



## FCC / ISED & Test Report

**For:**  
Geoforce Inc.

**Model Name:**  
OWA1C00

**Product Description:**  
Battery Powered Asset Logistics Device

**FCC ID:** OWA00GT1C  
**ISED:** 10540A-00GT1C

**Applied Rules and Standards:**  
47 CFR Parts 22, 24, 27  
RSS: 130 Issue 2, 132 Issue 4, 133 Issue 7, 139 Issue 4  
**REPORT:** EMC\_GEOFO\_051\_25001\_KDB996369

**DATE:** 8/26/2025



**A2LA Accredited**

**IC recognized #**  
**3462B**

***CETECOM Inc.***

411 Dixon Landing Road ♦ Milpitas, CA 95035 ♦ U.S.A.

Phone: + 1 (408) 586 6200 ♦ Fax: + 1 (408) 586 6299 ♦ E-mail: [info@cetecom.com](mailto:info@cetecom.com) ♦ <http://www.cetecom.com>  
CETECOM Inc. is a Delaware Corporation with Corporation number: 2905571

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## 1 Assessment

The following device as further described in section 3 of this report was evaluated against the applicable criteria specified in the Code of Federal Regulations Title 47 parts 22, 24, 27, 90 and Industry Canada Standards RSS-GEN issue 5, RSS-130 issue 2, RSS-132 issue 4, RSS-133 issue 7, RSS-139 issue 4 and RSS-199 issue 4.

No deficiencies were ascertained.

Company	Description	Model #
Geoforce Inc.	Battery Powered Asset Logistics Device	OWA1C00

### Report Reviewer:

Alvin, Ilarina

2025-08-26 Compliance (Senior Manager Regulatory Services)

Date	Section	Name	Signature
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### Responsible for the Report:

Art Thammanavarat

2025-08-26 Compliance (Senior EMC Engineer)

Date	Section	Name	Signature
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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

Company Name:	CETECOM Inc.
Department:	Compliance
Street Address:	411 Dixon Landing Road
City/Zip Code	Milpitas, CA 95035
Country	USA
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
EMC Lab Manager:	Alvin, Ilarina
Responsible Project Leader:	Jayalakshmi, Sekar

### 2.2 Identification of the Client

Client Firm/Name:	Geoforce Inc.
Street Address:	5830 Granite Parkway, Suite 1200
City/Zip Code	Plano, TX 75024
Country	USA

### 2.3 Identification of the Manufacturer

Manufacturer's Name:	Same as Client
Manufacturers Address:	
City/Zip Code	
Country	

### 3 Equipment Under Test (EUT)

#### 3.1 EUT Specifications

<b>Product Description:</b>	Battery Powered Asset Logistics Device
<b>Model Name:</b>	OWA1C00
<b>HW Version:</b>	R1
<b>SW Version:</b>	1.X.X
<b>FCC ID:</b>	OWA00GT1C
<b>ISED:</b>	10540A-00GT1C
<b>Contains FCC ID:</b>	2ANPO00NRF9151
<b>Contains IC:</b>	24529- NRF9151
<b>Bands/Modes Supported</b>	<b>Cellular Modules</b> <b>Model Name:</b> Nordic <b>Model Number:</b> NRF9151 <b>FCC:</b> 2ANPO00NRF9151 <b>ISED:</b> 24529- NRF9151 <b>Wireless Technologies</b> <b>LTE CAT M1:</b> 2,4,5,12,13,26 <b>LTE CAT NB-IoT:</b> 2,4,5,12,13,25,26,66
<b>Frequency Range</b>	<b>FCC BANDS</b> LTE Band 2: 1850 – 1910 MHz LTE Band 4: 1710 – 1755 MHz LTE Band 5: 824 – 849 MHz LTE Band 12: 699 – 716 MHz LTE Band 13: 777 – 787 MHz LTE Band 25: 1850– 1915 MHz LTE Band 26: 814 – 849 MHz LTE Band 66: 1710 – 1780 MHz
<b>Mode Of Operations</b>	Cellular: QPSK / 16-QAM / 64-QAM
<b>Max. declared antenna gain</b>	Manufacturer: Ignion Model Name: TRIO mXTEND™ (NN03-310) Type: SMD Internal Antenna Peak Gain: <ul style="list-style-type: none"> <li>698 – 960 MHz: 1.1dBi</li> <li>1710 – 2690 MHz: 2.4dBi</li> </ul>
<b>Other Radios included in the device:</b>	BTLE, GNSS
<b>Power Supply/ Rated Operating Voltage Range</b>	3.45VDC - 3.65VDC
<b>Operating Temperature Range</b>	-40C to +85C
<b>Sample Revision</b>	<input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production
<b>EUT Dimensions</b>	71mm x 71mm x 32mm

<b>EUT Diameter</b>	<input checked="" type="checkbox"/> < 60 cm <input type="checkbox"/> Other _____
Note: The information of the EUT specifications in the table above is provided by the client.	

### 3.2 EUT Sample details

EUT #	Model Number	Serial Number	HW Version	SW Version	Comments
1	OWA1C00	00095055	R1	1.X.X	Radiated Emission

### 3.3 Accessory Equipment (AE) details

AE #	Type	Model	Manufacturer	Serial Number	Comments
1	Laptop	P51s	LENOVO	10366	Support laptop provided by client to exercise device.

### 3.4 Test Sample Configuration

Set-up #	EUT / AE used for set-up	Comments
1	EUT#1 + AE#1	<p>Cellular was tested on LTE Mid Channel at the maximum power, The client provides a USB cable to communicate with the device and send commands for configuring the Cellular radios into a specific test mode. This test mode configuration, designed for worst-case scenarios, is not intended for end-user application and is outlined as follows:</p> <ul style="list-style-type: none"> <li>Cellular: send AT commands to connect the EUT to the base station simulator (R&amp;S CMW500)</li> <li>EUT power by 3.6Vdc battery</li> </ul>

### 3.5 Mode of Operation details

Mode of Operation	Description of Operating modes	Additional Information
Op. 1	Cellular	<p>The radio of the EUT was configured to a fixed channel transmission with highest possible duty cycle using software that is not available to the end user.</p> <p>Cellular: send AT commands to connect the to the base station simulator (R&amp;S CMW500)</p> <p>Cellular was tested on Mid Channels at maximum power.</p>

### 3.6 Justification for Worst Case Mode of Operation

During the testing process the EUT was tested with transmitter sets on low, mid channels at the maximum power, which is the worst case of the radios supported, based on the maximum average conducted power from the reports.

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

#### 4 Subject of Investigation

The objective of the measurements done by CETECOM Inc. was to evaluate the compliance of the EUT against the relevant requirements specified in the Code of Federal Regulations Title 47 parts 22, 24, 27 and ISED Standards RSS-132 issue 3, RSS-133 issue 7 and RSS-139 issue 4.

#### 5 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=2.

##### Radiated measurement

Measurement System		EMC Lab 1	EMC Lab 2
Conducted emissions (mains port)	150 kHz – 30 MHz	2.47 dB	N/A
Radiated emissions	9 kHz – 30 MHz	2.68 dB	2.53 dB
	30 – 100 MHz	4.39 dB	3.85 dB
	100 MHz – 1 GHz	5.65 dB	5.24 dB
	1 – 6 GHz	5.0 dB	4.88 dB
	6 – 18 GHz	4.76 dB	4.58 dB
	18 – 40 GHz	4.65 dB	4.61 dB

RF conducted measurement  $\pm 0.5$  dB

According to TR 102 273 a multiplicative propagation of error is assumed for RF measurement systems. For this reason the RMS method is applied to dB values and not to linear values as appropriate for additive propagation of error. Also used: <http://physics.nist.gov/cuu/Uncertainty/typeb.html>. The above calculated uncertainties apply to direct application of the Substitution method. The Substitution method is always used when the EUT comes closer than 3dB to the limit.

##### 5.1 Environmental Conditions During Testing:

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

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

##### 5.2 Dates of Testing:

8/12/2025

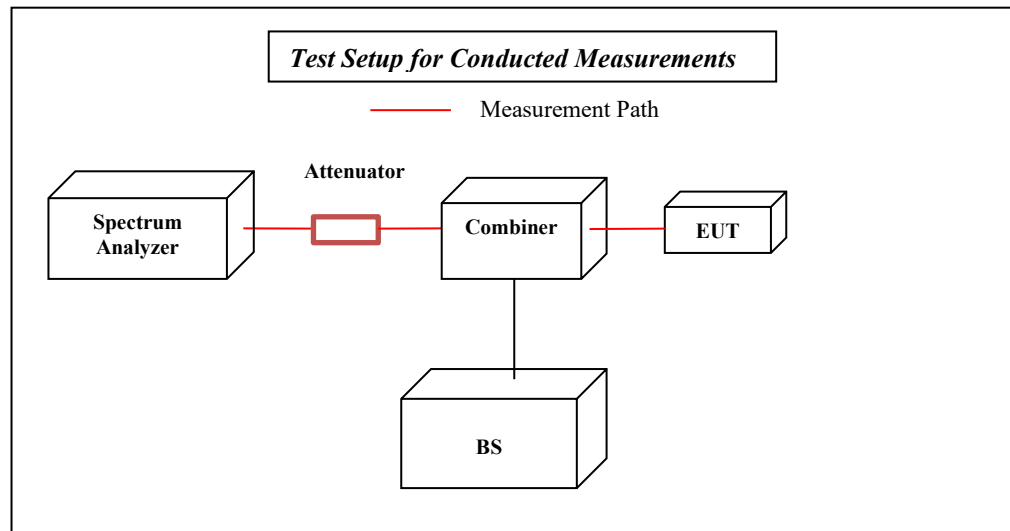
##### 5.3 Decision Rule:

Cetecom Inc follows ILAC G8:09/2019 chapter 4.2.1 (Simple Acceptance Rule).

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3. The measurement uncertainty is mentioned in this test report, See chapter 9, but is not taken into account – neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.

## 6 Measurement Procedures

Testing is performed according to the guidelines provided in FCC publication (KDB) 971168 D01 v03r01 – “Measurement Guidance for Certification of Licensed Digital Transmitters” and according to relevant parts of ANSI/TIA-603-D-2010 as detailed below.

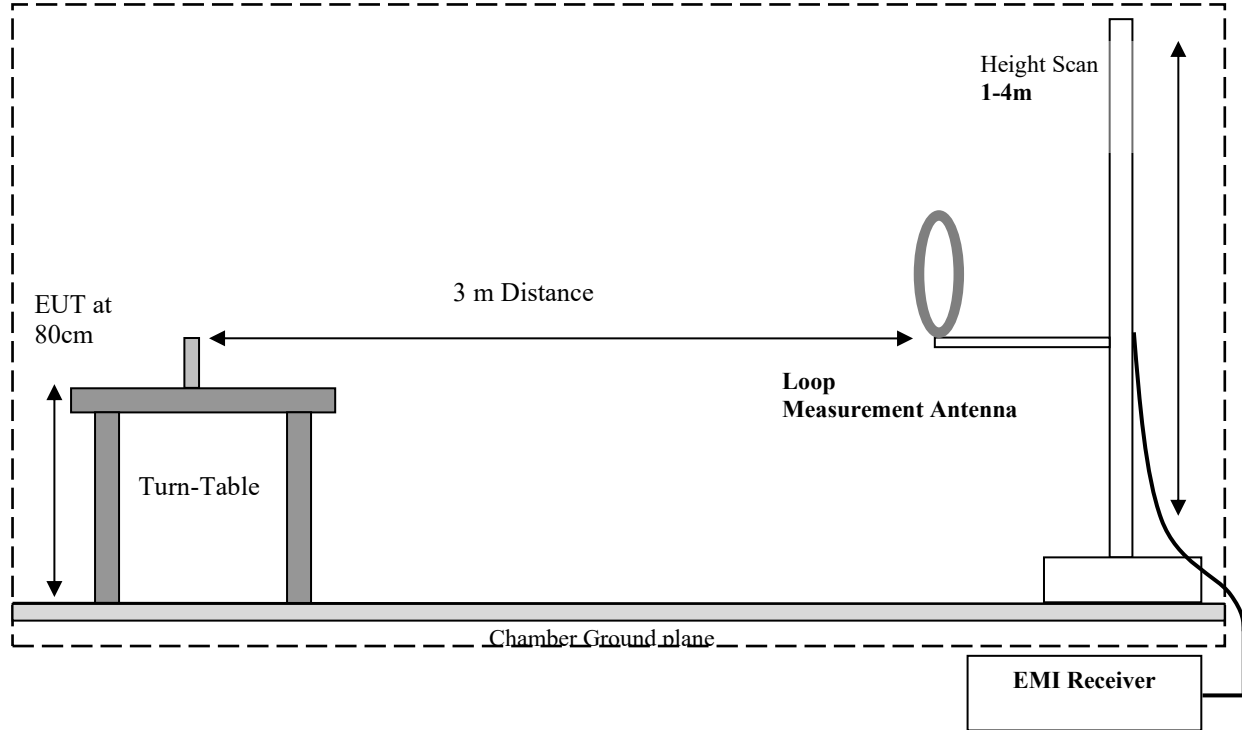


### 6.1 Radiated Measurement

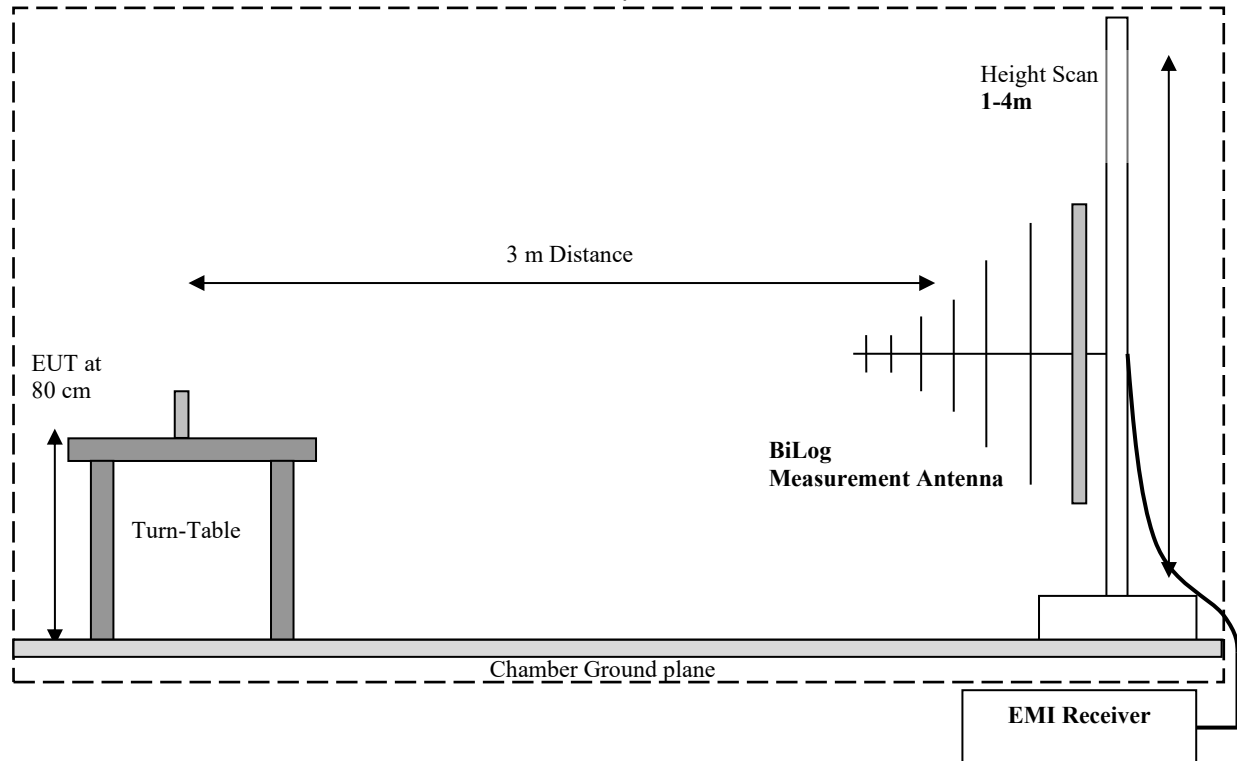
- The exploratory measurement is accomplished by running a matrix of 16 sweeps over the required frequency range with R&S Test-SW EMC32 for 4 positions of the turntable, two orthogonal positions of the EUT and both antenna polarizations. This procedure exceeds the requirement of the above standards to 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.

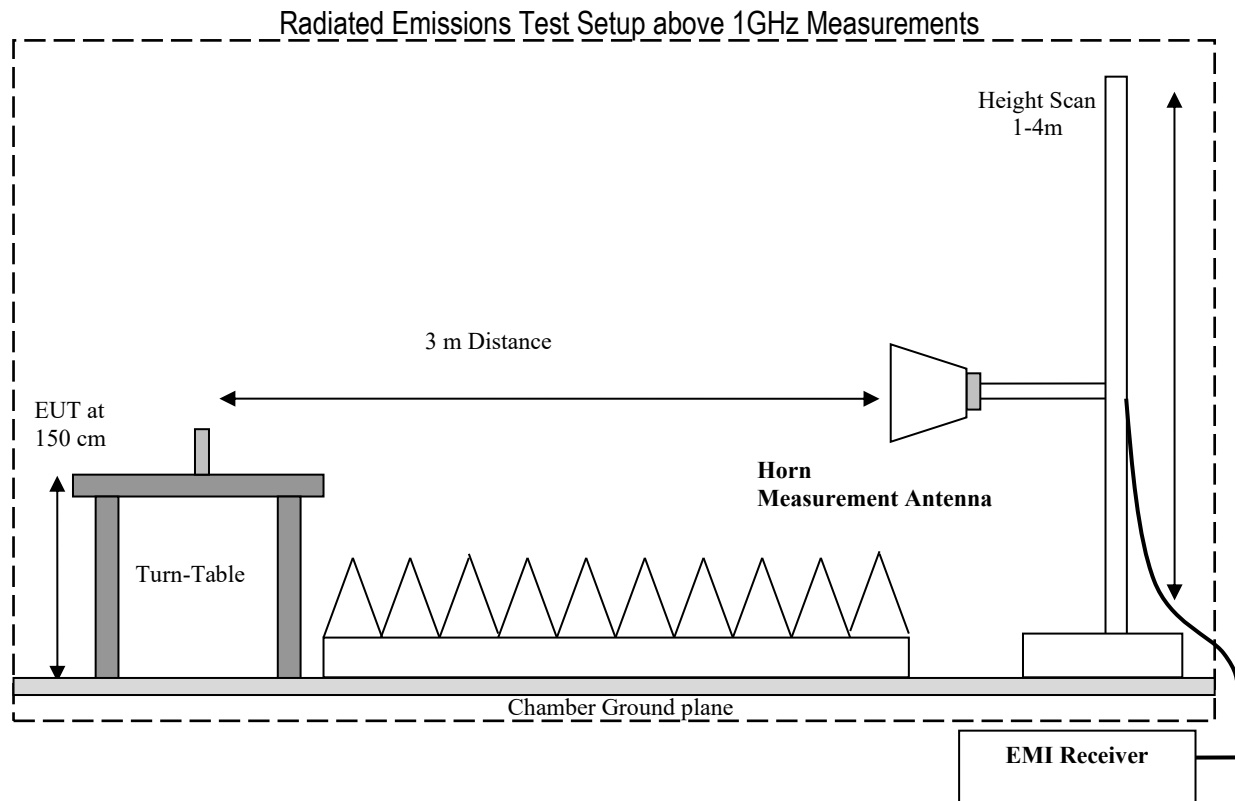


### Radiated Emissions Test Setup below 30MHz Measurements



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





## 6.2 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

## 7 Measurement Results Summary

### 7.1 Part 22 / RSS-132

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §22.913 (a) RSS-132 Clause 5.4	RF Output Power	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1047 §22.913 (a) RSS-132 Clause 5.2	Modulation Characteristics	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1055; §22.355 RSS-132 Clause 5.3	Frequency stability	Extreme Temperature and Voltage	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1049; §22.917 RSS-132 Clause 5.1	Occupied Bandwidth	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1051; §22.917 RSS-132 Clause 5.5	Band Edge Compliance	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1051; §22.917 RSS-132 Clause 5.5	Conducted Spurious Emissions	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1053; §22.917 RSS-132 Clause 5.5	Radiated Spurious Emissions	Nominal	Op. 1	■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies

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

Note 2: Leveraged from module certification Nordic Semiconductor ASA nRF9151 (FCC ID: 2ANPO00nRF9151, IC: 24529-NRF9151)

### 7.2 Part 24 / RSS-133

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §24.232 (a) RSS-133 Clause 5.5	RF Output Power	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1047, RSS-133 Clause 6.2	Modulation Characteristics	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1055; §24.235 RSS-133 Clause 5.4	Frequency Stability	Extreme Temperature and Voltage	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1049; §24.238 RSS-133 Clause 2.3	Occupied Bandwidth	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1051; §24.238 RSS-133 Clause 5.5	Band Edge Compliance	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 Note 2
§2.1051; §24.238 RSS-133 Clause 3.4	Conducted Spurious Emissions	Nominal	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■	Complies Note 1 5Note 2

§2.1053; §24.238 RSS-133 Clause 5.6	Radiated Spurious Emissions	Nominal	Op. 1	■	□	□	□	Complies
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**Note 1:** NA= Not Applicable; NP= Not Performed.

**Note 2:** Leveraged from module certification Nordic Semiconductor ASA nRF9151 (FCC ID: 2ANPO00nRF9151, IC: 24529-NRF9151)

### 7.3 FCC 27 / RSS-130/ RSS-139

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §27.50 RSS-199 Clause 4.4 /RSS-130 Clause 4.6/ RSS-139 Clause 6.5	RF Output Power	Nominal	-	□	□	□	■	Complies Note 1 Note 2
§2.1047; §27.50, RSS-199 Clause 4.1 /RSS-130 Clause 4.2/ RSS-Clause 6.2	Modulation Characteristics	Nominal	-	□	□	□	■	Complies Note 1 Note 2
§2.1055; §27.54 RSS-199 Clause 4.3 /RSS-130 Clause 4.5 /RSS-Clause 6.4	Frequency Stability	Extreme Temperature and Voltage	-	□	□	□	■	Complies Note 1 Note 2
§2.1049; §27.53 RSS-199 Clause 4.2	Occupied Bandwidth	Nominal	-	□	□	□	■	Complies Note 1 Note 2
§2.1051; §27.53 RSS-199 Clause 4.5 /RSS-130 Clause 4.7/ RSS-Clause 6.6	Band Edge Compliance	Nominal	-	□	□	□	■	Complies Note 1 Note 2
§2.1051; §27.53 RSS-199 Clause 4.5 /RSS-130 Clause 4.7/ RSS-Clause 6.6	Conducted Spurious Emissions	Nominal	-	□	□	□	■	Complies Note 1 Note 2
§2.1053; §27.53 RSS-199 Clause 4.5 /RSS-130 Clause 4.7/ RSS-Clause 6.6	Radiated Spurious Emissions	Nominal	Op. 1	■	□	□	□	Complies

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

**Note 2:** Leveraged from module certification Nordic Semiconductor ASA nRF9151 (FCC ID: 2ANPO00nRF9151, IC: 24529-NRF9151)

## 8 Test Result Data

### 8.1 ERP/EIRP

FCC Rule Parts	Band	Frequency Range	Power Conducted Note 1	Power Conducted	Gain	EIRP Note 2	ERP Note 2	Limit EIRP	Limit ERP
		(MHz)	(dBm)	(W)	(dBi)	(W)	(W)	(W)	(W)
22H	LTE 5	824 – 849	19.68	0.093	1.10	0.120	0.073	-	7
22H	LTE 26	824 – 849	19.83	0.096	1.10	0.124	0.076	-	7
24E	LTE 2	1850 – 1910	19.61	0.091	2.40	0.159	0.097	2	-
27	LTE 4	1710 – 1755	19.52	0.090	2.40	0.156	0.095	1	-
27	LTE 12	699 – 716	19.72	0.094	1.10	0.121	0.074	-	3
27	LTE 13	777 – 787	19.56	0.090	1.10	0.116	0.071	-	3

**Note 1:** Power Conducted (dBm) leveraged from test report "PSU-QSU2404090210RF01-04" prepared by BUREAU VERITAS Huarui 7Layers High Technology (Suzhou) Co., Ltd of cellular module Nordic Semiconductor ASA nRF9151 (FCC ID: 2ANPO00nRF9151, IC: 24529-NRF9151)

**Note 2:** ERP/EIRP are based on calculations from Power Conducted by adding the declared maximum gain of the utilized cellular antenna per operational description.

## 8.2 Radiated Spurious Emissions

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

#### Spectrum Analyzer Settings for FCC 22

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

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

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

### 8.2.2 Limits:

#### 8.2.2.1 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.

For Band 7 & 41, the minimum permissible attenuation level of any spurious emission is at least  $55 + \log_{10}(P)$  [Watts]) on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

#### 8.2.2.2 RSS-132 Part 5.5; RSS-133 Part 5.6; RSS-139 Part 5.6; RSS-199 Part 5.6 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.

Note: For LTE Band 7 and 41, the limit calculation result is a constant of -25 dBm

**8.2.3 Test conditions and setup:**

Ambient Temperature (°C)	EUT Set-Up #	EUT operating mode	Power Input
22.0	1	Op. 1	3.6 VDC

**8.2.4 Measurement result:**

Plot #	Channel	EUT operating mode	Scan Frequency	Lowest margin emission (dBm)	Limit (dBm)	Result
1-3	Mid	LTE Band 2	30 MHz – 18 GHz	-30.81	-13	Pass
4-6	Mid	LTE Band 4	30 MHz – 18 GHz	-37.56	-13	Pass
7-9	Mid	LTE Band 5	30 MHz – 9 GHz	-49.36	-13	Pass
10-12	Mid	LTE Band 12	30 MHz – 18 GHz	-37.25	-13	Pass
13-15	Mid	LTE Band 13	30 MHz – 18 GHz	-36.42	-13	Pass

## 8.2.5 Measurement plots:

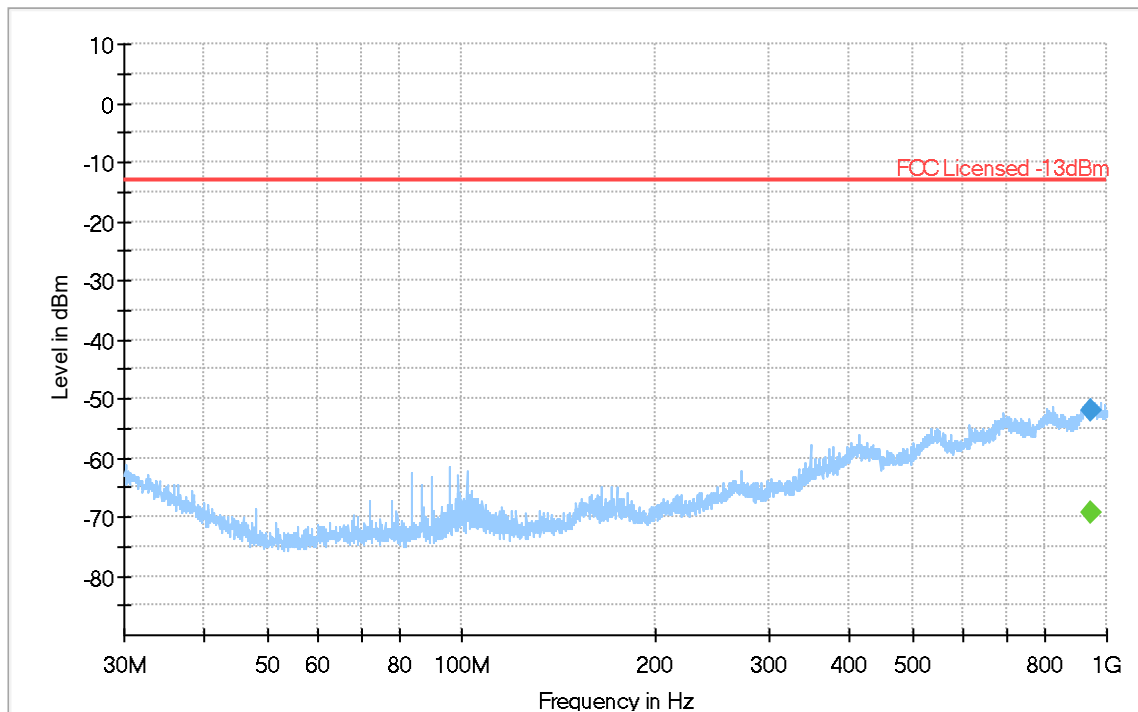
LTE Band 2

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

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)	Comment
944.290	---	-69.39	---	---	500.0	100.0	266.0	V	298.0	-63.0	
944.290	-52.01	---	-13.00	39.01	500.0	100.0	266.0	V	298.0	-63.0	



— PK+ \_MAXH  
◆ Final\_Result PK+  
— FCC Licensed -13dBm  
◆ Final\_Result RMS

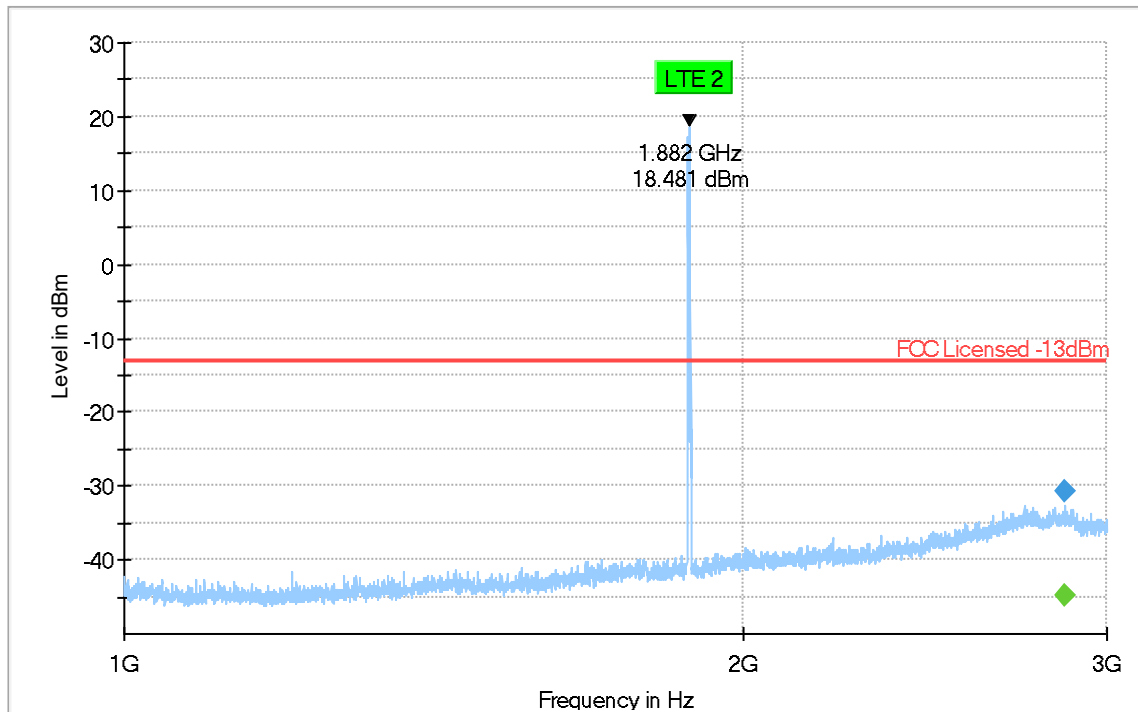


## Plot # 2 Radiated Emissions: 1 GHz - 3 GHz

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)	Comment
2860.500	---	-44.85	---	---	500.0	1000.0	246.0	V	149.0	-59.6	
2860.500	-30.81	---	-13.00	17.81	500.0	1000.0	246.0	V	149.0	-59.6	



Preview Result 1-PK+  
Final\_Result PK+

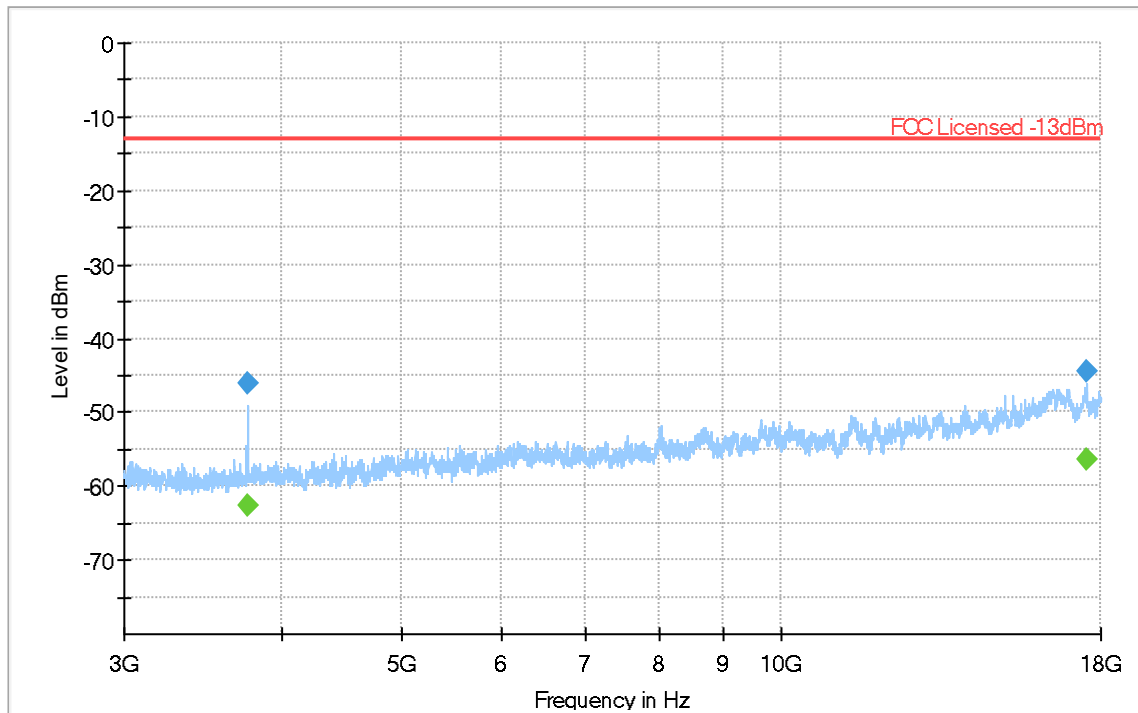
FCC Licensed -13dBm  
Final\_Result RMS

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

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)	Comment
3764.000	---	-62.58	---	---	500.0	1000.0	201.0	H	140.0	-99.8	
3764.000	-46.23	---	-13.00	33.23	500.0	1000.0	201.0	H	140.0	-99.8	
17526.000	---	-56.49	---	---	500.0	1000.0	315.0	V	305.0	-81.2	
17526.000	-44.59	---	-13.00	31.59	500.0	1000.0	315.0	V	305.0	-81.2	



Preview Result 1-PK+ Final\_Result PK+ (Blue line)

FCC Licensed -13dBm Final\_Result RMS (Green diamond)

## 8.2.6 Measurement plots:

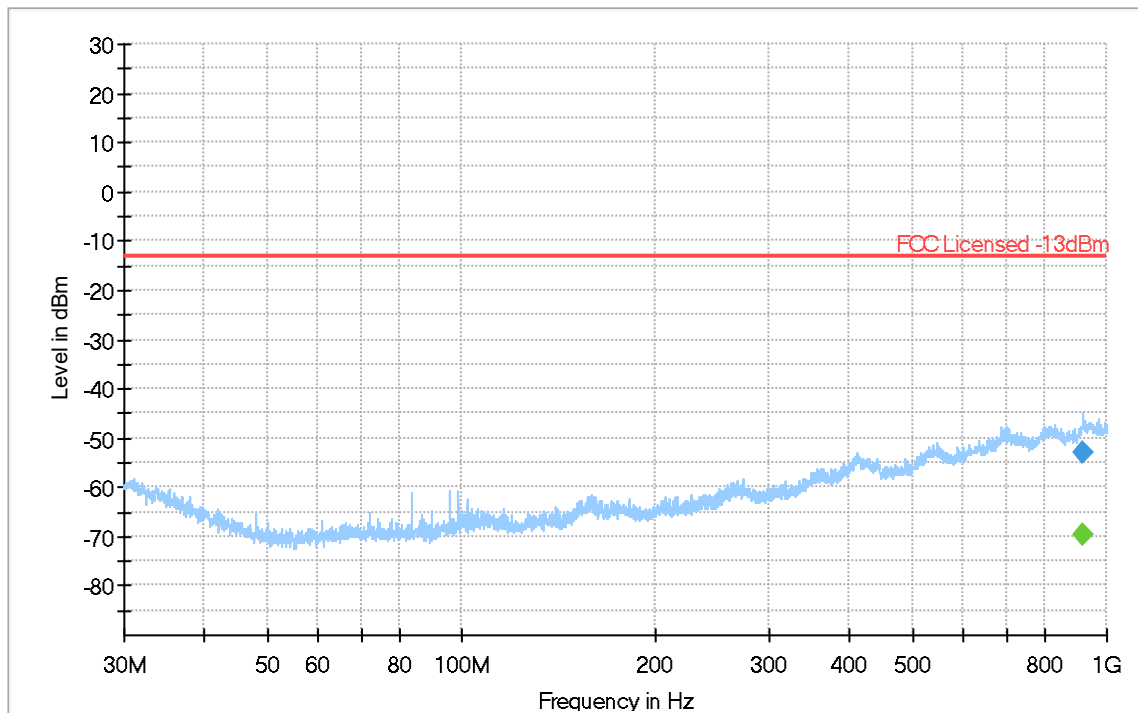
LTE Band 4

## Plot # 4 Radiated Emissions: 30 MHz – 1GHz

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)	Comment
916.871	---	-69.62	---	---	500.0	100.0	165.0	H	331.0	-64.0	
916.871	-52.97	---	-13.00	39.97	500.0	100.0	165.0	H	331.0	-64.0	



— RMS\_MAXH  
◆ Final\_Result PK+

— PK+\_MAXH  
◆ Final\_Result RMS

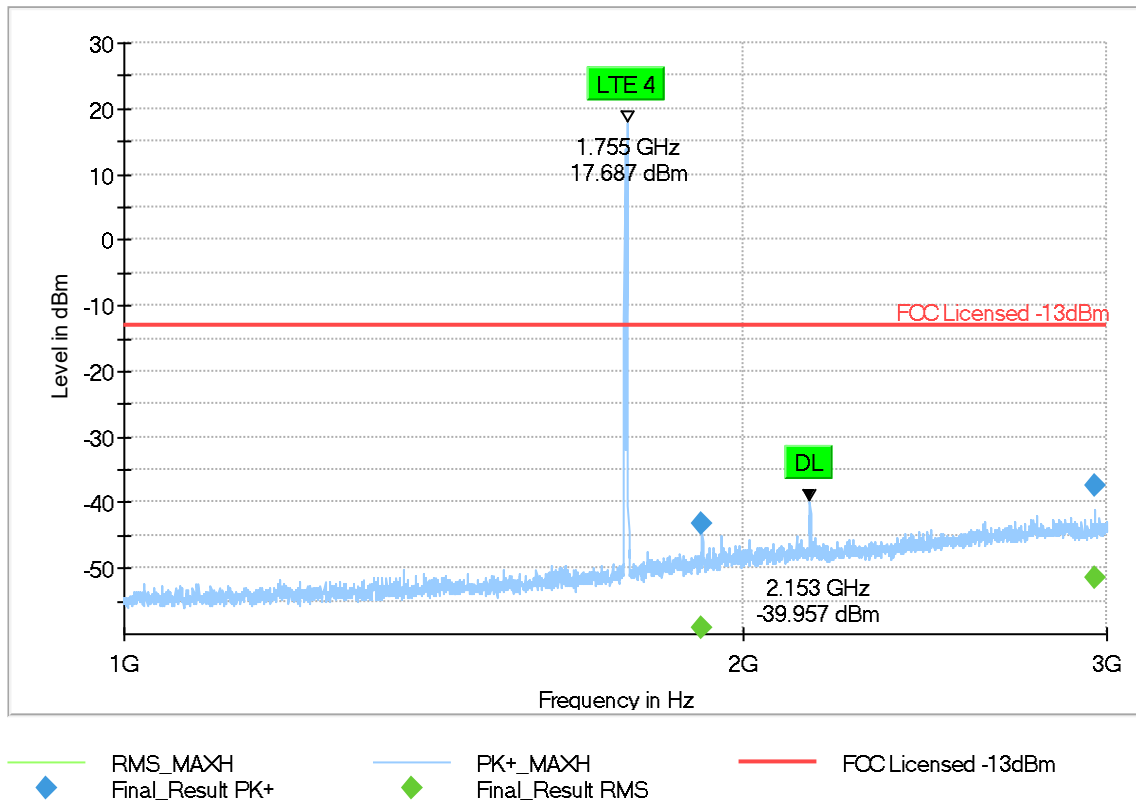
— FCC Licensed -13dBm

## Plot # 5 Radiated Emissions: 1 GHz - 3 GHz

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)	Comment
1908.500	---	-59.10	---	---	500.0	1000.0	258.0	V	251.0	-63.8	
1908.500	-43.28	---	-13.00	30.28	500.0	1000.0	258.0	V	251.0	-63.8	
2958.250	---	-51.48	---	---	500.0	1000.0	205.0	V	354.0	-59.6	
2958.250	-37.56	---	-13.00	24.56	500.0	1000.0	205.0	V	354.0	-59.6	

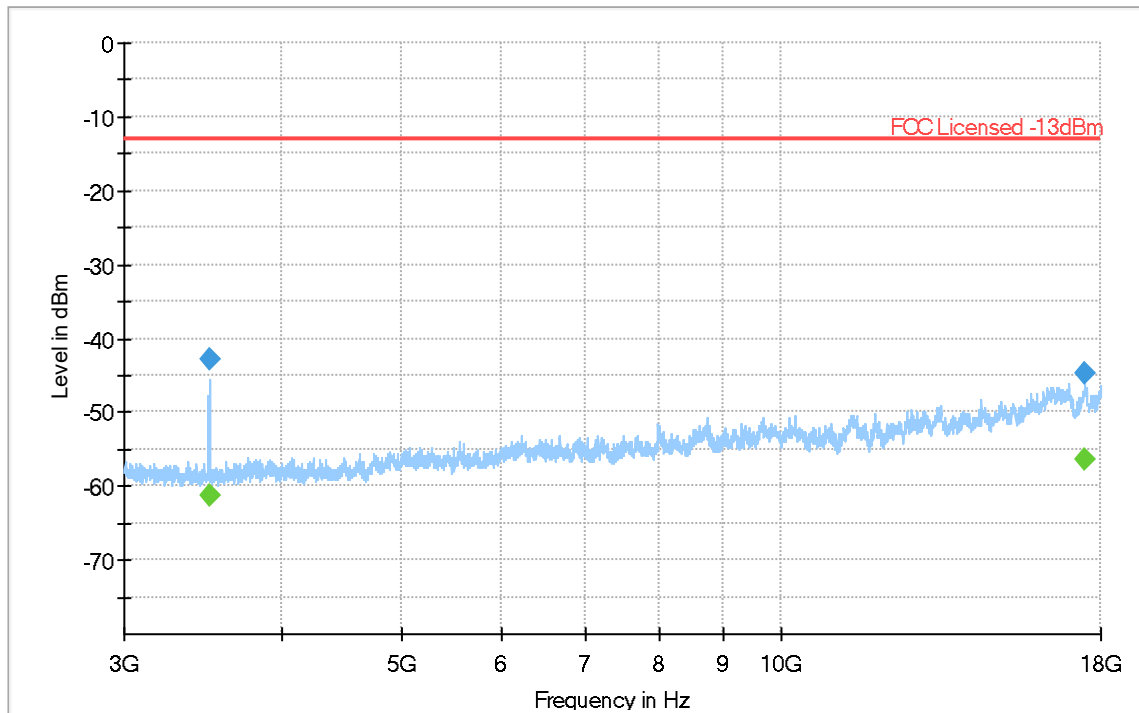


## Plot # 6 Radiated Emissions: 3 GHz – 18 GHz

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)	Comment
3509.000	---	-61.28	---	---	500.0	1000.0	141.0	V	171.0	-100.9	
3509.000	-42.92	---	-13.00	29.92	500.0	1000.0	141.0	V	171.0	-100.9	
17492.500	---	-56.28	---	---	500.0	1000.0	398.0	H	139.0	-81.2	
17492.500	-44.65	---	-13.00	31.65	500.0	1000.0	398.0	H	139.0	-81.2	

RMS\_MAXH  
Final\_Result PK+PK+\_MAXH  
Final\_Result RMS

FCC Licensed -13dBm

## 8.2.7 Measurement plots:

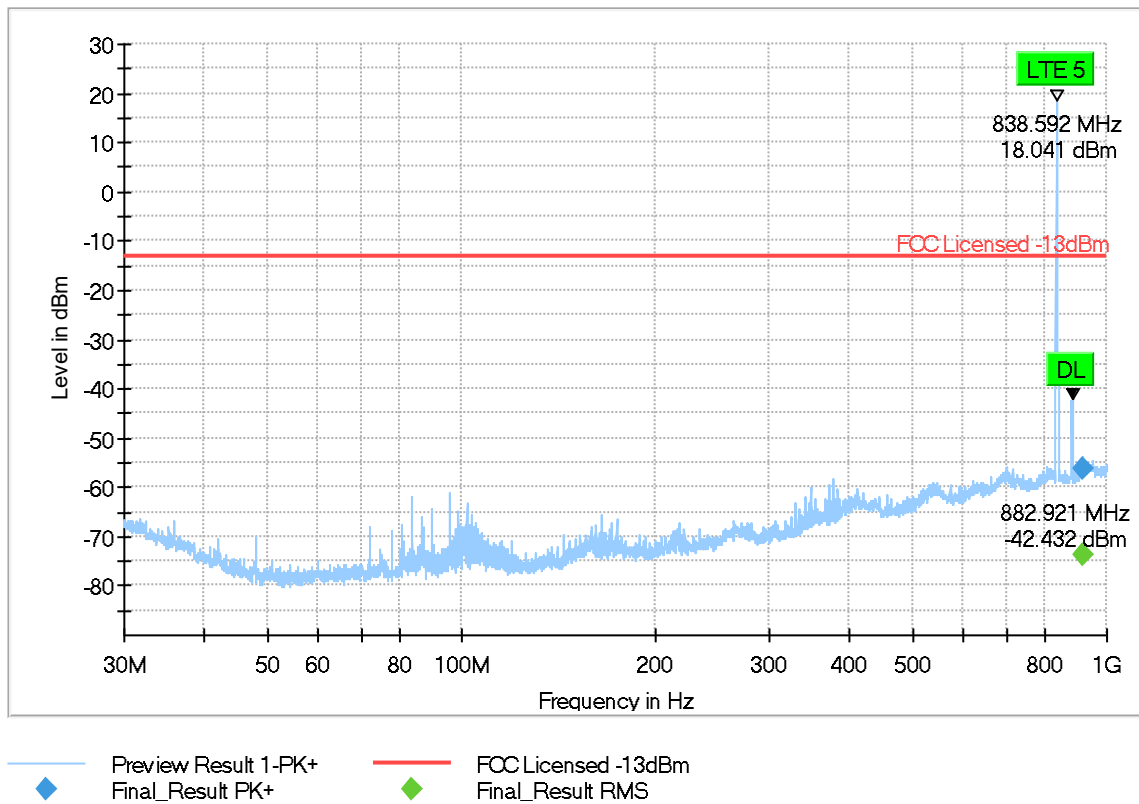
LTE Band 5

## Plot # 7 Radiated Emissions: 30 MHz – 1GHz

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)	Comment
920.234	---	-73.59	---	---	500.0	100.0	106.0	H	156.0	-63.7	
920.234	-56.39	---	-13.00	43.39	500.0	100.0	106.0	H	156.0	-63.7	

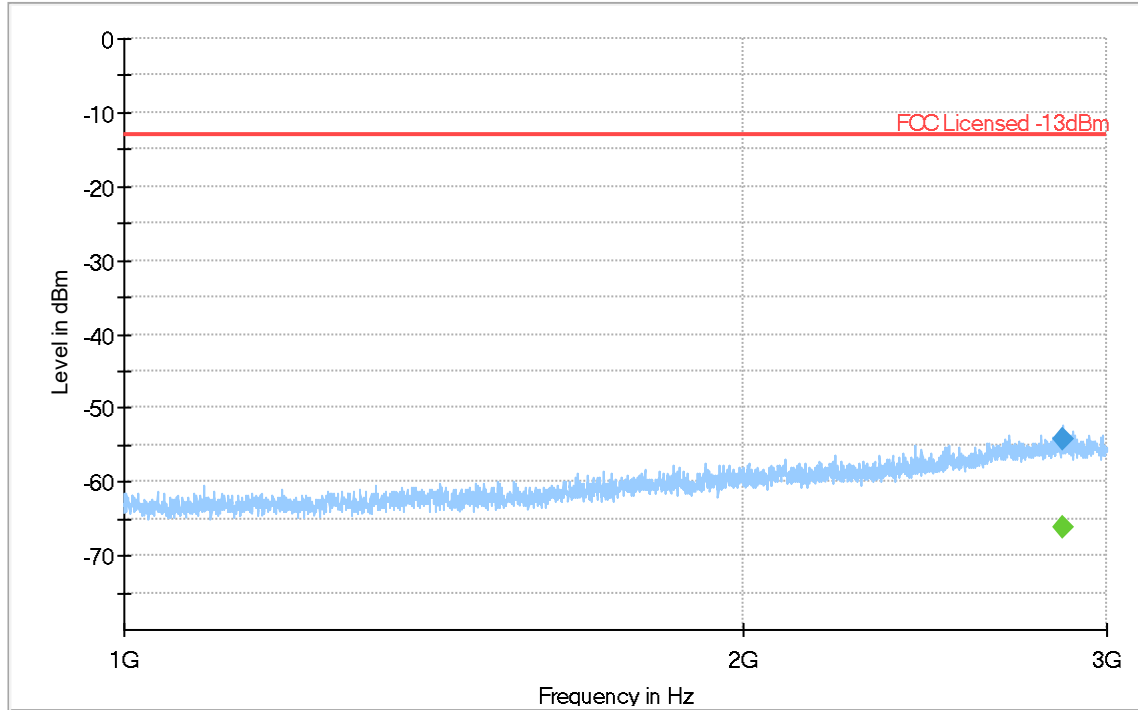


## Plot # 8 Radiated Emissions: 1 GHz - 3 GHz

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)	Comment
2856.000	---	-66.21	---	---	500.0	1000.0	327.0	V	195.0	-86.2	
2856.000	-54.11	---	-13.00	41.11	500.0	1000.0	327.0	V	195.0	-86.2	



◆ PK+ MAX-H  
Final\_Result PK+

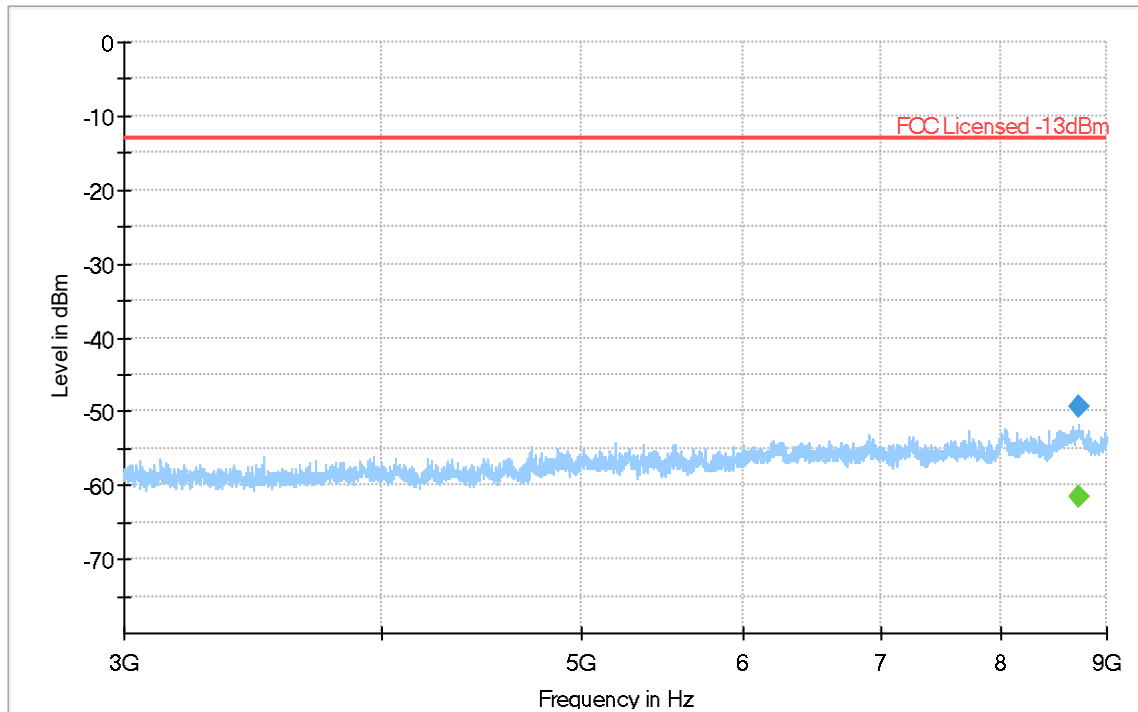
◆ FCC Licensed -13dBm  
Final\_Result RMS

## Plot # 9 Radiated Emissions: 3 GHz – 9 GHz

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)	Comment
8720.000	---	-61.43	---	---	500.0	1000.0	190.0	V	113.0	-91.0	
8720.000	-49.36	---	-13.00	36.36	500.0	1000.0	190.0	V	113.0	-91.0	



Preview Result 1-PK+ Final\_Result PK+ (Blue line)

FCC Licensed -13dBm Final\_Result RMS (Green diamond)



## 8.2.8 Measurement plots:

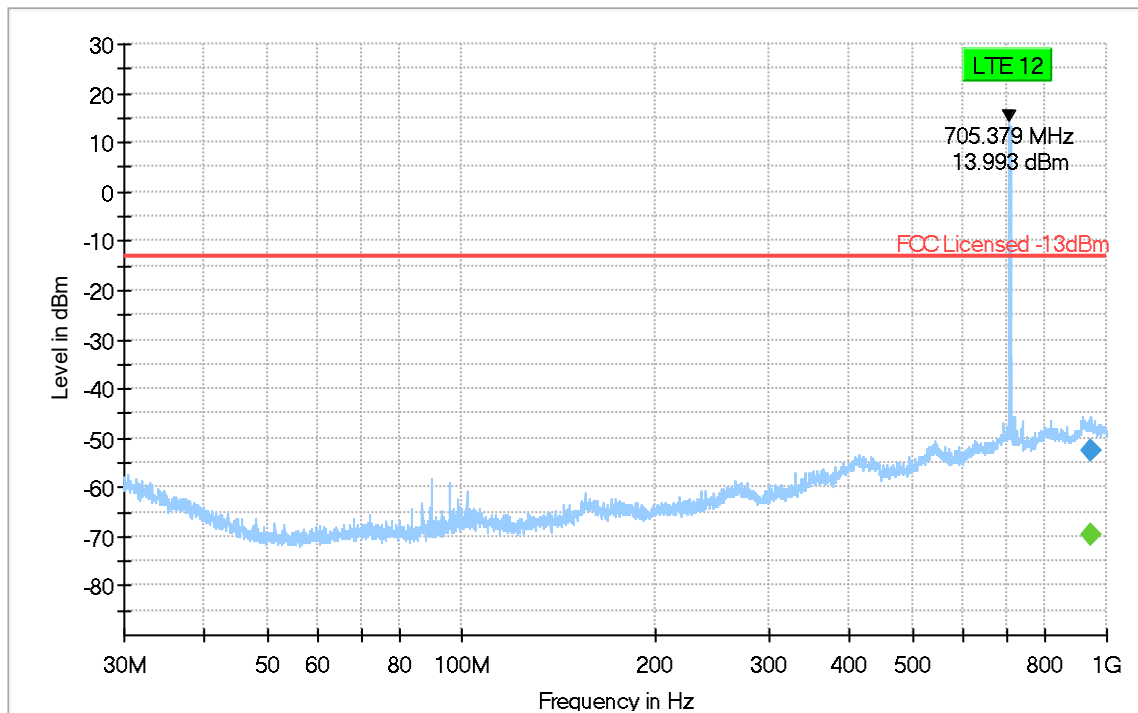
LTE Band 12

## Plot # 10 Radiated Emissions: 30 MHz – 1GHz

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)	Comment
947.879	---	-69.64	---	---	500.0	100.0	107.0	H	83.0	-63.1	
947.879	-52.41	---	-13.00	39.41	500.0	100.0	107.0	H	83.0	-63.1	



— RMS\_MAXH  
◆ Final\_Result PK+

— PK+\_MAXH  
◆ Final\_Result RMS

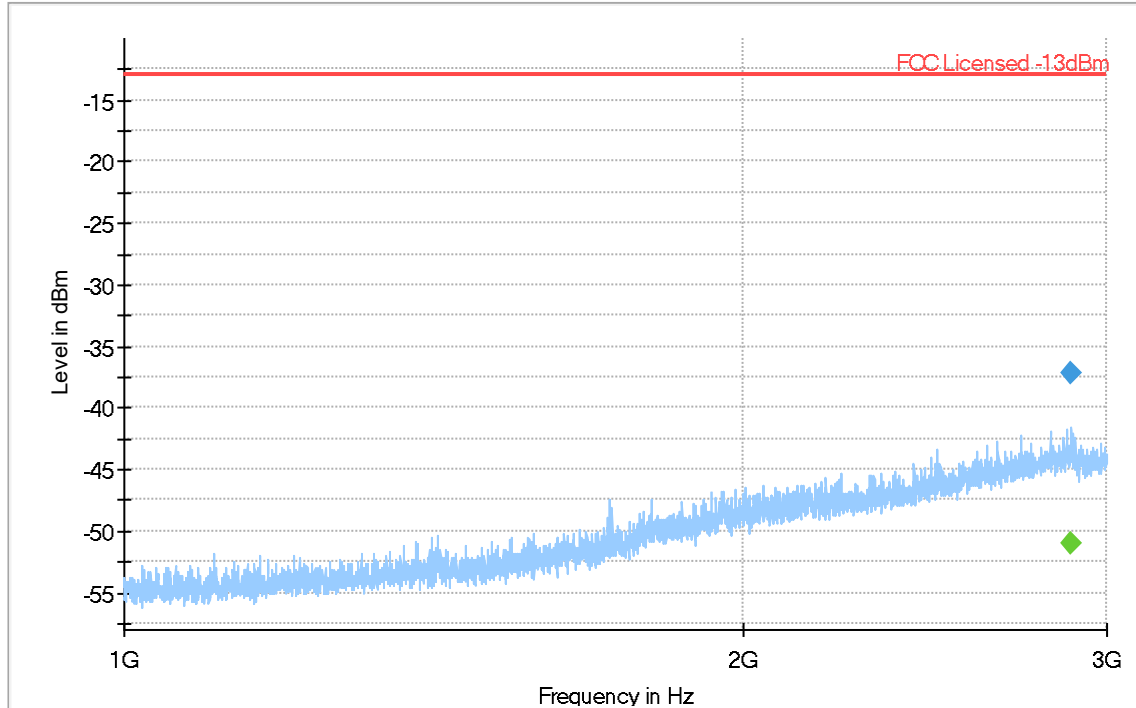
— FCC Licensed -13dBm

## Plot # 11 Radiated Emissions: 1 GHz - 3 GHz

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)	Comment
2883.250	---	-50.94	---	---	500.0	1000.0	345.0	H	175.0	-60.6	
2883.250	-37.25	---	-13.00	24.25	500.0	1000.0	345.0	H	175.0	-60.6	



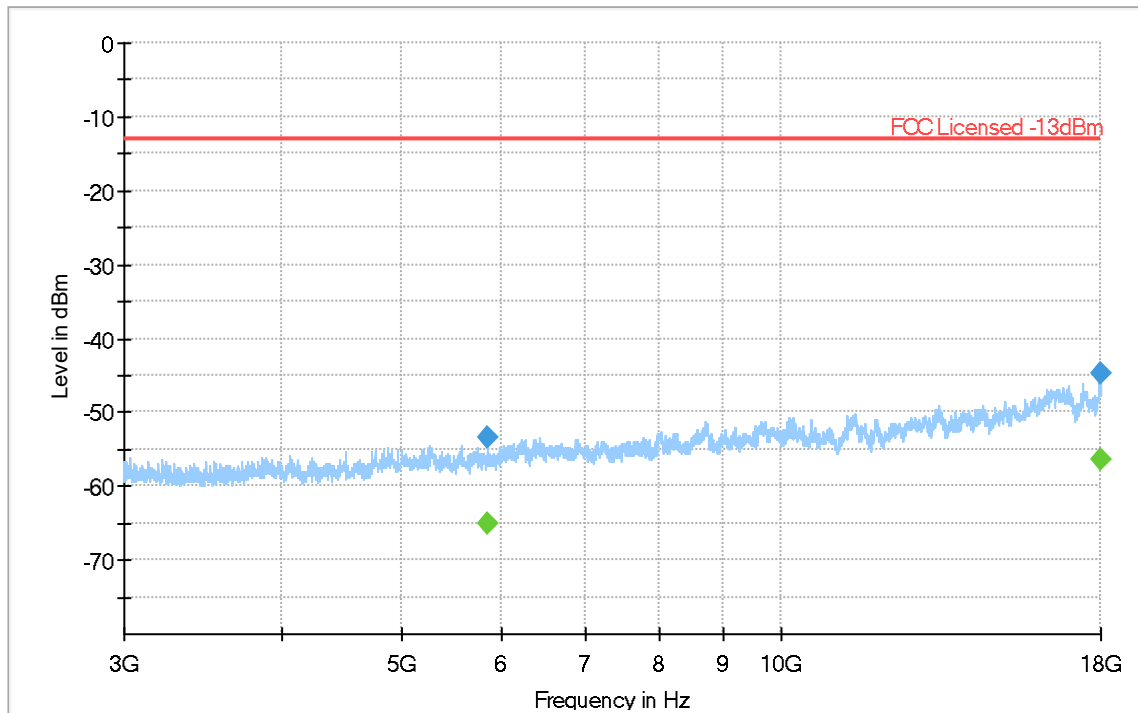
— RMS\_MAXH  
◆ Final\_Result PK+      — PK+\_MAXH  
◆ Final\_Result RMS      — FCC Licensed -13dBm

## Plot # 12 Radiated Emissions: 3 GHz – 18 GHz

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)	Comment
5846.500	-53.31	---	-13.00	40.31	500.0	1000.0	248.0	H	123.0	-95.8	
5846.500	---	-65.02	---	---	500.0	1000.0	248.0	H	123.0	-95.8	
17979.000	-44.69	---	-13.00	31.69	500.0	1000.0	279.0	H	253.0	-77.8	
17979.000	---	-56.39	---	---	500.0	1000.0	279.0	H	253.0	-77.8	



◆ RMS\_MAXH Final\_Result PK+ ◆ PK+\_MAXH Final\_Result RMS — FCC Licensed -13dBm

## 8.2.9 Measurement plots:

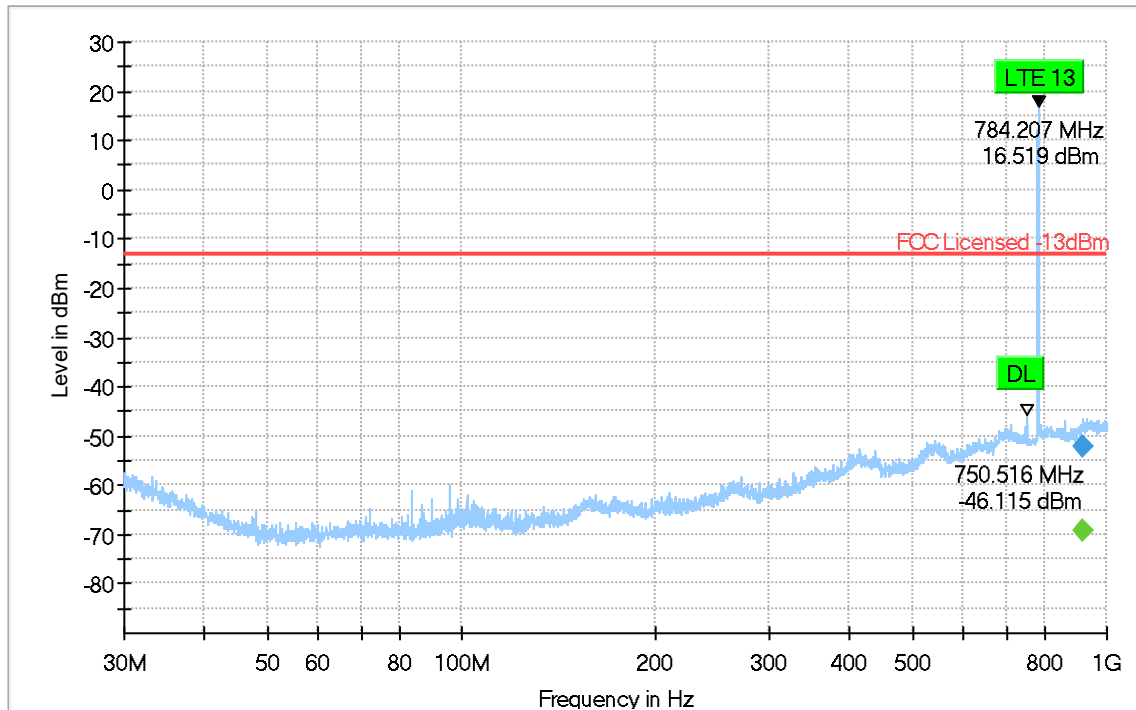
LTE Band 13

## Plot # 13 Radiated Emissions: 30 MHz – 1GHz

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)	Comment
919.134	---	-69.19	---	---	500.0	100.0	186.0	V	139.0	-63.8	
919.134	-52.27	---	-13.00	39.27	500.0	100.0	186.0	V	139.0	-63.8	



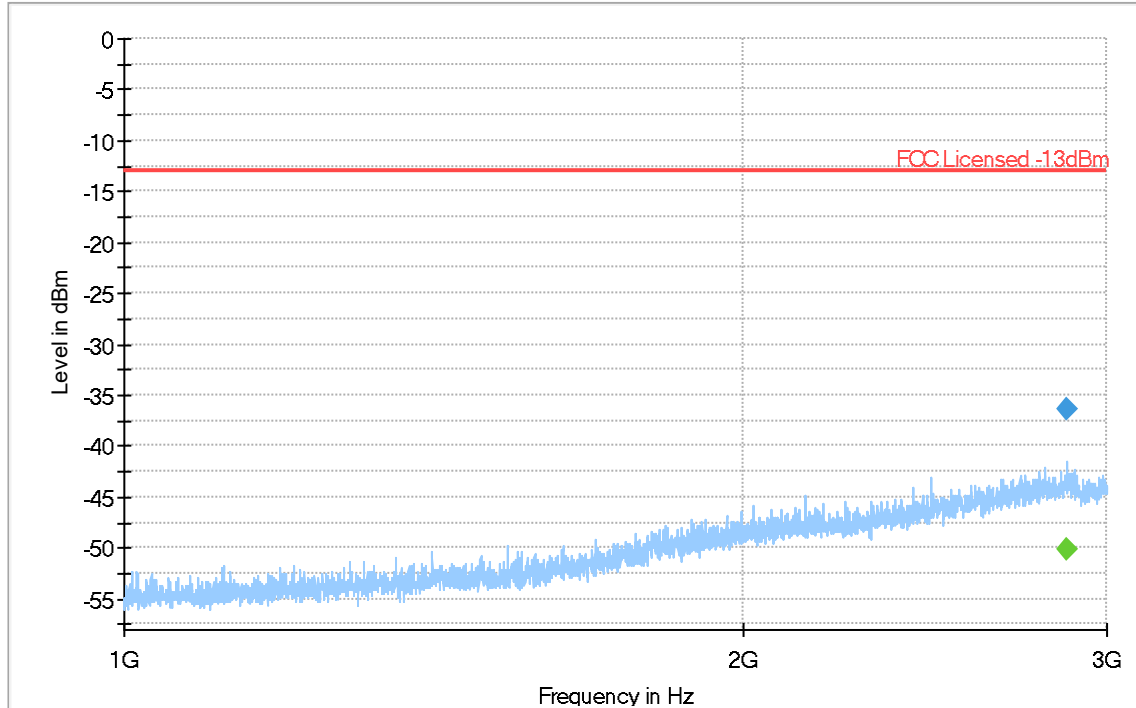
— RMS\_MAXH  
◆ Final\_Result PK+      ◆ PK+\_MAXH  
   Final\_Result RMS      — FCC Licensed -13dBm

## Plot # 14 Radiated Emissions: 1 GHz - 3 GHz

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)	Comment
2870.750	---	-50.20	---	---	500.0	1000.0	320.0	V	212.0	-60.0	
2870.750	-36.42	---	-13.00	23.42	500.0	1000.0	320.0	V	212.0	-60.0	



— RMS\_MAXH  
— PK+\_MAXH  
— FCC Licensed -13dBm

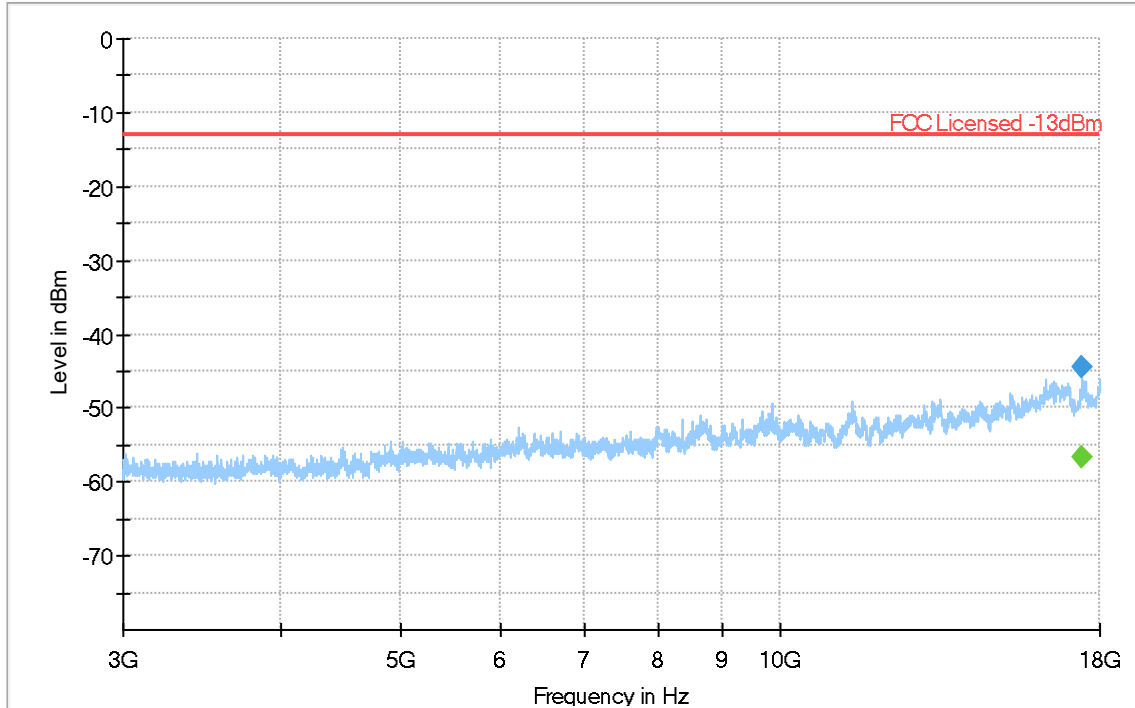
◆ Final\_Result PK+ ◆ Final\_Result RMS

## Plot # 15 Radiated Emissions: 3 GHz – 18 GHz

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)	Comment
17445.000	---	-56.61	---	---	500.0	1000.0	118.0	H	-16.0	-81.2	
17445.000	-44.61	---	-13.00	31.61	500.0	1000.0	118.0	H	-16.0	-81.2	



— RMS\_MAXH  
◆ Final\_Result PK+

— PK+\_MAXH  
◆ Final\_Result RMS

— FCC Licensed -13dBm

## 9 Test setup photos

Setup photos are included in supporting file name: "EMC\_GEOFO\_051\_25001\_KDB996369\_Setup\_photos.pdf"

## 10 Test Equipment And Ancillaries Used For Testing

Equipment Type	Manufacturer	Model	Serial #	Calibration Cycle	Last Calibration Date
BILOG ANTENNA	ETS.LINDGREN	3142E	00166067	3 Years	08/01/2024
HORN ANTENNA	EMCO	3115	00035114	3 Years	09/13/2023
HORN ANTENNA	ETS.LINDGREN	3117	00215984	3 Years	10/26/2023
TEST RECEIVER	R&S	ESW44	103143	2 Years	09/12/2024
DIGITAL THERMOMETER	CONTROL COMPANY	4410,90080-03	230713059	3 Years	10/18/2023
Multimeter	Fluke	115	56090717MV	3 Years	09/26/2023
Software	EMC32	Version 11.40.00	-	-	-

**Note:** Equipment used meets the measurement uncertainty requirements as required per applicable standards for 95% confidence levels. Calibration due dates, unless defined specifically, falls on the last day of the month. Items indicated "N/A" for cal status either do not specifically require calibration or is internally characterized before use.

**Note \*:** In service date

**11 Revision History**

Date	Report Name	Changes to report	Prepared by
2025-08-26	EMC_GEOFO_051_25001_KDB996369	Initial Version	Art Thammanavarat

<<< The End >>>

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