Awarepoint Corporation

BLED

FCC 15.247:2017

Bluetooth Radio

Report # AWAR0024.3

NVLAP Lab Code: 200676-0

CERTIFICATE OF TEST

2017-1-25

Last Date of Test: March 20, 2017
Awarepoint Corporation
Model: BLED

Radio Equipment Testing

Standards

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

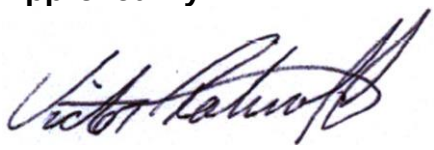
Results

Method Clause	Test Description	Applied	Results	Comments
6.2	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	N/A	Characterization of radio operation.
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.1.1	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:



Victor Ratinoff, 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

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.

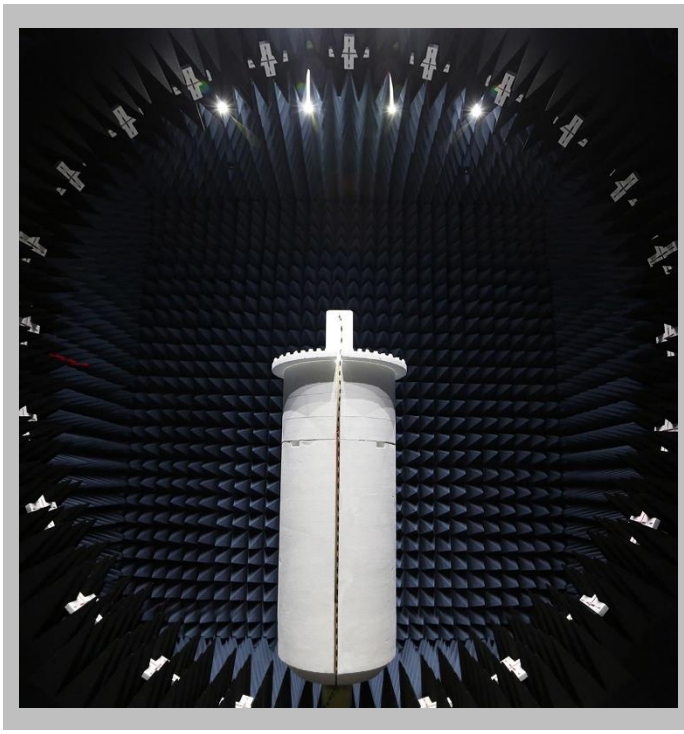
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

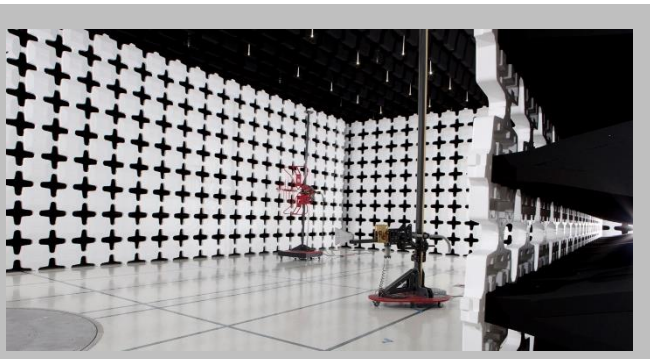
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

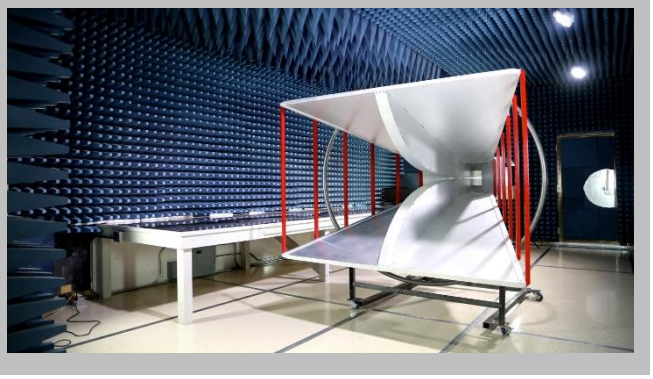
FACILITIES

2017.3.2

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

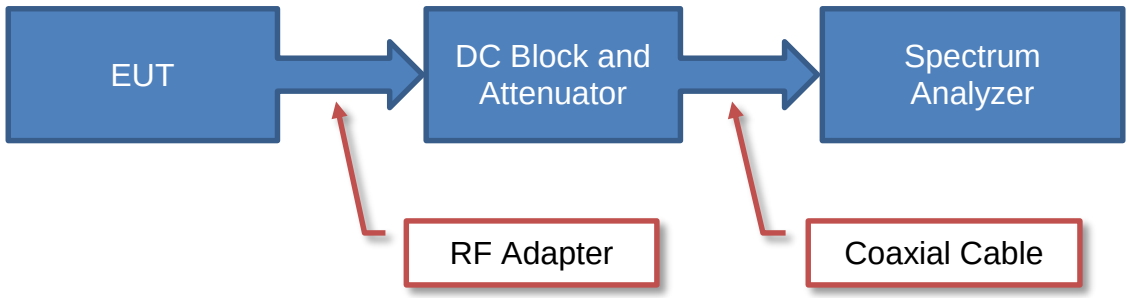




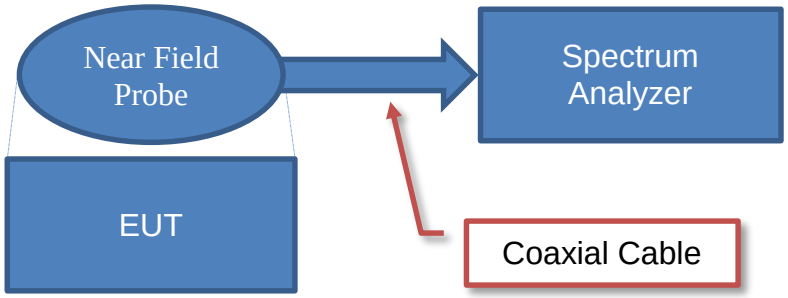


Test Setup Block Diagrams

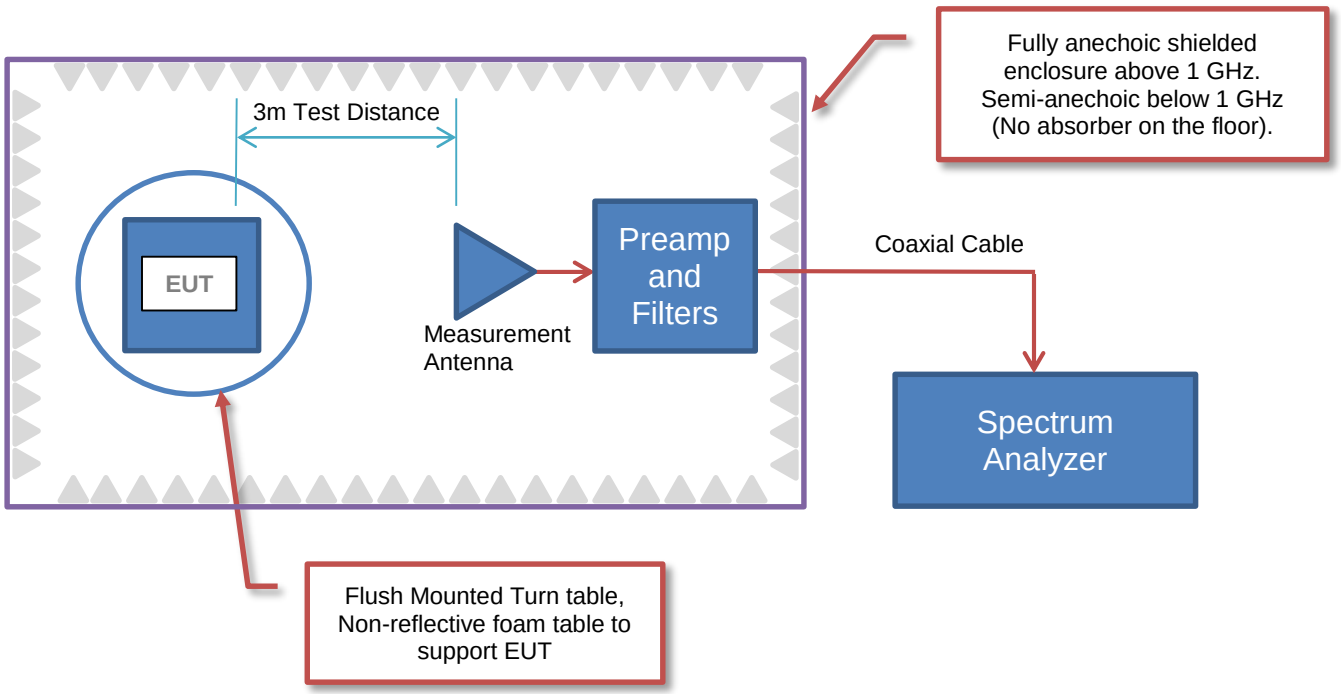
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Awarepoint Corporation
Address:	600 W. Broadway Suite 250
City, State, Zip:	San Diego, CA 92101
Test Requested By:	John Taylor
Model:	BLED
First Date of Test:	March 16, 2017
Last Date of Test:	March 20, 2017
Receipt Date of Samples:	March 14, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
The BLED (BLE Display) contains a Bluetooth Low Energy radio and an 802.11bg radio.

Testing Objective:
To demonstrate compliance of the BLE radio under FCC 15.247 for operation in the 2.4 GHz band. Data was taken at two different power levels per customer request.

CONFIGURATIONS

Configuration AWAR0024- 1

Software/Firmware Running during test	
Description	**Version**
SmartRF Studio 7	2.3.1
RadioTool GUI	1.2.5942.19689

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
WiFi and Bluetooth Radio	Awarepoint Corporation	BLED	None

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Dell	VOSTRO 3550	FJRVLR1
AC/DC Power Supply	Dell	LA90PS0-00	CN-0DF266-71615-73O-0B34
BLE Interface Board	Texas Instruments	SmartRF06EB	0x00321

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	No	0.75m	No	AC mains	AC/DC Power Supply
DC Cable	No	1.5m	Yes	AC/DC Power Supply	Laptop
Ribbon Cable	No	0.1m	No	BLE Interface Board	WiFi and Bluetooth Radio
Micro USB Cable	No	1.0m	No	BLE Interface Board	Laptop

MODIFICATIONS

2017-1-25

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	3/16/2017	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	3/20/2017	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	3/20/2017	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	3/20/2017	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	3/20/2017	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	3/20/2017	Spurious Conducted 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

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

Operating Bluetooth LE Transmit Mode: Low Ch. 0 (2402MHz), Mid Ch. 20 (2446MHz), High Ch. 39 (2480MHz)

POWER SETTINGS INVESTIGATED

Battery

CONFIGURATIONS INVESTIGATED

AWAR0024 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26000 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 - Low Pass	Micro-Tronics	LPM50004	LFC	10/17/2016	12 mo
Attenuator	Weinschel Corp	4H-20	AWB	3/3/2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	1/3/2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	8/15/2016	12 mo
Cable	ESM Cable Corp.	8-18GHz cables	OCY	10/17/2016	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	9/19/2016	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	9/19/2016	12 mo
Antenna - Biconilog	EMCO	3142	AXA	10/24/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	8/15/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	10/17/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	8/15/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	6/23/2016	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	0 mo
Antenna - Standard Gain	EMCO	3160-08	AHK	NCR	0 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	1/28/2017	12 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

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.

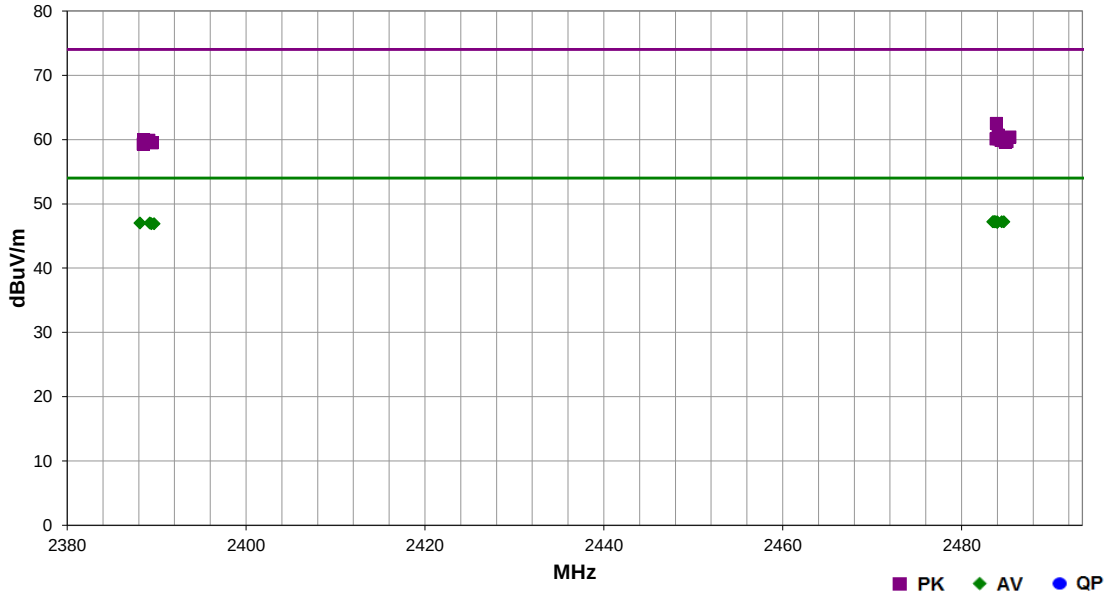
SPURIOUS RADIATED EMISSIONS

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	AWAR0024	**Date:**	03/16/17		
Project:	None	**Temperature:**	23 °C		
Job Site:	OC10	**Humidity:**	48.6% RH		
Serial Number:	None	**Barometric Pres.:**	1019 mbar	**Tested by:**	Mark Baytan
EUT:	BLED				
Configuration:	1				
Customer:	Awarepoint Corporation				
Attendees:	None				
EUT Power:	Battery				
Operating Mode:	Operating Bluetooth LE Transmit Mode: Low Ch. 0 (2402MHz), Mid Ch. 20 (2446MHz), High Ch. 39 (2480MHz)				
Deviations:	None				
Comments:	Data was taken at Power Setting = 0 unless noted on the comments below.				

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

Run #	21	**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
2483.500	24.9	2.3	2.3	357.0	3.0	20.0	Horz	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Horz
2484.000	24.9	2.3	1.0	167.0	3.0	20.0	Horz	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Horz, Pwr = -9
2484.740	24.9	2.3	2.8	164.0	3.0	20.0	Vert	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Horz, Pwr = -9
2484.493	24.9	2.3	1.0	197.0	3.0	20.0	Vert	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Horz
2483.627	24.9	2.3	1.0	271.0	3.0	20.0	Horz	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Vert
2483.797	24.9	2.3	1.0	193.0	3.0	20.0	Vert	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT Vert
2483.663	24.9	2.3	1.0	323.0	3.0	20.0	Vert	AV	0.0	47.2	54.0	-6.8	High Ch 39, EUT on Side
2483.990	24.8	2.3	1.0	84.0	3.0	20.0	Horz	AV	0.0	47.1	54.0	-6.9	High Ch 39, EUT on Side
2389.234	25.0	2.0	1.0	225.0	3.0	20.0	Horz	AV	0.0	47.0	54.0	-7.0	Low Ch 0, EUT Horz
2388.132	25.0	2.0	1.0	198.0	3.0	20.0	Vert	AV	0.0	47.0	54.0	-7.0	Low Ch 0, EUT Horz
2389.421	24.9	2.0	1.0	157.0	3.0	20.0	Horz	AV	0.0	46.9	54.0	-7.1	Low Ch 0, EUT Horz, Pwr = -9
2389.723	24.9	2.0	1.0	195.0	3.0	20.0	Vert	AV	0.0	46.9	54.0	-7.1	Low Ch 0, EUT Horz, Pwr = -9
2483.883	40.2	2.3	2.3	357.0	3.0	20.0	Horz	PK	0.0	62.5	74.0	-11.5	High Ch 39, EUT Horz
2484.100	38.4	2.3	1.0	84.0	3.0	20.0	Horz	PK	0.0	60.7	74.0	-13.3	High Ch 39, EUT on Side
2485.387	38.1	2.3	1.0	167.0	3.0	20.0	Horz	PK	0.0	60.4	74.0	-13.6	High Ch 39, EUT Horz, Pwr = -9
2483.843	37.8	2.3	1.0	197.0	3.0	20.0	Vert	PK	0.0	60.1	74.0	-13.9	High Ch 39, EUT Horz
2484.170	37.8	2.3	1.0	323.0	3.0	20.0	Vert	PK	0.0	60.1	74.0	-13.9	High Ch 39, EUT on Side
2388.545	38.0	2.0	1.0	225.0	3.0	20.0	Horz	PK	0.0	60.0	74.0	-14.0	Low Ch 0, EUT Horz
2389.112	37.9	2.0	1.0	195.0	3.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	Low Ch 0, EUT Horz, Pwr = -9
2484.417	37.6	2.3	2.8	164.0	3.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	High Ch 39, EUT Horz, Pwr = -9
2485.067	37.4	2.3	1.0	193.0	3.0	20.0	Vert	PK	0.0	59.7	74.0	-14.3	High Ch 39, EUT Vert
2484.877	37.3	2.3	1.0	271.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	High Ch 39, EUT Vert
2389.497	37.5	2.0	1.0	157.0	3.0	20.0	Horz	PK	0.0	59.5	74.0	-14.5	Low Ch 0, EUT Horz, Pwr = -9
2388.503	37.3	2.0	1.0	198.0	3.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	Low Ch 0, EUT Horz

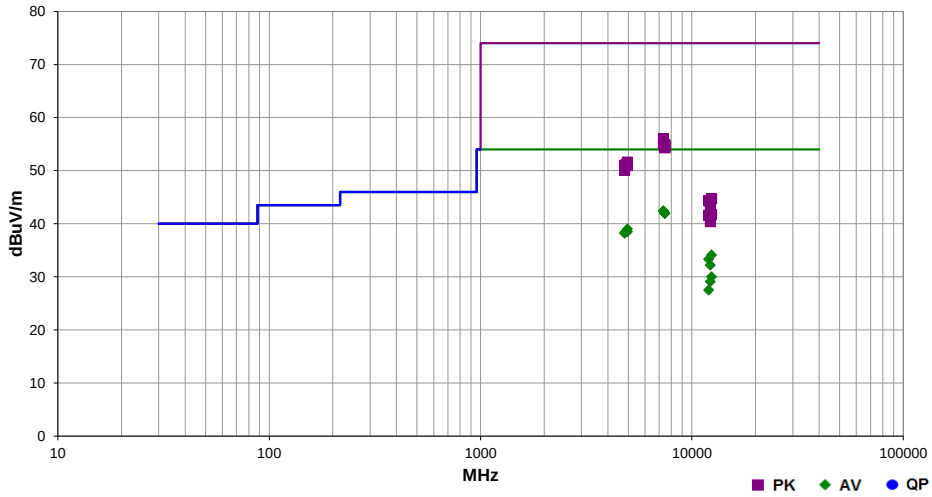
SPURIOUS RADIATED EMISSIONS

EmRS 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	AWAR0024	**Date:**	03/16/17		
Project:	None	**Temperature:**	23 °C		
Job Site:	OC10	**Humidity:**	48.6% RH		
Serial Number:	None	**Barometric Pres.:**	1019 mbar	**Tested by:**	Mark Baytan
EUT:	BLED				
Configuration:	1				
Customer:	Awarepoint Corporation				
Attendees:	None				
EUT Power:	Battery				
Operating Mode:	Operating Bluetooth LE Transmit Mode: Low Ch. 0 (2402MHz), Mid Ch. 20 (2446MHz), High Ch. 39 (2480MHz)				
Deviations:	None				
Comments:	Data was taken at Power Setting = 0 unless noted on the comments below.				

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

Run #	24	**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
7336.555	24.5	17.9	1.0	295.0	3.0	0.0	Horz	AV	0.0	42.4	54.0	-11.6	Mid Ch 20, EUT Horz
7336.565	24.5	17.9	1.0	178.0	3.0	0.0	Vert	AV	0.0	42.4	54.0	-11.6	Mid Ch 20, EUT Horz
7439.755	24.1	17.9	1.0	36.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Horz
7439.190	24.1	17.9	1.0	113.0	3.0	0.0	Vert	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Horz
7439.105	24.1	17.9	1.0	32.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT on Side
7440.095	24.1	17.9	1.0	271.0	3.0	0.0	Vert	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT on Side
7438.985	24.1	17.9	1.0	73.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Vert
7440.050	24.1	17.9	1.0	120.0	3.0	0.0	Vert	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Vert
7438.555	24.1	17.9	1.0	36.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Horz, Pwr = -9
7440.550	24.1	17.9	1.0	113.0	3.0	0.0	Vert	AV	0.0	42.0	54.0	-12.0	High Ch 39, EUT Horz, Pwr = -9
4959.610	26.3	12.7	1.0	313.0	3.0	0.0	Vert	AV	0.0	39.0	54.0	-15.0	High Ch 39, EUT Horz
4959.115	25.8	12.7	1.0	288.0	3.0	0.0	Horz	AV	0.0	38.5	54.0	-15.5	High Ch 39, EUT Horz
4892.755	25.7	12.8	1.0	64.0	3.0	0.0	Horz	AV	0.0	38.5	54.0	-15.5	Mid Ch 20, EUT Horz
4892.195	25.7	12.8	1.0	135.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	Mid Ch 20, EUT Horz
4803.980	25.5	12.8	1.0	220.0	3.0	0.0	Horz	AV	0.0	38.3	54.0	-15.7	Low Ch 0, EUT Horz
4803.890	25.4	12.8	1.0	125.0	3.0	0.0	Vert	AV	0.0	38.2	54.0	-15.8	Low Ch 0, EUT Horz
7338.210	38.1	17.9	1.0	178.0	3.0	0.0	Vert	PK	0.0	56.0	74.0	-18.0	Mid Ch 20, EUT Horz
7336.970	37.2	17.9	1.0	295.0	3.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	Mid Ch 20, EUT Horz
7440.845	37.0	17.9	1.0	120.0	3.0	0.0	Vert	PK	0.0	54.9	74.0	-19.1	High Ch 39, EUT Vert
7439.240	37.0	17.9	1.0	36.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	High Ch 39, EUT Horz, Pwr = -9
7439.590	36.7	17.9	1.0	113.0	3.0	0.0	Vert	PK	0.0	54.6	74.0	-19.4	High Ch 39, EUT Horz, Pwr = -9
7438.805	36.6	17.9	1.0	32.0	3.0	0.0	Horz	PK	0.0	54.5	74.0	-19.5	High Ch 39, EUT on Side
7438.615	36.5	17.9	1.0	36.0	3.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	High Ch 39, EUT Horz
7438.990	36.5	17.9	1.0	271.0	3.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	High Ch 39, EUT on Side
7439.845	36.5	17.9	1.0	73.0	3.0	0.0	Horz	PK	0.0	54.4	74.0	-19.6	High Ch 39, EUT Vert
7441.145	36.4	17.9	1.0	113.0	3.0	0.0	Vert	PK	0.0	54.3	74.0	-19.7	High Ch 39, EUT Horz
12398.610	37.1	-3.0	1.0	62.0	3.0	0.0	Vert	AV	0.0	34.1	54.0	-19.9	High Ch 39, EUT Horz
12010.120	37.3	-4.0	1.0	72.0	3.0	0.0	Vert	AV	0.0	33.3	54.0	-20.7	Low Ch 0, EUT Horz
12230.940	35.2	-3.0	1.1	60.0	3.0	0.0	Vert	AV	0.0	32.2	54.0	-21.8	Mid Ch 20, EUT Horz
4958.775	38.9	12.7	1.0	313.0	3.0	0.0	Vert	PK	0.0	51.6	74.0	-22.4	High Ch 39, EUT Horz
4891.445	38.4	12.8	1.0	135.0	3.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	Mid Ch 20, EUT Horz
4891.565	38.3	12.8	1.0	64.0	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	Mid Ch 20, EUT Horz
4803.890	38.2	12.8	1.0	220.0	3.0	0.0	Horz	PK	0.0	51.0	74.0	-23.0	Low Ch 0, EUT Horz
4959.670	38.3	12.7	1.0	288.0	3.0	0.0	Horz	PK	0.0	51.0	74.0	-23.0	High Ch 39, EUT Horz
4803.850	37.3	12.8	1.0	125.0	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	Low Ch 0, EUT Horz
12398.580	33.0	-3.0	1.0	265.0	3.0	0.0	Horz	AV	0.0	30.0	54.0	-24.0	High Ch 39, EUT Horz
12230.980	32.1	-3.0	1.0	261.0	3.0	0.0	Horz	AV	0.0	29.1	54.0	-24.9	Mid Ch 20, EUT Horz
12009.790	31.5	-4.0	1.0	106.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Low Ch 0, EUT Horz
12398.480	47.7	-3.0	1.0	62.0	3.0	0.0	Vert	PK	0.0	44.7	74.0	-29.3	High Ch 39, EUT Horz
12010.490	48.3	-4.0	1.0	72.0	3.0	0.0	Vert	PK	0.0	44.3	74.0	-29.7	Low Ch 0, EUT Horz
12231.060	45.8	-3.0	1.1	60.0	3.0	0.0	Vert	PK	0.0	42.8	74.0	-31.2	Mid Ch 20, EUT Horz
12398.450	44.7	-3.0	1.0	265.0	3.0	0.0	Horz	PK	0.0	41.7	74.0	-32.3	High Ch 39, EUT Horz
12009.460	45.6	-4.0	1.0	106.0	3.0	0.0	Horz	PK	0.0	41.6	74.0	-32.4	Low Ch 0, EUT Horz
12228.230	43.4	-3.0	1.0	261.0	3.0	0.0	Horz	PK	0.0	40.4	74.0	-33.6	Mid Ch 20, EUT Horz

The EUT operates at 100% Duty Cycle.

OCCUPIED BANDWIDTH

XMit 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	1/5/2017	1/5/2018
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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

NweTx 2016.09.14.2 XMit 2017.01.26

EUT:	**BLED**			**Work Order:**	**AWAR0024**
Serial Number:	**None**			**Date:**	**03/20/17**
Customer:	**Awarepoint Corporation**			**Temperature:**	**22.4 °C**
Attendees:	**None**			**Humidity:**	**48.6% RH**
Project:	**None**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Mark Baytan & Mike Tran**	**Power:**	**Battery**	**Job Site:**	**OC13**

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

COMMENTS

Reference level offset (DC block + 20 dB attenuator + direct connect cable + patch cable) = 23.6 dB.

DEVIATIONS FROM TEST STANDARD

None

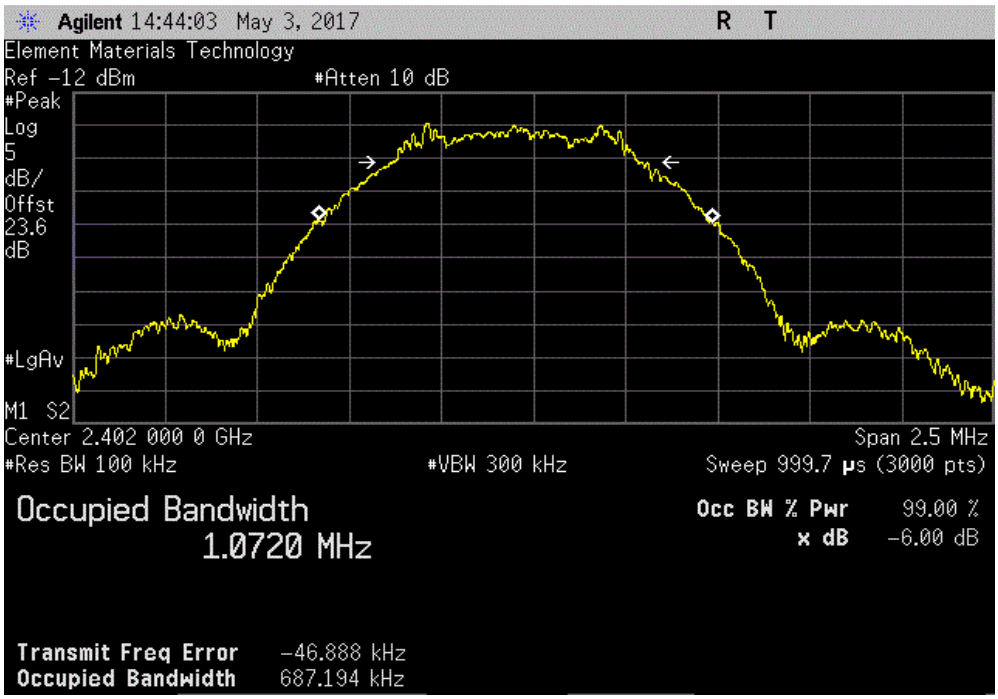
Configuration #	**1**	*Signature*

	Value	**Limit (≥)**	**Result**
BLE/GFSK Low Channel, 2402 MHz			
Power Setting = -9 dBm	687.195 kHz	500 kHz	Pass
Power Setting = 0 dBm	720.968 kHz	500 kHz	Pass
BLE/GFSK Mid Channel, 2446 MHz			
Power Setting = -9 dBm	692.455 kHz	500 kHz	Pass
Power Setting = 0 dBm	702.845 kHz	500 kHz	Pass
BLE/GFSK High Channel, 2480 MHz			
Power Setting = -9 dBm	716.508 kHz	500 kHz	Pass
Power Setting = 0 dBm	727.261 kHz	500 kHz	Pass

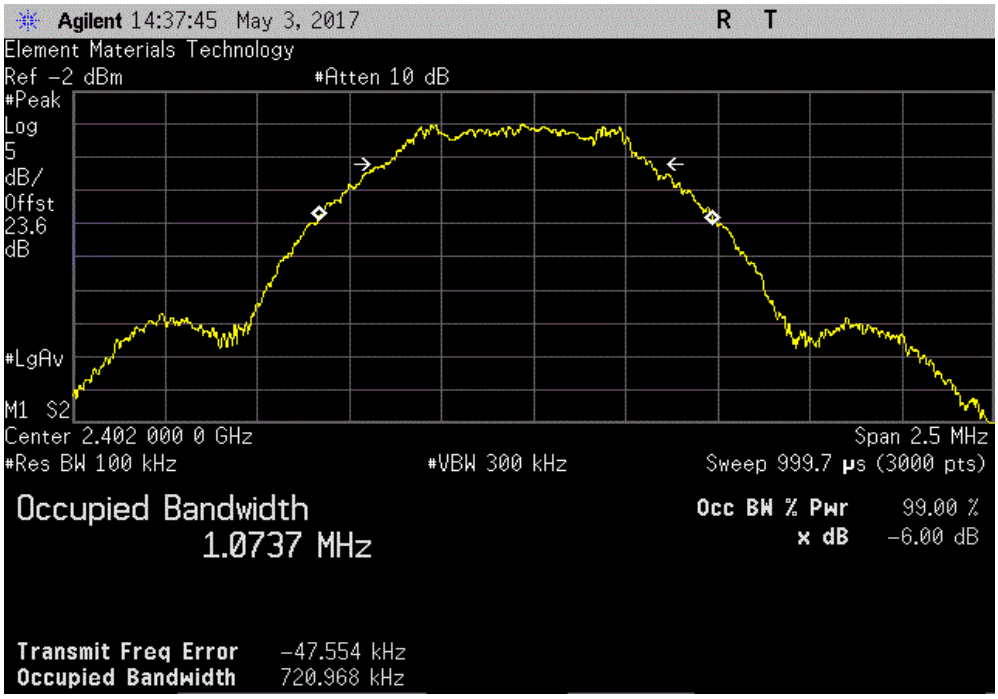
OCCUPIED BANDWIDTH

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm						
				Value	Limit (≥)	Result
				687.195 kHz	500 kHz	Pass



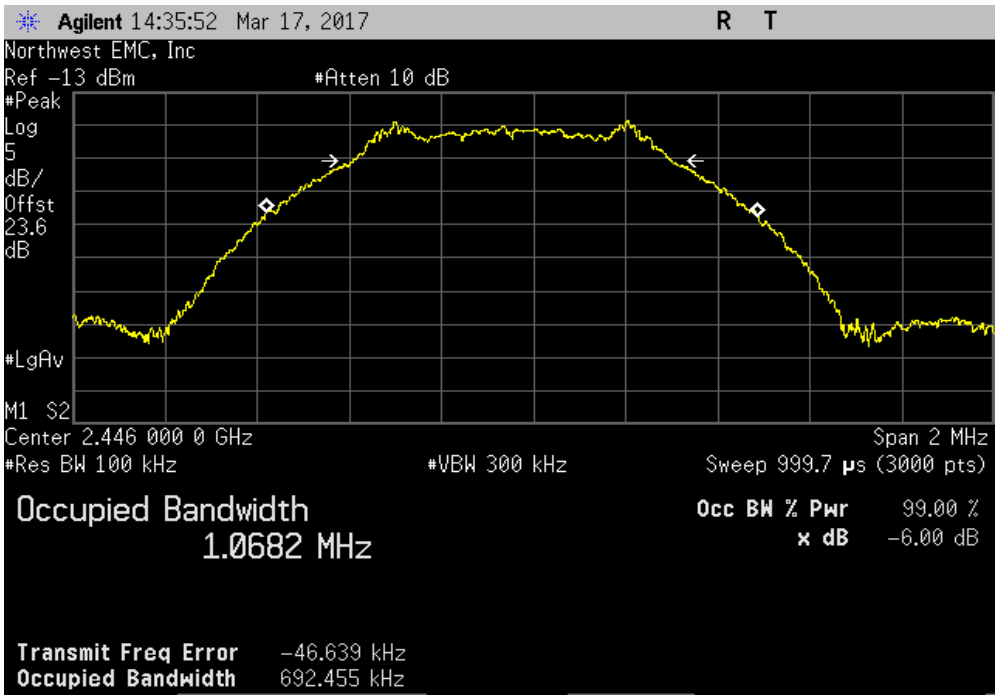
BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm						
				Value	Limit (≥)	Result
				720.968 kHz	500 kHz	Pass



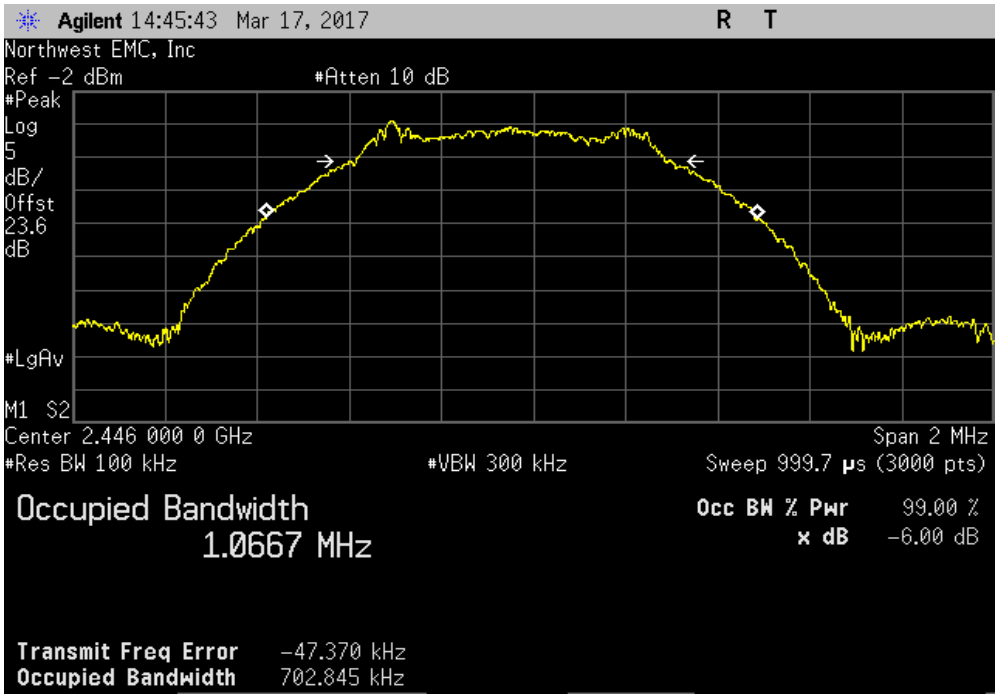
OCCUPIED BANDWIDTH

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm						
				Value	Limit (≥)	Result
				692.455 kHz	500 kHz	Pass



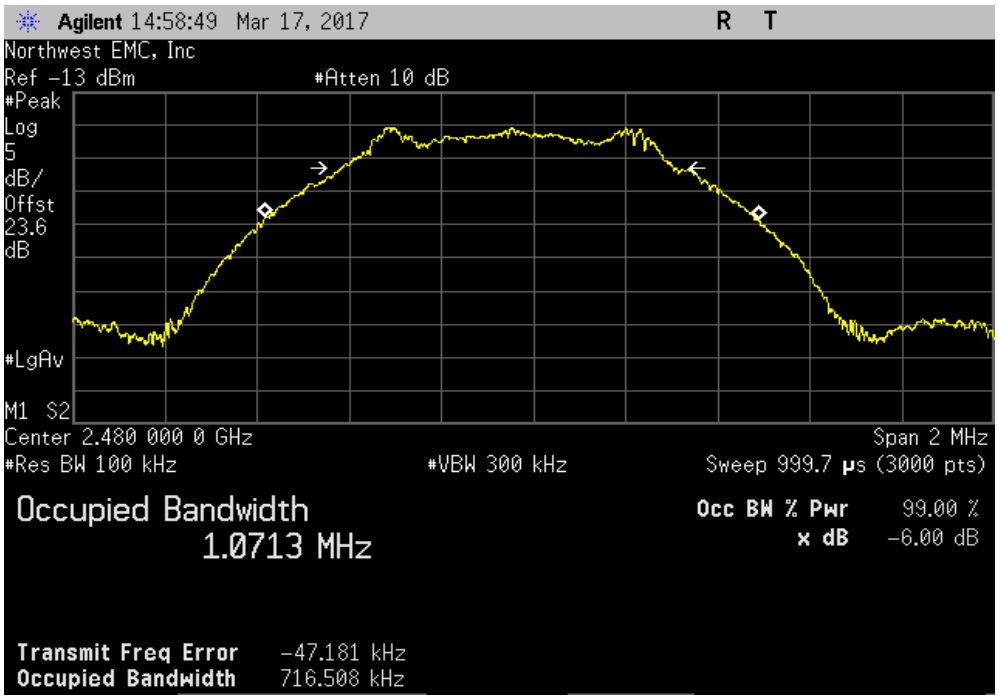
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm						
				Value	Limit (≥)	Result
				702.845 kHz	500 kHz	Pass



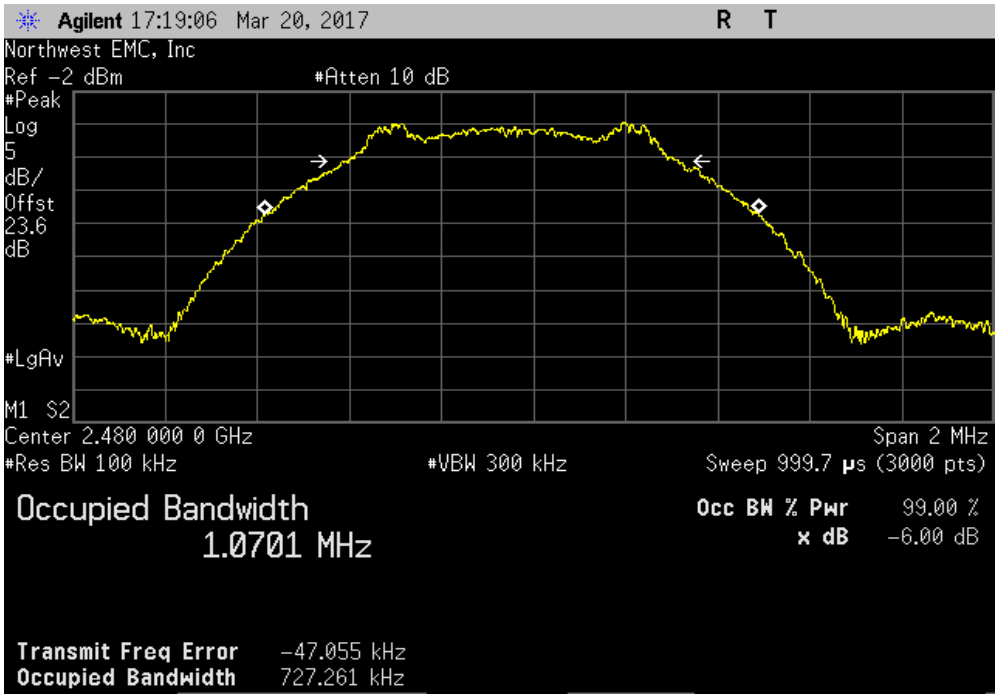
OCCUPIED BANDWIDTH

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm						
				Value	Limit (≥)	Result
				716.508 kHz	500 kHz	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm						
				Value	Limit (≥)	Result
				727.261 kHz	500 kHz	Pass



OUTPUT POWER

XMit 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	1/5/2017	1/5/2018
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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) 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

NweTx 2016.09.14.2 XMit 2017.01.26

EUT:	**BLED**			**Work Order:**	**AWAR0024**
Serial Number:	**None**			**Date:**	**03/20/17**
Customer:	**Awarepoint Corporation**			**Temperature:**	**22.4 °C**
Attendees:	**None**			**Humidity:**	**48.6% RH**
Project:	**None**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Mark Baytan & Mike Tran**	**Power:**	**Battery**	**Job Site:**	**OC13**

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

COMMENTS

Reference level offset (DC block + 20 dB attenuator + direct connect cable + patch cable) = 23.6 dB.

DEVIATIONS FROM TEST STANDARD

None

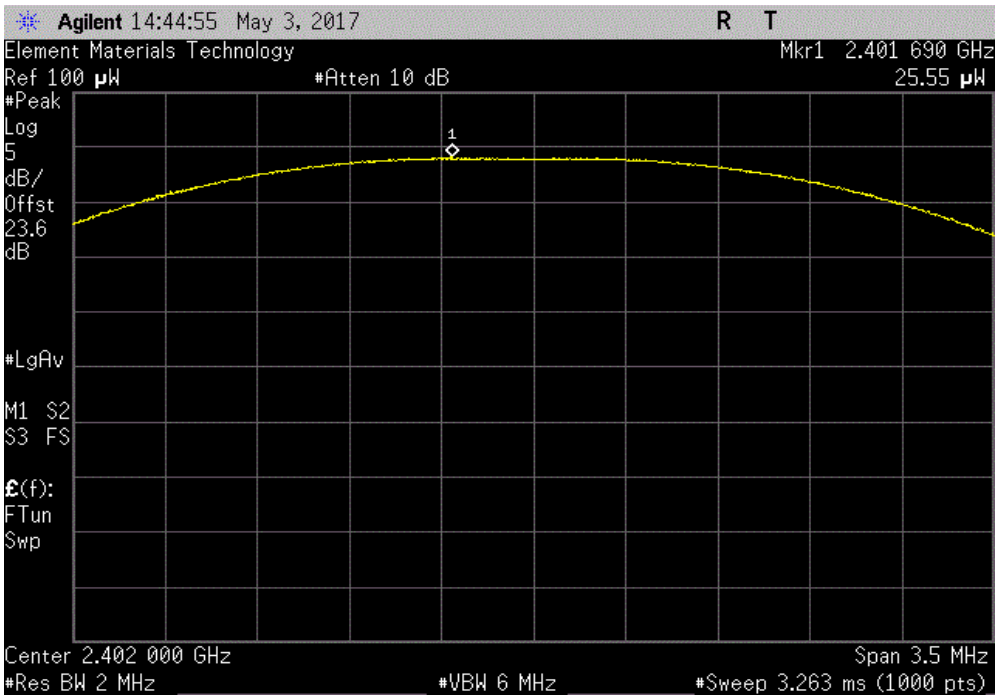
Configuration #	**1**	*Signature*

	Value	**Limit (<)**	**Result**
BLE/GFSK Low Channel, 2402 MHz			
Power Setting = -9 dBm	25.551 uW	1 W	Pass
Power Setting = 0 dBm	256.98 uW	1 W	Pass
BLE/GFSK Mid Channel, 2446 MHz			
Power Setting = -9 dBm	20.592 uW	1 W	Pass
Power Setting = 0 dBm	229.51 uW	1 W	Pass
BLE/GFSK High Channel, 2480 MHz			
Power Setting = -9 dBm	17.499 uW	1 W	Pass
Power Setting = 0 dBm	239.66 uW	1 W	Pass

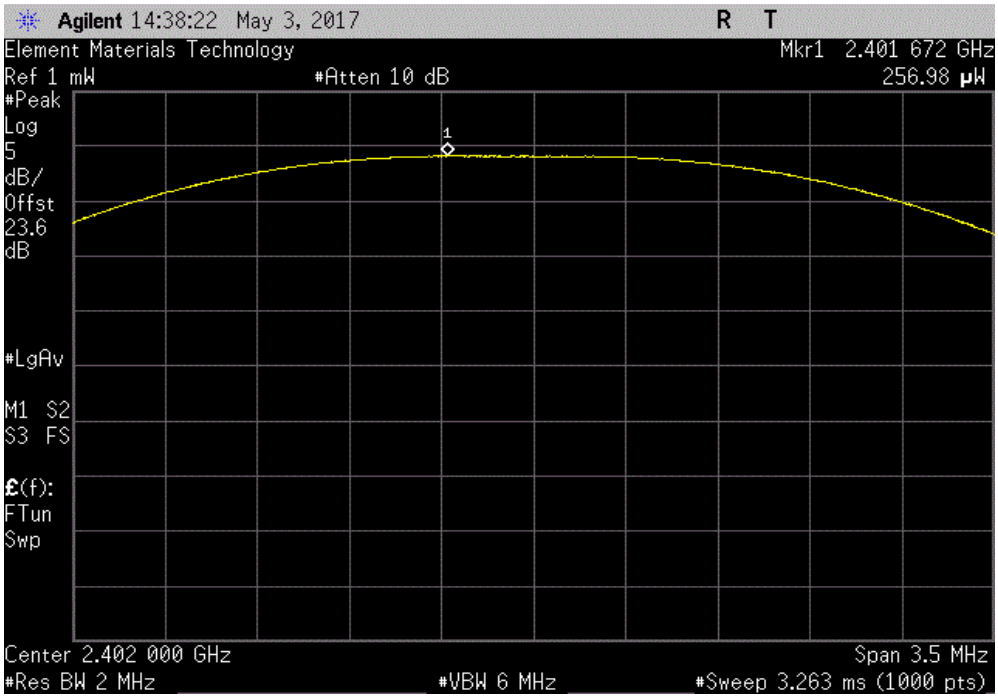
OUTPUT POWER

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm						
				Value	Limit (<)	Result
				25.551 uW	1 W	Pass



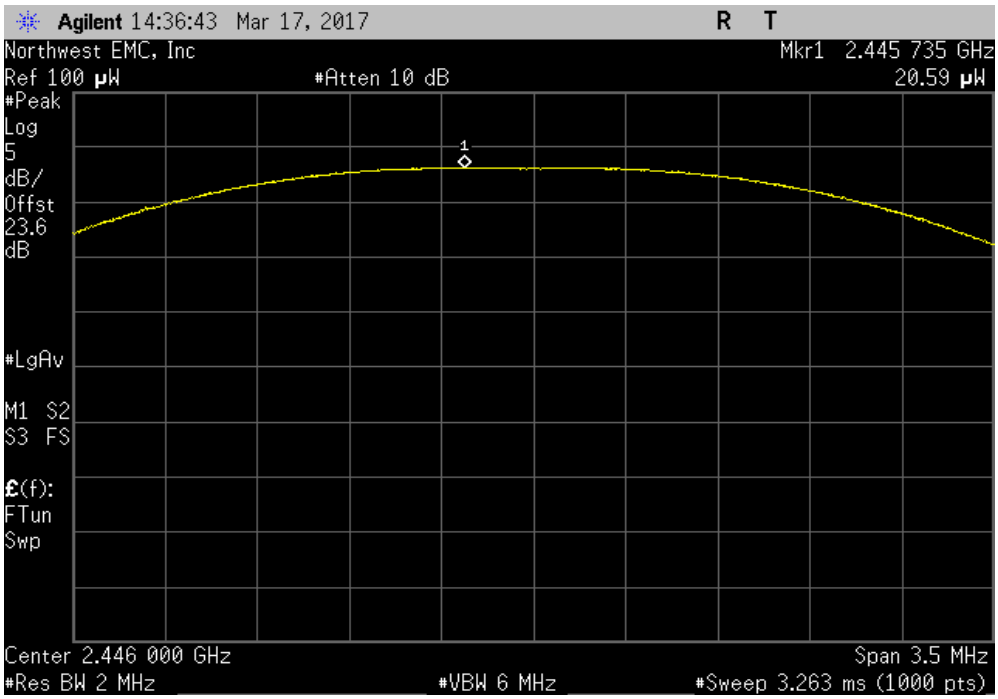
BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm						
				Value	Limit (<)	Result
				256.98 uW	1 W	Pass



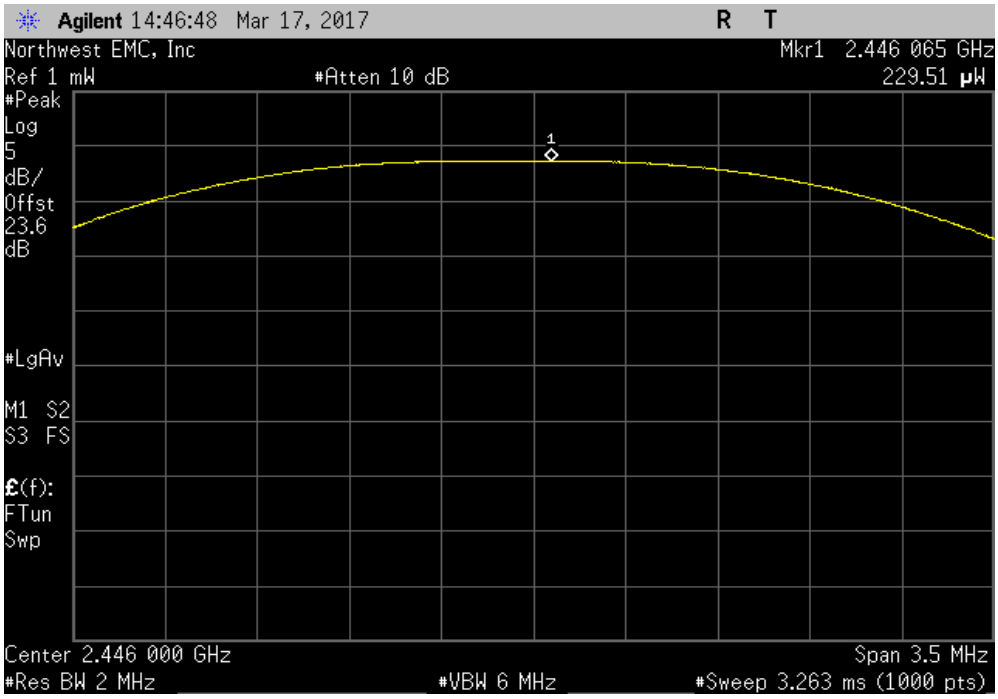
OUTPUT POWER

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm						
				Value	Limit (<)	Result
				20.592 uW	1 W	Pass



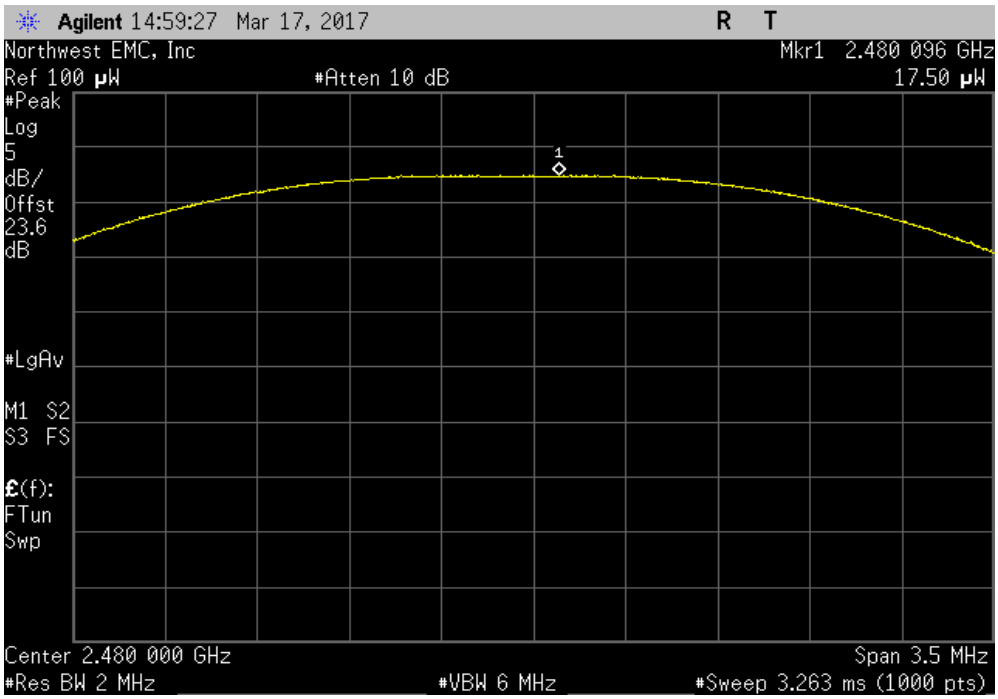
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm						
				Value	Limit (<)	Result
				229.51 uW	1 W	Pass



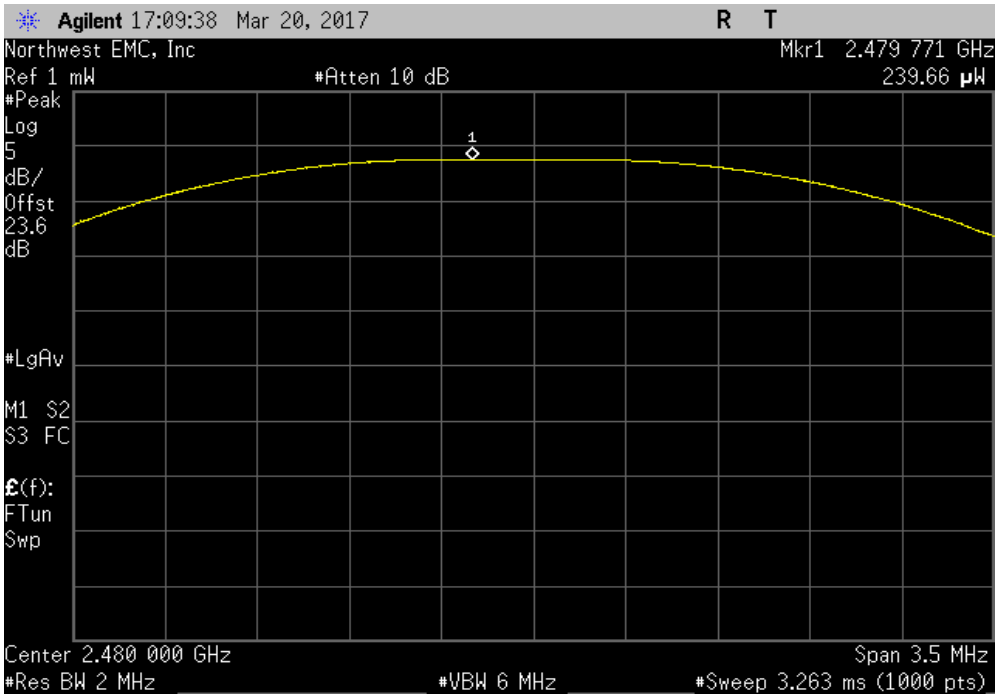
OUTPUT POWER

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm						
				Value	Limit (<)	Result
				17.499 uW	1 W	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm						
				Value	Limit (<)	Result
				239.66 uW	1 W	Pass



POWER SPECTRAL DENSITY

XMit 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	1/5/2017	1/5/2018
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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

NweTx 2016.09.14.2 XMit 2017.01.26

EUT:	**BLED**			**Work Order:**	**AWAR0024**
Serial Number:	**None**			**Date:**	**03/20/17**
Customer:	**Awarepoint Corporation**			**Temperature:**	**22.4 °C**
Attendees:	**None**			**Humidity:**	**48.6% RH**
Project:	**None**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Mark Baytan & Mike Tran**	**Power:**	**Battery**	**Job Site:**	**OC13**

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

COMMENTS

Reference level offset (DC block + 20 dB attenuator + direct connect cable + patch cable) = 23.6 dB.

DEVIATIONS FROM TEST STANDARD

None

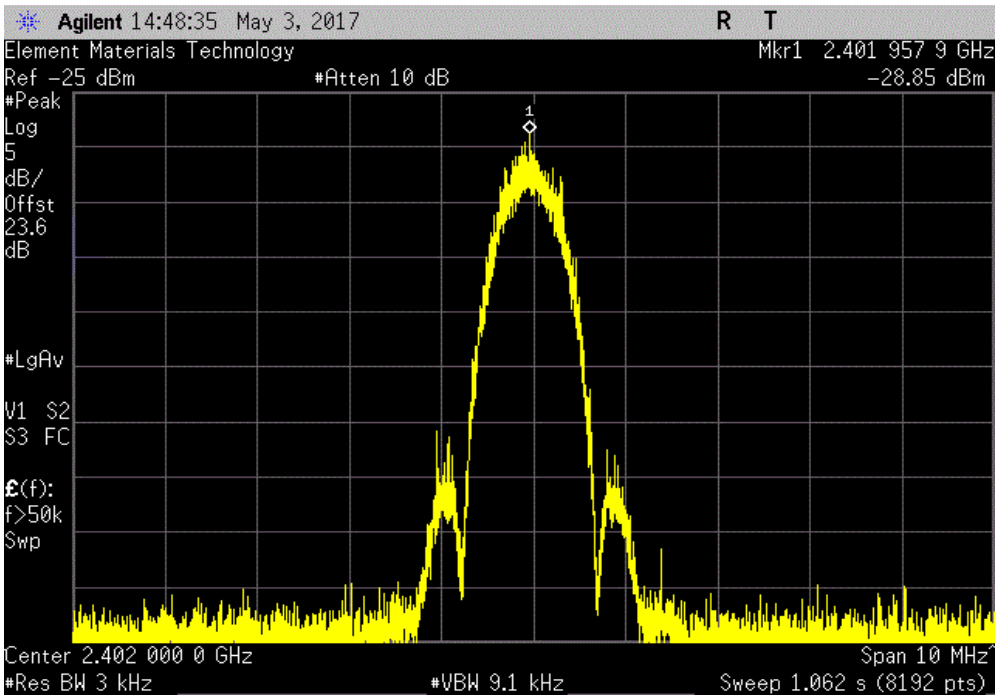
Configuration #	**1**	*Signature*

	Value dBm/3kHz	**Limit < dBm/3kHz**	**Results**
BLE/GFSK Low Channel, 2402 MHz			
Power Setting = -9 dBm	-28.846	8	Pass
Power Setting = 0 dBm	-19.308	8	Pass
BLE/GFSK Mid Channel, 2446 MHz			
Power Setting = -9 dBm	-26.480	8	Pass
Power Setting = 0 dBm	-14.845	8	Pass
BLE/GFSK High Channel, 2480 MHz			
Power Setting = -9 dBm	-28.505	8	Pass
Power Setting = 0 dBm	-17.494	8	Pass

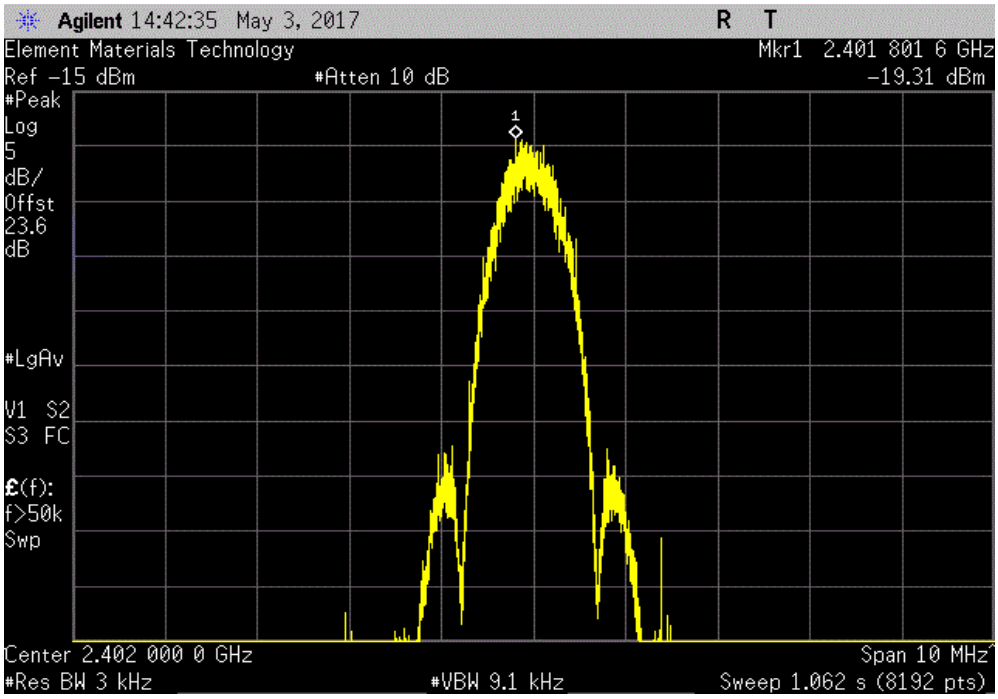
POWER SPECTRAL DENSITY

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-28.846	8	Pass



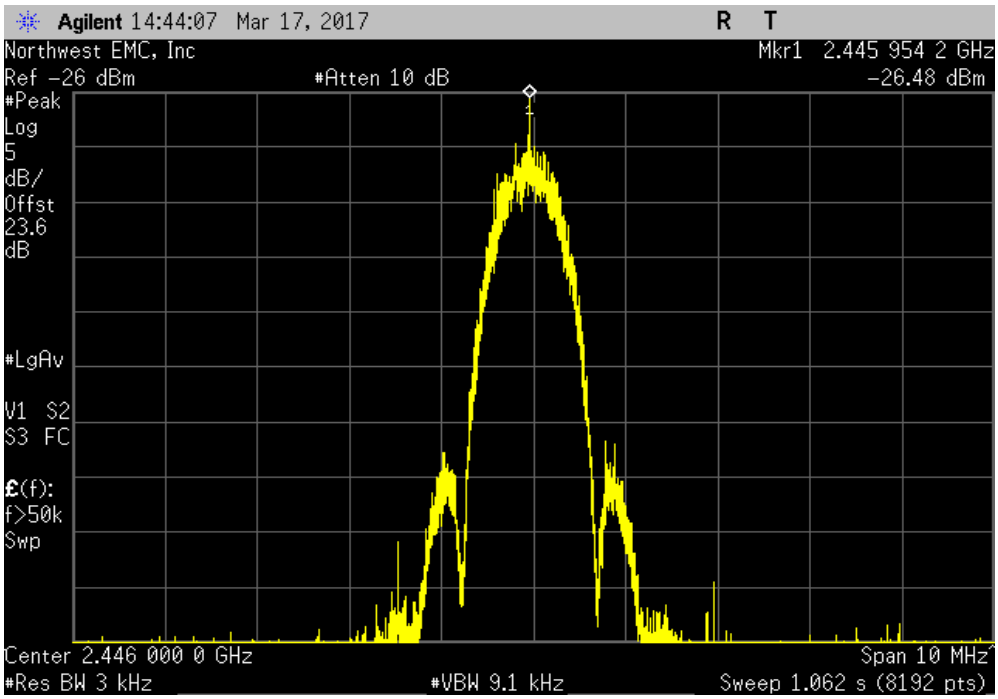
BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-19.308	8	Pass



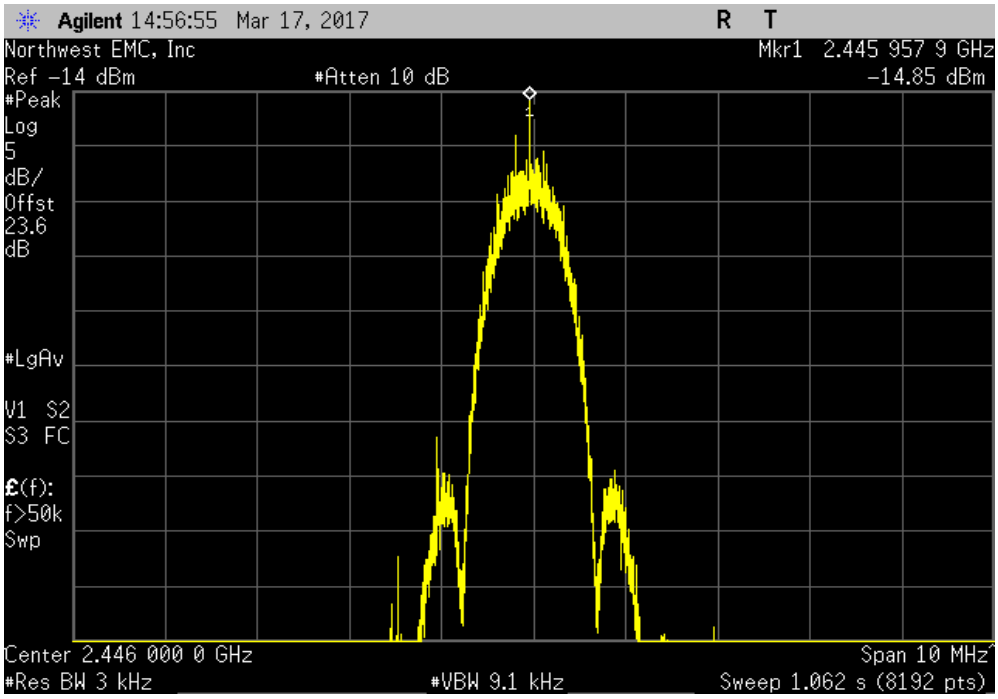
POWER SPECTRAL DENSITY

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-26.480	8	Pass



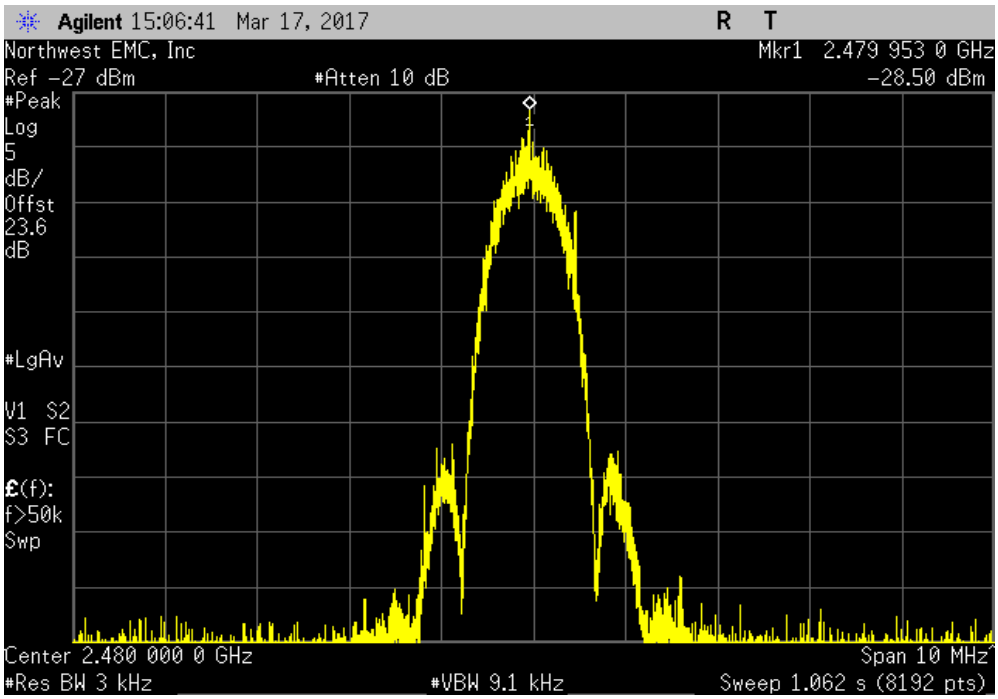
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-14.845	8	Pass



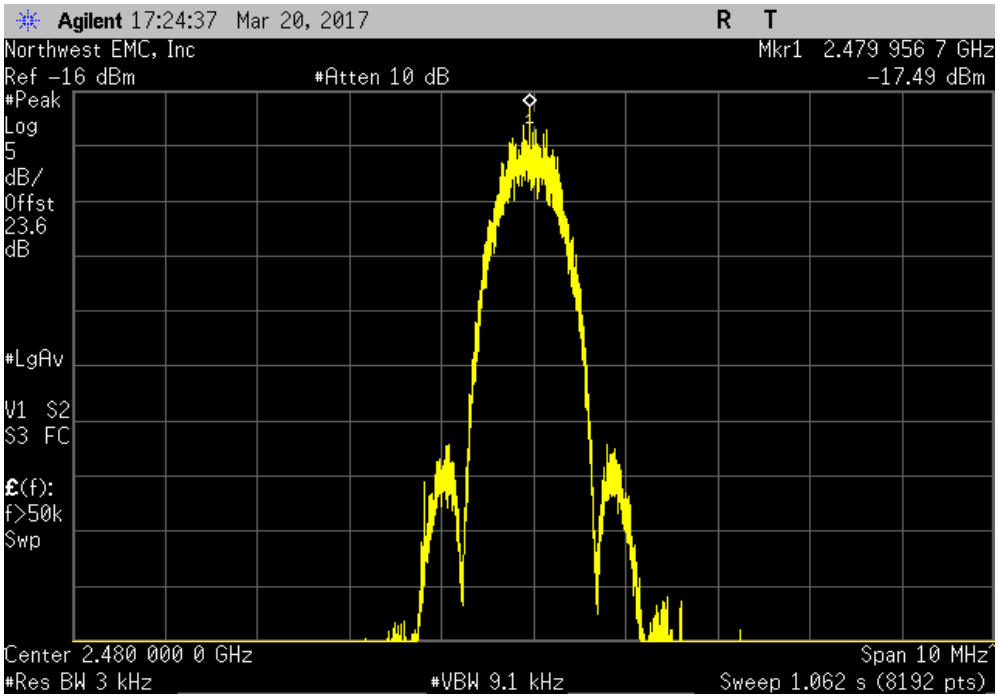
POWER SPECTRAL DENSITY

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-28.505	8	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.494	8	Pass



BAND EDGE COMPLIANCE

XMit 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	1/5/2017	1/5/2018
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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

NweTx 2016.09.14.2 XMit 2017.01.26

EUT:	**BLED**			**Work Order:**	**AWAR0024**
Serial Number:	**None**			**Date:**	**03/20/17**
Customer:	**Awarepoint Corporation**			**Temperature:**	**22.4 °C**
Attendees:	**None**			**Humidity:**	**48.6% RH**
Project:	**None**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Mark Baytan & Mike Tran**	**Power:**	**Battery**	**Job Site:**	**OC13**

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

COMMENTS

Reference level offset (DC block + 20 dB attenuator + direct connect cable + patch cable) = 23.6 dB.

DEVIATIONS FROM TEST STANDARD

None

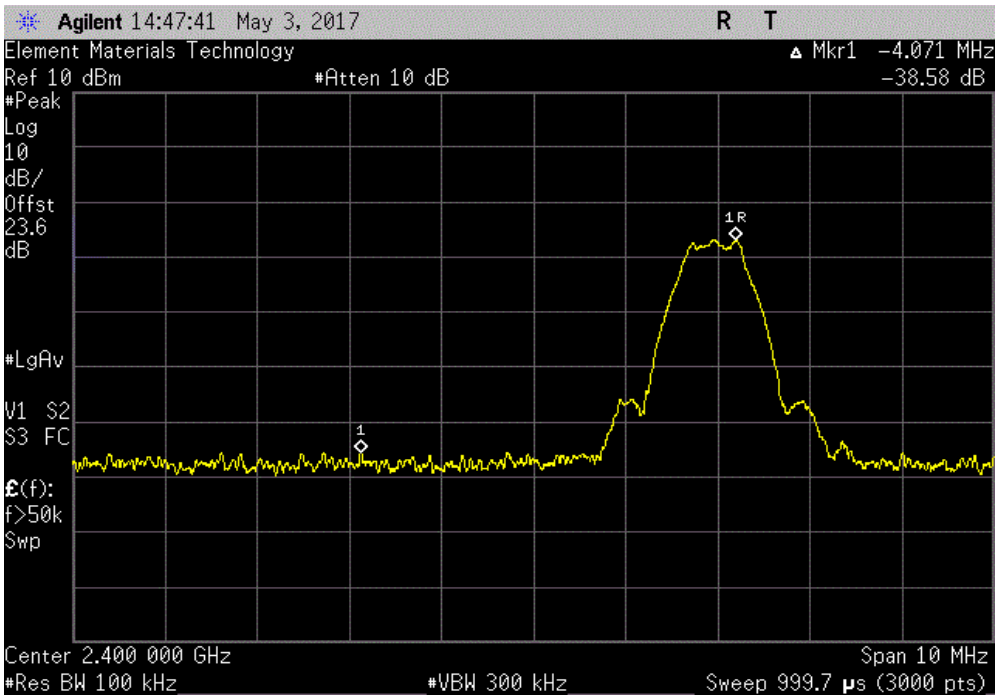
Configuration #	**1**	*Signature*

	Value (dBc)	**Limit ≤ (dBc)**	**Result**
BLE/GFSK Low Channel, 2402 MHz			
Power Setting = -9 dBm	-38.58	-20	Pass
Power Setting = 0 dBm	-45.43	-20	Pass
BLE/GFSK High Channel, 2480 MHz			
Power Setting = -9 dBm	-41.35	-20	Pass
Power Setting = 0 dBm	-52.58	-20	Pass

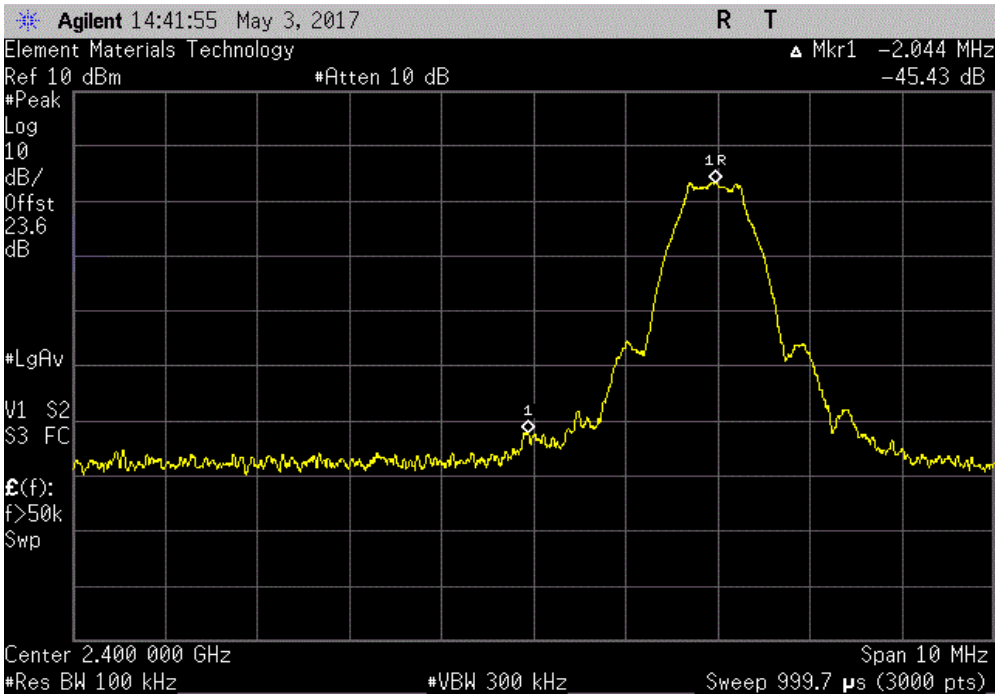
BAND EDGE COMPLIANCE

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm						
				Value (dBc)	Limit ≤ (dBc)	Result
				-38.58	-20	Pass



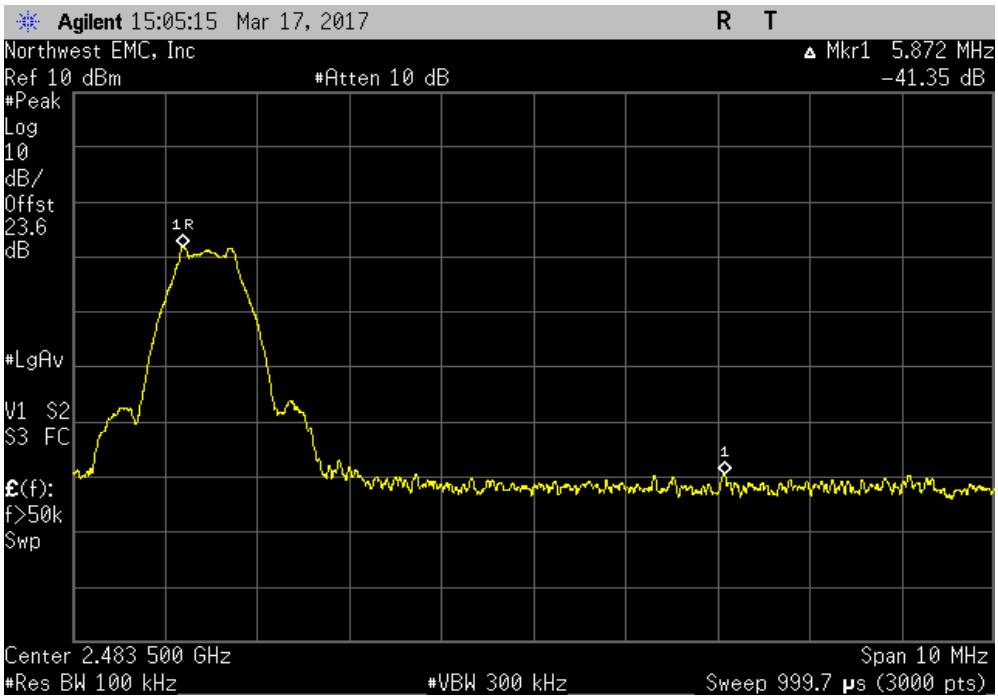
BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm						
				Value (dBc)	Limit ≤ (dBc)	Result
				-45.43	-20	Pass



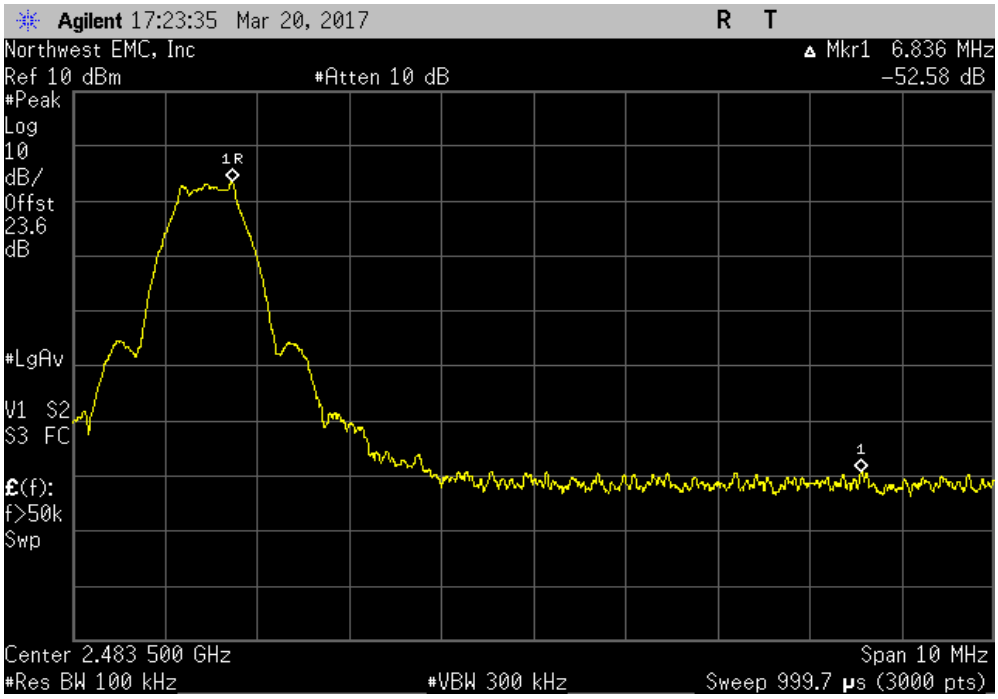
BAND EDGE COMPLIANCE

NweTx 2016.09.14.2 XMit 2017.01.26

BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm						
				Value (dBc)	Limit ≤ (dBc)	Result
				-41.35	-20	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm						
				Value (dBc)	Limit ≤ (dBc)	Result
				-52.58	-20	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Attenuator	Fairview Microwave	SA18H-20	TKR	1/5/2017	1/5/2018
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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

NweTx 2016.09.14.2 XMit 2017.01.26

EUT:	**BLED**			**Work Order:**	**AWAR0024**
Serial Number:	**None**			**Date:**	**03/20/17**
Customer:	**Awarepoint Corporation**			**Temperature:**	**22.4 °C**
Attendees:	**None**			**Humidity:**	**48.6% RH**
Project:	**None**			**Barometric Pres.:**	**1020 mbar**
Tested by:	**Mark Baytan & Mike Tran**	**Power:**	**Battery**	**Job Site:**	**OC13**

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

COMMENTS

Reference level offset (DC block + 20 dB attenuator + direct connect cable + patch cable) = 23.6 dB.

DEVIATIONS FROM TEST STANDARD

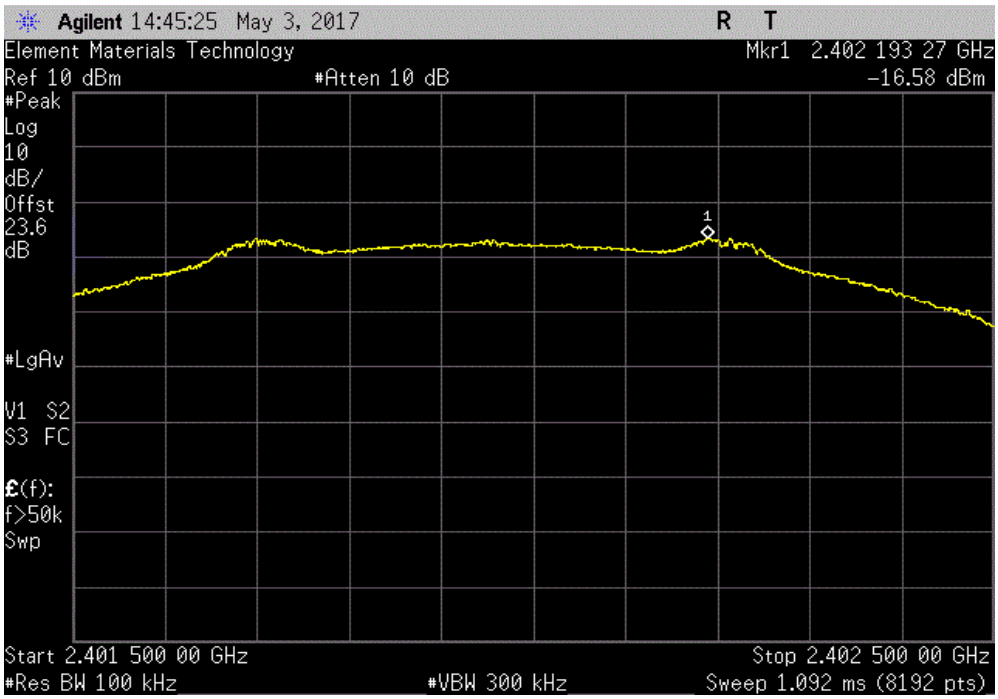
None

Configuration #	**1**	*Signature*

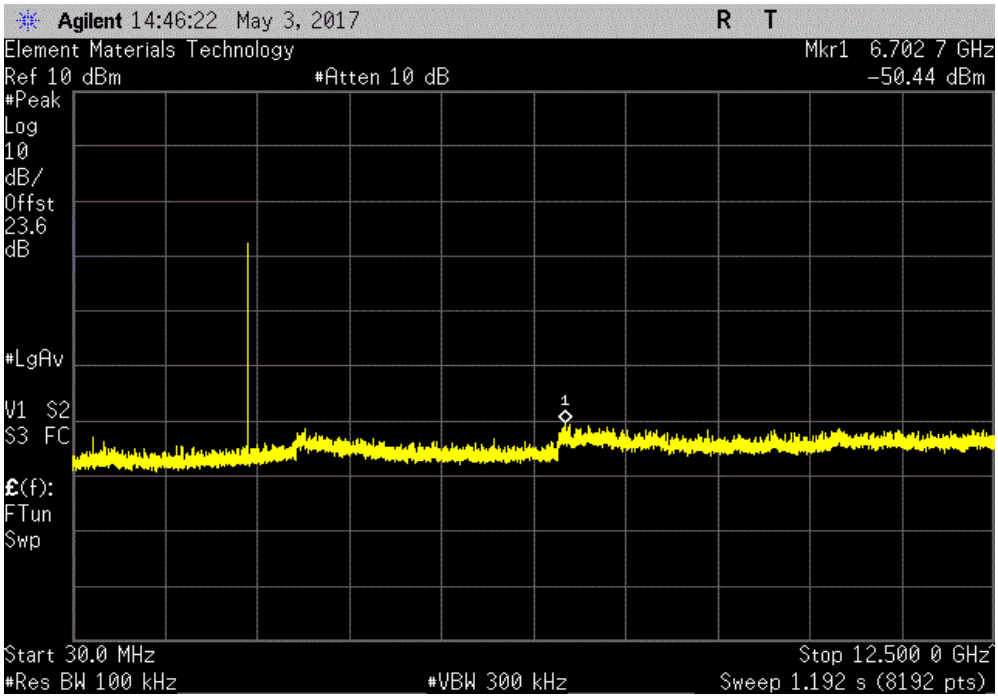
	Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK Low Channel, 2402 MHz				
Power Setting = -9 dBm	Fundamental	N/A	N/A	N/A
Power Setting = -9 dBm	30 MHz - 12.5 GHz	-33.86	-20	Pass
Power Setting = -9 dBm	12.5 GHz - 25 GHz	-30.21	-20	Pass
Power Setting = 0 dBm	Fundamental	N/A	N/A	N/A
Power Setting = 0 dBm	30 MHz - 12.5 GHz	-43.21	-20	Pass
Power Setting = 0 dBm	12.5 GHz - 25 GHz	-39.95	-20	Pass
BLE/GFSK Mid Channel, 2446 MHz				
Power Setting = -9 dBm	Fundamental	N/A	N/A	N/A
Power Setting = -9 dBm	30 MHz - 12.5 GHz	-37.58	-20	Pass
Power Setting = -9 dBm	12.5 GHz - 25 GHz	-34.33	-20	Pass
Power Setting = 0 dBm	Fundamental	N/A	N/A	N/A
Power Setting = 0 dBm	30 MHz - 12.5 GHz	-47.65	-20	Pass
Power Setting = 0 dBm	12.5 GHz - 25 GHz	-44.74	-20	Pass
BLE/GFSK High Channel, 2480 MHz				
Power Setting = -9 dBm	Fundamental	N/A	N/A	N/A
Power Setting = -9 dBm	30 MHz - 12.5 GHz	-36.98	-20	Pass
Power Setting = -9 dBm	12.5 GHz - 25 GHz	-32.71	-20	Pass
Power Setting = 0 dBm	Fundamental	N/A	N/A	N/A
Power Setting = 0 dBm	30 MHz - 12.5 GHz	-44.99	-20	Pass
Power Setting = 0 dBm	12.5 GHz - 25 GHz	-45.23	-20	Pass

NweTx 2016.09.14.2 XMit 2017.01.26

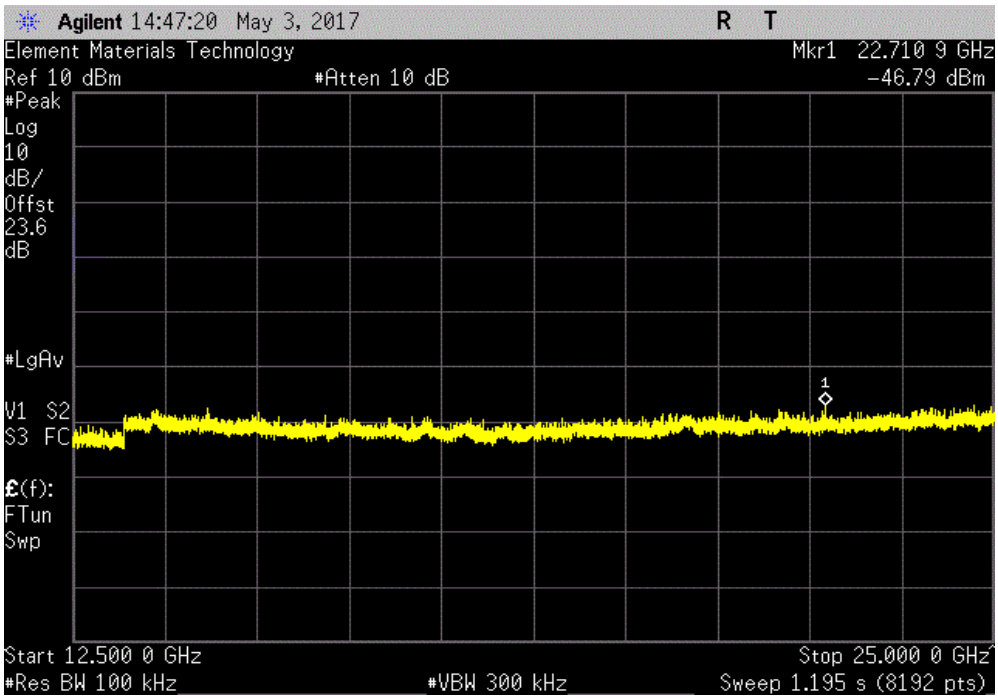
BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm						
	Frequency Range			Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



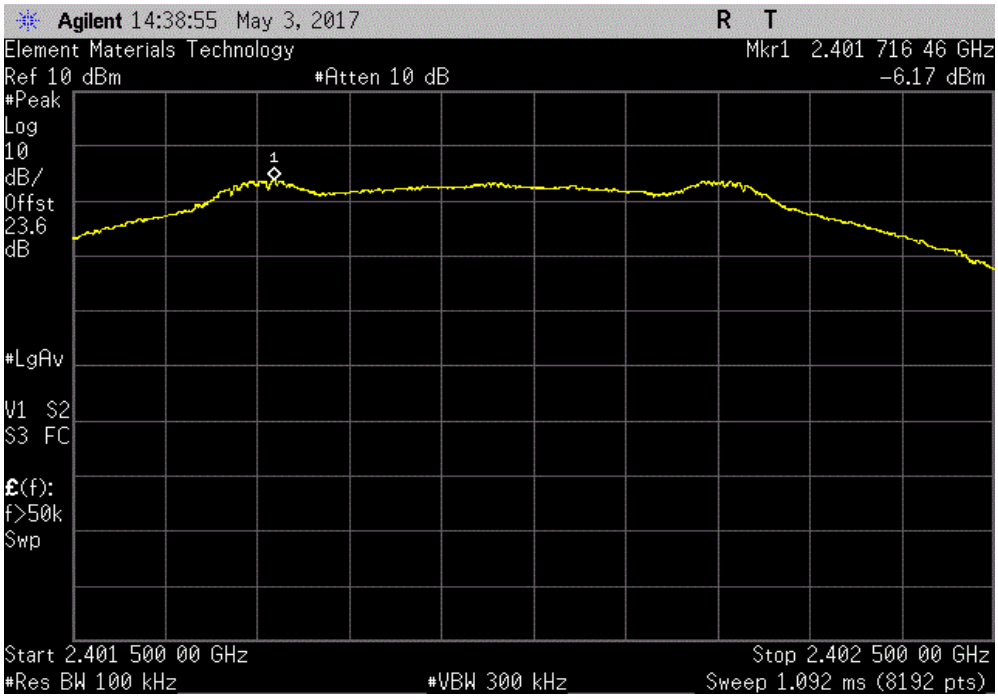
BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-33.86	-20	Pass



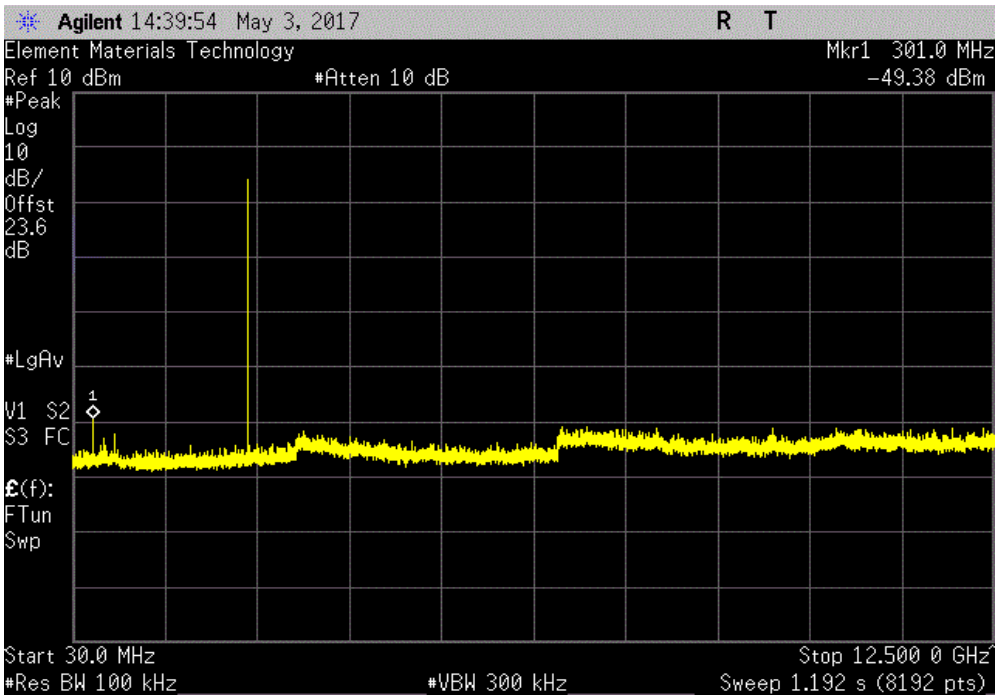
BLE/GFSK Low Channel, 2402 MHz, Power Setting = -9 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-30.21	-20	Pass



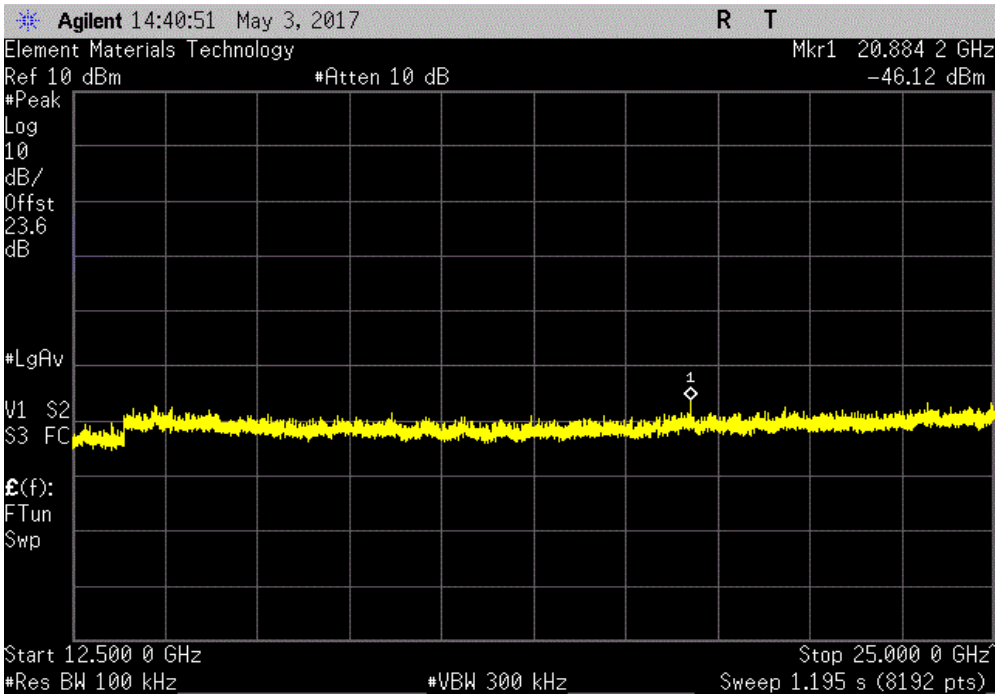
BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm						
	Frequency Range			**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
	Fundamental			N/A	N/A	N/A



BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz		-43.21	-20	Pass



BLE/GFSK Low Channel, 2402 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-39.95	-20	Pass



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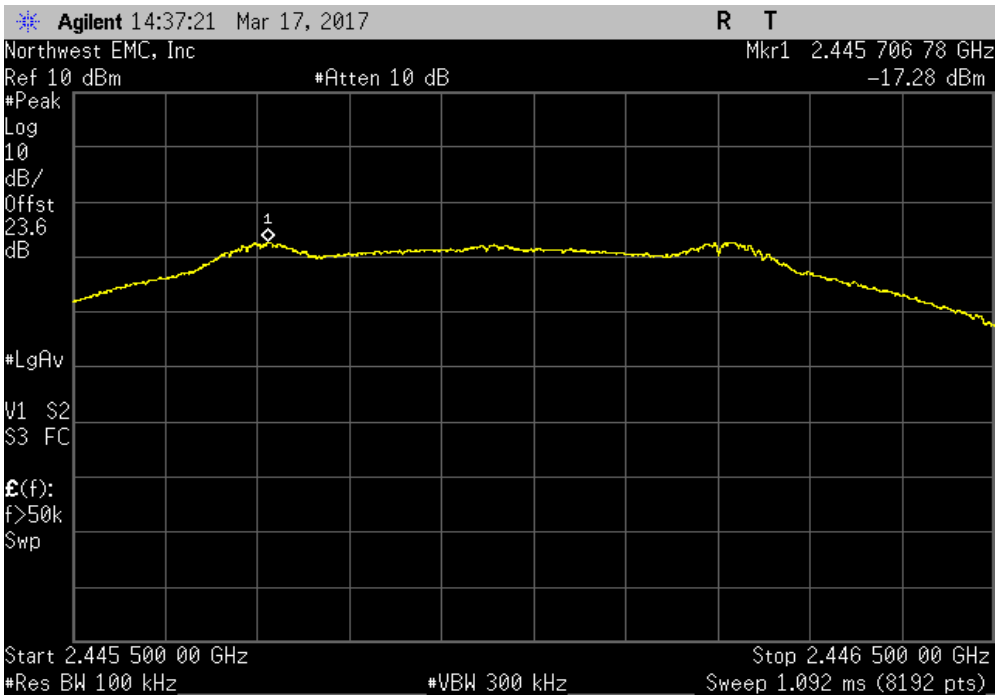
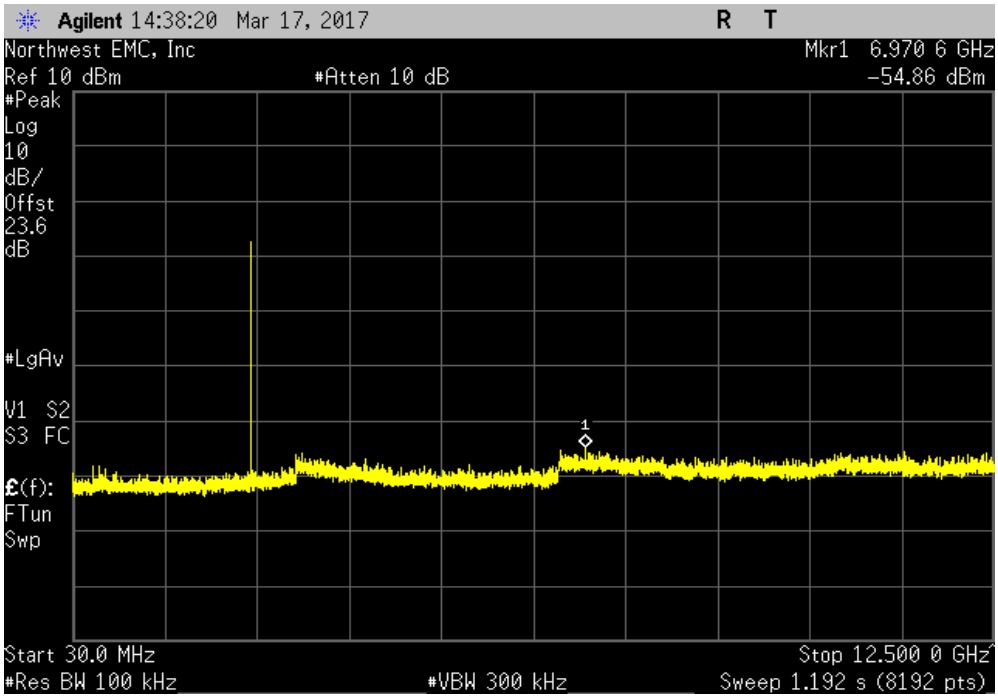
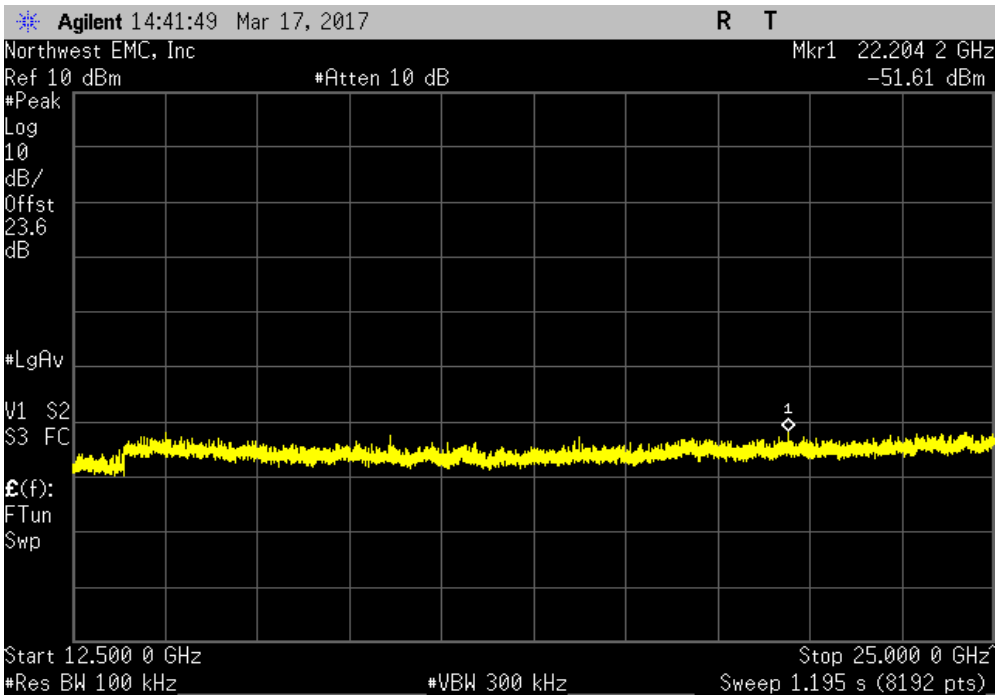
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm						
	Frequency Range			Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



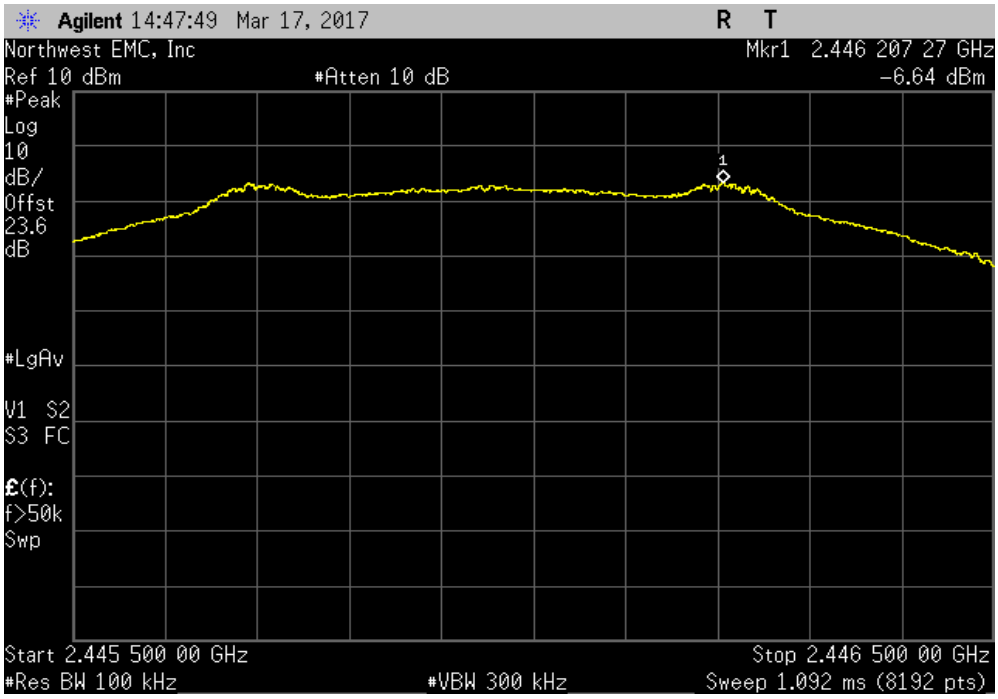
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz		-37.58	-20	Pass	



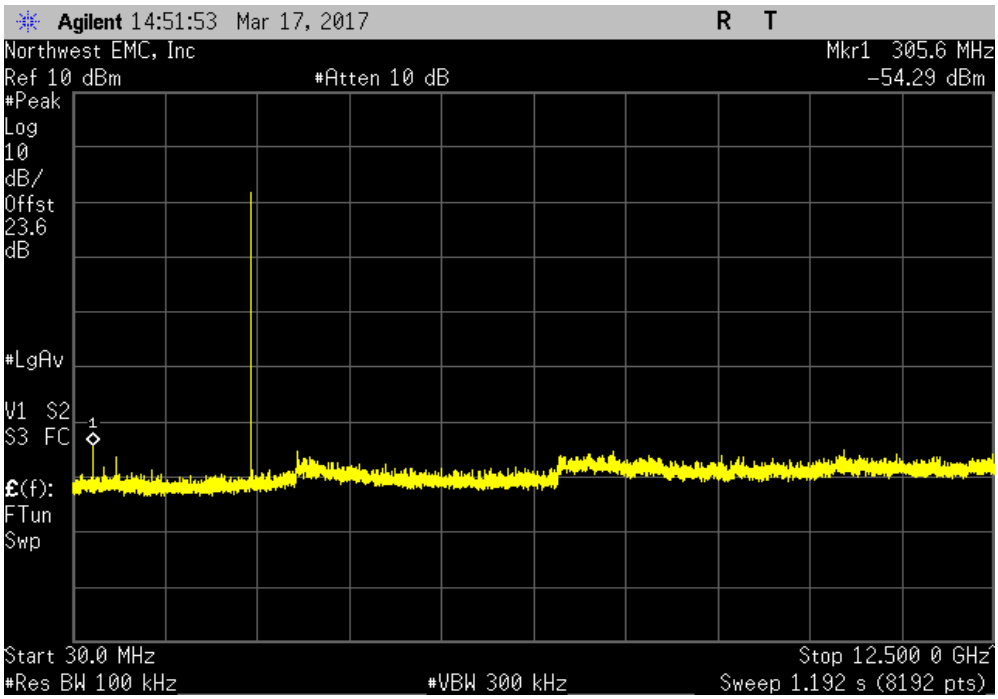
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = -9 dBm				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-34.33	-20	Pass



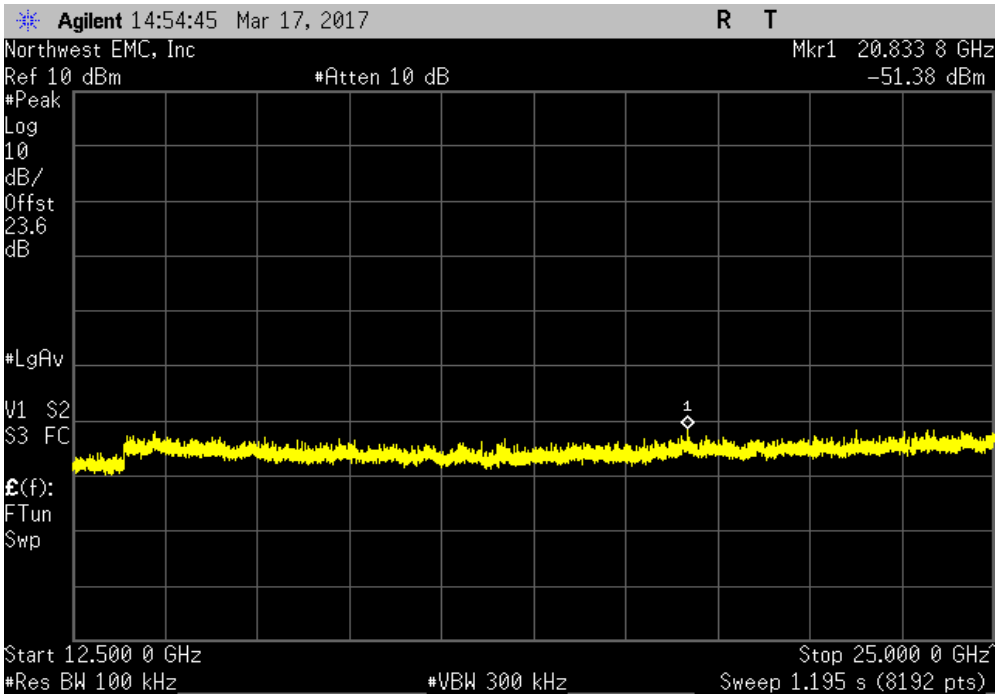
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm						
	Frequency Range			Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



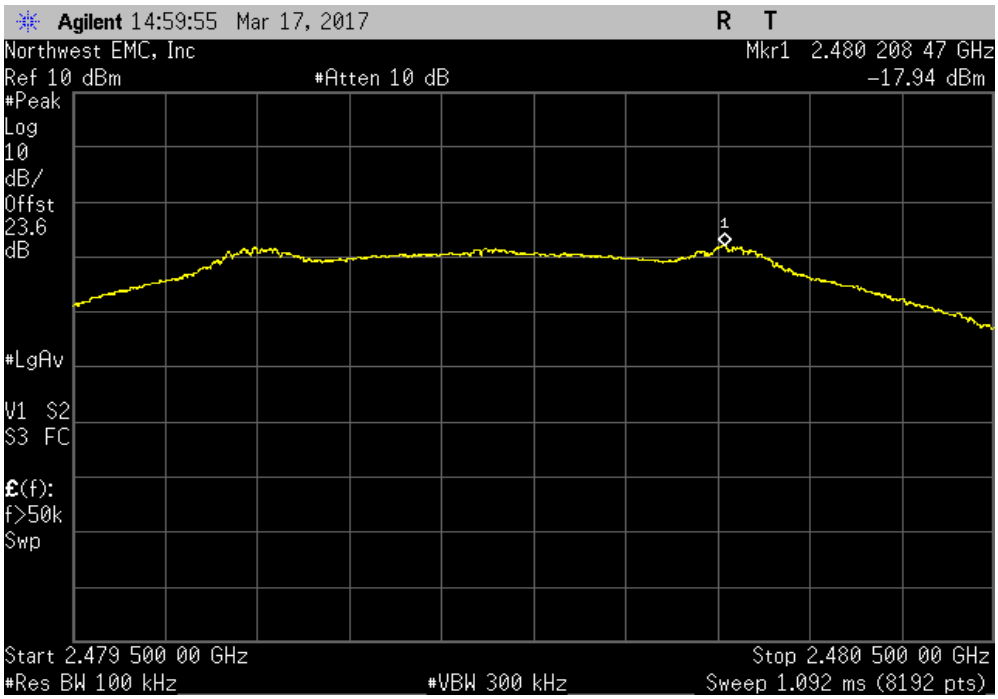
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz		-47.65	-20	Pass



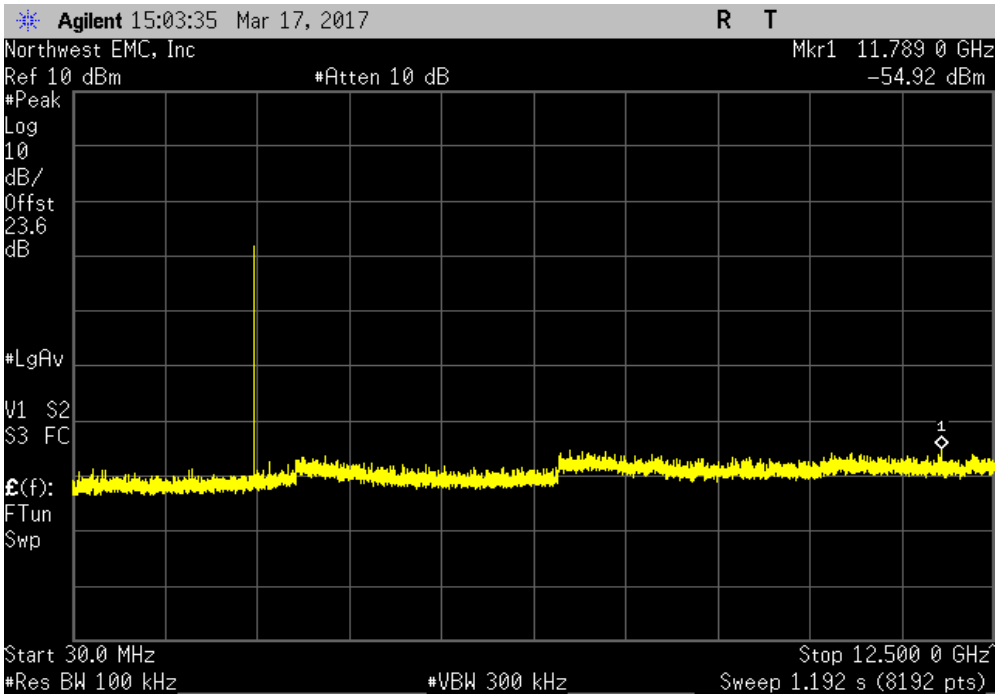
BLE/GFSK Mid Channel, 2446 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-44.74	-20	Pass



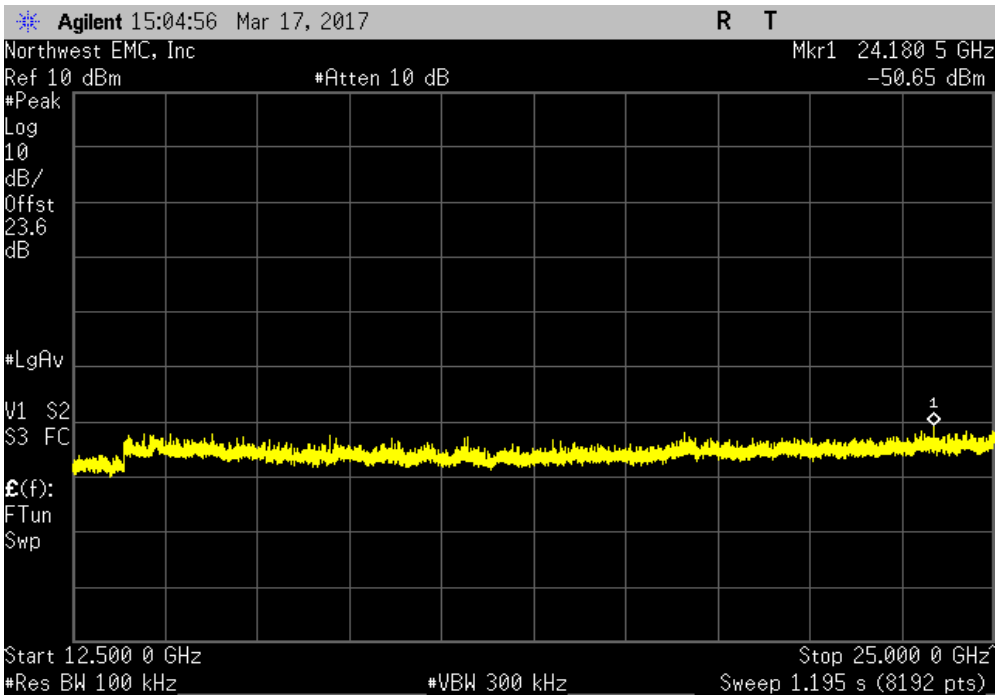
BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm						
	Frequency Range			Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental			N/A	N/A	N/A



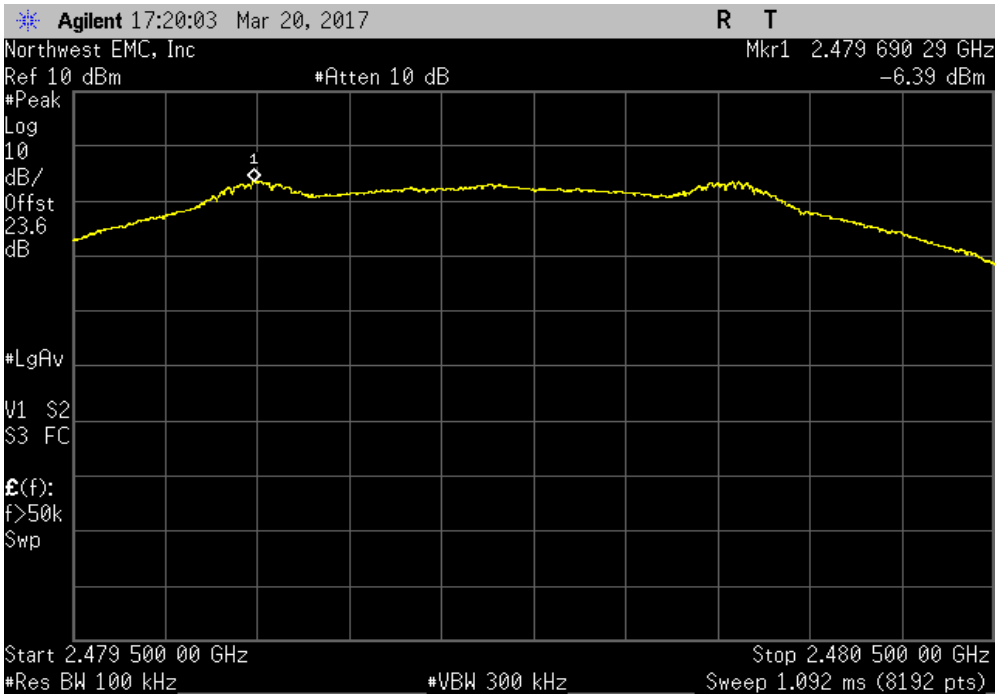
BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm					
Frequency Range			Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz			-36.98	-20	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = -9 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-32.71	-20	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm						
	Frequency Range			**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
	Fundamental			N/A	N/A	N/A



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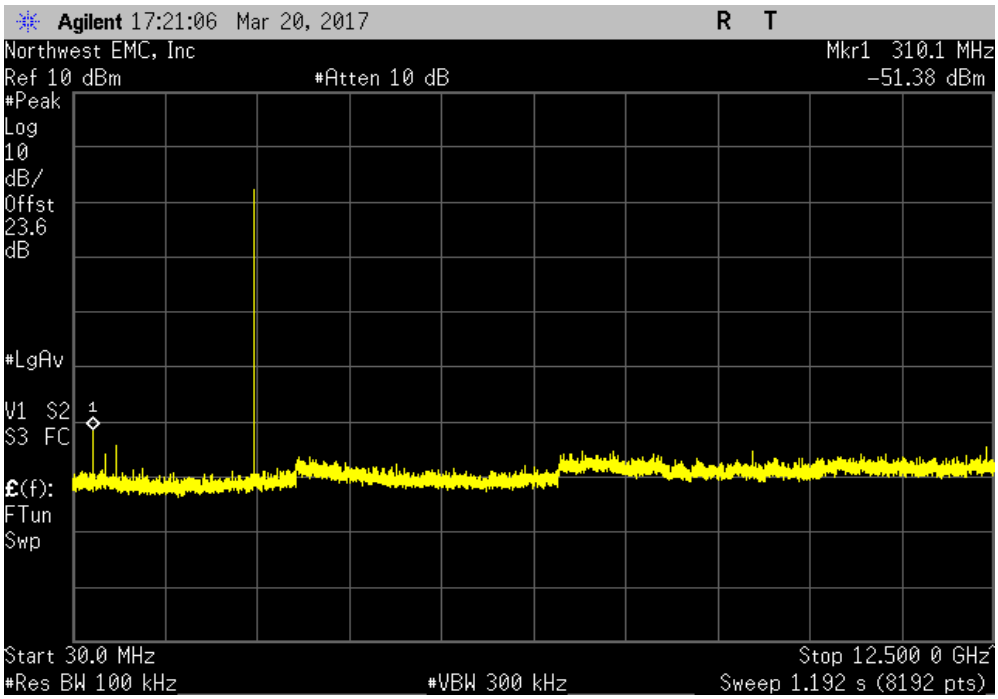
BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz		-44.99	-20	Pass



BLE/GFSK High Channel, 2480 MHz, Power Setting = 0 dBm				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-45.23	-20	Pass