Adidas International, Inc.

Run Genie

FCC 15.207:2015

FCC 15.247:2015

Report # ADID0026.1 Rev.1

NVLAP Lab Code: 200630-0

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. This Report may only be duplicated in its entirety

CERTIFICATE OF TEST

Last Date of Test: August 17, 2015
Adidas International, Inc.
Model: Run Genie

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2015	ANSI C63.10:2013
FCC 15.247:2015	ANSI C63.10:2013

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	Spurious Radiated Emissions	Yes	Pass	
6.7	Spurious Conducted Emissions	Yes	Pass	
6.7	Band Edge Compliance	Yes	Pass	
6.9.1	Occupied Bandwidth	Yes	Pass	
6.10.2	Output Power	Yes	Pass	
6.11.2	Power Spectral Density	Yes	Pass	
7.5	Duty Cycle	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.

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		
01	Updated last test date on the cover, product description, and modifications page	08-19-2015	1, 7, 10
01	Added configuration page	8-19-2015	9
01	Added Spurious radiated emissions for standalone	8-19-2015	22-24

ACCREDITATIONS AND AUTHORIZATIONS

NORTHWEST EMC
REV 2015.2.19

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 Conformity Assessment Body (CAB) under the EMC directive and 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

TMU.2014.12.03

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.

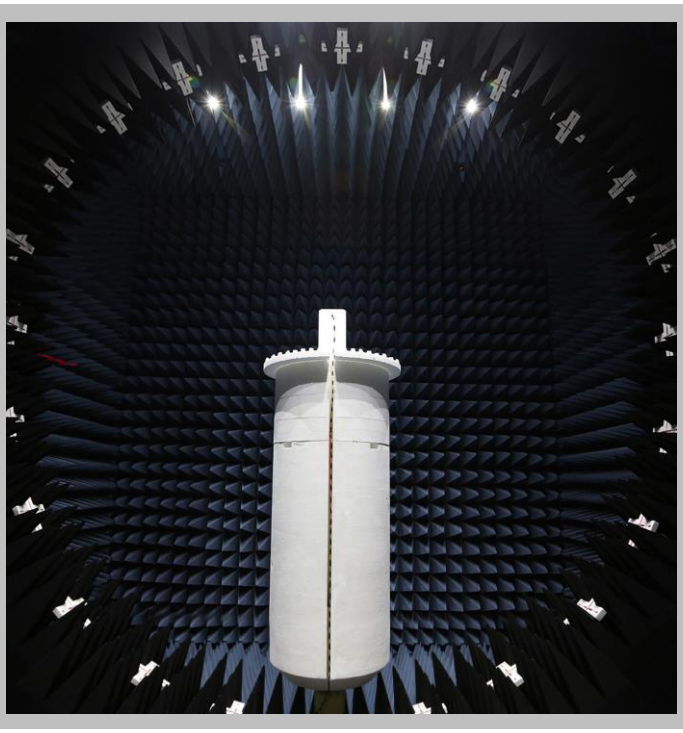
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement 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.

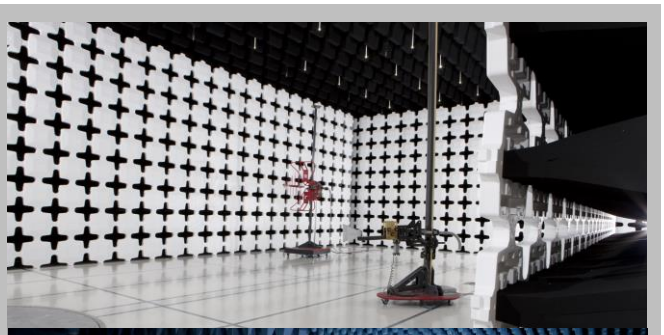
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

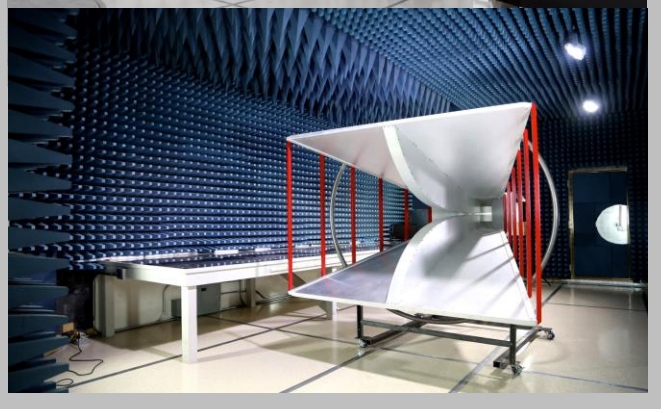
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.9 dB	-2.9 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 120th Ave NE Bothell, WA 9801 (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:	Adidas International, Inc.
Address:	5055 N Greeley Ave
City, State, Zip:	Portland, OR 97214
Test Requested By:	Benjamin Kleiman
Model:	Run Genie
First Date of Test:	June 16, 2015
Last Date of Test:	August 17, 2015
Receipt Date of Samples:	June 02, 2015
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
A wearable gait analysis tool. Two pods are worn--one on each foot for about 1 minute while running. They are charged in a charging station which is plugged into the wall with a wall wart.

Testing Objective:
To demonstrate compliance of the Bluetooth Low Energy radio to FCC 15.247 DTS requirements.

CONFIGURATIONS

Configuration ADID0026- 1

Software/Firmware Running during test	
Description	**Version**
RSP_Emissions_Testing	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Run Genie	Adidas International, Inc.	569	None

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Netbook Computer	Toshiba	NB205	99143306k
Netbook AC/DC Adapter	Toshiba	PA3743U-1ACA	G71C0009T118
USB Dongle	SEGGER	None	PCA10000

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Netbook AC Power Cable	No	1.2m	No	AC/DC Adapter	AC mains
Netbook DC Power Cable	No	1.5m	Yes	Netbook	AC/DC Adapter

Configuration ADID0026- 2

Software/Firmware Running during test	
Description	**Version**
RSP_Emissions_Testing	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Run Genie	Adidas International, Inc.	575	None

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Charging Base	Adidas International, Inc.	None	None
Charging Base AC/DC Adapter	FuYuan Electronic Co.,LTD	FY0501000	None

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Netbook Computer	Toshiba	NB205	99143306k
Netbook AC/DC Adapter	Toshiba	PA3743U-1ACA	G71C0009T118
USB Dongle	SEGGER	None	PCA10000

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
Charging Base DC Power Cable	Unknown	1.2m	No	AC/DC Adapter	Charging base

CONFIGURATIONS

Configuration ADID0026- 4

Software/Firmware Running during test	
Description	**Version**
RSP_Emissions_Testing	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Run Genie	Adidas	575	None

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Netbook Computer	Toshiba	NB205	99143306k
Netbook AC/DC Adapter	Toshiba	PA3743U-1ACA	G71C0009T118
USB Dongle	SEGGER	None	PCA10000

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	6/16/2015	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.
2	6/16/2015	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.
3	6/16/2015	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.
4	6/16/2015	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.
5	6/16/2015	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.
6	6/16/2015	Duty Cycle	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	8/17/2015	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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

On, Continuous Tx, BTLE

MODES OF OPERATION

Ch.0 2402 MHz

Ch.20 2442 MHz

Ch.39 2480 MHz

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

ADID0026 - 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
Cable	ESM Cable Corp.	KMKM-72	EVY	11/9/2014	12 mo
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	11/9/2014	12 mo
Antenna, Horn	ETS Lindgren	3160-09	AIV	NCR	0 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	4/16/2015	12 mo
Antenna, Horn	ETS Lindgren	3160-08	AHV	NCR	0 mo
Cable	None	Standard Gain Horns Cable	EVF	4/20/2015	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	4/20/2015	12 mo
Antenna, Horn	ETS Lindgren	3160-07	AHU	NCR	0 mo
High Pass Filter, 2.8 - 18 GHz	Micro-Tronics	HPM50111	HFO	3/31/2015	12 mo
Attenuator - 20dB, HF (1000MHz - 18000MHz)	Coaxicom	3910-20	AXZ	5/24/2015	12 mo
Cable	N/A	Double Ridge Horn Cables	EVB	4/16/2015	12 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	4/16/2015	12 mo
Antenna, Horn	ETS Lindgren	3115	AIZ	1/27/2014	24 mo
Low Pass Filter, 0 - 1000 MHz	Micro-Tronics	LPM50004	LFD	5/24/2015	12 mo
Cable	N/A	Bilog Cables	EVA	2/10/2015	12 mo
Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/10/2015	12 mo
Antenna, Biconilog	EMCO	3141	AXE	8/29/2014	24 mo
Spectrum Analyzer	Keysight	N9010A	AFN	2/10/2015	12 mo

TEST DESCRIPTION

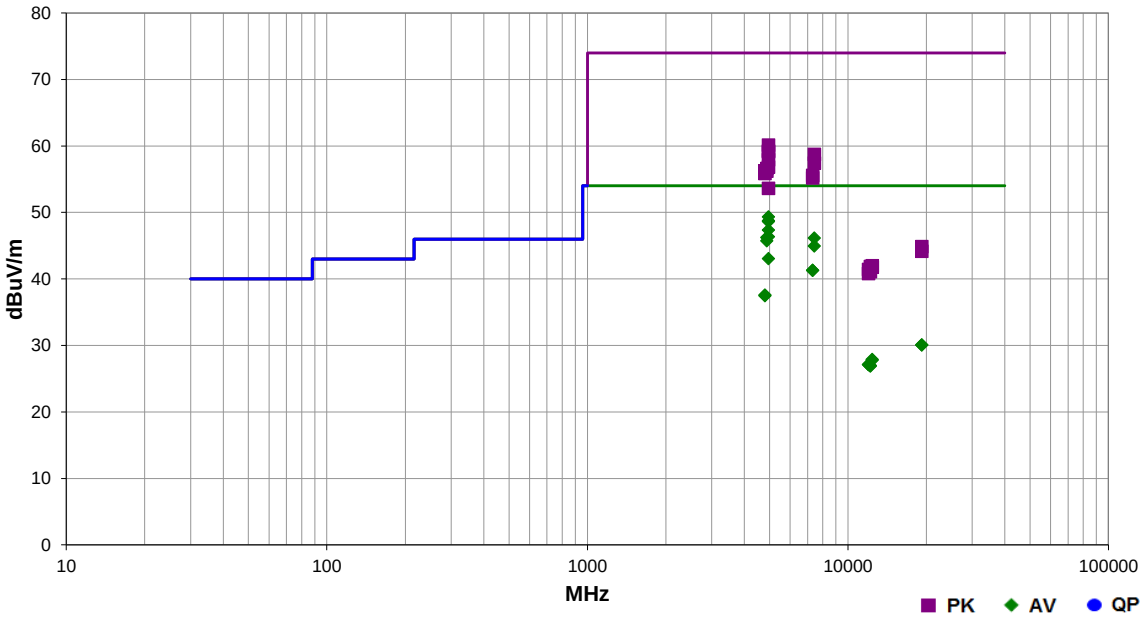
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify 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

Work Order:	ADID0026	**Date:**	06/17/15		
Project:	None	**Temperature:**	23.1 °C		
Job Site:	EV01	**Humidity:**	36.9% RH		
Serial Number:	575	**Barometric Pres.:**	1012.3 mbar	**Tested by:**	Brandon Hobbs
EUT:	Run Genie				
Configuration:	2				
Customer:	Adidas International, Inc.				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	On, Continuous Tx, BTLE				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, frequency and channel.				

Test Specifications	Test Method
FCC 15.247:2015	ANSI C63.10:2009

Run #	34	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
4959.940	41.8	7.5	1.3	22.0	3.0	0.0	Horz	AV	0.0	49.3	54.0	-4.7	Ch.39 2480MHz, EUT On Side
4959.955	41.2	7.5	1.2	167.0	3.0	0.0	Vert	AV	0.0	48.7	54.0	-5.3	Ch.39 2480MHz, EUT Vert
4959.925	41.1	7.5	1.3	339.0	3.0	0.0	Horz	AV	0.0	48.6	54.0	-5.4	Ch.39 2480MHz, EUT Vert
4959.925	39.8	7.5	1.6	98.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	Ch.39 2480MHz, EUT Horz
4959.950	38.8	7.5	1.0	180.0	3.0	0.0	Horz	AV	0.0	46.3	54.0	-7.7	Ch.39 2480MHz, EUT Horz
4883.960	38.8	7.4	1.1	170.0	3.0	0.0	Vert	AV	0.0	46.2	54.0	-7.8	Ch.20 2442MHz, EUT Vert
7439.825	30.7	15.4	1.0	63.0	3.0	0.0	Horz	AV	0.0	46.1	54.0	-7.9	Ch.39 2480MHz, EUT On Side
4883.950	38.3	7.4	1.1	208.0	3.0	0.0	Horz	AV	0.0	45.7	54.0	-8.3	Ch.20 2442MHz, EUT On Side
7439.792	29.5	15.4	1.6	317.0	3.0	0.0	Vert	AV	0.0	44.9	54.0	-9.1	Ch.39 2480MHz, EUT Vert
4959.900	35.5	7.5	1.0	104.0	3.0	0.0	Vert	AV	0.0	43.0	54.0	-11.0	Ch.39 2480MHz, EUT On Side
7326.045	26.1	15.2	1.0	25.0	3.0	0.0	Horz	AV	0.0	41.3	54.0	-12.7	Ch.20 2442MHz, EUT On Side
7325.415	26.1	15.2	1.0	291.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	Ch.20 2442MHz, EUT Vert
4960.460	52.6	7.5	1.3	22.0	3.0	0.0	Horz	PK	0.0	60.1	74.0	-13.9	Ch.39 2480MHz, EUT On Side
4959.375	51.7	7.5	1.2	167.0	3.0	0.0	Vert	PK	0.0	59.2	74.0	-14.8	Ch.39 2480MHz, EUT Vert
4959.430	51.6	7.5	1.3	339.0	3.0	0.0	Horz	PK	0.0	59.1	74.0	-14.9	Ch.39 2480MHz, EUT Vert
7439.175	43.3	15.4	1.0	63.0	3.0	0.0	Horz	PK	0.0	58.7	74.0	-15.3	Ch.39 2480MHz, EUT On Side
4960.295	50.4	7.5	1.6	98.0	3.0	0.0	Vert	PK	0.0	57.9	74.0	-16.1	Ch.39 2480MHz, EUT Horz
4803.925	30.2	7.4	1.5	185.0	3.0	0.0	Vert	AV	0.0	37.6	54.0	-16.4	Ch.0 2402MHz, EUT Vert
4803.925	30.1	7.4	1.0	188.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	Ch.0 2402MHz, EUT On Side
7439.233	42.0	15.4	1.6	317.0	3.0	0.0	Vert	PK	0.0	57.4	74.0	-16.6	Ch.39 2480MHz, EUT Vert
4959.505	49.3	7.5	1.0	180.0	3.0	0.0	Horz	PK	0.0	56.8	74.0	-17.2	Ch.39 2480MHz, EUT Horz
4884.450	49.2	7.4	1.1	170.0	3.0	0.0	Vert	PK	0.0	56.6	74.0	-17.4	Ch.20 2442MHz, EUT Vert
4803.645	48.9	7.4	1.5	185.0	3.0	0.0	Vert	PK	0.0	56.3	74.0	-17.7	Ch.0 2402MHz, EUT Vert
4883.645	48.8	7.4	1.1	208.0	3.0	0.0	Horz	PK	0.0	56.2	74.0	-17.8	Ch.20 2442MHz, EUT On Side
4803.835	48.5	7.4	1.0	188.0	3.0	0.0	Horz	PK	0.0	55.9	74.0	-18.1	Ch.0 2402MHz, EUT On Side

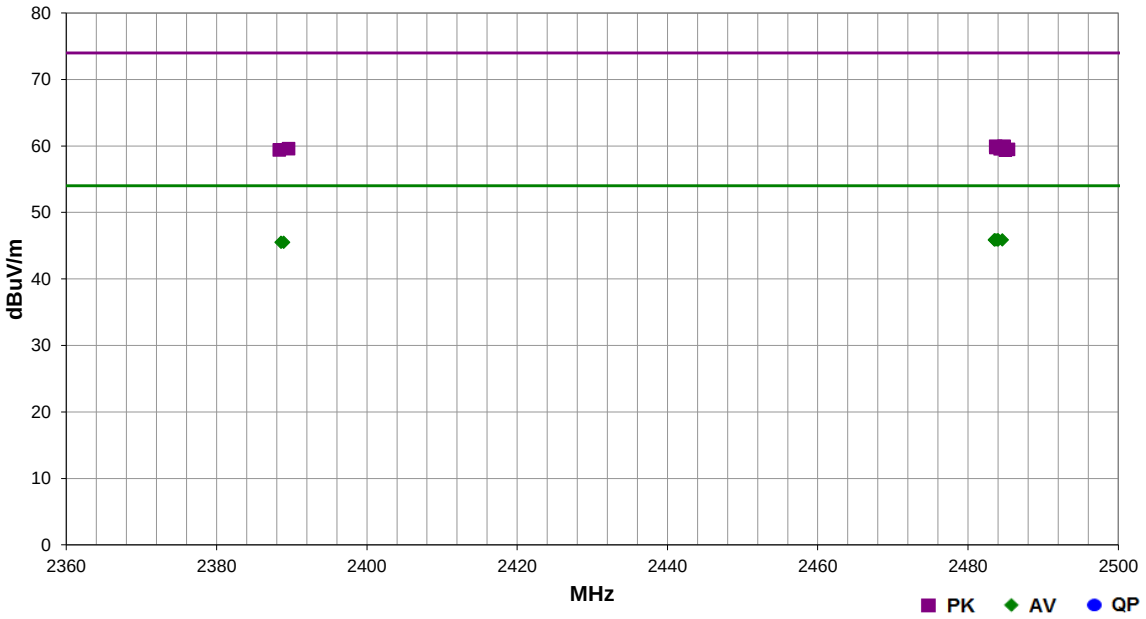
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7325.480	40.4	15.2	1.0	25.0	3.0	0.0	Horz	PK	0.0	55.6	74.0	-18.4	Ch.20 2442MHz, EUT On Side
7325.490	40.0	15.2	1.0	291.0	3.0	0.0	Vert	PK	0.0	55.2	74.0	-18.8	Ch.20 2442MHz, EUT Vert
4960.605	46.1	7.5	1.0	104.0	3.0	0.0	Vert	PK	0.0	53.6	74.0	-20.4	Ch.39 2480MHz, EUT On Side
19214.700	30.7	-0.6	1.2	322.0	3.0	0.0	Vert	AV	0.0	30.1	54.0	-23.9	Ch.0 2402MHz, EUT Vert
19214.320	30.7	-0.6	1.2	265.0	3.0	0.0	Horz	AV	0.0	30.1	54.0	-23.9	Ch.0 2402MHz, EUT On Side
12398.950	26.0	1.9	1.0	149.0	3.0	0.0	Vert	AV	0.0	27.9	54.0	-26.1	Ch.39 2480MHz, EUT Vert
12399.070	25.9	1.9	1.0	207.0	3.0	0.0	Horz	AV	0.0	27.8	54.0	-26.2	Ch.39 2480MHz, EUT On Side
12008.580	27.0	0.1	3.7	44.0	3.0	0.0	Vert	AV	0.0	27.1	54.0	-26.9	Ch.0 2402MHz, EUT Vert
12008.500	27.0	0.1	1.0	42.0	3.0	0.0	Horz	AV	0.0	27.1	54.0	-26.9	Ch.0 2402MHz, EUT On Side
12207.540	25.8	1.2	1.0	188.0	3.0	0.0	Horz	AV	0.0	27.0	54.0	-27.0	Ch.20 2442MHz, EUT On Side
12211.270	25.7	1.2	1.0	63.0	3.0	0.0	Vert	AV	0.0	26.9	54.0	-27.1	Ch.20 2442MHz, EUT Vert
19213.510	45.5	-0.6	1.2	265.0	3.0	0.0	Horz	PK	0.0	44.9	74.0	-29.1	Ch.0 2402MHz, EUT On Side
19217.580	44.8	-0.6	1.2	322.0	3.0	0.0	Vert	PK	0.0	44.2	74.0	-29.8	Ch.0 2402MHz, EUT Vert
12398.460	40.1	1.9	1.0	207.0	3.0	0.0	Horz	PK	0.0	42.0	74.0	-32.0	Ch.39 2480MHz, EUT On Side
12210.660	40.7	1.2	1.0	188.0	3.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	Ch.20 2442MHz, EUT On Side
12398.740	39.9	1.9	1.0	149.0	3.0	0.0	Vert	PK	0.0	41.8	74.0	-32.2	Ch.39 2480MHz, EUT Vert
12010.980	41.3	0.1	3.7	44.0	3.0	0.0	Vert	PK	0.0	41.4	74.0	-32.6	Ch.0 2402MHz, EUT Vert
12210.110	39.9	1.2	1.0	63.0	3.0	0.0	Vert	PK	0.0	41.1	74.0	-32.9	Ch.20 2442MHz, EUT Vert
12009.590	40.7	0.1	1.0	42.0	3.0	0.0	Horz	PK	0.0	40.8	74.0	-33.2	Ch.0 2402MHz, EUT On Side

SPURIOUS RADIATED EMISSIONS

Work Order:	ADID0026	**Date:**	06/17/15		
Project:	None	**Temperature:**	23.1 °C		
Job Site:	EV01	**Humidity:**	36.9% RH		
Serial Number:	575	**Barometric Pres.:**	1012.3 mbar	**Tested by:**	Brandon Hobbs
EUT:	Run Genie				
Configuration:	2				
Customer:	Adidas International, Inc.				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	On, Continuous Tx, BTLE				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, frequency and channel.				

Test Specifications	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

Run #	37	**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
2484.577	28.9	-3.0	1.0	108.0	3.0	20.0	Horz	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT On Side
2484.023	28.9	-3.0	1.2	254.0	3.0	20.0	Horz	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT Horz
2483.967	28.9	-3.0	1.0	262.0	3.0	20.0	Horz	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT Vert
2483.733	28.9	-3.0	1.0	287.0	3.0	20.0	Vert	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT On Side
2483.557	28.9	-3.0	3.2	91.0	3.0	20.0	Vert	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT Horz
2483.517	28.9	-3.0	1.0	289.0	3.0	20.0	Vert	AV	0.0	45.9	54.0	-8.1	Ch.39 2480MHz, EUT Vert
2388.580	28.8	-3.3	1.0	276.0	3.0	20.0	Vert	AV	0.0	45.5	54.0	-8.5	Ch.0 2402MHz, EUT Horz
2388.923	28.8	-3.3	1.0	118.0	3.0	20.0	Horz	AV	0.0	45.5	54.0	-8.5	Ch.0 2402MHz, EUT Vert
2484.800	43.0	-3.0	3.2	91.0	3.0	20.0	Vert	PK	0.0	60.0	74.0	-14.0	Ch.39 2480MHz, EUT Horz
2483.687	43.0	-3.0	1.0	289.0	3.0	20.0	Vert	PK	0.0	60.0	74.0	-14.0	Ch.39 2480MHz, EUT Vert
2483.717	42.8	-3.0	1.0	262.0	3.0	20.0	Horz	PK	0.0	59.8	74.0	-14.2	Ch.39 2480MHz, EUT Vert
2389.560	42.9	-3.3	1.0	118.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	Ch.0 2402MHz, EUT Vert
2484.273	42.6	-3.0	1.0	108.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	Ch.39 2480MHz, EUT On Side
2485.387	42.5	-3.0	1.0	287.0	3.0	20.0	Vert	PK	0.0	59.5	74.0	-14.5	Ch.39 2480MHz, EUT On Side
2388.327	42.7	-3.3	1.0	276.0	3.0	20.0	Vert	PK	0.0	59.4	74.0	-14.6	Ch.0 2402MHz, EUT Horz
2484.967	42.4	-3.0	1.2	254.0	3.0	20.0	Horz	PK	0.0	59.4	74.0	-14.6	Ch.39 2480MHz, EUT Horz

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

On, Continuous Tx/Rx, BTLE

CHANNELS OF OPERATION

Ch.39 2480 MHz

POWER SETTINGS INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

ADID0026 - 4

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2/10/2015	12 mo
Attenuator	Coaxicom	3910-20	AXZ	5/24/2015	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HFO	3/31/2015	12 mo
Antenna - Log Periodic	EMCO	3146	ALF	11/14/2013	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	11/9/2014	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	4/16/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	7/13/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	4/20/2015	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0 mo
Cable	N/A	Double Ridge Horn Cables	EVB	4/16/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	4/16/2015	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	1/27/2014	24 mo
Cable	N/A	Bilog Cables	EVA	2/10/2015	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/10/2015	12 mo
Antenna - Biconilog	EMCO	3141	AXE	8/29/2014	24 mo

TEST DESCRIPTION

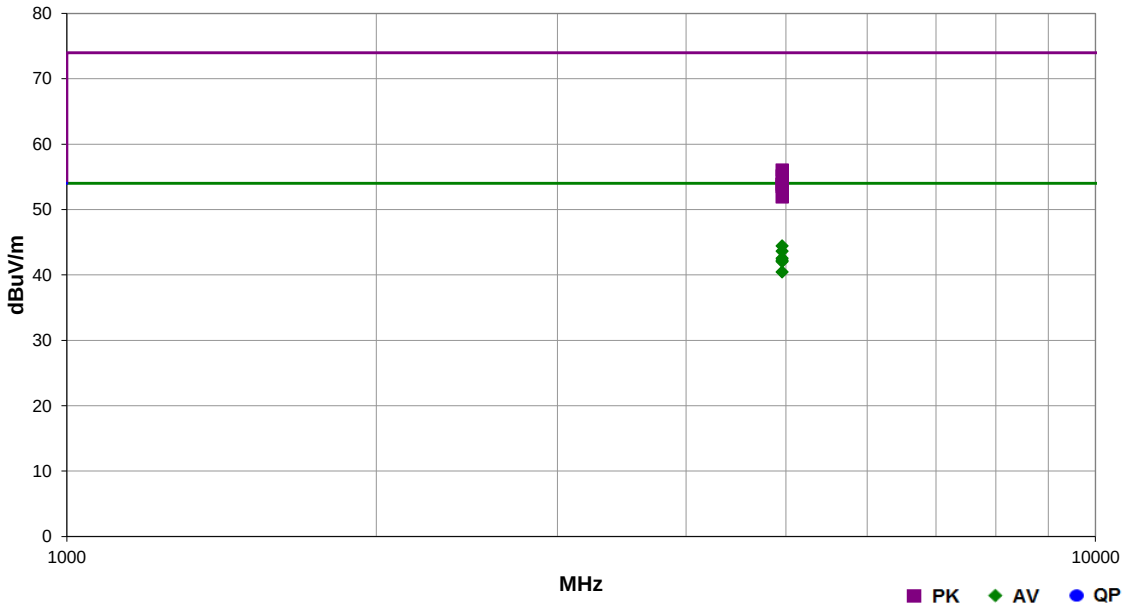
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify 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

Work Order:	ADID0026	**Date:**	08/17/15		
Project:	None	**Temperature:**	25.3 °C		
Job Site:	EV01	**Humidity:**	41% RH		
Serial Number:	575	**Barometric Pres.:**	1017.7 mbar	**Tested by:**	Brandon Hobbs
EUT:	Run Genie				
Configuration:	4				
Customer:	Adidas International, Inc.				
Attendees:	None				
EUT Power:	Battery				
Operating Mode:	On, Continuous Tx/Rx, BTLE				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, frequency and channel. Without a charging station				

Test Specifications	**Test Method**
FCC 15.247:2015	ANSI C63.10:2013

Run #	52	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



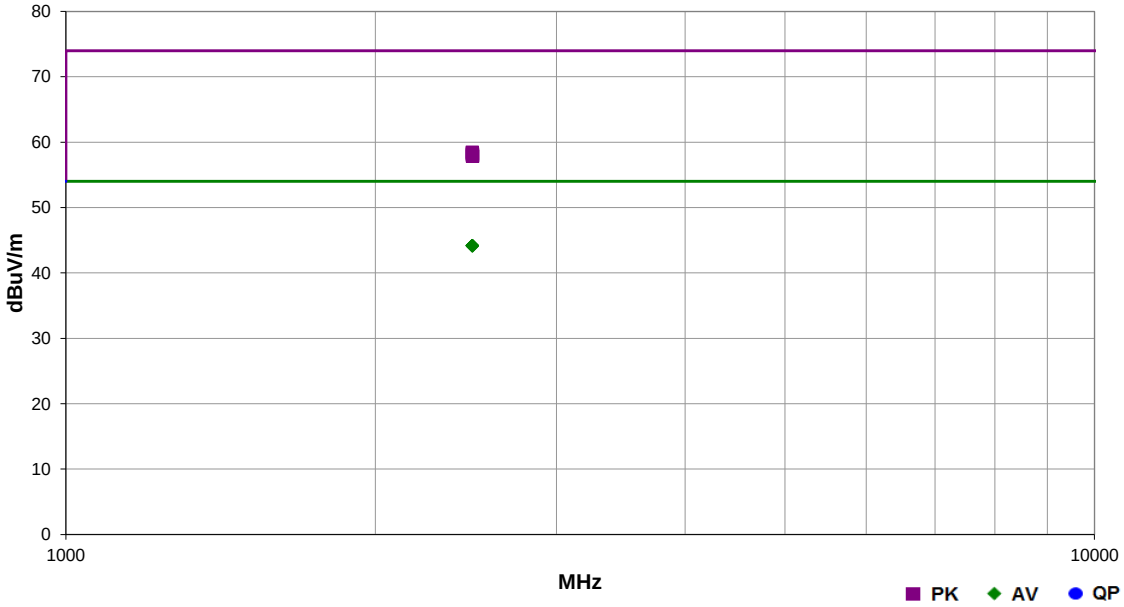
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4959.930	36.9	7.5	3.1	38.0	3.0	0.0	Horz	AV	0.0	44.4	54.0	-9.6	High Ch. 2480 MHz, EUT On Side
4959.945	36.1	7.5	3.3	279.0	3.0	0.0	Horz	AV	0.0	43.6	54.0	-10.4	High Ch. 2480 MHz, EUT Horz
4959.940	35.0	7.5	1.0	354.0	3.0	0.0	Vert	AV	0.0	42.5	54.0	-11.5	High Ch. 2480 MHz, EUT Horz
4959.940	34.7	7.5	3.1	232.0	3.0	0.0	Horz	AV	0.0	42.2	54.0	-11.8	High Ch. 2480 MHz, EUT Vert
4959.910	34.5	7.5	3.1	170.0	3.0	0.0	Vert	AV	0.0	42.0	54.0	-12.0	High Ch. 2480 MHz, EUT On Side
4959.915	32.9	7.5	1.0	44.0	3.0	0.0	Vert	AV	0.0	40.4	54.0	-13.6	High Ch. 2480 MHz, EUT Vert
4959.450	48.5	7.5	3.1	38.0	3.0	0.0	Horz	PK	0.0	56.0	74.0	-18.0	High Ch. 2480 MHz, EUT On Side
4960.305	47.6	7.5	3.3	279.0	3.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	High Ch. 2480 MHz, EUT Horz
4960.460	46.4	7.5	1.0	354.0	3.0	0.0	Vert	PK	0.0	53.9	74.0	-20.1	High Ch. 2480 MHz, EUT Horz
4959.560	46.3	7.5	3.1	170.0	3.0	0.0	Vert	PK	0.0	53.8	74.0	-20.2	High Ch. 2480 MHz, EUT On Side
4959.460	46.0	7.5	3.1	232.0	3.0	0.0	Horz	PK	0.0	53.5	74.0	-20.5	High Ch. 2480 MHz, EUT Vert
4959.490	44.4	7.5	1.0	44.0	3.0	0.0	Vert	PK	0.0	51.9	74.0	-22.1	High Ch. 2480 MHz, EUT Vert

SPURIOUS RADIATED EMISSIONS

Work Order:	ADID0026	**Date:**	08/17/15		
Project:	None	**Temperature:**	25.3 °C		
Job Site:	EV01	**Humidity:**	41% RH		
Serial Number:	575	**Barometric Pres.:**	1017.7 mbar	**Tested by:**	Brandon Hobbs
EUT:	Run Genie				
Configuration:	4				
Customer:	Adidas International, Inc.				
Attendees:	None				
EUT Power:	Battery				
Operating Mode:	On, Continuous Tx/Rx, BTLE				
Deviations:	None				
Comments:	Please reference the data comments for EUT orientation, frequency and channel. Without a charging station. Band Edge				

Test Specifications	Test Method
FCC 15.247:2015	ANSI C63.10:2013

Run #	53	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
2484.880	27.2	-3.0	1.0	97.0	3.0	20.0	Horz	AV	0.0	44.2	54.0	-9.8	High Ch. 2480 MHz, EUT On Side
2484.650	27.2	-3.0	1.0	87.0	3.0	20.0	Vert	AV	0.0	44.2	54.0	-9.8	High Ch. 2480 MHz, EUT Vert
2484.003	27.2	-3.0	1.2	266.0	3.0	20.0	Vert	AV	0.0	44.2	54.0	-9.8	High Ch. 2480 MHz, EUT Horz
2483.747	27.2	-3.0	1.0	153.0	3.0	20.0	Vert	AV	0.0	44.2	54.0	-9.8	High Ch. 2480 MHz, EUT On Side
2483.750	27.2	-3.0	1.0	36.0	3.0	20.0	Horz	AV	0.0	44.2	54.0	-9.8	High Ch. 2480 MHz, EUT Horz
2484.267	27.1	-3.0	1.0	293.0	3.0	20.0	Horz	AV	0.0	44.1	54.0	-9.9	High Ch. 2480 MHz, EUT Vert
2483.720	41.5	-3.0	1.0	36.0	3.0	20.0	Horz	PK	0.0	58.5	74.0	-15.5	High Ch. 2480 MHz, EUT Horz
2484.330	41.3	-3.0	1.0	97.0	3.0	20.0	Horz	PK	0.0	58.3	74.0	-15.7	High Ch. 2480 MHz, EUT On Side
2484.447	41.2	-3.0	1.2	266.0	3.0	20.0	Vert	PK	0.0	58.2	74.0	-15.8	High Ch. 2480 MHz, EUT Horz
2484.677	41.1	-3.0	1.0	293.0	3.0	20.0	Horz	PK	0.0	58.1	74.0	-15.9	High Ch. 2480 MHz, EUT Vert
2485.287	40.9	-3.0	1.0	153.0	3.0	20.0	Vert	PK	0.0	57.9	74.0	-16.1	High Ch. 2480 MHz, EUT On Side
2484.273	40.9	-3.0	1.0	87.0	3.0	20.0	Vert	PK	0.0	57.9	74.0	-16.1	High Ch. 2480 MHz, EUT Vert

SPURIOUS CONDUCTED EMISSIONS

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. 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

NORTHWEST EMC

XMit 2015.01.14

EUT:	**Run Genie**			**Work Order:**	**ADID0026**
Serial Number:	**569**			**Date:**	**06/16/15**
Customer:	**Adidas International, Inc.**			**Temperature:**	**24.7°C**
Attendees:	**None**			**Humidity:**	**39%**
Project:	**None**			**Barometric Pres.:**	**1018.2**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.3VDC Nominal)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

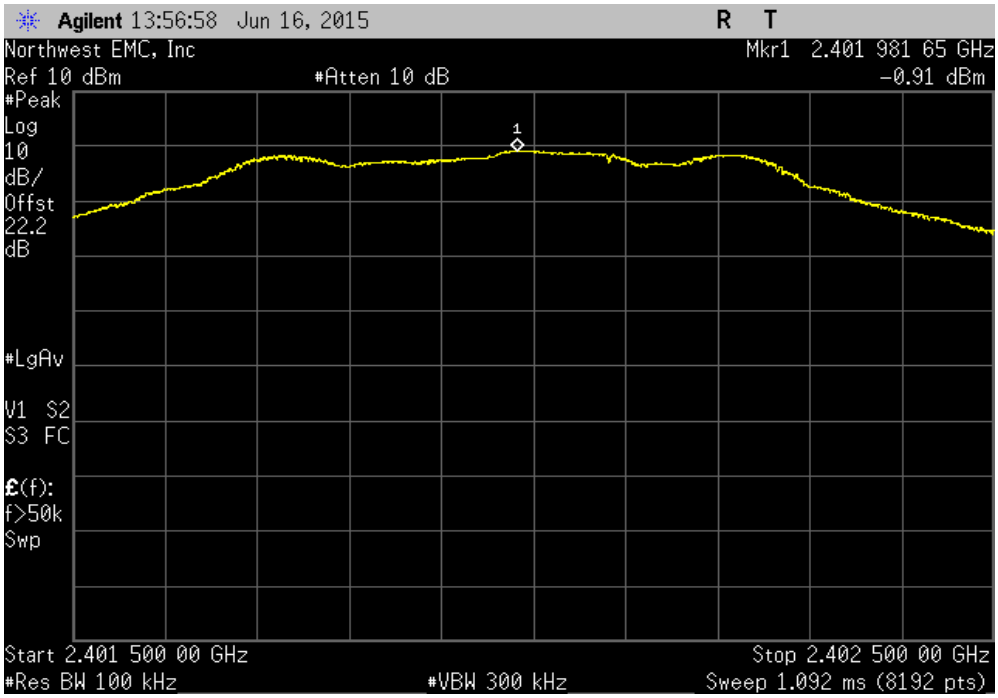
DEVIATIONS FROM TEST STANDARD

None

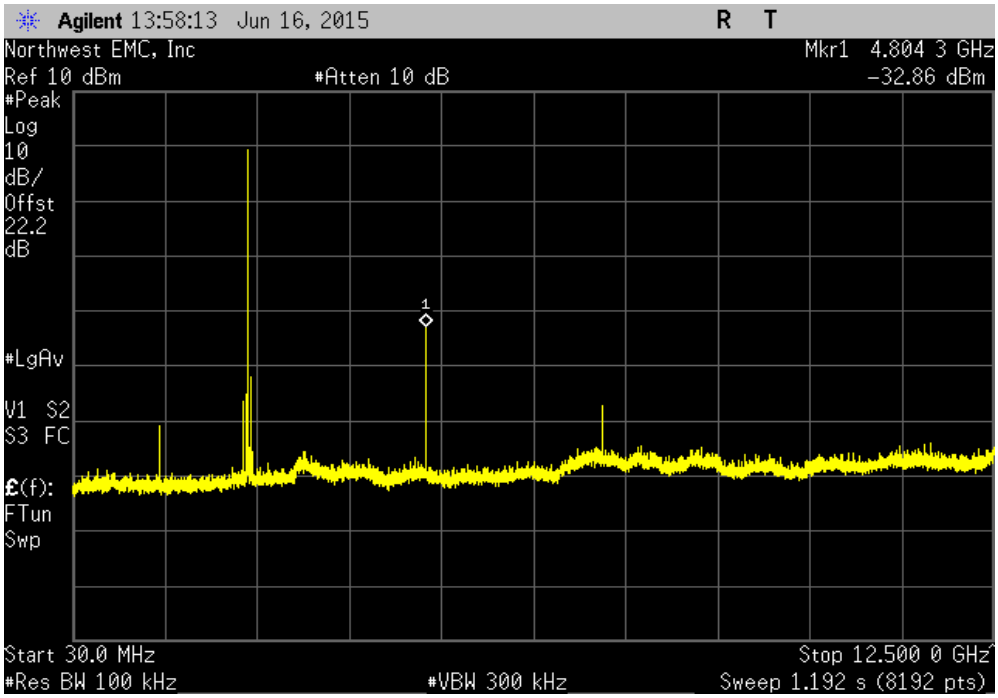
Configuration #	**1**	*Signature*

		Frequency Range	**Value (dBc)**	**Limit ≤ (dBc)**	**Result**
BT LE Antenna					
	Low Channel, 2402 MHz	Fundamental	N/A	N/A	N/A
	Low Channel, 2402 MHz	30 MHz - 12.5 GHz	-31.95	-20	Pass
	Low Channel, 2402 MHz	12.5 GHz - 25 GHz	-46.98	-20	Pass
	Mid Channel, 2442 MHz	Fundamental	N/A	N/A	N/A
	Mid Channel, 2442 MHz	30 MHz - 12.5 GHz	-32.58	-20	Pass
	Mid Channel, 2442 MHz	12.5 GHz - 25 GHz	-45.5	-20	Pass
	High Channel, 2480 MHz	Fundamental	N/A	N/A	N/A
	High Channel, 2480 MHz	30 MHz - 12.5 GHz	-32.1	-20	Pass
	High Channel, 2480 MHz	12.5 GHz - 25 GHz	-44.96	-20	Pass

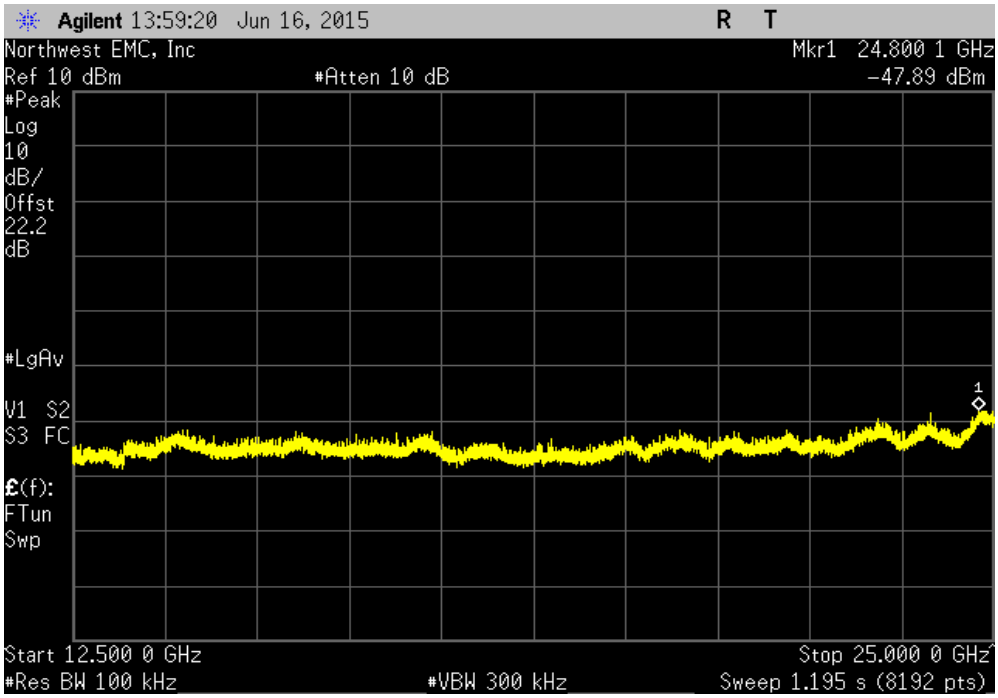
BT LE Antenna , Low Channel, 2402 MHz						
	Frequency Range			Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



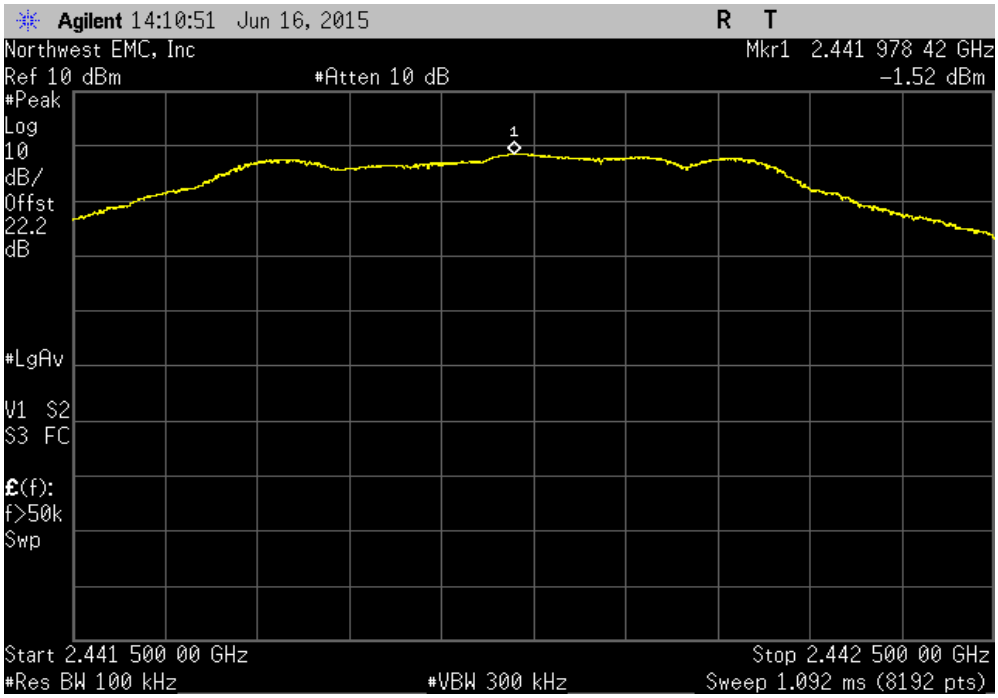
BT LE Antenna , Low Channel, 2402 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-31.95	-20	Pass



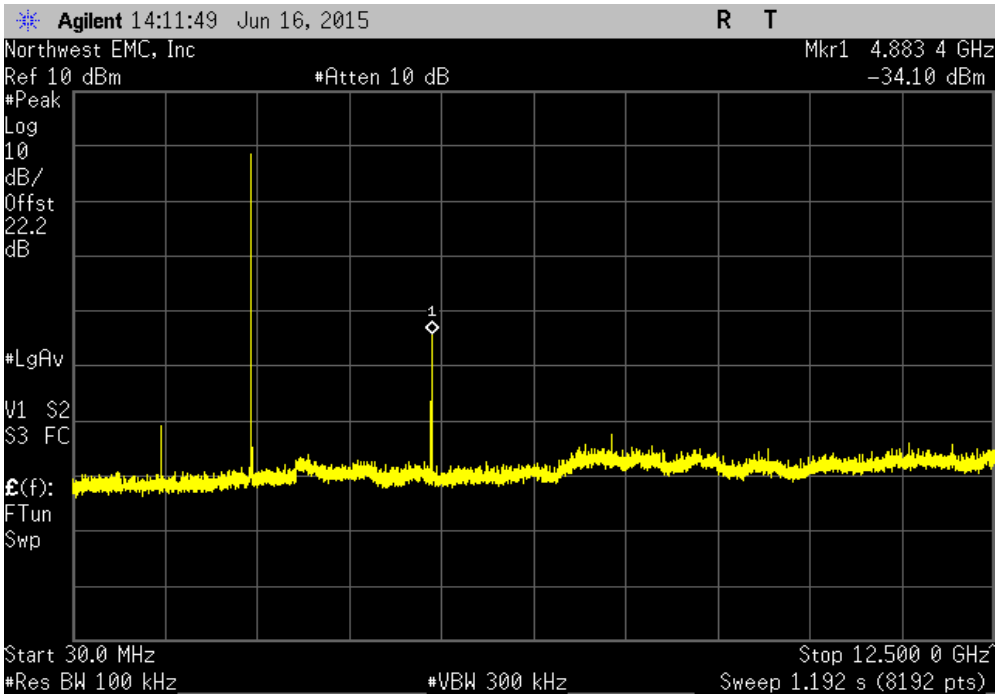
BT LE Antenna , Low Channel, 2402 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-46.98	-20	Pass



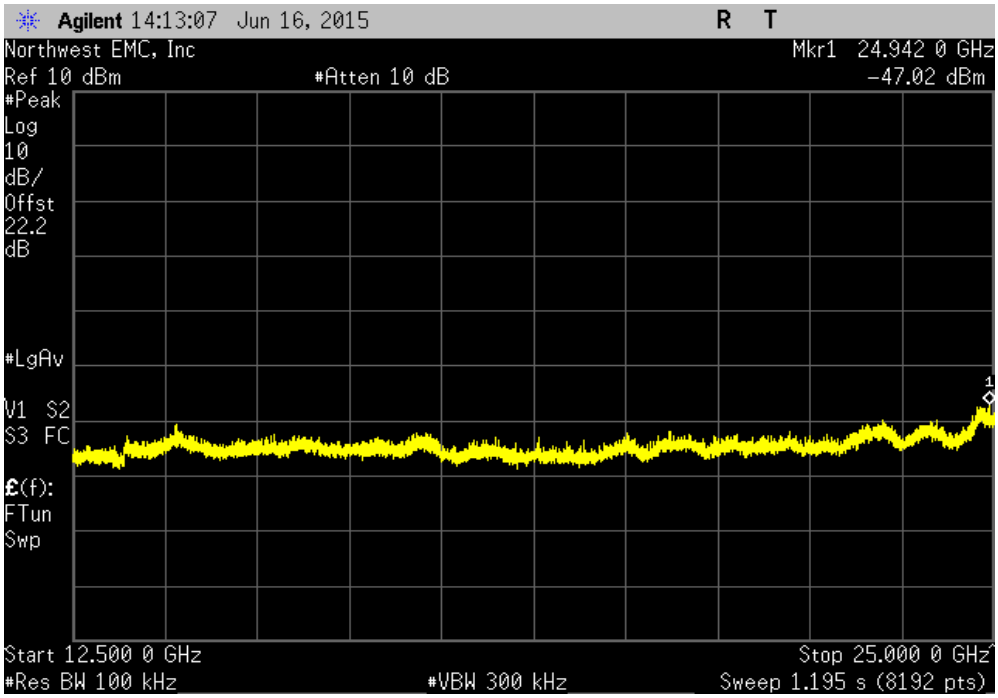
BT LE Antenna , Mid Channel, 2442 MHz						
	Frequency Range			Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



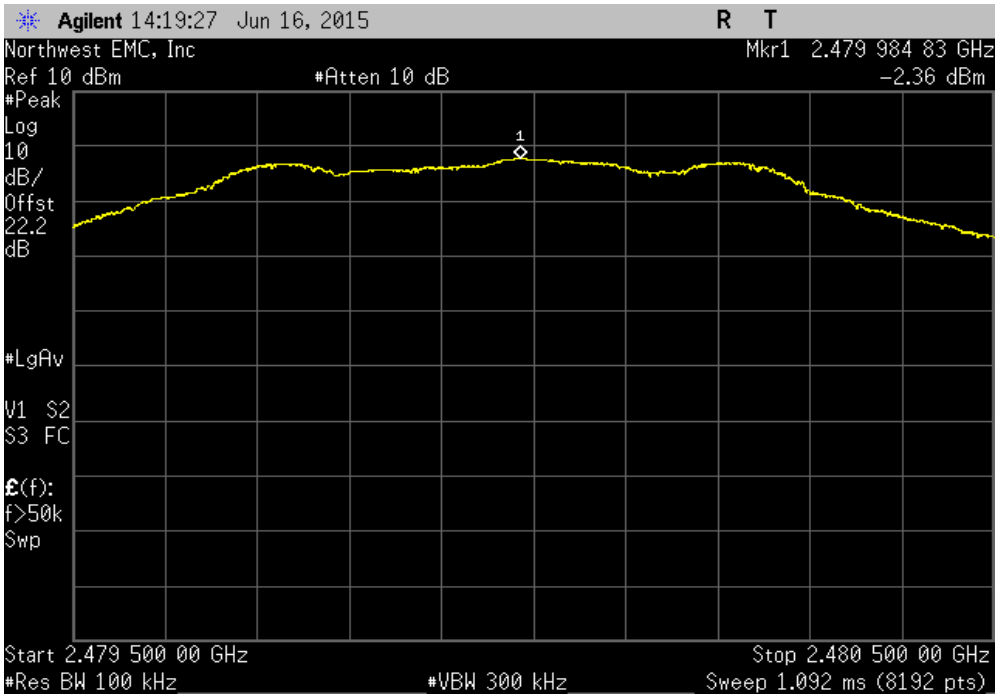
BT LE Antenna , Mid Channel, 2442 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-32.58	-20	Pass



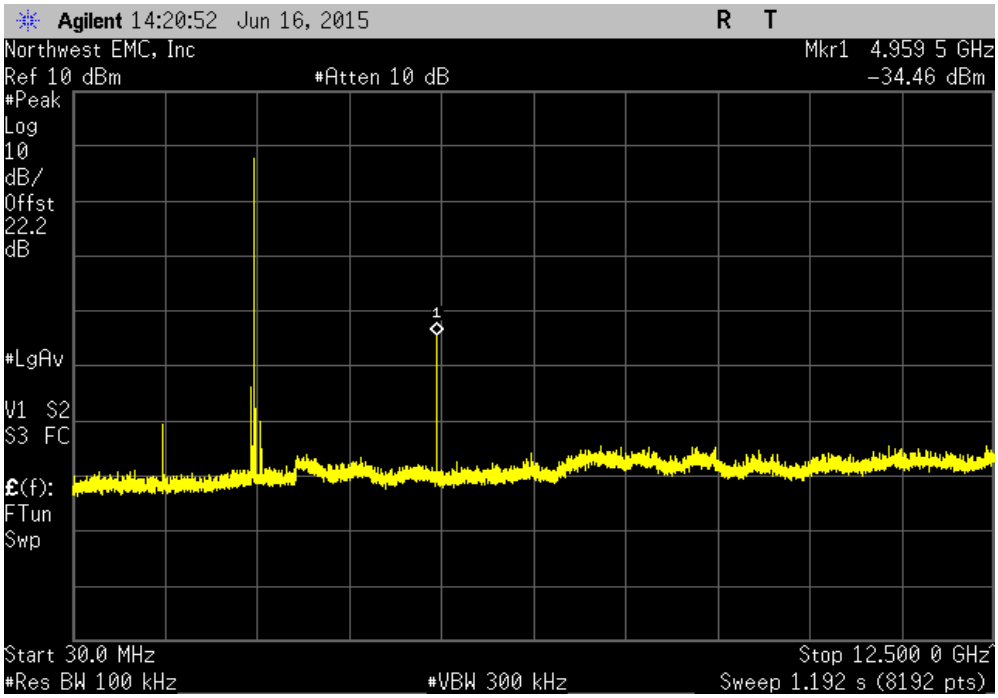
BT LE Antenna , Mid Channel, 2442 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-45.5	-20	Pass



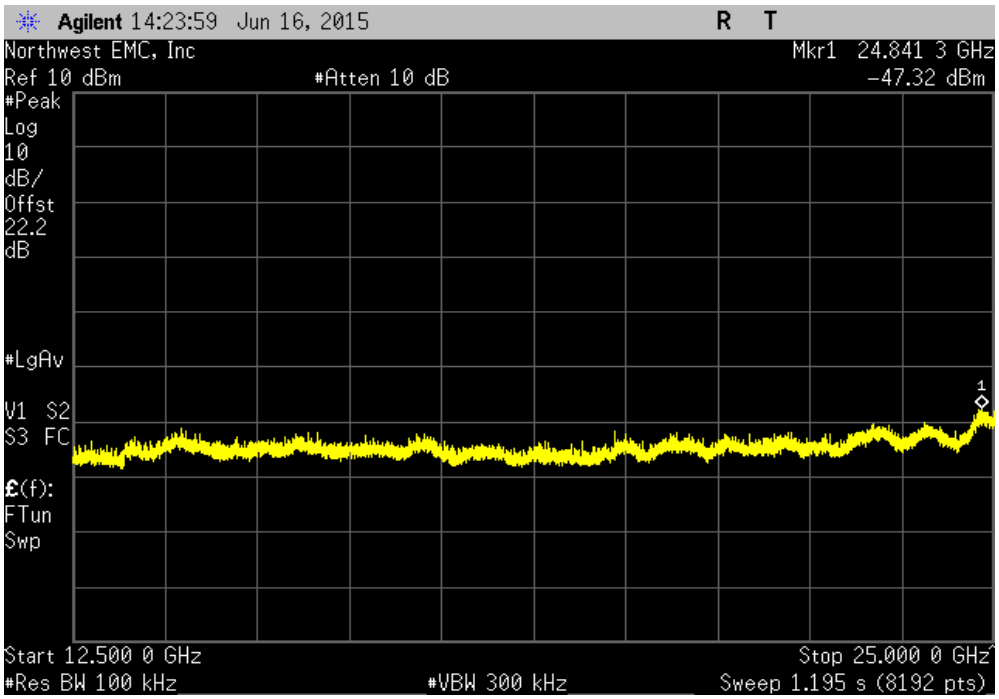
BT LE Antenna , High Channel, 2480 MHz						
	Frequency Range			Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



BT LE Antenna , High Channel, 2480 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-32.1	-20	Pass



BT LE Antenna , High Channel, 2480 MHz				
Frequency Range		Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-44.96	-20	Pass



BAND EDGE COMPLIANCE

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12

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

NORTHWEST EMC

XMit 2015.01.14

EUT:	**Run Genie**			**Work Order:**	**ADID0026**
Serial Number:	**569**			**Date:**	**06/16/15**
Customer:	**Adidas International, Inc.**			**Temperature:**	**24.7°C**
Attendees:	**None**			**Humidity:**	**39%**
Project:	**None**			**Barometric Pres.:**	**1018.2**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.3VDC Nominal)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

DEVIATIONS FROM TEST STANDARD

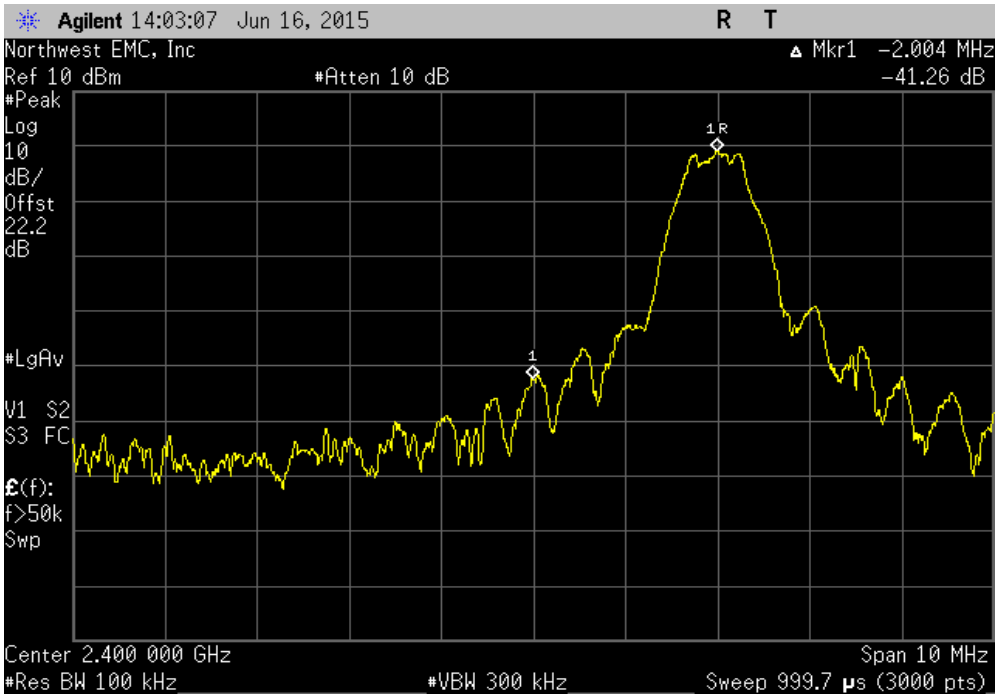
None

Configuration #	**1**	*Signature*

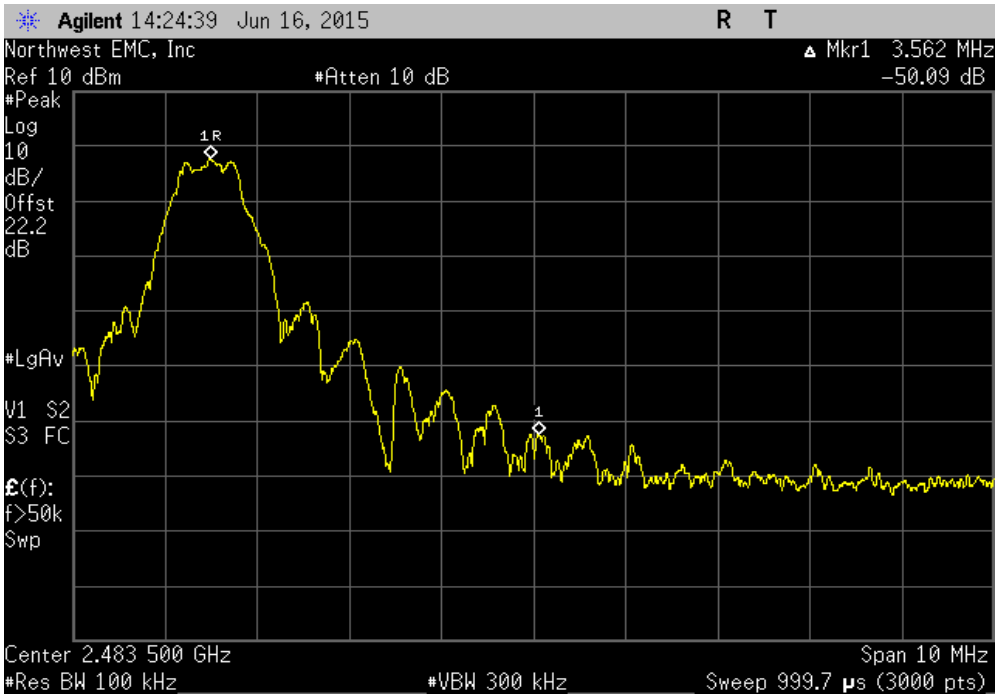
	Value (dBc)	**Limit ≤ (dBc)**	**Result**
BT LE Antenna			
Low Channel, 2402 MHz	-41.26	-20	Pass
High Channel, 2480 MHz	-50.1	-20	Pass

BAND EDGE COMPLIANCE

BT LE Antenna , Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-41.26	-20	Pass



BT LE Antenna , High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.1	-20	Pass



OCCUPIED BANDWIDTH

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.9% (approximate 26 dB) emission bandwidth (EBW) was also measured at the same time.

The EUT was set to the channels and modes listed in the datasheet. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer.

OCCUPIED BANDWIDTH

NORTHWEST EMC

XMit 2015.01.14

EUT:	**Run Genie**			**Work Order:**	**ADID0026**
Serial Number:	**569**			**Date:**	**06/16/15**
Customer:	**Adidas International, Inc.**			**Temperature:**	**24.7°C**
Attendees:	**None**			**Humidity:**	**39%**
Project:	**None**			**Barometric Pres.:**	**1018.2**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.3VDC Nominal)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

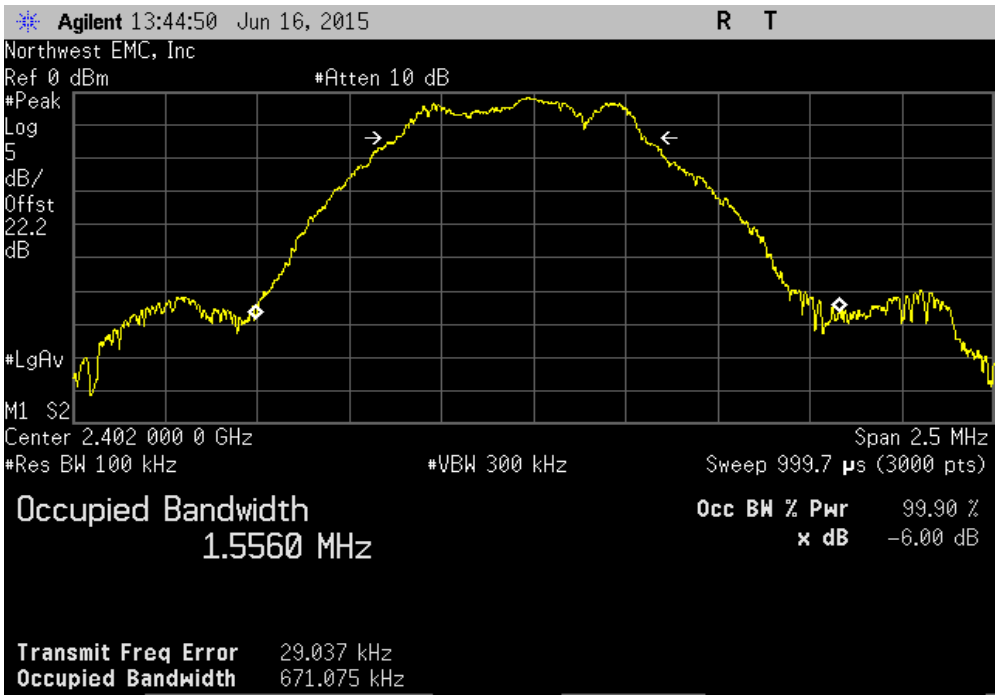
DEVIATIONS FROM TEST STANDARD

None

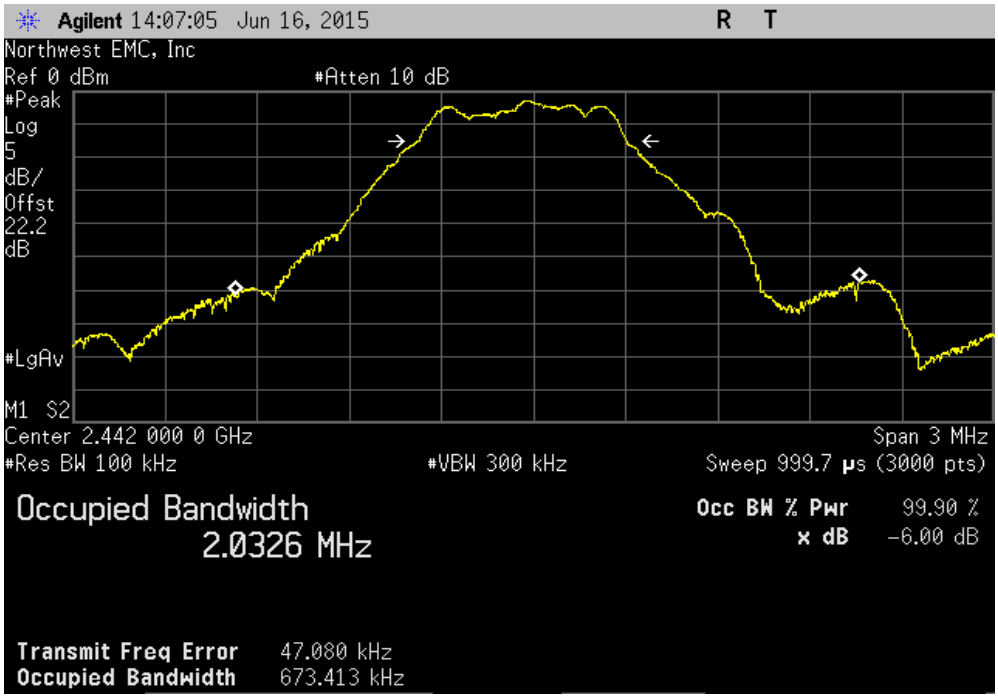
Configuration #	**1**	*Signature*

	Value	**Limit (≥)**	**Result**
BT LE Antenna			
Low Channel, 2402 MHz	671.075 kHz	500 kHz	Pass
Mid Channel, 2442 MHz	673.414 kHz	500 kHz	Pass
High Channel, 2480 MHz	681.325 kHz	500 kHz	Pass

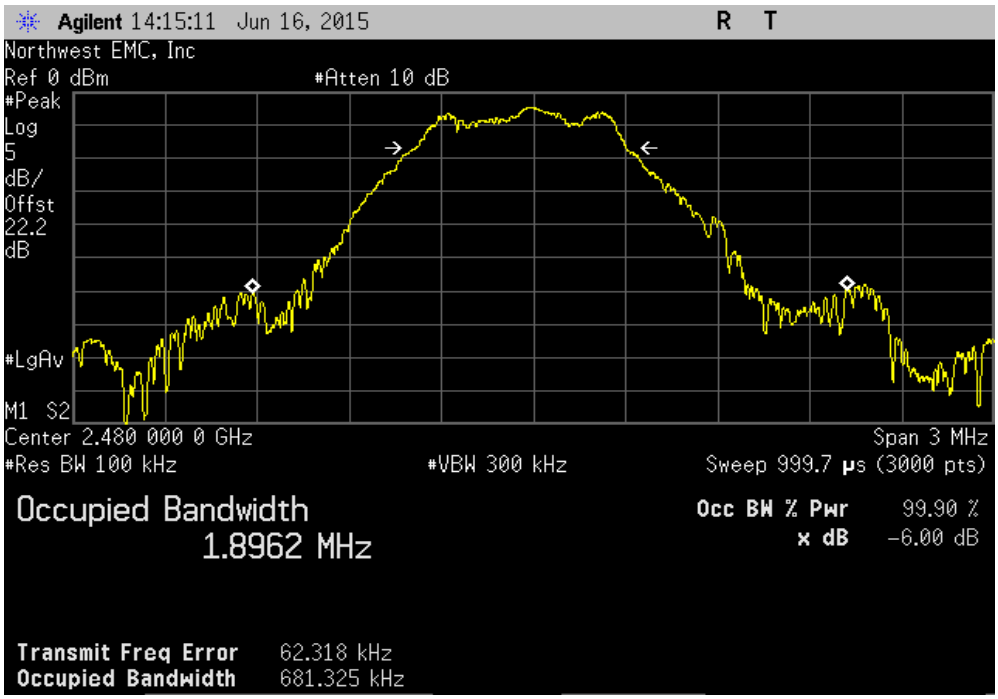
BT LE Antenna , Low Channel, 2402 MHz						
				Value	Limit (≥)	Result
				671.075 kHz	500 kHz	Pass



BT LE Antenna , Mid Channel, 2442 MHz						
				Value	Limit (≥)	Result
				673.414 kHz	500 kHz	Pass



BT LE Antenna , High Channel, 2480 MHz						
				Value	Limit (≥)	Result
				681.325 kHz	500 kHz	Pass



OUTPUT POWER

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

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 KDB 558074 DTS D01 Measurement Section 9.1.1 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

NORTHWEST EMC

XMit 2015.01.14

EUT:	Run Genie			Work Order:	ADID0026
Serial Number:	569			Date:	06/16/15
Customer:	Adidas International, Inc.			Temperature:	24.7°C
Attendees:	None			Humidity:	39%
Project:	None			Barometric Pres.:	1018.2
Tested by:	Brandon Hobbs	Power:	Battery (3.3VDC Nominal)	Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

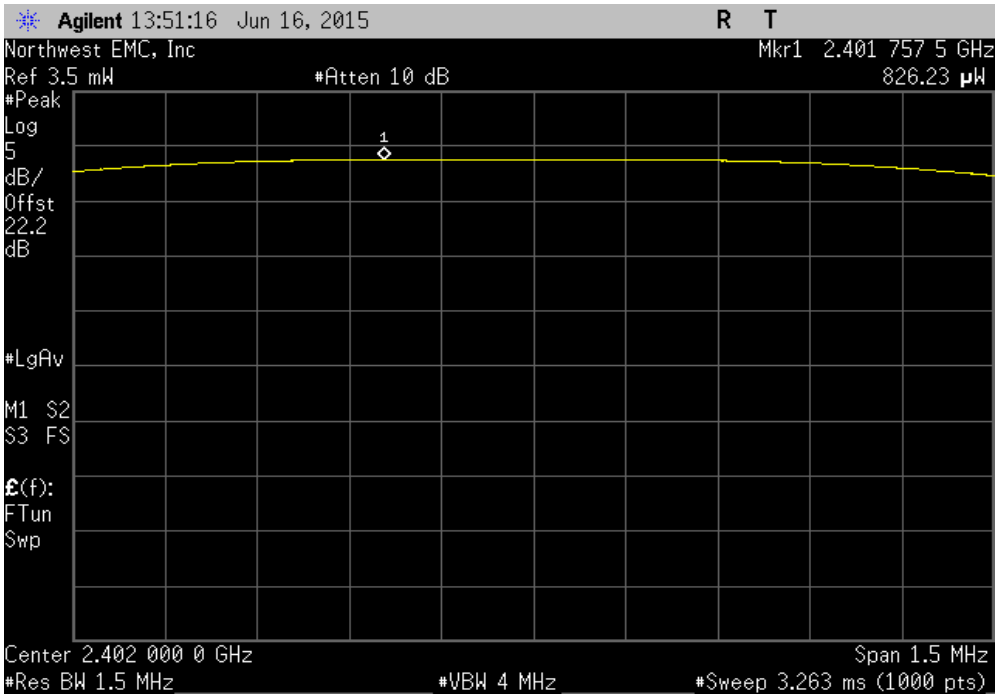
DEVIATIONS FROM TEST STANDARD

None

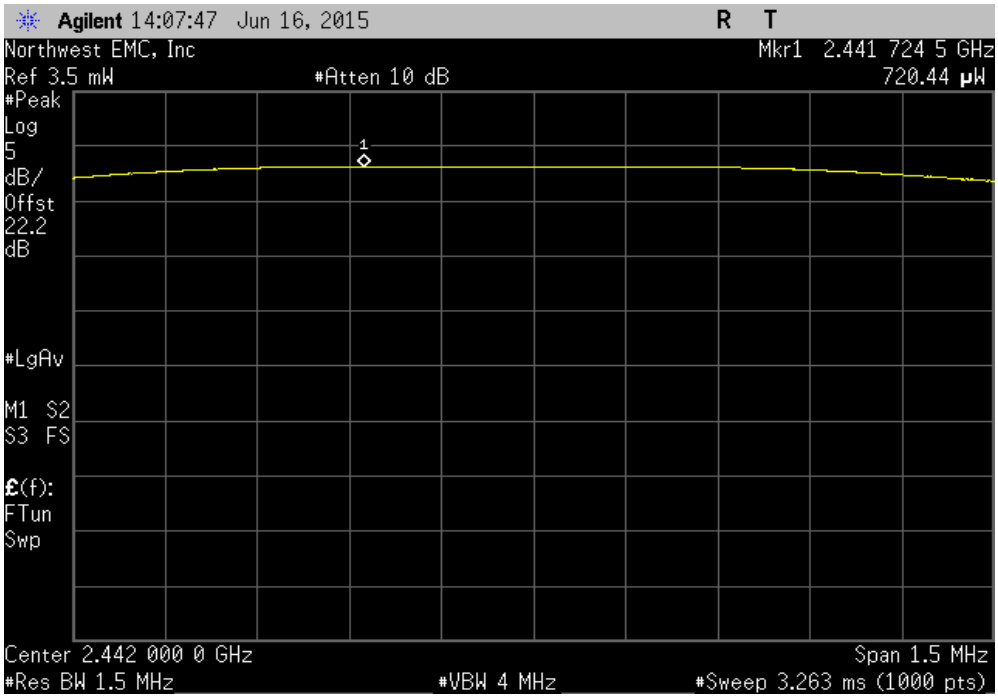
Configuration #	1	Signature

	Value	Limit (<)	Result
BT LE Antenna			
Low Channel, 2402 MHz	826.228 uW	1 W	Pass
Mid Channel, 2442 MHz	720.444 uW	1 W	Pass
High Channel, 2480 MHz	597.448 uW	1 W	Pass

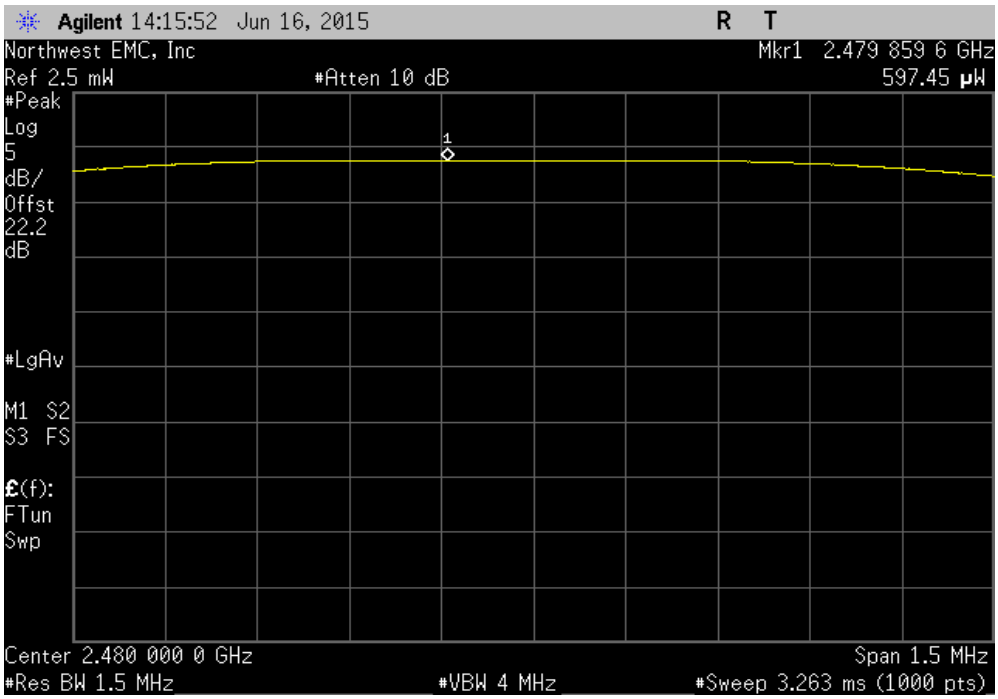
BT LE Antenna , Low Channel, 2402 MHz						
				Value	Limit (<)	Result
				826.228 uW	1 W	Pass



BT LE Antenna , Mid Channel, 2442 MHz						
				Value	Limit (<)	Result
				720.444 uW	1 W	Pass



BT LE Antenna , High Channel, 2480 MHz						
				Value	Limit (<)	Result
				597.448 uW	1 W	Pass



POWER SPECTRAL DENSITY

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

TEST DESCRIPTION

The maximum power spectral density measurements were measured with the EUT set to the required transmit frequencies in each band. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the lowest, middle, and maximum data rate for each modulation type available.

Per the procedure outlined in FCC KDB 558074 D01 DTS Measurement Section 5.3.1, the spectrum analyzer was used as follows:

- RBW = 100 kHz
- VBW = 300 kHz
- Detector = Peak (to match method used for power measurement)
- Trace = Max hold

The observed power level is then scaled to an equivalent value in 3 kHz by adding a Bandwidth Correction Factor (BWCF) where:

BWCF = 10*LOG (3 kHz / 100 kHz) = -15.2 dB

POWER SPECTRAL DENSITY

NORTHWEST EMC

XMit 2015.01.14

EUT:	**Run Genie**			**Work Order:**	**ADID0026**
Serial Number:	**569**			**Date:**	**06/16/15**
Customer:	**Adidas International, Inc.**			**Temperature:**	**24.7°C**
Attendees:	**None**			**Humidity:**	**39%**
Project:	**None**			**Barometric Pres.:**	**1018.2**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.3VDC Nominal)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

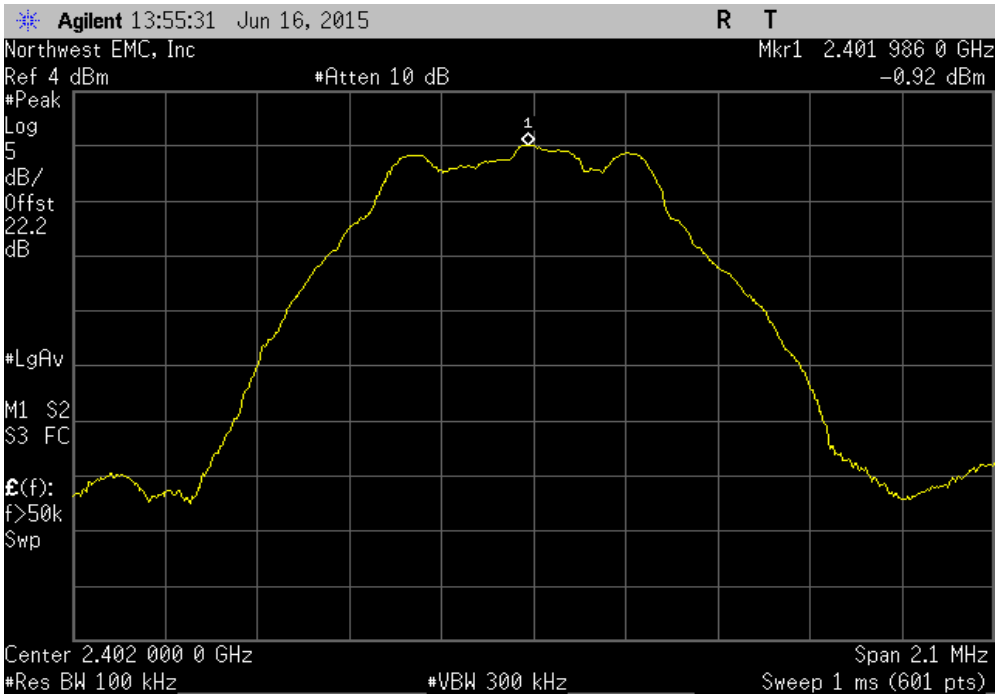
DEVIATIONS FROM TEST STANDARD

None

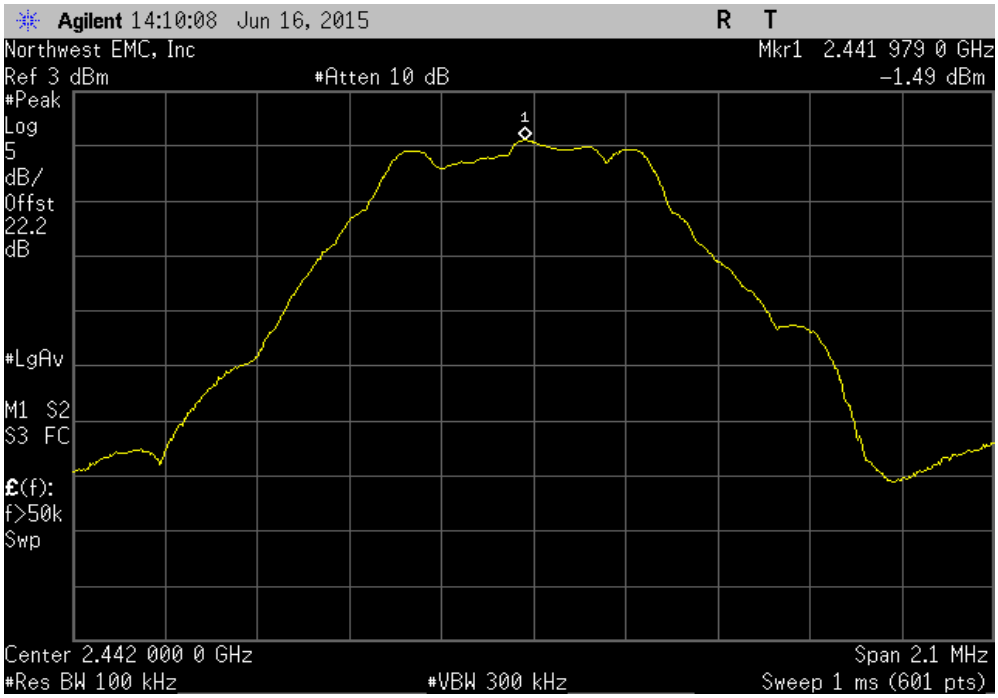
Configuration #	**1**	*Signature*

	Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Results
BT LE Antenna					
Low Channel, 2402 MHz	-0.915	-15.2	-16.115	8	Pass
Mid Channel, 2442 MHz	-1.494	-15.2	-16.694	8	Pass
High Channel, 2480 MHz	-2.381	-15.2	-17.581	8	Pass

BT LE Antenna , Low Channel, 2402 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Results
		-0.915	-15.2	-16.115	8	Pass



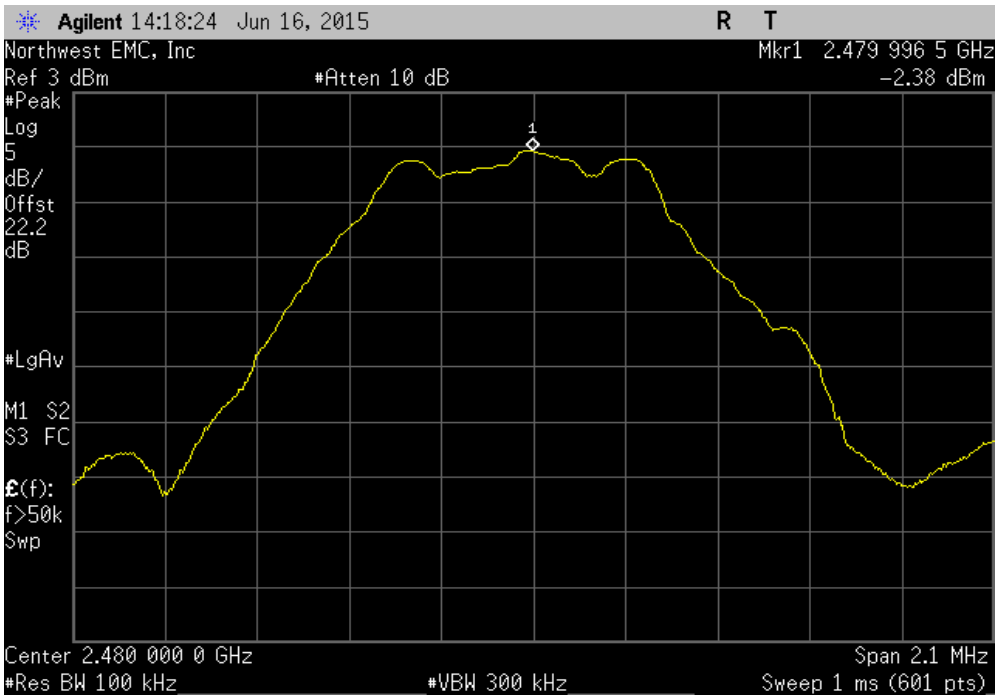
BT LE Antenna , Mid Channel, 2442 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Results
		-1.494	-15.2	-16.694	8	Pass



POWER SPECTRAL DENSITY

XMit 2015.01.14

BT LE Antenna , High Channel, 2480 MHz						
		Value dBm/100kHz	dBm/100kHz To dBm/3kHz	Value dBm/3kHz	Limit dBm/3kHz	Results
		-2.381	-15.2	-17.581	8	Pass



DUTY CYCLE

XMit 2015.01.14

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.	Interval (mo)
DC Block, 40 GHz - SMA	Fairview Microwave	SD3379	AMP	6/18/2015	12
Signal Generator	Keysight	N5182B	TFX	4/16/2015	36
Power Meter	Gigatronics	8651A	SPM	5/25/2015	12
Power Sensor	Gigatronics	80701A	SPL	5/25/2015	12
Direct Connect Cable	ESM Cable Corp.	TT	EV1	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	7/30/2014	12
Spectrum Analyzer	Agilent	E4446A	AAQ	3/10/2015	12

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.

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. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used.

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 was used during some of the other tests in this report to only measure during the burst duration.

DUTY CYCLE

NORTHWEST EMC

XMit 2015.01.14

EUT:	**Run Genie**			**Work Order:**	**ADID0026**
Serial Number:	**569**			**Date:**	**06/16/15**
Customer:	**Adidas International, Inc.**			**Temperature:**	**24.7°C**
Attendees:	**None**			**Humidity:**	**39%**
Project:	**None**			**Barometric Pres.:**	**1018.2**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.3VDC Nominal)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2015	ANSI C63.10:2009

COMMENTS

The product was tested using the client provided software.

DEVIATIONS FROM TEST STANDARD

None

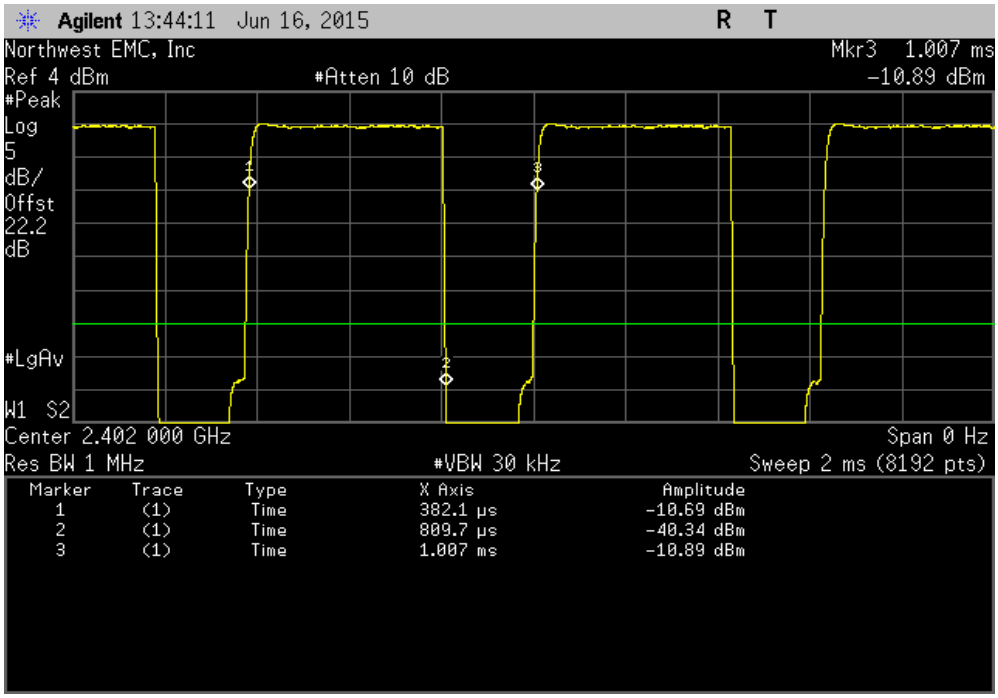
Configuration #	**1**	*Signature*

	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
BT LE Antenna						
Low Channel, 2402 MHz	427.6 us	624.9 us	1	68.4	N/A	N/A
Low Channel, 2402 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel, 2442 MHz	427.1 us	624.8 us	1	68.4	N/A	N/A
Mid Channel, 2442 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel, 2480 MHz	427 us	624.8 us	1	68.3	N/A	N/A
High Channel, 2480 MHz	N/A	N/A	5	N/A	N/A	N/A

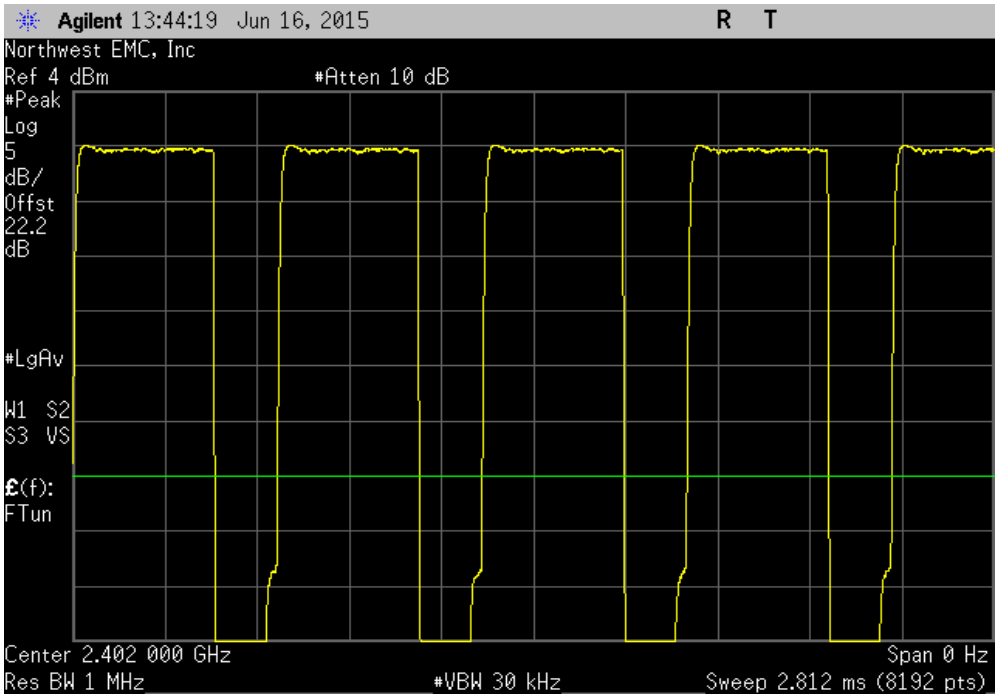
DUTY CYCLE

NORTHWEST EMC
XMit 2015.01.14

BT LE Antenna , Low Channel, 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	427.6 us	624.9 us	1	68.4	N/A	N/A

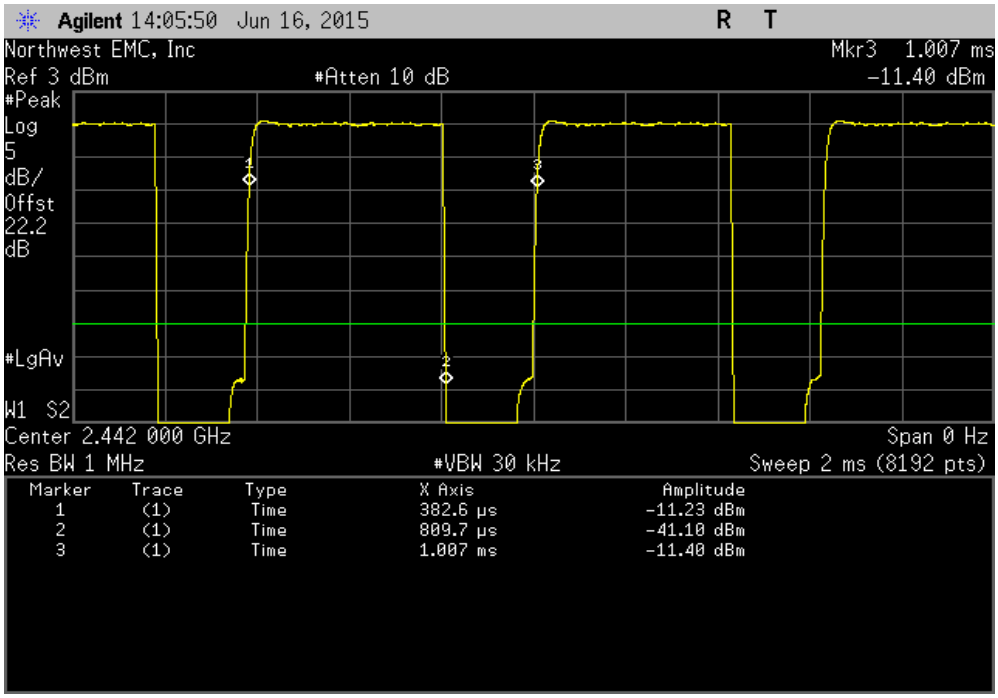


BT LE Antenna , Low Channel, 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

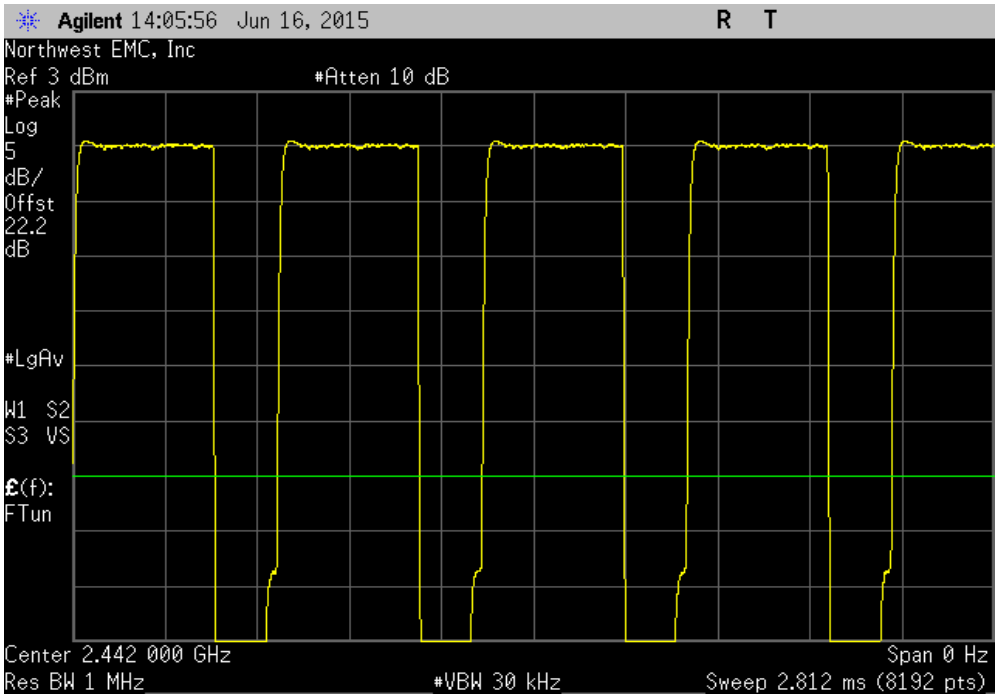


DUTY CYCLE

BT LE Antenna , Mid Channel, 2442 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	427.1 us	624.8 us	1	68.4	N/A	N/A



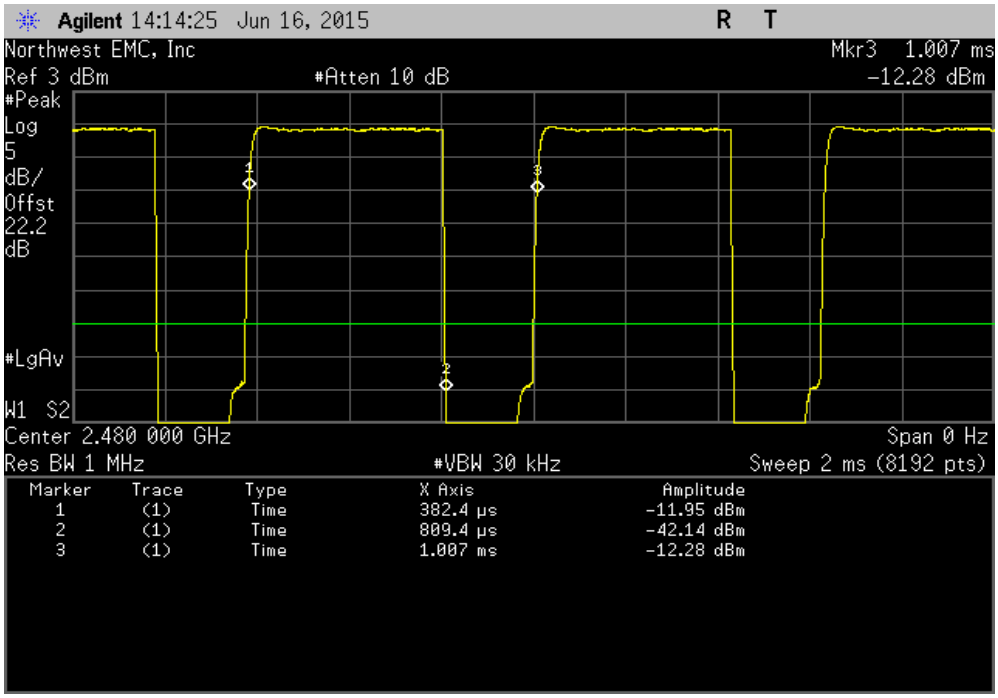
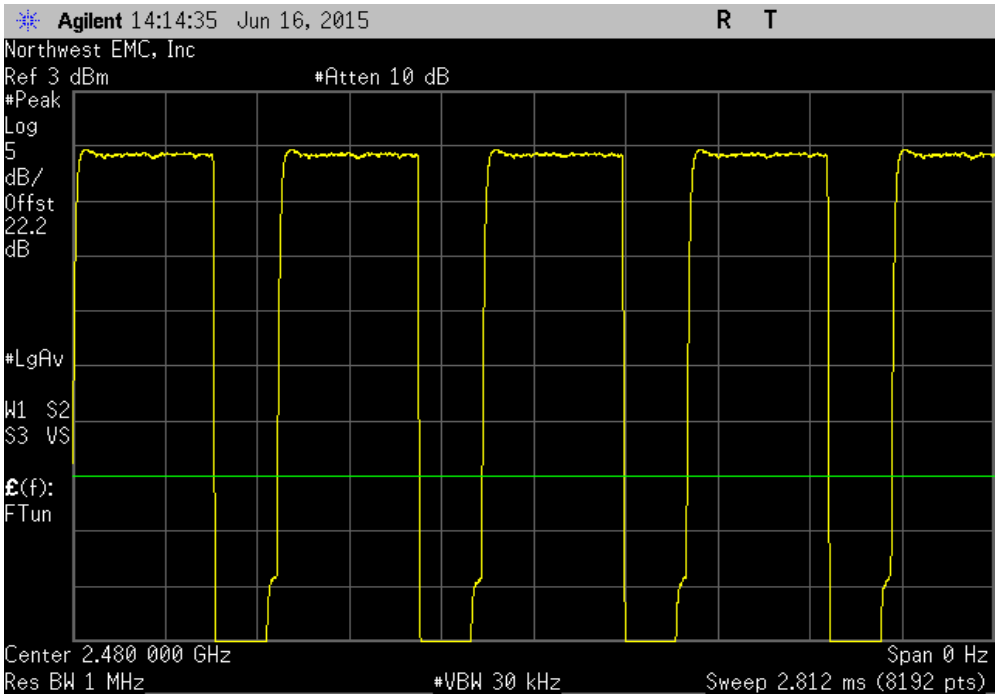
BT LE Antenna , Mid Channel, 2442 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



DUTY CYCLE

NORTHWEST EMC
XMit 2015.01.14

BT LE Antenna , High Channel, 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	427 us	624.8 us	1	68.3	N/A	N/A



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