



# element

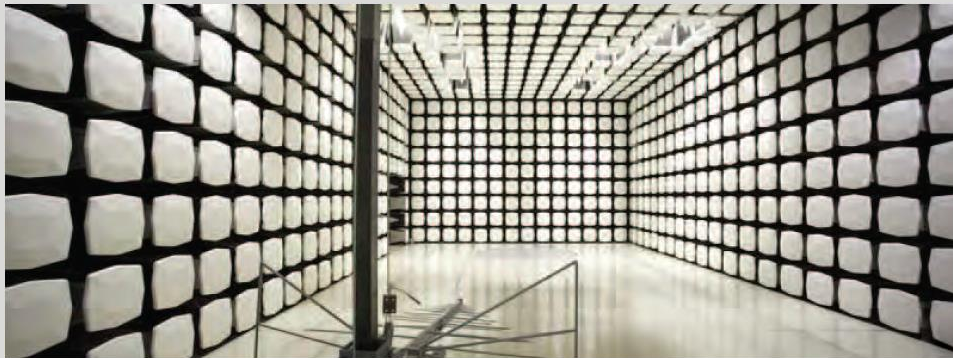
**Abbott Laboratories**

**Gemini System (Charger)**

**Bluetooth Low Energy (DTS) Radio**

**FCC 15:247:2021**

**Report: ABBO0075.7 Rev. 1, Issue Date: December 21, 2021**



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# CERTIFICATE OF TEST



Last Date of Test: November 11, 2021  
Abbott Laboratories  
EUT: Gemini System (Charger)

## Radio Equipment Testing

### Standards

Specification	Method
FCC 15.247:2021	ANSI C63.10:2013; KDB 558074 D01 15.247 Measurement Guidance v05r02

### Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	N/A	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.1.1	Output Power	Yes	Pass	
11.9.1.1	Equivalent Isotropic Radiated Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	

### 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	Updated method on COT to "ANSI C63.10:2013; KDB 558074 D01 15.247 Measurement Guidance v05r02"	2021-12-21	2
	Removed photos from Powerline Conducted Emissions and place into photos report.	2021-12-21	N/A
	Corrected EUT name in Powerline Conducted Emissions.	2021-12-21	15, 17
	Corrected typo in Occupied Bandwidth configuration. Changed to ABBO0075-58.	2021-12-21	21
	Updated power in data sheets.	2021-12-21	15, 17, 21, 26, 31, 36, 41, 45, 57, 58
	Changed voltage to show AC MAINS 120VAC/60Hz in Spurious Radiated Emissions.	2021-12-21	57, 58
	Changed range to 30 MHz to 26.5 GHz in Spurious Radiated Emissions.	2021-12-21	57, 58
	Updated test description in Spurious Radiated Emissions.	2021-12-21	56

# ACCREDITATIONS AND AUTHORIZATIONS



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## 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.

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## 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.

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## European Union

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

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## United Kingdom

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

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## Australia/New Zealand

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

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## Korea

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

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## Japan

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

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## 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.

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## Singapore

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

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## Israel

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

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## Hong Kong

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

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## Vietnam

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

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## SCOPE

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# FACILITIES



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

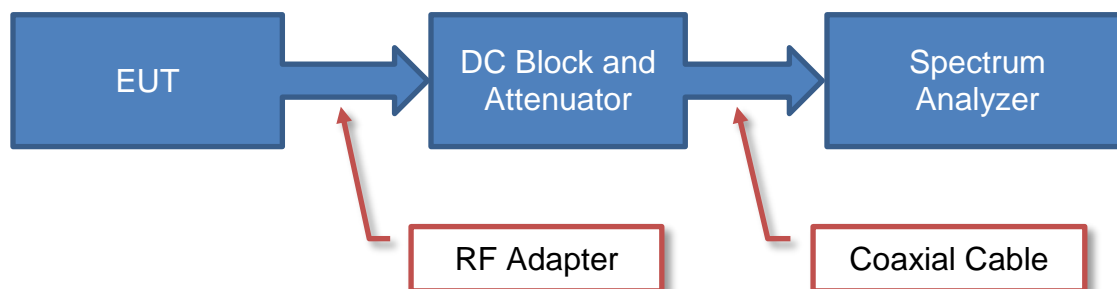
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific 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	+ 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

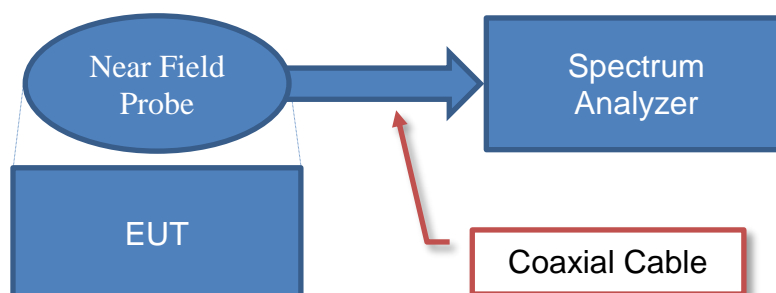
## Antenna Port Conducted Measurements



### Sample Calculation

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

## Near Field Test Fixture Measurements

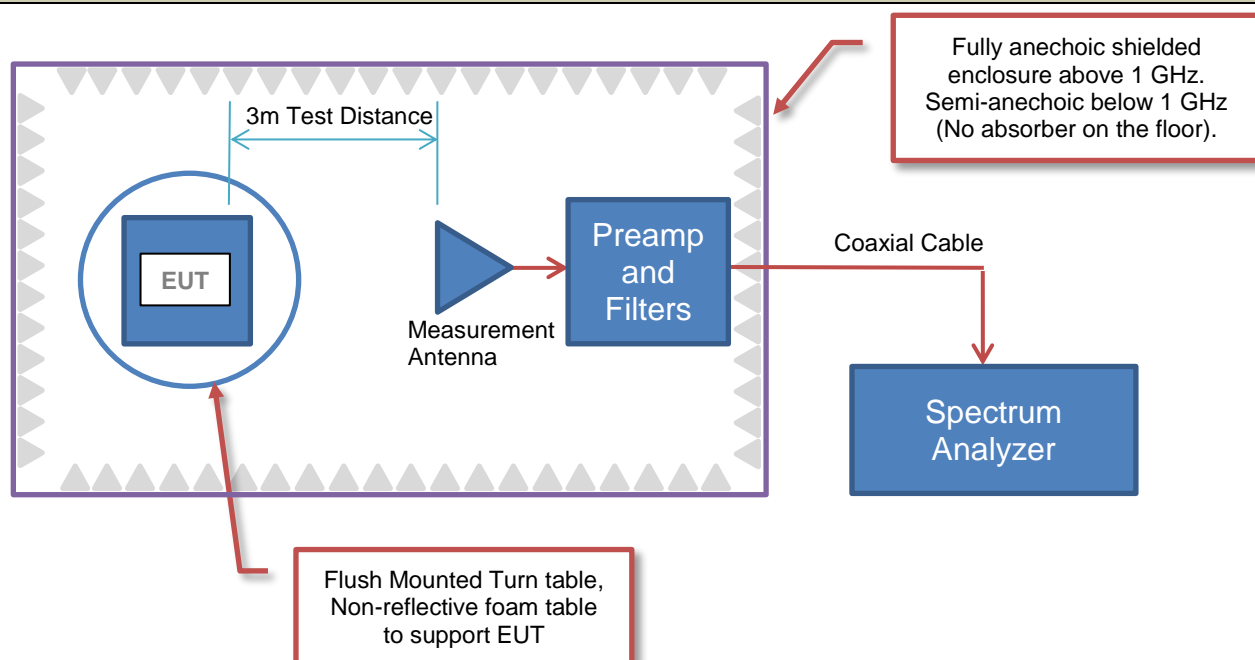


### Sample Calculation

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

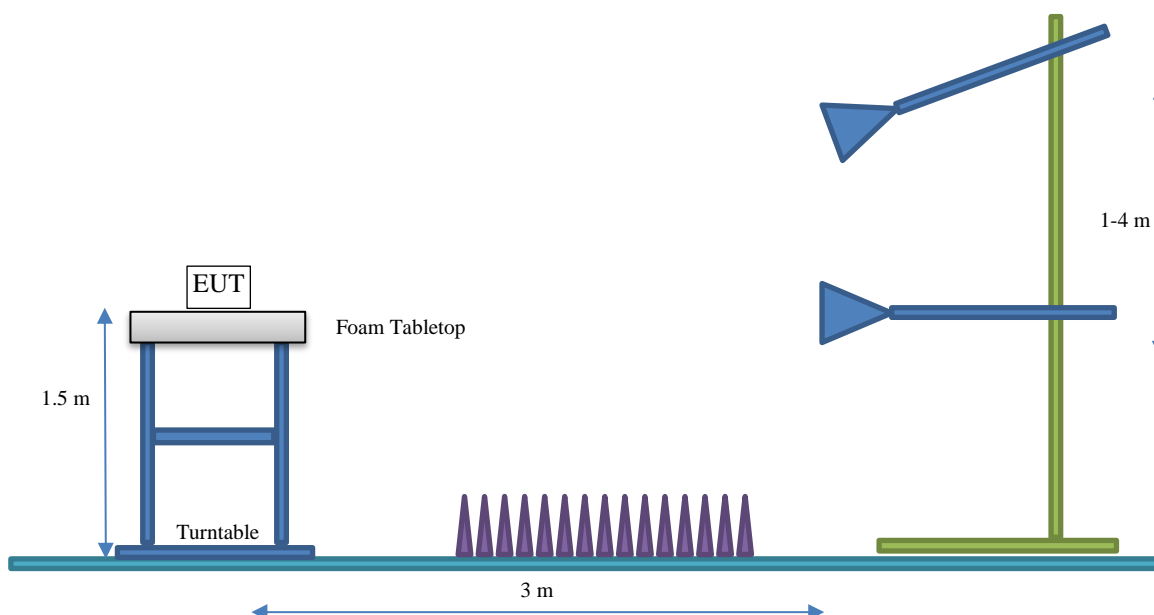
# TEST SETUP BLOCK DIAGRAMS

## Spurious Radiated Emissions



## 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:	Jeremiah Darden
EUT:	Gemini System (Charger)
First Date of Test:	September 20, 2021
Last Date of Test:	November 11, 2021
Receipt Date of Samples:	September 20, 2021
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT:

Medical system consisting of an Implantable device charger, controller and programmer. The implant and charger will use WPT and Bluetooth. The programmer and controller is an off the shelf Phone or Tablet.

### Testing Objective:

To demonstrate compliance of the Bluetooth Low Energy (DTS IPG) radio to FCC 15.247 requirements.

# CONFIGURATIONS

## Configuration ABBO0075- 56

Software/Firmware Running during test	
Description	Version
Charger FW	50

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Charger	Abbott Laboratories	16000/600165656 (90772688 Appendix G Item 2)	143711001538
AC to USB Adapter	Phihong	16720/600165636-01 Rev 2	JK707002220A2

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Type C to A (16710/600146439-01)	Yes	1m	No	AC to USB Adapter	Charger

## Configuration ABBO0075- 58

Software/Firmware Running during test	
Description	Version
Charger FW	90820561 Rev A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
AC to USB Adapter	Phihong	16720/600165636-01 Rev 2	JK707002220A2
Charger	Abbott Laboratories	16000/600165656 (90772688 Appendix G item 2)	144119001636

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Dell	Latitude	98JL8S2

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Type C to A (16710/600146439-01)	Yes	1m	No	AC to USB Adapter	Charger
FTDI Cable (USB to UART Adapter)	Yes	1.5m	No	Charger	Laptop

# CONFIGURATIONS



## Configuration ABBO0111- 3

Software/Firmware Running During Test	
Description	Version
Charger FW	90820561 rev A

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Charger	Abbott Laboratories	16000/600165656	143711001538
AC to USB Adapter	Phihong	16720/600165636-01 Rev 2	JK707002220A2

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Type C to A (16710/600146439-01)	Yes	1m	No	AC to USB Adapter	Charger

# 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 GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
SMD Chip Antenna	Johanson Technology Inc.	2400-2500	2.0

## POWER SETTINGS

Radio	Modulation	Channel	Power Setting (dBm)
BLE/GFSK	1 Mbps	Ch. 37 (2402 MHz)	0
	1 Mbps	Ch. 17 (2440 MHz)	0
	1 Mbps	Ch. 39 (2480 MHz)	0
	2 Mbps	Ch. 37 (2402 MHz)	0
	2 Mbps	Ch. 17 (2440 MHz)	0
	2 Mbps	Ch. 39 (2480 MHz)	0

# MODIFICATIONS

## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2021-09-20	Spurious Radiated 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.
2	2021-09-21	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.
3	2021-09-21	Output Power	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	2021-09-21	Equivalent Isotropic Radiated Power	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	2021-09-21	Power Spectral Density	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	2021-09-21	Band Edge Compliance	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	2021-09-21	Spurious 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.
8	2021-11-11	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

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	2021-08-06	2022-08-06
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HFC, TQU	TXAA	2021-01-26	2022-01-26
Receiver	Gauss Instruments	TDEMI 30M	ARL	2021-03-23	2022-03-23
Attenuator	Fairview Microwave	SA3N10W-20	TQU	NCR	NCR

## MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.1 dB	-3.1 dB

## CONFIGURATIONS INVESTIGATED

ABBO0111-3

## MODES INVESTIGATED

Transmitting BLE: Mid Ch 17 (2440 MHz). Power Setting = 0 dBm

# POWERLINE CONDUCTED EMISSIONS

EUT:	Gemini System (Charger)	Work Order:	ABBO0111
Serial Number:	143711001538	Date:	2021-11-11
Customer:	Abbott Laboratories	Temperature:	21.2°C
Attendees:	Jeremiah Darden	Relative Humidity:	49.7%
Customer Project:	None	Bar. Pressure (PMSL):	1021 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	ABBO0111-3

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2021	ANSI C63.10:2013

## TEST PARAMETERS

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

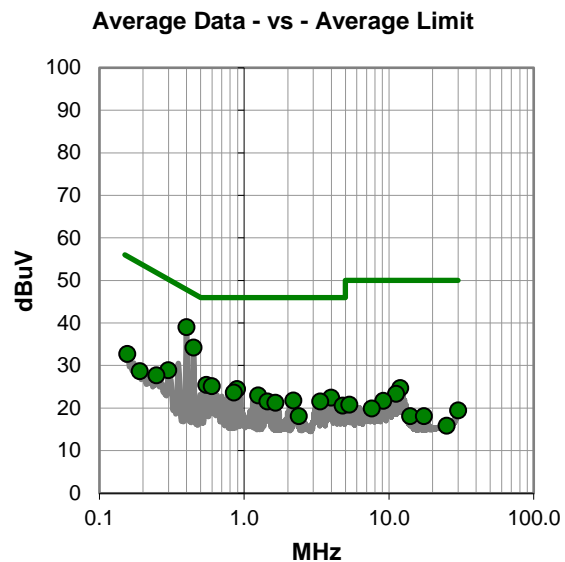
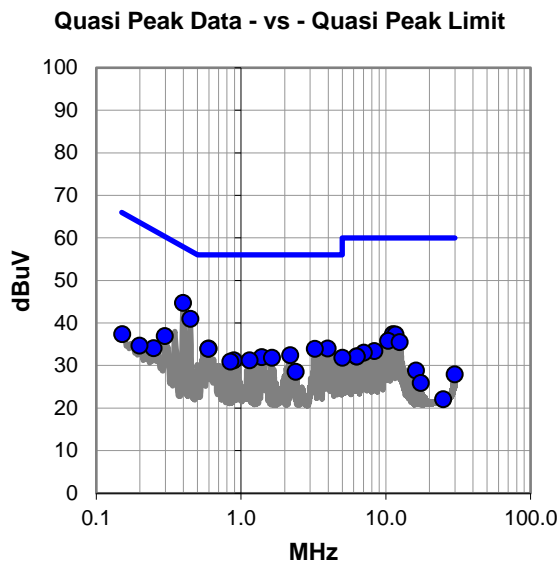
2 Mbps

## EUT OPERATING MODES

Transmitting BLE: Mid Ch 17 (2440 MHz). Power Setting = 0 dBm

## DEVIATIONS FROM TEST STANDARD

None





# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

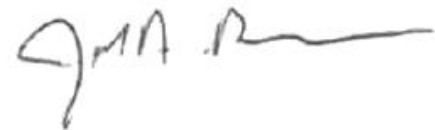
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.397	24.5	20.2	44.7	57.9	-13.2
0.446	20.8	20.2	41.0	56.9	-15.9
3.971	13.7	20.3	34.0	56.0	-22.0
0.597	13.8	20.2	34.0	56.0	-22.0
0.596	13.7	20.2	33.9	56.0	-22.1
3.228	13.6	20.3	33.9	56.0	-22.1
11.169	16.5	20.9	37.4	60.0	-22.6
11.662	16.4	20.9	37.3	60.0	-22.7
0.298	16.7	20.2	36.9	60.3	-23.4
2.184	12.1	20.3	32.4	56.0	-23.6
1.390	11.7	20.3	32.0	56.0	-24.0
1.639	11.5	20.3	31.8	56.0	-24.2
10.371	15.1	20.7	35.8	60.0	-24.2
12.457	14.5	21.0	35.5	60.0	-24.5
0.893	10.9	20.3	31.2	56.0	-24.8
1.143	11.0	20.2	31.2	56.0	-24.8
0.844	10.7	20.2	30.9	56.0	-25.1
8.337	12.8	20.6	33.4	60.0	-26.6
7.050	12.6	20.4	33.0	60.0	-27.0
2.384	8.2	20.3	28.5	56.0	-27.5
0.249	13.7	20.4	34.1	61.8	-27.7
6.253	11.7	20.4	32.1	60.0	-27.9
6.304	11.7	20.4	32.1	60.0	-27.9
5.011	11.5	20.3	31.8	60.0	-28.2
0.152	17.0	20.4	37.4	65.9	-28.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.400	18.8	20.2	39.0	47.8	-8.8
0.448	14.0	20.2	34.2	46.9	-12.7
0.547	5.3	20.2	25.5	46.0	-20.5
0.599	5.0	20.2	25.2	46.0	-20.8
0.300	8.7	20.2	28.9	50.3	-21.4
0.895	4.2	20.3	24.5	46.0	-21.5
0.847	3.5	20.2	23.7	46.0	-22.3
1.249	2.7	20.3	23.0	46.0	-23.0
0.156	12.3	20.4	32.7	55.7	-23.0
3.977	2.2	20.3	22.5	46.0	-23.5
0.248	7.3	20.4	27.7	51.8	-24.1
2.188	1.5	20.3	21.8	46.0	-24.2
1.445	1.3	20.3	21.6	46.0	-24.4
3.351	1.3	20.3	21.6	46.0	-24.4
1.644	1.0	20.3	21.3	46.0	-24.7
11.966	3.8	20.9	24.7	50.0	-25.3
4.778	0.3	20.3	20.6	46.0	-25.4
0.190	8.3	20.4	28.7	54.1	-25.4
11.169	2.5	20.9	23.4	50.0	-26.6
2.388	-2.2	20.3	18.1	46.0	-27.9
9.132	1.1	20.6	21.7	50.0	-28.3
5.315	0.5	20.3	20.8	50.0	-29.2
7.593	-0.6	20.5	19.9	50.0	-30.1
29.999	-3.1	22.6	19.5	50.0	-30.5
13.972	-3.0	21.1	18.1	50.0	-31.9

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	Gemini System (Charger)	Work Order:	ABBO0111
Serial Number:	143711001538	Date:	2021-11-11
Customer:	Abbott Laboratories	Temperature:	21.2°C
Attendees:	Jeremiah Darden	Relative Humidity:	49.7%
Customer Project:	None	Bar. Pressure (PMSL):	1021 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	ABBO0111-3

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2021	ANSI C63.10:2013

## TEST PARAMETERS

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

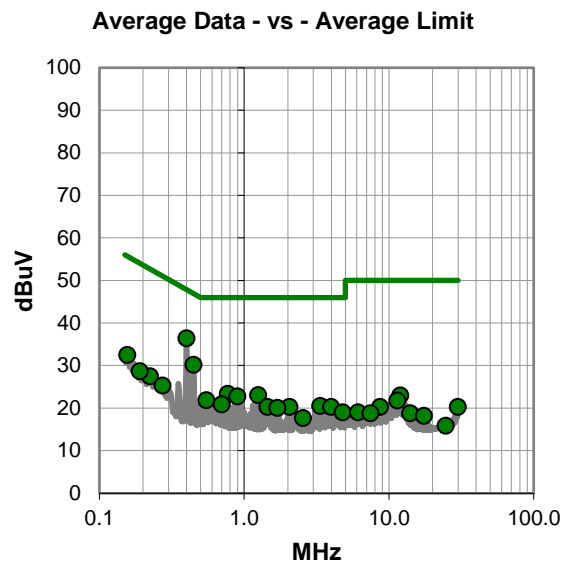
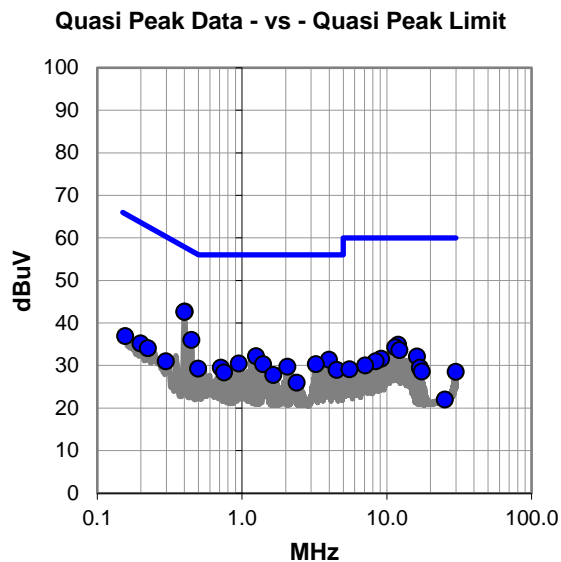
2 Mbps

## EUT OPERATING MODES

Transmitting BLE: Mid Ch 17 (2440 MHz). Power Setting = 0 dBm

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

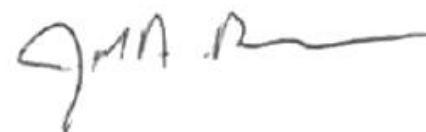
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.402	22.5	20.2	42.7	57.8	-15.1
0.400	22.4	20.2	42.6	57.8	-15.2
0.448	15.8	20.2	36.0	56.9	-20.9
1.252	11.9	20.3	32.2	56.0	-23.8
3.981	11.1	20.3	31.4	56.0	-24.6
11.944	14.0	20.9	34.9	60.0	-25.1
0.946	10.2	20.3	30.5	56.0	-25.5
1.394	10.0	20.3	30.3	56.0	-25.7
3.235	10.0	20.3	30.3	56.0	-25.7
11.397	13.4	20.9	34.3	60.0	-25.7
2.054	9.4	20.3	29.7	56.0	-26.3
12.193	12.7	20.9	33.6	60.0	-26.4
0.715	9.3	20.2	29.5	56.0	-26.5
0.498	9.1	20.2	29.3	56.0	-26.7
4.512	8.7	20.3	29.0	56.0	-27.0
0.753	8.2	20.2	28.4	56.0	-27.6
16.122	10.7	21.4	32.1	60.0	-27.9
1.642	7.5	20.3	27.8	56.0	-28.2
9.108	11.0	20.6	31.6	60.0	-28.4
0.199	14.8	20.4	35.2	63.7	-28.5
0.223	13.7	20.4	34.1	62.7	-28.6
0.156	16.5	20.4	36.9	65.7	-28.8
8.362	10.4	20.6	31.0	60.0	-29.0
0.298	10.8	20.2	31.0	60.3	-29.3
7.066	9.5	20.5	30.0	60.0	-30.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.400	16.2	20.2	36.4	47.8	-11.4
0.448	10.0	20.2	30.2	46.9	-16.7
0.771	3.2	20.2	23.4	46.0	-22.6
1.250	2.8	20.3	23.1	46.0	-22.9
0.896	2.5	20.3	22.8	46.0	-23.2
0.156	12.1	20.4	32.5	55.7	-23.2
0.548	1.7	20.2	21.9	46.0	-24.1
0.699	0.7	20.2	20.9	46.0	-25.1
0.223	7.1	20.4	27.5	52.7	-25.2
0.190	8.3	20.4	28.7	54.1	-25.4
3.351	0.2	20.3	20.5	46.0	-25.5
1.447	0.0	20.3	20.3	46.0	-25.7
2.054	0.0	20.3	20.3	46.0	-25.7
3.980	0.0	20.3	20.3	46.0	-25.7
0.272	4.9	20.4	25.3	51.1	-25.8
1.697	-0.2	20.3	20.1	46.0	-25.9
11.967	2.1	20.9	23.0	50.0	-27.0
4.778	-1.3	20.3	19.0	46.0	-27.0
11.395	0.9	20.9	21.8	50.0	-28.2
2.547	-2.6	20.3	17.7	46.0	-28.3
8.662	-0.3	20.6	20.3	50.0	-29.7
29.938	-2.3	22.6	20.3	50.0	-29.7
6.122	-1.4	20.4	19.0	50.0	-31.0
7.463	-1.7	20.5	18.8	50.0	-31.2
13.972	-2.3	21.1	18.8	50.0	-31.2

## CONCLUSION

Pass



Tested By

# DUTY CYCLE



## TEST DESCRIPTION

---

The Duty Cycle (x) were measured for each of the EUT operating modes. The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

The EUT operates at 100% Duty Cycle.

# OCCUPIED BANDWIDTH



XMI 2020.12.30.0

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION


The EUT was set to the channels and modes listed in the datasheet.

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.

# OCCUPIED BANDWIDTH



ThxTx 2021.03.19.1 XMit 2020.12.30.0

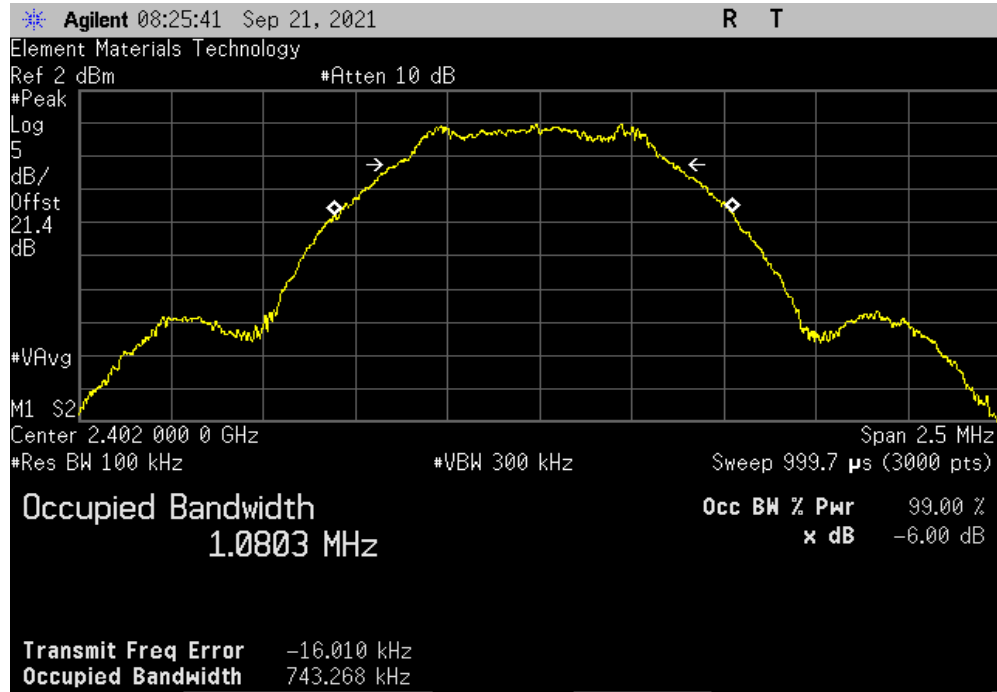
EUT: Gemini System (Charger)		Work Order: ABBO0075	
Serial Number: 144119001636		Date: 21-Sep-21	
Customer: Abbott Laboratories		Temperature: 20.4 °C	
Attendees: Jeremiah Darden		Humidity: 51.7% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Mark Baytan		Power: 110VAC/60Hz	
		Job Site: TX02	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2021		ANSI C63.10:2013	
COMMENTS			
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	58	Signature 	
		Value	Limit (±) Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		743.268 kHz	500 kHz Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		707.625 kHz	500 kHz Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		696.987 kHz	500 kHz Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		1.294 MHz	500 kHz Pass
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		1.21 MHz	500 kHz Pass
BLE/GFSK 2 Mbps High Channel, 2480 MHz		1.221 MHz	500 kHz Pass

# OCCUPIED BANDWIDTH

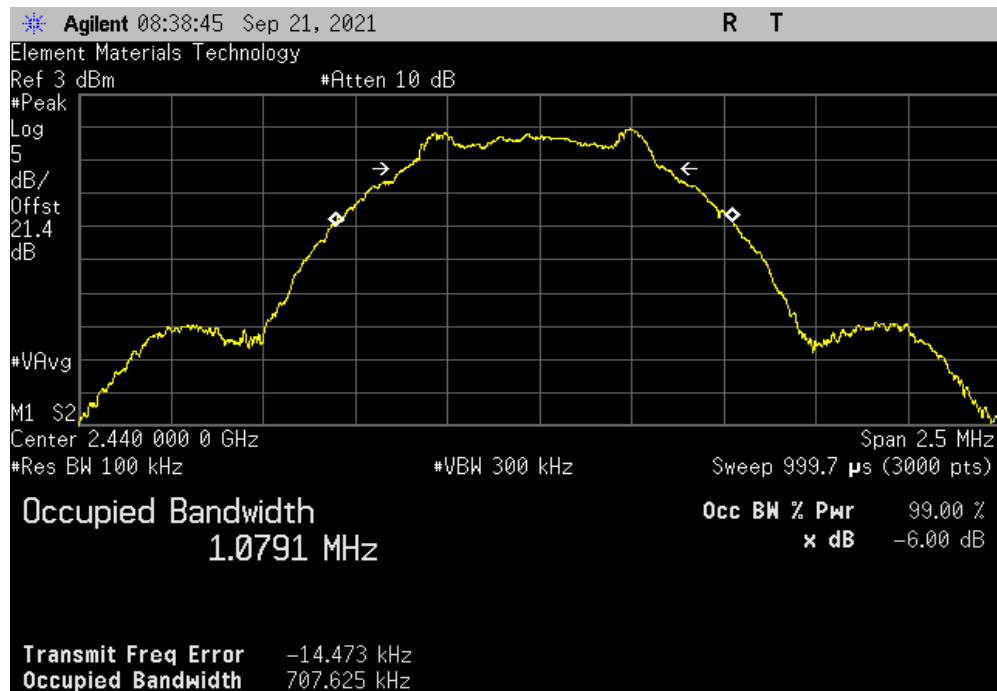


TuTx 2021.03.19.1 XM8 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Value	Limit (≥)	Result
				743.268 kHz	500 kHz	Pass



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
				Value	Limit (≥)	Result
				707.625 kHz	500 kHz	Pass



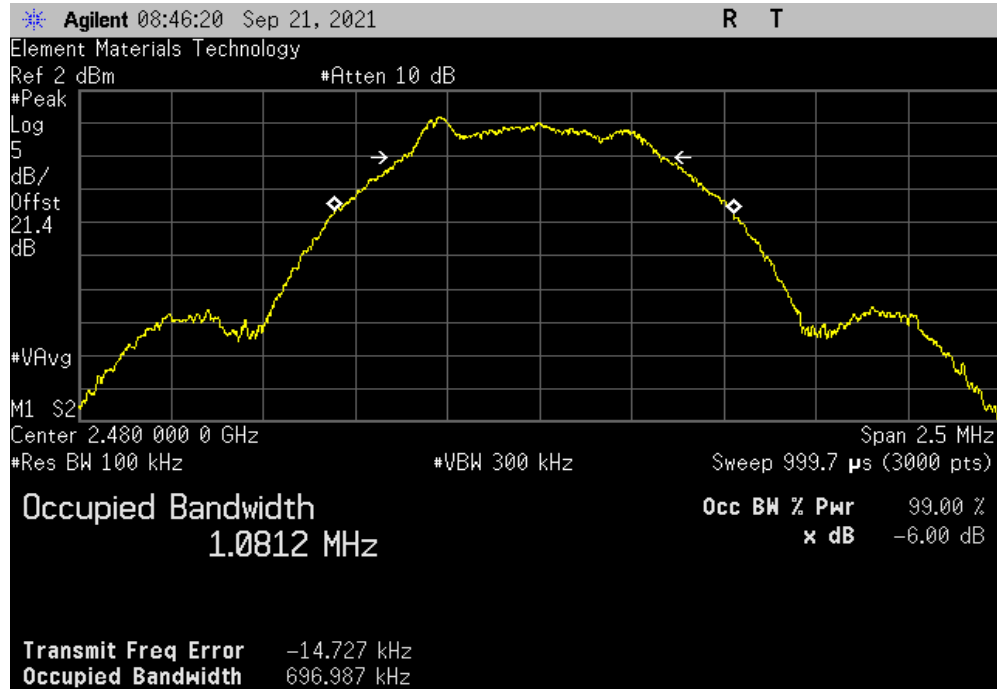


# OCCUPIED BANDWIDTH

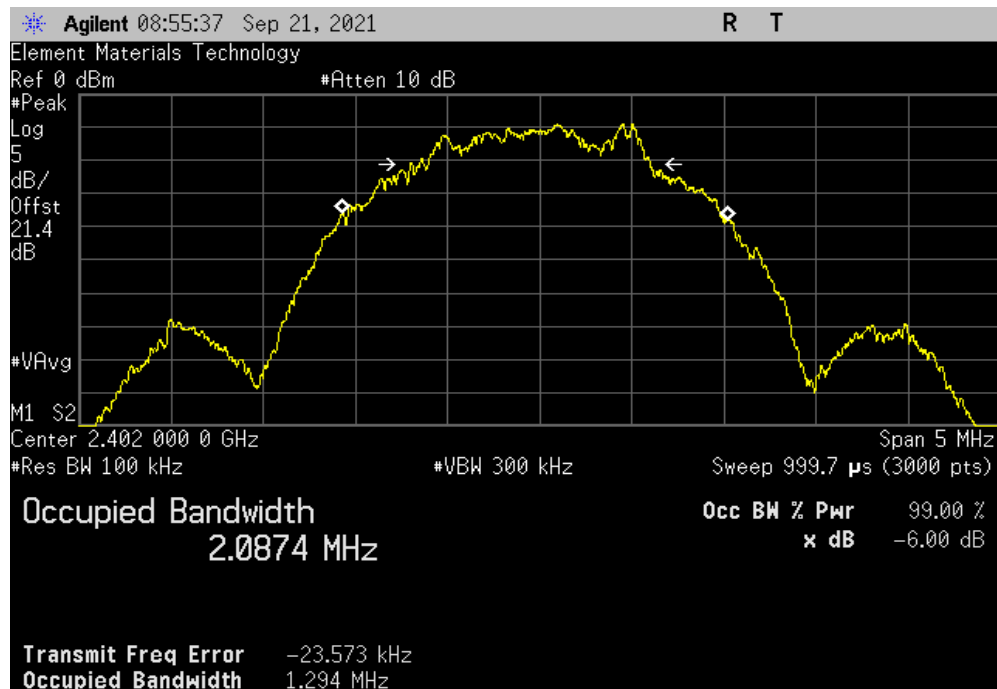


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Value	Limit (≥)	Result
				696.987 kHz	500 kHz	Pass



BLE/GFSK 2 Mbps Low Channel, 2402 MHz						
				Value	Limit (≥)	Result
				1.294 MHz	500 kHz	Pass

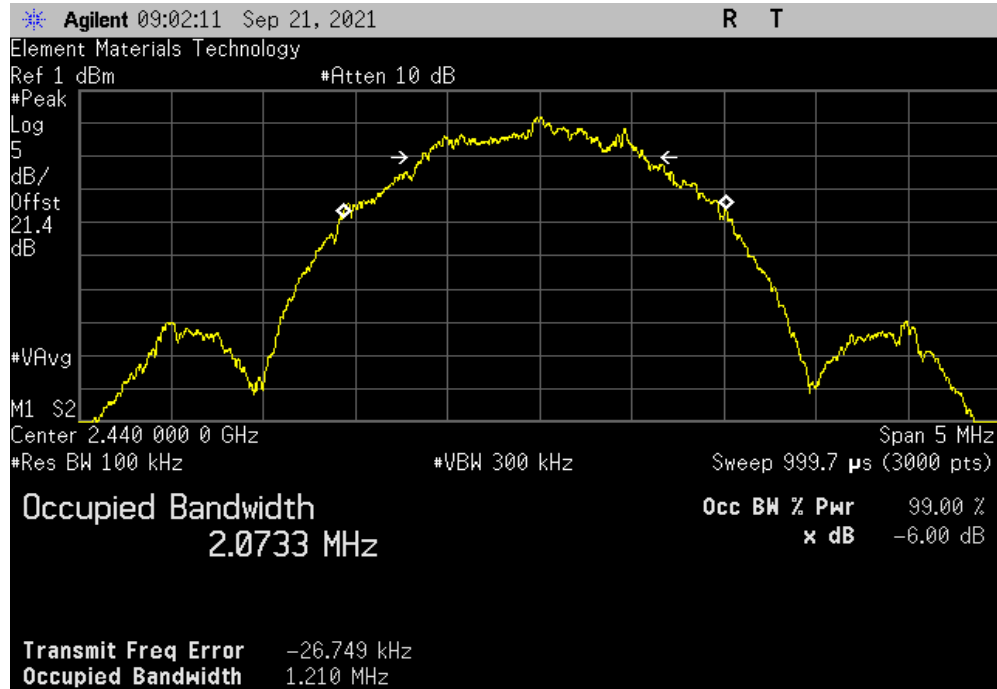


# OCCUPIED BANDWIDTH

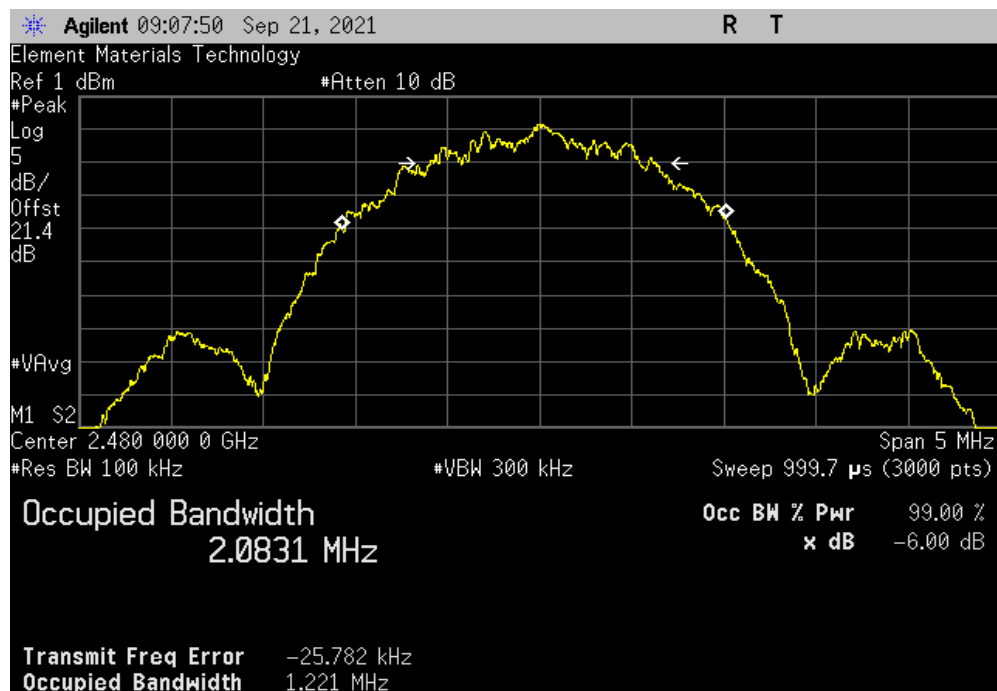


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
				Value	Limit (≥)	Result
				1.21 MHz	500 kHz	Pass



BLE/GFSK 2 Mbps High Channel, 2480 MHz						
				Value	Limit (≥)	Result
				1.221 MHz	500 kHz	Pass



# OUTPUT POWER



XMR 2020.12.30.0

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.


Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

# OUTPUT POWER



TstTx 2021.03.19.1 XMI 2020.12.30.0

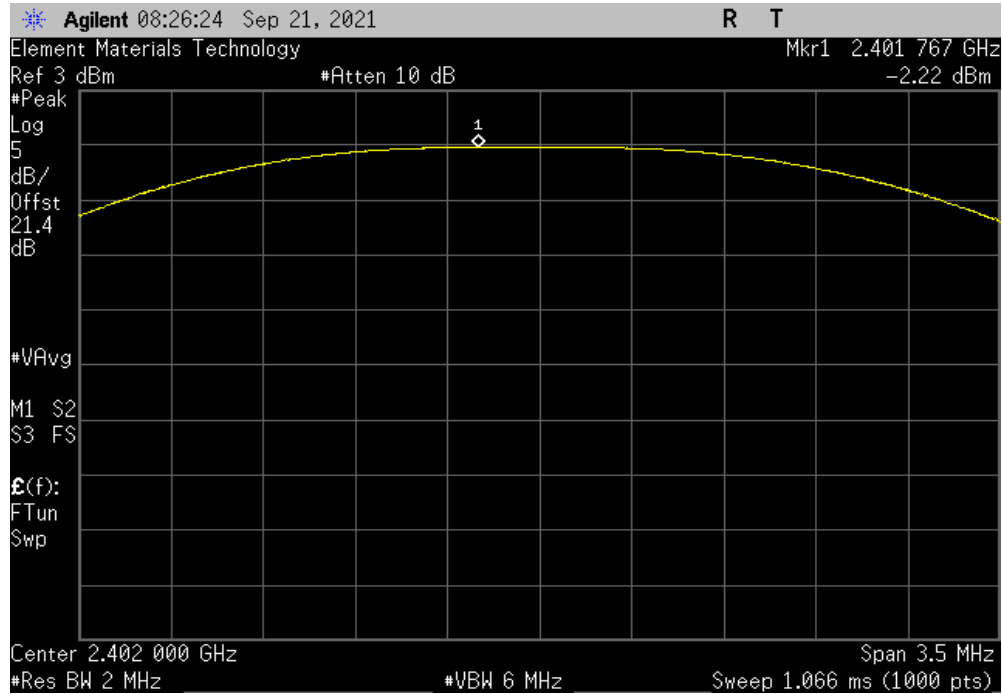
EUT: Gemini System (Charger)		Work Order: ABBO0075	
Serial Number: 144119001636		Date: 21-Sep-21	
Customer: Abbott Laboratories		Temperature: 21.1 °C	
Attendees: Jeremiah Darden		Humidity: 50.8% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Mark Baytan	Power: 110VAC/60Hz	Job Site: TX02	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2021		ANSI C63.10:2013	
COMMENTS			
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	58	Signature 	
		Out Pwr (dBm)	Limit (dBm) Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		-2.22	30 Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		-2.07	30 Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		-2.064	30 Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		-2.192	30 Pass
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		-2.021	30 Pass
BLE/GFSK 2 Mbps High Channel, 2480 MHz		-1.994	30 Pass

# OUTPUT POWER

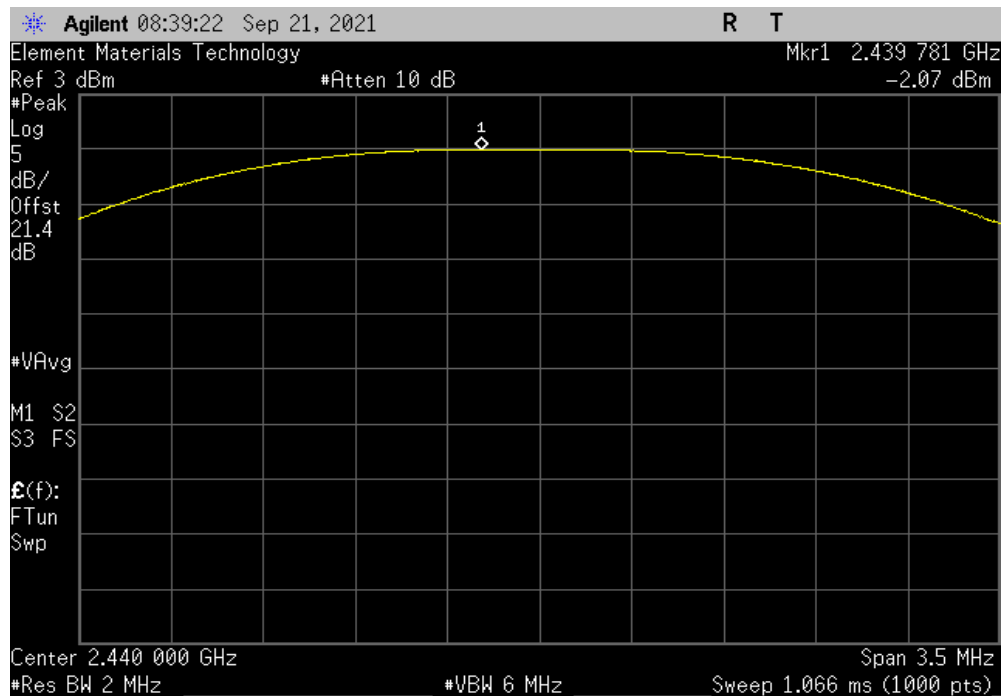


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-2.22	30	Pass



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-2.07	30	Pass

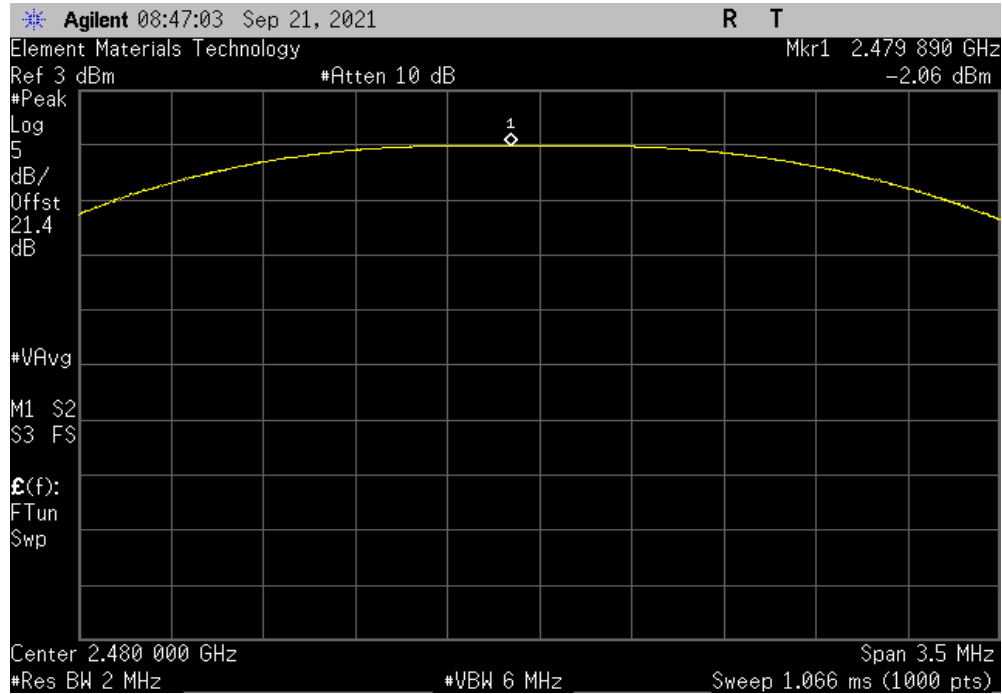


# OUTPUT POWER

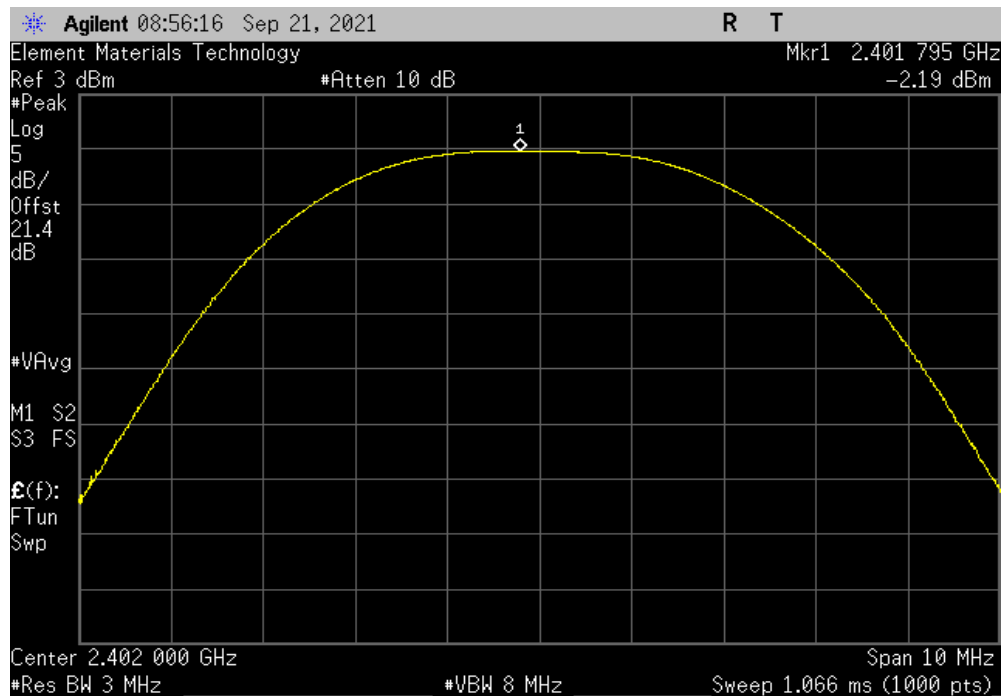


TuTx 2021.03.19.1 XM8 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-2.064	30	Pass



BLE/GFSK 2 Mbps Low Channel, 2402 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-2.192	30	Pass

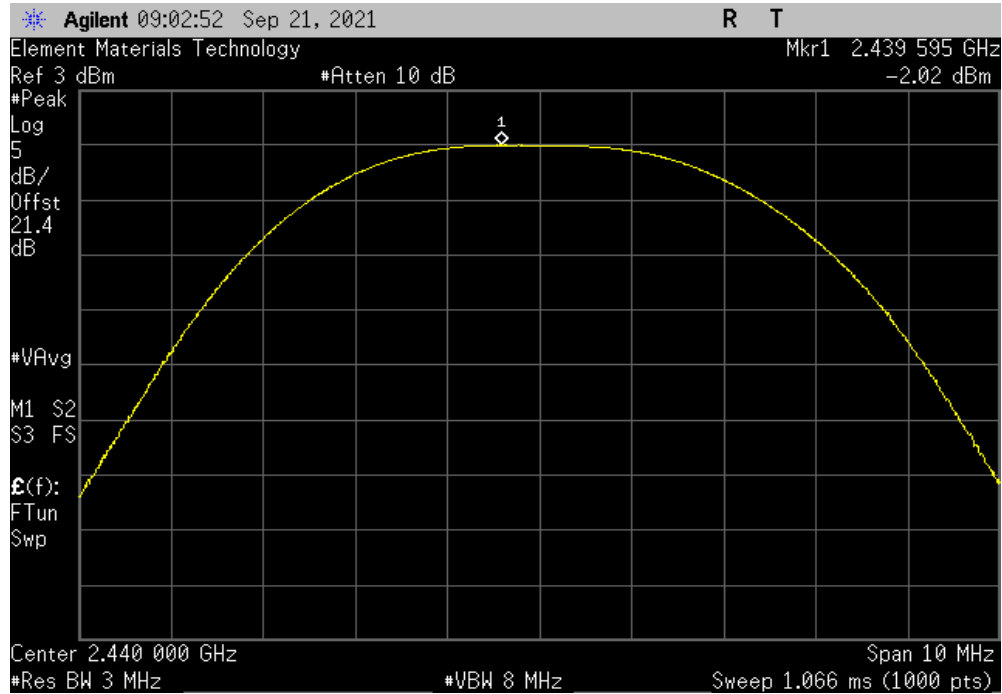


# OUTPUT POWER

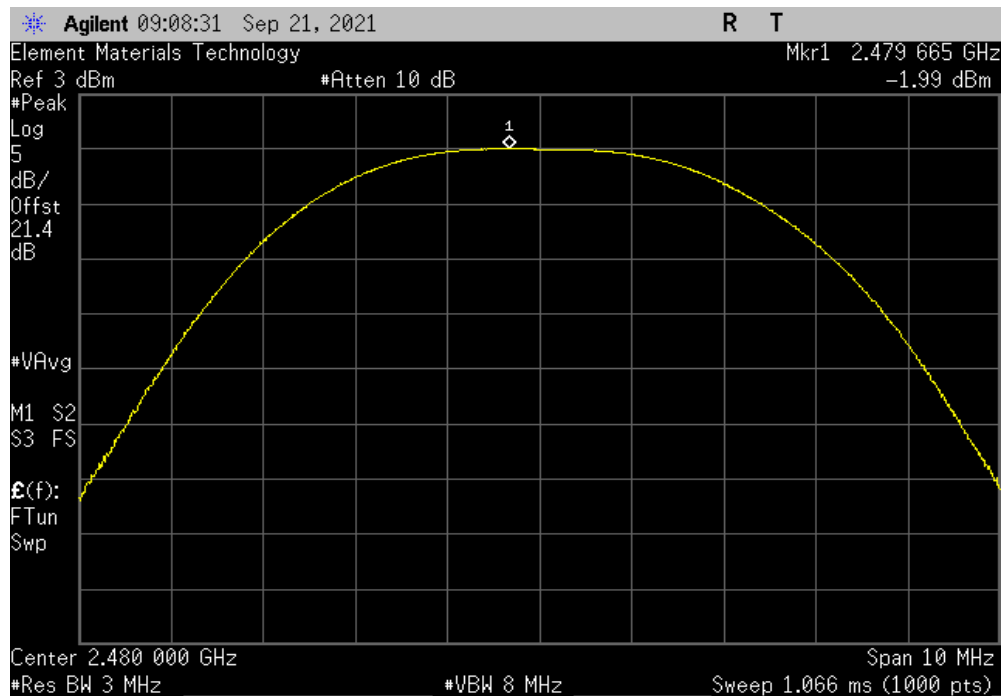


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-2.021	30	Pass



BLE/GFSK 2 Mbps High Channel, 2480 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-1.994	30	Pass





# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



XMit 2020.12.30.0

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.


The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TstTx 2021.03.19.1 XMI 2020.12.30.0

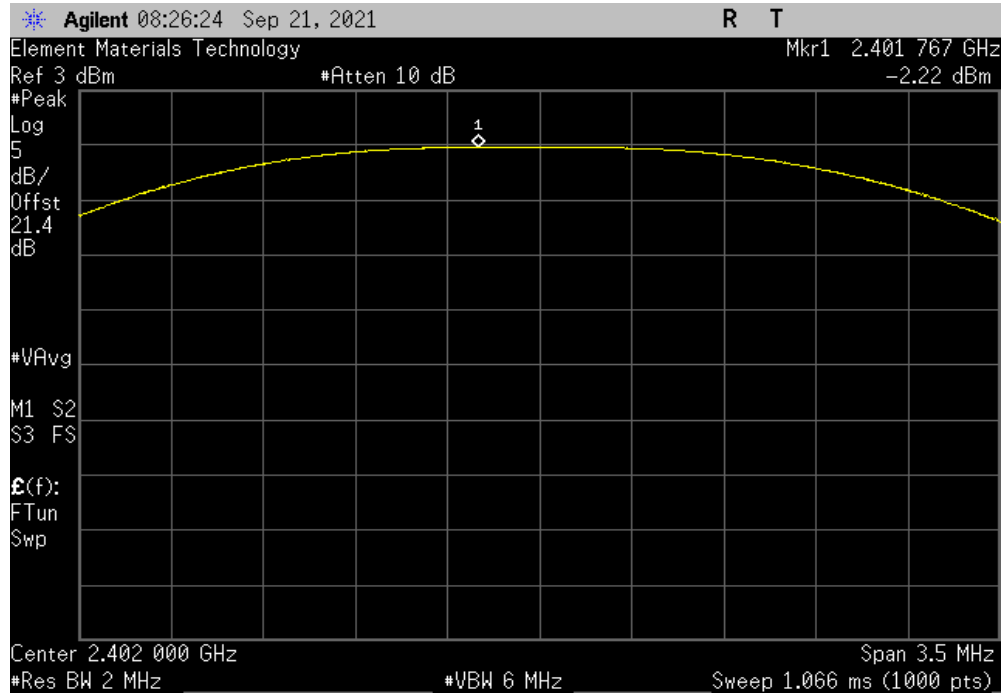
EUT: Gemini System (Charger)		Work Order: ABBO0075	
Serial Number: 144119001636		Date: 21-Sep-21	
Customer: Abbott Laboratories		Temperature: 21.8 °C	
Attendees: Jeremiah Darden		Humidity: 48.9% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Mark Baytan	Power: 110VAC/60Hz	Job Site: TX02	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2021		ANSI C63.10:2013	
COMMENTS			
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	58	Signature 	
		Out Pwr (dBm)	Antenna Gain (dBi)
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		-2.22	2
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		-2.07	2
BLE/GFSK 1 Mbps High Channel, 2480 MHz		-2.064	2
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		-2.192	2
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		-2.021	2
BLE/GFSK 2 Mbps High Channel, 2480 MHz		-1.994	2
		EIRP (dBm)	EIRP Limit (dBm)
		-0.22	36
		-0.07	36
		-0.064	36
		-0.192	36
		-0.021	36
		0.006	36
			Result
			Pass
			Pass
			Pass
			Pass
			Pass
			Pass

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

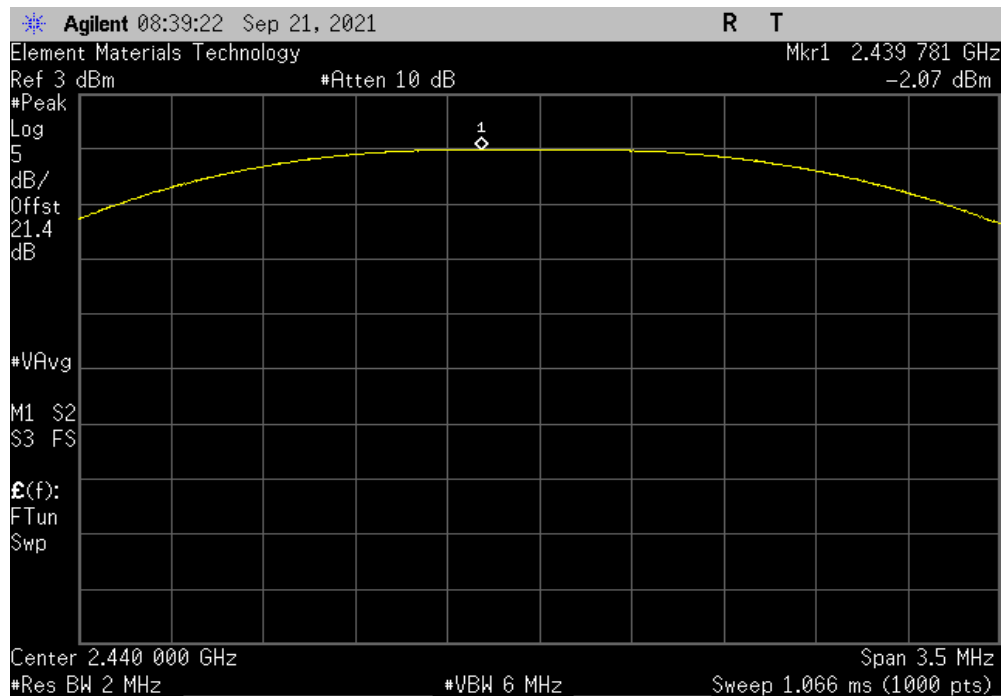


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-2.22	2	-0.22	36	Pass	



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-2.07	2	-0.07	36	Pass	

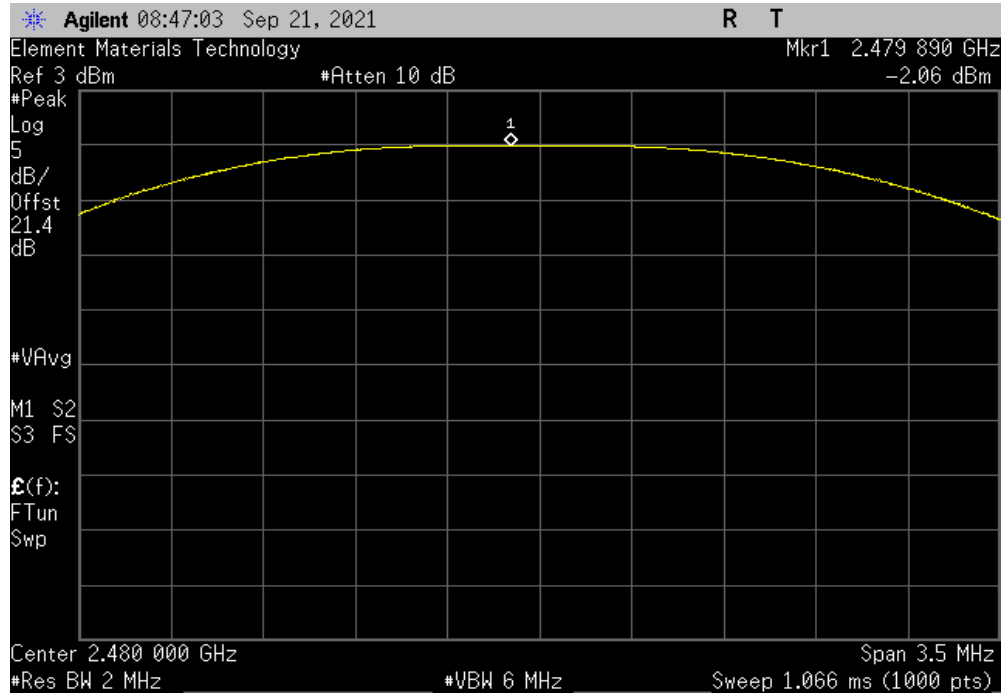


# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

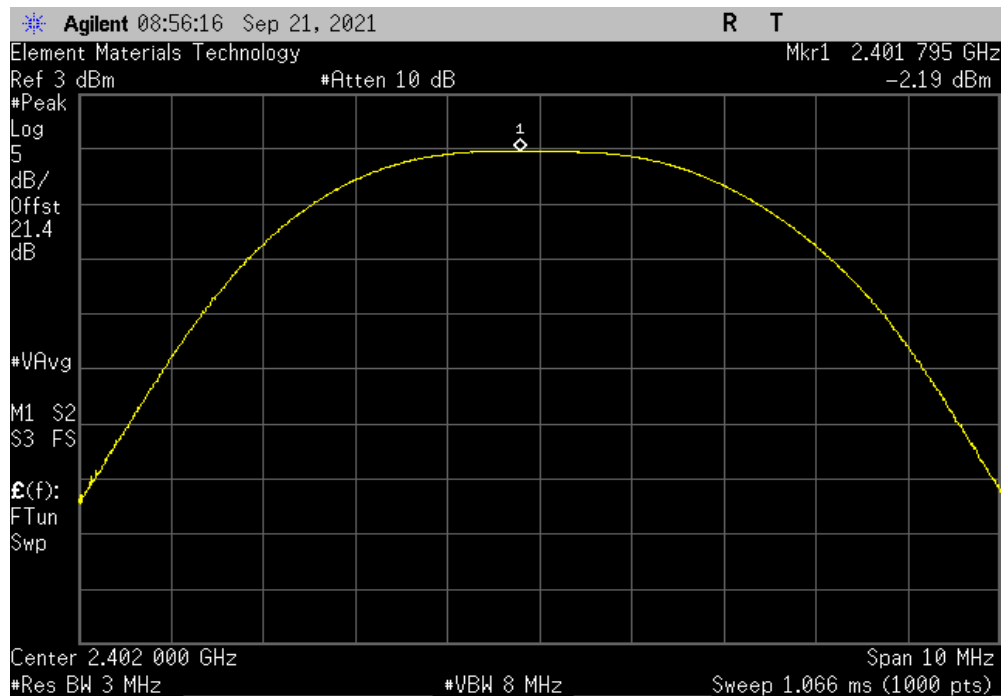


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-2.064	2	-0.064	36	Pass	



BLE/GFSK 2 Mbps Low Channel, 2402 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-2.192	2	-0.192	36	Pass	

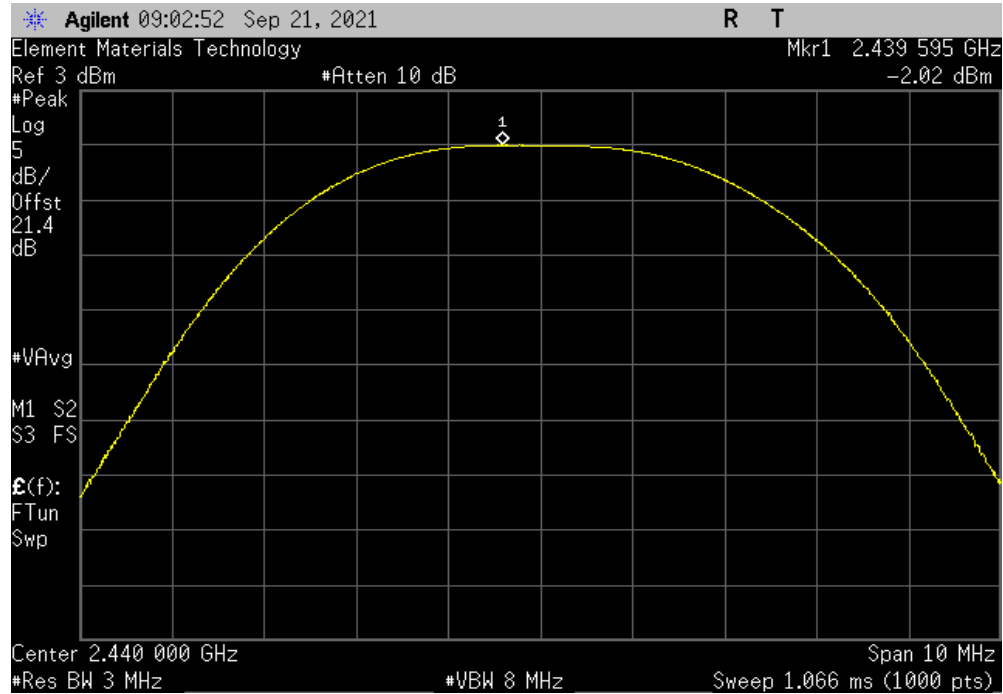


# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

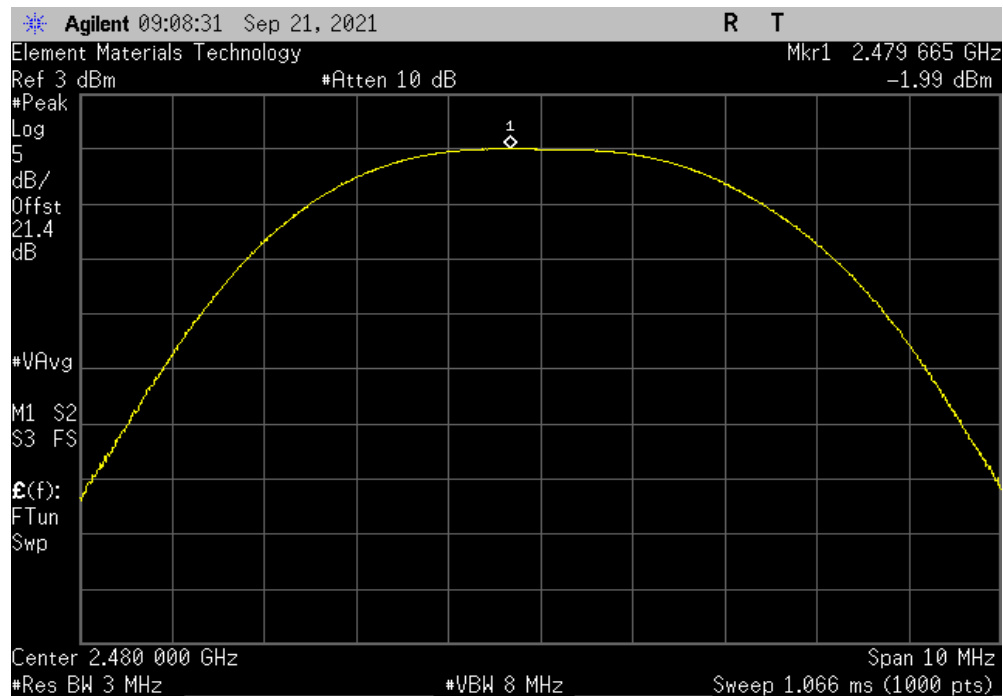


TuTx 2021.03.19.1 XM8 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-2.021	2	-0.021	36	Pass	



BLE/GFSK 2 Mbps High Channel, 2480 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-1.994	2	0.006	36	Pass	



# POWER SPECTRAL DENSITY



XMIT 2020.12.30.0

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION


The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

# POWER SPECTRAL DENSITY



TstTx 2021.03.19.1 XMI 2020.12.30.0

EUT: Gemini System (Charger)		Work Order: ABBO0075	
Serial Number: 144119001636		Date: 21-Sep-21	
Customer: Abbott Laboratories		Temperature: 21.5 °C	
Attendees: Jeremiah Darden		Humidity: 49.2% RH	
Project: None		Barometric Pres.: 1015 mbar	
Tested by: Mark Baytan	Power: 110VAC/60Hz	Job Site: TX02	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2021		ANSI C63.10:2013	
COMMENTS			
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	58	Signature 	
		Value dBm/3kHz	Limit < dBm/3kHz
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		-14.528	8
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		-14.259	8
BLE/GFSK 1 Mbps High Channel, 2480 MHz		-14.504	8
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		-17.534	8
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		-17.229	8
BLE/GFSK 2 Mbps High Channel, 2480 MHz		-16.746	8
			Results
			Pass
			Pass
			Pass
			Pass
			Pass
			Pass

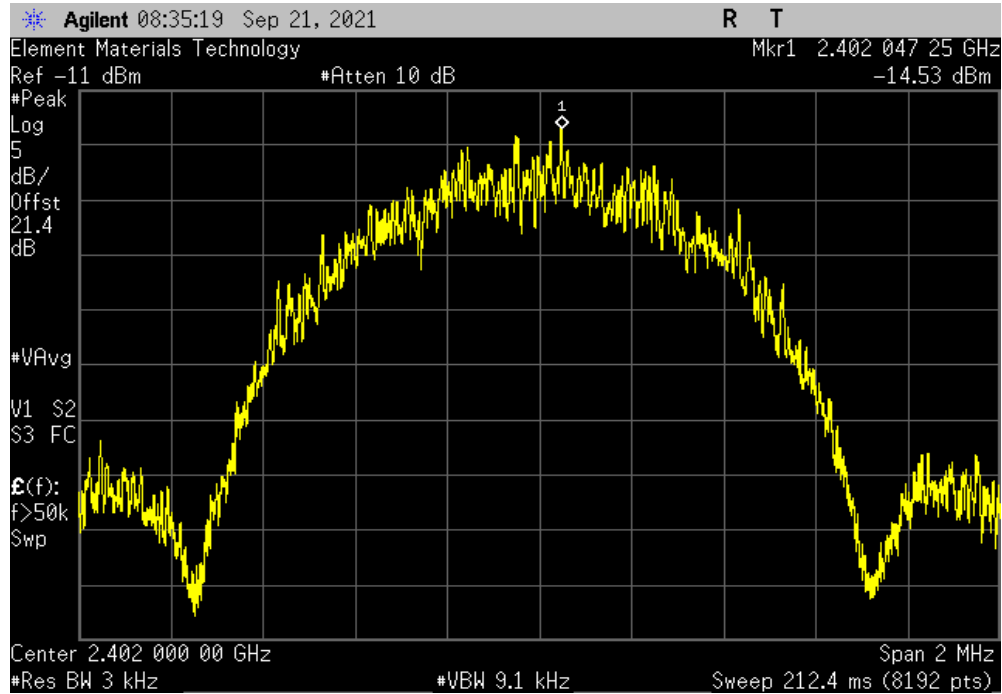


# POWER SPECTRAL DENSITY

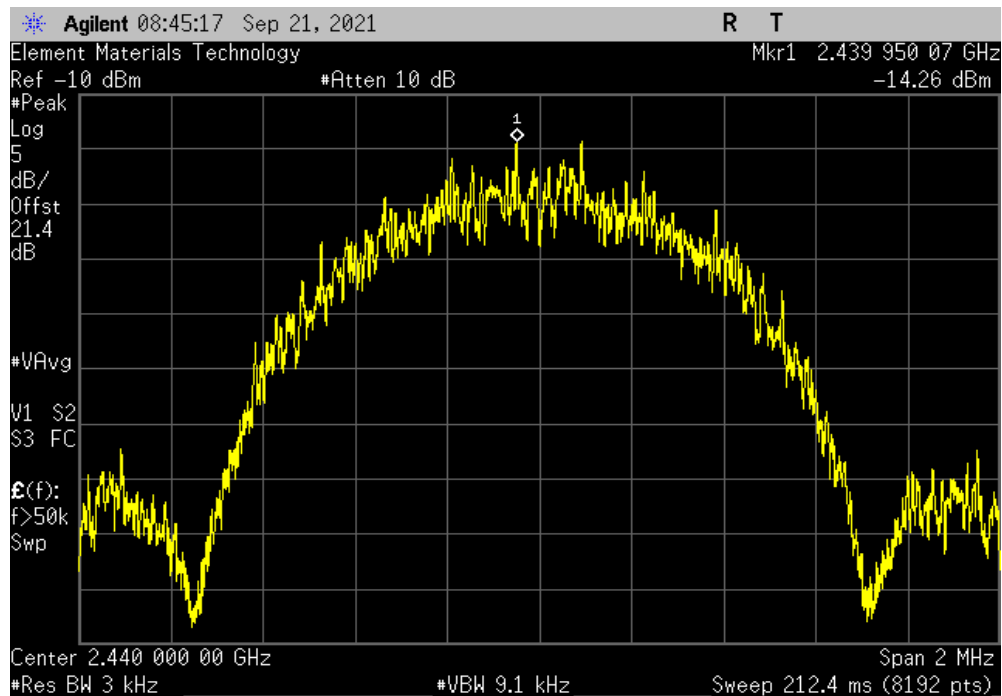


TbTx 2021.03.19.1 XM8 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-14.528	8	Pass			



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-14.259	8	Pass			

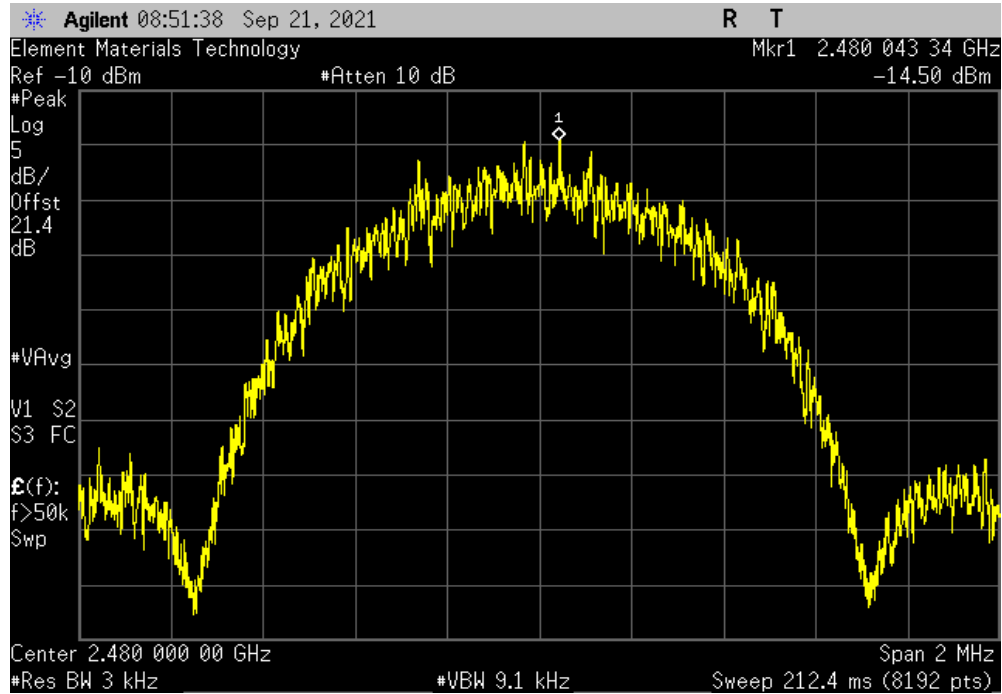


# POWER SPECTRAL DENSITY

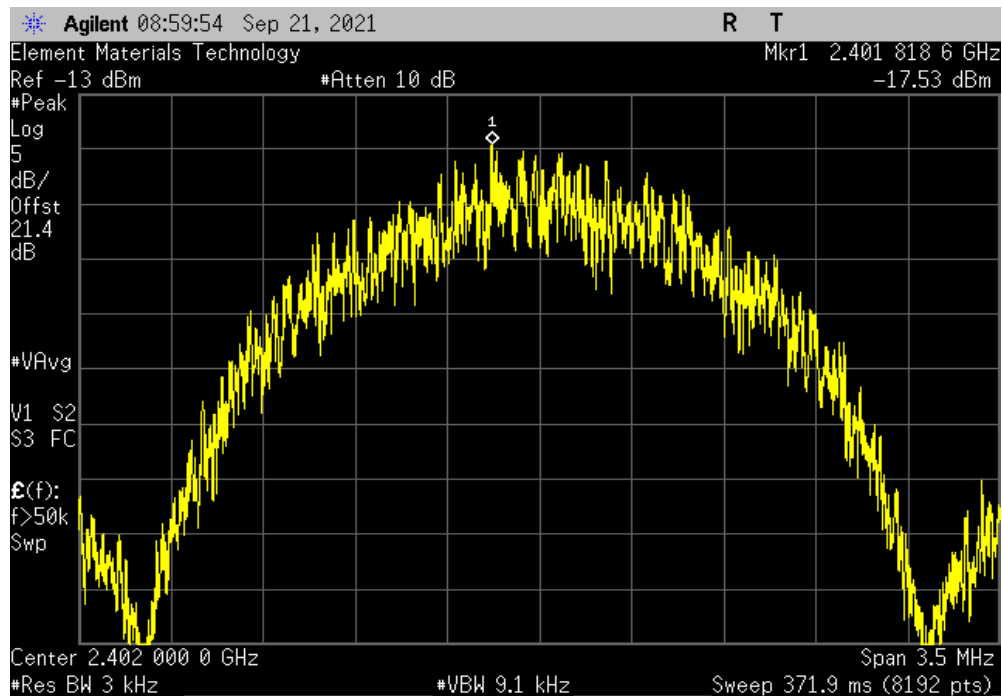


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-14.504	8	Pass			



BLE/GFSK 2 Mbps Low Channel, 2402 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-17.534	8	Pass			

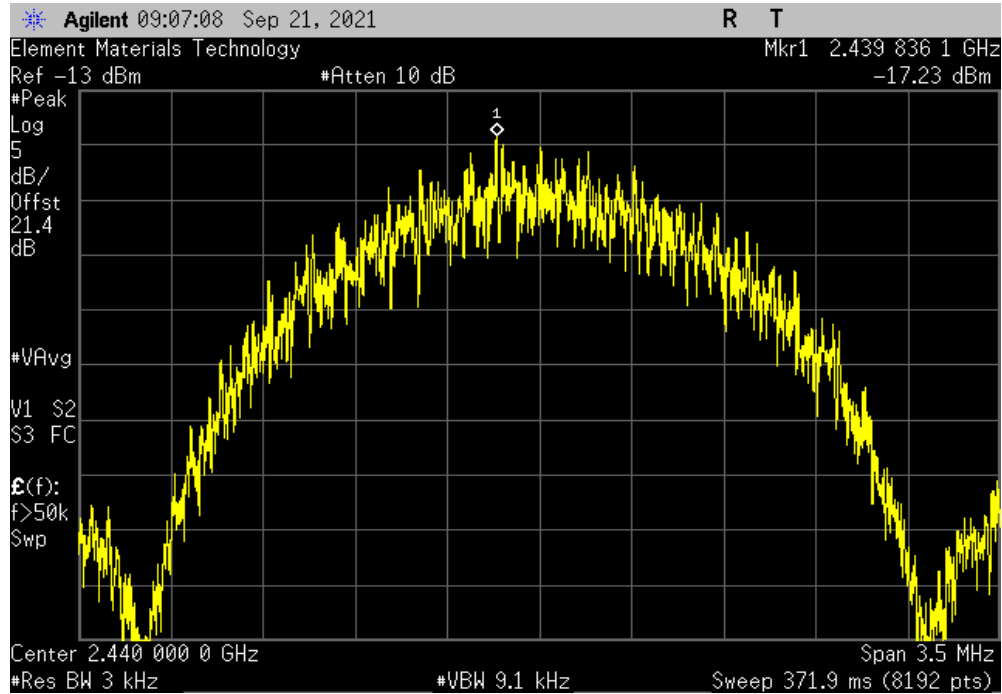


# POWER SPECTRAL DENSITY

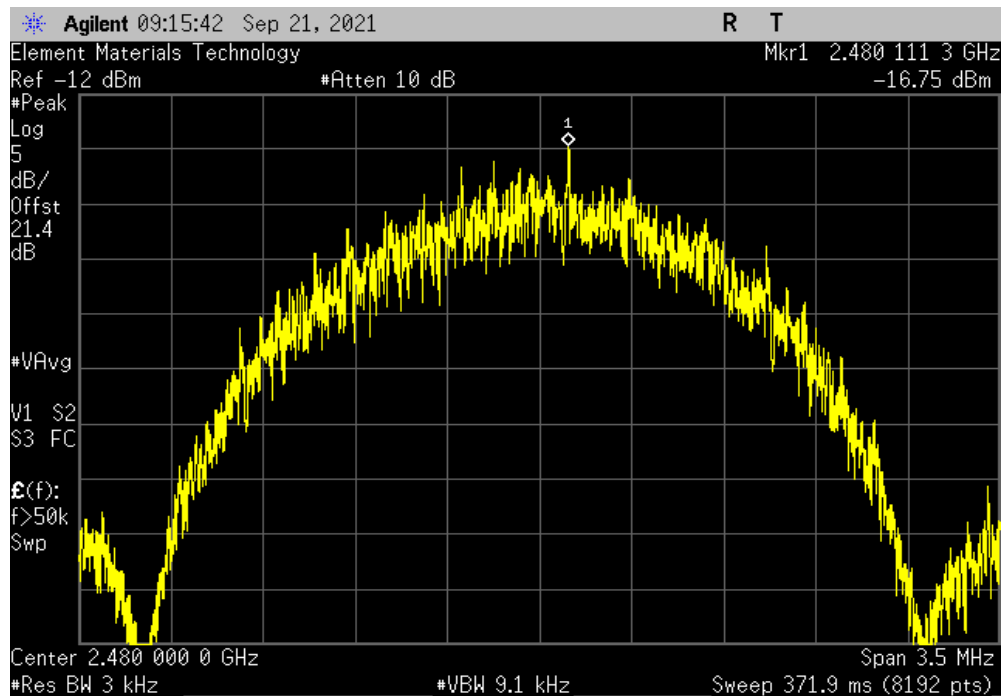


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-17.229	8	Pass			



BLE/GFSK 2 Mbps High Channel, 2480 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-16.746	8	Pass			



# BAND EDGE COMPLIANCE



element

XMIT 2020.12.30.0

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION


The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

# BAND EDGE COMPLIANCE



TstTx 2021.03.19.1 XMR 2020.12.30.0

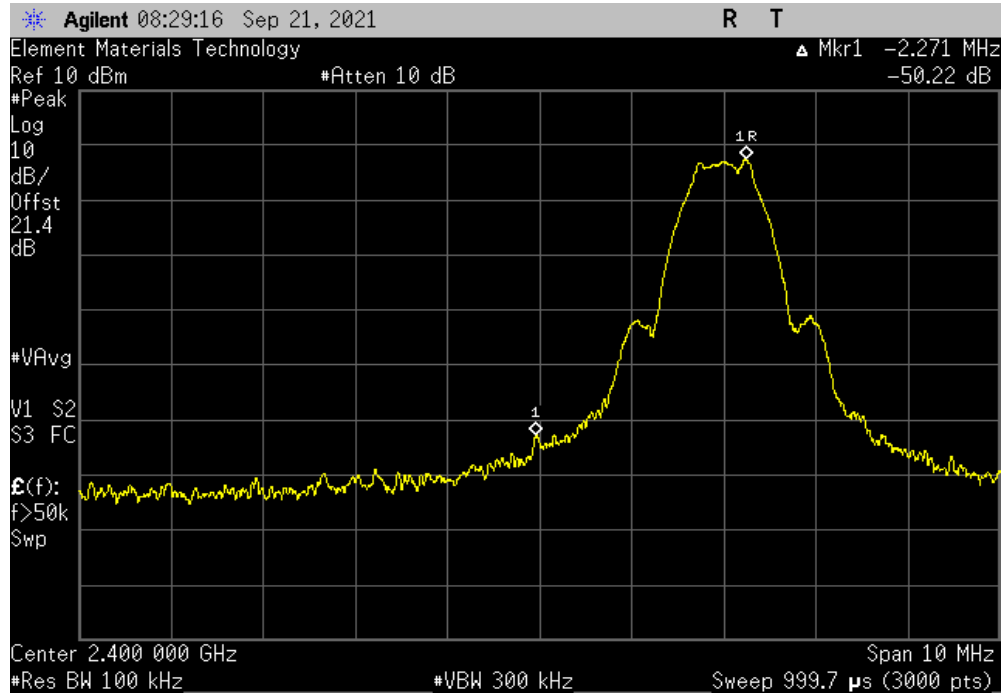
EUT: Gemini System (Charger)		Work Order: ABBO0075	
Serial Number: 144119001636		Date: 21-Sep-21	
Customer: Abbott Laboratories		Temperature: 21 °C	
Attendees: Jeremiah Darden		Humidity: 49.8% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Mark Baytan	Power: 110VAC/60Hz	Job Site: TX02	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2021		ANSI C63.10:2013	
COMMENTS			
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	58	Signature 	
		Value (dBc)	Limit ≤ (dBc) Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		-50.22	-20 Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		-57.47	-20 Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		-31.19	-20 Pass
BLE/GFSK 2 Mbps High Channel, 2480 MHz		-52.5	-20 Pass

# BAND EDGE COMPLIANCE

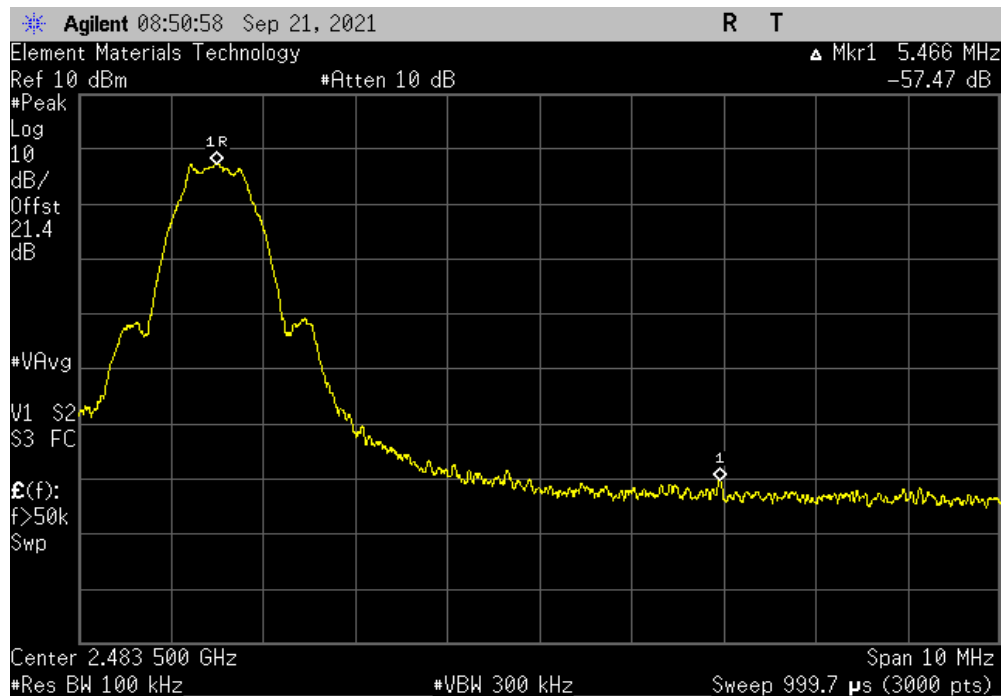


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.22	-20	Pass



BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-57.47	-20	Pass

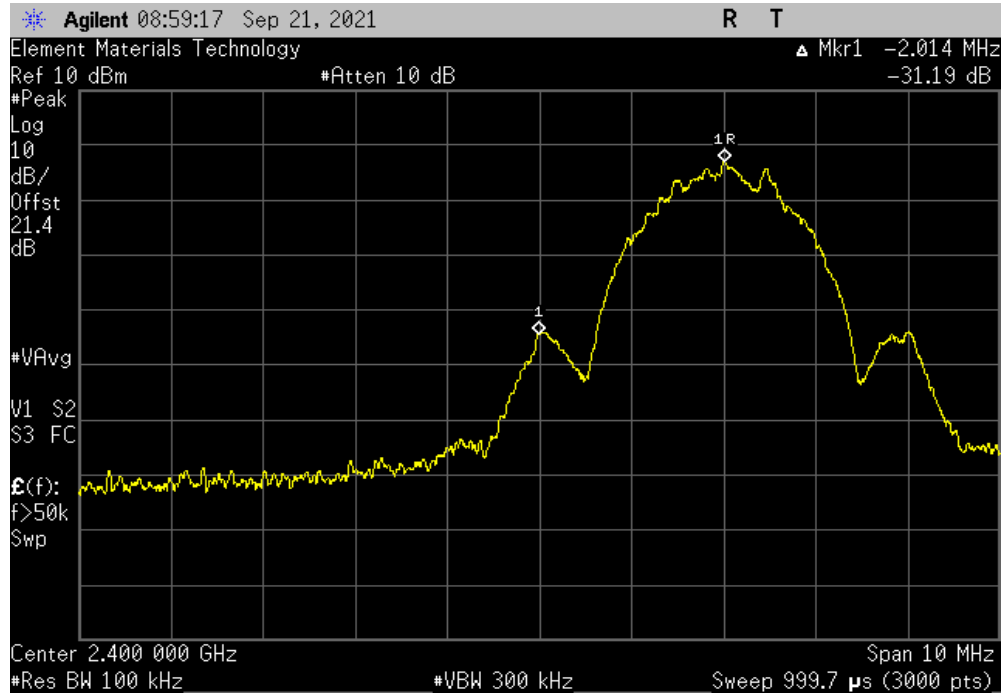


# BAND EDGE COMPLIANCE

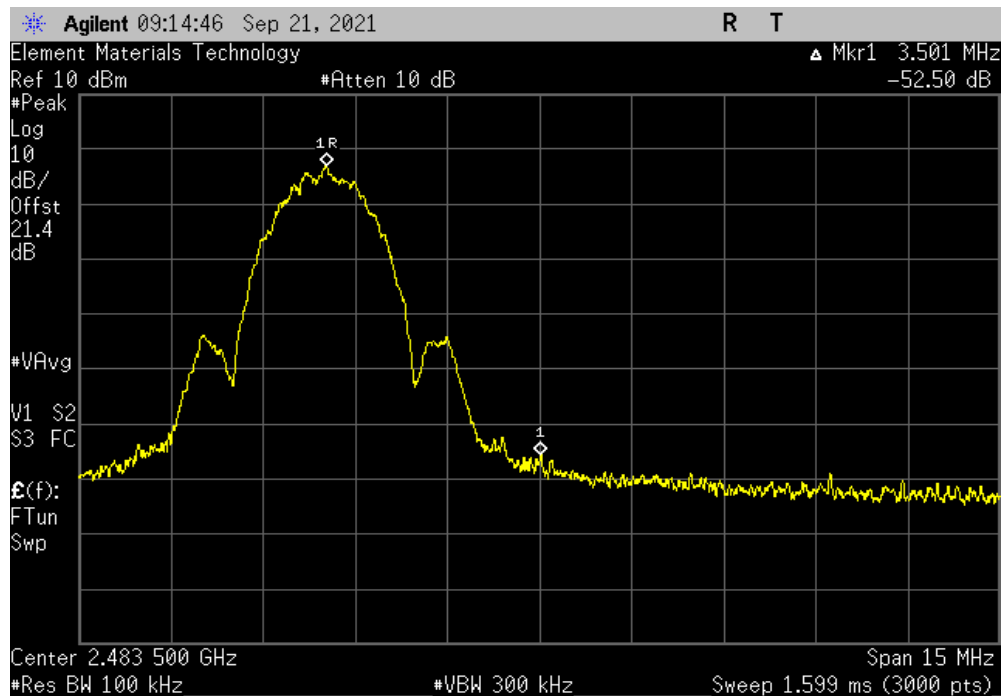


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.19	-20	Pass



BLE/GFSK 2 Mbps High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-52.5	-20	Pass



# SPURIOUS CONDUCTED EMISSIONS

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
Generator - Signal	Keysight	N5182B	TEV	2021-04-27	2024-04-27
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	2021-09-13	2022-09-13
Block - DC	Fairview Microwave	SD3379	AMT	2021-09-14	2022-09-14
Attenuator	Fairview Microwave	SA18E 1913	TZV	2021-09-15	2022-09-15
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION


The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the fundamental was measured with a 100 kHz resolution bandwidth and the highest value was recorded. The rest of the spectrum was then measured with a 100 kHz resolution bandwidth and the highest value was found. The difference between the value found on the fundamental and the rest of the spectrum was compared against the limit to determine compliance.



# SPURIOUS CONDUCTED EMISSIONS



TstTx 2021.03.19.1 XMI 2020.12.30.0

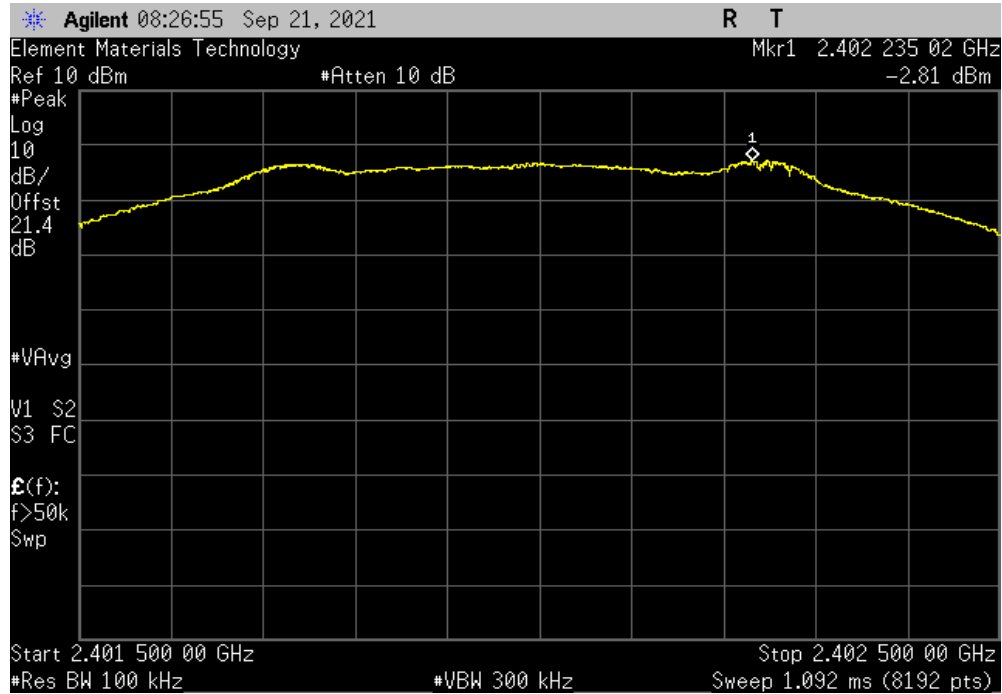
EUT: Gemini System (Charger)		Work Order: ABBO0075				
Serial Number: 144119001636		Date: 21-Sep-21				
Customer: Abbott Laboratories		Temperature: 20.9 °C				
Attendees: Jeremiah Darden		Humidity: 50% RH				
Project: None		Barometric Pres.: 1015 mbar				
Tested by: Mark Baytan		Power: 110VAC/60Hz				
Job Site: TX02						
TEST SPECIFICATIONS		Test Method				
FCC 15.247:2021		ANSI C63.10:2013				
COMMENTS						
21.4 dB reference level offset includes: Patch Cable, Coax Cable, 20 dB attenuator, and DC Block.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	58	Signature 				
		Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		Fundamental	2402.24	N/A	N/A	N/A
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		30 MHz - 12.5 GHz	7264.5	-53.78	-20	Pass
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		12.5 GHz - 25 GHz	13658.3	-50.8	-20	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		Fundamental	2440.25	N/A	N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		30 MHz - 12.5 GHz	7039.1	-54.2	-20	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz		12.5 GHz - 25 GHz	13215.7	-50.68	-20	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		Fundamental	2479.73	N/A	N/A	N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz		30 MHz - 12.5 GHz	6678.3	-53.85	-20	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		12.5 GHz - 25 GHz	13633.9	-51.28	-20	Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		Fundamental	2402.01	N/A	N/A	N/A
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		30 MHz - 12.5 GHz	7261.4	-53.14	-20	Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz		12.5 GHz - 25 GHz	13285.9	-49.29	-20	Pass
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		Fundamental	2439.99	N/A	N/A	N/A
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		30 MHz - 12.5 GHz	6673.8	-53.41	-20	Pass
BLE/GFSK 2 Mbps Mid Channel, 2440 MHz		12.5 GHz - 25 GHz	13632.3	-50.25	-20	Pass
BLE/GFSK 2 Mbps High Channel, 2480 MHz		Fundamental	2480	N/A	N/A	N/A
BLE/GFSK 2 Mbps High Channel, 2480 MHz		30 MHz - 12.5 GHz	6717.9	-52.9	-20	Pass
BLE/GFSK 2 Mbps High Channel, 2480 MHz		12.5 GHz - 25 GHz	13339.3	-50.23	-20	Pass

# SPURIOUS CONDUCTED EMISSIONS

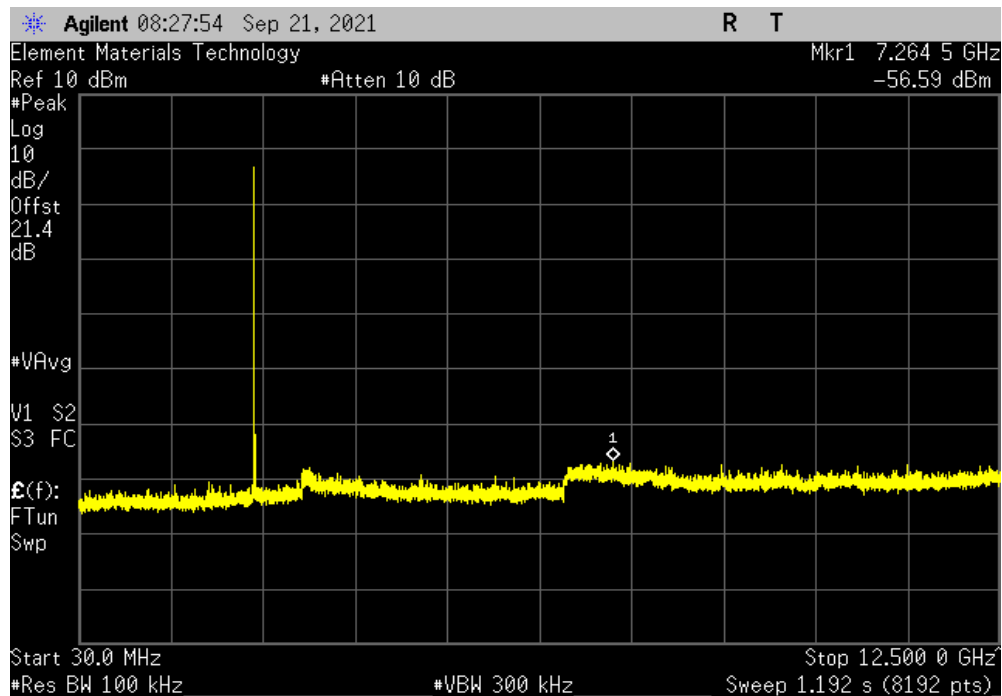


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2402.24	N/A	N/A	N/A		



BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7264.5	-53.78	-20	Pass		

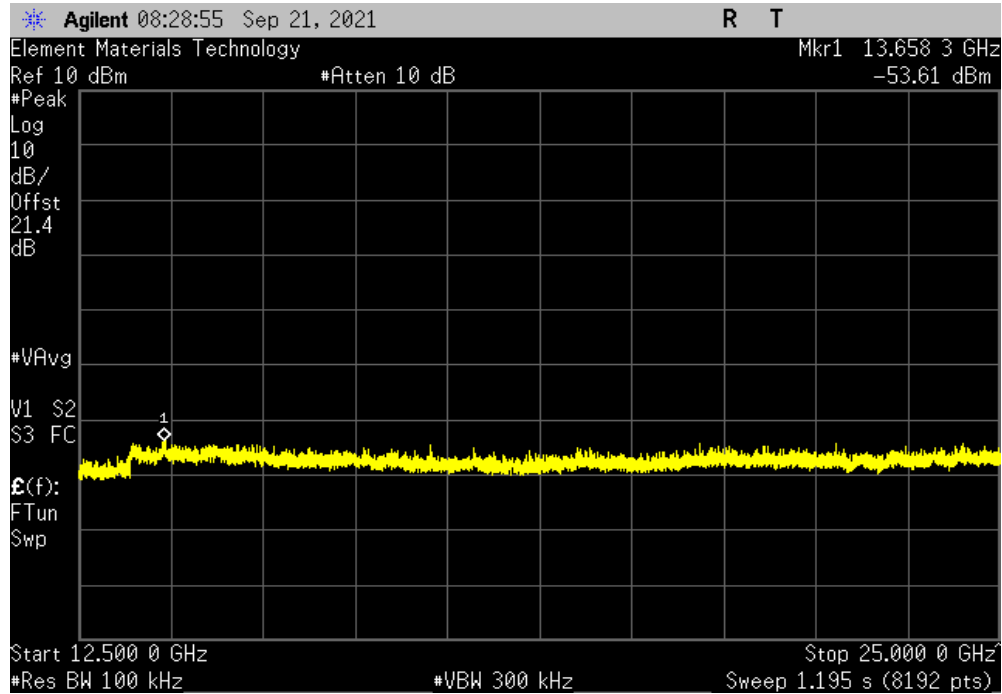


# SPURIOUS CONDUCTED EMISSIONS

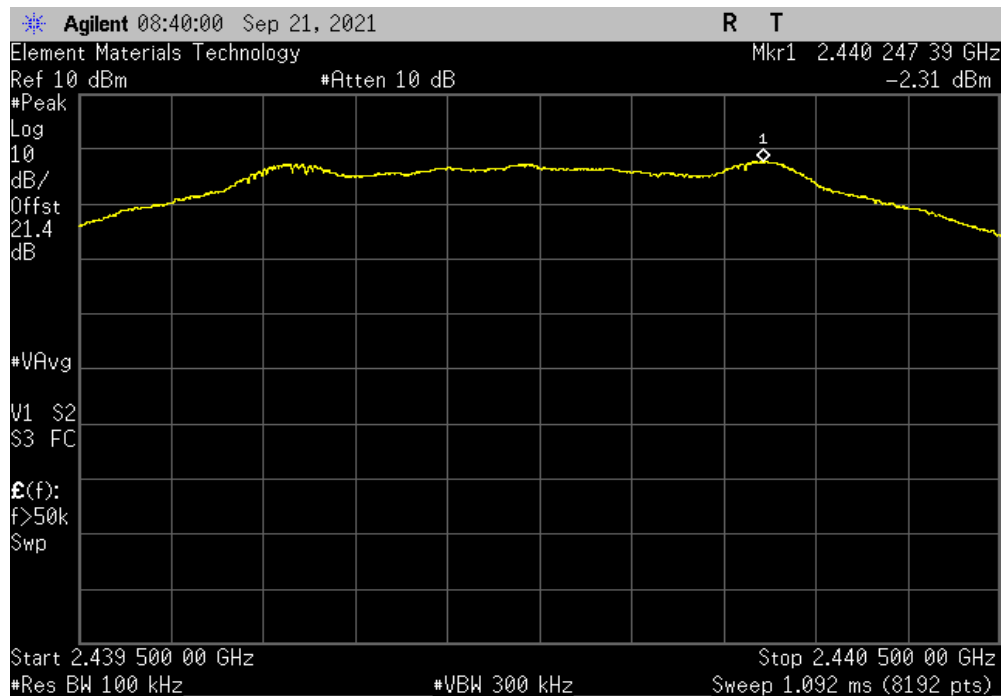


TbTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13658.3	-50.8	-20	Pass	



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2440.25	N/A	N/A	N/A	

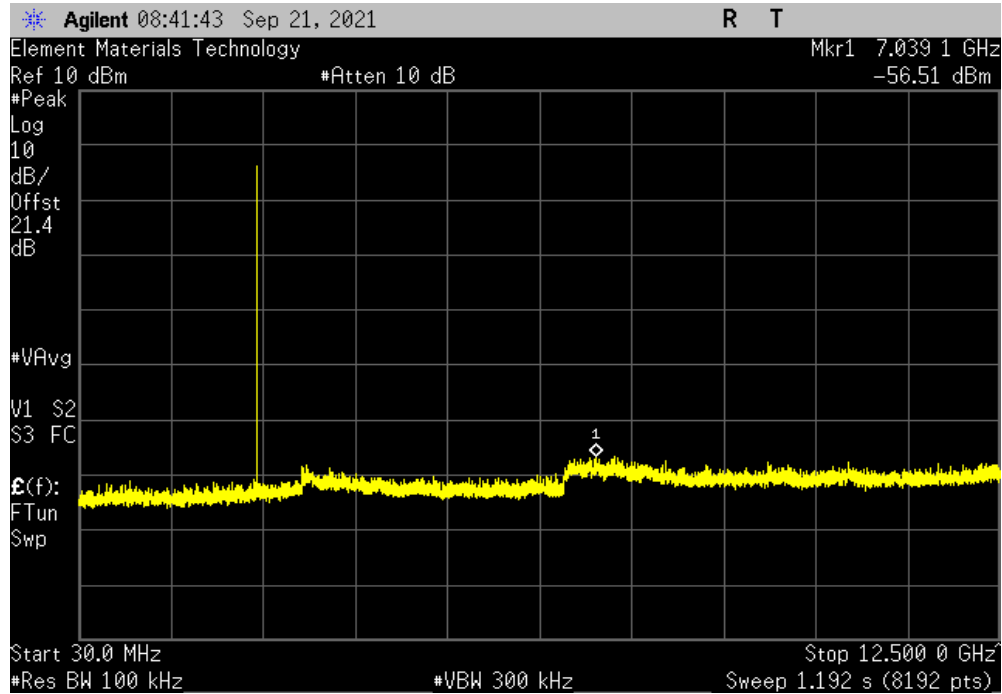


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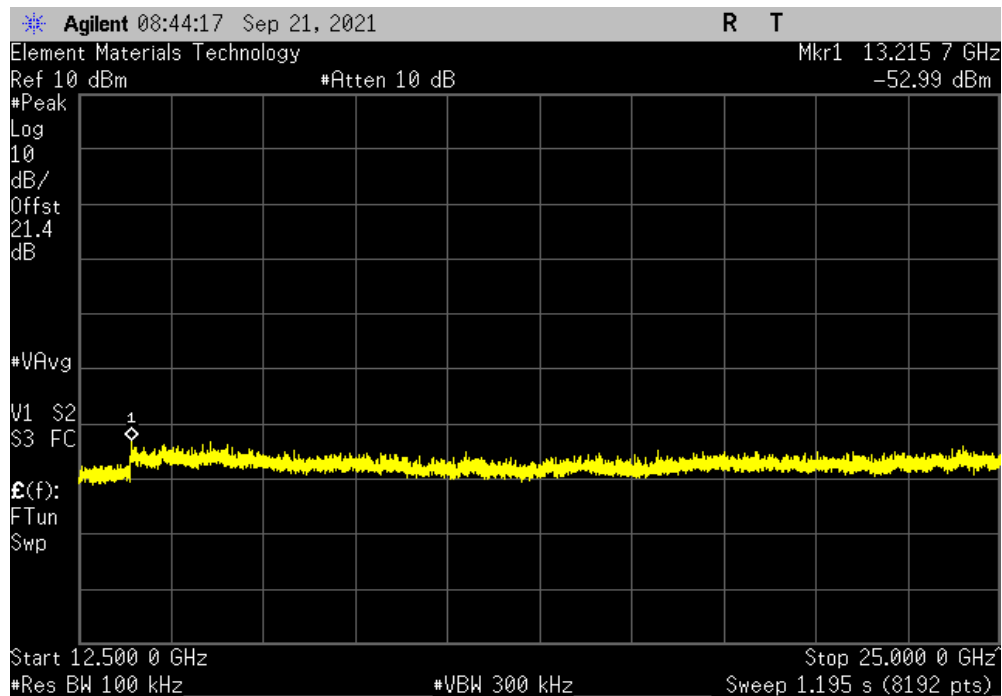


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps Mid Channel, 2440 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	7039.1	-54.2	-20	Pass	



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13215.7	-50.68	-20	Pass	

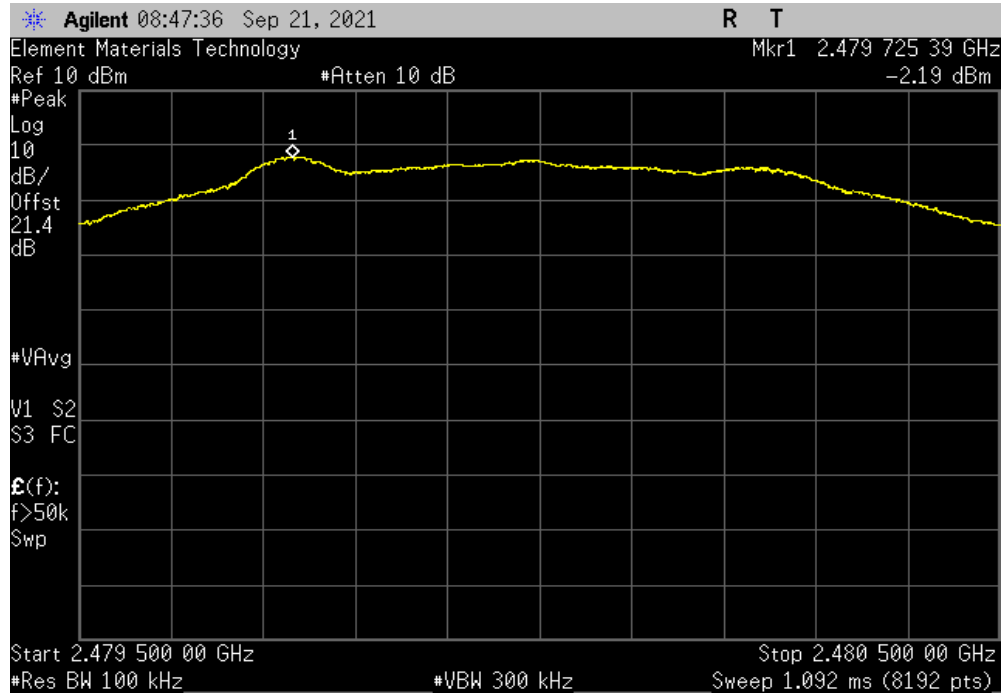


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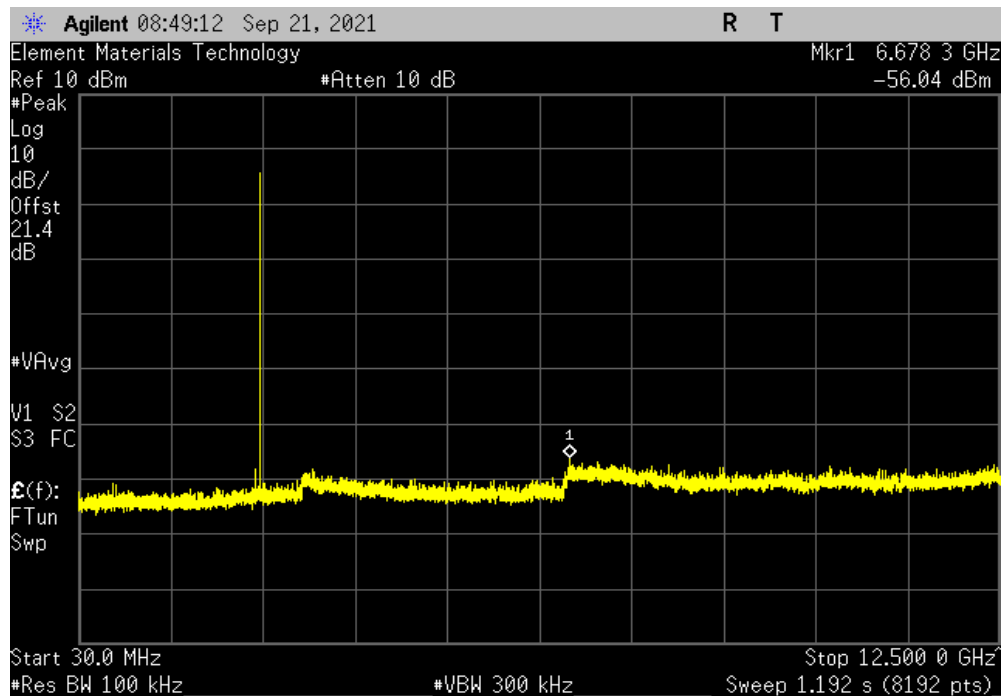


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2479.73	N/A	N/A	N/A	



BLE/GFSK 1 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	6678.3	-53.85	-20	Pass	

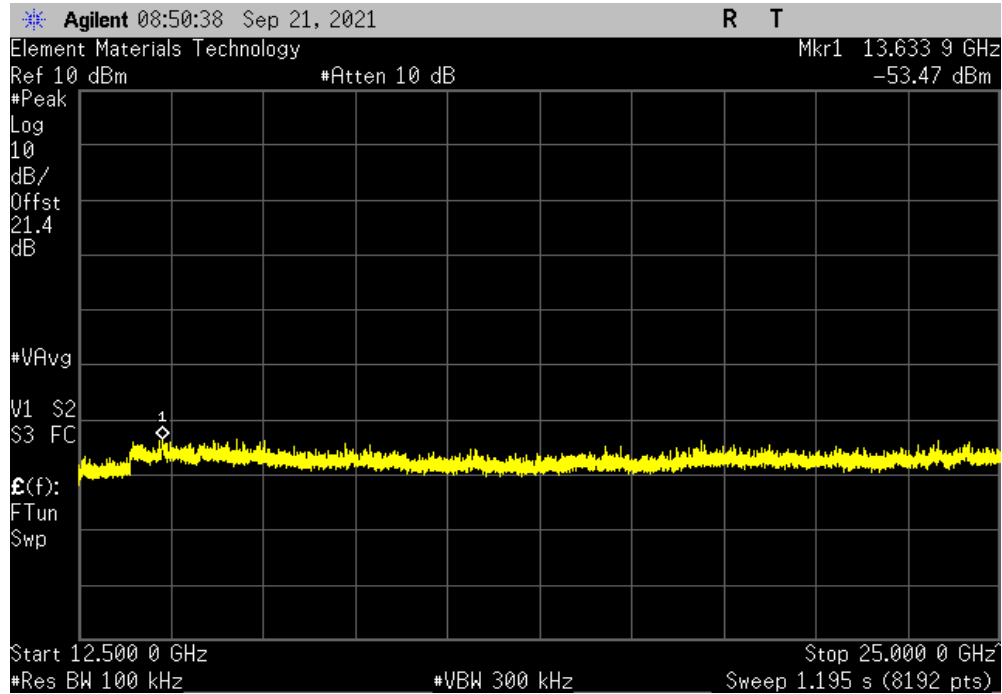


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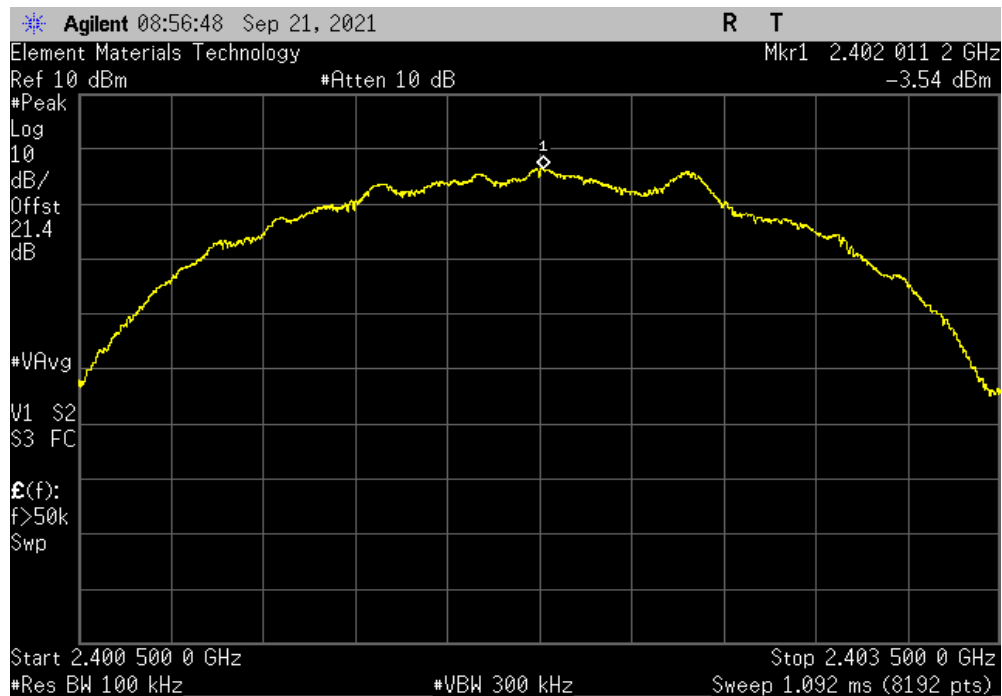


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 1 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13633.9	-51.28	-20	Pass	



BLE/GFSK 2 Mbps Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2402.01	N/A	N/A	N/A	

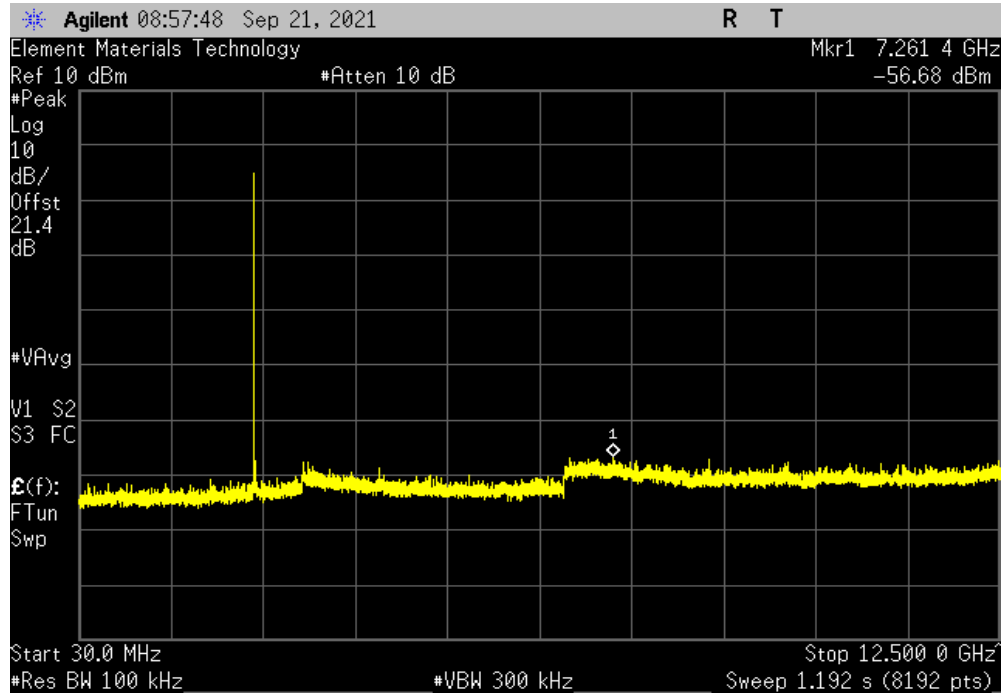


# SPURIOUS CONDUCTED EMISSIONS

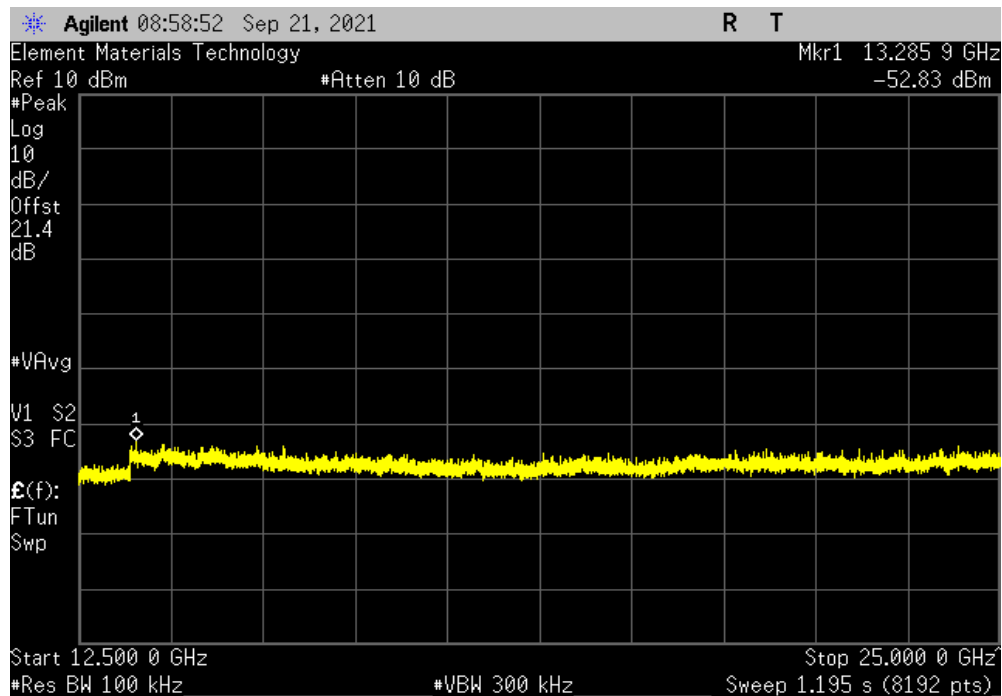


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	7261.4	-53.14	-20	Pass	



BLE/GFSK 2 Mbps Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13285.9	-49.29	-20	Pass	

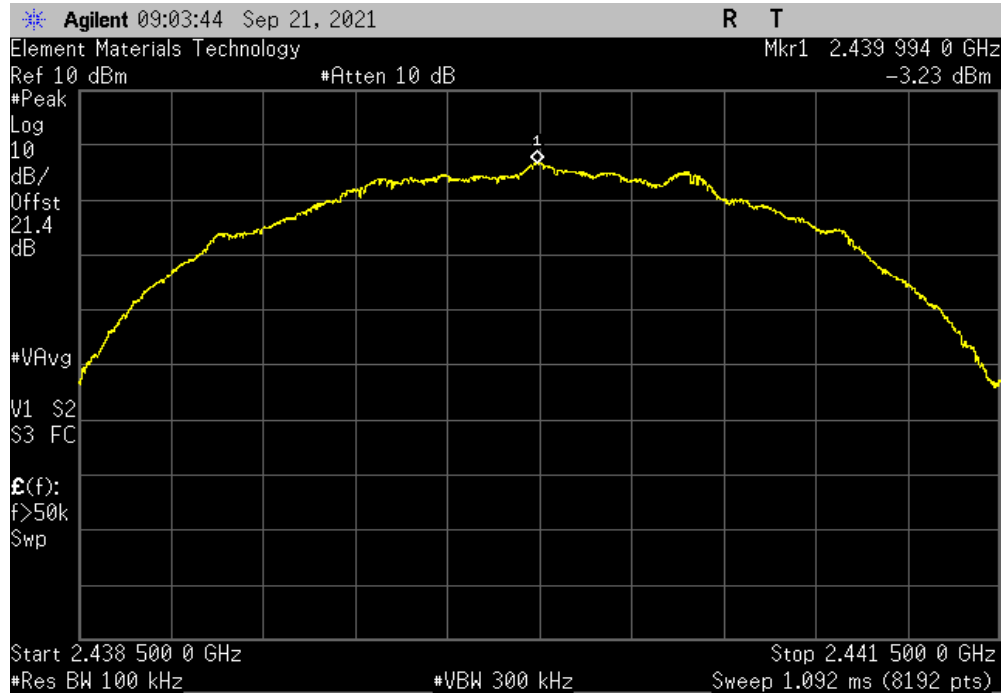


# SPURIOUS CONDUCTED EMISSIONS

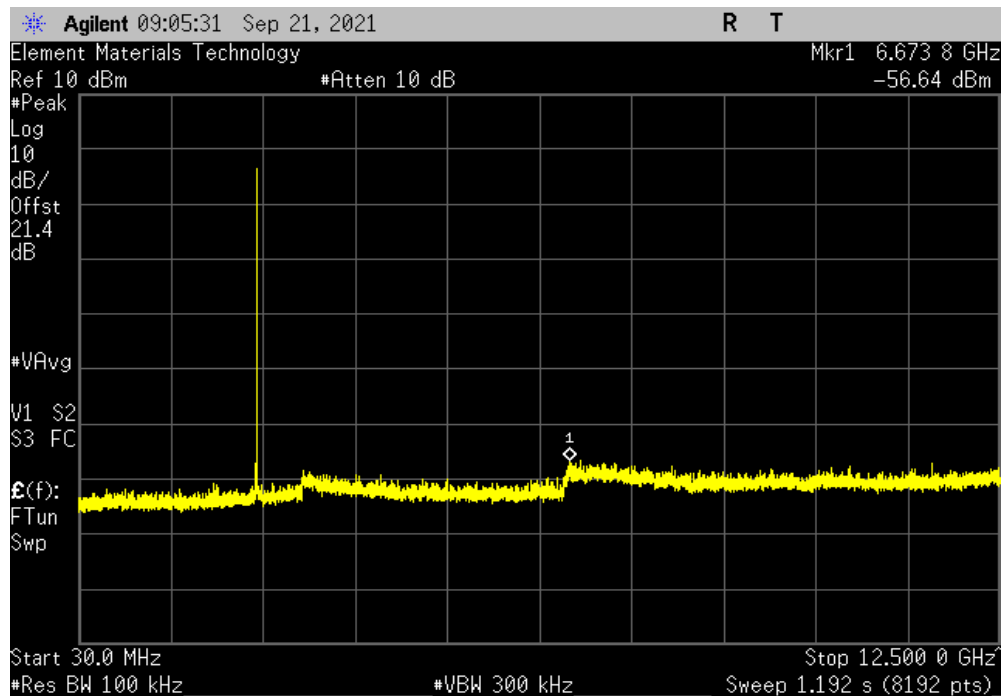


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2439.99	N/A	N/A	N/A		



BLE/GFSK 2 Mbps Mid Channel, 2440 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	6673.8	-53.41	-20	Pass		



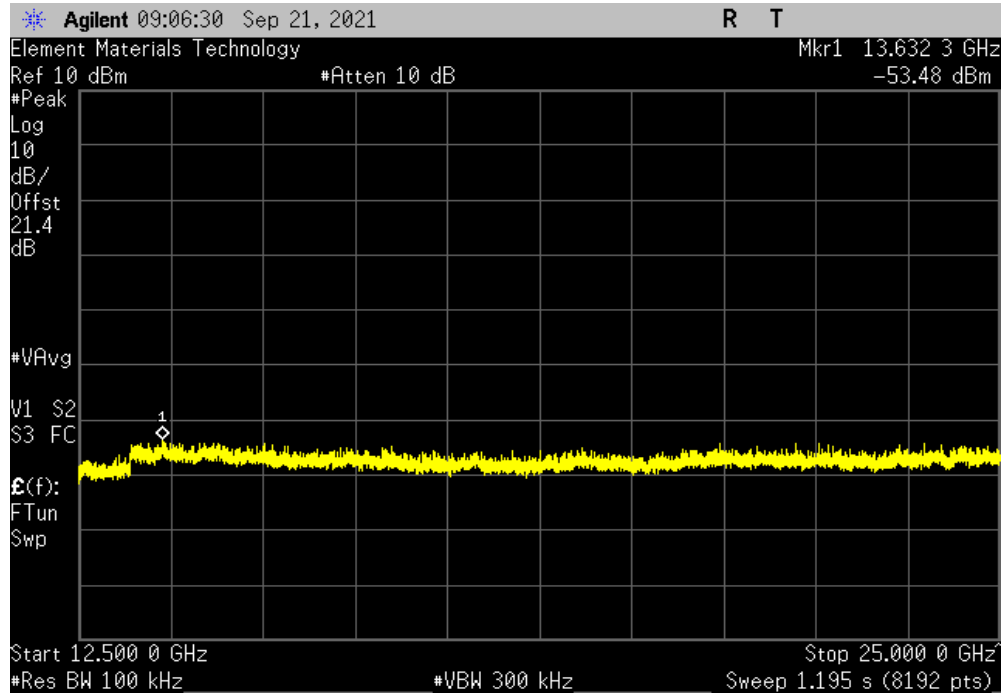


# SPURIOUS CONDUCTED EMISSIONS

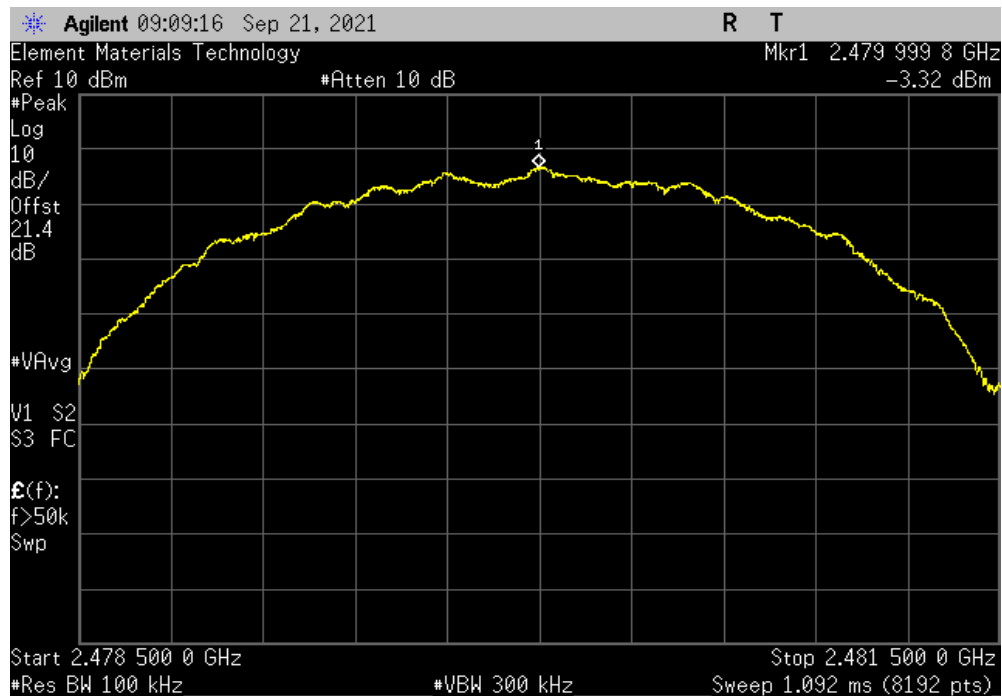


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps Mid Channel, 2440 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13632.3	-50.25	-20	Pass	



BLE/GFSK 2 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2480	N/A	N/A	N/A	

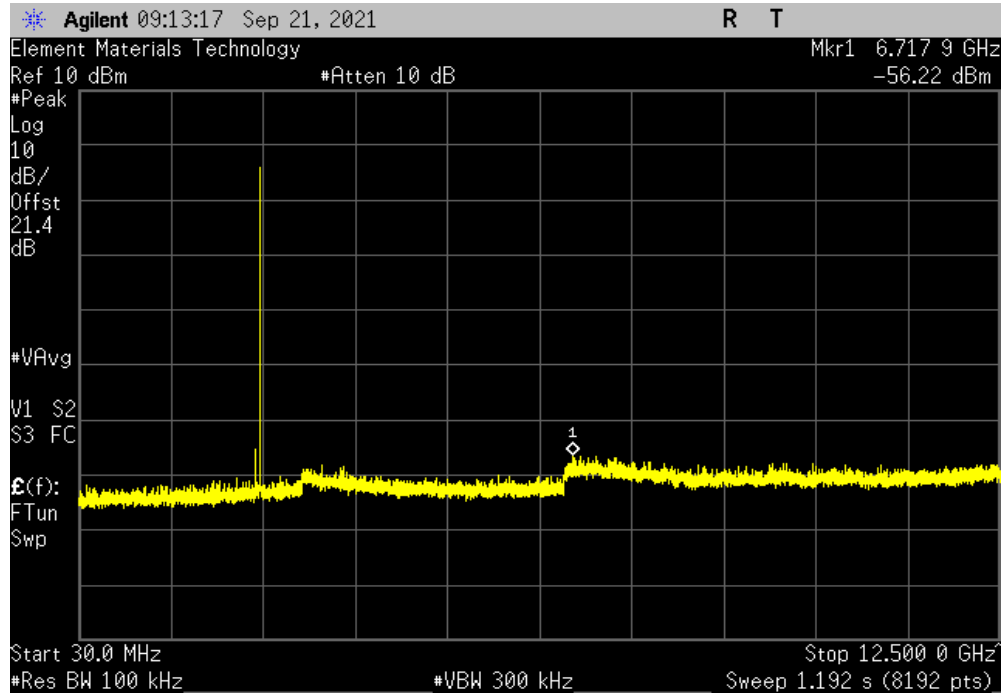


# SPURIOUS CONDUCTED EMISSIONS

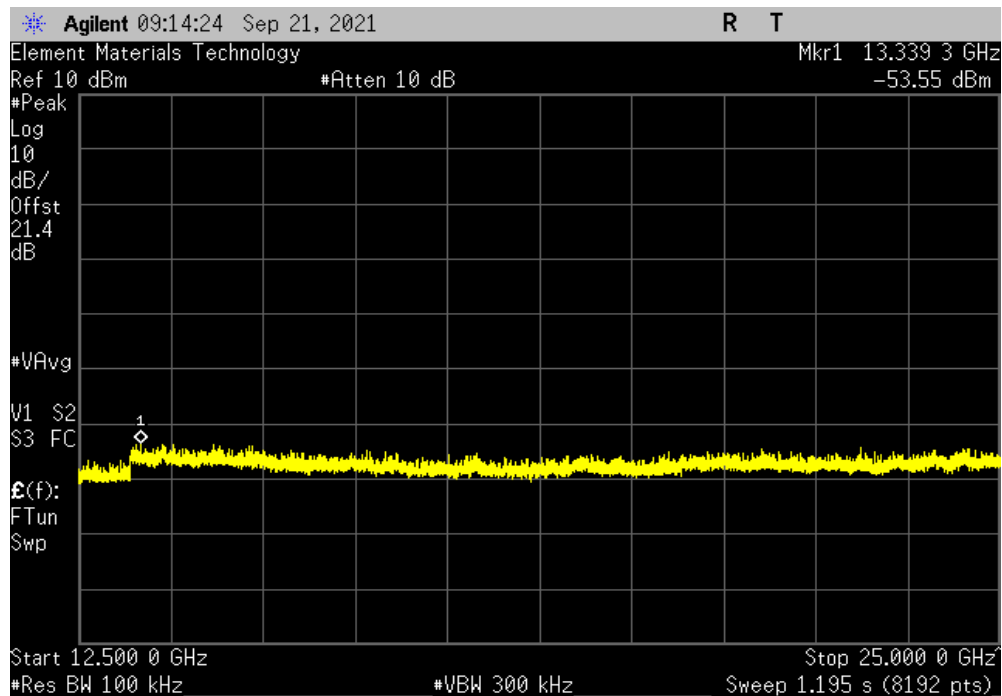


TuTx 2021.03.19.1 XMt 2020.12.30.0

BLE/GFSK 2 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	6717.9	-52.9	-20	Pass	



BLE/GFSK 2 Mbps High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13339.3	-50.23	-20	Pass	



# SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2021.03.17.0

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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## MODES OF OPERATION

Transmitting BLE: Low Ch 37 (2402 MHz), Mid Ch 17 (2440 MHz), High Ch 39 (2480 MHz). See comments for channel and data rates. Power Setting = 0 dBm

Transmitting BLE: Low Ch 37 (2402 MHz), High Ch 39 (2480 MHz). See comments for channel and data rates. Power Setting = 0 dBm

## POWER SETTINGS INVESTIGATED

110VAC/60Hz

## CONFIGURATIONS INVESTIGATED

ABBO0075 - 56

## FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz
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## SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Biconilog	ETS Lindgren	3143B	AYF	2020-06-25	2022-06-25
Filter - Low Pass	Micro-Tronics	LPM50004	HHB	2021-07-27	2022-07-27
Amplifier - Pre-Amplifier	Fairview Microwave	FMAM63001	PAS	2021-05-24	2022-05-24
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2021-05-24	2022-05-24
Cable	Northwest EMC	18-40GHz	TXE	2021-09-13	2022-09-13
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAM	2021-09-15	2022-09-15
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	2020-09-02	2022-09-02
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	PAL	2021-09-13	2022-09-13
Attenuator	NXA Com	2082-6148-20 DC-18 GHz	AUG	NCR	NCR
Cable	Northwest EMC	8-18GHz	TXD	2021-04-30	2022-04-30
Amplifier - Pre-Amplifier	Cernex	CBL01084020-xx	PAX	2021-02-23	2022-02-23
Antenna - Standard Gain	ETS Lindgren	3160-07	AJF	NCR	NCR
Cable	Northwest EMC	1-8.2 GHz	TXC	2021-05-24	2022-05-24
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAJ	2021-05-24	2022-05-24
Antenna - Double Ridge	ETS Lindgren	3115	AJL	2020-10-20	2022-10-20
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2021-01-06	2022-01-06

## TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

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, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

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

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS 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.

# SPURIOUS RADIATED EMISSIONS

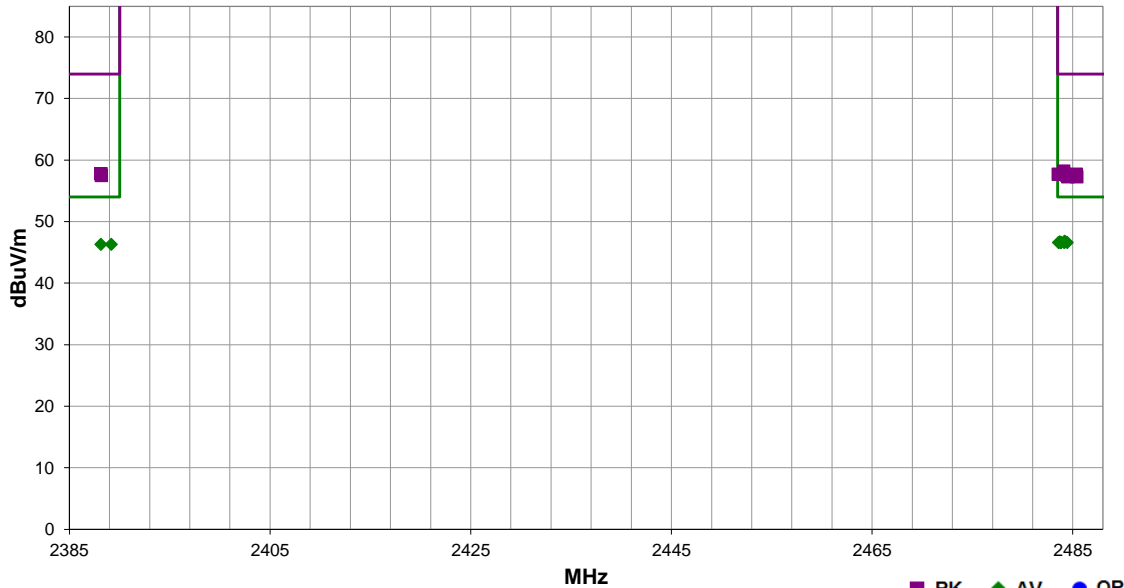


EmiRS 2021.06.24.0 PSA-ESCI 2021.03.17.0

Work Order:	ABBO0075	Date:	2021-09-20	
Project:	None	Temperature:	21.1 °C	
Job Site:	TX02	Humidity:	57.3% RH	
Serial Number:	See Configuration	Barometric Pres.:	1013 mbar	Tested by: Mark Baytan
EUT:	Gemini System (Charger)			
Configuration:	56			
Customer:	Abbott Laboratories			
Attendees:	Jeremiah Darden, Manaswini Ravisankar			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting BLE: Low Ch 37 (2402 MHz), High Ch 39 (2480 MHz). See comments for channel and data rates. Power Setting = 0 dBm			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 15.247:2021	ANSI C63.10:2013


Run #	58	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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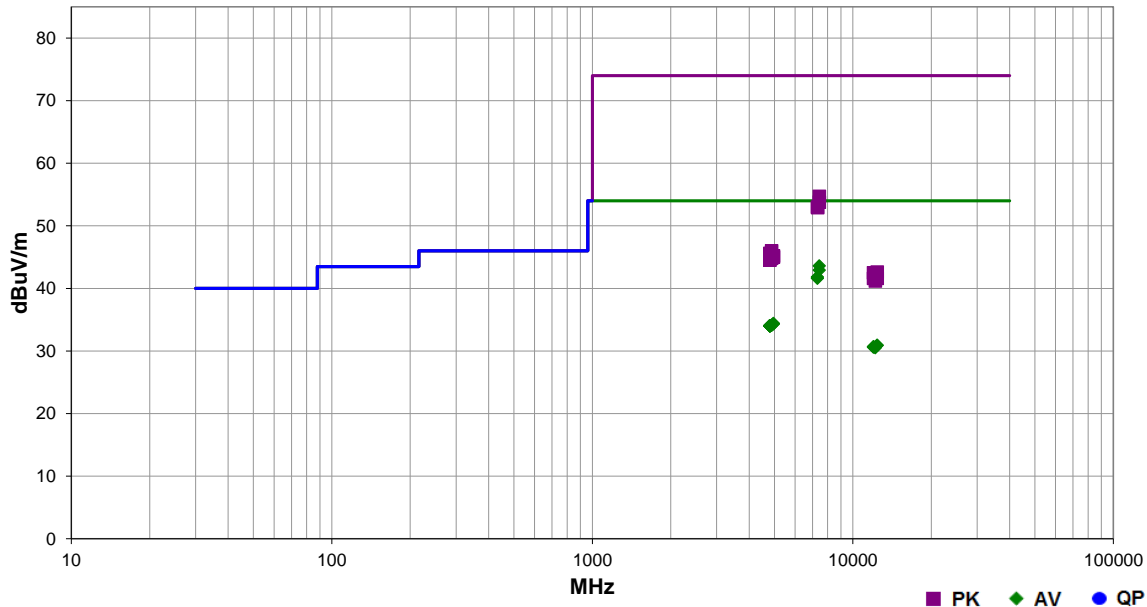
Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2484.190	32.2	-5.4	1.5	291.0	3.0	20.0	Horz	AV	0.0	46.8	54.0	-7.2	High Ch, EUT Horz, 1 Mbps
2484.290	32.1	-5.4	1.5	176.9	3.0	20.0	Vert	AV	0.0	46.7	54.0	-7.3	High Ch, EUT Horz, 1 Mbps
2483.703	32.1	-5.4	1.5	177.0	3.0	20.0	Vert	AV	0.0	46.7	54.0	-7.3	High Ch, EUT Horz, 2 Mbps
2484.137	32.0	-5.4	1.47	285.9	3.0	20.0	Horz	AV	0.0	46.6	54.0	-7.4	High Ch, EUT Vert, 1 Mbps
2483.757	32.0	-5.4	1.5	141.9	3.0	20.0	Vert	AV	0.0	46.6	54.0	-7.4	High Ch, EUT Vert, 1 Mbps
2483.857	32.0	-5.4	1.5	201.9	3.0	20.0	Horz	AV	0.0	46.6	54.0	-7.4	High Ch, EUT on Side, 1 Mbps
2484.447	32.0	-5.4	3.06	264.0	3.0	20.0	Vert	AV	0.0	46.6	54.0	-7.4	High Ch, EUT on Side, 1 Mbps
2483.590	32.0	-5.4	1.5	291.0	3.0	20.0	Horz	AV	0.0	46.6	54.0	-7.4	High Ch, EUT Horz, 2 Mbps
2388.143	32.1	-5.8	2.84	172.9	3.0	20.0	Horz	AV	0.0	46.3	54.0	-7.7	Low Ch, EUT Horz, 1 Mbps
2389.187	32.1	-5.8	1.82	159.9	3.0	20.0	Vert	AV	0.0	46.3	54.0	-7.7	Low Ch, EUT Horz, 1 Mbps
2484.087	43.6	-5.4	1.5	141.9	3.0	20.0	Vert	PK	0.0	58.2	74.0	-15.8	High Ch, EUT Vert, 1 Mbps
2388.147	43.6	-5.8	2.84	172.9	3.0	20.0	Horz	PK	0.0	57.8	74.0	-16.2	Low Ch, EUT Horz, 1 Mbps
2485.350	43.1	-5.4	1.5	291.0	3.0	20.0	Horz	PK	0.0	57.7	74.0	-16.3	High Ch, EUT Horz, 1 Mbps
2483.550	43.1	-5.4	1.47	285.9	3.0	20.0	Horz	PK	0.0	57.7	74.0	-16.3	High Ch, EUT Vert, 1 Mbps
2484.137	43.1	-5.4	1.5	201.9	3.0	20.0	Horz	PK	0.0	57.7	74.0	-16.3	High Ch, EUT on Side, 1 Mbps
2484.360	43.0	-5.4	3.06	264.0	3.0	20.0	Vert	PK	0.0	57.6	74.0	-16.4	High Ch, EUT on Side, 1 Mbps
2388.180	43.3	-5.8	1.82	159.9	3.0	20.0	Vert	PK	0.0	57.5	74.0	-16.5	Low Ch, EUT Horz, 1 Mbps
2484.470	42.8	-5.4	1.5	177.0	3.0	20.0	Vert	PK	0.0	57.4	74.0	-16.6	High Ch, EUT Horz, 2 Mbps
2484.510	42.7	-5.4	1.5	176.9	3.0	20.0	Vert	PK	0.0	57.3	74.0	-16.7	High Ch, EUT Horz, 1 Mbps
2485.407	42.7	-5.4	1.5	291.0	3.0	20.0	Horz	PK	0.0	57.3	74.0	-16.7	High Ch, EUT Horz, 2 Mbps

# SPURIOUS RADIATED EMISSIONS



Work Order:	ABBO0075	Date:	2021-09-20	
Project:	None	Temperature:	21.1 °C	
Job Site:	TX02	Humidity:	57.3% RH	
Serial Number:	See Configuration	Barometric Pres.:	1013 mbar	Tested by: Mark Baytan
EUT:	Gemini System (Charger)			
Configuration:	56			
Customer:	Abbott Laboratories			
Attendees:	Jeremiah Darden, Manaswini Ravisankar			
EUT Power:	110VAC/60Hz			
Operating Mode:	Transmitting BLE: Low Ch 37 (2402 MHz), Mid Ch 17 (2440 MHz), High Ch 39 (2480 MHz). See comments for channel and data rates. Power Setting = 0 dBm			
Deviations:	None			
Comments:	None			
Test Specifications		Test Method		
FCC 15.247:2021		ANSI C63.10:2013		

Run #	59	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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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)	Comments
7440.523	31.5	12.1	1.5	26.0	3.0	0.0	Vert	AV	0.0	43.6	54.0	-10.4	High Ch, EUT Horz, 1 Mbps
7440.520	30.8	12.1	1.5	152.0	3.0	0.0	Horz	AV	0.0	42.9	54.0	-11.1	High Ch, EUT Horz, 1 Mbps
7319.457	29.9	11.9	1.5	230.0	3.0	0.0	Vert	AV	0.0	41.8	54.0	-12.2	Mid Ch, EUT Horz, 1 Mbps
7319.217	29.7	11.9	1.5	271.0	3.0	0.0	Horz	AV	0.0	41.6	54.0	-12.4	Mid Ch, EUT Horz, 1 Mbps
7440.160	42.6	12.1	1.5	152.0	3.0	0.0	Horz	PK	0.0	54.7	74.0	-19.3	High Ch, EUT Horz, 1 Mbps
4959.240	28.4	6.0	1.5	202.9	3.0	0.0	Vert	AV	0.0	34.4	54.0	-19.6	High Ch, EUT Horz, 1 Mbps
4959.343	28.3	6.0	1.5	182.0	3.0	0.0	Horz	AV	0.0	34.3	54.0	-19.7	High Ch, EUT Horz, 1 Mbps
4879.827	28.3	5.8	3.0	237.9	3.0	0.0	Horz	AV	0.0	34.1	54.0	-19.9	Mid Ch, EUT Horz, 1 Mbps
4879.483	28.3	5.8	1.5	1.0	3.0	0.0	Vert	AV	0.0	34.1	54.0	-19.9	Mid Ch, EUT Horz, 1 Mbps
4804.113	28.4	5.6	1.4	111.9	3.0	0.0	Horz	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Horz, 1 Mbps
4803.967	28.4	5.6	1.1	232.9	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Horz, 1 Mbps
4803.413	28.4	5.6	1.5	228.0	3.0	0.0	Horz	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Vert, 1 Mbps
4804.500	28.4	5.6	3.4	214.9	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Vert, 1 Mbps
4803.223	28.4	5.6	1.5	80.0	3.0	0.0	Horz	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT on Side, 1 Mbps
4804.823	28.4	5.6	1.5	249.0	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT on Side, 1 Mbps
4803.340	28.4	5.6	1.5	68.0	3.0	0.0	Horz	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Horz, 2 Mbps
4803.070	28.4	5.6	2.1	88.9	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Low Ch, EUT Horz, 2 Mbps
7440.833	41.7	12.1	1.5	26.0	3.0	0.0	Vert	PK	0.0	53.8	74.0	-20.2	High Ch, EUT Horz, 1 Mbps
7319.187	41.1	11.9	1.5	230.0	3.0	0.0	Vert	PK	0.0	53.0	74.0	-21.0	Mid Ch, EUT Horz, 1 Mbps
7320.843	41.0	11.9	1.5	271.0	3.0	0.0	Horz	PK	0.0	52.9	74.0	-21.1	Mid Ch, EUT Horz, 1 Mbps
12399.900	32.5	-1.6	1.5	159.9	3.0	0.0	Horz	AV	0.0	30.9	54.0	-23.1	High Ch, EUT Horz, 1 Mbps
12399.920	32.5	-1.6	3.9	138.0	3.0	0.0	Vert	AV	0.0	30.9	54.0	-23.1	High Ch, EUT Horz, 1 Mbps
12010.950	33.6	-2.9	1.5	303.0	3.0	0.0	Vert	AV	0.0	30.7	54.0	-23.3	Low Ch, EUT Horz, 1 Mbps
12199.800	32.5	-1.9	1.5	189.9	3.0	0.0	Vert	AV	0.0	30.6	54.0	-23.4	Mid Ch, EUT Horz, 1 Mbps
12010.960	33.5	-2.9	4.0	21.9	3.0	0.0	Horz	AV	0.0	30.6	54.0	-23.4	Low Ch, EUT Horz, 1 Mbps
12200.700	32.4	-1.9	1.5	256.9	3.0	0.0	Horz	AV	0.0	30.5	54.0	-23.5	Mid Ch, EUT Horz, 1 Mbps
4879.513	40.2	5.8	3.0	237.9	3.0	0.0	Horz	PK	0.0	46.0	74.0	-28.0	Mid Ch, EUT Horz, 1 Mbps
4803.287	40.0	5.6	2.1	88.9	3.0	0.0	Vert	PK	0.0	45.6	74.0	-28.4	Low Ch, EUT Horz, 2 Mbps
4960.243	39.2	6.0	1.5	182.0	3.0	0.0	Horz	PK	0.0	45.2	74.0	-28.8	High Ch, EUT Horz, 1 Mbps
4803.620	39.5	5.6	1.4	111.9	3.0	0.0	Horz	PK	0.0	45.1	74.0	-28.9	Low Ch, EUT Horz, 1 Mbps
4959.680	39.0	6.0	1.5	202.9	3.0	0.0	Vert	PK	0.0	45.0	74.0	-29.0	High Ch, EUT Horz, 1 Mbps
4803.303	39.3	5.6	1.1	232.9	3.0	0.0	Vert	PK	0.0	44.9	74.0	-29.1	Low Ch, EUT Horz, 1 Mbps
4803.803	39.3	5.6	1.5	228.0	3.0	0.0	Horz	PK	0.0	44.9	74.0	-29.1	Low Ch, EUT Vert, 1 Mbps
4804.913	39.3	5.6	3.4	214.9	3.0	0.0	Vert	PK	0.0	44.9	74.0	-29.1	Low Ch, EUT Vert, 1 Mbps
4803.433	39.3	5.6	1.5	68.0	3.0	0.0	Horz	PK	0.0	44.9	74.0	-29.1	Low Ch, EUT Horz, 2 Mbps
4879.943	39.0	5.8	1.5	1.0	3.0	0.0	Vert	PK	0.0	44.8	74.0	-29.2	Mid Ch, EUT Horz, 1 Mbps
4804.903	39.1	5.6	1.5	249.0	3.0	0.0	Vert	PK	0.0	44.7	74.0	-29.3	Low Ch, EUT on Side, 1 Mbps
4804.877	38.9	5.6	1.5	80.0	3.0	0.0	Horz	PK	0.0	44.5	74.0	-29.5	Low Ch, EUT on Side, 1 Mbps
12399.870	44.2	-1.6	1.5	159.9	3.0	0.0	Horz	PK	0.0	42.6	74.0	-31.4	High Ch, EUT Horz, 1 Mbps
12010.830	45.4	-2.9	1.5	303.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	Low Ch, EUT Horz, 1 Mbps
12200.600	43.7	-1.9	1.5	189.9	3.0	0.0	Vert	PK	0.0	41.8	74.0	-32.2	Mid Ch, EUT Horz, 1 Mbps
12399.390	43.2	-1.6	3.9	138.0	3.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	High Ch, EUT Horz, 1 Mbps
12010.990	44.5	-2.9	4.0	21.9	3.0	0.0	Horz	PK	0.0	41.6	74.0	-32.4	Low Ch, EUT Horz, 1 Mbps
12199.660	43.1	-1.9	1.5	256.9	3.0	0.0	Horz	PK	0.0	41.2	74.0	-32.8	Mid Ch, EUT Horz, 1 Mbps

End of Test Report