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Alcohol Monitoring Systems, Inc. TEST REPORT

SCOPE OF WORK

EMC TESTING – GPS BRACELET 900/910

REPORT NUMBER

105373087LEX-001

ISSUE DATE

8/13/2024

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EMC TEST REPORT (FULL COMPLIANCE)

Report Number: 105373087LEX-001

Project Number: G105373087

Report Issue Date: 8/13/2024

Model(s) Tested: GPS Bracelet 900/910

Standards: FCC Part 15B
ICES-003 Issue 7
FCC Part 22, 24, 27, 90
(Limited to Radiated Spurious Emissions)

Tested by:
Intertek Testing Services NA, Inc.
731 Enterprise Dr.
Lexington, KY 40510
USA

Client:
Alcohol Monitoring Systems, Inc.
1241 W Mineral Ave
Suite 200
Littleton, CO 80120
USA

Report prepared by



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Report reviewed by



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Table of Contents

1	<i>Introduction and Conclusion.....</i>	4
2	<i>Test Summary.....</i>	4
3	<i>Client Information</i>	5
4	<i>Description of Equipment under Test and Variant Models</i>	6
5	<i>System Setup and Method.....</i>	7
6	<i>Radiated Emissions</i>	8
7	<i>Revision History.....</i>	31



1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test full name	Result
6	Radiated Emissions (Transmitters Idle) (ANSI C63.4:2014)	Pass
6	Radiated Spurious Emissions (Transmitters Active) (ANSI C63.26:2015)	Pass



3 Client Information

This product was tested at the request of the following:

Client Information	
Client Name:	Alcohol Monitoring Systems, Inc.
Address:	1241 W Mineral Ave Suite 200 Littleton, CO 80120 USA
Contact:	Kyle Glavan
Telephone:	(303) 785-7788
Email:	kglavan@scramsystems.com
Manufacturer Information	
Manufacturer Name:	Alcohol Monitoring Systems, Inc.
Manufacturer Address:	1241 W Mineral Ave Suite 200 Littleton, CO 80120 USA

**4 Description of Equipment under Test and Variant Models**

Equipment Under Test	
Product Name	GPS Bracelet 900/910
Model Number	GPS Bracelet 900/910
Serial Number	353141280979746
Supported Transmit Bands	LTE Bands: 2, 4, 5, 12, 13, 25, 26, 66, 71
Embedded Module	Telit ME310G1-W1
Embedded Module hardware Version	1.0
Embedded Module Software Version	MOC.300002
Embedded Module FCCID	RI7ME310G1W1
Receive Date	6/2/2024
Test Start Date	6/11/2024
Test End Date	7/11/2024
Device Received Condition	Good
Test Sample Type	Production
Rated Voltage	3.6VDC
Description of Equipment Under Test (provided by client)	
The Alcohol Monitoring Systems, Inc. GPS Bracelet 900/910 is a GPS bracelet with LTE capabilities.	

4.1 Variant Models:

There were no variant models covered by this evaluation.



5 System Setup and Method

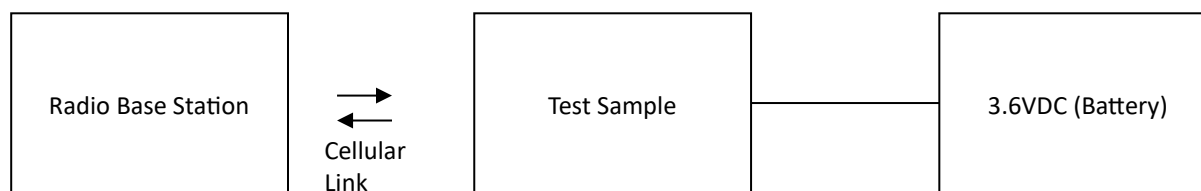
5.1 Method:

Configuration as required by ANSI C63.4:2014, and ANSI C63.26:2015.

No.	Descriptions of EUT Exercising
1	EUT Powered on with cellular modem transmitting to a CMW500 Base Station Simulator
2	EUT Powered on without cellular modem transmitting to a CMW500 Base Station Simulator

Cables					
ID	Description	Length (m)	Shielding	Ferrites	Termination
	None				

5.2 EUT Block Diagram:



**6 Radiated Emissions****6.1 Method**

Tests are performed in accordance with ANSI C63.4:2014, and ANSI C63.26:2015.

TEST SITE: 10m ALSE

Site Designation: 10m Chamber

Measurement Uncertainty

Measurement	Frequency Range	Expanded Uncertainty (k=2)	Ucisp
Radiated Emissions, 10m	30-1000 MHz	3.9dB	6.3 dB
Radiated Emissions, 3m	30-1000 MHz	4.0dB	6.3 dB
Radiated Emissions, 3m	1-6 GHz	4.7dB	5.2 dB
Radiated Emissions, 3m	6-15 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	15-18 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	18-40 GHz	4.7dB	5.5 dB

As shown in the table above our radiated emissions U_{lab} is less than the corresponding U_{CISPR} reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required.



6.2 Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
FS = 32 dB μ V/m

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

NF = Net Reading in dB μ V

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$
$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

6.3 Field Strength to Power Calculation

As allowable by ANSI C63.26: 2015 section 5.2.7, the output power of unwanted emissions can be calculated from a field strength measurement. The transmitter measurements that follow in this report have applied the following calculation to the -13dBm limit to arrive an equivalent field strength limit at 3 meters as follows:

$$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8; \text{ where } D \text{ is the measurement distance (in the far field region) in m.}$$

Example:

$$\text{Limit (dB}\mu\text{V/m)} = -13 - 20\log(3) + 104.8 = 82.25\text{dB}\mu\text{V/m}$$

**6.4 Test Equipment Used:**

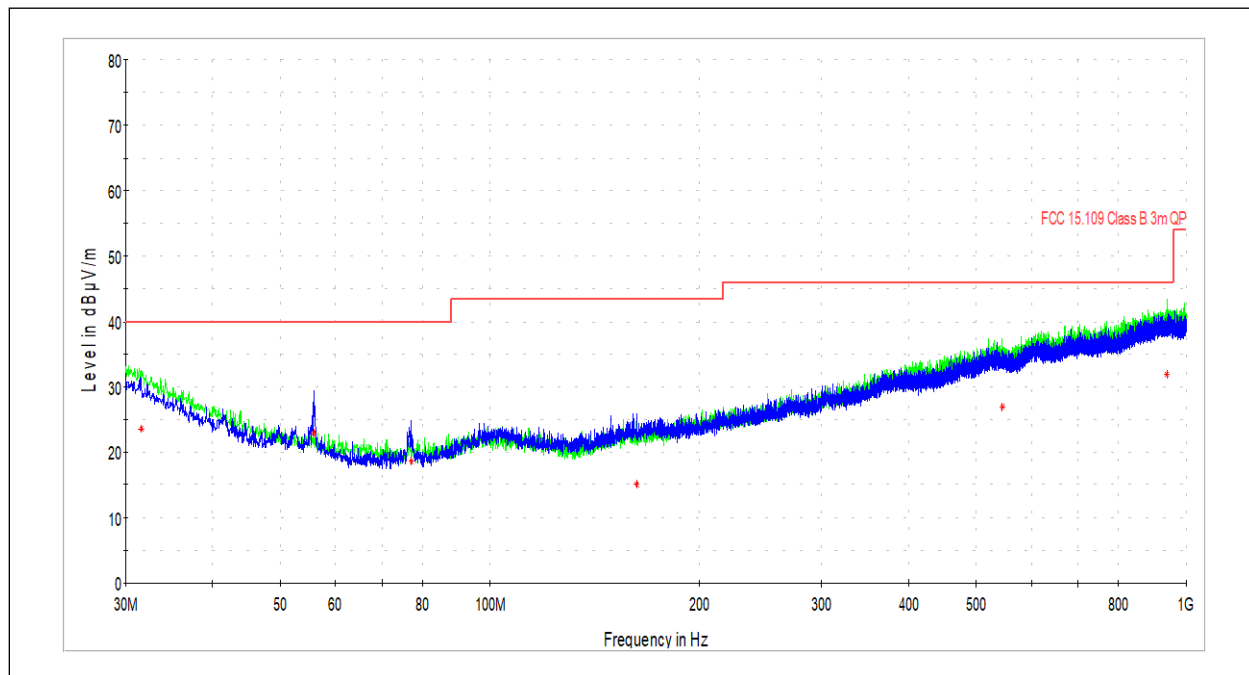
Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	8258	Rohde & Schwarz	ESW44	9/19/2023	9/19/2024
Bilog Antenna	7085	SunAR	JB6	3/18/2024	3/18/2025
Horn Antenna	3780	ETS Lindgren	3117	8/8/2023	8/8/2024
System Controller	4096	ETS Lindgren	2090	Verify at Time of Use	Verify at Time of Use
System Controller	3957	Sunol Sciences	SC99V	Verify at Time of Use	Verify at Time of Use
Preamplifier	3918	TS-PR18	122005	3/1/2024	3/1/2025
Coaxial Cable	3074			3/1/2024	3/1/2025
Coaxial Cable	2588			3/1/2024	3/1/2025
Coaxial Cable	2593			3/1/2024	3/1/2025
Coaxial Cable	2592			3/1/2024	3/1/2025
Coaxial Cable	8188			3/1/2024	3/1/2025
Coaxial Cable	8185			3/1/2024	3/1/2025

6.5 Software Utilized:

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	Version 10.60.20

6.6 Results:

The sample tested was found to Comply.

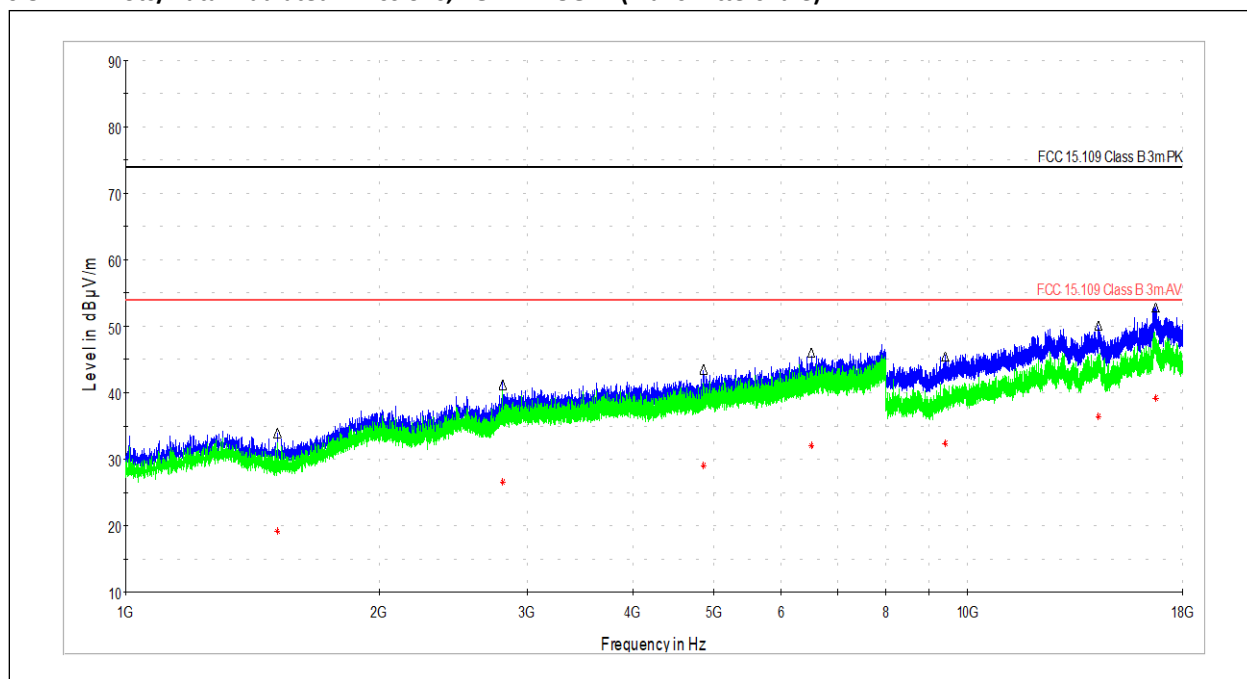
**6.7 Plots/Data: Radiated Emissions, 30MHz – 1GHz (Transmitters Idle)**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.616667	23.62	40.00	16.38	352.0	H	200.0	23.9
55.866667	22.86	40.00	17.14	100.0	V	167.0	14.3
77.152778	18.57	40.00	21.43	137.0	V	140.0	12.8
162.620556	15.06	43.52	28.46	100.0	V	0.0	17.2
545.339444	26.92	46.02	19.10	132.0	H	16.0	27.8
937.165556	31.95	46.02	14.07	250.0	H	322.0	32.9

Test Personnel: Seth Parker
Supervising/Reviewing Engineer: N/A
(Where Applicable) FCC Part 15B
Product Standard: ICES-003 Issue 7
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/11/2024
Limit Applied: Class B
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: The FCC Part 15.109 limits are more stringent than the corresponding limits from ICES-003 Issue 7.

**6.8 Plots/Data: Radiated Emissions, 1GHz – 18GHz (Transmitters Idle)**

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1514.888889	19.11	53.98	34.87	410.0	V	174.0	-0.4
2805.222222	26.52	53.98	27.46	410.0	V	164.0	5.9
4862.055556	29.00	53.98	24.98	410.0	H	274.0	9.8
6519.500000	32.04	53.98	21.94	410.0	V	116.0	12.8
9414.375000	32.30	53.98	21.68	410.0	H	304.0	16.7
14315.625000	36.43	53.98	17.55	410.0	V	289.0	21.7
16714.375000	39.16	53.98	14.82	410.0	H	316.0	26.2

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1514.888889	33.91	73.98	40.07	410.0	V	174.0	-0.4
2805.222222	41.22	73.98	32.76	410.0	V	164.0	5.9
4862.055556	43.51	73.98	30.47	410.0	H	274.0	9.8
6519.500000	45.96	73.98	28.02	410.0	V	116.0	12.8
9414.375000	45.49	73.98	28.49	410.0	H	304.0	16.7
14315.625000	50.12	73.98	23.86	410.0	V	289.0	21.7
16714.375000	52.86	73.98	21.12	410.0	H	316.0	26.2

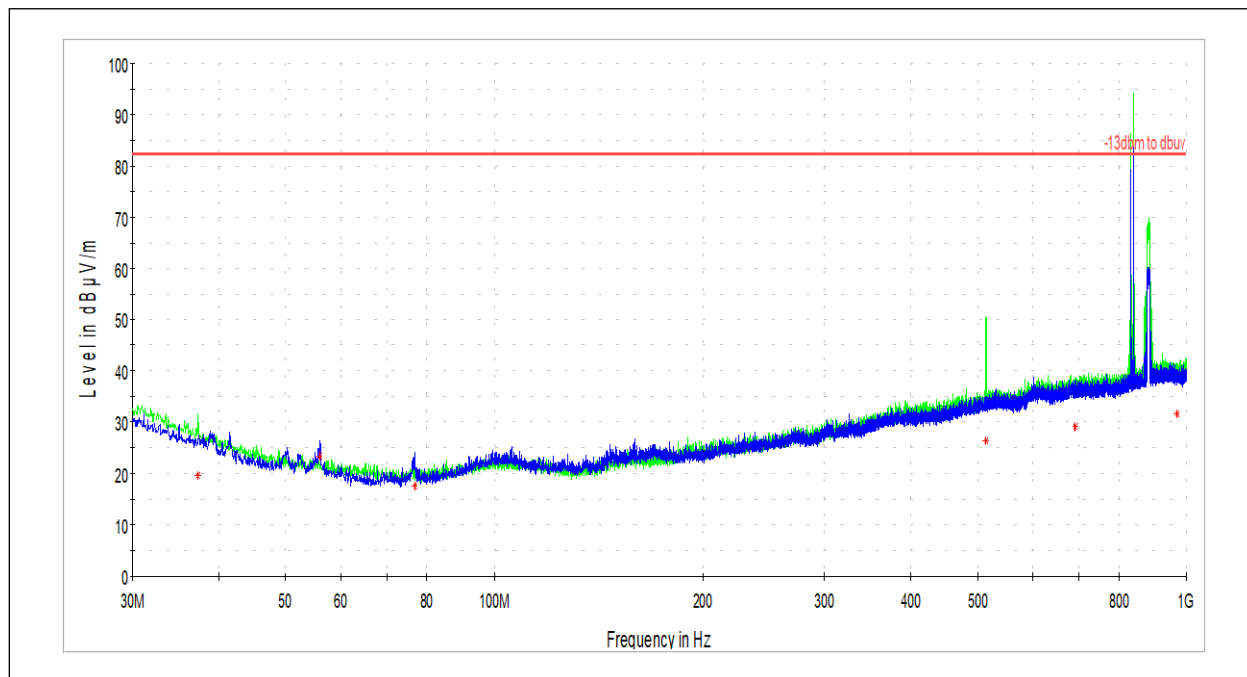
Test Personnel: Jeremiah Andrade
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 15B
Product Standard: ICES-003 Issue 7
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 7/11/2024
Limit Applied: Class B
Ambient Temperature: 25.9°C
Relative Humidity: 45.7%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9 FCC Part 22 Radiated Spurious Emissions (LTE B5)****6.9.1 Radiated Spurious Emissions, 30 MHz – 1 GHz**

LTE Band 5



*The large peak shown is the fundamental frequency of the operating band.

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.328889	19.65	82.25	62.60	274.0	H	58.0	20.8
56.028333	23.46	82.25	58.79	100.0	V	160.0	14.3
76.775556	17.47	82.25	64.78	133.0	V	1.0	12.8
514.461111	26.53	82.25	55.72	400.0	H	192.0	27.2
692.456111	29.12	82.25	53.13	261.0	H	332.0	30.6
971.061667	31.61	82.25	50.64	323.0	H	0.0	33.2

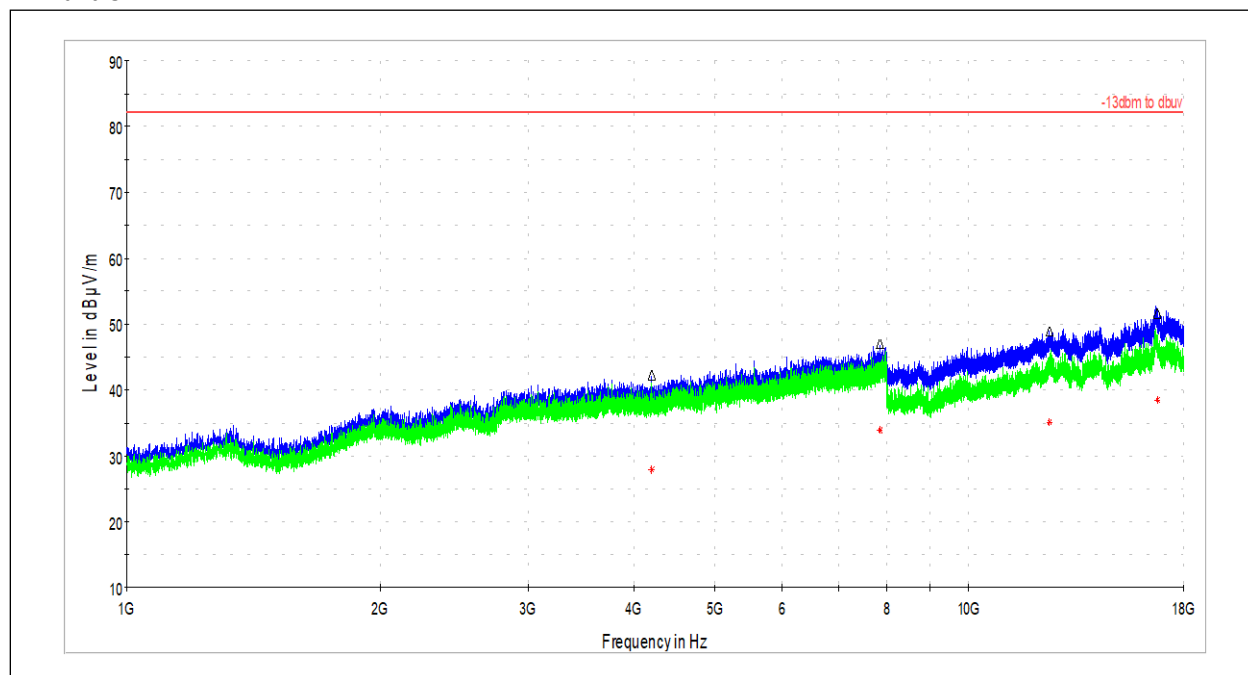
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: _____
(Where Applicable) N/A
Product Standard: FCC Part 22
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/11/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

6.9.2 Radiated Spurious Emissions, 1 GHz – 18 GHz

LTE Band 5



Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4200.944444	27.87	82.25	54.38	410.0	H	150.0	8.6
7850.277778	33.88	82.25	48.37	410.0	V	320.0	14.2
12486.250000	35.17	82.25	47.08	410.0	H	0.0	20.7
16768.750000	38.52	82.25	43.73	410.0	H	259.0	26.3

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4200.944444	42.32	82.25	39.93	410.0	H	150.0	8.6
7850.277778	47.02	82.25	35.23	410.0	V	320.0	14.2
12486.250000	48.89	82.25	33.36	410.0	H	0.0	20.7
16768.750000	51.62	82.25	30.63	410.0	H	259.0	26.3

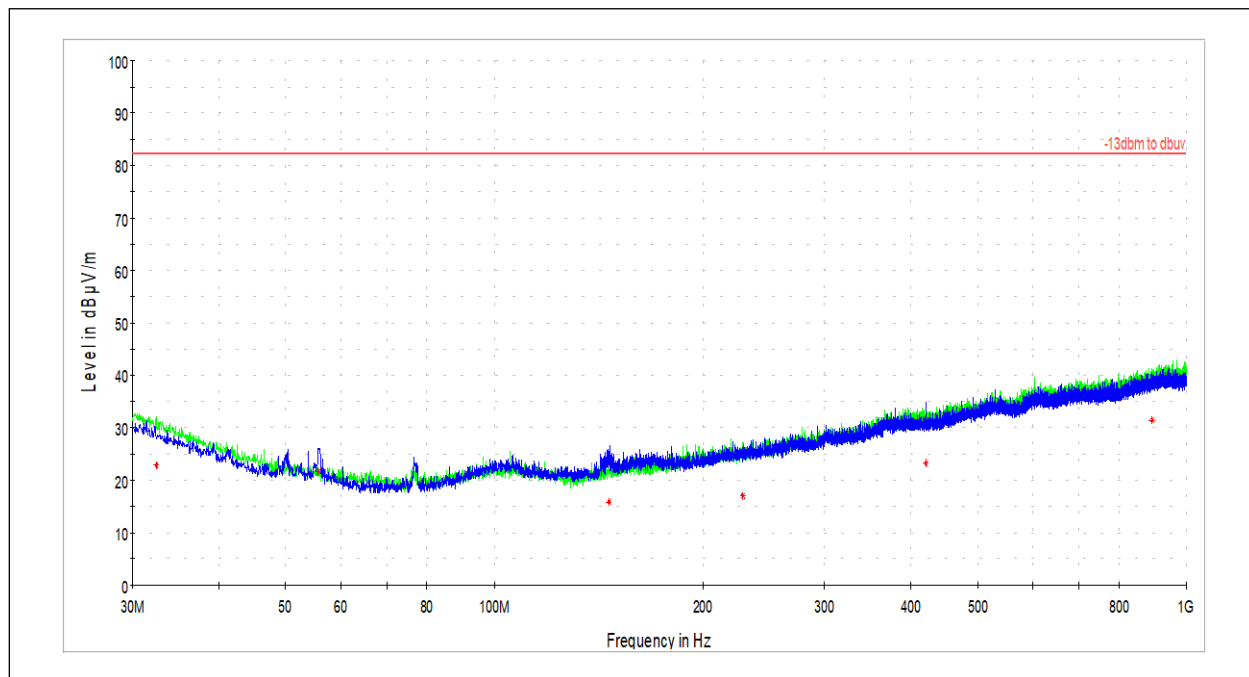
Test Personnel:	Seth Parker
Supervising/Reviewing Engineer:	
(Where Applicable)	N/A
Product Standard:	FCC Part 22
Input Voltage:	3.6VDC
Pretest Verification w / Ambient Signals or BB Source:	Yes

Test Date:	6/11/2024
Limit Applied:	-13dBm converted to field strength
Ambient Temperature:	23.2°C
Relative Humidity:	43.4%
Atmospheric Pressure:	982.0mbar

Deviations, Additions, or Exclusions: None

**6.10 FCC Part 24 Radiated Spurious Emissions (LTE B2/B25)****6.10.1 Radiated Spurious Emissions, 30 MHz – 1 GHz**

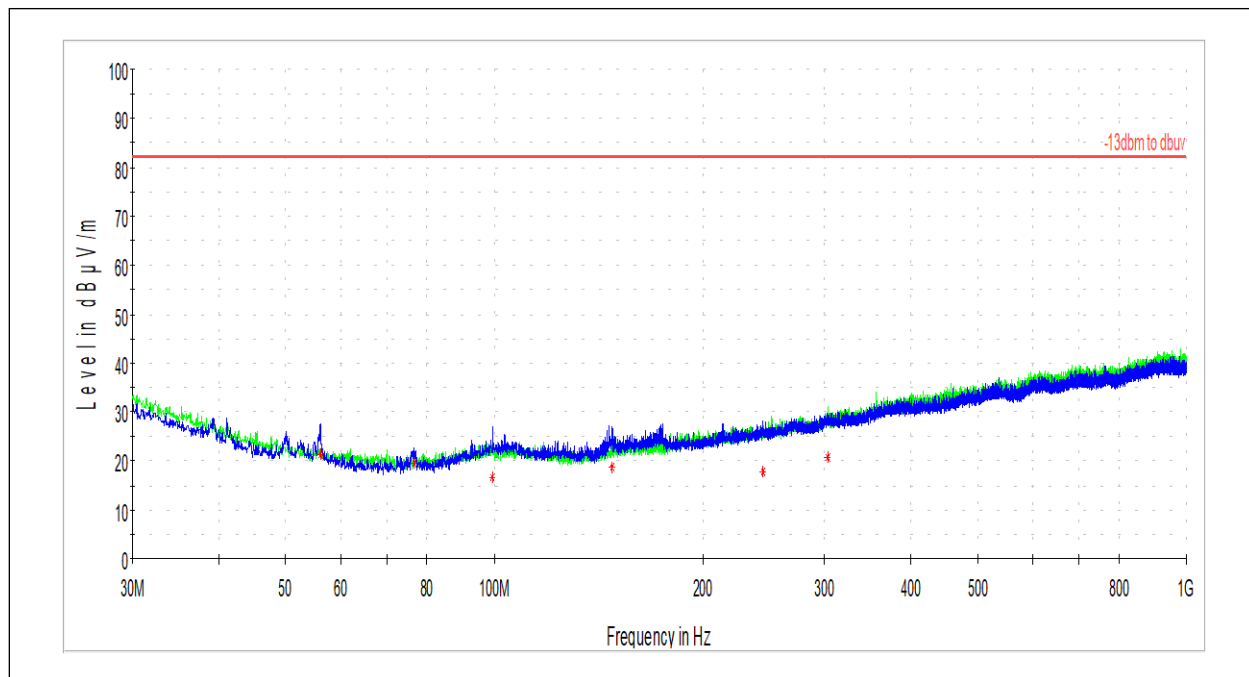
LTE Band 2



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.478889	22.82	82.25	59.43	366.0	H	261.0	23.4
55.758889	21.60	82.25	60.65	100.0	V	148.0	14.3
146.561667	15.77	82.25	66.48	100.0	V	148.0	16.0
228.688333	17.02	82.25	65.23	312.0	H	111.0	19.3
420.748333	23.17	82.25	59.08	212.0	V	279.0	24.0
891.360000	31.49	82.25	50.76	284.0	H	188.0	32.6



LTE Band 25



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
56.136111	21.28	82.25	60.97	100.0	V	142.0	14.3
76.560000	19.42	82.25	62.83	120.0	V	136.0	12.8
99.408889	16.62	82.25	65.63	100.0	V	88.0	16.3
147.855000	18.64	82.25	63.61	100.0	V	70.0	16.2
244.801111	17.70	82.25	64.55	165.0	V	172.0	19.8
303.108889	20.61	82.25	61.64	301.0	H	233.0	22.4

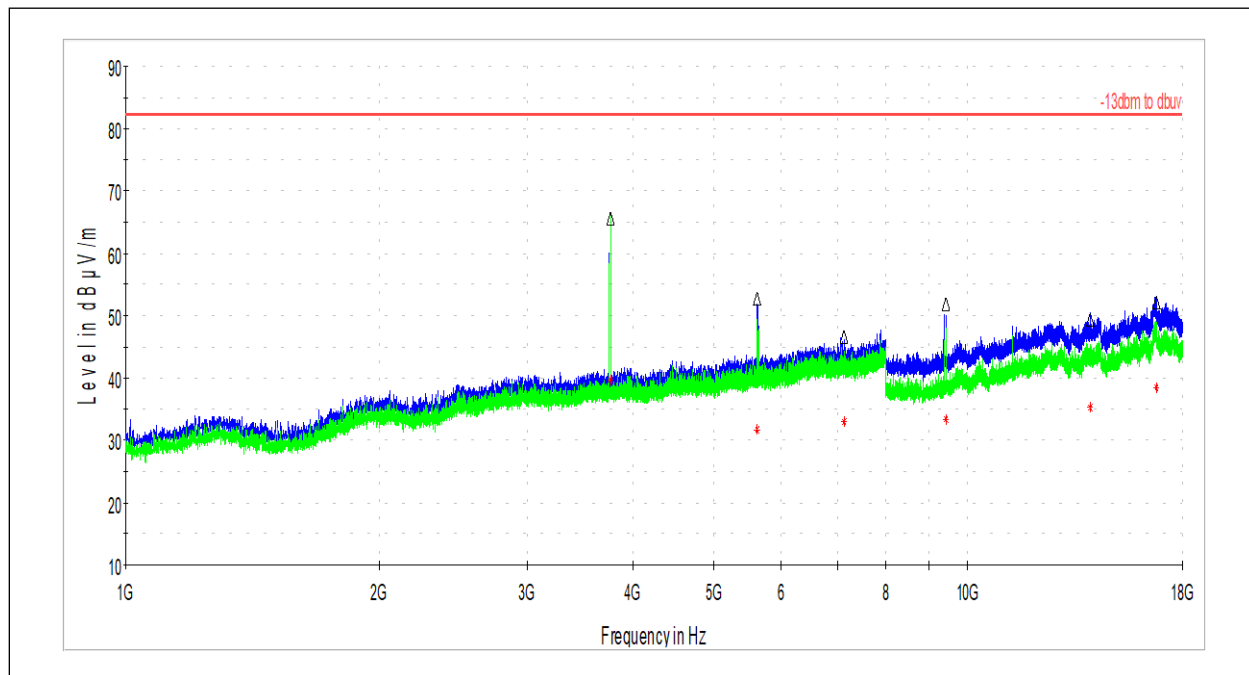
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: _____
(Where Applicable) N/A
Product Standard: FCC Part 24
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/11/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.10.2 Radiated Spurious Emissions, 1 GHz – 18 GHz**

LTE Band 2

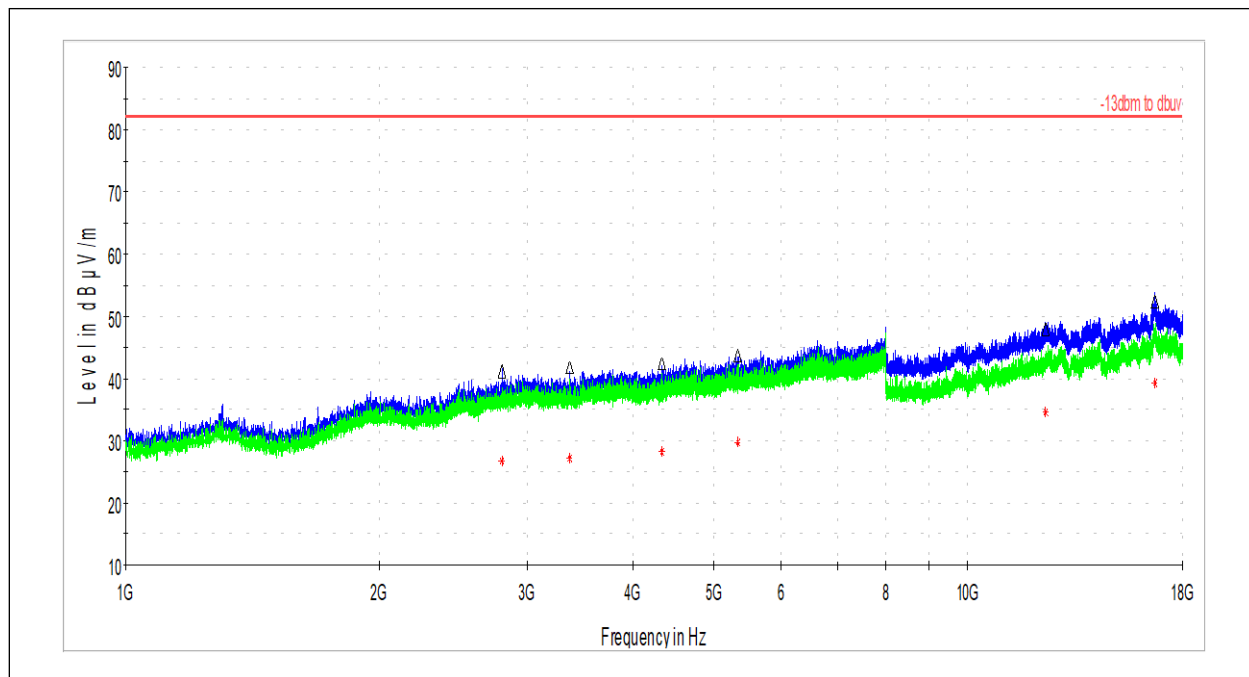


Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3768.888889	39.73	82.25	42.52	125.0	V	250.0	8.2
5628.555556	31.65	82.25	50.60	293.0	V	227.0	10.9
7134.333333	32.95	82.25	49.30	100.0	V	92.0	13.3
9421.875000	33.35	82.25	48.90	352.0	H	262.0	16.8
13993.125000	35.35	82.25	46.90	410.0	H	269.0	21.3
16770.000000	38.36	82.25	43.89	100.0	H	294.0	26.3

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3768.888889	65.66	82.25	16.59	125.0	V	250.0	8.2
5628.555556	52.82	82.25	29.43	293.0	V	227.0	10.9
7134.333333	46.54	82.25	35.71	100.0	V	92.0	13.3
9421.875000	51.80	82.25	30.45	352.0	H	262.0	16.8
13993.125000	49.32	82.25	32.93	410.0	H	269.0	21.3
16770.000000	52.07	82.25	30.18	100.0	H	294.0	26.3



LTE Band 25



Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2801.333333	26.68	82.25	55.57	100.0	H	12.0	6.0
3370.666667	27.27	82.25	54.98	100.0	V	0.0	7.1
4333.944444	28.25	82.25	54.00	410.0	V	239.0	8.9
5331.055556	29.63	82.25	52.62	410.0	V	140.0	10.8
12385.000000	34.63	82.25	47.62	410.0	V	161.0	20.6
16709.375000	39.31	82.25	42.94	100.0	V	0.0	26.3

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2801.333333	41.14	82.25	41.11	100.0	H	12.0	6.0
3370.666667	41.73	82.25	40.52	100.0	V	0.0	7.1
4333.944444	42.57	82.25	39.68	410.0	V	239.0	8.9
5331.055556	43.81	82.25	38.44	410.0	V	140.0	10.8
12385.000000	47.99	82.25	34.26	410.0	V	161.0	20.6
16709.375000	52.53	82.25	29.72	100.0	V	0.0	26.3

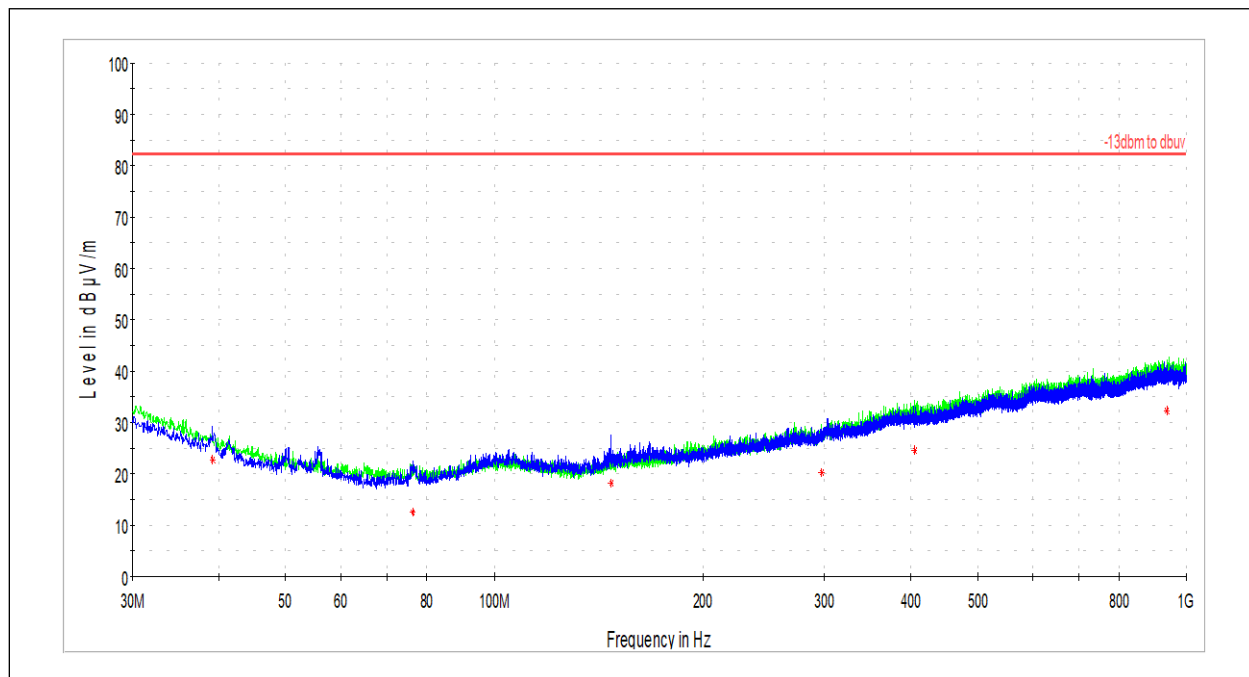
Test Personnel: Jeremiah Andrade
Supervising/Reviewing Engineer: _____
(Where Applicable) Michael Carlson
Product Standard: FCC Part 24
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/12/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.11 FCC Part 27 Radiated Spurious Emissions (LTE B4/B12/B13 /B66/B71)****6.11.1 Radiated Spurious Emissions, 30 MHz – 1 GHz**

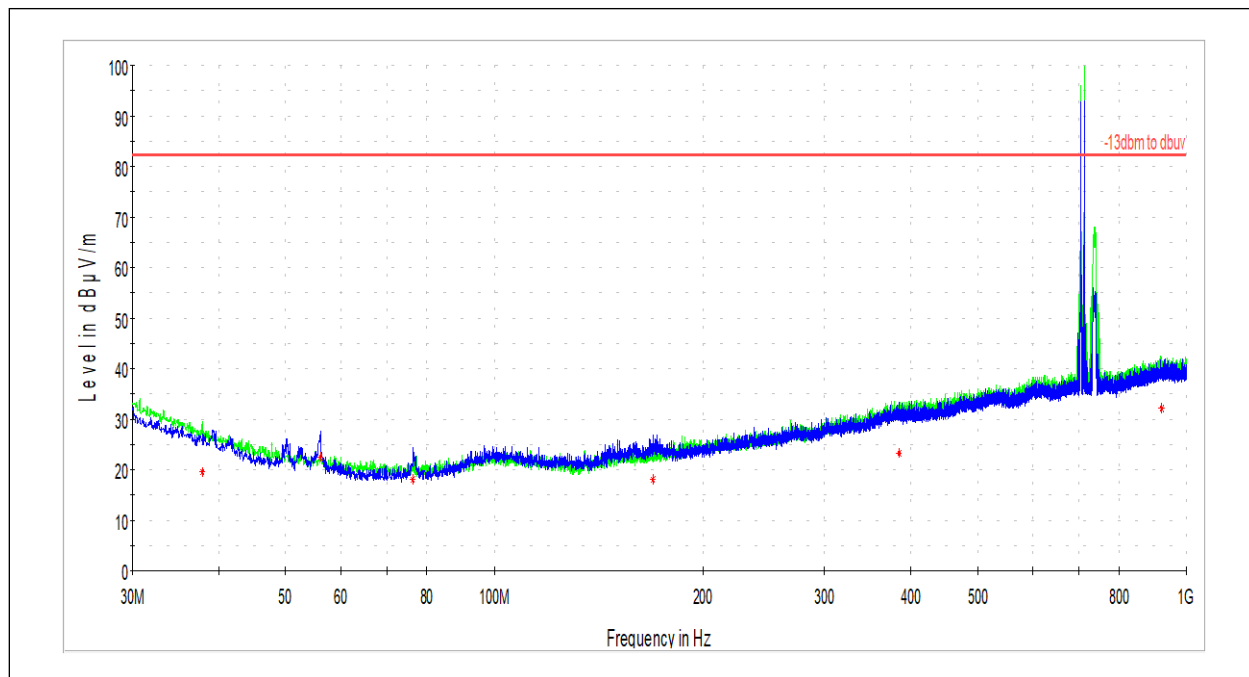
LTE Band 4



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.161111	22.64	82.25	59.61	101.0	V	208.0	17.9
76.182778	12.61	82.25	69.64	359.0	H	236.0	13.5
147.531667	18.07	82.25	64.18	101.0	V	77.0	16.2
297.504444	20.24	82.25	62.01	94.0	H	36.0	21.6
405.659444	24.48	82.25	57.77	99.0	H	15.0	25.0
938.728333	32.24	82.25	50.01	250.0	H	99.0	33.0



LTE Band 12

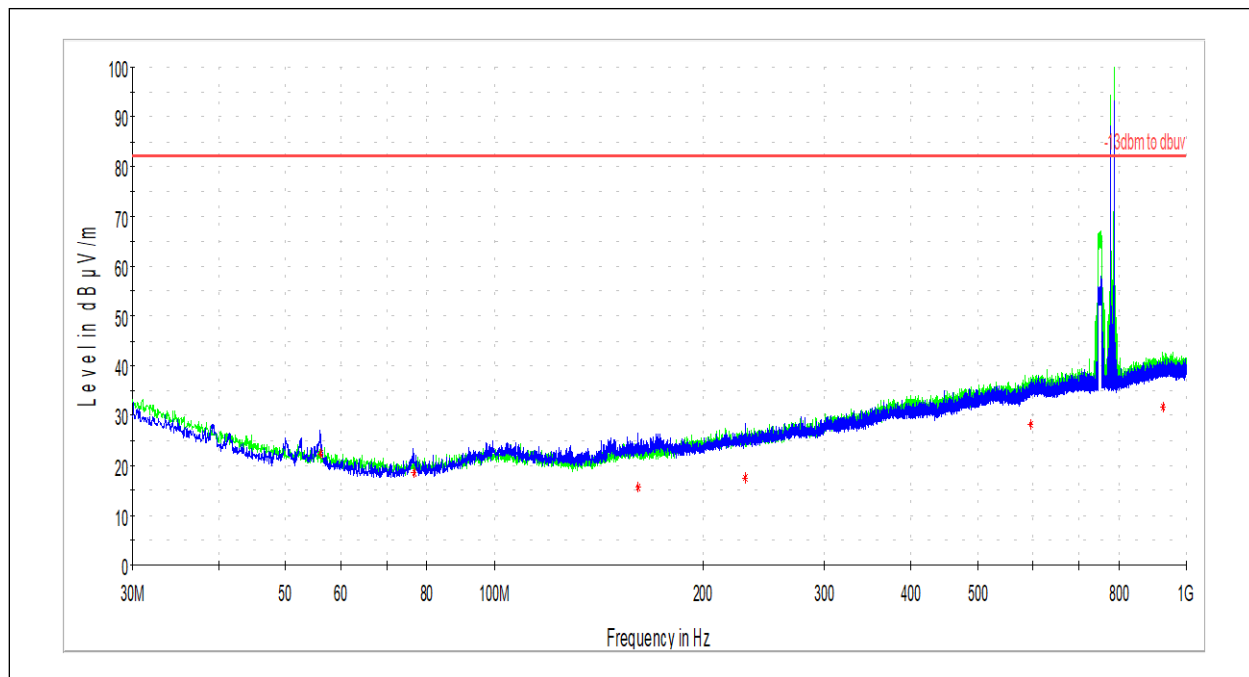


*The large peak shown is the fundamental frequency of the operating band.

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.813889	19.51	82.25	62.74	214.0	H	222.0	20.5
56.082222	22.47	82.25	59.78	100.0	V	142.0	14.3
76.344444	17.93	82.25	64.32	121.0	V	136.0	12.8
169.787778	18.09	82.25	64.16	100.0	V	78.0	17.5
385.073889	23.15	82.25	59.10	400.0	V	38.0	23.9
920.567778	32.01	82.25	50.24	250.0	H	64.0	33.0



LTE Band 13

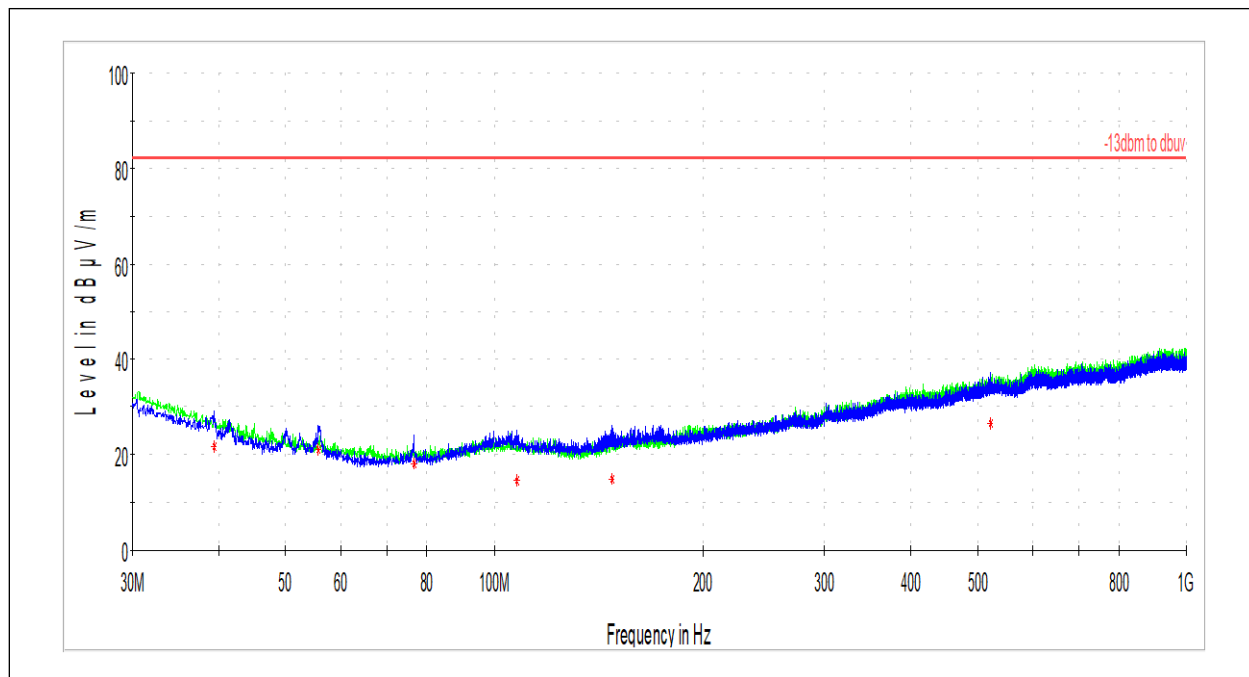


*The large peak shown is the fundamental frequency of the operating band.

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
56.082222	22.42	82.25	59.83	100.0	V	138.0	14.3
76.613889	18.53	82.25	63.72	121.0	V	134.0	12.8
161.273333	15.62	82.25	66.63	100.0	V	1.0	17.2
230.520556	17.34	82.25	64.91	255.0	V	66.0	19.3
595.563889	28.19	82.25	54.06	350.0	H	316.0	28.9
925.579444	31.84	82.25	50.41	250.0	H	201.0	32.9



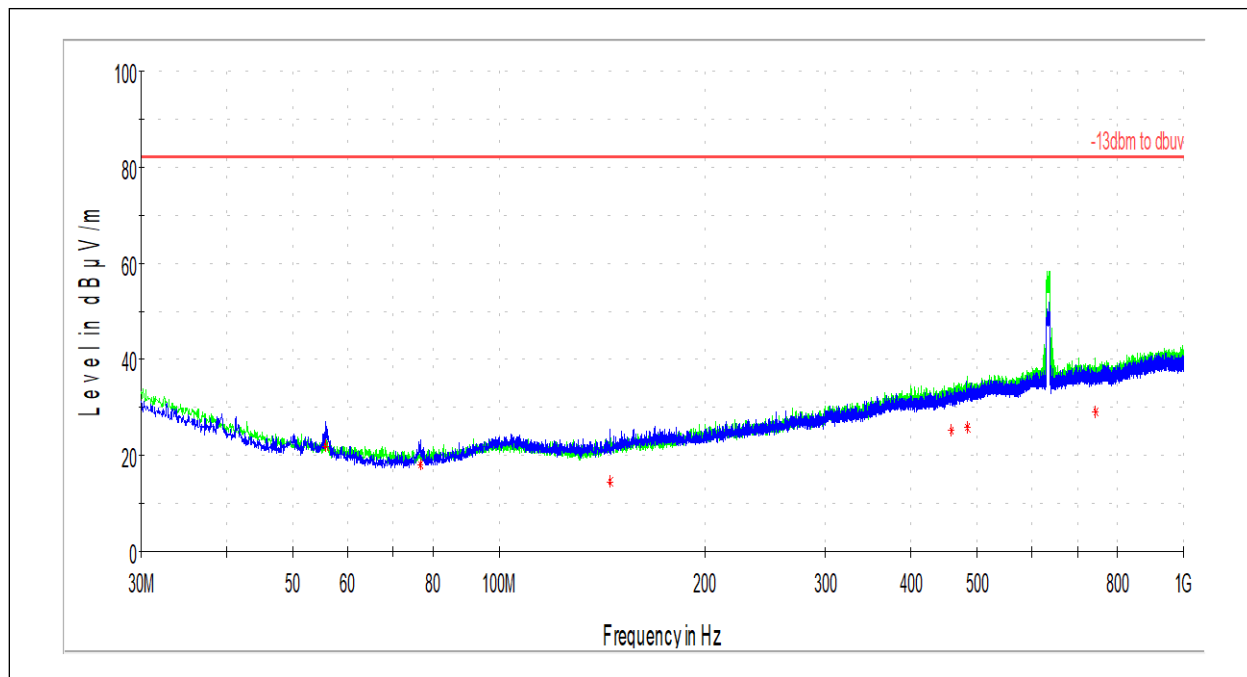
LTE Band 66



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.430556	21.54	82.25	60.71	100.0	V	190.0	17.8
55.758889	20.99	82.25	61.26	100.0	V	154.0	14.3
76.613889	18.26	82.25	63.99	120.0	V	135.0	12.8
107.707778	14.69	82.25	67.56	269.0	V	0.0	16.5
148.016667	14.83	82.25	67.42	100.0	V	70.0	16.2
521.897778	26.53	82.25	55.72	176.0	V	158.0	26.9



LTE Band 71



*The large peak shown is the fundamental frequency of the operating band.

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
55.812778	21.94	82.25	60.31	100.0	V	158.0	14.3
76.667778	17.91	82.25	64.34	119.0	V	134.0	12.8
145.160556	14.58	82.25	67.67	100.0	V	80.0	15.8
457.662222	25.13	82.25	57.12	400.0	H	80.0	26.1
483.528889	25.78	82.25	56.47	119.0	H	80.0	26.9
742.950000	29.06	82.25	53.19	217.0	H	48.0	30.7

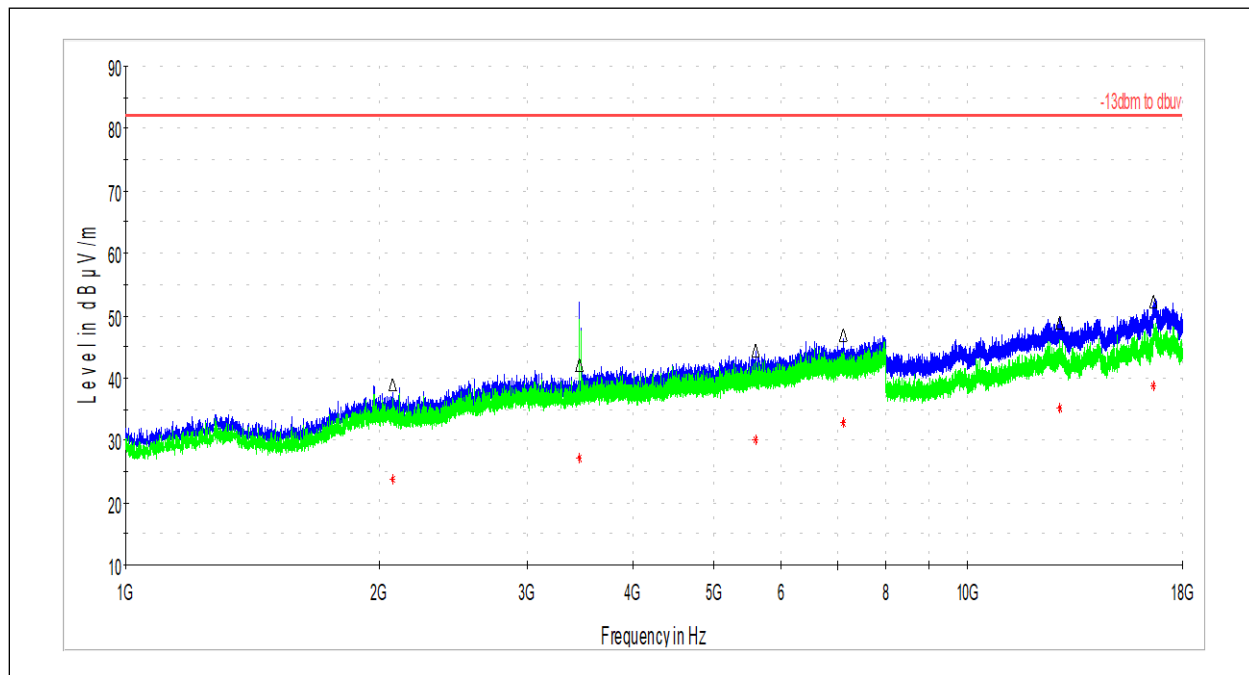
Test Personnel: Jeremiah Andrade
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 27
Product Standard: 3.6VDC
Input Voltage: Yes
Pretest Verification w / Ambient Signals or BB Source:

Test Date: 6/12/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.11.2 Radiated Spurious Emissions, 1 GHz – 18 GHz**

LTE Band 4

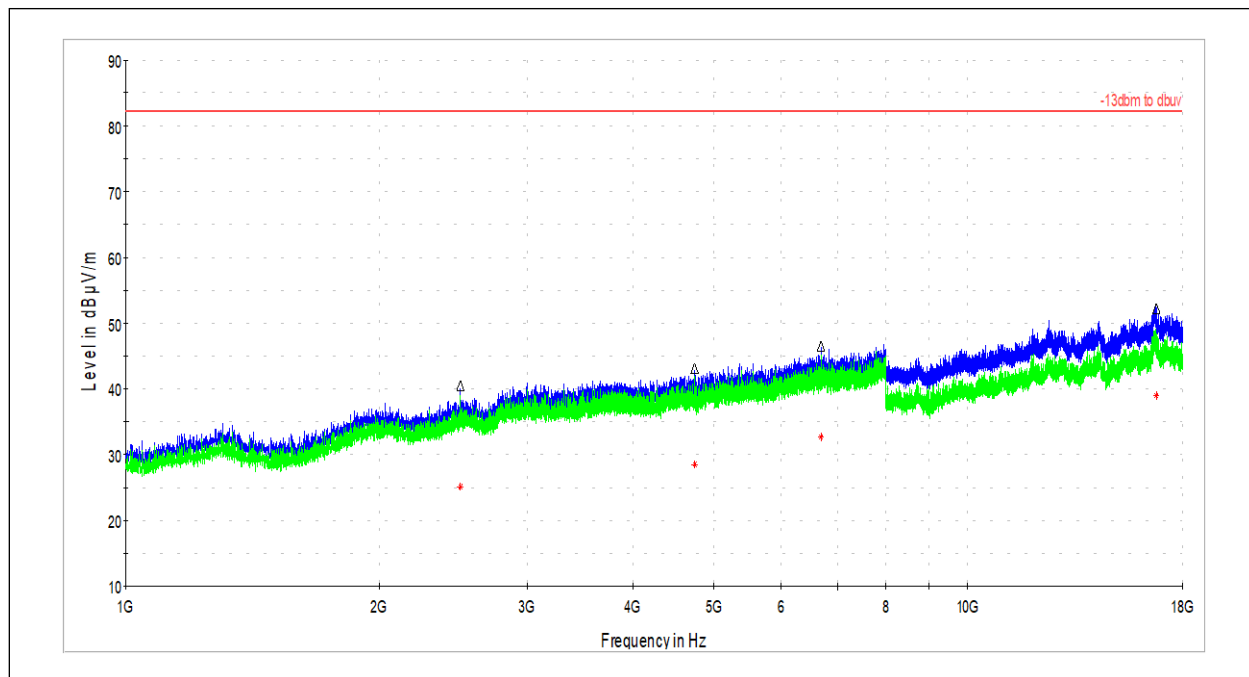


Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2075.277778	23.65	82.25	58.60	100.0	V	206.0	4.2
3457.777778	27.10	82.25	55.15	100.0	H	0.0	7.2
5602.888889	30.06	82.25	52.19	100.0	H	113.0	10.9
7119.944444	32.70	82.25	49.55	100.0	V	69.0	13.3
12858.125000	35.06	82.25	47.19	100.0	H	338.0	21.3
16620.000000	38.67	82.25	43.58	100.0	V	0.0	26.0

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2075.277778	38.87	82.25	43.38	100.0	V	206.0	4.2
3457.777778	42.14	82.25	40.11	100.0	H	0.0	7.2
5602.888889	44.47	82.25	37.78	100.0	H	113.0	10.9
7119.944444	46.99	82.25	35.26	100.0	V	69.0	13.3
12858.125000	48.75	82.25	33.50	100.0	H	338.0	21.3
16620.000000	52.18	82.25	30.07	100.0	V	0.0	26.0



LTE Band 12

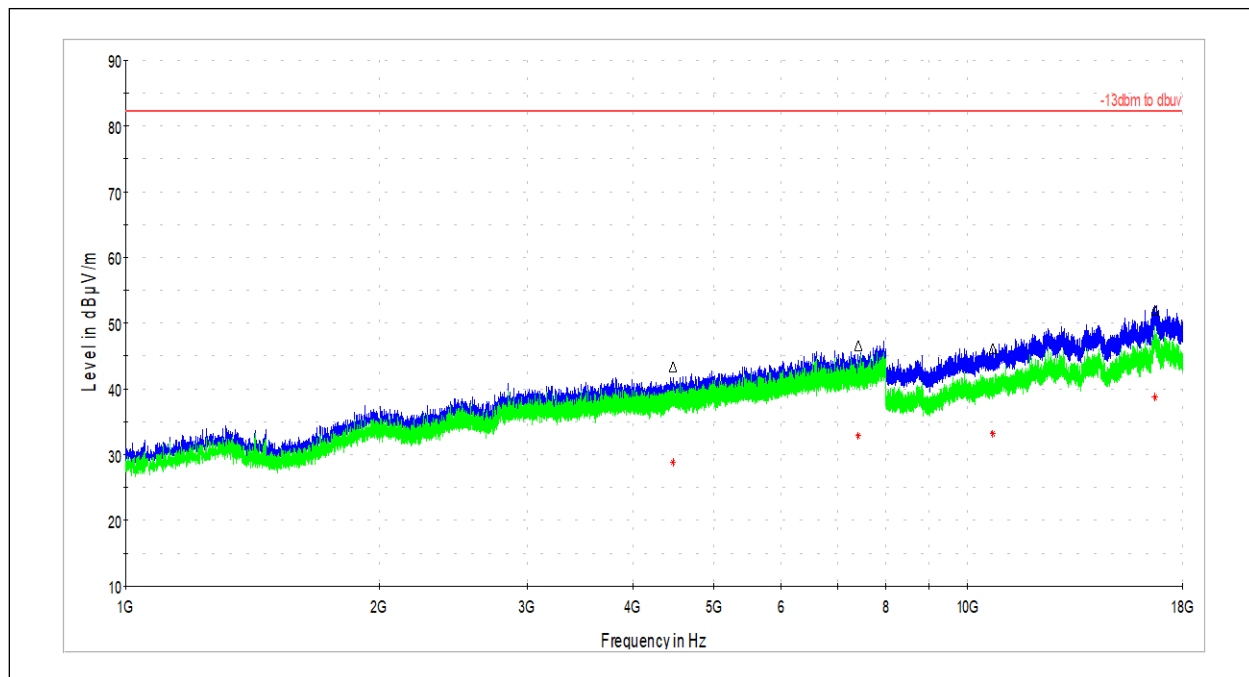


Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2495.666667	25.18	82.25	57.07	410.0	H	238.0	5.6
4739.944444	28.54	82.25	53.71	410.0	V	59.0	9.5
6693.722222	32.70	82.25	49.55	410.0	V	127.0	13.0
16755.000000	39.01	82.25	43.24	410.0	H	321.0	26.3

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2495.666667	40.48	82.25	41.77	410.0	H	238.0	5.6
4739.944444	43.17	82.25	39.08	410.0	V	59.0	9.5
6693.722222	46.59	82.25	35.66	410.0	V	127.0	13.0
16755.000000	52.20	82.25	30.05	410.0	H	321.0	26.3



LTE Band 13



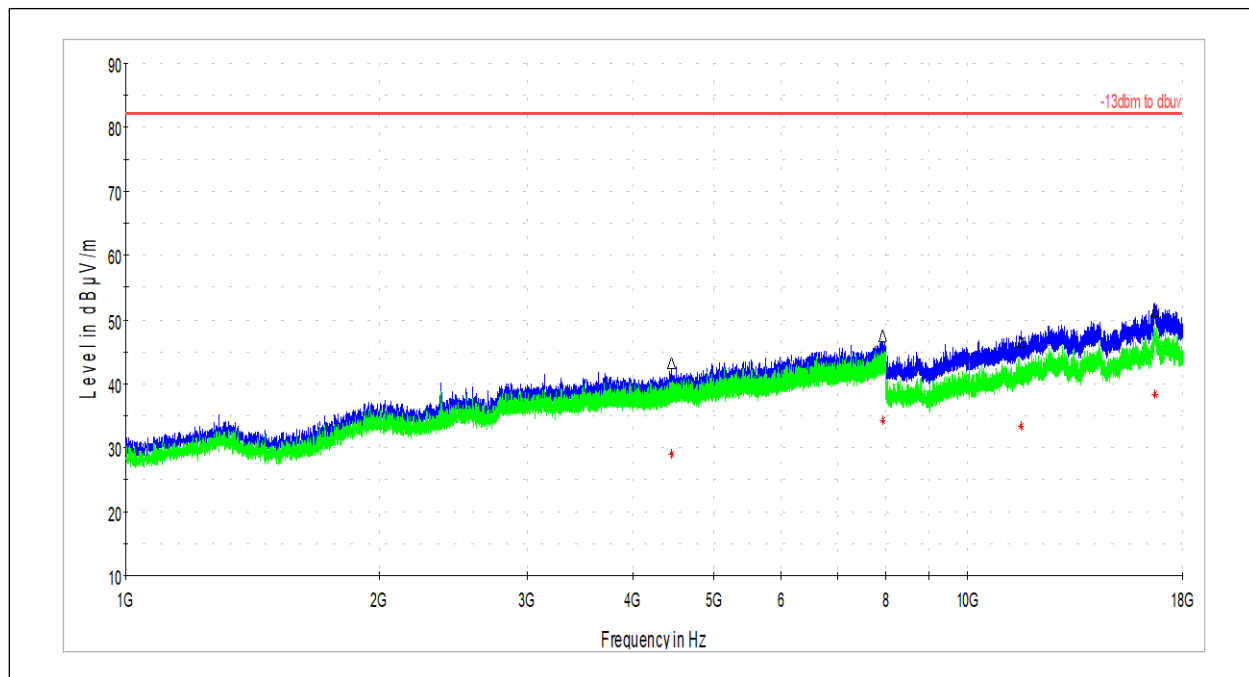
Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4472.777778	28.86	82.25	53.39	410.0	V	142.0	9.3
7412.000000	32.82	82.25	49.43	410.0	H	90.0	13.5
10724.375000	33.20	82.25	49.05	410.0	H	72.0	18.7
16701.250000	38.66	82.25	43.59	410.0	V	10.0	26.3

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4472.777778	43.32	82.25	38.93	410.0	V	142.0	9.3
7412.000000	46.54	82.25	35.71	410.0	H	90.0	13.5
10724.375000	46.10	82.25	36.15	410.0	H	72.0	18.7
16701.250000	52.05	82.25	30.20	410.0	V	10.0	26.3



EMC Test Report

LTE Band 66

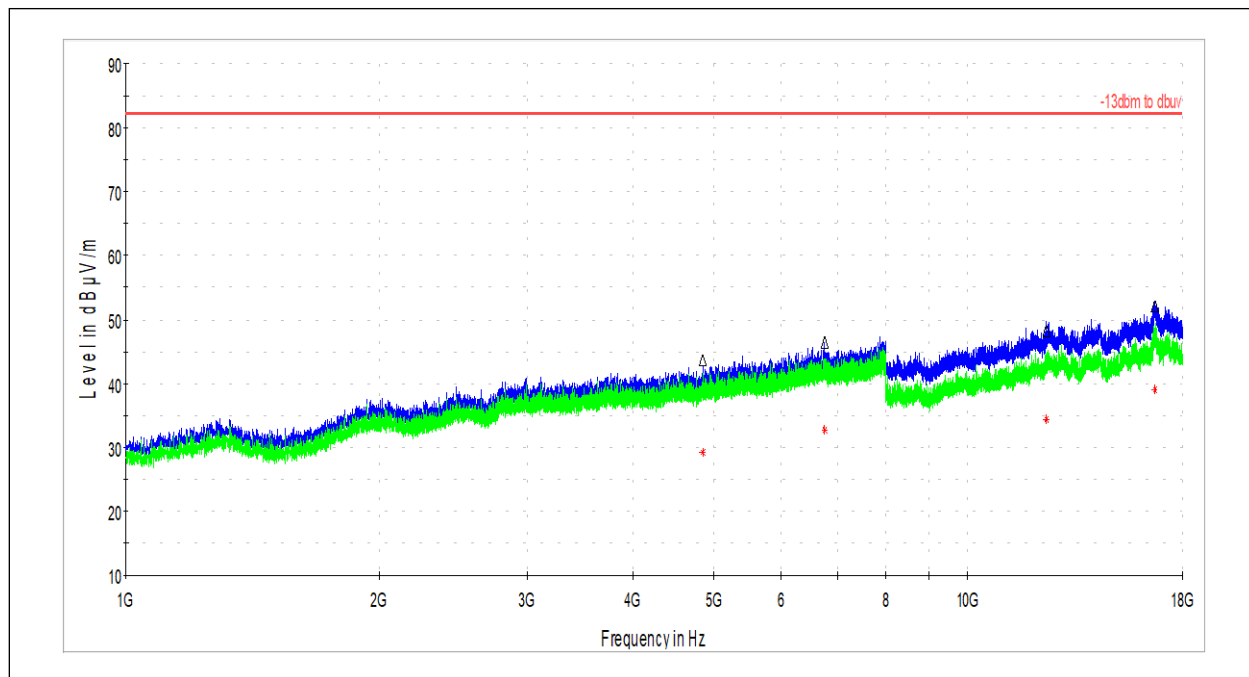


Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4452.555556	28.91	82.25	53.34	410.0	H	347.0	9.2
7924.166667	34.33	82.25	47.92	410.0	V	0.0	14.2
11576.250000	33.28	82.25	48.97	410.0	H	82.0	19.5
16680.000000	38.27	82.25	43.98	410.0	H	260.0	26.1

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4452.555556	43.31	82.25	38.94	410.0	H	347.0	9.2
7924.166667	47.43	82.25	34.82	410.0	V	0.0	14.2
11576.250000	46.53	82.25	35.72	410.0	H	82.0	19.5
16680.000000	51.40	82.25	30.85	410.0	H	260.0	26.1



LTE Band 71



Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4848.833333	29.16	82.25	53.09	410.0	H	167.0	9.8
6764.500000	32.81	82.25	49.44	410.0	V	174.0	13.0
12400.625000	34.45	82.25	47.80	410.0	V	330.0	20.7
16703.750000	38.94	82.25	43.31	410.0	V	0.0	26.3

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4848.833333	43.60	82.25	38.65	410.0	H	167.0	9.8
6764.500000	46.38	82.25	35.87	410.0	V	174.0	13.0
12400.625000	48.19	82.25	34.06	410.0	V	330.0	20.7
16703.750000	52.15	82.25	30.10	410.0	V	0.0	26.3

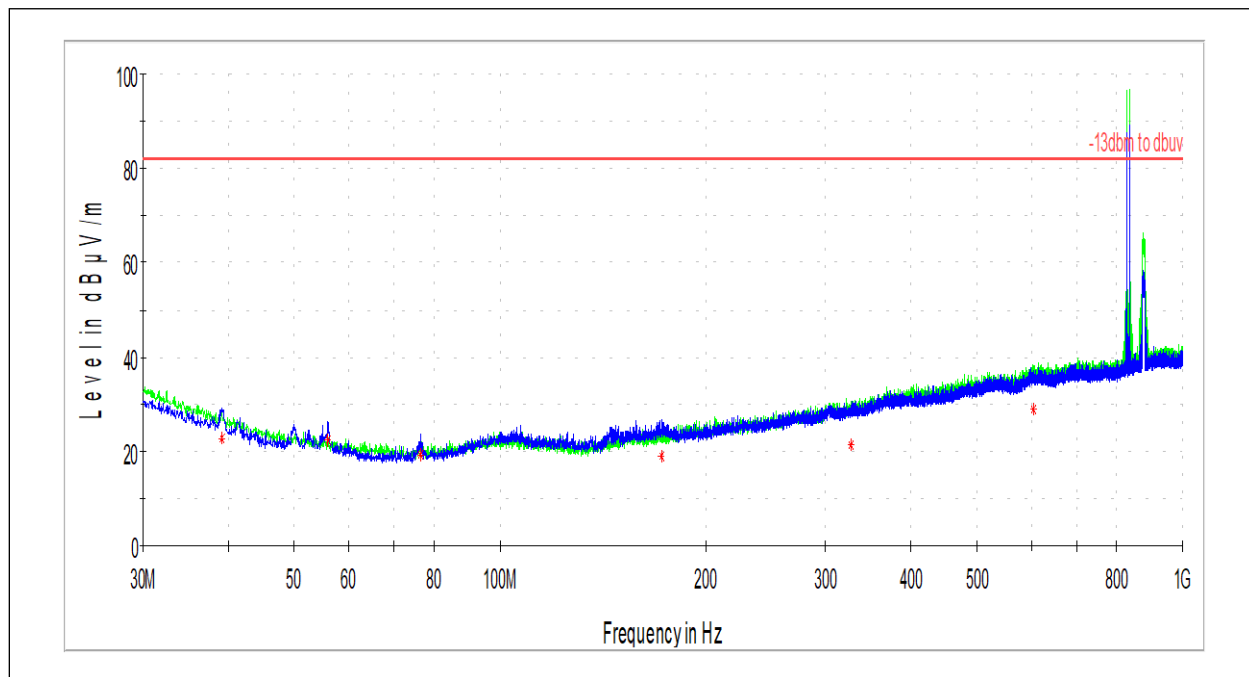
Test Personnel: Jeremiah Andrade
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable)
Product Standard: FCC Part 27
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/12/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.12 FCC Part 90 Radiated Spurious Emissions (LTE B26)****6.12.1 Radiated Spurious Emissions, 30 MHz – 1 GHz**

Band 26



*The large peak shown is the fundamental frequency of the operating band.

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.107222	22.52	82.25	59.73	100.0	V	219.0	17.9
56.028333	22.33	82.25	59.92	100.0	V	146.0	14.3
76.452222	19.21	82.25	63.04	134.0	V	148.0	12.8
172.697778	18.97	82.25	63.28	100.0	V	78.0	17.5
326.119444	21.15	82.25	61.10	105.0	H	58.0	22.7
604.240000	28.88	82.25	53.37	297.0	H	235.0	29.3

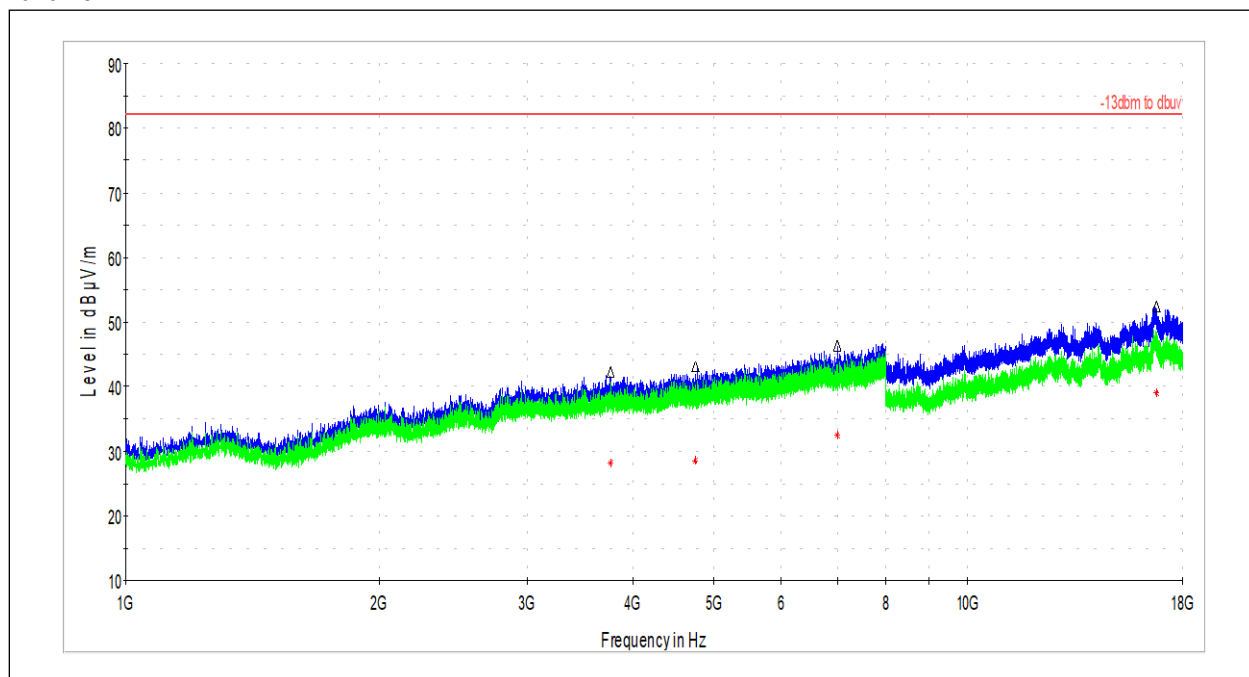
Test Personnel: Jeremiah Andrade
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable)
Product Standard: FCC Part 90
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/12/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.12.2 Radiated Spurious Emissions, 1 GHz – 18 GHz**

Band 26



Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3766.555556	28.12	82.25	54.13	399.0	V	0.0	8.2
4751.611111	28.49	82.25	53.76	394.0	V	230.0	9.5
7006.388889	32.47	82.25	49.78	410.0	H	11.0	13.2
16761.250000	39.01	82.25	43.24	410.0	V	0.0	26.3

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3766.555556	42.32	82.25	39.93	399.0	V	0.0	8.2
4751.611111	43.06	82.25	39.19	394.0	V	230.0	9.5
7006.388889	46.33	82.25	35.92	410.0	H	11.0	13.2
16761.250000	52.47	82.25	29.78	410.0	V	0.0	26.3

Test Personnel: Seth Parker
Supervising/Reviewing Engineer: _____
(Where Applicable) N/A
Product Standard: FCC Part 90
Input Voltage: 3.6VDC
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 6/11/2024
Limit Applied: -13dBm converted to field strength
Ambient Temperature: 23.2°C
Relative Humidity: 43.4%
Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**7 Revision History**

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	8/13/2024	105373087LEX-001	JJA	MC	Original Issue