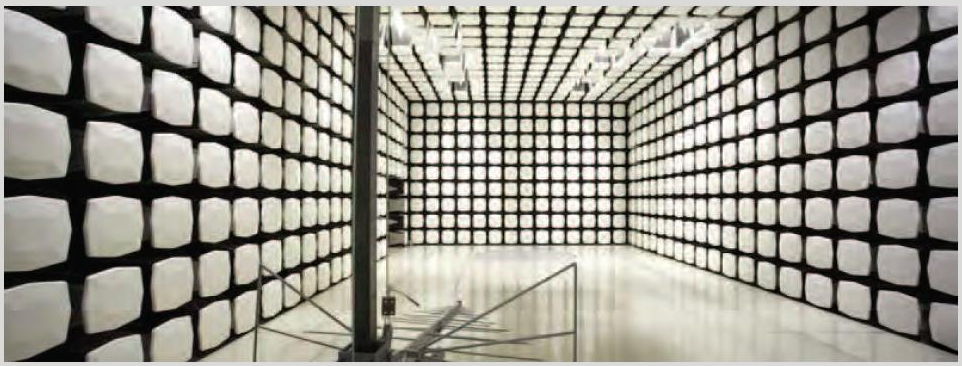
Masimo Corporation

Baby Sensor

FCC 15.247:2022; RSS-247 Issue 2:2017

Bluetooth Low Energy Radio

Report: MASI0841.2 Rev. 1, Issue Date: January 8, 2023



CERT #3310.04

CERTIFICATE OF TEST

Last Date of Test: November 17, 2022
Masimo Corporation
EUT: Baby Sensor

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2022	ANSI C63.10:2013
FCC 15.247:2022	
RSS-247 Issue 2:2017, RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	RSS-Gen 8.8	6.2	
Occupied Bandwidth (99%)	Pass	KDB 558074 -2.1	RSS-Gen 6.7	6.9.3	
Duty Cycle	Pass	KDB 558074 -6.0	RSS-Gen 3.2	11.6	
DTS Bandwidth (6 dB)	Pass	15.247(a)(2), KDB 558074 -8.2	RSS-247 5.2(a)	11.8.2	
Equivalent Isotropic Radiated Power	Pass	15.247(b)(3), KDB 558074 -8.3.1	RSS-247 5.4(d, f), RSS-Gen 6.12	11.9.1.1	
Output Power	Pass	15.247(b)(3), KDB 558074 -8.3.1	RSS-247 5.4(d, f), RSS-Gen 6.12	11.9.1.1	
Power Spectral Density	Pass	15.247(e), KDB 558074 -8.4	RSS-247 5.2(b)	11.10.2	
Band Edge Compliance	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Spurious Conducted Emissions	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Spurious Radiated Emissions	Pass	15.247(d), KDB 558074 - 8.6, 8.7	RSS-247 5.5, RSS-Gen 6.13, 8.10	11.12.1, 11.13.2, 6.5, 6.6	

Deviations From Test Standards

None

Approved By:

Johnny Candelas, 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 Power Settings with client information	2023-01-08	11
	Removed TOC page for the Duty Cycle module since the EUT is operating at 100% duty cycle.	2023-01-08	N/A
	Added 30-1000 MHz test equipment.	2023-01-08	54
	Replaced with correct captures	2023-01-08	30, 34
	Test Description changed to peak one.	2023-01-08	36
	Test Description revised to match how test was ran.	2023-01-08	43-49
	added missing equipment	2023-01-08	50

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

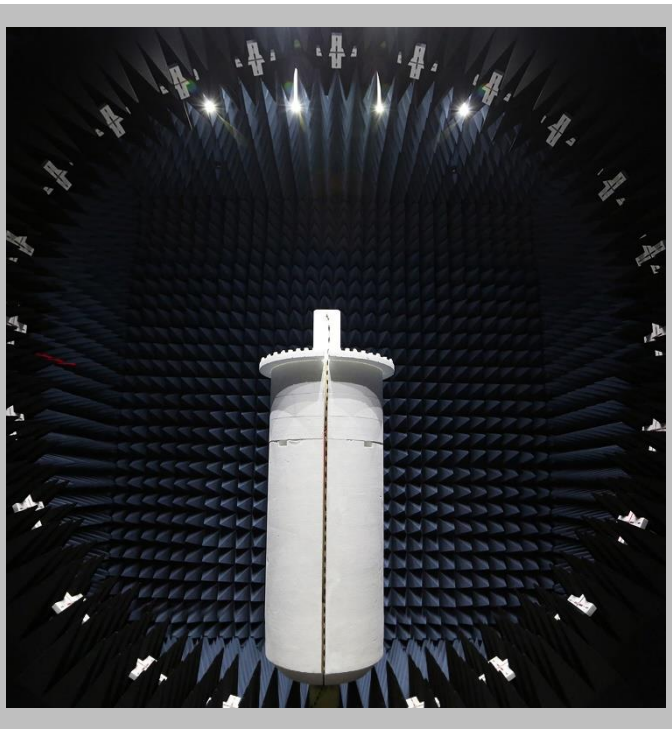
For details on the Scopes of our Accreditations, please visit:

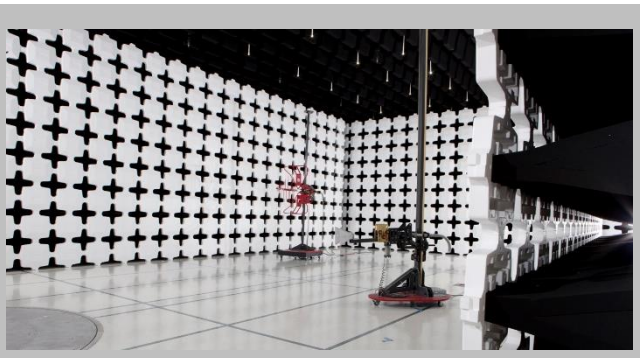
California Minnesota Oregon Texas Washington

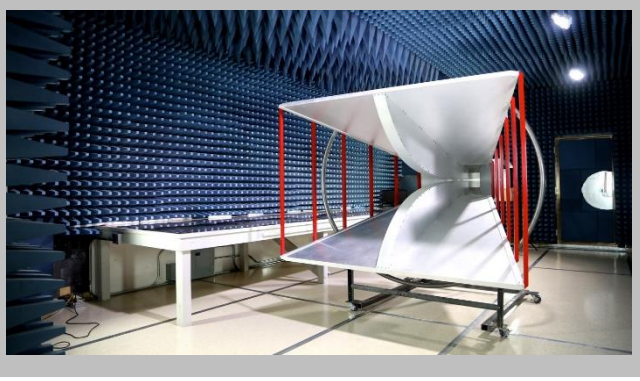
FACILITIES

element
2020.12.15

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







MEASUREMENT UNCERTAINTY

element
TMU.2015.07.10

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)	3.2 dB	-3.2 dB

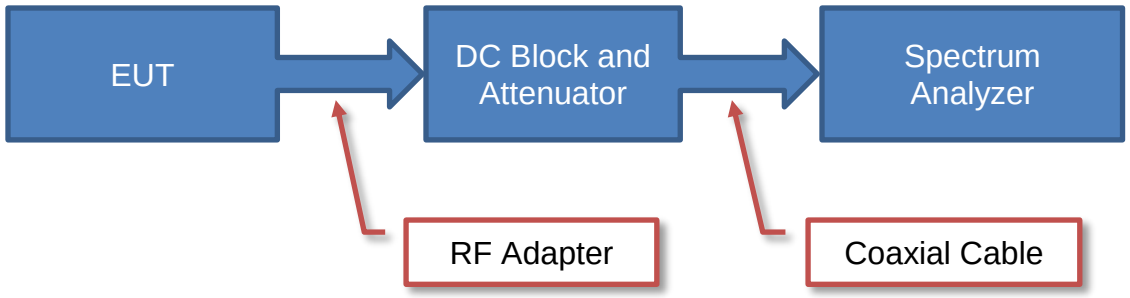
TEST SETUP BLOCK DIAGRAMS

Measurement Bandwidths

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

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

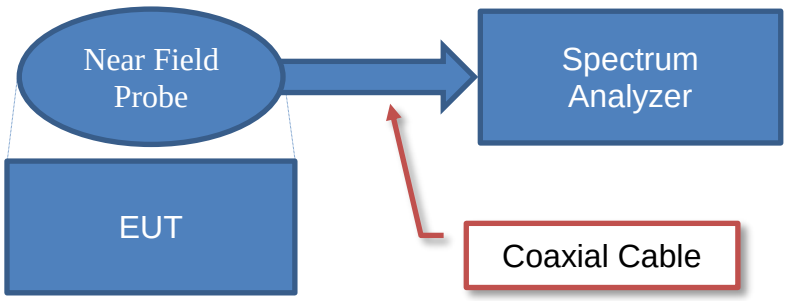
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

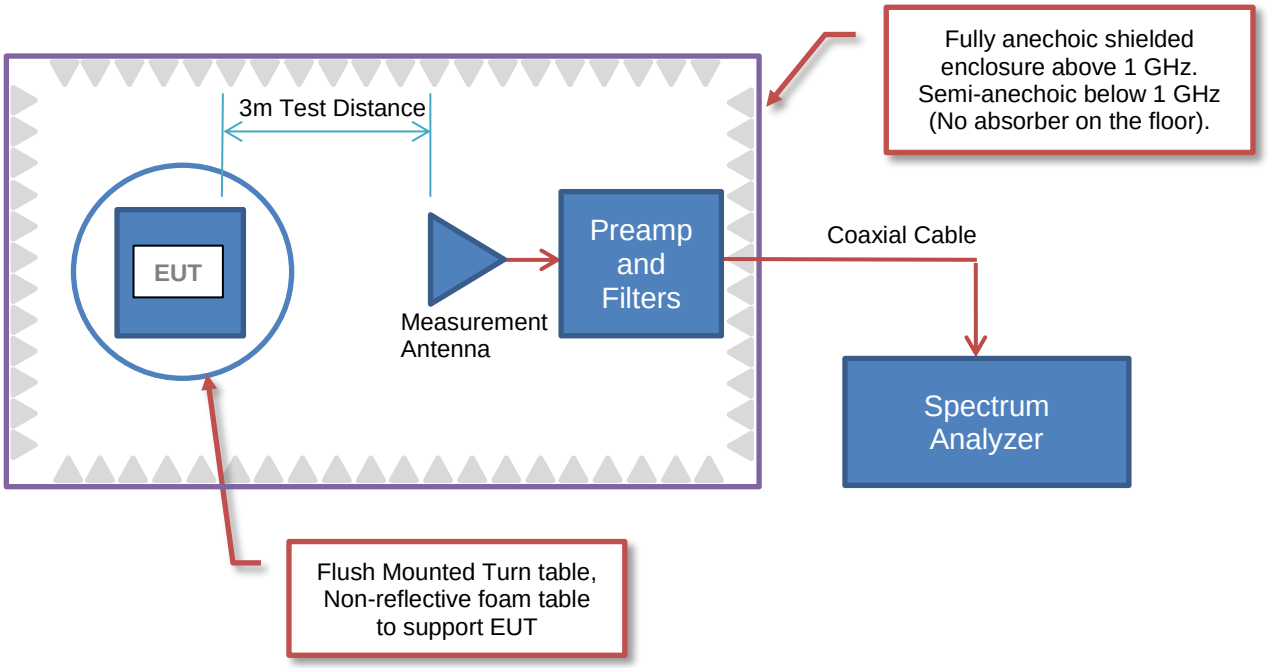


Sample Calculation (logarithmic units)

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

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

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

Conducted Emissions:

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

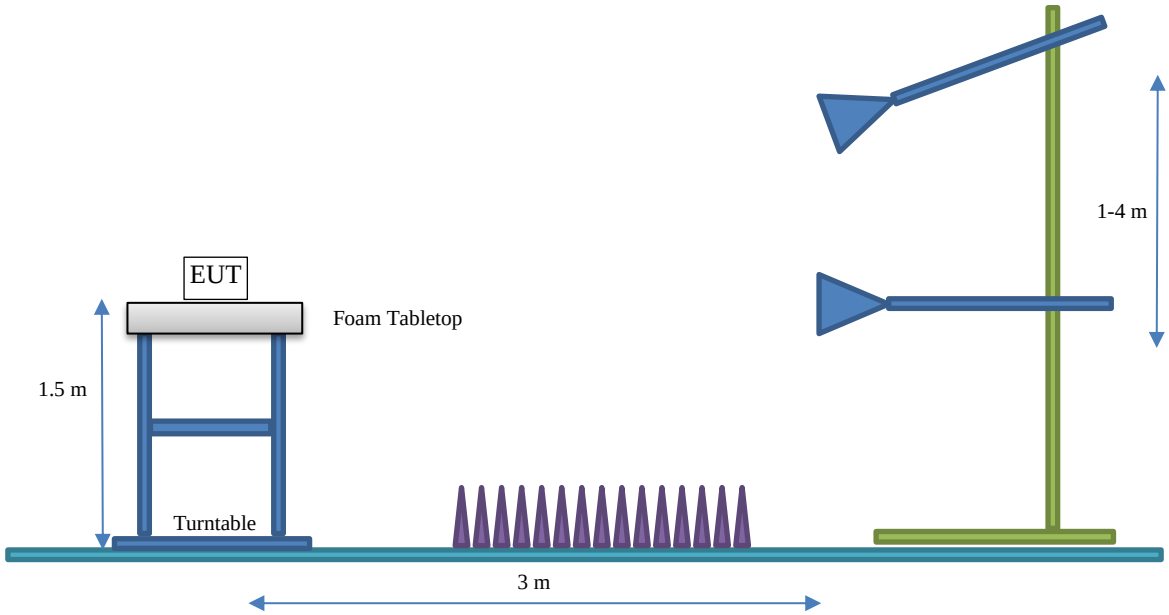
Radiated Power (ERP/EIRP) – Substitution Method:

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

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:	Masimo Corporation
Address:	52 Discovery
City, State, Zip:	Irvine, CA 92618
Test Requested By:	Anami Joshi
EUT:	Baby Sensor
First Date of Test:	November 16, 2022
Last Date of Test:	November 17, 2022
Receipt Date of Samples:	November 16, 2022
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Baby Sensor is a wireless, wearable sensor that provides the physiological data.

Testing Objective:
To demonstrate compliance of the Bluetooth radio portion of the Baby Sensor to FCC 15.247/RSS-247 requirements.

POWER SETTINGS AND ANTENNAS

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

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
PCB	Masimo Corporation	2402 – 2480	-1.83

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

✓ Test software settings Test software/firmware installed on EUT: V1000-006, PN: 29378
☐ Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Type	Channel	Frequency (MHz)	Power Setting
BLE GFSK	DTS	0 or 37	2402	+6 dBm
		20 or 18	2442	+6 dBm
		39	2480	+6 dBm

CONFIGURATIONS

Configuration MASI0841- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Baby Sensor	Masimo Corporation	29378	07

Configuration MASI0841- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Baby Sensor	Masimo Corporation	29378	09

Configuration MASI0841- 3

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Baby Sensor	Masimo Corporation	29378	09
AC Adapter	Masimo Corporation	NY-PW0G5-05001000	2104338
Baby Sensor Charger	Masimo Corporation	304148	ENG01

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Charging Cable	Yes	1.4m	No	Baby Sensor Charger	AC Adapter

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2022-11-16	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	2022-11-16	DTS Bandwidth (6 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.
3	2022-11-16	Occupied Bandwidth (99%)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2022-11-16	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	2022-11-16	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.
6	2022-11-16	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.
7	2022-11-16	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.
8	2022-11-16	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.
9	2022-11-17	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
10	2022-11-17	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

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

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
Receiver	Gauss Instruments	TDEMI 30M	ARO	2022-04-06	2023-04-06
LISN	Solar Electronics	9252-50-24-BNC	LIB	2021-12-22	2022-12-22
Cable - Conducted Cable Assembly	Northwest EMC	OCP, HFP, AWC	OCPA	2022-07-28	2023-07-28
Power Supply	Pacific Power	3120AFX-2L	SMT	NCR	NCR

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.2 dB	-3.2 dB

CONFIGURATIONS INVESTIGATED

MASI0841-3

MODES INVESTIGATED

Charging. Radio on.

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	Baby Sensor	Work Order:	MASI0841
Serial Number:	09	Date:	2022-11-17
Customer:	Masimo Corporation	Temperature:	20.3°C
Attendees:	Anami Joshi	Relative Humidity:	27.8%
Customer Project:	None	Bar. Pressure (PMSL):	1025 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	4.35 VDC via Battery	Configuration:	MASI0841-3

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

The charger used is an engineering mockup to final charging cable. Final assembly cable will simply have magnets at the end of a USB cable instead of the cradle that was used, but will be electrically identical.

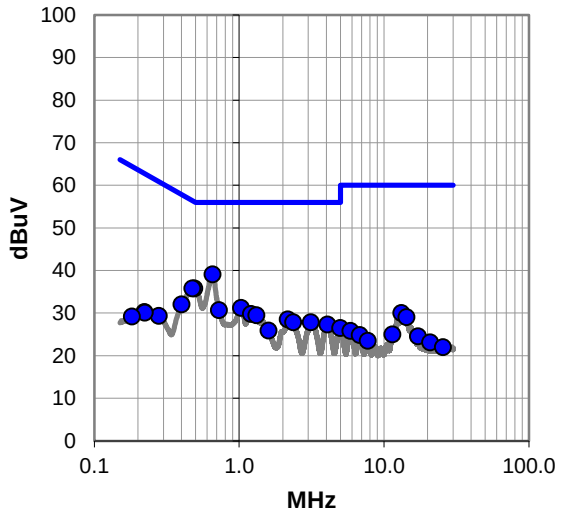
EUT OPERATING MODES

Charging. Radio on.

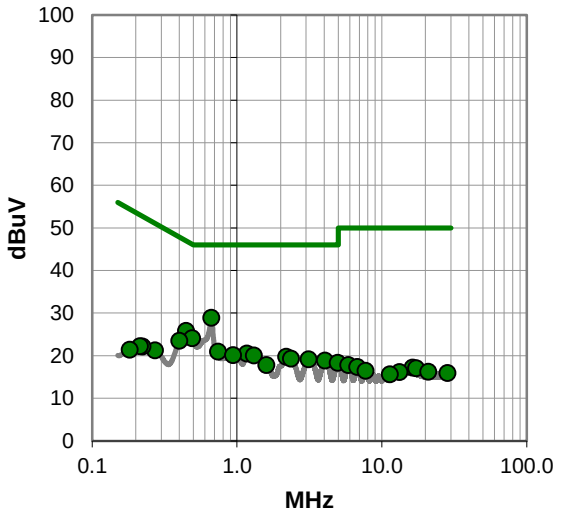
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.655	19.3	19.8	39.1	56.0	-16.9
0.490	16.0	19.8	35.8	56.2	-20.4
0.475	16.0	19.8	35.8	56.4	-20.6
1.029	11.5	19.7	31.2	56.0	-24.8
0.727	10.9	19.8	30.7	56.0	-25.3
0.400	12.2	19.8	32.0	57.8	-25.8
1.207	10.1	19.7	29.8	56.0	-26.2
1.317	9.8	19.7	29.5	56.0	-26.5
2.164	8.7	19.8	28.5	56.0	-27.5
3.121	8.0	19.8	27.8	56.0	-28.2
2.365	8.0	19.8	27.8	56.0	-28.2
4.073	7.4	19.9	27.3	56.0	-28.7
4.988	6.6	19.9	26.5	56.0	-29.5
13.200	9.7	20.3	30.0	60.0	-30.0
1.596	6.2	19.7	25.9	56.0	-30.1
14.343	8.7	20.3	29.0	60.0	-31.0
0.278	9.5	19.8	29.3	60.9	-31.6
0.222	10.4	19.8	30.2	62.8	-32.6
0.223	10.3	19.8	30.1	62.7	-32.6
5.886	5.9	19.9	25.8	60.0	-34.2
11.415	4.7	20.3	25.0	60.0	-35.0
0.182	9.3	19.9	29.2	64.4	-35.2
6.815	4.8	20.0	24.8	60.0	-35.2
17.231	3.9	20.6	24.5	60.0	-35.5
7.726	3.5	20.0	23.5	60.0	-36.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.664	9.1	19.8	28.9	46.0	-17.1
0.444	6.0	19.8	25.8	47.0	-21.2
0.490	4.3	19.8	24.1	46.2	-22.1
0.400	3.7	19.8	23.5	47.8	-24.3
0.739	1.1	19.8	20.9	46.0	-25.1
1.169	0.8	19.7	20.5	46.0	-25.5
0.939	0.4	19.7	20.1	46.0	-25.9
1.311	0.3	19.7	20.0	46.0	-26.0
2.184	-0.1	19.8	19.7	46.0	-26.3
2.365	-0.5	19.8	19.3	46.0	-26.7
3.127	-0.7	19.8	19.1	46.0	-26.9
4.042	-1.1	19.9	18.8	46.0	-27.2
4.959	-1.6	19.9	18.3	46.0	-27.7
1.596	-1.9	19.7	17.8	46.0	-28.2
0.272	1.4	19.8	21.2	51.1	-29.9
0.223	2.3	19.8	22.1	52.7	-30.6
0.214	2.4	19.8	22.2	53.0	-30.8
5.869	-2.1	19.9	17.8	50.0	-32.2
6.778	-2.7	20.0	17.3	50.0	-32.7
16.304	-3.4	20.6	17.2	50.0	-32.8
0.182	1.5	19.9	21.4	54.4	-33.0
17.242	-3.6	20.6	17.0	50.0	-33.0
7.745	-3.6	20.0	16.4	50.0	-33.6
20.931	-4.7	20.9	16.2	50.0	-33.8
13.252	-4.2	20.3	16.1	50.0	-33.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	Baby Sensor	Work Order:	MASI0841
Serial Number:	09	Date:	2022-11-17
Customer:	Masimo Corporation	Temperature:	20.3°C
Attendees:	Anami Joshi	Relative Humidity:	27.8%
Customer Project:	None	Bar. Pressure (PMSL):	1025 mb
Tested By:	Nolan De Ramos	Job Site:	OC06
Power:	4.35 VDC via Battery	Configuration:	MASI0841-3

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

The charger used is an engineering mockup to final charging cable. Final assembly cable will simply have magnets at the end of a USB cable instead of the cradle that was used, but will be electrically identical.

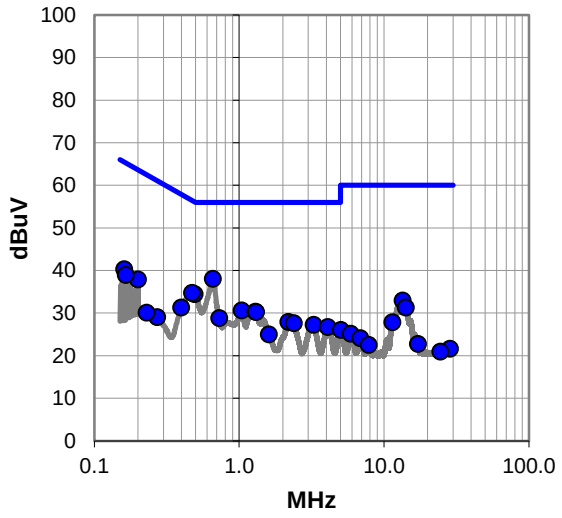
EUT OPERATING MODES

Charging. Radio on.

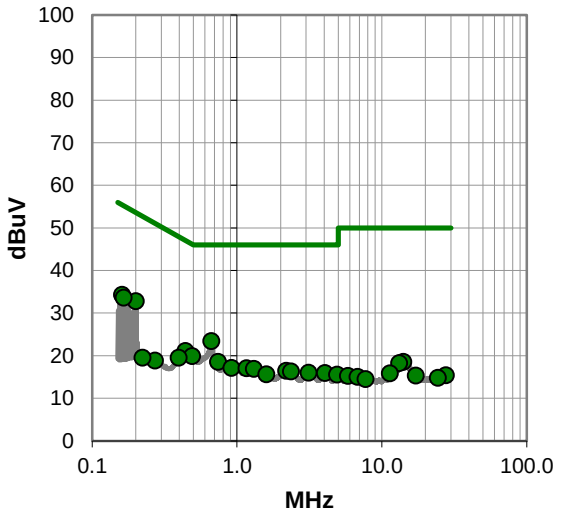
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.660	18.2	19.8	38.0	56.0	-18.0
0.492	14.6	19.8	34.4	56.1	-21.7
0.473	14.9	19.8	34.7	56.5	-21.8
0.161	20.4	19.9	40.3	65.4	-25.1
1.044	10.9	19.7	30.6	56.0	-25.4
1.297	10.6	19.7	30.3	56.0	-25.7
0.200	18.1	19.8	37.9	63.6	-25.7
1.311	10.5	19.7	30.2	56.0	-25.8
0.165	19.0	19.9	38.9	65.2	-26.3
0.397	11.5	19.8	31.3	57.9	-26.6
13.435	12.6	20.3	32.9	60.0	-27.1
0.728	9.0	19.8	28.8	56.0	-27.2
2.188	8.1	19.8	27.9	56.0	-28.1
2.382	7.8	19.8	27.6	56.0	-28.4
14.142	11.0	20.3	31.3	60.0	-28.7
3.273	7.4	19.8	27.2	56.0	-28.8
4.084	6.8	19.9	26.7	56.0	-29.3
1.607	5.3	19.7	25.0	56.0	-31.0
0.272	9.2	19.8	29.0	61.1	-32.1
11.423	7.5	20.3	27.8	60.0	-32.2
0.229	10.3	19.8	30.1	62.5	-32.4
5.055	6.1	19.9	26.0	60.0	-34.0
5.892	5.2	19.9	25.1	60.0	-34.9
6.886	4.1	20.0	24.1	60.0	-35.9
17.213	2.1	20.6	22.7	60.0	-37.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.200	13.0	19.8	32.8	53.6	-20.8
0.161	14.4	19.9	34.3	55.4	-21.1
0.165	13.7	19.9	33.6	55.2	-21.6
0.666	3.6	19.8	23.4	46.0	-22.6
0.440	1.3	19.8	21.1	47.1	-26.0
0.490	0.1	19.8	19.9	46.2	-26.3
0.739	-1.3	19.8	18.5	46.0	-27.5
0.396	-0.3	19.8	19.5	47.9	-28.4
0.916	-2.6	19.7	17.1	46.0	-28.9
1.165	-2.7	19.7	17.0	46.0	-29.0
1.311	-2.8	19.7	16.9	46.0	-29.1
2.184	-3.4	19.8	16.4	46.0	-29.6
2.369	-3.5	19.8	16.3	46.0	-29.7
3.128	-3.8	19.8	16.0	46.0	-30.0
4.048	-4.0	19.9	15.9	46.0	-30.1
1.596	-4.1	19.7	15.6	46.0	-30.4
4.926	-4.4	19.9	15.5	46.0	-30.5
14.128	-1.8	20.3	18.5	50.0	-31.5
13.223	-2.1	20.3	18.2	50.0	-31.8
0.272	-1.0	19.8	18.8	51.1	-32.3
0.223	-0.3	19.8	19.5	52.7	-33.2
11.368	-4.5	20.3	15.8	50.0	-34.2
27.669	-6.2	21.6	15.4	50.0	-34.6
17.157	-5.3	20.6	15.3	50.0	-34.7
5.841	-4.7	19.9	15.2	50.0	-34.8

CONCLUSION

Pass

Tested By

OCCUPIED BANDWIDTH

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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

Per ANSI C63.10:2013, 6.9.3, the spectrum analyzer was configured as follows:

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

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

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

OCCUPIED BANDWIDTH

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

DEVIATIONS FROM TEST STANDARD

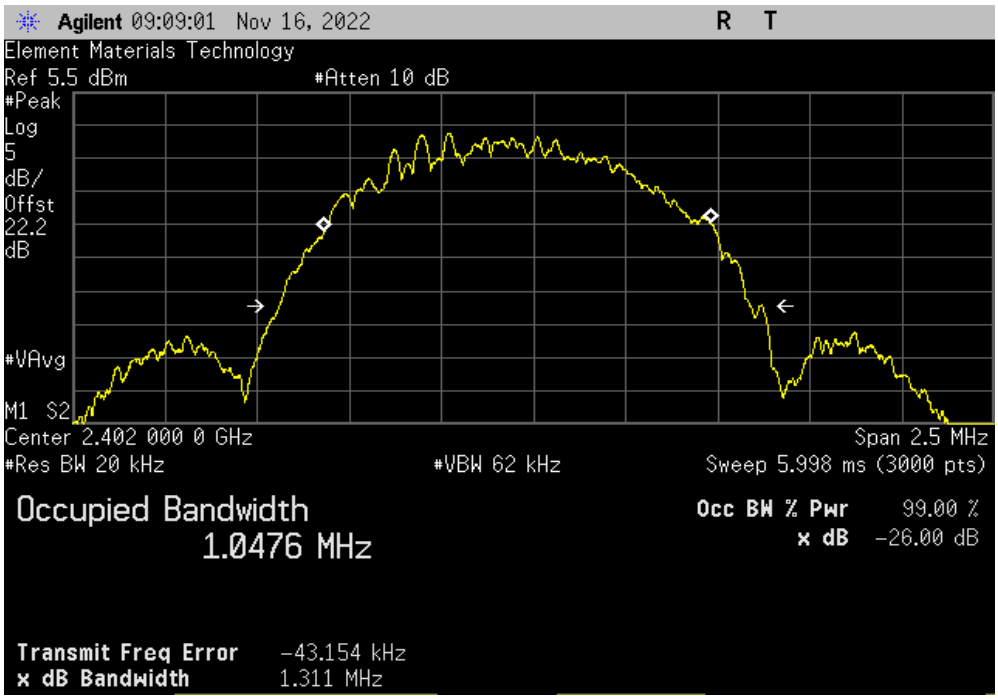
None

Configuration #	**1**	*Signature*

	Value	**Limit**	**Result**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	1.048 MHz	N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	1.043 MHz	N/A	N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz	1.046 MHz	N/A	N/A

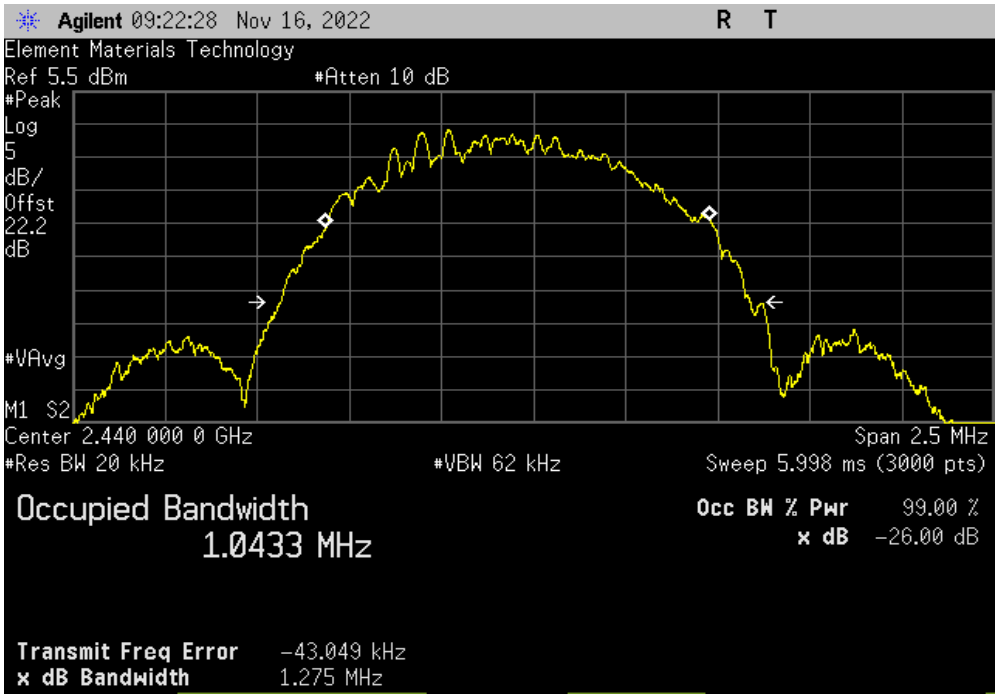
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

				Value	Limit	Result
				1.048 MHz	N/A	N/A



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz

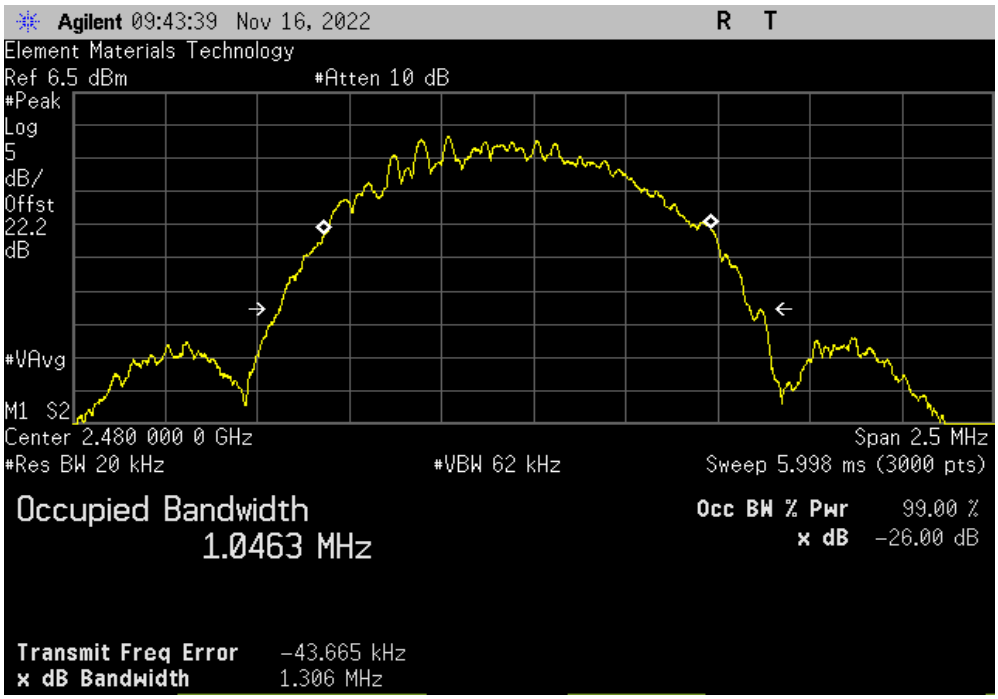
				Value	Limit	Result
				1.043 MHz	N/A	N/A



OCCUPIED BANDWIDTH

BLE/GFSK 1 Mbps High Channel, 2480 MHz

				Value	Limit	Result
				1.046 MHz	N/A	N/A



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.

DTS BANDWIDTH

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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

The 6dB DTS bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

DTS BANDWIDTH

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

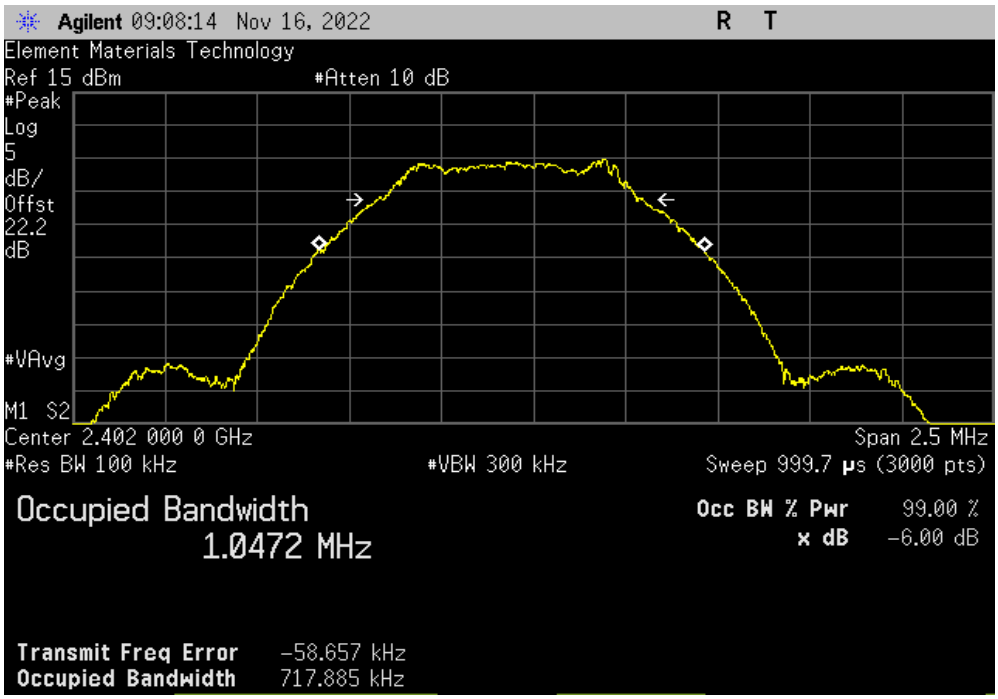
DEVIATIONS FROM TEST STANDARD

None

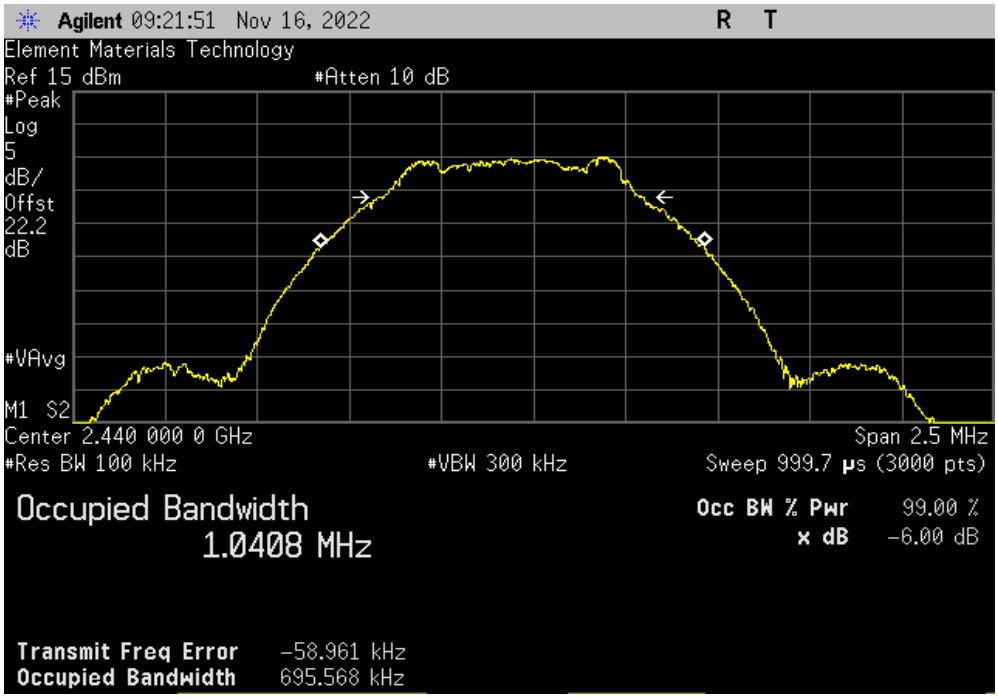
Configuration #	**1**	*Signature*

	Value	**Limit (≥)**	**Result**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	717.885 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	695.568 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	716.955 kHz	500 kHz	Pass

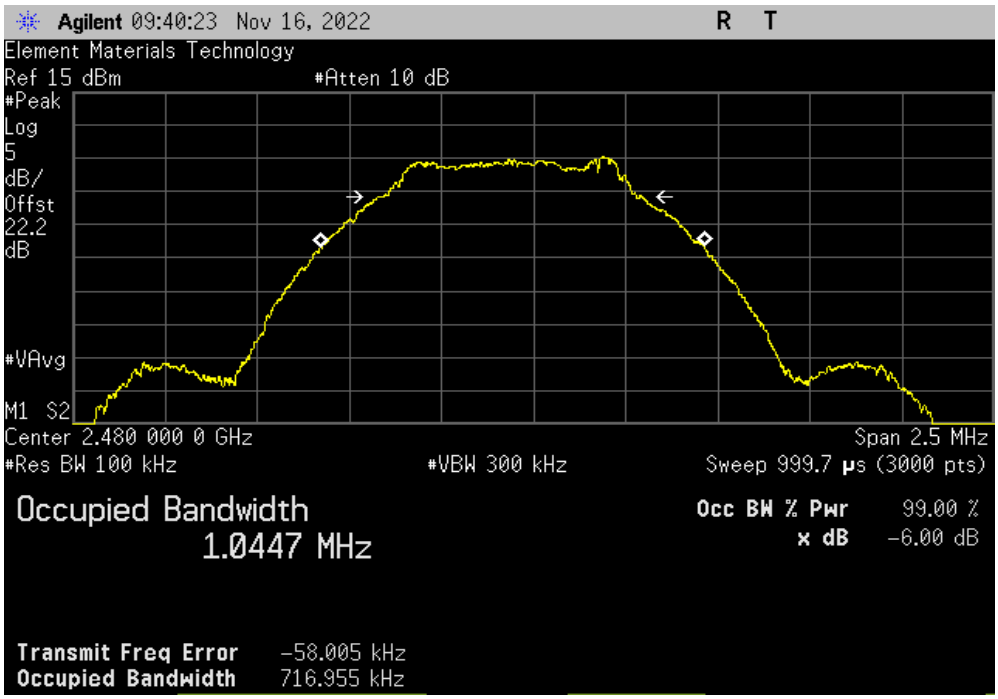
BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Value	Limit (≥)	Result
				717.885 kHz	500 kHz	Pass



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



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



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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)

element

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

DEVIATIONS FROM TEST STANDARD

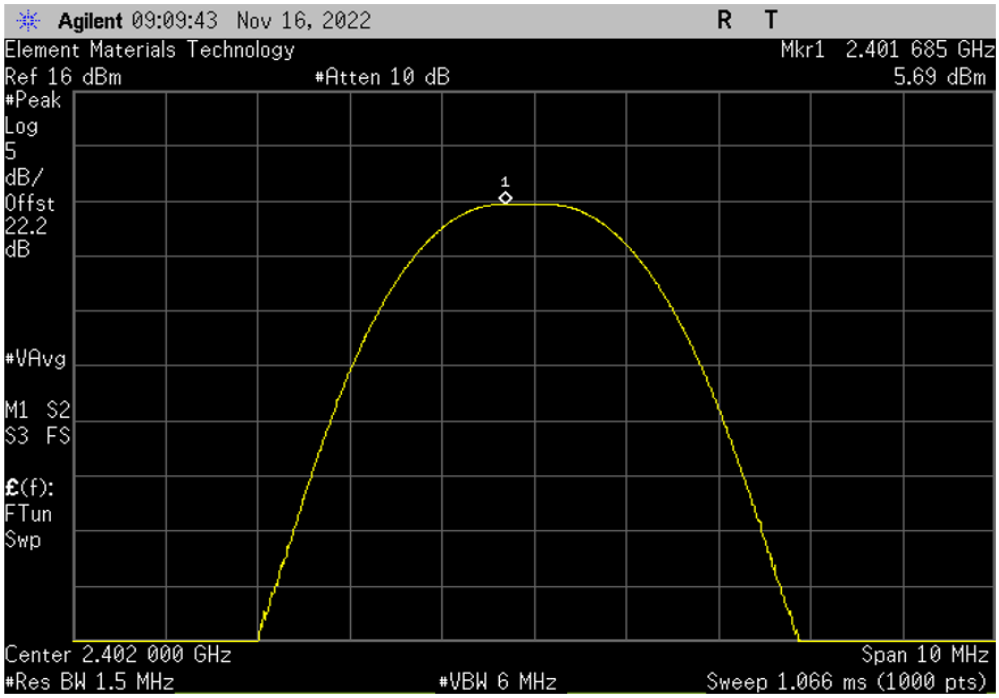
None

Configuration #	**1**	*Signature*

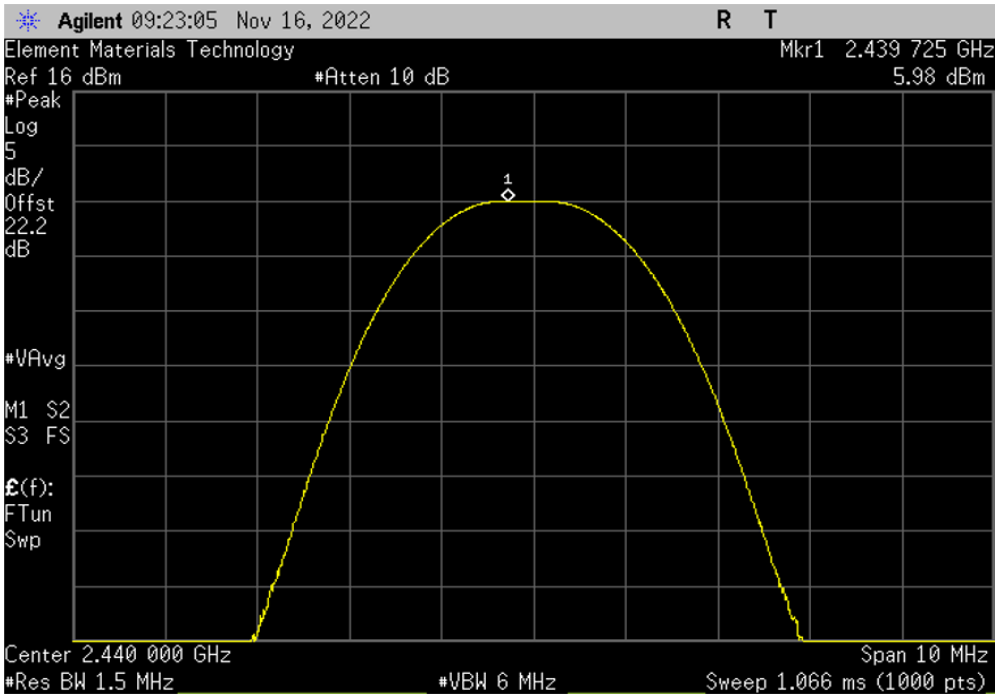
	Out Pwr (dBm)	**Antenna Gain (dBi)**	**EIRP (dBm)**	**EIRP Limit (dBm)**	**Result**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	5.69	-1.83	3.86	36	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	5.98	-1.83	4.15	36	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	6.08	-1.83	4.25	36	Pass

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		5.69	-1.83	3.86	36	Pass

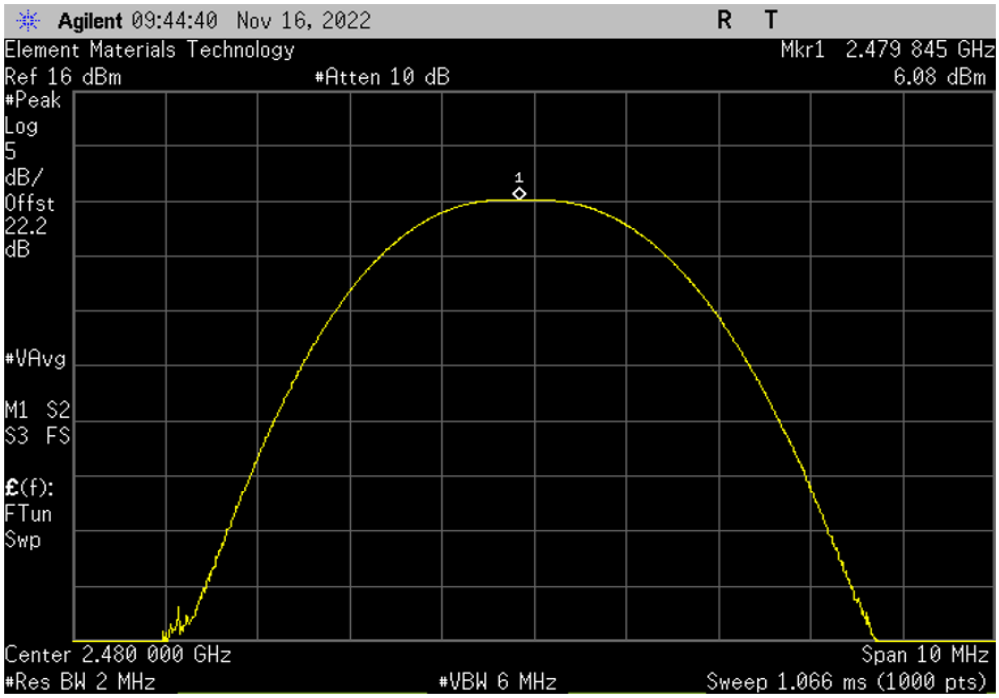


BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		5.98	-1.83	4.15	36	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		6.08	-1.83	4.25	36	Pass



OUTPUT POWER

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

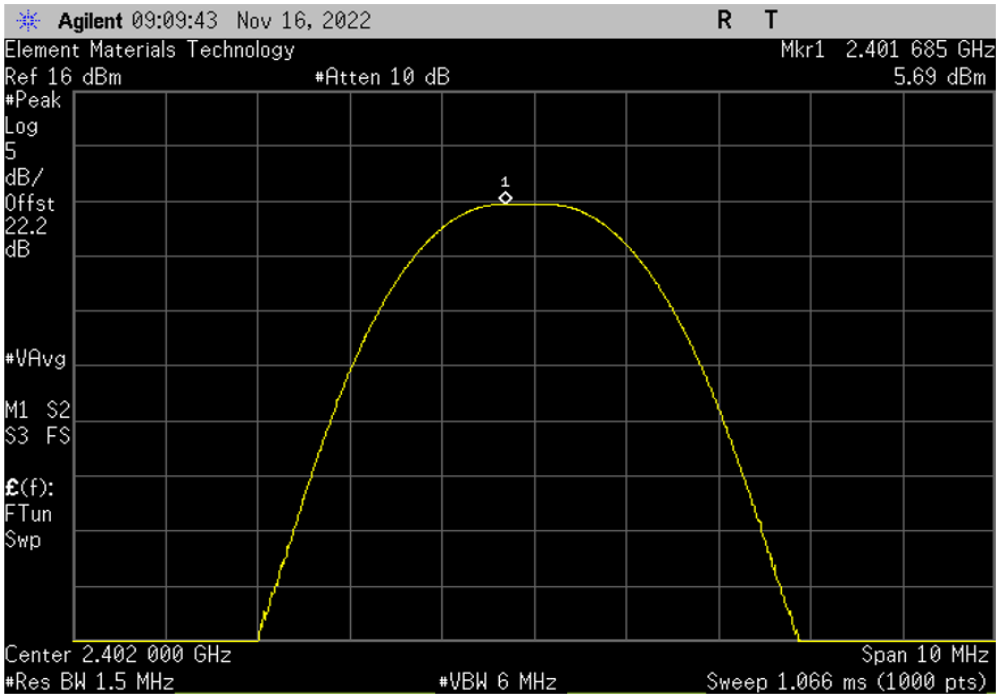
DEVIATIONS FROM TEST STANDARD

None

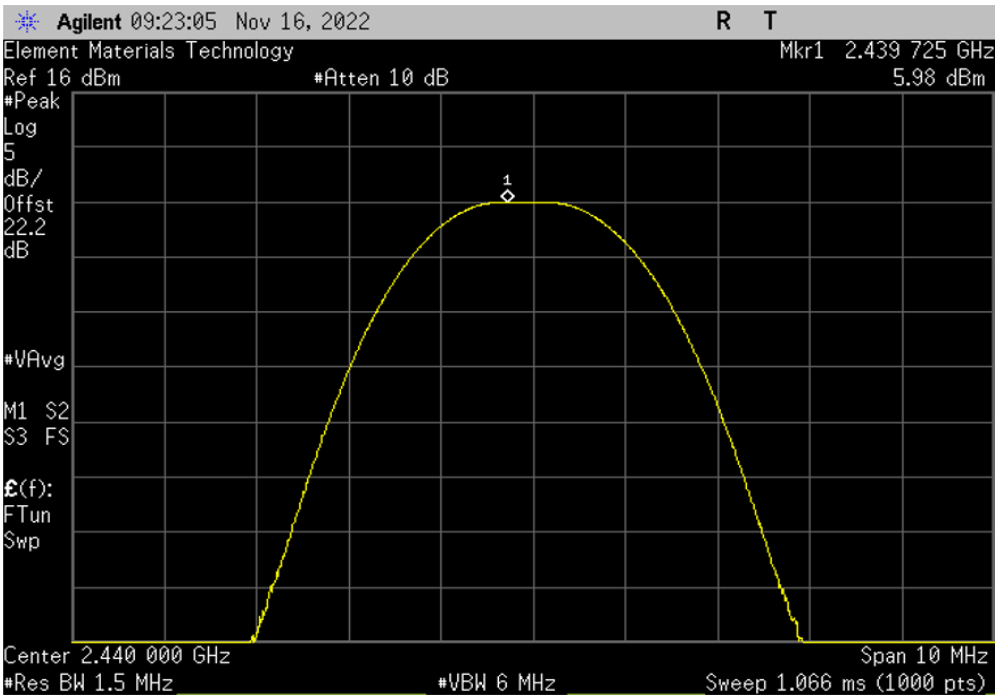
Configuration #	**1**	*Signature*

	Out Pwr (dBm)	**Reduced Limit (dBm)**	**Result**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	5.69	30	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	5.98	30	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	6.08	30	Pass

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Out Pwr (dBm)	Reduced Limit (dBm)	Result
				5.69	30	Pass

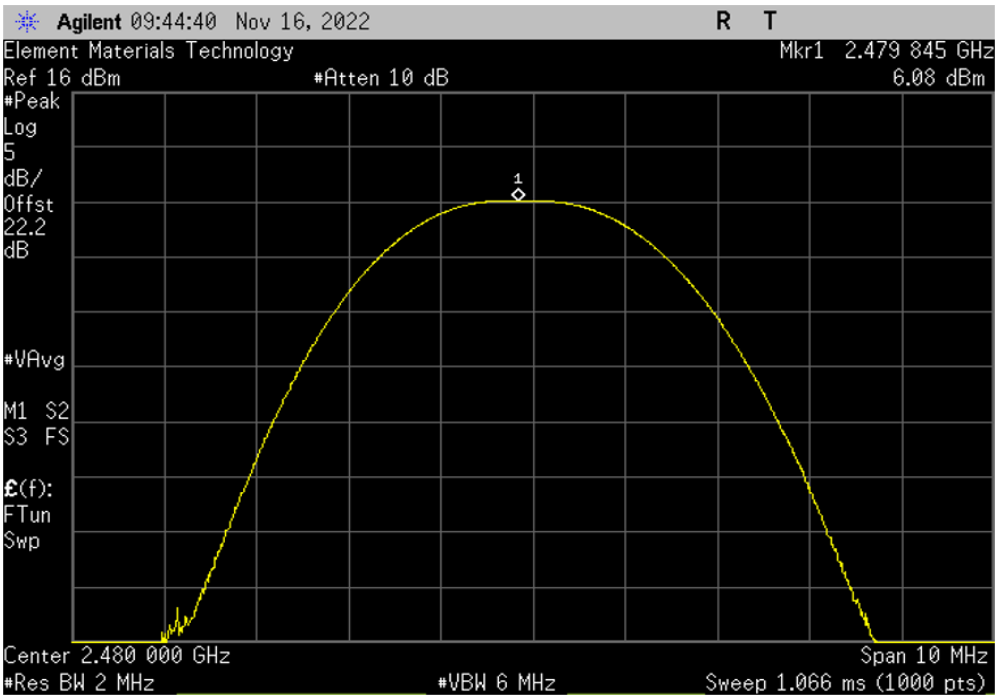


BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
				Out Pwr (dBm)	Reduced Limit (dBm)	Result
				5.98	30	Pass



OUTPUT POWER

BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Out Pwr (dBm)	Reduced Limit (dBm)	Result
				6.08	30	Pass



POWER SPECTRAL DENSITY

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

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

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

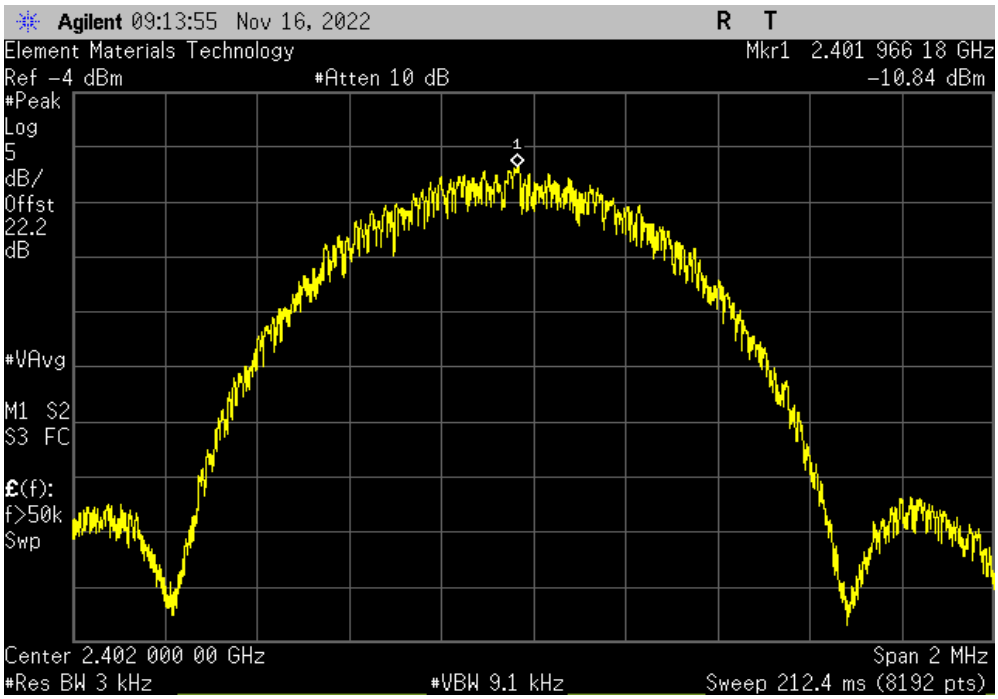
DEVIATIONS FROM TEST STANDARD

None

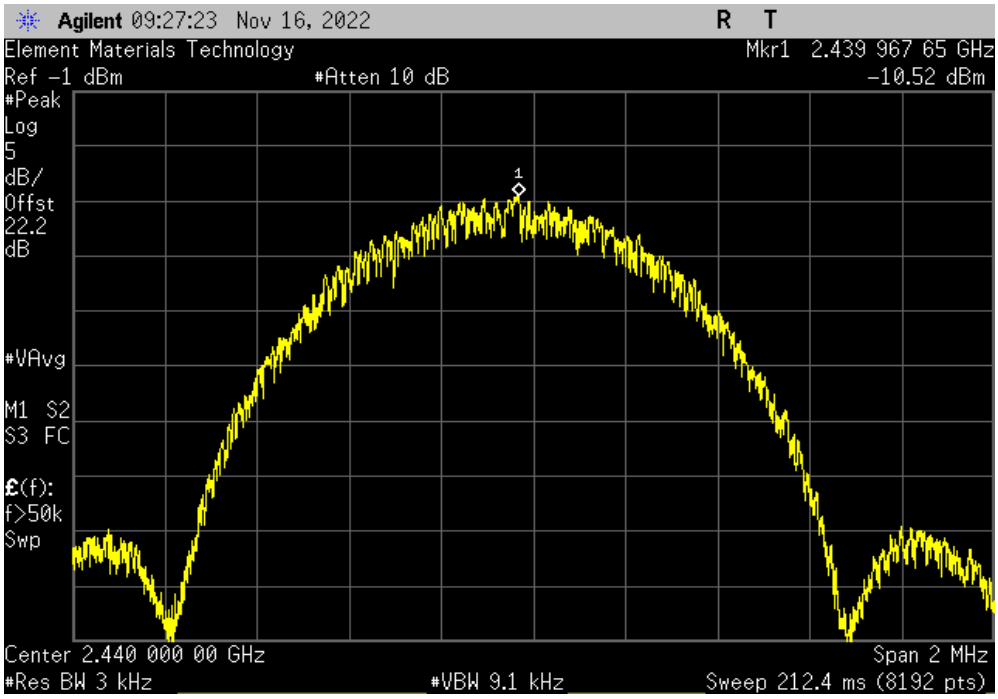
Configuration #	**1**	*Signature*

	Value dBm/3kHz	**Limit < dBm/3kHz**	**Results**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	-10.839	8	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	-10.521	8	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	-10.442	8	Pass

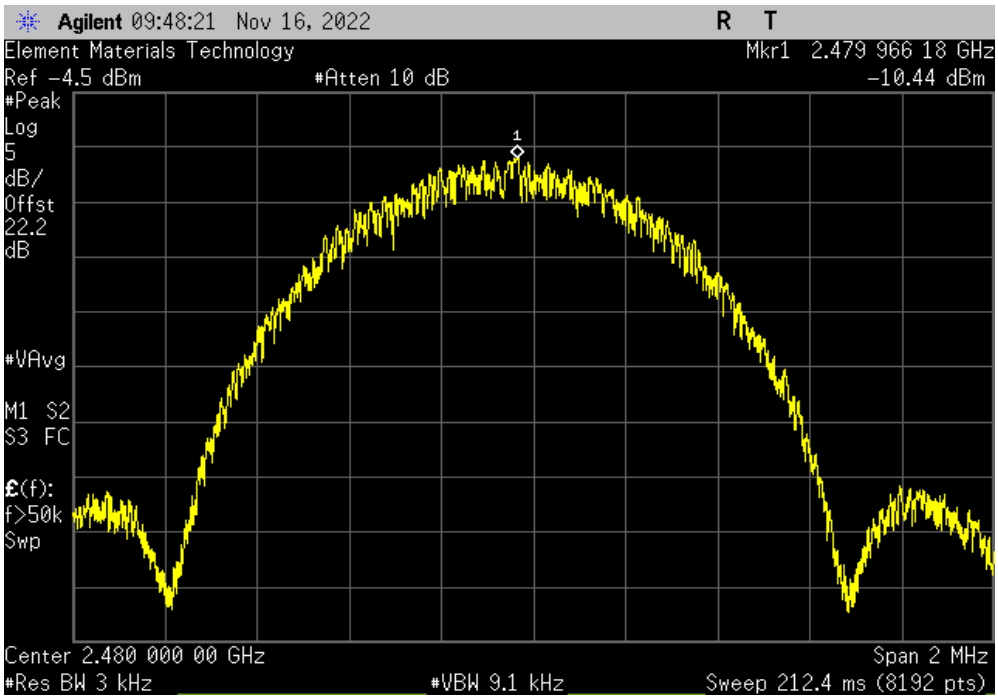
BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-10.839	8	Pass



BLE/GFSK 1 Mbps Mid Channel, 2440 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-10.521	8	Pass



BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-10.442	8	Pass



BAND EDGE COMPLIANCE

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

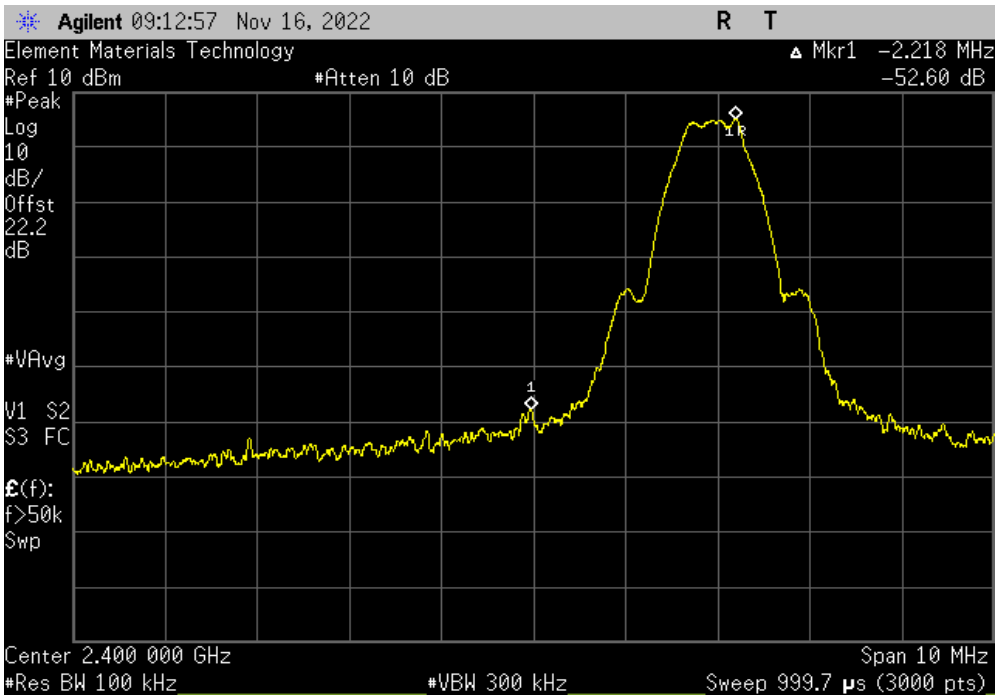
DEVIATIONS FROM TEST STANDARD

None

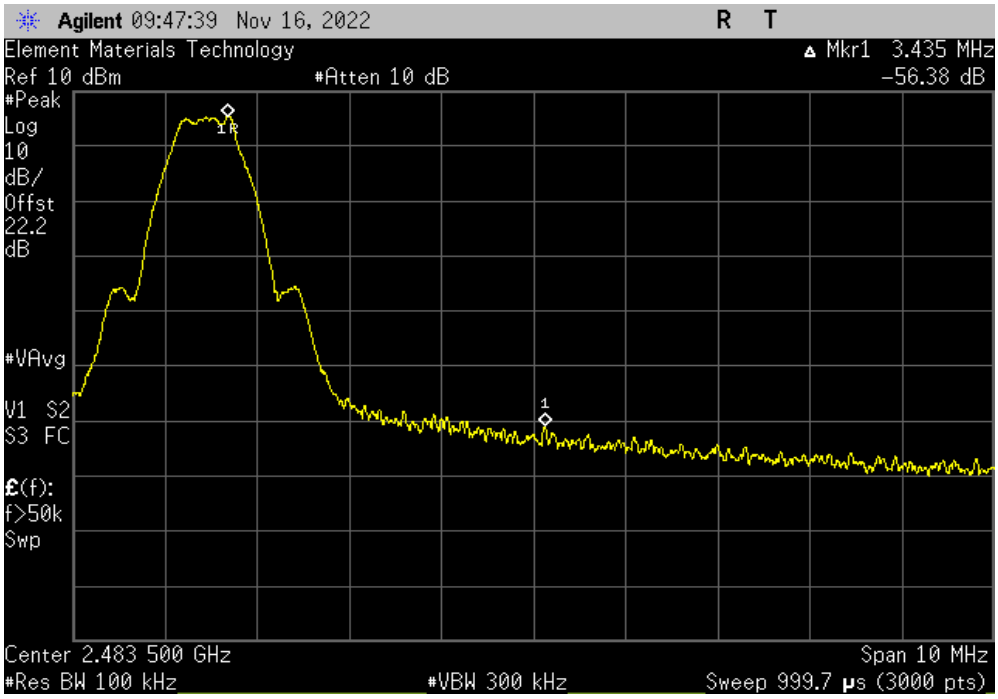
Configuration #	**1**	*Signature*

	Value (dBc)	**Limit ≤ (dBc)**	**Result**
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	-52.6	-20	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	-56.38	-20	Pass

BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-52.6	-20	Pass



BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-56.38	-20	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2022.02.07.0

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
Block - DC	Aeroflex	INMET 8535	AMO	2022-02-18	2023-02-18
Attenuator	Fairview Microwave	SA18H-20	UAY	2022-03-30	2023-03-30
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2022-02-14	2023-02-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2022-04-05	2023-04-05
Generator - Signal	Keysight	N5182B	TES	2021-09-14	2024-09-14

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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.

The reference level offset for the screen captures were based on a measured value of the loss between the spectrum analyzer and the EUT which was verified at the time of test.

SPURIOUS CONDUCTED EMISSIONS

TbtTx 2022.06.03.0 XMit 2022.02.07.0

EUT:	**Baby Sensor**			**Work Order:**	**MASI0841**
Serial Number:	**07**			**Date:**	**16-Nov-22**
Customer:	**Masimo Corporation**			**Temperature:**	**21 °C**
Attendees:	**Anami Joshi**			**Humidity:**	**28% RH**
Project:	**None**			**Barometric Pres.:**	**1027 mbar**
Tested by:	**Nolan De Ramos**	**Power:**	**4.35 VDC via Battery**	**Job Site:**	**OC13**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Reference Level Offset = 20 dB Attenuator + DC Block + Test Cable + U.FL to SMA cable (Customer provided)

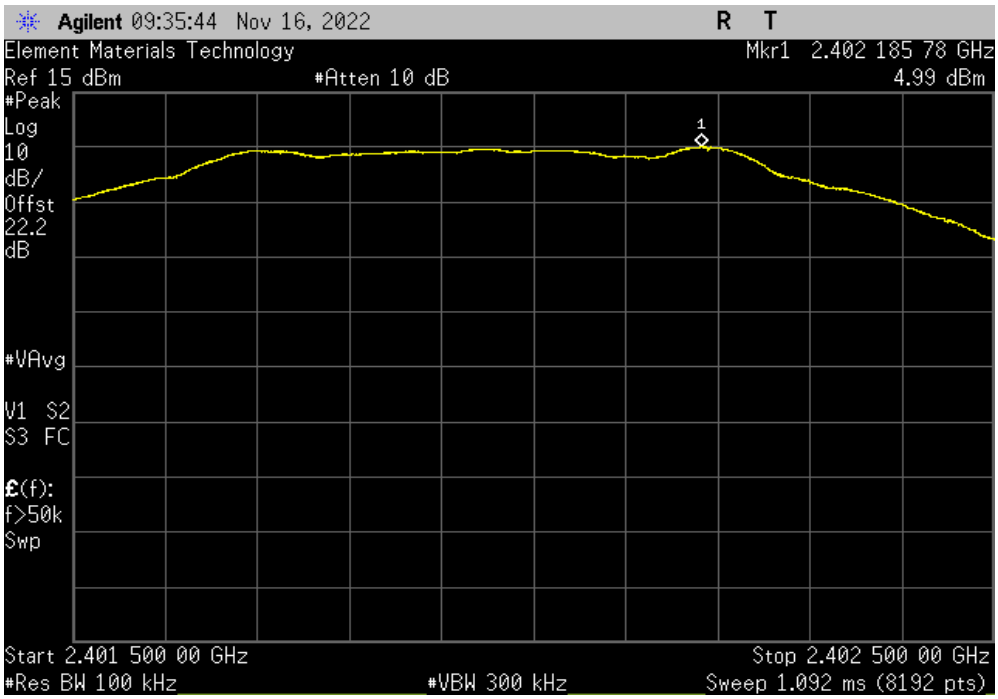
DEVIATIONS FROM TEST STANDARD

None

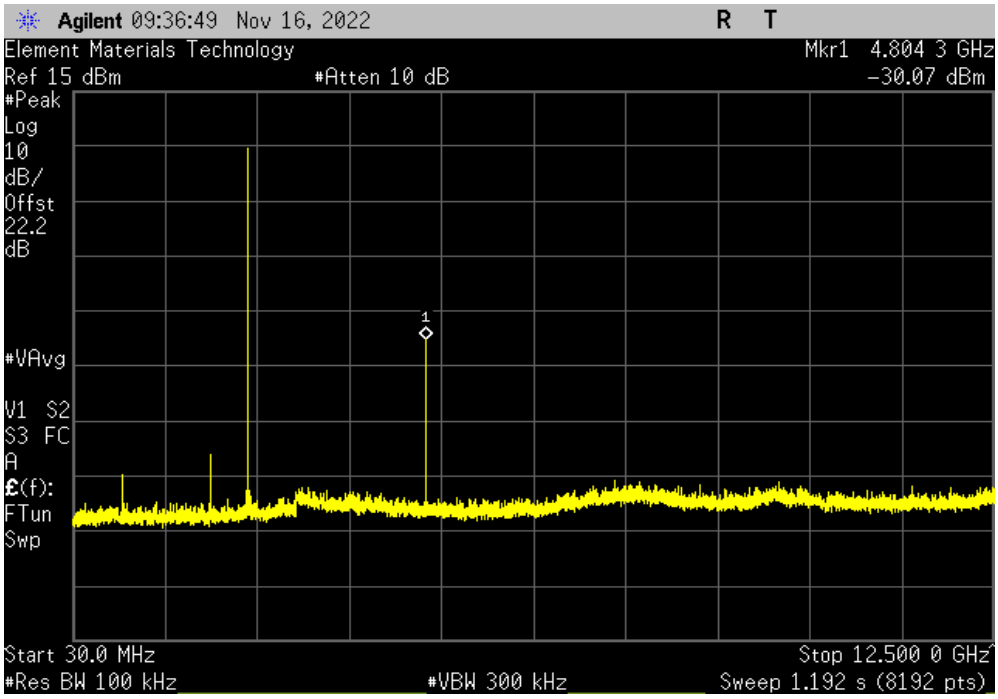
Configuration #	**1**	*Signature*

	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	Fundamental	2402.19	N/A	N/A	N/A
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	30 MHz - 12.5 GHz	4804.3	-35.06	-20	Pass
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	12.5 GHz - 25 GHz	23966.9	-57.49	-20	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	Fundamental	2440.19	N/A	N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	30 MHz - 12.5 GHz	4880.4	-33.47	-20	Pass
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz	12.5 GHz - 25 GHz	23907.3	-57.11	-20	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	Fundamental	2480.19	N/A	N/A	N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz	30 MHz - 12.5 GHz	4959.5	-31.76	-20	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	12.5 GHz - 25 GHz	24388	-57.28	-20	Pass

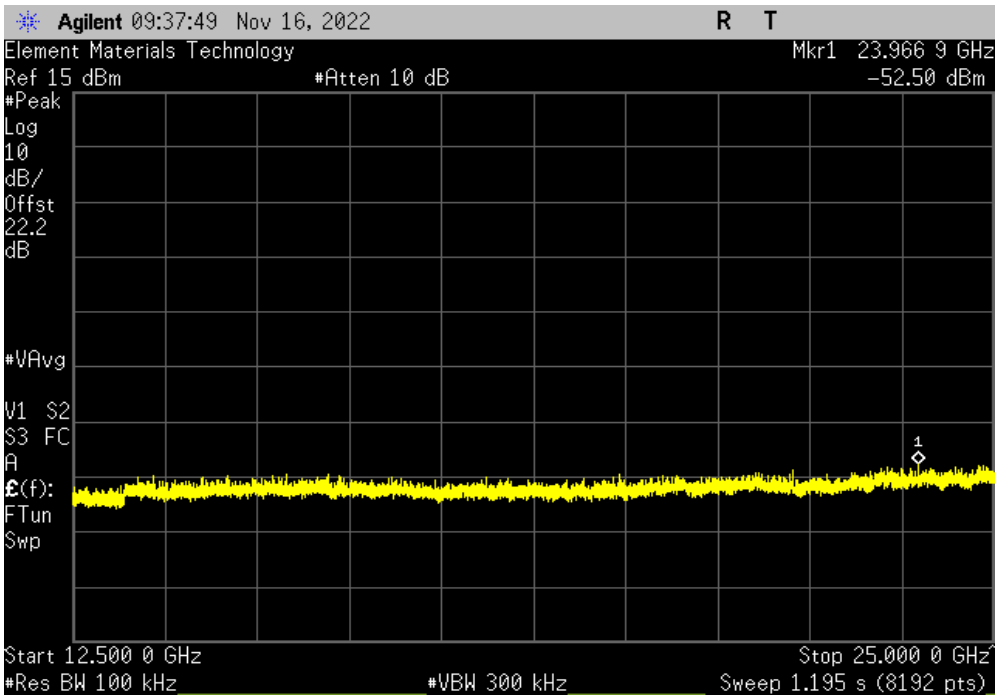
BLE/GFSK 1 Mbps Low Channel, 2402 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2402.19	N/A	N/A	N/A



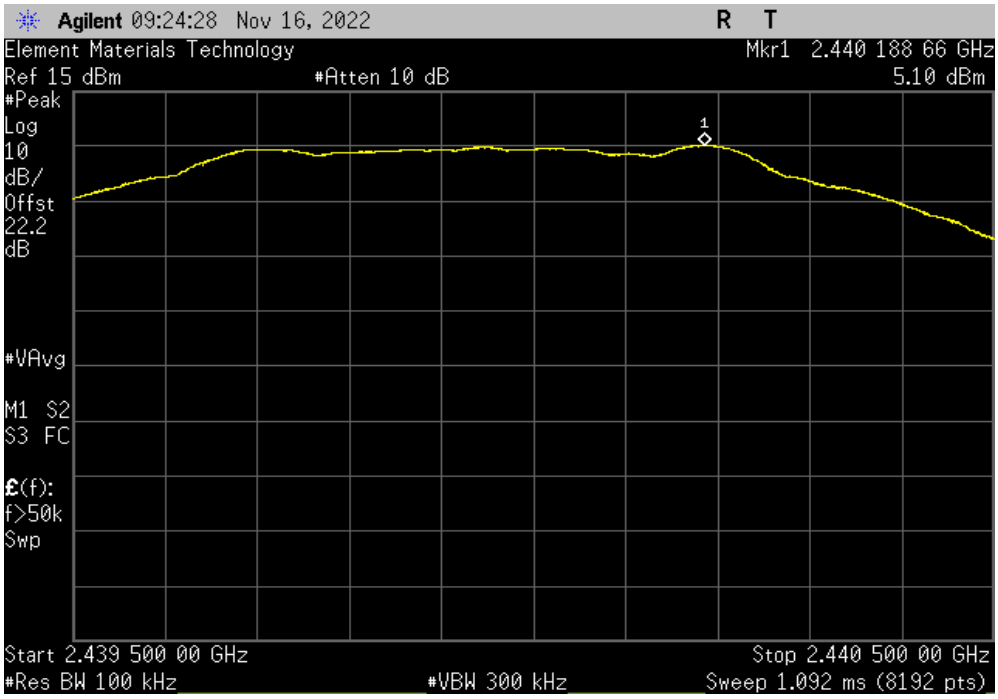
BLE/GFSK 1 Mbps Low Channel, 2402 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	4804.3	-35.06	-20	Pass



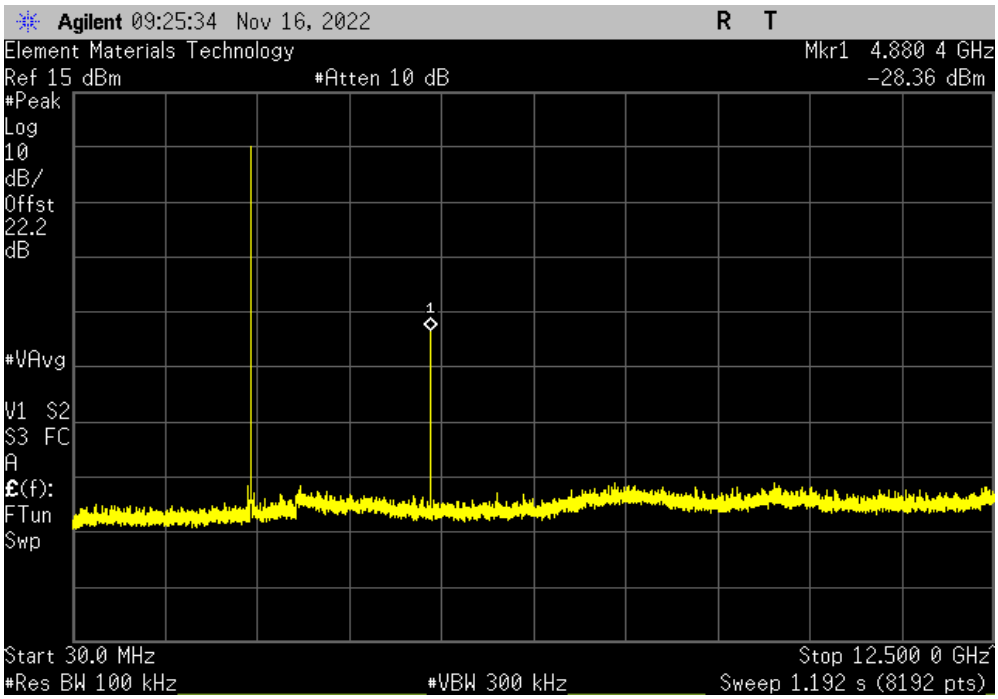
BLE/GFSK 1 Mbps Low Channel, 2402 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz	23966.9	-57.49	-20	Pass



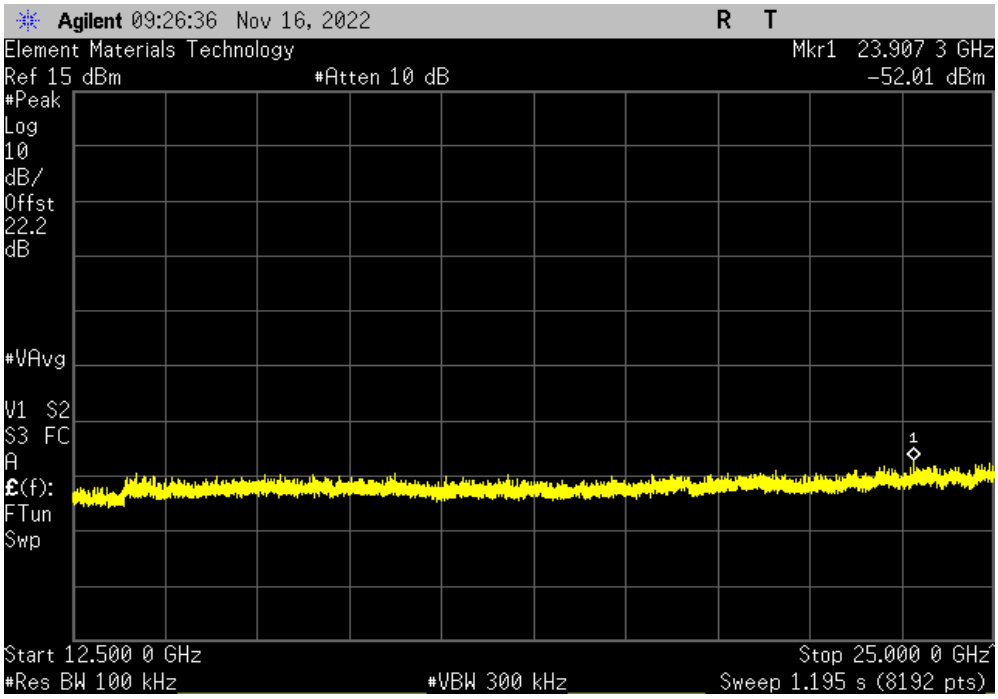
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Fundamental	2440.19	N/A	N/A	N/A



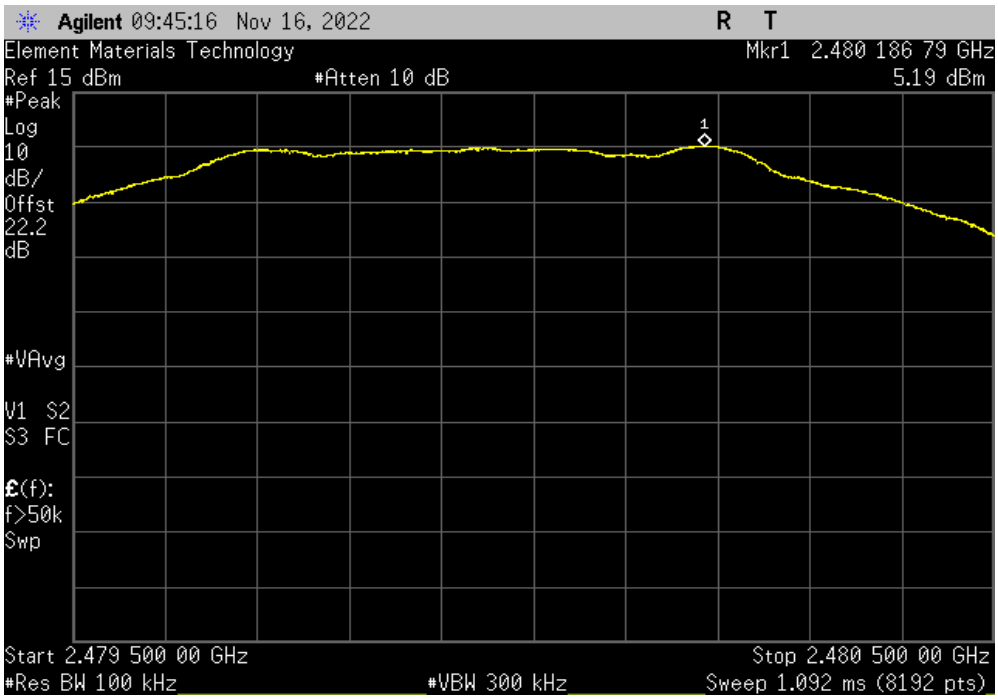
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	4880.4	-33.47	-20	Pass



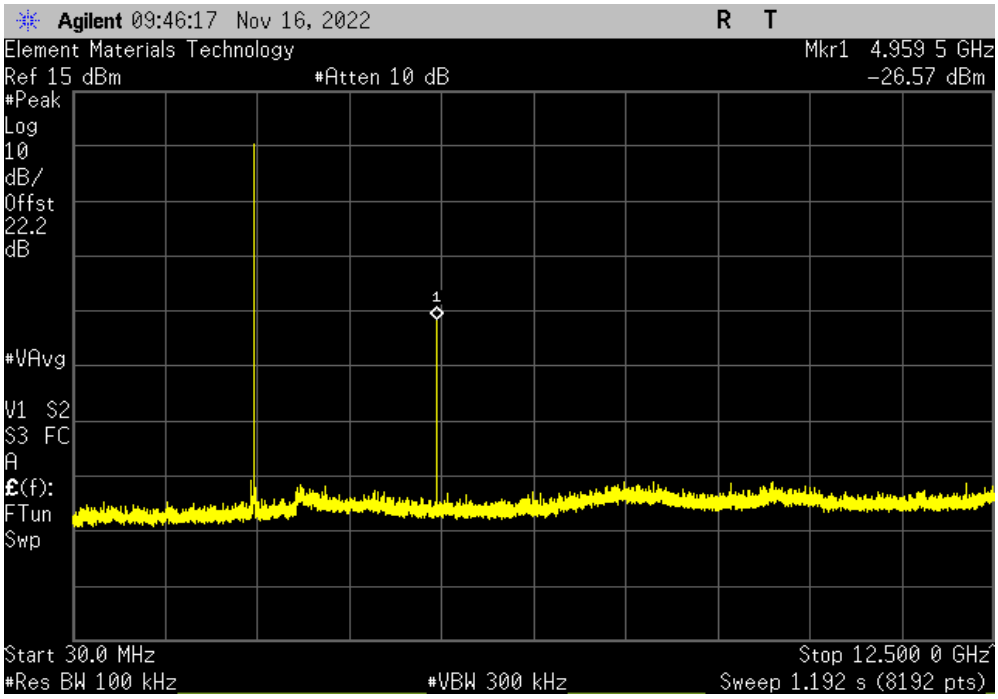
BLE/GFSK 1 Mbps Mid Channel, 2440 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	23907.3	-57.11	-20	Pass



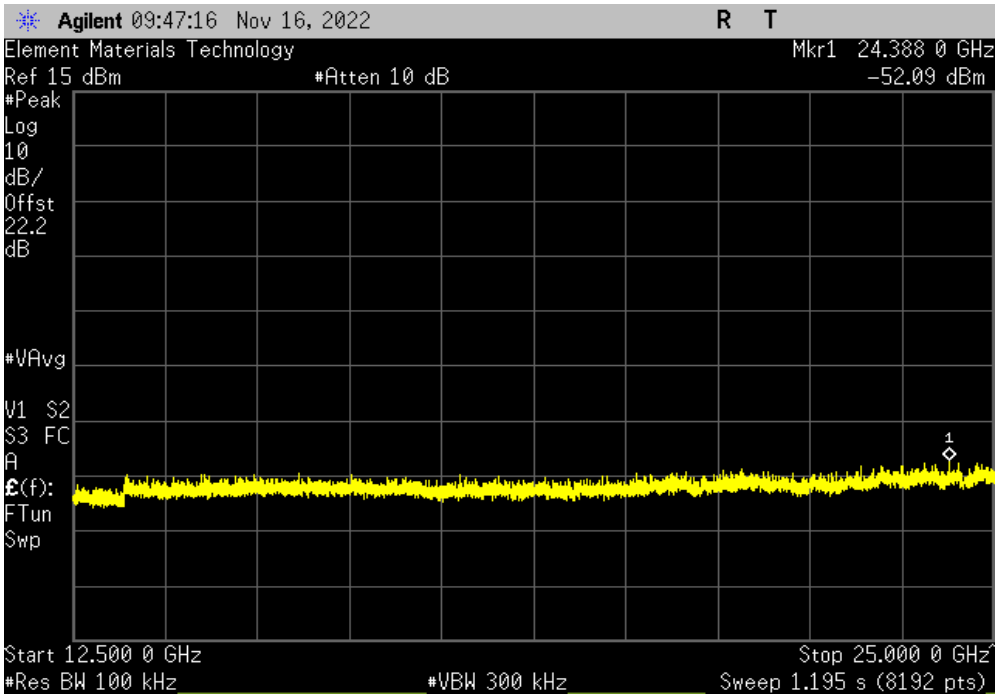
BLE/GFSK 1 Mbps High Channel, 2480 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2480.19	N/A	N/A	N/A



BLE/GFSK 1 Mbps High Channel, 2480 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	4959.5	-31.76	-20	Pass



BLE/GFSK 1 Mbps High Channel, 2480 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24388	-57.28	-20	Pass



SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

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.

Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of 10*log(1/dc).

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Double Ridge	ETS Lindgren	3115	AIR	2022-07-19	2024-07-19
Cable	Northwest EMC	1-8GHz RE Cables	OCJ	2022-02-09	2023-02-09
Amplifier - Pre-Amplifier	Cernex	CBL01084020-xx	PAX	2022-02-09	2023-02-09
Filter - High Pass	Micro-Tronics	HPM50111	HHX	2022-06-06	2023-06-06
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2022-01-12	2023-01-12
Antenna - Standard Gain	ETS Lindgren	3160-07	AHR	NCR	NCR
Cable	Northwest EMC	8-18GHz RE Cables	OCO	2022-02-09	2023-02-09
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	2022-02-09	2023-02-09
Antenna - Standard Gain	ETS Lindgren	3160-08	AHT	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	2022-02-09	2023-02-09
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	NCR
Cable	Northwest EMC	18-26GHz RE Cables	OCK	2021-12-17	2022-12-17
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	2021-12-17	2022-12-17
Antenna - Biconilog	EMCO	3142B	AXK	2022-04-19	2024-04-19
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	2022-02-11	2023-02-11
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	2022-02-11	2023-02-11
Filter - Low Pass	Micro-Tronics	LPM50004	LFT	2022-01-14	2023-01-14
Filter - High Pass	TTE	H97-100K-50-720B	HHZ	2022-09-23	2023-09-23
Attenuator	Fairview Microwave	SA18H-20	TKQ	2022-06-06	2023-06-06

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	5.1 dB	-5.1 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 26000 MHz

POWER INVESTIGATED

4.35 VDC via Battery

CONFIGURATIONS INVESTIGATED

MASI0841-2

MODES INVESTIGATED

Transmitting Bluetooth Low Energy: Low channel 2402 MHz, 1 Mbps. High channel 2480 MHz, 1 Mbps.
Transmitting Bluetooth Low Energy: Low channel 2402 MHz, 1 Mbps. Mid channel 2440, 1 Mbps. High channel 2480 MHz, 1 Mbps.

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	Baby Sensor	Work Order:	MASI0841
Serial Number:	09	Date:	2022-11-16
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi	Relative Humidity:	27.8%
Customer Project:	None	Bar. Pressure (PMSL):	1027 mb
Tested By:	Nolan De Ramos	Job Site:	OC10
Power:	4.35 VDC via Battery	Configuration:	MASI0841-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	15	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

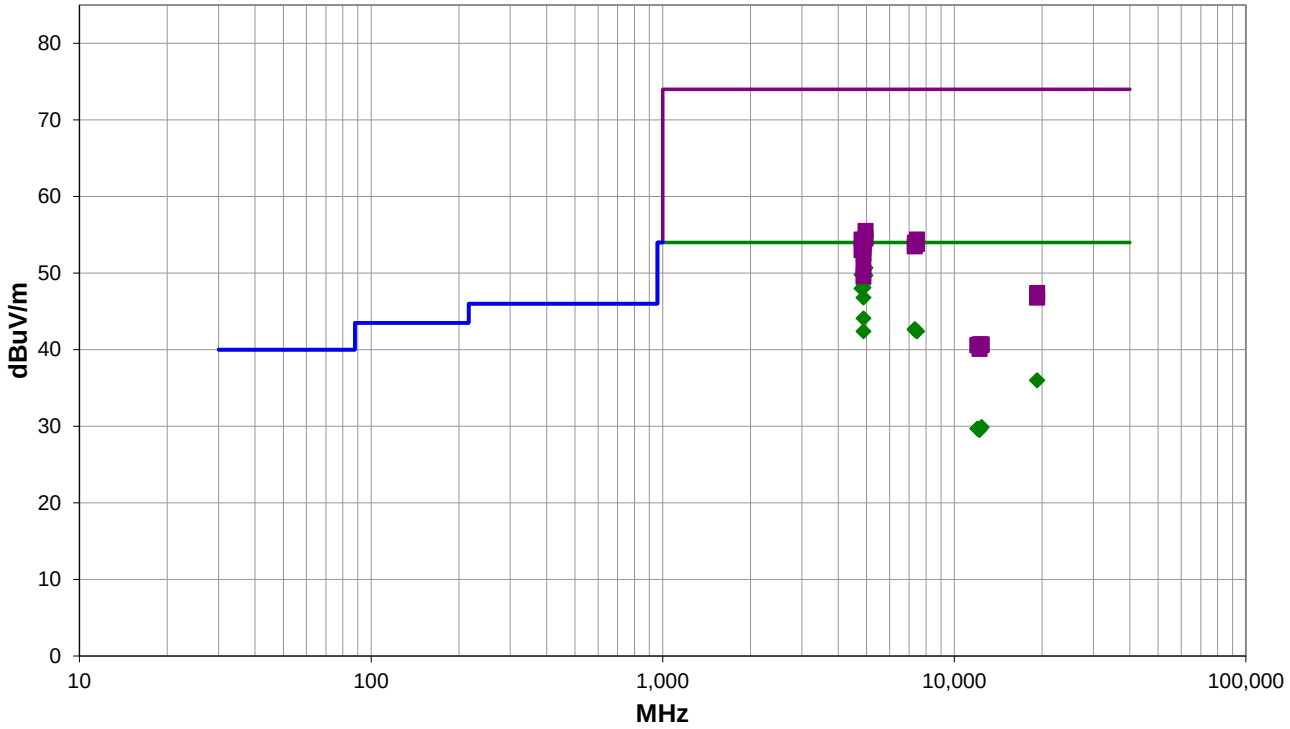
None

EUT OPERATING MODES

Transmitting Bluetooth Low Energy: Low channel 2402 MHz, 1 Mbps. Mid channel 2440, 1 Mbps. High channel 2480 MHz, 1 Mbps.

DEVIATIONS FROM TEST STANDARD

None



Run #: 15 ■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #15

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
4959.858	53.3	-2.6	1.5	265.0	3.0	0.0	Horz	AV	0.0	50.7	54.0	-3.3	Tx High Ch, 1 Mbps, EUT Horz
4803.942	52.8	-3.0	1.7	255.0	3.0	0.0	Horz	AV	0.0	49.8	54.0	-4.2	Tx Low Ch, 1 Mbps, EUT Horz
4959.875	52.3	-2.6	1.0	154.0	3.0	0.0	Vert	AV	0.0	49.7	54.0	-4.3	Tx High Ch, 1 Mbps, EUT Vert
4879.900	51.9	-2.8	1.2	70.0	3.0	0.0	Horz	AV	0.0	49.1	54.0	-4.9	Tx Mid Ch, 1 Mbps, EUT Horz
4879.900	51.4	-2.8	1.0	352.0	3.0	0.0	Vert	AV	0.0	48.6	54.0	-5.4	Tx Mid Ch, 1 Mbps, EUT Vert
4879.825	50.9	-2.8	1.2	154.0	3.0	0.0	Vert	AV	0.0	48.1	54.0	-5.9	Tx Mid Ch, 1 Mbps, EUT on Side
4803.842	51.0	-3.0	1.0	165.0	3.0	0.0	Vert	AV	0.0	48.0	54.0	-6.0	Tx Low Ch, 1 Mbps, EUT Vert
4879.858	49.6	-2.8	3.9	125.0	3.0	0.0	Horz	AV	0.0	46.8	54.0	-7.2	Tx Mid Ch, 1 Mbps, EUT on Side
4879.917	46.9	-2.8	2.9	222.0	3.0	0.0	Horz	AV	0.0	44.1	54.0	-9.9	Tx Mid Ch, 1 Mbps, EUT Vert
7320.300	35.2	7.5	1.5	239.0	3.0	0.0	Vert	AV	0.0	42.7	54.0	-11.3	Tx Mid Ch, 1 Mbps, EUT Vert
7319.442	35.1	7.5	2.4	202.0	3.0	0.0	Horz	AV	0.0	42.6	54.0	-11.4	Tx Mid Ch, 1 Mbps, EUT Horz
4879.900	45.2	-2.8	3.1	119.0	3.0	0.0	Vert	AV	0.0	42.4	54.0	-11.6	Tx Mid Ch, 1 Mbps, EUT Horz
7437.608	34.8	7.6	1.5	53.0	3.0	0.0	Horz	AV	0.0	42.4	54.0	-11.6	Tx High Ch, 1 Mbps, EUT Horz
7439.233	34.8	7.6	1.5	339.0	3.0	0.0	Vert	AV	0.0	42.4	54.0	-11.6	Tx High Ch, 1 Mbps, EUT Vert
19216.240	36.9	-0.9	1.3	68.0	3.0	0.0	Horz	AV	0.0	36.0	54.0	-18.0	Tx Low Ch, 1 Mbps, EUT Horz
19215.760	36.9	-0.9	1.3	18.0	3.0	0.0	Vert	AV	0.0	36.0	54.0	-18.0	Tx Low Ch, 1 Mbps, EUT Vert
4960.333	58.1	-2.6	1.5	265.0	3.0	0.0	Horz	PK	0.0	55.5	74.0	-18.5	Tx High Ch, 1 Mbps, EUT Horz
4960.442	57.1	-2.6	1.0	154.0	3.0	0.0	Vert	PK	0.0	54.5	74.0	-19.5	Tx High Ch, 1 Mbps, EUT Vert
7439.683	46.8	7.6	1.5	53.0	3.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	Tx High Ch, 1 Mbps, EUT Horz
4804.442	57.4	-3.0	1.7	255.0	3.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	Tx Low Ch, 1 Mbps, EUT Horz
4880.483	56.7	-2.7	1.2	70.0	3.0	0.0	Horz	PK	0.0	54.0	74.0	-20.0	Tx Mid Ch, 1 Mbps, EUT Horz
7320.208	46.5	7.5	1.5	239.0	3.0	0.0	Vert	PK	0.0	54.0	74.0	-20.0	Tx Mid Ch, 1 Mbps, EUT Vert
7438.792	46.2	7.6	1.5	339.0	3.0	0.0	Vert	PK	0.0	53.8	74.0	-20.2	Tx High Ch, 1 Mbps, EUT Vert
4879.433	56.4	-2.8	1.0	352.0	3.0	0.0	Vert	PK	0.0	53.6	74.0	-20.4	Tx Mid Ch, 1 Mbps, EUT Vert
7317.592	46.0	7.5	2.4	202.0	3.0	0.0	Horz	PK	0.0	53.5	74.0	-20.5	Tx Mid Ch, 1 Mbps, EUT Horz
4879.767	56.0	-2.8	1.2	154.0	3.0	0.0	Vert	PK	0.0	53.2	74.0	-20.8	Tx Mid Ch, 1 Mbps, EUT on Side
4804.375	56.0	-3.0	1.0	165.0	3.0	0.0	Vert	PK	0.0	53.0	74.0	-21.0	Tx Low Ch, 1 Mbps, EUT Vert
4880.592	55.3	-2.7	3.9	125.0	3.0	0.0	Horz	PK	0.0	52.6	74.0	-21.4	Tx Mid Ch, 1 Mbps, EUT on Side
4879.400	53.5	-2.8	2.9	222.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	Tx Mid Ch, 1 Mbps, EUT Vert
12399.110	31.5	-1.6	1.5	80.0	3.0	0.0	Vert	AV	0.0	29.9	54.0	-24.1	Tx High Ch, 1 Mbps, EUT Vert
12399.940	31.5	-1.6	1.5	360.0	3.0	0.0	Horz	AV	0.0	29.9	54.0	-24.1	Tx High Ch, 1 Mbps, EUT Horz
12009.030	32.3	-2.6	1.5	249.0	3.0	0.0	Horz	AV	0.0	29.7	54.0	-24.3	Tx Low Ch, 1 Mbps, EUT Horz
12009.110	32.3	-2.6	2.7	329.0	3.0	0.0	Vert	AV	0.0	29.7	54.0	-24.3	Tx Mid Ch, 1 Mbps, EUT Vert
4879.875	52.4	-2.8	3.1	119.0	3.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	Tx Mid Ch, 1 Mbps, EUT Horz
12199.410	31.4	-1.8	1.5	213.0	3.0	0.0	Horz	AV	0.0	29.6	54.0	-24.4	Tx Mid Ch, 1 Mbps, EUT Horz
12199.190	31.3	-1.8	1.5	181.0	3.0	0.0	Vert	AV	0.0	29.5	54.0	-24.5	Tx Low Ch, 1 Mbps, EUT Vert
19215.040	48.3	-0.9	1.3	68.0	3.0	0.0	Horz	PK	0.0	47.4	74.0	-26.6	Tx Low Ch, 1 Mbps, EUT Horz

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

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
19216.410	47.7	-0.9	1.3	18.0	3.0	0.0	Vert	PK	0.0	46.8	74.0	-27.2	Tx Low Ch, 1 Mbps, EUT Vert
12200.620	42.5	-1.8	1.5	213.0	3.0	0.0	Horz	PK	0.0	40.7	74.0	-33.3	Tx Mid Ch, 1 Mbps, EUT Horz
12399.260	42.3	-1.6	1.5	360.0	3.0	0.0	Horz	PK	0.0	40.7	74.0	-33.3	Tx High Ch, 1 Mbps, EUT Horz
12009.520	43.2	-2.6	1.5	249.0	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	Tx Low Ch, 1 Mbps, EUT Horz
12009.300	43.2	-2.6	2.7	329.0	3.0	0.0	Vert	PK	0.0	40.6	74.0	-33.4	Tx Low Ch, 1 Mbps, EUT Vert
12399.600	42.2	-1.6	1.5	80.0	3.0	0.0	Vert	PK	0.0	40.6	74.0	-33.4	Tx High Ch, 1 Mbps, EUT Vert
12199.350	41.9	-1.8	1.5	181.0	3.0	0.0	Vert	PK	0.0	40.1	74.0	-33.9	Tx Mid Ch, 1 Mbps, EUT Vert

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	Baby Sensor	Work Order:	MASI0841
Serial Number:	09	Date:	2022-11-16
Customer:	Masimo Corporation	Temperature:	21.3°C
Attendees:	Anami Joshi	Relative Humidity:	27.8%
Customer Project:	None	Bar. Pressure (PMSL):	1027 mb
Tested By:	Nolan De Ramos	Job Site:	OC10
Power:	4.35 VDC via Battery	Configuration:	MASI0841-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2022	ANSI C63.10:2013
RSS-247 Issue 2:2017	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

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

COMMENTS

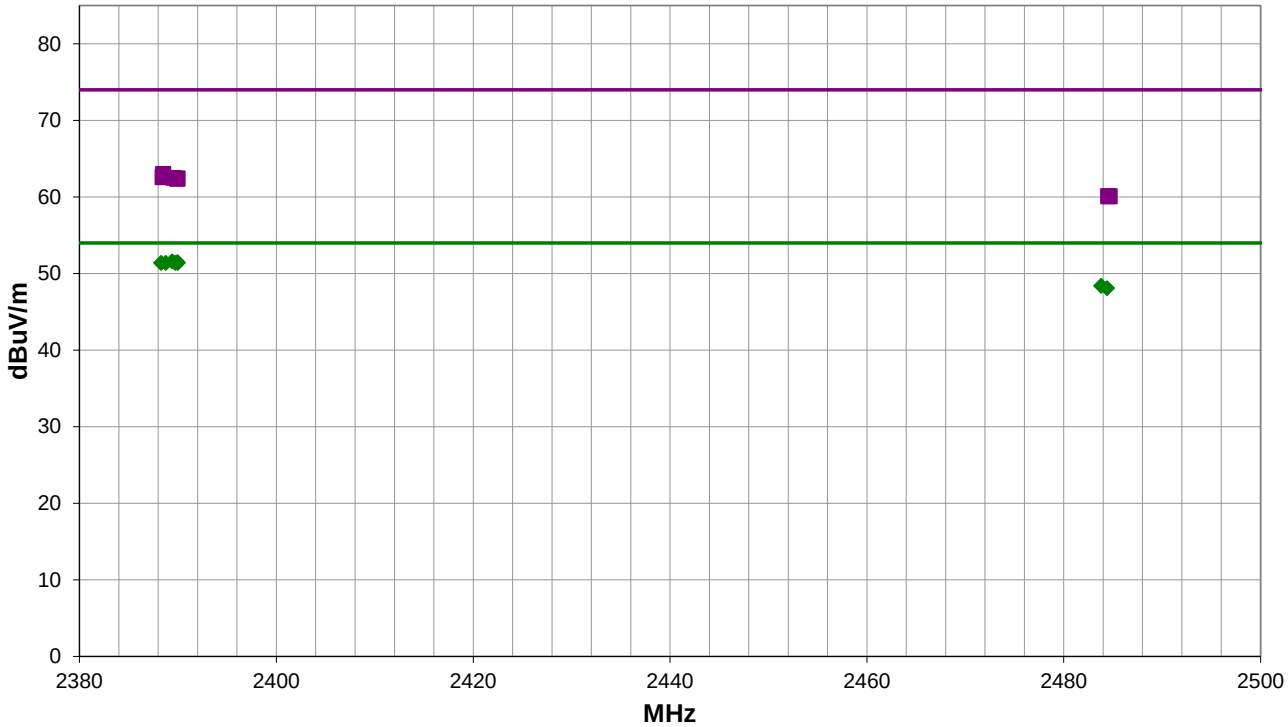
Band edge

EUT OPERATING MODES

Transmitting Bluetooth Low Energy: Low channel 2402 MHz, 1 Mbps. High channel 2480 MHz, 1 Mbps.

DEVIATIONS FROM TEST STANDARD

None



Run #: 20 ■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #20

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2389.407	44.7	-13.1	1.5	127.0	3.0	20.0	Horz	AV	0.0	51.6	54.0	-2.4	Tx Low Ch, 1 Mbps, EUT Horz
2389.950	44.6	-13.1	1.5	34.0	3.0	20.0	Vert	AV	0.0	51.5	54.0	-2.5	Tx Low Ch, 1 Mbps, EUT Horz
2388.757	44.5	-13.1	1.5	17.0	3.0	20.0	Horz	AV	0.0	51.4	54.0	-2.6	Tx Low Ch, 1 Mbps, EUT Vert
2388.287	44.5	-13.1	1.5	200.0	3.0	20.0	Vert	AV	0.0	51.4	54.0	-2.6	Tx Low Ch, 1 Mbps, EUT Vert
2389.980	44.5	-13.1	1.5	104.0	3.0	20.0	Horz	AV	0.0	51.4	54.0	-2.6	Tx Low Ch, 1 Mbps, EUT on Side
2389.727	44.5	-13.1	1.5	134.0	3.0	20.0	Vert	AV	0.0	51.4	54.0	-2.6	Tx Low Ch, 1 Mbps, EUT on Side
2483.797	41.3	-12.9	1.5	241.0	3.0	20.0	Horz	AV	0.0	48.4	54.0	-5.6	Tx High Ch, 1 Mbps, EUT Horz
2484.393	41.0	-12.9	1.5	289.0	3.0	20.0	Vert	AV	0.0	48.1	54.0	-5.9	Tx High Ch, 1 Mbps, EUT Horz
2388.490	56.1	-13.1	1.5	127.0	3.0	20.0	Horz	PK	0.0	63.0	74.0	-11.0	Tx Low Ch, 1 Mbps, EUT Horz
2388.437	55.7	-13.1	1.5	34.0	3.0	20.0	Vert	PK	0.0	62.6	74.0	-11.4	Tx Low Ch, 1 Mbps, EUT Horz
2388.473	55.7	-13.1	1.5	17.0	3.0	20.0	Horz	PK	0.0	62.6	74.0	-11.4	Tx Low Ch, 1 Mbps, EUT Vert
2389.573	55.6	-13.1	1.5	134.0	3.0	20.0	Vert	PK	0.0	62.5	74.0	-11.5	Tx Low Ch, 1 Mbps, EUT on Side
2389.960	55.5	-13.1	1.5	200.0	3.0	20.0	Vert	PK	0.0	62.4	74.0	-11.6	Tx Low Ch, 1 Mbps, EUT Vert
2389.923	55.5	-13.1	1.5	104.0	3.0	20.0	Horz	PK	0.0	62.4	74.0	-11.6	Tx Low Ch, 1 Mbps, EUT on Side
2484.497	53.0	-12.9	1.5	241.0	3.0	20.0	Horz	PK	0.0	60.1	74.0	-13.9	Tx High Ch, 1 Mbps, EUT Horz
2484.670	53.0	-12.9	1.5	289.0	3.0	20.0	Vert	PK	0.0	60.1	74.0	-13.9	Tx High Ch, 1 Mbps, EUT Horz

CONCLUSION

Pass

Tested By

End of Test Report