



# FCC / IC & Test Report

**FOR:**

Pratt & Whitney, division of RTX

**Model Name:**

HMU200-2

**Product Description:**

Collection of aircraft engine and airframe data in flight and wireless transmission of collected data on ground

**FCC ID:** 2AQWD-HMU200-2

**IC ID:** 25562-HMU2002

**Applied Rules and Standards:**

47 CFR Parts 22, 24, 27 and 90

RSS: 130 Issue 2, 132 Issue 3, 133 Issue 6, 139 Issue 3, 199 Issue 3

**REPORT #:** EMC\_PRATT-009-21001\_FCC\_22\_24\_27\_90\_Rev1

**DATE:** 2022-03-16



A2LA Accredited

IC recognized #  
3462B-1

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**1 Assessment**

The following device as further described in section 3 of this report was evaluated against the applicable criteria specified in the Code of Federal Regulations Title 47 parts 22, 24, 27, 90, and Industry Canada Standards RSS-GEN issue 5, RSS-130 Issue 2, RSS-132 issue 3, RSS-133 issue 6, RSS-139 issue 3 and RSS-199 Issue 3.

No deficiencies were ascertained.

| Company Name                     | Product Description   | Model #  |
|----------------------------------|---|----------|
| Pratt & Whitney, division of RTX | Collection of aircraft engine and airframe data in flight and wireless transmission of collected data on ground | HMU200-2 |

**Responsible for Testing Laboratory:**

| 2022-03-16 | Compliance | Kevin Wang<br>(EMC Lab Manager) |           |
|------------|------------|---------------------------------|-----------|
| Date       | Section    | Name                            | Signature |

**Responsible for the Report:**

| 2022-03-16 | Compliance | Cheng Song<br>(EMC Engineer) |           |
|------------|------------|------------------------------|-----------|
| Date       | Section    | Name                         | Signature |

The test results of this test report relate exclusively to the test item specified in Section3. CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM Inc. USA.

## 2 Administrative Data

### 2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

|                                    |                        |
|------------------------------------|------------------------|
| <b>Company Name:</b>               | CETECOM Inc.           |
| <b>Department:</b>                 | Compliance             |
| <b>Street Address:</b>             | 411 Dixon Landing Road |
| <b>City/Zip Code</b>               | Milpitas, CA 95035     |
| <b>Country</b>                     | USA                    |
| <b>Telephone:</b>                  | +1 (408) 586 6200      |
| <b>Fax:</b>                        | +1 (408) 586 6299      |
| <b>EMC Lab Manager:</b>            | Kevin Wang             |
| <b>Responsible Project Leader:</b> | Cathy Palacios         |

### 2.2 Identification of the Client

|                        |                                  |
|------------------------|----------------------------------|
| <b>Client's Name:</b>  | Pratt & Whitney, division of RTX |
| <b>Street Address:</b> | 400 Main Street, MS 168-15       |
| <b>City/Zip Code</b>   | East Hartford, CT 06118          |
| <b>Country</b>         | USA                              |

### 2.3 Identification of the Manufacturer

|                               |                            |
|-------------------------------|----------------------------|
| <b>Manufacturer's Name:</b>   | Collins Aerospace & Setrix |
| <b>Manufacturers Address:</b> | 400 Main Street, MS 168-15 |
| <b>City/Zip Code</b>          | East Hartford, CT 06118    |
| <b>Country</b>                | USA                        |



### 3 Equipment Under Test (EUT)

#### 3.1 EUT Specifications

|   |   |
|---|---|
| <b>Model Name:</b>                                    | HMU200-2  |
| <b>Marketing Name:</b>                                | eFAST   |
| <b>HW Version :</b>                                   | 5   |
| <b>SW Version :</b>                                   | 1.28.6  |
| <b>FCC-ID :</b>                                       | 2AQWD-HMU200-2  |
| <b>IC-ID:</b>   | 25562-HMU2002   |
| <b>FWIN:</b>  | N/A   |
| <b>HVIN:</b>  | HMU200-2  |
| <b>PMN:</b>   | eFAST   |
| <b>Product Description:</b>                           | Collection of aircraft engine and airframe data in flight and wireless transmission of collected data on ground   |
| <b>Transceiver Technology / Type(s) of Modulation</b> | Module: THALES PLS83-W<br>FCC ID: QIPPLS83-W; IC ID: 7830A-PLS83W;<br>4G: FDD LTE Bands 2, 4, 5, 7, 12, 13, 26, 41, 66<br>3G: UMTS FDD Bands II, IV, V<br>2G: GSM 850, 1900 MHz   |
| <b>Frequency Range</b>                                | LTE Band 2: 1850 – 1910 MHz<br>LTE Band 4: 1710 – 1755 MHz<br>LTE Band 5: 824 – 849 MHz<br>LTE Band 7: 2500 – 2570 MHz<br>LTE Band 12: 699 – 716 MHz<br>LTE Band 13: 777 – 787 MHz<br>LTE Band 26: 814 – 849 MHz<br>LTE Band 41: 2496 – 2690 MHz<br>LTE Band 66: 1710 – 1780 MHz<br>UMTS Band II: 1850 – 1910 MHz<br>UMTS Band IV: 1710 – 1732.5 MHz<br>UMTS Band V: 824 – 849 MHz<br>GSM850: 824.2 – 848.8 MHz<br>GSM1900: 1850.2 – 1909.8 MHz |
| <b>Antenna Info:</b>                                  | <b>Cellular:</b><br>Antenna Type: Multiband Omnidirectional<br>Antenna gain(dBi): <ul style="list-style-type: none"> <li>• WCDMA Band II: 3</li> <li>• WCDMA Band IV: 3</li> <li>• WCDMA Band V: 1.5</li> </ul>   |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• LTE Band 2: 3</li> <li>• LTE Band 4: 3</li> <li>• LTE Band 7: 4.5</li> <li>• LTE Band 12: 3</li> <li>• LTE Band 13: 1.5</li> <li>• LTE Band 41: 4.5</li> <li>• LTE Band 66: 3</li> <li>• GSM 850: 1.5</li> <li>• GSM 1900: 3</li> </ul> |
| <b>Other Radios included in the device:</b>        | WLAN   |
| <b>Power Supply/ Rated Operating Voltage Range</b> | Vmin: 23.8 VDC/ Vnom: 28 VDC / Vmax: 32.2 VDC  |
| <b>Operating Temperature Range</b>                 | -30°C to 70 °C   |
| <b>Sample Revision</b>                             | <input type="checkbox"/> Prototype Unit; <input type="checkbox"/> Production Unit; <input checked="" type="checkbox"/> Pre-Production  |

### 3.2 EUT Sample details

| EUT # | Serial Number | HW Version | SW Version | Comments |
|-------|---------------|------------|------------|----------|
| 1     | 5011087       | 5          | 1.28.6     | Radiated |

### 3.3 Accessory Equipment (AE) details

N/A

### 3.4 Test Sample Configuration

| Set-up # | EUT / AE used for set-up | Comments   |
|----------|--------------------------|--|
| 1        | EUT#1                    | Radiated RF measurements were performed with EUT configured via customer provided scripts. |



### 3.5 Mode of Operation details

| Mode of Operation | Description of Operating modes                  | Additional Information  |
|-------------------|---|---|
| Op. 1             | Cellular and WiFi<br>802.11b<br>Co-Transmission | Cellular was tested on Low, Mid, High Channels at maximum power in a co-transmission mode<br><br>WiFi radio was configured to 802.11b Mid channel using special scripts provided by the client that will not be available to the end user |

### 3.6 Justification for Worst Case Mode of Operation

During the testing process the EUT was tested with transmitter sets on low, mid and high channels at the maximum power simultaneous transmission with WiFi radio 802.11b, which is the worst case of the radios supported, based on the maximum average conducted output power from the reports.

For radiated measurements, all data in this report shows the worst case between horizontal and vertical antenna polarizations and for all orientations of the EUT.

## 4 Subject of Investigation

The objective of the measurements done by CETECOM Inc. was to evaluate the compliance of the EUT against the relevant requirements specified in the Code of Federal Regulations Title 47 parts 22, 24, 27, 90 and ISED Standards RSS-GEN issue 5, RSS-130 Issue 2, RSS-132 issue 3, RSS-133 issue 6, RSS-139 issue 3 and RSS-199 Issue 3.

### 4.1 Dates of Testing:

1/13/2022 - 1/18/2022

### 4.2 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus, with 95% confidence interval (in dB delta to result), based on a coverage factor k=1.

| Measurement System               | EMC 1   | EMC 2   |
|----------------------------------|---------|---------|
| Conducted emissions (mains port) | 1.12 dB | 0.46 dB |
| Radiated emissions (< 30 MHz)    | 3.66 dB | 3.88 dB |
| (30 MHz – 1GHz)                  | 3.17 dB | 3.34 dB |
| (1 GHz – 3 GHz)                  | 5.01 dB | 4.45 dB |
| (>3 GHz)                         | 4.0 dB  | 4.79 dB |

### 4.3 Environmental Conditions during Testing:

The following environmental conditions were maintained during the course of testing:

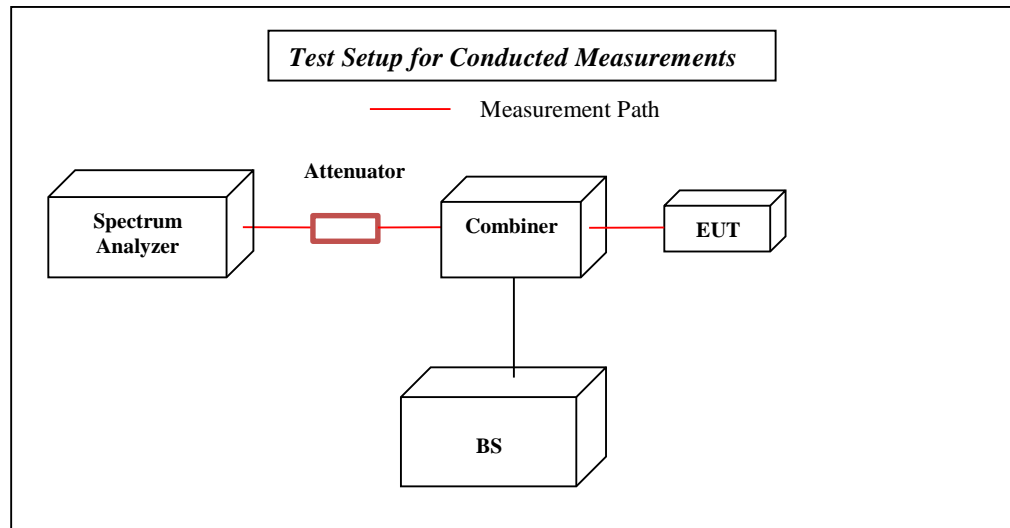
- Ambient Temperature: 20-25°C
- Relative humidity: 40-60%

Deviating test conditions are indicated at individual test description where applicable.



## 5 Measurement Procedures

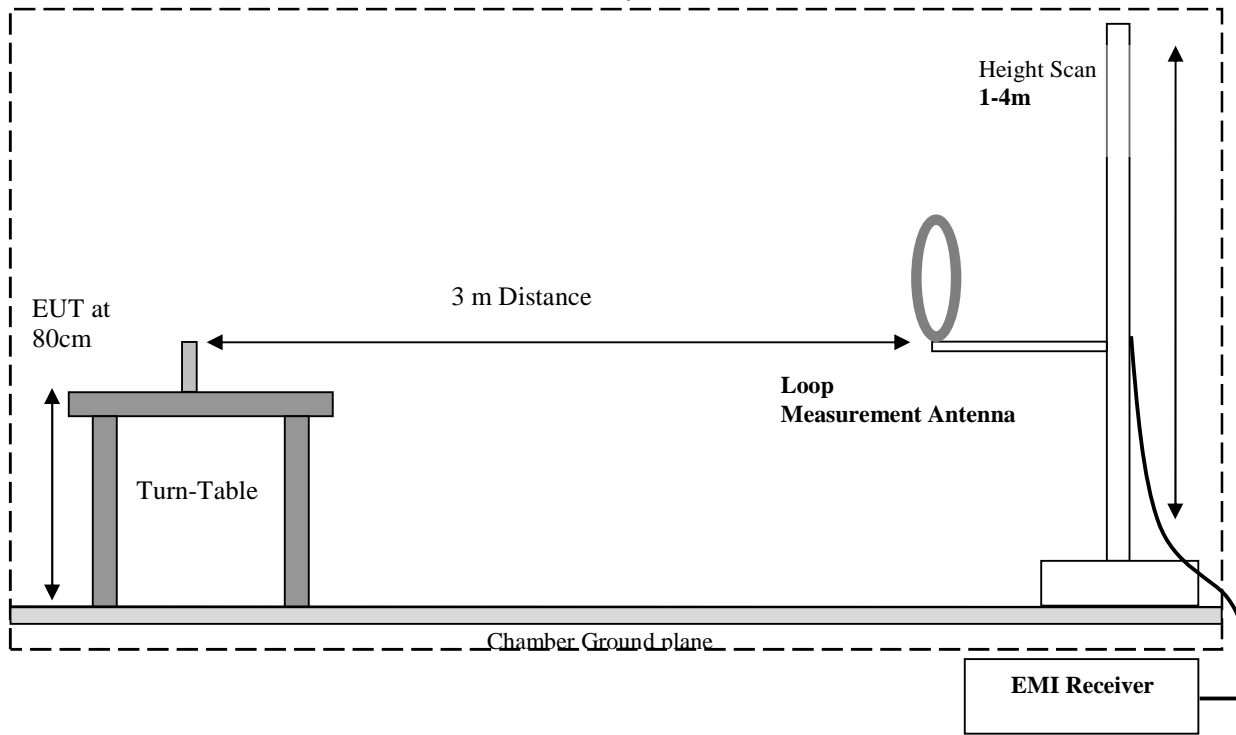
Testing is performed according to the guidelines provided in FCC publication (KDB) 971168 D01 v03r01 – “Measurement Guidance for Certification of Licensed Digital Transmitters” and according to relevant parts of ANSI/TIA-603-E (2016) as detailed below.



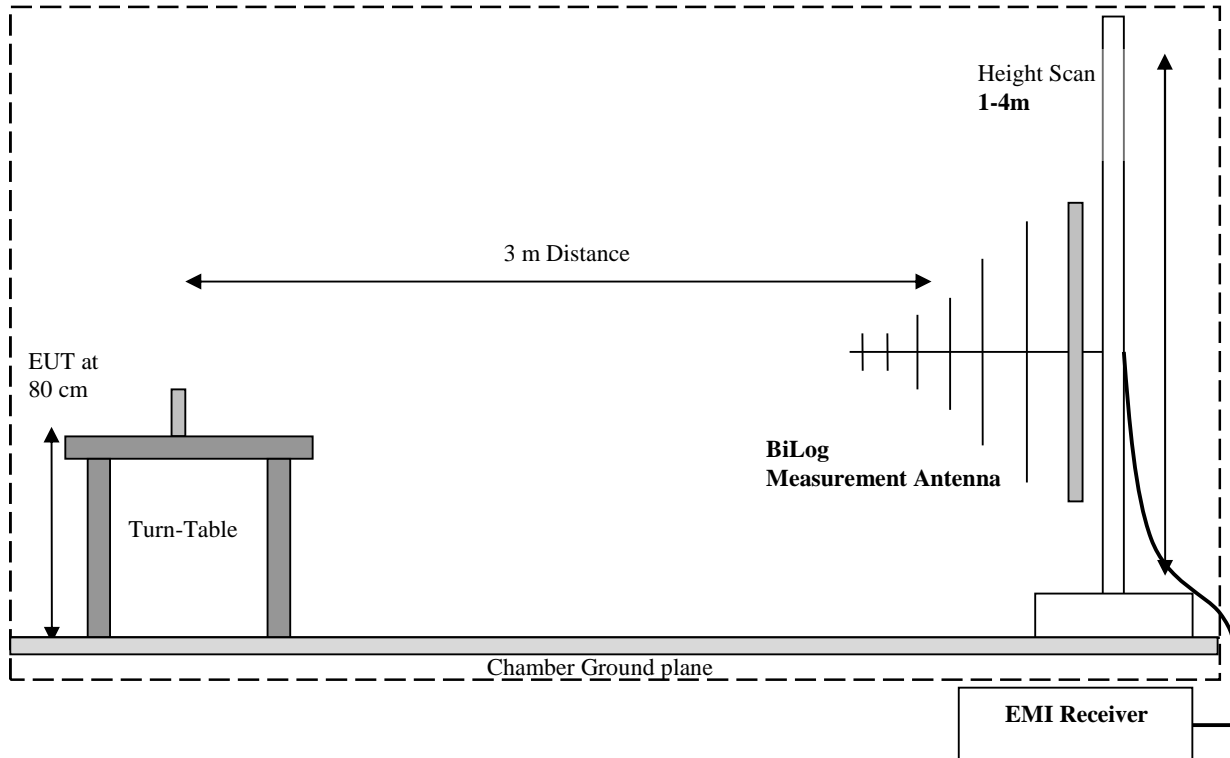
### 5.1 Radiated Measurement

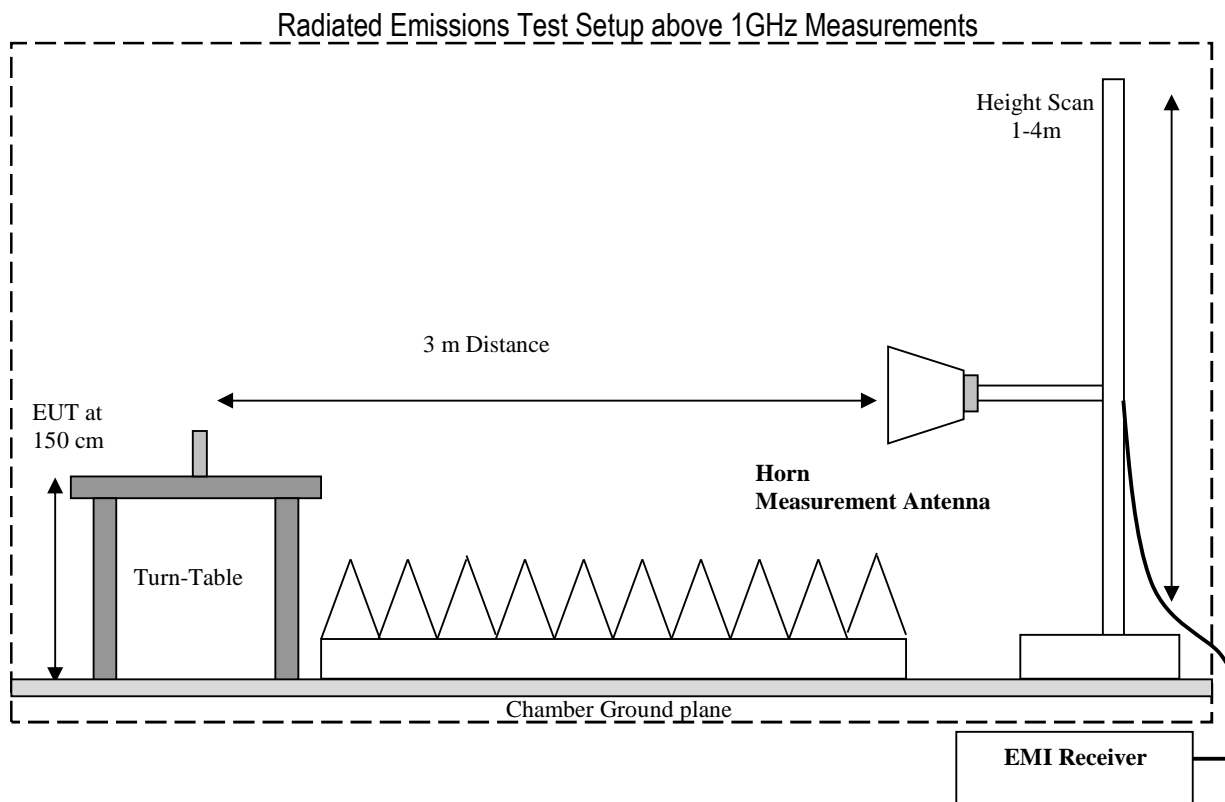
- The exploratory measurement is accomplished by running a matrix of 16 sweeps over the required frequency range with R&S Test-SW EMC32 for 4 positions of the turntable, two orthogonal positions of the EUT and both antenna polarizations. This procedure exceeds the requirement of the above standards to cover the 3 orthogonal axis of the EUT. A max peak detector is utilized during the exploratory measurement. The Test-SW creates an overall maximum trace for all 12 sweeps and saves the settings for each point of this trace. The maximum trace is part of the test report.
- The 10 highest emissions are selected with an automatic algorithm of EMC32 searching for peaks in the noise floor and ensuring that broadband signals are not selected multiple times.
- The maxima are then put through the final measurement and again maximized in a 90deg range of the turntable, fine search in frequency domain and height scan between 1m and 4m.
- The above procedure is repeated for all possible ways of power supply to EUT and for all supported modulations.
- In case there are no emissions above noise floor level only the maximum trace is reported as described above.
- The results are split up into up to 4 frequency ranges due to antenna bandwidth restrictions. A magnetic loop is used from 9 kHz to 30 MHz, a Biconilog antenna is used from 30 MHz to 1 GHz, and two different horn antennas are used to cover frequencies up to 40 GHz.

### Radiated Emissions Test Setup below 30MHz Measurements



### Radiated Emissions Test Setup 30MHz-1GHz Measurements





## 5.2 Sample Calculations for Field Strength Measurements

Field Strength is calculated from the Spectrum Analyzer/ Receiver readings, taking into account the following parameters:

- Measured reading in dB $\mu$ V
- Cable Loss between the receiving antenna and SA in dB and
- Antenna Factor in dB/m

All radiated measurement plots in this report are taken from a test SW that calculates the Field Strength based on the following equation:

$$FS \text{ (dB}\mu\text{V/m)} = \text{Measured Value on SA (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$$

Example:

| Frequency (MHz) | Measured SA (dB $\mu$ V) | Cable Loss (dB) | Antenna Factor Correction (dB) | Field Strength Result (dB $\mu$ V/m) |
|-----------------|--------------------------|-----------------|--------------------------------|--------------------------------------|
| 1000            | 80.5                     | 3.5             | 14                             | 98.0                                 |



## 6 Measurement Results Summary

### 6.1 Part 22 / RSS-132

| Test Specification   | Test Case                    | Temperature and Voltage Conditions | Mode  | Pass                                | Fail                     | NA                       | NP                                  | Result                       |
|----------------------|------------------------------|------------------------------------|-------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|------------------------------|
| §2.1046; §22.913 (a) | RF Output Power              | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1055; §22.355     | Frequency Tolerance          | Extreme Temperature and Voltage    | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1049; §22.917     | Occupied Bandwidth           | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §22.917     | Band Edge Compliance         | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §22.917     | Conducted Spurious Emissions | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1053; §22.917     | Radiated Spurious Emissions  | Nominal                            | Op. 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Complies                     |

Note 1: NA= Not Applicable; NP= Not Performed.

Note 2: Leveraged from module certification THALES PLS83-W (FCC ID: QIPPLS83-W; IC ID: 7830A-PLS83W)

### 6.2 Part 24 / RSS-133

| Test Specification   | Test Case                    | Temperature and Voltage Conditions | Mode  | Pass                                | Fail                     | NA                       | NP                                  | Result                       |
|----------------------|------------------------------|------------------------------------|-------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|------------------------------|
| §2.1046; §24.232 (a) | RF Output Power              | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1055; §24.235     | Frequency Stability          | Extreme Temperature and Voltage    | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1049; §24.238     | Occupied Bandwidth           | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §24.238     | Band Edge Compliance         | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §24.238     | Conducted Spurious Emissions | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1053; §24.238     | Radiated Spurious Emissions  | Nominal                            | Op. 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Complies                     |

Note 1: NA= Not Applicable; NP= Not Performed.

Note 2: Leveraged from module certification THALES PLS83-W (FCC ID: QIPPLS83-W; IC ID: 7830A-PLS83W)



**6.3 FCC 27, 90 / RSS-130, RSS-139, RSS-199**

| Test Specification | Test Case                    | Temperature and Voltage Conditions | Mode  | Pass                                | Fail                     | NA                       | NP                                  | Result                       |
|--------------------|------------------------------|------------------------------------|-------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|------------------------------|
| §2.1046; §27.50    | RF Output Power              | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1055; §27.54    | Frequency Stability          | Extreme Temperature and Voltage    | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1049; §27.53    | Occupied Bandwidth           | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §27.53    | Band Edge Compliance         | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1051; §27.53    | Conducted Spurious Emissions | Nominal                            | -     | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Complies<br>Note 1<br>Note 2 |
| §2.1053; §27.53    | Radiated Spurious Emissions  | Nominal                            | Op. 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Complies                     |

**Note 1:** NA= Not Applicable; NP= Not Performed.

**Note 2:** Leveraged from module certification THALES PLS83-W (FCC ID: QIPPLS83-W; IC ID: 7830A-PLS83W)



## 6.4 Module Summary

| Band     | Frequency Range (MHz) | Power conducted (W) | Emission Designator | Antenna Gain + Cable loss (dBi) | gain linear | ERP < 1 GHz<br>EIRP > 1 GHz (W) | Frequency deviation (ppm) | Limit ERP / EIRP (W) |
|----------|-----------------------|---------------------|---------------------|---------------------------------|-------------|---------------------------------|---------------------------|----------------------|
| GSM 850  | 824.2 - 848.8         | 2.2751              | 245KGXW             | 0.45                            | 1.11        | 1.539                           | 245KGXW                   | 7 W                  |
| GSM 850  | 824.2 - 848.8         | 0.57412             | 243KG7W             | 0.45                            | 1.11        | 0.388                           | 243KG7W                   | 7 W                  |
| GSM 1900 | 1850.2 - 1909.8       | 1.1885              | 244KGXW             | 1.38                            | 1.37        | 1.633                           | 244KGXW                   | 2 W                  |
| GSM 1900 | 1850.2 - 1909.8       | 0.43351             | 246KG7W             | 1.38                            | 1.37        | 0.596                           | 246KG7W                   | 2 W                  |
| WCDMA II | 1852.4 - 1907.6       | 0.28314             | 4M14F9W             | 1.38                            | 1.37        | 0.389                           | 4M14F9W                   | 1 W                  |
| WCDMA IV | 1712.4 - 1752.6       | 0.26002             | 4M14F9W             | 1.33                            | 1.36        | 0.353                           | 4M14F9W                   | 1 W                  |
| WCDMA V  | 826.4 - 846.6         | 0.28379             | 4M15F9W             | 0.45                            | 1.11        | 0.192                           | 4M15F9W                   | 7 W                  |
| LTE B2   | 1860 - 1900           | 0.23281             | 17M9G7D             | 1.33                            | 1.36        | 0.316                           | 17M9G7D                   | 2 W                  |
| LTE B2   | 1860 - 1900           | 0.23121             | 18M0W7D             | 1.33                            | 1.36        | 0.314                           | 18M0W7D                   | 2 W                  |
| LTE B4   | 1710.7 - 1754.3       | 0.20701             | 1M11G7D             | 1.38                            | 1.37        | 0.284                           | 1M11G7D                   | 1 W                  |
| LTE B4   | 1720 - 1745           | 0.19999             | 18M0G7D             | 1.33                            | 1.36        | 0.272                           | 18M0G7D                   | 1 W                  |
| LTE B5   | 829 - 844             | 0.139               | 9M00G7D             | 0.45                            | 1.11        | 0.094                           | 9M00G7D                   | 7 W                  |
| LTE B 7  | 2510 - 2560           | 0.19953             | 18M0G7D             | 2.60                            | 1.82        | 0.363                           | 18M0G7D                   | 2 W                  |
| LTE B 7  | 2502.5 - 2567.5       | 0.20654             | 4M53W7D             | 2.60                            | 1.82        | 0.376                           | 4M53W7D                   | 2 W                  |
| LTE B 12 | 699.7 - 715.3         | 0.15066             | 1M10G7D             | 0.56                            | 1.14        | 0.105                           | 1M10G7D                   | 3 W                  |
| LTE B 12 | 704 - 711             | 0.14723             | 9M01G7D             | 0.56                            | 1.14        | 0.102                           | 9M01G7D                   | 3 W                  |
| LTE B 13 | 782 - 782             | 0.13305             | 8M94G7D             | 0.49                            | 1.12        | 0.091                           | 8M94G7D                   | 3 W                  |
| LTE B13  | 782 - 782             | 0.12474             | 8M96W7D             | 0.49                            | 1.12        | 0.085                           | 8M96W7D                   | 3 W                  |
| LTE B 5  | 831.5 - 841.5         | 0.13459             | 13M5W7D             | 0.45                            | 1.11        | 0.091                           | 13M5W7D                   | 7 W                  |
| LTE B 26 | 814.7 - 823.3         | 0.12764             | 1M11G7D             | 0.45                            | 1.11        | 0.086                           | 1M11G7D                   | 100 W                |
| LTE B 26 | 819 - 819             | 0.13335             | 8M95G7D             | 0.45                            | 1.11        | 0.090                           | 8M95G7D                   | 100 W                |
| LTE B 41 | 2545 - 2645           | 0.22699             | 18M0G7D             | 2.60                            | 1.82        | 0.413                           | 18M0G7D                   | 2 W                  |
| LTE B 66 | 1715 - 1775           | 0.23227             | 8M99G7D             | 1.38                            | 1.37        | 0.319                           | 8M99G7D                   | 1 W                  |
| LTE B 66 | 1720 - 1770           | 0.20184             | 17M9G7D             | 1.38                            | 1.37        | 0.277                           | 17M9G7D                   | 1 W                  |

The emissions above accounting antenna gain and cable loss are derived from the conducted Module reports for PLS83-W with FCC: QIPPLS83-W, IC: 7830A-PLS83W and named 200722013RFM-1 & 200722013RFM-2 from Shenzhen UnionTrust Quality and Technology Co., Lt

## 7 Test Result Data

### 7.1 Radiated Spurious Emissions

#### 7.1.1 Measurement utilizing KDB 971168 D01 Power Meas License Digital Systems v03r01, and according to ANSI/TIA-603-E (2016)

##### Spectrum Analyzer Settings for FCC 22

| Frequency Range      | 30MHz – 1 GHz | 1 – 1.58 GHz | 1.58 – 9 GHz |
|----------------------|---------------|--------------|--------------|
| Resolution Bandwidth | 100 kHz       | 1 MHz        | 1 MHz        |
| Video Bandwidth      | 100 kHz       | 1 MHz        | 1 MHz        |
| Detector             | Peak          | Peak         | Peak         |
| Trace Mode           | Max Hold      | Max Hold     | Max Hold     |
| Sweep Time           | Auto          | Auto         | Auto         |

##### Spectrum Analyzer Settings for FCC 24 and 27

| Frequency Range      | 30MHz – 1 GHz | 1 – 2.7 GHz | 2.7 – 18 GHz | 18 – 19.1 GHz |
|----------------------|---------------|-------------|--------------|---------------|
| Resolution Bandwidth | 100 kHz       | 1 MHz       | 1 MHz        | 1 MHz         |
| Video Bandwidth      | 100 kHz       | 1 MHz       | 1 MHz        | 1 MHz         |
| Detector             | Peak          | Peak        | Peak         | Peak          |
| Trace Mode           | Max Hold      | Max Hold    | Max Hold     | Max Hold      |
| Sweep Time           | Auto          | Auto        | Auto         | Auto          |

#### 7.1.2 Limits:

##### 7.1.2.1 FCC Part 22.917 (a); FCC Part 24.238 (a); FCC Part 27.53 (h)

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

##### 7.1.2.2 RSS-130 Part 4.7, RSS-132 Part 5.5; RSS-133 Part 6.5; RSS-139 Part 6.6, RSS-199 Part 4.5 Transmitter Unwanted Emissions

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

i. In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts).

ii. After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

Note: The limit calculation result is a constant of -13 dBm.



**7.1.3 Test conditions and setup:**

| Ambient Temperature (°C) | EUT Set-Up # | EUT operating mode | Power Input |
|--------------------------|--------------|--------------------|-------------|
| 22.0                     | 1            | Op. 1              | 28 VDC      |

**7.1.4 Measurement result:**

| Plot #  | Channel | EUT Set-Up # | EUT operating mode | Scan Frequency  | Limit (dBm) | Result |
|---------|---------|--------------|--------------------|-----------------|-------------|--------|
| 1-3     | Low     | 1            | GSM 850            | 30 MHz – 9 GHz  | -13         | Pass   |
| 4-7     | Mid     |              |                    | 9 kHz – 9 GHz   | -13         | Pass   |
| 8-10    | High    |              |                    | 30 MHz – 9 GHz  | -13         | Pass   |
| 11-13   | Low     | 1            | GSM 1900           | 30 MHz – 18 GHz | -13         | Pass   |
| 14-18   | Mid     |              |                    | 9 kHz – 22 GHz  | -13         | Pass   |
| 19-21   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 22-24   | Low     | 1            | UMTS Band II       | 30 MHz – 18 GHz | -13         | Pass   |
| 25-29   | Mid     |              |                    | 9 kHz – 22 GHz  | -13         | Pass   |
| 30-32   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 33-35   | Low     | 1            | UMTS Band IV       | 30 MHz – 18 GHz | -13         | Pass   |
| 36-39   | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |
| 40-42   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 43-45   | Low     | 1            | UMTS Band V        | 30 MHz – 9 GHz  | -13         | Pass   |
| 46-49   | Mid     |              |                    | 9 kHz – 9 GHz   | -13         | Pass   |
| 50-52   | High    |              |                    | 30 MHz – 9 GHz  | -13         | Pass   |
| 53-55   | Low     | 1            | LTE Band 2         | 30 MHz – 18 GHz | -13         | Pass   |
| 56-60   | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |
| 61-63   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 64-66   | Low     | 1            | LTE Band 4         | 30 MHz – 18 GHz | -13         | Pass   |
| 67-70   | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |
| 71-73   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 74-76   | Low     | 1            | LTE Band 5         | 30 MHz – 9 GHz  | -13         | Pass   |
| 77-80   | Mid     |              |                    | 9 kHz – 9 GHz   | -13         | Pass   |
| 81-83   | High    |              |                    | 30 MHz – 9 GHz  | -13         | Pass   |
| 84-86   | Low     | 1            | LTE Band 7         | 30 MHz – 18 GHz | -13         | Pass   |
| 87-91   | Mid     |              |                    | 9 kHz – 30 GHz  | -13         | Pass   |
| 92-94   | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 95-97   | Low     | 1            | LTE Band 12        | 30 MHz – 18 GHz | -13         | Pass   |
| 98-101  | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |
| 102-104 | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 105-108 | Mid     | 1            | LTE Band 13        | 9 kHz – 18 GHz  | -13         | Pass   |
| 109-111 | Low     | 1            | LTE Band 41        | 30 MHz – 18 GHz | -13         | Pass   |
| 112-116 | Mid     |              |                    | 9 kHz – 30 GHz  | -13         | Pass   |
| 117-119 | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 120-122 | Low     | 1            | LTE Band 66        | 30 MHz – 18 GHz | -13         | Pass   |
| 123-126 | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |
| 127-129 | High    |              |                    | 30 MHz – 18 GHz | -13         | Pass   |
| 130-132 | Low     | 1            | LTE Band 26        | 30 MHz – 18 GHz | -13         | Pass   |
| 133-136 | Mid     |              |                    | 9 kHz – 18 GHz  | -13         | Pass   |



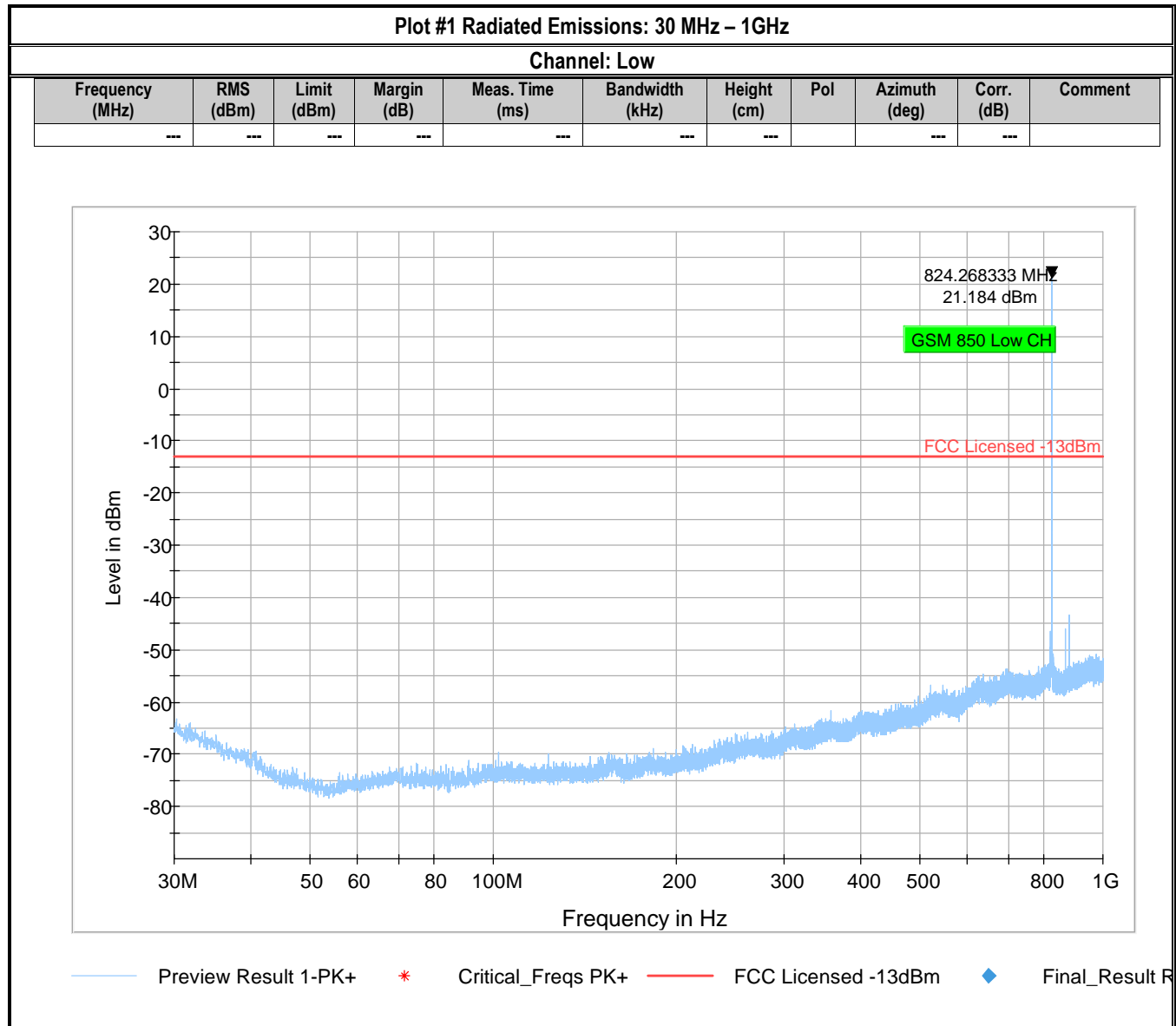


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|         |      |  |                 |     |      |
|---------|------|--|-----------------|-----|------|
| 137-139 | High |  | 30 MHz – 18 GHz | -13 | Pass |
|---------|------|--|-----------------|-----|------|



### 7.1.5 Measurement Plots:

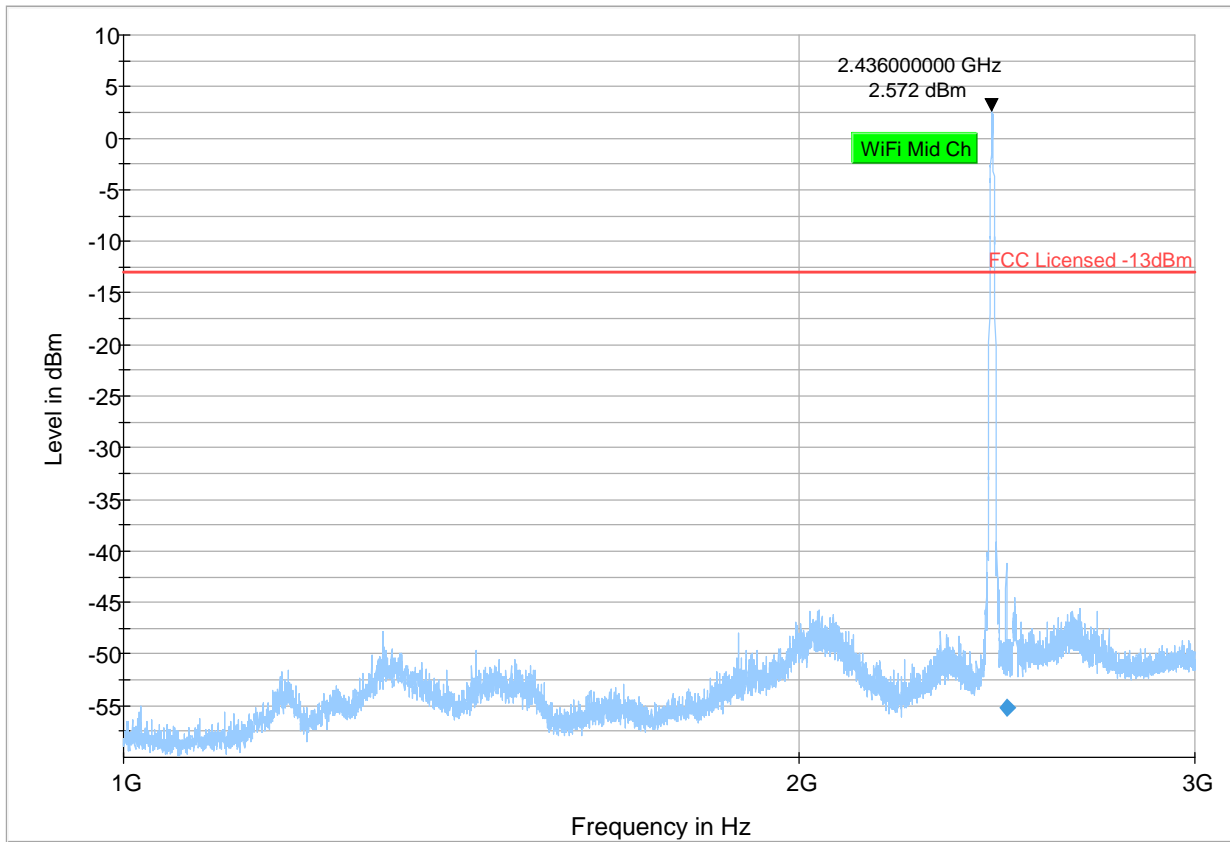




**Plot # 2 Radiated Emissions: 1-3 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 2472.500        | -55.15    | -13.00      | 42.15       | 500.0           | 1000.000        | 174.0       | V   | 136.0         | -86.2      |         |



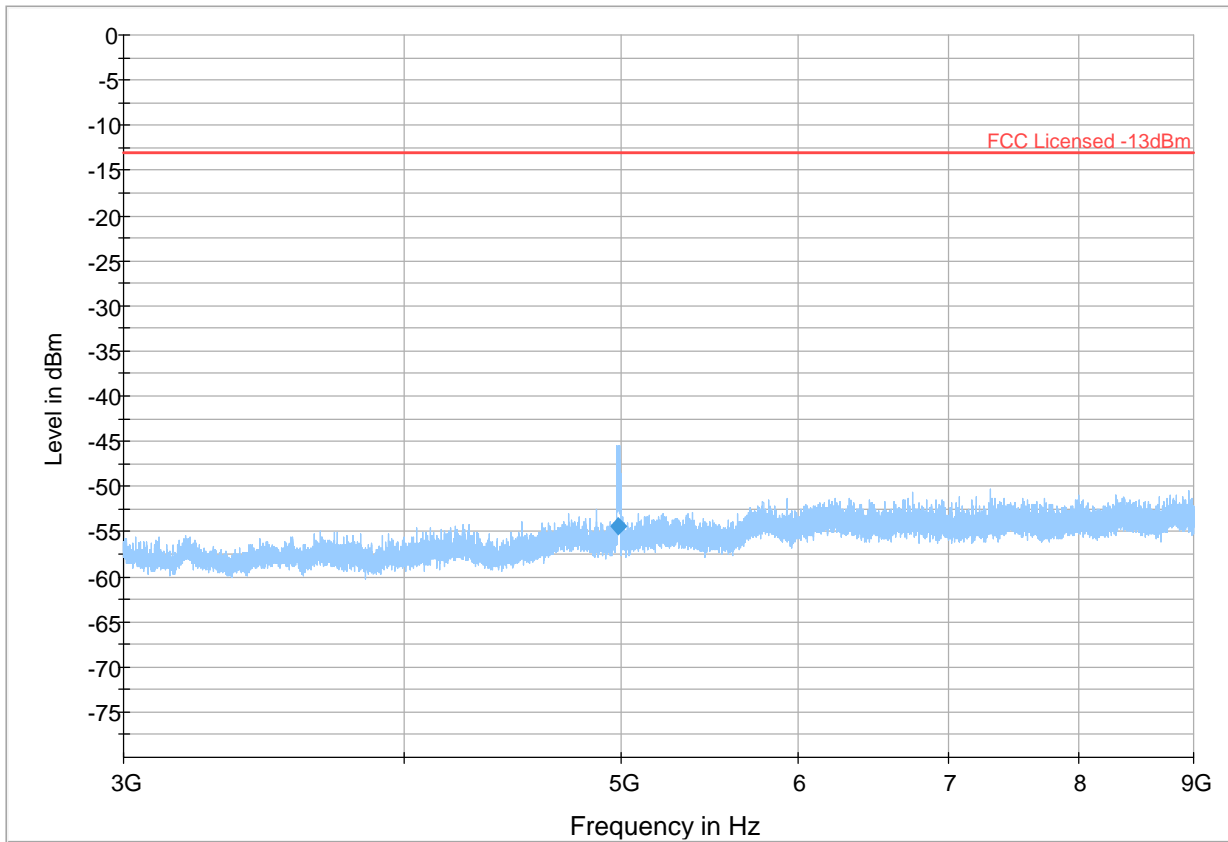
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot # 3 Radiated Emissions: 3-9 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4981.500        | -54.42    | -13.00      | 41.42       | 500.0           | 1000.000        | 277.0       | V   | 150.0         | -98.3      |         |



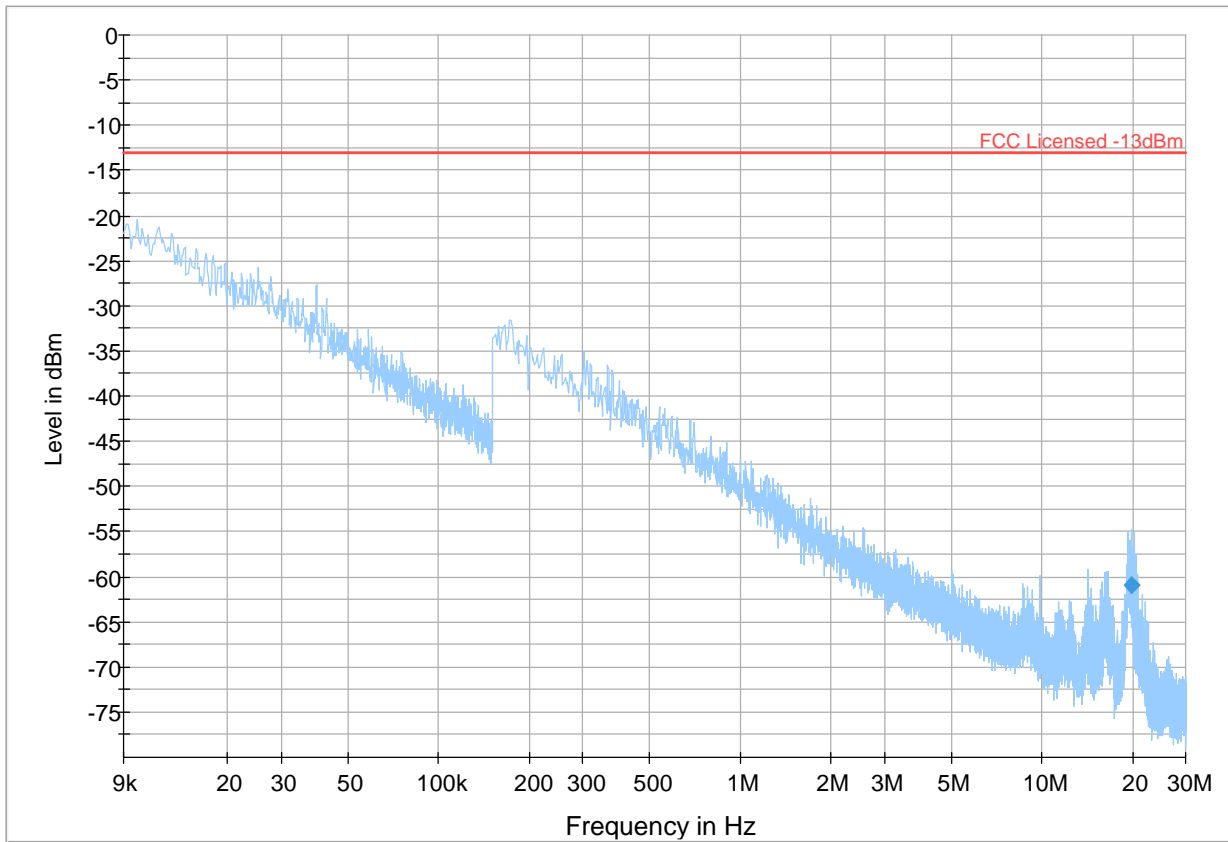
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #4 Radiated Emissions: 9kHz-30MHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 19.890          | -61.00    | -13.00      | 48.00       | 500.0           | 3.000           | 163.0       | V   | 110.0         | -78.5      |         |



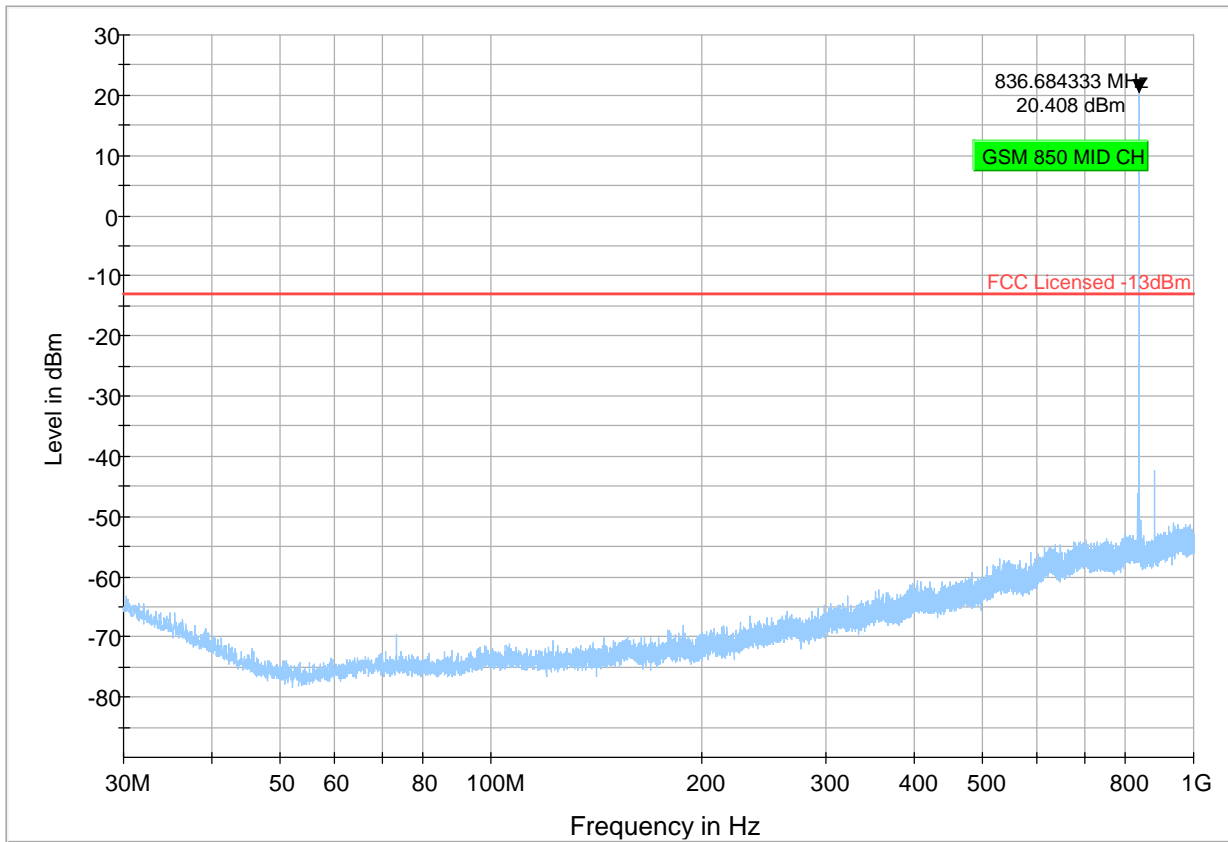
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #5 Radiated Emissions: 30MHz-1GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



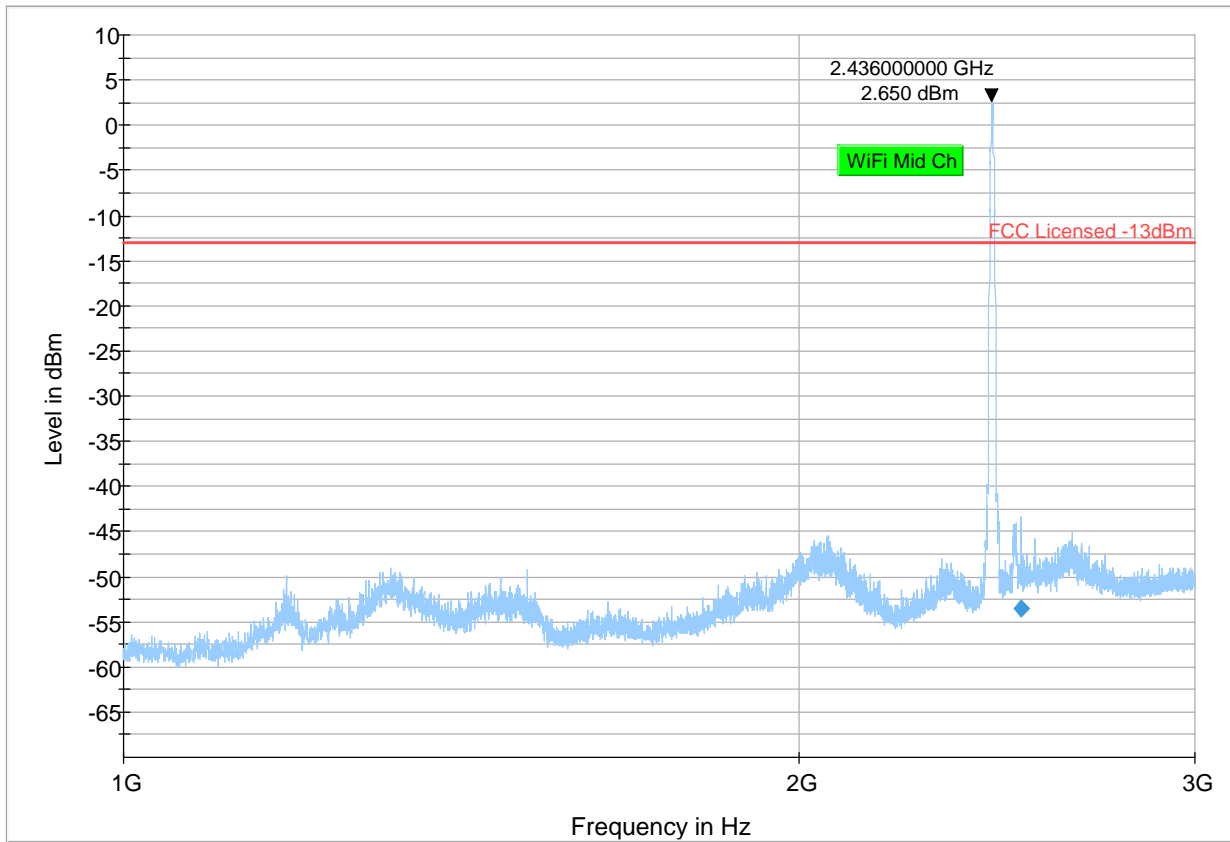
Preview Result 1-PK+ \* Critical\_Freqs PK+ FCC Licensed -13dBm Final\_Result RM



**Plot #6 Radiated Emissions: 1-3 GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 2509.750        | -53.56    | -13.00      | 40.56       | 500.0           | 1000.000        | 175.0       | V   | 19.0          | -86.1      |         |



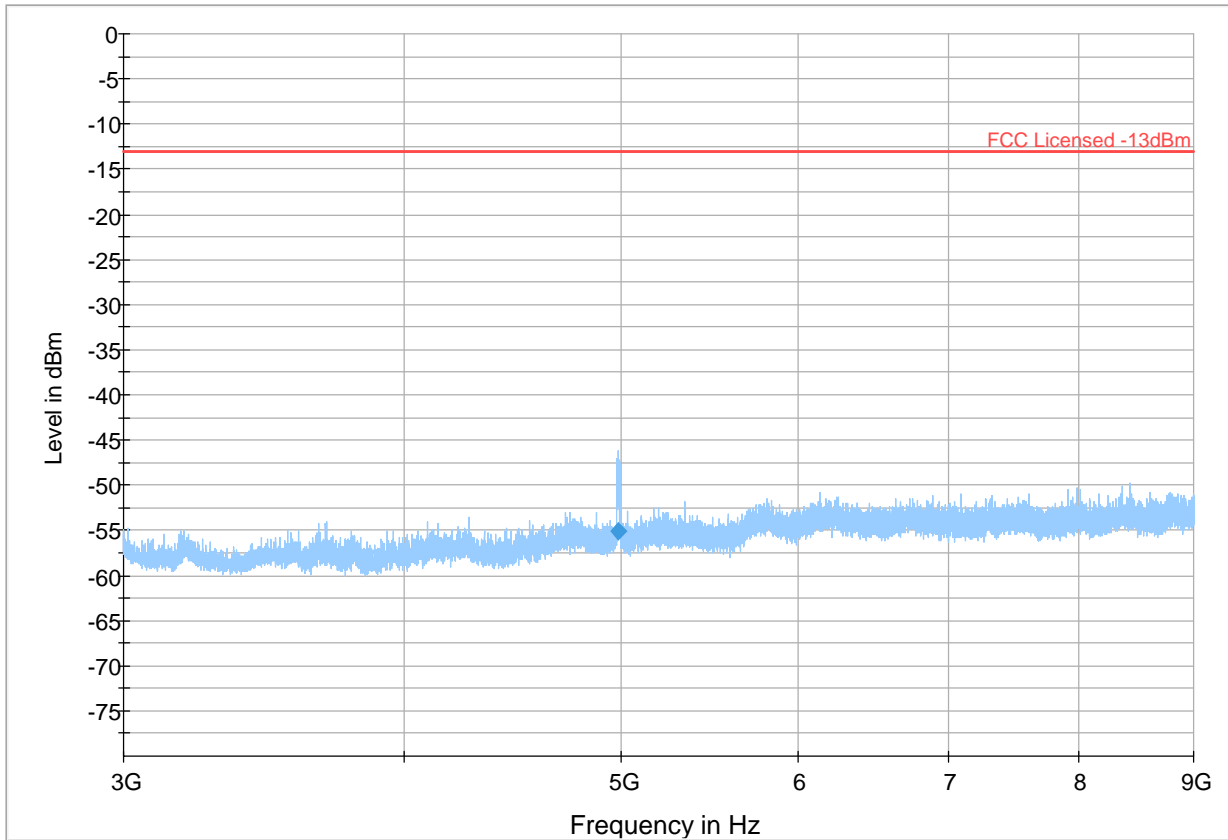
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #7 Radiated Emissions: 3-9 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4987.250        | -55.16    | -13.00      | 42.16       | 500.0           | 1000.000        | 282.0       | V   | 136.0         | -98.3      |         |



— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS

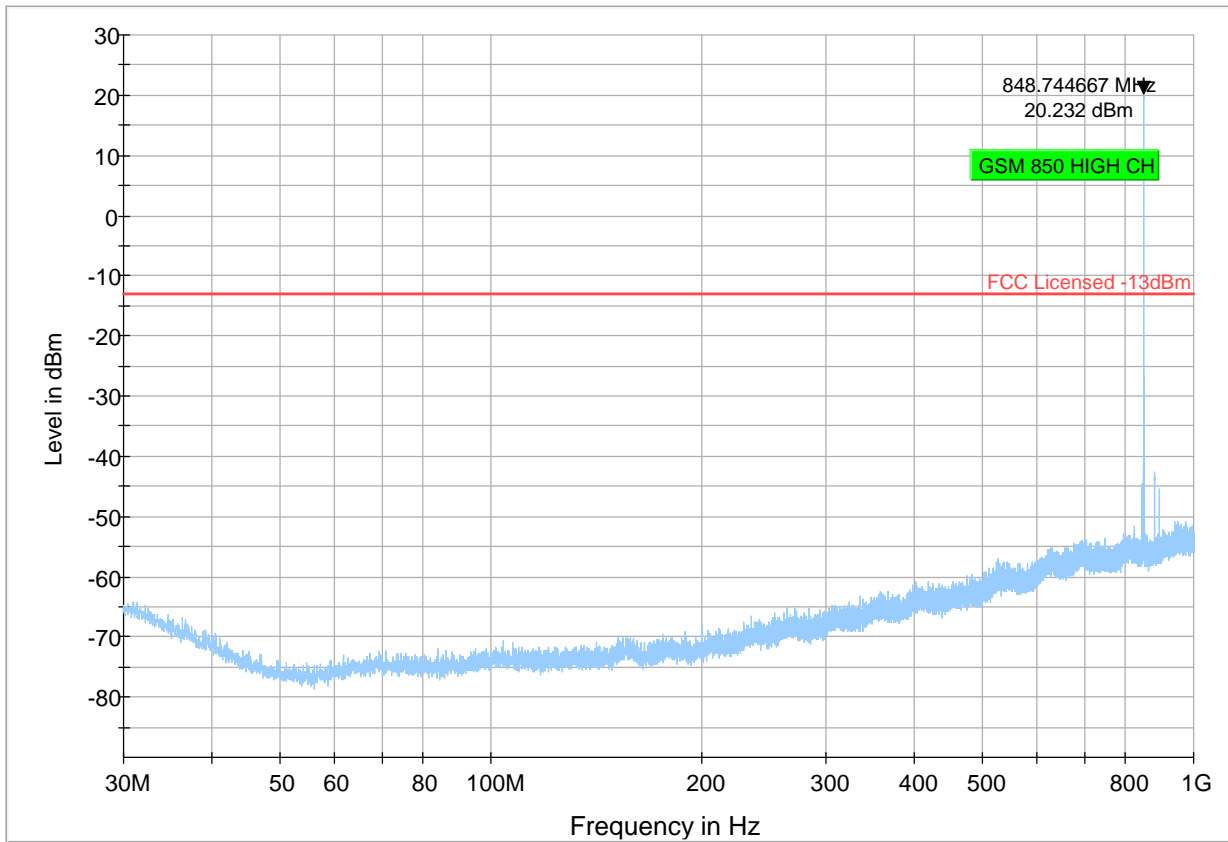




**Plot #8 Radiated Emissions: 30 MHz – 1 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



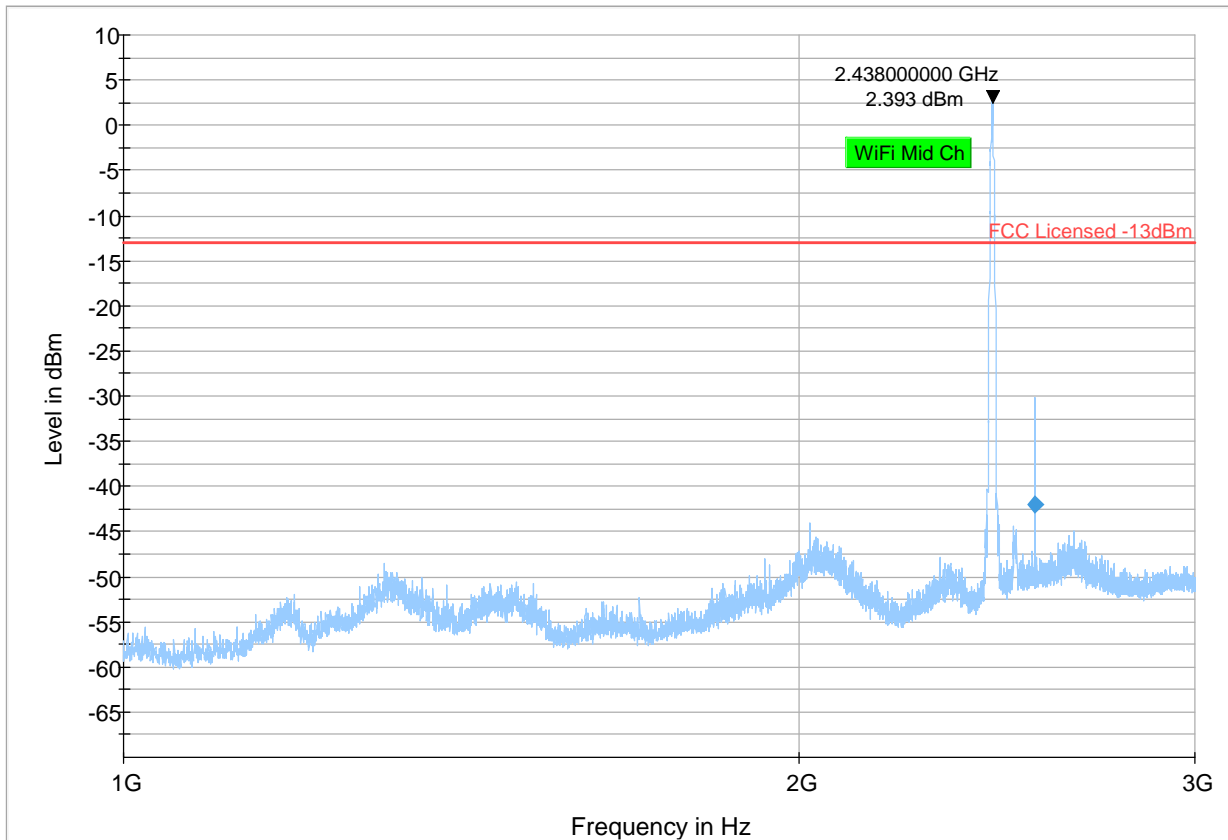
— Preview Result 1-PK+    
 \* Critical\_Freqs PK+    
 — FCC Licensed -13dBm    
 ◆ Final\_Result RM



**Plot #9 Radiated Emissions: 1-3 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 2546.250        | -42.04    | -13.00      | 29.04       | 500.0           | 1000.000        | 173.0       | H   | 30.0          | -85.1      |         |



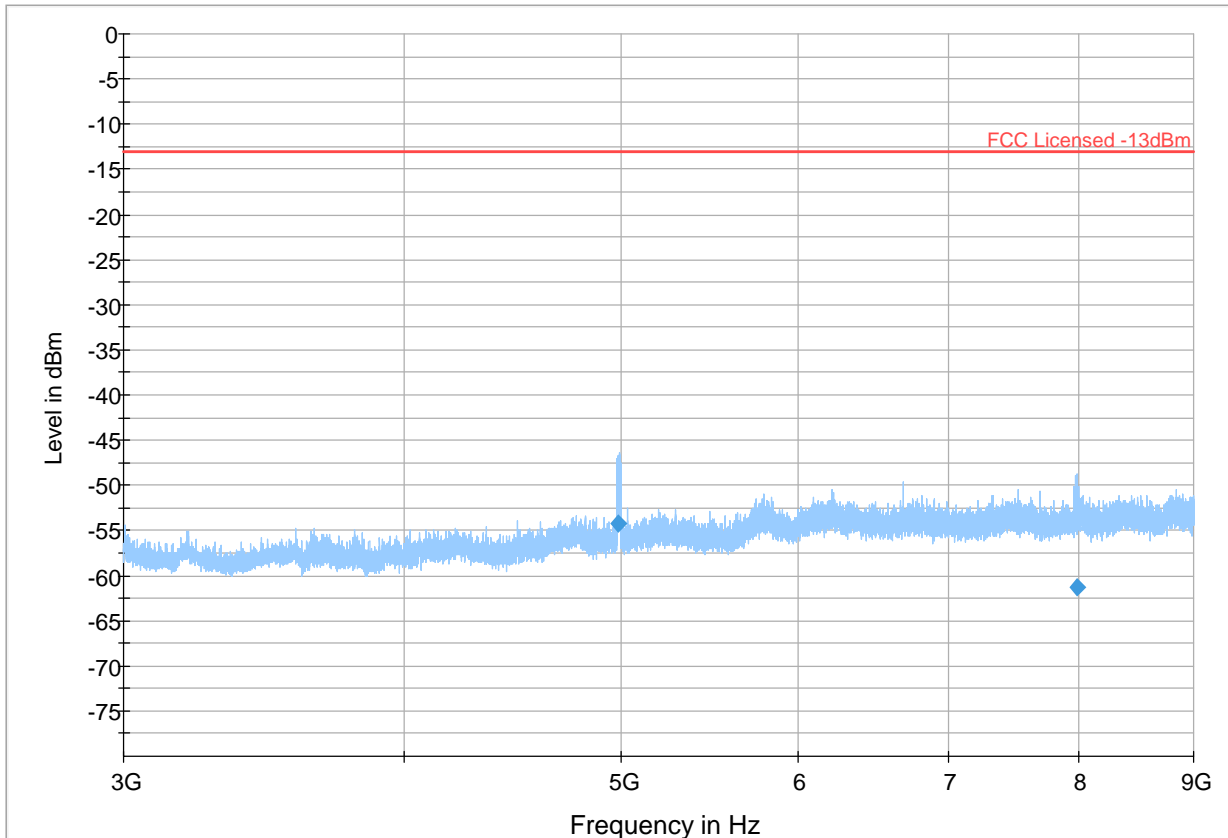
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #10 Radiated Emissions: 3-9 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4982.750        | -54.25    | -13.00      | 41.25       | 500.0           | 1000.000        | 275.0       | V   | 151.0         | -98.3      |         |
| 7989.500        | -61.37    | -13.00      | 48.37       | 500.0           | 1000.000        | 164.0       | V   | 140.0         | -93.2      |         |



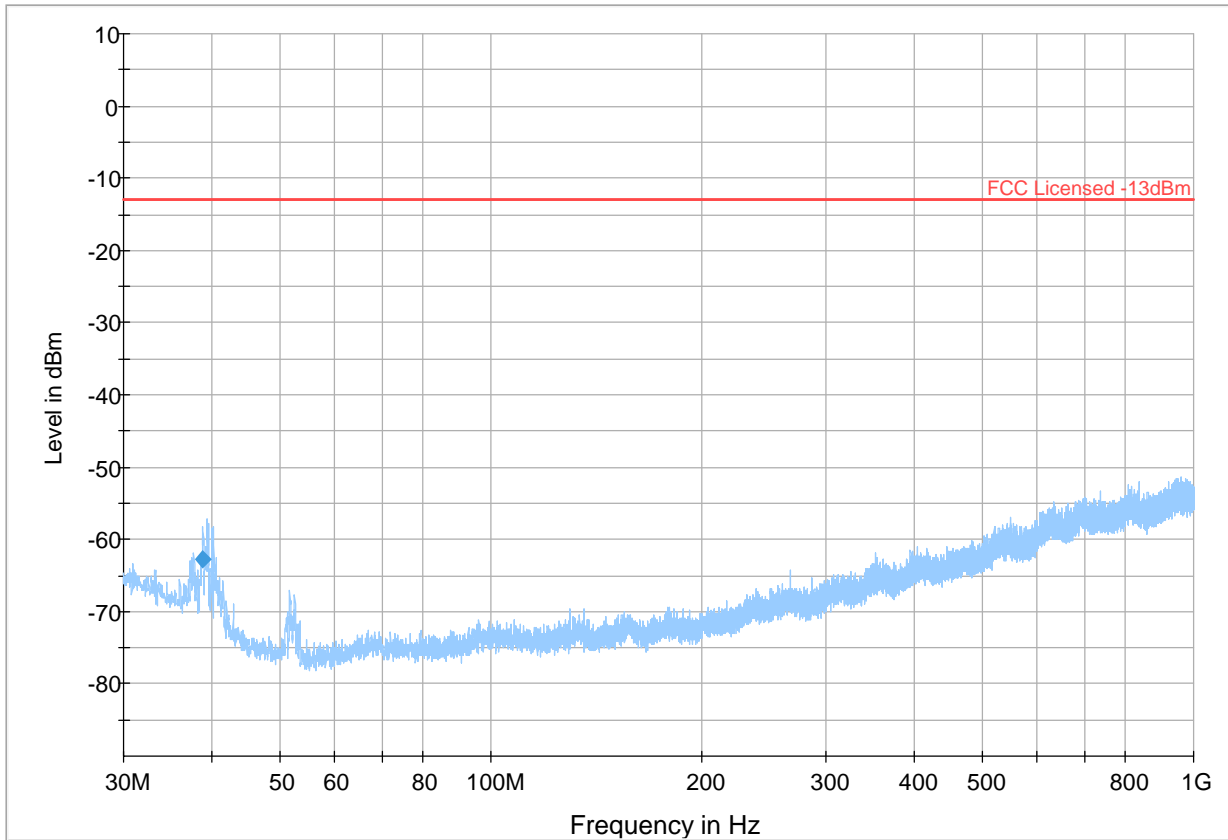
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #11 Radiated Emissions: 30 MHz -1 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 38.924          | -62.80    | -13.00      | 49.80       | 500.0           | 100.000         | 217.0       | V   | 191.0         | -88.0      |         |



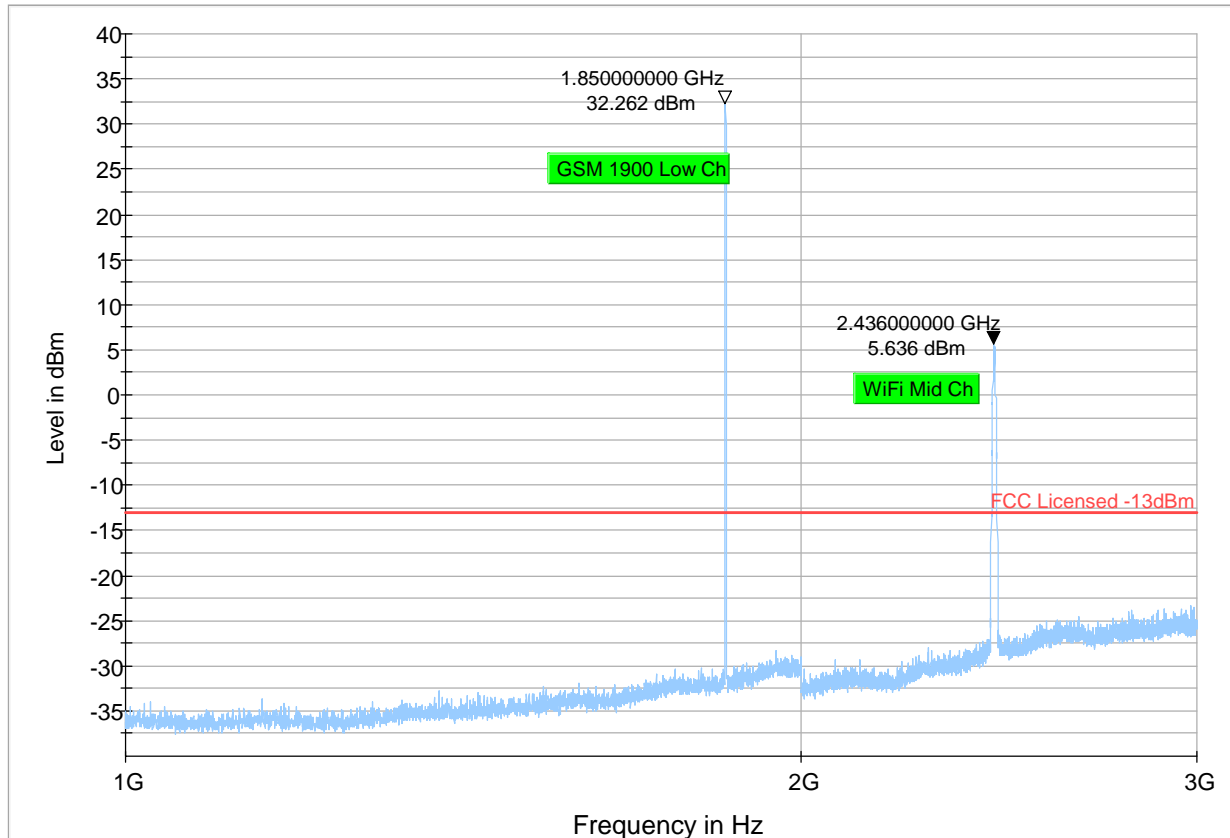
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #12 Radiated Emissions: 1-3 GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         | --- | ---           | ---        | ---     |



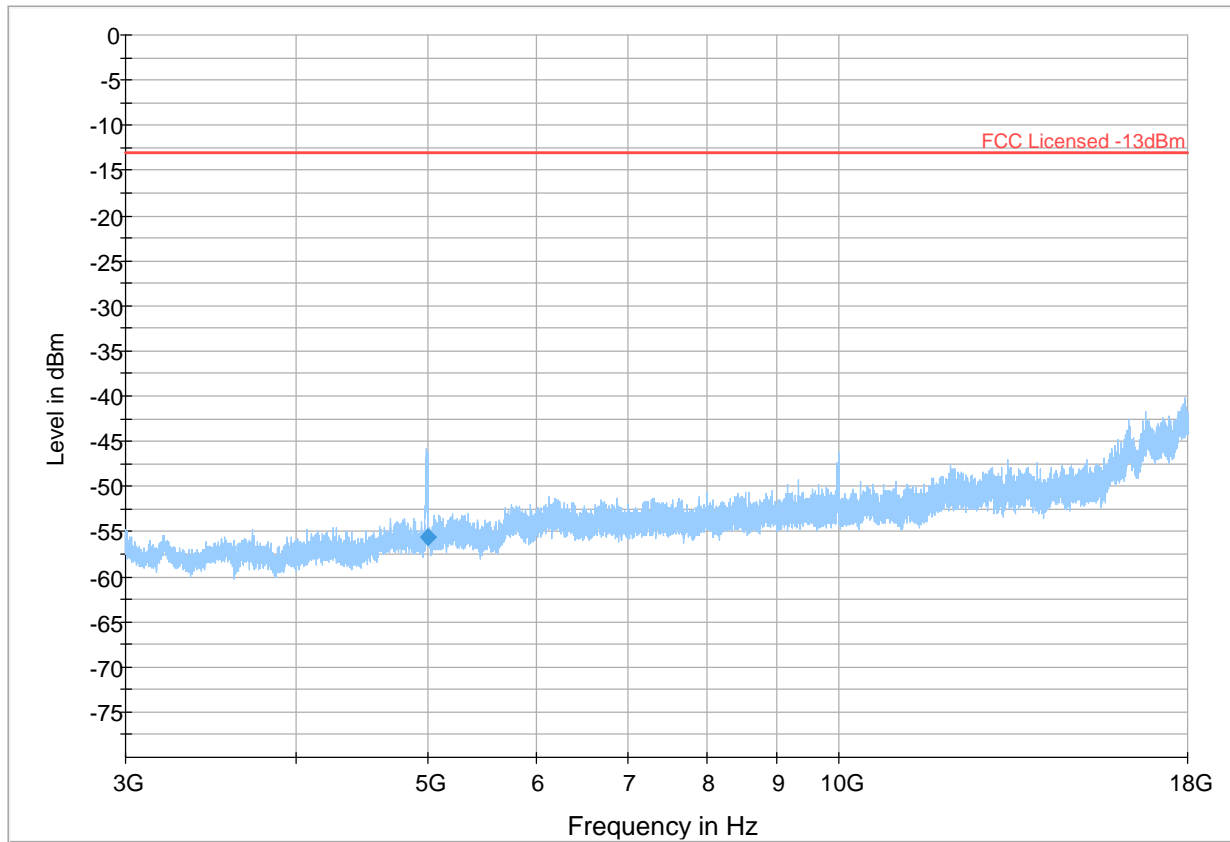
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



**Plot # 13 Radiated Emissions: 3-18 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4996.000        | -55.54    | -13.00      | 42.54       | 500.0           | 1000.000        | 273.0       | V   | 148.0         | -98.3      |         |



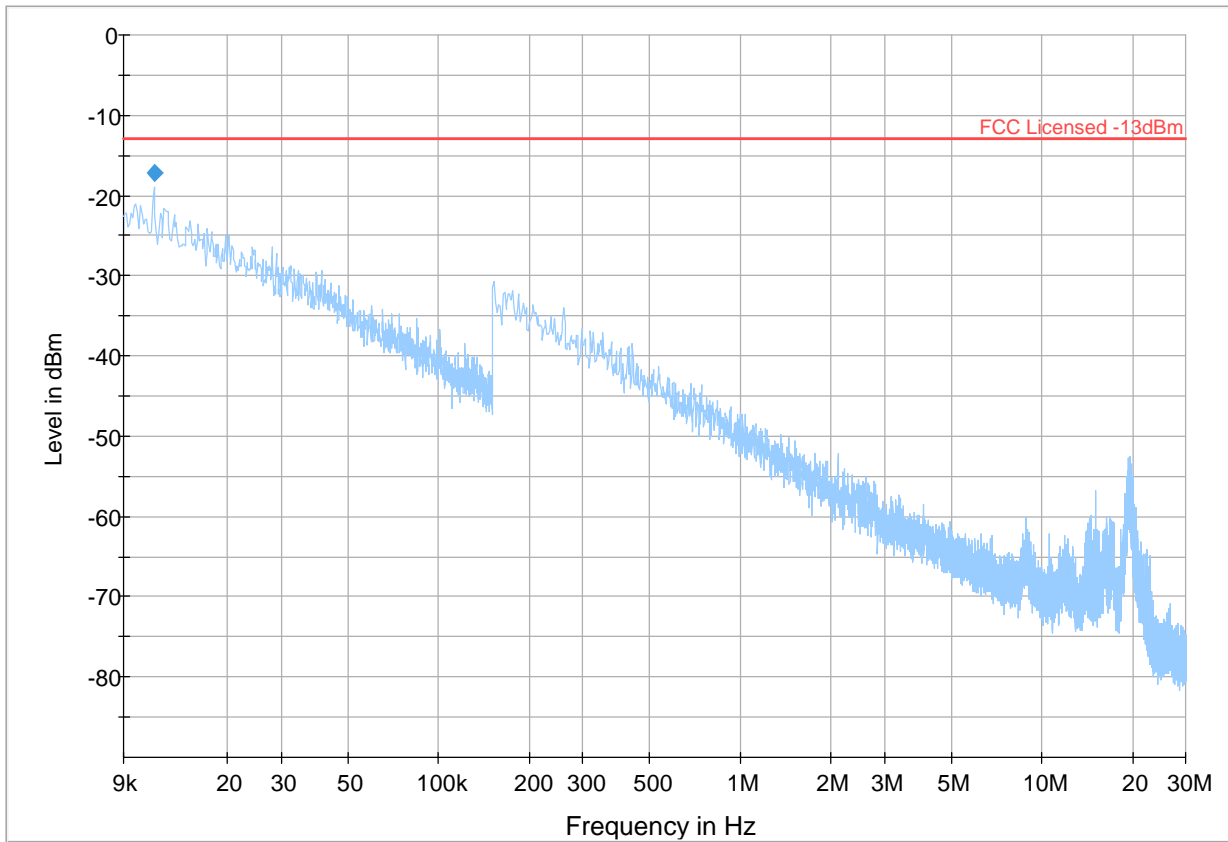
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot # 14 Radiated Emissions: 9kHz-30MHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 0.011           | -17.26    | -13.00      | 4.26        | 500.0           | 3.000           | 283.0       | H   | 130.0         | -66.0      |         |



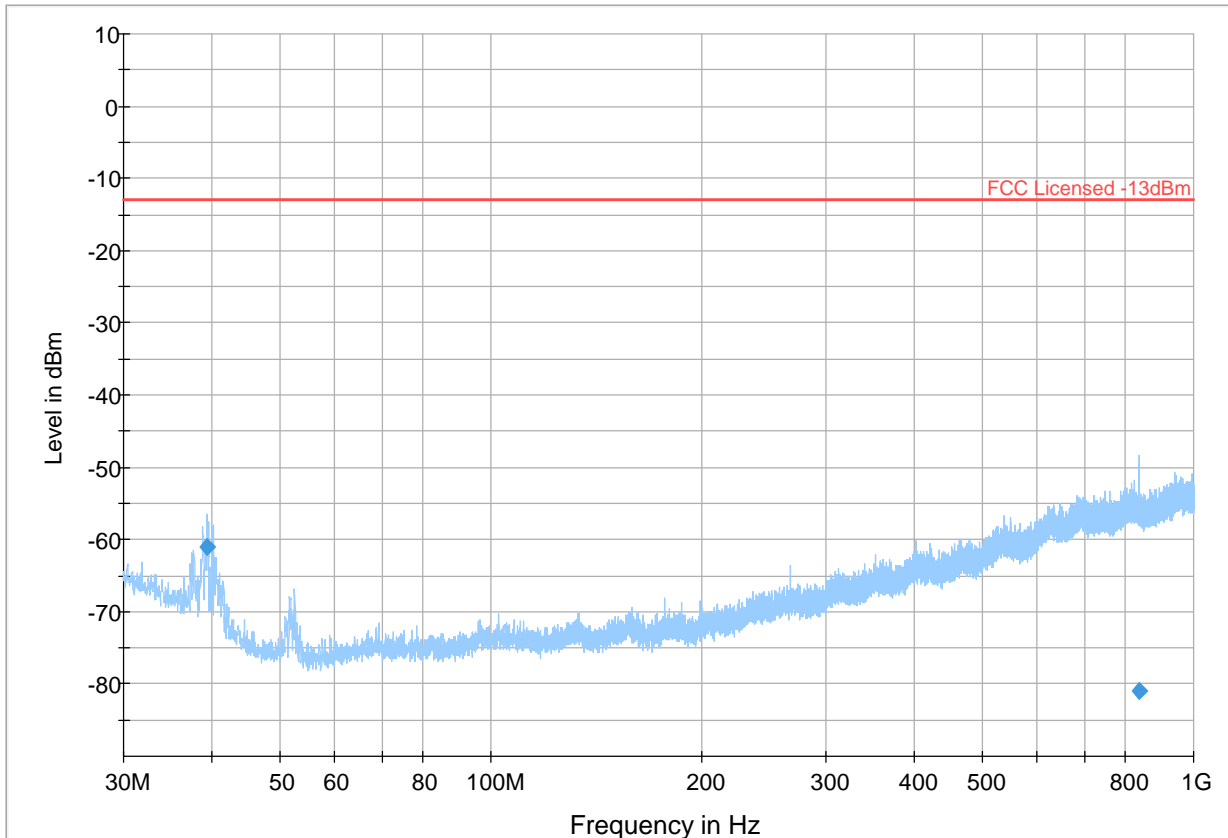
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #15 Radiated Emissions: 30MHz-1GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.506          | -60.95    | -13.00      | 47.95       | 500.0           | 100.000         | 150.0       | V   | 130.0         | -88.3      |         |
| 837.719         | -80.96    | -13.00      | 67.96       | 500.0           | 100.000         | 219.0       | H   | 26.0          | -74.1      |         |



Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS

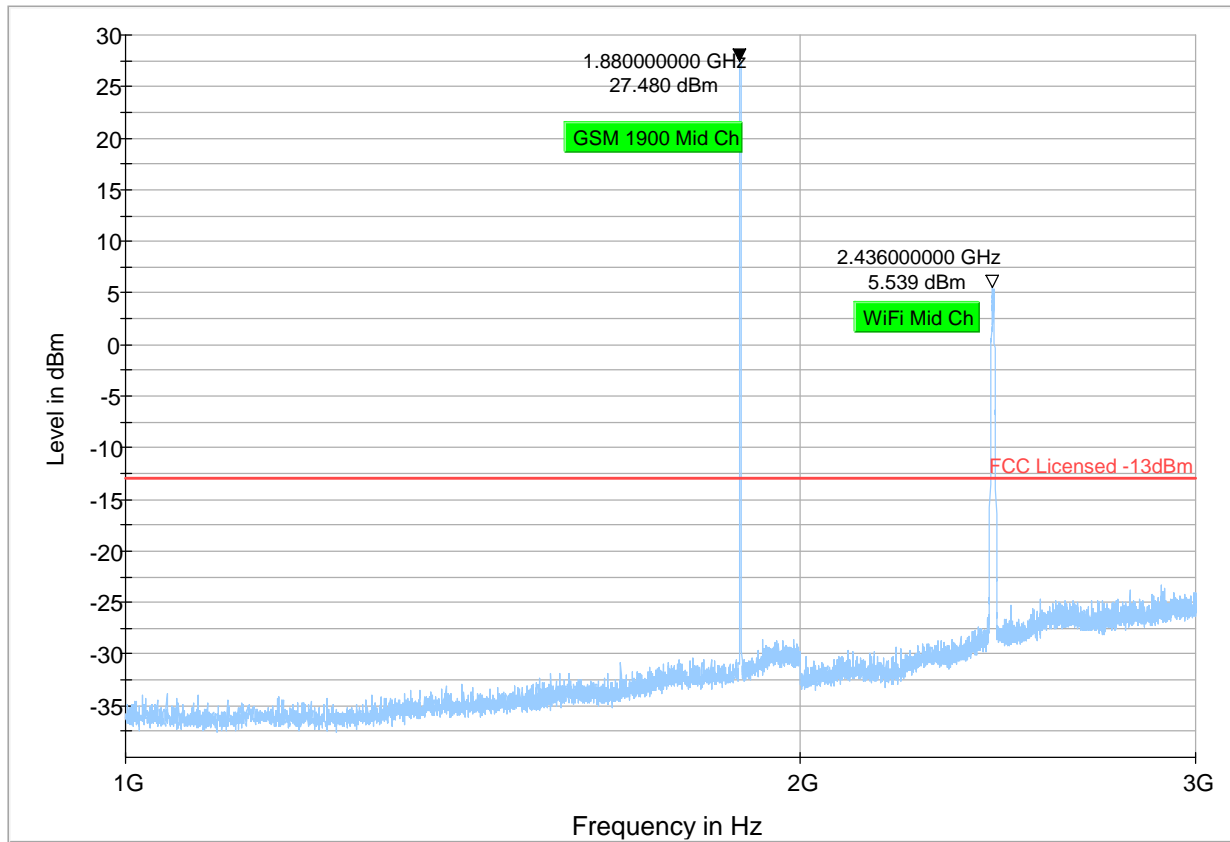




Plot #16 Radiated Emissions: 1-3GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



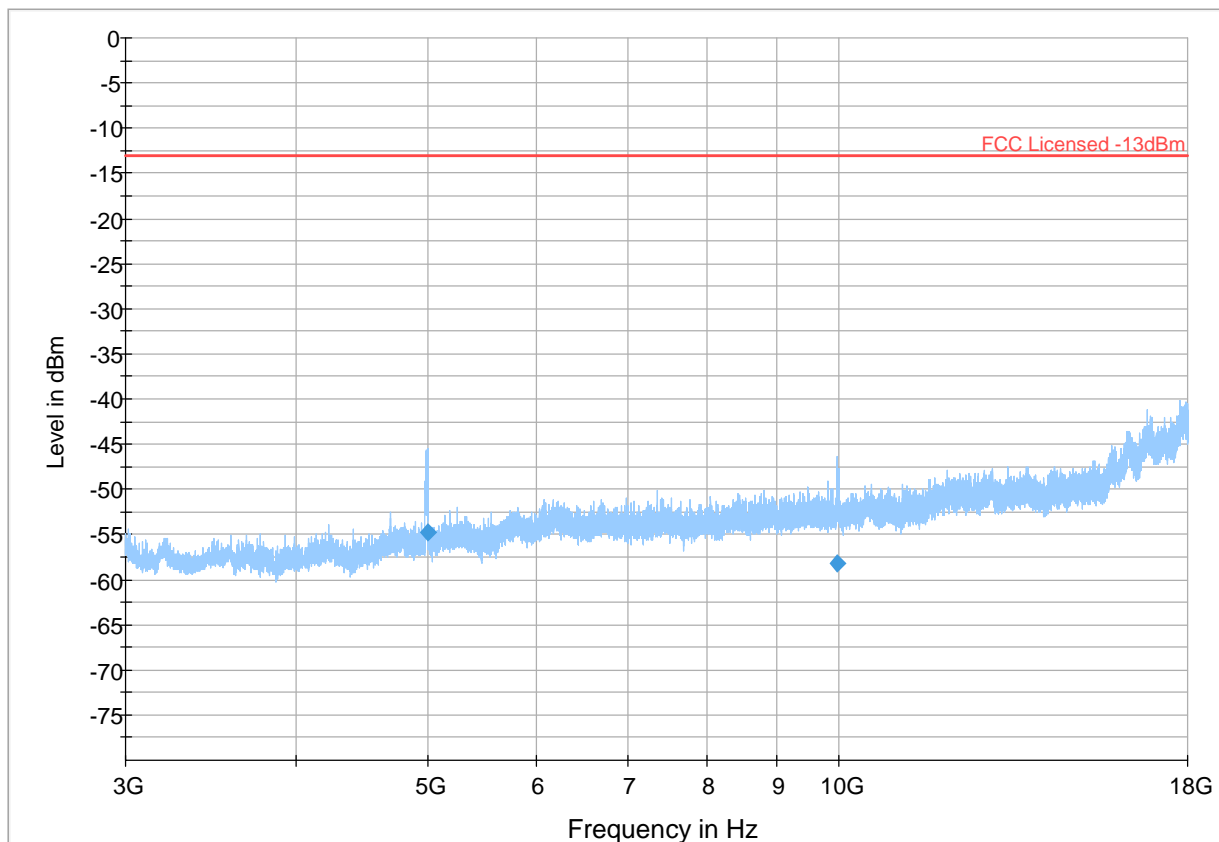
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



**Plot #17 Radiated Emissions: 3-18GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4993.000        | -54.76    | -13.00      | 41.76       | 500.0           | 1000.000        | 262.0       | V   | 149.0         | -98.3      |         |
| 9957.000        | -58.26    | -13.00      | 45.26       | 500.0           | 1000.000        | 150.0       | V   | 242.0         | -91.7      |         |



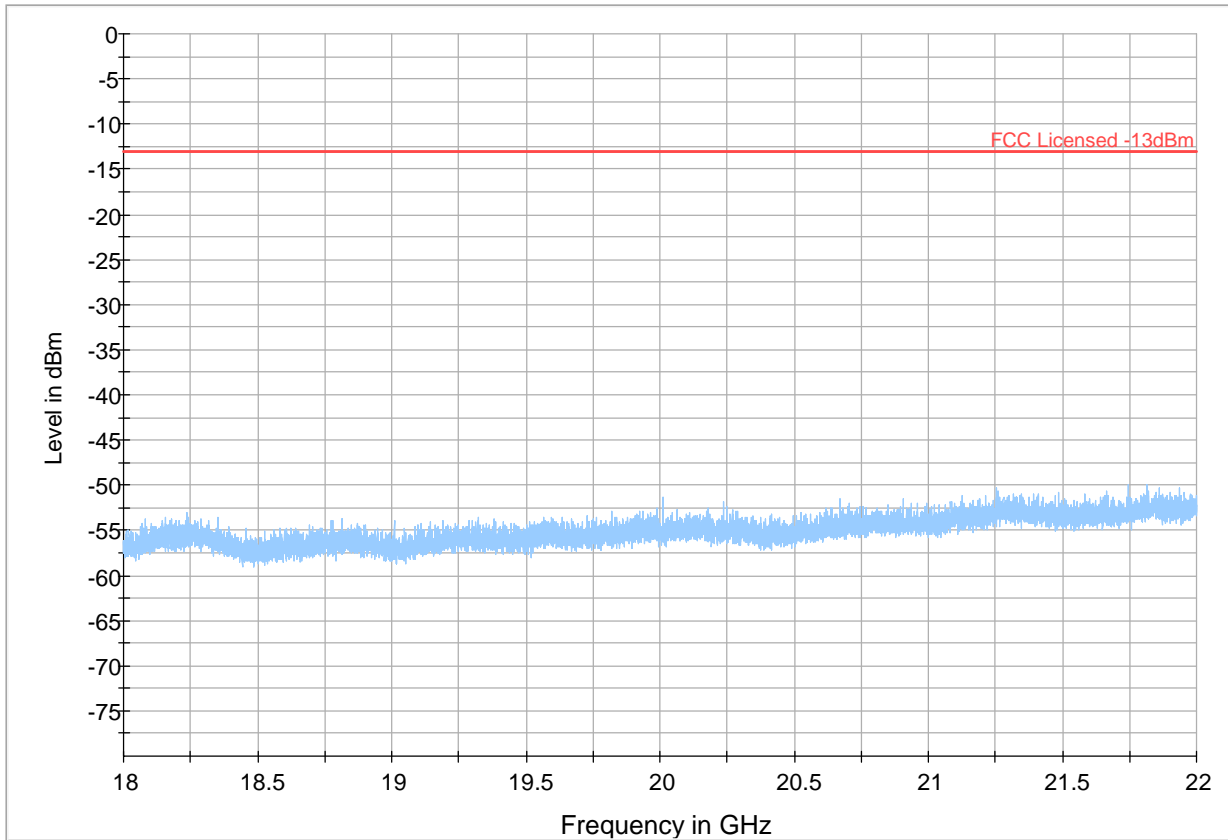
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #18 Radiated Emissions: 18-22GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



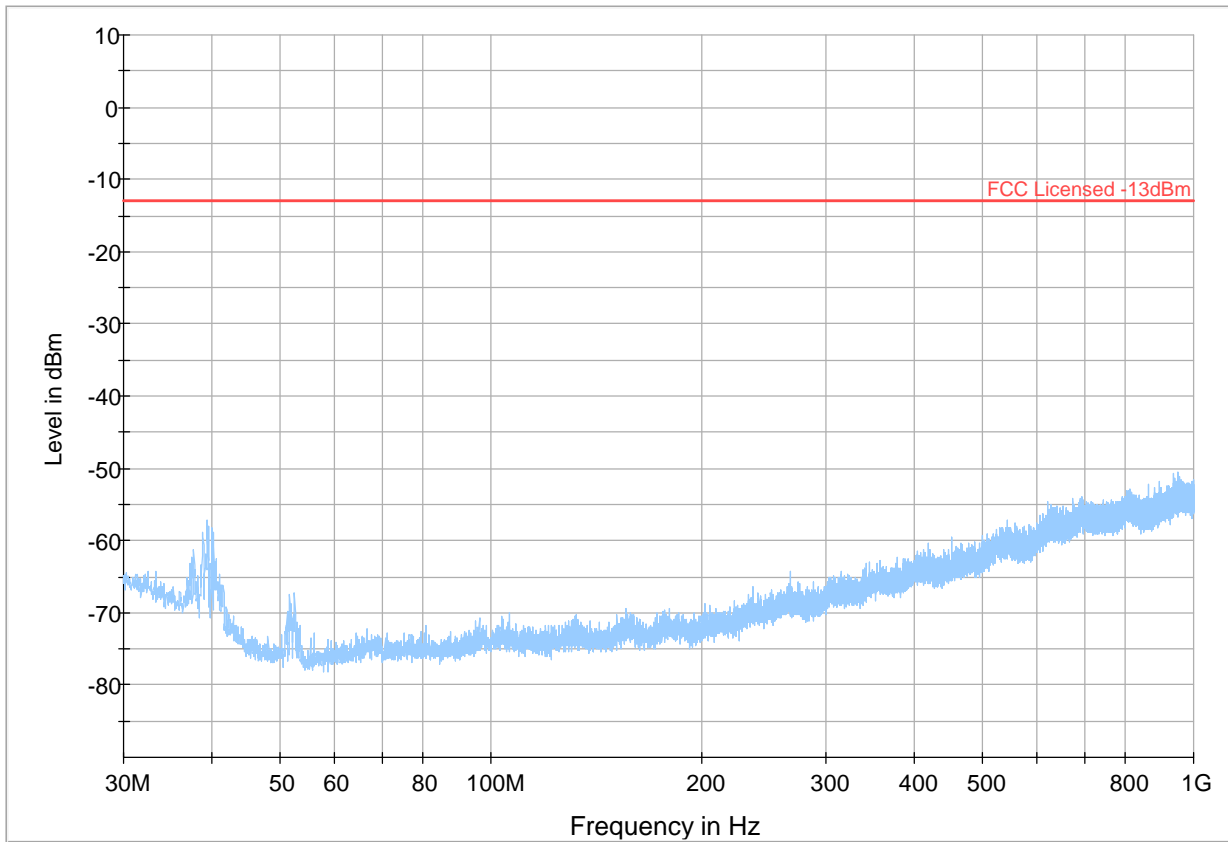
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



**Plot #19 Radiated Emissions: 30 MHz – 1 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



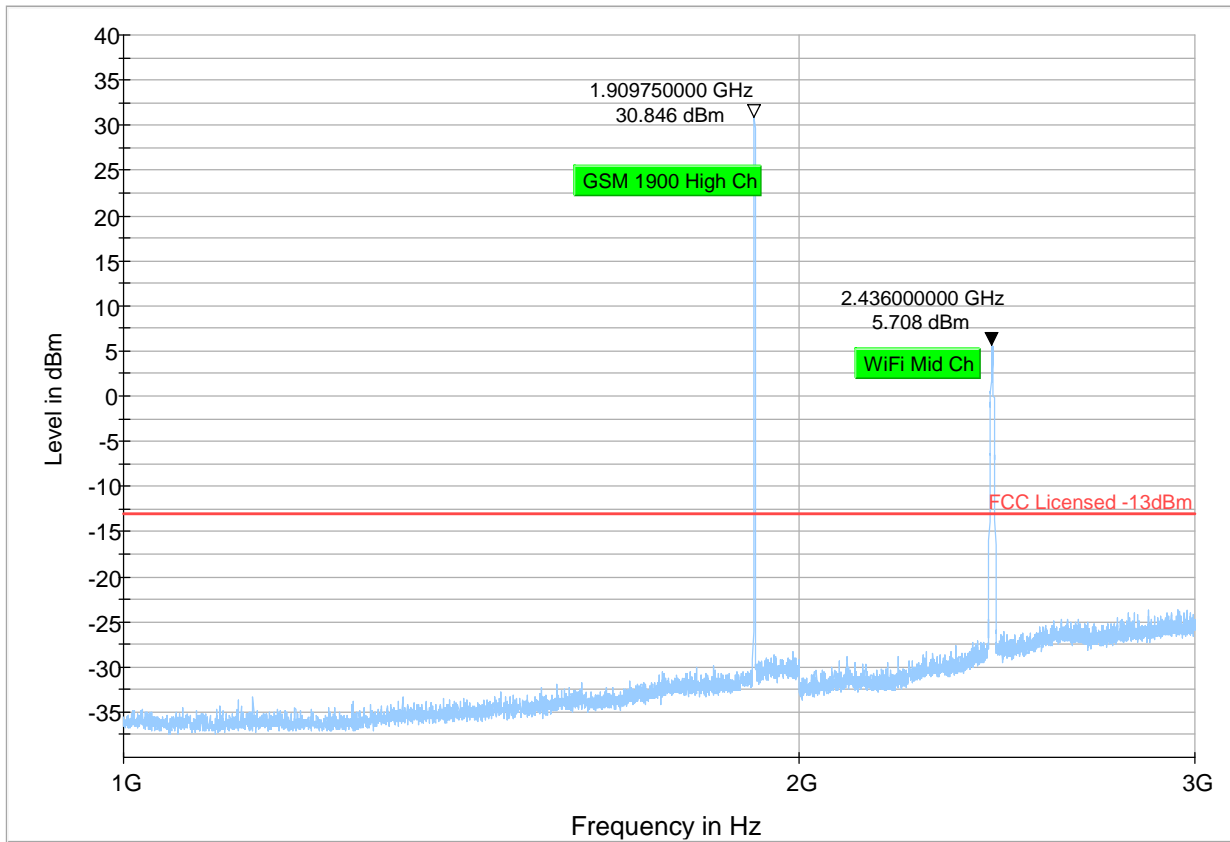
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #20 Radiated Emissions: 1-3 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



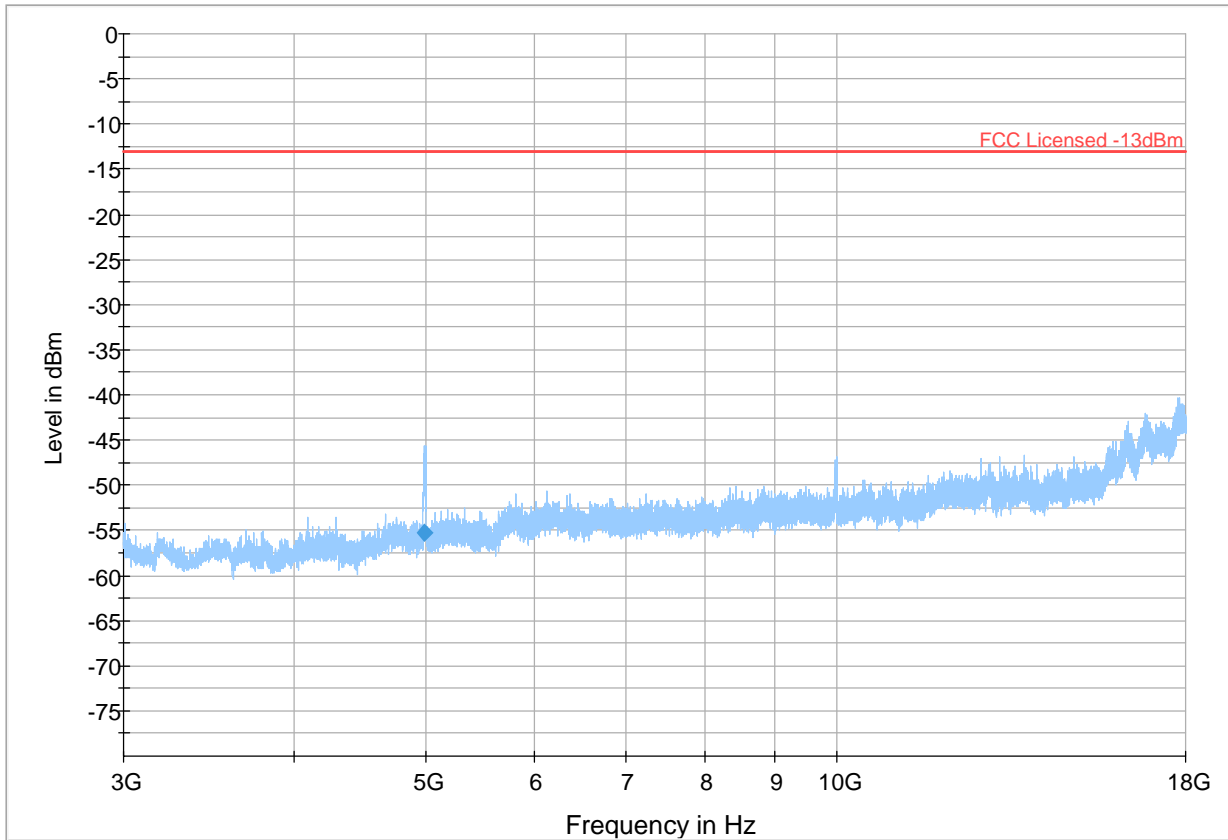
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #21 Radiated Emissions: 3-18 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4984.000        | -55.29    | -13.00      | 42.29       | 500.0           | 1000.000        | 306.0       | V   | 155.0         | -98.3      |         |



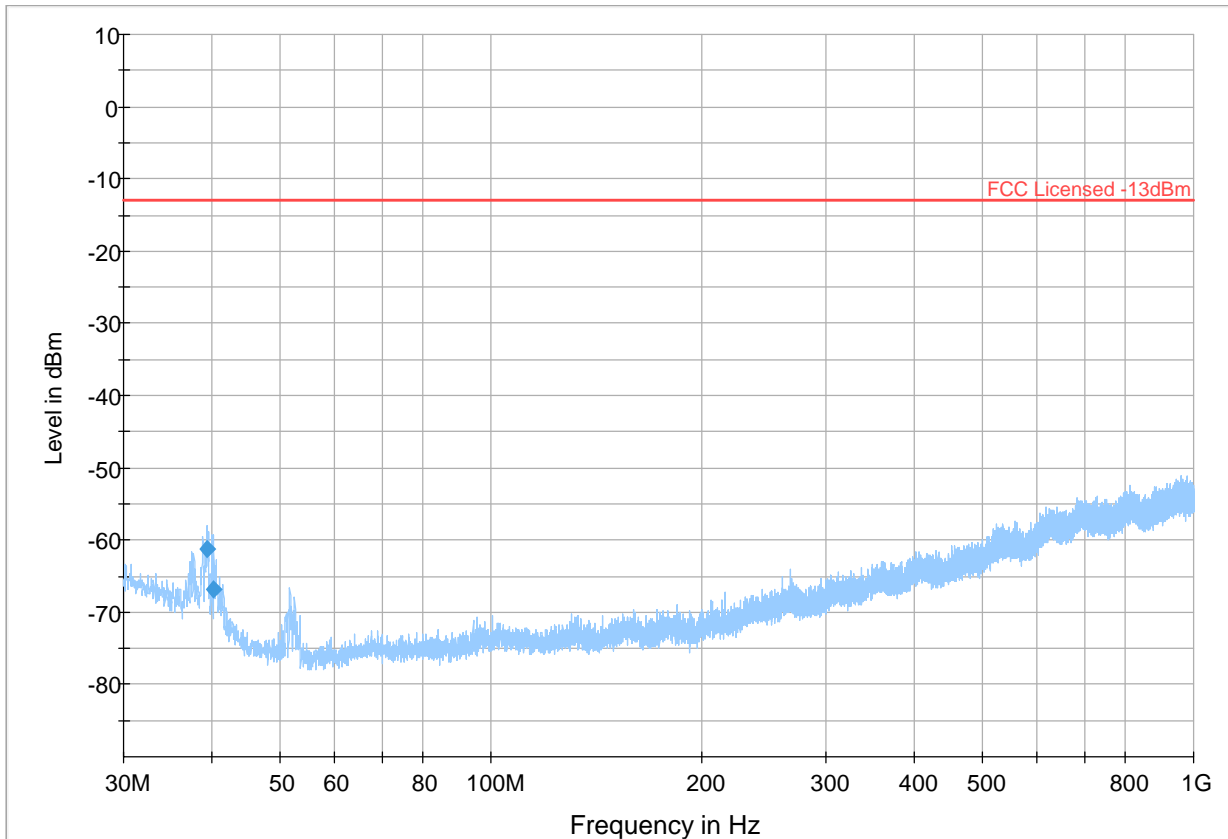
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #22 Radiated Emissions: 30 MHz – 1GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.474          | -61.27    | -13.00      | 48.27       | 500.0           | 100.000         | 150.0       | V   | 120.0         | -88.3      |         |
| 40.314          | -66.76    | -13.00      | 53.76       | 500.0           | 100.000         | 295.0       | V   | 55.0          | -88.8      |         |



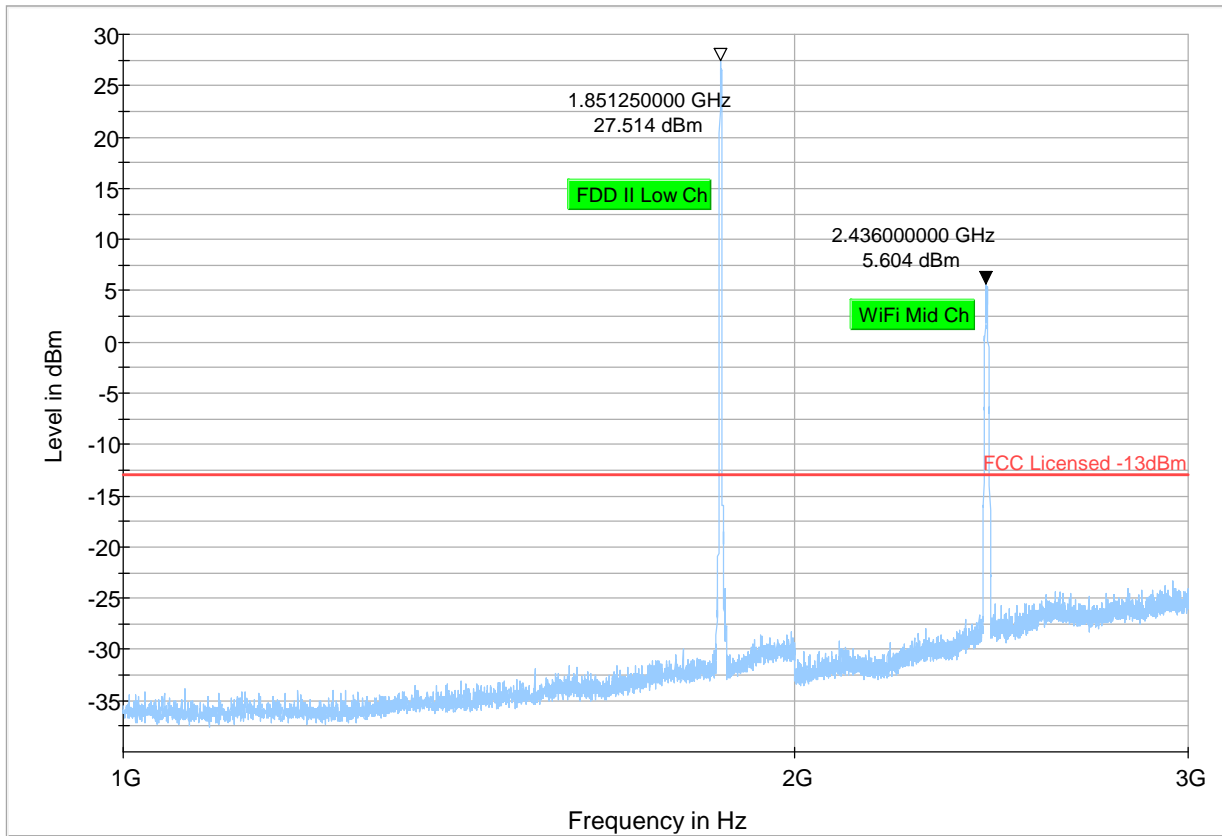
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot # 23 Radiated Emissions: 1-3 GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS

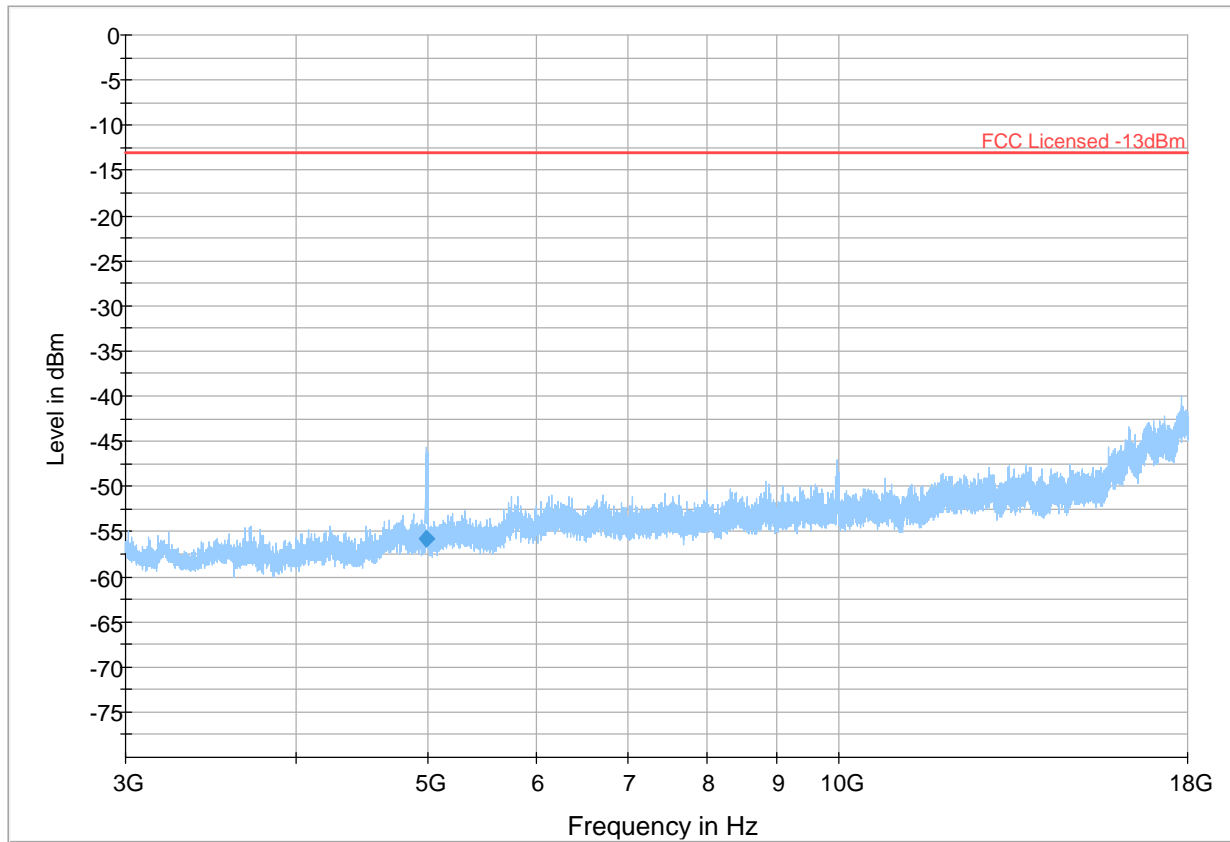




**Plot # 24 Radiated Emissions: 3-18 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4989.500        | -55.73    | -13.00      | 42.73       | 500.0           | 1000.000        | 305.0       | V   | 152.0         | -98.3      |         |



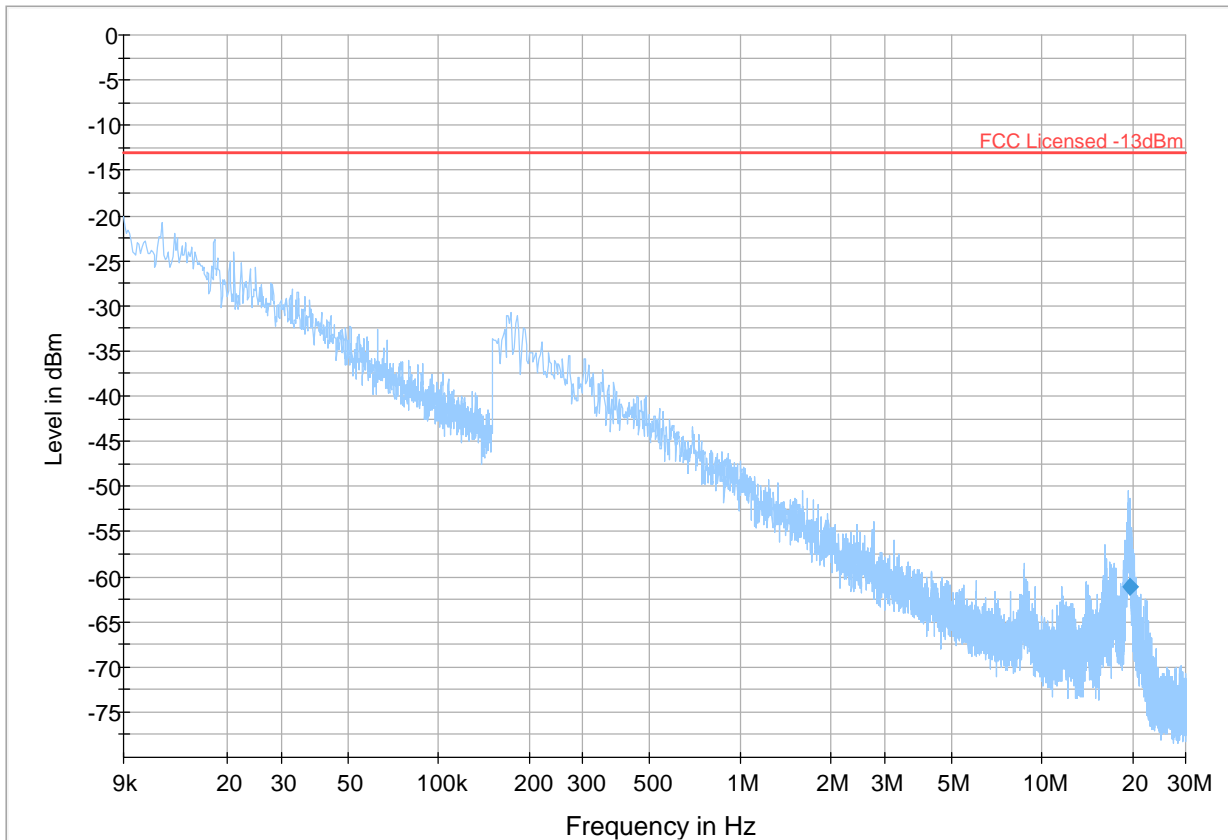
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #25 Radiated Emissions: 9 kHz – 30 MHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 19.511          | -61.05    | -13.00      | 48.05       | 500.0           | 3.000           | 150.0       | V   | 189.0         | -78.4      |         |



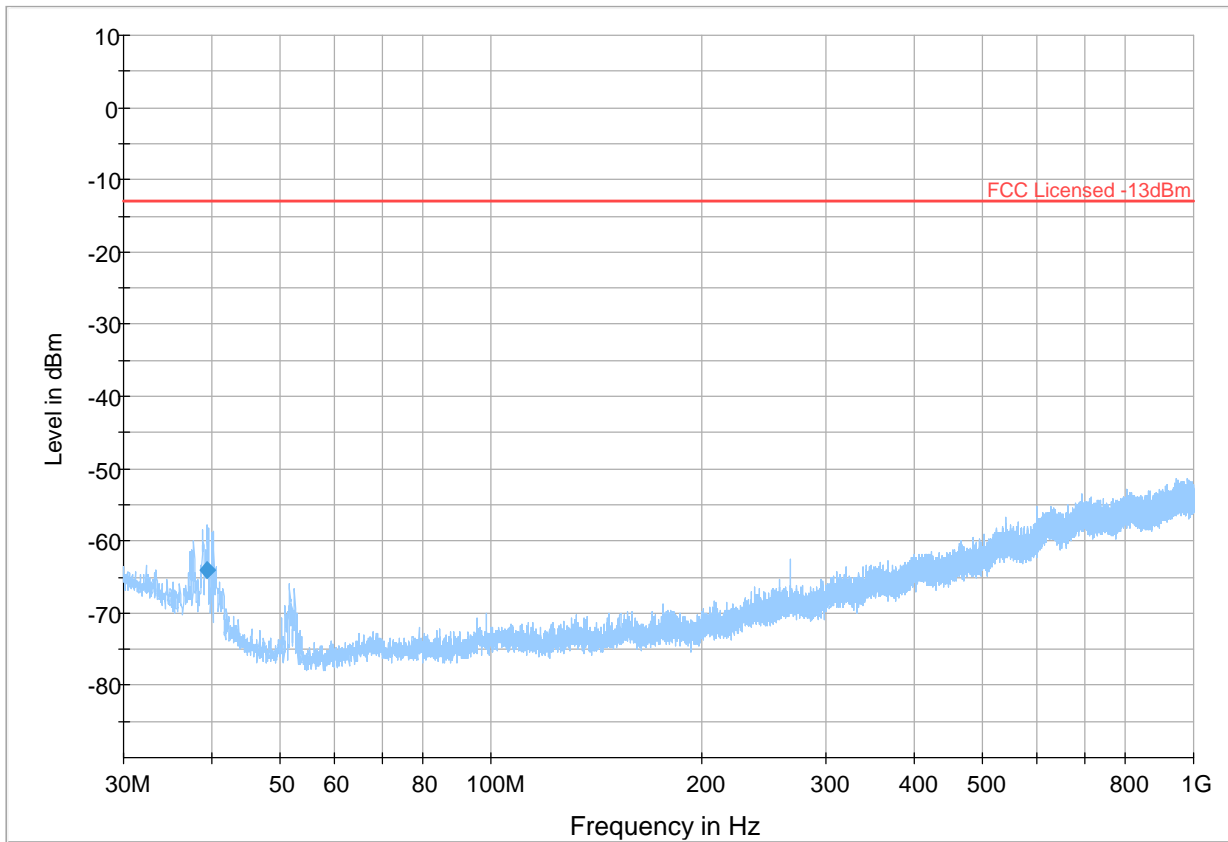
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #26 Radiated Emissions: 30 MHz – 1 GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.441          | -64.09    | -13.00      | 51.09       | 500.0           | 100.000         | 192.0       | V   | 104.0         | -88.3      |         |



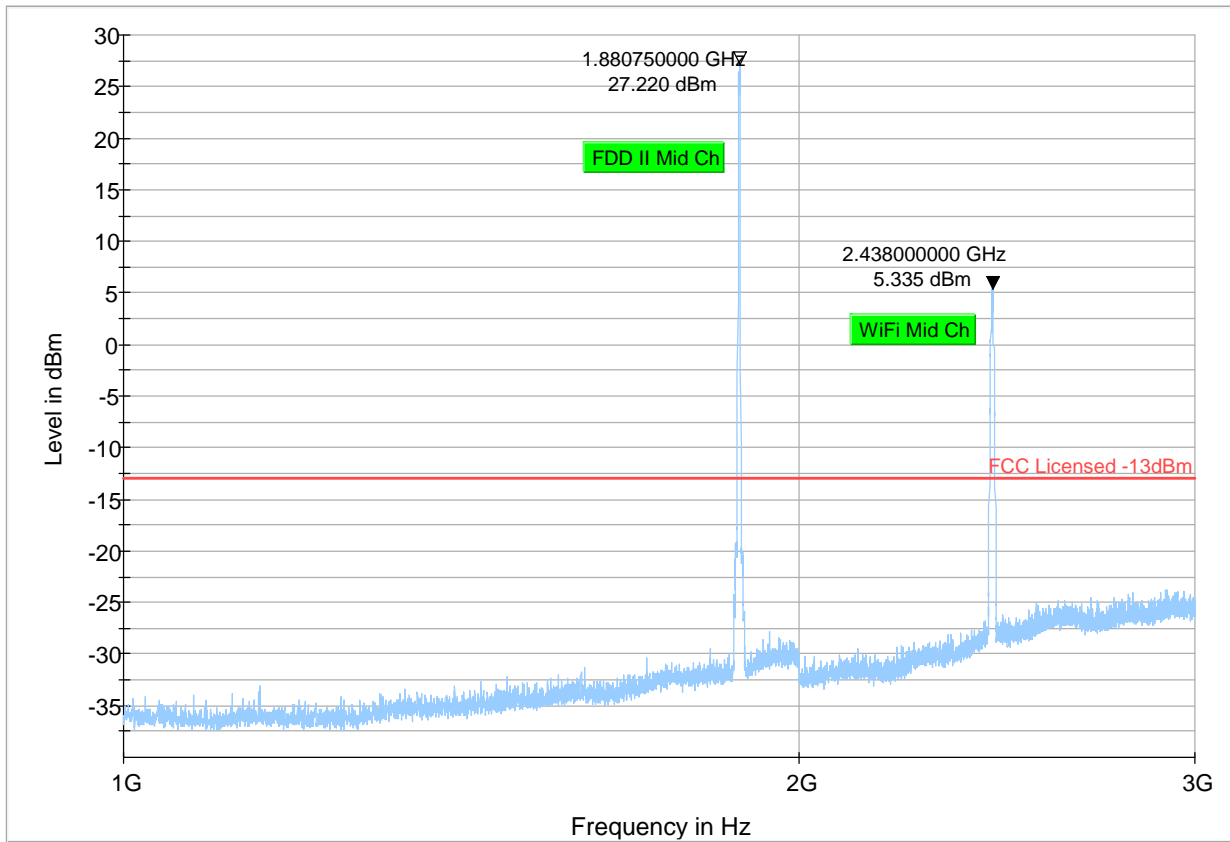
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #27 Radiated Emissions: 1-3 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



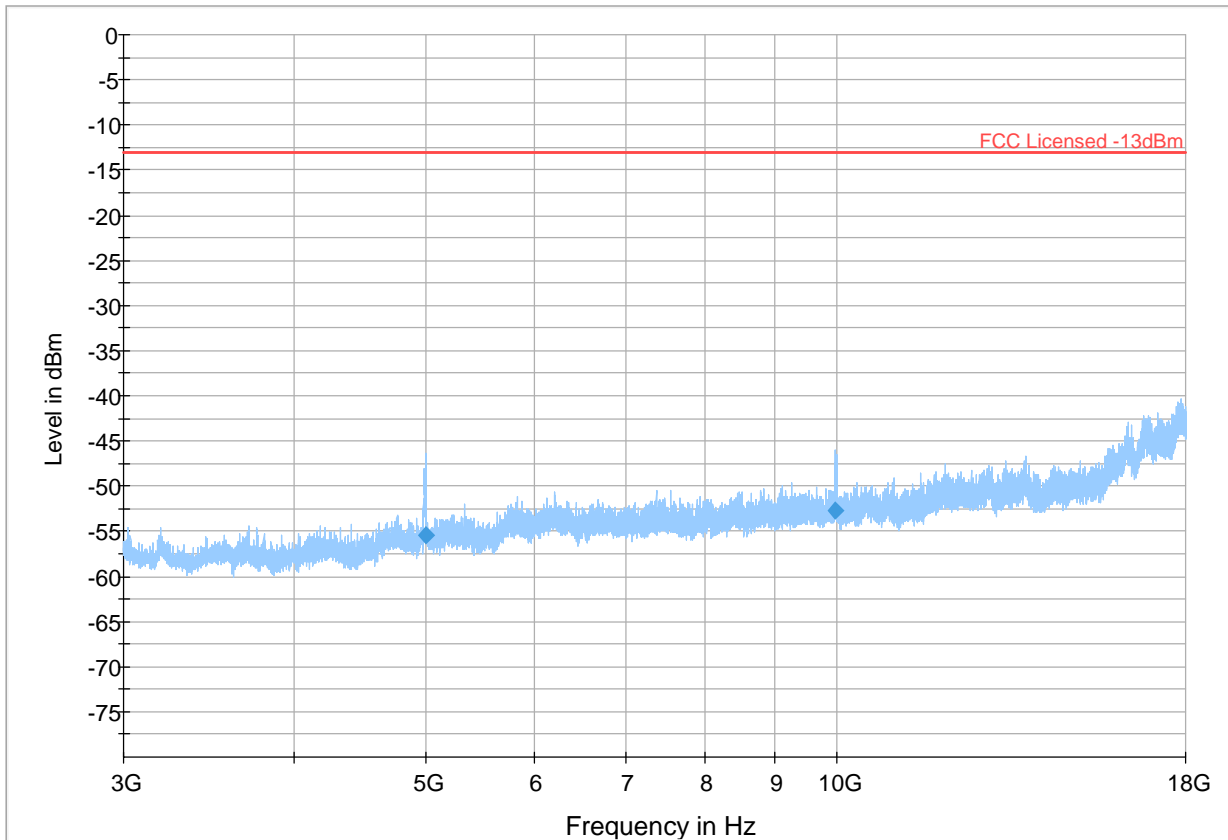
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot #28 Radiated Emissions: 3-18 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4993.000        | -55.42    | -13.00      | 42.42       | 500.0           | 1000.000        | 273.0       | V   | 149.0         | -98.3      |         |
| 9972.000        | -52.77    | -13.00      | 39.77       | 500.0           | 1000.000        | 231.0       | V   | 355.0         | -91.8      |         |



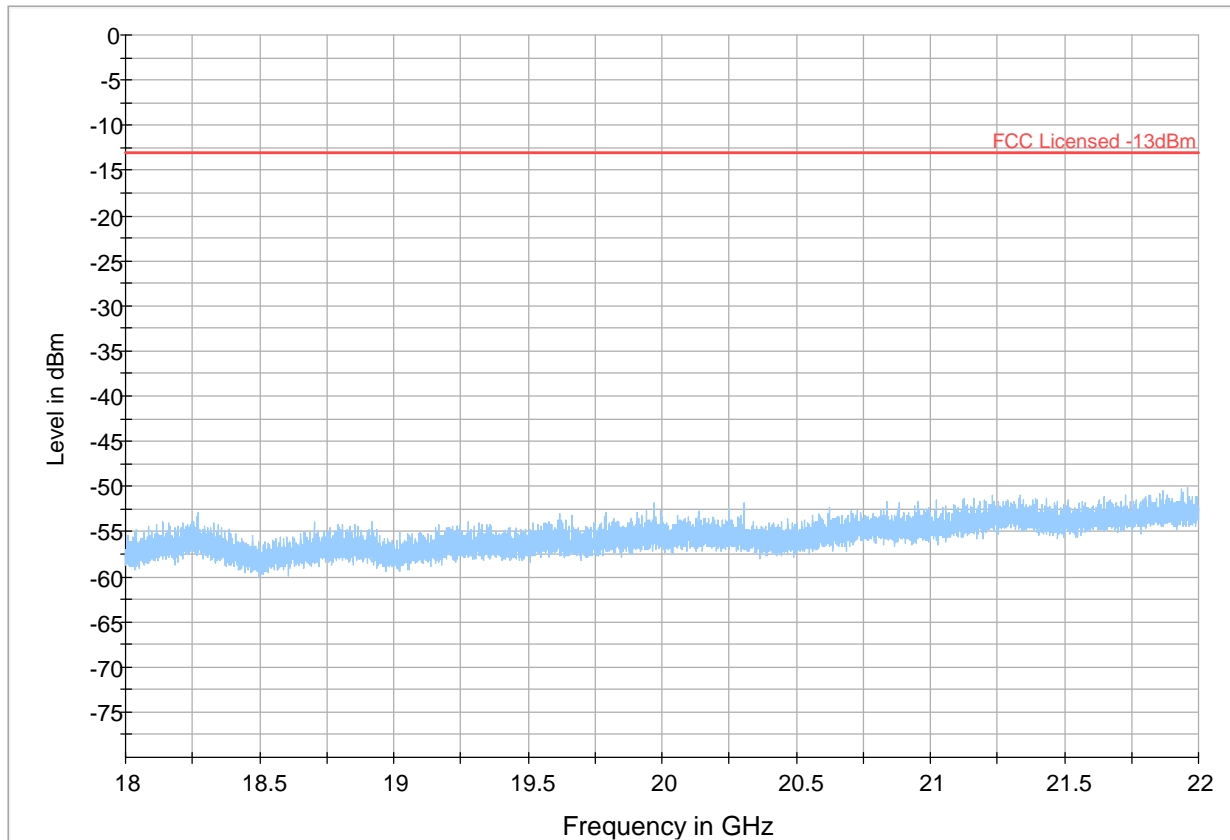
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #29 Radiated Emissions: 18-22 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



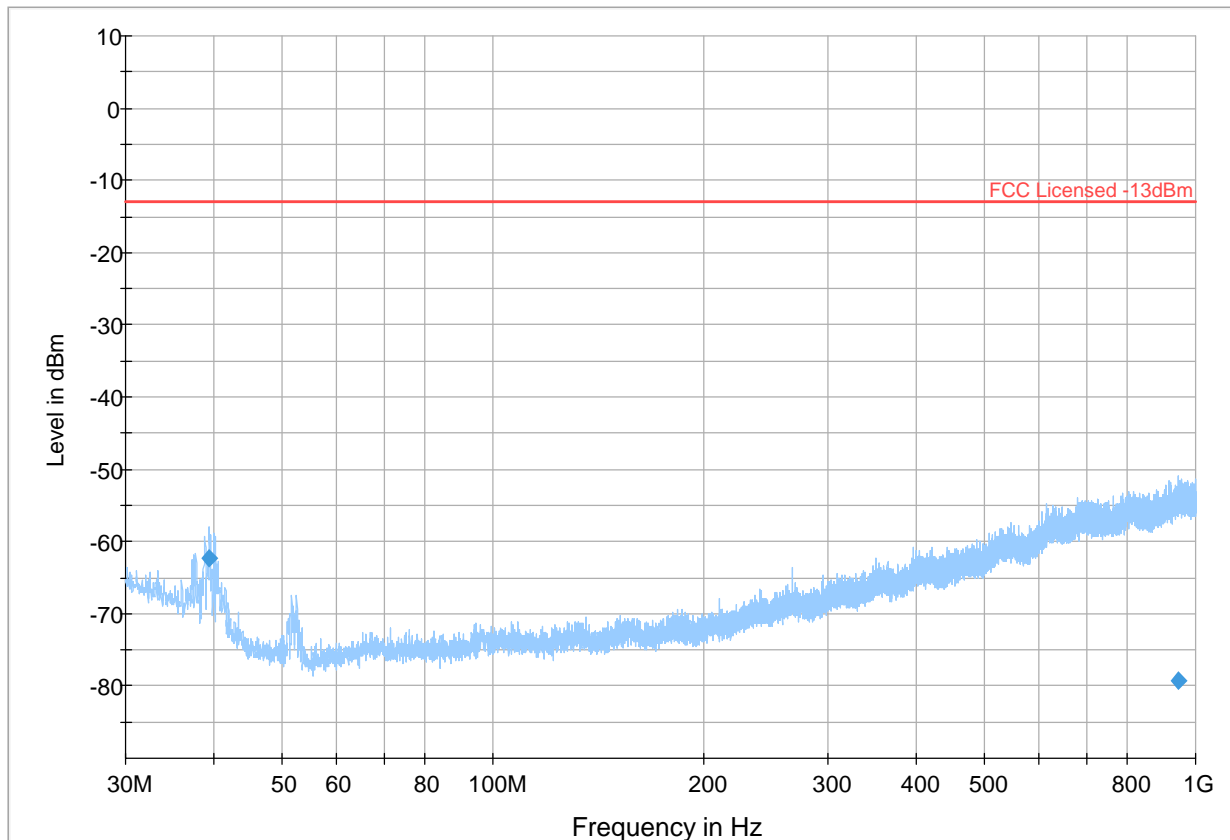
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



**Plot #30 Radiated Emissions: 30MHz-1GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.538          | -62.41    | -13.00      | 49.41       | 500.0           | 100.000         | 217.0       | V   | 119.0         | -88.3      |         |
| 944.451         | -79.34    | -13.00      | 66.34       | 500.0           | 100.000         | 287.0       | H   | 32.0          | -72.5      |         |



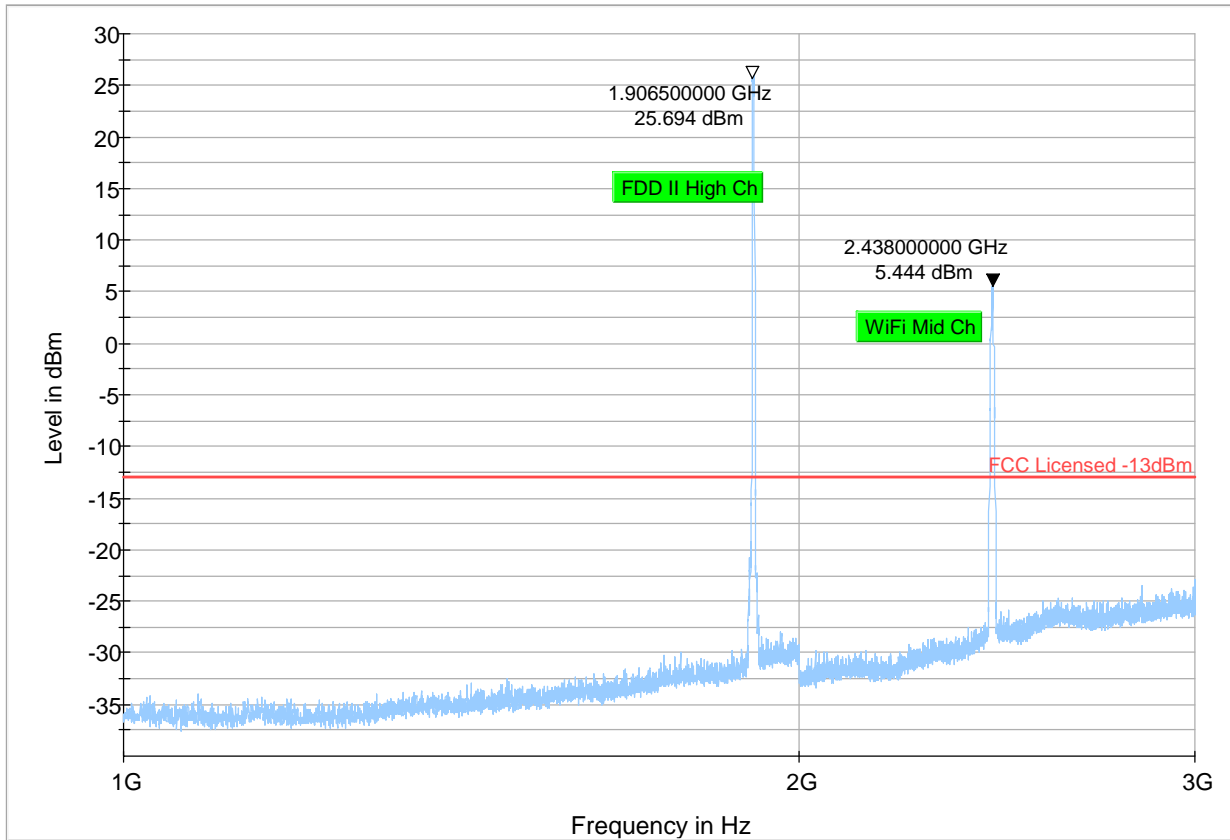
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot #31 Radiated Emissions: 1-3 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS

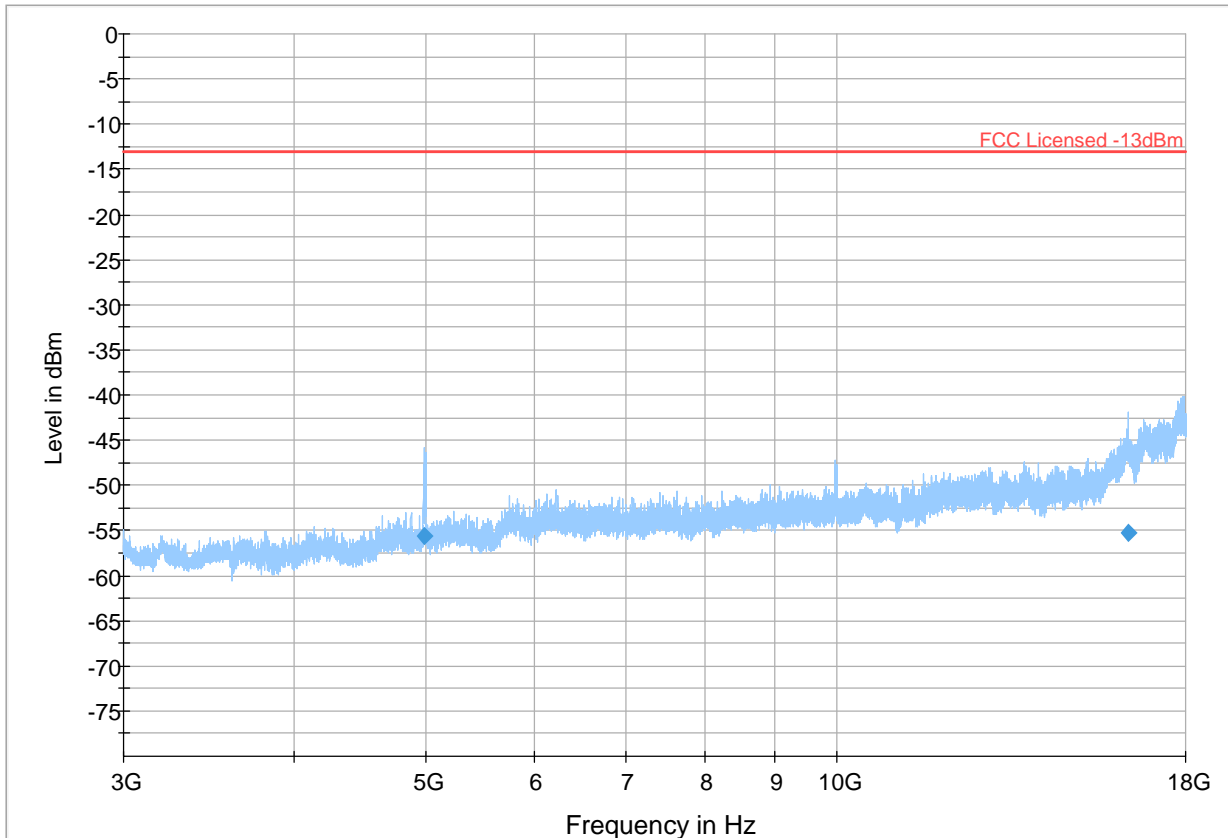




**Plot #32 Radiated Emissions: 3-18GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4983.000        | -55.60    | -13.00      | 42.60       | 500.0           | 1000.000        | 283.0       | V   | 151.0         | -98.3      |         |
| 16335.000       | -55.25    | -13.00      | 42.25       | 500.0           | 1000.000        | 163.0       | V   | 273.0         | -83.0      |         |



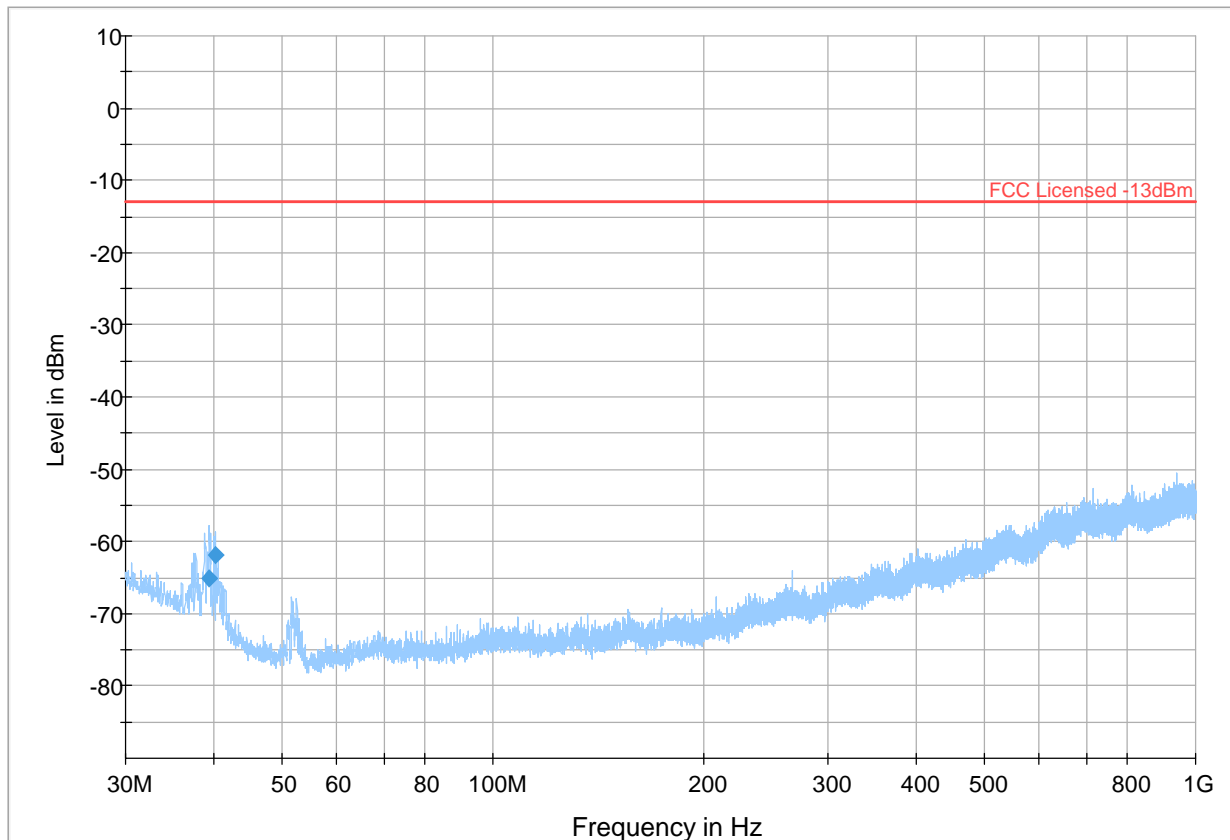
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot # 33 Radiated Emissions: 30MHz-1GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.474          | -65.02    | -13.00      | 52.02       | 500.0           | 100.000         | 315.0       | V   | 142.0         | -88.3      |         |
| 40.347          | -61.80    | -13.00      | 48.80       | 500.0           | 100.000         | 150.0       | V   | 159.0         | -88.8      |         |



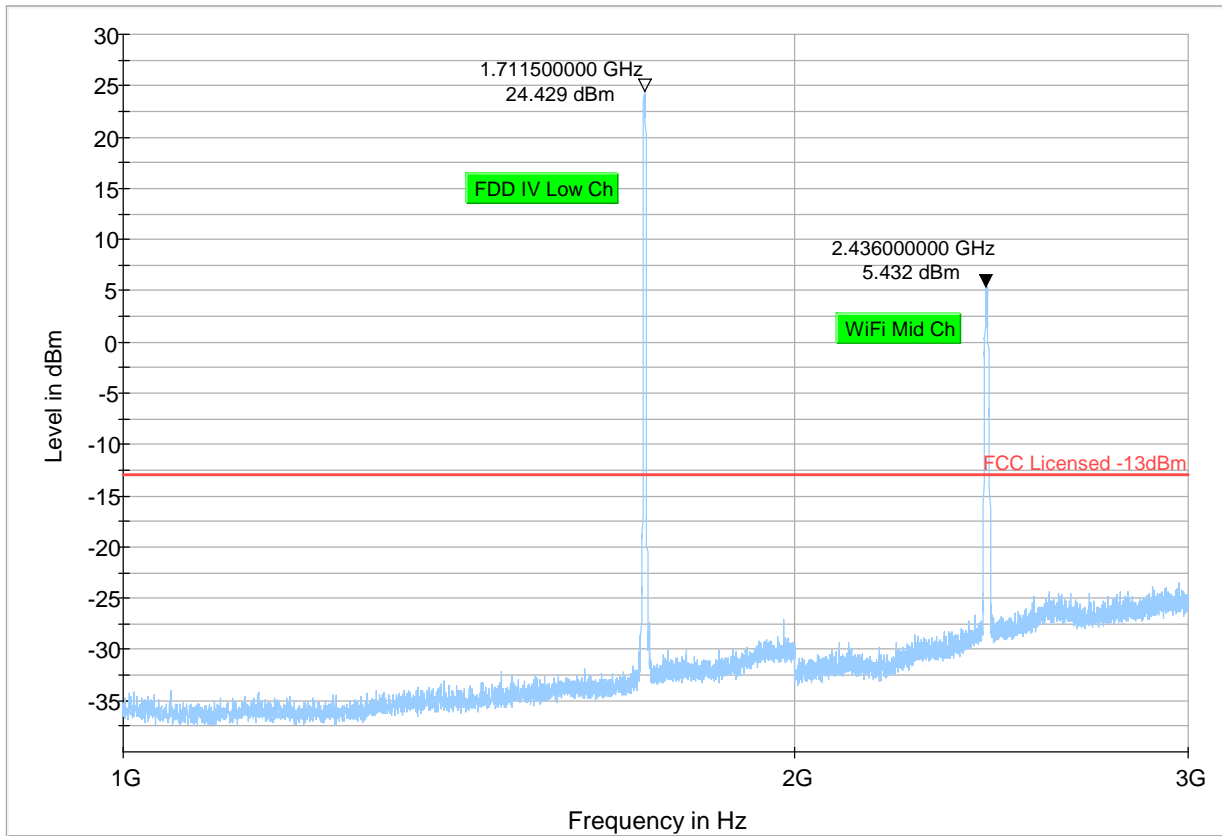
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot # 34 Radiated Emissions: 1-3GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



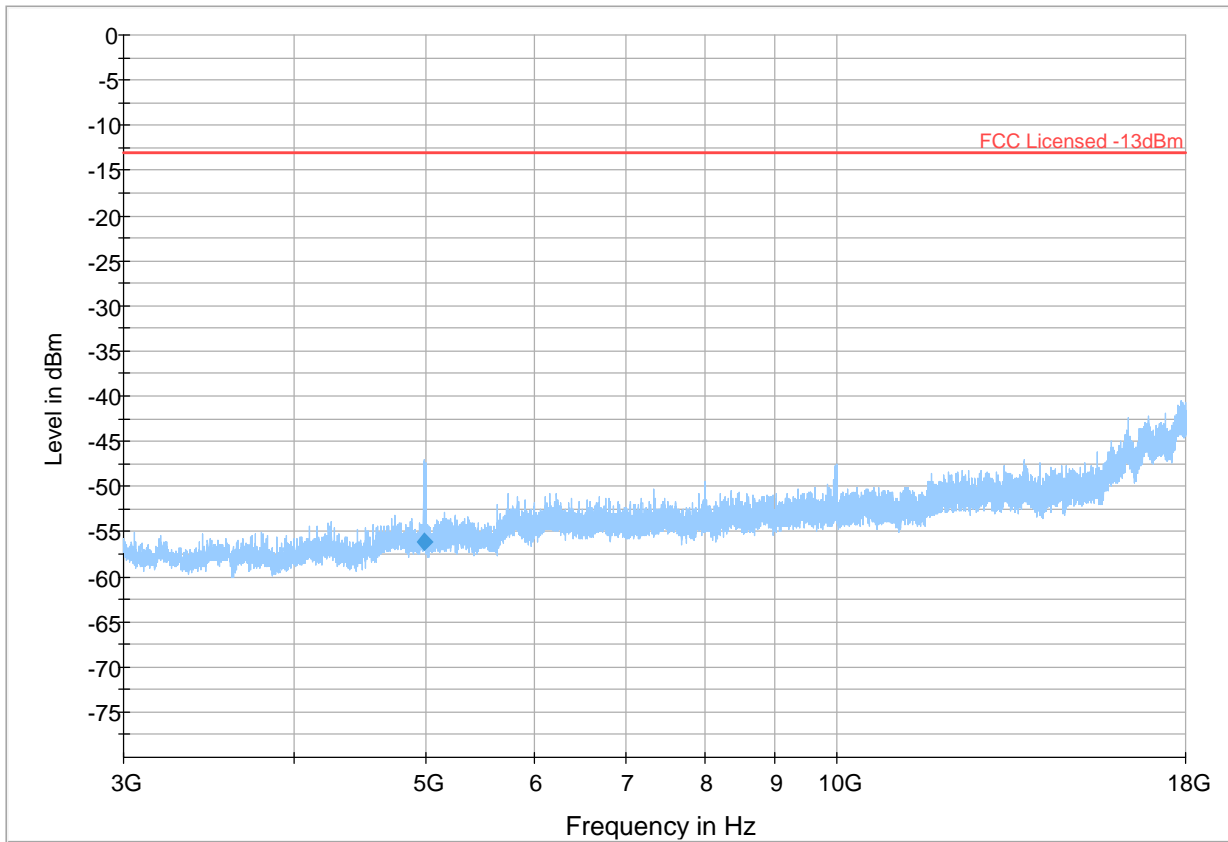
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #35 Radiated Emissions: 3-18GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4977.500        | -56.14    | -13.00      | 43.14       | 500.0           | 1000.000        | 260.0       | V   | 148.0         | -98.3      |         |



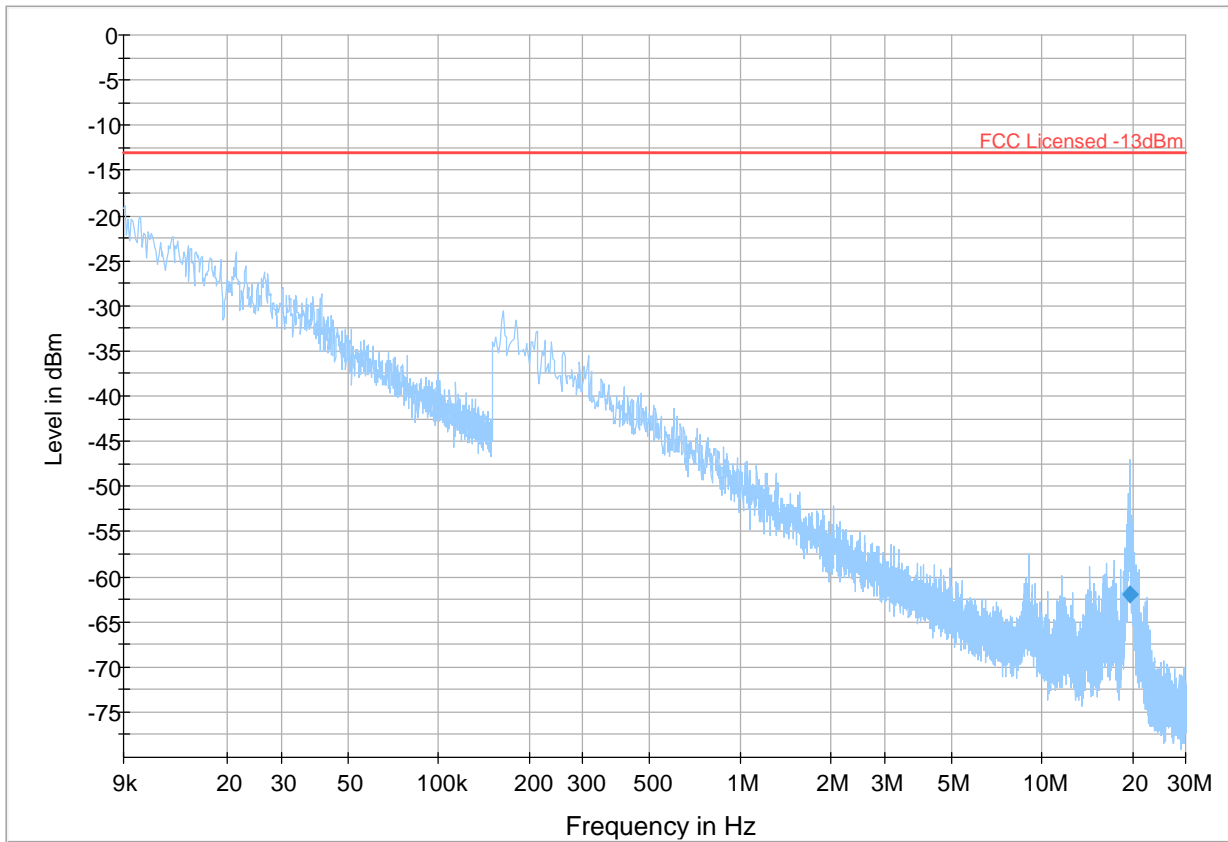
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



**Plot #36 Radiated Emissions: 9kHz-30MHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 19.635          | -61.90    | -13.00      | 48.90       | 500.0           | 3.000           | 150.0       | V   | 161.0         | -78.4      |         |



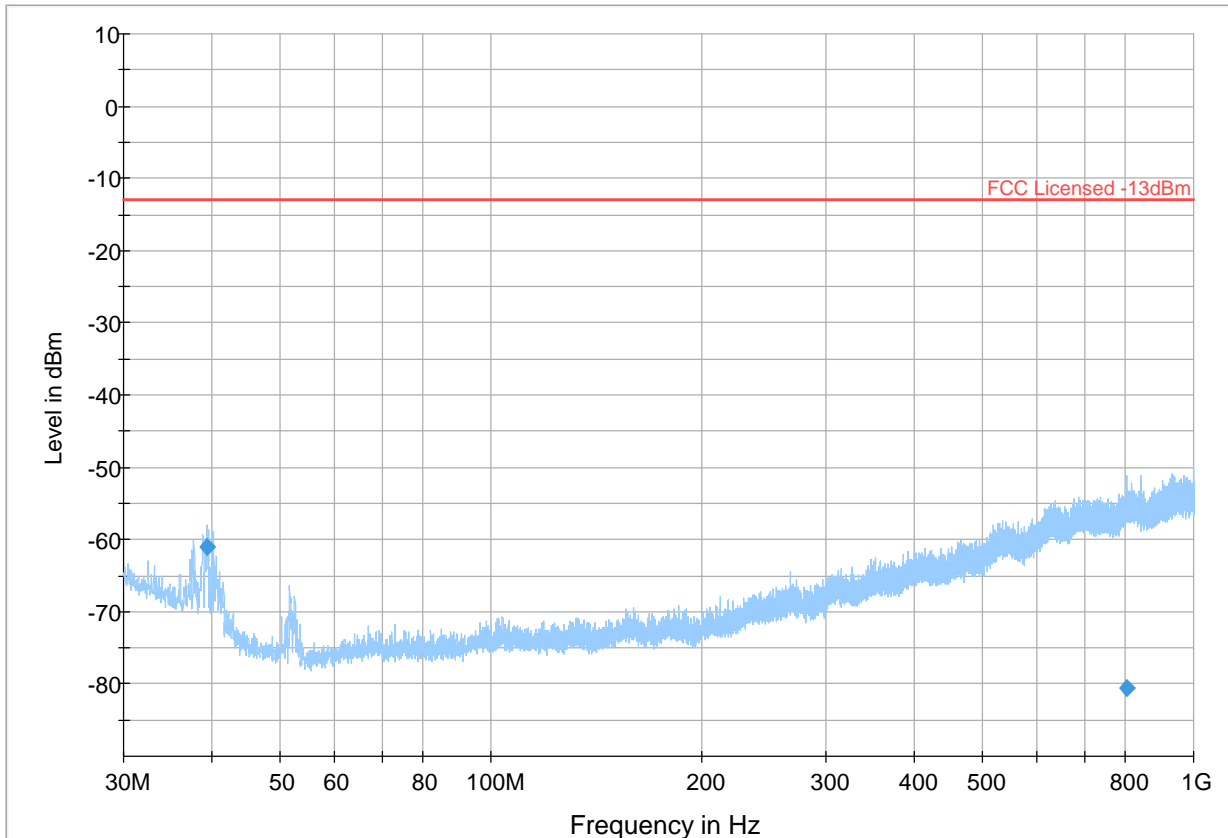
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #37 Radiated Emissions: 30MHz-1GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.538          | -61.08    | -13.00      | 48.08       | 500.0           | 100.000         | 150.0       | V   | 117.0         | -88.3      |         |
| 803.252         | -80.45    | -13.00      | 67.45       | 500.0           | 100.000         | 195.0       | V   | 67.0          | -73.6      |         |



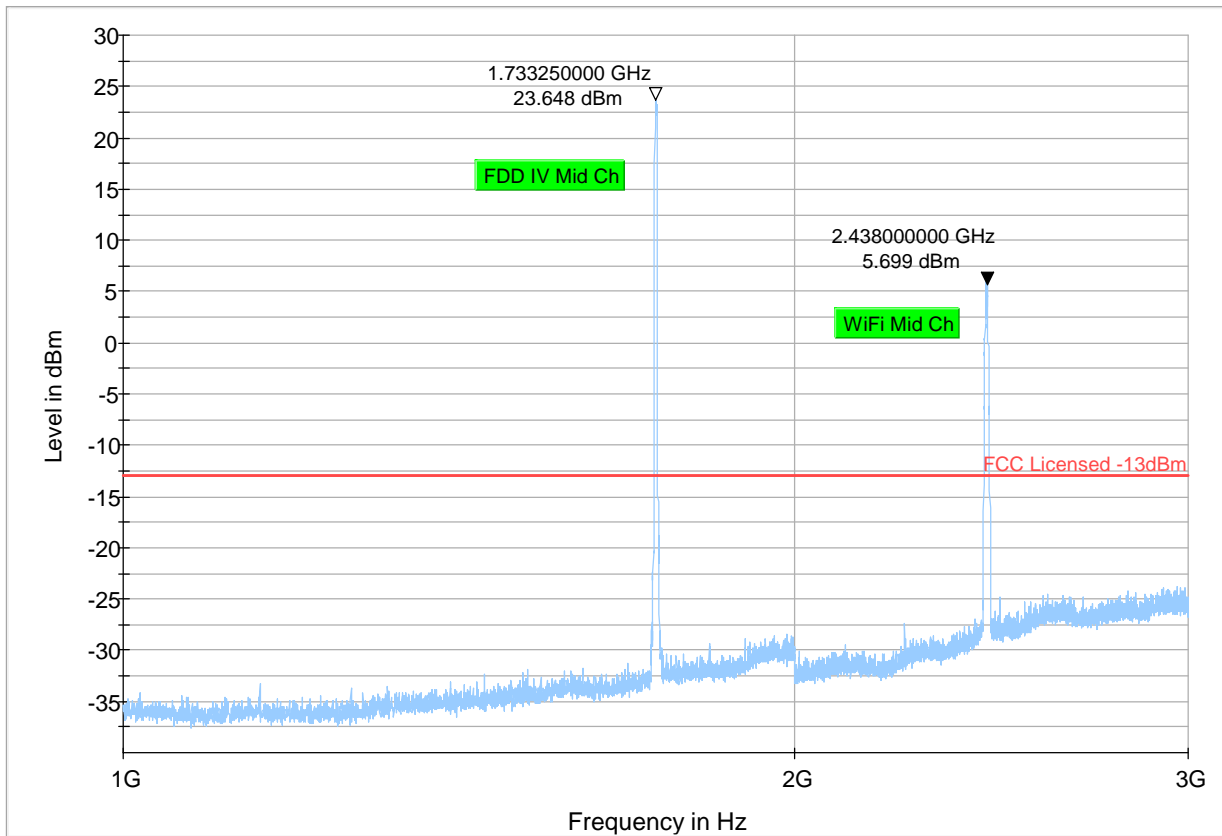
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #38 Radiated Emissions: 1-3 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



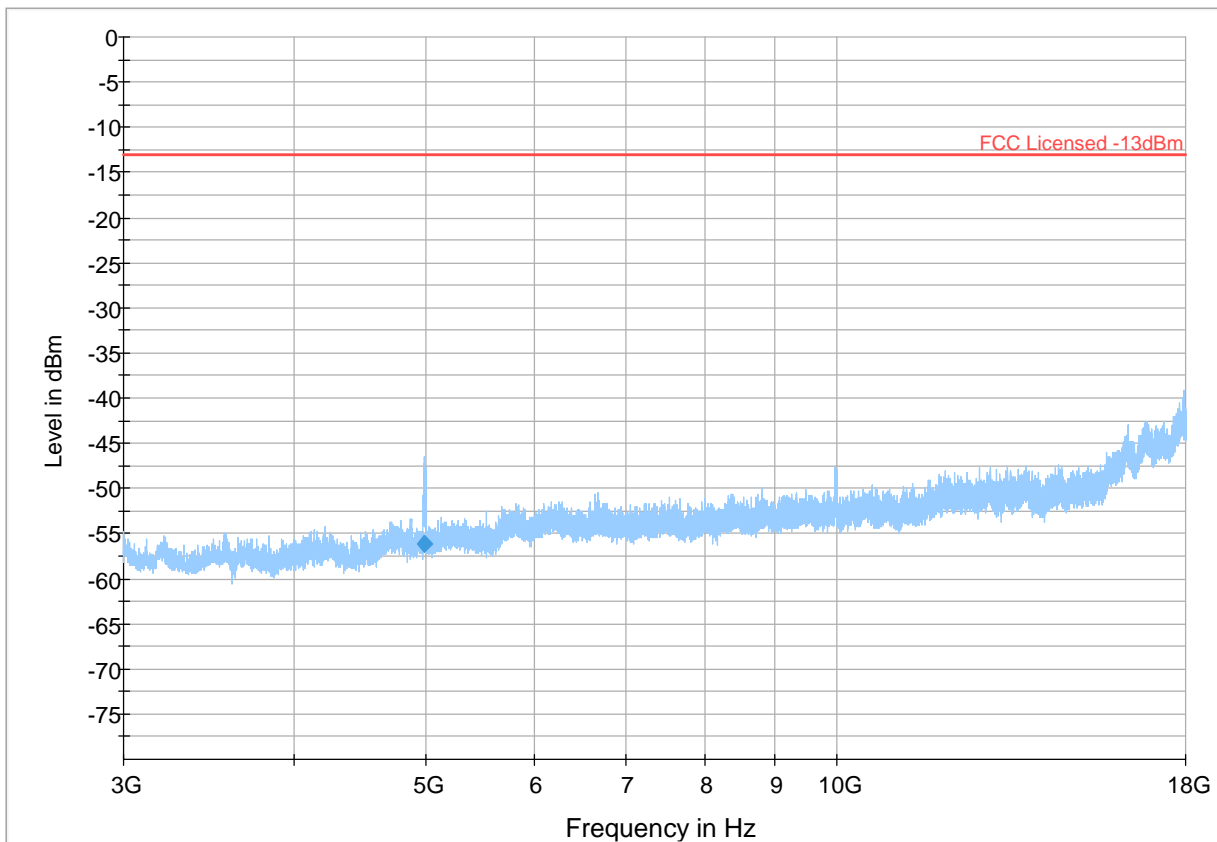
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #39 Radiated Emissions: 3-18GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4977.500        | -56.15    | -13.00      | 43.15       | 500.0           | 1000.000        | 285.0       | V   | 151.0         | -98.3      |         |



— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS

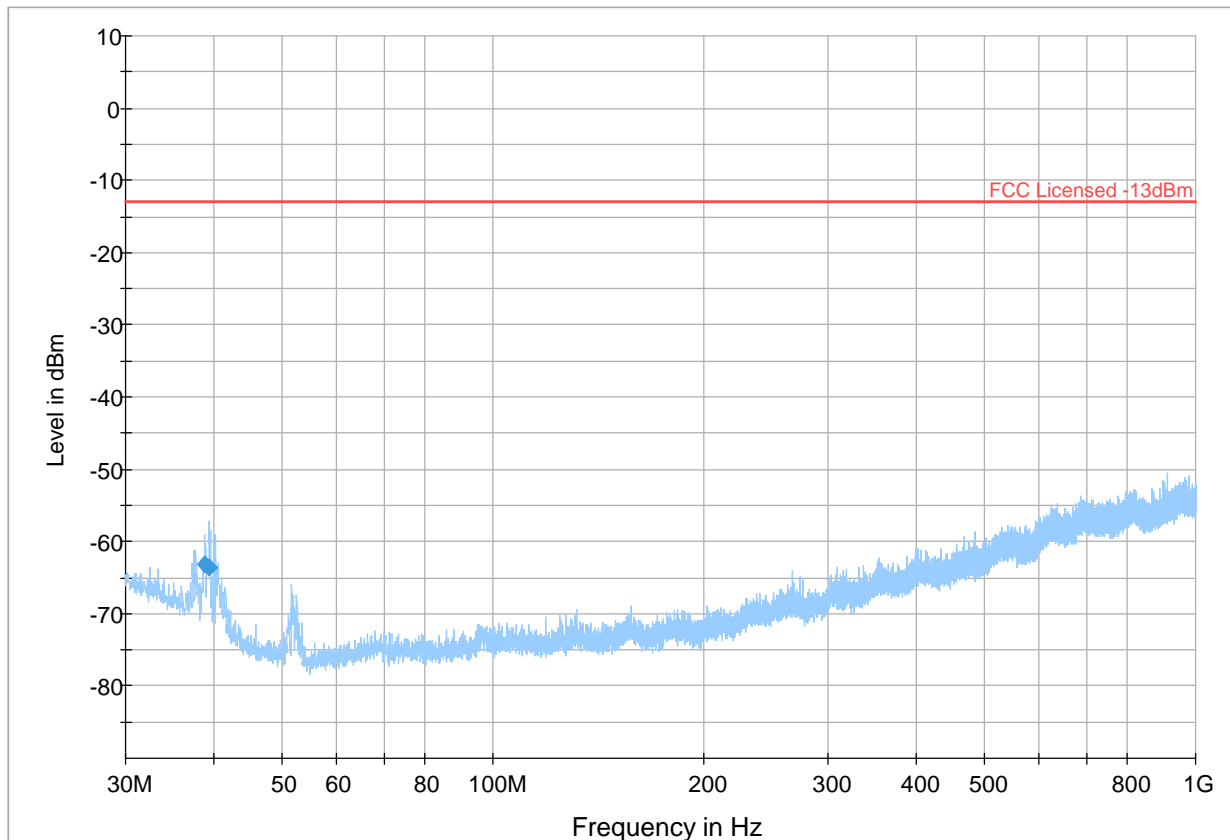




**Plot #40 Radiated Emissions: 30MHz-1GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 38.924          | -63.21    | -13.00      | 50.21       | 500.0           | 100.000         | 150.0       | V   | 134.0         | -88.0      |         |
| 39.441          | -63.60    | -13.00      | 50.60       | 500.0           | 100.000         | 173.0       | V   | 120.0         | -88.3      |         |



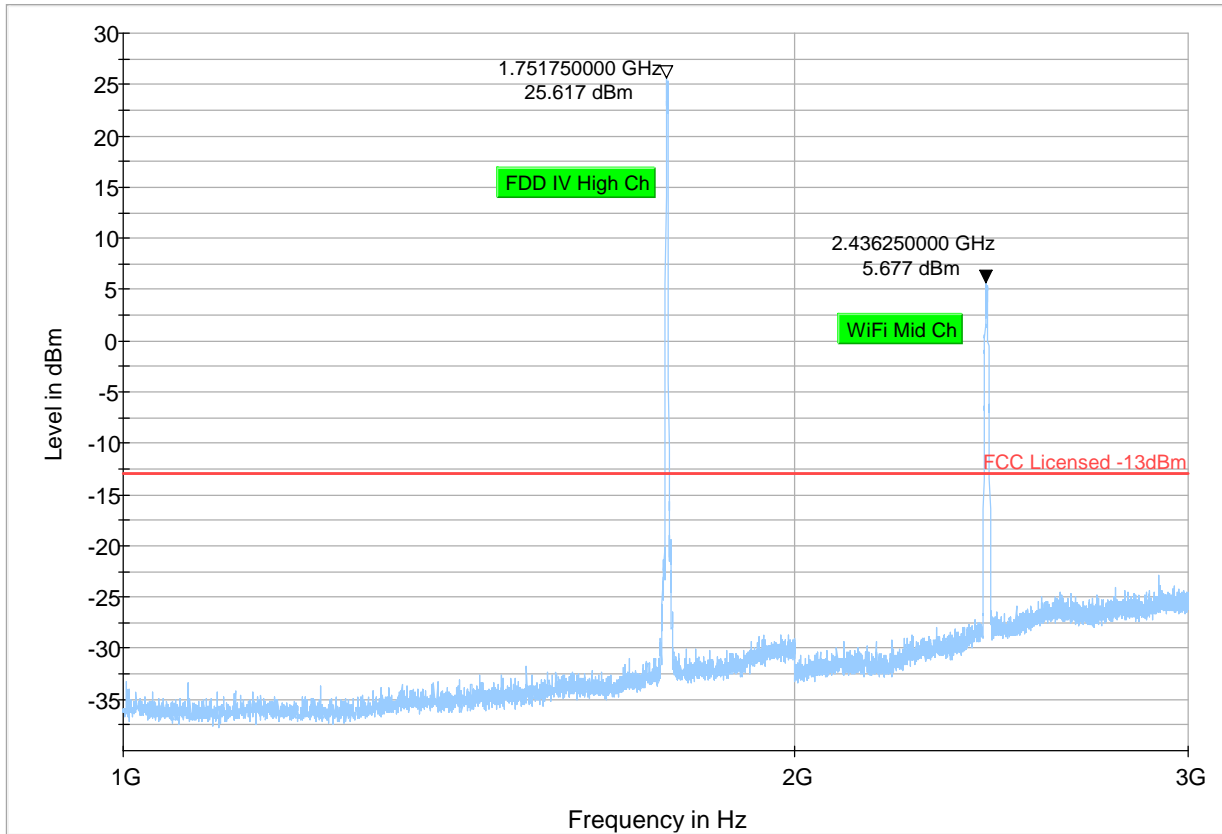
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #41 Radiated Emissions: 1-3 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



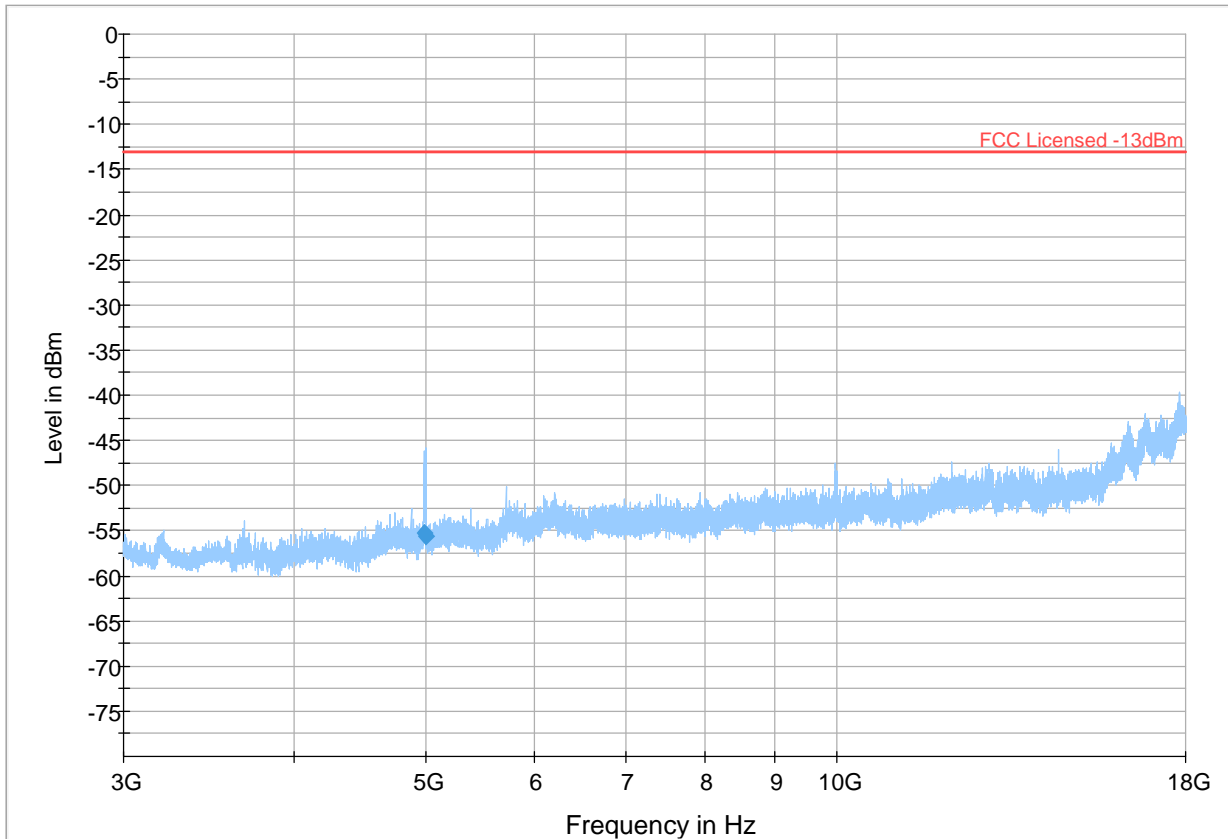
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



**Plot #42 Radiated Emissions: 3-18GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4980.500        | -55.19    | -13.00      | 42.20       | 500.0           | 1000.000        | 275.0       | V   | 150.0         | -98.3      |         |
| 4994.500        | -55.62    | -13.00      | 42.62       | 500.0           | 1000.000        | 263.0       | V   | 149.0         | -98.3      |         |



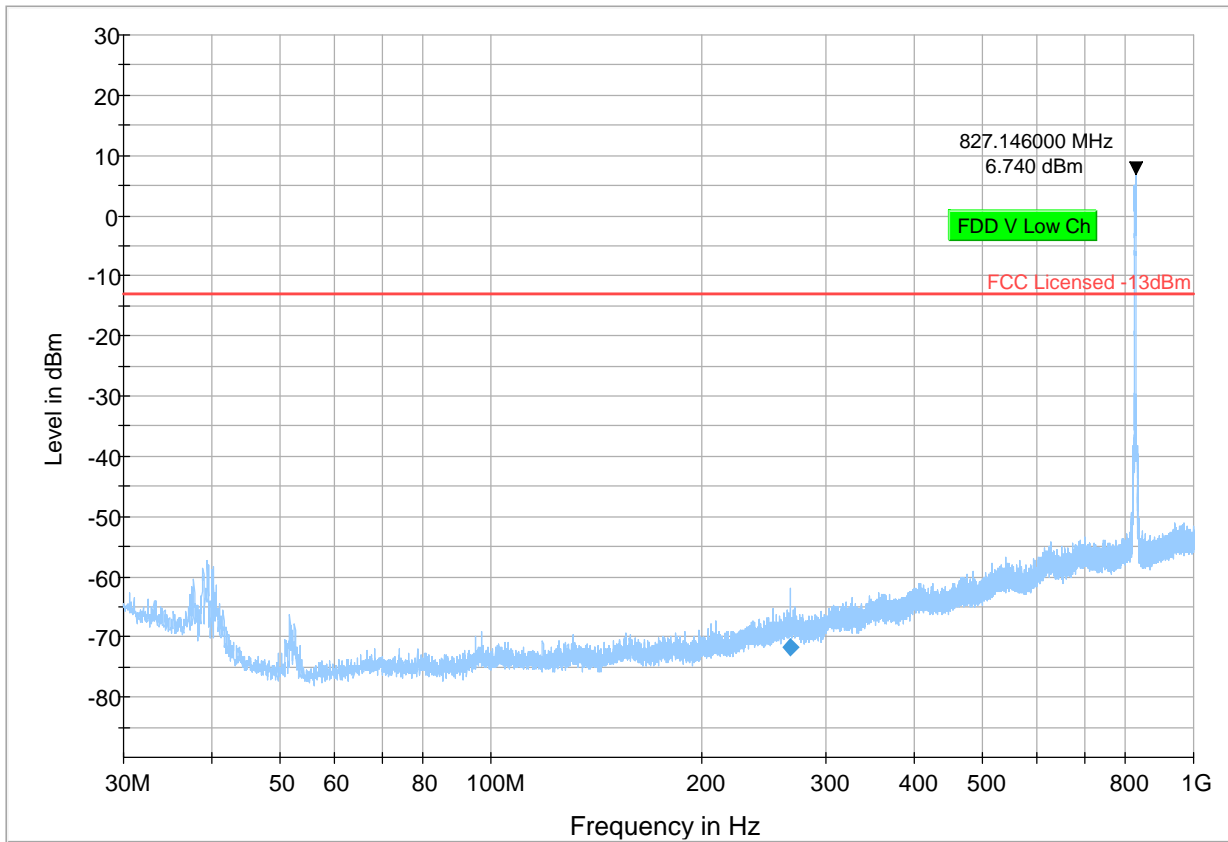
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #43 Radiated Emissions: 30MHz-1GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 266.389         | -71.65    | -13.00      | 58.65       | 500.0           | 100.000         | 150.0       | V   | 127.0         | -85.1      |         |



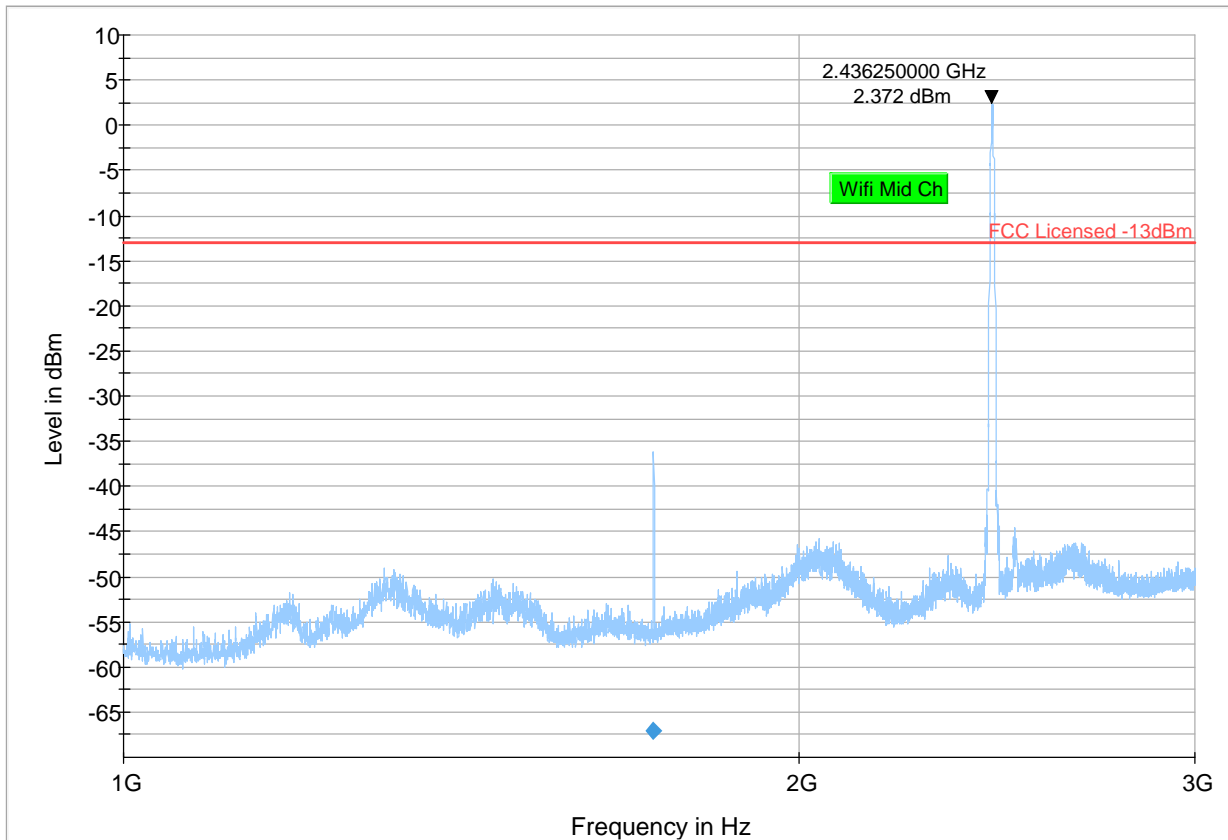
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #44 Radiated Emissions: 1-3 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 1722.000        | -67.03    | -13.00      | 54.03       | 500.0           | 1000.000        | 162.0       | V   | 8.0           | -89.3      |         |



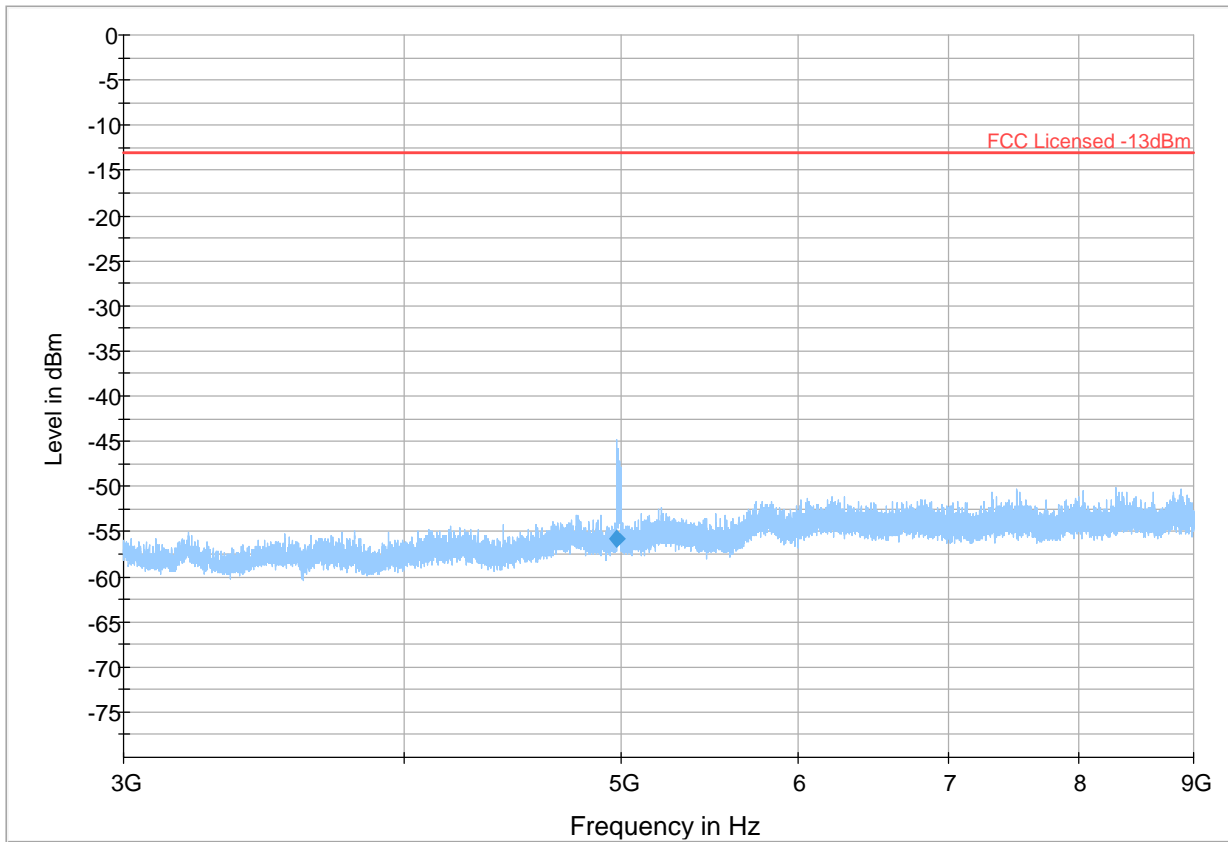
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #45 Radiated Emissions: 3-9 GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4978.000        | -55.71    | -13.00      | 42.71       | 500.0           | 1000.000        | 262.0       | V   | 149.0         | -98.3      |         |



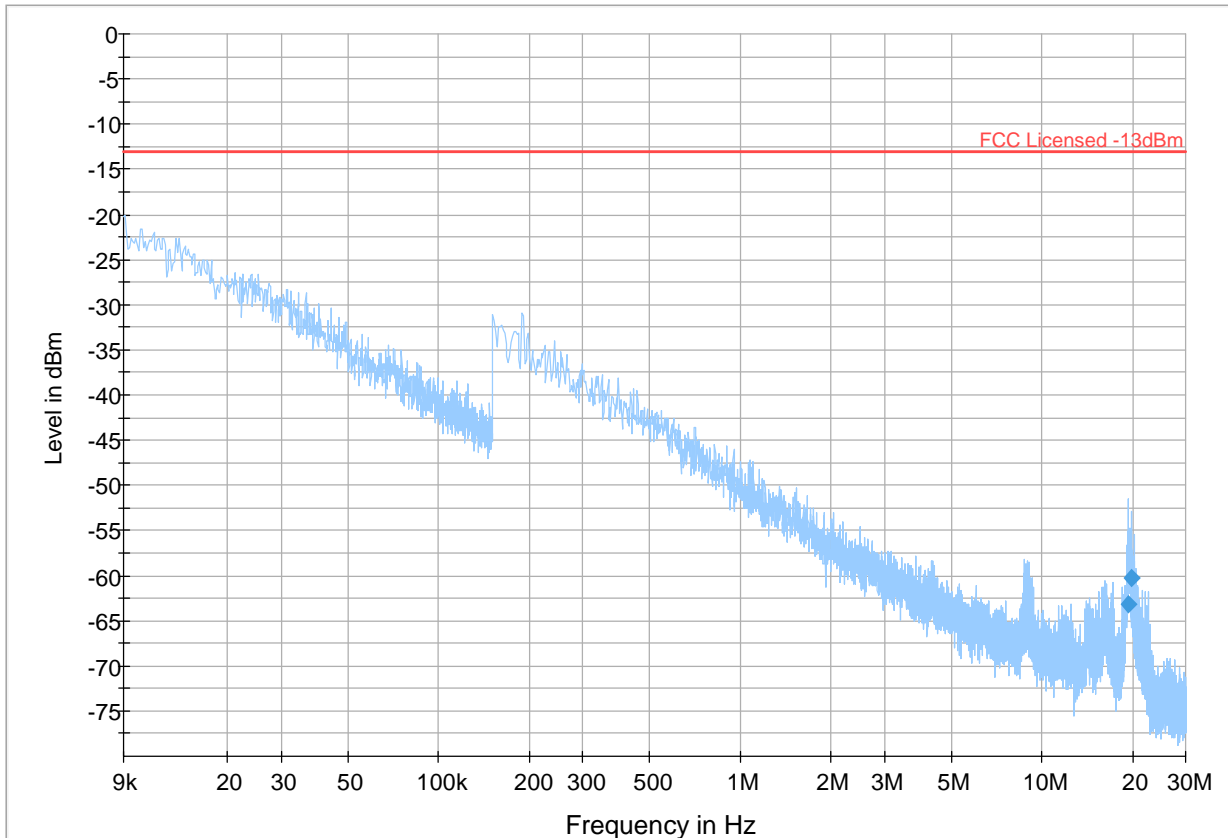
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #46 Radiated Emissions: 9kHz-30MHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 19.405          | -63.18    | -13.00      | 50.18       | 500.0           | 3.000           | 149.0       | V   | -7.0          | -78.4      |         |
| 19.890          | -60.19    | -13.00      | 47.19       | 500.0           | 3.000           | 150.0       | V   | 82.0          | -78.5      |         |



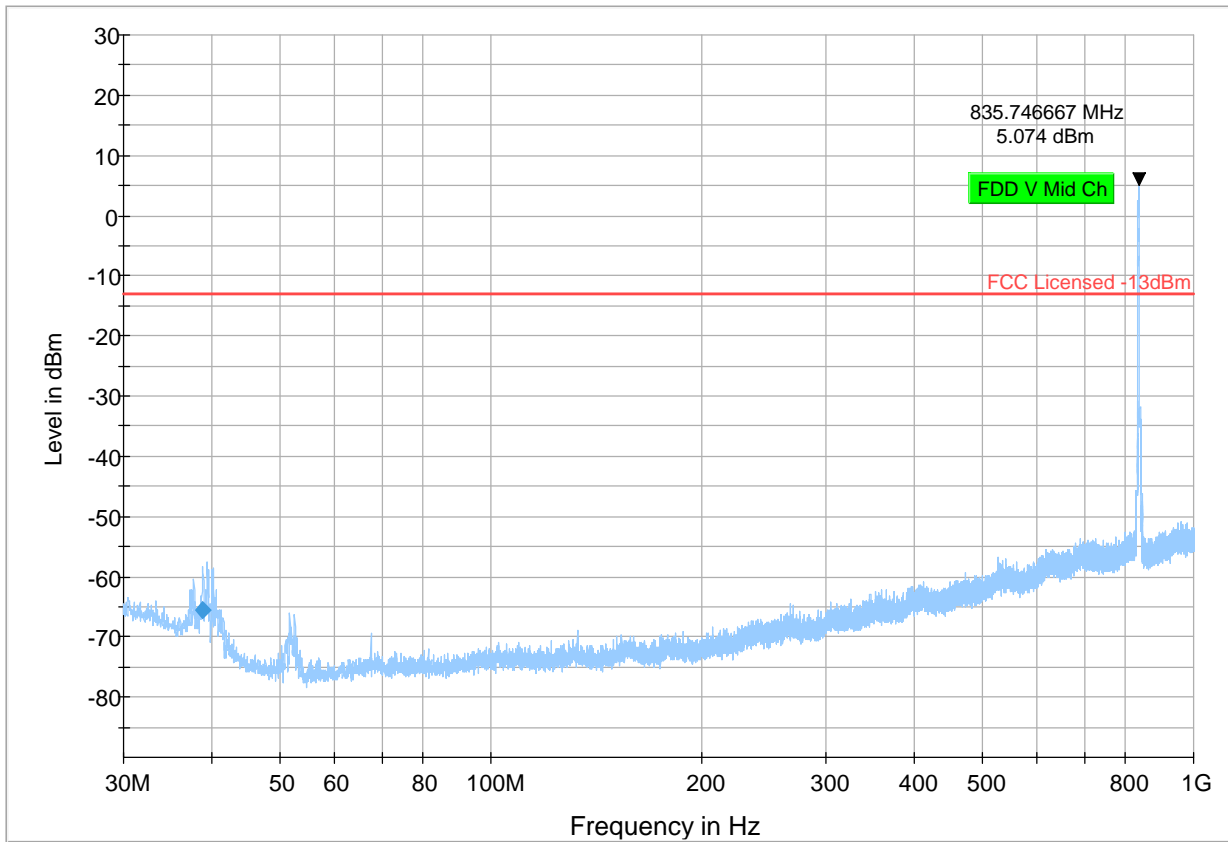
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #47 Radiated Emissions: 30MHz-1GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 38.924          | -65.49    | -13.00      | 52.49       | 500.0           | 100.000         | 315.0       | V   | 143.0         | -88.0      |         |



— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS

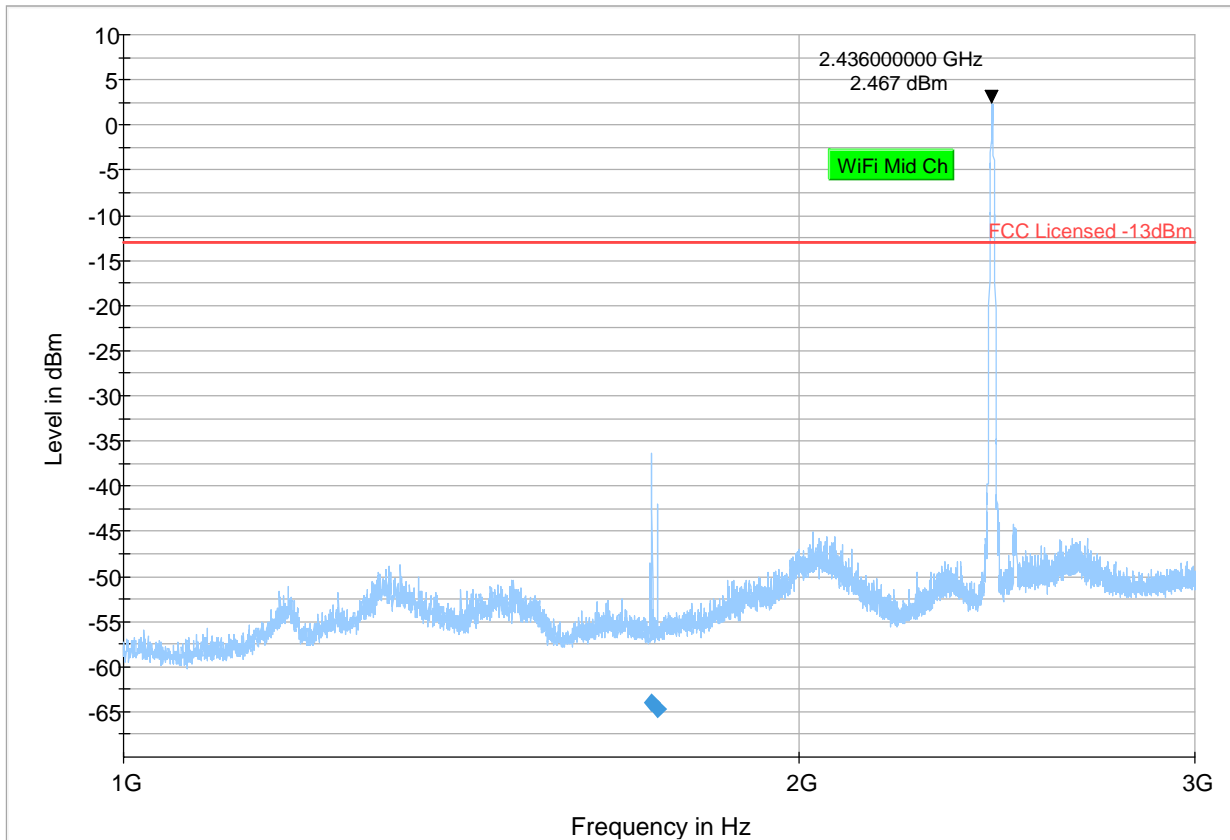




Plot #48 Radiated Emissions: 1-3 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 1719.000        | -64.02    | -13.00      | 51.02       | 500.0           | 1000.000        | 219.0       | V   | 36.0          | -89.4      |         |
| 1729.000        | -64.62    | -13.00      | 51.62       | 500.0           | 1000.000        | 227.0       | V   | 120.0         | -89.3      |         |



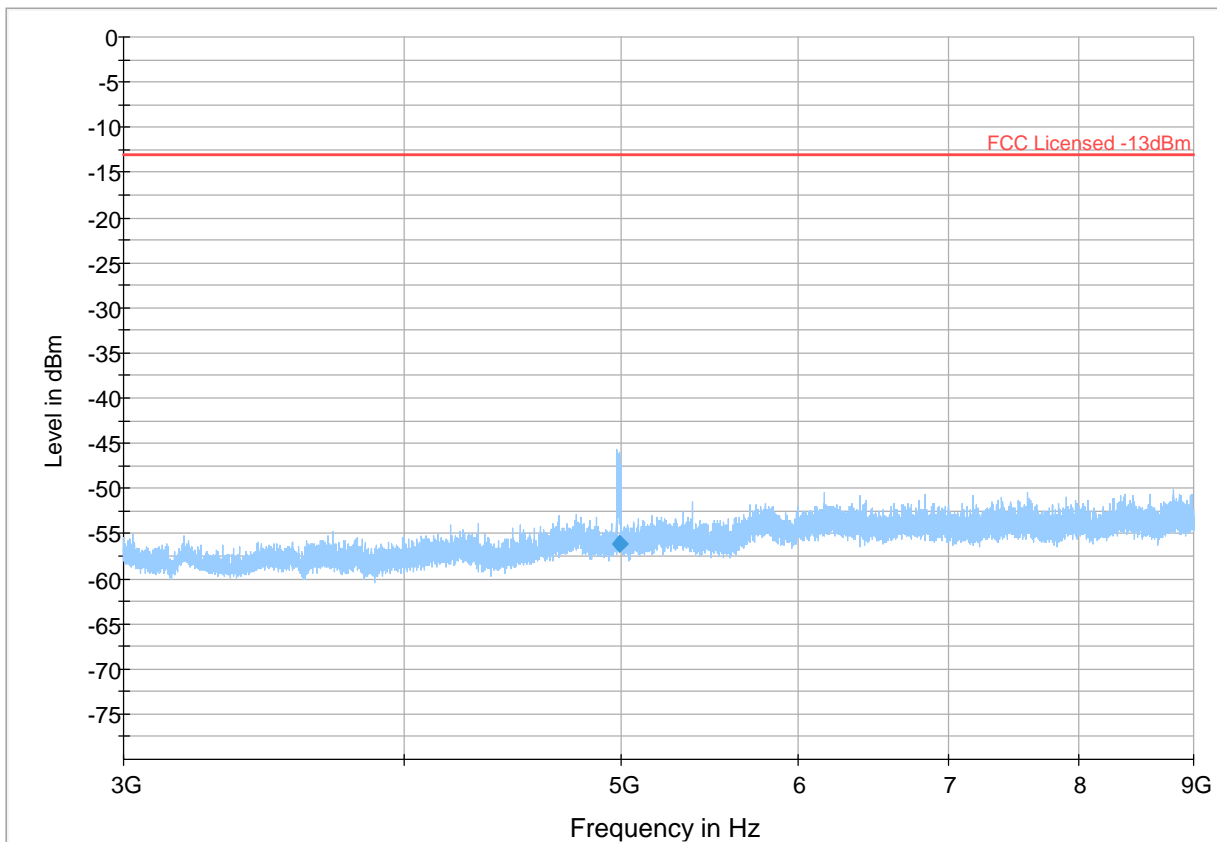
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #49 Radiated Emissions: 3-9 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4995.750        | -56.19    | -13.00      | 43.19       | 500.0           | 1000.000        | 261.0       | V   | 149.0         | -98.3      |         |



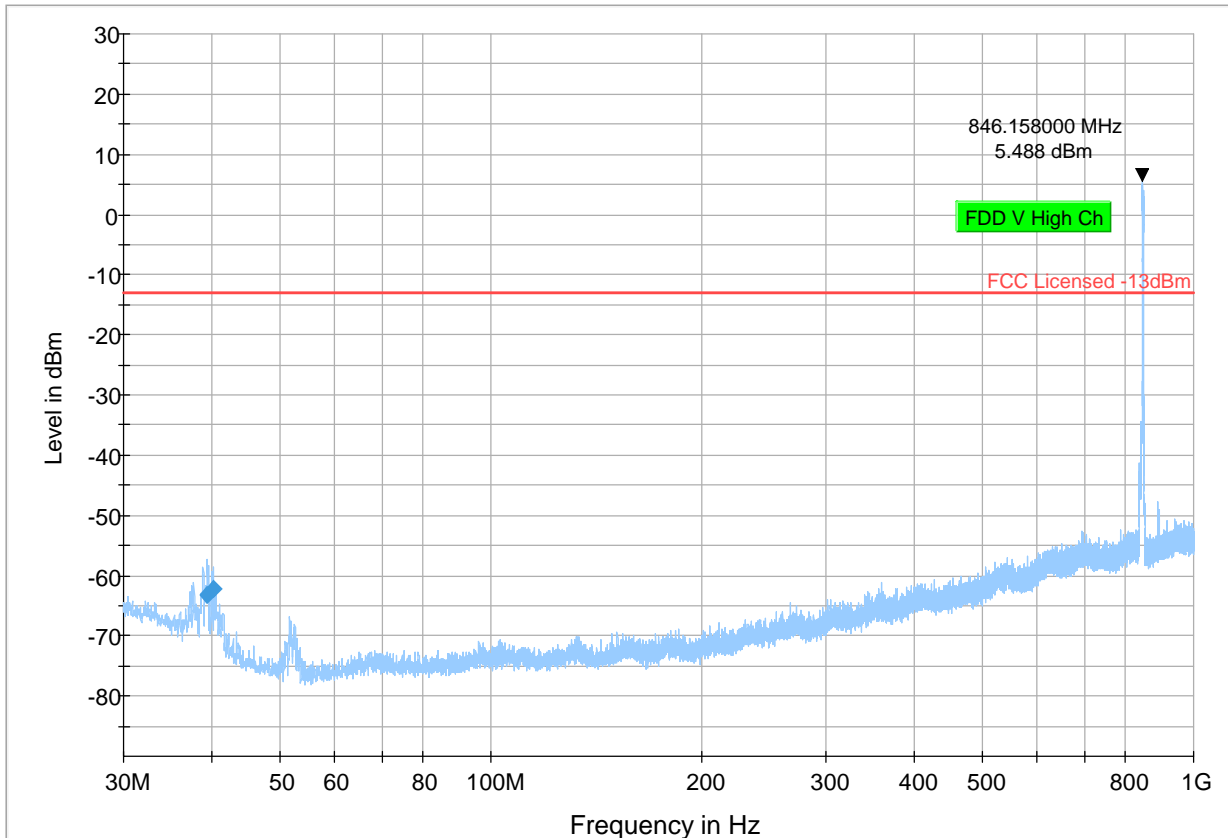
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #50 Radiated Emissions: 30 MHz – 1 GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.441          | -63.25    | -13.00      | 50.25       | 500.0           | 100.000         | 175.0       | V   | 127.0         | -88.3      |         |
| 40.347          | -62.17    | -13.00      | 49.17       | 500.0           | 100.000         | 150.0       | V   | 124.0         | -88.8      |         |



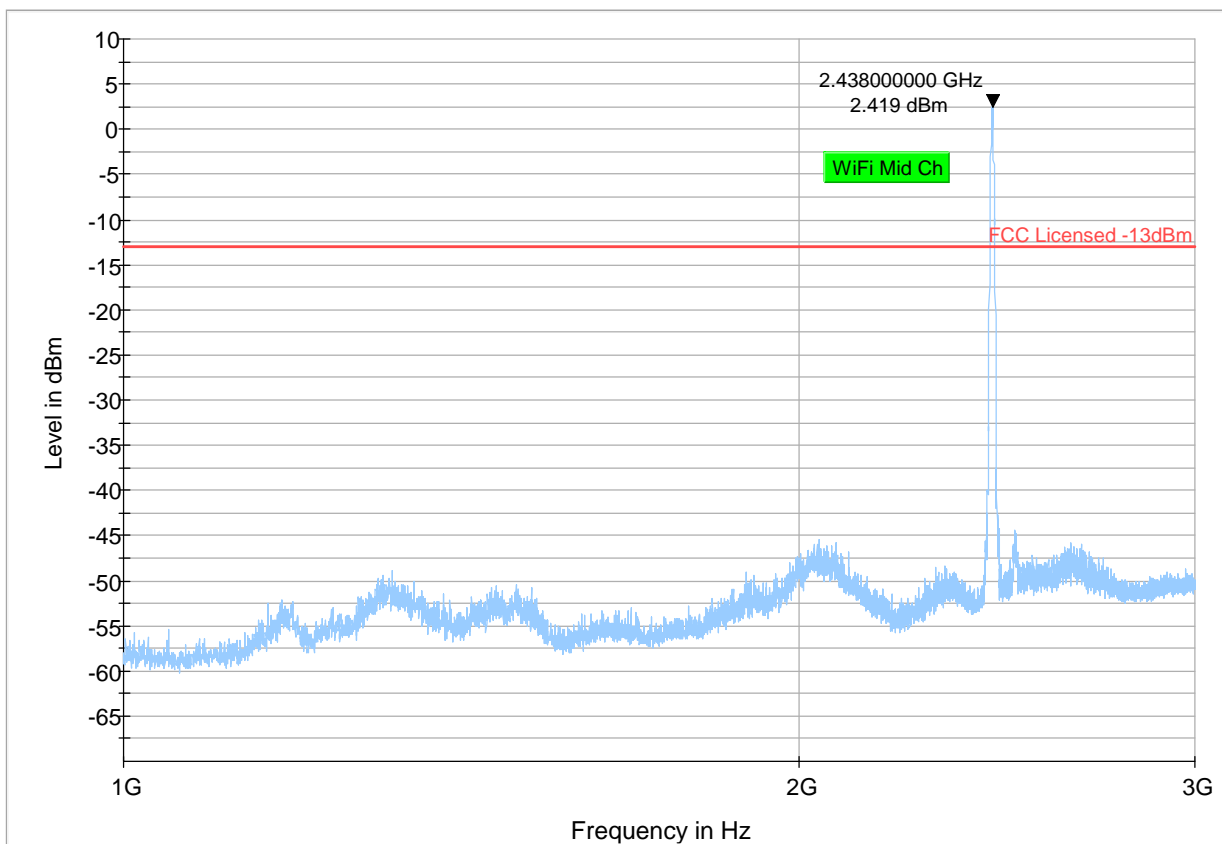
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #51 Radiated Emissions: 1-3 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



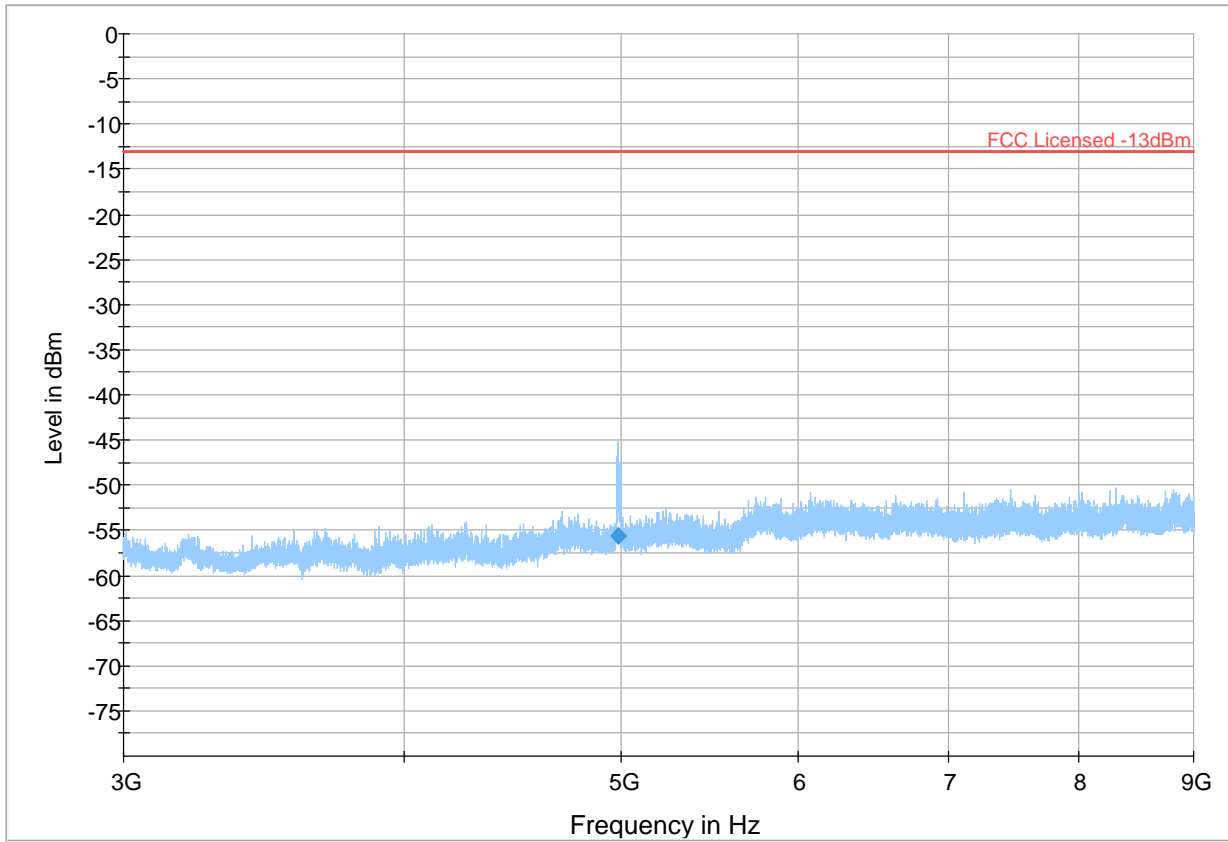
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



Plot #52 Radiated Emissions: 3-9 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4985.750        | -55.55    | -13.00      | 42.55       | 500.0           | 1000.000        | 284.0       | V   | 151.0         | -98.3      |         |



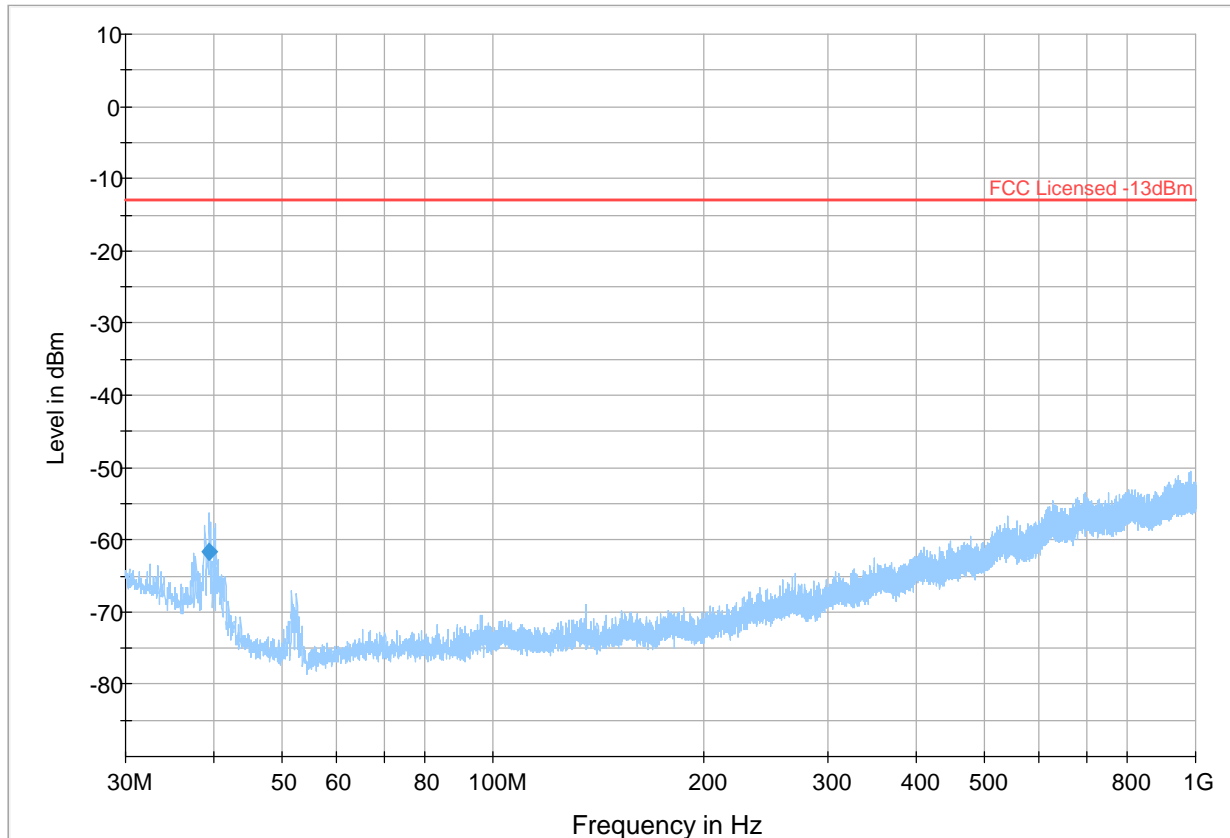
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #53 Radiated Emissions: 30 MHz – 1GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.441          | -61.69    | -13.00      | 48.69       | 500.0           | 100.000         | 175.0       | V   | 167.0         | -88.3      |         |



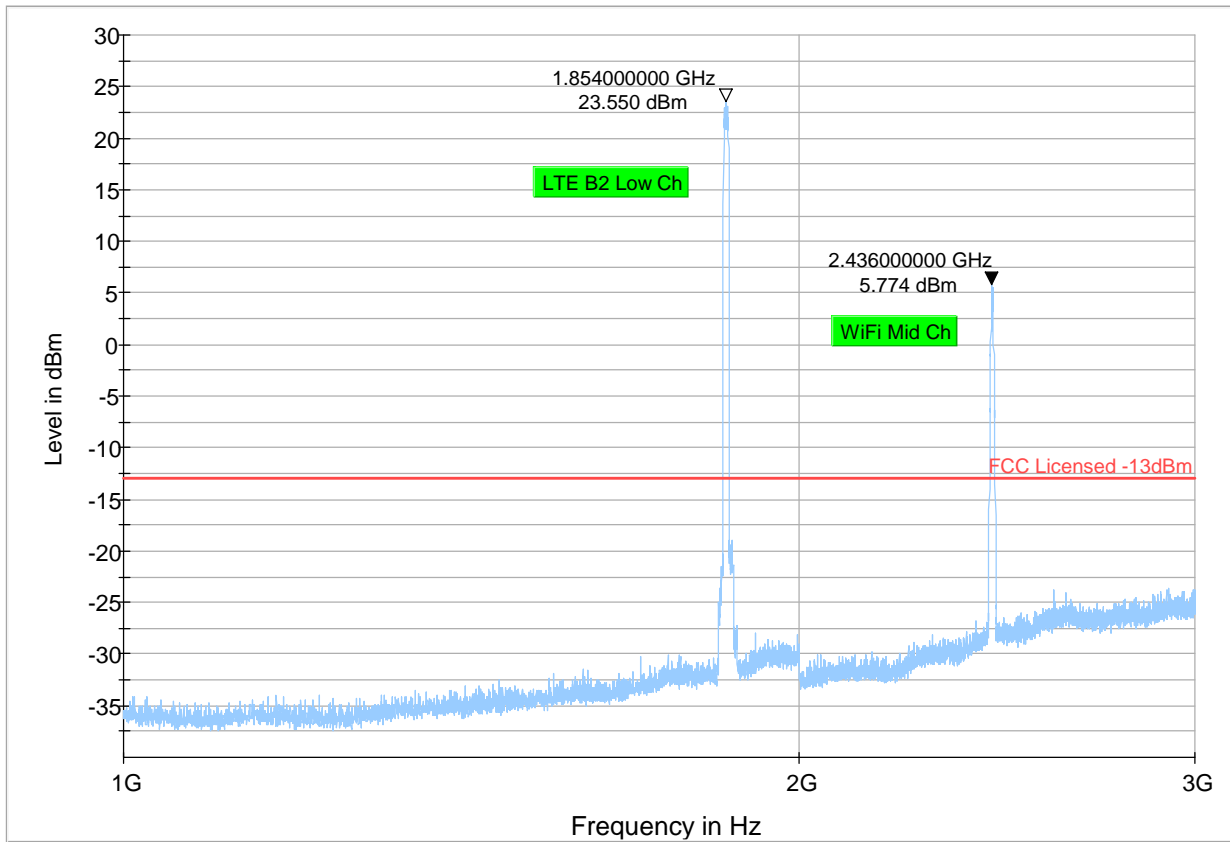
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #54 Radiated Emissions: 1-3 GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



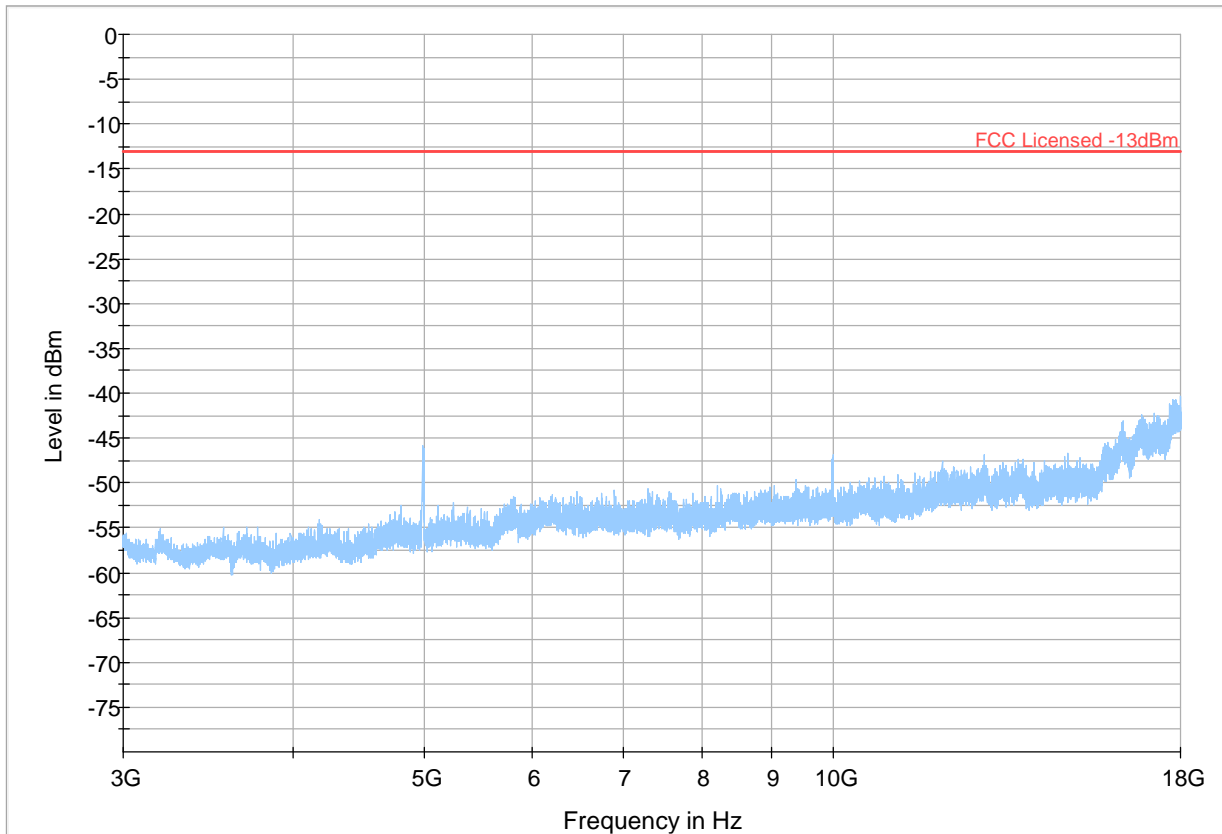
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



**Plot #55 Radiated Emissions: 3-18 GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS

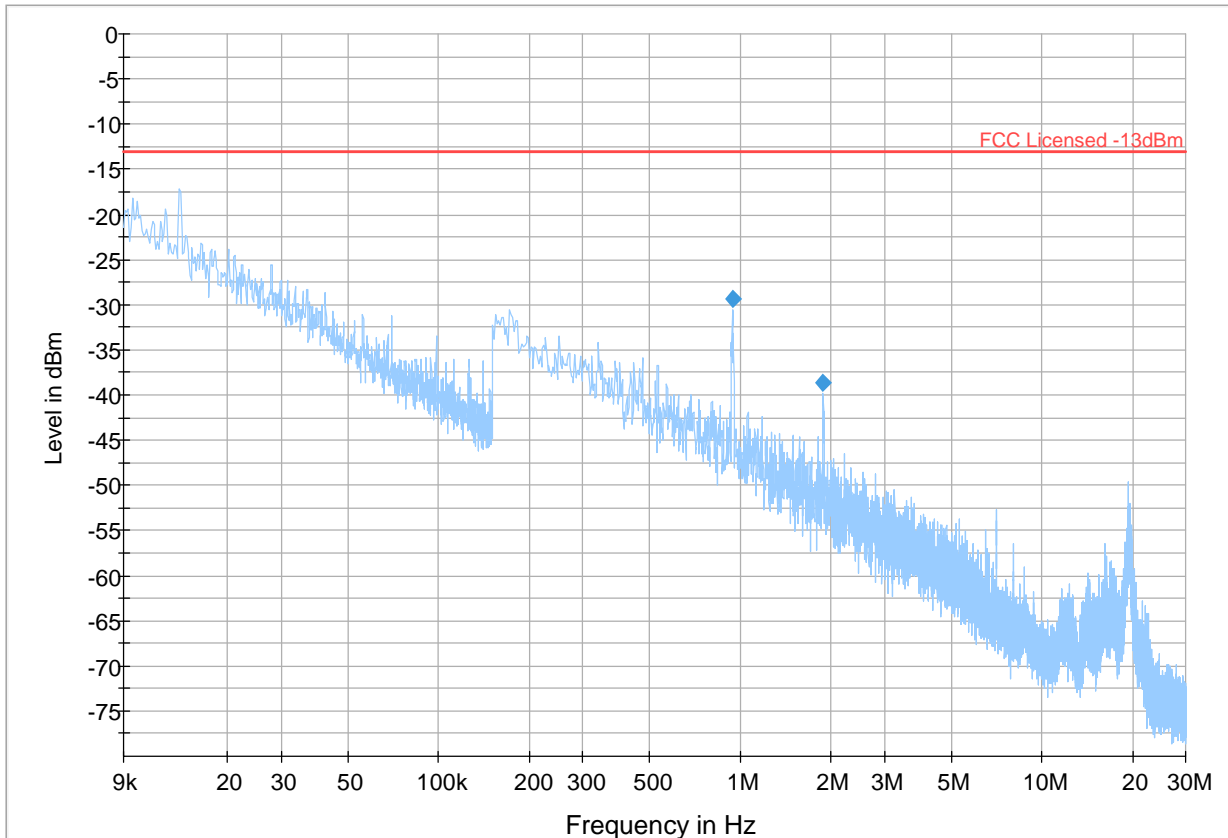




Plot #56 Radiated Emissions: 9 kHz – 30 MHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 0.941           | -29.36    | -13.00      | 16.36       | 500.0           | 3.000           | 162.0       | H   | -40.0         | -76.5      |         |
| 1.889           | -38.61    | -13.00      | 25.61       | 500.0           | 3.000           | 163.0       | H   | -19.0         | -76.3      |         |



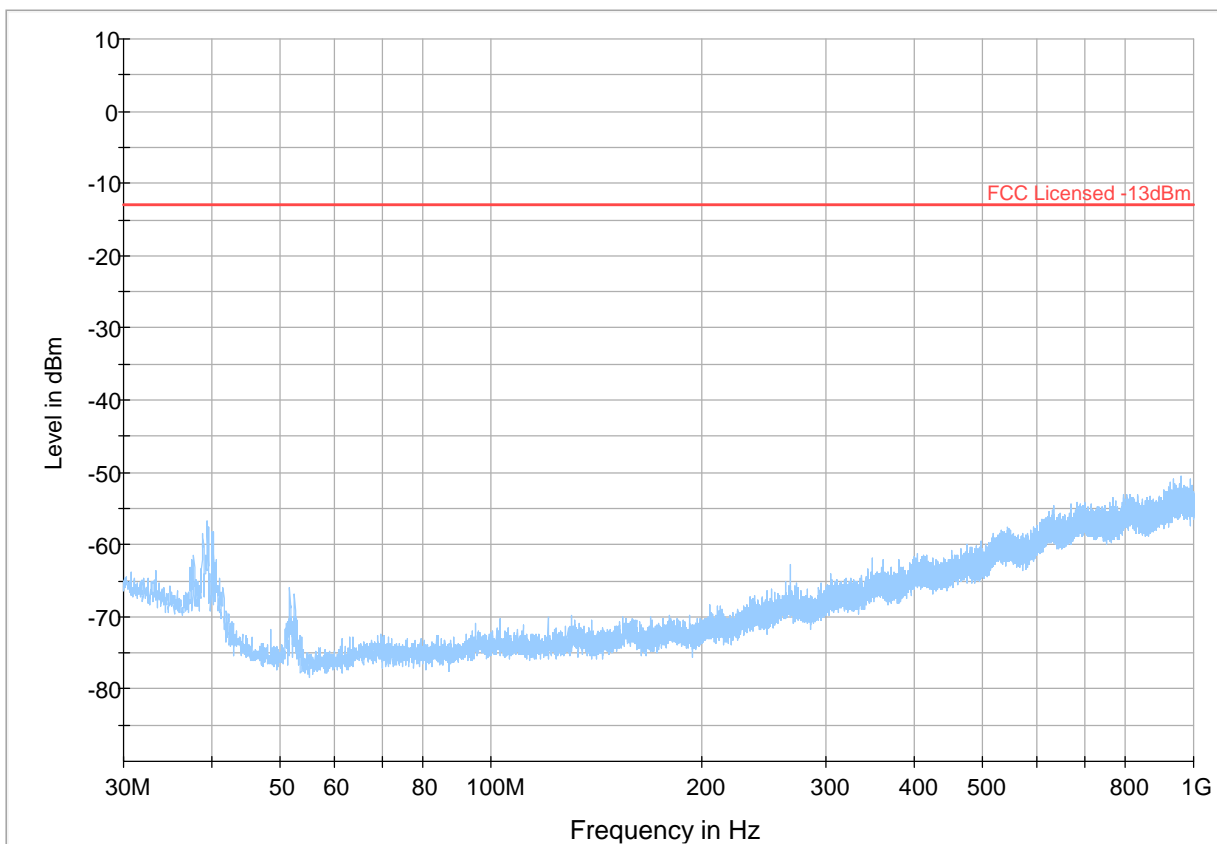
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #57 Radiated Emissions: 30 MHz – 1 GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



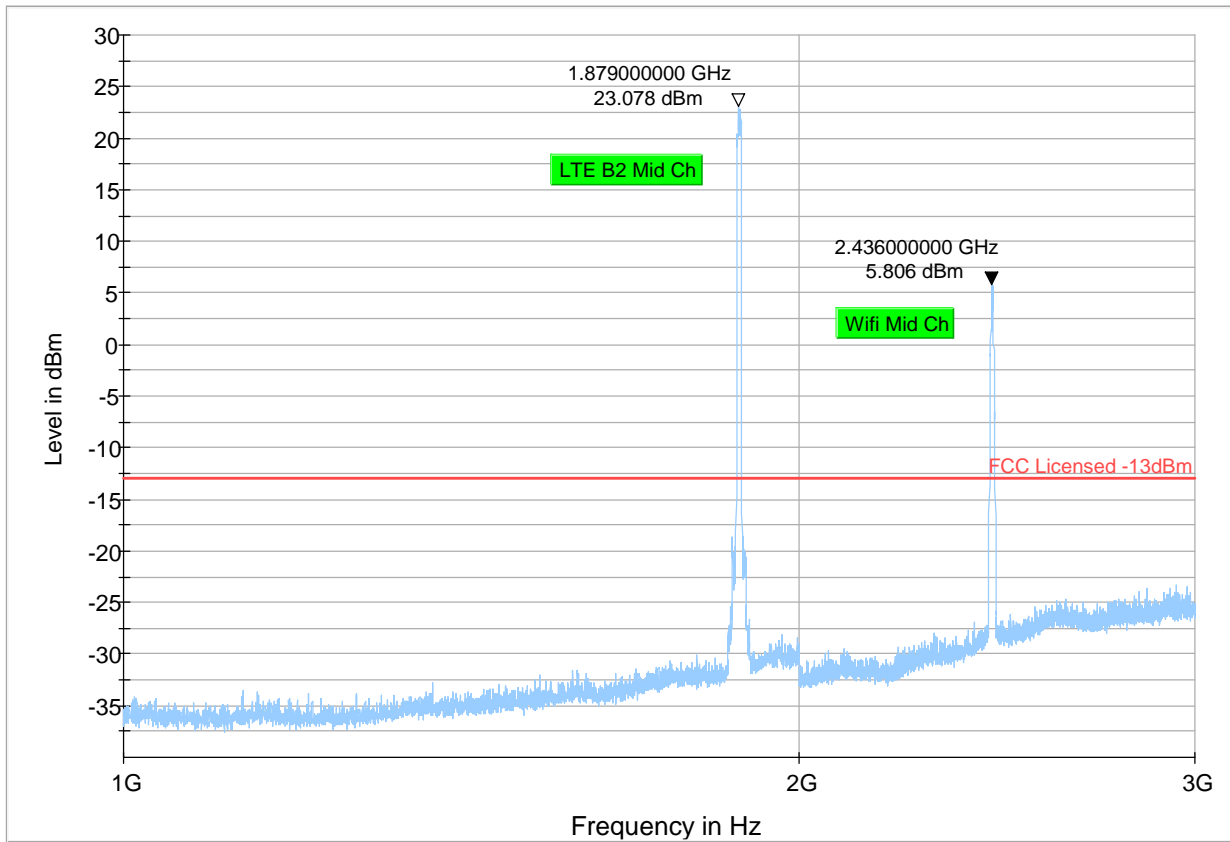
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot #58 Radiated Emissions: 1-3 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



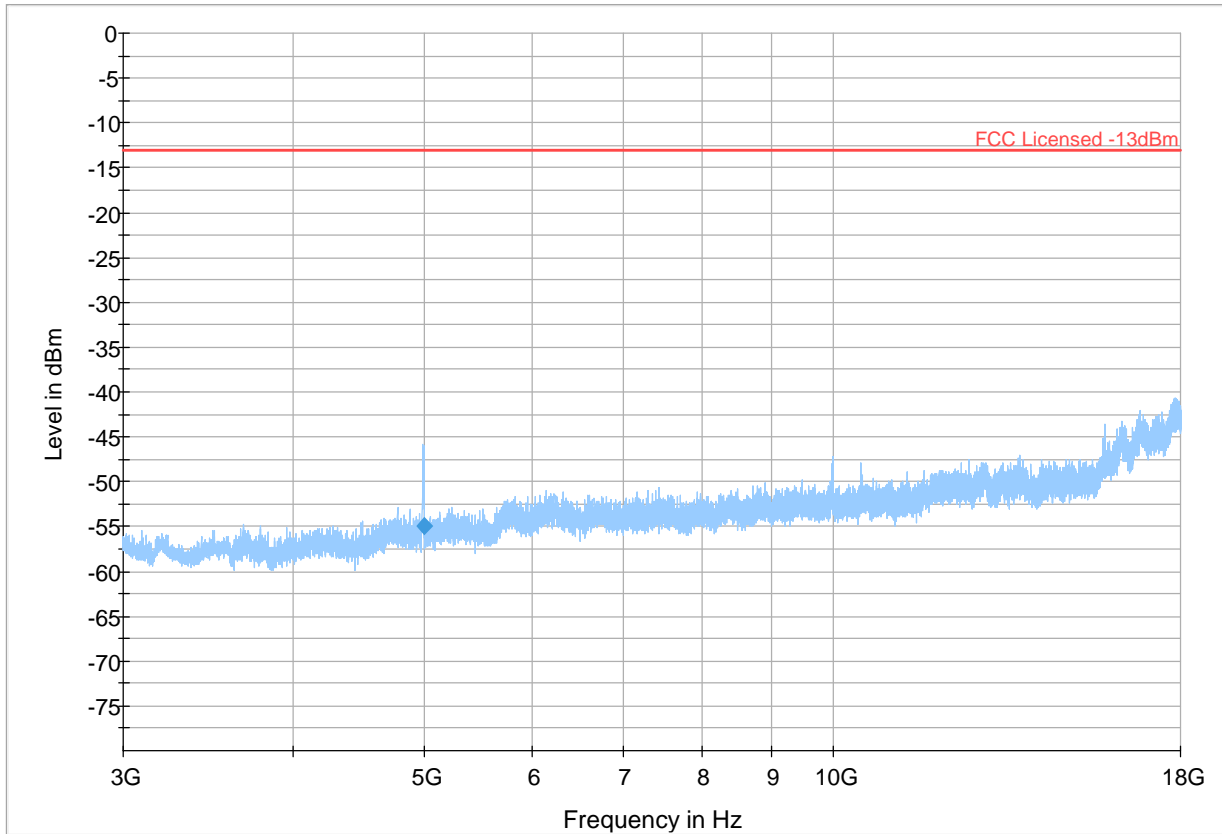
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



Plot #59 Radiated Emissions: 3-18 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4993.000        | -54.94    | -13.00      | 41.94       | 500.0           | 1000.000        | 263.0       | V   | 151.0         | -98.3      |         |



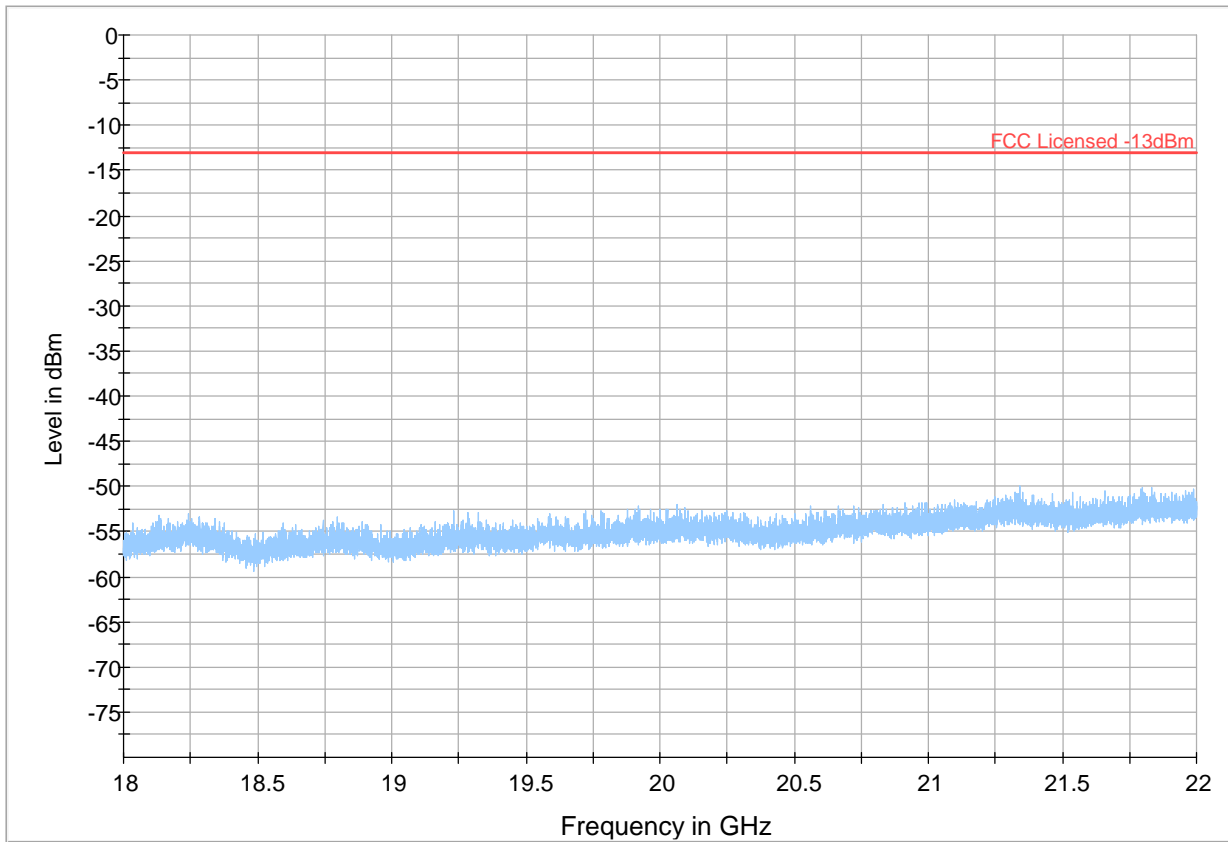
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



Plot #60 Radiated Emissions: 18-22 GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



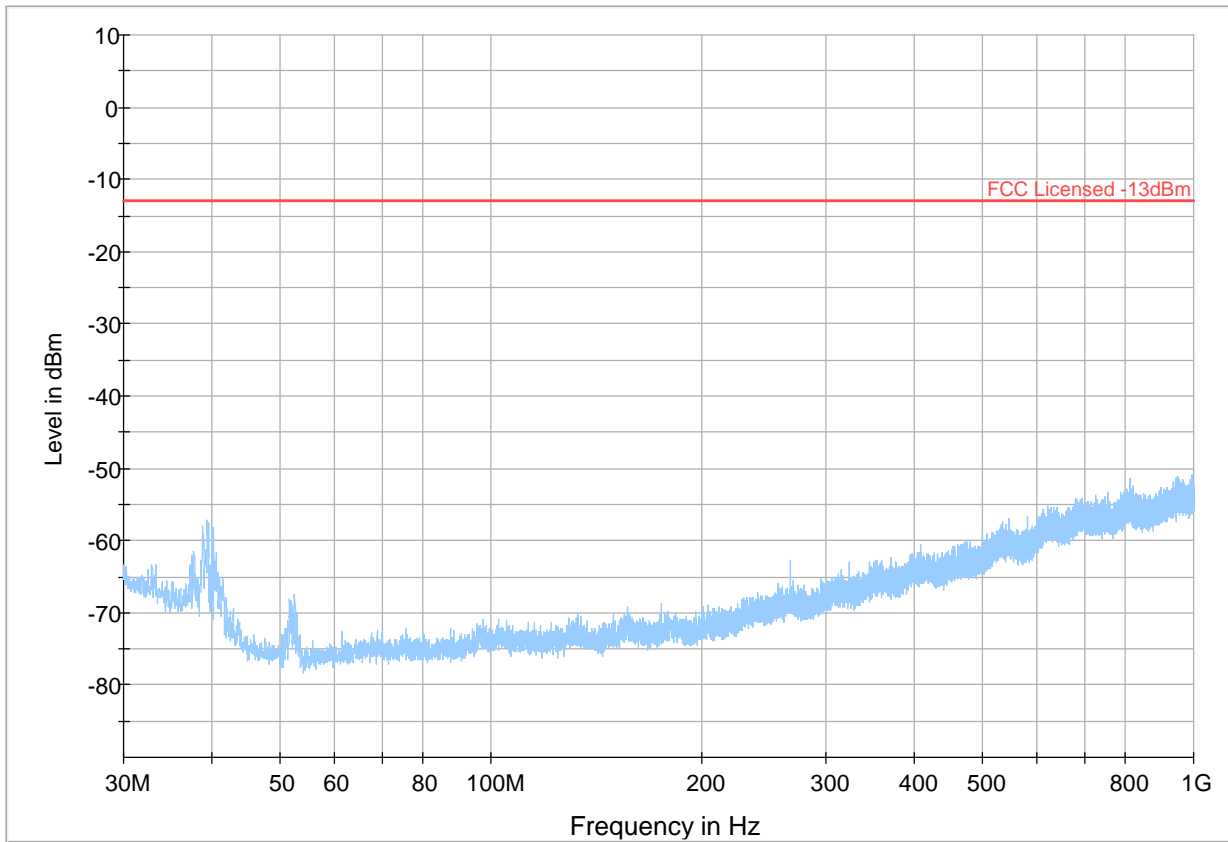
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



**Plot #61 Radiated Emissions: 30MHz-1GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



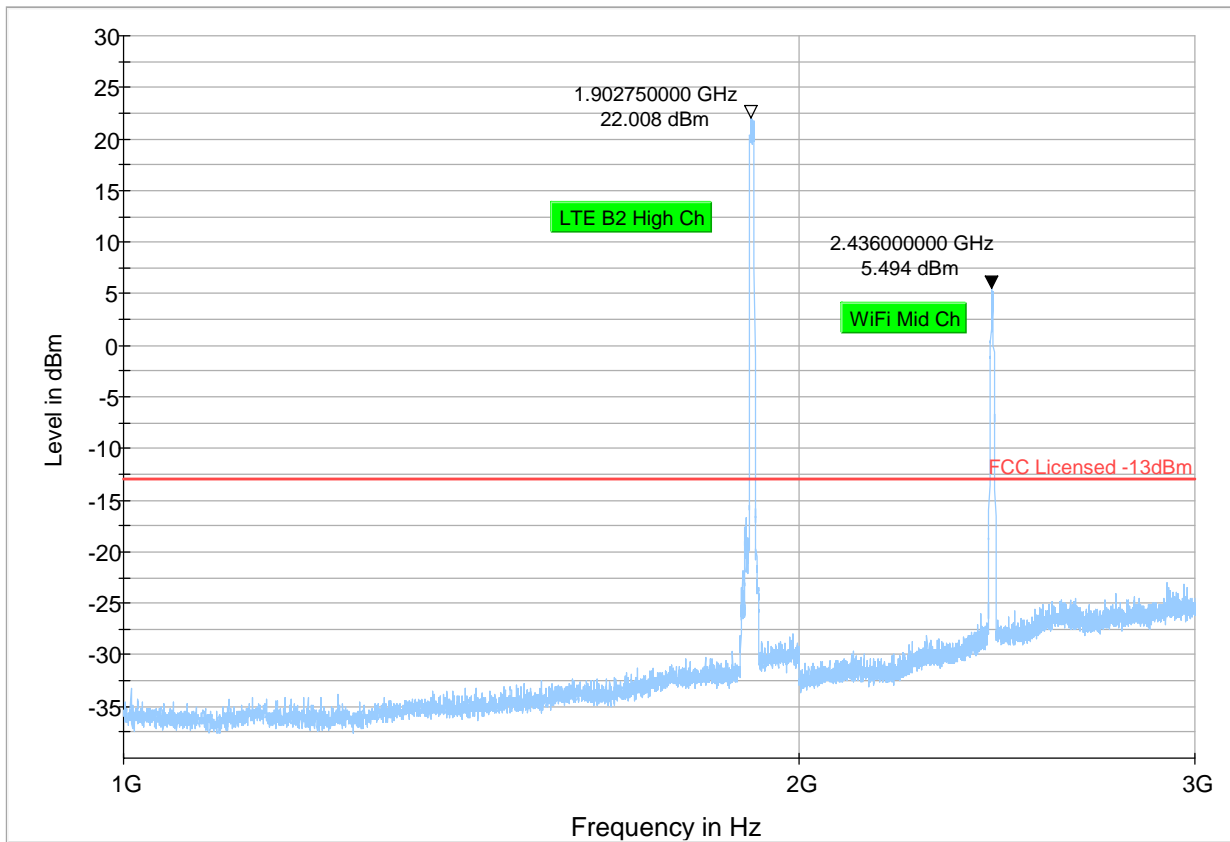
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot #62 Radiated Emissions: 1-3 GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



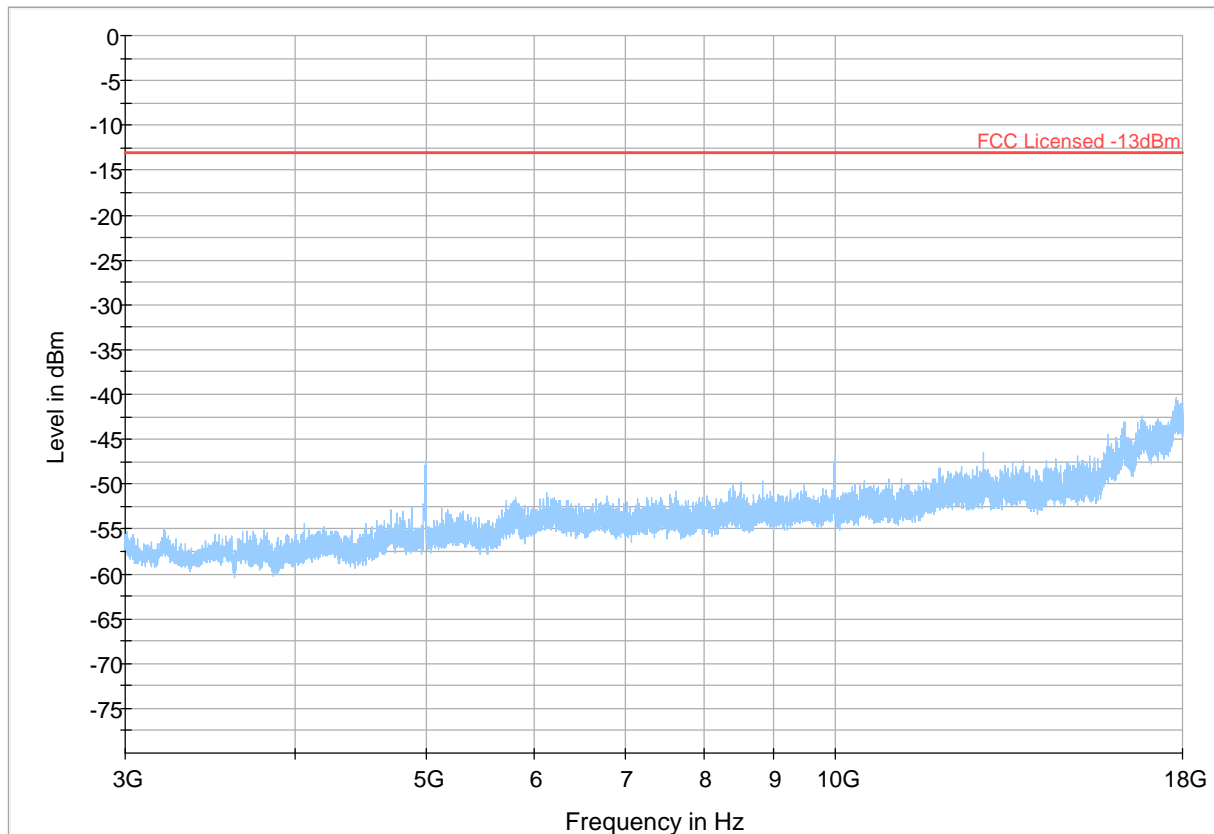
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



**Plot #63 Radiated Emissions: 3-18GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS

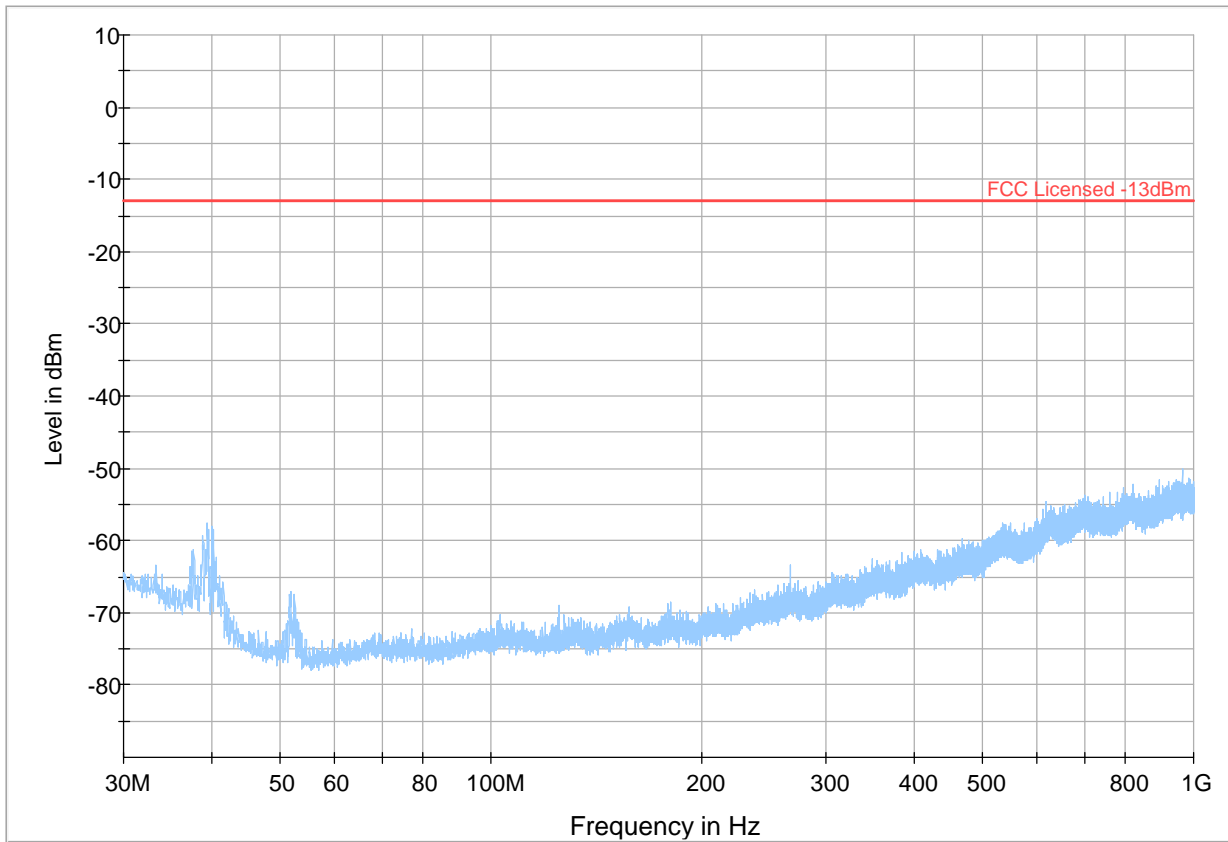




**Plot #64 Radiated Emissions: 30MHz-1GHz**

**Channel: Low**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



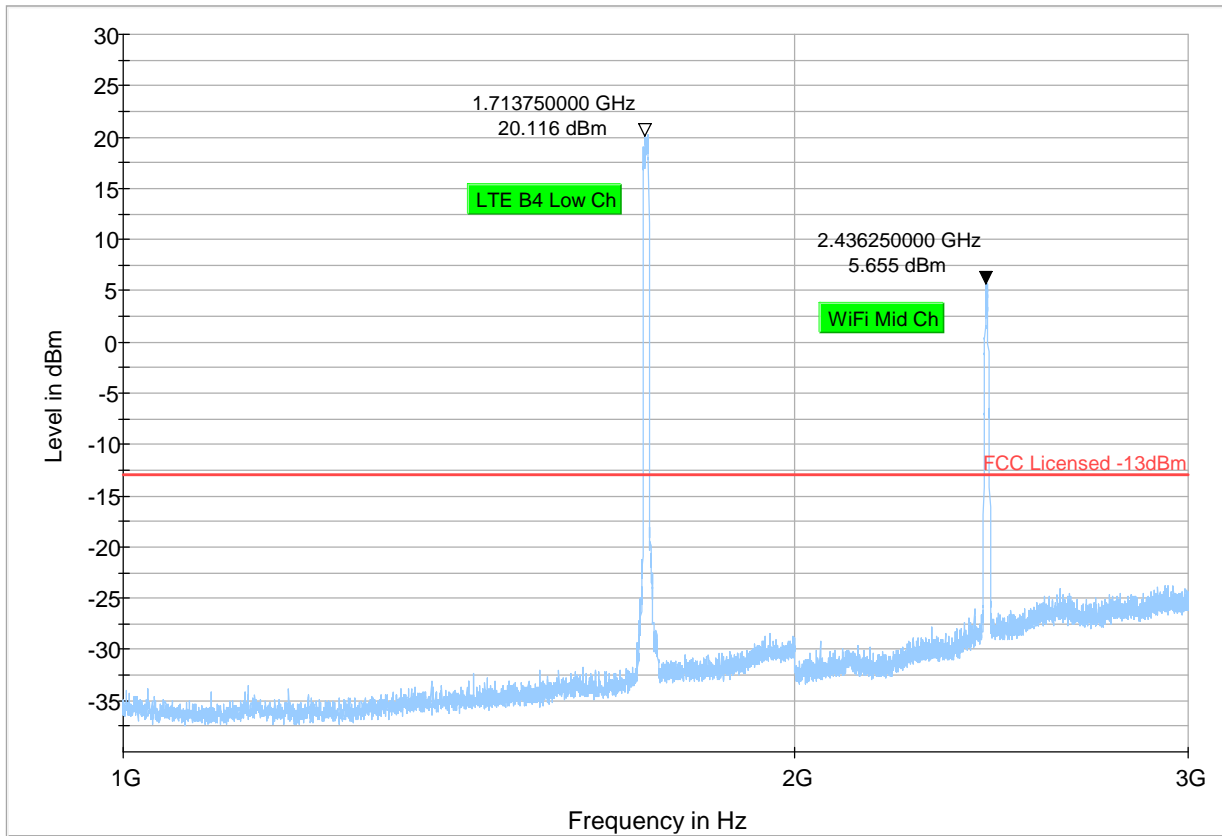
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot #65 Radiated Emissions: 1-3GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



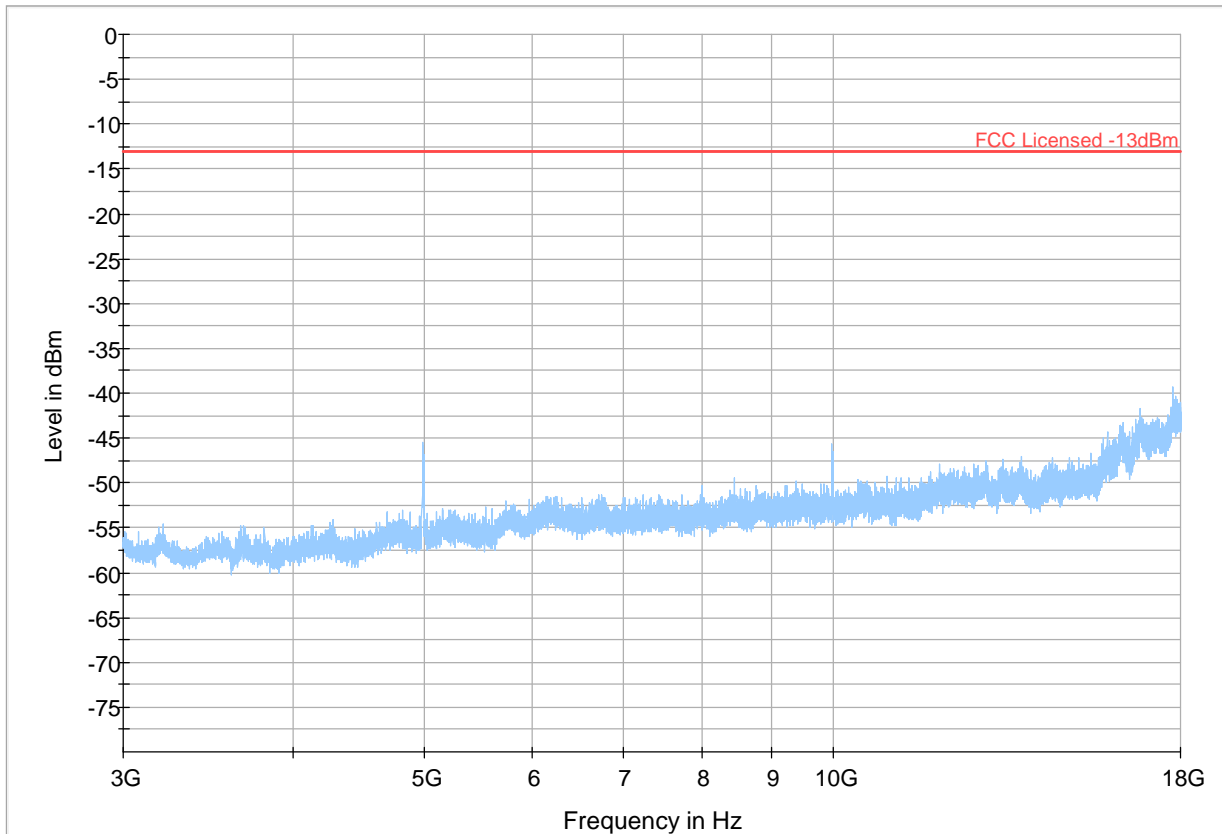
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #66 Radiated Emissions: 3-18GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



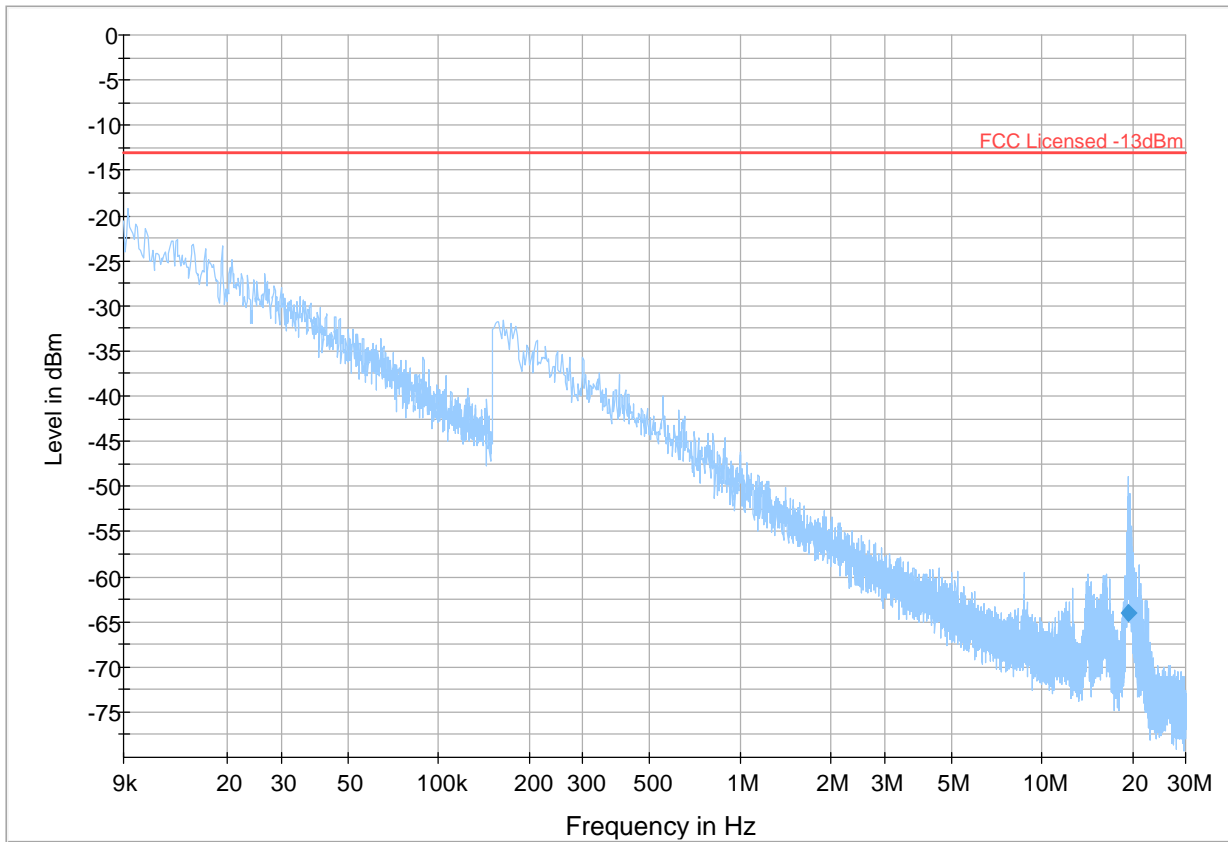
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #67 Radiated Emissions: 9kHz-30MHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 19.439          | -64.04    | -13.00      | 51.04       | 500.0           | 3.000           | 149.0       | V   | 35.0          | -78.4      |         |



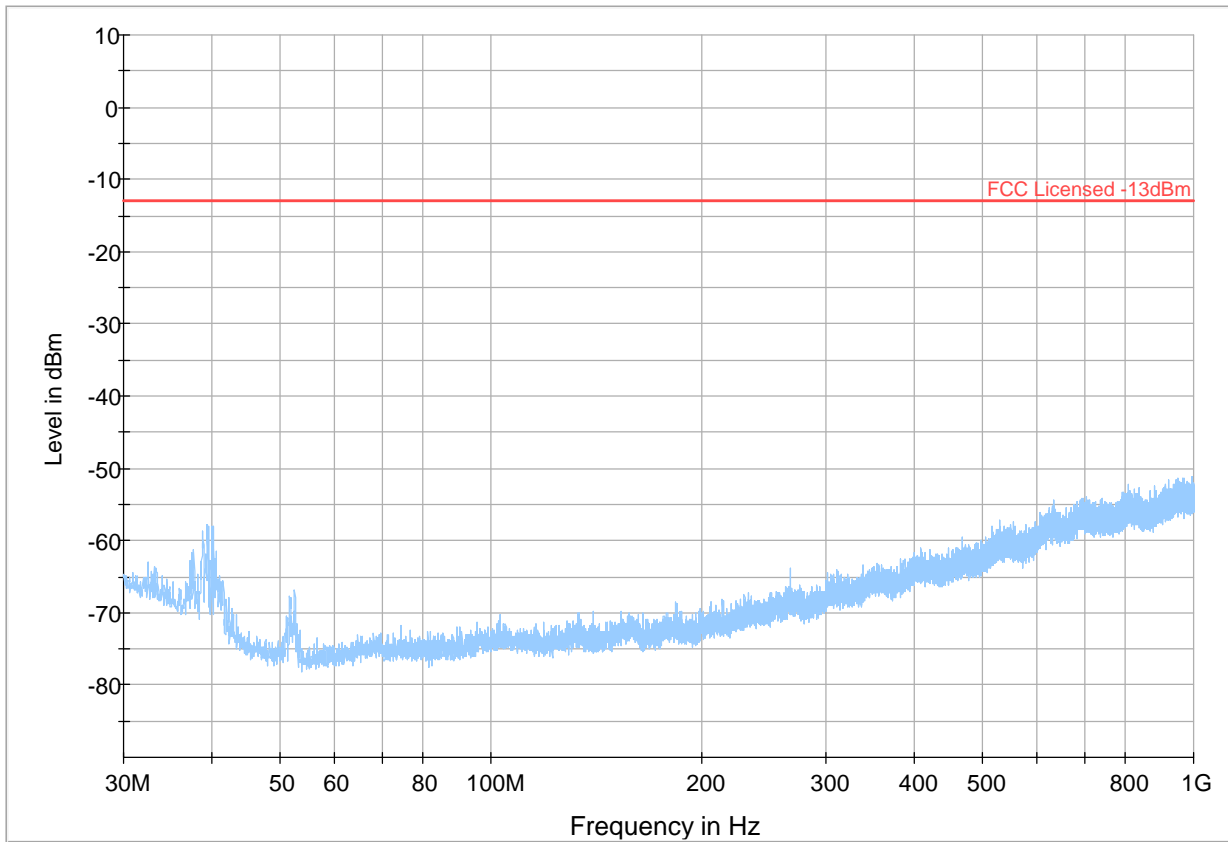
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



Plot #68 Radiated Emissions: 30MHz-1GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



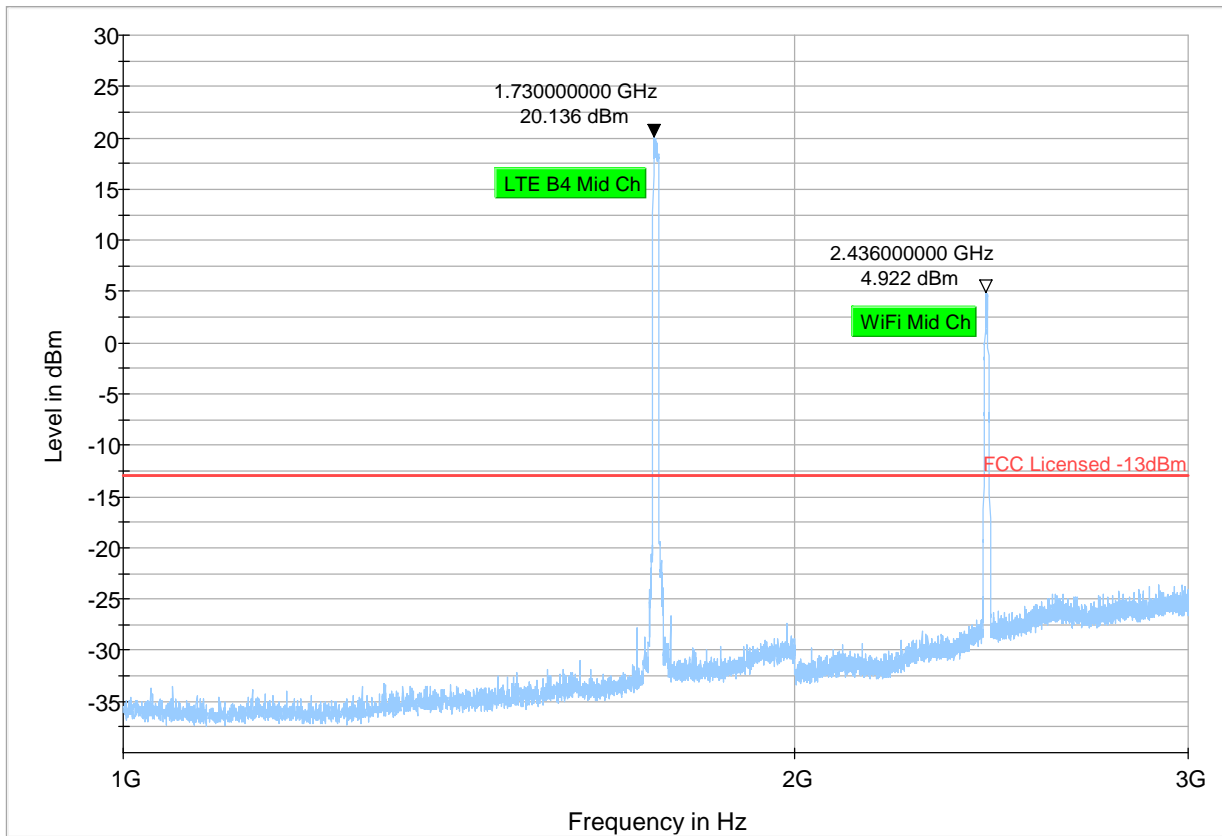
Preview Result 1-PK+    FCC Licensed -13dBm    Final\_Result RMS



Plot #69 Radiated Emissions: 1-3GHz

Channel: Mid

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



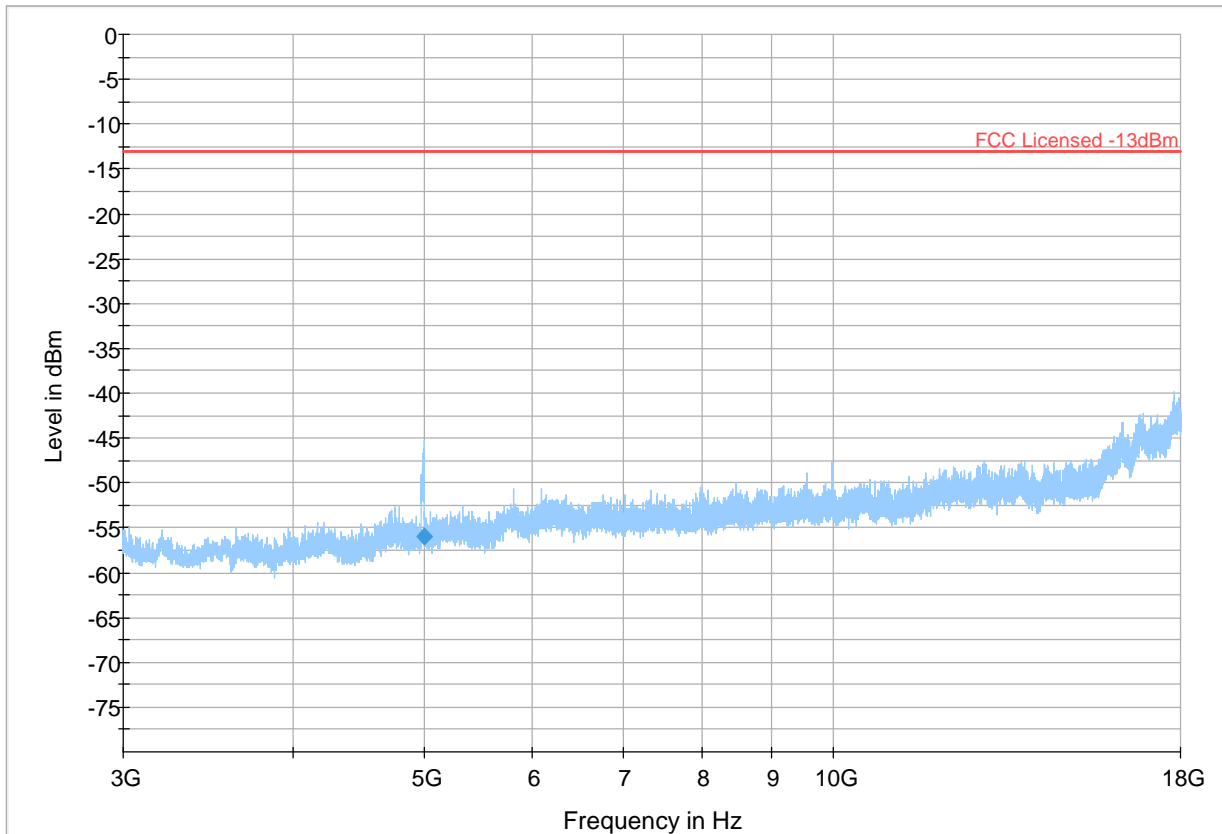
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #70 Radiated Emissions: 3-18GHz**

**Channel: Mid**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 4996.500        | -56.05    | -13.00      | 43.05       | 500.0           | 1000.000        | 265.0       | V   | 138.0         | -98.3      |         |



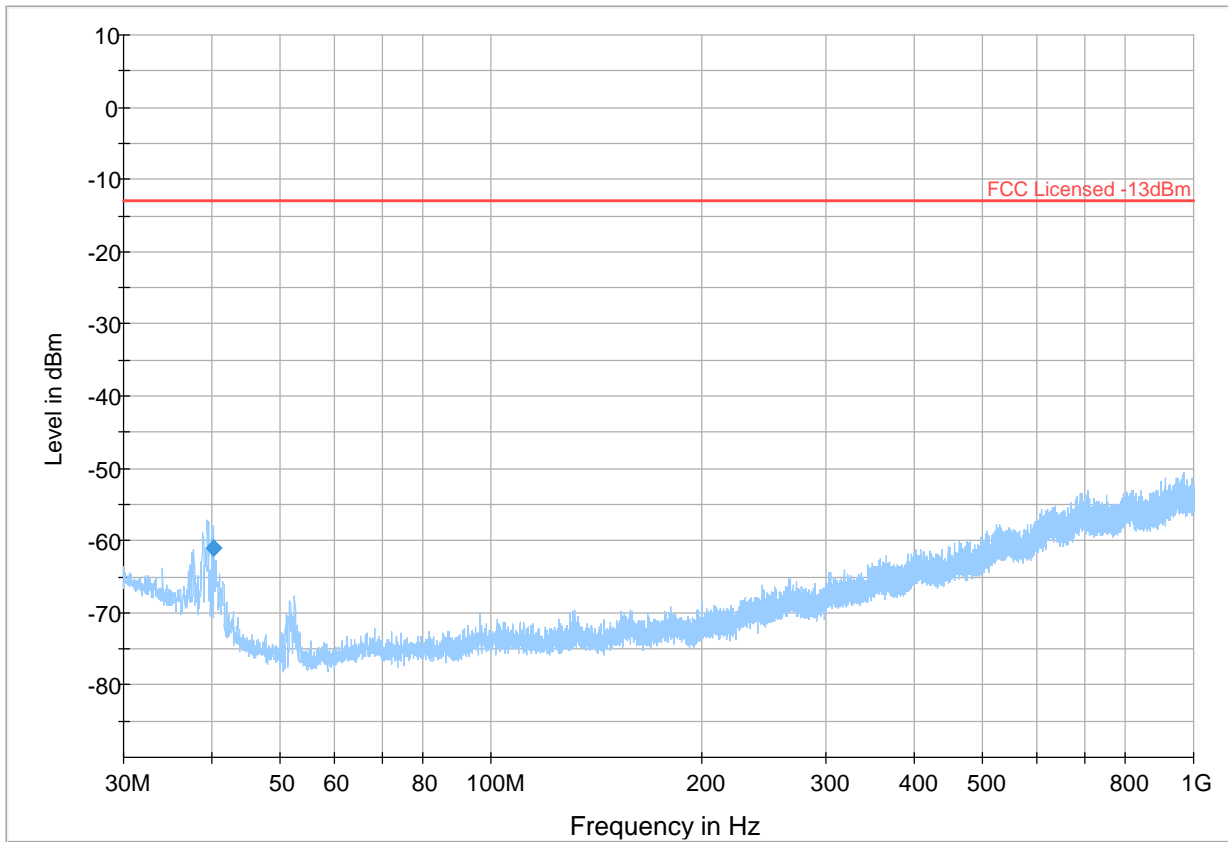
— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS



**Plot #71 Radiated Emissions: 30MHz-1GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 40.347          | -61.07    | -13.00      | 48.07       | 500.0           | 100.000         | 150.0       | V   | 208.0         | -88.8      |         |



— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS

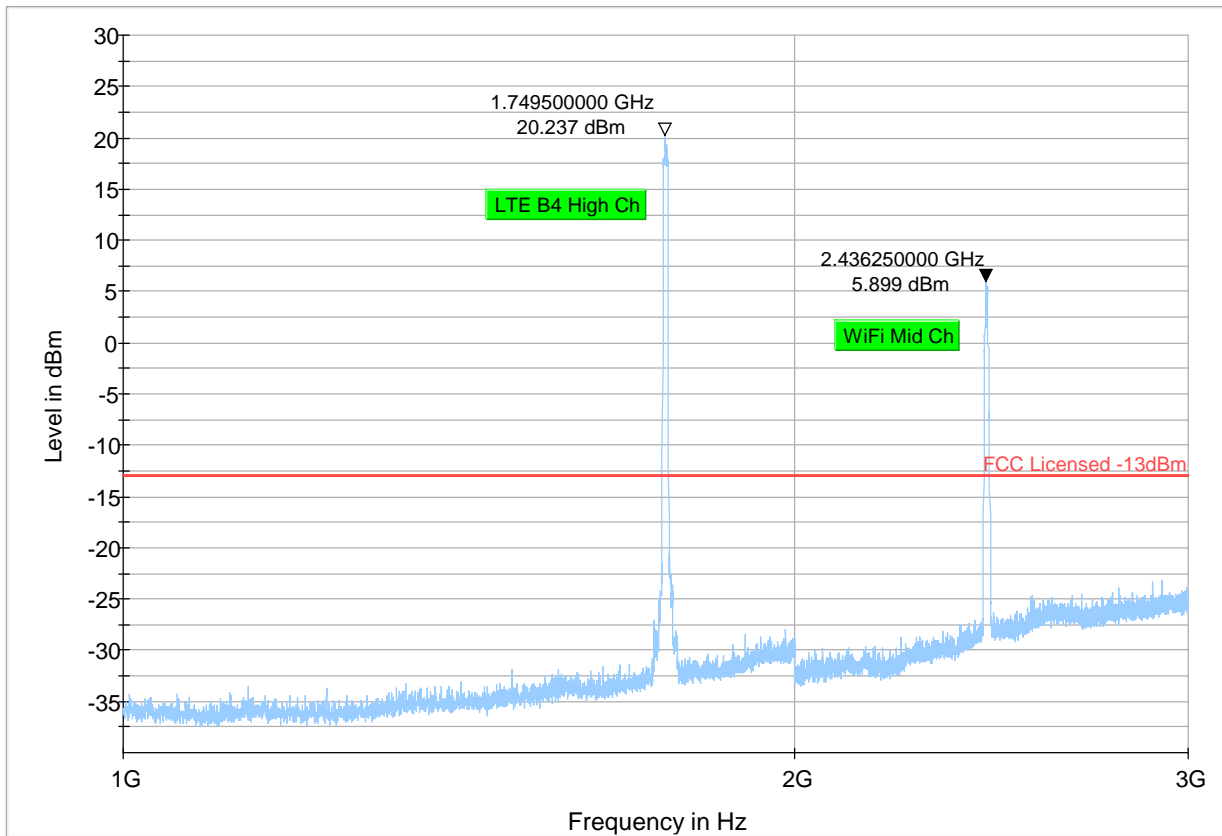




Plot #72 Radiated Emissions: 1-3GHz

Channel: High

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| ---             | ---       | ---         | ---         | ---             | ---             | ---         |     | ---           | ---        |         |



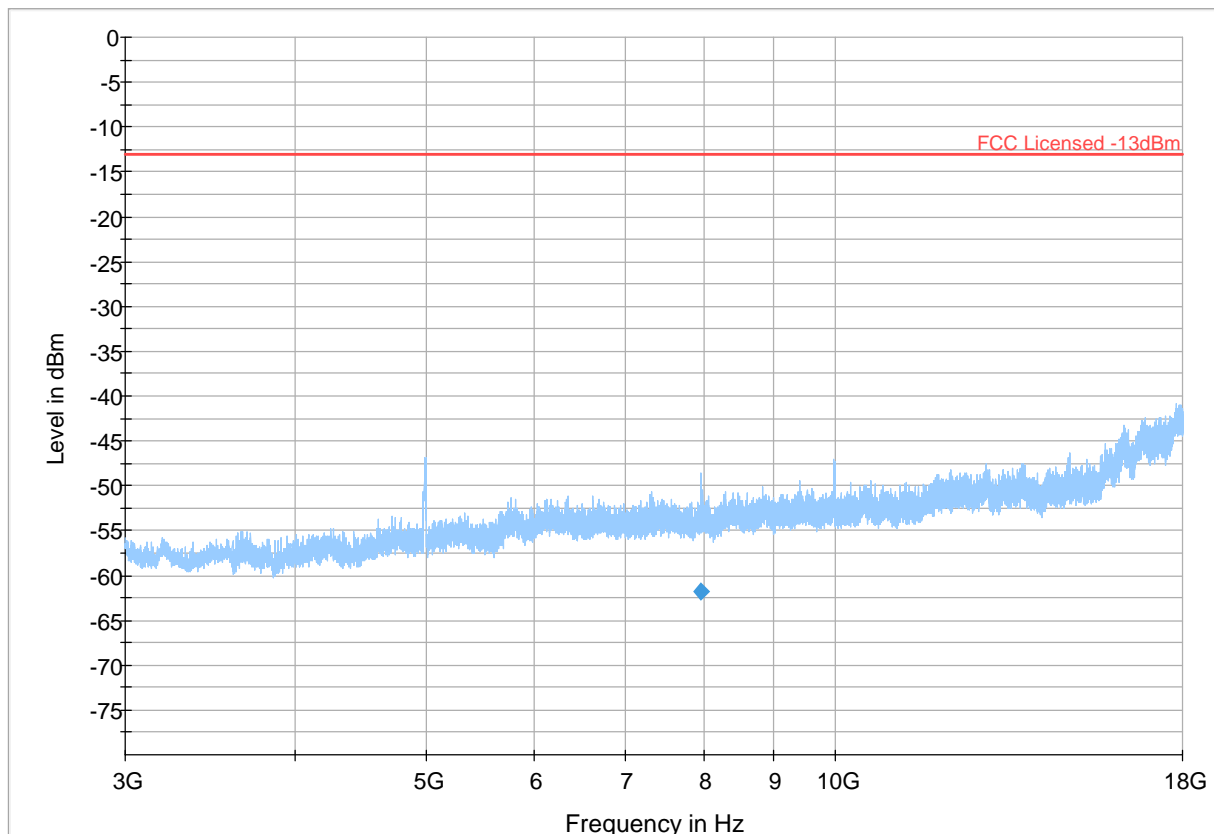
— Preview Result 1-PK+   
 — FCC Licensed -13dBm   
 ◆ Final\_Result RMS



**Plot #73 Radiated Emissions: 3-18GHz**

**Channel: High**

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 7967.500        | -61.77    | -13.00      | 48.77       | 500.0           | 1000.000        | 275.0       | V   | 167.0         | -93.2      |         |



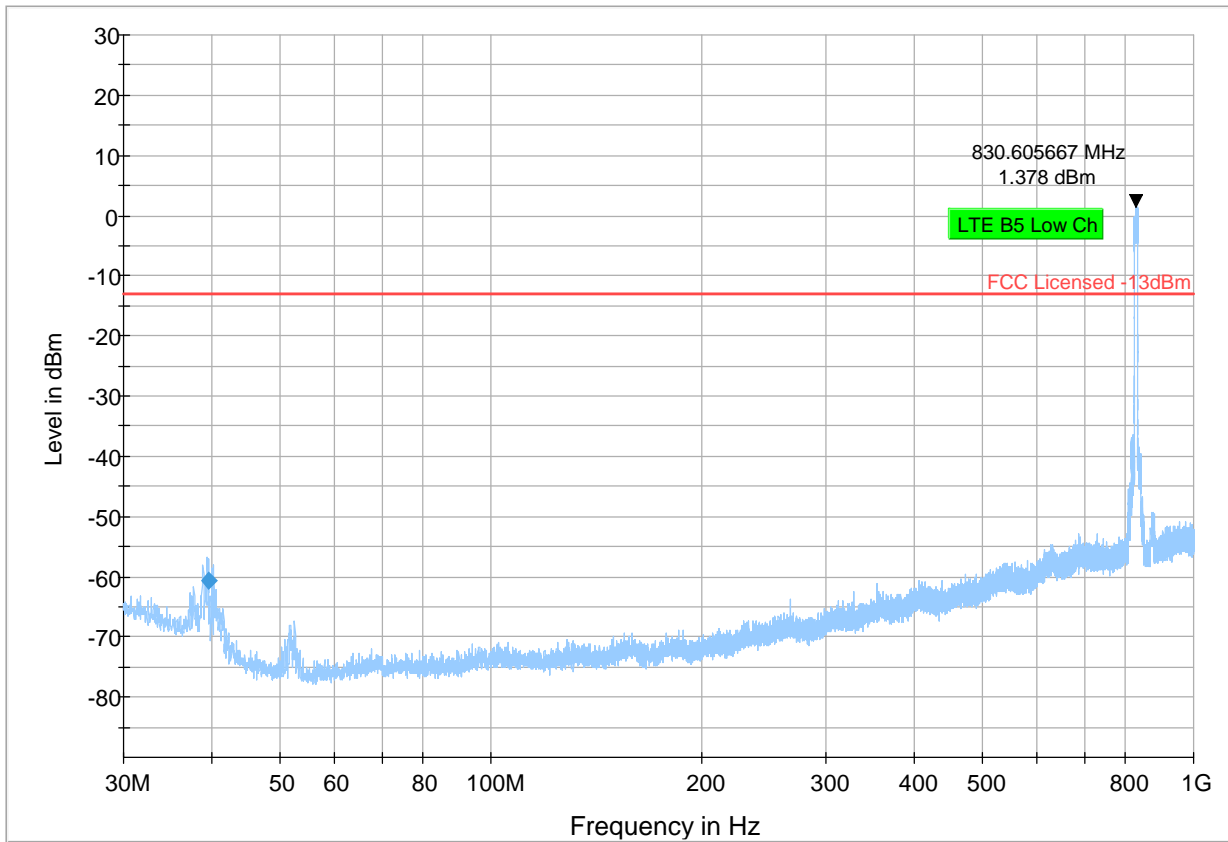
— Preview Result 1-PK+ 
 — FCC Licensed -13dBm 
 ◆ Final\_Result RMS



Plot # 74 Radiated Emissions: 30MHz-1GHz

Channel: Low

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) | Comment |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|---------|
| 39.668          | -60.67    | -13.00      | 47.67       | 500.0           | 100.000         | 161.0       | V   | 170.0         | -88.4      |         |



— Preview Result 1-PK+    — FCC Licensed -13dBm    ◆ Final\_Result RMS