



element

Masimo Corporation

MightySat

FCC 15.247:2025

RSS-247 Issue 3:2023

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

Bluetooth Radio

Report: MASI0927.0 Rev. 1, Issue Date: April 1, 2025



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CERTIFICATE OF TEST



Last Date of Test: March 13, 2025
Masimo Corporation
EUT: MightySat

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2025	
RSS-247 Issue 3:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Note: FCC 15.247 has been updated superseding prior issues. The changes between the specifications do not affect the results of the prior testing. The manufacturer attests that no changes have been made to the product.

Guidance

FCC KDB 558074 v05r02:2019
Notice 2021 - CEB0001

Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	N/A	15.207	RSS-Gen 8.8	6.2	Not required for a battery powered EUT.
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	
Occupied Bandwidth (99%)	Pass	KDB 558074 -2.1	RSS-Gen 6.7	6.9.3	
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	
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	
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
Signed for and on behalf of Element

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	Added data from MASI0962	2025-03-27	24-32
	Added configuration MASI0962-1	2025-03-27	14
	Updated test dates	2025-03-27	3, 11, 15
	Updated model/part number	2025-04-01	13, 14

ACCREDITATIONS AND AUTHORIZATIONS

United States

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

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

Canada

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

European Union

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

United Kingdom

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

[California](#)

[Minnesota](#)

[Oregon](#)

[Texas](#)

[Washington](#)

FACILITIES

Testing was performed at the following location(s)

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

See data sheets for specific labs

(1) The lab designations denote individual rooms within each location. (OC01, OC02, OC03, etc.)

(2) A2LA Certificate No.

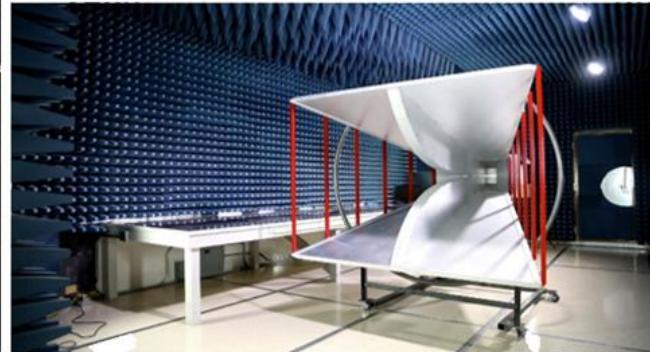
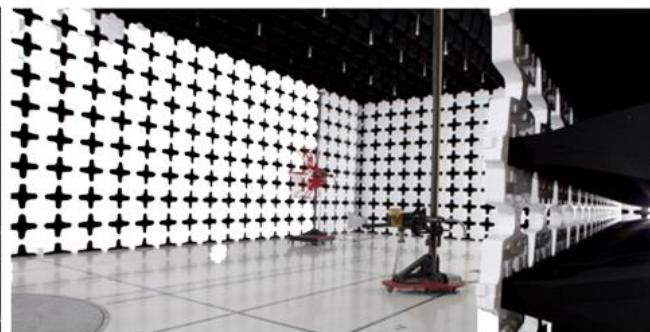
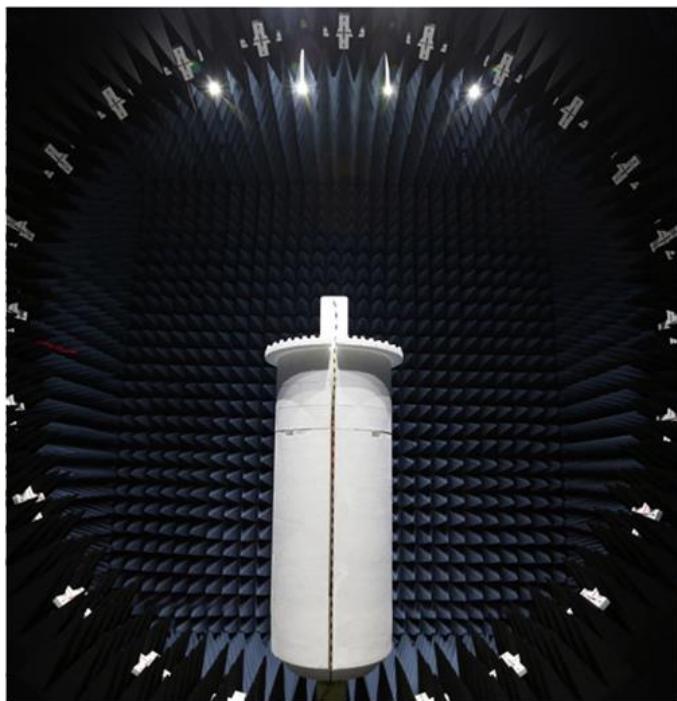
(3) ISED Company No.

(4) BSMI No.

(5) VCCI Site Filing No.

(6) CAB Identifier. Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA

(7) FDA ASCA No.



MEASUREMENT UNCERTAINTY



Measurement Uncertainty

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

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

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

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	3.2 dB	-3.2 dB

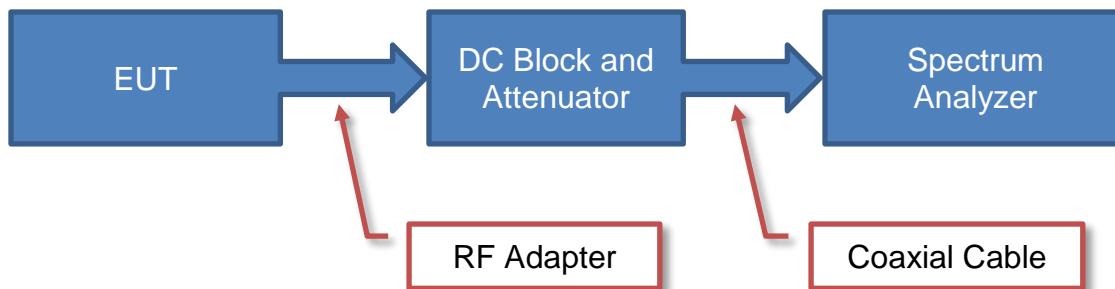
TEST SETUP BLOCK DIAGRAMS

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.

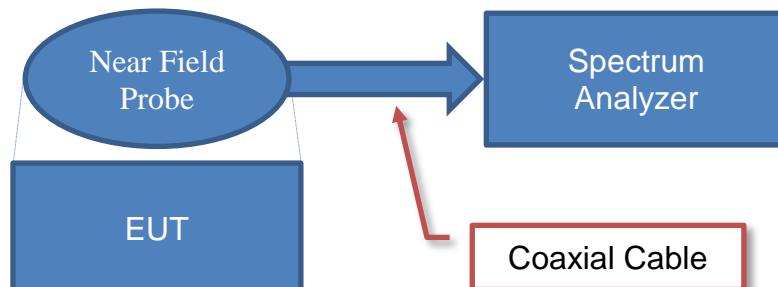
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

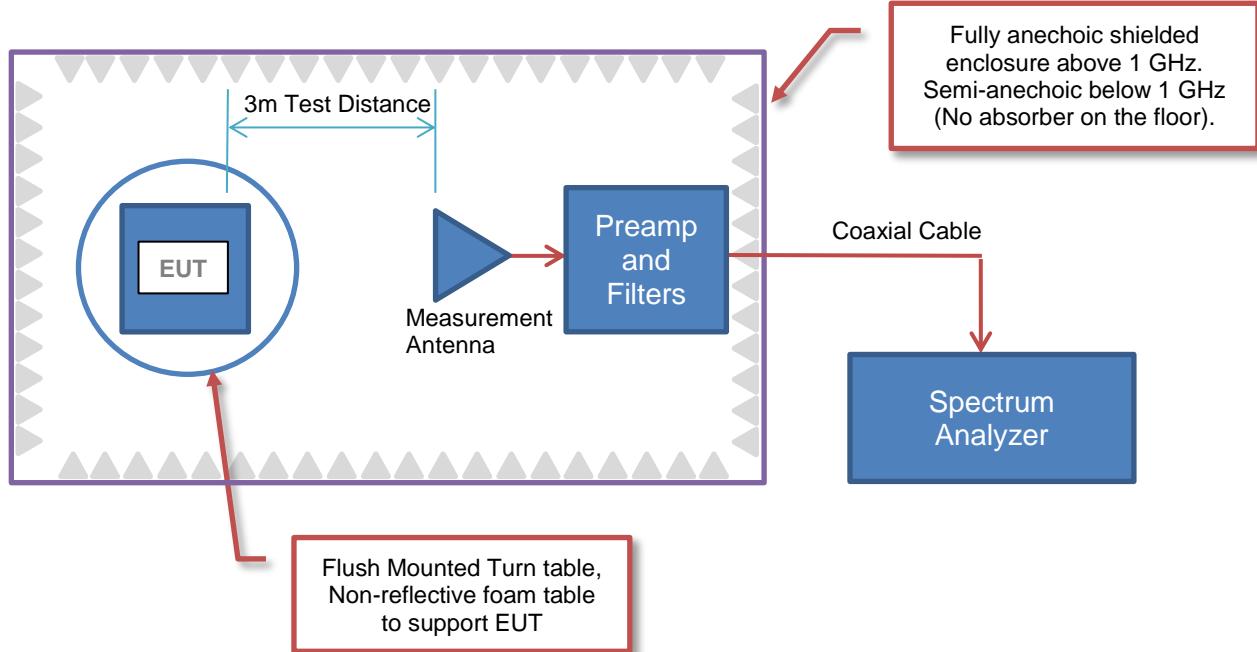


Sample Calculation (logarithmic units)

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

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

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

Conducted Emissions:

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

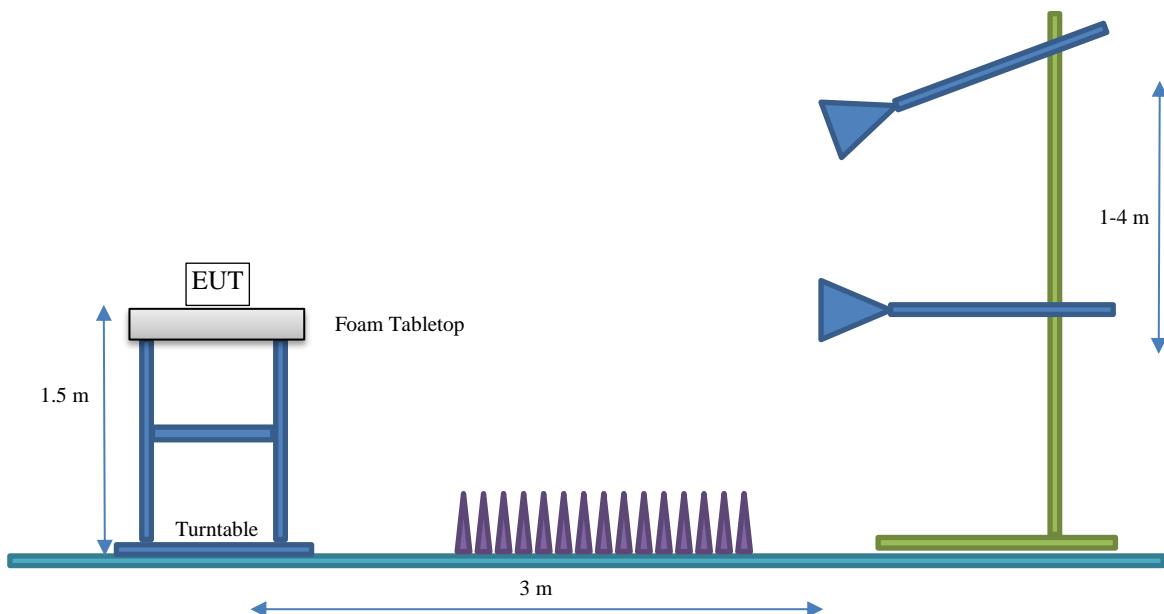
Radiated Power (ERP/EIRP) – Substitution Method:

Measured Level into Substitution Antenna (Amplitude dBm)	10.0	+	Substitution Antenna Factor (dBi)	6.0	-	EIRP to ERP (if applicable)	2.15	=	Measured power (dBm ERP/EIRP)	13.9/16.0
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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:	MightySat
First Date of Test:	May 1, 2024
Last Date of Test:	March 13, 2025
Receipt Date of Samples:	May 1, 2024
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

MightySat is a stand-alone fingertip pulse oximeter that combines the functionality of an instrument, sensor, and technology board into a single portable instrument that fits on user's finger. The device will be capable of calculating functional oxygen saturation (SpO2), pulse rate(PR), perfusion index(PI), Pleth Respiration rate (RRp), Respiratory Effort Index(REi), waveform, and output this information via a display screen or wireless over a Bluetooth link. MightySat will be powered by 2 disposable AAA batteries and be used as a spot-check instrument, and as such will not contain alarm functionality.

The MightySat Fingertip Pulse Oximeter is indicated for noninvasive spot-checking of functional oxygen saturation of arterial hemoglobin(SpO2), Pulse Rate(PR), Perfusion Index(PI), Pleth Respiration rare(RRp), and Respiratory Effort Index(REi).

The MightySat Fingertip Pulse Oximeter is intended for spot-checking on people>30kg(66 lbs) during no motion and motion condition, and for people who are well or poorly perfused. This device is suitable for use in hospital, hospital-type facilities, mobile, and home environment.

Testing Objective:

To demonstrate compliance of the Bluetooth radio 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 ANTENNA	Masimo	2400-2483.5	0.79

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: _____ Radio SW V1000
 Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Type	Channel	Frequency (MHz)	Power Setting
BLE GFSK 1 Mbps	DTS	Low	2402	+6 dBm
		Mid	2440	+6 dBm
		High	2480	+6 dBm

CONFIGURATIONS



Configuration MASI0927-1

Software/Firmware Running During Test	
Description	Version
Radio Software	V1000

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
MightySat	Masimo Corporation	29931	2404700001

Configuration MASI0927-2

Software/Firmware Running During Test	
Description	Version
Radio Software	V1000

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
MightySat	Masimo Corporation	29931	2404700014

Configuration MASI0927-3

Software/Firmware Running During Test	
Description	Version
Radio Software	V1000

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
MightySat	Masimo Corporation	29931	2404700012

CONFIGURATIONS



Configuration MASI0962-1

Software/Firmware Running During Test	
Description	Version
Radio Software	V1000

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
MightySat	Masimo Corporation	29931	2404700012

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-05-01	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	2024-05-02	DTS 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	2024-05-02	Occupied Bandwidth (6dB)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2024-05-02	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.
5	2024-09-11	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.
6	2024-09-11	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT was taken home by the client following the test.
7	2025-03-13	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.
8	2025-03-13	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.
9	2025-03-13	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

DUTY CYCLE



TEST DESCRIPTION

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

The Duty Cycle of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

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 test software provided for operation in a fixed, single channel mode allows the EUT to operate continuously at 100% Duty Cycle.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Attenuator	Fairview Microwave	SA18H-20	UAZ	2024-03-25	2025-03-25
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29

DUTY CYCLE



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700014	Date:	2024-05-02
Customer:	Masimo Corporation	Temperature:	22.7°C
Attendees:	Rahul Kantharia	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1011 mbar
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC13
Power:	Battery	Configuration:	MASI0927-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

Duty Cycle measured at 100%.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested By

DTS BANDWIDTH (6 dB)

TEST DESCRIPTION

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

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Attenuator	Fairview Microwave	SA18H-20	UAZ	2024-03-25	2025-03-25
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29

DTS BANDWIDTH (6 dB)

EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700014	Date:	2024-05-02
Customer:	Masimo Corporation	Temperature:	22.7°C
Attendees:	Rahul Kantharia	Relative Humidity:	52.4%
Customer Project:	None	Bar. Pressure (PMSL):	1011 mbar
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC13
Power:	Battery	Configuration:	MASI0927-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

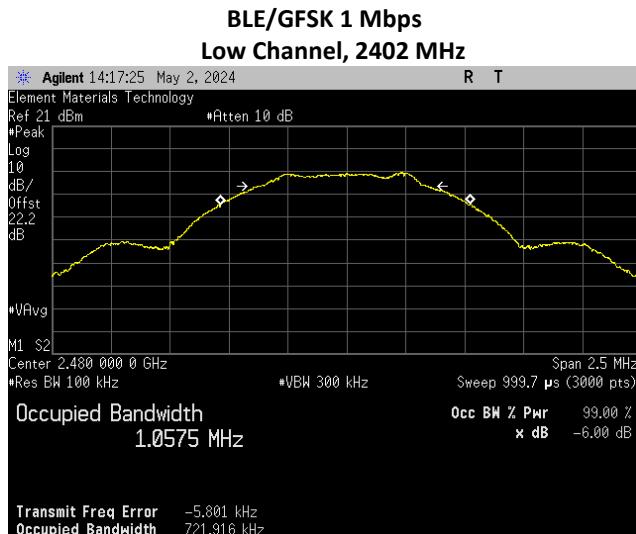
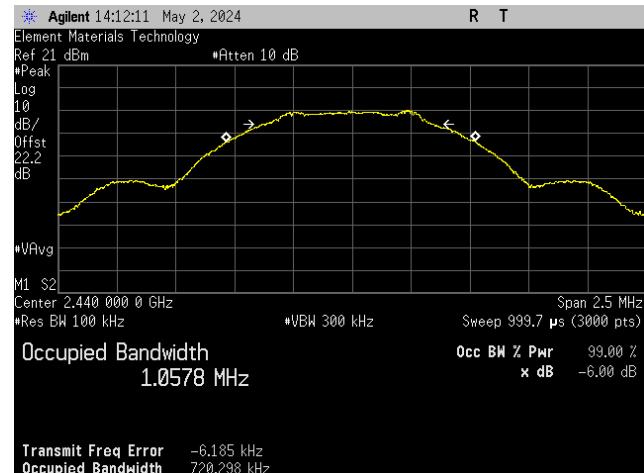
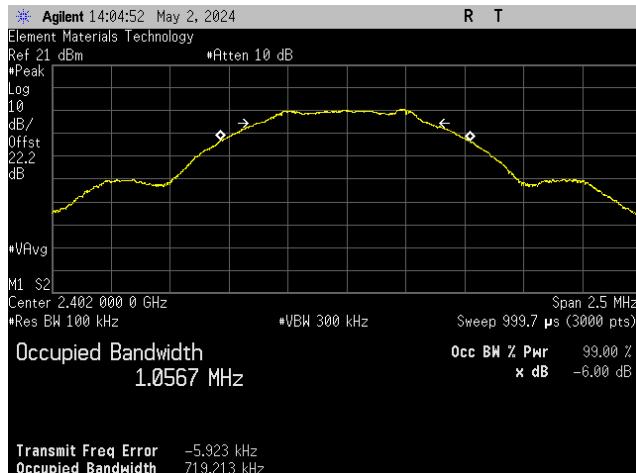


Tested By

TEST RESULTS

	Value	Limit (ε)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	719.213 kHz	500 kHz	Pass
Mid Channel, 2440 MHz	720.298 kHz	500 kHz	Pass
High Channel, 2480 MHz	721.916 kHz	500 kHz	Pass

DTS BANDWIDTH (6 dB)



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

OCCUPIED BANDWIDTH (99%)



TEST DESCRIPTION

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

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Attenuator	Fairview Microwave	SA18H-20	UAZ	2024-03-25	2025-03-25
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29

OCCUPIED BANDWIDTH (99%)



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700014	Date:	2024-05-02
Customer:	Masimo Corporation	Temperature:	22.7°C
Attendees:	Rahul Kantharia	Relative Humidity:	52.3%
Customer Project:	None	Bar. Pressure (PMSL):	1011 mbar
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC13
Power:	Battery	Configuration:	MASI0927-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

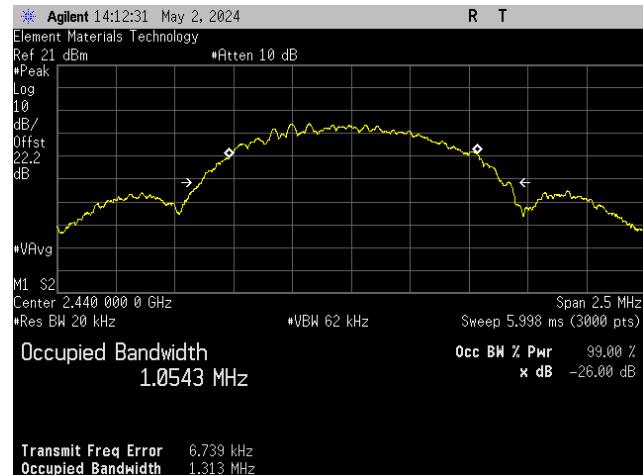
Pass

Tested By

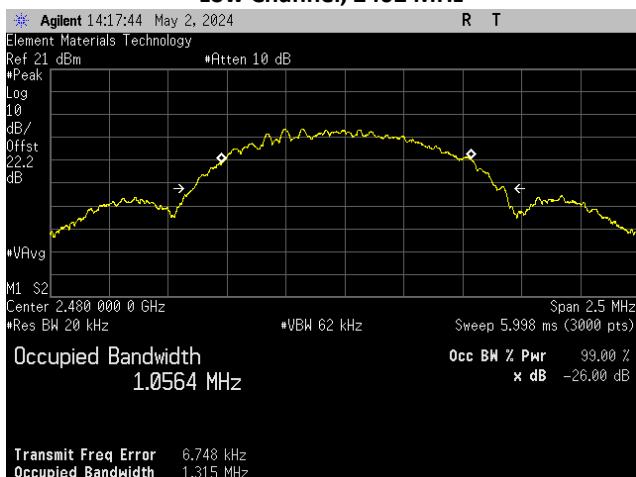
TEST RESULTS

	Value	Limit	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	1.054 MHz	N/A	N/A
Mid Channel, 2440 MHz	1.054 MHz	N/A	N/A
High Channel, 2480 MHz	1.056 MHz	N/A	N/A

OCCUPIED BANDWIDTH (99%)



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

BLE/GFSK 1 Mbps
Mid Channel, 2440 MHz

OUTPUT POWER



TEST DESCRIPTION

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

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4443A	AAR	2024-11-07	2026-11-07
Cable	Element	None	OC5	2024-10-02	2025-10-02
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Fairview Microwave	SD3379	ANG	2024-10-03	2025-10-03
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

OUTPUT POWER



EUT:	MightySat	Work Order:	MASI0962
Serial Number:	See Configurations	Date:	2025-03-13
Customer:	Masimo Corporation	Temperature:	20.7°C
Attendees:	None	Relative Humidity:	51.4%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mbar
Tested By:	Matthew Ng	Job Site:	OC13
Power:	3VDC via Battery	Configuration:	MASI0962-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2025	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

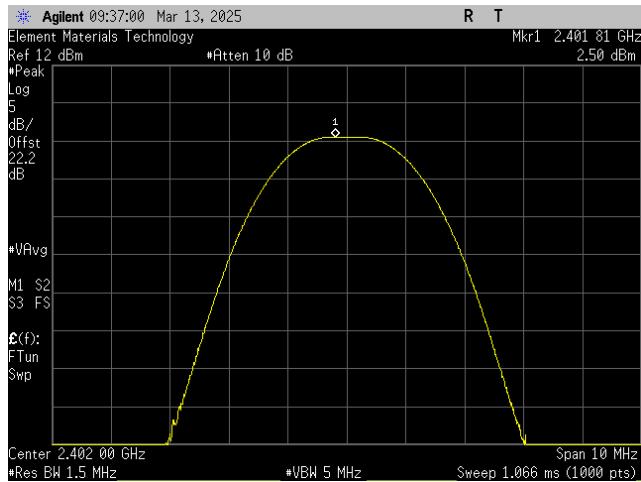
Pass

Tested By

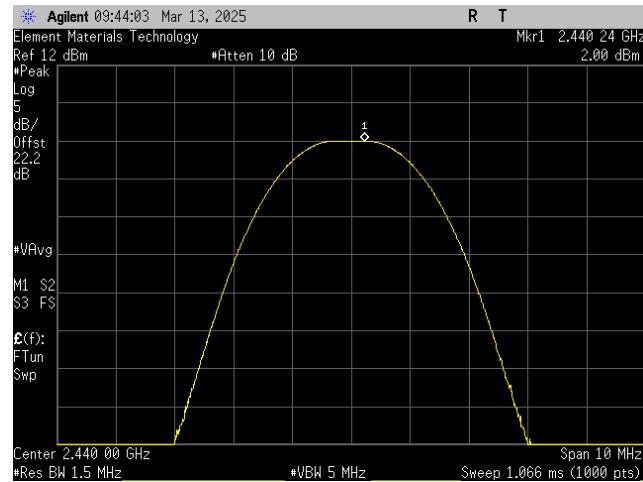
TEST RESULTS

	Out Pwr (dBm)	Limit (dBm)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	2.496	30	Pass
Mid Channel, 2440 MHz	2.004	30	Pass
High Channel, 2480 MHz	1.686	30	Pass

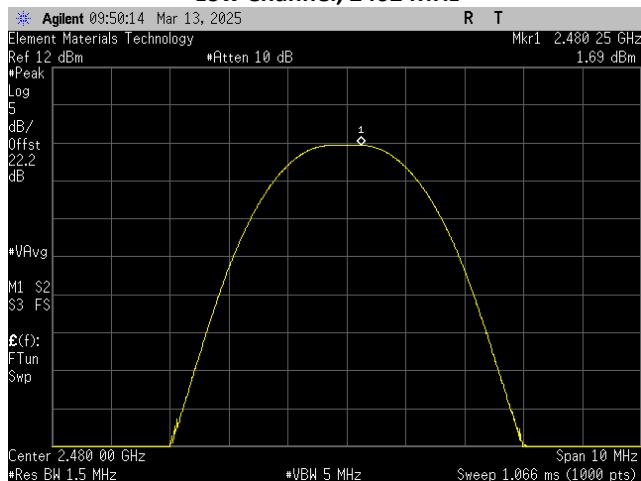
OUTPUT POWER



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2440 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TEST DESCRIPTION

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

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)

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4443A	AAR	2024-11-07	2026-11-07
Cable	Element	None	OC5	2024-10-02	2025-10-02
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Fairview Microwave	SD3379	ANG	2024-10-03	2025-10-03
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



EUT:	MightySat	Work Order:	MASI0962
Serial Number:	See Configurations	Date:	2025-03-13
Customer:	Masimo Corporation	Temperature:	20.7°C
Attendees:	Rahul Kantharia	Relative Humidity:	51.4%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mbar
Tested By:	Matthew Ng	Job Site:	OC13
Power:	3VDC via Battery	Configuration:	MASI0962-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2025	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

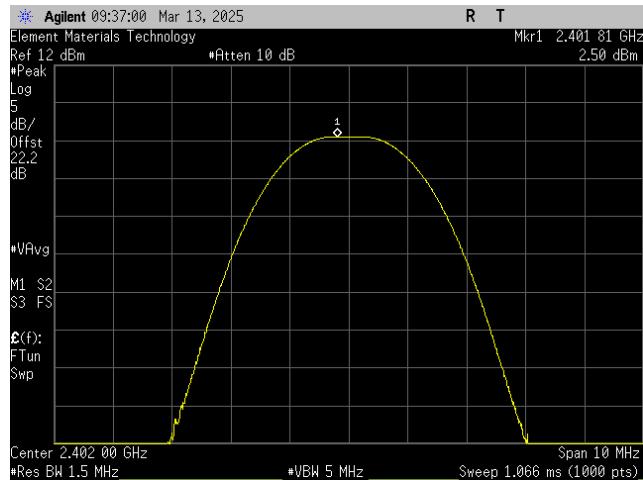
Pass

Tested By

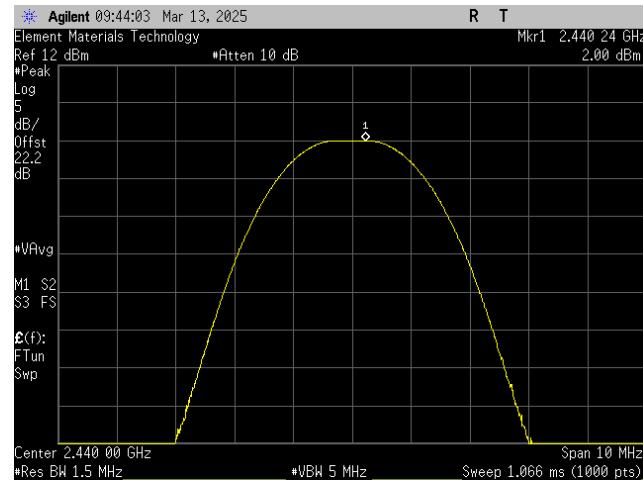
TEST RESULTS

	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	2.496	0.79	3.286	36	Pass
Mid Channel, 2440 MHz	2.004	0.79	2.794	36	Pass
High Channel, 2480 MHz	1.686	0.79	2.476	36	Pass

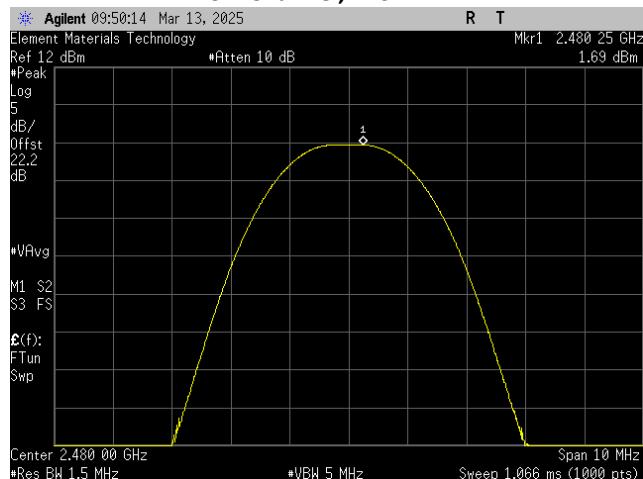
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2440 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

POWER SPECTRAL DENSITY



TEST DESCRIPTION

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

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

The maximum power spectral density measurements were 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4443A	AAR	2024-11-07	2026-11-07
Cable	Element	None	OC5	2024-10-02	2025-10-02
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Fairview Microwave	SD3379	ANG	2024-10-03	2025-10-03
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

POWER SPECTRAL DENSITY



EUT:	MightySat	Work Order:	MASI0962
Serial Number:	See Configurations	Date:	2025-03-13
Customer:	Masimo Corporation	Temperature:	20.8°C
Attendees:	None	Relative Humidity:	51.3%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mbar
Tested By:	Matthew Ng	Job Site:	OC13
Power:	3VDC via Battery	Configuration:	MASI0962-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2025	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

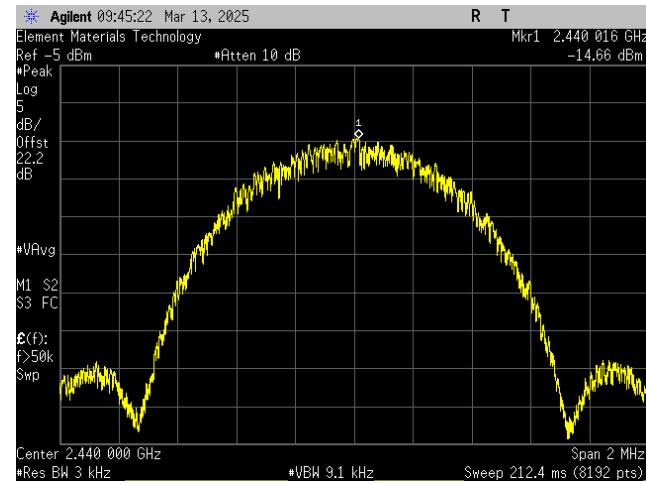
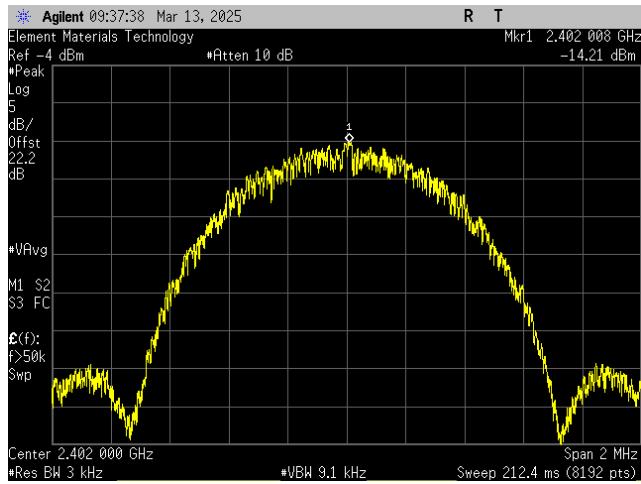
Pass

Tested By

TEST RESULTS

	Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-14.212	8	Pass
Mid Channel, 2440 MHz	-14.656	8	Pass
High Channel, 2480 MHz	-14.982	8	Pass

POWER SPECTRAL DENSITY



BLE/GFSK 1 Mbps

Low Channel, 2402 MHz



BLE/GFSK 1 Mbps

High Channel, 2480 MHz

BAND EDGE COMPLIANCE



TEST DESCRIPTION

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

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. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2024-02-14	2025-02-14
Cable	Element	None	OC5	2023-12-29	2024-12-29
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29

BAND EDGE COMPLIANCE



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700012	Date:	2024-09-11
Customer:	Masimo Corporation	Temperature:	24.2°C
Attendees:	Rahul Kantharia	Relative Humidity:	46.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	MASI0927-3

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

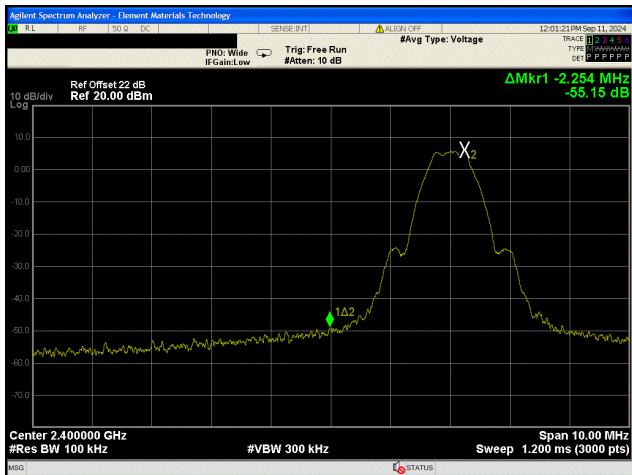
Pass

Tested By

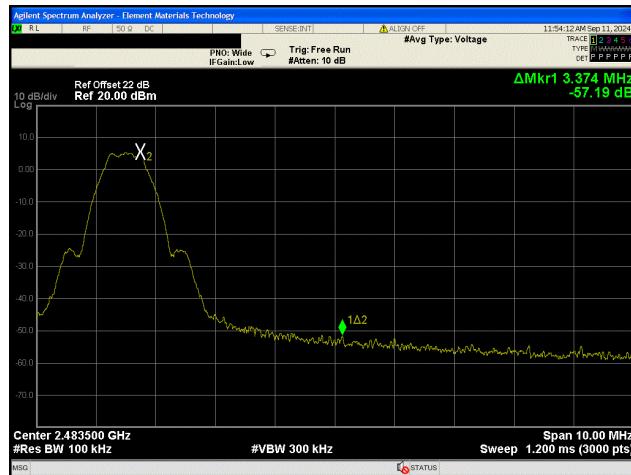
TEST RESULTS

	Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-55.15	-20	Pass
High Channel, 2480 MHz	-57.19	-20	Pass

BAND EDGE COMPLIANCE



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

SPURIOUS CONDUCTED EMISSIONS



TEST DESCRIPTION

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

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 fundamental screen capture was based on a measured value of the loss between the spectrum analyzer and the EUT which was verified at the time of test. The remaining screen capture(s) use an internal transducer factor on the analyzer to correct the displayed trace based on the cable loss over frequency. The reference level offset for the additional screen capture(s) is then based on the expected attenuator value and any other losses.

Fundamental Offset = Ref Lvl Offset showing measured composite factor of all losses

Remaining Screen capture(s) Offset = "Internal" cable loss factor not shown on screen capture + Ref Lvl Offset showing expected attenuator value and any other losses

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2024-02-14	2025-02-14
Cable	Element	None	OC5	2023-12-29	2024-12-29
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11

SPURIOUS CONDUCTED EMISSIONS



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700012	Date:	2024-09-11
Customer:	Masimo Corporation	Temperature:	24.2°C
Attendees:	Rahul Kantharia	Relative Humidity:	46.3%
Customer Project:	None	Bar. Pressure (PMSL):	1008 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	MASI0927-3

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested_By

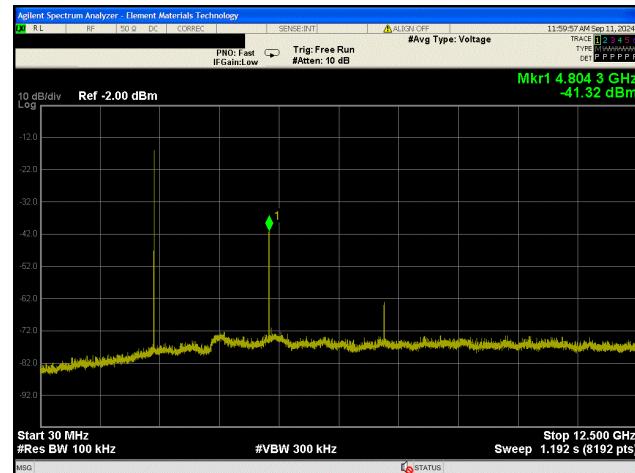
TEST RESULTS

	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
	30 MHz - 12.5 GHz	4804.25	-47.13	-20	Pass
	12.5 GHz - 25 GHz	23872.24	-76.19	-20	Pass
Mid Channel, 2440 MHz	Fundamental	2440.24	N/A	N/A	N/A
	30 MHz - 12.5 GHz	4880.37	-48.55	-20	Pass
	12.5 GHz - 25 GHz	23992.8	-75.62	-20	Pass
High Channel, 2480 MHz	Fundamental	2480.24	N/A	N/A	N/A
	30 MHz - 12.5 GHz	4959.54	-49.06	-20	Pass
	12.5 GHz - 25 GHz	23980.59	-74.92	-20	Pass

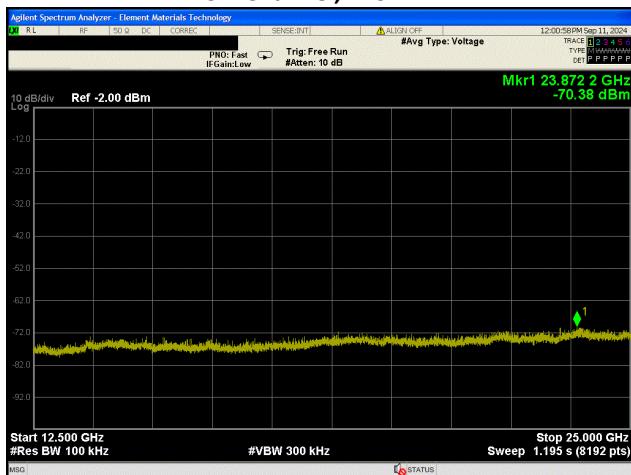
SPURIOUS CONDUCTED EMISSIONS



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



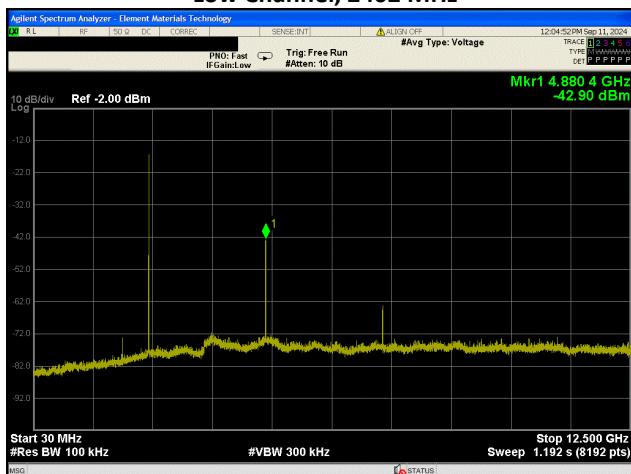
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



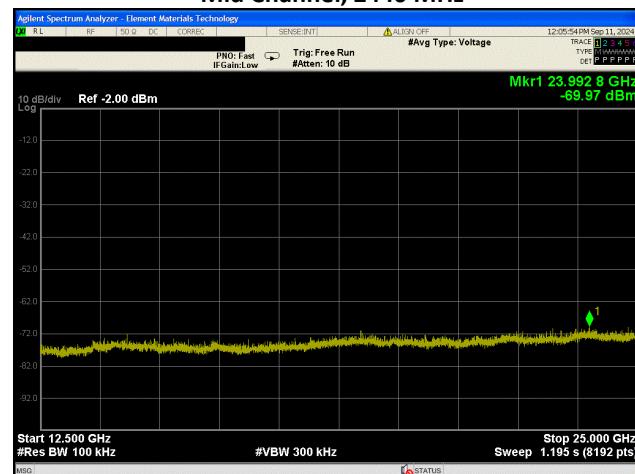
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Low Channel, 2402 MHz

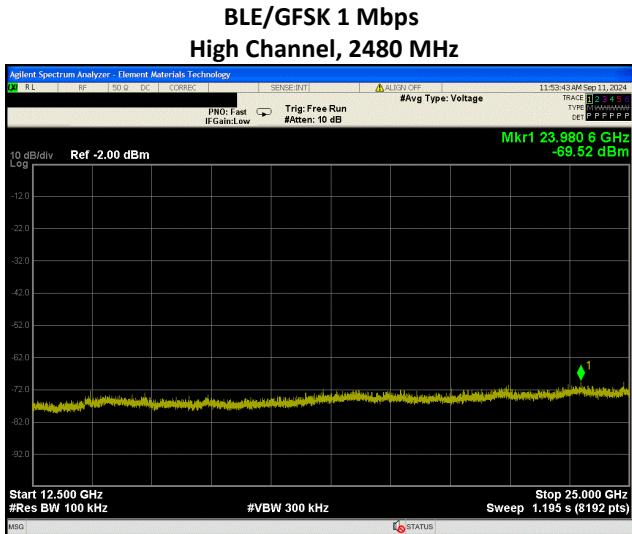
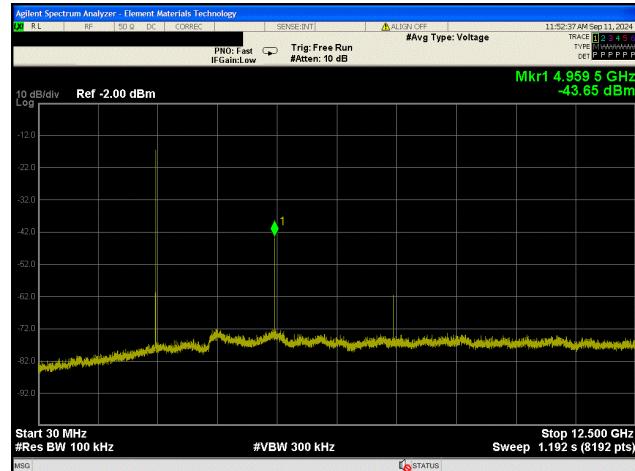


BLE/GFSK 1 Mbps
Mid Channel, 2440 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2440 MHz

SPURIOUS CONDUCTED EMISSIONS



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

SPURIOUS RADIATED EMISSIONS



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 $10^{\ast}\log(1/dc)$.

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	2023-05-23	2024-05-23
Amplifier - Pre-Amplifier	Cernex	CBL01084020-xx	PAX	2023-05-23	2024-05-23
Attenuator	Fairview Microwave	SA18H-20	TKQ	2023-05-22	2024-05-22
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Filter - High Pass	Micro-Tronics	HPM50111	HHX	2023-05-22	2024-05-22
Antenna - Standard Gain	ETS Lindgren	3160-07	AHR	NCR	NCR
Cable	Northwest EMC	8-18GHz RE Cables	OCO	2024-03-19	2025-03-19
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	2024-03-19	2025-03-19
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	NCR
Cable	Northwest EMC	18-26GHz RE Cables	OCK	2023-12-15	2024-12-15
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	2023-12-15	2024-12-15
Antenna - Biconilog	Teseq	CBL 6141A	AYE	2023-08-08	2025-08-08
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	2023-05-31	2024-05-31
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	2023-05-31	2024-05-31
Filter - Low Pass	Micro-Tronics	LPM50004	LFT	2023-12-29	2024-12-29
Antenna - Loop	EMCO	6502	AZB	2023-09-06	2025-09-06

SPURIOUS RADIATED EMISSIONS



FREQUENCY RANGE INVESTIGATED

9 kHz TO 26.5 GHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

MASI0927-1

MODES INVESTIGATED

Transmitting Bluetooth Low Energy: Low Channel 2402 MHz, Mid Channel 2440 MHz, High Channel 2480 MHz Data rate 1 Mbps. 100% Duty cycle

Transmitting Bluetooth Low Energy: Low Channel 2402 MHz and High Channel 2480 MHz. Data rate 1 Mbps. 100% Duty cycle

SPURIOUS RADIATED EMISSIONS



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700001	Date:	2024-05-01
Customer:	Masimo Corporation	Temperature:	22.2°C
Attendees:	Rahul Kantharia	Relative Humidity:	49.6%
Customer Project:	None	Bar. Pressure (PMSL):	1011 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC10
Power:	Battery	Configuration:	MASI0927-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	12	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

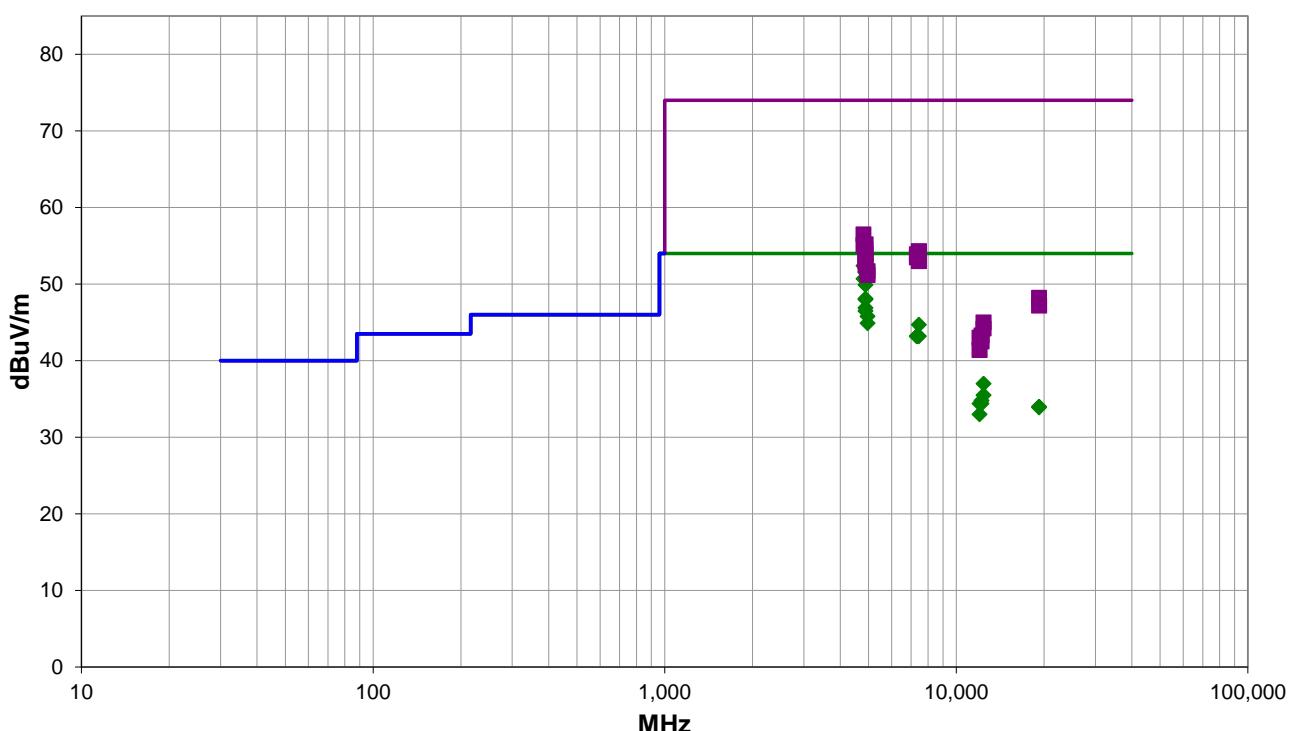
EUT Orientation: X: Horz, Y: Vert, Z: On Side

EUT OPERATING MODES

Transmitting Bluetooth Low Energy: Low Channel 2402 MHz, Mid Channel 2440 MHz, High Channel 2480 MHz. Data rate 1 Mbps. 100% Duty cycle

DEVIATIONS FROM TEST STANDARD

None



Run #: 12

■ PK ♦ AV ● QP

SPURIOUS RADIATED EMISSIONS



RESULTS - Run #12

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4804.000	55.1	-2.7	1.0	271.0	3.0	0.0	Vert	AV	0.0	52.4	54.0	-1.6	Tx Low Ch, 1 Mbps, EUT X
4879.950	53.8	-2.3	3.9	322.0	3.0	0.0	Vert	AV	0.0	51.5	54.0	-2.5	Tx Mid Ch, 1 Mbps, EUT X
4804.075	53.4	-2.7	2.5	229.0	3.0	0.0	Horz	AV	0.0	50.7	54.0	-3.3	Tx Low Ch, 1 Mbps, EUT Z
4880.025	52.2	-2.3	1.5	21.0	3.0	0.0	Horz	AV	0.0	49.9	54.0	-4.1	Tx Mid Ch, 1 Mbps, EUT Z
4879.975	50.4	-2.3	1.5	246.0	3.0	0.0	Horz	AV	0.0	48.1	54.0	-5.9	Tx Mid Ch, 1 Mbps, EUT X
4879.967	50.3	-2.3	1.3	148.0	3.0	0.0	Vert	AV	0.0	48.0	54.0	-6.0	Tx Mid Ch, 1 Mbps, EUT Y
4880.017	49.2	-2.3	1.5	170.0	3.0	0.0	Horz	AV	0.0	46.9	54.0	-7.1	Tx Mid Ch, 1 Mbps, EUT Y
4879.892	48.8	-2.3	1.5	145.0	3.0	0.0	Vert	AV	0.0	46.5	54.0	-7.5	Tx Mid Ch, 1 Mbps, EUT Z
4959.900	47.8	-2.0	1.5	22.0	3.0	0.0	Horz	AV	0.0	45.8	54.0	-8.2	Tx High Ch, 1 Mbps, EUT Z
4959.967	46.9	-2.0	1.5	167.0	3.0	0.0	Vert	AV	0.0	44.9	54.0	-9.1	Tx High Ch, 1 Mbps, EUT X
7439.383	36.8	7.9	1.4	52.0	3.0	0.0	Horz	AV	0.0	44.7	54.0	-9.3	Tx High Ch, 1 Mbps, EUT Z
7321.583	35.5	7.7	1.5	239.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	Tx Mid Ch, 1 Mbps, EUT Z
7317.850	35.5	7.7	1.6	245.0	3.0	0.0	Vert	AV	0.0	43.2	54.0	-10.8	Tx Mid Ch, 1 Mbps, EUT X
7439.408	35.3	7.9	2.8	298.0	3.0	0.0	Vert	AV	0.0	43.2	54.0	-10.8	Tx High Ch, 1 Mbps, EUT X
12398.870	39.8	-2.8	2.7	258.0	3.0	0.0	Horz	AV	0.0	37.0	54.0	-17.0	Tx High Ch, 1 Mbps, EUT Z
4803.350	59.2	-2.7	1.0	271.0	3.0	0.0	Vert	PK	0.0	56.5	74.0	-17.5	Tx Low Ch, 1 Mbps, EUT X
12398.840	38.3	-2.8	3.0	334.0	3.0	0.0	Vert	AV	0.0	35.5	54.0	-18.5	Tx High Ch, 1 Mbps, EUT X
4880.533	57.5	-2.3	3.9	322.0	3.0	0.0	Vert	PK	0.0	55.2	74.0	-18.8	Tx Mid Ch, 1 Mbps, EUT X
4804.108	57.8	-2.7	2.5	229.0	3.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	Tx Low Ch, 1 Mbps, EUT Z
12201.080	38.6	-3.8	1.5	148.0	3.0	0.0	Horz	AV	0.0	34.8	54.0	-19.2	Tx Mid Ch, 1 Mbps, EUT Z
4879.492	56.9	-2.3	1.5	21.0	3.0	0.0	Horz	PK	0.0	54.6	74.0	-19.4	Tx Mid Ch, 1 Mbps, EUT Z
12008.890	38.0	-3.6	2.1	241.0	3.0	0.0	Horz	AV	0.0	34.4	54.0	-19.6	Tx Low Ch, 1 Mbps, EUT Z
12198.880	38.2	-3.8	2.4	338.0	3.0	0.0	Vert	AV	0.0	34.4	54.0	-19.6	Tx Mid Ch, 1 Mbps, EUT X
7439.425	46.4	7.9	1.4	52.0	3.0	0.0	Horz	PK	0.0	54.3	74.0	-19.7	Tx High Ch, 1 Mbps, EUT Z
19213.930	34.3	-0.3	1.5	23.0	3.0	0.0	Vert	AV	0.0	34.0	54.0	-20.0	Tx Low Ch, 1 Mbps, EUT X
19217.780	34.2	-0.3	1.5	203.0	3.0	0.0	Horz	AV	0.0	33.9	54.0	-20.1	Tx Low Ch, 1 Mbps, EUT Z
7319.825	46.2	7.7	1.5	239.0	3.0	0.0	Horz	PK	0.0	53.9	74.0	-20.1	Tx Mid Ch, 1 Mbps, EUT Z
4880.667	56.2	-2.3	1.5	246.0	3.0	0.0	Horz	PK	0.0	53.9	74.0	-20.1	Tx Mid Ch, 1 Mbps, EUT X
7320.850	45.8	7.7	1.6	245.0	3.0	0.0	Vert	PK	0.0	53.5	74.0	-20.5	Tx Mid Ch, 1 Mbps, EUT X
4879.533	55.5	-2.3	1.3	148.0	3.0	0.0	Vert	PK	0.0	53.2	74.0	-20.8	Tx Mid Ch, 1 Mbps, EUT Y
4880.225	55.3	-2.3	1.5	170.0	3.0	0.0	Horz	PK	0.0	53.0	74.0	-21.0	Tx Mid Ch, 1 Mbps, EUT Y
12011.080	36.6	-3.6	1.2	249.0	3.0	0.0	Vert	AV	0.0	33.0	54.0	-21.0	Tx Low Ch, 1 Mbps, EUT X
7438.342	45.1	7.9	2.8	298.0	3.0	0.0	Vert	PK	0.0	53.0	74.0	-21.0	Tx High Ch, 1 Mbps, EUT X
4879.583	54.8	-2.3	1.5	145.0	3.0	0.0	Vert	PK	0.0	52.5	74.0	-21.5	Tx Mid Ch, 1 Mbps, EUT Z
4959.658	53.7	-2.0	1.5	22.0	3.0	0.0	Horz	PK	0.0	51.7	74.0	-22.3	Tx High Ch, 1 Mbps, EUT Z
4960.092	53.2	-2.0	1.5	167.0	3.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	Tx High Ch, 1 Mbps, EUT X
19214.430	48.5	-0.3	1.5	23.0	3.0	0.0	Vert	PK	0.0	48.2	74.0	-25.8	Tx Low Ch, 1 Mbps, EUT X

SPURIOUS RADIATED EMISSIONS



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
19217.730	47.5	-0.3	1.5	203.0	3.0	0.0	Horz	PK	0.0	47.2	74.0	-26.8	Tx Low Ch, 1 Mbps, EUT Z
12398.820	47.8	-2.8	2.7	258.0	3.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	Tx High Ch, 1 Mbps, EUT Z
12398.710	47.0	-2.8	3.0	334.0	3.0	0.0	Vert	PK	0.0	44.2	74.0	-29.8	Tx High Ch, 1 Mbps, EUT X
12198.720	47.1	-3.8	1.5	148.0	3.0	0.0	Horz	PK	0.0	43.3	74.0	-30.7	Tx Mid Ch, 1 Mbps, EUT Z
12008.960	46.6	-3.6	2.1	241.0	3.0	0.0	Horz	PK	0.0	43.0	74.0	-31.0	Tx Low Ch, 1 Mbps, EUT Z
12198.810	46.3	-3.8	2.4	338.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	Tx Mid Ch, 1 Mbps, EUT X
12008.970	45.0	-3.6	1.2	249.0	3.0	0.0	Vert	PK	0.0	41.4	74.0	-32.6	Tx Low Ch, 1 Mbps, EUT X

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS



EUT:	MightySat	Work Order:	MASI0927
Serial Number:	2404700001	Date:	2024-05-01
Customer:	Masimo Corporation	Temperature:	22.2°C
Attendees:	Rahul Kantharia	Relative Humidity:	49.6%
Customer Project:	None	Bar. Pressure (PMSL):	1011 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC10
Power:	Battery	Configuration:	MASI0927-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

TEST PARAMETERS

Run #:	14	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

Band edge measurements

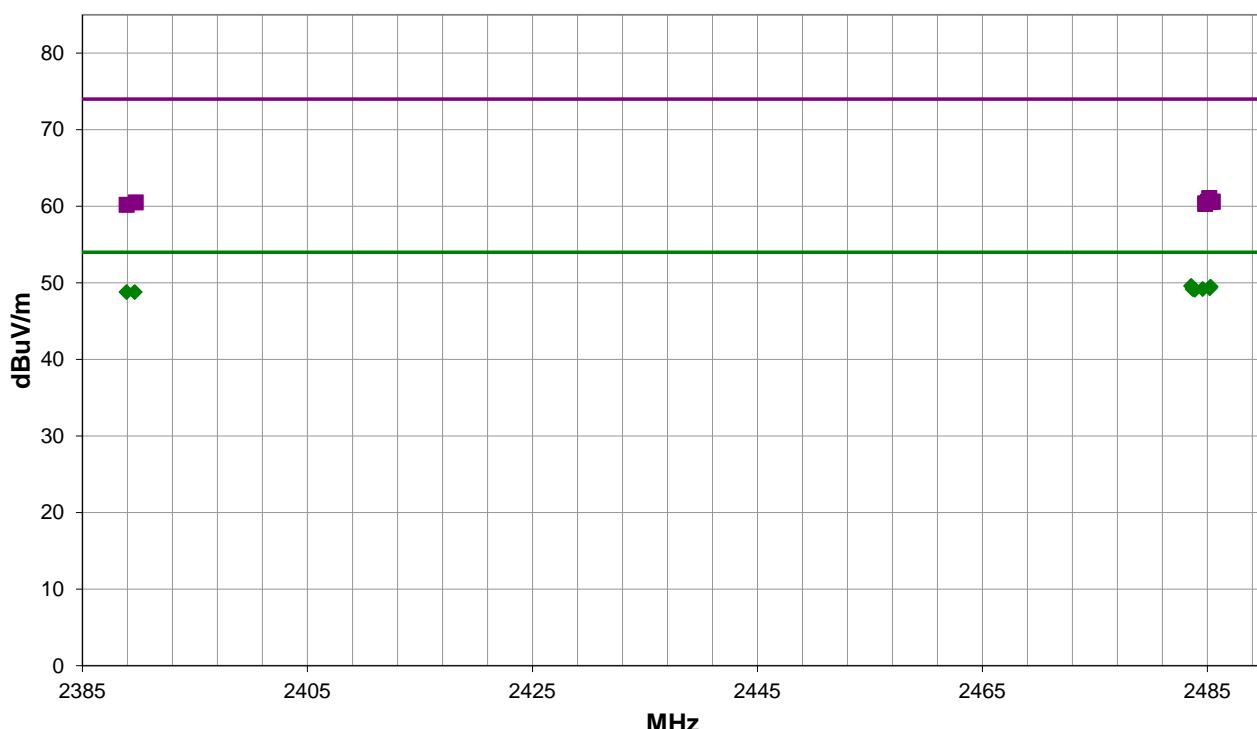
EUT Orientation: X: Horz, Y: Vert, Z: On Side

EUT OPERATING MODES

Transmitting Bluetooth Low Energy: Low Channel 2402 MHz and High Channel 2480 MHz. Data rate 1 Mbps. 100% Duty cycle

DEVIATIONS FROM TEST STANDARD

None



Run #: 14

PK AV QP

SPURIOUS RADIATED EMISSIONS



RESULTS - Run #14

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
2483.557	40.9	-11.3	2.97	104.0	3.0	20.0	Horz	AV	0.0	49.6	54.0	-4.4	Tx High Ch, 1 Mbps, EUT Z
2485.283	40.8	-11.3	1.5	69.0	3.0	20.0	Vert	AV	0.0	49.5	54.0	-4.5	Tx High Ch, 1 Mbps, EUT Z
2485.207	40.6	-11.3	1.5	128.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	Tx High Ch, 1 Mbps, EUT X
2484.577	40.5	-11.3	1.5	264.0	3.0	20.0	Vert	AV	0.0	49.2	54.0	-4.8	Tx High Ch, 1 Mbps, EUT X
2483.690	40.5	-11.3	1.5	170.0	3.0	20.0	Horz	AV	0.0	49.2	54.0	-4.8	Tx High Ch, 1 Mbps, EUT Y
2483.877	40.4	-11.3	1.5	174.0	3.0	20.0	Vert	AV	0.0	49.1	54.0	-4.9	Tx High Ch, 1 Mbps, EUT Y
2389.633	40.5	-11.7	1.5	123.0	3.0	20.0	Horz	AV	0.0	48.8	54.0	-5.2	Tx Low Ch, 1 Mbps, EUT Z
2388.913	40.5	-11.7	1.5	194.0	3.0	20.0	Vert	AV	0.0	48.8	54.0	-5.2	Tx Low Ch, 1 Mbps, EUT Z
2485.170	52.4	-11.3	2.97	104.0	3.0	20.0	Horz	PK	0.0	61.1	74.0	-12.9	Tx High Ch, 1 Mbps, EUT Z
2485.037	51.9	-11.3	1.5	128.0	3.0	20.0	Horz	PK	0.0	60.6	74.0	-13.4	Tx High Ch, 1 Mbps, EUT X
2485.407	51.9	-11.3	1.5	264.0	3.0	20.0	Vert	PK	0.0	60.6	74.0	-13.4	Tx High Ch, 1 Mbps, EUT X
2485.487	51.9	-11.3	1.5	174.0	3.0	20.0	Vert	PK	0.0	60.6	74.0	-13.4	Tx High Ch, 1 Mbps, EUT Y
2389.737	52.2	-11.7	1.5	194.0	3.0	20.0	Vert	PK	0.0	60.5	74.0	-13.5	Tx Low Ch, 1 Mbps, EUT Z
2484.807	51.7	-11.3	1.5	69.0	3.0	20.0	Vert	PK	0.0	60.4	74.0	-13.6	Tx High Ch, 1 Mbps, EUT Z
2484.807	51.6	-11.3	1.5	170.0	3.0	20.0	Horz	PK	0.0	60.3	74.0	-13.7	Tx High Ch, 1 Mbps, EUT Y
2388.927	51.9	-11.7	1.5	123.0	3.0	20.0	Horz	PK	0.0	60.2	74.0	-13.8	Tx Low Ch, 1 Mbps, EUT Z

CONCLUSION

Pass

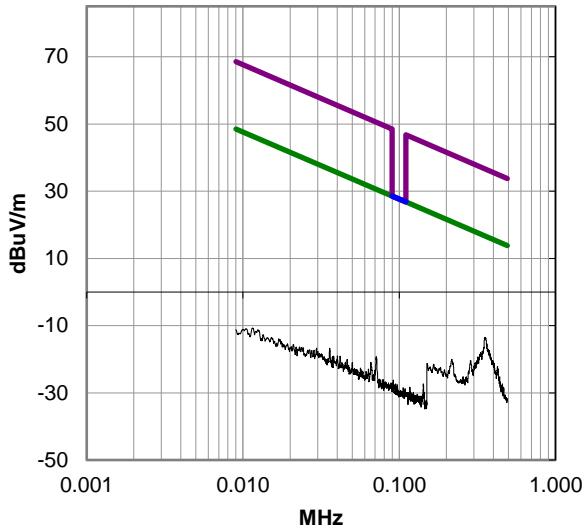
Tested By

SPURIOUS RADIATED EMISSIONS

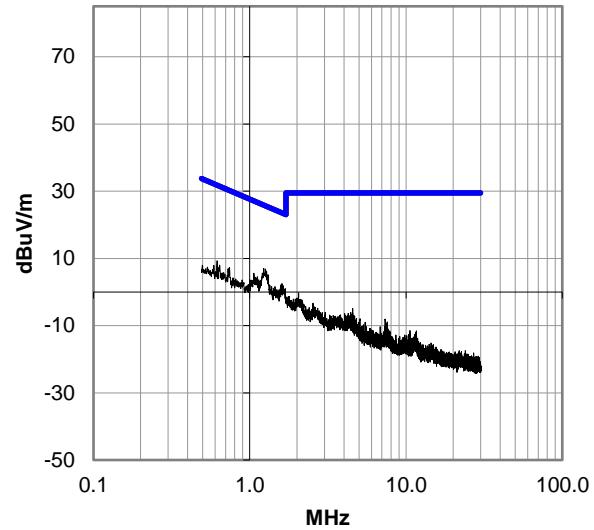
PRESCAN DATA

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

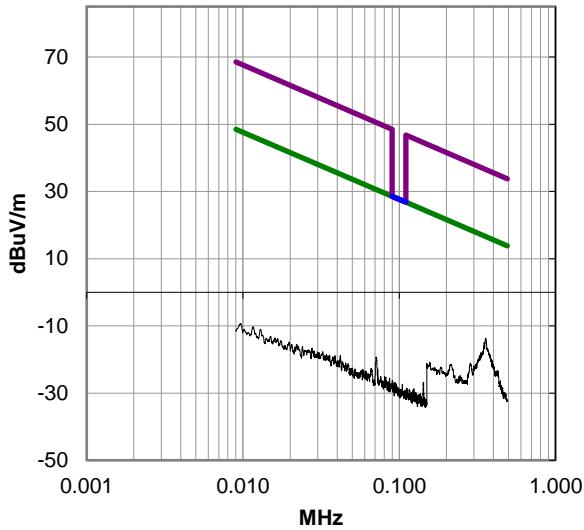
0.009-0.49 MHz, Run 35



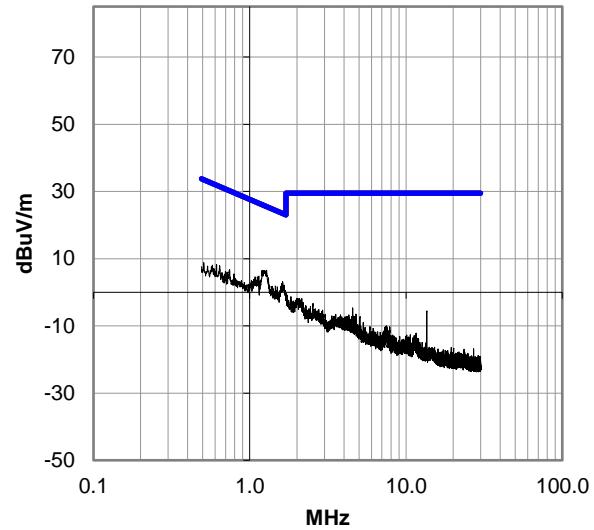
0.49-30 MHz, Run 37



0.009-0.49 MHz, Run 38

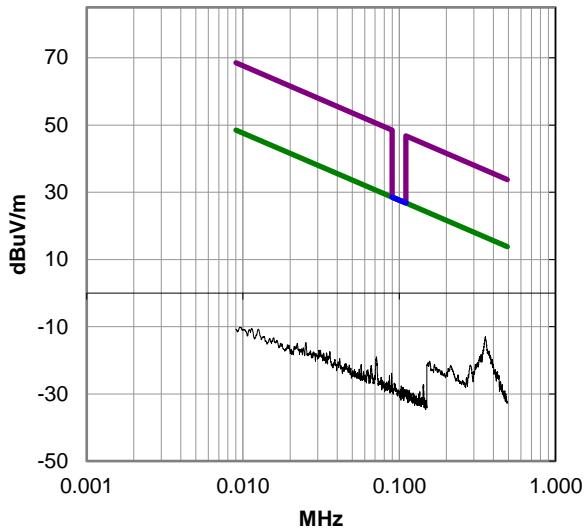


0.49-30 MHz, Run 39

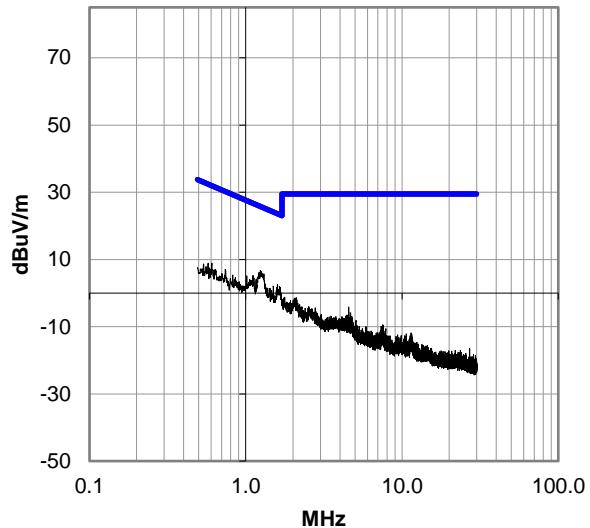


SPURIOUS RADIATED EMISSIONS

0.009-0.49 MHz, Run 40

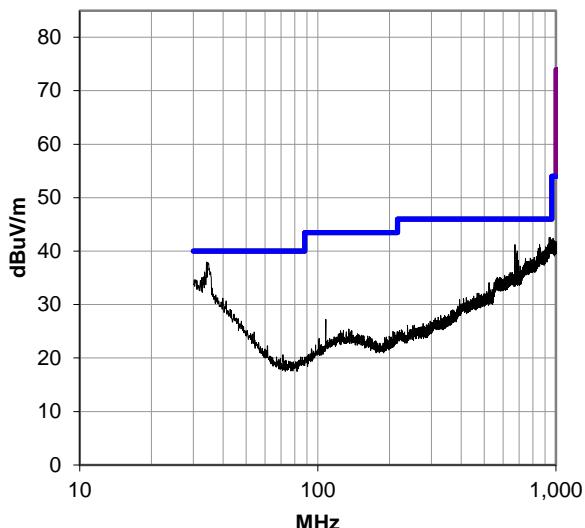


0.49-30 MHz, Run 41

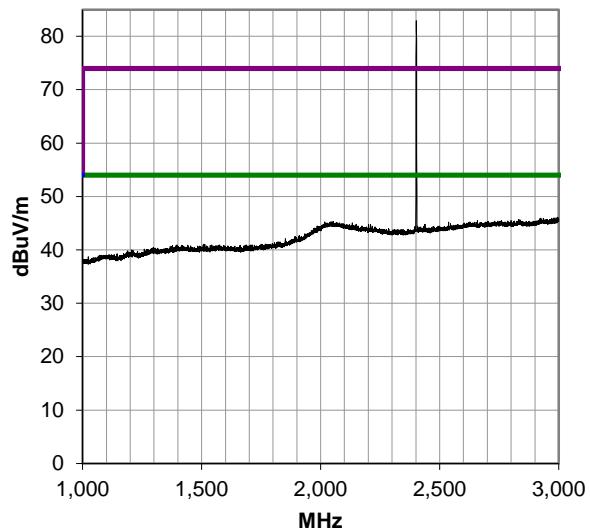


30-1000 MHz, Run 29

*Emissions at 34 MHz not related to the radio and is outside of the 15.205 restricted bands.



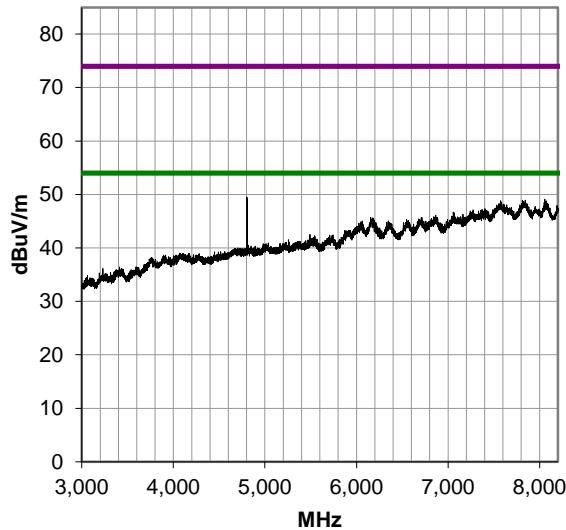
1000-3000 MHz, Run 34



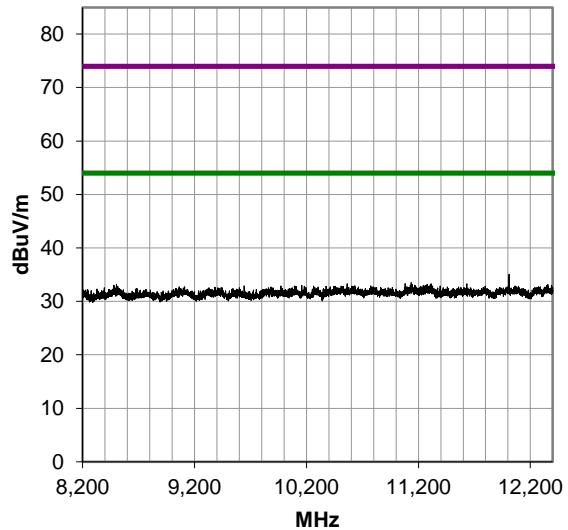
SPURIOUS RADIATED EMISSIONS



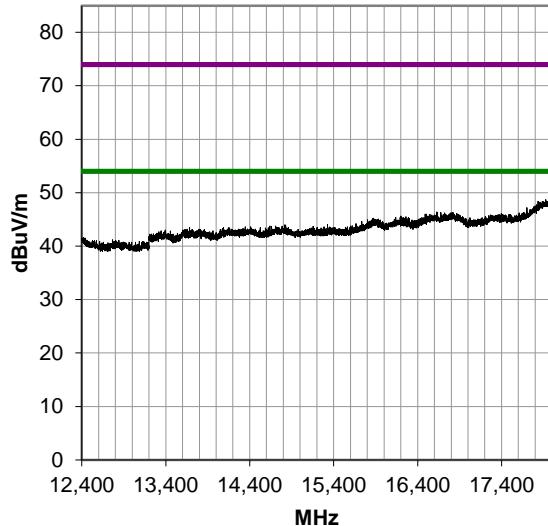
3000-8200 MHz, Run 2



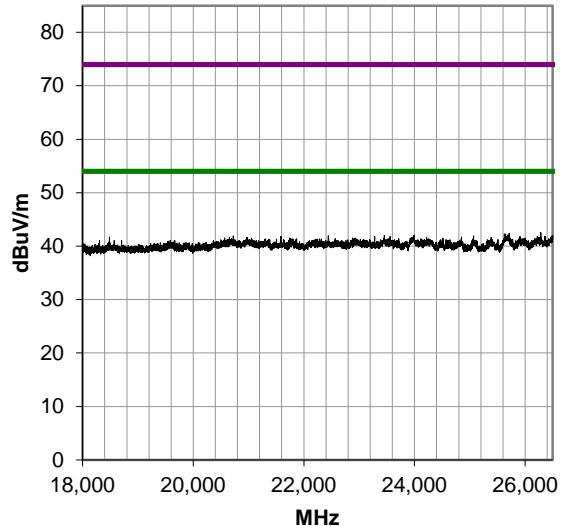
8200-12400 MHz, Run 3



12400-18000 MHz, Run 4



18000-26500 MHz, Run 16



1000-3000 MHz, Run 34

End of Test Report