



# element<sup>®</sup>

**Digi International Inc**

**Activity Tracking Belt**

**FCC 15.247:2017**

**Report # DGII0215.1**



NVLAP Lab Code: 200881-0

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# CERTIFICATE OF TEST

Last Date of Test: November 7, 2017  
Digi International Inc  
Model: Activity Tracking Belt

## Radio Equipment Testing

### Standards

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

### Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	No	N/A	Testing contained in original test report for FCC ID: 2ADHKATWINC1500
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.2.2.4	Output Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	No	N/A	Testing contained in original test report for FCC ID: 2ADHKATWINC1500

### Deviations From Test Standards

None

### Approved By:

Matt Nuernberg, Operations Manager

*Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in 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



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## United States

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**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

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## Canada

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**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.

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## European Union

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

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## Australia/New Zealand

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

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## Korea

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**MSIP / RRA** - Recognized by KCC's RRA as a CAB for the acceptance of test data.

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## Japan

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**VCCI** - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

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## Taiwan

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**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.

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## Singapore

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

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## Israel

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

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## Hong Kong

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

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## Vietnam

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

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## SCOPE

For details on the Scopes of our Accreditations, please visit:

<http://portlandcustomer.element.com/ts/scope/scope.htm>

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

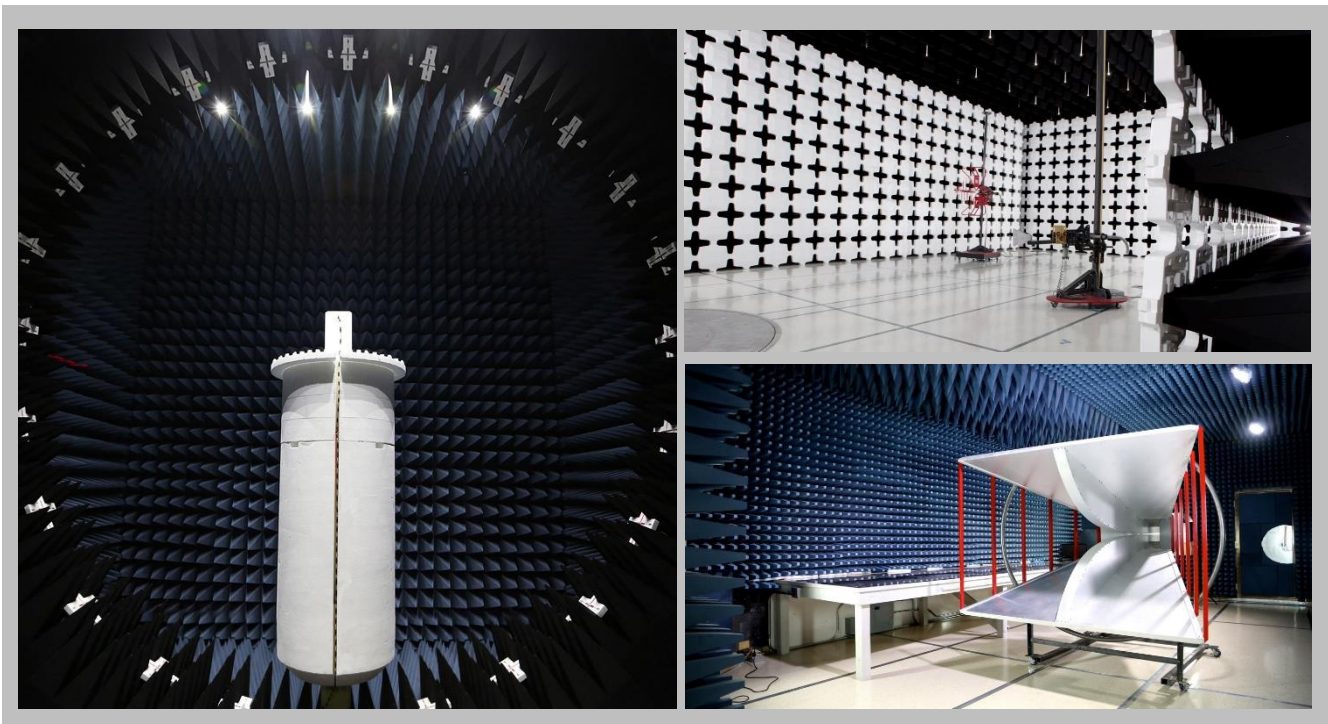
# FACILITIES



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 120 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157



# MEASUREMENT UNCERTAINTY



## 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.

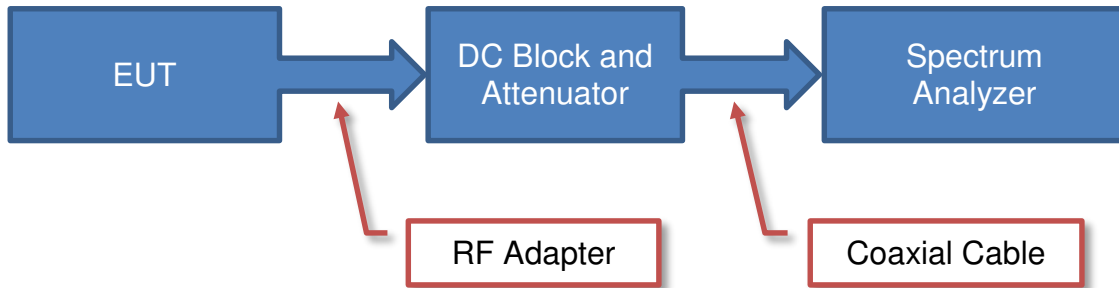
<b>Test</b>	<b>+ MU</b>	<b>- MU</b>
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (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

# Test Setup Block Diagrams

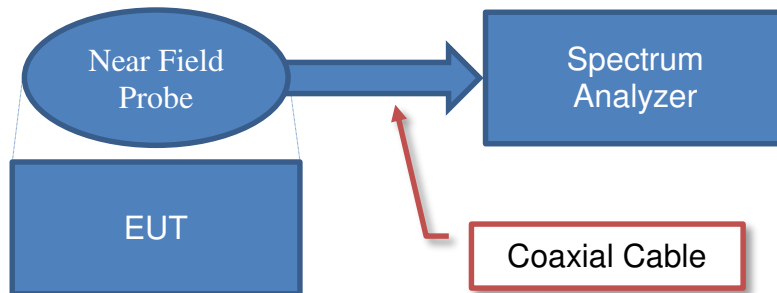


2017.1.25

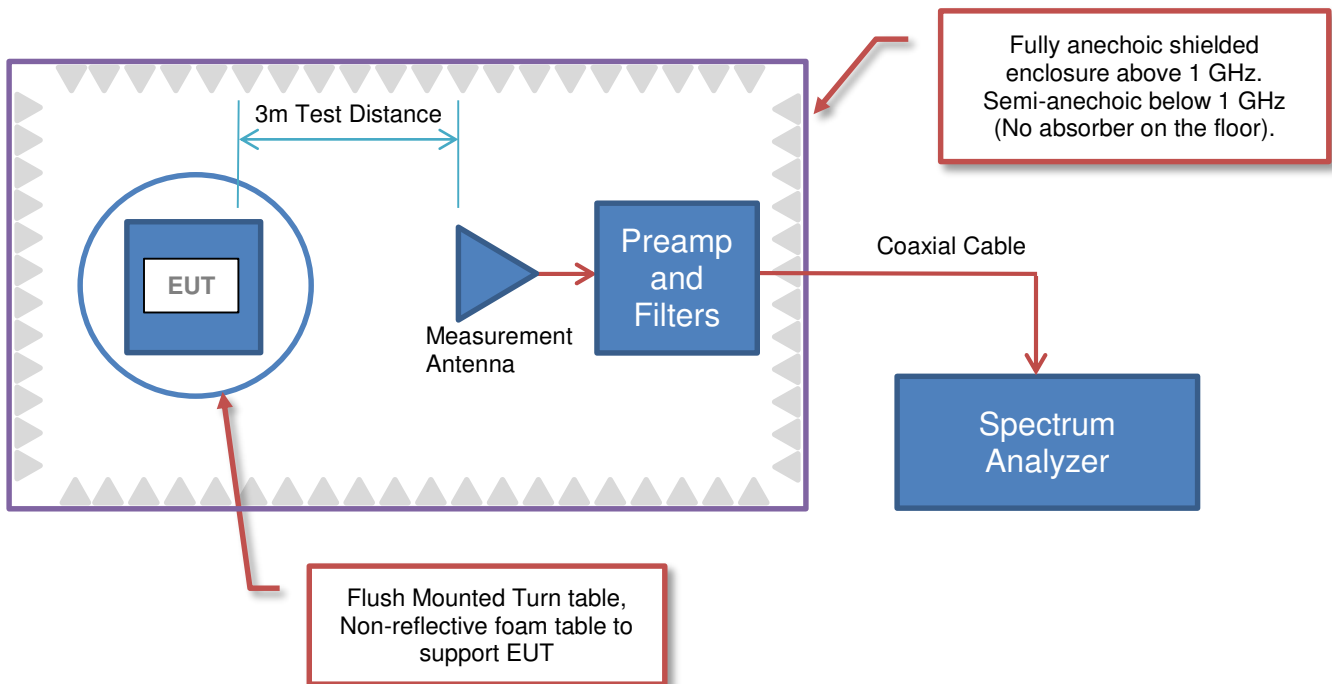
## Antenna Port Conducted Measurements



## Near Field Test Fixture Measurements



## Spurious Radiated Emissions





# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	Digi International Inc
<b>Address:</b>	11001 Bren Road E.
<b>City, State, Zip:</b>	Minnetonka, MN 55343
<b>Test Requested By:</b>	Collin LaFave
<b>Model:</b>	Activity Tracking Belt
<b>First Date of Test:</b>	November 7, 2017
<b>Last Date of Test:</b>	November 7, 2017
<b>Receipt Date of Samples:</b>	April 12, 2017
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage
<b>Purchase Authorization:</b>	Verified

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT:

Battery powered Activity Tracking belt utilizing a low duty cycle 2.4 GHz Wi-Fi radio to send data to a network.

### Testing Objective:

To demonstrate compliance of the Wi-Fi radio operating in the 2.4 GHz band to FCC 15.247 for a C2PC to FCC ID: 2AKXS-EJGKAJ3531 due to lowering the output power from the original Grant.



# CONFIGURATIONS



## Configuration DGII0263- 1

<b>EUT</b>			
<b>Description</b>	<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>
Activity Tracking Belt	Digi International Inc.	Modjoul	None
Wifi Module	Atmel	AT-Wink 1500-MR210PB	F8F005FF1522

<b>Peripherals in test setup boundary</b>			
<b>Description</b>	<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>
USB to I2C/SPI Adapter	Total Phase	Aardvark	2237-454813
Laptop	HP	EliteBook	00669
Power Supply (Laptop)	HP	PPP009L-E	WBGST0A3U0QU31

<b>Cables</b>					
<b>Cable Type</b>	<b>Shield</b>	<b>Length (m)</b>	<b>Ferrite</b>	<b>Connection 1</b>	<b>Connection 2</b>
USB Cable (USB to I2C/SPI Adapter)	No	1.8m	Yes	Laptop	USB to I2C/SPI Adapter
Ribbon Cable	No	0.25m	No	USB to I2C/SPI Adapter	Serial Leads
USB Cable (Wifi Module)	No	0.5m	No	Laptop	Wifi Module
Serial Leads	No	0.3m	No	Ribbon Cable	Wifi Module
AC Mains Cable (Laptop)	No	1.0m	No	AC Mains	Power Supply (Laptop)
DC Cable (Laptop)	No	1.8m	Yes	Laptop	Power Supply (Laptop)

# MODIFICATIONS



## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	11/7/2017	Duty Cycle	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	11/7/2017	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.
3	11/7/2017	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.
4	11/7/2017	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.
5	11/7/2017	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.
6	11/7/2017	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# DUTY CYCLE



XMI 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

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

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

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

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

# DUTY CYCLE



TstTx 2017.10.04 XMI 2017.09.21

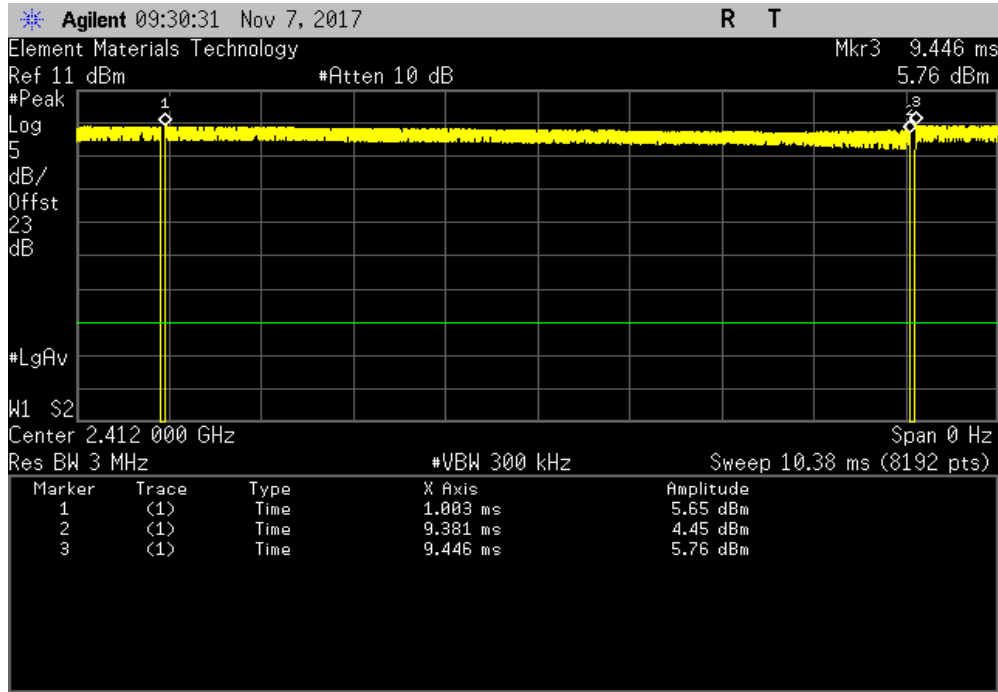
EUT: Activity Tracking Belt		Work Order: DGII0263				
Serial Number: F8F005FF1522		Date: 7-Nov-17				
Customer: Digi International Inc		Temperature: 21.9 °C				
Attendees: Collin LaFave		Humidity: 22.7% RH				
Project: None		Barometric Pres.: 1033 mbar				
Tested by: Dustin Sparks		Power: 5VDC				
Job Site: MN08		Test Method				
FCC 15.247:2017		ANSI C63.10:2013				
COMMENTS						
EUT powered by USB connection						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature <i>Dustin Sparks</i>				
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
2400 MHz - 2483.5 MHz Band						
802.11(b) 1 Mbps						
Low Channel 1, 2412 MHz	8.379 ms	8.443 ms	1	99.2	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	8.387 ms	8.435 ms	1	99.4	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	8.38 ms	8.442 ms	1	99.3	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(b) 11 Mbps						
Low Channel 1, 2412 MHz	843.6 us	873.9 us	1	96.5	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	843.6 us	873.9 us	1	96.5	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	843.6 us	900.8 us	1	93.7	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 6 Mbps						
Low Channel 1, 2412 MHz	1.393 ms	1.439 ms	1	96.8	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.393 ms	1.448 ms	1	96.2	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.393 ms	1.457 ms	1	95.6	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 36 Mbps						
Low Channel 1, 2412 MHz	253.2 us	316.8 us	1	79.9	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	253.2 us	307.8 us	1	82.3	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	253.2 us	316.8 us	1	79.9	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 54 Mbps						
Low Channel 1, 2412 MHz	177.2 us	213.8 us	1	82.9	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	177.2 us	213.8 us	1	82.9	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	177.2 us	213.8 us	1	82.9	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS0						
Low Channel 1, 2412 MHz	1.301 ms	1.365 ms	1	95.4	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	1.301 ms	1.356 ms	1	96	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	1.301 ms	1.338 ms	1	97.3	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS7						
Low Channel 1, 2412 MHz	165.1 us	219.8 us	1	75.1	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	165.2 us	210.8 us	1	78.4	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	165.1 us	201.9 us	1	81.8	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A

# DUTY CYCLE

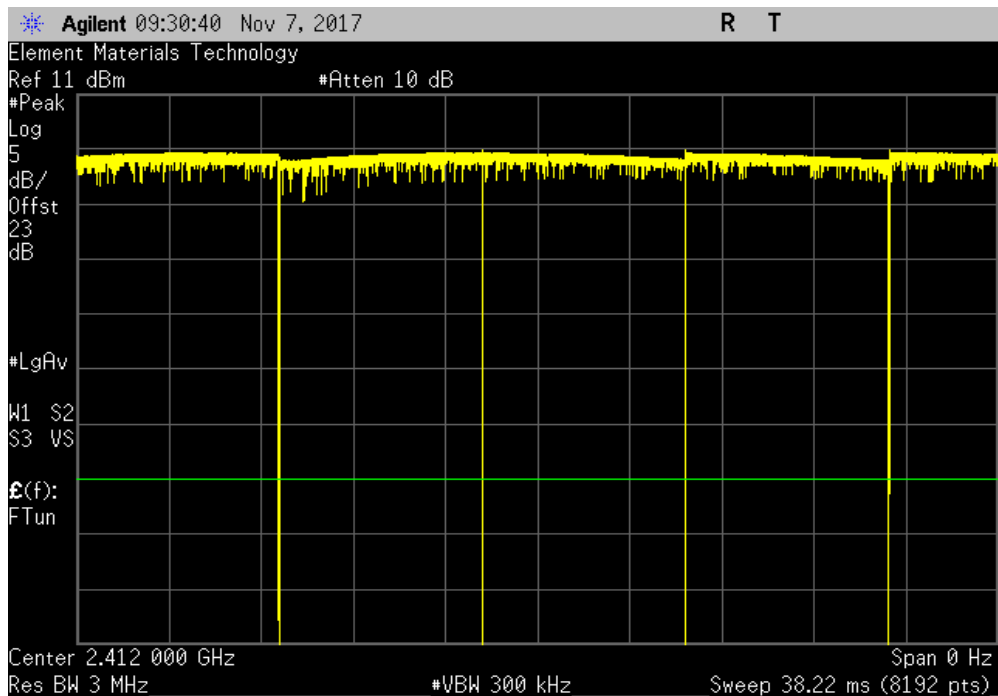


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
8.379 ms	8.443 ms	1	99.2	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

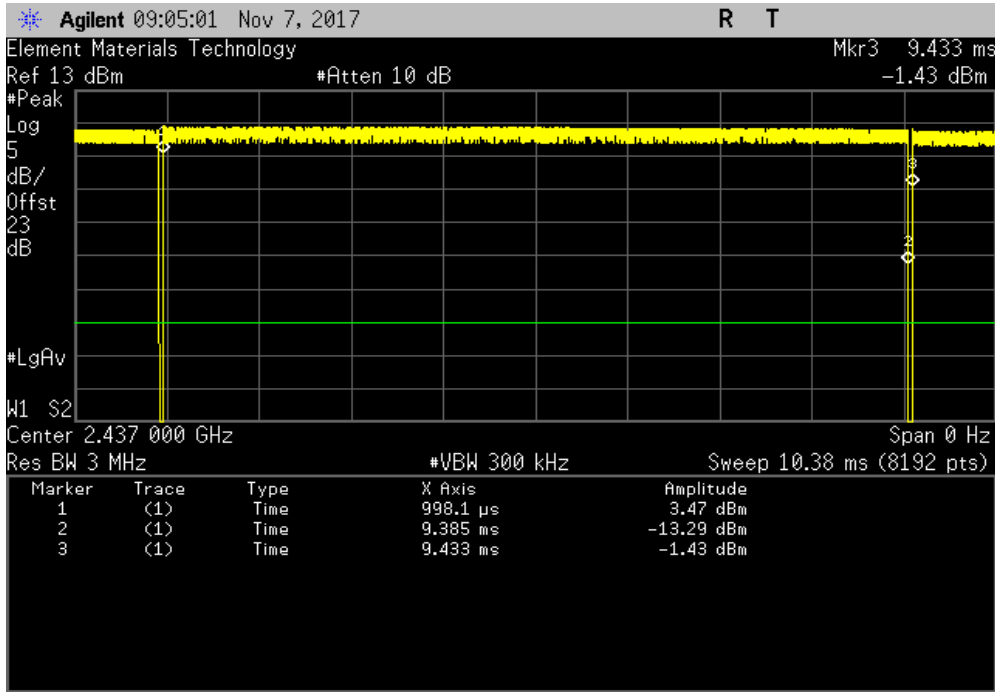


# DUTY CYCLE

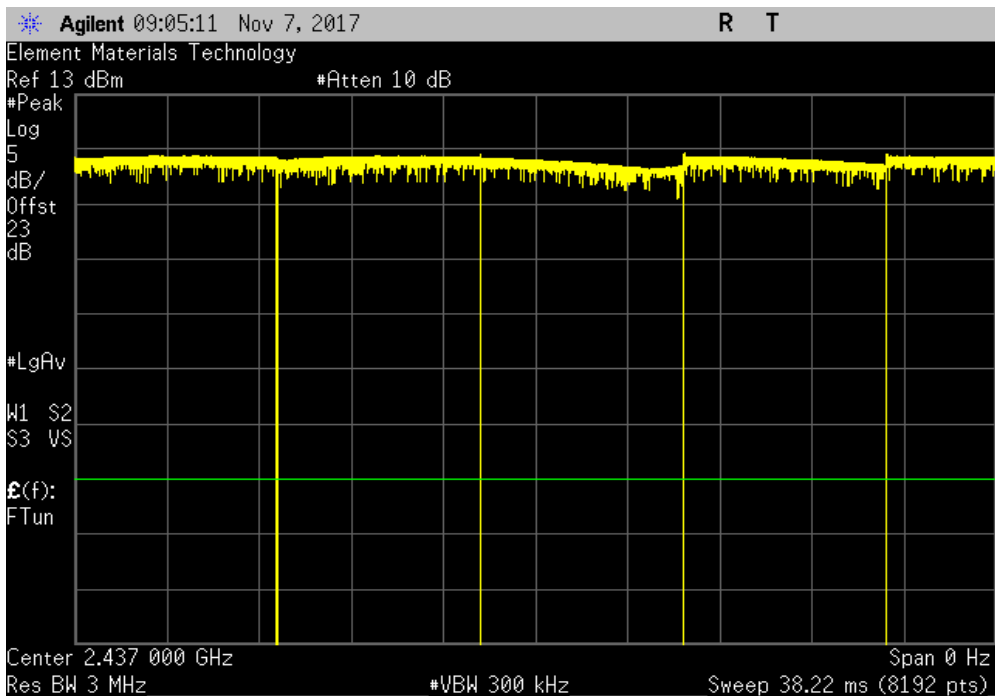


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
8.387 ms	8.435 ms	1	99.4	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

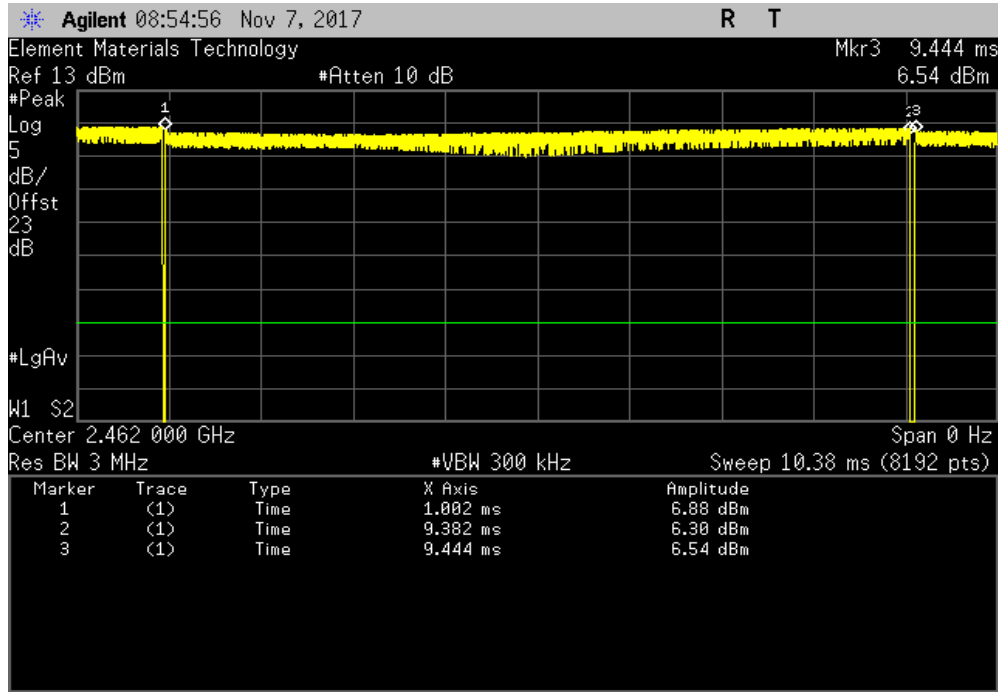


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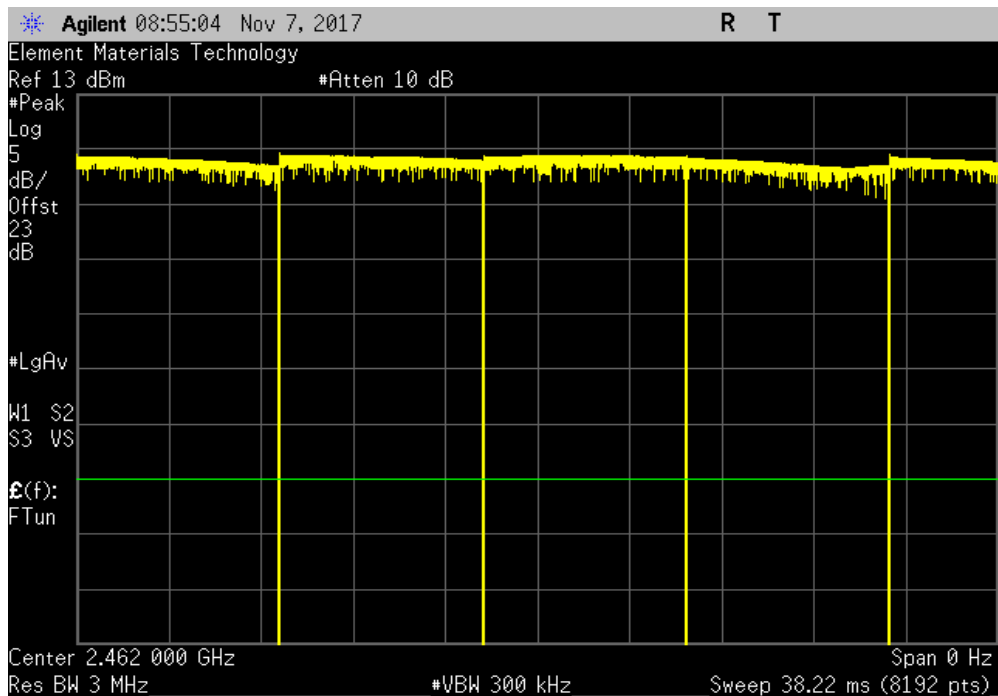


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
8.38 ms	8.442 ms	1	99.3	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

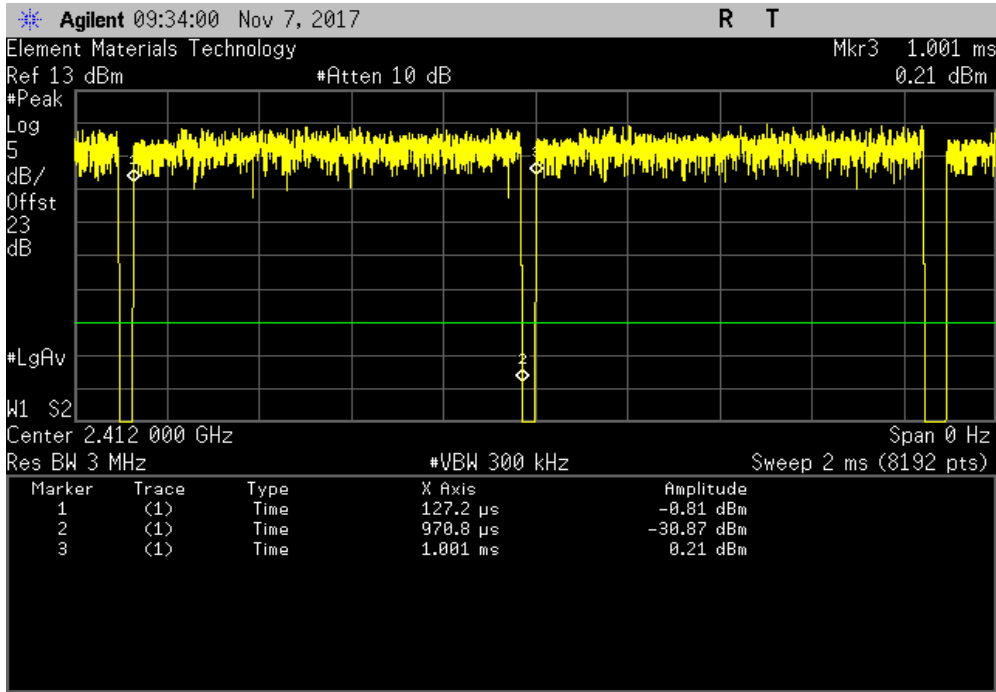


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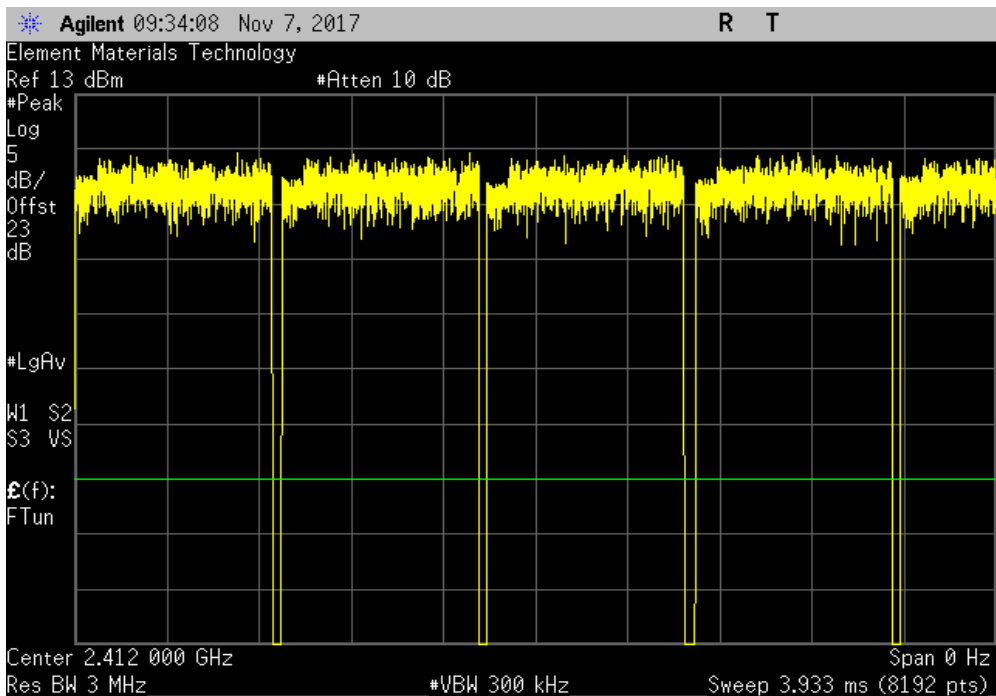


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
843.6 us	873.9 us	1	96.5	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	



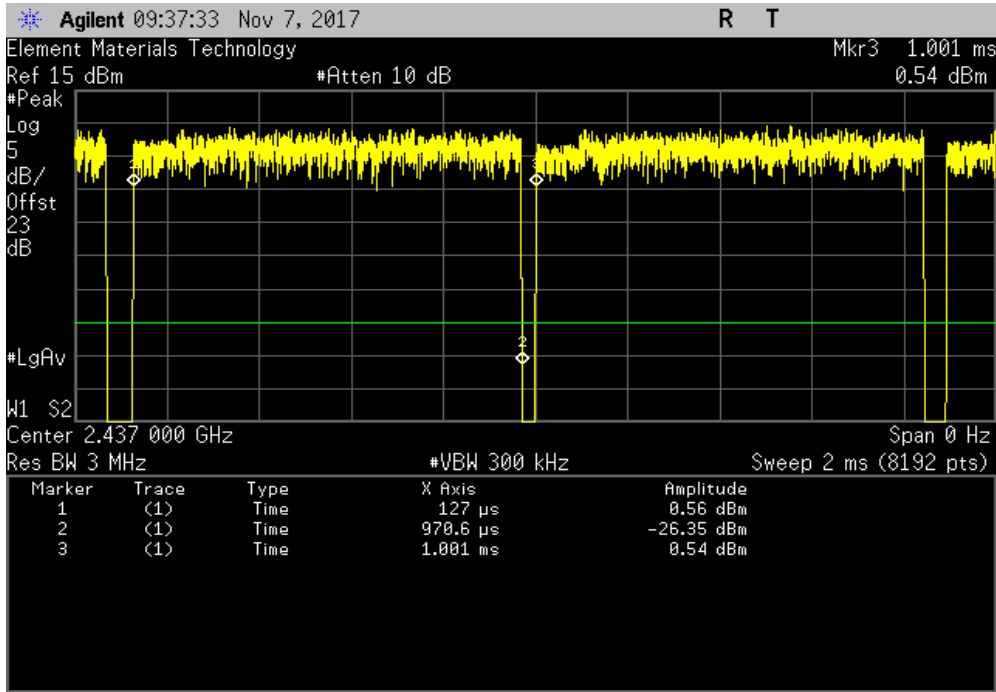


# DUTY CYCLE

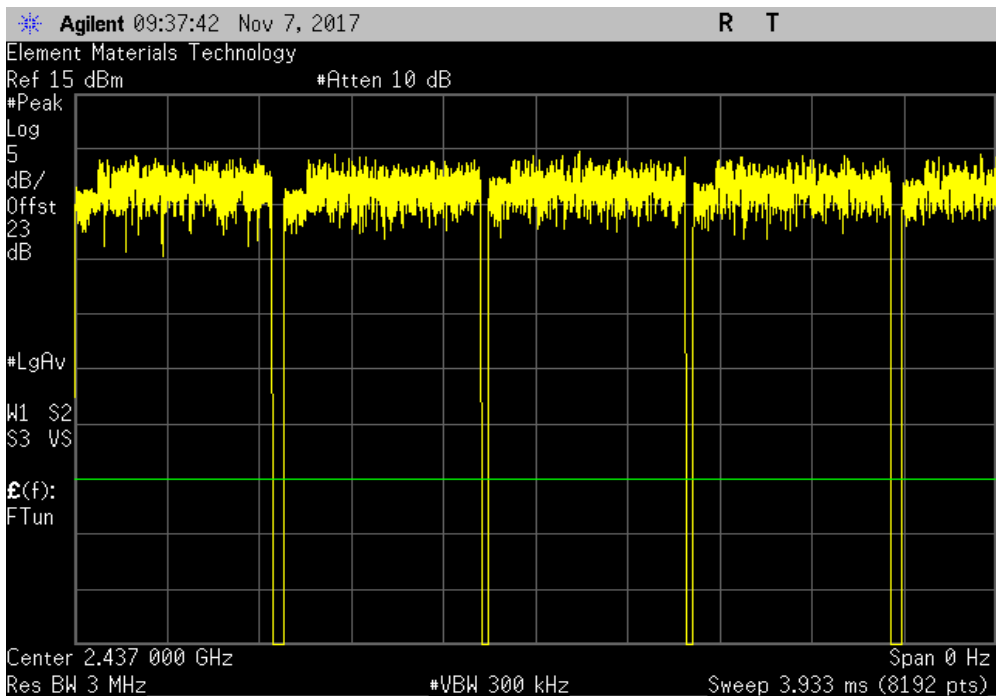


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
843.6 us	873.9 us	1	96.5	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

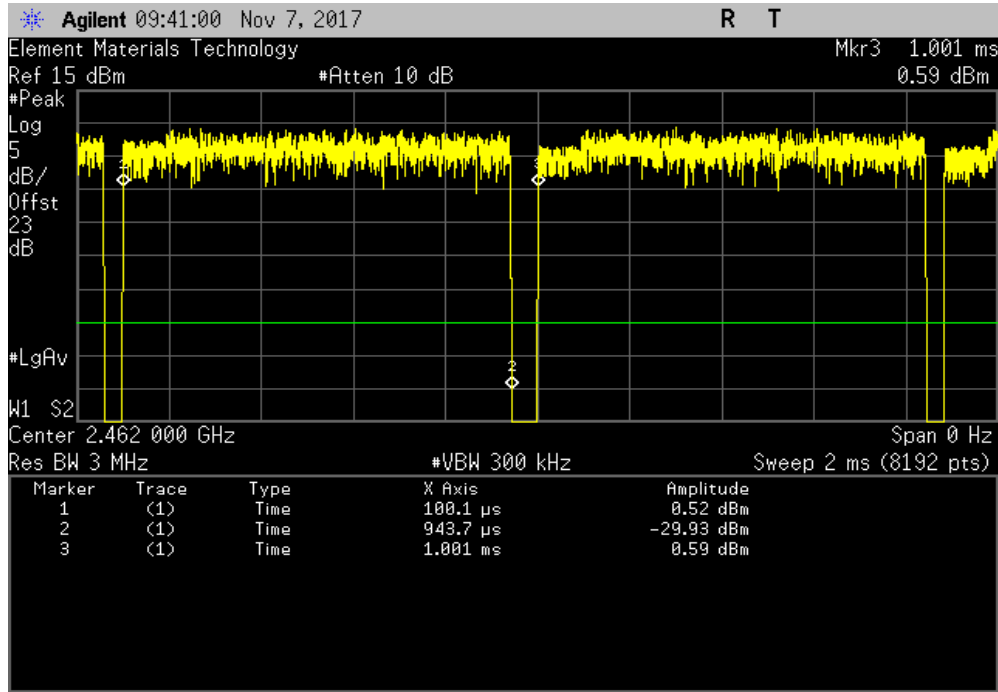


# DUTY CYCLE

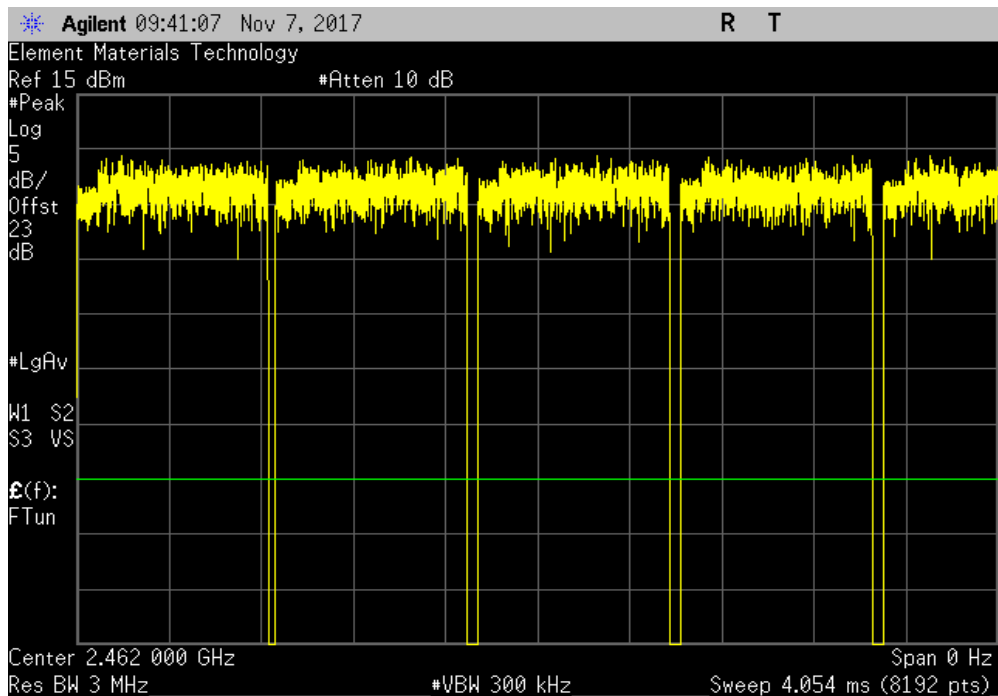


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
843.6 us	900.8 us	1	93.7	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

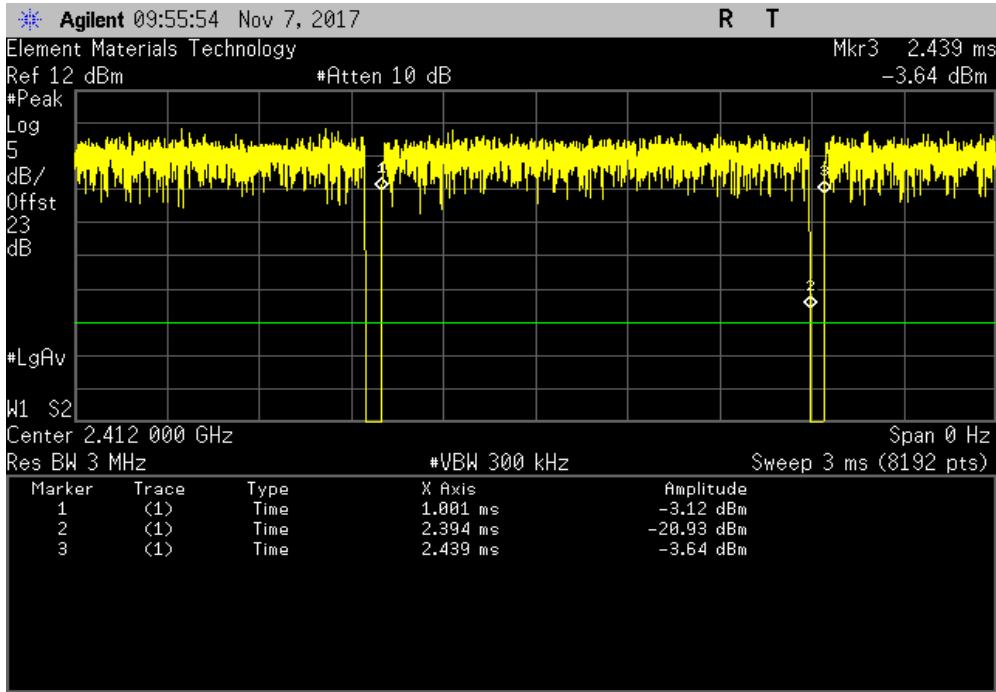


# DUTY CYCLE

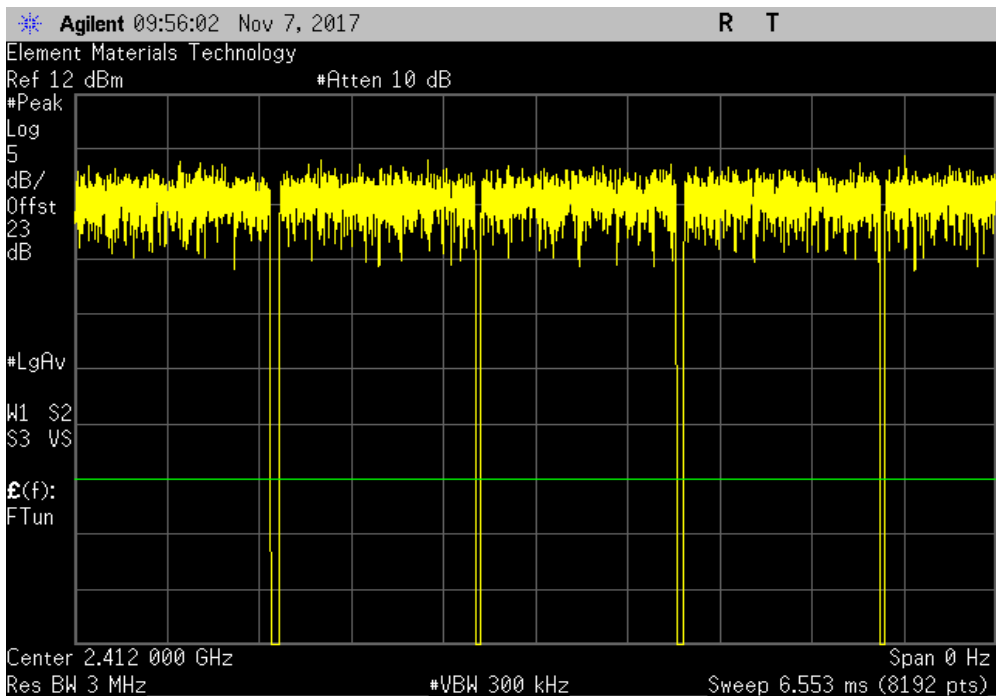


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.393 ms	1.439 ms	1	96.8	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

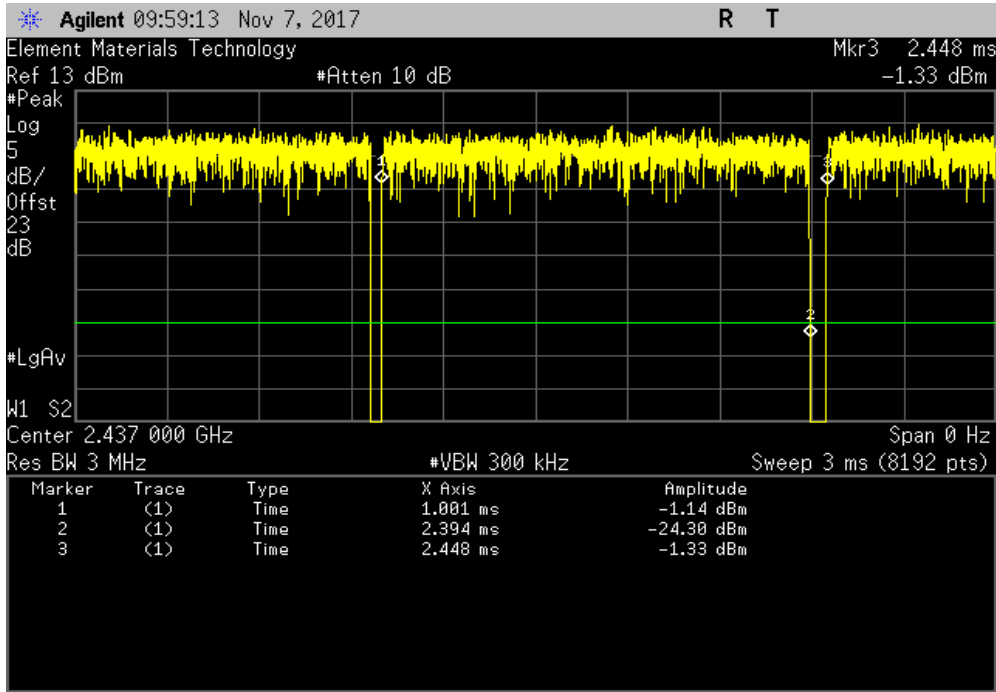


# DUTY CYCLE

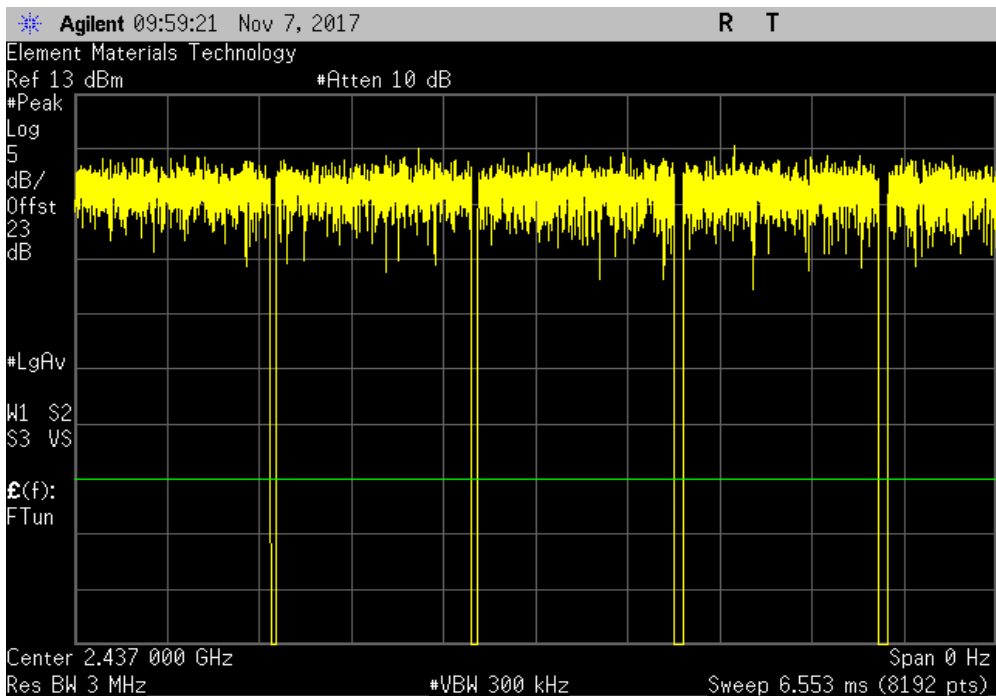


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.393 ms	1.448 ms	1	96.2	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

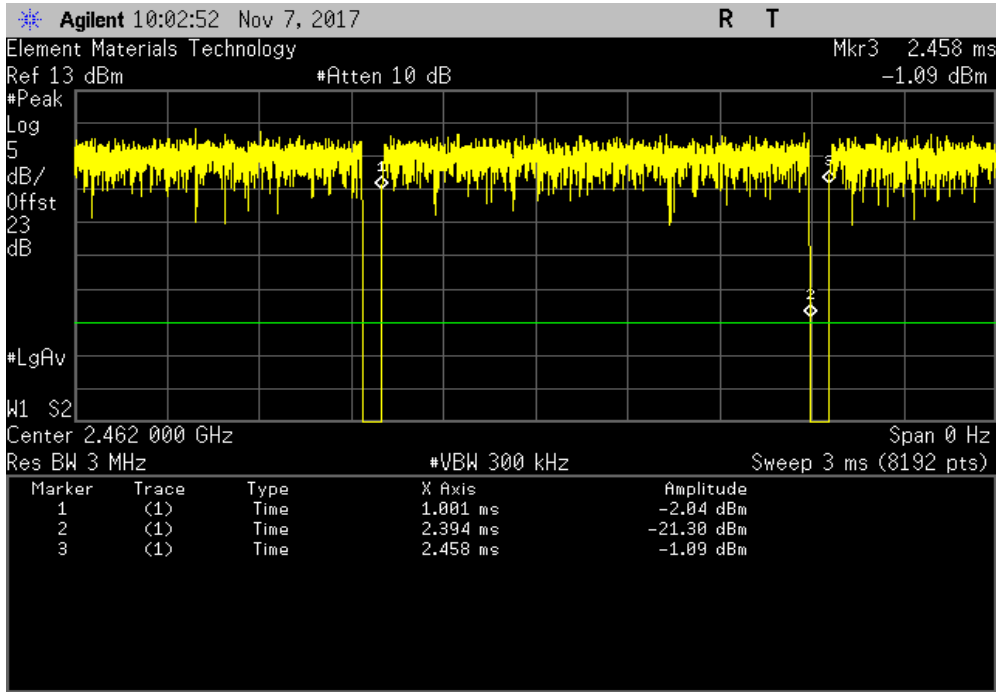


# DUTY CYCLE

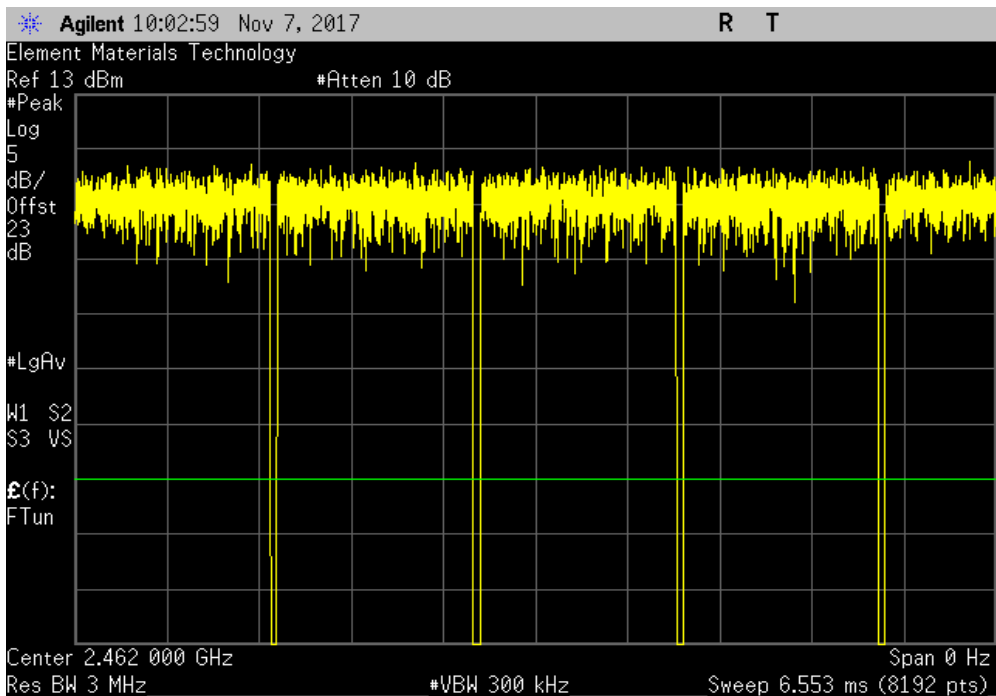


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.393 ms	1.457 ms	1	95.6	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

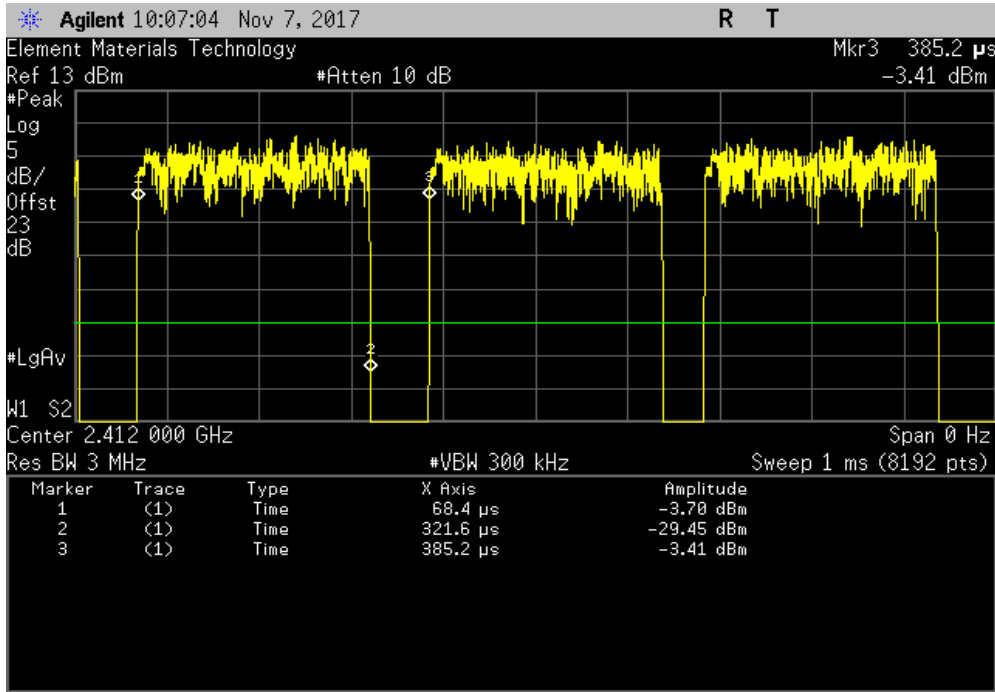


# DUTY CYCLE

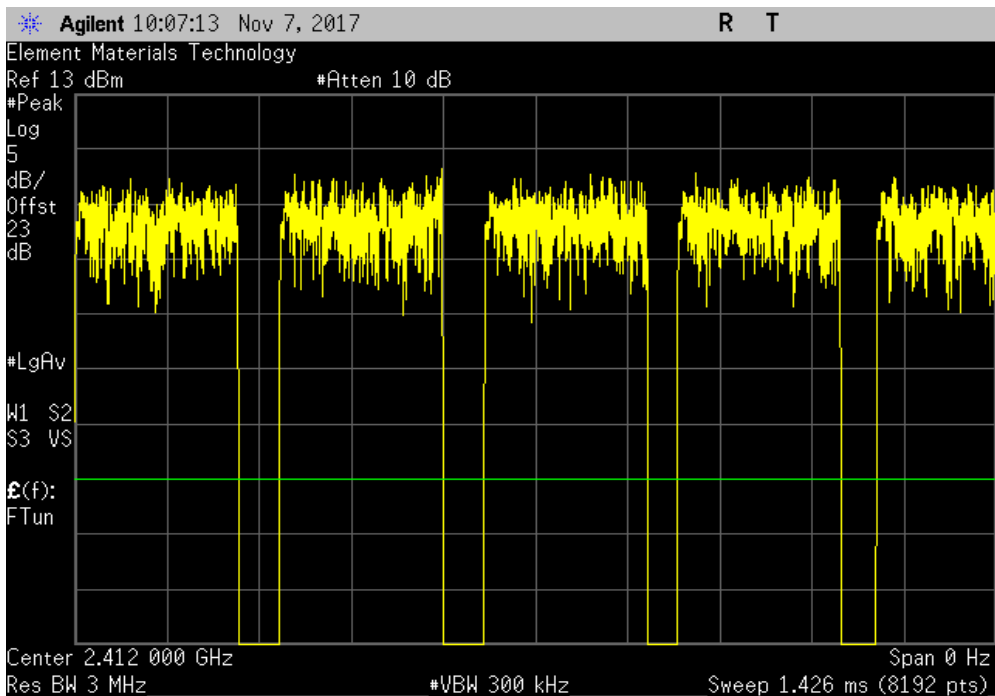


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
253.2 us	316.8 us	1	79.9	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

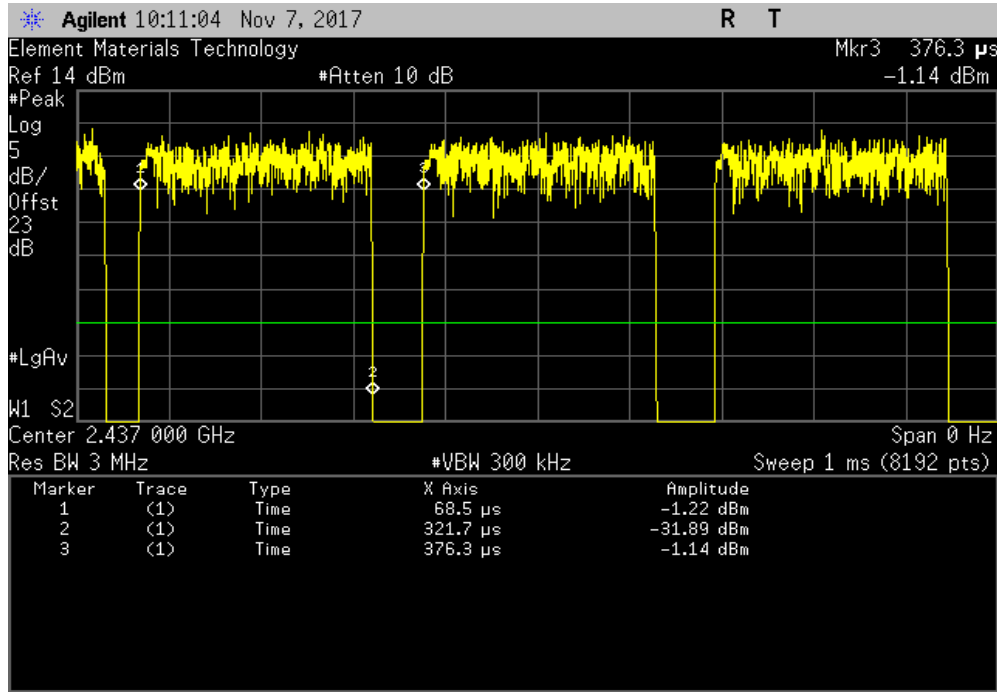


# DUTY CYCLE

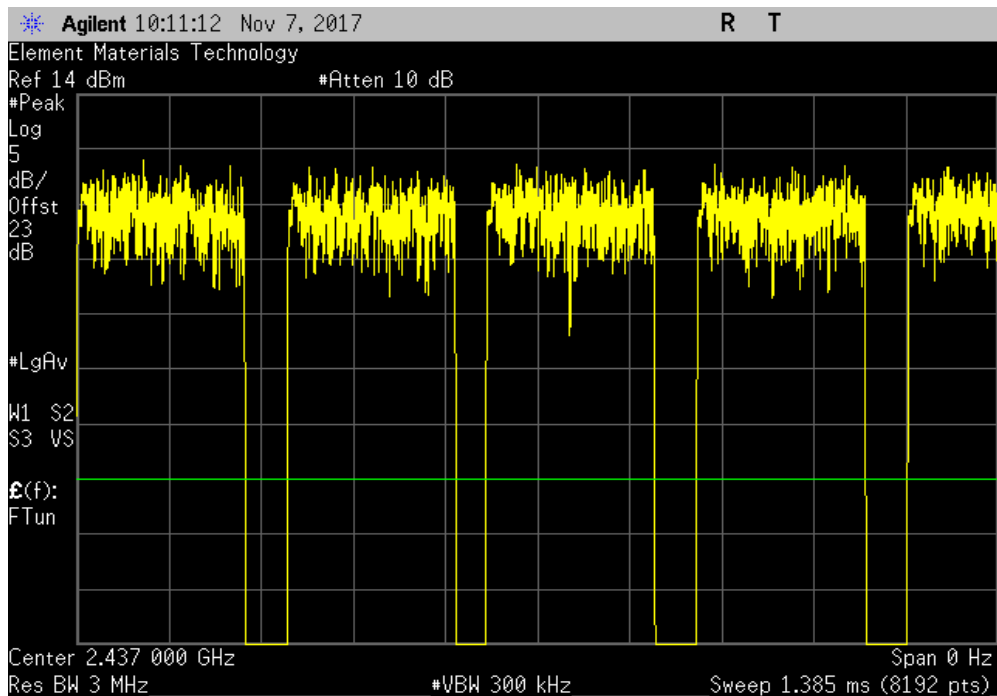


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
253.2 us	307.8 us	1	82.3	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

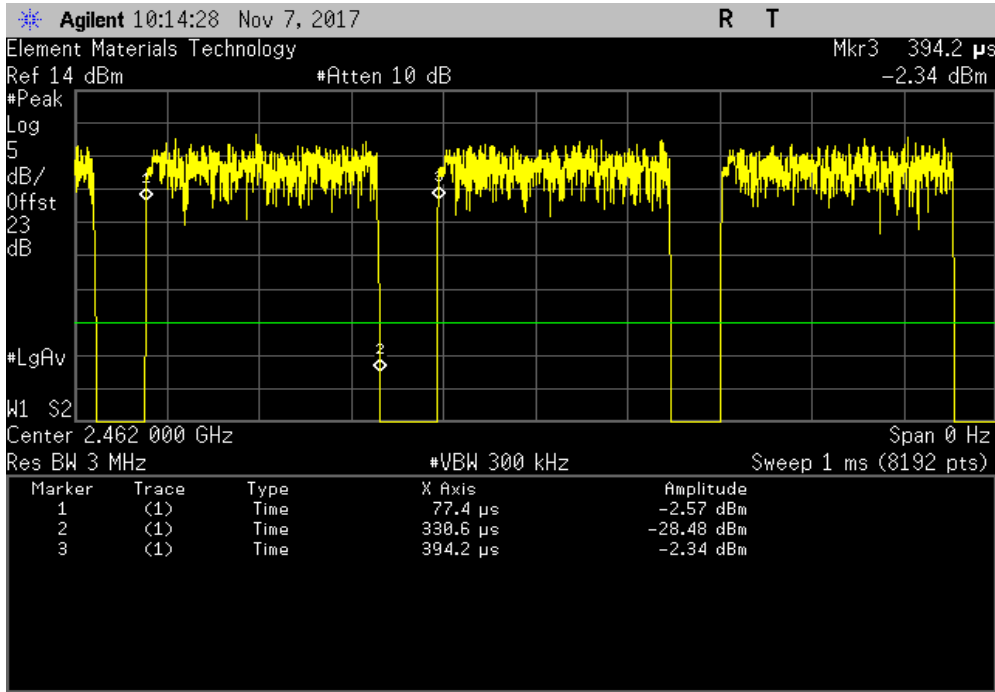


# DUTY CYCLE

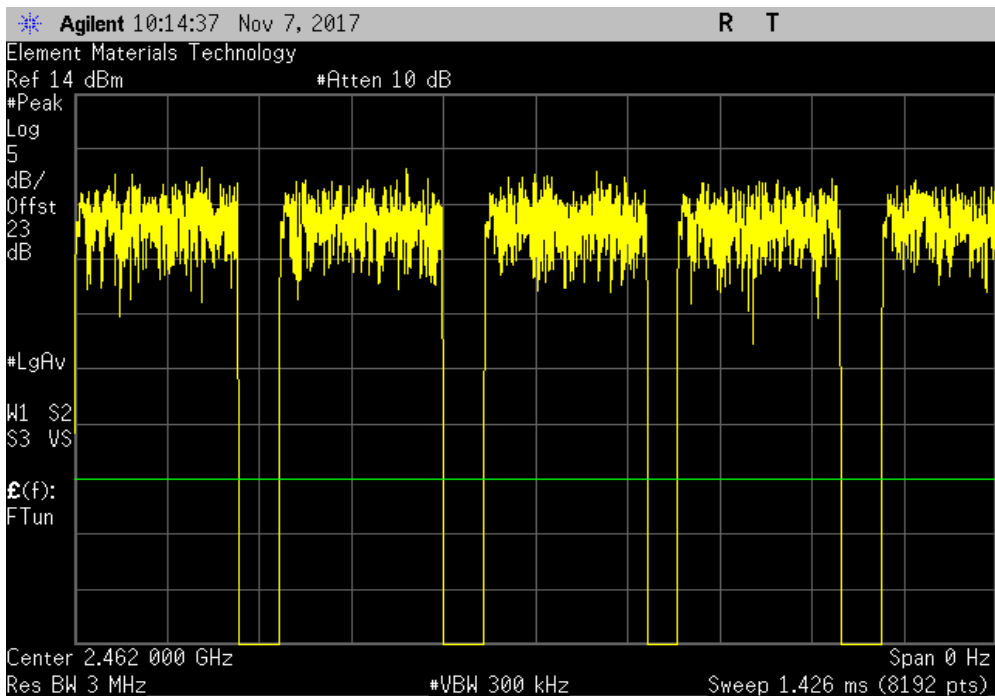


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
253.2 us	316.8 us	1	79.9	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	



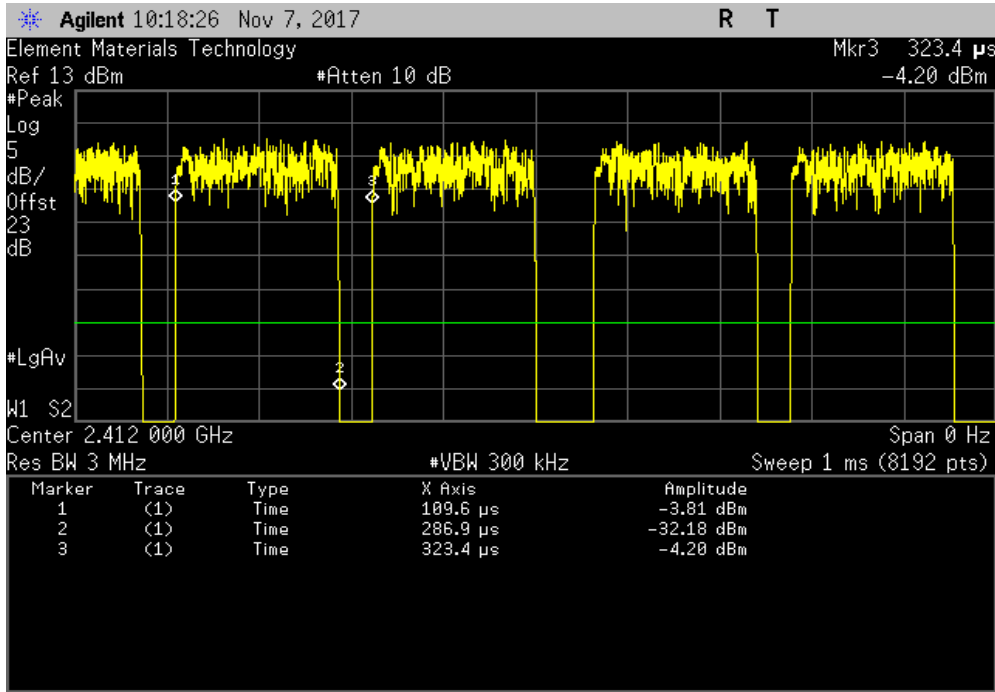


# DUTY CYCLE

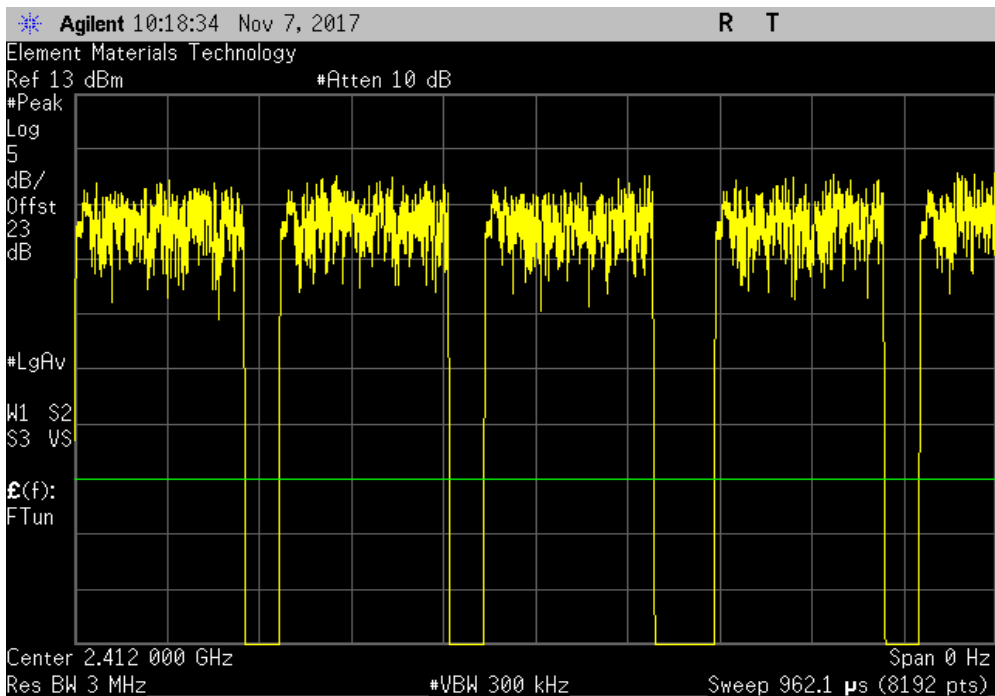


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
177.3 us	213.8 us	1	82.9	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

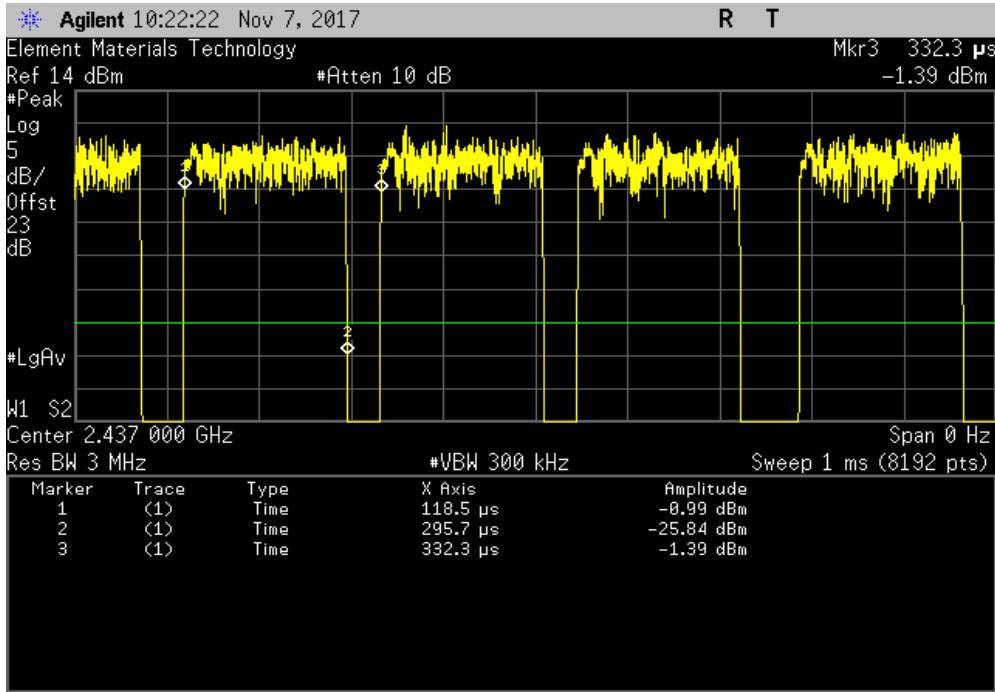


# DUTY CYCLE

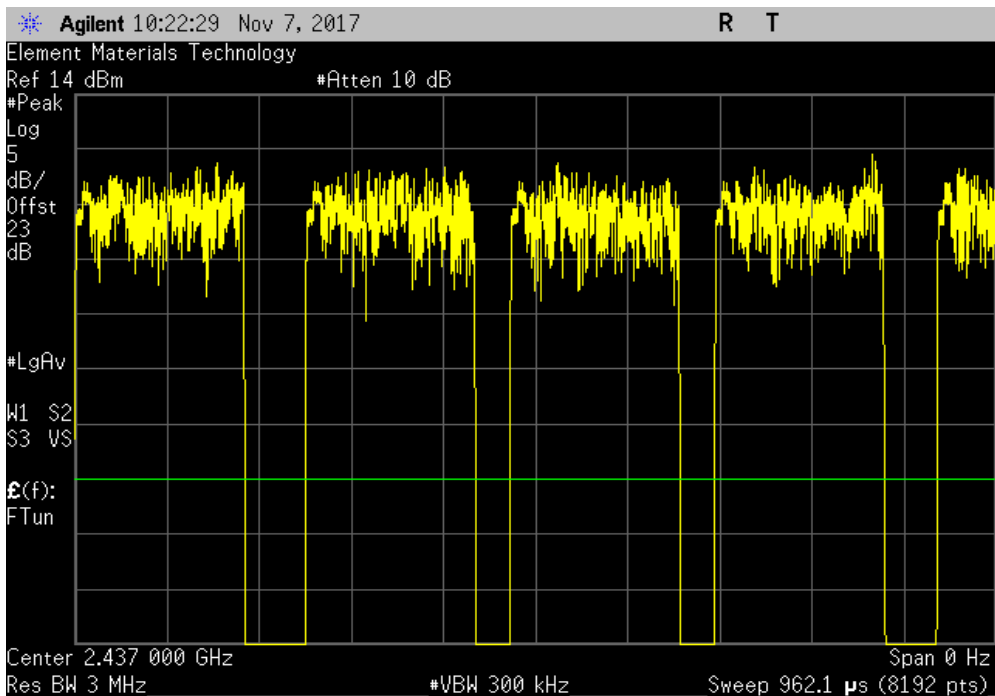


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
177.2 us	213.8 us	1	82.9	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

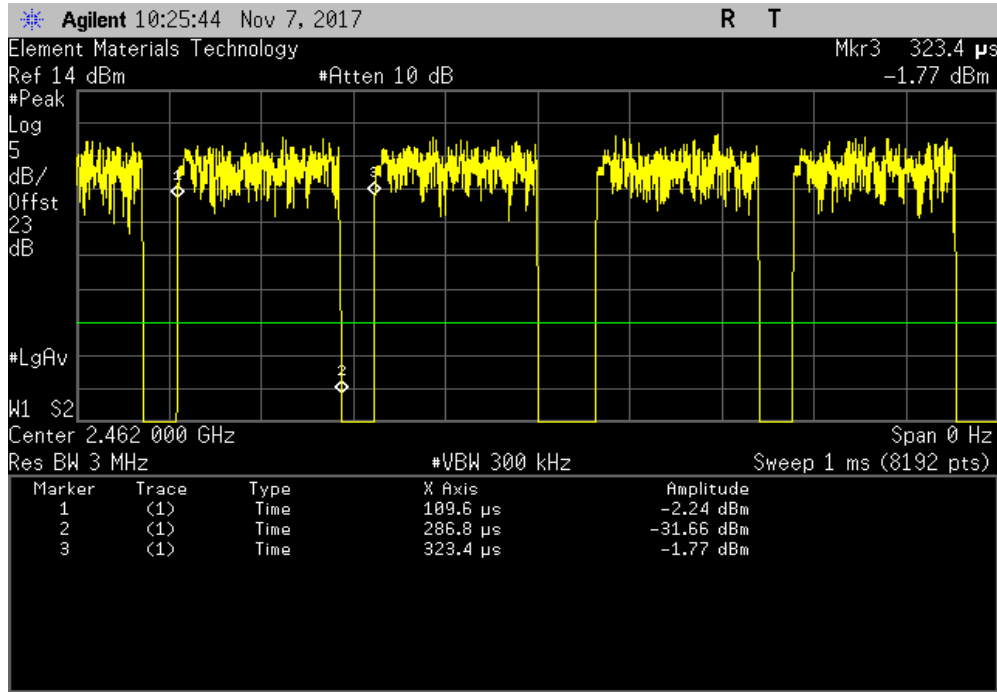


# DUTY CYCLE

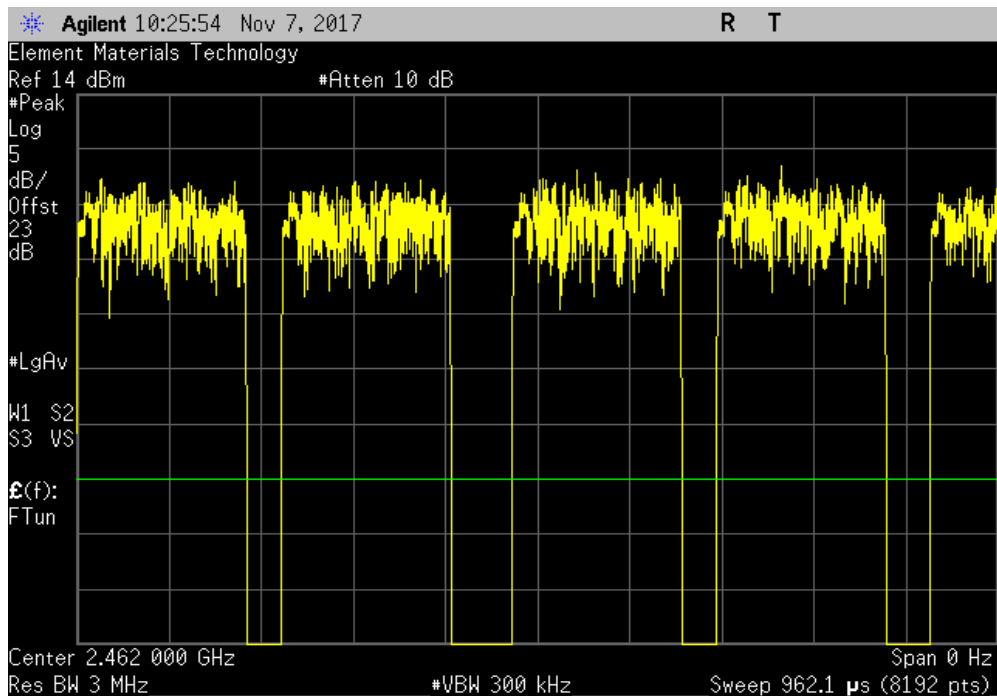


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
177.2 us	213.8 us	1	82.9	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

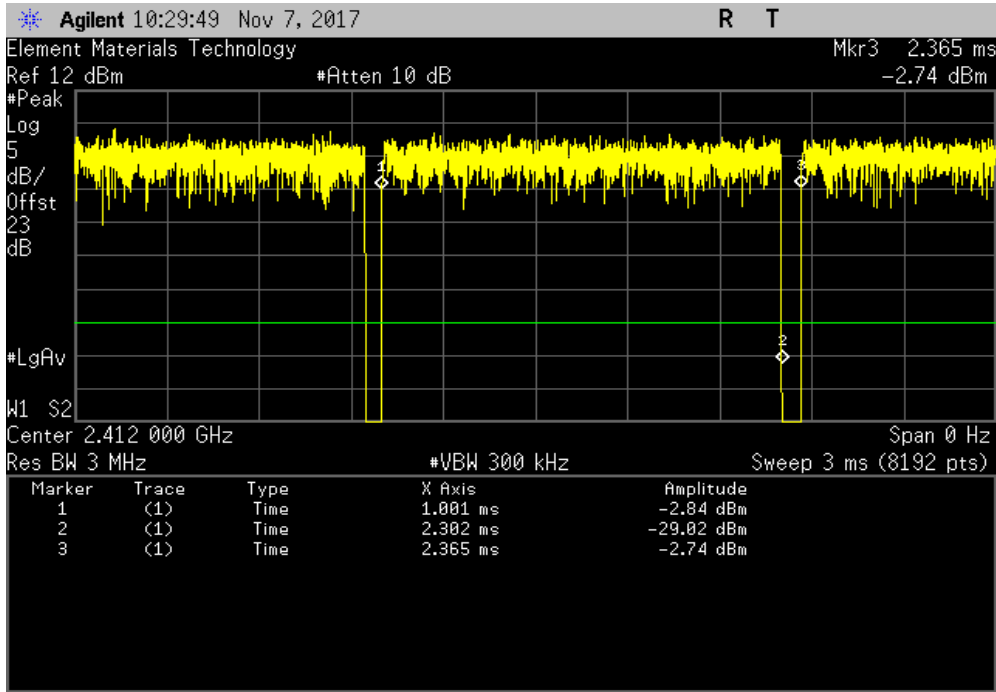


# DUTY CYCLE

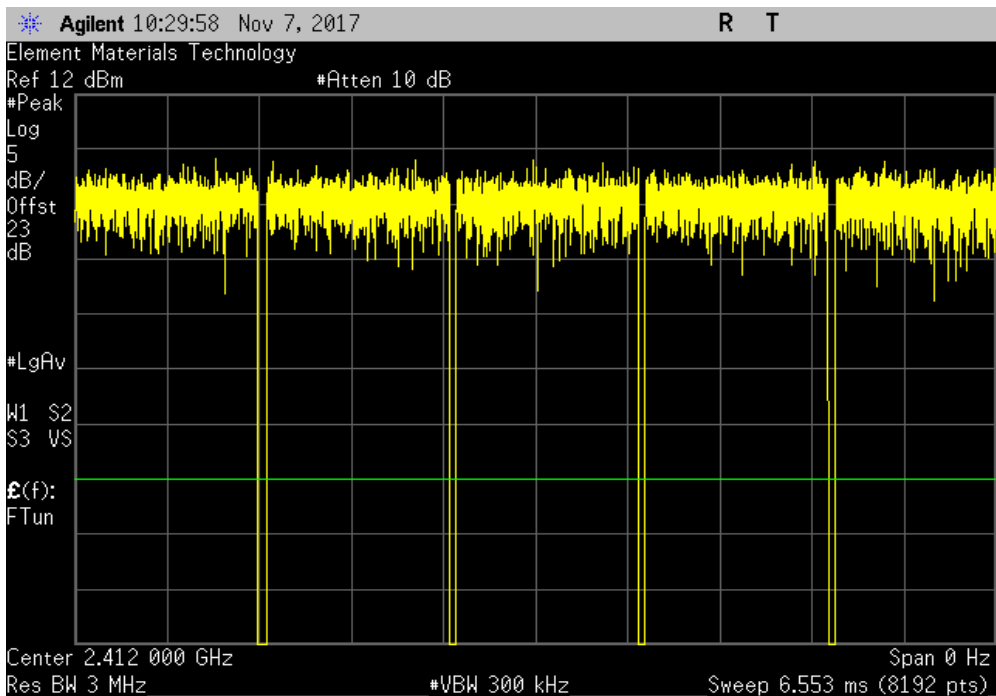


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.301 ms	1.365 ms	1	95.4	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

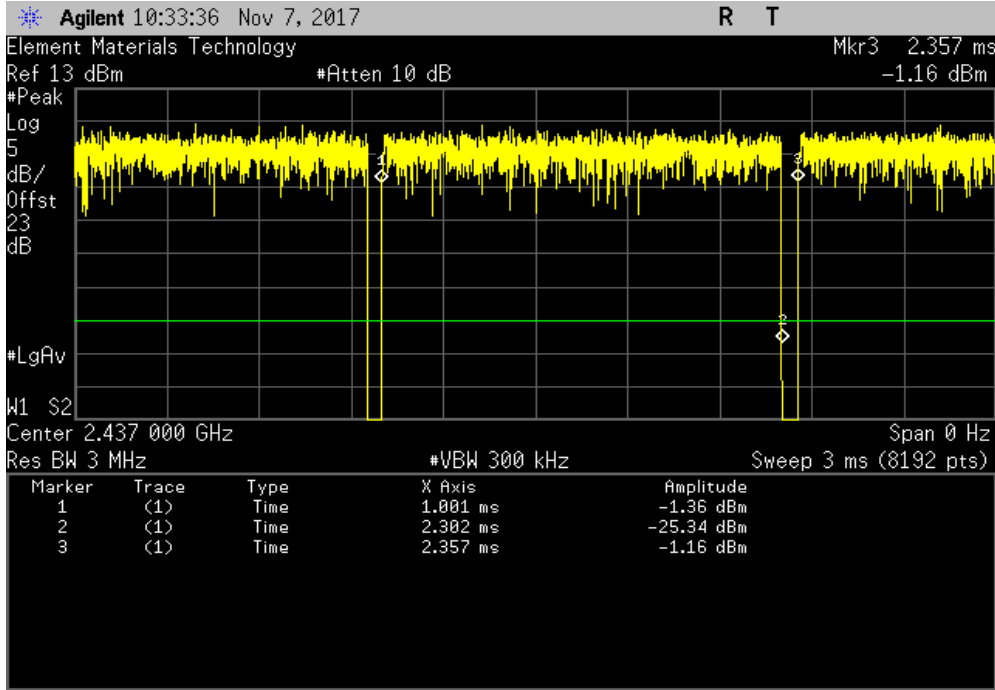


# DUTY CYCLE

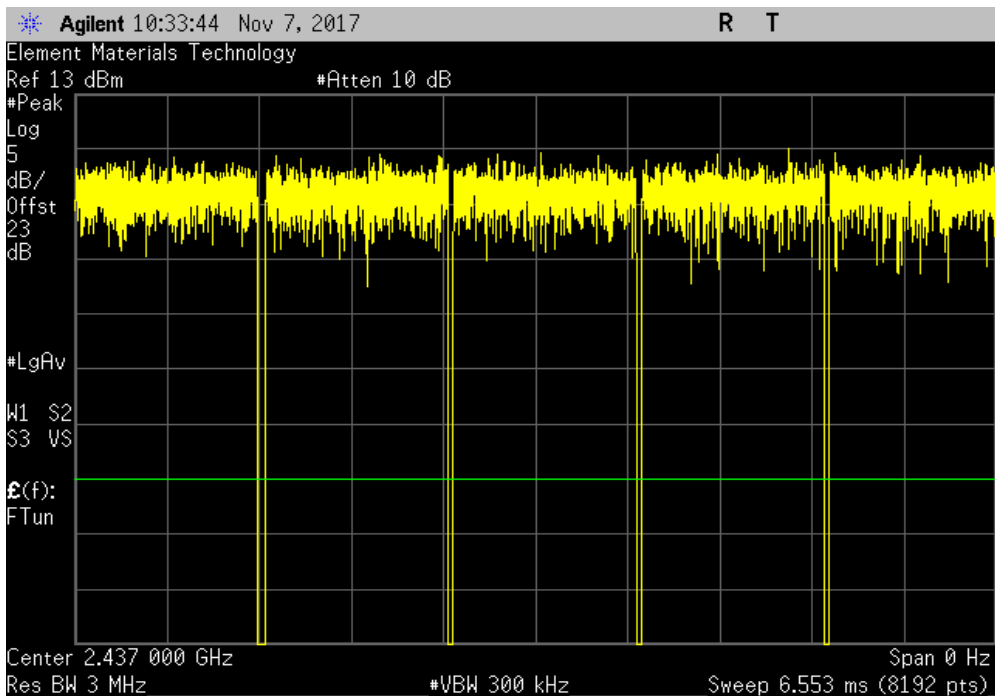


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.301 ms	1.356 ms	1	96	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

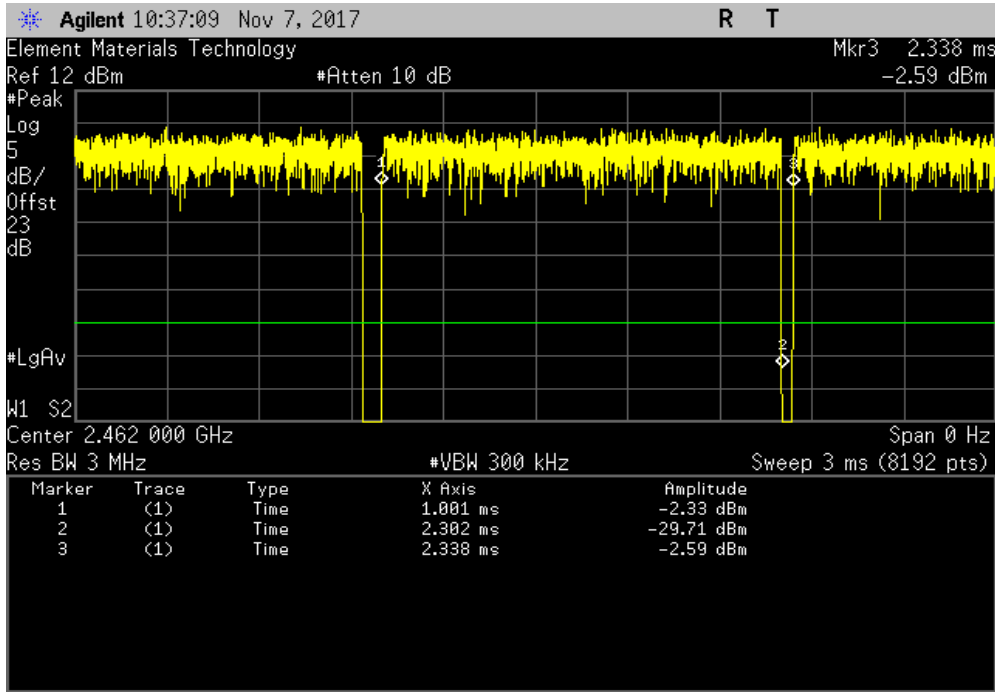


# DUTY CYCLE

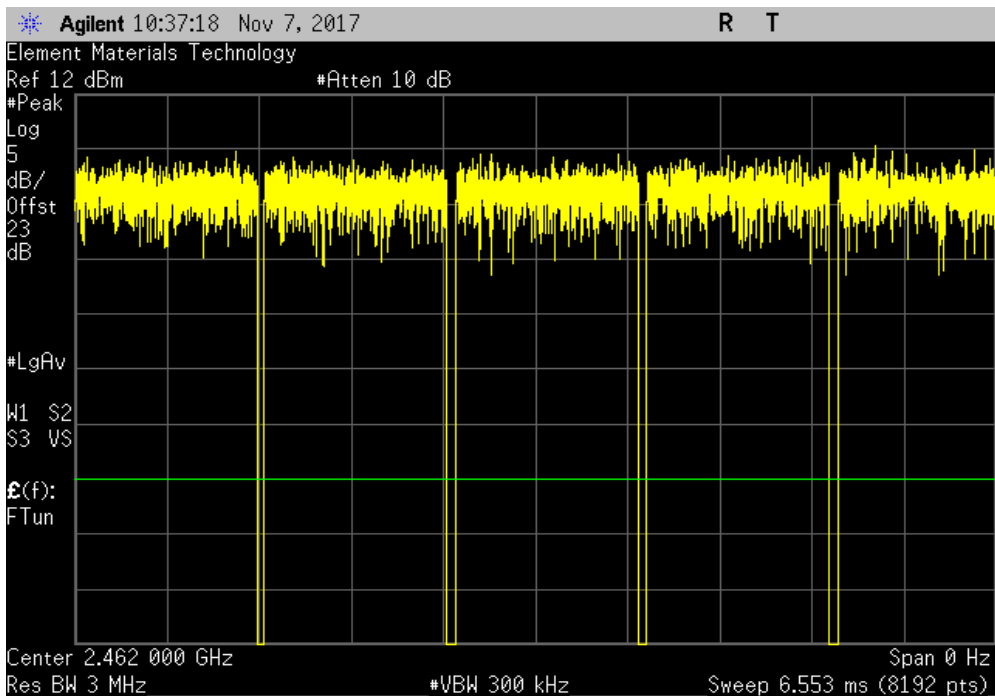


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.301 ms	1.338 ms	1	97.3	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

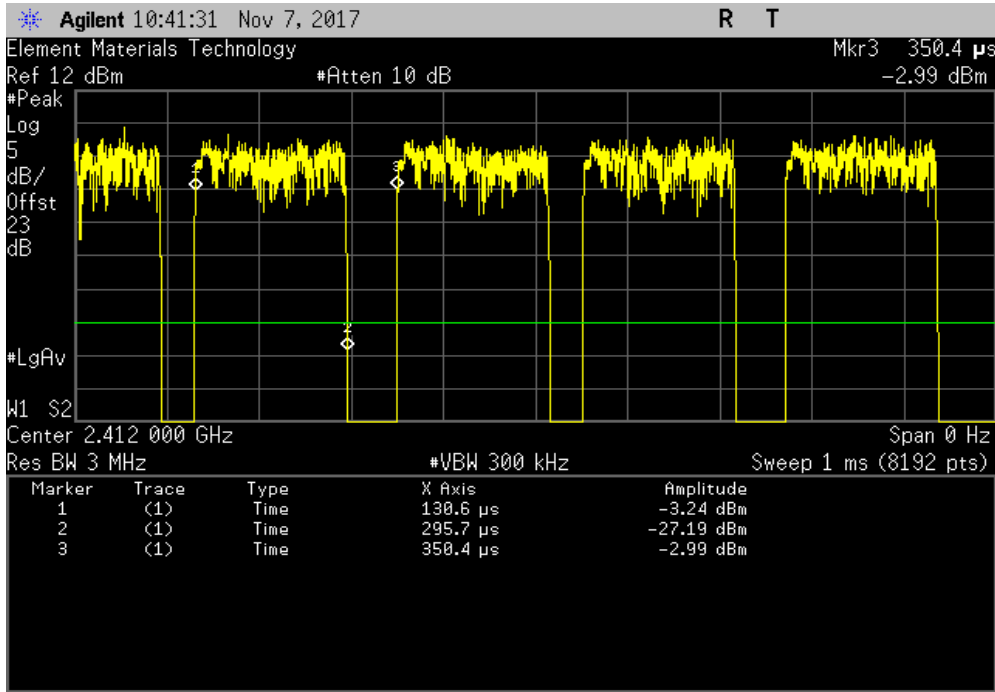


# DUTY CYCLE

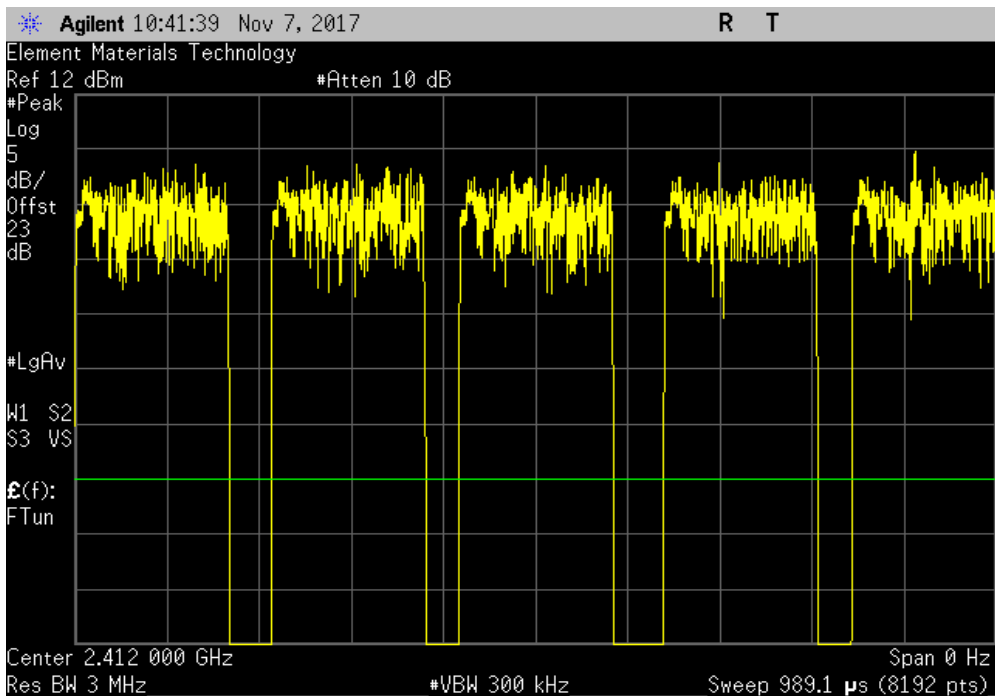


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	165.1 us	219.8 us	1	75.1	N/A	N/A



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

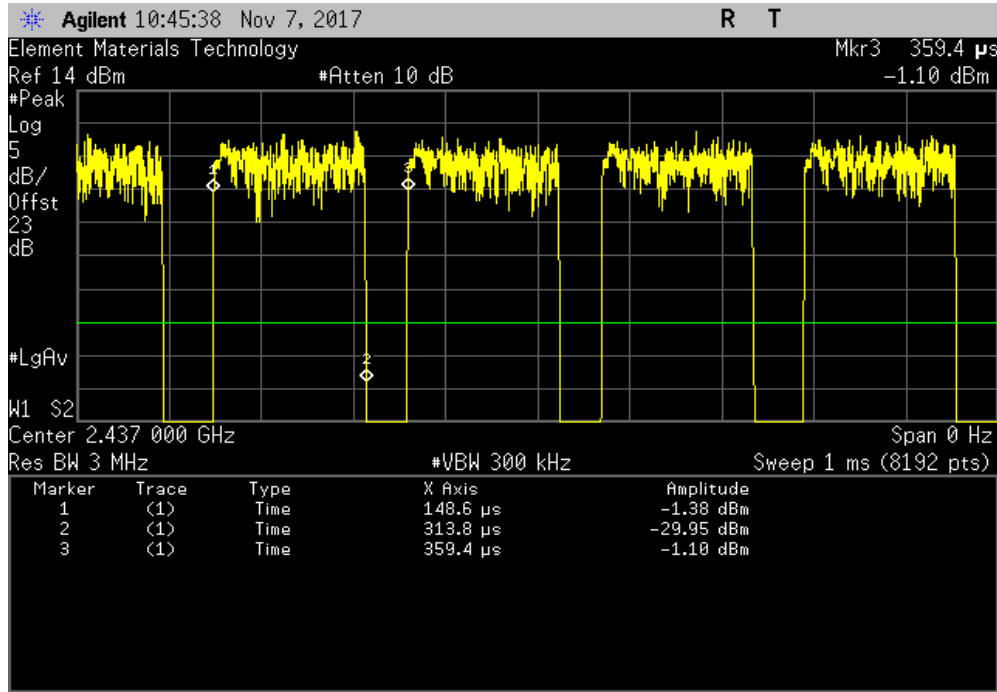


# DUTY CYCLE

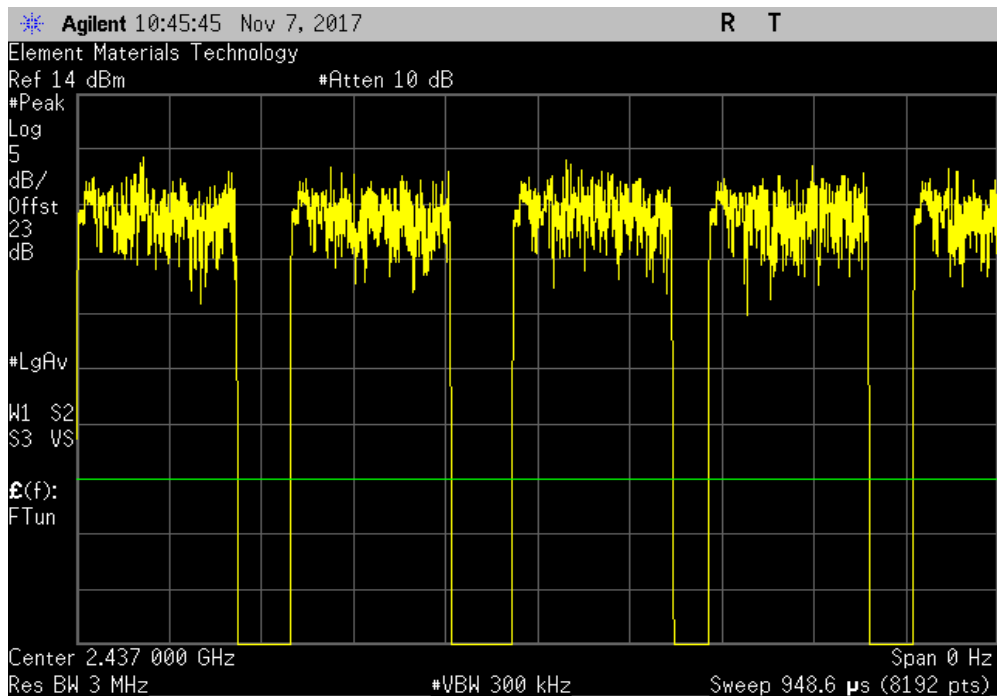


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
165.2 us	210.8 us	1	78.4	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	



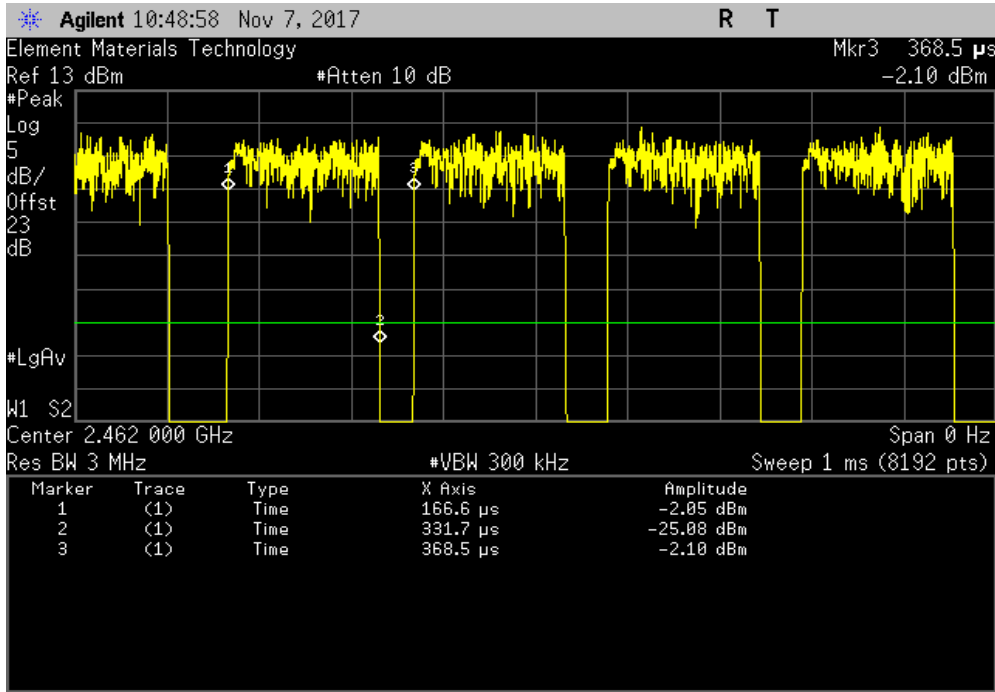


# DUTY CYCLE

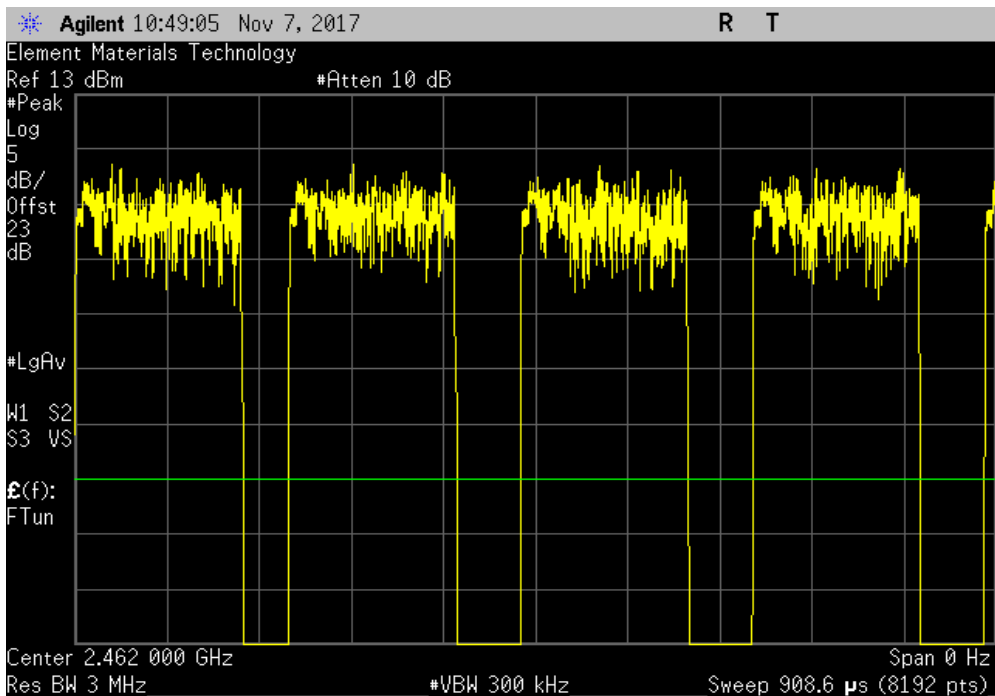


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
165.1 us	201.9 us	1	81.8	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	



# OCCUPIED BANDWIDTH



XMIT 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## 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



TstTx 2017.10.04 XMI 2017.09.21

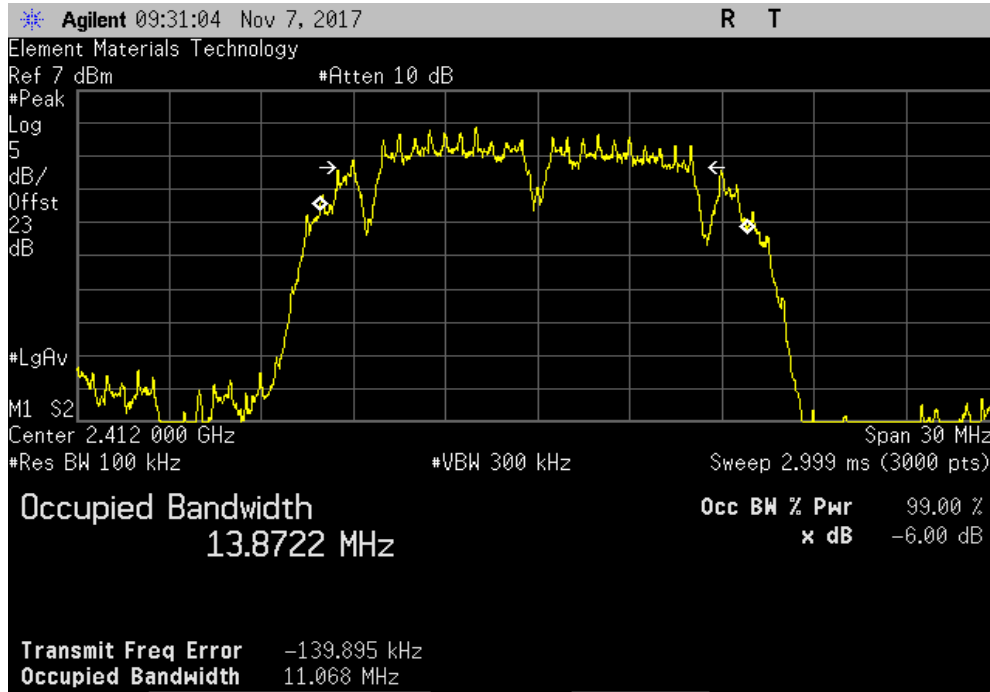
EUT: Activity Tracking Belt		Work Order: DGII0263		
Serial Number: F8F005FF1522		Date: 7-Nov-17		
Customer: Digi International Inc		Temperature: 21.8 °C		
Attendees: Collin LaFave		Humidity: 22.7% RH		
Project: None		Barometric Pres.: 1034 mbar		
Tested by: Dustin Sparks		Power: 5VDC		
Job Site: MN08		Test Method		
FCC 15.247:2017		ANSI C63.10:2013		
COMMENTS				
EUT powered by USB connection				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature <i>Dustin Sparks</i>		
2400 MHz - 2483.5 MHz Band				
802.11(b) 1 Mbps				
	Low Channel 1, 2412 MHz	11.068 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	10.935 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	11.888 MHz	500 kHz	Pass
802.11(b) 11 Mbps				
	Low Channel 1, 2412 MHz	11.914 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	11.66 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	11.816 MHz	500 kHz	Pass
802.11(g) 6 Mbps				
	Low Channel 1, 2412 MHz	15.527 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.077 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	15.623 MHz	500 kHz	Pass
802.11(g) 36 Mbps				
	Low Channel 1, 2412 MHz	16.016 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.224 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	16.286 MHz	500 kHz	Pass
802.11(g) 54 Mbps				
	Low Channel 1, 2412 MHz	16.126 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	15.727 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	15.973 MHz	500 kHz	Pass
802.11(n) MCS0				
	Low Channel 1, 2412 MHz	16.036 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.456 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	16.072 MHz	500 kHz	Pass
802.11(n) MCS7				
	Low Channel 1, 2412 MHz	16.362 MHz	500 kHz	Pass
	Mid Channel 6, 2437 MHz	16.382 MHz	500 kHz	Pass
	High Channel 11, 2462 MHz	16.761 MHz	500 kHz	Pass

# OCCUPIED BANDWIDTH

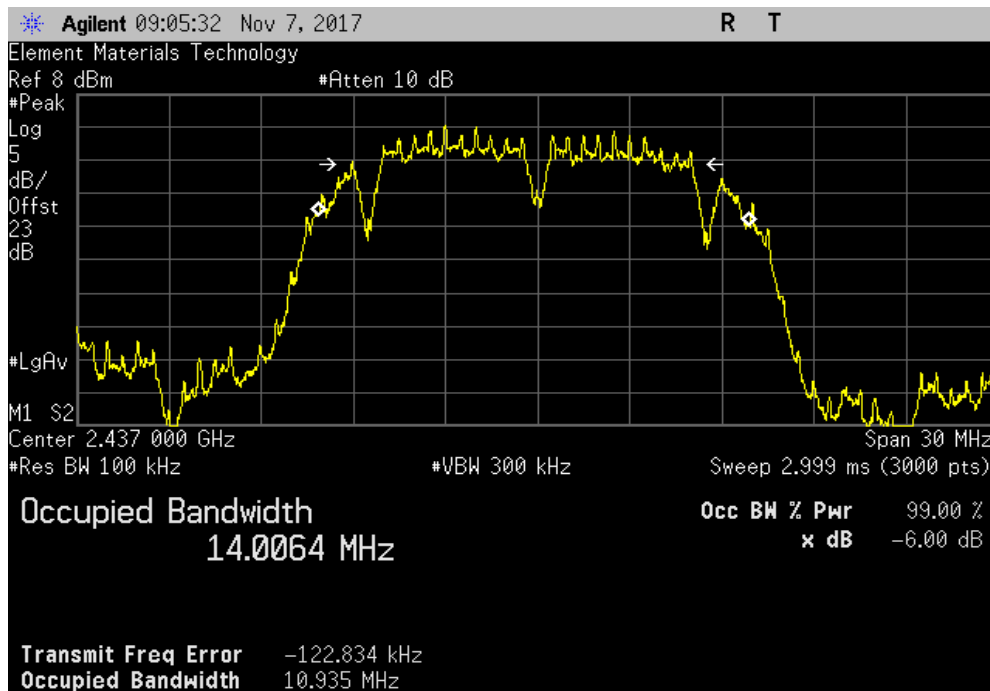


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
					(>)	
				11.068 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
					(>)	
				10.935 MHz	500 kHz	Pass

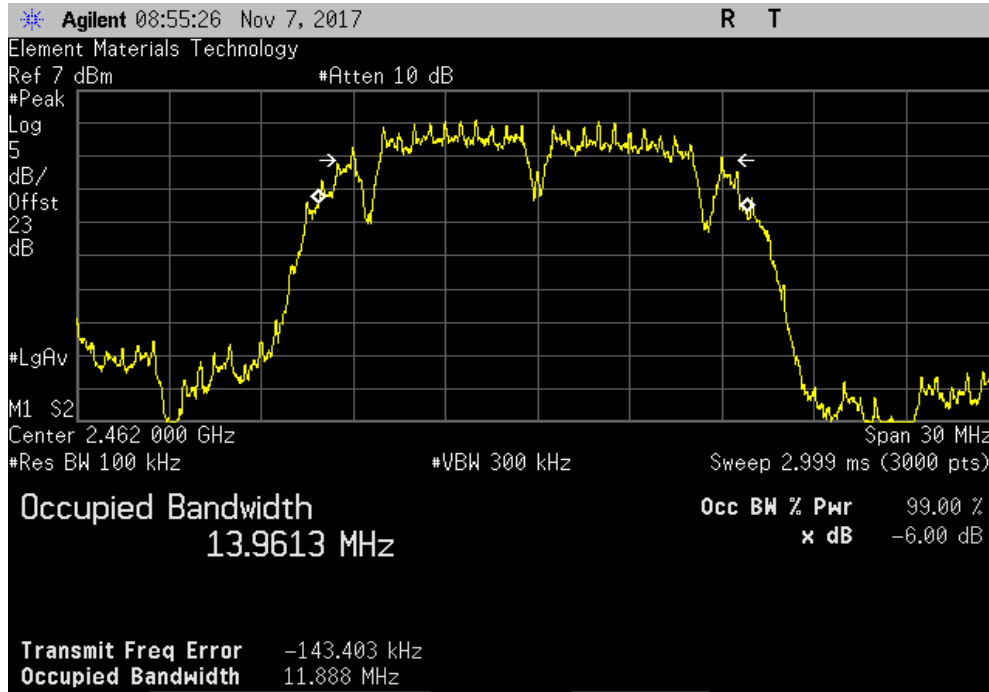


# OCCUPIED BANDWIDTH

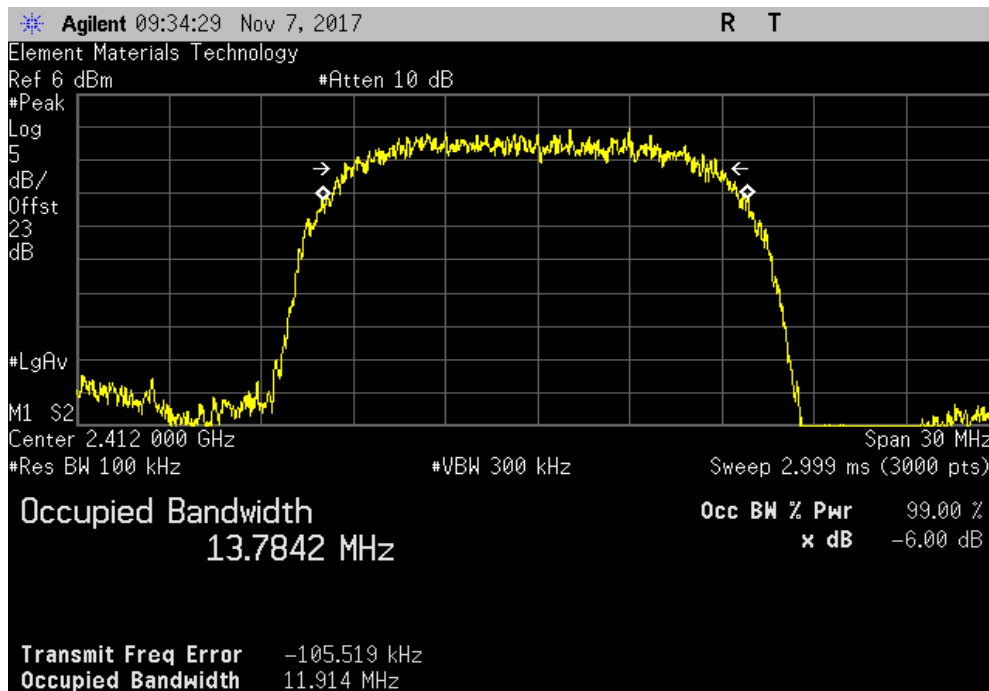


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz			
	Value	Limit (>)	Result
	11.888 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit (>)	Result
	11.914 MHz	500 kHz	Pass

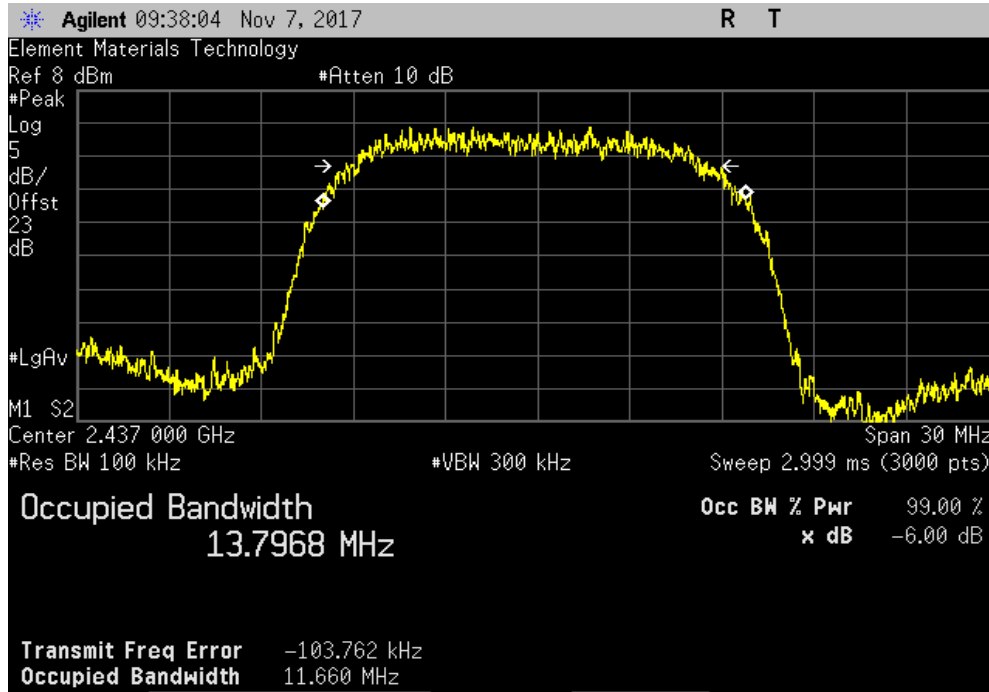


# OCCUPIED BANDWIDTH

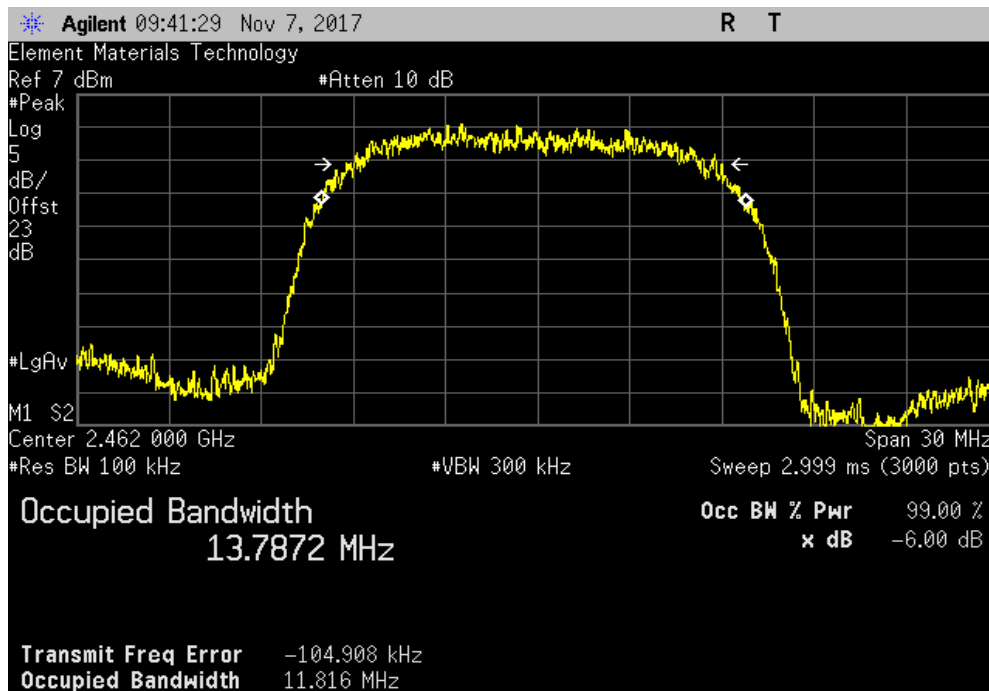


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				11.66 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				11.816 MHz	500 kHz	Pass

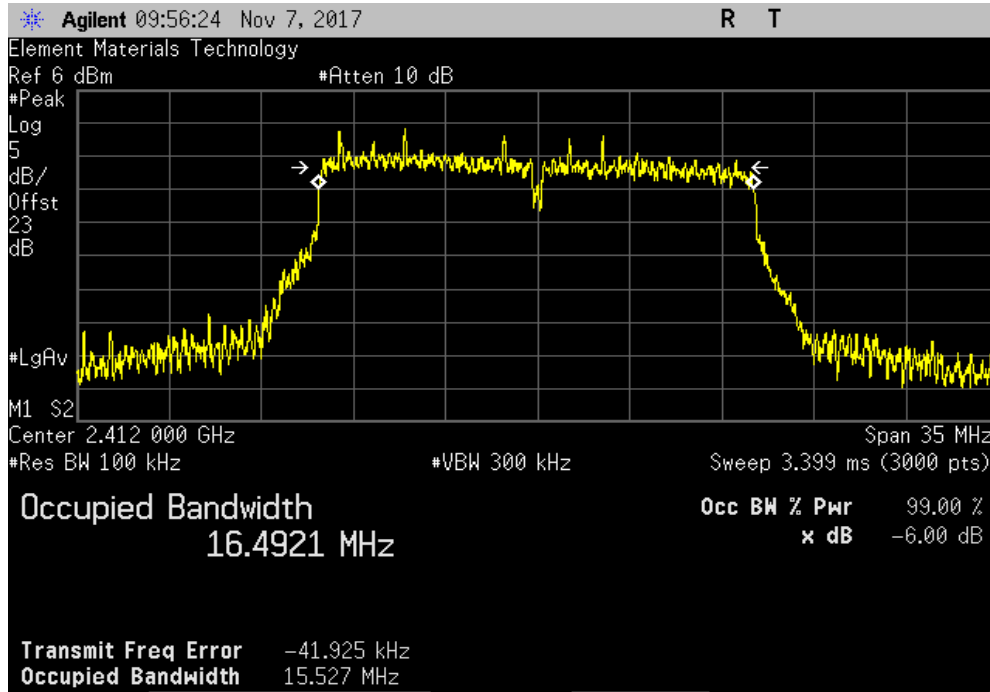


# OCCUPIED BANDWIDTH

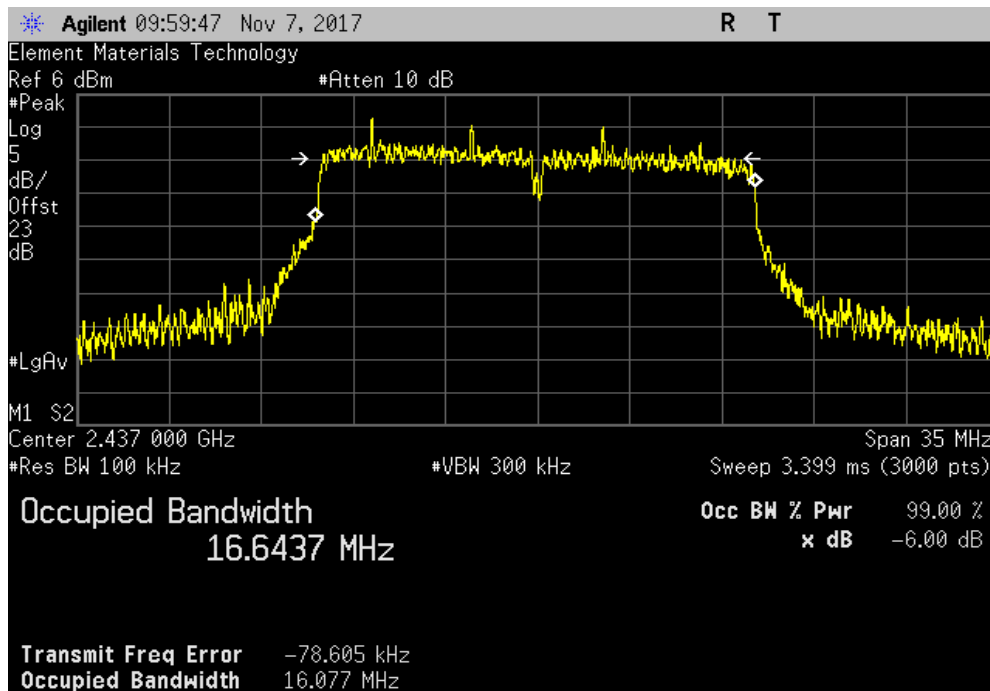


TMTx 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				15.527 MHz	(>) 500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				16.077 MHz	(>) 500 kHz	Pass

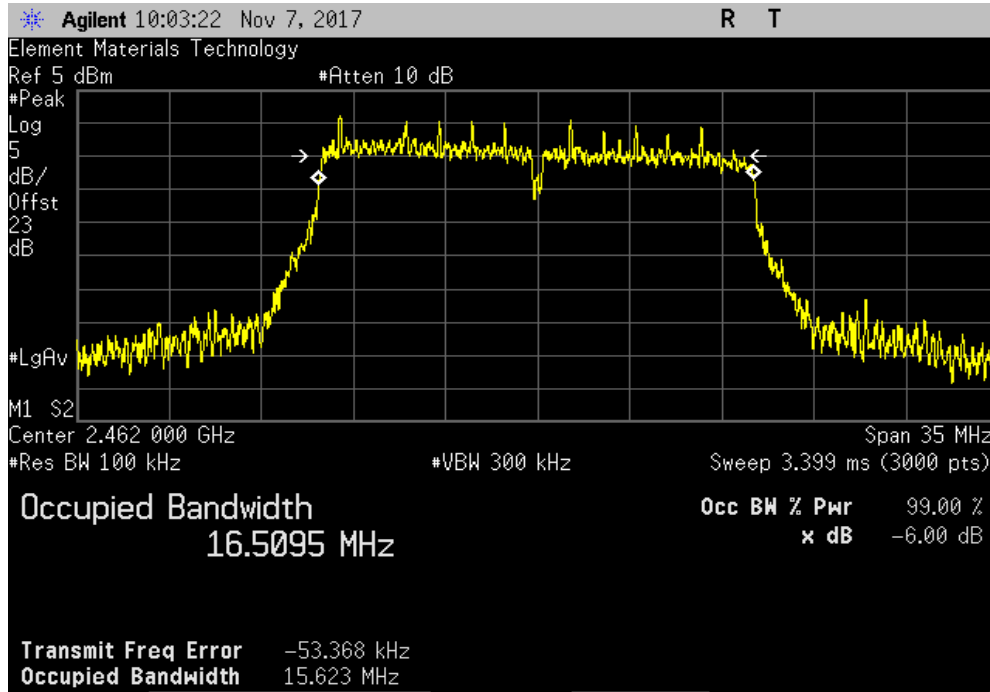


# OCCUPIED BANDWIDTH

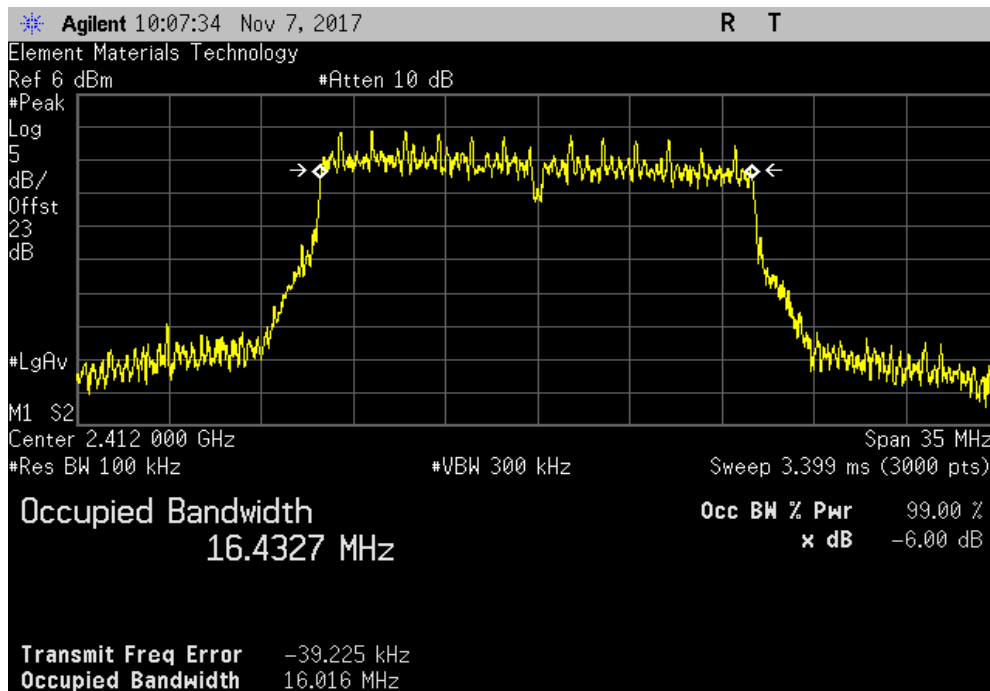


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Result
	15.623 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit	Result
	16.016 MHz	500 kHz	Pass



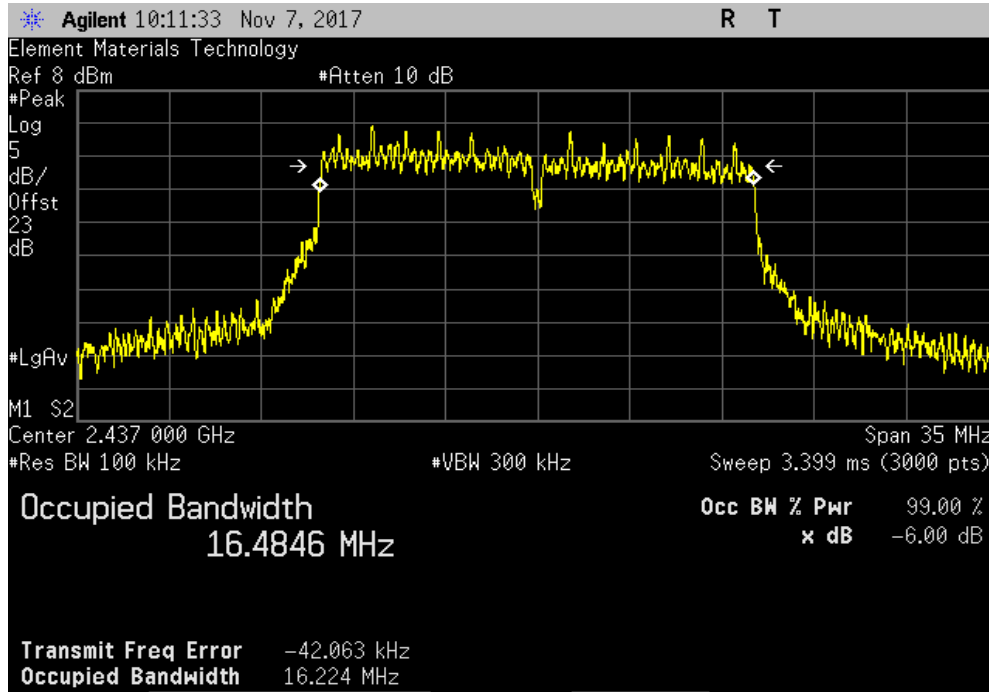


# OCCUPIED BANDWIDTH

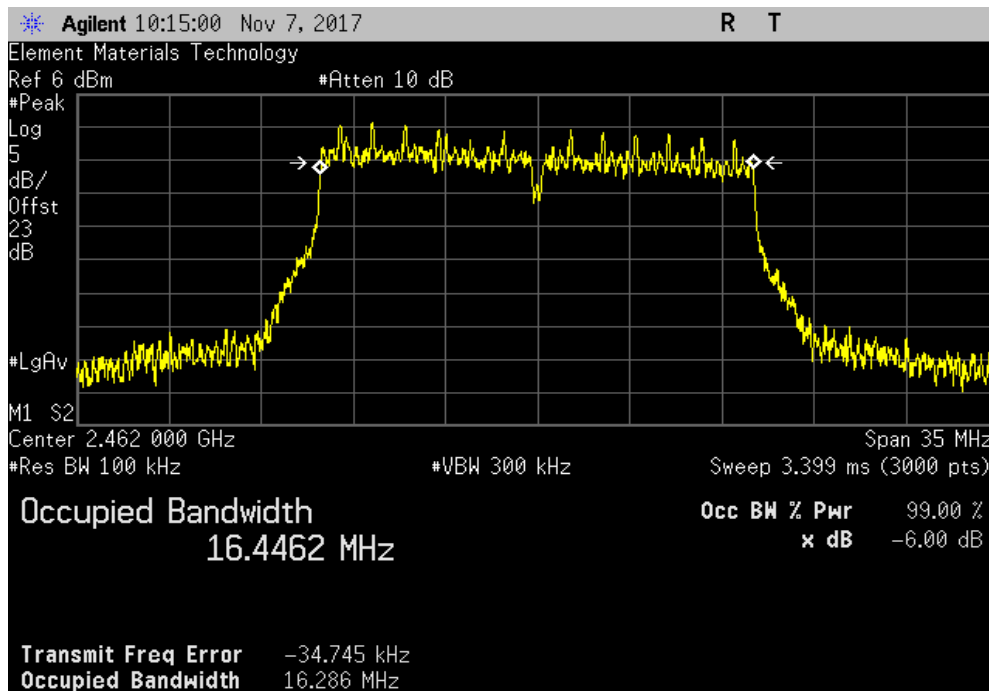


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				16.224 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
				16.286 MHz	500 kHz	Pass

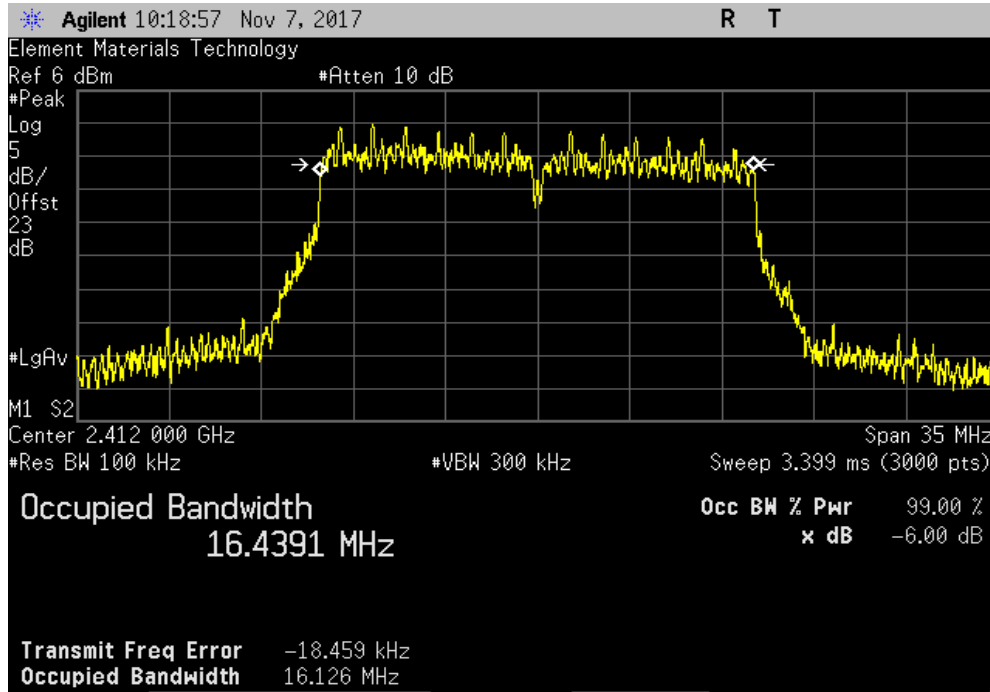


# OCCUPIED BANDWIDTH

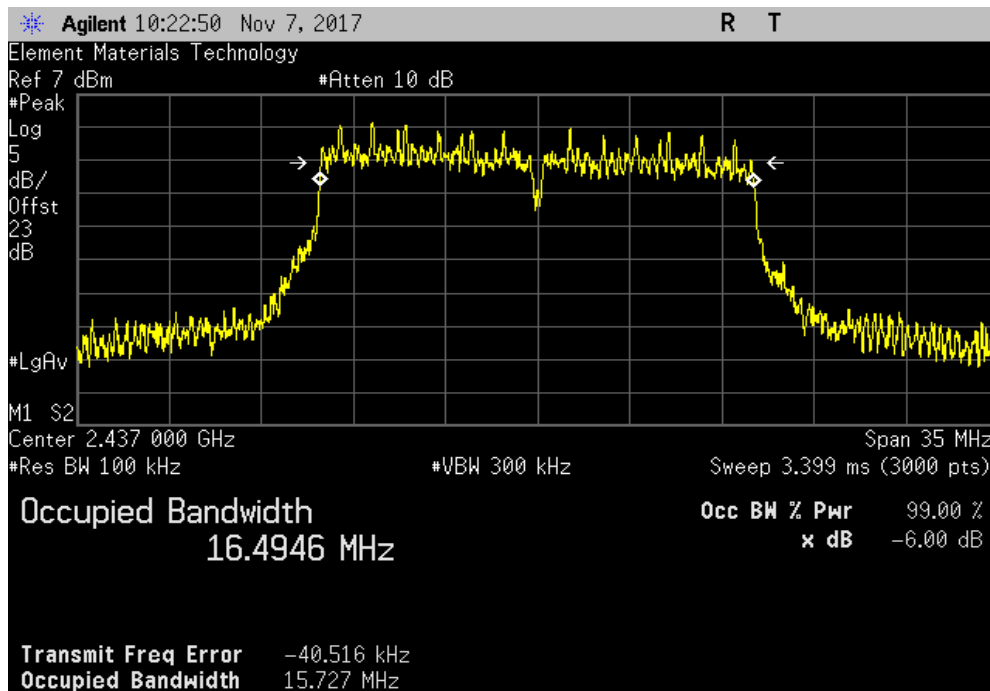


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
					(>)	
				16.126 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
					(>)	
				15.727 MHz	500 kHz	Pass

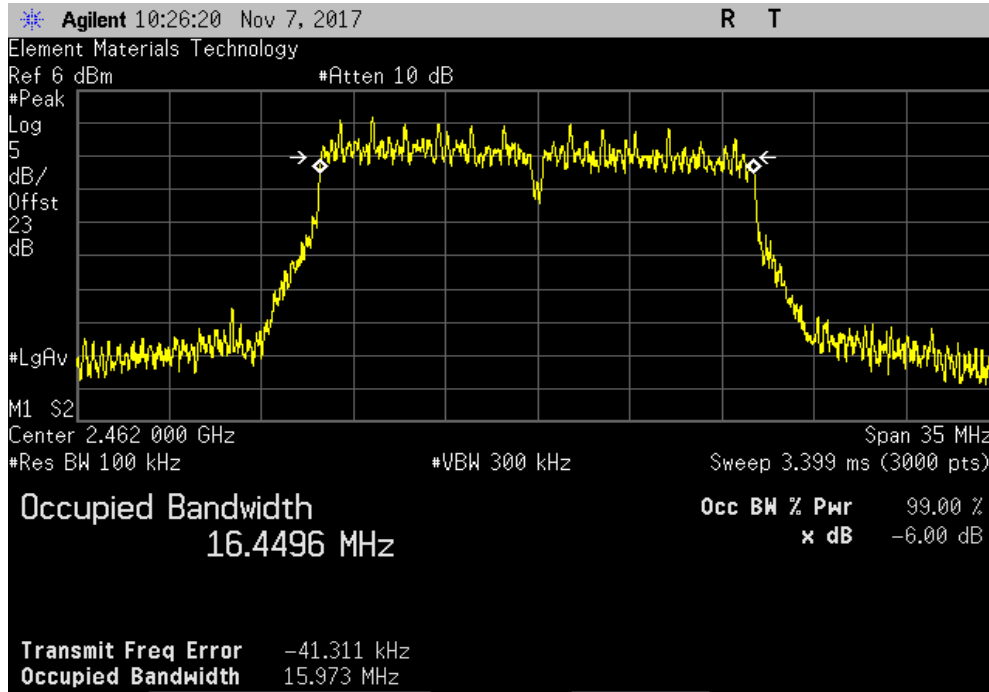


# OCCUPIED BANDWIDTH

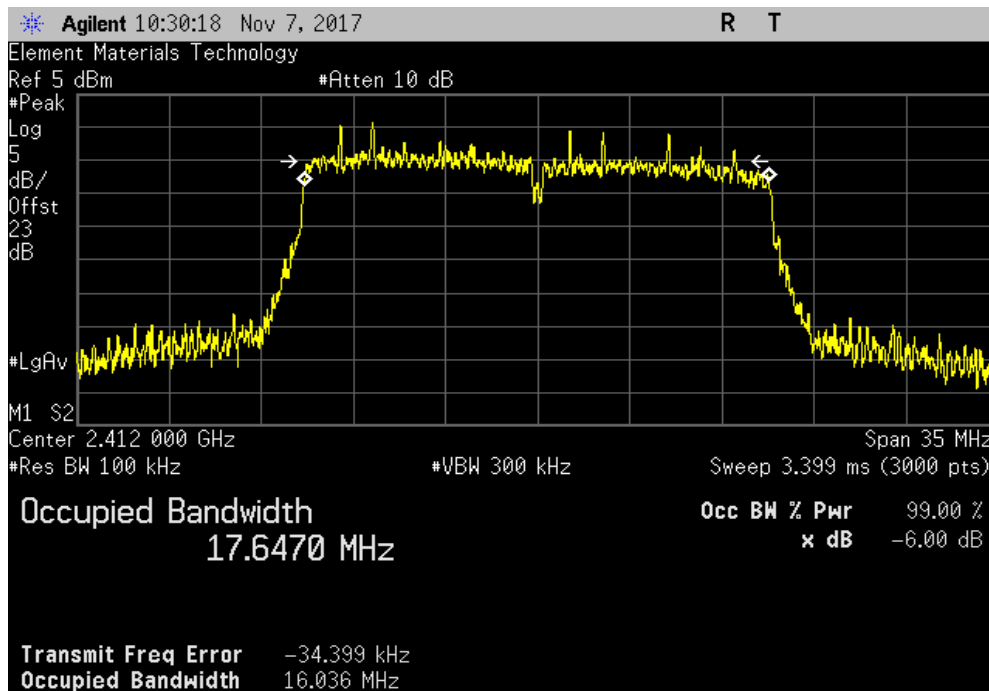


TMTx 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Result
					(>)	
				15.973 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value	Limit	Result
					(>)	
				16.036 MHz	500 kHz	Pass

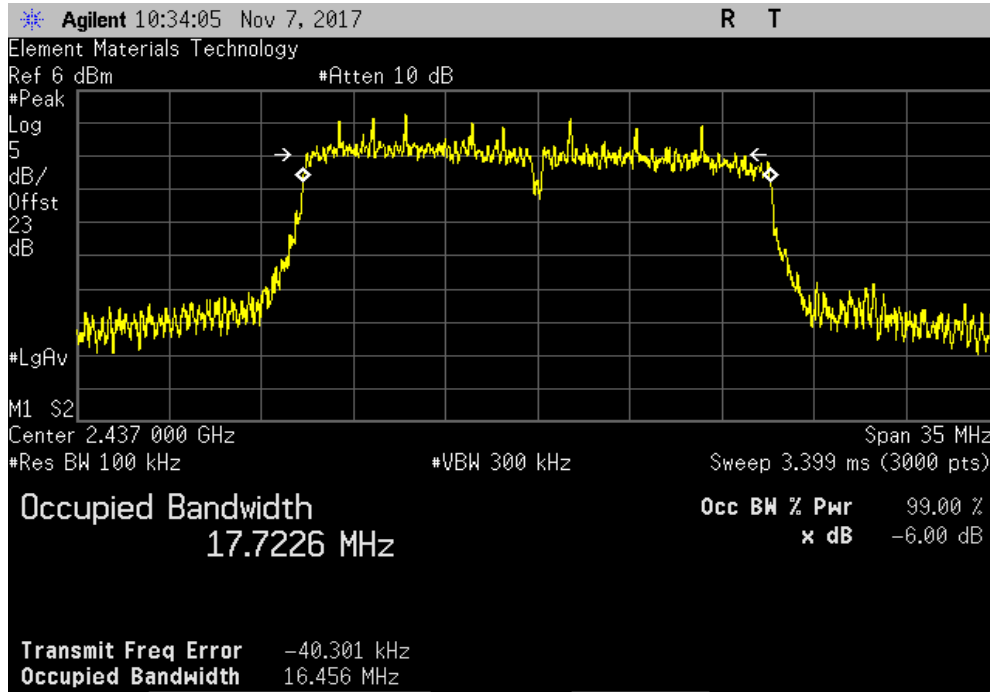


# OCCUPIED BANDWIDTH

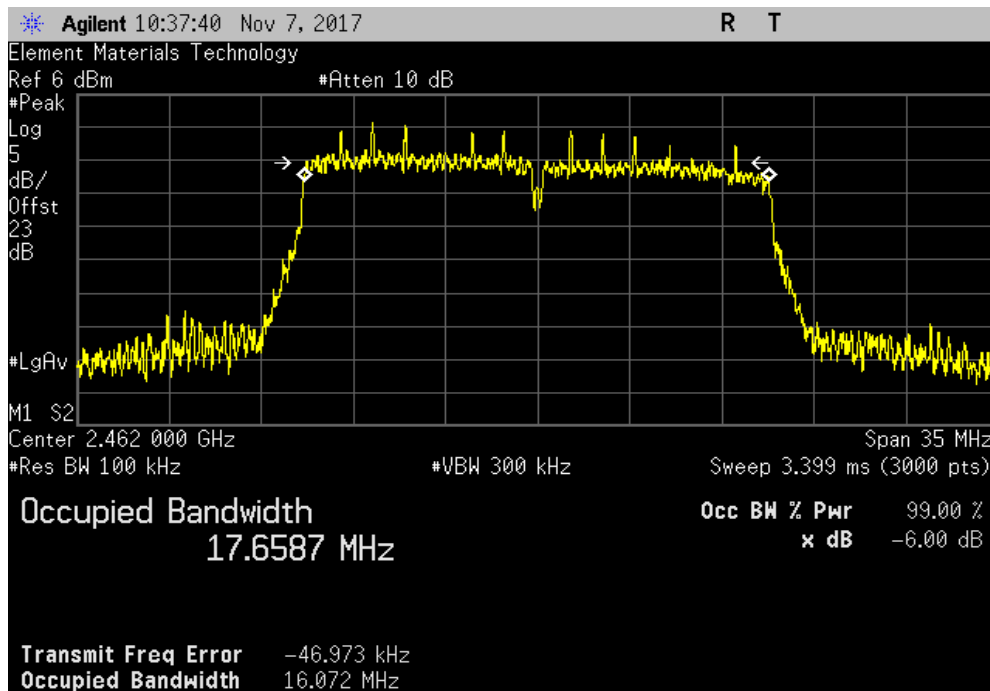


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				16.456 MHz	(>) 500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit	Result
				16.072 MHz	(>) 500 kHz	Pass

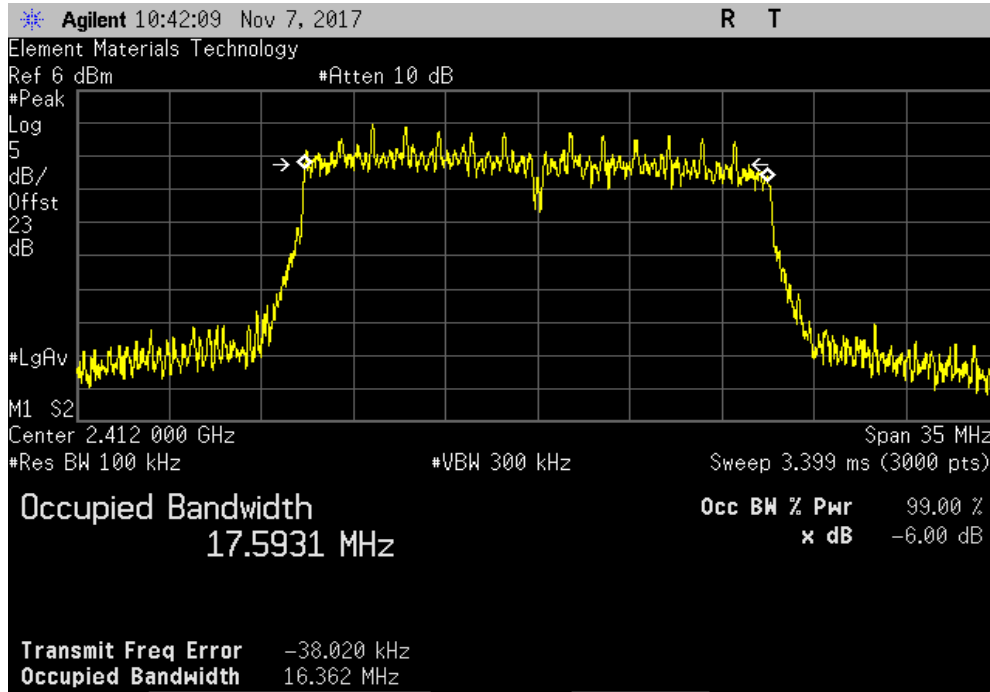


# OCCUPIED BANDWIDTH

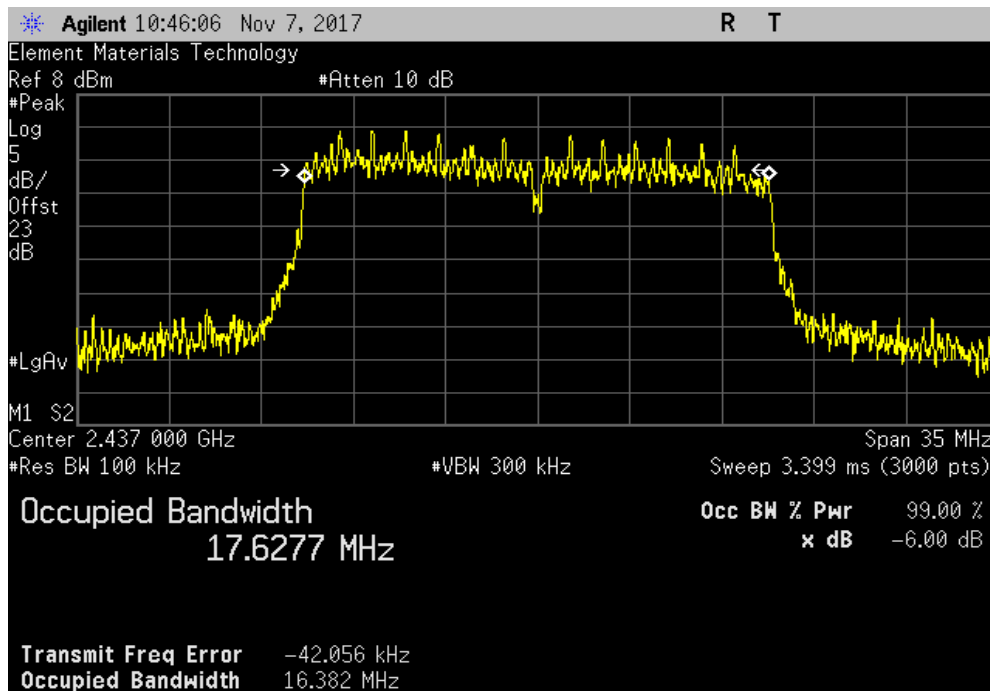


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz		
Value	Limit (>)	Result
16.362 MHz	500 kHz	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz		
Value	Limit (>)	Result
16.382 MHz	500 kHz	Pass

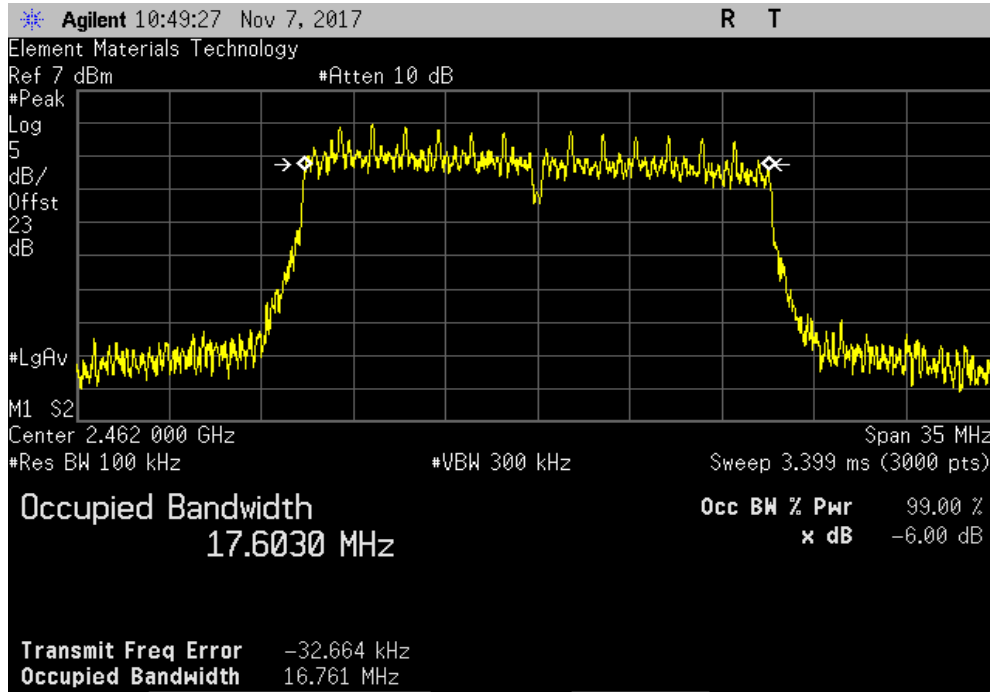


# OCCUPIED BANDWIDTH



TMTx 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz			
	Value	Limit	Result
	16.761 MHz	500 kHz	Pass



# OUTPUT POWER



XMI 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

Prior to measuring output power; the emission 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 AVGSA-2 in section 11.9.2.2.4 of ANSI C63.10:2013 was used to make the measurement. This method uses trace averaging across ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding  $[10 \log (1 / D)]$ , where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

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

# OUTPUT POWER



TstTx 2017.10.04 XMI 2017.09.21

EUT: Activity Tracking Belt		Work Order: DGII0263				
Serial Number: F8F005FF1522		Date: 7-Nov-17				
Customer: Digi International Inc		Temperature: 21.8 °C				
Attendees: Collin LaFave		Humidity: 22.8% RH				
Project: None		Barometric Pres.: 1033 mbar				
Tested by: Dustin Sparks		Power: 5VDC				
Job Site: MN08						
TEST SPECIFICATIONS						
FCC 15.247:2017		ANSI C63.10:2013				
TEST METHOD						
COMMENTS						
EUT powered by USB connection						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature <i>Dustin Sparks</i>				
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results
2400 MHz - 2483.5 MHz Band						
802.11(b) 1 Mbps						
	Low Channel 1, 2412 MHz	10.969	0	11	30	Pass
	Mid Channel 6, 2437 MHz	12.713	0	12.7	30	Pass
	High Channel 11, 2462 MHz	12.74	0	12.8	30	Pass
802.11(b) 11 Mbps						
	Low Channel 1, 2412 MHz	10.806	0.2	11	30	Pass
	Mid Channel 6, 2437 MHz	12.645	0.2	12.8	30	Pass
	High Channel 11, 2462 MHz	12.568	0.3	12.9	30	Pass
802.11(g) 6 Mbps						
	Low Channel 1, 2412 MHz	10.399	0.1	10.5	30	Pass
	Mid Channel 6, 2437 MHz	12.208	0.2	12.4	30	Pass
	High Channel 11, 2462 MHz	11.327	0.2	11.5	30	Pass
802.11(g) 36 Mbps						
	Low Channel 1, 2412 MHz	9.786	1	10.8	30	Pass
	Mid Channel 6, 2437 MHz	11.593	0.8	12.4	30	Pass
	High Channel 11, 2462 MHz	10.748	1	11.7	30	Pass
802.11(g) 54 Mbps						
	Low Channel 1, 2412 MHz	9.618	0.8	10.4	30	Pass
	Mid Channel 6, 2437 MHz	11.465	0.8	12.3	30	Pass
	High Channel 11, 2462 MHz	10.621	0.8	11.4	30	Pass
802.11(n) MCS0						
	Low Channel 1, 2412 MHz	10.378	0.2	10.6	30	Pass
	Mid Channel 6, 2437 MHz	12.197	0.2	12.4	30	Pass
	High Channel 11, 2462 MHz	11.346	0.1	11.5	30	Pass
802.11(n) MCS7						
	Low Channel 1, 2412 MHz	9.483	1.2	10.7	30	Pass
	Mid Channel 6, 2437 MHz	11.389	1.1	12.4	30	Pass
	High Channel 11, 2462 MHz	10.528	0.9	11.4	30	Pass

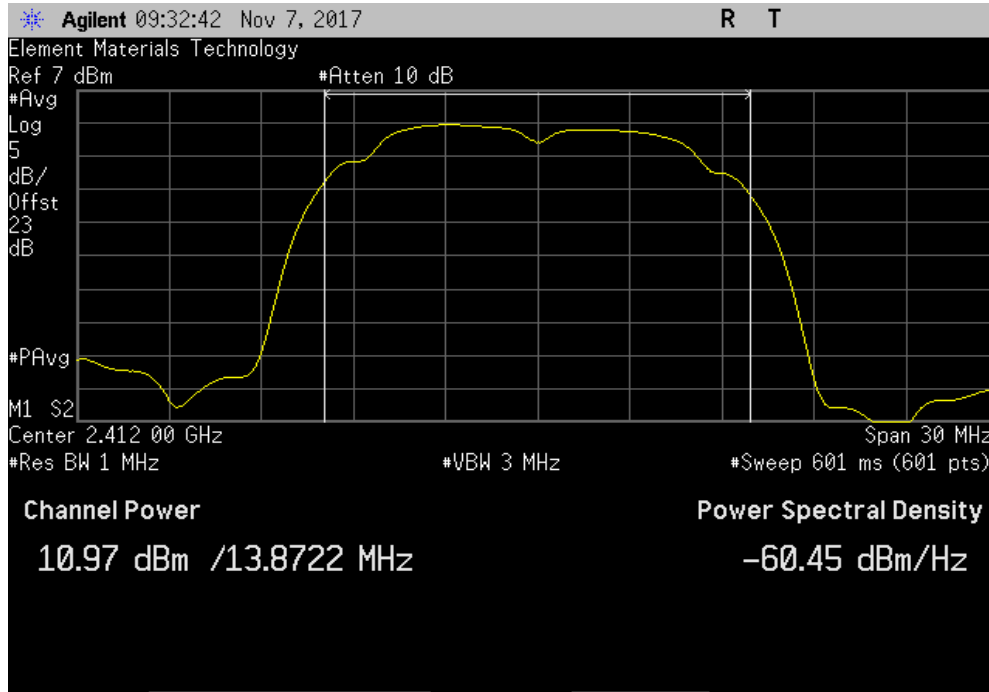


# OUTPUT POWER

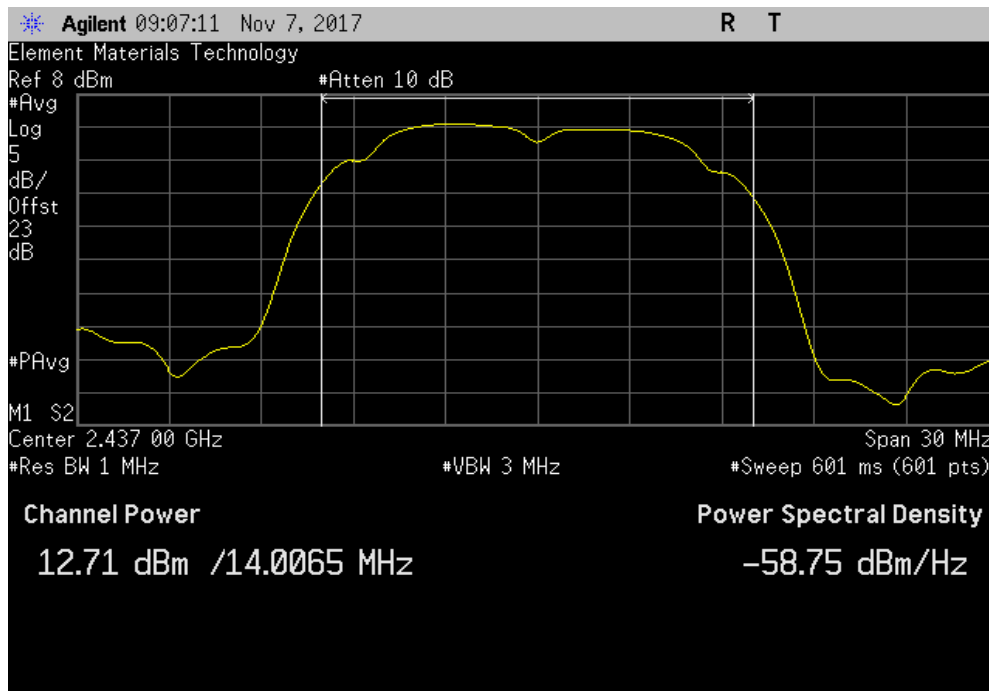


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
10.969	0	11	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
12.713	0	12.7	30	Pass	

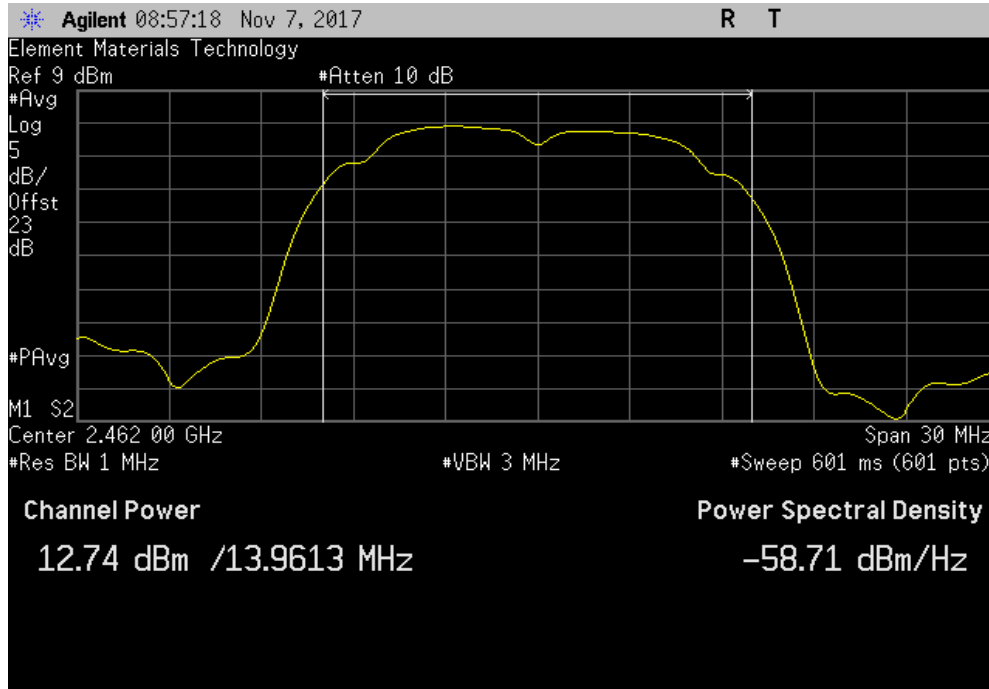


# OUTPUT POWER

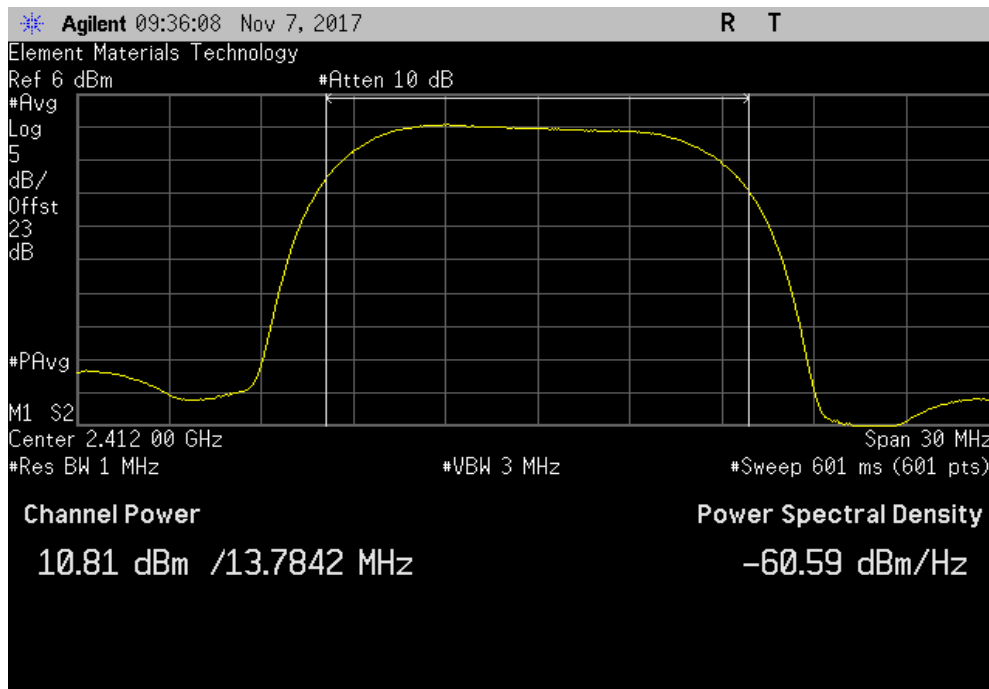


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
12.74	0	12.8	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
10.806	0.2	11	30	Pass	

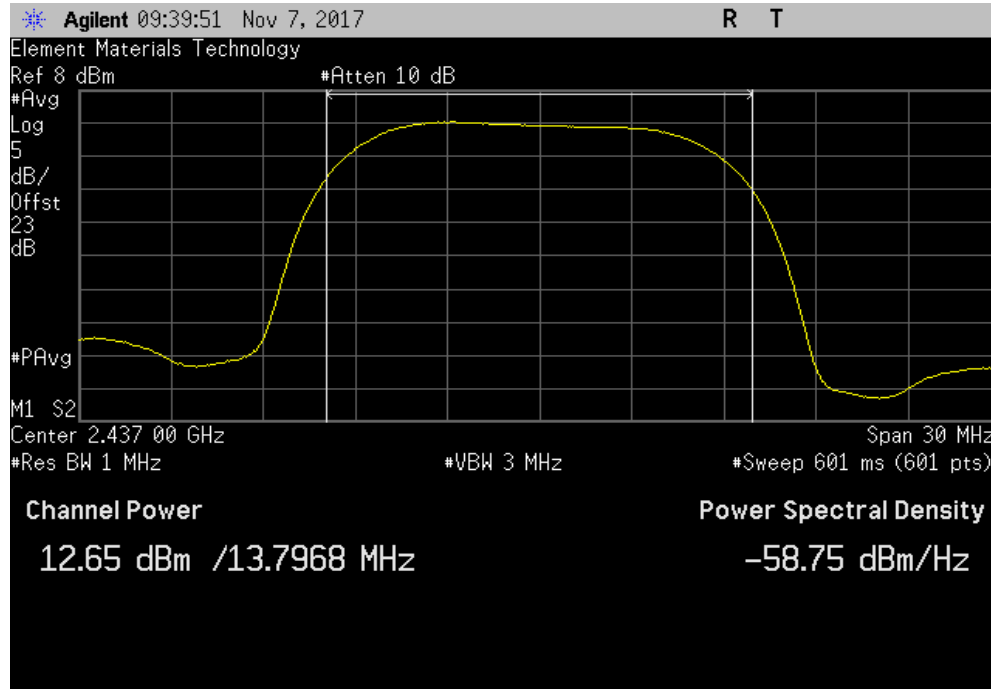


# OUTPUT POWER

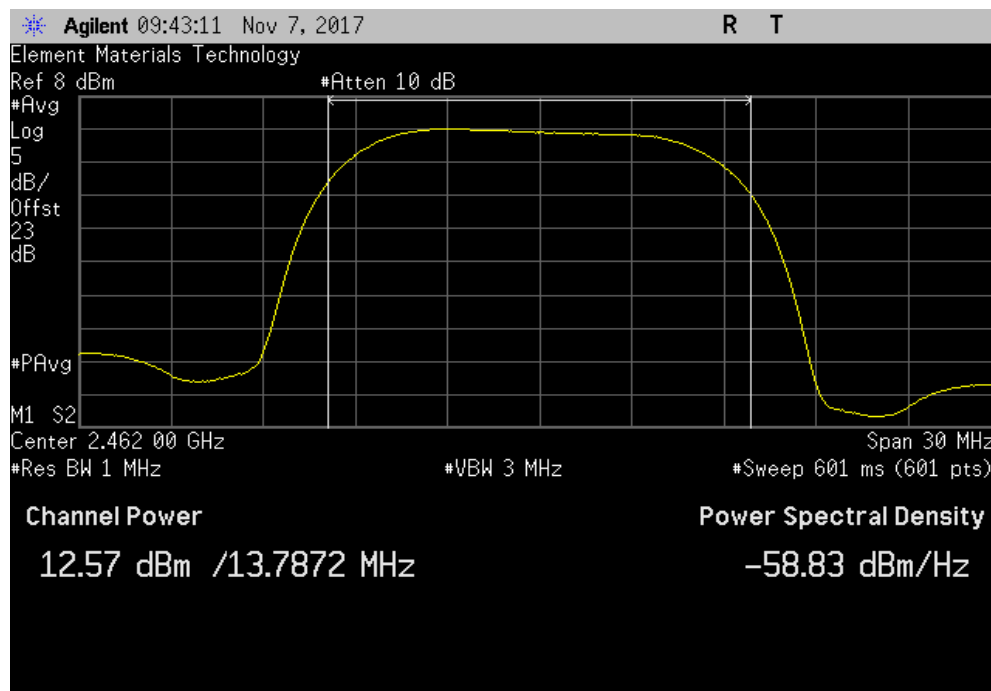


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
12.645	0.2	12.8	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
12.568	0.3	12.9	30	Pass	

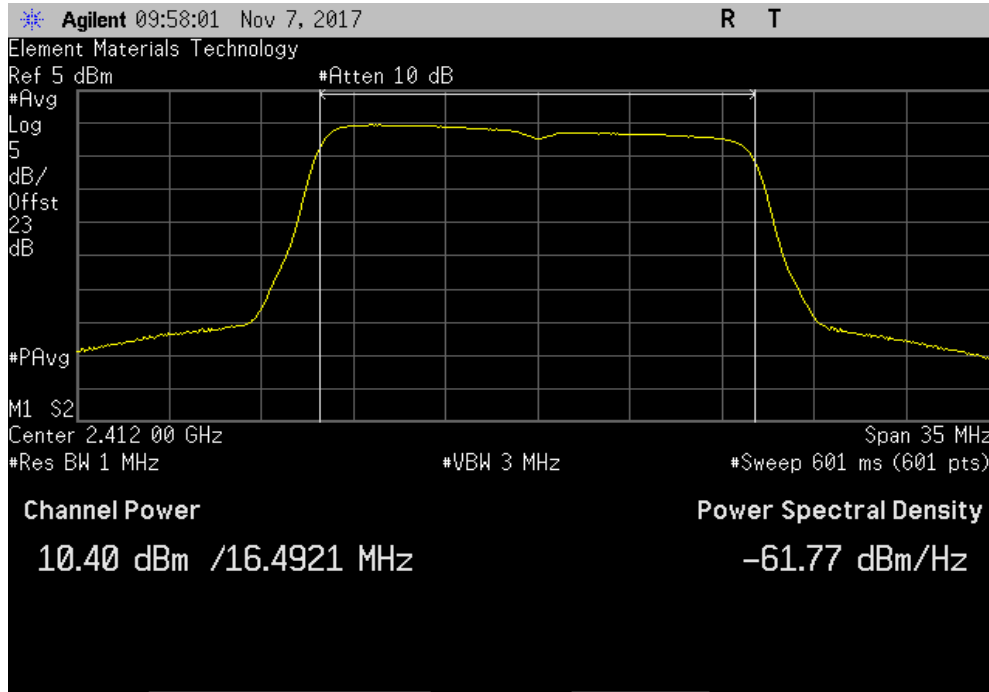


# OUTPUT POWER

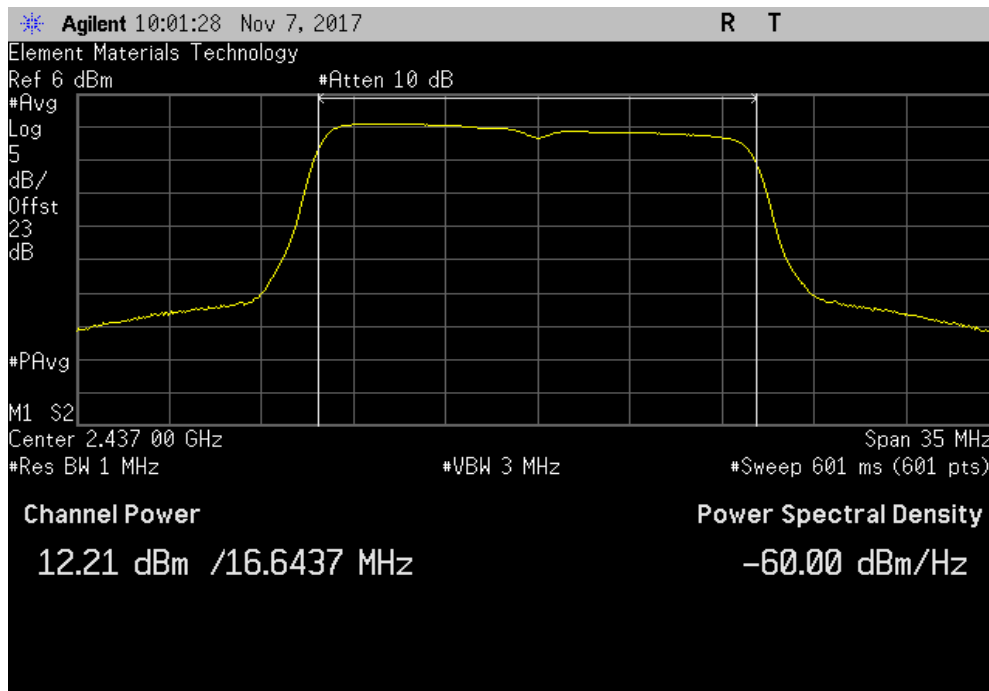


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results	
10.399	0.1	10.5	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results	
12.208	0.2	12.4	30	Pass	

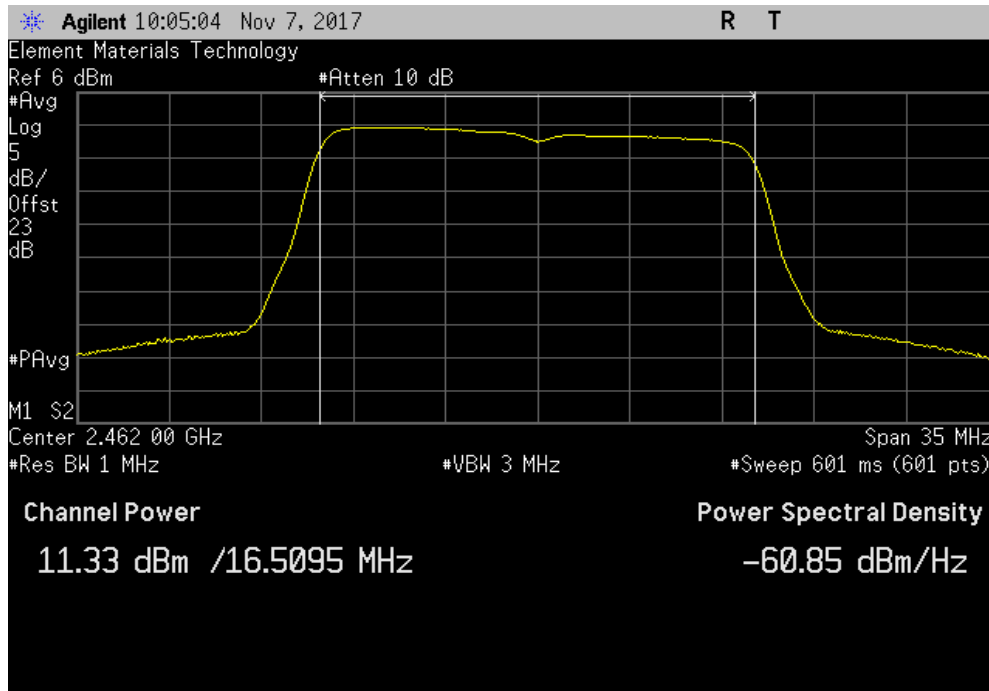


# OUTPUT POWER

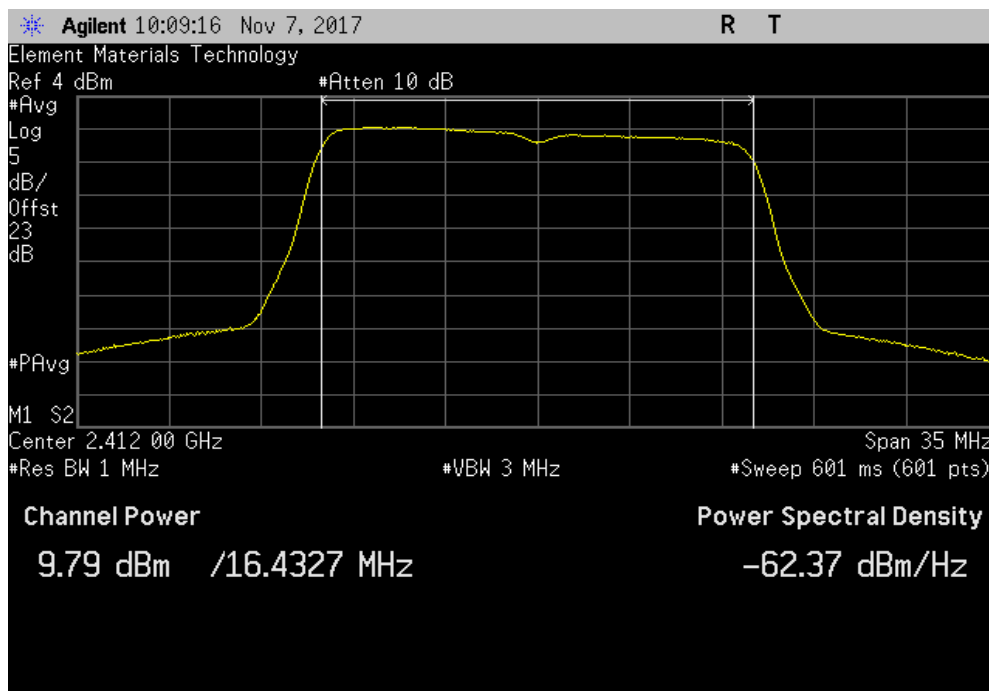


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
11.327	0.2	11.5	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
9.786	1	10.8	30	Pass		

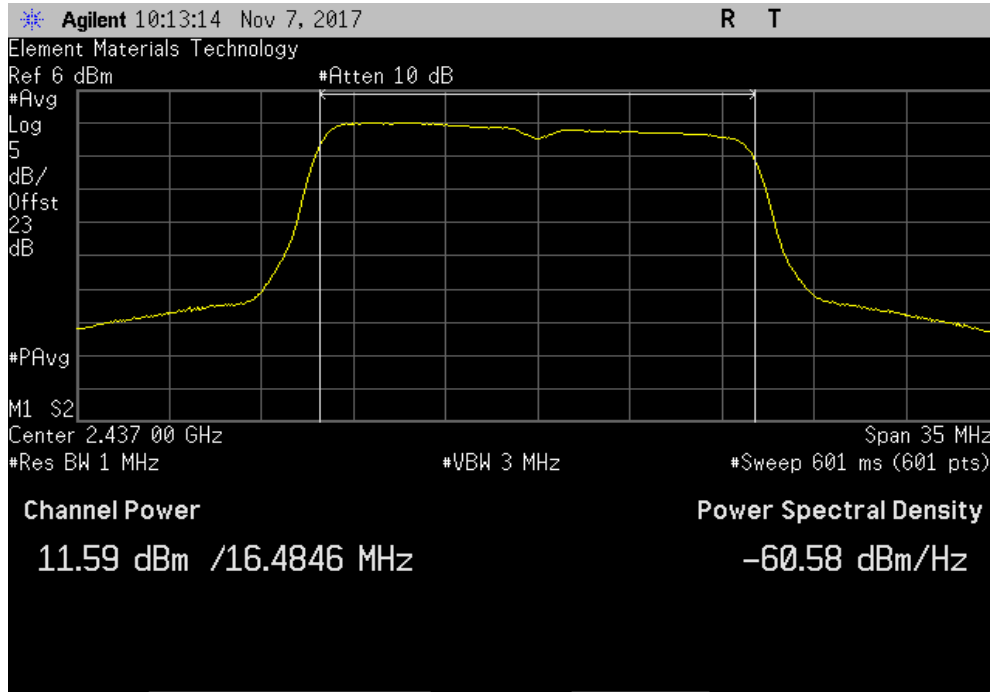


# OUTPUT POWER

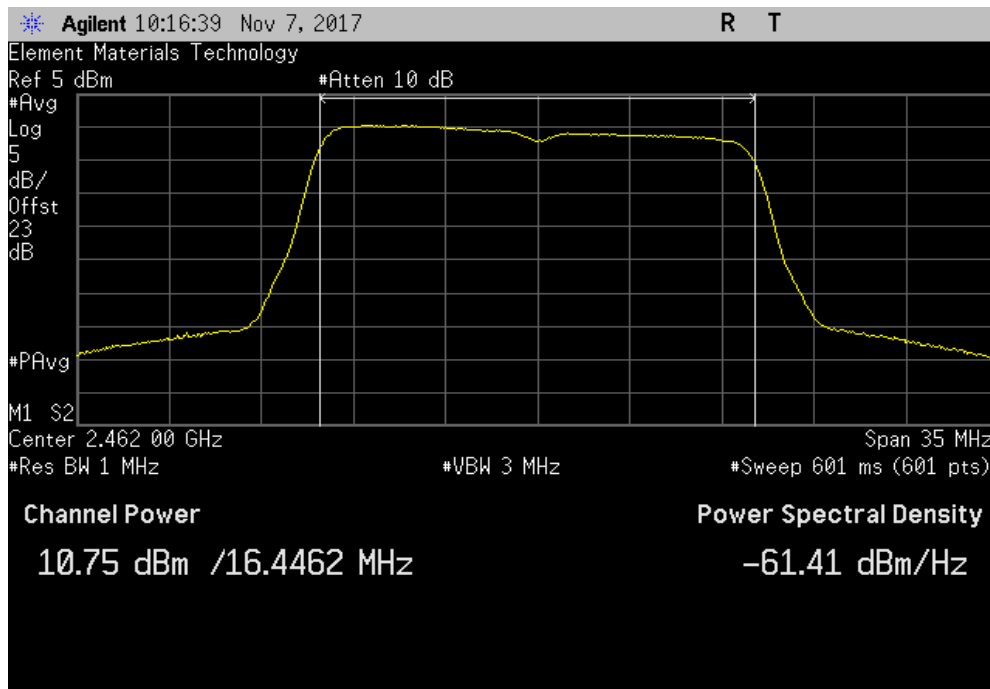


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
11.593	0.8	12.4	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
10.748	1	11.7	30	Pass		

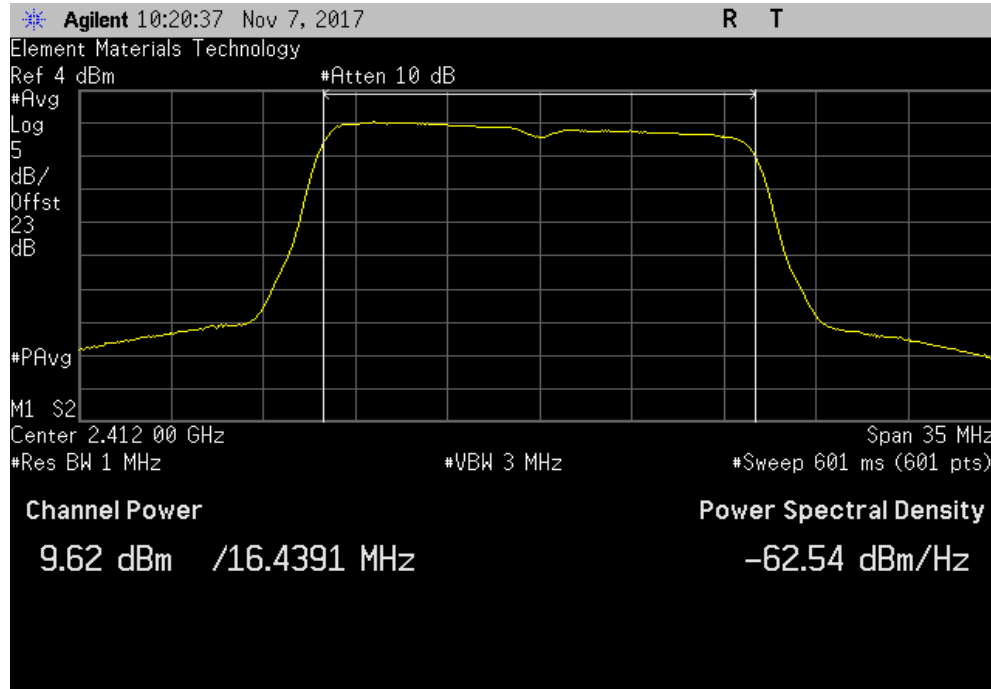


# OUTPUT POWER

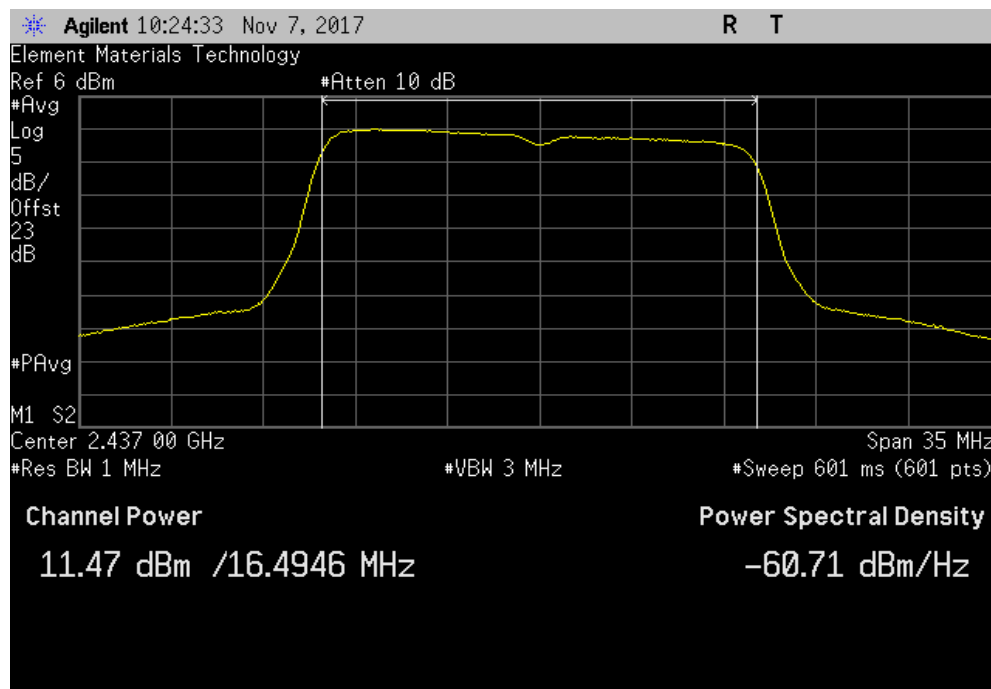


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
9.618	0.8	10.4	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
11.465	0.8	12.3	30	Pass	

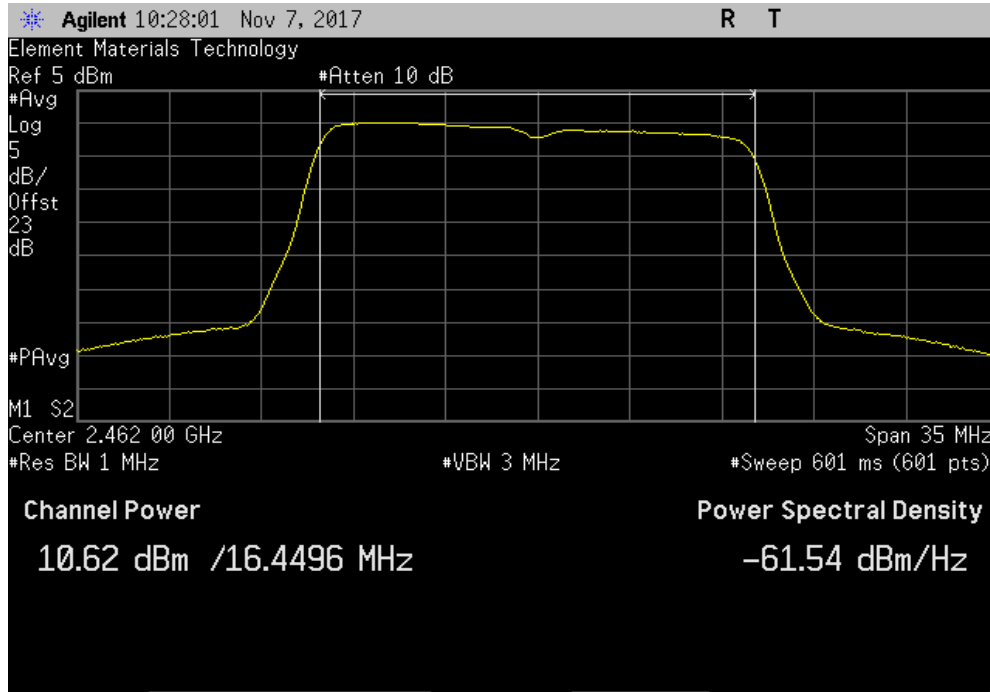


# OUTPUT POWER

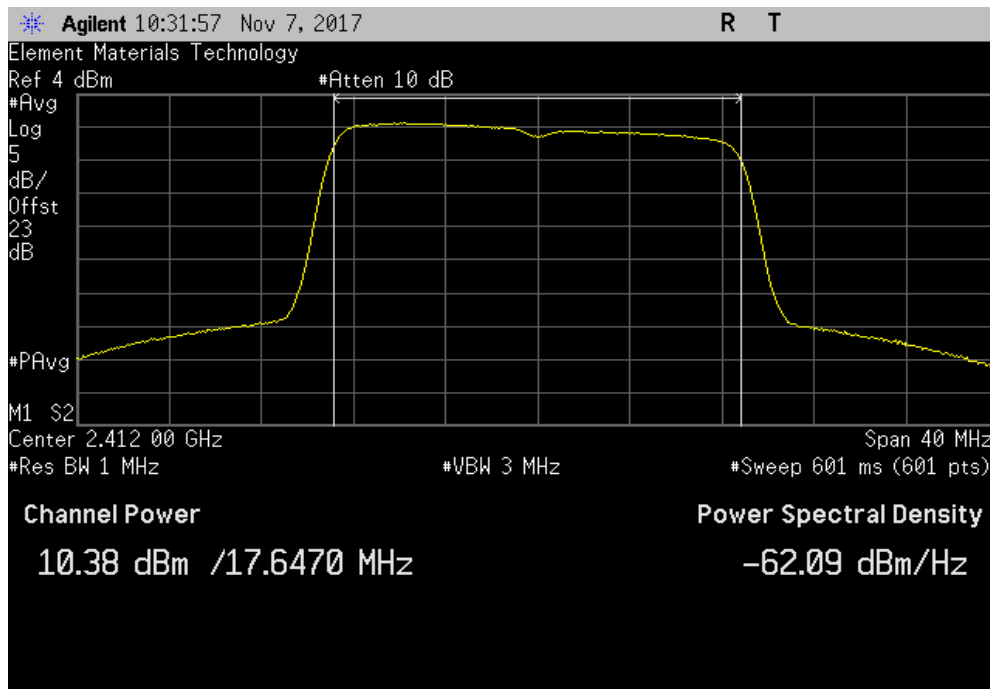


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
10.621	0.8	11.4	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
10.378	0.2	10.6	30	Pass		



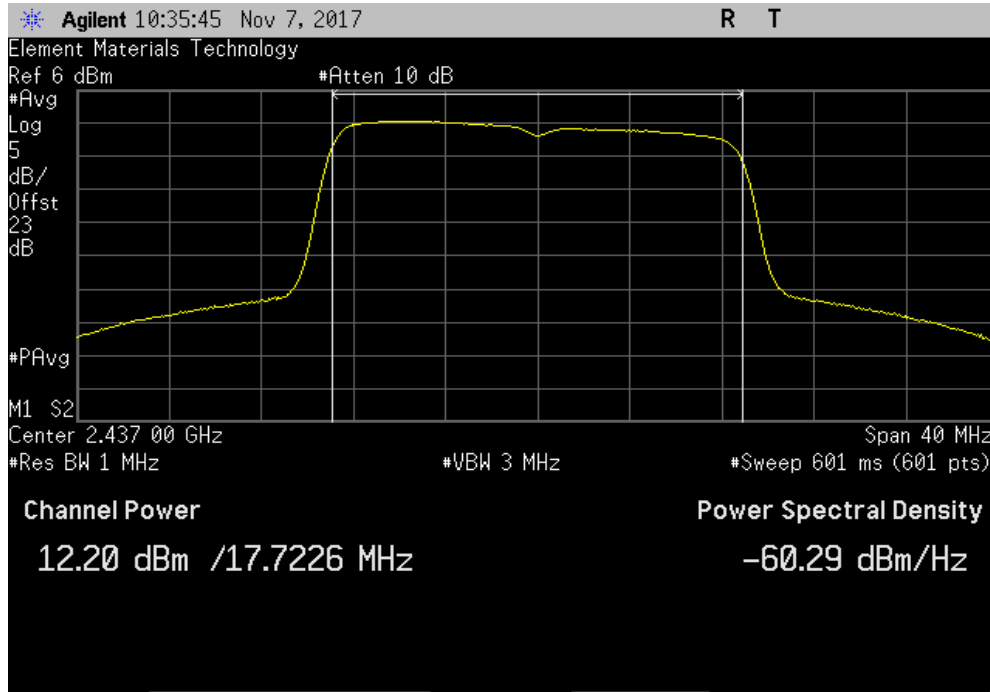


# OUTPUT POWER

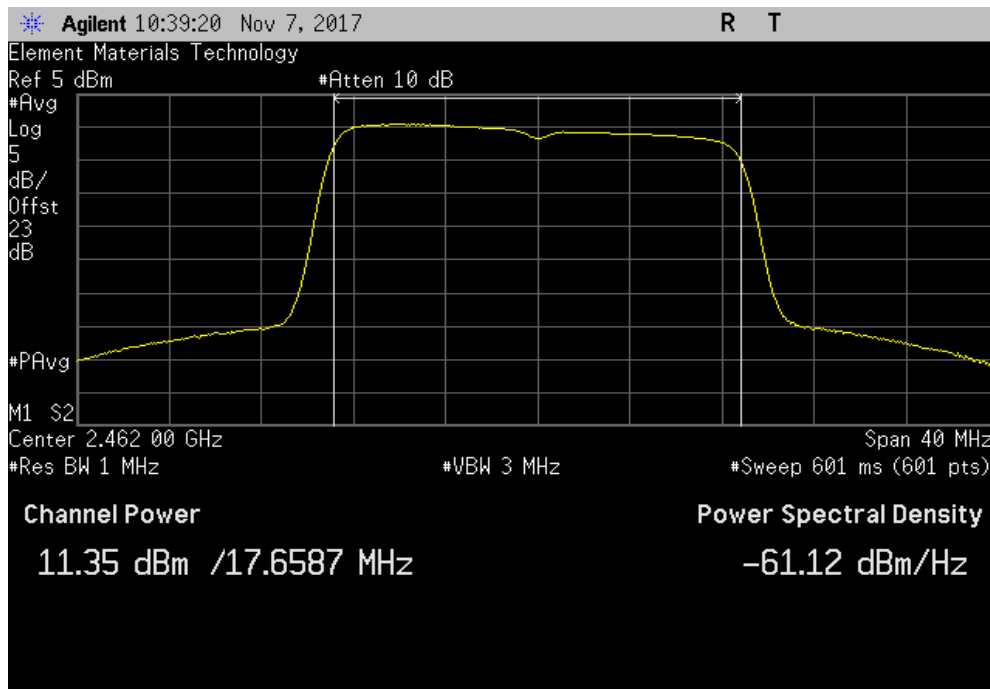


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
12.197	0.2	12.4	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
Avg Cond	Duty Cycle	Value	Limit	Results		
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)			
11.346	0.1	11.5	30	Pass		

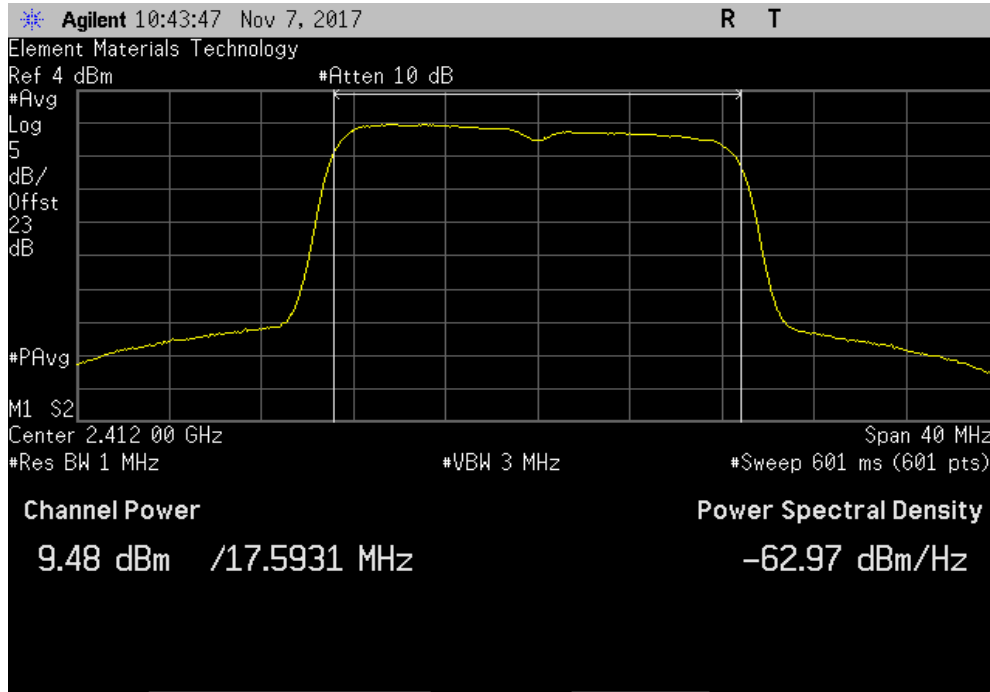


# OUTPUT POWER

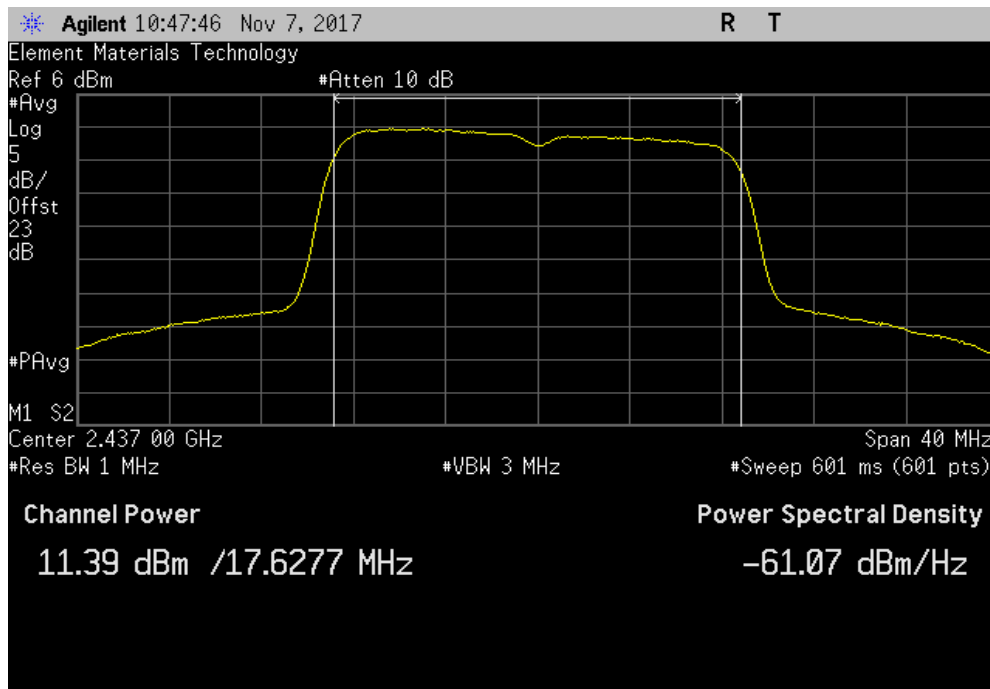


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results	
9.483	1.2	10.7	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Value (dBm)	Limit (dBm)	Results	
11.389	1.1	12.4	30	Pass	

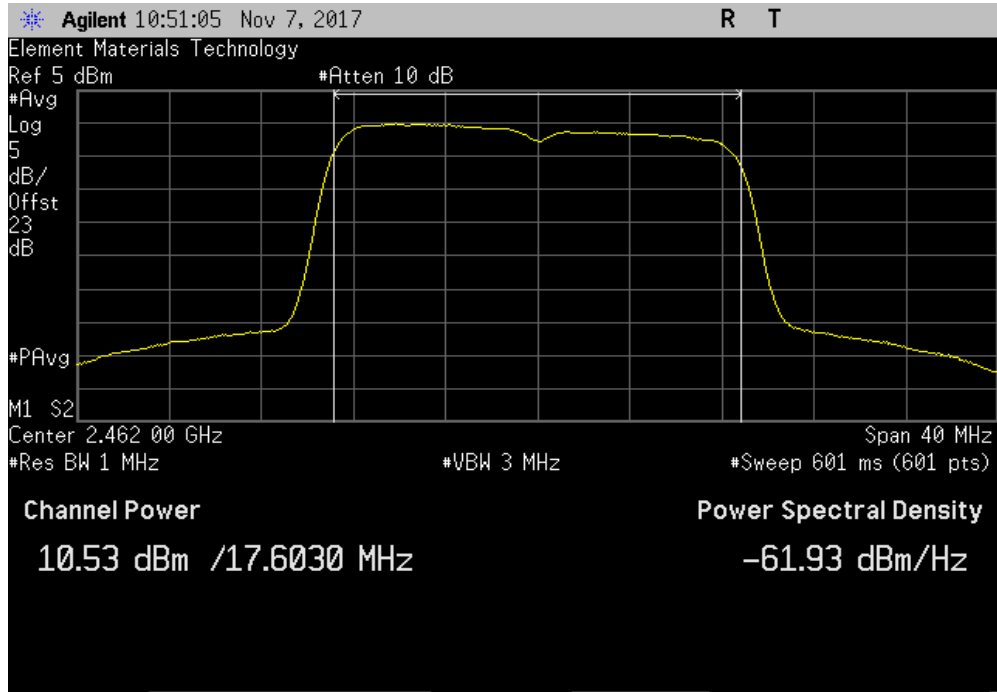


# OUTPUT POWER



TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Avg Cond	Duty Cycle	Value	Limit	Results	
Pwr (dBm)	Factor (dB)	(dBm)	(dBm)		
10.528	0.9	11.4	30	Pass	



# POWER SPECTRAL DENSITY



XMit 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## 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



TstTx 2017.10.04 XMI 2017.09.21

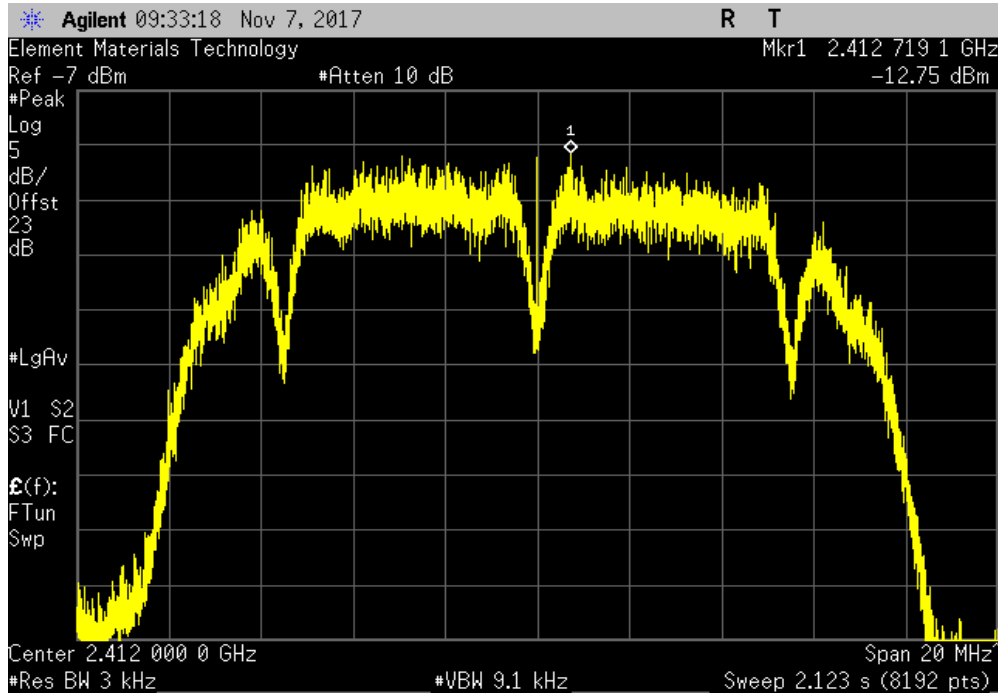
EUT: Activity Tracking Belt		Work Order: DGII0263	
Serial Number: F8F005FF1522		Date: 7-Nov-17	
Customer: Digi International Inc		Temperature: 21.9 °C	
Attendees: Collin LaFave		Humidity: 22.7% RH	
Project: None		Barometric Pres.: 1033 mbar	
Tested by: Dustin Sparks		Power: 5VDC	
		Job Site: MN08	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT powered by USB connection			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Dustin Sparks</i>	
		Value dBm/3kHz	Limit < dBm/3kHz
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	-12.748	8
	Mid Channel 6, 2437 MHz	-11.249	8
	High Channel 11, 2462 MHz	-10.562	8
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	-10.426	8
	Mid Channel 6, 2437 MHz	-11.579	8
	High Channel 11, 2462 MHz	-10.942	8
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	-13.483	8
	Mid Channel 6, 2437 MHz	-11.568	8
	High Channel 11, 2462 MHz	-12.535	8
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	-14.257	8
	Mid Channel 6, 2437 MHz	-11.305	8
	High Channel 11, 2462 MHz	-12.835	8
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	-14.396	8
	Mid Channel 6, 2437 MHz	-11.761	8
	High Channel 11, 2462 MHz	-12.875	8
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	-12.973	8
	Mid Channel 6, 2437 MHz	-12.537	8
	High Channel 11, 2462 MHz	-13.307	8
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	-13.981	8
	Mid Channel 6, 2437 MHz	-12.07	8
	High Channel 11, 2462 MHz	-13.662	8

# POWER SPECTRAL DENSITY

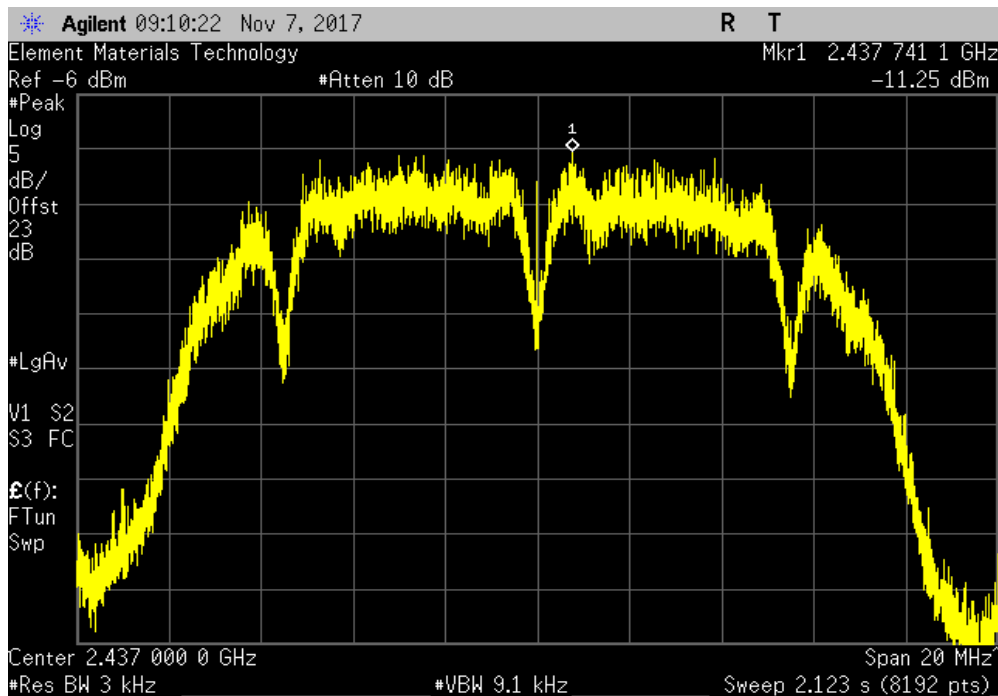


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.748	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-11.249	8	Pass

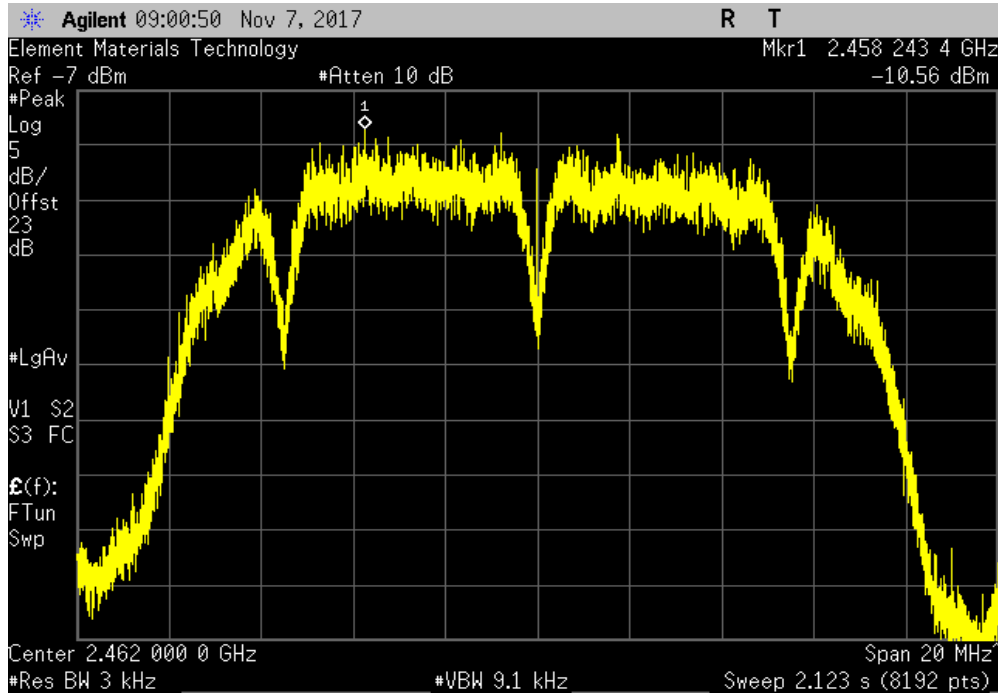


# POWER SPECTRAL DENSITY

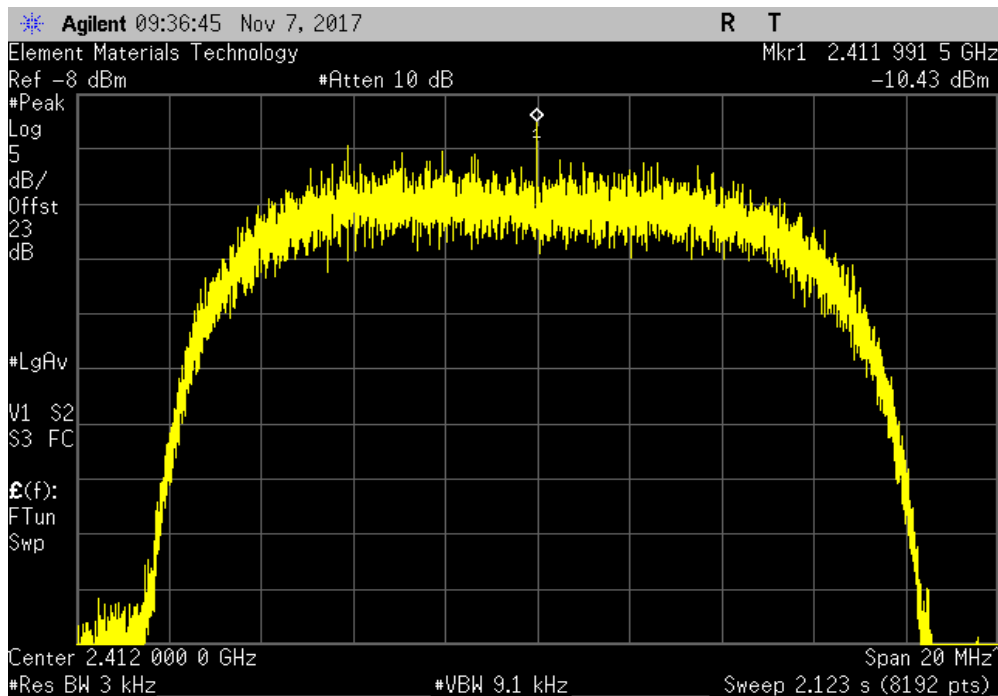


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-10.562	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-10.426	8	Pass

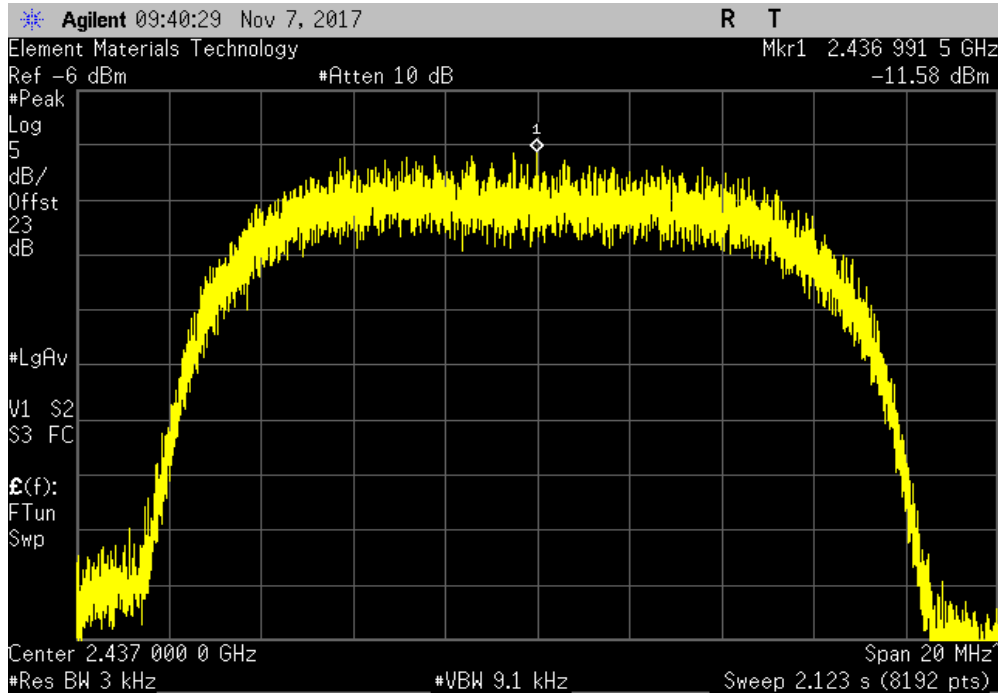


# POWER SPECTRAL DENSITY

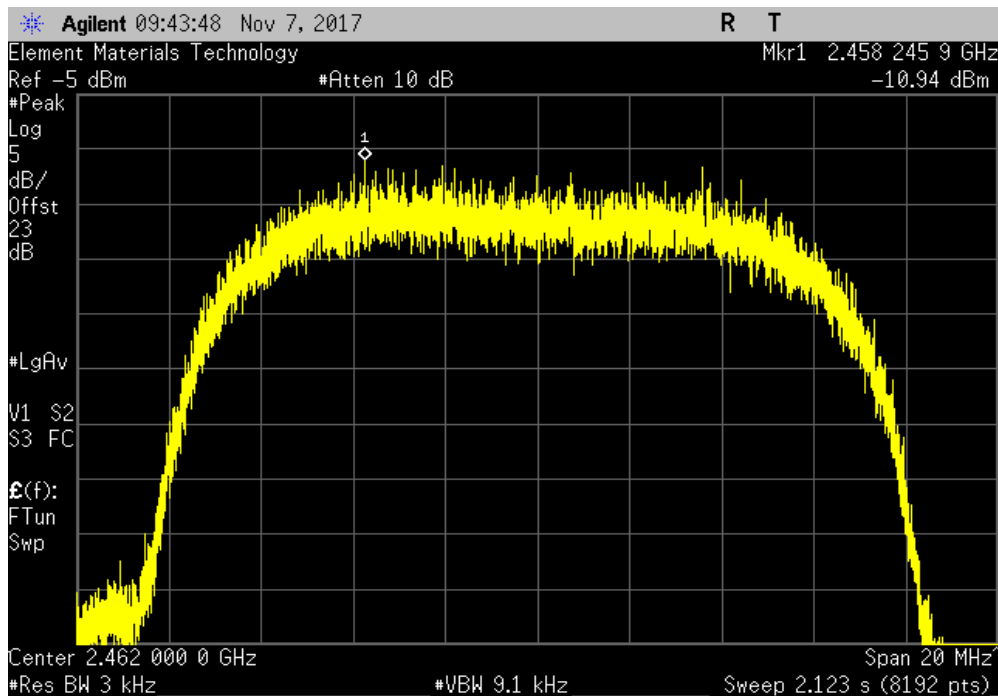


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-11.579	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-10.942	8	Pass



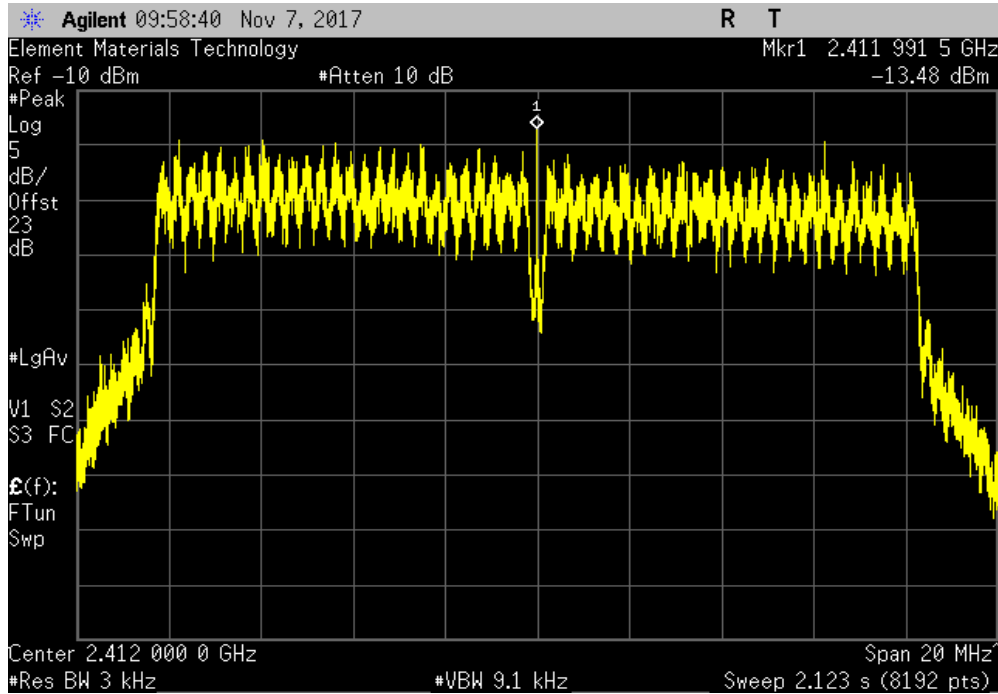


# POWER SPECTRAL DENSITY

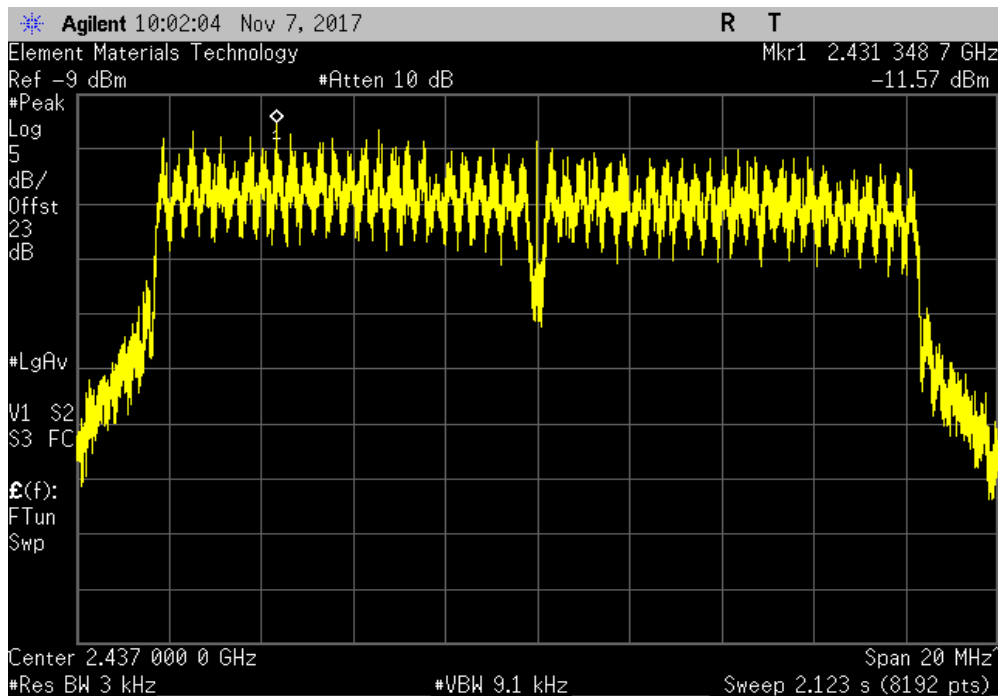


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz		
Value	Limit	Results
dBm/3kHz	< dBm/3kHz	
-13.483	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz		
Value	Limit	Results
dBm/3kHz	< dBm/3kHz	
-11.568	8	Pass

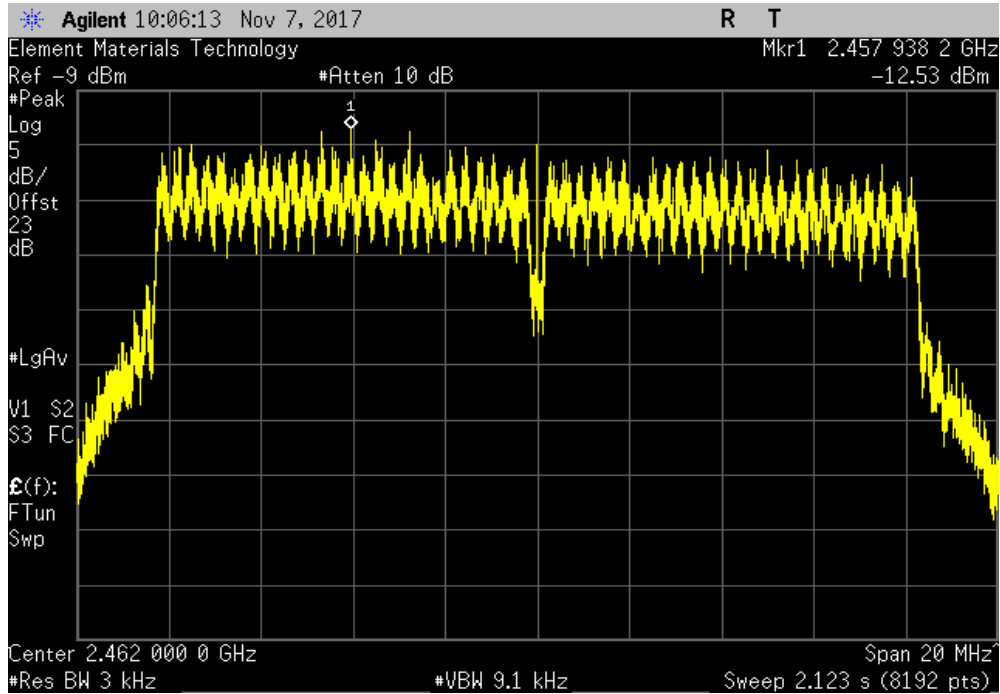


# POWER SPECTRAL DENSITY

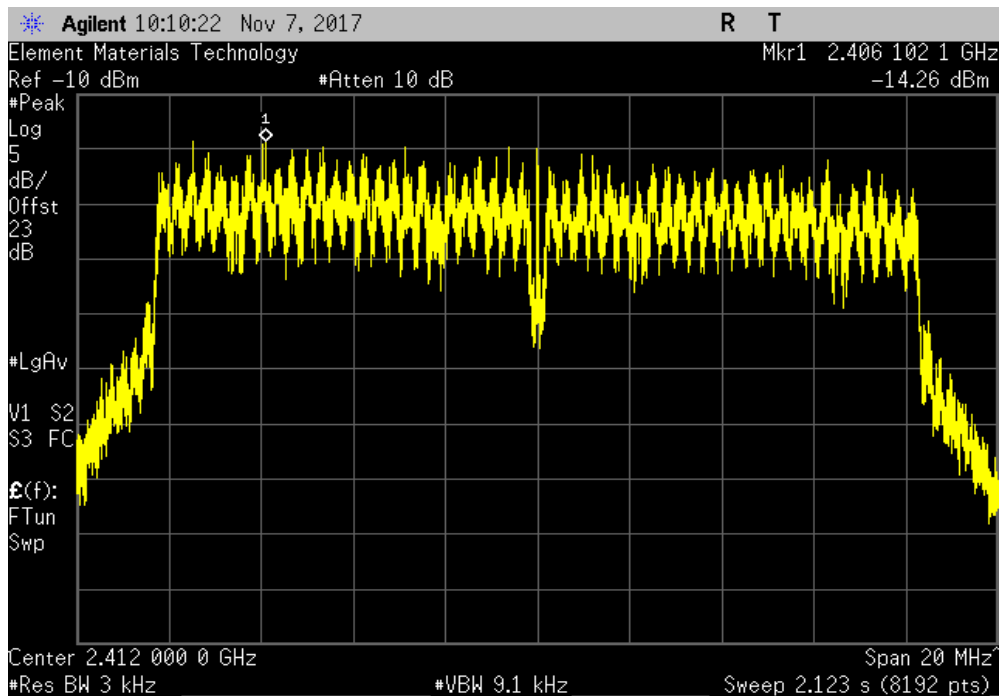


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.535	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-14.257	8	Pass

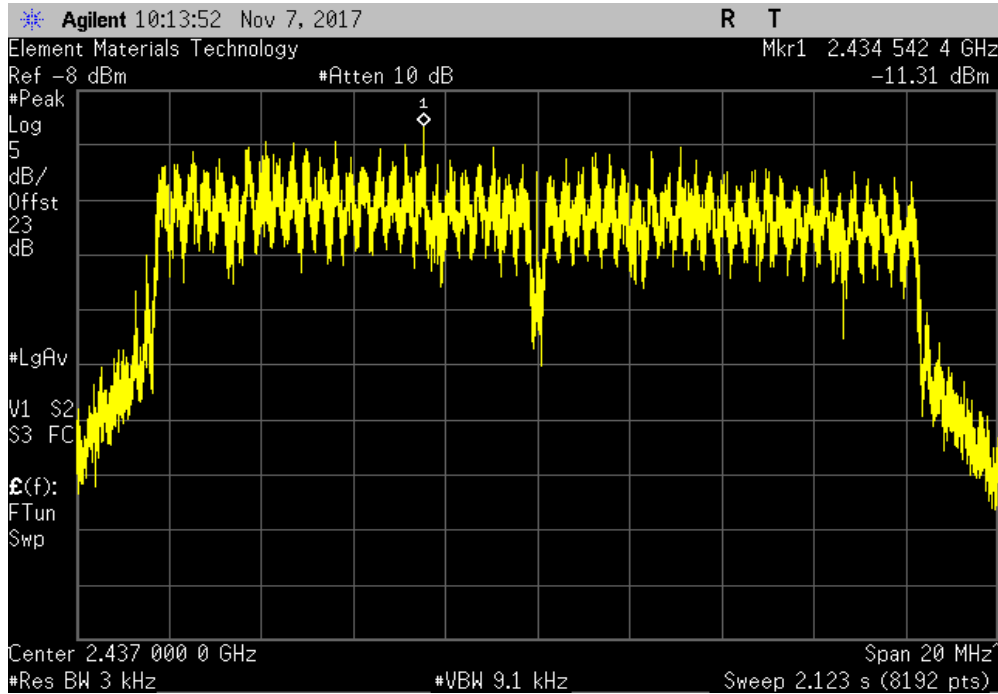


# POWER SPECTRAL DENSITY

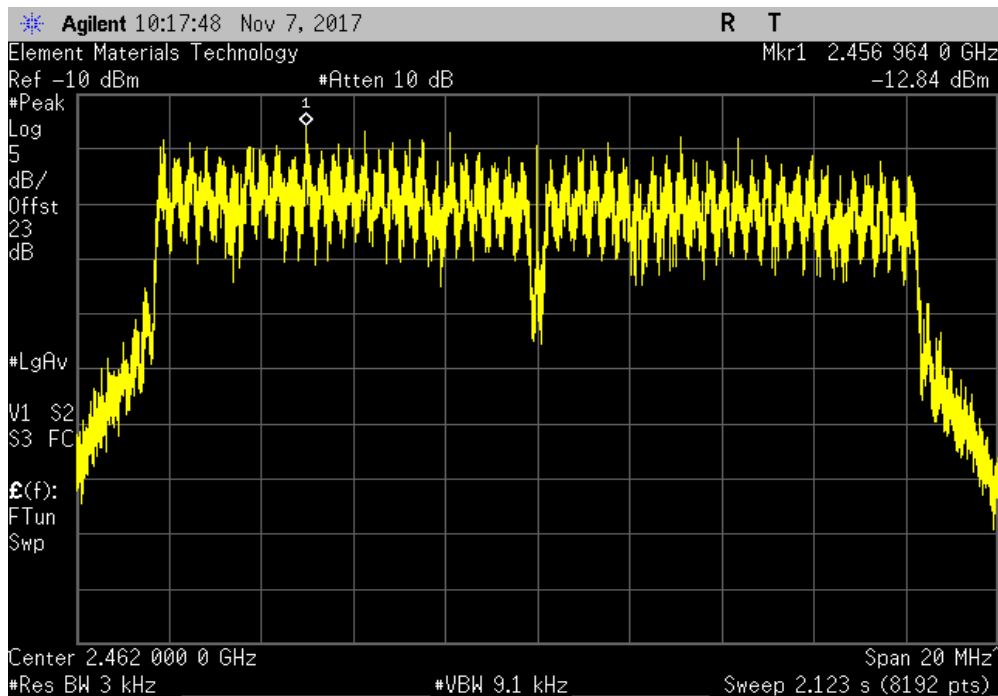


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-11.305	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.835	8	Pass

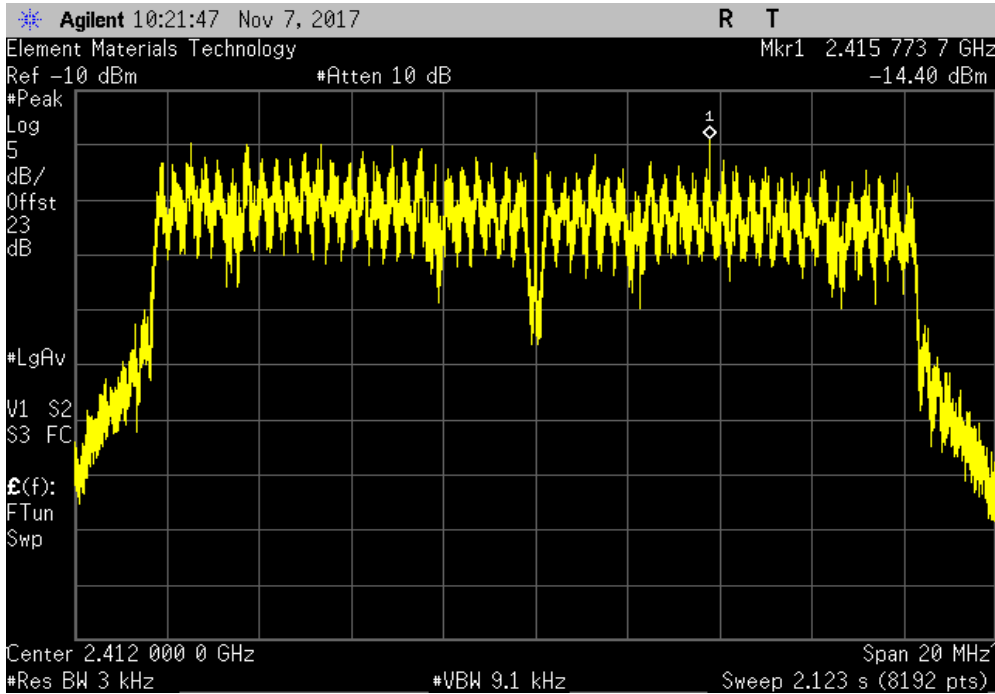


# POWER SPECTRAL DENSITY

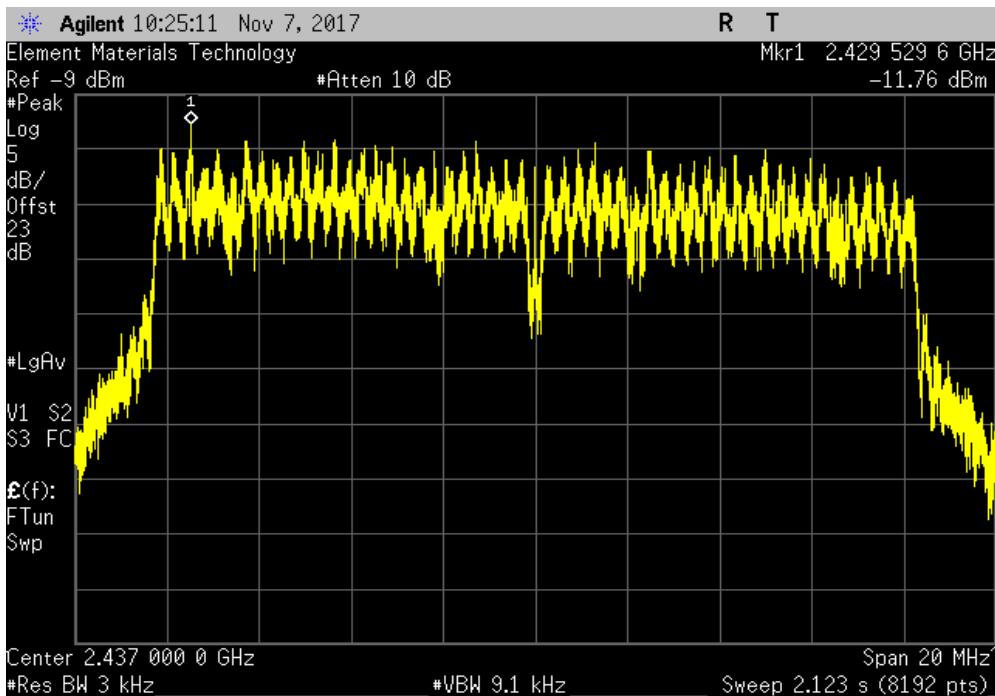


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-14.396	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-11.761	8	Pass

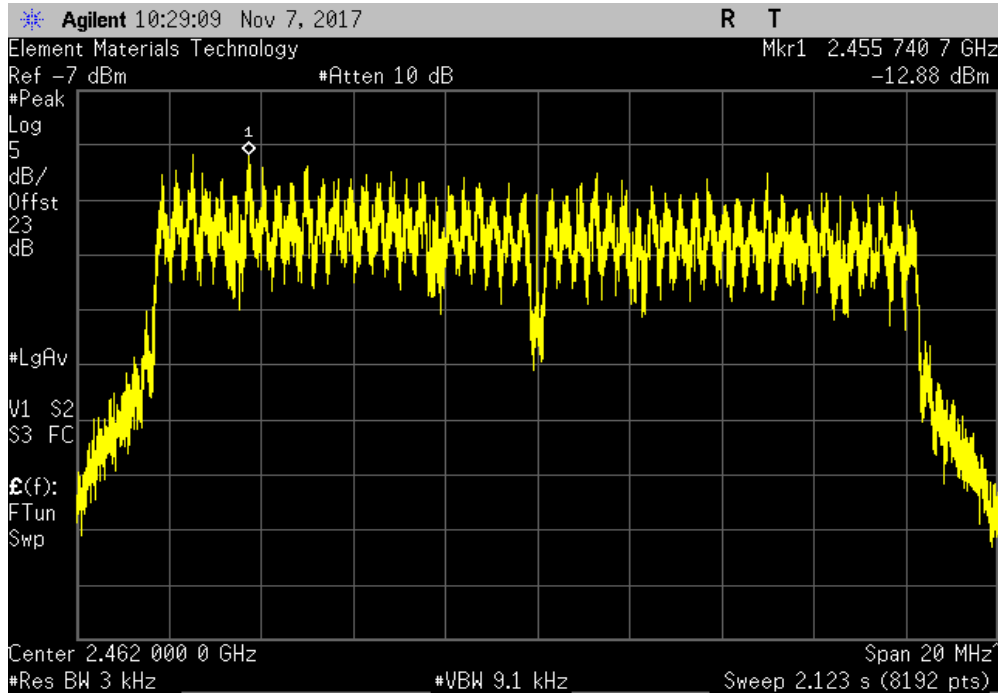


# POWER SPECTRAL DENSITY

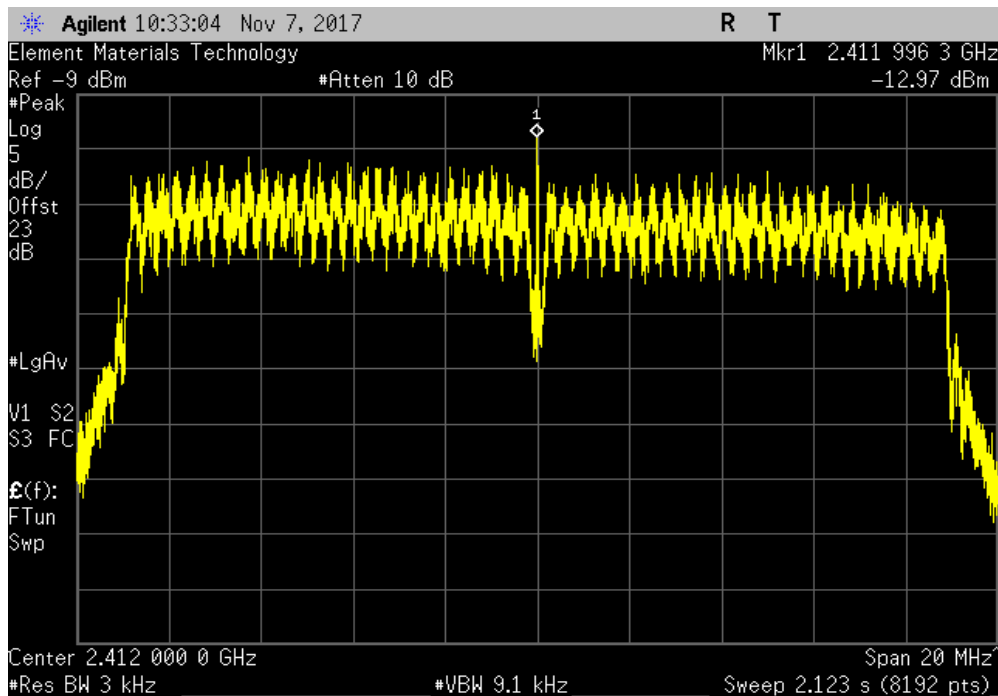


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.875	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.973	8	Pass

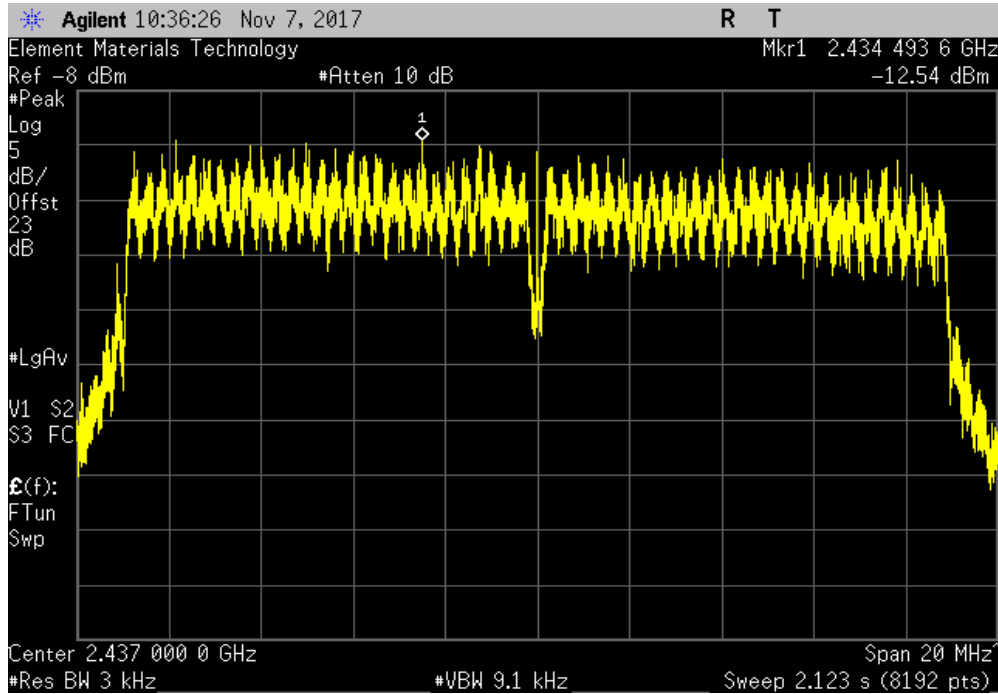


# POWER SPECTRAL DENSITY

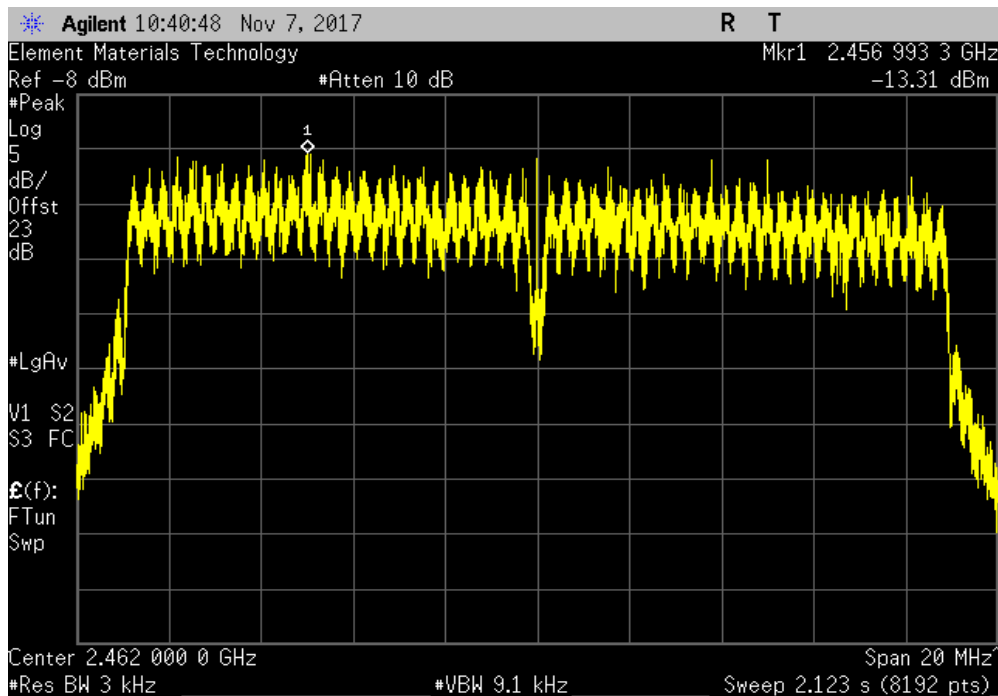


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.537	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-13.307	8	Pass

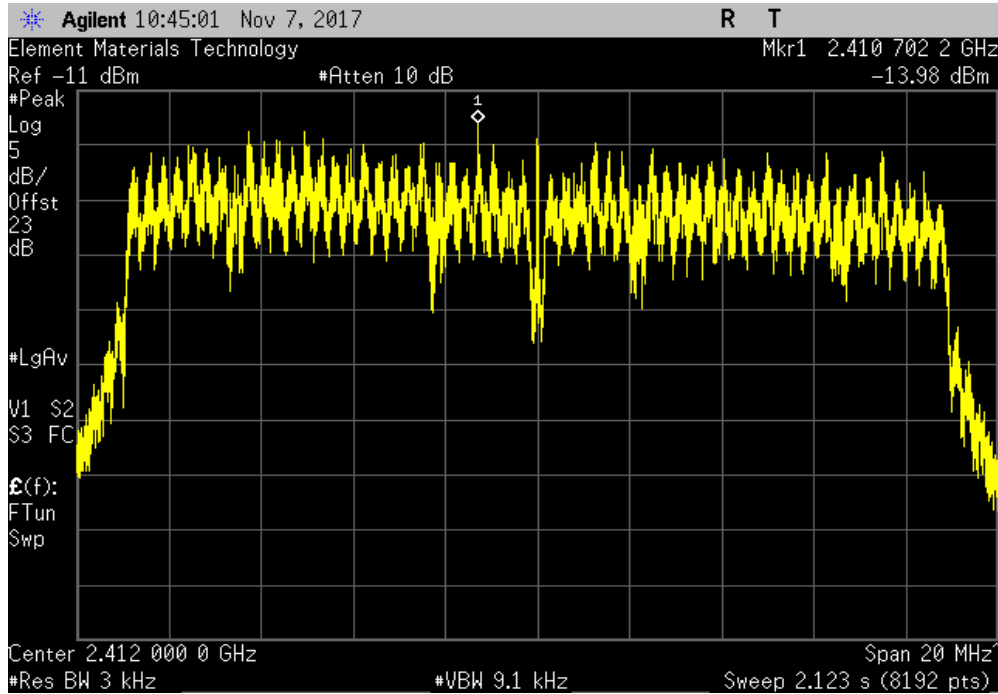


# POWER SPECTRAL DENSITY

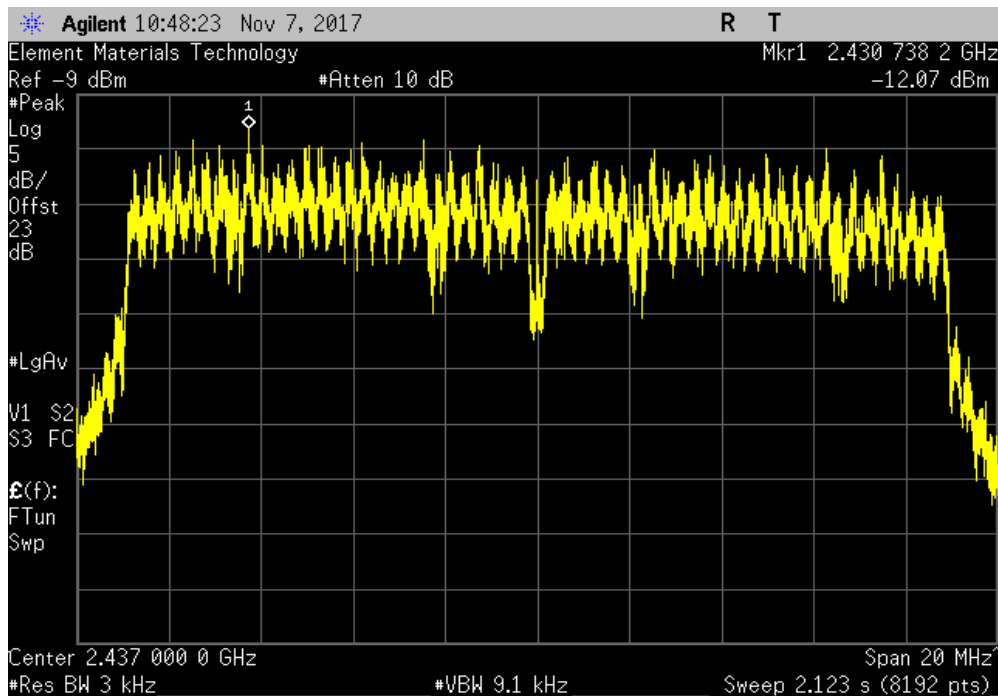


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-13.981	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-12.07	8	Pass

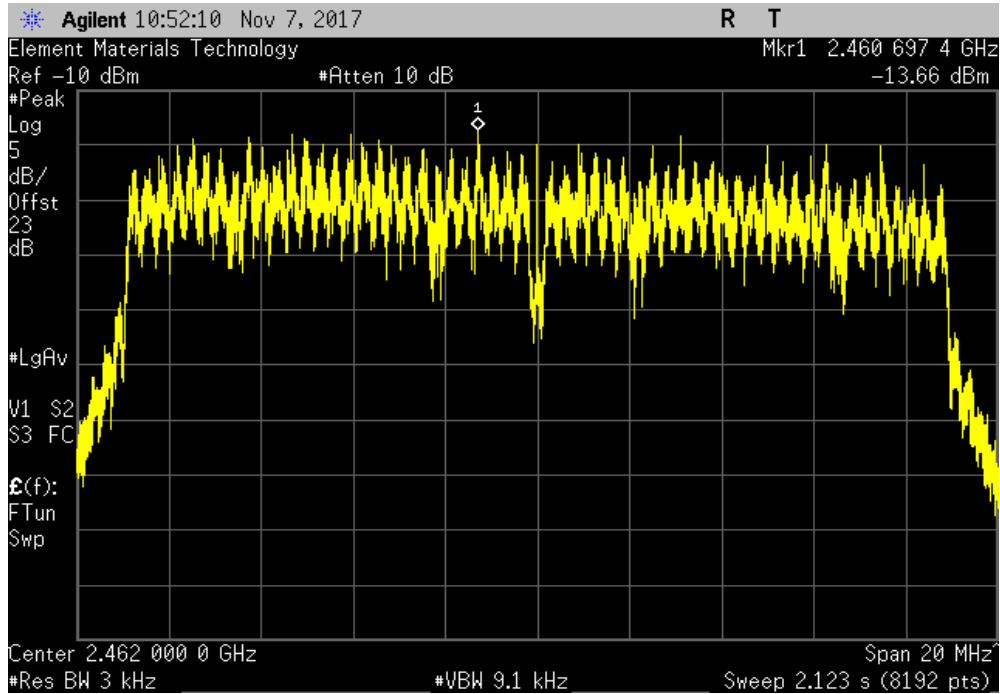


# POWER SPECTRAL DENSITY



TbTx 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz			
	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-13.662	8	Pass





# BAND EDGE COMPLIANCE



XMI 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## 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.

An RMS detector was used to match the method called out for Output Power. Because the reference level was taken with an RMS detector, the attenuation requirement is -30 dBc.

# BAND EDGE COMPLIANCE



TstTx 2017.10.04 XMI 2017.09.21

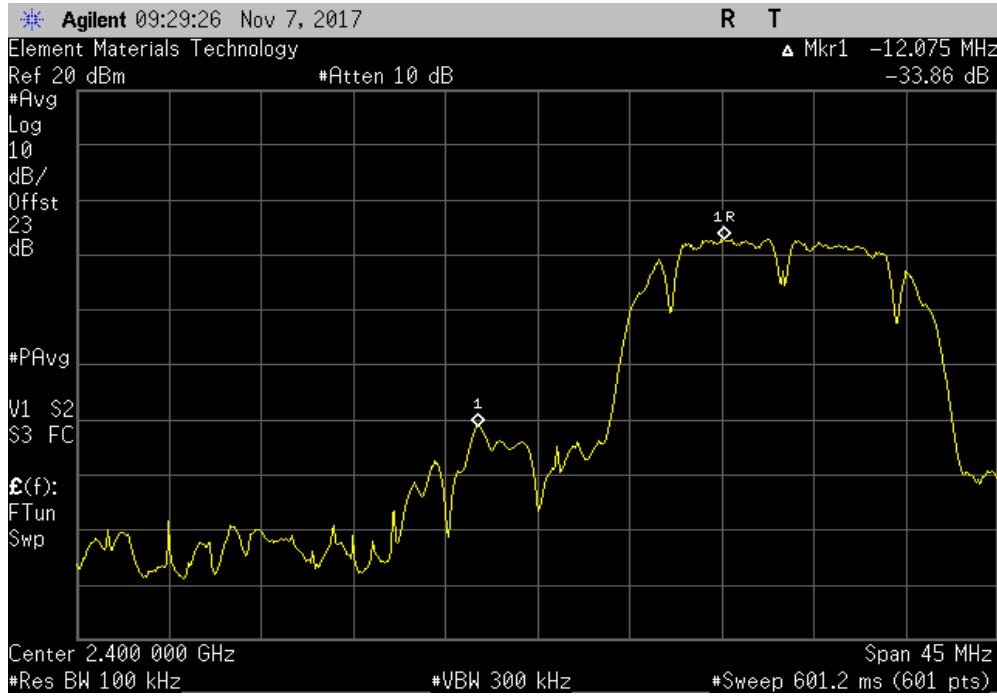
EUT: Activity Tracking Belt		Work Order: DGII0263	
Serial Number: F8F005FF1522		Date: 7-Nov-17	
Customer: Digi International Inc		Temperature: 21.8 °C	
Attendees: Collin LaFave		Humidity: 22.8% RH	
Project: None		Barometric Pres.: 1034 mbar	
Tested by: Dustin Sparks		Job Site: MN08	
Power: 5VDC			
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT powered by USB connection			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Dustin Sparks</i>	
		Value (dBc)	Limit ≤ (dBc) Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	-33.86	-30 Pass
	High Channel 11, 2462 MHz	-57.65	-30 Pass
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	-36.64	-30 Pass
	High Channel 11, 2462 MHz	-58.53	-30 Pass
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	-30.58	-30 Pass
	High Channel 11, 2462 MHz	-42.4	-30 Pass
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	-31.55	-30 Pass
	High Channel 11, 2462 MHz	-42.97	-30 Pass
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	-31.81	-30 Pass
	High Channel 11, 2462 MHz	-42.94	-30 Pass
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	-30.64	-30 Pass
	High Channel 11, 2462 MHz	-39.5	-30 Pass
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	-31.86	-30 Pass
	High Channel 11, 2462 MHz	-40.98	-30 Pass

# BAND EDGE COMPLIANCE

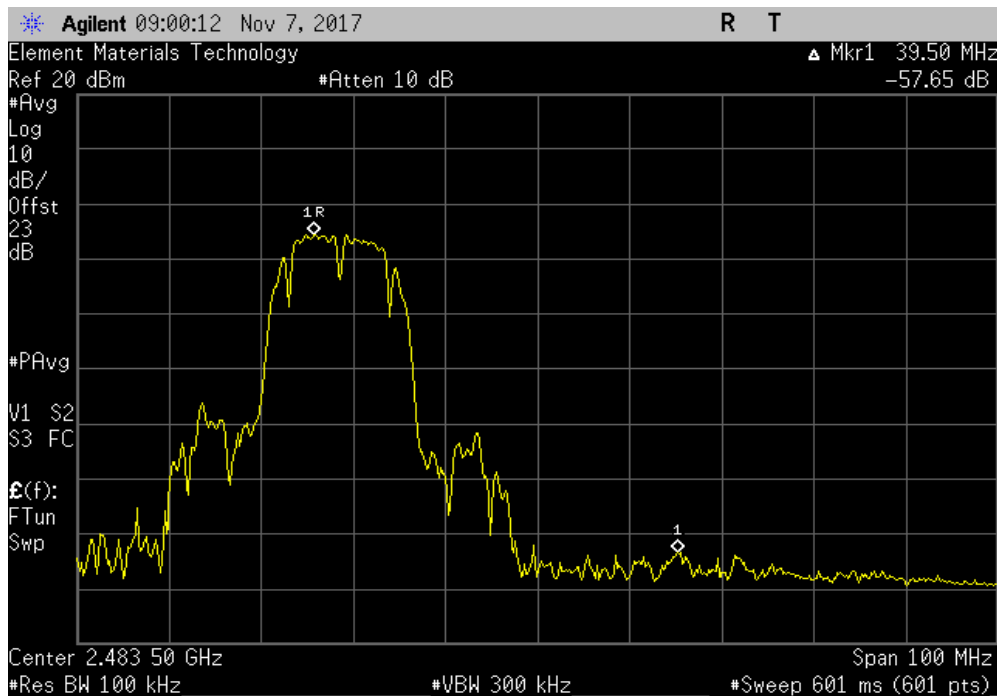


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-33.86	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-57.65	-30	Pass

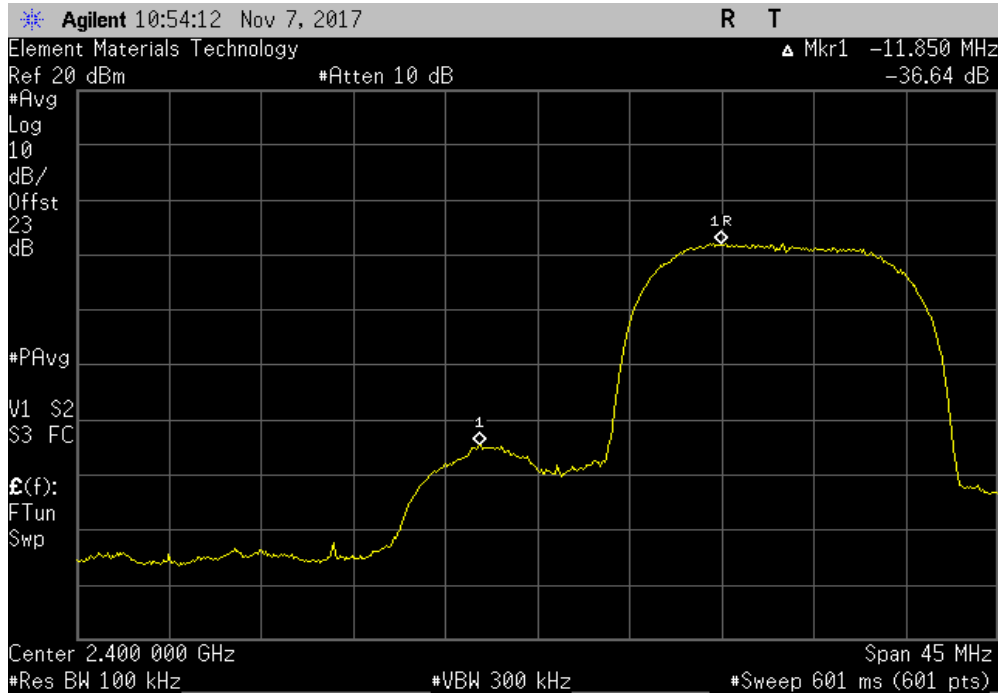


# BAND EDGE COMPLIANCE

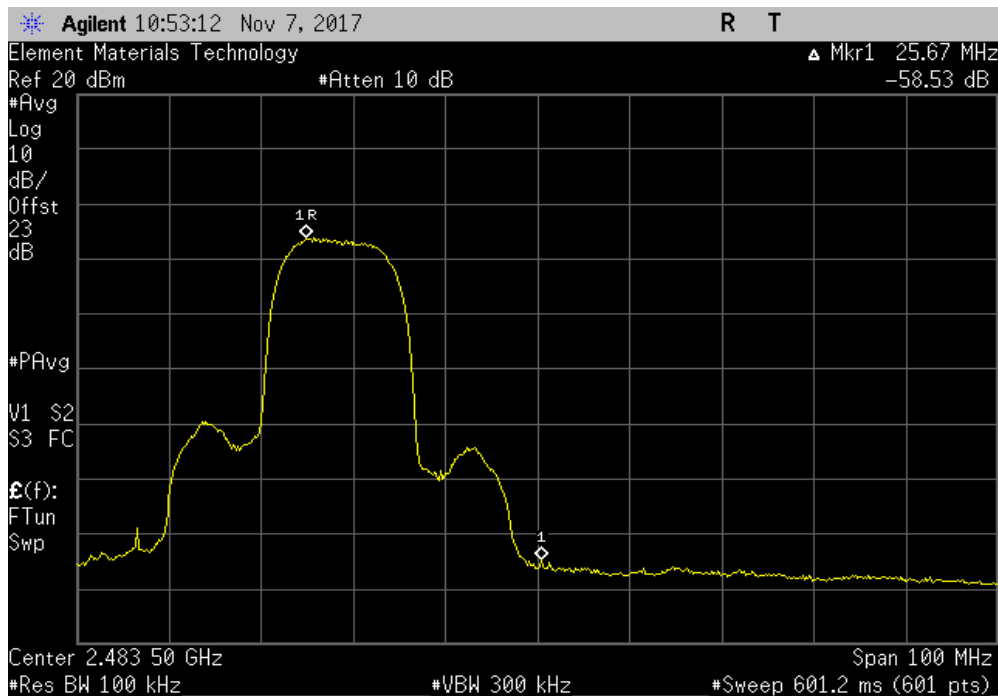


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-36.64	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-58.53	-30	Pass

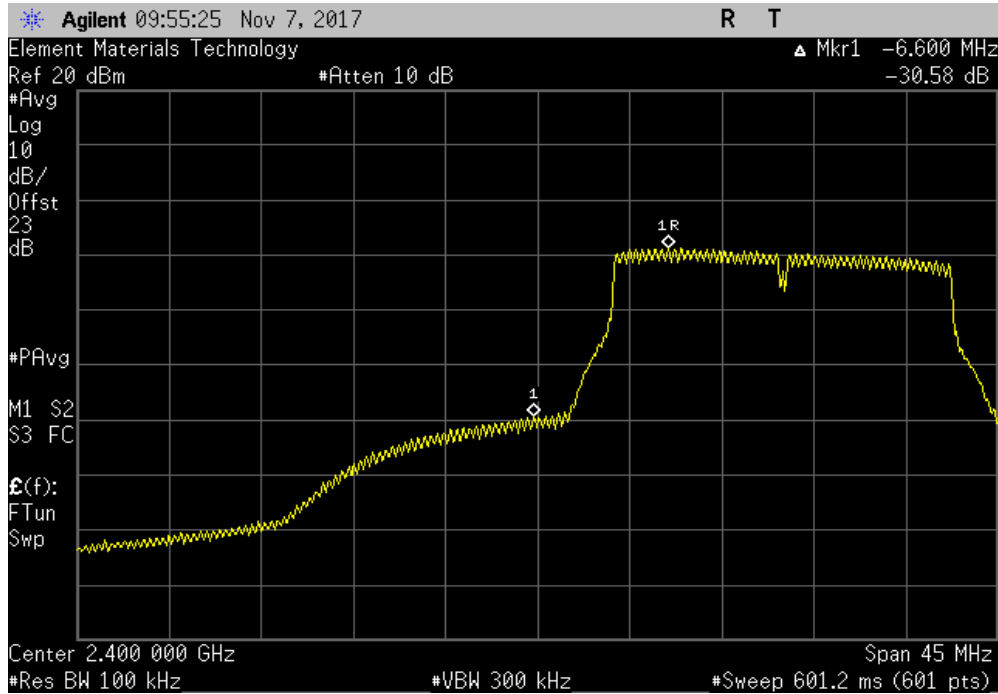


# BAND EDGE COMPLIANCE

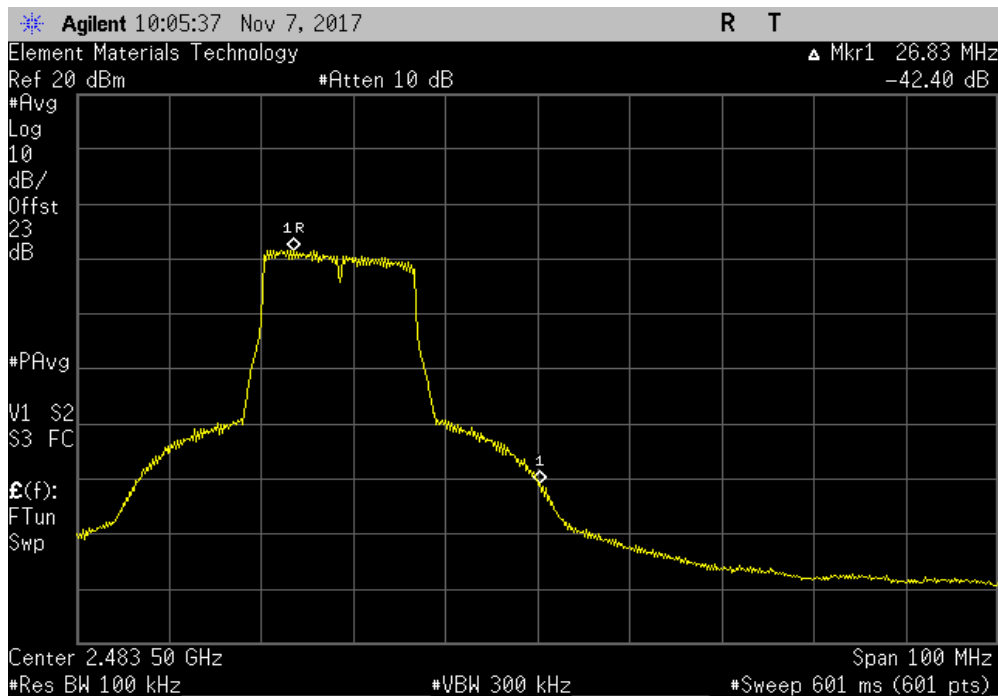


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-30.58	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-42.4	-30	Pass

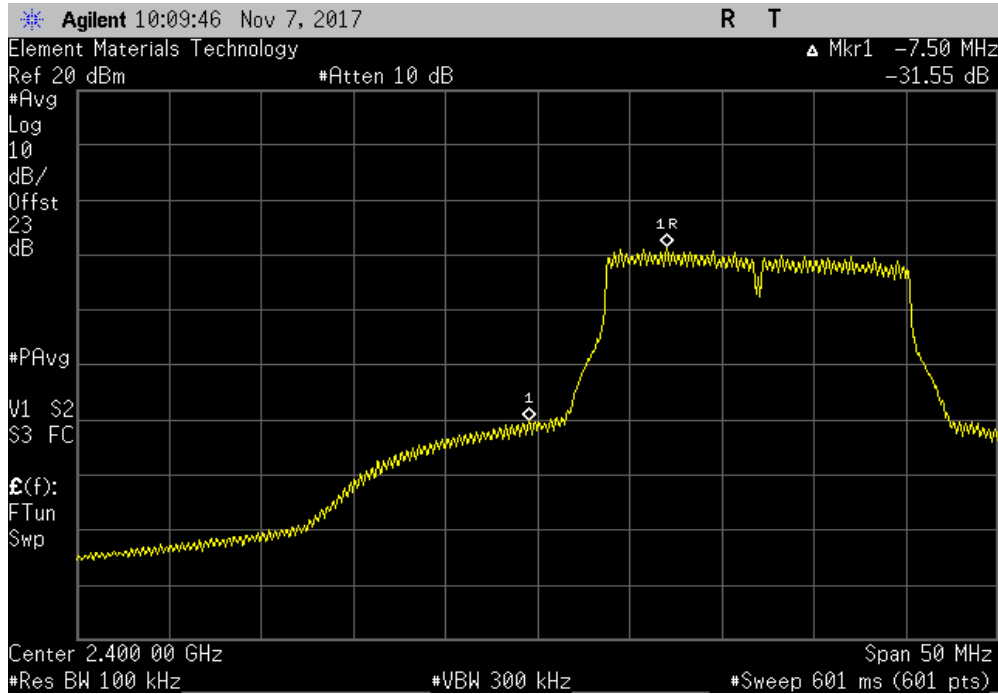


# BAND EDGE COMPLIANCE

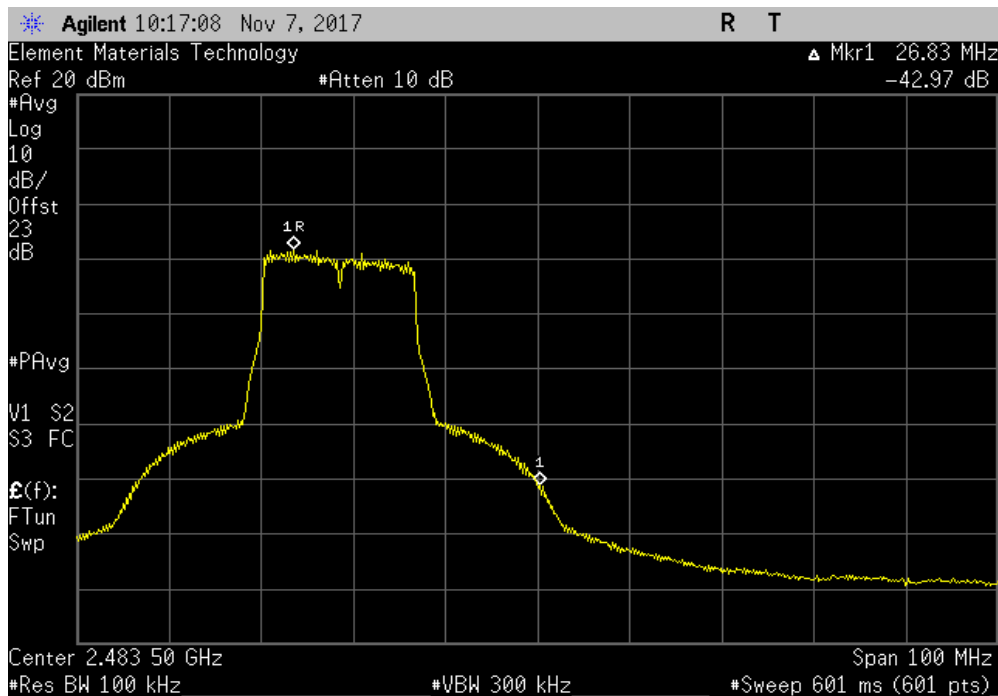


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.55	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-42.97	-30	Pass

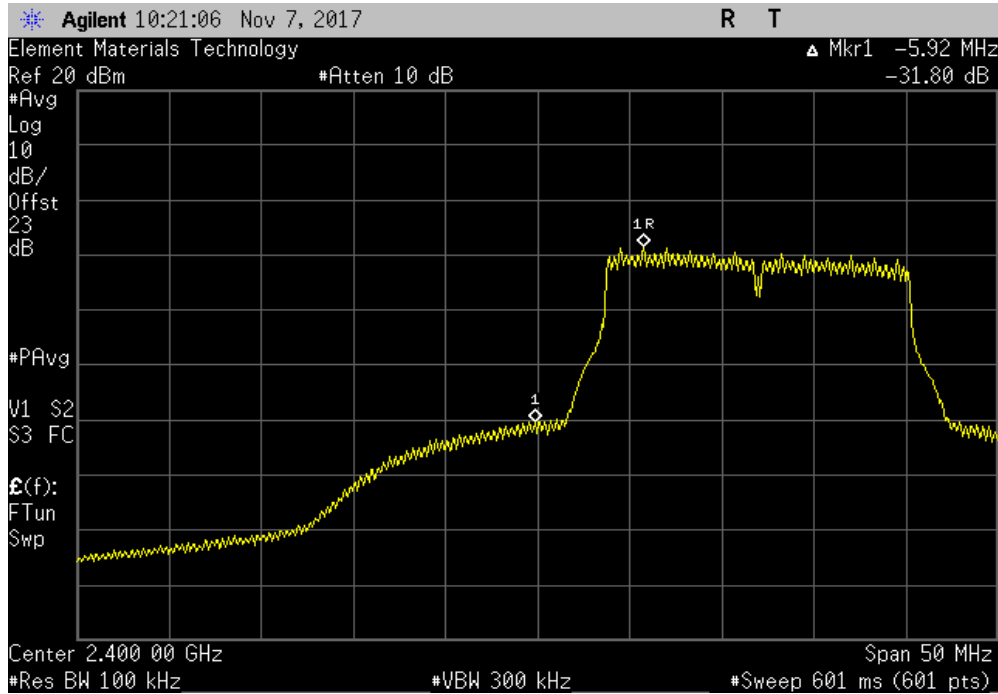


# BAND EDGE COMPLIANCE

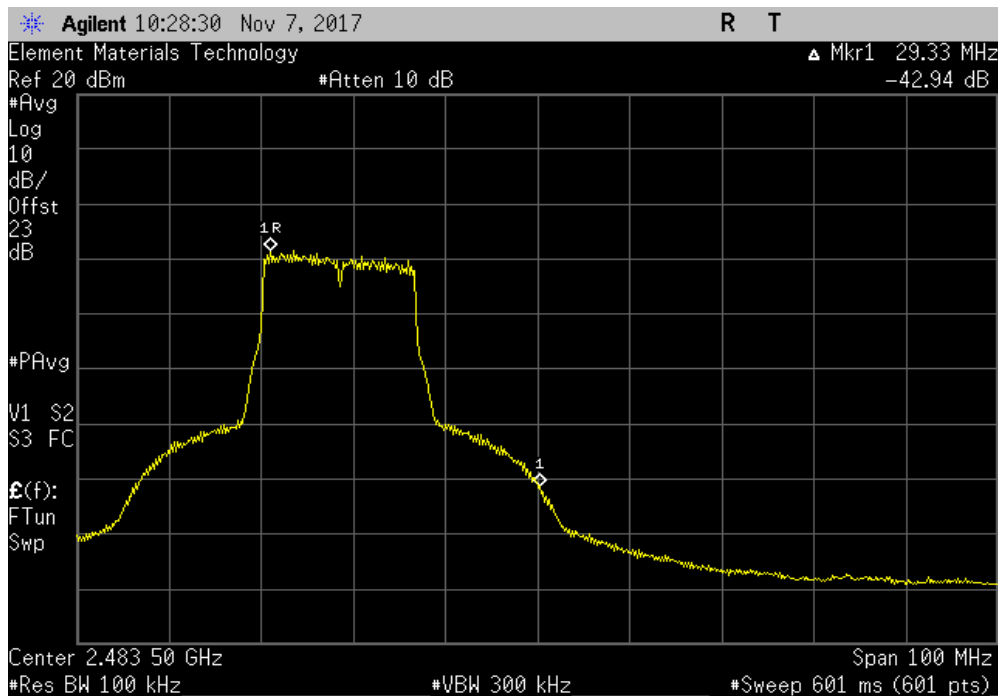


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.81	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-42.94	-30	Pass

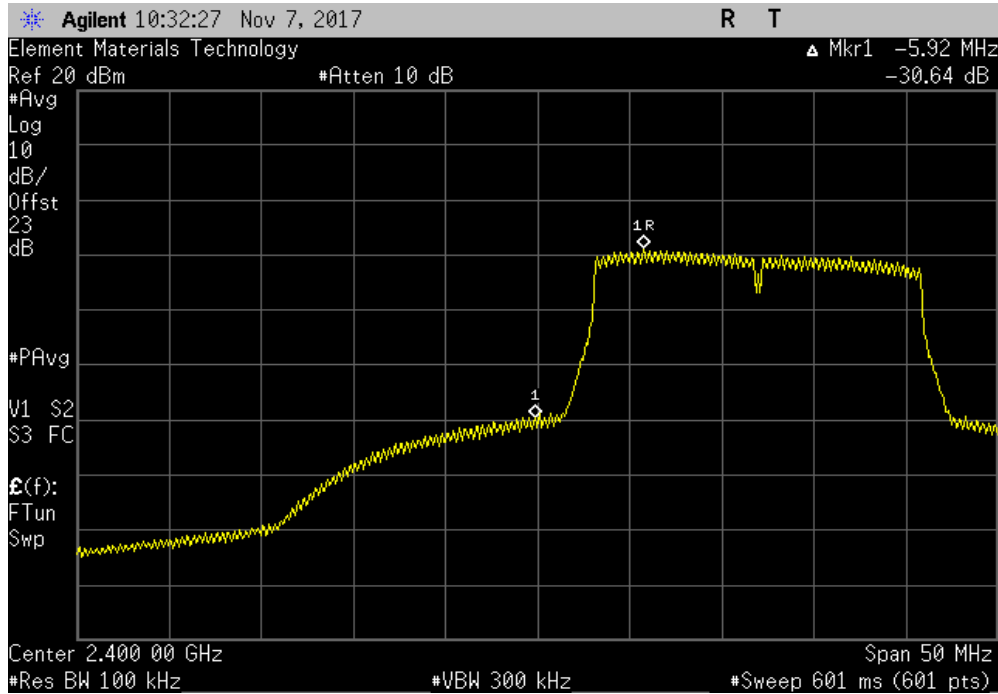


# BAND EDGE COMPLIANCE

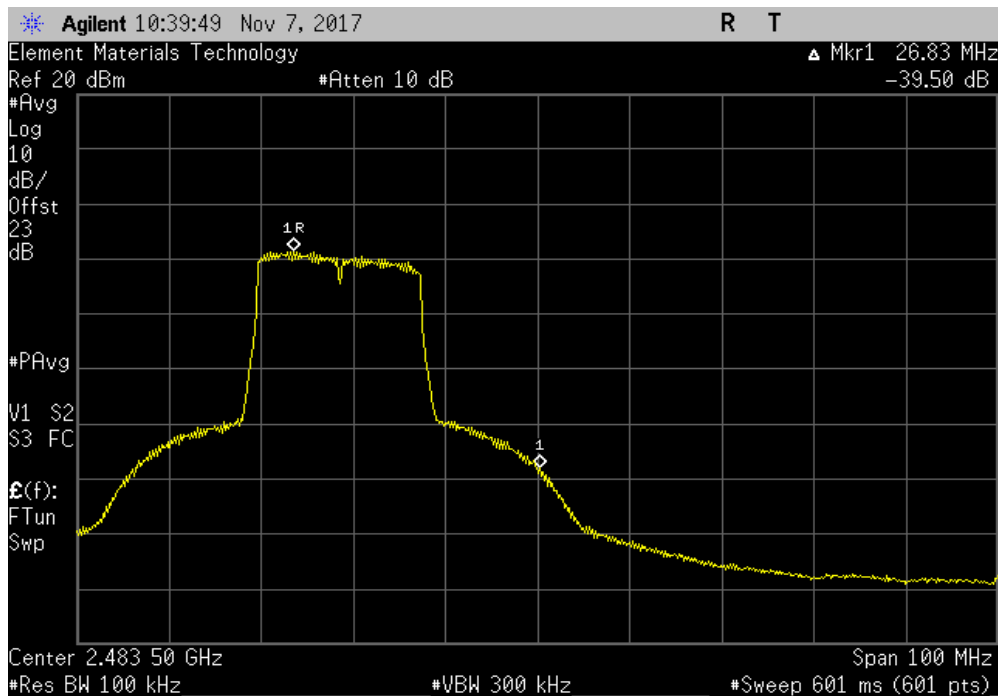


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-30.64	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.5	-30	Pass



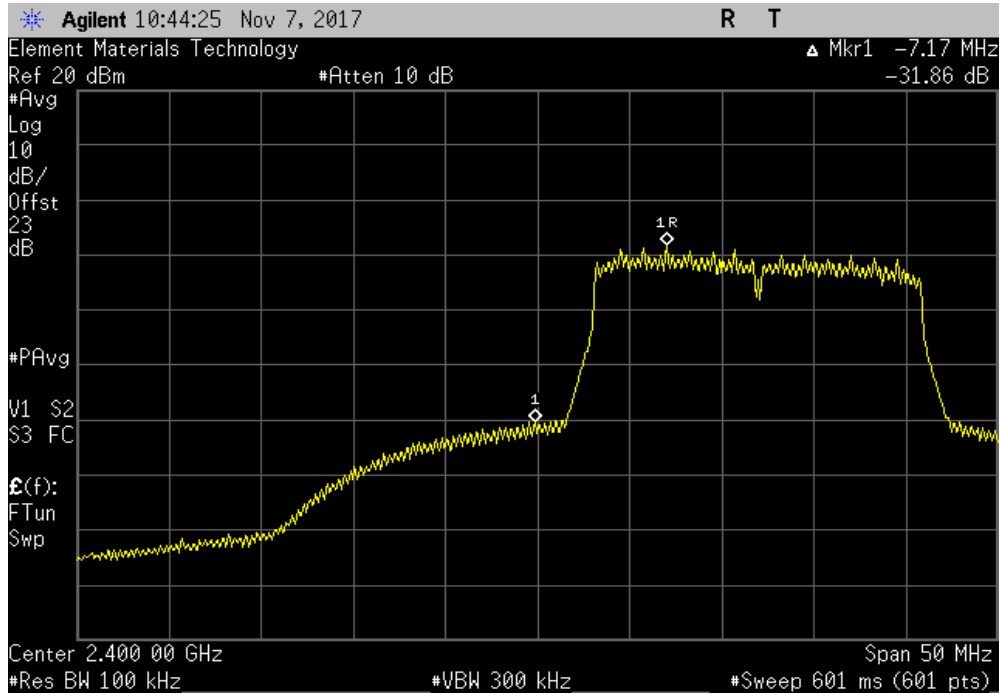


# BAND EDGE COMPLIANCE

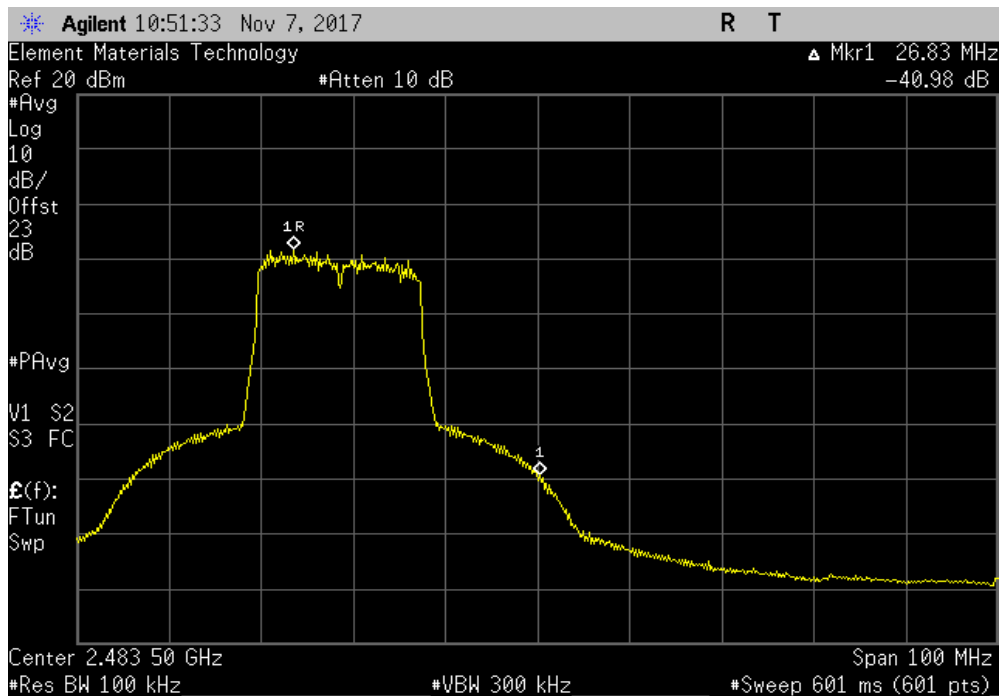


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-31.86	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-40.98	-30	Pass



# SPURIOUS CONDUCTED EMISSIONS



XMI 2017.09.21

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	N5183A	TIK	29-Sep-17	29-Sep-20
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-17	11-Sep-18
Attenuator	S.M. Electronics	SA26B-20	RFW	14-Feb-17	14-Feb-18
Block - DC	Fairview Microwave	SD3379	AMI	12-Sep-17	12-Sep-18
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-17	16-Mar-18

## 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



TstTx 2017.10.04 XMI 2017.09.21

EUT: Activity Tracking Belt		Work Order: DGII0263	
Serial Number: F8F005FF1522		Date: 7-Nov-17	
Customer: Digi International Inc		Temperature: 21.9 °C	
Attendees: Collin LaFave		Humidity: 22.7% RH	
Project: None		Barometric Pres.: 1033 mbar	
Tested by: Dustin Sparks		Power: 5VDC	
Job Site: MN08		Test Method	
TEST SPECIFICATIONS		ANSI C63.10:2013	
FCC 15.247:2017			
COMMENTS			
EUT powered by USB connection			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Dustin Sparks</i>	

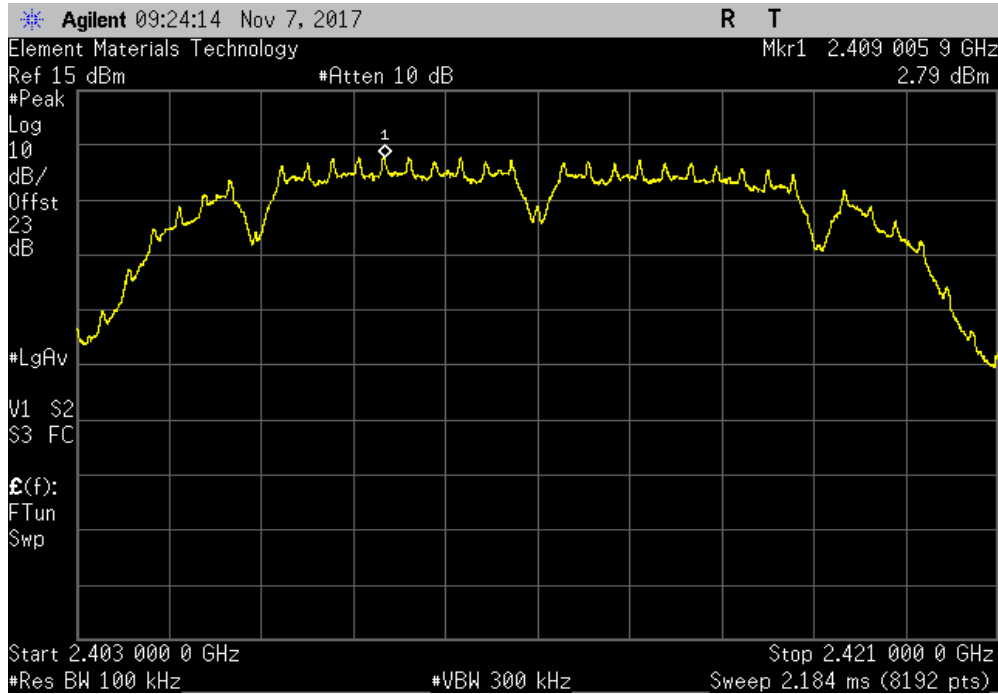
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	Fundamental	N/A	N/A
Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	-52.82	-30
Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	-54.17	-30
Mid Channel 6, 2437 MHz	Fundamental	N/A	N/A
Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	-53.74	-30
Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	-54.09	-30
High Channel 11, 2462 MHz	Fundamental	N/A	N/A
High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	-53.63	-30
High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	-54.29	-30

# SPURIOUS CONDUCTED EMISSIONS

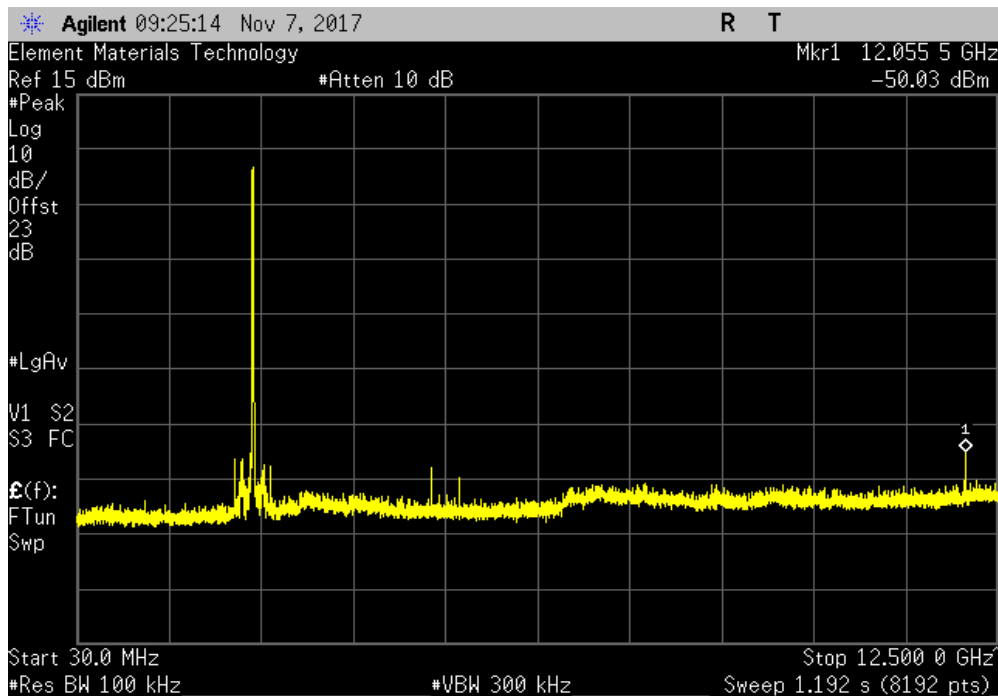


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental		N/A	N/A	N/A	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz		-52.82	-30	Pass	

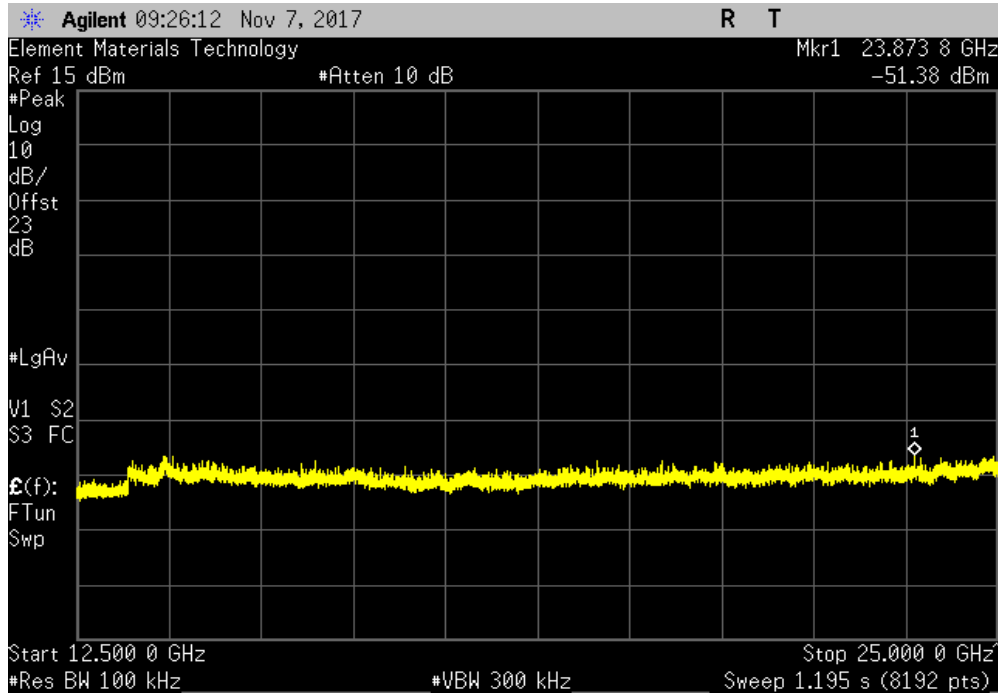


# SPURIOUS CONDUCTED EMISSIONS

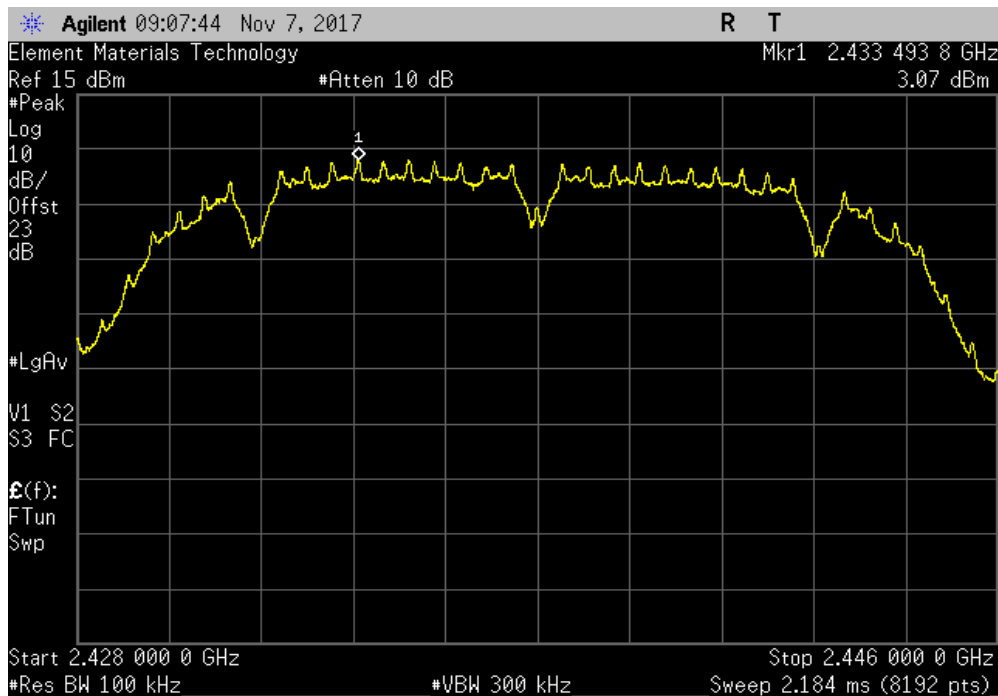


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.17	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

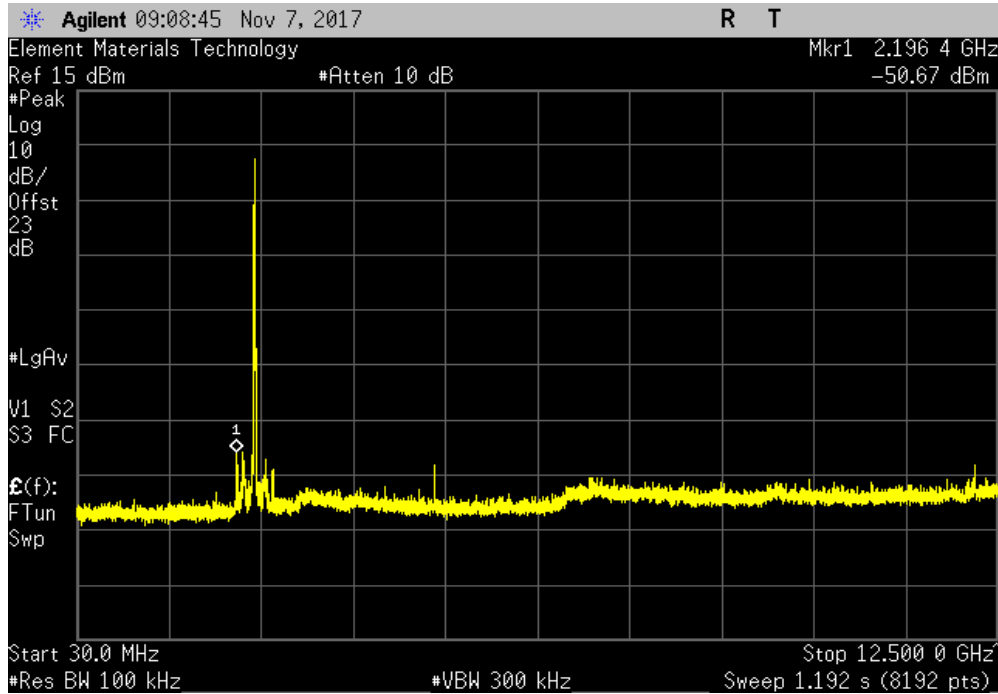


# SPURIOUS CONDUCTED EMISSIONS

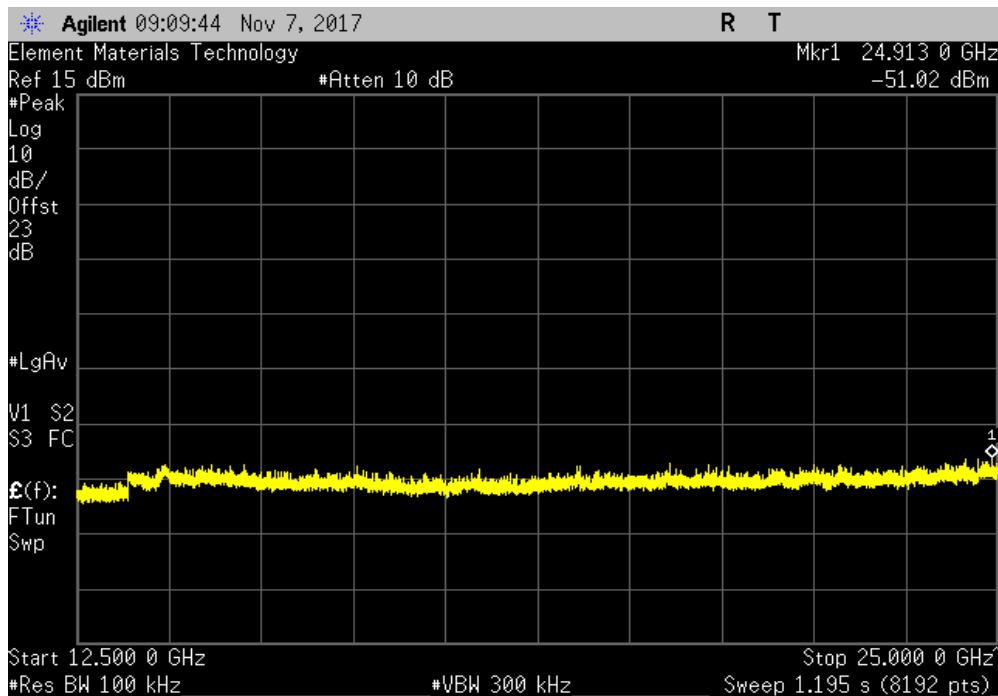


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-53.74	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.09	-30	Pass	

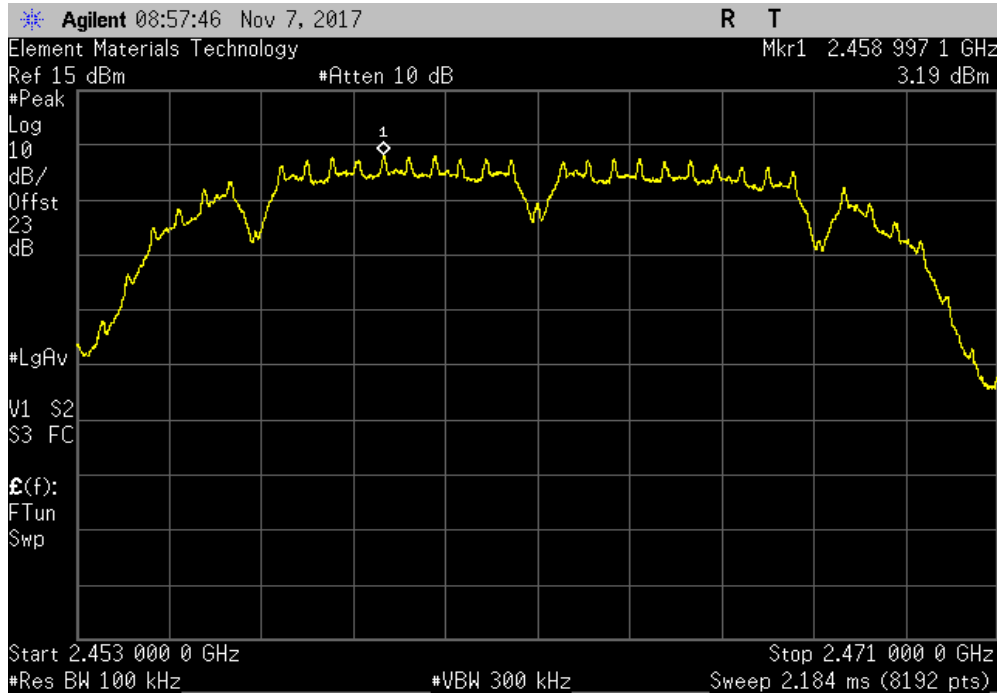


# SPURIOUS CONDUCTED EMISSIONS

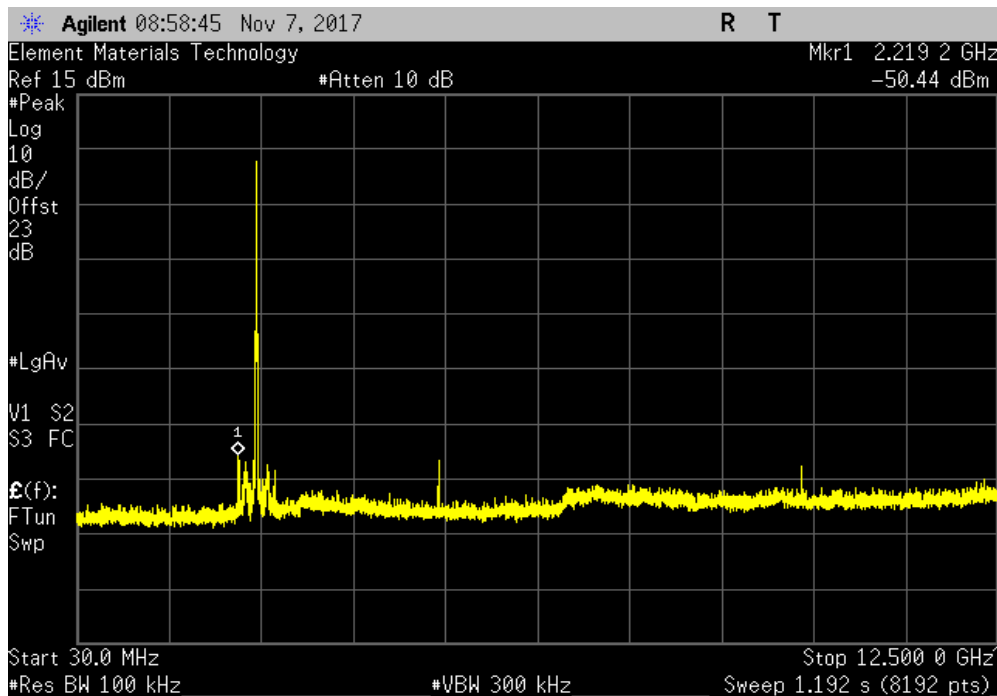


TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	-53.63	-30	Pass		



# SPURIOUS CONDUCTED EMISSIONS



TMTX 2017.10.04 XMI 2017.09.21

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-54.29	-30	Pass	

