Abbott Laboratories

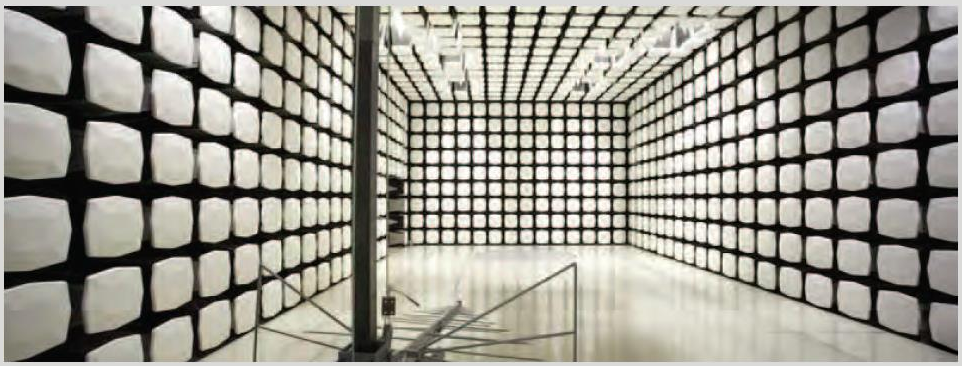
Centrifuge Module

FCC 15.225:2023

RSS-210 Issue 10: 2019 +A1:2020

13.56 MHz Radio

Report: ABBO0285.2 Rev. 1, Issue Date: November 15, 2023



CERT #3310.03

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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 10
Power Settings and Antenna Information 11
Configurations 12
Modifications 14
Powerline Conducted Emissions 15
Field Strength of Fundamental 64
Field Strength of Spurious Emissions (Less Than 30 MHz) 83
Field Strength of Spurious Emissions (Greater Than 30 MHz) 88
Frequency Stability 91
Emissions Bandwidth (20 dB) 148
Occupied Bandwidth (99%) 154
End of Report 160

CERTIFICATE OF TEST

Last Date of Test: August 28, 2023
Abbott Laboratories
EUT: Centrifuge Module

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2023	ANSI C63.10:2013
FCC 15.225:2023	
RSS-210 Issue 10:2019 +A1:2020	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Results

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

Deviations From Test Standards

None

Approved By:

Adam Bruno, Operations Manager

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
01	Corrected PPM cell calculation (extra zero in multiplier) for CrossSwitch 2 Radio 2.	2023-11-15	127-133

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.

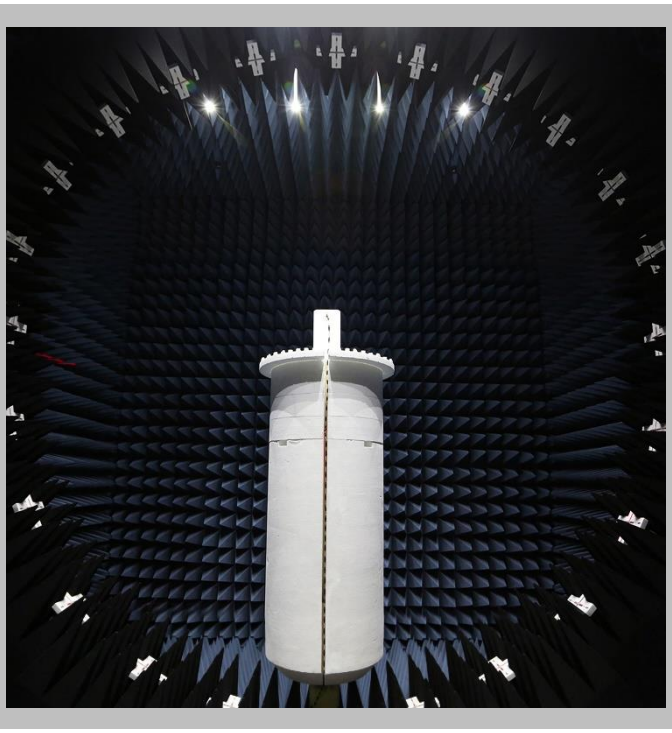
SCOPE

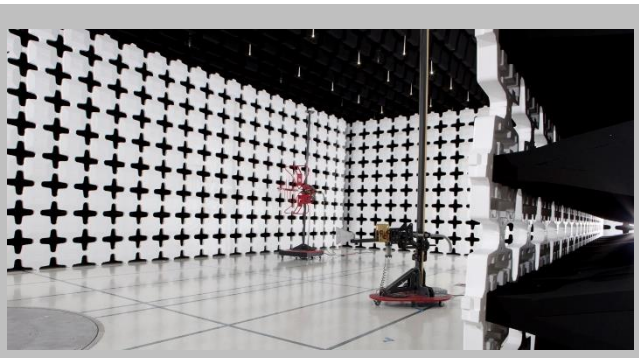
For details on the Scopes of our Accreditations, please visit:

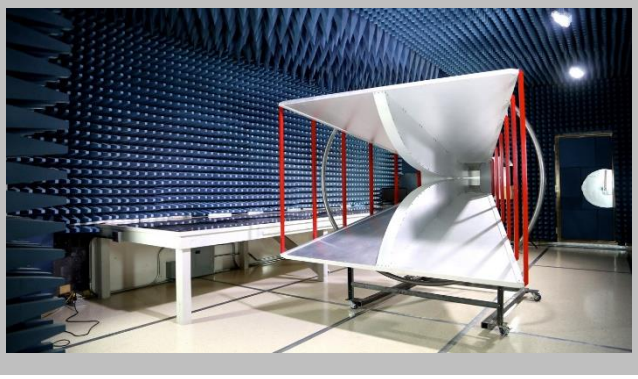
California Minnesota Oregon Texas Washington

FACILITIES

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425) 984-6600
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
RP.2023.05.08.0

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 Location: Texas

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

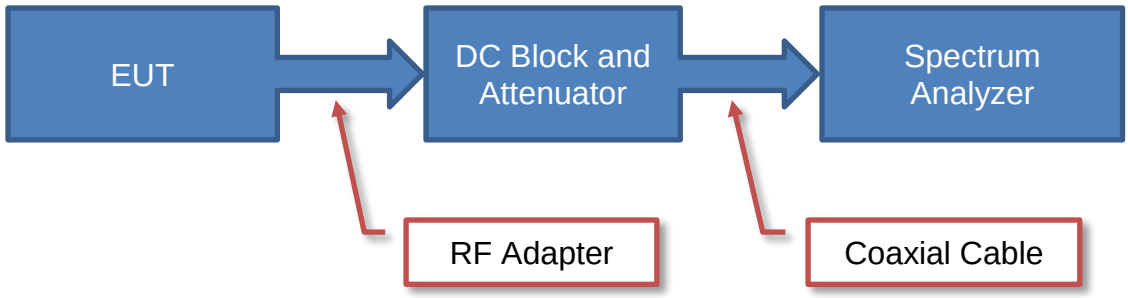
TEST SETUP BLOCK DIAGRAMS

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.

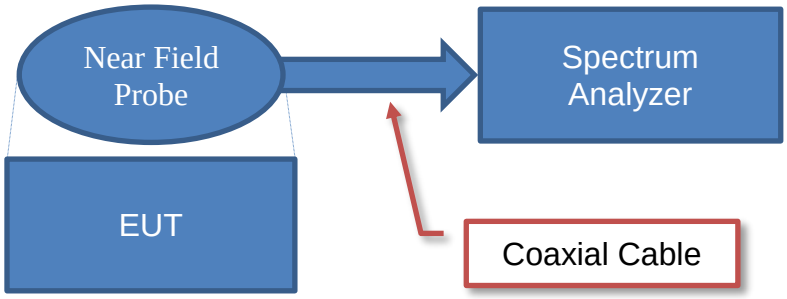
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

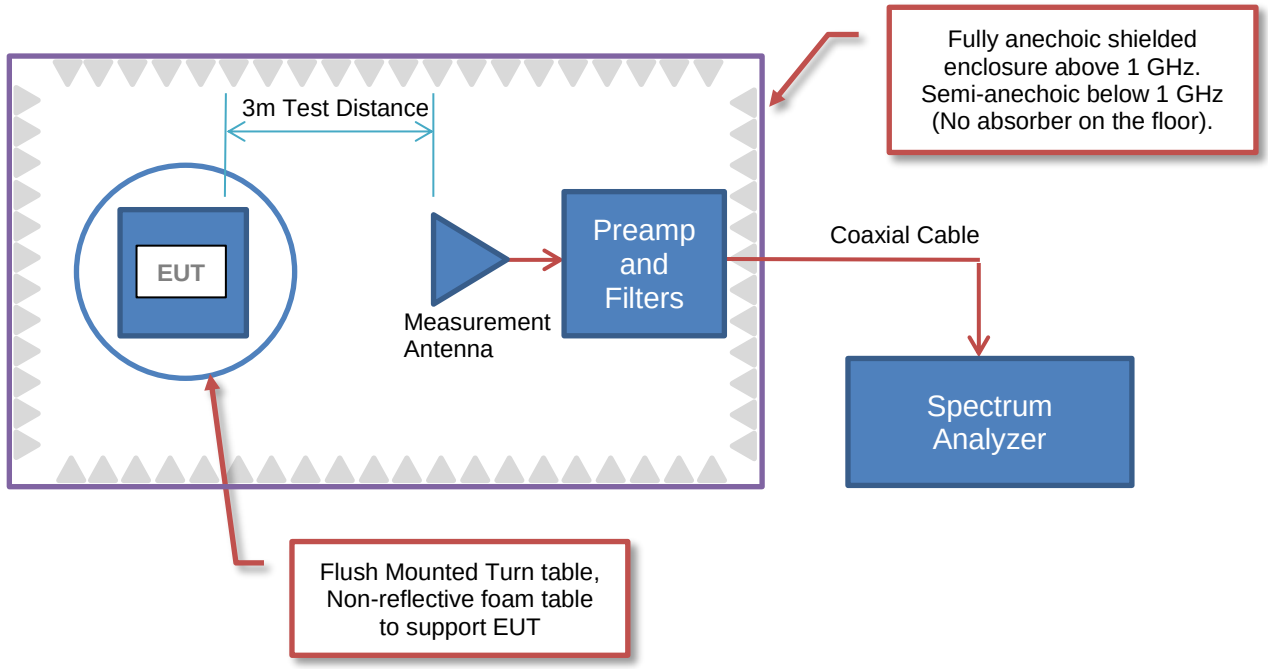


Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

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

Conducted Emissions:

Measured Level (Amplitude)		Factor: Transducer Factor		Factor: Cable Factor		External Attenuation		Adjusted Level
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**

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:	Centrifuge Module
First Date of Test:	August 10, 2023
Last Date of Test:	August 28, 2023
Receipt Date of Samples:	August 10, 2023
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 Centrifuge Module allows samples to be centrifuged automatically. The module is equipped with a high-performance centrifuge which includes an integrated cooling device. An intelligent loading concept makes rapid loading and automatic balancing possible, through the use of Bucket Holder pairs and balancing weights. The GLP systems Track conveys the samples directly on CARs; the samples are then distributed within the Centrifuge Module in Buckets. After centrifugation, the samples are transferred from the Buckets back into CARs. This module contains a total of 5 RFID enabled PCBs including 2 Access Point (1 RFID reader each) and 3 Cross Switch (2 RFID readers each).

Testing Objective:
To demonstrate compliance of the 13.56 MHz radio 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 GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Dimensions
Embedded Loop Antenna, 2 Turns	GLP Systems	13.56 MHz	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

POWER SETTING

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

*Power is set internally through product firmware at the default maximum.
*Antenna information/power setting is identical for each 13.56 MHz radio.

CONFIGURATIONS

Configuration ABBO0285-2

Software/Firmware Running During Test	
Description	**Version**
D000138481 Centrifuge Module EMC Test Software Verification	A
D000105502 AccessPoint RFID Test Firmware 02-47679 verification	A
D000105499 CrossSwitch RFID Test Firmware 02-47679 verification	A

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Centrifuge Module (CM)	Abbott Laboratories	06Q03-51	M05A000263

Peripherals in Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AccessPoint 1	Abbott Laboratories	20008971-101	None
AccessPoint 2	Abbott Laboratories	20008971-101	None
CrossSwitch 1	Abbott Laboratories	20005732-101	None
CrossSwitch 2	Abbott Laboratories	20005732-101	None
CrossSwitch 3	Abbott Laboratories	20005732-101	None
Junction Box Assembly	Abbott Laboratories	06U35-06	None
Track Section 40	Abbott Laboratories	06Q43-61	None
Track End	Abbott Laboratories	06Q42-51	None
Raspberry Pi	Raspberry Pi	3 Model B V1.2	None
Portable Battery Pack	Power Core	Power Core 26800	T74155A3

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power Cable	No	1.2m	No	AC Mains	Centrifuge Module (CM)

CONFIGURATIONS

Configuration ABBO0285-3

Software/Firmware Running During Test	
Description	**Version**
D000105502 AccessPoint RFID Test Firmware 02-47679 verification	A
D000105499 CrossSwitch RFID Test Firmware 02-47679 verification	A

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Centrifuge Module (CM)	Abbott Laboratories	06Q03-51	M05A000263

Peripherals in Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Junction Box Assembly	Abbott Laboratories	06U35-06	None
AccessPoint 1	Abbott Laboratories	20008971-101	None
AccessPoint 2	Abbott Laboratories	20008971-101	None
CrossSwitch 1	Abbott Laboratories	20005732-101	None
CrossSwitch 2	Abbott Laboratories	20005732-101	None
CrossSwitch 3	Abbott Laboratories	20005732-101	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power Cable	No	1.2m	No	AC Mains	Centrifuge Module (CM)

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2023-08-10	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.
2	2023-08-10	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.
3	2023-08-11	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	2023-08-15	Powerline Conducted Emissions	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	2023-08-24	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.
6	2023-08-28	Occupied Bandwidth	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	2023-08-28	Emissions Bandwidth (20 dB)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

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
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	2023-07-25	2024-07-25
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HFC, TQU, VAC	TXAA	2023-04-18	2024-04-18
Receiver	Rohde & Schwarz	ESR7	ARI	2022-08-30	2023-08-30

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.1 dB	-3.1 dB

CONFIGURATIONS INVESTIGATED

ABBO0285-2

MODES INVESTIGATED

Transmitting 13.56 MHz RFID, OOK, AccessPoint 1
Transmitting 13.56 MHz RFID, OOK, AccessPoint 2
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 1)
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 2)
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 1)
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 2)
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 1)
Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 2)

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	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

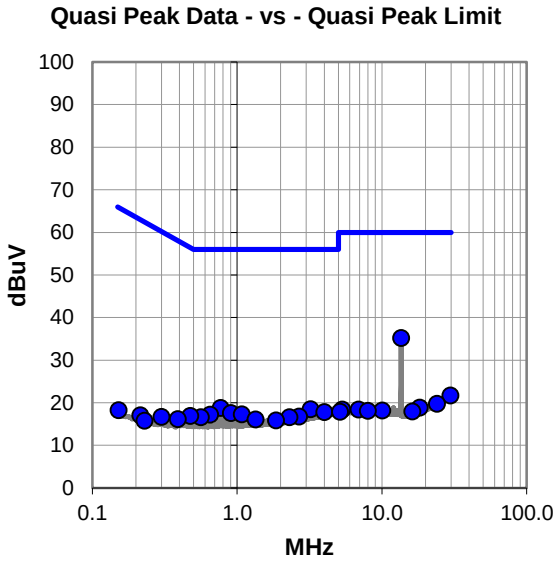
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

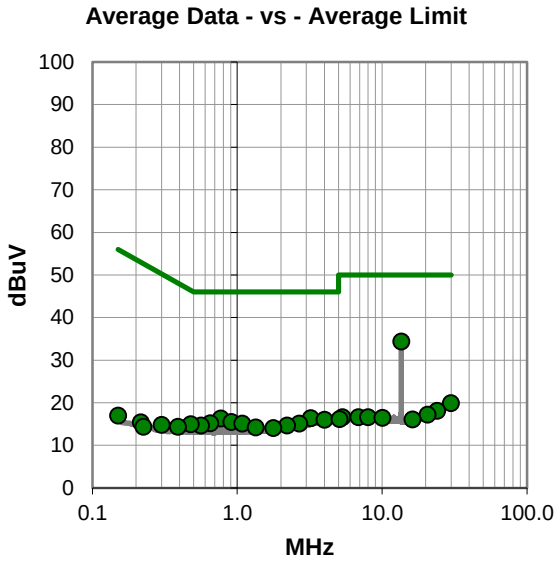
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #13

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	14.4	20.8	35.2	60.0	-24.8
0.770	-1.4	20.2	18.8	56.0	-37.2
3.217	-1.8	20.3	18.5	56.0	-37.5
4.000	-2.6	20.4	17.8	56.0	-38.2
29.681	-0.7	22.4	21.7	60.0	-38.3
0.908	-2.6	20.2	17.6	56.0	-38.4
1.080	-2.9	20.2	17.3	56.0	-38.7
0.650	-3.0	20.2	17.2	56.0	-38.8
2.680	-3.5	20.3	16.8	56.0	-39.2
0.562	-3.6	20.2	16.6	56.0	-39.4
2.299	-3.7	20.3	16.6	56.0	-39.4
0.476	-3.3	20.2	16.9	56.4	-39.5
1.340	-4.1	20.2	16.1	56.0	-39.9
1.860	-4.4	20.3	15.9	56.0	-40.1
24.000	-2.0	21.8	19.8	60.0	-40.2
18.242	-2.4	21.3	18.9	60.0	-41.1
5.330	-2.0	20.4	18.4	60.0	-41.6
6.920	-2.0	20.4	18.4	60.0	-41.6
10.075	-2.4	20.6	18.2	60.0	-41.8
8.000	-2.4	20.5	18.1	60.0	-41.9
0.390	-4.0	20.2	16.2	58.1	-41.9
16.230	-3.0	21.0	18.0	60.0	-42.0
5.140	-2.5	20.4	17.9	60.0	-42.1
0.300	-3.6	20.3	16.7	60.2	-43.5
0.215	-3.5	20.6	17.1	63.0	-45.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	13.6	20.8	34.4	50.0	-15.6
3.210	-3.9	20.3	16.4	46.0	-29.6
0.770	-3.9	20.2	16.3	46.0	-29.7
4.000	-4.4	20.4	16.0	46.0	-30.0
29.906	-2.4	22.3	19.9	50.0	-30.1
0.908	-4.7	20.2	15.5	46.0	-30.5
0.650	-5.0	20.2	15.2	46.0	-30.8
1.080	-5.1	20.2	15.1	46.0	-30.9
2.680	-5.2	20.3	15.1	46.0	-30.9
0.562	-5.5	20.2	14.7	46.0	-31.3
2.210	-5.6	20.3	14.7	46.0	-31.3
0.476	-5.2	20.2	15.0	46.4	-31.4
1.340	-6.0	20.2	14.2	46.0	-31.8
1.770	-6.1	20.2	14.1	46.0	-31.9
23.970	-3.7	21.8	18.1	50.0	-31.9
20.600	-4.2	21.4	17.2	50.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
6.862	-3.8	20.4	16.6	50.0	-33.4
8.000	-3.9	20.5	16.6	50.0	-33.4
10.075	-4.1	20.6	16.5	50.0	-33.5
0.390	-5.8	20.2	14.4	48.1	-33.7
5.090	-4.2	20.4	16.2	50.0	-33.8
16.230	-4.9	21.0	16.1	50.0	-33.9
0.300	-5.5	20.3	14.8	50.2	-35.4
0.215	-5.2	20.6	15.4	53.0	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	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

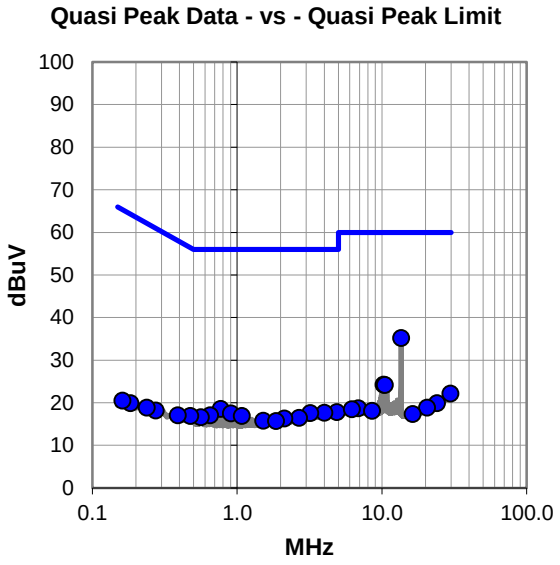
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

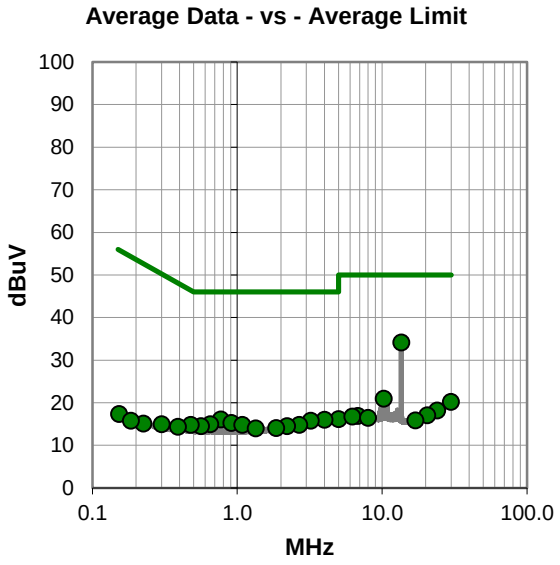
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #14

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	14.4	20.8	35.2	60.0	-24.8
10.246	3.7	20.6	24.3	60.0	-35.7
10.490	3.6	20.6	24.2	60.0	-35.8
0.770	-1.6	20.2	18.6	56.0	-37.4
29.735	-0.2	22.4	22.2	60.0	-37.8
4.882	-2.6	20.4	17.8	56.0	-38.2
4.000	-2.7	20.4	17.7	56.0	-38.3
3.210	-2.7	20.3	17.6	56.0	-38.4
0.908	-2.7	20.2	17.5	56.0	-38.5
0.650	-3.1	20.2	17.1	56.0	-38.9
1.080	-3.3	20.2	16.9	56.0	-39.1
0.562	-3.6	20.2	16.6	56.0	-39.4
0.476	-3.3	20.2	16.9	56.4	-39.5
2.680	-3.8	20.3	16.5	56.0	-39.5
2.120	-4.0	20.3	16.3	56.0	-39.7
24.050	-1.9	21.8	19.9	60.0	-40.1
1.516	-4.4	20.2	15.8	56.0	-40.2
1.860	-4.6	20.3	15.7	56.0	-40.3
0.390	-3.1	20.2	17.1	58.1	-41.0
20.560	-2.5	21.4	18.9	60.0	-41.1
6.860	-1.7	20.4	18.7	60.0	-41.3
6.220	-1.9	20.4	18.5	60.0	-41.5
8.536	-2.5	20.6	18.1	60.0	-41.9
16.352	-3.7	21.1	17.4	60.0	-42.6
0.274	-2.1	20.3	18.2	61.0	-42.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	13.4	20.8	34.2	50.0	-15.8
10.246	0.4	20.6	21.0	50.0	-29.0
4.994	-4.2	20.4	16.2	46.0	-29.8
29.825	-2.2	22.4	20.2	50.0	-29.8
0.769	-4.1	20.2	16.1	46.0	-29.9
4.000	-4.4	20.4	16.0	46.0	-30.0
3.210	-4.5	20.3	15.8	46.0	-30.2
0.908	-4.9	20.2	15.3	46.0	-30.7
0.650	-5.2	20.2	15.0	46.0	-31.0
1.080	-5.4	20.2	14.8	46.0	-31.2
2.680	-5.5	20.3	14.8	46.0	-31.2
0.562	-5.7	20.2	14.5	46.0	-31.5
2.210	-5.8	20.3	14.5	46.0	-31.5
0.476	-5.4	20.2	14.8	46.4	-31.6
24.000	-3.6	21.8	18.2	50.0	-31.8
1.860	-6.2	20.3	14.1	46.0	-31.9
1.340	-6.2	20.2	14.0	46.0	-32.0
20.510	-4.3	21.4	17.1	50.0	-32.9
6.803	-3.5	20.4	16.9	50.0	-33.1
6.220	-3.6	20.4	16.8	50.0	-33.2
8.000	-4.0	20.5	16.5	50.0	-33.5
0.390	-5.8	20.2	14.4	48.1	-33.7
16.940	-5.2	21.1	15.9	50.0	-34.1
0.300	-5.3	20.3	15.0	50.2	-35.2
0.224	-5.5	20.6	15.1	52.7	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

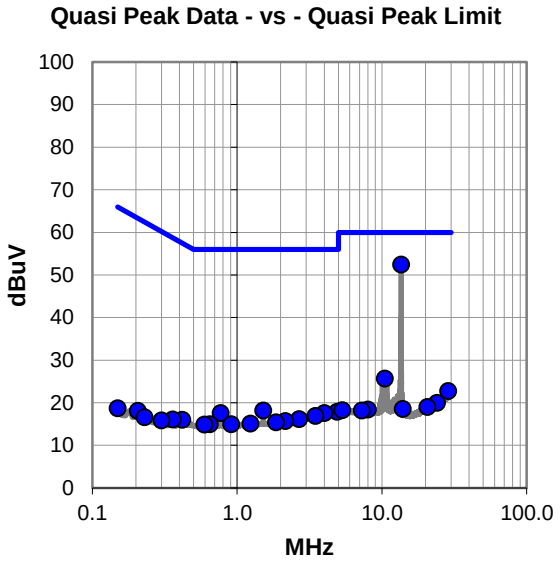
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Evaluated prior termination with load and retesting per KDB 174176. Retest data follows.

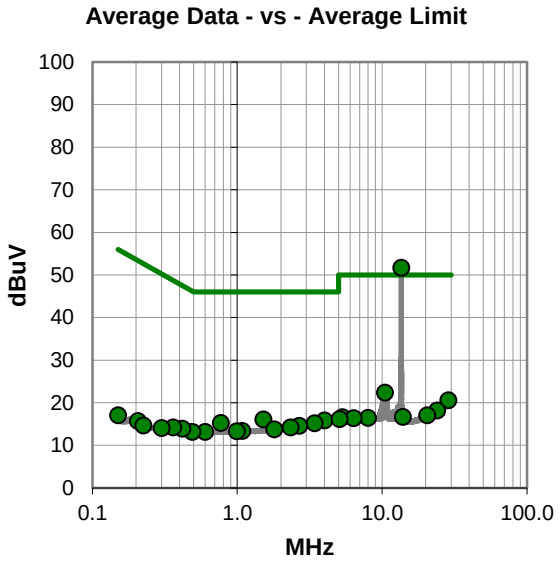
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #15

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	31.7	20.8	52.5	60.0	-7.5
10.490	5.1	20.6	25.7	60.0	-34.3
28.650	0.0	22.8	22.8	60.0	-37.2
1.516	-2.0	20.2	18.2	56.0	-37.8
4.910	-2.5	20.4	17.9	56.0	-38.1
0.770	-2.6	20.2	17.6	56.0	-38.4
4.000	-2.8	20.4	17.6	56.0	-38.4
3.482	-3.5	20.4	16.9	56.0	-39.1
2.681	-4.1	20.3	16.2	56.0	-39.8
23.998	-1.8	21.8	20.0	60.0	-40.0
2.155	-4.6	20.3	15.7	56.0	-40.3
1.858	-4.9	20.3	15.4	56.0	-40.6
1.237	-5.1	20.2	15.1	56.0	-40.9
0.647	-5.2	20.2	15.0	56.0	-41.0
0.910	-5.2	20.2	15.0	56.0	-41.0
20.627	-2.4	21.4	19.0	60.0	-41.0
0.593	-5.3	20.2	14.9	56.0	-41.1
13.931	-2.2	20.8	18.6	60.0	-41.4
0.418	-4.2	20.2	16.0	57.5	-41.5
8.000	-2.1	20.5	18.4	60.0	-41.6
5.327	-2.1	20.4	18.3	60.0	-41.7
7.276	-2.2	20.4	18.2	60.0	-41.8
0.360	-4.1	20.2	16.1	58.7	-42.6
0.300	-4.4	20.3	15.9	60.2	-44.3
0.206	-2.5	20.6	18.1	63.4	-45.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	30.9	20.8	51.7	50.0	1.7
10.490	1.8	20.6	22.4	50.0	-27.6
28.650	-2.2	22.8	20.6	50.0	-29.4
1.516	-4.1	20.2	16.1	46.0	-29.9
4.000	-4.5	20.4	15.9	46.0	-30.1
0.770	-4.9	20.2	15.3	46.0	-30.7
3.420	-5.2	20.4	15.2	46.0	-30.8
2.680	-5.7	20.3	14.6	46.0	-31.4
2.330	-6.1	20.3	14.2	46.0	-31.8
23.998	-3.6	21.8	18.2	50.0	-31.8
1.799	-6.5	20.3	13.8	46.0	-32.2
1.080	-6.8	20.2	13.4	46.0	-32.6
0.990	-6.9	20.2	13.3	46.0	-32.7
0.600	-7.0	20.2	13.2	46.0	-32.8
20.510	-4.3	21.4	17.1	50.0	-32.9
0.490	-7.0	20.2	13.2	46.2	-33.0
13.931	-4.1	20.8	16.7	50.0	-33.3
5.330	-3.8	20.4	16.6	50.0	-33.4
8.000	-4.0	20.5	16.5	50.0	-33.5
0.418	-6.3	20.2	13.9	47.5	-33.6
6.360	-4.0	20.4	16.4	50.0	-33.6
5.089	-4.2	20.4	16.2	50.0	-33.8
0.360	-6.0	20.2	14.2	48.7	-34.5
0.300	-6.2	20.3	14.1	50.2	-36.1
0.206	-4.9	20.6	15.7	53.4	-37.7

CONCLUSION

Evaluation

FOR EVALUATION ONLY

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

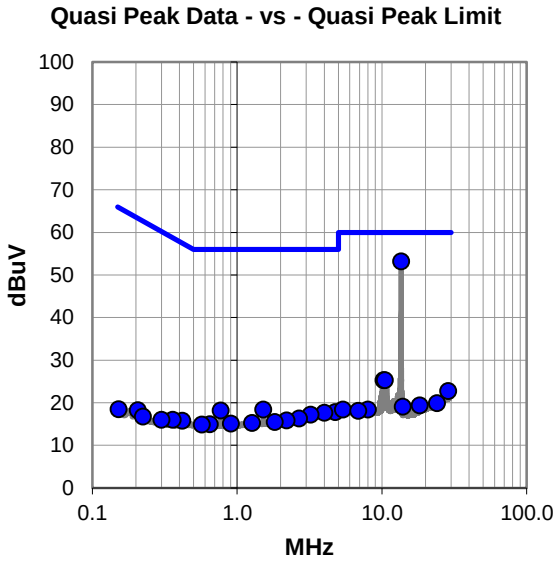
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Evaluated prior termination with load and retesting per KDB 174176. Retest data follows.

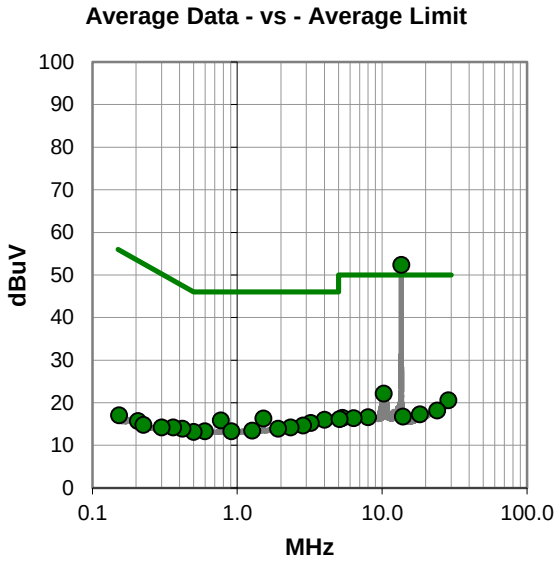
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #16

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	32.4	20.8	53.2	60.0	-6.8
10.246	4.7	20.6	25.3	60.0	-34.7
10.490	4.7	20.6	25.3	60.0	-34.7
28.650	0.0	22.8	22.8	60.0	-37.2
1.516	-1.8	20.2	18.4	56.0	-37.6
0.769	-2.0	20.2	18.2	56.0	-37.8
4.760	-2.6	20.4	17.8	56.0	-38.2
4.000	-2.7	20.4	17.7	56.0	-38.3
3.217	-3.1	20.3	17.2	56.0	-38.8
2.681	-4.0	20.3	16.3	56.0	-39.7
2.200	-4.4	20.3	15.9	56.0	-40.1
24.043	-1.9	21.8	19.9	60.0	-40.1
1.820	-4.8	20.3	15.5	56.0	-40.5
18.242	-1.9	21.3	19.4	60.0	-40.6
1.270	-4.9	20.2	15.3	56.0	-40.7
0.908	-5.1	20.2	15.1	56.0	-40.9
13.931	-1.7	20.8	19.1	60.0	-40.9
0.647	-5.2	20.2	15.0	56.0	-41.0
0.571	-5.3	20.2	14.9	56.0	-41.1
5.370	-2.0	20.4	18.4	60.0	-41.6
8.000	-2.1	20.5	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
6.884	-2.3	20.4	18.1	60.0	-41.9
0.360	-4.2	20.2	16.0	58.7	-42.7
0.300	-4.3	20.3	16.0	60.2	-44.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	31.6	20.8	52.4	50.0	2.4
10.250	1.6	20.6	22.2	50.0	-27.8
28.650	-2.2	22.8	20.6	50.0	-29.4
1.516	-3.9	20.2	16.3	46.0	-29.7
4.000	-4.4	20.4	16.0	46.0	-30.0
0.770	-4.3	20.2	15.9	46.0	-30.1
3.217	-5.0	20.3	15.3	46.0	-30.7
2.848	-5.6	20.3	14.7	46.0	-31.3
2.330	-6.1	20.3	14.2	46.0	-31.8
24.000	-3.6	21.8	18.2	50.0	-31.8
1.910	-6.4	20.3	13.9	46.0	-32.1
1.268	-6.7	20.2	13.5	46.0	-32.5
0.598	-6.9	20.2	13.3	46.0	-32.7
0.908	-6.9	20.2	13.3	46.0	-32.7
18.242	-4.0	21.3	17.3	50.0	-32.7
0.500	-7.0	20.2	13.2	46.0	-32.8
13.931	-4.0	20.8	16.8	50.0	-33.2
8.000	-3.9	20.5	16.6	50.0	-33.4
5.330	-3.9	20.4	16.5	50.0	-33.5
0.418	-6.3	20.2	13.9	47.5	-33.6
6.344	-4.0	20.4	16.4	50.0	-33.6
5.090	-4.2	20.4	16.2	50.0	-33.8
0.360	-6.0	20.2	14.2	48.7	-34.5
0.300	-6.1	20.3	14.2	50.2	-36.0
0.206	-4.9	20.6	15.7	53.4	-37.7

CONCLUSION

Evaluation

FOR EVALUATION ONLY

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	32	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

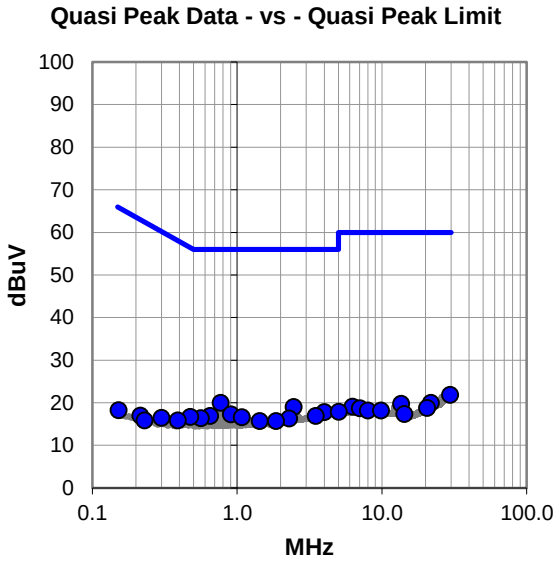
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

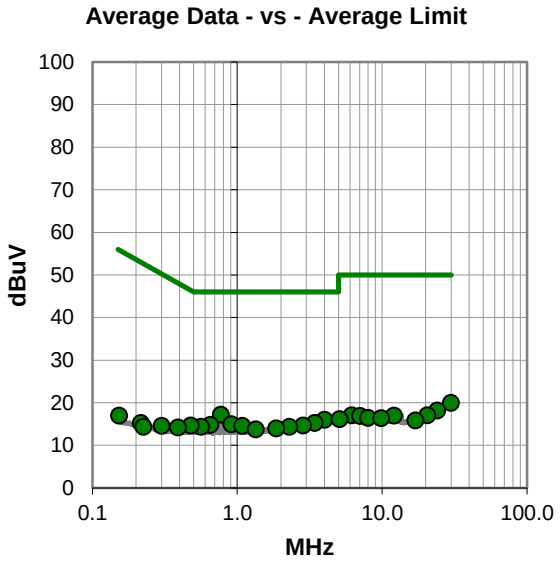
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 Radio 1.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #32

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-0.2	20.2	20.0	56.0	-36.0
2.460	-1.3	20.3	19.0	56.0	-37.0
29.660	-0.5	22.4	21.9	60.0	-38.1
4.000	-2.6	20.4	17.8	56.0	-38.2
0.908	-2.9	20.2	17.3	56.0	-38.7
0.650	-3.3	20.2	16.9	56.0	-39.1
3.500	-3.5	20.4	16.9	56.0	-39.1
1.080	-3.6	20.2	16.6	56.0	-39.4
0.562	-3.8	20.2	16.4	56.0	-39.6
0.476	-3.5	20.2	16.7	56.4	-39.7
2.294	-4.0	20.3	16.3	56.0	-39.7
21.788	-1.5	21.5	20.0	60.0	-40.0
13.560	-1.0	20.8	19.8	60.0	-40.2
1.430	-4.5	20.2	15.7	56.0	-40.3
1.860	-4.6	20.3	15.7	56.0	-40.3
6.277	-1.3	20.4	19.1	60.0	-40.9
20.560	-2.6	21.4	18.8	60.0	-41.2
7.042	-1.7	20.4	18.7	60.0	-41.3
8.000	-2.3	20.5	18.2	60.0	-41.8
9.840	-2.4	20.6	18.2	60.0	-41.8
5.039	-2.5	20.4	17.9	60.0	-42.1
0.390	-4.3	20.2	15.9	58.1	-42.2
14.296	-3.5	20.9	17.4	60.0	-42.6
0.300	-3.8	20.3	16.5	60.2	-43.7
0.215	-3.6	20.6	17.0	63.0	-46.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-3.0	20.2	17.2	46.0	-28.8
29.850	-2.4	22.4	20.0	50.0	-30.0
4.000	-4.4	20.4	16.0	46.0	-30.0
3.420	-5.1	20.4	15.3	46.0	-30.7
0.908	-5.2	20.2	15.0	46.0	-31.0
0.650	-5.4	20.2	14.8	46.0	-31.2
2.848	-5.6	20.3	14.7	46.0	-31.3
1.080	-5.6	20.2	14.6	46.0	-31.4
0.562	-5.8	20.2	14.4	46.0	-31.6
2.290	-5.9	20.3	14.4	46.0	-31.6
0.476	-5.5	20.2	14.7	46.4	-31.7
24.000	-3.6	21.8	18.2	50.0	-31.8
1.860	-6.3	20.3	14.0	46.0	-32.0
1.340	-6.4	20.2	13.8	46.0	-32.2
6.160	-3.3	20.4	17.1	50.0	-32.9
20.510	-4.3	21.4	17.1	50.0	-32.9
12.059	-3.7	20.7	17.0	50.0	-33.0
7.042	-3.5	20.4	16.9	50.0	-33.1
8.000	-4.0	20.5	16.5	50.0	-33.5
9.840	-4.2	20.6	16.4	50.0	-33.6
5.090	-4.2	20.4	16.2	50.0	-33.8
0.390	-6.0	20.2	14.2	48.1	-33.9
16.960	-5.2	21.1	15.9	50.0	-34.1
0.300	-5.7	20.3	14.6	50.2	-35.6
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	33	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

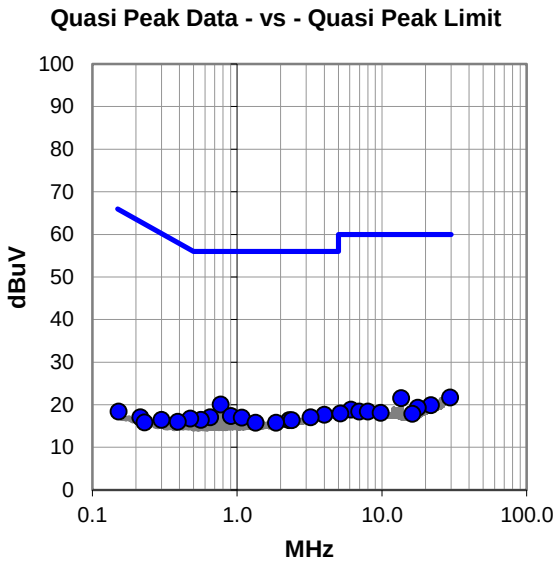
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

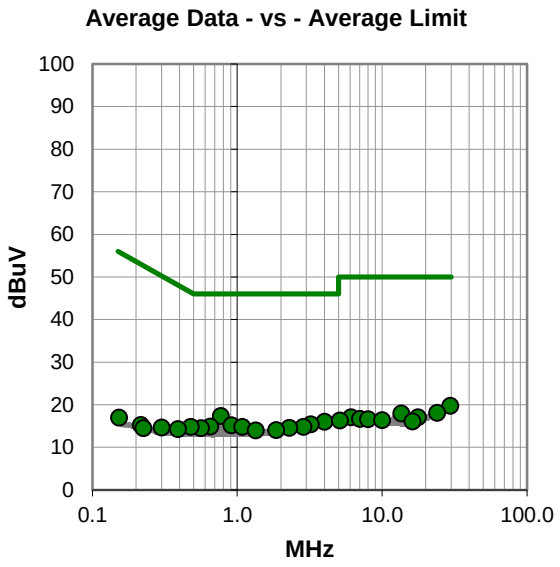
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 Radio 1.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #33

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-0.1	20.2	20.1	56.0	-35.9
4.000	-2.7	20.4	17.7	56.0	-38.3
29.560	-0.8	22.5	21.7	60.0	-38.3
13.560	0.8	20.8	21.6	60.0	-38.4
0.908	-2.8	20.2	17.4	56.0	-38.6
0.650	-3.1	20.2	17.1	56.0	-38.9
3.212	-3.2	20.3	17.1	56.0	-38.9
1.080	-3.2	20.2	17.0	56.0	-39.0
0.562	-3.7	20.2	16.5	56.0	-39.5
0.476	-3.4	20.2	16.8	56.4	-39.6
2.290	-3.9	20.3	16.4	56.0	-39.6
2.380	-3.9	20.3	16.4	56.0	-39.6
21.788	-1.6	21.5	19.9	60.0	-40.1
1.340	-4.4	20.2	15.8	56.0	-40.2
1.860	-4.5	20.3	15.8	56.0	-40.2
17.693	-1.8	21.1	19.3	60.0	-40.7
6.100	-1.5	20.4	18.9	60.0	-41.1
6.983	-2.0	20.4	18.4	60.0	-41.6
8.000	-2.1	20.5	18.4	60.0	-41.6
9.810	-2.5	20.6	18.1	60.0	-41.9
5.156	-2.4	20.4	18.0	60.0	-42.0
0.390	-4.2	20.2	16.0	58.1	-42.1
16.230	-3.1	21.0	17.9	60.0	-42.1
0.300	-3.8	20.3	16.5	60.2	-43.7
0.215	-3.5	20.6	17.1	63.0	-45.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-2.8	20.2	17.4	46.0	-28.6
4.000	-4.4	20.4	16.0	46.0	-30.0
29.600	-2.7	22.5	19.8	50.0	-30.2
3.212	-4.9	20.3	15.4	46.0	-30.6
0.908	-5.0	20.2	15.2	46.0	-30.8
0.650	-5.3	20.2	14.9	46.0	-31.1
1.080	-5.4	20.2	14.8	46.0	-31.2
2.860	-5.5	20.3	14.8	46.0	-31.2
2.290	-5.7	20.3	14.6	46.0	-31.4
0.562	-5.7	20.2	14.5	46.0	-31.5
0.476	-5.4	20.2	14.8	46.4	-31.6
1.860	-6.2	20.3	14.1	46.0	-31.9
23.998	-3.7	21.8	18.1	50.0	-31.9
1.340	-6.2	20.2	14.0	46.0	-32.0
13.560	-2.8	20.8	18.0	50.0	-32.0
6.100	-3.3	20.4	17.1	50.0	-32.9
17.693	-4.0	21.1	17.1	50.0	-32.9
7.042	-3.7	20.4	16.7	50.0	-33.3
8.000	-3.9	20.5	16.6	50.0	-33.4
10.020	-4.2	20.6	16.4	50.0	-33.6
5.100	-4.1	20.4	16.3	50.0	-33.7
0.390	-5.9	20.2	14.3	48.1	-33.8
16.230	-4.9	21.0	16.1	50.0	-33.9
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	34	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

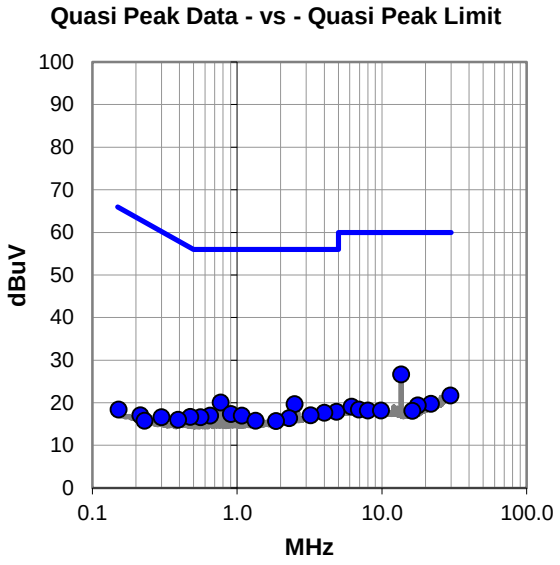
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

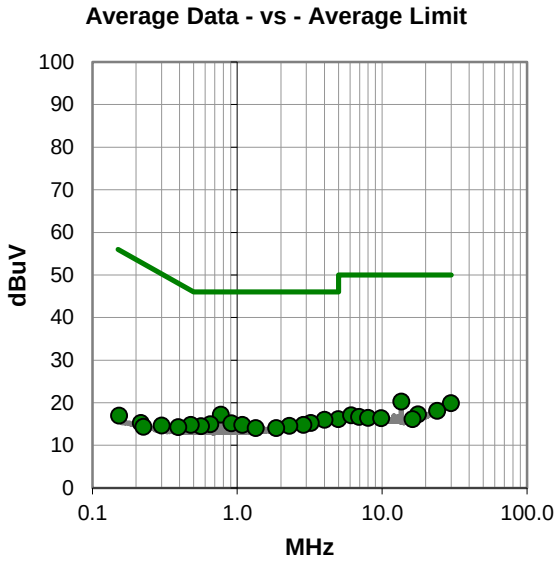
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 Radio 2.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #34

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	5.9	20.8	26.7	60.0	-33.3
0.770	-0.1	20.2	20.1	56.0	-35.9
2.490	-0.6	20.3	19.7	56.0	-36.3
4.860	-2.5	20.4	17.9	56.0	-38.1
4.000	-2.7	20.4	17.7	56.0	-38.3
29.670	-0.7	22.4	21.7	60.0	-38.3
0.908	-2.8	20.2	17.4	56.0	-38.6
3.212	-3.2	20.3	17.1	56.0	-38.9
0.650	-3.2	20.2	17.0	56.0	-39.0
1.080	-3.2	20.2	17.0	56.0	-39.0
0.560	-3.6	20.2	16.6	56.0	-39.4
2.294	-3.9	20.3	16.4	56.0	-39.6
0.476	-3.5	20.2	16.7	56.4	-39.7
1.340	-4.4	20.2	15.8	56.0	-40.2
21.788	-1.7	21.5	19.8	60.0	-40.2
1.860	-4.6	20.3	15.7	56.0	-40.3
17.693	-1.7	21.1	19.4	60.0	-40.6
6.160	-1.3	20.4	19.1	60.0	-40.9
6.925	-2.0	20.4	18.4	60.0	-41.6
8.000	-2.3	20.5	18.2	60.0	-41.8
9.840	-2.4	20.6	18.2	60.0	-41.8
16.230	-2.9	21.0	18.1	60.0	-41.9
0.391	-4.2	20.2	16.0	58.0	-42.0
0.300	-3.7	20.3	16.6	60.2	-43.6
0.215	-3.5	20.6	17.1	63.0	-45.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-3.0	20.2	17.2	46.0	-28.8
13.560	-0.5	20.8	20.3	50.0	-29.7
4.980	-4.2	20.4	16.2	46.0	-29.8
4.000	-4.4	20.4	16.0	46.0	-30.0
29.866	-2.5	22.4	19.9	50.0	-30.1
3.212	-5.0	20.3	15.3	46.0	-30.7
0.908	-5.0	20.2	15.2	46.0	-30.8
0.650	-5.2	20.2	15.0	46.0	-31.0
1.080	-5.4	20.2	14.8	46.0	-31.2
2.860	-5.5	20.3	14.8	46.0	-31.2
2.290	-5.7	20.3	14.6	46.0	-31.4
0.562	-5.7	20.2	14.5	46.0	-31.5
0.476	-5.4	20.2	14.8	46.4	-31.6
1.340	-6.1	20.2	14.1	46.0	-31.9
1.860	-6.2	20.3	14.1	46.0	-31.9
23.960	-3.7	21.8	18.1	50.0	-31.9
17.693	-3.8	21.1	17.3	50.0	-32.7
6.100	-3.3	20.4	17.1	50.0	-32.9
6.925	-3.7	20.4	16.7	50.0	-33.3
8.000	-4.0	20.5	16.5	50.0	-33.5
9.840	-4.2	20.6	16.4	50.0	-33.6
0.391	-5.9	20.2	14.3	48.0	-33.7
16.230	-4.8	21.0	16.2	50.0	-33.8
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	35	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

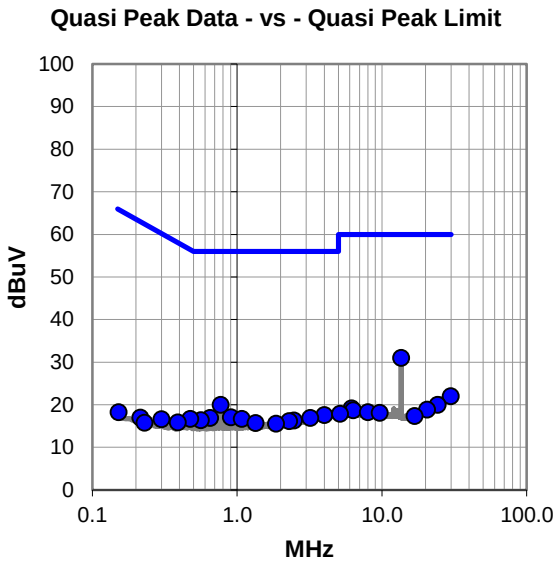
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

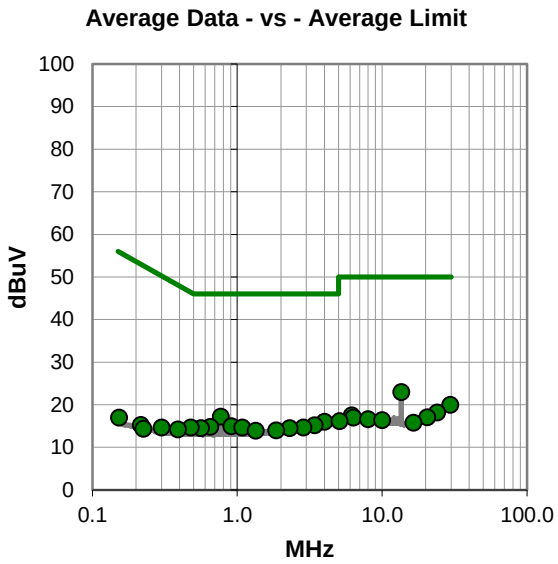
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 1 Radio 2.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #35

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	10.2	20.8	31.0	60.0	-29.0
0.770	-0.2	20.2	20.0	56.0	-36.0
29.850	-0.4	22.4	22.0	60.0	-38.0
4.000	-2.8	20.4	17.6	56.0	-38.4
0.908	-3.1	20.2	17.1	56.0	-38.9
0.650	-3.3	20.2	16.9	56.0	-39.1
3.210	-3.4	20.3	16.9	56.0	-39.1
1.080	-3.5	20.2	16.7	56.0	-39.3
0.562	-3.8	20.2	16.4	56.0	-39.6
0.476	-3.5	20.2	16.7	56.4	-39.7
2.470	-4.0	20.3	16.3	56.0	-39.7
2.294	-4.1	20.3	16.2	56.0	-39.8
24.205	-1.8	21.8	20.0	60.0	-40.0
1.340	-4.5	20.2	15.7	56.0	-40.3
1.860	-4.7	20.3	15.6	56.0	-40.4
6.160	-1.2	20.4	19.2	60.0	-40.8
20.564	-2.5	21.4	18.9	60.0	-41.1
6.335	-1.7	20.4	18.7	60.0	-41.3
8.000	-2.2	20.5	18.3	60.0	-41.7
9.665	-2.5	20.6	18.1	60.0	-41.9
5.129	-2.5	20.4	17.9	60.0	-42.1
0.390	-4.3	20.2	15.9	58.1	-42.2
16.780	-3.7	21.1	17.4	60.0	-42.6
0.300	-3.7	20.3	16.6	60.2	-43.6
0.215	-3.6	20.6	17.0	63.0	-46.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	2.2	20.8	23.0	50.0	-27.0
0.770	-3.0	20.2	17.2	46.0	-28.8
4.000	-4.4	20.4	16.0	46.0	-30.0
29.596	-2.5	22.5	20.0	50.0	-30.0
3.420	-5.2	20.4	15.2	46.0	-30.8
0.908	-5.2	20.2	15.0	46.0	-31.0
0.650	-5.4	20.2	14.8	46.0	-31.2
1.080	-5.5	20.2	14.7	46.0	-31.3
2.860	-5.6	20.3	14.7	46.0	-31.3
0.562	-5.7	20.2	14.5	46.0	-31.5
2.294	-5.8	20.3	14.5	46.0	-31.5
0.476	-5.5	20.2	14.7	46.4	-31.7
23.998	-3.6	21.8	18.2	50.0	-31.8
1.860	-6.3	20.3	14.0	46.0	-32.0
1.340	-6.3	20.2	13.9	46.0	-32.1
6.160	-2.9	20.4	17.5	50.0	-32.5
20.528	-4.3	21.4	17.1	50.0	-32.9
6.335	-3.4	20.4	17.0	50.0	-33.0
8.000	-3.9	20.5	16.6	50.0	-33.4
10.016	-4.2	20.6	16.4	50.0	-33.6
5.090	-4.2	20.4	16.2	50.0	-33.8
0.390	-6.0	20.2	14.2	48.1	-33.9
16.470	-5.3	21.1	15.8	50.0	-34.2
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	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

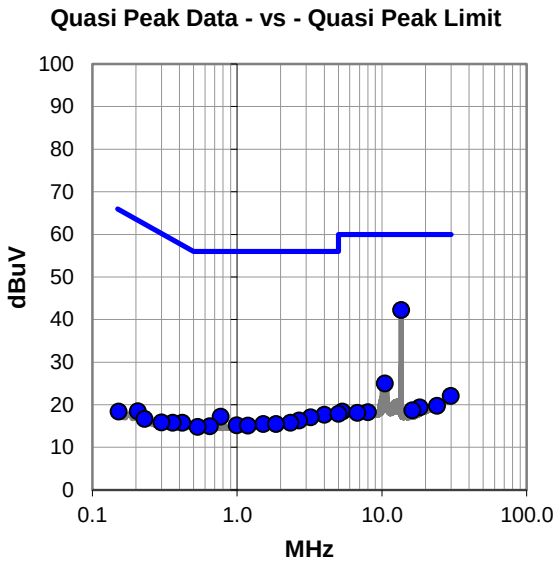
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

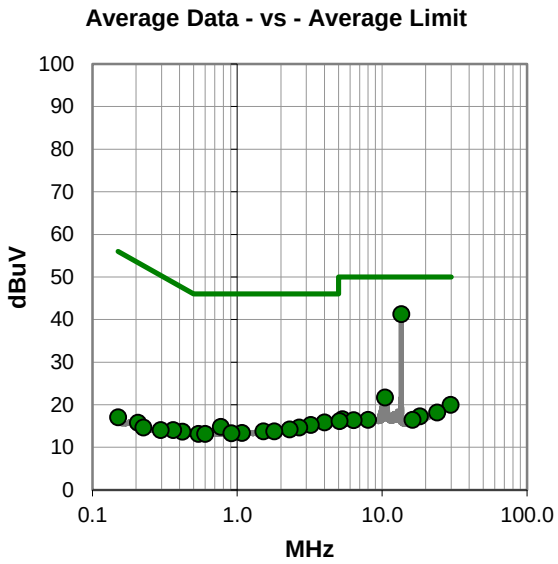
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, AccessPoint 1

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

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	21.5	20.8	42.3	60.0	-17.7
10.490	4.4	20.6	25.0	60.0	-35.0
29.906	-0.2	22.3	22.1	60.0	-37.9
4.000	-2.7	20.4	17.7	56.0	-38.3
0.770	-3.0	20.2	17.2	56.0	-38.8
3.217	-3.2	20.3	17.1	56.0	-38.9
2.680	-4.0	20.3	16.3	56.0	-39.7
2.340	-4.5	20.3	15.8	56.0	-40.2
24.000	-2.0	21.8	19.8	60.0	-40.2
1.516	-4.7	20.2	15.5	56.0	-40.5
1.860	-4.8	20.3	15.5	56.0	-40.5
18.242	-1.9	21.3	19.4	60.0	-40.6
0.994	-5.0	20.2	15.2	56.0	-40.8
1.190	-5.1	20.2	15.1	56.0	-40.9
0.647	-5.2	20.2	15.0	56.0	-41.0
0.535	-5.4	20.2	14.8	56.0	-41.2
16.230	-2.3	21.0	18.7	60.0	-41.3
5.327	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
8.000	-2.2	20.5	18.3	60.0	-41.7
6.760	-2.3	20.4	18.1	60.0	-41.9
5.012	-2.5	20.4	17.9	60.0	-42.1
0.360	-4.4	20.2	15.8	58.7	-42.9
0.300	-4.4	20.3	15.9	60.2	-44.3
0.206	-2.1	20.6	18.5	63.4	-44.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	20.5	20.8	41.3	50.0	-8.7
10.490	1.1	20.6	21.7	50.0	-28.3
29.677	-2.4	22.4	20.0	50.0	-30.0
4.000	-4.5	20.4	15.9	46.0	-30.1
3.210	-5.0	20.3	15.3	46.0	-30.7
0.769	-5.4	20.2	14.8	46.0	-31.2
2.680	-5.6	20.3	14.7	46.0	-31.3
2.294	-6.1	20.3	14.2	46.0	-31.8
24.000	-3.6	21.8	18.2	50.0	-31.8
1.516	-6.4	20.2	13.8	46.0	-32.2
1.804	-6.5	20.3	13.8	46.0	-32.2
1.079	-6.8	20.2	13.4	46.0	-32.6
0.908	-6.9	20.2	13.3	46.0	-32.7
18.242	-4.0	21.3	17.3	50.0	-32.7
0.540	-7.0	20.2	13.2	46.0	-32.8
0.600	-7.0	20.2	13.2	46.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
8.000	-4.0	20.5	16.5	50.0	-33.5
16.230	-4.5	21.0	16.5	50.0	-33.5
6.360	-4.0	20.4	16.4	50.0	-33.6
0.418	-6.5	20.2	13.7	47.5	-33.8
5.090	-4.2	20.4	16.2	50.0	-33.8
0.360	-6.1	20.2	14.1	48.7	-34.6
0.296	-6.2	20.3	14.1	50.3	-36.2
0.206	-4.9	20.6	15.8	53.4	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	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

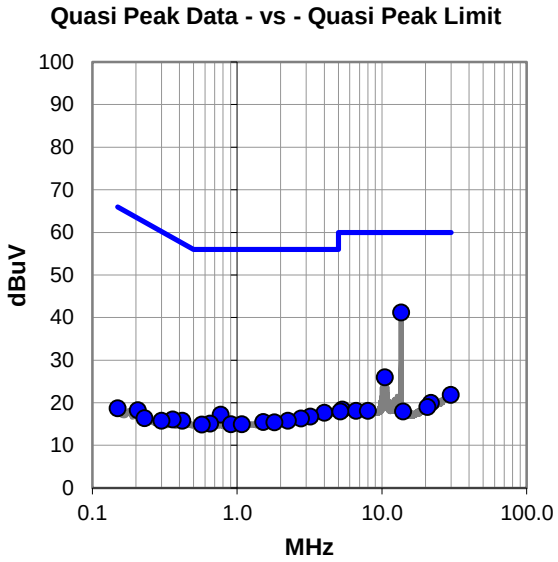
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

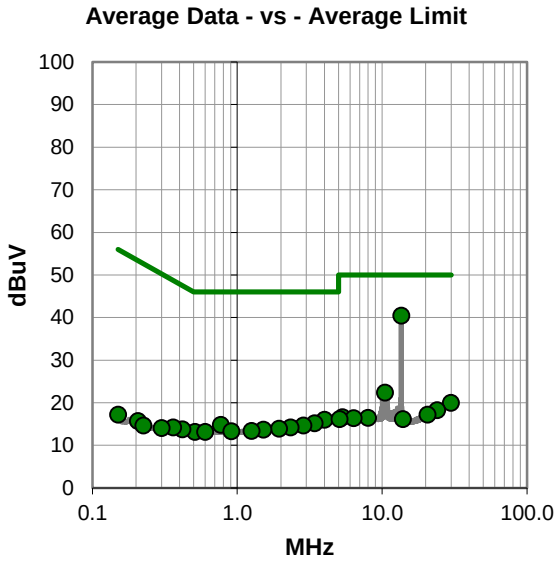
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, AccessPoint 1

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #18

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	20.4	20.8	41.2	60.0	-18.8
10.490	5.4	20.6	26.0	60.0	-34.0
29.906	-0.4	22.3	21.9	60.0	-38.1
4.000	-2.7	20.4	17.7	56.0	-38.3
0.770	-3.0	20.2	17.2	56.0	-38.8
3.210	-3.5	20.3	16.8	56.0	-39.2
2.760	-4.0	20.3	16.3	56.0	-39.7
21.766	-1.5	21.5	20.0	60.0	-40.0
2.240	-4.5	20.3	15.8	56.0	-40.2
1.516	-4.7	20.2	15.5	56.0	-40.5
1.813	-4.9	20.3	15.4	56.0	-40.6
0.650	-5.1	20.2	15.1	56.0	-40.9
0.908	-5.2	20.2	15.0	56.0	-41.0
1.080	-5.2	20.2	15.0	56.0	-41.0
20.650	-2.4	21.4	19.0	60.0	-41.0
0.571	-5.3	20.2	14.9	56.0	-41.1
5.330	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
6.614	-2.3	20.4	18.1	60.0	-41.9
8.000	-2.4	20.5	18.1	60.0	-41.9
5.160	-2.4	20.4	18.0	60.0	-42.0
13.990	-2.8	20.8	18.0	60.0	-42.0
0.359	-4.1	20.2	16.1	58.7	-42.6
0.300	-4.5	20.3	15.8	60.2	-44.4
0.206	-2.3	20.6	18.3	63.4	-45.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	19.7	20.8	40.5	50.0	-9.5
10.490	1.8	20.6	22.4	50.0	-27.6
4.000	-4.4	20.4	16.0	46.0	-30.0
29.816	-2.4	22.4	20.0	50.0	-30.0
3.420	-5.2	20.4	15.2	46.0	-30.8
0.770	-5.4	20.2	14.8	46.0	-31.2
2.861	-5.6	20.3	14.7	46.0	-31.3
24.000	-3.5	21.8	18.3	50.0	-31.7
2.330	-6.1	20.3	14.2	46.0	-31.8
1.940	-6.4	20.3	13.9	46.0	-32.1
1.516	-6.5	20.2	13.7	46.0	-32.3
1.255	-6.8	20.2	13.4	46.0	-32.6
0.908	-6.9	20.2	13.3	46.0	-32.7
0.510	-7.0	20.2	13.2	46.0	-32.8
0.600	-7.0	20.2	13.2	46.0	-32.8
20.620	-4.2	21.4	17.2	50.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
8.000	-4.0	20.5	16.5	50.0	-33.5
6.370	-4.0	20.4	16.4	50.0	-33.6
0.418	-6.4	20.2	13.8	47.5	-33.7
5.080	-4.3	20.4	16.2	50.0	-33.8
13.931	-4.6	20.8	16.2	50.0	-33.8
0.360	-6.0	20.2	14.2	48.7	-34.5
0.300	-6.2	20.3	14.1	50.2	-36.1
0.206	-4.9	20.6	15.7	53.4	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

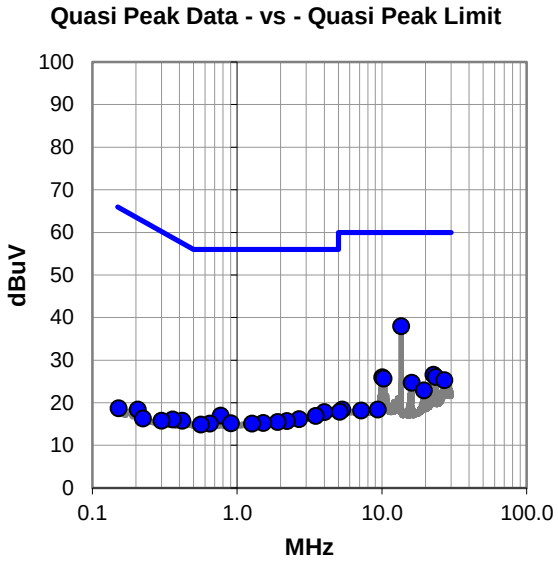
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

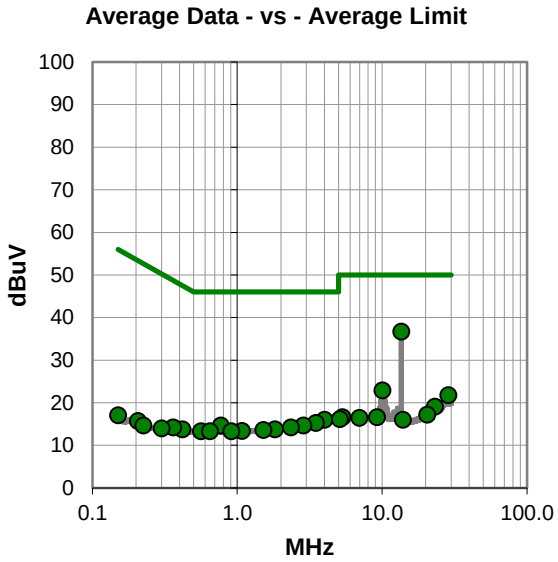
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

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	20.8	38.0	60.0	-22.0
22.688	5.0	21.6	26.6	60.0	-33.4
23.525	4.5	21.6	26.1	60.0	-33.9
10.070	5.4	20.6	26.0	60.0	-34.0
10.246	5.1	20.6	25.7	60.0	-34.3
26.959	2.5	22.8	25.3	60.0	-34.7
16.040	3.8	20.9	24.7	60.0	-35.3
19.470	1.6	21.3	22.9	60.0	-37.1
4.000	-2.6	20.4	17.8	56.0	-38.2
0.770	-3.2	20.2	17.0	56.0	-39.0
3.500	-3.5	20.4	16.9	56.0	-39.1
2.680	-4.1	20.3	16.2	56.0	-39.8
2.210	-4.6	20.3	15.7	56.0	-40.3
1.910	-4.8	20.3	15.5	56.0	-40.5
1.516	-4.9	20.2	15.3	56.0	-40.7
0.908	-5.0	20.2	15.2	56.0	-40.8
0.647	-5.1	20.2	15.1	56.0	-40.9
1.270	-5.1	20.2	15.1	56.0	-40.9
0.562	-5.3	20.2	14.9	56.0	-41.1
5.330	-2.0	20.4	18.4	60.0	-41.6
9.390	-2.2	20.6	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
7.208	-2.2	20.4	18.2	60.0	-41.8
5.120	-2.5	20.4	17.9	60.0	-42.1
0.359	-4.1	20.2	16.1	58.7	-42.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	15.9	20.8	36.7	50.0	-13.3
10.070	2.3	20.6	22.9	50.0	-27.1
28.680	-0.9	22.7	21.8	50.0	-28.2
4.000	-4.4	20.4	16.0	46.0	-30.0
3.490	-5.1	20.4	15.3	46.0	-30.7
23.129	-2.5	21.6	19.1	50.0	-30.9
0.769	-5.5	20.2	14.7	46.0	-31.3
2.860	-5.6	20.3	14.7	46.0	-31.3
2.339	-6.1	20.3	14.2	46.0	-31.8
1.817	-6.5	20.3	13.8	46.0	-32.2
1.516	-6.6	20.2	13.6	46.0	-32.4
1.079	-6.8	20.2	13.4	46.0	-32.6
0.562	-6.9	20.2	13.3	46.0	-32.7
0.647	-6.9	20.2	13.3	46.0	-32.7
0.908	-6.9	20.2	13.3	46.0	-32.7
20.519	-4.2	21.4	17.2	50.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
9.210	-4.0	20.6	16.6	50.0	-33.4
6.970	-3.9	20.4	16.5	50.0	-33.5
0.418	-6.4	20.2	13.8	47.5	-33.7
5.100	-4.2	20.4	16.2	50.0	-33.8
13.931	-4.8	20.8	16.0	50.0	-34.0
0.360	-6.0	20.2	14.2	48.7	-34.5
0.300	-6.3	20.3	14.0	50.2	-36.2
0.206	-4.9	20.6	15.7	53.4	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	20	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

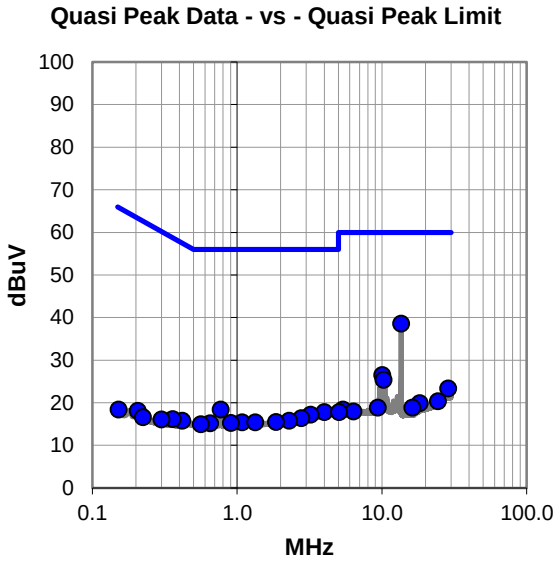
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

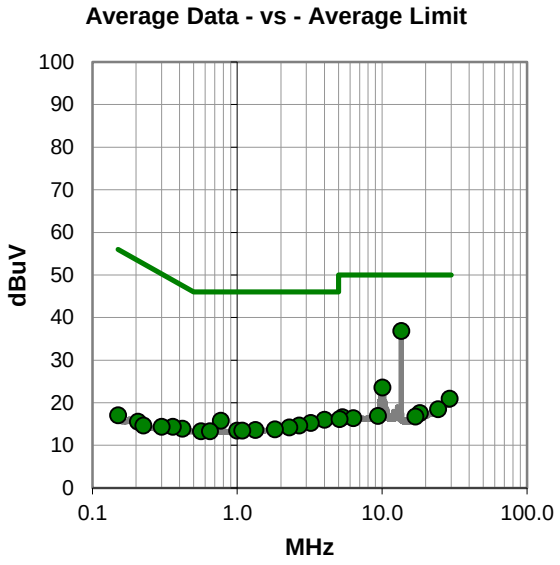
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #20

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	17.8	20.8	38.6	60.0	-21.4
10.070	5.9	20.6	26.5	60.0	-33.5
10.246	4.8	20.6	25.4	60.0	-34.6
28.680	0.7	22.7	23.4	60.0	-36.6
0.769	-1.8	20.2	18.4	56.0	-37.6
4.000	-2.6	20.4	17.8	56.0	-38.2
3.217	-3.1	20.3	17.2	56.0	-38.8
2.776	-3.9	20.3	16.4	56.0	-39.6
24.349	-1.4	21.8	20.4	60.0	-39.6
18.240	-1.4	21.3	19.9	60.0	-40.1
2.294	-4.5	20.3	15.8	56.0	-40.2
1.860	-4.8	20.3	15.5	56.0	-40.5
1.084	-4.8	20.2	15.4	56.0	-40.6
1.336	-4.8	20.2	15.4	56.0	-40.6
0.908	-4.9	20.2	15.3	56.0	-40.7
0.650	-5.0	20.2	15.2	56.0	-40.8
0.562	-5.2	20.2	15.0	56.0	-41.0
9.368	-1.7	20.6	18.9	60.0	-41.1
16.230	-2.1	21.0	18.9	60.0	-41.1
5.370	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
6.358	-2.4	20.4	18.0	60.0	-42.0
5.050	-2.6	20.4	17.8	60.0	-42.2
0.359	-4.0	20.2	16.2	58.7	-42.5
0.300	-4.2	20.3	16.1	60.2	-44.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	16.1	20.8	36.9	50.0	-13.1
10.070	3.0	20.6	23.6	50.0	-26.4
29.236	-1.5	22.5	21.0	50.0	-29.0
4.000	-4.4	20.4	16.0	46.0	-30.0
0.770	-4.4	20.2	15.8	46.0	-30.2
3.217	-5.0	20.3	15.3	46.0	-30.7
2.681	-5.6	20.3	14.7	46.0	-31.3
24.349	-3.3	21.8	18.5	50.0	-31.5
2.290	-6.1	20.3	14.2	46.0	-31.8
1.820	-6.5	20.3	13.8	46.0	-32.2
1.336	-6.6	20.2	13.6	46.0	-32.4
18.242	-3.7	21.3	17.6	50.0	-32.4
1.000	-6.7	20.2	13.5	46.0	-32.5
1.080	-6.7	20.2	13.5	46.0	-32.5
0.560	-6.9	20.2	13.3	46.0	-32.7
0.647	-6.9	20.2	13.3	46.0	-32.7
9.370	-3.7	20.6	16.9	50.0	-33.1
16.940	-4.3	21.1	16.8	50.0	-33.2
5.330	-3.8	20.4	16.6	50.0	-33.4
0.418	-6.3	20.2	13.9	47.5	-33.6
6.340	-4.0	20.4	16.4	50.0	-33.6
5.090	-4.2	20.4	16.2	50.0	-33.8
0.359	-5.8	20.2	14.4	48.7	-34.3
0.300	-5.9	20.3	14.4	50.2	-35.8
0.206	-5.0	20.6	15.6	53.4	-37.8

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	21	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

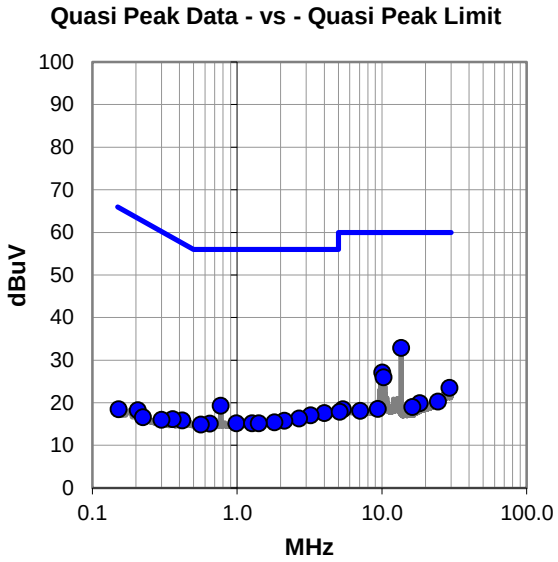
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

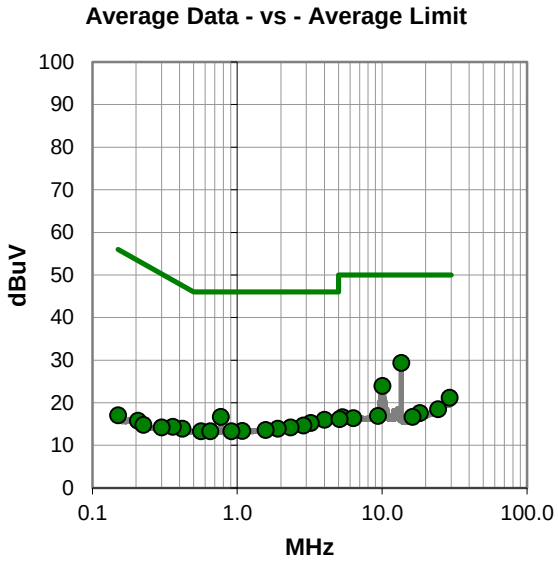
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #21

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	12.1	20.8	32.9	60.0	-27.1
10.075	6.5	20.6	27.1	60.0	-32.9
10.246	5.4	20.6	26.0	60.0	-34.0
29.230	1.0	22.5	23.5	60.0	-36.5
0.770	-0.9	20.2	19.3	56.0	-36.7
4.000	-2.8	20.4	17.6	56.0	-38.4
3.217	-3.2	20.3	17.1	56.0	-38.9
2.681	-4.0	20.3	16.3	56.0	-39.7
24.349	-1.5	21.8	20.3	60.0	-39.7
18.242	-1.4	21.3	19.9	60.0	-40.1
2.120	-4.5	20.3	15.8	56.0	-40.2
1.810	-4.9	20.3	15.4	56.0	-40.6
0.990	-5.0	20.2	15.2	56.0	-40.8
1.270	-5.0	20.2	15.2	56.0	-40.8
1.410	-5.0	20.2	15.2	56.0	-40.8
0.647	-5.1	20.2	15.1	56.0	-40.9
16.230	-2.0	21.0	19.0	60.0	-41.0
0.562	-5.3	20.2	14.9	56.0	-41.1
9.370	-2.0	20.6	18.6	60.0	-41.4
5.370	-1.9	20.4	18.5	60.0	-41.5
0.418	-4.3	20.2	15.9	57.5	-41.6
7.080	-2.3	20.4	18.1	60.0	-41.9
5.120	-2.5	20.4	17.9	60.0	-42.1
0.360	-4.0	20.2	16.2	58.7	-42.5
0.300	-4.3	20.3	16.0	60.2	-44.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	8.6	20.8	29.4	50.0	-20.6
10.070	3.4	20.6	24.0	50.0	-26.0
29.236	-1.3	22.5	21.2	50.0	-28.8
0.770	-3.5	20.2	16.7	46.0	-29.3
4.000	-4.4	20.4	16.0	46.0	-30.0
3.217	-5.0	20.3	15.3	46.0	-30.7
2.866	-5.6	20.3	14.7	46.0	-31.3
24.349	-3.3	21.8	18.5	50.0	-31.5
2.330	-6.1	20.3	14.2	46.0	-31.8
1.907	-6.4	20.3	13.9	46.0	-32.1
1.570	-6.6	20.2	13.6	46.0	-32.4
18.242	-3.7	21.3	17.6	50.0	-32.4
1.080	-6.8	20.2	13.4	46.0	-32.6
0.562	-6.9	20.2	13.3	46.0	-32.7
0.650	-6.9	20.2	13.3	46.0	-32.7
0.908	-6.9	20.2	13.3	46.0	-32.7
9.370	-3.7	20.6	16.9	50.0	-33.1
16.230	-4.3	21.0	16.7	50.0	-33.3
5.330	-3.8	20.4	16.6	50.0	-33.4
0.418	-6.3	20.2	13.9	47.5	-33.6
6.340	-4.0	20.4	16.4	50.0	-33.6
5.090	-4.2	20.4	16.2	50.0	-33.8
0.359	-5.8	20.2	14.4	48.7	-34.3
0.300	-6.1	20.3	14.2	50.2	-36.0
0.206	-4.8	20.6	15.8	53.4	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	22	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

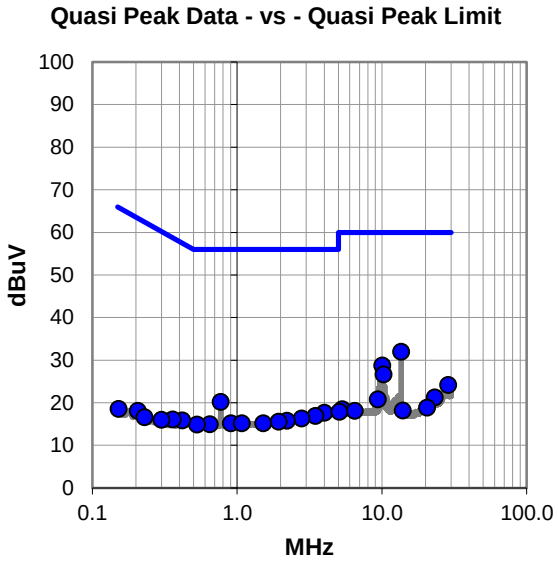
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

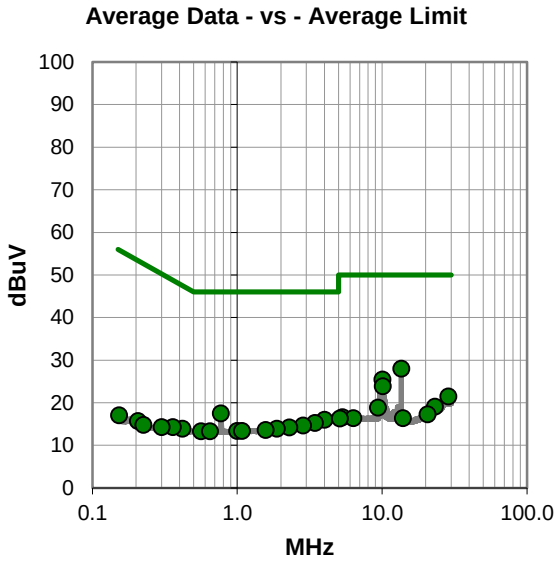
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 2 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #22

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	11.2	20.8	32.0	60.0	-28.0
10.075	8.2	20.6	28.8	60.0	-31.2
10.250	6.1	20.6	26.7	60.0	-33.3
0.770	0.0	20.2	20.2	56.0	-35.8
28.680	1.5	22.7	24.2	60.0	-35.8
4.000	-2.7	20.4	17.7	56.0	-38.3
23.129	-0.3	21.6	21.3	60.0	-38.7
3.482	-3.5	20.4	16.9	56.0	-39.1
9.350	0.2	20.6	20.8	60.0	-39.2
2.789	-4.0	20.3	16.3	56.0	-39.7
2.204	-4.5	20.3	15.8	56.0	-40.2
1.940	-4.7	20.3	15.6	56.0	-40.4
0.908	-5.0	20.2	15.2	56.0	-40.8
1.080	-5.0	20.2	15.2	56.0	-40.8
1.516	-5.0	20.2	15.2	56.0	-40.8
0.647	-5.2	20.2	15.0	56.0	-41.0
0.530	-5.3	20.2	14.9	56.0	-41.1
20.506	-2.4	21.3	18.9	60.0	-41.1
5.330	-1.9	20.4	18.5	60.0	-41.5
0.418	-4.3	20.2	15.9	57.5	-41.6
13.931	-2.6	20.8	18.2	60.0	-41.8
6.484	-2.3	20.4	18.1	60.0	-41.9
5.093	-2.5	20.4	17.9	60.0	-42.1
0.359	-4.1	20.2	16.1	58.7	-42.6
0.300	-4.3	20.3	16.0	60.2	-44.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	7.2	20.8	28.0	50.0	-22.0
10.075	4.9	20.6	25.5	50.0	-24.5
10.110	3.3	20.6	23.9	50.0	-26.1
0.770	-2.7	20.2	17.5	46.0	-28.5
28.680	-1.2	22.7	21.5	50.0	-28.5
4.000	-4.4	20.4	16.0	46.0	-30.0
3.433	-5.1	20.4	15.3	46.0	-30.7
23.129	-2.5	21.6	19.1	50.0	-30.9
9.350	-1.7	20.6	18.9	50.0	-31.1
2.850	-5.6	20.3	14.7	46.0	-31.3
2.290	-6.1	20.3	14.2	46.0	-31.8
1.870	-6.4	20.3	13.9	46.0	-32.1
1.570	-6.6	20.2	13.6	46.0	-32.4
1.000	-6.8	20.2	13.4	46.0	-32.6
1.079	-6.8	20.2	13.4	46.0	-32.6
0.562	-6.9	20.2	13.3	46.0	-32.7
0.647	-6.9	20.2	13.3	46.0	-32.7
20.627	-4.1	21.4	17.3	50.0	-32.7
5.330	-3.9	20.4	16.6	50.0	-33.4
0.418	-6.3	20.2	13.9	47.5	-33.6
6.340	-4.0	20.4	16.4	50.0	-33.6
13.931	-4.4	20.8	16.4	50.0	-33.6
5.102	-4.1	20.4	16.3	50.0	-33.7
0.359	-5.9	20.2	14.3	48.7	-34.4
0.300	-6.0	20.3	14.3	50.2	-35.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	23	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

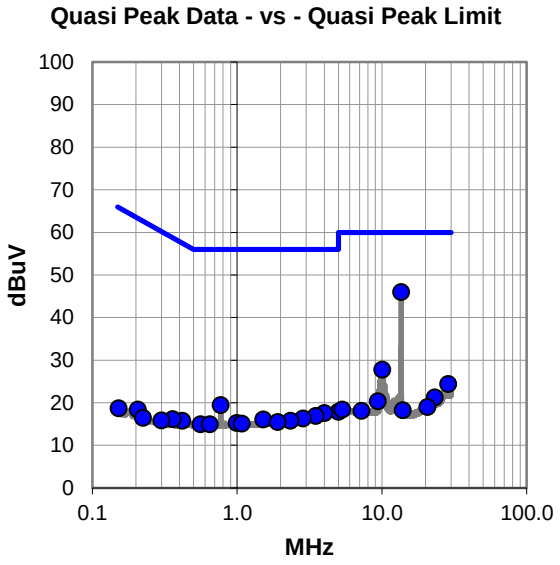
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

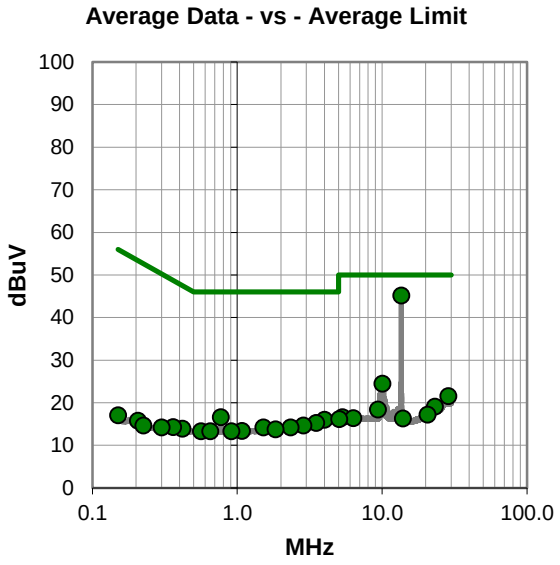
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, AccessPoint 2

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #23

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.2	20.8	46.0	60.0	-14.0
10.075	7.2	20.6	27.8	60.0	-32.2
28.680	1.7	22.7	24.4	60.0	-35.6
0.770	-0.7	20.2	19.5	56.0	-36.5
5.000	-2.5	20.4	17.9	56.0	-38.1
4.000	-2.8	20.4	17.6	56.0	-38.4
23.129	-0.3	21.6	21.3	60.0	-38.7
3.500	-3.5	20.4	16.9	56.0	-39.1
9.350	-0.2	20.6	20.4	60.0	-39.6
2.850	-4.0	20.3	16.3	56.0	-39.7
1.516	-4.1	20.2	16.1	56.0	-39.9
2.339	-4.5	20.3	15.8	56.0	-40.2
1.907	-4.8	20.3	15.5	56.0	-40.5
0.994	-4.9	20.2	15.3	56.0	-40.7
1.079	-5.1	20.2	15.1	56.0	-40.9
0.560	-5.2	20.2	15.0	56.0	-41.0
0.647	-5.2	20.2	15.0	56.0	-41.0
20.650	-2.4	21.4	19.0	60.0	-41.0
5.330	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.4	20.2	15.8	57.5	-41.7
13.931	-2.5	20.8	18.3	60.0	-41.7
7.240	-2.3	20.4	18.1	60.0	-41.9
0.359	-4.0	20.2	16.2	58.7	-42.5
0.300	-4.4	20.3	15.9	60.2	-44.3
0.206	-2.2	20.6	18.4	63.4	-45.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	24.4	20.8	45.2	50.0	-4.8
10.075	3.9	20.6	24.5	50.0	-25.5
28.680	-1.1	22.7	21.6	50.0	-28.4
0.770	-3.6	20.2	16.6	46.0	-29.4
4.000	-4.4	20.4	16.0	46.0	-30.0
3.500	-5.1	20.4	15.3	46.0	-30.7
23.129	-2.5	21.6	19.1	50.0	-30.9
2.860	-5.6	20.3	14.7	46.0	-31.3
9.350	-2.2	20.6	18.4	50.0	-31.6
1.516	-6.0	20.2	14.2	46.0	-31.8
2.330	-6.1	20.3	14.2	46.0	-31.8
1.840	-6.5	20.3	13.8	46.0	-32.2
1.079	-6.8	20.2	13.4	46.0	-32.6
0.560	-6.9	20.2	13.3	46.0	-32.7
0.650	-6.9	20.2	13.3	46.0	-32.7
0.908	-6.9	20.2	13.3	46.0	-32.7
20.546	-4.2	21.4	17.2	50.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
0.418	-6.3	20.2	13.9	47.5	-33.6
6.340	-4.0	20.4	16.4	50.0	-33.6
13.931	-4.5	20.8	16.3	50.0	-33.7
5.053	-4.2	20.4	16.2	50.0	-33.8
0.360	-5.9	20.2	14.3	48.7	-34.4
0.300	-6.1	20.3	14.2	50.2	-36.0
0.206	-4.8	20.6	15.8	53.4	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	24	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

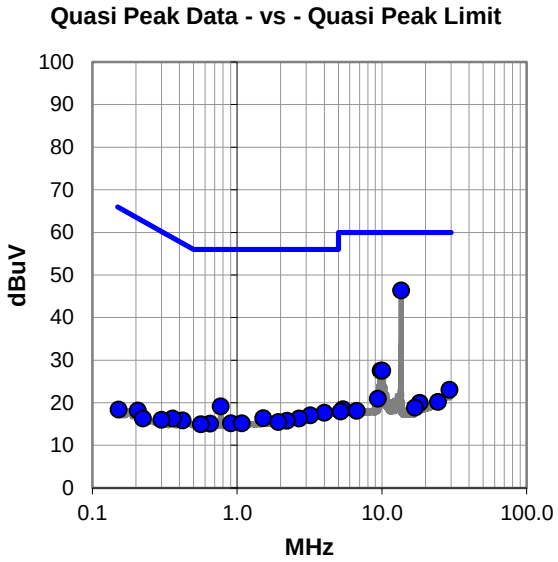
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

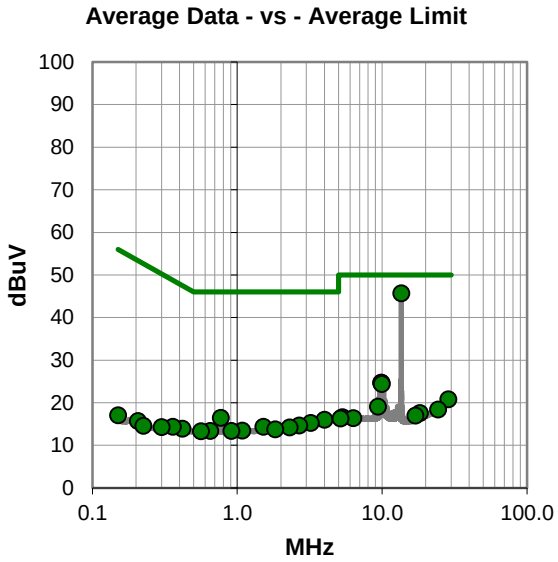
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, AccessPoint 2

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #24

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.6	20.8	46.4	60.0	-13.6
9.830	7.0	20.6	27.6	60.0	-32.4
10.070	7.0	20.6	27.6	60.0	-32.4
0.770	-1.0	20.2	19.2	56.0	-36.8
29.236	0.6	22.5	23.1	60.0	-36.9
4.000	-2.7	20.4	17.7	56.0	-38.3
3.210	-3.2	20.3	17.1	56.0	-38.9
9.350	0.4	20.6	21.0	60.0	-39.0
1.516	-3.8	20.2	16.4	56.0	-39.6
2.680	-4.0	20.3	16.3	56.0	-39.7
24.349	-1.6	21.8	20.2	60.0	-39.8
18.242	-1.3	21.3	20.0	60.0	-40.0
2.209	-4.5	20.3	15.8	56.0	-40.2
1.925	-4.8	20.3	15.5	56.0	-40.5
0.908	-5.0	20.2	15.2	56.0	-40.8
1.080	-5.0	20.2	15.2	56.0	-40.8
0.650	-5.1	20.2	15.1	56.0	-40.9
0.562	-5.2	20.2	15.0	56.0	-41.0
16.880	-2.2	21.1	18.9	60.0	-41.1
0.420	-4.3	20.2	15.9	57.4	-41.5
5.372	-1.9	20.4	18.5	60.0	-41.5
6.700	-2.3	20.4	18.1	60.0	-41.9
5.180	-2.4	20.4	18.0	60.0	-42.0
0.359	-3.9	20.2	16.3	58.7	-42.4
0.300	-4.3	20.3	16.0	60.2	-44.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	24.9	20.8	45.7	50.0	-4.3
9.830	4.1	20.6	24.7	50.0	-25.3
9.900	4.1	20.6	24.7	50.0	-25.3
9.971	3.8	20.6	24.4	50.0	-25.6
28.680	-1.9	22.7	20.8	50.0	-29.2
0.769	-3.7	20.2	16.5	46.0	-29.5
4.000	-4.4	20.4	16.0	46.0	-30.0
3.217	-5.0	20.3	15.3	46.0	-30.7
9.350	-1.5	20.6	19.1	50.0	-30.9
2.680	-5.6	20.3	14.7	46.0	-31.3
1.516	-5.8	20.2	14.4	46.0	-31.6
24.349	-3.4	21.8	18.4	50.0	-31.6
2.299	-6.1	20.3	14.2	46.0	-31.8
1.830	-6.5	20.3	13.8	46.0	-32.2
18.242	-3.7	21.3	17.6	50.0	-32.4
1.080	-6.7	20.2	13.5	46.0	-32.5
0.650	-6.8	20.2	13.4	46.0	-32.6
0.908	-6.8	20.2	13.4	46.0	-32.6
0.562	-6.9	20.2	13.3	46.0	-32.7
16.940	-4.1	21.1	17.0	50.0	-33.0
5.330	-3.8	20.4	16.6	50.0	-33.4
0.418	-6.3	20.2	13.9	47.5	-33.6
6.340	-4.0	20.4	16.4	50.0	-33.6
5.150	-4.1	20.4	16.3	50.0	-33.7
0.359	-5.8	20.2	14.4	48.7	-34.3

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	25	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

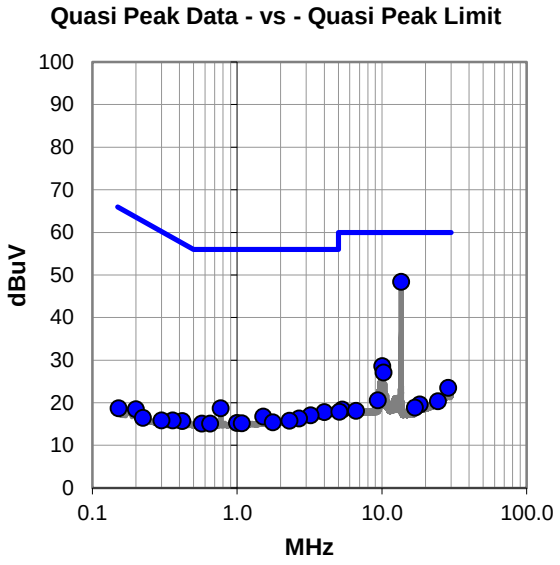
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

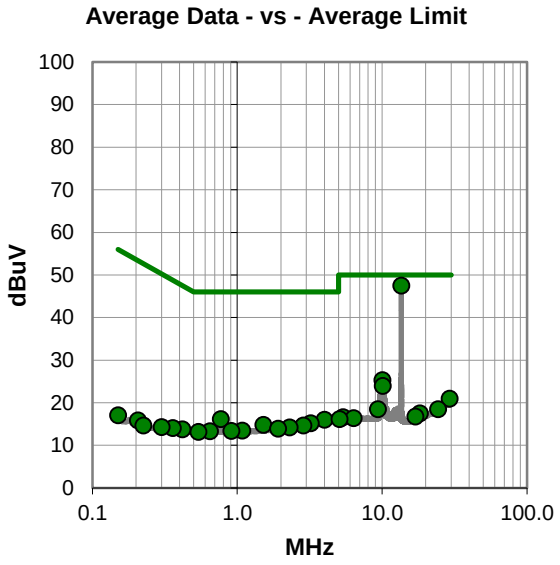
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #25

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.6	20.8	48.4	60.0	-11.6
10.075	8.0	20.6	28.6	60.0	-31.4
10.246	6.5	20.6	27.1	60.0	-32.9
28.680	0.8	22.7	23.5	60.0	-36.5
0.769	-1.5	20.2	18.7	56.0	-37.3
4.000	-2.6	20.4	17.8	56.0	-38.2
3.217	-3.2	20.3	17.1	56.0	-38.9
1.516	-3.4	20.2	16.8	56.0	-39.2
9.350	0.0	20.6	20.6	60.0	-39.4
24.350	-1.4	21.8	20.4	60.0	-39.6
2.680	-4.0	20.3	16.3	56.0	-39.7
2.299	-4.5	20.3	15.8	56.0	-40.2
18.242	-1.7	21.3	19.6	60.0	-40.4
1.770	-4.8	20.2	15.4	56.0	-40.6
1.000	-4.9	20.2	15.3	56.0	-40.7
1.079	-5.0	20.2	15.2	56.0	-40.8
0.570	-5.1	20.2	15.1	56.0	-40.9
0.650	-5.1	20.2	15.1	56.0	-40.9
16.940	-2.2	21.1	18.9	60.0	-41.1
5.330	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.5	20.2	15.7	57.5	-41.8
6.630	-2.3	20.4	18.1	60.0	-41.9
5.080	-2.5	20.4	17.9	60.0	-42.1
0.359	-4.3	20.2	15.9	58.7	-42.8
0.300	-4.4	20.3	15.9	60.2	-44.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.7	20.8	47.5	50.0	-2.5
10.075	4.7	20.6	25.3	50.0	-24.7
10.110	3.4	20.6	24.0	50.0	-26.0
29.236	-1.5	22.5	21.0	50.0	-29.0
0.770	-4.0	20.2	16.2	46.0	-29.8
4.000	-4.4	20.4	16.0	46.0	-30.0
3.217	-5.1	20.3	15.2	46.0	-30.8
1.516	-5.4	20.2	14.8	46.0	-31.2
2.860	-5.6	20.3	14.7	46.0	-31.3
9.350	-2.1	20.6	18.5	50.0	-31.5
24.349	-3.3	21.8	18.5	50.0	-31.5
2.300	-6.1	20.3	14.2	46.0	-31.8
1.910	-6.4	20.3	13.9	46.0	-32.1
1.080	-6.7	20.2	13.5	46.0	-32.5
18.242	-3.8	21.3	17.5	50.0	-32.5
0.908	-6.8	20.2	13.4	46.0	-32.6
0.647	-6.9	20.2	13.3	46.0	-32.7
0.540	-7.0	20.2	13.2	46.0	-32.8
16.940	-4.3	21.1	16.8	50.0	-33.2
5.370	-3.8	20.4	16.6	50.0	-33.4
6.344	-4.0	20.4	16.4	50.0	-33.6
0.418	-6.4	20.2	13.8	47.5	-33.7
5.089	-4.2	20.4	16.2	50.0	-33.8
0.359	-6.1	20.2	14.1	48.7	-34.6
0.300	-6.0	20.3	14.3	50.2	-35.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	26	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

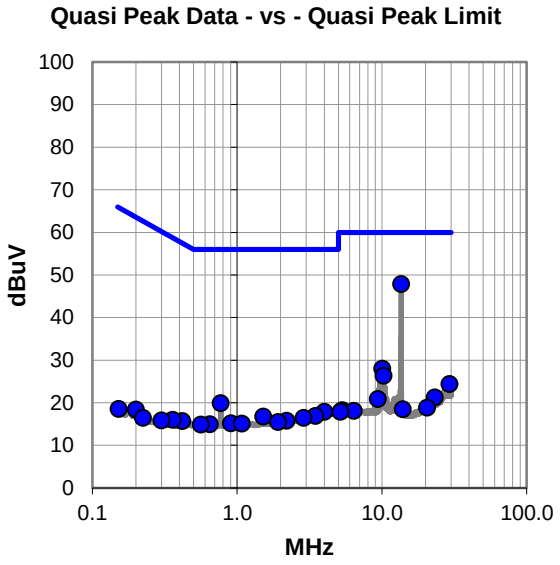
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each).

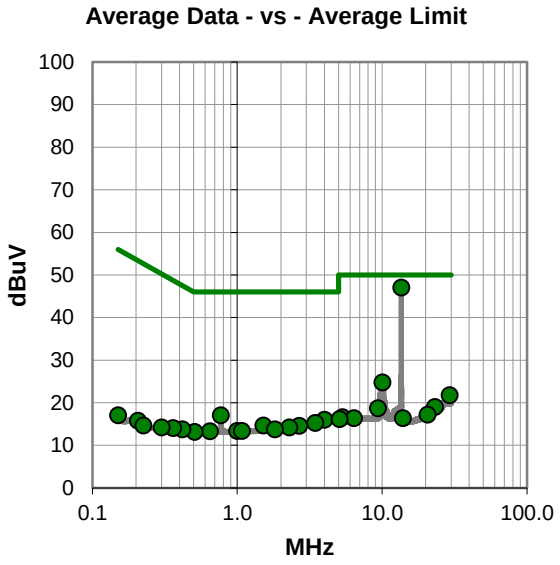
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 1)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #26

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.1	20.8	47.9	60.0	-12.1
10.075	7.4	20.6	28.0	60.0	-32.0
10.250	5.8	20.6	26.4	60.0	-33.6
29.236	1.9	22.5	24.4	60.0	-35.6
0.770	-0.3	20.2	19.9	56.0	-36.1
4.000	-2.5	20.4	17.9	56.0	-38.1
23.129	-0.3	21.6	21.3	60.0	-38.7
3.470	-3.5	20.4	16.9	56.0	-39.1
9.350	0.3	20.6	20.9	60.0	-39.1
1.516	-3.4	20.2	16.8	56.0	-39.2
2.880	-3.8	20.3	16.5	56.0	-39.5
2.200	-4.5	20.3	15.8	56.0	-40.2
1.920	-4.8	20.3	15.5	56.0	-40.5
0.908	-5.0	20.2	15.2	56.0	-40.8
1.080	-5.1	20.2	15.1	56.0	-40.9
0.647	-5.2	20.2	15.0	56.0	-41.0
0.562	-5.3	20.2	14.9	56.0	-41.1
20.510	-2.5	21.4	18.9	60.0	-41.1
13.931	-2.3	20.8	18.5	60.0	-41.5
5.330	-2.1	20.4	18.3	60.0	-41.7
0.418	-4.5	20.2	15.7	57.5	-41.8
6.403	-2.3	20.4	18.1	60.0	-41.9
5.174	-2.5	20.4	17.9	60.0	-42.1
0.359	-4.2	20.2	16.0	58.7	-42.7
0.300	-4.4	20.3	15.9	60.2	-44.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.3	20.8	47.1	50.0	-2.9
10.075	4.2	20.6	24.8	50.0	-25.2
29.236	-0.7	22.5	21.8	50.0	-28.2
0.770	-3.1	20.2	17.1	46.0	-28.9
4.000	-4.4	20.4	16.0	46.0	-30.0
3.460	-5.1	20.4	15.3	46.0	-30.7
23.130	-2.6	21.6	19.0	50.0	-31.0
1.516	-5.5	20.2	14.7	46.0	-31.3
9.350	-1.9	20.6	18.7	50.0	-31.3
2.680	-5.7	20.3	14.6	46.0	-31.4
2.290	-6.1	20.3	14.2	46.0	-31.8
1.820	-6.5	20.3	13.8	46.0	-32.2
1.000	-6.8	20.2	13.4	46.0	-32.6
1.079	-6.8	20.2	13.4	46.0	-32.6
0.647	-6.9	20.2	13.3	46.0	-32.7
0.508	-7.0	20.2	13.2	46.0	-32.8
20.570	-4.2	21.4	17.2	50.0	-32.8
5.330	-3.8	20.4	16.6	50.0	-33.4
6.390	-4.0	20.4	16.4	50.0	-33.6
13.931	-4.4	20.8	16.4	50.0	-33.6
0.418	-6.4	20.2	13.8	47.5	-33.7
5.090	-4.2	20.4	16.2	50.0	-33.8
0.360	-6.1	20.2	14.1	48.7	-34.6
0.300	-6.1	20.3	14.2	50.2	-36.0
0.206	-4.8	20.6	15.8	53.4	-37.6

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	27	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

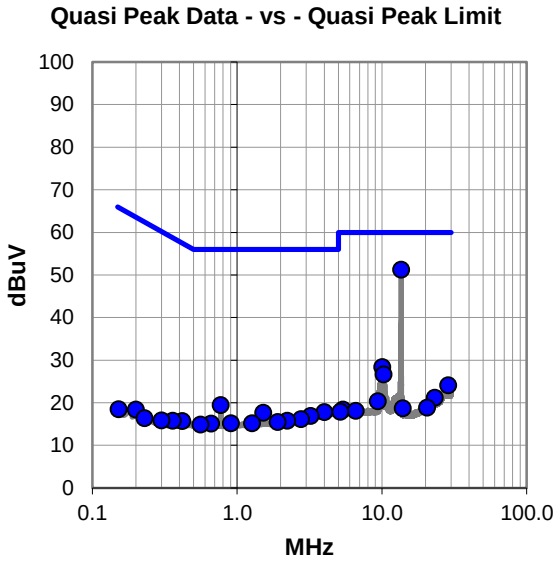
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Evaluated prior termination with load and retesting per KDB 174176. Retest data follows.

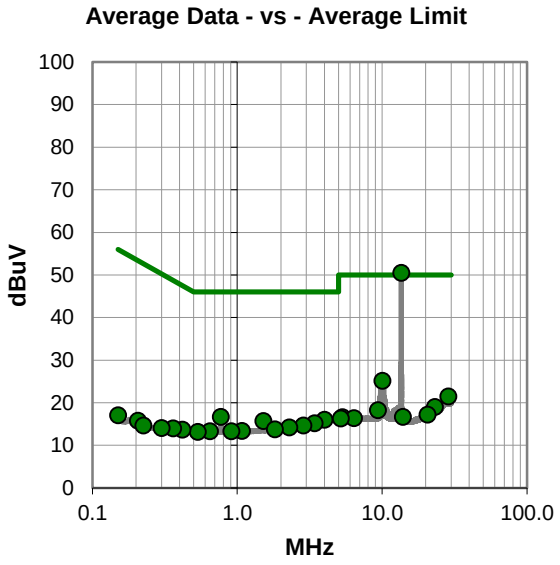
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #27

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	30.5	20.8	51.3	60.0	-8.7
10.075	7.8	20.6	28.4	60.0	-31.6
10.250	6.1	20.6	26.7	60.0	-33.3
28.687	1.4	22.7	24.1	60.0	-35.9
0.770	-0.7	20.2	19.5	56.0	-36.5
4.000	-2.6	20.4	17.8	56.0	-38.2
1.516	-2.5	20.2	17.7	56.0	-38.3
23.130	-0.4	21.6	21.2	60.0	-38.8
3.217	-3.4	20.3	16.9	56.0	-39.1
9.350	-0.2	20.6	20.4	60.0	-39.6
2.760	-4.1	20.3	16.2	56.0	-39.8
2.222	-4.5	20.3	15.8	56.0	-40.2
1.910	-4.8	20.3	15.5	56.0	-40.5
0.908	-5.0	20.2	15.2	56.0	-40.8
1.270	-5.0	20.2	15.2	56.0	-40.8
0.660	-5.1	20.2	15.1	56.0	-40.9
0.560	-5.3	20.2	14.9	56.0	-41.1
20.480	-2.4	21.3	18.9	60.0	-41.1
13.931	-2.1	20.8	18.7	60.0	-41.3
5.370	-2.0	20.4	18.4	60.0	-41.6
0.418	-4.5	20.2	15.7	57.5	-41.8
6.583	-2.3	20.4	18.1	60.0	-41.9
5.156	-2.5	20.4	17.9	60.0	-42.1
0.360	-4.4	20.2	15.8	58.7	-42.9
0.300	-4.4	20.3	15.9	60.2	-44.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	29.7	20.8	50.5	50.0	0.5
10.075	4.6	20.6	25.2	50.0	-24.8
28.680	-1.2	22.7	21.5	50.0	-28.5
0.770	-3.5	20.2	16.7	46.0	-29.3
4.000	-4.4	20.4	16.0	46.0	-30.0
1.516	-4.5	20.2	15.7	46.0	-30.3
3.410	-5.2	20.4	15.2	46.0	-30.8
23.130	-2.6	21.6	19.0	50.0	-31.0
2.861	-5.6	20.3	14.7	46.0	-31.3
9.350	-2.3	20.6	18.3	50.0	-31.7
2.290	-6.1	20.3	14.2	46.0	-31.8
1.820	-6.5	20.3	13.8	46.0	-32.2
1.079	-6.8	20.2	13.4	46.0	-32.6
0.647	-6.9	20.2	13.3	46.0	-32.7
0.908	-6.9	20.2	13.3	46.0	-32.7
0.535	-7.0	20.2	13.2	46.0	-32.8
20.573	-4.2	21.4	17.2	50.0	-32.8
13.931	-4.1	20.8	16.7	50.0	-33.3
5.330	-3.8	20.4	16.6	50.0	-33.4
6.380	-4.0	20.4	16.4	50.0	-33.6
5.192	-4.1	20.4	16.3	50.0	-33.7
0.418	-6.5	20.2	13.7	47.5	-33.8
0.360	-6.2	20.2	14.0	48.7	-34.7
0.300	-6.2	20.3	14.1	50.2	-36.1
0.206	-4.8	20.6	15.8	53.4	-37.6

CONCLUSION

Evaluation

FOR EVALUATION ONLY

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-15
Customer:	Abbott Laboratories	Temperature:	21°C
Attendees:	Frank Sun	Relative Humidity:	50.5%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marty Martin	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	28	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

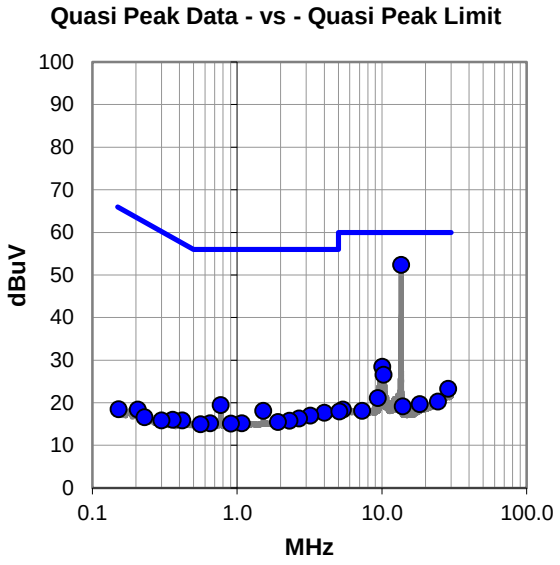
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Evaluated prior termination with load and retesting per KDB 174176. Retest data follows.

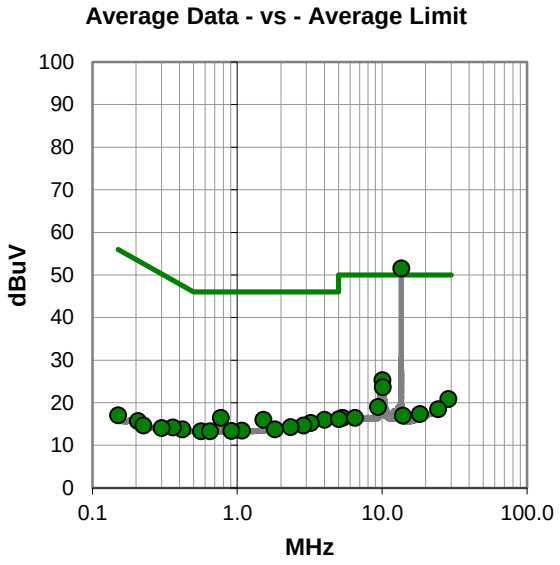
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 (Radio 2)

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #28

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	31.6	20.8	52.4	60.0	-7.6
10.075	7.9	20.6	28.5	60.0	-31.5
10.246	6.0	20.6	26.6	60.0	-33.4
0.770	-0.7	20.2	19.5	56.0	-36.5
28.680	0.6	22.7	23.3	60.0	-36.7
1.516	-2.1	20.2	18.1	56.0	-37.9
4.000	-2.7	20.4	17.7	56.0	-38.3
9.350	0.5	20.6	21.1	60.0	-38.9
3.210	-3.3	20.3	17.0	56.0	-39.0
2.680	-4.0	20.3	16.3	56.0	-39.7
24.349	-1.5	21.8	20.3	60.0	-39.7
2.299	-4.5	20.3	15.8	56.0	-40.2
18.242	-1.6	21.3	19.7	60.0	-40.3
1.920	-4.8	20.3	15.5	56.0	-40.5
0.650	-5.0	20.2	15.2	56.0	-40.8
1.079	-5.0	20.2	15.2	56.0	-40.8
13.931	-1.6	20.8	19.2	60.0	-40.8
0.908	-5.1	20.2	15.1	56.0	-40.9
0.560	-5.2	20.2	15.0	56.0	-41.0
0.418	-4.3	20.2	15.9	57.5	-41.6
5.370	-2.0	20.4	18.4	60.0	-41.6
7.310	-2.3	20.4	18.1	60.0	-41.9
5.090	-2.4	20.4	18.0	60.0	-42.0
0.359	-4.2	20.2	16.0	58.7	-42.7
0.300	-4.4	20.3	15.9	60.2	-44.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	30.8	20.8	51.6	50.0	1.6
10.075	4.7	20.6	25.3	50.0	-24.7
10.110	3.1	20.6	23.7	50.0	-26.3
28.680	-1.8	22.7	20.9	50.0	-29.1
0.770	-3.7	20.2	16.5	46.0	-29.5
1.516	-4.2	20.2	16.0	46.0	-30.0
4.000	-4.4	20.4	16.0	46.0	-30.0
3.217	-5.0	20.3	15.3	46.0	-30.7
9.350	-1.6	20.6	19.0	50.0	-31.0
2.857	-5.6	20.3	14.7	46.0	-31.3
24.349	-3.3	21.8	18.5	50.0	-31.5
2.335	-6.0	20.3	14.3	46.0	-31.7
1.817	-6.5	20.3	13.8	46.0	-32.2
1.079	-6.7	20.2	13.5	46.0	-32.5
0.908	-6.8	20.2	13.4	46.0	-32.6
18.242	-3.9	21.3	17.4	50.0	-32.6
0.562	-6.9	20.2	13.3	46.0	-32.7
0.647	-6.9	20.2	13.3	46.0	-32.7
13.931	-3.8	20.8	17.0	50.0	-33.0
5.330	-3.9	20.4	16.5	50.0	-33.5
6.500	-3.9	20.4	16.5	50.0	-33.5
0.418	-6.4	20.2	13.8	47.5	-33.7
5.020	-4.2	20.4	16.2	50.0	-33.8
0.359	-6.0	20.2	14.2	48.7	-34.5
0.300	-6.2	20.3	14.1	50.2	-36.1

CONCLUSION

Evaluation

FOR EVALUATION ONLY

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	36	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

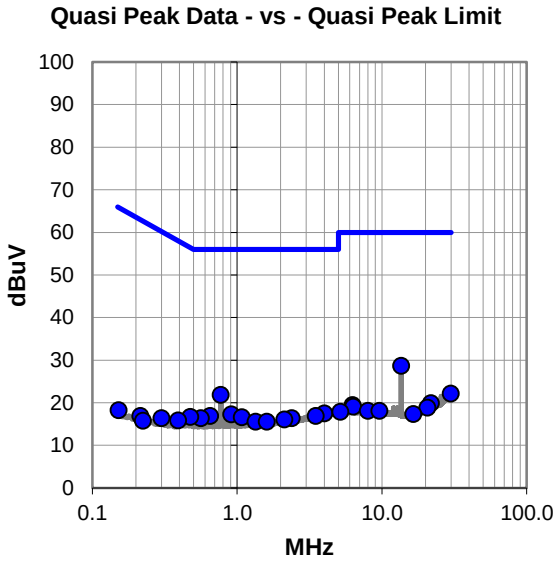
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

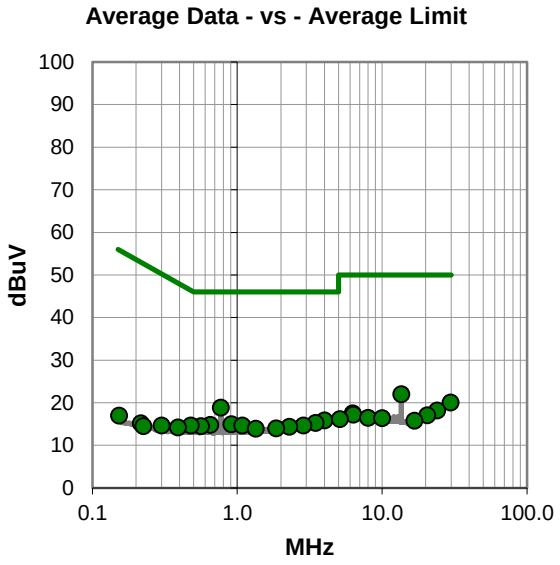
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 Radio 1.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #36

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	7.9	20.8	28.7	60.0	-31.3
0.770	1.7	20.2	21.9	56.0	-34.1
29.843	-0.2	22.4	22.2	60.0	-37.8
4.000	-2.9	20.4	17.5	56.0	-38.5
0.910	-2.9	20.2	17.3	56.0	-38.7
0.650	-3.3	20.2	16.9	56.0	-39.1
3.500	-3.5	20.4	16.9	56.0	-39.1
1.080	-3.6	20.2	16.6	56.0	-39.4
0.562	-3.8	20.2	16.4	56.0	-39.6
2.380	-3.9	20.3	16.4	56.0	-39.6
0.476	-3.5	20.2	16.7	56.4	-39.7
2.123	-4.2	20.3	16.1	56.0	-39.9
21.766	-1.6	21.5	19.9	60.0	-40.1
1.340	-4.6	20.2	15.6	56.0	-40.4
1.601	-4.6	20.2	15.6	56.0	-40.4
6.277	-0.9	20.4	19.5	60.0	-40.5
6.335	-1.3	20.4	19.1	60.0	-40.9
20.587	-2.5	21.4	18.9	60.0	-41.1
8.000	-2.4	20.5	18.1	60.0	-41.9
9.600	-2.5	20.6	18.1	60.0	-41.9
0.391	-4.3	20.2	15.9	58.0	-42.1
5.174	-2.5	20.4	17.9	60.0	-42.1
16.474	-3.7	21.1	17.4	60.0	-42.6
0.300	-3.9	20.3	16.4	60.2	-43.8
0.215	-3.7	20.6	16.9	63.0	-46.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-1.3	20.2	18.9	46.0	-27.1
13.560	1.2	20.8	22.0	50.0	-28.0
29.690	-2.3	22.4	20.1	50.0	-29.9
4.000	-4.5	20.4	15.9	46.0	-30.1
3.478	-5.1	20.4	15.3	46.0	-30.7
0.908	-5.2	20.2	15.0	46.0	-31.0
0.650	-5.4	20.2	14.8	46.0	-31.2
1.080	-5.5	20.2	14.7	46.0	-31.3
2.860	-5.6	20.3	14.7	46.0	-31.3
0.562	-5.7	20.2	14.5	46.0	-31.5
2.290	-5.9	20.3	14.4	46.0	-31.6
0.476	-5.5	20.2	14.7	46.4	-31.7
24.000	-3.6	21.8	18.2	50.0	-31.8
1.860	-6.3	20.3	14.0	46.0	-32.0
1.340	-6.3	20.2	13.9	46.0	-32.1
6.277	-2.9	20.4	17.5	50.0	-32.5
6.335	-3.2	20.4	17.2	50.0	-32.8
20.510	-4.3	21.4	17.1	50.0	-32.9
8.000	-4.0	20.5	16.5	50.0	-33.5
10.016	-4.2	20.6	16.4	50.0	-33.6
5.100	-4.2	20.4	16.2	50.0	-33.8
0.390	-6.0	20.2	14.2	48.1	-33.9
16.730	-5.3	21.1	15.8	50.0	-34.2
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.4	20.6	15.2	53.0	-37.8

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	37	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

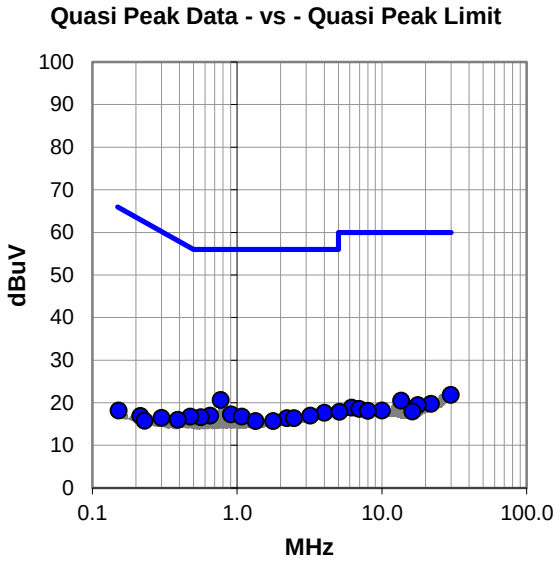
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

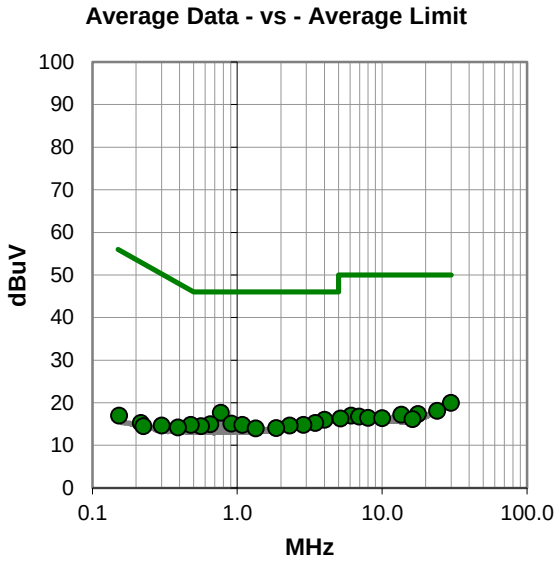
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 Radio 1.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #37

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	0.5	20.2	20.7	56.0	-35.3
29.850	-0.5	22.4	21.9	60.0	-38.1
4.000	-2.7	20.4	17.7	56.0	-38.3
0.908	-2.9	20.2	17.3	56.0	-38.7
0.650	-3.2	20.2	17.0	56.0	-39.0
3.210	-3.3	20.3	17.0	56.0	-39.0
1.080	-3.4	20.2	16.8	56.0	-39.2
0.562	-3.6	20.2	16.6	56.0	-39.4
13.560	-0.3	20.8	20.5	60.0	-39.5
0.476	-3.4	20.2	16.8	56.4	-39.6
2.210	-3.9	20.3	16.4	56.0	-39.6
2.470	-3.9	20.3	16.4	56.0	-39.6
21.766	-1.7	21.5	19.8	60.0	-40.2
1.340	-4.5	20.2	15.7	56.0	-40.3
1.772	-4.5	20.2	15.7	56.0	-40.3
17.693	-1.6	21.1	19.5	60.0	-40.5
6.160	-1.5	20.4	18.9	60.0	-41.1
6.983	-1.8	20.4	18.6	60.0	-41.4
10.016	-2.4	20.6	18.2	60.0	-41.8
8.000	-2.4	20.5	18.1	60.0	-41.9
16.230	-3.0	21.0	18.0	60.0	-42.0
0.390	-4.2	20.2	16.0	58.1	-42.1
5.100	-2.5	20.4	17.9	60.0	-42.1
0.300	-3.8	20.3	16.5	60.2	-43.7
0.215	-3.7	20.6	16.9	63.0	-46.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-2.5	20.2	17.7	46.0	-28.3
29.810	-2.4	22.4	20.0	50.0	-30.0
4.000	-4.4	20.4	16.0	46.0	-30.0
3.451	-5.1	20.4	15.3	46.0	-30.7
0.908	-5.1	20.2	15.1	46.0	-30.9
0.650	-5.2	20.2	15.0	46.0	-31.0
1.080	-5.4	20.2	14.8	46.0	-31.2
2.860	-5.5	20.3	14.8	46.0	-31.2
2.294	-5.6	20.3	14.7	46.0	-31.3
0.562	-5.7	20.2	14.5	46.0	-31.5
0.476	-5.4	20.2	14.8	46.4	-31.6
1.860	-6.2	20.3	14.1	46.0	-31.9
23.966	-3.7	21.8	18.1	50.0	-31.9
1.340	-6.2	20.2	14.0	46.0	-32.0
17.693	-3.7	21.1	17.4	50.0	-32.6
13.560	-3.6	20.8	17.2	50.0	-32.8
6.100	-3.4	20.4	17.0	50.0	-33.0
6.925	-3.6	20.4	16.8	50.0	-33.2
8.000	-4.0	20.5	16.5	50.0	-33.5
10.016	-4.2	20.6	16.4	50.0	-33.6
5.160	-4.1	20.4	16.3	50.0	-33.7
16.230	-4.8	21.0	16.2	50.0	-33.8
0.390	-6.0	20.2	14.2	48.1	-33.9
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	38	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

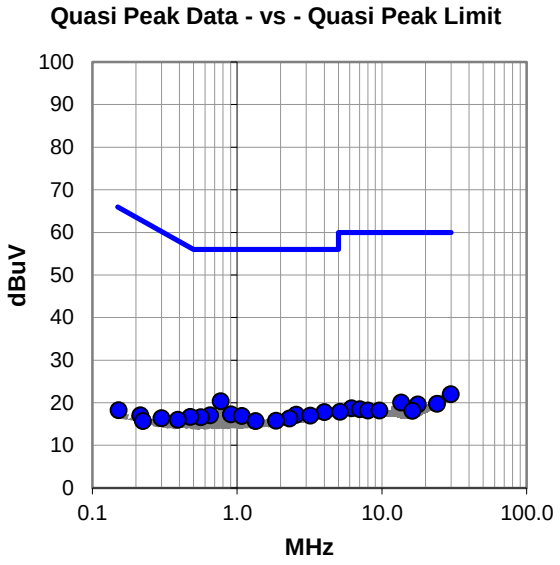
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

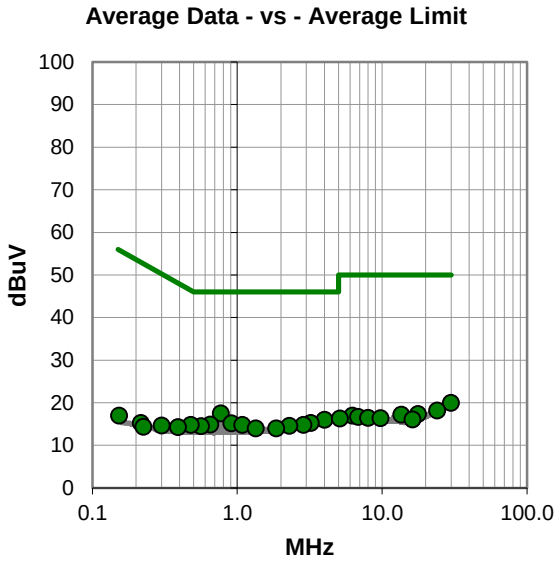
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 Radio 2.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #38

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	0.2	20.2	20.4	56.0	-35.6
29.906	-0.3	22.3	22.0	60.0	-38.0
4.000	-2.6	20.4	17.8	56.0	-38.2
0.908	-2.9	20.2	17.3	56.0	-38.7
2.560	-3.1	20.3	17.2	56.0	-38.8
0.650	-3.1	20.2	17.1	56.0	-38.9
3.210	-3.3	20.3	17.0	56.0	-39.0
1.080	-3.3	20.2	16.9	56.0	-39.1
0.562	-3.6	20.2	16.6	56.0	-39.4
0.476	-3.5	20.2	16.7	56.4	-39.7
2.300	-4.0	20.3	16.3	56.0	-39.7
13.560	-0.7	20.8	20.1	60.0	-39.9
1.860	-4.5	20.3	15.8	56.0	-40.2
24.000	-2.0	21.8	19.8	60.0	-40.2
1.340	-4.5	20.2	15.7	56.0	-40.3
17.693	-1.5	21.1	19.6	60.0	-40.4
6.160	-1.7	20.4	18.7	60.0	-41.3
7.042	-1.9	20.4	18.5	60.0	-41.5
8.000	-2.3	20.5	18.2	60.0	-41.8
9.600	-2.4	20.6	18.2	60.0	-41.8
16.230	-2.9	21.0	18.1	60.0	-41.9
0.390	-4.2	20.2	16.0	58.1	-42.1
5.150	-2.5	20.4	17.9	60.0	-42.1
0.300	-3.9	20.3	16.4	60.2	-43.8
0.215	-3.5	20.6	17.1	63.0	-45.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-2.7	20.2	17.5	46.0	-28.5
29.785	-2.4	22.4	20.0	50.0	-30.0
4.000	-4.4	20.4	16.0	46.0	-30.0
3.210	-5.0	20.3	15.3	46.0	-30.7
0.908	-5.0	20.2	15.2	46.0	-30.8
0.650	-5.3	20.2	14.9	46.0	-31.1
1.080	-5.4	20.2	14.8	46.0	-31.2
2.861	-5.5	20.3	14.8	46.0	-31.2
2.290	-5.7	20.3	14.6	46.0	-31.4
0.562	-5.7	20.2	14.5	46.0	-31.5
0.476	-5.4	20.2	14.8	46.4	-31.6
24.000	-3.6	21.8	18.2	50.0	-31.8
1.340	-6.2	20.2	14.0	46.0	-32.0
1.858	-6.3	20.3	14.0	46.0	-32.0
17.693	-3.7	21.1	17.4	50.0	-32.6
13.560	-3.6	20.8	17.2	50.0	-32.8
6.220	-3.4	20.4	17.0	50.0	-33.0
6.810	-3.7	20.4	16.7	50.0	-33.3
8.000	-4.0	20.5	16.5	50.0	-33.5
9.724	-4.2	20.6	16.4	50.0	-33.6
5.098	-4.1	20.4	16.3	50.0	-33.7
0.390	-5.9	20.2	14.3	48.1	-33.8
16.230	-4.9	21.0	16.1	50.0	-33.9
0.300	-5.6	20.3	14.7	50.2	-35.5
0.215	-5.3	20.6	15.3	53.0	-37.7

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	2023-08-24
Customer:	Abbott Laboratories	Temperature:	20.9°C
Attendees:	Frank Sun	Relative Humidity:	56%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Marty Martin	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0285-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	39	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

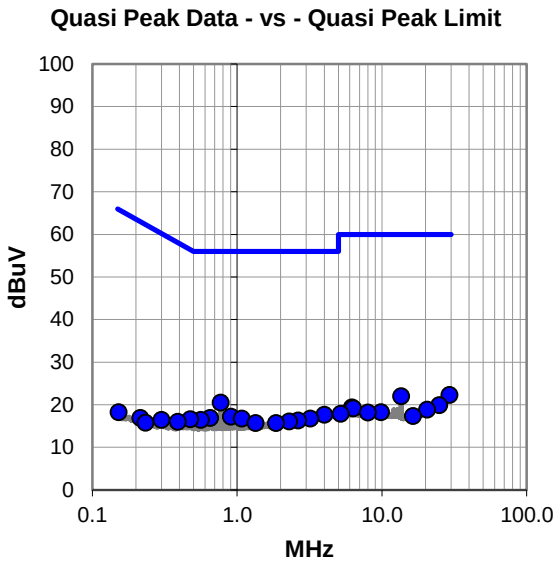
Floor Standing Unit. Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Terminated radios with 50 Ohm loads.

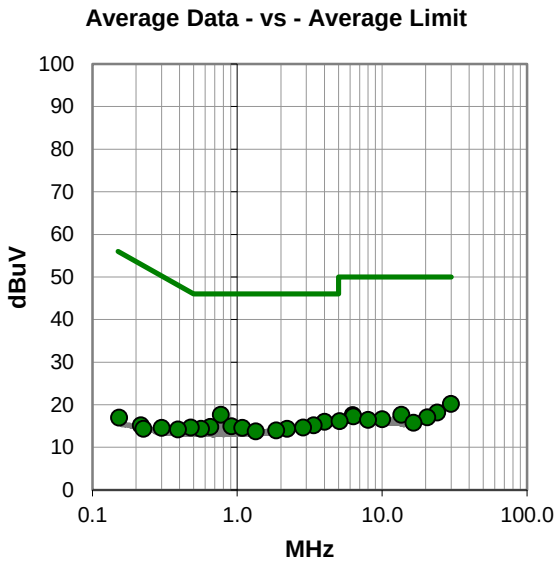
EUT OPERATING MODES

Transmitting 13.56 MHz RFID, OOK, CrossSwitch 3 Radio 2.

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2023.04.25.0
EmiR5 2022.07.06.0
PSA-ESCI 2023.04.25.0

RESULTS - Run #39

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	0.3	20.2	20.5	56.0	-35.5
29.236	-0.2	22.5	22.3	60.0	-37.7
13.560	1.2	20.8	22.0	60.0	-38.0
4.000	-2.7	20.4	17.7	56.0	-38.3
0.908	-3.0	20.2	17.2	56.0	-38.8
0.650	-3.3	20.2	16.9	56.0	-39.1
1.080	-3.4	20.2	16.8	56.0	-39.2
3.210	-3.5	20.3	16.8	56.0	-39.2
0.562	-3.7	20.2	16.5	56.0	-39.5
2.636	-4.0	20.3	16.3	56.0	-39.7
0.476	-3.6	20.2	16.6	56.4	-39.8
2.290	-4.2	20.3	16.1	56.0	-39.9
24.898	-1.9	21.8	19.9	60.0	-40.1
1.340	-4.5	20.2	15.7	56.0	-40.3
1.858	-4.6	20.3	15.7	56.0	-40.3
6.220	-1.0	20.4	19.4	60.0	-40.6
6.335	-1.2	20.4	19.2	60.0	-40.8
20.510	-2.5	21.4	18.9	60.0	-41.1
9.840	-2.3	20.6	18.3	60.0	-41.7
8.000	-2.3	20.5	18.2	60.0	-41.8
0.390	-4.2	20.2	16.0	58.1	-42.1
5.190	-2.5	20.4	17.9	60.0	-42.1
16.393	-3.7	21.1	17.4	60.0	-42.6
0.300	-3.8	20.3	16.5	60.2	-43.7
0.215	-3.7	20.6	16.9	63.0	-46.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.770	-2.5	20.2	17.7	46.0	-28.3
29.850	-2.2	22.4	20.2	50.0	-29.8
4.000	-4.4	20.4	16.0	46.0	-30.0
3.370	-5.2	20.4	15.2	46.0	-30.8
0.908	-5.2	20.2	15.0	46.0	-31.0
0.650	-5.4	20.2	14.8	46.0	-31.2
2.852	-5.6	20.3	14.7	46.0	-31.3
1.080	-5.6	20.2	14.6	46.0	-31.4
0.562	-5.8	20.2	14.4	46.0	-31.6
2.210	-5.9	20.3	14.4	46.0	-31.6
0.476	-5.5	20.2	14.7	46.4	-31.7
23.998	-3.6	21.8	18.2	50.0	-31.8
1.860	-6.3	20.3	14.0	46.0	-32.0
1.340	-6.4	20.2	13.8	46.0	-32.2
13.560	-3.1	20.8	17.7	50.0	-32.3
6.277	-2.8	20.4	17.6	50.0	-32.4
6.335	-3.1	20.4	17.3	50.0	-32.7
20.510	-4.3	21.4	17.1	50.0	-32.9
10.020	-4.0	20.6	16.6	50.0	-33.4
8.000	-4.0	20.5	16.5	50.0	-33.5
5.090	-4.2	20.4	16.2	50.0	-33.8
0.390	-6.0	20.2	14.2	48.1	-33.9
16.470	-5.3	21.1	15.8	50.0	-34.2
0.300	-5.7	20.3	14.6	50.2	-35.6
0.215	-5.4	20.6	15.2	53.0	-37.8

CONCLUSION

Pass

Tested By