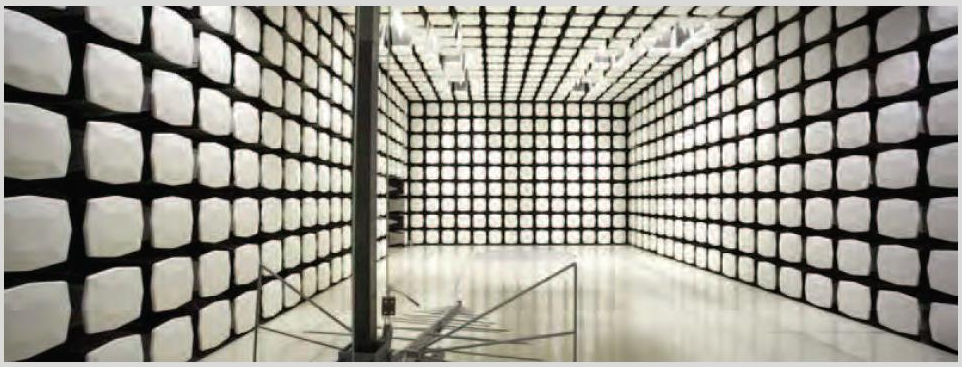
Bioworld Merchandising, Inc.

FoundMiWallet

FCC 15.247:2017

Bluetooth Radio

Report # BWMI0004.1



NVLAP Lab Code: 201049-0

CERTIFICATE OF TEST

2017-1-25

Last Date of Test: May 4, 2017
Bioworld Merchandising, Inc.
Model: FoundMiWallet

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2017	ANSI C63.10:2013
	KDB 558074

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	AC - Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
11.6	Duty Cycle	No	N/A	Not required for C2PC based on functional description.
11.8.2	Occupied Bandwidth	No	N/A	Not required for C2PC based on functional description.
11.9.1.1	Output Power	Yes	Pass	
11.10.2	Power Spectral Density	No	N/A	Not required for C2PC based on functional description.
11.11	Band Edge Compliance	No	N/A	Not required for C2PC based on functional description.
11.11	Spurious Conducted Emissions	No	N/A	Not required for C2PC based on functional description.
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated 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

2017.1.25

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). Certification chambers and Open Area Test Sites are filed with ISED.

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

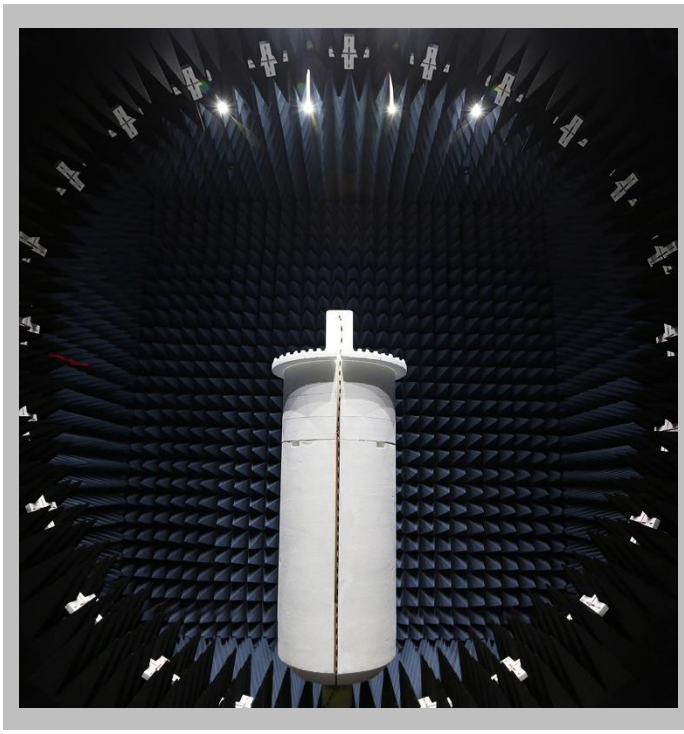
MIC – Recognized by MIC as a CAB for the acceptance of test data.

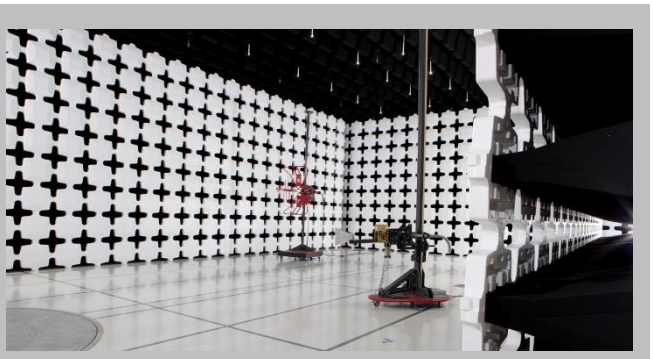
SCOPE

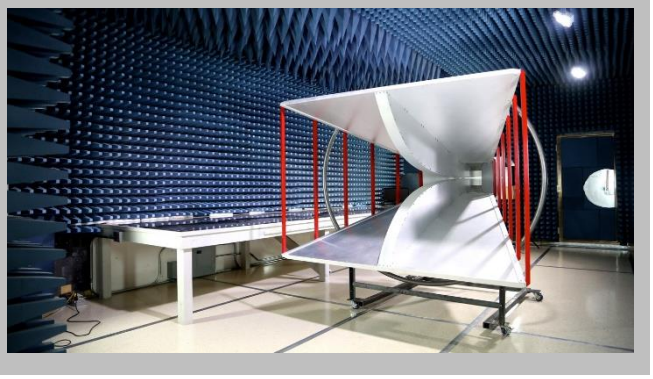
For details on the Scopes of our Accreditations, please visit:
http://portlandcustomer.element.com/ts/scope/scope.htm
http://gsi.nist.gov/global/docs/cabs/designations.html

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 120th 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
Innovation, Science and Economic Development 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







MEASUREMENT UNCERTAINTY

TMU.2015.07.10

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.

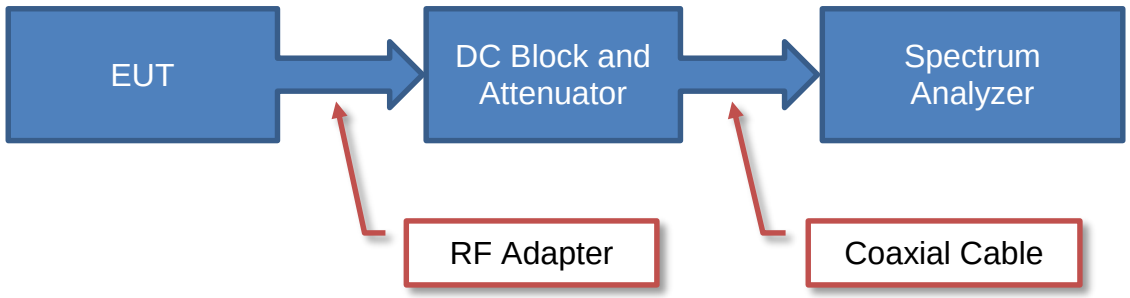
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable 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.

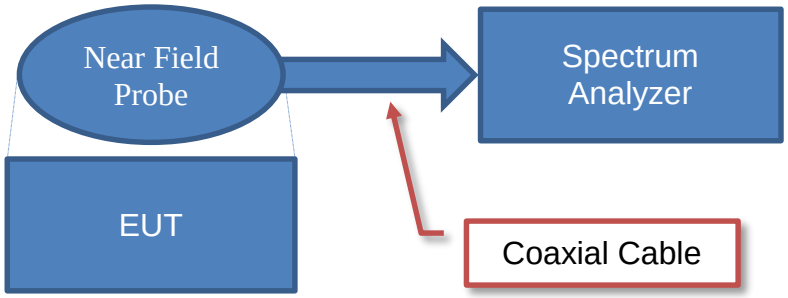
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	4.9 dB	-4.9 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

Test Setup Block Diagrams

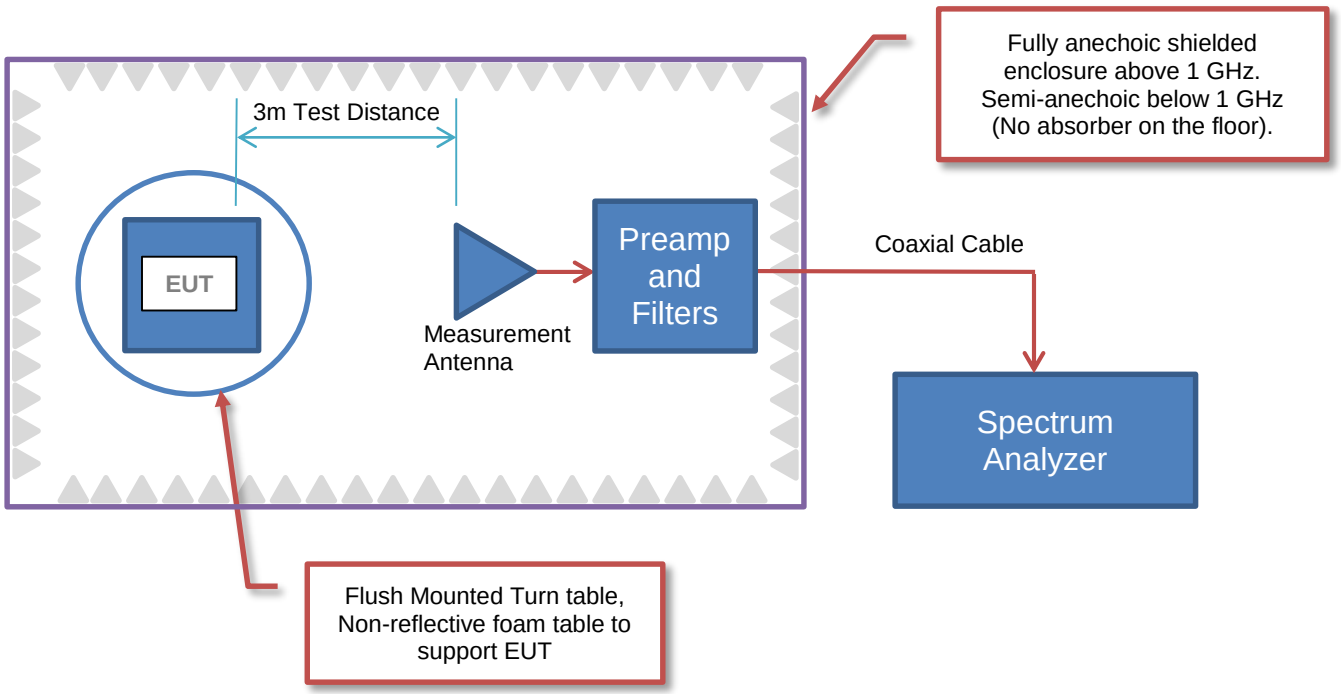
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

2017-1-25

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:	Kit Chan
Model:	FoundMiWallet
First Date of Test:	May 3, 2017
Last Date of Test:	May 4, 2017
Receipt Date of Samples:	May 3, 2017
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Based on Bluetooth Low Energy with Nordic nRF51822 chipset

Device operations:
- Attach and track your wallet
- Double press button to find your wallet

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.

FoundmiWallet keeps the same radio circuitry, but revises the PCB layout to change the antenna pattern and to make it smaller. It also includes a firmware update with new features.

Testing Objective:

To demonstrate compliance of the Bluetooth Low radio to FCC 15.247 requirements for a Class II Permissive Change to FCC ID: 2AH7W-F0116.

CONFIGURATIONS

Configuration BWMI0004- 1

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

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
FTDI Friend Module	Adafruit	284	GC-2-94V-0

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop Computer	Lenovo	20308	0B07240618
AC/DC Adapter (Laptop)	Insignia	NS-PWLC563	14K11A0003239

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
TX/RX Control Wires	No	0.2m	No	FTDI Friend Module	Radio Module
USB to Mini-USB	No	1.5m	No	FTDI Friend Module	USB Extension
USB Extension	No	5m	No	USB to Mini-USB	Laptop Computer
AC Power (Laptop)	No	2m	No	AC Mains	AC/DC Adapter (Laptop)
DC Power (Laptop)	No	1m	No	AC/DC Adapter (Laptop)	Laptop Computer

Configuration BWMI0004- 2

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

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
FTDI Friend Module	Adafruit	284	GC-2-94V-0
Laptop Computer	Lenovo	20308	0B07240618
AC/DC Adapter (Laptop)	Insignia	NS-PWLC563	14K11A0003239

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
TX/RX Control Wires	No	0.2m	No	FTDI Friend Module	Radio Module
USB to Mini-USB	No	1.5m	No	FTDI Friend Module	USB Extension
AC Power (Laptop)	No	2m	No	AC Mains	AC/DC Adapter (Laptop)
DC Power (Laptop)	No	1m	No	AC/DC Adapter (Laptop)	Laptop Computer

MODIFICATIONS

2017-1-25

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	5/3/2017	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	5/4/2017	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

OUTPUT POWER

XMit 2017.02.08

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	E4422B	TGS	3/27/2015	3/27/2018
Power Supply - DC	B&K Precision	9110	TQI	NCR	NCR
Cable	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018

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 the levels as specified in the datasheet.

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.

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +36 dBm.

OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	**FoundMiWallet**			**Work Order:**	**BWMI0004**
Serial Number:	**None**			**Date:**	**05/04/17**
Customer:	**Bioworld Merchandising, Inc.**			**Temperature:**	**23.4 °C**
Attendees:	**None**			**Humidity:**	**37.1% RH**
Project:	**None**			**Barometric Pres.:**	**1022 mbar**
Tested by:	**Jonathan Kiefer**	**Power:**	**3VDC**	**Job Site:**	**TX09**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Output Power Settings : Low Ch +4 dBm, Mid Ch -5 dBm, High Ch -5 dBm.

DEVIATIONS FROM TEST STANDARD

None

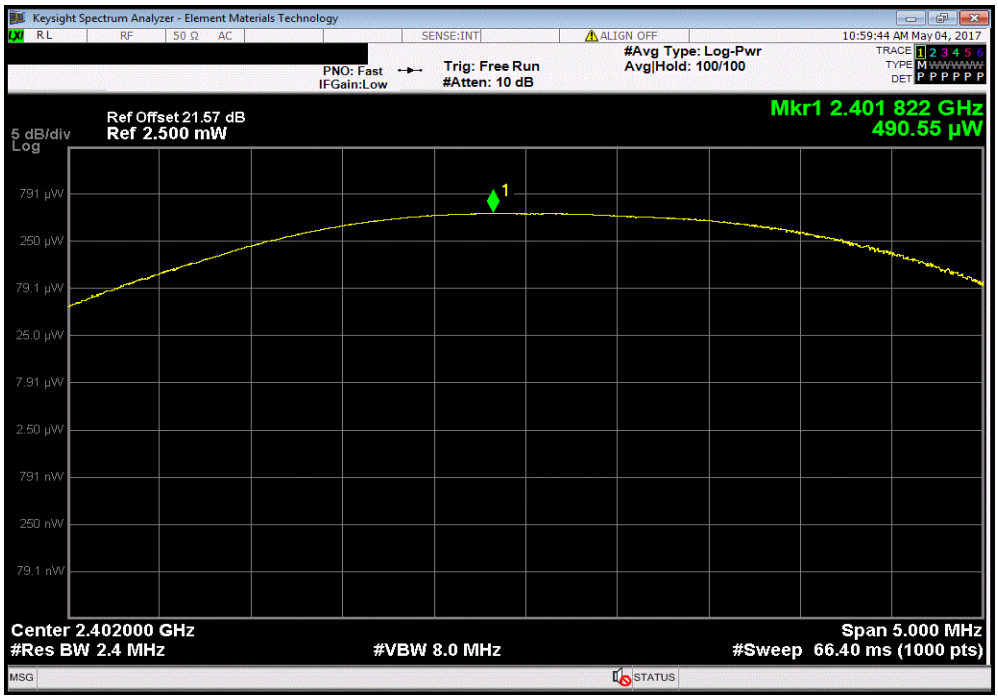
Configuration #	**2**	*Signature* Jonathan Kiefer

	Value	**Limit (<)**	**Result**
BLE/GFSK Low Channel, 2402 MHz	490.55 uW	1 W	Pass
BLE/GFSK Mid Channel, 2442 MHz	65.099 uW	1 W	Pass
BLE/GFSK High Channel, 2480 MHz	45.641 uW	1 W	Pass

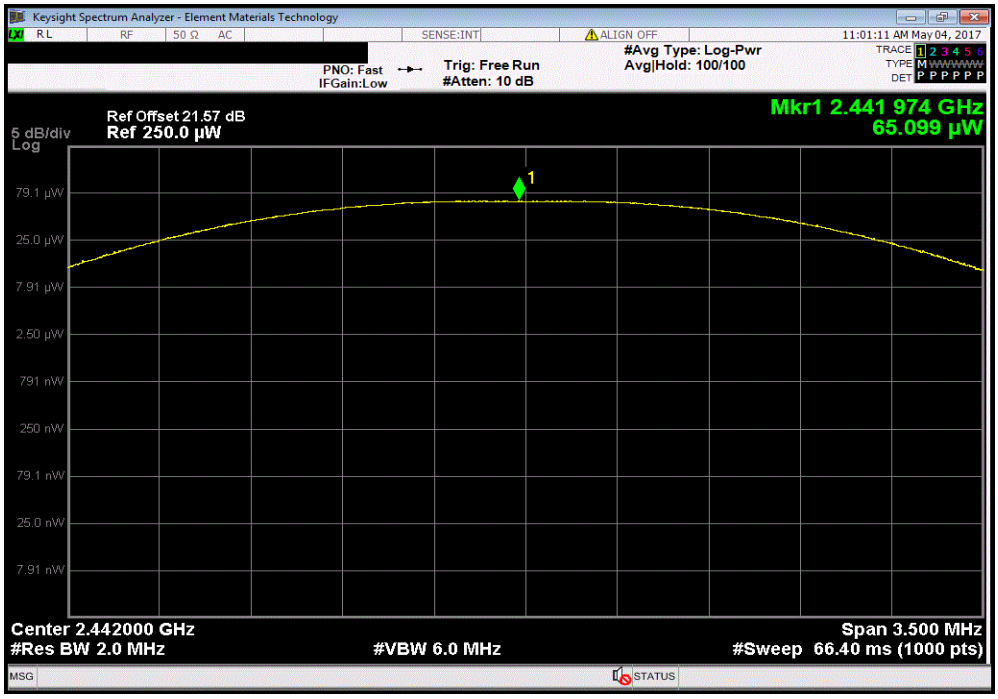
OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.02.08

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



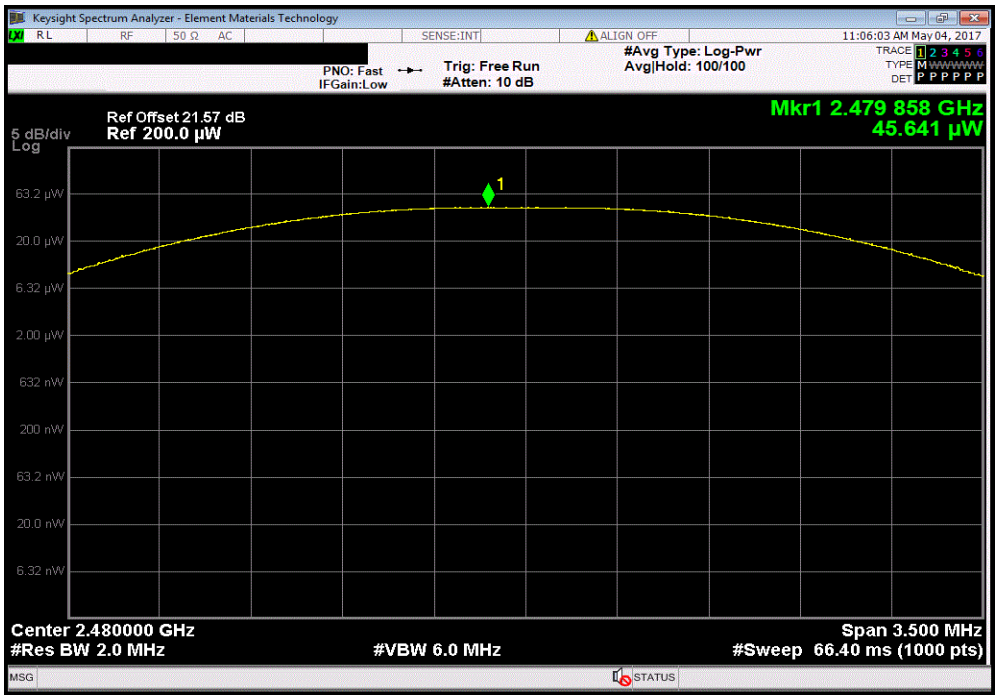
BLE/GFSK Mid Channel, 2442 MHz						
				Value	Limit (<)	Result
				65.099 uW	1 W	Pass



OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.02.08

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



SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2017.01.26

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 Ch 2402 MHz, High Ch 2480 MHz
Continuously Transmitting at Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz

POWER SETTINGS INVESTIGATED

3VDC

CONFIGURATIONS INVESTIGATED

BWMI0004 - 1

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
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	11/9/2016	12 mo
Antenna - Biconilog	ETS Lindgren	3143B	AYF	4/13/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1551	PAH	11/9/2016	12 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	10/4/2016	12 mo
Cable	Northwest EMC	1-8.2 GHz	TXC	5/31/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJN	9/15/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAJ	5/31/2016	12 mo
Cable	Northwest EMC	8-18GHz	TXD	5/31/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AJF	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	PAK	10/18/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AJG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	PAL	10/12/2016	12 mo
Cable	Northwest EMC	18-40GHz	TXE	11/18/2016	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	8/5/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAM	11/18/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	8/5/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HGC	3/1/2017	12 mo
Attenuator	Weinschel Corp	4H-20	AWB	3/3/2017	12 mo

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 at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.

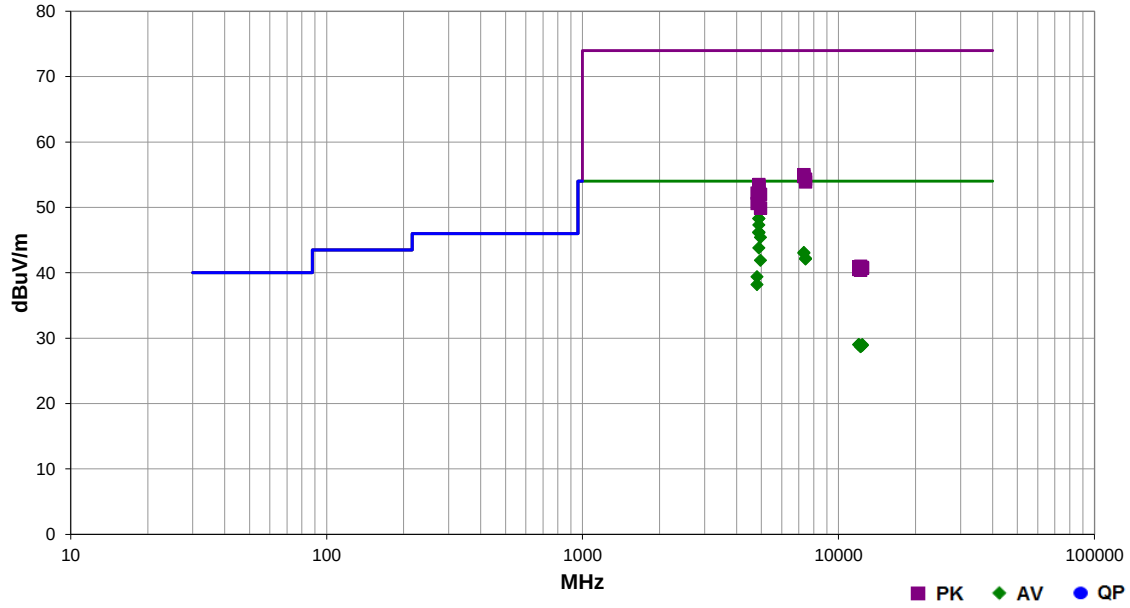
SPURIOUS RADIATED EMISSIONS

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	BWMI0004	**Date:**	05/03/17		
Project:	None	**Temperature:**	22.8 °C		
Job Site:	TX02	**Humidity:**	47.7% RH		
Serial Number:	None	**Barometric Pres.:**	1011 mbar	**Tested by:**	Jonathan Kiefer
EUT:	FoundMiWallet				
Configuration:	1				
Customer:	Bioworld Merchandising, Inc.				
Attendees:	None				
EUT Power:	3VDC				
Operating Mode:	Continuously Transmitting at Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz				
Deviations:	None				
Comments:	Harmonics data. Output Power Settings: Low Ch +4 dBm, Mid Ch -5 dBm, High Ch -5 dBm.				

Test Specifications	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

Run #	28	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



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
4883.967	41.9	6.4	2.1	67.0	3.0	0.0	Horz	AV	0.0	48.3	54.0	-5.7	Mid Ch, EUT Vertical, -5dBm
4883.983	41.9	6.4	2.0	270.0	3.0	0.0	Horz	AV	0.0	48.3	54.0	-5.7	Mid Ch, EUT Vertical, -5dBm
4883.933	40.9	6.4	3.6	145.0	3.0	0.0	Horz	AV	0.0	47.3	54.0	-6.7	Mid Ch, EUT On Side, -5dBm
4884.025	39.8	6.4	3.7	164.0	3.0	0.0	Vert	AV	0.0	46.2	54.0	-7.8	Mid Ch, EUT Horizontal, -5dBm
4883.942	39.8	6.4	2.2	151.0	3.0	0.0	Vert	AV	0.0	46.2	54.0	-7.8	Mid Ch, EUT On Side, -5dBm
4884.000	39.7	6.4	2.2	76.9	3.0	0.0	Horz	AV	0.0	46.1	54.0	-7.9	Mid Ch, EUT Horizontal, -5dBm
4959.950	39.0	6.4	2.1	270.0	3.0	0.0	Horz	AV	0.0	45.4	54.0	-8.6	High Ch, EUT Vertical, -5dBm
4883.967	37.4	6.4	1.8	196.9	3.0	0.0	Vert	AV	0.0	43.8	54.0	-10.2	Mid Ch, EUT Vertical, -5dBm
7326.817	29.5	13.6	1.2	148.9	3.0	0.0	Vert	AV	0.0	43.1	54.0	-10.9	Mid Ch, EUT Horizontal, -5dBm
7326.083	29.4	13.6	1.2	235.0	3.0	0.0	Horz	AV	0.0	43.0	54.0	-11.0	Mid Ch, EUT Vertical, -5dBm
7440.158	28.6	13.6	1.2	312.0	3.0	0.0	Horz	AV	0.0	42.2	54.0	-11.8	High Ch, EUT Vertical, -5dBm
7441.633	28.5	13.6	1.2	52.9	3.0	0.0	Vert	AV	0.0	42.1	54.0	-11.9	High Ch, EUT Horizontal, -5dBm
4960.108	35.5	6.4	1.8	264.0	3.0	0.0	Vert	AV	0.0	41.9	54.0	-12.1	High Ch, EUT Horizontal, -5dBm
4804.008	33.2	6.2	2.3	31.0	3.0	0.0	Horz	AV	0.0	39.4	54.0	-14.6	Low Ch, EUT Vertical, +4dBm
4803.942	32.0	6.2	1.6	266.0	3.0	0.0	Vert	AV	0.0	38.2	54.0	-15.8	Low Ch, EUT Horizontal, +4dBm
7325.208	41.4	13.6	1.2	148.9	3.0	0.0	Vert	PK	0.0	55.0	74.0	-19.0	Mid Ch, EUT Horizontal, -5dBm
7327.808	41.1	13.6	1.2	235.0	3.0	0.0	Horz	PK	0.0	54.7	74.0	-19.3	Mid Ch, EUT Vertical, -5dBm
7441.333	40.7	13.6	1.2	52.9	3.0	0.0	Vert	PK	0.0	54.3	74.0	-19.7	High Ch, EUT Horizontal, -5dBm
7439.208	40.3	13.6	1.2	312.0	3.0	0.0	Horz	PK	0.0	53.9	74.0	-20.1	High Ch, EUT Vertical, -5dBm
4884.158	47.1	6.4	2.1	67.0	3.0	0.0	Horz	PK	0.0	53.5	74.0	-20.5	Mid Ch, EUT Vertical, -5dBm
4884.100	46.9	6.4	2.0	270.0	3.0	0.0	Horz	PK	0.0	53.3	74.0	-20.7	Mid Ch, EUT Vertical, -5dBm
4883.933	46.6	6.4	3.6	145.0	3.0	0.0	Horz	PK	0.0	53.0	74.0	-21.0	Mid Ch, EUT On Side, -5dBm
4884.108	45.8	6.4	2.2	76.9	3.0	0.0	Horz	PK	0.0	52.2	74.0	-21.8	Mid Ch, EUT Horizontal, -5dBm

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
4883.800	45.8	6.4	2.2	151.0	3.0	0.0	Vert	PK	0.0	52.2	74.0	-21.8	Mid Ch, EUT On Side, -5dBm
4802.800	46.0	6.2	2.3	31.0	3.0	0.0	Horz	PK	0.0	52.2	74.0	-21.8	Low Ch, EUT Vertical, +4dBm
4883.883	45.7	6.4	3.7	164.0	3.0	0.0	Vert	PK	0.0	52.1	74.0	-21.9	Mid Ch, EUT Horizontal, -5dBm
4959.933	45.6	6.4	2.1	270.0	3.0	0.0	Horz	PK	0.0	52.0	74.0	-22.0	High Ch, EUT Vertical, -5dBm
4884.383	44.6	6.4	1.8	196.9	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	Mid Ch, EUT Vertical, -5dBm
4802.725	44.4	6.2	1.6	266.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	Low Ch, EUT Horizontal, +4dBm
4960.425	43.5	6.4	1.8	264.0	3.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	High Ch, EUT Horizontal, -5dBm
12397.580	30.1	-1.1	1.2	316.9	3.0	0.0	Horz	AV	0.0	29.0	54.0	-25.0	High Ch, EUT Vertical, -5dBm
12010.940	31.3	-2.3	1.2	57.0	3.0	0.0	Horz	AV	0.0	29.0	54.0	-25.0	Low Ch, EUT Vertical, +4dBm
12008.110	31.3	-2.3	1.2	57.9	3.0	0.0	Vert	AV	0.0	29.0	54.0	-25.0	Low Ch, EUT Horizontal, +4dBm
12397.690	30.0	-1.1	1.2	318.0	3.0	0.0	Vert	AV	0.0	28.9	54.0	-25.1	High Ch, EUT Horizontal, -5dBm
12208.380	30.7	-2.0	1.2	312.0	3.0	0.0	Horz	AV	0.0	28.7	54.0	-25.3	Mid Ch, EUT Vertical, -5dBm
12209.210	30.7	-2.0	1.2	273.0	3.0	0.0	Vert	AV	0.0	28.7	54.0	-25.3	Mid Ch, EUT Horizontal, -5dBm
12211.390	42.8	-1.8	1.2	273.0	3.0	0.0	Vert	PK	0.0	41.0	74.0	-33.0	Mid Ch, EUT Horizontal, -5dBm
12007.500	43.2	-2.3	1.2	57.9	3.0	0.0	Vert	PK	0.0	40.9	74.0	-33.1	Low Ch, EUT Horizontal, +4dBm
12398.280	41.9	-1.1	1.2	316.9	3.0	0.0	Horz	PK	0.0	40.8	74.0	-33.2	High Ch, EUT Vertical, -5dBm
12398.910	41.8	-1.1	1.2	318.0	3.0	0.0	Vert	PK	0.0	40.7	74.0	-33.3	High Ch, EUT Horizontal, -5dBm
12008.190	42.8	-2.3	1.2	57.0	3.0	0.0	Horz	PK	0.0	40.5	74.0	-33.5	Low Ch, EUT Vertical, +4dBm
12212.130	42.2	-1.8	1.2	312.0	3.0	0.0	Horz	PK	0.0	40.4	74.0	-33.6	Mid Ch, EUT Vertical, -5dBm

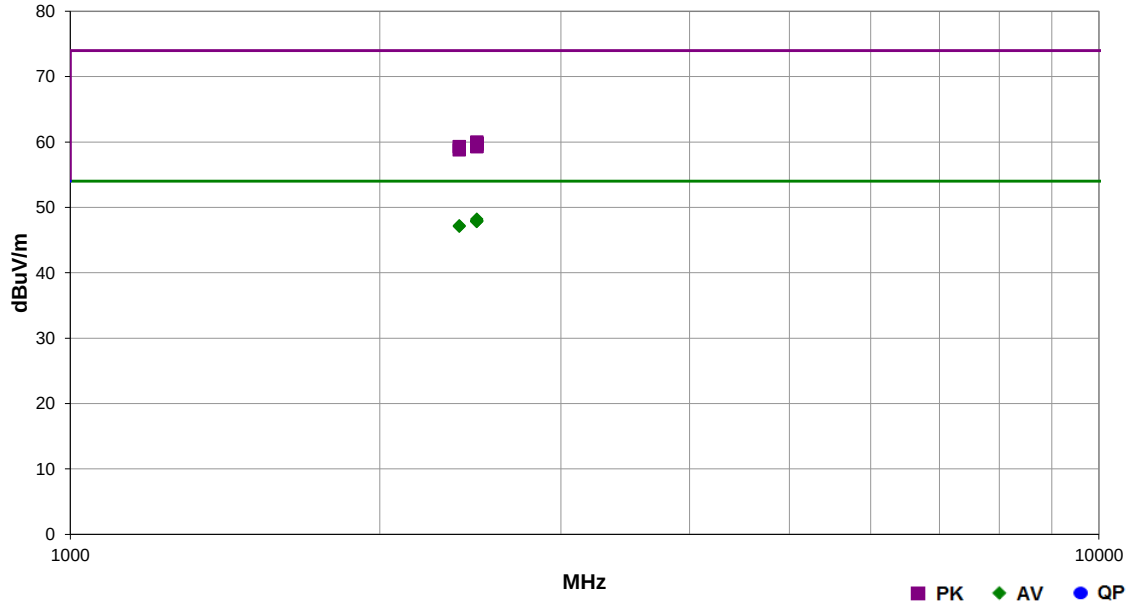
SPURIOUS RADIATED EMISSIONS

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	BWMI0004	**Date:**	05/03/17		
Project:	None	**Temperature:**	22.8 °C		
Job Site:	TX02	**Humidity:**	47.7% RH		
Serial Number:	None	**Barometric Pres.:**	1011 mbar	**Tested by:**	Jonathan Kiefer
EUT:	FoundMiWallet				
Configuration:	1				
Customer:	Bioworld Merchandising, Inc.				
Attendees:	None				
EUT Power:	3VDC				
Operating Mode:	Continuously Transmitting at Low Ch 2402 MHz, High Ch 2480 MHz				
Deviations:	None				
Comments:	Band Edge. Output Power Settings: Low Ch +4 dBm, Mid Ch -5 dBm, High Ch -5 dBm.				

Test Specifications	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

Run #	30	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



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
2484.580	32.9	-4.7	1.2	297.0	3.0	20.0	Horz	AV	0.0	48.2	54.0	-5.8	High Ch, EUT Horizontal, -5dBm
2484.780	32.7	-4.7	1.2	249.9	3.0	20.0	Vert	AV	0.0	48.0	54.0	-6.0	High Ch, EUT Horizontal, -5dBm
2484.297	32.6	-4.7	1.2	182.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	High Ch, EUT Vertical, -5dBm
2484.770	32.6	-4.7	1.2	139.0	3.0	20.0	Vert	AV	0.0	47.9	54.0	-6.1	High Ch, EUT Vertical, -5dBm
2485.067	32.6	-4.7	2.1	210.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	High Ch, EUT On Side, -5dBm
2483.543	32.5	-4.7	1.9	45.0	3.0	20.0	Vert	AV	0.0	47.8	54.0	-6.2	High Ch, EUT On Side, -5dBm
2389.300	32.6	-5.4	1.1	357.0	3.0	20.0	Horz	AV	0.0	47.2	54.0	-6.8	Low Ch, EUT Horizontal, +4dBm
2389.343	32.5	-5.4	1.2	157.0	3.0	20.0	Vert	AV	0.0	47.1	54.0	-6.9	Low Ch, EUT Horizontal, +4dBm
2484.763	44.7	-4.7	1.2	182.0	3.0	20.0	Horz	PK	0.0	60.0	74.0	-14.0	High Ch, EUT Vertical, -5dBm
2485.347	44.5	-4.7	1.2	249.9	3.0	20.0	Vert	PK	0.0	59.8	74.0	-14.2	High Ch, EUT Horizontal, -5dBm
2484.897	44.3	-4.7	1.2	297.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	High Ch, EUT Horizontal, -5dBm
2484.010	44.3	-4.7	1.9	45.0	3.0	20.0	Vert	PK	0.0	59.6	74.0	-14.4	High Ch, EUT On Side, -5dBm
2484.240	44.0	-4.7	1.2	139.0	3.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	High Ch, EUT Vertical, -5dBm
2484.253	44.0	-4.7	2.1	210.0	3.0	20.0	Horz	PK	0.0	59.3	74.0	-14.7	High Ch, EUT On Side, -5dBm
2388.073	44.7	-5.4	1.1	357.0	3.0	20.0	Horz	PK	0.0	59.3	74.0	-14.7	Low Ch, EUT Horizontal, +4dBm
2388.350	44.2	-5.4	1.2	157.0	3.0	20.0	Vert	PK	0.0	58.8	74.0	-15.2	Low Ch, EUT Horizontal, +4dBm