.
- 2) VBW  $\geq$  [3  $\times$  RBW]
- 3) Detector = peak.
- 4) Sweep time = auto.
- 5) Trace mode = max hold.
- 6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, then the time required for the trace to stabilize will increase by a factor of approximately 1 / D, where D is the duty cycle.

II) Average emission levels are measured by setting the instrument as follows:

- a) RBW = 1 MHz.
- b) VBW  $\geq$  [3  $\times$  RBW].
- c) Detector = RMS (power averaging), if [span / (# of points in sweep)] RBW  $\geq$  2. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
- d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)



e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of  $1 / D$ , where  $D$  is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is  $[10 \log (1 / D)]$ , where  $D$  is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is  $[20 \log (1 / D)]$ , where  $D$  is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

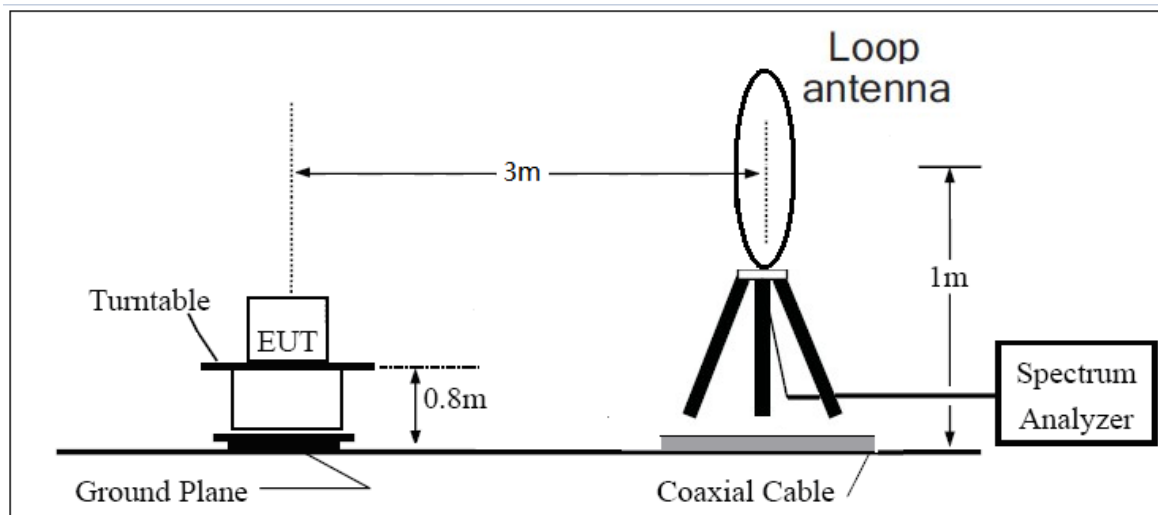
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than  $[1 / (\text{minimum transmitter on time})]$  and no less than 1 Hz.

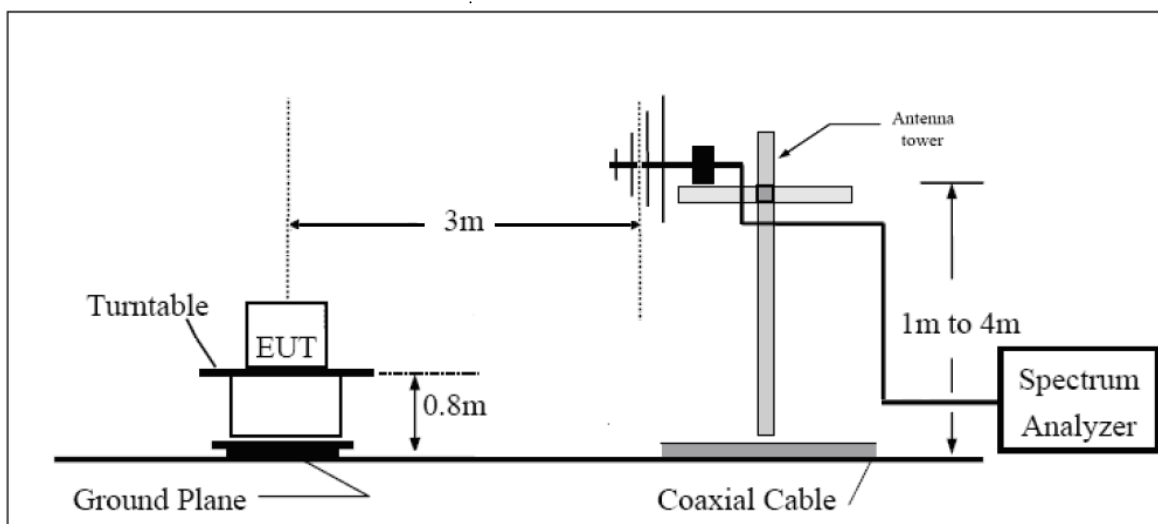
The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

The test is in transmitting mode.

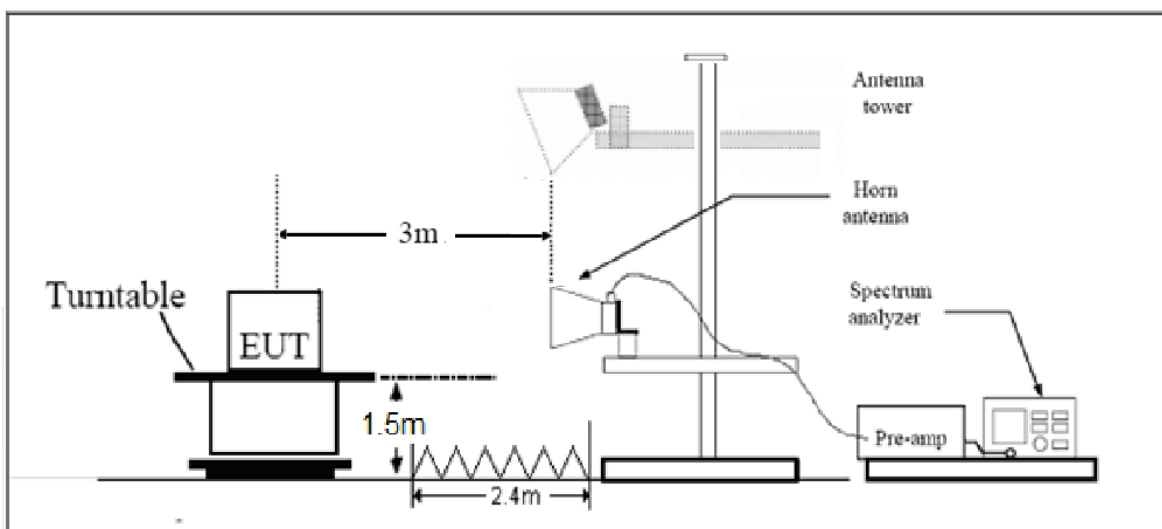
### 9KHz~~~30MHz



### 30MHz~~~ 1GHz



### Above 1GHz



Note: Area side:2.4mX3.6m



## Limits

- (1) For transmitters operating in the 5725-5850 MHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz(68.2dBμV/m).
- (3) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz(68.2dBμV/m).
- (4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{meters}]) + 104.77$ , where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$ , for d = 3 meters

- (5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

| Frequency of emission (MHz) | Field strength(uV/m) | Field strength(dBuV/m) |
|-----------------------------|----------------------|------------------------|
| 0.009–0.490                 | 2400/F(kHz)          | /                      |
| 0.490–1.705                 | 24000/F(kHz)         | /                      |
| 1.705–30.0                  | 30                   | /                      |
| 30-88                       | 100                  | 40                     |
| 88-216                      | 150                  | 43.5                   |
| 216-960                     | 200                  | 46                     |
| Above960                    | 500                  | 54                     |

| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |
| 13.36 - 13.41              |                       |                 |                  |

### Measurement Uncertainty

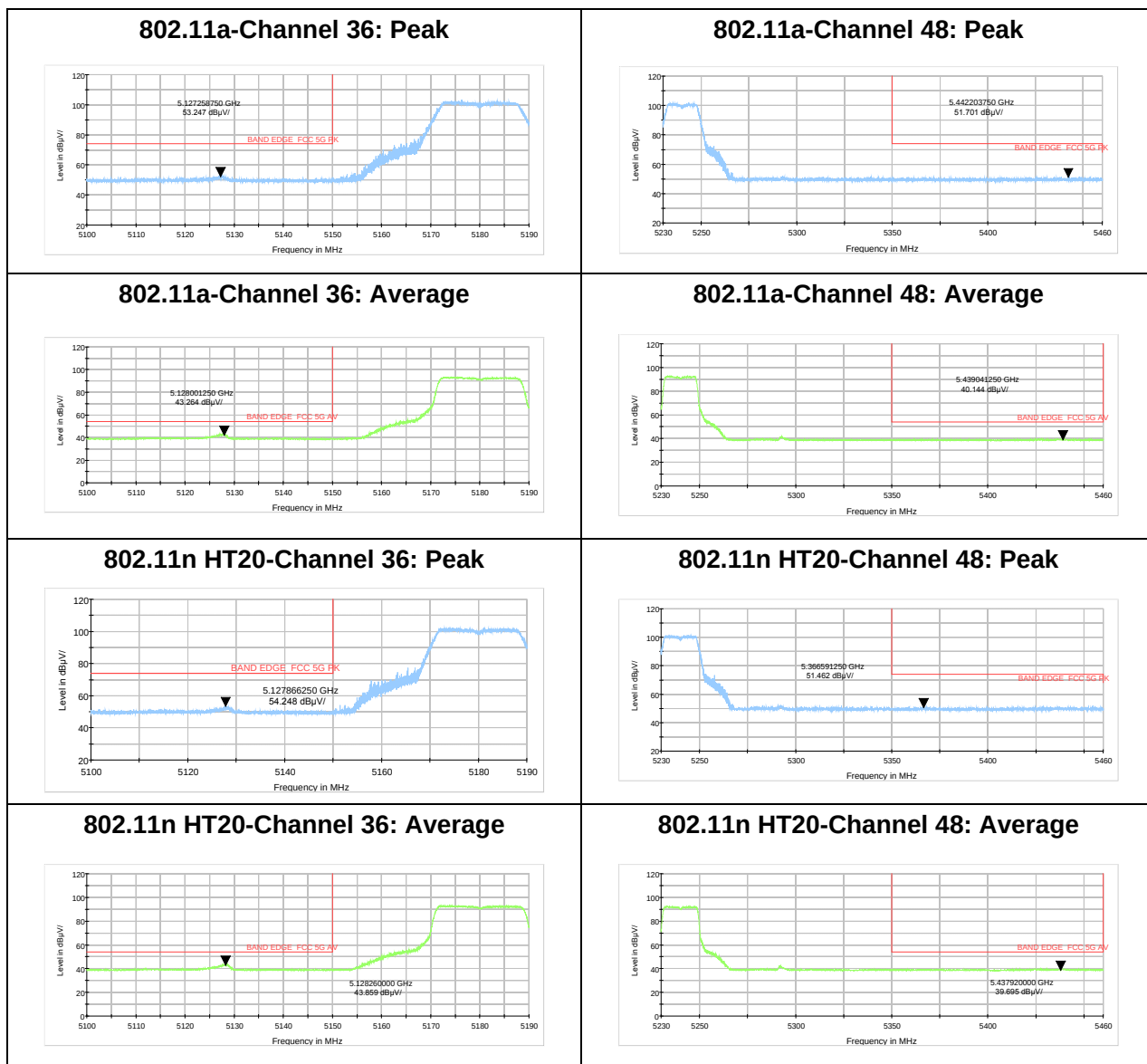
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ .

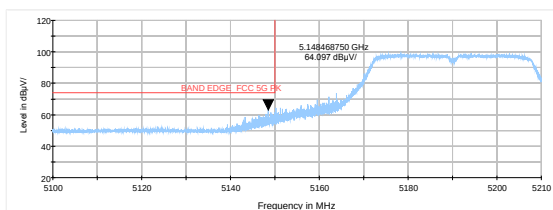
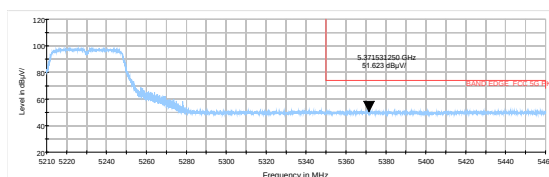
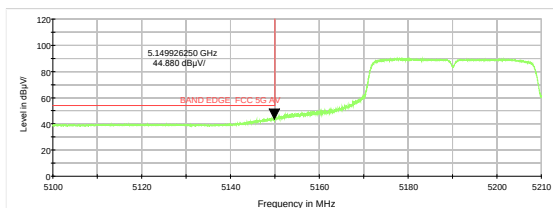
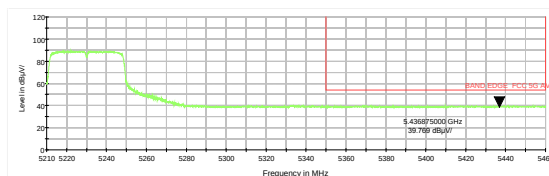
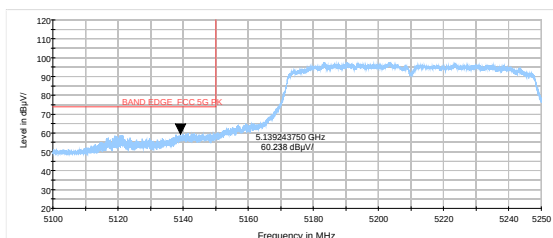
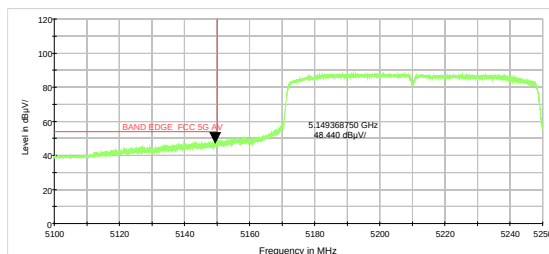
| Frequency    | Uncertainty |
|--------------|-------------|
| 30MHz-200MHz | 4.02 dB     |
| 200MHz-1GHz  | 3.28 dB     |
| 1GHz-18G     | 3.70 dB     |

**Test Results:**

The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for V20MHz/V40MHz, therefore investigated worst case to representative mode in test report.

The signal beyond the limit is carrier.

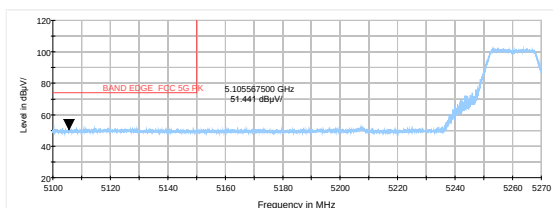
**U-NII-1**

**802.11n HT40-Channel 38: Peak****802.11n HT40-Channel 46: Peak****802.11n HT40-Channel 38: Average****802.11n HT40-Channel 46: Average****802.11ac VHT80 -Channel 42: Peak****802.11ac VHT80- Channel 42: Average**

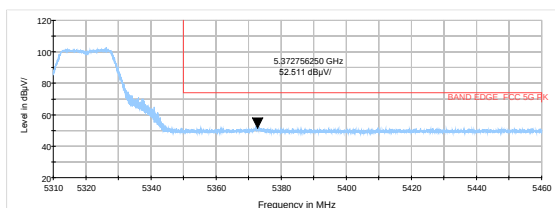


## U-NII-2A

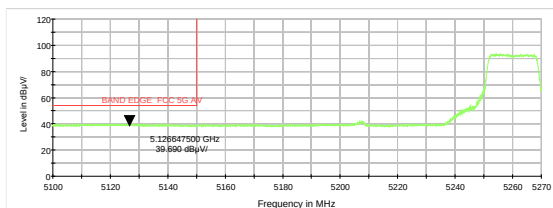
802.11a-Channel 52: Peak



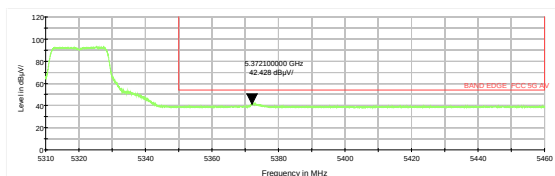
802.11a-Channel 64: Peak



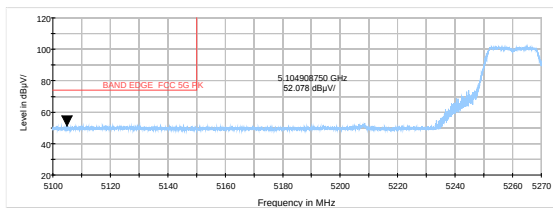
802.11a-Channel 52: Average



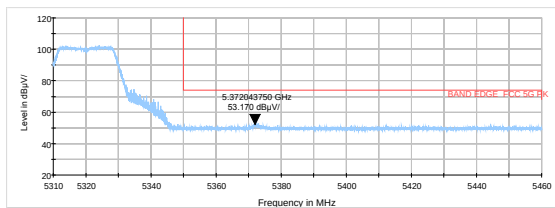
802.11a-Channel 64: Average



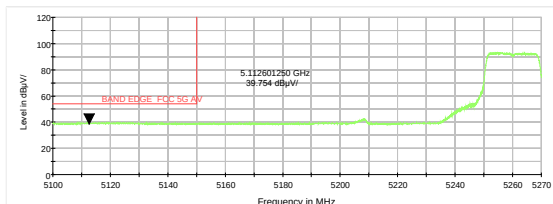
802.11n HT20-Channel 52: Peak



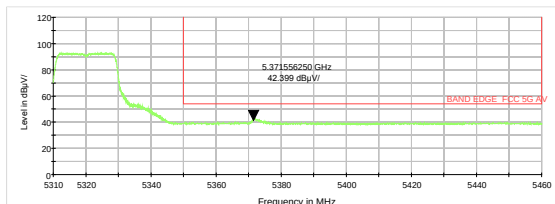
802.11n HT20-Channel 64: Peak



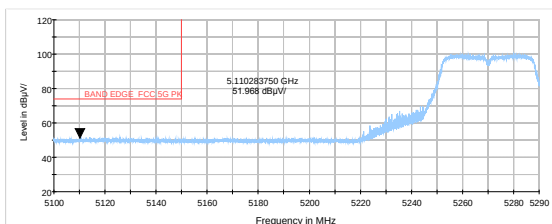
802.11n HT20-Channel 52: Average



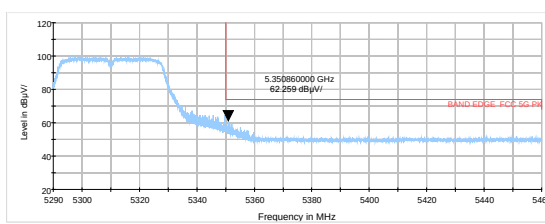
802.11n HT20-Channel 64: Average



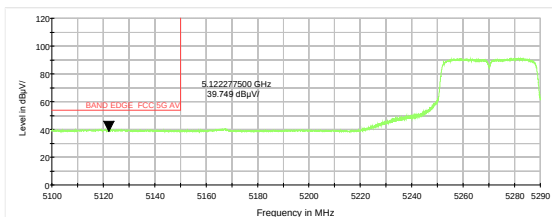
802.11n HT40-Channel 54: Peak



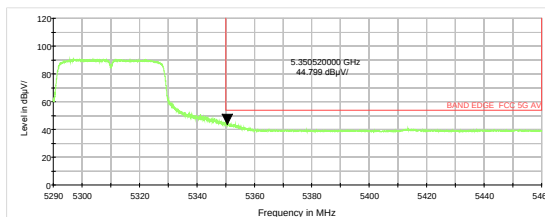
802.11n HT40-Channel 62: Peak



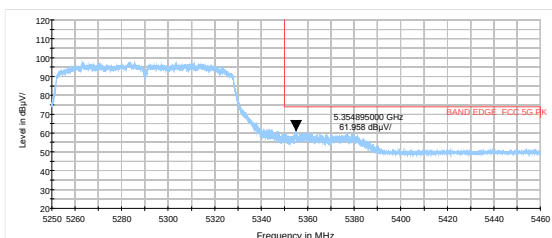
802.11n HT40-Channel 54: Average



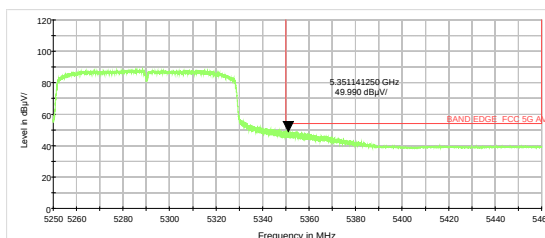
802.11n HT40-Channel 62: Average



802.11ac VHT80 -Channel 58: Peak



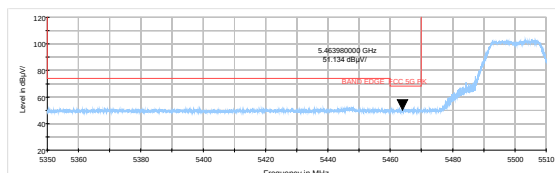
802.11ac VHT80- Channel 58: Average



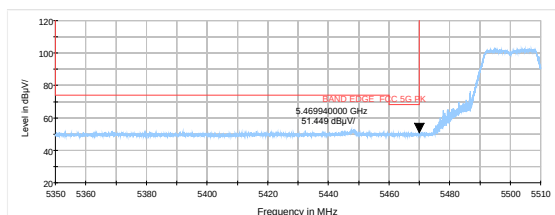


## U-NII-2C

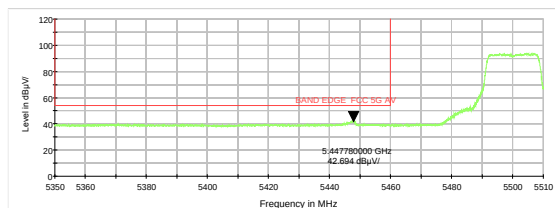
## 802.11a-Channel 100: Peak



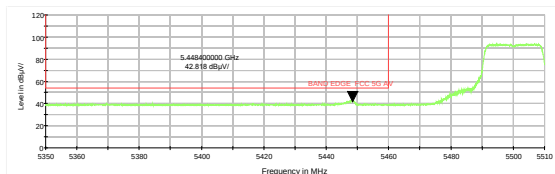
## 802.11n HT20-Channel 100: Peak



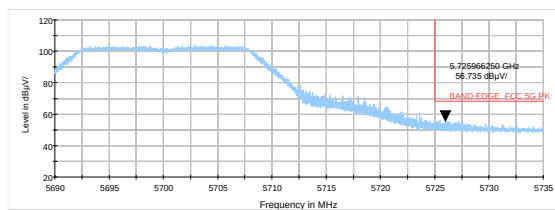
## 802.11a-Channel 100: Average



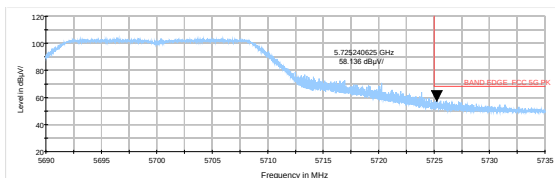
## 802.11n HT20-Channel 100: Average



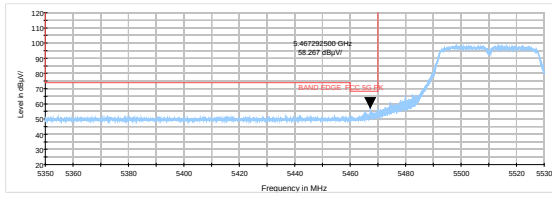
## 802.11a-Channel 140: Peak



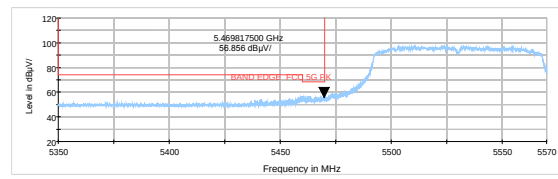
## 802.11n HT20-Channel 140: Peak



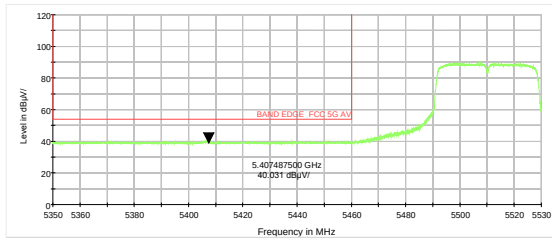
802.11n HT40-Channel 102: Peak



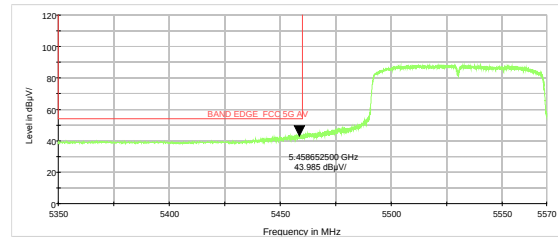
802.11ac VHT80 -Channel 106: Peak



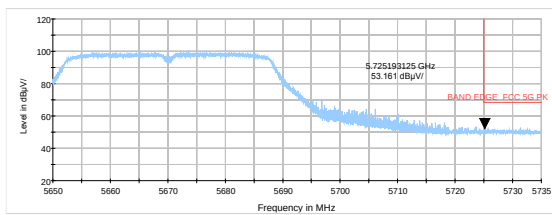
802.11n HT40-Channel 102: Average



802.11ac VHT80- Channel 106: Average



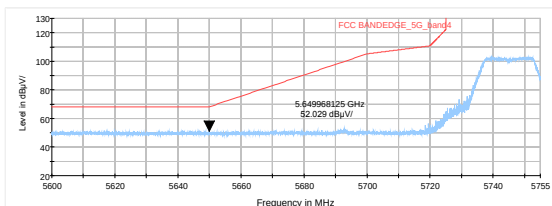
802.11n HT40-Channel 134: Peak



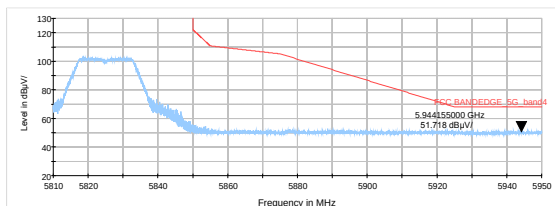


## U-NII-3

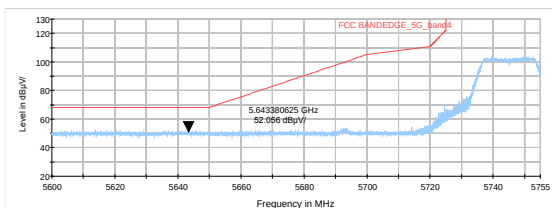
802.11a-Channel 149: Peak



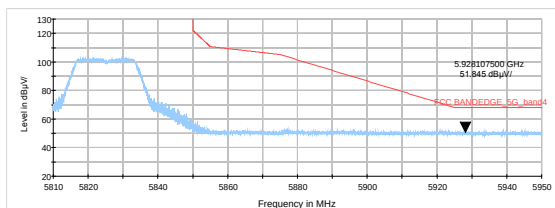
802.11a-Channel 165: Peak



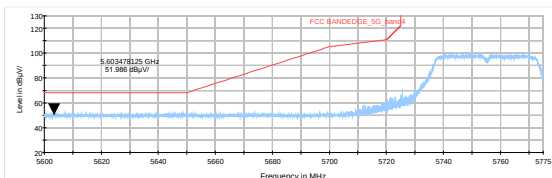
802.11n HT20-Channel 149: Peak



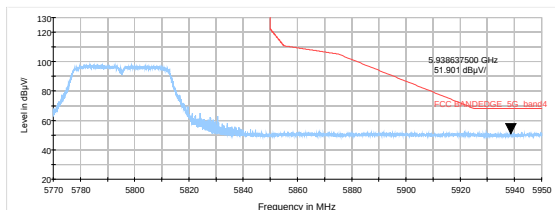
802.11n HT20-Channel 165: Peak



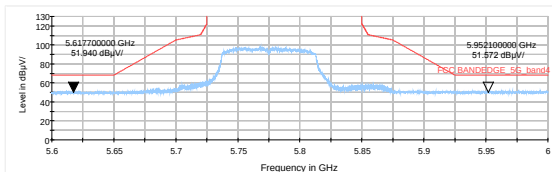
802.11n HT40-Channel 151: Peak



802.11n HT40-Channel 159: Peak



802.11ac VHT80- Channel 155: Peak



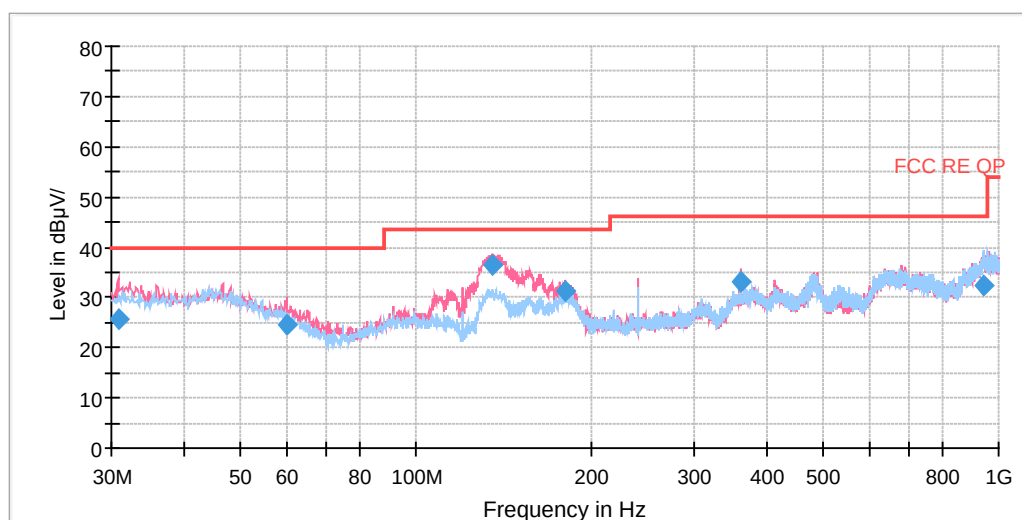
## Result of RE

### Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 30MHz-1GHz and 1GHz-18GHz are more than 20dB below the limit are not reported.

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11a CH116 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

### Continuous TX mode:



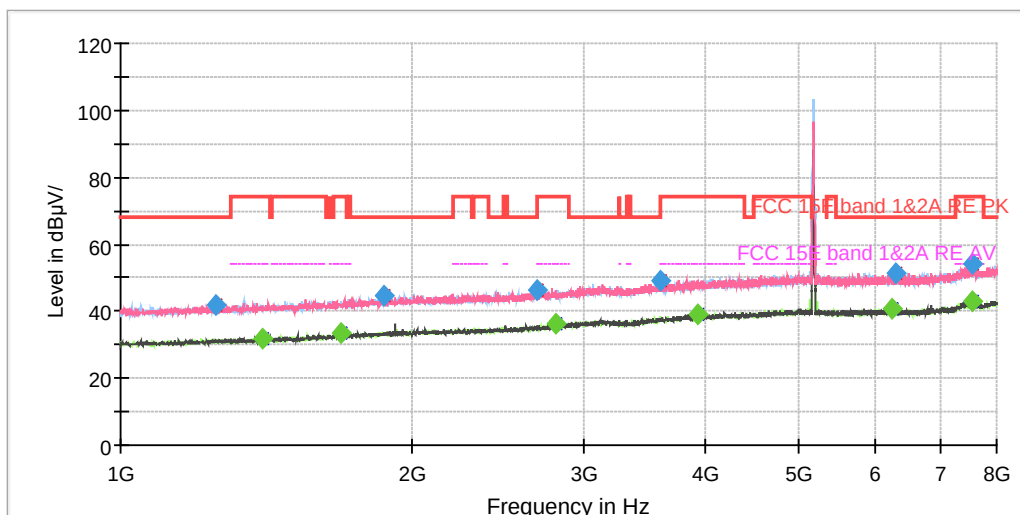
Radiates Emission from 30MHz to 1GHz

| Frequency (MHz) | Quasi-Peak (dBuV/m) | Height (cm) | Polarization | Azimuth (deg) | Correct Factor (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|---------------------|-------------|--------------|---------------|---------------------|-------------|----------------|
| 30.925872       | 25.50               | 100.0       | V            | 101.0         | 3.9                 | 14.50       | 40.00          |
| 59.998878       | 24.66               | 100.0       | V            | 0.0           | -1.8                | 15.34       | 40.00          |
| 134.784047      | 36.31               | 100.0       | V            | 154.0         | -6.9                | 7.19        | 43.50          |
| 180.016285      | 31.28               | 100.0       | V            | 257.0         | -7.2                | 12.22       | 43.50          |
| 360.022500      | 33.07               | 100.0       | V            | 48.0          | 1.5                 | 12.93       | 46.00          |
| 940.798000      | 32.51               | 184.0       | H            | 220.0         | 9.0                 | 13.49       | 46.00          |

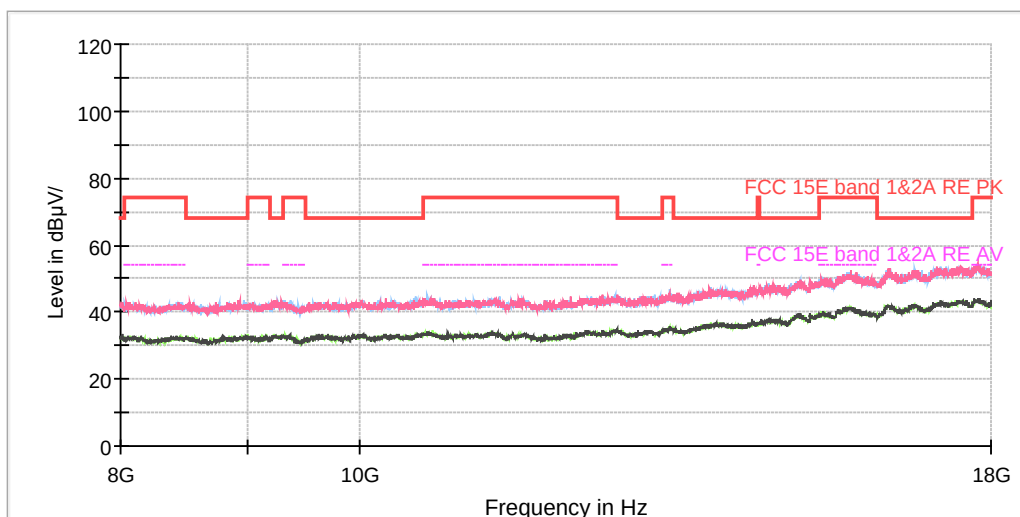
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

## 802.11a CH36



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

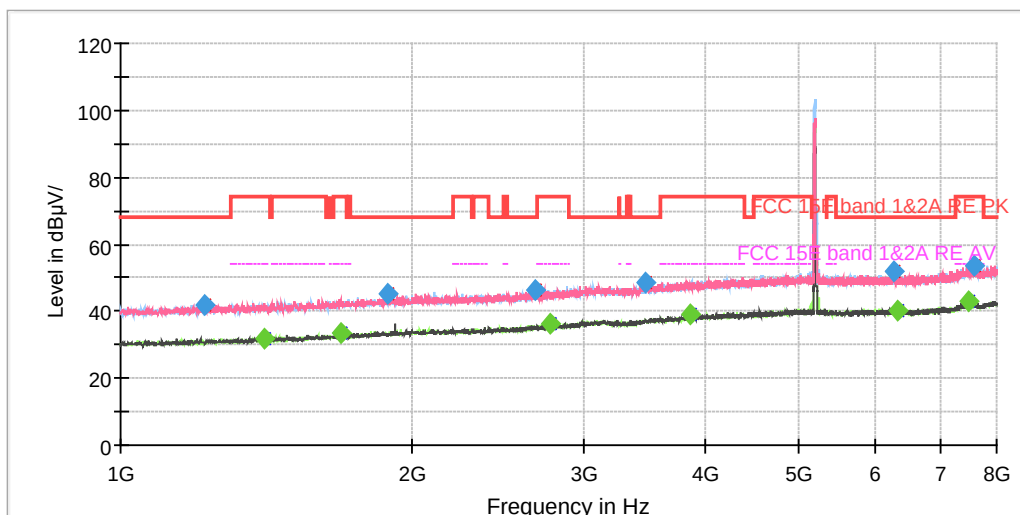


Radiates Emission from 8GHz to 18GHz

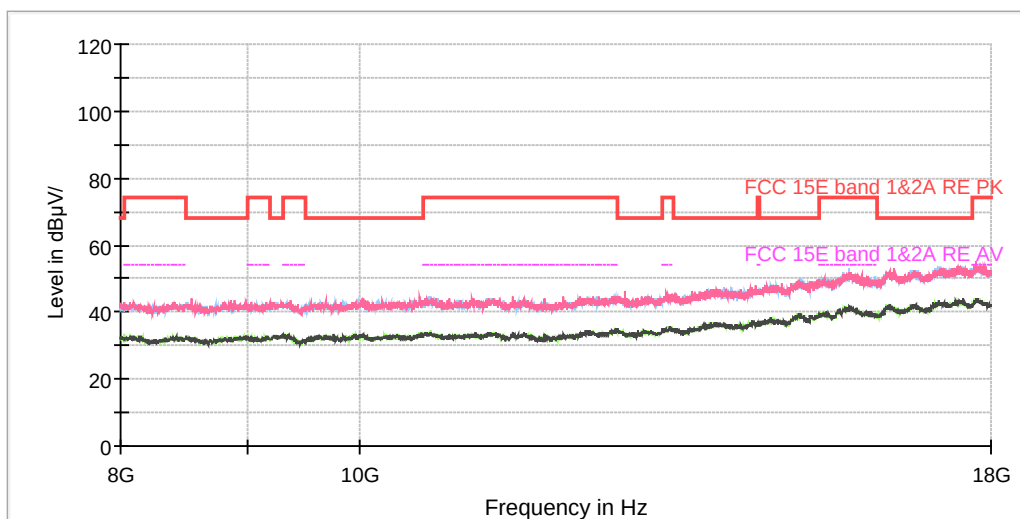
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1252.875000        | 41.58                        | ---                          | 100.0          | V   | 268.0            | -7.3            | 26.62          | 68.20                      |
| 1400.750000        | ---                          | 32.08                        | 100.0          | V   | 84.0             | -6.5            | 21.92          | 54.00                      |
| 1690.375000        | ---                          | 33.29                        | 200.0          | H   | 52.0             | -4.9            | 20.71          | 54.00                      |
| 1865.375000        | 44.57                        | ---                          | 200.0          | V   | 139.0            | -3.9            | 23.63          | 68.20                      |
| 2689.625000        | 46.13                        | ---                          | 200.0          | V   | 219.0            | -0.4            | 22.07          | 68.20                      |
| 2807.750000        | ---                          | 36.29                        | 200.0          | V   | 241.0            | 0.2             | 17.71          | 54.00                      |
| 3599.625000        | 48.98                        | ---                          | 100.0          | V   | 351.0            | 3.3             | 19.22          | 68.20                      |
| 3932.125000        | ---                          | 39.10                        | 200.0          | H   | 27.0             | 4.3             | 14.90          | 54.00                      |
| 6250.875000        | ---                          | 40.65                        | 100.0          | H   | 185.0            | 8.5             | 13.35          | 54.00                      |
| 6301.625000        | 51.55                        | ---                          | 100.0          | V   | 74.0             | 8.5             | 16.65          | 68.20                      |
| 7548.500000        | 53.96                        | ---                          | 100.0          | H   | 304.0            | 10.3            | 20.04          | 74.00                      |
| 7568.625000        | ---                          | 42.72                        | 200.0          | V   | 344.0            | 10.3            | 11.28          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH44



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



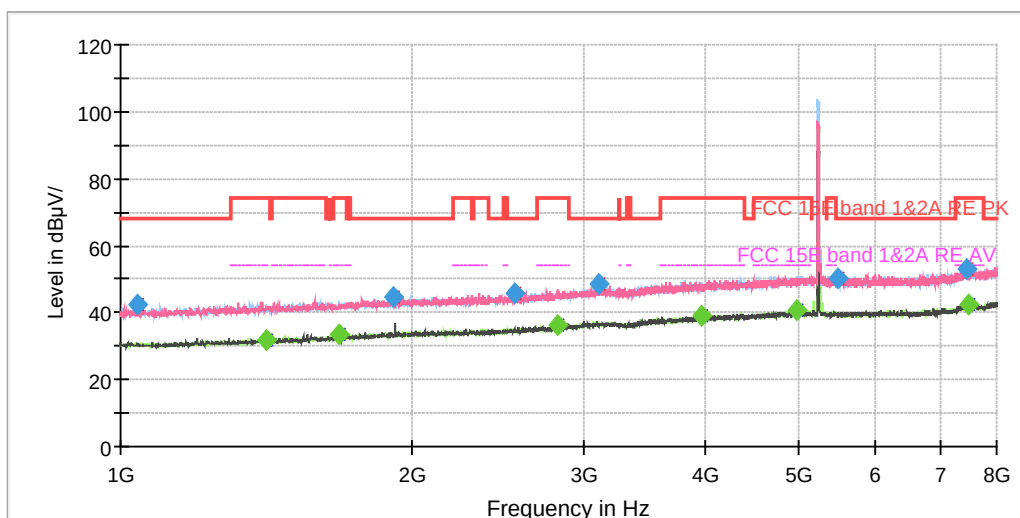
Radiates Emission from 8GHz to 18GHz



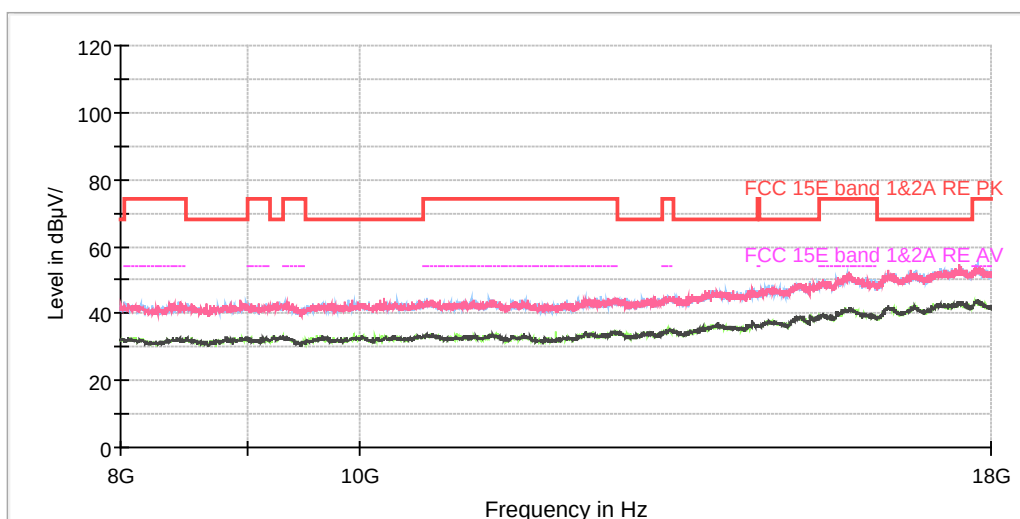
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1219.625000        | 42.07                        | ---                          | 100.0          | H   | 122.0            | -7.5            | 26.13          | 68.20                      |
| 1409.500000        | ---                          | 31.89                        | 100.0          | V   | 33.0             | -6.4            | 22.11          | 54.00                      |
| 1688.625000        | ---                          | 33.48                        | 200.0          | V   | 136.0            | -4.9            | 20.52          | 54.00                      |
| 1888.125000        | 45.39                        | ---                          | 100.0          | V   | 22.0             | -3.8            | 22.81          | 68.20                      |
| 2673.875000        | 46.07                        | ---                          | 200.0          | V   | 0.0              | -0.5            | 22.13          | 68.20                      |
| 2769.250000        | ---                          | 36.07                        | 100.0          | V   | 185.0            | 0.0             | 17.93          | 54.00                      |
| 3479.750000        | 48.35                        | ---                          | 200.0          | V   | 267.0            | 2.6             | 19.85          | 68.20                      |
| 3869.125000        | ---                          | 38.82                        | 100.0          | V   | 202.0            | 4.0             | 15.18          | 54.00                      |
| 6258.750000        | 51.63                        | ---                          | 100.0          | H   | 108.0            | 8.5             | 16.57          | 68.20                      |
| 6335.750000        | ---                          | 40.43                        | 100.0          | V   | 44.0             | 8.5             | 13.57          | 54.00                      |
| 7482.875000        | ---                          | 42.75                        | 100.0          | V   | 29.0             | 10.2            | 11.25          | 54.00                      |
| 7582.625000        | 53.73                        | ---                          | 100.0          | H   | 357.0            | 10.3            | 20.27          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH48



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

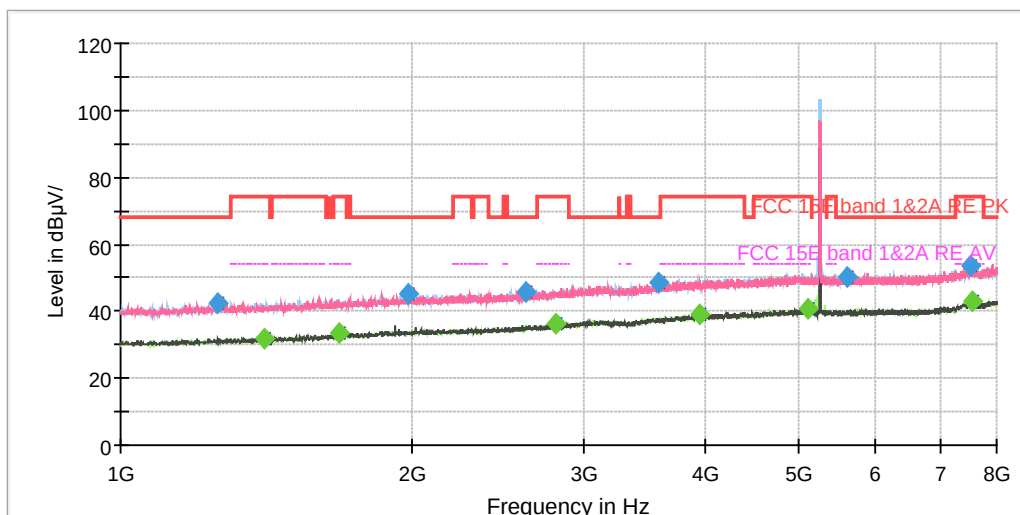


Radiates Emission from 8GHz to 18GHz

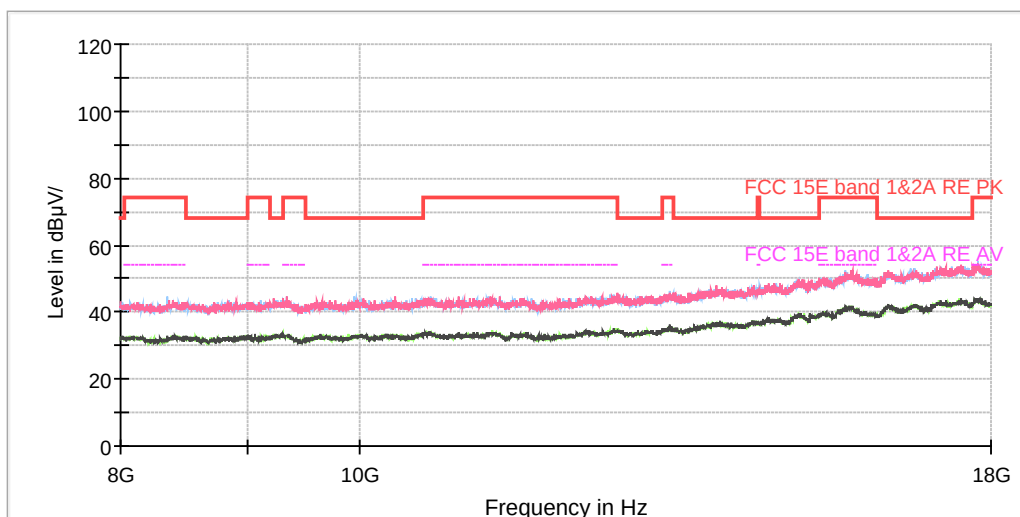
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1039.375000        | 42.21                        | ---                          | 200.0          | V   | 62.0             | -8.4            | 25.99          | 68.20                      |
| 1413.875000        | ---                          | 32.00                        | 100.0          | H   | 223.0            | -6.4            | 22.00          | 54.00                      |
| 1683.375000        | ---                          | 33.43                        | 100.0          | V   | 80.0             | -4.9            | 20.57          | 54.00                      |
| 1914.375000        | 44.75                        | ---                          | 200.0          | V   | 226.0            | -3.6            | 23.45          | 68.20                      |
| 2543.500000        | 45.84                        | ---                          | 200.0          | H   | 154.0            | -1.1            | 22.36          | 68.20                      |
| 2820.000000        | ---                          | 36.22                        | 200.0          | V   | 348.0            | 0.3             | 17.78          | 54.00                      |
| 3109.625000        | 48.46                        | ---                          | 100.0          | H   | 173.0            | 1.8             | 19.74          | 68.20                      |
| 3968.875000        | ---                          | 38.83                        | 200.0          | H   | 7.0              | 4.3             | 15.17          | 54.00                      |
| 4976.875000        | ---                          | 40.63                        | 200.0          | V   | 323.0            | 6.6             | 13.37          | 54.00                      |
| 5500.125000        | 50.49                        | ---                          | 100.0          | H   | 348.0            | 7.3             | 17.71          | 68.20                      |
| 7464.500000        | 53.08                        | ---                          | 100.0          | V   | 188.0            | 10.1            | 20.92          | 74.00                      |
| 7489.000000        | ---                          | 42.56                        | 100.0          | H   | 290.0            | 10.2            | 11.44          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

## 802.11a CH52



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



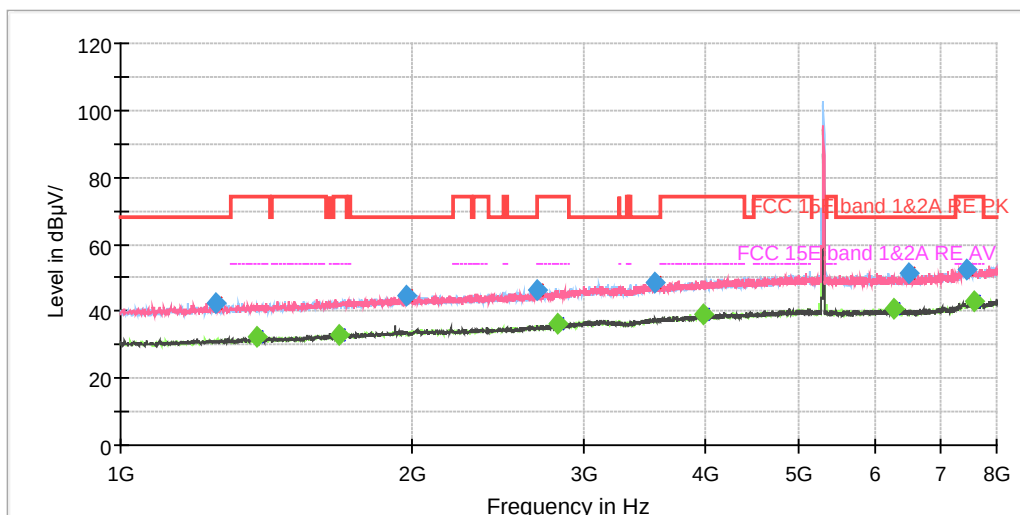
Radiates Emission from 8GHz to 18GHz



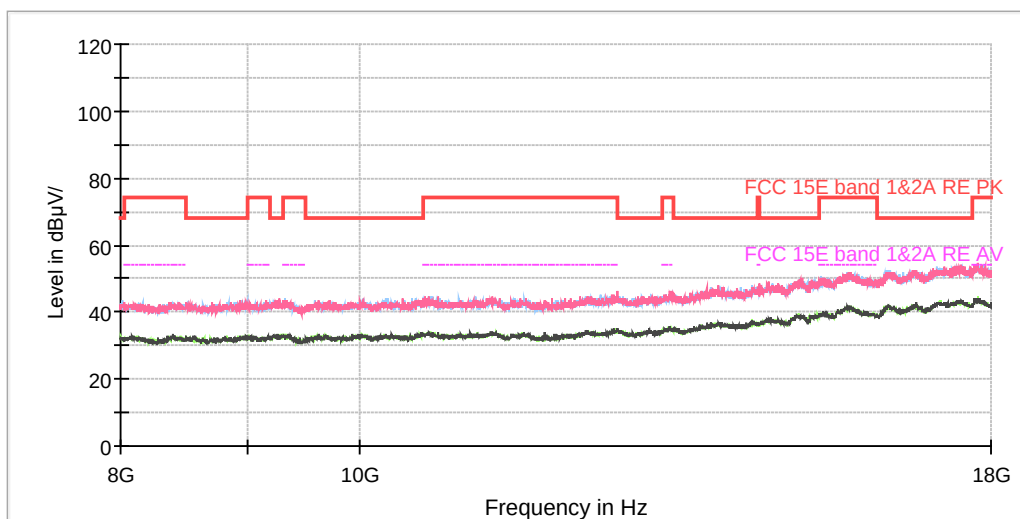
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1260.750000        | 42.35                        | ---                          | 100.0          | H   | 28.0             | -7.3            | 25.85          | 68.20                      |
| 1405.125000        | ---                          | 32.08                        | 200.0          | H   | 0.0              | -6.4            | 21.92          | 54.00                      |
| 1682.500000        | ---                          | 33.49                        | 100.0          | V   | 44.0             | -4.9            | 20.51          | 54.00                      |
| 1981.750000        | 45.14                        | ---                          | 200.0          | V   | 102.0            | -3.3            | 23.06          | 68.20                      |
| 2617.000000        | 46.01                        | ---                          | 200.0          | V   | 216.0            | -0.8            | 22.19          | 68.20                      |
| 2813.875000        | ---                          | 36.15                        | 200.0          | V   | 128.0            | 0.2             | 17.85          | 54.00                      |
| 3581.250000        | 48.29                        | ---                          | 200.0          | V   | 244.0            | 3.2             | 19.91          | 68.20                      |
| 3957.500000        | ---                          | 39.13                        | 200.0          | V   | 192.0            | 4.3             | 14.87          | 54.00                      |
| 5111.625000        | ---                          | 40.55                        | 100.0          | H   | 34.0             | 6.9             | 13.45          | 54.00                      |
| 5606.875000        | 50.13                        | ---                          | 200.0          | H   | 293.0            | 7.5             | 18.07          | 68.20                      |
| 7524.000000        | 53.50                        | ---                          | 100.0          | V   | 258.0            | 10.2            | 20.50          | 74.00                      |
| 7559.000000        | ---                          | 42.81                        | 100.0          | H   | 143.0            | 10.3            | 11.19          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH60



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

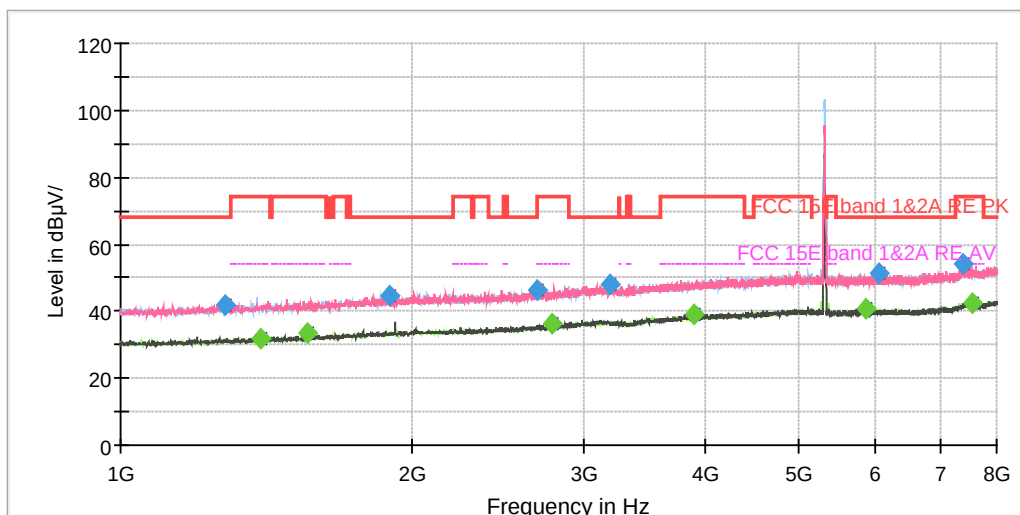


Radiates Emission from 8GHz to 18GHz

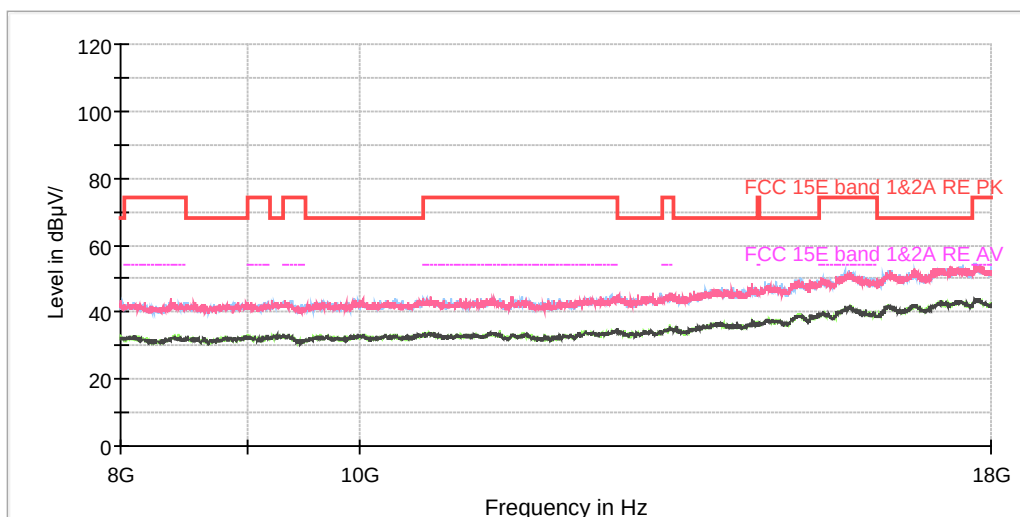
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1255.500000        | 42.54                        | ---                          | 100.0          | H   | 210.0            | -7.3            | 25.66          | 68.20                      |
| 1381.500000        | ---                          | 32.22                        | 200.0          | V   | 318.0            | -6.6            | 21.78          | 54.00                      |
| 1679.875000        | ---                          | 33.19                        | 100.0          | V   | 1.0              | -4.9            | 20.81          | 54.00                      |
| 1968.625000        | 44.68                        | ---                          | 100.0          | V   | 136.0            | -3.4            | 23.52          | 68.20                      |
| 2682.625000        | 46.17                        | ---                          | 100.0          | V   | 33.0             | -0.5            | 22.03          | 68.20                      |
| 2825.250000        | ---                          | 36.03                        | 100.0          | H   | 267.0            | 0.3             | 17.97          | 54.00                      |
| 3560.250000        | 48.46                        | ---                          | 200.0          | V   | 3.0              | 3.1             | 19.74          | 68.20                      |
| 3984.625000        | ---                          | 39.05                        | 100.0          | V   | 14.0             | 4.3             | 14.95          | 54.00                      |
| 6255.250000        | ---                          | 40.74                        | 100.0          | V   | 97.0             | 8.5             | 13.26          | 54.00                      |
| 6481.000000        | 51.24                        | ---                          | 100.0          | V   | 115.0            | 8.6             | 16.96          | 68.20                      |
| 7459.250000        | 52.74                        | ---                          | 100.0          | H   | 295.0            | 10.1            | 21.26          | 74.00                      |
| 7574.750000        | ---                          | 42.74                        | 100.0          | V   | 73.0             | 10.3            | 11.26          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH64



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



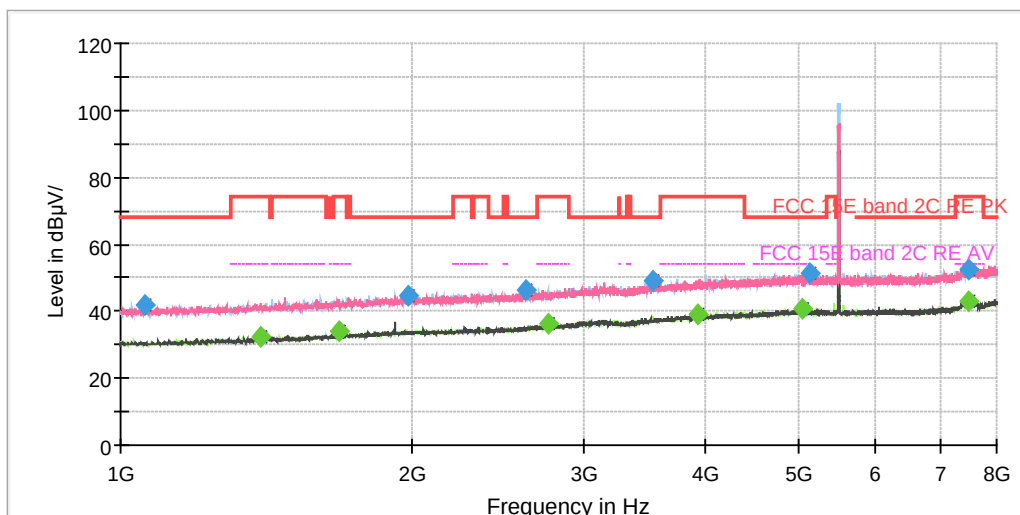
Radiates Emission from 8GHz to 18GHz



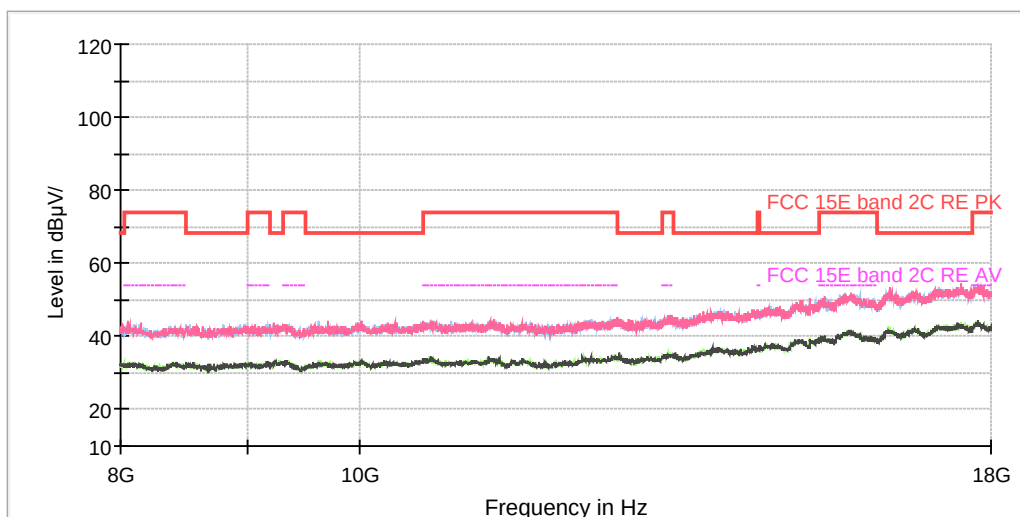
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1281.750000        | 41.74                        | ---                          | 200.0          | H   | 15.0             | -7.1            | 26.46          | 68.20                      |
| 1394.625000        | ---                          | 31.89                        | 100.0          | V   | 143.0            | -6.5            | 22.11          | 54.00                      |
| 1560.000000        | ---                          | 33.31                        | 100.0          | V   | 160.0            | -5.6            | 20.69          | 54.00                      |
| 1896.000000        | 44.69                        | ---                          | 100.0          | V   | 0.0              | -3.7            | 23.51          | 68.20                      |
| 2687.000000        | 46.18                        | ---                          | 200.0          | V   | 220.0            | -0.5            | 22.02          | 68.20                      |
| 2786.750000        | ---                          | 36.24                        | 200.0          | V   | 278.0            | 0.1             | 17.76          | 54.00                      |
| 3200.625000        | 48.14                        | ---                          | 200.0          | V   | 321.0            | 1.9             | 20.06          | 68.20                      |
| 3909.375000        | ---                          | 39.07                        | 100.0          | H   | 307.0            | 4.1             | 14.93          | 54.00                      |
| 5861.500000        | ---                          | 40.73                        | 200.0          | V   | 93.0             | 7.9             | 13.27          | 54.00                      |
| 6040.000000        | 51.16                        | ---                          | 100.0          | H   | 244.0            | 8.2             | 17.04          | 68.20                      |
| 7396.250000        | 54.23                        | ---                          | 200.0          | V   | 292.0            | 10.0            | 19.77          | 74.00                      |
| 7567.750000        | ---                          | 42.65                        | 200.0          | V   | 188.0            | 10.3            | 11.35          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH100



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

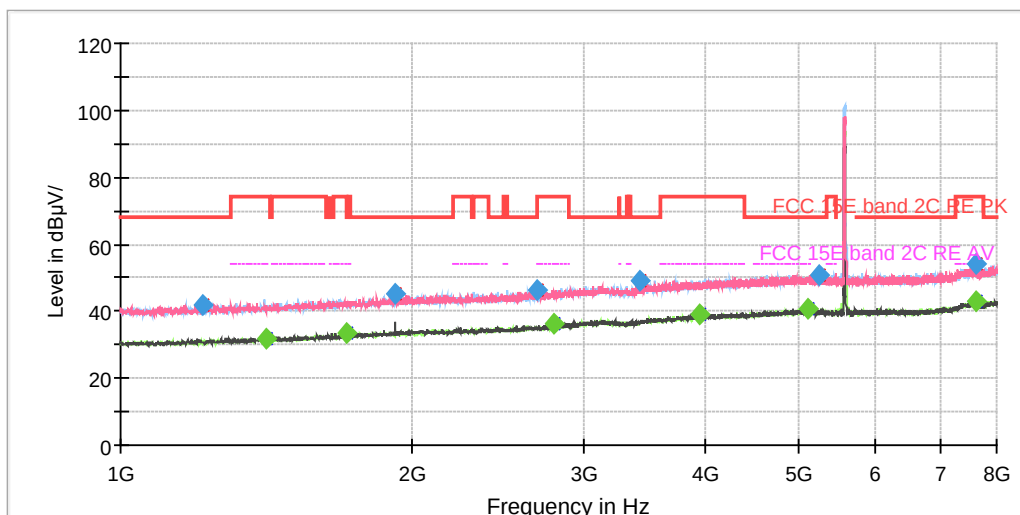


Radiates Emission from 8GHz to 18GHz

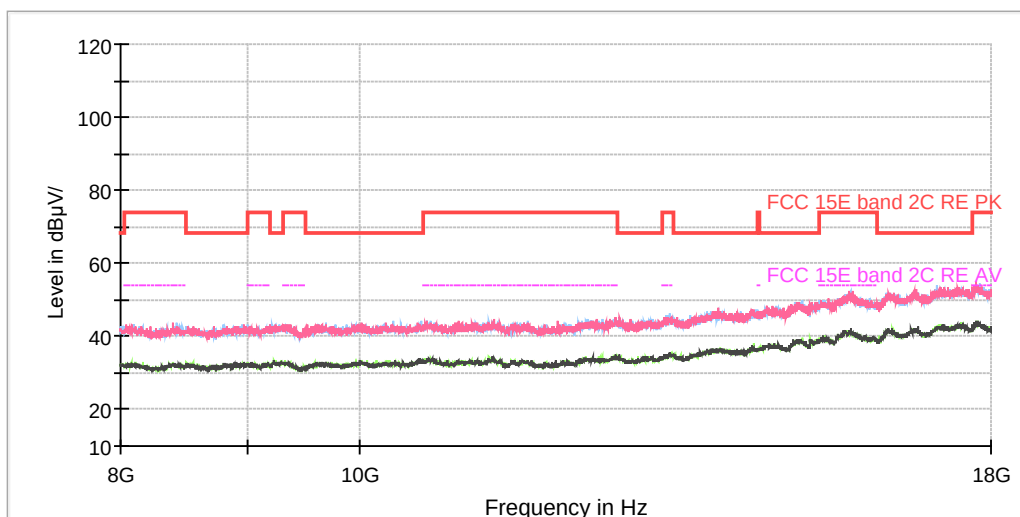
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1060.375000        | 42.02                        | ---                          | 100.0          | H   | 141.0            | -8.4            | 26.18          | 68.20                      |
| 1392.000000        | ---                          | 32.22                        | 200.0          | V   | 352.0            | -6.5            | 21.78          | 54.00                      |
| 1680.750000        | ---                          | 33.78                        | 200.0          | H   | 203.0            | -4.9            | 20.22          | 54.00                      |
| 1980.875000        | 44.76                        | ---                          | 200.0          | V   | 139.0            | -3.3            | 23.44          | 68.20                      |
| 2616.125000        | 46.47                        | ---                          | 200.0          | H   | 273.0            | -0.8            | 21.73          | 68.20                      |
| 2760.500000        | ---                          | 36.03                        | 100.0          | V   | 57.0             | -0.1            | 17.97          | 54.00                      |
| 3545.375000        | 48.97                        | ---                          | 100.0          | H   | 95.0             | 3.0             | 19.23          | 68.20                      |
| 3928.625000        | ---                          | 38.81                        | 200.0          | V   | 338.0            | 4.3             | 15.19          | 54.00                      |
| 5034.625000        | ---                          | 40.83                        | 200.0          | V   | 1.0              | 6.7             | 13.17          | 54.00                      |
| 5127.375000        | 51.36                        | ---                          | 100.0          | V   | 185.0            | 6.8             | 16.84          | 68.20                      |
| 7482.000000        | ---                          | 43.11                        | 100.0          | V   | 85.0             | 10.2            | 10.89          | 54.00                      |
| 7489.000000        | 52.63                        | ---                          | 100.0          | H   | 334.0            | 10.2            | 21.37          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH116



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



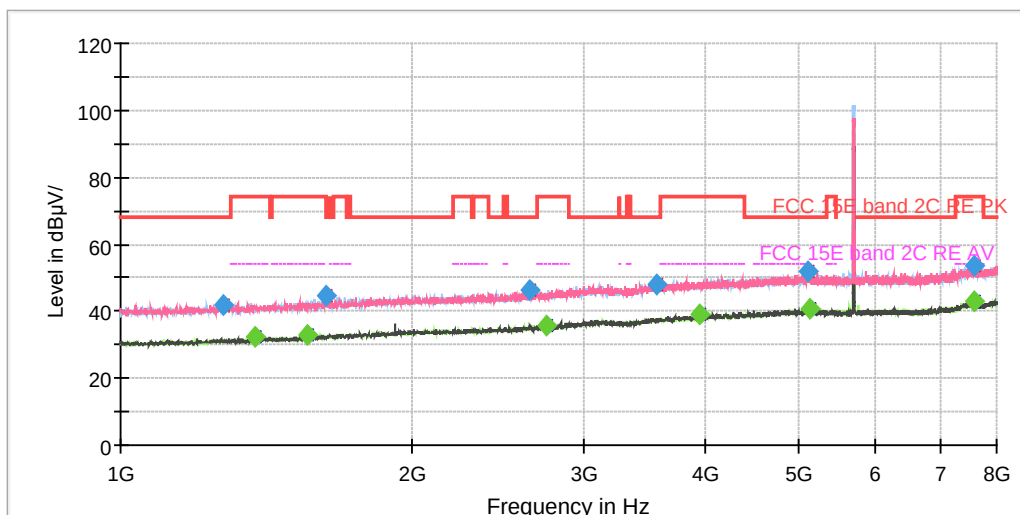
Radiates Emission from 8GHz to 18GHz



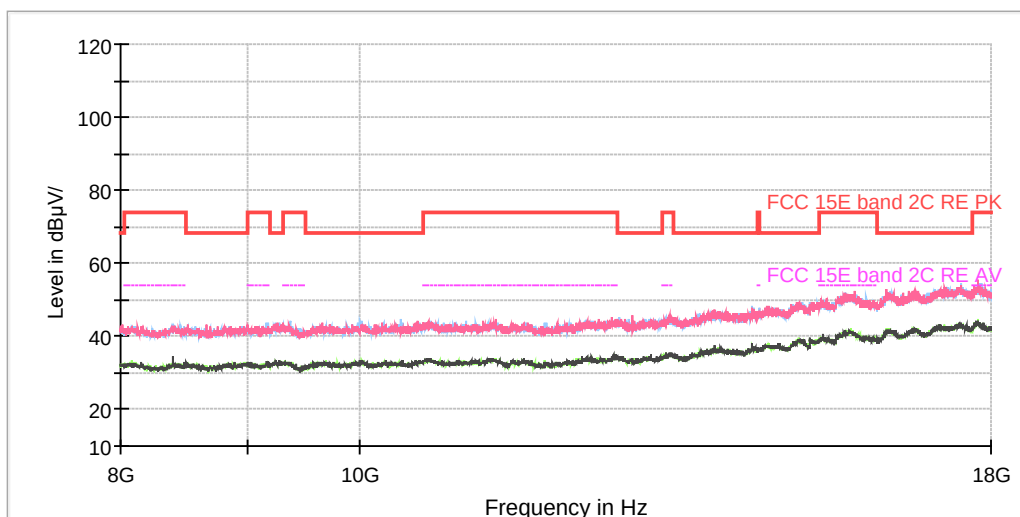
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1217.000000        | 42.04                        | ---                          | 200.0          | V   | 180.0            | -7.5            | 26.16          | 68.20                      |
| 1412.125000        | ---                          | 32.08                        | 200.0          | V   | 295.0            | -6.4            | 21.92          | 54.00                      |
| 1709.625000        | ---                          | 33.31                        | 100.0          | V   | 121.0            | -4.8            | 20.69          | 54.00                      |
| 1919.625000        | 45.40                        | ---                          | 100.0          | V   | 211.0            | -3.6            | 22.80          | 68.20                      |
| 2682.625000        | 46.46                        | ---                          | 200.0          | H   | 8.0              | -0.5            | 21.74          | 68.20                      |
| 2800.750000        | ---                          | 36.11                        | 200.0          | H   | 123.0            | 0.2             | 17.89          | 54.00                      |
| 3424.625000        | 49.35                        | ---                          | 200.0          | H   | 4.0              | 2.2             | 18.85          | 68.20                      |
| 3954.875000        | ---                          | 39.02                        | 100.0          | H   | 0.0              | 4.3             | 14.98          | 54.00                      |
| 5113.375000        | ---                          | 40.83                        | 100.0          | H   | 271.0            | 6.9             | 13.17          | 54.00                      |
| 5255.125000        | 50.98                        | ---                          | 100.0          | V   | 150.0            | 7.0             | 17.22          | 68.20                      |
| 7609.750000        | 53.96                        | ---                          | 100.0          | H   | 0.0              | 10.3            | 20.04          | 74.00                      |
| 7620.250000        | ---                          | 43.06                        | 100.0          | H   | 321.0            | 10.3            | 10.94          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH140



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



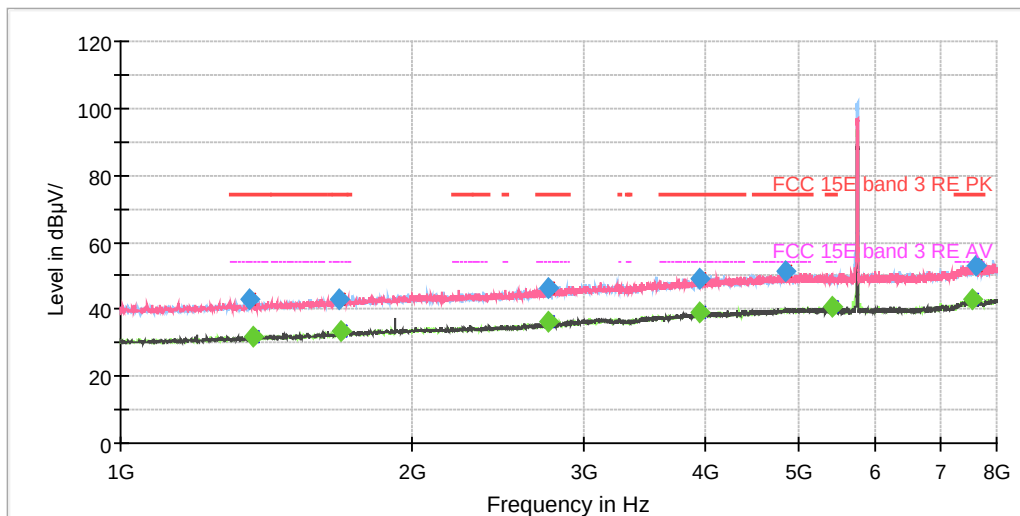
Radiates Emission from 8GHz to 18GHz



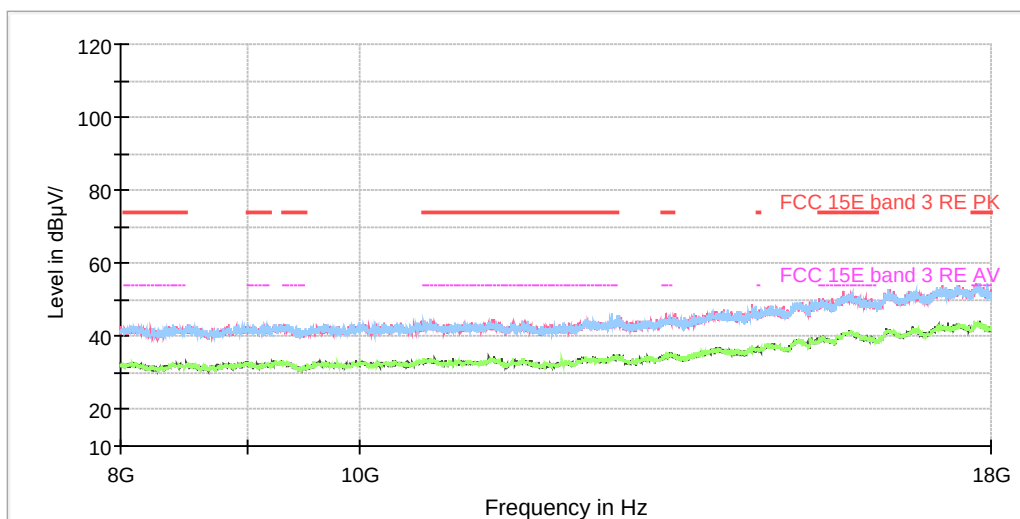
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1273.875000        | 41.85                        | ---                          | 200.0          | H   | 333.0            | -7.2            | 26.35          | 68.20                      |
| 1378.875000        | ---                          | 32.23                        | 100.0          | H   | 175.0            | -6.6            | 21.77          | 54.00                      |
| 1560.000000        | ---                          | 33.15                        | 200.0          | V   | 163.0            | -5.6            | 20.85          | 54.00                      |
| 1631.750000        | 44.69                        | ---                          | 200.0          | V   | 138.0            | -5.2            | 23.51          | 68.20                      |
| 2640.625000        | 46.41                        | ---                          | 200.0          | H   | 65.0             | -0.6            | 21.79          | 68.20                      |
| 2753.500000        | ---                          | 36.00                        | 100.0          | V   | 30.0             | -0.1            | 18.00          | 54.00                      |
| 3566.375000        | 48.18                        | ---                          | 100.0          | H   | 0.0              | 3.1             | 20.02          | 68.20                      |
| 3958.375000        | ---                          | 39.20                        | 200.0          | H   | 284.0            | 4.3             | 14.80          | 54.00                      |
| 5112.500000        | 51.84                        | ---                          | 100.0          | H   | 69.0             | 6.9             | 16.36          | 68.20                      |
| 5127.375000        | ---                          | 40.54                        | 100.0          | H   | 123.0            | 6.8             | 13.46          | 54.00                      |
| 7570.375000        | 53.65                        | ---                          | 200.0          | V   | 301.0            | 10.3            | 20.35          | 74.00                      |
| 7574.750000        | ---                          | 42.73                        | 200.0          | V   | 293.0            | 10.3            | 11.27          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH149



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

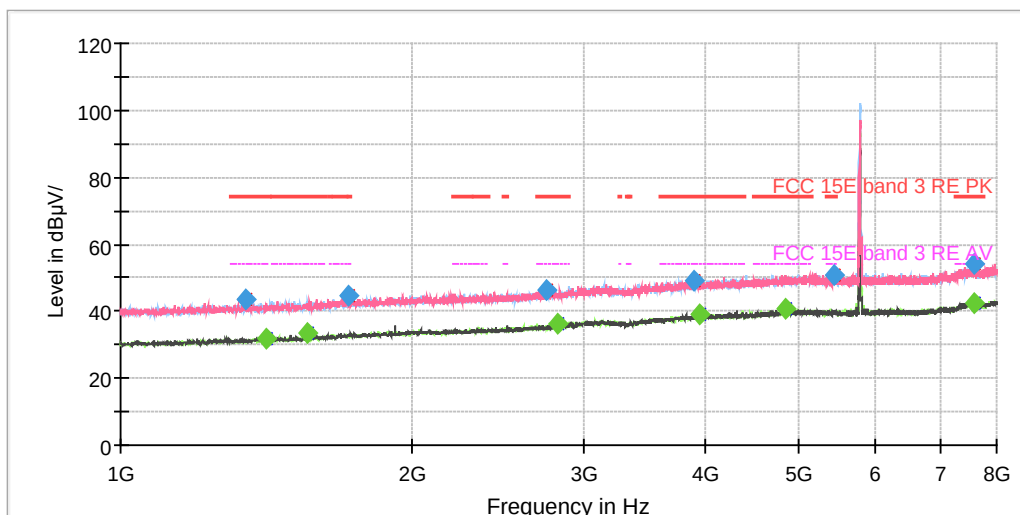


Radiates Emission from 8GHz to 18GHz

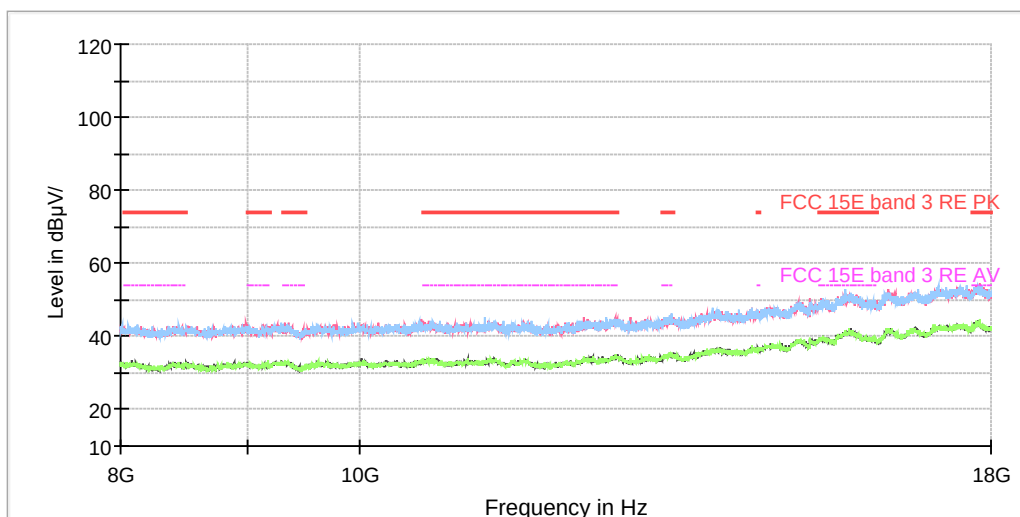
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1356.125000        | 43.09                        | ---                          | 200.0          | V   | 301.0            | -6.7            | 30.91          | 74.00                      |
| 1369.250000        | ---                          | 32.06                        | 200.0          | H   | 216.0            | -6.6            | 21.94          | 54.00                      |
| 1679.875000        | 43.17                        | ---                          | 100.0          | V   | 107.0            | -4.9            | 30.83          | 74.00                      |
| 1688.625000        | ---                          | 33.51                        | 200.0          | V   | 180.0            | -4.9            | 20.49          | 54.00                      |
| 2757.875000        | 46.23                        | ---                          | 100.0          | V   | 207.0            | -0.1            | 27.77          | 74.00                      |
| 2760.500000        | ---                          | 36.14                        | 100.0          | V   | 239.0            | -0.1            | 17.86          | 54.00                      |
| 3947.875000        | ---                          | 38.84                        | 200.0          | V   | 332.0            | 4.3             | 15.16          | 54.00                      |
| 3948.750000        | 49.35                        | ---                          | 100.0          | H   | 309.0            | 4.3             | 24.65          | 74.00                      |
| 4851.750000        | 51.34                        | ---                          | 100.0          | V   | 129.0            | 6.3             | 22.66          | 74.00                      |
| 5421.375000        | ---                          | 40.59                        | 100.0          | H   | 0.0              | 7.1             | 13.41          | 54.00                      |
| 7565.125000        | ---                          | 42.81                        | 200.0          | H   | 103.0            | 10.3            | 11.19          | 54.00                      |
| 7617.625000        | 53.15                        | ---                          | 100.0          | H   | 108.0            | 10.3            | 20.85          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH157



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

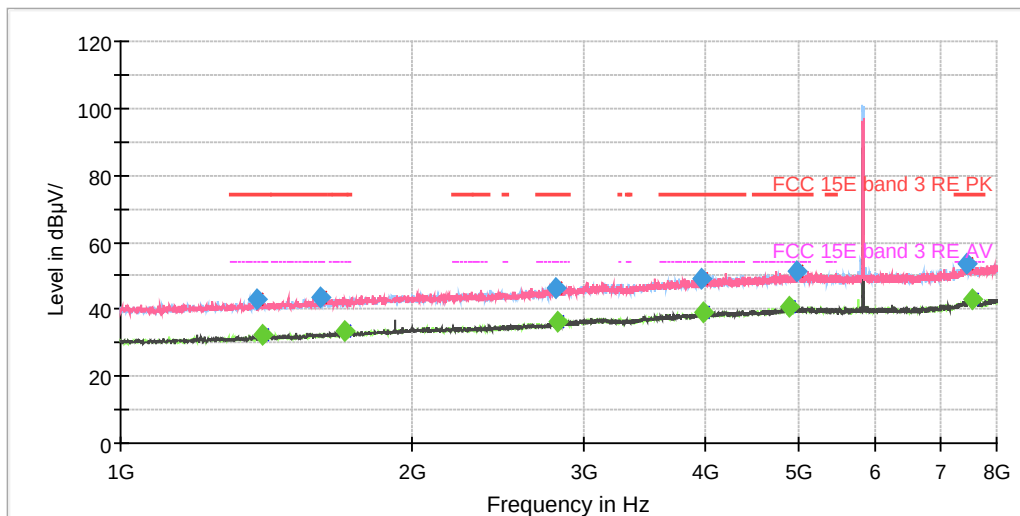


Radiates Emission from 8GHz to 18GHz

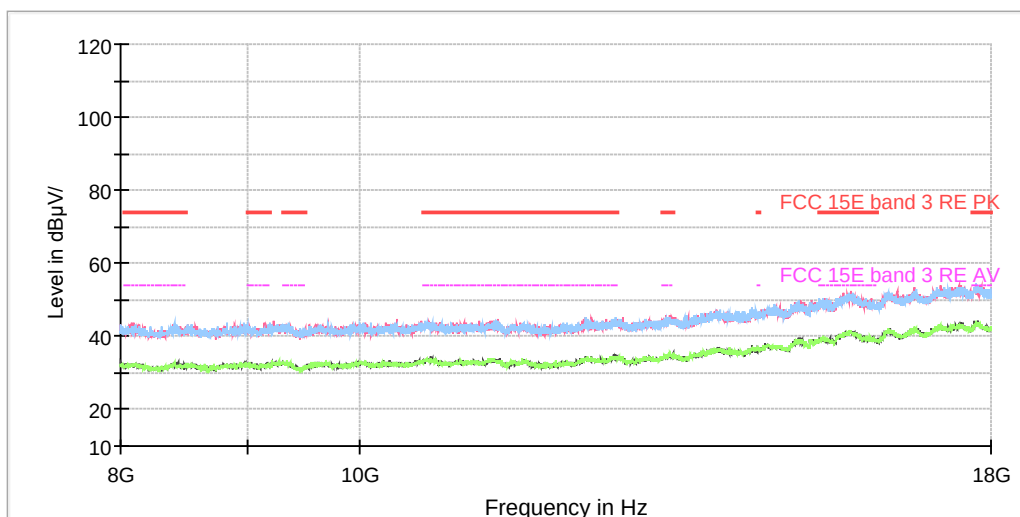
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1346.500000        | 43.40                        | ---                          | 200.0          | H   | 5.0              | -6.8            | 30.60          | 74.00                      |
| 1410.375000        | ---                          | 31.90                        | 200.0          | V   | 194.0            | -6.4            | 22.10          | 54.00                      |
| 1560.000000        | ---                          | 33.54                        | 100.0          | V   | 5.0              | -5.6            | 20.46          | 54.00                      |
| 1719.250000        | 44.54                        | ---                          | 200.0          | H   | 81.0             | -4.7            | 29.46          | 74.00                      |
| 2752.625000        | 46.60                        | ---                          | 200.0          | V   | 184.0            | -0.1            | 27.40          | 74.00                      |
| 2822.625000        | ---                          | 36.01                        | 100.0          | V   | 137.0            | 0.3             | 17.99          | 54.00                      |
| 3898.000000        | 49.36                        | ---                          | 100.0          | V   | 104.0            | 4.0             | 24.64          | 74.00                      |
| 3951.375000        | ---                          | 38.97                        | 200.0          | V   | 273.0            | 4.3             | 15.03          | 54.00                      |
| 4856.125000        | ---                          | 40.62                        | 100.0          | V   | 162.0            | 6.3             | 13.38          | 54.00                      |
| 5430.125000        | 50.96                        | ---                          | 200.0          | H   | 132.0            | 7.1             | 23.04          | 74.00                      |
| 7580.875000        | 54.18                        | ---                          | 200.0          | H   | 199.0            | 10.3            | 19.82          | 74.00                      |
| 7594.000000        | ---                          | 42.69                        | 200.0          | V   | 308.0            | 10.3            | 11.31          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11a CH165



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

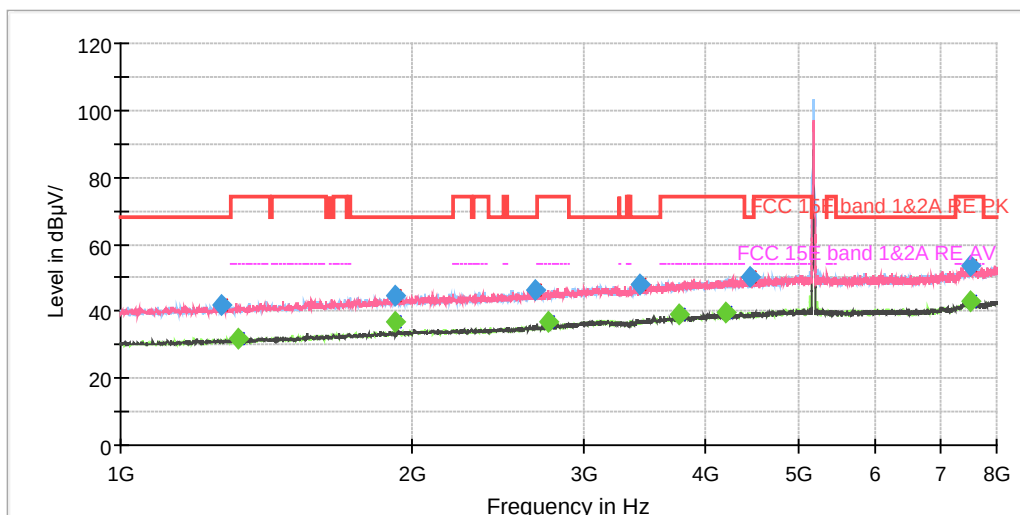


Radiates Emission from 8GHz to 18GHz

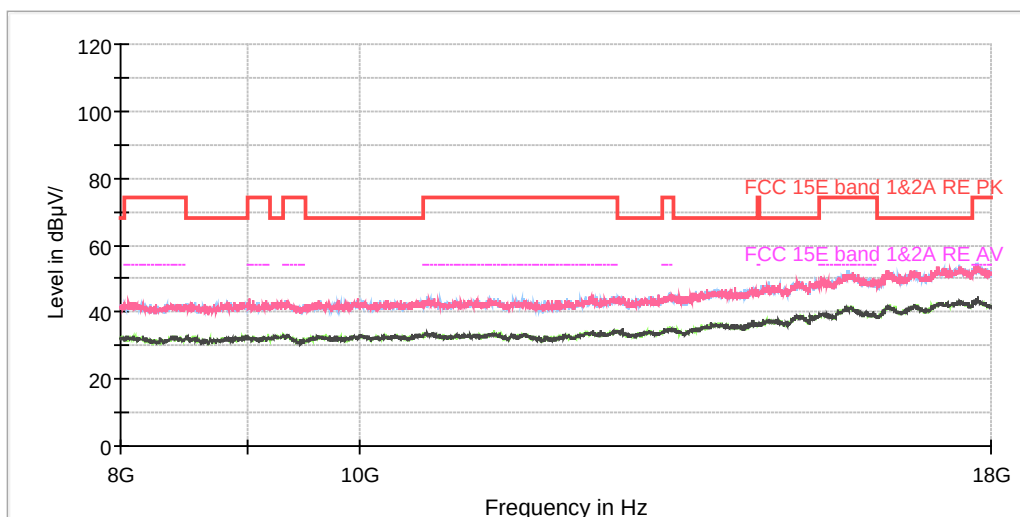
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1382.375000        | 42.85                        | ---                          | 100.0          | H   | 358.0            | -6.5            | 31.15          | 74.00                      |
| 1399.875000        | ---                          | 32.34                        | 200.0          | V   | 215.0            | -6.5            | 21.66          | 54.00                      |
| 1604.625000        | 43.61                        | ---                          | 200.0          | V   | 70.0             | -5.4            | 30.39          | 74.00                      |
| 1704.375000        | ---                          | 33.33                        | 100.0          | V   | 36.0             | -4.8            | 20.67          | 54.00                      |
| 2808.625000        | 46.60                        | ---                          | 200.0          | V   | 358.0            | 0.2             | 27.40          | 74.00                      |
| 2825.250000        | ---                          | 36.14                        | 200.0          | V   | 126.0            | 0.3             | 17.86          | 54.00                      |
| 3961.875000        | 49.34                        | ---                          | 100.0          | H   | 161.0            | 4.3             | 24.66          | 74.00                      |
| 3993.375000        | ---                          | 39.15                        | 100.0          | H   | 25.0             | 4.3             | 14.85          | 54.00                      |
| 4892.875000        | ---                          | 40.94                        | 100.0          | H   | 254.0            | 6.4             | 13.06          | 54.00                      |
| 4970.750000        | 51.38                        | ---                          | 200.0          | V   | 344.0            | 6.5             | 22.62          | 74.00                      |
| 7461.000000        | 53.45                        | ---                          | 100.0          | V   | 146.0            | 10.1            | 20.55          | 74.00                      |
| 7566.000000        | ---                          | 42.76                        | 100.0          | V   | 238.0            | 10.3            | 11.24          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH36



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

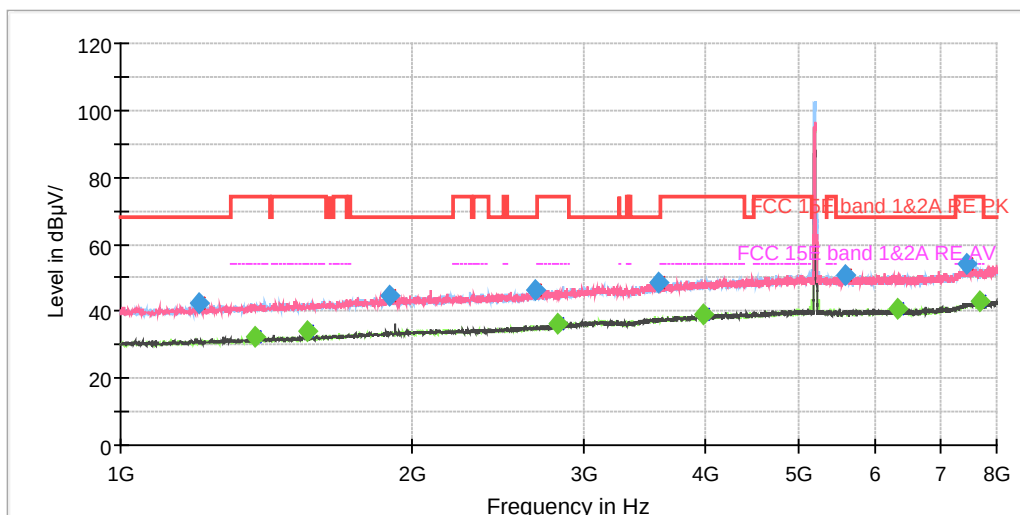


Radiates Emission from 8GHz to 18GHz

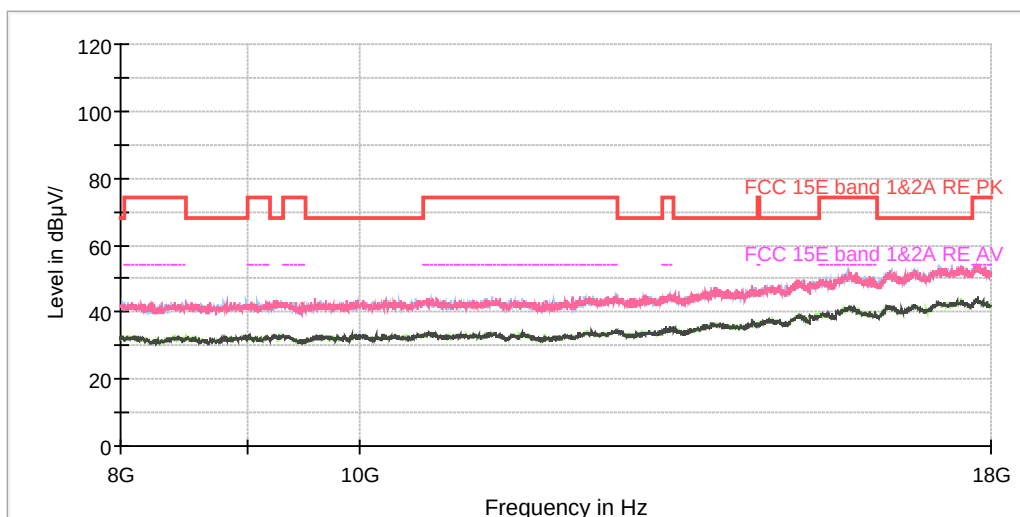
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1267.750000        | 42.09                        | ---                          | 200.0          | V   | 238.0            | -7.2            | 26.11          | 68.20                      |
| 1319.375000        | ---                          | 32.08                        | 100.0          | V   | 33.0             | -6.9            | 21.92          | 54.00                      |
| 1919.625000        | ---                          | 36.62                        | 100.0          | V   | 158.0            | -3.6            | 17.38          | 54.00                      |
| 1919.625000        | 44.83                        | ---                          | 200.0          | V   | 220.0            | -3.6            | 23.37          | 68.20                      |
| 2681.750000        | 46.40                        | ---                          | 100.0          | H   | 152.0            | -0.5            | 21.80          | 68.20                      |
| 2760.500000        | ---                          | 36.92                        | 100.0          | V   | 0.0              | -0.1            | 17.08          | 54.00                      |
| 3433.375000        | 48.20                        | ---                          | 200.0          | H   | 174.0            | 2.3             | 20.00          | 68.20                      |
| 3760.625000        | ---                          | 39.03                        | 100.0          | H   | 284.0            | 3.7             | 14.97          | 54.00                      |
| 4208.625000        | ---                          | 39.45                        | 100.0          | V   | 0.0              | 4.8             | 14.55          | 54.00                      |
| 4465.000000        | 50.26                        | ---                          | 200.0          | V   | 0.0              | 5.1             | 17.94          | 68.20                      |
| 7517.000000        | 53.36                        | ---                          | 100.0          | H   | 358.0            | 10.2            | 20.64          | 74.00                      |
| 7527.500000        | ---                          | 42.83                        | 100.0          | H   | 340.0            | 10.2            | 11.17          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH44



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

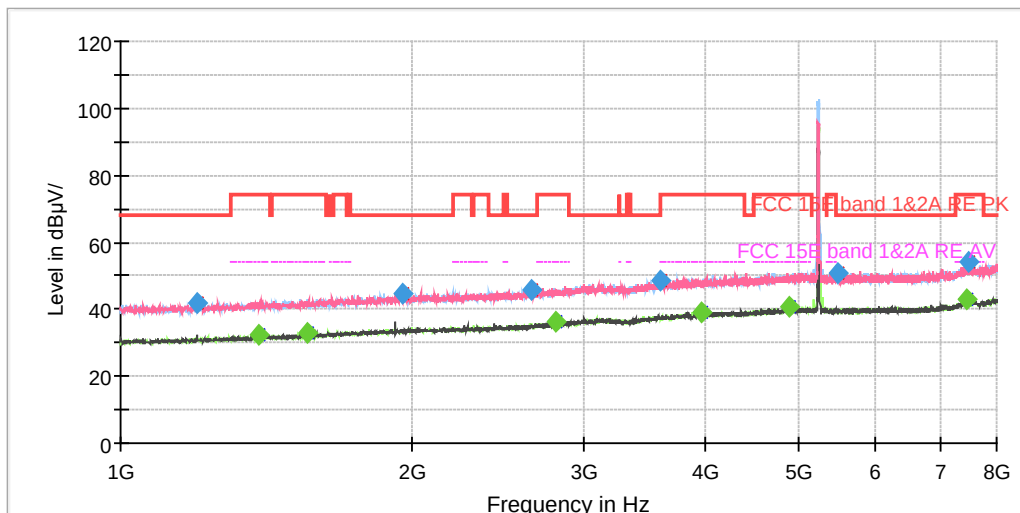


Radiates Emission from 8GHz to 18GHz

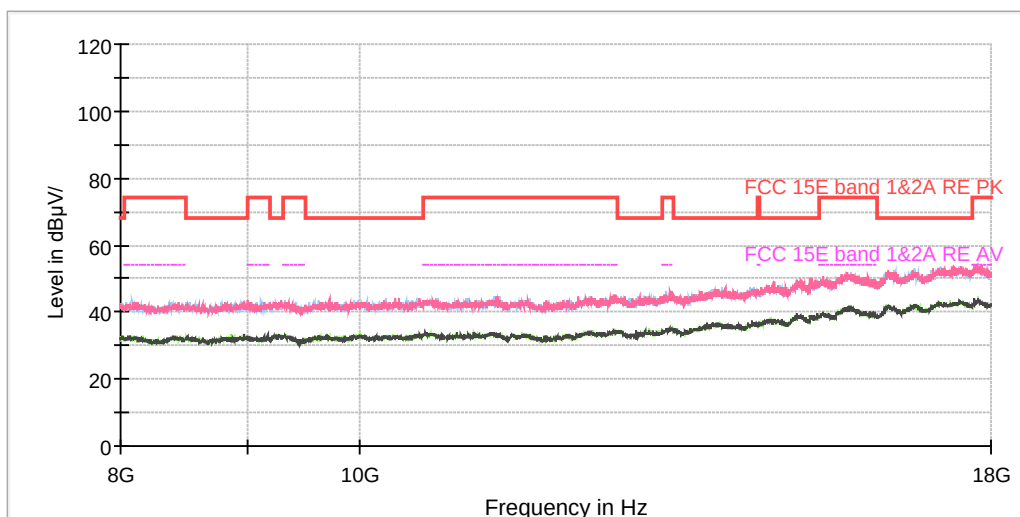
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1202.125000        | 42.31                        | ---                          | 200.0          | H   | 195.0            | -7.6            | 25.89          | 68.20                      |
| 1375.375000        | ---                          | 32.24                        | 200.0          | H   | 99.0             | -6.6            | 21.76          | 54.00                      |
| 1560.000000        | ---                          | 34.10                        | 200.0          | V   | 182.0            | -5.6            | 19.90          | 54.00                      |
| 1893.375000        | 44.66                        | ---                          | 100.0          | H   | 135.0            | -3.8            | 23.54          | 68.20                      |
| 2673.875000        | 46.56                        | ---                          | 100.0          | V   | 176.0            | -0.5            | 21.64          | 68.20                      |
| 2825.250000        | ---                          | 36.05                        | 200.0          | H   | 60.0             | 0.3             | 17.95          | 54.00                      |
| 3590.000000        | 48.67                        | ---                          | 200.0          | H   | 81.0             | 3.2             | 19.53          | 68.20                      |
| 3995.125000        | ---                          | 38.91                        | 200.0          | V   | 260.0            | 4.4             | 15.09          | 54.00                      |
| 5588.500000        | 50.62                        | ---                          | 100.0          | V   | 278.0            | 7.5             | 17.58          | 68.20                      |
| 6337.500000        | ---                          | 40.83                        | 200.0          | V   | 263.0            | 8.5             | 13.17          | 54.00                      |
| 7440.000000        | 53.93                        | ---                          | 200.0          | V   | 136.0            | 10.1            | 20.07          | 74.00                      |
| 7702.500000        | ---                          | 42.75                        | 200.0          | H   | 346.0            | 10.3            | 11.25          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH48



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

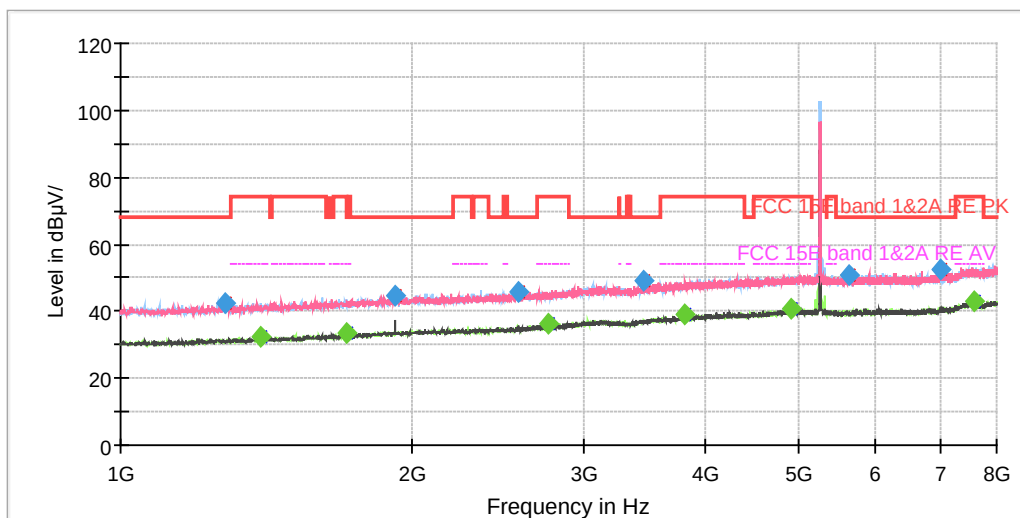


Radiates Emission from 8GHz to 18GHz

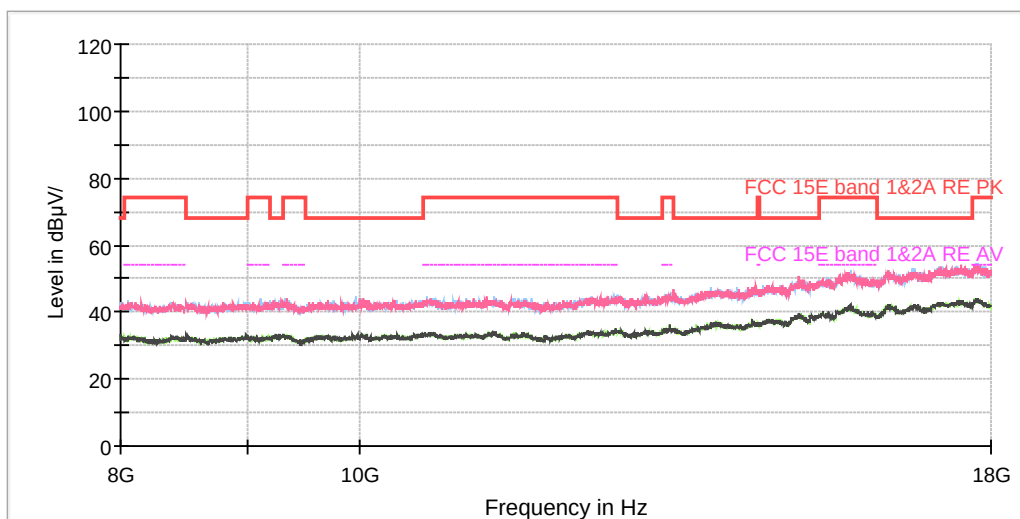
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1199.500000        | 41.87                        | ---                          | 100.0          | H   | 216.0            | -7.6            | 26.33          | 68.20                      |
| 1386.750000        | ---                          | 32.23                        | 200.0          | V   | 330.0            | -6.5            | 21.77          | 54.00                      |
| 1560.000000        | ---                          | 33.16                        | 100.0          | V   | 8.0              | -5.6            | 20.84          | 54.00                      |
| 1950.250000        | 44.57                        | ---                          | 200.0          | H   | 52.0             | -3.5            | 23.63          | 68.20                      |
| 2656.375000        | 46.03                        | ---                          | 200.0          | H   | 136.0            | -0.6            | 22.17          | 68.20                      |
| 2813.000000        | ---                          | 36.34                        | 200.0          | H   | 56.0             | 0.2             | 17.66          | 54.00                      |
| 3594.375000        | 48.31                        | ---                          | 200.0          | V   | 101.0            | 3.3             | 19.89          | 68.20                      |
| 3969.750000        | ---                          | 39.20                        | 100.0          | V   | 127.0            | 4.3             | 14.80          | 54.00                      |
| 4892.875000        | ---                          | 40.65                        | 100.0          | H   | 12.0             | 6.4             | 13.35          | 54.00                      |
| 5484.375000        | 50.71                        | ---                          | 200.0          | H   | 344.0            | 7.3             | 17.49          | 68.20                      |
| 7460.125000        | ---                          | 42.74                        | 100.0          | V   | 107.0            | 10.1            | 11.26          | 54.00                      |
| 7488.125000        | 53.97                        | ---                          | 100.0          | V   | 29.0             | 10.2            | 20.03          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

## 802.11n (HT20) CH52



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



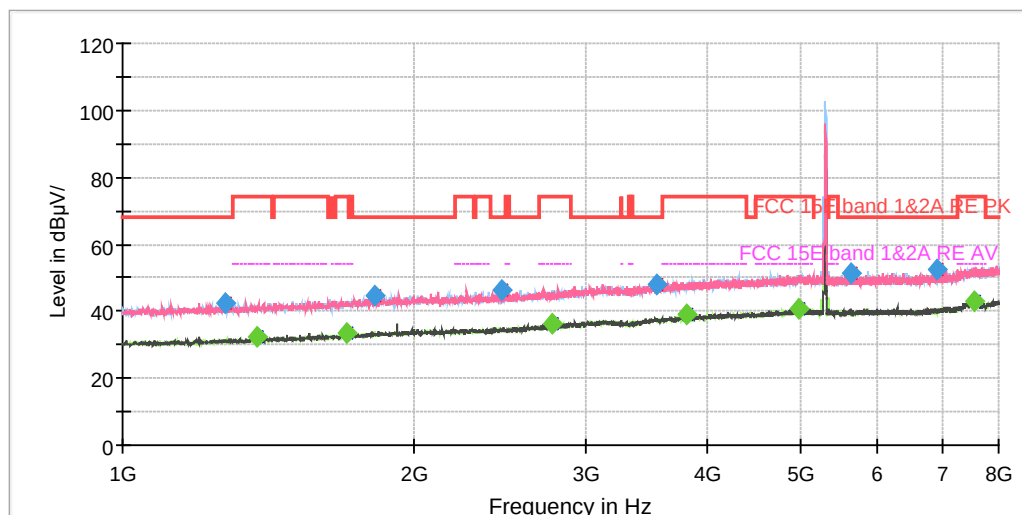
Radiates Emission from 8GHz to 18GHz



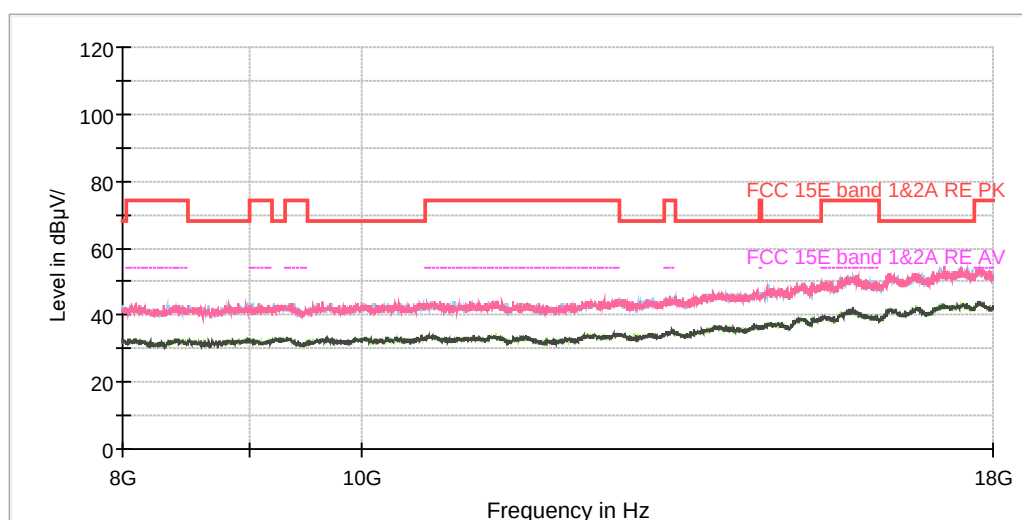
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol   | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-------|------------------|-----------------|----------------|----------------------------|
| 1281.750000        | 42.53                        | ---                          | 200.0          | 200.0 | H                | 6.0             | 25.67          | 68.20                      |
| 1396.375000        | ---                          | 32.17                        | 200.0          | 100.0 | H                | 295.0           | 21.83          | 54.00                      |
| 1707.875000        | ---                          | 33.34                        | 200.0          | 100.0 | H                | 349.0           | 20.66          | 54.00                      |
| 1915.250000        | 44.54                        | ---                          | 200.0          | 100.0 | V                | 0.0             | 23.66          | 68.20                      |
| 2572.375000        | 45.73                        | ---                          | 200.0          | 100.0 | H                | 277.0           | 22.47          | 68.20                      |
| 2759.625000        | ---                          | 36.17                        | 200.0          | 100.0 | V                | 60.0            | 17.83          | 54.00                      |
| 3455.250000        | 49.09                        | ---                          | 200.0          | 100.0 | V                | 0.0             | 19.11          | 68.20                      |
| 3816.625000        | ---                          | 38.80                        | 200.0          | 100.0 | H                | 237.0           | 15.20          | 54.00                      |
| 4920.000000        | ---                          | 40.59                        | 200.0          | 100.0 | V                | 134.0           | 13.41          | 54.00                      |
| 5629.625000        | 50.76                        | ---                          | 200.0          | 200.0 | V                | 309.0           | 17.44          | 68.20                      |
| 7001.625000        | 52.67                        | ---                          | 200.0          | 100.0 | H                | 199.0           | 15.53          | 68.20                      |
| 7577.375000        | ---                          | 42.70                        | 200.0          | 100.0 | H                | 309.0           | 11.30          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH60



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

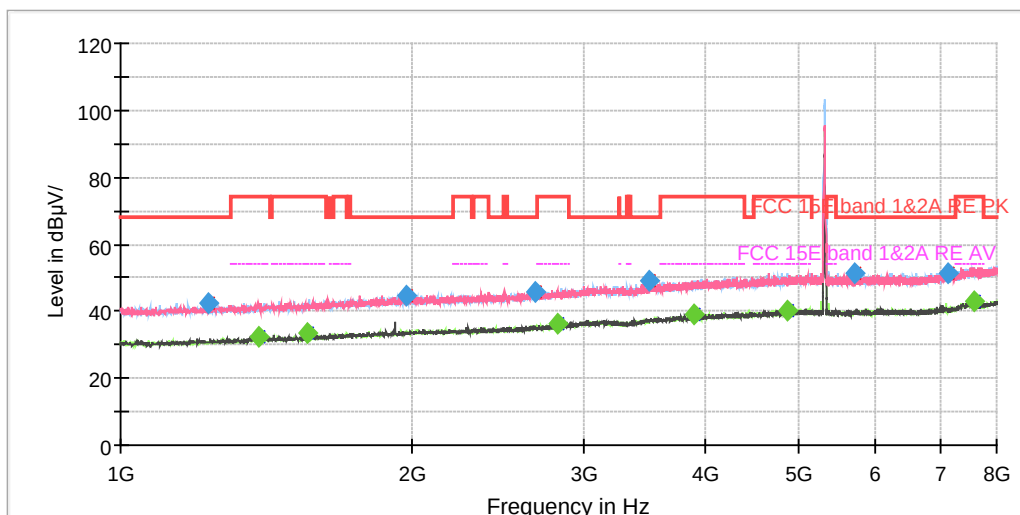


Radiates Emission from 8GHz to 18GHz

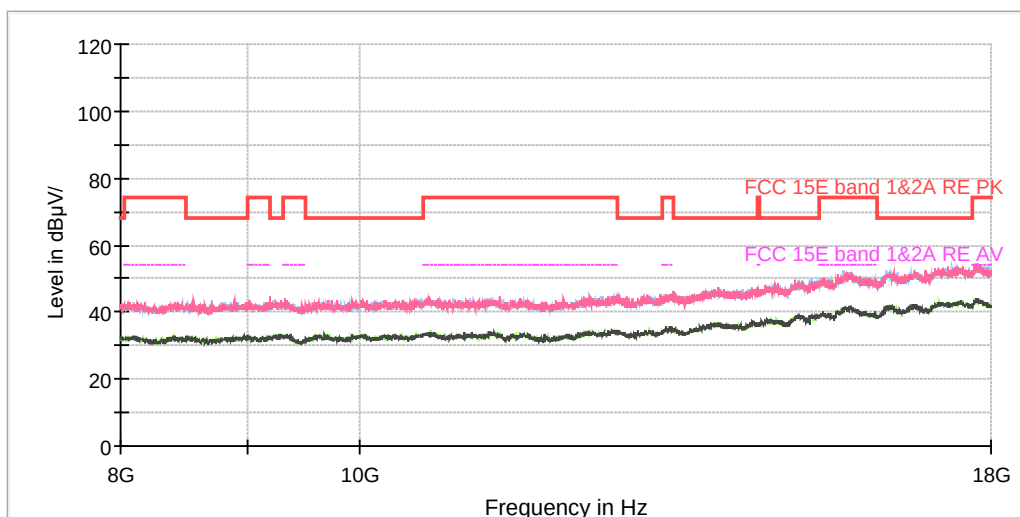
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol   | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-------|------------------|-----------------|----------------|----------------------------|
| 1277.375000        | 42.26                        | ---                          | 200.0          | 200.0 | H                | 147.0           | 25.94          | 68.20                      |
| 1378.875000        | ---                          | 32.46                        | 200.0          | 200.0 | V                | 353.0           | 21.54          | 54.00                      |
| 1705.250000        | ---                          | 33.48                        | 200.0          | 100.0 | H                | 74.0            | 20.52          | 54.00                      |
| 1819.875000        | 44.81                        | ---                          | 200.0          | 200.0 | H                | 29.0            | 23.39          | 68.20                      |
| 2460.375000        | 46.20                        | ---                          | 200.0          | 200.0 | V                | 191.0           | 22.00          | 68.20                      |
| 2775.375000        | ---                          | 36.31                        | 200.0          | 200.0 | H                | 108.0           | 17.69          | 54.00                      |
| 3555.000000        | 48.02                        | ---                          | 200.0          | 100.0 | H                | 244.0           | 20.18          | 68.20                      |
| 3812.250000        | ---                          | 39.00                        | 200.0          | 200.0 | H                | 46.0            | 15.00          | 54.00                      |
| 4967.250000        | ---                          | 40.80                        | 200.0          | 200.0 | V                | 328.0           | 13.20          | 54.00                      |
| 5637.500000        | 51.20                        | ---                          | 200.0          | 200.0 | H                | 179.0           | 17.00          | 68.20                      |
| 6918.500000        | 52.31                        | ---                          | 200.0          | 100.0 | V                | 63.0            | 15.89          | 68.20                      |
| 7568.625000        | ---                          | 42.72                        | 200.0          | 100.0 | H                | 226.0           | 11.28          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH64



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

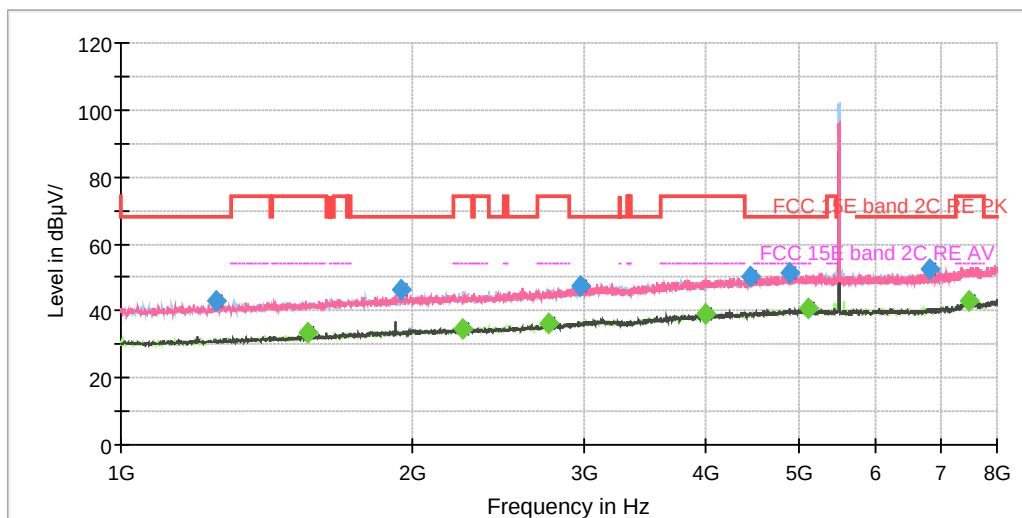


Radiates Emission from 8GHz to 18GHz

| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1232.750000        | 42.42                        | ---                          | 200.0          | H   | 207.0            | -7.4            | 25.78          | 68.20                      |
| 1388.500000        | ---                          | 32.11                        | 200.0          | V   | 79.0             | -6.5            | 21.89          | 54.00                      |
| 1560.000000        | ---                          | 33.73                        | 100.0          | V   | 338.0            | -5.6            | 20.27          | 54.00                      |
| 1974.750000        | 44.75                        | ---                          | 200.0          | H   | 239.0            | -3.3            | 23.45          | 68.20                      |
| 2680.000000        | 45.99                        | ---                          | 100.0          | V   | 327.0            | -0.5            | 22.21          | 68.20                      |
| 2823.500000        | ---                          | 36.41                        | 200.0          | H   | 254.0            | 0.3             | 17.59          | 54.00                      |
| 3512.125000        | 48.86                        | ---                          | 200.0          | V   | 183.0            | 2.8             | 19.34          | 68.20                      |
| 3907.625000        | ---                          | 38.80                        | 200.0          | V   | 0.0              | 4.1             | 15.20          | 54.00                      |
| 4862.250000        | ---                          | 40.28                        | 200.0          | H   | 268.0            | 6.3             | 13.72          | 54.00                      |
| 5704.875000        | 51.40                        | ---                          | 100.0          | V   | 353.0            | 7.6             | 16.80          | 68.20                      |
| 7123.250000        | 51.41                        | ---                          | 200.0          | V   | 68.0             | 9.5             | 16.79          | 68.20                      |
| 7594.000000        | ---                          | 42.70                        | 200.0          | V   | 72.0             | 10.3            | 11.30          | 54.00                      |

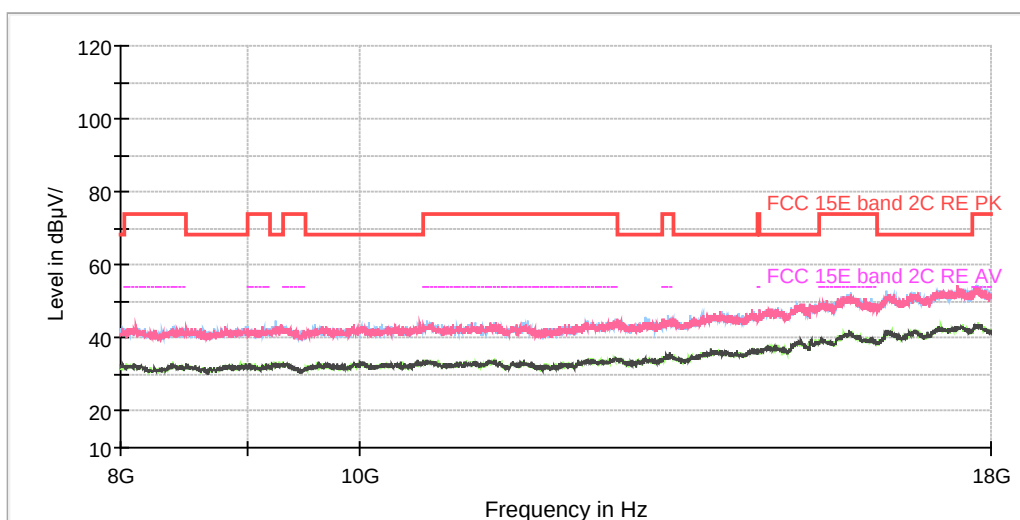
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH100



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz

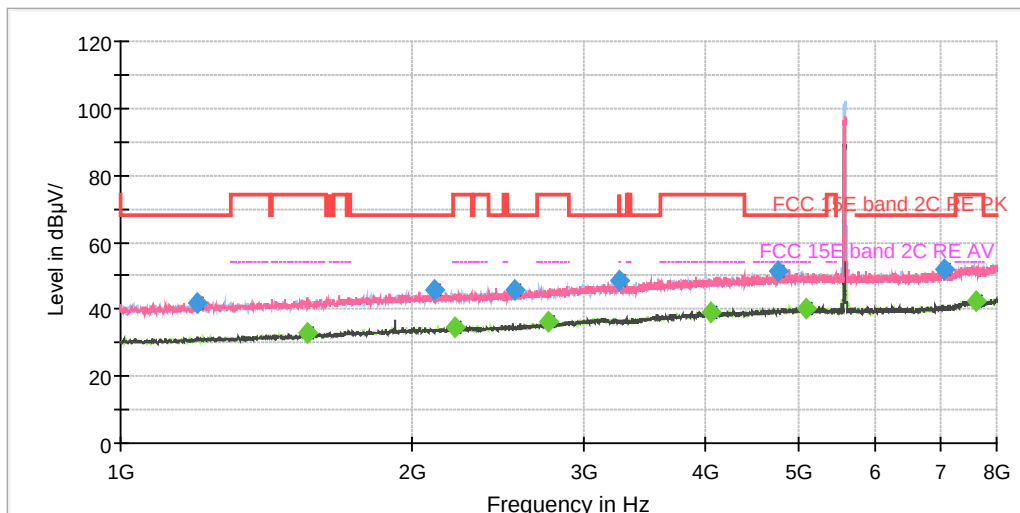


Radiates Emission from 8GHz to 18GHz

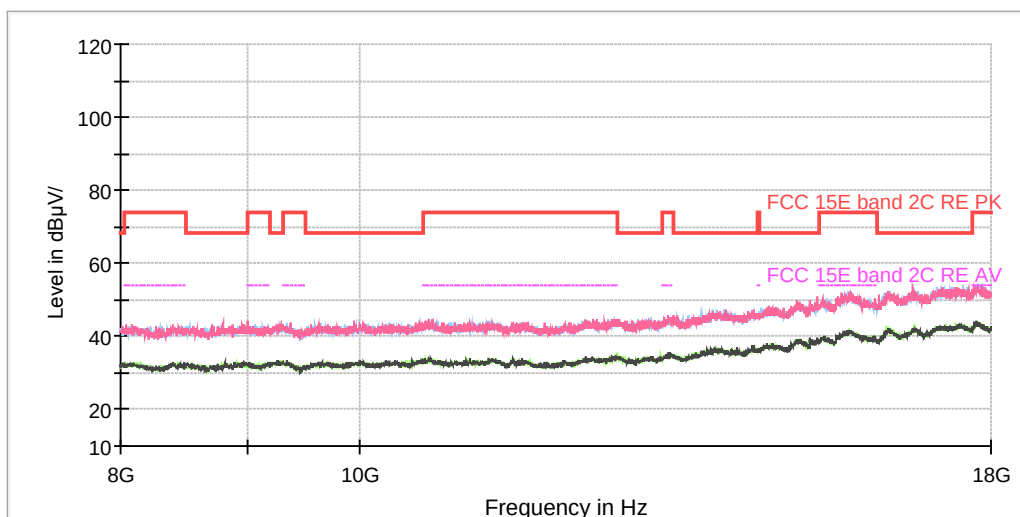
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1255.500000        | 42.71                        | ---                          | 200.0          | V   | 16.0             | -7.3            | 25.49          | 68.20                      |
| 1560.000000        | ---                          | 33.57                        | 100.0          | V   | 149.0            | -5.6            | 20.43          | 54.00                      |
| 1948.500000        | 46.33                        | ---                          | 200.0          | H   | 223.0            | -3.5            | 21.87          | 68.20                      |
| 2250.375000        | ---                          | 34.67                        | 200.0          | V   | 32.0             | -2.3            | 19.33          | 54.00                      |
| 2759.625000        | ---                          | 36.23                        | 200.0          | V   | 58.0             | -0.1            | 17.77          | 54.00                      |
| 2982.750000        | 47.60                        | ---                          | 200.0          | H   | 179.0            | 1.3             | 20.60          | 68.20                      |
| 4013.500000        | ---                          | 38.99                        | 200.0          | V   | 136.0            | 4.4             | 15.01          | 54.00                      |
| 4453.625000        | 50.01                        | ---                          | 100.0          | V   | 152.0            | 5.1             | 18.19          | 68.20                      |
| 4895.500000        | 51.31                        | ---                          | 100.0          | V   | 41.0             | 6.4             | 16.89          | 68.20                      |
| 5119.500000        | ---                          | 40.62                        | 200.0          | H   | 258.0            | 6.8             | 13.38          | 54.00                      |
| 6807.375000        | 52.36                        | ---                          | 100.0          | V   | 109.0            | 8.9             | 15.84          | 68.20                      |
| 7490.750000        | ---                          | 42.79                        | 200.0          | V   | 310.0            | 10.2            | 11.21          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH116



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

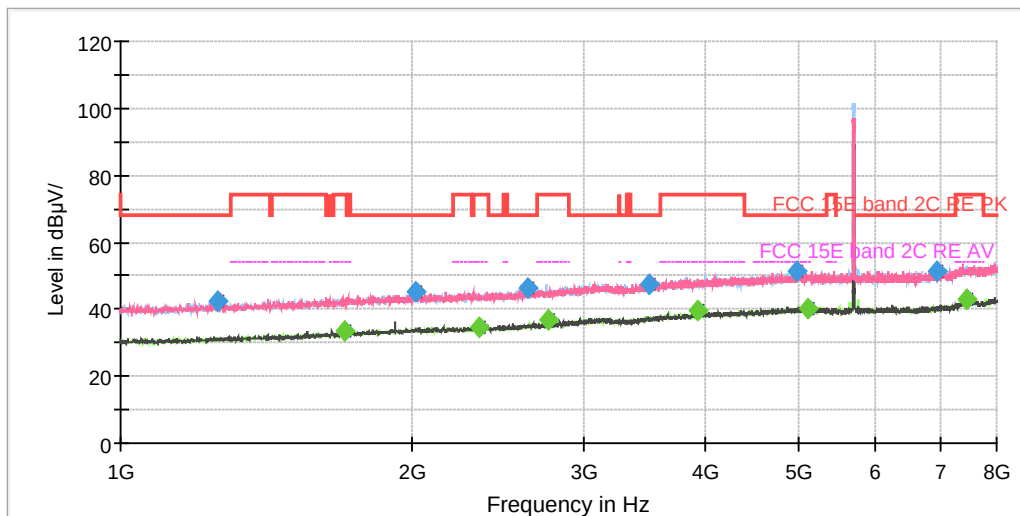


Radiates Emission from 8GHz to 18GHz

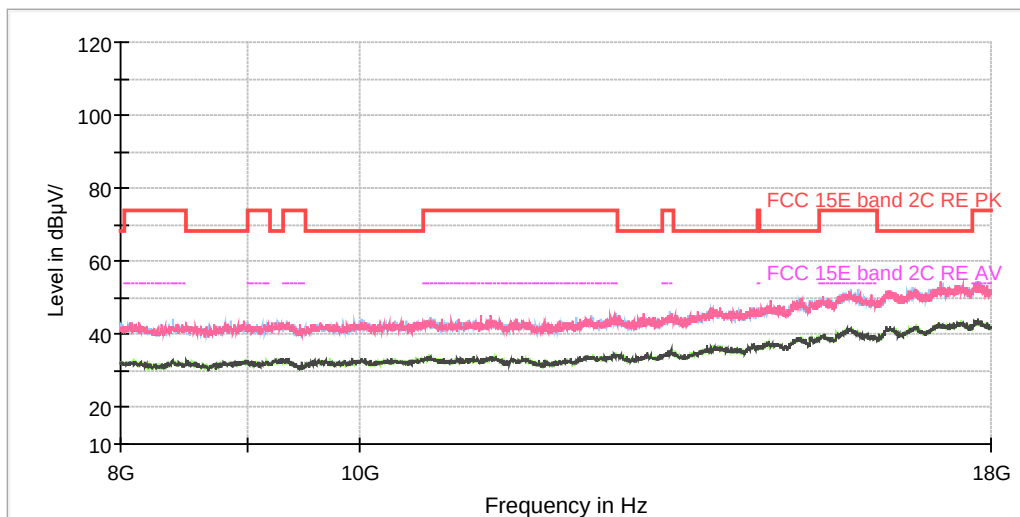
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1199.500000        | 41.98                        | ---                          | 200.0          | V   | 157.0            | -7.6            | 26.22          | 68.20                      |
| 1560.000000        | ---                          | 33.18                        | 100.0          | V   | 18.0             | -5.6            | 20.82          | 54.00                      |
| 2103.375000        | 45.79                        | ---                          | 100.0          | H   | 132.0            | -2.7            | 22.41          | 68.20                      |
| 2211.000000        | ---                          | 34.41                        | 200.0          | H   | 288.0            | -2.4            | 19.59          | 54.00                      |
| 2548.750000        | 45.54                        | ---                          | 200.0          | H   | 233.0            | -1.1            | 22.66          | 68.20                      |
| 2760.500000        | ---                          | 36.17                        | 200.0          | V   | 2.0              | -0.1            | 17.83          | 54.00                      |
| 3267.125000        | 48.45                        | ---                          | 100.0          | H   | 202.0            | 1.8             | 19.75          | 68.20                      |
| 4051.125000        | ---                          | 39.27                        | 200.0          | V   | 241.0            | 4.5             | 14.73          | 54.00                      |
| 4755.500000        | 51.30                        | ---                          | 100.0          | V   | 254.0            | 6.0             | 16.90          | 68.20                      |
| 5095.875000        | ---                          | 40.34                        | 100.0          | H   | 59.0             | 6.9             | 13.66          | 54.00                      |
| 7076.000000        | 52.18                        | ---                          | 200.0          | H   | 288.0            | 9.4             | 16.02          | 68.20                      |
| 7607.125000        | ---                          | 42.52                        | 200.0          | V   | 154.0            | 10.3            | 11.48          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH140



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



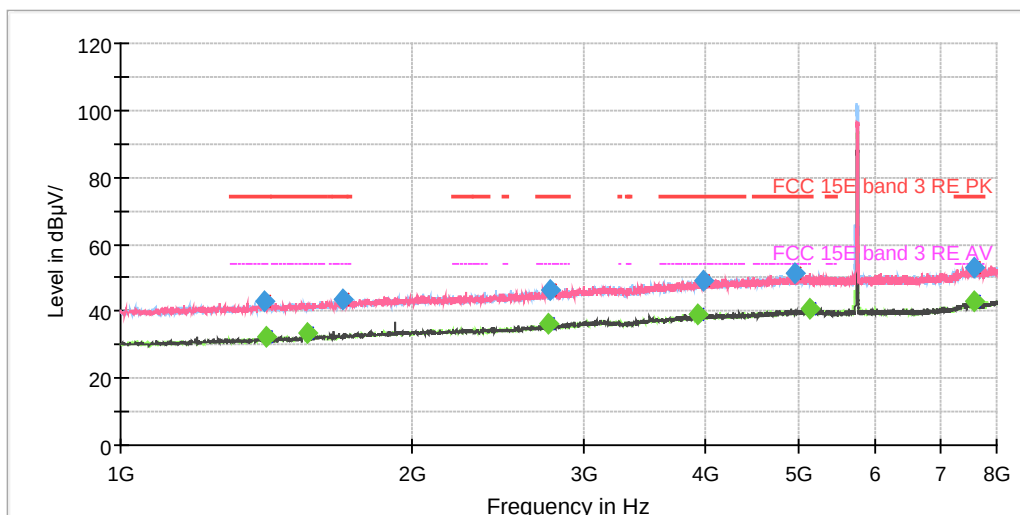
Radiates Emission from 8GHz to 18GHz



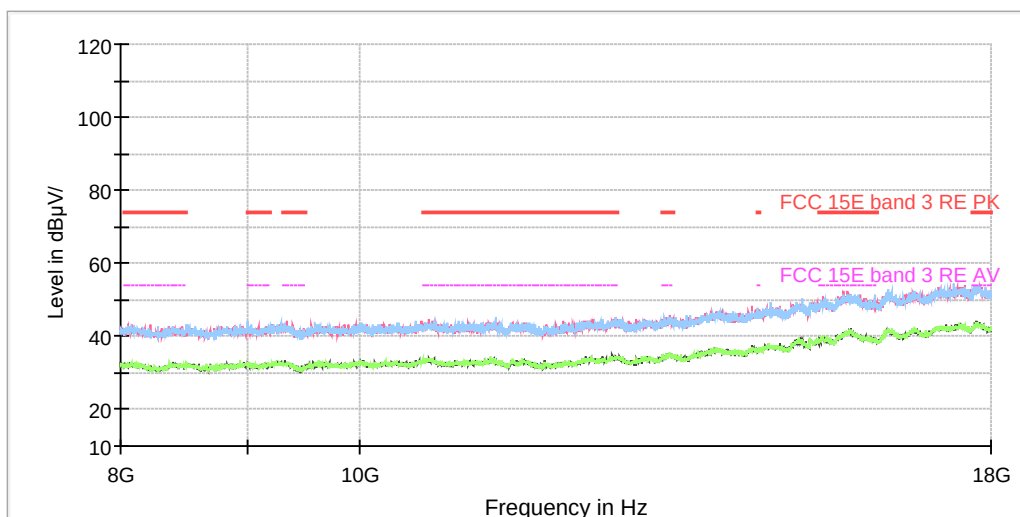
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1257.250000        | 42.30                        | ---                          | 200.0          | V   | 5.0              | -7.3            | 25.90          | 68.20                      |
| 1704.375000        | ---                          | 33.31                        | 200.0          | V   | 328.0            | -4.8            | 20.69          | 54.00                      |
| 2015.875000        | 44.97                        | ---                          | 100.0          | V   | 0.0              | -3.1            | 23.23          | 68.20                      |
| 2343.125000        | ---                          | 34.47                        | 200.0          | H   | 275.0            | -1.9            | 19.53          | 54.00                      |
| 2627.500000        | 46.12                        | ---                          | 200.0          | H   | 347.0            | -0.7            | 22.08          | 68.20                      |
| 2759.625000        | ---                          | 36.69                        | 200.0          | V   | 58.0             | -0.1            | 17.31          | 54.00                      |
| 3509.500000        | 47.48                        | ---                          | 100.0          | V   | 116.0            | 2.8             | 20.72          | 68.20                      |
| 3928.625000        | ---                          | 39.43                        | 100.0          | V   | 285.0            | 4.3             | 14.57          | 54.00                      |
| 4972.500000        | 51.30                        | ---                          | 100.0          | H   | 200.0            | 6.5             | 16.90          | 68.20                      |
| 5113.375000        | ---                          | 40.32                        | 100.0          | V   | 243.0            | 6.9             | 13.68          | 54.00                      |
| 6936.875000        | 51.27                        | ---                          | 200.0          | V   | 58.0             | 9.1             | 16.93          | 68.20                      |
| 7454.000000        | ---                          | 42.94                        | 200.0          | V   | 55.0             | 10.1            | 11.06          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH149



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



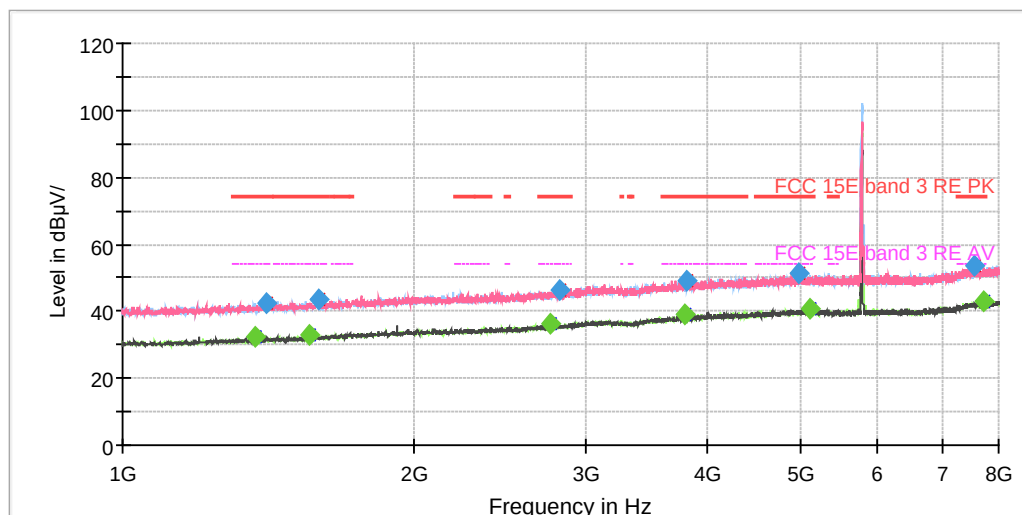
Radiates Emission from 8GHz to 18GHz



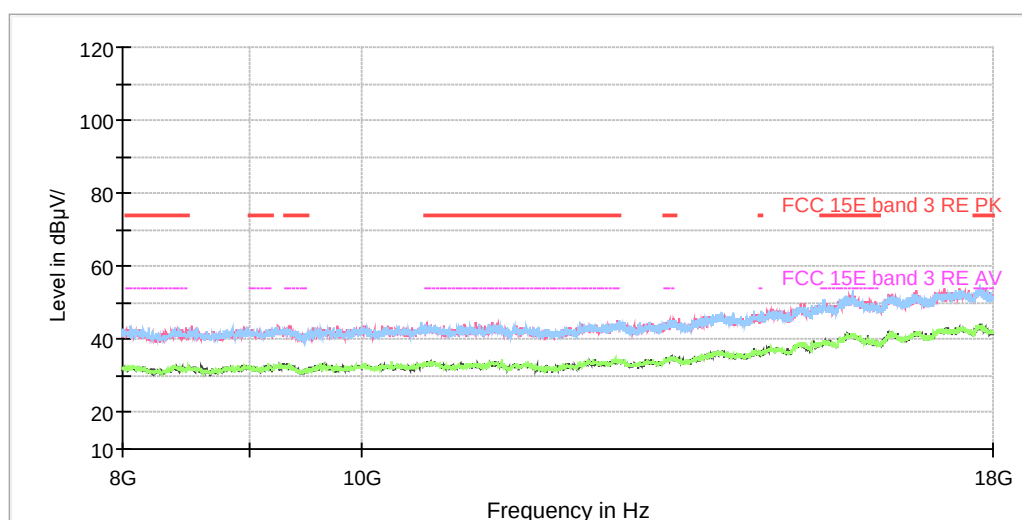
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1405.125000        | 43.14                        | ---                          | 200.0          | V   | 140.0            | -6.4            | 30.86          | 74.00                      |
| 1413.875000        | ---                          | 32.27                        | 200.0          | V   | 189.0            | -6.4            | 21.73          | 54.00                      |
| 1560.000000        | ---                          | 33.77                        | 200.0          | V   | 182.0            | -5.6            | 20.23          | 54.00                      |
| 1697.375000        | 43.64                        | ---                          | 200.0          | H   | 0.0              | -4.9            | 30.36          | 74.00                      |
| 2759.625000        | ---                          | 36.44                        | 100.0          | V   | 56.0             | -0.1            | 17.56          | 54.00                      |
| 2769.250000        | 46.48                        | ---                          | 100.0          | H   | 0.0              | 0.0             | 27.52          | 74.00                      |
| 3928.625000        | ---                          | 39.00                        | 100.0          | H   | 111.0            | 4.3             | 15.00          | 54.00                      |
| 3989.875000        | 49.28                        | ---                          | 100.0          | V   | 56.0             | 4.3             | 24.72          | 74.00                      |
| 4966.375000        | 51.62                        | ---                          | 100.0          | V   | 166.0            | 6.5             | 22.38          | 74.00                      |
| 5132.625000        | ---                          | 40.57                        | 100.0          | H   | 276.0            | 6.8             | 13.43          | 54.00                      |
| 7569.500000        | ---                          | 42.88                        | 200.0          | H   | 224.0            | 10.3            | 11.12          | 54.00                      |
| 7587.875000        | 52.77                        | ---                          | 100.0          | V   | 96.0             | 10.3            | 21.23          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT20) CH157



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

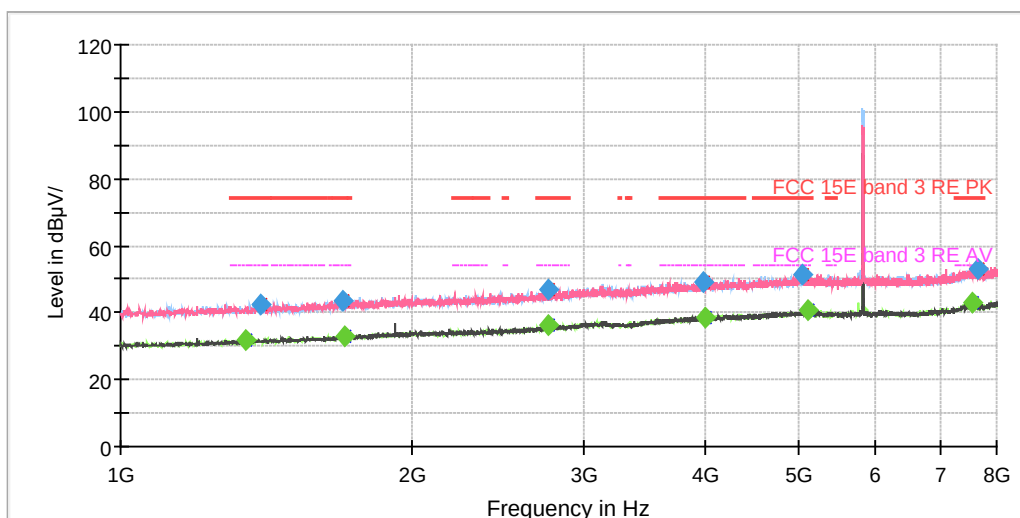


Radiates Emission from 8GHz to 18GHz

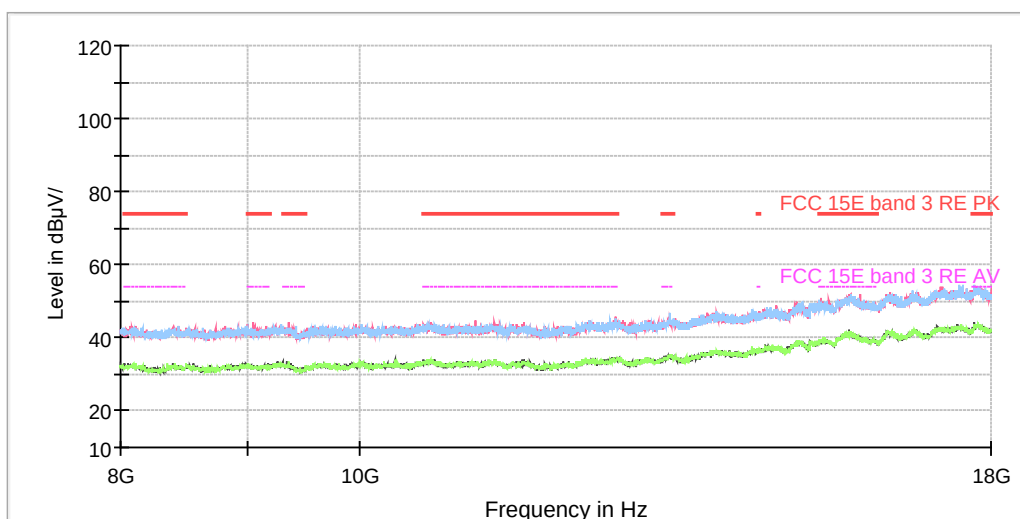
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1369.250000        | ---                          | 32.32                        | 100.0          | V   | 318.0            | -6.6            | 21.68          | 54.00                      |
| 1407.750000        | 42.59                        | ---                          | 100.0          | H   | 72.0             | -6.4            | 31.41          | 74.00                      |
| 1560.000000        | ---                          | 33.19                        | 100.0          | V   | 184.0            | -5.6            | 20.81          | 54.00                      |
| 1594.125000        | 43.73                        | ---                          | 200.0          | H   | 118.0            | -5.4            | 30.27          | 74.00                      |
| 2760.500000        | ---                          | 36.14                        | 100.0          | V   | 336.0            | -0.1            | 17.86          | 54.00                      |
| 2827.000000        | 46.26                        | ---                          | 100.0          | H   | 40.0             | 0.3             | 27.74          | 74.00                      |
| 3800.000000        | ---                          | 38.91                        | 100.0          | V   | 266.0            | 3.8             | 15.09          | 54.00                      |
| 3819.250000        | 49.39                        | ---                          | 100.0          | V   | 194.0            | 3.9             | 24.61          | 74.00                      |
| 4980.375000        | 51.27                        | ---                          | 200.0          | H   | 294.0            | 6.6             | 22.73          | 74.00                      |
| 5112.500000        | ---                          | 40.51                        | 100.0          | V   | 262.0            | 6.9             | 13.49          | 54.00                      |
| 7553.750000        | 53.67                        | ---                          | 100.0          | V   | 223.0            | 10.3            | 20.33          | 74.00                      |
| 7716.500000        | ---                          | 43.06                        | 100.0          | V   | 47.0             | 10.4            | 10.94          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

## 802.11n (HT20) CH165



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

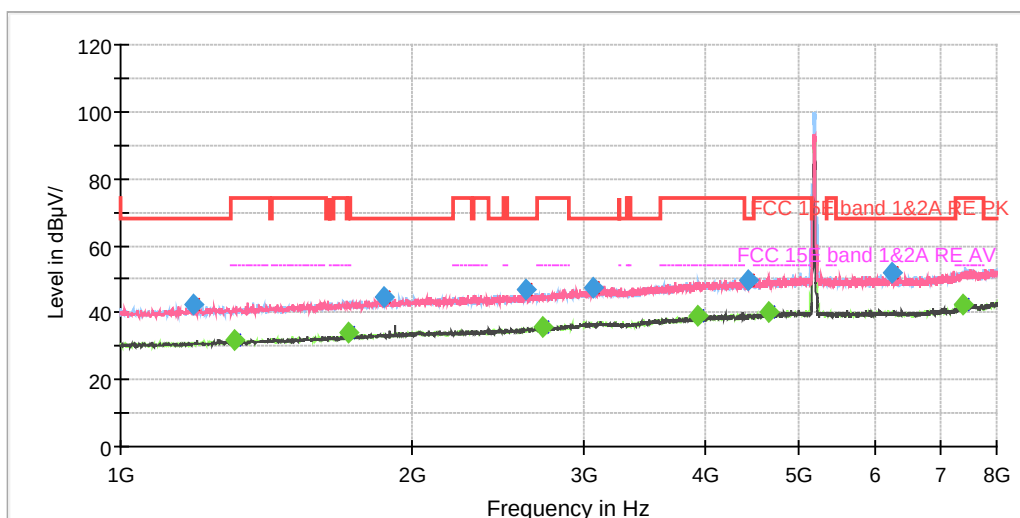


Radiates Emission from 8GHz to 18GHz

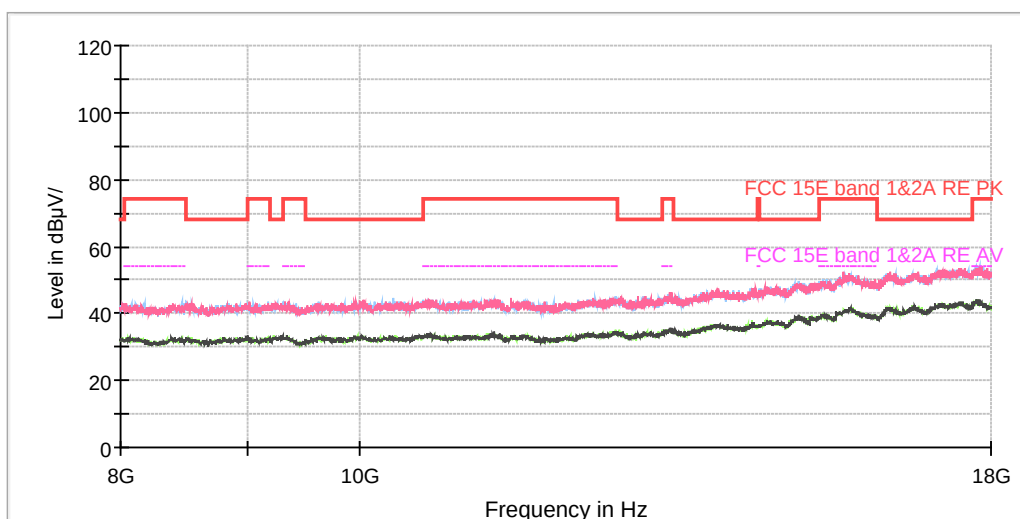
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1346.500000        | ---                          | 32.03                        | 200.0          | V   | 120.0            | -6.8            | 21.97          | 54.00                      |
| 1395.500000        | 42.44                        | ---                          | 100.0          | V   | 25.0             | -6.5            | 31.56          | 74.00                      |
| 1693.000000        | 43.40                        | ---                          | 200.0          | H   | 209.0            | -4.9            | 30.60          | 74.00                      |
| 1701.750000        | ---                          | 33.13                        | 200.0          | H   | 321.0            | -4.8            | 20.87          | 54.00                      |
| 2760.500000        | ---                          | 36.08                        | 100.0          | V   | 11.0             | -0.1            | 17.92          | 54.00                      |
| 2764.875000        | 46.91                        | ---                          | 200.0          | H   | 293.0            | -0.1            | 27.09          | 74.00                      |
| 3981.125000        | 49.36                        | ---                          | 100.0          | V   | 187.0            | 4.3             | 24.64          | 74.00                      |
| 3997.750000        | ---                          | 38.76                        | 200.0          | H   | 356.0            | 4.4             | 15.24          | 54.00                      |
| 5047.750000        | 51.08                        | ---                          | 100.0          | V   | 154.0            | 6.7             | 22.92          | 74.00                      |
| 5118.625000        | ---                          | 40.75                        | 100.0          | V   | 216.0            | 6.8             | 13.25          | 54.00                      |
| 7550.250000        | ---                          | 43.24                        | 100.0          | H   | 149.0            | 10.3            | 10.76          | 54.00                      |
| 7644.750000        | 53.10                        | ---                          | 100.0          | V   | 291.0            | 10.3            | 20.90          | 74.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH38



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

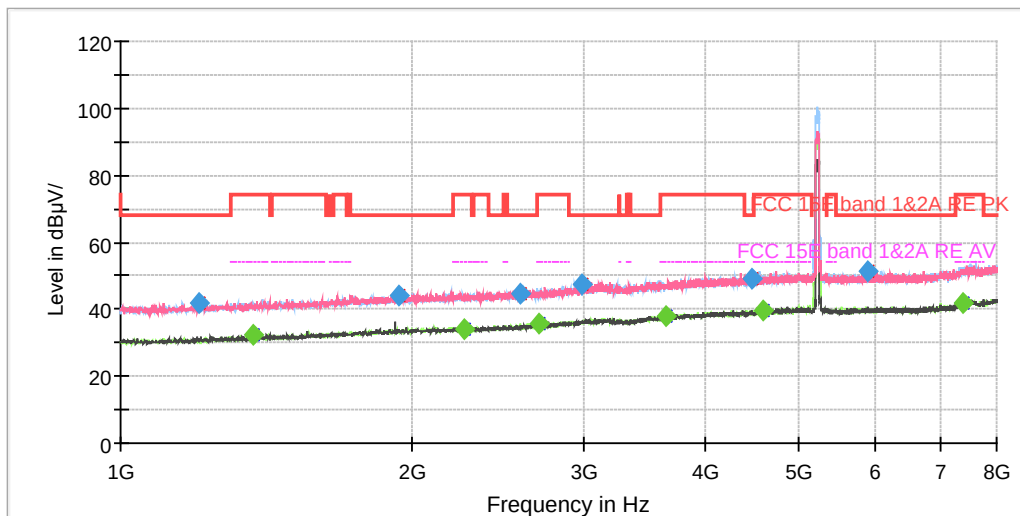


Radiates Emission from 8GHz to 18GHz

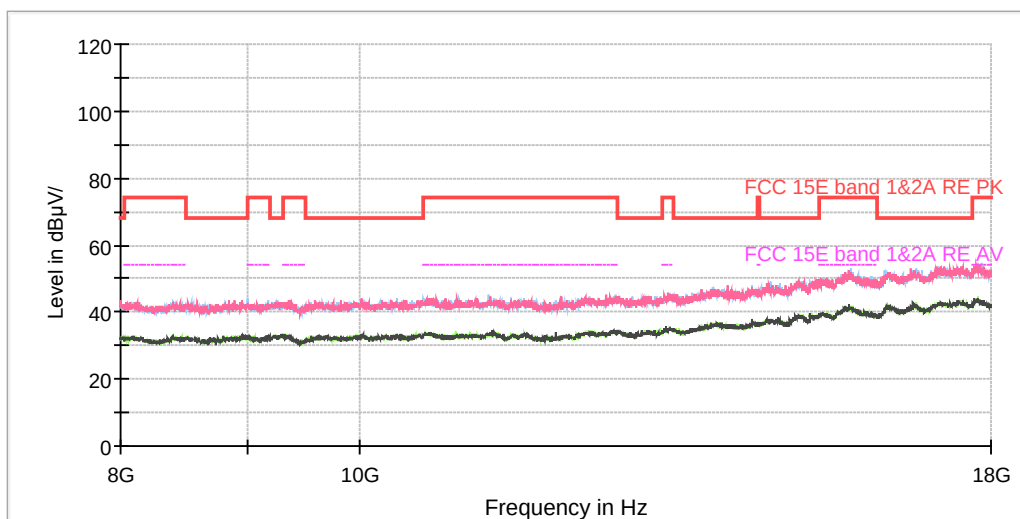
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1189.000000        | 42.56                        | ---                          | 100.0          | V   | 285.0            | -7.7            | 25.64          | 68.20                      |
| 1313.250000        | ---                          | 31.54                        | 100.0          | H   | 356.0            | -7.0            | 22.46          | 54.00                      |
| 1720.125000        | ---                          | 33.97                        | 100.0          | V   | 274.0            | -4.7            | 20.03          | 54.00                      |
| 1869.750000        | 44.38                        | ---                          | 200.0          | V   | 72.0             | -3.9            | 23.82          | 68.20                      |
| 2616.125000        | 46.88                        | ---                          | 100.0          | H   | 16.0             | -0.8            | 21.32          | 68.20                      |
| 2726.375000        | ---                          | 35.95                        | 200.0          | V   | 40.0             | -0.3            | 18.05          | 54.00                      |
| 3067.625000        | 47.43                        | ---                          | 100.0          | V   | 316.0            | 1.6             | 20.77          | 68.20                      |
| 3933.875000        | ---                          | 39.25                        | 100.0          | V   | 12.0             | 4.3             | 14.75          | 54.00                      |
| 4441.375000        | 49.75                        | ---                          | 100.0          | V   | 295.0            | 5.1             | 18.45          | 68.20                      |
| 4656.625000        | ---                          | 40.28                        | 100.0          | V   | 198.0            | 5.7             | 13.72          | 54.00                      |
| 6250.000000        | 51.91                        | ---                          | 100.0          | H   | 152.0            | 8.5             | 16.29          | 68.20                      |
| 7396.250000        | ---                          | 42.33                        | 200.0          | H   | 208.0            | 10.0            | 11.67          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH46



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

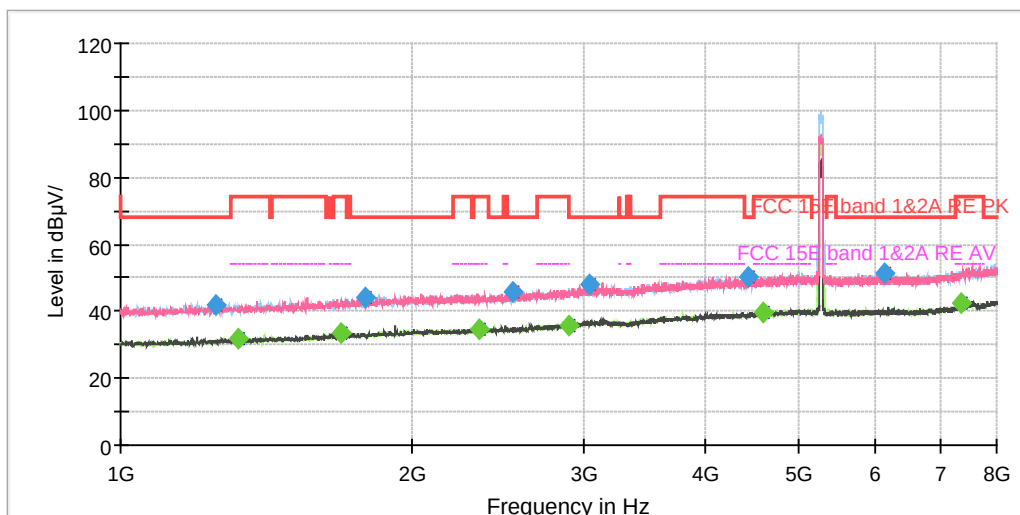


Radiates Emission from 8GHz to 18GHz

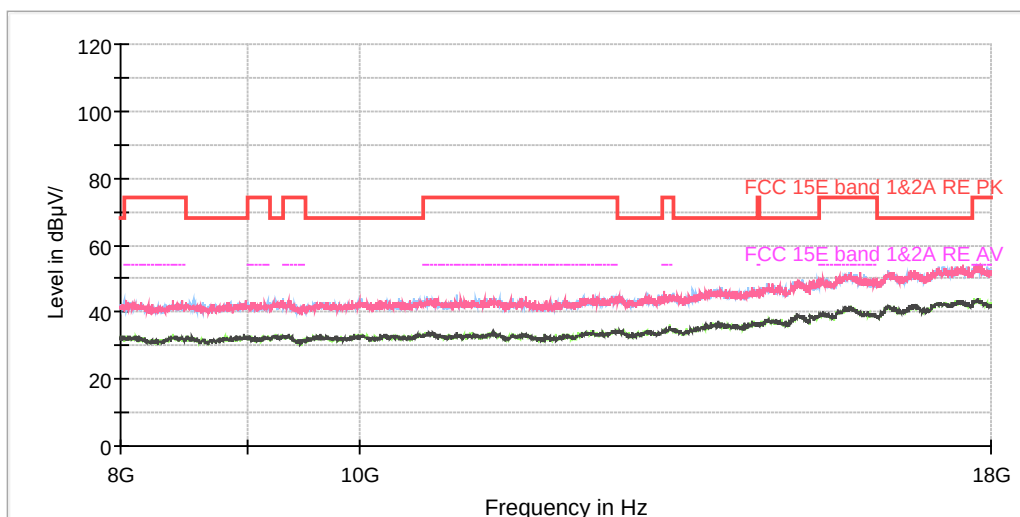
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1205.625000        | 41.93                        | ---                          | 200.0          | H   | 220.0            | -7.6            | 26.27          | 68.20                      |
| 1369.250000        | ---                          | 32.10                        | 200.0          | V   | 62.0             | -6.6            | 21.90          | 54.00                      |
| 1937.125000        | 44.28                        | ---                          | 200.0          | H   | 231.0            | -3.5            | 23.92          | 68.20                      |
| 2256.500000        | ---                          | 34.25                        | 200.0          | V   | 37.0             | -2.3            | 19.75          | 54.00                      |
| 2583.750000        | 44.69                        | ---                          | 200.0          | H   | 18.0             | -0.9            | 23.51          | 68.20                      |
| 2705.375000        | ---                          | 35.91                        | 100.0          | V   | 82.0             | -0.4            | 18.09          | 54.00                      |
| 2986.250000        | 47.22                        | ---                          | 200.0          | H   | 143.0            | 1.3             | 20.98          | 68.20                      |
| 3642.500000        | ---                          | 38.14                        | 200.0          | V   | 161.0            | 3.3             | 15.86          | 54.00                      |
| 4478.125000        | 49.13                        | ---                          | 100.0          | H   | 136.0            | 5.1             | 19.07          | 68.20                      |
| 4596.250000        | ---                          | 39.74                        | 100.0          | V   | 191.0            | 5.5             | 14.26          | 54.00                      |
| 5881.625000        | 51.28                        | ---                          | 100.0          | H   | 157.0            | 8.0             | 16.92          | 68.20                      |
| 7398.000000        | ---                          | 41.99                        | 200.0          | H   | 18.0             | 10.0            | 12.01          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH54



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

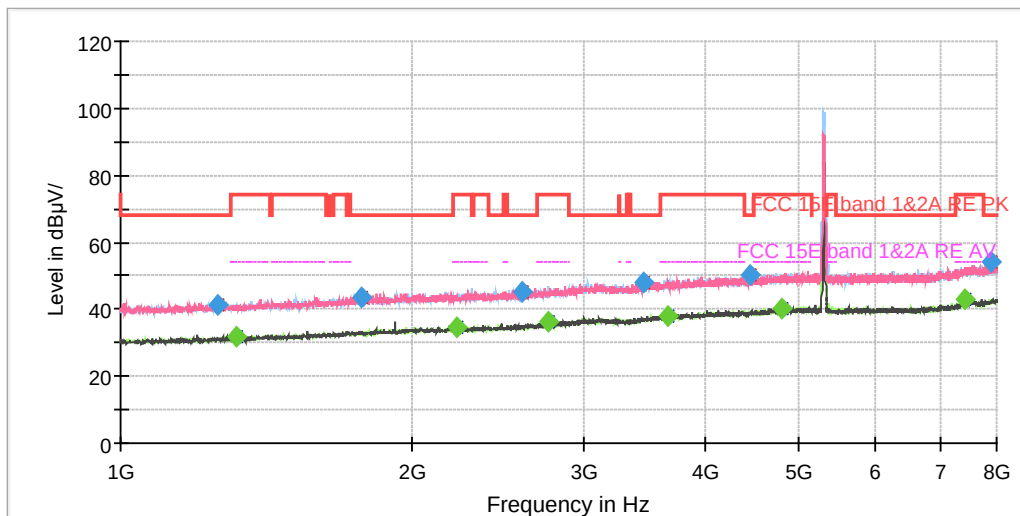


Radiates Emission from 8GHz to 18GHz

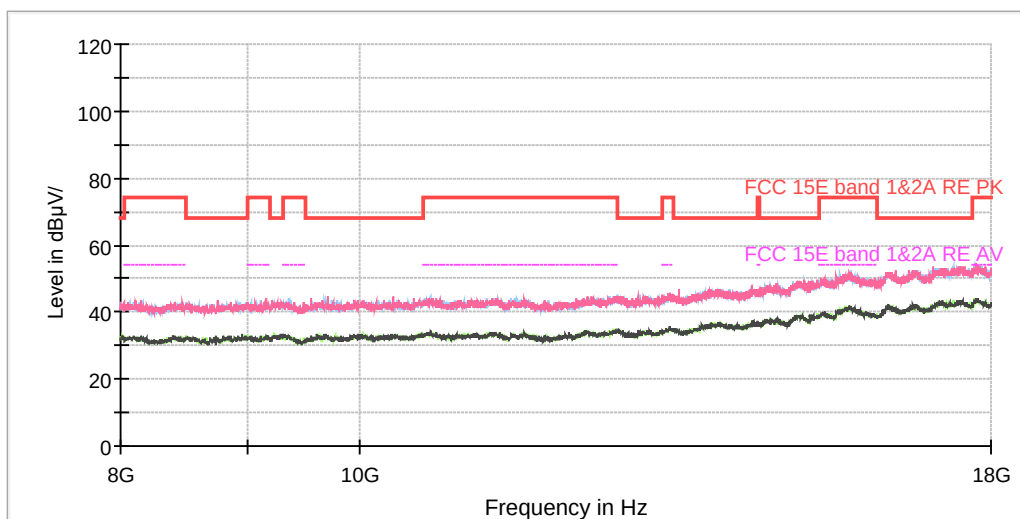
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1253.750000        | 41.94                        | ---                          | 100.0          | V   | 299.0            | -7.3            | 26.26          | 68.20                      |
| 1323.750000        | ---                          | 31.64                        | 100.0          | V   | 311.0            | -6.9            | 22.36          | 54.00                      |
| 1688.625000        | ---                          | 33.27                        | 200.0          | H   | 74.0             | -4.9            | 20.73          | 54.00                      |
| 1791.000000        | 44.37                        | ---                          | 100.0          | V   | 307.0            | -4.3            | 23.83          | 68.20                      |
| 2337.875000        | ---                          | 34.82                        | 200.0          | V   | 161.0            | -1.9            | 19.18          | 54.00                      |
| 2537.375000        | 46.04                        | ---                          | 200.0          | H   | 177.0            | -1.2            | 22.16          | 68.20                      |
| 2896.125000        | ---                          | 35.99                        | 100.0          | V   | 83.0             | 0.8             | 18.01          | 54.00                      |
| 3044.000000        | 48.17                        | ---                          | 100.0          | V   | 226.0            | 1.6             | 20.03          | 68.20                      |
| 4428.250000        | 50.18                        | ---                          | 200.0          | H   | 244.0            | 5.1             | 18.02          | 68.20                      |
| 4587.500000        | ---                          | 39.75                        | 200.0          | H   | 0.0              | 5.5             | 14.25          | 54.00                      |
| 6128.375000        | 51.33                        | ---                          | 200.0          | V   | 289.0            | 8.2             | 16.87          | 68.20                      |
| 7342.000000        | ---                          | 42.62                        | 200.0          | V   | 153.0            | 10.0            | 11.38          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH62



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

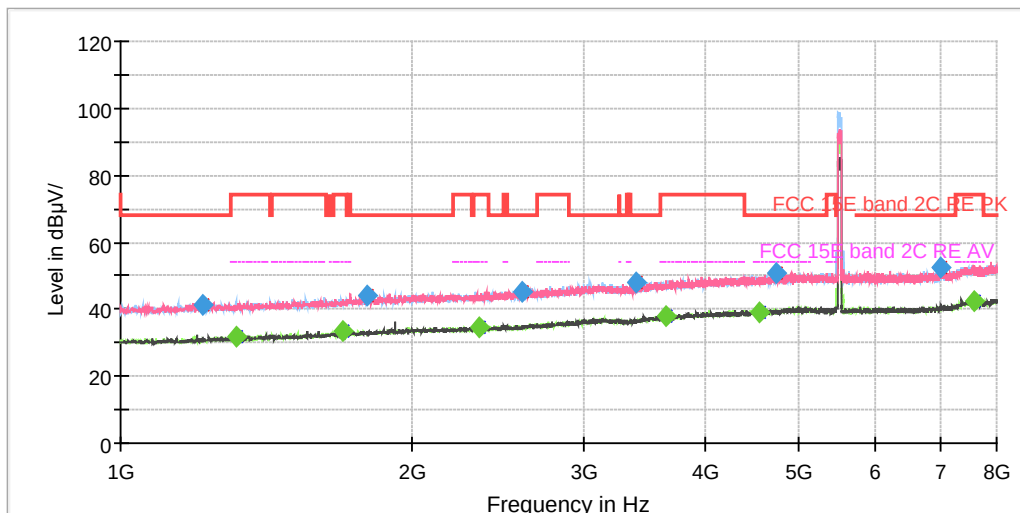


Radiates Emission from 8GHz to 18GHz

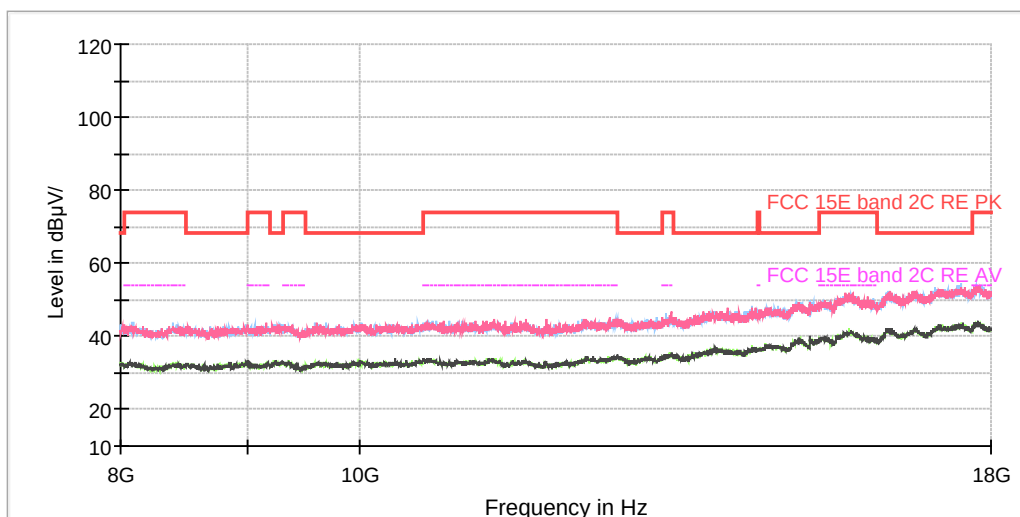
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1259.000000        | 41.44                        | ---                          | 200.0          | V   | 54.0             | -7.3            | 26.76          | 68.20                      |
| 1317.625000        | ---                          | 31.58                        | 200.0          | V   | 0.0              | -7.0            | 22.42          | 54.00                      |
| 1769.125000        | 43.57                        | ---                          | 200.0          | V   | 341.0            | -4.5            | 24.63          | 68.20                      |
| 2224.125000        | ---                          | 34.41                        | 100.0          | V   | 213.0            | -2.3            | 19.59          | 54.00                      |
| 2595.125000        | 45.28                        | ---                          | 200.0          | V   | 260.0            | -0.9            | 22.92          | 68.20                      |
| 2759.625000        | ---                          | 36.16                        | 100.0          | V   | 12.0             | -0.1            | 17.84          | 54.00                      |
| 3457.000000        | 48.06                        | ---                          | 200.0          | V   | 41.0             | 2.6             | 20.14          | 68.20                      |
| 3668.750000        | ---                          | 38.08                        | 100.0          | H   | 29.0             | 3.5             | 15.92          | 54.00                      |
| 4458.000000        | 50.24                        | ---                          | 200.0          | H   | 318.0            | 5.1             | 17.96          | 68.20                      |
| 4815.000000        | ---                          | 40.34                        | 100.0          | V   | 88.0             | 6.1             | 13.66          | 54.00                      |
| 7426.875000        | ---                          | 42.74                        | 200.0          | H   | 329.0            | 10.0            | 11.26          | 54.00                      |
| 7906.375000        | 54.10                        | ---                          | 200.0          | V   | 172.0            | 10.5            | 14.10          | 68.20                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH102



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

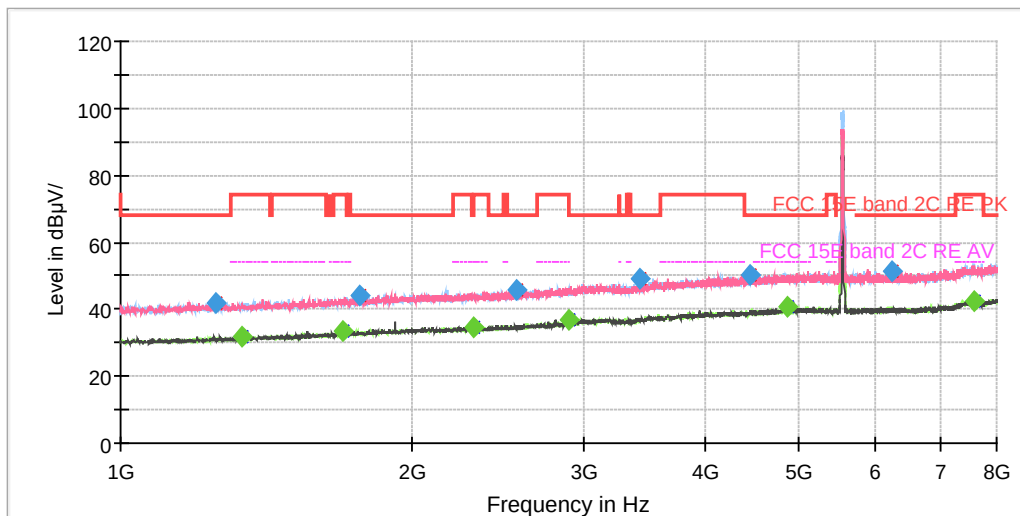


Radiates Emission from 8GHz to 18GHz

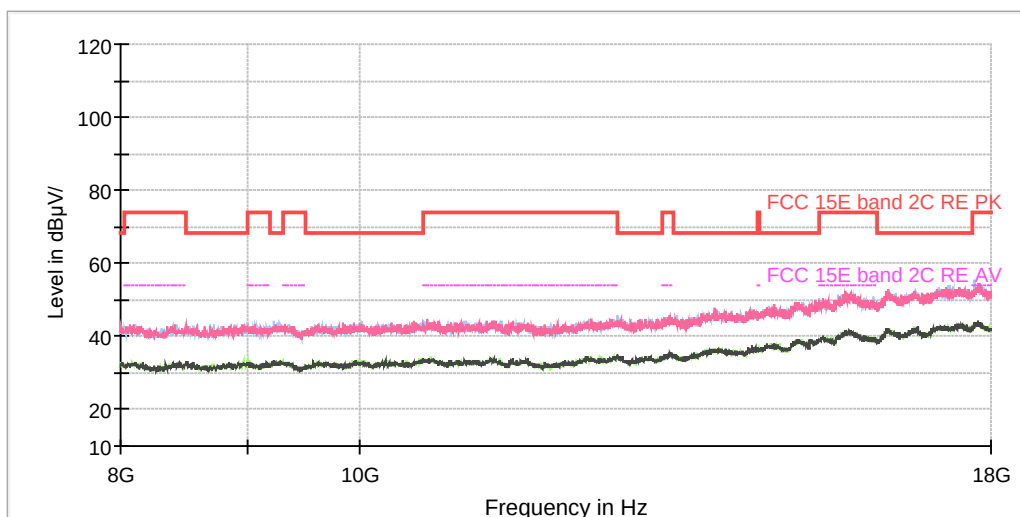
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1215.250000        | 41.54                        | ---                          | 200.0          | H   | 329.0            | -7.5            | 26.66          | 68.20                      |
| 1315.875000        | ---                          | 31.58                        | 100.0          | V   | 263.0            | -7.0            | 22.42          | 54.00                      |
| 1691.250000        | ---                          | 33.23                        | 200.0          | H   | 161.0            | -4.9            | 20.77          | 54.00                      |
| 1793.625000        | 43.89                        | ---                          | 100.0          | V   | 328.0            | -4.3            | 24.31          | 68.20                      |
| 2342.250000        | ---                          | 34.77                        | 100.0          | H   | 141.0            | -1.9            | 19.23          | 54.00                      |
| 2589.875000        | 45.23                        | ---                          | 200.0          | V   | 278.0            | -0.9            | 22.97          | 68.20                      |
| 3401.000000        | 48.08                        | ---                          | 200.0          | V   | 17.0             | 2.1             | 20.12          | 68.20                      |
| 3646.000000        | ---                          | 38.13                        | 200.0          | V   | 45.0             | 3.4             | 15.87          | 54.00                      |
| 4556.875000        | ---                          | 39.30                        | 100.0          | H   | 101.0            | 5.3             | 14.70          | 54.00                      |
| 4731.875000        | 50.85                        | ---                          | 100.0          | H   | 23.0             | 5.9             | 17.35          | 68.20                      |
| 7013.000000        | 52.31                        | ---                          | 200.0          | V   | 53.0             | 9.3             | 15.89          | 68.20                      |
| 7582.625000        | ---                          | 42.63                        | 200.0          | H   | 0.0              | 10.3            | 11.37          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH118



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

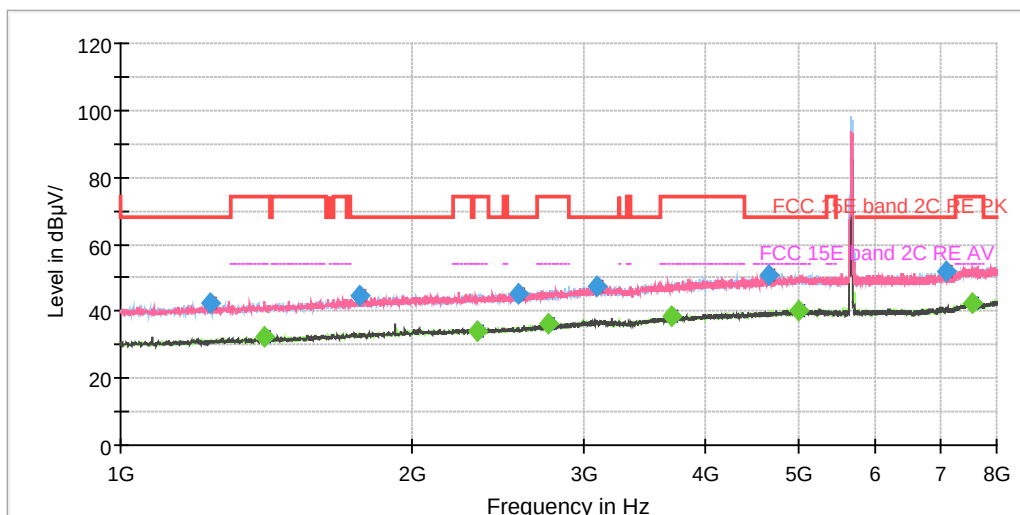


Radiates Emission from 8GHz to 18GHz

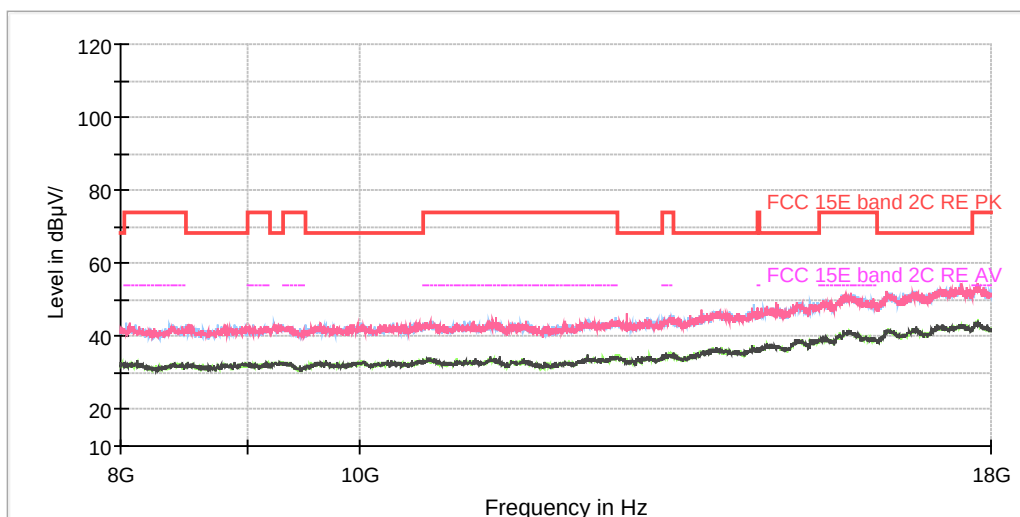
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1256.375000        | 41.73                        | ---                          | 200.0          | H   | 234.0            | -7.3            | 26.47          | 68.20                      |
| 1333.375000        | ---                          | 31.63                        | 200.0          | V   | 34.0             | -6.9            | 22.37          | 54.00                      |
| 1695.625000        | ---                          | 33.22                        | 200.0          | V   | 21.0             | -4.9            | 20.78          | 54.00                      |
| 1762.125000        | 44.32                        | ---                          | 200.0          | V   | 109.0            | -4.5            | 23.88          | 68.20                      |
| 2314.250000        | ---                          | 34.39                        | 100.0          | H   | 13.0             | -2.0            | 19.61          | 54.00                      |
| 2558.375000        | 45.86                        | ---                          | 200.0          | H   | 317.0            | -1.0            | 22.34          | 68.20                      |
| 2897.000000        | ---                          | 36.56                        | 200.0          | V   | 260.0            | 0.8             | 17.44          | 54.00                      |
| 3426.375000        | 49.18                        | ---                          | 100.0          | H   | 72.0             | 2.3             | 19.02          | 68.20                      |
| 4454.500000        | 50.34                        | ---                          | 200.0          | H   | 213.0            | 5.1             | 17.86          | 68.20                      |
| 4863.125000        | ---                          | 40.47                        | 200.0          | V   | 4.0              | 6.3             | 13.53          | 54.00                      |
| 6250.000000        | 51.51                        | ---                          | 100.0          | V   | 116.0            | 8.5             | 16.69          | 68.20                      |
| 7580.000000        | ---                          | 42.49                        | 200.0          | H   | 259.0            | 10.3            | 11.51          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH134



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

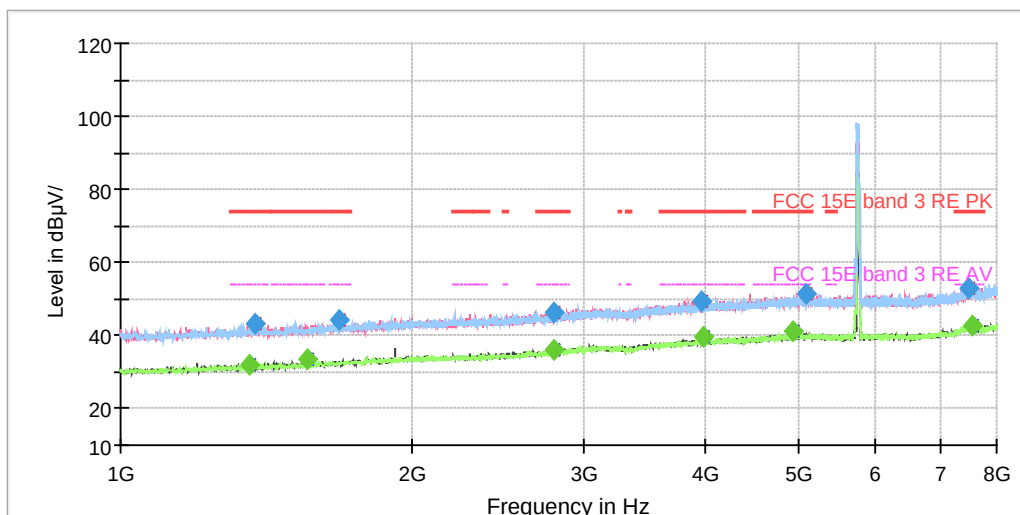


Radiates Emission from 8GHz to 18GHz

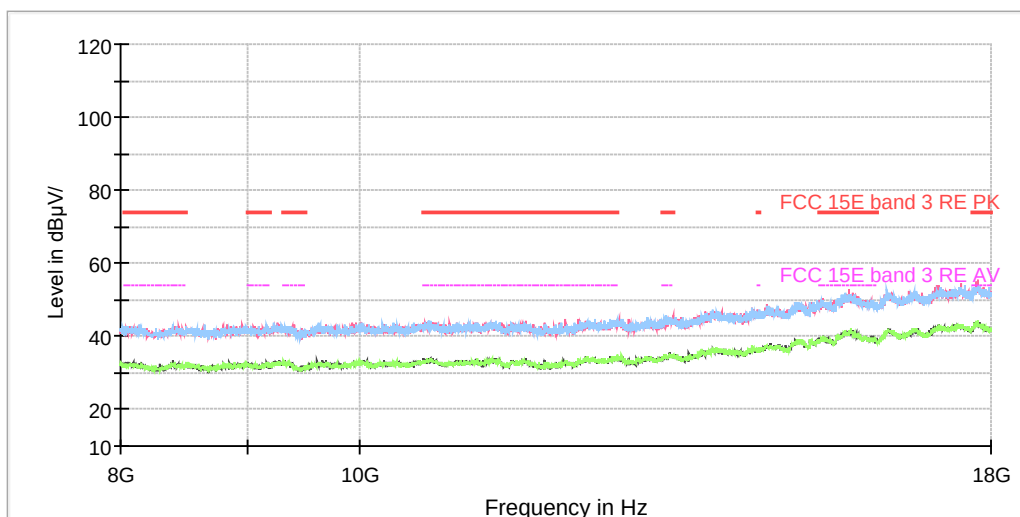
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1238.000000        | 42.57                        | ---                          | 200.0          | V   | 297.0            | -7.4            | 25.63          | 68.20                      |
| 1406.000000        | ---                          | 32.61                        | 200.0          | V   | 89.0             | -6.4            | 21.39          | 54.00                      |
| 1763.875000        | 44.79                        | ---                          | 100.0          | V   | 25.0             | -4.5            | 23.41          | 68.20                      |
| 2331.750000        | ---                          | 34.32                        | 200.0          | H   | 347.0            | -1.9            | 19.68          | 54.00                      |
| 2568.875000        | 45.33                        | ---                          | 100.0          | H   | 191.0            | -0.9            | 22.87          | 68.20                      |
| 2759.625000        | ---                          | 36.16                        | 100.0          | V   | 347.0            | -0.1            | 17.84          | 54.00                      |
| 3100.000000        | 47.70                        | ---                          | 200.0          | V   | 1.0              | 1.8             | 20.50          | 68.20                      |
| 3695.000000        | ---                          | 38.66                        | 100.0          | V   | 200.0            | 3.5             | 15.34          | 54.00                      |
| 4665.375000        | 50.89                        | ---                          | 100.0          | V   | 354.0            | 5.7             | 17.31          | 68.20                      |
| 5002.250000        | ---                          | 40.28                        | 100.0          | H   | 32.0             | 6.7             | 13.72          | 54.00                      |
| 7083.000000        | 51.92                        | ---                          | 100.0          | H   | 49.0             | 9.4             | 16.28          | 68.20                      |
| 7536.250000        | ---                          | 42.47                        | 100.0          | H   | 240.0            | 10.2            | 11.53          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH151



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

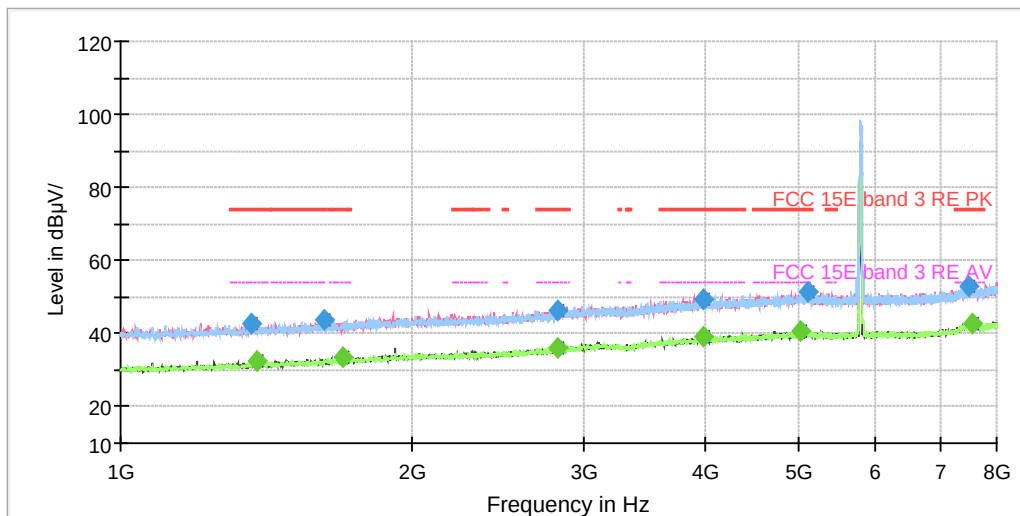


Radiates Emission from 8GHz to 18GHz

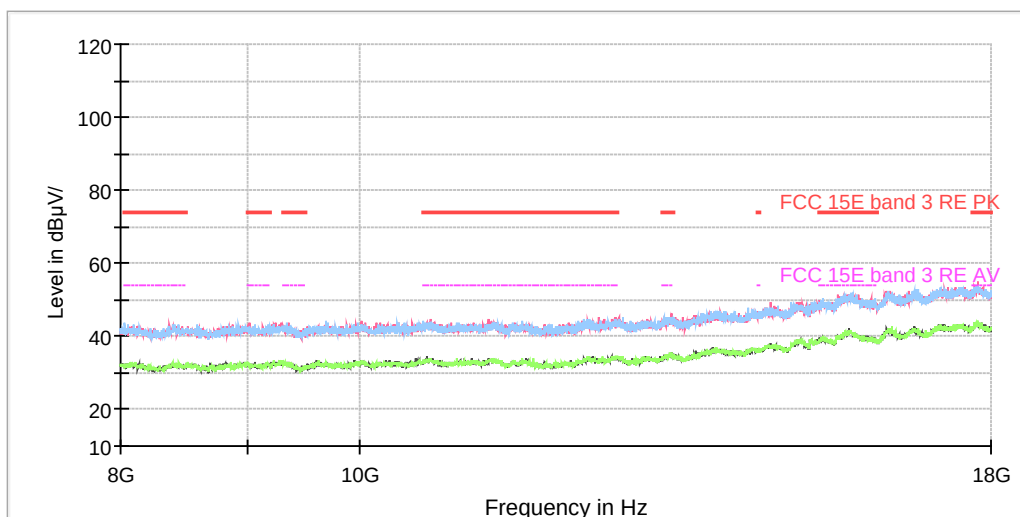
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1358.750000        | ---                          | 31.99                        | 100.0          | H   | 41.0             | -6.7            | 22.01          | 54.00                      |
| 1373.625000        | 43.05                        | ---                          | 200.0          | H   | 0.0              | -6.6            | 30.95          | 74.00                      |
| 1560.000000        | ---                          | 33.38                        | 200.0          | V   | 312.0            | -5.6            | 20.63          | 54.00                      |
| 1680.750000        | 44.36                        | ---                          | 100.0          | H   | 290.0            | -4.9            | 29.64          | 74.00                      |
| 2799.000000        | ---                          | 36.29                        | 200.0          | H   | 65.0             | 0.2             | 17.71          | 54.00                      |
| 2802.500000        | 46.21                        | ---                          | 200.0          | V   | 262.0            | 0.2             | 27.79          | 74.00                      |
| 3963.625000        | 49.59                        | ---                          | 100.0          | H   | 0.0              | 4.3             | 24.41          | 74.00                      |
| 3993.375000        | ---                          | 39.46                        | 100.0          | V   | 166.0            | 4.3             | 14.54          | 54.00                      |
| 4926.125000        | ---                          | 40.97                        | 200.0          | V   | 215.0            | 6.4             | 13.03          | 54.00                      |
| 5099.375000        | 51.42                        | ---                          | 200.0          | H   | 32.0             | 6.9             | 22.58          | 74.00                      |
| 7480.250000        | 52.94                        | ---                          | 200.0          | H   | 223.0            | 10.2            | 21.06          | 74.00                      |
| 7545.875000        | ---                          | 42.90                        | 200.0          | H   | 29.0             | 10.3            | 11.10          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11n (HT40) CH159



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

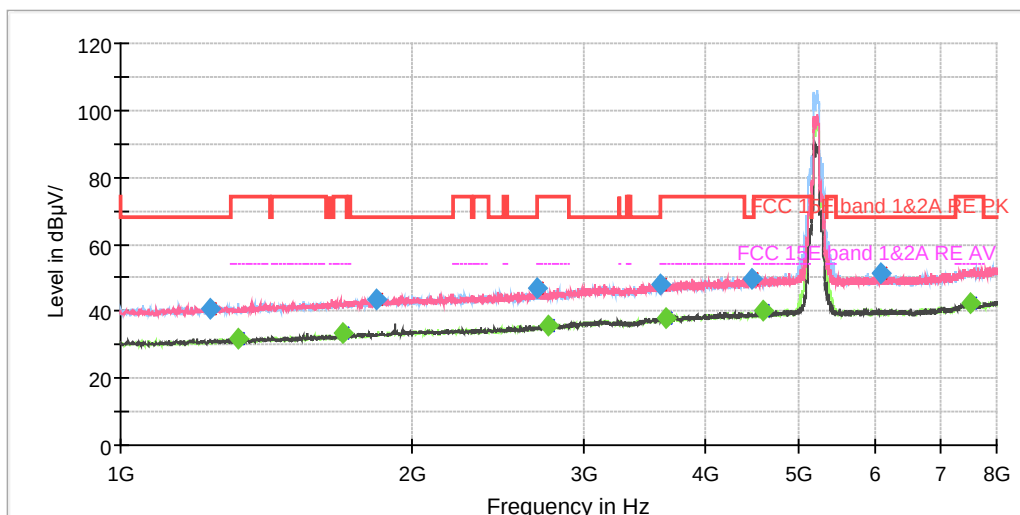


Radiates Emission from 8GHz to 18GHz

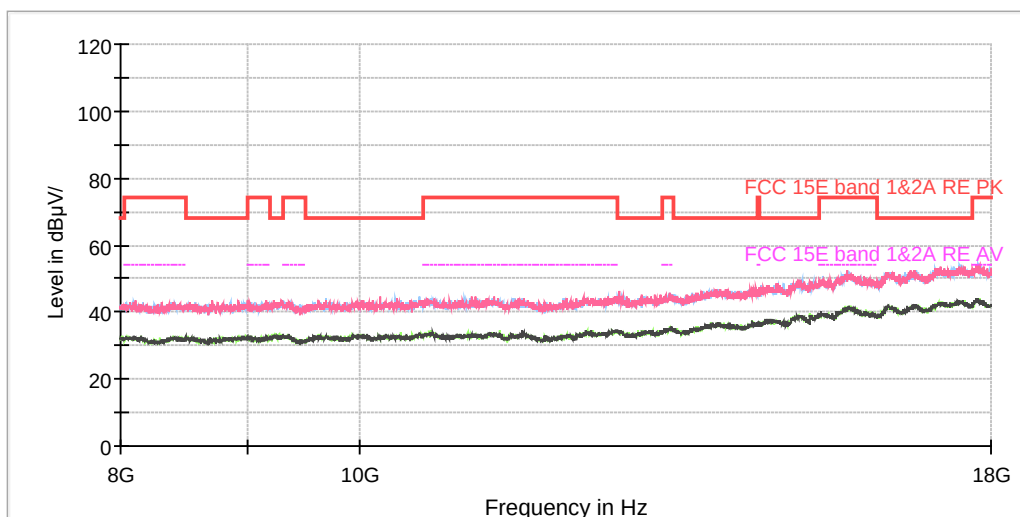
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1365.750000        | 42.52                        | ---                          | 100.0          | V   | 7.0              | -6.7            | 31.48          | 74.00                      |
| 1384.125000        | ---                          | 32.27                        | 200.0          | V   | 319.0            | -6.5            | 21.73          | 54.00                      |
| 1622.125000        | 43.64                        | ---                          | 200.0          | V   | 323.0            | -5.3            | 30.36          | 74.00                      |
| 1697.375000        | ---                          | 33.40                        | 200.0          | V   | 287.0            | -4.9            | 20.60          | 54.00                      |
| 2820.000000        | ---                          | 36.02                        | 100.0          | V   | 341.0            | 0.3             | 17.98          | 54.00                      |
| 2825.250000        | 46.37                        | ---                          | 200.0          | H   | 128.0            | 0.3             | 27.63          | 74.00                      |
| 3981.125000        | 49.35                        | ---                          | 200.0          | V   | 108.0            | 4.3             | 24.65          | 74.00                      |
| 3987.250000        | ---                          | 39.04                        | 100.0          | H   | 1.0              | 4.3             | 14.96          | 54.00                      |
| 5014.500000        | ---                          | 40.81                        | 200.0          | V   | 237.0            | 6.7             | 13.19          | 54.00                      |
| 5114.250000        | 51.20                        | ---                          | 200.0          | V   | 0.0              | 6.9             | 22.80          | 74.00                      |
| 7477.625000        | 52.89                        | ---                          | 200.0          | H   | 317.0            | 10.1            | 21.11          | 74.00                      |
| 7551.125000        | ---                          | 42.70                        | 200.0          | H   | 58.0             | 10.3            | 11.30          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11ac (HT80) CH42



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

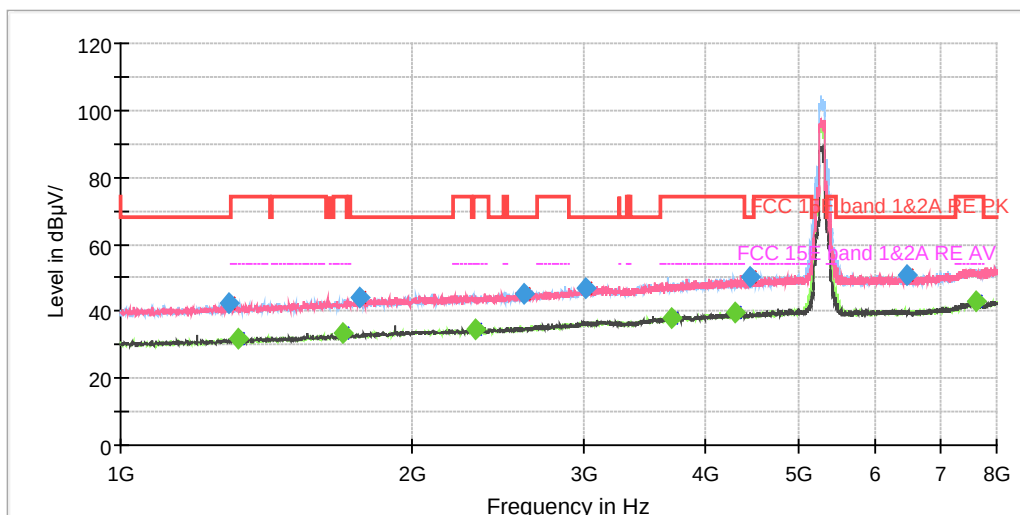


Radiates Emission from 8GHz to 18GHz

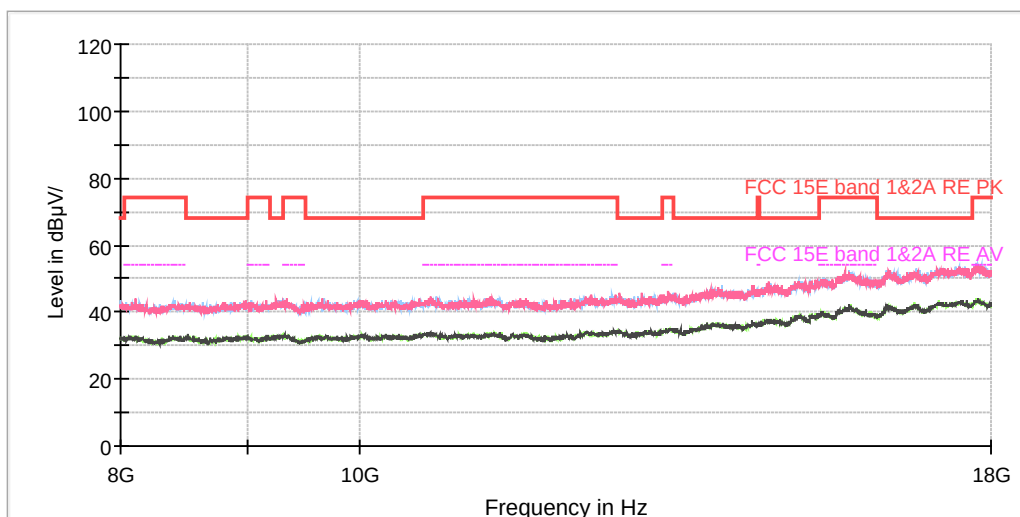
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1239.750000        | 41.01                        | ---                          | 100.0          | V   | 97.0             | -7.4            | 27.19          | 68.20                      |
| 1319.375000        | ---                          | 31.70                        | 200.0          | V   | 111.0            | -6.9            | 22.30          | 54.00                      |
| 1692.125000        | ---                          | 33.32                        | 200.0          | V   | 128.0            | -4.9            | 20.68          | 54.00                      |
| 1835.625000        | 43.68                        | ---                          | 200.0          | V   | 201.0            | -4.0            | 24.52          | 68.20                      |
| 2686.125000        | 46.85                        | ---                          | 100.0          | V   | 254.0            | -0.5            | 21.35          | 68.20                      |
| 2760.500000        | ---                          | 35.94                        | 100.0          | V   | 331.0            | -0.1            | 18.06          | 54.00                      |
| 3594.375000        | 48.05                        | ---                          | 200.0          | V   | 307.0            | 3.3             | 20.15          | 68.20                      |
| 3656.500000        | ---                          | 38.15                        | 200.0          | H   | 268.0            | 3.4             | 15.85          | 54.00                      |
| 4484.250000        | 49.72                        | ---                          | 200.0          | H   | 219.0            | 5.1             | 18.48          | 68.20                      |
| 4591.875000        | ---                          | 39.91                        | 200.0          | V   | 297.0            | 5.5             | 14.09          | 54.00                      |
| 6088.125000        | 51.54                        | ---                          | 100.0          | H   | 166.0            | 8.1             | 16.66          | 68.20                      |
| 7514.375000        | ---                          | 42.52                        | 200.0          | V   | 23.0             | 10.2            | 11.48          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11ac (HT80) CH58



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

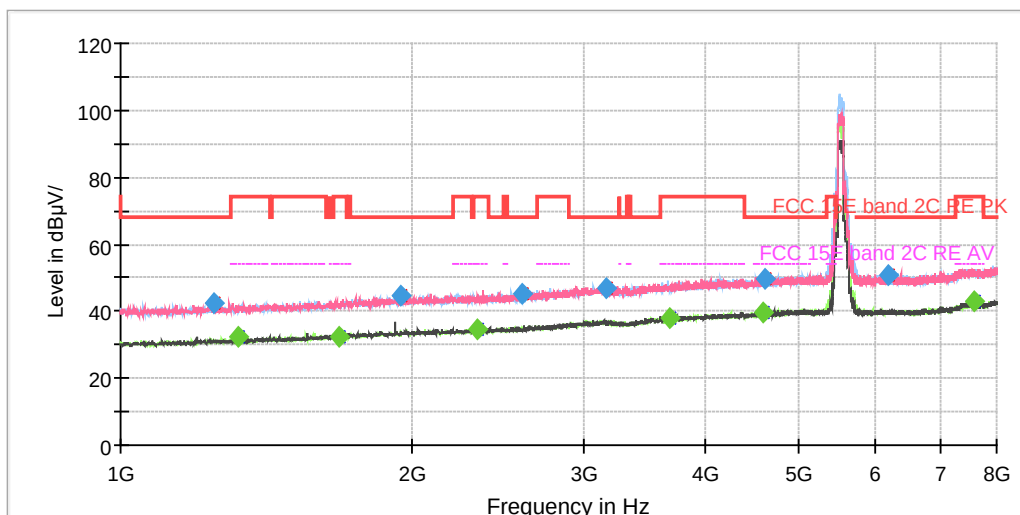


Radiates Emission from 8GHz to 18GHz

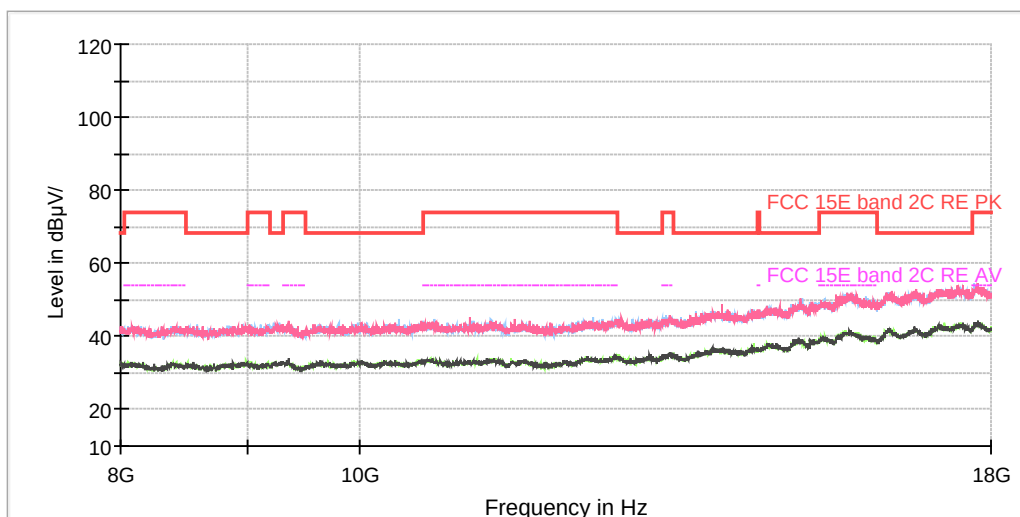
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1292.250000        | 42.55                        | ---                          | 200.0          | H   | 73.0             | -7.1            | 25.65          | 68.20                      |
| 1323.750000        | ---                          | 31.58                        | 200.0          | H   | 141.0            | -6.9            | 22.42          | 54.00                      |
| 1696.500000        | ---                          | 33.22                        | 200.0          | V   | 148.0            | -4.9            | 20.78          | 54.00                      |
| 1766.500000        | 43.88                        | ---                          | 100.0          | V   | 319.0            | -4.5            | 24.32          | 68.20                      |
| 2326.500000        | ---                          | 34.82                        | 200.0          | V   | 207.0            | -1.9            | 19.18          | 54.00                      |
| 2610.000000        | 45.30                        | ---                          | 200.0          | V   | 225.0            | -0.8            | 22.90          | 68.20                      |
| 3014.250000        | 47.07                        | ---                          | 100.0          | V   | 198.0            | 1.5             | 21.13          | 68.20                      |
| 3690.625000        | ---                          | 38.14                        | 100.0          | H   | 119.0            | 3.5             | 15.86          | 54.00                      |
| 4302.250000        | ---                          | 39.40                        | 200.0          | V   | 158.0            | 4.9             | 14.60          | 54.00                      |
| 4460.625000        | 50.11                        | ---                          | 200.0          | V   | 275.0            | 5.1             | 18.09          | 68.20                      |
| 6472.250000        | 51.03                        | ---                          | 200.0          | V   | 317.0            | 8.6             | 17.17          | 68.20                      |
| 7606.250000        | ---                          | 42.70                        | 100.0          | V   | 308.0            | 10.3            | 11.30          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11ac (HT80) CH106



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz

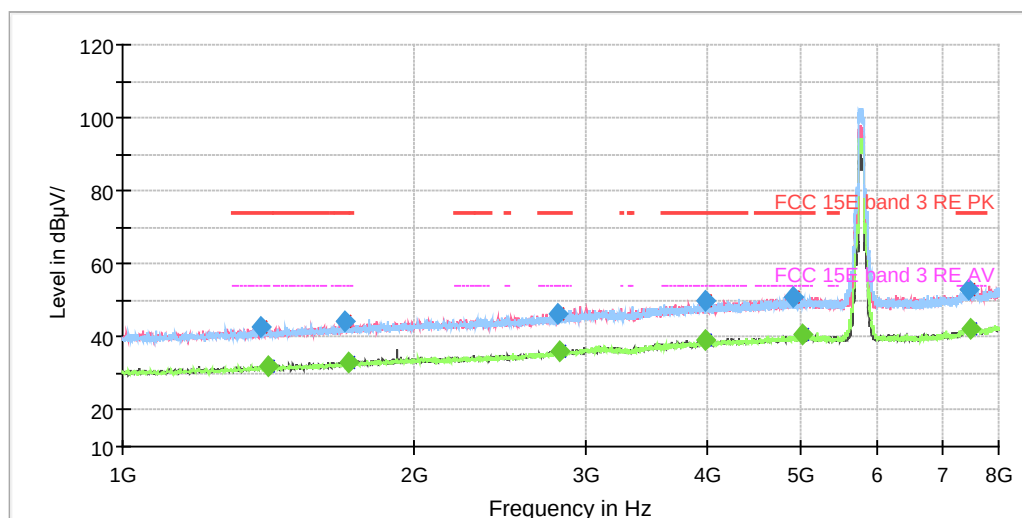


Radiates Emission from 8GHz to 18GHz

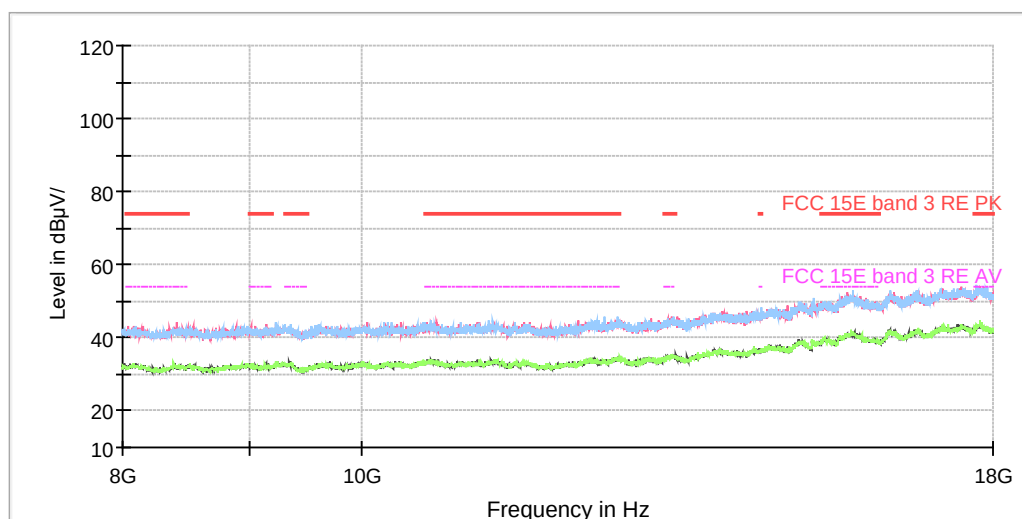
| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1246.750000        | 42.33                        | ---                          | 100.0          | V   | 222.0            | -7.3            | 25.87          | 68.20                      |
| 1319.375000        | ---                          | 32.53                        | 100.0          | V   | 155.0            | -6.9            | 21.47          | 54.00                      |
| 1680.750000        | ---                          | 32.63                        | 200.0          | H   | 324.0            | -4.9            | 21.37          | 54.00                      |
| 1948.500000        | 44.56                        | ---                          | 100.0          | V   | 268.0            | -3.5            | 23.64          | 68.20                      |
| 2332.625000        | ---                          | 34.37                        | 200.0          | H   | 215.0            | -1.9            | 19.63          | 54.00                      |
| 2597.750000        | 45.24                        | ---                          | 200.0          | H   | 184.0            | -0.9            | 22.96          | 68.20                      |
| 3169.125000        | 47.15                        | ---                          | 200.0          | V   | 223.0            | 1.9             | 21.05          | 68.20                      |
| 3678.375000        | ---                          | 38.13                        | 200.0          | V   | 245.0            | 3.5             | 15.87          | 54.00                      |
| 4595.375000        | ---                          | 39.76                        | 200.0          | V   | 252.0            | 5.5             | 14.24          | 54.00                      |
| 4625.125000        | 49.62                        | ---                          | 100.0          | V   | 130.0            | 5.6             | 18.58          | 68.20                      |
| 6195.750000        | 50.70                        | ---                          | 200.0          | H   | 36.0             | 8.5             | 17.50          | 68.20                      |
| 7586.125000        | ---                          | 42.83                        | 200.0          | V   | 127.0            | 10.3            | 11.17          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

# 802.11ac (HT80) CH155



Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

| Frequency<br>(MHz) | MaxPeak<br>(dB $\mu$<br>V/m) | Average<br>(dB $\mu$<br>V/m) | Height<br>(cm) | Pol | Azimuth<br>(deg) | Corr.<br>(dB/m) | Margin<br>(dB) | Limit<br>(dB $\mu$<br>V/m) |
|--------------------|------------------------------|------------------------------|----------------|-----|------------------|-----------------|----------------|----------------------------|
| 1388.500000        | 42.95                        | ---                          | 100.0          | V   | 154.0            | -6.5            | 31.05          | 74.00                      |
| 1413.000000        | ---                          | 32.24                        | 200.0          | H   | 0.0              | -6.4            | 21.76          | 54.00                      |
| 1696.500000        | 44.14                        | ---                          | 100.0          | V   | 73.0             | -4.9            | 29.86          | 74.00                      |
| 1707.000000        | ---                          | 33.21                        | 200.0          | H   | 2.0              | -4.8            | 20.79          | 54.00                      |
| 2813.000000        | 46.44                        | ---                          | 200.0          | H   | 9.0              | 0.2             | 27.56          | 74.00                      |
| 2817.375000        | ---                          | 35.90                        | 100.0          | V   | 268.0            | 0.3             | 18.10          | 54.00                      |
| 3982.875000        | ---                          | 39.02                        | 100.0          | H   | 238.0            | 4.3             | 14.98          | 54.00                      |
| 3995.125000        | 49.66                        | ---                          | 100.0          | V   | 27.0             | 4.4             | 24.34          | 74.00                      |
| 4920.000000        | 51.17                        | ---                          | 200.0          | H   | 27.0             | 6.4             | 22.83          | 74.00                      |
| 5025.000000        | ---                          | 40.49                        | 100.0          | V   | 304.0            | 6.7             | 13.51          | 54.00                      |
| 7460.125000        | 53.23                        | ---                          | 200.0          | V   | 109.0            | 10.1            | 20.77          | 74.00                      |
| 7491.625000        | ---                          | 42.48                        | 200.0          | H   | 164.0            | 10.2            | 11.52          | 54.00                      |

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

### 5.3. Conducted Emission

#### Ambient condition

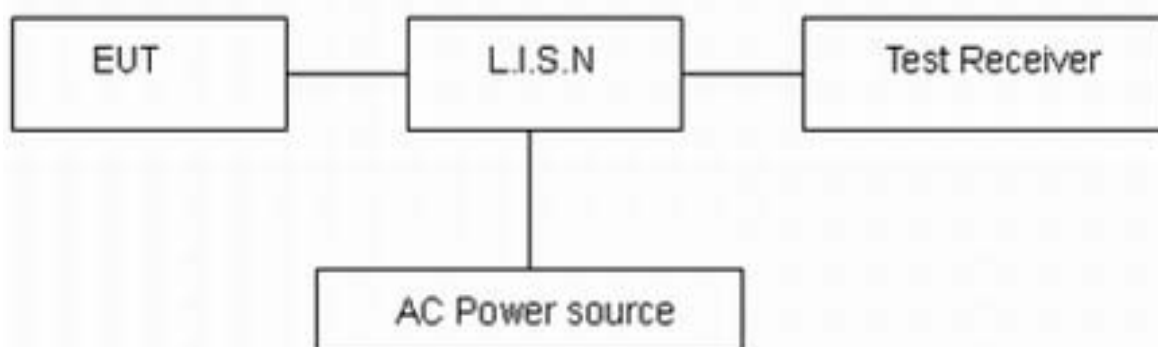
| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C ~25°C  | 45%~50%           | 101.5kPa |

#### Methods of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10-2013. Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz, VBW is set to 30kHz The measurement result should include both L line and N line.

The test is in transmitting mode.

#### Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

#### Limits

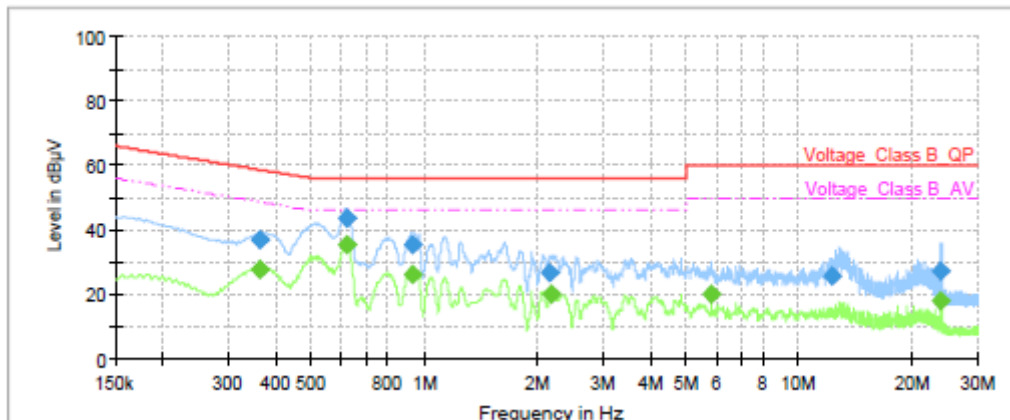
| Frequency<br>(MHz)                                | Conducted Limits(dBμV) |            |
|---------------------------------------------------|------------------------|------------|
|                                                   | Quasi-peak             | Average    |
| 0.15 - 0.5                                        | 66 to 56 *             | 56 to 46 * |
| 0.5 - 5                                           | 56                     | 46         |
| 5 - 30                                            | 60                     | 50         |
| *: Decreases with the logarithm of the frequency. |                        |            |

#### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ ,  $U = 2.69$  dB.

## Test Results:

Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes with all channels, 802.11a CH116 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

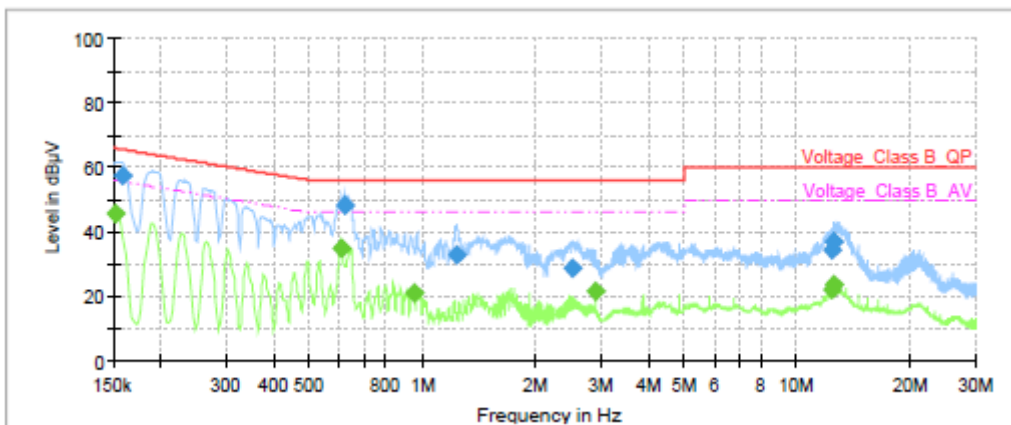


Conducted Emission from 150 KHz to 30 MHz

| Frequency (MHz) | QuasiPeak (dBμV) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|-----------------|------------------|----------------|--------------|-------------|-----------------|-----------------|------|--------|------------|
| 0.36            | ---              | 27.91          | 48.69        | 20.78       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 0.36            | 37.14            | ---            | 58.69        | 21.55       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 0.62            | 43.75            | ---            | 56.00        | 12.25       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 0.62            | ---              | 35.51          | 46.00        | 10.49       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 0.93            | 35.22            | ---            | 56.00        | 20.78       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 0.93            | ---              | 26.24          | 46.00        | 19.76       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 2.15            | 26.51            | ---            | 56.00        | 29.49       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 2.18            | ---              | 20.01          | 46.00        | 25.99       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 5.82            | ---              | 20.09          | 50.00        | 29.91       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 12.29           | 25.76            | ---            | 60.00        | 34.24       | 1000.0          | 9.000           | L1   | ON     | 19         |
| 23.97           | ---              | 18.04          | 50.00        | 31.96       | 1000.0          | 9.000           | L1   | ON     | 20         |
| 23.97           | 27.23            | ---            | 60.00        | 32.77       | 1000.0          | 9.000           | L1   | ON     | 20         |

Remark: Correct factor=cable loss + LISN factor

L line



Conducted Emission from 150 KHz to 30 MHz

| Frequency (MHz) | QuasiPeak (dBμV) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|-----------------|------------------|----------------|--------------|-------------|-----------------|-----------------|------|--------|------------|
| 0.15            | ---              | 45.72          | 55.88        | 10.16       | 1000.0          | 9.000           | N    | ON     | 19         |
| 0.16            | 57.51            | ---            | 65.52        | 8.01        | 1000.0          | 9.000           | N    | ON     | 19         |
| 0.61            | ---              | 34.80          | 46.00        | 11.20       | 1000.0          | 9.000           | N    | ON     | 19         |
| 0.62            | 48.22            | ---            | 56.00        | 7.78        | 1000.0          | 9.000           | N    | ON     | 19         |
| 0.95            | ---              | 21.04          | 46.00        | 24.96       | 1000.0          | 9.000           | N    | ON     | 19         |
| 1.23            | 32.88            | ---            | 56.00        | 23.12       | 1000.0          | 9.000           | N    | ON     | 19         |
| 2.51            | 28.89            | ---            | 56.00        | 27.11       | 1000.0          | 9.000           | N    | ON     | 19         |
| 2.90            | ---              | 21.72          | 46.00        | 24.28       | 1000.0          | 9.000           | N    | ON     | 19         |
| 12.39           | 34.42            | ---            | 60.00        | 25.58       | 1000.0          | 9.000           | N    | ON     | 19         |
| 12.39           | ---              | 21.95          | 50.00        | 28.05       | 1000.0          | 9.000           | N    | ON     | 19         |
| 12.57           | 36.70            | ---            | 60.00        | 23.30       | 1000.0          | 9.000           | N    | ON     | 19         |
| 12.58           | ---              | 23.76          | 50.00        | 26.24       | 1000.0          | 9.000           | N    | ON     | 19         |

Remark: Correct factor=cable loss + LISN factor

N line



## 6. Main Test Instruments

| Name                                 | Manufacturer | Type                  | Serial Number      | Calibration Date | Expiration Date |
|--------------------------------------|--------------|-----------------------|--------------------|------------------|-----------------|
| Spectrum Analyzer                    | R&S          | FSV40                 | 15195-01-00        | 2019-05-19       | 2020-05-18      |
| EMI Test Receiver                    | R&S          | ESCI                  | 100948             | 2019-05-19       | 2020-05-18      |
| Loop Antenna                         | SCHWARZBECK  | FMZB1519              | 1519-047           | 2017-09-26       | 2019-09-25      |
| TRILOG Broadband Antenna             | SCHWARZBECK  | VULB 9163             | 9163-201           | 2017-11-18       | 2019-11-17      |
| Double Ridged Waveguide Horn Antenna | R&S          | HF907                 | 100126             | 2018-07-07       | 2020-07-06      |
| Standard Gain Horn                   | ETS-Lindgren | 3160-09               | 00102643           | 2018-06-20       | 2020-06-19      |
| Standard Gain Horn                   | STEATITE     | QSH-SL-26-40<br>-K-15 | 16779              | 2017-07-20       | 2020-07-19      |
| Broadband Horn Antenna               | SCHWARZBECK  | BBHA 9120D            | 430                | 2018-07-07       | 2020-07-06      |
| EMI Test Receiver                    | R&S          | ESR                   | 101667             | 2019-05-19       | 2020-05-18      |
| LISN                                 | R&S          | ENV216                | 101171             | 2016-12-16       | 2019-12-15      |
| Spectrum Analyzer                    | KEYSIGHT     | N9020A                | MY54420163         | 2018-12-16       | 2019-12-15      |
| RF Cable                             | Agilent      | SMA 15cm              | 0001               | 2019-09-13       | 2019-12-11      |
| TEMPERATURE CHAMBER                  | WEISS        | VT4002                | 582261194500<br>10 | 2018-12-16       | 2019-12-15      |
| AV Power Meter                       | R&S          | NRP                   | 104306             | 2019-05-19       | 2020-05-18      |
| Power Probe                          | R&S          | NRP-Z21               | 104799             | 2019-05-19       | 2020-05-18      |
| DC Power Supply                      | GWINSTEK     | GPS-3030D             | GEP882653          | 2019-05-19       | 2020-05-18      |
| Software                             | R&S          | EMC32                 | 9.26.0             | /                | /               |

\*\*\*\*\*END OF REPORT \*\*\*\*\*