



Abbott Laboratories

Track T-Element

FCC 15.207:2023

FCC 15.225:2023

13.56 MHz radio using RFID

Report: ABBO0269.0 Rev. 0, Issue Date: August 17, 2023

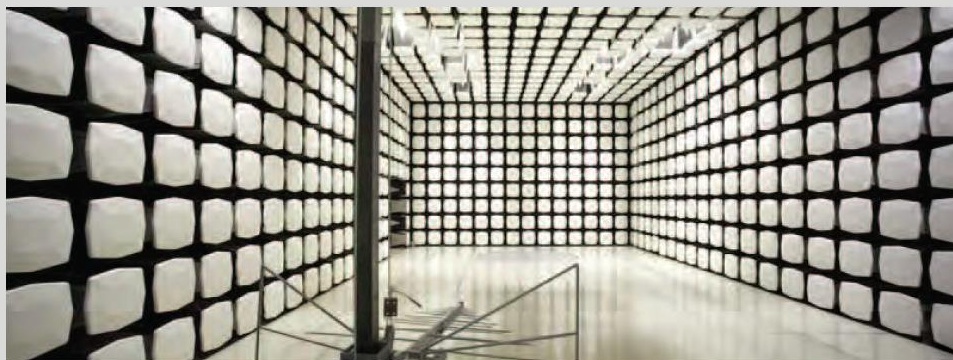


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CERTIFICATE OF TEST



Last Date of Test: June 28, 2023

Abbott Laboratories

EUT: Track T-Element

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2023	ANSI C63.10:2013
FCC 15.225:2023	

Results

Test Description	Result	Specification Section(s)	Method Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	6.2	
Emissions Bandwidth (20 dB)	Pass	15.215(c)	6.9.2	
Field Strength of Fundamental	Pass	15.225(a)-(c)	6.4	
Field Strength of Spurious Emissions (Less Than 30 MHz)	Pass	15.225(d), 15.209	6.4	
Field Strength of Spurious Emissions (Greater Than 30 MHz)	Pass	15.225(d), 15.209	6.5	
Frequency Stability	Pass	15.225(e), 15.31(e), 15.215(c), 2.1055	6.8	

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
00	None		

ACCREDITATIONS AND AUTHORIZATIONS



United States

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

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

Canada

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

European Union

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

United Kingdom

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

[California](#)

[Minnesota](#)

[Oregon](#)

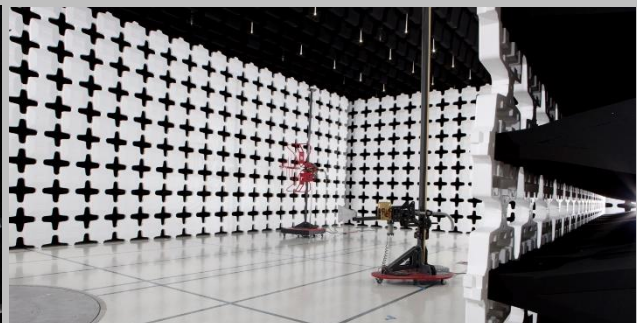
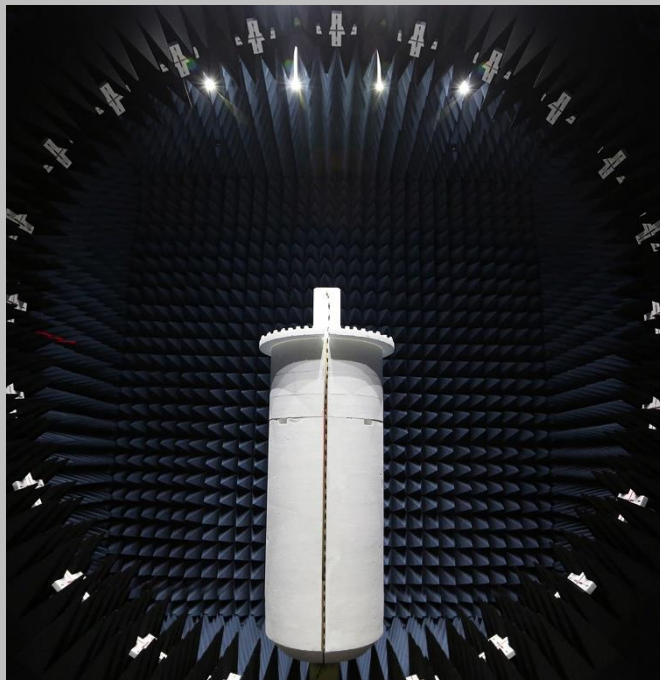
[Texas](#)

[Washington](#)

FACILITIES



California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th 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

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

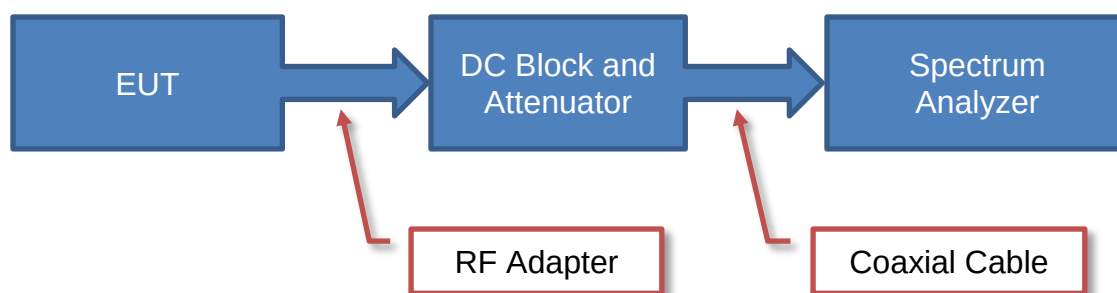
TEST SETUP BLOCK DIAGRAMS

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.

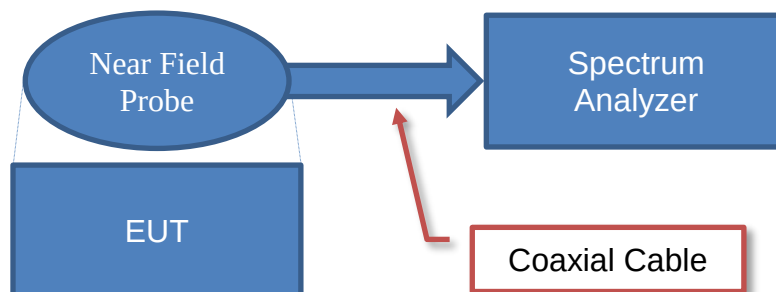
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

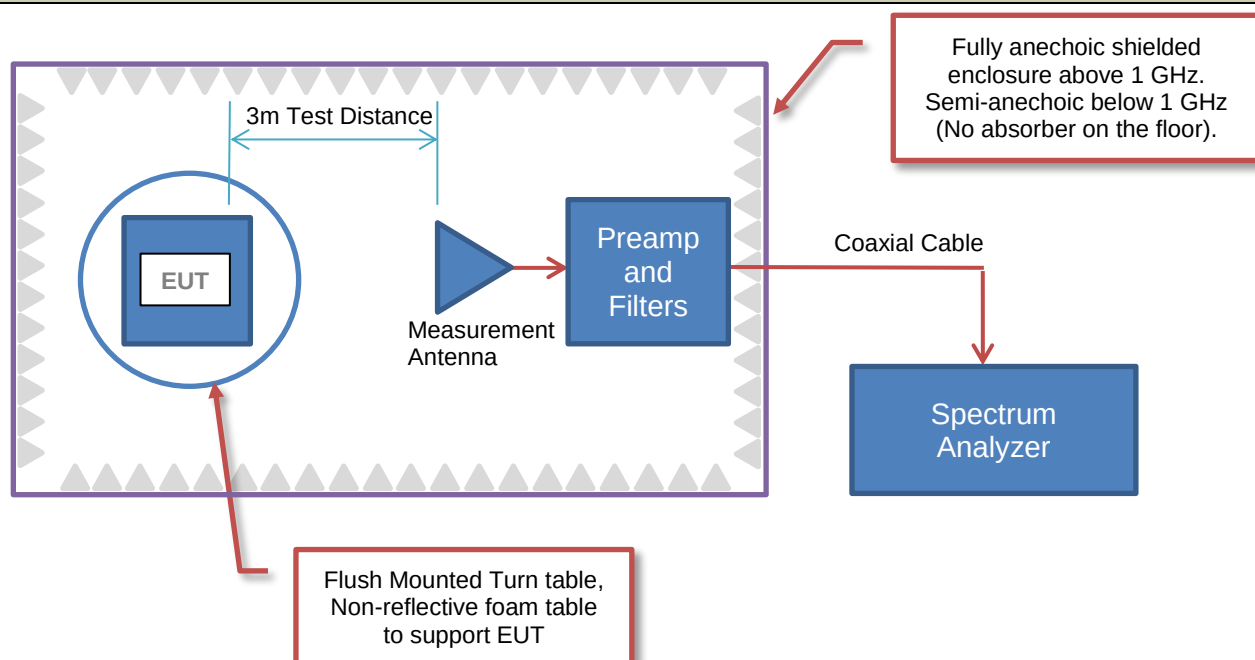


Sample Calculation (logarithmic units)

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			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

Conducted Emissions:

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

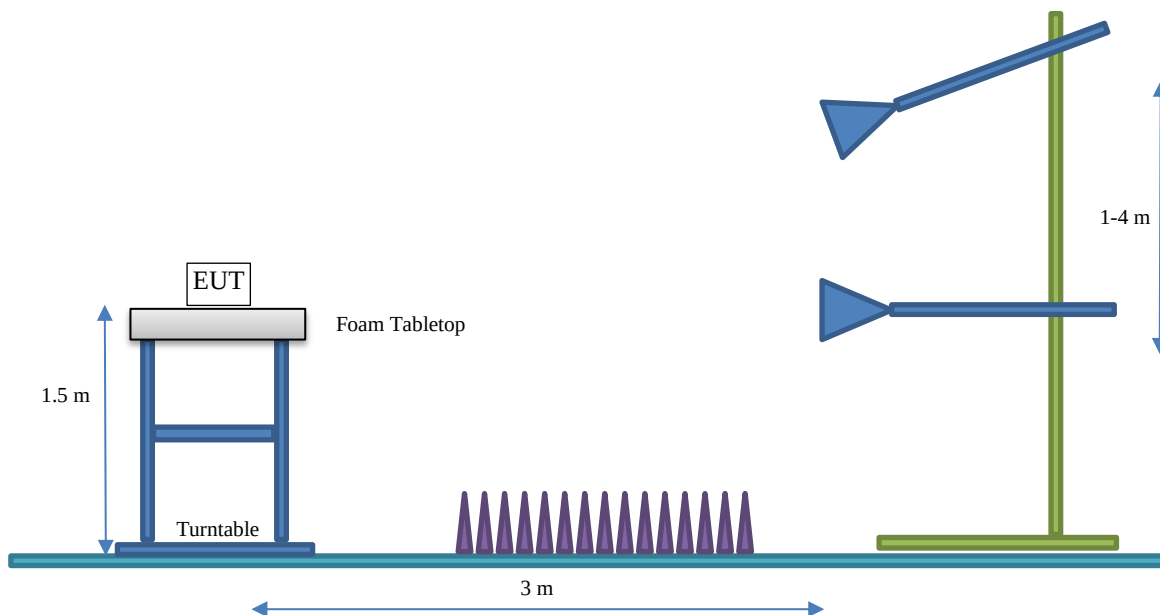
Radiated Power (ERP/EIRP) – Substitution Method:

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

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

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



PRODUCT DESCRIPTION

Client and Equipment under Test (EUT) Information

Company Name:	Abbott Laboratories
Address:	6901 Preston Rd
City, State, Zip:	Plano, TX 75024
Test Requested By:	Frank Sun
EUT:	Track T-Element
First Date of Test:	June 5, 2023
Last Date of Test:	June 28, 2023
Receipt Date of Samples:	June 5, 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 Track T-Element is a T shaped junction track package that allows the CARs to be routed where needed via track switches. This device contains a Switch 90 Divergent track component, and a Switch 90 Convergent track component.

Testing Objective:

To demonstrate compliance to FCC Part 15.225 specifications.

EUT Photo:



PRODUCT DESCRIPTION



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.

ANTENNA INFORMATION

Type	Provided by:	Dimensions
Embedded Inductive Loop	GLP Systems	51mm x 35mm

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 ABBO0269-1

Software/Firmware Running During Test	
Description	Version
D000104071/A-Switch Controller Divergent and Convergent RFID Firmware Verification	A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Track T-Element	Abbott Laboratories	06Q44-51	TELE0001

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power Cable	Yes	1.0m	No	AC Mains	Track T-Element

Configuration ABBO0269-2

Software/Firmware Running During Test	
Description	Version
D000104071/A-Switch Controller Divergent and Convergent RFID Firmware Verification	A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Track T-Element	Abbott Laboratories	06Q44-51	TELE0001

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power Cable	Yes	1.0m	No	AC Mains	Track T-Element

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2023-06-05	Field Strength of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2023-06-05	Field Strength of Spurious Emissions (less Than 30 Mhz)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2023-06-05	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	2023-06-06	Emissions Bandwidth (20 Db)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2023-06-06	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	2023-06-28	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

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

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

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

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

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

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

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Gauss Instruments	TDEMI 30M	ARL	2022-10-24	2023-10-24
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	2022-08-08	2023-08-08
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HFC, TQU, VAC	TXAA	2023-04-18	2024-04-18

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.1 dB	-3.1 dB

CONFIGURATIONS INVESTIGATED

ABBO0269-1

MODES INVESTIGATED

Transmitting RFID, 13.56 MHz, OOK

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	2	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

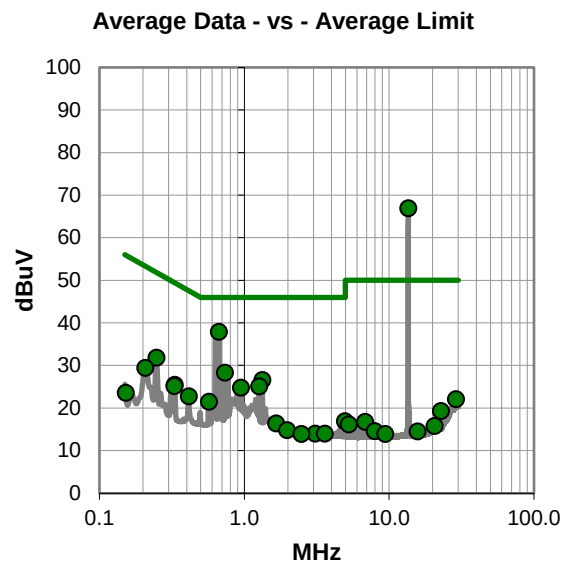
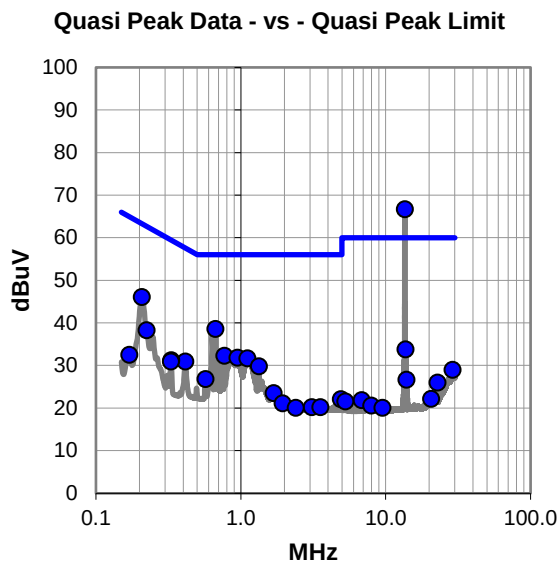
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Both Radios Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	45.9	20.8	66.7	60.0	6.7
0.206	25.5	20.6	46.1	63.3	-17.2
0.667	18.4	20.2	38.6	56.0	-17.4
0.769	12.1	20.2	32.3	56.0	-23.7
0.945	11.6	20.2	31.8	56.0	-24.2
1.108	11.5	20.2	31.7	56.0	-24.3
0.223	17.7	20.6	38.3	62.7	-24.4
1.334	9.6	20.2	29.8	56.0	-26.2
13.719	13.0	20.8	33.8	60.0	-26.2
0.412	10.7	20.2	30.9	57.6	-26.7
0.330	11.0	20.2	31.2	59.5	-28.3
0.329	10.7	20.2	30.9	59.5	-28.6
0.568	6.6	20.2	26.8	56.0	-29.2
28.876	6.3	22.7	29.0	60.0	-31.0
0.170	11.8	20.7	32.5	65.0	-32.5
1.680	3.3	20.2	23.5	56.0	-32.5
13.931	5.9	20.8	26.7	60.0	-33.3
4.898	1.7	20.4	22.1	56.0	-33.9
22.767	4.4	21.6	26.0	60.0	-34.0
1.946	0.8	20.3	21.1	56.0	-34.9
3.080	-0.1	20.3	20.2	56.0	-35.8
3.534	-0.2	20.4	20.2	56.0	-35.8
2.391	-0.2	20.3	20.1	56.0	-35.9
20.588	0.8	21.4	22.2	60.0	-37.8
6.835	1.5	20.4	21.9	60.0	-38.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	46.1	20.8	66.9	50.0	16.9
0.667	17.7	20.2	37.9	46.0	-8.1
0.734	8.1	20.2	28.3	46.0	-17.7
1.334	6.4	20.2	26.6	46.0	-19.4
0.248	11.3	20.5	31.8	51.8	-20.0
1.268	4.9	20.2	25.1	46.0	-20.9
0.945	4.6	20.2	24.8	46.0	-21.2
0.206	8.8	20.6	29.4	53.3	-23.9
0.330	5.3	20.2	25.5	49.5	-24.0
0.329	5.0	20.2	25.2	49.5	-24.3
0.568	1.3	20.2	21.5	46.0	-24.5
0.412	2.6	20.2	22.8	47.6	-24.8
28.886	-0.6	22.7	22.1	50.0	-27.9
4.958	-3.5	20.4	16.9	46.0	-29.1
1.657	-3.8	20.2	16.4	46.0	-29.6
22.767	-2.3	21.6	19.3	50.0	-30.7
1.970	-5.5	20.3	14.8	46.0	-31.2
3.078	-6.3	20.3	14.0	46.0	-32.0
3.598	-6.4	20.4	14.0	46.0	-32.0
2.472	-6.4	20.3	13.9	46.0	-32.1
0.152	3.0	20.6	23.6	55.9	-32.3
6.835	-3.6	20.4	16.8	50.0	-33.2
5.251	-4.2	20.4	16.2	50.0	-33.8
20.553	-5.6	21.4	15.8	50.0	-34.2
7.930	-5.9	20.5	14.6	50.0	-35.4

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	3	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

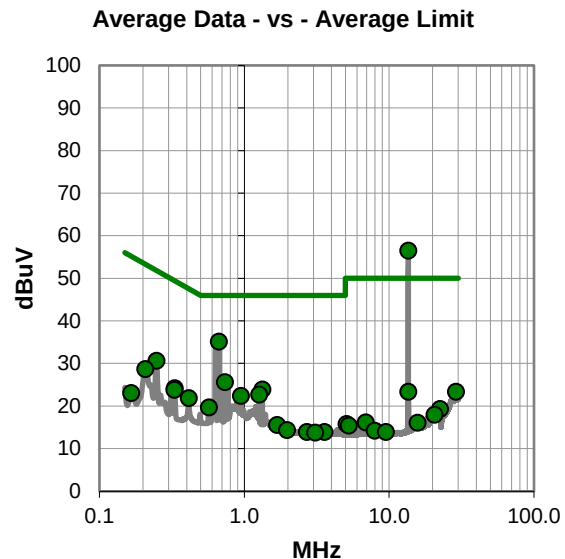
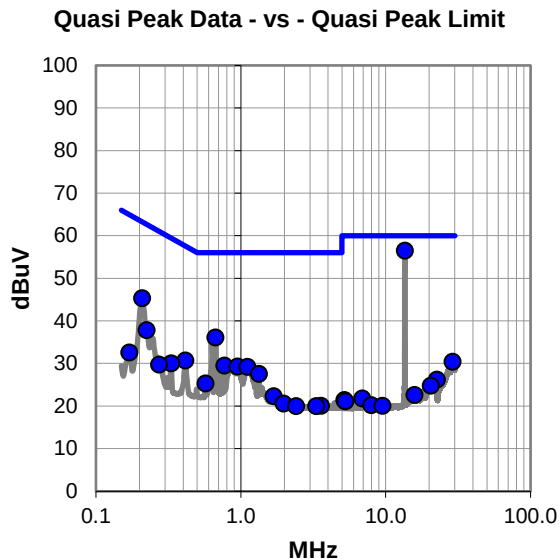
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Both Radios Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.559	35.7	20.8	56.5	60.0	-3.5
0.208	24.7	20.6	45.3	63.3	-18.0
0.667	15.9	20.2	36.1	56.0	-19.9
0.223	17.2	20.6	37.8	62.7	-24.9
0.769	9.3	20.2	29.5	56.0	-26.5
0.945	9.1	20.2	29.3	56.0	-26.7
1.111	9.0	20.2	29.2	56.0	-26.8
0.412	10.5	20.2	30.7	57.6	-26.9
1.334	7.4	20.2	27.6	56.0	-28.4
0.330	9.8	20.2	30.0	59.5	-29.5
28.876	7.7	22.7	30.4	60.0	-29.6
0.568	5.1	20.2	25.3	56.0	-30.7
0.272	9.4	20.3	29.7	61.1	-31.4
0.170	11.9	20.7	32.6	65.0	-32.4
1.682	2.1	20.2	22.3	56.0	-33.7
22.497	4.6	21.6	26.2	60.0	-33.8
20.521	3.4	21.4	24.8	60.0	-35.2
1.967	0.3	20.3	20.6	56.0	-35.4
3.583	-0.3	20.4	20.1	56.0	-35.9
2.399	-0.3	20.3	20.0	56.0	-36.0
3.318	-0.4	20.4	20.0	56.0	-36.0
15.753	1.7	20.9	22.6	60.0	-37.4
6.894	1.4	20.4	21.8	60.0	-38.2
5.194	1.0	20.4	21.4	60.0	-38.6
5.251	0.7	20.4	21.1	60.0	-38.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.559	35.7	20.8	56.5	50.0	6.5
0.667	14.9	20.2	35.1	46.0	-10.9
0.734	5.4	20.2	25.6	46.0	-20.4
0.248	10.1	20.5	30.6	51.8	-21.2
1.334	3.7	20.2	23.9	46.0	-22.1
1.268	2.5	20.2	22.7	46.0	-23.3
0.946	2.2	20.2	22.4	46.0	-23.6
0.206	8.1	20.6	28.7	53.3	-24.6
0.330	4.0	20.2	24.2	49.5	-25.3
0.329	3.6	20.2	23.8	49.5	-25.7
0.412	1.7	20.2	21.9	47.6	-25.7
0.568	-0.5	20.2	19.7	46.0	-26.3
13.576	2.6	20.8	23.4	50.0	-26.6
28.887	0.7	22.7	23.4	50.0	-26.6
1.680	-4.6	20.2	15.6	46.0	-30.4
22.427	-2.3	21.6	19.3	50.0	-30.7
1.970	-5.9	20.3	14.4	46.0	-31.6
20.567	-3.4	21.4	18.0	50.0	-32.0
0.165	2.4	20.7	23.1	55.2	-32.1
2.700	-6.4	20.3	13.9	46.0	-32.1
3.578	-6.5	20.4	13.9	46.0	-32.1
3.080	-6.5	20.3	13.8	46.0	-32.2
6.894	-4.2	20.4	16.2	50.0	-33.8
15.751	-4.8	20.9	16.1	50.0	-33.9
5.075	-4.6	20.4	15.8	50.0	-34.2

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Both Radios Active with both antenna terminated with load.

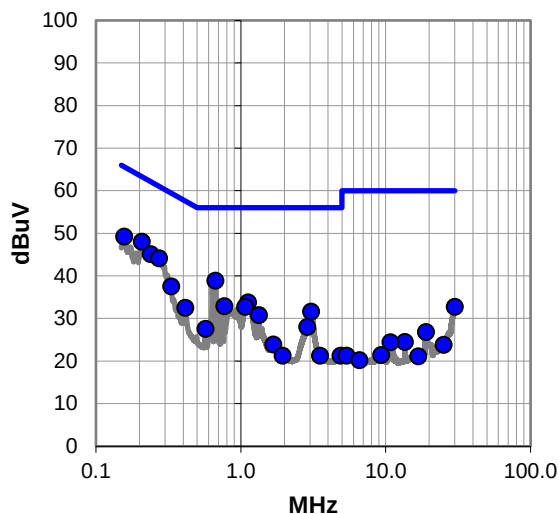
EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

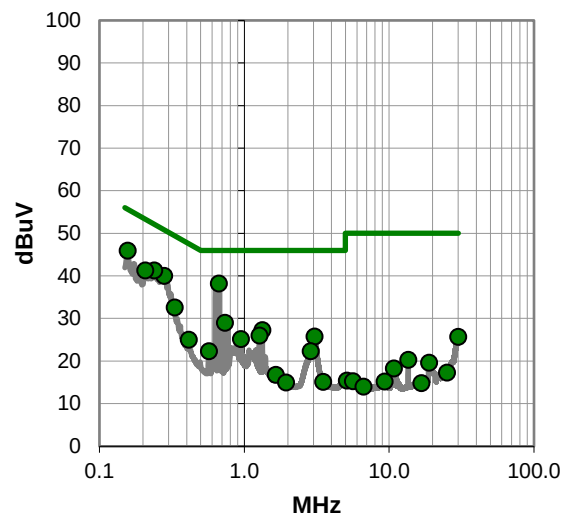
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #19

Quasi Peak Data - vs - Quasi Peak Limit

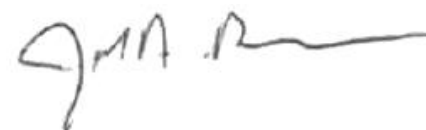
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.206	27.4	20.6	48.0	63.3	-15.3
0.156	28.6	20.6	49.2	65.7	-16.5
0.238	24.5	20.6	45.1	62.1	-17.0
0.272	23.8	20.3	44.1	61.1	-17.0
0.666	18.7	20.2	38.9	56.0	-17.1
0.330	17.3	20.2	37.5	59.5	-22.0
1.122	13.6	20.2	33.8	56.0	-22.2
0.769	12.7	20.2	32.9	56.0	-23.1
1.072	12.5	20.2	32.7	56.0	-23.3
3.049	11.3	20.3	31.6	56.0	-24.4
0.412	12.3	20.2	32.5	57.6	-25.1
1.334	10.6	20.2	30.8	56.0	-25.2
29.990	10.4	22.3	32.7	60.0	-27.3
2.871	7.7	20.3	28.0	56.0	-28.0
0.568	7.4	20.2	27.6	56.0	-28.4
1.671	3.7	20.2	23.9	56.0	-32.1
18.939	5.5	21.3	26.8	60.0	-33.2
1.943	1.0	20.3	21.3	56.0	-34.7
3.524	0.9	20.4	21.3	56.0	-34.7
4.872	0.9	20.4	21.3	56.0	-34.7
13.560	3.7	20.8	24.5	60.0	-35.5
10.803	3.8	20.6	24.4	60.0	-35.6
25.045	2.0	21.8	23.8	60.0	-36.2
9.320	0.8	20.6	21.4	60.0	-38.6
5.371	0.9	20.4	21.3	60.0	-38.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.666	18.0	20.2	38.2	46.0	-7.8
0.156	25.3	20.6	45.9	55.7	-9.8
0.280	19.7	20.3	40.0	50.8	-10.8
0.238	20.7	20.6	41.3	52.1	-10.8
0.206	20.7	20.6	41.3	53.3	-12.0
0.330	12.4	20.2	32.6	49.5	-16.9
0.734	8.8	20.2	29.0	46.0	-17.0
1.332	7.1	20.2	27.3	46.0	-18.7
1.270	5.8	20.2	26.0	46.0	-20.0
3.049	5.5	20.3	25.8	46.0	-20.2
0.946	5.0	20.2	25.2	46.0	-20.8
0.412	4.8	20.2	25.0	47.6	-22.6
0.568	2.1	20.2	22.3	46.0	-23.7
2.875	2.0	20.3	22.3	46.0	-23.7
29.995	3.4	22.3	25.7	50.0	-24.3
1.653	-3.4	20.2	16.8	46.0	-29.2
13.560	-0.5	20.8	20.3	50.0	-29.7
18.902	-1.7	21.3	19.6	50.0	-30.4
3.508	-5.3	20.4	15.1	46.0	-30.9
1.943	-5.3	20.3	15.0	46.0	-31.0
10.803	-2.3	20.6	18.3	50.0	-31.7
25.123	-4.5	21.8	17.3	50.0	-32.7
5.115	-5.0	20.4	15.4	50.0	-34.6
5.608	-5.1	20.4	15.3	50.0	-34.7
9.320	-5.4	20.6	15.2	50.0	-34.8

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Both Radios Active with both antennas terminated with load.

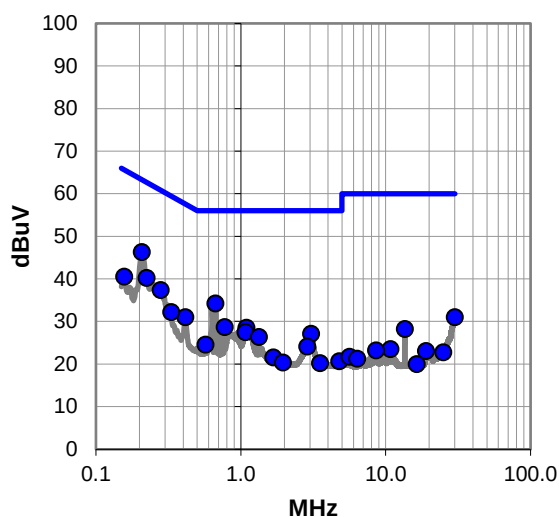
EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

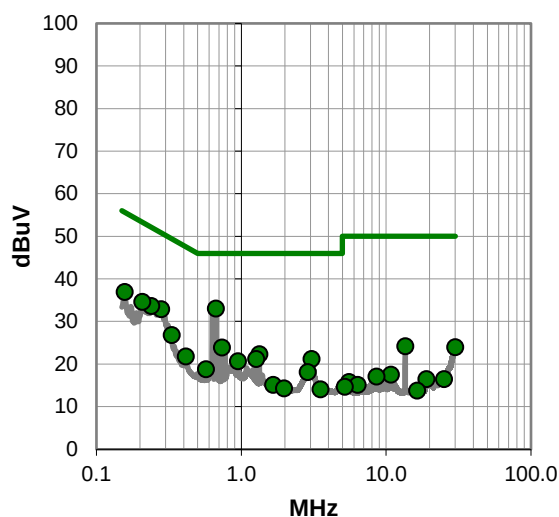
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #20

Quasi Peak Data - vs - Quasi Peak Limit

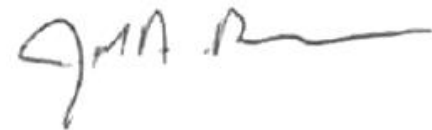
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.206	25.7	20.6	46.3	63.3	-17.0
0.667	14.0	20.2	34.2	56.0	-21.8
0.223	19.6	20.6	40.2	62.7	-22.5
0.280	17.1	20.3	37.4	60.8	-23.4
0.156	19.9	20.6	40.5	65.7	-25.2
0.412	10.8	20.2	31.0	57.6	-26.6
0.330	12.0	20.2	32.2	59.5	-27.3
0.771	8.5	20.2	28.7	56.0	-27.3
1.094	8.3	20.2	28.5	56.0	-27.5
1.075	7.3	20.2	27.5	56.0	-28.5
3.049	6.8	20.3	27.1	56.0	-28.9
29.980	8.7	22.3	31.0	60.0	-29.0
1.334	6.2	20.2	26.4	56.0	-29.6
0.568	4.4	20.2	24.6	56.0	-31.4
13.560	7.4	20.8	28.2	60.0	-31.8
2.871	3.8	20.3	24.1	56.0	-31.9
1.673	1.4	20.2	21.6	56.0	-34.4
4.773	0.3	20.4	20.7	56.0	-35.3
1.950	0.1	20.3	20.4	56.0	-35.6
3.511	-0.2	20.4	20.2	56.0	-35.8
10.803	2.9	20.6	23.5	60.0	-36.5
8.572	2.6	20.6	23.2	60.0	-36.8
18.956	1.8	21.3	23.1	60.0	-36.9
24.906	1.0	21.8	22.8	60.0	-37.2
5.629	1.3	20.4	21.7	60.0	-38.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.667	12.8	20.2	33.0	46.0	-13.0
0.280	12.6	20.3	32.9	50.8	-17.9
0.238	13.0	20.6	33.6	52.1	-18.5
0.206	14.0	20.6	34.6	53.3	-18.7
0.156	16.3	20.6	36.9	55.7	-18.8
0.734	3.7	20.2	23.9	46.0	-22.1
0.330	6.6	20.2	26.8	49.5	-22.7
1.334	2.1	20.2	22.3	46.0	-23.7
3.049	0.9	20.3	21.2	46.0	-24.8
1.268	1.0	20.2	21.2	46.0	-24.8
0.946	0.5	20.2	20.7	46.0	-25.3
13.560	3.4	20.8	24.2	50.0	-25.8
0.412	1.6	20.2	21.8	47.6	-25.8
29.973	1.7	22.3	24.0	50.0	-26.0
0.568	-1.4	20.2	18.8	46.0	-27.2
2.871	-2.2	20.3	18.1	46.0	-27.9
1.657	-5.1	20.2	15.1	46.0	-30.9
1.973	-6.0	20.3	14.3	46.0	-31.7
3.516	-6.3	20.4	14.1	46.0	-31.9
10.803	-3.1	20.6	17.5	50.0	-32.5
8.572	-3.5	20.6	17.1	50.0	-32.9
18.954	-4.8	21.3	16.5	50.0	-33.5
25.126	-5.3	21.8	16.5	50.0	-33.5
5.547	-4.6	20.4	15.8	50.0	-34.2
6.339	-5.3	20.4	15.1	50.0	-34.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

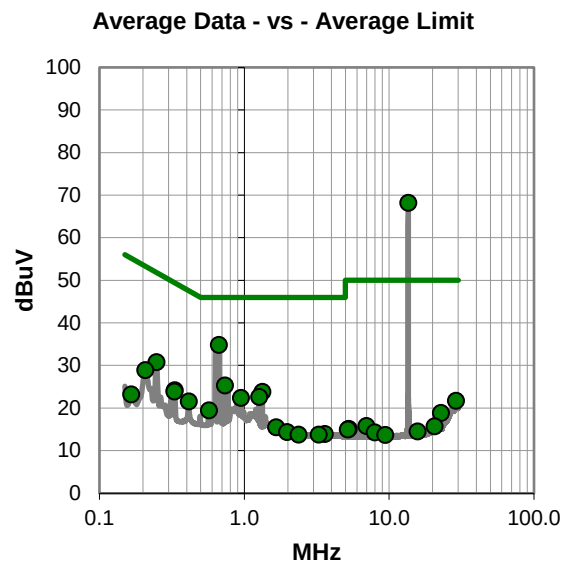
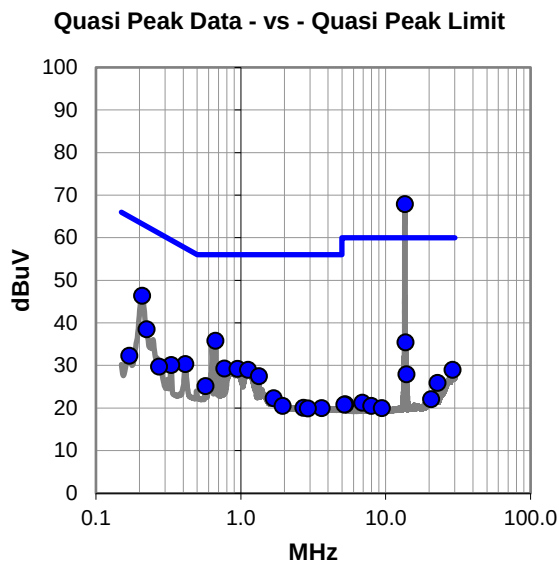
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Divergent Radio Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	47.1	20.8	67.9	60.0	7.9
0.208	25.8	20.6	46.4	63.3	-16.9
0.667	15.6	20.2	35.8	56.0	-20.2
0.223	17.9	20.6	38.5	62.7	-24.2
13.719	14.6	20.8	35.4	60.0	-24.6
0.769	9.1	20.2	29.3	56.0	-26.7
0.945	9.0	20.2	29.2	56.0	-26.8
1.122	8.8	20.2	29.0	56.0	-27.0
0.412	10.1	20.2	30.3	57.6	-27.3
1.334	7.3	20.2	27.5	56.0	-28.5
0.330	9.9	20.2	30.1	59.5	-29.4
0.568	5.0	20.2	25.2	56.0	-30.8
28.881	6.3	22.7	29.0	60.0	-31.0
0.272	9.4	20.3	29.7	61.1	-31.4
13.931	7.1	20.8	27.9	60.0	-32.1
0.170	11.6	20.7	32.3	65.0	-32.7
1.683	2.1	20.2	22.3	56.0	-33.7
22.808	4.3	21.6	25.9	60.0	-34.1
1.944	0.2	20.3	20.5	56.0	-35.5
2.700	-0.2	20.3	20.1	56.0	-35.9
3.617	-0.4	20.4	20.0	56.0	-36.0
2.904	-0.4	20.3	19.9	56.0	-36.1
20.553	0.7	21.4	22.1	60.0	-37.9
6.894	0.9	20.4	21.3	60.0	-38.7
5.251	0.5	20.4	20.9	60.0	-39.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	47.4	20.8	68.2	50.0	18.2
0.667	14.6	20.2	34.8	46.0	-11.2
0.734	5.1	20.2	25.3	46.0	-20.7
0.248	10.3	20.5	30.8	51.8	-21.0
1.334	3.6	20.2	23.8	46.0	-22.2
1.268	2.4	20.2	22.6	46.0	-23.4
0.946	2.2	20.2	22.4	46.0	-23.6
0.206	8.3	20.6	28.9	53.3	-24.4
0.330	4.0	20.2	24.2	49.5	-25.3
0.329	3.7	20.2	23.9	49.5	-25.6
0.412	1.4	20.2	21.6	47.6	-26.0
0.568	-0.7	20.2	19.5	46.0	-26.5
28.884	-1.0	22.7	21.7	50.0	-28.3
1.657	-4.7	20.2	15.5	46.0	-30.5
22.814	-2.7	21.6	18.9	50.0	-31.1
1.969	-5.9	20.3	14.4	46.0	-31.6
0.165	2.5	20.7	23.2	55.2	-32.0
3.600	-6.5	20.4	13.9	46.0	-32.1
2.367	-6.5	20.3	13.8	46.0	-32.2
3.269	-6.6	20.4	13.8	46.0	-32.2
6.954	-4.6	20.4	15.8	50.0	-34.2
20.553	-5.7	21.4	15.7	50.0	-34.3
5.251	-5.3	20.4	15.1	50.0	-34.9
5.191	-5.4	20.4	15.0	50.0	-35.0
15.751	-6.4	20.9	14.5	50.0	-35.5

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	5	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Divergent Radio Active.

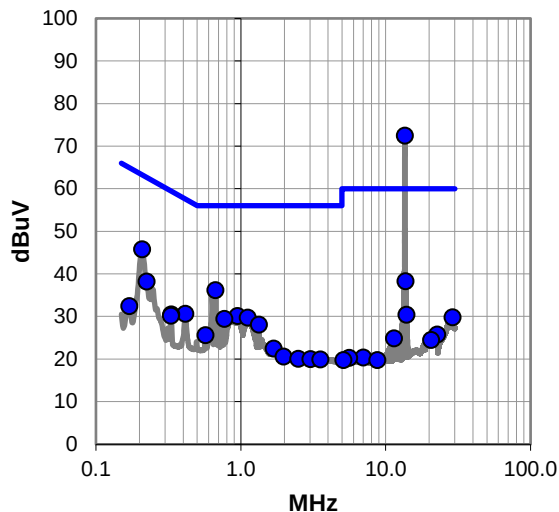
EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

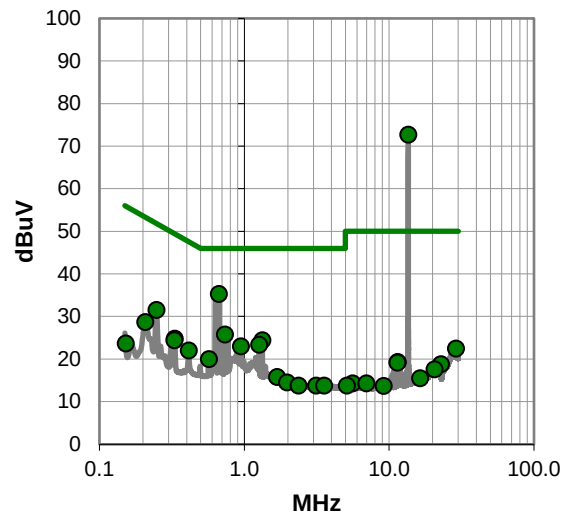
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	51.7	20.8	72.5	60.0	12.5
0.208	25.2	20.6	45.8	63.3	-17.5
0.667	16.0	20.2	36.2	56.0	-19.8
13.719	17.5	20.8	38.3	60.0	-21.7
0.223	17.6	20.6	38.2	62.7	-24.5
0.945	9.9	20.2	30.1	56.0	-25.9
1.117	9.5	20.2	29.7	56.0	-26.3
0.769	9.2	20.2	29.4	56.0	-26.6
0.414	10.4	20.2	30.6	57.6	-27.0
1.334	7.9	20.2	28.1	56.0	-27.9
0.330	10.3	20.2	30.5	59.5	-29.0
0.329	10.0	20.2	30.2	59.5	-29.3
13.931	9.6	20.8	30.4	60.0	-29.6
28.869	7.1	22.7	29.8	60.0	-30.2
0.568	5.4	20.2	25.6	56.0	-30.4
0.170	11.7	20.7	32.4	65.0	-32.6
1.682	2.3	20.2	22.5	56.0	-33.5
22.715	4.2	21.6	25.8	60.0	-34.2
11.381	4.2	20.7	24.9	60.0	-35.1
1.972	0.3	20.3	20.6	56.0	-35.4
20.571	3.1	21.4	24.5	60.0	-35.5
2.497	-0.2	20.3	20.1	56.0	-35.9
3.017	-0.3	20.3	20.0	56.0	-36.0
3.534	-0.5	20.4	19.9	56.0	-36.1
7.013	0.0	20.4	20.4	60.0	-39.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	51.9	20.8	72.7	50.0	22.7
0.667	15.1	20.2	35.3	46.0	-10.7
0.734	5.6	20.2	25.8	46.0	-20.2
0.248	11.0	20.5	31.5	51.8	-20.3
1.334	4.2	20.2	24.4	46.0	-21.6
1.268	3.2	20.2	23.4	46.0	-22.6
0.946	2.8	20.2	23.0	46.0	-23.0
0.206	8.1	20.6	28.7	53.3	-24.6
0.330	4.6	20.2	24.8	49.5	-24.7
0.329	4.2	20.2	24.4	49.5	-25.1
0.412	1.8	20.2	22.0	47.6	-25.6
0.568	-0.2	20.2	20.0	46.0	-26.0
28.863	-0.2	22.7	22.5	50.0	-27.5
1.680	-4.4	20.2	15.8	46.0	-30.2
11.464	-1.4	20.7	19.3	50.0	-30.7
11.381	-1.5	20.7	19.2	50.0	-30.8
22.743	-2.8	21.6	18.8	50.0	-31.2
1.972	-5.8	20.3	14.5	46.0	-31.5
0.152	3.1	20.6	23.7	55.9	-32.2
2.367	-6.5	20.3	13.8	46.0	-32.2
3.139	-6.5	20.3	13.8	46.0	-32.2
3.553	-6.6	20.4	13.8	46.0	-32.2
20.590	-3.8	21.4	17.6	50.0	-32.4
16.356	-5.6	21.1	15.5	50.0	-34.5
5.603	-6.1	20.4	14.3	50.0	-35.7

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

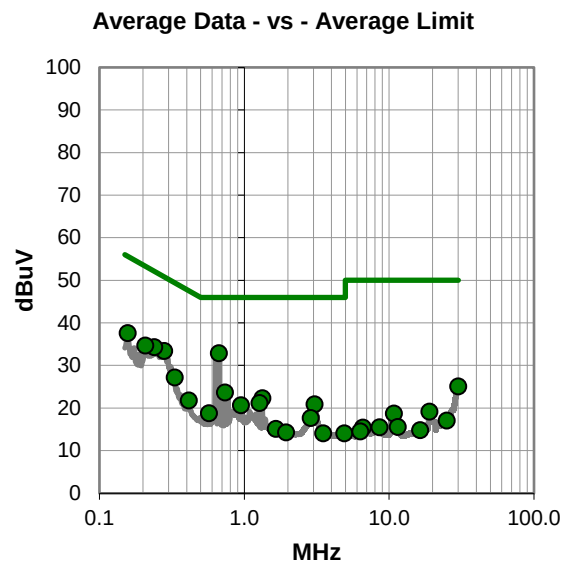
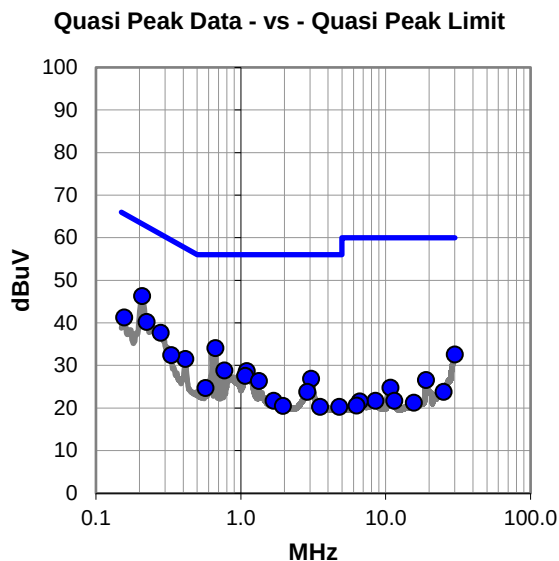
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Divergent Radio Active with antenna terminated with load.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #25

Quasi Peak Data - vs - Quasi Peak Limit

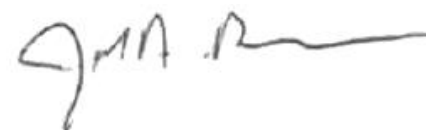
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.208	25.7	20.6	46.3	63.3	-17.0
0.667	13.9	20.2	34.1	56.0	-21.9
0.223	19.6	20.6	40.2	62.7	-22.5
0.280	17.4	20.3	37.7	60.8	-23.1
0.156	20.7	20.6	41.3	65.7	-24.4
0.412	11.3	20.2	31.5	57.6	-26.1
0.330	12.2	20.2	32.4	59.5	-27.1
0.769	8.6	20.2	28.8	56.0	-27.2
1.099	8.5	20.2	28.7	56.0	-27.3
29.963	10.3	22.3	32.6	60.0	-27.4
1.072	7.4	20.2	27.6	56.0	-28.4
3.049	6.6	20.3	26.9	56.0	-29.1
1.334	6.2	20.2	26.4	56.0	-29.6
0.568	4.5	20.2	24.7	56.0	-31.3
2.871	3.5	20.3	23.8	56.0	-32.2
18.922	5.3	21.3	26.6	60.0	-33.4
1.682	1.5	20.2	21.7	56.0	-34.3
10.803	4.2	20.6	24.8	60.0	-35.2
1.949	0.2	20.3	20.5	56.0	-35.5
3.514	-0.1	20.4	20.3	56.0	-35.7
4.782	-0.1	20.4	20.3	56.0	-35.7
25.140	2.0	21.8	23.8	60.0	-36.2
8.484	1.1	20.6	21.7	60.0	-38.3
11.462	1.0	20.7	21.7	60.0	-38.3
6.607	1.2	20.4	21.6	60.0	-38.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.667	12.7	20.2	32.9	46.0	-13.1
0.280	13.1	20.3	33.4	50.8	-17.4
0.238	13.7	20.6	34.3	52.1	-17.8
0.156	17.0	20.6	37.6	55.7	-18.1
0.206	14.1	20.6	34.7	53.3	-18.6
0.330	7.0	20.2	27.2	49.5	-22.3
0.734	3.5	20.2	23.7	46.0	-22.3
1.334	2.1	20.2	22.3	46.0	-23.7
1.270	1.0	20.2	21.2	46.0	-24.8
29.972	2.8	22.3	25.1	50.0	-24.9
3.049	0.6	20.3	20.9	46.0	-25.1
0.946	0.5	20.2	20.7	46.0	-25.3
0.412	1.6	20.2	21.8	47.6	-25.8
0.568	-1.4	20.2	18.8	46.0	-27.2
2.871	-2.6	20.3	17.7	46.0	-28.3
18.928	-2.1	21.3	19.2	50.0	-30.8
1.653	-5.1	20.2	15.1	46.0	-30.9
10.803	-1.9	20.6	18.7	50.0	-31.3
1.944	-6.0	20.3	14.3	46.0	-31.7
3.510	-6.3	20.4	14.1	46.0	-31.9
4.897	-6.3	20.4	14.1	46.0	-31.9
24.969	-4.7	21.8	17.1	50.0	-32.9
11.462	-5.1	20.7	15.6	50.0	-34.4
8.574	-5.1	20.6	15.5	50.0	-34.5
6.598	-5.0	20.4	15.4	50.0	-34.6

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

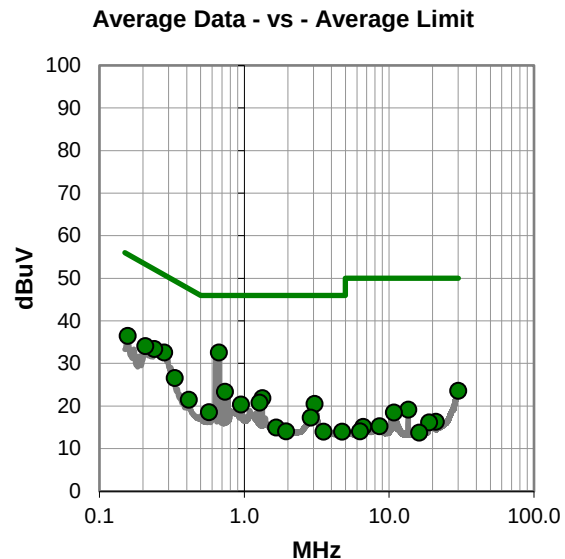
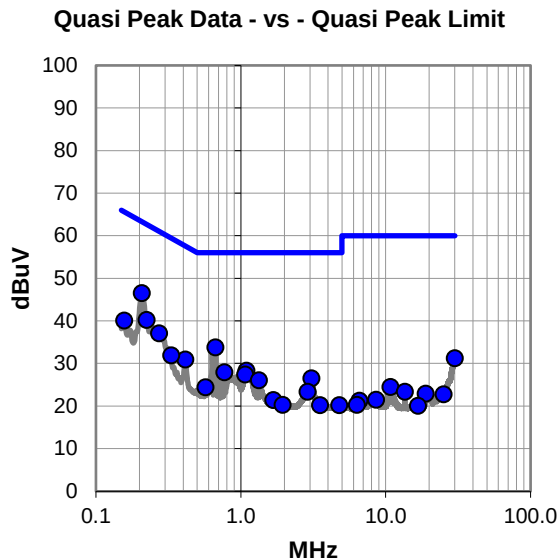
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Divergent Radio Active with antenna terminated with load.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #26

Quasi Peak Data - vs - Quasi Peak Limit

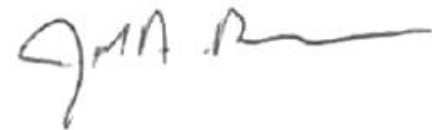
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.206	25.9	20.6	46.5	63.3	-16.8
0.667	13.6	20.2	33.8	56.0	-22.2
0.223	19.6	20.6	40.2	62.7	-22.5
0.272	16.8	20.3	37.1	61.1	-24.0
0.156	19.5	20.6	40.1	65.7	-25.6
0.412	10.7	20.2	30.9	57.6	-26.7
0.330	11.7	20.2	31.9	59.5	-27.6
1.093	8.1	20.2	28.3	56.0	-27.7
0.769	7.7	20.2	27.9	56.0	-28.1
1.072	7.2	20.2	27.4	56.0	-28.6
29.993	8.9	22.3	31.2	60.0	-28.8
3.072	6.2	20.3	26.5	56.0	-29.5
1.334	5.9	20.2	26.1	56.0	-29.9
0.568	4.2	20.2	24.4	56.0	-31.6
2.880	3.1	20.3	23.4	56.0	-32.6
1.677	1.2	20.2	21.4	56.0	-34.6
10.803	3.9	20.6	24.5	60.0	-35.5
1.944	0.0	20.3	20.3	56.0	-35.7
3.521	-0.2	20.4	20.2	56.0	-35.8
4.773	-0.2	20.4	20.2	56.0	-35.8
13.560	2.6	20.8	23.4	60.0	-36.6
18.910	1.6	21.3	22.9	60.0	-37.1
25.062	1.0	21.8	22.8	60.0	-37.2
8.572	0.9	20.6	21.5	60.0	-38.5
6.587	0.9	20.4	21.3	60.0	-38.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.667	12.4	20.2	32.6	46.0	-13.4
0.280	12.3	20.3	32.6	50.8	-18.2
0.238	12.8	20.6	33.4	52.1	-18.7
0.206	13.5	20.6	34.1	53.3	-19.2
0.156	15.9	20.6	36.5	55.7	-19.2
0.734	3.2	20.2	23.4	46.0	-22.6
0.330	6.4	20.2	26.6	49.5	-22.9
1.334	1.7	20.2	21.9	46.0	-24.1
1.270	0.6	20.2	20.8	46.0	-25.2
3.049	0.2	20.3	20.5	46.0	-25.5
0.946	0.2	20.2	20.4	46.0	-25.6
0.412	1.3	20.2	21.5	47.6	-26.1
29.914	1.3	22.3	23.6	50.0	-26.4
0.568	-1.6	20.2	18.6	46.0	-27.4
2.871	-3.0	20.3	17.3	46.0	-28.7
13.560	-1.6	20.8	19.2	50.0	-30.8
1.656	-5.2	20.2	15.0	46.0	-31.0
10.803	-2.1	20.6	18.5	50.0	-31.5
1.943	-6.2	20.3	14.1	46.0	-31.9
3.511	-6.4	20.4	14.0	46.0	-32.0
4.729	-6.4	20.4	14.0	46.0	-32.0
20.951	-5.1	21.4	16.3	50.0	-33.7
18.914	-5.1	21.3	16.2	50.0	-33.8
8.572	-5.3	20.6	15.3	50.0	-34.7
6.606	-5.3	20.4	15.1	50.0	-34.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	6	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

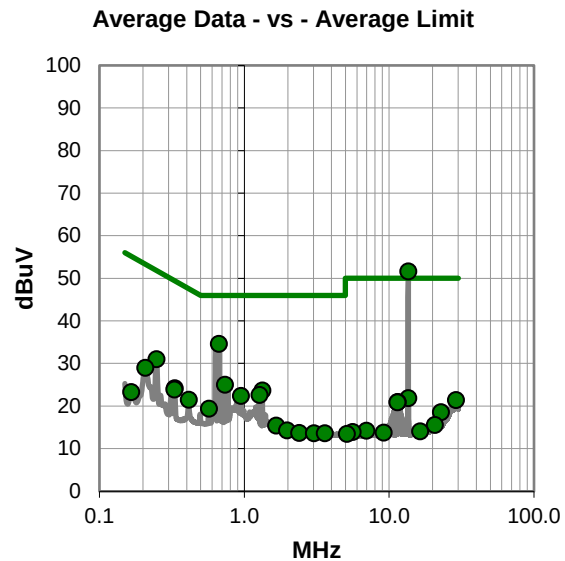
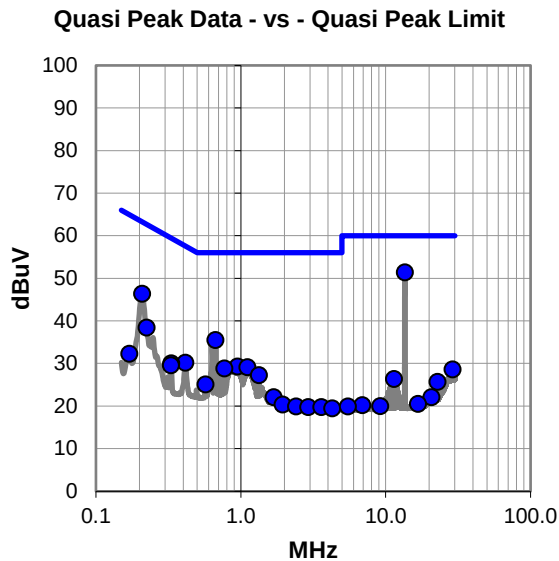
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Convergent Radio Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	30.6	20.8	51.4	60.0	-8.6
0.208	25.8	20.6	46.4	63.3	-16.9
0.667	15.3	20.2	35.5	56.0	-20.5
0.223	17.8	20.6	38.4	62.7	-24.3
0.945	9.1	20.2	29.3	56.0	-26.7
1.108	8.9	20.2	29.1	56.0	-26.9
0.769	8.6	20.2	28.8	56.0	-27.2
0.412	10.0	20.2	30.2	57.6	-27.4
1.334	7.1	20.2	27.3	56.0	-28.7
0.330	9.8	20.2	30.0	59.5	-29.5
0.329	9.4	20.2	29.6	59.5	-29.9
0.568	4.9	20.2	25.1	56.0	-30.9
28.869	5.9	22.7	28.6	60.0	-31.4
0.170	11.6	20.7	32.3	65.0	-32.7
11.381	5.7	20.7	26.4	60.0	-33.6
1.680	1.9	20.2	22.1	56.0	-33.9
22.799	4.1	21.6	25.7	60.0	-34.3
1.946	0.1	20.3	20.4	56.0	-35.6
2.399	-0.4	20.3	19.9	56.0	-36.1
2.915	-0.5	20.3	19.8	56.0	-36.2
3.598	-0.6	20.4	19.8	56.0	-36.2
4.273	-0.9	20.4	19.5	56.0	-36.5
20.652	0.7	21.4	22.1	60.0	-37.9
16.681	-0.6	21.1	20.5	60.0	-39.5
6.896	-0.2	20.4	20.2	60.0	-39.8

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
0.667	14.4	20.2	34.6	46.0	-11.4
0.248	10.5	20.5	31.0	51.8	-20.8
0.734	4.8	20.2	25.0	46.0	-21.0
1.334	3.5	20.2	23.7	46.0	-22.3
1.270	2.4	20.2	22.6	46.0	-23.4
0.946	2.2	20.2	22.4	46.0	-23.6
0.206	8.4	20.6	29.0	53.3	-24.3
0.330	4.0	20.2	24.2	49.5	-25.3
0.329	3.7	20.2	23.9	49.5	-25.6
0.412	1.3	20.2	21.5	47.6	-26.1
0.568	-0.8	20.2	19.4	46.0	-26.6
13.576	1.1	20.8	21.9	50.0	-28.1
28.893	-1.3	22.7	21.4	50.0	-28.6
11.464	0.3	20.7	21.0	50.0	-29.0
11.381	0.2	20.7	20.9	50.0	-29.1
1.657	-4.8	20.2	15.4	46.0	-30.6
22.758	-3.0	21.6	18.6	50.0	-31.4
1.970	-6.0	20.3	14.3	46.0	-31.7
0.165	2.6	20.7	23.3	55.2	-31.9
2.390	-6.6	20.3	13.7	46.0	-32.3
3.023	-6.7	20.3	13.6	46.0	-32.4
3.594	-6.8	20.4	13.6	46.0	-32.4
20.651	-5.8	21.4	15.6	50.0	-34.4
6.954	-6.2	20.4	14.2	50.0	-35.8

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	21.3°C
Attendees:	None	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

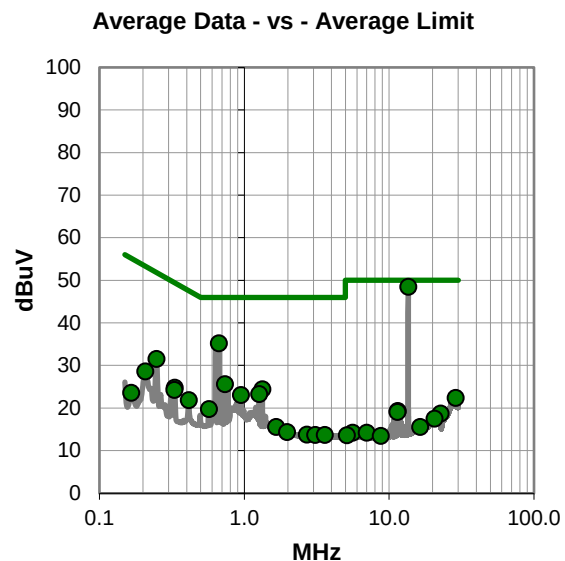
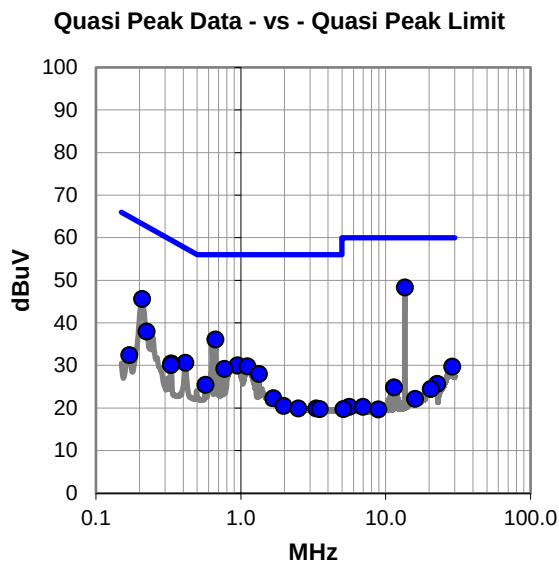
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Convergent Radio Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.5	20.8	48.3	60.0	-11.7
0.208	25.0	20.6	45.6	63.3	-17.7
0.667	15.9	20.2	36.1	56.0	-19.9
0.223	17.4	20.6	38.0	62.7	-24.7
0.945	9.8	20.2	30.0	56.0	-26.0
1.108	9.6	20.2	29.8	56.0	-26.2
0.769	9.0	20.2	29.2	56.0	-26.8
0.414	10.4	20.2	30.6	57.6	-27.0
1.334	7.8	20.2	28.0	56.0	-28.0
0.330	10.3	20.2	30.5	59.5	-29.0
0.329	9.9	20.2	30.1	59.5	-29.4
28.818	7.0	22.7	29.7	60.0	-30.3
0.568	5.3	20.2	25.5	56.0	-30.5
0.170	11.7	20.7	32.4	65.0	-32.6
1.677	2.1	20.2	22.3	56.0	-33.7
22.645	4.1	21.6	25.7	60.0	-34.3
11.381	4.2	20.7	24.9	60.0	-35.1
1.972	0.2	20.3	20.5	56.0	-35.5
20.520	3.1	21.4	24.5	60.0	-35.5
2.494	-0.4	20.3	19.9	56.0	-36.1
3.316	-0.5	20.4	19.9	56.0	-36.1
3.510	-0.6	20.4	19.8	56.0	-36.2
15.971	1.3	20.9	22.2	60.0	-37.8
5.603	-0.1	20.4	20.3	60.0	-39.7
6.952	-0.1	20.4	20.3	60.0	-39.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.7	20.8	48.5	50.0	-1.5
0.667	15.0	20.2	35.2	46.0	-10.8
0.248	11.0	20.5	31.5	51.8	-20.3
0.734	5.4	20.2	25.6	46.0	-20.4
1.334	4.2	20.2	24.4	46.0	-21.6
1.268	3.1	20.2	23.3	46.0	-22.7
0.946	2.9	20.2	23.1	46.0	-22.9
0.206	8.0	20.6	28.6	53.3	-24.7
0.330	4.6	20.2	24.8	49.5	-24.7
0.329	4.1	20.2	24.3	49.5	-25.2
0.412	1.7	20.2	21.9	47.6	-25.7
0.568	-0.4	20.2	19.8	46.0	-26.2
28.850	-0.3	22.7	22.4	50.0	-27.6
1.656	-4.6	20.2	15.6	46.0	-30.4
11.464	-1.4	20.7	19.3	50.0	-30.7
11.381	-1.6	20.7	19.1	50.0	-30.9
22.698	-2.9	21.6	18.7	50.0	-31.3
0.165	2.9	20.7	23.6	55.2	-31.6
1.972	-5.9	20.3	14.4	46.0	-31.6
2.700	-6.5	20.3	13.8	46.0	-32.2
3.081	-6.6	20.3	13.7	46.0	-32.3
3.597	-6.7	20.4	13.7	46.0	-32.3
20.579	-3.9	21.4	17.5	50.0	-32.5
16.400	-5.5	21.1	15.6	50.0	-34.4
5.603	-6.2	20.4	14.2	50.0	-35.8

CONCLUSION

Evaluation

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

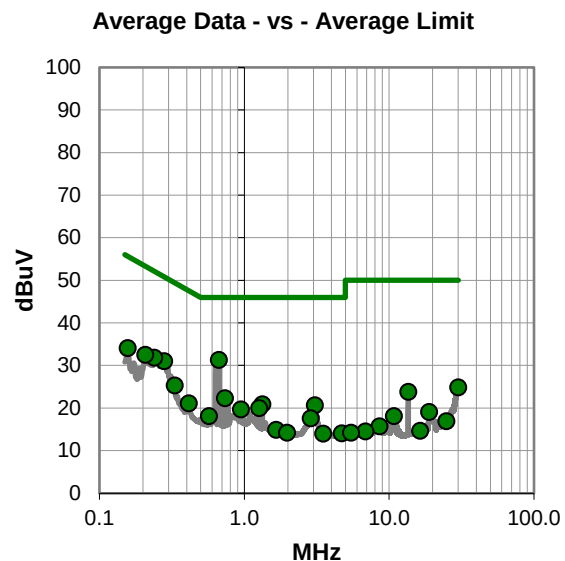
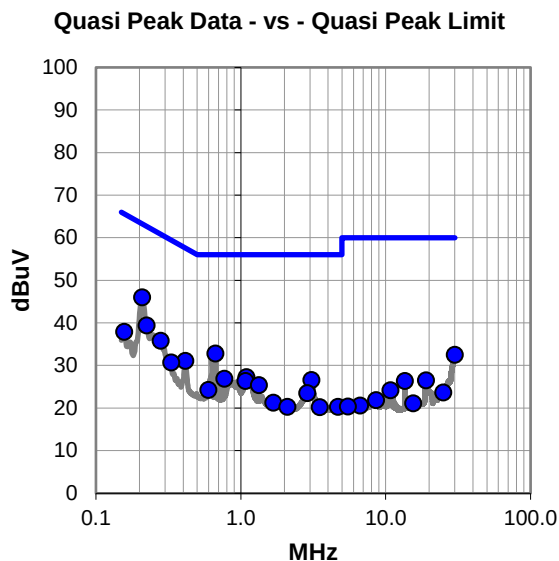
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Convergent Radio Active with antenna terminated with load.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #23

Quasi Peak Data - vs - Quasi Peak Limit

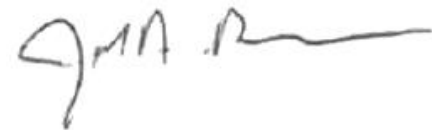
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.208	25.4	20.6	46.0	63.3	-17.3
0.667	12.6	20.2	32.8	56.0	-23.2
0.223	18.8	20.6	39.4	62.7	-23.3
0.280	15.5	20.3	35.8	60.8	-25.0
0.414	10.9	20.2	31.1	57.6	-26.5
29.984	10.2	22.3	32.5	60.0	-27.5
0.156	17.3	20.6	37.9	65.7	-27.8
1.094	7.1	20.2	27.3	56.0	-28.7
0.330	10.5	20.2	30.7	59.5	-28.8
0.769	6.7	20.2	26.9	56.0	-29.1
3.066	6.3	20.3	26.6	56.0	-29.4
1.073	6.2	20.2	26.4	56.0	-29.6
1.334	5.2	20.2	25.4	56.0	-30.6
0.596	4.1	20.2	24.3	56.0	-31.7
2.867	3.2	20.3	23.5	56.0	-32.5
18.924	5.2	21.3	26.5	60.0	-33.5
13.560	5.6	20.8	26.4	60.0	-33.6
1.679	1.1	20.2	21.3	56.0	-34.7
2.097	0.0	20.3	20.3	56.0	-35.7
4.680	-0.1	20.4	20.3	56.0	-35.7
3.508	-0.2	20.4	20.2	56.0	-35.8
10.803	3.6	20.6	24.2	60.0	-35.8
25.021	1.9	21.8	23.7	60.0	-36.3
8.572	1.3	20.6	21.9	60.0	-38.1
15.506	0.2	20.9	21.1	60.0	-38.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.667	11.1	20.2	31.3	46.0	-14.7
0.280	10.7	20.3	31.0	50.8	-19.8
0.238	11.2	20.6	31.8	52.1	-20.3
0.206	11.9	20.6	32.5	53.3	-20.8
0.156	13.5	20.6	34.1	55.7	-21.6
0.734	2.1	20.2	22.3	46.0	-23.7
0.330	5.1	20.2	25.3	49.5	-24.2
29.946	2.6	22.3	24.9	50.0	-25.1
1.334	0.7	20.2	20.9	46.0	-25.1
3.066	0.4	20.3	20.7	46.0	-25.3
1.268	-0.2	20.2	20.0	46.0	-26.0
13.560	3.0	20.8	23.8	50.0	-26.2
0.946	-0.5	20.2	19.7	46.0	-26.3
0.412	0.9	20.2	21.1	47.6	-26.5
0.568	-2.1	20.2	18.1	46.0	-27.9
2.869	-2.7	20.3	17.6	46.0	-28.4
18.901	-2.2	21.3	19.1	50.0	-30.9
1.661	-5.3	20.2	14.9	46.0	-31.1
1.972	-6.1	20.3	14.2	46.0	-31.8
4.695	-6.3	20.4	14.1	46.0	-31.9
10.803	-2.5	20.6	18.1	50.0	-31.9
3.508	-6.4	20.4	14.0	46.0	-32.0
24.824	-4.9	21.8	16.9	50.0	-33.1
8.571	-4.9	20.6	15.7	50.0	-34.3
16.351	-6.4	21.1	14.7	50.0	-35.3

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-28
Customer:	Abbott Laboratories	Temperature:	22.2°C
Attendees:	None	Relative Humidity:	56.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2023	ANSI C63.10:2013

TEST PARAMETERS

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

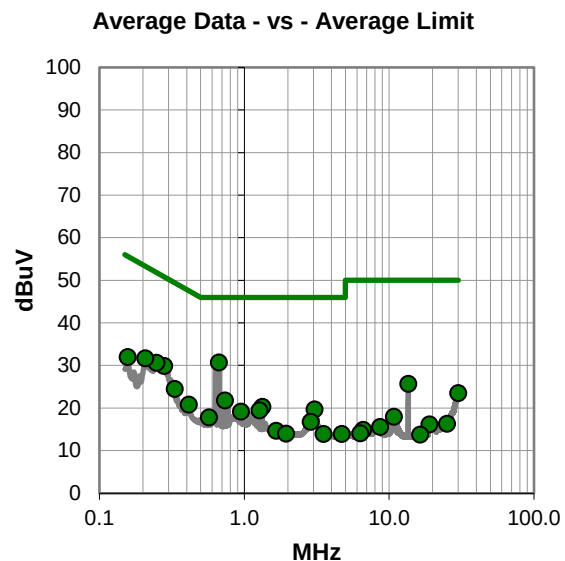
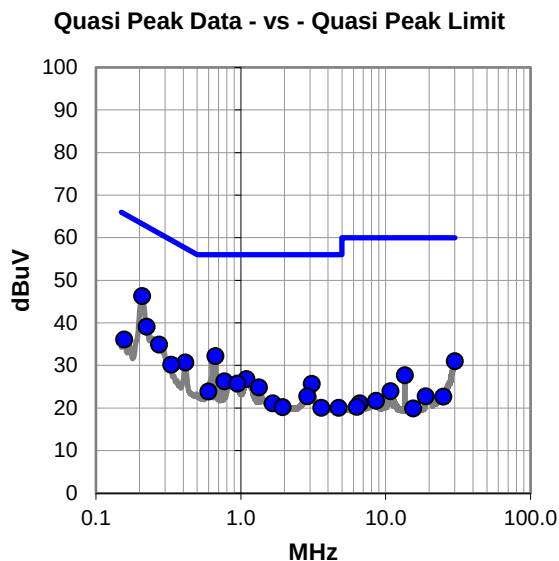
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Convergent Radio Active with antenna terminated with load.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #24

Quasi Peak Data - vs - Quasi Peak Limit

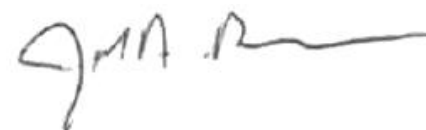
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.208	25.7	20.6	46.3	63.3	-17.0
0.223	18.5	20.6	39.1	62.7	-23.6
0.667	12.0	20.2	32.2	56.0	-23.8
0.272	14.6	20.3	34.9	61.1	-26.2
0.412	10.5	20.2	30.7	57.6	-26.9
29.999	8.7	22.3	31.0	60.0	-29.0
1.094	6.6	20.2	26.8	56.0	-29.2
0.330	10.0	20.2	30.2	59.5	-29.3
0.156	15.5	20.6	36.1	65.7	-29.6
0.769	6.1	20.2	26.3	56.0	-29.7
0.946	5.6	20.2	25.8	56.0	-30.2
3.081	5.4	20.3	25.7	56.0	-30.3
1.334	4.7	20.2	24.9	56.0	-31.1
0.596	3.7	20.2	23.9	56.0	-32.1
13.560	6.9	20.8	27.7	60.0	-32.3
2.866	2.5	20.3	22.8	56.0	-33.2
1.656	0.9	20.2	21.1	56.0	-34.9
1.943	-0.1	20.3	20.2	56.0	-35.8
3.598	-0.3	20.4	20.1	56.0	-35.9
4.724	-0.3	20.4	20.1	56.0	-35.9
10.803	3.4	20.6	24.0	60.0	-36.0
18.913	1.5	21.3	22.8	60.0	-37.2
24.979	0.9	21.8	22.7	60.0	-37.3
8.569	1.1	20.6	21.7	60.0	-38.3
6.604	0.7	20.4	21.1	60.0	-38.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.667	10.5	20.2	30.7	46.0	-15.3
0.280	9.6	20.3	29.9	50.8	-20.9
0.248	10.1	20.5	30.6	51.8	-21.2
0.206	11.1	20.6	31.7	53.3	-21.6
0.156	11.4	20.6	32.0	55.7	-23.7
0.734	1.6	20.2	21.8	46.0	-24.2
13.560	4.9	20.8	25.7	50.0	-24.3
0.330	4.3	20.2	24.5	49.5	-25.0
1.334	0.1	20.2	20.3	46.0	-25.7
3.049	-0.6	20.3	19.7	46.0	-26.3
29.957	1.2	22.3	23.5	50.0	-26.5
1.270	-0.7	20.2	19.5	46.0	-26.5
0.412	0.6	20.2	20.8	47.6	-26.8
0.946	-1.0	20.2	19.2	46.0	-26.8
0.568	-2.4	20.2	17.8	46.0	-28.2
2.871	-3.5	20.3	16.8	46.0	-29.2
1.654	-5.5	20.2	14.7	46.0	-31.3
1.943	-6.3	20.3	14.0	46.0	-32.0
10.803	-2.6	20.6	18.0	50.0	-32.0
3.511	-6.5	20.4	13.9	46.0	-32.1
4.715	-6.5	20.4	13.9	46.0	-32.1
25.056	-5.5	21.8	16.3	50.0	-33.7
18.960	-5.1	21.3	16.2	50.0	-33.8
8.661	-5.0	20.6	15.6	50.0	-34.4
6.600	-5.5	20.4	14.9	50.0	-35.1

CONCLUSION

Pass



Tested By

EMISSIONS BANDWIDTH (20 dB)



XMIT 2023.02.14.0

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2023-02-09	2024-02-09
Block - DC	Fairview Microwave	SD3239	ANE	2023-02-16	2024-02-16
Attenuator	Fairview Microwave	SA18E 1648	TZW	2022-09-13	2023-09-13
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2022-12-08	2023-12-08
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXJ	2022-09-09	2023-09-09
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUI	2023-03-02	2024-03-02

TEST DESCRIPTION

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

As defined in FCC 15.215 Part (c), intentional radiators must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designed in the rule section under which the equipment is operated.

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

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

The spectrum analyzer bandwidth measurement function was used to measure the 20 dB bandwidth.

EMISSIONS BANDWIDTH (20 dB)



TbtTx 2022.06.03.0 XMI 2023.02.14.0

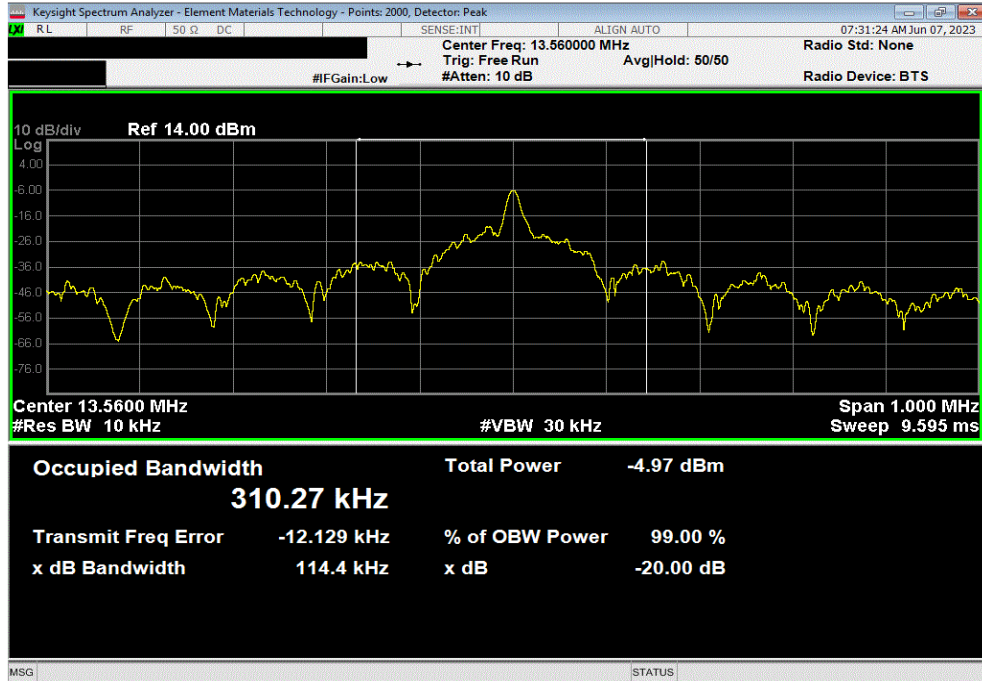
EUT: Track T-Element		Work Order: ABBO0269	
Serial Number: TELE0001		Date: 06/06/2023	
Customer: Abbott Laboratories		Temperature: 20.4°C	
Attendees: None		Humidity: 54.6%	
Project: None		Barometric Pres.: 1013 mbar	
Tested by: Jarrod Brenden		Job Site: TX07	
Power: 220VAC/60Hz			
TEST SPECIFICATIONS		Test Method	
FCC 15.225:2023		ANSI C63.10:2013	
COMMENTS			
Emissions Bandwidth (20 dB) taken with 99% Occupied Bandwidth. This is the worst case as compared with the 20 dB bandwidth called out in FCC 15.215.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	ABBO0269-2	Signature 	
		Value (kHz)	Limit 13.11 MHz ≤ BW ≤ 14.01 MHz Result
RFID, 13.56 MHz, OOK			
Divergent 90 Switch			
Nominal Temperature, 20°C			
Voltage, Nominal, 220V			
		114.4	Within Pass
Convergent 90 Switch			
Nominal Temperature, 20°C			
Voltage, Nominal, 220V			
		111.1	Within Pass

EMISSIONS BANDWIDTH (20 dB)

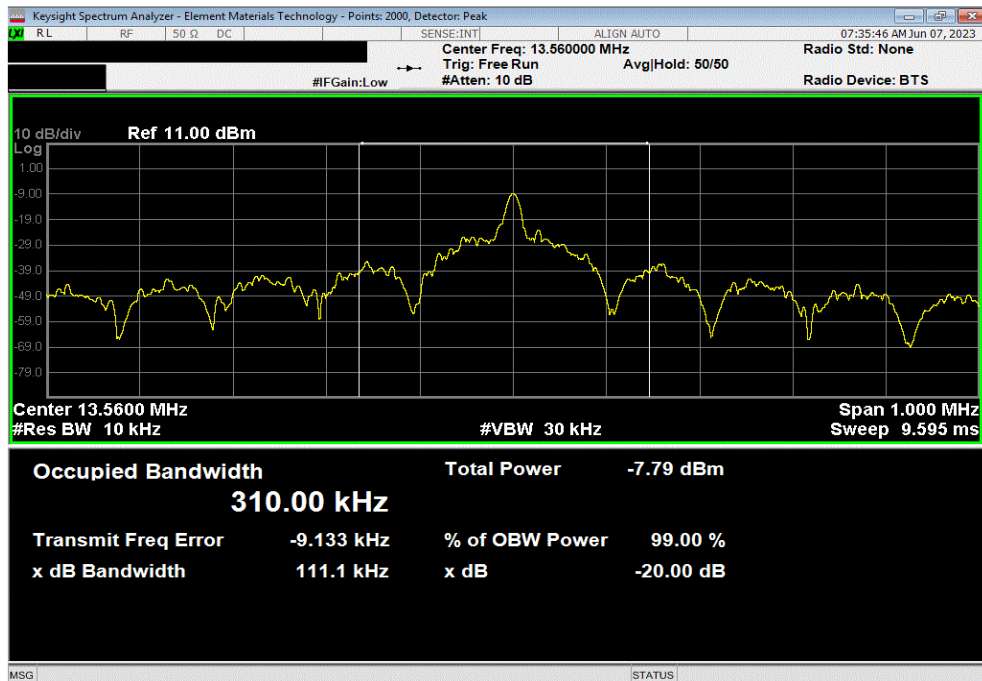


TbTn 2022.06.03.0 XMI 2023.02.14.0

RFID, 13.56 MHz, OOK, Divergent 90, Nominal Temp, 20C, Voltage, Nominal, 220V						
				Value	Limit	Result
				(kHz)	13.11 MHz ≤ BW ≤ 14.01 MHz	
				114.4	Within	Pass



RFID, 13.56 MHz, OOK, Convergent 90, Nominal Temp, 20C, Voltage, Nominal, 220V						
				Value	Limit	Result
				(kHz)	13.11 MHz ≤ BW ≤ 14.01 MHz	
				111.1	Within	Pass



FIELD STRENGTH OF FUNDAMENTAL

TEST DESCRIPTION

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

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

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

QP = Quasi-Peak Detector

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

12.06 MHz TO 15.06 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0269-1

MODES INVESTIGATED

Transmitting RFID, 13.56 MHz, OOK, All Radios Active
Transmitting RFID, 13.56 MHz, OOK, Divergent Radio Active
Transmitting RFID, 13.56 MHz, OOK, Convergent Radio Active

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	None	Relative Humidity:	48.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	4	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
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COMMENTS

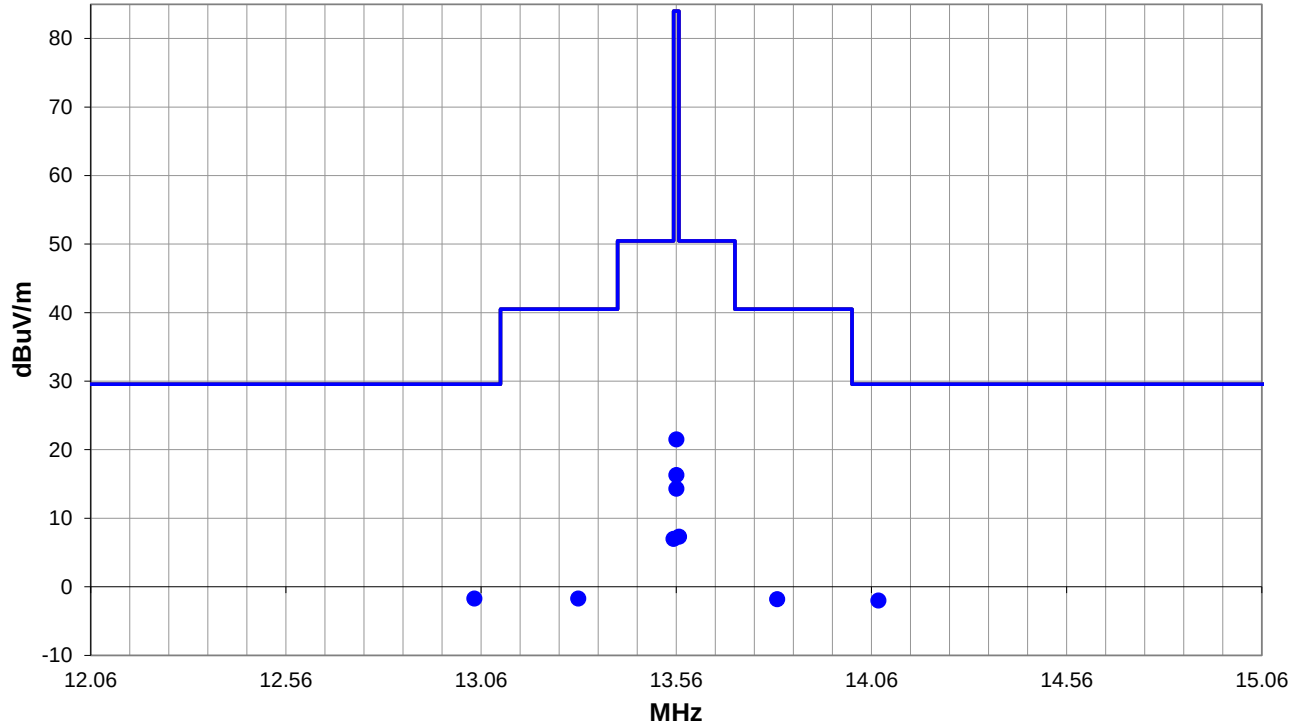
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Both Radios Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK, All Radios Active

DEVIATIONS FROM TEST STANDARD

None



Run #: 4

■ PK ◆ AV ● QP

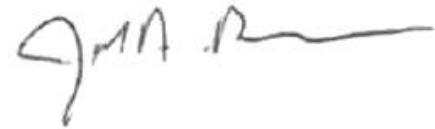
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #4

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.043	5.8	11.6	1.0	302.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.078	5.5	11.6	1.0	135.9	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.309	5.8	11.6	1.0	178.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.818	5.7	11.6	1.0	207.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.567	14.8	11.6	1.0	231.0	10.0	0.0	Perp to EUT	QP	-19.1	7.3	50.5	-43.2
13.553	14.5	11.6	1.0	210.0	10.0	0.0	Perp to EUT	QP	-19.1	7.0	50.5	-43.5
13.560	29.0	11.6	1.0	223.0	10.0	0.0	Perp to EUT	QP	-19.1	21.5	84.0	-62.5
13.560	23.8	11.6	1.0	223.0	10.0	0.0	Para to GND	QP	-19.1	16.3	84.0	-67.7
13.560	21.8	11.6	1.0	267.0	10.0	0.0	Para to EUT	QP	-19.1	14.3	84.0	-69.7

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	None	Relative Humidity:	48.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	5	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
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COMMENTS

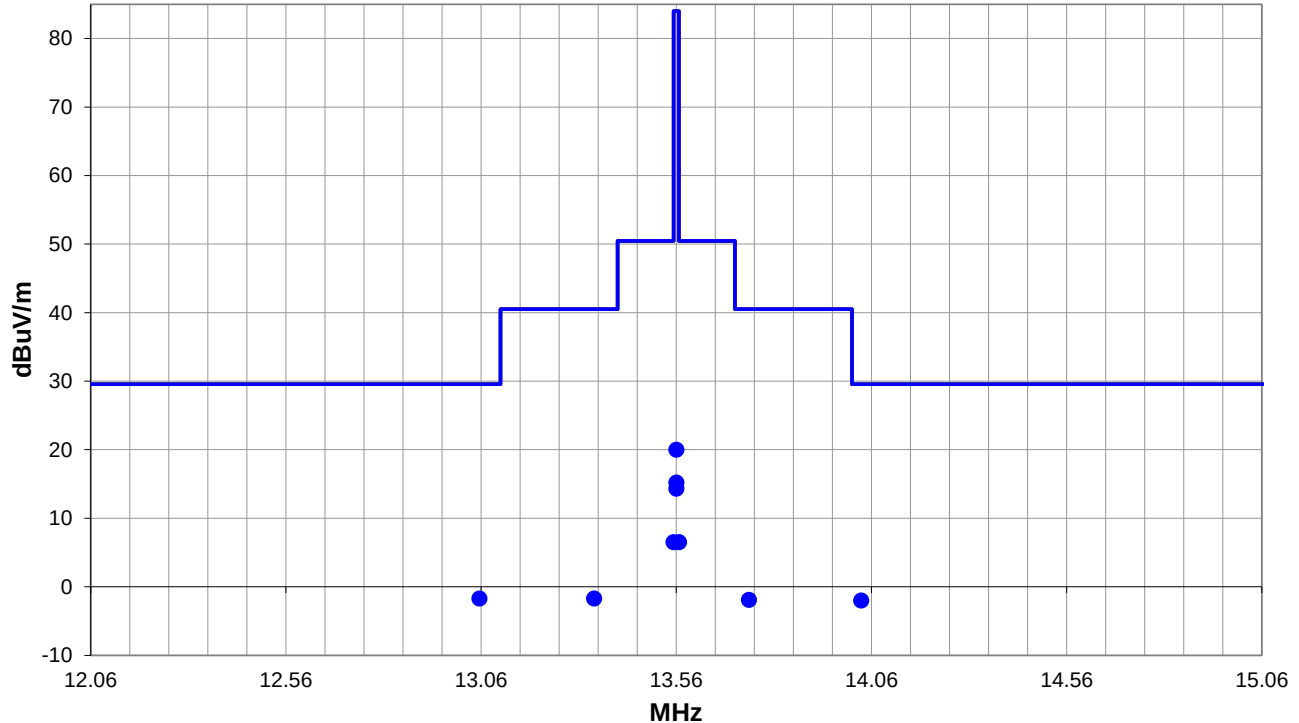
Floor-standing. Track T-Element contains two RFID radios; Divergent 90 Switch and Convergent 90 Switch. Divergent Radio Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK, Divergent Radio Active

DEVIATIONS FROM TEST STANDARD

None



Run #: 5

■ PK ◆ AV ● QP

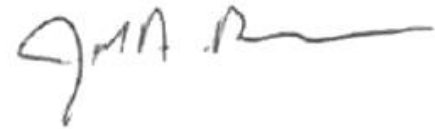
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #5

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.056	5.8	11.6	1.0	248.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.034	5.5	11.6	1.0	304.9	10.0	0.0	Perp to EUT	QP	-19.1	-2.0	29.5	-31.5
13.350	5.8	11.6	1.0	231.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	40.5	-42.2
13.746	5.6	11.6	1.0	136.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	40.5	-42.4
13.553	14.0	11.6	1.0	188.0	10.0	0.0	Perp to EUT	QP	-19.1	6.5	50.5	-44.0
13.567	14.0	11.6	1.0	202.9	10.0	0.0	Perp to EUT	QP	-19.1	6.5	50.5	-44.0
13.560	27.5	11.6	1.0	177.0	10.0	0.0	Perp to EUT	QP	-19.1	20.0	84.0	-64.0
13.560	22.7	11.6	1.0	195.9	10.0	0.0	Para to GND	QP	-19.1	15.2	84.0	-68.8
13.560	21.8	11.6	1.0	222.0	10.0	0.0	Para to EUT	QP	-19.1	14.3	84.0	-69.7

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	None	Relative Humidity:	48.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	6	Test Distance (m):	10	Ant. Height(s) (m):	1(m)
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COMMENTS

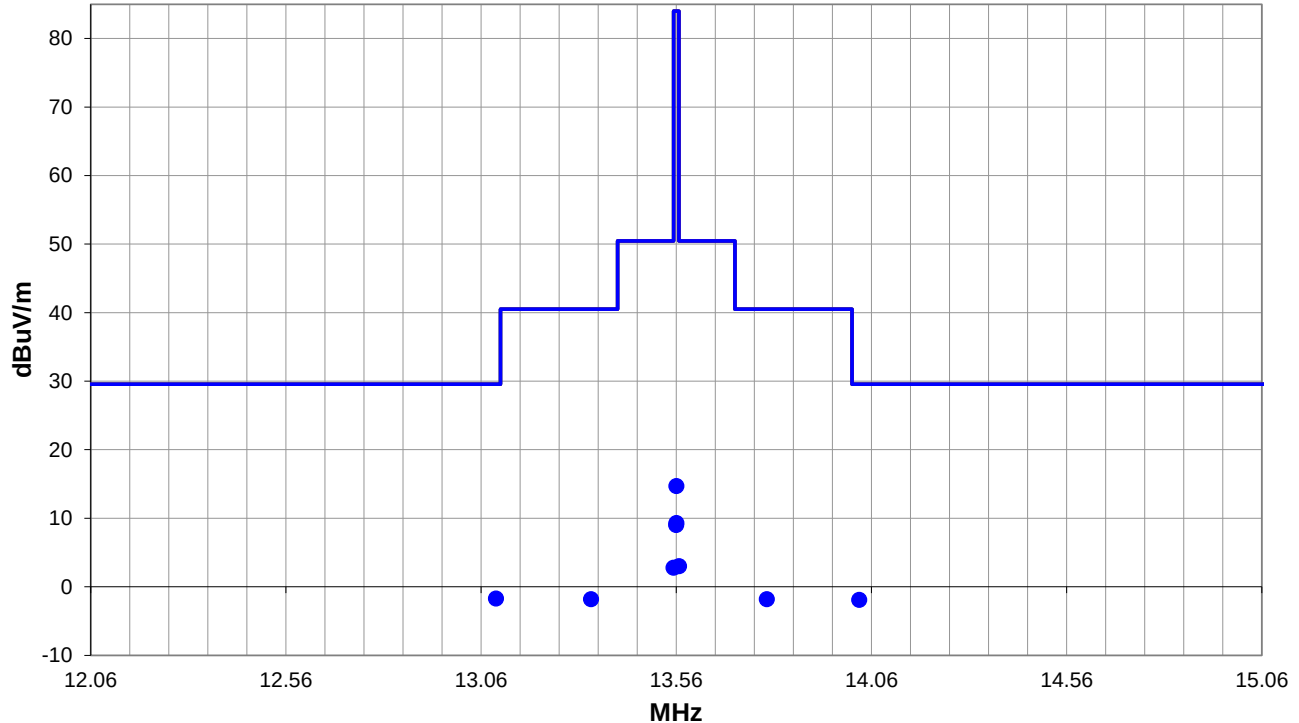
Floor-standing. Track T-Element contains two RFID radios; Convergent 90 Switch and Convergent 90 Switch. Convergent Radio Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK, Convergent Radio Active

DEVIATIONS FROM TEST STANDARD

None



Run #: 6

■ PK ◆ AV ● QP

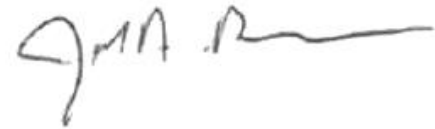
FIELD STRENGTH OF FUNDAMENTAL

RESULTS - Run #6

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.098	5.8	11.6	1.0	6.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2
14.029	5.6	11.6	1.0	189.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.9	29.5	-31.4
13.342	5.7	11.6	1.0	267.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.792	5.7	11.6	1.0	0.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.8	40.5	-42.3
13.567	10.5	11.6	1.0	255.9	10.0	0.0	Perp to EUT	QP	-19.1	3.0	50.5	-47.5
13.553	10.3	11.6	1.0	260.0	10.0	0.0	Perp to EUT	QP	-19.1	2.8	50.5	-47.7
13.560	22.2	11.6	1.0	259.0	10.0	0.0	Perp to EUT	QP	-19.1	14.7	84.0	-69.3
13.560	16.8	11.6	1.0	75.0	10.0	0.0	Para to GND	QP	-19.1	9.3	84.0	-74.7
13.560	16.5	11.6	1.0	129.9	10.0	0.0	Para to EUT	QP	-19.1	9.0	84.0	-75.0

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)



TEST DESCRIPTION

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

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

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

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

QP = Quasi-Peak Detector

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

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

9 kHz TO 30 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0269-1

MODES INVESTIGATED

Transmitting RFID, 13.56 MHz, OOK, All Radios Active

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	None	Relative Humidity:	48.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2023	ANSI C63.10:2013

TEST PARAMETERS

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

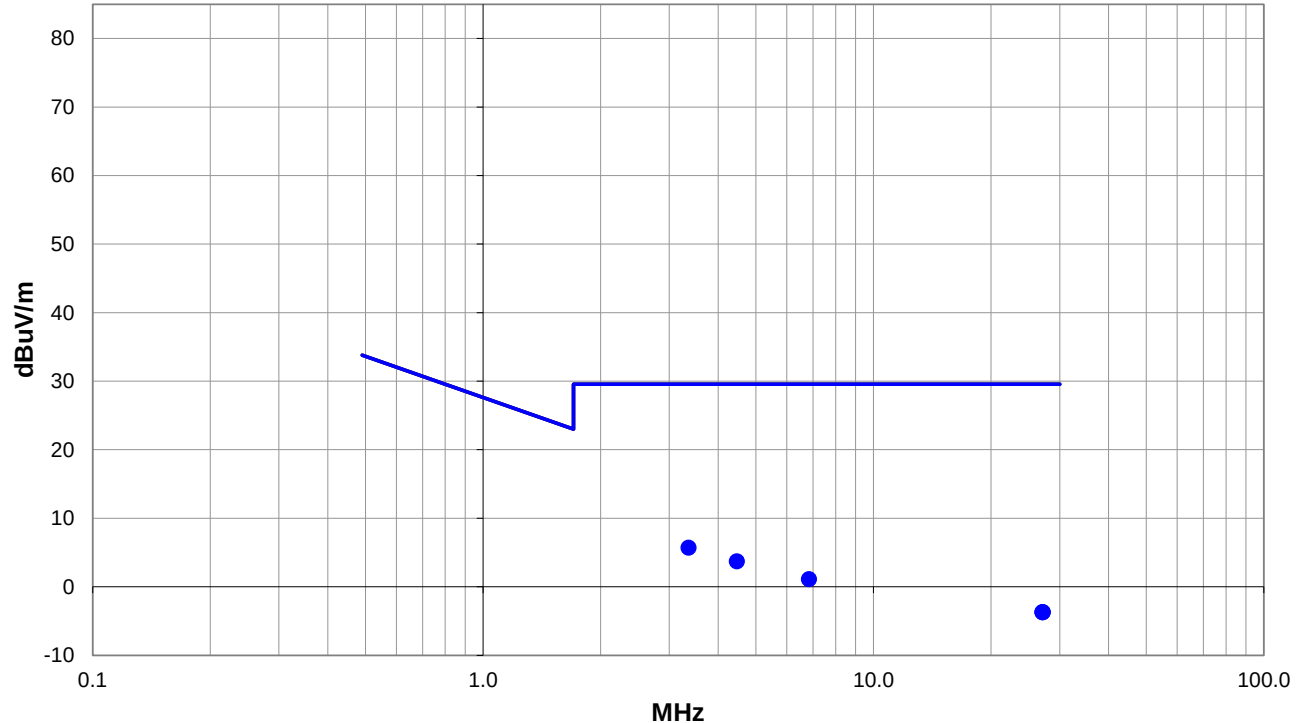
Floor-standing. Track T-Element contains two RFID radios; Convergent 90 Switch and Convergent 90 Switch. Both Radios Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK, All Radios Active

DEVIATIONS FROM TEST STANDARD

None



Run #: 9

■ PK ◆ AV ● QP

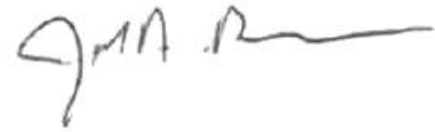
FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

RESULTS - Run #9

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
3.358	13.2	11.6	1.0	175.0	10.0	0.0	Para to EUT	QP	-19.1	5.7	29.5	-23.8
4.469	11.0	11.8	1.0	270.0	10.0	0.0	Para to EUT	QP	-19.1	3.7	29.5	-25.8
6.837	8.5	11.7	1.0	60.0	10.0	0.0	Para to EUT	QP	-19.1	1.1	29.5	-28.4
27.137	5.4	10.0	1.0	111.0	10.0	0.0	Para to EUT	QP	-19.1	-3.7	29.5	-33.2
27.097	5.4	10.0	1.0	206.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.7	29.5	-33.2
27.090	5.4	10.0	1.0	246.0	10.0	0.0	Para to GND	QP	-19.1	-3.7	29.5	-33.2

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)



TEST DESCRIPTION

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

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

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI 63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

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

QP = Quasi-Peak Detector

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

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17
Antenna - Biconilog	Teseq	CBL 6141B	AYD	2022-03-01	2024-03-01
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Amplifier - Pre-Amplifier	Fairview Microwave	FMAM63001	PAS	2023-04-11	2024-04-11
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	2022-07-22	2023-07-22

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	4.7 dB	-4.7 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 1000 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0269-1

MODES INVESTIGATED

Transmitting RFID, 13.56 MHz, OOK, All Radios Active

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	2023-06-05
Customer:	Abbott Laboratories	Temperature:	22.3°C
Attendees:	None	Relative Humidity:	48.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0269-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	10	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

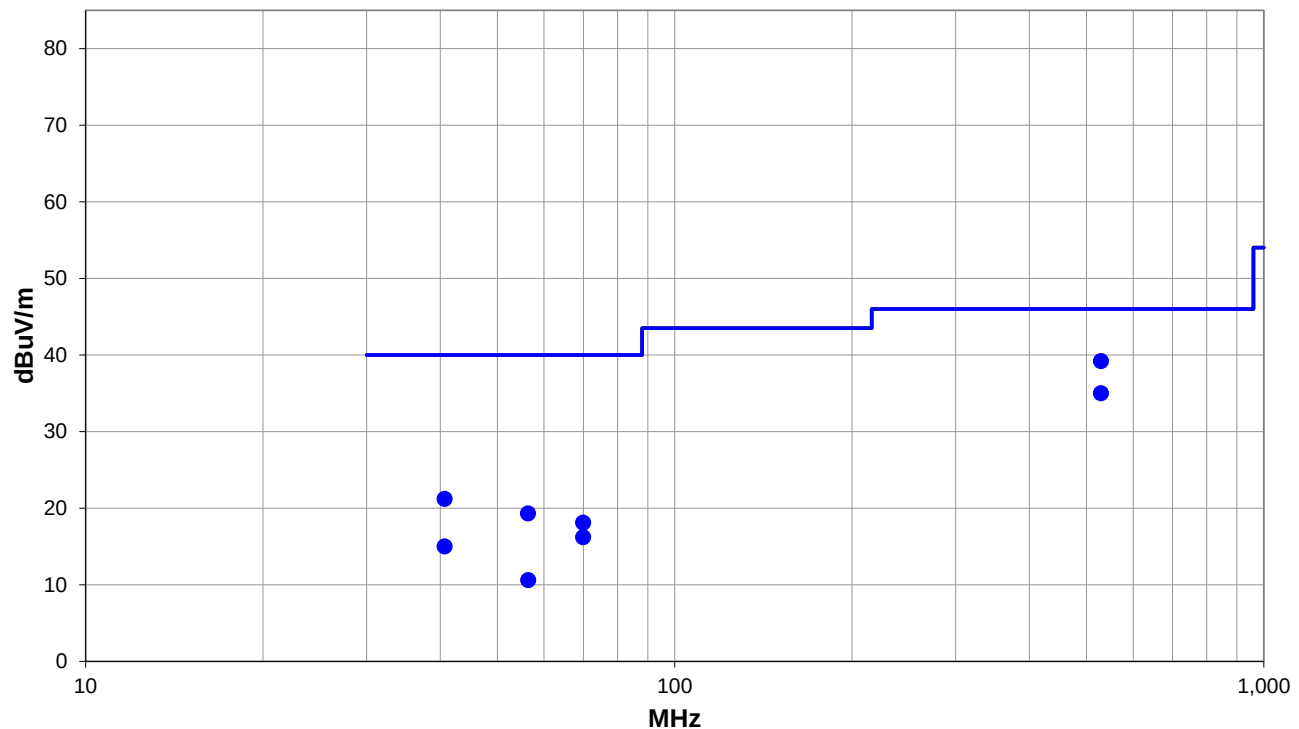
Floor-standing. Track T-Element contains two RFID radios; Convergent 90 Switch and Convergent 90 Switch. Both Radios Active.

EUT OPERATING MODES

Transmitting RFID, 13.56 MHz, OOK, All Radios Active

DEVIATIONS FROM TEST STANDARD

None



Run #: 10

■ PK ◆ AV ● QP

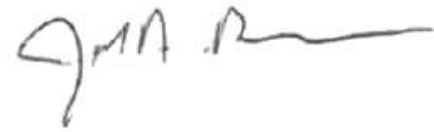
FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

RESULTS - Run #10

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
528.845	51.6	-12.4	1.0	349.0	3.0	0.0	Vert	QP	0.0	39.2	46.0	-6.8
528.845	47.4	-12.4	1.26	177.9	3.0	0.0	Horz	QP	0.0	35.0	46.0	-11.0
40.686	36.6	-15.4	1.0	247.0	3.0	0.0	Vert	QP	0.0	21.2	40.0	-18.8
56.341	41.3	-22.0	1.0	356.0	3.0	0.0	Vert	QP	0.0	19.3	40.0	-20.7
69.903	43.5	-25.4	1.0	243.0	3.0	0.0	Vert	QP	0.0	18.1	40.0	-21.9
69.922	41.6	-25.4	2.55	339.0	3.0	0.0	Horz	QP	0.0	16.2	40.0	-23.8
40.683	30.4	-15.4	1.0	296.0	3.0	0.0	Horz	QP	0.0	15.0	40.0	-25.0
56.379	32.7	-22.1	3.46	236.0	3.0	0.0	Horz	QP	0.0	10.6	40.0	-29.4

CONCLUSION

Pass



Tested By

FREQUENCY STABILITY



XMR 2023.02.14.0

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2023-02-09	2024-02-09
Block - DC	Fairview Microwave	SD3239	ANE	2023-02-16	2024-02-16
Attenuator	Fairview Microwave	SA18E 1648	TZW	2022-09-13	2023-09-13
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2022-12-08	2023-12-08
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXJ	2022-09-09	2023-09-09
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUI	2023-03-02	2024-03-02

TEST DESCRIPTION

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

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

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

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

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

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

FREQUENCY STABILITY



TbTtx 2022.06.03.0 XMH 2023.02.14.0

EUT:	Track T-Element	Work Order:	ABBO0269
Serial Number:	TELE0001	Date:	06/06/2023
Customer:	Abbott Laboratories	Temperature:	21.8°C
Attendees:	None	Humidity:	49.9%
Project:	None	Barometric Pres.:	1013 mbar
Tested by:	Jarrod Brenden	Power:	220VAC/60Hz
		Job Site:	TX07
TEST SPECIFICATIONS		Test Method	
FCC 15.225:2023		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	ABBO0269-2	Signature 	

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
RFID, 13.56 MHz, OOK					
Divergent 90					
Nominal Temperature, 20°C					
Voltage, 115%, 253V	13.56005	13.56003	1.25	100	Pass
Voltage, Nominal, 220V	13.56003	13.56003	0.00	100	Pass
Voltage, 85%, 187V	13.56003	13.56003	0.02	100	Pass
Nominal AC Voltage, 220V					
Temperature, 50°C	13.55992	13.56003	8.60	100	Pass
Temperature, 40°C	13.55995	13.56003	6.12	100	Pass
Temperature, 30°C	13.56000	13.56003	2.46	100	Pass
Temperature, 20°C	13.56005	13.56003	1.23	100	Pass
Temperature, 10°C	13.56010	13.56003	4.94	100	Pass
Temperature, 0°C	13.56013	13.56003	7.42	100	Pass
Temperature, -10°C	13.56013	13.56003	7.42	100	Pass
Temperature, -20°C	13.56012	13.56003	6.17	100	Pass
Convergent 90					
Nominal Temperature, 20°C					
Voltage, 115%, 253V	13.56007	13.56007	0.02	100	Pass
Voltage, Nominal, 220V	13.56007	13.56007	0.00	100	Pass
Voltage, 85%, 187V	13.56008	13.56007	1.20	100	Pass
Nominal AC Voltage, 220V					
Temperature, 50°C	13.55997	13.56007	7.33	100	Pass
Temperature, 40°C	13.56000	13.56007	4.87	100	Pass
Temperature, 30°C	13.56002	13.56007	3.64	100	Pass
Temperature, 20°C	13.56007	13.56007	0.02	100	Pass
Temperature, 10°C	13.56010	13.56007	2.46	100	Pass
Temperature, 0°C	13.56013	13.56007	4.92	100	Pass
Temperature, -10°C	13.56013	13.56007	4.92	100	Pass
Temperature, -20°C	13.56012	13.56007	3.69	100	Pass

ThyTx 2022.06.03.0 YMit 2022.03.14.0

[illegible]

Keysight Spectrum Analyzer - Element Materials Technology

RL RF 50 Ω DC SENSE:INT ALIGN AUTO 07:43:22 AM Jun 07, 2023

PNO: Close Trig: Free Run #Avg Type: Voltage Avg|Hold:>100/100

TYPE M DET P P P P P P

5 dB/div Log Ref 0.00 dBm

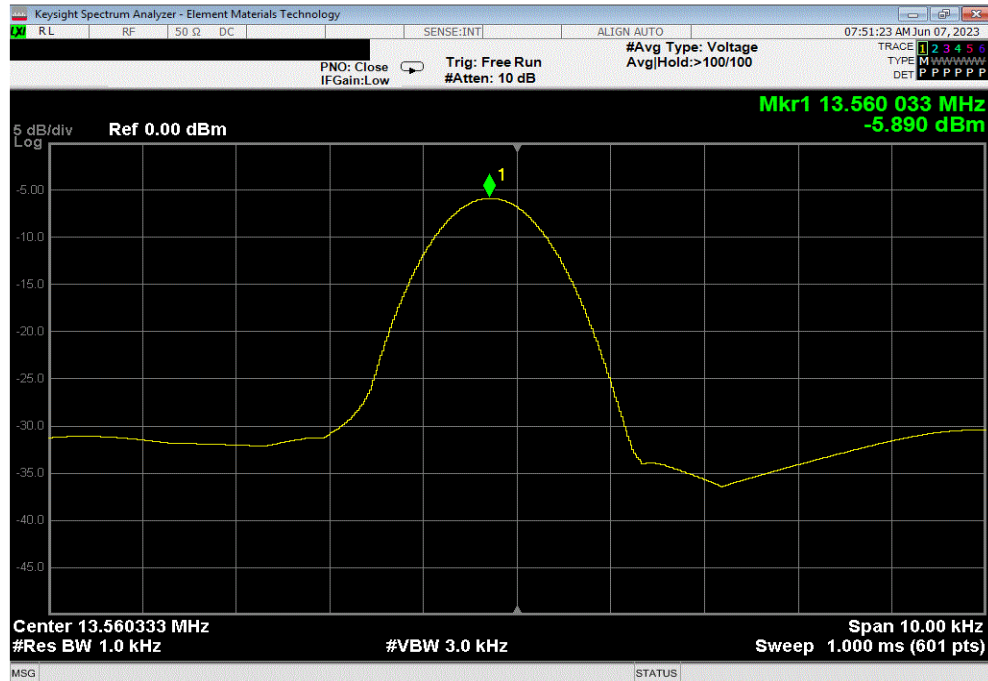
Mkr1 13.560 033 MHz -6.120 dBm

The plot shows a spectrum with a peak at 13.560166 MHz. The y-axis is labeled '5 dB/div Log' and ranges from -5.00 to -45.0. The x-axis is labeled 'Center 13.560166 MHz' and ranges from 13.558166 to 13.562166 MHz. The peak is marked with a green diamond and labeled '1'. The peak level is -6.120 dBm.

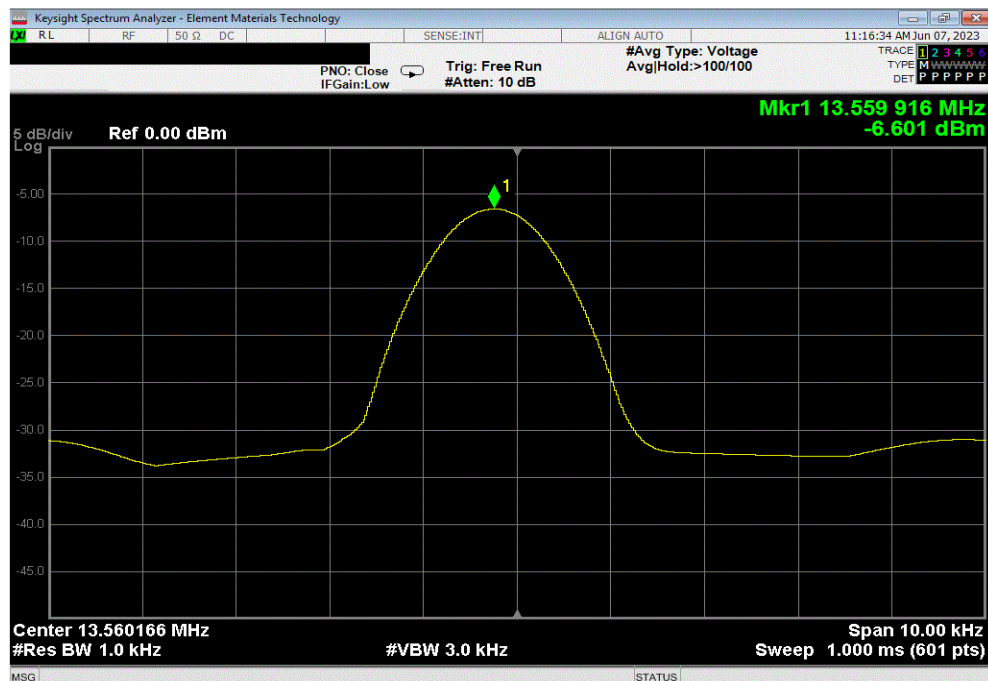
Center 13.560166 MHz #Res BW 1.0 kHz #VBW 3.0 kHz Span 10.00 kHz Sweep 1.000 ms (601 pts)

MSG STATUS

RFID, 13.56 MHz, OOK, Divergent 90, Nominal Temperature, 20°C, Voltage, 85%, 187V						
Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results		
13.56003	13.56003	0.02	100	Pass		

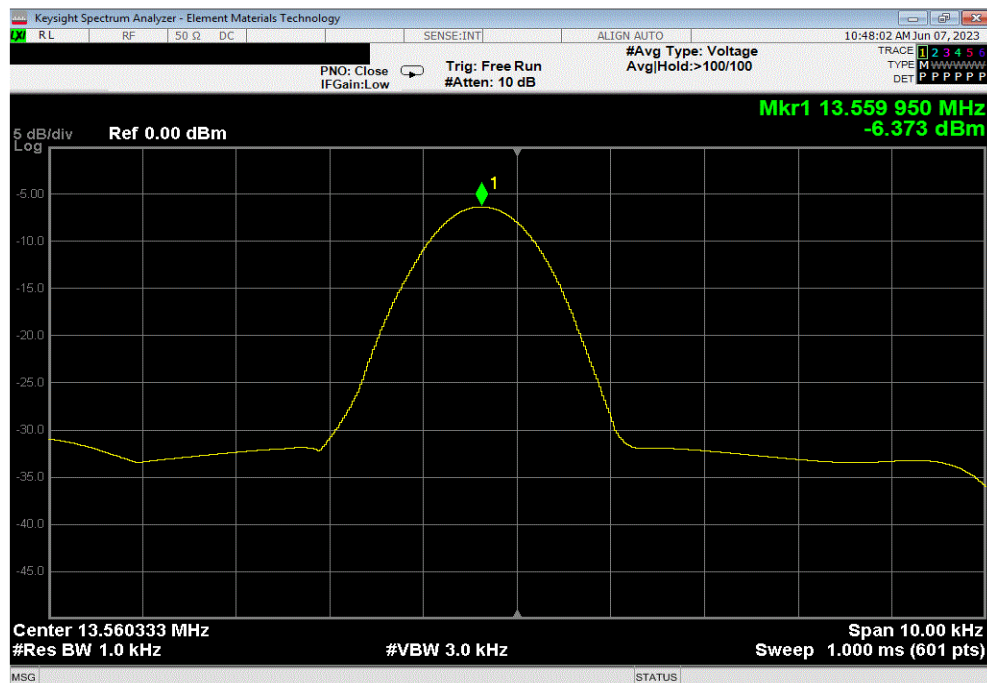


RFID, 13.56 MHz, OOK, Divergent 90, Nominal AC Voltage, 220V, Temperature, 50° C						
Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results		
13.55992	13.56003	8.60	100	Pass		

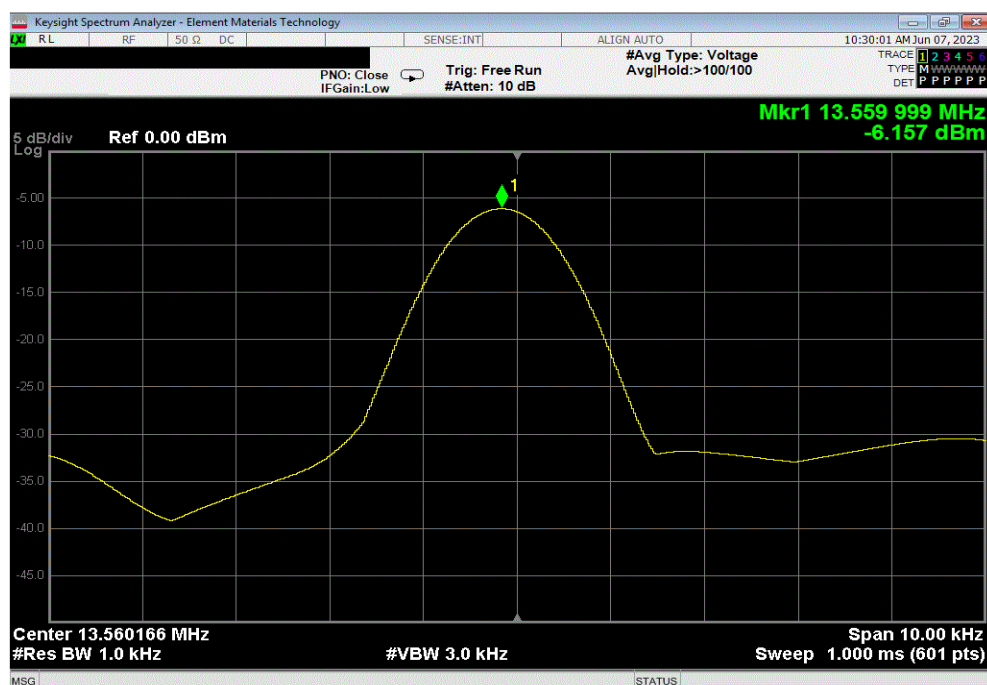


TbtTx 2022.06.03.0 XMit 2023.02.14.1

RFID, 13.56 MHz, OOK, Divergent 90, Nominal AC Voltage, 220V, Temperature, 40°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13.55995	13.56003	6.12	100	Pass

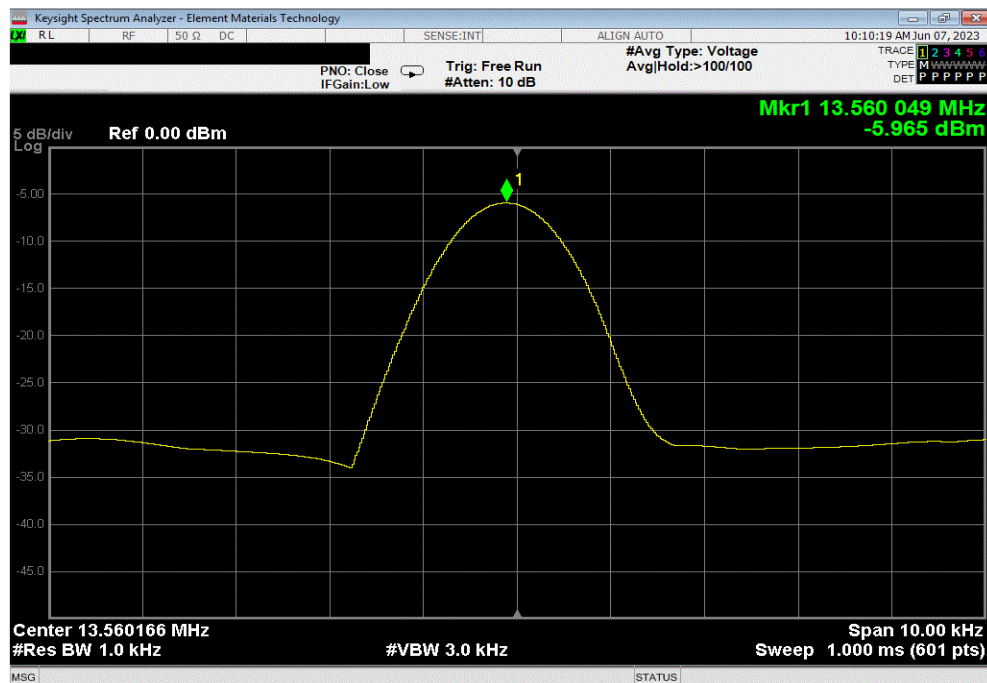


RFID, 13.56 MHz, OOK, Divergent 90, Nominal AC Voltage, 220V, Temperature, 30°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13 56000	13 56003	2 46	100	Pass

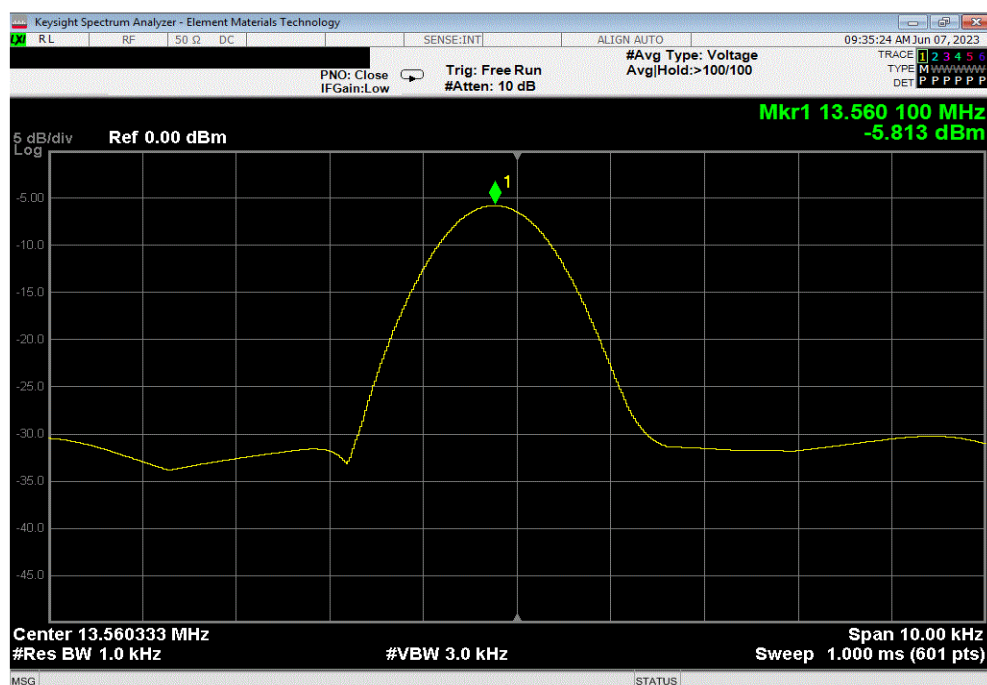


ThyTx 2022.06.03.0 YMit 2022.03.14.0

RFID, 13.56 MHz, OOK, Divergent 90, Nominal AC Voltage, 220V, Temperature, 20°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13.56005	13.56003	1.23	100	Pass



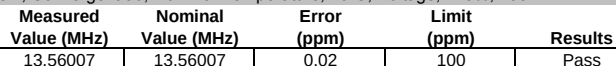
RFID, 13.56 MHz, OOK, Divergent 90, Nominal AC Voltage, 220V, Temperature, 10°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13 56010	13 56003	4 94	100	Pass



ThyTx 2022.06.03.0 YMit 2022.03.14.0

[illegible][illegible]

Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56012	13.56003	6.17	100	Pass



ThyTx 2022.06.03.0 YMit 2022.03.14.0

Keysight Spectrum Analyzer - Element Materials Technology

RL RF 50 Ω DC SENSE:INT ALIGN AUTO 07:41:19 AM Jun 07, 2023

PNO: Close IFGain:Low Trig: Free Run #Atten: 10 dB #Avg Type: Voltage Avg|Hold:>100/100

TRACE 1 2 3 4 5 6 TYPE MAAAAA DET P P P P P P

5 dB/div Log Ref 0.00 dBm

Mkr1 13.560 066 MHz -8.869 dBm

The plot shows a spectrum with a peak at 13.560333 MHz. The y-axis is labeled '5 dB/div Log' and ranges from -45.0 to -5.00. The x-axis is labeled 'Center 13.560333 MHz' and ranges from 13.558333 to 13.562333 MHz. The peak is marked with a green diamond and labeled '1'. The peak level is -8.869 dBm. The plot also shows a baseline level of -36.0 dBm.

Center 13.560333 MHz #Res BW 1.0 kHz #VBW 3.0 kHz Span 10.00 kHz Sweep 1.000 ms (601 pts)

MSG STATUS

Keysight Spectrum Analyzer - Element Materials Technology

RL RF 50 Ω DC SENSE:INT ALIGN AUTO 07:49:42 AM Jun 07, 2023

PNO: Close Trig: Free Run #Avg Type: Voltage Avg|Hold:>100/100

IFGain:Low #Atten: 10 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W
DET P P P P P P

5 dB/div Log Ref 0.00 dBm

Mkr1 13.560 083 MHz
-8.655 dBm

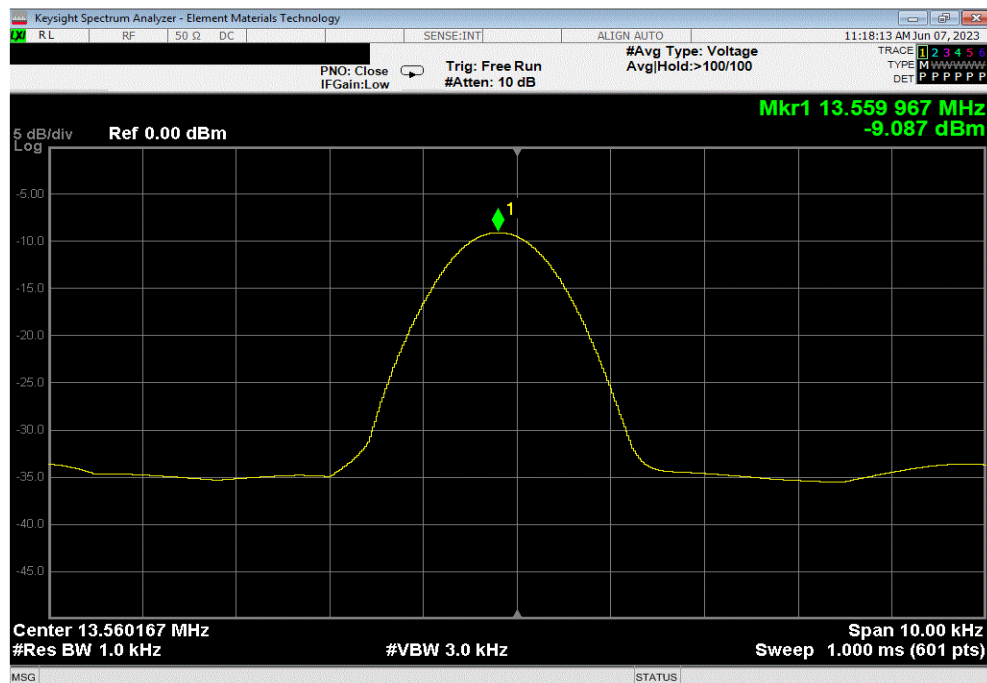
Center 13.560166 MHz
#Res BW 1.0 kHz

#VBW 3.0 kHz

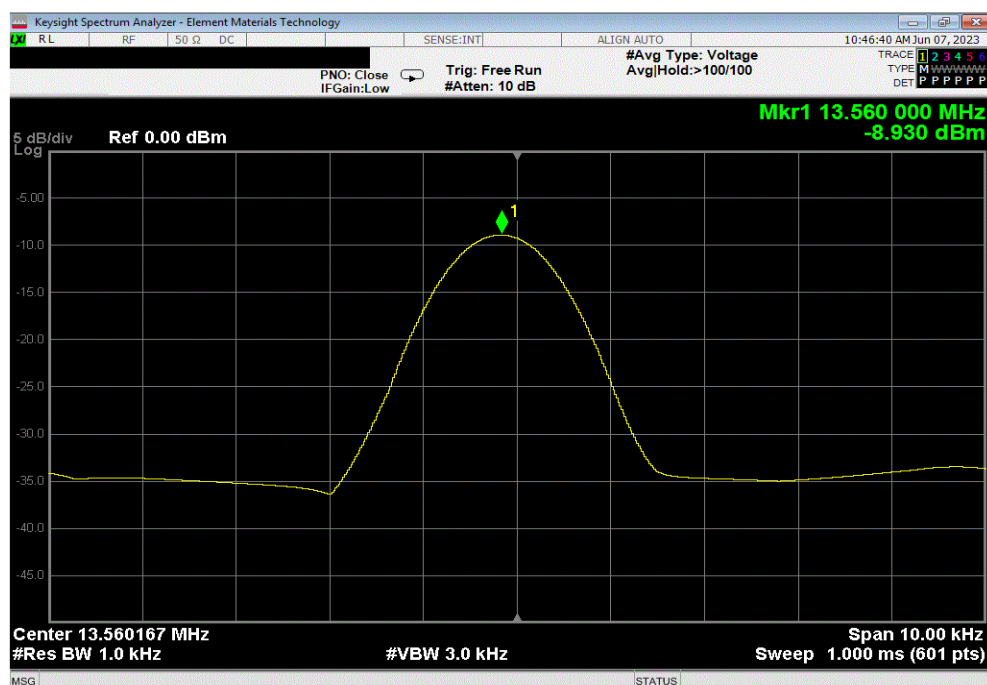
Span 10.00 kHz
Sweep 1.000 ms (601 pts)

TbtTx 2022.06.03.0 XMIT 2023.02.14.1

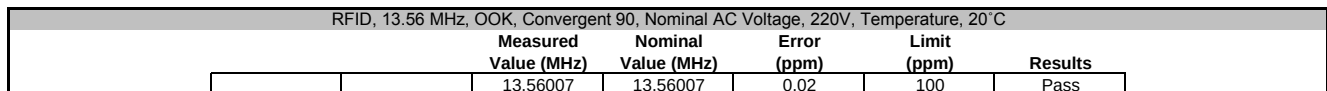
RFID, 13.56 MHz, OOK, Convergent 90, Nominal AC Voltage, 220V, Temperature, 50°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13.55997	13.56007	7.33	100	Pass



RFID, 13.56 MHz, OOK, Convergent 90, Nominal AC Voltage, 220V, Temperature, 40°C					
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
	13 56000	13 56007	4.87	100	Pass



RFID, 13.56 MHz, OOK, Convergent 90, Nominal AC Voltage, 220V, Temperature, 30°C						
Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results		
13.56002	13.56007	3.64	100	Pass		



ThyTx 2022.06.03.0 YMit 2022.03.14.0

Keysight Spectrum Analyzer - Element Materials Technology

RL RF 50 Ω DC SENSE:INT ALIGN AUTO 09:37:24 AM Jun 07, 2023

PNO: Close IFGain:Low Trig: Free Run #Athen: 10 dB #Avg Type: Voltage Avg|Hold:>100/100

TRAC1 1123456 TYPE: MAAAAA DET: P P P P P P

5 dB/div Log Ref 0.00 dBm

Mkr1 13.560 100 MHz -8.570 dBm

Center 13.560333 MHz #Res BW 1.0 kHz #VBW 3.0 kHz Span 10.00 kHz Sweep 1.000 ms (601 pts)

MSG STATUS

Keysight Spectrum Analyzer - Element Materials Technology

09:05:03 AM Jun 07, 2023

RL RF 50 Ω DC SENSE:INT ALIGN AUTO

#Avg Type: Voltage
Avg|Hold:>100/100

PNO: Close IFGain:Low Trig: Free Run
#Atten: 10 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W
DET P P P P P P

5 dB/div Log Ref 0.00 dBm

Mkr1 13.560 133 MHz
-8.403 dBm

Center 13.560333 MHz
#Res BW 1.0 kHz

#VBW 3.0 kHz

Span 10.00 kHz
Sweep 1.000 ms (601 pts)

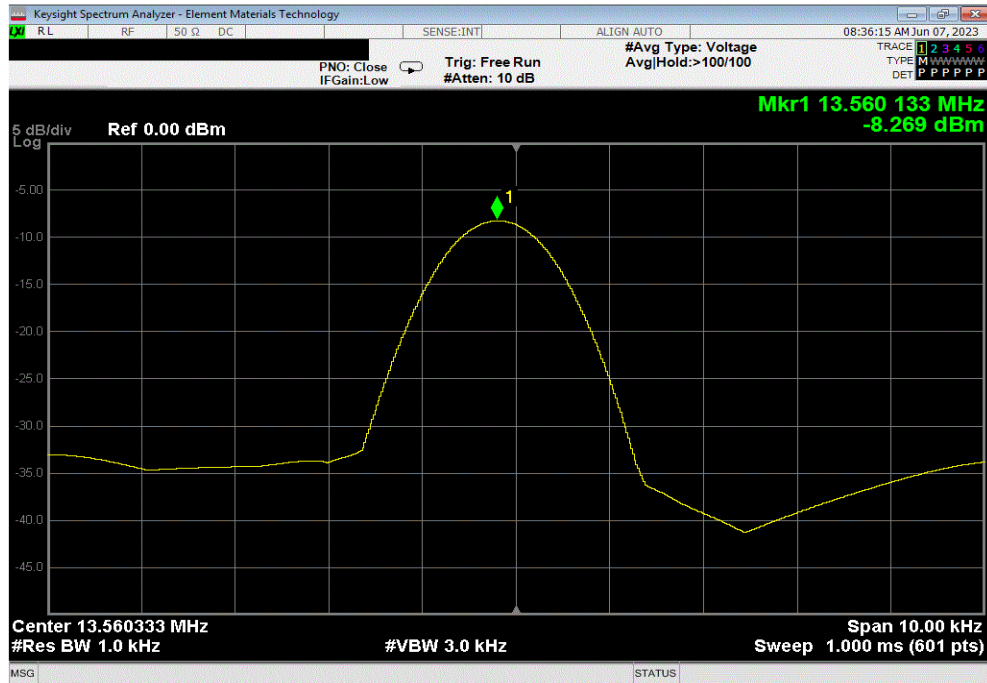
MSG STATUS

FREQUENCY STABILITY

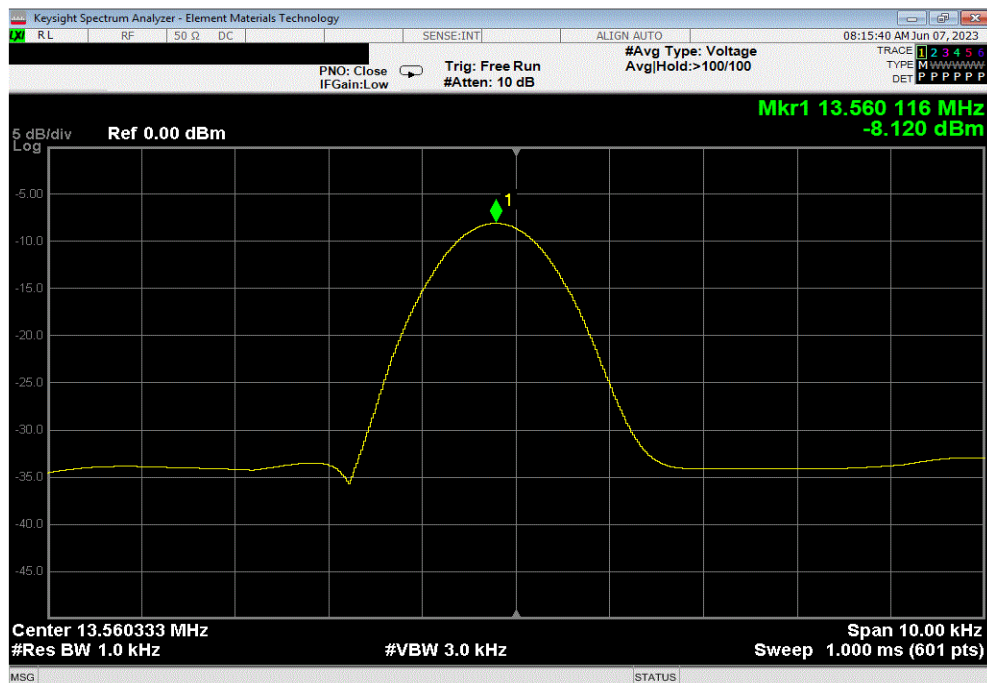


TbTtx 2022.06.03.0 XMt 2023.02.14.0

RFID, 13.56 MHz, OOK, Convergent 90, Nominal AC Voltage, 220V, Temperature, -10°C						
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	13.56013	13.56007	4.92	100	Pass	



RFID, 13.56 MHz, OOK, Convergent 90, Nominal AC Voltage, 220V, Temperature, -20°C						
	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	13.56012	13.56007	3.69	100	Pass	



End of Test Report