



Abbott Laboratories

Roundabout 3-entry HL / Roundabout 4-entry HL

13.56 MHz radio using RFID

FCC 15.225:2024

RSS-210 Issue 10:2019+A1:2020

RSS-Gen Issue 5:2018+A1:2019+A2:2021

Report: ABBO0310.0 Rev. 0, Issue Date: May 7, 2024

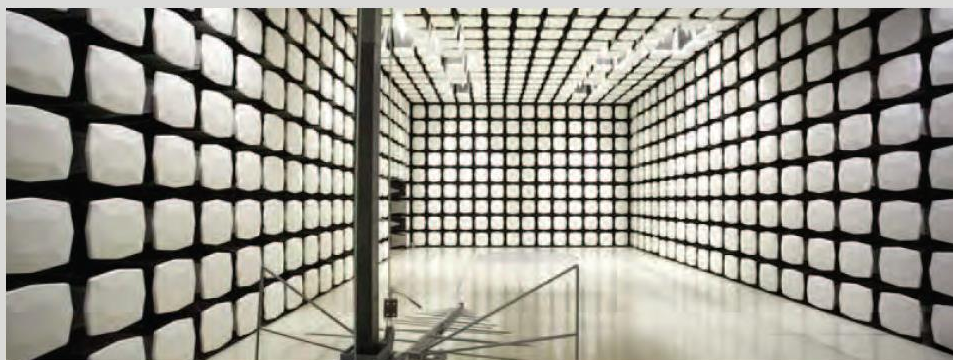


TABLE OF CONTENTS

Section	Page Number
Certificate of Test	3
Revision History	4
Accreditations.....	5
Facilities	6
Measurement Uncertainty	7
Test Setup Block Diagrams.....	8
Product Description.....	11
Power Settings and Antennas Information	12
Configurations.....	13
Modifications	14
Powerline Conducted Emissions.....	15
Emissions Bandwidth (20 dB)	48
Field Strength of Fundamental	53
Field Strength of Spurious Emissions (Less Than 30 MHz)	92
Field Strength of Spurious Emissions (Greater Than 30 MHz).....	98
Frequency Stability.....	121
Occupied Bandwidth (99%).....	148
End of Report.....	152

CERTIFICATE OF TEST

Last Date of Test: March 20, 2024
Abbott Laboratories
EUT: Roundabout 3-entry HL / Roundabout 4-entry HL

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2024	ANSI C63.10:2013
FCC 15.225:2024	
RSS-210 Issue 10:2019+A1:2020	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Guidance

Notice 2020 - DRS0023

Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	RSS-Gen 8.8	6.2	
Emissions Bandwidth (20 dB)	Pass	15.215(c)	N/A	6.9.2	
Field Strength of Fundamental	Pass	15.225(a)-(c)	RSS-210 B.6(a)(i-iv)	6.4	
Field Strength of Spurious Emissions (Less Than 30 MHz)	Pass	15.225(d), 15.209	RSS-210 B.6(a)(iv)	6.4	
Field Strength of Spurious Emissions (Greater Than 30 MHz)	Pass	15.225(d), 15.209	RSS-210 B.6(a)(iv)	6.5	
Frequency Stability	Pass	15.225(e), 15.31(e), 15.215(c), 2.1055	RSS-210 B.6(b)	6.8	
Occupied Bandwidth (99%)	Evaluated	N/A	RSS-Gen 6.7	6.9.3	

Deviations From Test Standards

None

Approved By:



Jeff Alcock, Senior EMC Test Engineer

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:

[California](#)

[Minnesota](#)

[Oregon](#)

[Texas](#)

[Washington](#)

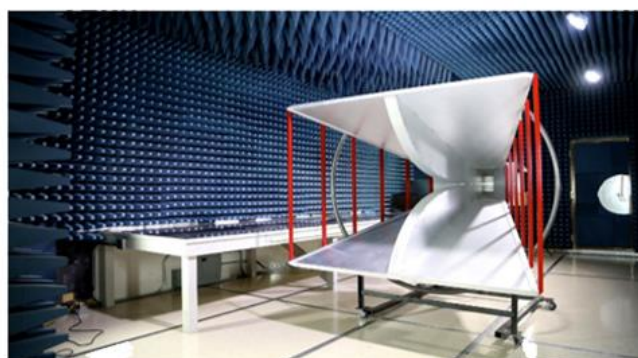
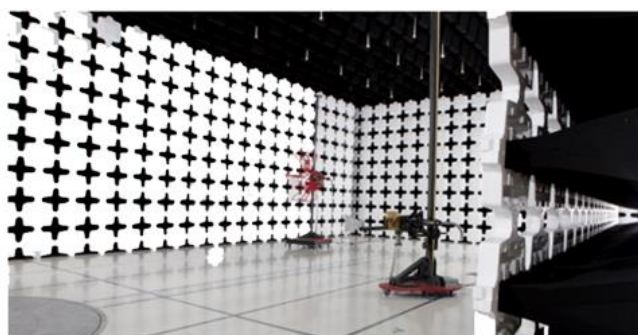
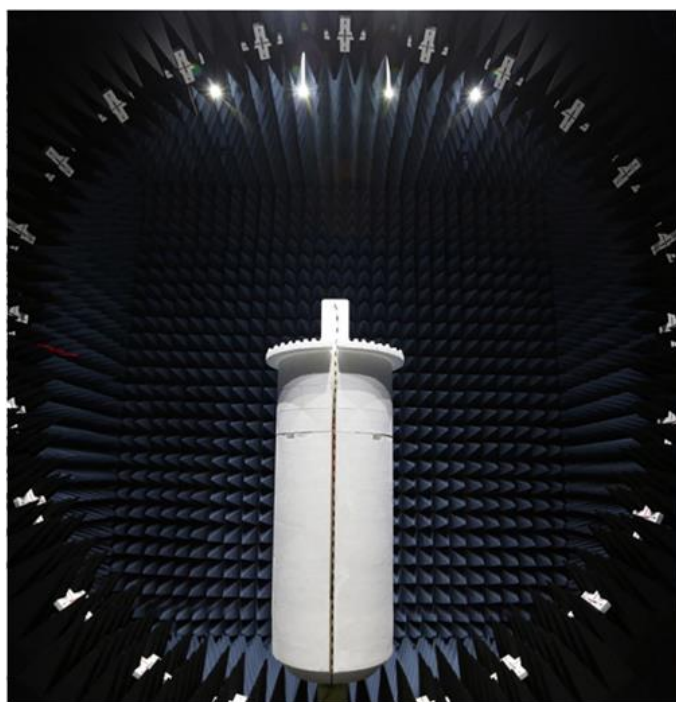
FACILITIES

Testing was performed at the following location(s)

	Location	Labs ⁽¹⁾	Address	A2LA ⁽²⁾	ISED ⁽³⁾	BSMI ⁽⁴⁾	VCCI ⁽⁵⁾	CAB ⁽⁶⁾	FDA ⁽⁷⁾
☐	California	OC01-17	41 Tesla Irvine, CA 92618 (949) 861-8918	3310.04	2834B	SL2-IN-E-1154R	A-0029	US0158	TL-55
☐	Minnesota	MN01-11	9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	3310.05	2834E	SL2-IN-E-1152R	A-0109	US0175	TL-57
☐	Oregon	EV01-12	6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	3310.02	2834D	SL2-IN-E-1017	A-0108	US0017	TL-56
☒	Texas	TX01-09	3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	3310.03	2834G	SL2-IN-E-1158R	A-0201	US0191	TL-54
☐	Washington	NC01-05	19201 120th Ave NE Bothell, WA 98011 (425) 984-6600	3310.06	2834F	SL2-IN-E-1153R	A-0110	US0157	TL-67
☐	Offsite	N/A	See Product Description	N/A	N/A	N/A	N/A	N/A	N/A

See data sheets for specific labs

- (1) The lab designations denote individual rooms within each location. (OC01, OC02, OC03, etc.)
- (2) A2LA Certificate No.
- (3) ISED Company No.
- (4) BSMI No.
- (5) VCCI Site Filing No.
- (6) CAB Identifier. Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA
- (7) FDA ASCA No.



MEASUREMENT UNCERTAINTY

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.1 dB	-5.1 dB
AC Powerline Conducted Emissions (dB)	3.1 dB	-3.1 dB

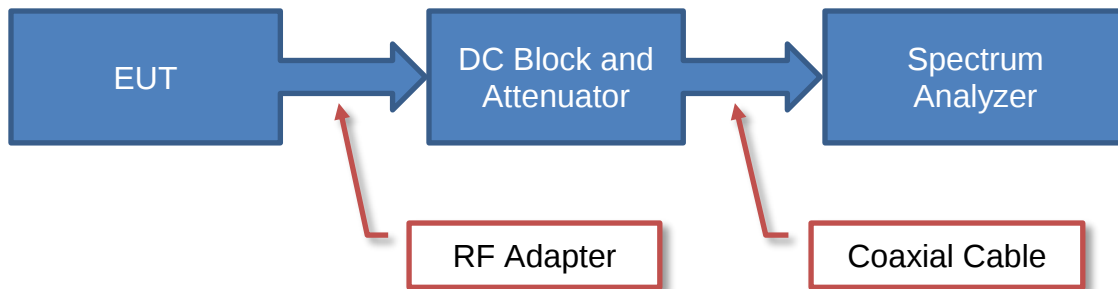
TEST SETUP BLOCK DIAGRAMS

Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

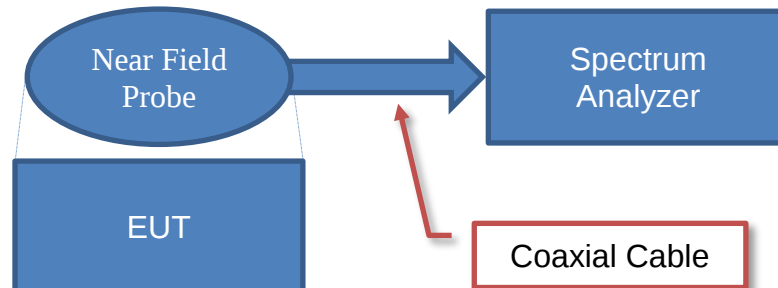
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

$$\begin{array}{rcccl} \text{Measured Value} & & \text{Measured Level} & & \text{Reference Level Offset} \\ 71.2 & = & 42.6 & + & 28.6 \end{array}$$

Near Field Test Fixture Measurements

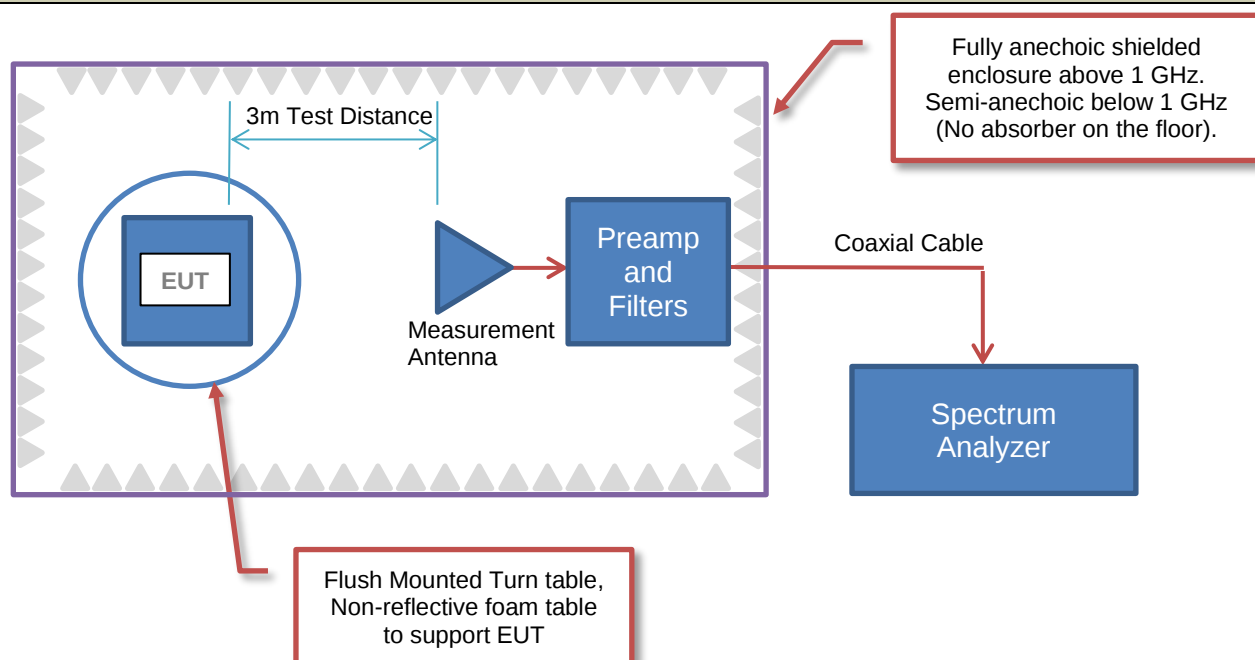


Sample Calculation (logarithmic units)

$$\begin{array}{rcccl} \text{Measured Value} & & \text{Measured Level} & & \text{Reference Level Offset} \\ 71.2 & = & 42.6 & + & 28.6 \end{array}$$

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

Measured Level (Amplitude)	Factor			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

Conducted Emissions:

Measured Level (Amplitude)	Factor		External Attenuation	Adjusted Level
	Transducer Factor	Cable Factor		
26.7	0.3	0.1	20.0	47.1

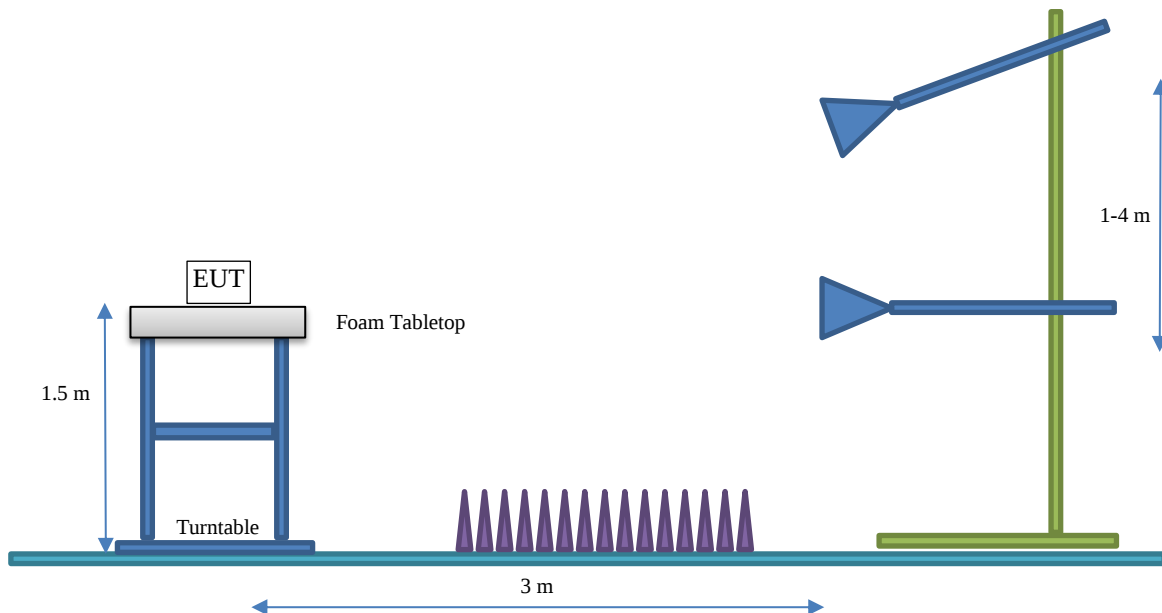
Radiated Power (ERP/EIRP) – Substitution Method:

Measured Level into Substitution Antenna (Amplitude dBm)	Substitution Antenna Factor (dBi)	EIRP to ERP (if applicable)	Measured power (dBm ERP/EIRP)
10.0	6.0	2.15	13.9/16.0

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION

Client and Equipment under Test (EUT) Information

Company Name:	Abbott Laboratories
Address:	1921 Hurd Drive
City, State, Zip:	Irving, Texas 75038
Test Requested By:	Frank Sun
EUT:	Roundabout 3-entry HL; Roundabout 4-entry HL
First Date of Test:	March 12, 2024
Last Date of Test:	March 20, 2024
Receipt Date of Samples:	March 12, 2024
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

The Roundabout 3-entry HL and Roundabout 4-entry HL is used to connect 3 or 4 sections of elevated track together, allowing a CAR to merge onto a section of track by activating a switch to divert to the chosen track. This includes RFID readers to determine the location of each CAR.

The 3-entry variant is 4-entry variant sans a switch actuator and track diverter, with the addition of a block off at the single unused track opening. Both 3-entry and 4-entry variants contain 4 of the SwitchController roundabout PCB. Each SwitchController PCB contains 2 RFID readers. Giving a total of 8 RFID radios in the device.

Testing Objective:

To demonstrate compliance of the 13.56 MHz radios to FCC 15.225 requirements. and RSS-210 Annex B.6 specifications.

POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information. The power settings below reflect the maximum power that the EUT is allowed to transmit at during normal operation.

ANTENNA INFORMATION

Type	Provided by:	Dimensions
Embedded Loop Antenna, 2 Turns	GLP Systems	51mm x 35mm

The EUT was tested using the power settings provided by the manufacturer which were based upon:

- ☐ Test software settings Test software/firmware installed on EUT: See Configuration
- ☒ Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Radio	Modulation	Protocol	Data Rate (Kbps)	Frequency (MHz)	Power Setting
RFID	OOK	ISO 15693	26.48 kbps	13.56 MHz	200

CONFIGURATIONS

Configuration ABBO0310-1

Software/Firmware Running During Test	
Description	Version
D000117957/A-Roundabout Controller RFID Test Firmware 02-50301 Verification	A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
4-way Unit	Abbott Laboratories	06R09-61	RA4HL_001

Peripherals in Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Junction Box Assembly	Abbott Laboratories	06U35-06	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power Cable	No	1.2m	No	AC Mains	Junction Box

Configuration ABBO0310-2

Software/Firmware Running During Test	
Description	Version
D000117957/A-Roundabout Controller RFID Test Firmware 02-50301 Verification	A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
3-way Unit	Abbott Laboratories	06R08-61	RA3HL_001

Peripherals in Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Junction Box Assembly	Abbott Laboratories	06U35-06	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power Cable	No	1.2m	No	AC Mains	Junction Box

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-03-14	Field Strength of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2024-03-14	Field Strength of Spurious Emissions (less Than 30 Mhz)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2024-03-14	Field Strength of Spurious Emissions (greater Than 30 Mhz)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2024-03-16	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2024-03-16	Emissions Bandwidth (20 dB)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2024-03-16	Occupied Bandwidth (99%)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2024-03-20	Powerline Conducted Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

The EUT will be powered either directly or indirectly from the AC power line. Therefore, conducted emissions measurements were made on the AC input of the EUT, or on the AC input of the device used to power the EUT.

The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10.

In the event that the operating frequency of 13.56 MHz is causing the product to fail the FCC 15.207 limits, the following guidance can be used:

FCC KDB 174176 D01 AC Conducted FAQ v01r01, June 3, 2015 Section Q5:

For a device with a permanent or detachable antenna operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna under the following conditions:

- (1) perform the AC power-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 in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network which simulates the antenna in the fundamental frequency band.

All measurements must be performed as specified in clause 6.2 of ANSI C63.10-2013.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESR26	ARQ	2023-10-12	2024-10-12
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HFC, TQU, VAC	TXAA	2024-03-04	2025-03-04
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	2023-07-25	2024-07-25

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.1 dB	-3.1 dB

CONFIGURATIONS INVESTIGATED

ABBO0310-1

MODES INVESTIGATED

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1
Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2
Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1
Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2
Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1
Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2
Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1
Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	4	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	---	-------	-----------	-----------------------------	---

COMMENTS

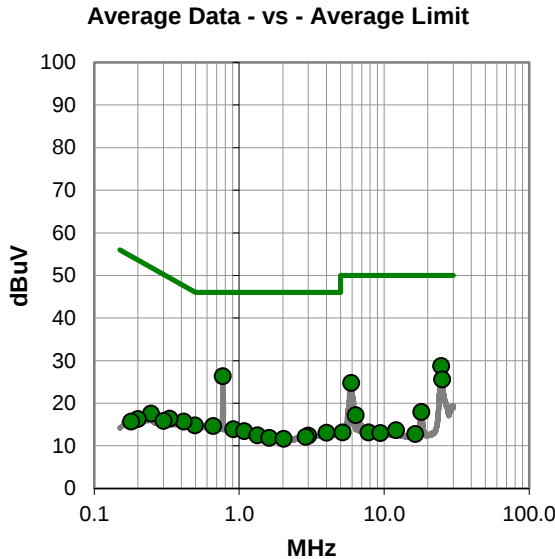
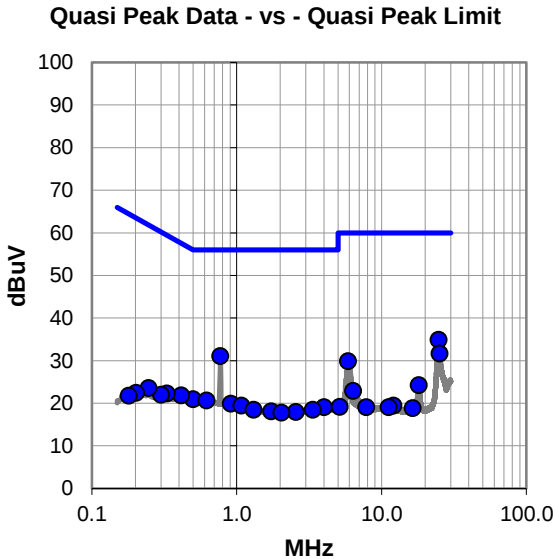
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	11.0	20.1	31.1	56.0	-24.9
24.710	13.2	21.7	34.9	60.0	-25.1
25.154	10.0	21.7	31.7	60.0	-28.3
5.870	9.6	20.3	29.9	60.0	-30.1
0.500	1.0	20.0	21.0	56.0	-35.0
0.620	0.6	20.1	20.7	56.0	-35.3
18.062	3.3	21.0	24.3	60.0	-35.7
0.413	1.8	20.1	21.9	57.6	-35.7
0.910	-0.2	20.1	19.9	56.0	-36.1
1.079	-0.5	20.0	19.5	56.0	-36.5
4.000	-1.1	20.2	19.1	56.0	-36.9
6.350	2.6	20.3	22.9	60.0	-37.1
0.330	2.2	20.1	22.3	59.5	-37.2
1.310	-1.5	20.0	18.5	56.0	-37.5
3.360	-1.7	20.2	18.5	56.0	-37.5
1.730	-1.9	20.0	18.1	56.0	-37.9
2.560	-2.2	20.2	18.0	56.0	-38.0
0.300	1.8	20.2	22.0	60.2	-38.2
2.038	-2.4	20.2	17.8	56.0	-38.2
0.247	3.1	20.5	23.6	61.9	-38.3
12.059	-1.2	20.7	19.5	60.0	-40.5
5.140	-1.0	20.2	19.2	60.0	-40.8
7.852	-1.3	20.4	19.1	60.0	-40.9
11.220	-1.6	20.7	19.1	60.0	-40.9
0.202	1.9	20.6	22.5	63.5	-41.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.3	20.1	26.4	46.0	-19.6
24.720	7.1	21.7	28.8	50.0	-21.2
25.177	3.9	21.7	25.6	50.0	-24.4
5.930	4.5	20.3	24.8	50.0	-25.2
0.494	-5.2	20.0	14.8	46.1	-31.3
0.661	-5.4	20.1	14.7	46.0	-31.3
0.413	-4.4	20.1	15.7	47.6	-31.9
18.004	-3.0	21.0	18.0	50.0	-32.0
0.908	-6.2	20.1	13.9	46.0	-32.1
1.080	-6.5	20.0	13.5	46.0	-32.5
6.350	-3.1	20.3	17.2	50.0	-32.8
4.000	-7.1	20.2	13.1	46.0	-32.9
0.330	-3.7	20.1	16.4	49.5	-33.1
1.330	-7.5	20.0	12.5	46.0	-33.5
2.990	-7.8	20.2	12.4	46.0	-33.6
2.880	-8.0	20.1	12.1	46.0	-33.9
1.610	-8.1	20.0	11.9	46.0	-34.1
0.247	-2.9	20.5	17.6	51.9	-34.3
2.020	-8.5	20.2	11.7	46.0	-34.3
0.300	-4.3	20.2	15.9	50.2	-34.3
12.059	-7.0	20.7	13.7	50.0	-36.3
5.160	-7.0	20.2	13.2	50.0	-36.8
7.802	-7.2	20.4	13.2	50.0	-36.8
9.420	-7.5	20.5	13.0	50.0	-37.0
16.410	-8.2	21.0	12.8	50.0	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	6	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	---	-------	---------	-----------------------------	---

COMMENTS

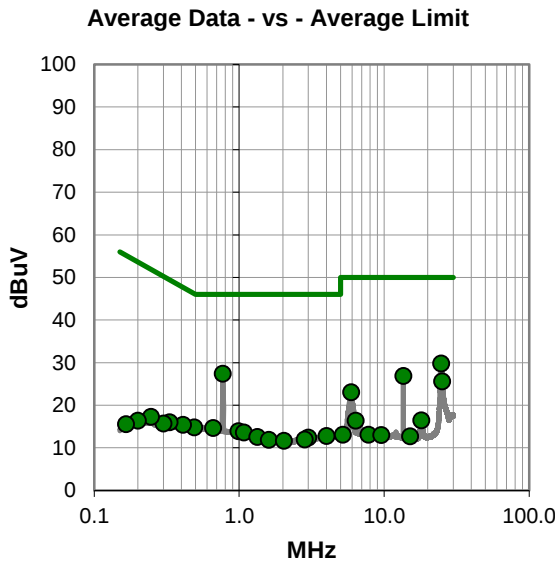
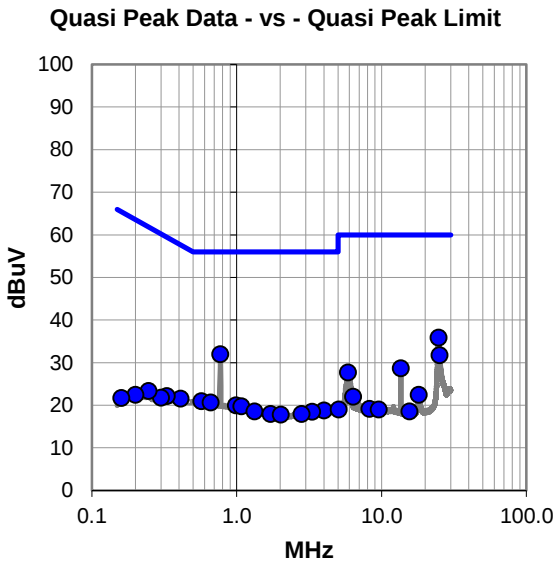
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	11.9	20.1	32.0	56.0	-24.0
24.710	14.2	21.7	35.9	60.0	-24.1
25.160	10.1	21.7	31.8	60.0	-28.2
13.560	8.0	20.7	28.7	60.0	-31.3
5.870	7.4	20.3	27.7	60.0	-32.3
0.571	1.0	20.0	21.0	56.0	-35.0
0.660	0.6	20.1	20.7	56.0	-35.3
0.410	1.5	20.1	21.6	57.6	-36.0
0.990	0.0	20.0	20.0	56.0	-36.0
1.079	-0.2	20.0	19.8	56.0	-36.2
4.000	-1.4	20.2	18.8	56.0	-37.2
0.330	2.1	20.1	22.2	59.5	-37.3
1.330	-1.4	20.0	18.6	56.0	-37.4
3.320	-1.7	20.2	18.5	56.0	-37.5
18.060	1.5	21.0	22.5	60.0	-37.5
1.710	-2.0	20.0	18.0	56.0	-38.0
2.812	-2.1	20.1	18.0	56.0	-38.0
6.350	1.7	20.3	22.0	60.0	-38.0
2.011	-2.4	20.2	17.8	56.0	-38.2
0.300	1.6	20.2	21.8	60.2	-38.4
0.247	2.9	20.5	23.4	61.9	-38.5
8.266	-1.2	20.4	19.2	60.0	-40.8
5.071	-1.2	20.2	19.0	60.0	-41.0
9.562	-1.5	20.5	19.0	60.0	-41.0
0.200	1.9	20.6	22.5	63.6	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	7.3	20.1	27.4	46.0	-18.6
24.710	8.1	21.7	29.8	50.0	-20.2
13.560	6.2	20.7	26.9	50.0	-23.1
25.170	3.9	21.7	25.6	50.0	-24.4
5.930	2.8	20.3	23.1	50.0	-26.9
0.661	-5.4	20.1	14.7	46.0	-31.3
0.490	-5.2	20.0	14.8	46.2	-31.4
0.989	-6.1	20.0	13.9	46.0	-32.1
0.410	-4.7	20.1	15.4	47.6	-32.2
1.079	-6.4	20.0	13.6	46.0	-32.4
4.000	-7.4	20.2	12.8	46.0	-33.2
1.330	-7.4	20.0	12.6	46.0	-33.4
0.330	-4.1	20.1	16.0	49.5	-33.5
18.060	-4.5	21.0	16.5	50.0	-33.5
2.987	-7.8	20.2	12.4	46.0	-33.6
6.350	-3.9	20.3	16.4	50.0	-33.6
2.830	-8.1	20.1	12.0	46.0	-34.0
1.600	-8.1	20.0	11.9	46.0	-34.1
2.038	-8.5	20.2	11.7	46.0	-34.3
0.300	-4.5	20.2	15.7	50.2	-34.5
0.247	-3.2	20.5	17.3	51.9	-34.6
5.190	-7.1	20.2	13.1	50.0	-36.9
7.790	-7.3	20.4	13.1	50.0	-36.9
9.550	-7.5	20.5	13.0	50.0	-37.0
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	5	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	---	-------	-----------	-----------------------------	---

COMMENTS

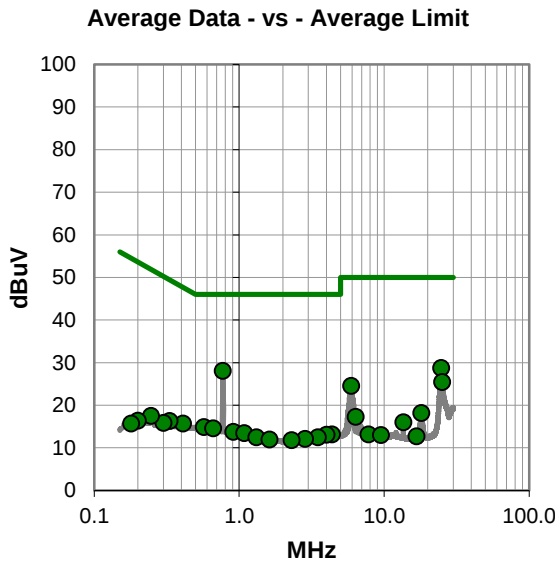
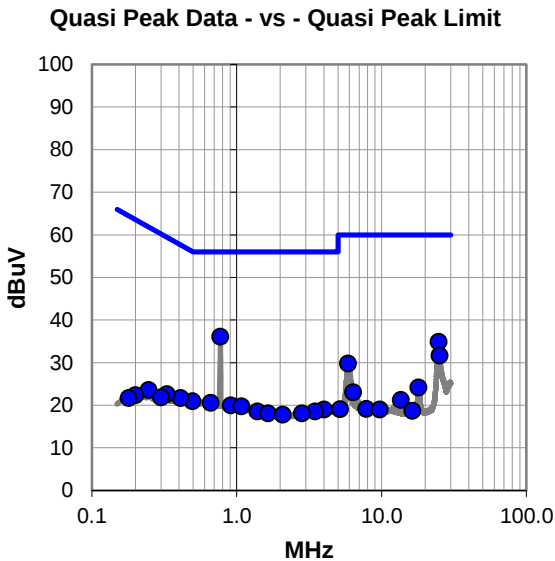
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	16.0	20.1	36.1	56.0	-19.9
24.710	13.2	21.7	34.9	60.0	-25.1
25.160	10.0	21.7	31.7	60.0	-28.3
5.870	9.5	20.3	29.8	60.0	-30.2
0.494	1.0	20.0	21.0	56.1	-35.1
0.660	0.5	20.1	20.6	56.0	-35.4
18.004	3.2	21.0	24.2	60.0	-35.8
0.410	1.6	20.1	21.7	57.6	-35.9
0.910	-0.1	20.1	20.0	56.0	-36.0
1.079	-0.2	20.0	19.8	56.0	-36.2
0.330	2.5	20.1	22.6	59.5	-36.9
6.350	2.8	20.3	23.1	60.0	-36.9
4.000	-1.2	20.2	19.0	56.0	-37.0
1.390	-1.4	20.0	18.6	56.0	-37.4
3.482	-1.6	20.2	18.6	56.0	-37.4
1.642	-1.9	20.0	18.1	56.0	-37.9
2.820	-2.0	20.1	18.1	56.0	-37.9
2.083	-2.4	20.2	17.8	56.0	-38.2
0.247	3.1	20.5	23.6	61.9	-38.3
0.300	1.7	20.2	21.9	60.2	-38.3
13.560	0.6	20.7	21.3	60.0	-38.7
7.830	-1.2	20.4	19.2	60.0	-40.8
5.165	-1.1	20.2	19.1	60.0	-40.9
9.690	-1.5	20.5	19.0	60.0	-41.0
0.200	1.8	20.6	22.4	63.6	-41.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	8.0	20.1	28.1	46.0	-17.9
24.710	7.1	21.7	28.8	50.0	-21.2
25.154	3.8	21.7	25.5	50.0	-24.5
5.930	4.3	20.3	24.6	50.0	-25.4
0.571	-5.1	20.0	14.9	46.0	-31.1
0.660	-5.5	20.1	14.6	46.0	-31.4
18.060	-2.8	21.0	18.2	50.0	-31.8
0.410	-4.4	20.1	15.7	47.6	-31.9
0.908	-6.3	20.1	13.8	46.0	-32.2
1.080	-6.5	20.0	13.5	46.0	-32.5
6.350	-3.0	20.3	17.3	50.0	-32.7
4.364	-7.0	20.2	13.2	46.0	-32.8
4.000	-7.1	20.2	13.1	46.0	-32.9
0.330	-3.8	20.1	16.3	49.5	-33.2
1.310	-7.5	20.0	12.5	46.0	-33.5
3.487	-7.7	20.2	12.5	46.0	-33.5
2.850	-8.0	20.1	12.1	46.0	-33.9
1.620	-8.0	20.0	12.0	46.0	-34.0
13.560	-4.7	20.7	16.0	50.0	-34.0
2.300	-8.3	20.1	11.8	46.0	-34.2
0.300	-4.3	20.2	15.9	50.2	-34.3
0.247	-3.0	20.5	17.5	51.9	-34.4
7.800	-7.2	20.4	13.2	50.0	-36.8
9.520	-7.5	20.5	13.0	50.0	-37.0
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	7	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	---	-------	---------	-----------------------------	---

COMMENTS

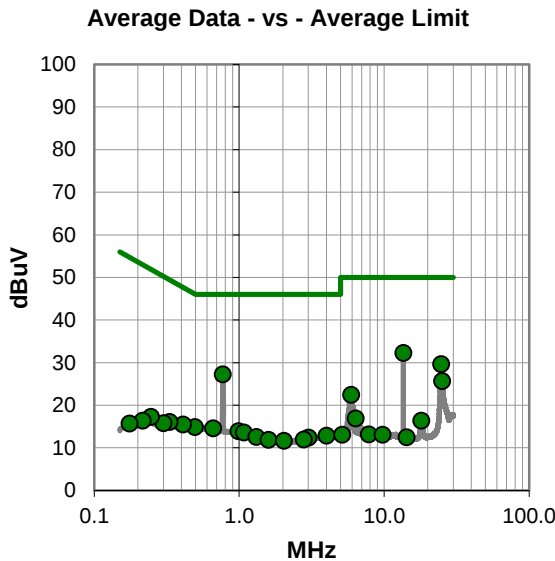
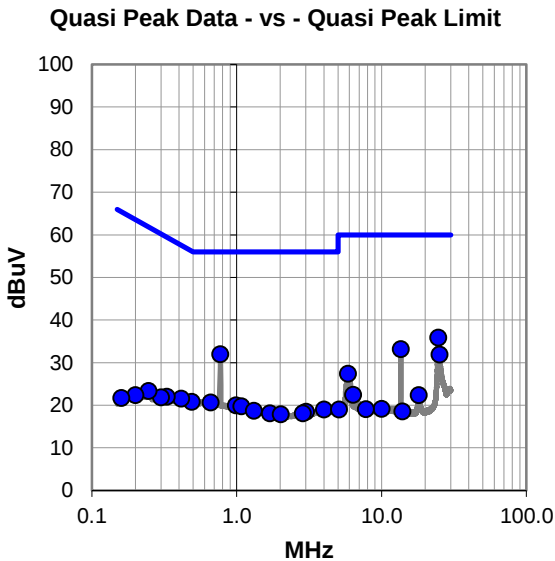
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	11.9	20.1	32.0	56.0	-24.0
24.690	14.2	21.7	35.9	60.0	-24.1
13.560	12.5	20.7	33.2	60.0	-26.8
25.172	10.2	21.7	31.9	60.0	-28.1
5.870	7.1	20.3	27.4	60.0	-32.6
0.661	0.6	20.1	20.7	56.0	-35.3
0.490	0.8	20.0	20.8	56.2	-35.4
0.413	1.5	20.1	21.6	57.6	-36.0
0.989	0.0	20.0	20.0	56.0	-36.0
1.079	-0.2	20.0	19.8	56.0	-36.2
4.000	-1.2	20.2	19.0	56.0	-37.0
1.313	-1.3	20.0	18.7	56.0	-37.3
0.330	1.9	20.1	22.0	59.5	-37.5
3.010	-1.7	20.2	18.5	56.0	-37.5
6.350	2.2	20.3	22.5	60.0	-37.5
18.062	1.4	21.0	22.4	60.0	-37.6
1.696	-1.9	20.0	18.1	56.0	-37.9
2.870	-2.0	20.1	18.1	56.0	-37.9
2.011	-2.3	20.2	17.9	56.0	-38.1
0.300	1.7	20.2	21.9	60.2	-38.3
0.247	2.9	20.5	23.4	61.9	-38.5
10.000	-1.3	20.5	19.2	60.0	-40.8
7.802	-1.3	20.4	19.1	60.0	-40.9
5.100	-1.2	20.2	19.0	60.0	-41.0
0.200	1.8	20.6	22.4	63.6	-41.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	11.6	20.7	32.3	50.0	-17.7
0.770	7.2	20.1	27.3	46.0	-18.7
24.704	8.0	21.7	29.7	50.0	-20.3
25.170	4.0	21.7	25.7	50.0	-24.3
5.930	2.2	20.3	22.5	50.0	-27.5
0.494	-5.1	20.0	14.9	46.1	-31.2
0.660	-5.5	20.1	14.6	46.0	-31.4
0.410	-4.6	20.1	15.5	47.6	-32.1
0.989	-6.1	20.0	13.9	46.0	-32.1
1.079	-6.4	20.0	13.6	46.0	-32.4
4.000	-7.3	20.2	12.9	46.0	-33.1
6.350	-3.4	20.3	16.9	50.0	-33.1
0.330	-4.0	20.1	16.1	49.5	-33.4
1.310	-7.4	20.0	12.6	46.0	-33.4
3.014	-7.8	20.2	12.4	46.0	-33.6
18.062	-4.6	21.0	16.4	50.0	-33.6
2.789	-8.1	20.1	12.0	46.0	-34.0
1.597	-8.1	20.0	11.9	46.0	-34.1
2.029	-8.5	20.2	11.7	46.0	-34.3
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-3.2	20.5	17.3	51.9	-34.6
0.215	-4.2	20.6	16.4	53.0	-36.6
7.834	-7.2	20.4	13.2	50.0	-36.8
5.129	-7.1	20.2	13.1	50.0	-36.9
9.728	-7.4	20.5	13.1	50.0	-36.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	8	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	---	-------	-----------	-----------------------------	---

COMMENTS

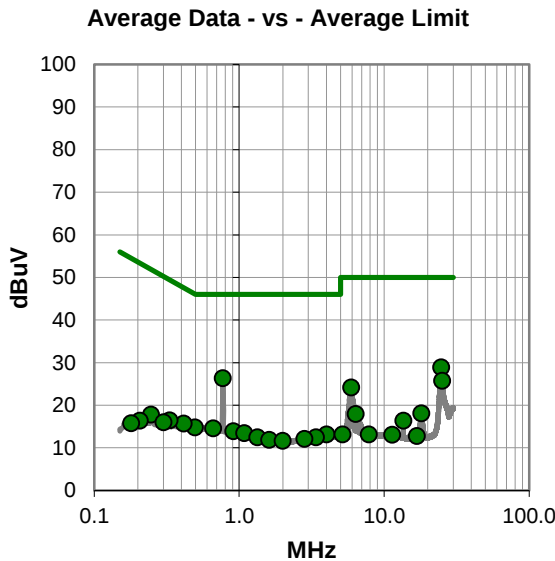
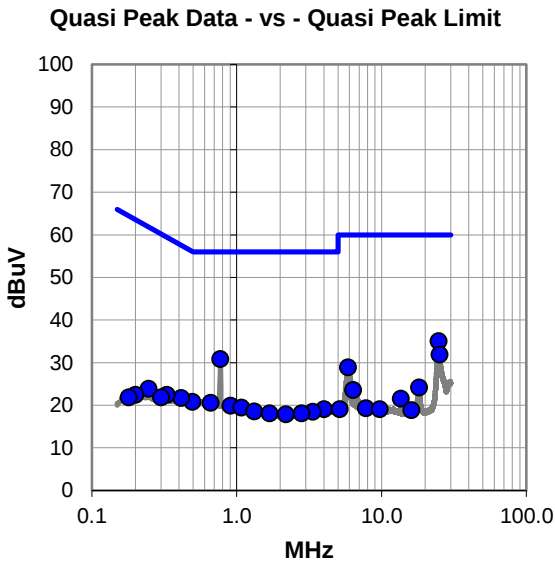
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #8

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.810	13.4	21.7	35.1	60.0	-24.9
0.770	10.8	20.1	30.9	56.0	-25.1
25.154	10.2	21.7	31.9	60.0	-28.1
5.870	8.6	20.3	28.9	60.0	-31.1
0.494	0.8	20.0	20.8	56.1	-35.3
0.661	0.5	20.1	20.6	56.0	-35.4
18.120	3.2	21.0	24.2	60.0	-35.8
0.413	1.6	20.1	21.7	57.6	-35.9
0.908	-0.2	20.1	19.9	56.0	-36.1
6.350	3.3	20.3	23.6	60.0	-36.4
1.079	-0.5	20.0	19.5	56.0	-36.5
4.000	-1.1	20.2	19.1	56.0	-36.9
0.330	2.4	20.1	22.5	59.5	-37.0
1.320	-1.4	20.0	18.6	56.0	-37.4
3.350	-1.7	20.2	18.5	56.0	-37.5
1.687	-1.9	20.0	18.1	56.0	-37.9
2.807	-2.0	20.1	18.1	56.0	-37.9
0.247	3.4	20.5	23.9	61.9	-38.0
2.182	-2.3	20.2	17.9	56.0	-38.1
0.300	1.7	20.2	21.9	60.2	-38.3
13.560	0.9	20.7	21.6	60.0	-38.4
7.816	-1.1	20.4	19.3	60.0	-40.7
5.129	-1.1	20.2	19.1	60.0	-40.9
9.715	-1.4	20.5	19.1	60.0	-40.9
0.200	1.9	20.6	22.5	63.6	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.3	20.1	26.4	46.0	-19.6
24.760	7.2	21.7	28.9	50.0	-21.1
25.160	4.1	21.7	25.8	50.0	-24.2
5.930	3.9	20.3	24.2	50.0	-25.8
0.494	-5.2	20.0	14.8	46.1	-31.3
0.660	-5.5	20.1	14.6	46.0	-31.4
18.004	-2.9	21.0	18.1	50.0	-31.9
0.413	-4.4	20.1	15.7	47.6	-31.9
6.350	-2.3	20.3	18.0	50.0	-32.0
0.910	-6.2	20.1	13.9	46.0	-32.1
1.080	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.0	20.2	13.2	46.0	-32.8
0.330	-3.6	20.1	16.5	49.5	-33.0
1.330	-7.5	20.0	12.5	46.0	-33.5
3.380	-7.7	20.2	12.5	46.0	-33.5
13.560	-4.3	20.7	16.4	50.0	-33.6
2.810	-8.0	20.1	12.1	46.0	-33.9
0.247	-2.7	20.5	17.8	51.9	-34.1
1.610	-8.1	20.0	11.9	46.0	-34.1
0.300	-4.2	20.2	16.0	50.2	-34.2
1.993	-8.4	20.1	11.7	46.0	-34.3
5.161	-7.0	20.2	13.2	50.0	-36.8
7.852	-7.2	20.4	13.2	50.0	-36.8
11.380	-7.6	20.7	13.1	50.0	-36.9
0.206	-4.2	20.6	16.4	53.4	-37.0

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	9	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	---	-------	---------	-----------------------------	---

COMMENTS

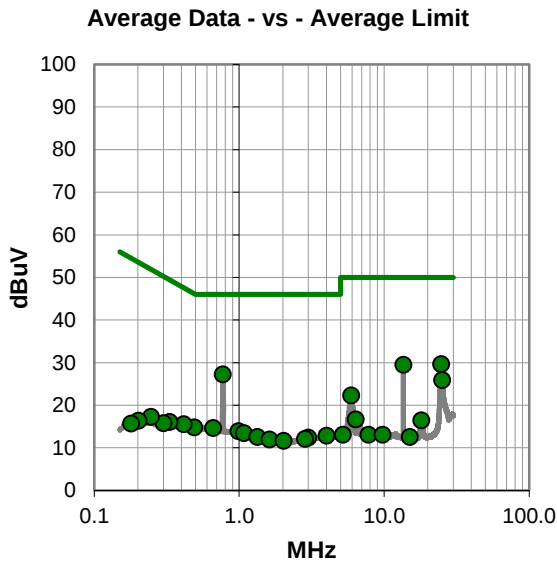
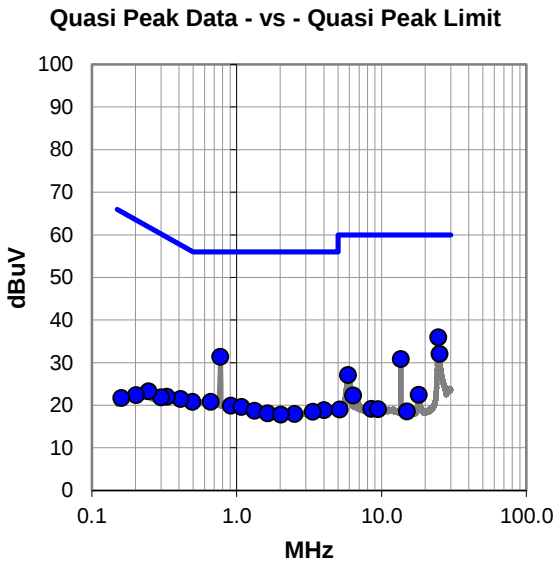
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #9

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.700	14.3	21.7	36.0	60.0	-24.0
0.770	11.3	20.1	31.4	56.0	-24.6
25.154	10.4	21.7	32.1	60.0	-27.9
13.560	10.2	20.7	30.9	60.0	-29.1
5.870	6.8	20.3	27.1	60.0	-32.9
0.661	0.7	20.1	20.8	56.0	-35.2
0.494	0.8	20.0	20.8	56.1	-35.3
0.410	1.4	20.1	21.5	57.6	-36.1
0.910	-0.2	20.1	19.9	56.0	-36.1
1.080	-0.4	20.0	19.6	56.0	-36.4
4.000	-1.3	20.2	18.9	56.0	-37.1
1.327	-1.3	20.0	18.7	56.0	-37.3
0.330	1.9	20.1	22.0	59.5	-37.5
3.360	-1.7	20.2	18.5	56.0	-37.5
18.060	1.5	21.0	22.5	60.0	-37.5
6.350	2.0	20.3	22.3	60.0	-37.7
1.640	-1.9	20.0	18.1	56.0	-37.9
2.510	-2.2	20.2	18.0	56.0	-38.0
2.020	-2.4	20.2	17.8	56.0	-38.2
0.300	1.7	20.2	21.9	60.2	-38.3
0.247	2.8	20.5	23.3	61.9	-38.6
8.490	-1.2	20.4	19.2	60.0	-40.8
9.454	-1.4	20.5	19.1	60.0	-40.9
5.130	-1.2	20.2	19.0	60.0	-41.0
0.202	1.8	20.6	22.4	63.5	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	7.2	20.1	27.3	46.0	-18.7
24.690	8.0	21.7	29.7	50.0	-20.3
13.560	8.8	20.7	29.5	50.0	-20.5
25.163	4.2	21.7	25.9	50.0	-24.1
5.930	2.0	20.3	22.3	50.0	-27.7
0.661	-5.4	20.1	14.7	46.0	-31.3
0.490	-5.2	20.0	14.8	46.2	-31.4
0.413	-4.5	20.1	15.6	47.6	-32.0
0.989	-6.1	20.0	13.9	46.0	-32.1
1.079	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.3	20.2	12.9	46.0	-33.1
6.350	-3.6	20.3	16.7	50.0	-33.3
0.330	-4.0	20.1	16.1	49.5	-33.4
1.330	-7.4	20.0	12.6	46.0	-33.4
18.062	-4.5	21.0	16.5	50.0	-33.5
2.990	-7.8	20.2	12.4	46.0	-33.6
2.850	-8.0	20.1	12.1	46.0	-33.9
1.620	-8.0	20.0	12.0	46.0	-34.0
2.024	-8.5	20.2	11.7	46.0	-34.3
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-3.2	20.5	17.3	51.9	-34.6
5.188	-7.1	20.2	13.1	50.0	-36.9
7.798	-7.3	20.4	13.1	50.0	-36.9
9.728	-7.4	20.5	13.1	50.0	-36.9
0.202	-4.2	20.6	16.4	53.5	-37.1

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	10	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	----	-------	-----------	-----------------------------	---

COMMENTS

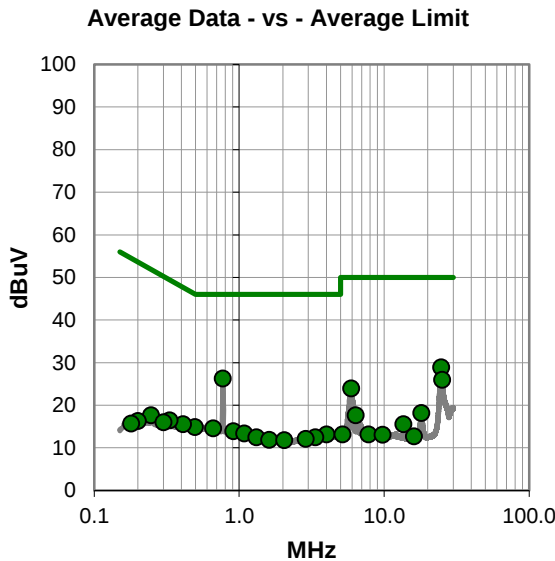
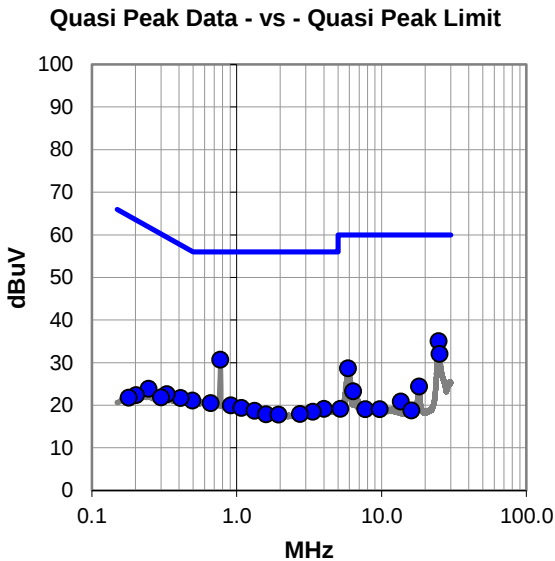
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #10

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.808	13.4	21.7	35.1	60.0	-24.9
0.770	10.6	20.1	30.7	56.0	-25.3
25.159	10.4	21.7	32.1	60.0	-27.9
5.870	8.4	20.3	28.7	60.0	-31.3
0.494	1.1	20.0	21.1	56.1	-35.0
0.660	0.4	20.1	20.5	56.0	-35.5
18.120	3.4	21.0	24.4	60.0	-35.6
0.410	1.6	20.1	21.7	57.6	-35.9
0.910	-0.1	20.1	20.0	56.0	-36.0
1.079	-0.6	20.0	19.4	56.0	-36.6
6.350	3.0	20.3	23.3	60.0	-36.7
4.000	-1.0	20.2	19.2	56.0	-36.8
0.330	2.5	20.1	22.6	59.5	-36.9
1.331	-1.3	20.0	18.7	56.0	-37.3
3.350	-1.7	20.2	18.5	56.0	-37.5
0.247	3.4	20.5	23.9	61.9	-38.0
2.740	-2.1	20.1	18.0	56.0	-38.0
1.597	-2.1	20.0	17.9	56.0	-38.1
1.943	-2.3	20.1	17.8	56.0	-38.2
0.300	1.7	20.2	21.9	60.2	-38.3
13.560	0.2	20.7	20.9	60.0	-39.1
5.188	-1.0	20.2	19.2	60.0	-40.8
7.721	-1.2	20.3	19.1	60.0	-40.9
9.728	-1.4	20.5	19.1	60.0	-40.9
0.202	1.8	20.6	22.4	63.5	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.2	20.1	26.3	46.0	-19.7
24.750	7.2	21.7	28.9	50.0	-21.1
25.160	4.3	21.7	26.0	50.0	-24.0
5.930	3.7	20.3	24.0	50.0	-26.0
0.494	-5.1	20.0	14.9	46.1	-31.2
0.660	-5.5	20.1	14.6	46.0	-31.4
18.060	-2.8	21.0	18.2	50.0	-31.8
0.410	-4.5	20.1	15.6	47.6	-32.0
0.910	-6.2	20.1	13.9	46.0	-32.1
6.350	-2.6	20.3	17.7	50.0	-32.3
1.080	-6.6	20.0	13.4	46.0	-32.6
4.000	-7.1	20.2	13.2	46.0	-32.8
0.330	-3.6	20.1	16.5	49.5	-33.0
1.310	-7.5	20.0	12.5	46.0	-33.5
3.350	-7.7	20.2	12.5	46.0	-33.5
2.870	-8.0	20.1	12.1	46.0	-33.9
1.610	-8.1	20.0	11.9	46.0	-34.1
0.247	-2.8	20.5	17.7	51.9	-34.2
0.300	-4.2	20.2	16.0	50.2	-34.2
2.040	-8.4	20.2	11.8	46.0	-34.2
13.560	-5.1	20.7	15.6	50.0	-34.4
5.165	-7.0	20.2	13.2	50.0	-36.8
7.793	-7.2	20.4	13.2	50.0	-36.8
9.728	-7.4	20.5	13.1	50.0	-36.9
0.200	-4.3	20.6	16.3	53.6	-37.3

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	11	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	----	-------	---------	-----------------------------	---

COMMENTS

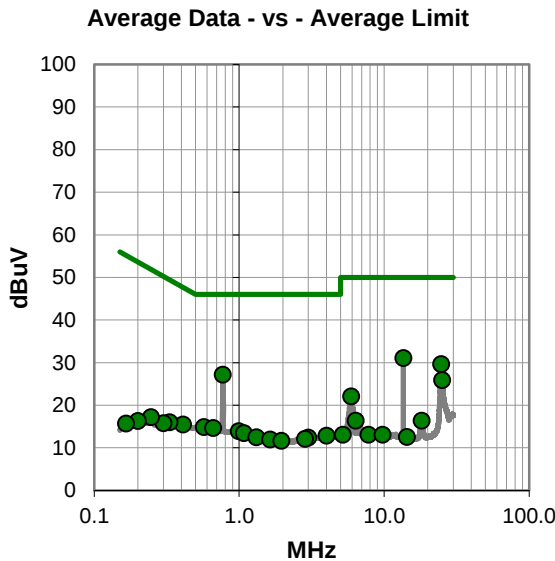
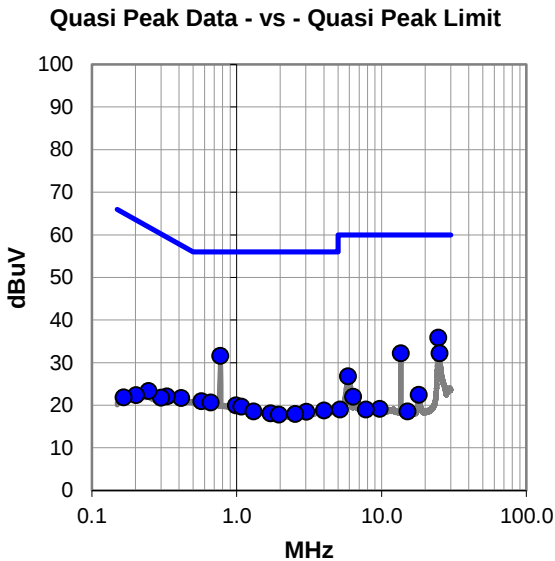
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #11

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.680	14.2	21.7	35.9	60.0	-24.1
0.770	11.5	20.1	31.6	56.0	-24.4
13.560	11.5	20.7	32.2	60.0	-27.8
25.159	10.5	21.7	32.2	60.0	-27.8
5.870	6.5	20.3	26.8	60.0	-33.2
0.571	1.0	20.0	21.0	56.0	-35.0
0.661	0.6	20.1	20.7	56.0	-35.3
0.413	1.6	20.1	21.7	57.6	-35.9
0.990	0.0	20.0	20.0	56.0	-36.0
1.079	-0.3	20.0	19.7	56.0	-36.3
4.000	-1.4	20.2	18.8	56.0	-37.2
0.330	2.0	20.1	22.1	59.5	-37.4
1.310	-1.4	20.0	18.6	56.0	-37.4
3.023	-1.7	20.2	18.5	56.0	-37.5
18.060	1.5	21.0	22.5	60.0	-37.5
1.710	-1.9	20.0	18.1	56.0	-37.9
2.540	-2.2	20.2	18.0	56.0	-38.0
6.350	1.7	20.3	22.0	60.0	-38.0
1.952	-2.3	20.1	17.8	56.0	-38.2
0.300	1.6	20.2	21.8	60.2	-38.4
0.247	2.9	20.5	23.4	61.9	-38.5
9.728	-1.3	20.5	19.2	60.0	-40.8
5.174	-1.2	20.2	19.0	60.0	-41.0
7.784	-1.4	20.4	19.0	60.0	-41.0
0.202	1.8	20.6	22.4	63.5	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	7.1	20.1	27.2	46.0	-18.8
13.560	10.4	20.7	31.1	50.0	-18.9
24.691	8.0	21.7	29.7	50.0	-20.3
25.154	4.2	21.7	25.9	50.0	-24.1
5.930	1.8	20.3	22.1	50.0	-27.9
0.571	-5.1	20.0	14.9	46.0	-31.1
0.661	-5.4	20.1	14.7	46.0	-31.3
0.410	-4.6	20.1	15.5	47.6	-32.1
0.990	-6.1	20.0	13.9	46.0	-32.1
1.079	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.3	20.2	12.9	46.0	-33.1
0.330	-4.1	20.1	16.0	49.5	-33.5
1.310	-7.5	20.0	12.5	46.0	-33.5
2.990	-7.8	20.2	12.4	46.0	-33.6
6.350	-3.9	20.3	16.4	50.0	-33.6
18.120	-4.6	21.0	16.4	50.0	-33.6
2.850	-8.0	20.1	12.1	46.0	-33.9
1.630	-8.0	20.0	12.0	46.0	-34.0
1.952	-8.4	20.1	11.7	46.0	-34.3
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-3.3	20.5	17.2	51.9	-34.7
5.190	-7.1	20.2	13.1	50.0	-36.9
7.800	-7.3	20.4	13.1	50.0	-36.9
9.728	-7.4	20.5	13.1	50.0	-36.9
0.200	-4.3	20.6	16.3	53.6	-37.3

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	12	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	----	-------	-----------	-----------------------------	---

COMMENTS

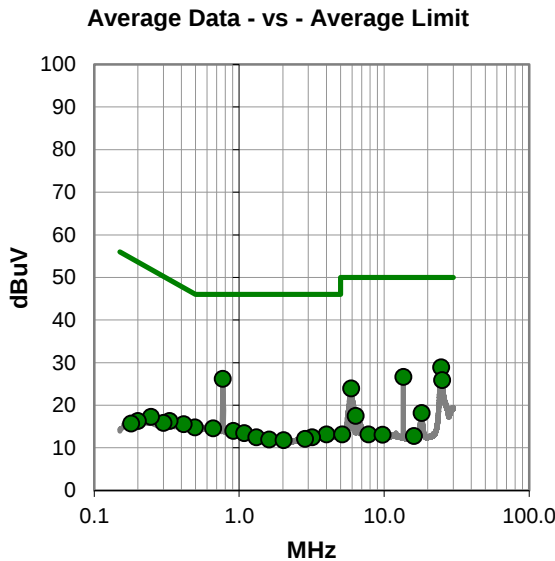
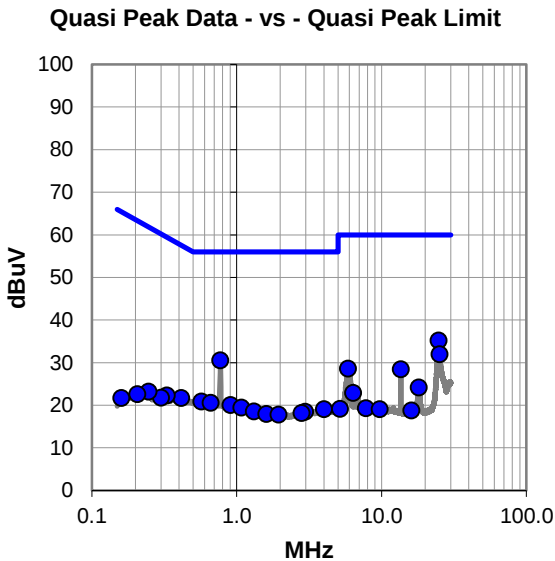
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #12

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.799	13.5	21.7	35.2	60.0	-24.8
0.770	10.5	20.1	30.6	56.0	-25.4
25.154	10.3	21.7	32.0	60.0	-28.0
5.870	8.3	20.3	28.6	60.0	-31.4
13.560	7.8	20.7	28.5	60.0	-31.5
0.571	0.9	20.0	20.9	56.0	-35.1
0.660	0.5	20.1	20.6	56.0	-35.4
18.060	3.2	21.0	24.2	60.0	-35.8
0.908	0.0	20.1	20.1	56.0	-35.9
0.413	1.6	20.1	21.7	57.6	-35.9
1.079	-0.5	20.0	19.5	56.0	-36.5
4.000	-1.1	20.2	19.1	56.0	-36.9
6.350	2.6	20.3	22.9	60.0	-37.1
0.330	2.2	20.1	22.3	59.5	-37.2
1.318	-1.4	20.0	18.6	56.0	-37.4
2.970	-1.7	20.2	18.5	56.0	-37.5
2.810	-1.9	20.1	18.2	56.0	-37.8
1.601	-2.0	20.0	18.0	56.0	-38.0
1.950	-2.3	20.1	17.8	56.0	-38.2
0.300	1.6	20.2	21.8	60.2	-38.4
0.247	2.7	20.5	23.2	61.9	-38.7
7.789	-1.1	20.4	19.3	60.0	-40.7
0.206	2.0	20.6	22.6	63.4	-40.8
5.170	-1.0	20.2	19.2	60.0	-40.8
9.728	-1.4	20.5	19.1	60.0	-40.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.1	20.1	26.2	46.0	-19.8
24.745	7.2	21.7	28.9	50.0	-21.1
13.560	6.0	20.7	26.7	50.0	-23.3
25.154	4.2	21.7	25.9	50.0	-24.1
5.930	3.7	20.3	24.0	50.0	-26.0
0.494	-5.2	20.0	14.8	46.1	-31.3
0.660	-5.5	20.1	14.6	46.0	-31.4
18.120	-2.8	21.0	18.2	50.0	-31.8
0.413	-4.5	20.1	15.6	47.6	-32.0
0.910	-6.1	20.1	14.0	46.0	-32.0
1.080	-6.5	20.0	13.5	46.0	-32.5
6.350	-2.8	20.3	17.5	50.0	-32.5
4.000	-7.0	20.2	13.2	46.0	-32.8
0.330	-3.8	20.1	16.3	49.5	-33.2
1.310	-7.5	20.0	12.5	46.0	-33.5
3.190	-7.7	20.2	12.5	46.0	-33.5
2.850	-8.0	20.1	12.1	46.0	-33.9
1.606	-8.0	20.0	12.0	46.0	-34.0
2.020	-8.4	20.2	11.8	46.0	-34.2
0.300	-4.3	20.2	15.9	50.2	-34.3
0.247	-3.2	20.5	17.3	51.9	-34.6
5.125	-7.0	20.2	13.2	50.0	-36.8
7.793	-7.2	20.4	13.2	50.0	-36.8
9.728	-7.4	20.5	13.1	50.0	-36.9
16.080	-8.2	21.0	12.8	50.0	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	13	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	----	-------	---------	-----------------------------	---

COMMENTS

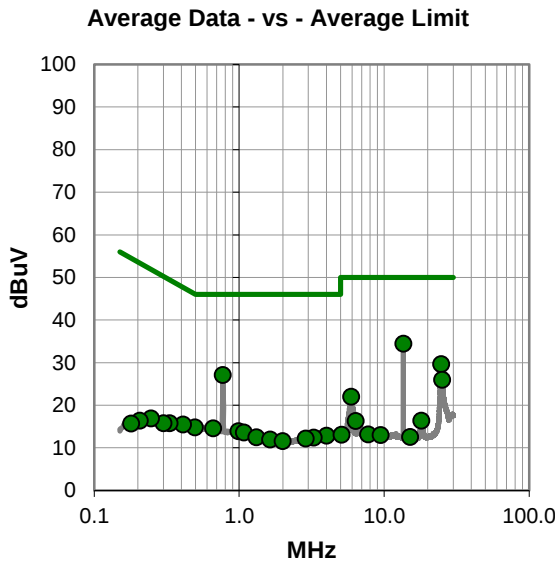
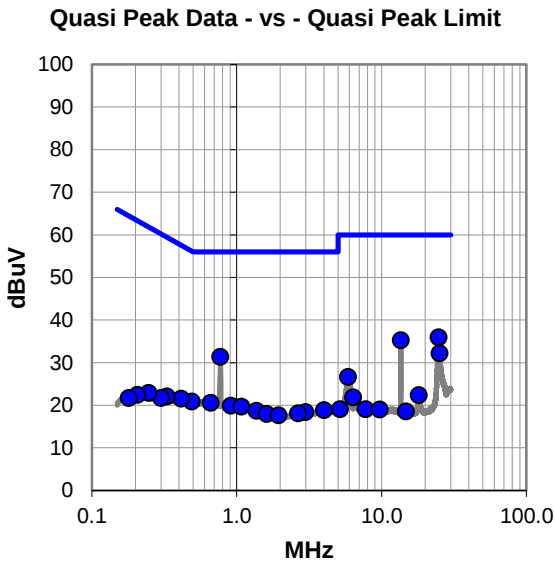
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #13

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.790	14.3	21.7	36.0	60.0	-24.0
0.770	11.3	20.1	31.4	56.0	-24.6
13.560	14.6	20.7	35.3	60.0	-24.7
25.154	10.5	21.7	32.2	60.0	-27.8
5.870	6.4	20.3	26.7	60.0	-33.3
0.490	0.9	20.0	20.9	56.2	-35.3
0.660	0.5	20.1	20.6	56.0	-35.4
0.413	1.5	20.1	21.6	57.6	-36.0
0.910	-0.2	20.1	19.9	56.0	-36.1
1.079	-0.3	20.0	19.7	56.0	-36.3
4.000	-1.3	20.2	18.9	56.0	-37.1
1.370	-1.3	20.0	18.7	56.0	-37.3
0.330	2.0	20.1	22.1	59.5	-37.4
2.987	-1.8	20.2	18.4	56.0	-37.6
18.060	1.4	21.0	22.4	60.0	-37.6
2.654	-2.1	20.2	18.1	56.0	-37.9
1.610	-2.0	20.0	18.0	56.0	-38.0
6.350	1.6	20.3	21.9	60.0	-38.1
1.943	-2.4	20.1	17.7	56.0	-38.3
0.300	1.5	20.2	21.7	60.2	-38.5
0.247	2.4	20.5	22.9	61.9	-39.0
0.206	1.9	20.6	22.5	63.4	-40.9
5.160	-1.1	20.2	19.1	60.0	-40.9
7.775	-1.3	20.4	19.1	60.0	-40.9
9.728	-1.5	20.5	19.0	60.0	-41.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	13.8	20.7	34.5	50.0	-15.5
0.770	7.0	20.1	27.1	46.0	-18.9
24.680	8.0	21.7	29.7	50.0	-20.3
25.154	4.3	21.7	26.0	50.0	-24.0
5.930	1.7	20.3	22.0	50.0	-28.0
0.494	-5.2	20.0	14.8	46.1	-31.3
0.660	-5.5	20.1	14.6	46.0	-31.4
0.410	-4.6	20.1	15.5	47.6	-32.1
0.989	-6.1	20.0	13.9	46.0	-32.1
1.079	-6.4	20.0	13.6	46.0	-32.4
4.000	-7.3	20.2	12.9	46.0	-33.1
1.310	-7.5	20.0	12.5	46.0	-33.5
3.266	-7.8	20.2	12.4	46.0	-33.6
18.060	-4.6	21.0	16.4	50.0	-33.6
0.330	-4.3	20.1	15.8	49.5	-33.7
6.350	-4.0	20.3	16.3	50.0	-33.7
2.880	-7.9	20.1	12.2	46.0	-33.8
1.637	-8.0	20.0	12.0	46.0	-34.0
1.997	-8.5	20.1	11.6	46.0	-34.4
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-3.6	20.5	16.9	51.9	-35.0
7.770	-7.2	20.4	13.2	50.0	-36.8
5.070	-7.1	20.2	13.1	50.0	-36.9
0.206	-4.2	20.6	16.4	53.4	-37.0
9.449	-7.5	20.5	13.0	50.0	-37.0

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	14	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	----	-------	-----------	-----------------------------	---

COMMENTS

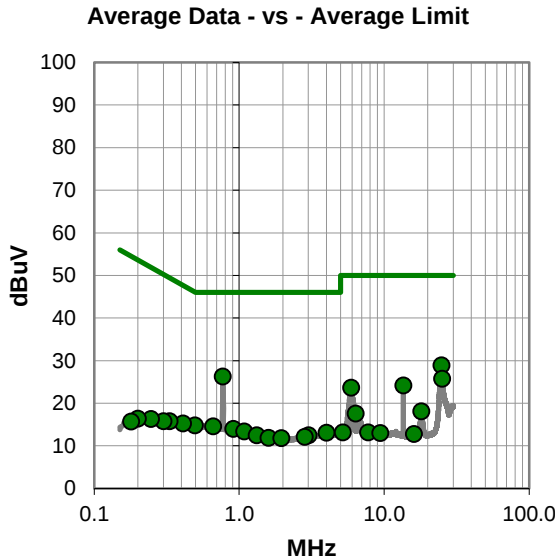
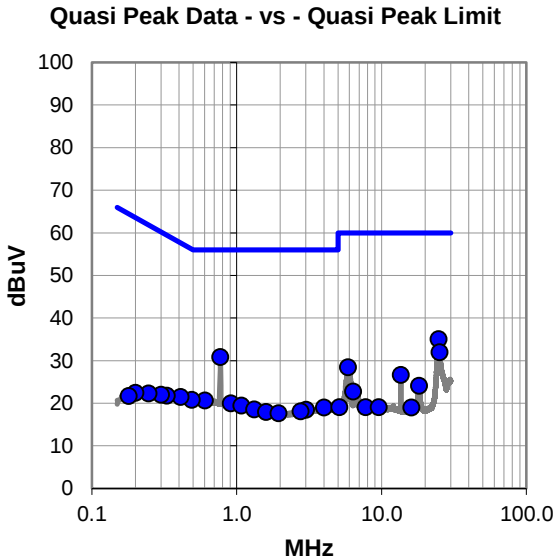
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #14

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.790	13.4	21.7	35.1	60.0	-24.9
0.770	10.8	20.1	30.9	56.0	-25.1
25.154	10.3	21.7	32.0	60.0	-28.0
5.870	8.2	20.3	28.5	60.0	-31.5
13.560	6.0	20.7	26.7	60.0	-33.3
0.602	0.6	20.1	20.7	56.0	-35.3
0.490	0.8	20.0	20.8	56.2	-35.4
18.120	3.1	21.0	24.1	60.0	-35.9
0.910	-0.1	20.1	20.0	56.0	-36.0
0.410	1.4	20.1	21.5	57.6	-36.1
1.080	-0.5	20.0	19.5	56.0	-36.5
4.000	-1.2	20.2	19.0	56.0	-37.0
6.350	2.5	20.3	22.8	60.0	-37.2
1.320	-1.4	20.0	18.6	56.0	-37.4
3.019	-1.7	20.2	18.5	56.0	-37.5
0.330	1.7	20.1	21.8	59.5	-37.7
2.760	-2.0	20.1	18.1	56.0	-37.9
1.597	-2.0	20.0	18.0	56.0	-38.0
0.301	1.8	20.2	22.0	60.2	-38.2
1.950	-2.4	20.1	17.7	56.0	-38.3
0.247	1.8	20.5	22.3	61.9	-39.6
5.125	-1.1	20.2	19.1	60.0	-40.9
7.760	-1.3	20.4	19.1	60.0	-40.9
9.548	-1.4	20.5	19.1	60.0	-40.9
16.082	-2.0	21.0	19.0	60.0	-41.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.2	20.1	26.3	46.0	-19.7
24.799	7.2	21.7	28.9	50.0	-21.1
25.154	4.1	21.7	25.8	50.0	-24.2
13.560	3.5	20.7	24.2	50.0	-25.8
5.930	3.4	20.3	23.7	50.0	-26.3
0.494	-5.2	20.0	14.8	46.1	-31.3
0.661	-5.5	20.1	14.6	46.0	-31.4
18.060	-2.9	21.0	18.1	50.0	-31.9
0.910	-6.1	20.1	14.0	46.0	-32.0
0.410	-4.8	20.1	15.3	47.6	-32.3
6.350	-2.7	20.3	17.6	50.0	-32.4
1.080	-6.6	20.0	13.4	46.0	-32.6
4.000	-7.1	20.2	13.1	46.0	-32.9
1.320	-7.5	20.0	12.5	46.0	-33.5
3.005	-7.7	20.2	12.5	46.0	-33.5
0.330	-4.3	20.1	15.8	49.5	-33.7
2.830	-8.0	20.1	12.1	46.0	-33.9
1.597	-8.1	20.0	11.9	46.0	-34.1
1.950	-8.3	20.1	11.8	46.0	-34.2
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-4.2	20.5	16.3	51.9	-35.6
5.183	-7.0	20.2	13.2	50.0	-36.8
7.760	-7.2	20.4	13.2	50.0	-36.8
9.420	-7.5	20.5	13.0	50.0	-37.0
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	15	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	----	-------	---------	-----------------------------	---

COMMENTS

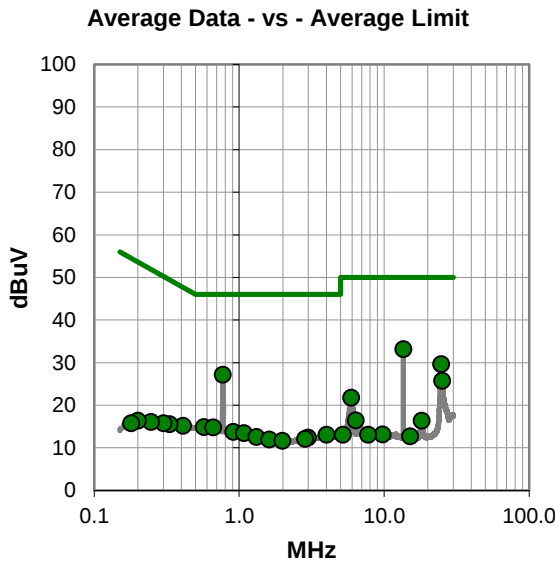
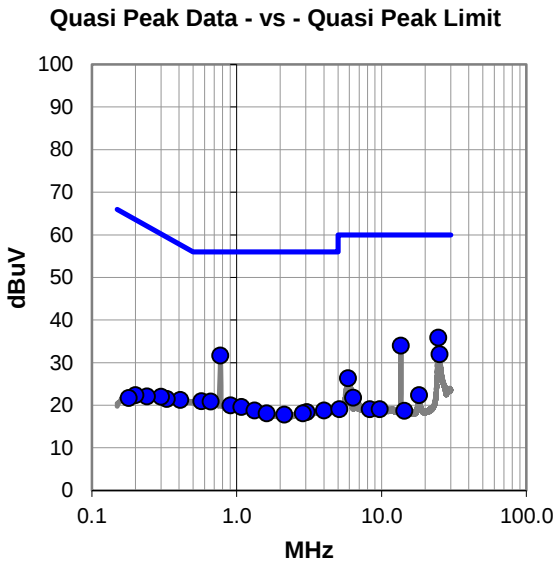
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #15

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.682	14.2	21.7	35.9	60.0	-24.1
0.770	11.6	20.1	31.7	56.0	-24.3
13.560	13.3	20.7	34.0	60.0	-26.0
25.154	10.3	21.7	32.0	60.0	-28.0
5.870	6.1	20.3	26.4	60.0	-33.6
0.571	1.0	20.0	21.0	56.0	-35.0
0.660	0.8	20.1	20.9	56.0	-35.1
0.908	-0.1	20.1	20.0	56.0	-36.0
1.079	-0.4	20.0	19.6	56.0	-36.4
0.409	1.2	20.1	21.3	57.7	-36.4
1.330	-1.2	20.0	18.8	56.0	-37.2
4.000	-1.4	20.2	18.8	56.0	-37.2
3.037	-1.8	20.2	18.4	56.0	-37.6
18.121	1.4	21.0	22.4	60.0	-37.6
1.610	-1.9	20.0	18.1	56.0	-37.9
2.870	-2.0	20.1	18.1	56.0	-37.9
0.330	1.4	20.1	21.5	59.5	-38.0
0.300	1.8	20.2	22.0	60.2	-38.2
2.132	-2.4	20.2	17.8	56.0	-38.2
6.350	1.5	20.3	21.8	60.0	-38.2
0.240	1.6	20.5	22.1	62.1	-40.0
5.107	-1.1	20.2	19.1	60.0	-40.9
8.300	-1.3	20.4	19.1	60.0	-40.9
9.728	-1.4	20.5	19.1	60.0	-40.9
0.200	1.8	20.6	22.4	63.6	-41.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	12.5	20.7	33.2	50.0	-16.8
0.770	7.1	20.1	27.2	46.0	-18.8
24.740	8.0	21.7	29.7	50.0	-20.3
25.154	4.1	21.7	25.8	50.0	-24.2
5.930	1.5	20.3	21.8	50.0	-28.2
0.571	-5.1	20.0	14.9	46.0	-31.1
0.661	-5.3	20.1	14.8	46.0	-31.2
0.910	-6.3	20.1	13.8	46.0	-32.2
0.410	-4.9	20.1	15.2	47.6	-32.4
1.079	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.1	20.2	13.1	46.0	-32.9
1.310	-7.4	20.0	12.6	46.0	-33.4
6.350	-3.8	20.3	16.5	50.0	-33.5
2.983	-7.8	20.2	12.4	46.0	-33.6
18.120	-4.6	21.0	16.4	50.0	-33.6
0.330	-4.5	20.1	15.6	49.5	-33.9
2.848	-8.0	20.1	12.1	46.0	-33.9
1.610	-8.0	20.0	12.0	46.0	-34.0
1.984	-8.4	20.1	11.7	46.0	-34.3
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-4.4	20.5	16.1	51.9	-35.8
9.728	-7.3	20.5	13.2	50.0	-36.8
5.183	-7.1	20.2	13.1	50.0	-36.9
7.771	-7.3	20.4	13.1	50.0	-36.9
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	16	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	----	-------	-----------	-----------------------------	---

COMMENTS

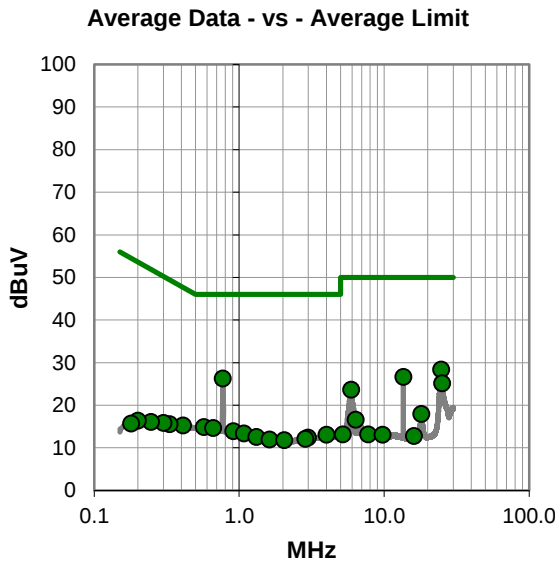
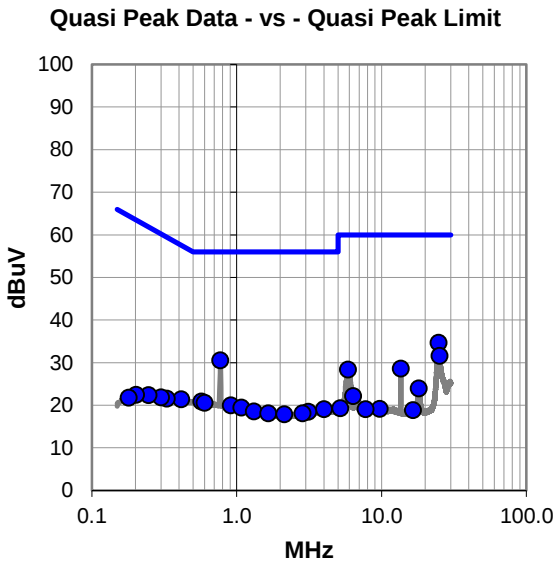
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #16

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.780	13.0	21.7	34.7	60.0	-25.3
0.770	10.5	20.1	30.6	56.0	-25.4
25.160	9.9	21.7	31.6	60.0	-28.4
13.560	7.9	20.7	28.6	60.0	-31.4
5.870	8.1	20.3	28.4	60.0	-31.6
0.570	0.9	20.0	20.9	56.0	-35.1
0.600	0.5	20.1	20.6	56.0	-35.4
18.062	3.0	21.0	24.0	60.0	-36.0
0.910	-0.1	20.1	20.0	56.0	-36.0
0.413	1.3	20.1	21.4	57.6	-36.2
1.079	-0.5	20.0	19.5	56.0	-36.5
4.000	-1.1	20.2	19.1	56.0	-36.9
1.313	-1.4	20.0	18.6	56.0	-37.4
3.130	-1.7	20.2	18.5	56.0	-37.5
6.350	1.9	20.3	22.2	60.0	-37.8
0.330	1.5	20.1	21.6	59.5	-37.9
1.650	-1.9	20.0	18.1	56.0	-37.9
2.850	-2.0	20.1	18.1	56.0	-37.9
2.128	-2.3	20.2	17.9	56.0	-38.1
0.300	1.7	20.2	21.9	60.2	-38.3
0.247	1.9	20.5	22.4	61.9	-39.5
5.190	-0.9	20.2	19.3	60.0	-40.7
9.728	-1.3	20.5	19.2	60.0	-40.8
7.750	-1.3	20.4	19.1	60.0	-40.9
0.202	1.9	20.6	22.5	63.5	-41.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	6.2	20.1	26.3	46.0	-19.7
24.740	6.7	21.7	28.4	50.0	-21.6
13.560	6.0	20.7	26.7	50.0	-23.3
25.154	3.5	21.7	25.2	50.0	-24.8
5.930	3.4	20.3	23.7	50.0	-26.3
0.570	-5.1	20.0	14.9	46.0	-31.1
0.661	-5.4	20.1	14.7	46.0	-31.3
18.062	-3.0	21.0	18.0	50.0	-32.0
0.908	-6.2	20.1	13.9	46.0	-32.1
0.410	-4.8	20.1	15.3	47.6	-32.3
1.079	-6.6	20.0	13.4	46.0	-32.6
4.000	-7.1	20.2	13.1	46.0	-32.9
1.310	-7.4	20.0	12.6	46.0	-33.4
6.350	-3.7	20.3	16.6	50.0	-33.4
2.983	-7.8	20.2	12.4	46.0	-33.6
0.330	-4.5	20.1	15.6	49.5	-33.9
2.860	-8.0	20.1	12.1	46.0	-33.9
1.620	-8.0	20.0	12.0	46.0	-34.0
2.040	-8.4	20.2	11.8	46.0	-34.2
0.300	-4.3	20.2	15.9	50.2	-34.3
0.247	-4.4	20.5	16.1	51.9	-35.8
5.179	-7.0	20.2	13.2	50.0	-36.8
7.770	-7.2	20.4	13.2	50.0	-36.8
9.730	-7.4	20.5	13.1	50.0	-36.9
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	17	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	----	-------	---------	-----------------------------	---

COMMENTS

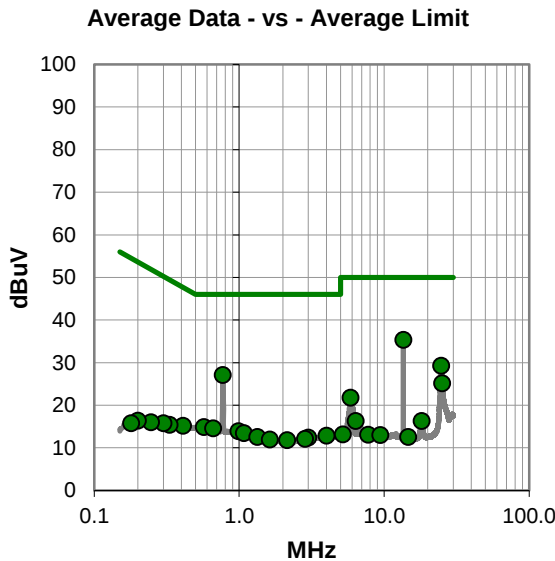
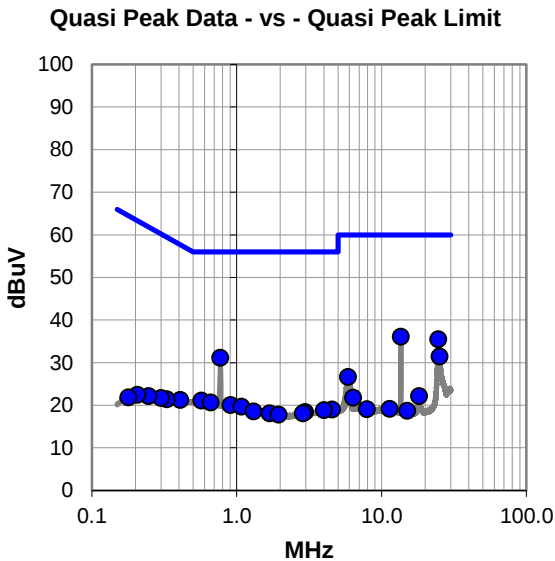
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #17

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	15.4	20.7	36.1	60.0	-23.9
24.620	13.8	21.7	35.5	60.0	-24.5
0.770	11.1	20.1	31.2	56.0	-24.8
25.160	9.8	21.7	31.5	60.0	-28.5
5.870	6.4	20.3	26.7	60.0	-33.3
0.571	1.1	20.0	21.1	56.0	-34.9
0.660	0.6	20.1	20.7	56.0	-35.3
0.908	0.0	20.1	20.1	56.0	-35.9
1.079	-0.3	20.0	19.7	56.0	-36.3
0.409	1.2	20.1	21.3	57.7	-36.4
4.558	-1.3	20.2	19.0	56.0	-37.0
4.000	-1.3	20.2	18.9	56.0	-37.1
1.310	-1.4	20.0	18.6	56.0	-37.4
2.974	-1.8	20.2	18.4	56.0	-37.6
18.120	1.2	21.0	22.2	60.0	-37.8
1.690	-1.9	20.0	18.1	56.0	-37.9
2.870	-2.0	20.1	18.1	56.0	-37.9
0.330	1.3	20.1	21.4	59.5	-38.1
1.950	-2.3	20.1	17.8	56.0	-38.2
6.350	1.5	20.3	21.8	60.0	-38.2
0.300	1.5	20.2	21.7	60.2	-38.5
0.247	1.7	20.5	22.2	61.9	-39.7
11.380	-1.5	20.7	19.2	60.0	-40.8
0.206	1.9	20.6	22.5	63.4	-40.9
7.910	-1.3	20.4	19.1	60.0	-40.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	14.7	20.7	35.4	50.0	-14.6
0.770	7.0	20.1	27.1	46.0	-18.9
24.680	7.6	21.7	29.3	50.0	-20.7
25.154	3.5	21.7	25.2	50.0	-24.8
5.870	1.5	20.3	21.8	50.0	-28.2
0.571	-5.1	20.0	14.9	46.0	-31.1
0.660	-5.5	20.1	14.6	46.0	-31.4
0.989	-6.1	20.0	13.9	46.0	-32.1
0.410	-4.9	20.1	15.2	47.6	-32.4
1.079	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.3	20.2	12.9	46.0	-33.1
1.330	-7.4	20.0	12.6	46.0	-33.4
2.990	-7.8	20.2	12.4	46.0	-33.6
6.350	-4.0	20.3	16.3	50.0	-33.7
18.120	-4.7	21.0	16.3	50.0	-33.7
2.852	-8.0	20.1	12.1	46.0	-33.9
1.624	-8.0	20.0	12.0	46.0	-34.0
0.330	-4.7	20.1	15.4	49.5	-34.1
2.140	-8.4	20.2	11.8	46.0	-34.2
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-4.5	20.5	16.0	51.9	-35.9
5.180	-7.0	20.2	13.2	50.0	-36.8
7.757	-7.3	20.4	13.1	50.0	-36.9
9.430	-7.5	20.5	13.0	50.0	-37.0
0.200	-4.2	20.6	16.4	53.6	-37.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	18	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	----	-------	-----------	-----------------------------	---

COMMENTS

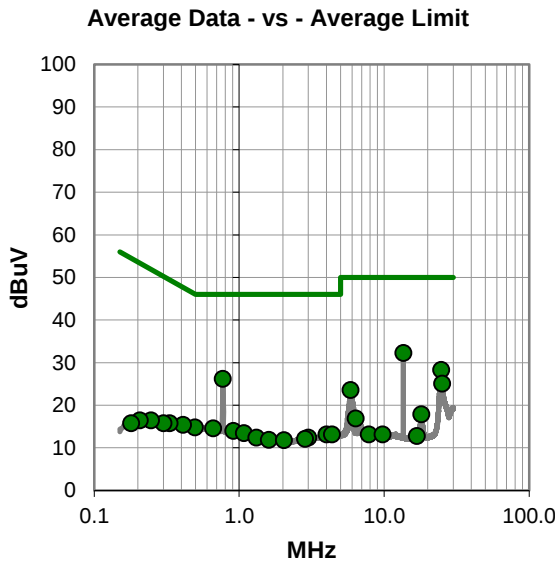
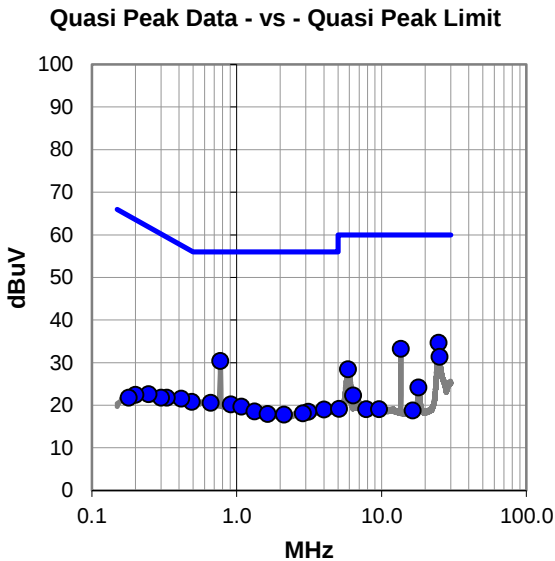
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #18

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
24.731	13.0	21.7	34.7	60.0	-25.3
0.770	10.3	20.1	30.4	56.0	-25.6
13.560	12.6	20.7	33.3	60.0	-26.7
25.154	9.7	21.7	31.4	60.0	-28.6
5.870	8.2	20.3	28.5	60.0	-31.5
0.661	0.5	20.1	20.6	56.0	-35.4
0.490	0.8	20.0	20.8	56.2	-35.4
18.010	3.2	21.0	24.2	60.0	-35.8
0.913	0.1	20.1	20.2	56.0	-35.8
0.413	1.5	20.1	21.6	57.6	-36.0
1.080	-0.3	20.0	19.7	56.0	-36.3
4.000	-1.2	20.2	19.0	56.0	-37.0
1.327	-1.4	20.0	18.6	56.0	-37.4
3.130	-1.7	20.2	18.5	56.0	-37.5
0.330	1.7	20.1	21.8	59.5	-37.7
6.350	2.0	20.3	22.3	60.0	-37.7
2.861	-2.0	20.1	18.1	56.0	-37.9
1.637	-2.0	20.0	18.0	56.0	-38.0
2.119	-2.4	20.2	17.8	56.0	-38.2
0.300	1.6	20.2	21.8	60.2	-38.4
0.247	2.1	20.5	22.6	61.9	-39.3
5.098	-1.0	20.2	19.2	60.0	-40.8
7.843	-1.3	20.4	19.1	60.0	-40.9
9.616	-1.4	20.5	19.1	60.0	-40.9
0.200	1.9	20.6	22.5	63.6	-41.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	11.6	20.7	32.3	50.0	-17.7
0.770	6.1	20.1	26.2	46.0	-19.8
24.680	6.6	21.7	28.3	50.0	-21.7
25.154	3.4	21.7	25.1	50.0	-24.9
5.870	3.3	20.3	23.6	50.0	-26.4
0.494	-5.2	20.0	14.8	46.1	-31.3
0.660	-5.5	20.1	14.6	46.0	-31.4
0.910	-6.1	20.1	14.0	46.0	-32.0
18.010	-3.1	21.0	17.9	50.0	-32.1
0.410	-4.7	20.1	15.4	47.6	-32.2
1.079	-6.5	20.0	13.5	46.0	-32.5
4.000	-7.0	20.2	13.2	46.0	-32.8
4.360	-7.0	20.2	13.2	46.0	-32.8
6.350	-3.4	20.3	16.9	50.0	-33.1
1.310	-7.6	20.0	12.4	46.0	-33.6
3.001	-7.8	20.2	12.4	46.0	-33.6
0.330	-4.3	20.1	15.8	49.5	-33.7
2.850	-8.0	20.1	12.1	46.0	-33.9
1.600	-8.1	20.0	11.9	46.0	-34.1
2.038	-8.4	20.2	11.8	46.0	-34.2
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-4.0	20.5	16.5	51.9	-35.4
7.829	-7.2	20.4	13.2	50.0	-36.8
9.728	-7.3	20.5	13.2	50.0	-36.8
0.206	-4.1	20.6	16.5	53.4	-36.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-20
Customer:	Abbott Laboratories	Temperature:	19°C
Attendees:	Frank Sun	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	19	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	----	-------	---------	-----------------------------	---

COMMENTS

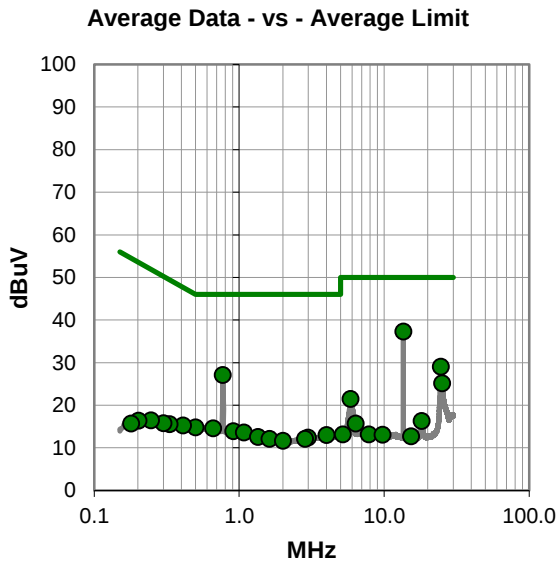
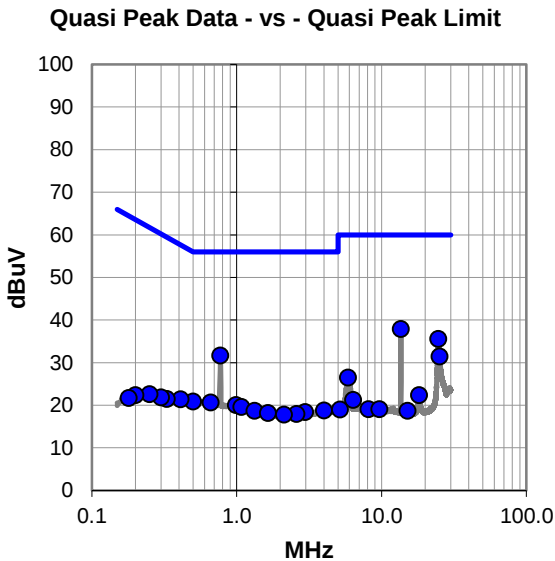
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #19

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	17.2	20.7	37.9	60.0	-22.1
0.770	11.6	20.1	31.7	56.0	-24.3
24.660	13.9	21.7	35.6	60.0	-24.4
25.154	9.8	21.7	31.5	60.0	-28.5
5.870	6.2	20.3	26.5	60.0	-33.5
0.500	0.9	20.0	20.9	56.0	-35.1
0.660	0.6	20.1	20.7	56.0	-35.3
0.990	0.1	20.0	20.1	56.0	-35.9
0.410	1.3	20.1	21.4	57.6	-36.2
1.079	-0.4	20.0	19.6	56.0	-36.4
4.000	-1.4	20.2	18.8	56.0	-37.2
1.330	-1.3	20.0	18.7	56.0	-37.3
2.960	-1.8	20.2	18.4	56.0	-37.6
18.120	1.4	21.0	22.4	60.0	-37.6
1.646	-1.8	20.0	18.2	56.0	-37.8
0.330	1.4	20.1	21.5	59.5	-38.0
2.580	-2.2	20.2	18.0	56.0	-38.0
2.120	-2.4	20.2	17.8	56.0	-38.2
0.300	1.7	20.2	21.9	60.2	-38.3
6.350	1.0	20.3	21.3	60.0	-38.7
0.250	2.1	20.5	22.6	61.8	-39.2
8.120	-1.3	20.4	19.1	60.0	-40.9
9.683	-1.4	20.5	19.1	60.0	-40.9
5.174	-1.2	20.2	19.0	60.0	-41.0
0.200	1.8	20.6	22.4	63.6	-41.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	16.6	20.7	37.3	50.0	-12.7
0.770	7.0	20.1	27.1	46.0	-18.9
24.668	7.4	21.7	29.1	50.0	-20.9
25.154	3.5	21.7	25.2	50.0	-24.8
5.870	1.2	20.3	21.5	50.0	-28.5
0.500	-5.2	20.0	14.8	46.0	-31.2
0.660	-5.5	20.1	14.6	46.0	-31.4
0.908	-6.2	20.1	13.9	46.0	-32.1
0.410	-4.8	20.1	15.3	47.6	-32.3
1.079	-6.4	20.0	13.6	46.0	-32.4
4.000	-7.2	20.2	13.0	46.0	-33.0
1.350	-7.4	20.0	12.6	46.0	-33.4
2.983	-7.8	20.2	12.4	46.0	-33.6
18.120	-4.7	21.0	16.3	50.0	-33.7
0.330	-4.5	20.1	15.6	49.5	-33.9
1.615	-7.9	20.0	12.1	46.0	-33.9
2.848	-8.0	20.1	12.1	46.0	-33.9
2.000	-8.4	20.1	11.7	46.0	-34.3
6.350	-4.6	20.3	15.7	50.0	-34.3
0.300	-4.4	20.2	15.8	50.2	-34.4
0.247	-4.0	20.5	16.5	51.9	-35.4
5.183	-7.0	20.2	13.2	50.0	-36.8
7.840	-7.2	20.4	13.2	50.0	-36.8
9.728	-7.4	20.5	13.1	50.0	-36.9
0.202	-4.2	20.6	16.4	53.5	-37.1

CONCLUSION

Pass



Tested By

EMISSIONS BANDWIDTH (20 DB)

TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer.

As defined in FCC 15.215 Part (c), intentional radiators 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 designed in the rule section under which the equipment is operated.

The 20 dB bandwidth must be contained within the band 13.110-14.010 MHz. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The spectrum analyzer bandwidth measurement function was used to measure the 20 dB bandwidth. The resolution bandwidth (RBW) of the spectrum analyzer was set to the range of 1% to 5% of the emissions bandwidth (EBW) and video bandwidth (VBW) bandwidth was set to at least 3 times the resolution bandwidth. The analyzer sweep time was set to auto and a peak detector was used.

Due to the amplitude of the carrier with respect to the modulated signal, the EUT was unable to meet the 1-5% RBW requirement when based off the measured 20 dB Bandwidth. Therefore the 99% Bandwidth was used to determine the RBW settings for the 20 dB Bandwidth. This is considered worst case.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFG	2023-05-22	2024-05-22
Block - DC	Fairview Microwave	SD3464	ANA	2023-08-31	2024-08-31
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR

EMISSIONS BANDWIDTH (20 DB)



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-16
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	43.6%
Customer Project:	None	Bar. Pressure (PMSL):	991 mbar
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

COMMENTS

Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested By

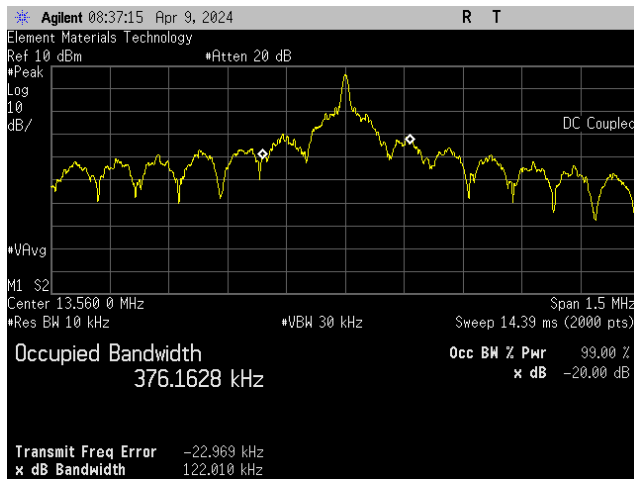
TEST RESULTS

Value		Limit	Result
		13.110 ≤ f ≤ 14.010 MHz	
RFID, 13.56 MHz			
SwitchController 1 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	122.01 kHz	Within	Pass
SwitchController 1 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	117.55 kHz	Within	Pass
SwitchController 2 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	115.529 kHz	Within	Pass
SwitchController 2 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	117.906 kHz	Within	Pass
SwitchController 3 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	115.254 kHz	Within	Pass
SwitchController 3 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	112.858 kHz	Within	Pass
SwitchController 4 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	113.333 kHz	Within	Pass
SwitchController 4 Radio 2			
Nominal Temperature, 20°C			

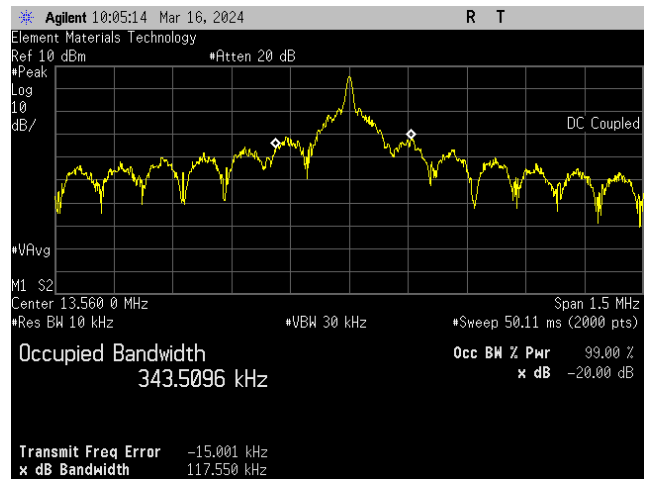
EMISSIONS BANDWIDTH (20 DB)

Value		Limit	Result
		$13.110 \leq f \leq 14.010$ MHz	
Voltage, Nominal, 220VAC	114.716 kHz	Within	Pass

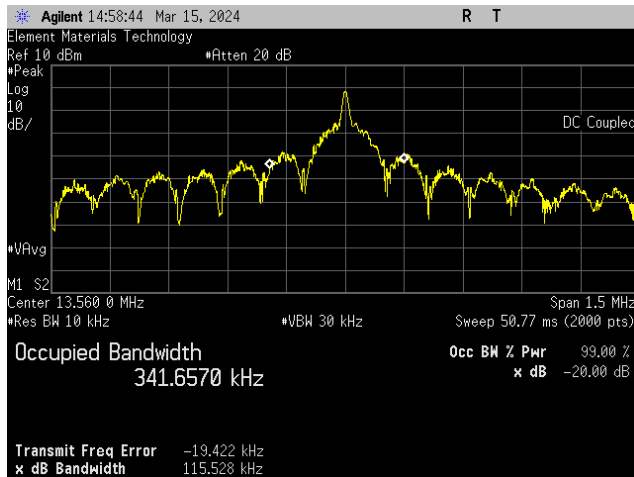
EMISSIONS BANDWIDTH (20 DB)



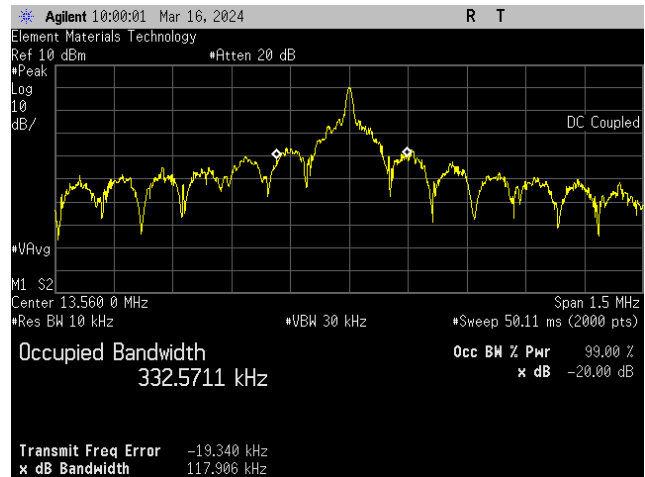
RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

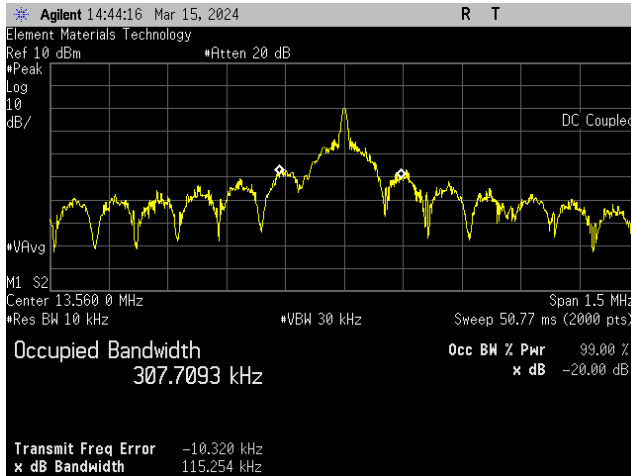


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

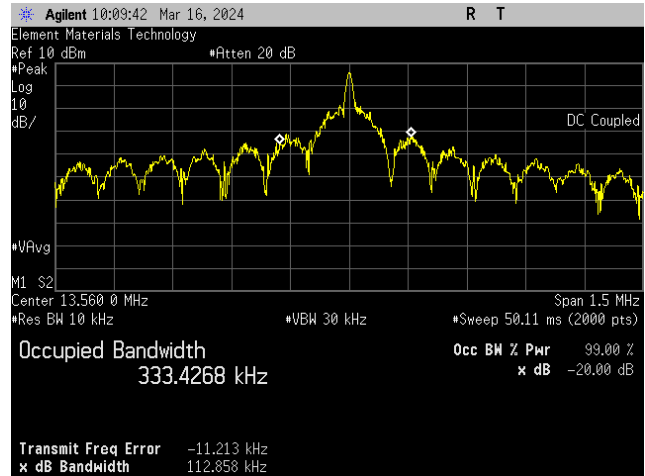


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

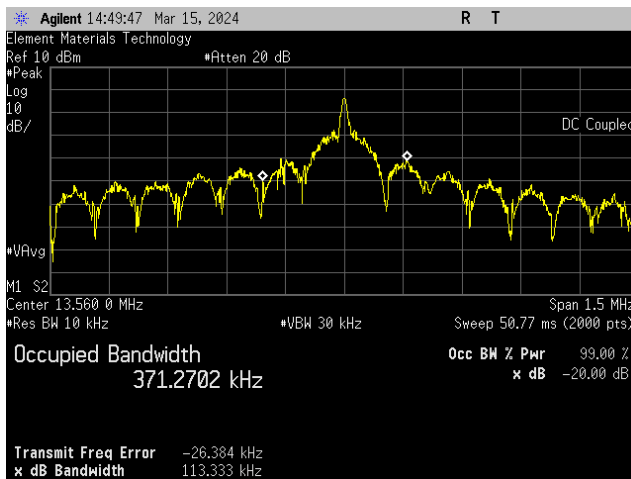
EMISSIONS BANDWIDTH (20 DB)



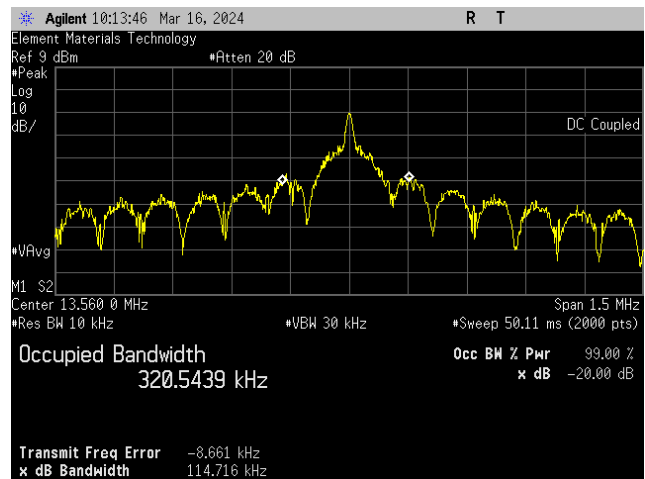
RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

FIELD STRENGTH OF FUNDAMENTAL

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

The fundamental carrier of the EUT was maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2023-05-25	2024-05-25
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

12.06 MHz TO 15.06 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0310-1

MODES INVESTIGATED

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	46.5%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	5	Test Distance (m):	10	Ant. Height(s) (m):	1 to 4(m)
--------	---	--------------------	----	---------------------	-----------

COMMENTS

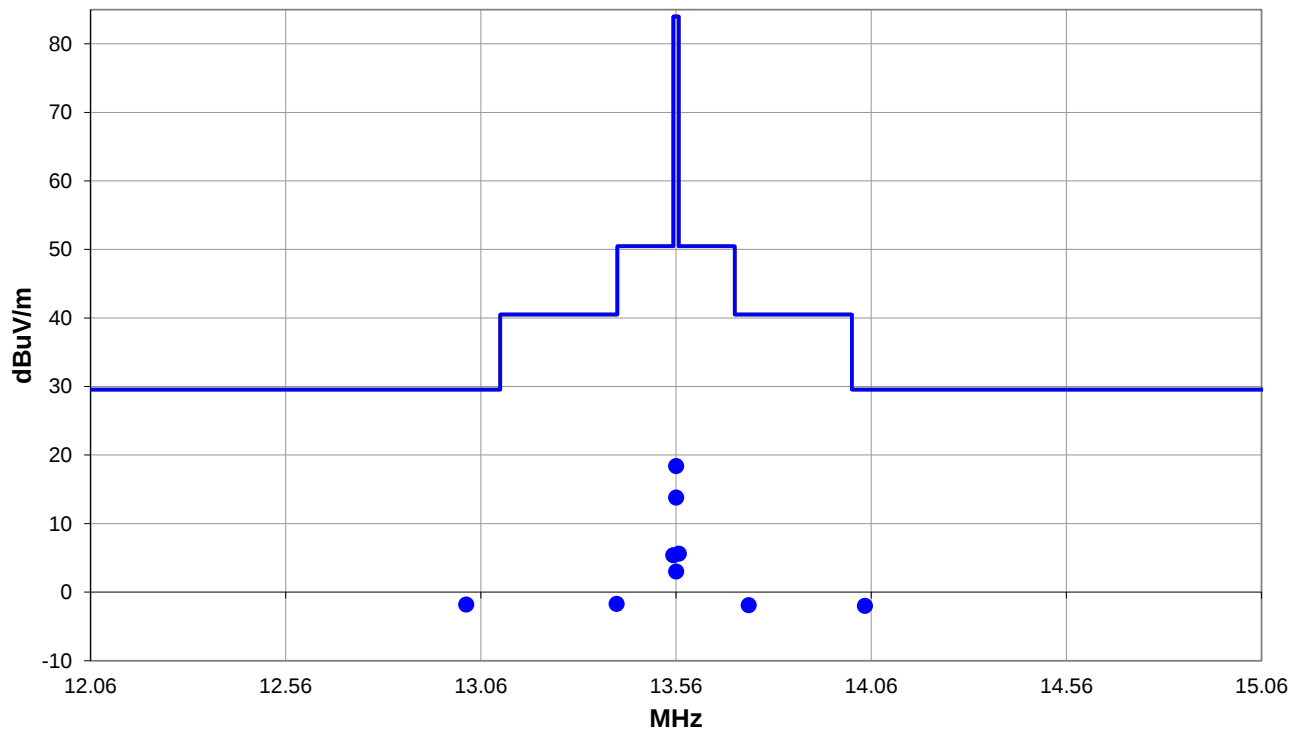
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 5

PK AV QP

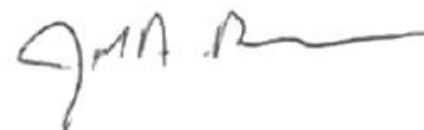
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #5

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.023	5.7	11.6	1.0	228.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.044	5.5	11.6	1.0	258.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.408	5.8	11.6	1.0	247.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.746	5.6	11.6	1.0	171.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	40.5	-42.4
13.567	13.1	11.6	1.0	84.0	10.0	0.0	Perp to EUT	QP	-19.1	5.6	50.5	-44.9
13.553	12.9	11.6	1.0	81.9	10.0	0.0	Perp to EUT	QP	-19.1	5.4	50.5	-45.1
13.560	25.9	11.6	1.0	69.9	10.0	0.0	Perp to EUT	QP	-19.1	18.4	84.0	-65.6
13.560	21.3	11.6	1.0	130.9	10.0	0.0	Para to EUT	QP	-19.1	13.8	84.0	-70.2
13.561	10.5	11.6	1.0	114.0	10.0	0.0	Para to GND	QP	-19.1	3.0	84.0	-81.0

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	7	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	---	--------------------	----	---------------------	------

COMMENTS

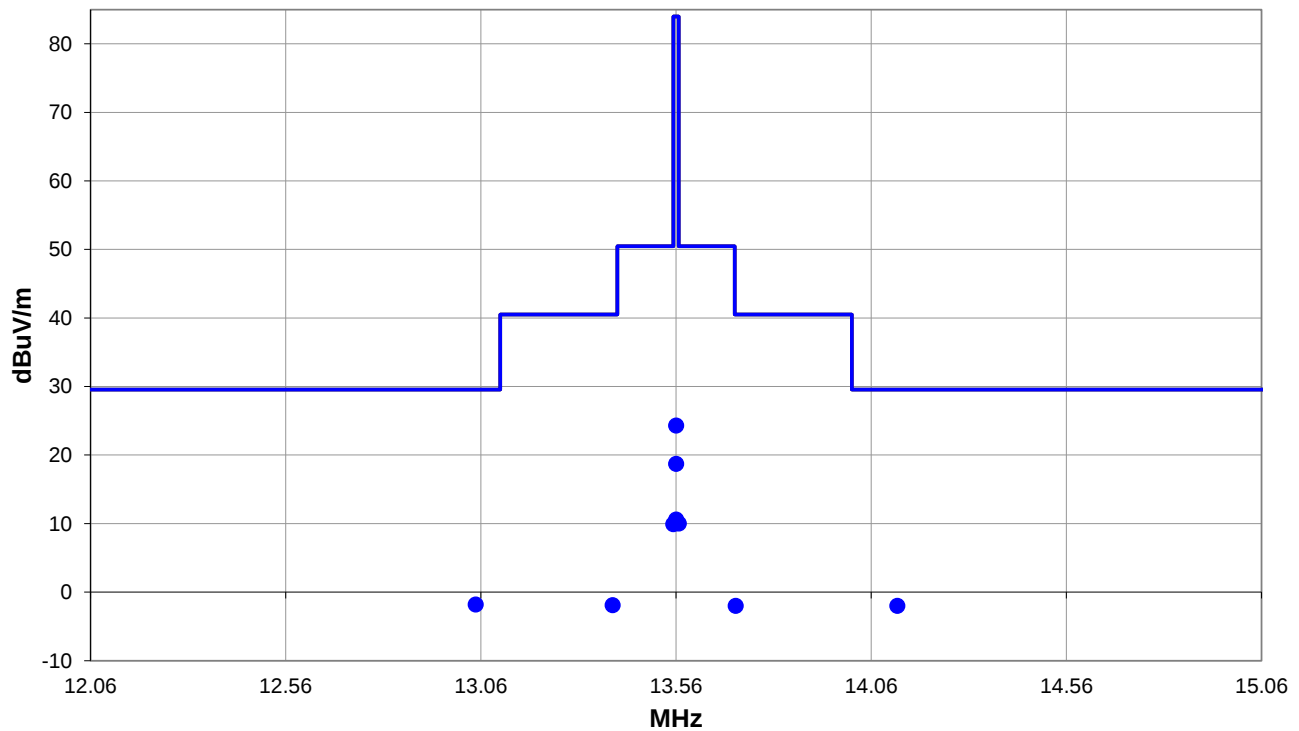
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 7

PK AV QP

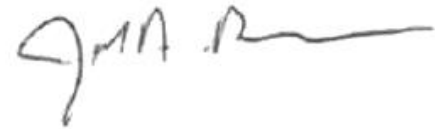
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #7

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.047	5.7	11.6	1.0	56.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.127	5.5	11.6	1.0	120.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.567	17.5	11.6	1.0	129.9	10.0	0.0	Perp to EUT	QP	-19.1	10.0	50.5	-40.5
13.553	17.4	11.6	1.0	123.9	10.0	0.0	Perp to EUT	QP	-19.1	9.9	50.5	-40.6
13.398	5.6	11.6	1.0	164.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	40.5	-42.4
13.713	5.5	11.6	1.0	246.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	40.5	-42.5
13.560	31.8	11.6	1.0	129.9	10.0	0.0	Perp to EUT	QP	-19.1	24.3	84.0	-59.7
13.560	26.2	11.6	1.0	172.9	10.0	0.0	Para to EUT	QP	-19.1	18.7	84.0	-65.3
13.560	18.1	11.6	1.0	0.0	10.0	0.0	Para to GND	QP	-19.1	10.6	84.0	-73.4

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	8	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	---	--------------------	----	---------------------	------

COMMENTS

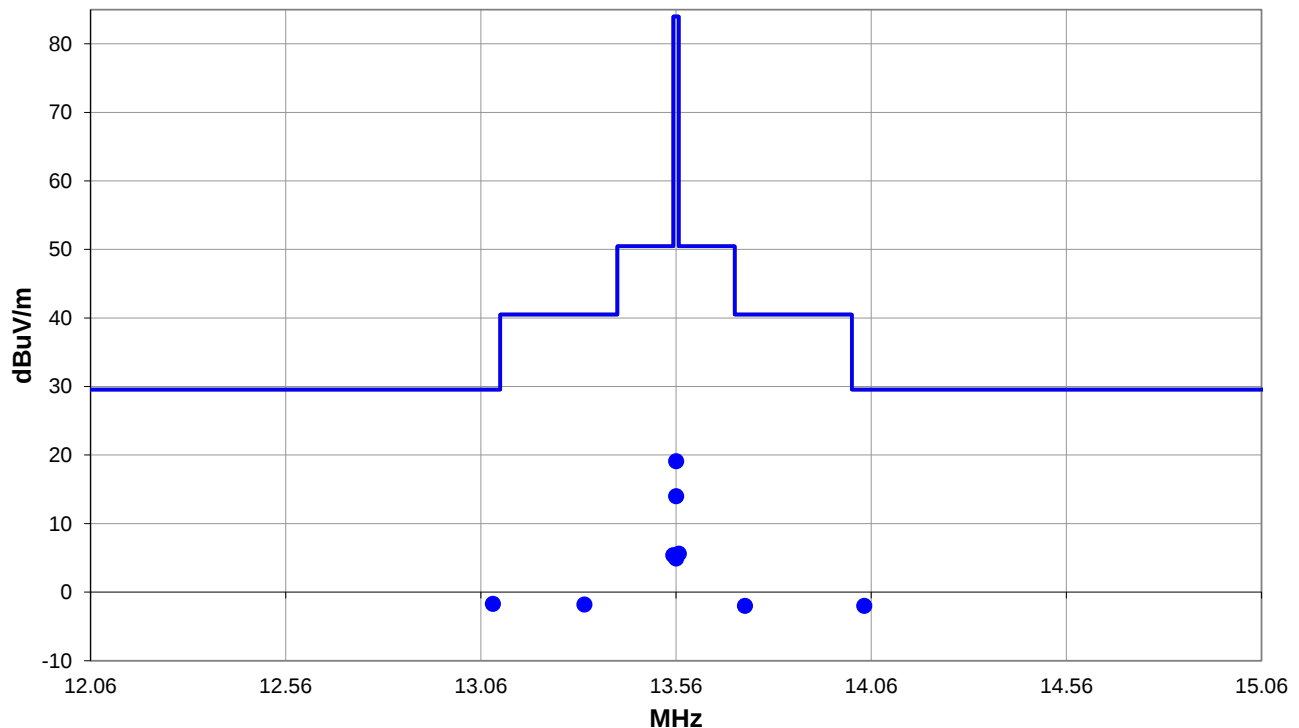
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 8

PK AV QP

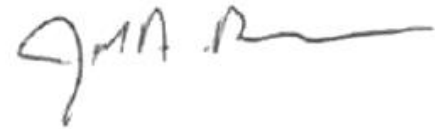
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #8

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.091	5.8	11.6	1.0	202.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.042	5.5	11.6	1.0	1.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.325	5.7	11.6	1.0	171.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.737	5.5	11.6	1.0	52.9	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	40.5	-42.5
13.567	13.1	11.6	1.0	357.9	10.0	0.0	Perp to EUT	QP	-19.1	5.6	50.5	-44.9
13.553	12.9	11.6	1.0	355.0	10.0	0.0	Perp to EUT	QP	-19.1	5.4	50.5	-45.1
13.560	26.6	11.6	1.0	352.9	10.0	0.0	Perp to EUT	QP	-19.1	19.1	84.0	-64.9
13.560	21.5	11.6	1.0	37.0	10.0	0.0	Para to EUT	QP	-19.1	14.0	84.0	-70.0
13.560	12.4	11.6	1.0	216.0	10.0	0.0	Para to GND	QP	-19.1	4.9	84.0	-79.1

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	9	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	---	--------------------	----	---------------------	------

COMMENTS

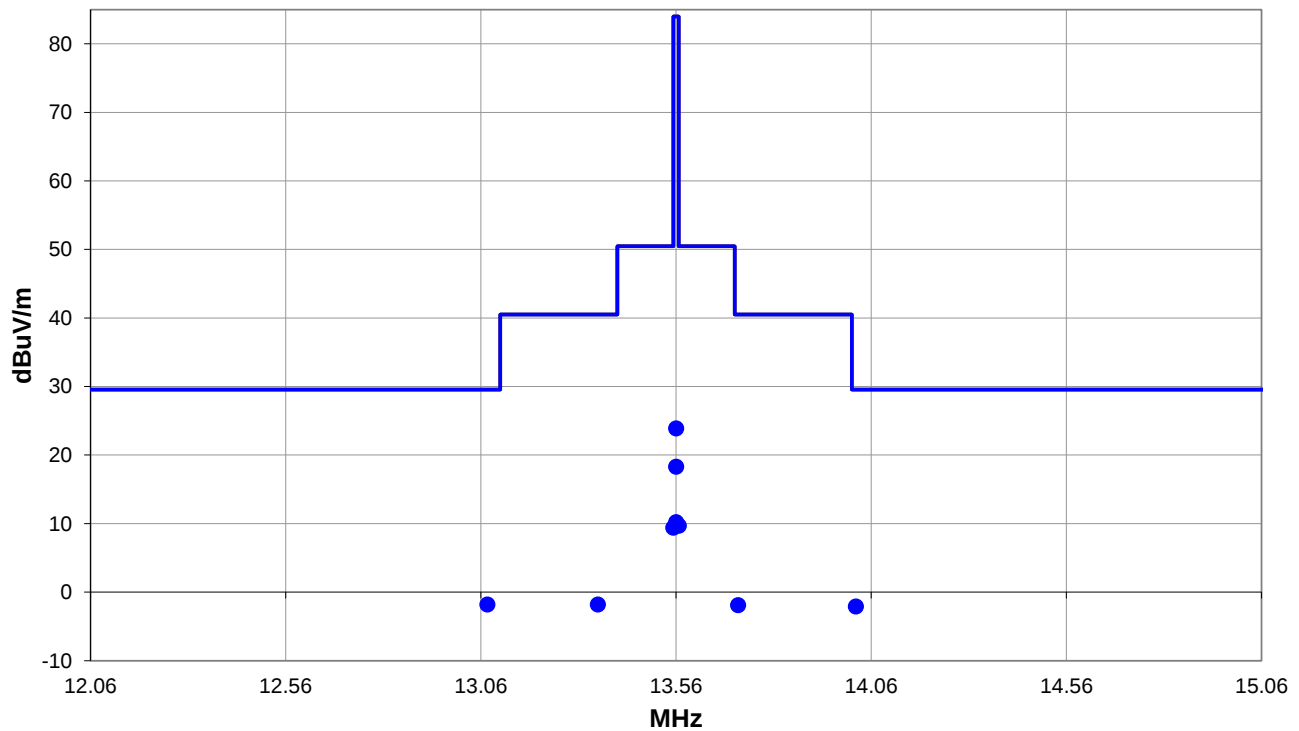
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 9

PK AV QP

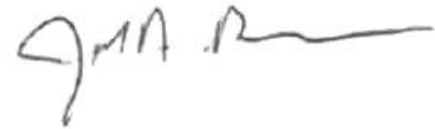
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #9

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.077	5.7	11.6	1.0	118.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.021	5.4	11.6	1.0	186.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.1	29.5	-31.6
13.567	17.2	11.6	1.0	27.0	10.0	0.0	Perp to EUT	QP	-19.1	9.7	50.5	-40.8
13.553	16.9	11.6	1.0	24.0	10.0	0.0	Perp to EUT	QP	-19.1	9.4	50.5	-41.1
13.360	5.7	11.6	1.0	3.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.719	5.6	11.6	1.0	360.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	40.5	-42.4
13.560	31.4	11.6	1.0	26.0	10.0	0.0	Perp to EUT	QP	-19.1	23.9	84.0	-60.1
13.560	25.8	11.6	1.0	66.0	10.0	0.0	Para to EUT	QP	-19.1	18.3	84.0	-65.7
13.560	17.7	11.6	1.0	250.9	10.0	0.0	Para to GND	QP	-19.1	10.2	84.0	-73.8

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	10	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

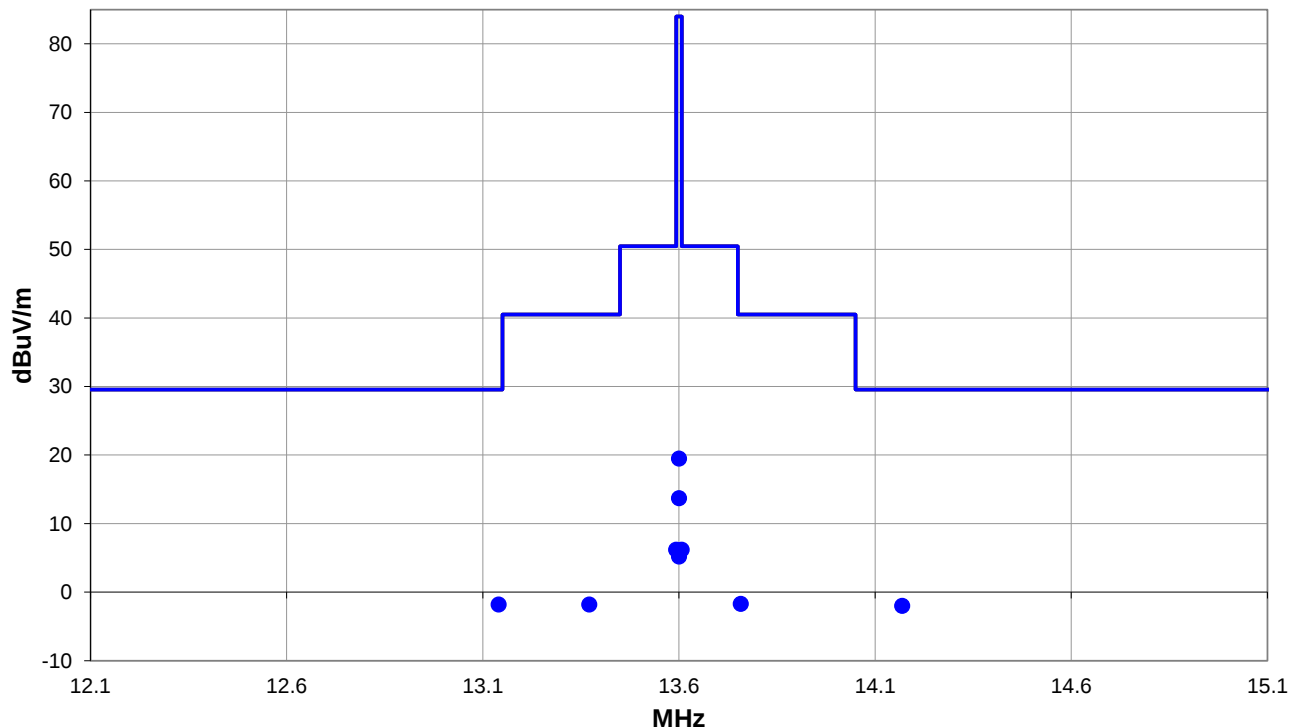
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 10

PK AV QP

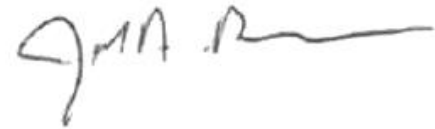
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #10

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.101	5.7	11.6	1.0	267.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.129	5.5	11.6	1.0	88.9	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.718	5.8	11.6	1.0	266.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.331	5.7	11.6	1.0	297.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.553	13.7	11.6	1.0	258.0	10.0	0.0	Perp to EUT	QP	-19.1	6.2	50.5	-44.3
13.567	13.7	11.6	1.0	256.9	10.0	0.0	Perp to EUT	QP	-19.1	6.2	50.5	-44.3
13.560	27.0	11.6	1.0	261.0	10.0	0.0	Perp to EUT	QP	-19.1	19.5	84.0	-64.5
13.560	21.2	11.6	1.0	289.0	10.0	0.0	Para to EUT	QP	-19.1	13.7	84.0	-70.3
13.560	12.7	11.6	1.0	97.0	10.0	0.0	Para to GND	QP	-19.1	5.2	84.0	-78.8

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	11	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

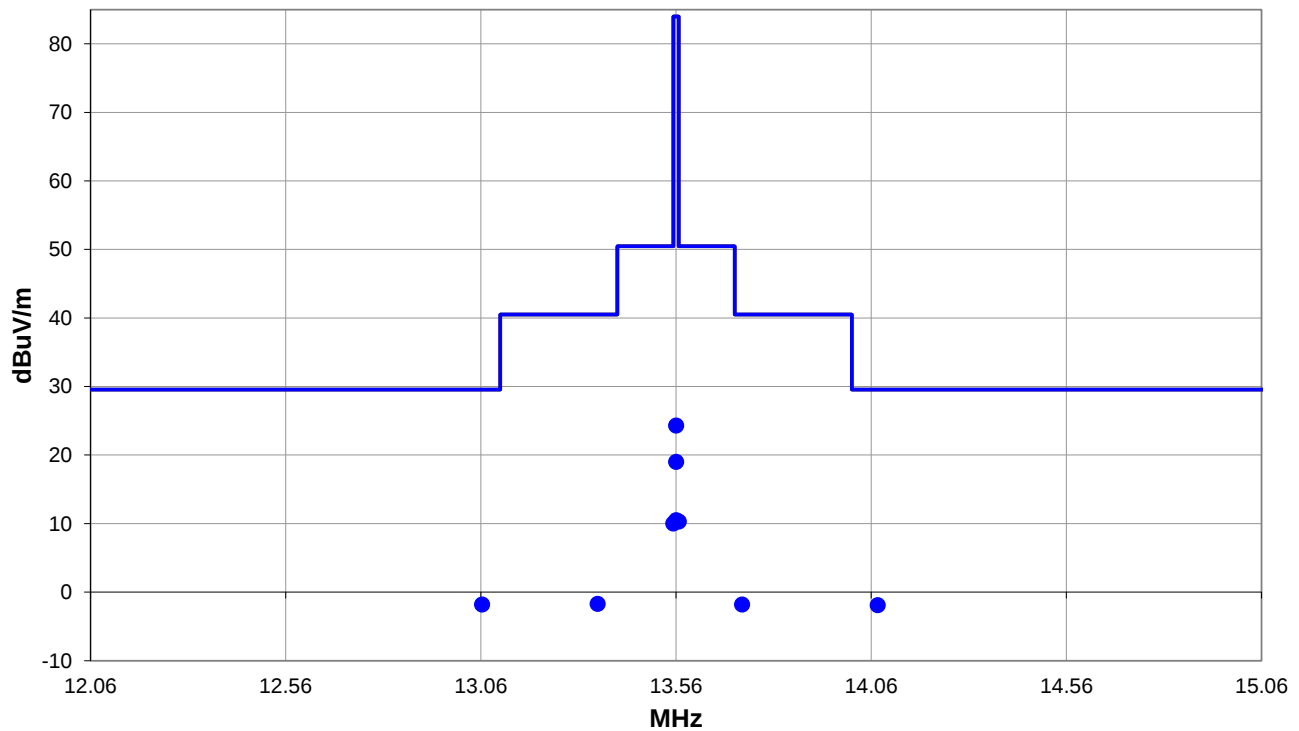
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 11

PK AV QP

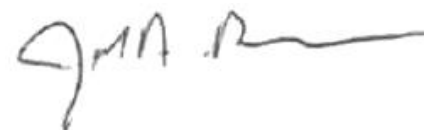
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #11

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.063	5.7	11.6	1.0	159.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.077	5.6	11.6	1.0	1.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.567	17.8	11.6	1.0	302.0	10.0	0.0	Perp to EUT	QP	-19.1	10.3	50.5	-40.2
13.553	17.5	11.6	1.0	304.9	10.0	0.0	Perp to EUT	QP	-19.1	10.0	50.5	-40.5
13.359	5.8	11.6	1.0	93.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.729	5.7	11.6	1.0	21.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.560	31.8	11.6	1.0	291.0	10.0	0.0	Perp to EUT	QP	-19.1	24.3	84.0	-59.7
13.560	26.5	11.6	1.0	0.0	10.0	0.0	Para to EUT	QP	-19.1	19.0	84.0	-65.0
13.560	18.0	11.6	1.0	150.0	10.0	0.0	Para to GND	QP	-19.1	10.5	84.0	-73.5

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	12	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

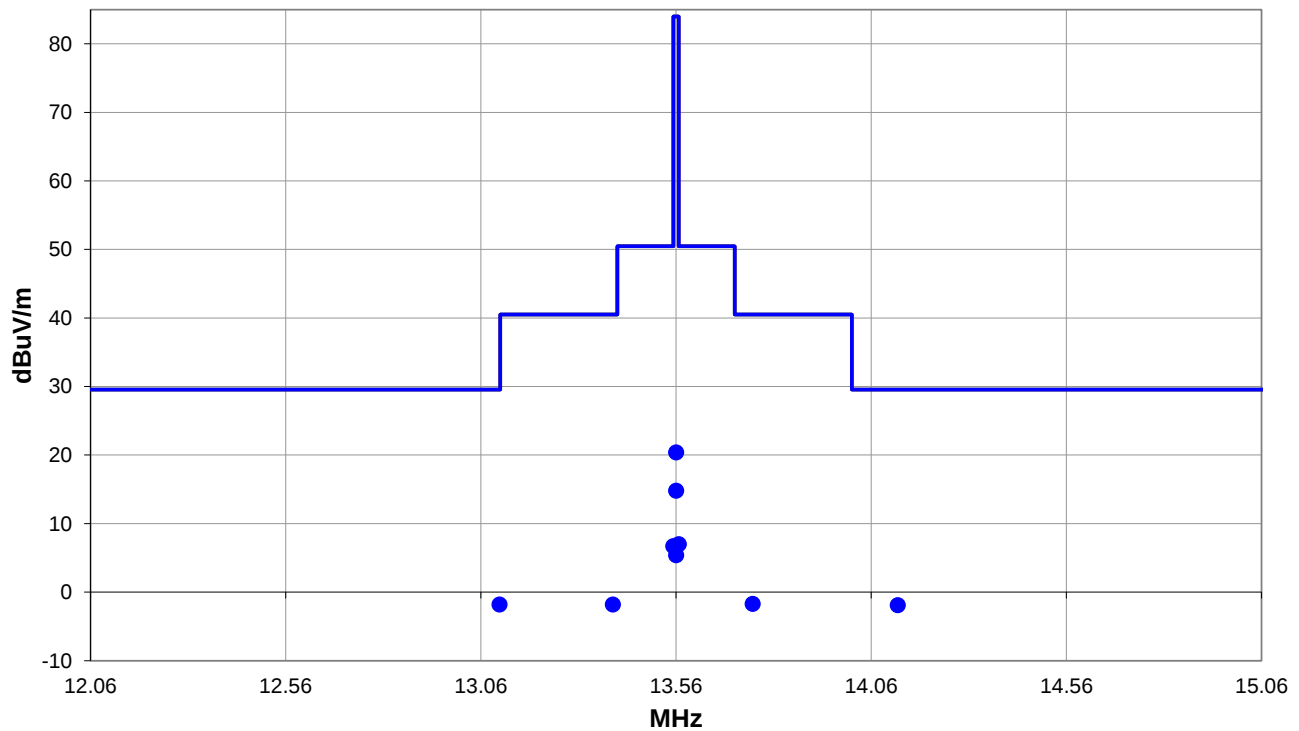
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 12

PK AV QP

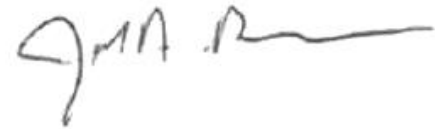
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #12

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.108	5.7	11.6	1.0	252.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
14.128	5.6	11.6	1.0	76.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.756	5.8	11.6	1.0	111.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.398	5.7	11.6	1.0	195.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.567	14.5	11.6	1.0	181.0	10.0	0.0	Perp to EUT	QP	-19.1	7.0	50.5	-43.5
13.553	14.2	11.6	1.0	171.9	10.0	0.0	Perp to EUT	QP	-19.1	6.7	50.5	-43.8
13.560	27.9	11.6	1.0	178.9	10.0	0.0	Perp to EUT	QP	-19.1	20.4	84.0	-63.6
13.560	22.3	11.6	1.0	219.0	10.0	0.0	Para to EUT	QP	-19.1	14.8	84.0	-69.2
13.560	12.9	11.6	1.0	36.0	10.0	0.0	Para to GND	QP	-19.1	5.4	84.0	-78.6

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-12
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019 +A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	13	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

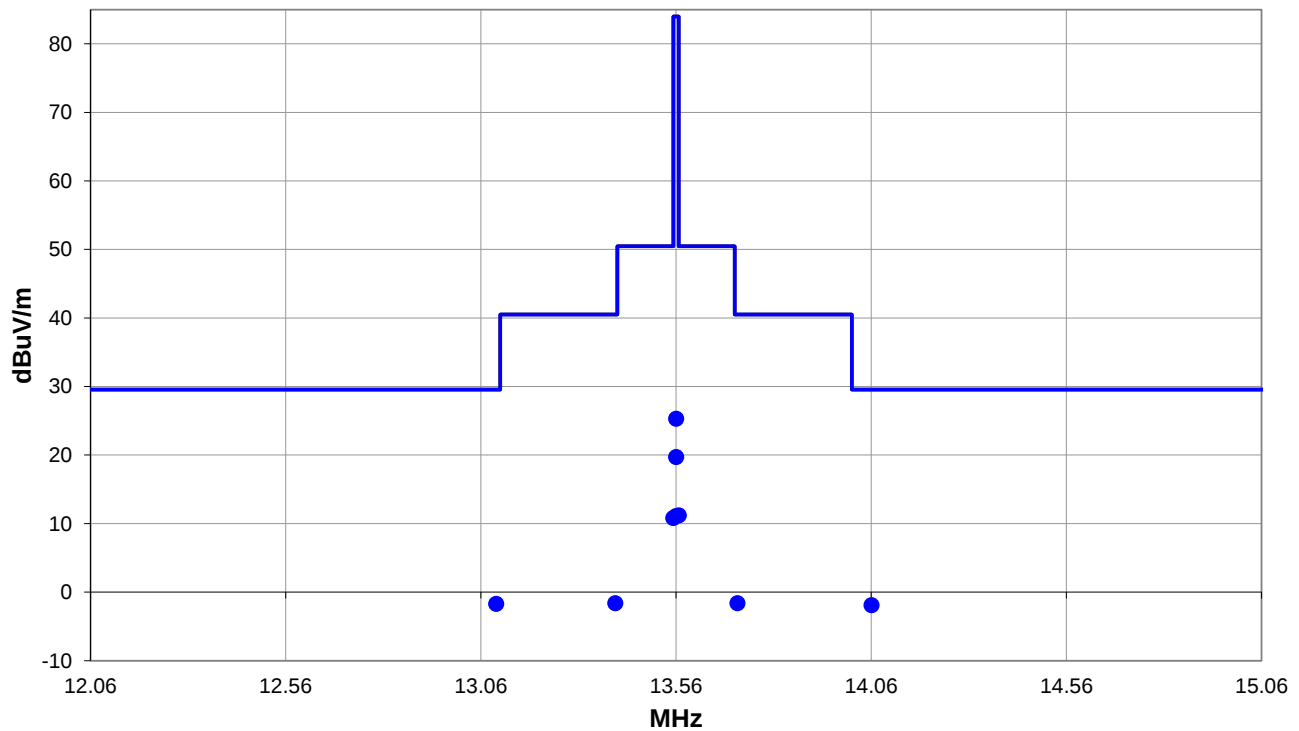
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 13

PK AV QP

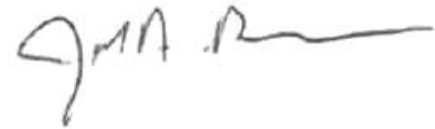
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #13

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.099	5.8	11.6	1.0	307.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.061	5.6	11.6	1.0	33.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.567	18.7	11.6	1.0	219.9	10.0	0.0	Perp to EUT	QP	-19.1	11.2	50.5	-39.3
13.553	18.3	11.6	1.0	219.0	10.0	0.0	Perp to EUT	QP	-19.1	10.8	50.5	-39.7
13.405	5.9	11.6	1.0	16.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.6	40.5	-42.1
13.717	5.9	11.6	1.0	213.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.6	40.5	-42.1
13.560	32.8	11.6	1.0	224.0	10.0	0.0	Perp to EUT	QP	-19.1	25.3	84.0	-58.7
13.560	27.2	11.6	1.0	259.0	10.0	0.0	Para to EUT	QP	-19.1	19.7	84.0	-64.3
13.560	18.6	11.6	1.0	88.9	10.0	0.0	Para to GND	QP	-19.1	11.1	84.0	-72.9

CONCLUSION

Pass



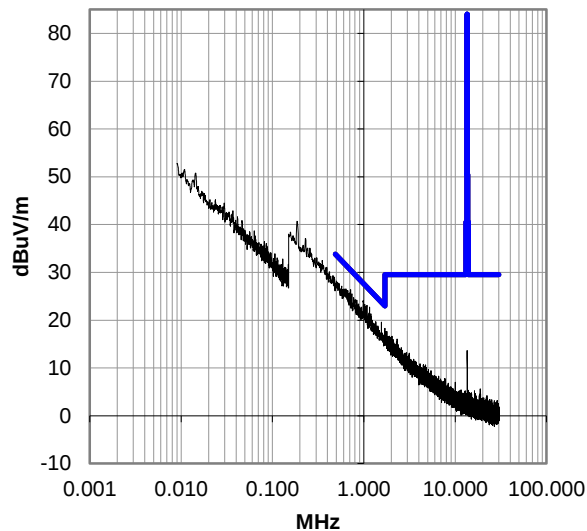
Tested By

FIELD STRENGTH OF FUNDAMENTAL

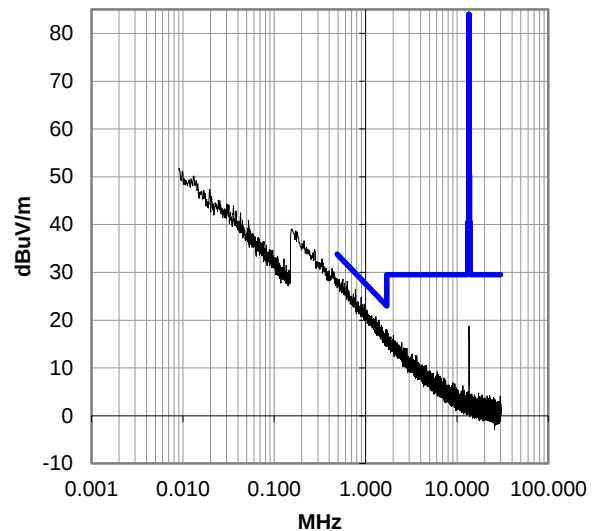
PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

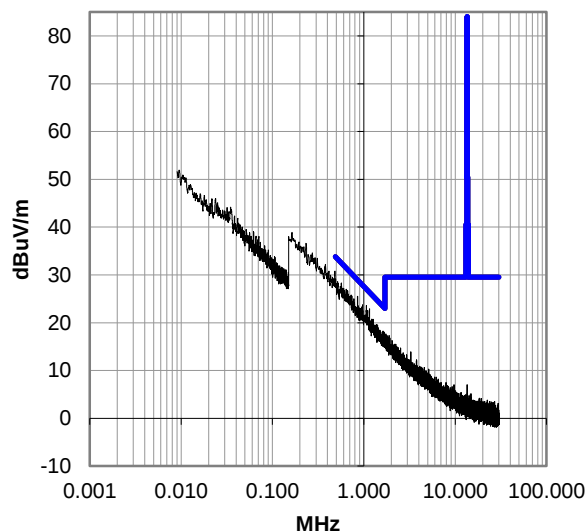
0.009-30 MHz, Run 3, SwitchController 1 Radio 1, Para to EUT



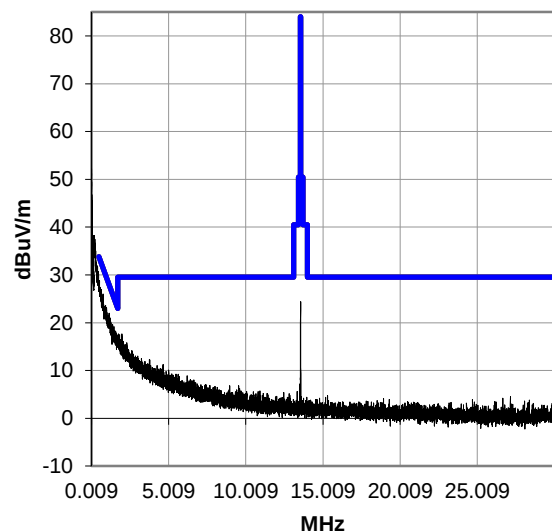
0.009-30 MHz, Run 4, SwitchController 1 Radio 1, Perp to EUT



0.009-30 MHz, Run 5, SwitchController 1 Radio 1, Para to GND

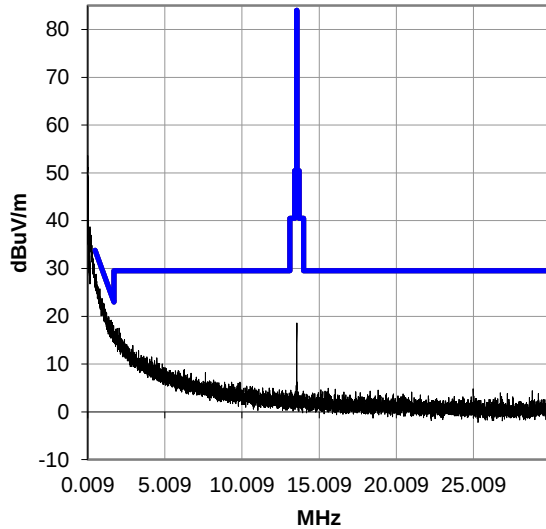


0.009-30 MHz, Run 7, SwitchController 1 Radio 2, Perp to EUT

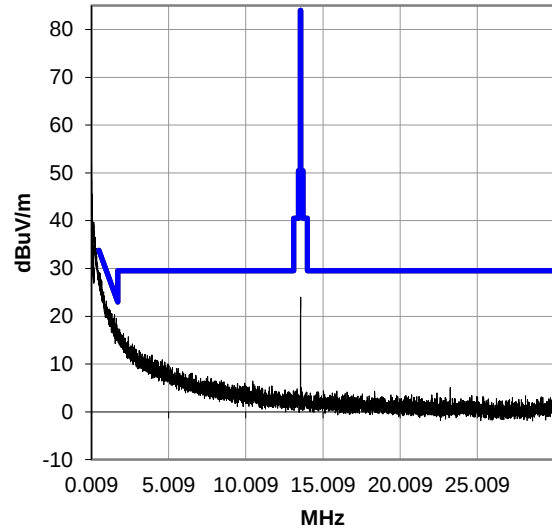


FIELD STRENGTH OF FUNDAMENTAL

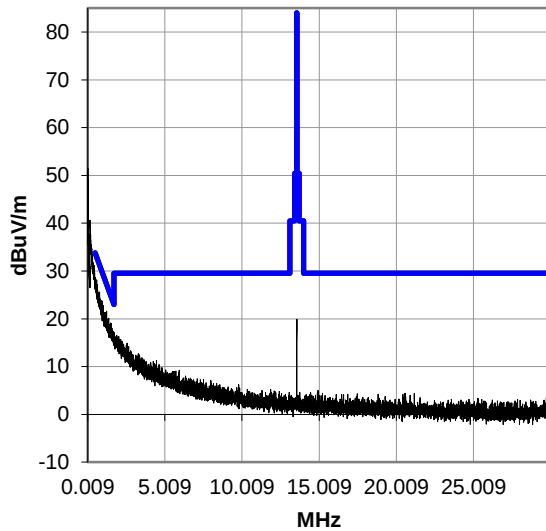
0.009-30 MHz, Run 8, SwitchController 2 Radio 1, Perp to EUT



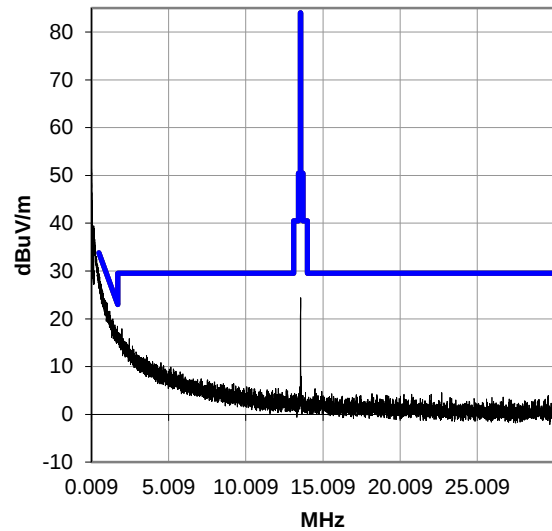
0.009-30 MHz, Run 9, SwitchController 2 Radio 2, Perp to EUT



0.009-30 MHz, Run 10, Switch Controller 3 Radio 1, Perp to EUT

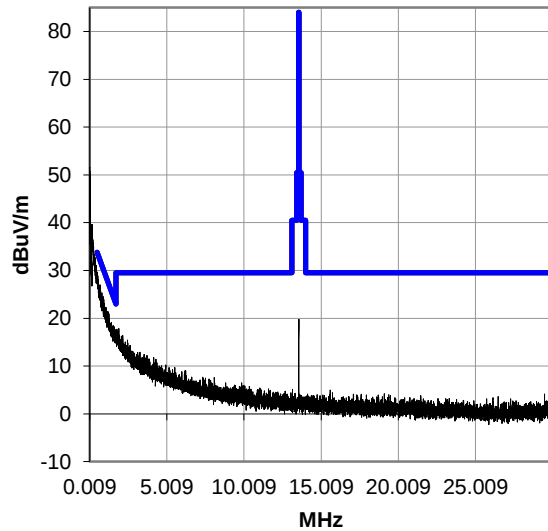


0.009-30 MHz, Run 11, SwitchController 3 Radio 2, Perp to EUT

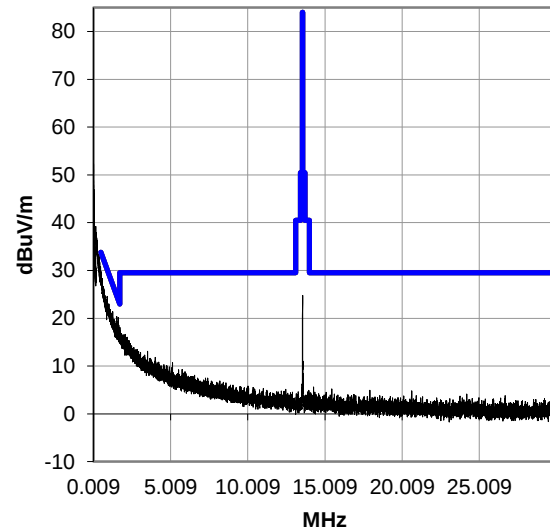


FIELD STRENGTH OF FUNDAMENTAL

0.009-30 MHz, Run 12, SwitchController 4 Radio 1, Perp to EUT



0.009-30 MHz, Run 13, SwitchController 4 Radio 2, Perp to EUT



FIELD STRENGTH OF FUNDAMENTAL

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

The fundamental carrier of the EUT was maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2023-05-25	2024-05-25
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

12.06 MHz TO 15.06 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0310-2

MODES INVESTIGATED

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)
 Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)
 Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.2%
Customer Project:	None	Bar. Pressure (PMSL):	998 mb
Tested By:	Jarrold Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	29	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

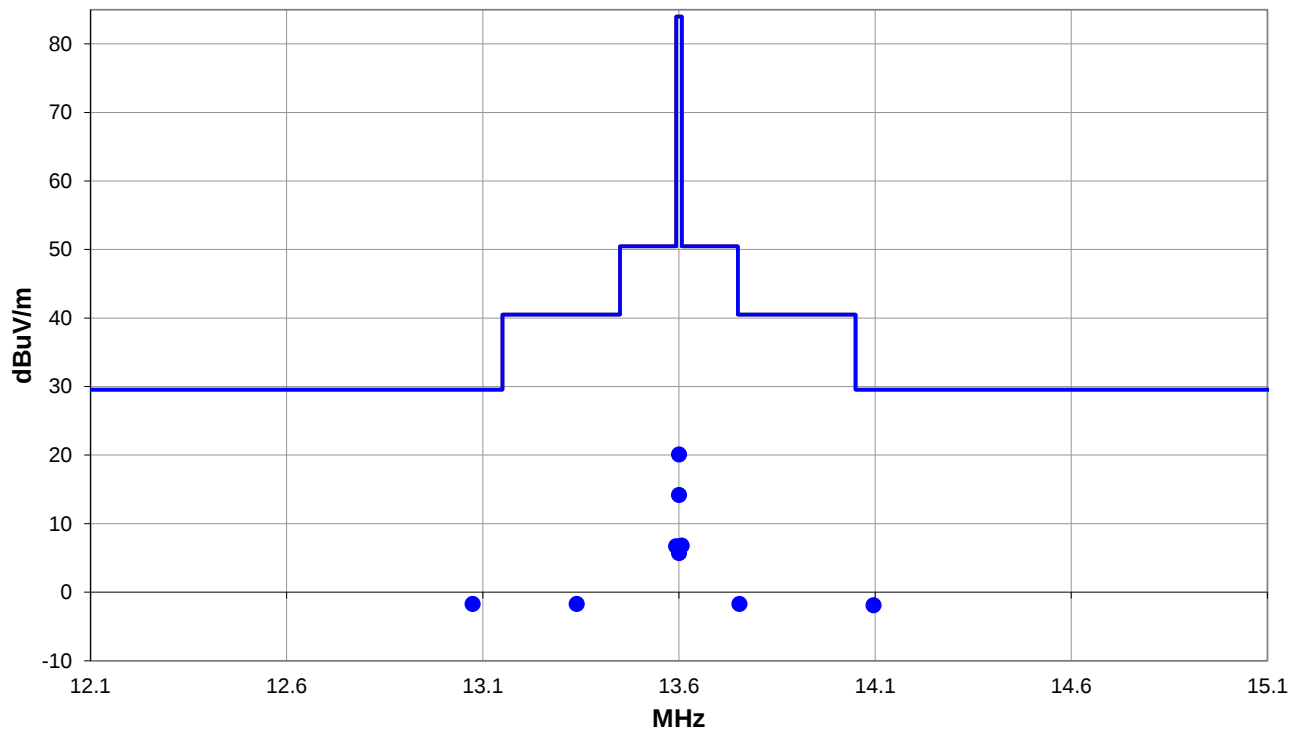
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 29

■ PK ◆ AV ● QP

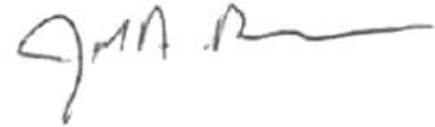
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #29

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.034	5.8	11.6	1.0	206.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.056	5.6	11.6	1.0	342.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.299	5.8	11.6	1.0	268.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.714	5.8	11.6	1.0	345.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.567	14.3	11.6	1.0	79.0	10.0	0.0	Perp to EUT	QP	-19.1	6.8	50.5	-43.7
13.553	14.2	11.6	1.0	70.9	10.0	0.0	Perp to EUT	QP	-19.1	6.7	50.5	-43.8
13.560	27.6	11.6	1.0	82.9	10.0	0.0	Perp to EUT	QP	-19.1	20.1	84.0	-63.9
13.560	21.7	11.6	1.0	110.0	10.0	0.0	Para to EUT	QP	-19.1	14.2	84.0	-69.8
13.560	13.2	11.6	1.0	258.0	10.0	0.0	Para to GND	QP	-19.1	5.7	84.0	-78.3

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.2%
Customer Project:	None	Bar. Pressure (PMSL):	998 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	30	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

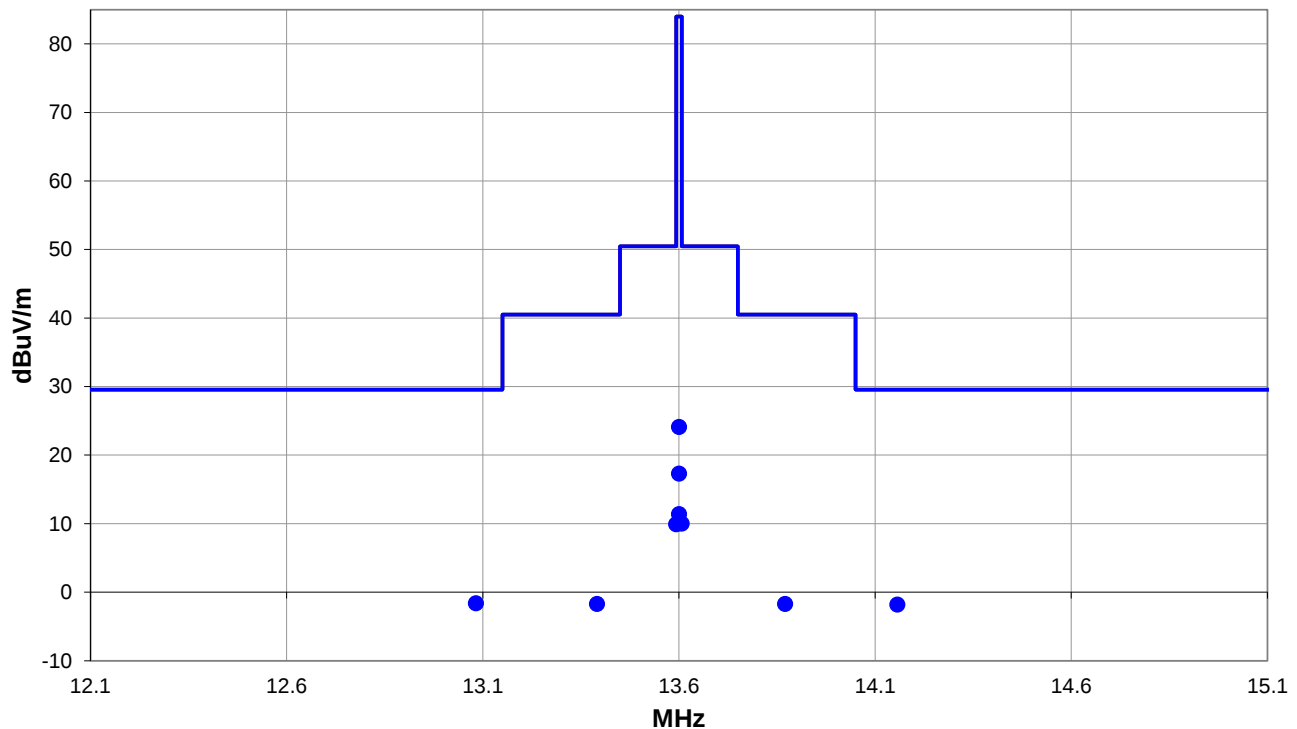
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 30

■ PK ◆ AV ● QP

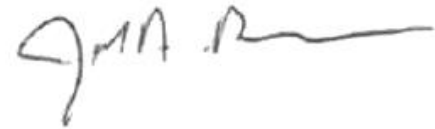
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #30

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.043	5.9	11.6	1.0	177.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.6	29.5	-31.1
14.117	5.7	11.6	1.0	357.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	29.5	-31.3
13.567	17.5	11.6	1.0	106.9	10.0	0.0	Perp to EUT	QP	-19.1	10.0	50.5	-40.5
13.553	17.4	11.6	1.0	118.9	10.0	0.0	Perp to EUT	QP	-19.1	9.9	50.5	-40.6
13.351	5.8	11.6	1.0	99.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.831	5.8	11.6	1.0	19.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.560	31.6	11.6	1.0	110.0	10.0	0.0	Perp to EUT	QP	-19.1	24.1	84.0	-59.9
13.560	24.8	11.6	1.0	157.0	10.0	0.0	Para to EUT	QP	-19.1	17.3	84.0	-66.7
13.560	18.9	11.6	1.0	1.0	10.0	0.0	Para to GND	QP	-19.1	11.4	84.0	-72.6

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.2%
Customer Project:	None	Bar. Pressure (PMSL):	998 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	31	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

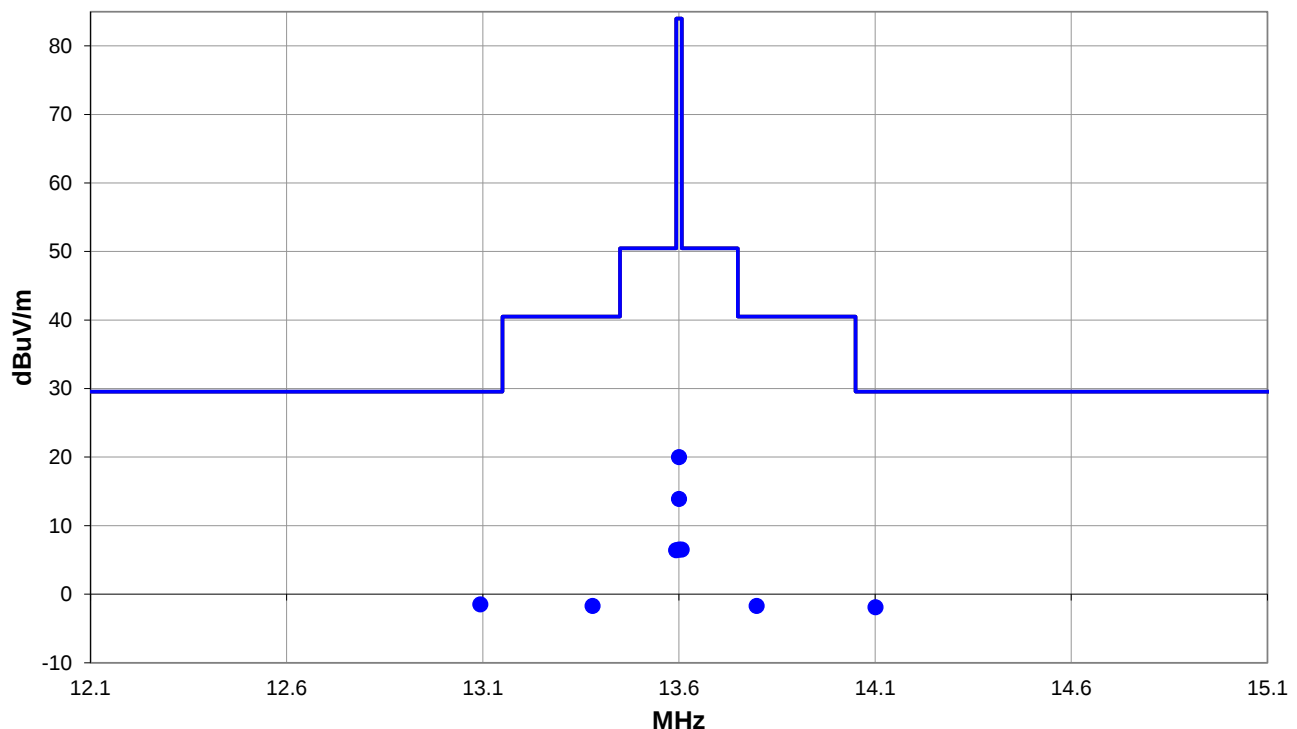
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 31

■ PK ◆ AV ● QP

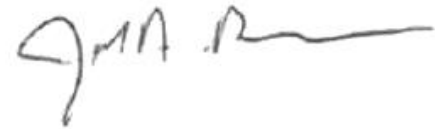
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #31

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.054	6.0	11.6	1.0	2.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.5	29.5	-31.0
14.061	5.6	11.6	1.0	138.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.340	5.8	11.6	1.0	344.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.758	5.8	11.6	1.0	309.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.567	14.0	11.6	1.0	325.0	10.0	0.0	Perp to EUT	QP	-19.1	6.5	50.5	-44.0
13.553	13.9	11.6	1.0	2.0	10.0	0.0	Perp to EUT	QP	-19.1	6.4	50.5	-44.1
13.560	27.5	11.6	1.0	333.0	10.0	0.0	Perp to EUT	QP	-19.1	20.0	84.0	-64.0
13.560	21.4	11.6	1.0	31.0	10.0	0.0	Para to EUT	QP	-19.1	13.9	84.0	-70.1
13.560	14.0	11.6	1.0	178.9	10.0	0.0	Para to GND	QP	-19.1	6.5	84.0	-77.5

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	45.2%
Customer Project:	None	Bar. Pressure (PMSL):	998 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	32	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

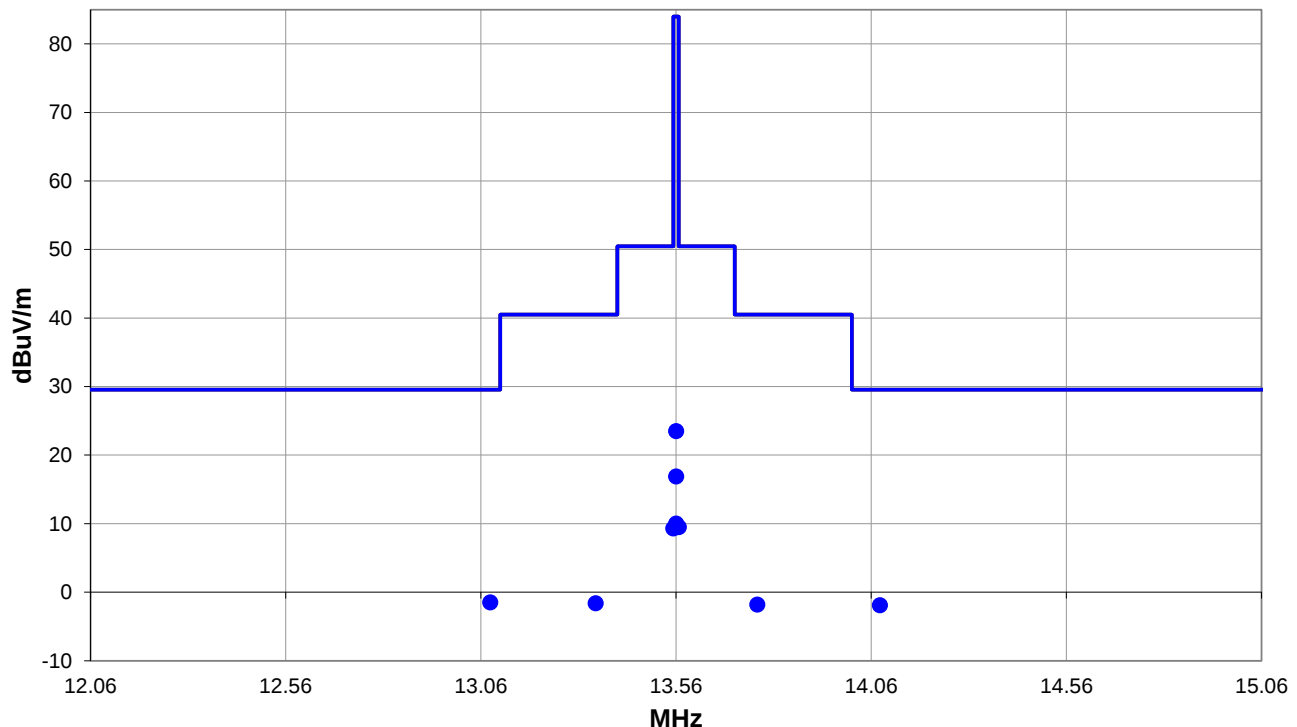
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 32

■ PK ◆ AV ● QP

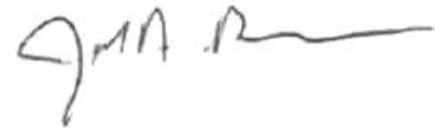
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #32

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.084	6.0	11.6	1.0	238.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.5	29.5	-31.0
14.082	5.6	11.6	1.0	0.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.567	17.0	11.6	1.0	39.0	10.0	0.0	Perp to EUT	QP	-19.1	9.5	50.5	-41.0
13.553	16.8	11.6	1.0	49.0	10.0	0.0	Perp to EUT	QP	-19.1	9.3	50.5	-41.2
13.354	5.9	11.6	1.0	85.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.6	40.5	-42.1
13.768	5.7	11.6	1.0	190.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.560	31.0	11.6	1.0	39.9	10.0	0.0	Perp to EUT	QP	-19.1	23.5	84.0	-60.5
13.560	24.4	11.6	1.0	82.9	10.0	0.0	Para to EUT	QP	-19.1	16.9	84.0	-67.1
13.560	17.5	11.6	1.0	254.0	10.0	0.0	Para to GND	QP	-19.1	10.0	84.0	-74.0

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	46.2%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Jarrold Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	36	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

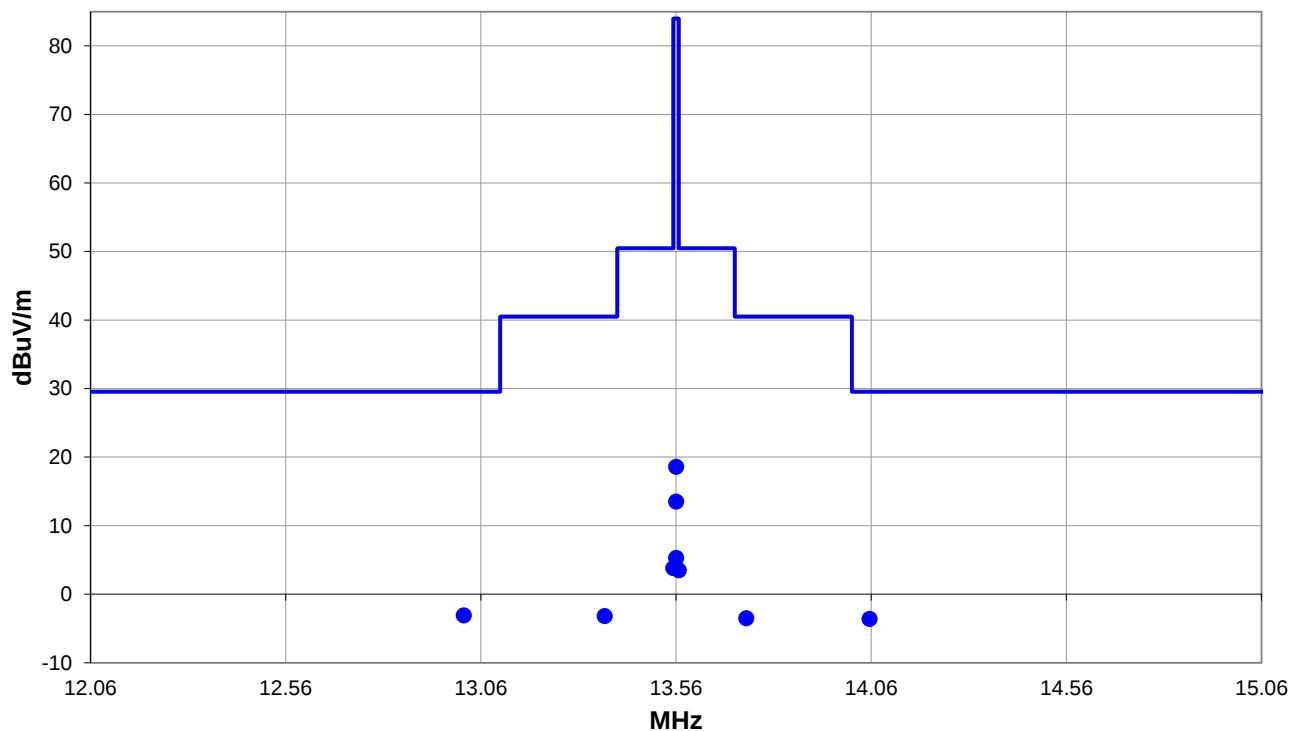
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 36

PK AV QP

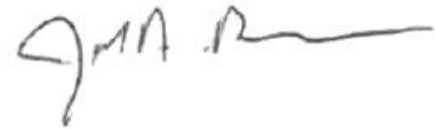
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #36

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.016	4.4	11.6	1.0	63.9	10.0	0.0	Perp to EUT	QP	-19.1	-3.1	29.5	-32.6
14.056	3.9	11.6	1.0	252.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.6	29.5	-33.1
13.377	4.3	11.6	0.99	267.9	10.0	0.0	Perp to EUT	QP	-19.1	-3.2	40.5	-43.7
13.740	4.0	11.6	0.99	285.9	10.0	0.0	Perp to EUT	QP	-19.1	-3.5	40.5	-44.0
13.553	11.3	11.6	1.0	267.0	10.0	0.0	Perp to EUT	QP	-19.1	3.8	50.5	-46.7
13.567	11.0	11.6	1.0	267.9	10.0	0.0	Perp to EUT	QP	-19.1	3.5	50.5	-47.0
13.560	26.1	11.6	1.0	266.0	10.0	0.0	Perp to EUT	QP	-19.1	18.6	84.0	-65.4
13.560	21.0	11.6	0.99	310.9	10.0	0.0	Para to EUT	QP	-19.1	13.5	84.0	-70.5
13.560	12.8	11.6	1.0	138.0	10.0	0.0	Para to GND	QP	-19.1	5.3	84.0	-78.7

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	46.2%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	37	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

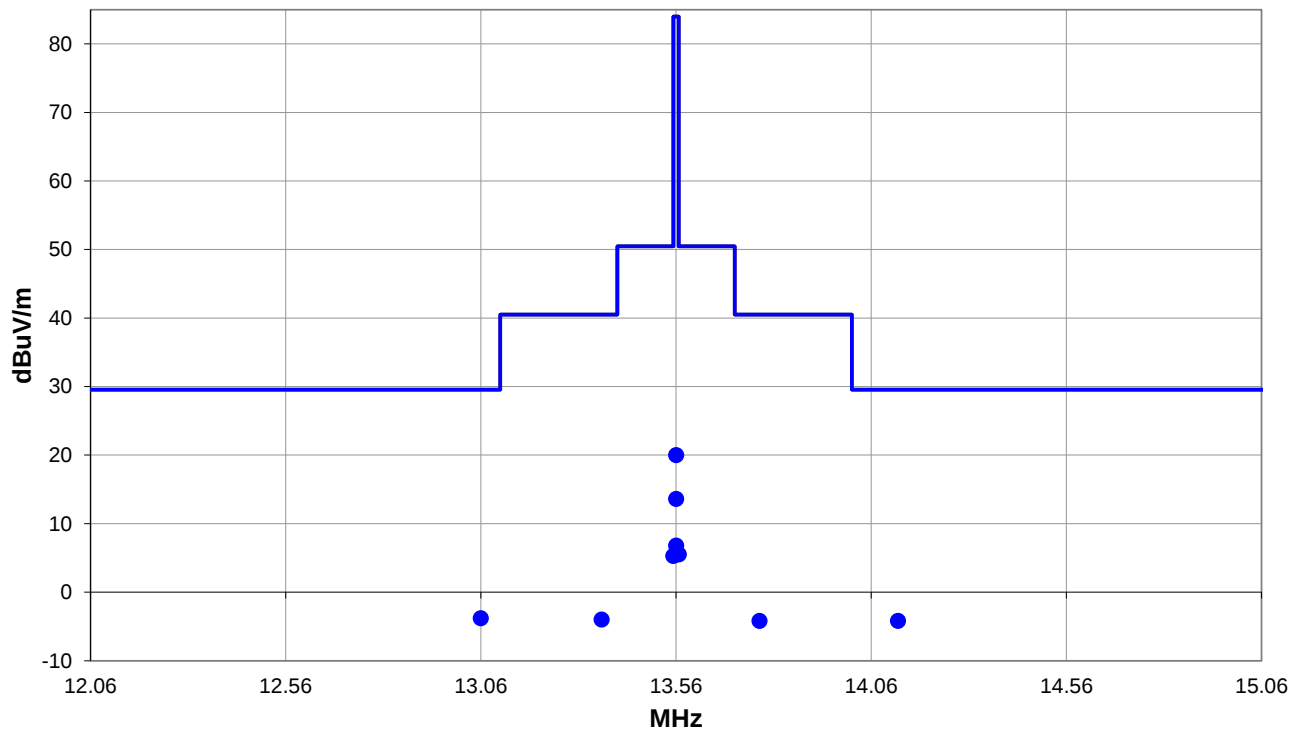
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 37

■ PK ◆ AV ● QP

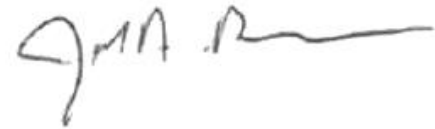
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #37

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.060	3.7	11.6	1.0	145.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.8	29.5	-33.3
14.128	3.3	11.6	1.0	351.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.2	29.5	-33.7
13.369	3.5	11.6	1.0	50.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.0	40.5	-44.5
13.774	3.3	11.6	0.99	264.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.2	40.5	-44.7
13.567	13.0	11.6	1.0	316.9	10.0	0.0	Perp to EUT	QP	-19.1	5.5	50.5	-45.0
13.553	12.8	11.6	0.99	314.0	10.0	0.0	Perp to EUT	QP	-19.1	5.3	50.5	-45.2
13.560	27.5	11.6	1.0	306.0	10.0	0.0	Perp to EUT	QP	-19.1	20.0	84.0	-64.0
13.560	21.1	11.6	1.0	0.0	10.0	0.0	Para to EUT	QP	-19.1	13.6	84.0	-70.4
13.560	14.3	11.6	1.0	150.0	10.0	0.0	Para to GND	QP	-19.1	6.8	84.0	-77.2

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	46.2%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	38	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

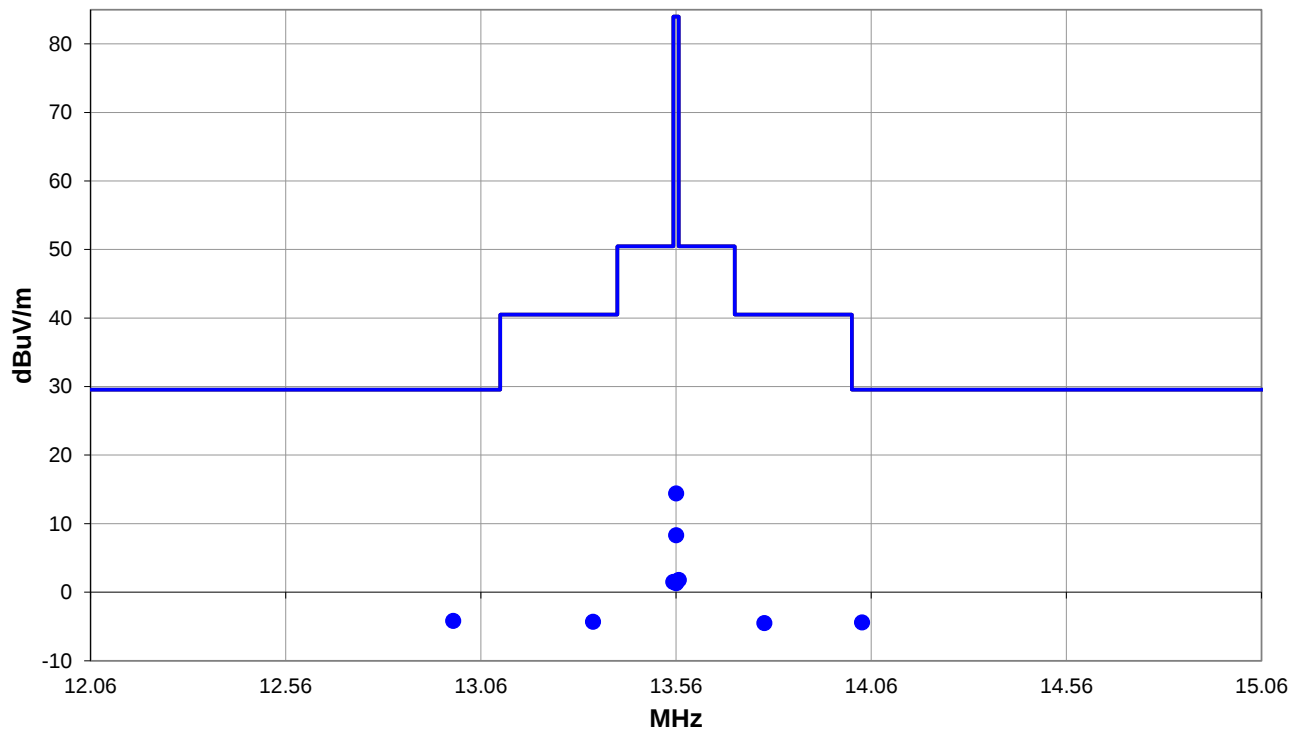
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 38

■ PK ◆ AV ● QP

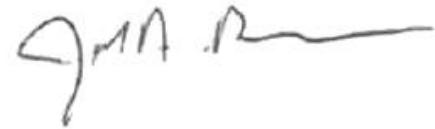
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #38

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
12.989	3.3	11.6	0.99	255.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.2	29.5	-33.7
14.036	3.1	11.6	0.99	220.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.4	29.5	-33.9
13.347	3.2	11.6	0.99	186.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.3	40.5	-44.8
13.786	3.0	11.6	0.99	193.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.5	40.5	-45.0
13.567	9.3	11.6	1.0	171.0	10.0	0.0	Perp to EUT	QP	-19.1	1.8	50.5	-48.7
13.553	9.0	11.6	1.0	164.0	10.0	0.0	Perp to EUT	QP	-19.1	1.5	50.5	-49.0
13.560	21.9	11.6	0.99	163.0	10.0	0.0	Perp to EUT	QP	-19.1	14.4	84.0	-69.6
13.560	15.8	11.6	0.99	218.0	10.0	0.0	Para to EUT	QP	-19.1	8.3	84.0	-75.7
13.561	8.8	11.6	1.0	360.0	10.0	0.0	Para to EUT	QP	-19.1	1.3	84.0	-82.7

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	46.2%
Customer Project:	None	Bar. Pressure (PMSL):	1009 mb
Tested By:	Jarrold Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	39	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

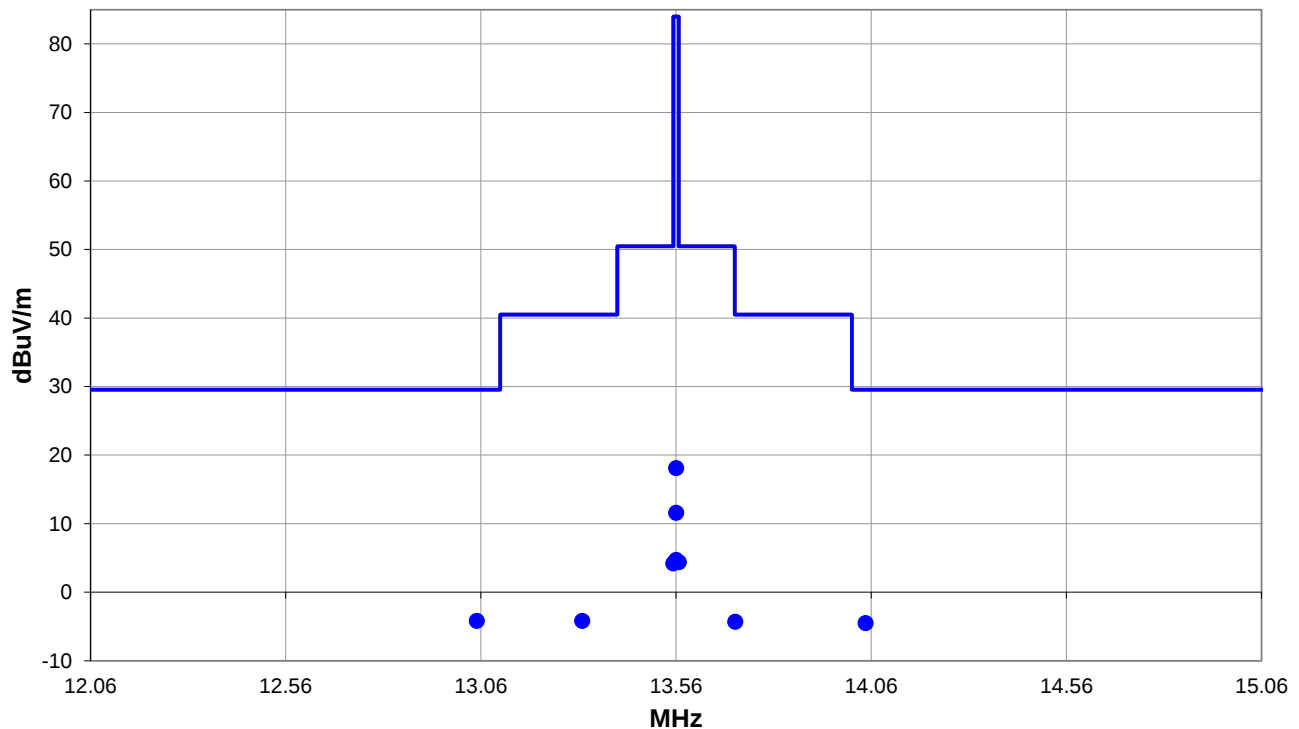
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 39

■ PK ◆ AV ● QP

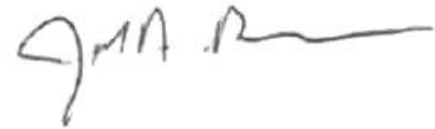
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #39

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.050	3.3	11.6	1.0	165.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.2	29.5	-33.7
14.046	3.0	11.6	1.0	108.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.5	29.5	-34.0
13.320	3.3	11.6	1.0	360.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.2	40.5	-44.7
13.712	3.2	11.6	1.0	27.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.3	40.5	-44.8
13.567	11.9	11.6	1.0	217.0	10.0	0.0	Perp to EUT	QP	-19.1	4.4	50.5	-46.1
13.553	11.7	11.6	1.0	219.0	10.0	0.0	Perp to EUT	QP	-19.1	4.2	50.5	-46.3
13.560	25.6	11.6	1.0	218.0	10.0	0.0	Perp to EUT	QP	-19.1	18.1	84.0	-65.9
13.560	19.1	11.6	1.0	273.0	10.0	0.0	Para to EUT	QP	-19.1	11.6	84.0	-72.4
13.560	12.2	11.6	1.0	91.0	10.0	0.0	Para to GND	QP	-19.1	4.7	84.0	-79.3

CONCLUSION

Pass



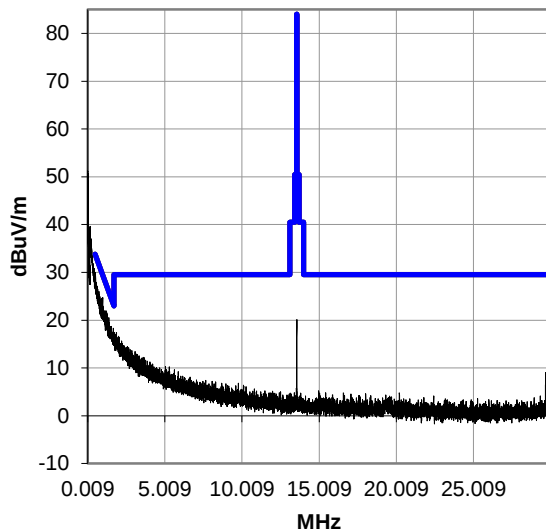
Tested By

FIELD STRENGTH OF FUNDAMENTAL

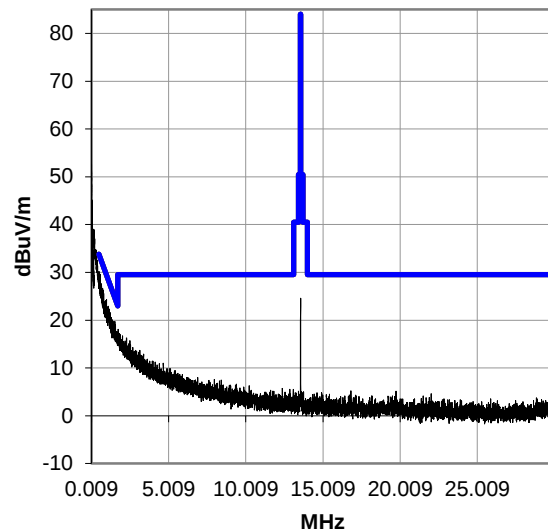
PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

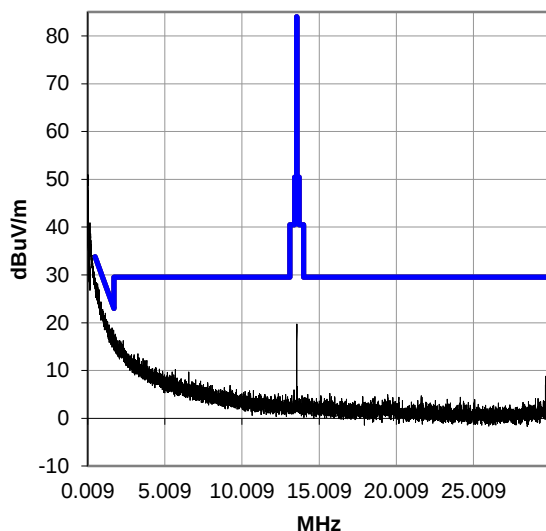
0.009-30 MHz, Run 29, SwitchController 1 Radio 1, Perp to EUT



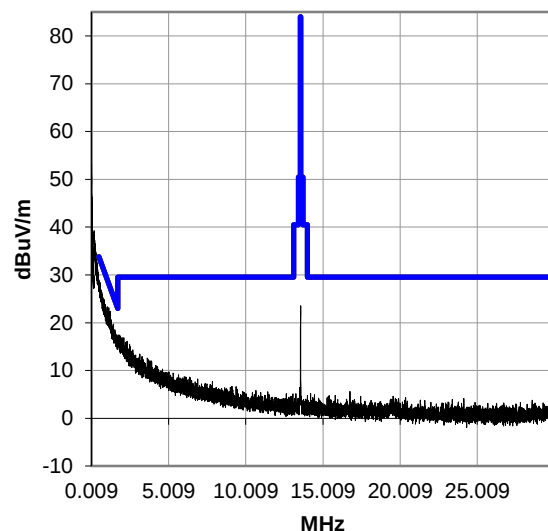
0.009-30 MHz, Run 30, SwitchController 1 Radio 2, Perp to EUT



0.009-30 MHz, Run 31, SwitchController 2 Radio 1, Perp to EUT

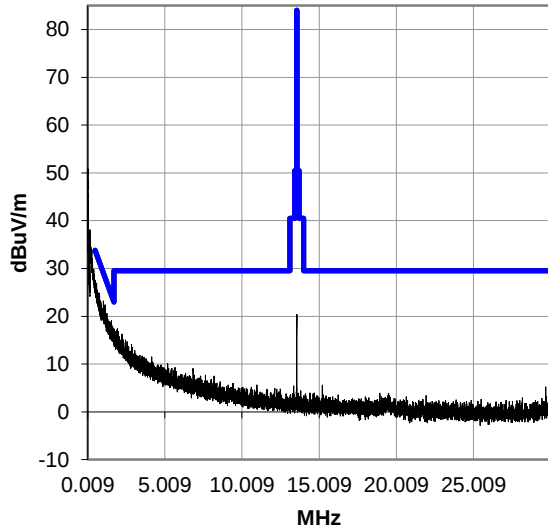


0.009-30 MHz, Run 32, SwitchController 2 Radio 2, Perp to EUT

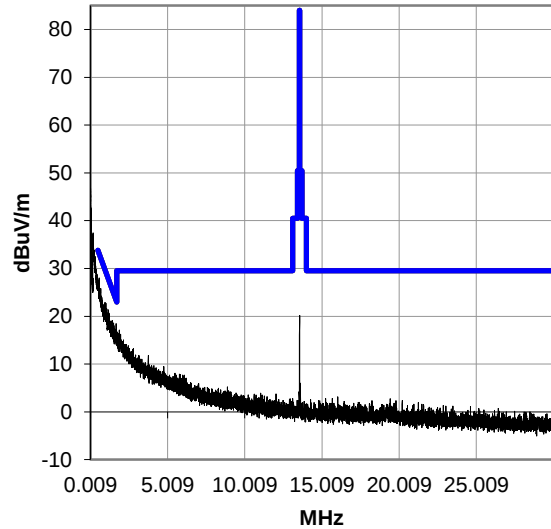


FIELD STRENGTH OF FUNDAMENTAL

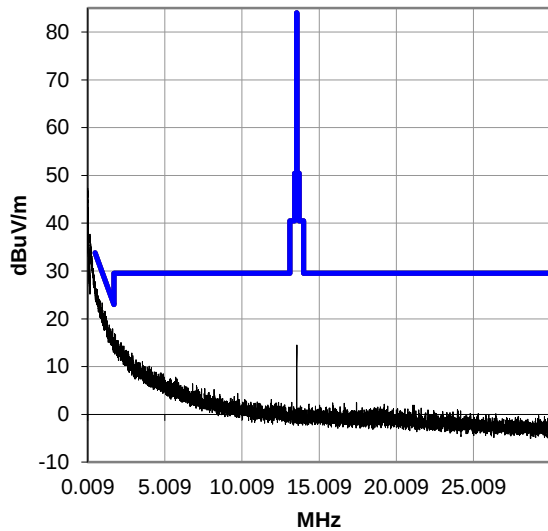
0.009-30 MHz, Run 36, SwitchController 3, Radio 1, Perp to EUT



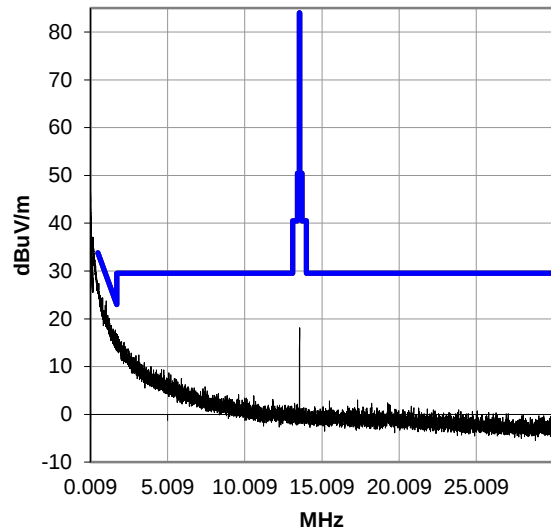
0.009-30 MHz, Run 37, SwitchController 3 Radio 2, Perp to EUT



0.009-30 MHz, Run 38, SwitchController 4, Radio 1, Perp to EUT



0.009-30 MHz, Run 39, SwitchController 4 Radio 2, Perp to EUT



FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. A reference preview scan (pre-scan) is included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

The limits in CFR 47, Part 15C 15.209(a) are identical to those in RSS-Gen section 8.9 Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohms. For example, an E-Field measurement in dBuV/m can be converted to dBuA/m via the following formula: $\text{dBuV/m} - 51.5 \text{ dB} = \text{dBuA/m}$. E-Field measurements have the same margin in dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limits.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2023-05-25	2024-05-25
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

9 kHz TO 30 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0310-1
ABBO0310-2

MODES INVESTIGATED

Transmitting 13.65 MHz RFID, All Radios On

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	44.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	27	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

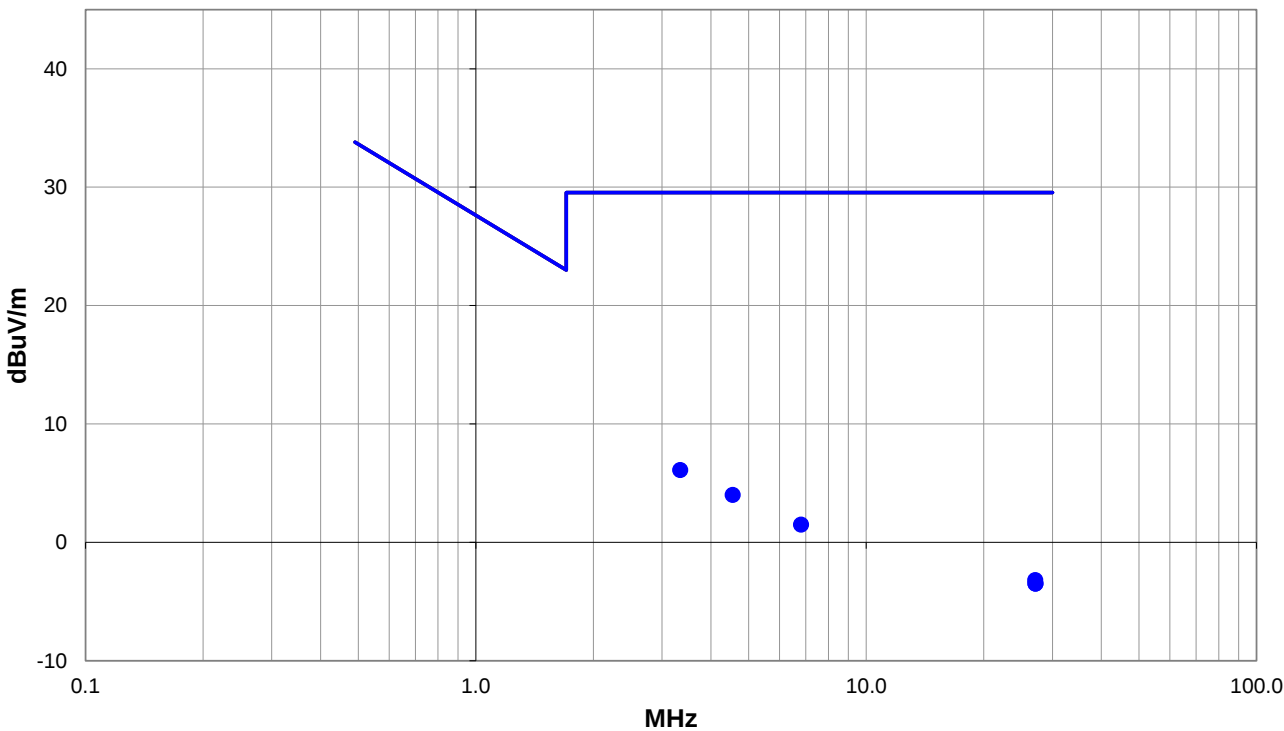
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, All Radios On

DEVIATIONS FROM TEST STANDARD

None



Run #: 27

PK AV QP

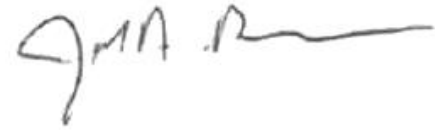
FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

RESULTS - Run #27

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
3.337	13.6	11.6	1.0	360.0	10.0	0.0	Perp to EUT	QP	-19.1	6.1	29.5	-23.4
4.550	11.3	11.8	1.0	205.0	10.0	0.0	Perp to EUT	QP	-19.1	4.0	29.5	-25.5
6.810	8.9	11.7	1.0	177.9	10.0	0.0	Perp to EUT	QP	-19.1	1.5	29.5	-28.0
27.117	5.9	10.0	1.0	72.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.2	29.5	-32.7
27.132	5.6	10.0	1.0	19.0	10.0	0.0	Para to GND	QP	-19.1	-3.5	29.5	-33.0
27.144	5.6	10.0	1.0	354.0	10.0	0.0	Para to EUT	QP	-19.1	-3.5	29.5	-33.0

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)



EUT:	Roundabout 3-Entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	46.8%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	40	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
--------	----	--------------------	----	---------------------	------

COMMENTS

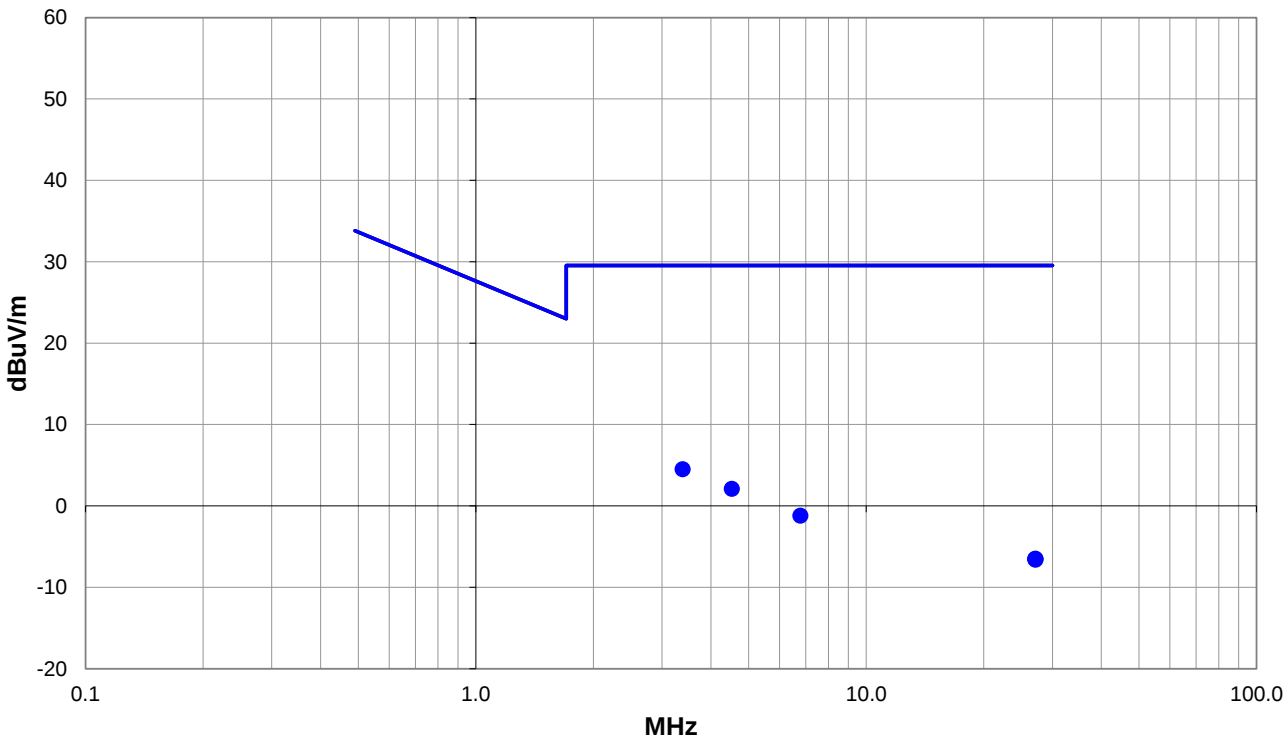
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, All Radios On

DEVIATIONS FROM TEST STANDARD

None



Run #: 40

PK AV QP

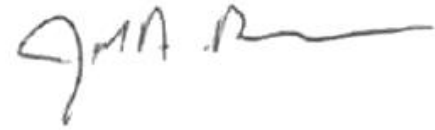
FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

RESULTS - Run #40

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
3.385	12.0	11.6	1.0	42.0	10.0	0.0	Perp to EUT	QP	-19.1	4.5	29.5	-25.0
4.523	9.4	11.8	1.0	232.9	10.0	0.0	Perp to EUT	QP	-19.1	2.1	29.5	-27.4
6.785	6.2	11.7	1.0	360.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.2	29.5	-30.7
27.116	2.6	10.0	1.0	56.0	10.0	0.0	Perp to EUT	QP	-19.1	-6.5	29.5	-36.0
27.124	2.6	10.0	1.0	188.0	10.0	0.0	Para to GND	QP	-19.1	-6.5	29.5	-36.0
27.124	2.5	10.0	1.0	27.9	10.0	0.0	Para to EUT	QP	-19.1	-6.6	29.5	-36.1

CONCLUSION

Pass



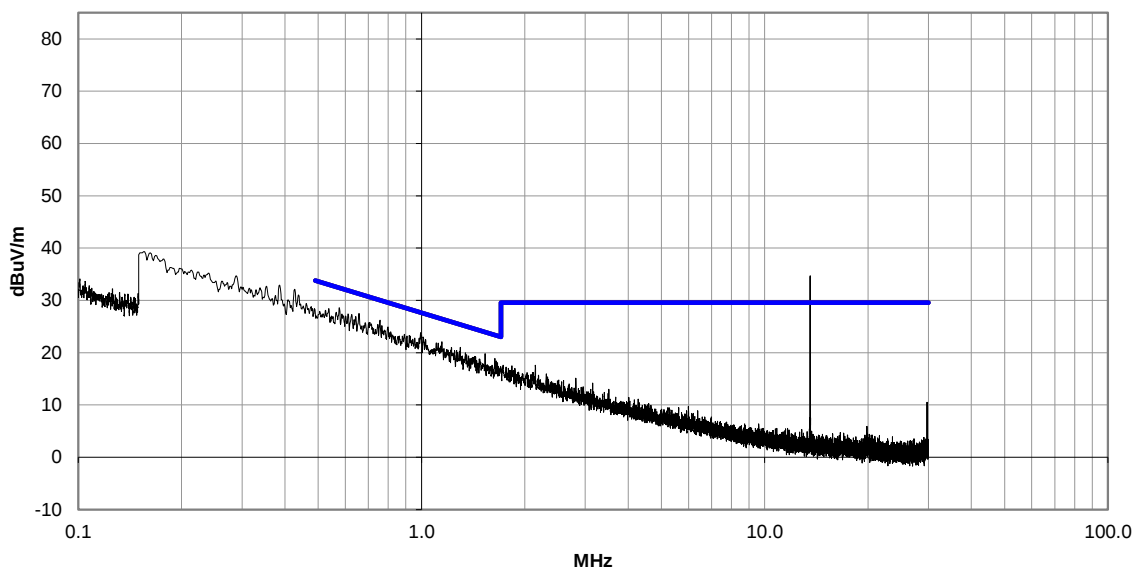
Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

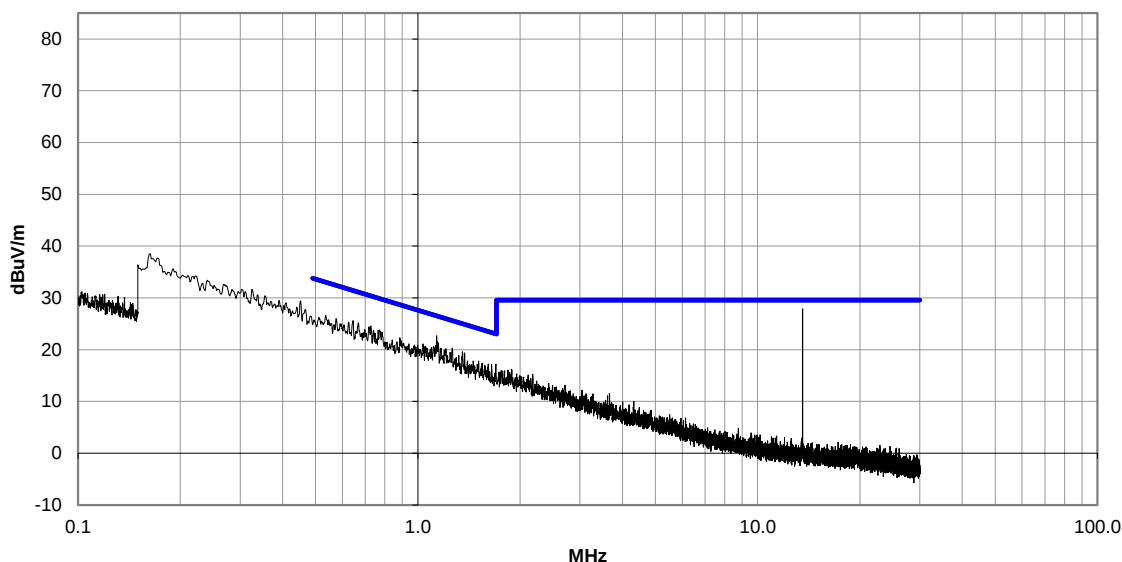
PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

0.009-30 MHz, Run 27, 4-Entry HL, All Radios On, Perp to EUT



0.009-30 MHz, Run 40, 3-Entry HL, All Radios On, Perp to EUT



FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

TEST DESCRIPTION

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Biconilog	ETS Lindgren	3143B	AYF	2023-05-03	2025-05-03
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2023-05-25	2024-05-25
Amplifier - Pre-Amplifier	Fairview Microwave	FMAM63001	PAS	2023-04-11	2024-04-11
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	2023-07-21	2024-07-21
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	4.7 dB	-4.7 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 1000 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0310-1
ABBO0310-2

MODES INVESTIGATED

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)
Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)
Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)
Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)
Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)
Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)
Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)
Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)
Transmitting 13.65 MHz RFID, All Radios On

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	17	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

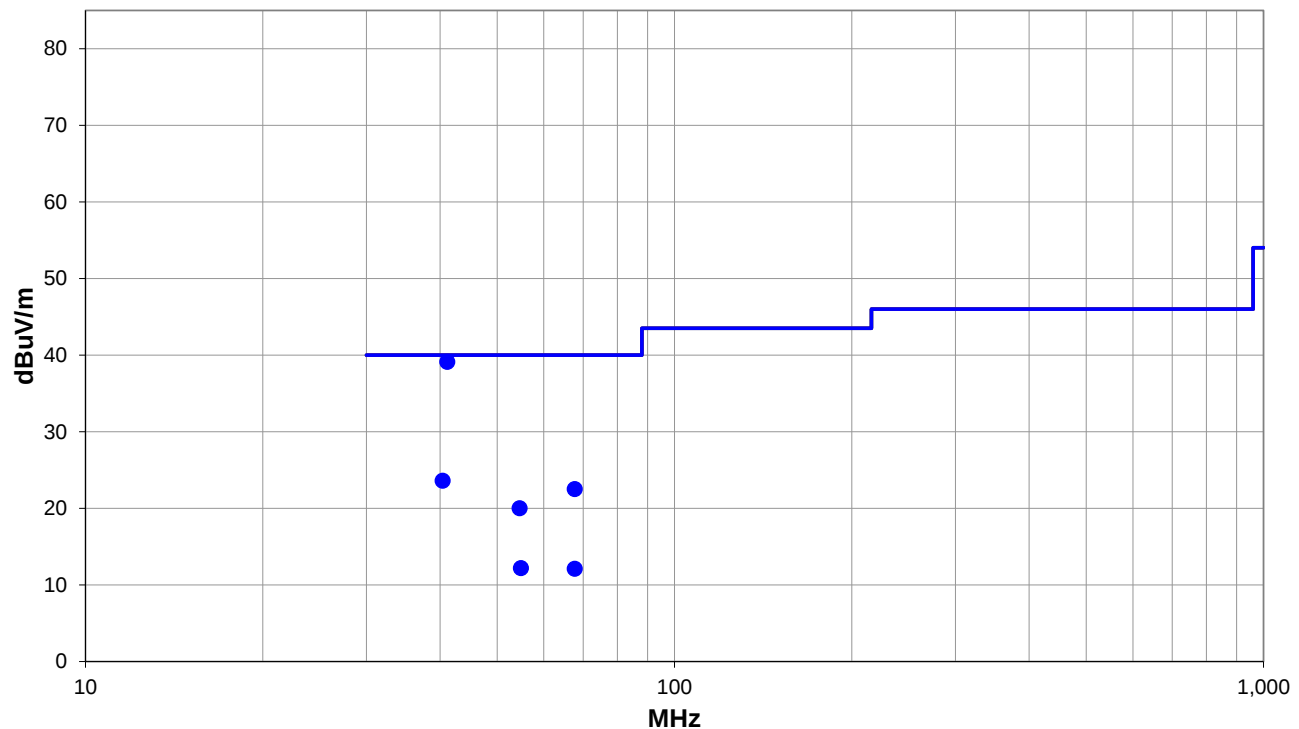
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 17

■ PK ◆ AV ● QP

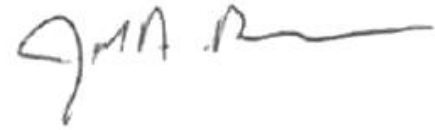
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #17

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.118	62.7	-23.6	1.0	342.0	3.0	0.0	Vert	QP	0.0	39.1	40.0	-0.9
40.410	46.8	-23.2	0.97	16.9	3.0	0.0	Horz	QP	0.0	23.6	40.0	-16.4
67.689	48.5	-26.0	1.0	201.0	3.0	0.0	Vert	QP	0.0	22.5	40.0	-17.5
54.593	46.9	-26.9	0.99	315.0	3.0	0.0	Vert	QP	0.0	20.0	40.0	-20.0
54.855	39.1	-26.9	1.0	61.0	3.0	0.0	Horz	QP	0.0	12.2	40.0	-27.8
67.701	38.1	-26.0	1.0	267.9	3.0	0.0	Horz	QP	0.0	12.1	40.0	-27.9

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	18	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

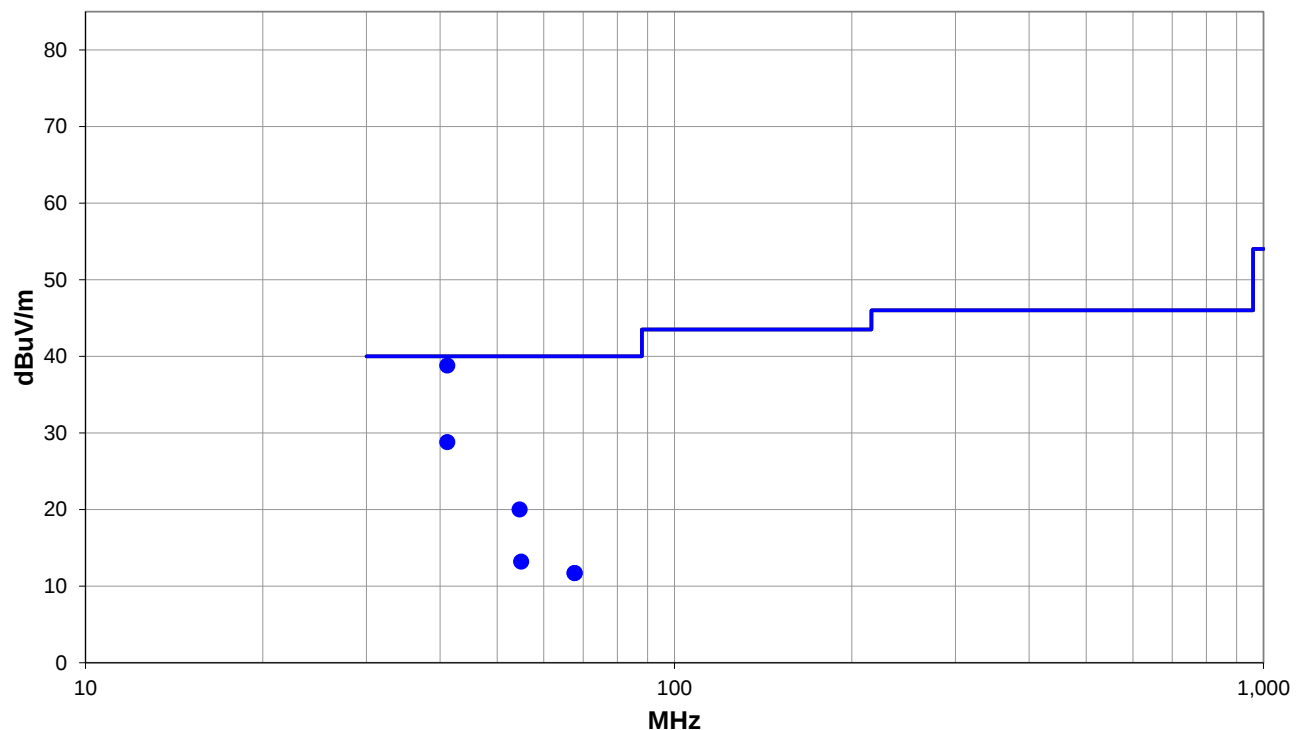
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 1 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 18

PK AV QP

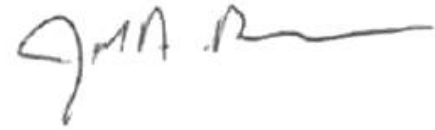
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #18

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.123	62.4	-23.6	1.0	298.9	3.0	0.0	Vert	QP	0.0	38.8	40.0	-1.2
41.126	52.4	-23.6	4.0	52.9	3.0	0.0	Horz	QP	0.0	28.8	40.0	-11.2
54.569	46.9	-26.9	1.0	325.0	3.0	0.0	Vert	QP	0.0	20.0	40.0	-20.0
54.897	40.1	-26.9	1.0	50.0	3.0	0.0	Horz	QP	0.0	13.2	40.0	-26.8
67.688	37.7	-26.0	0.97	285.9	3.0	0.0	Horz	QP	0.0	11.7	40.0	-28.3
67.668	37.7	-26.0	0.96	286.9	3.0	0.0	Horz	QP	0.0	11.7	40.0	-28.3

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	19	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

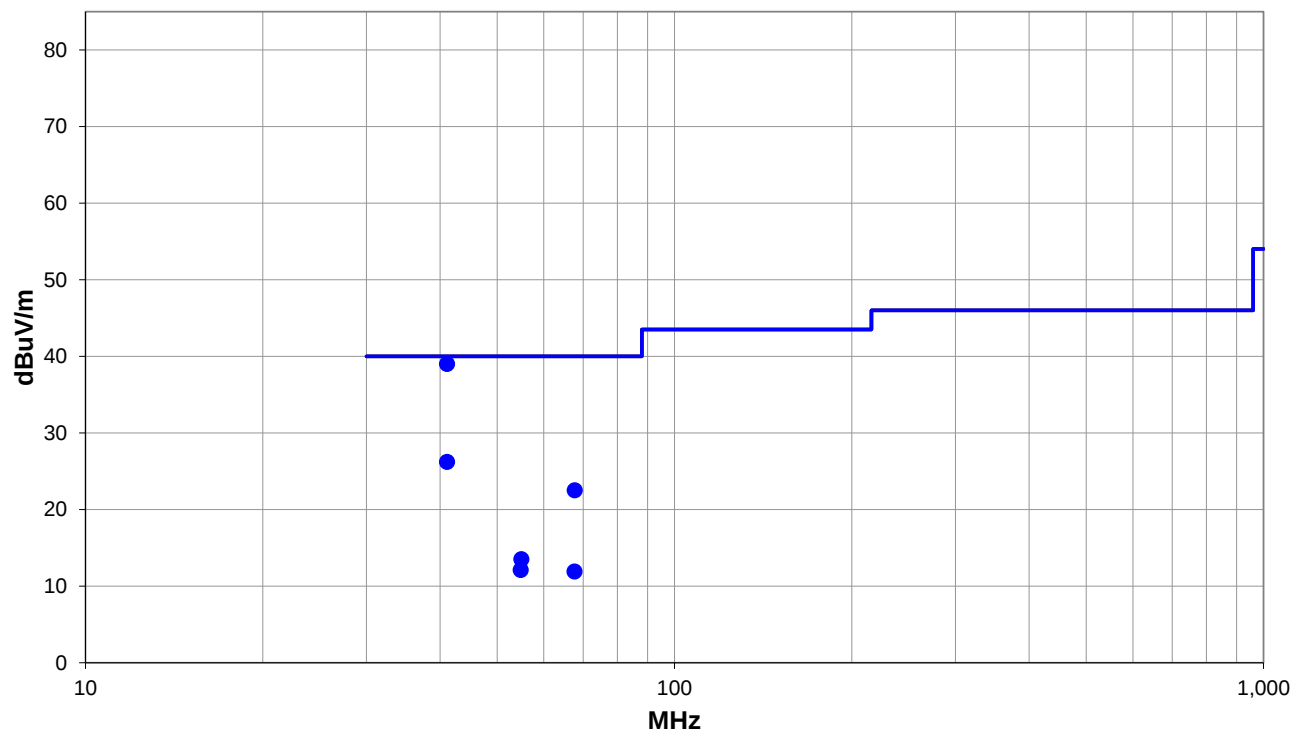
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 19

PK AV QP

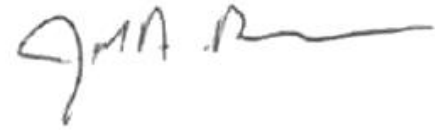
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #19

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.094	62.5	-23.5	1.0	21.9	3.0	0.0	Vert	QP	0.0	39.0	40.0	-1.0
41.089	49.7	-23.5	4.0	82.9	3.0	0.0	Horz	QP	0.0	26.2	40.0	-13.8
67.673	48.5	-26.0	1.0	219.9	3.0	0.0	Vert	QP	0.0	22.5	40.0	-17.5
54.947	40.4	-26.9	0.92	30.0	3.0	0.0	Horz	QP	0.0	13.5	40.0	-26.5
54.795	39.0	-26.9	0.96	43.0	3.0	0.0	Horz	QP	0.0	12.1	40.0	-27.9
67.650	37.9	-26.0	1.0	267.9	3.0	0.0	Horz	QP	0.0	11.9	40.0	-28.1

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	20	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

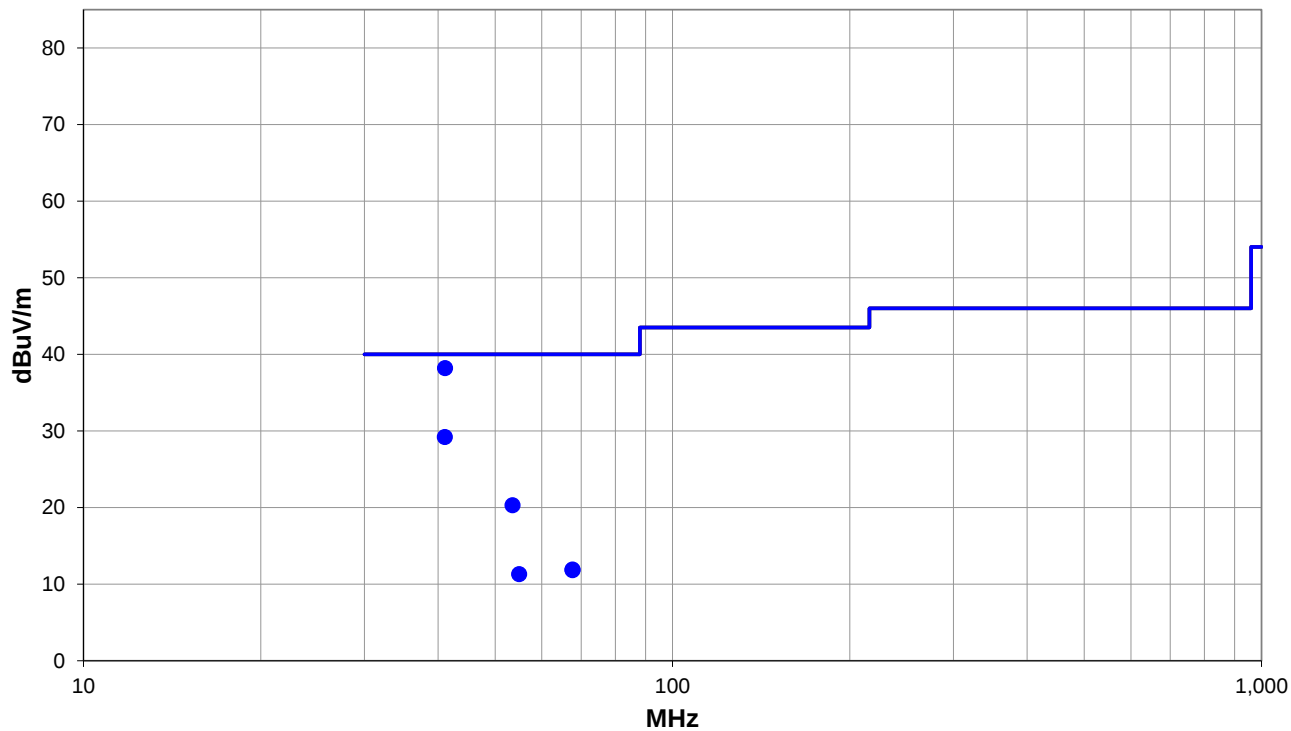
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 2 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 20

PK AV QP

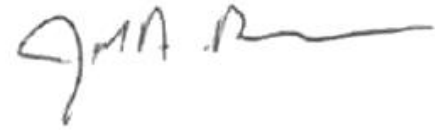
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #20

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.092	61.7	-23.5	1.0	129.9	3.0	0.0	Vert	QP	0.0	38.2	40.0	-1.8
41.064	52.7	-23.5	4.0	45.0	3.0	0.0	Horz	QP	0.0	29.2	40.0	-10.8
53.490	47.3	-27.0	1.0	303.9	3.0	0.0	Vert	QP	0.0	20.3	40.0	-19.7
67.633	37.9	-26.0	0.96	270.0	3.0	0.0	Horz	QP	0.0	11.9	40.0	-28.1
67.621	37.8	-26.0	0.97	265.0	3.0	0.0	Horz	QP	0.0	11.8	40.0	-28.2
54.918	38.2	-26.9	1.0	350.0	3.0	0.0	Horz	QP	0.0	11.3	40.0	-28.7

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	21	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

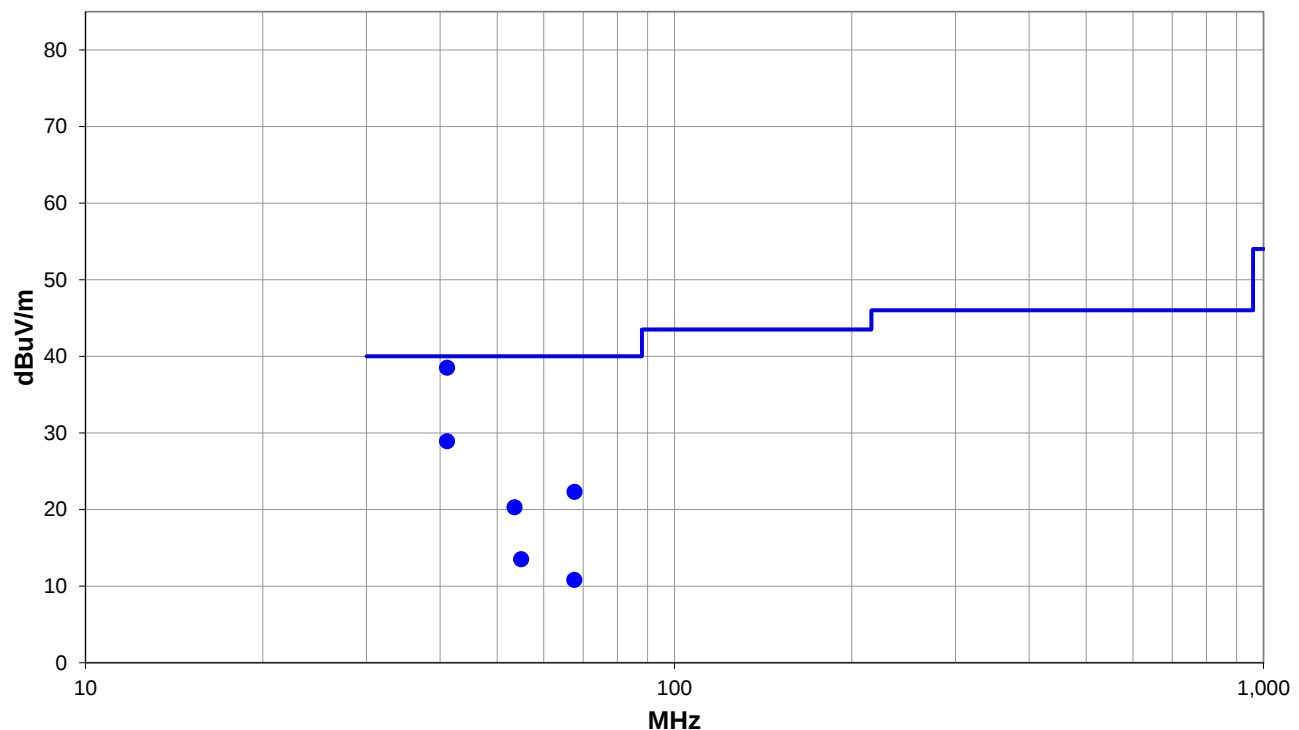
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 21

PK AV QP

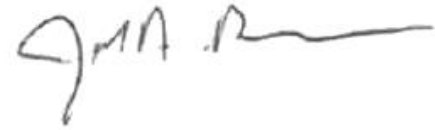
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #21

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.100	62.0	-23.5	1.0	51.9	3.0	0.0	Vert	QP	0.0	38.5	40.0	-1.5
41.084	52.4	-23.5	4.0	50.0	3.0	0.0	Horz	QP	0.0	28.9	40.0	-11.1
67.628	48.3	-26.0	1.0	225.9	3.0	0.0	Vert	QP	0.0	22.3	40.0	-17.7
53.490	47.3	-27.0	1.0	330.0	3.0	0.0	Vert	QP	0.0	20.3	40.0	-19.7
54.900	40.4	-26.9	1.0	27.0	3.0	0.0	Horz	QP	0.0	13.5	40.0	-26.5
67.608	36.8	-26.0	0.97	249.0	3.0	0.0	Horz	QP	0.0	10.8	40.0	-29.2

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	22	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

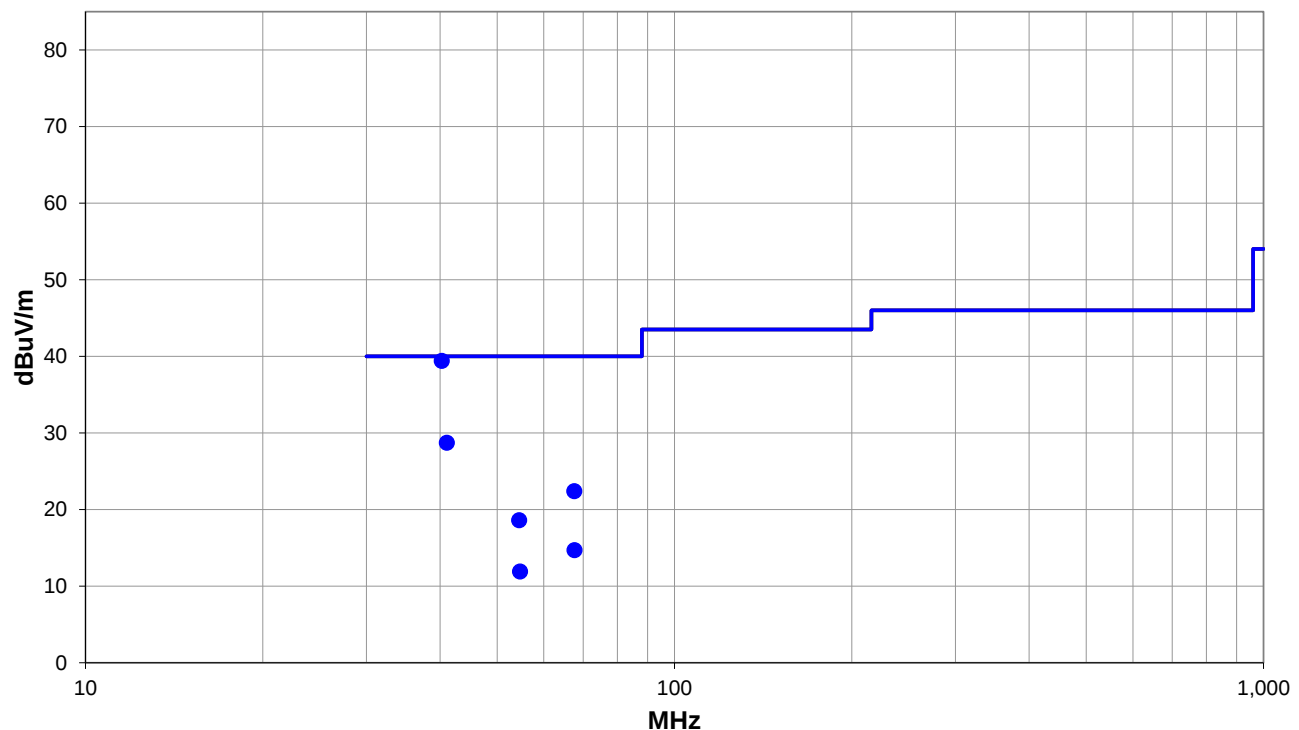
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 3 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 22

PK AV QP

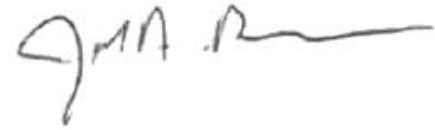
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #22

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
40.263	62.5	-23.1	1.0	360.0	3.0	0.0	Vert	QP	0.0	39.4	40.0	-0.6
41.063	52.2	-23.5	4.0	9.9	3.0	0.0	Horz	QP	0.0	28.7	40.0	-11.3
67.593	48.4	-26.0	1.0	225.0	3.0	0.0	Vert	QP	0.0	22.4	40.0	-17.6
54.481	45.5	-26.9	0.96	141.0	3.0	0.0	Vert	QP	0.0	18.6	40.0	-21.4
67.627	40.7	-26.0	4.0	303.9	3.0	0.0	Horz	QP	0.0	14.7	40.0	-25.3
54.648	38.8	-26.9	1.0	31.0	3.0	0.0	Horz	QP	0.0	11.9	40.0	-28.1

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)



EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	23	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

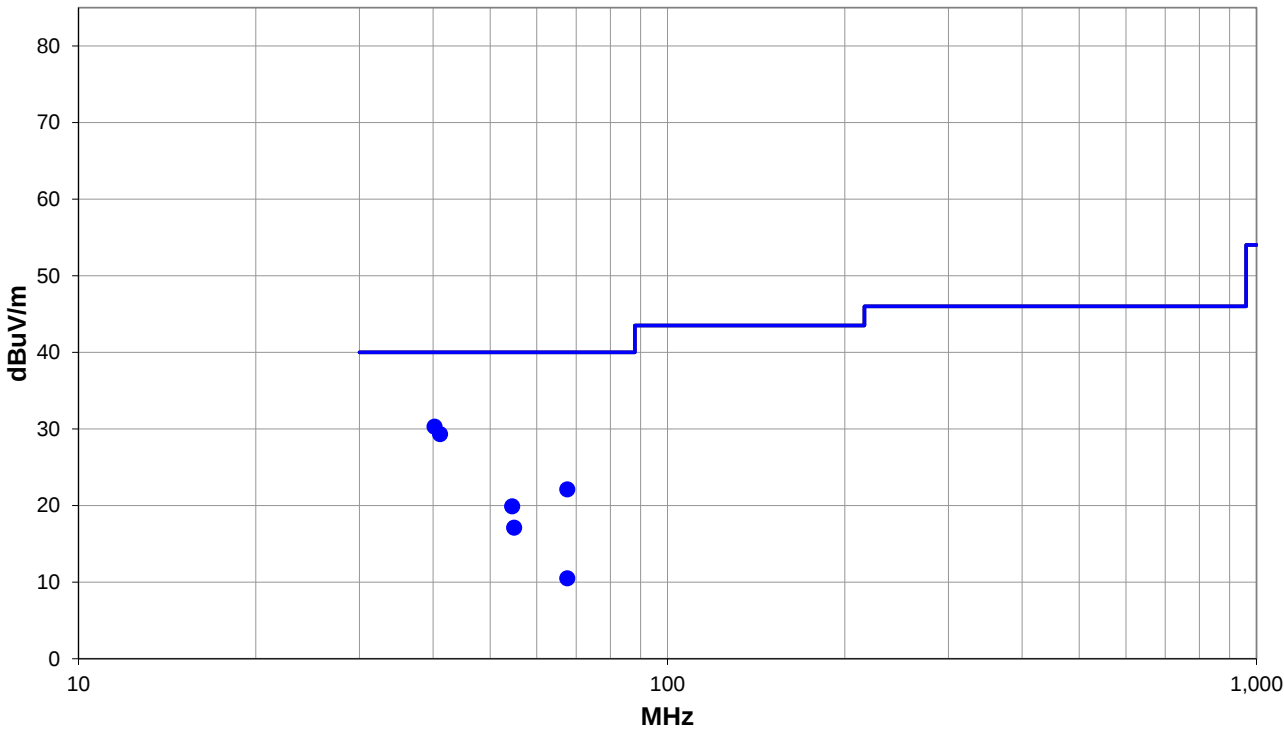
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 1 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 23

PK AV QP

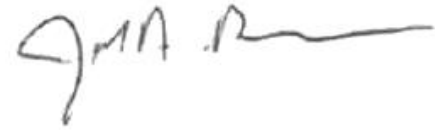
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #23

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
40.238	53.4	-23.1	4.0	343.0	3.0	0.0	Vert	QP	0.0	30.3	40.0	-9.7
41.095	52.8	-23.5	4.0	31.0	3.0	0.0	Horz	QP	0.0	29.3	40.0	-10.7
67.588	48.1	-26.0	0.84	193.0	3.0	0.0	Vert	QP	0.0	22.1	40.0	-17.9
54.468	46.8	-26.9	1.0	315.0	3.0	0.0	Vert	QP	0.0	19.9	40.0	-20.1
54.902	44.0	-26.9	4.0	25.0	3.0	0.0	Horz	QP	0.0	17.1	40.0	-22.9
67.586	36.5	-26.0	0.85	253.0	3.0	0.0	Horz	QP	0.0	10.5	40.0	-29.5

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-13
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	44.2%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	24	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

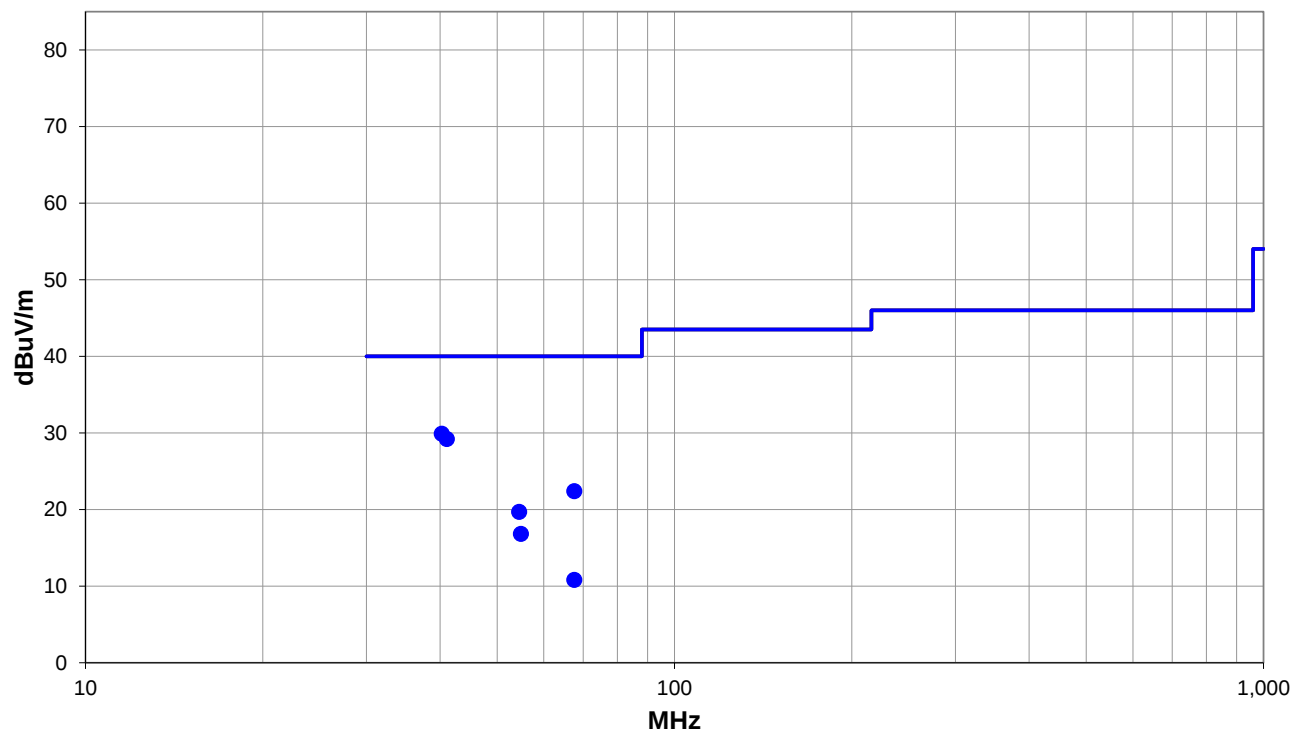
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. Radio tested individually to show compliance.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, SwitchController 4 Radio 2 (On)

DEVIATIONS FROM TEST STANDARD

None



Run #: 24

■ PK ◆ AV ● QP

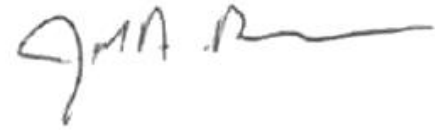
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #24

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
40.243	53.0	-23.1	4.0	315.0	3.0	0.0	Vert	QP	0.0	29.9	40.0	-10.1
41.066	52.7	-23.5	4.0	45.9	3.0	0.0	Horz	QP	0.0	29.2	40.0	-10.8
67.596	48.4	-26.0	1.0	210.0	3.0	0.0	Vert	QP	0.0	22.4	40.0	-17.6
54.475	46.6	-26.9	1.0	351.9	3.0	0.0	Vert	QP	0.0	19.7	40.0	-20.3
54.880	43.7	-26.9	4.0	34.9	3.0	0.0	Horz	QP	0.0	16.8	40.0	-23.2
67.568	36.8	-26.0	0.85	288.0	3.0	0.0	Horz	QP	0.0	10.8	40.0	-29.2

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Roundabout 3-entry HL	Work Order:	ABBO0310
Serial Number:	RA3HL_001	Date:	2024-03-14
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	46.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	42	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	----	--------------------	---	---------------------	-----------

COMMENTS

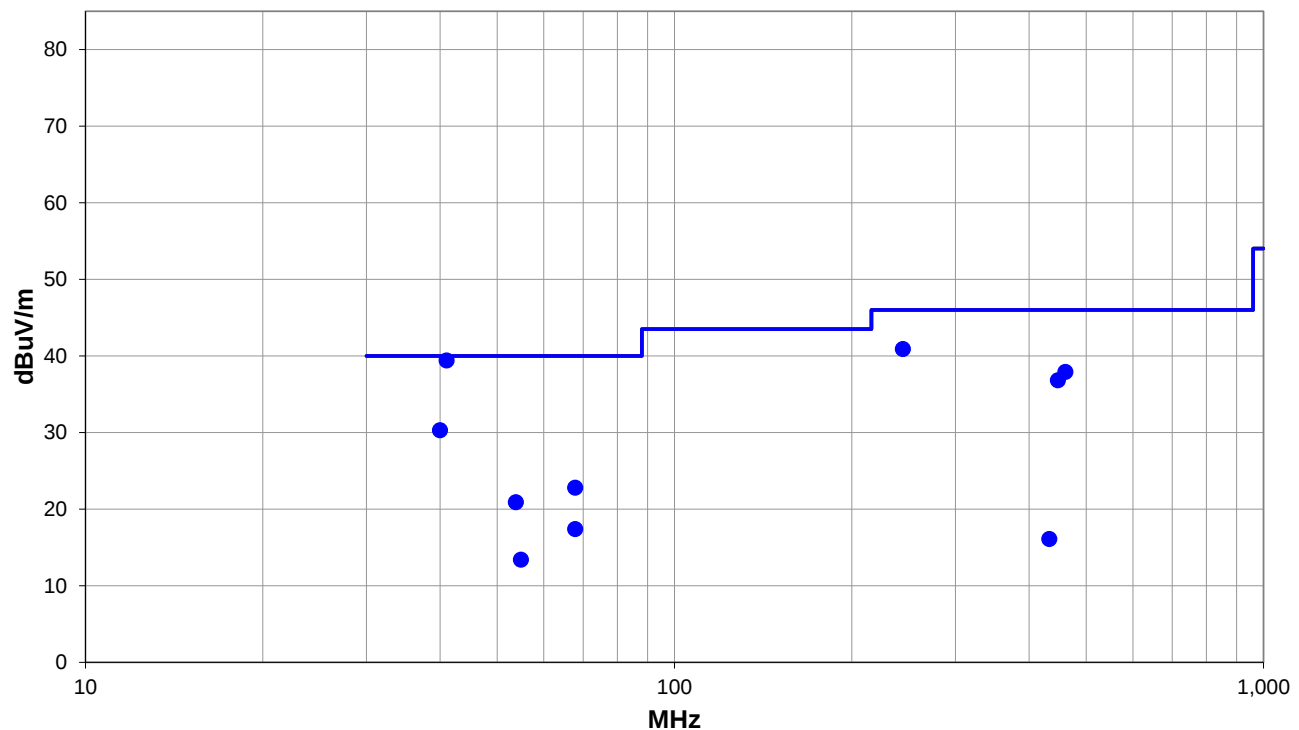
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios. "All on" is considered worst case and measurements are the maximum for all radios listed. Spot check of Roundabout variant.

EUT OPERATING MODES

Transmitting 13.65 MHz RFID, All Radios On

DEVIATIONS FROM TEST STANDARD

None



Run #: 42

PK AV QP

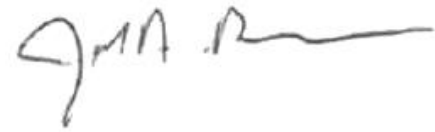
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #42

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
41.020	62.9	-23.5	1.0	18.0	3.0	0.0	Vert	QP	0.0	39.4	40.0	-0.6
244.084	59.4	-18.5	1.79	148.9	3.0	0.0	Vert	QP	0.0	40.9	46.0	-5.1
461.046	49.4	-11.5	1.0	322.9	3.0	0.0	Horz	QP	0.0	37.9	46.0	-8.1
447.482	48.9	-12.1	2.8	315.9	3.0	0.0	Horz	QP	0.0	36.8	46.0	-9.2
39.983	53.3	-23.0	4.0	37.0	3.0	0.0	Horz	QP	0.0	30.3	40.0	-9.7
67.808	48.8	-26.0	1.22	219.9	3.0	0.0	Vert	QP	0.0	22.8	40.0	-17.2
53.786	47.8	-26.9	1.0	345.9	3.0	0.0	Vert	QP	0.0	20.9	40.0	-19.1
67.799	43.4	-26.0	2.43	265.0	3.0	0.0	Horz	QP	0.0	17.4	40.0	-22.6
54.876	40.3	-26.9	2.54	39.9	3.0	0.0	Horz	QP	0.0	13.4	40.0	-26.6
432.563	28.7	-12.6	1.0	342.0	3.0	0.0	Horz	QP	0.0	16.1	46.0	-29.9

CONCLUSION

Pass



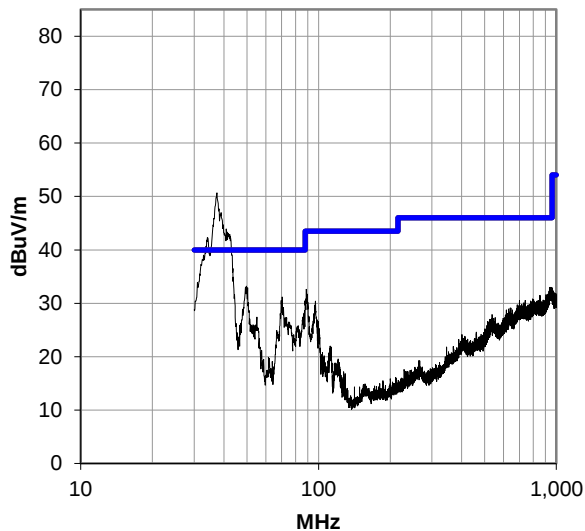
Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

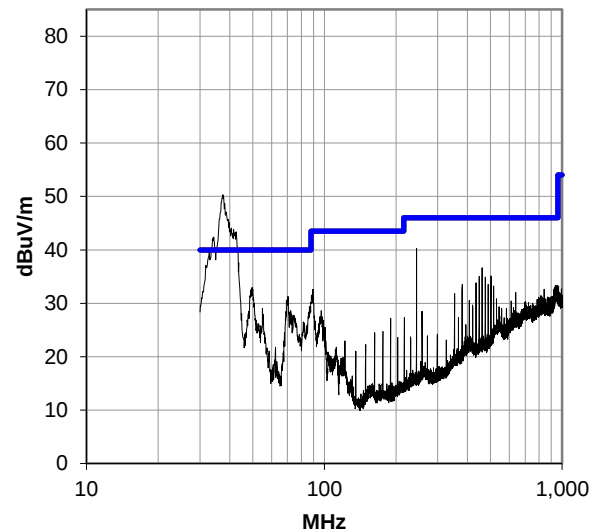
PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

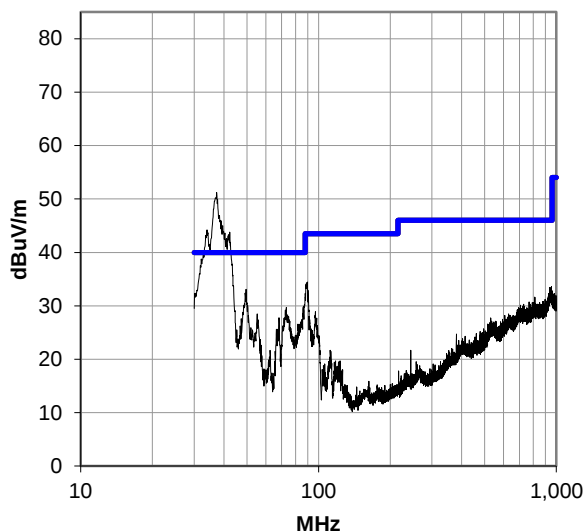
30-1000 MHz, Run 15, 4-Entry, All Radios Off (Standby)



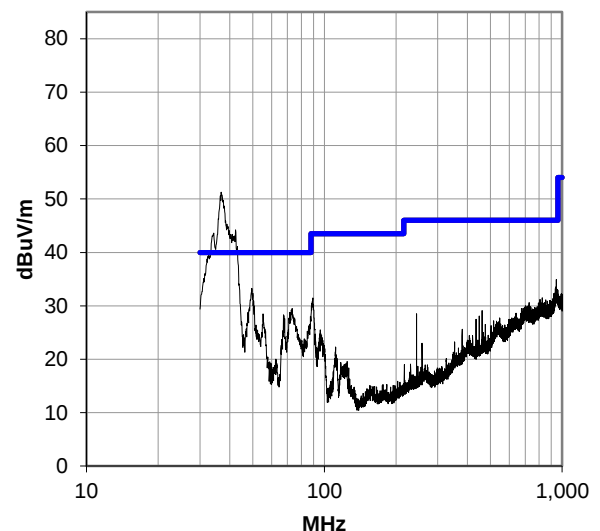
30-1000 MHz, Run 16, 4-Entry, All Radios On



30-1000 MHz, Run 17, 4-Entry, SwitchController 1 Radio 1 On

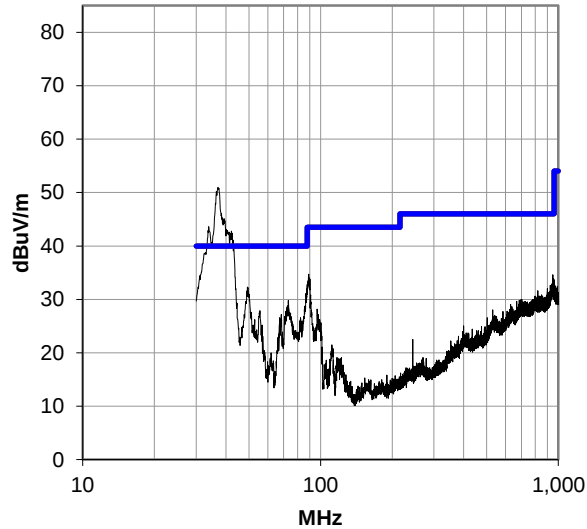


30-1000 MHz, Run 18, 4-Entry, SwitchController 1 Radio 2 On

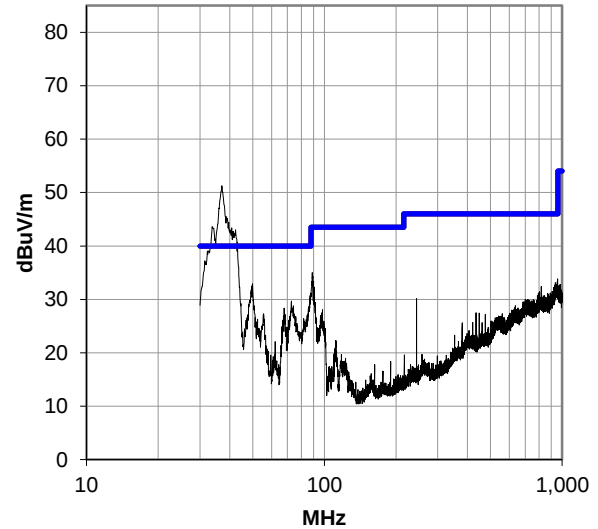


FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

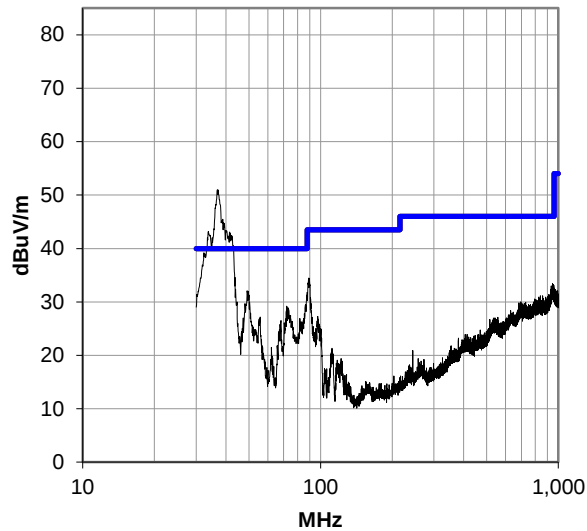
30-1000 MHz, Run 19, 4-Entry, SwitchController 2 Radio 1 On



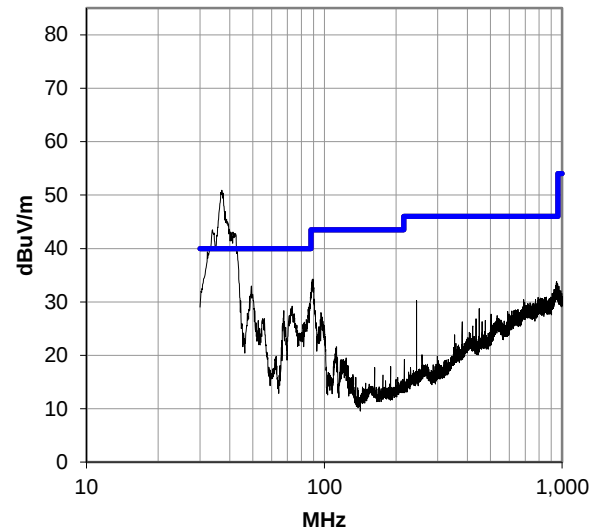
30-1000 MHz, Run 20, 4-Entry, SwitchController 2 Radio 2 On



30-1000 MHz, Run 21, 4-Entry, SwitchController 3 Radio 1 On

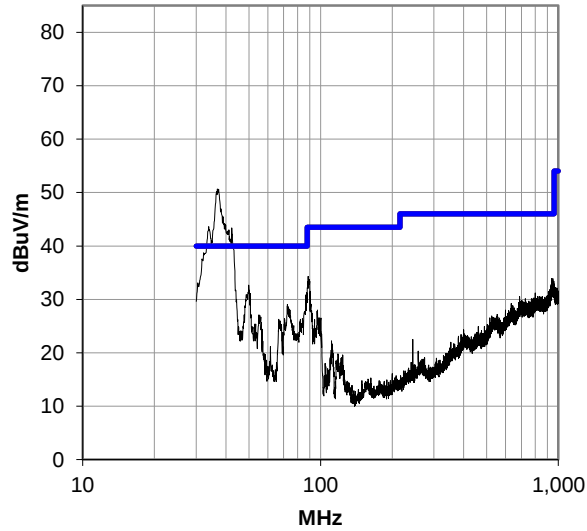


30-1000 MHz, Run 22, 4-Entry, SwitchController 3 Radio 2 On

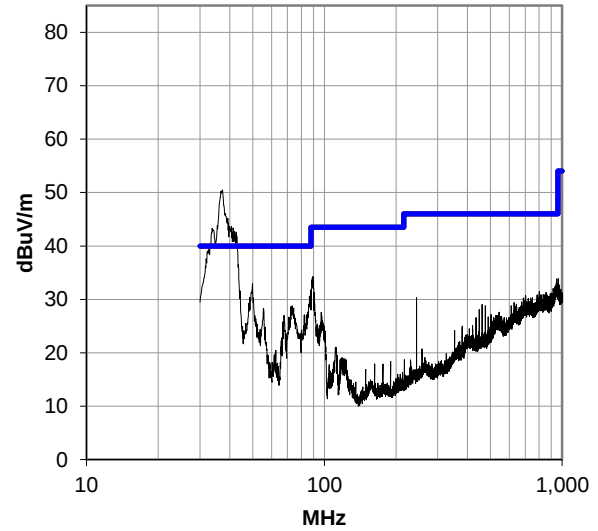


FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

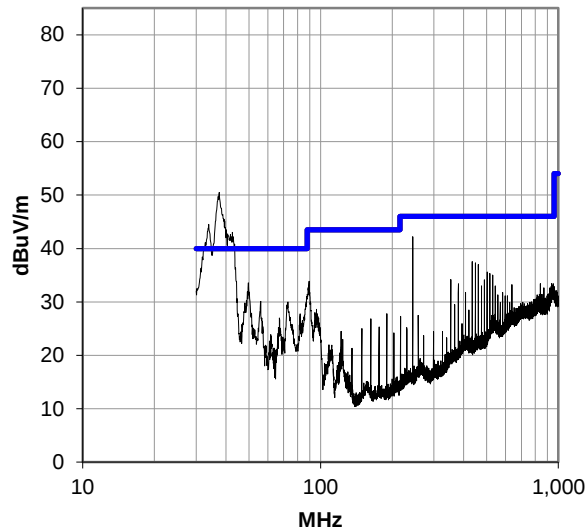
30-1000 MHz, Run 23, 4-Entry, SwitchController 4 Radio 1 On



30-1000 MHz, Run 24, 4-Entry, SwitchController 4 Radio 2 On



30-1000 MHz, Run 42, 3-Entry, All Radios On



FREQUENCY STABILITY

TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer.

The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Measurements were made on the single transmit frequency as called out on the data sheets. Testing was done while the EUT was continuously polling.

The primary supply voltage was varied from 85 % to 115% of the nominal voltage while at ambient temperature. Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range of -20 ° to +50° C and at 10°C intervals.

The requirement of a frequency tolerance of $\pm 0.01\%$ is equivalent to 100 ppm
The formula to check for compliance is:

$$\text{ppm} = (\text{Measured Frequency} / \text{Measured Nominal Frequency} - 1) * 1,000,000$$

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFG	2023-05-22	2024-05-22
Block - DC	Fairview Microwave	SD3464	ANA	2023-08-31	2024-08-31
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUH	2021-04-01	2024-04-01
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR

FREQUENCY STABILITY

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-16
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	Frank Sun	Relative Humidity:	34.5%
Customer Project:	None	Bar. Pressure (PMSL):	998 mbar
Tested By:	Jarrold Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2024	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

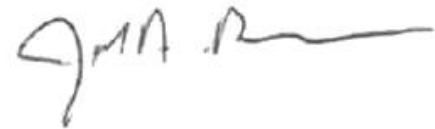
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass



Tested By

TEST RESULTS

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
RFID, 13.56 MHz					
SwitchController 1 Radio 1					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.55999	13.55996	2.65	100	Pass
Voltage, Nominal, 220VAC	13.55996	13.55996	0	100	Pass
Voltage, 85%, 187VAC	13.56000	13.55996	2.95	100	Pass
Nominal AC Voltage, 220VAC					
Temp, 50°C	13.55996	13.56005	6.71	100	Pass
Temp, 40°C	13.55998	13.56005	5.09	100	Pass
Temp, 30°C	13.56002	13.56005	2.29	100	Pass
Temp, 20°C	13.56005	13.56005	0	100	Pass
Temp, 10°C	13.56008	13.56005	2.51	100	Pass
Temp, 0°C	13.56013	13.56005	5.9	100	Pass
Temp, -10°C	13.56015	13.56005	7.15	100	Pass
Temp, -20°C	13.56015	13.56005	7.52	100	Pass
SwitchController 1 Radio 2					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.56004	13.56003	0.44	100	Pass
Voltage, Nominal, 220VAC	13.56003	13.56003	0	100	Pass
Voltage, 85%, 187VAC	13.56004	13.56003	0.37	100	Pass
Nominal AC Voltage, 220VAC					

FREQUENCY STABILITY

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
Temp, 50°C	13.55999	13.56005	4.79	100	Pass
Temp, 40°C	13.56000	13.56005	4.2	100	Pass
Temp, 30°C	13.56002	13.56005	2.51	100	Pass
Temp, 20°C	13.56005	13.56005	0	100	Pass
Temp, 10°C	13.56009	13.56005	2.58	100	Pass
Temp, 0°C	13.56011	13.56005	3.98	100	Pass
Temp, -10°C	13.56012	13.56005	4.94	100	Pass
Temp, -20°C	13.56012	13.56005	4.72	100	Pass
SwitchController 2 Radio 1					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.56002	13.56002	0.22	100	Pass
Voltage, Nominal, 220VAC	13.56002	13.56002	0	100	Pass
Voltage, 85%, 187VAC	13.56002	13.56002	0.59	100	Pass
Nominal AC Voltage, 220VAC					
Temp, 50°C	13.56000	13.56005	3.17	100	Pass
Temp, 40°C	13.56001	13.56005	2.36	100	Pass
Temp, 30°C	13.56003	13.56005	1.25	100	Pass
Temp, 20°C	13.56005	13.56005	0	100	Pass
Temp, 10°C	13.56007	13.56005	1.62	100	Pass
Temp, 0°C	13.56009	13.56005	3.02	100	Pass
Temp, -10°C	13.56009	13.56005	3.39	100	Pass
Temp, -20°C	13.56010	13.56005	3.83	100	Pass
SwitchController 2 Radio 2					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.56001	13.56002	0.81	100	Pass
Voltage, Nominal, 220VAC	13.56002	13.56002	0	100	Pass
Voltage, 85%, 187VAC	13.56001	13.56002	1.11	100	Pass
Nominal AC Voltage, 220VAC					
Temp, 50°C	13.55996	13.56003	5.6	100	Pass
Temp, 40°C	13.55998	13.56003	3.98	100	Pass
Temp, 30°C	13.55999	13.56003	3.24	100	Pass
Temp, 20°C	13.56003	13.56003	0	100	Pass
Temp, 10°C	13.56007	13.56003	2.65	100	Pass
Temp, 0°C	13.56009	13.56003	4.5	100	Pass
Temp, -10°C	13.56011	13.56003	5.6	100	Pass
Temp, -20°C	13.56010	13.56003	4.94	100	Pass
SwitchController 3 Radio 1					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.55999	13.55997	1.11	100	Pass
Voltage, Nominal, 220VAC	13.55997	13.55997	0	100	Pass
Voltage, 85%, 187VAC	13.55999	13.55997	1.25	100	Pass
Nominal AC Voltage, 220VAC					

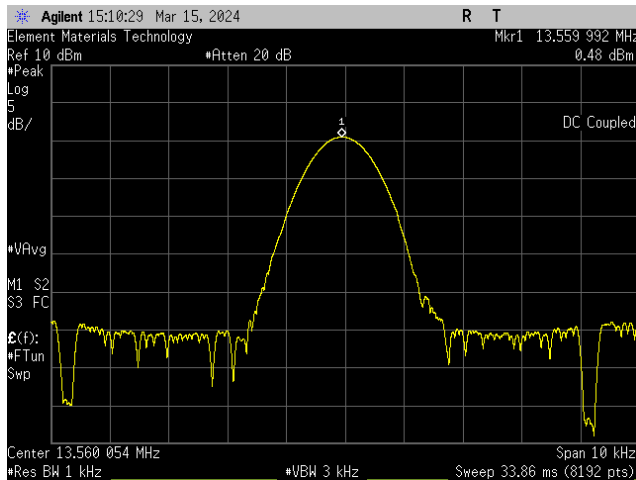
FREQUENCY STABILITY

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
Temp, 50°C	13.55995	13.56003	6.05	100	Pass
Temp, 40°C	13.55997	13.56003	4.42	100	Pass
Temp, 30°C	13.56000	13.56003	2.29	100	Pass
Temp, 20°C	13.56003	13.56003	0	100	Pass
Temp, 10°C	13.56005	13.56003	1.92	100	Pass
Temp, 0°C	13.56009	13.56003	4.79	100	Pass
Temp, -10°C	13.56012	13.56003	6.42	100	Pass
Temp, -20°C	13.56013	13.56003	7.15	100	Pass
SwitchController 3 Radio 2					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.56004	13.56005	0.22	100	Pass
Voltage, Nominal, 220VAC	13.56005	13.56005	0	100	Pass
Voltage, 85%, 187VAC	13.56005	13.56005	0	100	Pass
Nominal AC Voltage, 220VAC					
Temp, 50°C	13.56002	13.56007	3.61	100	Pass
Temp, 40°C	13.56002	13.56007	3.76	100	Pass
Temp, 30°C	13.56004	13.56007	2.36	100	Pass
Temp, 20°C	13.56007	13.56007	0	100	Pass
Temp, 10°C	13.56009	13.56007	1.4	100	Pass
Temp, 0°C	13.56011	13.56007	3.17	100	Pass
Temp, -10°C	13.56013	13.56007	4.42	100	Pass
Temp, -20°C	13.56012	13.56007	3.83	100	Pass
SwitchController 4 Radio 1					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.56002	13.56002	0.15	100	Pass
Voltage, Nominal, 220VAC	13.56002	13.56002	0	100	Pass
Voltage, 85%, 187VAC	13.56002	13.56002	0.29	100	Pass
Nominal AC Voltage, 220VAC					
Temp, 50°C	13.55998	13.56006	5.9	100	Pass
Temp, 40°C	13.56001	13.56006	4.2	100	Pass
Temp, 30°C	13.56003	13.56006	2.29	100	Pass
Temp, 20°C	13.56006	13.56006	0	100	Pass
Temp, 10°C	13.56009	13.56006	1.92	100	Pass
Temp, 0°C	13.56013	13.56006	5.31	100	Pass
Temp, -10°C	13.56015	13.56006	6.12	100	Pass
Temp, -20°C	13.56015	13.56006	6.64	100	Pass
SwitchController 4 Radio 2					
Nominal Temperature, 20°C					
Voltage, 115%, 253VAC	13.55999	13.55999	0	100	Pass
Voltage, Nominal, 220VAC	13.55999	13.55999	0	100	Pass
Voltage, 85%, 187VAC	13.55999	13.55999	0.15	100	Pass
Nominal AC Voltage, 220VAC					

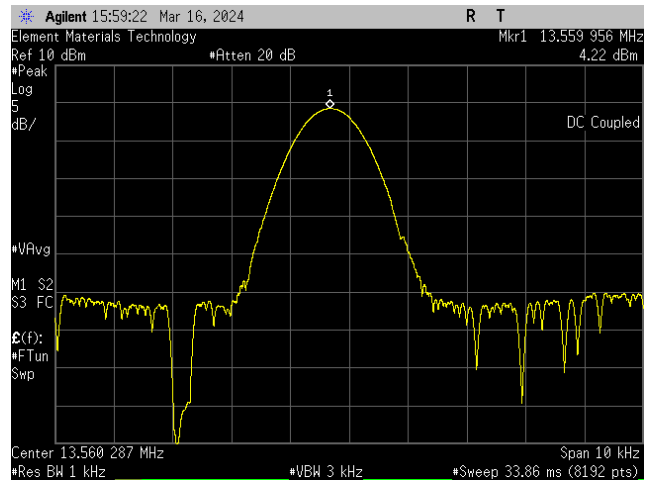
FREQUENCY STABILITY

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
Temp, 50°C	13.55994	13.56002	5.97	100	Pass
Temp, 40°C	13.55995	13.56002	4.87	100	Pass
Temp, 30°C	13.55998	13.56002	2.73	100	Pass
Temp, 20°C	13.56002	13.56002	0	100	Pass
Temp, 10°C	13.56004	13.56002	1.99	100	Pass
Temp, 0°C	13.56008	13.56002	4.5	100	Pass
Temp, -10°C	13.56011	13.56002	6.64	100	Pass
Temp, -20°C	13.56010	13.56002	6.34	100	Pass

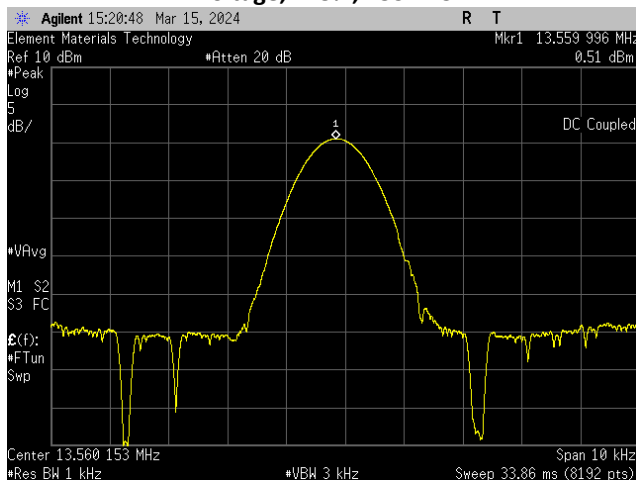
FREQUENCY STABILITY



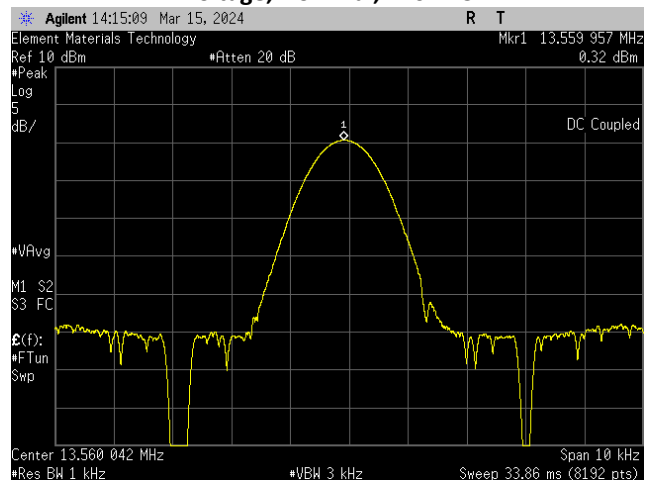
RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal Temperature, 20°C
Voltage, 115%, 253VAC



RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

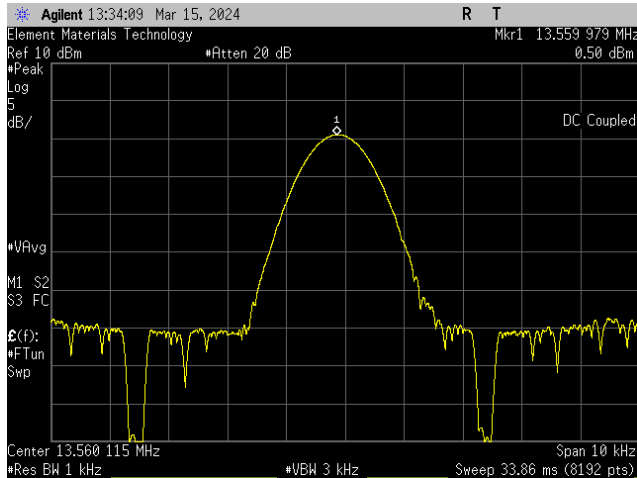


RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

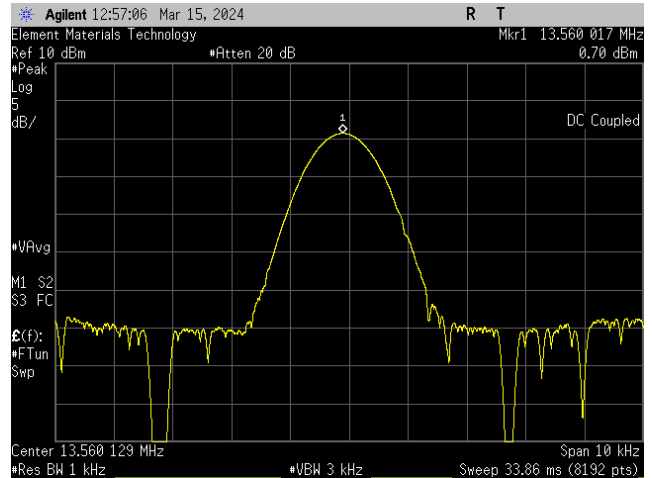


RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 50°C

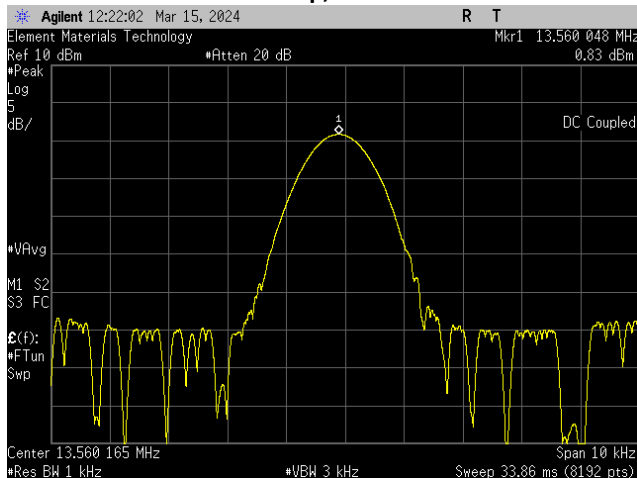
FREQUENCY STABILITY



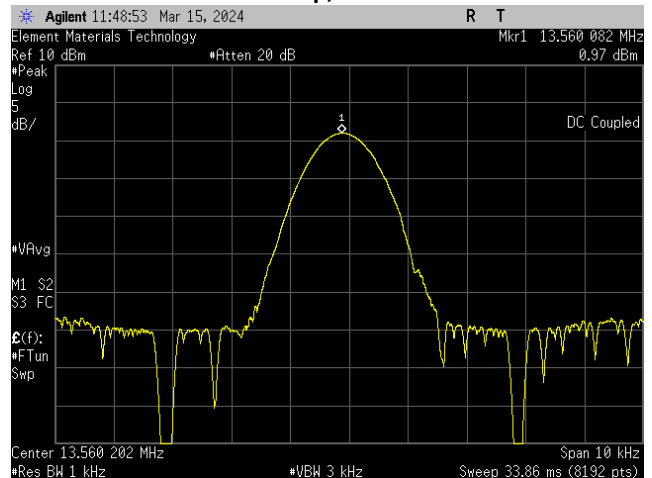
RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 40°C



RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 30°C

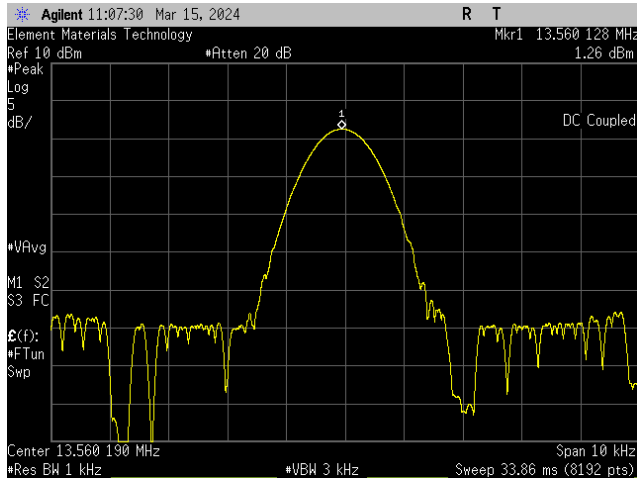


RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 20°C

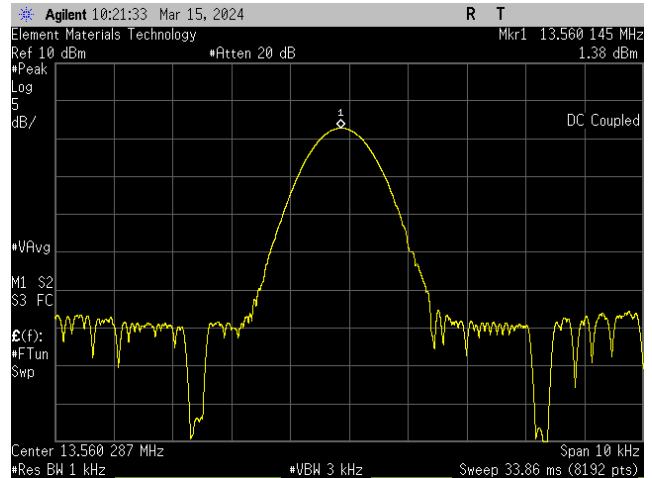


RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 10°C

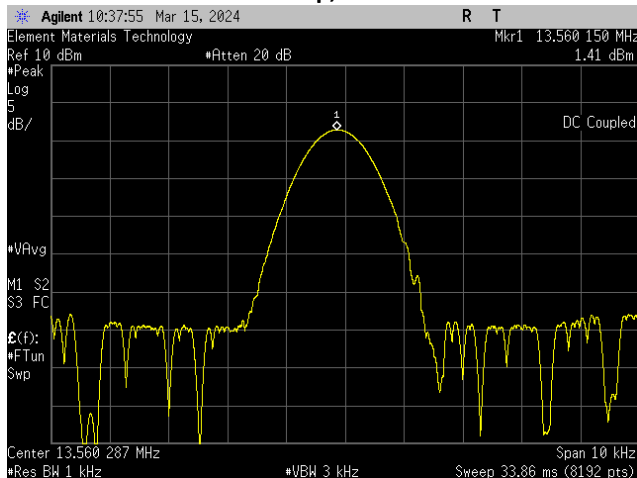
FREQUENCY STABILITY



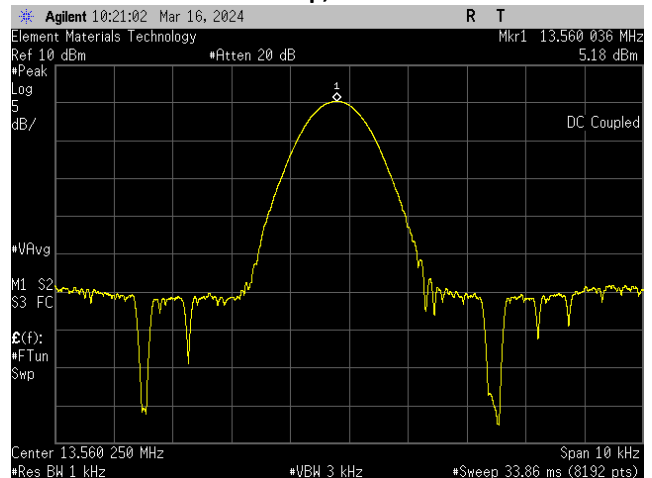
**RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, 0°C**



**RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, -10°C**

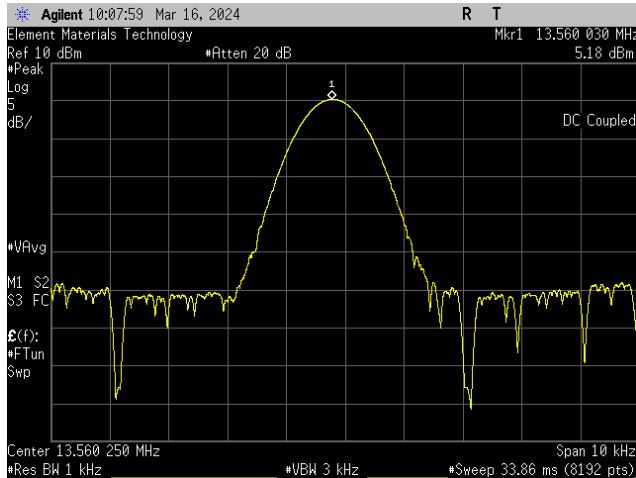


**RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal AC Voltage, 220VAC
Temp, -20°C**

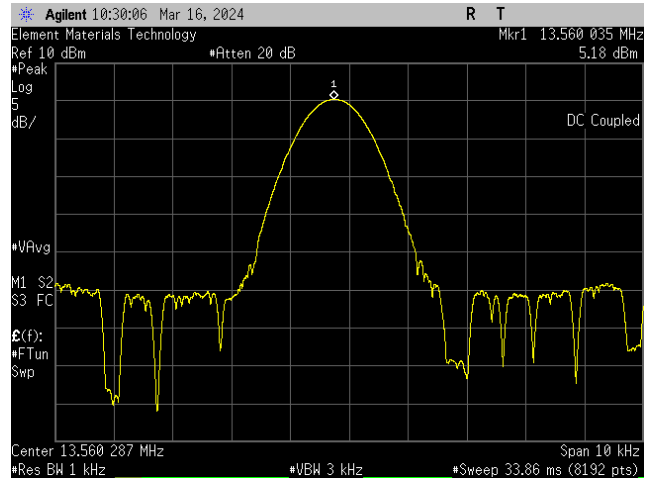


**RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal Temperature, 20°C
Voltage, 115%, 253VAC**

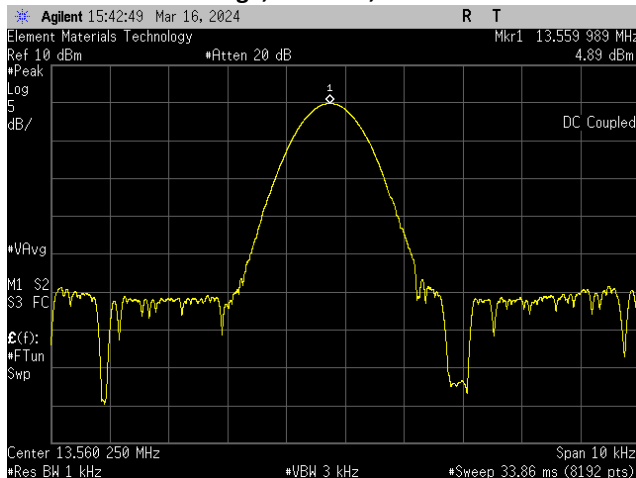
FREQUENCY STABILITY



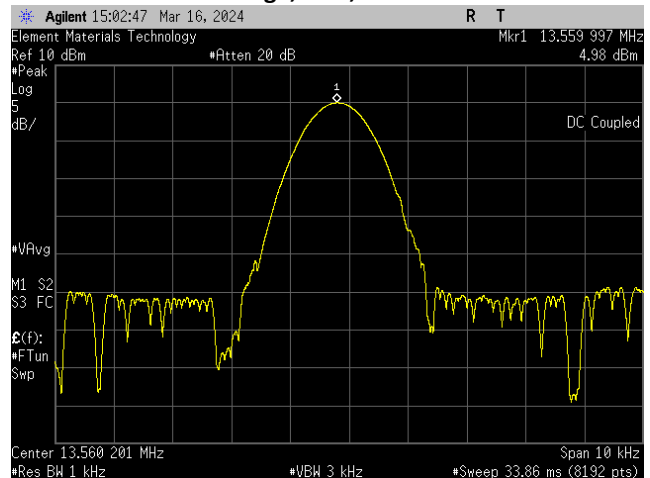
RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

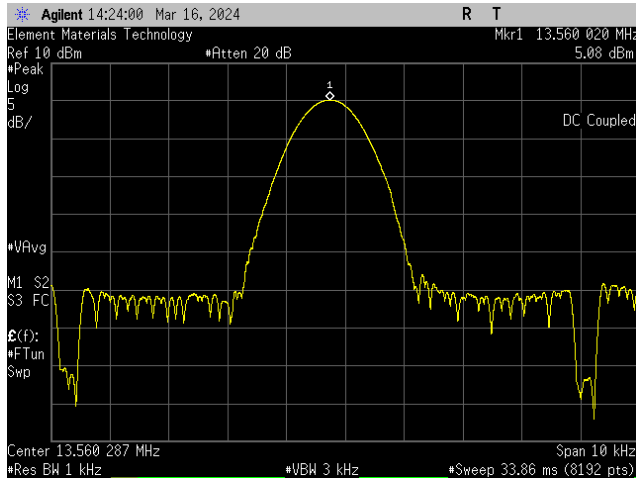


RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 50°C

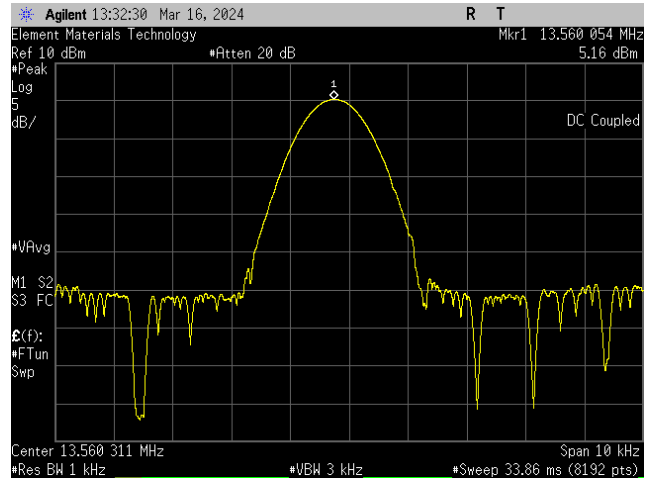


RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 40°C

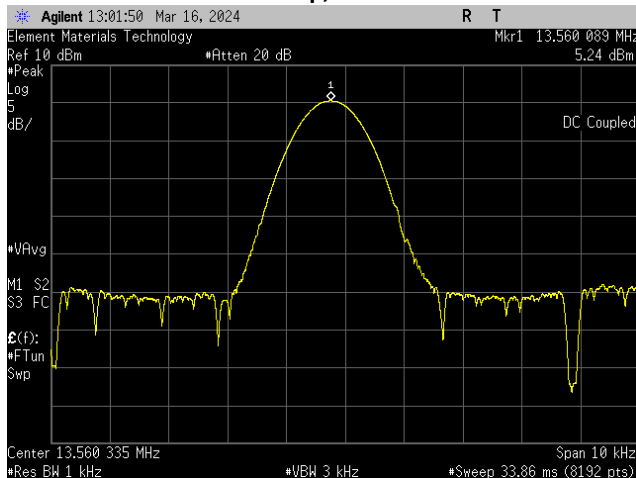
FREQUENCY STABILITY



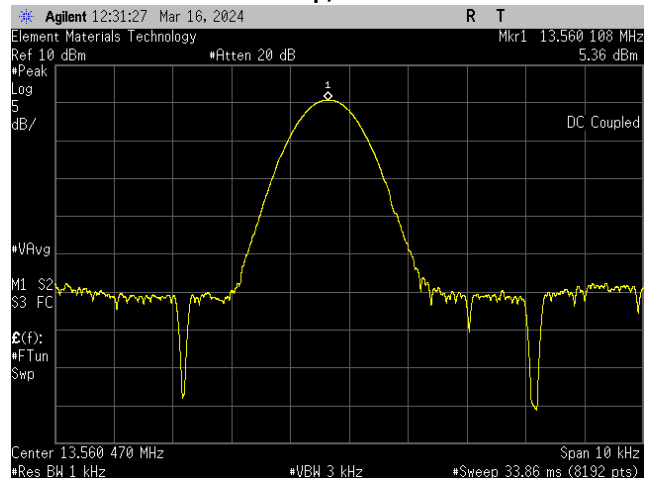
**RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 30°C**



**RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 20°C**

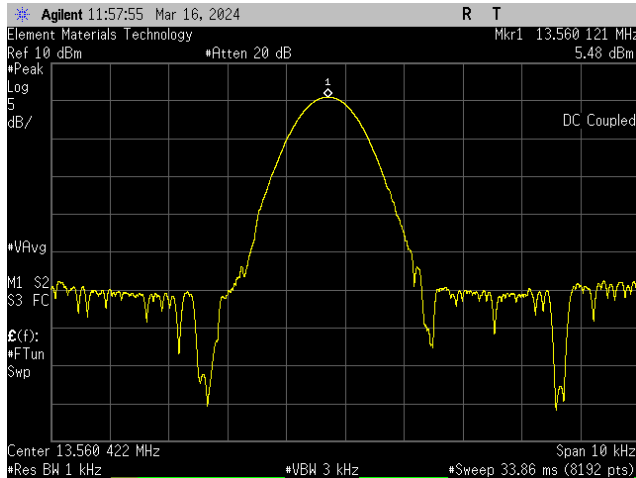


**RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 10°C**

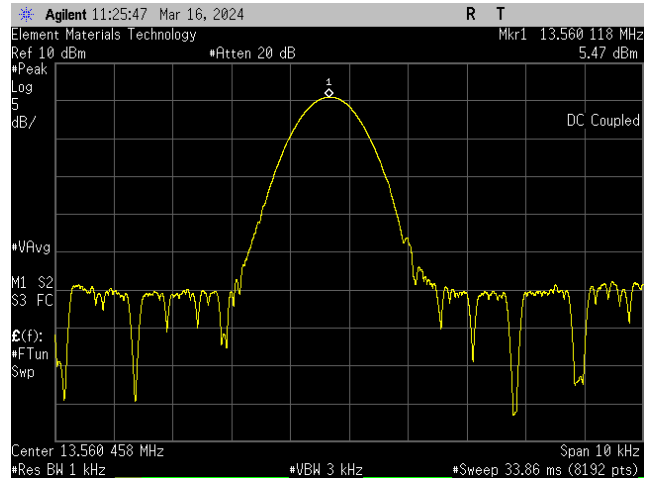


**RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, 0°C**

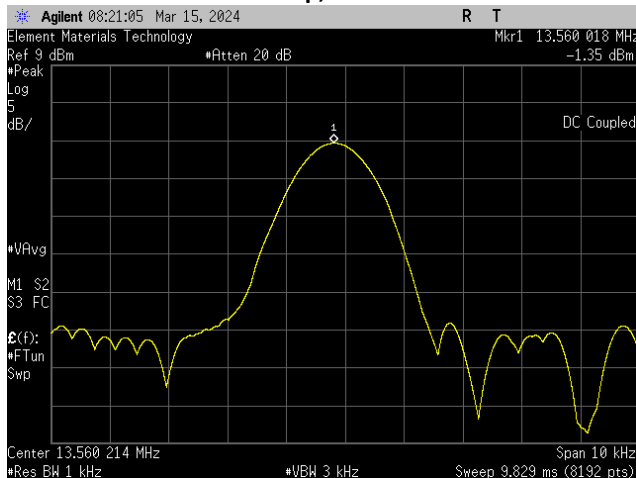
FREQUENCY STABILITY



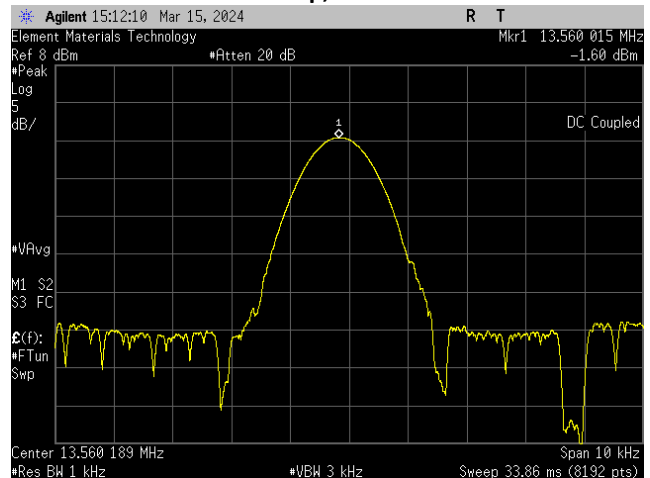
RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, -10°C



RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal AC Voltage, 220VAC
Temp, -20°C

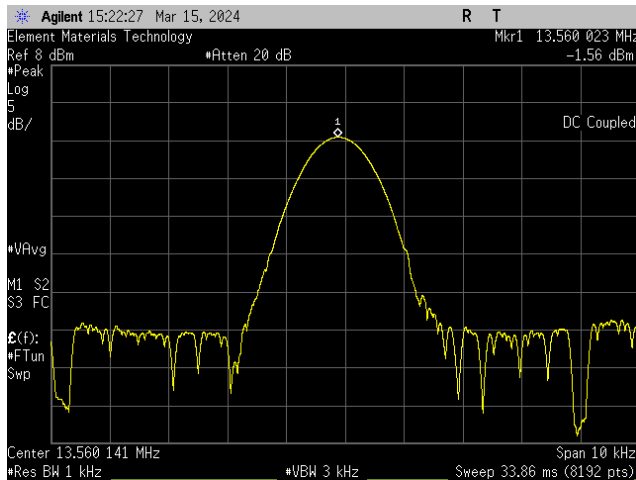


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal Temperature, 20°C
Voltage, 115%, 253VAC

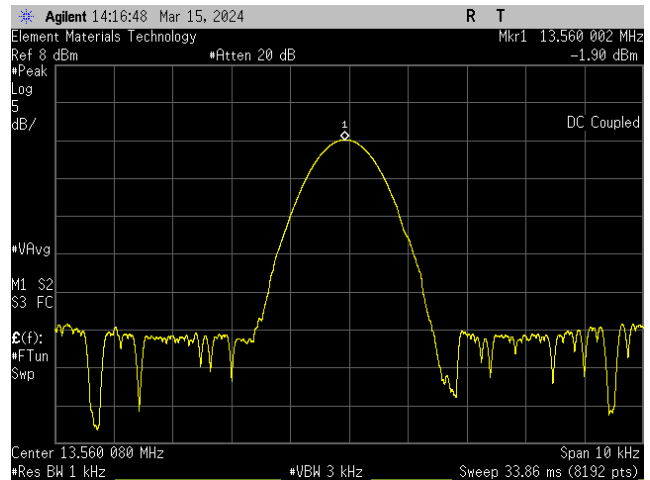


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

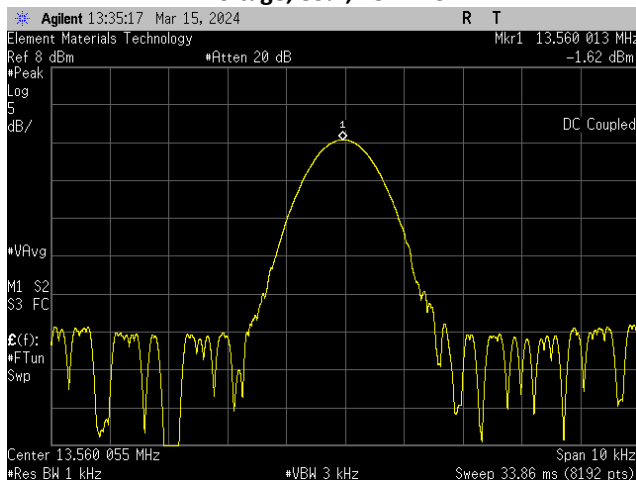
FREQUENCY STABILITY



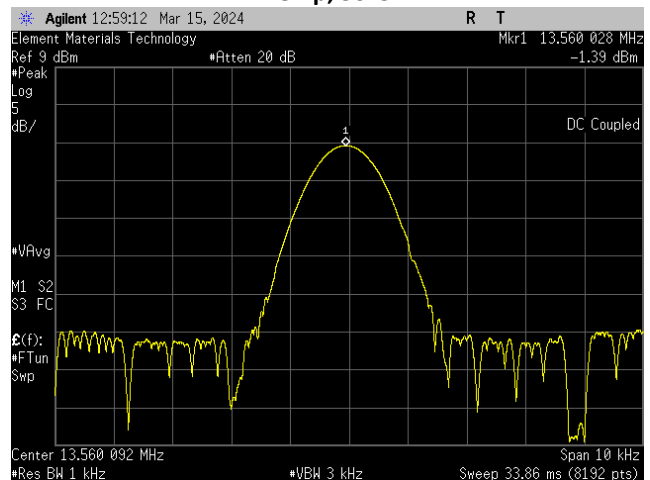
RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal Temperature, 20°C
Voltage, 85%, 187VAC



RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 50°C

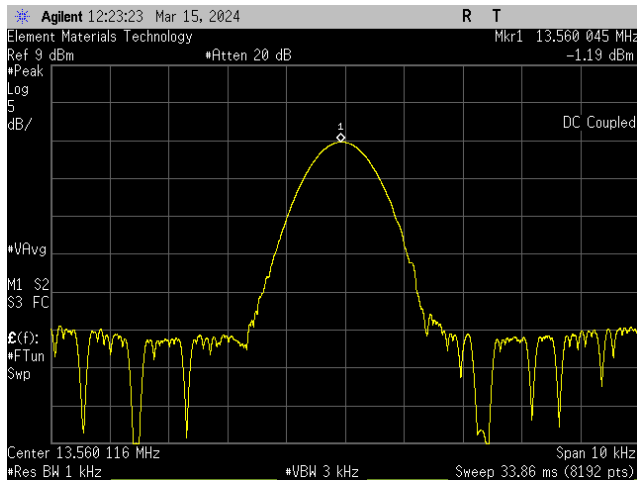


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 40°C

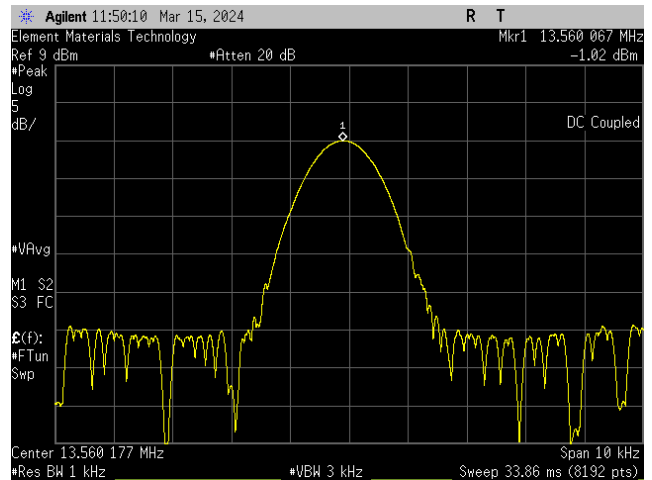


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 30°C

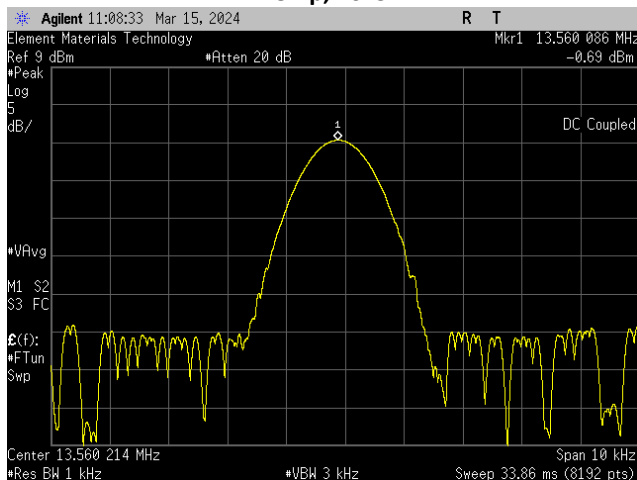
FREQUENCY STABILITY



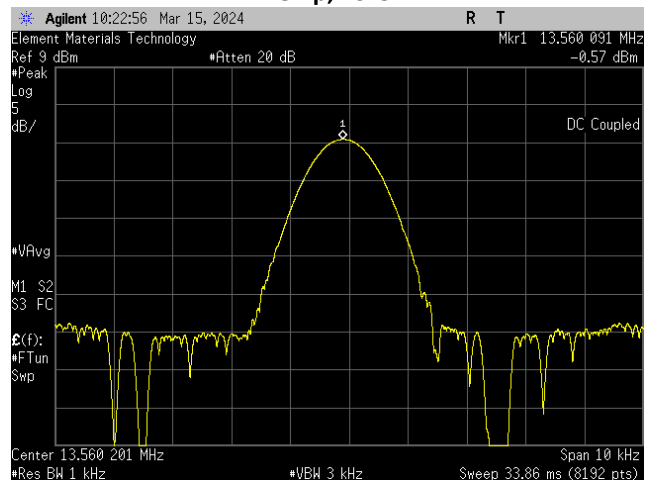
RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 20°C



RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 10°C

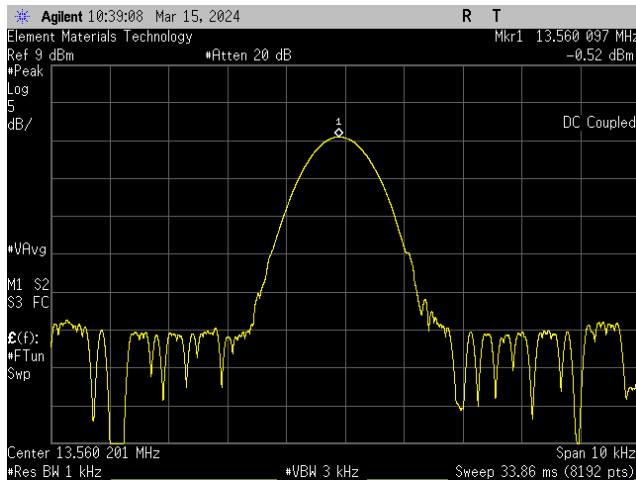


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, 0°C

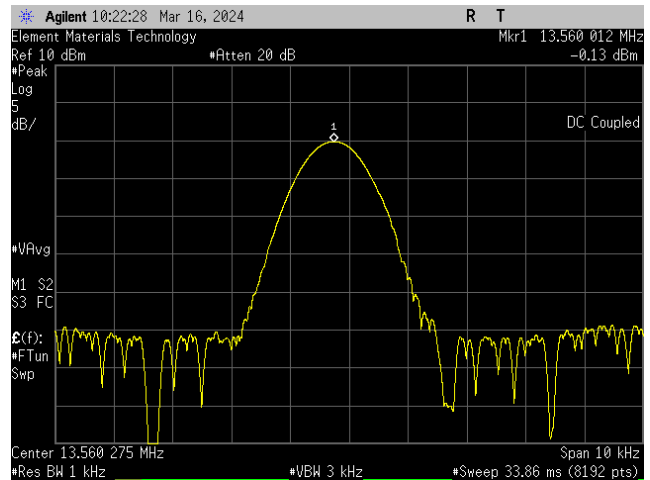


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, -10°C

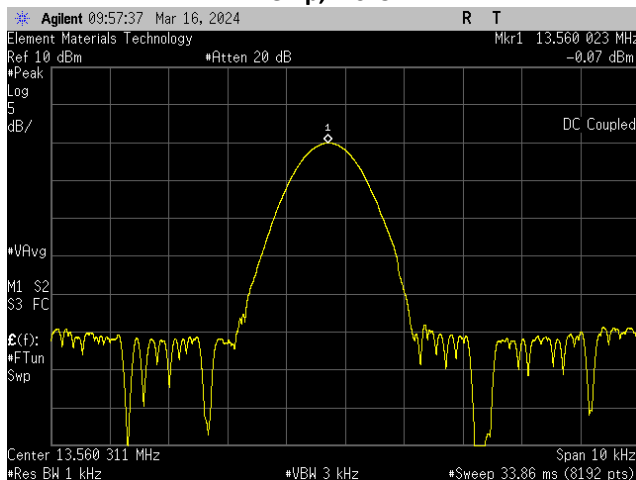
FREQUENCY STABILITY



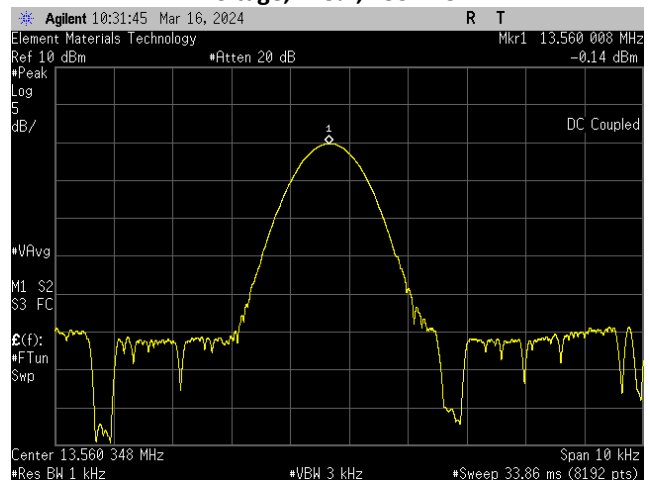
RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal AC Voltage, 220VAC
Temp, -20°C



RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal Temperature, 20°C
Voltage, 115%, 253VAC

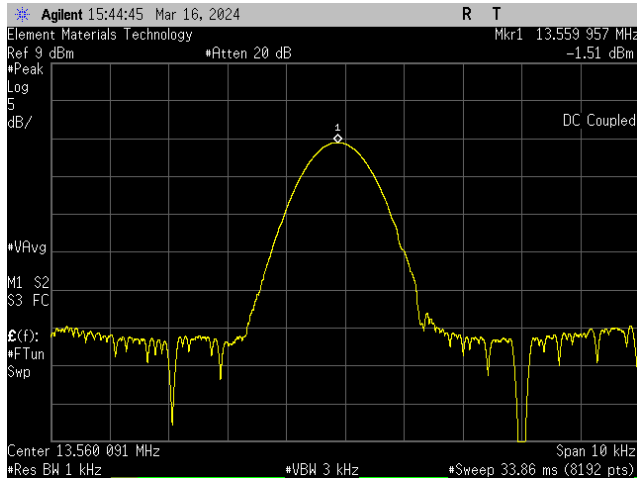


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

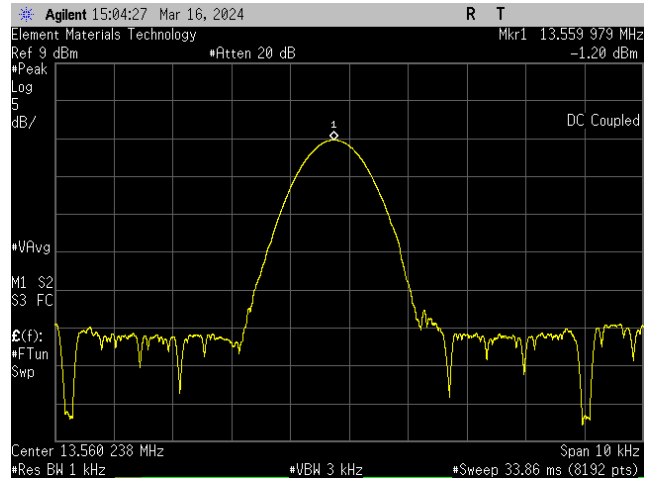


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

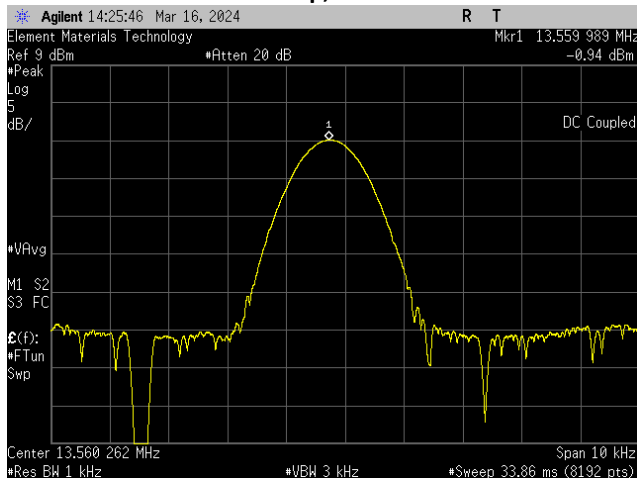
FREQUENCY STABILITY



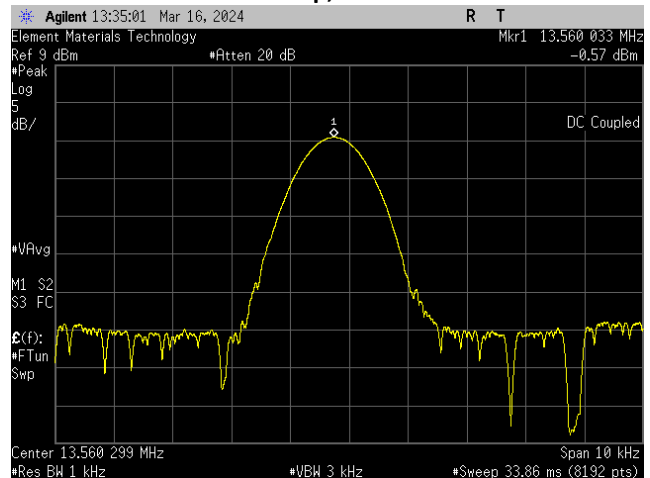
RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 50°C



RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 40°C

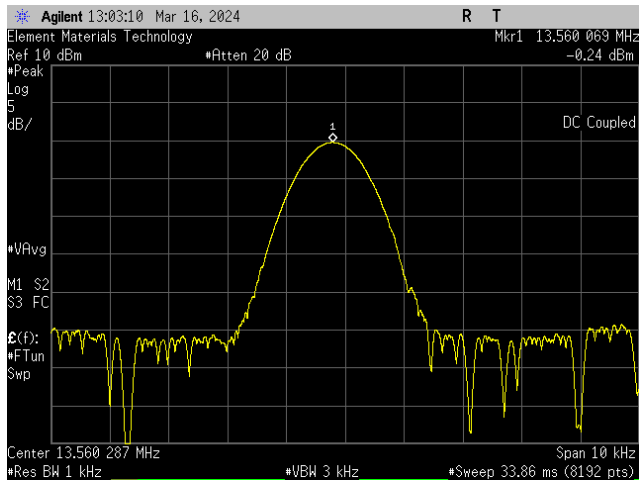


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 30°C

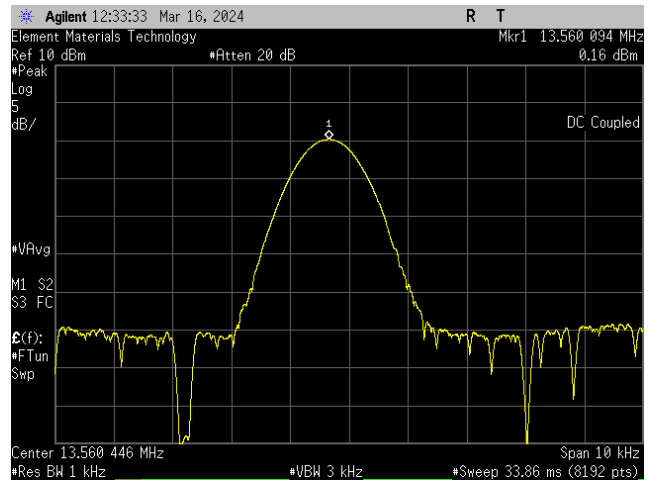


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 20°C

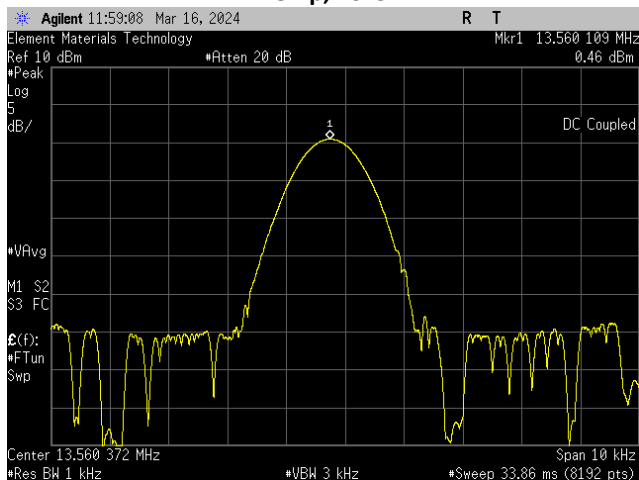
FREQUENCY STABILITY



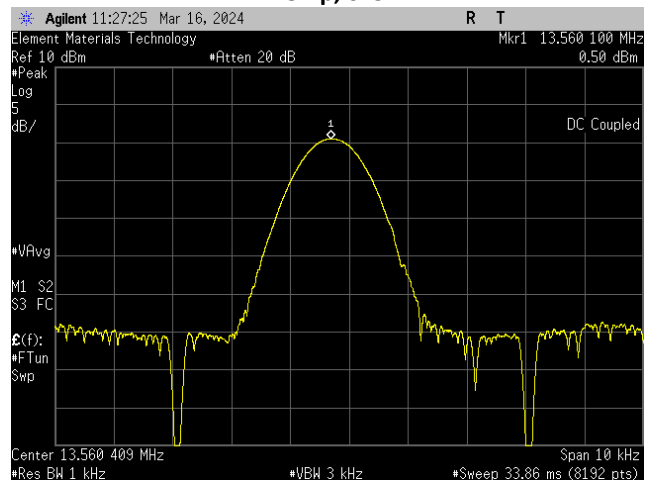
RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 10°C



RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, 0°C

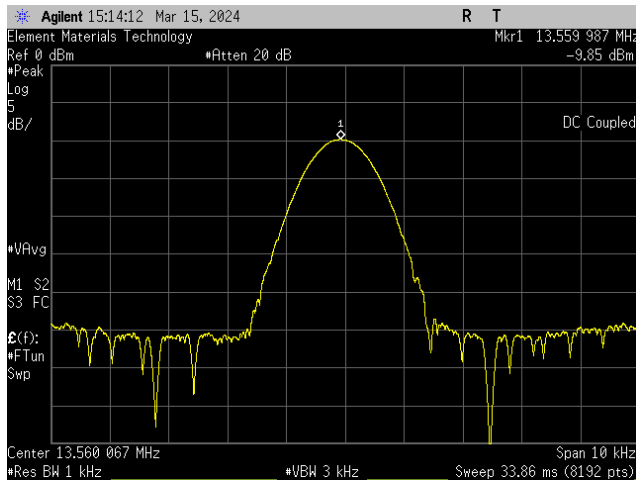


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, -10°C

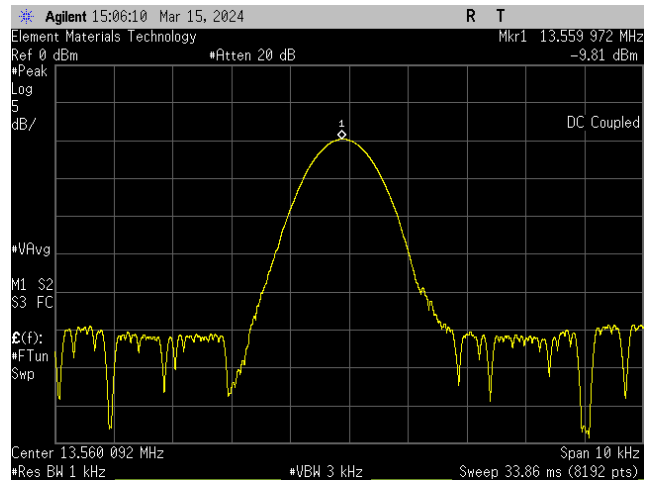


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal AC Voltage, 220VAC
Temp, -20°C

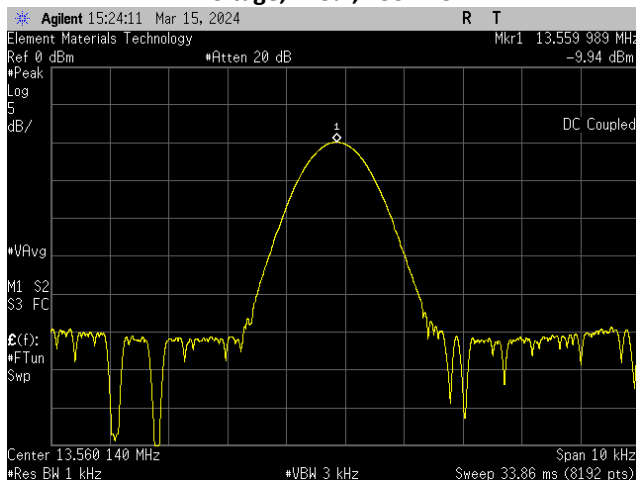
FREQUENCY STABILITY



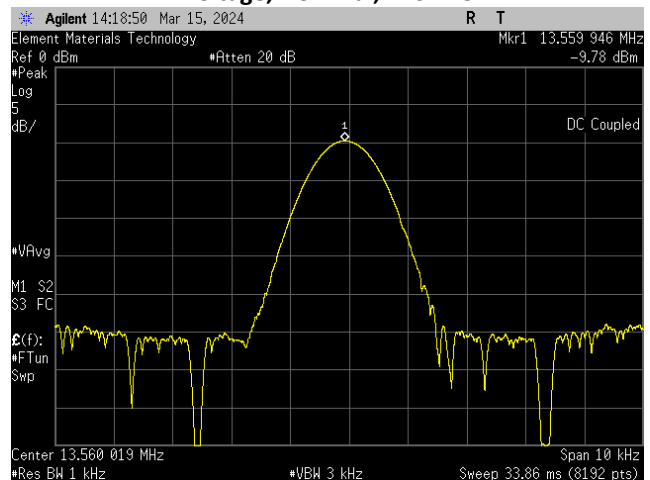
RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal Temperature, 20°C
Voltage, 115%, 253VAC



RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

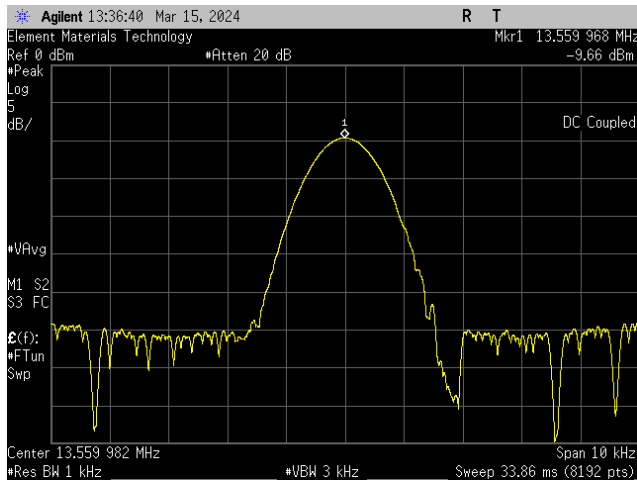


RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

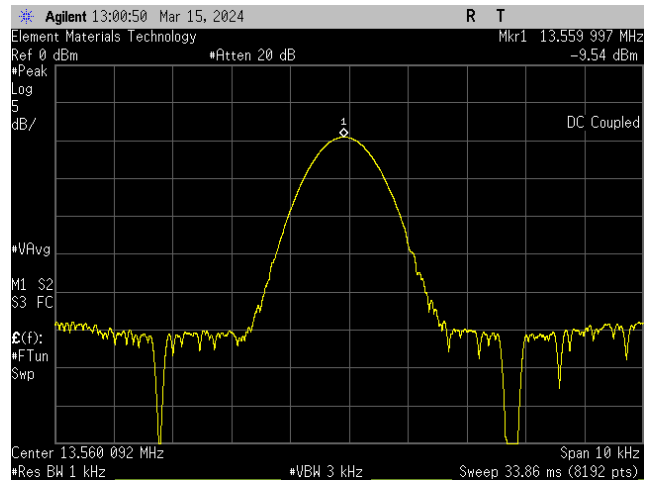


RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 50°C

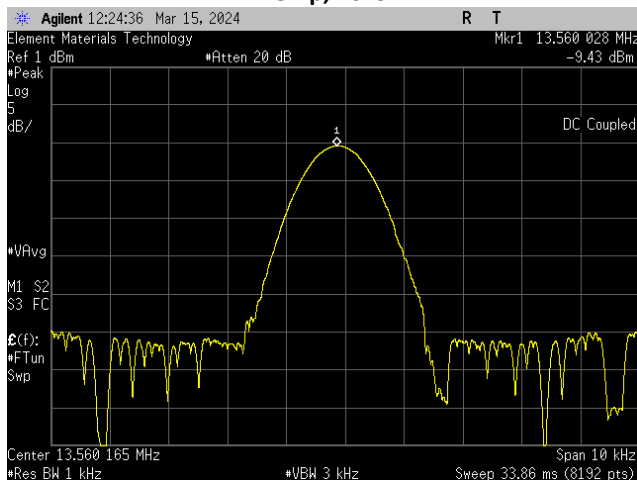
FREQUENCY STABILITY



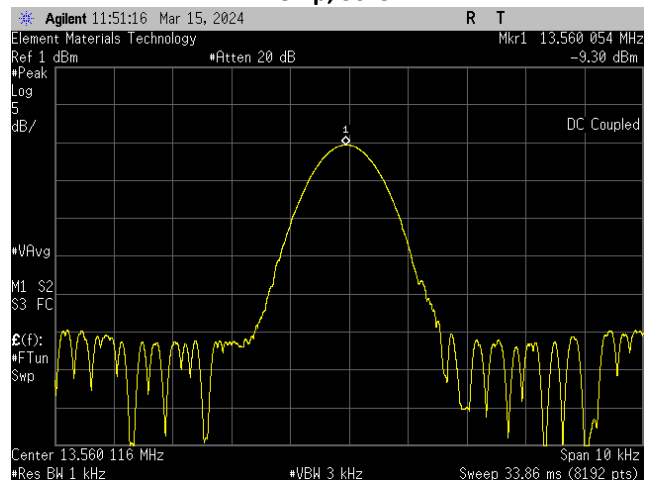
RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 40°C



RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 30°C

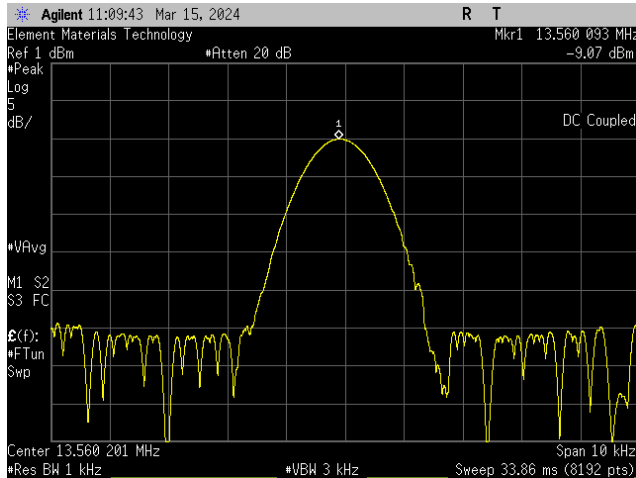


RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 20°C

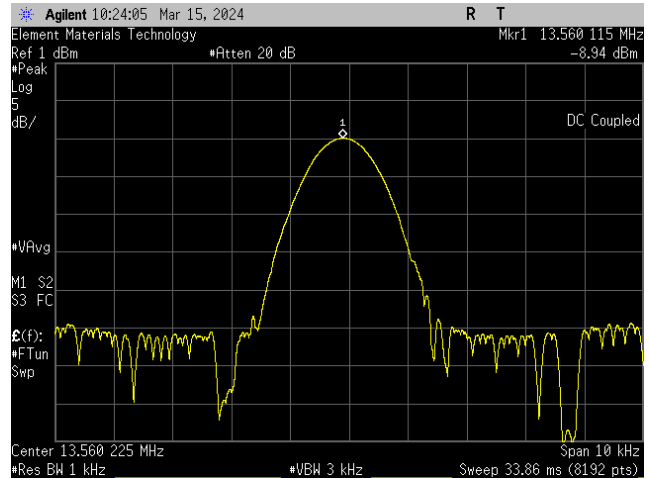


RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 10°C

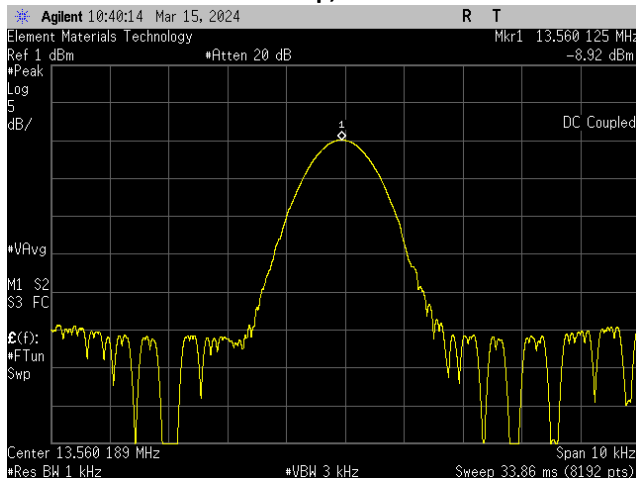
FREQUENCY STABILITY



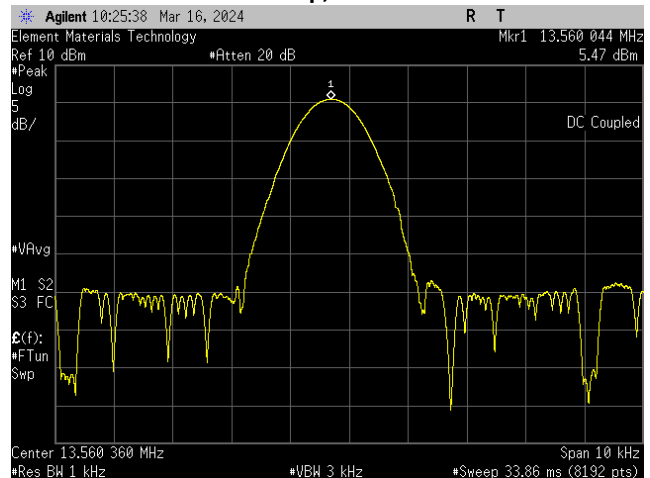
RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, 0°C



RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, -10°C

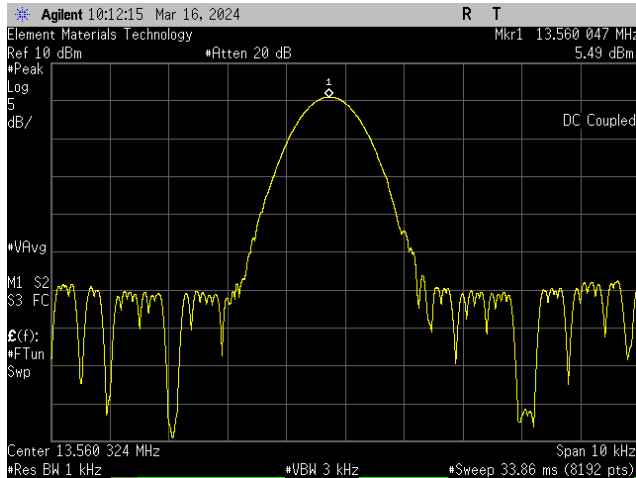


RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal AC Voltage, 220VAC
Temp, -20°C

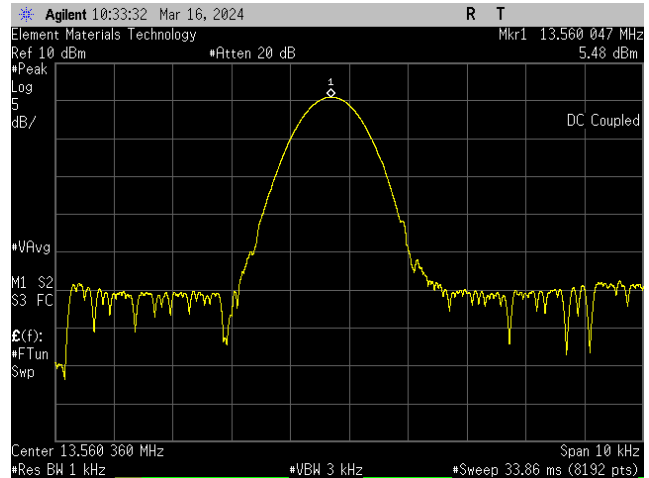


RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal Temperature, 20°C
Voltage, 115%, 253VAC

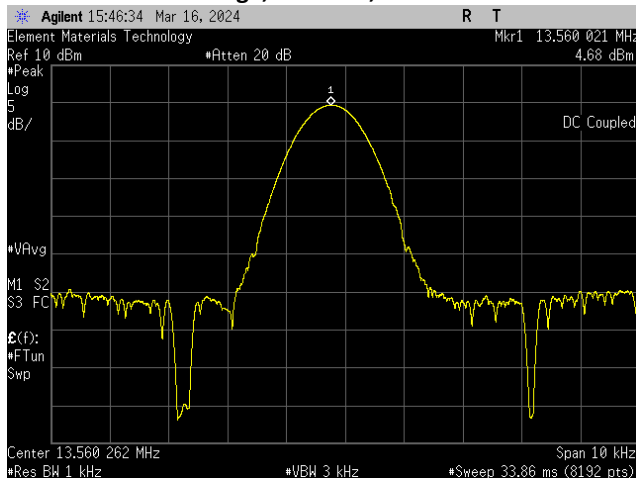
FREQUENCY STABILITY



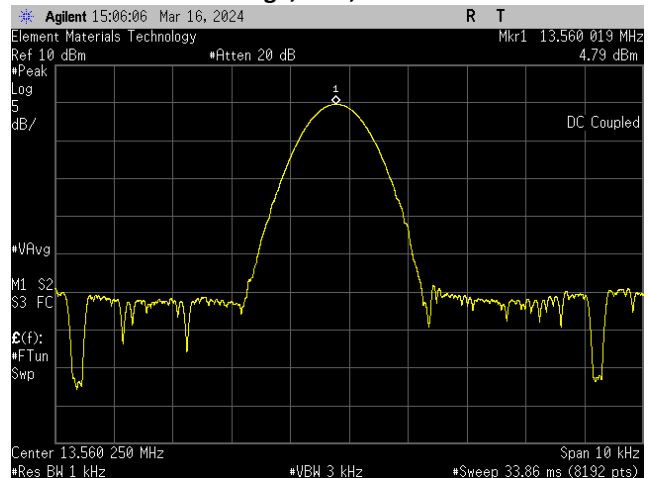
RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

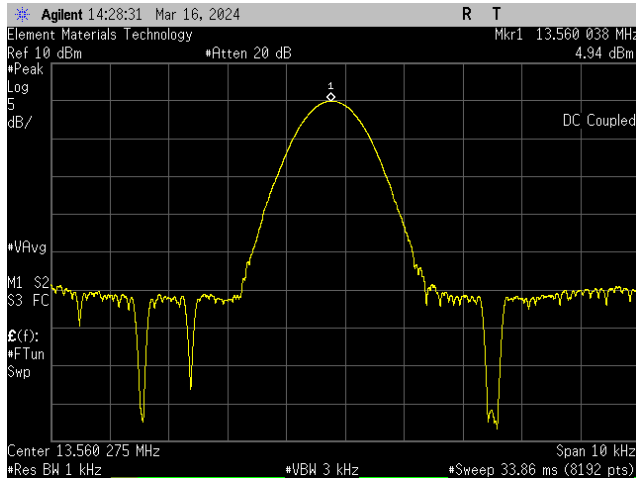


RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 50°C

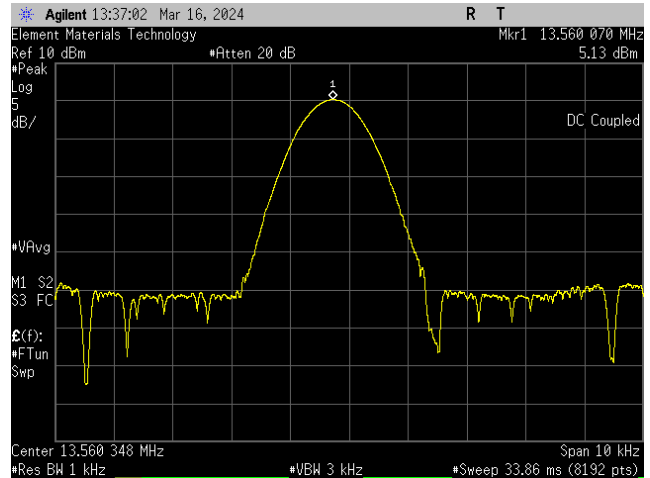


RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 40°C

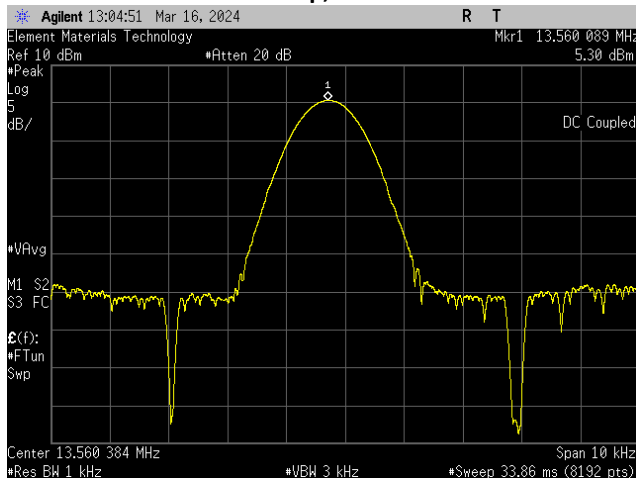
FREQUENCY STABILITY



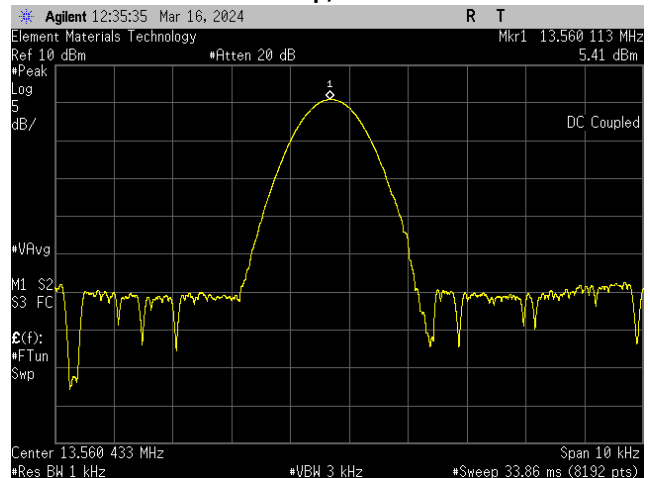
RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 30°C



RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 20°C

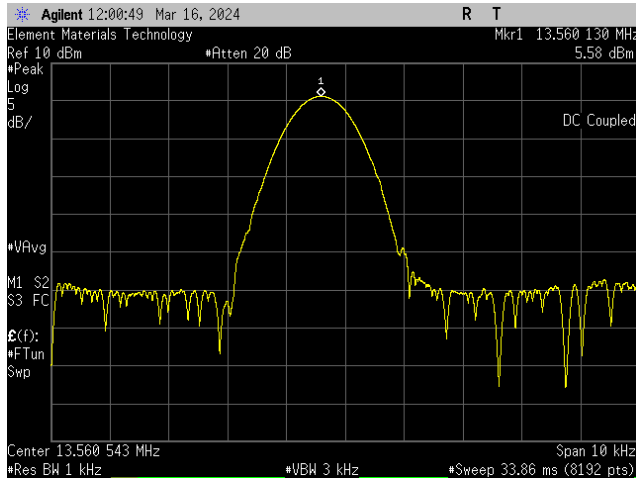


RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 10°C

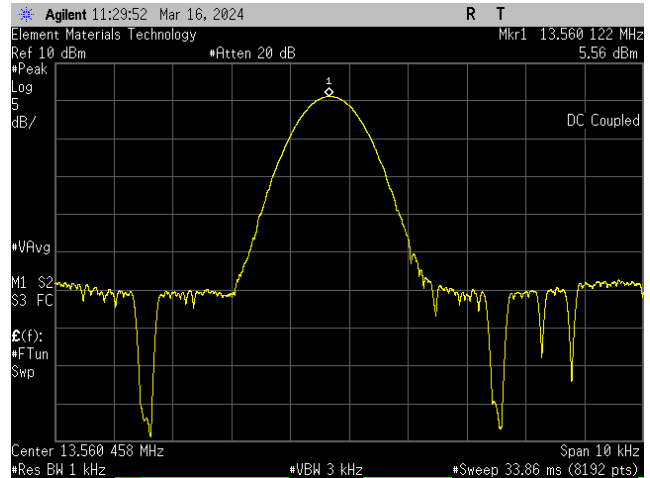


RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, 0°C

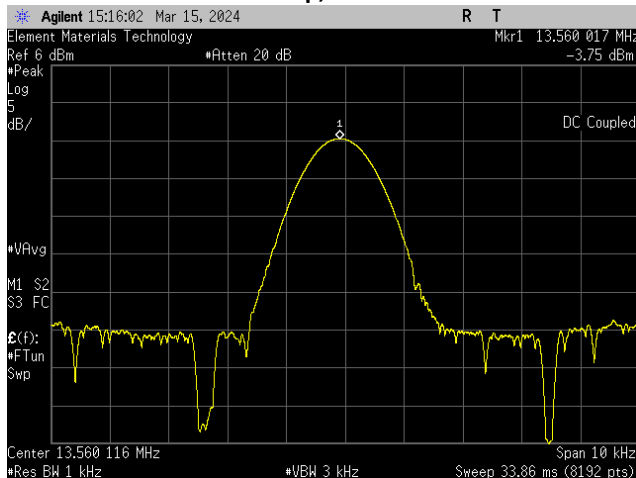
FREQUENCY STABILITY



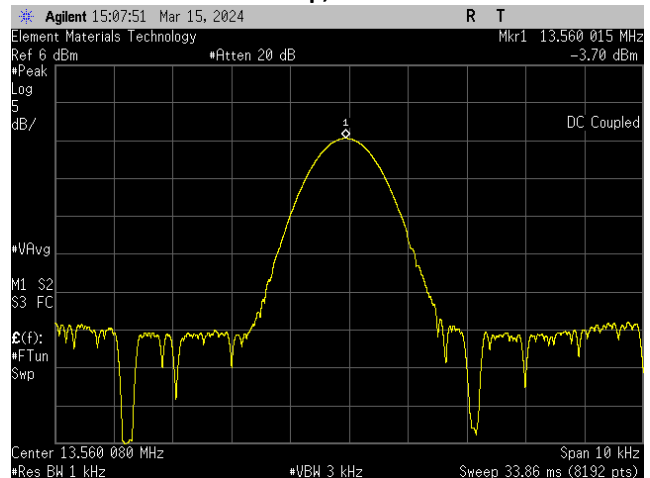
RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, -10°C



RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal AC Voltage, 220VAC
Temp, -20°C

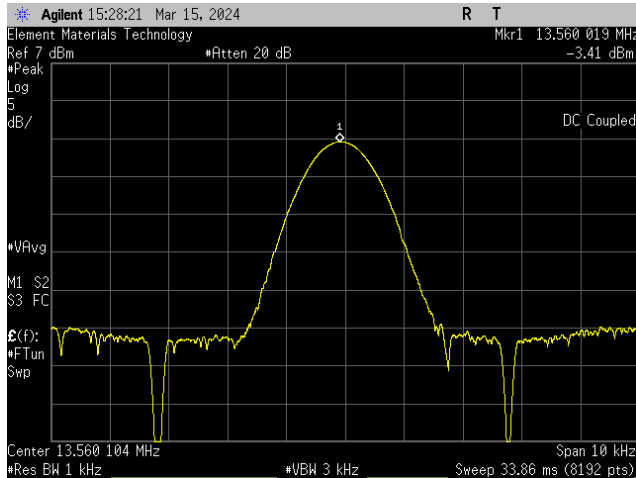


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal Temperature, 20°C
Voltage, 115%, 253VAC

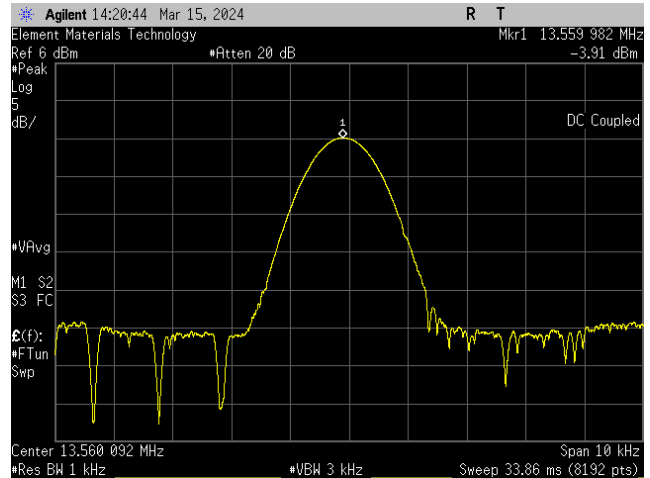


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

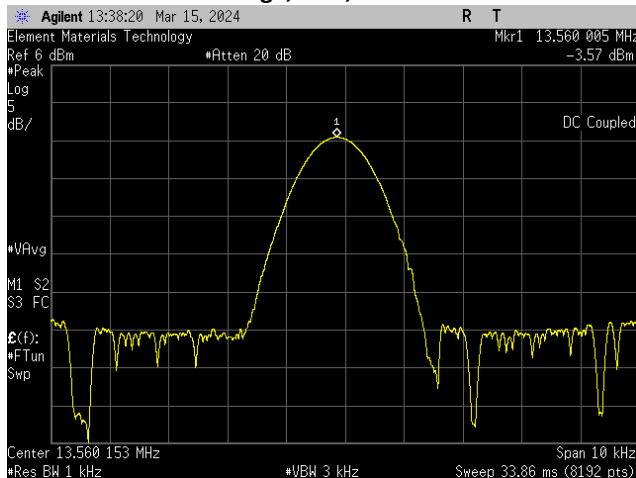
FREQUENCY STABILITY



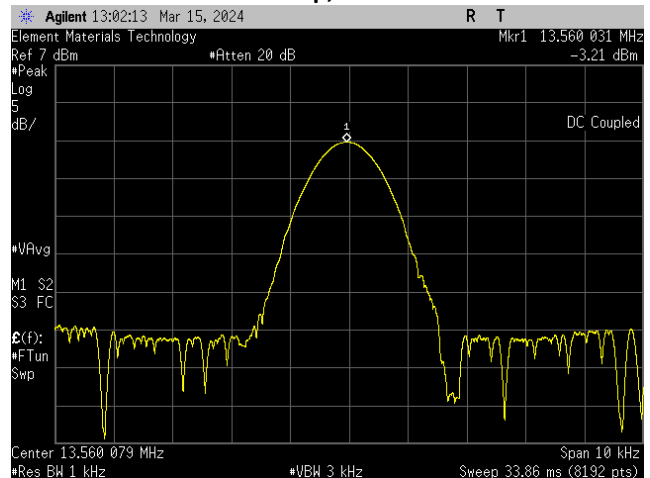
RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal Temperature, 20°C
Voltage, 85%, 187VAC



RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 50°C

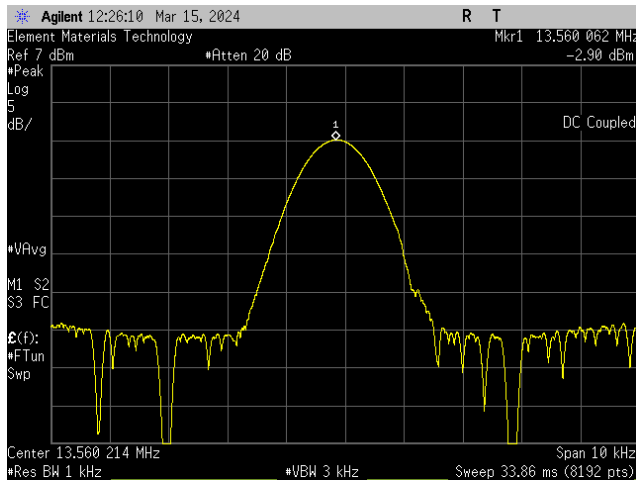


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 40°C

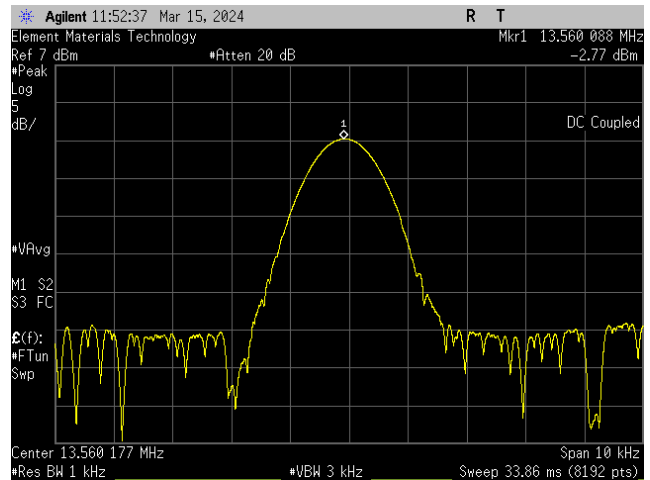


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 30°C

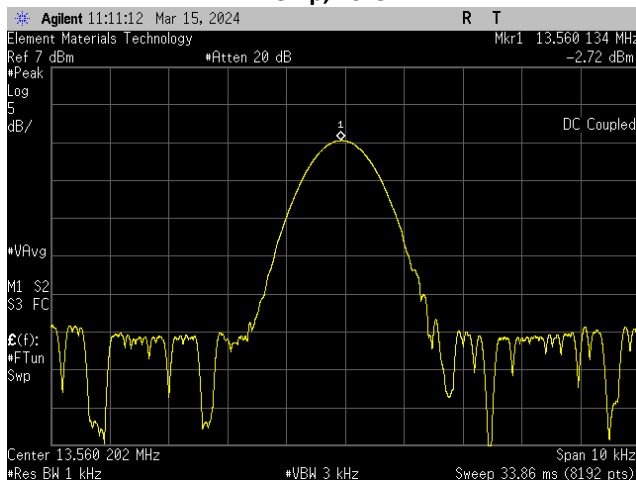
FREQUENCY STABILITY



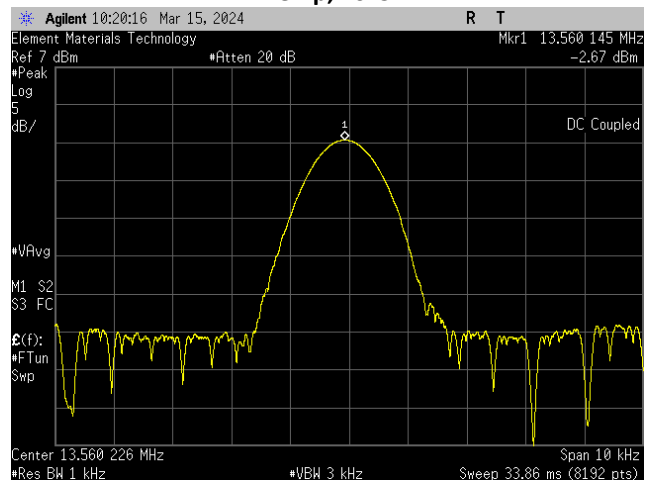
RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 20°C



RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 10°C

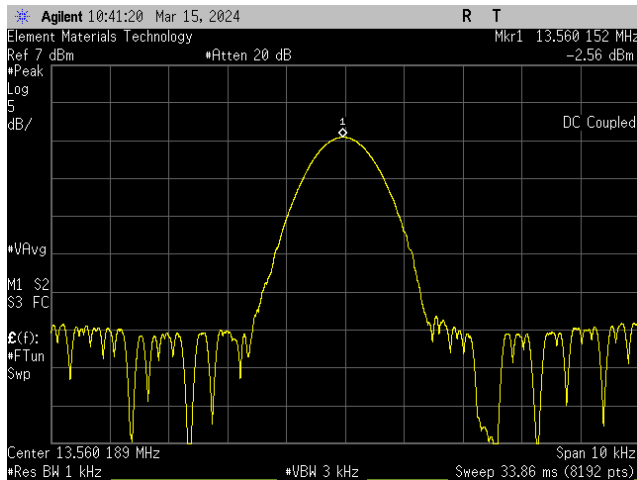


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, 0°C

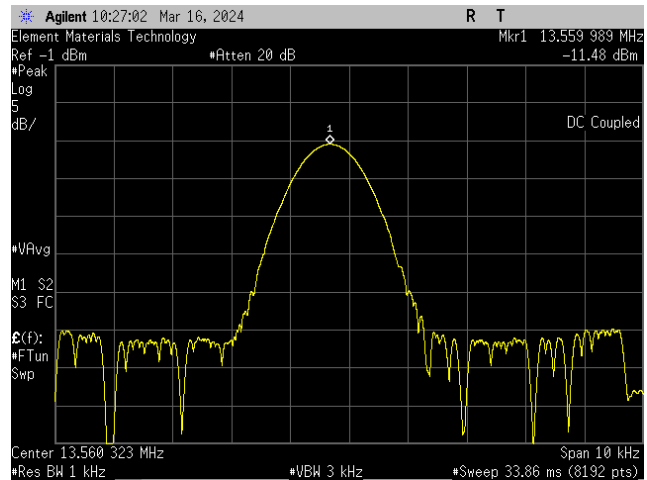


RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, -10°C

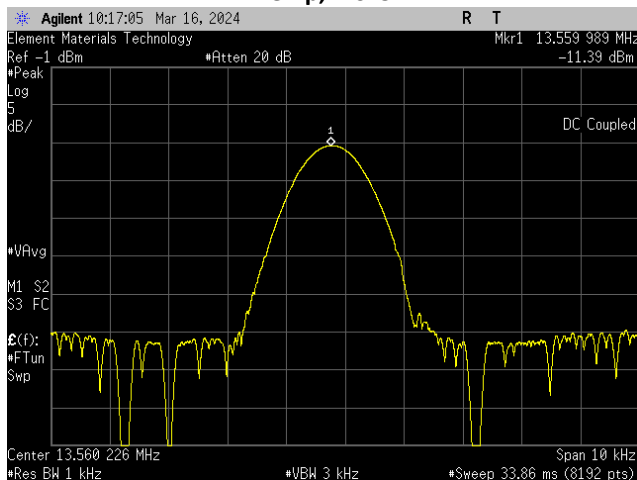
FREQUENCY STABILITY



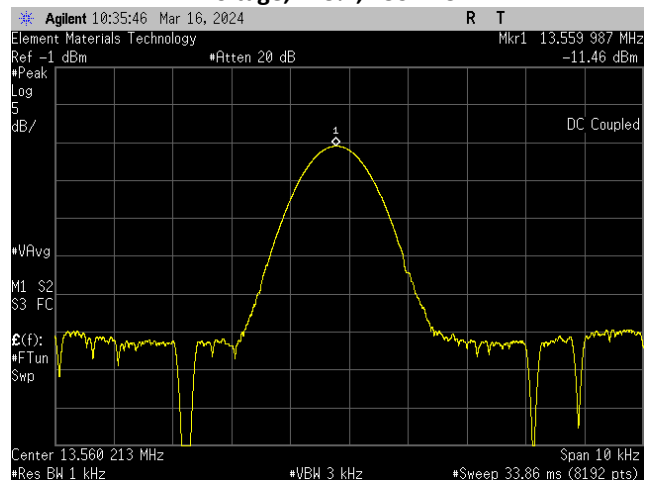
RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal AC Voltage, 220VAC
Temp, -20°C



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal Temperature, 20°C
Voltage, 115%, 253VAC

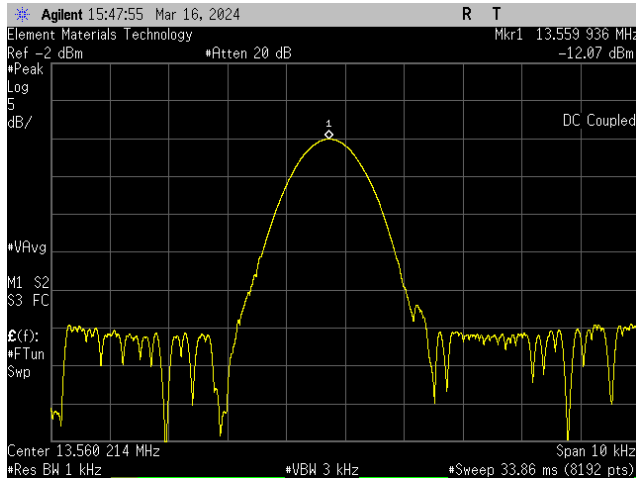


RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

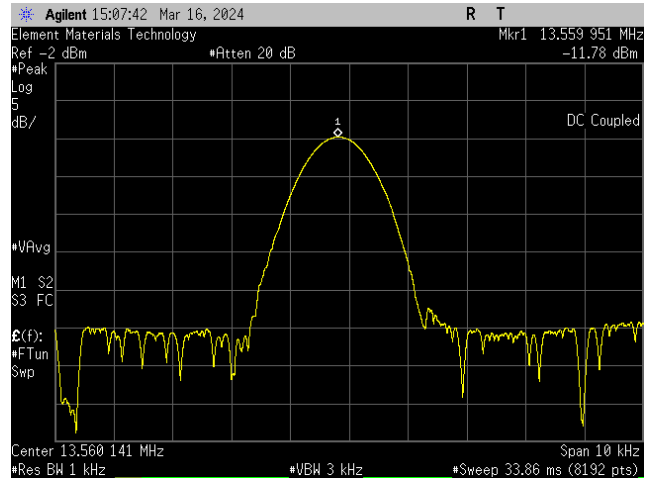


RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal Temperature, 20°C
Voltage, 85%, 187VAC

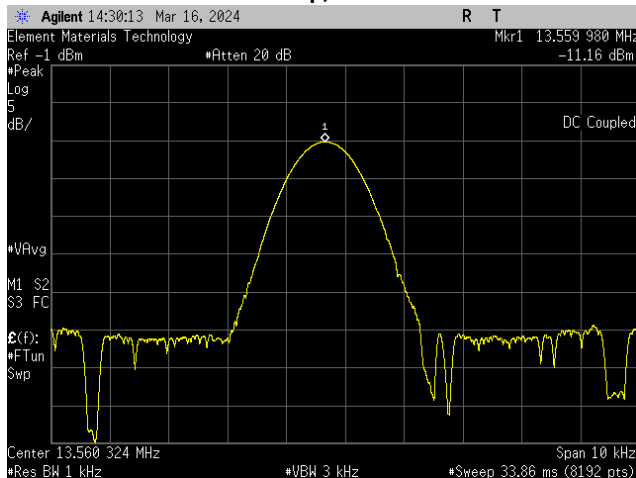
FREQUENCY STABILITY



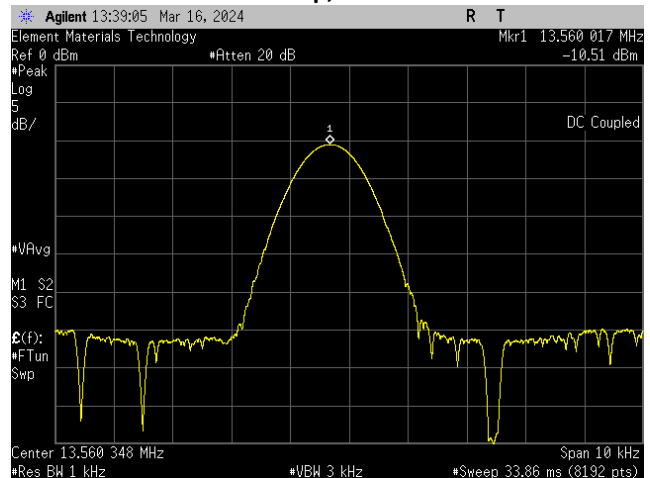
RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 50°C



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 40°C

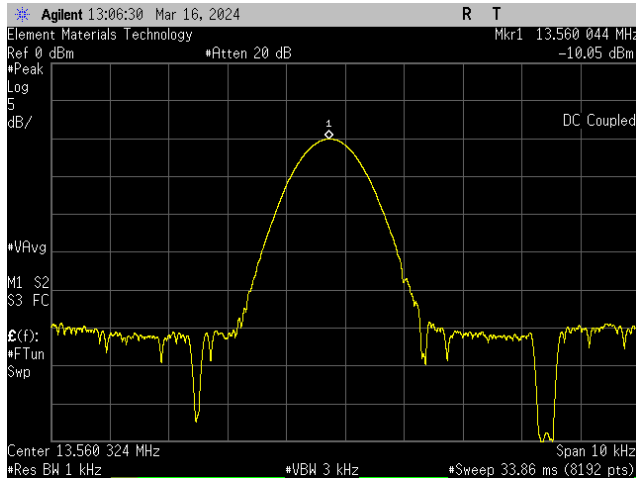


RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 30°C

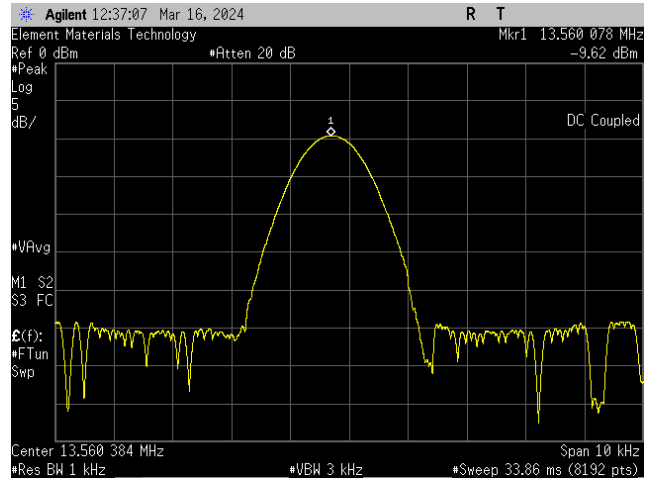


RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 20°C

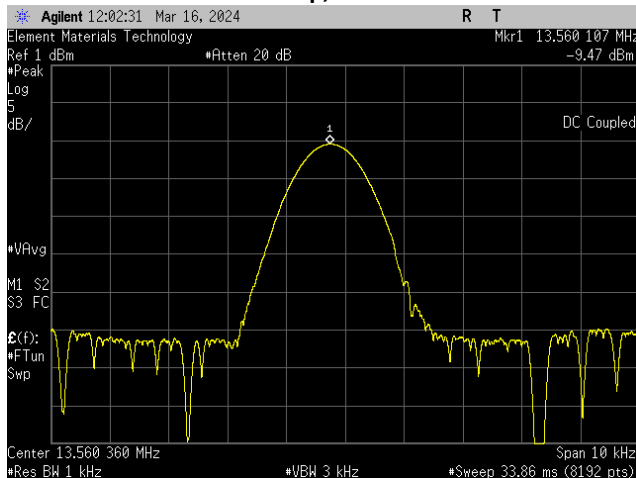
FREQUENCY STABILITY



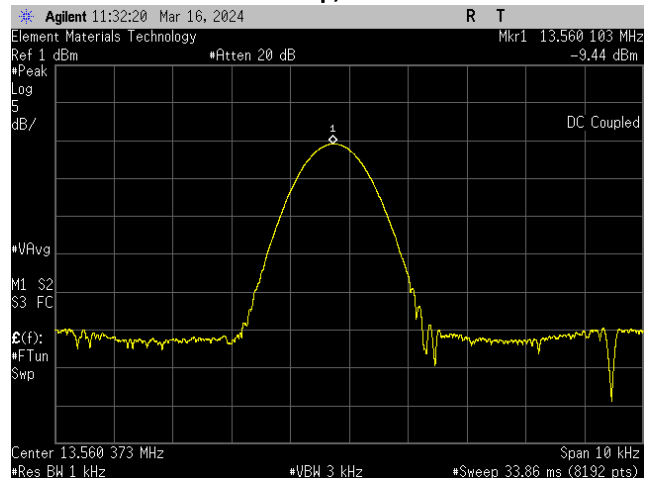
RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 10°C



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, 0°C



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, -10°C



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal AC Voltage, 220VAC
Temp, -20°C

OCCUPIED BANDWIDTH

TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer.

When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth as defined in RSS-Gen.

The 99% occupied bandwidth was measured with the EUT configured for continuous modulated operation.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The resolution bandwidth (RBW) of the spectrum analyzer was set to the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) bandwidth was set to at least 3 times the resolution bandwidth. The analyzer sweep time was set to auto to prevent video filtering or averaging. A sample detector was used unless the device was not able to be operated in a continuous transmit mode, in which case a peak detector was used.

The spectrum analyzer occupied bandwidth measurement function was used to sum the power of the transmission in linear terms to obtain the 99% bandwidth.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFG	2023-05-22	2024-05-22
Block - DC	Fairview Microwave	SD3464	ANA	2023-08-31	2024-08-31
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR

OCCUPIED BANDWIDTH

EUT:	Roundabout 4-entry HL	Work Order:	ABBO0310
Serial Number:	RA4HL_001	Date:	2024-03-16
Customer:	Abbott Laboratories	Temperature:	23.1°C
Attendees:	Frank Sun	Relative Humidity:	42.5%
Customer Project:	None	Bar. Pressure (PMSL):	998 mbar
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0310-1

TEST SPECIFICATIONS

Specification:	Method:
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

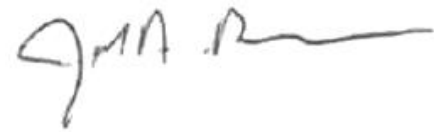
Radio Component of Floor Standing Device. Test protocol D000147299/A. EUT contains four SwitchController PCBs; each with two RFID radios.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

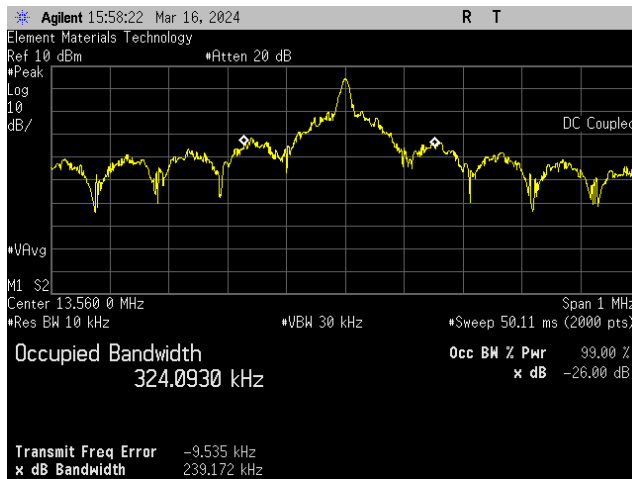


Tested By

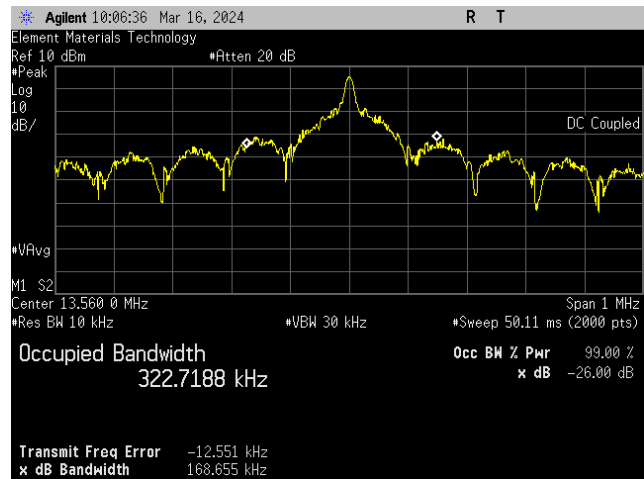
TEST RESULTS

	Value	Limit	Result
RFID, 13.56 MHz			
SwitchController 1 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	324.093 kHz	N/A	N/A
SwitchController 1 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	322.719 kHz	N/A	N/A
SwitchController 2 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	331.995 kHz	N/A	N/A
SwitchController 2 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	325.925 kHz	N/A	N/A
SwitchController 3 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	322.351 kHz	N/A	N/A
SwitchController 3 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	324.624 kHz	N/A	N/A
SwitchController 4 Radio 1			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	324.156 kHz	N/A	N/A
SwitchController 4 Radio 2			
Nominal Temperature, 20°C			
Voltage, Nominal, 220VAC	326.791 kHz	N/A	N/A

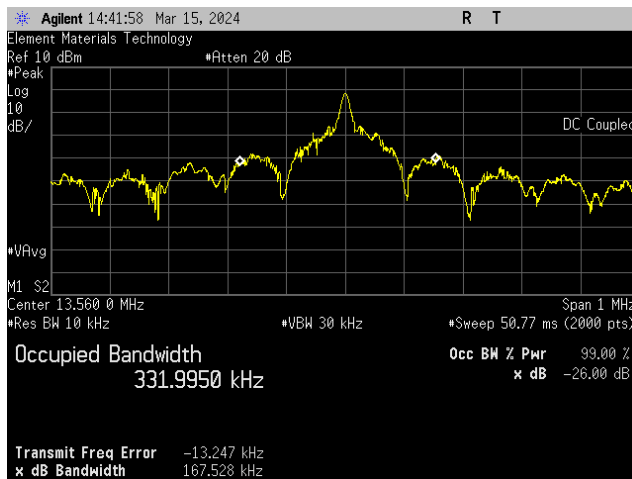
OCCUPIED BANDWIDTH



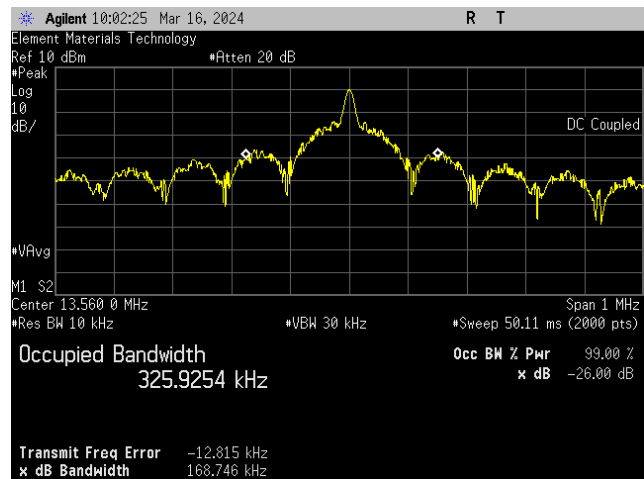
RFID, 13.56 MHz
SwitchController 1 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 1 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

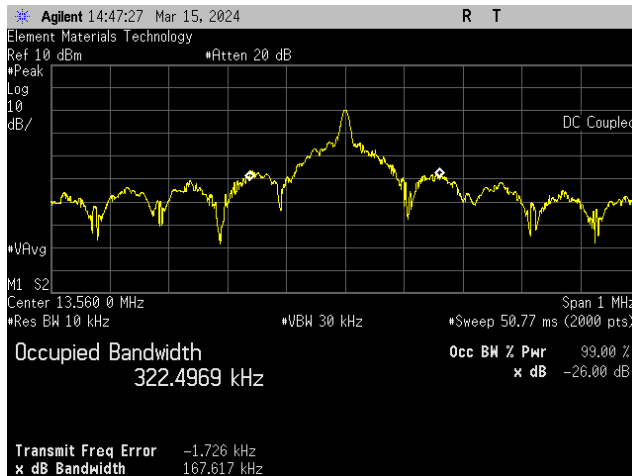


RFID, 13.56 MHz
SwitchController 2 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

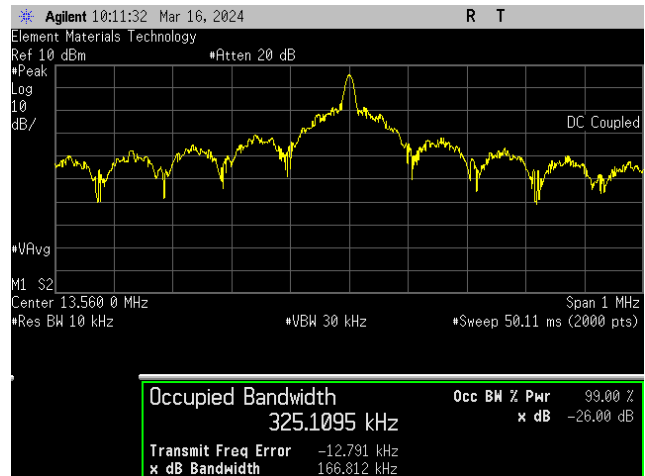


RFID, 13.56 MHz
SwitchController 2 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

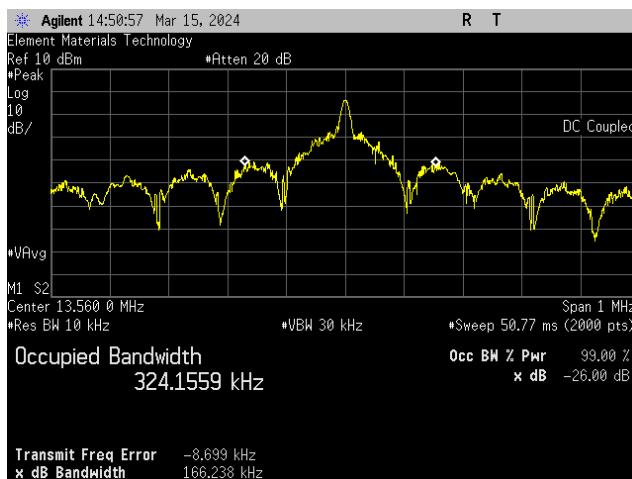
OCCUPIED BANDWIDTH



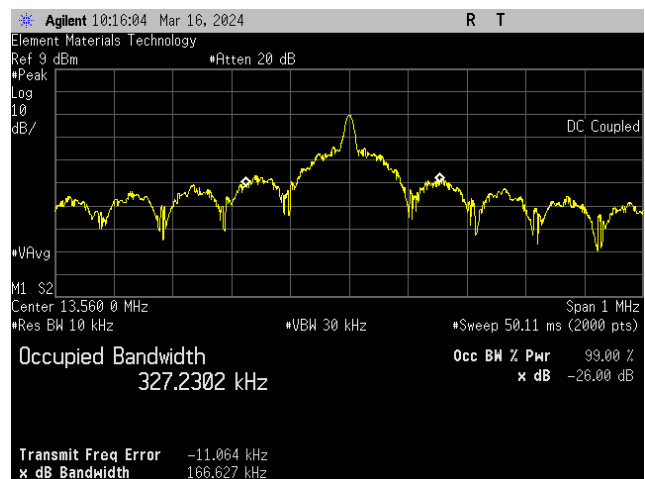
RFID, 13.56 MHz
SwitchController 3 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 3 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 4 Radio 1
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC



RFID, 13.56 MHz
SwitchController 4 Radio 2
Nominal Temperature, 20°C
Voltage, Nominal, 220VAC

End of Test Report