InfoBionic

MoMe ARC Sensor POD

FCC 15.247:2025

Bluetooth Low Energy (DTS) Radio

Report: ININ0007.0 Rev. 1, Issue Date: January 3, 2025

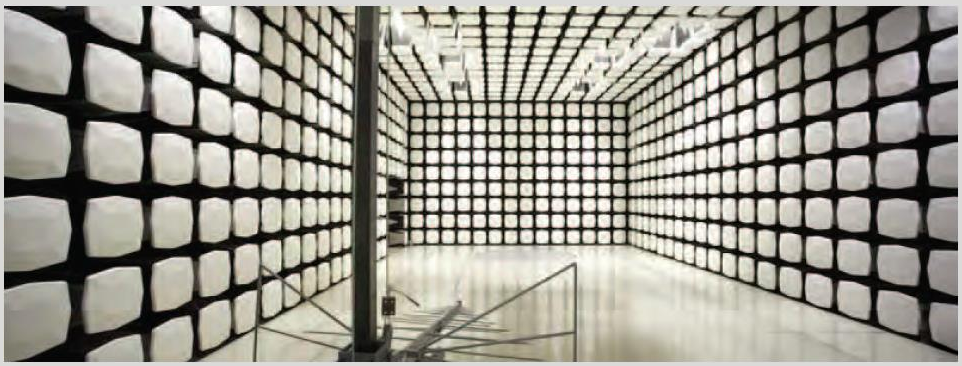


TABLE OF CONTENTS

element
2023.04.17

Section	Page Number

CERTIFICATE OF TEST

Last Date of Test: July 26, 2024
InfoBionic
EUT: MoMe ARC Sensor POD

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2025	ANSI C63.10:2013

Guidance

FCC KDB 558074 v05r02:2019

Note: FCC 15.247 has been updated superseding prior issues. The changes between the specifications do not affect the results of the prior testing

Results

Test Description	Result	Specification Section(s)	Method Section(s)	Comments
Powerline Conducted Emissions	N/A	15.207	6.2	Not required for a battery powered EUT.
Occupied Bandwidth (99%)	Pass	KDB 558074 - 2.1	6.9.3	
Duty Cycle	Pass	KDB 558074 - 6.0	11.6	
DTS Bandwidth (6 dB)	Pass	15.247(a)(2), KDB 558074 - 8.2	11.8.2	
Output Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	11.9.1.1	
Equivalent Isotropic Radiated Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	11.9.1.1	
Power Spectral Density	Pass	15.247(e), KDB 558074 -8.4	11.10.2	
Band Edge Compliance	Pass	15.247(d), KDB 558074 -8.5	11.11	
Spurious Conducted Emissions	Pass	15.247(d), KDB 558074 -8.5	11.11	
Spurious Radiated Emissions	Pass	15.247(d), KDB 558074 - 8.6, 8.7	11.12.1, 11.13.2, 6.5, 6.6	

Deviations From Test Standards

None

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.

CERTIFICATE OF TEST

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	Updated attenuator and modes investigated	2025-01-03	40

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

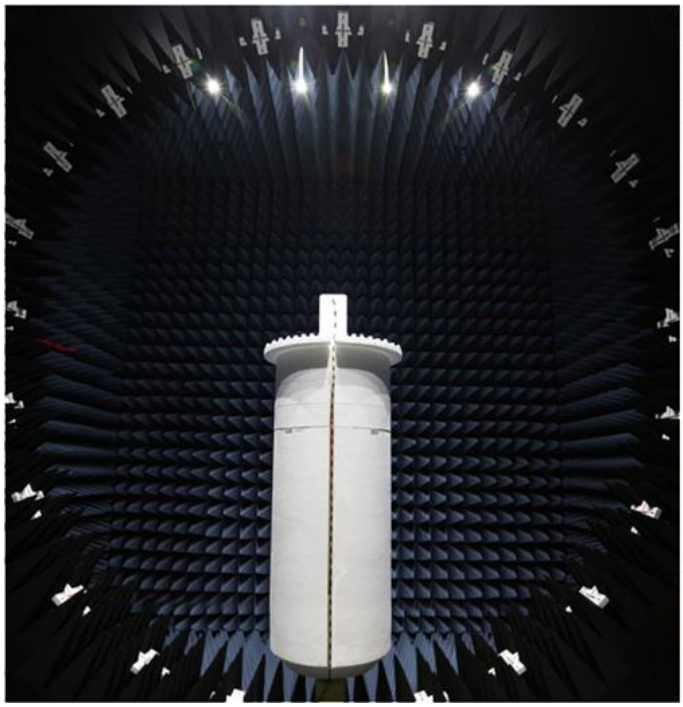
element
2024.07.18

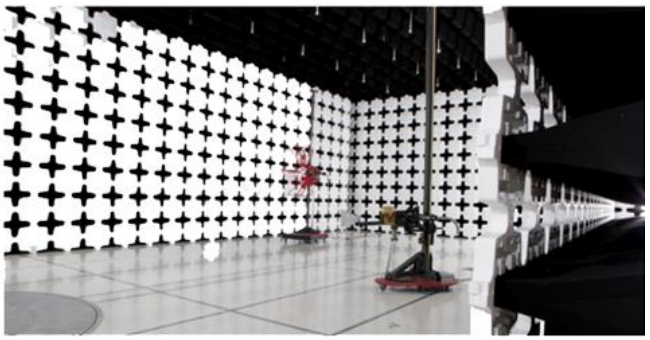
Testing was performed at the following location(s)

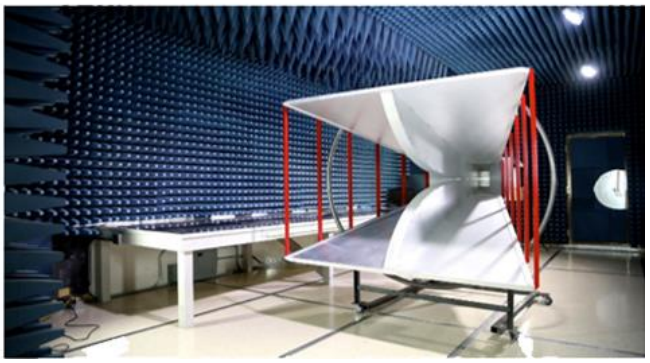
	Location	Labs (1)	Address	A2LA (2)	ISED (3)	BSMI (4)	VCCI (5)	CAB (6)	FDA (7)
☒	California	OC01-17	41 Tesla Irvine, CA 92618 (949) 861-8918	3310.04	2834B	SL2-IN-E-1154R	A-0029	US0158	TL-55
☐	Minnesota	MN01-11	9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	3310.05	2834E	SL2-IN-E-1152R	A-0109	US0175	TL-57
☐	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
☐	Plano Texas	PT01-15	1701 E Plano Pkwy, Ste 150 Plano, TX 75074 (972) 509-2566	214.19	32637	SL2-IN-E-057R	N/A	US0054	N/A
☐	Texas	TX01-09	3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	3310.03	2834G	SL2-IN-E-1158R	N/A	US0191	TL-54
☐	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
☐	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

element
MU 2023-09-21

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.

Various Measurements

Test	All Labs (+/-)
Frequency Accuracy (%)	0.0007
Amplitude Accuracy (dB)	1.2
Conducted Power (dB)	1.2
Radiated Power via Substitution (dB)	0.7
Temperature (degrees C)	0.7
Humidity (% RH)	2.5
Voltage (AC) (%)	1
Voltage (DC) (%)	0.7

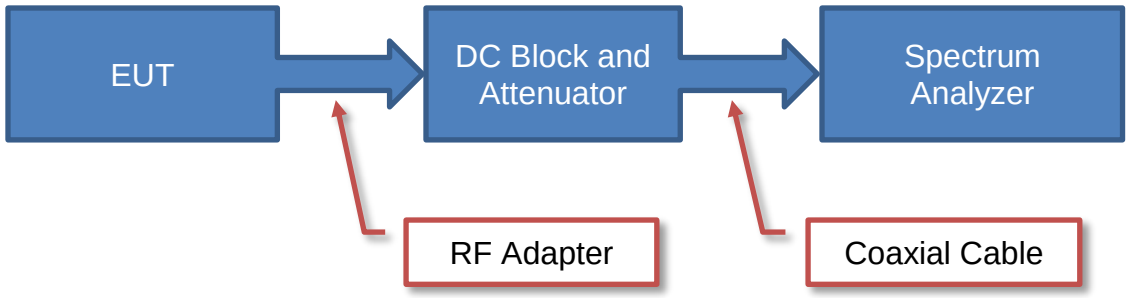
TEST SETUP BLOCK DIAGRAMS

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.

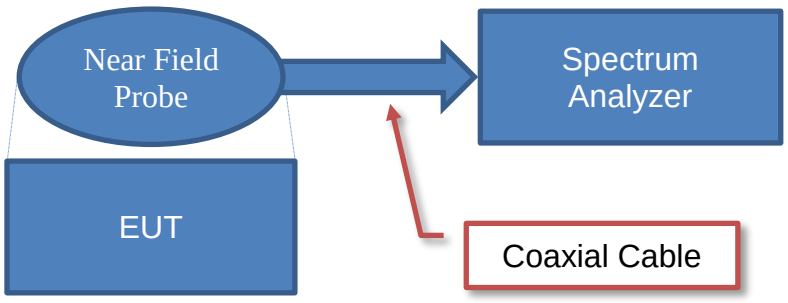
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

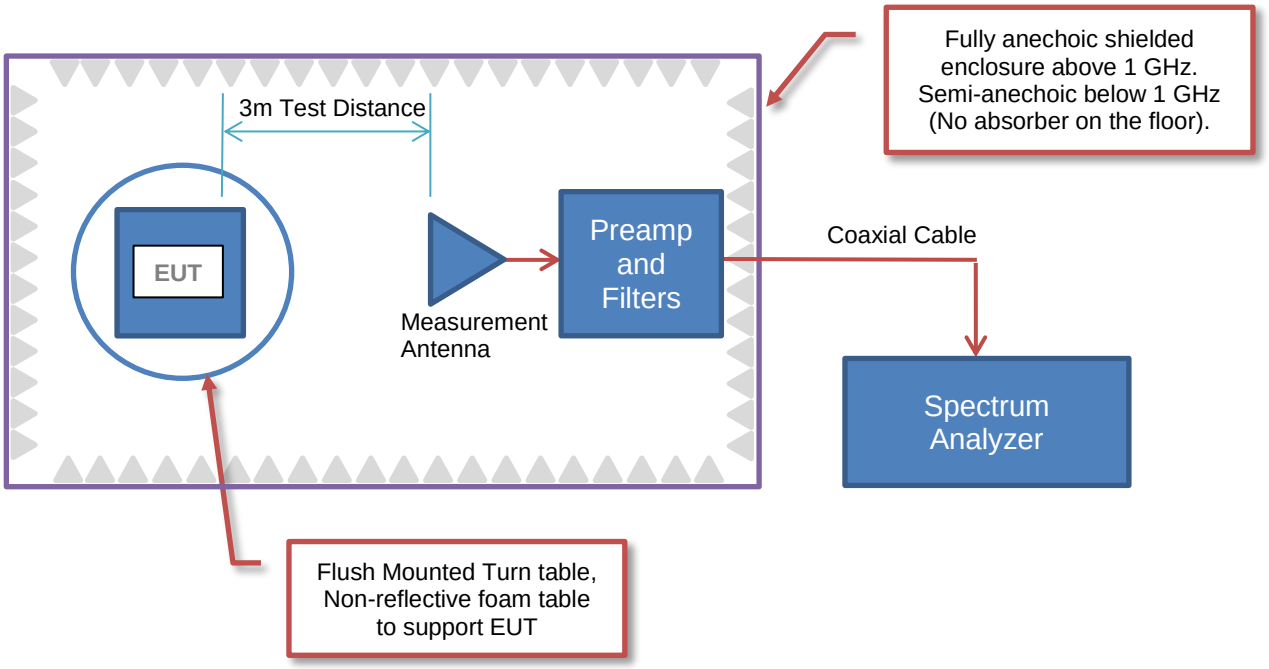


Sample Calculation (logarithmic units)

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**

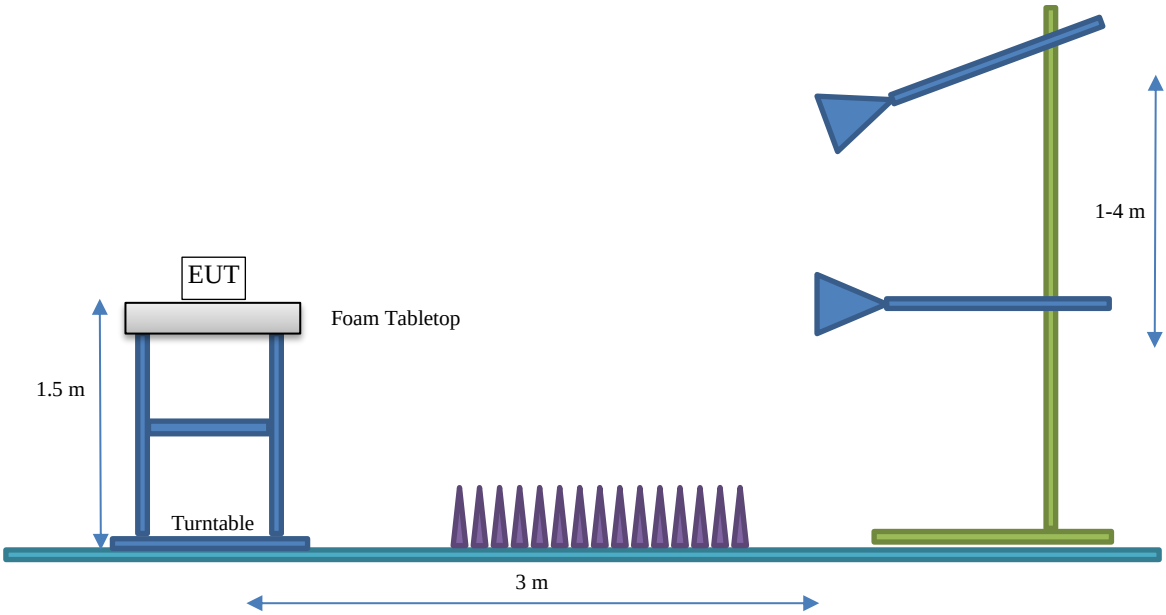
Radiated Power (ERP/EIRP) – Substitution Method:

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:	InfoBionic
Address:	321 Billerica Road OfficeLink #5
City, State, Zip:	Chelmsford, CA 01824
Test Requested By:	Eric Baumann
EUT:	MoMe ARC Sensor POD
First Date of Test:	July 25, 2024
Last Date of Test:	July 26, 2024
Receipt Date of Samples:	July 25, 2024
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Remote cardiac monitor

Testing Objective:
To demonstrate compliance of the Bluetooth Low Energy (DTS) radio to FCC 15.247 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)
Wire Antenna	Manufacturer	2400-2483.5	-3.8

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

☐ Test software settings Software/firmware used for testing: MoMe ARC Pod Emissions V00.2321
☒ Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Type	Channel	Frequency (MHz)	Power Setting
BLE GFSK 1 Mbps, 2 Mbps	DTS	Low	2402	4 dBm
		Mid	2442	4 dBm
		High	2480	4 dBm

CONFIGURATIONS

Configuration ININ0007-1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MoMe ARC Sensor POD	InfoBionic	30570 Rev A	PIA00029

Configuration ININ0007-2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MoMe ARC Sensor POD	InfoBionic	30570 Rev A	PIA00041

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-07-25	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.
2	2024-07-25	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.
3	2024-07-25	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.
4	2024-07-25	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	2024-07-25	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.
6	2024-07-25	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.
7	2024-07-25	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.
8	2024-07-25	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	2024-07-26	Spurious Radiated Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

OCCUPIED BANDWIDTH (99%)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

OCCUPIED BANDWIDTH (99%)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested By

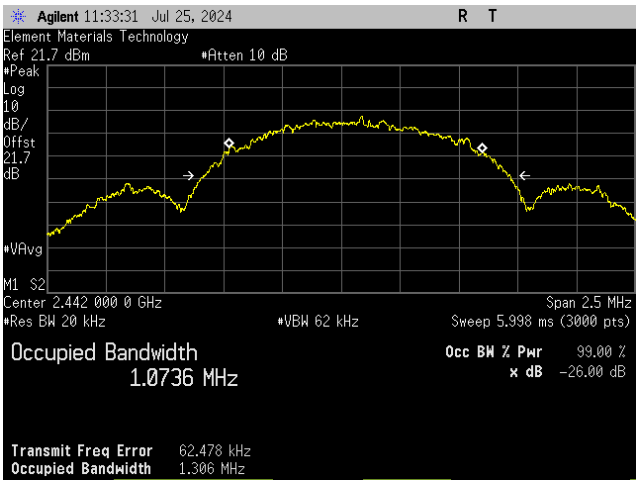
TEST RESULTS

	Value	Limit	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	1.059 MHz	N/A	N/A
Mid Channel, 2442 MHz	1.074 MHz	N/A	N/A
High Channel, 2480 MHz	1.061 MHz	N/A	N/A
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	2.07 MHz	N/A	N/A
Mid Channel, 2442 MHz	2.091 MHz	N/A	N/A
High Channel, 2480 MHz	2.079 MHz	N/A	N/A

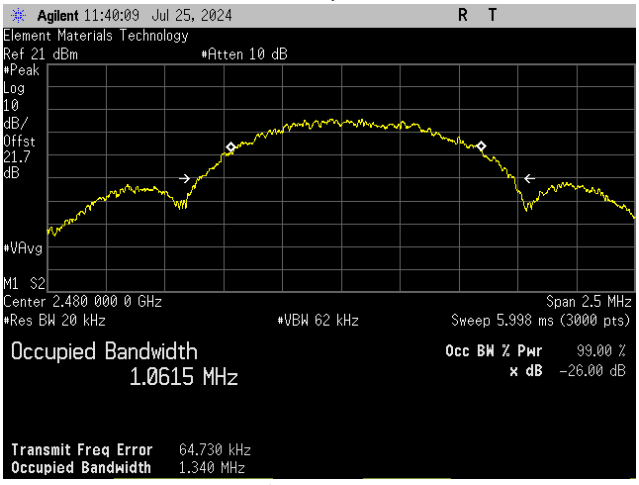
OCCUPIED BANDWIDTH (99%)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

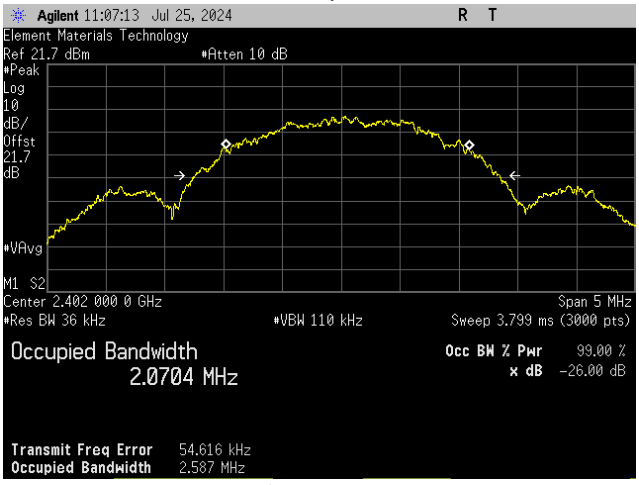
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



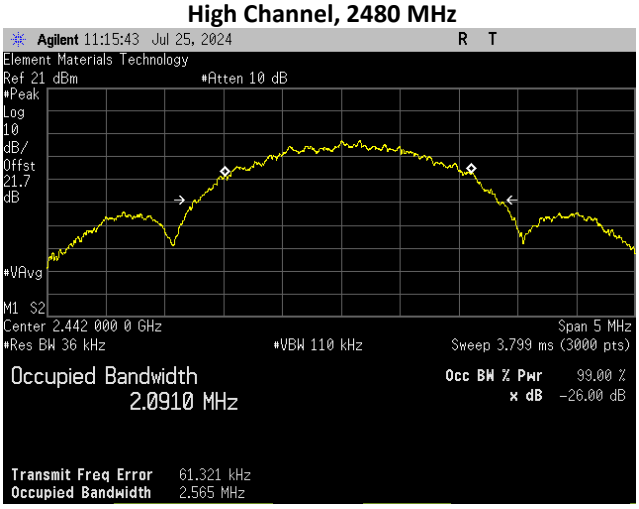
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



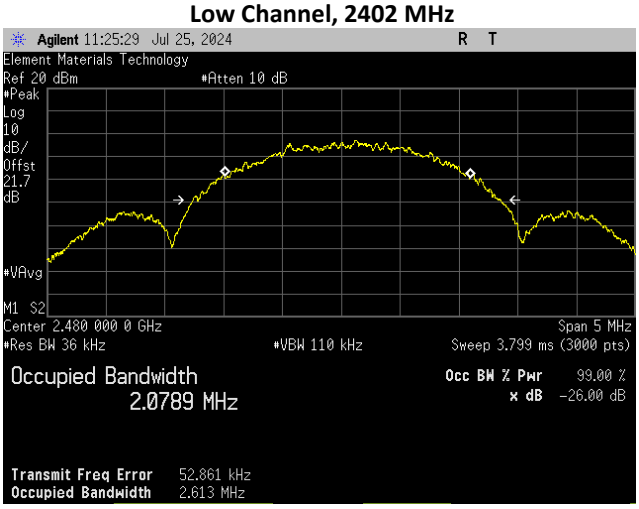
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

DUTY CYCLE

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

TEST DESCRIPTION
The Duty Cycle (x) 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.

DTS BANDWIDTH (6 dB)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

DTS BANDWIDTH (6 dB)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

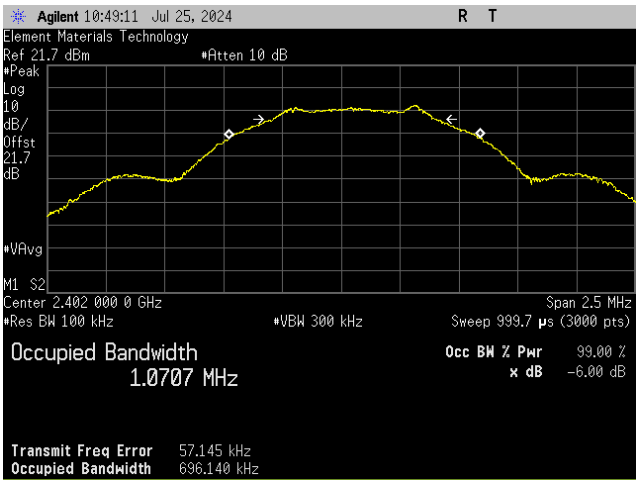
Tested By

TEST RESULTS

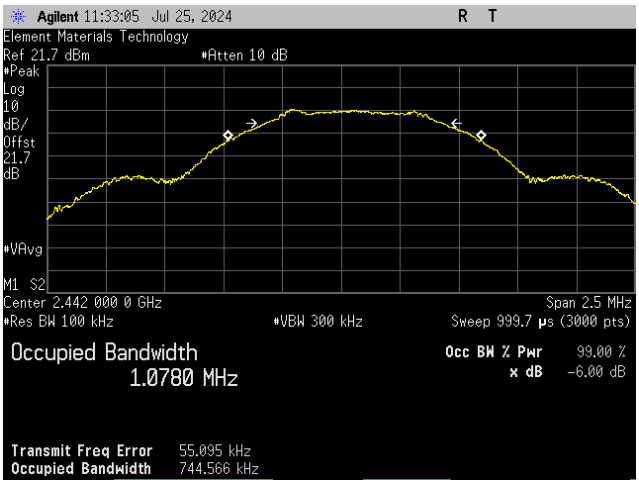
	Value	Limit (≥)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	696.14 kHz	500 kHz	Pass
Mid Channel, 2442 MHz	744.566 kHz	500 kHz	Pass
High Channel, 2480 MHz	751.04 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	1.254 MHz	500 kHz	Pass
Mid Channel, 2442 MHz	1.291 MHz	500 kHz	Pass
High Channel, 2480 MHz	1.273 MHz	500 kHz	Pass

DTS BANDWIDTH (6 dB)

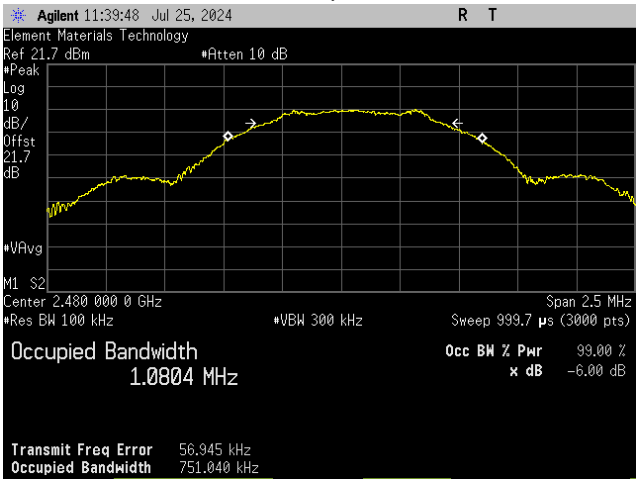
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



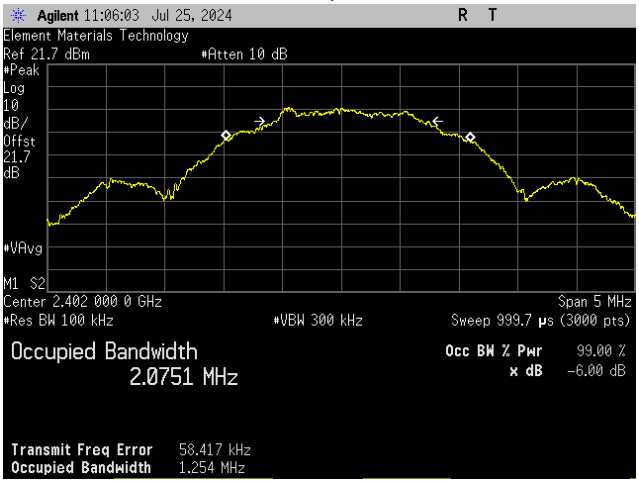
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



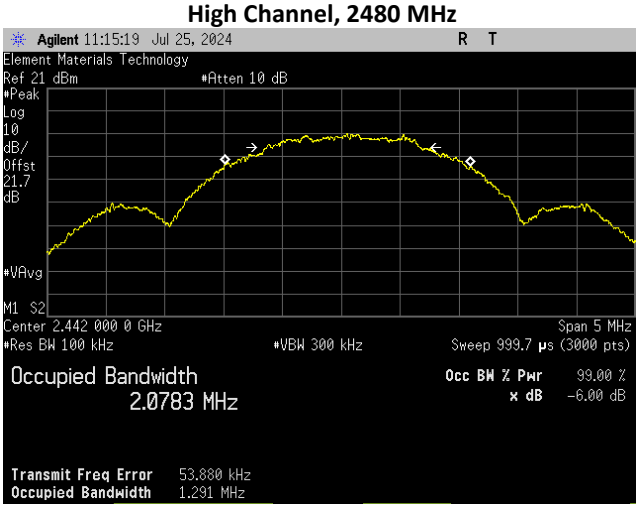
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



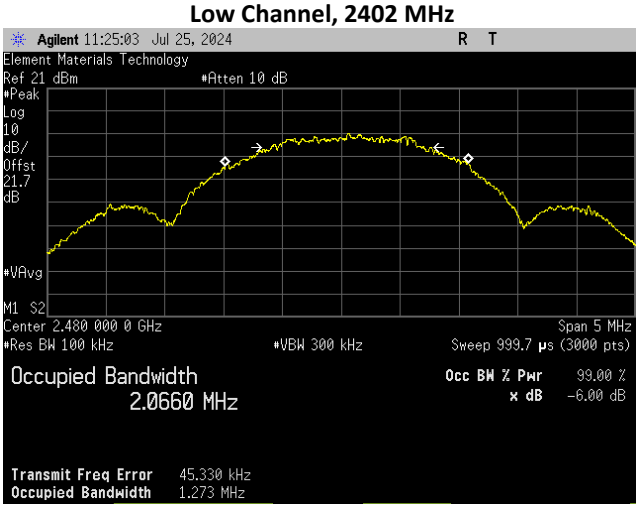
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

OUTPUT POWER

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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	E4440A	AFA	2023-12-05	2024-12-05
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

OUTPUT POWER

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

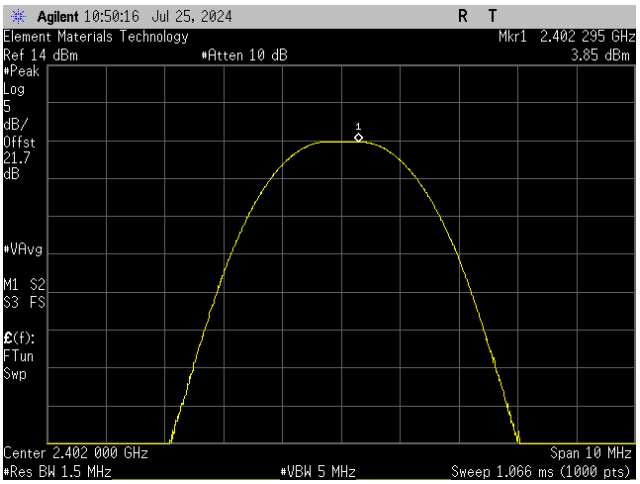
Tested By

TEST RESULTS

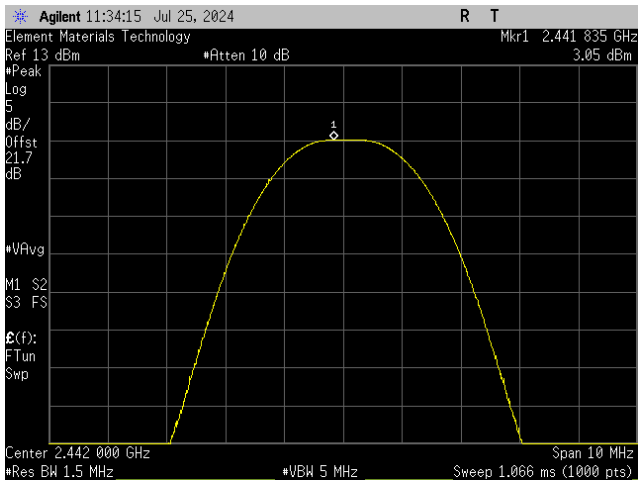
	Out Pwr (dBm)	Limit (dBm)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	3.846	30	Pass
Mid Channel, 2442 MHz	3.051	30	Pass
High Channel, 2480 MHz	2.581	30	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	3.88	30	Pass
Mid Channel, 2442 MHz	3.141	30	Pass
High Channel, 2480 MHz	2.647	30	Pass

OUTPUT POWER

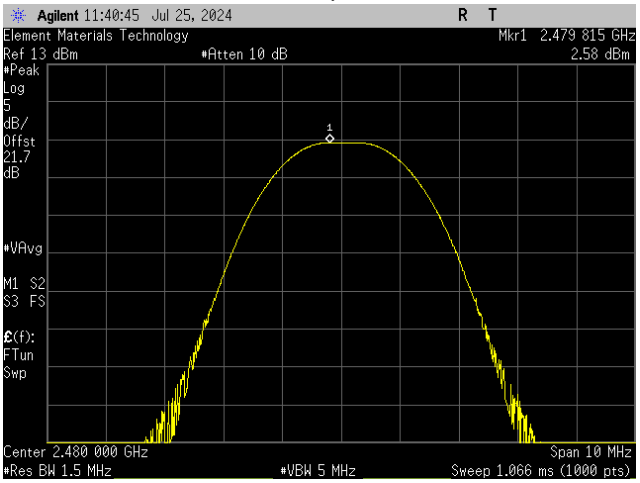
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



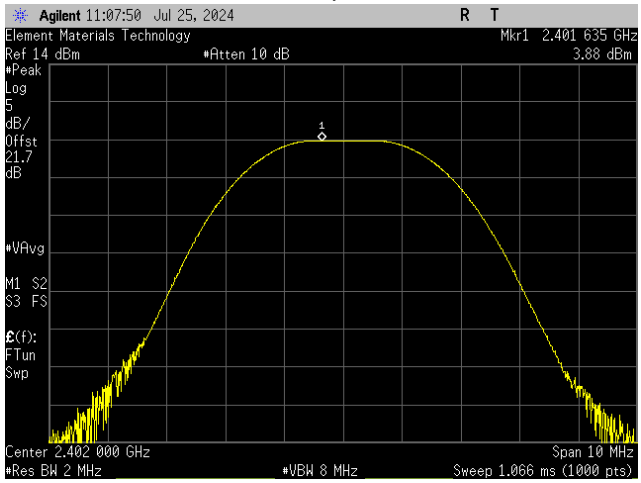
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



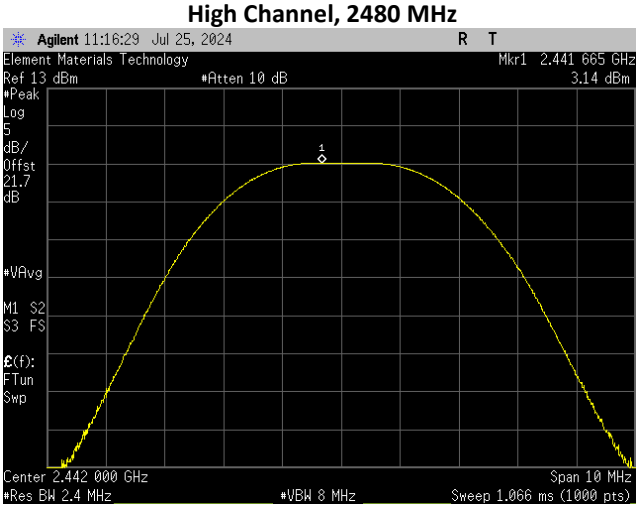
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



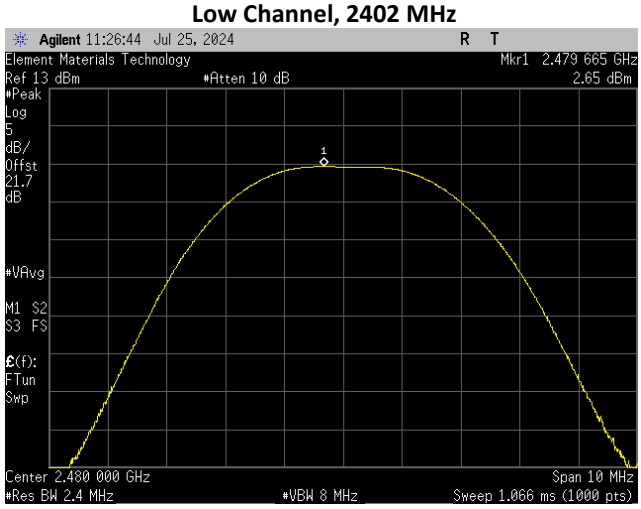
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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	E4440A	AFA	2023-12-05	2024-12-05
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

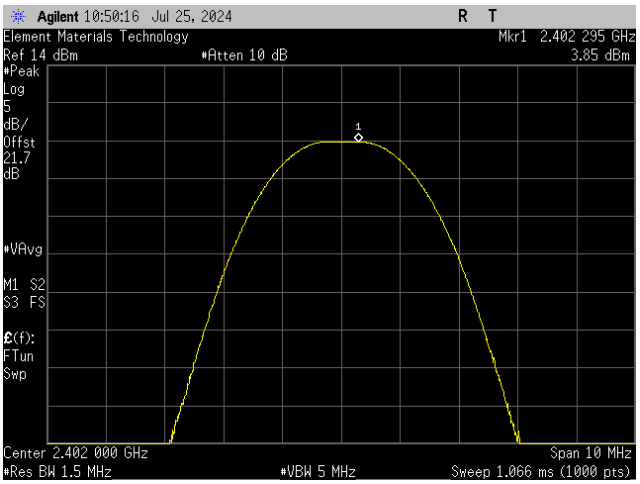
Tested By

TEST RESULTS

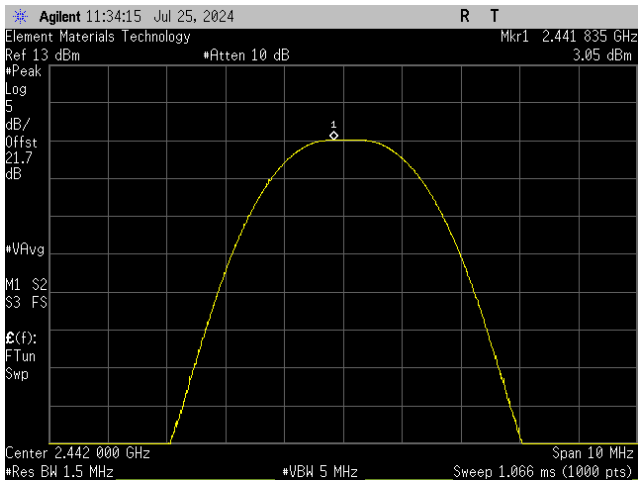
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	3.846	-3.8	0.046	36	Pass
Mid Channel, 2442 MHz	3.051	-3.8	-0.749	36	Pass
High Channel, 2480 MHz	2.581	-3.8	-1.219	36	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	3.88	-3.8	0.08	36	Pass
Mid Channel, 2442 MHz	3.141	-3.8	-0.659	36	Pass
High Channel, 2480 MHz	2.647	-3.8	-1.153	36	Pass

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

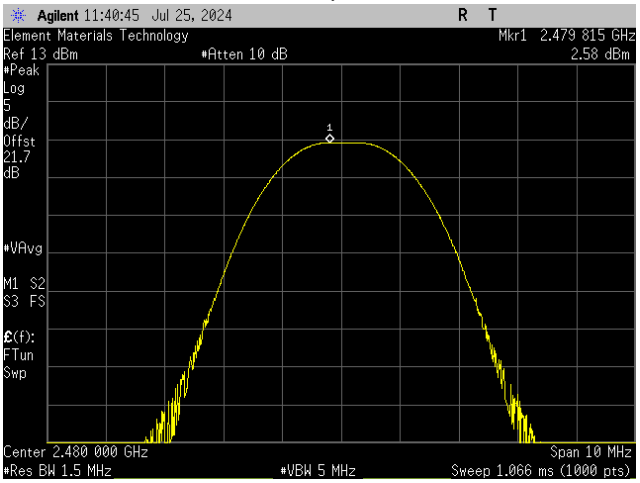
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



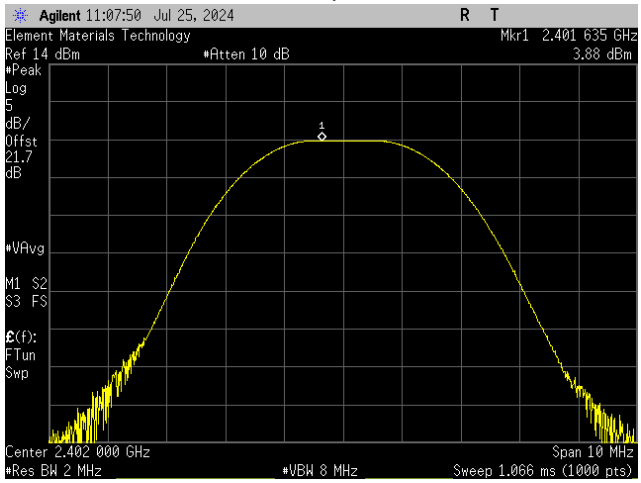
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



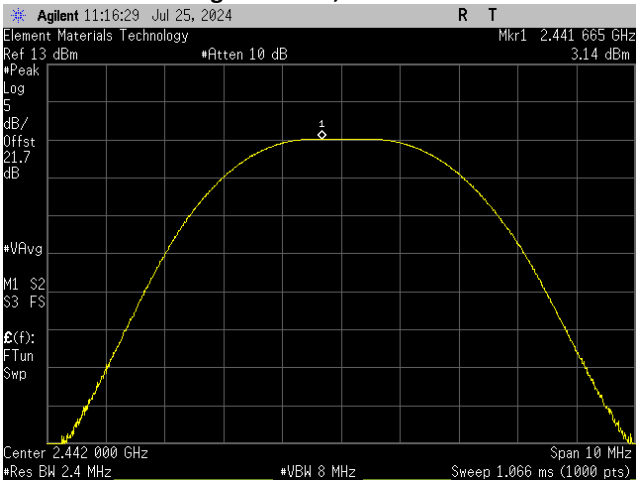
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



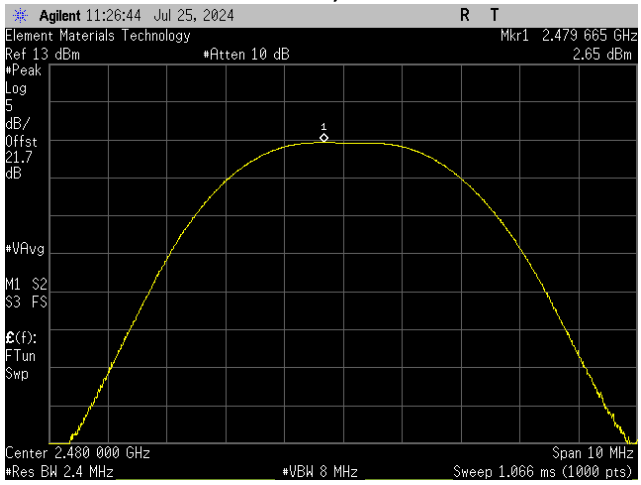
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

POWER SPECTRAL DENSITY

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

POWER SPECTRAL DENSITY

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

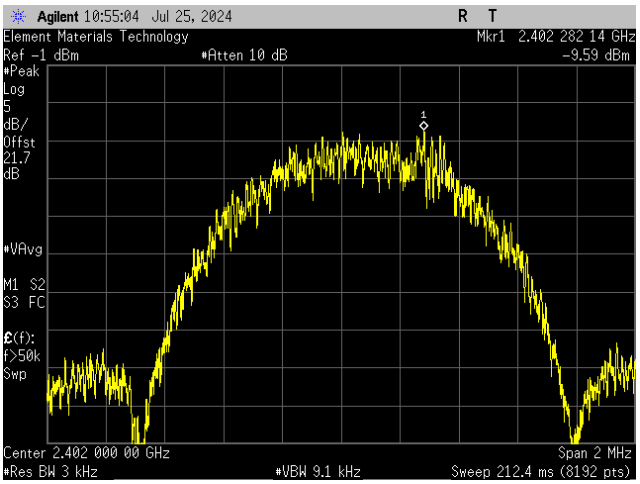
Tested By

TEST RESULTS

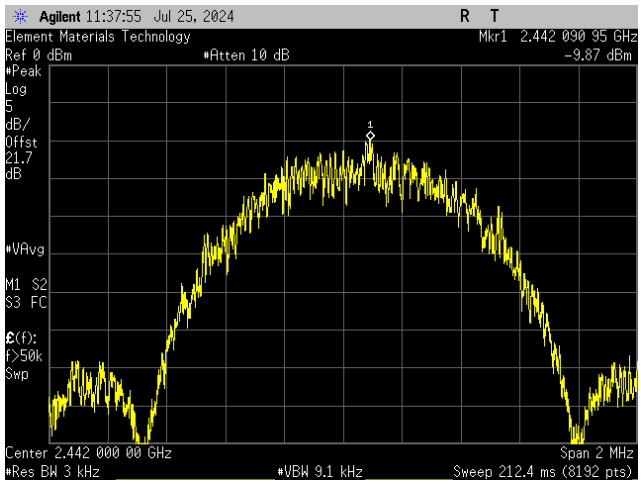
	Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-9.591	8	Pass
Mid Channel, 2442 MHz	-9.872	8	Pass
High Channel, 2480 MHz	-10.558	8	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-10.755	8	Pass
Mid Channel, 2442 MHz	-13.066	8	Pass
High Channel, 2480 MHz	-14.046	8	Pass

POWER SPECTRAL DENSITY

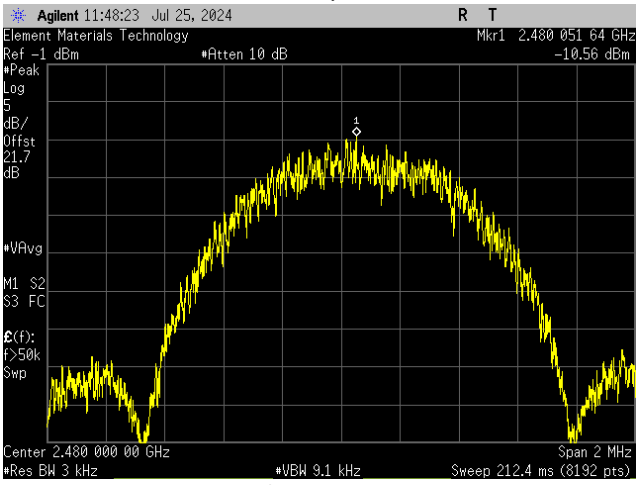
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



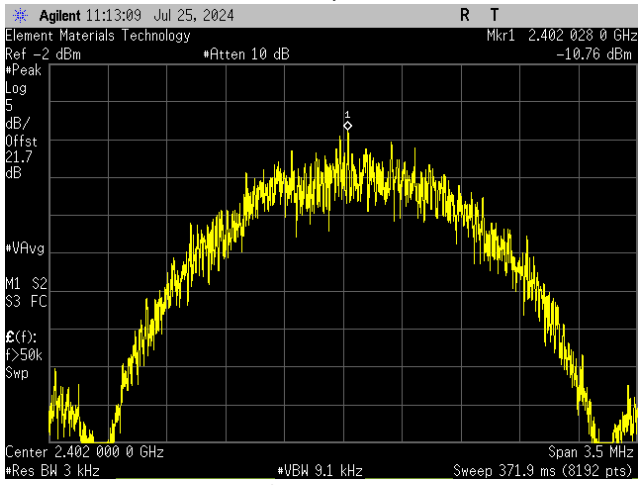
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



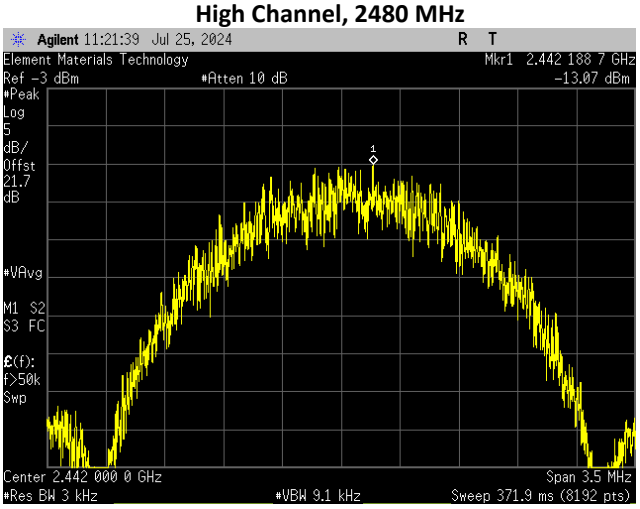
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



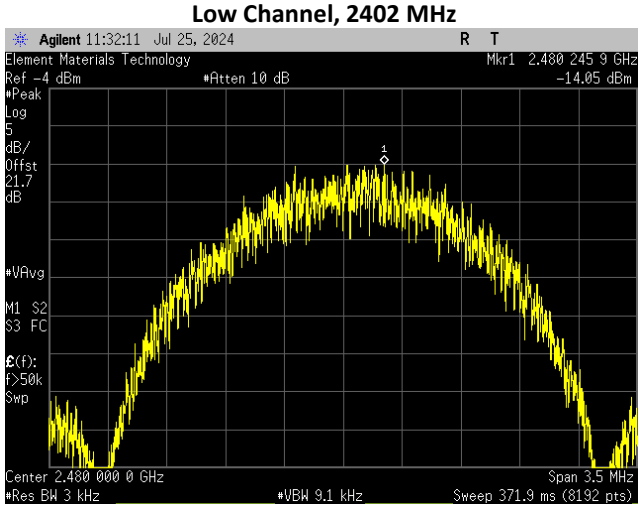
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

BAND EDGE COMPLIANCE

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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 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	E4440A	AFA	2023-12-05	2024-12-05
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

BAND EDGE COMPLIANCE

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

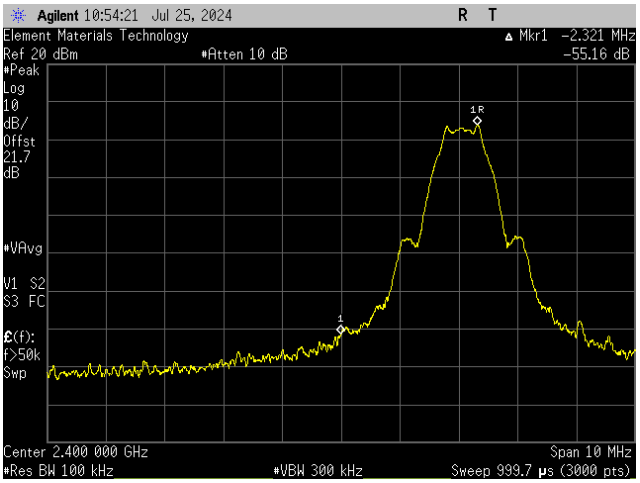
CONCLUSION

Pass

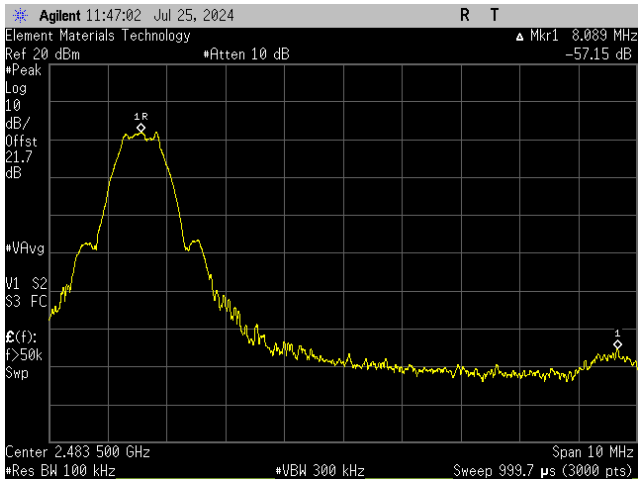
Tested By

TEST RESULTS

	Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-55.16	-20	Pass
High Channel, 2480 MHz	-57.15	-20	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-33.49	-20	Pass
High Channel, 2480 MHz	-53.96	-20	Pass



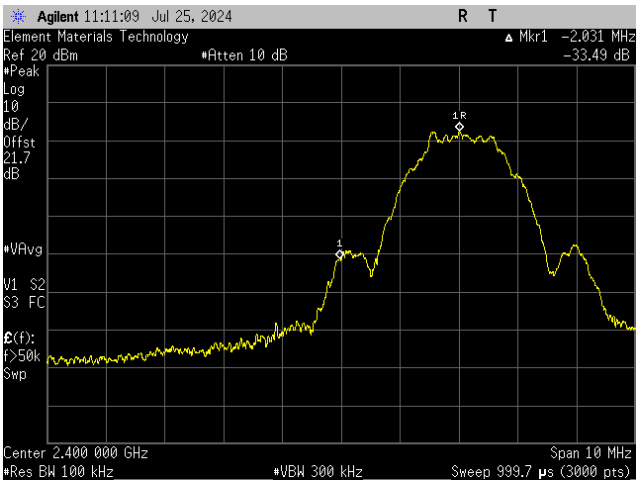
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



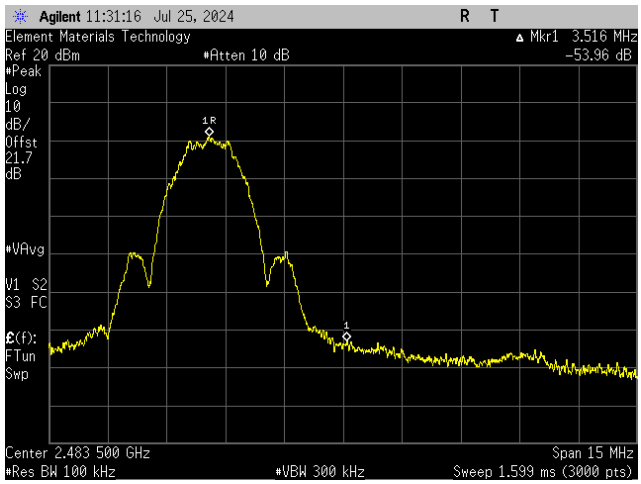
BLE/GFSK 1 Mbps
High Channel, 2480 MHz

BAND EDGE COMPLIANCE

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

SPURIOUS CONDUCTED EMISSIONS

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

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
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Block - DC	Aeroflex	INMET 8535	AMO	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

SPURIOUS CONDUCTED EMISSIONS

element
TbtTx 2023.12.06.3
WTD.2024.01.16.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00029	Date:	2024-07-25
Customer:	InfoBionic	Temperature:	25.1°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	47.1%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	ININ0007-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

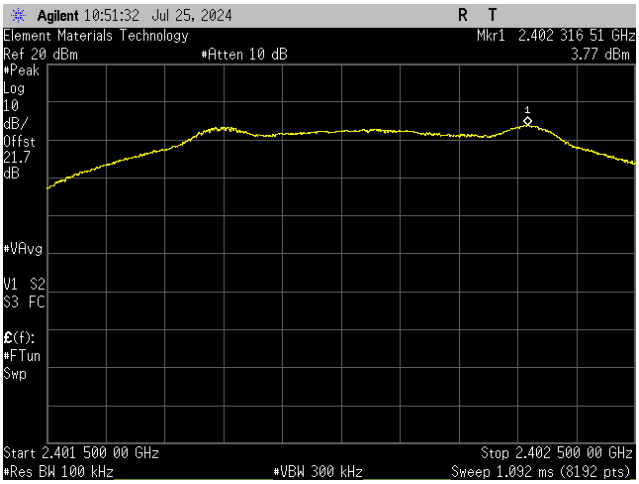
Tested By

TEST RESULTS

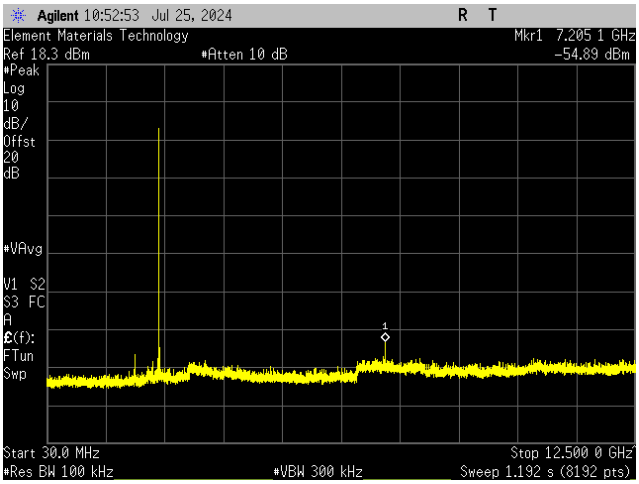
	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	Fundamental	2402.32	N/A	N/A	N/A
	30 MHz - 12.5 GHz	7205.1	-58.66	-20	Pass
	12.5 GHz - 25 GHz	24687.2	-58.43	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2441.81	N/A	N/A	N/A
	30 MHz - 12.5 GHz	7326.9	-56.84	-20	Pass
	12.5 GHz - 25 GHz	13321	-57.46	-20	Pass
High Channel, 2480 MHz	Fundamental	2480.31	N/A	N/A	N/A
	30 MHz - 12.5 GHz	7441.1	-57.97	-20	Pass
	12.5 GHz - 25 GHz	24133.2	-56.49	-20	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	Fundamental	2401.56	N/A	N/A	N/A
	30 MHz - 12.5 GHz	7205.1	-57.84	-20	Pass
	12.5 GHz - 25 GHz	13380.5	-58.17	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2442.08	N/A	N/A	N/A
	30 MHz - 12.5 GHz	7325.4	-58.28	-20	Pass
	12.5 GHz - 25 GHz	24108.8	-56.28	-20	Pass
High Channel, 2480 MHz	Fundamental	2480.06	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1893.4	-55.71	-20	Pass
	12.5 GHz - 25 GHz	24035.5	-56.23	-20	Pass

SPURIOUS CONDUCTED EMISSIONS

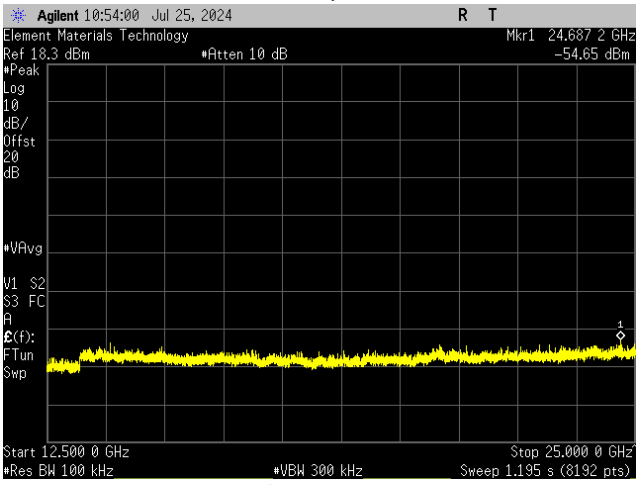
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



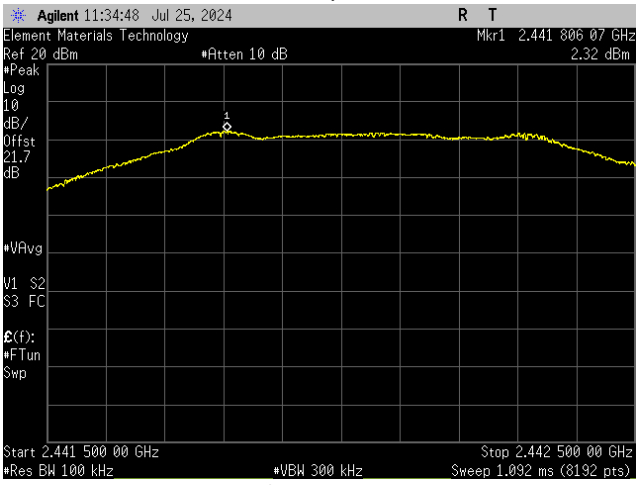
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



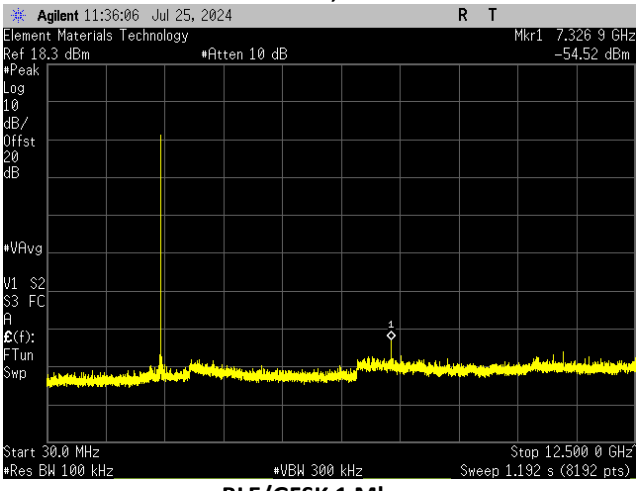
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



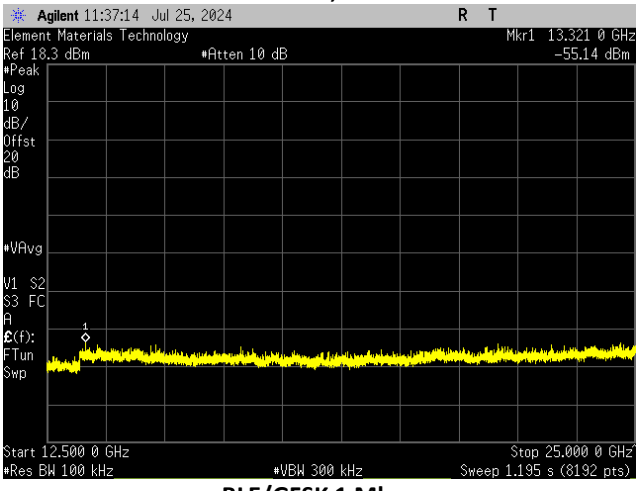
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



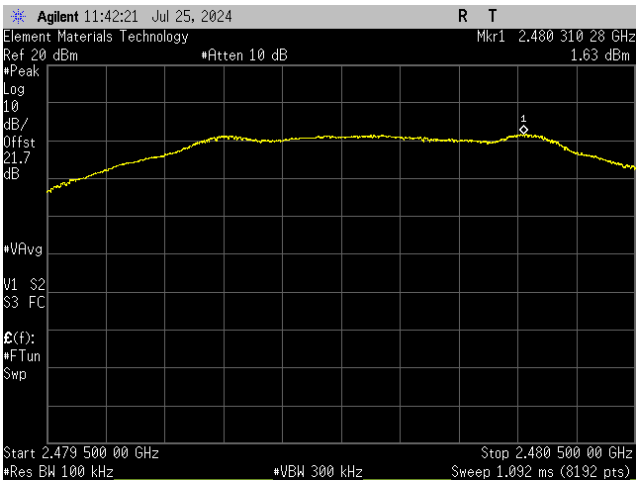
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



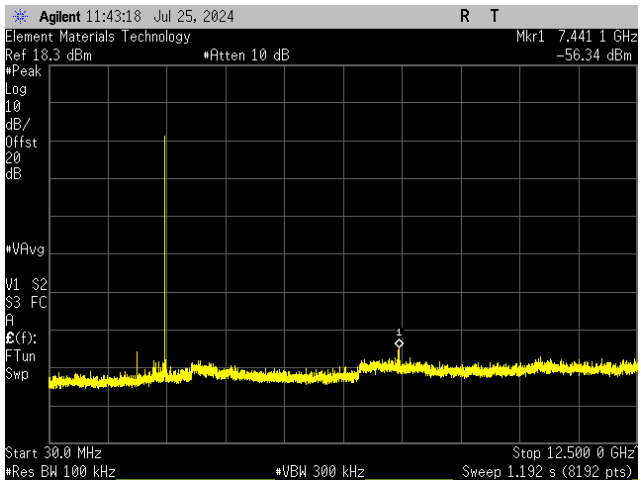
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

SPURIOUS CONDUCTED EMISSIONS

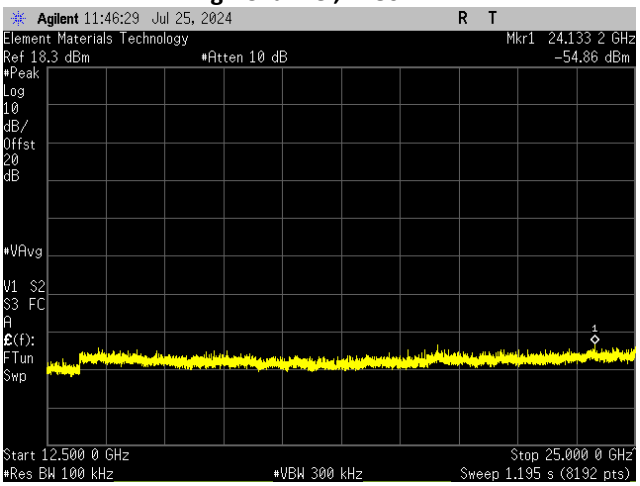
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



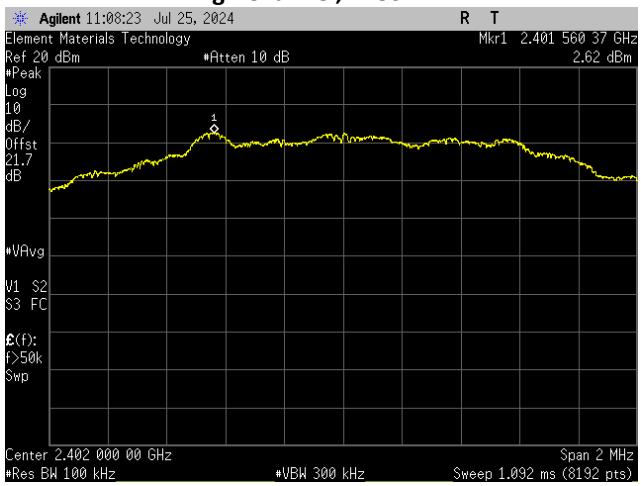
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



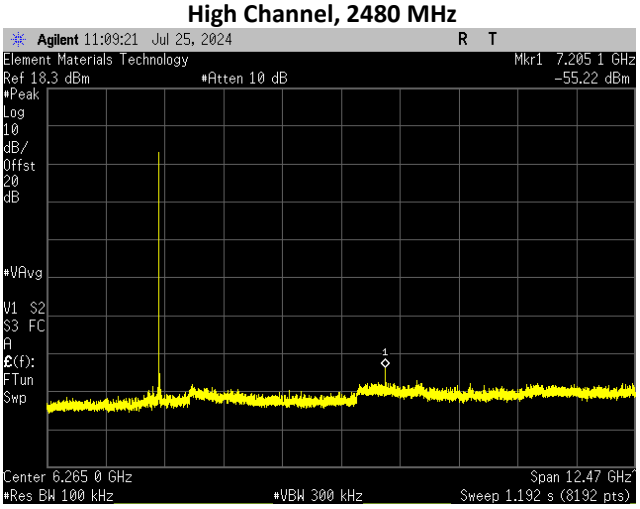
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



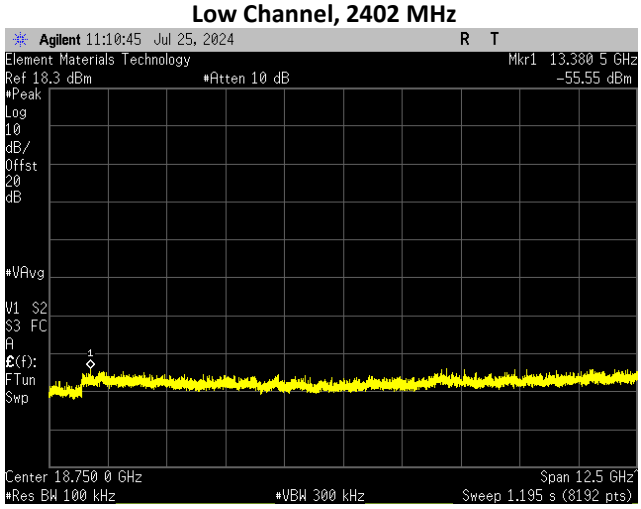
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



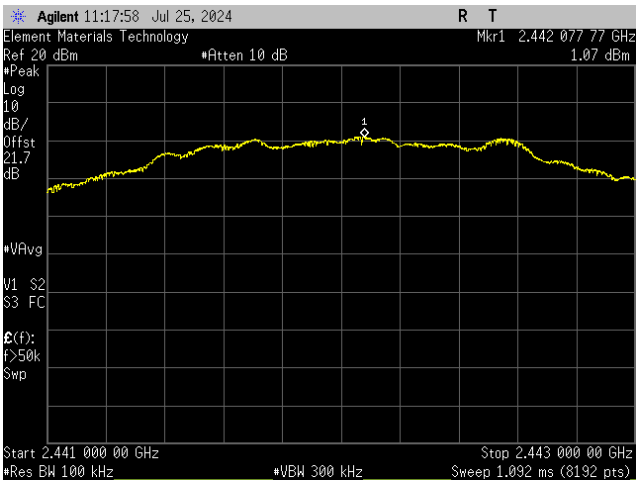
BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



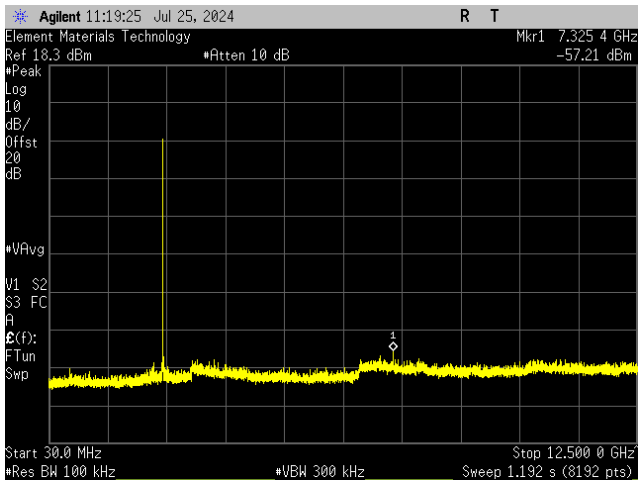
BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

SPURIOUS CONDUCTED EMISSIONS

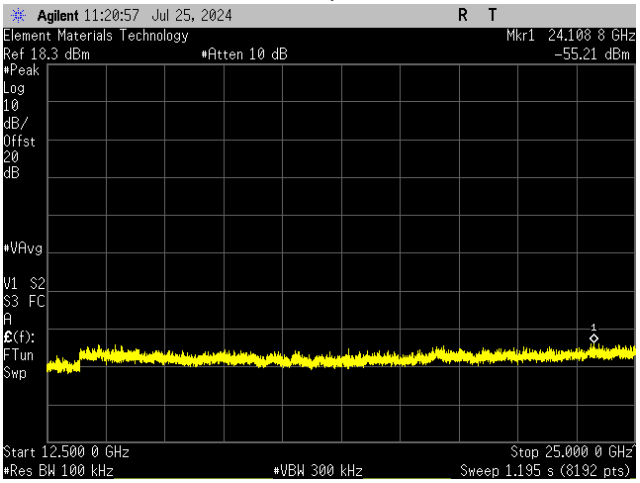
element
TbtTx 2023.12.06.3
WTD.2024.01.16.0



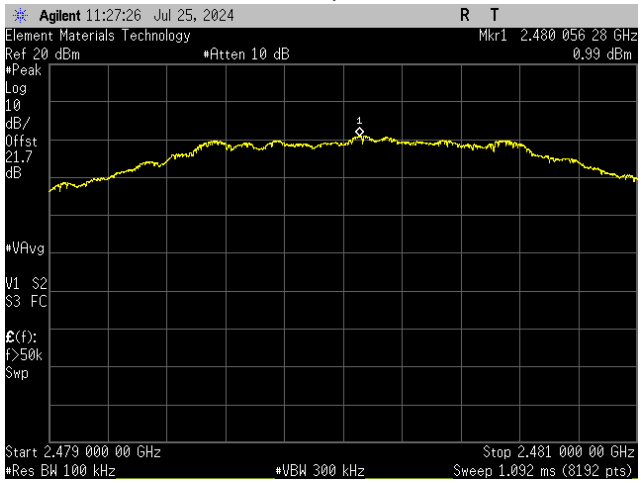
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



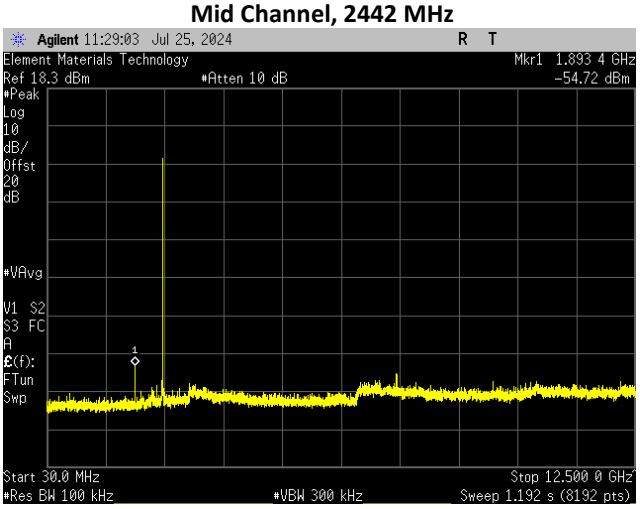
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



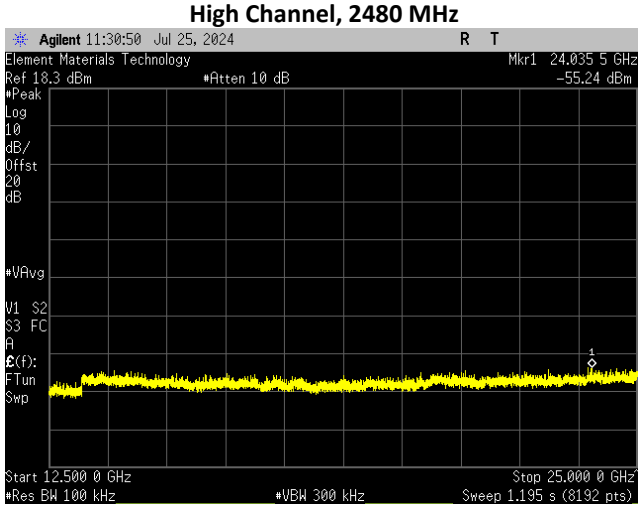
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

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. A reference preview scan (pre-scan) is 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	EMCO	3115	AHB	2024-04-16	2026-04-16
Cable	ESM Cable Corp.	1-8GHz Cables	OCX	2024-02-23	2025-02-23
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	2024-03-20	2025-03-20
Filter - High Pass	Micro-Tronics	HPM50111	HGQ	2024-12-05	2025-12-05
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2025-12-05
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	NCR
Cable	ESM Cable Corp.	8-18GHz Cables	OCY	2024-02-22	2025-02-22
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	2024-03-20	2025-03-20
Antenna - Standard Gain	EMCO	3160-08	AHK	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	2024-03-20	2025-03-20
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXV	2024-08-16	2026-08-16
Cable	D-Coax	None	OC4	2024-02-29	2025-02-28
Amplifier - Pre-Amplifier	Narda Miteq	LNA-40-18004000-33-5P	AXVA	2024-02-29	2026-02-28
Antenna - Loop	EMCO	6502	AZB	2023-09-06	2025-09-06
Cable	ESM Cable Corp.	30-1GHz Cables	OCW	2024-12-17	2025-12-17
Attenuator	S.M. Electronics	SA6-20	REO	2024-12-05	2025-12-05
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	2024-12-05	2025-12-05
Antenna - Biconilog	EMCO	3142	AXA	2024-01-05	2026-01-05
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	2024-12-17	2025-12-17

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

FREQUENCY RANGE INVESTIGATED

9 kHz TO 26.5 GHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

ININ0007-2

MODES INVESTIGATED

Transmitting Bluetooth Low Energy (BLE): Low channel 2402 MHz, High channel 2480 MHz, 1 Mbps, 2 Mbps
Transmitting Bluetooth Low Energy (BLE): Low channel 2402 MHz, Mid channel 2442 MHz, High Channel 2480 MHz, 1 Mbps, 2 Mbps

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00041	Date:	2025-01-02
Customer:	None	Temperature:	24.3°C
Attendees:	Konstantine Dubovenko	Relative Humidity:	42.2%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Nolan De Ramos	Job Site:	OC07
Power:	Battery	Configuration:	ININ0007-2

TEST PARAMETERS

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

COMMENTS

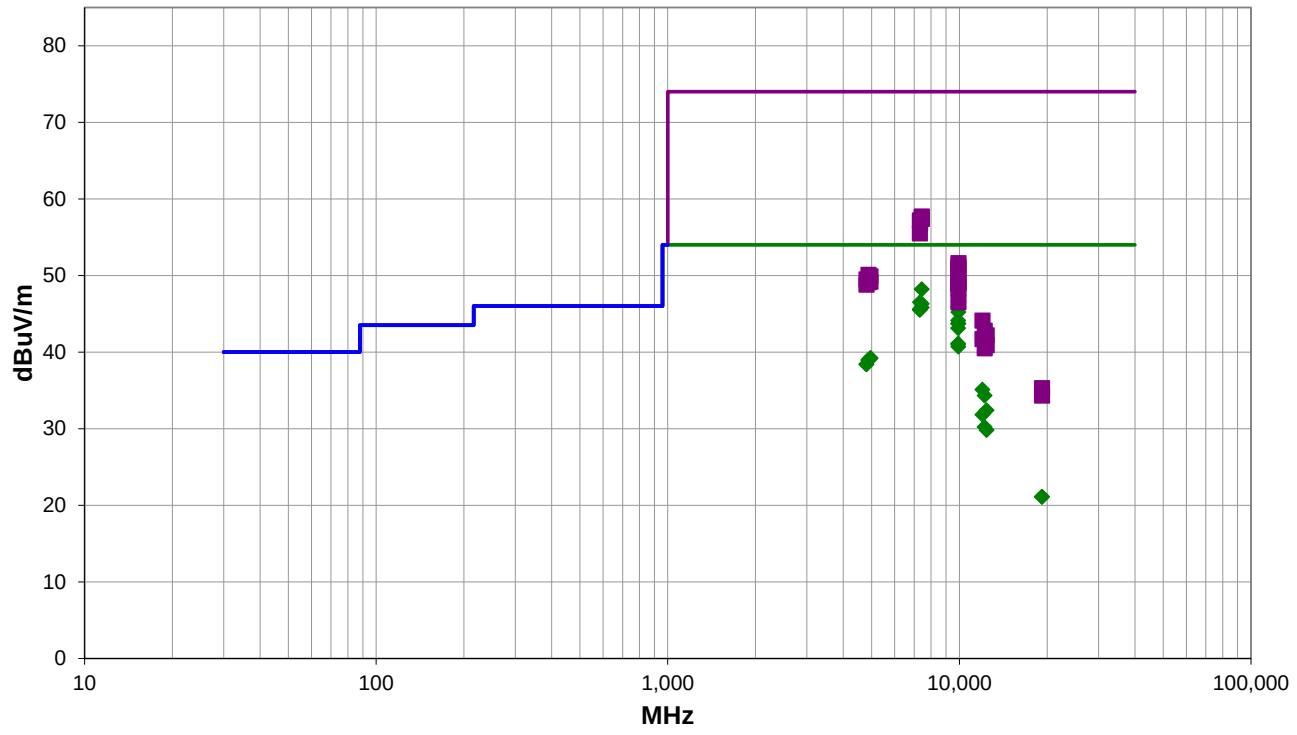
None

EUT OPERATING MODES

Transmitting Bluetooth Low Energy (BLE): Low channel 2402 MHz, Mid channel 2442 MHz, High Channel 2480 MHz, 1 Mbps, 2 Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 14 ■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

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
7440.883	33.4	14.8	2.8	360.0	3.0	0.0	Horz	AV	0.0	48.2	54.0	-5.8	High Ch, 1 Mbps, EUT Vert
9921.117	54.1	-7.5	1.5	61.0	3.0	0.0	Horz	AV	0.0	46.6	54.0	-7.4	High Ch, 1 Mbps, EUT Vert
7326.758	32.5	14.0	2.4	220.0	3.0	0.0	Horz	AV	0.0	46.5	54.0	-7.5	Mid Ch, 1 Mbps, EUT Vert
7439.458	31.5	14.8	1.8	158.0	3.0	0.0	Horz	AV	0.0	46.3	54.0	-7.7	High Ch, 1 Mbps, EUT Vert (spot-check)
9919.383	53.4	-7.5	4.0	5.0	3.0	0.0	Vert	AV	0.0	45.9	54.0	-8.1	High Ch, 1 Mbps, EUT on Side
7440.550	31.0	14.8	1.1	249.0	3.0	0.0	Vert	AV	0.0	45.8	54.0	-8.2	High Ch, 1 Mbps, EUT Vert
7327.542	31.6	14.0	1.5	272.0	3.0	0.0	Vert	AV	0.0	45.6	54.0	-8.4	Mid Ch, 1 Mbps, EUT Vert
7326.492	31.5	14.0	1.5	178.0	3.0	0.0	Horz	AV	0.0	45.5	54.0	-8.5	Mid Ch, 1 Mbps, EUT Vert (spot-check)
9922.108	52.7	-7.5	2.1	26.0	3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	High Ch, 2 Mbps, EUT Vert
9918.492	51.6	-7.5	1.5	276.0	3.0	0.0	Horz	AV	0.0	44.1	54.0	-9.9	High Ch, 2 Mbps, EUT Vert
9921.150	51.2	-7.5	2.1	29.0	3.0	0.0	Vert	AV	0.0	43.7	54.0	-10.3	High Ch, 1 Mbps, EUT Vert
9919.400	51.2	-7.5	1.3	313.0	3.0	0.0	Vert	AV	0.0	43.7	54.0	-10.3	High Ch, 1 Mbps, EUT Horz
9919.417	50.6	-7.5	3.6	196.0	3.0	0.0	Horz	AV	0.0	43.1	54.0	-10.9	High Ch, 1 Mbps, EUT Horz
9919.433	48.6	-7.5	1.6	90.0	3.0	0.0	Horz	AV	0.0	41.1	54.0	-12.9	High Ch, 1 Mbps, EUT Vert (spot-check)
9919.425	48.5	-7.5	2.1	248.0	3.0	0.0	Vert	AV	0.0	41.0	54.0	-13.0	High Ch, 1 Mbps, EUT On Side (spot-check)
9921.167	48.2	-7.5	1.5	60.0	3.0	0.0	Horz	AV	0.0	40.7	54.0	-13.3	High Ch, 1 Mbps, EUT on Side
4960.558	30.7	8.5	1.5	117.0	3.0	0.0	Horz	AV	0.0	39.2	54.0	-14.8	High Ch, 1 Mbps, EUT Vert
4959.192	30.7	8.5	3.4	230.0	3.0	0.0	Vert	AV	0.0	39.2	54.0	-14.8	High Ch, 1 Mbps, EUT Vert
4883.133	31.0	8.0	1.1	263.0	3.0	0.0	Horz	AV	0.0	39.0	54.0	-15.0	Mid Ch, 1 Mbps, EUT Vert
4882.200	30.9	8.0	1.5	230.0	3.0	0.0	Vert	AV	0.0	38.9	54.0	-15.1	Mid Ch, 1 Mbps, EUT Vert
4803.908	30.9	7.5	2.1	94.0	3.0	0.0	Horz	AV	0.0	38.4	54.0	-15.6	Low Ch, 1 Mbps, EUT Vert
4802.408	30.9	7.5	2.5	175.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	Low Ch, 1 Mbps, EUT Vert
7437.925	42.9	14.8	1.1	249.0	3.0	0.0	Vert	PK	0.0	57.7	74.0	-16.3	High Ch, 1 Mbps, EUT Vert
7440.592	42.8	14.8	1.8	158.0	3.0	0.0	Horz	PK	0.0	57.6	74.0	-16.4	High Ch, 1 Mbps, EUT Vert (spot-check)
7441.183	42.6	14.8	2.8	360.0	3.0	0.0	Horz	PK	0.0	57.4	74.0	-16.6	High Ch, 1 Mbps, EUT Vert
7325.600	43.2	14.0	2.4	220.0	3.0	0.0	Horz	PK	0.0	57.2	74.0	-16.8	Mid Ch, 1 Mbps, EUT Vert
7327.167	42.8	14.0	1.5	178.0	3.0	0.0	Horz	PK	0.0	56.8	74.0	-17.2	Mid Ch, 1 Mbps, EUT Vert (spot-check)
7326.225	41.5	14.0	1.5	272.0	3.0	0.0	Vert	PK	0.0	55.5	74.0	-18.5	Mid Ch, 1 Mbps, EUT Vert
12011.440	38.2	-3.1	2.2	40.0	3.0	0.0	Horz	AV	0.0	35.1	54.0	-18.9	Low Ch, 1 Mbps, EUT Vert
12209.180	36.7	-2.4	2.1	51.0	3.0	0.0	Horz	AV	0.0	34.3	54.0	-19.7	Mid Ch, 1 Mbps, EUT Vert
12399.180	33.9	-1.5	3.4	73.0	3.0	0.0	Horz	AV	0.0	32.4	54.0	-21.6	High Ch, 1 Mbps, EUT Vert
12011.440	34.9	-3.1	1.5	311.0	3.0	0.0	Vert	AV	0.0	31.8	54.0	-22.2	Low Ch, 1 Mbps, EUT Vert
9921.225	59.1	-7.5	1.5	61.0	3.0	0.0	Horz	PK	0.0	51.6	74.0	-22.4	High Ch, 1 Mbps, EUT Vert
9922.325	58.7	-7.5	2.1	26.0	3.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	High Ch, 2 Mbps, EUT Vert
9921.242	58.3	-7.5	4.0	5.0	3.0	0.0	Vert	PK	0.0	50.8	74.0	-23.2	High Ch, 1 Mbps, EUT on Side
9918.275	58.1	-7.5	1.5	276.0	3.0	0.0	Horz	PK	0.0	50.6	74.0	-23.4	High Ch, 2 Mbps, EUT Vert
12209.030	32.6	-2.4	1.6	318.0	3.0	0.0	Vert	AV	0.0	30.2	54.0	-23.8	Mid Ch, 1 Mbps, EUT Vert
4881.550	42.1	8.0	1.1	263.0	3.0	0.0	Horz	PK	0.0	50.1	74.0	-23.9	Mid Ch, 1 Mbps, EUT Vert
4959.125	41.4	8.5	3.4	230.0	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	High Ch, 1 Mbps, EUT Vert

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

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
12399.370	31.3	-1.5	3.7	332.0	3.0	0.0	Vert	AV	0.0	29.8	54.0	-24.2	High Ch, 1 Mbps, EUT Vert
4803.142	42.0	7.5	2.1	94.0	3.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	Low Ch, 1 Mbps, EUT Vert
4958.958	40.7	8.5	1.5	117.0	3.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	High Ch, 1 Mbps, EUT Vert
9921.308	56.6	-7.5	2.1	29.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	High Ch, 1 Mbps, EUT Vert
4883.875	41.1	8.0	1.5	230.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Mid Ch, 1 Mbps, EUT Vert
9919.283	56.6	-7.5	2.1	248.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	High Ch, 1 Mbps, EUT On Side (spot-check)
9919.258	56.5	-7.5	1.6	90.0	3.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	High Ch, 1 Mbps, EUT Vert (spot-check)
9921.225	56.3	-7.5	1.3	313.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	High Ch, 1 Mbps, EUT Horz
4804.742	41.3	7.5	2.5	175.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Low Ch, 1 Mbps, EUT Vert
9921.433	55.8	-7.5	3.6	196.0	3.0	0.0	Horz	PK	0.0	48.3	74.0	-25.7	High Ch, 1 Mbps, EUT Horz
9921.275	54.0	-7.5	1.5	60.0	3.0	0.0	Horz	PK	0.0	46.5	74.0	-27.5	High Ch, 1 Mbps, EUT on Side
12009.870	47.3	-3.2	2.2	40.0	3.0	0.0	Horz	PK	0.0	44.1	74.0	-29.9	Low Ch, 1 Mbps, EUT Vert
12211.130	45.3	-2.5	2.1	51.0	3.0	0.0	Horz	PK	0.0	42.8	74.0	-31.2	Mid Ch, 1 Mbps, EUT Vert
12399.090	43.7	-1.5	3.4	73.0	3.0	0.0	Horz	PK	0.0	42.2	74.0	-31.8	High Ch, 1 Mbps, EUT Vert
12011.860	44.8	-3.1	1.5	311.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	Low Ch, 1 Mbps, EUT Vert
19217.310	21.4	-0.3	1.5	67.0	3.0	0.0	Horz	AV	0.0	21.1	54.0	-32.9	Low Ch, 1 Mbps, EUT Vert
19216.970	21.4	-0.3	1.5	13.0	3.0	0.0	Vert	AV	0.0	21.1	54.0	-32.9	Low Ch, 1 Mbps, EUT Vert
12397.830	42.4	-1.5	3.7	332.0	3.0	0.0	Vert	PK	0.0	40.9	74.0	-33.1	High Ch, 1 Mbps, EUT Vert
12209.360	42.9	-2.4	1.6	318.0	3.0	0.0	Vert	PK	0.0	40.5	74.0	-33.5	Mid Ch, 1 Mbps, EUT Vert
19214.280	35.6	-0.3	1.5	13.0	3.0	0.0	Vert	PK	0.0	35.3	74.0	-38.7	Low Ch, 1 Mbps, EUT Vert
19217.130	34.6	-0.3	1.5	67.0	3.0	0.0	Horz	PK	0.0	34.3	74.0	-39.7	Low Ch, 1 Mbps, EUT Vert

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	MoMe ARC Sensor POD	Work Order:	ININ0007
Serial Number:	PIA00041	Date:	2025-01-02
Customer:	InfoBionic	Temperature:	24.3°C
Attendees:	Konstantin Dubovenko	Relative Humidity:	42.2%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Nolan De Ramos	Job Site:	OC07
Power:	Battery	Configuration:	ININ0007-2

TEST PARAMETERS

Run #:	31	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

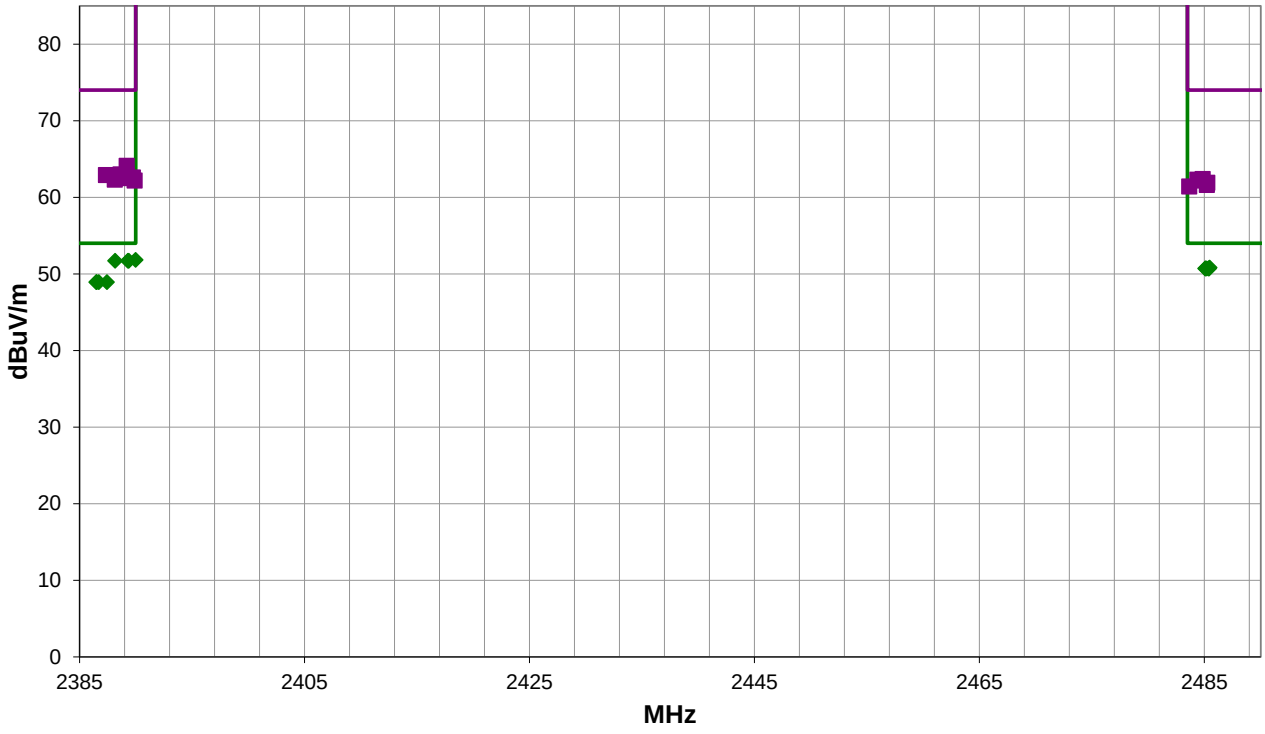
None

EUT OPERATING MODES

Transmitting Bluetooth Low Energy (BLE): Low channel 2402 MHz, High channel 2480 MHz, 1 Mbps, 2 Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 31 ■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #31

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
2389.993	33.0	-1.2	1.5	359.0	3.0	20.0	Horz	AV	0.0	51.8	54.0	-2.2	Low Ch, 1 Mbps, EUT Vert
2388.177	32.9	-1.2	2.8	237.0	3.0	20.0	Vert	AV	0.0	51.7	54.0	-2.3	Low Ch, 1 Mbps, EUT Vert
2389.377	32.9	-1.2	1.5	265.0	3.0	20.0	Horz	AV	0.0	51.7	54.0	-2.3	Low Ch, 2 Mbps, EUT Vert
2389.300	32.9	-1.2	1.5	124.0	3.0	20.0	Vert	AV	0.0	51.7	54.0	-2.3	Low Ch, 2 Mbps, EUT Vert
2485.480	32.4	-1.6	1.5	5.0	3.0	20.0	Vert	AV	0.0	50.8	54.0	-3.2	High Ch, 1 Mbps, EUT on Side
2485.120	32.3	-1.6	4.0	335.0	3.0	20.0	Horz	AV	0.0	50.7	54.0	-3.3	High Ch, 1 Mbps, EUT Vert
2485.397	32.3	-1.6	2.8	259.0	3.0	20.0	Vert	AV	0.0	50.7	54.0	-3.3	High Ch, 1 Mbps, EUT Vert
2485.220	32.3	-1.6	1.5	207.0	3.0	20.0	Horz	AV	0.0	50.7	54.0	-3.3	High Ch, 1 Mbps, EUT on Side
2485.410	32.3	-1.6	2.6	34.0	3.0	20.0	Horz	AV	0.0	50.7	54.0	-3.3	High Ch, 1 Mbps, EUT Horz
2485.087	32.3	-1.6	3.4	41.0	3.0	20.0	Vert	AV	0.0	50.7	54.0	-3.3	High Ch, 1 Mbps, EUT Horz
2387.442	30.1	-1.2	1.5	352.0	3.0	20.0	Horz	AV	0.0	48.9	54.0	-5.1	High Ch, 1 Mbps, EUT Vert (spot-check)
2386.508	30.1	-1.2	1.5	253.0	3.0	20.0	Vert	AV	0.0	48.9	54.0	-5.1	High Ch, 1 Mbps, EUT Vert (spot-check)
2386.517	30.1	-1.2	3.7	119.0	3.0	20.0	Horz	AV	0.0	48.9	54.0	-5.1	High Ch, 2 Mbps, EUT Vert (spot-check)
2386.717	30.1	-1.2	1.2	359.0	3.0	20.0	Vert	AV	0.0	48.9	54.0	-5.1	High Ch, 2 Mbps, EUT Vert (spot-check)
2389.183	45.3	-1.2	1.5	352.0	3.0	20.0	Horz	PK	0.0	64.1	74.0	-9.9	High Ch, 1 Mbps, EUT Vert (spot-check)
2388.642	44.2	-1.2	1.5	253.0	3.0	20.0	Vert	PK	0.0	63.0	74.0	-11.0	High Ch, 1 Mbps, EUT Vert (spot-check)
2387.342	44.1	-1.2	3.7	119.0	3.0	20.0	Horz	PK	0.0	62.9	74.0	-11.1	High Ch, 2 Mbps, EUT Vert (spot-check)
2389.183	44.1	-1.2	1.2	359.0	3.0	20.0	Vert	PK	0.0	62.9	74.0	-11.1	High Ch, 2 Mbps, EUT Vert (spot-check)
2389.740	43.8	-1.2	1.5	265.0	3.0	20.0	Horz	PK	0.0	62.6	74.0	-11.4	Low Ch, 2 Mbps, EUT Vert
2389.177	43.7	-1.2	1.5	359.0	3.0	20.0	Horz	PK	0.0	62.5	74.0	-11.5	Low Ch, 1 Mbps, EUT Vert
2484.837	44.0	-1.6	1.5	5.0	3.0	20.0	Vert	PK	0.0	62.4	74.0	-11.6	High Ch, 1 Mbps, EUT on Side
2388.130	43.5	-1.2	1.5	124.0	3.0	20.0	Vert	PK	0.0	62.3	74.0	-11.7	Low Ch, 2 Mbps, EUT Vert
2484.377	43.9	-1.6	2.6	34.0	3.0	20.0	Horz	PK	0.0	62.3	74.0	-11.7	High Ch, 1 Mbps, EUT Horz
2389.890	43.4	-1.2	2.8	237.0	3.0	20.0	Vert	PK	0.0	62.2	74.0	-11.8	Low Ch, 1 Mbps, EUT Vert
2484.647	43.8	-1.6	1.5	207.0	3.0	20.0	Horz	PK	0.0	62.2	74.0	-11.8	High Ch, 1 Mbps, EUT on Side
2485.257	43.5	-1.6	4.0	335.0	3.0	20.0	Horz	PK	0.0	61.9	74.0	-12.1	High Ch, 1 Mbps, EUT Vert
2485.220	43.2	-1.6	2.8	259.0	3.0	20.0	Vert	PK	0.0	61.6	74.0	-12.4	High Ch, 1 Mbps, EUT Vert
2483.640	43.0	-1.6	3.4	41.0	3.0	20.0	Vert	PK	0.0	61.4	74.0	-12.6	High Ch, 1 Mbps, EUT Horz

CONCLUSION

Pass

Tested By

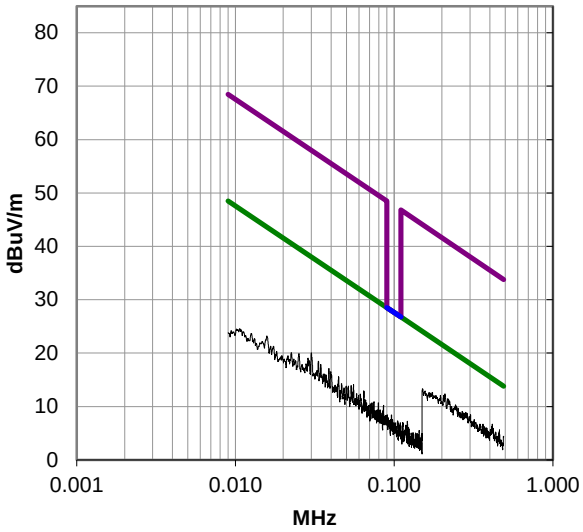
SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

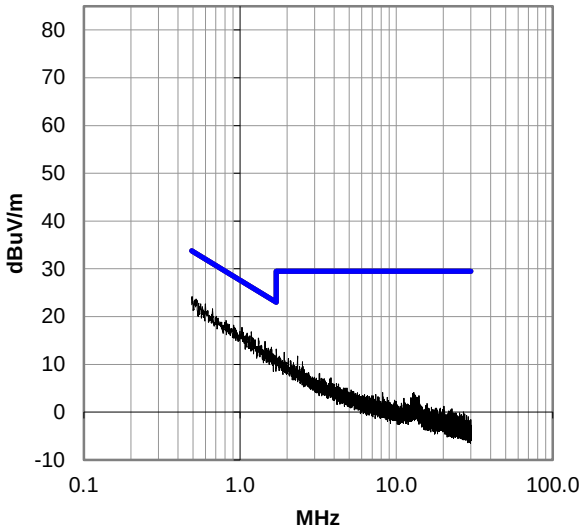
PRESCAN DATA

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.

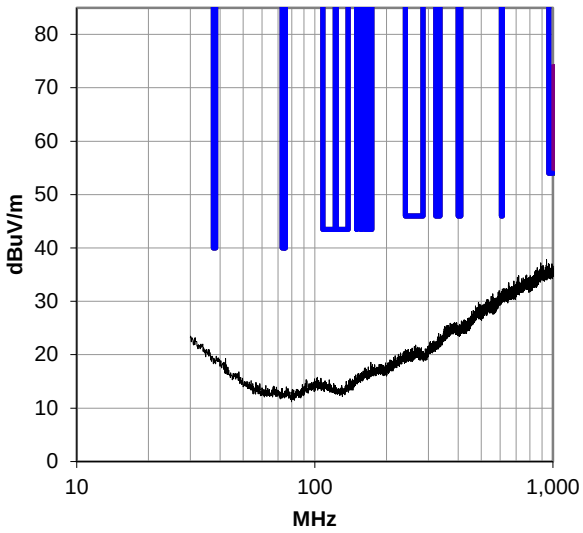
0.009-0.49 MHz, Run 30



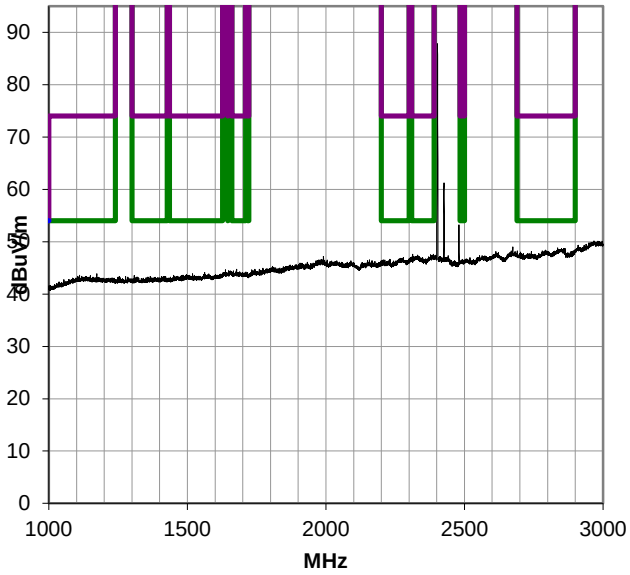
0.49-30 MHz, Run 31



30-1000 MHz, Run 24



1000-3000 MHz, Run 37



SPURIOUS RADIATED EMISSIONS

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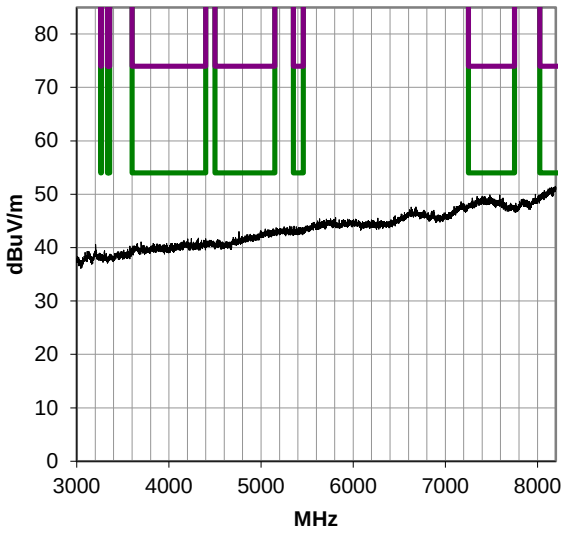
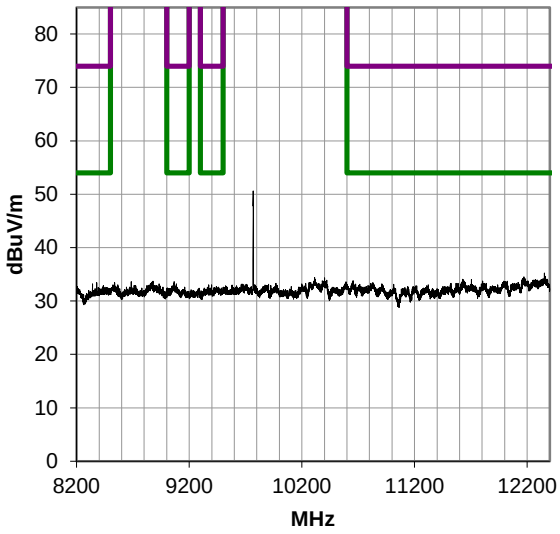
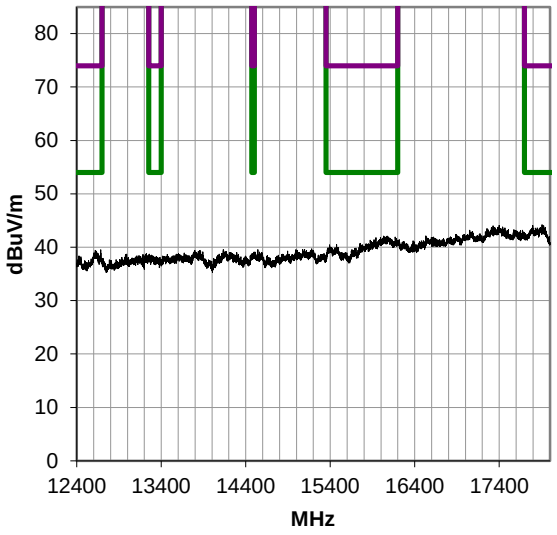
3000-8200 MHz, Run 8



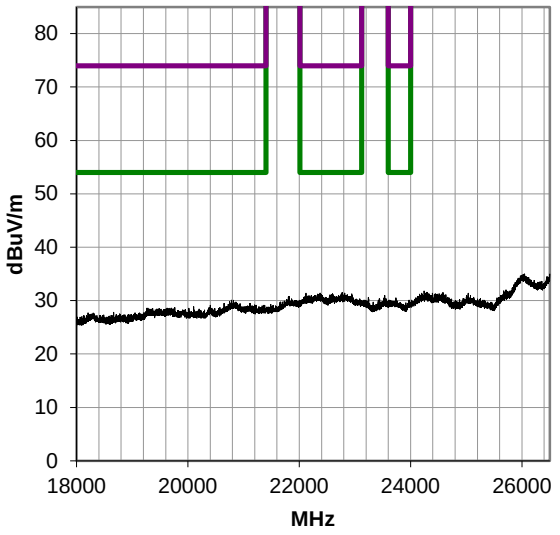
8200-12400 MHz, Run 9



12400-18000 MHz, Run 6



18000-26500 MHz, Run 18



End of Test Report