



## FCC / ISED & Test Report

For:  
Teledyne Controls

Model Name:  
2243800

Product Description:  
Wireless Groundlink® Quick Access Recorder (Comm+)

Applied Rules and Standards:  
47 CFR Parts 22, 24, and 27  
RSS: 132 Issue 3, 133 Issue 6, 139 Issue 3

FCC ID: SYK-WQAR-464-4R/SYK-WQAR-462-2R  
IC ID: 11369A-WQAR4644R/11369A-WQAR4622R

REPORT #: EMC\_TELED-009-19001\_FCC\_22\_24\_27  
DATE: 2019-06-19



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 and 24, and Industry Canada Standards RSS-GEN issue 3, RSS-132 issue 3 and RSS-133 issue 6.

No deficiencies were ascertained.

| Company Name      | Product Description                                   | Model # |
|-------------------|-------------------------------------------------------|---------|
| Teledyne Controls | Wireless Groundlink® Quick Access Recorder<br>(Comm+) | 2243800 |

**Responsible for Testing Laboratory:**

| 2019-06-19 | Compliance | Cindy Li<br>(EMC Lab Manager) |           |
|------------|------------|-------------------------------|-----------|
| Date       | Section    | Name                          | Signature |

**Responsible for the Report:**

| 2019-06-19 | Compliance | Chin Ming Lui<br>(Associate EMC Engineer) |           |
|------------|------------|-------------------------------------------|-----------|
| Date       | Section    | Name                                      | Signature |

The test results of this test report relate exclusively to the test item specified in Section 3.

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>            | Cindy Li               |
| <b>Responsible Project Leader:</b> | Kevin Wang             |

### 2.2 Identification of the Client

|                          |                        |
|--------------------------|------------------------|
| <b>Applicant's Name:</b> | Teledyne Controls      |
| <b>Street Address:</b>   | 501 Continental Blvd   |
| <b>City/Zip Code</b>     | El Segundo, CA / 90245 |
| <b>Country</b>           | United States          |

### 2.3 Identification of the Manufacturer

|                               |                   |
|-------------------------------|-------------------|
| <b>Manufacturer's Name:</b>   | Same as Applicant |
| <b>Manufacturers Address:</b> | -----             |
| <b>City/Zip Code</b>          | -----             |
| <b>Country</b>                | -----             |

### 3 Equipment Under Test (EUT)

#### 3.1 EUT Specifications

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model No</b>                                       | 2243800                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>HW Version</b>                                     | Mod 0                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>SW Version</b>                                     | 711745 Ver G                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>FCC-ID :</b>                                       | SYK-WQAR-464-4R / SYK-WQAR-462-2R                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>IC-ID:</b>                                         | 11369A-WQAR4644R / 11369A-WQAR4622R                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>FVIN:</b>                                          | Operational Software OPS 711745 Version G                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>HVIN:</b>                                          | 2243800-464 / 2243800-462                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>PMN:</b>                                           | 2243800-464 / 2243800-462                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Product Description</b>                            | <p>The WGL Comm+ performs the recording and wireless transmission of flight data. The model 2243800-462 is equipped with 2 identical cellular radio modules, and the main antenna connection of each module (UFL) is routed to a single external SMA antenna connector.</p> <p>The model 2243800-464 is equipped with 4 identical cellular radio modules, and each of the 2 radio modules use a RF combiner to connect the main antenna.</p> |
| <b>Transceiver Technology / Type(s) of Modulation</b> | <p>Sierra Wireless Airprime EM7565;<br/>FCCID: N7NEM75</p> <ul style="list-style-type: none"> <li>•FDD I / II / III / IV / V / VI / VII / VIII / IX / 19</li> </ul> <p>HSPA+/DC-HHSDPA/DC-HSUPA/UMTS</p> <ul style="list-style-type: none"> <li>•FDD LTE Band 1/2/3/4/5/7/8/9/12/13/18/19/20/26/28/29/30</li> <li>•TDD LTE Band 41/42/43/46/48/66</li> </ul> <p>Modulations: QPSK, 16-QAM, 64-QAM</p>                                        |
| <b>Max. declared antenna gain</b>                     | Pangu Tech, LLC, model: JQRD-0018-LTE; peak gain: 2dBi norm.                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Power Supply/ Rated Operating Voltage Range</b>    | Vmin: 100VAC, 360 Hz / Vnom: 115VAC, 400 Hz / Vmax: 122VAC, 800 Hz                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Operating Temperature Range</b>                    | -15°C ~ +55°C                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Sample Revision</b>                                | <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> Production <input type="checkbox"/> Pre-Production                                                                                                                                                                                                                                                                                                                    |

### 3.2 EUT Sample details

| EUT # | Serial Number | HW Version  | SW Version    | Comments |
|-------|---------------|-------------|---------------|----------|
| 1     | 08195         | 2243800-464 | OPS SW 711745 | -        |
| 2     | 08206         | 2243800-462 | OPS SW 711745 | -        |

### 3.3 Accessory Equipment (AE) details

| AE # | Type         | Model   | Manufacturer         | Serial Number |
|------|--------------|---------|----------------------|---------------|
| 1    | Power Supply | 112-AMX | Pacific Smart Source | -             |

### 3.4 Test Sample Configuration

| Set-up # | EUT / AE used for set-up | Comments                                                                                                                                                  |
|----------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | EUT#1+AE#1               | The EUT was mounted with a cable harness fixture attached on a copper ground plate. The 115VAC 400Hz power was provided to the EUT from the power supply. |

#### **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 and ISSED Standards RSS-132 issue 3, RSS-133 issue 6, Amendment 1, and RSS-139 issue 3.

##### **4.1 Dates of Testing:**

04/05/2019 - 04/10/2019

##### **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.

Radiated measurement

|                    |                                 |
|--------------------|---------------------------------|
| 9 kHz to 30MHz     | ±2.5 dB (Magnetic Loop Antenna) |
| 30 MHz to 1000 MHz | ±2.0 dB (Biconilog Antenna)     |
| 1 GHz to 40 GHz    | ±2.3 dB (Horn Antenna)          |

Conducted measurement

|                   |                |
|-------------------|----------------|
| 150 kHz to 30 MHz | ±0.7 dB (LISN) |
|-------------------|----------------|

|                          |         |
|--------------------------|---------|
| RF conducted measurement | ±0.5 dB |
|--------------------------|---------|

##### **4.3 Environmental Conditions during Testing:**

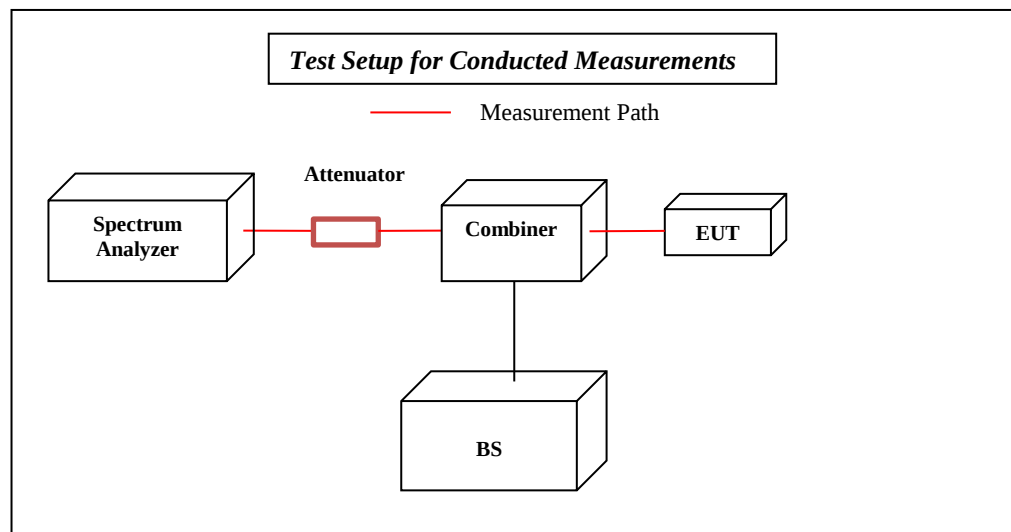
The following environmental conditions were maintained during the course of testing:

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

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

## 5 Measurement Procedures

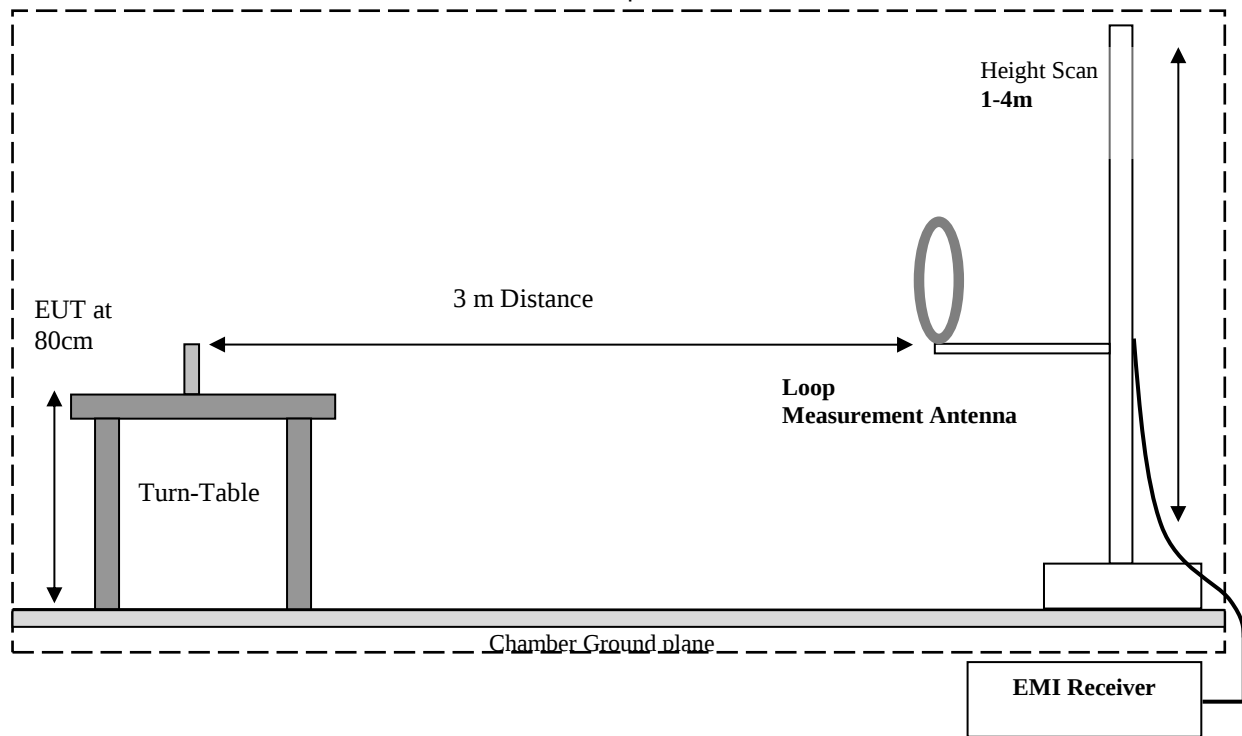
Testing is performed according to the guidelines provided in FCC publication (KDB) 971168 D01 v02r02 – “Measurement Guidance for Certification of Licensed Digital Transmitters” and according to relevant parts of ANSI/TIA-603-D-2010 as detailed below.



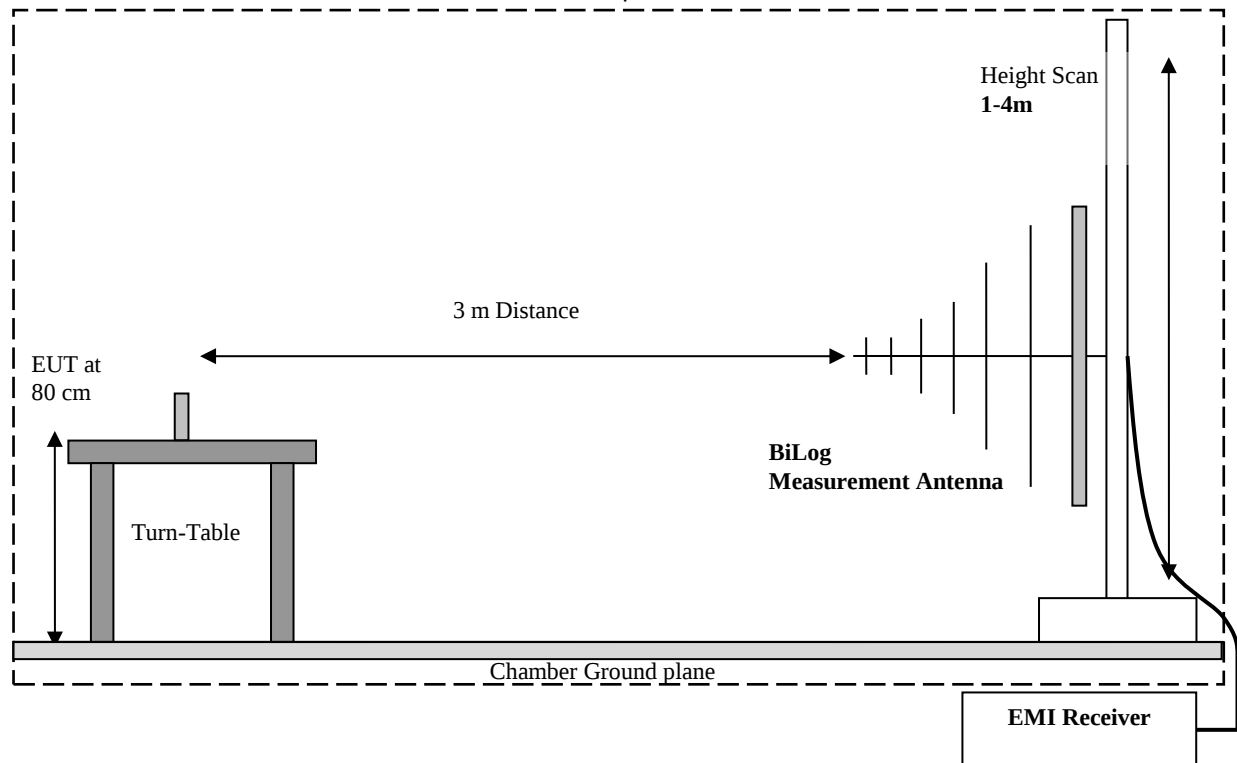
### 5.1 Radiated Measurement

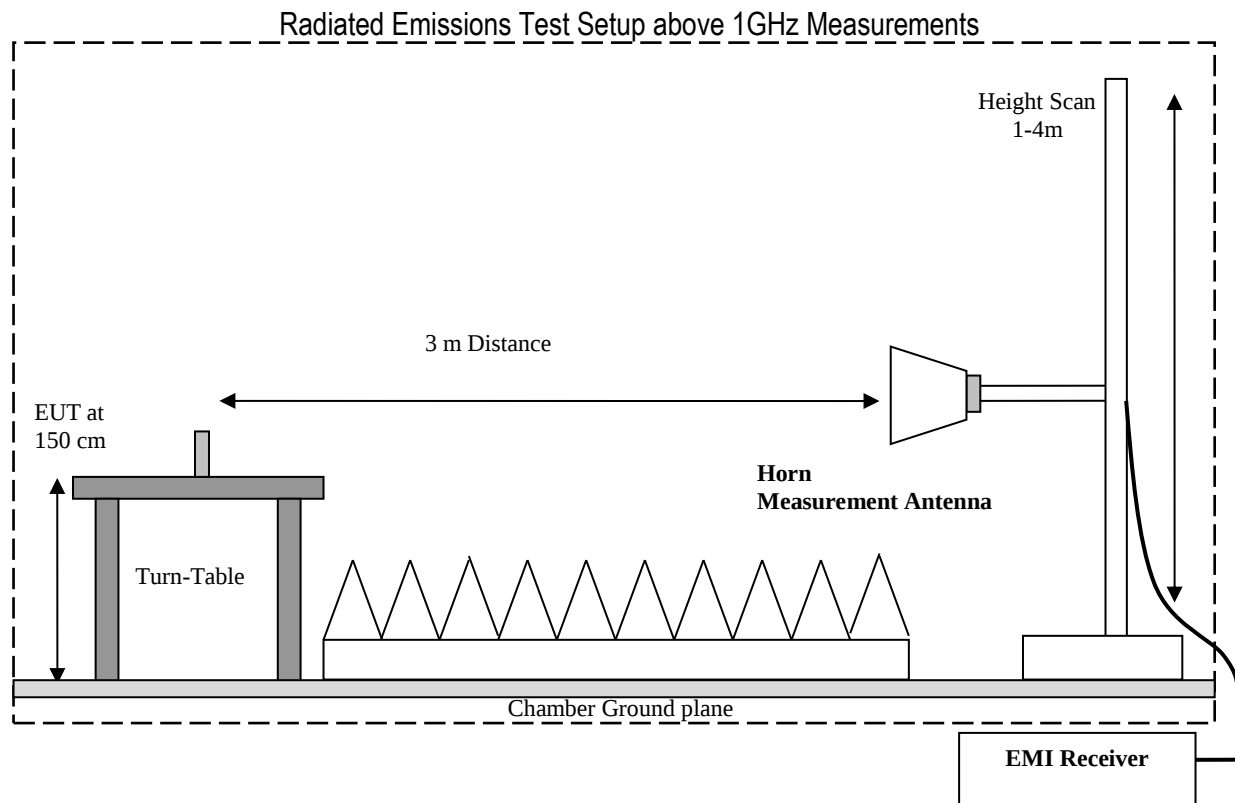
- The exploratory measurement is accomplished by running a matrix of 16 sweeps over the required frequency range with R&S Test-SW EMC32 for 4 positions of the turntable, two orthogonal positions of the EUT and both antenna polarizations. This procedure exceeds the requirement of the above standards to 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"/> | ■                        | Note 2   |
| §2.1055; §22.355     | Frequency Tolerance          | Extreme Temperature and Voltage    | -                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1049; §22.917     | Occupied Bandwidth           | Nominal                            | -                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1051; §22.917     | Band Edge Compliance         | Nominal                            | -                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1051; §22.917     | Conducted Spurious Emissions | Nominal                            | -                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1053; §22.917     | Radiated Spurious Emissions  | Nominal                            | UMTS Band V<br>LTE Band 5 | ■                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Complies |

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

Note 2: Data leveraged from modular approval, FCC ID: N7NEM75

### 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"/> | ■                        | Note 2   |
| §2.1055; §24.235     | Frequency Stability          | Extreme Temperature and Voltage    | -                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1049; §24.238     | Occupied Bandwidth           | Nominal                            | -                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1051; §24.238     | Band Edge Compliance         | Nominal                            | -                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1051; §24.238     | Conducted Spurious Emissions | Nominal                            | -                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ■                        | Note 2   |
| §2.1053; §24.238     | Radiated Spurious Emissions  | Nominal                            | UMTS Band II<br>LTE Band 2 | ■                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Complies |

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

Note 2: Data leveraged from modular approval, FCC ID: N7NEM75

**6.3 FCC 27 / RSS-139**

| 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"/> | 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"/> | Note 2   |
| §2.1049; §27.53    | Occupied Bandwidth           | Nominal                            | -                                                 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Note 2   |
| §2.1051; §27.53    | Band Edge Compliance         | Nominal                            | -                                                 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Note 2   |
| §2.1051; §27.53    | Conducted Spurious Emissions | Nominal                            | -                                                 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Note 2   |
| §2.1053; §27.53    | Radiated Spurious Emissions  | Nominal                            | UMTS Band IV<br>LTE Band<br>4/7/12/13/26/30/41/66 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Complies |

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

Note 2: Data leveraged from modular approval, FCC ID: N7NEM75

## 7 Test Result Data

### 7.1 E(I)RP

E(I)RPs are calculated based on conducted power of radio module Sierra Wireless Airprime EM7565 as certified under FCCID: N7NEM75 and ISED ID: 2417C-EM75. For Model 2243800-464, the E(I)RP limits are met for all 4 radios transmitting simultaneously on one band with the exception of Band 30. Based on the operational description simultaneous operation for Band 30 is limited to 3 radios by manufacturer. Antenna gain in calculation is based on declaration of gain and losses in operation description.

| Radio   | f [MHz]         | Power [W] | Emission | gain [dBi] | gain [lin] | EIRP [W] | ERP [W] | EIRP [W] x 4 | ERP [W] x 4 | Limit EIRP | Limit ERP | Verdict            |
|---------|-----------------|-----------|----------|------------|------------|----------|---------|--------------|-------------|------------|-----------|--------------------|
| UMTS V  | 824.0 - 849.0   | 0.193     | 4M12F9W  | -2.448     | 0.57       | 0.11     | 0.07    | 0.44         | 0.27        |            | 7         | PASS               |
| LTE 5   | 824.0 - 849.0   | 0.192     | 13M5G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.44         | 0.27        |            | 7         | PASS               |
| UMTS II | 1850.0 - 1910.0 | 0.181     | 4M14F9W  | -2.448     | 0.57       | 0.10     | 0.06    | 0.41         | 0.25        | 2          |           | PASS               |
| LTE 2   | 1850.0 - 1910.0 | 0.18      | 18M5G7D  | -2.448     | 0.57       | 0.10     | 0.06    | 0.41         | 0.25        | 2          |           | PASS               |
| UMTS IV | 1710.0 - 1755.0 | 0.192     | 4M12F9W  | -2.448     | 0.57       | 0.11     | 0.07    | 0.44         | 0.27        | 1          |           | PASS               |
| LTE 4   | 1710.0 - 1780.0 | 0.199     | 18M3G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.45         | 0.28        | 1          |           | PASS               |
| LTE 4   | 1710.0 - 1780.0 | 0.169     | 18M5W7D  | -2.448     | 0.57       | 0.10     | 0.06    | 0.38         | 0.23        | 1          |           | PASS               |
| LTE 12  | 699.0 - 716.0   | 0.189     | 9M11G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.43         | 0.26        |            | 3         | PASS               |
| LTE 13  | 777.0 - 787.0   | 0.193     | 8M97G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.44         | 0.27        |            | 3         | PASS               |
| LTE 13  | 777.0 - 787.0   | 0.165     | 9M01W7D  | -2.448     | 0.57       | 0.09     | 0.06    | 0.38         | 0.23        |            | 3         | PASS               |
| LTE 7   | 2496.0 - 2690.0 | 0.199     | 37M7G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.45         | 0.28        | 2          |           | PASS               |
| LTE 7   | 2496.0 - 2690.0 | 0.181     | 37M9W7D  | -2.448     | 0.57       | 0.10     | 0.06    | 0.41         | 0.25        | 2          |           | PASS               |
| LTE 30  | 2305.0 - 2315.0 | 0.116     | 9M05W7D  | -2.448     | 0.57       | 0.07     | 0.04    | 0.26         | 0.16        | 0.5        |           | PASS               |
| LTE 30  | 2305.0 - 2315.0 | 0.139     | 4M51G7D  | -2.448     | 0.57       | 0.08     | 0.05    | 0.32         | 0.19        | 0.25       |           | Pass for 3 simult. |
| LTE 26  | 814.0 - 824.0   | 0.19      | 14M2G7D  | -2.448     | 0.57       | 0.11     | 0.07    | 0.43         | 0.26        |            | 50        | PASS               |
| LTE 26  | 814.0 - 824.0   | 0.157     | 14M5W7D  | -2.448     | 0.57       | 0.09     | 0.05    | 0.36         | 0.22        |            | 50        | PASS               |

For Model 2243800-462, the E(I)RP limits are met for all 2 radios transmitting simultaneously on one band. Antenna gain in calculation is based on declaration of gain and losses in operation description.

| Radio   | f [MHz]         | Power [W] | Emission | gain [dBi] | gain [lin] | EIRP [W] | ERP [W] | EIRP [W] x 2 | ERP [W] x 2 | Limit EIRP | Limit ERP | Verdict |
|---------|-----------------|-----------|----------|------------|------------|----------|---------|--------------|-------------|------------|-----------|---------|
| UMTS V  | 824.0 - 849.0   | 0.193     | 4M12F9W  | 0.877      | 1.22       | 0.24     | 0.14    | 0.47         | 0.29        |            | 7         | PASS    |
| LTE 5   | 824.0 - 849.0   | 0.192     | 13M5G7D  | 0.877      | 1.22       | 0.23     | 0.14    | 0.47         | 0.29        |            | 7         | PASS    |
| UMTS II | 1850.0 - 1910.0 | 0.181     | 4M14F9W  | 0.877      | 1.22       | 0.22     | 0.14    | 0.44         | 0.27        | 2          |           | PASS    |
| LTE 2   | 1850.0 - 1910.0 | 0.18      | 18M5G7D  | 0.877      | 1.22       | 0.22     | 0.13    | 0.44         | 0.27        | 2          |           | PASS    |
| UMTS IV | 1710.0 - 1755.0 | 0.192     | 4M12F9W  | 0.877      | 1.22       | 0.23     | 0.14    | 0.47         | 0.29        | 1          |           | PASS    |
| LTE 4   | 1710.0 - 1780.0 | 0.199     | 18M3G7D  | 0.877      | 1.22       | 0.24     | 0.15    | 0.49         | 0.30        | 1          |           | PASS    |
| LTE 4   | 1710.0 - 1780.0 | 0.169     | 18M5W7D  | 0.877      | 1.22       | 0.21     | 0.13    | 0.41         | 0.25        | 1          |           | PASS    |
| LTE 12  | 699.0 - 716.0   | 0.189     | 9M11G7D  | 0.877      | 1.22       | 0.23     | 0.14    | 0.46         | 0.28        |            | 3         | PASS    |
| LTE 13  | 777.0 - 787.0   | 0.193     | 8M97G7D  | 0.877      | 1.22       | 0.24     | 0.14    | 0.47         | 0.29        |            | 3         | PASS    |
| LTE 13  | 777.0 - 787.0   | 0.165     | 9M01W7D  | 0.877      | 1.22       | 0.20     | 0.12    | 0.40         | 0.25        |            | 3         | PASS    |
| LTE 7   | 2496.0 - 2690.0 | 0.199     | 37M7G7D  | 0.877      | 1.22       | 0.24     | 0.15    | 0.49         | 0.30        | 2          |           | PASS    |
| LTE 7   | 2496.0 - 2690.0 | 0.181     | 37M9W7D  | 0.877      | 1.22       | 0.22     | 0.14    | 0.44         | 0.27        | 2          |           | PASS    |
| LTE 30  | 2305.0 - 2315.0 | 0.116     | 9M05W7D  | -0.723     | 0.85       | 0.10     | 0.06    | 0.20         | 0.12        | 0.5        |           | PASS    |
| LTE 30  | 2305.0 - 2315.0 | 0.139     | 4M51G7D  | -0.723     | 0.85       | 0.12     | 0.07    | 0.24         | 0.14        | 0.25       |           | PASS    |
| LTE 26  | 814.0 - 824.0   | 0.19      | 14M2G7D  | 0.877      | 1.22       | 0.23     | 0.14    | 0.47         | 0.28        |            | 50        | PASS    |
| LTE 26  | 814.0 - 824.0   | 0.157     | 14M5W7D  | 0.877      | 1.22       | 0.19     | 0.12    | 0.38         | 0.23        |            | 50        | PASS    |

## 7.2 Radiated Spurious Emissions

### 7.2.1 Measurement utilizing KDB 971168 D01 Power Meas License Digital Systems v02r02, and according to ANSI/TIA-603-D-2010

#### 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

| 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          |

### 7.2.2 Limits:

#### 7.2.2.1 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.

#### 7.2.2.2 RSS-132 Part 5.5; RSS-133 Part 6.5; RSS-139 Part 6.6 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.

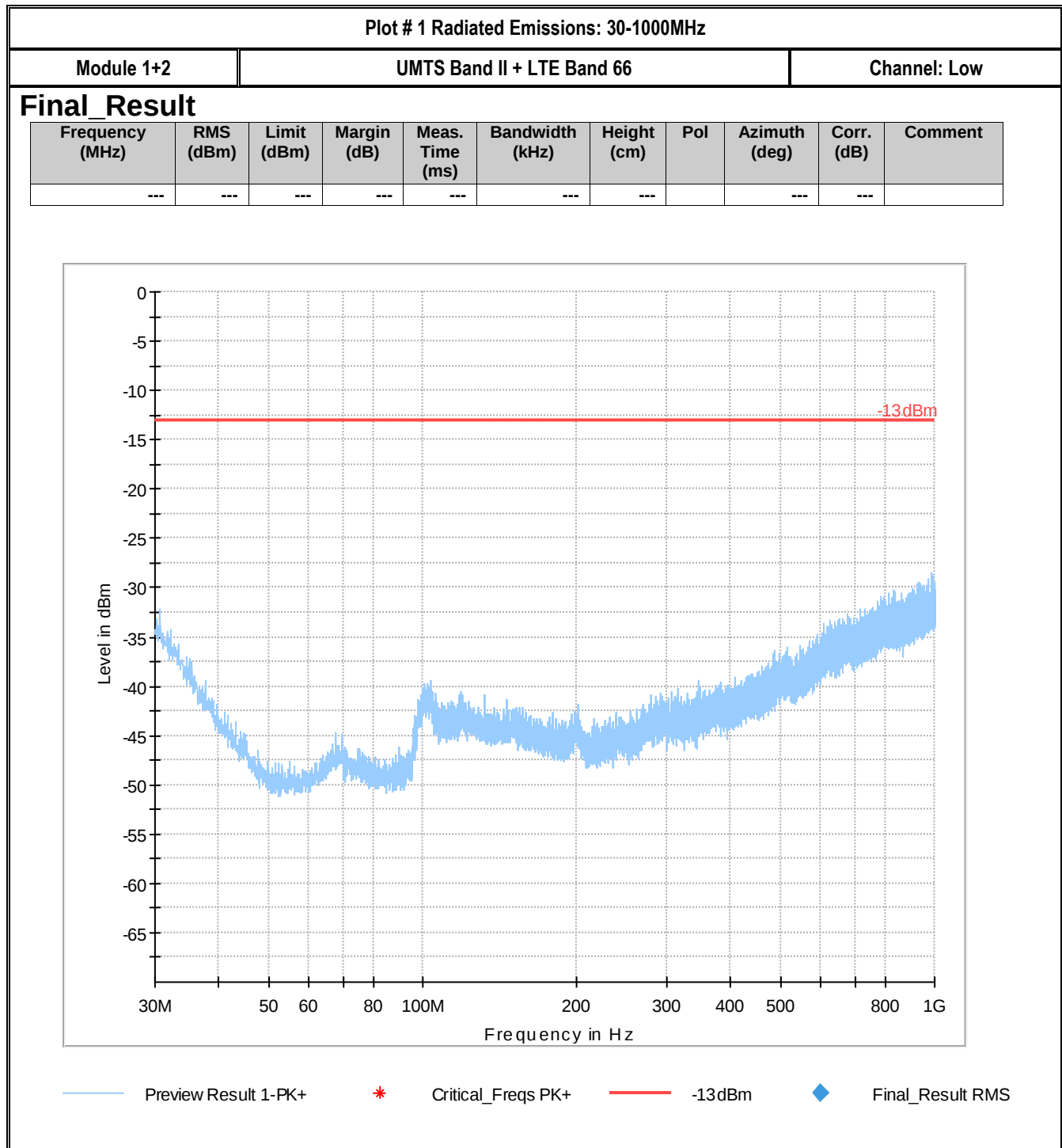
### 7.2.3 Test conditions and setup:

| EUT operating mode | EUT Set-Up # | Power Input  | Note                                                                                                                                                                                                                                                               |
|--------------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                  | 1            | 115V / 400Hz | Co-transmission for Cellular 1 + Cellular 2 combination was tested. Cellular 1 and 2 are using the same antenna through a RF combiner. The UMTS and LTE combination are checked. The worst UMTS is FDD V, High Channel. The worst LTE is LTE Band 66, Mid Channel. |
| 2                  | 1            | 115V / 400Hz | Co-transmission for Cellular 2 + Cellular 3 combination was tested. Cellular 2 and 3 are using separate antenna. The UMTS and LTE combination are checked. The worst UMTS is FDD V, High Channel. The worst LTE is LTE Band 66, Mid Channel.                       |

### 7.2.4 Measurement result:

| Plot #  | Channel | EUT operating mode | Cellular 1  | Cellular 2  | Scan Frequency  | Limit (dBm) | Result |
|---------|---------|--------------------|-------------|-------------|-----------------|-------------|--------|
| 1-3     | Low     | 1                  | FDD Band II | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 4-8     | Mid     | 1                  | FDD Band II | LTE Band 66 | 9 kHz – 26 GHz  | -13         | Pass   |
| 9-11    | High    | 1                  | FDD Band II | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 12-14   | Low     | 1                  | FDD Band IV | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 15-19   | Mid     | 1                  | FDD Band IV | LTE Band 66 | 9 kHz – 26 GHz  | -13         | Pass   |
| 20-22   | High    | 1                  | FDD Band IV | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 23-25   | Low     | 1                  | FDD Band V  | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 26-29   | Mid     | 1                  | FDD Band V  | LTE Band 66 | 9 kHz – 18 GHz  | -13         | Pass   |
| 30-32   | High    | 1                  | FDD Band V  | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 33-35   | Low     | 1                  | LTE Band 2  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 36-40   | Mid     | 1                  | LTE Band 2  | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 41-43   | High    | 1                  | LTE Band 2  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 44-46   | Low     | 1                  | LTE Band 66 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 47-51   | Mid     | 1                  | LTE Band 66 | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 52-54   | High    | 1                  | LTE Band 66 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 55-57   | Low     | 1                  | LTE Band 5  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 58-61   | Mid     | 1                  | LTE Band 5  | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 62-64   | High    | 1                  | LTE Band 5  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 65-67   | Low     | 1                  | LTE Band 7  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 68-72   | Mid     | 1                  | LTE Band 7  | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 73-75   | High    | 1                  | LTE Band 7  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 76-78   | Low     | 1                  | LTE Band 12 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 79-82   | Mid     | 1                  | LTE Band 12 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 83-85   | High    | 1                  | LTE Band 12 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 86-89   | Mid     | 1                  | LTE Band 13 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 90-94   | Mid     | 1                  | LTE Band 30 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 95-97   | Low     | 1                  | LTE Band 41 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 98-102  | Mid     | 1                  | LTE Band 41 | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 103-105 | High    | 1                  | LTE Band 41 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |

| Plot #  | Channel | EUT operating mode | Cellular 2  | Cellular 3  | Scan Frequency  | Limit (dBm) | Result |
|---------|---------|--------------------|-------------|-------------|-----------------|-------------|--------|
| 106-108 | Low     | 2                  | FDD Band II | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 109-113 | Mid     | 2                  | FDD Band II | LTE Band 66 | 9 kHz – 26 GHz  | -13         | Pass   |
| 114-116 | High    | 2                  | FDD Band II | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 117-119 | Low     | 2                  | FDD Band IV | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 120-124 | Mid     | 2                  | FDD Band IV | LTE Band 66 | 9 kHz – 26 GHz  | -13         | Pass   |
| 125-127 | High    | 2                  | FDD Band IV | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 128-130 | Low     | 2                  | FDD Band V  | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 131-134 | Mid     | 2                  | FDD Band V  | LTE Band 66 | 9 kHz – 18 GHz  | -13         | Pass   |
| 135-137 | High    | 2                  | FDD Band V  | LTE Band 66 | 30 MHz – 18 GHz | -13         | Pass   |
| 138-140 | Low     | 2                  | LTE Band 2  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 141-145 | Mid     | 2                  | LTE Band 2  | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 146-148 | High    | 2                  | LTE Band 2  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 149-151 | Low     | 2                  | LTE Band 66 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 152-156 | Mid     | 2                  | LTE Band 66 | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 157-159 | High    | 2                  | LTE Band 66 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 160-162 | Low     | 2                  | LTE Band 5  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 163-166 | Mid     | 2                  | LTE Band 5  | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 167-169 | High    | 2                  | LTE Band 5  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 170-172 | Low     | 2                  | LTE Band 7  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 173-177 | Mid     | 2                  | LTE Band 7  | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 178-180 | High    | 2                  | LTE Band 7  | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 181-183 | Low     | 2                  | LTE Band 12 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 184-187 | Mid     | 2                  | LTE Band 12 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 188-190 | High    | 2                  | LTE Band 12 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 191-194 | Mid     | 2                  | LTE Band 13 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 195-199 | Mid     | 2                  | LTE Band 30 | FDD Band V  | 9 kHz – 18 GHz  | -13         | Pass   |
| 200-202 | Low     | 2                  | LTE Band 41 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |
| 203-207 | Mid     | 2                  | LTE Band 41 | FDD Band V  | 9 kHz – 26 GHz  | -13         | Pass   |
| 208-210 | High    | 2                  | LTE Band 41 | FDD Band V  | 30 MHz – 18 GHz | -13         | Pass   |

**7.2.5 Measurement Plots:**

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

Module 1+2

UMTS Band II + LTE Band 66

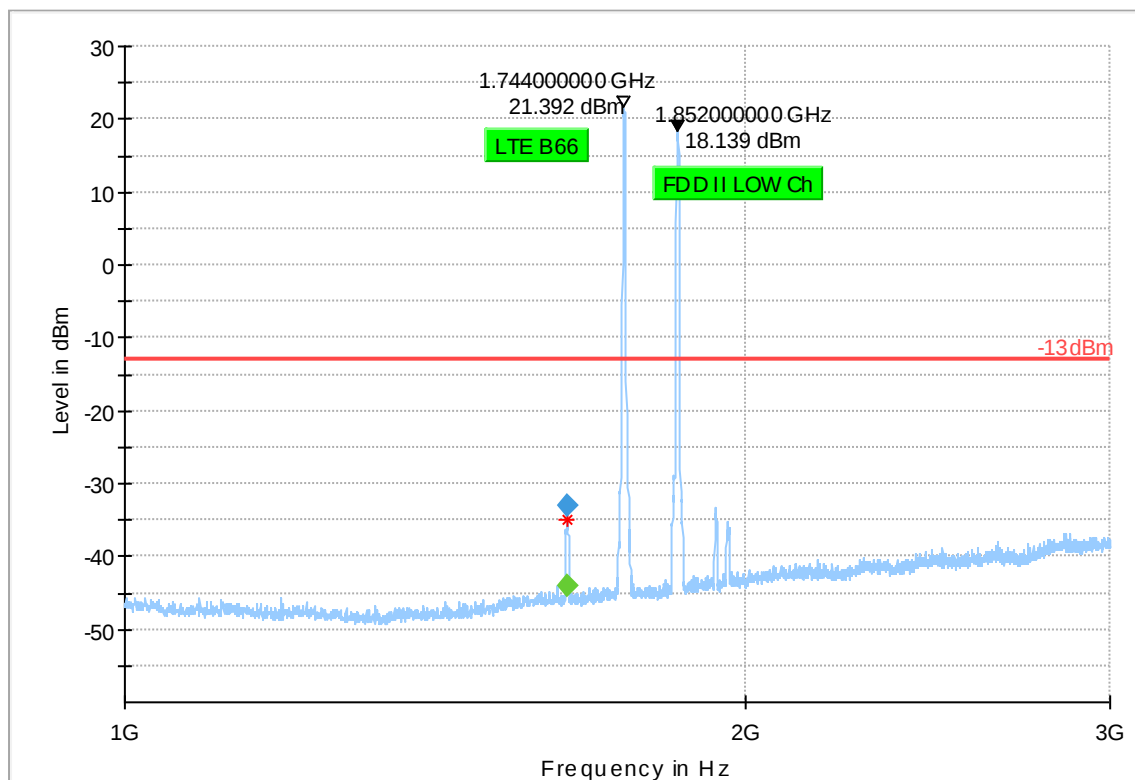
Channel: Low

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 1638.604250     | ---           | -44.03    | ---         | ---         | 100.0           | 1000.000        | 224.0       | V   | 353.0         | -63.2      |
| 1638.604250     | -33.04        | ---       | -13.00      | 20.05       | 100.0           | 1000.000        | 224.0       | V   | 353.0         | -63.2      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 1638.604250     | 11:58:37 AM - 4/9/2019 |
| 1638.604250     | 11:58:37 AM - 4/9/2019 |



 Preview Result 1-PK+  
 Critical\_Freqs PK+  
 Final\_Result RMS

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

Module 1+2

UMTS Band II + LTE Band 66

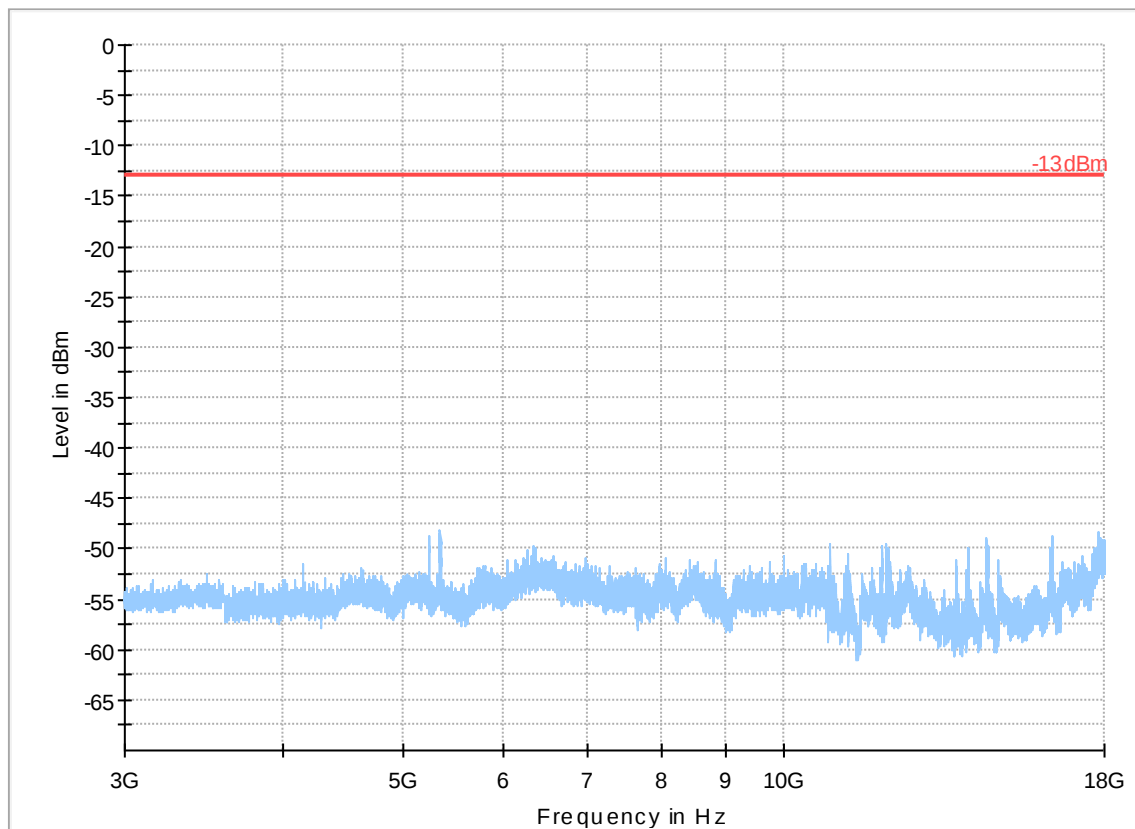
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



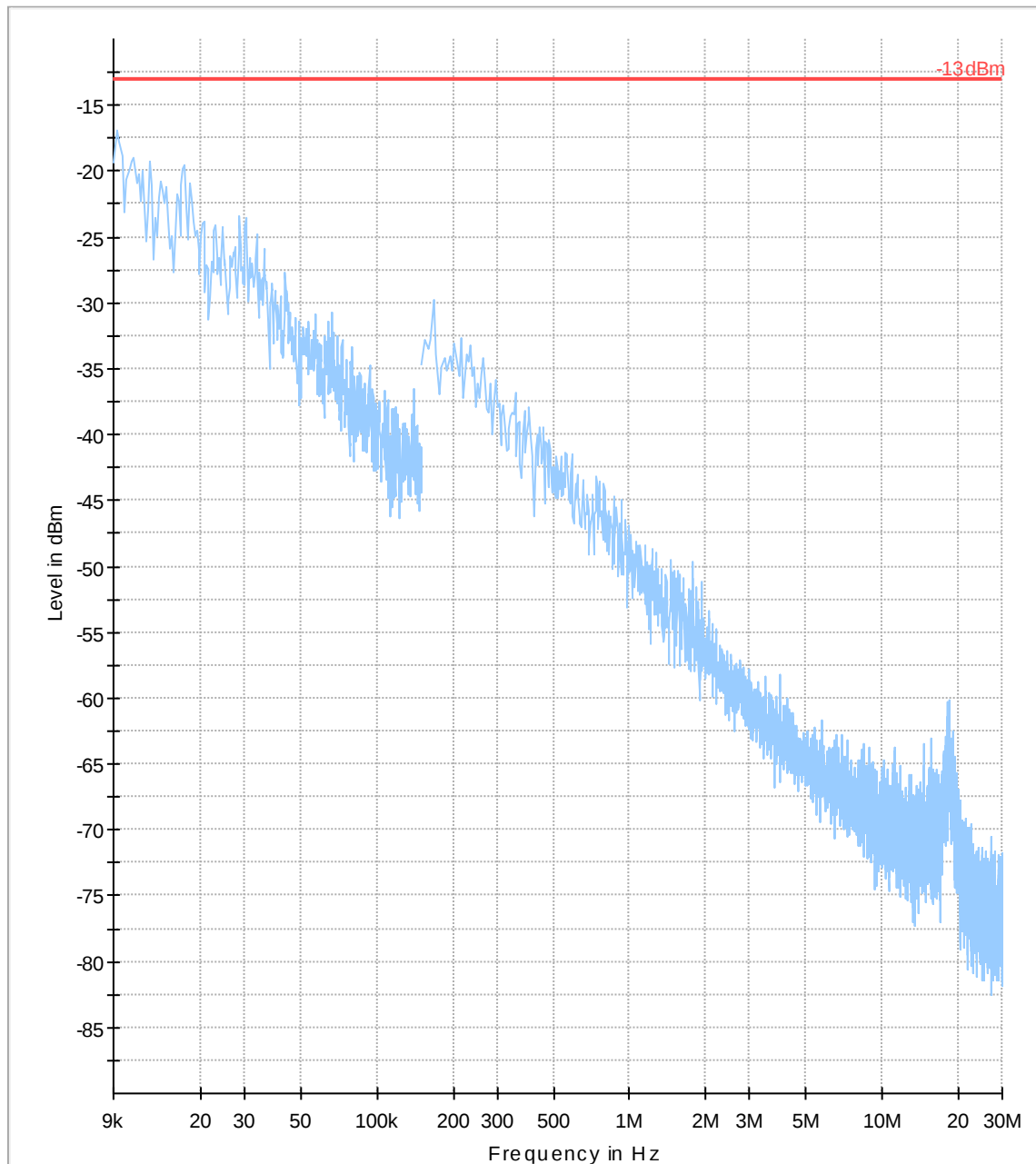
Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 4 Radiated Emissions: 9kHz-30MHz

Module 1+2

UMTS Band II + LTE Band 66

Channel: Mid



Preview Result 1-RMS

\*

Critical\_Freqs RMS

-13dBm

◆

Final\_Result RM

## Plot # 5 Radiated Emissions: 30-1000MHz

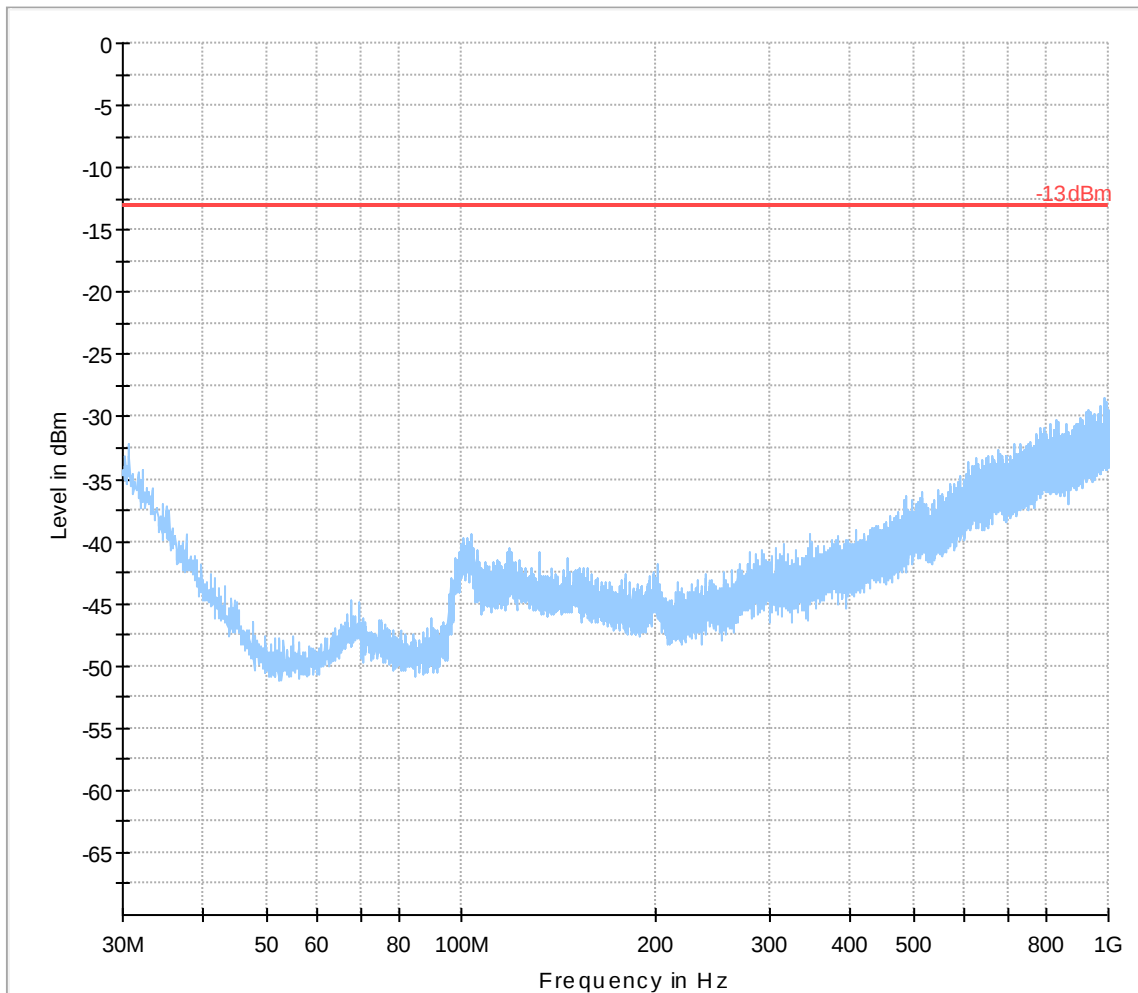
Module 1+2

UMTS Band II + LTE Band 66

Channel: Mid

**Final Result**

| 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+ -13dBm Final\_Result RMS

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

Module 1+2

UMTS Band II + LTE Band 66

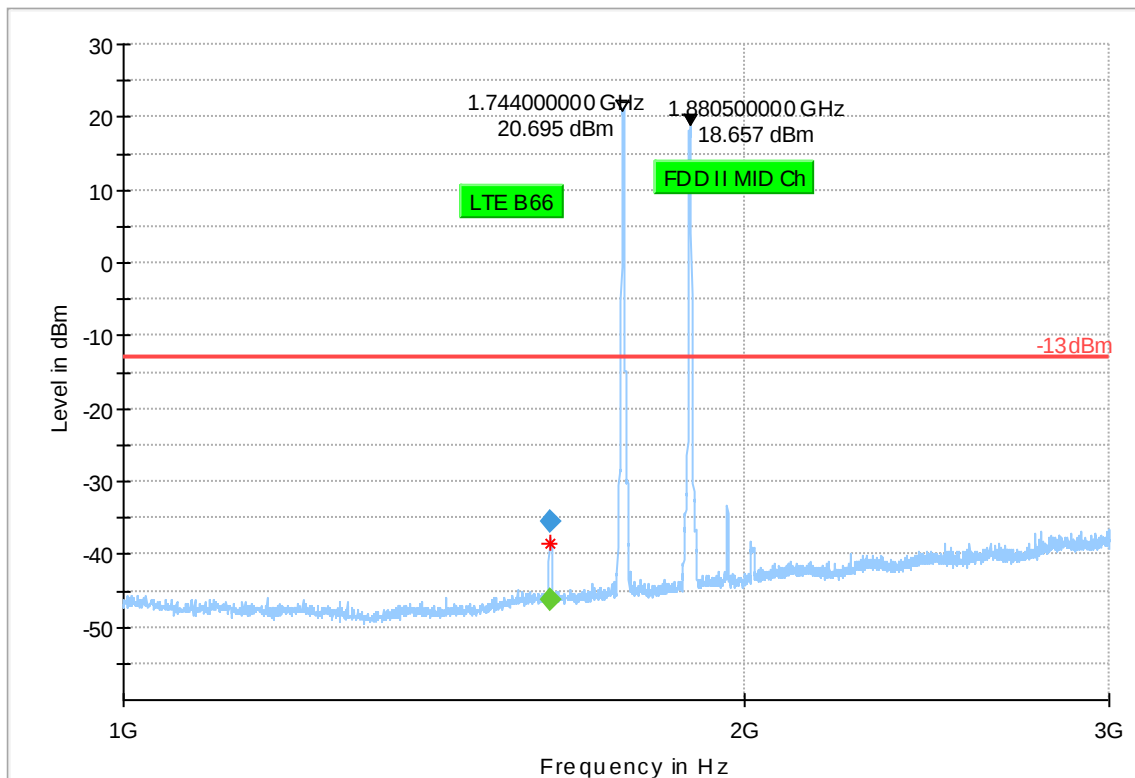
Channel: Mid

**Final\_Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 1608.758875     | ---           | -46.11    | ---         | ---         | 100.0           | 1000.000        | 256.0       | V   | 356.0         | -63.5      |
| 1608.758875     | -35.64        | ---       | -13.00      | 22.64       | 100.0           | 1000.000        | 256.0       | V   | 356.0         | -63.5      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 1608.758875     | 12:06:18 PM - 4/9/2019 |
| 1608.758875     | 12:06:18 PM - 4/9/2019 |



Preview Result 1-PK+  
Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

— -13dBm

## Plot # 7 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band II + LTE Band 66

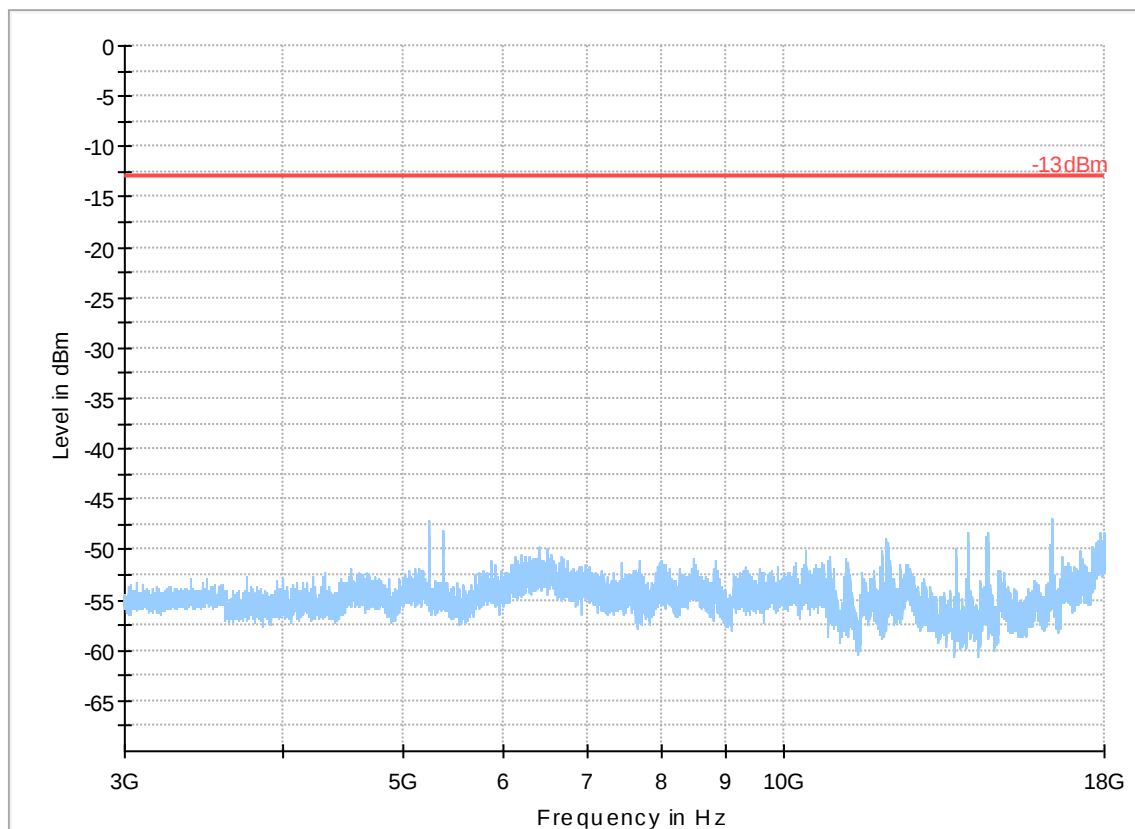
Channel: Mid

**Final\_Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 8 Radiated Emissions: 18-26GHz

Module 1+2

UMTS Band II + LTE Band 66

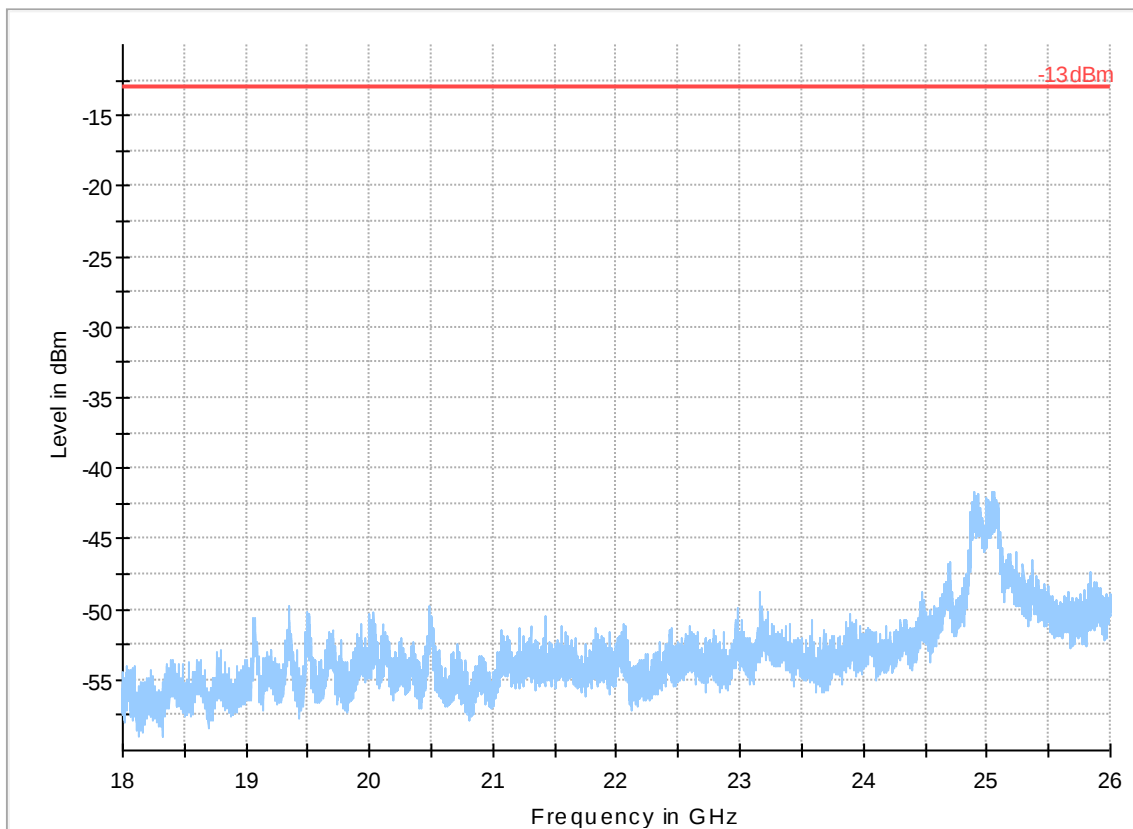
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



Preview Result 1-PK+ Final\_Result PK+      \* Critical\_Freqs PK+ Final\_Result RMS      -13dBm

## Plot # 9 Radiated Emissions: 30-1000MHz

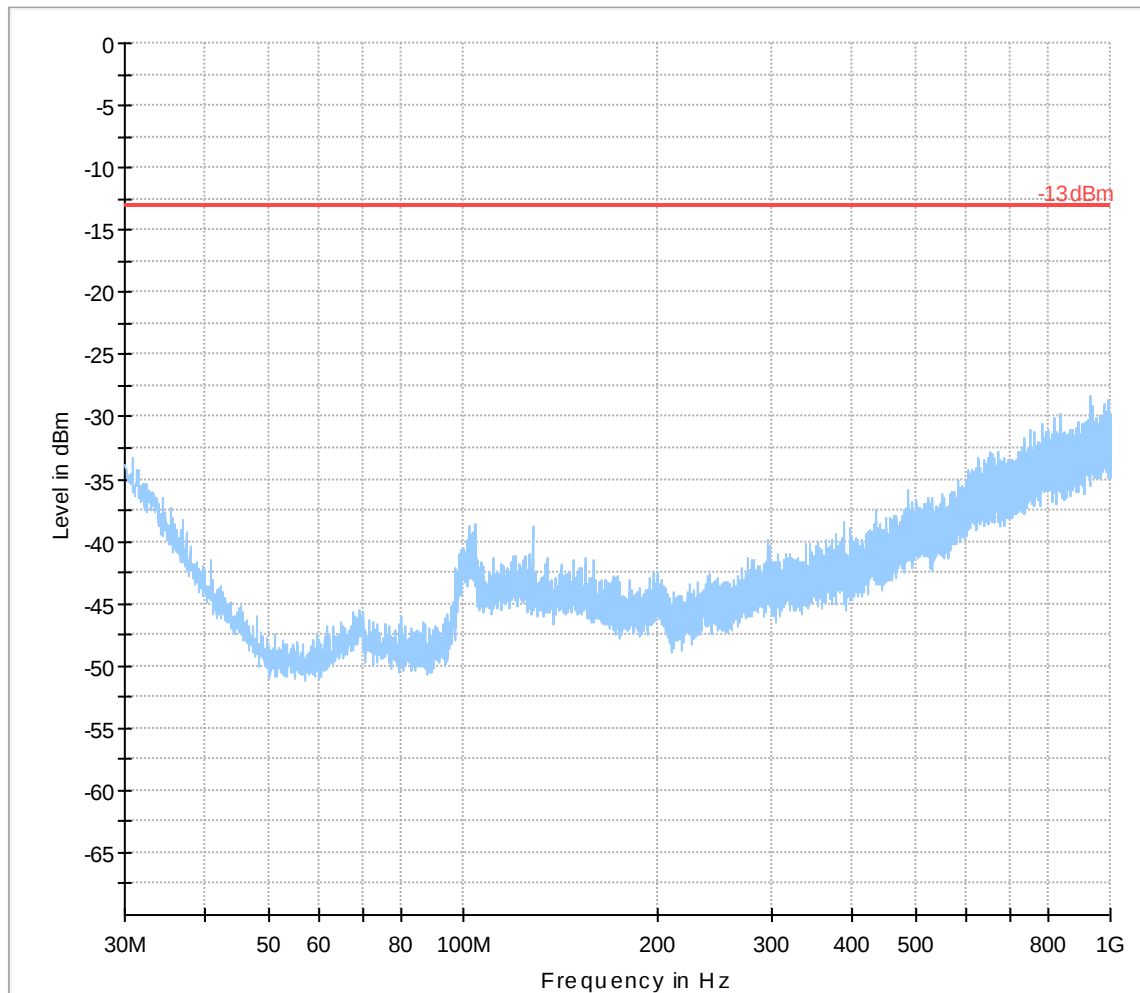
Module 1+2

UMTS Band II + LTE Band 66

Channel: High

**Final Result**

| 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+      — -13dBm      ◆ Final\_Result RMS

## Plot # 10 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band II + LTE Band 66

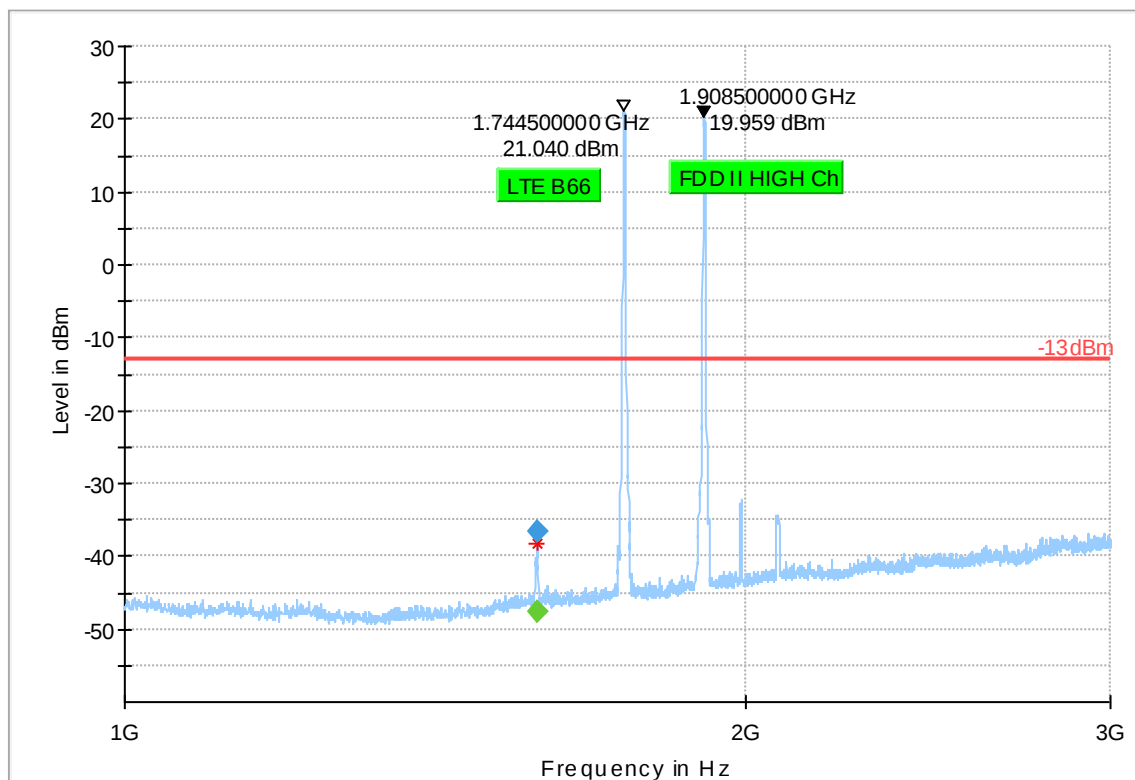
Channel: High

## Final Result

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 1583.252875     | ---           | -47.52    | ---         | ---         | 100.0           | 1000.000        | 325.0       | V   | -20.0         | -63.8      |
| 1583.252875     | -36.73        | ---       | -13.00      | 23.73       | 100.0           | 1000.000        | 325.0       | V   | -20.0         | -63.8      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 1583.252875     | 11:48:13 AM - 4/9/2019 |
| 1583.252875     | 11:48:13 AM - 4/9/2019 |



◆ Preview Result 1-PK+  
◆ Final\_Result PK+

✱ Critical\_Freqs PK+  
◆ Final\_Result RMS

— -13dBm

## Plot # 11 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band II + LTE Band 66

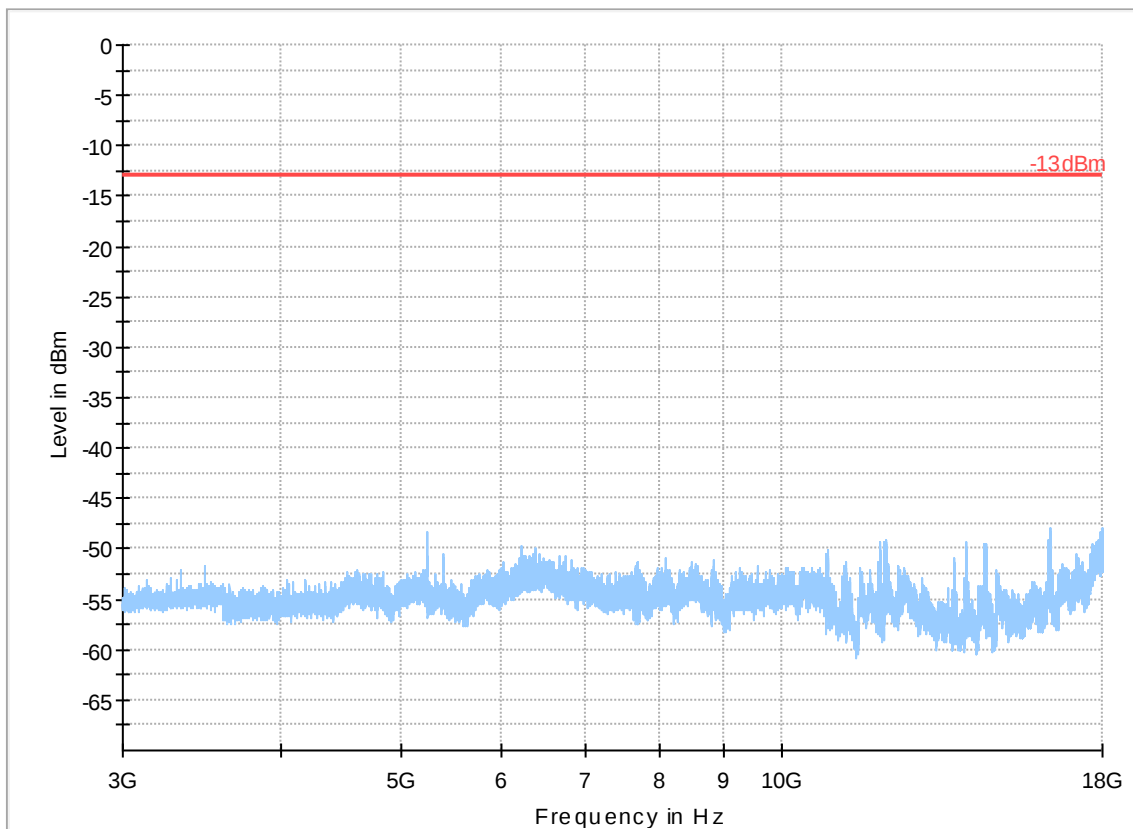
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 12 Radiated Emissions: 30-1000MHz

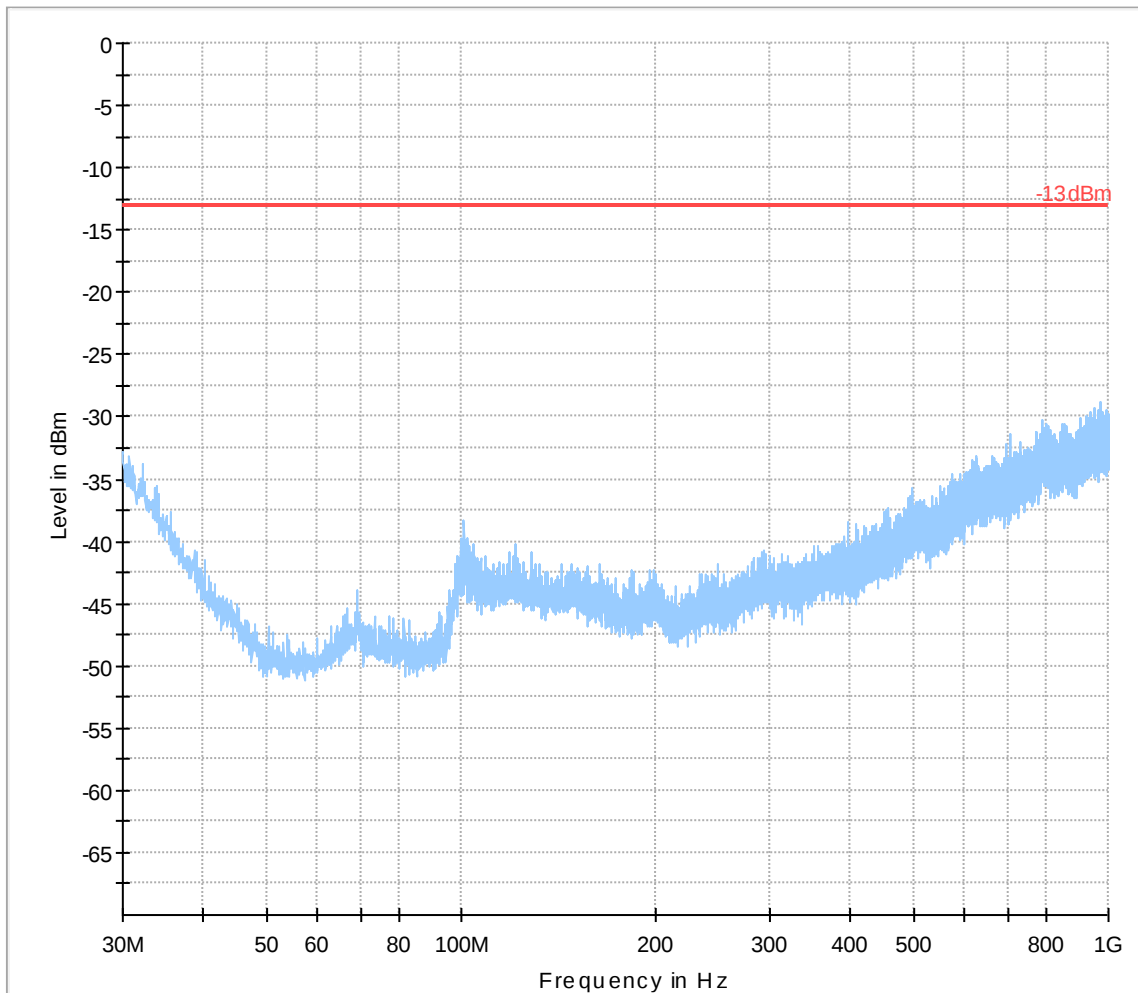
Module 1+2

UMTS Band IV + LTE Band 66

Channel: Low

**Final Result**

| 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+

— -13dBm



◆ Final\_Result RMS

## Plot # 13 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band IV + LTE Band 66

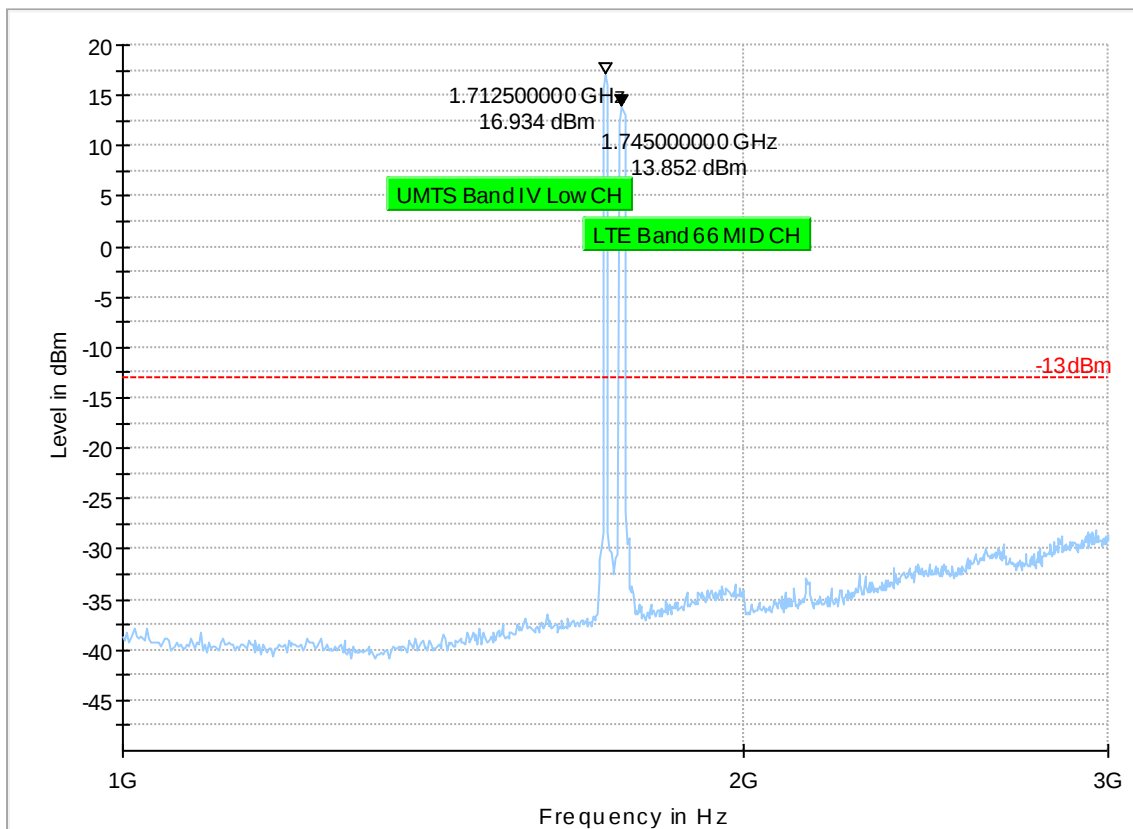
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+  
Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

----- -13dBm

## Plot # 14 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band IV + LTE Band 66

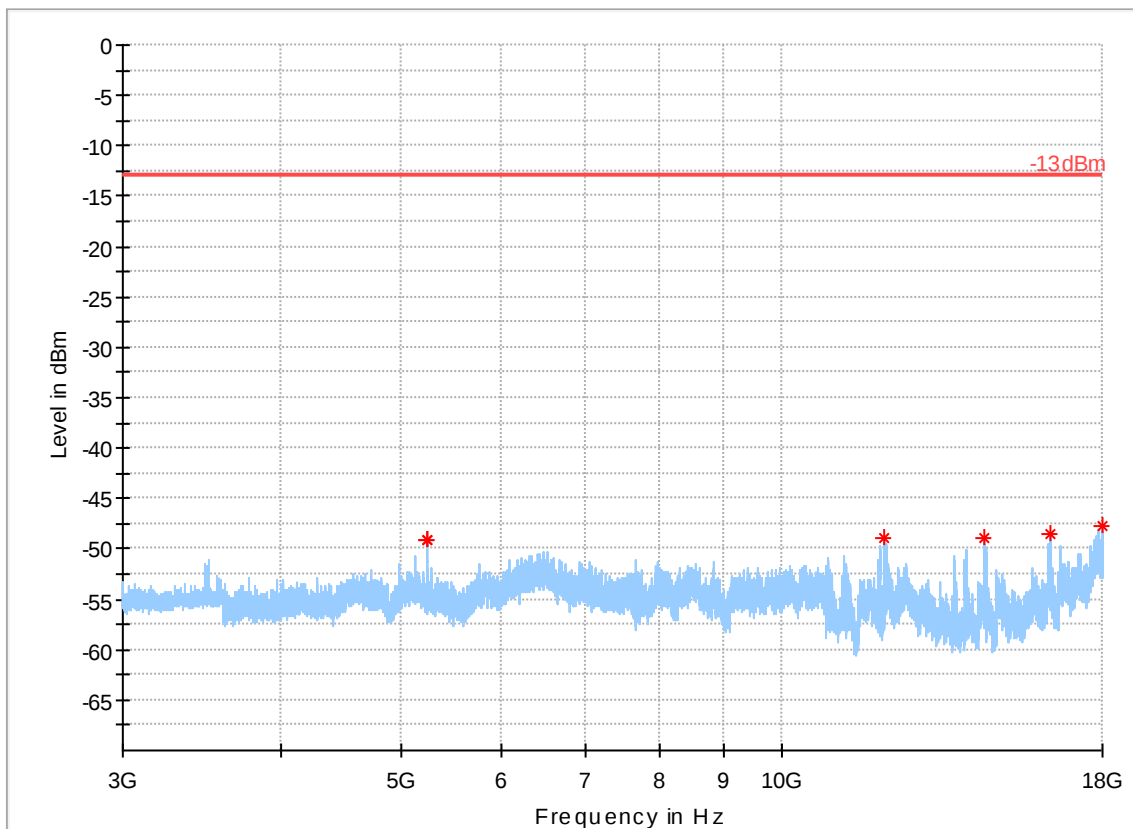
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



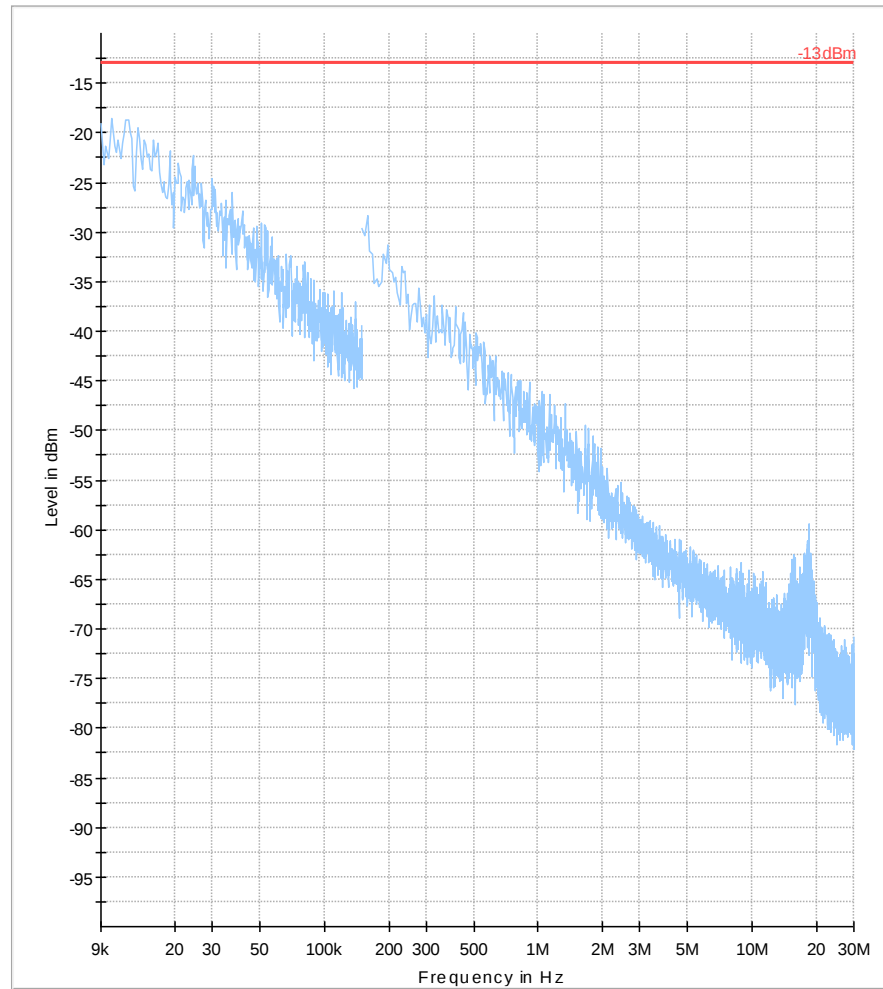
Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 15 Radiated Emissions: 9kHz-30MHz

Module 1+2

UMTS Band IV + LTE Band 66

Channel: Mid



Preview Result 1-RMS \* Critical\_Freqs RMS -13dBm Final\_Result RM

## Plot # 16 Radiated Emissions: 30-1000MHz

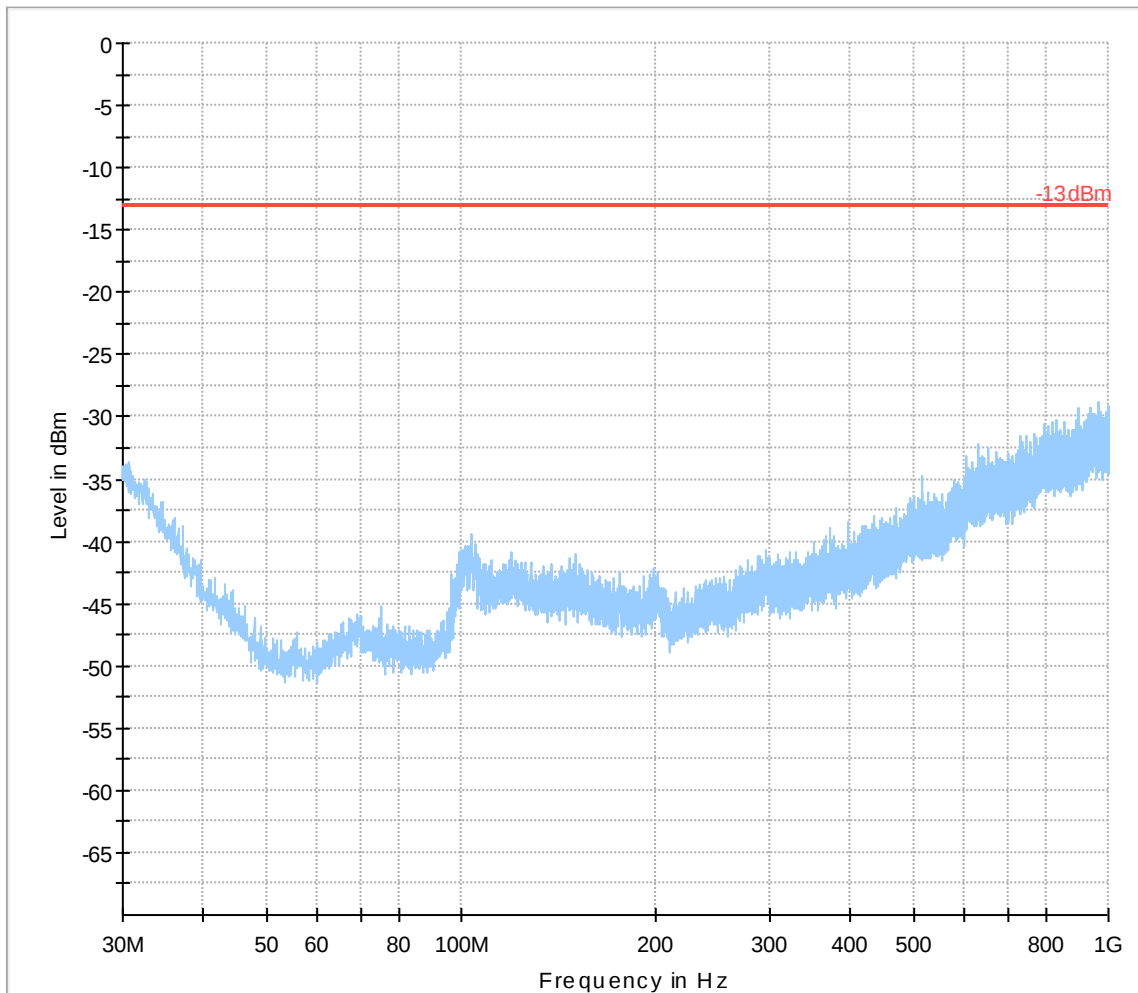
Module 1+2

UMTS Band IV + LTE Band 66

Channel: Mid

**Final Result**

| 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+    — -13dBm    ◆ Final\_Result RMS

## Plot # 17 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band IV + LTE Band 66

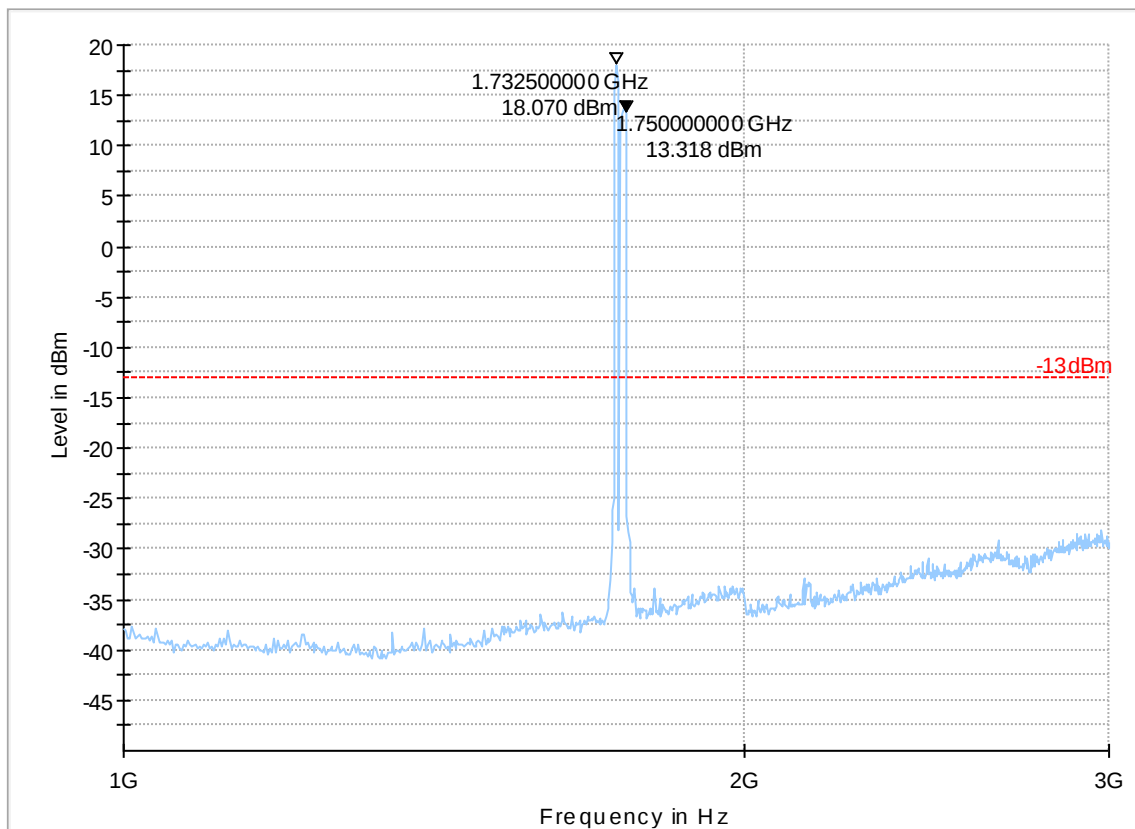
Channel: Mid

**Final Result**

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

(continuation of the "Final Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+  
Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

----- -13dBm

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

Module 1+2

UMTS Band IV + LTE Band 66

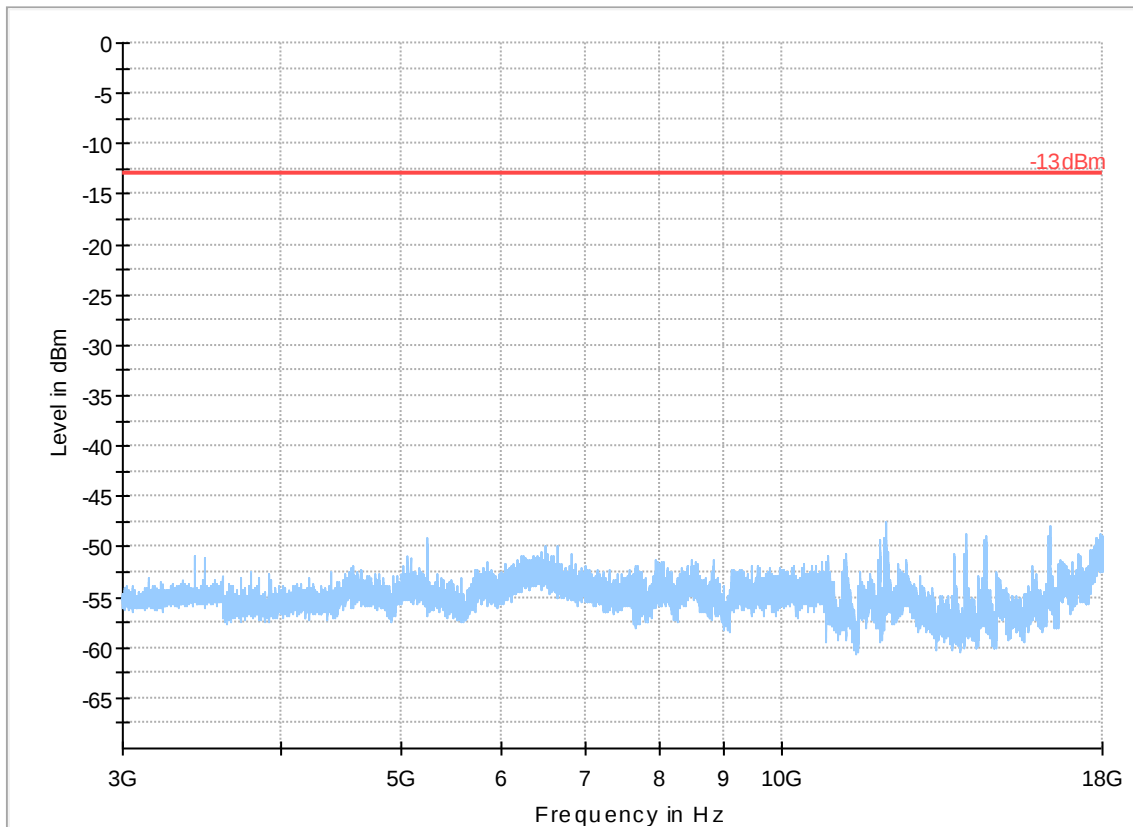
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 19 Radiated Emissions: 18-26GHz

Module 1+2

UMTS Band IV + LTE Band 66

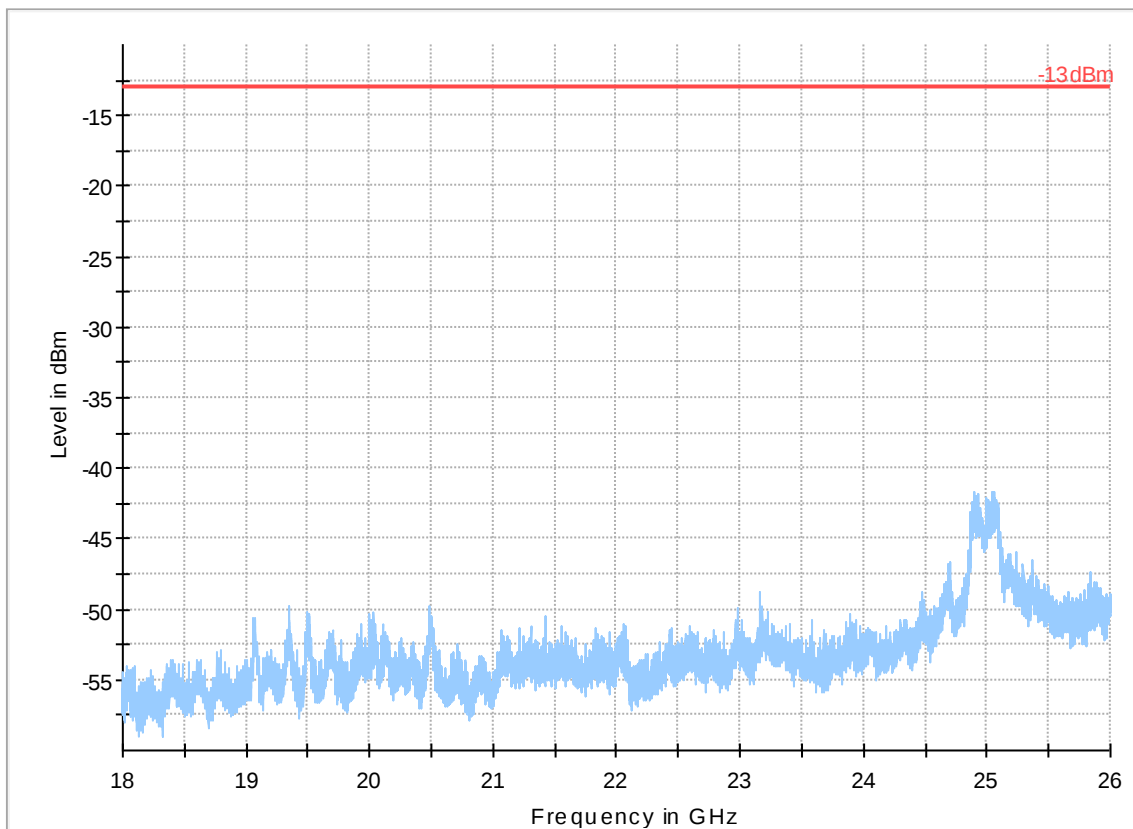
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



Preview Result 1-PK+ Final\_Result PK+      \* Critical\_Freqs PK+ Final\_Result RMS      -13dBm

## Plot # 20 Radiated Emissions: 30-1000MHz

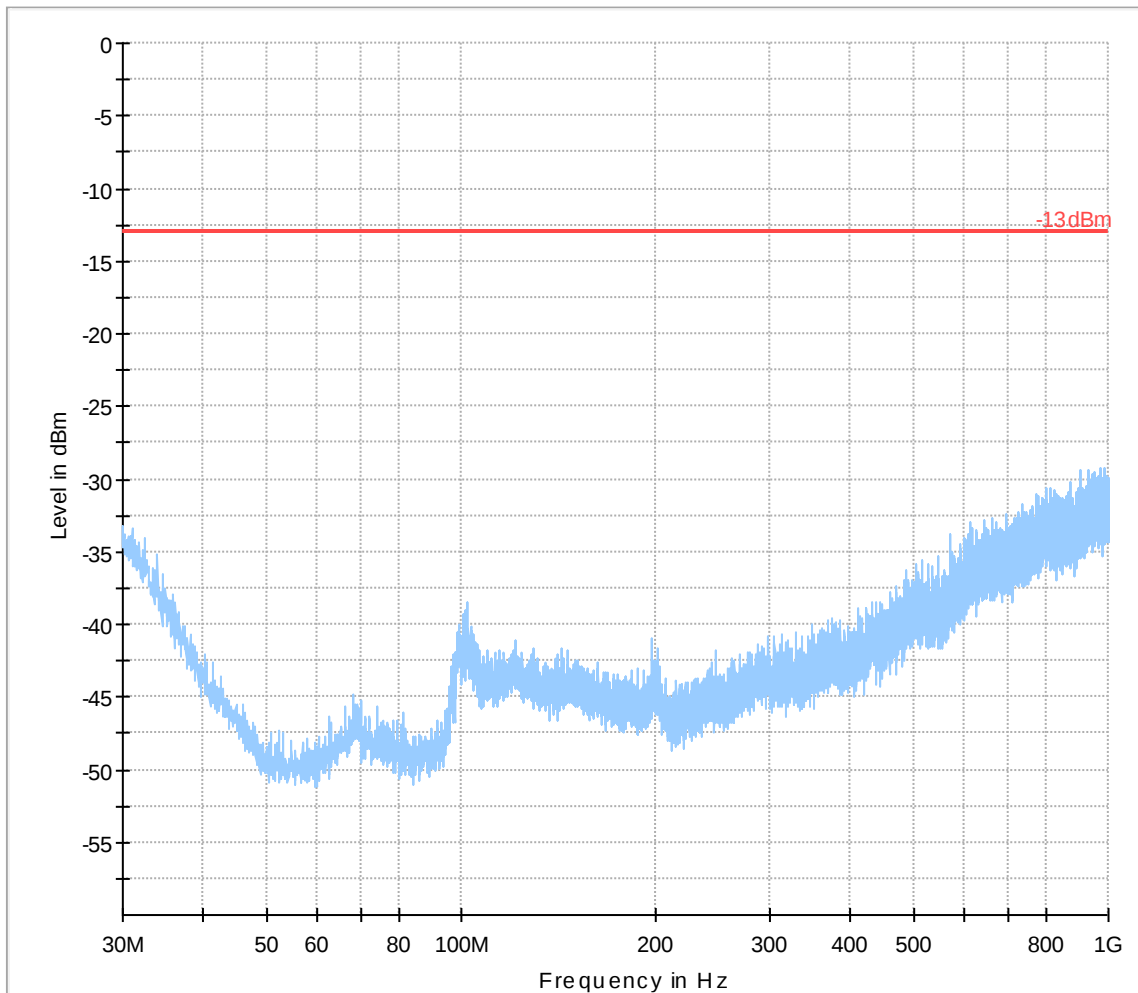
Module 1+2

UMTS Band IV + LTE Band 66

Channel: High

**Final Result**

| 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+

-13dBm



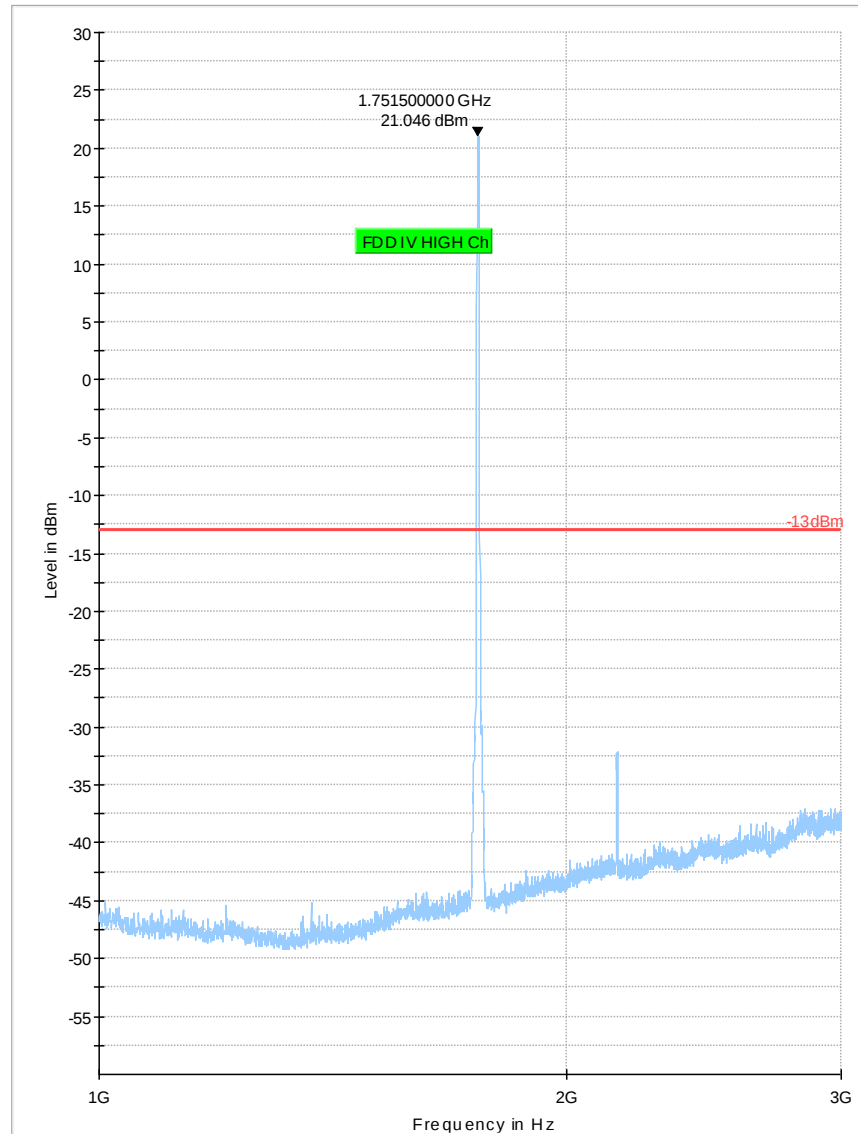
Final\_Result RMS

## Plot # 21 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band IV + LTE Band 66

Channel: High

Preview Result 1-PK+  
Final\_Result PK+\* Critical\_Freqs PK+  
◆ Final\_Result RMS

-13dBm

## Plot # 22 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band IV + LTE Band 66

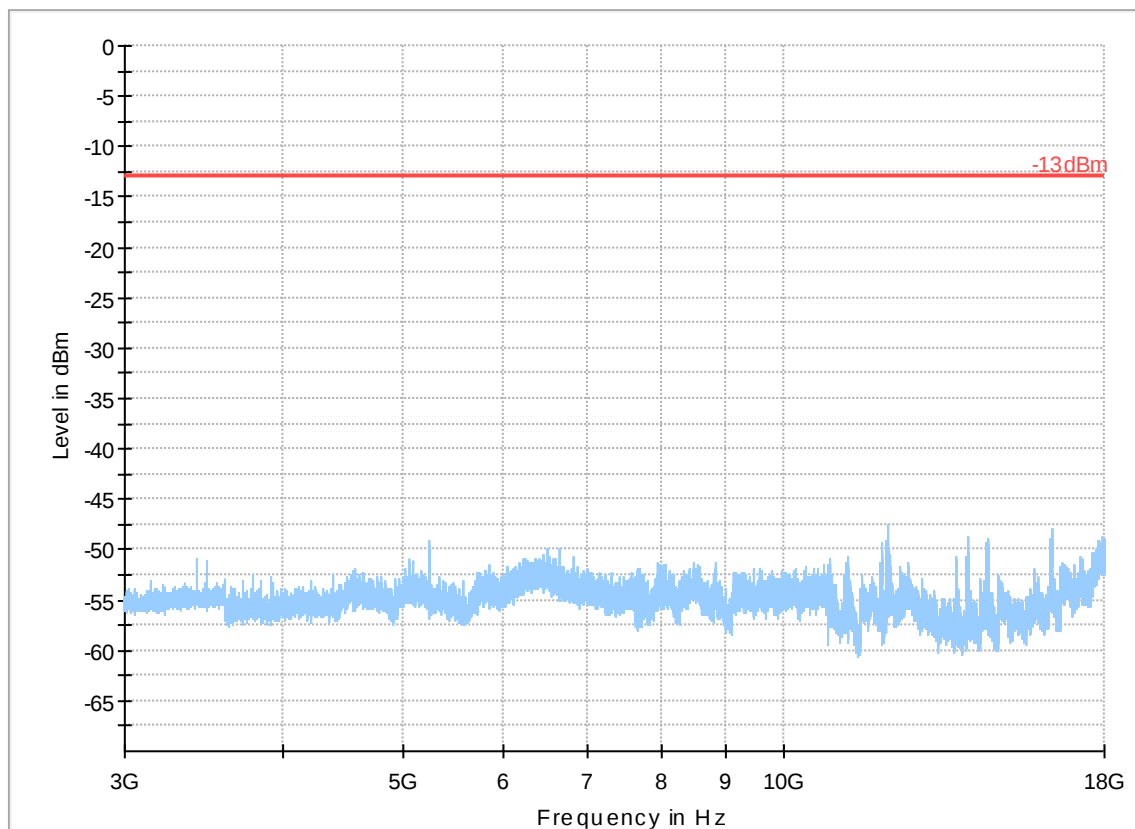
Channel: High

**Final\_Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+ Final\_Result PK+      \* Critical\_Freqs PK+ Final\_Result RMS      -13dBm

## Plot # 23 Radiated Emissions: 30-1000MHz

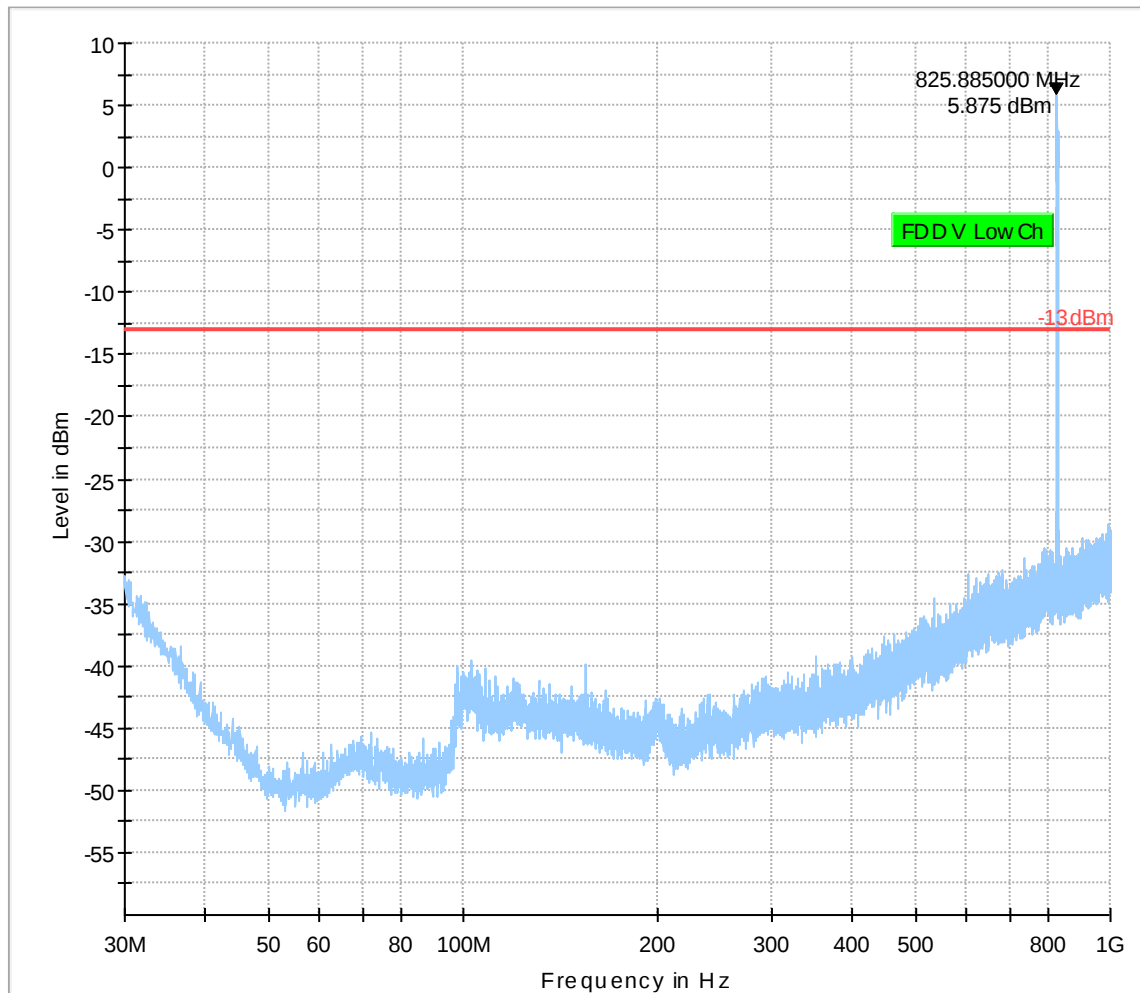
Module 1+2

UMTS Band V + LTE Band 66

Channel: Low

**Final Result**

| 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+ -13dBm Final\_Result RMS

## Plot # 24 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band V + LTE Band 66

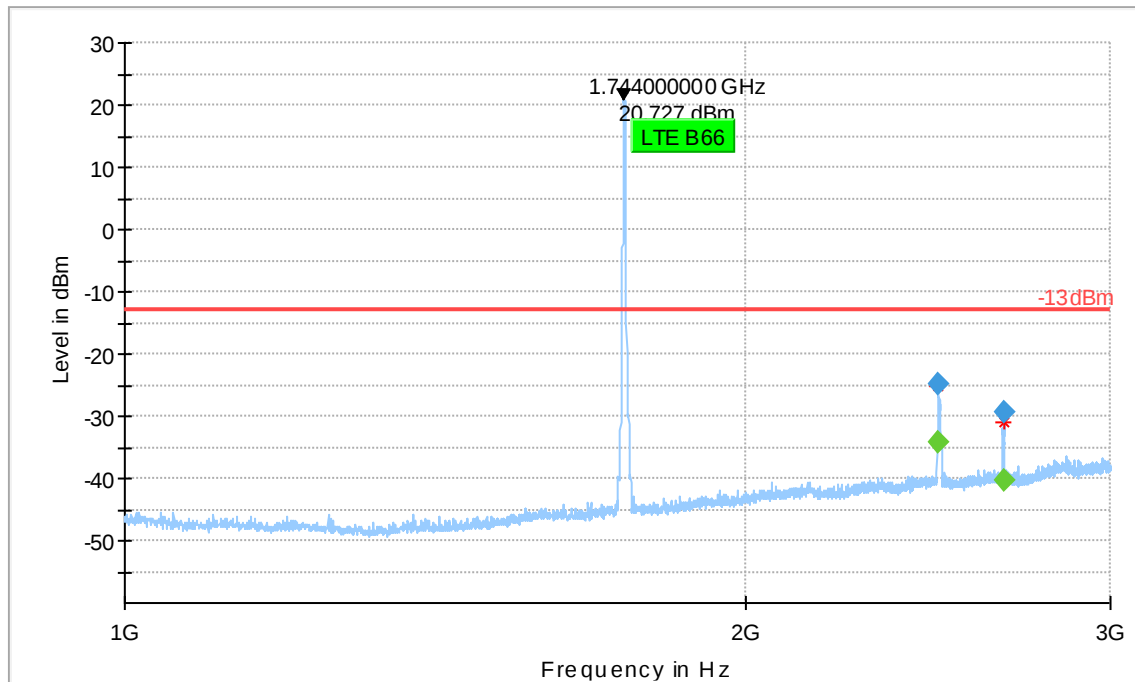
Channel: Low

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2476.215000     | ---           | -34.22    | ---         | ---         | 100.0           | 1000.000        | 176.0       | V   | 338.0         | -59.5      |
| 2476.215000     | -24.80        | ---       | -13.00      | 11.80       | 100.0           | 1000.000        | 176.0       | V   | 338.0         | -59.5      |
| 2662.751250     | ---           | -40.34    | ---         | ---         | 100.0           | 1000.000        | 165.0       | V   | 333.0         | -58.8      |
| 2662.751250     | -29.35        | ---       | -13.00      | 16.35       | 100.0           | 1000.000        | 165.0       | V   | 333.0         | -58.8      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 2476.215000     | 12:14:24 PM - 4/9/2019 |
| 2476.215000     | 12:14:23 PM - 4/9/2019 |
| 2662.751250     | 12:16:14 PM - 4/9/2019 |
| 2662.751250     | 12:16:14 PM - 4/9/2019 |



◆ Preview Result 1-PK+ Final\_Result PK+
 ◆ Critical\_Freqs PK+ Final\_Result RMS
 — -13dBm

## Plot # 25 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band V + LTE Band 66

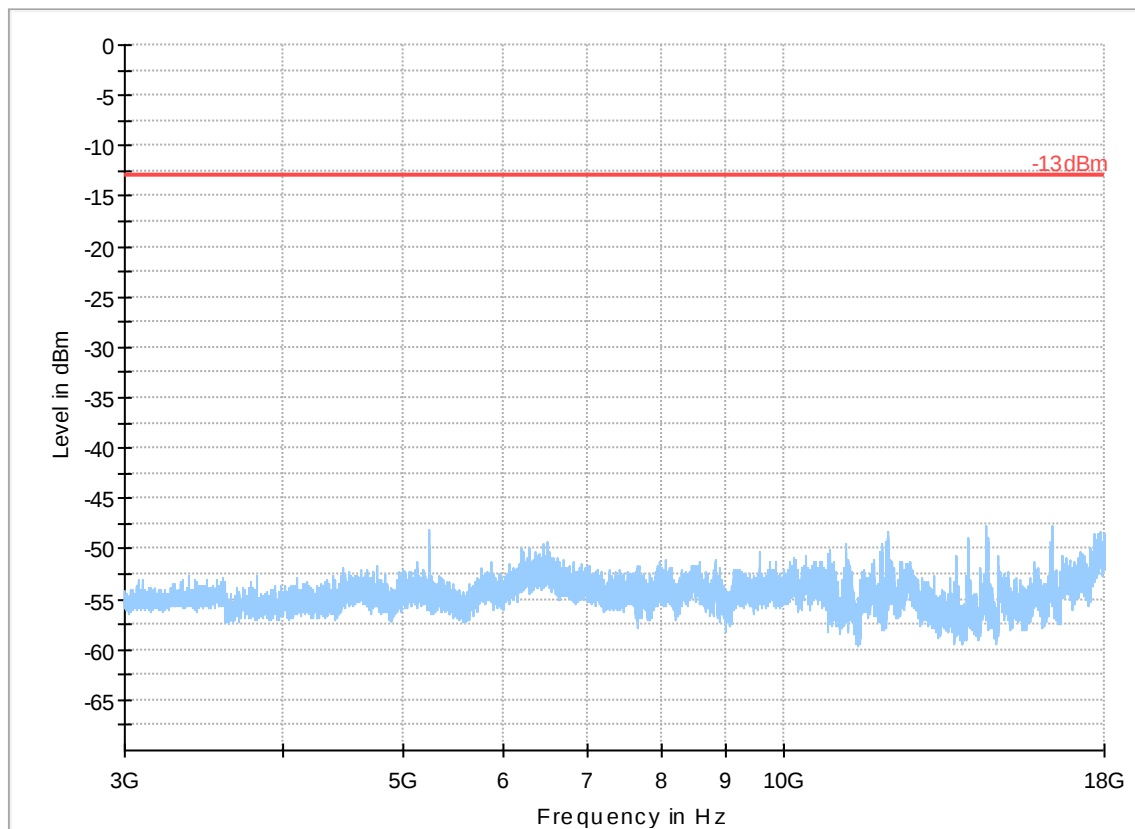
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



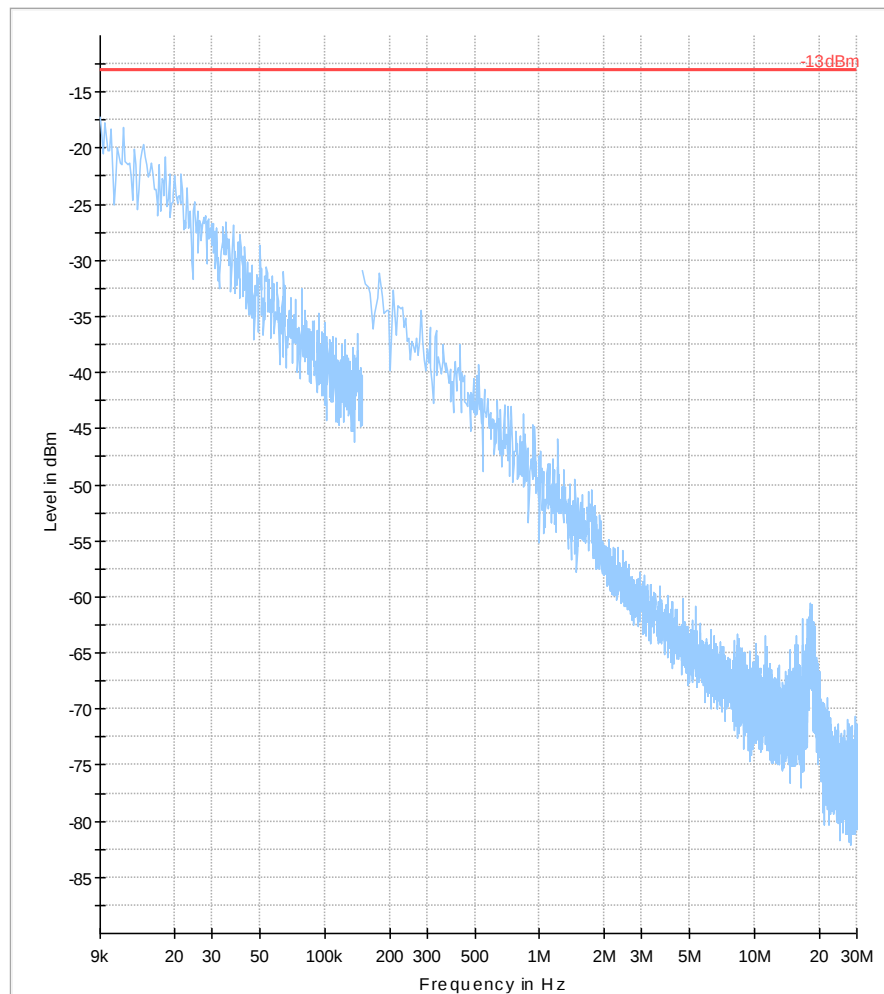
Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 26 Radiated Emissions: 9kHz-30MHz

Module 1+2

UMTS Band V + LTE Band 66

Channel: Mid



Preview Result 1-RMS \* Critical\_Freqs RMS -13dBm Final\_Result RM

## Plot # 27 Radiated Emissions: 30-1000MHz

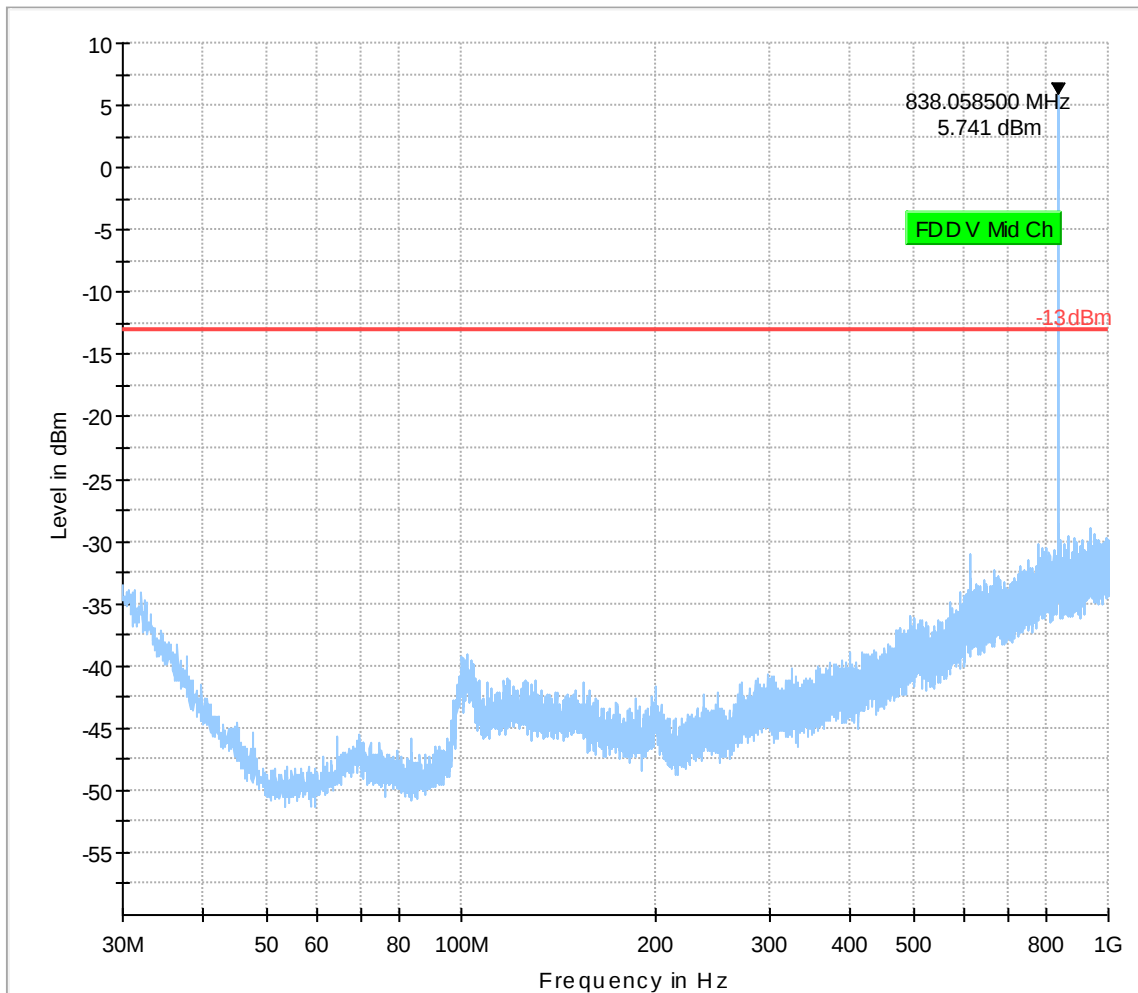
Module 1+2

UMTS Band V + LTE Band 66

Channel: Mid

**Final Result**

| 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+ -13dBm Final\_Result RMS

## Plot # 28 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band V + LTE Band 66

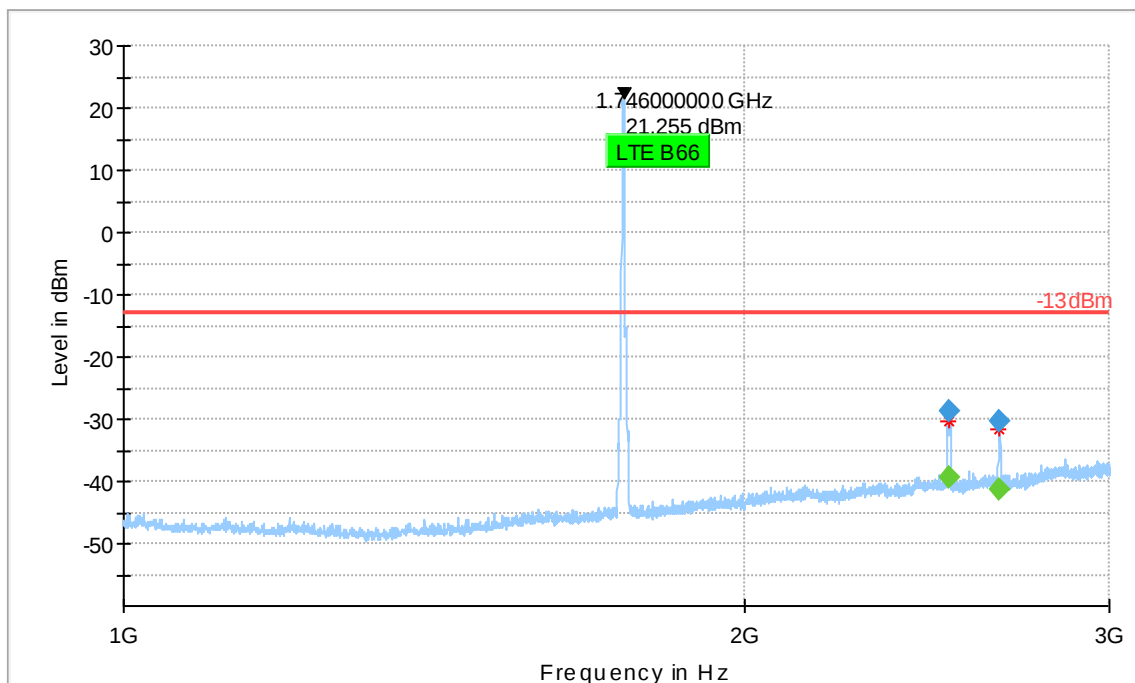
Channel: Mid

## Final Result

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2511.450000     | ---           | -39.49    | ---         | ---         | 100.0           | 1000.000        | 184.0       | V   | 330.0         | -59.4      |
| 2511.450000     | -28.62        | ---       | -13.00      | 15.62       | 100.0           | 1000.000        | 184.0       | V   | 330.0         | -59.4      |
| 2655.147250     | ---           | -41.39    | ---         | ---         | 100.0           | 1000.000        | 216.0       | V   | 338.0         | -58.8      |
| 2655.147250     | -30.35        | ---       | -13.00      | 17.35       | 100.0           | 1000.000        | 216.0       | V   | 338.0         | -58.8      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 2511.450000     | 12:24:55 PM - 4/9/2019 |
| 2511.450000     | 12:24:55 PM - 4/9/2019 |
| 2655.147250     | 12:26:45 PM - 4/9/2019 |
| 2655.147250     | 12:26:45 PM - 4/9/2019 |



 Preview Result 1-PK+ Final\_Result PK+
  Critical\_Freqs PK+
  Final\_Result RMS
  -13dBm

## Plot # 29 Radiated Emissions: 3-18GHz

Module 1+2

UMTS Band V + LTE Band 66

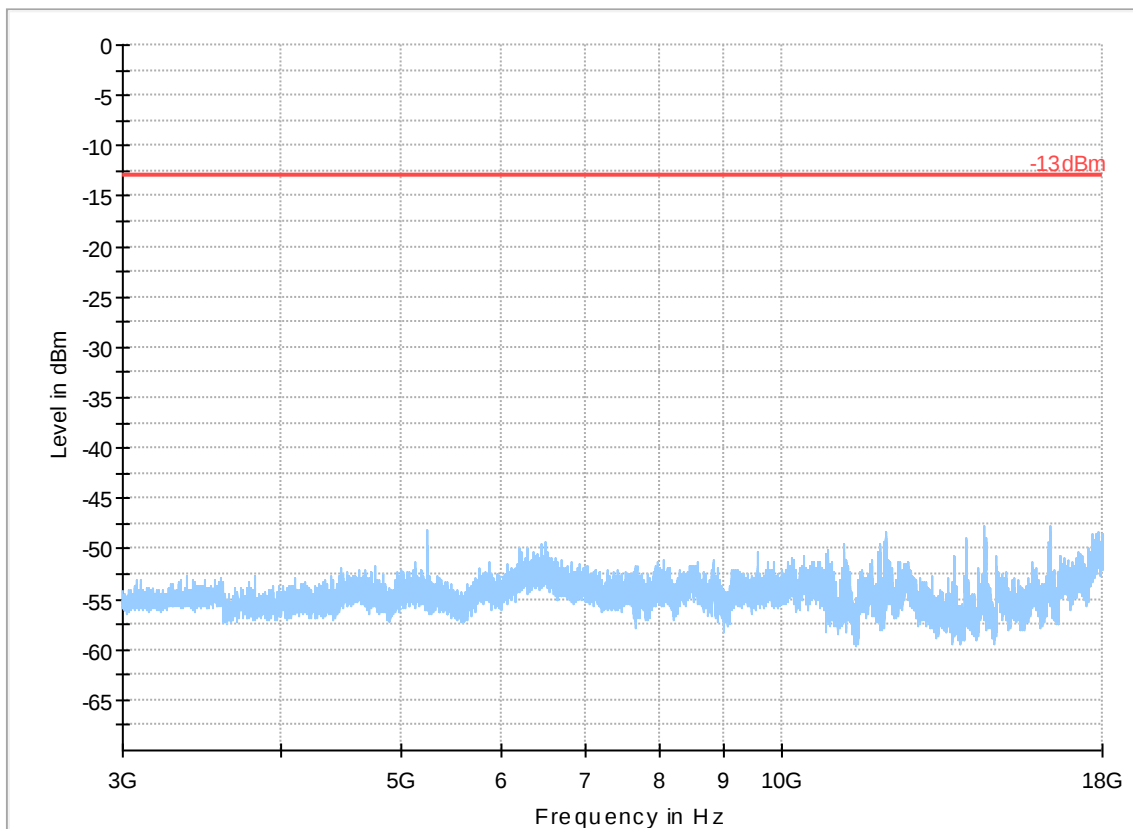
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 30 Radiated Emissions: 30-1000MHz

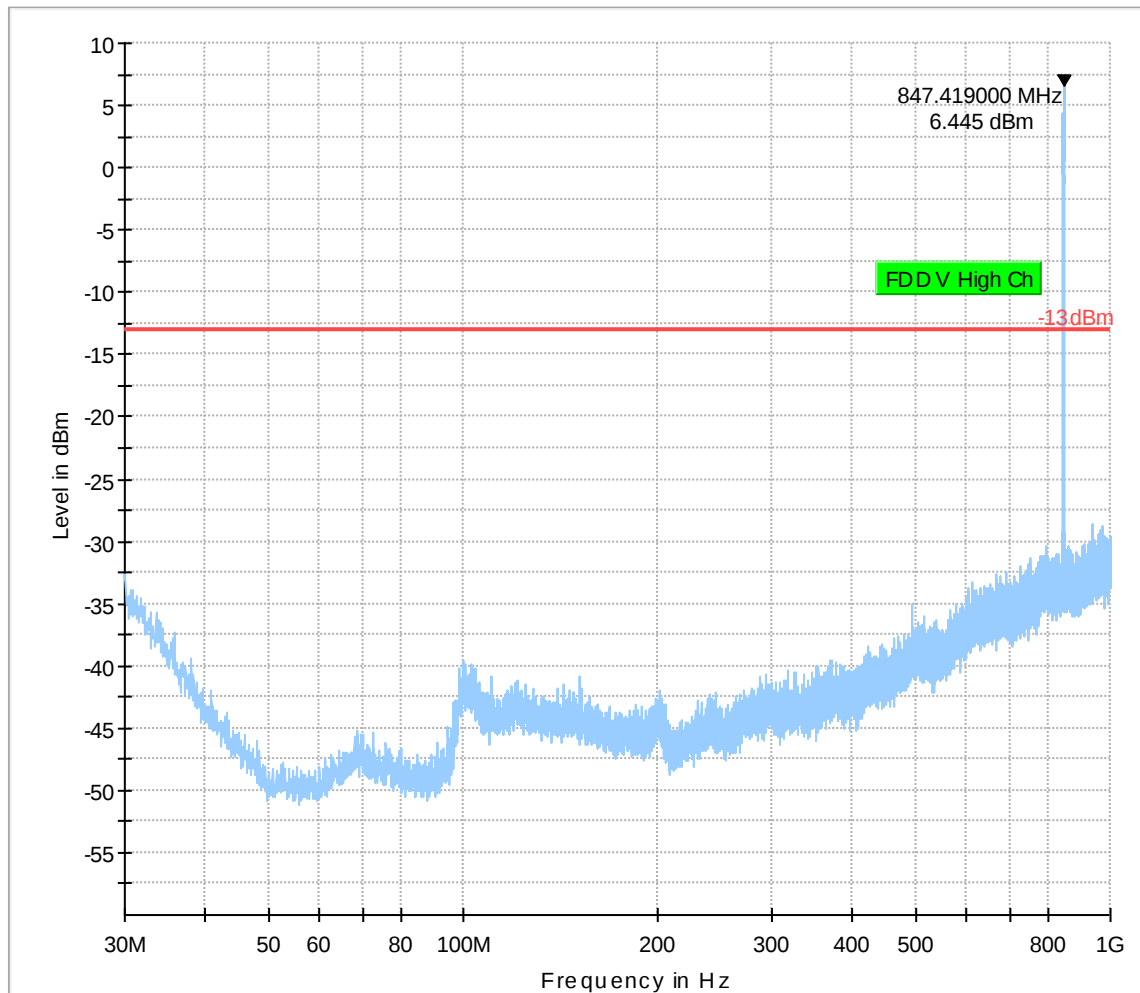
Module 1+2

UMTS Band V + LTE Band 66

Channel: High

**Final Result**

| 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+

-13dBm



Final\_Result RMS

## Plot # 31 Radiated Emissions: 1-3 GHz

Module 1+2

UMTS Band V + LTE Band 66

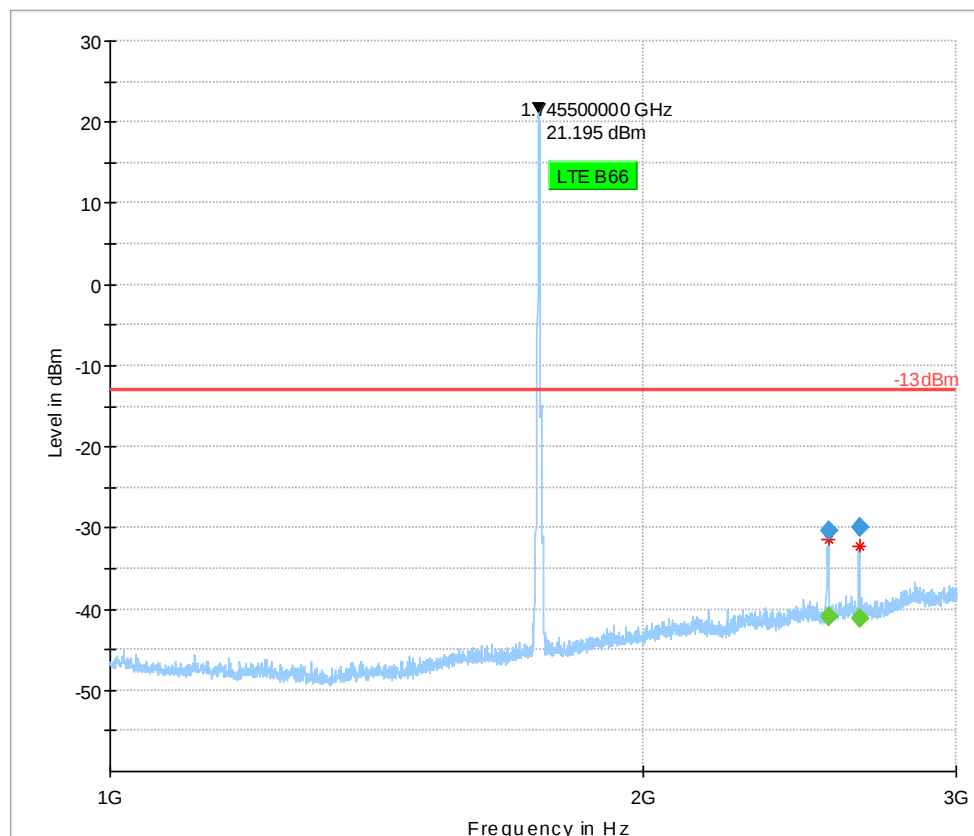
Channel: High

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2542.054875     | ---           | -40.99    | ---         | ---         | 100.0           | 1000.000        | 229.0       | V   | 336.0         | -59.4      |
| 2542.054875     | -30.40        | ---       | -13.00      | 17.40       | 100.0           | 1000.000        | 229.0       | V   | 336.0         | -59.4      |
| 2644.700000     | ---           | -41.24    | ---         | ---         | 100.0           | 1000.000        | 165.0       | V   | 330.0         | -58.9      |
| 2644.700000     | -30.01        | ---       | -13.00      | 17.01       | 100.0           | 1000.000        | 165.0       | V   | 330.0         | -58.9      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 2542.054875     | 12:35:13 PM - 4/9/2019 |
| 2542.054875     | 12:35:13 PM - 4/9/2019 |
| 2644.700000     | 12:37:05 PM - 4/9/2019 |
| 2644.700000     | 12:37:05 PM - 4/9/2019 |



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

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

Module 1+2

UMTS Band V + LTE Band 66

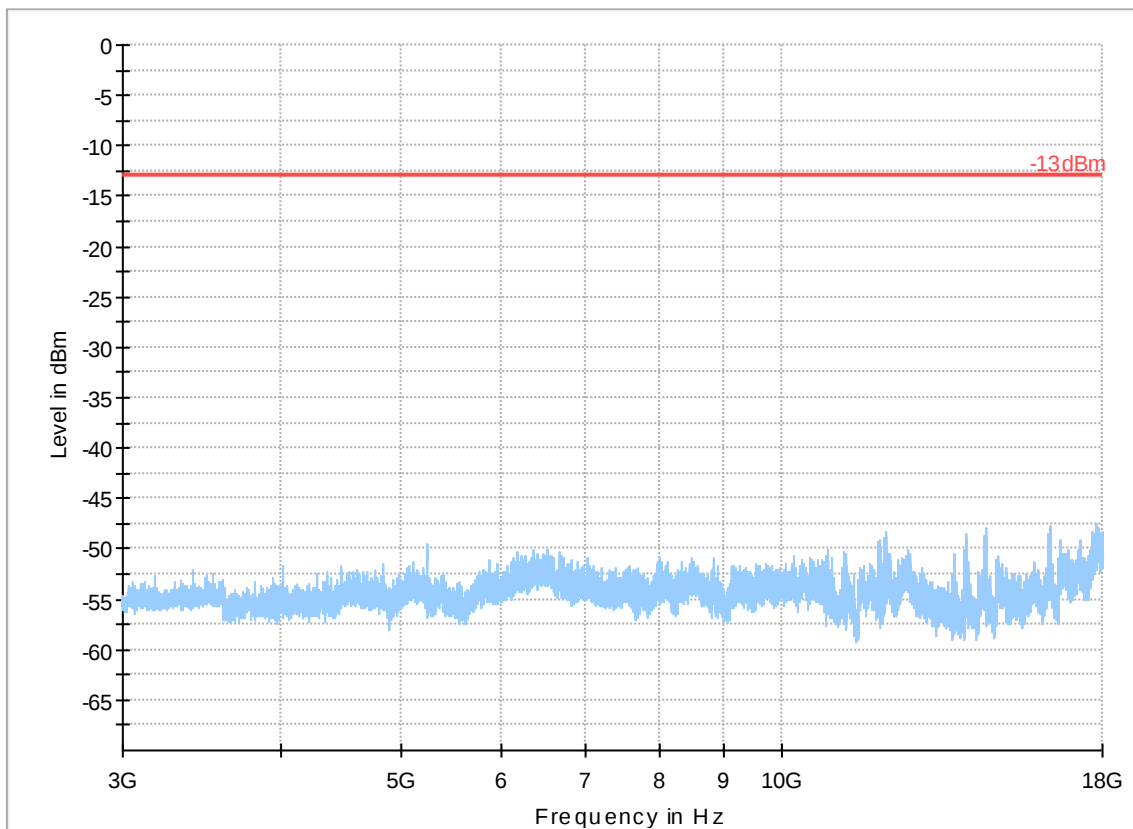
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 33 Radiated Emissions: 30-1000MHz

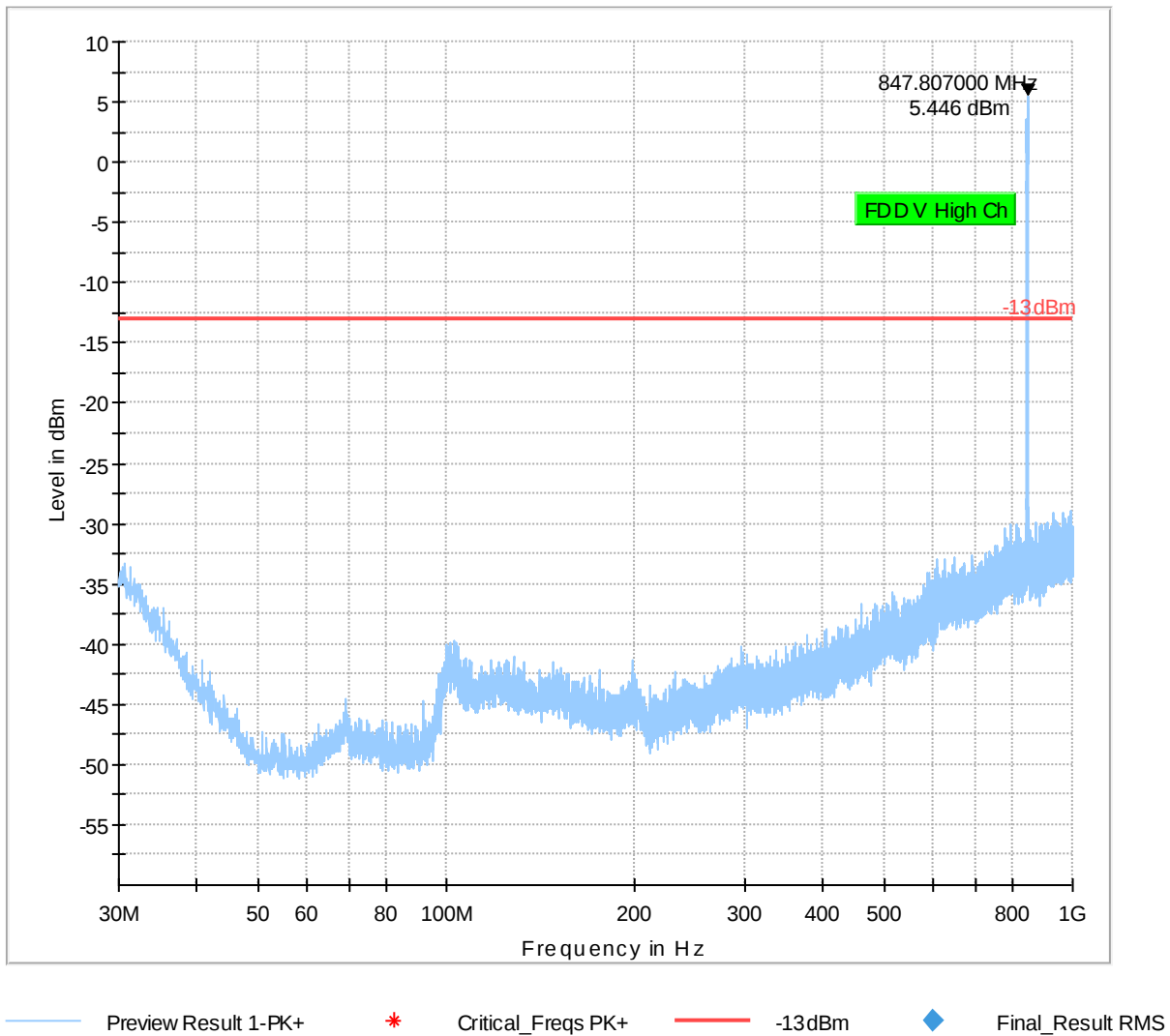
Module 1+2

LTE Band 2 + UMTS Band V

Channel: Low

**Final Result**

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



## Plot # 34 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 2 + UMTS Band V

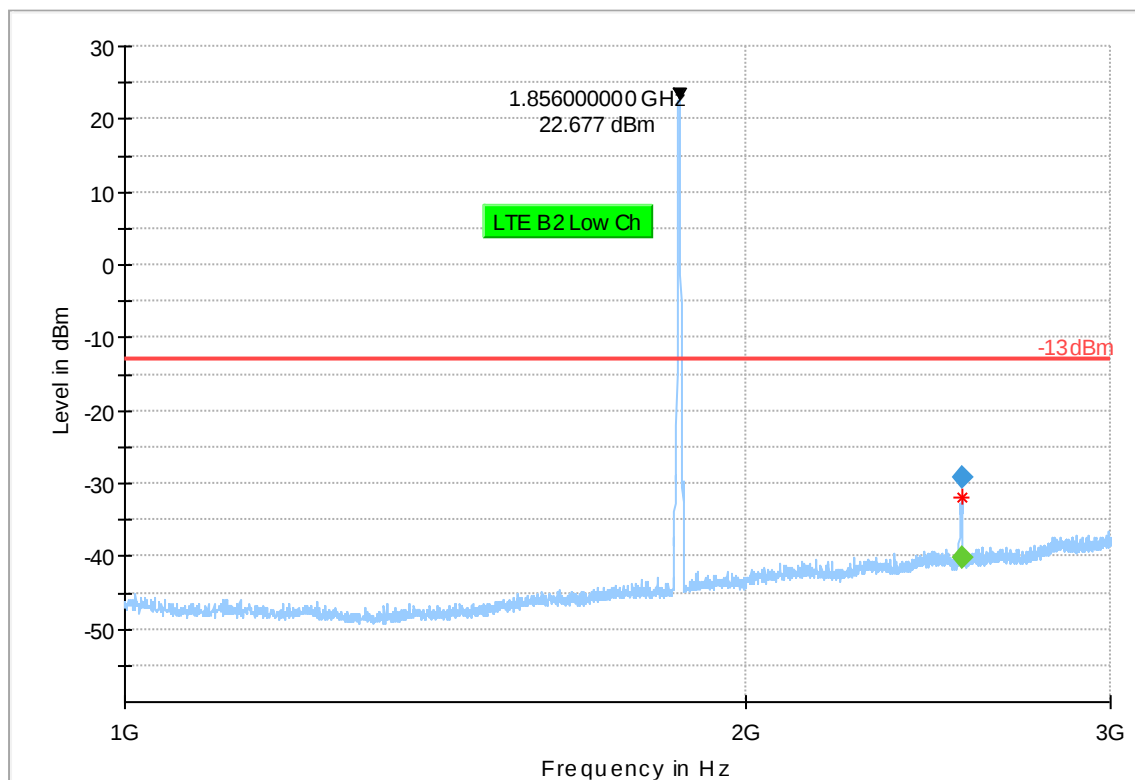
Channel: Low

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2542.902250     | ---           | -40.24    | ---         | ---         | 100.0           | 1000.000        | 196.0       | V   | 327.0         | -59.3      |
| 2542.902250     | -29.05        | ---       | -13.00      | 16.05       | 100.0           | 1000.000        | 196.0       | V   | 327.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment               |
|-----------------|-----------------------|
| 2542.902250     | 1:06:00 PM - 4/9/2019 |
| 2542.902250     | 1:06:00 PM - 4/9/2019 |



◆ Preview Result 1-PK+  
◆ Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

— -13dBm

## Plot # 35 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 2 + UMTS Band V

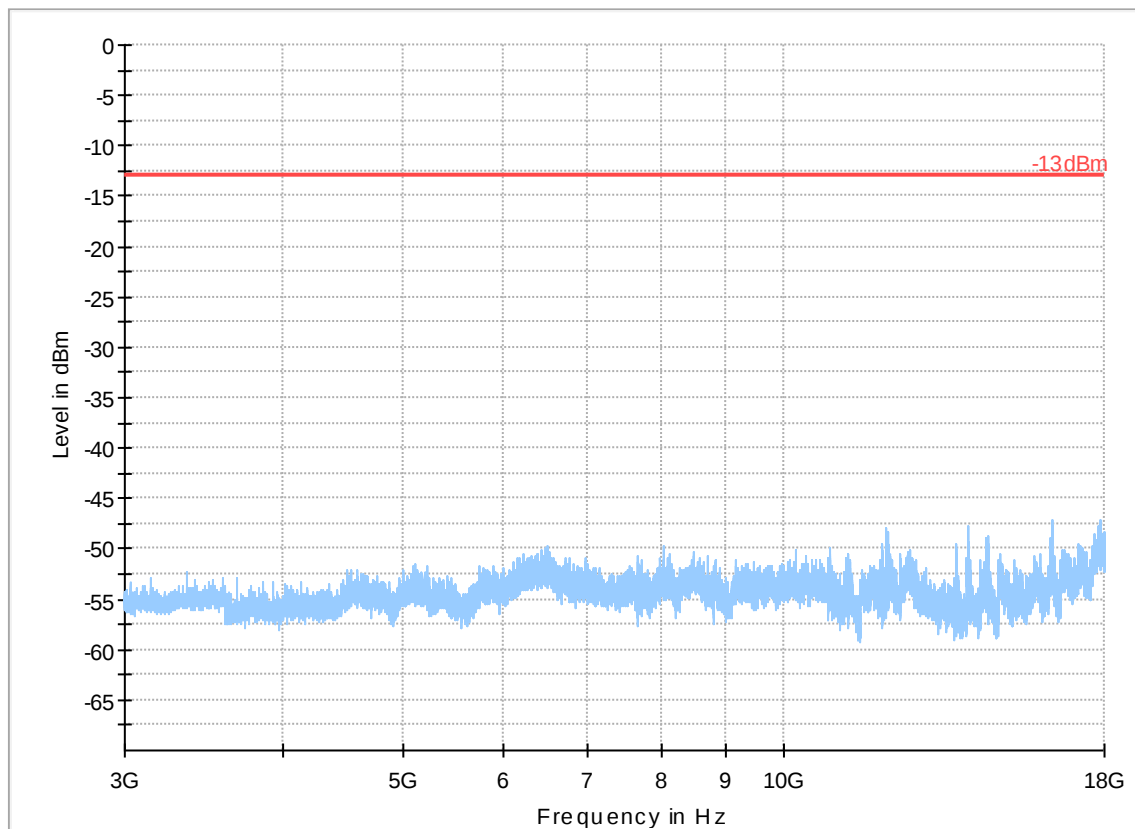
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



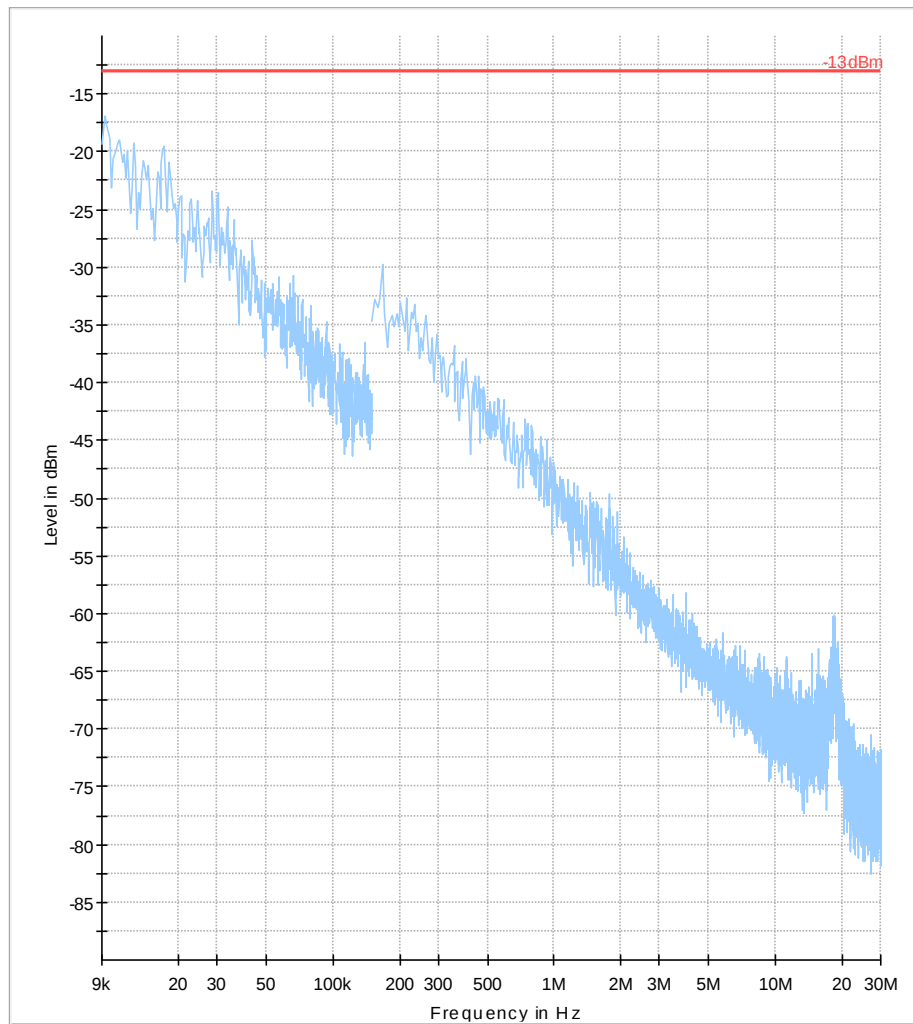
Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

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

Module 1+2

LTE Band 2 + UMTS Band V

Channel: Mid



Preview Result 1-RMS \* Critical\_Freqs RMS -13dBm Final\_Result RM

## Plot # 37 Radiated Emissions: 30-1000MHz

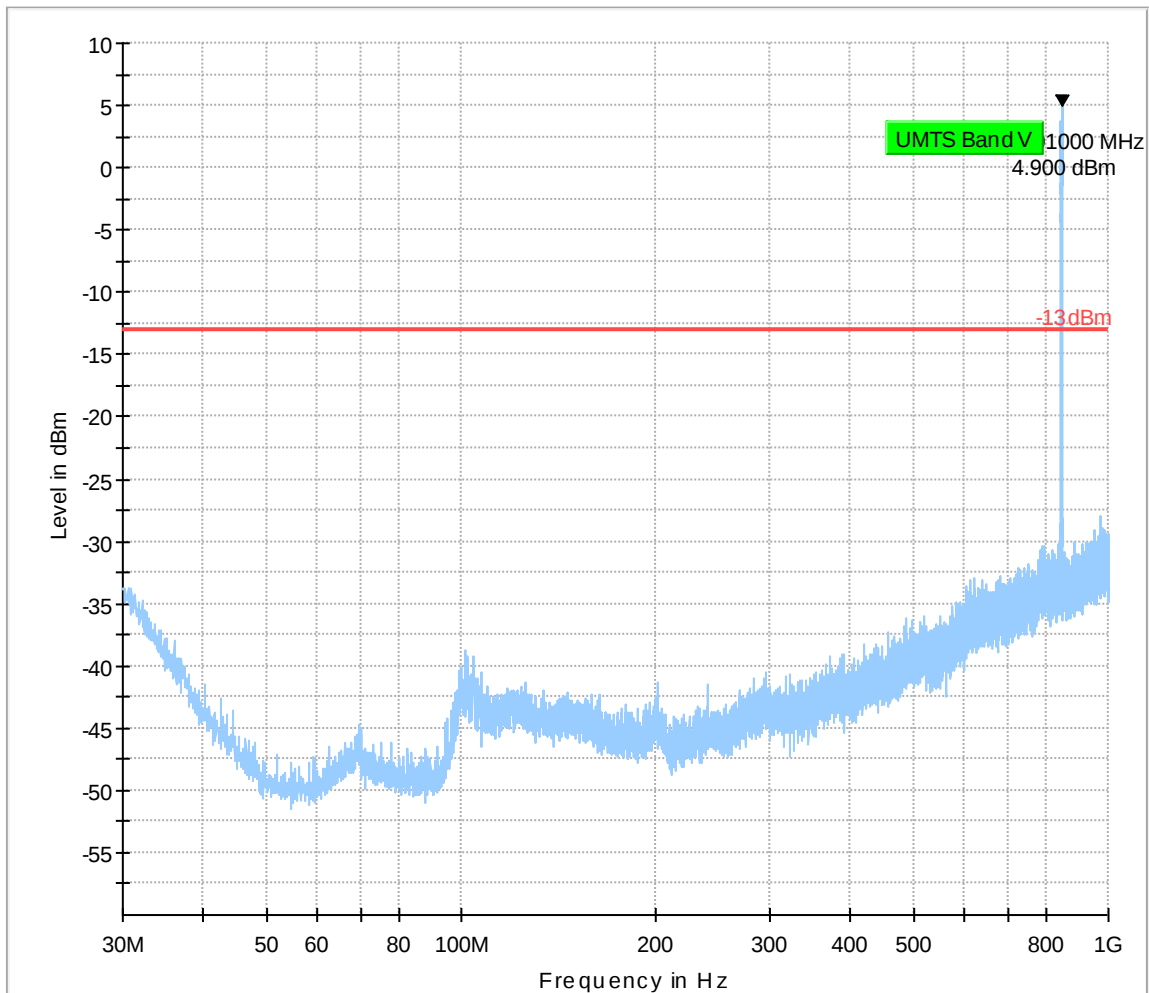
Module 1+2

LTE Band 2 + UMTS Band V

Channel: Mid

**Final Result**

| 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+

-13dBm



Final\_Result RMS

## Plot # 38 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 2 + UMTS Band V

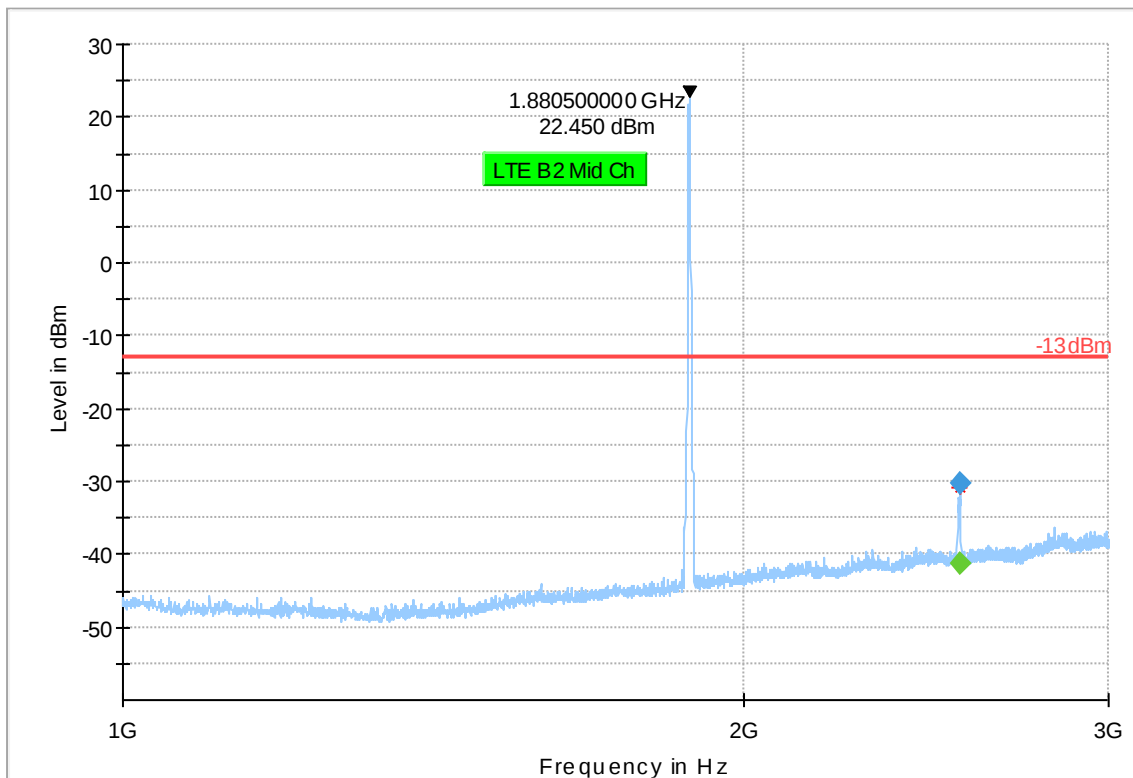
Channel: Mid

## Final Result

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2543.503500     | ---           | -41.38    | ---         | ---         | 100.0           | 1000.000        | 222.0       | V   | 333.0         | -59.3      |
| 2543.503500     | -30.14        | ---       | -13.00      | 17.14       | 100.0           | 1000.000        | 222.0       | V   | 333.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 2543.503500     | 12:58:26 PM - 4/9/2019 |
| 2543.503500     | 12:58:26 PM - 4/9/2019 |



◆ Preview Result 1-PK+  
◆ Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

— -13dBm

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

Module 1+2

LTE Band 2 + UMTS Band V

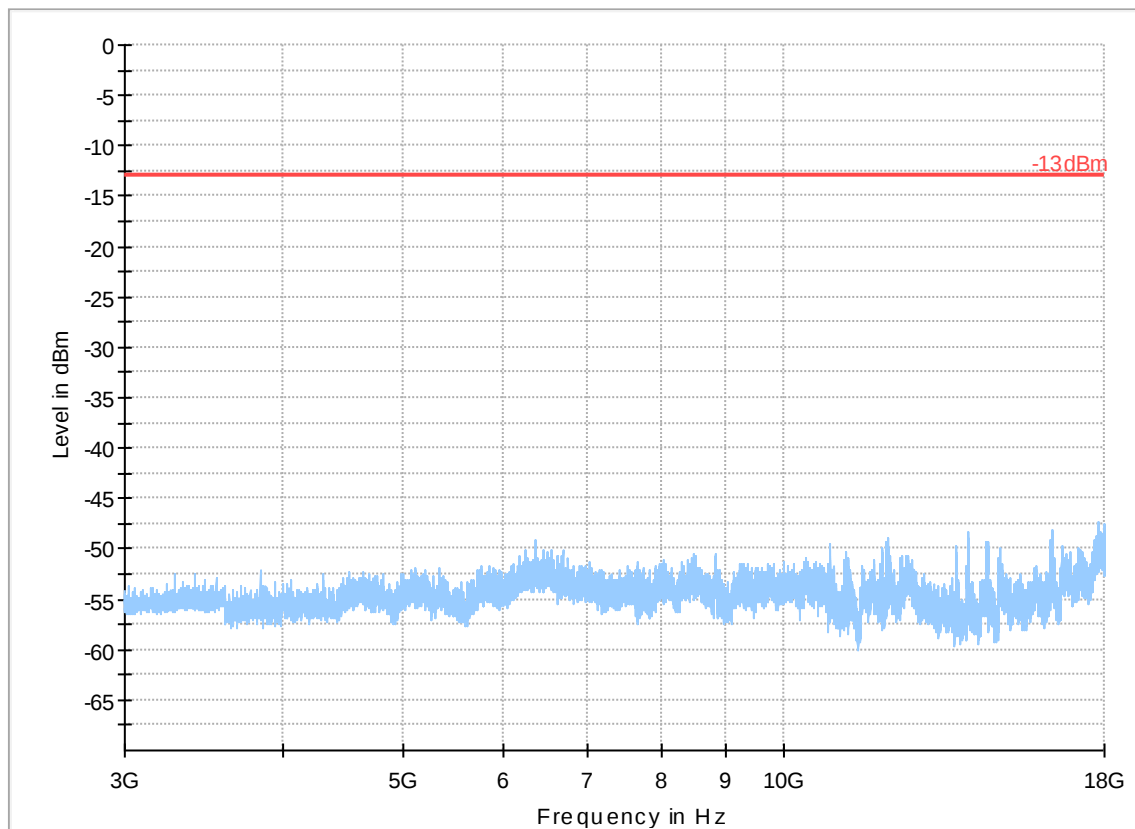
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 40 Radiated Emissions: 18-26GHz

Module 1+2

LTE Band 2 + UMTS Band V

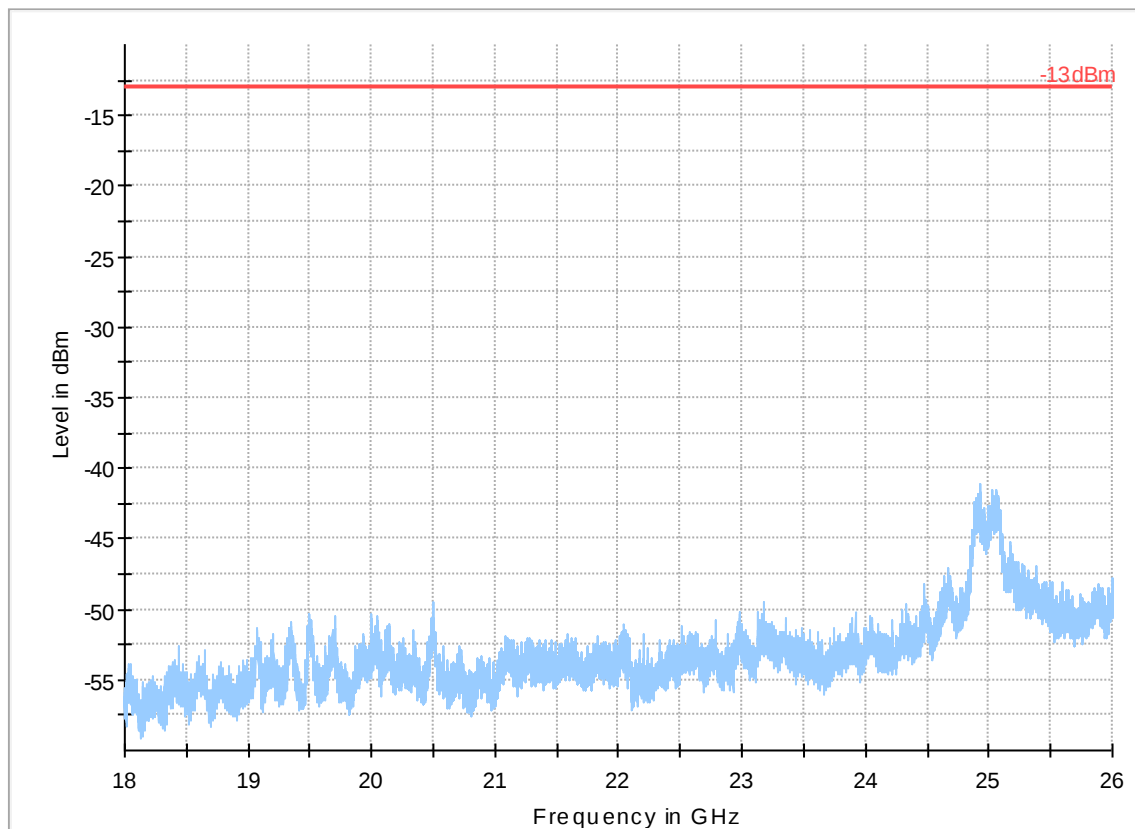
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



## Plot # 41 Radiated Emissions: 30-1000MHz

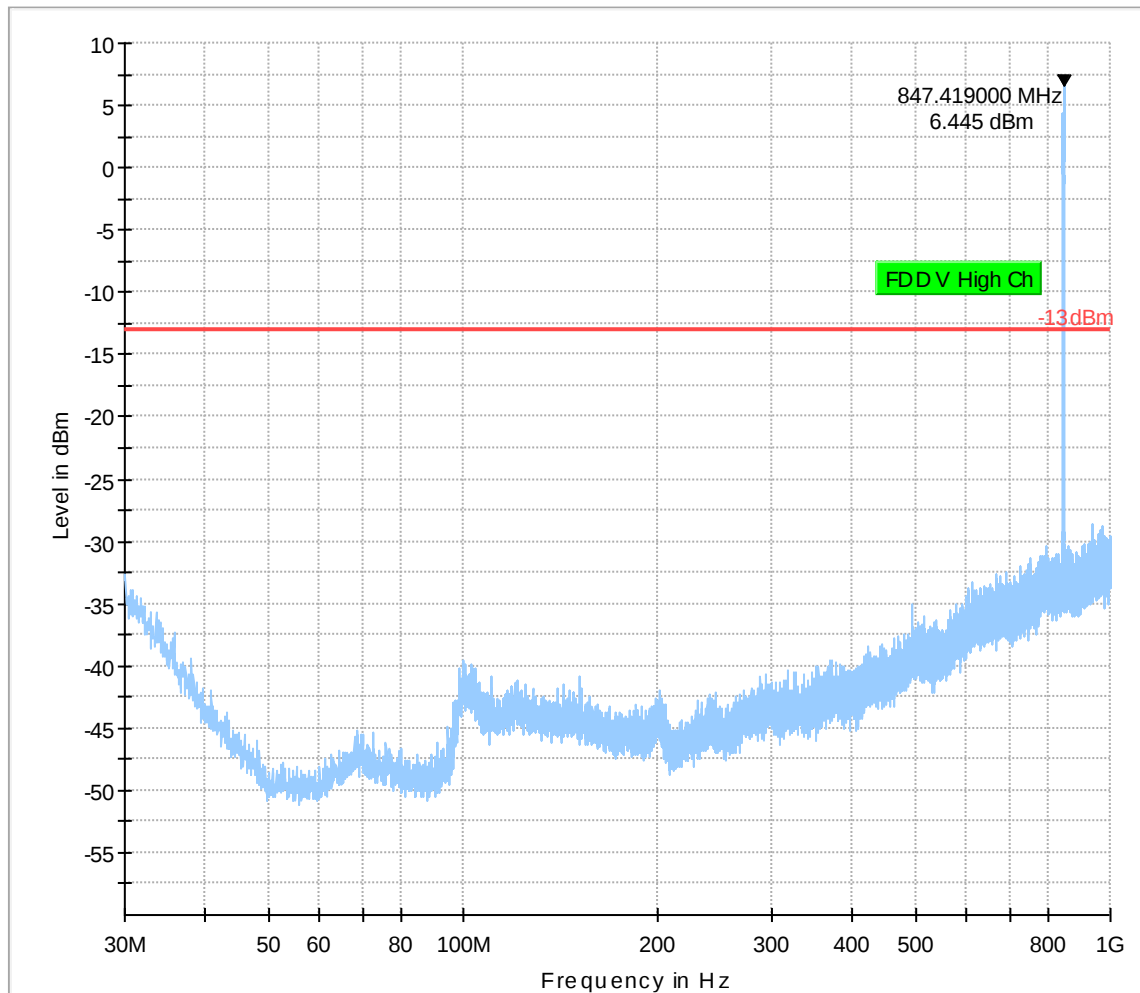
Module 1+2

LTE Band 2 + UMTS Band V

Channel: High

**Final Result**

| 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+ -13dBm Final\_Result RMS

## Plot # 42 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 2 + UMTS Band V

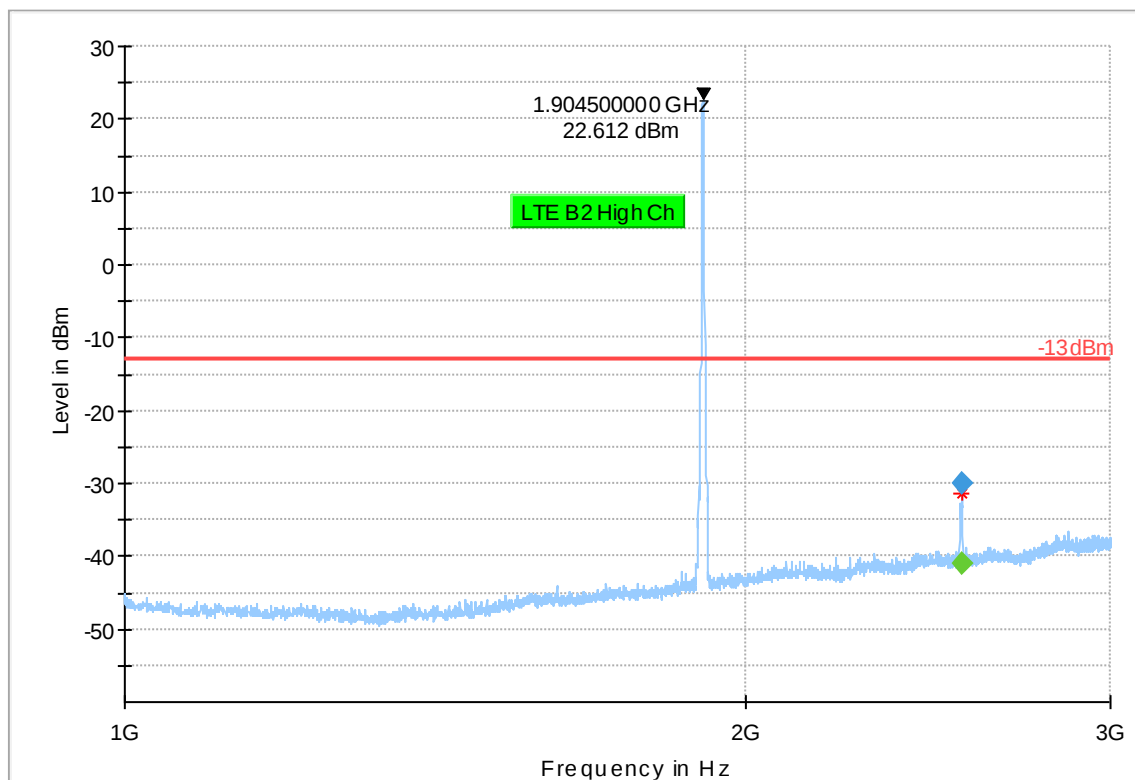
Channel: High

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2543.545250     | ---           | -41.07    | ---         | ---         | 100.0           | 1000.000        | 182.0       | V   | 335.0         | -59.3      |
| 2543.545250     | -29.90        | ---       | -13.00      | 16.90       | 100.0           | 1000.000        | 182.0       | V   | 335.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment                |
|-----------------|------------------------|
| 2543.545250     | 12:46:21 PM - 4/9/2019 |
| 2543.545250     | 12:46:21 PM - 4/9/2019 |



## Plot # 43 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 2 + UMTS Band V

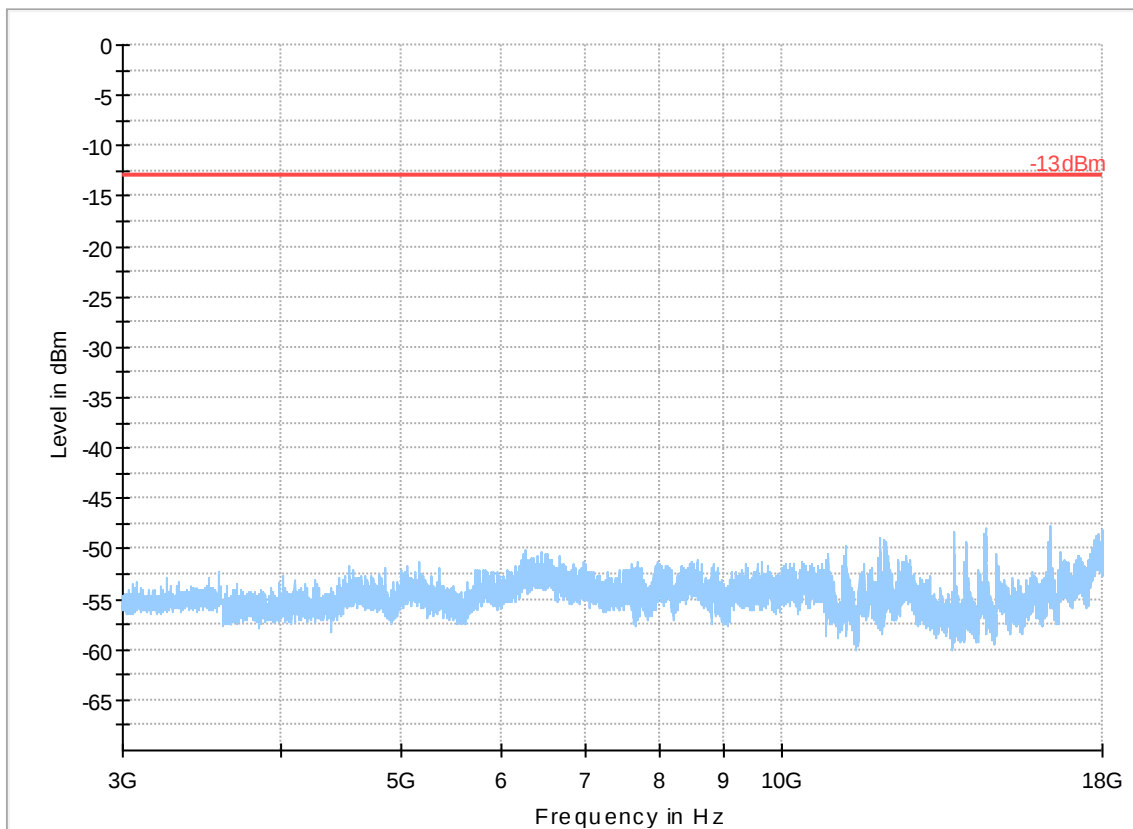
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 44 Radiated Emissions: 30-1000MHz

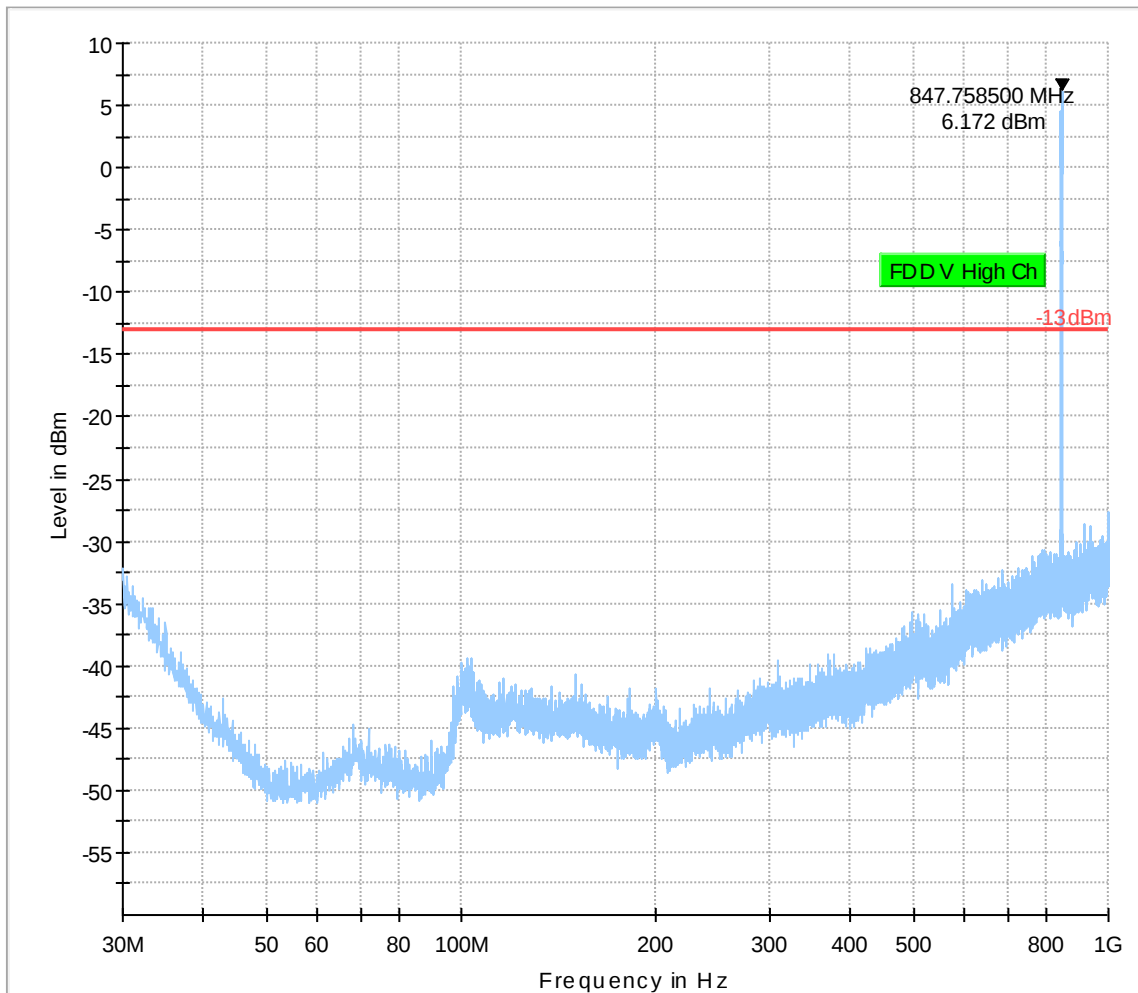
Module 1+2

LTE Band 66 + UMTS Band V

Channel: Low

**Final Result**

| 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+ -13dBm Final\_Result RMS

## Plot # 45 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 66 + UMTS Band V

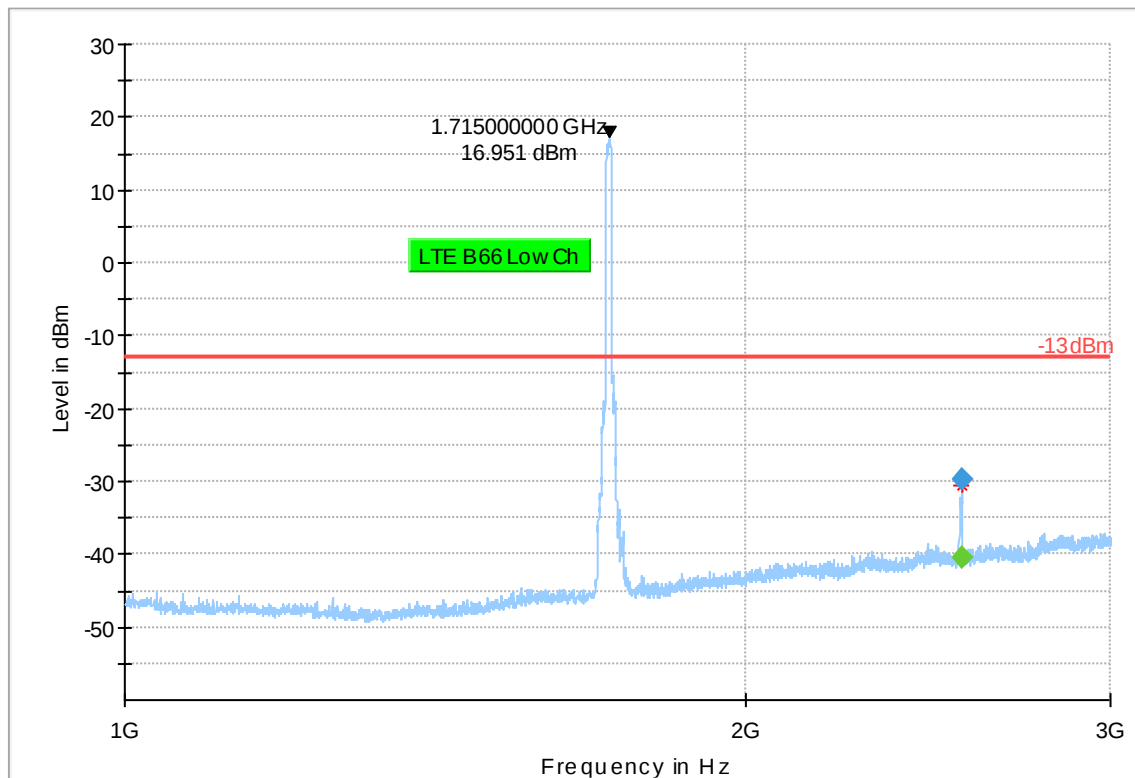
Channel: Low

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2542.876125     | ---           | -40.47    | ---         | ---         | 100.0           | 1000.000        | 196.0       | V   | 327.0         | -59.3      |
| 2542.876125     | -29.86        | ---       | -13.00      | 16.86       | 100.0           | 1000.000        | 196.0       | V   | 327.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment               |
|-----------------|-----------------------|
| 2542.876125     | 2:52:03 PM - 4/9/2019 |
| 2542.876125     | 2:52:02 PM - 4/9/2019 |



 Preview Result 1-PK+  
 Final\_Result PK+
  Critical\_Freqs PK+  
 Final\_Result RMS
  -13dBm

## Plot # 46 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 66 + UMTS Band V

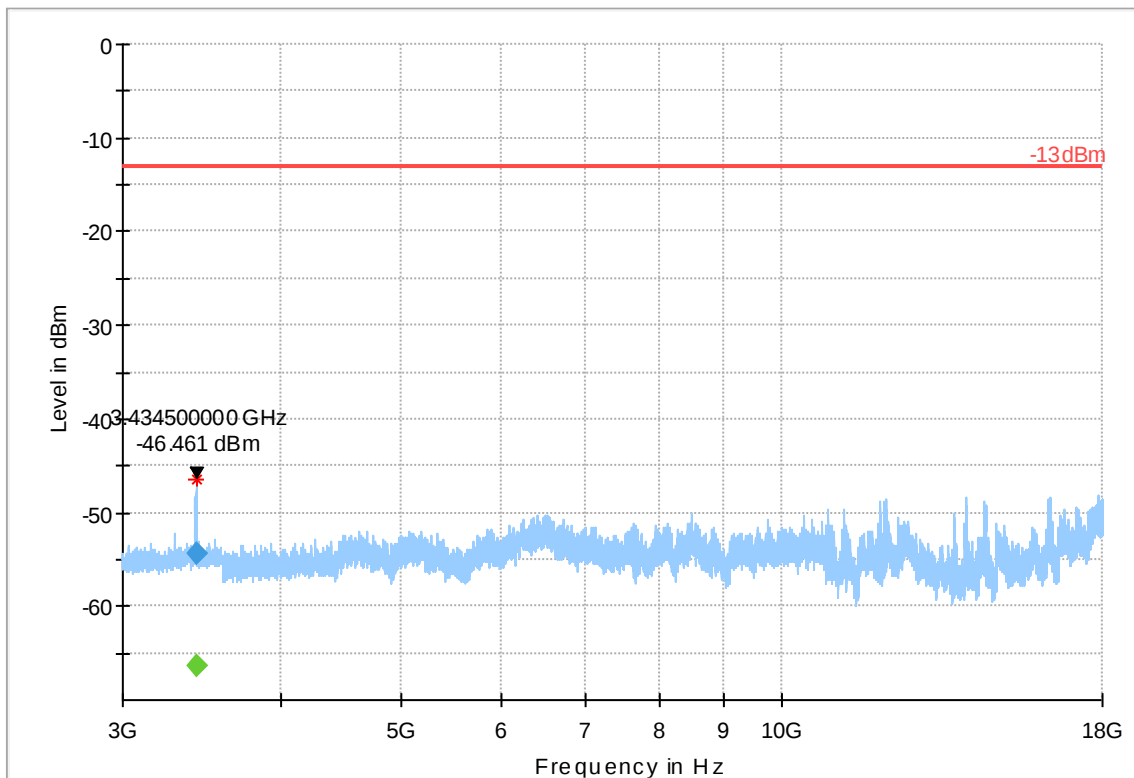
Channel: Low

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 3434.413333     | ---           | -66.43    | ---         | ---         | 100.0           | 1000.000        | 153.0       | V   | 37.0          | -103.1     |
| 3434.413333     | -54.46        | ---       | -13.00      | 41.46       | 100.0           | 1000.000        | 153.0       | V   | 37.0          | -103.1     |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment               |
|-----------------|-----------------------|
| 3434.413333     | 6:49:40 PM - 4/9/2019 |
| 3434.413333     | 6:49:39 PM - 4/9/2019 |



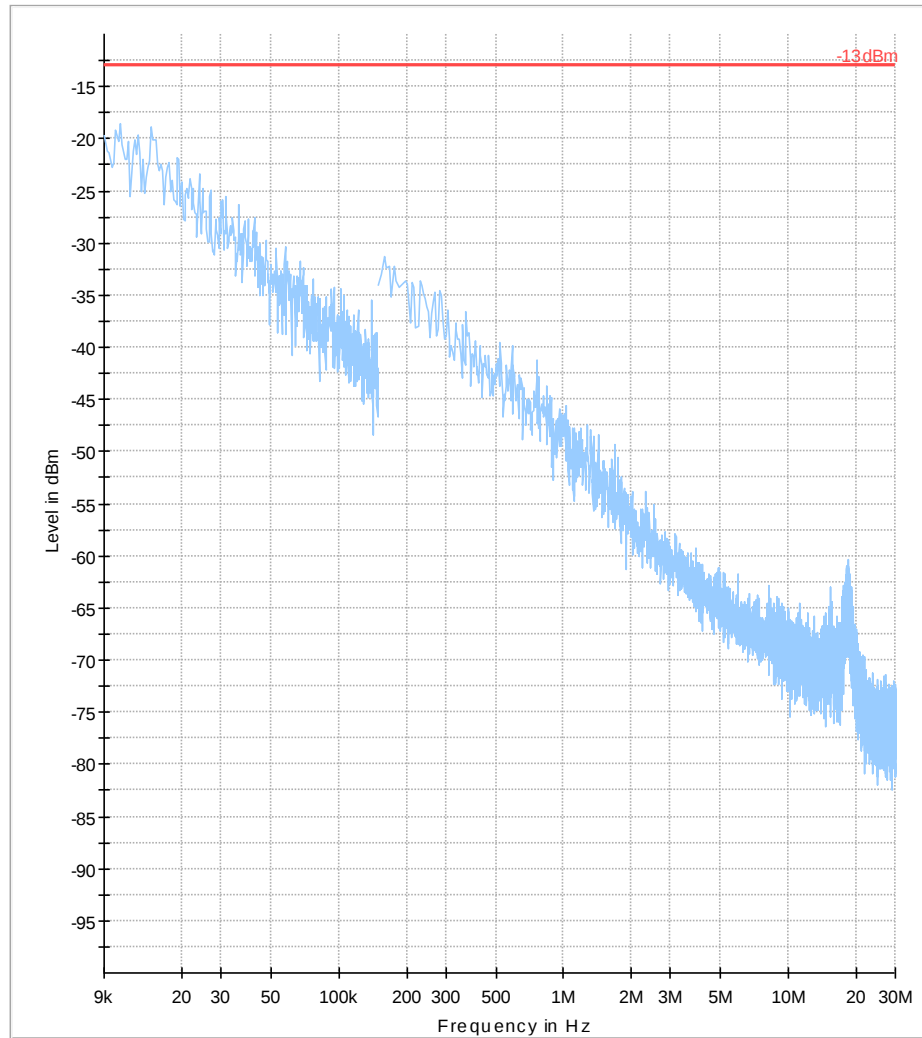
◆ Preview Result 1-PK+  
◆ Final\_Result PK+
 \* Critical\_Freqs PK+  
◆ Final\_Result RMS
 — -13dBm

## Plot # 47 Radiated Emissions: 9kHz-30MHz

Module 1+2

LTE Band 66 + UMTS Band V

Channel: Mid



Preview Result 1-RMS   \*   Critical\_Freqs RMS   -13dBm   ◆   Final\_Result RM

## Plot # 48 Radiated Emissions: 30-1000MHz

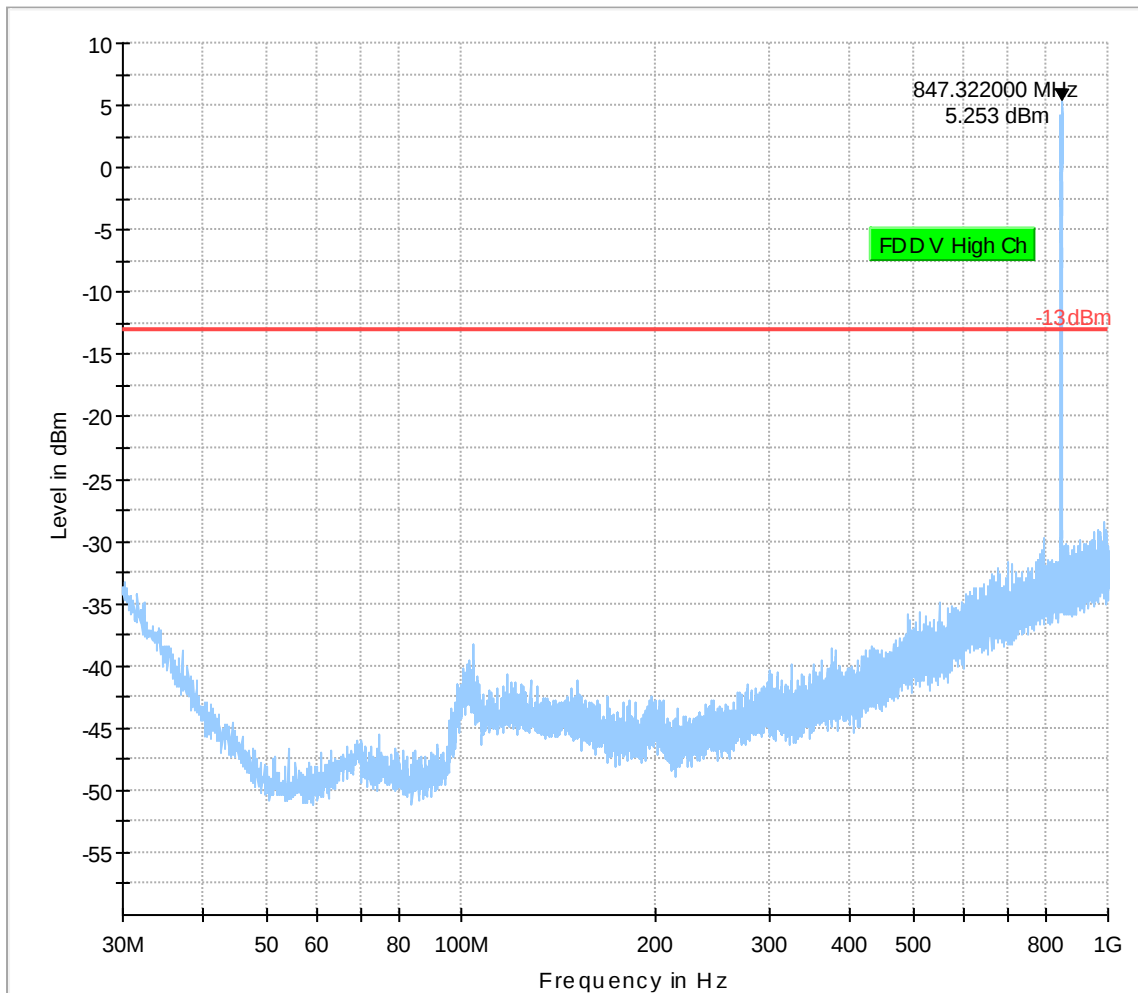
Module 1+2

LTE Band 66 + UMTS Band V

Channel: Mid

**Final Result**

| 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+

-13dBm



Final\_Result RMS

## Plot # 49 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 66 + UMTS Band V

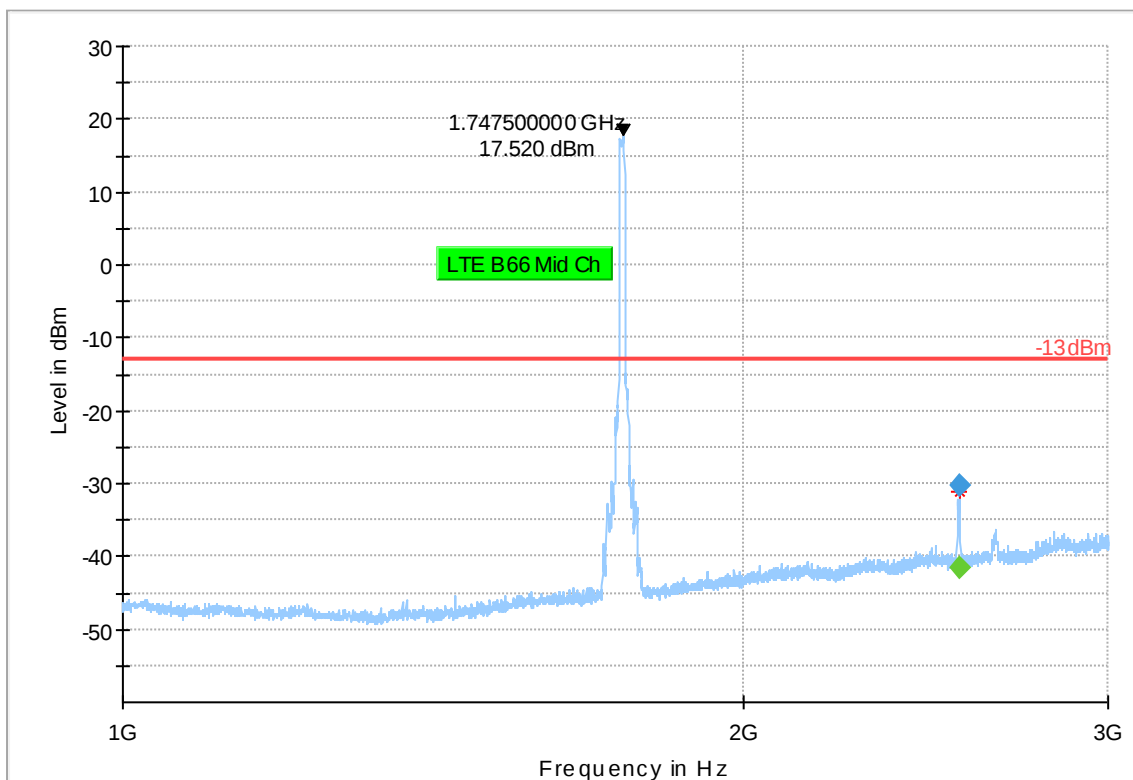
Channel: Mid

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2543.428625     | ---           | -41.66    | ---         | ---         | 100.0           | 1000.000        | 244.0       | V   | 326.0         | -59.3      |
| 2543.428625     | -30.30        | ---       | -13.00      | 17.30       | 100.0           | 1000.000        | 244.0       | V   | 326.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment               |
|-----------------|-----------------------|
| 2543.428625     | 2:42:42 PM - 4/9/2019 |
| 2543.428625     | 2:42:42 PM - 4/9/2019 |



◆ Preview Result 1-PK+  
◆ Final\_Result PK+

\* Critical\_Freqs PK+  
◆ Final\_Result RMS

— -13dBm

## Plot # 50 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 66 + UMTS Band V

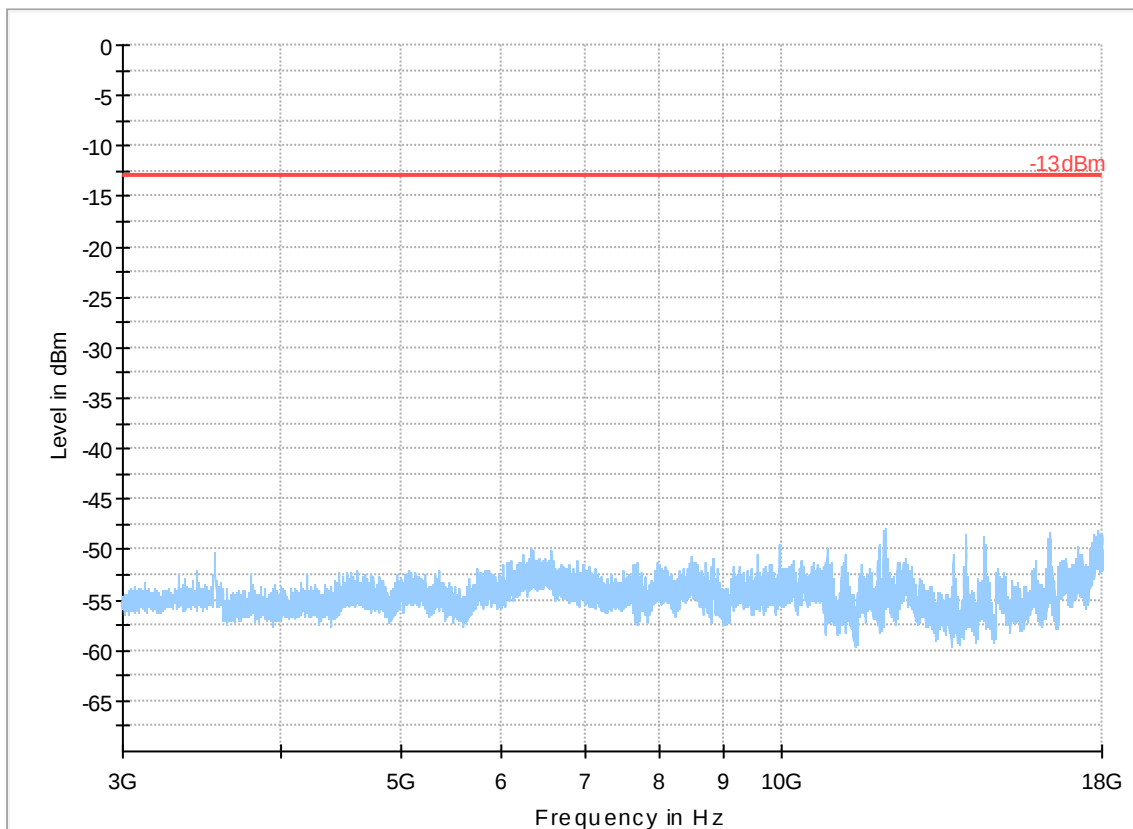
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 51 Radiated Emissions: 18-26GHz

Module 1+2

LTE Band 66 + UMTS Band V

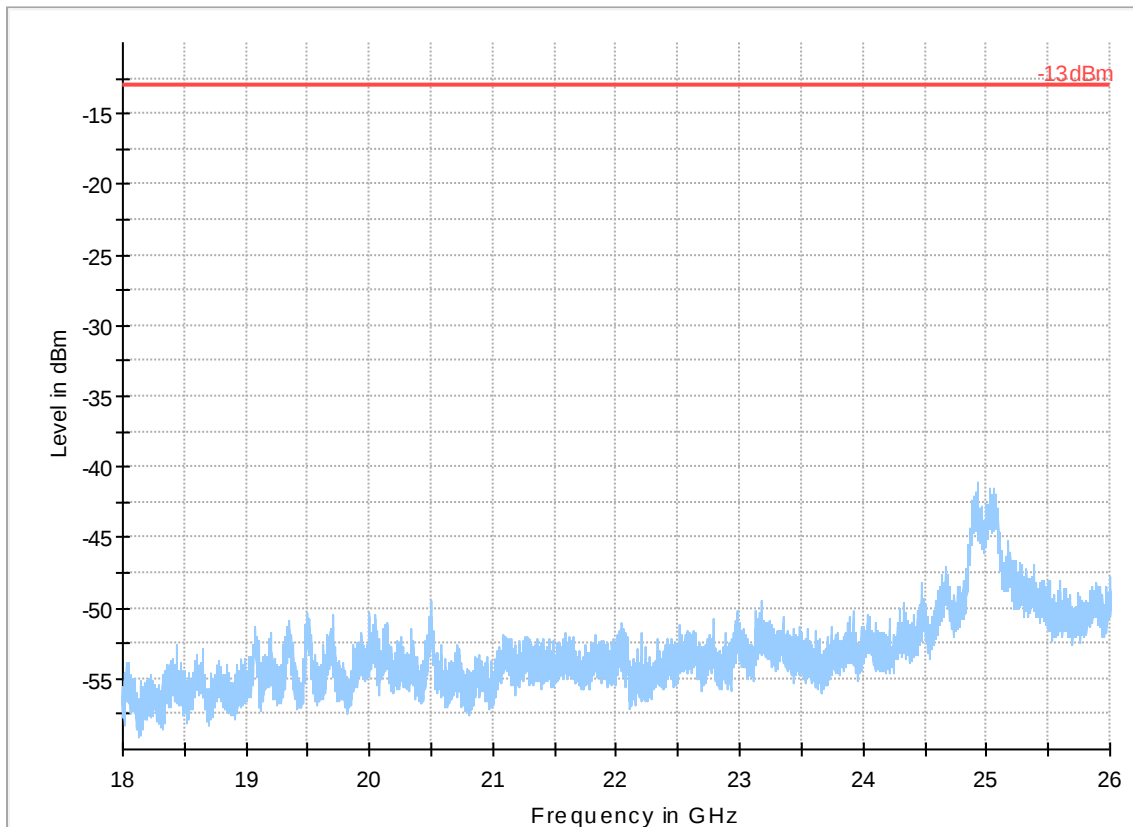
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+ Final\_Result PK+ Critical\_Freqs PK+ Final\_Result RMS -13dBm

## Plot # 52 Radiated Emissions: 30-1000MHz

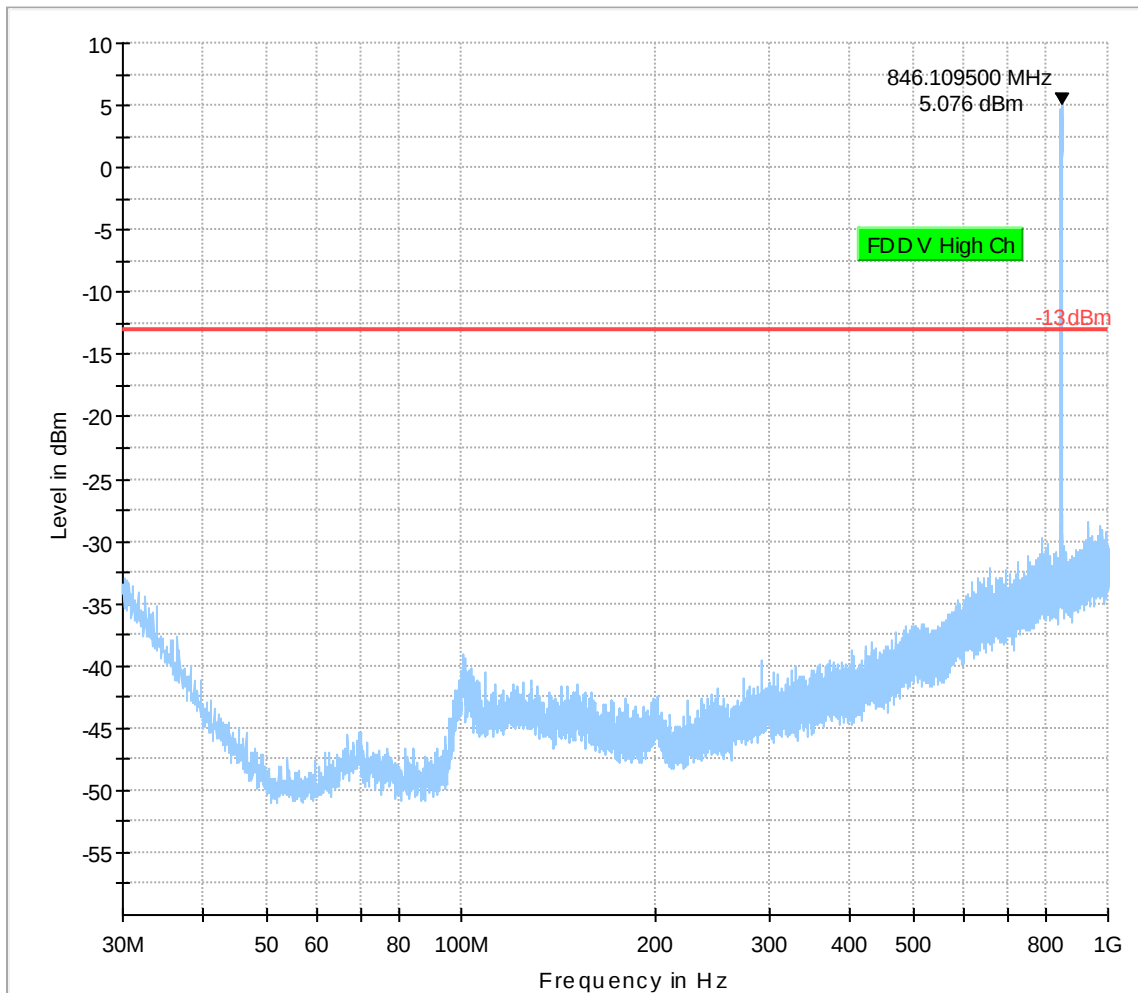
Module 1+2

LTE Band 66 + UMTS Band V

Channel: High

**Final Result**

| 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+

-13dBm



Final\_Result RMS

## Plot # 53 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 66 + UMTS Band V

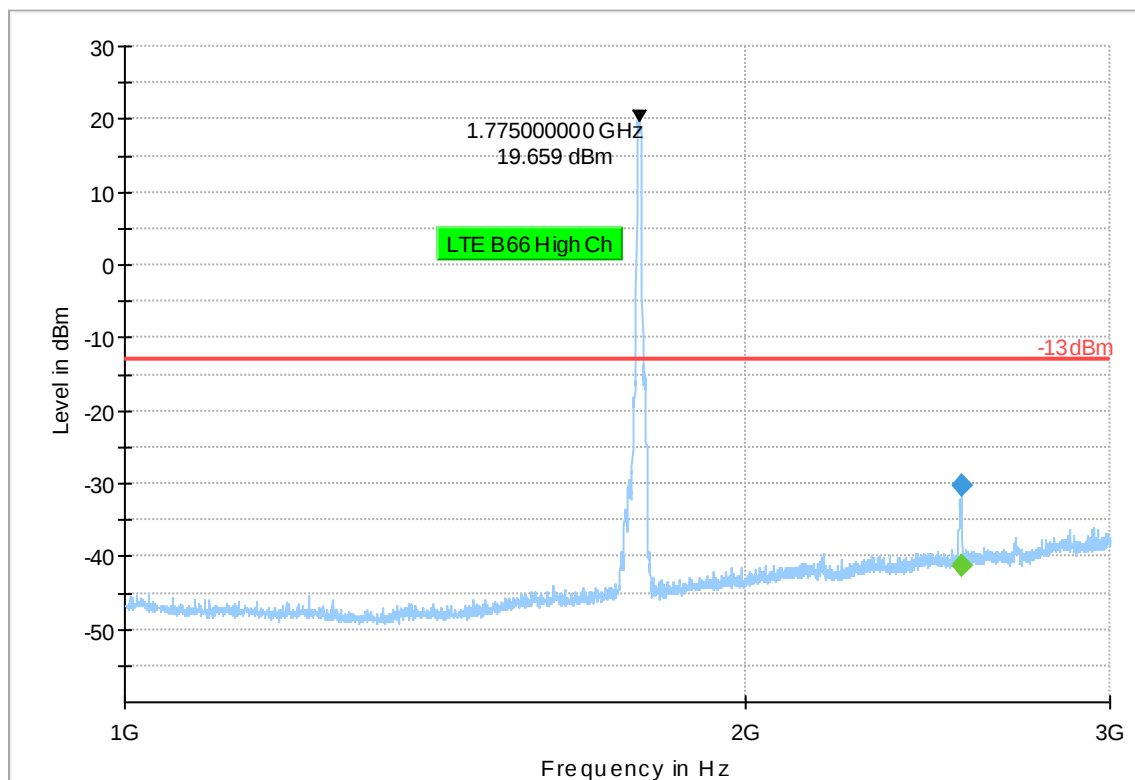
Channel: High

**Final Result**

| Frequency (MHz) | MaxPeak (dBm) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|---------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 2543.297375     | ---           | -41.37    | ---         | ---         | 100.0           | 1000.000        | 205.0       | V   | 351.0         | -59.3      |
| 2543.297375     | -30.37        | ---       | -13.00      | 17.37       | 100.0           | 1000.000        | 205.0       | V   | 351.0         | -59.3      |

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment               |
|-----------------|-----------------------|
| 2543.297375     | 3:00:01 PM - 4/9/2019 |
| 2543.297375     | 3:00:01 PM - 4/9/2019 |



## Plot # 54 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 4 + UMTS Band V

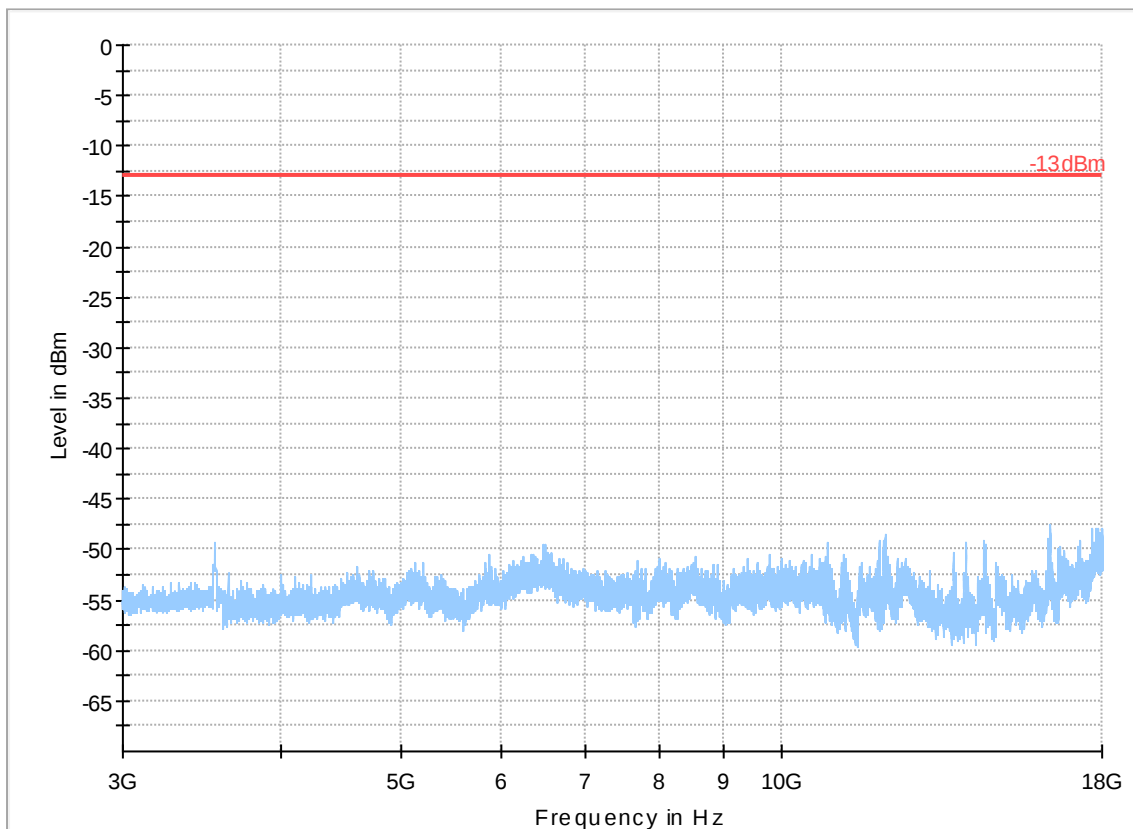
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 55 Radiated Emissions: 30-1000MHz

Module 1+2

LTE Band 5 + UMTS Band V

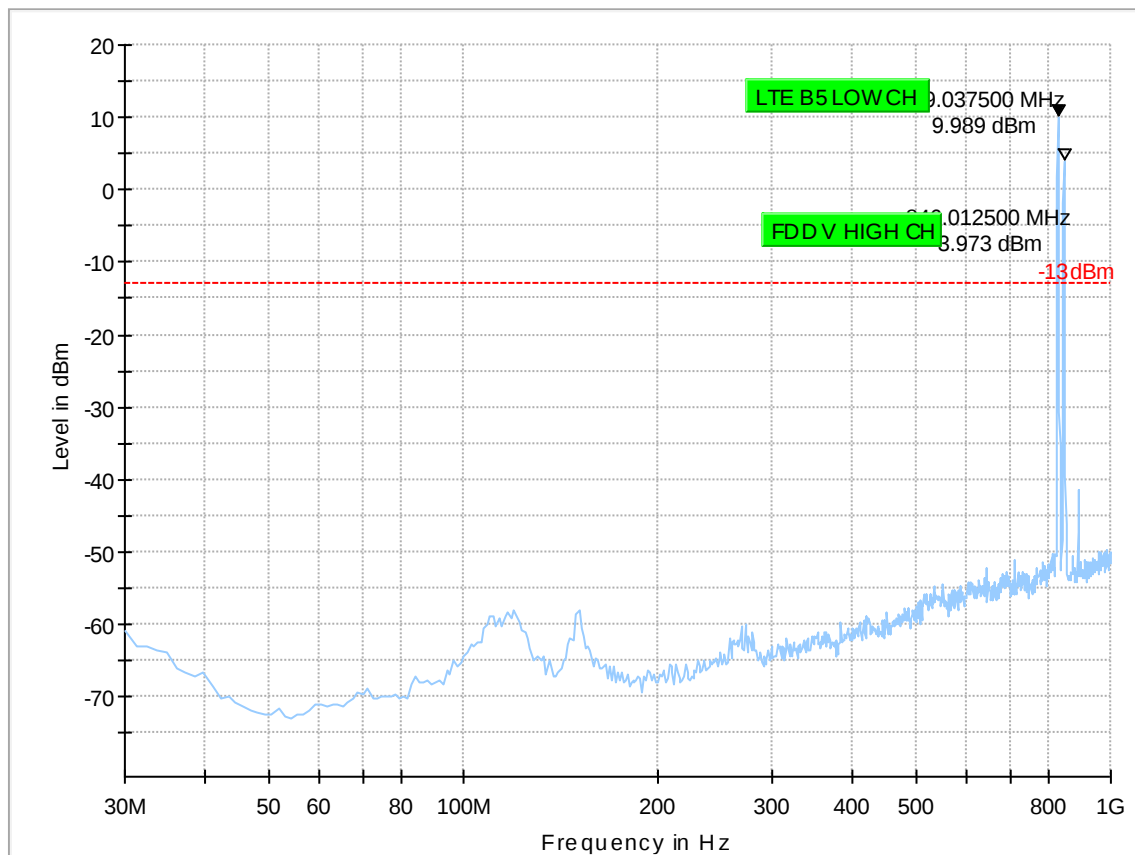
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             | ---     |



## Plot # 56 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 5 + UMTS Band V

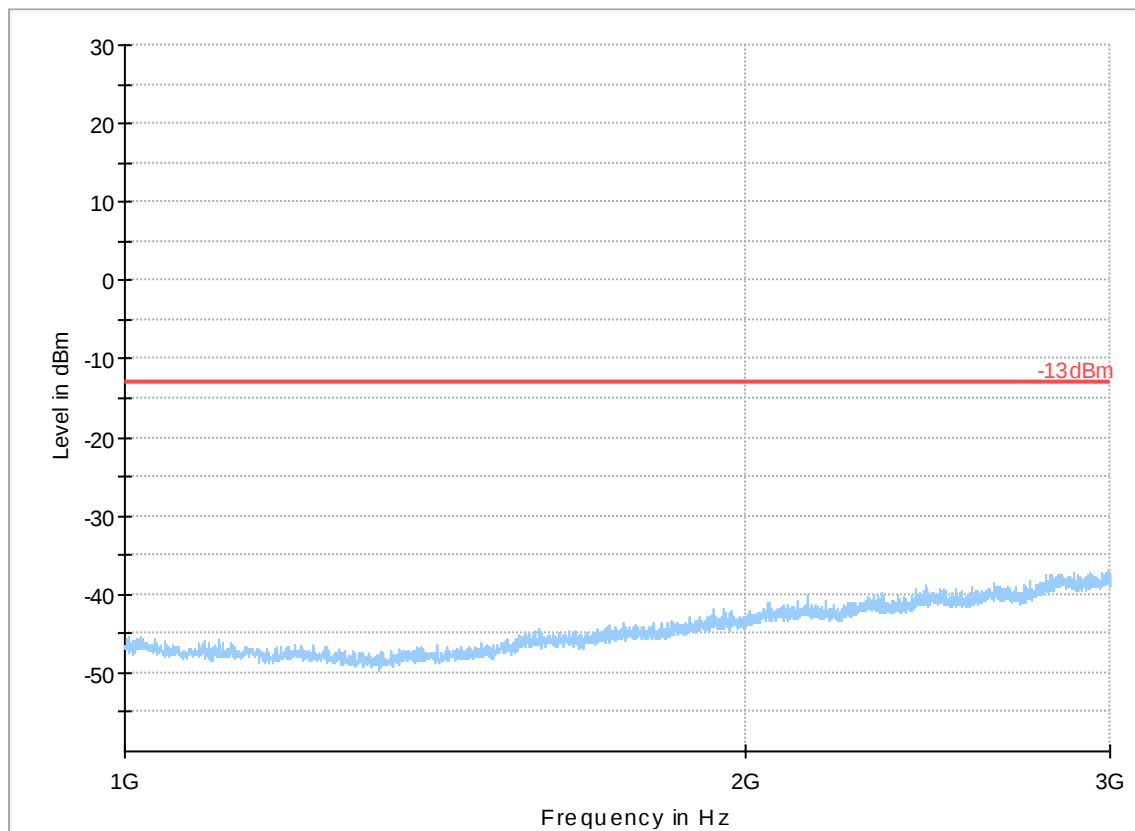
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



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

## Plot # 57 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 5 + UMTS Band V

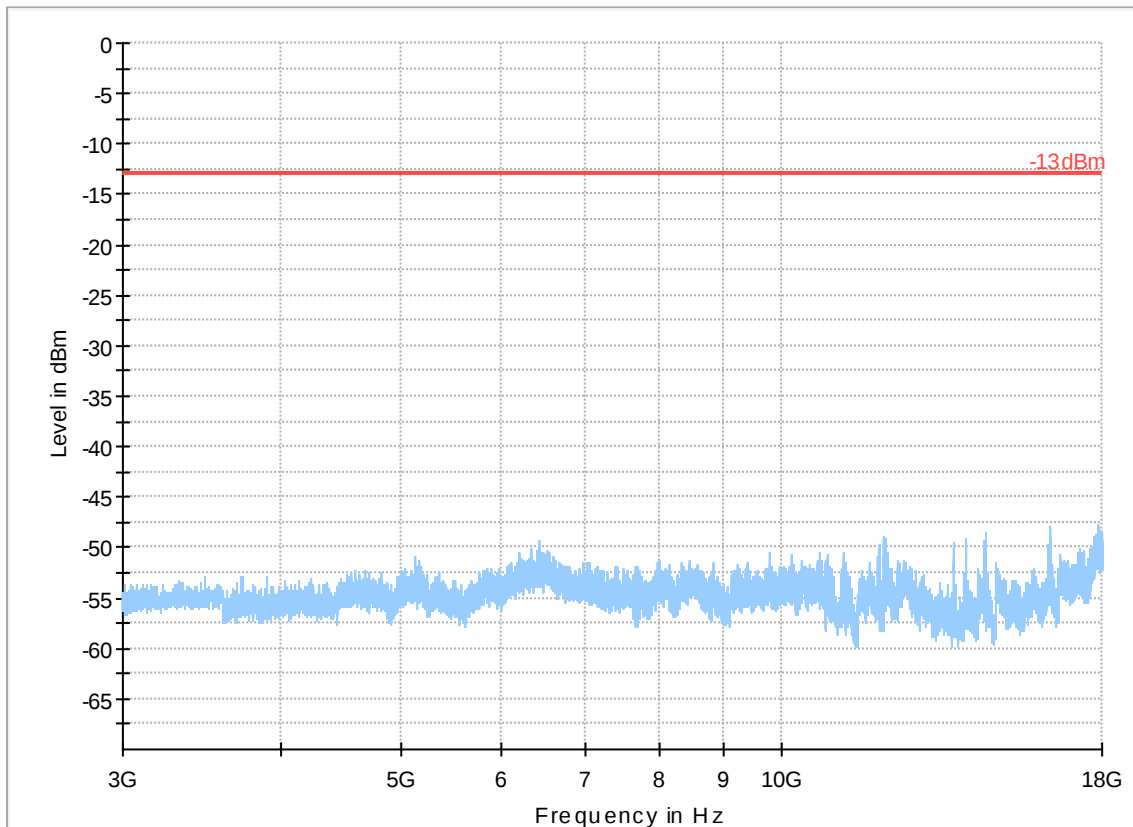
Channel: Low

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



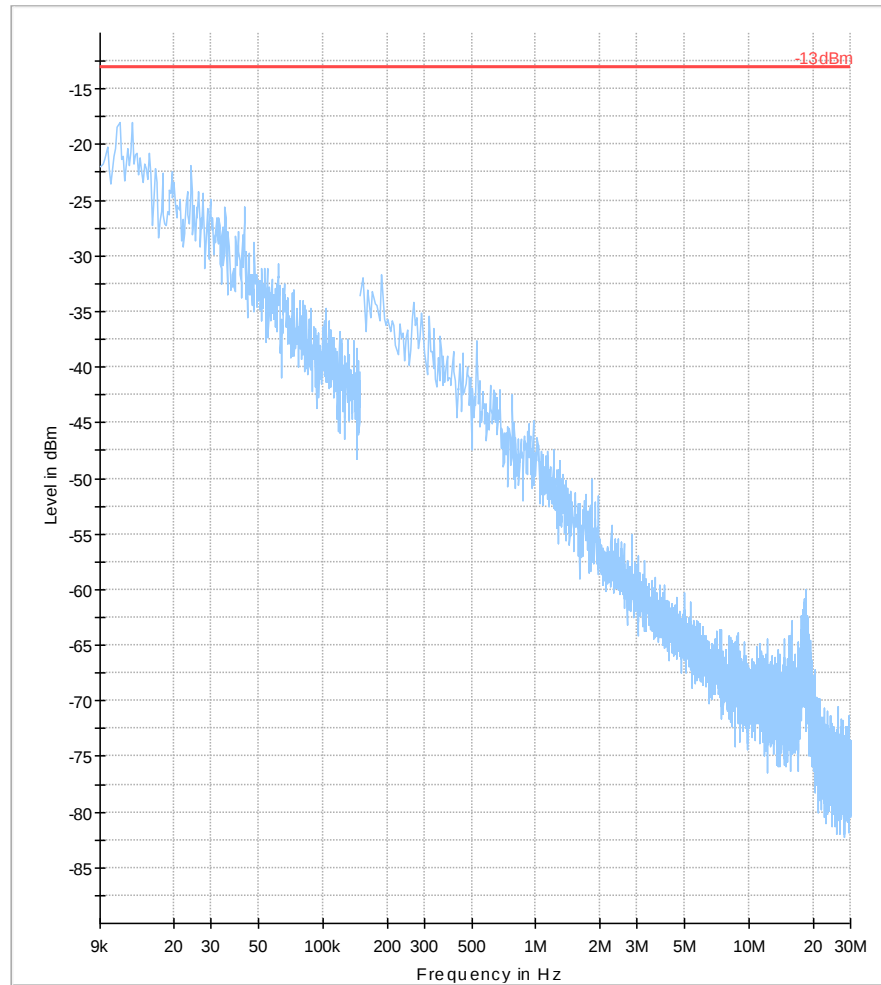
Preview Result 1-PK+ \* Critical\_Freqs PK+ -13dBm  
Final\_Result PK+ ♦ Final\_Result RMS

## Plot # 58 Radiated Emissions: 9kHz-30MHz

Module 1+2

LTE Band 5 + UMTS Band V

Channel: Mid



Preview Result 1-RMS

\* Critical\_Freqs RMS

-13dBm

◆ Final\_Result RM

## Plot # 59 Radiated Emissions: 30-1000MHz

Module 1+2

LTE Band 5 + UMTS Band V

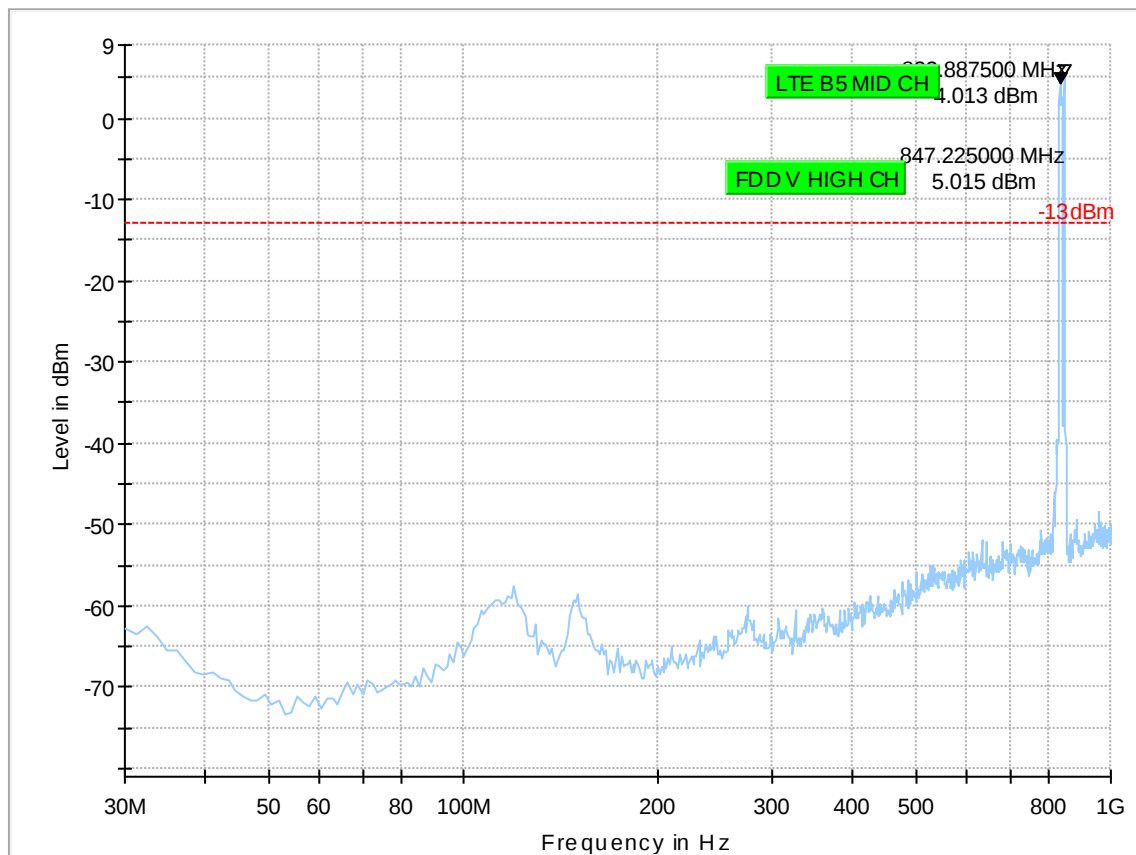
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             | ---     |



Preview Result 1-PK+ Final\_Result PK+ Critical\_Freqs PK+ Final\_Result RMS -13dBm

## Plot # 60 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 5 + UMTS Band V

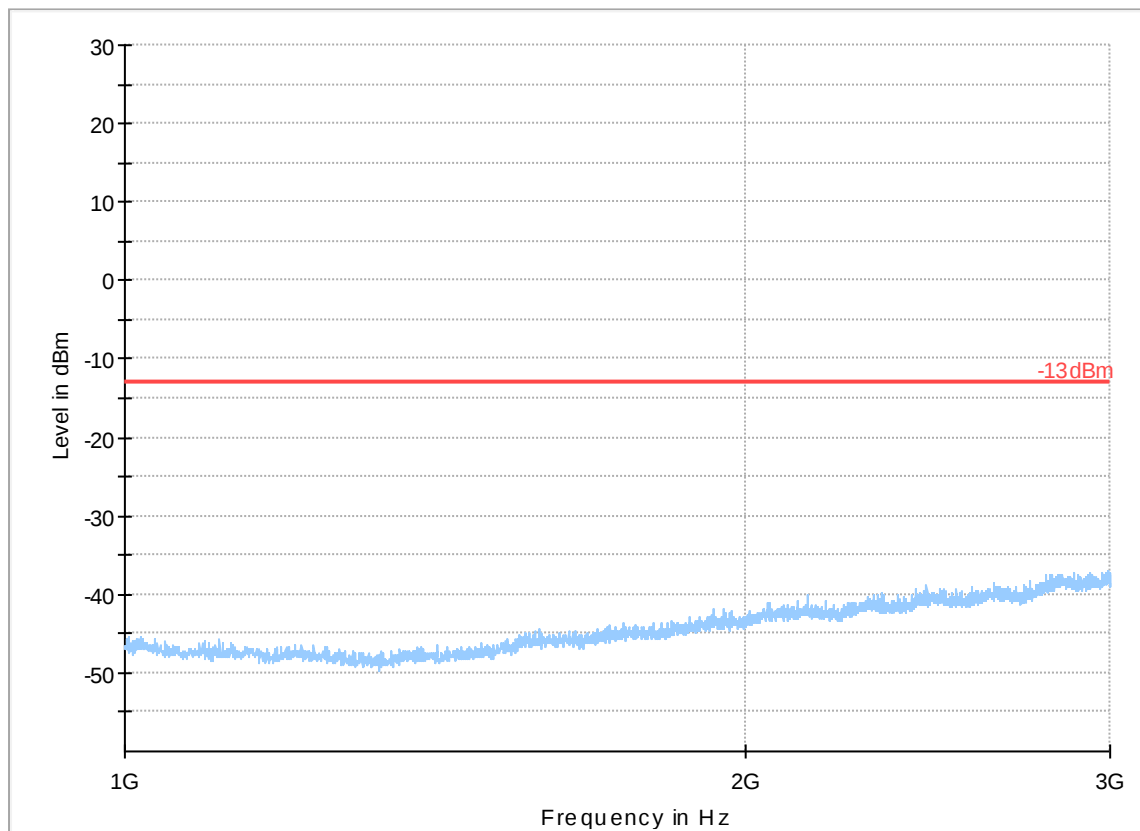
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency<br>(MHz) | Comment |
|--------------------|---------|
| ---                |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS

## Plot # 61 Radiated Emissions: 3-18GHz

Module 1+2

LTE Band 5 + UMTS Band V

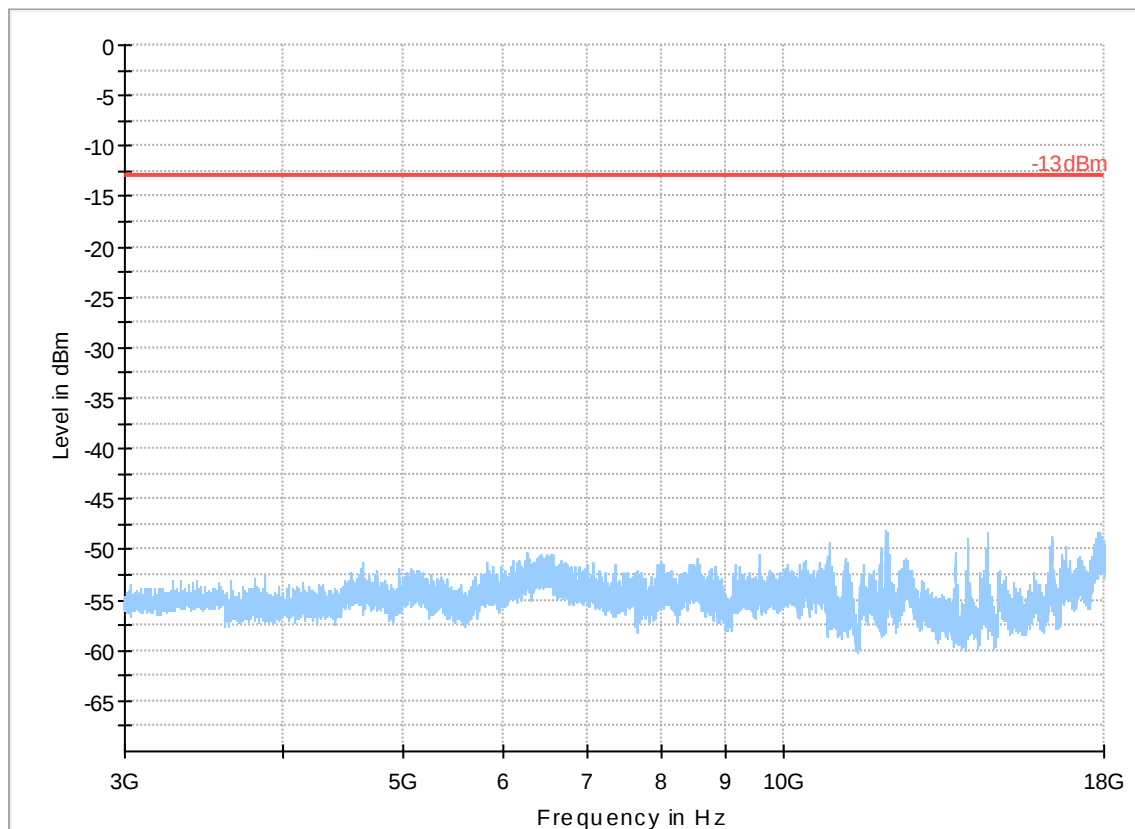
Channel: Mid

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \* Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦ Final\_Result RMS

## Plot # 62 Radiated Emissions: 30-1000MHz

Module 1+2

LTE Band 5 + UMTS Band V

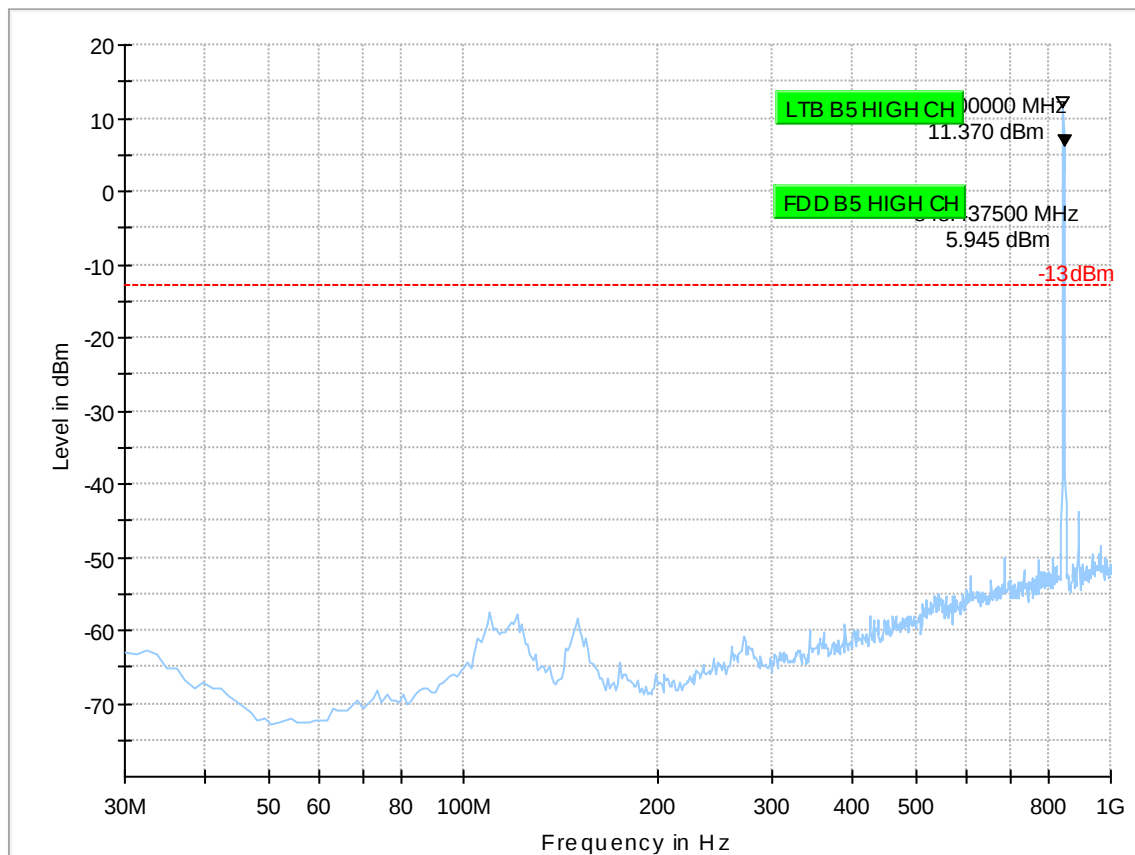
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



## Plot # 63 Radiated Emissions: 1-3 GHz

Module 1+2

LTE Band 5 + UMTS Band V

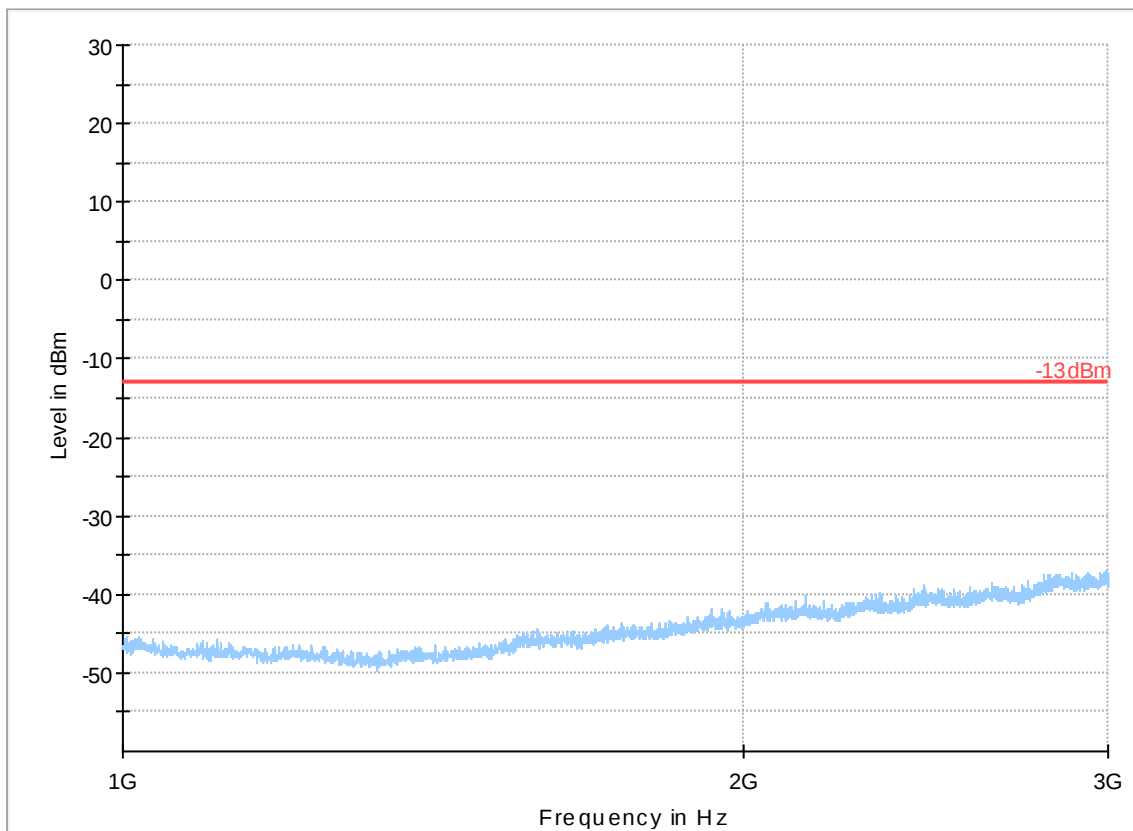
Channel: High

**Final Result**

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

(continuation of the "Final\_Result" table from column 16 ...)

| Frequency (MHz) | Comment |
|-----------------|---------|
| ---             |         |



Preview Result 1-PK+      \*      Critical\_Freqs PK+      -13dBm  
Final\_Result PK+      ♦      Final\_Result RMS