



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

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

FCC ID: NUC-BDC2000

Formal Name:	BDC2000 RFID Assembly
Kind of Equipment:	13.56 MHz RFID Read\Write Assembly
Frequency Range:	13.56 MHz
Test Configuration:	DC powered transceiver
Model Number(s):	BDC2000
Model(s) Tested:	BDC2000 (nicknamed Prism during testing)
Serial Number(s):	N\A (prototype)
Date of Tests:	May 13 th to May 20 th , 2016
Test Conducted For:	Brady Corporation 6555 W. Good Hope Road Milwaukee, WI 53223, 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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166 South Carter, Genoa City, WI 53128

Company:
Model Tested:
Report Number:
Project Number:

Brady Corporation
BDC2000
21899
8148

SIGNATURE PAGE

Tested By:

A handwritten signature in black ink that reads "John Schneider". The signature is written in a cursive style with a large, looped "J" and a long, sweeping "S".

John Schneider
Test Engineer

Reviewed By:

A handwritten signature in black ink that reads "William Stumpf". The signature is written in a cursive style with a large, looped "W" and a long, sweeping "S".

William Stumpf
OATS Manager

Approved By:

A handwritten signature in black ink that reads "Brian J. Mattson". The signature is written in a cursive style with a large, looped "B" and a long, sweeping "M".

Brian Mattson
General Manager



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

Table of Contents

i.	Cover Page	1
ii.	Signature Page	2
iii.	Table of Contents	3
iv.	NVLAP Certificate of Accreditation	4
1.0	Summary of Test Report	5
2.0	Introduction	5
3.0	Test Facilities	5
4.0	Description of Test Sample	6
5.0	Test Equipment	7
6.0	Test Arrangements	8
7.0	Test Conditions	8
8.0	Modifications Made To EUT For Compliance	8
9.0	Additional Descriptions	9
10.0	Results	9
11.0	Conclusion	9
	Appendix A – Test Photos	10
	Appendix B – Measurement Data	15
	B1.0 Occupied Bandwidth – 20 dB	15
	B2.0 Radiated Emissions	17
	B2.0a Emissions Mask	18
	B2.0b Radiated, 9 – 150 kHz	19
	B2.0c Radiated, 150 kHz – 30 MHz	22
	B2.0d Radiated, 30 – 1000 MHz	25
	B3.0 Frequency Stability	31
	B4.0 AC Line Conducted Emissions	33
	B4.0a AC Line Conducted with Antenna	34
	B4.0b AC Line Conducted with Dummy Load	46
	Appendix C – Measurement Uncertainty	59



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

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 & 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 Communiqué dated January 2009).*

2015-09-25 through 2016-09-30
Effective Dates




For the National Voluntary Laboratory Accreditation Program

**ELECTROMAGNETIC
COMPATIBILITY &
TELECOMMUNICATIONS**

NVLAP LAB CODE 100276-0

Emissions

Designation

Off-site test location

Description

D.L.S. Electronics performs radiated emissions testing at an additional location, 166 South Carter Street, Genoa City, WI 53128.



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

1.0 Summary of Test Report

It was determined that the Brady BDC2000 RFID Assembly, Model BDC2000 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 C63.10-2013 Section 6.9.2	1	Yes
FCC 15.225 & 15.209	Radiated Emissions	ANSI C63.4-2014 & ANSI C63.10-2013	1	Yes
FCC 15.225(e)	Frequency Stability	ANSI C63.10-2013 Section 6.8	1	Yes
FCC 15.207	AC Line Conducted Emissions	ANSI C63.4-2014, ANSI C63.10-2013 & KDB 174176 D01- Question 5	2	Yes

Note 1: Radiated emission measurement.

Note 2: AC Line Conducted emission measurement

2.0 Introduction

In May, 2016 the BDC2000 RFID Assembly, Model BDC2000, as provided from Brady Corporation 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

FCC Registration #90531



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

4.0 Description of Test Sample

Description:

The BDC2000 RFID Assembly is comprised of the BDC2000 RFID PCB, Coaxial cable and ANT2000 Antenna PCB. The application will read/write RFID data (ISO15693 compliant) from RFID Tag-It tags that provide brand security for Brady media. It is a slave device on a SPI bus. The ANT2000 Antenna PCB has a U.FL connector for coaxial connection to the BDC2000 PCB and consists of a loop antenna with 2.5 uH inductance at resonance.

Type of Equipment / Frequency Range:

RFID Read\Write Assembly/ 13.56 MHz

Physical Dimensions of Equipment Under Test:

BDC2000 RFID PCB: Length: 49.49mm x Width: 79.54mm x Height: 1.6mm
ANT2000 Antenna PCB: Length: 58mm x Width: 40mm x Height: 1.6mm

Power Source:

5V DC

Internal Frequencies:

Fund: 13.56 MHz, Ateml uP: 4 – 16 MHz

Transmit / Receive Frequencies Used For Test Purpose:

13.56 MHz

Type of Modulation(s) / Antenna Type:

ASK / PCB loop antenna with an inductance of 2.5uH at resonance

Description of Circuit Board(s) / Part Number:

RFID PCB	BDC2000
Antenna PCB	ANT2000
Coaxial cable	



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

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	Narda PMM	9010F	020WW40102	10Hz-50MHz	6-25-15	6-25-16
LISN	Solar	9252-50-R-24-BNC	961019	9 kHz – 30 MHz	5-4-16	5-4-17
Filter- High-Pass	SOLAR	7930-120	090702	120 kHz – 30 MHz	12-3-15	12-3-16
Limiter	Electro-Metrics	EM-7600	705	9 kHz – 30 MHz	12-3-15	12-3-16
Test Software	Narda PMM	PMM Emission Suite	Rel.2.17	N/A	N/A	N/A

RADIATED EMISSIONS TEST 9 kHz – 30 MHz (Site 3)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	6-25-15	6-25-16
Antenna	Electro-Metrics	6502	1027	9 kHz – 30 MHz	8-14-15	8-14-17
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

RADIATED EMISSIONS TEST 30 – 1000 MHz (Site 3)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	6-25-15	6-25-16
Preamplifier	Rohde & Schwarz	TS-PR10	032001/005	9 kHz – 1 GHz	12-3-15	12-3-16
Antenna	EMCO	3104C	9701-4785	20 MHz – 200 MHz	2-16-16	2-16-17
Antenna	EMCO	3146	9702-4895	200 MHz – 1 GHz	2-4-16	2-4-17
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

Temperature Chamber

Description	Manufacturer	Model Number	Serial Number	Temperature Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	6-25-15	6-25-16
Temperature Chamber	Test Equity	1007C	R035716	-73° C to +175° C	N/A	N/A
Multimeter	Fluke	77	43390985	N/A	2-6-16	2-6-17
Digital Thermometer	Tenma	72-2060	723662	N/A	8-31-15	8-31-16



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

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 C63.4-2014 and ANSI C63.10-2013, 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. See Appendix C for Measurement Uncertainty.

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

Normal Test Conditions:

Temperature and Humidity: 72°F at 36% RH or as noted on test data

Voltage: 5 Volt DC

Extreme Test Conditions

Temperature range tested: -20° C to + 50° C

Voltages: 4.25 VDC, 5.00 VDC and 5.75 VDC

8.0 Modifications Made To EUT For Compliance

None



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

9.0 Additional Descriptions

The EUT was in operational mode with an RFID tag to activate the transmitter.

10.0 Results

Measurements were performed in accordance with ANSI C63.4-2014, ANSI C63.10-2013 and FCC KDB 174176 D01-Question 5. Graphical and tabular data can be found in Appendix B at the end of this report.

Measurement Uncertainty can be found in Appendix C.

11.0 Conclusion

The BDC2000 RFID Assembly, Model BDC2000, as provided from Brady Corporation tested in May, 2016 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.225.

Appendix A – Test Photos

Photo Information and Test Setup:

Item 0: BDC2000 RFID PCB
Item 1: ANT2000 Antenna PCB
Item 2: RFID Tag
Item 3: Ribbon
Item 4: RF Antenna Cable .2 meters long
Item 5: 5V DC Power Cord 1 meter long

EUT ID photo #1





166 South Carter, Genoa City, WI 53128

Company:
Model Tested:
Report Number:
Project Number:

Brady Corporation
BDC2000
21899
8148

Appendix A

EUT ID photo #2



Appendix A

Radiated Emissions

Front, X-axis



Front, Y-axis



Front, Z-axis

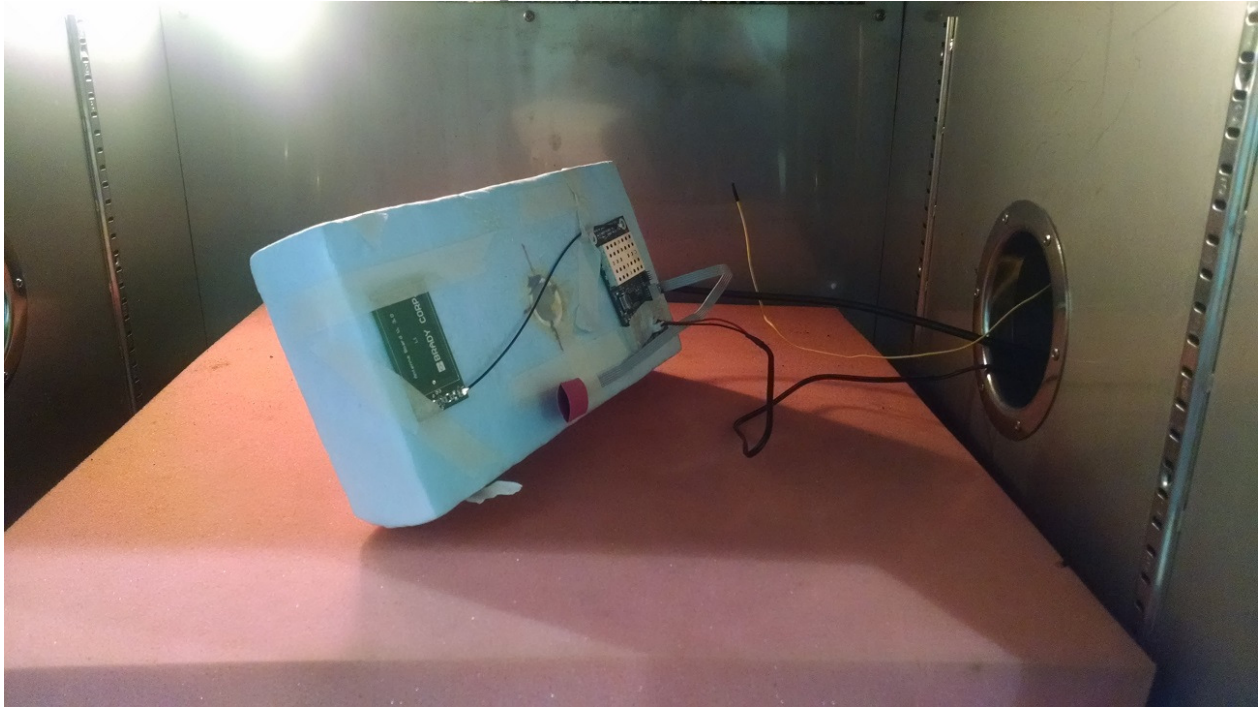


Back

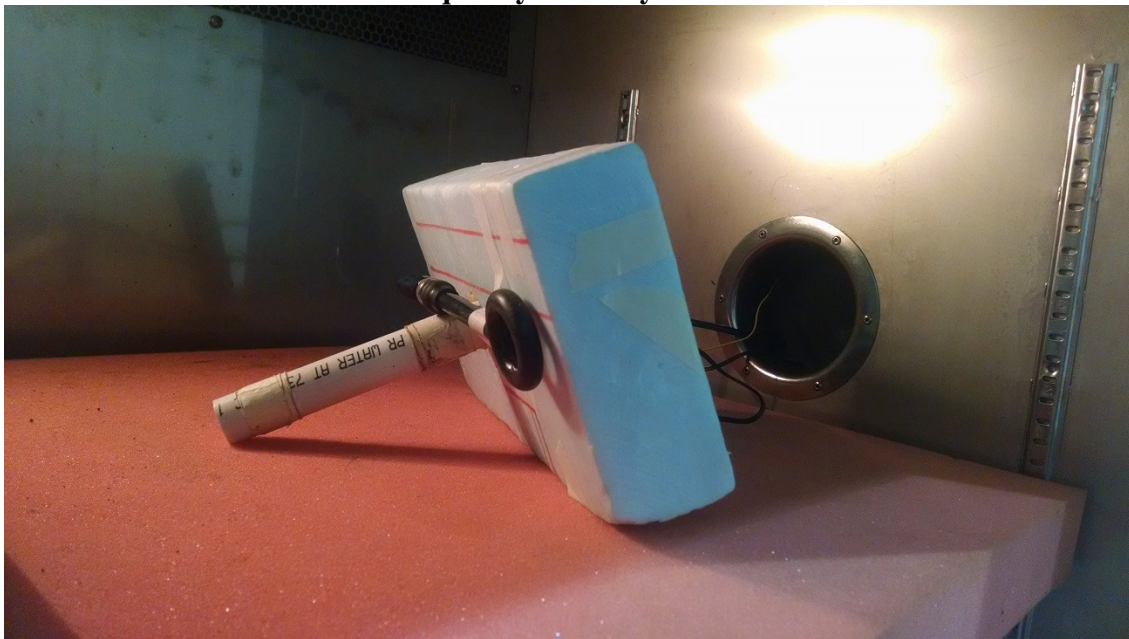


Appendix A

Frequency Stability - Front



Frequency Stability - Back



Appendix A

AC line Conducted Emissions – Front



AC line Conducted Emissions – Back





166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

Appendix B – Measurement Data

B1.0 Occupied Bandwidth – 20 dB

Rule Part: Informational

Test Procedure: ANSI C63.10:2013 Section 6.9.2

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.



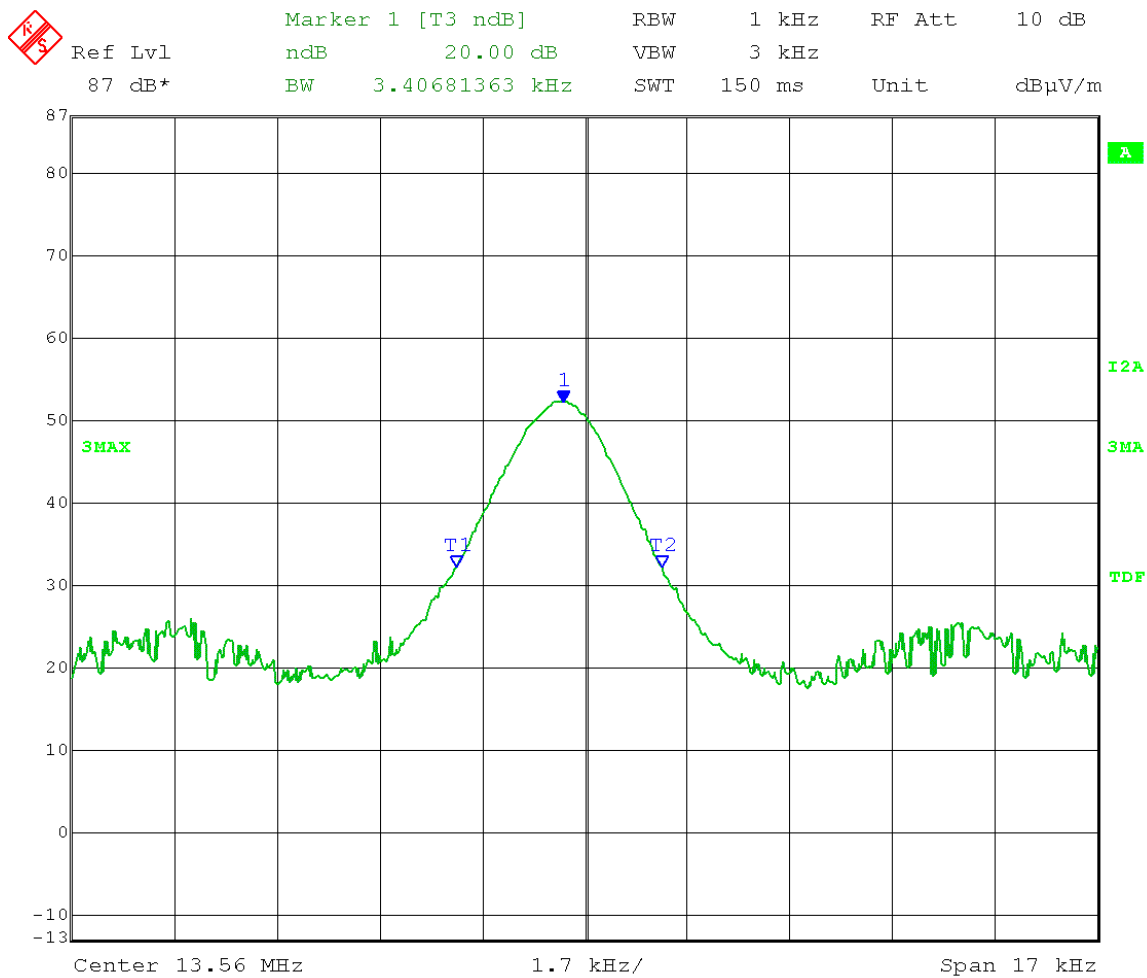
166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

Test Date: 05-13-2016
Company: Brady Corporation
EUT: BDC2000 RFID Assy
Test: 20 dB Bandwidth - Radiated
Operator: Craig B
Comment: Frequency: 13.56 MHz

NOTE: The RBW setting was 1 kHz because a value between 1% and 3% of OBW could not be achieved due to the carrier being more than 20 dB above the modulation products.

20 dB Bandwidth = 3.41 kHz



Date: 13.MAY.2016 12:22:08



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

Appendix B

B2.0 Radiated Emissions

Rule Part: FCC Part 15.225 and FCC Part 15.209

Test Procedure: ANSI C63.4-2014 & ANSI C63.10-2013

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 $\mu\text{V/m}$
 $20 \text{ Log } (15,848) = 84 \text{ dB}\mu\text{V/m}$ at 30 meters
Using a 20 dB/decade distance extrapolation factor as per FCC
 $15.31(f)(2): 20 \text{ Log}(30 \text{ meters}/10 \text{ meters}) = 9.54 \text{ dB}$
 $84 \text{ dB}\mu\text{V/m} + 9.54 \text{ dB} = \mathbf{93.54 \text{ dB}\mu\text{V/m at 10 meter distance}}$

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

Field Strength measurements were taken at a distance of 3 meters for 9 kHz to 150kHz, 10 meters from 150 kHz to 30 MHz, and 3 meters from 30 MHz to 1 GHz.



166 South Carter, Genoa City, WI 53128

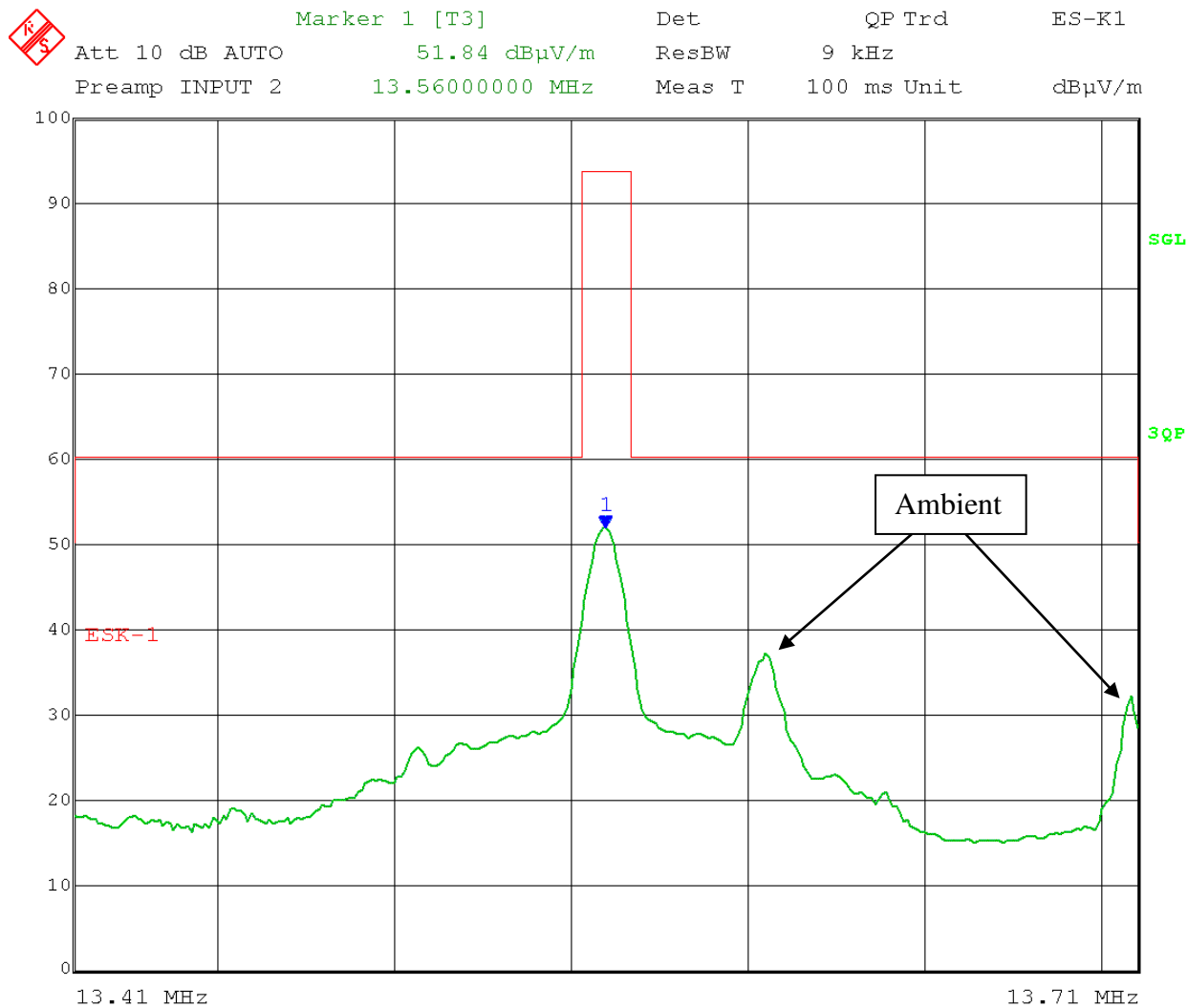
Company:
Model Tested:
Report Number:
Project Number:

Brady Corporation
BDC2000
21899
8148

Appendix B

B2.0a Emissions Mask

Test Date: 05-13-2016
Company: Brady Corporation
EUT: BDC2000 RFID Assy
Test: Emission Mask – Radiated; Quasi-Peak
Operator: Craig B
Comment: Frequency: 13.56 MHz



Date: 13.MAY.2016 12:17:57

Electric Field Strength

EUT: BDC2000 RFID Assembly
Manufacturer: Brady Corporation
Operating Condition: 70 deg F; 42% R.H.
Test Site: D.L.S. O.F. Site 3
Operator: Craig B; #8148
Test Specification: Continuous transmit mode
Comment:
Date: 05-13-2016

TEXT: "E-Field 3 meters"

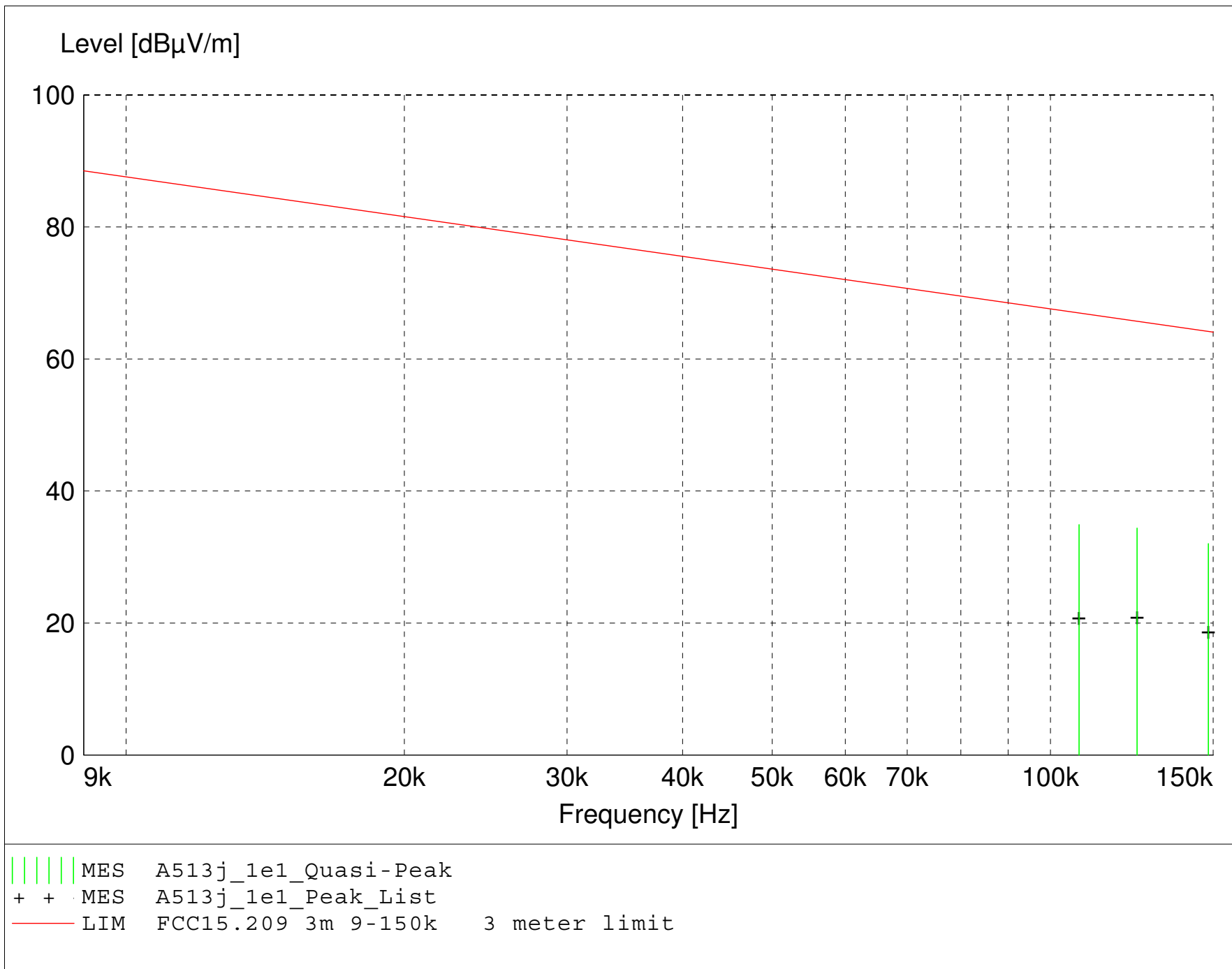
Short Description: Test Set-up

Test Set-up: EUT Measured at 3 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: "A513j_1e1_Final"

5/13/2016 1:59PM

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		
0.124100	24.08	10.28	0.0	34.4	65.7	31.3	1.00	0	QUASI-PEAK	noise floor
0.107400	24.59	10.29	0.0	34.9	67.0	32.1	1.00	0	QUASI-PEAK	noise floor
0.148200	21.71	10.25	0.1	32.0	64.2	32.1	1.00	0	QUASI-PEAK	noise floor

Electric Field Strength

EUT: BDC2000 RFID Assembly
Manufacturer: Brady Corporation
Operating Condition: 70 deg F; 42% R.H.
Test Site: D.L.S. O.F. Site 3
Operator: Craig B; #8148
Test Specification: Continuous transmit mode
Comment:
Date: 05-13-2016

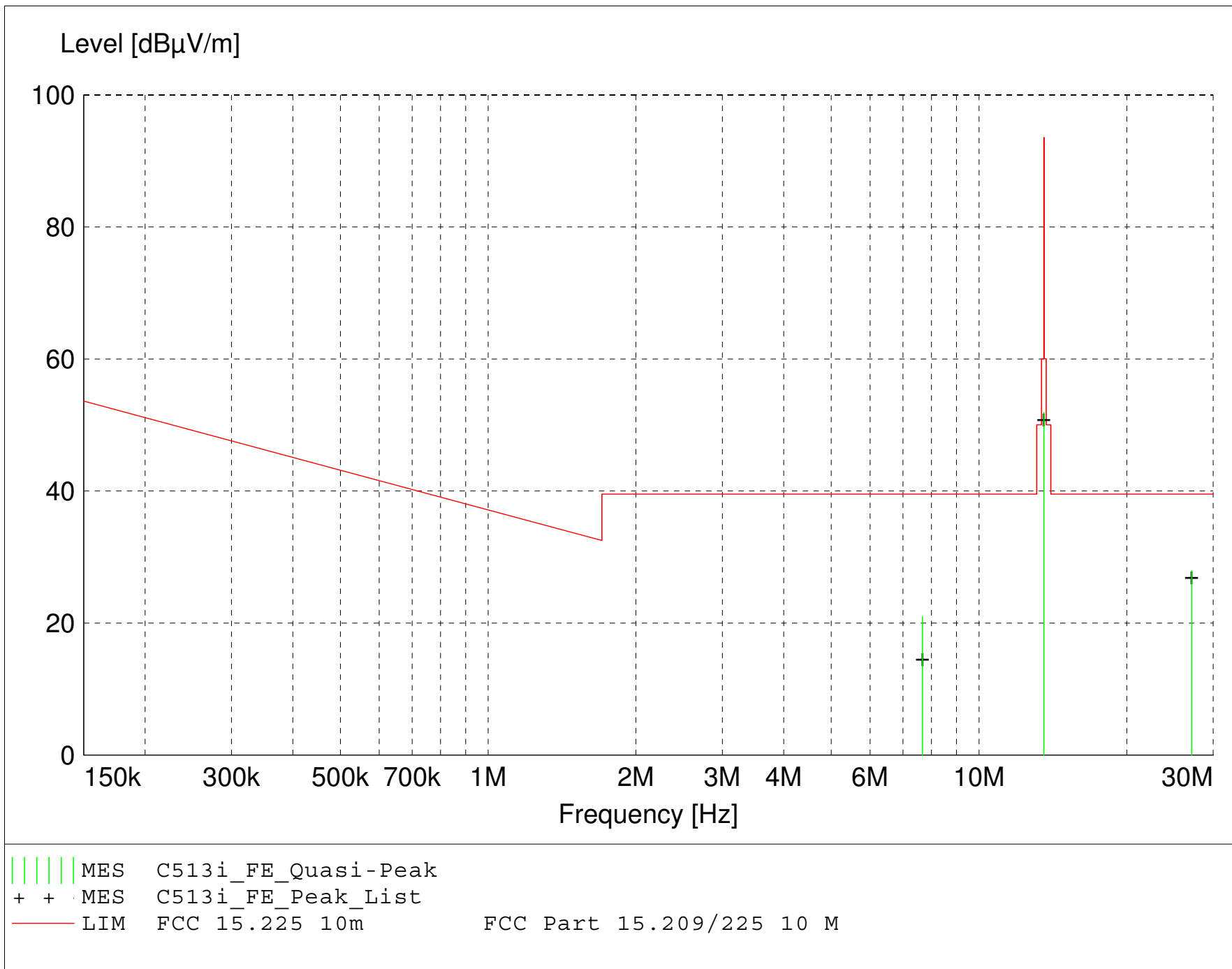
TEXT: "E-Field 10 meters"

Short Description: E-Field

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

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

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: "C513i_FE_Final"

5/13/2016 2:23PM

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		
27.119000	18.15	8.61	1.2	27.9	39.5	11.6	1.00	90	QUASI-PEAK	harmonic
7.668000	9.73	10.60	0.6	21.0	39.5	18.6	1.00	90	QUASI-PEAK	noise floor
0.112300	24.77	10.29	0.0	35.1	56.1	21.1	1.00	45	QUASI-PEAK	noise floor
0.130500	23.32	10.27	0.1	33.7	54.8	21.2	1.00	45	QUASI-PEAK	noise floor
0.149100	21.17	10.25	0.1	31.5	53.7	22.2	1.00	45	QUASI-PEAK	noise floor
13.559075	40.38	10.70	0.8	51.9	93.5	41.6	1.00	80	QUASI-PEAK	fundamental

FCC Part 15.209

Electric Field Strength

EUT: BDC2000 RFID Assembly
Manufacturer: Brady Corporation
Operating Condition: 72 deg. F; 36% R.H.
Test Site: DLS O.F. Site 3
Operator: Craig B; #8148
Test Specification: Continuous transmit
Comment:
Date: 05-13-2016

TEXT: "Horz 3 meters"

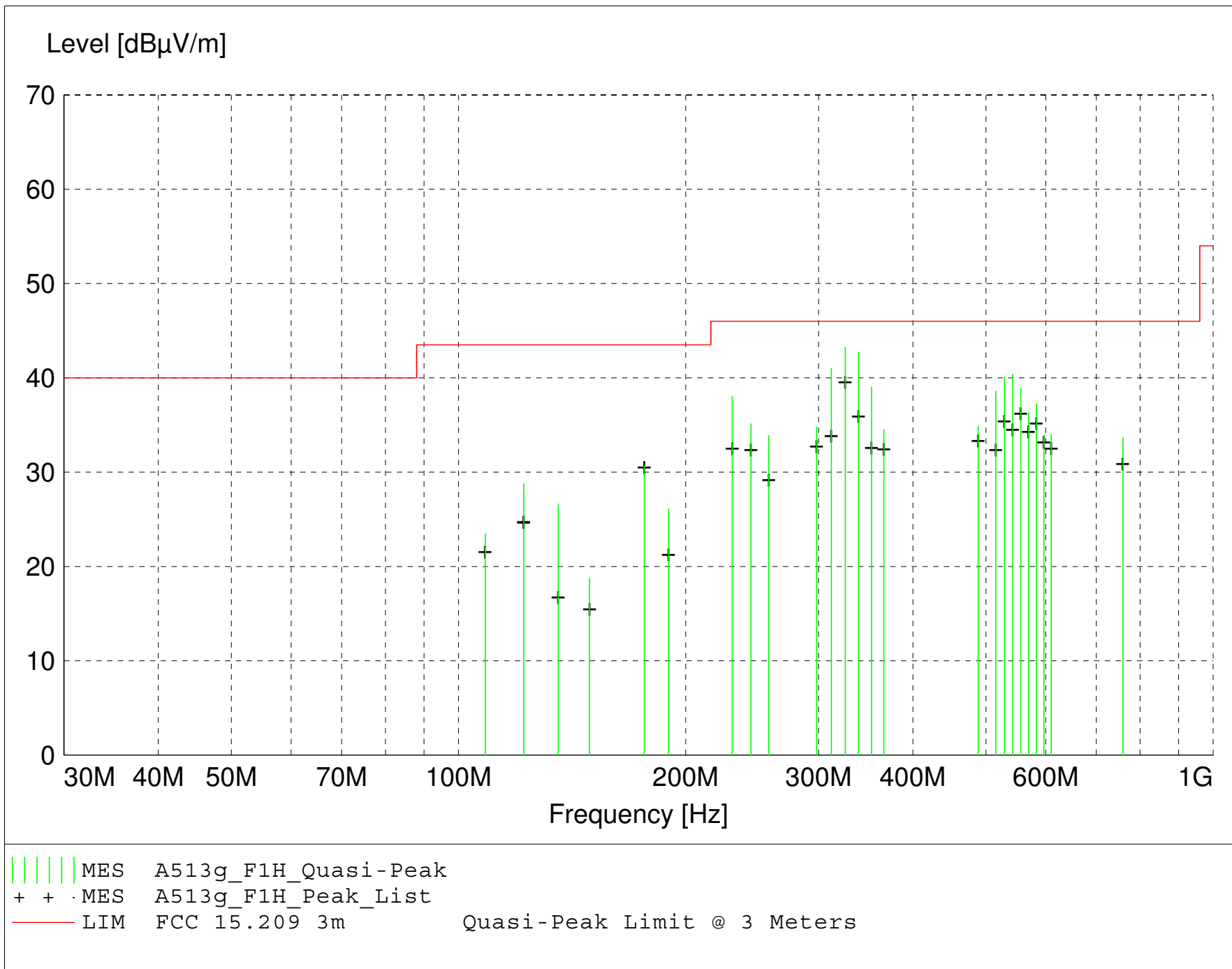
Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL 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 dector
Final maximized level using Peak detector



MEASUREMENT RESULT: "A513g_F1H_Final"

5/13/2016 4:32PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBμV	Factor	Loss	Level	dBμV/m	dB	Ant.	Angle	Detector	
		dBμV/m	dB	dBμV/m	dBμV/m		m	deg		
325.420000	50.85	14.39	-22.0	43.2	46.0	2.8	1.00	350	QUASI-PEAK	None
338.990000	50.03	14.74	-22.0	42.7	46.0	3.3	1.00	0	QUASI-PEAK	None
311.870000	47.60	15.33	-21.9	41.0	46.0	5.0	1.00	0	QUASI-PEAK	None
542.380000	43.01	18.55	-21.2	40.4	46.0	5.6	1.20	190	QUASI-PEAK	None
528.820000	42.87	18.32	-21.1	40.1	46.0	5.9	1.30	180	QUASI-PEAK	None
352.550000	46.26	14.70	-22.0	39.0	46.0	7.0	1.00	330	QUASI-PEAK	None
555.940000	41.67	18.42	-21.2	38.9	46.0	7.1	1.10	315	QUASI-PEAK	None
515.260000	40.84	18.79	-21.0	38.6	46.0	7.4	1.30	190	QUASI-PEAK	None
230.510000	49.58	11.03	-22.6	38.0	46.0	8.0	1.00	180	QUASI-PEAK	None
583.060000	39.07	19.04	-20.8	37.3	46.0	8.7	1.00	350	QUASI-PEAK	None
569.500000	38.55	18.69	-20.9	36.3	46.0	9.7	1.20	240	QUASI-PEAK	None
244.070000	45.72	11.84	-22.5	35.1	46.0	10.9	1.30	160	QUASI-PEAK	None
488.140000	38.88	17.39	-21.4	34.9	46.0	11.1	2.10	10	QUASI-PEAK	None
298.310000	42.58	14.40	-22.2	34.8	46.0	11.2	1.00	170	QUASI-PEAK	None
366.110000	41.31	15.00	-21.8	34.5	46.0	11.5	1.00	80	QUASI-PEAK	None
610.180000	35.35	19.51	-20.9	34.0	46.0	12.0	1.00	290	QUASI-PEAK	None
596.620000	35.53	19.27	-20.9	33.9	46.0	12.1	1.20	225	QUASI-PEAK	None
257.630000	43.63	12.46	-22.2	33.9	46.0	12.1	1.20	170	QUASI-PEAK	None
759.340000	32.52	21.30	-20.2	33.6	46.0	12.4	1.00	250	QUASI-PEAK	None
176.270000	37.96	15.63	-22.9	30.7	43.5	12.8	2.00	290	QUASI-PEAK	None
122.040000	39.04	13.10	-23.4	28.8	43.5	14.7	1.60	100	QUASI-PEAK	None
122.020000	38.13	13.10	-23.4	27.8	43.5	15.7	1.60	90	QUASI-PEAK	None
135.590000	37.65	12.24	-23.3	26.6	43.5	16.9	1.70	80	QUASI-PEAK	None
189.840000	31.27	17.57	-22.7	26.1	43.5	17.4	1.50	280	QUASI-PEAK	None
108.470000	35.28	11.75	-23.6	23.5	43.5	20.0	1.60	100	QUASI-PEAK	None
149.140000	29.99	12.00	-23.2	18.7	43.5	24.8	2.10	260	QUASI-PEAK	None

FCC Part 15.209

Electric Field Strength

EUT: BDC2000 RFID Assembly
Manufacturer: Brady Corporation
Operating Condition: 72 deg. F; 36% R.H.
Test Site: DLS O.F. Site 3
Operator: Craig B; #8148
Test Specification: Continuous transmit
Comment:
Date: 05-13-2016

TEXT: "Vert 3 meters"

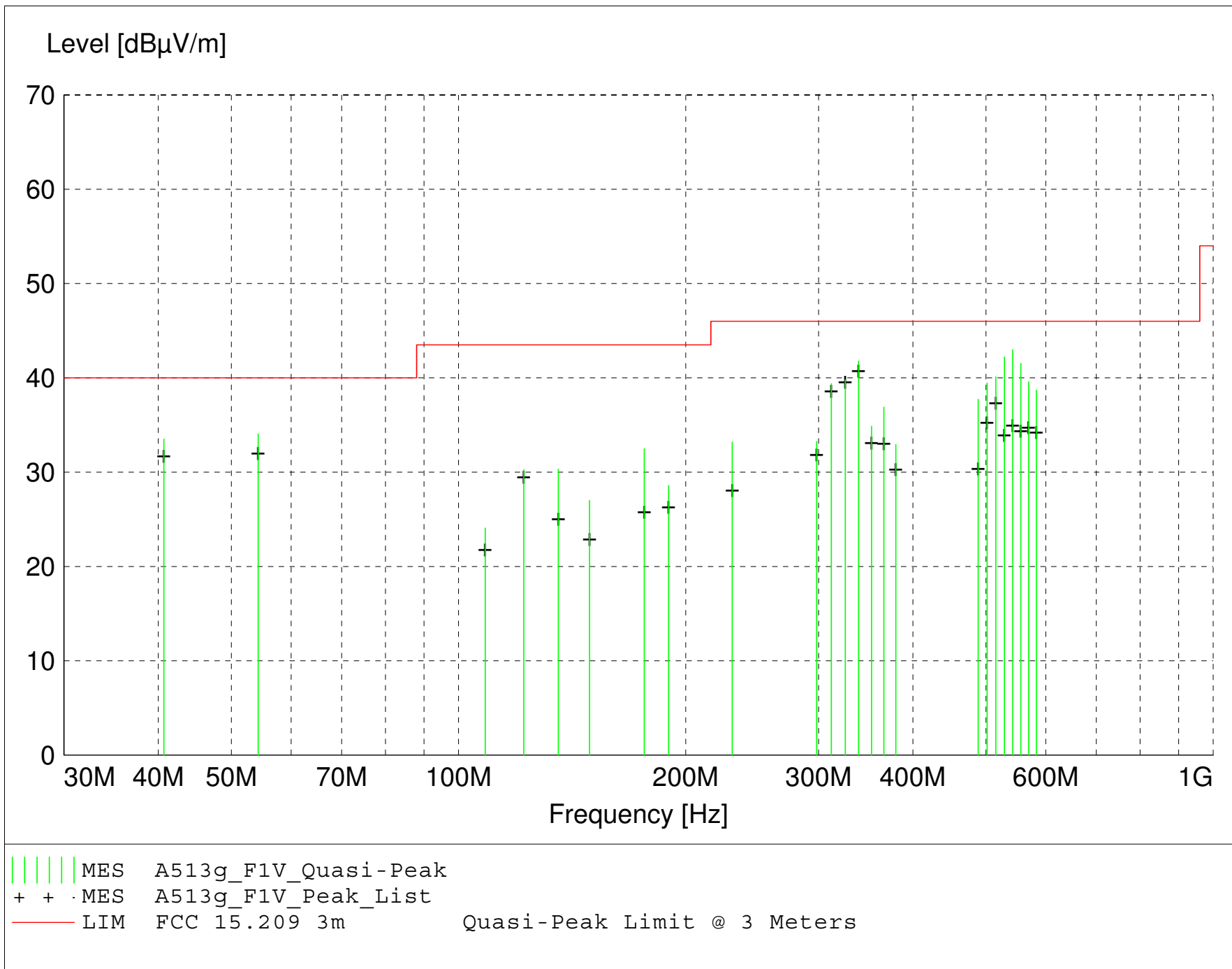
Short Description: Test Set-up

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 dector
Final maximized level using Peak detector



MEASUREMENT RESULT: "A513g_F1V_Final"

5/13/2016 4:16PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBμV	Factor	Loss	Level	dBμV/m	dB	Ant.	Angle	Detector	
		dBμV/m	dB	dBμV/m			m	deg		
542.380000	45.62	18.55	-21.2	43.0	46.0	3.0	1.00	315	QUASI-PEAK	None
528.820000	44.97	18.32	-21.1	42.2	46.0	3.8	1.00	280	QUASI-PEAK	None
338.990000	49.09	14.74	-22.0	41.8	46.0	4.2	1.10	190	QUASI-PEAK	None
555.940000	44.29	18.42	-21.2	41.5	46.0	4.5	1.00	315	QUASI-PEAK	None
515.260000	42.37	18.79	-21.0	40.1	46.0	5.9	1.00	290	QUASI-PEAK	None
54.260000	47.21	11.17	-24.3	34.0	40.0	6.0	1.00	75	QUASI-PEAK	None
325.430000	47.42	14.39	-22.0	39.8	46.0	6.2	1.40	180	QUASI-PEAK	None
569.500000	41.80	18.69	-20.9	39.6	46.0	6.4	1.00	290	QUASI-PEAK	None
40.680000	46.16	11.87	-24.5	33.5	40.0	6.5	1.00	45	QUASI-PEAK	None
501.700000	42.72	17.90	-21.2	39.5	46.0	6.5	1.10	300	QUASI-PEAK	None
311.870000	46.00	15.33	-21.9	39.4	46.0	6.6	1.00	170	QUASI-PEAK	None
583.060000	40.51	19.04	-20.8	38.7	46.0	7.3	1.00	330	QUASI-PEAK	None
488.140000	41.73	17.39	-21.4	37.7	46.0	8.3	1.10	315	QUASI-PEAK	None
366.110000	43.71	15.00	-21.8	36.9	46.0	9.1	1.30	75	QUASI-PEAK	None
176.280000	39.78	15.63	-22.9	32.5	43.5	11.0	1.00	120	QUASI-PEAK	None
352.550000	42.12	14.70	-22.0	34.9	46.0	11.1	1.10	200	QUASI-PEAK	None
298.310000	41.03	14.40	-22.2	33.3	46.0	12.7	1.00	135	QUASI-PEAK	None
230.510000	44.78	11.03	-22.6	33.2	46.0	12.8	1.00	100	QUASI-PEAK	None
379.670000	39.32	15.19	-21.6	32.9	46.0	13.1	1.20	70	QUASI-PEAK	None
135.600000	41.40	12.24	-23.3	30.3	43.5	13.2	1.00	270	QUASI-PEAK	None
122.030000	40.54	13.10	-23.4	30.3	43.5	13.2	1.00	90	QUASI-PEAK	None
189.830000	33.76	17.57	-22.7	28.6	43.5	14.9	1.00	135	QUASI-PEAK	None
149.130000	38.24	12.00	-23.2	27.0	43.5	16.5	1.00	135	QUASI-PEAK	None
108.480000	35.90	11.75	-23.6	24.1	43.5	19.4	1.00	160	QUASI-PEAK	None



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

Appendix B

B3.0 Frequency Stability

Rule Part: FCC Part 15.225(e)

Test Procedure: ANSI C63.10:2013 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 DC bench power supply 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°C to $+50^{\circ}\text{C}$ in increments of 10° and at nominal DC voltage of 5 V to the input of the EUT. Carrier frequency measurements were performed and recorded at transmitter startup. EUT frequency was stable at time of startup, and at 2 minutes, 5 minutes, and 10 minutes after start up. No significant drifting was observed.

DLS Electronic Systems, Inc.

Company: Brady Corp

Operator: John S

Dates of test: 5-19-2016, 5-20-2016

Model: BDC2000 RFID Assy

Limit = +/- 0.01% (+/- 1,356 Hz)

Frequency Stability FCC Part 15.225

Time after turn ON	Nominal Frequency (MHz)	Measured Frequency (at 5 Volts DC)									
		+50 deg. C	Error (Hz)	+40 deg. C	Error (Hz)	+30 deg. C	Error (Hz)	+20 deg. C	Error (Hz)	+10 deg. C	Error (Hz)
immediate	13.560	13.559549	-450.900	13.559545	-454.910	13.559549	-450.900	13.559561	-438.880	13.559561	-438.880
2 min.	13.560	13.559557	-442.890	13.559545	-454.910	13.559549	-450.900	13.559561	-438.880	13.559561	-438.880
5 min.	13.560	13.559557	-442.890	13.559545	-454.910	13.559549	-450.900	13.559561	-438.880	13.559561	-438.880
10 min.	13.560	13.559557	-442.890	13.559545	-454.910	13.559549	-450.900	13.559561	-438.880	13.559561	-438.880

Frequency Stability FCC Part 15.225

Time after turn ON	Nominal Frequency (MHz)	Measured Frequency (at 5 Volts DC)									
		0 deg. C	Error (Hz)	-10 deg. C	Error (Hz)	-20 deg. C	Error (Hz)				
immediate	13.560	13.559545	-454.910	13.559505	-494.990	13.559437	-563.130				
2 min.	13.560	13.559549	-450.900	13.559513	-486.970	13.559449	-551.100				
5 min.	13.560	13.559549	-450.900	13.559513	-486.970	13.559449	-551.100				
10 min.	13.560	13.559549	-450.900	13.559513	-486.970	13.559449	-551.100				

Frequency Stability FCC Part 15.225

	Nominal Frequency (MHz)	Measured Frequency (at 20 deg. C)									
		4.25 Volts	Error (Hz)	5.00 Volts	Error (Hz)	5.75 Volts	Error (Hz)				
	13.560	13.559553	-446.890	13.559561	-438.880	13.559565	-434.870				



166 South Carter, Genoa City, WI 53128

Company:	Brady Corporation
Model Tested:	BDC2000
Report Number:	21899
Project Number:	8148

Appendix B

B4.0 AC Line Conducted Emissions

Rule Part: FCC Part 15.207

Test Procedure: ANSI C63.4-2014 & ANSI C63.10-2013
KDB 174176 D01 Line Conducted FAQ v01r01 – Question 5

Limit: 15.207(a)

Results: Compliant

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

EUT was tested following the procedure set forth in FCC KDB 174176 D01 Line Conducted FAQ v01r01 – Question 5. For a device with a detachable antenna operating at or below 30 MHz, the FCC will accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) perform the AC line conducted tests with the antenna connected to determine compliance with Section 15.207 limits outside the transmitter's fundamental emission band; (2) retest with a dummy load to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band.

Following the paragraph above, there are result files for AC line conducted with the antenna connected which shows failing results at the RFID frequency. There are also result files for AC line conducted with a dummy load connected showing passing results at all frequencies.



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63 °F
Humidity : 35 %
Test Specs : Line 1, AV detector, with antenna
Operator : John S
DLS Project # : 8148
Result : Fail at RFID Frequency

EUT

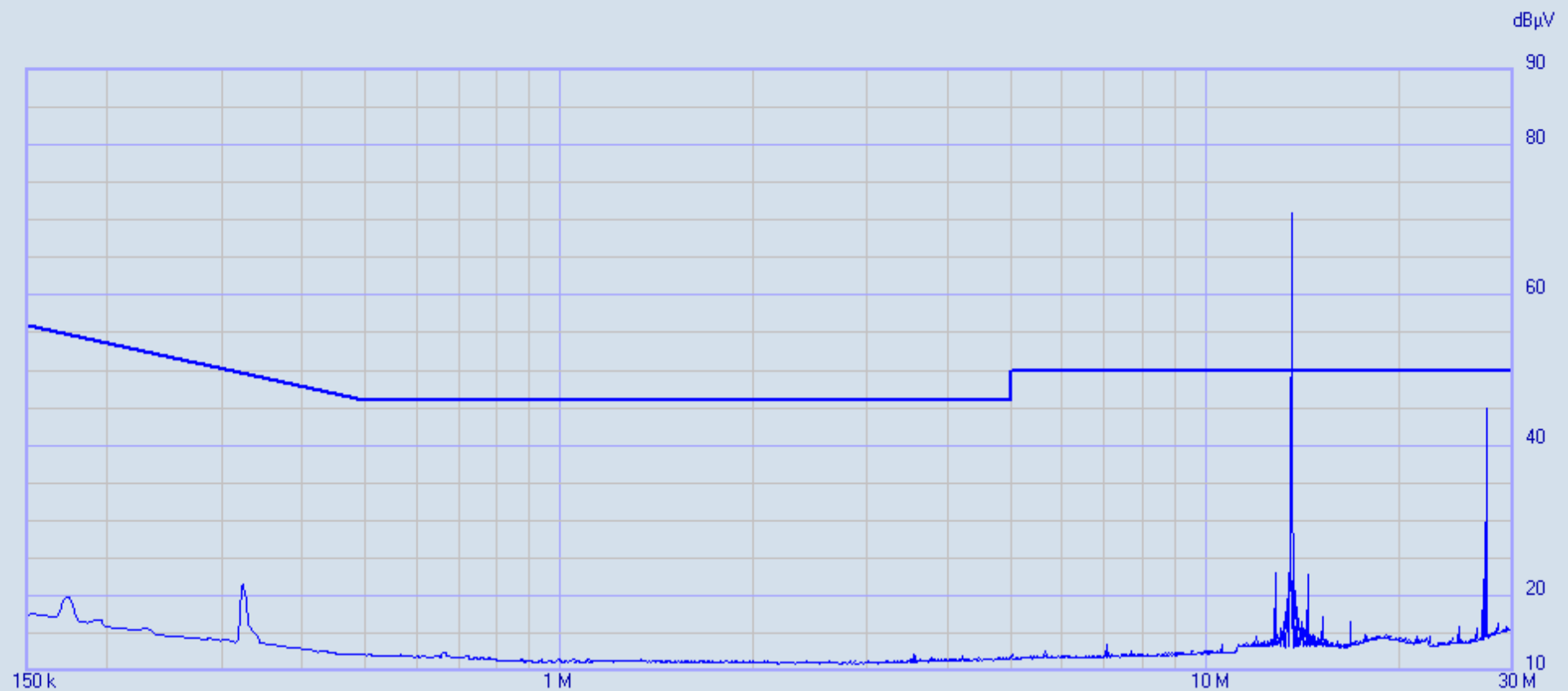
Manufacturer : Brady Corporation
Model : Brady Prism BDC RFID Assy
Notes : 120V 60 Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L1_000

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 AV

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

C-Avg —

8148 Brady Corp Prism 120V 60Hz L1_000 19/05/2016 08:45:48
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 3 dB

Frequency	C-Avg	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20.. [dBμV]	[dB]	LISN DLS#.. [dB]	E-M L705 [dB]	DLS #592 [dB]	Cables 43.. [dB]
1 13.55293	52.06	50.00	2.06	0.30	10.11	0.35	0.68
2 13.554975	65.11	50.00	15.11	0.30	10.11	0.35	0.68
3 13.55702	70.22	50.00	20.22	0.30	10.11	0.34	0.68
4 13.559065	71.00	50.00	21.00	0.30	10.11	0.34	0.68
5 13.56111	70.93	50.00	20.93	0.30	10.11	0.34	0.68
6 13.563155	68.71	50.00	18.71	0.30	10.11	0.34	0.68
7 13.5652	60.54	50.00	10.54	0.30	10.11	0.34	0.68



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63 °F
Humidity : 35 %
Test Specs : Line 1, QP detector, with antenna
Operator : John S
DLS Project # : 8148
Result : Fail at RFID Frequency

EUT

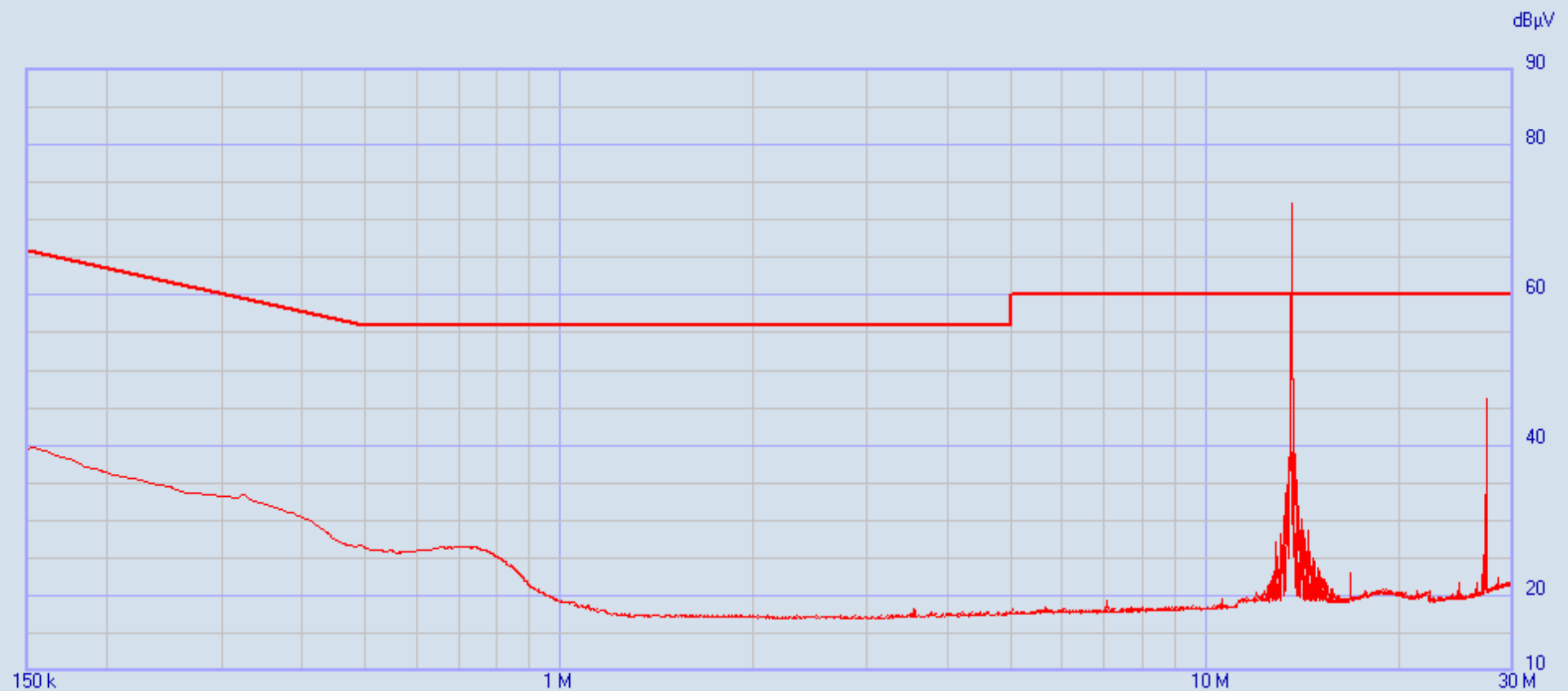
Manufacturer : Brady Corporation
Model : Brady Prism BDC RFID Assy
Notes : 120V 60 Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L1_000

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 QP

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

QPeak —

8148 Brady Corp Prism 120V 60Hz L1_000 19/05/2016 08:45:48
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 3 dB

Frequency	QPeak	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20..	[dB]	LISN DLS#..	E-M L705	DLS #592	Cables 43..
		[dBμV]		[dB]	[dB]	[dB]	[dB]
1 13.554975	65.74	60.00	5.74	0.30	10.11	0.35	0.68
2 13.55702	71.50	60.00	11.50	0.30	10.11	0.34	0.68
3 13.559065	72.10	60.00	12.10	0.30	10.11	0.34	0.68
4 13.56111	72.19	60.00	12.19	0.30	10.11	0.34	0.68
5 13.563155	69.95	60.00	9.95	0.30	10.11	0.34	0.68
6 13.5652	61.07	60.00	1.07	0.30	10.11	0.34	0.68



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63 °F
Humidity : 35 %
Test Specs : Line 2, AV detector, with antenna
Operator : John S
DLS Project # : 8148
Result : Fail at RFID Frequency

EUT

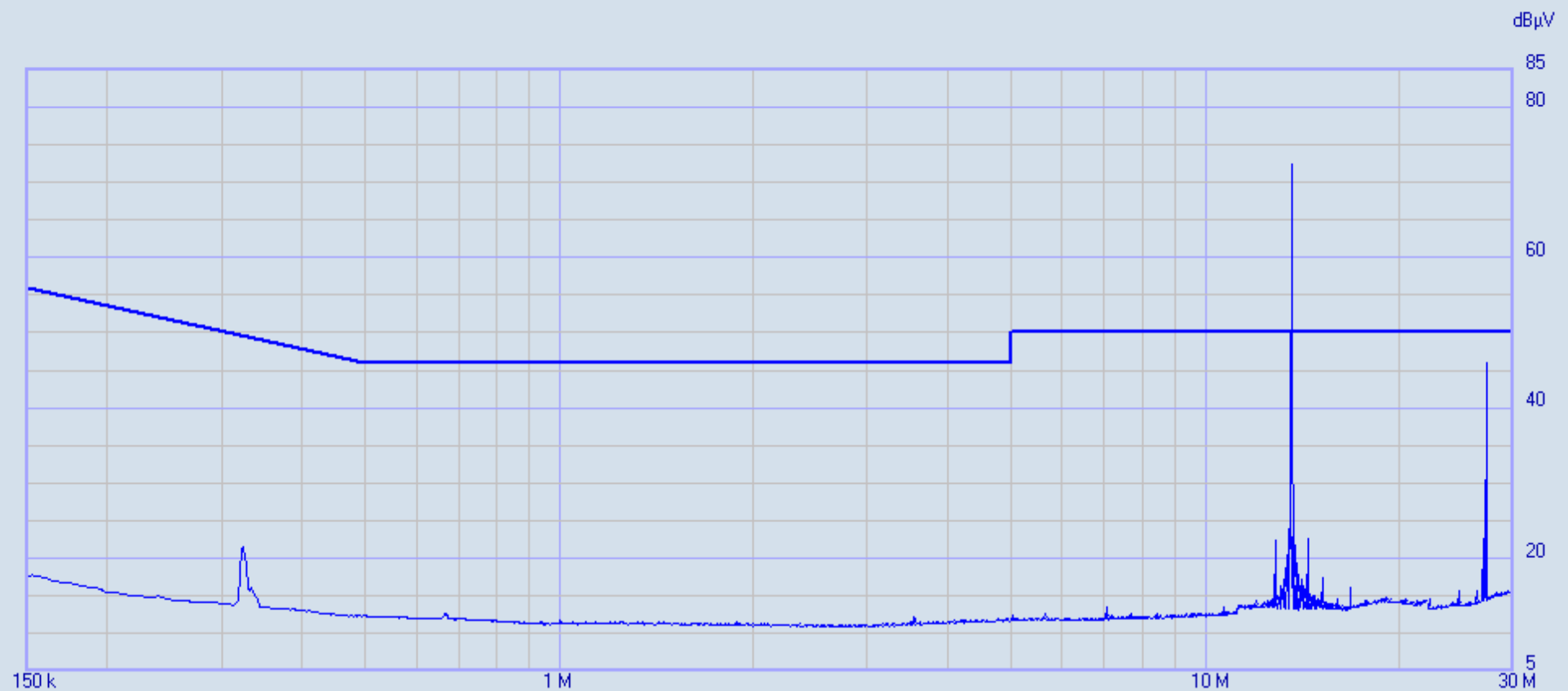
Manufacturer : Brady Corporation
Model : Brady Prism BDC RFID Assy
Notes : 120V 60 Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L2 with antenna

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General

Limits:
FCC 15.207 AV

Factors:

LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

C-Avg

8148 Brady Corp Prism 120V 60Hz L2 with antenna 15/06/2016 14:41:44
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 3 dB

Frequency	C-Avg	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20..	[dB]	LISN DLS#..	E-M L705	DLS #592	Cables 43..
		[dBμV]		[dB]	[dB]	[dB]	[dB]
1 13.55293	53.62	50.00	3.62	0.30	10.11	0.35	0.70
2 13.554975	66.62	50.00	16.62	0.30	10.11	0.35	0.70
3 13.55702	71.71	50.00	21.71	0.30	10.11	0.34	0.70
4 13.559065	72.48	50.00	22.48	0.30	10.11	0.34	0.70
5 13.56111	72.40	50.00	22.40	0.30	10.11	0.34	0.70
6 13.563155	70.16	50.00	20.16	0.30	10.11	0.34	0.70
7 13.5652	61.97	50.00	11.97	0.30	10.11	0.34	0.70



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63 °F
Humidity : 35 %
Test Specs : Line 2, QP detector, with antenna
Operator : John S
DLS Project # : 8148
Result : Fail at RFID Frequency

EUT

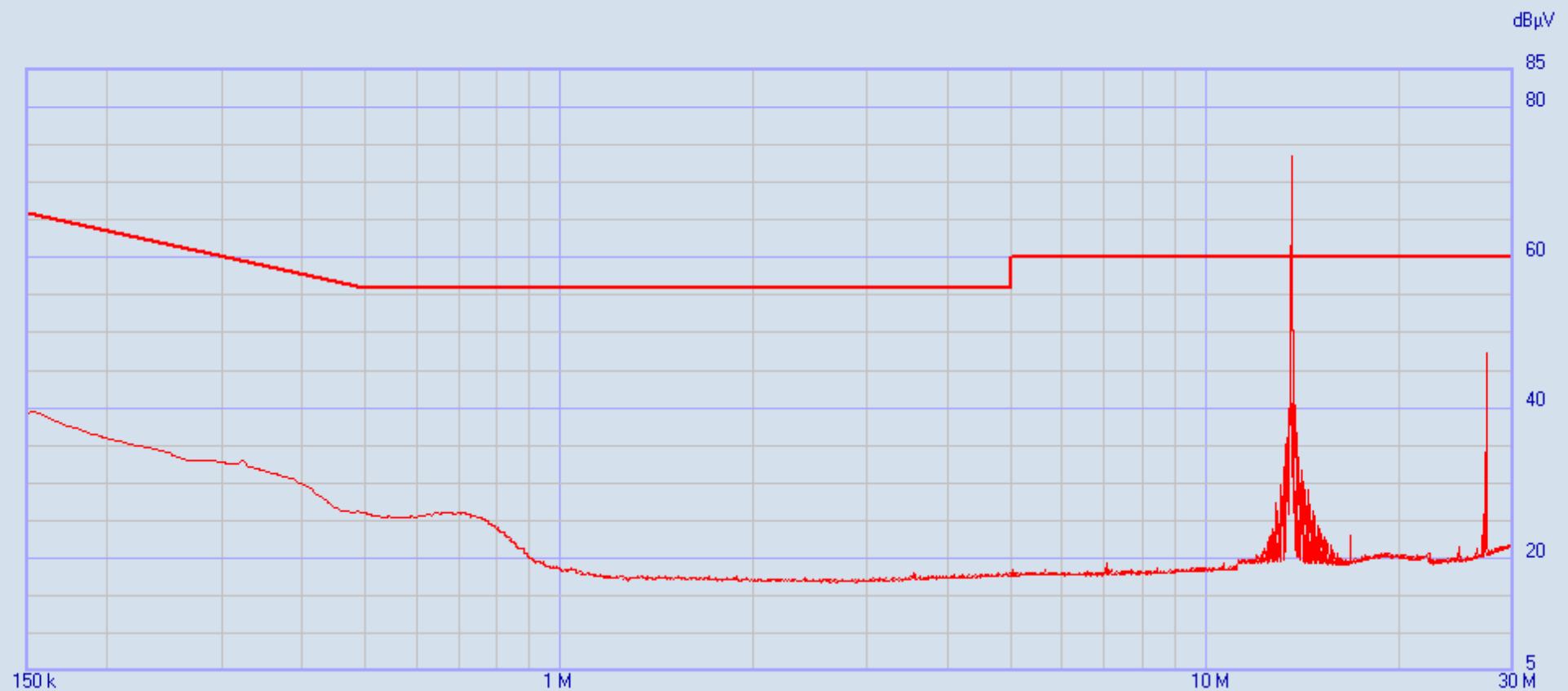
Manufacturer : Brady Corporation
Model : Brady Prism BDC RFID Assy
Notes : 120V 60 Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L2 with antenna

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General

Limits:
FCC 15.207 QP

Factors:

LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

QPeak —

8148 Brady Corp Prism 120V 60Hz L2 with antenna 15/06/2016 14:41:44
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 3 dB

Frequency	QPeak	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20..	[dB]	LISN DLS#..	E-M L705	DLS #592	Cables 43..
		[dBμV]		[dB]	[dB]	[dB]	[dB]
1 13.554975	67.11	60.00	7.11	0.30	10.11	0.35	0.70
2 13.55702	72.86	60.00	12.86	0.30	10.11	0.34	0.70
3 13.559065	73.43	60.00	13.43	0.30	10.11	0.34	0.70
4 13.56111	73.52	60.00	13.52	0.30	10.11	0.34	0.70
5 13.563155	71.29	60.00	11.29	0.30	10.11	0.34	0.70
6 13.5652	62.44	60.00	2.44	0.30	10.11	0.34	0.70



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63°F
Humidity : 35%
Test Specs : Line 1; AV
Operator : John S
DLS Project # : 8148
Result : Pass

EUT

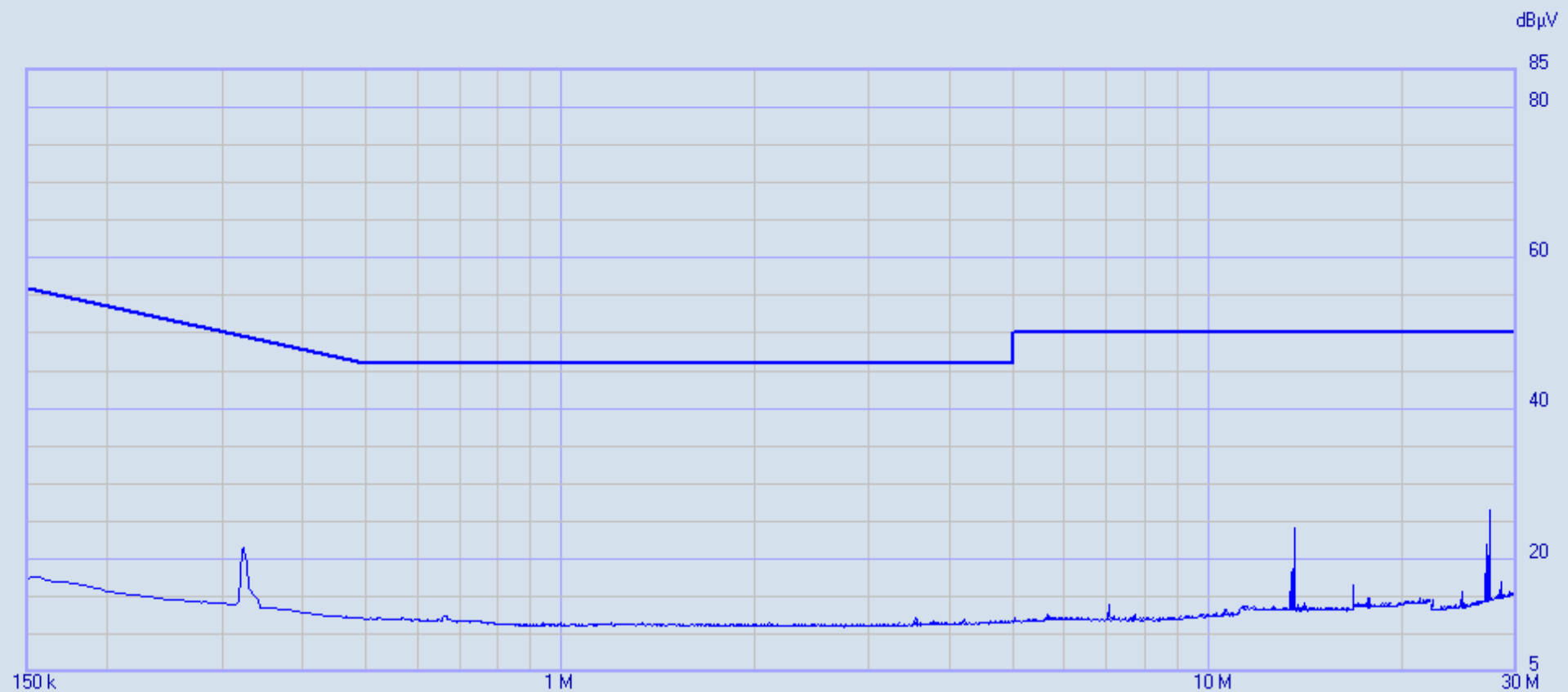
Manufacturer : Brady Corporation
Model : Brady PRISM BDC RFID Assy
Notes : 120V 60Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L1_001

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 AV

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

C-Avg —

8148 Brady Corp Prism 120V 60Hz L1_001 19/05/2016 09:06:21
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 30 dB

Frequency	C-Avg	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20.. [dBμV]	[dB]	LISN DLS#.. [dB]	E-M L705 [dB]	DLS #592 [dB]	Cables 43.. [dB]
1 0.32178	21.01	49.66	-28.65	0.67	9.96	1.25	0.11
2 0.323825	21.38	49.61	-28.23	0.66	9.96	1.24	0.11
3 0.32587	21.31	49.56	-28.25	0.66	9.96	1.24	0.11
4 13.55702	23.44	50.00	-26.56	0.30	10.11	0.34	0.68
5 13.559065	24.16	50.00	-25.84	0.30	10.11	0.34	0.68
6 13.56111	24.08	50.00	-25.92	0.30	10.11	0.34	0.68
7 13.563155	22.03	50.00	-27.97	0.30	10.11	0.34	0.68
8 26.80044	21.78	50.00	-28.22	0.38	10.09	0.51	0.96
9 26.802485	21.88	50.00	-28.12	0.38	10.09	0.51	0.96
10 26.80453	21.39	50.00	-28.61	0.38	10.09	0.51	0.96
11 27.117415	23.24	50.00	-26.76	0.38	10.09	0.51	0.97
12 27.11946	26.17	50.00	-23.83	0.38	10.09	0.51	0.97
13 27.121505	26.38	50.00	-23.62	0.38	10.09	0.51	0.97
14 27.12355	25.97	50.00	-24.03	0.38	10.09	0.51	0.97
15 27.125595	22.28	50.00	-27.72	0.38	10.09	0.51	0.97



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63°F
Humidity : 35%
Test Specs : Line 1; QP
Operator : John S
DLS Project # : 8148
Result : Pass

EUT

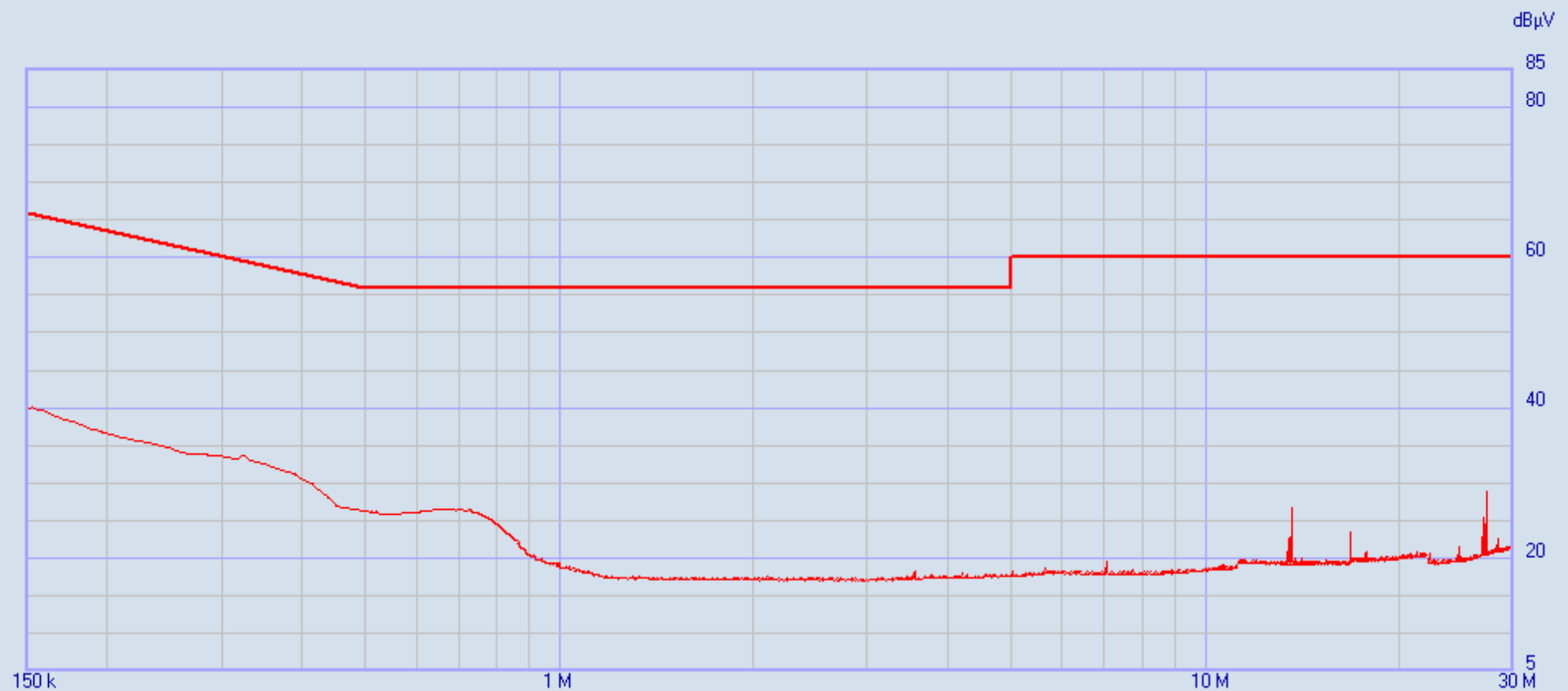
Manufacturer : Brady Corporation
Model : Brady PRISM BDC RFID Assy
Notes : 120V 60Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L1_001

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 QP

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

QPeak —

8148 Brady Corp Prism 120V 60Hz L1_001 19/05/2016 09:06:21
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 27 dB

Frequency	QPeak	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20.. [dBμV]	[dB]	LISN DLS#.. [dB]	E-M L705 [dB]	DLS #592 [dB]	Cables 43.. [dB]
1 0.15	39.71	66.00	-26.29	1.74	9.87	2.16	0.03
2 0.152045	40.05	65.89	-25.84	1.70	9.86	2.13	0.04
3 0.15409	39.94	65.78	-25.84	1.67	9.86	2.09	0.04
4 0.156135	39.78	65.67	-25.89	1.64	9.86	2.06	0.04
5 0.15818	39.63	65.56	-25.93	1.61	9.85	2.03	0.05
6 0.160225	39.48	65.45	-25.97	1.58	9.85	2.00	0.05
7 0.16227	39.29	65.35	-26.06	1.56	9.84	1.97	0.06
8 0.164315	39.07	65.24	-26.17	1.53	9.84	1.94	0.06
9 0.16636	38.84	65.14	-26.30	1.50	9.83	1.91	0.07
10 0.168405	38.63	65.04	-26.41	1.48	9.83	1.89	0.07
11 0.17045	38.46	64.94	-26.48	1.45	9.82	1.88	0.08
12 0.172495	38.32	64.84	-26.52	1.43	9.82	1.86	0.08
13 0.17454	38.21	64.74	-26.53	1.41	9.81	1.85	0.08
14 0.176585	38.10	64.64	-26.54	1.38	9.81	1.83	0.09
15 0.17863	37.96	64.55	-26.59	1.36	9.81	1.82	0.09
16 0.180675	37.83	64.45	-26.62	1.34	9.80	1.81	0.09
17 0.18272	37.65	64.36	-26.71	1.32	9.80	1.79	0.09
18 0.184765	37.44	64.27	-26.83	1.30	9.79	1.78	0.10
19 0.18681	37.30	64.18	-26.88	1.28	9.79	1.77	0.10
20 0.188855	37.19	64.09	-26.90	1.26	9.80	1.75	0.10
21 0.1909	37.07	64.00	-26.93	1.24	9.80	1.74	0.10
22 0.192945	36.96	63.91	-26.95	1.22	9.81	1.73	0.10
23 0.19499	36.84	63.82	-26.98	1.21	9.81	1.72	0.10
24 0.282925	33.77	60.73	-26.96	0.77	9.97	1.41	0.11
25 0.28497	33.74	60.67	-26.93	0.76	9.97	1.40	0.11
26 0.287015	33.71	60.61	-26.90	0.75	9.97	1.40	0.11
27 0.28906	33.64	60.55	-26.91	0.75	9.97	1.39	0.11
28 0.291105	33.63	60.49	-26.86	0.74	9.97	1.38	0.11
29 0.29315	33.59	60.43	-26.84	0.74	9.97	1.37	0.11
30 0.295195	33.58	60.38	-26.80	0.73	9.97	1.36	0.11
31 0.29724	33.57	60.32	-26.75	0.73	9.97	1.35	0.11
32 0.299285	33.52	60.26	-26.74	0.72	9.97	1.34	0.11
33 0.30133	33.51	60.21	-26.70	0.72	9.97	1.33	0.11
34 0.303375	33.45	60.15	-26.70	0.71	9.96	1.32	0.11

35	0.30542	33.40	60.09	-26.69	0.71	9.96	1.31	0.11
36	0.307465	33.34	60.04	-26.70	0.70	9.96	1.30	0.11
37	0.30951	33.31	59.98	-26.67	0.70	9.96	1.30	0.11
38	0.311555	33.28	59.93	-26.65	0.69	9.96	1.29	0.11
39	0.3136	33.27	59.87	-26.60	0.69	9.96	1.28	0.11
40	0.315645	33.23	59.82	-26.59	0.68	9.96	1.27	0.11
41	0.31769	33.16	59.77	-26.61	0.68	9.96	1.26	0.11
42	0.319735	33.31	59.71	-26.40	0.67	9.96	1.25	0.11
43	0.32178	33.61	59.66	-26.05	0.67	9.96	1.25	0.11
44	0.323825	33.64	59.61	-25.97	0.66	9.96	1.24	0.11
45	0.32587	33.62	59.56	-25.94	0.66	9.96	1.24	0.11
46	0.327915	33.38	59.50	-26.12	0.66	9.96	1.23	0.11
47	0.32996	33.10	59.45	-26.35	0.65	9.96	1.23	0.11
48	0.332005	33.04	59.40	-26.36	0.65	9.96	1.23	0.11
49	0.33405	32.96	59.35	-26.39	0.65	9.96	1.22	0.11
50	0.336095	32.86	59.30	-26.44	0.64	9.96	1.22	0.11
51	0.33814	32.81	59.25	-26.44	0.64	9.97	1.21	0.12
52	0.340185	32.78	59.20	-26.42	0.64	9.97	1.21	0.12
53	0.34223	32.74	59.15	-26.41	0.63	9.97	1.21	0.12
54	0.344275	32.67	59.10	-26.43	0.63	9.97	1.20	0.12
55	0.34632	32.60	59.05	-26.45	0.62	9.97	1.20	0.12
56	0.348365	32.52	59.00	-26.48	0.62	9.97	1.19	0.12
57	0.35041	32.47	58.95	-26.48	0.61	9.97	1.19	0.12
58	0.352455	32.44	58.90	-26.46	0.61	9.97	1.19	0.12
59	0.3545	32.34	58.86	-26.52	0.61	9.97	1.18	0.12
60	0.356545	32.26	58.81	-26.55	0.60	9.97	1.18	0.12
61	0.35859	32.16	58.76	-26.60	0.60	9.97	1.18	0.11
62	0.360635	32.06	58.71	-26.65	0.60	9.97	1.17	0.11
63	0.36268	31.98	58.67	-26.69	0.60	9.97	1.17	0.10
64	0.364725	31.91	58.62	-26.71	0.59	9.97	1.17	0.10
65	0.36677	31.85	58.57	-26.72	0.59	9.97	1.16	0.10
66	0.368815	31.78	58.53	-26.75	0.59	9.97	1.16	0.09
67	0.37086	31.72	58.48	-26.76	0.58	9.97	1.16	0.09
68	0.372905	31.66	58.44	-26.78	0.58	9.97	1.15	0.08
69	0.37495	31.63	58.39	-26.76	0.58	9.97	1.15	0.08
70	0.376995	31.54	58.35	-26.81	0.58	9.97	1.15	0.07
71	0.37904	31.51	58.30	-26.79	0.57	9.97	1.15	0.07
72	0.381085	31.44	58.26	-26.82	0.57	9.97	1.14	0.06
73	0.38313	31.36	58.21	-26.85	0.57	9.97	1.14	0.06
74	0.385175	31.30	58.17	-26.87	0.57	9.97	1.14	0.06
75	0.38722	31.22	58.12	-26.90	0.56	9.97	1.13	0.05
76	0.389265	31.14	58.08	-26.94	0.56	9.97	1.13	0.05
77	0.39131	31.05	58.04	-26.99	0.56	9.97	1.13	0.04



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63°F
Humidity : 35%
Test Specs : Line 2; AV
Operator : John S
DLS Project # : 8148
Result : Pass

EUT

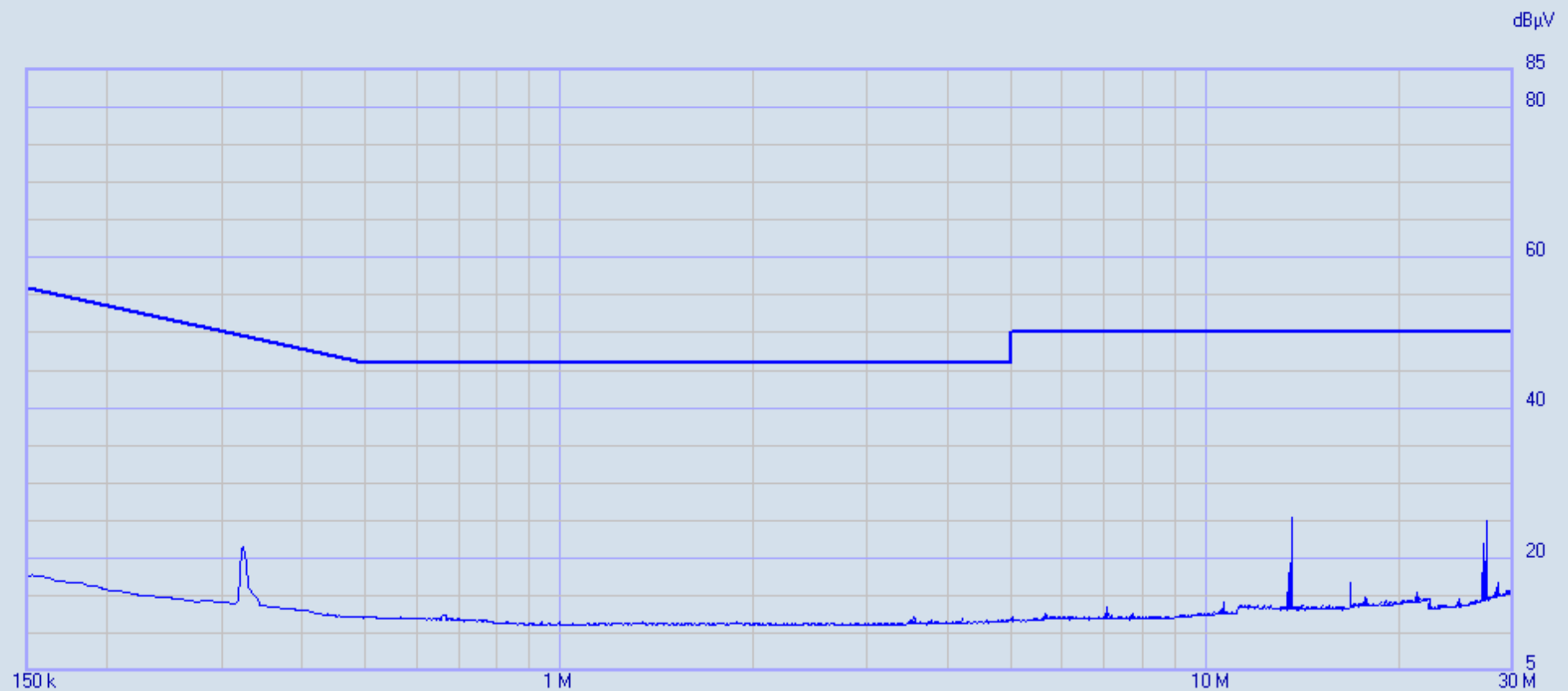
Manufacturer : Brady Corporation
Model : Brady PRISM BDC RFID Assy
Notes : 120V 60Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L2

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 AV

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

C-Avg —

8148 Brady Corp Prism 120V 60Hz L2 19/05/2016 09:17:02
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 30 dB

Frequency	C-Avg	Limit	Delta	Factor	Factor	Factor	Factor
[MHz]	[dBμV]	FCC 15_20.. [dBμV]	[dB]	LISN DLS#.. [dB]	E-M L705 [dB]	DLS #592 [dB]	Cables 43.. [dB]
1 0.32178	21.13	49.66	-28.53	0.67	9.96	1.25	0.11
2 0.323825	21.48	49.61	-28.13	0.66	9.96	1.24	0.11
3 0.32587	21.37	49.56	-28.19	0.66	9.96	1.24	0.11
4 13.55702	24.53	50.00	-25.47	0.30	10.11	0.34	0.68
5 13.559065	25.27	50.00	-24.73	0.30	10.11	0.34	0.68
6 13.56111	25.20	50.00	-24.80	0.30	10.11	0.34	0.68
7 13.563155	23.10	50.00	-26.90	0.30	10.11	0.34	0.68
8 26.80044	21.75	50.00	-28.25	0.38	10.09	0.51	0.96
9 26.802485	21.87	50.00	-28.13	0.38	10.09	0.51	0.96
10 26.80453	21.42	50.00	-28.58	0.38	10.09	0.51	0.96
11 27.117415	21.95	50.00	-28.05	0.38	10.09	0.51	0.97
12 27.11946	24.82	50.00	-25.18	0.38	10.09	0.51	0.97
13 27.121505	25.01	50.00	-24.99	0.38	10.09	0.51	0.97
14 27.12355	24.60	50.00	-25.40	0.38	10.09	0.51	0.97
15 27.125595	20.98	50.00	-29.02	0.38	10.09	0.51	0.97



Report issuing date : 5-19-2016

Standard : FCC Part 15.207
Test Type : Voltage Mains
Test Site : DLS O.F. Screen Room
Temperature : 63°F
Humidity : 35%
Test Specs : Line 2; QP
Operator : John S
DLS Project # : 8148
Result : Pass

EUT

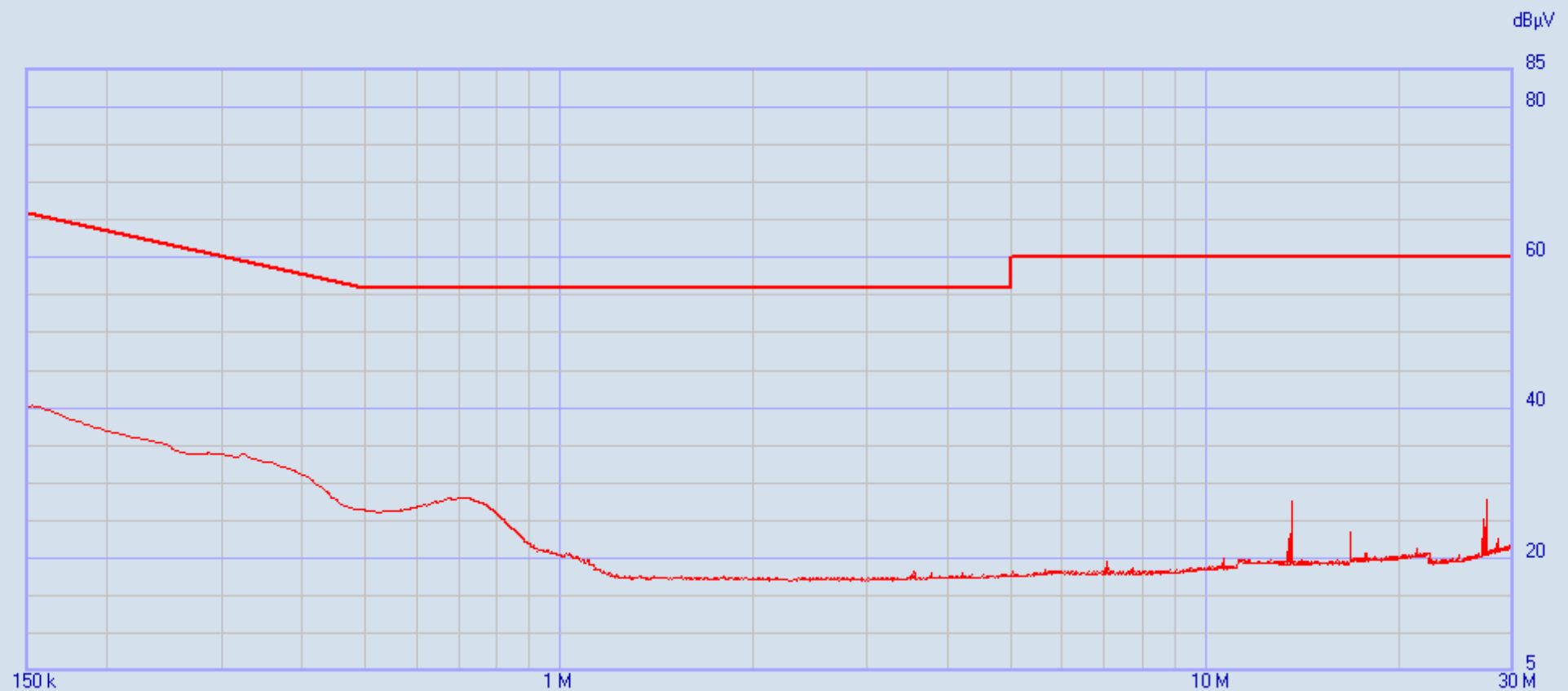
Manufacturer : Brady Corporation
Model : Brady PRISM BDC RFID Assy
Notes : 120V 60Hz

Testing Company : DLS Electronic Systems, Inc.
Telephone : 262-279-0210
Web site : <http://www.dlsemc.com>

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 06/25/2015

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



8148 Brady Corp Prism 120V 60Hz L2

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary
1	0.15	30	AUTO (2.045 kHz)	P Q C	1500 ms	9 kHz	10	OFF	ON	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 QP

Factors:
LISN DLS#128
E-M L705
DLS #592
Cables 43 & 45

QPeak

8148 Brady Corp Prism 120V 60Hz L2 19/05/2016 09:17:02
 Rel. SW 2.22 (August 2015)
 Rel. FW 1.54 20/04/16
 Margin: 26 dB

	Frequency	QPeak	Limit	Delta	Factor	Factor	Factor	Factor
	[MHz]	[dBµV]	FCC 15_20..	[dB]	LISN DLS#..	E-M L705	DLS #592	Cables 43..
			[dBµV]		[dB]	[dB]	[dB]	[dB]
1	0.152045	40.28	65.89	-25.61	1.70	9.86	2.13	0.04
2	0.15409	40.18	65.78	-25.60	1.67	9.86	2.09	0.04
3	0.156135	40.05	65.67	-25.62	1.64	9.86	2.06	0.04
4	0.15818	39.90	65.56	-25.66	1.61	9.85	2.03	0.05
5	0.160225	39.74	65.45	-25.71	1.58	9.85	2.00	0.05
6	0.16227	39.59	65.35	-25.76	1.56	9.84	1.97	0.06
7	0.164315	39.38	65.24	-25.86	1.53	9.84	1.94	0.06
8	0.16636	39.17	65.14	-25.97	1.50	9.83	1.91	0.07
9	0.32178	33.90	59.66	-25.76	0.67	9.96	1.25	0.11
10	0.323825	33.91	59.61	-25.70	0.66	9.96	1.24	0.11
11	0.32587	33.84	59.56	-25.72	0.66	9.96	1.24	0.11
12	0.327915	33.58	59.50	-25.92	0.66	9.96	1.23	0.11



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
 Model Tested: BDC2000
 Report Number: 21899
 Project Number: 8148

Appendix C – Measurement Uncertainty

Compliance with the limits in this standard are based on the results of the compliance measurement. Our calculated measurement uncertainty including the measurement instrumentation, associated connections between the various instruments in the measurement chain, and other contributions, are provided in this section of the test report.

Radiated Emission Uncertainty below 30MHz		Uncertainty (± dB)
Contribution	Probability Distribution	below 30 MHz
Combined Standard Uncertainty	Normal	1.60
Expanded Uncertainty	Normal (k=2)	3.19

Radiated Emission Uncertainty above 30MHz										
		(± dB)	(± dB)	(± dB)	(± dB)	(± dB)	(± dB)	(± dB)	(± dB)	(± dB)
Contribution	Probability Distribution	3M	3M	3M	3M	3M	3M	10M	10M	10M
		30-100 MHz	100-700 MHz	700-1000 MHz	1- 4.5 GHz	4.5 – 7 GHz	7 – 18 GHz	30-100 MHz	100-700 MHz	700-1000 MHz
Combined Standard Uncertainty	Normal	1.70	1.62	1.66	2.13	2.48	2.85	1.64	1.58	1.66
Expanded Uncertainty	Normal (k=2)	3.40	3.23	3.33	4.26	4.95	5.69	3.29	3.16	3.31

Power Line Conducted		Uncertainty (± dB)
Contribution	Probability Distribution	150 kHz - 30 MHz
Combined Standard Uncertainty	Normal	1.05
Expanded Uncertainty	Normal (k=2)	2.10



166 South Carter, Genoa City, WI 53128

Company: Brady Corporation
Model Tested: BDC2000
Report Number: 21899
Project Number: 8148

END OF REPORT

Revision #	Date	Comments	By
1.0	6-9-2016	Preliminary Release	JStumpf
1.1	6-13-2016	Added product information from Part A form	JStumpf
1.2	6-16-2016	Added AC line conducted data & notes	JStumpf