

NORTHWEST EMC

Bioworld Merchandising, Inc.

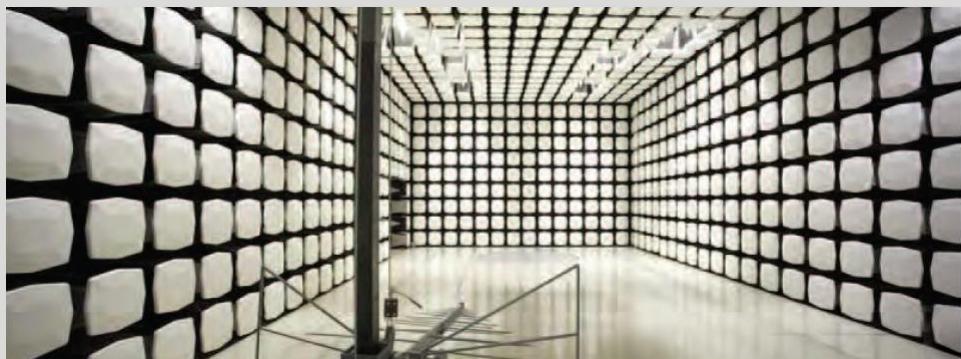
Foundmi

FCC 15.207:2016

FCC 15.247:2016

Bluetooth Low Energy Radio

Report # BWMI0001.3



NVLAP[®]
TESTING

NVLAP Lab Code: 201049-0

This report must not be used to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the federal government of the United States of America.

CERTIFICATE OF TEST

Last Date of Test: July 14, 2016
Bioworld Merchandising, Inc.
Model: Foundmi

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2016	ANSI C63.10:2013
FCC 15.247:2016	KDB 558074

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
6.5, 6.6, 11.12.1, 11.13.2	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.2.2.4	Output 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	

Deviations From Test Standards

None

Approved By:



Jeremiah Darden, 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.

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

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 Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

IC - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

European Union

European Commission – Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

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

Korea

MSIP / 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:

<http://www.nwemc.com/accreditations/>

<http://gsi.nist.gov/global/docs/cabs/designations.html>

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 included as part of the applicable test description page. 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.

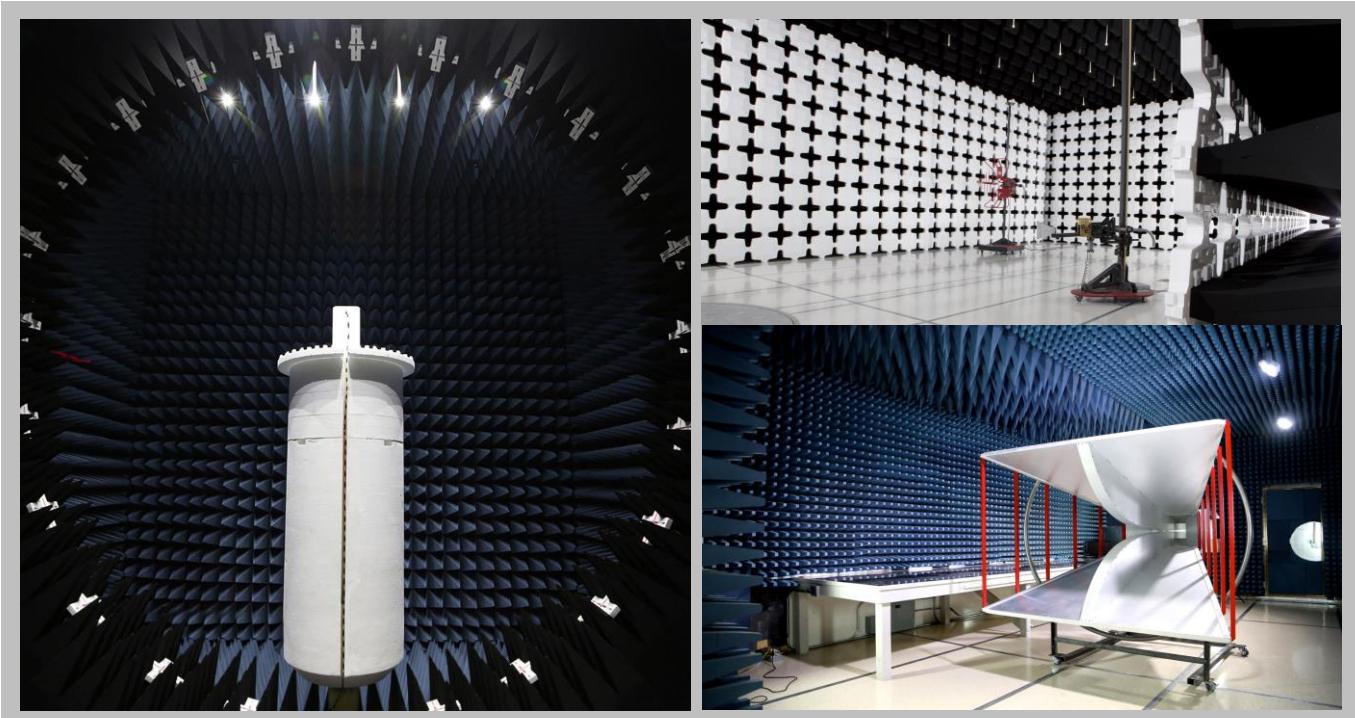
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

<u>Test</u>	<u>+ MU</u>	<u>- MU</u>
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 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)	4.9 dB	-4.9 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES



California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code: 201049-0	NVLAP Lab Code: 200629-0
Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Bioworld Merchandising, Inc.
Address:	2111 W. Walnut Hill Ln.
City, State, Zip:	Irving, TX 75038
Test Requested By:	Benjamin Ip
Model:	Foundmi
First Date of Test:	July 13, 2016
Last Date of Test:	July 14, 2016
Receipt Date of Samples:	July 11, 2016
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Keychain based on Bluetooth Low Energy with Nordic nRF51822 chipset

Device operations:

- Attach and track your keys, wallets, and everything.
- Double press keychain to find your phone.
- In camera mode, double press keychain to take selfie.

Associated iOS/Andriod apps operations:

- In list view, choose tag and press FIND to locate your item.
- In map view, display last known time and location of your item.
- Can track up to 8 items.

Testing Objective:

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

CONFIGURATIONS

Configuration BWMI0001- 1

Software/Firmware Running during test	
Description	Version
HyperTerminal	1511

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Radio Module (Direct Connect)	Bioworld Merchandising, Inc.	F0116	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
DB9 Board (Direct Connect)	Bioworld Merchandising, Inc.	Unknown	None
FTDI Friend Module	Adafruit	284	GC-2-94V-0
Laptop Computer	Lenovo	20308	0B07240618
Laptop AC Adapter	Insignia	NS-PWLC563	14K11A0003239

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Radio Module Wires (Direct Connect)	No	0.1m	No	Radio Module (Direct Connect)	DB9 Board (Direct Connect)
TX/RX Control Wires (Direct Connect)	No	0.2m	No	DB9 Board (Direct Connect)	FTDI Friend Module
USB To Mini-USB	No	1.5m	No	FTDI Friend Module	Laptop Computer
AC Power (Laptop)	No	2.0m	No	AC Mains	Laptop AC Adapter
DC Power (Laptop)	No	1.0m	No	Laptop AC Adapter	Laptop Computer
EUT DC Power Leads	No	0.8m	No	TQI DC Power Supply	Radio Module (Direct Connect)

CONFIGURATIONS

Configuration BWMI0001- 2

Software/Firmware Running during test	
Description	Version
HyperTerminal	1511

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Radio Module (Intentional Radiated)	Bioworld Merchandising, Inc.	F0116	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
DB9 Board (Intentional Radiated)	Bioworld Merchandising, Inc.	Unknown	None
FTDI Friend Module	Adafruit	284	GC-2-94V-0
Laptop Computer	Lenovo	20308	0B07240618
Laptop AC Adapter	Insignia	NS-PWLC563	14K11A0003239

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Radio Module Wires (Intentional Radiated)	No	0.1m	No	Radio Module (Intentional Radiated)	DB9 Board (Intentional Radiated)
TX/RX Control Wires (Intentional Radiated)	No	0.2m	No	DB9 Board (Intentional Radiated)	FTDI Friend Module
AC Power (Laptop)	No	2.0m	No	AC Mains	Laptop AC Adapter
EUT DC Power Leads	No	0.8m	No	TQI DC Power Supply	Radio Module (Intentional Radiated)
USB Extension	No	4.8m	No	USB to Mini-USB	Laptop Computer
USB To Mini-USB	No	1.5m	No	FTDI Friend Module	USB Extension

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	7/13/2016	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	7/14/2016	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	7/14/2016	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	7/14/2016	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	7/14/2016	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	7/14/2016	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	7/14/2016	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWER SETTINGS

NORTHWEST
EMC

The EUT was tested using the power settings provided by the manufacturer:

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types	Channel Bandwidths	Channel	Frequency (MHz)	Power Setting (dBm)
BLE	20	0	2402	4
		20	2442	0
		39	2480	4

SPURIOUS RADIATED EMISSIONS

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

MODES OF OPERATION

Continuously Transmitting at Low, High Channel @ 2402, 2480 MHz
Continuously Transmitting at Low, Mid, High Channel @ 2402, 2442, 2480 MHz

POWER SETTINGS INVESTIGATED

3VDC

CONFIGURATIONS INVESTIGATED

BWMI0001 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency | 30 MHz | Stop Frequency | 26500 MHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Filter - High Pass	Micro-Tronics	HPM50111	HGC	3/4/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	8/11/2015	12 mo
Attenuator	Weinschel Corp	4H-20	AWB	3/9/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAM	11/20/2015	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	4/23/2014	36 mo
Cable	Northwest EMC	18-40GHz	TXE	11/20/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	PAL	10/22/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AJG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	PAK	10/22/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AJF	NCR	0 mo
Cable	Northwest EMC	8-18GHz	TXD	5/31/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAJ	5/31/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJL	9/15/2014	24 mo
Cable	Northwest EMC	1-8.2 GHz	TXC	5/31/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1551	PAH	9/18/2015	12 mo
Antenna - Biconilog	ETS Lindgren	3143B	AYF	4/13/2016	24 mo
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	5/31/2016	12 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	10/29/2015	12 mo

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

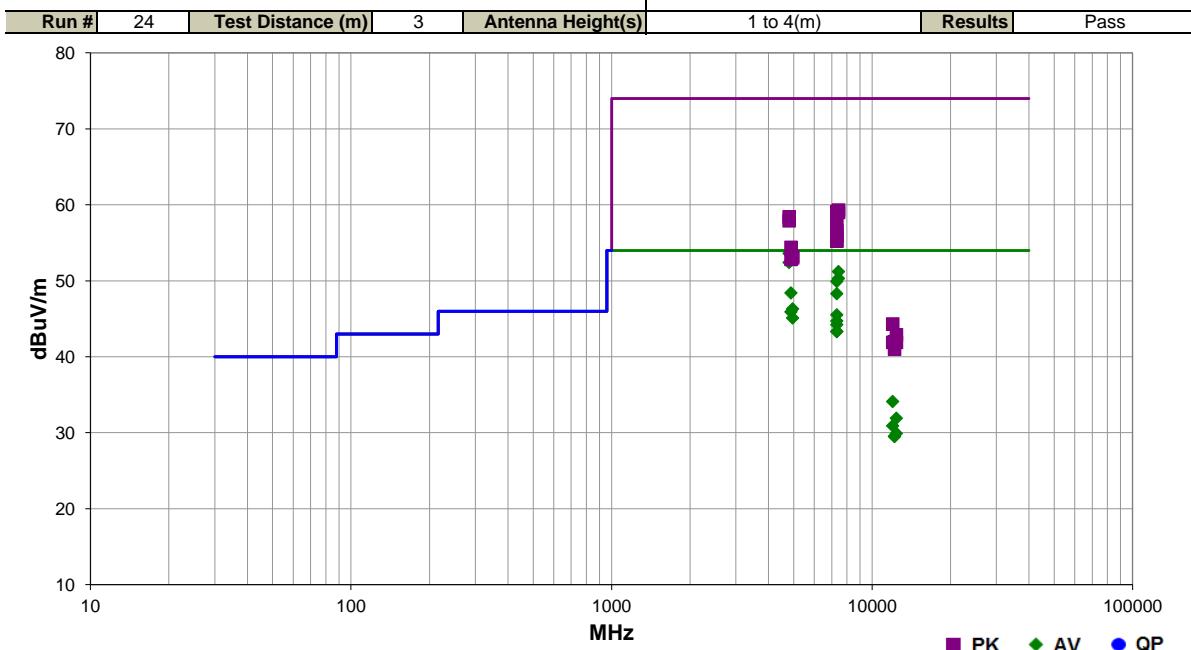
SPURIOUS RADIATED EMISSIONS

NORTHWEST
EMC

PSA-ESCI 2016.04.26.1
EmiR5 2016.03.11

Work Order:	BWMI0001	Date:	07/13/16	
Project:	None	Temperature:	22.2 °C	
Job Site:	TX02	Humidity:	53.3% RH	
Serial Number:	None	Barometric Pres.:	1016 mbar	
EUT:	Foundmi	Tested by:	Jonathan Kiefer	
Configuration:	2			
Customer:	Bioworld Merchandising, Inc.			
Attendees:	None			
EUT Power:	3VDC			
Operating Mode:	Continuously Transmitting at Low, Mid, High Channel @ 2402, 2442, 2480 MHz			
Deviations:	None			
Comments:	PK and AVG(RMS) Harmonics data. Output Power settings: Low Ch (2402MHz): 4dBm, Mid Ch (2442MHz): 0dBm, High Ch (2480MHz): 4dBm.			

Test Specifications	Test Method
FCC 15.247:2016	ANSI C63.10:2013



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4804.042	47.5	6.1	2.6	258.0	3.0	0.0	Vert	AV	0.0	53.6	54.0	-0.4	Low Ch, EUT On Side, 4dBm
4803.917	46.3	6.1	1.7	186.0	3.0	0.0	Horz	AV	0.0	52.4	54.0	-1.6	Low Ch, EUT Vertical, 4dBm
7440.492	37.8	13.4	2.3	301.0	3.0	0.0	Vert	AV	0.0	51.2	54.0	-2.8	High Ch, EUT On Side, 4dBm
7440.275	36.9	13.4	3.6	38.0	3.0	0.0	Horz	AV	0.0	50.3	54.0	-3.7	High Ch, EUT Vertical, 4dBm
7326.325	36.6	13.3	1.4	40.9	3.0	0.0	Horz	AV	0.0	49.9	54.0	-4.1	Mid Ch, EUT Vertical, 0dBm
4884.033	42.1	6.3	2.2	32.0	3.0	0.0	Horz	AV	0.0	48.4	54.0	-5.6	Mid Ch, EUT Vertical, 0dBm
7326.300	35.0	13.3	1.2	352.9	3.0	0.0	Horz	AV	0.0	48.3	54.0	-5.7	Mid Ch, EUT Vertical, 0dBm
4959.892	39.9	6.4	2.2	217.0	3.0	0.0	Vert	AV	0.0	46.3	54.0	-7.7	High Ch, EUT On Side, 4dBm
4883.833	39.6	6.3	2.9	259.0	3.0	0.0	Vert	AV	0.0	45.9	54.0	-8.1	Mid Ch, EUT On Side, 0dBm
7326.300	32.2	13.3	1.2	256.9	3.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	Mid Ch, EUT On Side, 0dBm
4959.892	38.7	6.4	2.1	189.0	3.0	0.0	Horz	AV	0.0	45.1	54.0	-8.9	High Ch, EUT Vertical, 4dBm
7326.658	31.4	13.3	1.2	285.0	3.0	0.0	Horz	AV	0.0	44.7	54.0	-9.3	Mid Ch, EUT On Side, 0dBm
7326.617	30.9	13.3	1.1	9.0	3.0	0.0	Vert	AV	0.0	44.2	54.0	-9.8	Mid Ch, EUT Vertical, 0dBm
7326.533	30.0	13.3	1.2	207.9	3.0	0.0	Horz	AV	0.0	43.3	54.0	-10.7	Mid Ch, EUT Horizontal, 0dBm
7326.733	30.0	13.3	1.2	288.0	3.0	0.0	Vert	AV	0.0	43.3	54.0	-10.7	Mid Ch, EUT Horizontal, 0dBm
7440.767	45.9	13.4	2.3	301.0	3.0	0.0	Vert	PK	0.0	59.3	74.0	-14.7	High Ch, EUT On Side, 4dBm
7324.833	45.8	13.3	1.4	40.9	3.0	0.0	Horz	PK	0.0	59.1	74.0	-14.9	Mid Ch, EUT Vertical, 0dBm
7438.900	45.6	13.4	3.6	38.0	3.0	0.0	Horz	PK	0.0	59.0	74.0	-15.0	High Ch, EUT Vertical, 4dBm
4803.333	52.3	6.1	2.6	258.0	3.0	0.0	Vert	PK	0.0	58.4	74.0	-15.6	Low Ch, EUT On Side, 4dBm
4803.458	51.8	6.1	1.7	186.0	3.0	0.0	Horz	PK	0.0	57.9	74.0	-16.1	Low Ch, EUT Vertical, 4dBm
7325.142	44.3	13.3	1.2	352.9	3.0	0.0	Horz	PK	0.0	57.6	74.0	-16.4	Mid Ch, EUT Vertical, 0dBm
7326.800	43.3	13.3	1.2	285.0	3.0	0.0	Horz	PK	0.0	56.6	74.0	-17.4	Mid Ch, EUT On Side, 0dBm

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	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
7326.033	42.7	13.3	1.1	9.0	3.0	0.0	Vert	PK	0.0	56.0	74.0	-18.0	Mid Ch, EUT Vertical, 0dBm
7326.292	42.6	13.3	1.2	256.9	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	Mid Ch, EUT On Side, 0dBm
7324.367	42.0	13.3	1.2	288.0	3.0	0.0	Vert	PK	0.0	55.3	74.0	-18.7	Mid Ch, EUT Horizontal, 0dBm
7325.450	41.9	13.3	1.2	207.9	3.0	0.0	Horz	PK	0.0	55.2	74.0	-18.8	Mid Ch, EUT Horizontal, 0dBm
4884.567	48.1	6.3	2.2	32.0	3.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	Mid Ch, EUT Vertical, 0dBm
12011.130	36.2	-2.1	3.9	75.9	3.0	0.0	Horz	AV	0.0	34.1	54.0	-19.9	Low Ch, EUT Vertical, 4dBm
4960.442	46.8	6.4	2.1	189.0	3.0	0.0	Horz	PK	0.0	53.2	74.0	-20.8	High Ch, EUT Vertical, 4dBm
4960.783	46.6	6.4	2.2	217.0	3.0	0.0	Vert	PK	0.0	53.0	74.0	-21.0	High Ch, EUT On Side, 4dBm
4884.208	46.5	6.3	2.9	259.0	3.0	0.0	Vert	PK	0.0	52.8	74.0	-21.2	Mid Ch, EUT On Side, 0dBm
12398.440	32.8	-0.9	2.3	322.9	3.0	0.0	Vert	AV	0.0	31.9	54.0	-22.1	High Ch, EUT On Side, 4dBm
12011.080	33.0	-2.1	1.2	271.0	3.0	0.0	Vert	AV	0.0	30.9	54.0	-23.1	Low Ch, EUT On Side, 4dBm
12398.100	30.8	-0.9	1.2	249.0	3.0	0.0	Horz	AV	0.0	29.9	54.0	-24.1	High Ch, EUT Vertical, 4dBm
12211.010	31.2	-1.7	1.2	81.9	3.0	0.0	Vert	AV	0.0	29.5	54.0	-24.5	Mid Ch, EUT On Side, 0dBm
12211.450	31.1	-1.6	1.2	307.0	3.0	0.0	Horz	AV	0.0	29.5	54.0	-24.5	Mid Ch, EUT Vertical, 0dBm
12008.350	46.4	-2.1	3.9	75.9	3.0	0.0	Horz	PK	0.0	44.3	74.0	-29.7	Low Ch, EUT Vertical, 4dBm
12398.120	43.8	-0.9	2.3	322.9	3.0	0.0	Vert	PK	0.0	42.9	74.0	-31.1	High Ch, EUT On Side, 4dBm
12208.560	43.8	-1.8	1.2	81.9	3.0	0.0	Vert	PK	0.0	42.0	74.0	-32.0	Mid Ch, EUT On Side, 0dBm
12009.590	44.0	-2.1	1.2	271.0	3.0	0.0	Vert	PK	0.0	41.9	74.0	-32.1	Low Ch, EUT On Side, 4dBm
12398.550	42.8	-0.9	1.2	249.0	3.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	High Ch, EUT Vertical, 4dBm
12211.440	42.6	-1.6	1.2	307.0	3.0	0.0	Horz	PK	0.0	41.0	74.0	-33.0	Mid Ch, EUT Vertical, 0dBm

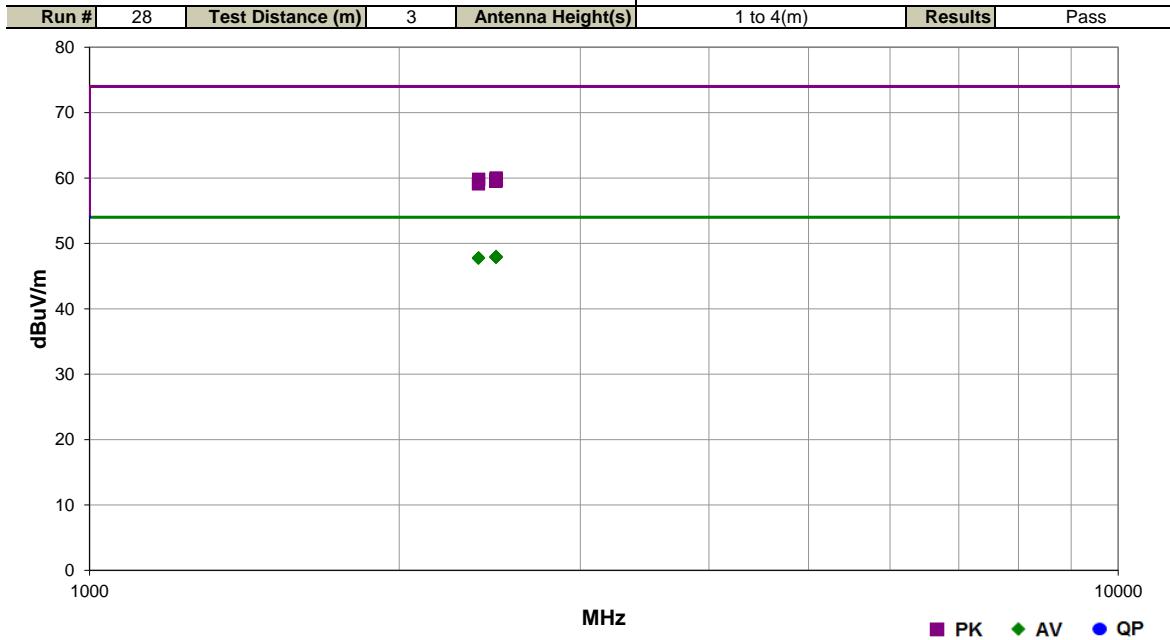
SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2016.04.26.1
EmiR5 2016.03.11

Work Order:	BWMI0001	Date:	07/13/16	
Project:	None	Temperature:	22.2 °C	
Job Site:	TX02	Humidity:	53.3% RH	
Serial Number:	None	Barometric Pres.:	1016 mbar	
EUT:	Foundmi	Tested by:	Jonathan Kiefer	
Configuration:	2			
Customer:	Bioworld Merchandising, Inc.			
Attendees:	None			
EUT Power:	3VDC			
Operating Mode:	Continuously Transmitting at Low, High Channel @ 2402, 2480 MHz			
Deviations:	None			
Comments:	PK and AVG(RMS) Transmit Band Edge data. Output Power settings: Low Ch (2402MHz): 4dBm, High Ch (2480MHz): 4dBm.			

Test Specifications	Test Method
FCC 15.247:2016	ANSI C63.10:2013



Freq (MHz)	Amplitude (dBuV)	Factor	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
2484.833	32.7	-4.7	1.2	165.9	3.0	20.0	Vert	AV	0.0	48.0	54.0	-6.0	High Ch, EUT Vertical, 4dBm
2485.210	32.6	-4.7	2.9	72.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	High Ch, EUT Vertical, 4dBm
2483.847	32.6	-4.7	1.2	260.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	High Ch, EUT On Side, 4dBm
2484.067	32.6	-4.7	1.2	242.0	3.0	20.0	Vert	AV	0.0	47.9	54.0	-6.1	High Ch, EUT On Side, 4dBm
2484.447	32.6	-4.7	2.9	134.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	High Ch, EUT Horizontal, 4dBm
2484.583	32.6	-4.7	1.2	285.9	3.0	20.0	Vert	AV	0.0	47.9	54.0	-6.1	High Ch, EUT Horizontal, 4dBm
2389.117	32.7	-4.9	1.2	50.0	3.0	20.0	Vert	AV	0.0	47.8	54.0	-6.2	Low Ch, EUT Vertical, 4dBm
2388.133	32.6	-4.9	1.2	207.0	3.0	20.0	Horz	AV	0.0	47.7	54.0	-6.3	Low Ch, EUT Vertical, 4dBm
2484.977	44.7	-4.7	2.9	134.0	3.0	20.0	Horz	PK	0.0	60.0	74.0	-14.0	High Ch, EUT Horizontal, 4dBm
2484.293	44.6	-4.7	1.2	242.0	3.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	High Ch, EUT On Side, 4dBm
2484.593	44.5	-4.7	2.9	72.0	3.0	20.0	Horz	PK	0.0	59.8	74.0	-14.2	High Ch, EUT Vertical, 4dBm
2389.573	44.7	-4.9	1.2	50.0	3.0	20.0	Vert	PK	0.0	59.8	74.0	-14.2	Low Ch, EUT Vertical, 4dBm
2485.327	44.4	-4.7	1.2	260.0	3.0	20.0	Horz	PK	0.0	59.7	74.0	-14.3	High Ch, EUT On Side, 4dBm
2485.197	44.4	-4.7	1.2	285.9	3.0	20.0	Vert	PK	0.0	59.7	74.0	-14.3	High Ch, EUT Horizontal, 4dBm
2483.907	44.2	-4.7	1.2	165.9	3.0	20.0	Vert	PK	0.0	59.5	74.0	-14.5	High Ch, EUT Vertical, 4dBm
2388.397	44.0	-4.9	1.2	207.0	3.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	Low Ch, EUT Vertical, 4dBm

DUTY CYCLE

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

TEST DESCRIPTION

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

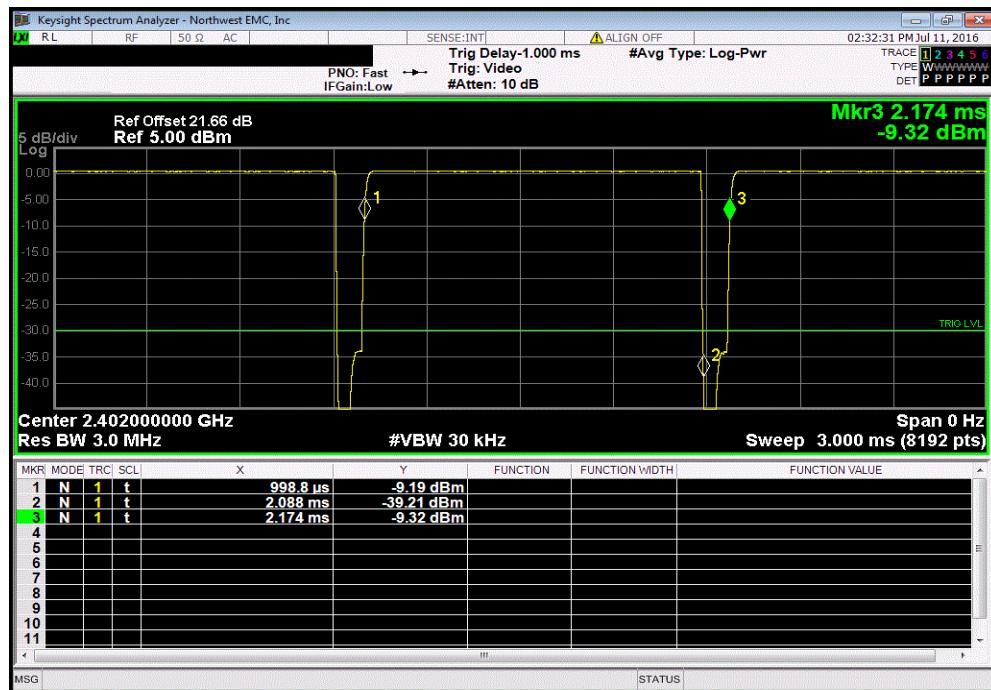
If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

DUTY CYCLE

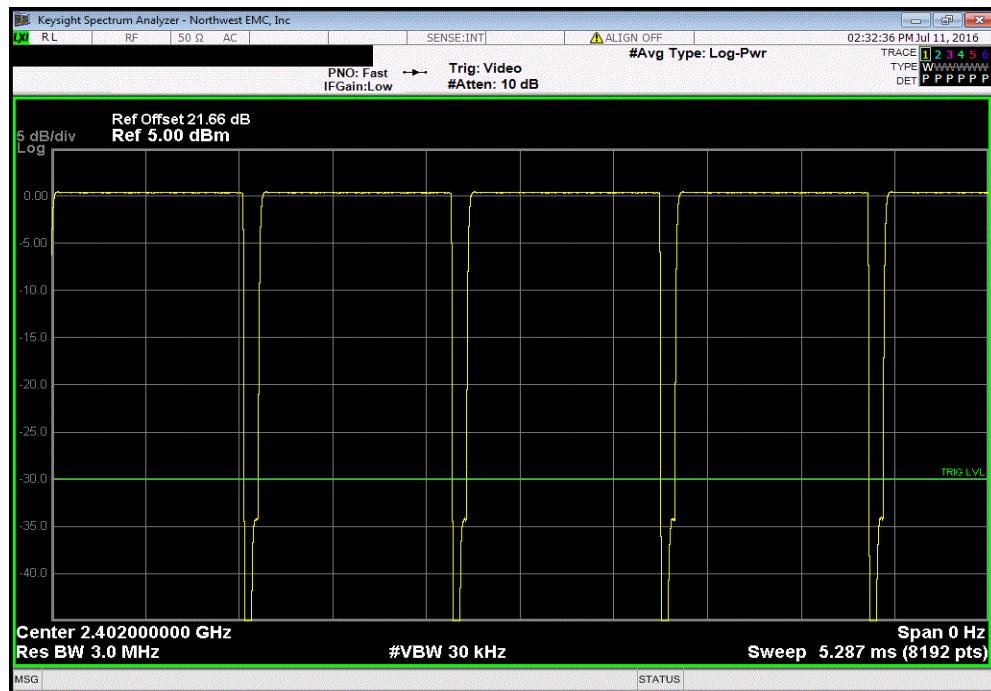
EUT:	Foundmi	Work Order:	BWMI0001				
Serial Number:	None	Date:	07/14/16				
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.5 °C				
Attendees:	None	Humidity:	51.5% RH				
Project:	None	Barometric Pres.:	1020 mbar				
Tested by:	Jonathan Kiefer	Power:	3VDC				
TEST SPECIFICATIONS		Test Method					
FCC 15.247:2016		ANSI C63.10:2013					
COMMENTS							
None							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration #	1	Signature: <i>Jonathan Kiefer</i>					
		Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
BLE/GFSK Low Channel, 2402 MHz		1.09 ms	1.175 ms	1	92.7	N/A	N/A
BLE/GFSK Low Channel, 2402 MHz		N/A	N/A	5	N/A	N/A	N/A
BLE/GFSK Mid Channel, 2442 MHz		1.09 ms	1.175 ms	1	92.8	N/A	N/A
BLE/GFSK Mid Channel, 2442 MHz		N/A	N/A	5	N/A	N/A	N/A
BLE/GFSK High Channel, 2480 MHz		1.09 ms	1.175 ms	1	92.8	N/A	N/A
BLE/GFSK High Channel, 2480 MHz		N/A	N/A	5	N/A	N/A	N/A

DUTY CYCLE

BLE/GFSK Low Channel, 2402 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.09 ms	1.175 ms	1	92.7	N/A	N/A	

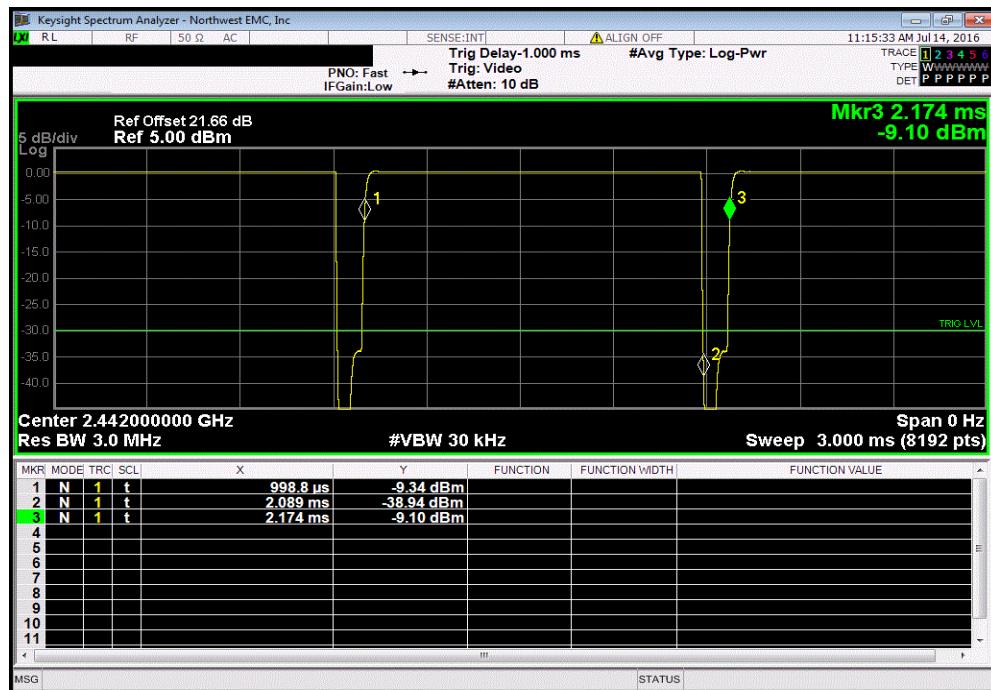


BLE/GFSK Low Channel, 2402 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	N/A

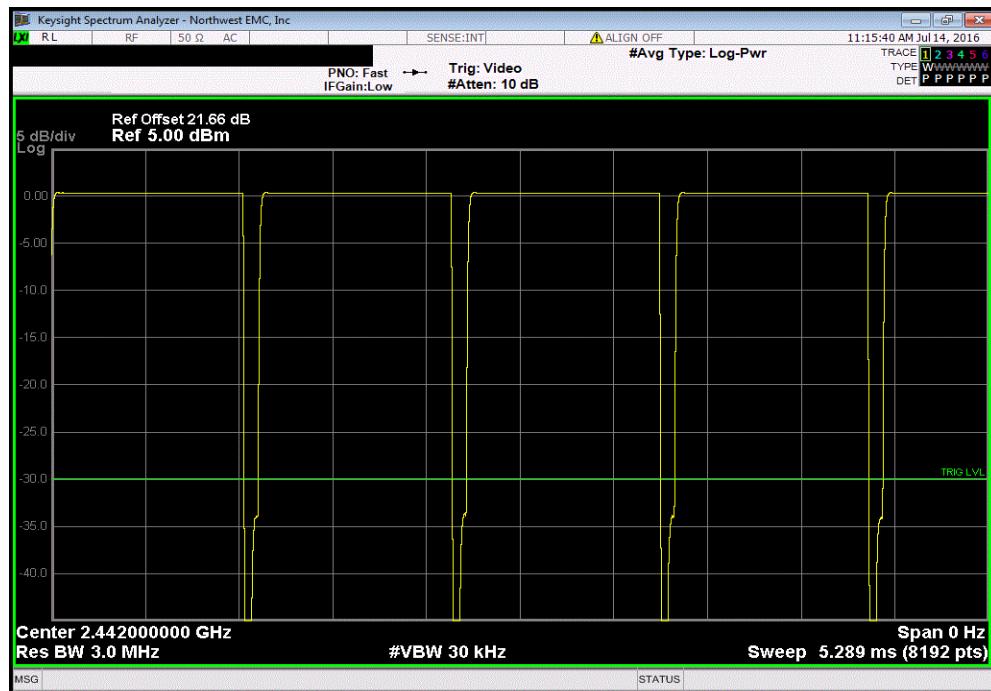


DUTY CYCLE

BLE/GFSK Mid Channel, 2442 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.09 ms	1.175 ms	1	92.8	N/A	N/A	

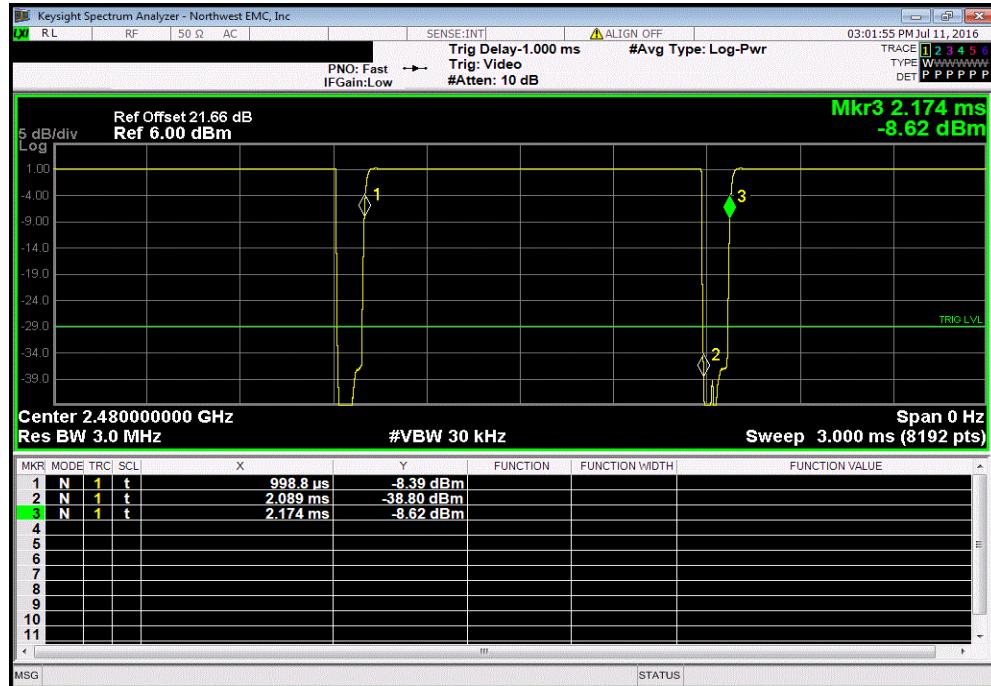


BLE/GFSK Mid Channel, 2442 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

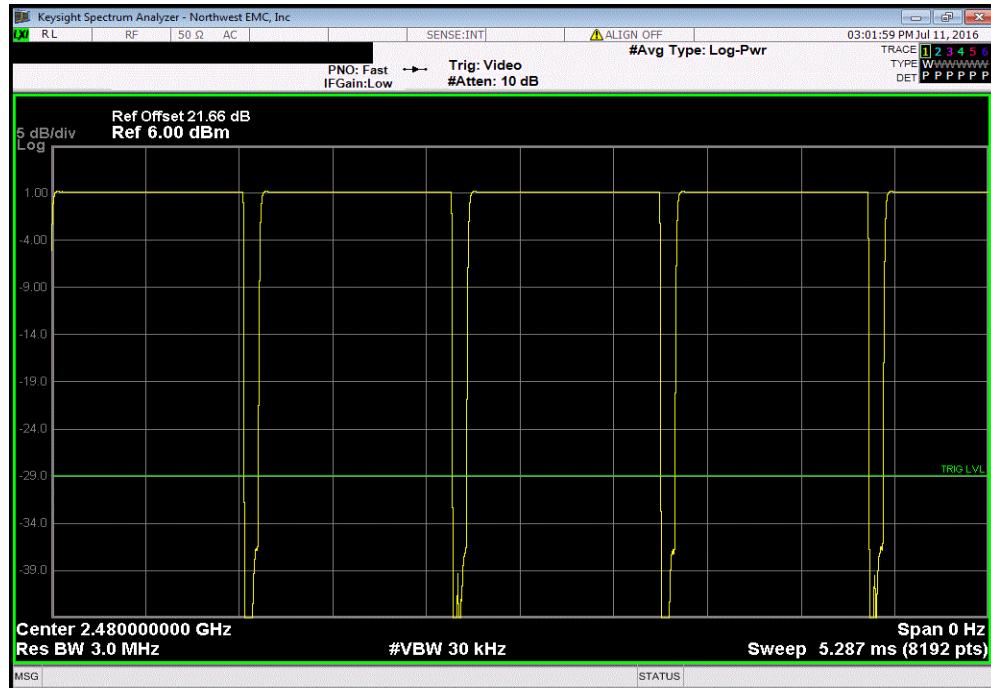


DUTY CYCLE

BLE/GFSK High Channel, 2480 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.09 ms	1.175 ms	1	92.8	N/A	N/A	



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



OCCUPIED BANDWIDTH

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

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 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.

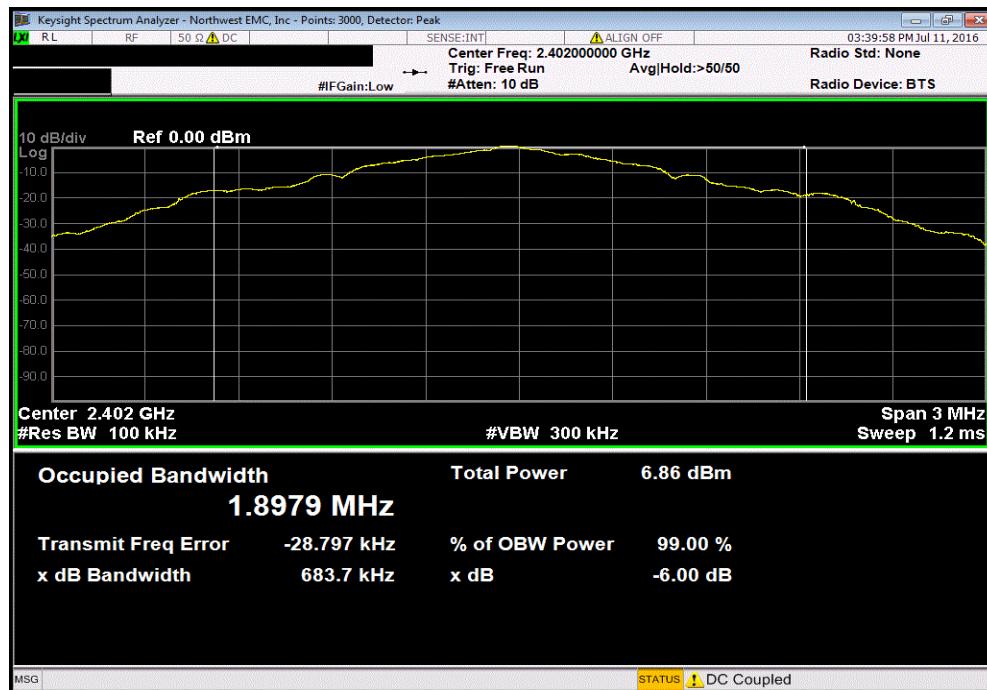
OCCUPIED BANDWIDTH

EUT:	Foundmi	Work Order:	BWMI0001
Serial Number:	None	Date:	07/14/16
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.5 °C
Attendees:	None	Humidity:	51.1% RH
Project:	None	Barometric Pres.:	1019 mbar
Tested by:	Jonathan Kiefer	Power:	3VDC
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2016		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	<i>Jonathan Kiefer</i>
		Value	Limit (±)
		683.675 kHz	500 kHz
		697.592 kHz	500 kHz
		683.324 kHz	500 kHz

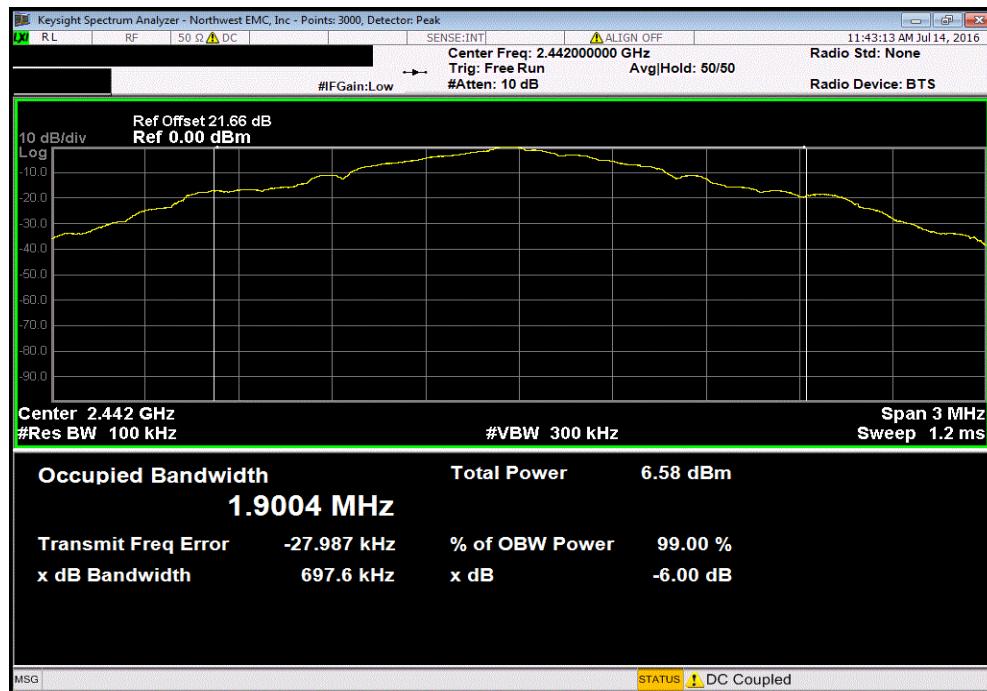
BLE/GFSK Low Channel, 2402 MHz
BLE/GFSK Mid Channel, 2442 MHz
BLE/GFSK High Channel, 2480 MHz

OCCUPIED BANDWIDTH

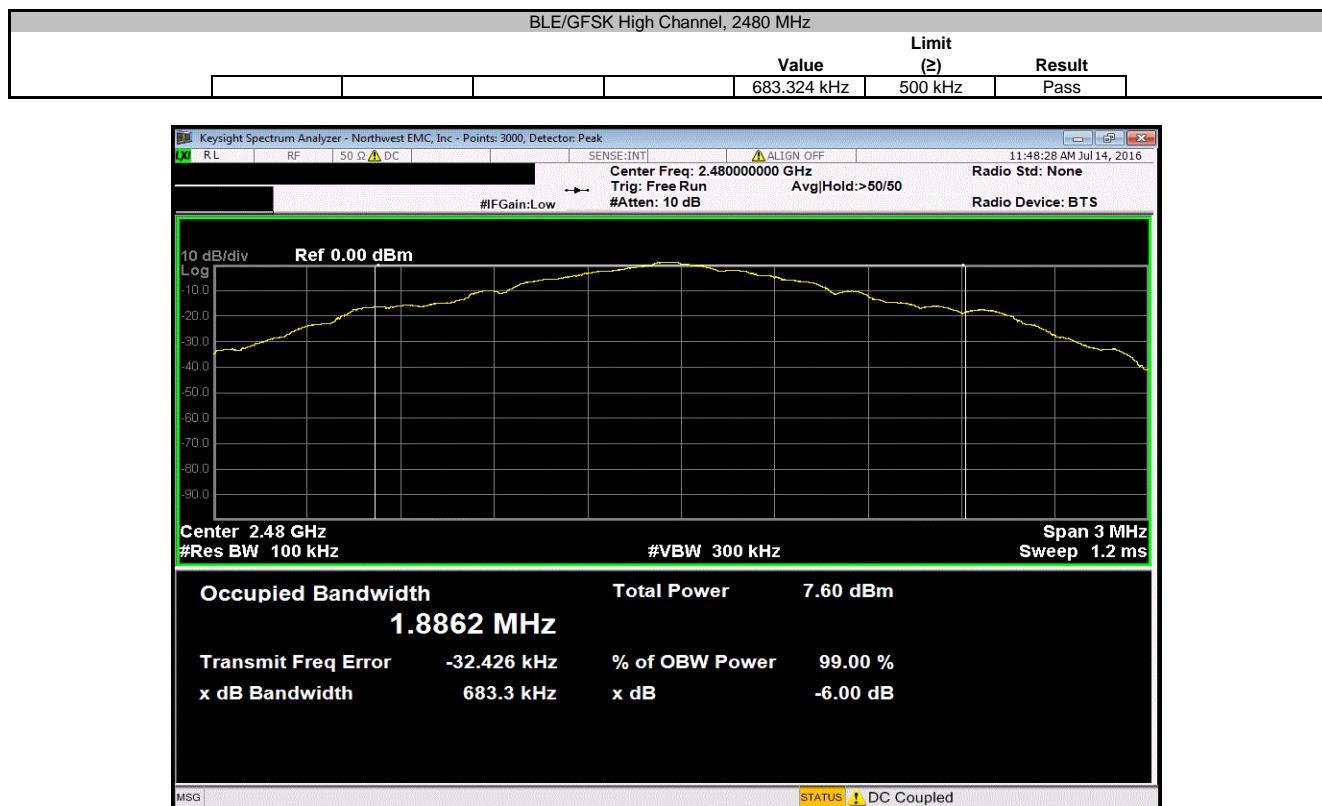
BLE/GFSK Low Channel, 2402 MHz			Value	Limit (≥)	Result
			683.675 kHz	500 kHz	Pass



BLE/GFSK Mid Channel, 2442 MHz			Value	Limit (≥)	Result
			697.592 kHz	500 kHz	Pass



OCCUPIED BANDWIDTH



OUTPUT POWER

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

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) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

The method found in ANSI C63.10:2013 Section 11.9.2.2.4 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio..

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36 dBm.

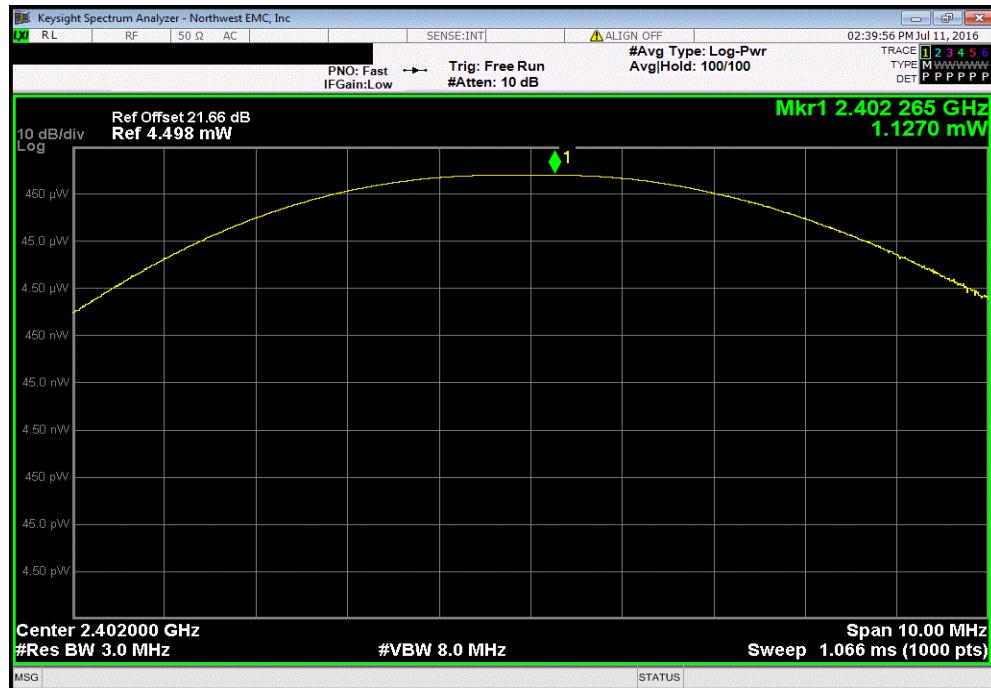
OUTPUT POWER

EUT:	Foundmi	Work Order:	BWMI0001
Serial Number:	None	Date:	07/14/16
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.4 °C
Attendees:	None	Humidity:	51.1% RH
Project:	None	Barometric Pres.:	1019 mbar
Tested by:	Jonathan Kiefer	Power:	3VDC
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2016		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	<i>Jonathan Kiefer</i>
		Value	Limit (±)
		1.127 mW	1 W
		1.055 mW	1 W
		1.348 mW	1 W

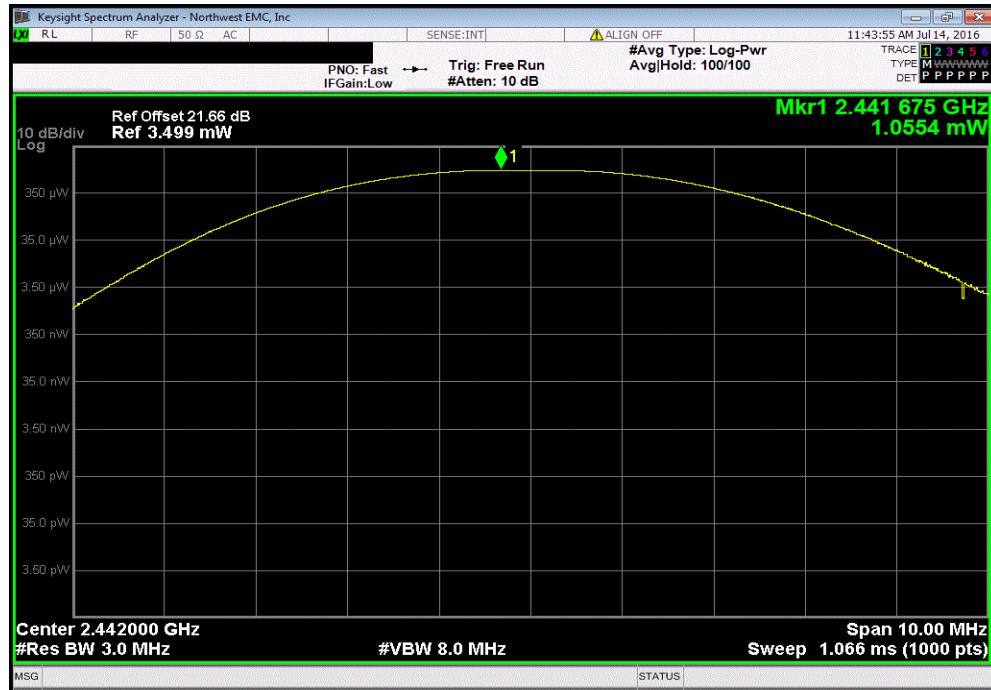
BLE/GFSK Low Channel, 2402 MHz
BLE/GFSK Mid Channel, 2442 MHz
BLE/GFSK High Channel, 2480 MHz

OUTPUT POWER

BLE/GFSK Low Channel, 2402 MHz			Value	Limit	Result
			(<)		
			1.127 mW	1 W	Pass

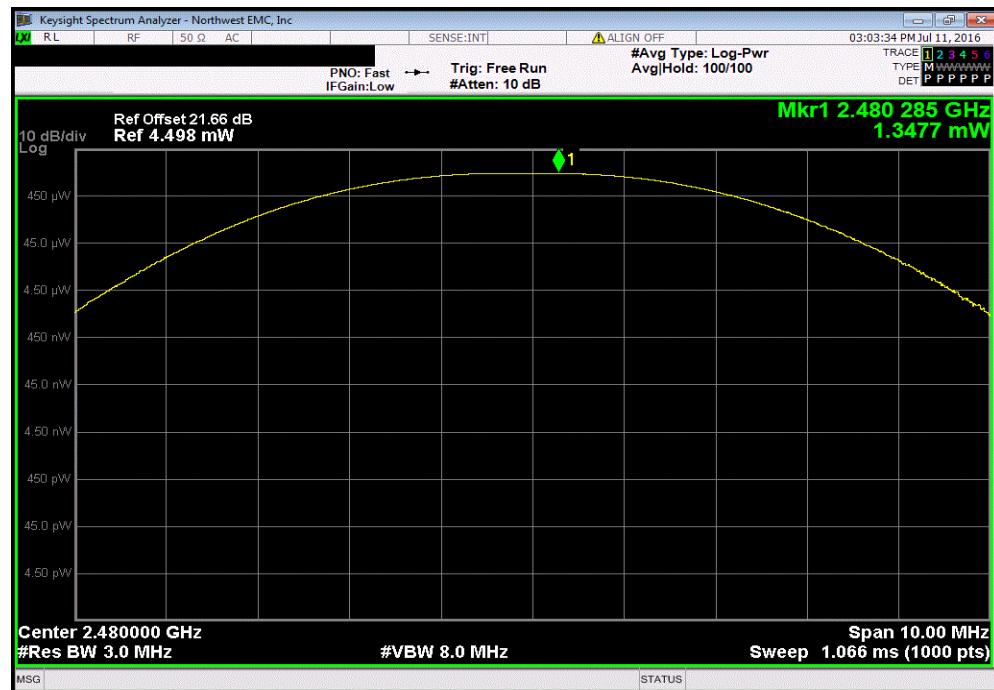


BLE/GFSK Mid Channel, 2442 MHz			Value	Limit	Result
			(<)		
			1.055 mW	1 W	Pass



OUTPUT POWER

BLE/GFSK High Channel, 2480 MHz				Value	Limit (<)	Result
				1.348 mW	1 W	Pass



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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

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.

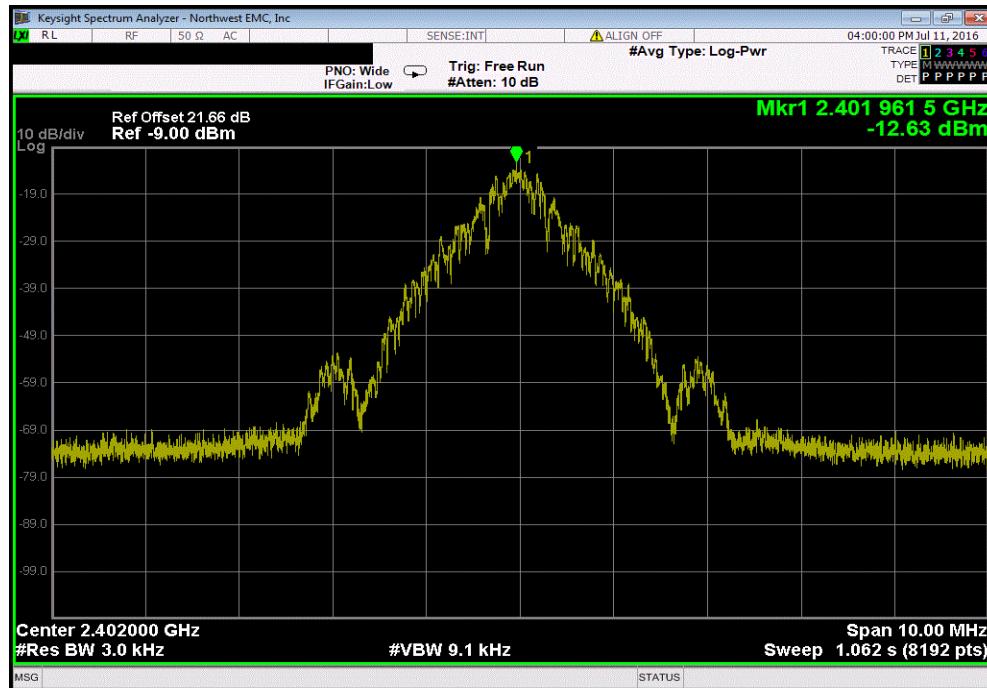
POWER SPECTRAL DENSITY

EUT:	Foundmi	Work Order:	BWMI0001	
Serial Number:	None	Date:	07/14/16	
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.4 °C	
Attendees:	None	Humidity:	51.1% RH	
Project:	None	Barometric Pres.:	1019 mbar	
Tested by:	Jonathan Kiefer	Power:	3VDC	
TEST SPECIFICATIONS		Test Method		
FCC 15.247:2016		ANSI C63.10:2013		
COMMENTS				
None				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature	<i>Jonathan Kiefer</i>	
		Value dBm/3kHz	Limit < dBm/3kHz	Results
		-12.633	8	Pass
		-12.496	8	Pass
		-10.415	8	Pass

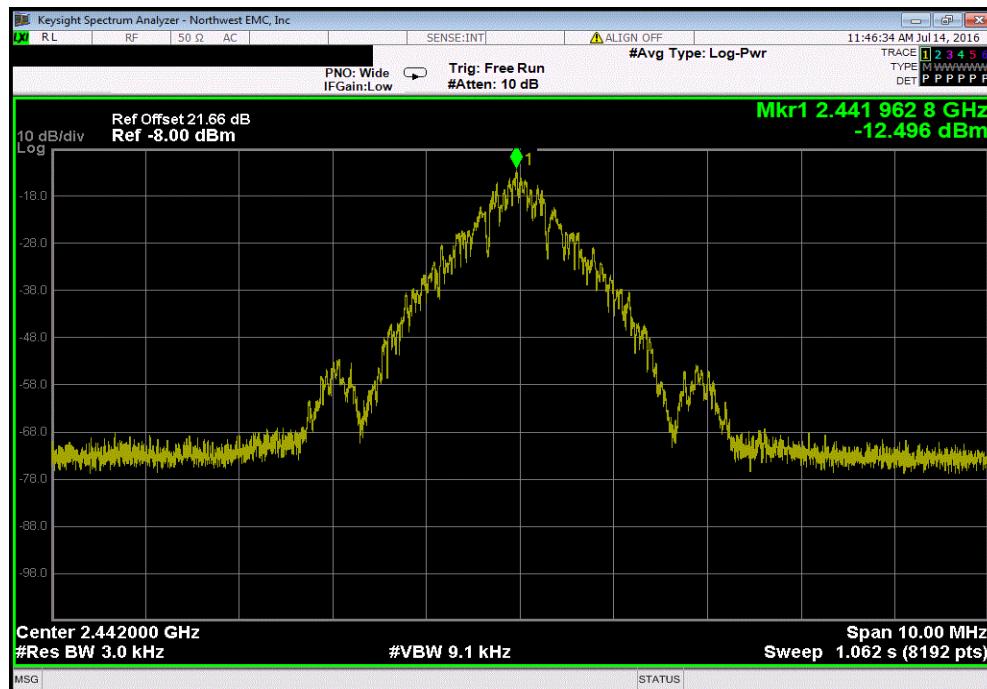
BLE/GFSK Low Channel, 2402 MHz
BLE/GFSK Mid Channel, 2442 MHz
BLE/GFSK High Channel, 2480 MHz

POWER SPECTRAL DENSITY

BLE/GFSK Low Channel, 2402 MHz				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-12.633	8	Pass

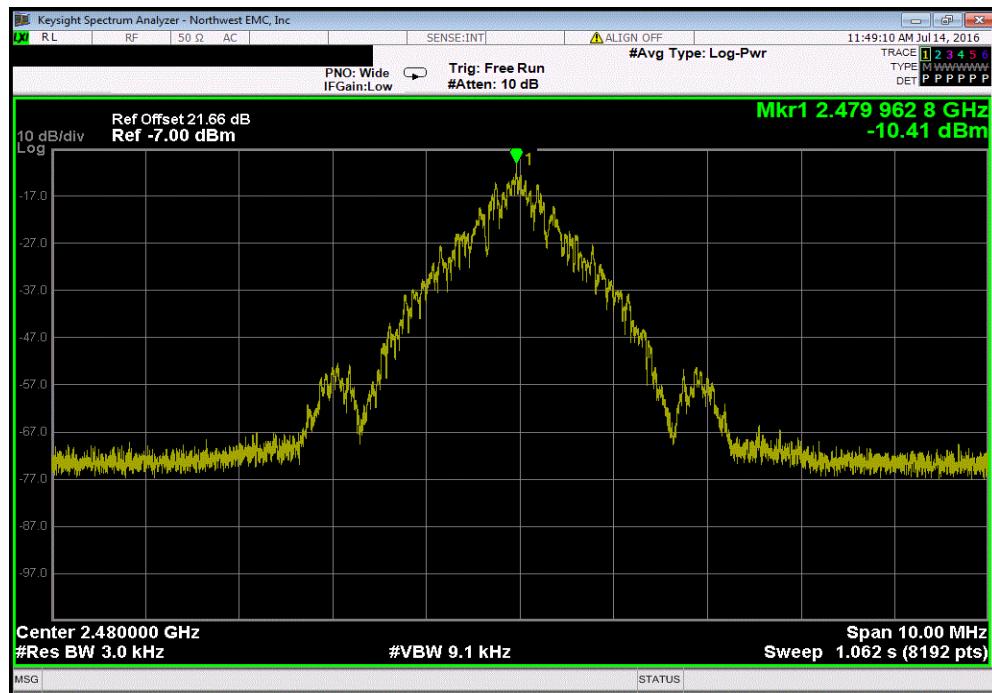


BLE/GFSK Mid Channel, 2442 MHz				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-12.496	8	Pass



POWER SPECTRAL DENSITY

BLE/GFSK High Channel, 2480 MHz				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-10.415	8	Pass



BAND EDGE COMPLIANCE

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

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.

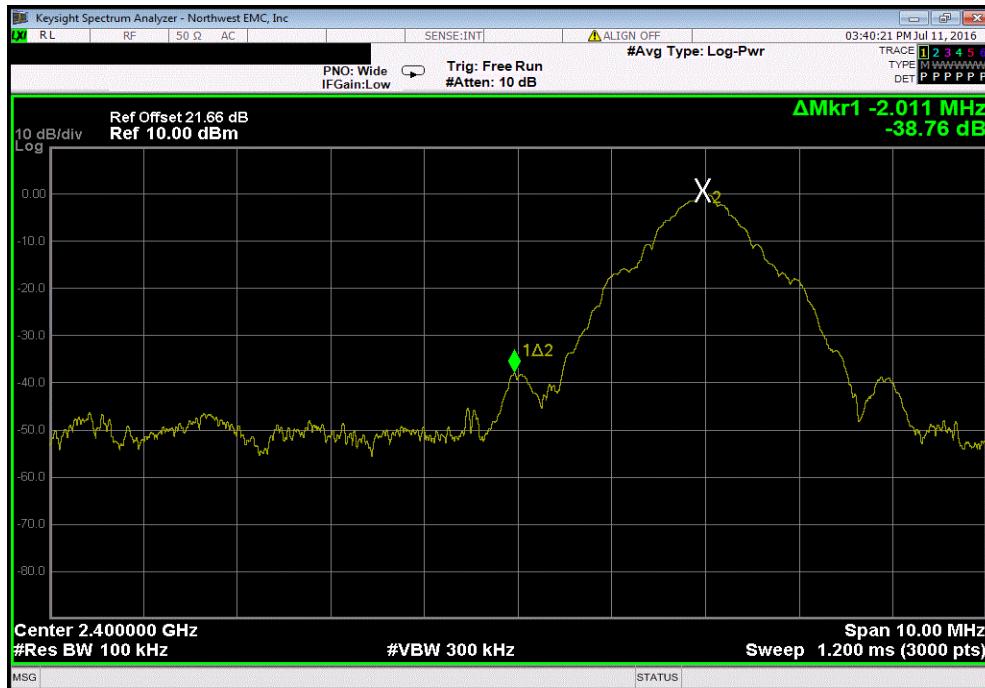
The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE

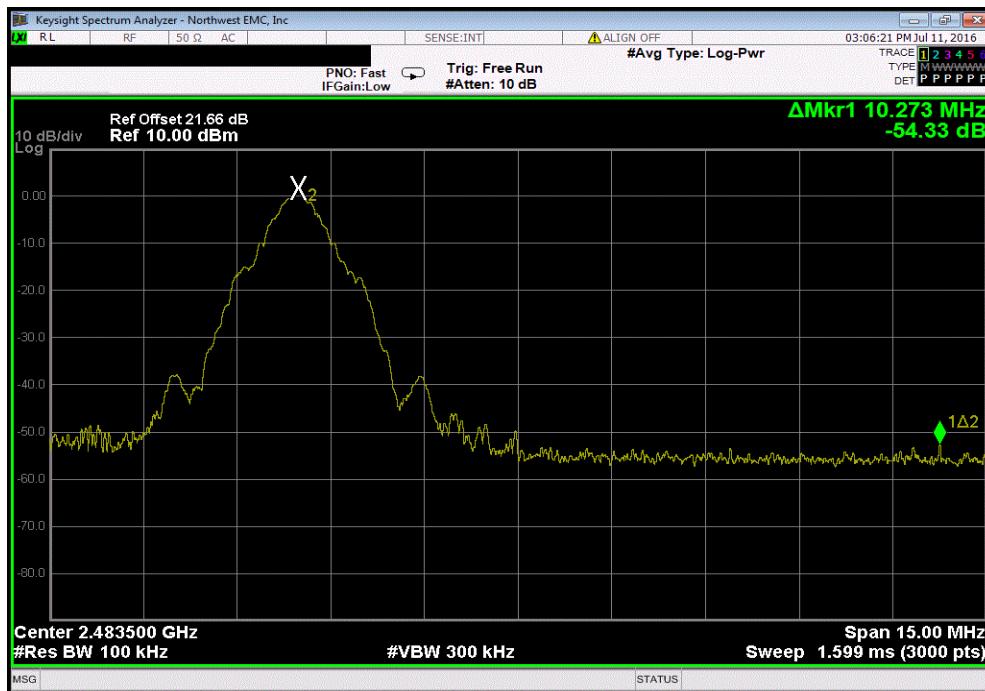
EUT:	Foundmi	Work Order:	BWMI0001	
Serial Number:	None	Date:	07/14/16	
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.3 °C	
Attendees:	None	Humidity:	52.5% RH	
Project:	None	Barometric Pres.:	1020 mbar	
Tested by:	Jonathan Kiefer	Power:	3VDC	
TEST SPECIFICATIONS		Test Method		
FCC 15.247:2016		ANSI C63.10:2013		
COMMENTS				
None				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature	<i>Jonathan Kiefer</i>	
		Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK Low Channel, 2402 MHz		-38.76	-20	Pass
BLE/GFSK High Channel, 2480 MHz		-54.33	-20	Pass

BAND EDGE COMPLIANCE

BLE/GFSK Low Channel, 2402 MHz			Value (dBc)	Limit ≤ (dBc)	Result
			-38.76	-20	Pass



BLE/GFSK High Channel, 2480 MHz			Value (dBc)	Limit ≤ (dBc)	Result
			-54.33	-20	Pass



SPURIOUS CONDUCTED EMISSIONS

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/15/2016	3/15/2017
Block - DC	Fairview Microwave	SD3379	AMM	2/25/2016	2/25/2017
Attenuator	Fairview Microwave	SA4018-20	TQY	2/25/2016	2/25/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/3/2015	11/3/2016
Generator - Signal	Agilent	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR

TEST DESCRIPTION

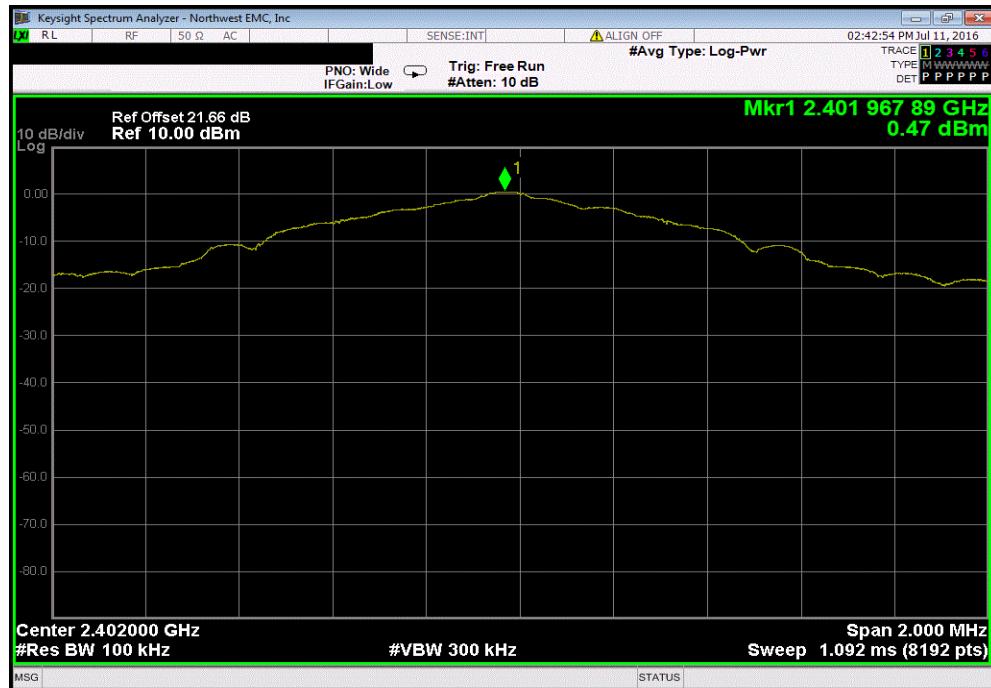
The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS

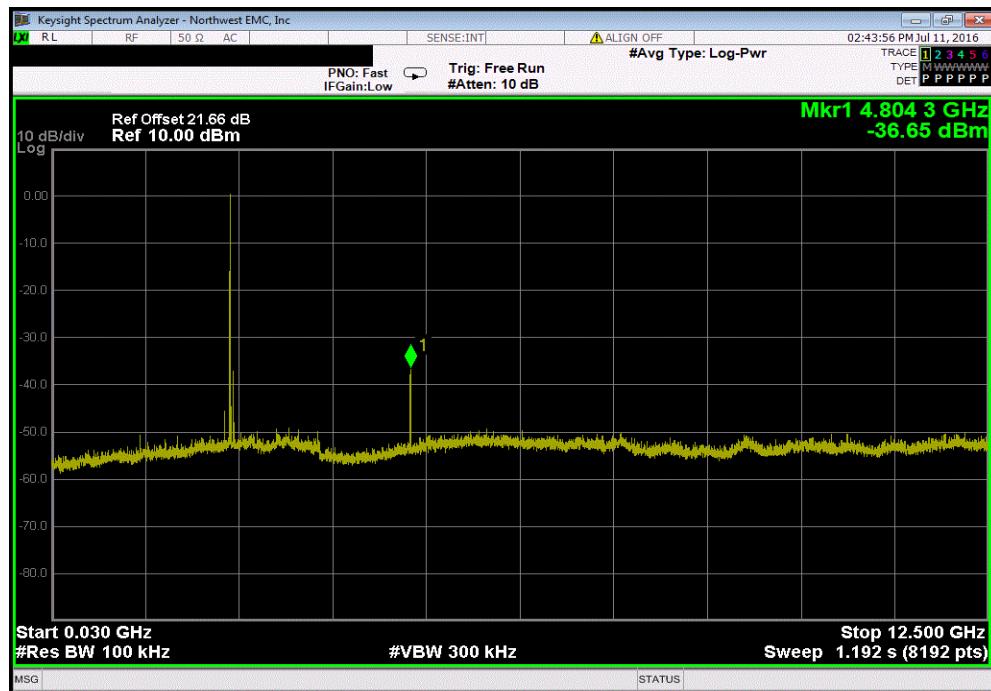
EUT:	Foundmi	Work Order:	BWMI0001		
Serial Number:	None	Date:	07/14/16		
Customer:	Bioworld Merchandising, Inc.	Temperature:	22.5 °C		
Attendees:	None	Humidity:	51.7% RH		
Project:	None	Barometric Pres.:	1020 mbar		
Tested by:	Jonathan Kiefer	Power:	3VDC		
TEST SPECIFICATIONS		Test Method			
FCC 15.247:2016		ANSI C63.10:2013			
COMMENTS					
None					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature	Jonathan Kiefer		
		Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK Low Channel, 2402 MHz		Fundamental	N/A	N/A	N/A
BLE/GFSK Low Channel, 2402 MHz		30 MHz - 12.5 GHz	-37.13	-20	Pass
BLE/GFSK Low Channel, 2402 MHz		12.5 GHz - 25 GHz	-38.52	-20	Pass
BLE/GFSK Mid Channel, 2442 MHz		Fundamental	N/A	N/A	N/A
BLE/GFSK Mid Channel, 2442 MHz		30 MHz - 12.5 GHz	-35.7	-20	Pass
BLE/GFSK Mid Channel, 2442 MHz		12.5 GHz - 25 GHz	-39.08	-20	Pass
BLE/GFSK High Channel, 2480 MHz		Fundamental	N/A	N/A	N/A
BLE/GFSK High Channel, 2480 MHz		30 MHz - 12.5 GHz	-38.86	-20	Pass
BLE/GFSK High Channel, 2480 MHz		12.5 GHz - 25 GHz	-40.01	-20	Pass

SPURIOUS CONDUCTED EMISSIONS

Frequency Range		Max Value (dBc)	Limit \leq (dBc)	Result
Fundamental		N/A	N/A	N/A

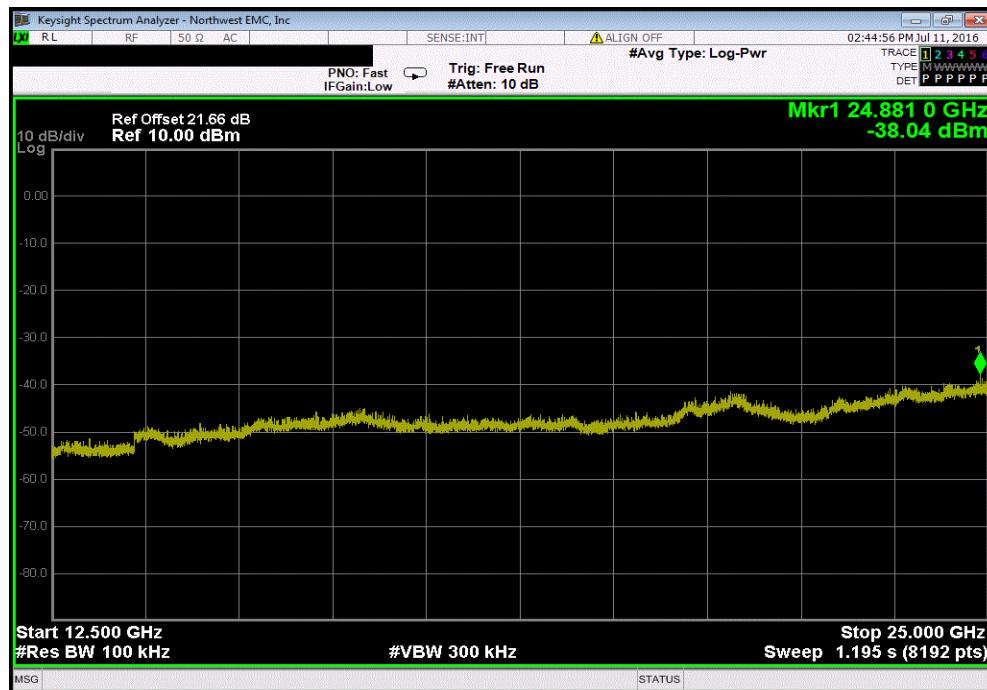


Frequency Range		Max Value (dBc)	Limit \leq (dBc)	Result
30 MHz - 12.5 GHz		-37.13	-20	Pass

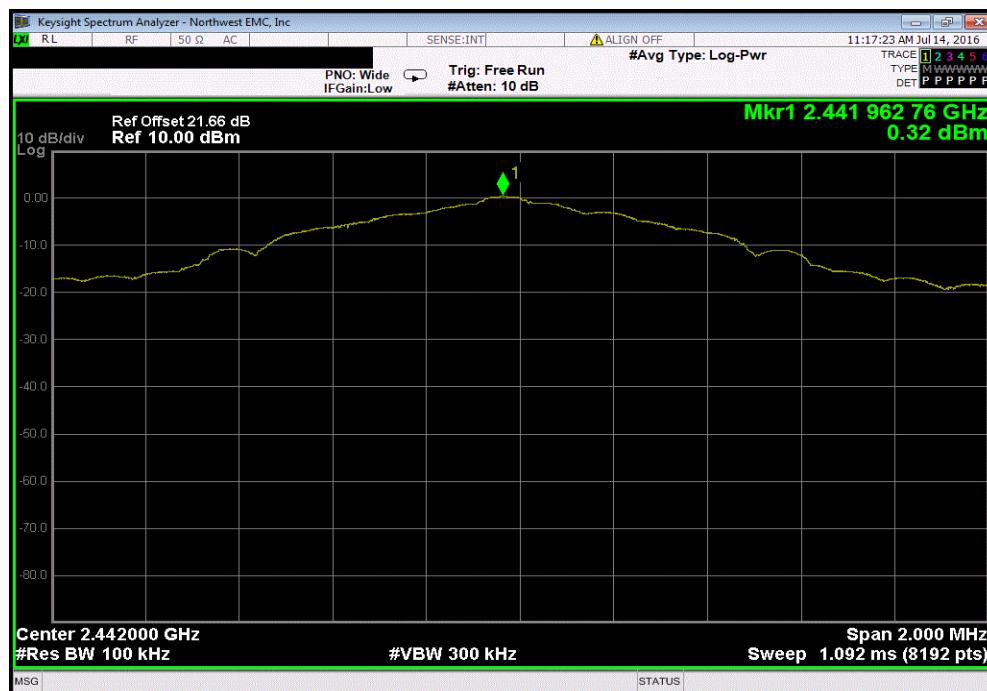


SPURIOUS CONDUCTED EMISSIONS

BLE/GFSK Low Channel, 2402 MHz			
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result
12.5 GHz - 25 GHz	-38.52	-20	Pass

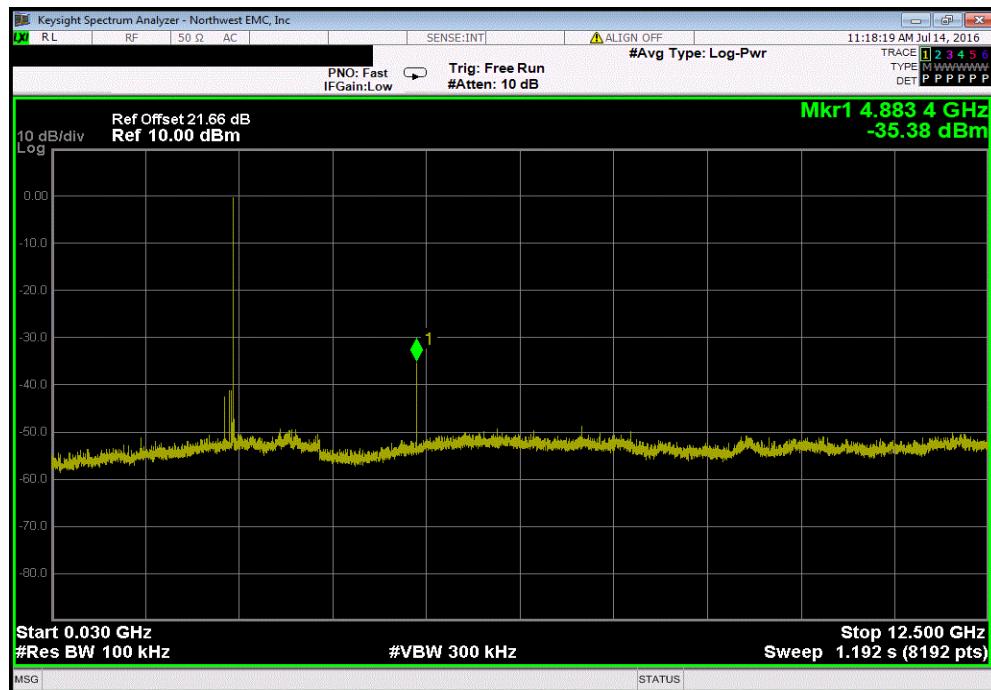


BLE/GFSK Mid Channel, 2442 MHz			
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result
Fundamental	N/A	N/A	N/A

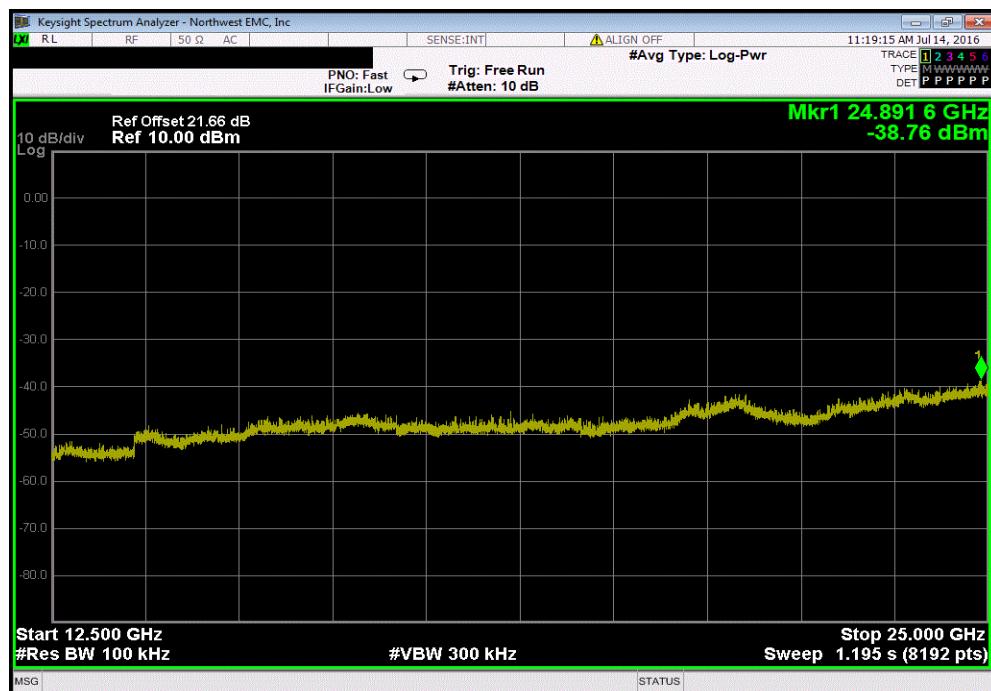


SPURIOUS CONDUCTED EMISSIONS

BLE/GFSK Mid Channel, 2442 MHz			
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result
30 MHz - 12.5 GHz	-35.7	-20	Pass

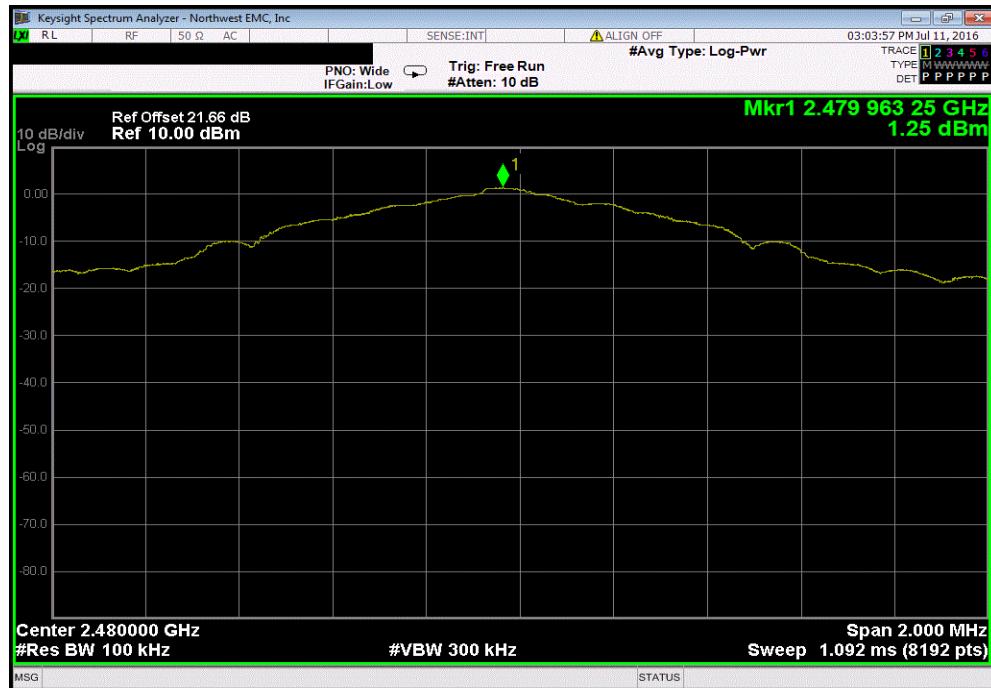


BLE/GFSK Mid Channel, 2442 MHz			
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result
12.5 GHz - 25 GHz	-39.08	-20	Pass

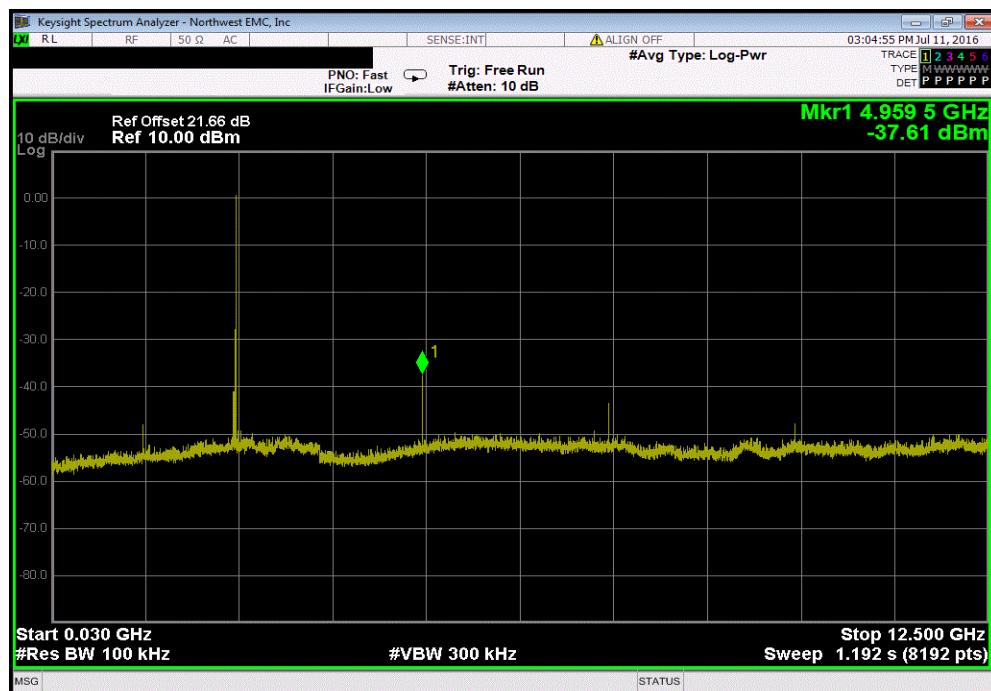


SPURIOUS CONDUCTED EMISSIONS

BLE/GFSK High Channel, 2480 MHz					
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result		
Fundamental	N/A	N/A	N/A		



BLE/GFSK High Channel, 2480 MHz					
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result		
30 MHz - 12.5 GHz	-38.86	-20	Pass		



SPURIOUS CONDUCTED EMISSIONS

BLE/GFSK High Channel, 2480 MHz			
Frequency Range	Max Value (dBc)	Limit \leq (dBc)	Result
12.5 GHz - 25 GHz	-40.01	-20	Pass

