HEADQUARTERS: 914 WEST PATAPSCO AVENUE • BALTIMORE, MARYLAND 21230 • PHONE (410) 354-3300 • FAX (410) 354-3313

1/25/2024

Perigon Health 360, LLC
340 N. Main, Ste. 300
Plymouth, MI 48170
USA

Dear Jake Wright,

Enclosed is the EMC test report for compliance testing of Perigon Health 360, LLC, Medesto-Go, tested to the requirements of:

- Title 47 of the CFR, Part 15.225, Subpart C for Certification as an Intentional Radiator.
- RSS-210: Issue 10, License-Exempt Radio Apparatus: Category 1 Equipment

Thank you for using the services of Eurofins E&E North America. If you have any questions regarding these results or if we can be of further service to you, please feel free to contact me.

Sincerely,

Nancy LaBrecque
Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIRA128411 – FCC-IC-RFID

13.56MHz RFID
Test Report

for the

Perigon Health 360, LLC
Medesto-Go (Model: Medesto-Go)

Tested under
the FCC Certification Rules
contained in
15.225 Subpart C and
RSS-210: Issue 10
for Intentional Radiators

Bryan Taylor, Wireless Team Lead
Electromagnetic Compatibility Lab

Nancy LaBrecque
Documentation Department

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

Matthew Hinojosa
EMC Manager, Austin Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	1/25/2024	Initial Issue.

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Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Perigon Health 360, LLC Medesto-Go, with the requirements of Part 15, §15.225 and RSS-210 Issue10, Annex B, B.6. All references are to the most current version of Title 47 of the Code of Federal Regulations and RSS-210 in effect. The following data is presented in support of the Certification of the Medesto-Go. Perigon Health 360, LLC should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the Medesto-Go, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.225 and RSS-210, in accordance with Perigon Health 360, LLC, under purchase order number EUR081423. All tests were conducted using measurement procedures ANSI C63.4-2014 and C63.10-2013.

FCC Reference	ISED Reference	Description	Compliance
Part 15 §15.203	---	Antenna Requirement	**Compliant**
Part 15 §15.207(a)	RSS-Gen (8.8)	Conducted Emission Limits	**Compliant**
Part 15 §15.215	---	20dB Occupied Bandwidth	**Compliant**
---	RSS-Gen (6.7)	99% Occupied Bandwidth	**Compliant**
Part 15 §15.225(a)	RSS-210 (B.6.a.i)	Field Strength emissions within the band 13.553 – 13.567 MHz	**Compliant**
Part 15 §15.225(b)	RSS-210 (B.6.a.ii)	Field Strength emissions within the band 13.410 – 13.553 MHz and 13.567 – 13.710 MHz	**Compliant**
Part 15 §15.225(c)	RSS-210 (B.6.a.iii)	Field Strength emissions within the band 13.110 – 13.410 MHz and 13.710 – 14.010 MHz	**Compliant**
Part 15 §15.225(d)	RSS-210 (B.6.a.iv)	Outside-Band Field Strength emissions per 15.209 - 13.110 – 14.010 MHz	**Compliant**
Part 15 §15.225(e)	RSS-210 (B.6.b)	Frequency Tolerance of the Carrier	**Compliant**

Table 1. Executive Summary

Equipment Configuration

A. Overview

Eurofins E&E North America was contracted by Perigon Health 360, LLC to perform testing on the Medesto-Go.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Perigon Health 360, LLC Medesto-Go.

The results obtained relate only to the item(s) tested.

Model(s) Tested:	Medesto-Go	
Model(s) Covered:	Medesto-Go	
EUT Specifications:	Primary Power: 9VDC	
	Type of Modulation(s):	ASK
	Equipment Code:	DXX
	Maximum field Strength:	30.65dBuV/m
	Antenna Type:	loop
	EUT Frequency Ranges:	13.56MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Bryan Taylor and Sergio Gutierrez	
Test Date(s):	8/29/2023 to 9/11/2023	

Table 2. EUT Summary Table

B. References

CFR 47, Part 15, Subpart C	Federal Communication Commission, Code of Federal Regulations, Title 47, Part 15: General Rules and Regulations, Allocation, Assignment, and Use of Radio Frequencies
RSS-210 Issue 10	Licence-Exempt Radio Apparatus: Category I Equipment
ANSI C63.4:2014	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2017	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Table 3. References

C. Test Site

Eurofins MET Laboratories Inc. (Eurofins E&E North America) is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

All testing was performed at Eurofins E&E North America, 13501 McCallen Pass, Austin, TX 78753. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Radiated Emissions measurements were performed in a 10 meter semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at MET Laboratories.

Correlation between semi-anechoic chamber and OATS:

Two calibrated Loop antennas were used on an OATS. One antenna was driven by a signal generator with a known power. The receive antenna was initially placed 1m away from the transmit antenna. The two antennas were placed parallel to each other. The receive antenna was in turn connected to a calibrated spectrum analyzer. The emissions were swept from 9 kHz to 30 MHz. The receive antenna was then rotated 90 degrees and measurements re-taken. Additional measurements were taken when the receive antenna was placed at 3meters.
This same setup was taken to inside the semi-anechoic chamber and the measurements repeated.

The data was used to correlate the semi-anechoic chamber and OATS.

D. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.97 dB	2	95%
RF Power Radiated Emissions	±2.95 dB	2	95%
Radiated Emissions, (30 MHz – 1 GHz)	±2.95	2	95%
Radiated Emissions, (1 GHz – 18 GHz)	±3.54	2	95%
Conducted Emission Voltage	±2.97	2	95%

Table 4. Uncertainty Calculations Summary

E. Description of Test Sample

The Medesto-Go (Model: Medesto-Go) is a RFID enabled medication dispenser.

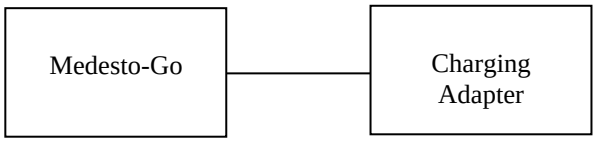


Figure 1. Block Diagram of Test Configuration

F. Equipment Configuration

The EUT was set up as outlined in Figure 1 above. The Medesto-Go in was tested in both battery operation as well as with it connected to a charger. The RFID transmitter operating at 13.56MHz was continuously polling for an RFID credential.

G. Support Equipment

Support equipment necessary for the operation and testing of the EUT is included in the following list.

Name / Description	Manufacturer	Model Number
Charging Adapter	Samsung	EP-TA20JWE

Table 5. Support Equipment

H. Ports and Cabling Information

Port Name on EUT	Qty	Length as tested (m)	Shielded? (Y/N)	Termination Box ID & Port Name
USB Charging Cable	1	0.5m	Y	USB Charger

Table 6. Ports and Cabling Information

I. Mode of Operation

The Medesto-Go in was tested in both battery operation as well as with it connected to a charger. The RFID transmitter operating at 13.56MHz was continuously polling for an RFID credential.

J. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

K. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Perigon Health 360, LLC upon completion of testing.

Antenna Requirements

§ 15.203 Antenna Requirement

Test Requirement: **§ 15.203:** An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The structure and application of the EUT were analyzed to determine compliance with Section 15.203 of the Rules. Section 15.203 states that the subject device must meet at least one of the following criteria:

a.) Antenna must be permanently attached to the unit.

b.) Antenna must use a unique type of connector to attach to the EUT.

c.) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

Results: The Medesto-Go as evaluated, was compliant as the antenna was permanently attached.

Test Engineer(s): Bryan Taylor

Test Date(s): 8/29/2023

Conducted Emissions

§ 15.207(a) Conducted Emissions Limits

Test Requirement(s): **§ 15.207 (a):** For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency range (MHz)	§ 15.207(a), Conducted Limit (dBμV)	
	Quasi-Peak	Average
* 0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

Table 7. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)

Note: *Decreases with the logarithm of the frequency.

RSS-GEN (8.8) AC Power-Line Conducted Emissions Limits

Test Requirement(s): **RSS-GEN (8.8):** Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in the below figure, as measured using a 50 µH / 50 Ω line impedance stabilization network (LISN). This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in the below figure shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

Frequency (MHz)	Conducted Limit (dBµV)	
	Quasi-Peak	Average
* 0.15-0.5	66 to 56	56 to 46[1]
0.5-5	56	46
5-30	60	50

Table 8. AC Power Line Conducted Emissions Limits

Note: *Decreases with the logarithm of the frequency.

Test Procedure: The EUT was placed on a 0.8 m-high non-conducting table above a ground plane. The EUT was situated such that the back of the EUT was 0.4 m from one wall of the vertical ground plane, and the remaining sides of the EUT were no closer than 0.8 m from any other conductive surface. The EUT was powered from a 50 Ω/50 µH Line Impedance Stabilization Network (LISN). The EMC receiver scanned the frequency range from 150 kHz to 30 MHz. Conducted Emissions measurements were made in accordance with *ANSI C63.10-2013 "Procedures for Compliance Testing of Unlicensed Wireless Devices"*. The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω/50 µH LISN as the input transducer to an EMI receiver.

Test Results: The Medesto-Go was compliant with this requirement.

Test Engineer(s): Michael Ermer

Test Date(s): 8/31/2023

Conducted Emissions Voltage Test Setup

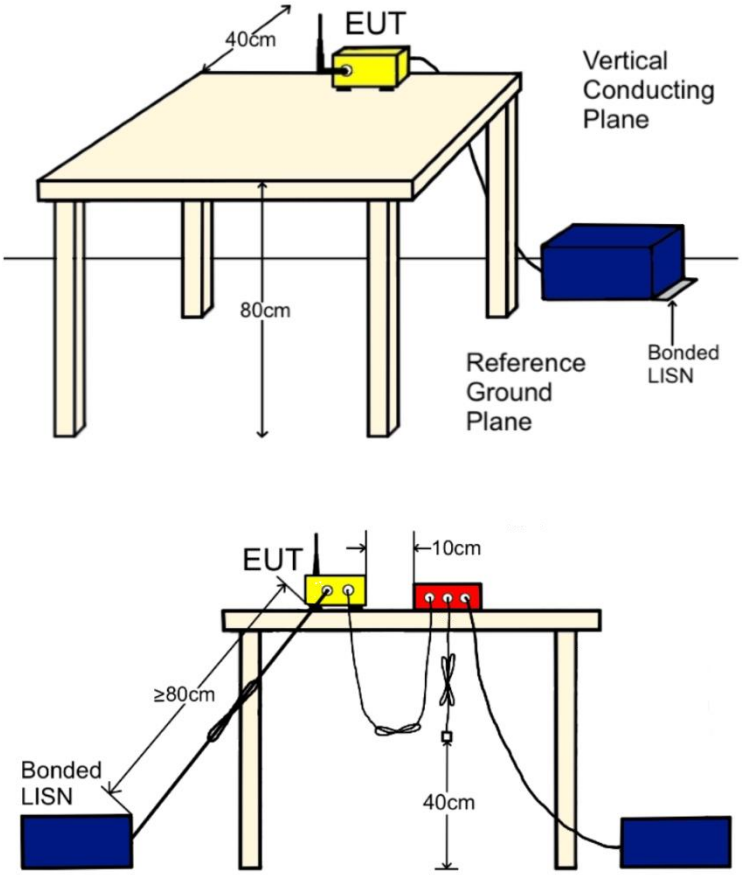
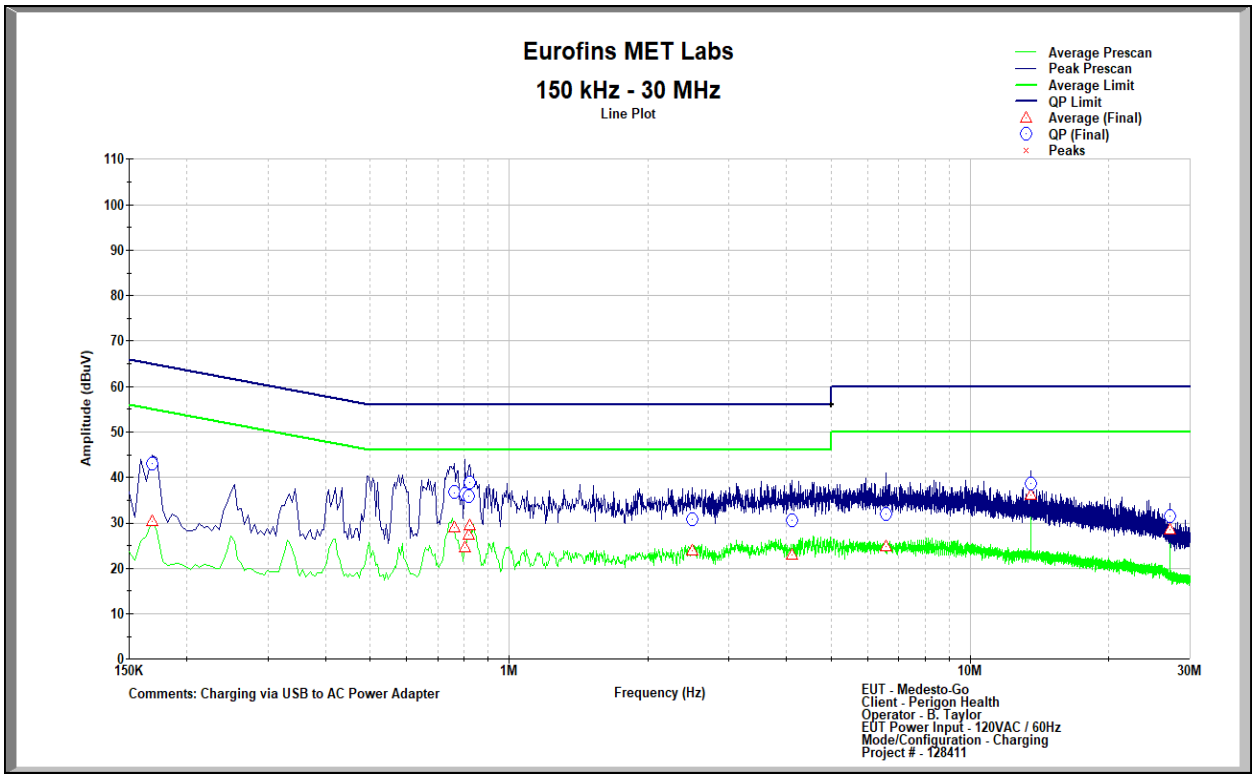


Figure 2. CEV Test Setup

15.207(a) Conducted Emissions Test Results

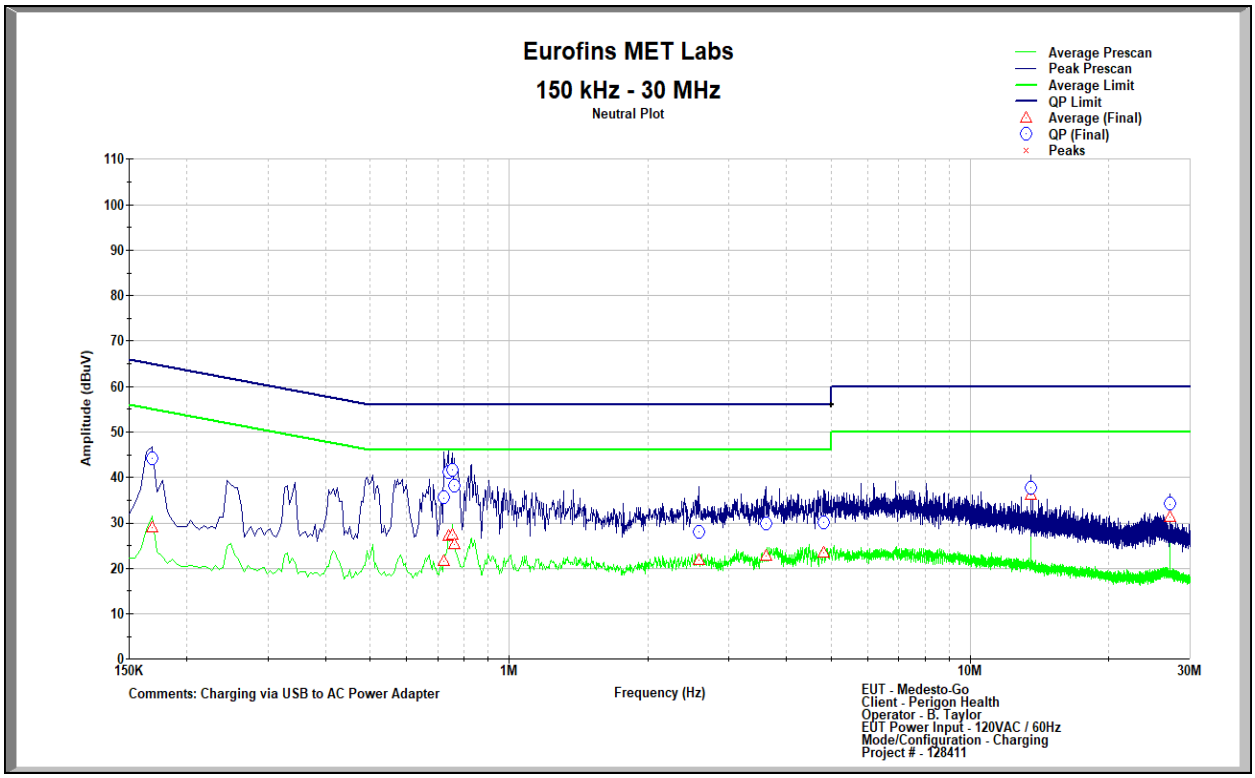


Conducted Emissions, 15.207(a), Phase

Frequency (MHz)	Quasi-Peak (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Quasi-Peak Margin (dB)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Margin (dB)
0.168	43.102	65.486	22.383	30.441	55.486	25.045
0.762	36.684	56.000	19.316	28.841	46.000	17.159
0.802	36.238	56.000	19.762	24.520	46.000	21.480
0.816	35.840	56.000	20.160	27.275	46.000	18.725
0.821	38.788	56.000	17.212	29.498	46.000	16.502
2.494	30.851	56.000	25.149	23.780	46.000	22.220
4.103	30.455	56.000	25.545	22.931	46.000	23.069
6.570	31.950	60.000	28.050	24.878	50.000	25.122
13.562	38.681	60.000	21.319	36.021	50.000	13.979
27.123	31.576	60.000	28.424	28.525	50.000	21.475

Table 9. Conducted Emissions, 15.207(a), Phase, Test Results

15.207(a) Conducted Emissions Test Results



Conducted Emissions, 15.207(a), Neutral

Frequency (MHz)	Quasi-Peak (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Quasi-Peak Margin (dB)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Margin (dB)
0.168	44.089	65.486	21.397	28.879	55.486	26.606
0.722	35.531	56.000	20.469	21.555	46.000	24.445
0.740	41.110	56.000	14.890	27.189	46.000	18.811
0.753	41.554	56.000	14.446	27.355	46.000	18.645
0.762	38.226	56.000	17.774	25.201	46.000	20.799
2.580	28.122	56.000	27.878	21.878	46.000	24.122
3.612	29.918	56.000	26.082	22.606	46.000	23.394
4.822	30.113	56.000	25.887	23.395	46.000	22.605
13.562	37.722	60.000	22.278	36.129	50.000	13.871
27.119	34.133	60.000	25.867	31.170	50.000	18.830

Table 10. Conducted Emissions, 15.207(a), Neutral, Test Results

Occupied Bandwidth Measurements

§ 15.215(c) 20 dB Occupied Bandwidth

Test Requirement(s): **§ 15.215 (c)** Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure: The transmitter was on and transmitting at the highest output power. The bandwidth of the fundamental frequency was measured with the spectrum analyzer. Per ANSI C63.10: 2020 the RBW should be between 1% and 5% of the occupied bandwidth. Due to the nature of the fundamental transmission being very "CW like" it was not possible to meet the RBW requirement. During the measurement the RBW was therefore set as narrow as possible. The 20 dB Bandwidth was measured and recorded.

Test Results: The Medesto-Go was compliant with this requirement. The 20dB Bandwidth is shown on the plots on the following pages.

Test Engineer(s): Bryan Taylor

Test Date(s): 8/29/2023

RSS-GEN (6.7) 99% Occupied Bandwidth

Test Requirements: The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

Test Procedure: The EUT was on and transmitting at the highest output power. The bandwidth of the fundamental frequency was measured with the spectrum analyzer. Per ANSI C63.10: 2020 the RBW should be between 1% and 5% of the occupied bandwidth. Due to the nature of the fundamental transmission being very "CW like" it was not possible to meet the RBW requirement. During the measurement the RBW was therefore set as narrow as possible. The 99% Bandwidth was measured and recorded.

Test Results The Medesto-Go was compliant with this requirement. The 99% Bandwidth is shown on the plots on the following pages.

Test Engineer(s): Bryan Taylor

Test Date(s): 8/29/2023

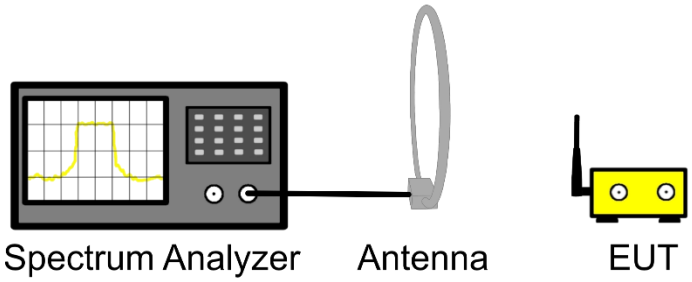


Figure 3. 20 dB Bandwidth and 99% Bandwidth Test Setup

Center Frequency (MHz)	20 dB Bandwidth	99% Bandwidth
13.56MHz	4.38kHz	6.55kHz

Table 11. Occupied Bandwidth Test Results

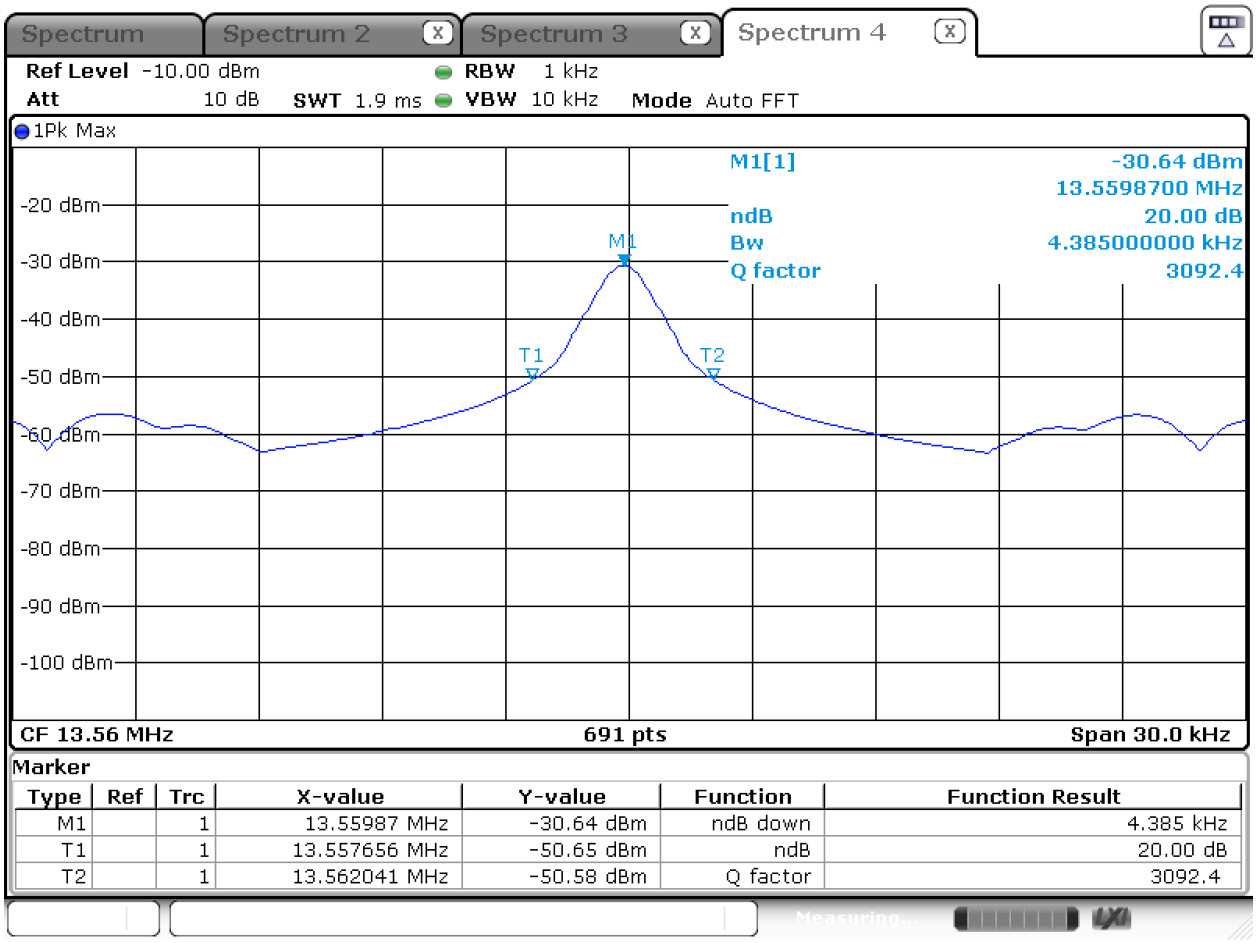


Figure 4: 20dB Occupied Bandwidth Test Results

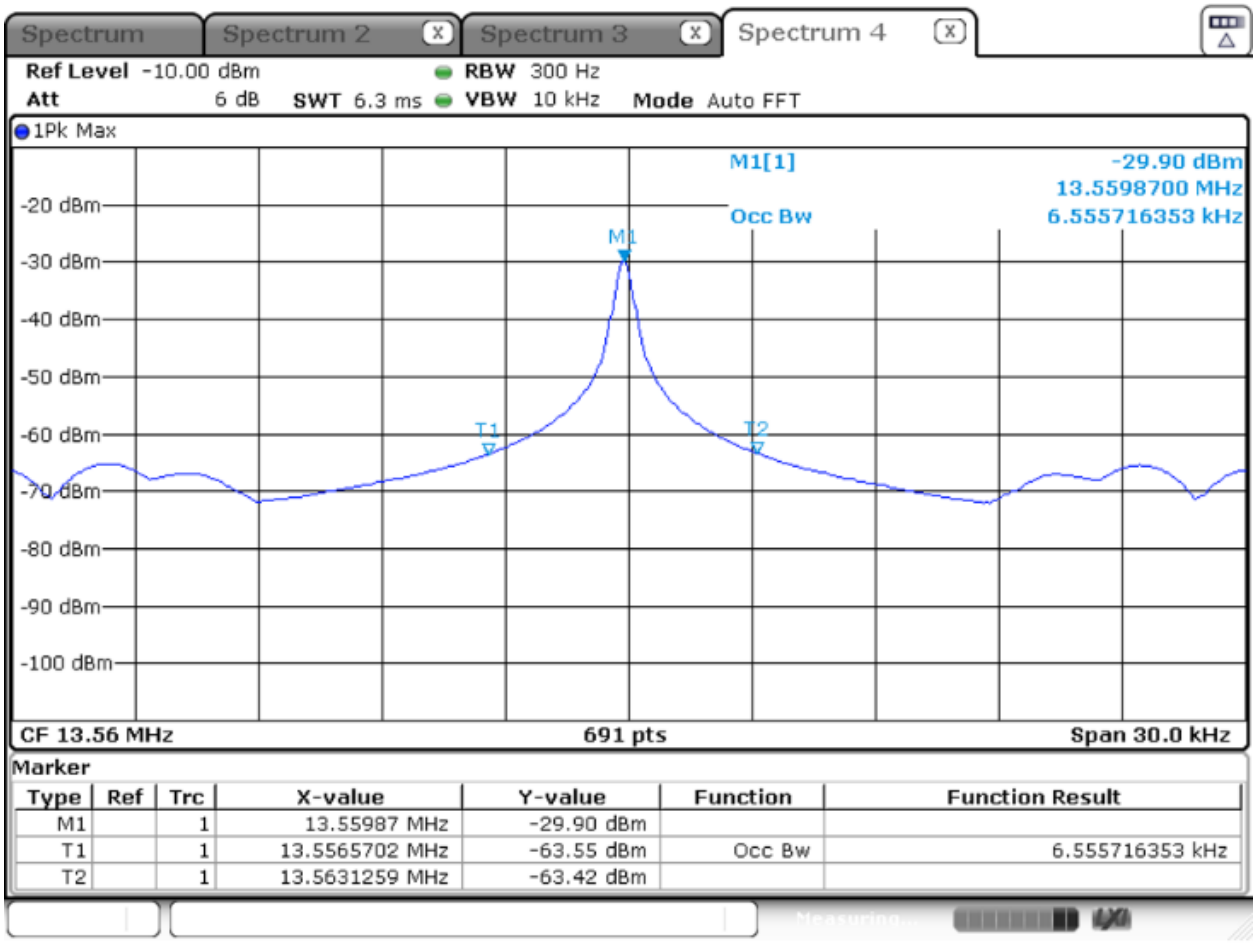


Figure 5: 99% Occupied Bandwidth Test Results

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.225(a-d) Field Strength of Radiated Emissions

Test Requirement(s):

15.225 (a) The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

15.225 (b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

15.225 (c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

15.225 (d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

RSS-210 (B.6.a(ii - iv)) Field Strength of Radiated Emissions

Test Requirement(s):

RSS-210 (B.6.a(i)) The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15.848 mV/m (84 dBµV/m) at 30 meters.

RSS-210 (B.6.a(ii)) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 µV/m (50.5 dBµV/m) at 30 meters.

RSS-210 (B.6.a(iii)) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 µV/m (40.5 dBµV/m) at 30 meters.

RSS-210 (B.6.a(iv)) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in RSS-GEN Section 8.9.

Test Procedure:

The EUT was set to transmit and placed on a 0.8 m-high wooden stand inside a semi-anechoic chamber. The method of testing and test conditions of ANSI C63.10: 2013 were used. For measurements below 30 MHz a loop antenna placed 3m away from the unit was used. For measurements above 30 MHz a biconalog antenna placed 10 m away from the unit was used. Measurements below 30 MHz were conducted with the loop antenna at coaxial (parallel) and planar (perpendicular) orientations. Measurements above 30 MHz were conducted with the biconalog antenna in the vertical and horizontal polarizations. A peak detector was used to perform a pre-scan from 9 kHz to 10 times the fundamental frequency. Spurious emissions within 20 dB of the applicable limit were measured using a quasi-peak detector and recorded in the subsequent section. Peak emissions that were observed over the appliable limit were determined to be digital emissions subject to the requirements of FCC Part 15 Subpart B and ICES-003 subsection 6.2 for Class A devices.

The measurements made at 3 m with the loop antenna (below 30MHz) were then extrapolated to 30m or 300 m using the following correction factors which were applied to the limit.

40log (30/3) = -40 dB
40log (300/3) = 80 dB

The measurements made at 10 m with the biconilog antenna (above 30MHz) were then extrapolated to the 3m using the following correction factor.

20log (10/3) = +10.46 dB

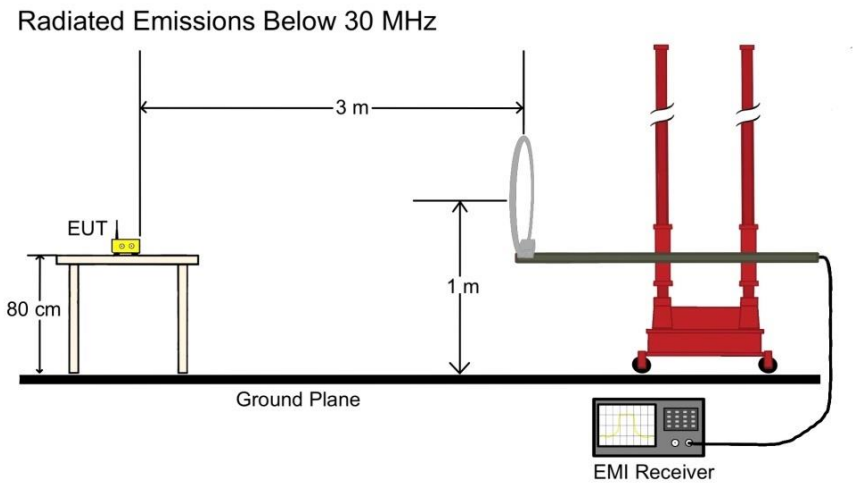


Figure 6: Radiated Emissions (Below 30MHz), Test Setup

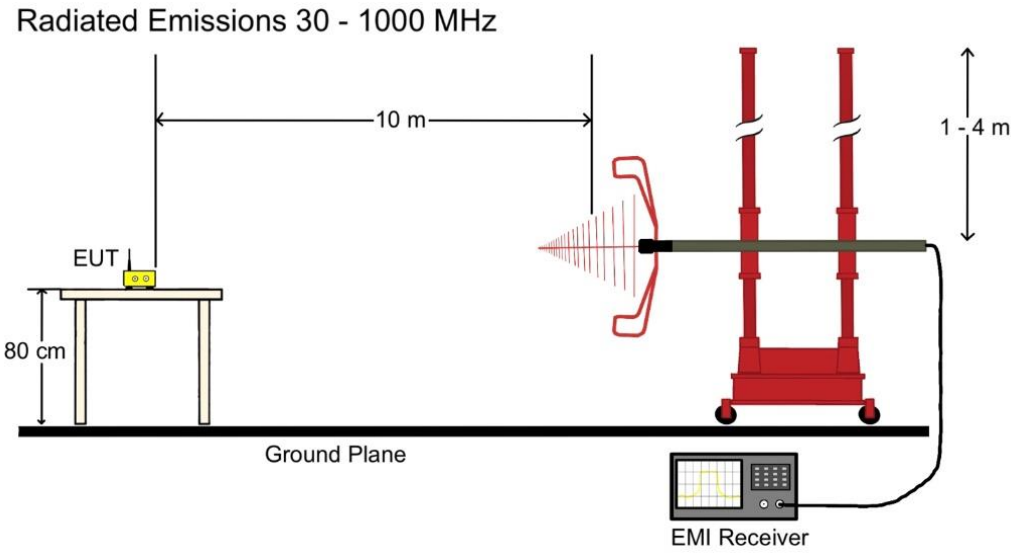


Figure 7. Radiated Emissions (Above 30MHz), Test Setup

Test Results: The Medesto-Go was compliant with the requirements of **§15.225(a - d)** and **RSS-210 RSS-210 (B.6.a(i, ii, iii, and iv))**.

Test Engineer(s): Sergio Gutierrez and Michael Ermer

Test Date(s): 8/29/2023 – 8/30/2023

Radiated Field Strength Test Results

Frequency [MHz]	QP Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.457	11.70	90.50	78.80	10.61	V	219.3	1	9.000	Pass
13.520	11.95	90.50	78.55	10.61	H	232.3	1	9.000	Pass
13.560	25.31	124.00	98.69	10.61	H	95.6	1	9.000	Pass
13.560	30.65	124.00	93.35	10.61	V	203.7	1	9.000	Pass
13.677	11.85	90.50	78.65	10.60	V	219.4	1	9.000	Pass
13.817	11.82	80.50	68.68	10.60	V	217.1	1	9.000	Pass

Figure 8. Worst Case In-Band Field Strength (Charging)

Frequency [MHz]	Peak Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.011	57.97	126.92	68.95	18.67	V	64	1	0.200	Pass
0.012	57.59	125.79	68.20	17.75	H	91.4	1	0.200	Pass
0.672	43.51	71.05	27.54	11.43	H	230.2	1	9.000	Pass
1.959	32.53	69.50	36.97	11.70	V	211.8	1	9.000	Pass
2.949	29.13	69.50	40.37	11.62	V	241	1	9.000	Pass
27.119	26.81	69.50	42.69	9.22	V	163	1	9.000	Pass

Figure 9. Worst Case Field Strength Below 30MHz (Charging)

Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
54.240	25.83	39.00	13.17	-13.89	V	10.3	2.107	120.000	Pass
176.280	27.37	43.50	16.13	-9.93	H	270	3.5	120.000	Pass
176.280	34.16	43.50	9.34	-9.93	V	77.3	1	120.000	Pass
189.840	29.56	43.50	13.94	-10.16	H	249.7	3.5	120.000	Pass
189.840	33.47	43.50	10.03	-10.16	V	62.1	1.077	120.000	Pass
203.400	29.47	43.50	14.03	-9.68	H	64.7	3.5	120.000	Pass
203.400	32.40	43.50	11.10	-9.68	V	59.2	3.607	120.000	Pass
311.880	41.72	46.40	4.68	-4.80	H	52.4	1.942	120.000	Pass
311.880	42.85	46.40	3.55	-4.80	V	0	1	120.000	Pass
515.280	23.23	46.40	23.17	-0.41	H	64.9	1.672	120.000	Pass

Figure 10. Worst Case Field Strength Above 30MHz (Charging)

Frequency [MHz]	Peak Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
13.313	11.92	80.50	68.58	10.62	H	276.1	1	9.000	Pass
13.448	11.70	90.50	78.80	10.61	H	198.4	1	9.000	Pass
13.560	30.63	124.00	93.37	10.61	H	172.2	1	9.000	Pass
13.560	24.24	124.00	99.76	10.61	V	255.3	1	9.000	Pass
13.682	11.69	90.50	78.81	10.60	H	150.9	1	9.000	Pass
13.848	11.60	80.50	68.90	10.60	H	185.7	1	9.000	Pass

Figure 11. Worst Case In-Band Field Strength (Battery)

Frequency [MHz]	Peak Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
0.012	57.92	126.37	68.45	18.22	H	37.3	1	0.200	Pass
0.017	52.00	122.83	70.83	15.39	V	315	1	0.200	Pass
0.159	56.63	103.57	46.94	11.26	H	124.5	1	9.000	Pass
0.452	46.29	94.51	48.22	11.22	H	141.4	1	9.000	Pass
0.699	43.08	70.71	27.63	11.46	V	211.3	1	9.000	Pass
9.663	19.85	69.50	49.65	10.84	V	121.4	1	9.000	Pass

Figure 12. Worst Case Field Strength Below 30MHz (Battery)

Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Result
30.420	13.41	29.55	16.14	-2.47	V	119.5	1.699	120.000	Pass
31.470	12.53	29.55	17.02	-2.98	H	267.5	3.468	120.000	Pass
442.890	13.39	35.57	22.18	-1.53	V	267.7	4.002	120.000	Pass
807.150	17.50	35.57	18.07	3.53	H	161.5	2.366	120.000	Pass
831.510	17.91	35.57	17.66	4.24	V	195.2	1.144	120.000	Pass
976.170	19.92	43.50	23.58	6.37	H	157	3.678	120.000	Pass

Figure 13. Worst Case Field Strength Above 30MHz (Battery)

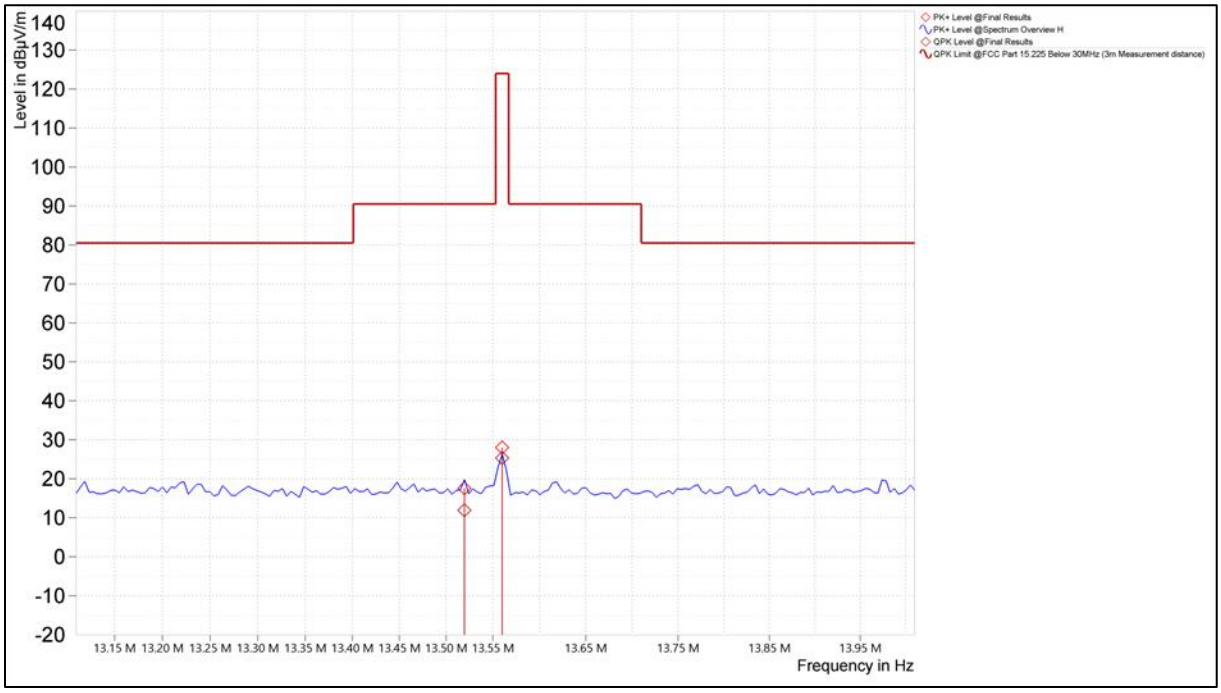


Figure 14. In-Band Emission Mask (Coplanar Loop, Charging)

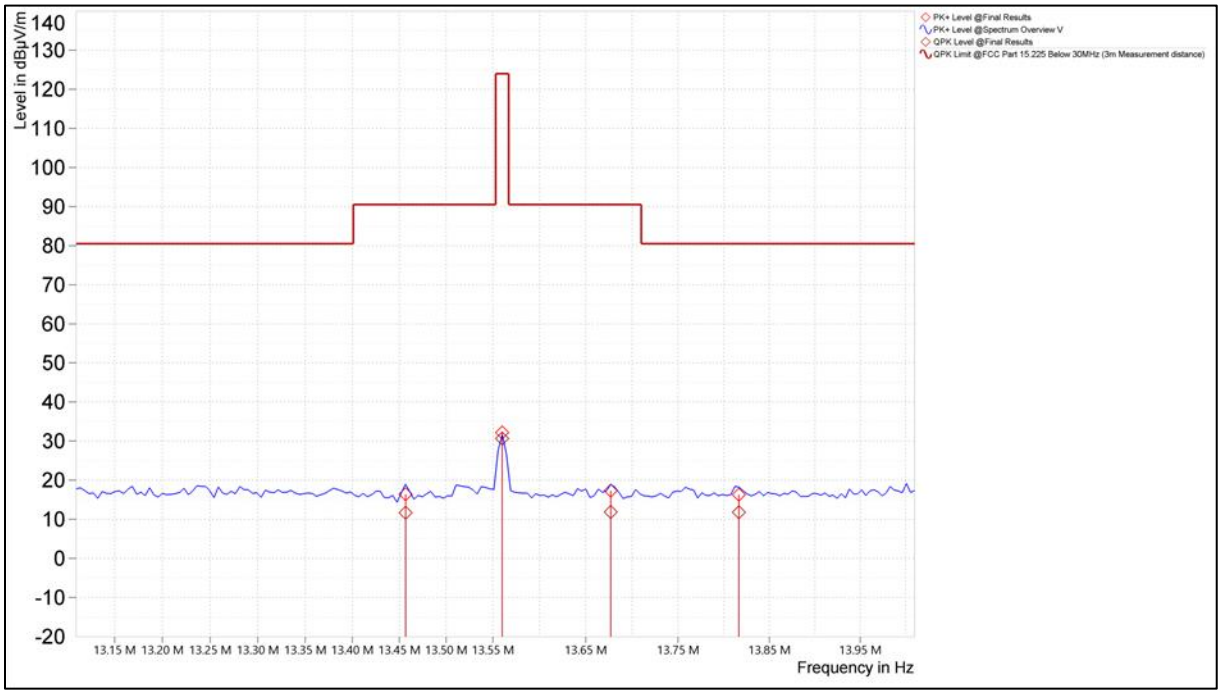


Figure 15. In-Band Emission Mask (Coaxial Loop, Charging)

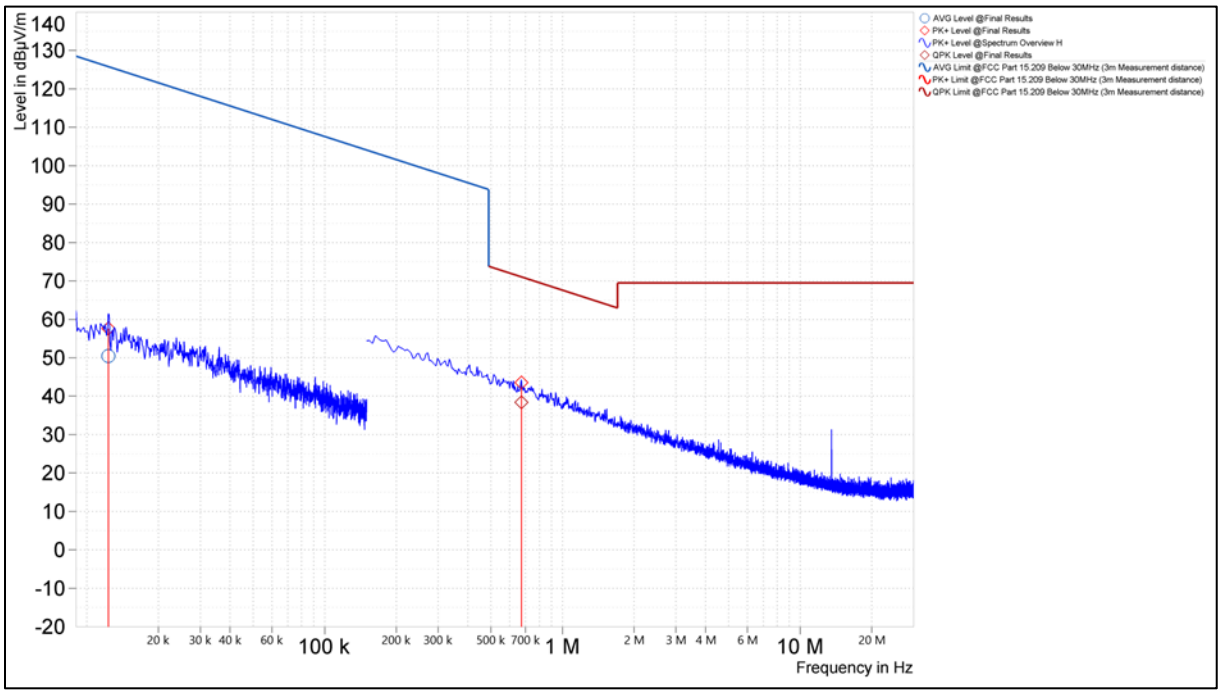


Figure 16. Out of Band Emissions Below 30MHz (Coplanar Loop, Charging)

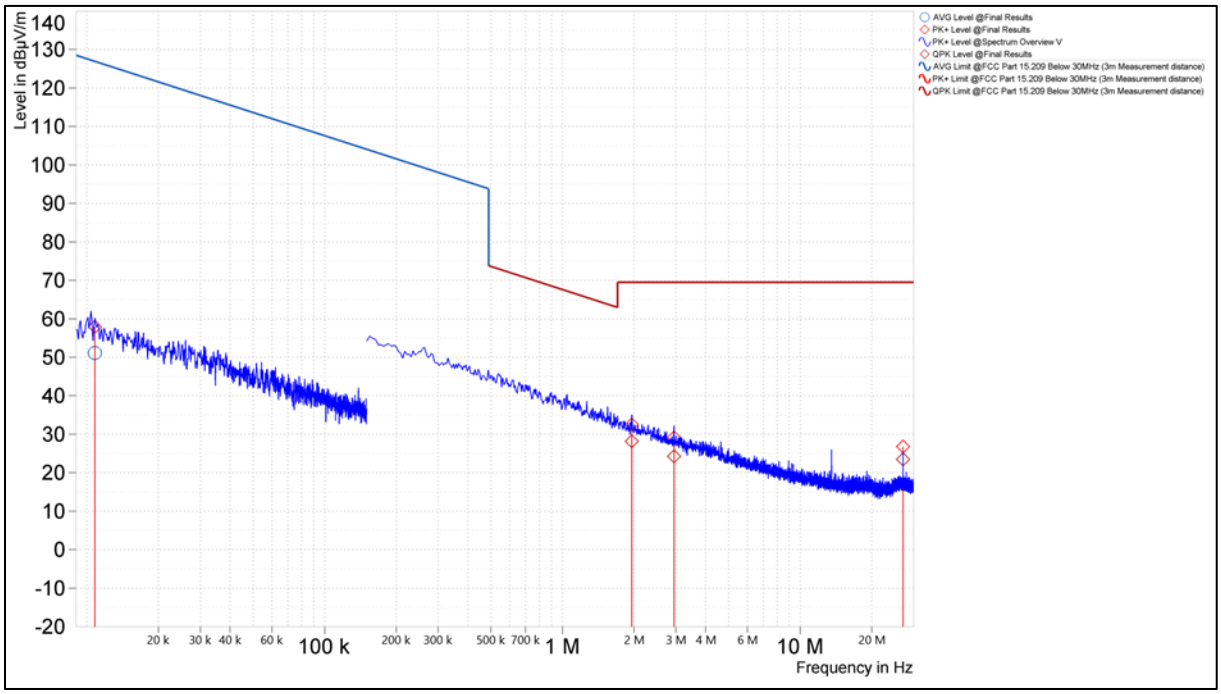


Figure 17. Out of Band Emissions Below 30MHz (Coaxial Loop, Charging)

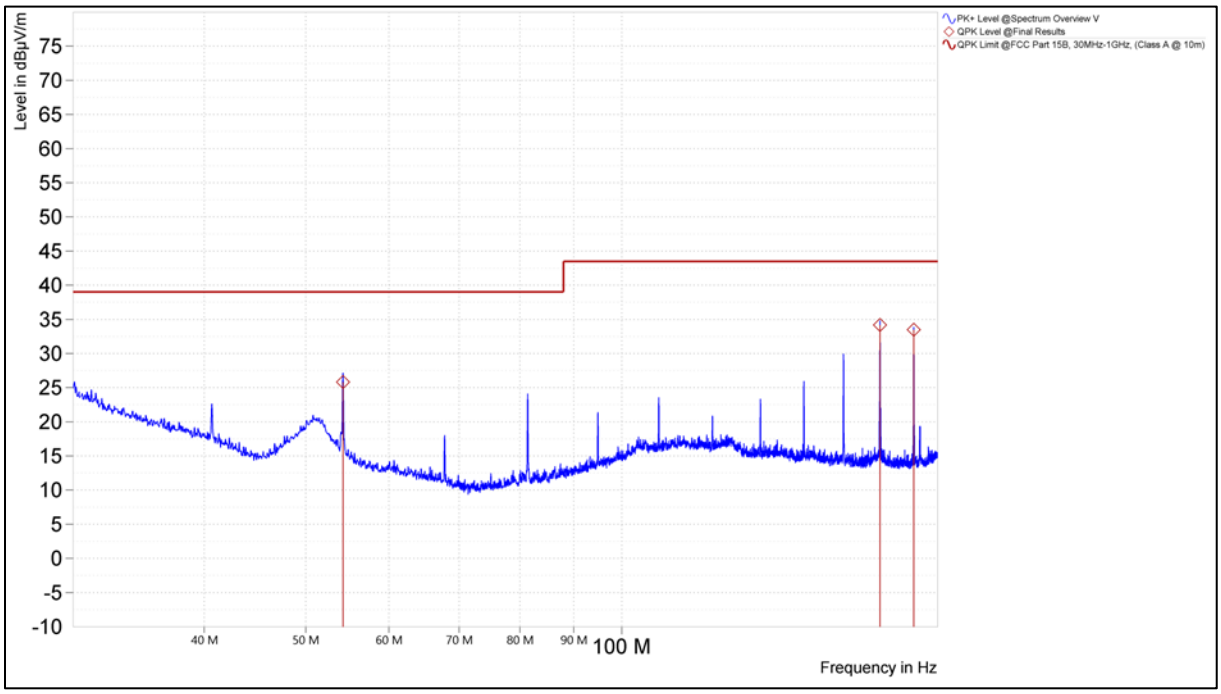


Figure 18. Out of Band Emissions Above 30MHz (Vertical Polarity, Charging)

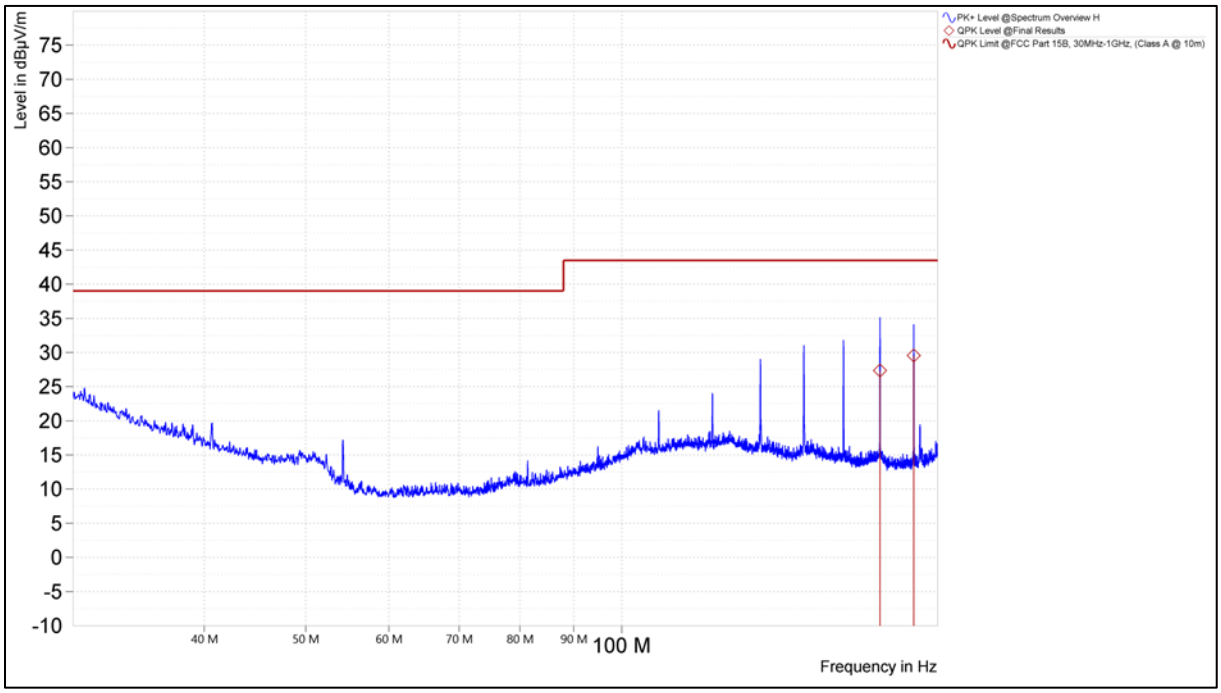


Figure 19. Out of Band Emissions Above 30MHz (Horizontal Polarity, Charging)

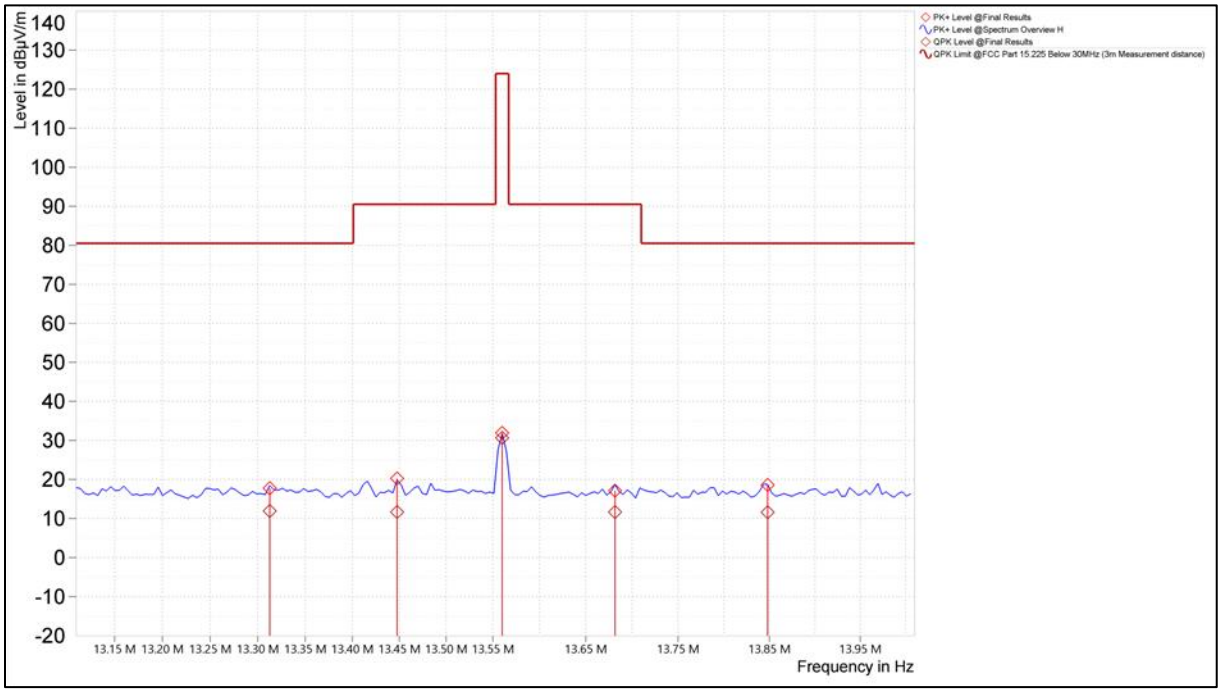


Figure 20. In-Band Emission Mask (Coplanar Loop, Battery)

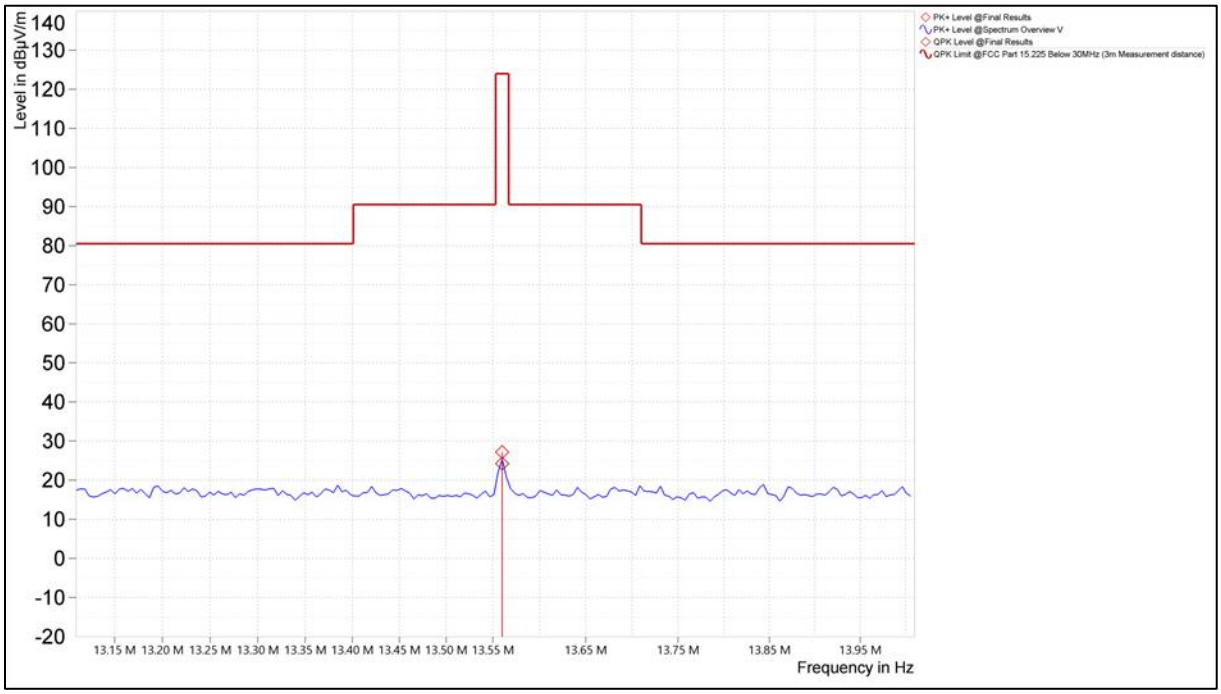


Figure 21. In-Band Emission Mask (Coaxial Loop, Battery)

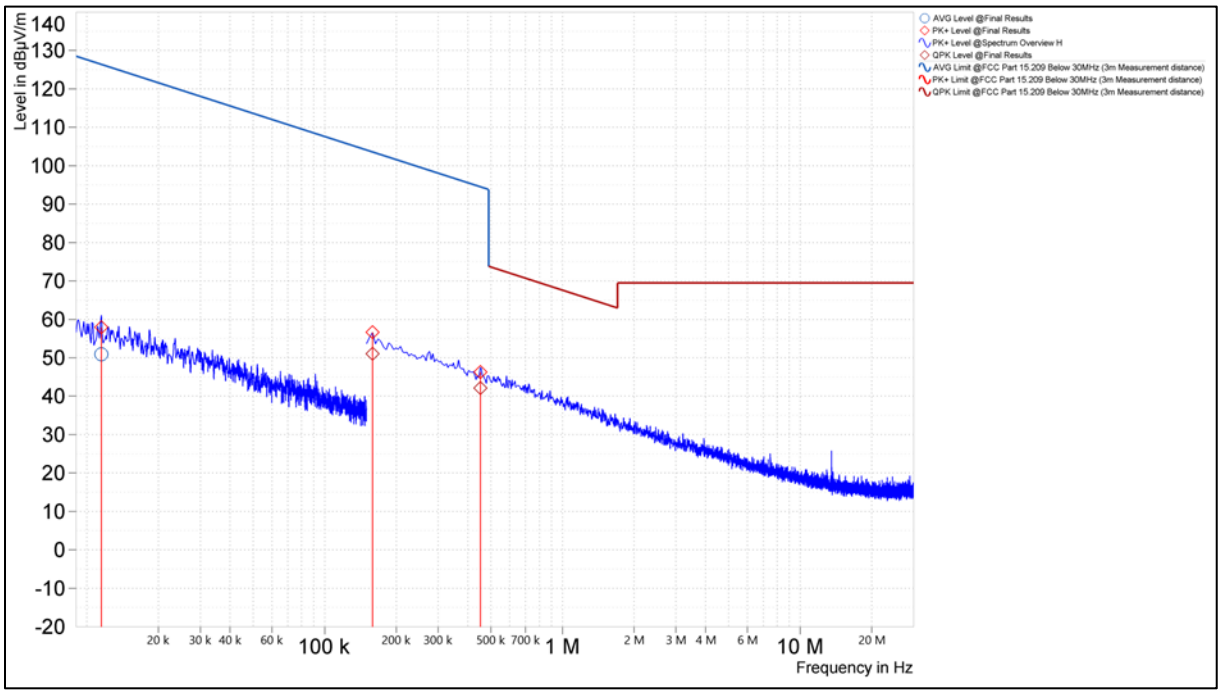


Figure 22. Out of Band Emissions Below 30MHz (Coplanar Loop, Battery)

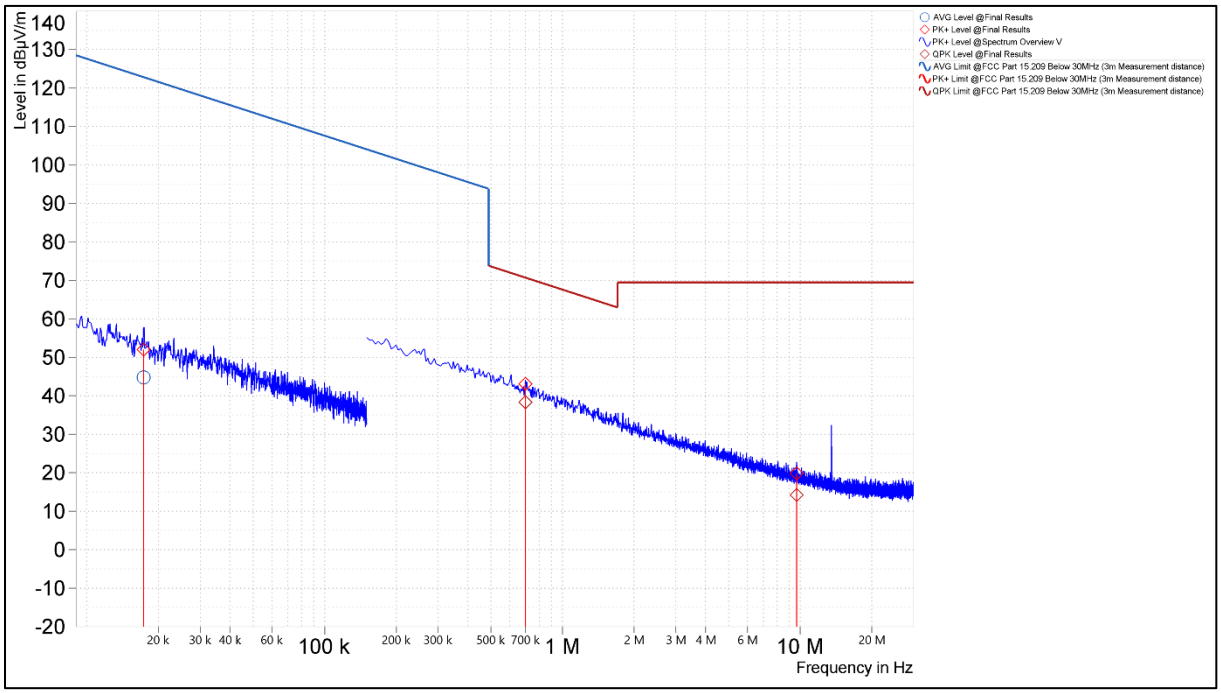


Figure 23. Out of Band Emissions Below 30MHz (Coaxial Loop, Battery)

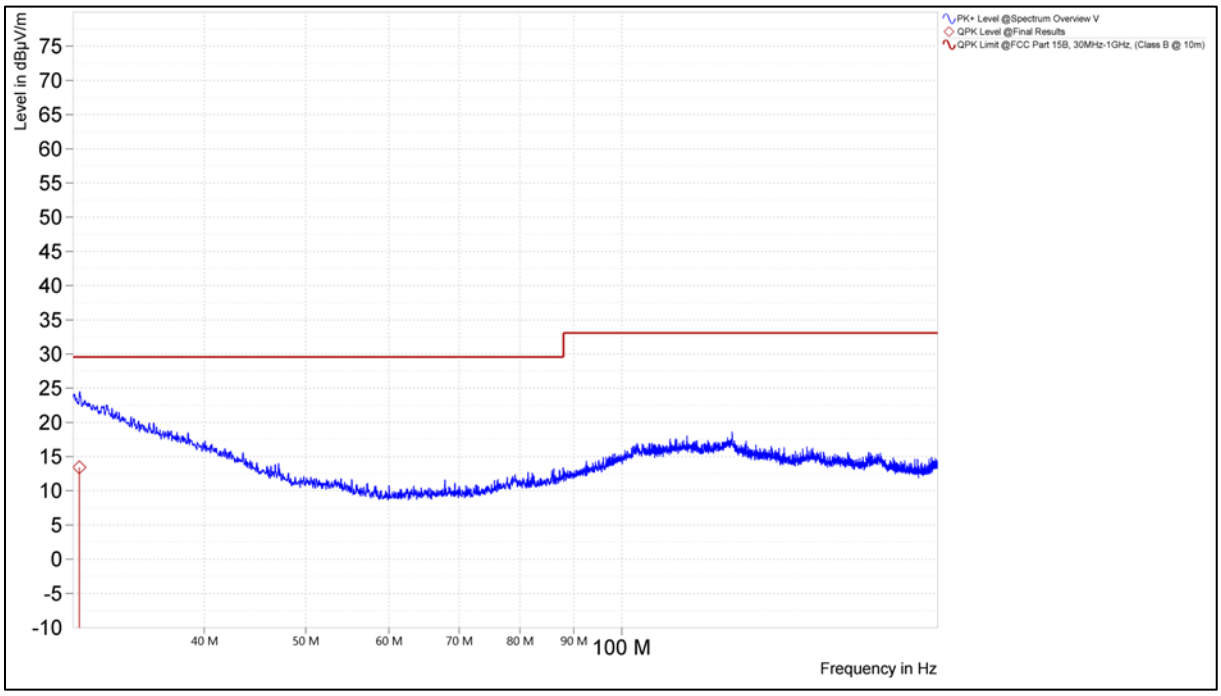


Figure 24. Out of Band Emissions Above 30MHz (Vertical Polarity, Battery)

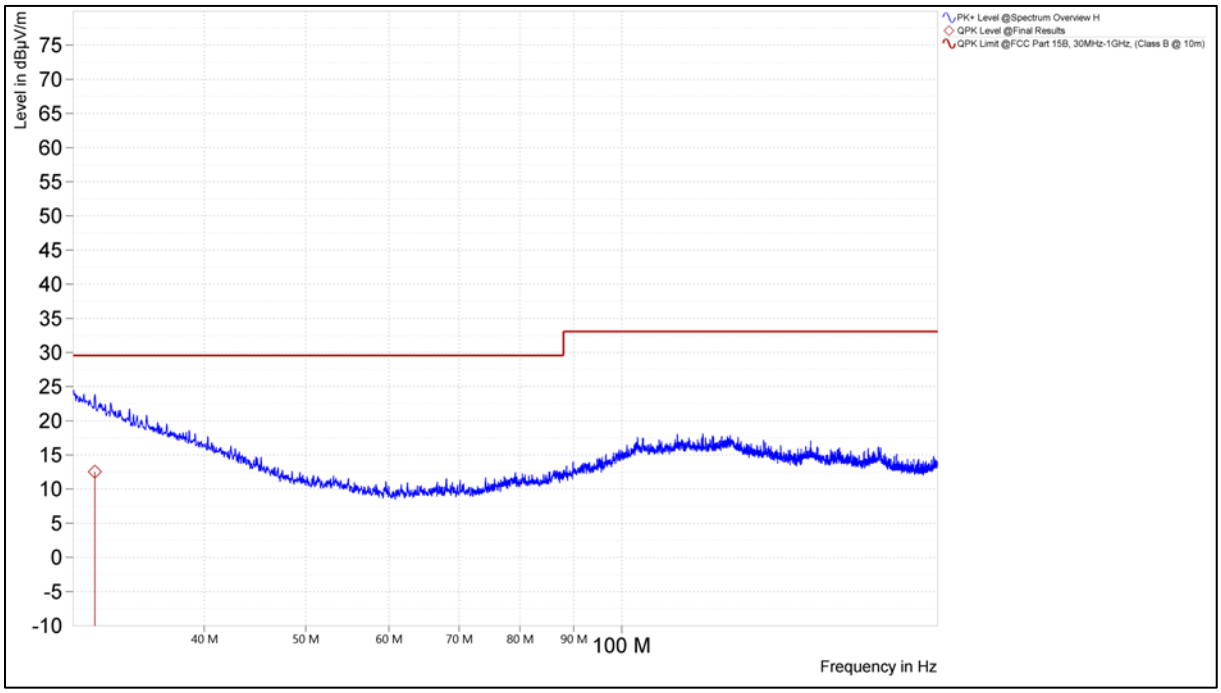


Figure 25. Out of Band Emissions Above 30MHz (Horizontal Polarity, Battery)

Electromagnetic Compatibility Criteria for Intentional Radiators

Frequency Stability

Test Requirement(s):

15.225(e) The frequency tolerance of the carrier signal shall be maintained within +/-0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

RSS-210 (B.6.b) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% (± 100 ppm) of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure:

Measurements are in accordance with section 6.8 of ANSI C63.10. The EUT was placed in the Environmental Chamber and allowed to reach desired temperature. A spectrum analyzer was used to measure the frequency drift. The EUT was set to transmit in the operating frequency range. Frequency drift was investigated for the extreme temperatures and nominal temperature, until the unit is stabilized then recorded the reading in tabular format with the temperature range of -20º to 50ºC.

Test Results:

The Medesto-Go was compliant with Part 15.225 (e) and RSS-210 (B.6.b) requirement(s) of this section.

Test Engineer(s):

Bryan Taylor

Test Date(s):

8/30/2023

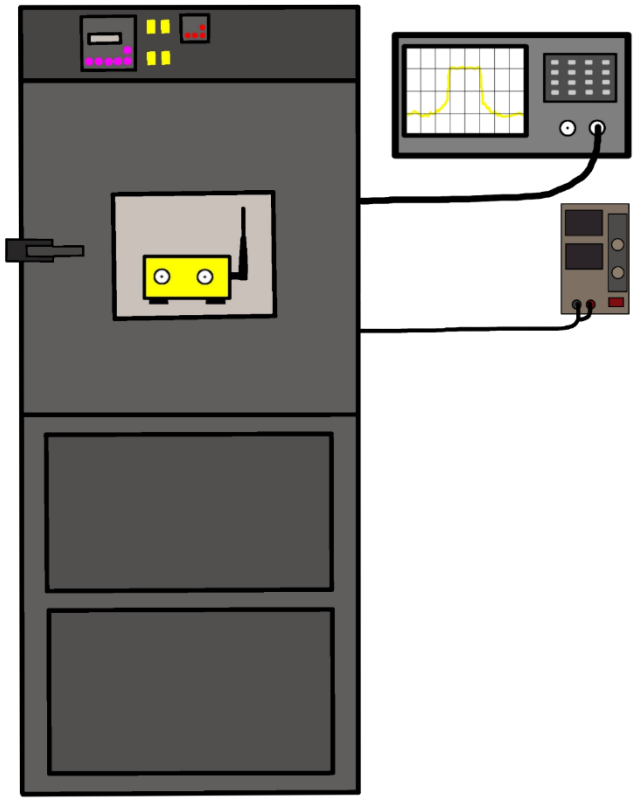


Figure 26. Temperature Stability Test Setup

Operating Freqeuncy:	13,560,000	Hz
Reference Voltage:	12	VDC
Deviation Limit:	0.01	%

Voltage %	Voltage (VDC)	Temp (°C)	Measured Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	Limit (%)
100%	12	-30	13,560,111	111	0.0008	0.01
100%	12	-20	13,560,098	98	0.0007	0.01
100%	12	-10	13,560,090	90	0.0007	0.01
100%	12	0	13,560,052	52	0.0004	0.01
100%	12	10	13,559,986	-14	-0.0001	0.01
100%	12	20	13,559,931	-69	-0.0005	0.01
100%	12	30	13,559,922	-78	-0.0006	0.01
100%	12	40	13,559,863	-137	-0.0010	0.01
100%	12	50	13,559,835	-165	-0.0012	1.01
100%	12	55	13,559,834	-166	-0.0012	0.01
115%	13.8	20	13,559,932	-68	-0.0005	0.01
85%	10.2	20	13,559,926	-74	-0.0005	0.01

Figure 27. Frequency Stability Test Results

Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

MET Asset #	Description	Manufacturer	Model	Last Cal Date	Cal Due Date
MY46180897	Spectrum Analyzer	Keysight	E4448A	7/27/2023	7/27/2024
1A1234	FSV Signal Analyzer	Rohde & Schwarz	FSV 40	1/23/2023	1/23/2024
1A1176	Active Loop Antenna (9KHz-30MHz)	ETS-Lindgren	6502	7/13/2023	7/13/2024
1A1050	Bilog Antenna (30MHz – 1GHz)	Schaffner	CBL 6112D	1/24/2023	1/24/2024
1A1183	Horn Antenna (1GHz – 18GHz)	ETS Lindgren	3117	1/4/2023	1/4/2024
1A1161	Horn Antenna (18GHz – 40GHz)	ETS Lindgren	3116C	7/11/2023	7/11/2024
1A1065	EMI Receiver	Rohde & Schwarz	ESCI	8/4/2023	8/4/2024
1A1087	Pulse Limiter	Rohde & Schwarz	ESH3Z2	12/21/2022	12/21/2023
1A1122	LISN	Teseq	NNB 51	9/19/2022	9/19/2023
1A1123	LISN	Teseq	NNB 51	12/20/2022	12/20/2023
1A1149	DC Milliohm Meter	GW Instek	GOM-802	09/20/2022	09/20/2023
1A1164	True-RMS Multimeter	Fluke	117	10/28/2022	10/28/2023
1A1225	Environmental Chamber	Espec	EXP-2H/New	5/16/2023	5/16/2024
1A1099	Generator	Com-Power	CGO-51000	See Note	
1A1088	Preamplifier	Rohde & Schwarz	TS-PR1	See Note	
1A1044	Generator	Com-Power	CG-520	See Note	
1A1073	Multi Device Controller	ETS	2090	See Note	
1A1074	System Controller	Panasonic	WV-CU101	See Note	
1A1080	Multi-Device	ETS	2090	See Note	
1A1180	Preamplifier	Miteq	AMF-7D-01001800-22-10P	See Note	

Table 12. Test Equipment List

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

End of Report