



Round River Research dba Soltec Health

ZTrack

**FCC 15.247:2022
RSS-247 Issue 2:2017
RSS-Gen Issue 5:2018+A1:2019+A2:2021**

Bluetooth LE (DTS)

Report: TRLL0001.3 Rev. 1, Issue Date: December 13, 2022



CERTIFICATE OF TEST



Last Date of Test: December 2, 2022
Round River Research dba Soltec Health
EUT: ZTrack

Radio Equipment Testing

Standards

| Specification | Method |
|--------------------------------------|----------------------------------|
| FCC 15.247:2022 | ANSI C63.10:2013, FCC KDB 558074 |
| RSS-247 Issue 2:2017 | ANSI C63.10:2013 |
| RSS-Gen Issue 5:2018+A1:2019+A2:2021 | |

Results

| Test Description | Result | FCC Section(s) | RSS Section(s) | ANSI C63.10 Section(s) | Comments |
|-------------------------------------|--------|----------------------------------|---------------------------------|----------------------------|-------------------|
| Band Edge Compliance | Pass | 15.247(d), KDB 558074 -8.5 | RSS-247 5.5 | 11.11 | |
| DTS Bandwidth (6 dB) | Pass | 15.247(a)(2), KDB 558074 -8.2 | RSS-247 5.2(a) | 11.8.2 | |
| Duty Cycle | N/A | KDB 558074 -6.0 | RSS-Gen 3.2 | 11.6 | Operates at 100%. |
| 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 | |
| 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 | |
| Power Spectral Density | Pass | 15.247(e), KDB 558074 -8.4 | RSS-247 5.2(b) | 11.10.2 | |
| Powerline Conducted Emissions | Pass | 15.207 | RSS-Gen 8.8 | 6.2 | |
| 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:

Eric Brandon, Department Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY



| Revision Number | Description | Date (yyyy-mm-dd) | Page Number |
|-----------------|-------------------------------------------------|----------------------|-------------|
| 01 | added mod type, deselected rated power settings | 2022-12-13 | 11 |
| | updated last test date on mods and PD pages | 2022-12-13 | 10, 13 |
| | added missing equipment | 2022-12-13 | 50 |

ACCREDITATIONS AND AUTHORIZATIONS

United States

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

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

Canada

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

European Union

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

United Kingdom

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

[California](#)

[Minnesota](#)

[Oregon](#)

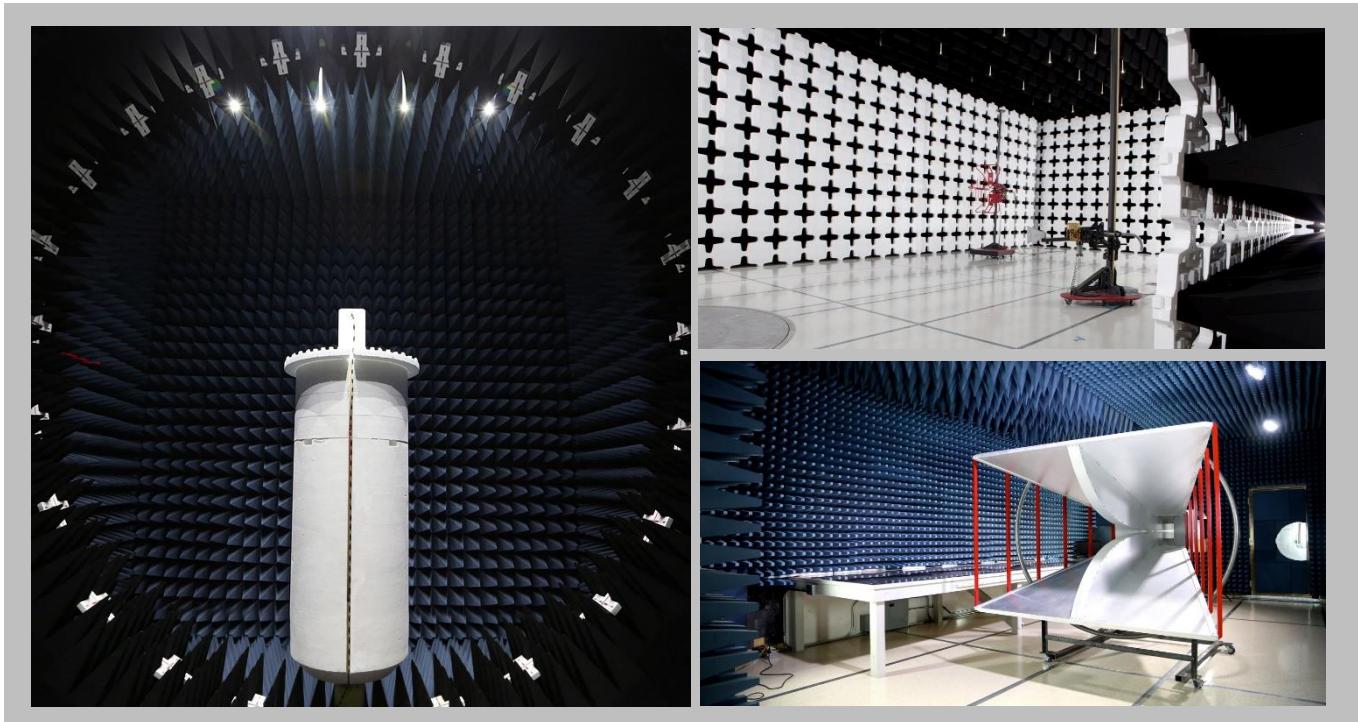
[Texas](#)

[Washington](#)

FACILITIES



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



MEASUREMENT UNCERTAINTY



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 |

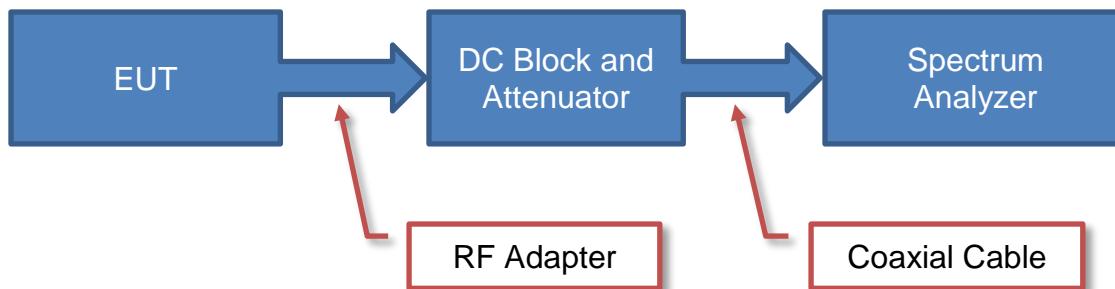
TEST SETUP BLOCK DIAGRAMS

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.

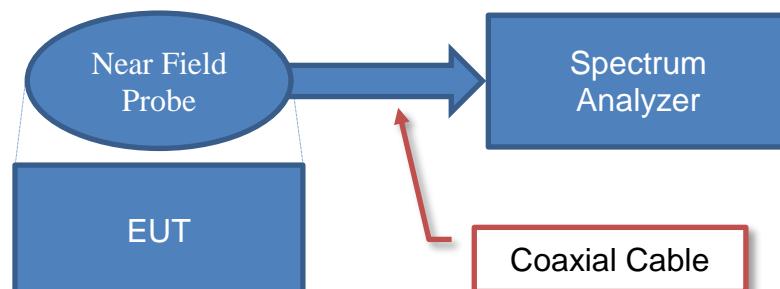
Antenna Port Conducted Measurements



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

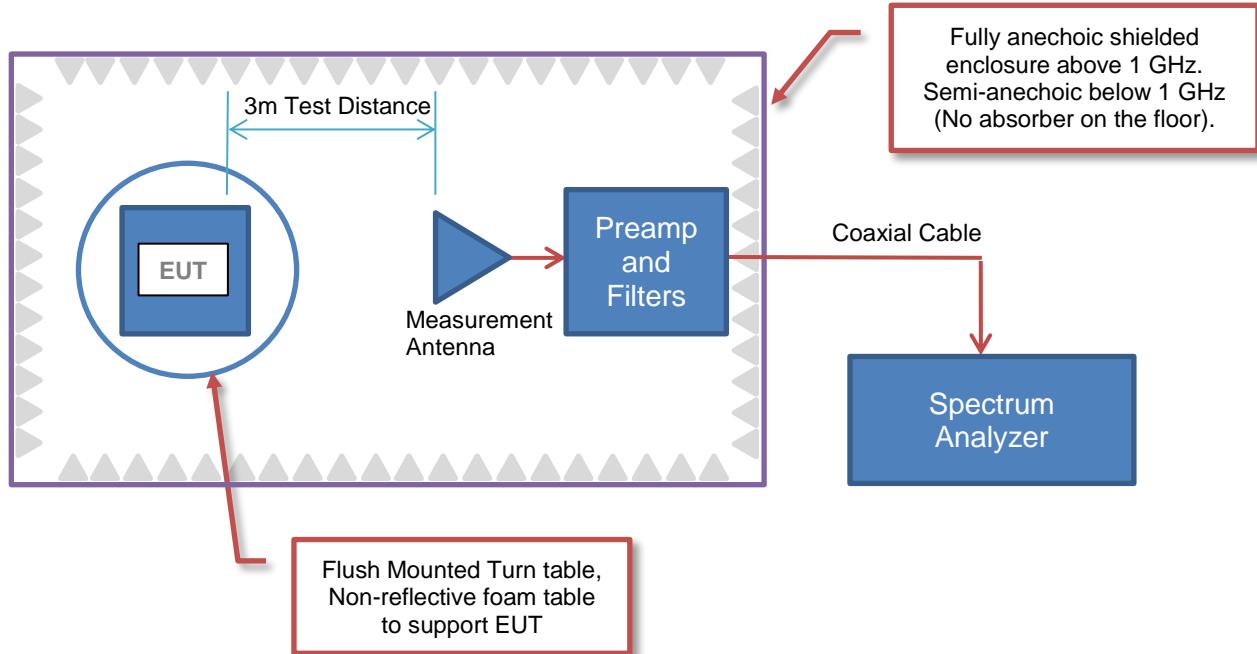


Sample Calculation (logarithmic units)

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

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 |

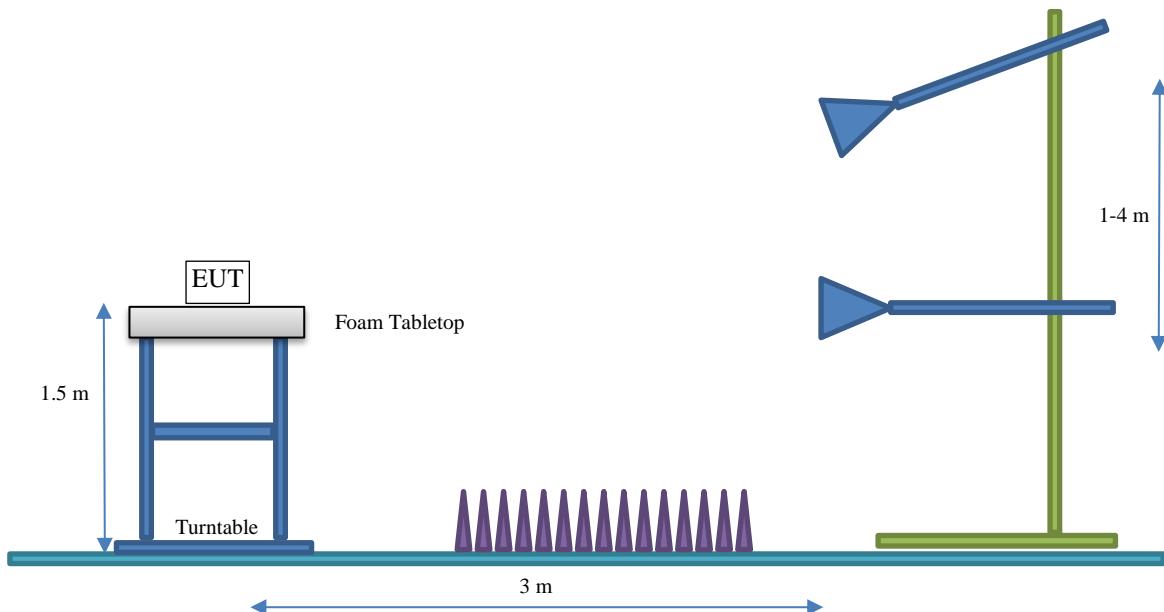
Radiated Power (ERP/EIRP) – Substitution Method:

| | | | | | | | | | | |
|----------------------------------------------------------|------|---|-----------------------------------|-----|---|-----------------------------|------|---|-------------------------------|-----------|
| 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 |
|----------------------------------------------------------|------|---|-----------------------------------|-----|---|-----------------------------|------|---|-------------------------------|-----------|

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: | Round River Research dba Soltec Health |
| Address: | 6801 Everest Ln N |
| City, State, Zip: | Maple Grove, MN 55311 |
| Test Requested By: | Troy Winsand |
| EUT: | ZTrack |
| First Date of Test: | October 31, 2022 |
| Last Date of Test: | December 2, 2022 |
| Receipt Date of Samples: | October 31, 2022 |
| Equipment Design Stage: | Prototype |
| Equipment Condition: | No Damage |
| Purchase Authorization: | Verified |

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Z•TRACK is worn on your upper wrist and measures your pulse, blood oxygen level, arm movement, and snoring sounds.

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 Trace Antenna | Infineon | 2400-2483.5 | 1.1 |

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: 13.33z
- Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

| Modulation Types / Data Rates | Type | Channel | Frequency (MHz) | Power Setting (dBm) |
|-------------------------------|------|----------|-----------------|---------------------|
| GFSK / 1 Mbps | DTS | 0 or 37 | 2402 | 0 |
| | | 20 or 18 | 2442 | 0 |
| | | 39 | 2480 | 0 |

CONFIGURATIONS



Configuration TRLL0001- 1

| EUT | | | |
|--------------------|----------------------------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| ZTrack | Round River Research dba Soltec Health | ZTrack | EDD225019017 |

Configuration TRLL0001- 2

| EUT | | | |
|--------------------|----------------------------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| ZTrack | Round River Research dba Soltec Health | ZTrack | EDD225019657 |

| Peripherals in Test Setup Boundary | | | |
|-------------------------------------------|----------------------------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Wrist Band | Round River Research dba Soltec Health | None | None |

Configuration TRLL0001- 3

| EUT | | | |
|--------------------|----------------------------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| ZTrack | Round River Research dba Soltec Health | ZTrack | EDD225019657 |

| Peripherals in Test Setup Boundary | | | |
|-------------------------------------------|---------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| DC Adapter | Motorola | S006RU0510115 | None |

| Cables | | | | | |
|----------------------|---------------|-------------------|----------------|---------------------|---------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Power Cable (USB) | Yes | 0.9 m | No | DC Adapter | ZTrack |

CONFIGURATIONS



Configuration TRLL0001- 5

| EUT | | | | | |
|--------------------|----------------------------------------|--------------------------|--|----------------------|--|
| Description | Manufacturer | Model/Part Number | | Serial Number | |
| ZTrack | Round River Research dba Soltec Health | ZTrack | | EDD225019657 | |

| Peripherals in Test Setup Boundary | | | | | |
|-------------------------------------------|----------------------------------------|--------------------------|--|----------------------|--|
| Description | Manufacturer | Model/Part Number | | Serial Number | |
| DC Adapter | Motorola | S006RU0510115 | | None | |
| Wrist Band | Round River Research dba Soltec Health | None | | None | |

| Cables | | | | | |
|----------------------|---------------|-------------------|----------------|---------------------|---------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Power Cable (USB) | Yes | 0.9 m | No | DC Adapter | ZTrack |

MODIFICATIONS



Equipment Modifications

| Item | Date | Test | Modification | Note | Disposition of EUT |
|------|------------|-------------------------------------|--------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------|
| 1 | 2022-10-31 | Powerline 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. |
| 2 | 2022-10-31 | DTS Bandwidth (6 dB) | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 3 | 2022-10-31 | Occupied Bandwidth (99%) | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 4 | 2022-10-31 | 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. |
| 5 | 2022-10-31 | 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. |
| 6 | 2022-10-31 | Power Spectral Density | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT was taken home by the client before the next scheduled test. |
| 7 | 2022-10-31 | Band Edge Compliance | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 8 | 2022-10-31 | Spurious Conducted Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 9 | 2022-12-02 | Spurious Radiated Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed. |

BAND EDGE COMPLIANCE



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

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

BAND EDGE COMPLIANCE



TbTx 2022.06.03.0 XMII 2022.02.07.0

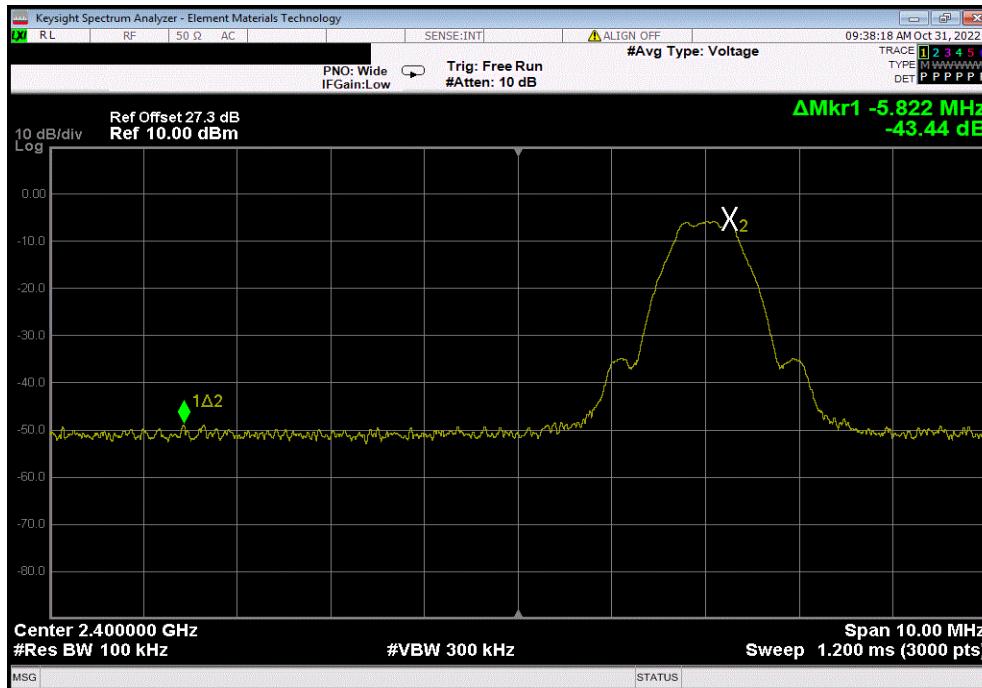
| | | | | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|-------------------|---------------|--------|
| EUT: | ZTrack | | Work Order: | TRL0001 | |
| Serial Number: | EDD225019017 | | Date: | 31-Oct-22 | |
| Customer: | Round River Research dba Soltec Health | | Temperature: | 21.5 °C | |
| Attendees: | Troy Winsand | | Humidity: | 33.2% RH | |
| Project: | None | | Barometric Pres.: | 1014 mbar | |
| Tested by: | Christopher Heintzelman | Power: | Battery | Job Site: | MN11 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2022 | | | ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | | |
| <i>Christopher Heintzelman</i> | | | Value (dBc) | Limit ≤ (dBc) | Result |
| | | | -43.44 | -20 | Pass |
| | | | -42.53 | -20 | Pass |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | | |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | | |

BAND EDGE COMPLIANCE

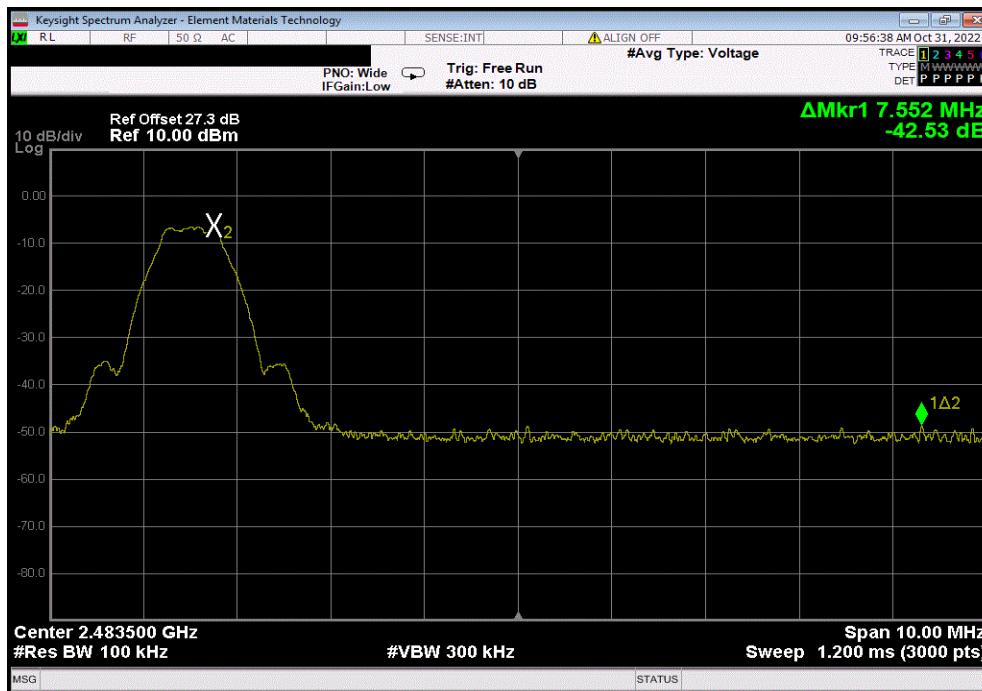


TbITx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | |
|---------------------------------------|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -43.44 | -20 | Pass | |



| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | |
|----------------------------------------|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -42.53 | -20 | Pass | |



DTS BANDWIDTH (6 dB)



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

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

DTS BANDWIDTH (6 dB)



TbTx 2022.06.03.0

XMI 2022.02.07.0

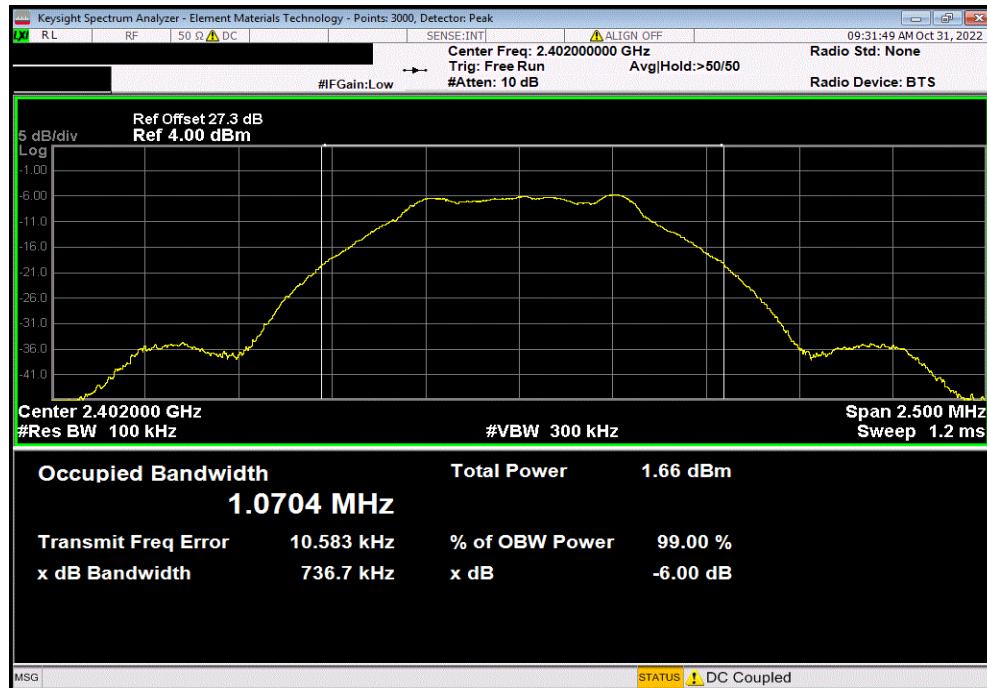
| | | | | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|-------------------|-----------|--------|
| EUT: | ZTrack | | Work Order: | TRL0001 | |
| Serial Number: | EDD225019017 | | Date: | 31-Oct-22 | |
| Customer: | Round River Research dba Soltec Health | | Temperature: | 21.6 °C | |
| Attendees: | Troy Winsand | | Humidity: | 33.1% RH | |
| Project: | None | | Barometric Pres.: | 1014 mbar | |
| Tested by: | Christopher Heintzelman | Power: | Battery | Job Site: | MN11 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2022 | | | ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | | |
| | | | Value | Limit (±) | Result |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | 736.696 kHz | 500 kHz | Pass |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | 745.942 kHz | 500 kHz | Pass |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | 738.982 kHz | 500 kHz | Pass |

DTS BANDWIDTH (6 dB)

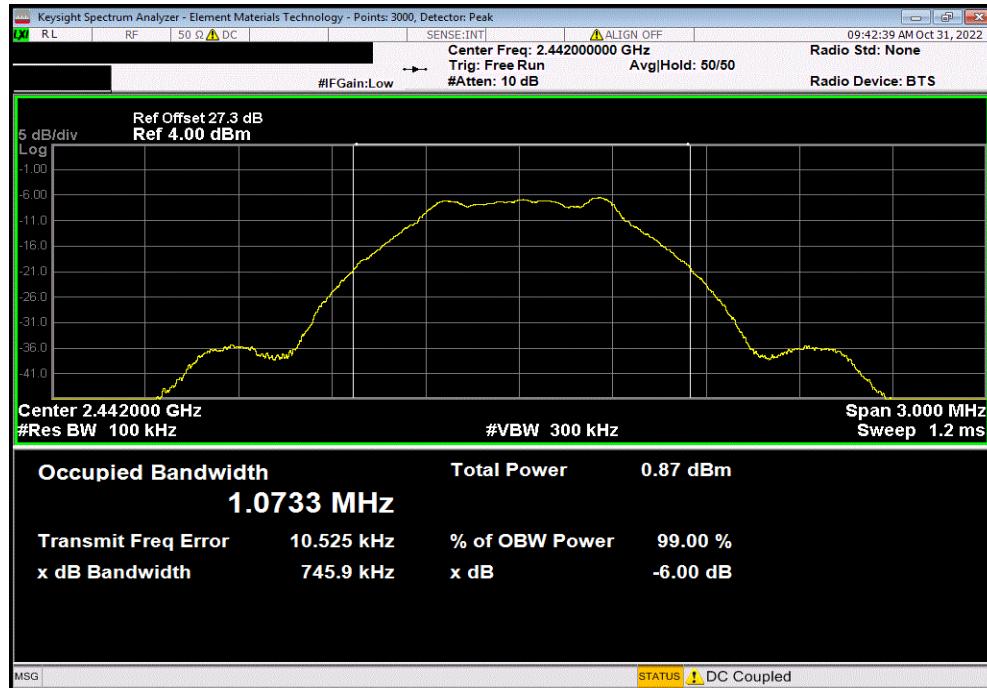


TbTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | Value | Limit (≥) | Result |
|---------------------------------------|--|--|-------------|-----------|--------|
| | | | 736.696 kHz | 500 kHz | Pass |



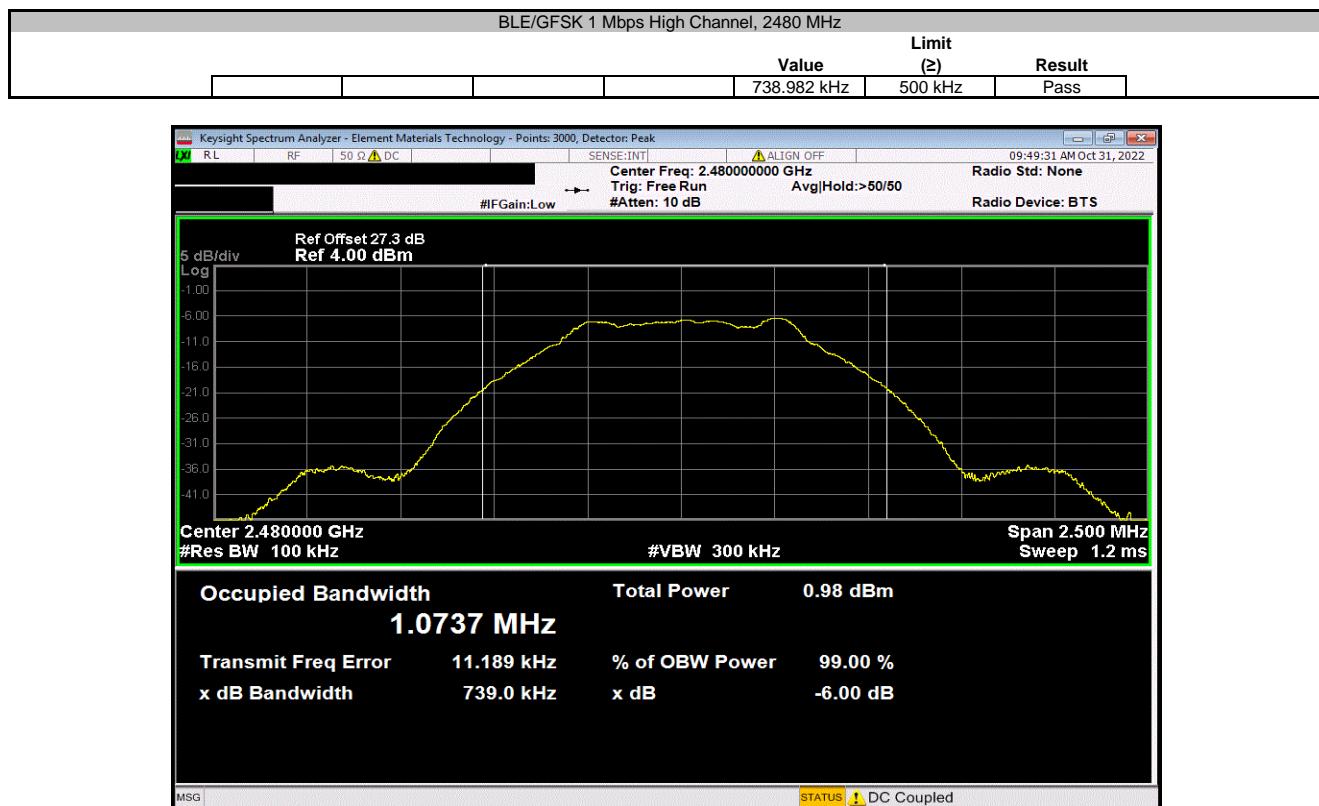
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | Value | Limit (≥) | Result |
|---------------------------------------|--|--|-------------|-----------|--------|
| | | | 745.942 kHz | 500 kHz | Pass |



DTS BANDWIDTH (6 dB)



TbtTx 2022.06.03.0 XMit 2022.02.07.0





DUTY CYCLE

TEST DESCRIPTION

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

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

The EUT operates at 100% Duty Cycle.

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

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

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

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

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TbTx 2022.06.03.0 XMII 2022.02.07.0

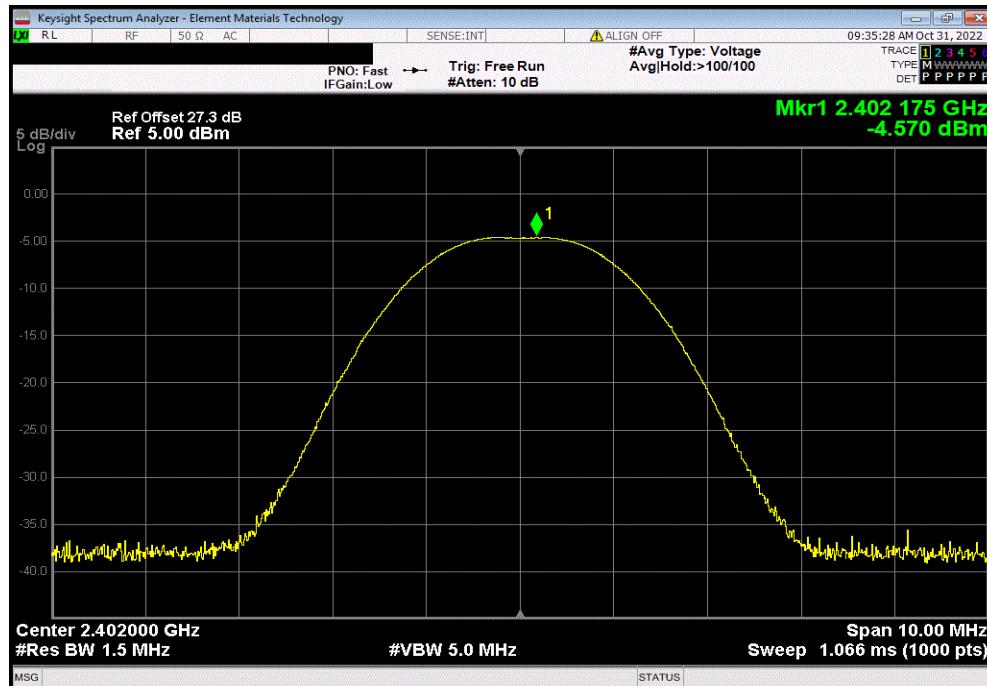
| | | | | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|--------------------------------|---------------|--------------------|
| EUT: | ZTrack | | Work Order: | TRL0001 | |
| Serial Number: | EDD225019017 | | Date: | 31-Oct-22 | |
| Customer: | Round River Research dba Soltec Health | | Temperature: | 21.6 °C | |
| Attendees: | Troy Winsand | | Humidity: | 33.1% RH | |
| Project: | None | | Barometric Pres.: | 1014 mbar | |
| Tested by: | Christopher Heintzelman | Power: | Battery | Job Site: | MN11 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2022 | | | ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | <i>Christopher Heintzelman</i> | Out Pwr (dBm) | Antenna Gain (dBi) |
| | | | | EIRP (dBm) | EIRP Limit (dBm) |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | -4.57 | 1.1 | 36 |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | -5.346 | 1.1 | 36 |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | -5.292 | 1.1 | 36 |
| | | | | Result | |

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

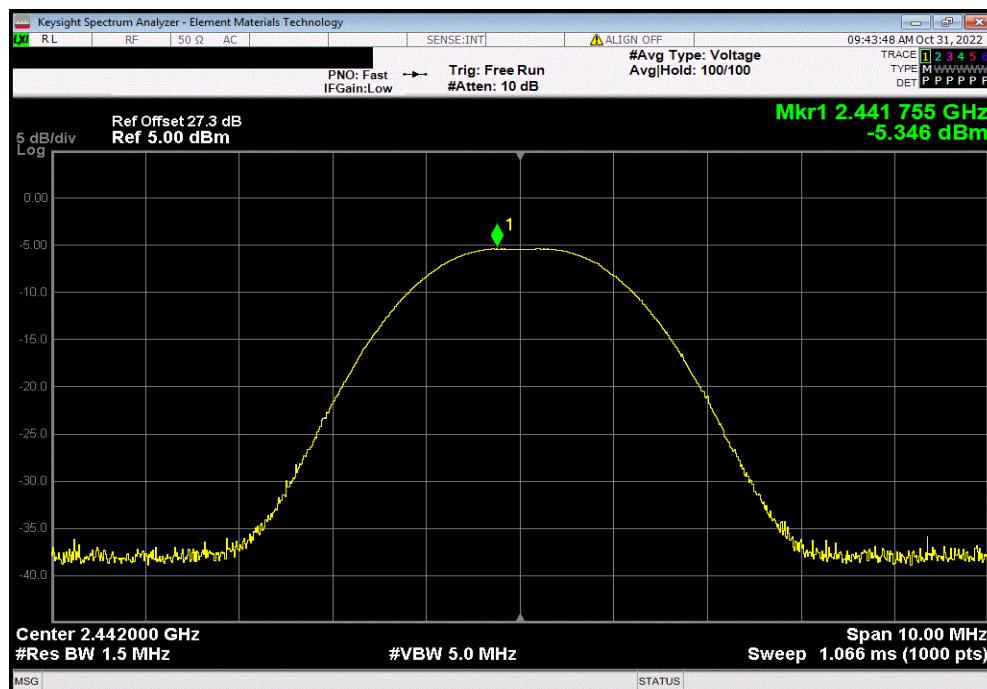


TbTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | | |
|---------------------------------------|-----------------------|---------------|---------------------|--------|--|
| Out Pwr (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Result | |
| -4.57 | 1.1 | -3.47 | 36 | Pass | |



| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | | |
|---------------------------------------|-----------------------|---------------|---------------------|--------|--|
| Out Pwr (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Result | |
| -5.346 | 1.1 | -4.246 | 36 | Pass | |

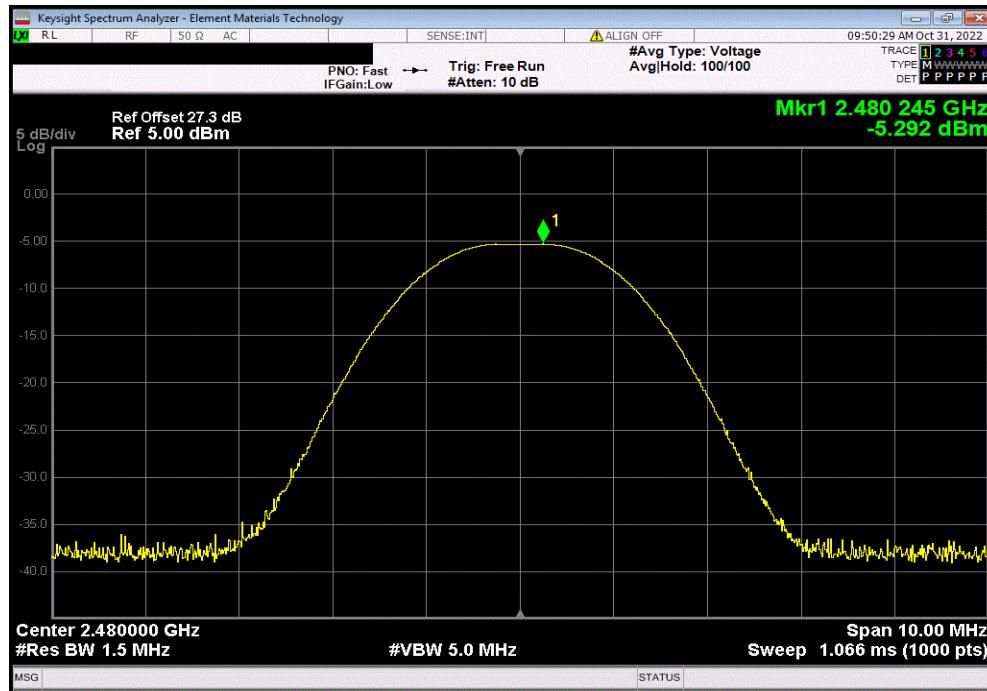


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | | |
|----------------------------------------|-----------------------|---------------|---------------------|--------|--|
| Out Pwr (dBm) | Antenna Gain (dBi) | EIRP (dBm) | EIRP Limit (dBm) | Result | |
| -5.292 | 1.1 | -4.192 | 36 | Pass | |



OCCUPIED BANDWIDTH (99%)



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

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

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

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

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

OCCUPIED BANDWIDTH (99%)



TbTx 2022.06.03.0 XMII 2022.02.07.0

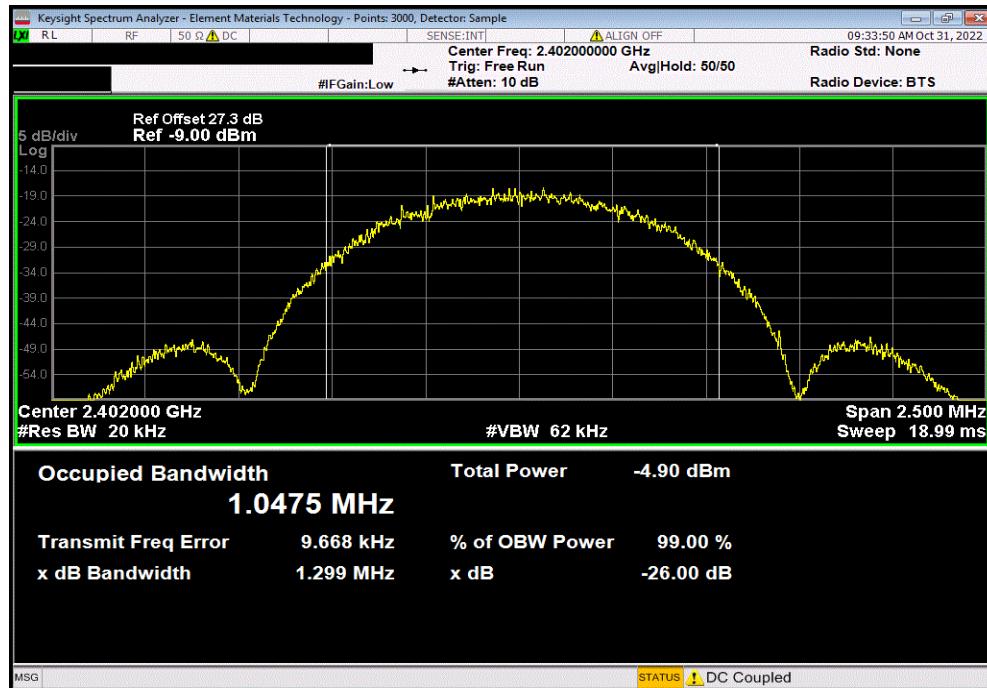
| | | | | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|-------------------|-----------|--------|
| EUT: | ZTrack | | Work Order: | TRL0001 | |
| Serial Number: | EDD225019017 | | Date: | 31-Oct-22 | |
| Customer: | Round River Research dba Soltec Health | | Temperature: | 21.5 °C | |
| Attendees: | Troy Winsand | | Humidity: | 33.1% RH | |
| Project: | None | | Barometric Pres.: | 1014 mbar | |
| Tested by: | Christopher Heintzelman | Power: | Battery | Job Site: | MN11 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2022 | | | ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | | |
| <i>Christopher Heintzelman</i> | | | Value | Limit | Result |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | 1.048 MHz | N/A | N/A |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | 1.054 MHz | N/A | N/A |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | 1.052 MHz | N/A | N/A |

OCCUPIED BANDWIDTH (99%)

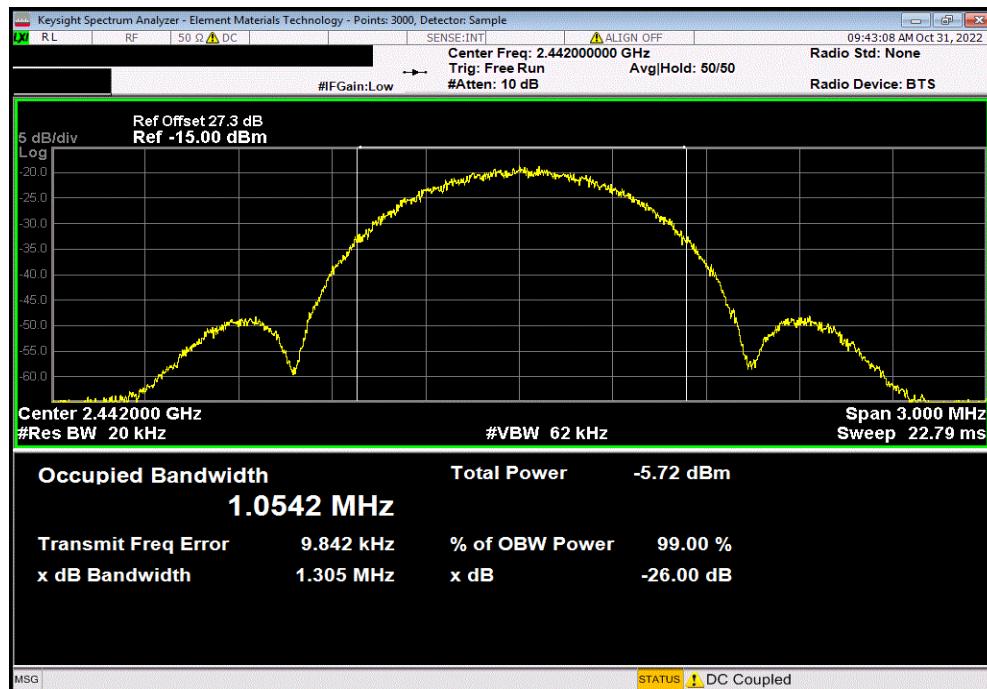


TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | Value | Limit | Result |
|---------------------------------------|--|--|-----------|-------|--------|
| | | | 1.048 MHz | N/A | N/A |



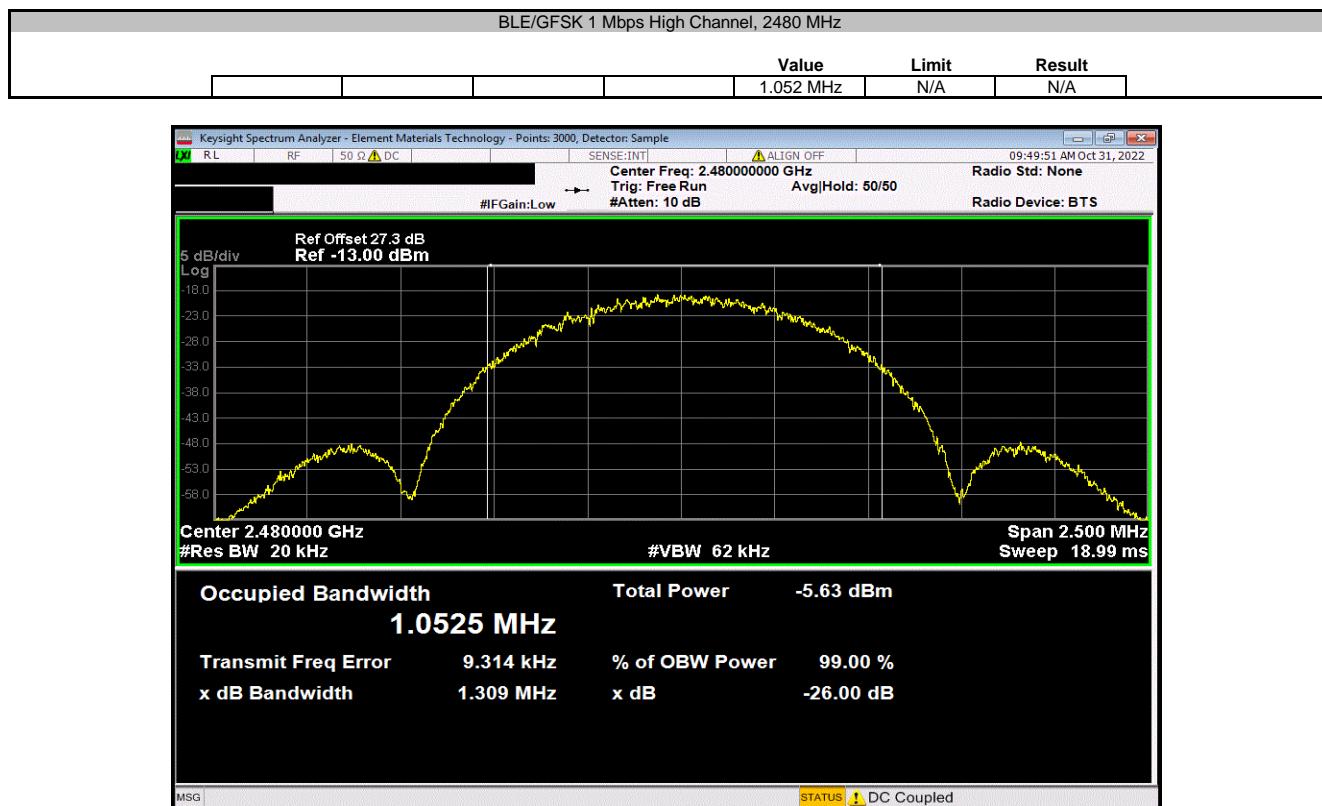
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | Value | Limit | Result |
|---------------------------------------|--|--|-----------|-------|--------|
| | | | 1.054 MHz | N/A | N/A |



OCCUPIED BANDWIDTH (99%)



TbtTx 2022.06.03.0 XMit 2022.02.07.0



OUTPUT POWER



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

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

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

OUTPUT POWER



TbTx 2022.06.03.0 XMr 2022.02.07.0

| | | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------|
| EUT: | ZTrack | Work Order: | TRL0001 |
| Serial Number: | EDD225019017 | Date: | 31-Oct-22 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 21.5 °C |
| Attendee: | Troy Winsand | Humidity: | 33.1% RH |
| Project: | None | Barometric Pres.: | 1014 mbar |
| Tested by: | Christopher Heintzelman | Job Site: | MN11 |
| TEST SPECIFICATIONS | | Power: | Battery |
| FCC 15.247:2022 | | Test Method | |
| RSS-247 Issue 2:2017 | | ANSI C63.10:2013 | |
| COMMENTS | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | |
| DEVIATIONS FROM TEST STANDARD | | | |
| None | | | |
| Configuration # | 1 |  <i>Christopher Heintzelman</i> <i>Signature</i> | |
| | | Out Pwr (dBm) | Limit (dBm) |
| | | -4.57 | 30 |
| | | -5.346 | 30 |
| | | -5.292 | 30 |
| | | Pass | |

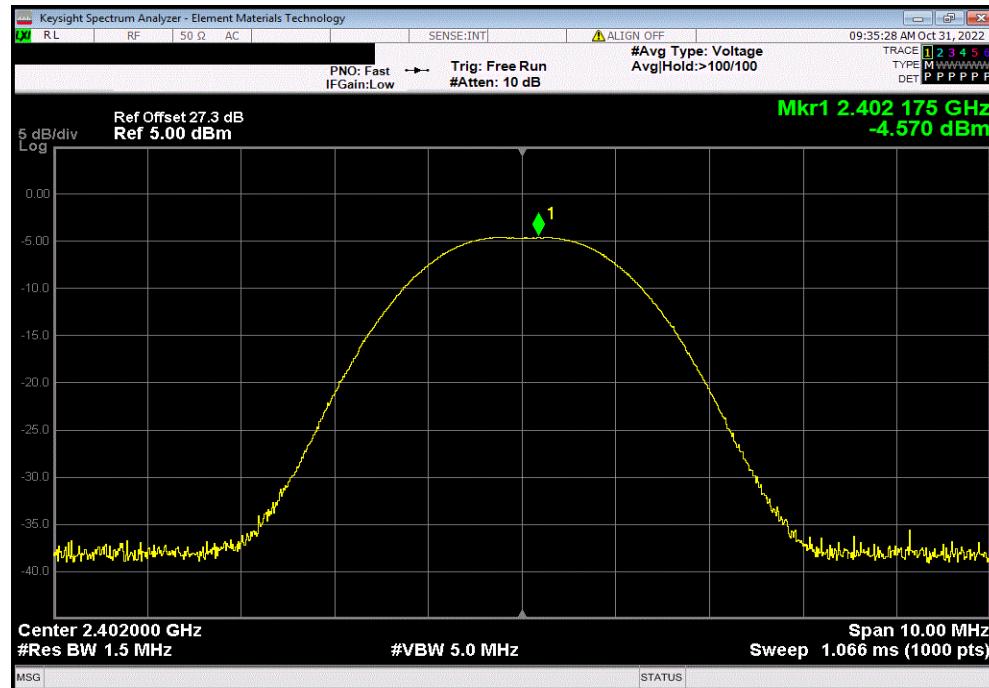
BLE/GFSK 1 Mbps Low Channel, 2402 MHz
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz
BLE/GFSK 1 Mbps High Channel, 2480 MHz

OUTPUT POWER

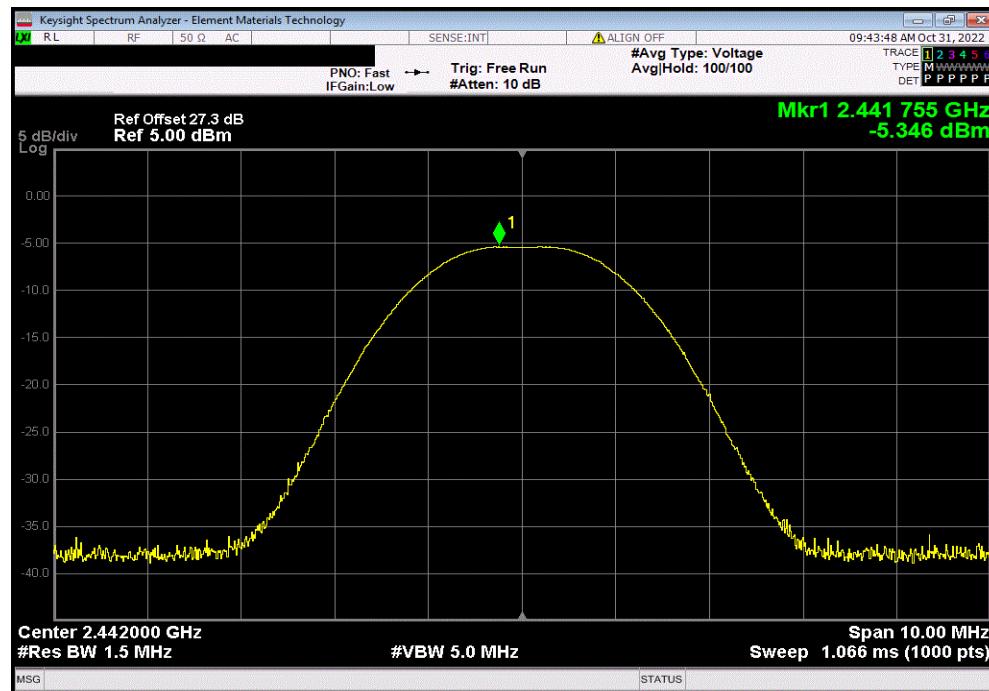


TbTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | Out Pwr (dBm) | Limit (dBm) | Result |
|---------------------------------------|--|--|--|---------------|-------------|--------|
| | | | | -4.57 | 30 | Pass |



| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | Out Pwr (dBm) | Limit (dBm) | Result |
|---------------------------------------|--|--|--|---------------|-------------|--------|
| | | | | -5.346 | 30 | Pass |

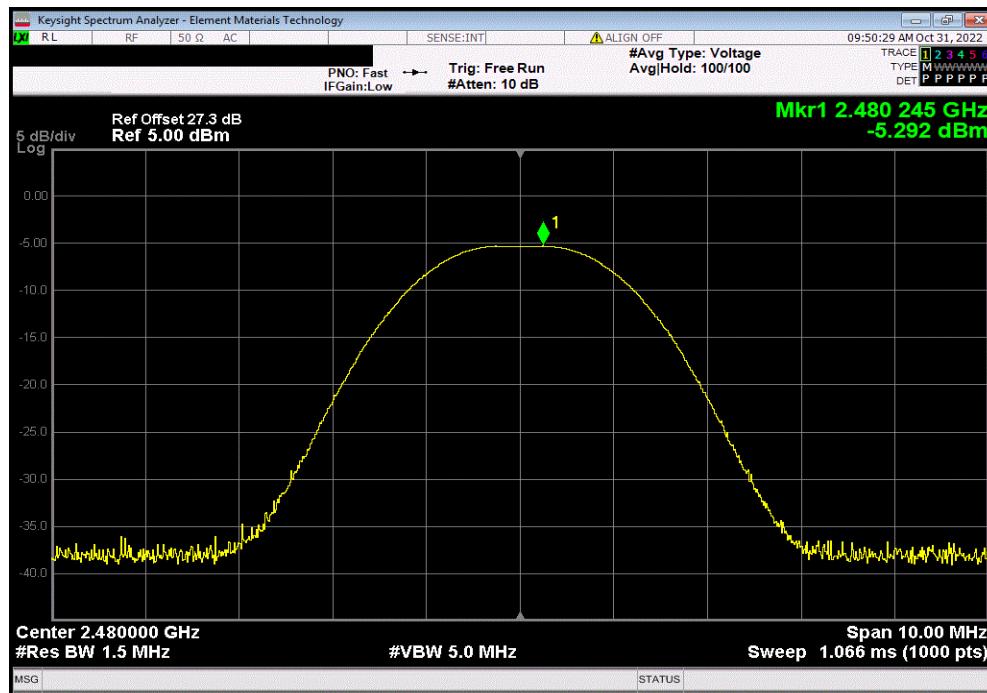


OUTPUT POWER



TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | |
|----------------------------------------|------------------|----------------|--------|
| | Out Pwr (dBm) | Limit (dBm) | Result |
| | -5.292 | 30 | Pass |



POWER SPECTRAL DENSITY



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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.

POWER SPECTRAL DENSITY



element

TbTx 2022.06.03.0 XMt 2022.02.07.0

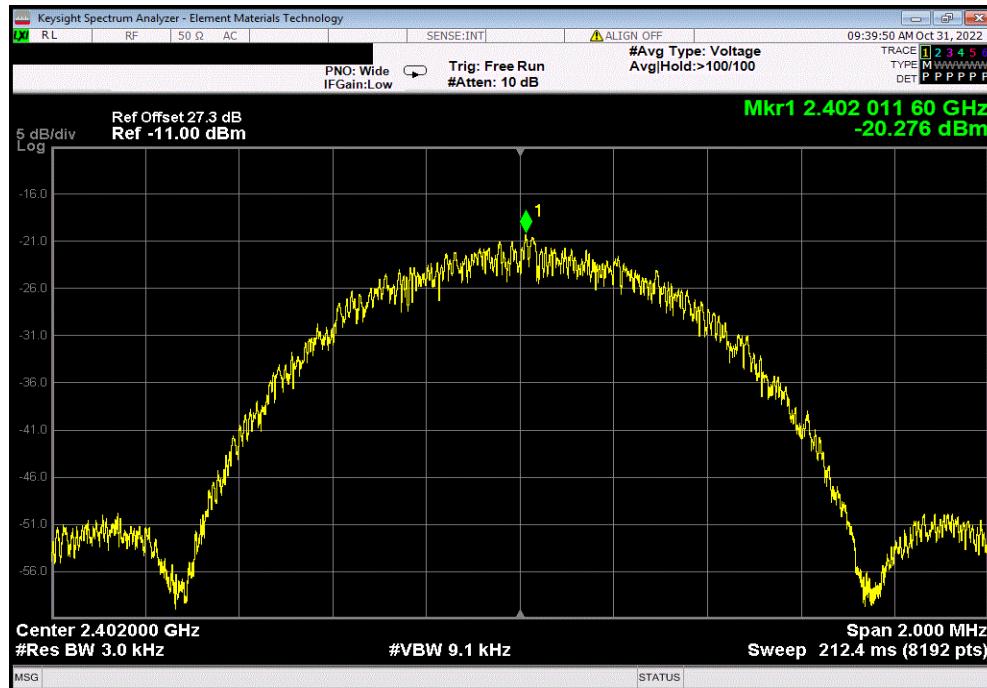
| EUT: ZTrack | Work Order: TRLL0001 | | |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------|---------|
| Serial Number: EDD225019017 | Date: 31-Oct-22 | | |
| Customer: Round River Research dba Soltec Health | Temperature: 21.6 °C | | |
| Attendees: Troy Winsand | Humidity: 33.2% RH | | |
| Project: None | Barometric Pres.: 1014 mbar | | |
| Tested by: Christopher Heintzelman | Job Site: MN11 | | |
| TEST SPECIFICATIONS | | | |
| FCC 15.247:2022 | Test Method: ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | ANSI C63.10:2013 | | |
| COMMENTS | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | |
| DEVIATIONS FROM TEST STANDARD | | | |
| None | | | |
| Configuration # | 1 | | |
| | <i>Christopher Heintzelman</i> Signature | | |
| | Value | Limit | Results |
| | dBm/3kHz | < dBm/3kHz | |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | -20.276 | 8 | Pass |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | -21.182 | 8 | Pass |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | -21.189 | 8 | Pass |

POWER SPECTRAL DENSITY

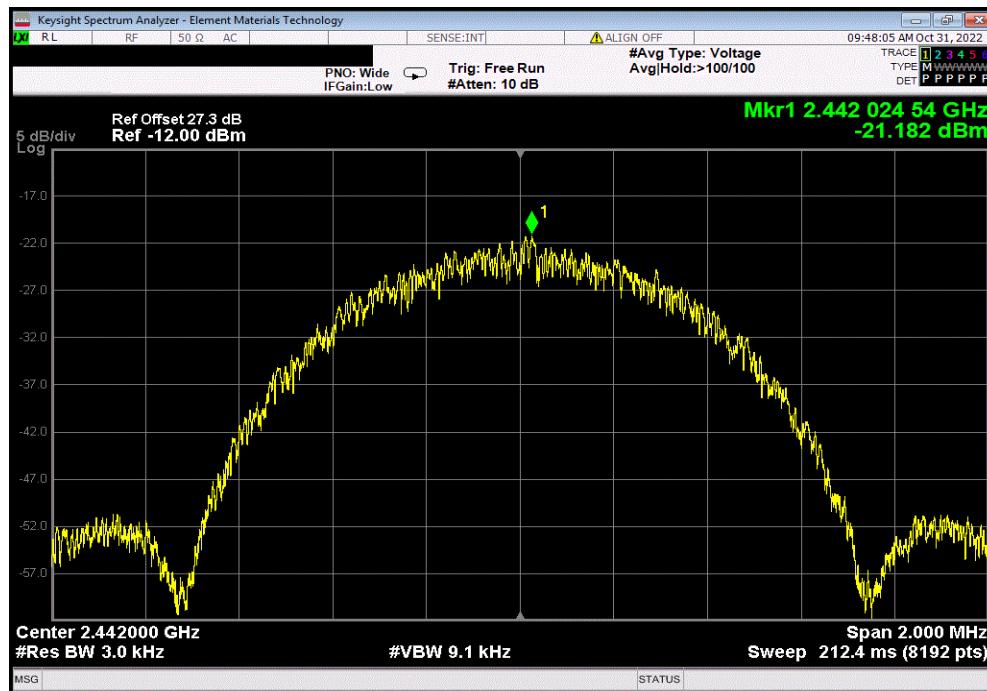


TbITx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | Value | Limit | Results |
|---------------------------------------|--|--|--|----------|------------|---------|
| | | | | dBm/3kHz | < dBm/3kHz | |
| | | | | -20.276 | 8 | Pass |



| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | Value | Limit | Results |
|---------------------------------------|--|--|--|----------|------------|---------|
| | | | | dBm/3kHz | < dBm/3kHz | |
| | | | | -21.182 | 8 | Pass |

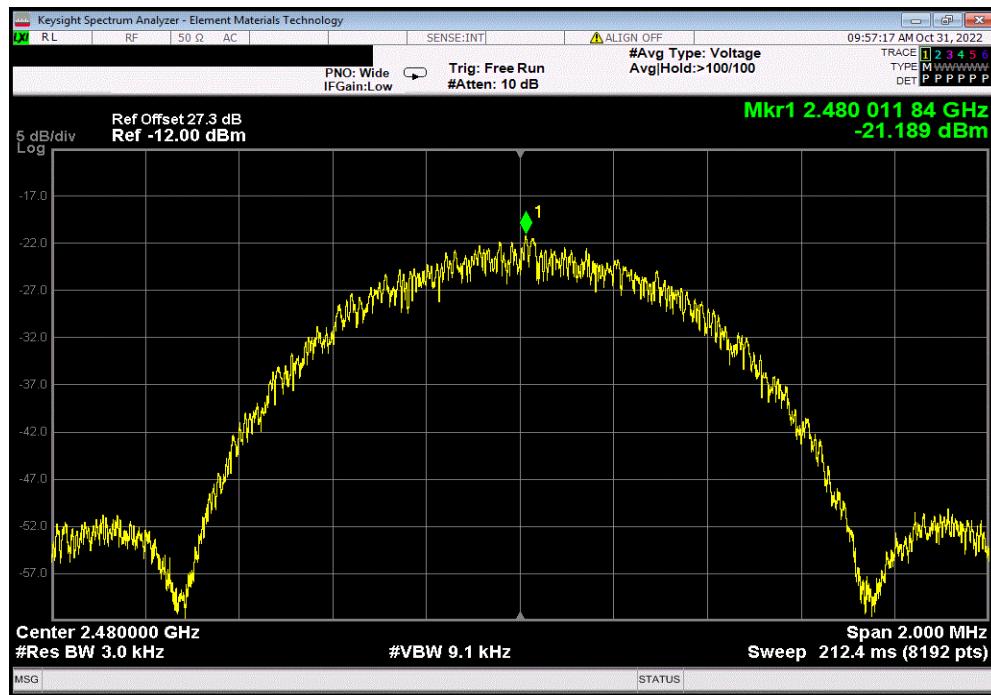


POWER SPECTRAL DENSITY



TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | Value | Limit | Results |
|----------------------------------------|--|----------|------------|-------|------------|---------|
| | | dBm/3kHz | < dBm/3kHz | | < dBm/3kHz | |
| | | -21.189 | 8 | | Pass | |



POWERLINE CONDUCTED EMISSIONS



TEST DESCRIPTION

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|----------------------------------|-------------------|------------------|------|------------|------------|
| Receiver | Gauss Instruments | TDEMI 30M | ARS | 2022-04-20 | 2023-04-20 |
| Cable - Conducted Cable Assembly | Northwest EMC | MNC, HGN, TYK | MNCA | 2022-03-07 | 2023-03-07 |
| LISN | Solar Electronics | 9252-50-R-24-BNC | LIY | 2022-04-04 | 2023-04-04 |

MEASUREMENT UNCERTAINTY

| Description | | | |
|--------------|--------|--|---------|
| Expanded k=2 | 3.2 dB | | -3.2 dB |

CONFIGURATIONS INVESTIGATED

TRLL0001-3

MODES INVESTIGATED

BLE transmitting mid channel (2442 MHz), 1 Mbps. In a biometric monitoring mode. Plugged in but not charging (battery full)

POWERLINE CONDUCTED EMISSIONS



| | | | |
|-------------------|----------------------------------------|-----------------------|------------|
| EUT: | ZTrack | Work Order: | TRLL0001 |
| Serial Number: | EDD225019657 | Date: | 2022-10-31 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 22°C |
| Attendees: | Troy Winsand | Relative Humidity: | 29.5% |
| Customer Project: | None | Bar. Pressure (PMSL): | 1013 mb |
| Tested By: | Christopher Heintzelman | Job Site: | MN03 |
| Power: | Battery | Configuration: | TRLL0001-3 |

TEST SPECIFICATIONS

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

TEST PARAMETERS

| | | | | | |
|--------|---|-------|-----------|-----------------------------|---|
| Run #: | 1 | Line: | High Line | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|-----------|-----------------------------|---|

COMMENTS

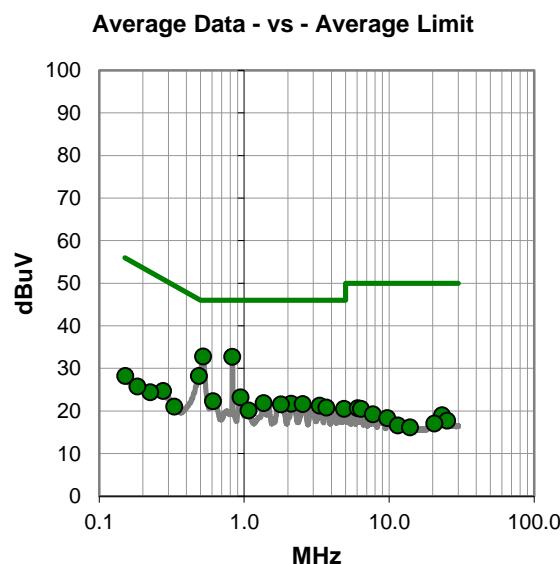
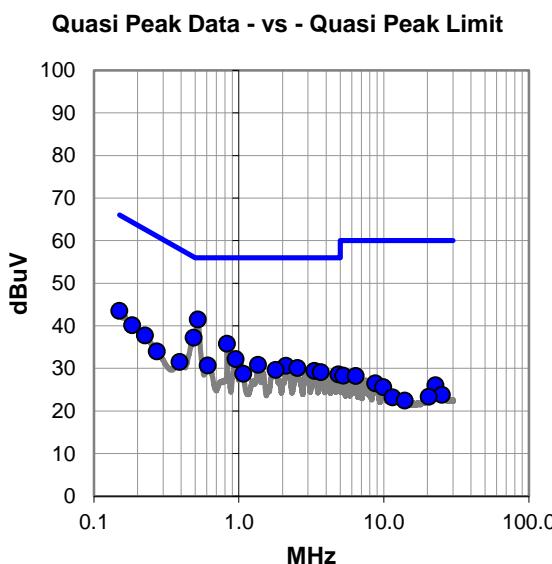
In normal operation, device does not transmit while charging but can transmit while plugged in not charging (ie, battery full but still plugged in)

EUT OPERATING MODES

BLE transmitting mid channel (2442 MHz), 1 Mbps. In a biometric monitoring mode. Plugged in but not charging (battery full)

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #1

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.521 | 21.2 | 20.3 | 41.5 | 56.0 | -14.5 |
| 0.489 | 16.9 | 20.3 | 37.2 | 56.2 | -19.0 |
| 0.831 | 15.6 | 20.2 | 35.8 | 56.0 | -20.2 |
| 0.150 | 22.8 | 20.7 | 43.5 | 66.0 | -22.5 |
| 0.948 | 12.0 | 20.2 | 32.2 | 56.0 | -23.8 |
| 0.184 | 19.6 | 20.5 | 40.1 | 64.3 | -24.2 |
| 0.225 | 17.3 | 20.4 | 37.7 | 62.6 | -24.9 |
| 1.358 | 10.6 | 20.2 | 30.8 | 56.0 | -25.2 |
| 0.611 | 10.4 | 20.3 | 30.7 | 56.0 | -25.3 |
| 2.114 | 10.3 | 20.3 | 30.6 | 56.0 | -25.4 |
| 2.539 | 9.7 | 20.4 | 30.1 | 56.0 | -25.9 |
| 1.796 | 9.3 | 20.3 | 29.6 | 56.0 | -26.4 |
| 0.390 | 11.2 | 20.3 | 31.5 | 58.1 | -26.6 |
| 3.325 | 8.9 | 20.5 | 29.4 | 56.0 | -26.6 |
| 3.687 | 8.6 | 20.5 | 29.1 | 56.0 | -26.9 |
| 0.272 | 13.7 | 20.3 | 34.0 | 61.1 | -27.1 |
| 1.076 | 8.5 | 20.2 | 28.7 | 56.0 | -27.3 |
| 4.877 | 8.0 | 20.6 | 28.6 | 56.0 | -27.4 |
| 5.246 | 7.7 | 20.6 | 28.3 | 60.0 | -31.7 |
| 6.400 | 7.5 | 20.7 | 28.2 | 60.0 | -31.8 |
| 8.754 | 5.5 | 21.0 | 26.5 | 60.0 | -33.5 |
| 22.767 | 4.1 | 21.9 | 26.0 | 60.0 | -34.0 |
| 9.944 | 4.5 | 21.1 | 25.6 | 60.0 | -34.4 |
| 25.214 | 1.7 | 22.1 | 23.8 | 60.0 | -36.2 |
| 20.436 | 1.6 | 21.7 | 23.3 | 60.0 | -36.7 |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.521 | 12.5 | 20.3 | 32.8 | 46.0 | -13.2 |
| 0.829 | 12.5 | 20.2 | 32.7 | 46.0 | -13.3 |
| 0.489 | 7.9 | 20.3 | 28.2 | 46.2 | -18.0 |
| 0.946 | 3.0 | 20.2 | 23.2 | 46.0 | -22.8 |
| 0.611 | 2.0 | 20.3 | 22.3 | 46.0 | -23.7 |
| 1.363 | 1.6 | 20.2 | 21.8 | 46.0 | -24.2 |
| 2.115 | 1.4 | 20.3 | 21.7 | 46.0 | -24.3 |
| 2.535 | 1.2 | 20.4 | 21.6 | 46.0 | -24.4 |
| 1.795 | 1.2 | 20.3 | 21.5 | 46.0 | -24.5 |
| 3.325 | 0.7 | 20.5 | 21.2 | 46.0 | -24.8 |
| 3.697 | 0.3 | 20.5 | 20.8 | 46.0 | -25.2 |
| 4.891 | -0.1 | 20.6 | 20.5 | 46.0 | -25.5 |
| 1.076 | -0.1 | 20.2 | 20.1 | 46.0 | -25.9 |
| 0.277 | 4.4 | 20.3 | 24.7 | 50.9 | -26.2 |
| 0.152 | 7.5 | 20.7 | 28.2 | 55.9 | -27.7 |
| 0.225 | 4.0 | 20.4 | 24.4 | 52.6 | -28.2 |
| 0.330 | 0.7 | 20.3 | 21.0 | 49.5 | -28.5 |
| 0.184 | 5.2 | 20.5 | 25.7 | 54.3 | -28.6 |
| 6.090 | -0.1 | 20.7 | 20.6 | 50.0 | -29.4 |
| 6.409 | -0.2 | 20.7 | 20.5 | 50.0 | -29.5 |
| 7.713 | -1.6 | 20.8 | 19.2 | 50.0 | -30.8 |
| 23.194 | -3.0 | 22.0 | 19.0 | 50.0 | -31.0 |
| 9.729 | -2.8 | 21.1 | 18.3 | 50.0 | -31.7 |
| 25.208 | -4.4 | 22.1 | 17.7 | 50.0 | -32.3 |
| 20.507 | -4.8 | 21.8 | 17.0 | 50.0 | -33.0 |

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



| | | | |
|-------------------|----------------------------------------|-----------------------|------------|
| EUT: | ZTrack | Work Order: | TRLL0001 |
| Serial Number: | EDD225019657 | Date: | 2022-10-31 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 22°C |
| Attendees: | Troy Winsand | Relative Humidity: | 29.5% |
| Customer Project: | None | Bar. Pressure (PMSL): | 1013 mb |
| Tested By: | Christopher Heintzelman | Job Site: | MN03 |
| Power: | Battery | Configuration: | TRLL0001-3 |

TEST SPECIFICATIONS

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

TEST PARAMETERS

| | | | | | |
|--------|---|-------|---------|-----------------------------|---|
| Run #: | 2 | Line: | Neutral | Add. Ext. Attenuation (dB): | 0 |
|--------|---|-------|---------|-----------------------------|---|

COMMENTS

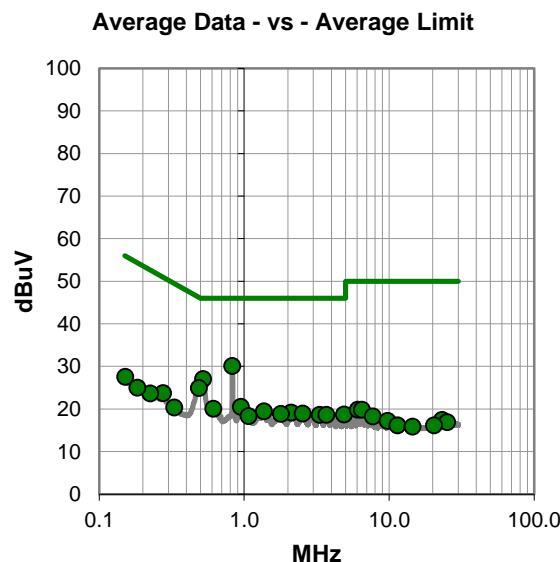
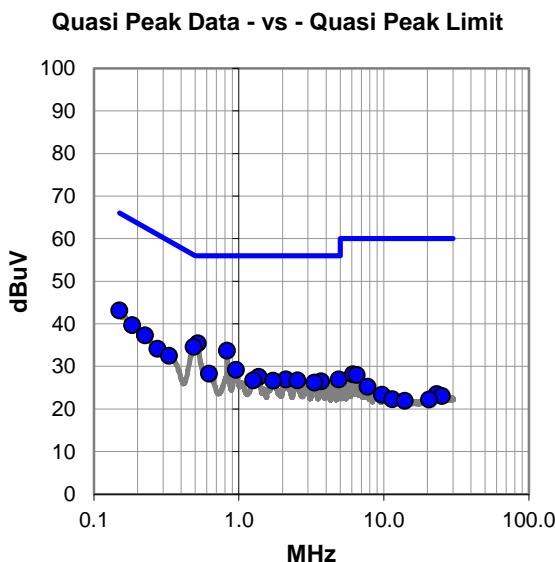
In normal operation, device does not transmit while charging but can transmit while plugged in not charging (ie, battery full but still plugged in)

EUT OPERATING MODES

BLE transmitting mid channel (2442 MHz), 1 Mbps. In a biometric monitoring mode. Plugged in but not charging (battery full)

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS



RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.521 | 15.1 | 20.3 | 35.4 | 56.0 | -20.6 |
| 0.489 | 14.3 | 20.3 | 34.6 | 56.2 | -21.6 |
| 0.831 | 13.5 | 20.2 | 33.7 | 56.0 | -22.3 |
| 0.150 | 22.4 | 20.7 | 43.1 | 66.0 | -22.9 |
| 0.184 | 19.2 | 20.5 | 39.7 | 64.3 | -24.6 |
| 0.225 | 16.9 | 20.4 | 37.3 | 62.6 | -25.3 |
| 0.954 | 9.0 | 20.2 | 29.2 | 56.0 | -26.8 |
| 0.275 | 13.8 | 20.3 | 34.1 | 61.0 | -26.9 |
| 0.330 | 12.2 | 20.3 | 32.5 | 59.5 | -27.0 |
| 0.625 | 8.0 | 20.3 | 28.3 | 56.0 | -27.7 |
| 1.372 | 7.3 | 20.2 | 27.5 | 56.0 | -28.5 |
| 2.109 | 6.6 | 20.3 | 26.9 | 56.0 | -29.1 |
| 4.901 | 6.3 | 20.6 | 26.9 | 56.0 | -29.1 |
| 1.256 | 6.5 | 20.2 | 26.7 | 56.0 | -29.3 |
| 2.536 | 6.3 | 20.4 | 26.7 | 56.0 | -29.3 |
| 1.723 | 6.3 | 20.3 | 26.6 | 56.0 | -29.4 |
| 3.702 | 6.0 | 20.5 | 26.5 | 56.0 | -29.5 |
| 3.327 | 5.7 | 20.5 | 26.2 | 56.0 | -29.8 |
| 6.104 | 7.4 | 20.7 | 28.1 | 60.0 | -31.9 |
| 6.497 | 7.3 | 20.7 | 28.0 | 60.0 | -32.0 |
| 7.752 | 4.3 | 20.9 | 25.2 | 60.0 | -34.8 |
| 23.213 | 1.5 | 22.0 | 23.5 | 60.0 | -36.5 |
| 9.731 | 2.2 | 21.1 | 23.3 | 60.0 | -36.7 |
| 25.230 | 0.9 | 22.1 | 23.0 | 60.0 | -37.0 |
| 11.450 | 0.9 | 21.4 | 22.3 | 60.0 | -37.7 |

Average Data - vs - Average Limit

| Freq (MHz) | Amp. (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Margin (dB) |
|------------|-------------|-------------|-----------------|--------------------|-------------|
| 0.831 | 9.9 | 20.2 | 30.1 | 46.0 | -15.9 |
| 0.521 | 6.7 | 20.3 | 27.0 | 46.0 | -19.0 |
| 0.489 | 4.6 | 20.3 | 24.9 | 46.2 | -21.3 |
| 0.948 | 0.3 | 20.2 | 20.5 | 46.0 | -25.5 |
| 0.612 | -0.3 | 20.3 | 20.0 | 46.0 | -26.0 |
| 1.369 | -0.8 | 20.2 | 19.4 | 46.0 | -26.6 |
| 2.115 | -1.2 | 20.3 | 19.1 | 46.0 | -26.9 |
| 2.539 | -1.5 | 20.4 | 18.9 | 46.0 | -27.1 |
| 0.277 | 3.4 | 20.3 | 23.7 | 50.9 | -27.2 |
| 1.795 | -1.5 | 20.3 | 18.8 | 46.0 | -27.2 |
| 4.889 | -1.9 | 20.6 | 18.7 | 46.0 | -27.3 |
| 3.315 | -1.9 | 20.5 | 18.6 | 46.0 | -27.4 |
| 3.694 | -1.9 | 20.5 | 18.6 | 46.0 | -27.4 |
| 1.076 | -1.9 | 20.2 | 18.3 | 46.0 | -27.7 |
| 0.152 | 6.8 | 20.7 | 27.5 | 55.9 | -28.4 |
| 0.225 | 3.2 | 20.4 | 23.6 | 52.6 | -29.0 |
| 0.330 | 0.0 | 20.3 | 20.3 | 49.5 | -29.2 |
| 0.184 | 4.5 | 20.5 | 25.0 | 54.3 | -29.3 |
| 6.087 | -0.9 | 20.7 | 19.8 | 50.0 | -30.2 |
| 6.488 | -0.9 | 20.7 | 19.8 | 50.0 | -30.2 |
| 7.713 | -2.6 | 20.8 | 18.2 | 50.0 | -31.8 |
| 23.182 | -4.6 | 22.0 | 17.4 | 50.0 | -32.6 |
| 9.747 | -3.9 | 21.1 | 17.2 | 50.0 | -32.8 |
| 25.185 | -5.1 | 22.0 | 16.9 | 50.0 | -33.1 |
| 11.439 | -5.3 | 21.4 | 16.1 | 50.0 | -33.9 |

CONCLUSION

Pass

Tested By

SPURIOUS CONDUCTED EMISSIONS



XMit 2022.02.07.0

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|------------|------------|
| Generator - Signal | Agilent | N5183A | TIK | 2022-01-24 | 2025-01-24 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFY | 2022-05-30 | 2023-05-30 |
| Block - DC | Fairview Microwave | SD3379 | AMI | 2022-09-10 | 2023-09-10 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | MNL | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFM | 2022-04-25 | 2023-04-25 |

TEST DESCRIPTION

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

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

The reference level offset for the 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

SPURIOUS CONDUCTED EMISSIONS



TbTx 2022.06.03.0 XMII 2022.02.07.0

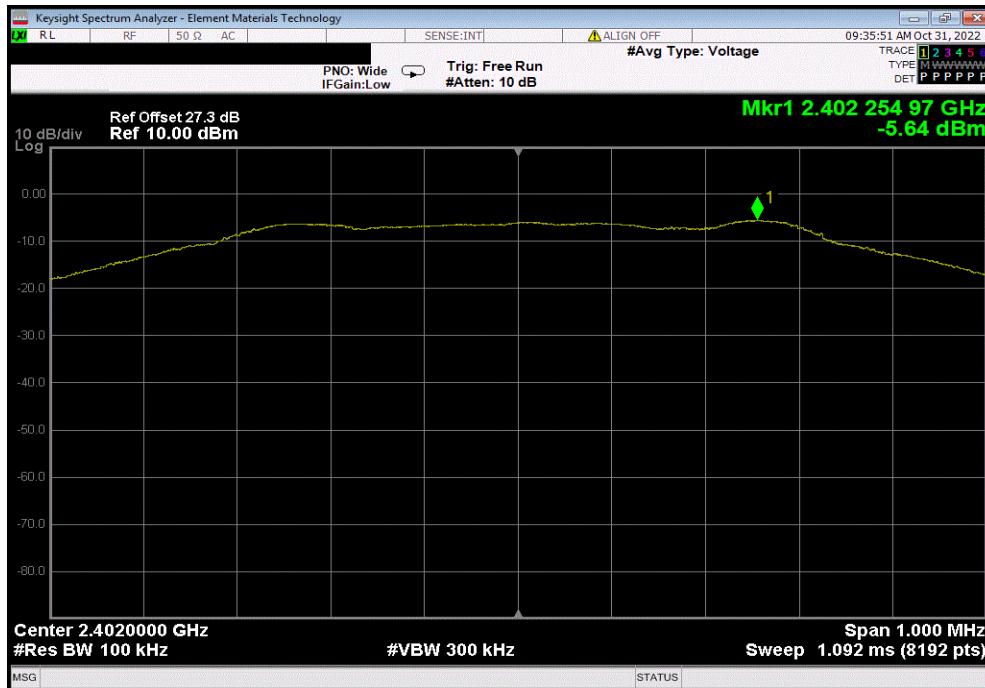
| EUT: | ZTrack | | Work Order: | TRL0001 | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------|-------------------|---------------------|-----------------|
| Serial Number: | EDD225019017 | | Date: | 31-Oct-22 | |
| Customer: | Round River Research dba Soltec Health | | Temperature: | 21.5 °C | |
| Attendees: | Troy Winsand | | Humidity: | 33.2% RH | |
| Project: | None | | Barometric Pres.: | 1014 mbar | |
| Tested by: | Christopher Heintzelman | Power: | Battery | Job Site: | MN11 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2022 | | | ANSI C63.10:2013 | | |
| RSS-247 Issue 2:2017 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | | |
| | | | Frequency Range | Measured Freq (MHz) | Max Value (dBc) |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | Fundamental | 2402.25 | N/A |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | 30 MHz - 12.5 GHz | 4804.25 | -30.67 |
| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | 12.5 GHz - 25 GHz | 24926.75 | -25.18 |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | Fundamental | 2442.25 | N/A |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | 30 MHz - 12.5 GHz | 4883.42 | -30.08 |
| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | 12.5 GHz - 25 GHz | 24766.51 | -24.45 |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | Fundamental | 2480.25 | N/A |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | 30 MHz - 12.5 GHz | 4959.54 | -29.72 |
| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | 12.5 GHz - 25 GHz | 24826.03 | -24.87 |

SPURIOUS CONDUCTED EMISSIONS

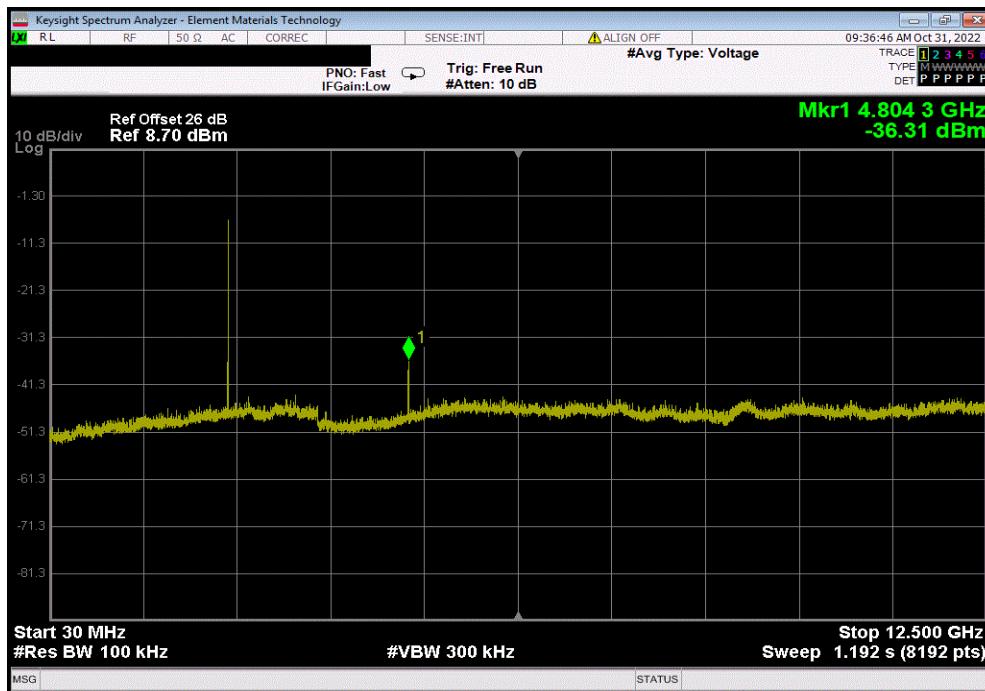


TbITx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|--|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result | |
| Fundamental | 2402.25 | N/A | N/A | N/A | |



| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|--|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result | |
| 30 MHz - 12.5 GHz | 4804.25 | -30.67 | -20 | Pass | |

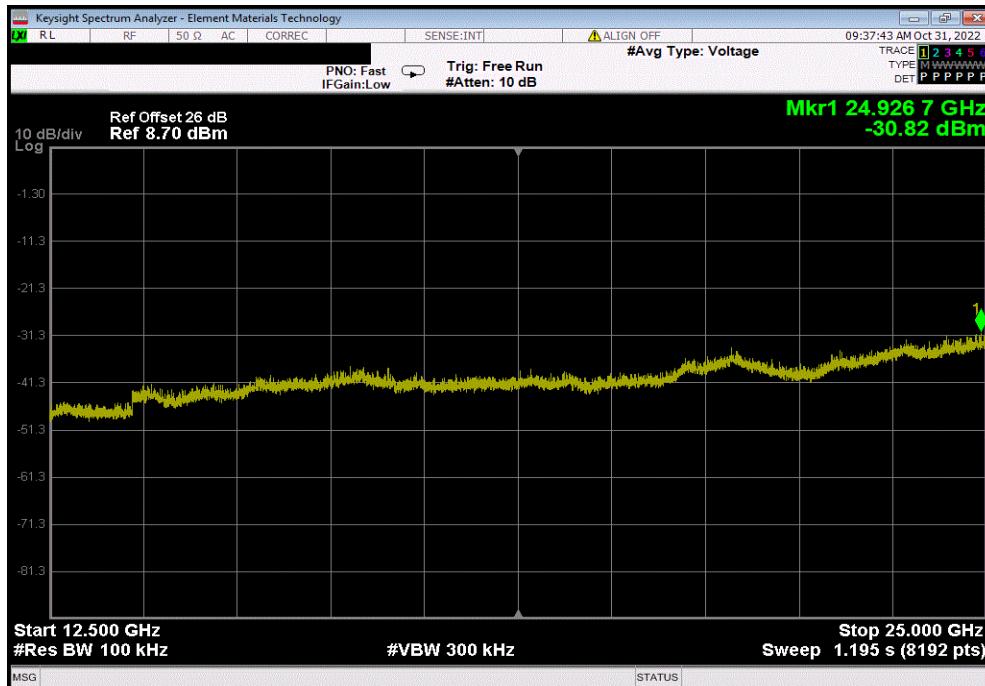


SPURIOUS CONDUCTED EMISSIONS

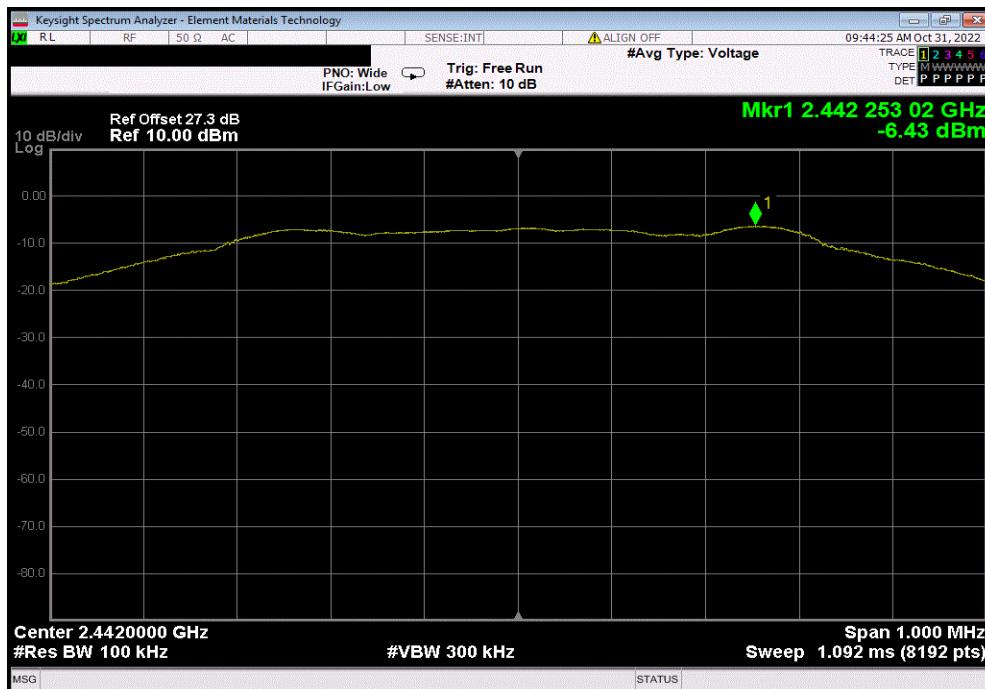


TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Low Channel, 2402 MHz | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result |
| 12.5 GHz - 25 GHz | 24926.75 | -25.18 | -20 | Pass |



| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result |
| Fundamental | 2442.25 | N/A | N/A | N/A |

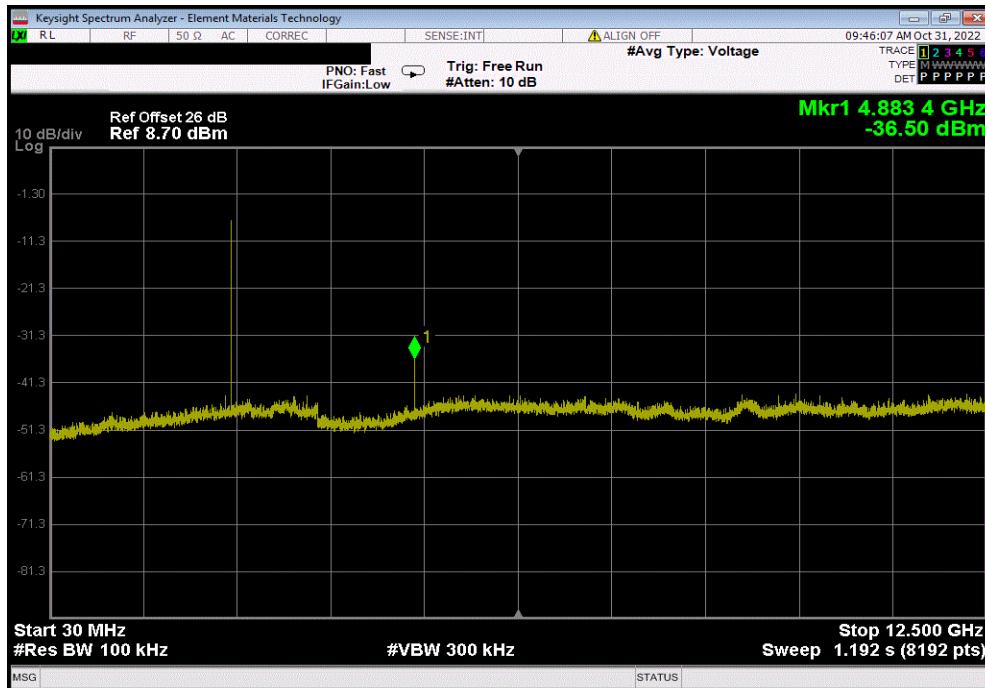


SPURIOUS CONDUCTED EMISSIONS

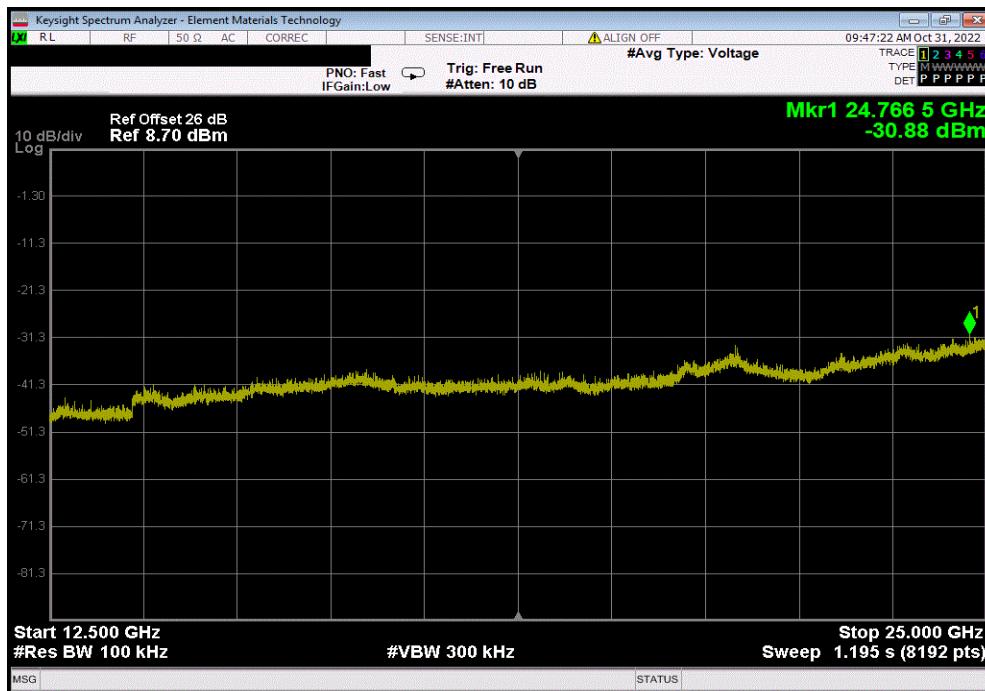


TbITx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result |
| 30 MHz - 12.5 GHz | 4883.42 | -30.08 | -20 | Pass |



| BLE/GFSK 1 Mbps Mid Channel, 2442 MHz | | | | |
|---------------------------------------|---------------------|-----------------|---------------|--------|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result |
| 12.5 GHz - 25 GHz | 24766.51 | -24.45 | -20 | Pass |

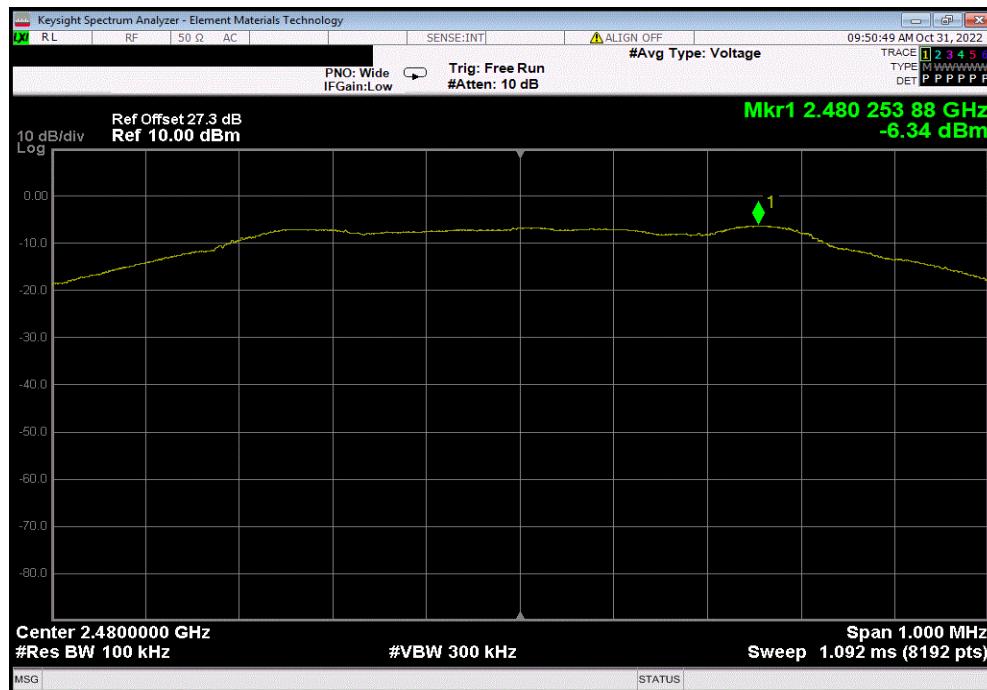


SPURIOUS CONDUCTED EMISSIONS

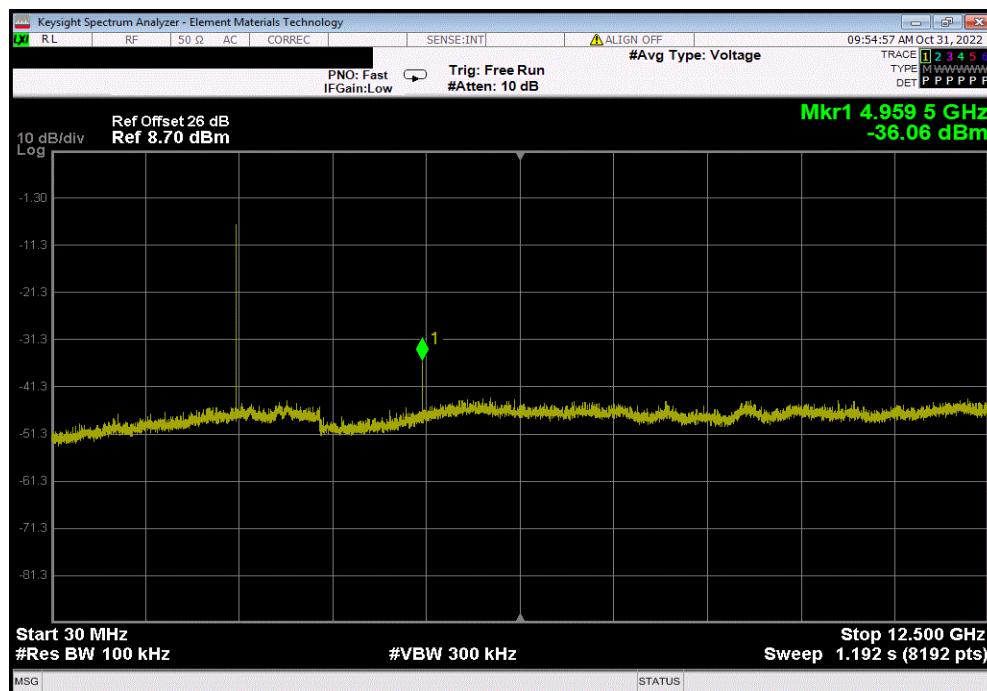


TbITx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | | |
|----------------------------------------|---------------------|-----------------|---------------|--------|--|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result | |
| Fundamental | 2480.25 | N/A | N/A | N/A | |



| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | | |
|----------------------------------------|---------------------|-----------------|---------------|--------|--|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit ≤ (dBc) | Result | |
| 30 MHz - 12.5 GHz | 4959.54 | -29.72 | -20 | Pass | |

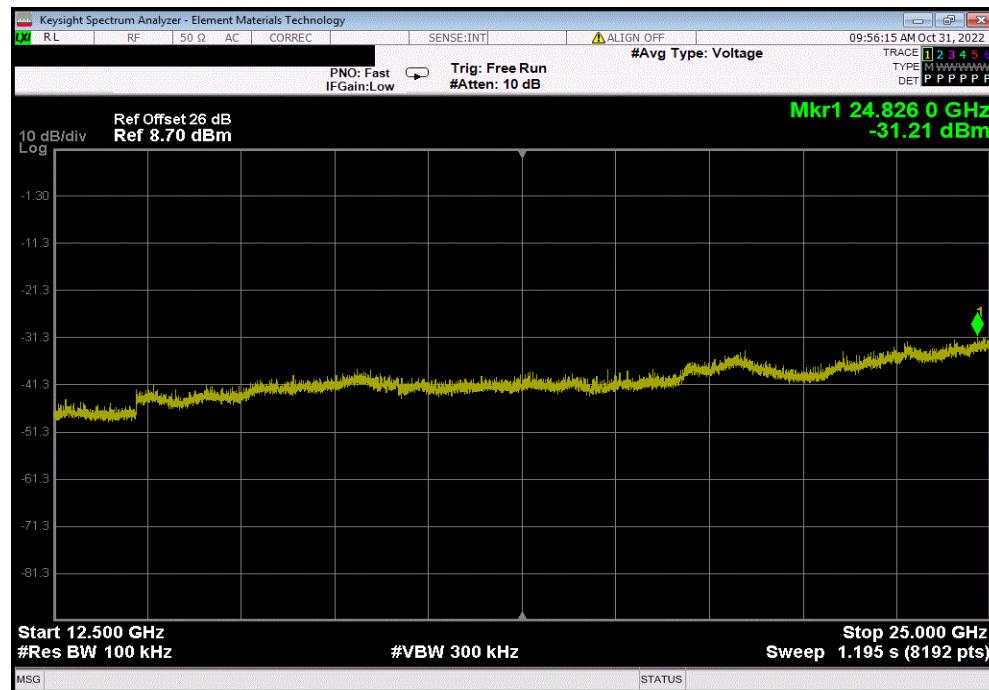


SPURIOUS CONDUCTED EMISSIONS



TbtTx 2022.06.03.0 XMit 2022.02.07.0

| BLE/GFSK 1 Mbps High Channel, 2480 MHz | | | | |
|----------------------------------------|---------------------|-----------------|--------------------|--------|
| Frequency Range | Measured Freq (MHz) | Max Value (dBc) | Limit \leq (dBc) | Result |
| 12.5 GHz - 25 GHz | 24826.03 | -24.87 | -20 | Pass |



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 |
|------------------------------|--------------------|--------------------------------|-----|------------|------------|
| Analyzer - Spectrum Analyzer | Agilent | E4446A | AAQ | 2022-06-10 | 2023-06-10 |
| Cable | ESM Cable Corp. | Double Ridge Guide Horn Cables | MNI | 2022-01-18 | 2023-01-18 |
| Amplifier - Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | AVT | 2022-01-18 | 2023-01-18 |
| Antenna - Double Ridge | ETS Lindgren | 3115 | AJQ | 2021-01-25 | 2023-01-25 |
| Antenna - Standard Gain | ETS Lindgren | 3160-07 | AXP | NCR | NCR |
| Cable | ESM Cable Corp. | Standard Gain Horn Cables | MNJ | 2022-01-18 | 2023-01-18 |
| Amplifier - Pre-Amplifier | Miteq | AMF-6F-12001800-30-10P | AVW | 2022-01-18 | 2023-01-18 |
| Antenna - Standard Gain | ETS Lindgren | 3160-09 | AHG | NCR | NCR |
| Cable | ESM Cable Corp. | TTBJ141 KMKM-72 | MNP | 2022-09-10 | 2023-09-10 |
| Amplifier - Pre-Amplifier | Miteq | JSD4-18002600-26-8P | APU | 2022-09-10 | 2023-09-10 |
| Antenna - Biconilog | ETS Lindgren | 3142D | AXO | 2021-09-14 | 2023-09-14 |
| Cable | ESM Cable Corp. | Bilog Cables | MNH | 2022-10-08 | 2023-10-08 |
| Amplifier - Pre-Amplifier | Miteq | AM-1616-1000 | AVO | 2022-10-08 | 2023-10-08 |
| Attenuator | Fairview Microwave | SA18E-20 | TWZ | 2022-08-27 | 2023-08-27 |
| Filter - Low Pass | Micro-Tronics | LPM50004 | LFK | 2022-08-27 | 2023-08-27 |
| Filter - High Pass | Micro-Tronics | HPM50111 | LFN | 2022-08-27 | 2023-08-27 |
| Antenna - Standard Gain | ETS Lindgren | 3160-08 | AIQ | NCR | NCR |

MEASUREMENT UNCERTAINTY

| Description | | | |
|--------------|--------|--|---------|
| Expanded k=2 | 5.2 dB | | -5.2 dB |

FREQUENCY RANGE INVESTIGATED

30 MHz TO 26.5 GHz

POWER INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

TRLL0001-2

SPURIOUS RADIATED EMISSIONS



MODES INVESTIGATED

Transmitting BLE Low, Mid, and High Channels (2402, 2442, and 2480 MHz), 1 Mbps

Transmitting BLE Low and High Channels (2402 and 2480 MHz), 1 Mbps

| | | | |
|-------------------|----------------------------------------|-----------------------|------------|
| EUT: | ZTrack | Work Order: | TRLL0001 |
| Serial Number: | EDD225019657 | Date: | 2022-11-01 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 21.6°C |
| Attendees: | Troy Winsand | Relative Humidity: | 29.3% |
| Customer Project: | None | Bar. Pressure (PMSL): | 1016 mb |
| Tested By: | Marcelo Aguayo, Trevor Buls | Job Site: | MN05 |
| Power: | Battery | Configuration: | TRLL0001-2 |

TEST SPECIFICATIONS

| Specification: | Method: |
|------------------------------------------------------------|------------------|
| FCC 15.247:2022 | ANSI C63.10:2013 |
| RSS-247 Issue 2:2017, 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) |
|--------|----|--------------------|---|---------------------|-----------|

COMMENTS

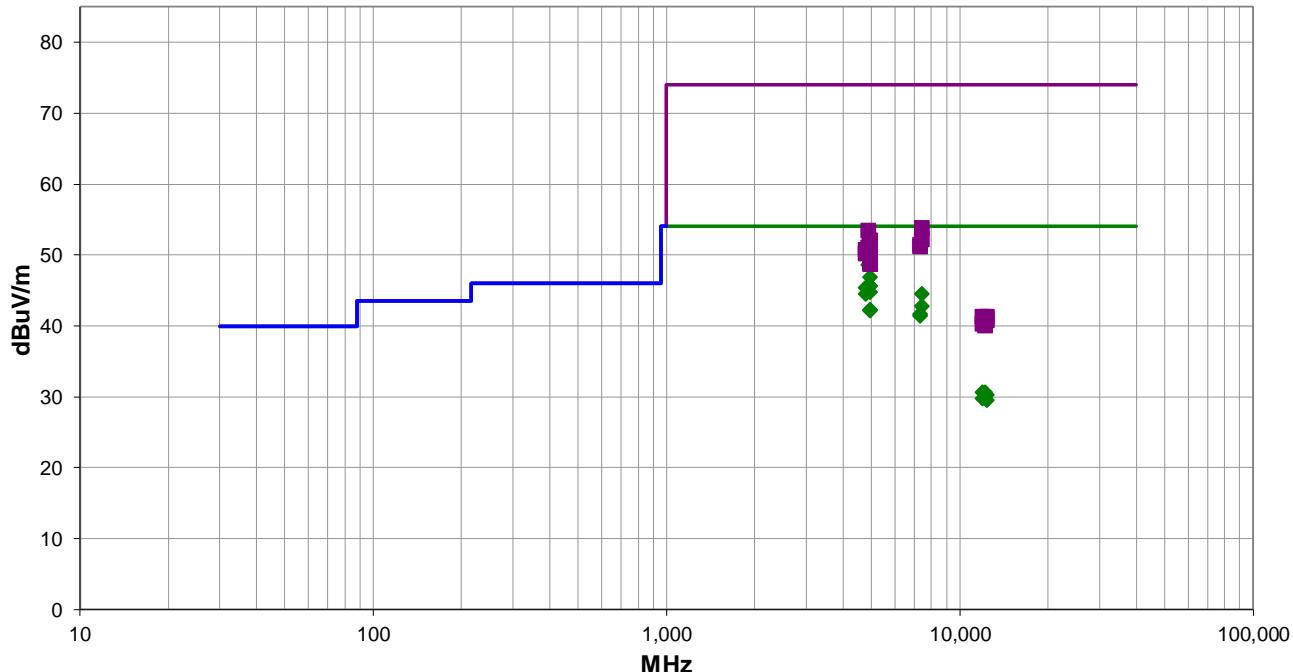
None

EUT OPERATING MODES

Transmitting BLE Low, Mid, and High Channels (2402, 2442, and 2480 MHz), 1 Mbps

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 |
|------------|------------------|---------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|----------------------|
| 4884.075 | 44.4 | 4.1 | 3.3 | 307.9 | 3.0 | 0.0 | Horz | AV | 0.0 | 48.5 | 54.0 | -5.5 | EUT Horz, Mid Ch |
| 4960.017 | 42.3 | 4.5 | 1.9 | 162.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 46.8 | 54.0 | -7.2 | EUT Horz, High Ch |
| 4960.025 | 41.1 | 4.5 | 1.2 | 229.9 | 3.0 | 0.0 | Horz | AV | 0.0 | 45.6 | 54.0 | -8.4 | EUT On Side, High Ch |
| 4960.000 | 41.1 | 4.5 | 2.7 | 272.9 | 3.0 | 0.0 | Vert | AV | 0.0 | 45.6 | 54.0 | -8.4 | EUT Vert, High Ch |
| 4884.000 | 41.4 | 4.1 | 2.6 | 77.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 45.5 | 54.0 | -8.5 | EUT Vert, Mid Ch |
| 4803.892 | 41.6 | 3.7 | 2.4 | 145.9 | 3.0 | 0.0 | Horz | AV | 0.0 | 45.3 | 54.0 | -8.7 | EUT Horz, Low Ch |
| 4959.992 | 40.2 | 4.5 | 2.6 | 123.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 44.7 | 54.0 | -9.3 | EUT On Side, High Ch |
| 4803.975 | 40.8 | 3.7 | 2.7 | 271.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 44.5 | 54.0 | -9.5 | EUT Vert, Low Ch |
| 7439.517 | 32.6 | 11.8 | 2.5 | 153.9 | 3.0 | 0.0 | Horz | AV | 0.0 | 44.4 | 54.0 | -9.6 | EUT Horz, High Ch |
| 7440.575 | 30.9 | 11.8 | 2.3 | 214.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 42.7 | 54.0 | -11.3 | EUT Vert, High Ch |
| 4959.867 | 37.7 | 4.5 | 3.8 | 296.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 42.2 | 54.0 | -11.8 | EUT Vert, High Ch |
| 4960.067 | 37.6 | 4.5 | 3.8 | 55.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 42.1 | 54.0 | -11.9 | EUT Horz, High Ch |
| 7325.683 | 30.3 | 11.3 | 1.4 | 9.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.6 | 54.0 | -12.4 | EUT Vert, Mid Ch |
| 7325.575 | 30.1 | 11.3 | 2.7 | 294.9 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.4 | 54.0 | -12.6 | EUT Horz, Mid Ch |
| 7440.892 | 42.0 | 11.8 | 2.5 | 153.9 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.8 | 74.0 | -20.2 | EUT Horz, High Ch |
| 4883.783 | 49.3 | 4.1 | 3.3 | 307.9 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.4 | 74.0 | -20.6 | EUT Horz, Mid Ch |
| 7439.383 | 40.4 | 11.8 | 2.3 | 214.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.2 | 74.0 | -21.8 | EUT Vert, High Ch |
| 4959.525 | 47.5 | 4.5 | 1.9 | 162.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 52.0 | 74.0 | -22.0 | EUT Horz, High Ch |
| 4960.117 | 46.9 | 4.5 | 2.7 | 272.9 | 3.0 | 0.0 | Vert | PK | 0.0 | 51.4 | 74.0 | -22.6 | EUT Vert, High Ch |
| 7326.117 | 40.1 | 11.3 | 2.7 | 294.9 | 3.0 | 0.0 | Horz | PK | 0.0 | 51.4 | 74.0 | -22.6 | EUT Horz, Mid Ch |
| 4960.300 | 46.6 | 4.5 | 1.2 | 229.9 | 3.0 | 0.0 | Horz | PK | 0.0 | 51.1 | 74.0 | -22.9 | EUT On Side, High Ch |
| 7326.325 | 39.8 | 11.3 | 1.4 | 9.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 51.1 | 74.0 | -22.9 | EUT Vert, Mid Ch |
| 4884.458 | 46.9 | 4.1 | 2.6 | 77.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 51.0 | 74.0 | -23.0 | EUT Vert, Mid Ch |
| 12012.310 | 30.1 | 0.5 | 3.9 | 113.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 30.6 | 54.0 | -23.4 | EUT Vert, Low Ch |
| 12209.460 | 29.3 | 1.3 | 1.5 | 217.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 30.6 | 54.0 | -23.4 | EUT Vert, Mid Ch |
| 4803.450 | 46.9 | 3.7 | 2.4 | 145.9 | 3.0 | 0.0 | Horz | PK | 0.0 | 50.6 | 74.0 | -23.4 | EUT Horz, Low Ch |
| 4960.583 | 45.8 | 4.5 | 2.6 | 123.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.3 | 74.0 | -23.7 | EUT On Side, High Ch |
| 4804.608 | 46.5 | 3.7 | 2.7 | 271.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.2 | 74.0 | -23.8 | EUT Vert, Low Ch |
| 12397.580 | 29.3 | 0.9 | 1.5 | 95.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 30.2 | 54.0 | -23.8 | EUT Vert, High Ch |
| 12207.900 | 28.6 | 1.3 | 2.0 | 36.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 29.9 | 54.0 | -24.1 | EUT Horz, Mid Ch |
| 12011.000 | 29.2 | 0.5 | 1.5 | 289.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 29.7 | 54.0 | -24.3 | EUT Horz, Low Ch |
| 12397.900 | 28.6 | 0.9 | 1.5 | 40.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 29.5 | 54.0 | -24.5 | EUT Horz, High Ch |
| 4960.000 | 44.6 | 4.5 | 3.8 | 55.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 49.1 | 74.0 | -24.9 | EUT Horz, High Ch |
| 4959.492 | 44.2 | 4.5 | 3.8 | 296.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.7 | 74.0 | -25.3 | EUT Vert, High Ch |
| 12011.140 | 40.8 | 0.5 | 3.9 | 113.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 41.3 | 74.0 | -32.7 | EUT Vert, Low Ch |
| 12398.760 | 40.3 | 0.9 | 1.5 | 95.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 41.2 | 74.0 | -32.8 | EUT Vert, High Ch |
| 12399.900 | 39.9 | 0.9 | 1.5 | 40.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 40.8 | 74.0 | -33.2 | EUT Horz, High Ch |
| 12207.910 | 39.1 | 1.3 | 1.5 | 217.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 40.4 | 74.0 | -33.6 | EUT Vert, Mid Ch |
| 12008.620 | 39.7 | 0.6 | 1.5 | 289.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 40.3 | 74.0 | -33.7 | EUT Horz, Low Ch |
| 12209.170 | 38.7 | 1.3 | 2.0 | 36.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 40.0 | 74.0 | -34.0 | EUT Horz, Mid Ch |

SPURIOUS RADIATED EMISSIONS



CONCLUSION

Pass

Trevor Buls
Tested By

SPURIOUS RADIATED EMISSIONS



| | | | |
|-------------------|----------------------------------------|-----------------------|------------|
| EUT: | ZTrack | Work Order: | TRLL0001 |
| Serial Number: | EDD225019657 | Date: | 2022-11-01 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 22°C |
| Attendees: | Troy Winsand | Relative Humidity: | 28.3% |
| Customer Project: | None | Bar. Pressure (PMSL): | 1018 mb |
| Tested By: | Marcelo Aguayo, Trevor Buls | Job Site: | MN05 |
| Power: | Battery | Configuration: | TRLL0001-2 |

TEST SPECIFICATIONS

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

TEST PARAMETERS

| | | | | | |
|--------|----|--------------------|---|---------------------|-----------|
| Run #: | 16 | Test Distance (m): | 3 | Ant. Height(s) (m): | 1 to 4(m) |
|--------|----|--------------------|---|---------------------|-----------|

COMMENTS

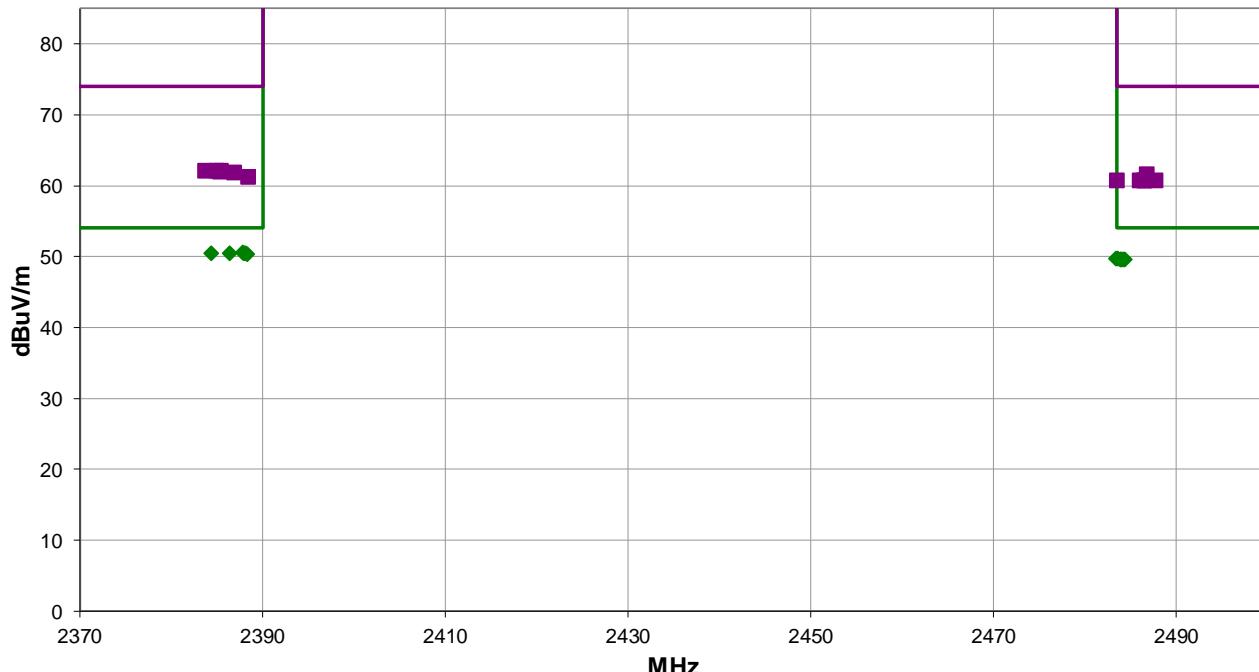
None

EUT OPERATING MODES

Transmitting BLE Low and High Channels (2402 and 2480 MHz), 1 Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 16

PK AV QP

SPURIOUS RADIATED EMISSIONS



RESULTS - Run #16

| 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 |
|------------|------------------|---------------|-------------------------|-------------------|------------------------|---------------------------|---------------------------|----------|--------------------------|-------------------|----------------------|------------------------|----------------------|
| 2387.900 | 31.9 | -1.4 | 1.04 | 0.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 50.5 | 54.0 | -3.5 | EUT Horz, Low Ch |
| 2384.417 | 31.8 | -1.4 | 1.22 | 222.9 | 3.0 | 20.0 | Horz | AV | 0.0 | 50.4 | 54.0 | -3.6 | EUT On Side, Low Ch |
| 2386.458 | 31.8 | -1.4 | 1.11 | 239.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 50.4 | 54.0 | -3.6 | EUT On Side, Low Ch |
| 2388.217 | 31.8 | -1.4 | 1.5 | 55.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 50.4 | 54.0 | -3.6 | EUT Horz, Low Ch |
| 2388.025 | 31.8 | -1.4 | 1.5 | 354.9 | 3.0 | 20.0 | Vert | AV | 0.0 | 50.4 | 54.0 | -3.6 | EUT Vert, Low Ch |
| 2388.400 | 31.8 | -1.5 | 3.67 | 54.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 50.3 | 54.0 | -3.7 | EUT Vert, Low Ch |
| 2483.517 | 31.9 | -2.2 | 2.96 | 204.9 | 3.0 | 20.0 | Horz | AV | 0.0 | 49.7 | 54.0 | -4.3 | EUT Horz, High Ch |
| 2483.683 | 31.9 | -2.2 | 3.41 | 123.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 49.7 | 54.0 | -4.3 | EUT On Side, High Ch |
| 2484.042 | 31.8 | -2.2 | 1.5 | 48.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 49.6 | 54.0 | -4.4 | EUT Vert, High Ch |
| 2484.492 | 31.8 | -2.2 | 1.5 | 267.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 49.6 | 54.0 | -4.4 | EUT Vert, High Ch |
| 2483.942 | 31.8 | -2.2 | 1.5 | 281.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 49.6 | 54.0 | -4.4 | EUT Horz, High Ch |
| 2484.300 | 31.8 | -2.2 | 1.28 | 272.9 | 3.0 | 20.0 | Horz | AV | 0.0 | 49.6 | 54.0 | -4.4 | EUT On Side, High Ch |
| 2384.950 | 43.5 | -1.4 | 1.04 | 0.0 | 3.0 | 20.0 | Horz | PK | 0.0 | 62.1 | 74.0 | -11.9 | EUT Horz, Low Ch |
| 2383.700 | 43.5 | -1.4 | 1.5 | 55.0 | 3.0 | 20.0 | Vert | PK | 0.0 | 62.1 | 74.0 | -11.9 | EUT Horz, Low Ch |
| 2385.525 | 43.4 | -1.4 | 1.5 | 354.9 | 3.0 | 20.0 | Vert | PK | 0.0 | 62.0 | 74.0 | -12.0 | EUT Vert, Low Ch |
| 2385.350 | 43.3 | -1.4 | 1.22 | 222.9 | 3.0 | 20.0 | Horz | PK | 0.0 | 61.9 | 74.0 | -12.1 | EUT On Side, Low Ch |
| 2386.892 | 43.2 | -1.4 | 1.11 | 239.0 | 3.0 | 20.0 | Vert | PK | 0.0 | 61.8 | 74.0 | -12.2 | EUT On Side, Low Ch |
| 2486.892 | 43.8 | -2.2 | 1.28 | 272.9 | 3.0 | 20.0 | Horz | PK | 0.0 | 61.6 | 74.0 | -12.4 | EUT On Side, High Ch |
| 2388.492 | 42.7 | -1.5 | 3.67 | 54.0 | 3.0 | 20.0 | Horz | PK | 0.0 | 61.2 | 74.0 | -12.8 | EUT Vert, Low Ch |
| 2483.600 | 42.9 | -2.2 | 1.5 | 48.0 | 3.0 | 20.0 | Horz | PK | 0.0 | 60.7 | 74.0 | -13.3 | EUT Vert, High Ch |
| 2486.633 | 42.9 | -2.2 | 1.5 | 267.0 | 3.0 | 20.0 | Vert | PK | 0.0 | 60.7 | 74.0 | -13.3 | EUT Vert, High Ch |
| 2487.842 | 42.9 | -2.2 | 2.96 | 204.9 | 3.0 | 20.0 | Horz | PK | 0.0 | 60.7 | 74.0 | -13.3 | EUT Horz, High Ch |
| 2486.042 | 42.9 | -2.2 | 1.5 | 281.0 | 3.0 | 20.0 | Vert | PK | 0.0 | 60.7 | 74.0 | -13.3 | EUT Horz, High Ch |
| 2486.592 | 42.9 | -2.2 | 3.41 | 123.0 | 3.0 | 20.0 | Vert | PK | 0.0 | 60.7 | 74.0 | -13.3 | EUT On Side, High Ch |

CONCLUSION

Pass

Trevor Buls
Tested By

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 $10 \times \log(1/dc)$.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|-----------------|--------------------------------|-----|------------|------------|
| Antenna - Double Ridge | ETS Lindgren | 3115 | AIB | 2022-09-01 | 2024-09-01 |
| Cable | Element | Double Ridge Guide Horn Cables | MNV | 2022-01-24 | 2023-01-24 |
| Amplifier - Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | AVX | 2022-01-24 | 2023-01-24 |
| Attenuator | Coaxicom | 3910-20 | AXY | 2022-09-10 | 2023-09-10 |
| Analyzer - Spectrum Analyzer | Agilent | N9010A | AFL | 2022-03-22 | 2023-03-22 |
| Antenna - Standard Gain | ETS-Lindgren | 3160-08 | AJP | NCR | NCR |
| Filter - High Pass | Micro-Tronics | HPM50111 | HFM | 2022-09-10 | 2023-09-10 |
| Amplifier - Pre-Amplifier | L-3 Narda-Miteq | AMF-6F-12001800-30-10P | PAP | 2022-01-24 | 2023-01-24 |
| Cable | Element | Standard Gain Cable | MNW | 2022-01-24 | 2023-01-24 |
| Antenna - Standard Gain | ETS-Lindgren | 3160-07 | AJJ | NCR | NCR |
| Filter - Low Pass | Micro-Tronics | LPM50004 | HGG | 2022-09-10 | 2023-09-10 |

MEASUREMENT UNCERTAINTY

| Description | | |
|--------------|--------|---------|
| Expanded k=2 | 5.2 dB | -5.2 dB |

FREQUENCY RANGE INVESTIGATED

1000 MHz TO 18 GHz

SPURIOUS RADIATED EMISSIONS



POWER INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

TRLL0001-5

MODES INVESTIGATED

Transmitting BLE Low Channel 2402 MHz, 1 Mbps

Transmitting BLE Mid Channel 2442 MHz, 1 Mbps

SPURIOUS RADIATED EMISSIONS



| | | | |
|-------------------|----------------------------------------|-----------------------|------------|
| EUT: | ZTrack | Work Order: | TRLL0001 |
| Serial Number: | EDD225019657 | Date: | 2022-12-02 |
| Customer: | Round River Research dba Soltec Health | Temperature: | 22°C |
| Attendees: | Troy Winsand | Relative Humidity: | 24.2% |
| Customer Project: | None | Bar. Pressure (PMSL): | 1001 mb |
| Tested By: | Christopher Heintzelman | Job Site: | MN09 |
| Power: | 120VAC/60Hz | Configuration: | TRLL0001-5 |

TEST SPECIFICATIONS

| | |
|-----------------|------------------|
| Specification: | Method: |
| FCC 15.247:2022 | ANSI C63.10:2013 |

TEST PARAMETERS

| | | | | | |
|--------|---|--------------------|---|---------------------|-----------|
| Run #: | 8 | Test Distance (m): | 3 | Ant. Height(s) (m): | 1 to 4(m) |
|--------|---|--------------------|---|---------------------|-----------|

COMMENTS

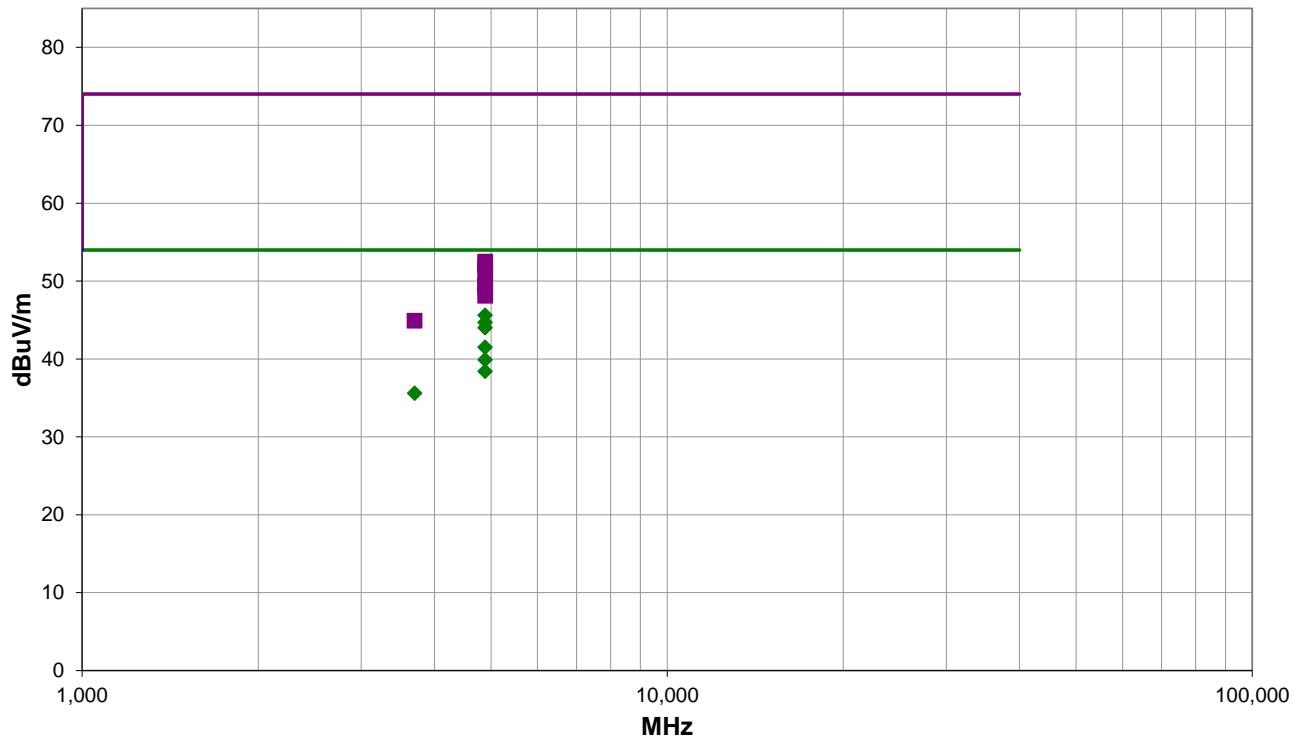
AC Charging mode - spot check

EUT OPERATING MODES

Transmitting BLE Mid Channel 2442 MHz, 1 Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 8

PK AV QP

SPURIOUS RADIATED EMISSIONS



RESULTS - Run #8

| 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 |
|------------|------------------|---------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-----------------------------|
| 4883.958 | 39.9 | 5.7 | 1.5 | 352.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 45.6 | 54.0 | -8.4 | EUT Horz, Mid Ch, 1 Mbps |
| 4884.075 | 39.0 | 5.7 | 2.76 | 84.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 44.7 | 54.0 | -9.3 | EUT On Side, Mid Ch, 1 Mbps |
| 4883.942 | 38.3 | 5.7 | 2.04 | 76.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 44.0 | 54.0 | -10.0 | EUT Vert, Mid Ch, 1 Mbps |
| 4883.892 | 35.8 | 5.7 | 1.28 | 2.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.5 | 54.0 | -12.5 | EUT On Side, Mid Ch, 1 Mbps |
| 4883.992 | 34.2 | 5.7 | 1.5 | 177.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.9 | 54.0 | -14.1 | EUT Vert, Mid Ch, 1 Mbps |
| 4884.283 | 32.7 | 5.7 | 4.0 | 344.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 38.4 | 54.0 | -15.6 | EUT Horz, Mid Ch, 1 Mbps |
| 3700.917 | 33.7 | 1.9 | 1.5 | 102.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 35.6 | 54.0 | -18.4 | EUT Vert, Mid Ch, 1 Mbps |
| 4883.775 | 46.8 | 5.7 | 1.5 | 352.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 52.5 | 74.0 | -21.5 | EUT Horz, Mid Ch, 1 Mbps |
| 4883.667 | 46.3 | 5.7 | 2.76 | 84.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.0 | 74.0 | -22.0 | EUT On Side, Mid Ch, 1 Mbps |
| 4883.833 | 45.4 | 5.7 | 2.04 | 76.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 51.1 | 74.0 | -22.9 | EUT Vert, Mid Ch, 1 Mbps |
| 4883.742 | 43.8 | 5.7 | 1.28 | 2.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 49.5 | 74.0 | -24.5 | EUT On Side, Mid Ch, 1 Mbps |
| 4883.350 | 43.6 | 5.7 | 1.5 | 177.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 49.3 | 74.0 | -24.7 | EUT Vert, Mid Ch, 1 Mbps |
| 4883.625 | 42.4 | 5.7 | 4.0 | 344.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.1 | 74.0 | -25.9 | EUT Horz, Mid Ch, 1 Mbps |
| 3699.592 | 43.0 | 1.9 | 1.5 | 102.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 44.9 | 74.0 | -29.1 | EUT Vert, Mid Ch, 1 Mbps |

CONCLUSION

Pass

Tested By

End of Test Report