



FCC Test Report

Brand:

Agnex Inc.

Model Name:

AGN3

Product Description:

The AGN3 is a solar-powered tank sensor monitoring device.

Applied Rules and Standards:

47 CFR Parts 22, 24, 27, and 90

FCC ID: 2BBS4AGN3

REPORT #: EMC_TELI2_011_23001_FCC_22_24_27_Rev1

DATE: 2024-01-31



A2LA Accredited

IC recognized #
3462B-1

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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, and 90.

No deficiencies were ascertained.

Company Name	Product Description	Model #
Agnex Inc.	The AGN3 is a solar-powered tank sensor monitoring device.	AGN3

Responsible for Testing Laboratory:

2024-01-31	Compliance	Issa Ghanma (EMC Lab Manager)	
Date	Section	Name	Signature

Responsible for the Report:

2024-01-31	Compliance	Cheng Song (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

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:	Issa Ghanma
Responsible Project Leader:	Rami Saman

2.2 Identification of the Client

Client's Name:	Agnex Inc.
Street Address:	16460 E Annadale Ave,
City/Zip Code	Sanger CA 93657
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

Brand:	Agnex Inc.
Model No	AGN3
HW Version	0.3
SW Version	1.0.9
FCC-ID	2BBS4AGN3
Product Description	The AGN3 is a solar-powered tank sensor monitoring device.
Radio Information as declared	<u>Cellular radio:</u> • LTE CAT-M1 (3GPP Rel.14) • 2G: GSM/GPRS/EGPRS • Refer to the FCC ID: RI7ME910G1WW grant for detailed information on the output power specifications.
Frequency Range	GSM 850: 824.2 – 848.2 MHz GSM 1900: 1850.2 – 1909.8 MHz 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 LTE Band 85: 698 – 716 MHz
Antenna Information as declared	<u>KYOCERA AVX LTE cellular embedded antenna</u> • Part No.: 1002289 • Peak Gain: 2.9dBi (698 – 960MHz); 4.3dBi (1710 – 2690MHz)
Other Radios included in the device	<u>mmWave radio:</u> • Radar Sensor 57~64 GHz
Power Supply/ Rated Operating Voltage Range	Nominal Voltage: 3.6V Charge Voltage: 4.2 ± 0.02V
Operating Temperature Range	-20°C ~ +75°C
EUT Dimensions [mm]	106 x 106 x 54.4mm
Weight [g]	570
Sample Revision	☒ Production ☐ Pre-Production
Note: Details about the Equipment Under Test (EUT) are provided by the client or applicant.	

3.2 EUT Sample details

EUT #	Model Number	HW Version	SW Version	Comments
1	AGN3	0.3	1.0.9	-

3.3 Accessory Equipment (AE) details

AE #	Type	Model	Manufacturer	Serial Number
1	-	-	-	-

3.4 Test Sample Configuration

Set-up #	EUT / AE used for set-up	Comments
1	EUT#1	-

3.5 Mode of Operation

Mode of Operation	Description of Operating modes	Additional Information
Op. 1	Cellular	Cellular was tested on LTE CAT-M1 mid Channel at the maximum power.

3.6 Justification for Worst Case Mode of Operation

During the testing process the cellular radio was tested with transmitter sets to mid channel at the maximum power, as it is described in section 3.5 of this document; representing the worst case mode of operation.

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 section 1.

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

RF conducted measurement ± 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:**

2023-07-24 – 2023-08-01

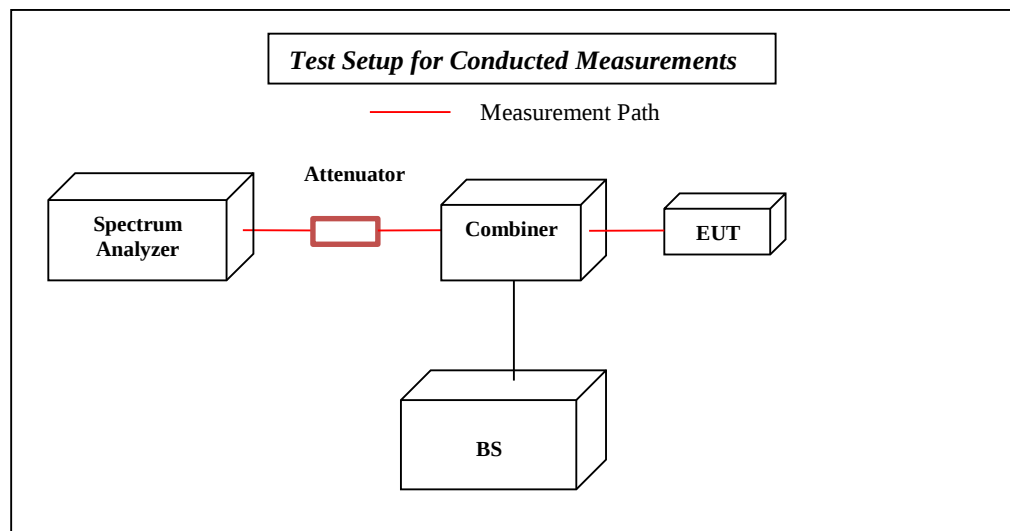
5.3 **Decision Rule:**

Cetecom advanced follows ILAC G8:2019 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

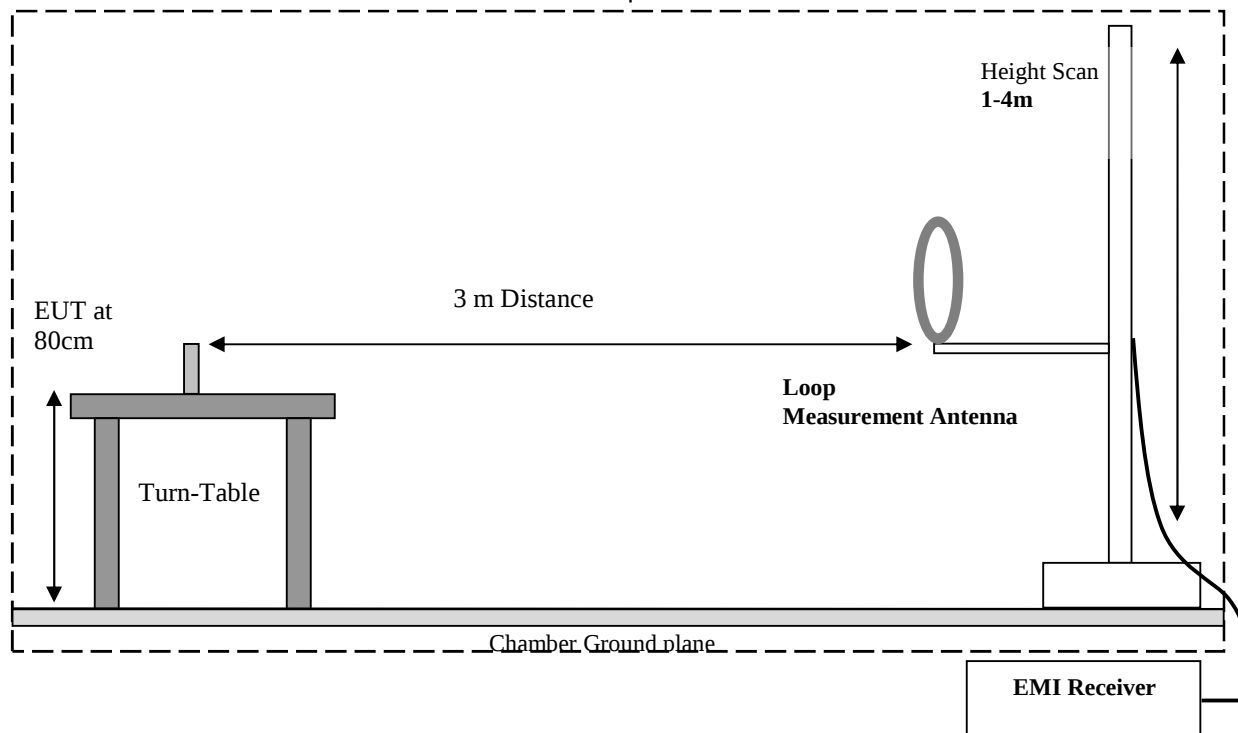
Testing is performed according to the guidelines provided in FCC publication (KDB) 971168 D01 v03r01 – “Measurement Guidance for Certification of Licensed Digital Transmitters” and according to relevant parts of ANSI/TIA-603-D-2010 as detailed below.



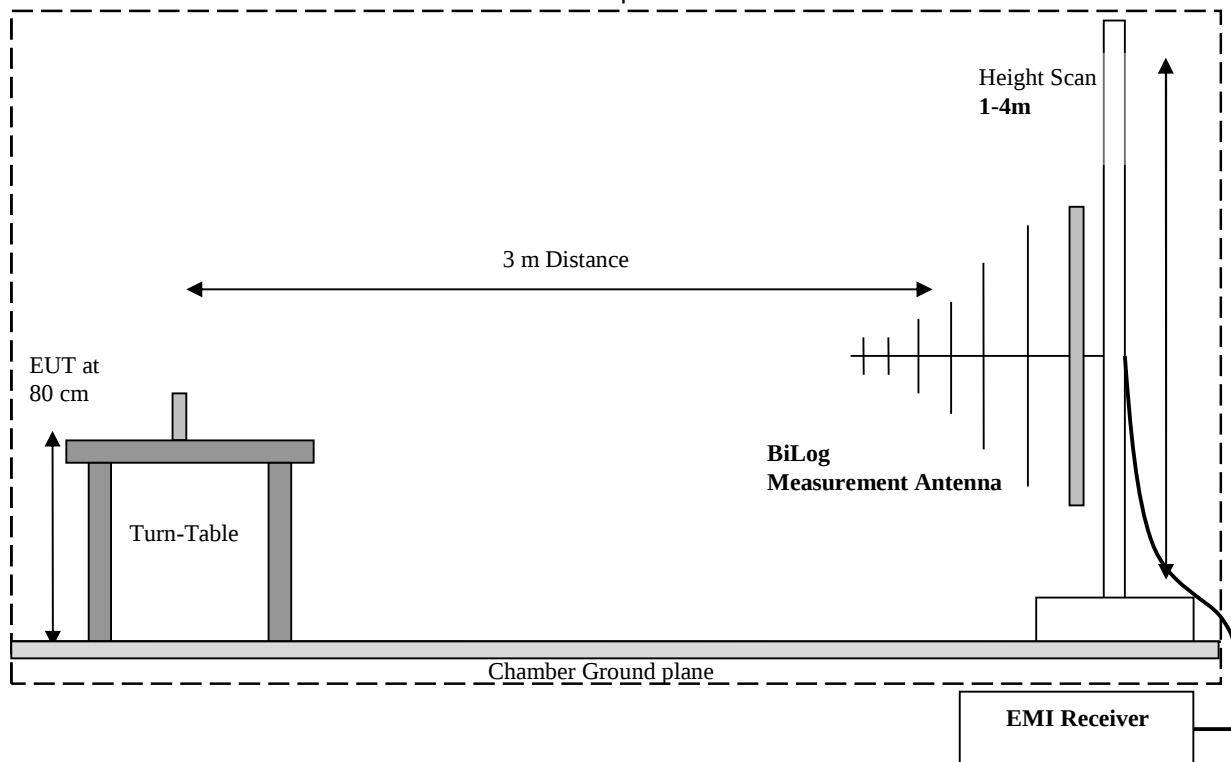
6.1 Radiated Measurement

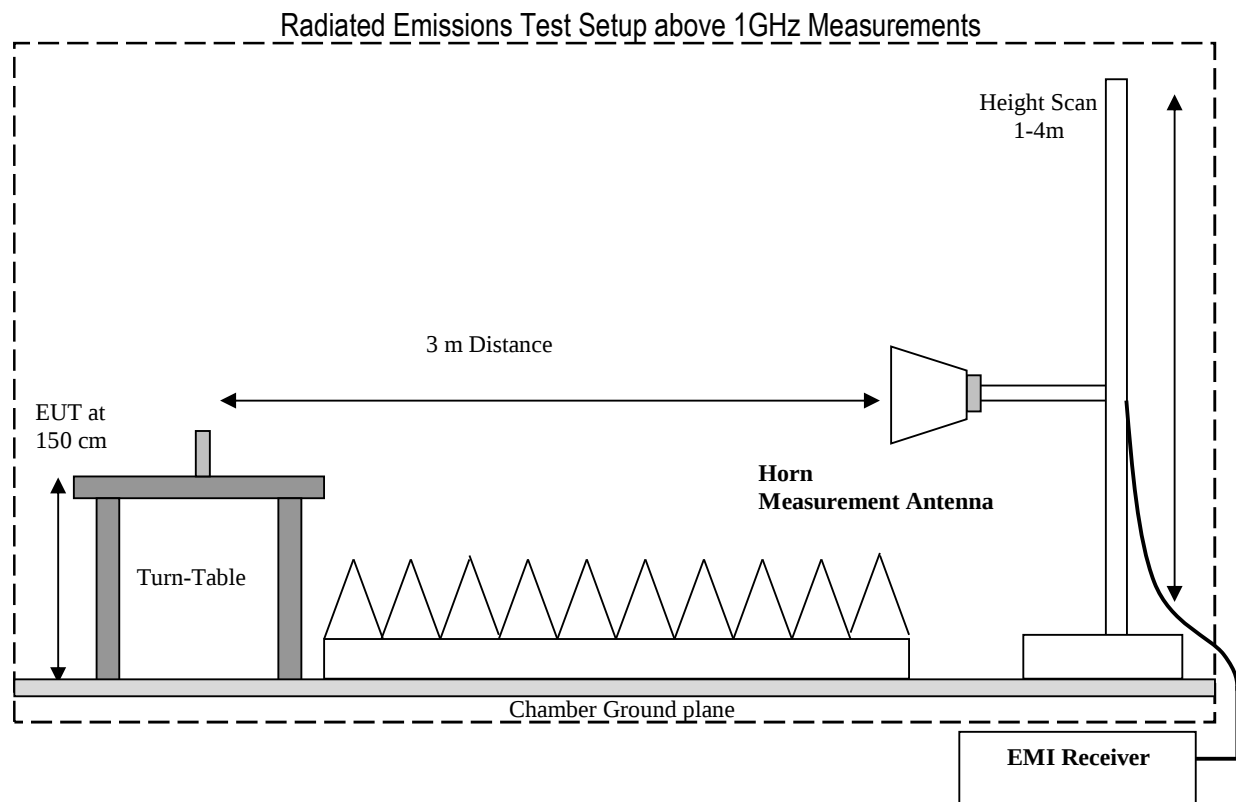
- The exploratory measurement is accomplished by running a matrix of 16 sweeps over the required frequency range with R&S Test-SW EMC32 for 4 positions of the turntable, two orthogonal positions of the EUT and both antenna polarizations. This procedure exceeds the requirement of the above standards to 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 μ 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 μ V)	Cable Loss (dB)	Antenna Factor Correction (dB)	Field Strength Result (dB μ V/m)
1000	80.5	3.5	14	98.0

7 Measurement Results Summary

7.1 FCC 22

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §22.913 (a)	RF Output Power	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1055; §22.355	Frequency Tolerance	Extreme Temperature and Voltage	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1049; §22.917	Occupied Bandwidth	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1051; §22.917	Band Edge Compliance	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1051; §22.917	Conducted Spurious Emissions	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1053; §22.917	Radiated Spurious Emissions	Nominal	Op. 1	☒	☐	☐	☐	Note 4

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

Note 2: The LTE CAT-M test results are leveraged from Report #: STS1912245W01, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 3: The GSM 850 test results are leveraged from Report #: STS1912245W03, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 4: The testing for GSM 850 and LTE Band 5 was performed in accordance with the test specifications outlined in FCC Part 22.

7.2 FCC 24

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §24.232 (a)	RF Output Power	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1055; §24.235	Frequency Stability	Extreme Temperature and Voltage	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1049; §24.238	Occupied Bandwidth	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1051; §24.238	Band Edge Compliance	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1051; §24.238	Conducted Spurious Emissions	Nominal	-	☐	☐	☐	☒	Note 1 Note 2 Note 3
§2.1053; §24.238	Radiated Spurious Emissions	Nominal	Op. 1	☒	☐	☐	☐	Note 4

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

Note 2: The LTE CAT-M test results are leveraged from Report #: STS1912245W01, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 3: The GSM 1900 test results are leveraged from Report #: STS1912245W03, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 4: The testing for GSM 1900, LTE Band 2, and LTE Band 25 was performed in accordance with the test specifications outlined in FCC Part 24.

7.3 FCC 27

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §27.50	RF Output Power	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1055; §27.54	Frequency Stability	Extreme Temperature and Voltage	-	☐	☐	☐	■	Note 1 Note 2
§2.1049; §27.53	Occupied Bandwidth	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1051; §27.53	Band Edge Compliance	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1051; §27.53	Conducted Spurious Emissions	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1053; §27.53	Radiated Spurious Emissions	Nominal	Op. 1	■	☐	☐	☐	Note 3

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

Note 2: The LTE CAT-M test results are leveraged from Report #: STS1912245W01, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 3: The testing for LTE Band 4, LTE Band 12, LTE Band 13, LTE Band 66, and LTE Band 85 was performed in accordance with the test specifications outlined in FCC Part 27.

7.4 FCC 90

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§2.1046; §90.635(b)	RF Output Power	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§90.635(b)	Effective Radiated Power	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1055; §90.213	Frequency Stability	Extreme Temperature and Voltage	-	☐	☐	☐	■	Note 1 Note 2
§2.1049; §90.209	Occupied Bandwidth	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1051; §90.691	Emission Masks	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1051; §90.691	Spurious Emissions at Antenna Terminals	Nominal	-	☐	☐	☐	■	Note 1 Note 2
§2.1053; §90.691	Radiated Spurious Emissions	Nominal	Op. 1	■	☐	☐	☐	Note 3

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

Note 2: The LTE CAT-M test results are leveraged from Report #: STS1912245W01, corresponding to FCC ID: RI7ME910G1WW, IC: 5131A-ME910G1WW.

Note 3: The testing for LTE Band 26 was performed in accordance with the test specifications outlined in FCC Part 90.

8 Test Result Data

8.1 Radiated Spurious Emissions

8.1.1 Measurement utilizing KDB 971168 D01 Power Meas License Digital Systems v03r01, 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, 27, and 90

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

8.1.2 Limits:

- 8.1.2.1 FCC Part 22.917 (a); FCC Part 24.238 (a); FCC Part 27.53 (c); FCC Part 27.53 (g); FCC Part 27.53 (h) and FCC Part 90.691 (a) 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.

8.1.3 Test conditions and setup:

Ambient Temperature (C)	EUT Set-Up #	EUT operating mode	Power Input
22	1	Op. 1	120 VAC

8.2 ERP/EIRP Emission Analysis:

Rule Part	F Low MHz	F High MHz	PPM	Emission Designator	ERP/EIRP Watts
27	699.7	715.3	2.5 PM	938KW7D	0.24
27	699.7	715.3	2.5 PM	1M10G7D	0.26
27	700.5	713.5	2.5 PM	940KW7D	0.25
27	700.5	713.5	2.5 PM	1M10G7D	0.25
27	779.5	784.5	2.5 PM	1M10G7D	0.24
27	779.5	784.5	2.5 PM	939KW7D	0.24
90	814.7	823.3	2.5 PM	1M10G7D	0.26
90	814.7	823.3	2.5 PM	925KW7D	0.25
22H	824.2	848.8	2.5 PM	246KGXW	2.5
22H	824.2	848.8	2.5 PM	248KG7W	0.72
22H	824.7	848.3	2.5 PM	1M10G7D	0.26
22H	824.7	848.3	2.5 PM	1M10W7D	0.26
22H	824.7	848.3	2.5 PM	1M10G7D	0.27
22H	824.7	848.3	2.5 PM	931KW7D	0.29
27	1710.7	1779.3	2.5 PM	1M11G7D	0.65
27	1710.7	1779.3	2.5 PM	1M10W7D	0.62
27	1710.7	1754.3	2.5 PM	1M10G7D	0.65
27	1710.7	1754.3	2.5 PM	940KW7D	0.62
24E	1850.2	1909.8	2.5 PM	246KGXW	1.66
24E	1850.2	1909.8	2.5 PM	247KG7W	0.53
24E	1850.7	1909.3	2.5 PM	1M10G7D	0.62
24E	1850.7	1909.3	2.5 PM	926KW7D	0.62
24E	1850.7	1914.3	2.5 PM	1M11G7D	0.62
24E	1850.7	1914.3	2.5 PM	936KW7D	0.65

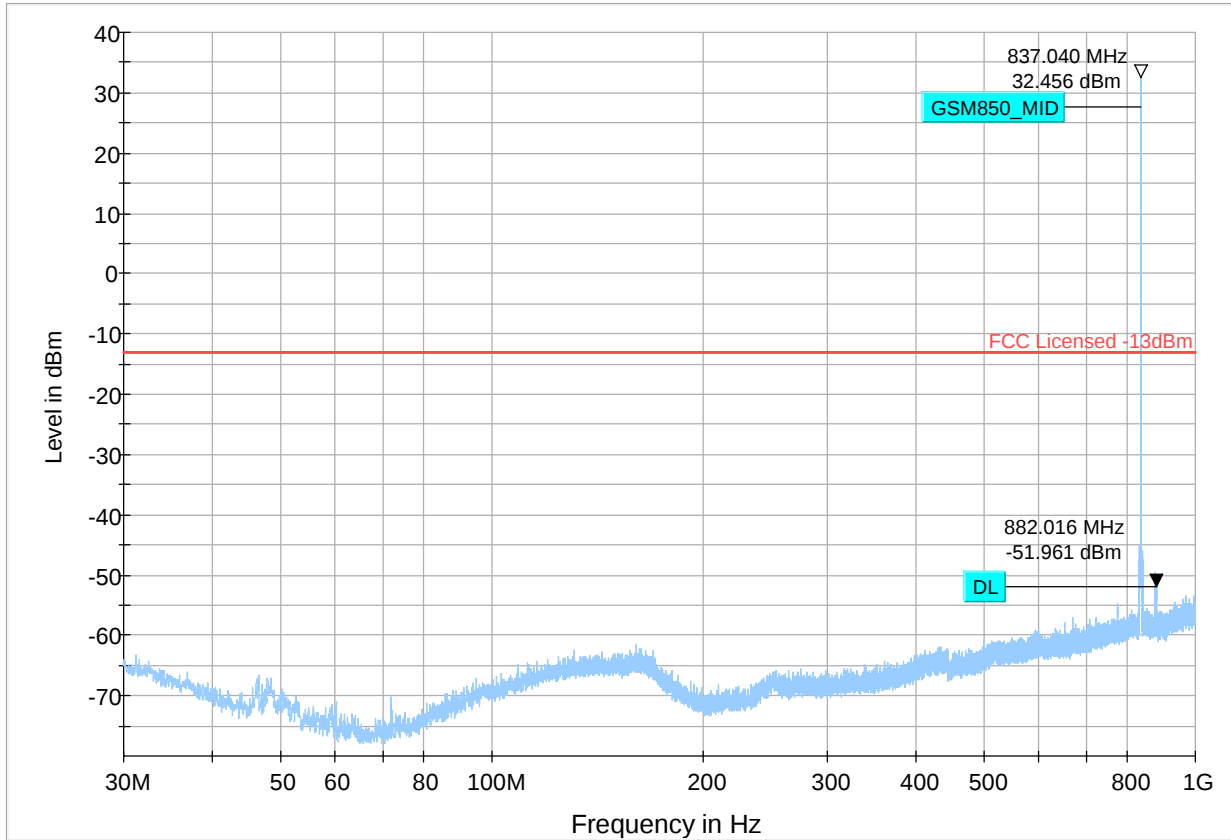
Using the conducted power from the modular report and the declared antenna gain for the device the ERP/EIRP were calculated. The eirp emissions in *italics* were measured in our OTA lab and the values are as outline.

8.2.1 Measurement result:

Plot #	EUT operating band	Scan Frequency	Limit (dBm)	Result
1-3	GSM 850	30 MHz – 9 GHz	-13	Pass
4-7	GSM 1900	30 MHz – 22 GHz	-13	Pass
8-11	LTE B2	30 MHz – 22 GHz	-13	Pass
12-14	LTE B4	30 MHz – 18 GHz	-13	Pass
15-17	LTE B5	30 MHz – 9 GHz	-13	Pass
18-20	LTE B12	30 MHz – 18 GHz	-13	Pass
21-23	LTE B13	30 MHz – 18 GHz	-13	Pass
24-27	LTE B25	30 MHz – 22 GHz	-13	Pass
28-30	LTE B26	30 MHz – 18 GHz	-13	Pass
31-33	LTE B66	30 MHz – 18 GHz	-13	Pass
34-36	LTE B85	30 MHz – 18 GHz	-13	Pass

8.2.2 Measurement Plots:

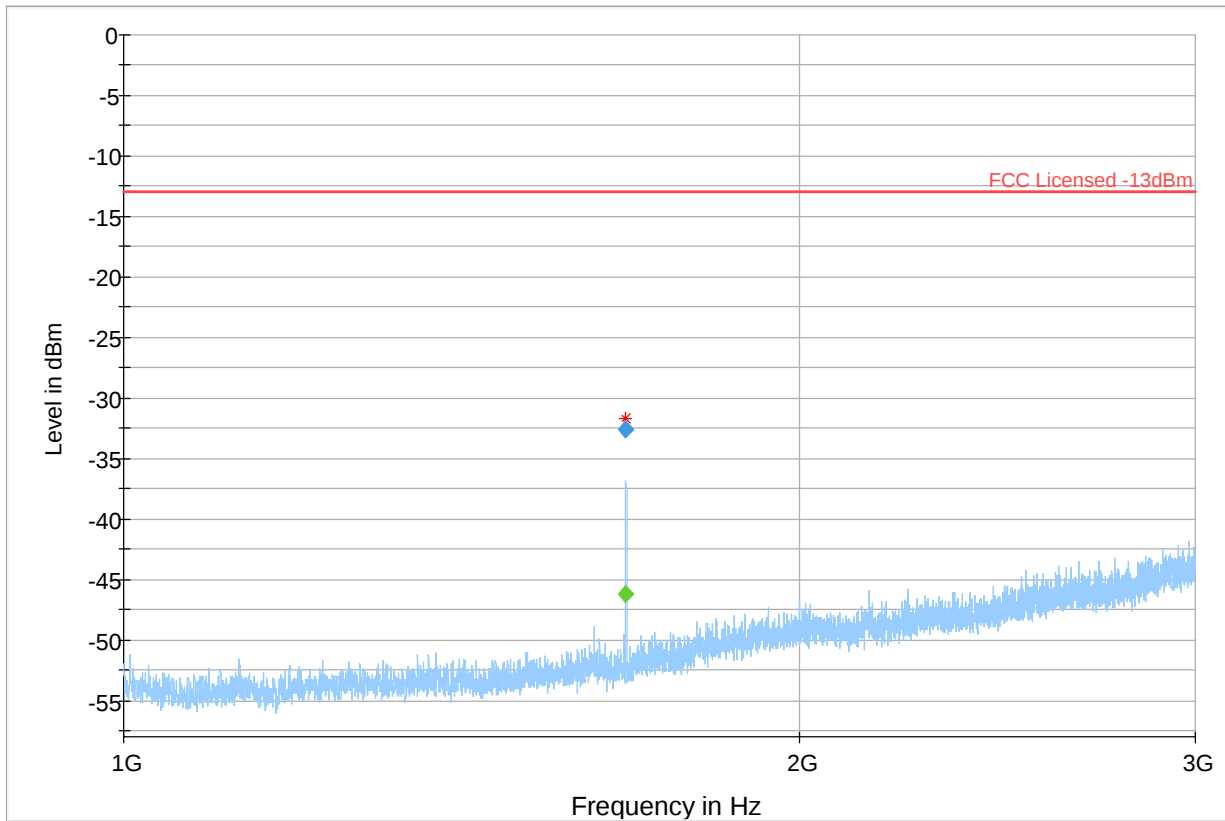
Plot # 1



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RMSE

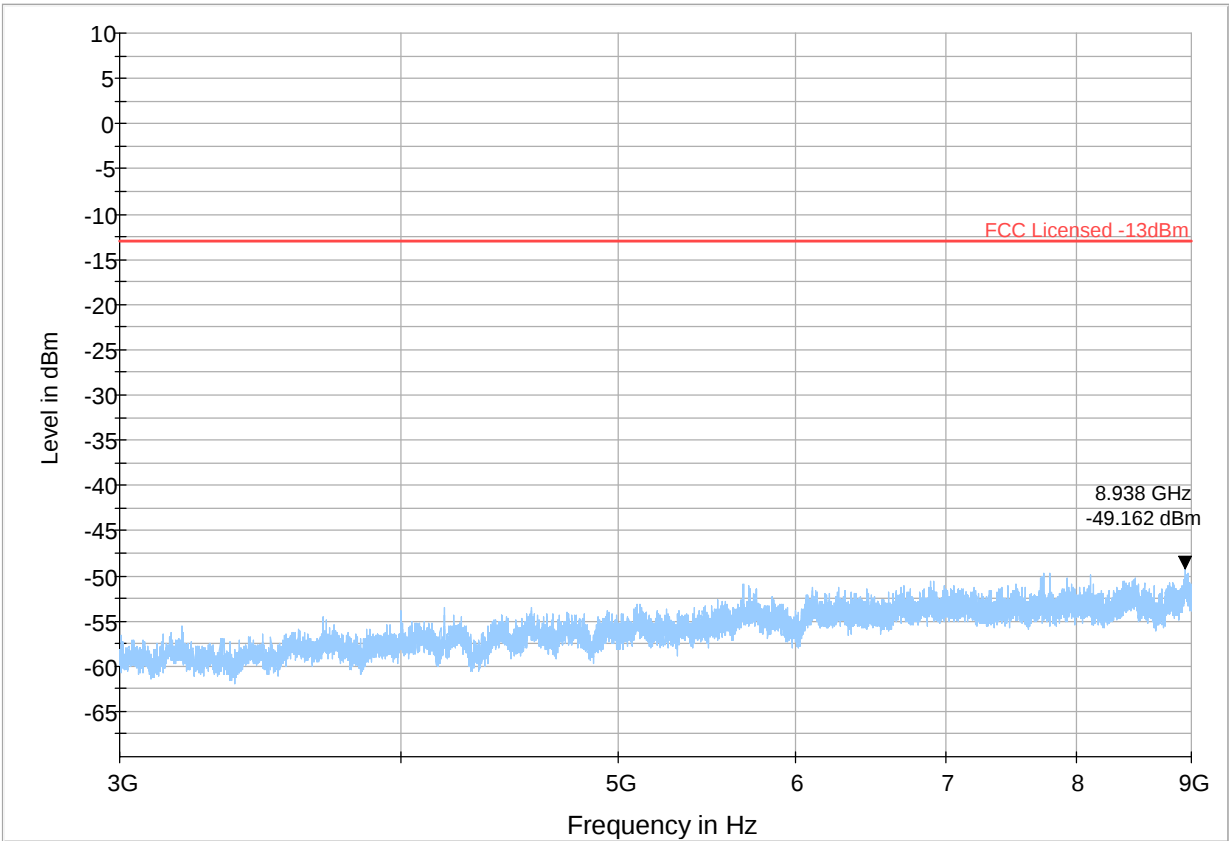
Plot # 2

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1673.75	---	-46.19	---	---	500.0	1000.0	142.0	V	34.0	-64.9
1673.75	-32.53	---	-13.00	19.53	500.0	1000.0	142.0	V	34.0	-64.9



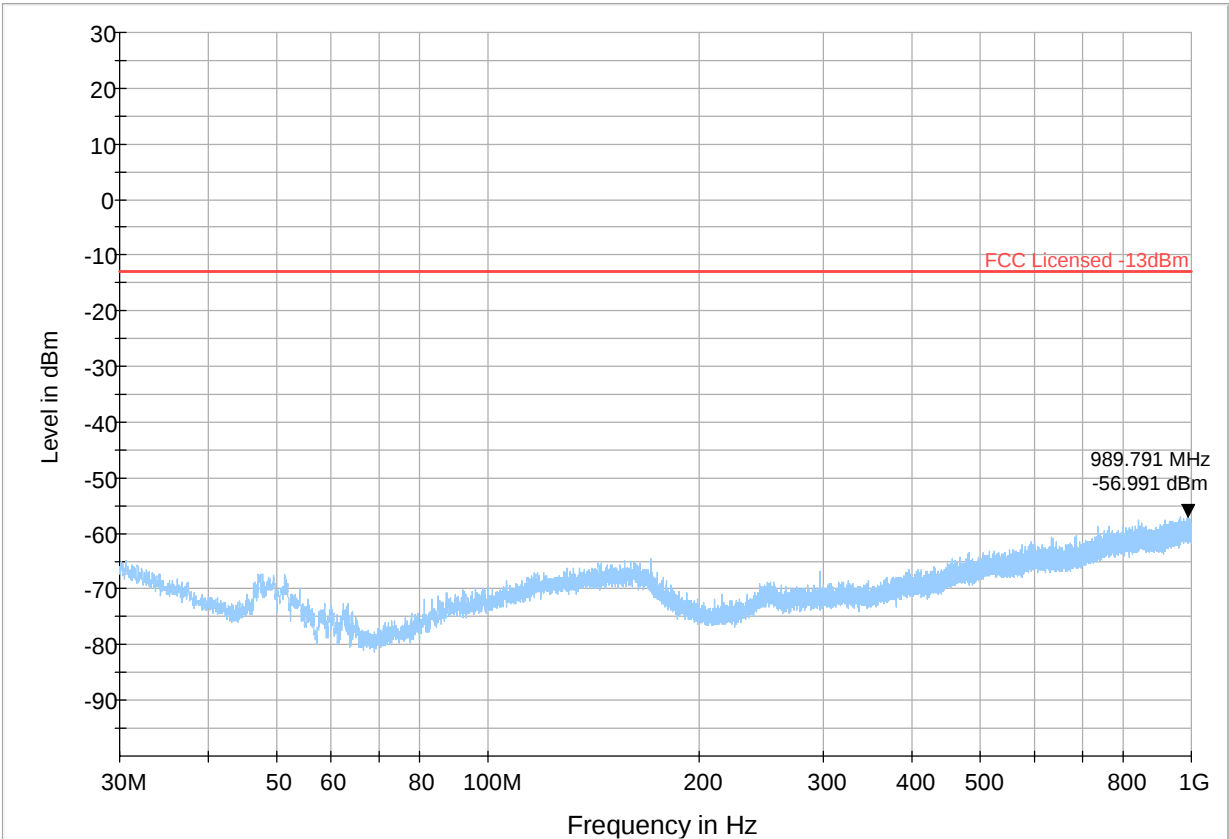
Preview Result 1-PK+ Final_Result PK+ Critical_Freqs PK+ Final_Result RMS FCC Licensed -13dBm

Plot # 3



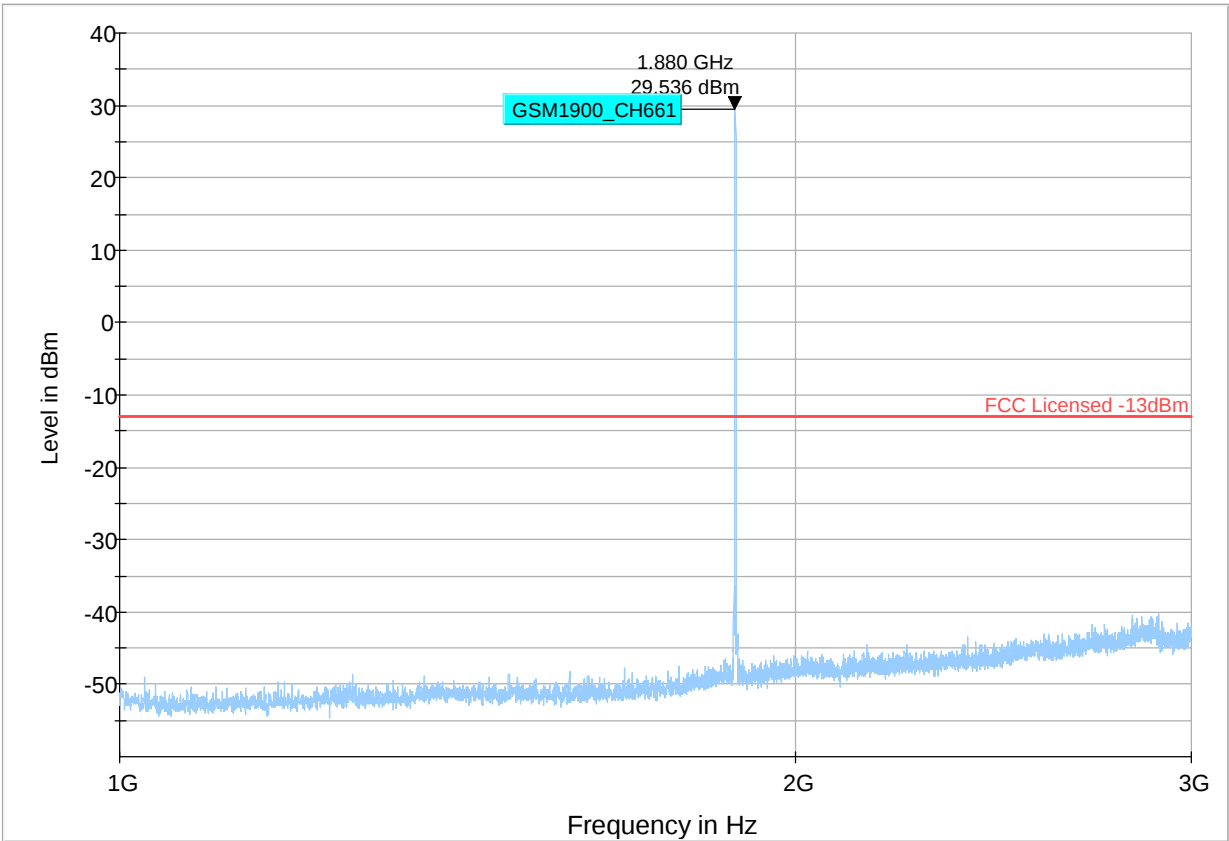
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 4



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 5



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

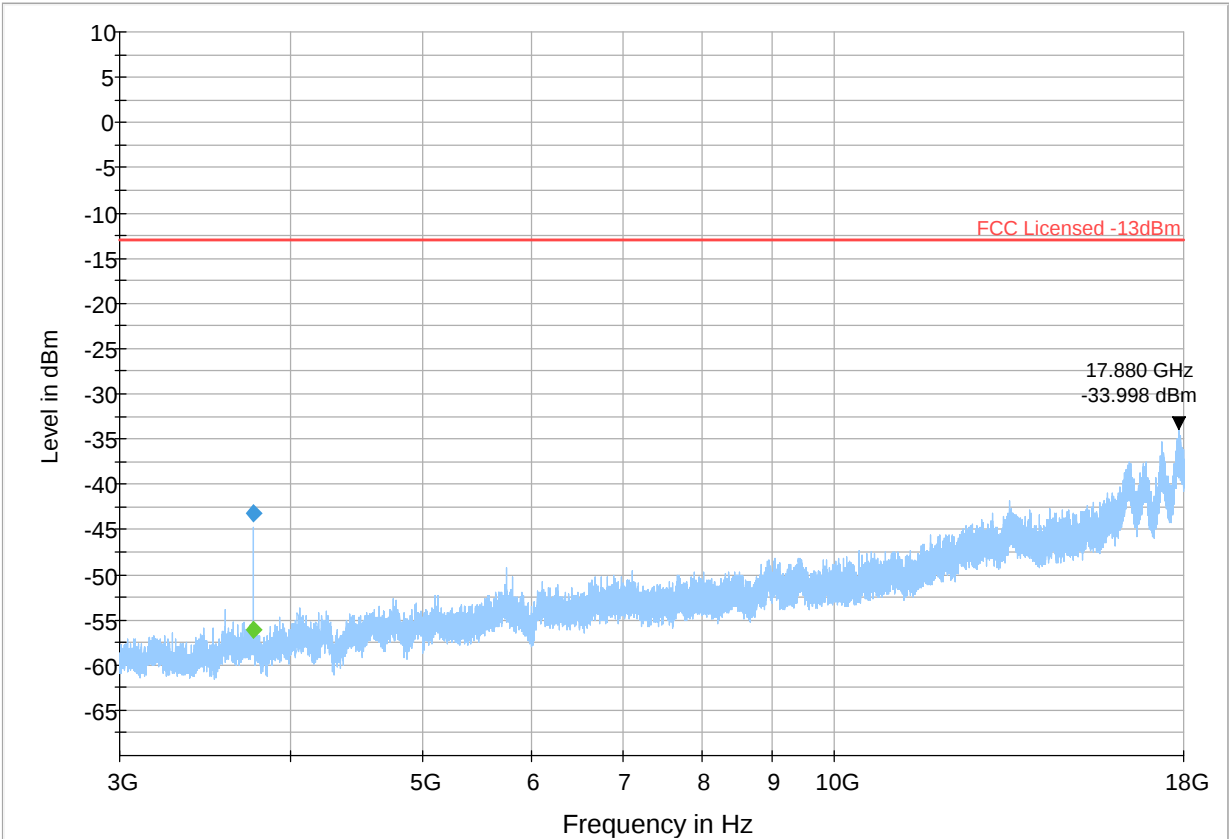


Plot # 6

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
3759.75	---	-56.05	---	---	500.0	1000.0	116.0	V	191.0	-100.9	7.2	0.0	-108.0
3759.75	-43.25	---	-13.00	30.25	500.0	1000.0	116.0	V	191.0	-100.9	7.2	0.0	-108.0

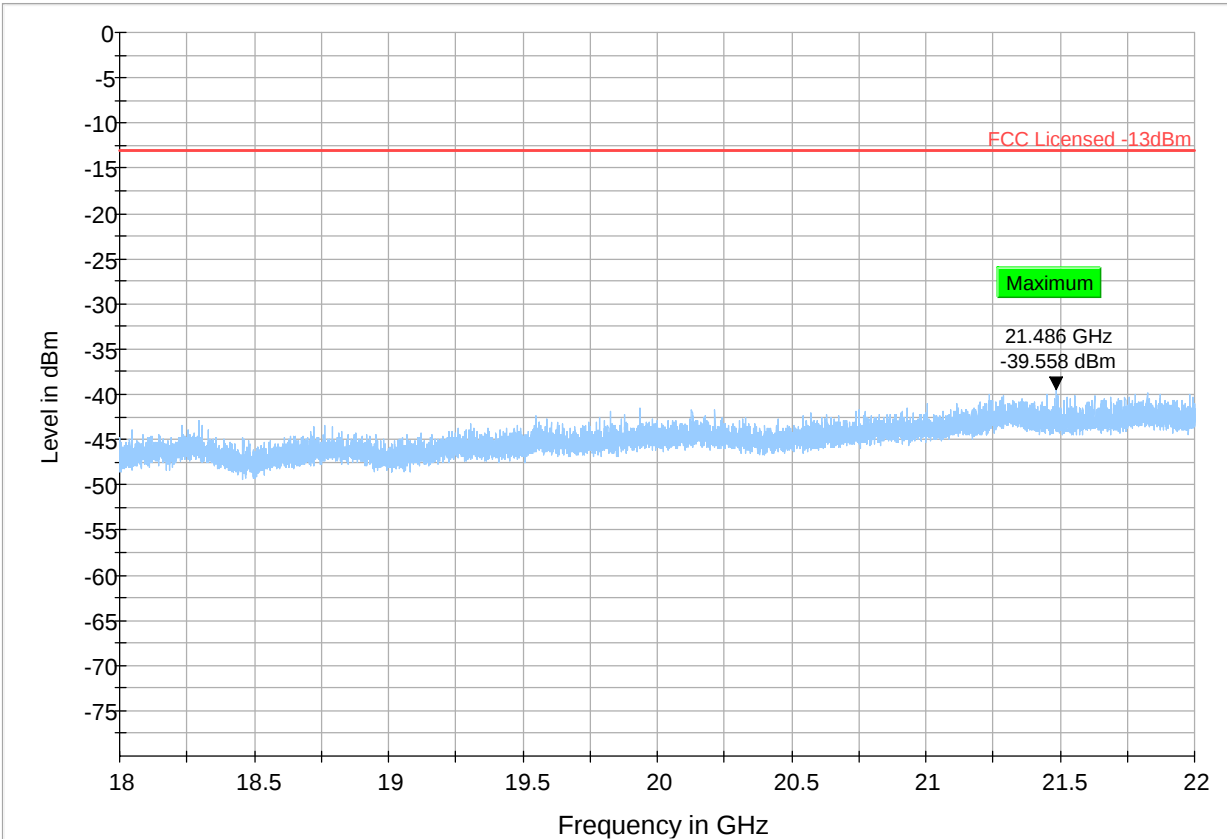
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
3759.75	44.8
3759.75	57.6



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 7



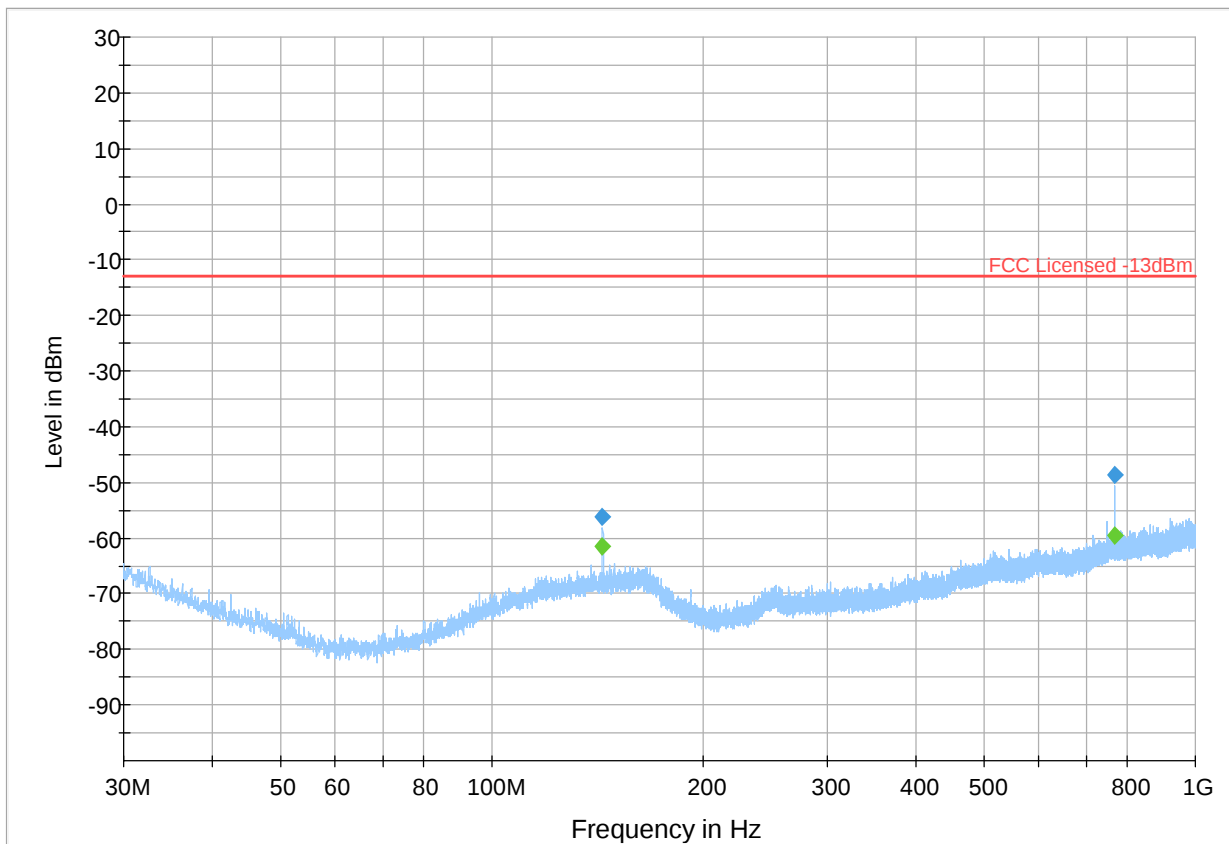
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 8

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
143.88	---	-61.45	---	---	500.0	120.0	166.0	H	104.0	-70.2	0.8	0.0	-70.9
143.88	-56.17	---	-13.00	43.17	500.0	120.0	166.0	H	104.0	-70.2	0.8	0.0	-70.9
768.00	---	-59.58	---	---	500.0	120.0	107.0	H	338.0	-64.8	2.3	0.0	-67.1
768.00	-48.63	---	-13.00	35.63	500.0	120.0	107.0	H	338.0	-64.8	2.3	0.0	-67.1

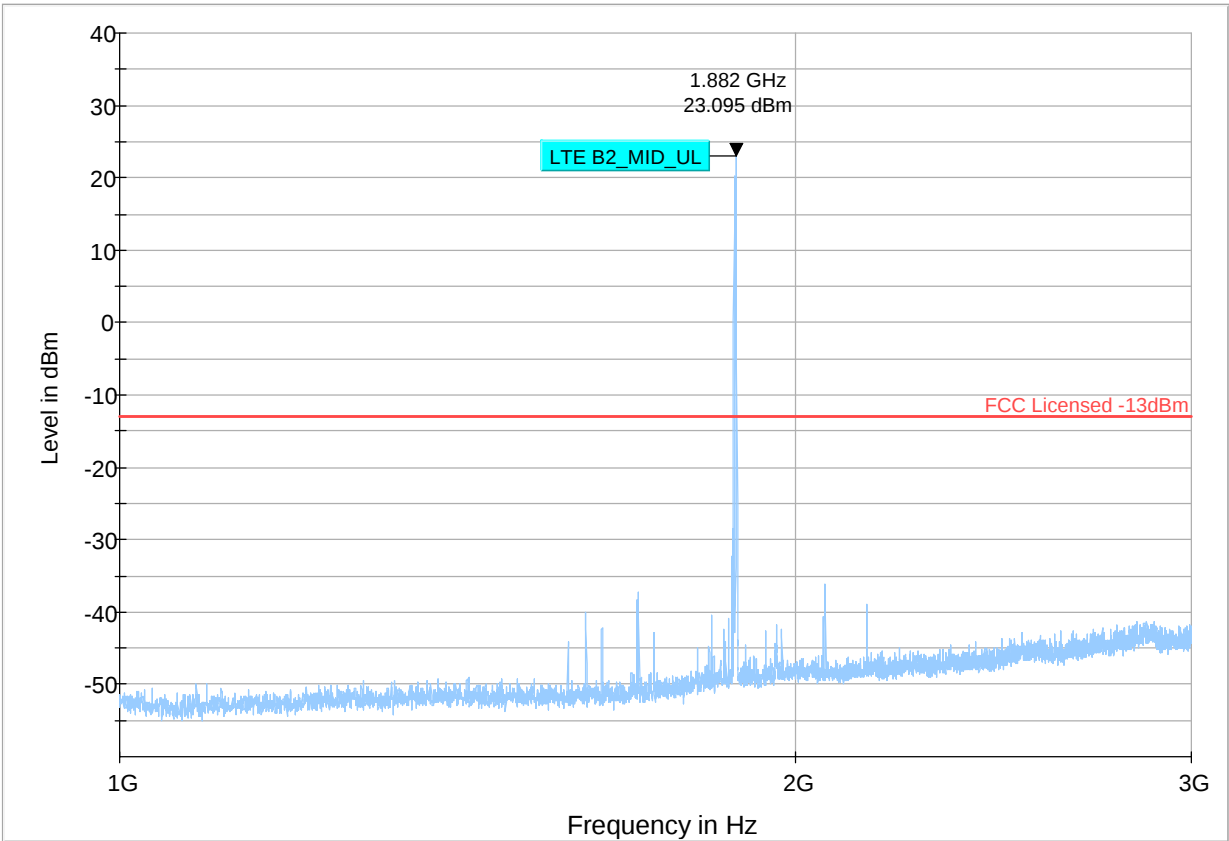
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
143.88	8.7
143.88	14.0
768.00	5.2
768.00	16.2



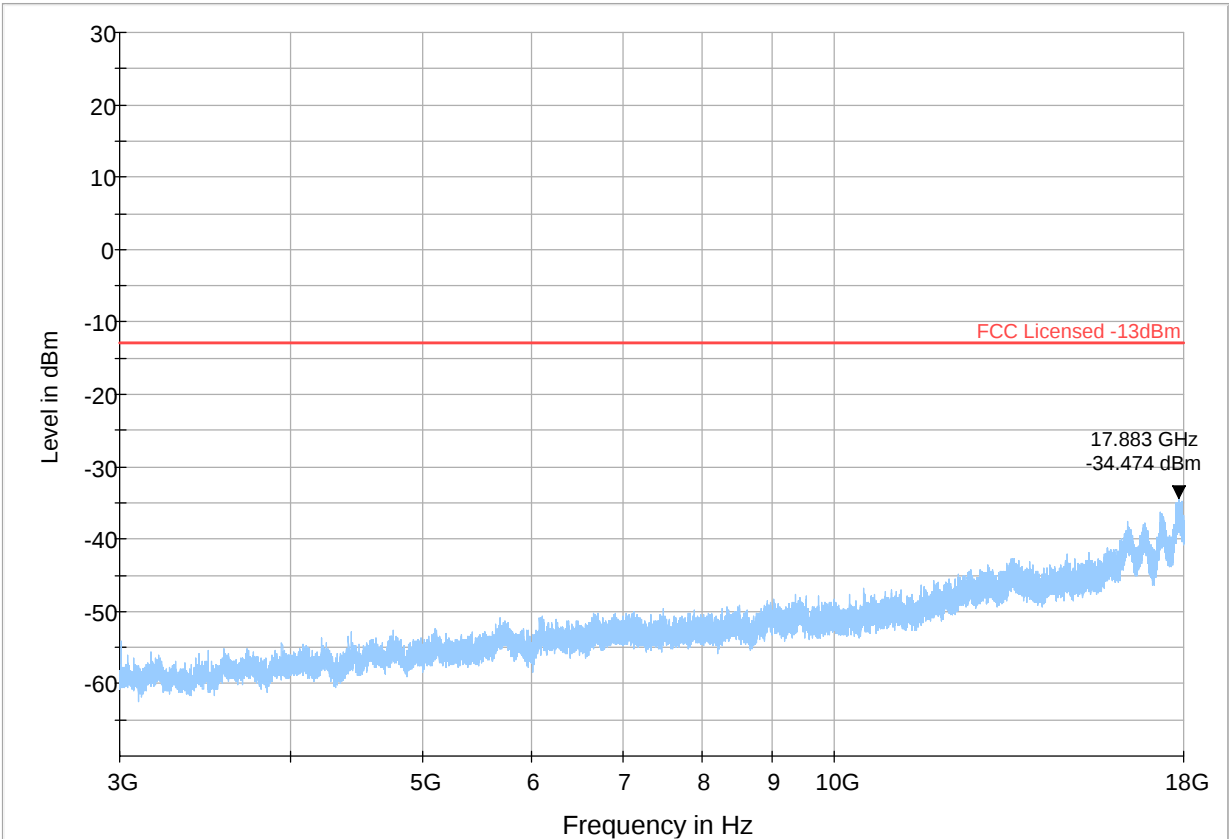
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 9



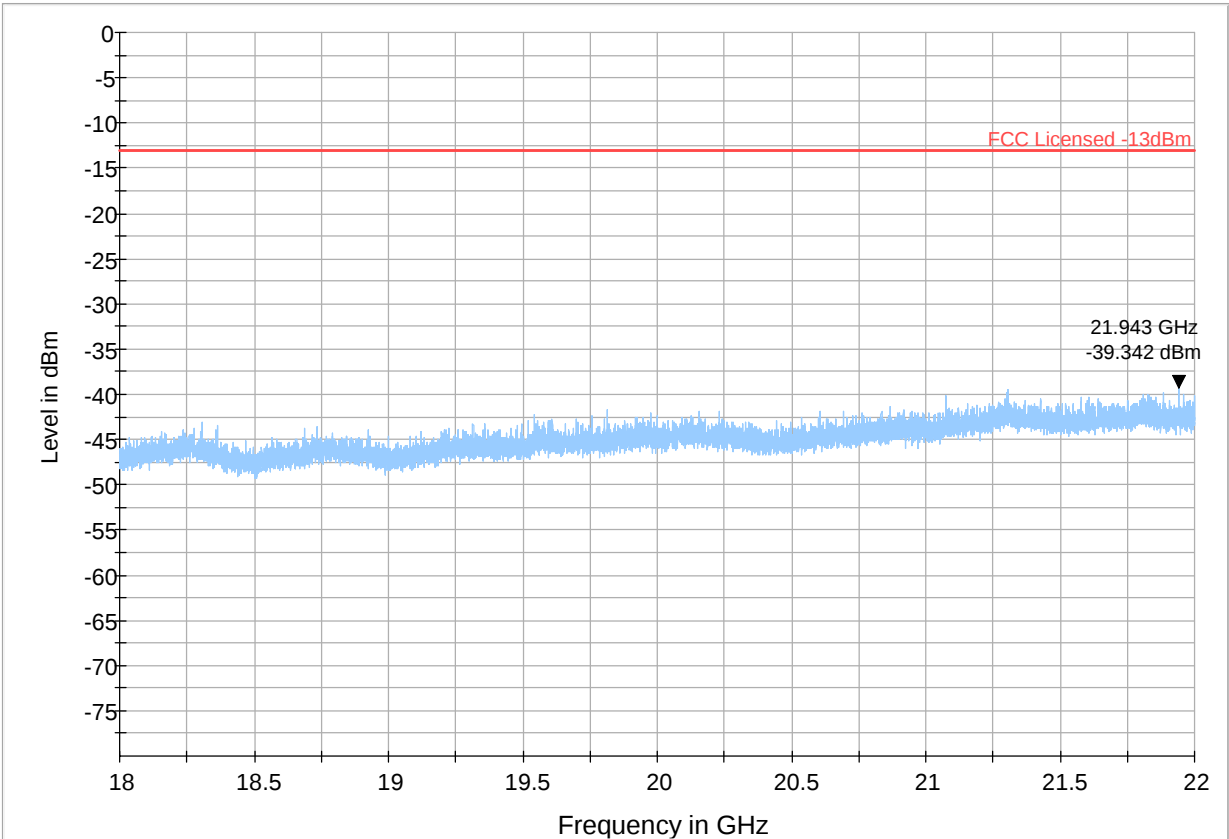
Preview Result 1-PK+ FCC Licensed -13dBm ◆ Final_Result PK+ ◆ Final_Result RM

Plot # 10



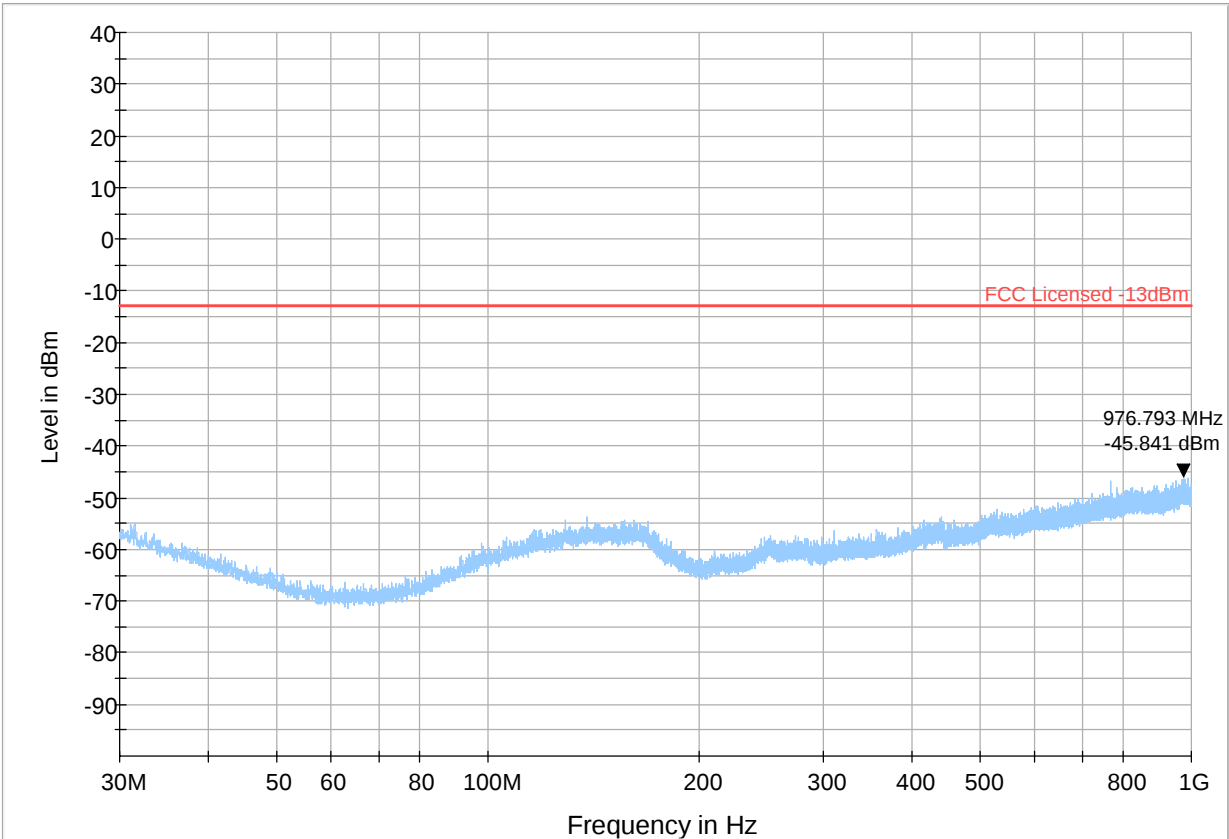
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 11



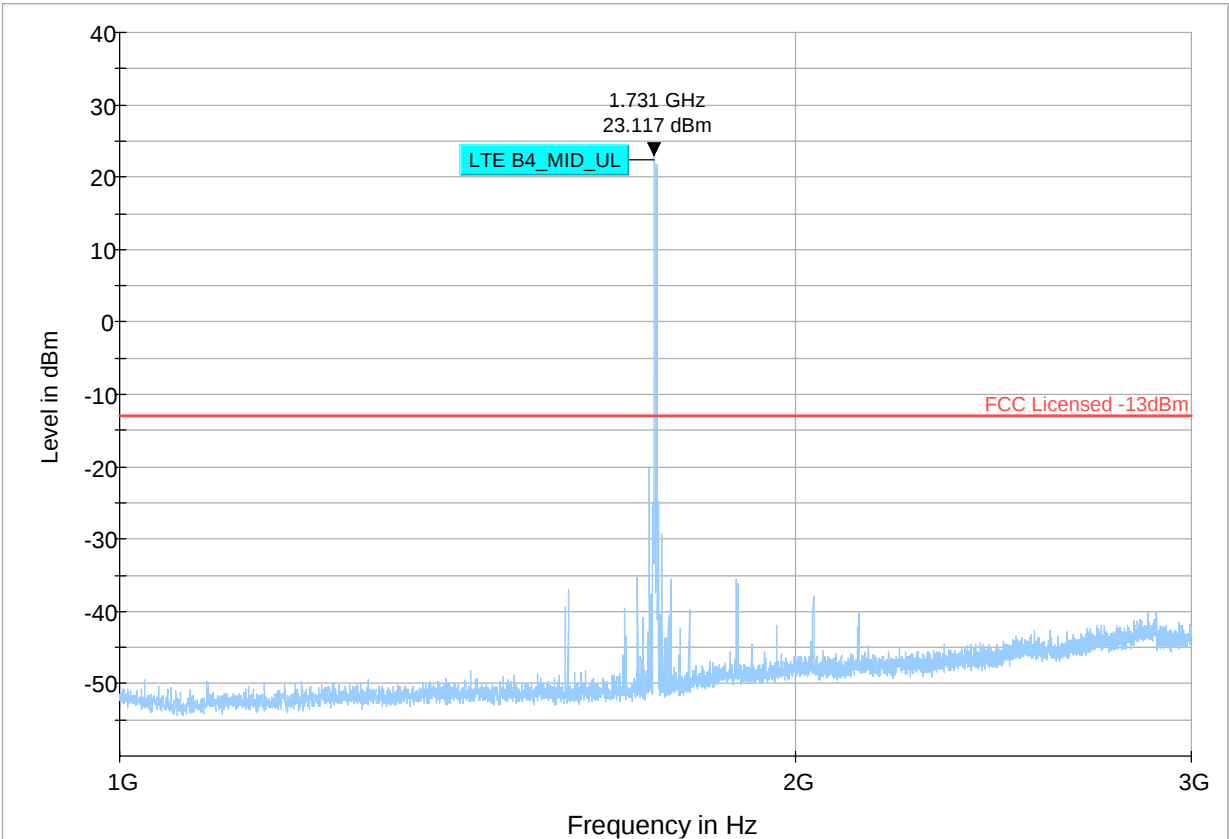
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 12



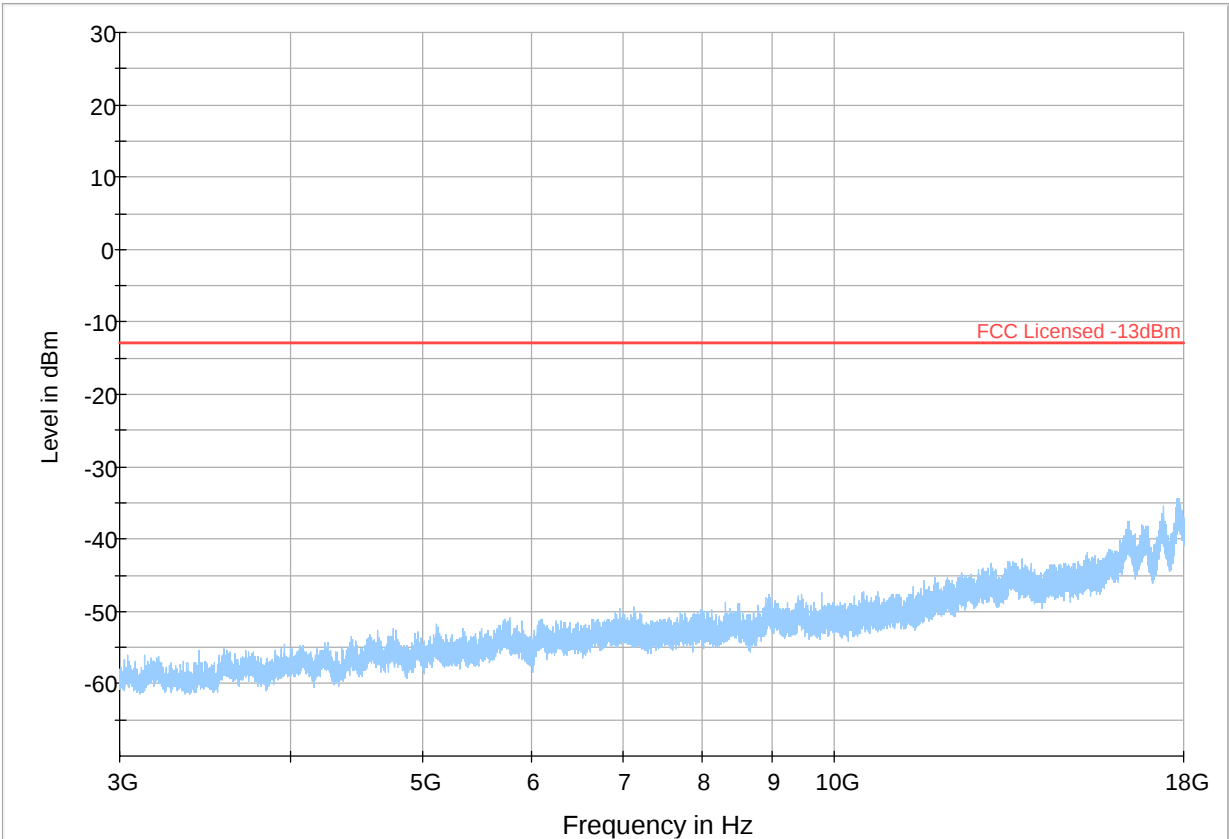
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 13



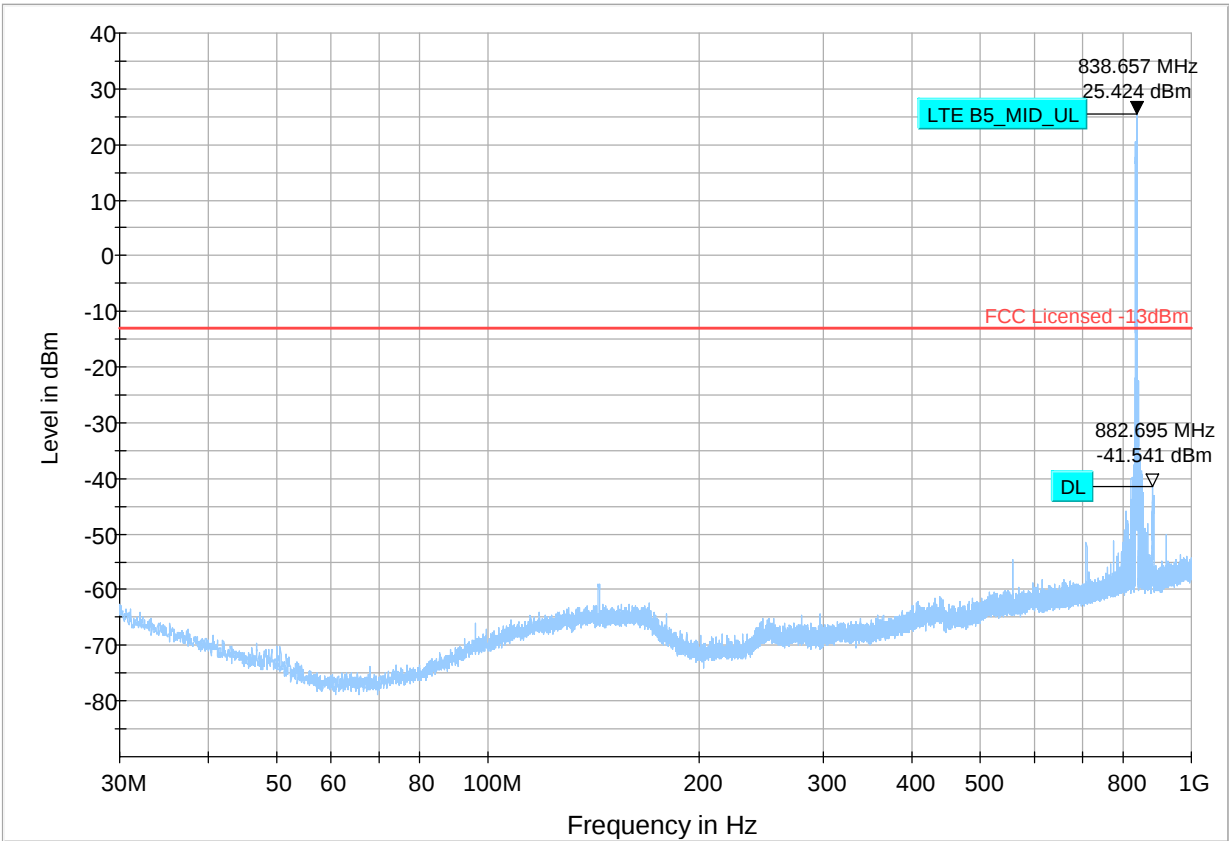
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM:

Plot # 14



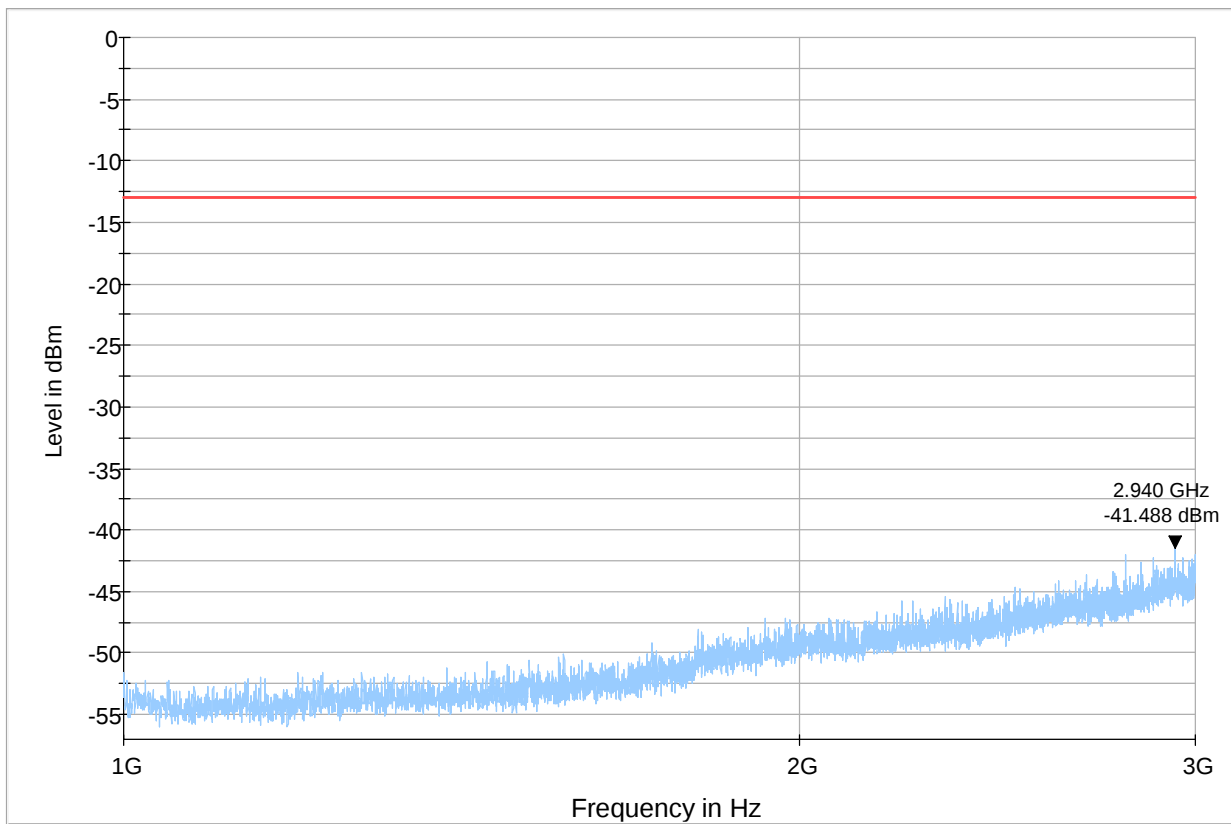
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 15



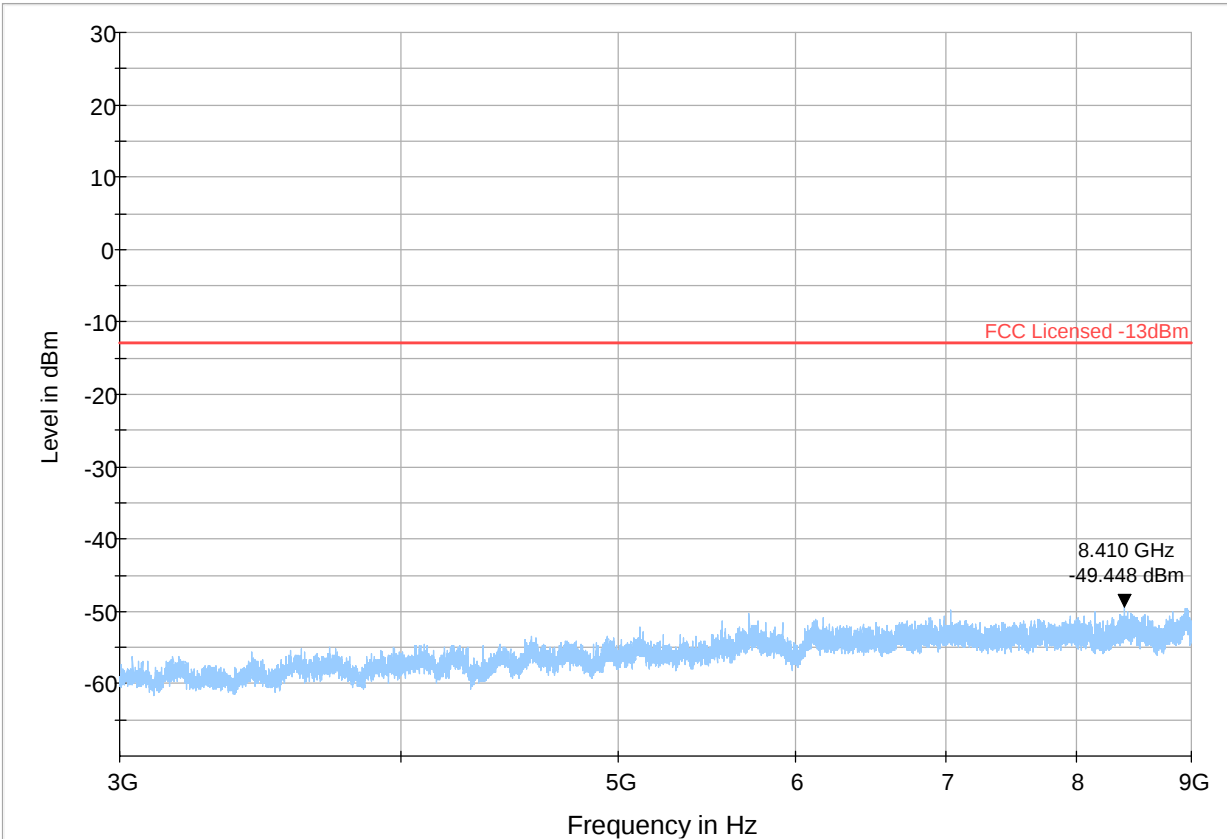
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 16



◆ Preview Result 1-PK+ * Critical_Freqs PK+ — FCC Licensed -13dBm
◆ Final_Result PK+ ◆ Final_Result RMS

Plot # 17



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

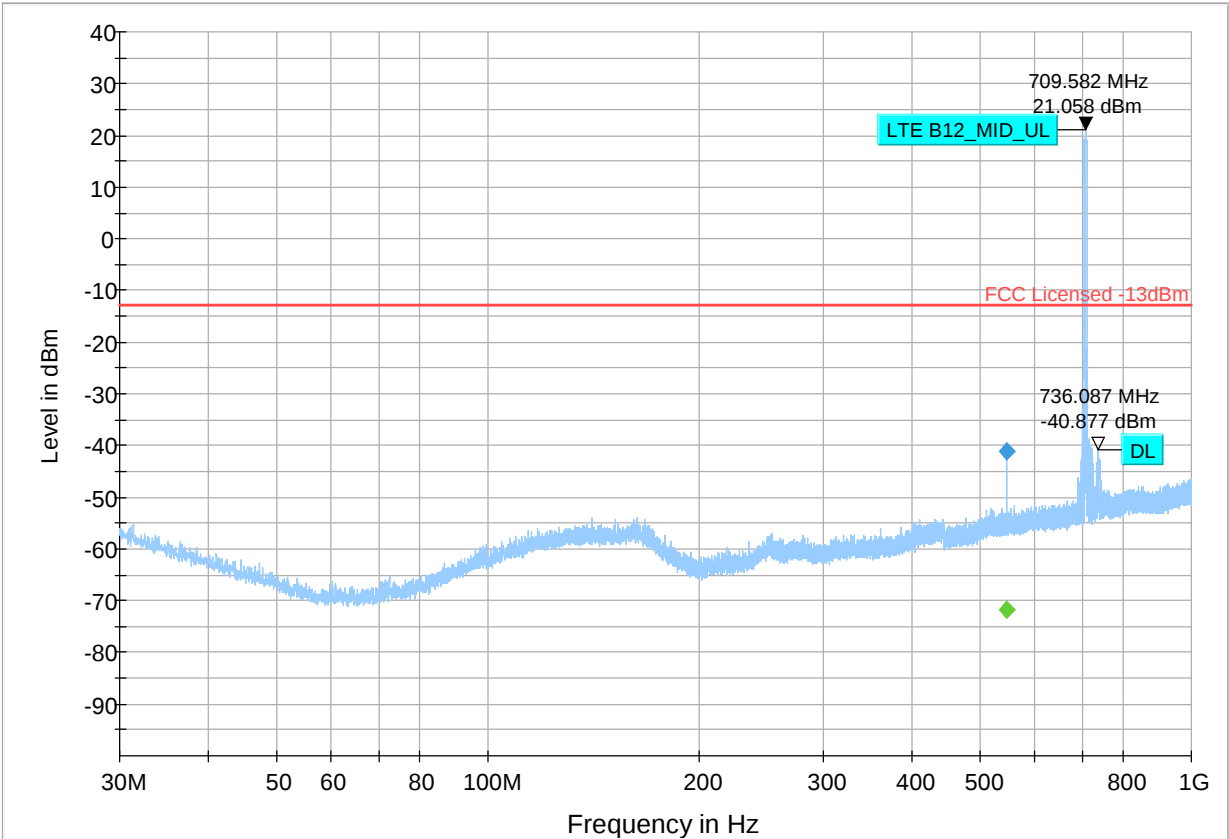


Plot # 18

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
545.53	---	-71.74	-13.00	58.74	500.0	100.0	107.0	V	45.0	-69.0	2.1	0.0	-71.2
545.53	-41.19	---	-13.00	28.19	500.0	100.0	107.0	V	45.0	-69.0	2.1	0.0	-71.2

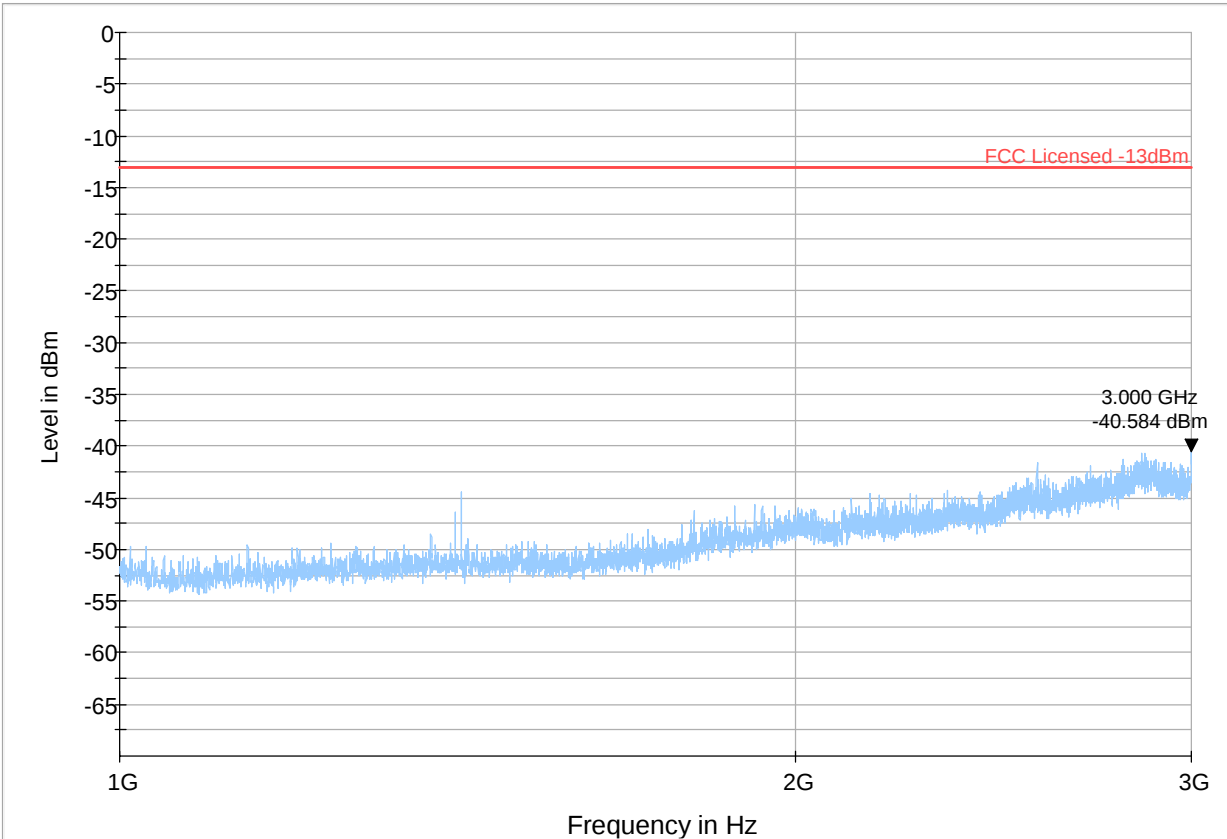
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
545.53	-2.7
545.53	27.9



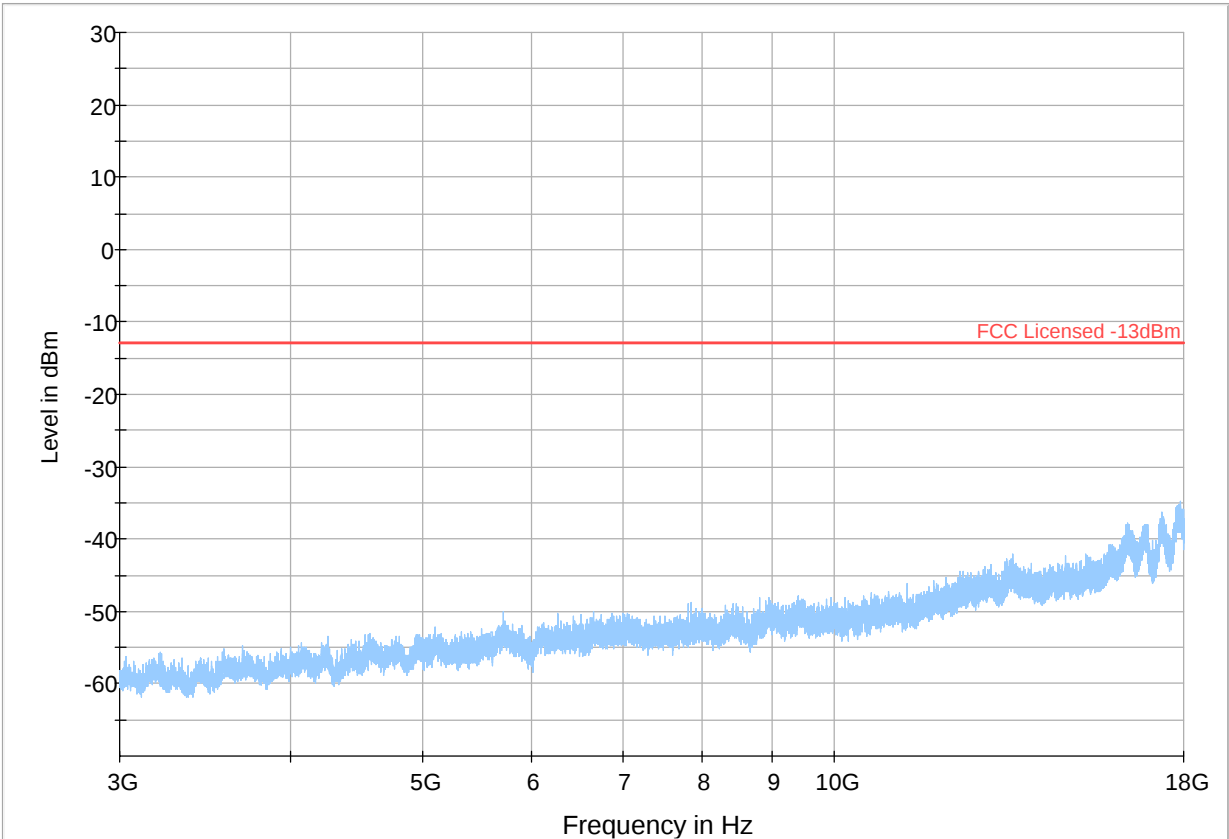
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 19



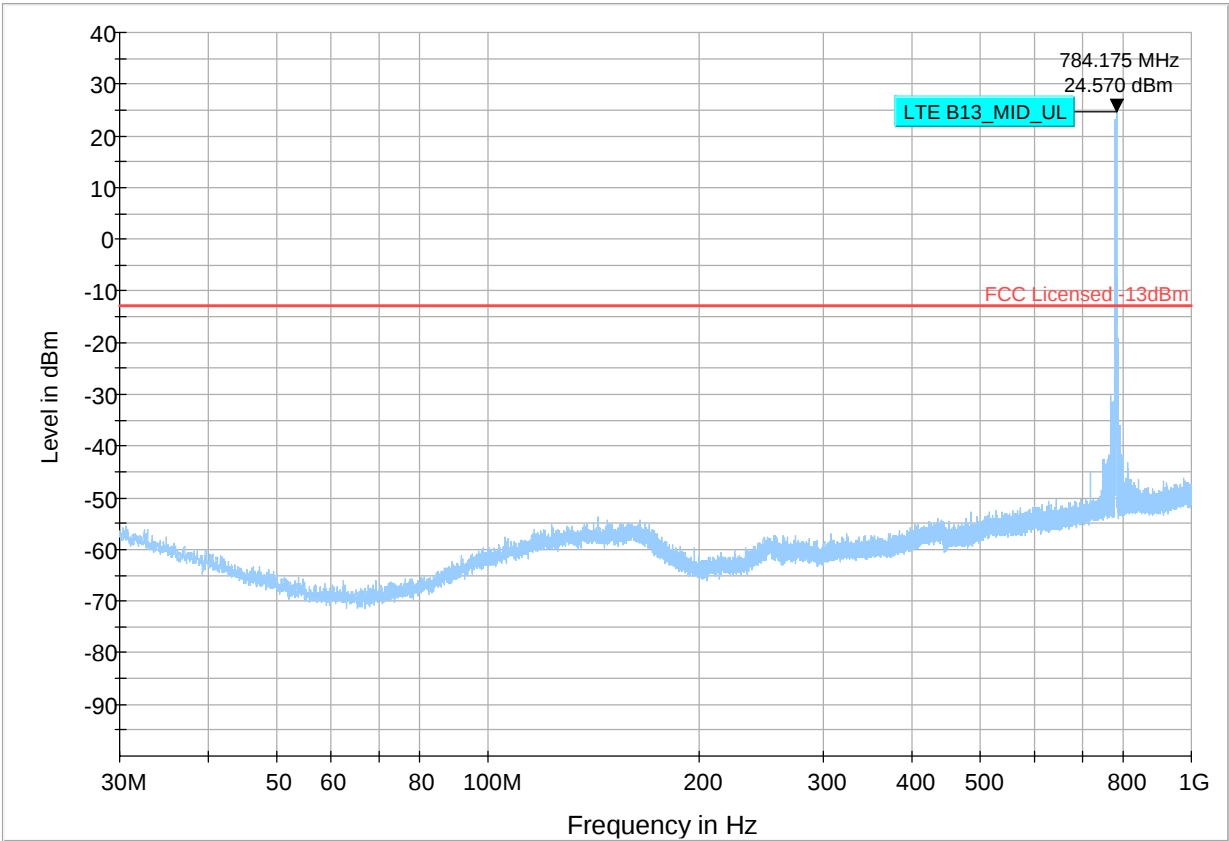
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 20



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 21



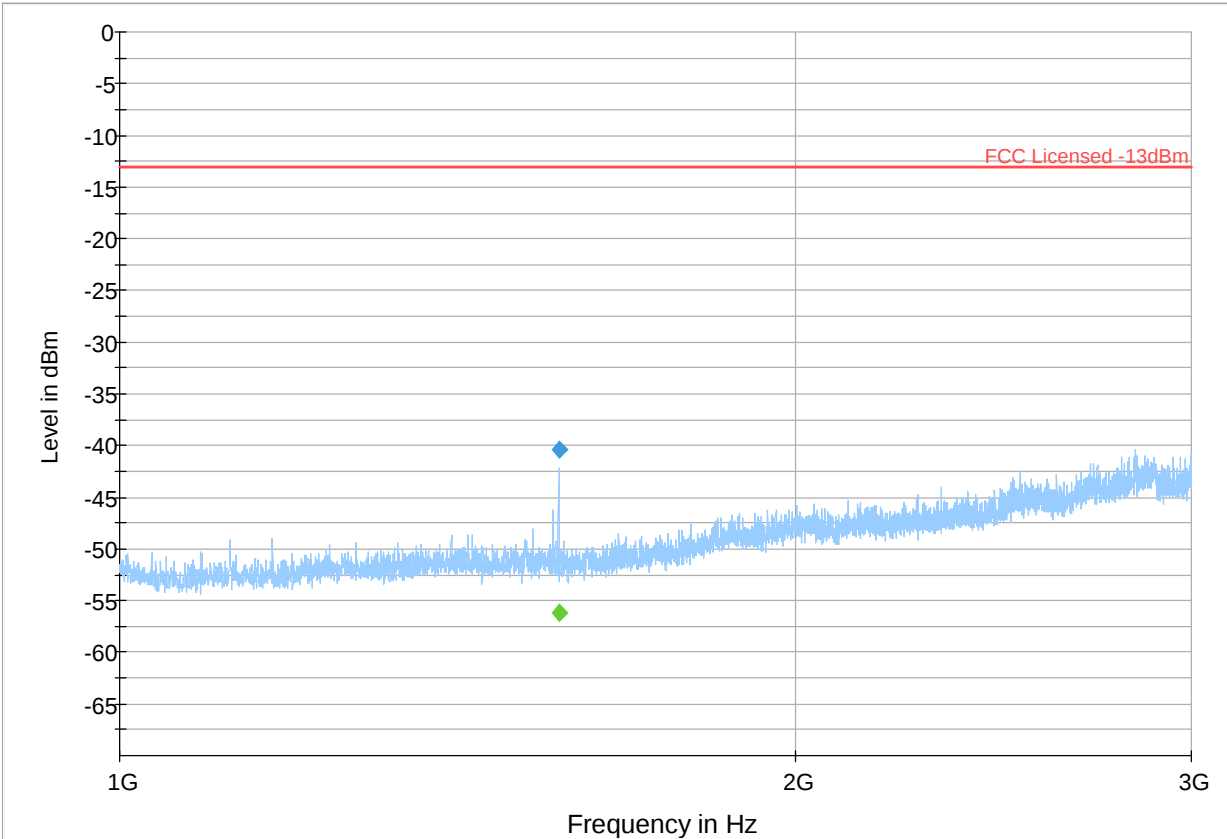
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 22

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
1568.25	---	-56.13	---	---	500.0	1000.0	292.0	H	52.0	-65.9	3.7	0.0	-69.5
1568.25	-40.35	---	-13.00	27.35	500.0	1000.0	292.0	H	52.0	-65.9	3.7	0.0	-69.5

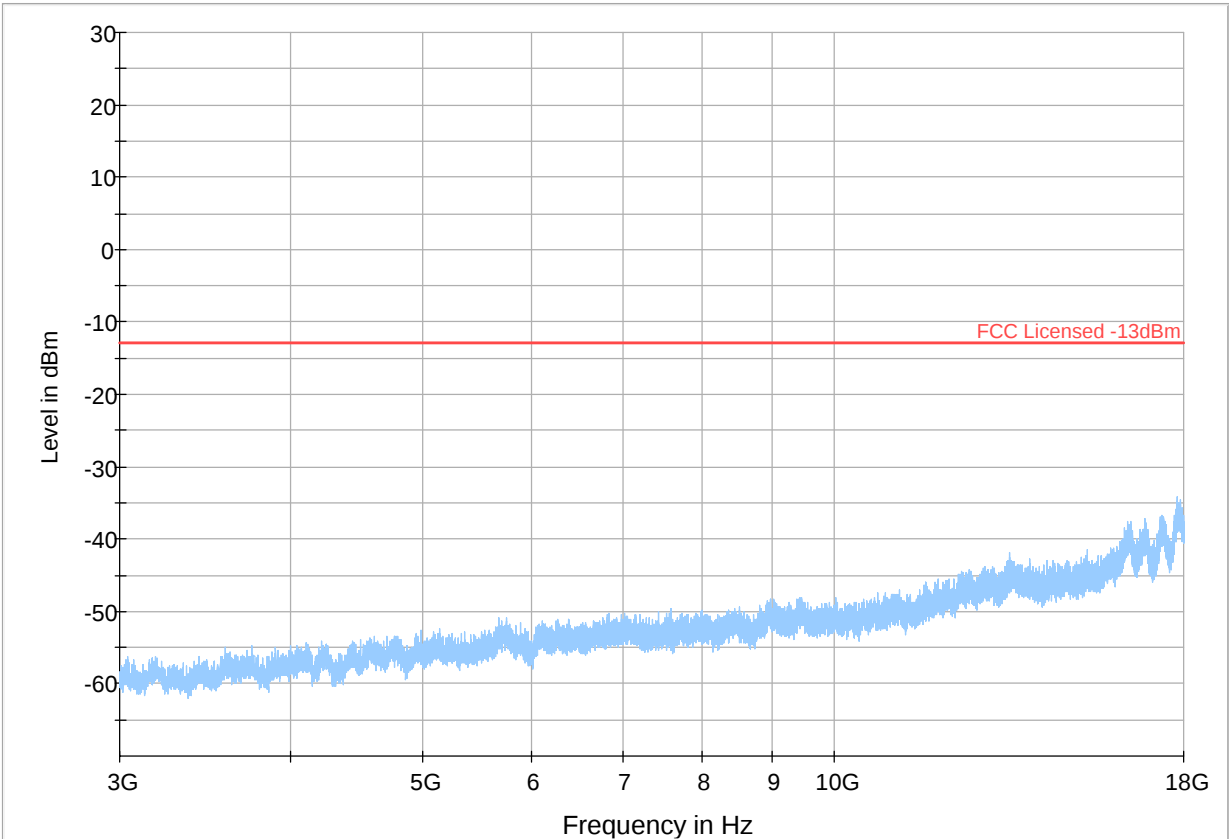
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
1568.25	9.7
1568.25	25.5



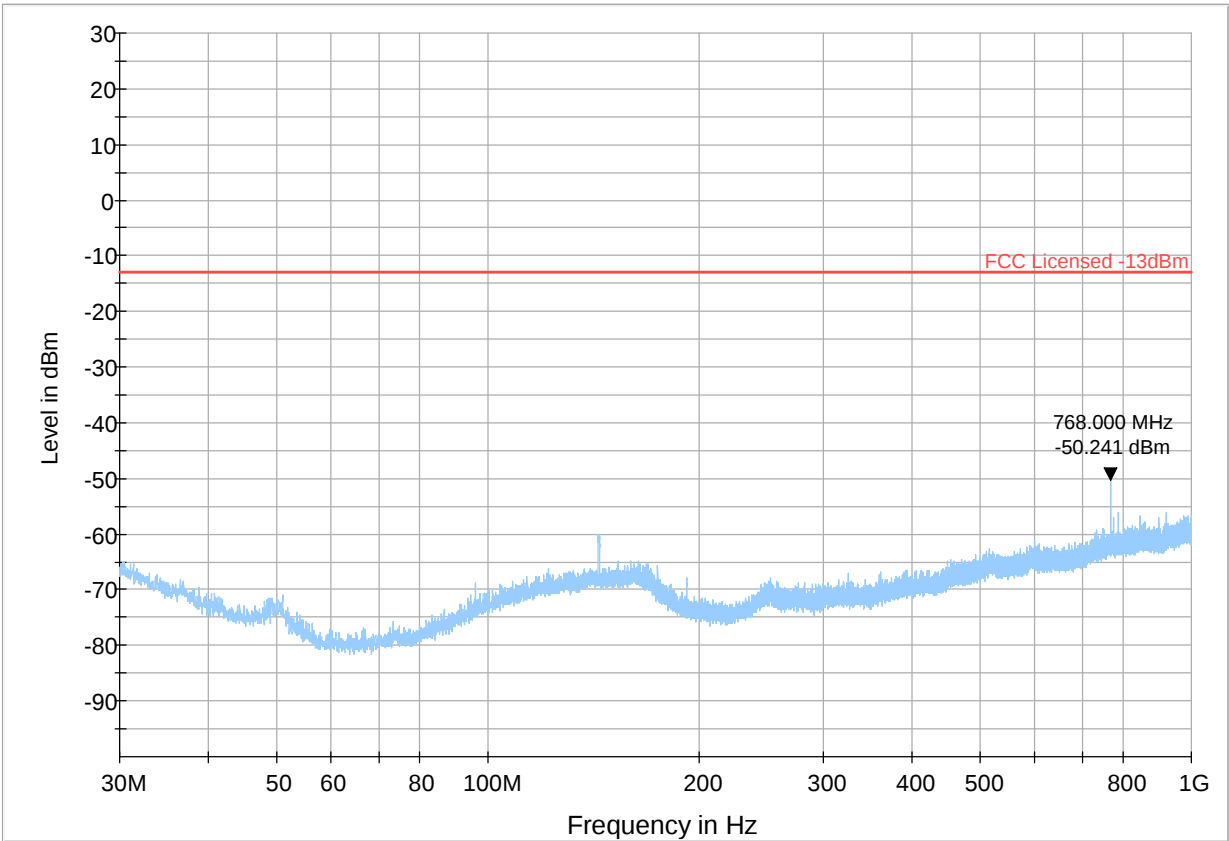
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 23



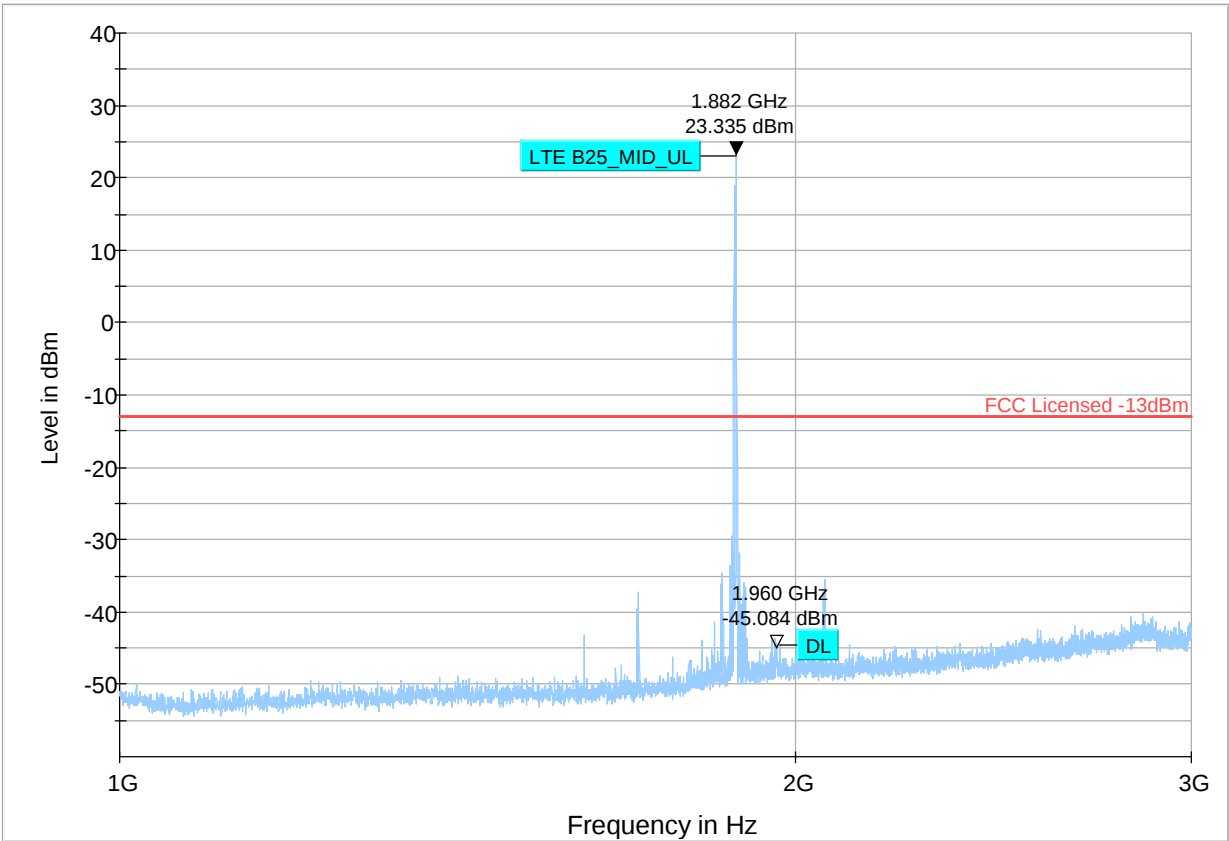
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 24



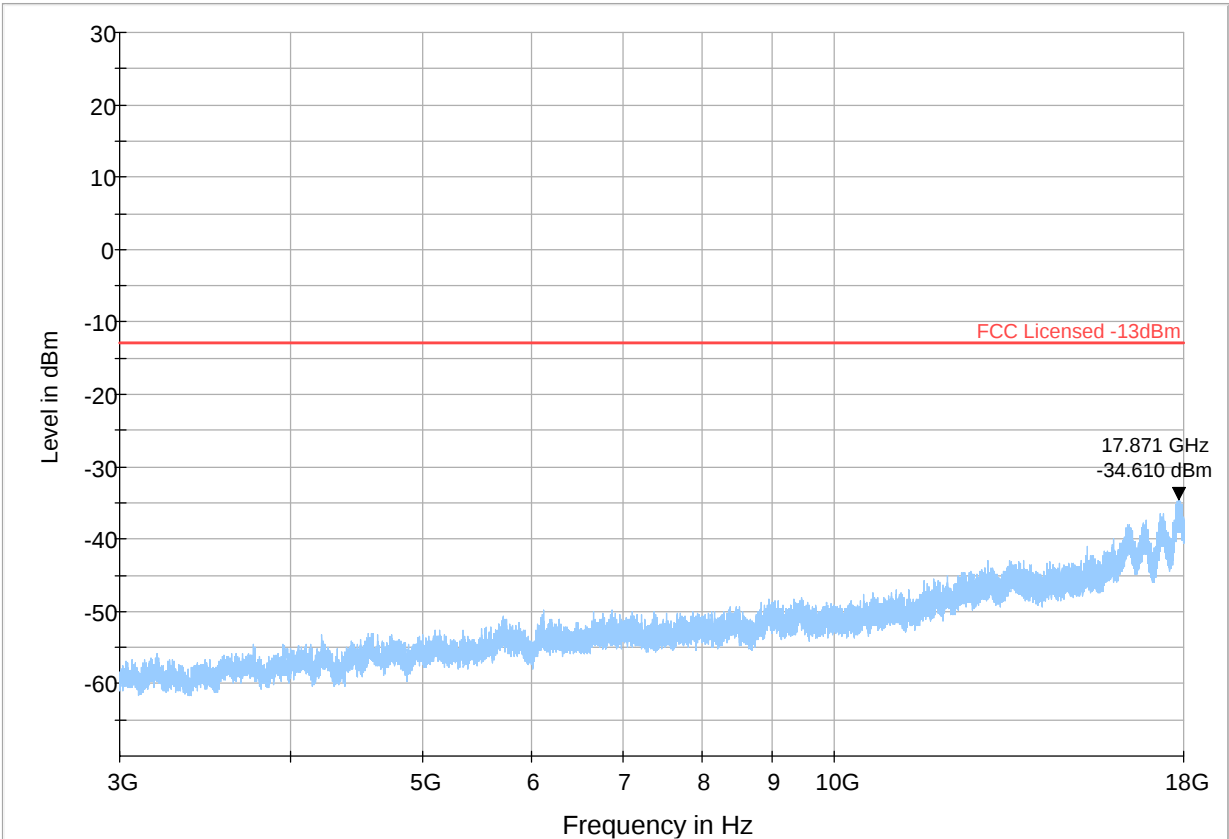
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 25



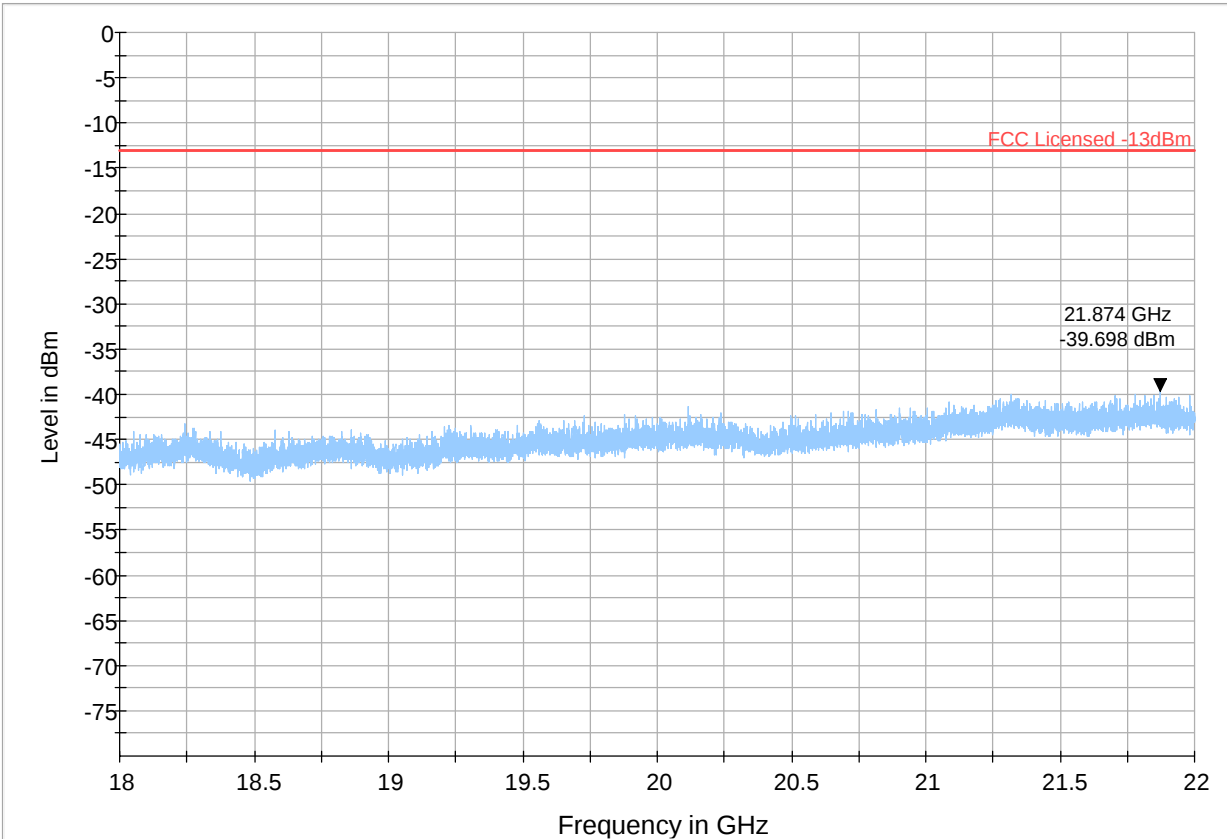
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 26



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 27



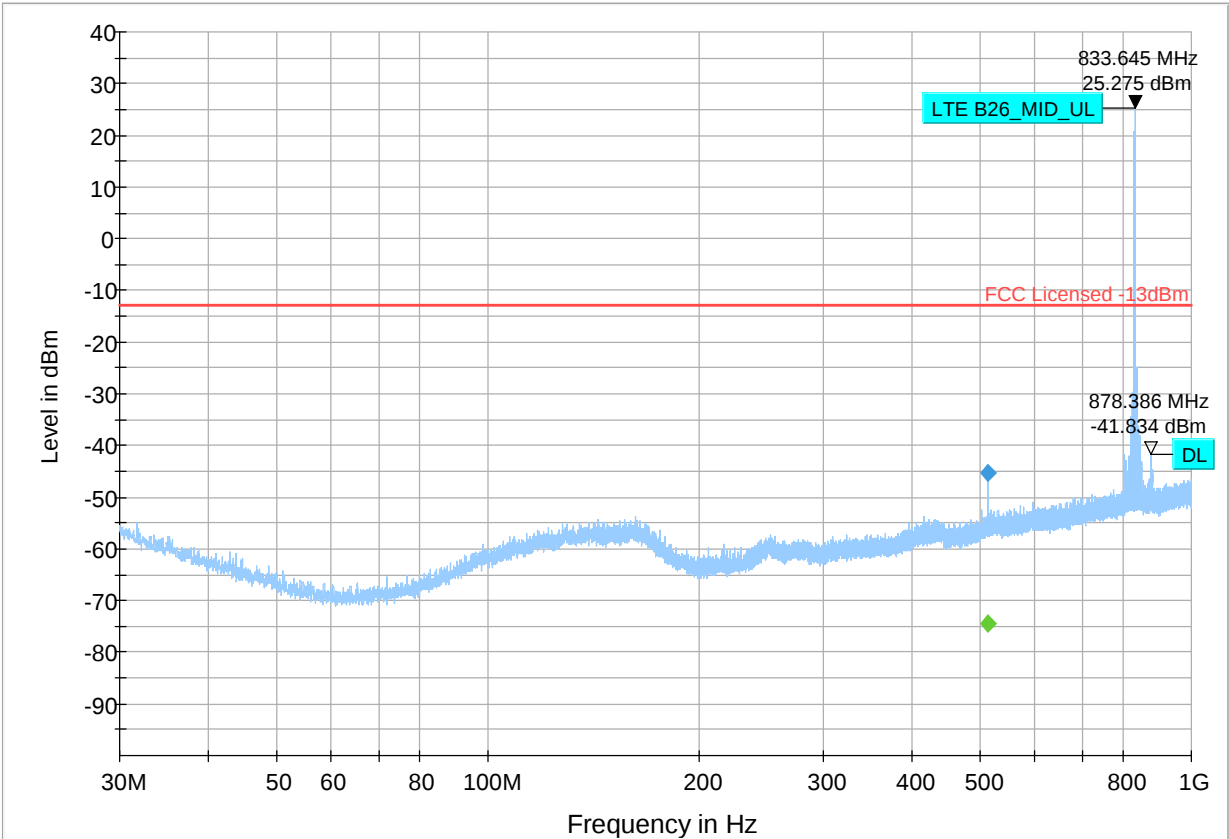
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM:

Plot # 28

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
512.72	---	-74.40	-13.00	61.40	500.0	100.0	158.0	H	181.0	-68.8	1.9	0.0	-70.7
512.72	-45.23	---	-13.00	32.23	500.0	100.0	158.0	H	181.0	-68.8	1.9	0.0	-70.7

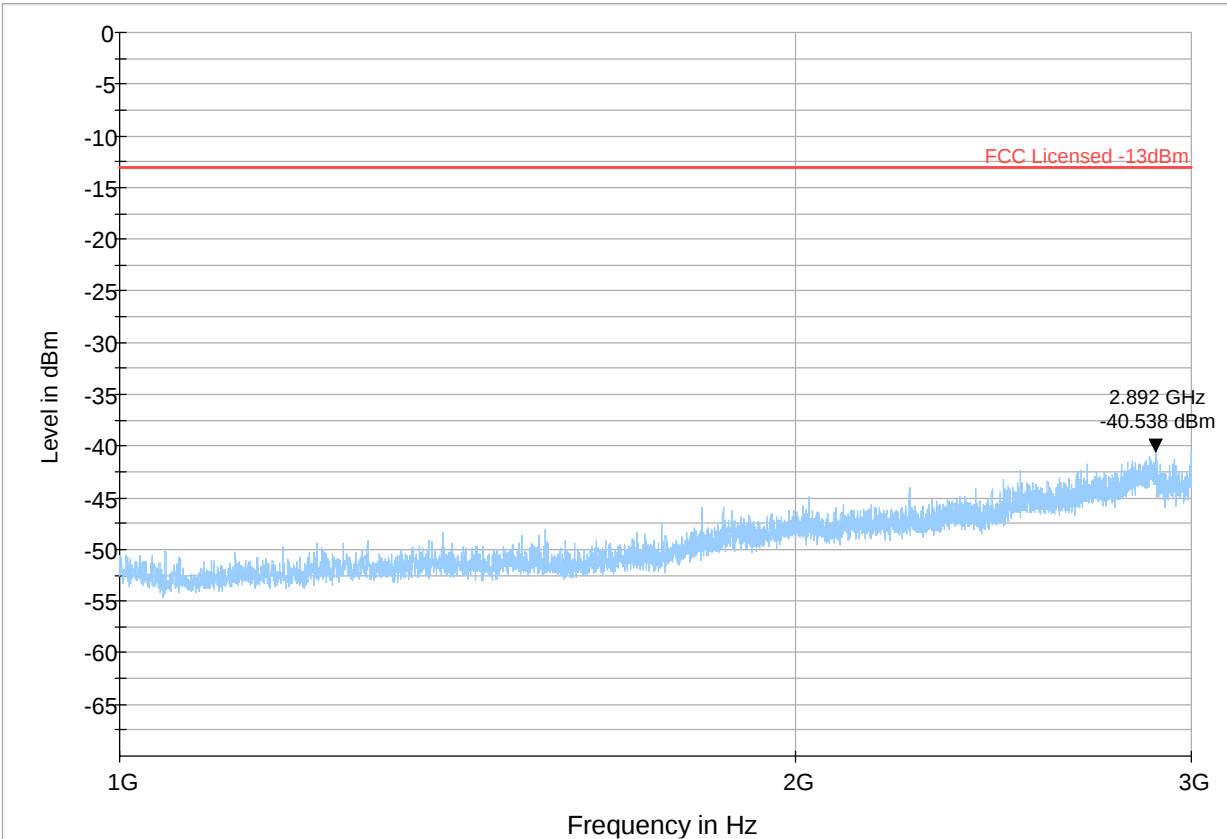
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
512.72	-5.6
512.72	23.6



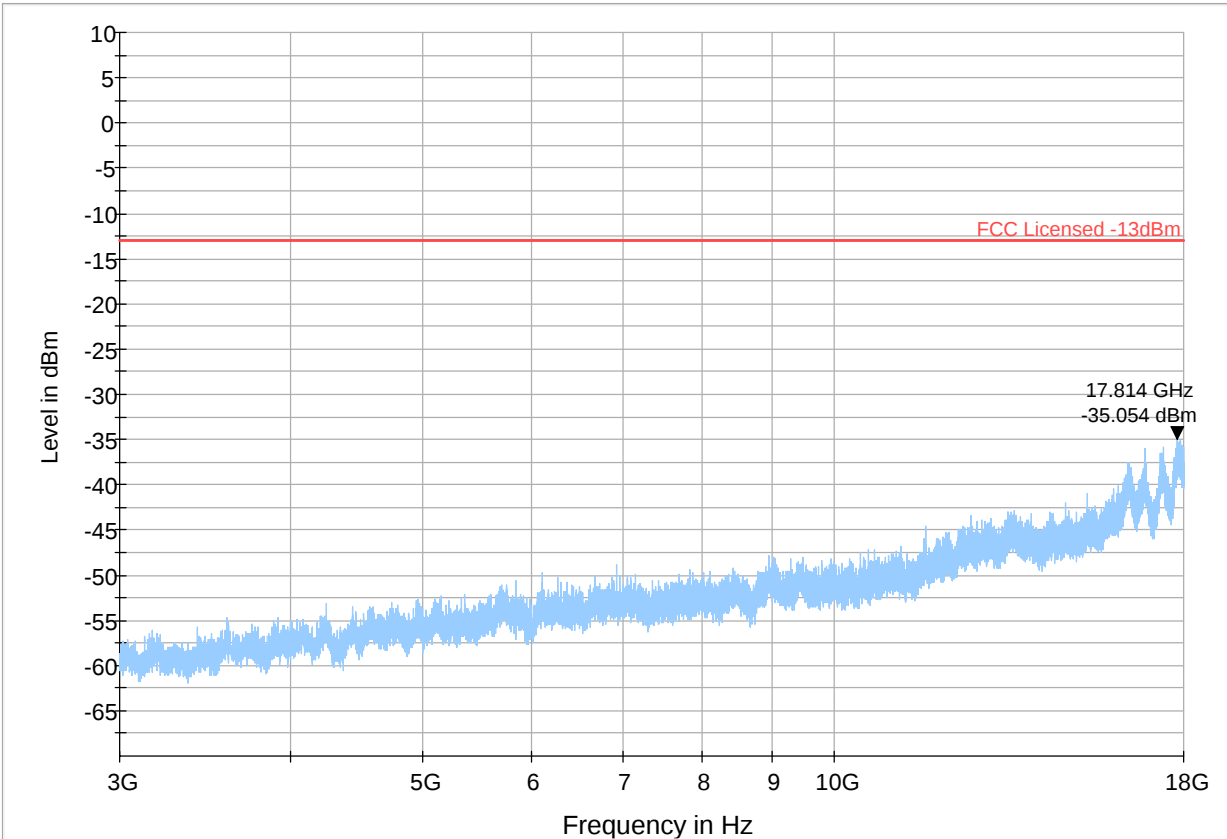
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 29



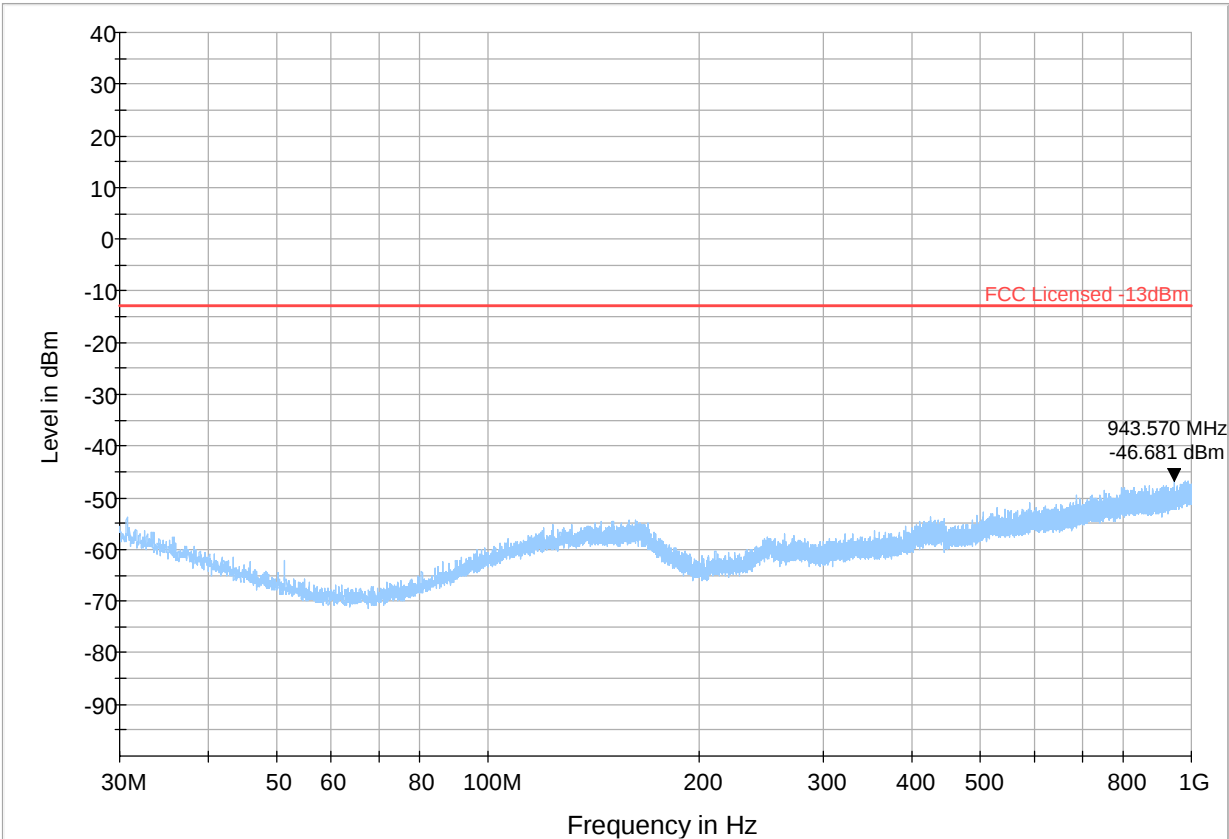
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 30



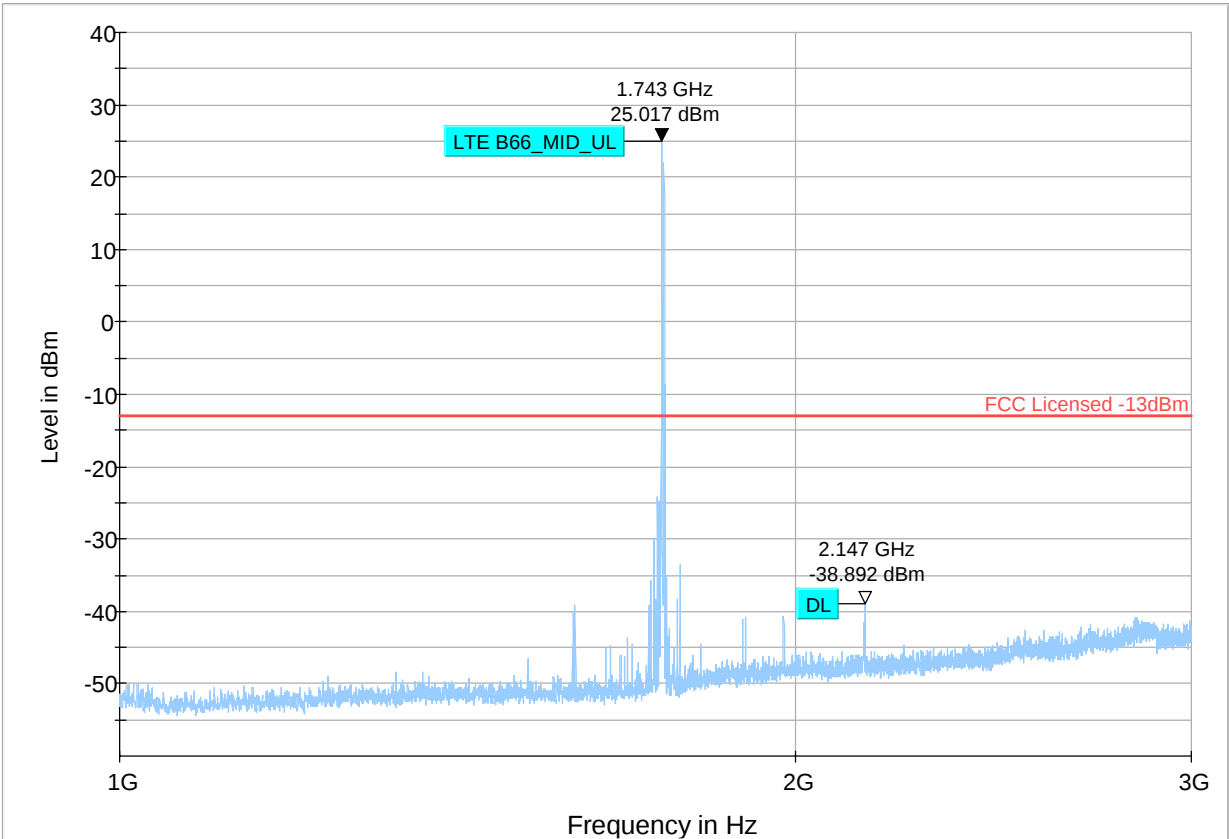
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM:

Plot # 31



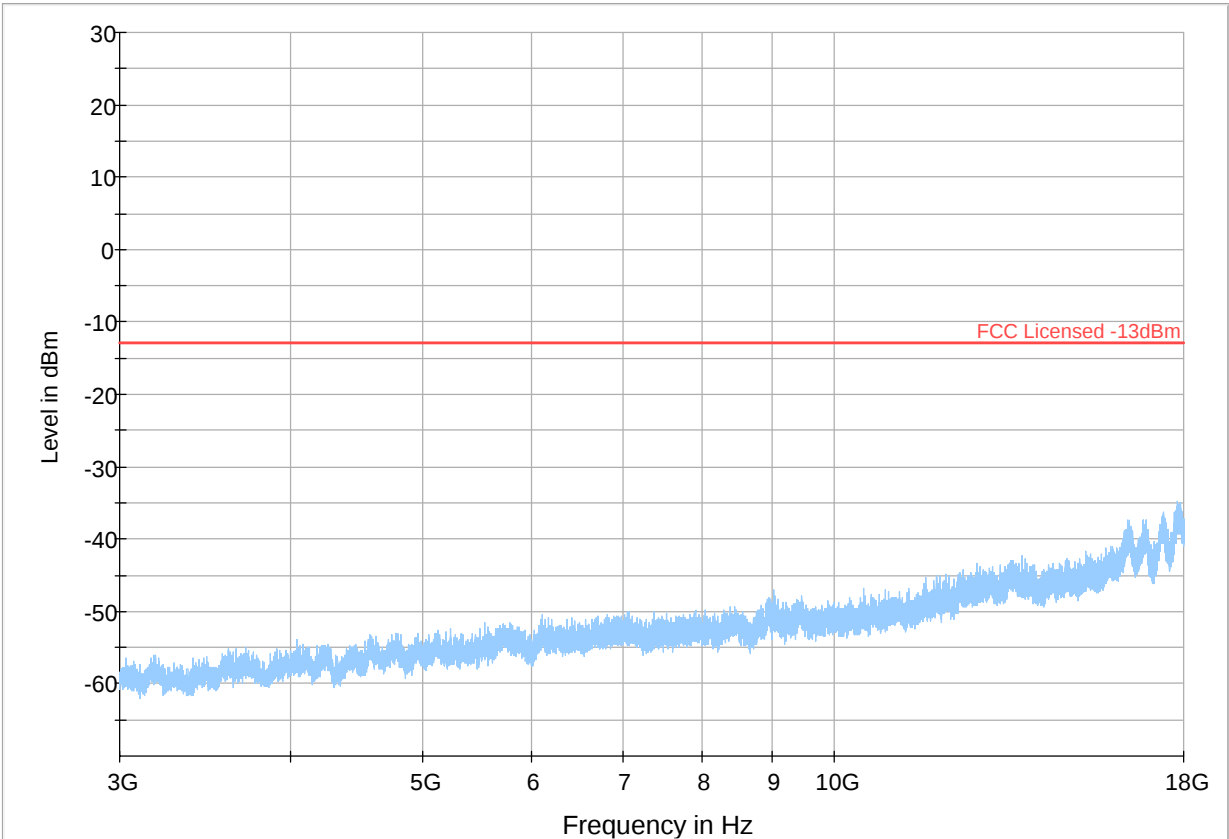
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM:

Plot # 32



Preview Result 1-PK+ FCC Licensed -13dBm ◆ Final_Result PK+ ◆ Final_Result RM:

Plot # 33



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

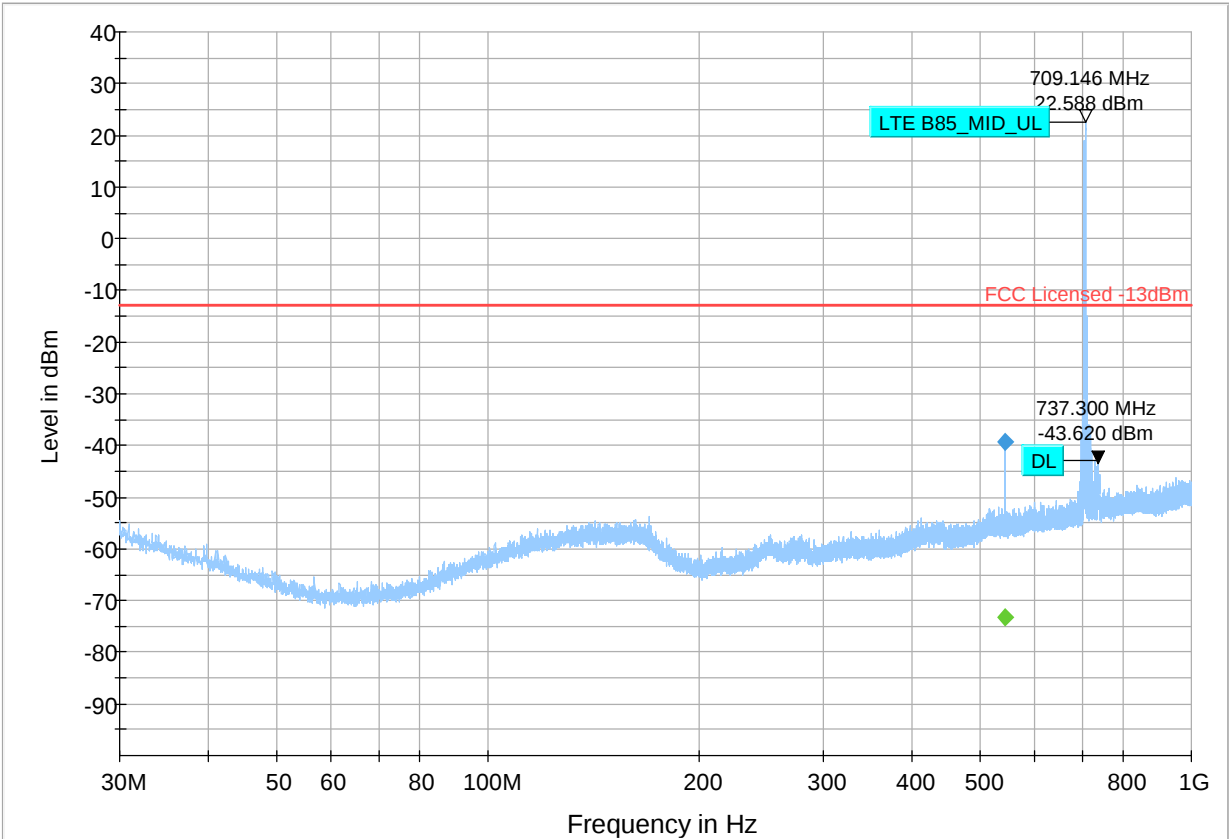


Plot # 34

Frequency (MHz)	MaxPeak (dBm)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB)
542.52	---	-73.35	-13.00	60.35	500.0	100.0	100.0	V	169.0	-69.0	2.1	0.0	-71.1
542.52	-39.17	---	-13.00	26.17	500.0	100.0	100.0	V	169.0	-69.0	2.1	0.0	-71.1

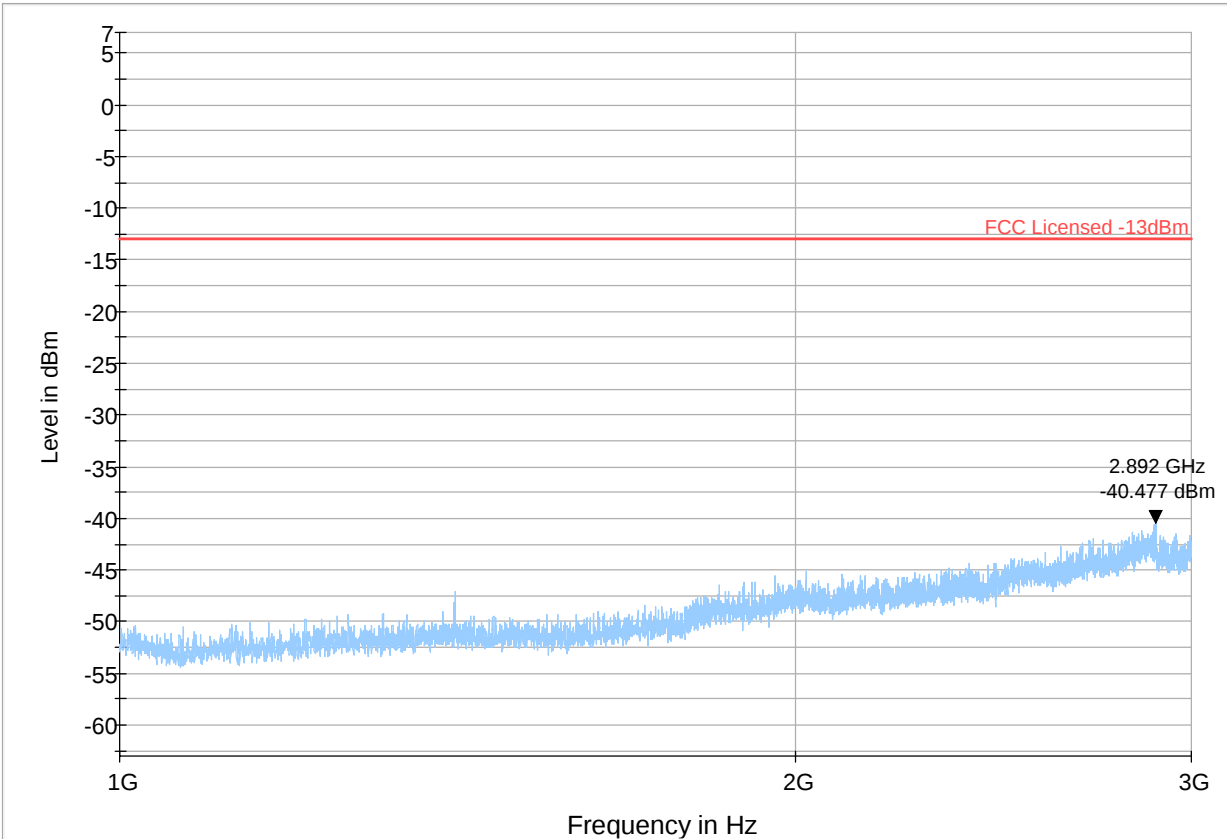
(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBμV)
542.52	-4.3
542.52	29.8



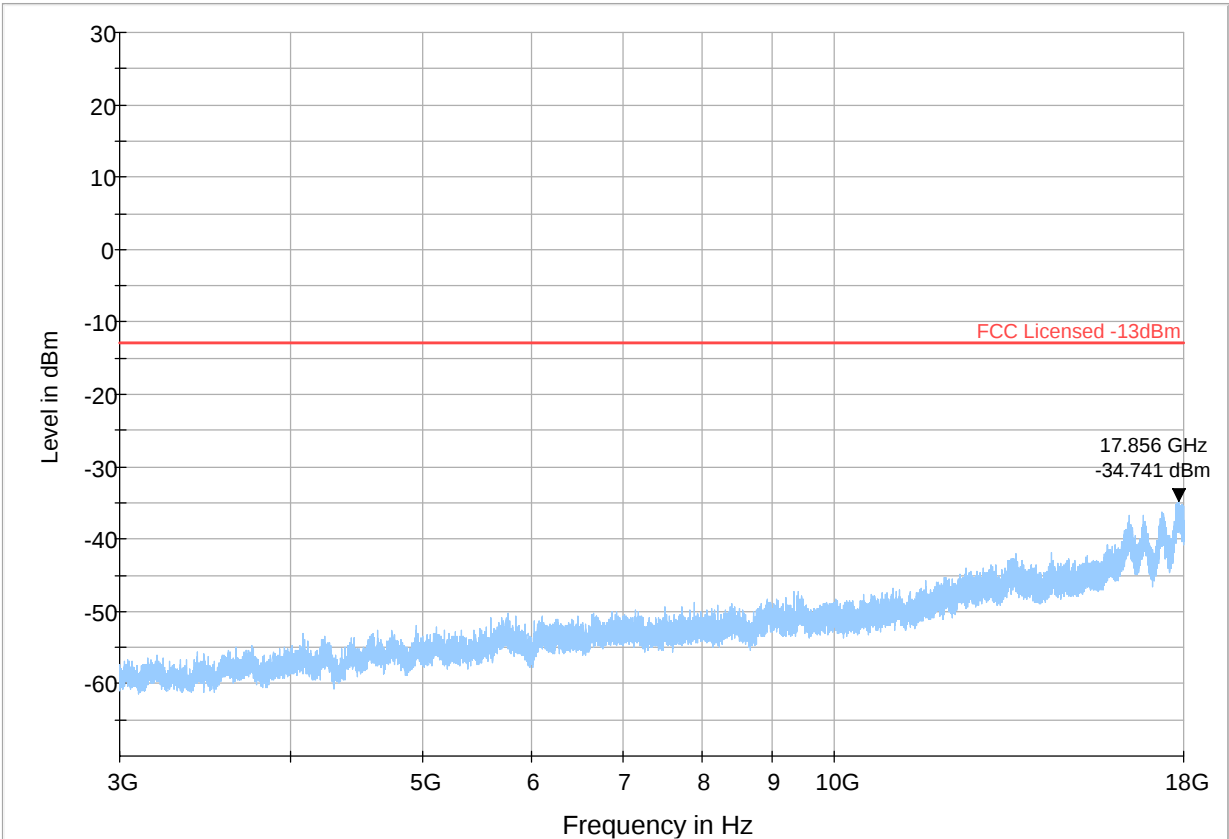
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

Plot # 35



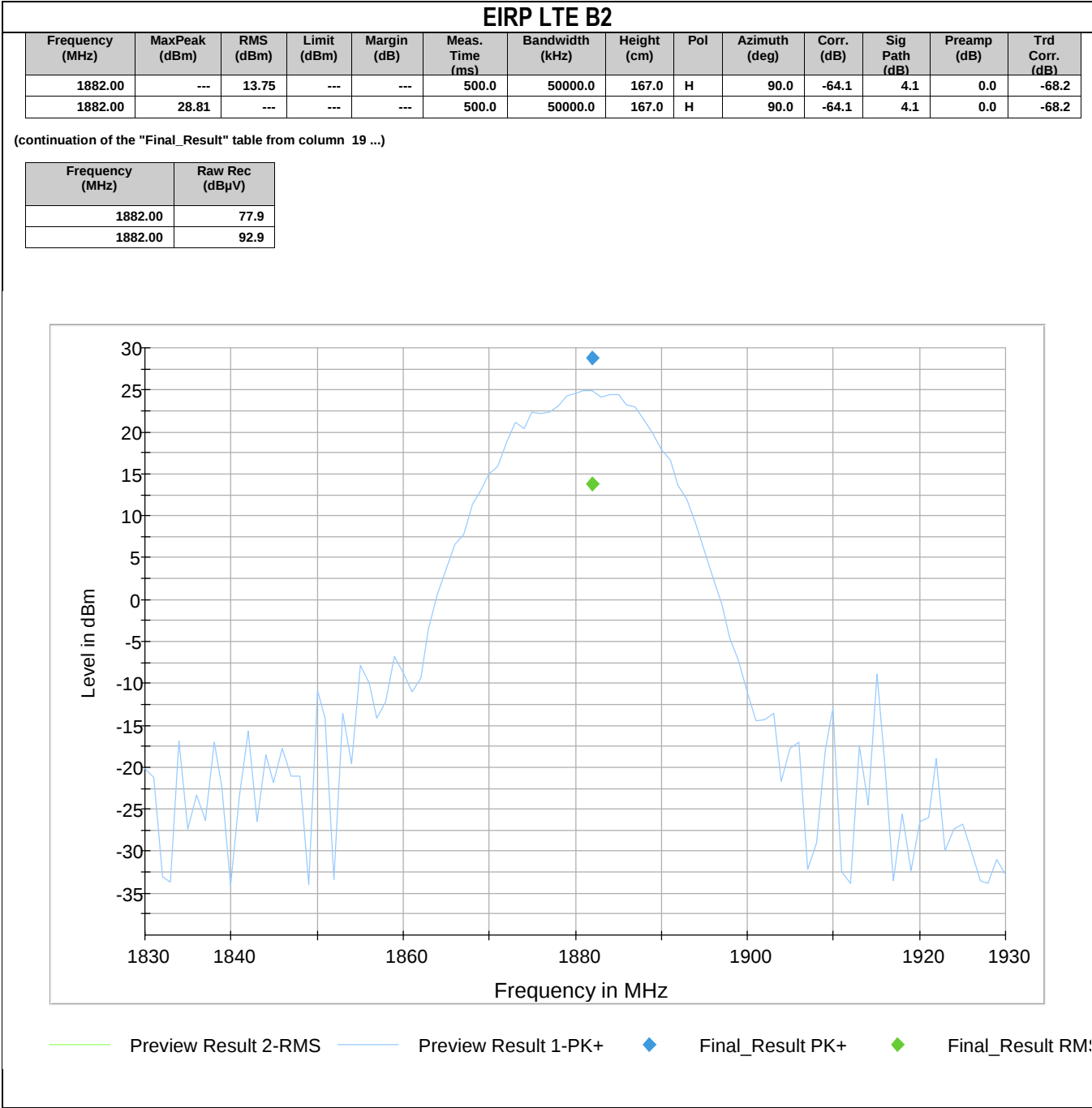
Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM:

Plot # 36



Preview Result 1-PK+ FCC Licensed -13dBm Final_Result PK+ Final_Result RM

8.3 Power Verification



9 Test setup photos

Setup photos are included in supporting file name: "EMC_TELI2_011_23001_FCC_Setup_Photos"

10 Test Equipment And Ancillaries Used For Testing

Equipment Type	Manufacturer	Model	Serial #	Calibration Cycle	Last Calibration Date
BILOG ANTENNA	A.H. SYSTEMS	BiLA2G	569	3 YEARS	11/16/2021
HORN ANTENNA	EMCO	3115	00035111	3 YEARS	9/30/2021
HORN ANTENNA	ETS LINDGREN	3117-PA	00169547	3 YEARS	9/1/2020
HORN ANTENNA	ETS LINDGREN	3116C-PA	00169535	3 YEARS	9/23/2020
ESW.EMI TEST RECEIVER	ROHDE & SCHWARZ	ESW44	101715	3 YEARS	9/14/2021

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.

11 Revision History

Date	Report Name	Changes to report	Prepared by
2023-11-27	EMC_TELI2_011_23001_FCC_22_24_27	Initial Version	Cheng Song
2024-01-31	EMC_TELI2_011_23001_FCC_22_24_27_Rev1	Deleted the test results for LTE Bands 8 and 71. Added the erp / eirp emission analysis table to Section 8.2	Cheng Song

<<< The End >>>