166 South Carter, Genoa City, WI 53128

Company:	BCycle, LLC
Model Tested:	BBT v2
Certification Exhibit:	RF Exposure
Project Number:	11411
Report Number:	26438 rev3.0

RF EXPOSURE STATEMENT OF COMPLIANCE

FCC Title 47 CFR Part 1.1307(b)(3)(i)(B)
FCC Title 47 CFR Part 2.1093(c)(1)

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

for

SAR-Based Exemption – Portable Device – General Population

(**LIMITED SINGLE MODULAR APPROVAL**)
(No RF Shield. Three input power configurations)

FCC ID: 2AHXD-5267706

Host platform exposure condition: Portable exposure category

Formal Name:	BBT
Kind of Equipment:	Bluetooth Low Energy (BLE) Transceiver
Frequency Range(s):	2402 – 2480 MHz
Test Configuration:	Table top, Stand-alone
Model Number(s):	BBT v2
Model(s) Tested:	BBT v2
Serial Number(s):	N/A
Date of Test:	March 16th, 2021
Test Conducted For:	BCycle, LLC 801 W. Madison Street Waterloo, WI 53594, USA

NOTICE: The test report contains test data, equipment lists, photographs and/or other information regarding only the sample provided by the client for testing. This test report shall not be used to claim product approval or endorsement by any governmental, regulatory, or accrediting agency. Please see the "Description of Test Sample" page listed inside of this report.

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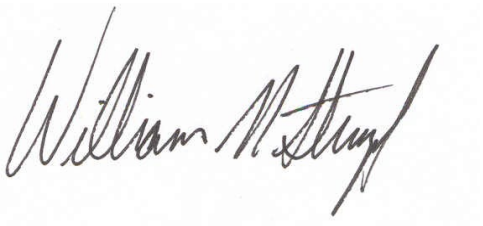
SIGNATURE PAGE

Report By:

Craig Brandt
Test Engineer

Reviewed By:



William Stumpf
Technical Manager

Approved By:

Brian Mattson
General Manager

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Table of Contents

ANSI National Accreditation Board

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

DLS Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090
(and satellite locations as shown on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017
and
U.S. Federal Communication Commission (FCC) EMC and Telecommunications (EC&T) Testing Designation Program
and
Recognition of Telecommunications Testing - Innovation, Science, and Economic Development (ISED) Canada
and
FDA Accreditation Scheme for Conformity Assessment (ASCA) Pilot Program - Basic Safety and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and Laboratory Medical Equipment

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU
Expiry Date: 23 April 2024
Certificate Number: AT-1859

ANSI National Accreditation Board

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SATELLITE SITE

DLS Electronic Systems, Inc. (Oats site)
166 South Carter
Genoa City, Wisconsin 53128
www.dlsemc.com

1.0 Transmitter Information

Maximum Measured RF Conducted Output Power:	-2.10 dBm
Antenna Type:	L-shape PCB trace antenna for 2.4 GHz
Antenna Gain:	3.64 dBd Peak Gain
Maximum Rated Output Power including acceptable tolerances due to component and production variations and tune up procedures:	-1.6 dBm
Frequency Range:	2.402 – 2.480 GHz

2.0 Rule Part

Title 47 CFR Part 1.1307(b)(3)(i)(B)
Title 47 CFR Part 2.1093(c)(1)

3.0 Evaluation Procedure

FCC 447498 D04 Interim General RF Exposure Guidance v01

2.1.3	SAR-Based Exemption
B.4	SAR-Based Exemption

ANSI C63.10-2013

Section 11.9.1.1	Maximum peak conducted output power RBW ≥ DTS bandwidth method
Section G.3	Power approach (logarithmic terms)

3.0 Evaluation Procedure – continued

Section G.5.1 Equipment under test power measured in a conducted test configuration:

> "When the EUT power is measured using a direct impedance-matched connection between the transmitter antenna port and the measurement instrumentation via a coaxial cable (conducted test), and the transmit antenna gain is a known quantity, then the ERP/EIRP may be calculated by direct application of Equation (G.3) and using the relationships defined in Equation (G.4), Equation (G.5), or Equation (G.6), as appropriate."

SAR test exemption based on transmitter output power being lower than the SAR test exemption threshold.

Output power measured using RF Conducted method with calibrated spectrum analyzer.

4.0 SAR Test Exemption Threshold

Per Title 47 CFR Part 1.1307(b)(3)(i)(B), the device is exempt from SAR testing if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula (for separation distances less than 20 cm).

$$P_{th}\ (\text{mW}) = ERP_{20\ cm}\ (d/20\ \text{cm})^{x}$$

Where

$$x = -\log_{10}\ (60/ERP_{20cm}\sqrt{f})$$ and f is in GHz

and

$$ERP_{20\ cm}\ (\text{mW}) = 3060$$ when f is between 1.5 GHz and 6 GHz

d = the separation distance (cm)

5.0 Threshold Calculation

With a separation distance of 5 mm (0.5 cm) from the radiating element:

P_{th} (mW) = 3060 [(0.5/20 cm) ^{-$\log_{10}$ (60/(3060$\sqrt{2.480}$))}]

P_{th} (mW) = **2.72 mW**

6.0 Output Power

Measured Conducted:

The maximum RF Conducted output power measured -2.10 dBm = **0.62 mW**

Calculated ERP:

Using ANSI C63.10-2013, equation G.3:

ERP = Conducted power + antenna gain = -2.10 dBm + 3.64 dBd = 1.54 dBm
1.54 dBm = **1.42 mW**

Maximum Rated:

The maximum rated output power including production tolerances = -1.6 dBm delivered to the antenna. The antenna gain = 3.64 dBd.

Using ANSI C63.10-2013, equation G.3:

ERP = -1.6 dBm + 3.64 dBd = 2.04 dBm = **1.60 mW**

7.0 Results

The maximum rated output power (including production tolerances) of 1.60 mW, the maximum conducted Peak output power (measured) of 0.62 mW, and the maximum ERP (calculated from the conducted power and antenna gain) of 1.42 mW are all under the test exemption threshold of 2.72 mW.

SAR measurement is not necessary.

8.0 Test Equipment

D.L.S. Wisconsin – RF Conducted – Site G1 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz-40 GHz	1-29-21	1-29-22
Cable	Micro-Coax	UFC142A	CBL-101	30 MHz – 40 GHz	5-12-20	5-12-21
Test Software	Rohde & Schwarz	ESK1	V1.7.1	N/A	N/A	N/A

9.0 Conclusion

With a minimum separation distance of 5 mm, this is a *portable* device as defined by FCC KDB 447498 D04 Interim General RF Exposure Guidance v01. The BBT, model BBT v2, as provided by BCycle, LLC, **meets** the SAR test exemption based on the worst-case maximum effective radiated power (ERP). The peak output power of the transmitter is lower than the 2.72 mW exemption threshold for portable devices operating in a general population environment.

This device complies with the RF exposure requirements of FCC Title 47 CFR Part 1.1307(b)(3)(i)(B) and Part 2.1093(c)(1).

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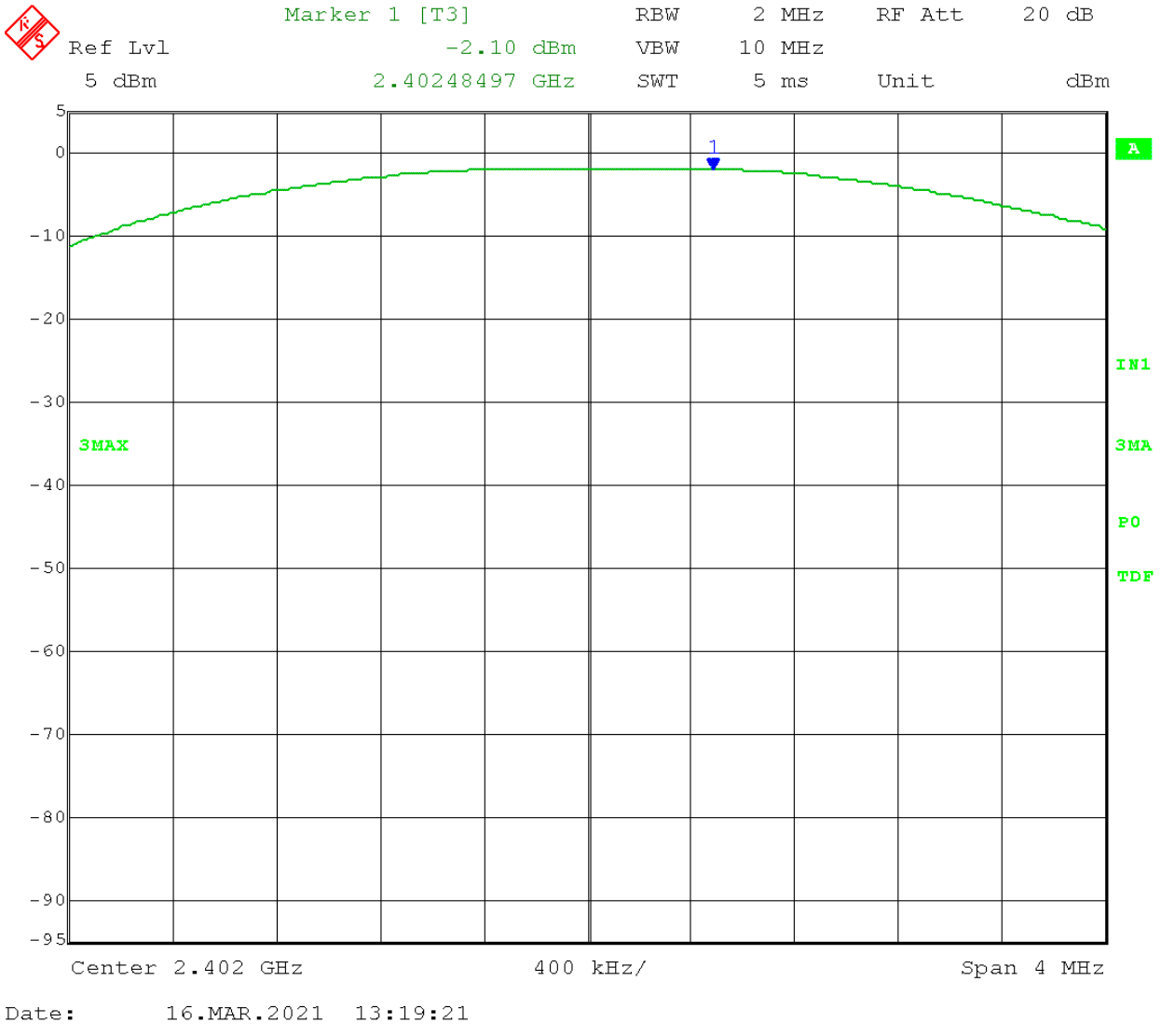
Section A – Measurement Data

Test Date:	03-16-2021
Company:	BCycle
EUT:	BBT v2
Test:	Output power – RF Conducted
Operator:	cbrandt

Comment: Power setting 0
Low Channel: 2402 MHz

Peak Output Power = -2.10 dBm = 0.62 **mW**



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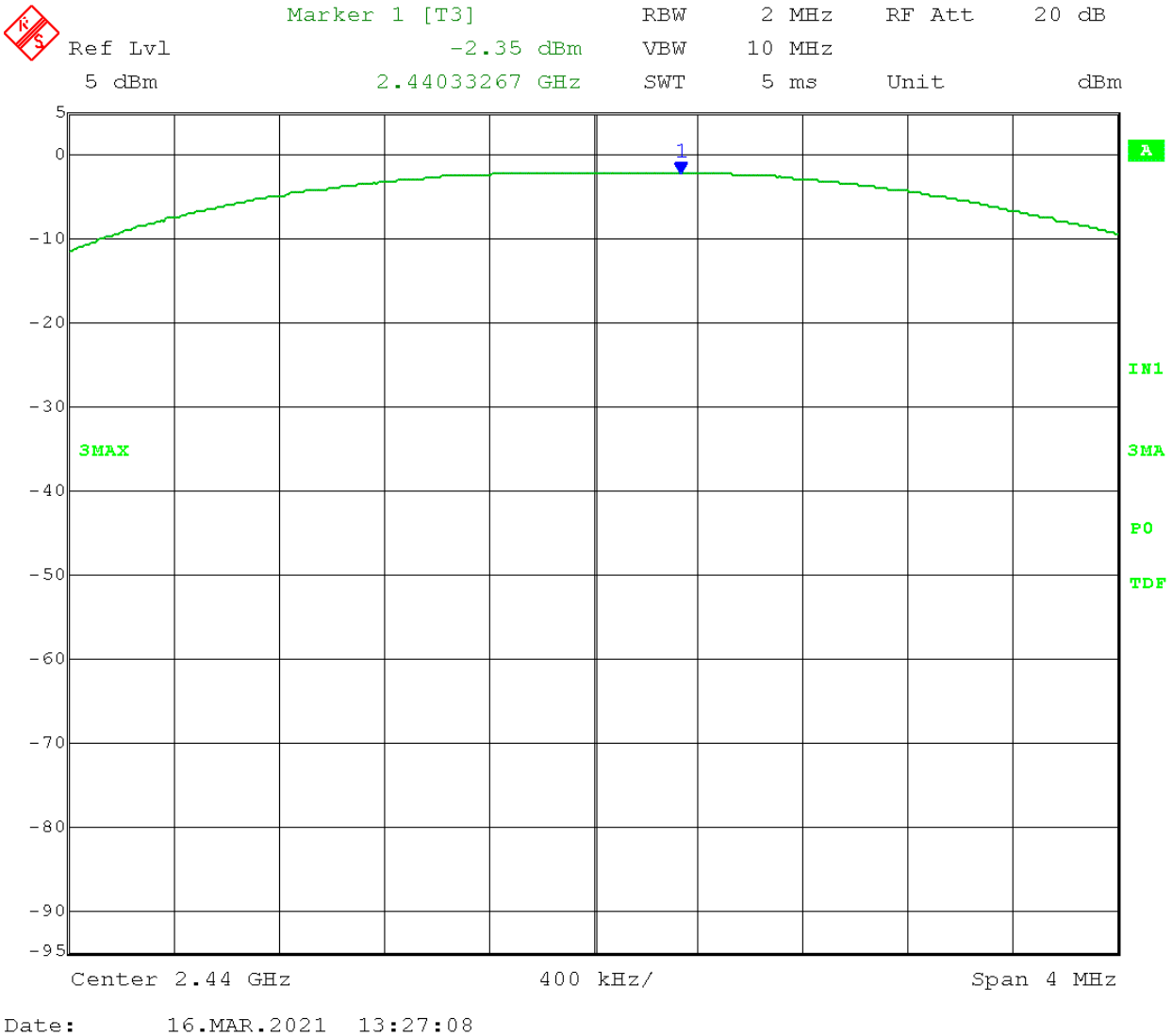
Section A

Test Date:	03-16-2021
Company:	BCycle
EUT:	BBT v2
Test:	Output power – RF Conducted
Operator:	cbrandt

Comment: Power setting 0
Mid Channel: 2440 MHz

Peak Output Power = -2.35 dBm = 0.58 **mW**



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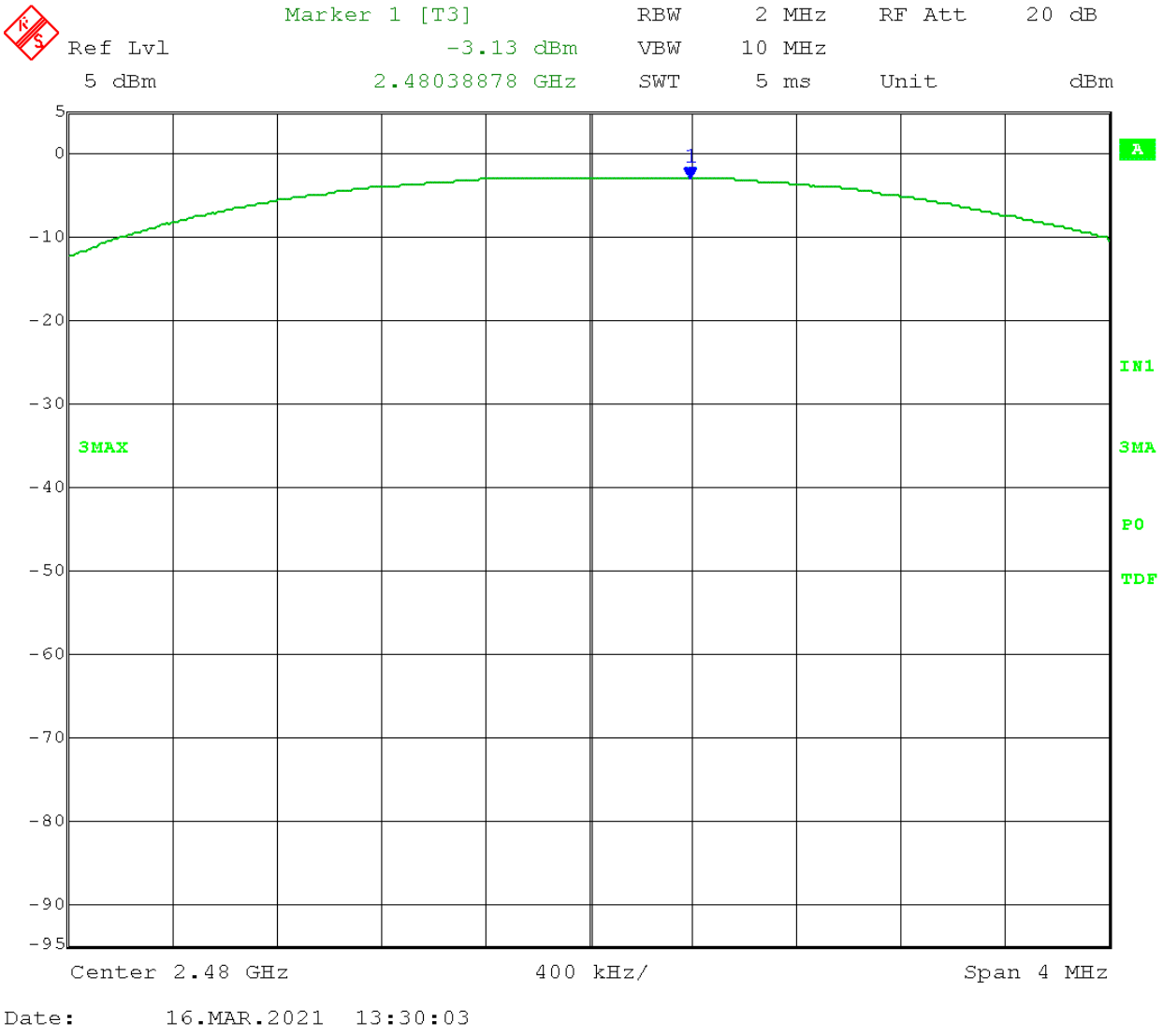
Section A

Test Date:	03-16-2021
Company:	BCycle
EUT:	BBT v2
Test:	Output power – RF Conducted
Operator:	cbrandt

Comment: Power setting 0
High Channel: 2480 MHz

Peak Output Power = -3.13 dBm = 0.49 **mW**



Section B – Measurement Uncertainty

Compliance with the limits in this standard are based on the results of the compliance measurement. Our calculated measurement uncertainty including the measurement instrumentation, associated connections between the various instruments in the measurement chain, and other contributions, are provided in this section of the test report.

Radiated & RF Conducted Emission 30 MHz to 25 GHz Uncertainty

Parameter		Expanded Uncertainty (K=2)
Occupied Channel Bandwidth		+/- 1.14%
RF Output Power, Conducted		+/- 0.89 dB
Unwanted Emissions, Conducted		+/- 2.62 dB
All Emissions, Radiated		+/- 4.95 dB
DC and Low Frequency Voltages		+/-2.42%
Time		+/-0.01%
Duty Cycle		+/-0.05%

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END OF REPORT

Revision #	Date	Comments	By
1.0	10-21-2021	Initial Release.	CB
2.0	11-22-2021	References changed from Mobile device to Portable device.	CB
3.0	08-30-2022	Antenna Gain change due to new gain measurement. Updated evaluation procedure from 1-mW Exemption to SAR-Based Exemption. Changed reference to guidance document from FCC KDB 447498 D01 General RF Exposure Guidance DR04-44307 to FCC KDB 447498 D04 Interim General RF Exposure Guidance v01.	CB