



166 South Carter, Genoa City, WI 53128

Company: Dabir Surfaces, Inc.  
Model Tested: CA-9001  
Report Number: 20054  
Project Number: 6545

## **Code of Federal Regulations 47 Part 15 – Radio Frequency Devices**

### **Subpart C – Intentional Radiators**

#### **Section 15.225**

**Operation within the band 13.110 – 14.010 MHz**

**THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION**

Formal Name: Dabir Patient Support System 9' Hose Assembly

Kind of Equipment: Patient Support System

Frequency Range: 13.56 MHz

Test Configuration: Tabletop

Model Number(s): CA-9001

Model(s) Tested: CA-9001

Serial Number(s): Controller: 16-14008 with prototype 9' Hose Assembly

Date of Tests: May 1st to May 7th, 2014

Test Conducted For: Dabir Surfaces, Inc.  
24585 Evergreen Rd.  
Southfield, MI 48075, USA

**NOTICE:** “This test report relates only to the items tested and must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government”. Please see the "Description of Test Sample" page listed inside of this report.

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## SIGNATURE PAGE

Tested By:

Craig Brandt  
Test Engineer

Reviewed By:

William Stumpf  
OATS Manager

Approved By:

Brian Mattson  
General Manager



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United States Department of Commerce  
National Institute of Standards and Technology



## Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

**D.L.S. Electronic Systems, Inc.**  
Wheeling, IL

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for.*

### ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2013-10-01 through 2014-09-30

*Effective dates*



*W. D. M. L.*

*For the National Institute of Standards and Technology*

NVLAP-01C (REV. 2009-01-28)



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Model Tested: CA-9001  
Report Number: 20054  
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## 1.0 Summary of Test Report

It was determined that the Dabir Surfaces, Inc. Dabir Patient Support System 9' Hose Assembly, Model: CA-9001, complies with the requirements of CFR 47 Part 15 Subpart C Section 15.225.

### Subpart C Section 15.225 Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
Informational	20 dB Emission Bandwidth	ANSI C63.10-2009 Section 6.9.1	1	Yes
FCC 15.225 & 15.209	Radiated Emissions	ANSI C63.4-2009 & ANSI C63.10-2009	1	Yes
FCC 15.225(e)	Frequency Stability	ANSI C63.10-2009 Section 6.8	1	Yes
FCC 15.207	AC Line Conducted Emissions	ANSI C63.4-2009 & ANSI C63.10-2009	2	Yes

Note 1: Radiated emission measurement.

Note 2: AC Line Conducted emission measurement

## 2.0 Introduction

In May, 2014 the Dabir Patient Support System 9' Hose Assembly, Model: CA-9001, as provided from Dabir Surfaces, Inc. was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.225. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S Electronic Systems, Inc.

## 3.0 Test Facilities

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at <http://www.dlsemc.com/certificate>. Our facilities are registered with the FCC, Industry Canada, and VCCI.

### Wisconsin Test Facility:

D.L.S. Electronic Systems, Inc.  
166 S. Carter Street  
Genoa City, Wisconsin 53128

### Wheeling Test Facility:

D.L.S. Electronic Systems, Inc.  
1250 Peterson Drive  
Wheeling, IL 60090



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Model Tested:	CA-9001
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#### **4.0 Description of Test Sample**

##### **Description:**

The Dabir ControlAIR - Pneumatic Controller contains a main microprocessor based controller (Pneumatic Control Unit/PCU) that controls the function of the Dabir Surfaces Patient Support System. The PCU receives input via touch sensitive pushbuttons from the human operator, determines if the proper cable with Overlay Assembly is connected properly and is not outdated, and provides alternating zonal pressure regulated air pressure to the Overlay Assembly as ordered by the Operator's selections on the UI. The PCU is comprised of a microprocess PCB, two solenoids on a manifold, an air pump motor, a User Interface display & pushbutton assembly, power supply, two fans, various connectors, AC line cord with a fuse holder AC socket, and a USB with two air pressure hoses cable assembly. The intent of this report is to show FCC Part 15.225 compliance of the RFID in the 9' Hose Assembly. The Overlay Assembly has a passive RFID tag.

##### **Type of Equipment / Frequency Range:**

RFID / 13.56 MHz

##### **Physical Dimensions of Equipment Under Test:**

Length: 5.5" x Width: 7" x Height: 5.125" (with cables connected the unit is 18" long)

##### **Power Source:**

120 V, 60 Hz

##### **Internal Frequencies:**

32.768 MHz, 27.12 MHz, 20 MHz, 13.56 MHz

##### **Transmit / Receive Frequencies Used For Test Purpose:**

13.56 MHz



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**Type of Modulation(s) / Antenna Type:**

ASK / Permanent on board antenna

**Description of Circuit Boards / Parts & Part Numbers:**

AC Line Filter #1	Schurter KMF1.1123.11
AC Line Filter #2	Fair-Rite 0431164951
Mother Board, PCU Assembly	R01-0002-00002 Rev. AA
RFID Reader PCB Assembly	R01-0003-00007 Rev. AA
User Interface Sub-Assembly	R01-0002-00007 Rev. AA
PCU Mother PCB Rev10	Bar Coded: 1330257829
User Interface PCB – P29407X3Z	MFG code: 1332
Interconnect Cable Assembly F01-0004-00002	Serial #: C1022140024P
Overlay Assembly F01-0004-00006	Serial #: C2133540021P
Entire PCU Assembly R01-0002-00001	Serial #: 16-14008
Air Pump Air Squared MFG part#: P12H020A-A01	Serial #: A102634
Power supply TDK Lambda Part # CSS150-12	Serial #: SN0015116



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## 5.0 Test Equipment

A list of the equipment used can be found in the table below. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

### D.L.S. Wisconsin – AC Line Conducted (Screen Room)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	7-23-13	7-23-14
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A
LISN	Solar	9252-50-R-24-BNC	961019	9 kHz – 30 MHz	5-24-13	5-24-14
Filter- High-Pass	SOLAR	7930-120	090702	120 kHz – 30 MHz	1-3-14	1-3-15
Limiter	Electro-Metrics	EM-7600	706	9 kHz – 30 MHz	1-3-14	1-3-15

### RADIATED EMISSIONS TEST 9 kHz – 30 MHz (Site 2)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	7-23-13	7-23-14
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A
Antenna	Electro-Metrics	6502	1027	9 kHz – 30 MHz	7-25-13	7-25-15

### RADIATED EMISSIONS TEST 30 – 1000 MHz (Site 2)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	7-23-13	7-23-14
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	1-4-14	1-4-15
Antenna	EMCO	3104C	00054892	20 MHz – 200 MHz	9-13-12	9-13-14
Antenna	EMCO	3146	1205	200 MHz – 1 GHz	9-19-12	9-19-14

### Temperature Chamber

Description	Manufacturer	Model Number	Serial Number	Temperature Range	Cal Dates	Cal Due Dates
Temperature Chamber	Test Equity	1007C	R035716	-73° C to +175° C	N/A	N/A





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## 6.0 Test Arrangements

### Radiated Emissions Measurement Arrangement:

All radiated emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to ANSI C63.4-2009 and ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up.

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

## 7.0 Test Conditions

### Test Conditions recorded during test:

#### Temperature and Humidity:

68°F at 40% RH (or noted on the test data)

#### Voltage:

120 V, 60Hz

## 8.0 Modifications Made To EUT For Compliance

1. Replaced non-shielded AC power cord with a shielded AC power cord to pass AC line conducted at the RFID fundamental frequency of 13.56 MHz.



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## 9.0 Additional Descriptions

The EUT was tested with the air pump running, RFID continuous transmit coupled with RFID tag, and the USB port terminated into computer.

The EUT was positioned in 3 orthogonal axis for all radiated testing to find worst-case.

The passive RFID tag in the Overlay Assembly was tested for compliance as part of the system.

## 10.0 Results

Measurements were performed in accordance with ANSI C63.4-2009 and ANSI C63.10-2009. Graphical and tabular data can be found in Appendix B at the end of this report.

## 11.0 Conclusion

The Dabir Patient Support System 9' Hose Assembly, Model: CA-9001, as provided from Dabir Surfaces, Inc. tested in May, 2014 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.225.



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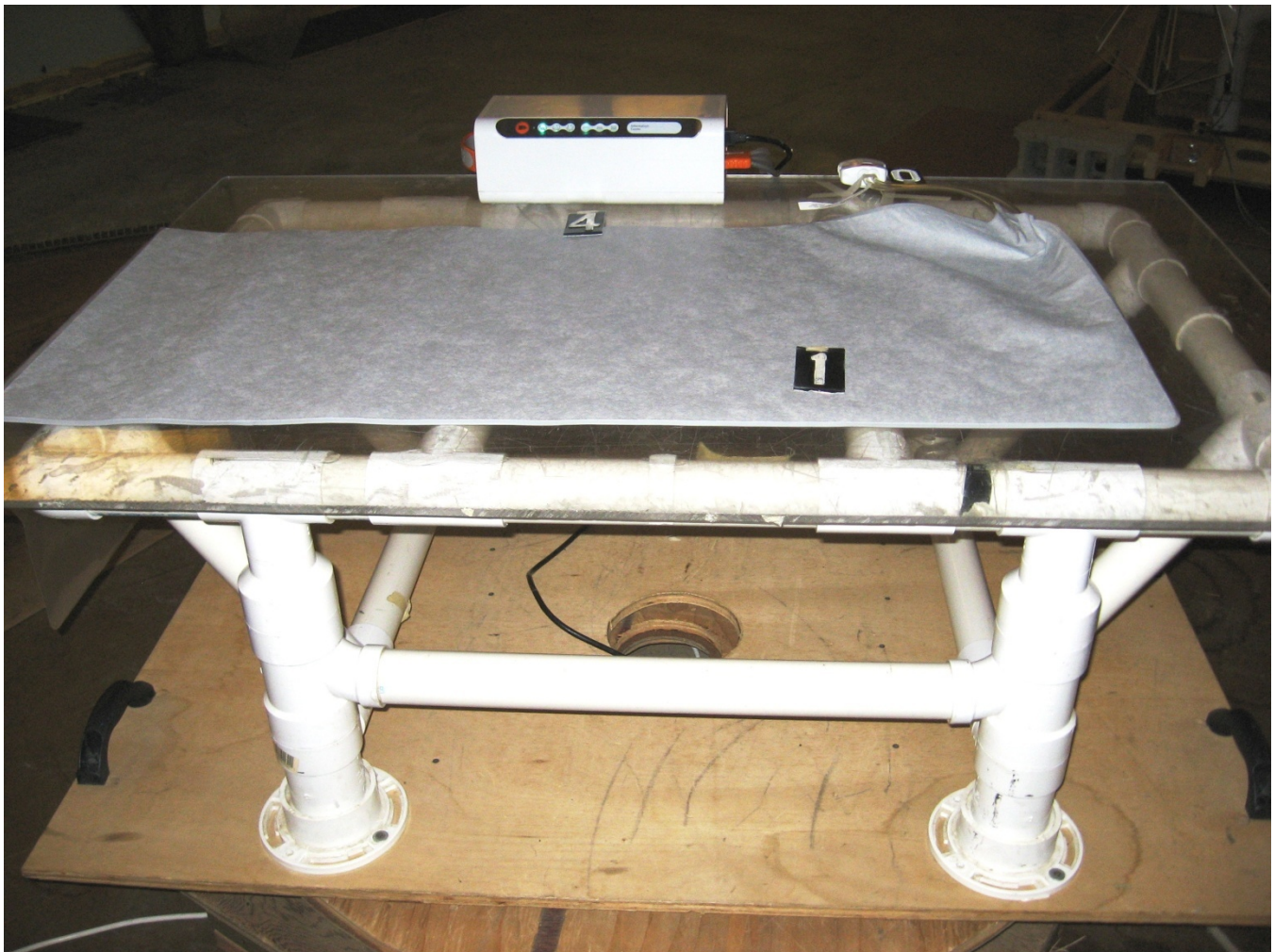
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## Appendix A – Test Photos

### Photo Information and Test Setup:

- Item 0: Dabir Patient Support System 9' Hose Assembly, Model: CA-9001 (RFID in 9' Hose Assembly)
- Item 1: Overlay Assembly
- Item 2: Shielded AC Power Cord, 1.5 meters long
- Item 3: Shielded Cable/Hose Assembly, 2.5 meters long - plastic
- Item 4: EUT - Controller, Serial Number: 16-14008

### Radiated Emissions – Front



## Appendix A

### Radiated Emissions – Back - Positions 1 & 2







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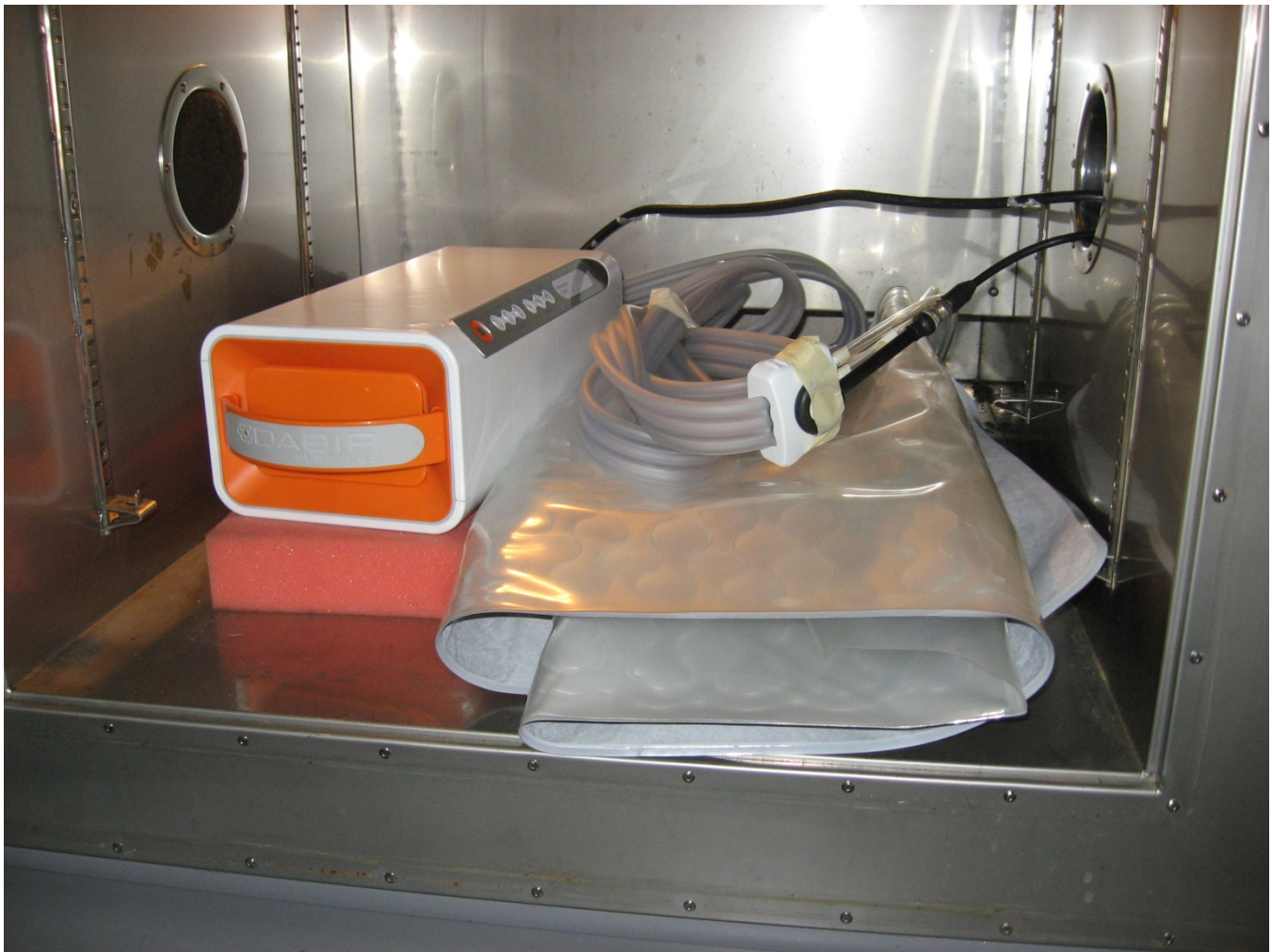
## Appendix A

### Radiated Emissions – Back - Position 3



## Appendix A

### Frequency Stability







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Company:  
Model Tested:  
Report Number:  
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## Appendix A

### AC line Conducted Emissions – Front



## Appendix A

### AC line Conducted Emissions – Back







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## Appendix B – Measurement Data

### 1.0 Occupied Bandwidth – 20 dB

**Rule Part:** Informational

**Test Procedure:** ANSI C63.10:2009 Section 6.9.1

**Limits:** NA

**Results:** Compliant

**Sample Equations:** N/A

.

**Notes:** The EUT was set to transmit at its maximum power.

This measurement was taken using the Rhode & Schwarz internal 20 dB down bandwidth function.



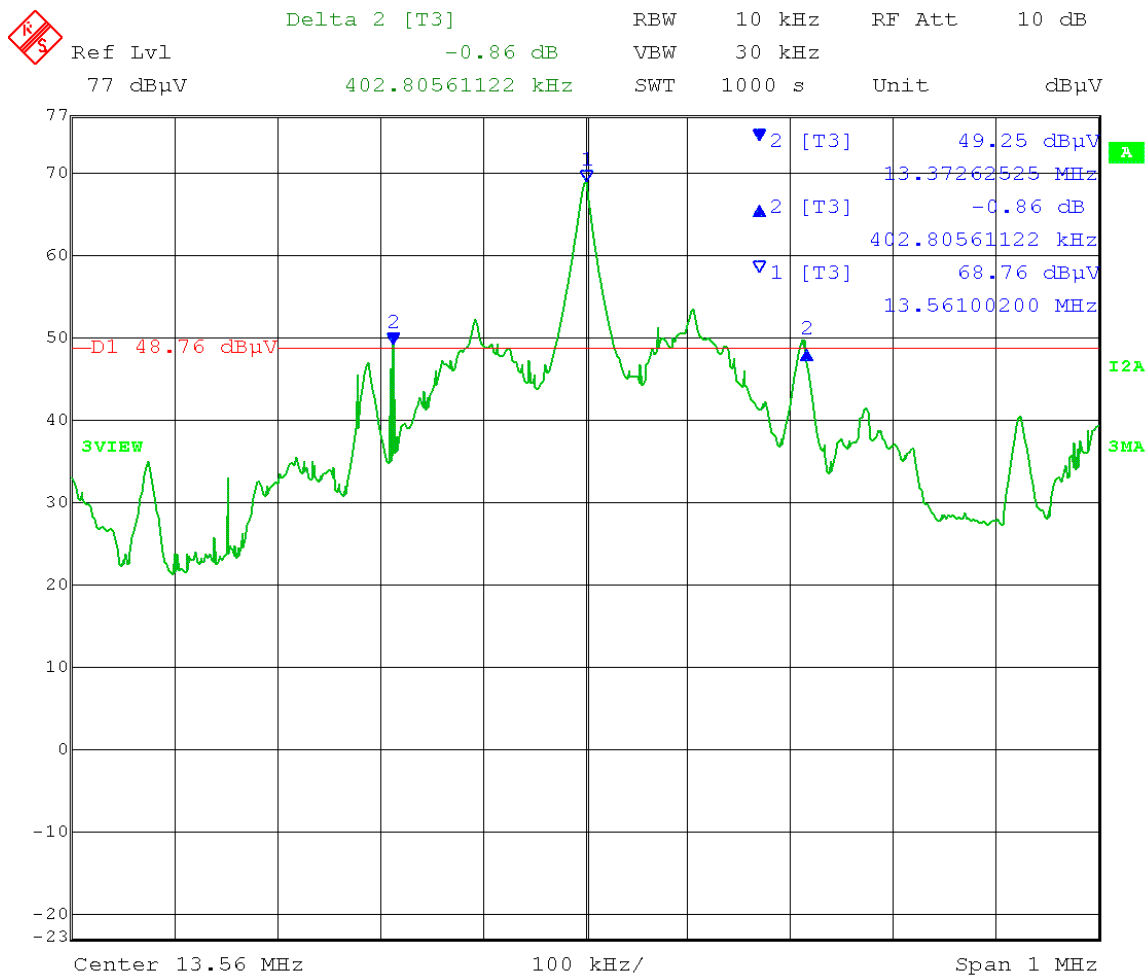
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Company: Dabir Surfaces, Inc.  
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## Appendix B

Test Date: 05-01-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: 20 dB Bandwidth - Radiated  
Operator: Craig B  
Comment: Frequency: 13.56 MHz

20 dB Bandwidth = 403 kHz



Date: 1.MAY.2014 13:27:45



166 South Carter, Genoa City, WI 53128

Company: Dabir Surfaces, Inc.  
Model Tested: CA-9001  
Report Number: 20054  
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## Appendix B

### 2.0 Radiated Emissions

**Rule Part:** FCC Part 15.225 and FCC Part 15.209

**Test Procedure:** ANSI C63.4-2009 & ANSI C63.10-2009

**Limits:**  
15,848  $\mu\text{V/m}$  at 30 meters: 13.553-13.567 MHz  
334  $\mu\text{V/m}$  at 30 meters: 13.410-13.553 & 13.567-13.710 MHz  
106  $\mu\text{V/m}$  at 30 meters: 13.110-13.410 & 13.710-14.010 MHz  
15.209 general emission limits: outside 13.110-14.010 MHz

**Results:** Compliant

**Sample Equations: Limit at 10 meters:**  
Fundamental limit at 30 meters = 15,848  $\mu\text{V/m}$   
 $20 \log (15,848) = 84 \text{ dB}\mu\text{V/m}$  at 30 meters  
Using a 40 dB/decade distance extrapolation factor as per FCC  
 $15.31(f)(2): 40 \log(30 \text{ meters}/10 \text{ meters}) = 19.08 \text{ dB}$   
 $84 \text{ dB}\mu\text{V/m} + 19.08 \text{ dB} = \mathbf{103.08 \text{ dB}\mu\text{V/m at 10 meter distance}}$

**Notes:** The EUT was set to transmit at its maximum power.

Field Strength measurements were taken at a distance of 10 meters from 9 kHz to 30 MHz, and a distance of 3 meters from 30 MHz to 1 GHz.



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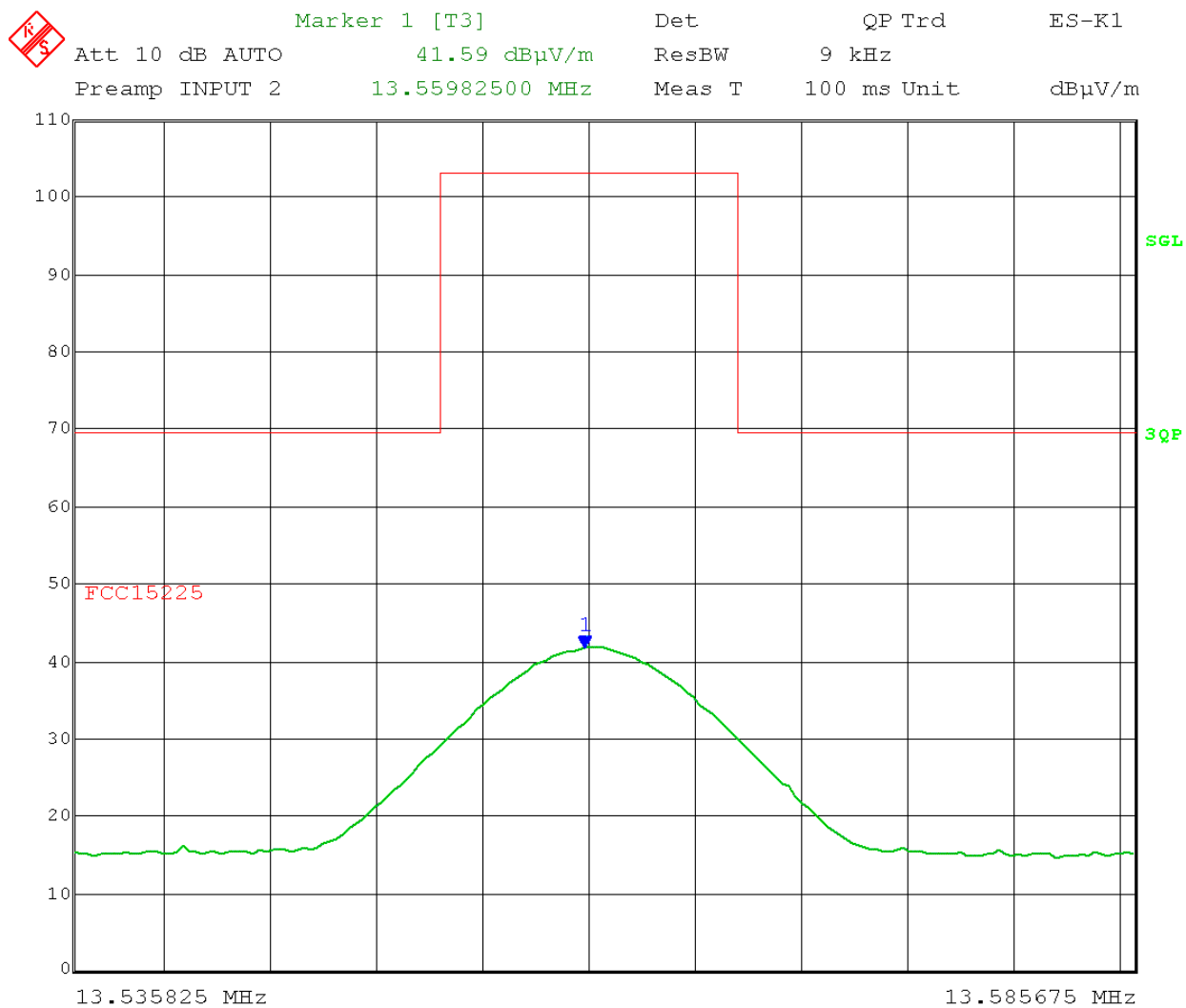
Company:  
Model Tested:  
Report Number:  
Project Number:

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## Appendix B

### 2.0a Emission Mask

Test Date: 05-06-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Emission Mask – Radiated; Quasi-Peak  
Operator: Craig B  
Comment: Frequency: 13.56 MHz



Date: 6.MAY.2014 09:31:04

**Radiated Field Strength**

EUT: Dabir Patient Support System  
Manufacturer: Dabir Surfaces, Inc.  
Operating Condition: 68 deg F; 40% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification:  
Comment: 13.56 MHz Transmit  
DATE: 05-06-2014

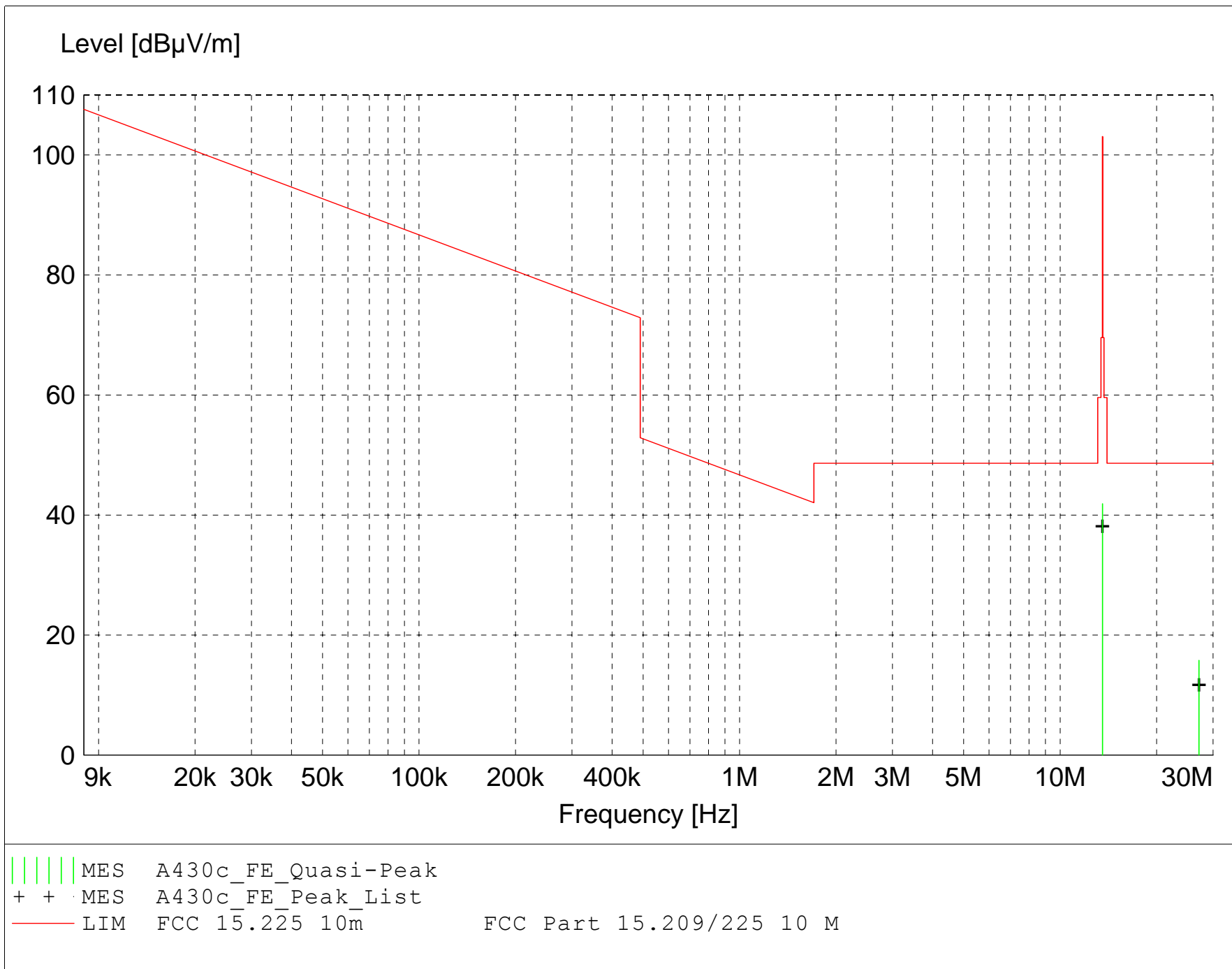
**TEXT: "E-Field 10 meters"**

Short Description: E-Field

Test Set-up: EUT Measured at 10 Meters with Active Loop Antenna

Sample Equations: 
$$\begin{array}{rclclcl} \text{Total Level (dB}\mu\text{V/m)} & = & \text{Level (dB}\mu\text{V)} & + & \text{System Loss (dB)} & + & \text{Antenna Factor (dB}\mu\text{V/m)} \\ 24.6 & & 35.51 & + & (-22.1) & + & 11.20 \end{array}$$
$$\begin{array}{rclcl} \text{Margin (dB)} & = & \text{Limit (dB}\mu\text{V/m)} & - & \text{Total Level (dB}\mu\text{V/m)} \\ 15.4 & = & 40 & - & 24.6 \end{array}$$

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



**MEASUREMENT RESULT: "A430c\_FE\_Final"**

5/6/2014 9:08AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level			Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
27.120000	5.94	8.62	1.2	15.8	48.6	32.8	1.00	225	QUASI-PEAK	None
13.560025	30.47	10.52	0.9	41.9	103.1	61.2	1.00	315	QUASI-PEAK	Fundamental

**Radiated Field Strength**

EUT: Dabir Patient Support System  
Manufacturer: Dabir Surfaces, Inc.  
Operating Condition: 68 deg F; 40% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification:  
Comment: 13.56 MHz Transmit  
DATE: 05-01-2014

**TEXT: "Horz 3 meters"**

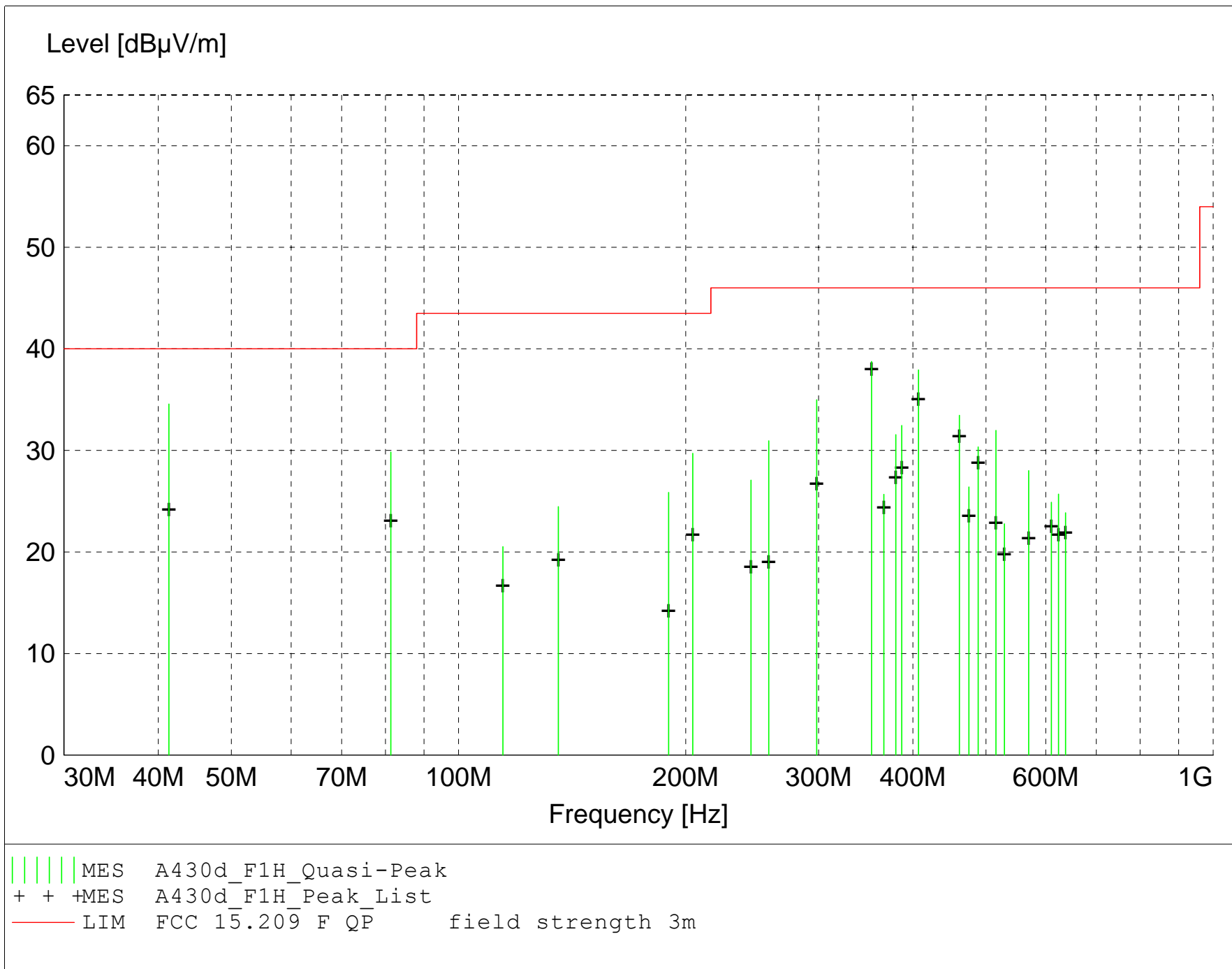
Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Equations:  $\text{Total Level (dB}\mu\text{V/m)} = \text{Level (dB}\mu\text{V)} + \text{System Loss (dB)} + \text{Antenna Factor (dB}\mu\text{V/m)}$   
 $\text{Margin (dB)} = \text{Limit (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector





**MEASUREMENT RESULT: "A430d\_F1H\_Final"**

5/1/2014 11:04AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBμV	Factor	Loss	Level			Ant.	Angle	Detector	
		dBμV/m	dB	dBμV/m	dBμV/m	dB	m	deg		
41.325000	46.76	11.83	-24.0	34.6	40.0	5.4	4.00	350	QUASI-PEAK	None
352.560000	45.23	14.90	-21.4	38.8	46.0	7.2	1.00	190	QUASI-PEAK	None
406.800000	43.02	16.00	-21.1	37.9	46.0	8.1	1.00	190	QUASI-PEAK	None
81.335000	46.99	6.27	-23.4	29.8	40.0	10.2	4.00	90	QUASI-PEAK	None
298.320000	42.45	14.30	-21.8	35.0	46.0	11.0	1.00	135	QUASI-PEAK	None
461.040000	37.00	17.22	-20.8	33.5	46.0	12.5	1.00	180	QUASI-PEAK	None
386.590000	38.22	15.50	-21.3	32.5	46.0	13.5	1.00	190	QUASI-PEAK	None
204.320000	40.22	11.94	-22.5	29.7	43.5	13.8	4.00	330	QUASI-PEAK	None
515.290000	33.63	18.79	-20.5	32.0	46.0	14.0	1.00	260	QUASI-PEAK	None
379.680000	37.63	15.20	-21.3	31.6	46.0	14.4	1.00	190	QUASI-PEAK	None
257.630000	40.11	12.86	-22.0	30.9	46.0	15.1	1.00	160	QUASI-PEAK	None
488.170000	33.50	17.59	-20.8	30.3	46.0	15.7	1.00	200	QUASI-PEAK	None
189.850000	30.99	17.39	-22.5	25.9	43.5	17.6	1.70	225	QUASI-PEAK	None
569.520000	29.60	18.80	-20.4	28.0	46.0	18.0	1.60	190	QUASI-PEAK	None
244.090000	36.96	12.16	-22.0	27.1	46.0	18.9	1.00	90	QUASI-PEAK	None
135.600000	34.91	12.50	-22.9	24.5	43.5	19.0	2.50	170	QUASI-PEAK	None
474.600000	29.58	17.39	-20.6	26.4	46.0	19.6	1.00	180	QUASI-PEAK	None
623.770000	26.22	19.42	-19.9	25.7	46.0	20.3	1.60	190	QUASI-PEAK	None
366.120000	32.02	15.02	-21.4	25.7	46.0	20.3	1.00	190	QUASI-PEAK	None
610.200000	25.59	19.31	-20.0	24.9	46.0	21.1	1.60	180	QUASI-PEAK	None
637.330000	24.22	19.59	-20.0	23.9	46.0	22.1	1.60	190	QUASI-PEAK	None
114.485000	31.18	12.35	-23.0	20.5	43.5	23.0	3.00	45	QUASI-PEAK	None
528.850000	24.66	18.40	-20.3	22.8	46.0	23.2	1.70	190	QUASI-PEAK	None

**FCC Part 15.225/15.209**

**Radiated Field Strength**

EUT: Dabir Patient Support System  
Manufacturer: Dabir Surfaces, Inc.  
Operating Condition: 68 deg F; 40% R.H.  
Test Site: DLS O.F. Site 2  
Operator: Craig B  
Test Specification:  
Comment: 13.56 MHz Transmit  
DATE: 05-01-2014

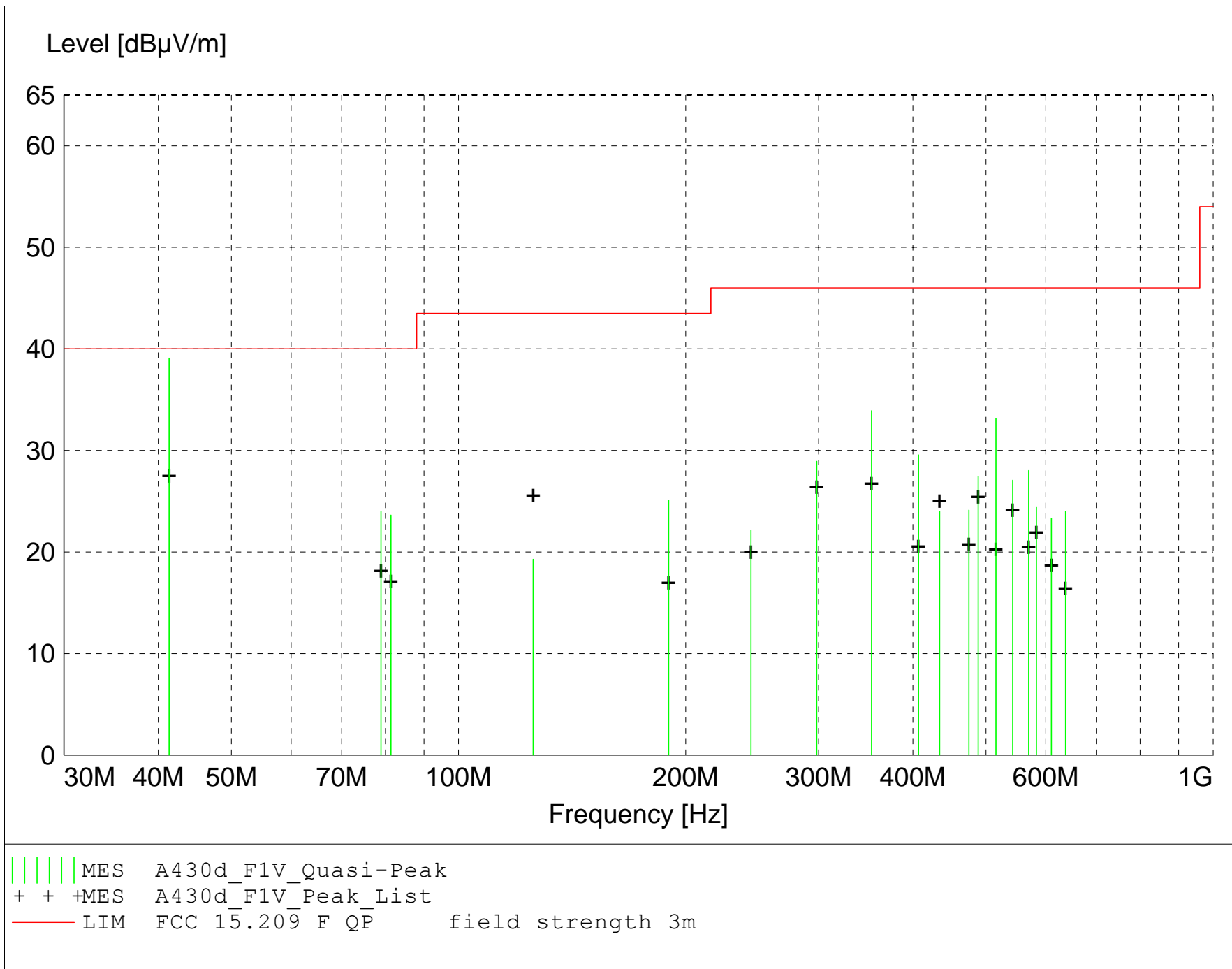
**TEXT: "Vert 3 meters"**

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: 
$$\begin{array}{rclclcl} \text{Total Level (dB}\mu\text{V/m)} & = & \text{Level (dB}\mu\text{V)} & + & \text{System Loss (dB)} & + & \text{Antenna Factor (dB}\mu\text{V/m)} \\ 24.6 & & 35.51 & + & (-22.1) & + & 11.20 \end{array}$$
$$\begin{array}{rclcl} \text{Margin (dB)} & = & \text{Limit (dB}\mu\text{V/m)} & - & \text{Total Level (dB}\mu\text{V/m)} \\ 15.4 & = & 40 & - & 24.6 \end{array}$$

Graph Markers: + Frequency marker (Level of marker not related to final level)  
| Final maximized level using Quasi-Peak detector  
X Final maximized level using Average detector  
# Final maximized level using Peak detector



**MEASUREMENT RESULT: "A430d\_F1V\_Final"**

5/1/2014 11:21AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level			Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
41.355000	51.28	11.84	-24.0	39.1	40.0	0.9	1.00	260	QUASI-PEAK	None
352.560000	40.37	14.90	-21.4	33.9	46.0	12.1	1.30	180	QUASI-PEAK	None
515.290000	34.84	18.79	-20.5	33.2	46.0	12.8	1.00	180	QUASI-PEAK	None
78.910000	41.59	5.90	-23.5	24.0	40.0	16.0	1.00	180	QUASI-PEAK	None
81.355000	40.79	6.27	-23.4	23.6	40.0	16.4	1.00	0	QUASI-PEAK	None
406.800000	34.66	16.00	-21.1	29.6	46.0	16.4	1.00	135	QUASI-PEAK	None
298.320000	36.39	14.30	-21.8	28.9	46.0	17.1	2.20	160	QUASI-PEAK	None
569.520000	29.61	18.80	-20.4	28.0	46.0	18.0	1.00	90	QUASI-PEAK	None
189.840000	30.24	17.38	-22.5	25.1	43.5	18.4	1.80	150	QUASI-PEAK	None
488.160000	30.60	17.59	-20.8	27.4	46.0	18.6	2.10	160	QUASI-PEAK	None
542.400000	29.06	18.25	-20.2	27.1	46.0	18.9	1.00	90	QUASI-PEAK	None
583.080000	25.78	18.78	-20.1	24.4	46.0	21.6	1.00	90	QUASI-PEAK	None
474.600000	27.31	17.39	-20.6	24.1	46.0	21.9	1.10	170	QUASI-PEAK	None
637.310000	24.37	19.59	-20.0	24.0	46.0	22.0	1.00	170	QUASI-PEAK	None
433.920000	28.38	16.68	-21.1	24.0	46.0	22.0	1.00	180	QUASI-PEAK	None
610.210000	24.00	19.31	-20.0	23.3	46.0	22.7	2.00	135	QUASI-PEAK	None
244.080000	32.05	12.16	-22.0	22.2	46.0	23.8	1.00	300	QUASI-PEAK	None
125.570000	29.42	12.84	-23.0	19.3	43.5	24.2	1.00	350	QUASI-PEAK	None



166 South Carter, Genoa City, WI 53128

Company:	Dabir Surfaces, Inc.
Model Tested:	CA-9001
Report Number:	20054
Project Number:	6545

## Appendix B

### 3.0 Frequency Stability

**Rule Part:** FCC Part 15.225(e)

**Test Procedure:** ANSI C63.10:2009 Section 6.8

**Limits:** 0.01% of the center frequency  
Limit =  $\pm 1.356 \text{ kHz}$  (0.01% of 13.56 MHz)

**Results:** Compliant

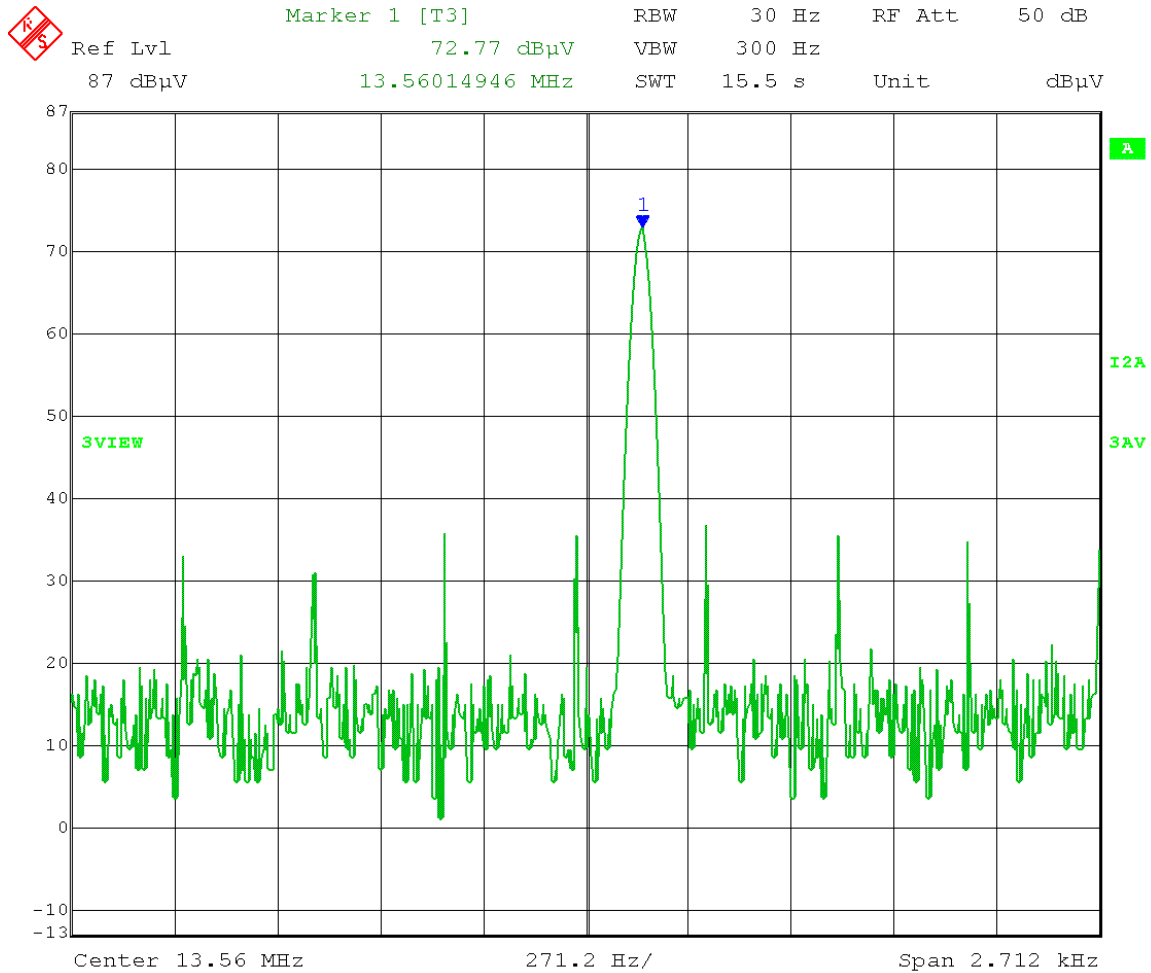
**Sample Equations:** N/A

**Notes:** The EUT was coupled to a spectrum analyzer using a near-field probe.

The AC voltage was varied from 85% to 115% of the nominal input voltage. Carrier frequency measurements were performed and recorded at nominal temperature.

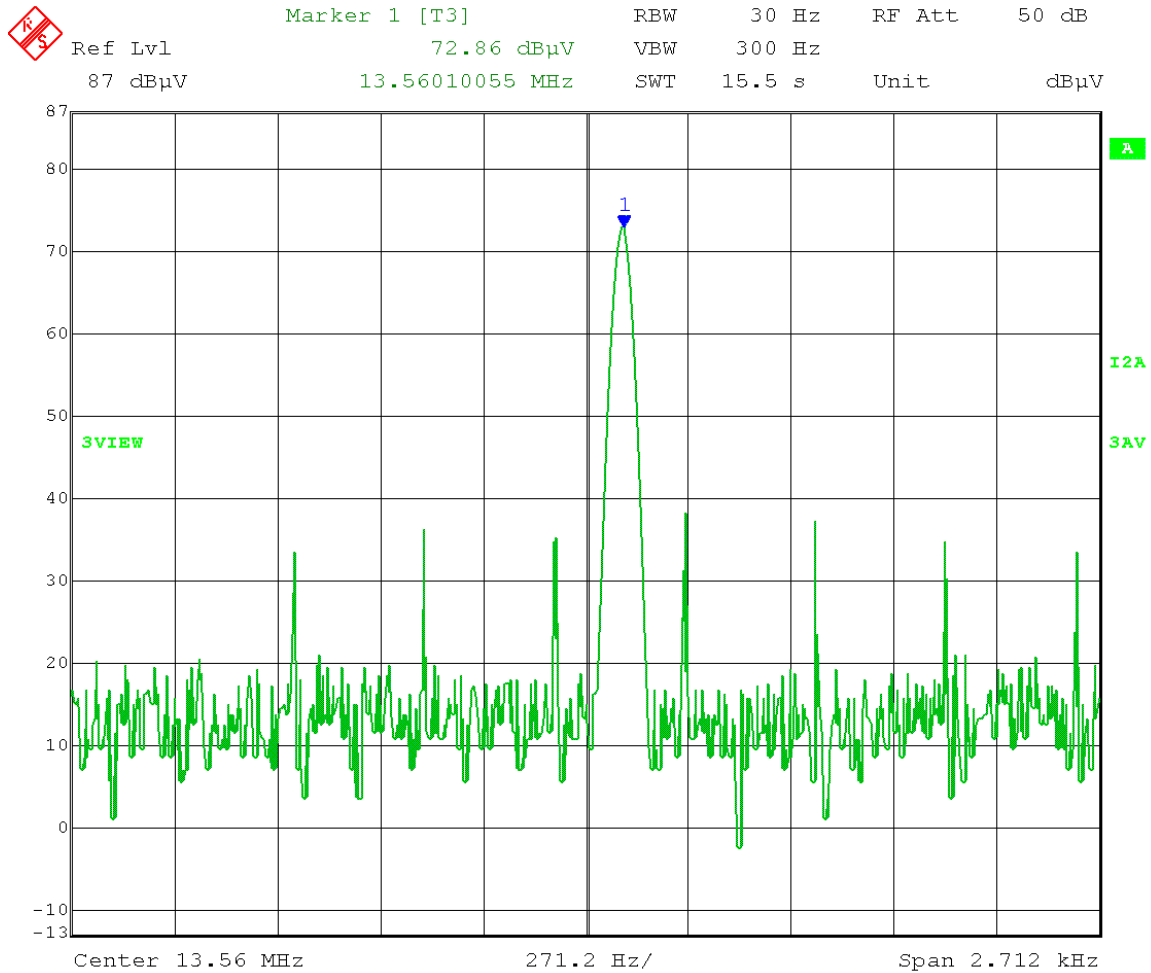
The temperature was varied from  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  in increments of  $10^{\circ}$  and at nominal AC voltage of 120 V. Carrier frequency measurements were performed and recorded at transmitter startup. EUT frequency was stable at time of startup, and no significant drifting was observed for several minutes after startup.

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +10 deg. C  
Comment: 120 V



Date: 7.MAY.2014 12:42:24

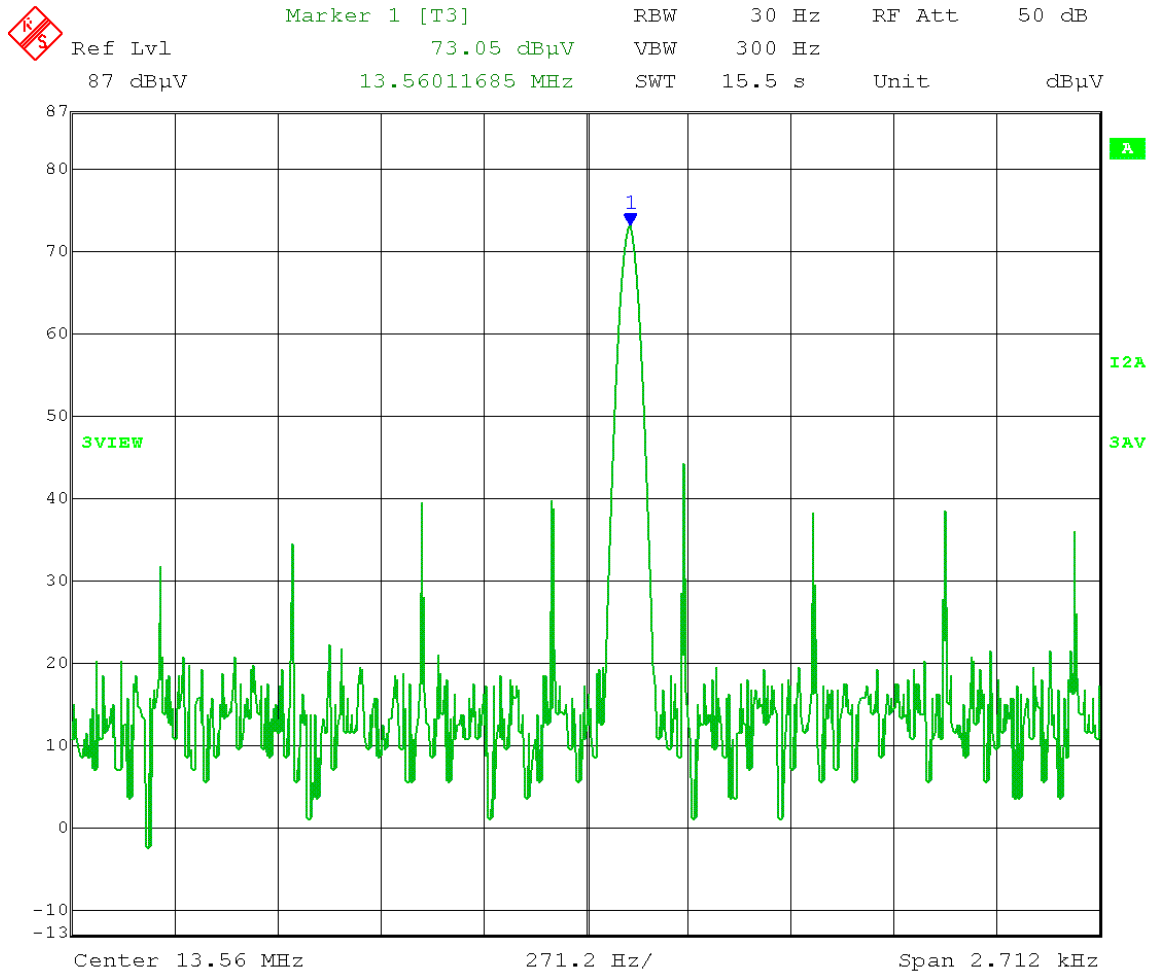
Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +20 deg. C  
Comment: 120 V



Date: 7.MAY.2014 10:15:40

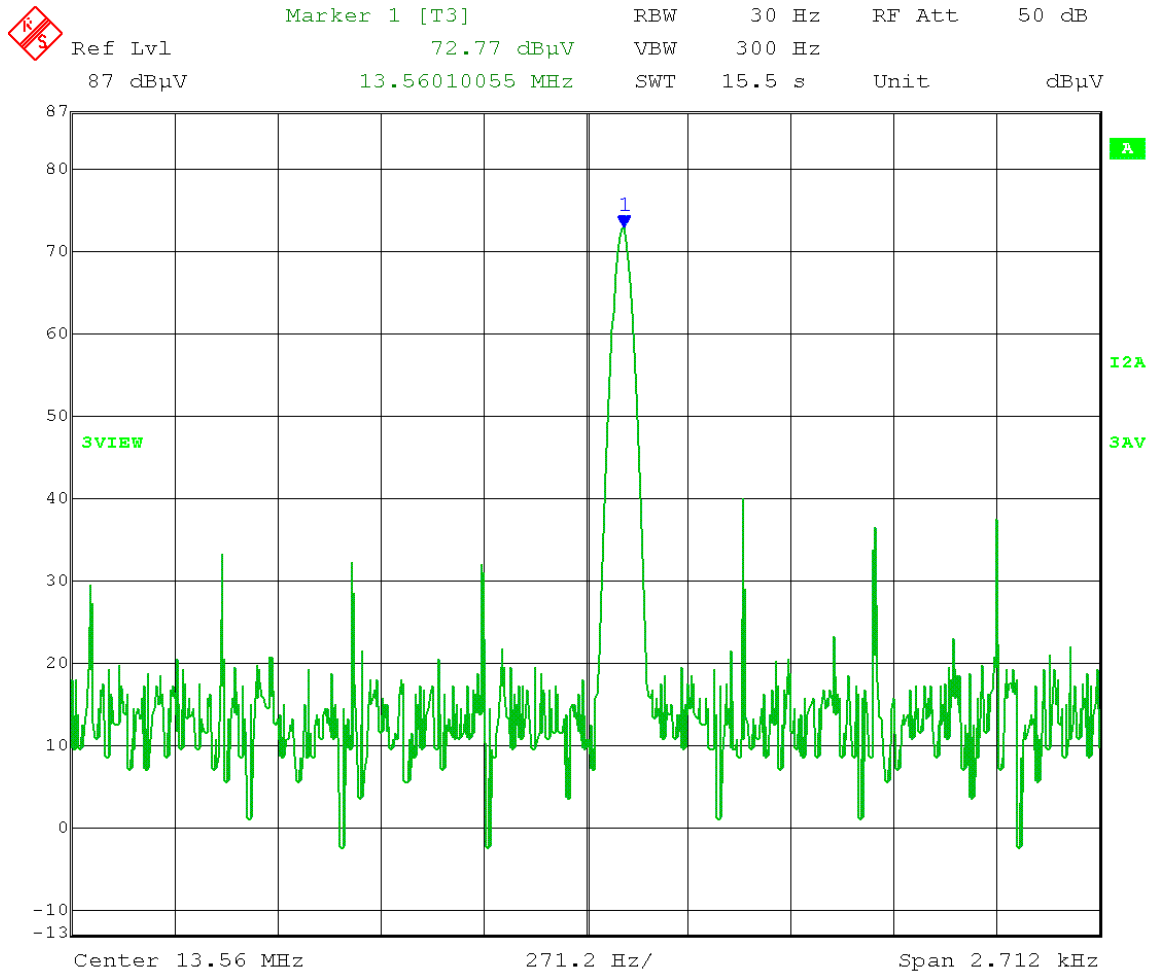


Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +30 deg. C  
Comment: 120 V



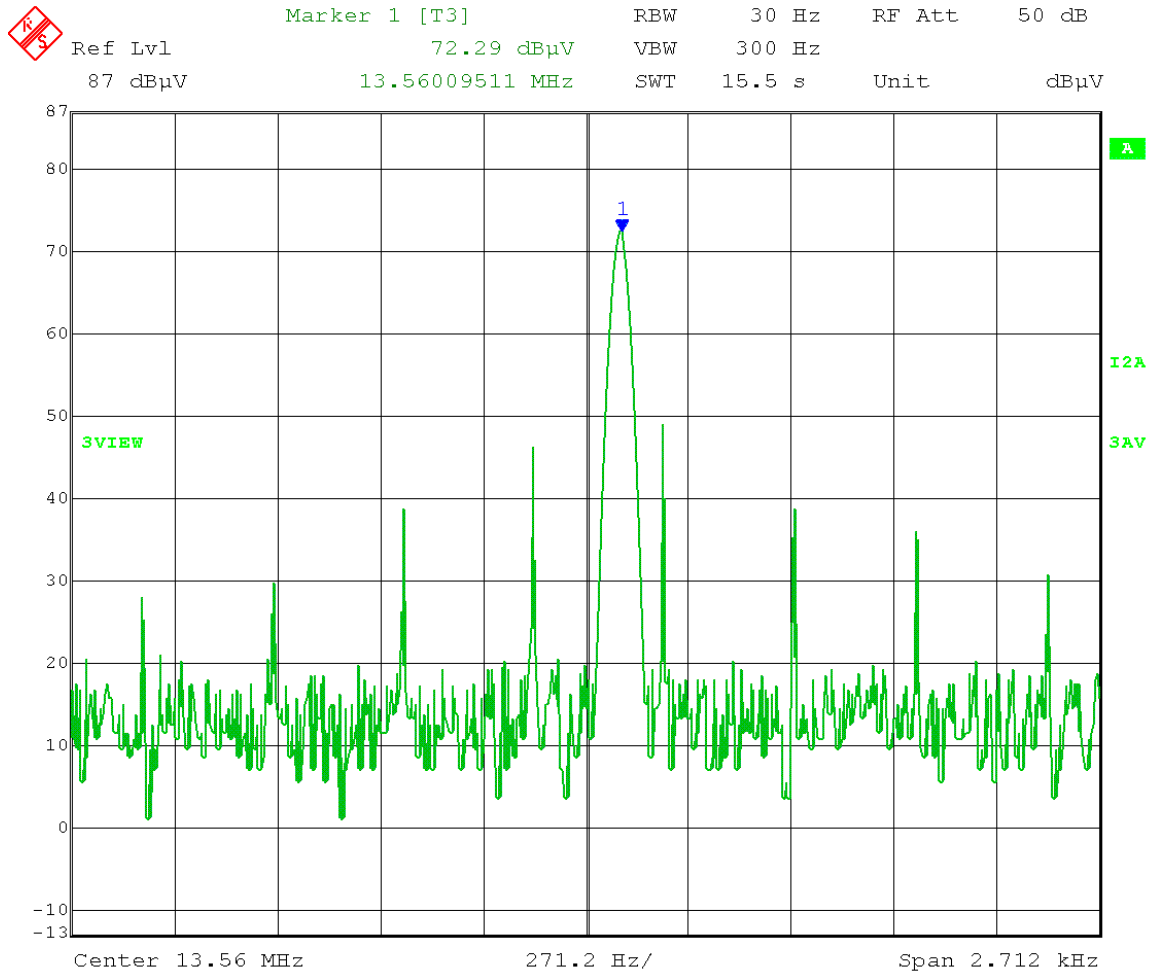
Date: 7.MAY.2014 10:53:56

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +40 deg. C  
Comment: 120 V



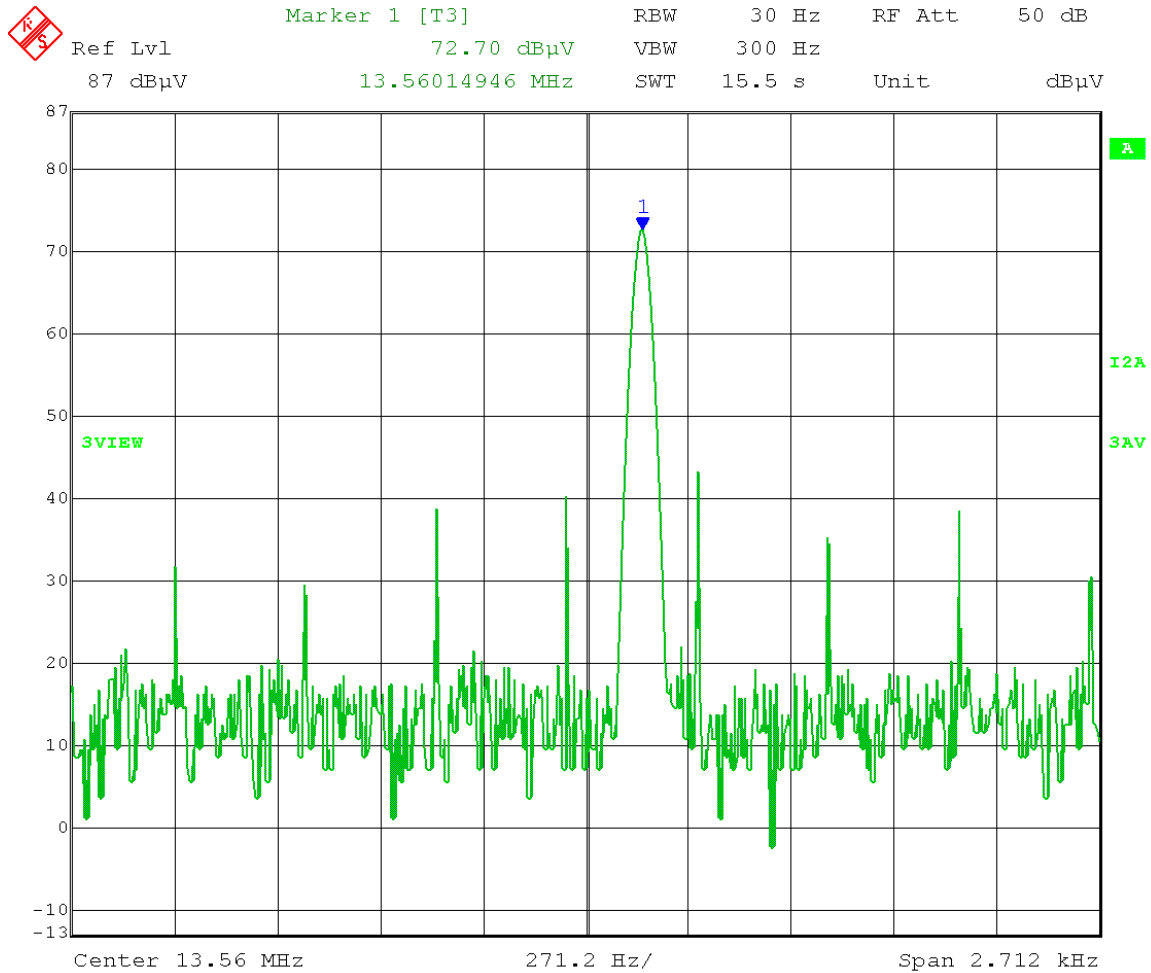
Date: 7.MAY.2014 11:26:02

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +50 deg. C  
Comment: 120 V



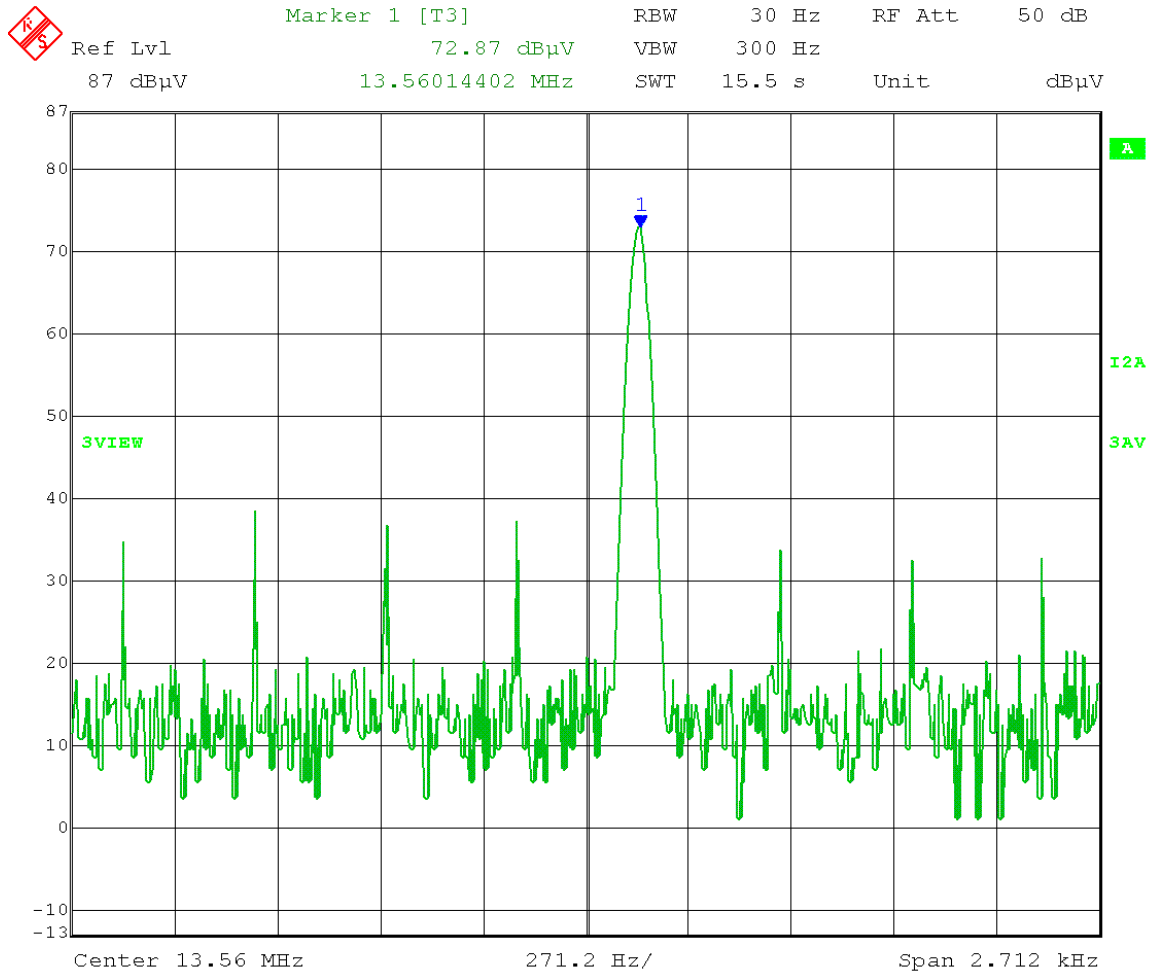
Date: 7.MAY.2014 12:06:55

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: 0 deg. C  
Comment: 120 V



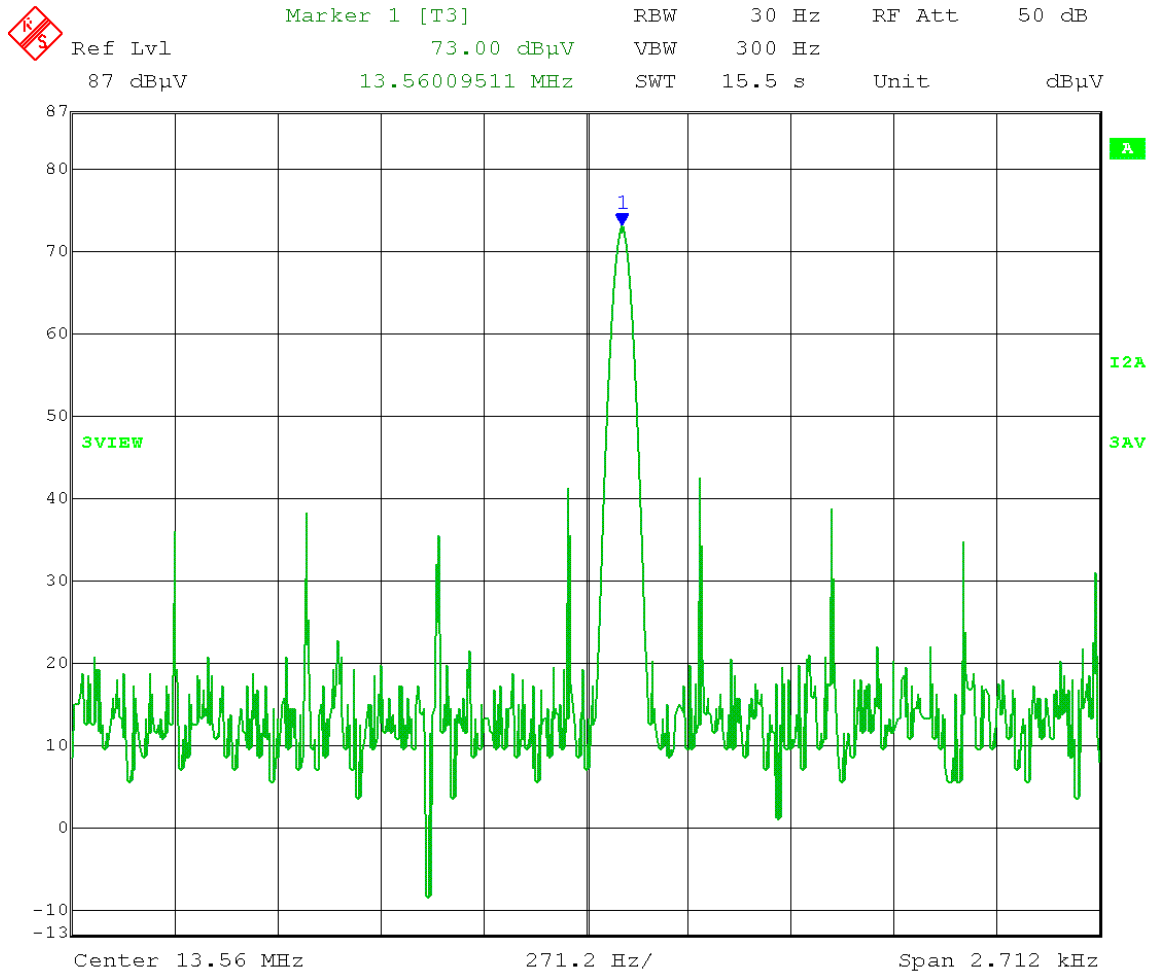
Date: 7.MAY.2014 13:29:00

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: -10 deg. C  
Comment: 120 V



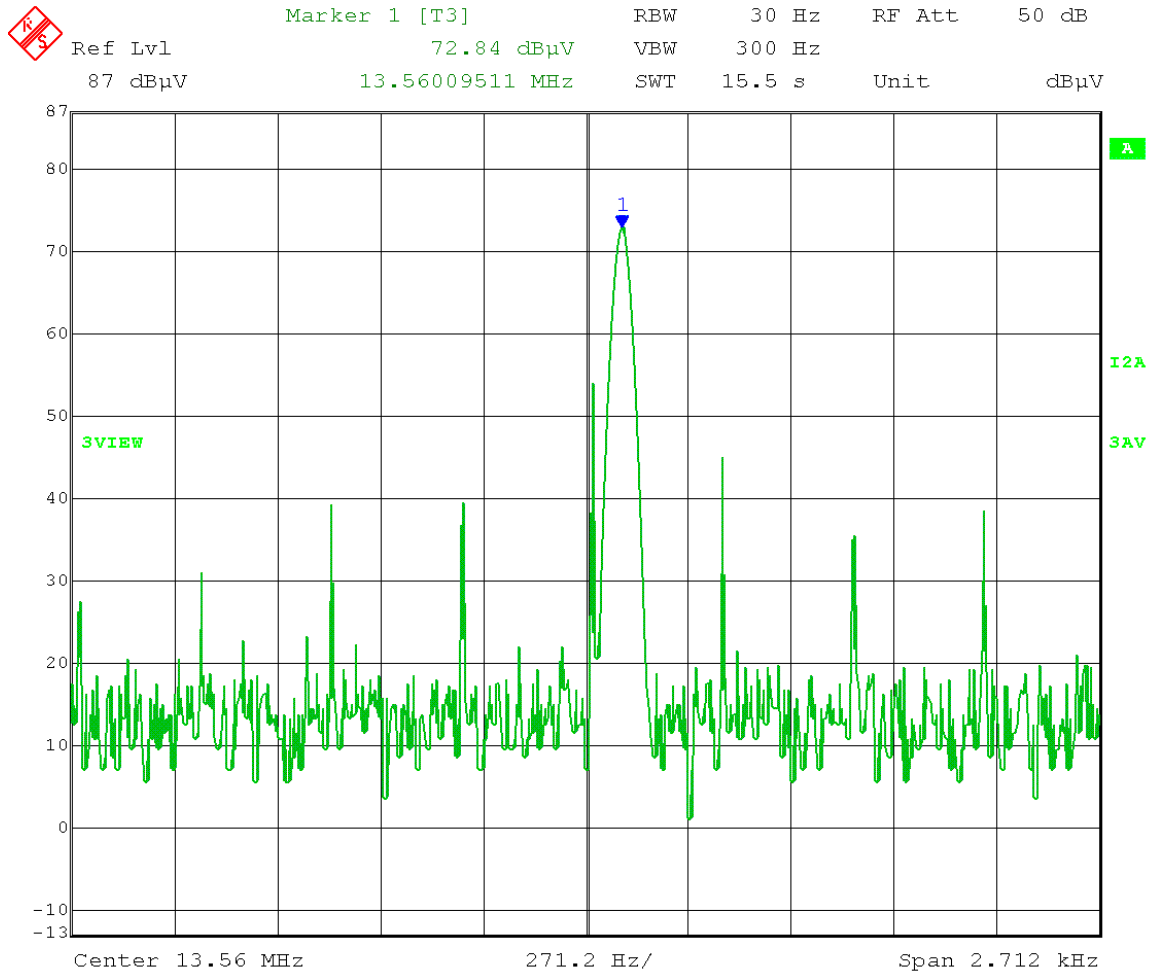
Date: 7.MAY.2014 14:26:58

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: -20 deg. C  
Comment: 120 V



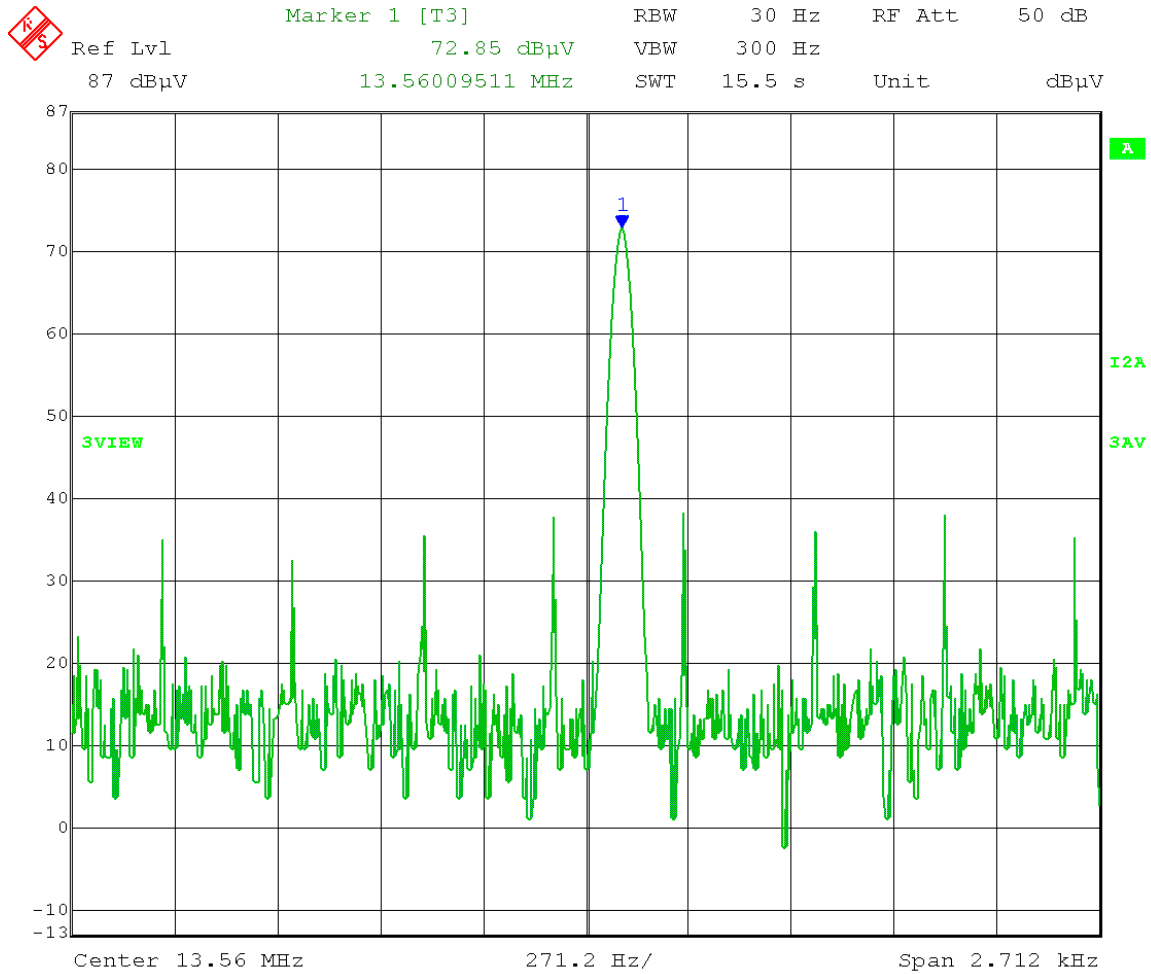
Date: 7.MAY.2014 15:08:29

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +20 deg. C  
Comment: 102 V



Date: 7.MAY.2014 10:16:44

Test Date: 05-07-2014  
Company: Dabir Surfaces, Inc.  
EUT: Dabir Patient Support System  
EUT: The HUB  
Test: Frequency Stability  
Operator: Craig B  
Comment: Limit: +/- 1.356 kHz  
Comment: +20 deg. C  
Comment: 138 V



Date: 7.MAY.2014 10:17:49





166 South Carter, Genoa City, WI 53128

Company:	Dabir Surfaces, Inc.
Model Tested:	CA-9001
Report Number:	20054
Project Number:	6545

## Appendix B

### 4.0 AC line Conducted Emissions

**Rule Part:** FCC Part 15.207

**Test Procedure:** ANSI C63.4-2009 & ANSI C63.10-2009

**Limit:** 15.207(a)

**Results:** Compliant

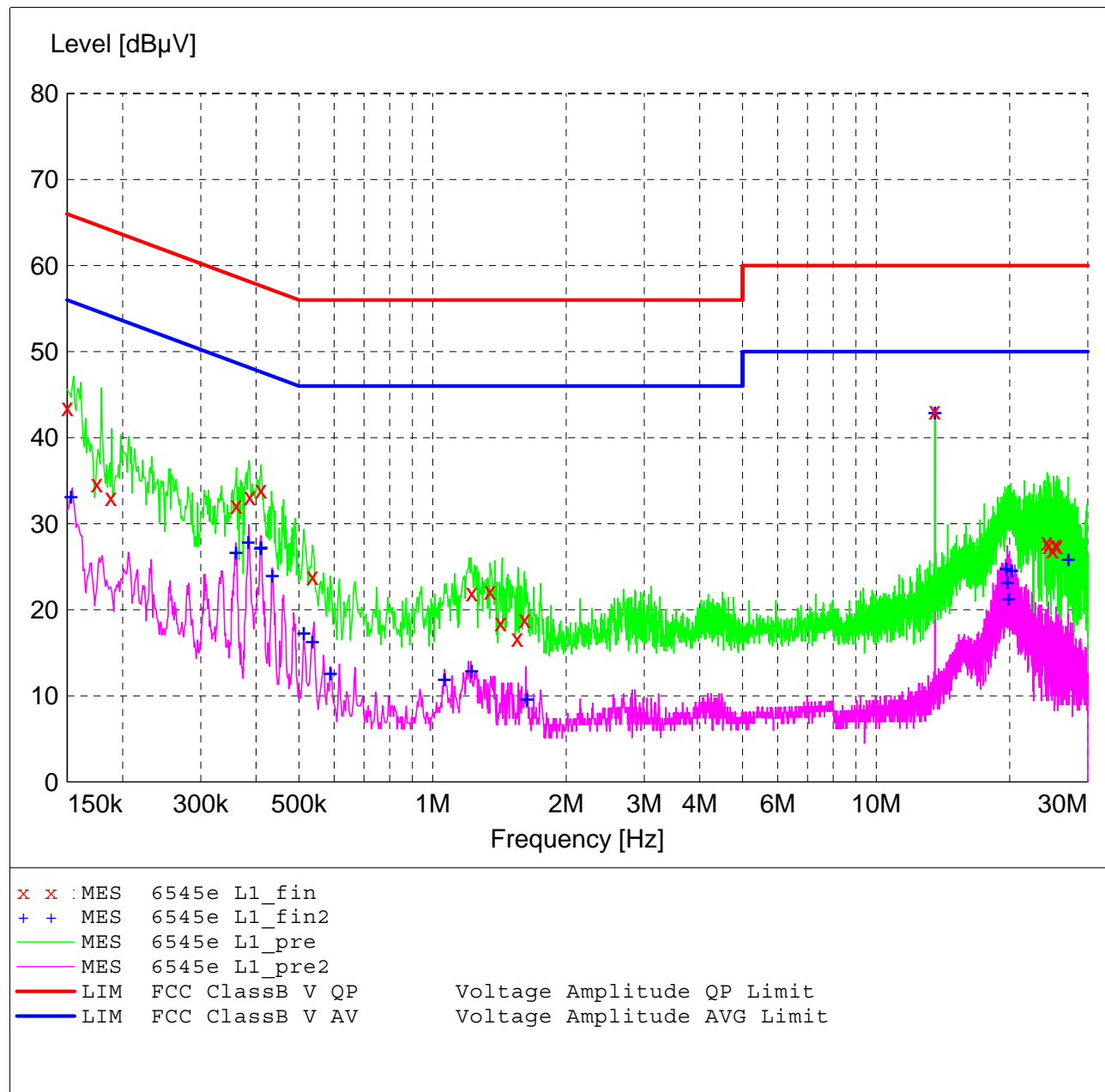
**Notes:** This was an AC Conducted emissions measurement.  
The EUT was powered with an input of 120 VAC / 60 Hz.

# Voltage Mains Test

EUT: Dabir Patient Support System  
 Manufacturer: Dabir Surfaces, Inc.  
 Operating Condition: 68 deg. F, 33% R.H.  
 Test Site: DLS O.F. Screen Room  
 Operator: PaulL/CraigB  
 Test Specification: 120V - 60Hz, Line 1  
 Comment: Shielded Power Cable  
 Date: 5/7/2014

## SCAN TABLE: "Line Cond SR Final"

Short Description:			Line Conducted Emissions				Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
Frequency	Frequency	Width					
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak	2.0 s	9 kHz	LISN DLS#128	
CISPR AV							



**MEASUREMENT RESULT: "6545e L1\_fin"**

5/7/2014 9:48AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.150000	43.50	13.8	66	22.5	QP
0.175000	34.70	13.1	65	30.0	QP
0.188000	33.10	13.0	64	31.0	QP
0.361000	32.20	11.6	59	26.5	QP
0.387000	33.20	11.6	58	24.9	QP
0.410000	34.00	11.5	58	23.6	QP
0.536000	23.90	11.1	56	32.1	QP
1.224000	22.00	10.6	56	34.0	QP
1.348000	22.20	10.6	56	33.8	QP
1.424000	18.50	10.6	56	37.5	QP
1.552000	16.70	10.6	56	39.3	QP
1.612000	18.90	10.7	56	37.1	QP
13.559000	43.10	11.1	60	16.9	QP
24.269000	27.90	11.5	60	32.1	QP
24.440000	27.50	11.5	60	32.5	QP
24.980000	27.00	11.5	60	33.0	QP
25.385000	27.60	11.6	60	32.4	QP
25.583000	27.50	11.6	60	32.5	QP

**MEASUREMENT RESULT: "6545e L1\_fin2"**

5/7/2014 9:48AM

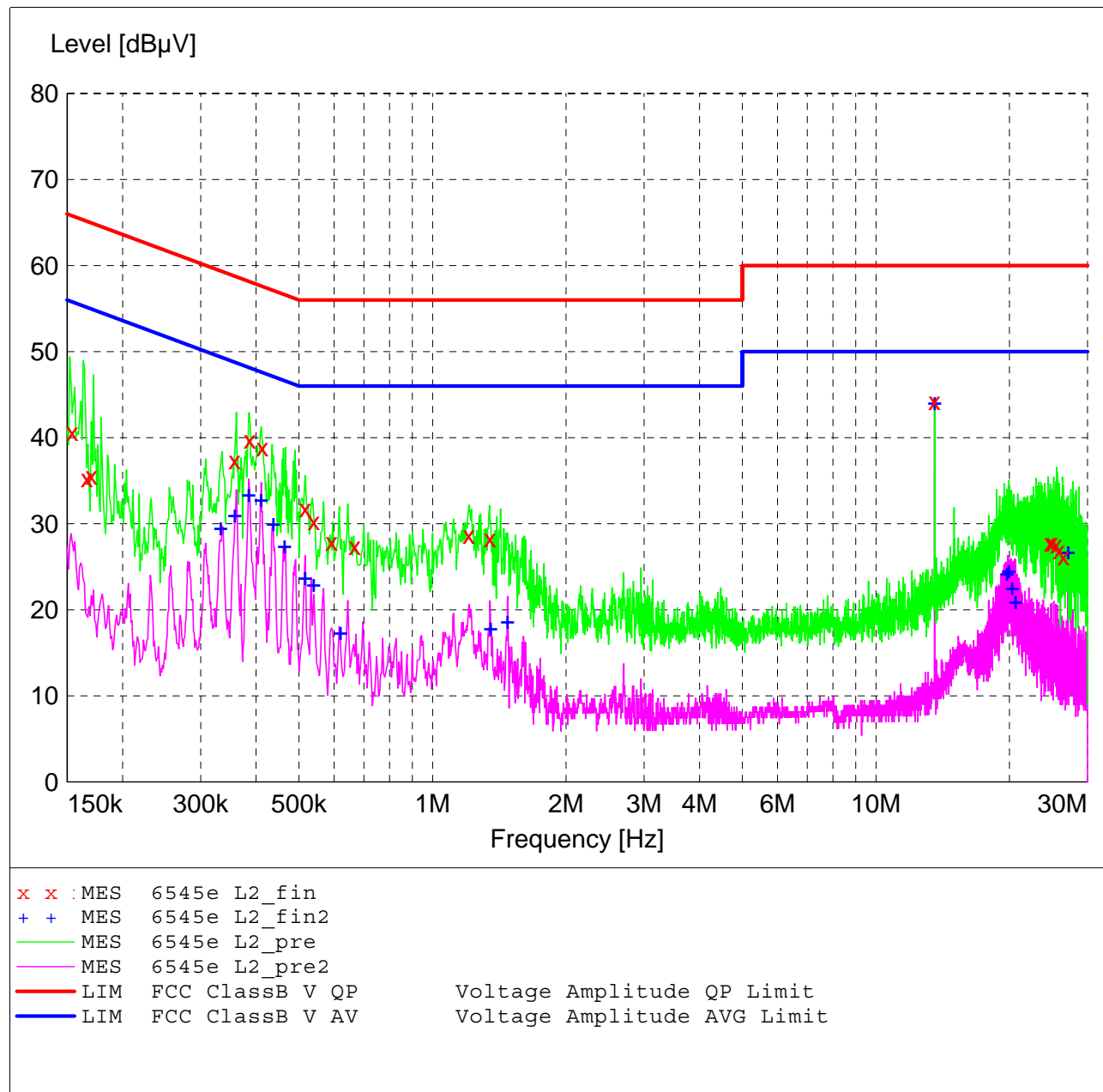
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.153000	33.30	13.7	56	22.5	CAV
0.360000	26.80	11.6	49	21.9	CAV
0.384000	28.00	11.6	48	20.2	CAV
0.409000	27.30	11.5	48	20.4	CAV
0.411000	27.40	11.5	48	20.2	CAV
0.435000	24.10	11.4	47	23.1	CAV
0.512000	17.40	11.2	46	28.6	CAV
0.536000	16.40	11.1	46	29.6	CAV
0.588000	12.70	11.0	46	33.3	CAV
1.064000	12.00	10.7	46	34.0	CAV
1.224000	13.00	10.6	46	33.0	CAV
1.632000	9.70	10.7	46	36.3	CAV
13.559000	43.00	11.1	50	7.0	CAV
19.652000	24.90	11.4	50	25.1	CAV
19.778000	23.30	11.4	50	26.7	CAV
19.904000	21.40	11.4	50	28.6	CAV
20.219000	24.70	11.4	50	25.3	CAV
27.122000	26.00	11.6	50	24.0	CAV

Voltage Mains Test

EUT: Dabir Patient Support System  
 Manufacturer: Dabir Surfaces, Inc.  
 Operating Condition: 68 deg. F, 33% R.H.  
 Test Site: DLS O.F. Screen Room  
 Operator: PaulL/CraigB  
 Test Specification: 120V - 60Hz, Line 2  
 Comment: Shielded Power Cable  
 Date: 5/7/2014

SCAN TABLE: "Line Cond SR Final"

Short Description:			Line Conducted Emissions				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak	2.0 s	9 kHz	LISN DLS#128	
			CISPR AV				



**MEASUREMENT RESULT: "6545e L2\_fin"**

5/7/2014 9:55AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.154000	40.60	13.7	66	25.2	QP
0.166000	35.30	13.4	65	29.9	QP
0.170000	35.60	13.3	65	29.4	QP
0.358000	37.40	11.6	59	21.4	QP
0.387000	39.80	11.6	58	18.3	QP
0.413000	38.80	11.4	58	18.8	QP
0.516000	31.80	11.2	56	24.2	QP
0.540000	30.30	11.1	56	25.7	QP
0.592000	27.90	11.0	56	28.1	QP
0.668000	27.40	10.9	56	28.6	QP
1.208000	28.70	10.6	56	27.3	QP
1.348000	28.30	10.6	56	27.7	QP
13.559000	44.20	11.1	60	15.8	QP
24.701000	27.80	11.5	60	32.2	QP
24.953000	27.80	11.5	60	32.2	QP
25.520000	27.60	11.6	60	32.4	QP
25.844000	26.90	11.6	60	33.1	QP
26.483000	26.20	11.6	60	33.8	QP

**MEASUREMENT RESULT: "6545e L2\_fin2"**

5/7/2014 9:55AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.333000	29.60	11.7	49	19.8	CAV
0.358000	31.10	11.6	49	17.7	CAV
0.385000	33.50	11.6	48	14.7	CAV
0.411000	32.90	11.5	48	14.7	CAV
0.438000	30.10	11.4	47	17.0	CAV
0.464000	27.50	11.3	47	19.1	CAV
0.516000	23.80	11.2	46	22.2	CAV
0.540000	23.00	11.1	46	23.0	CAV
0.620000	17.40	11.0	46	28.6	CAV
1.352000	17.90	10.6	46	28.1	CAV
1.476000	18.70	10.6	46	27.3	CAV
13.559000	44.10	11.1	50	5.9	CAV
19.760000	24.30	11.4	50	25.7	CAV
19.967000	24.60	11.4	50	25.4	CAV
20.300000	22.60	11.4	50	27.4	CAV
20.660000	21.00	11.4	50	29.0	CAV
27.122000	26.80	11.6	50	23.2	CAV



166 South Carter, Genoa City, WI 53128

Company: Dabir Surfaces, Inc.  
Model Tested: CA-9001  
Report Number: 20054  
Project Number: 6545

## END OF REPORT

Revision #	Date	Comments	By
1.0	5-20-2014	Preliminary Release	JS
1.1	7-8-2014	Notes added to Section 4.0 (pg 6) & Section 9.0 (pg 10)	JS