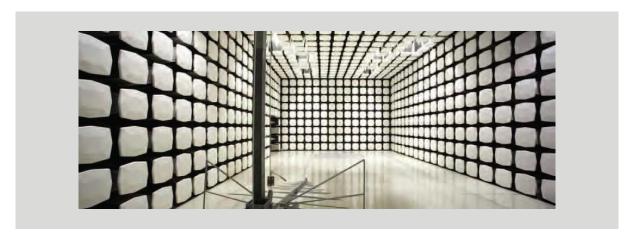


### **BACtrack**

**BACtrack Skyn Wearable Alcohol Monitor** 

FCC 15.247:2021 Bluetooth

Report: BACT0001, Issue Date: July 6, 2021







NVLAP LAB CODE: 200630-0

## **CERTIFICATE OF TEST**



Last Date of Test: May 19, 2021

BACtrack

EUT: BACtrack Skyn Wearable Alcohol Monitor

## **Radio Equipment Testing**

#### **Standards**

Specification	Method
FCC 15.247:2021	ANSI C63.10:2013, KDB 558074

#### **Results**

Nesuits				
Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.1.1	Output Power	Yes	Pass	
11.9.1.1	Equivalent Isotropic Radiated Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	

#### **Deviations From Test Standards**

None

Approved By:

Kyle Holgate, Operations Manager

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

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## **REVISION HISTORY**



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		

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# 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** - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

#### 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: <a href="https://www.nwemc.com/emc-testing-accreditations">https://www.nwemc.com/emc-testing-accreditations</a>

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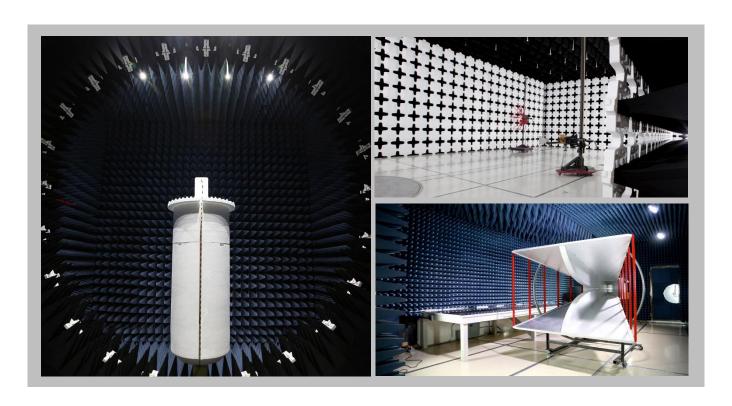
## **FACILITIES**







<b>California</b> 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	<b>Texas</b> Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	<b>Washington</b> Labs NC01-05 19201 120 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600	
		NVLAP			
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0	
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	
Re	Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157	



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### **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.

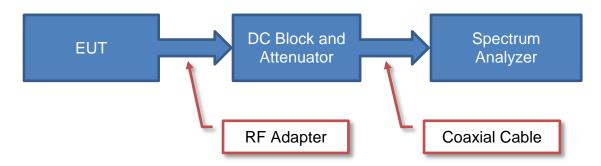
Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.6 dB	-2.6 dB

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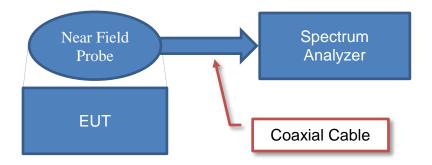
## **Test Setup Block Diagrams**



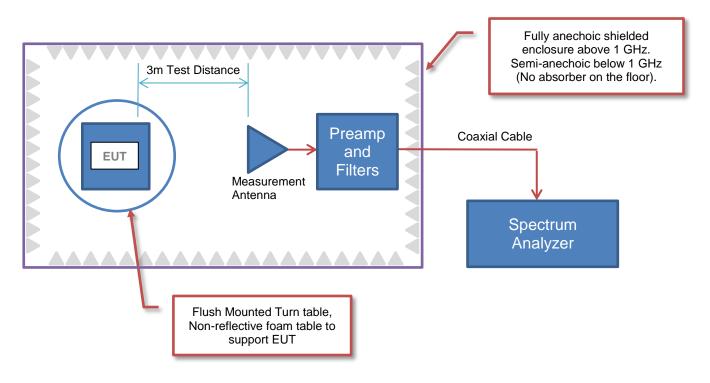
#### **Antenna Port Conducted Measurements**



### **Near Field Test Fixture Measurements**



### **Spurious Radiated Emissions**



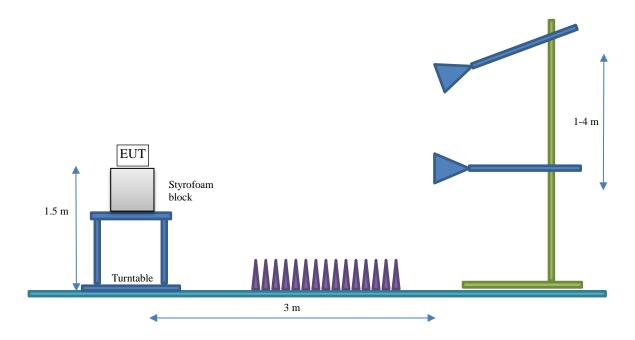
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## **Test Setup Block Diagrams**



### **Bore Sighting (>1GHz)**

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



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## PRODUCT DESCRIPTION



### **Client and Equipment Under Test (EUT) Information**

Company Name:	BACtrack
Address:	300 Broadway, Suite 26
City, State, Zip:	San Francisco, 94133
Test Requested By:	Pauline Basaran
EUT:	BACtrack Skyn Wearable Alcohol Monitor
First Date of Test:	May 13, 2021
Last Date of Test:	May 19, 2021
Receipt Date of Samples:	May 10, 2021
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

### **Information Provided by the Party Requesting the Test**

Functional Description of the EUT:	
Wireless skin wearable alcohol monitor	

#### Testing Objective:

To demonstrate compliance of the Bluetooth radio to FCC 15.247 requirements.

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## **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.

**ANTENNA GAIN (dBi)** 

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
Ceramic Chip	Manufacturer	2400 – 2500	0.5

No adjustable power settings were provided. The EUT was tested using power settings pre-defined by the manufacturer.

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## **CONFIGURATIONS**



## **Configuration BACT0001-3**

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wearable Alcohol Monitor	BACtrack	BACtrack Skyn	Sample #1

## Configuration BACT0001-4

Software/Firmware Running during test	
Description	Version
nRF Connect - Direct Test Mode	v3.6.1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wearable Alcohol Monitor	BACtrack	BACtrack Skyn	Sample #2

Peripherals in test setup boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
Laptop PC	Acer	N16W1	NXGK4AA0227120854B6600	
Power Supply	Acer	PA-1450-26	KP04503004707056BFPE03	

Cables							
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2		
DC Power Cable	No	1.5 m	Yes	Power Supply	Laptop PC		
AC Power Cable	No	1 m	No	Power Supply	AC Mains		
USB Extension Cable	Yes	3.0 m	No	Laptop PC	USB Cable		
USB Cable	Yes	0.8 m	No	USB Extension Cable	Wearable Alcohol Monitor		

Report No. BACT0001

## **CONFIGURATIONS**



## **Configuration BACT0001-5**

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wearable Alcohol Monitor	BACtrack	BACtrack Skyn	Sample #1

Peripherals in test setup boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
Laptop PC	Acer	N16W1	NXGK4AA0227120854B6600		
Power Supply	Acer	PA-1450-26	KP04503004707056BFPE03		

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	Yes	.8 m	No	Laptop PC	Wearable Alcohol Monitor
DC Power Cable	No	1.5 m	Yes	Power Supply	Laptop PC
AC Power Cable	No	1 m	No	Power Supply	AC Mains

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## **MODIFICATIONS**



## **Equipment Modifications**

Item	Date	Test	Modification	Note	Disposition of EUT
		Spurious	Tested as	No EMI suppression	EUT remained at
1	2021-05-13	Radiated	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
2	2021-05-18	Duty Cycle	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Occupied	Tested as	No EMI suppression	EUT remained at
3	2021-05-18	Bandwidth	delivered to	devices were added or	Element following
		Danuwidin	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
4	2021-05-18	Output Power	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Equivalent	Tested as	No EMI suppression	EUT remained at
5	2021-05-18	Isotropic	delivered to	devices were added or	Element following
		Radiated Power	Test Station.	modified during this test.	the test.
		Power Spectral	Tested as	No EMI suppression	EUT remained at
6	2021-05-18	Density	delivered to	devices were added or	Element following
		Density	Test Station.	modified during this test.	the test.
		Band Edge	Tested as	No EMI suppression	EUT remained at
7	2021-05-18	_	delivered to	devices were added or	Element following
		Compliance	Test Station.	modified during this test.	the test.
		Powerline	Tested as	No EMI suppression	Scheduled testing
8	2021-05-19	Conducted	delivered to	devices were added or	· ·
		Emissions	Test Station.	modified during this test.	was completed.

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#### **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	Rohde & Schwarz	ESR7	ARI	2020-07-09	2021-07-09
Cable - Conducted Cable					
Assembly	Northwest EMC	EVG, HHD, RKT	EVGA	2021-01-05	2022-01-05
LISN	Solar Electronics	9252-50-R-24-BNC	LIP	2020-08-31	2021-08-31

#### **MEASUREMENT UNCERTAINTY**

Description		
Expanded k=2	2.6 dB	-2.6 dB

#### **CONFIGURATIONS INVESTIGATED**

BACT0001-5

#### **MODES INVESTIGATED**

BLE Tx, Mid Ch = 2442 MHz

Report No. BACT0001 14/57



EUT:	BACtrack Skyn Wearable Alcohol Monitor	Work Order:	BACT0001
Serial Number:	Sample #1	Date:	2021-05-19
Customer:	BACtrack	Temperature:	23.2°C
Attendees:	None	Relative Humidity:	36.8%
Customer Project:	None	Bar. Pressure:	1021 mb
Tested By:	Jeff Alcoke	Job Site:	EV07
Power:	5.0 VDC via 110VAC/50Hz	Configuration:	BACT0001-5

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 15.207:2021	ANSI C63.10:2013

#### **TEST PARAMETERS**

Run #:	6	Line:	High Line	Add. Ext. Attenuation (dB):	0

#### **COMMENTS**

Measuring AC mains of Laptop power supply

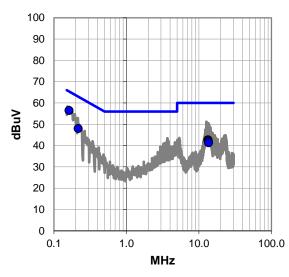
#### **EUT OPERATING MODES**

BLE Tx, Mid Ch = 2442 MHz

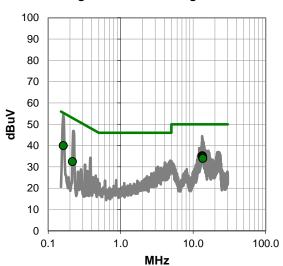
#### **DEVIATIONS FROM TEST STANDARD**

None

#### Quasi Peak Data - vs - Quasi Peak Limit



#### Average Data - vs - Average Limit



Report No. BACT0001 15/57



### **RESULTS - Run #6**

Quasi Peak Data - vs - Quasi Peak Limit

Quadri dan Bata 10 Quadri dan Emin						
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)	
0.162	36.5	20.0	56.5	65.4	-8.9	
0.216	28.0	20.0	48.0	63.0	-15.0	
13.329	22.4	20.3	42.7	60.0	-17.3	
13.420	22.3	20.3	42.6	60.0	-17.4	
13.399	22.3	20.3	42.6	60.0	-17.4	
13.539	21.8	20.3	42.1	60.0	-17.9	
13.599	21.0	20.3	41.3	60.0	-18.7	

Average Data - vs - Average Limit						
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)	
13.329	14.9	20.3	35.2	50.0	-14.8	
13.399	14.9	20.3	35.2	50.0	-14.8	
13.420	14.7	20.3	35.0	50.0	-15.0	
13.539	14.3	20.3	34.6	50.0	-15.4	
0.162	20.0	20.0	40.0	55.4	-15.4	
13.599	13.7	20.3	34.0	50.0	-16.0	
0.216	12.5	20.0	32.5	53.0	-20.5	

#### **CONCLUSION**

Pass

Tested By

Report No. BACT0001 16/57



EUT:	BACtrack Skyn Wearable Alcohol Monitor	Work Order:	BACT0001
Serial Number:	Sample #1	Date:	2021-05-19
Customer:	BACtrack	Temperature:	23.2°C
Attendees:	None	Relative Humidity:	36.8%
Customer Project:	None	Bar. Pressure:	1021 mb
Tested By:	Jeff Alcoke	Job Site:	EV07
Power:	5.0 VDC via 110VAC/50Hz	Configuration:	BACT0001-5

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 15.207:2021	ANSI C63.10:2013

#### **TEST PARAMETERS**

Run #:	7	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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#### **COMMENTS**

Measuring AC mains of Laptop power supply

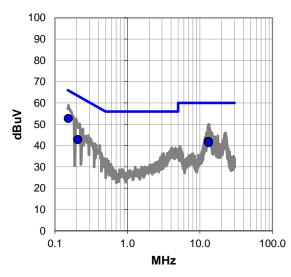
#### **EUT OPERATING MODES**

BLE Tx, Mid Ch = 2442 MHz

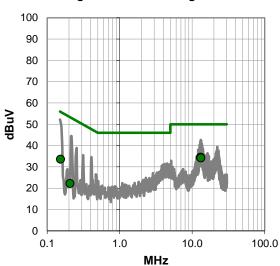
#### **DEVIATIONS FROM TEST STANDARD**

None

#### Quasi Peak Data - vs - Quasi Peak Limit



#### Average Data - vs - Average Limit



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#### **RESULTS - Run #7**

Quasi Peak Data - vs - Quasi Peak Limit

Quadri dan Bata 10 Quadri dan Elilik										
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)					
0.153	32.7	20.0	52.7	65.8	-13.1					
13.075	21.6	20.3	41.9	60.0	-18.1					
13.051	21.6	20.3	41.9	60.0	-18.1					
13.091	21.4	20.3	41.7	60.0	-18.3					
13.224	21.1	20.3	41.4	60.0	-18.6					
0.207	22.8	20.0	42.8	63.3	-20.5					

Average Data - vs - Average Limit											
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)						
13.075	14.2	20.3	34.5	50.0	-15.5						
13.091	14.1	20.3	34.4	50.0	-15.6						
13.051	14.1	20.3	34.4	50.0	-15.6						
13.224	13.9	20.3	34.2	50.0	-15.8						
0.153	13.6	20.0	33.6	55.8	-22.2						
0.207	2.2	20.0	22.2	53.3	-31 1						

#### **CONCLUSION**

Pass

Tested By

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### **DUTY CYCLE**



AWIII 2020.12.30

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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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

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

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

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

If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

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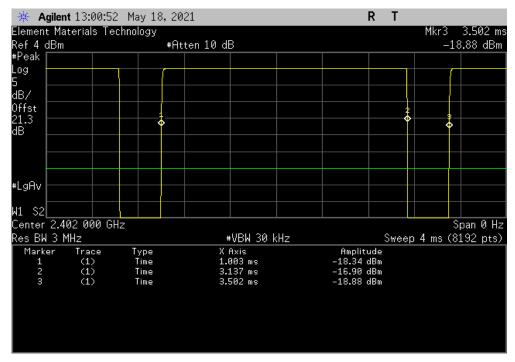
## **DUTY CYCLE**



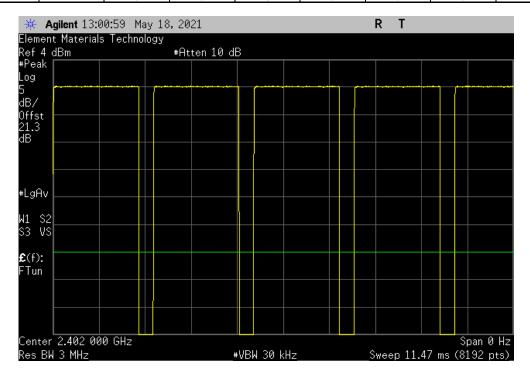
						TbtTx 2019.08.30.0	XMit 2020.12.30.0
EUT: BACtrack Skyn Wearable Alco	hol Monitor				Work Order:		
Serial Number: Sample #2						18-May-21	
Customer: BACtrack		Temperature:	22.4 °C				
Attendees: None		Humidity:					
Project: None		Barometric Pres.:	1024 mbar				
Tested by: Cole Ghizzone & Kam Roberts		Job Site:	EV06				
TEST SPECIFICATIONS		Test Method					
FCC 15.247:2021		ANSI C63.10:20	013				
COMMENTS							
DEVIATIONS FROM TEST STANDARD None							
Configuration # 4	Signature	in Sign	-				
				Number of	Value	Limit	
		Pulse Width		Pulses	(%)	(%)	Results
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		2.135 ms	2.5 ms	1	85.4	N/A	N/A
BLE/GFSK 1 Mbps Low Channel, 2402 MHz		N/A	N/A	5	N/A	N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz		2.135 ms	2.5 ms	1	85.4	N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz		N/A	N/A	5	N/A	N/A	N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz		2.135 ms	2.5 ms	1	85.4	N/A	N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz		N/A	N/A	5	N/A	N/A	N/A

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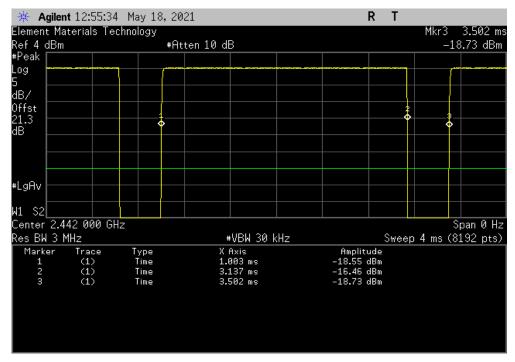


	BLE/GFSK 1 Mbps Low Channel, 2402 MHz						
				Number of	Value	Limit	
_		Pulse Width	Period	Pulses	(%)	(%)	Results
ĺ		N/A	N/A	5	N/A	N/A	N/A

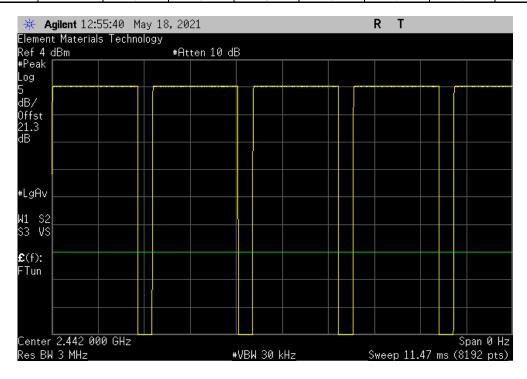


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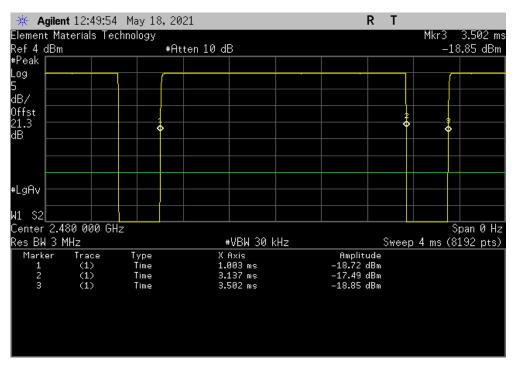
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz						
		Number of	Value	Limit		
 Pulse Width	Period	Pulses	(%)	(%)	Results	
N/A	N/A	5	N/A	N/A	N/A	



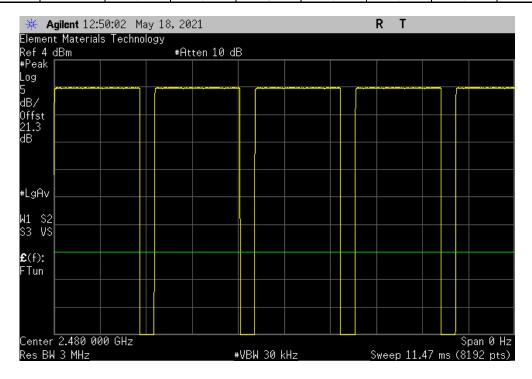
Report No. BACT0001 22/57

### **DUTY CYCLE**





	BLE/GFSK 1 Mbps High Channel, 2480 MHz						
				Number of	Value	Limit	
		Pulse Width	Period	Pulses	(%)	(%)	Results
1		N/A	N/A	5	N/A	N/A	N/A



Report No. BACT0001 23/57



XMit 2020.12.30.0

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	Manufacturer Model		Last Cal.	Cal. Due
Generator - Signal	Agilent	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.

Report No. BACT0001 24/57



			TbtTx 2019.08.30.0	XMit 2020.12.30.0
EUT: BACtrack Skyn Wearable Alcohol Monitor		Work Order:		
Serial Number: Sample #2		Date:	18-May-21	
Customer: BACtrack		Temperature:	22.4 °C	
Attendees: None			40.2% RH	
Project: None		Barometric Pres.:		
Tested by: Cole Ghizzone & Kam Robertson	Power: Battery	Job Site:	EV06	
TEST SPECIFICATIONS	Test Method			
FCC 15.247:2021	ANSI C63.10:2013			
COMMENTS				
Reference level offset includes: DC block, 20 dB attenuator, measurement cable,  DEVIATIONS FROM TEST STANDARD	and the manufacturers only patent capie.			
None				
Configuration # 4 Signature	in Ship			
			Limit	
		Value	(≥)	Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	<u> </u>	692.709 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz		707.27 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz		733.635 kHz	500 kHz	Pass

Report No. BACT0001 25/57

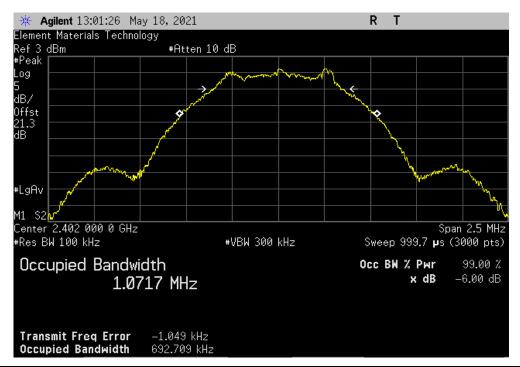


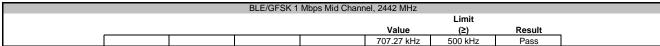
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

Limit

Value (≥) Result

692.709 kHz 500 kHz Pass







Report No. BACT0001 26/57

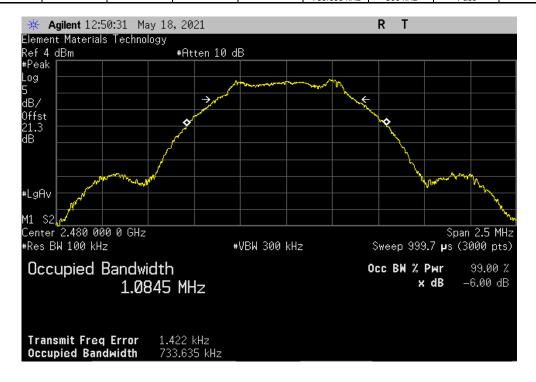


BLE/GFSK 1 Mbps High Channel, 2480 MHz

Limit

Value (≥) Result

733.635 kHz 500 kHz Pass



Report No. BACT0001 27/57



AMII 2020.12.30

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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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.

Report No. BACT0001 28/57



						TbtTx 2019.08.30.0	XMit 2020.12.30.0
EUT: BAC	Ctrack Skyn Wearable Alcoh	ol Monitor			Work Order:	BACT0001	
Serial Number: Sam	nple #2				Date:	18-May-21	
Customer: BAC	Ctrack				Temperature:	22.4 °C	
Attendees: Non	ne				Humidity:	40.2% RH	
Project: Non	ne				Barometric Pres.:	1024 mbar	
Tested by: Cole	e Ghizzone & Kam Robertso	n	Power:	Battery	Job Site:	EV06	
TEST SPECIFICATIONS				Test Method			
FCC 15.247:2021				ANSI C63.10:2013			
COMMENTS							
Peterance level offeet in	ncludes: DC block 20 dB at	tenuator, measurement cable,	and the manufactu	rore SMA natch cable			
Reference level offset if	ilciudes. DC block, 20 dB at	teriuator, measurement cable,	and the manufactu	rers Sivia pateri cable.			
DEVIATIONS FROM TES	ST STANDARD						
None	OT OTAINDAND						
None			7000 00	72.72			
0		-	in ?	2/1			
Configuration #	4	a	10	July 1			
		Signature		17			
					Out Pwr	Limit	
					(dBm)	(dBm)	Result
BLE/GFSK 1 Mbps Low 0	Channel, 2402 MHz				-0.798	30	Pass
BLE/GFSK 1 Mbps Mid C	Channel, 2442 MHz				-0.702	30	Pass
BLE/GFSK 1 Mbps High	Channel, 2480 MHz				-1.037	30	Pass

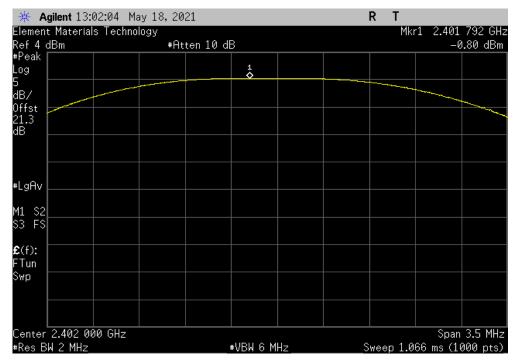
Report No. BACT0001 29/57



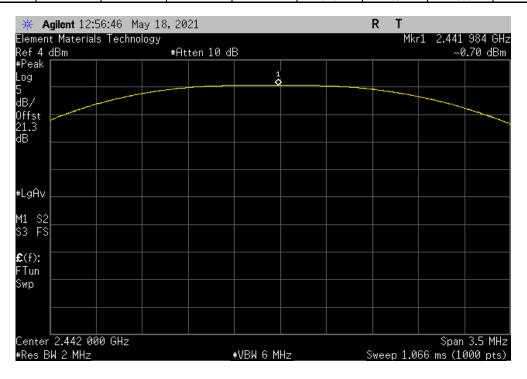
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

Out Pwr Limit
(dBm) (dBm) Result

-0.798 30 Pass



	BLE/GFSK 1	Mbps Mid Chann	el, 2442 MHz		
			Out Pwr	Limit	
			(dBm)	(dBm)	Result
			-0.702	30	Pass



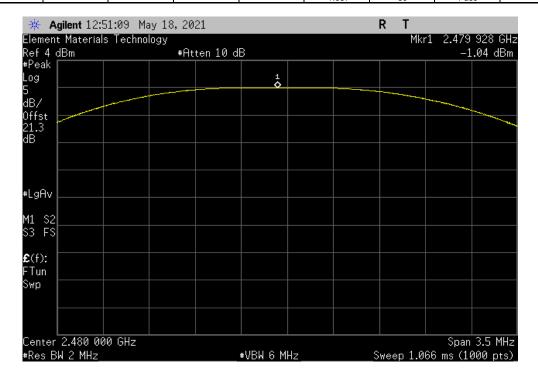
Report No. BACT0001 30/57



BLE/GFSK 1 Mbps High Channel, 2480 MHz

Out Pwr Limit
(dBm) (dBm) Result

-1.037 30 Pass



Report No. BACT0001 31/57



XMit 2020.12.30.

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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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)

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			TbtTx 2019.08.30.0	XMit 2020.12.30.0
EUT: BACtrack Skyn Wearable Alcohol Monitor		Work Order	: BACT0001	
Serial Number: Sample #2	Date	: 18-May-21		
Customer: BACtrack	Temperature	: 22.4 °C		
Attendees: None	Humidity	: 40.2% RH		
Project: None	Barometric Pres.	: 1024 mbar		
Tested by: Cole Ghizzone & Kam Robertson Power:	Job Site	: EV06		
TEST SPECIFICATIONS	Test Method			
FCC 15.247:2021	ANSI C63.10:2013			
COMMENTS				
Reference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufactu  DEVIATIONS FROM TEST STANDARD				
None				
Configuration # 4 Signature	Shipping			
	Out Pwr	Antenna EIRP Gain (dBi) (dBm)	EIRP Limit	
	(dBm)	Gaill (ubi) (ubill)	(dBm)	Result
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	-0.798	0.5 -0.298	(dBm) 36	Result Pass
BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2442 MHz				

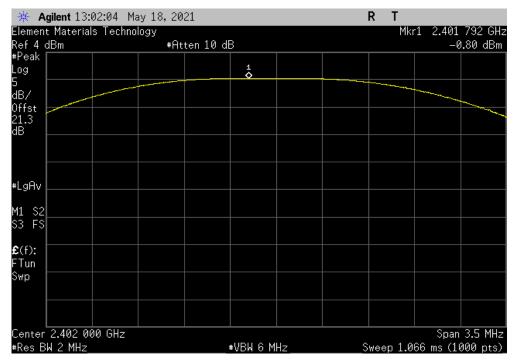
Report No. BACT0001 33/57



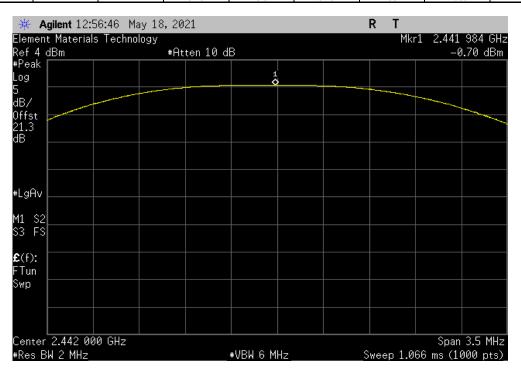
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

Out Pwr Antenna EIRP EIRP Limit
(dBm) Gain (dBi) (dBm) (dBm) Result

-0.798 0.5 -0.298 36 Pass



	BLE/GFSK 1	Mbps Mid Chann	el, 2442 MHz			
	Out Pwr	Antenna	EIRP	EIRP Limit		
	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result	
	-0.702	0.5	-0.202	36	Pass	



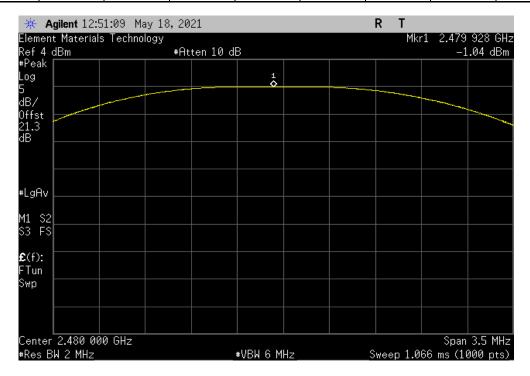
Report No. BACT0001 34/57



BLE/GFSK 1 Mbps High Channel, 2480 MHz

Out Pwr Antenna EIRP EIRP Limit
(dBm) Gain (dBi) (dBm) (dBm) Result

-1.037 0.5 -0.537 36 Pass



Report No. BACT0001 35/57

### **POWER SPECTRAL DENSITY**



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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	D150A-1-0720-200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

Report No. BACT0001 36/57

# **POWER SPECTRAL DENSITY**



CC 15.247:2021  ANSI C63.10:2013  COMMENTS  eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD  one							TbtTx 2019.08.30.0	XMit 2020.12.30.0
Customer   BACtrack	EUT: BAG	Ctrack Skyn Wearable Ald	cohol Monitor			Work Order:	BACT0001	
Attendees: None	Serial Number: San	nple #2				Date:	18-May-21	
Project: None Tested by: Cole Ghizzone & Kam Robertson Power: Battery Total Gold Ghizzone & Kam Robertson Test Method CC 15.247:2021 ANSI C63.10:2013  OMMENTS eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD One Onfiguration #  Signature  Value dBm/3kHz < dBm/3kHz Results LE/GFSK 1 Mbps Low Channel, 2402 MHz LE/GFSK 1 Mbps Mid Channel, 2442 MHz  16.518 8 Pass LE/GFSK 1 Mbps Mid Channel, 2442 MHz	Customer: BAC	Ctrack				Temperature:	22.4 °C	
Tested by: Cole Ghizzone & Kam Robertson Power: Battery Job Site: EV06  EST SPECIFICATIONS Test Method  CC 15.247:2021 ANSI C63.10:2013  OMMENTS eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD  one  onfiguration # 4 Signature  Value Limit dBm/3kHz Results  LE/GFSK 1 Mbps Low Channel, 2402 MHz  LE/GFSK 1 Mbps Mid Channel, 2442 MHz  -16.518 8 Pass  LE/GFSK 1 Mbps Mid Channel, 2442 MHz	Attendees: Nor	ne				Humidity:	40.2% RH	
EST SPECIFICATIONS CC 15.247:2021  ANSI C63.10:2013  CMMENTS eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD one Onfiguration # 4 Signature  Value dBm/3kHz   Limit dBm/3kHz   Results LE/GFSK 1 Mbps Low Channel, 2402 MHz LE/GFSK 1 Mbps Mid Channel, 2442 MHz  16.518 8 Pass LE/GFSK 1 Mbps Mid Channel, 2442 MHz	Project: Nor	ne				Barometric Pres.:	1024 mbar	
ANSI C63.10:2013  COMMENTS  eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD  one  Onfiguration # 4 Signature  Value dBm/3kHz (4Bm/3kHz Results)  LE/GFSK 1 Mbps Low Channel, 2402 MHz  LE/GFSK 1 Mbps Mid Channel, 2442 MHz  ANSI C63.10:2013  Value dBm/3kHz Results  Results  16.8518 8 Pass  Pass	Tested by: Col	e Ghizzone & Kam Rober	tson	Power:	Battery	Job Site:	EV06	
OMMENTS eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  EVIATIONS FROM TEST STANDARD one onfiguration # 4 Signature  Value dBm/3kHz < dBm/3kHz	TEST SPECIFICATIONS	3			Test Method			
eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.    EVIATIONS FROM TEST STANDARD	FCC 15.247:2021				ANSI C63.10:2013			
eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.    EVIATIONS FROM TEST STANDARD								
eference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.    EVIATIONS FROM TEST STANDARD	COMMENTS							
Signature   Sign	DEVIATIONS FROM TE	ST STANDARD						
Signature   Value   Limit   dBm/3kHz   cdBm/3kHz   Results	None							
LE/GFSK 1 Mbps Low Channel, 2402 MHz         dBm/3kHz         cdBm/3kHz         Results           LE/GFSK 1 Mbps Mid Channel, 2402 MHz         -16.863         8         Pass           LE/GFSK 1 Mbps Mid Channel, 2442 MHz         -16.518         8         Pass	Configuration #	4	Signature	in ?	Sign			
LE/GFSK 1 Mbps Mid Channel, 2442 MHz -16.518 8 Pass								Results
	BLE/GFSK 1 Mbps Low 0	Channel, 2402 MHz	<u> </u>		_	-16.863	8	Pass
LE/GFSK 1 Mbps High Channel, 2480 MHz -16.86 8 Pass	BLE/GFSK 1 Mbps Mid C	Channel, 2442 MHz				-16.518	8	Pass
	BLE/GFSK 1 Mbps High	Channel, 2480 MHz				-16.86	8	Pass

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# **POWER SPECTRAL DENSITY**

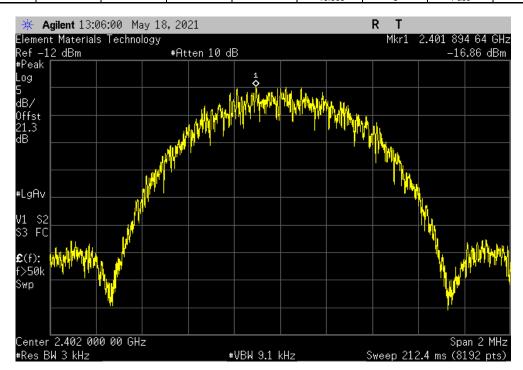


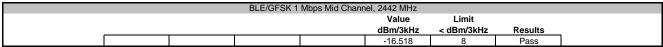
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

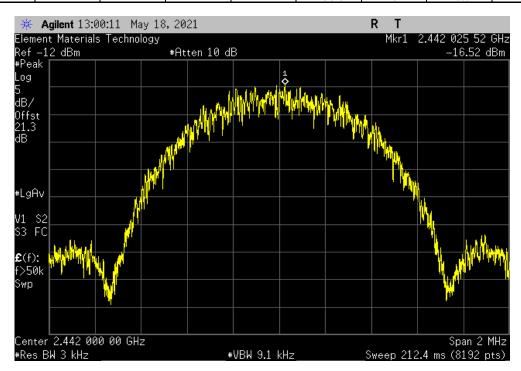
Value Limit

dBm/3kHz < dBm/3kHz Results

-16.863 8 Pass







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# **POWER SPECTRAL DENSITY**

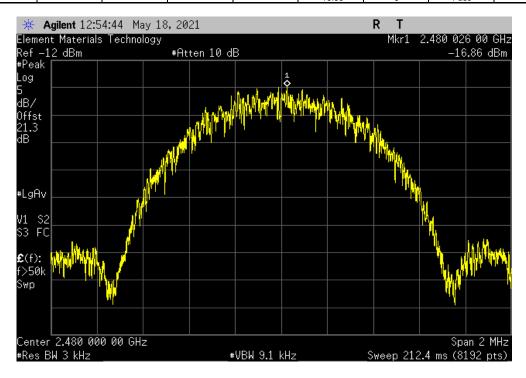


BLE/GFSK 1 Mbps High Channel, 2480 MHz

Value Limit

dBm/3kHz < dBm/3kHz Results

-16.86 8 Pass



Report No. BACT0001 39/57

# **BAND EDGE COMPLIANCE**



XMit 2020.12.30.0

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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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.

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# **BAND EDGE COMPLIANCE**



						TbtTx 2019.08.30.0	XMit 2020.12.30.0
EUT:	<b>BACtrack Skyn Wearable</b>	Alcohol Monitor			Work Order:		,
Serial Number:	Sample #2				Date:	18-May-21	
Customer:	BACtrack				Temperature:	22.4 °C	
Attendees:	None				Humidity:	40.2% RH	
Project:					Barometric Pres.:	1024 mbar	,
Tested by:	Cole Ghizzone & Kam Ro	bertson	Power:	Battery	Job Site:	EV06	
TEST SPECIFICATI	ONS			Test Method			
FCC 15.247:2021				ANSI C63.10:2013			
COMMENTS							
Reference level off	set includes: DC block, 20	dB attenuator, measurement cable,	and the manufactu	rers SMA patch cable.			
DEVIATIONS FROM	I TEST STANDARD						
None							
Configuration #	4	Signature	in ?	Shipping			
					Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps I	ow Channel, 2402 MHz	_		_	-51.03	-20	Pass
BLE/GFSK 1 Mbps I	High Channel, 2480 MHz	n Channel, 2480 MHz				-20	Pass

Report No. BACT0001 41/57

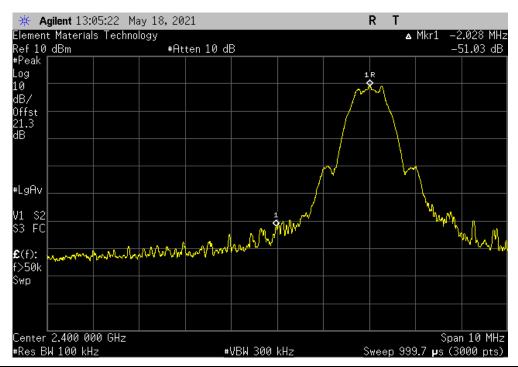
# **BAND EDGE COMPLIANCE**



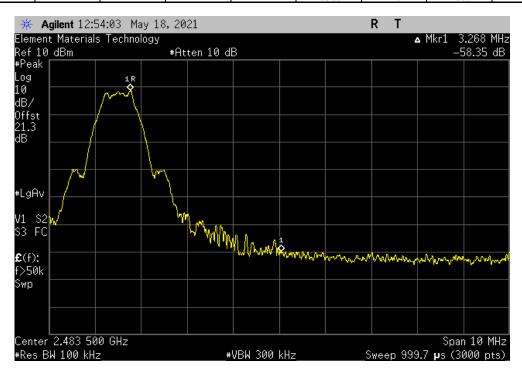
BLE/GFSK 1 Mbps Low Channel, 2402 MHz

Value Limit
(dBc) ≤ (dBc) Result

-51.03 -20 Pass



BLE/GFSK 1 Mbps High Channel, 2480 MHz						
Value Limit						
				(dBc)	≤ (dBc)	Result
				-58.36	-20	Pass



Report No. BACT0001 42/57



XMit 2020.12.30.0

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	N5181A	TIG	2020-04-16	2023-04-16
Block - DC	Fairview Microwave	SD3379	AMW	2021-03-14	2022-03-14
Attenuator	S.M. Electronics	SA26B-20	AUY	2021-03-14	2022-03-14
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	2021-03-14	2022-03-14
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFE	2021-04-08	2022-04-08

#### **TEST DESCRIPTION**

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.

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COMMENTS   Reference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.					TbtTx 2019.08.30.0	XMit 2020.12.30.
Customer: BACtrack						
Attendees:   None						
Project:   Mone   Barometric Press.   1024 mbar						
Tested by:   Cole Ghizzone & Kam Robertson   Power:   Battery   Set Method						
Test Method						
ANSI C63.10:2013  COMMENTS  Reference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.  DEVIATIONS FROM TEST STANDARD  None  Configuration # 4 Signature  Frequency Range Freq (MHz) Range Freq (MHz) Range Reference (MHz) Result  SILE/GFSK 1 Mbps Low Channel, 2402 MHz SILE/GFSK 1 Mbps Mid Channel, 2442 MHz SILE/GFSK 1 Mbps Mid Channel, 2448 MHz SILE/GFSK 1 Mbps Mid Channel, 2448 MHz SILE/GFSK 1 Mbps Mid Channel, 2480 MHz				Job Site:	EV06	
COMMENTS   Reference level offset includes: DC block, 20 dB attenuator, measurement cable, and the manufacturers SMA patch cable.	TEST SPECIFICATIONS	Test Method				
Previous	FCC 15.247:2021	ANSI C63.10:2013				
Previous						
Signature   Frequency   Measured   Max Value   Limit   Signature   Frequency   Range   Freq (MHz)   (dBc)   ≤ (dBc)   Result   Signature   Signatur	COMMENTS					
Signature   Frequency   Measured   Max Value   Limit   Signature   Frequency   Range   Freq (MHz)   (dBc)   ≤ (dBc)   Result   Signature   Signatur	Reference level offset includes: DC block, 20 dB attenuator, measurement	ent cable, and the manufacturers SMA patch cable.				
Signature   Frequency   Measured   Max Value   Limit   Signature   Frequency   Range   Freq (MHz)   (dBc)   ≤ (dBc)   Result   SILE/GFSK 1 Mbps Low Channel, 2402 MHz   Fundamental   2402.26   N/A	,,,					
Signature   Frequency   Measured   Max Value   Limit   Signature   Frequency   Range   Freq (MHz)   (dBc)   ≤ (dBc)   Result   SILE/GFSK 1 Mbps Low Channel, 2402 MHz   Fundamental   2402.26   N/A						
Signature   Frequency   Range   Frequency   Range   Frequency   Measured   Frequency   Signature   Frequency   Range   Frequency   Signature   Frequency   Signature   Frequency   Signature   Frequency   Signature   Frequency   Signature   Signature   Frequency   Signature   Sign	DELICATION OF DOMESTICS OF AND ADD					
Signature   Frequency   Reasured   Frequency   Result   CdBc)   Scale   CdBc   CdBcc   CdBc   CdBcc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBcccc   CdB	DEVIATIONS FROM TEST STANDARD					
Signature   Frequency   Reasured   Frequency   Result   CdBc)   Scale   CdBc   CdBcc   CdBc   CdBcc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBcccc   CdB	DEVIATIONS FROM TEST STANDARD  None					
Signature   Frequency   Reasured   Frequency   Result   CdBc)   Scale   CdBc   CdBcc   CdBc   CdBcc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBccc   CdBcccc   CdB						
Range         Freq (MHz)         (dBc)         ≤ (dBc)         Result           3LE/GFSK 1 Mbps Low Channel, 2402 MHz         Fundamental         2402.26         N/A         N/A         N/A           3LE/GFSK 1 Mbps Low Channel, 2402 MHz         30 MHz - 12.5 GHz         4804.3         -42.28         -20         Pass           3LE/GFSK 1 Mbps Low Channel, 2402 MHz         12.5 GHz - 25 GHz         24420.1         -51.74         -20         Pass           3LE/GFSK 1 Mbps Mid Channel, 2442 MHz         Tundamental         2442.26         N/A         N/A         N/A           3LE/GFSK 1 Mbps Mid Channel, 2442 MHz         30 MHz - 12.5 GHz         4883.4         -43.4         -20         Pass           3LE/GFSK 1 Mbps Mid Channel, 2442 MHz         12.5 GHz - 25 GHz         23499.9         -52.55         -20         Pass           3LE/GFSK 1 Mbps High Channel, 2480 MHz         Fundamental         2480.26         N/A         N/A         N/A           3LE/GFSK 1 Mbps High Channel, 2480 MHz         30 MHz - 12.5 GHz         4961.1         -45.07         -20         Pass		Cak Shape				
BLE/GFSK 1 Mbps Low Channel, 2402 MHz  SLE/GFSK 1 Mbps Low Channel, 2402 MHz  30 MHz - 12.5 GHz  4804.3  42.28  -20  Pass  BLE/GFSK 1 Mbps Low Channel, 2402 MHz  12.5 GHz  4804.3  -42.28  -20  Pass  BLE/GFSK 1 Mbps Mid Channel, 2442 MHz  Fundamental  2442.26  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	None Configuration # 4	Cak Ship				
BLE/GFSK 1 Mbps Low Channel, 2402 MHz  30 MHz - 12.5 GHz  4804.3  42.28  -20  Pass  31.5 GHz  4804.3  42.28  -20  Pass  31.5 GHz  4804.3  42.28  -20  Pass  32.5 GHz  4804.0  51.74  -20  Pass  32.6 GHz  4804.0  51.74  -20  Pass  32.6 GHz  4804.0  72.7 GHz  480.26  N/A  N/A  N/A  Pass  32.6 GHz  480.26  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	None Configuration # 4		Measured	Max Value	Limit	
BLE/GFSK 1 Mbps Low Channel, 2402 MHz  12.5 GHz - 25 GHz  12.6 GHz - 25 GHz  2442.0.1  51.74  -20  Pass BLE/GFSK 1 Mbps Mid Channel, 2442 MHz  BLE/GFSK 1 Mbps Mid Channel, 2442 MHz  30 MHz - 12.5 GHz  4883.4  -43.4  -20  Pass BLE/GFSK 1 Mbps Mid Channel, 2442 MHz  12.5 GHz  23499.9  52.55  -20  Pass BLE/GFSK 1 Mbps High Channel, 2448 MHz  BLE/GFSK 1 Mbps High Channel, 2480 MHz  30 MHz - 12.5 GHz  480.26  N/A  N/A  BLE/GFSK 1 Mbps High Channel, 2480 MHz  30 MHz - 12.5 GHz  4961.1  -45.07  -20  Pass	None Configuration # 4	Frequency				Result
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz         Fundamental         2442.26         N/A         N/A         N/A           BLE/GFSK 1 Mbps Mid Channel, 2442 MHz         30 MHz - 12.5 GHz         4883.4         -43.4         -20         Pass           BLE/GFSK 1 Mbps Mid Channel, 2442 MHz         12.5 GHz - 25 GHz         23499.9         -52.55         -20         Pass           BLE/GFSK 1 Mbps High Channel, 2480 MHz         Fundamental         2480.26         N/A         N/A         N/A           BLE/GFSK 1 Mbps High Channel, 2480 MHz         30 MHz - 12.5 GHz         4961.1         -45.07         -20         Pass	None Configuration # 4	Frequency Range	Freq (MHz)	(dBc)	≤ (dBc)	
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz 30 MHz - 12.5 GHz 488.4 -43.4 -20 Pass BLE/GFSK 1 Mbps Mid Channel, 2442 MHz 12.5 GHz 23499, 52.55 -20 Pass BLE/GFSK 1 Mbps High Channel, 2480 MHz 50 M	None  Configuration # 4  Signature	Frequency Range Fundamental	Freq (MHz) 2402.26	(dBc) N/A	≤ (dBc) N/A	N/A
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz     12.5 GHz - 25 GHz     23499.9     -52.55     -20     Pass       BLE/GFSK 1 Mbps High Channel, 2480 MHz     Fundamental     2480.26     N/A     N/A     N/A       BLE/GFSK 1 Mbps High Channel, 2480 MHz     30 MHz - 12.5 GHz     4961.1     -45.07     -20     Pass	None  Configuration # 4 Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz	Freq (MHz) 2402.26 4804.3	(dBc) N/A -42.28	≤ (dBc) N/A -20	N/A Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz         Fundamental         2480.26         N/A         N/A         N/A           BLE/GFSK 1 Mbps High Channel, 2480 MHz         30 MHz - 12.5 GHz         4961.1         -45.07         -20         Pass	None  Configuration # 4 Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	Freq (MHz) 2402.26 4804.3 24420.1	(dBc) N/A -42.28 -51.74	≤ (dBc) N/A -20 -20	N/A Pass Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz - 45.07 -20 Pass	None  Configuration # 4  Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 55 GHz Fundamental	Freq (MHz) 2402.26 4804.3 24420.1 2442.26	(dBc) N/A -42.28 -51.74 N/A	≤ (dBc)  N/A -20 -20 N/A	N/A Pass Pass N/A
BLE/GFSK 1 Mbps High Channel, 2480 MHz 4961.1 -45.07 -20 Pass	None  Configuration # 4  Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2442 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz	Freq (MHz) 2402.26 4804.3 24420.1 2442.26 4883.4	(dBc) N/A -42.28 -51.74 N/A -43.4	≤ (dBc) N/A -20 -20 N/A -20	N/A Pass Pass N/A Pass
	None  Configuration # 4  Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2442 MHz BLE/GFSK 1 Mbps Mid Channel, 2442 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz 12.5 GHz - 25 GHz	Freq (MHz) 2402.26 4804.3 24420.1 2442.26 4883.4 23499.9	(dBc) N/A -42.28 -51.74 N/A -43.4 -52.55	≤ (dBc)  N/A -20 -20 N/A -20 -20 -20 -20	N/A Pass Pass N/A Pass Pass
	None  Configuration # 4  Signature  BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Low Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2402 MHz BLE/GFSK 1 Mbps Mid Channel, 2442 MHz BLE/GFSK 1 Mbps High Channel, 2442 MHz BLE/GFSK 1 Mbps High Channel, 2480 MHz	Frequency Range Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 55 GHz Fundamental	Freq (MHz) 2402.26 4804.3 24420.1 2442.26 4883.4 23499.9 2480.26	(dBc) N/A -42.28 -51.74 N/A -43.4 -52.55 N/A	≤ (dBc)  N/A -20 -20 N/A -20 -20 N/A -20 -N/A	N/A Pass Pass N/A Pass Pass N/A

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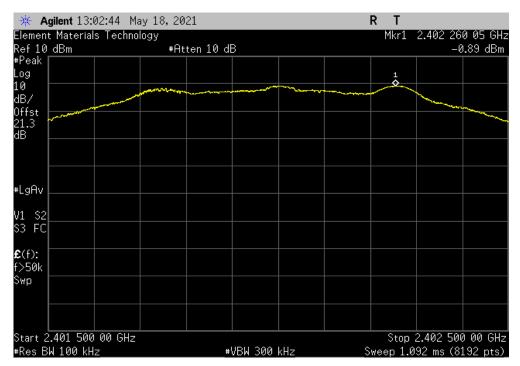


 BLE/GFSK 1 Mbps Low Channel, 2402 MHz

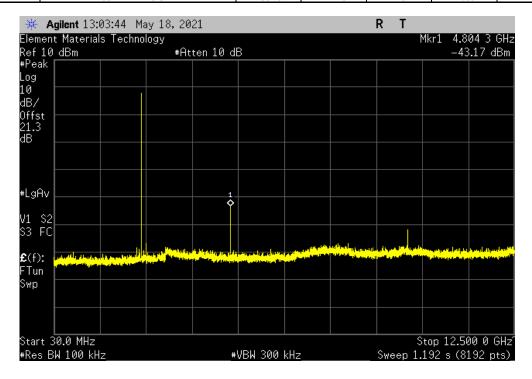
 Frequency
 Measured
 Max Value
 Limit

 Range
 Freq (MHz)
 (dBc)
 ≤ (dBc)
 Result

 Fundamental
 2402.26
 N/A
 N/A
 N/A



BLE/GFSK 1 Mbps Low Channel, 2402 MHz					
Frequency	Measured	Max Value	Limit		
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result	
30 MHz - 12.5 GHz	4804.3	-42.28	-20	Pass	



Report No. BACT0001 45/57

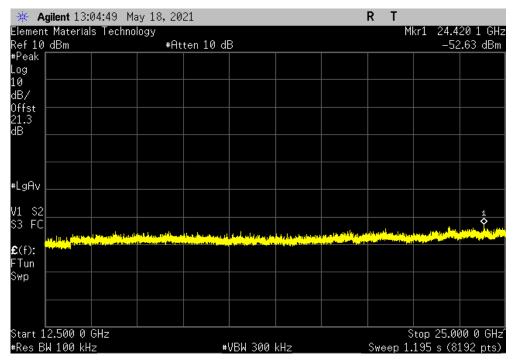


 BLE/GFSK 1 Mbps Low Channel, 2402 MHz

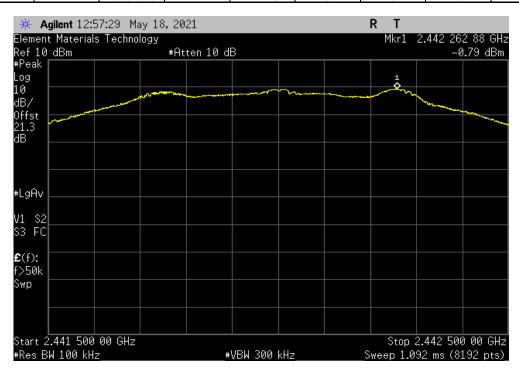
 Frequency
 Measured
 Max Value
 Limit

 Range
 Freq (MHz)
 (dBc)
 ≤ (dBc)
 Result

 12.5 GHz - 25 GHz
 24420.1
 -51.74
 -20
 Pass



	BLE/GFSK 1 Mbps Mid Channel, 2442 MHz					
	Frequency	Measured	Max Value	Limit		
_	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result	
	Fundamental	2442.26	N/A	N/A	N/A	



Report No. BACT0001 46/57

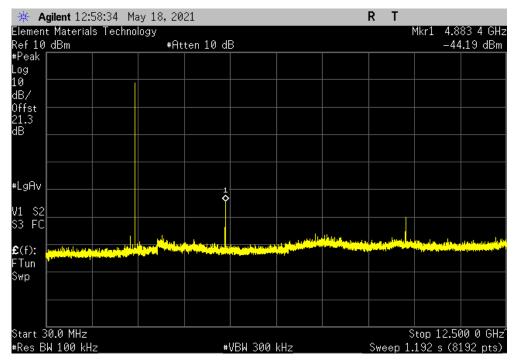


 BLE/GFSK 1 Mbps Mid Channel, 2442 MHz

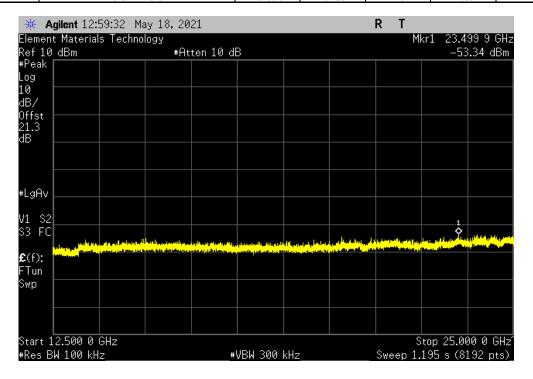
 Frequency
 Measured
 Max Value
 Limit

 Range
 Freq (MHz)
 (dBc)
 ≤ (dBc)
 Result

 30 MHz - 12.5 GHz
 4883.4
 -43.4
 -20
 Pass



	BLE/GFSK 1 Mbps Mid Channel, 2442 MHz					
	Frequency	Measured	Max Value	Limit		
	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result	
1	12.5 GHz - 25 GHz	23499.9	-52.55	-20	Pass	



Report No. BACT0001 47/57

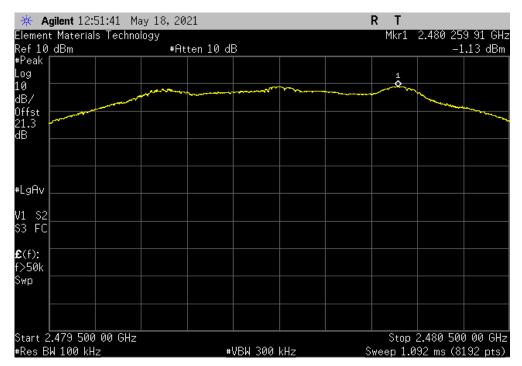


 BLE/GFSK 1 Mbps High Channel, 2480 MHz

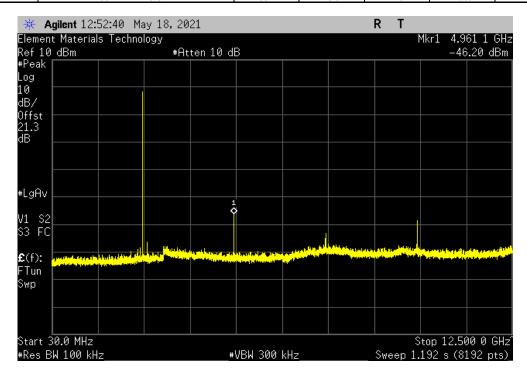
 Frequency
 Measured
 Max Value
 Limit

 Range
 Freq (MHz)
 (dBc)
 ≤ (dBc)
 Result

 Fundamental
 2480.26
 N/A
 N/A
 N/A



BLE/GFSK 1 Mbps High Channel, 2480 MHz				
Frequency	Measured	Max Value	Limit	
 Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
30 MHz - 12.5 GHz	4961.1	-45.07	-20	Pass



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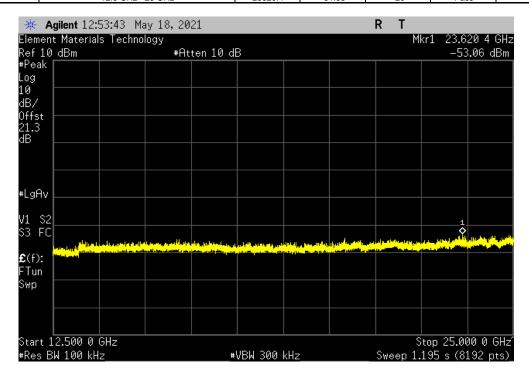


 BLE/GFSK 1 Mbps High Channel, 2480 MHz

 Frequency
 Measured
 Max Value
 Limit

 Range
 Freq (MHz)
 (dBc)
 ≤ (dBc)
 Result

 12.5 GHz - 25 GHz
 23620.4
 -51.93
 -20
 Pass



Report No. BACT0001 49/57



#### **TEST DESCRIPTION**

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

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

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

#### **TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum					
Analyzer	Keysight	N9010A	AFO	2020-06-25	2021-06-25
Antenna - Biconilog	EMCO	3141	AXG	2019-07-23	2021-07-23
Antenna - Double Ridge	EMCO	3115	AHC	2020-07-01	2022-07-01
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2020-11-17	2021-11-17
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	2020-11-17	2021-11-17
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-08001200-30-10P	PAO	2020-11-18	2021-11-18
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2020-11-18	2021-11-18
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	2020-07-25	2021-07-25
Cable	N/A	Bilog Cables	EVA	2020-11-17	2021-11-17
Cable	N/A	Double Ridge Horn Cables	EVB	2020-11-17	2021-11-17
Cable	None	Standard Gain Horns Cable	EVF	2020-11-18	2021-11-18
Cable	ESM Cable Corp.	TTBJ141-KMKM-72	EVY	2020-07-25	2021-07-25
Attenuator	Coaxicom	3910-20	AXZ	2021-02-15	2022-02-15
Filter - Low Pass	Micro-Tronics	LPM50004	LFD	2021-02-15	2022-02-15
Filter - High Pass	Micro-Tronics	HPM50111	HFO	2020-11-17	2021-11-17

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## **MEASUREMENT UNCERTAINTY**

Description		
Expanded k=2	5.2 dB	-5.2 dB
FREQUENCY RANGE INV	ESTIGATED	
30 MHz TO 26400 MHz		
POWER INVESTIGATED		
Battery		
CONFIGURATIONS INVES	STIGATED	
BACT0001-3		

## **MODES INVESTIGATED**

BLE Tx, Low Ch = 2402 MHz, Mid Ch = 2442 MHz, High Ch = 2480 MHz

Report No. BACT0001 51/57



EUT:	BACtrack Skyn Wearable Alcohol Monitor	Work Order:	BACT0001
Serial Number:	Sample #1	Date:	2021-05-13
Customer:	BACtrack	Temperature:	23.2°C
Attendees:	None	Relative Humidity:	43%
Customer Project:	None	Bar. Pressure:	1023 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	Battery	Configuration:	BACT0001-3

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 15.247:2021	ANSI C63.10:2013

#### **TEST PARAMETERS**

1-0117											
Run #:	26	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)						

#### **COMMENTS**

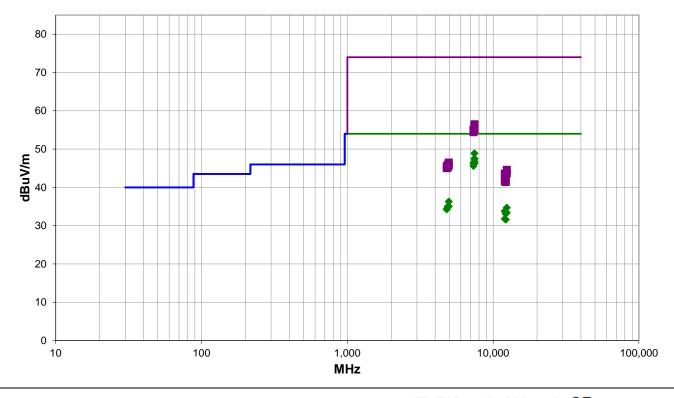
The EUT operates at a duty cycle (DC) of 85.4% or 0.854. An upward duty cycle correction factor (DCCF) was applied to the average measurements using  $10*\log(1 / DC) = 10*\log(1 / 0.854) = 0.7$  dB.

### **EUT OPERATING MODES**

BLE Tx, Low Ch = 2402 MHz, Mid Ch = 2442 MHz, High Ch = 2480 MHz

### **DEVIATIONS FROM TEST STANDARD**

None



Run #: 26 ■ PK ◆ AV • QP

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### **RESULTS - Run #26**

RESULI	3 - Ku	111 #20											
Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/ Transducer Tvne	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7439.575	36.0	12.2	2.4	143.0	0.7	0.0	Horz	AV	0.0	48.9	54.0	-5.1	High Ch, EUT Horz
7439.408	34.6	12.2	2.0	299.0	0.7	0.0	Horz	AV	0.0	47.5	54.0	-6.5	High Ch, EUT on Side
7439.483	34.6	12.2	2.5	183.0	0.7	0.0	Vert	AV	0.0	47.5	54.0	-6.5	High Ch, EUT Horz
7439.442	33.9	12.2	3.2	136.0	0.7	0.0	Vert	AV	0.0	46.8	54.0	-7.2	High Ch, EUT Vert
7439.433	33.4	12.2	2.6	356.0	0.7	0.0	Vert	AV	0.0	46.3	54.0	-7.7	High Ch, EUT on Side
7439.475	33.4	12.2	1.8	22.0	0.7	0.0	Horz	AV	0.0	46.3	54.0	-7.7	High Ch, EUT Vert
7325.475	33.9	11.7	2.2	76.0	0.7	0.0	Horz	AV	0.0	46.3	54.0	-7.7	Mid Ch, EUT Horz
7325.592	33.2	11.7	3.0	58.0	0.7	0.0	Vert	AV	0.0	45.6	54.0	-8.4	Mid Ch, EUT Horz
7439.100	44.3	12.2	2.4	143.0	0.0	0.0	Horz	PK	0.0	56.5	74.0	-17.5	High Ch, EUT Horz
4960.025	29.7	5.9	3.8	122.0	0.7	0.0	Vert	AV	0.0	36.3	54.0	-17.7	High Ch, EUT Horz
7439.900	43.7	12.2	2.0	299.0	0.0	0.0	Horz	PK	0.0	55.9	74.0	-18.1	High Ch, EUT on Side
7439.258	43.7	12.2	2.5	183.0	0.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	High Ch, EUT Horz
7439.250	43.4	12.2	3.2	136.0	0.0	0.0	Vert	PK	0.0	55.6	74.0	-18.4	High Ch, EUT Vert
7440.783	43.3	12.2	2.6	356.0	0.0	0.0	Vert	PK	0.0	55.5	74.0	-18.5	High Ch, EUT on Side
7438.950	42.9	12.2	1.8	22.0	0.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	High Ch, EUT Vert
4957.500	28.5	5.9	1.5	19.0	0.7	0.0	Horz	AV	0.0	35.1	54.0	-18.9	High Ch, EUT Horz
7326.875	43.3	11.7	2.2	76.0	0.0	0.0	Horz	PK	0.0	55.0	74.0	-19.0	Mid Ch, EUT Horz
4884.042	28.3	6.0	1.3	22.0	0.7	0.0	Horz	AV	0.0	35.0	54.0	-19.0	Mid Ch, EUT Horz
4884.108	28.1	6.0	3.1	187.0	0.7	0.0	Vert	AV	0.0	34.8	54.0	-19.2	Mid Ch, EUT Horz
12398.880	32.5	1.5	1.1	162.0	0.7	0.0	Horz	AV	0.0	34.7	54.0	-19.3	High Ch, EUT Horz
7326.117	42.7	11.7	3.0	58.0	0.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	Mid Ch, EUT Horz
4801.700	28.5	5.1	1.5	212.0	0.7	0.0	Horz	AV	0.0	34.3	54.0	-19.7	Low Ch, EUT Horz
4801.533	28.5	5.1	2.2	54.0	0.7	0.0	Vert	AV	0.0	34.3	54.0	-19.7	Low Ch, EUT Horz
12008.950	32.0	1.1	1.1	182.0	0.7	0.0	Horz	AV	0.0	33.8	54.0	-20.2	Low Ch, EUT Horz
12398.840	31.2	1.5	1.0	35.0	0.7	0.0	Vert	AV	0.0	33.4	54.0	-20.6	High Ch, EUT Horz
12208.910	31.5	0.9	2.0	23.0	0.7	0.0	Horz	AV	0.0	33.1	54.0	-20.9	Mid Ch, EUT Horz
12008.830	30.0	1.1	2.6	163.0	0.7	0.0	Vert	AV	0.0	31.8	54.0	-22.2	Low Ch, EUT Horz
12208.860	30.0	0.9	2.6	313.0	0.7	0.0	Vert	AV	0.0	31.6	54.0	-22.4	Mid Ch, EUT Horz
4959.408	40.6	5.9	3.8	122.0	0.0	0.0	Vert	PK	0.0	46.5	74.0	-27.5	High Ch, EUT Horz
4884.150	39.9	6.0	1.3	22.0	0.0	0.0	Horz	PK	0.0	45.9	74.0	-28.1	Mid Ch, EUT Horz
4958.783	39.8	5.9	1.5	19.0	0.0	0.0	Horz	PK	0.0	45.7	74.0	-28.3	High Ch, EUT Horz
4802.350	40.4	5.1	2.2	54.0	0.0	0.0	Vert	PK	0.0	45.5	74.0	-28.5	Low Ch, EUT Horz
4884.550	39.2	6.0	3.1	187.0	0.0	0.0	Vert	PK	0.0	45.2	74.0	-28.8	Mid Ch, EUT Horz
4803.633	39.9	5.1	1.5	212.0	0.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	Low Ch, EUT Horz
12400.910	43.1	1.5	1.1	162.0	0.0	0.0	Horz	PK	0.0	44.6	74.0	-29.4	High Ch, EUT Horz
12398.880	42.1	1.5	1.0	35.0	0.0	0.0	Vert	PK	0.0	43.6	74.0	-30.4	High Ch, EUT Horz
12008.780	42.5	1.1	1.1	182.0	0.0	0.0	Horz	PK	0.0	43.6	74.0	-30.4	Low Ch, EUT Horz
12208.870	41.1	0.9	2.0	23.0	0.0	0.0	Horz	PK	0.0	42.0	74.0	-32.0	Mid Ch, EUT Horz
12008.690	40.5	1.1	2.6	163.0	0.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	Low Ch, EUT Horz
12209.460	40.5	0.9	2.6	313.0	0.0	0.0	Vert	PK	0.0	41.4	74.0	-32.6	Mid Ch, EUT Horz

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**CONCLUSION** 

Pass

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EUT:	BACtrack Skyn Wearable Alcohol Monitor	Work Order:	BACT0001
Serial Number:	Sample #1	Date:	2021-05-13
Customer:	BACtrack	Temperature:	23.2°C
Attendees:	None	Relative Humidity:	43%
Customer Project:	None	Bar. Pressure:	1023 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	Battery	Configuration:	BACT0001-3

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 15.247:2021	ANSI C63.10:2013

#### **TEST PARAMETERS**

Run #:	28	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)						

#### **COMMENTS**

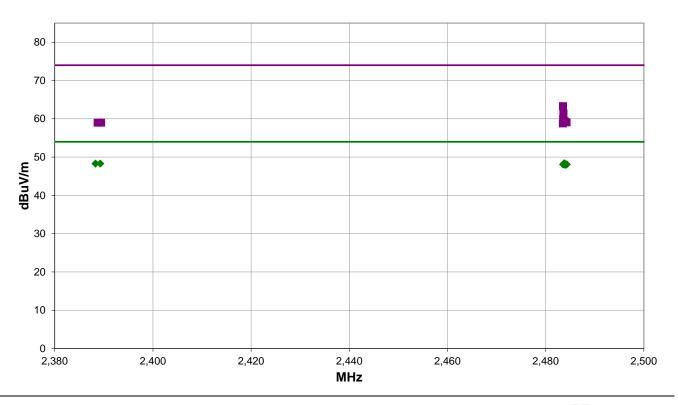
The EUT operates at a duty cycle (DC) of 85.4% or 0.854. An upward duty cycle correction factor (DCCF) was applied to the average measurements using  $10*\log(1 / DC) = 10*\log(1 / 0.854) = 0.7$  dB.

### **EUT OPERATING MODES**

BLE Tx, Low Ch = 2402 MHz, Mid Ch = 2442 MHz, High Ch = 2480 MHz

#### **DEVIATIONS FROM TEST STANDARD**

None



Run #: 28 ■ PK ◆ AV • QP

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## **RESULTS - Run #28**

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/ Transducer Tvne	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.790	31.3	-3.6	1.1	105.0	0.7	20.0	Horz	AV	0.0	48.4	54.0	-5.6	High Ch, EUT Horz
2389.263	31.1	-3.5	1.5	56.0	0.7	20.0	Horz	AV	0.0	48.3	54.0	-5.7	Low Ch, EUT Horz
2388.307	31.1	-3.5	1.5	73.0	0.7	20.0	Vert	AV	0.0	48.3	54.0	-5.7	Low Ch, EUT Horz
2484.160	31.0	-3.6	1.5	311.0	0.7	20.0	Vert	AV	0.0	48.1	54.0	-5.9	High Ch, EUT Horz
2483.560	31.0	-3.6	1.5	332.0	0.7	20.0	Horz	AV	0.0	48.1	54.0	-5.9	High Ch, EUT on Side
2484.287	31.0	-3.6	1.5	311.0	0.7	20.0	Vert	AV	0.0	48.1	54.0	-5.9	High Ch, EUT on Side
2483.780	31.0	-3.6	1.5	62.0	0.7	20.0	Vert	AV	0.0	48.1	54.0	-5.9	High Ch, EUT Vert
2483.987	30.9	-3.6	1.5	124.0	0.7	20.0	Horz	AV	0.0	48.0	54.0	-6.0	High Ch, EUT Vert
2483.530	46.9	-3.6	1.1	105.0	0.0	20.0	Horz	PK	0.0	63.3	74.0	-10.7	High Ch, EUT Horz
2483.623	45.0	-3.6	1.5	62.0	0.0	20.0	Vert	PK	0.0	61.4	74.0	-12.6	High Ch, EUT Vert
2483.563	43.6	-3.6	1.5	332.0	0.0	20.0	Horz	PK	0.0	60.0	74.0	-14.0	High Ch, EUT on Side
2483.843	43.0	-3.6	1.5	311.0	0.0	20.0	Vert	PK	0.0	59.4	74.0	-14.6	High Ch, EUT Horz
2484.243	42.7	-3.6	1.5	311.0	0.0	20.0	Vert	PK	0.0	59.1	74.0	-14.9	High Ch, EUT on Side
2389.433	42.5	-3.5	1.5	56.0	0.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	Low Ch, EUT Horz
2388.727	42.5	-3.5	1.5	73.0	0.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	Low Ch, EUT Horz
2483.507	42.4	-3.6	1.5	124.0	0.0	20.0	Horz	PK	0.0	58.8	74.0	-15.2	High Ch, EUT Vert

# **CONCLUSION**

Pass

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End of Test Report

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