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

02/11/2025

Devicor Medical Products Inc.
300 E-Business Way, Fifth Floor
Cincinnati, OH 45241
USA

Dear Kyle Wagner,

Enclosed is the EMC test report for compliance testing of Devicor Medical Products Inc., Mammotome AutoCore Charging Base, tested to the requirements of:

- Title 47 of the CFR, Part 15.209 for Certification as an Intentional Radiator.

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: WIRA121643-FCC15.209-WPT-Base

Electromagnetic Compatibility Criteria
Test Report

for the

Devicor Medical Products Inc.
Mammotome AutoCore Charging Base

Tested under
the FCC Certification Rules
contained in
15.209
for Intentional Radiators

Report: WIRA121643-FCC15.209-WPT-Base

02/11/2025

Prepared For:

300 E-Business Way, Fifth Floor
Cincinnati, OH 45241
USA

Prepared By:
Eurofins E&E North America
13501 McCallen Pass,
Austin, TX 78753

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for Intentional Radiators

Bryan Taylor, Wireless Team Lead
Electromagnetic Compatibility Lab

Matthew Hinojosa
EMC Lab Manager

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. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules Part 15.209 under normal use and maintenance.

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	02/11/2025	Initial Issue.

Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Devicor Medical Products Inc. Mammotome AutoCore Charging Base, with the requirements of Part 15, §15.209. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. The following data is presented in support of the Certification of the Mammotome AutoCore Charging Base. Devicor Medical Products Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the Mammotome AutoCore Charging Base, 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, §15.209, in accordance with Devicor Medical Products Inc., under purchase order number D1253750. All tests were conducted using measurement procedures ANSI C63.4-2014 and C63.10-2013.

FCC Reference	Description	Compliance
Part 15 §15.203	Antenna Requirement	Compliant
Part 15 §15.207(a)	Conducted Emission Limits	Compliant
---	99% Occupied Bandwidth	Compliant
Part 15 §15.209(a)	Radiated Emission Limits; General Requirements	Compliant

Table 1. Executive Summary

Equipment Configuration

A. Overview

Eurofins E&E North America was contracted by Devicor Medical Products Inc. to perform testing on the Mammotome AutoCore Charging Base.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Devicor Medical Products Inc. Mammotome AutoCore Charging Base.

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

Product Name:	Mammotome AutoCore Charging Base	
Model Number	MAHCB	
FCCID:	2ATMT-MAHCB01	
Sample Number:	22609-15	
EUT Specifications:	Primary Power: 5VDC via a 120VAC power adapter	
	Type of Modulation(s):	ASK
	Antenna Type:	Coil Antenna
	EUT Frequency Ranges:	125kHz – 180kHz
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	
Report Date:	02/11/2025	
Selected Operating Mode:	The Mammotome AutoCore Charging Base was powered on and actively charging the Mammotome AutoCore handle during the testing. The handle with a fully depleted battery was placed in the Mammotome AutoCore Charging Base to ensure that the charging was taking place at maximum output power during the measurements.	

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
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.

FCC Lab Info:
Designation Number: US1127

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 Mammotome AutoCore Single Insertion Core Biopsy System is a single insertion, automated, spring-loaded core needle device. The system is used to take breast biopsy samples. The system consists of a reusable motorized battery-powered holster, charging base, and disposable probes. The intended user is a breast surgeon in a hospital setting.

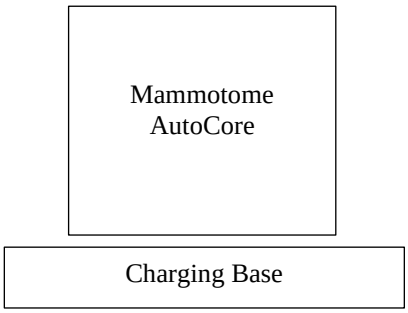


Figure 1. Block Diagram of Test Configuration

F. Support Equipment

EUT does not have any support equipment.

G. Ports and Cabling Information

Ref. ID	Port name on EUT	Cable Description or reason for no cable	Qty	Length as tested (m)	Max Length (m)	Shielded? (Y/N)	Termination Box ID & Port Name
a	DC Input to Charging Base	5VDC Cable	1	2m	2m	None	AC/DC Power Adapter

Table 5. Ports and Cabling Information

H. 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.

I. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Devicor Medical Products Inc. 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 Mammotome AutoCore Charging Base as evaluated, was compliant as the antenna was a permanently attached coil loop.

Test Engineer(s): Bryan Taylor

Test Date(s): 9/23/2022

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

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 Mammotome AutoCore Charging Base was compliant with this requirement.

Test Engineer(s): Bryan Taylor

Test Date(s): 9/24/2022

Conducted Emissions Voltage Test Setup

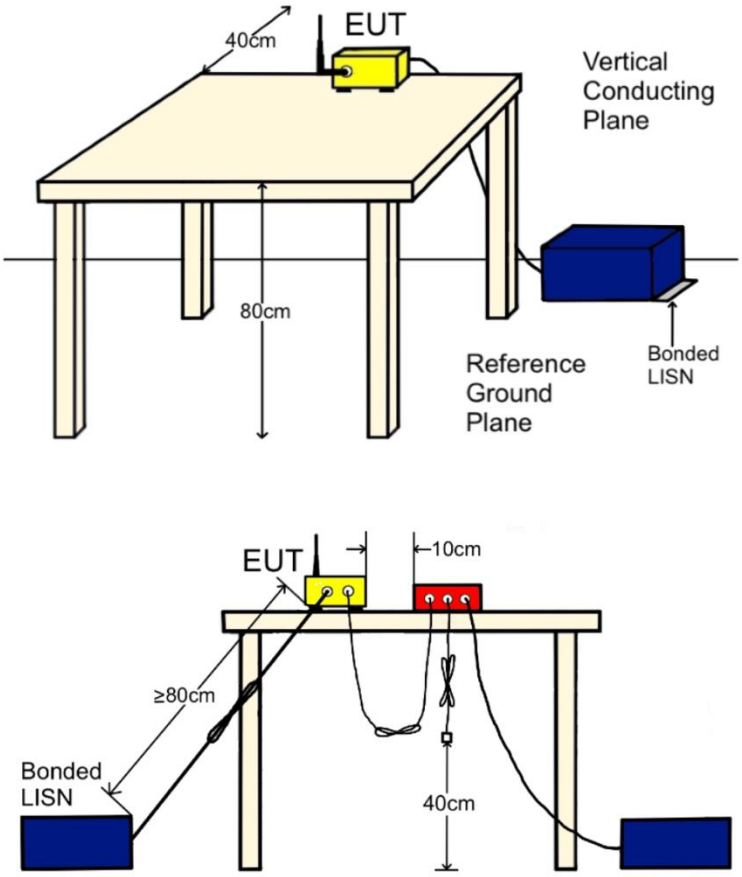
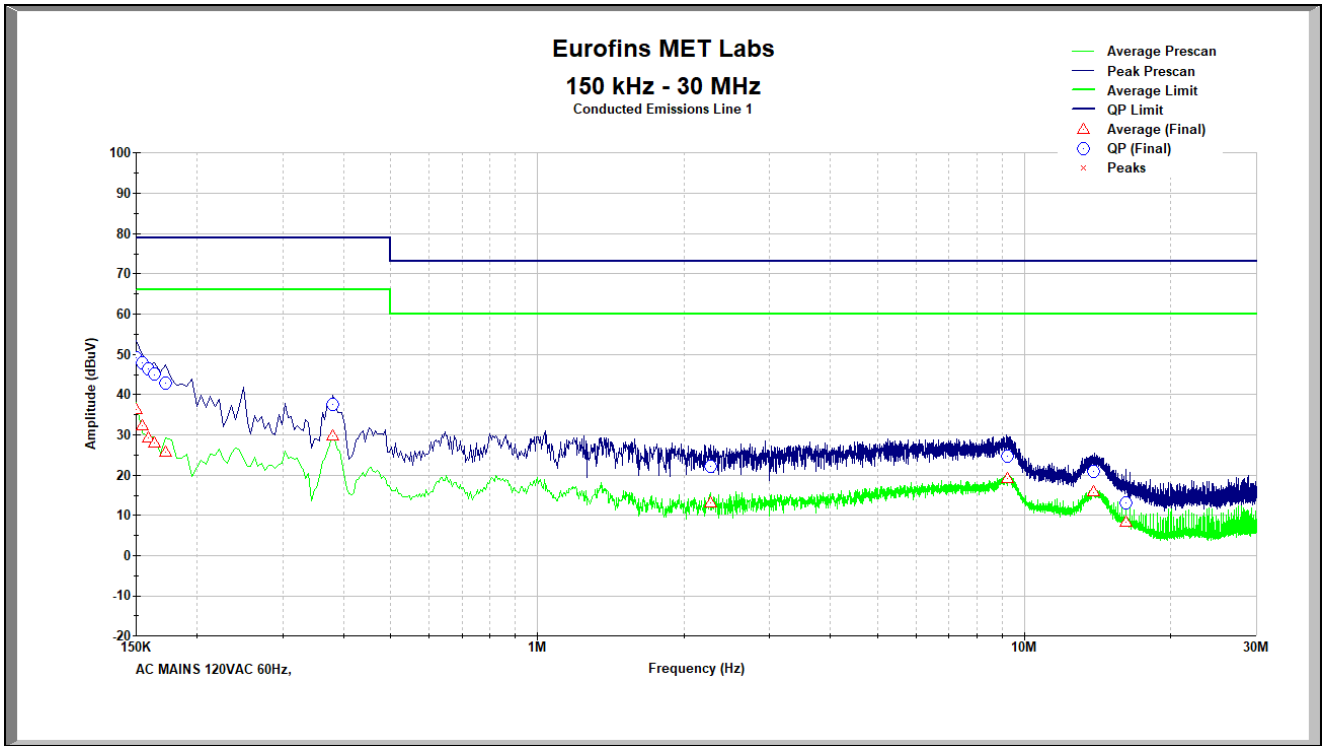


Figure 2. CEV Test Setup

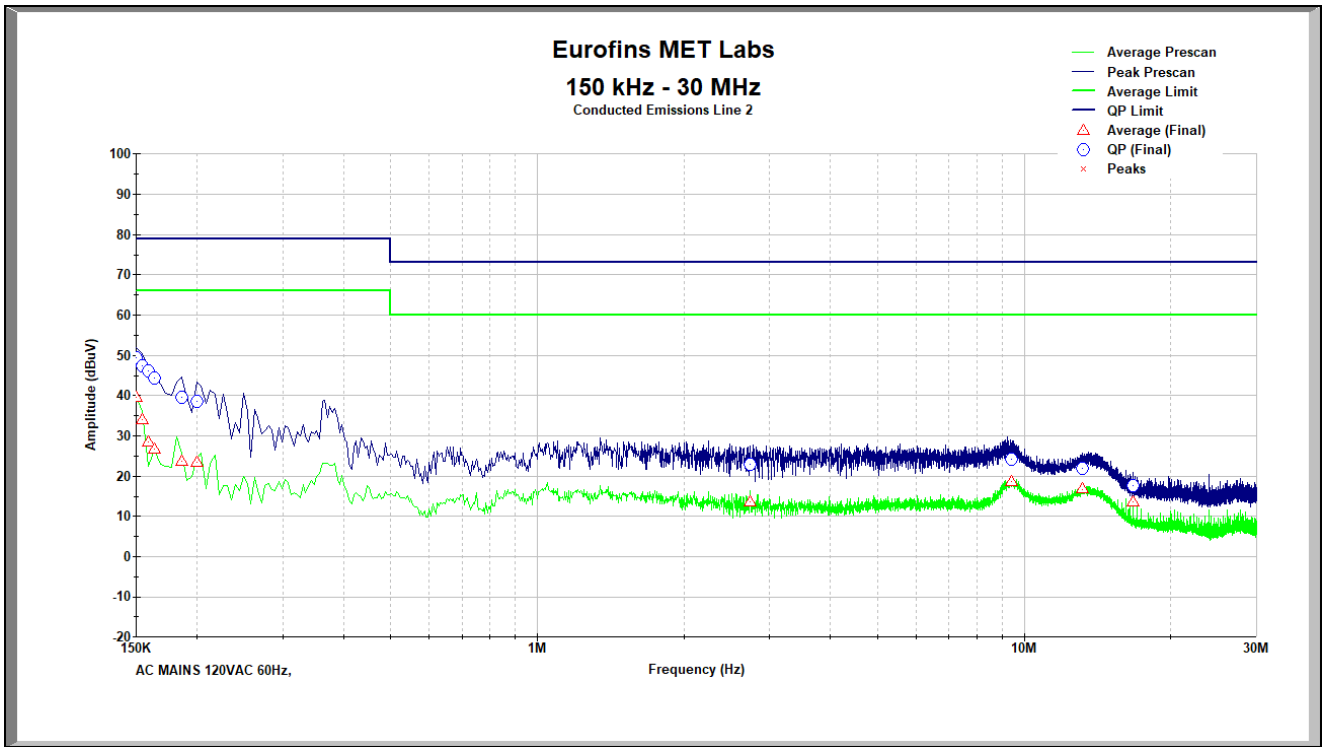
Measurement Location	Measurement	Limit	Result
Bonding measurement from LISN ground to ground plane	1.45 mΩ	< 2.5 mΩ	Pass



Plot 1. Conducted Emissions, Line

Freq (MHz)	QP (dBuV)	QP Lim (dBuV)	QP Margin (dB)	Avg (dBuV)	Avg Lim (dBuV)	Avg Margin (dB)	Results
0.15	49.166	79	29.834	36.337	66	29.663	Pass
0.1545	47.778	79	31.222	32.197	66	33.803	Pass
0.159	46.438	79	32.562	29.301	66	36.699	Pass
0.1635	44.99	79	34.01	27.881	66	38.119	Pass
0.1725	42.861	79	36.139	25.709	66	40.291	Pass
0.3795	37.645	79	41.355	29.765	66	36.235	Pass
2.2695	22.079	73	50.921	13.17	60	46.83	Pass
9.2175	24.779	73	48.221	19.087	60	40.913	Pass
13.908	20.896	73	52.104	15.727	60	44.273	Pass
16.191	13.108	73	59.892	8.262	60	51.738	Pass

Table 7. Conducted Emissions, Line



Plot 2. Conducted Emissions, Neutral Plot

Freq (MHz)	QP (dBuV)	QP Lim (dBuV)	QP Margin (dB)	Avg (dBuV)	Avg Lim (dBuV)	Avg Margin (dB)	Results
0.15	49.363	79	29.637	39.502	66	26.498	Pass
0.1545	47.496	79	31.504	34.01	66	31.99	Pass
0.159	46.014	79	32.986	28.389	66	37.611	Pass
0.1635	44.474	79	34.526	26.808	66	39.192	Pass
0.186	39.55	79	39.45	23.614	66	42.386	Pass
0.1995	38.639	79	40.361	23.384	66	42.616	Pass
2.733	23.002	73	49.998	13.64	60	46.36	Pass
9.4065	24.142	73	48.858	18.522	60	41.478	Pass
13.161	21.853	73	51.147	16.752	60	43.248	Pass
16.7535	17.656	73	55.344	13.715	60	46.285	Pass

Table 8. Conducted Emissions, Neutral

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

Test Name: Conducted Voltage Emissions				Test Date(s):	9/24/2022
MET Asset #	**Nomenclature**	**Manufacturer**	**Model**	**Last Cal Date**	**Cal Due Date**
1A1065	EMI Test Receiver	Rohde & Schwarz	ESCI	08/04/2022	08/04/2023
1A1077	Pulse Limiter	Rohde & Schwarz	ESH3Z2	11/23/2021	11/23/2022
3A3215	Miliohm meter	Valhalla Scientific	4150ATC	05/12/2022	05/12/2023
3A3118	Temperature, Humidity and Pressure Recorder	Omega Engineering	OM-CP-PRHTEMP2000	10/22/2021	10/22/2022
1A1164	True-RMS Multimeter	Fluke	117	10/19/2021	10/19/2022
1A1122	LISN	TESEQ	NNB 51	09/19/202	09/19/2023
1A1079	Conducted Comb Generator	COM-Power Corp	CGC-255	See Note	
Note:	Functionally tested equipment is verified using calibrated instrumentation at the time of testing.				

Table 9. Conducted Emissions Test Equipment List

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.

Test Engineer(s): Bryan Taylor

Test Date(s): 9/22/2024

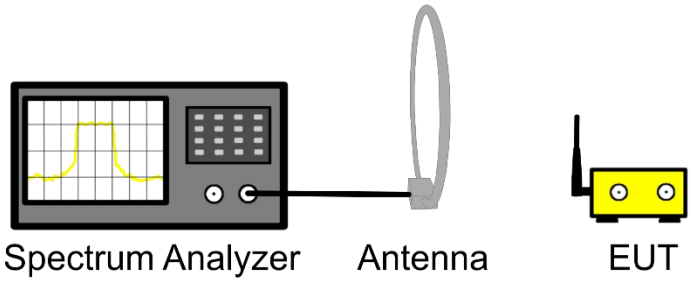
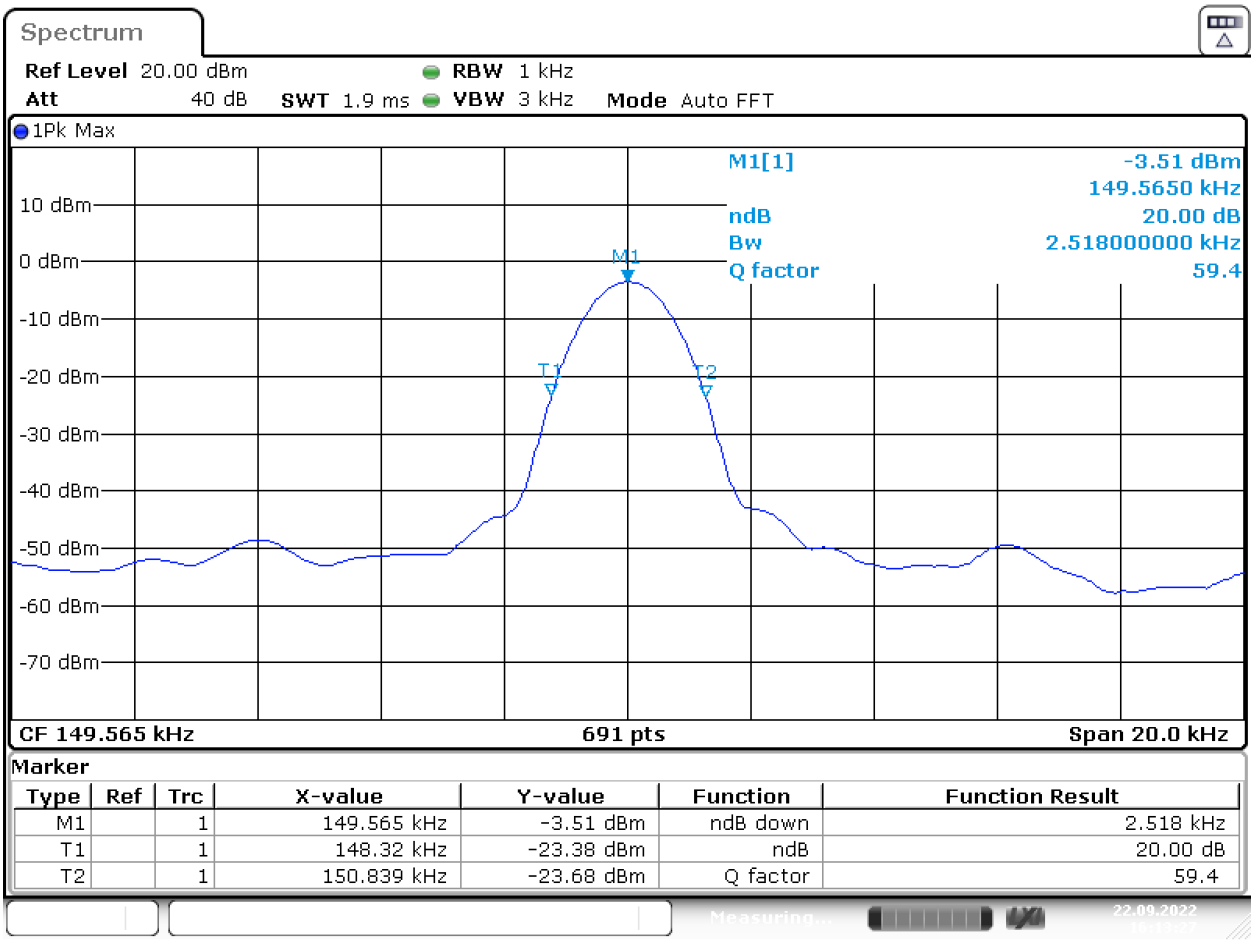


Figure 3. 20 dB Bandwidth and 99% Bandwidth Test Setup

Center Frequency (kHz)	-20dB Bandwidth of Emission (kHz)
149.565kHz	2.518kHz

Table 10. 20 dB Emission Bandwidth Test Results



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Plot 3. -20dB Occupied Bandwidth Plot

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

Test Name: Occupied Bandwidth				Test Date(s):	9/22/2022
MET Asset #	**Nomenclature**	**Manufacturer**	**Model**	**Last Cal Date**	**Cal Due Date**
1A1234	Spectrum Analyzer	Rohde & Schwarz	FSV 40	01/20/2022	01/20/2023
1T9586	Active Loop Antenna	ETS-Lindgren	6502	06/01/2021	12/01/2022
Note:	Functionally tested equipment is verified using calibrated instrumentation at the time of testing.				

Table 11. Occupied Bandwidth Test Equipment List

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.209(a) Radiated Emissions Limits; General Requirements

Test Requirement(s): Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency	Limit Distance (Meters)	Limit at Specified Distance (uV/m)	15.209 Limit Adjusted to Decibels at Specified Distance (dBuV/m)	15.209 Limit Adjusted to 3m (dBuV/m)
9kHz - 490kHz	300	2400/F(kHz)	48.5 - 13.8	128.5 - 93.8
490kHz - 1705kHz	30	24000/F(kHz)	33.8 - 23	73.8 - 63
1705kHz - 30MHz	30	30	29.6	69.6

Table 12. FCC Part 15.209 General Radiated Emission Limits Below 30MHz

Frequency	Limit Distance (Meters)	Limit at Specified Distance (uV/m)	15.209 Limit Adjusted to Decibels at Specified Distance (dBuV/m)	15.209 Limit Adjusted to 10m (dBuV/m)
30MHz - 88MHz	3	100	40	29.55
88MHz - 216MHz	3	150	43.5	33.05
216MHz - 960MHz	3	200	46	35.55
Above 960MHz	3	500	54	43.55

Table 13. FCC Part 15.209 General Radiated Emission Limits Above 30MHz

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.

The measurements below 30MHz were made at 3 m with the loop antenna. The limits were then extrapolated to 3m using the following distance correction factors which were applied to the limit at the specified distance.

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

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

20log (3/10) = -10.46 dB

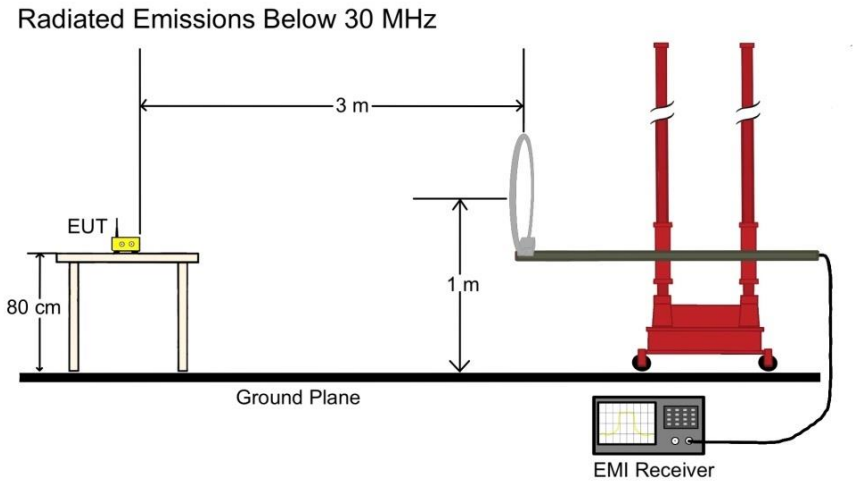


Figure 4: Radiated Emissions (Below 30MHz), Test Setup

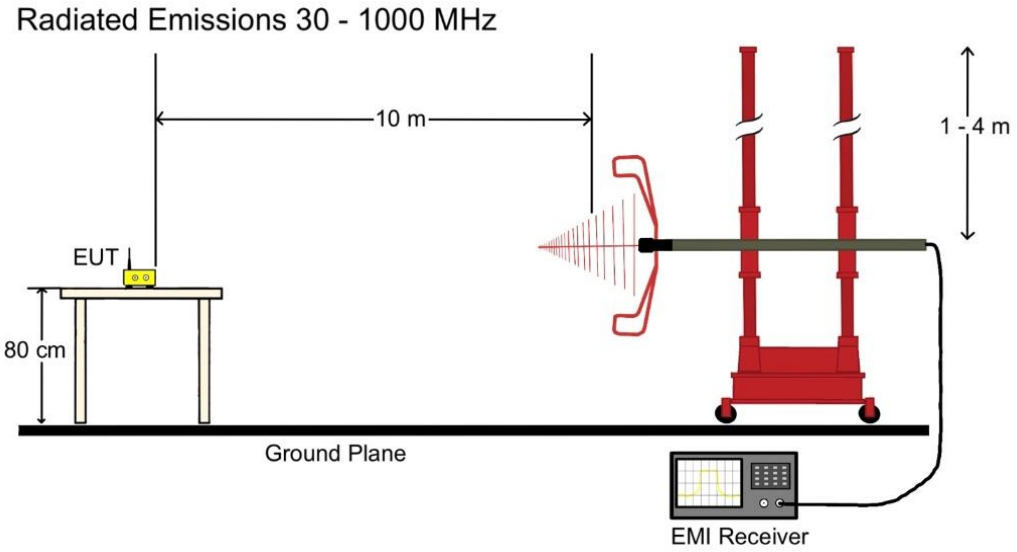


Figure 5. Radiated Emissions (Above 30MHz), Test Setup

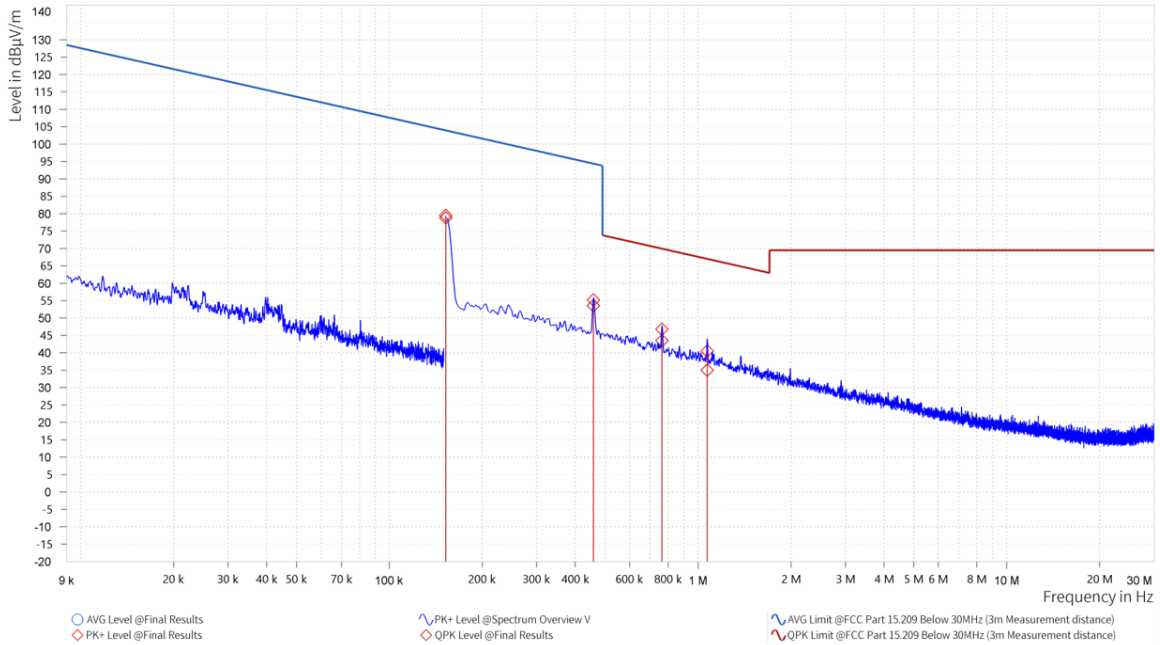
Test Results: The Mammotome AutoCore Charging Base was compliant with the requirements of **§15.209(a).**

Test Engineer(s): Bryan Taylor

Test Date(s): 9/22/2022 – 9/24/2022

Radiated Field Strength

Plot 4. Spurious Emissions 9kHz – 30MHz, 0 degrees Loop Antenna

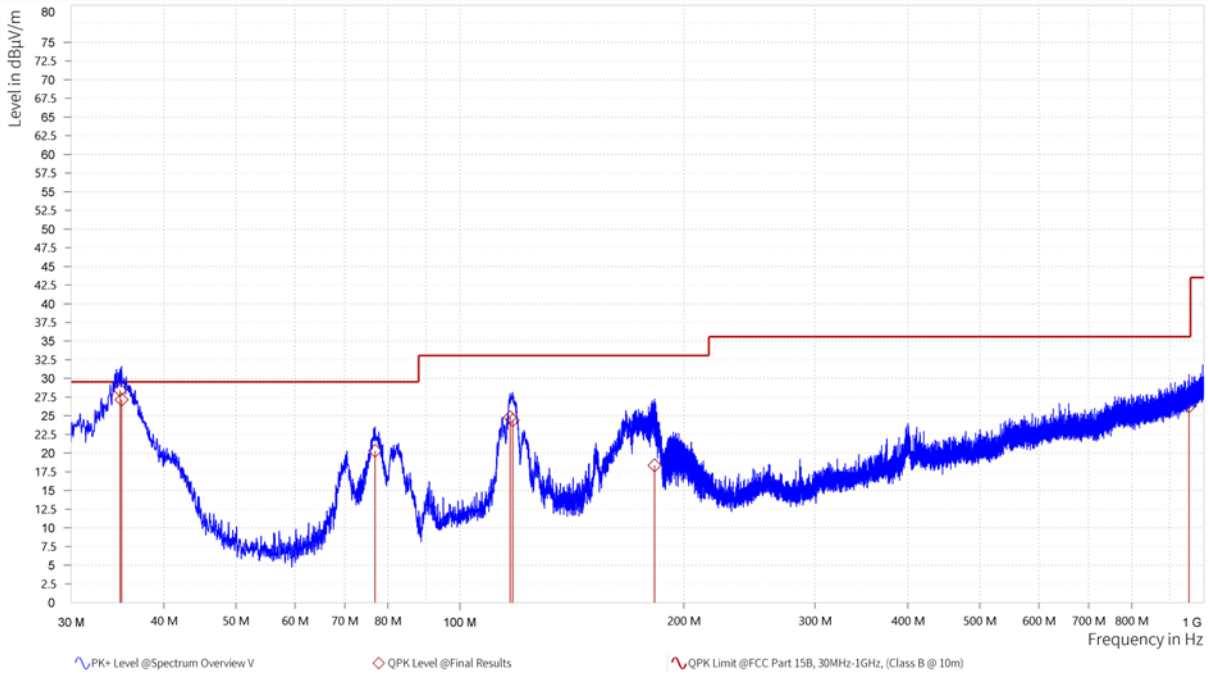


Plot 5. Spurious Emissions 9kHz – 30MHz, 90 degrees Loop Antenna

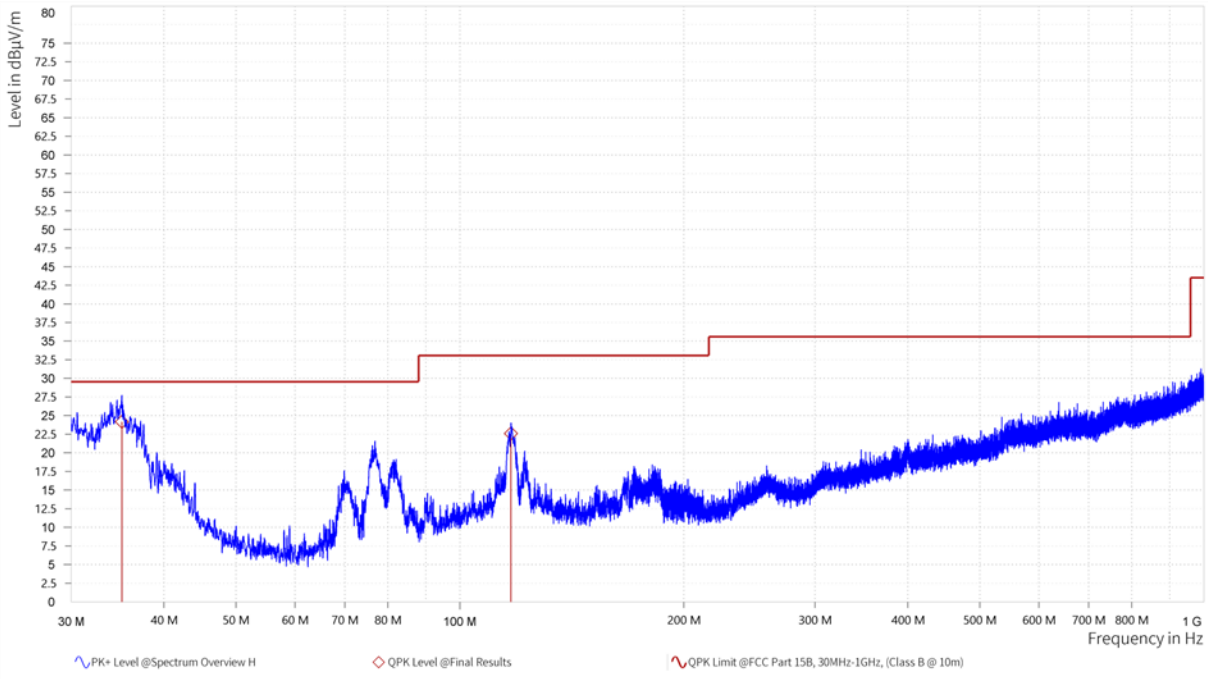
Frequency [MHz]	PK+ Level [dBµV/m]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Meas. BW [kHz]
0.152	79.48	78.78	118.18	39.4	11.48	V	240	9.000
0.155	82.19	81.70	117.96	36.26	11.48	H	180	9.000
0.458	59.75	58.18	96.11	37.93	11.37	H	180	9.000
0.458	55.20	53.53	96.11	42.58	11.37	V	240	9.000

Frequency [MHz]	PK+ Level [dBµV/m]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Meas. BW [kHz]
0.764	50.40	47.89	69.94	22.05	11.61	H	180	9.000
0.764	46.79	43.46	69.94	26.48	11.61	V	120	9.000
1.068	43.93	40.22	67.03	26.81	11.95	H	180	9.000
1.070	40.49	34.97	67.01	32.04	11.95	V	240	9.000

Table 14. Spurious Emissions 9kHz – 30MHz



Plot 6. Spurious Emissions 30MHz – 1GHz, Vertical Polarity



Plot 7. Spurious Emissions 30MHz – 1GHz, Horizontal Polarity

Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]
34.920	28.43	29.55	1.12	-4.96	V	90	2.24	120.000
35.070	27.17	29.55	2.38	-5.02	V	100	2.5	120.000
35.100	24.17	29.55	5.38	-5.04	H	135	3.84	120.000
76.860	20.31	29.55	9.24	-13.49	V	287	2.1	120.000
116.790	24.80	33.07	8.27	-7.59	V	260	1	120.000
117.120	22.61	33.07	10.46	-7.59	H	301	3.94	120.000
117.690	24.41	33.07	8.66	-7.59	V	39	1.24	120.000
182.640	18.35	33.07	14.72	-10.14	V	9	1	120.000
955.080	26.26	35.57	9.31	5.92	V	45	1.68	120.000

Table 15. Spurious Emissions Above 30MHz

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

Test Name: Radiated Emissions				Test Date(s):	9/22/2022 – 9/24/2022
MET Asset #	**Nomenclature**	**Manufacturer**	**Model**	**Last Cal Date**	**Cal Due Date**
1A1083	Test Receiver	Rohde & Schwarz	ESU40	10/12/2021	10/12/2022
1A1088	Preamplifier	Rohde & Schwarz	TS-PR1	See Note	
1A1050	Bi-Log Antenna	Schaffner	CBL 6112D	12/01/2020	12/01/2022
1T9586	Active Loop Antenna	ETS-Lindgren	6502	06/01/2021	12/01/2022
3A3118	Temperature, Humidity and Pressure Recorder	Omega Engineering	OM-CP-PRHTEMP2000	10/22/2021	10/22/2022
1A1073	Multi Device Controller	ETS EMCO	2090	See Note	
1A1106	10 M Semi-Anechoic Chamber (NSA)	ETS - Lindgren	04X07	01/06/2022	01/06/2025
Note:	Functionally tested equipment is verified using calibrated instrumentation at the time of testing.				

Table 16. Spurious Emissions Test Equipment List

End of Report

