



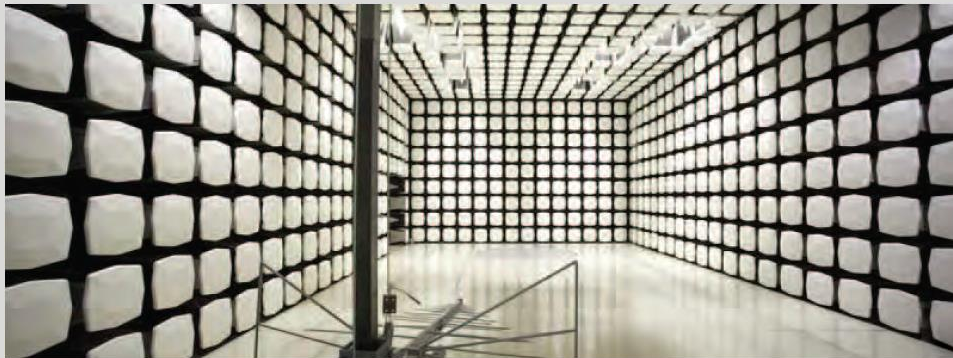
element

A-dec, Inc.

A-dec Gateway

**802.11bgn
FCC 15.247:2020**

Report: A-DE0149, Issue Date: March 31, 2021



NVLAP LAB CODE: 200630-0



This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. This Report shall not be reproduced, except in full without written approval of the laboratory.

EAR-Controlled Data - This document contains technical data whose export and reexport/retransfer is subject to control by the U.S. Department of Commerce under the Export Administration Act and the Export Administration Regulations. The Department of Commerce's prior written approval may be required for the export or re-export/retransfer of such technical data to any foreign person, foreign entity or foreign organization whether in the United States or abroad.

CERTIFICATE OF TEST

Last Date of Test: December 7, 2020

A-dec, Inc.

EUT: A-dec Gateway

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2020	ANSI C63.10:2013, KDB 558074
FCC 15.247:2020	

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.2.2.4	Output Power	Yes	Pass	
11.9.2.2.4	Equivalent Isotropic Radiated 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	Yes	Pass	

Deviations From Test Standards

None

Approved By:



Kyle Holgate, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows 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) and as a CAB for the acceptance of test data.

European Union

European Commission – Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

Australia/New Zealand

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

Korea

MSIT / 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

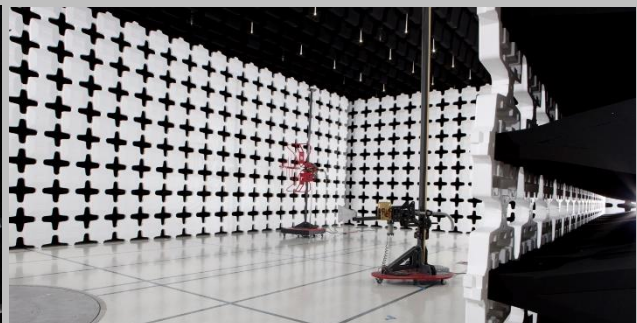
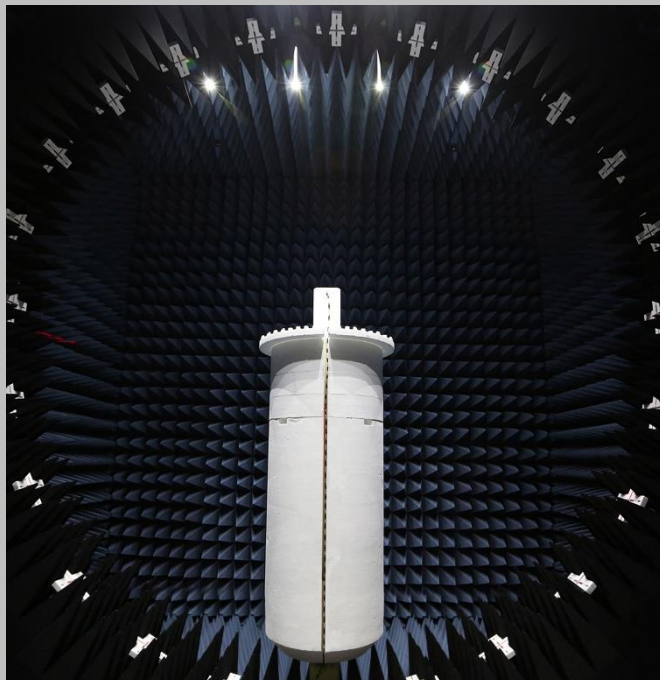
For details on the Scopes of our Accreditations, please visit:

<https://www.nwemc.com/emc-testing-accreditations>

FACILITIES



California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP				
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRR, MIC, MOC, NCC, OFCA				
US0158	US0175	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.

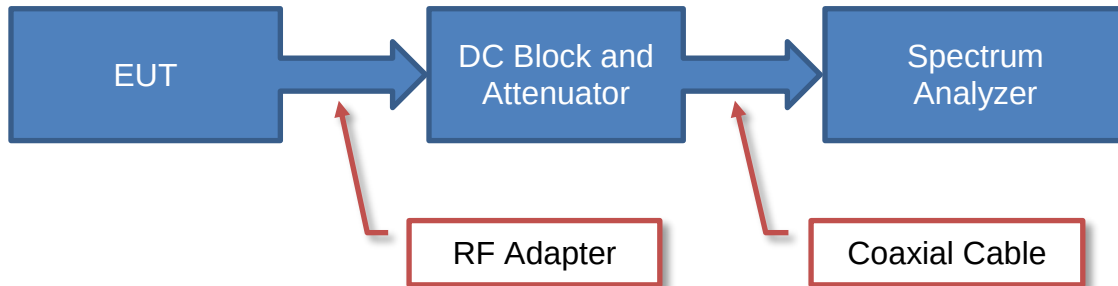
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable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

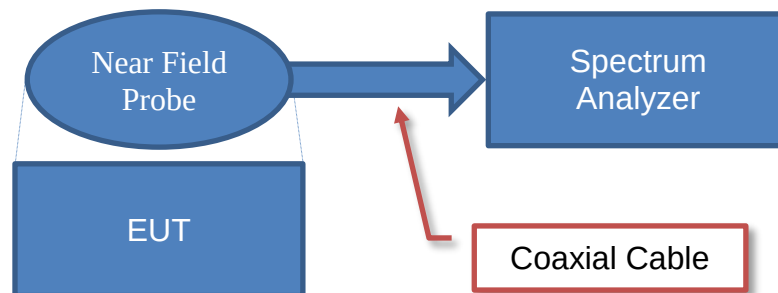
Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.6 dB	-2.6 dB

Test Setup Block Diagrams

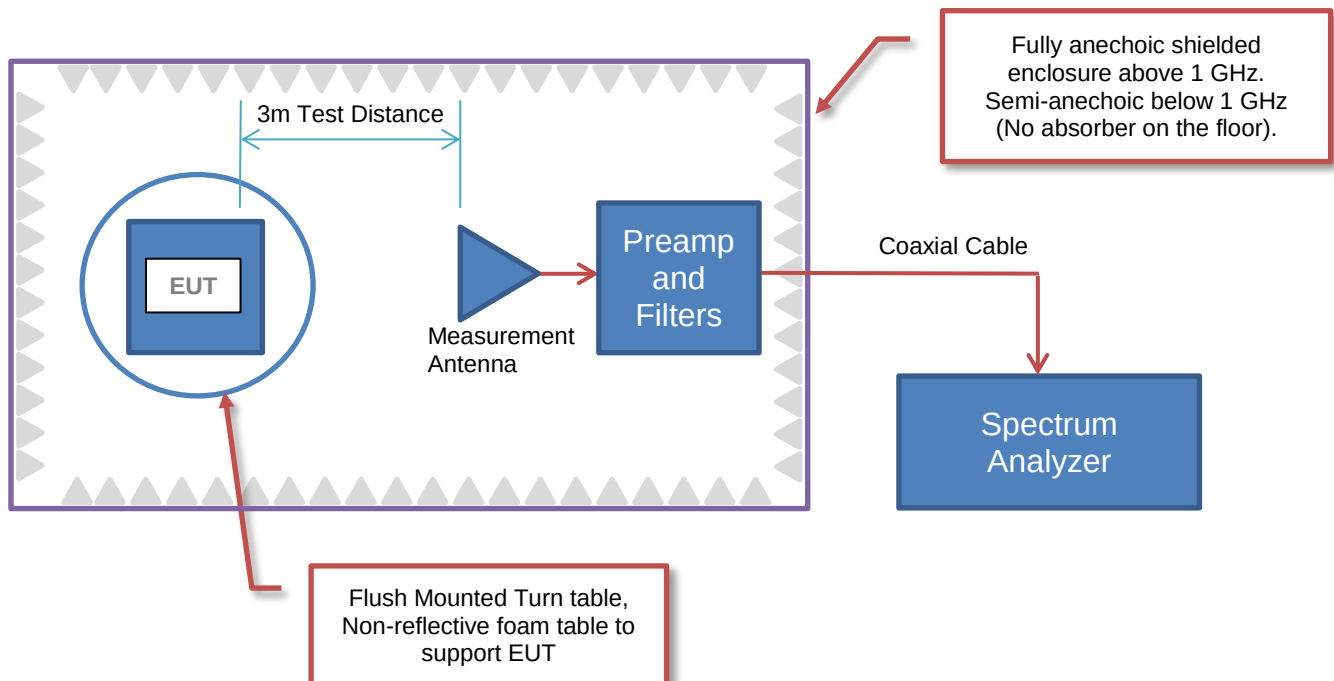
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	A-dec, Inc.
Address:	2601 Crestview Drive, Building 4
City, State, Zip:	Newberg, OR 97132-9528
Test Requested By:	Michael Yurkoski
EUT:	A-dec Gateway
First Date of Test:	November 23, 2020
Last Date of Test:	December 7, 2020
Receipt Date of Samples:	November 17, 2020
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Network Gateway
Testing Objective:
To demonstrate compliance of the 802.11 radio under FCC 15.247 for operation in the 2.4 GHz band.

POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information.

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
Ceramic Chip	Manufacturer	2400 - 2500	2.2

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

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types	Channel Bandwidths	Channel	Position	Frequency (MHz)	Power Setting
1 Mbps	20	1	Low Channel	2412	12.5
		6	Mid Channel	2437	12.5
		11	High Channel	2462	12.5
11 Mbps	20	1	Low Channel	2412	12.5
		6	Mid Channel	2437	12.5
		11	High Channel	2462	12.5
6 Mbps	20	1	Low Channel	2412	13
		6	Mid Channel	2437	13
		11	High Channel	2462	13
36 Mbps	20	1	Low Channel	2412	13
		6	Mid Channel	2437	13
		11	High Channel	2462	13
54 Mbps	20	1	Low Channel	2412	13
		6	Mid Channel	2437	13
		11	High Channel	2462	13
MCS0	20	1	Low Channel	2412	12
		6	Mid Channel	2437	12
		11	High Channel	2462	12
MCS7	20	1	Low Channel	2412	12
		6	Mid Channel	2437	12
		11	High Channel	2462	12

CONFIGURATIONS

Configuration A-DE0149- 1

Software/Firmware Running during test	
Description	Version
Murata Test Firmware	None

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Access Point / IoT Device	A-dec, Inc.	43.0531.00	521O041984

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Dell	Latitude E7470	BRXX1G2

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Serial to USB	Yes	2.0 m	No	Laptop	Wireless Access Point / IoT Device
DC Power	Yes	1.5 m	No	ITE Power Supply	Wireless Access Point / IoT Device

CONFIGURATIONS

Configuration A-DE0149- 2

Software/Firmware Running during test	
Description	Version
Murata Test Firmware	None

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Wireless Access Point / IoT Device	A-dec, Inc.	43.0531.00	521O041985

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Dell	Latitude E7470	BRXX1G2

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Serial to USB	Yes	2.0 m	No	Laptop	Wireless Access Point / IoT Device
DC Power	Yes	1.5 m	No	ITE Power Supply	Wireless Access Point / IoT Device
Ethernet	No	5.5 m	No	Laptop	Wireless Access Point / IoT Device
CAN	No	7.6 m	No	Unterminated	Wireless Access Point / IoT Device
CAN FD	No	7.6 m	No	Unterminated	Wireless Access Point / IoT Device

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2020-11-23	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	2020-12-02	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.
3	2020-12-02	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	2020-12-02	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	2020-12-02	Equivalent Isotropic Radiated 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.
6	2020-12-02	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.
7	2020-12-02	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.
8	2020-12-02	Spurious Conducted 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.
9	2020-12-07	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESCI	ARH	2020-05-13	2021-05-13
Cable - Conducted Cable Assembly	Northwest EMC	EVG, HHD, RKT	EVGA	2020-01-06	2021-01-06
LISN	Solar Electronics	9252-50-R-24-BNC	LIP	2020-08-31	2021-08-31

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.6 dB	-2.6 dB

CONFIGURATIONS INVESTIGATED

A-DE0149-2

MODES INVESTIGATED

Continuous Tx, 802.11bgn, Ch. 6 = 2437 MHz, 1 Mbps

POWERLINE CONDUCTED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0149
Serial Number:	521O041985	Date:	2020-12-07
Customer:	A-dec, Inc.	Temperature:	23.5°C
Attendees:	Spencer Warneke	Relative Humidity:	32.5%
Customer Project:	None	Bar. Pressure:	1032 mb
Tested By:	Jeff Alcock	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	A-DE0149-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	2	Line:	High Line	Add. Ext. Attenuation (dB):	0
--------	---	-------	-----------	-----------------------------	---

COMMENTS

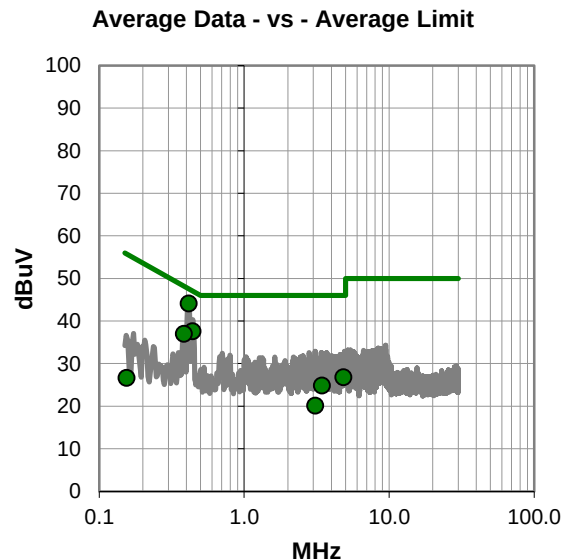
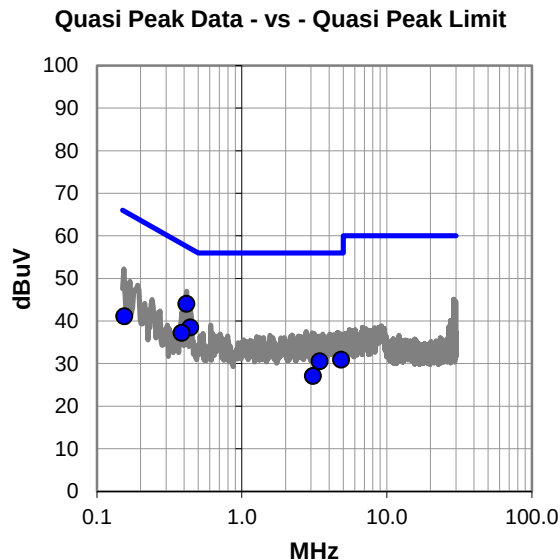
None

EUT OPERATING MODES

Continuous Tx, 802.11bgn, Ch. 6 = 2437 MHz, 1 Mbps

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #2

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.415	24.1	19.9	44.0	57.5	-13.5
0.441	18.6	19.9	38.5	57.0	-18.5
0.385	17.3	19.9	37.2	58.2	-21.0
0.154	21.1	20.0	41.1	65.8	-24.7
4.851	10.8	20.1	30.9	56.0	-25.1
3.440	10.4	20.1	30.5	56.0	-25.5
3.096	7.1	20.0	27.1	56.0	-28.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.415	24.2	19.9	44.1	47.5	-3.4
0.441	17.7	19.9	37.6	47.0	-9.4
0.385	17.1	19.9	37.0	48.2	-11.2
4.851	6.7	20.1	26.8	46.0	-19.2
3.440	4.7	20.1	24.8	46.0	-21.2
3.096	0.1	20.0	20.1	46.0	-25.9
0.154	6.6	20.0	26.6	55.8	-29.2

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0149
Serial Number:	521O041985	Date:	2020-12-07
Customer:	A-dec, Inc.	Temperature:	23.5°C
Attendees:	Spencer Warneke	Relative Humidity:	32.5%
Customer Project:	None	Bar. Pressure:	1032 mb
Tested By:	Jeff Alcock	Job Site:	EV07
Power:	110VAC/60Hz	Configuration:	A-DE0149-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2020	ANSI C63.10:2013

TEST PARAMETERS

Run #:	3	Line:	Neutral	Add. Ext. Attenuation (dB):	0
--------	---	-------	---------	-----------------------------	---

COMMENTS

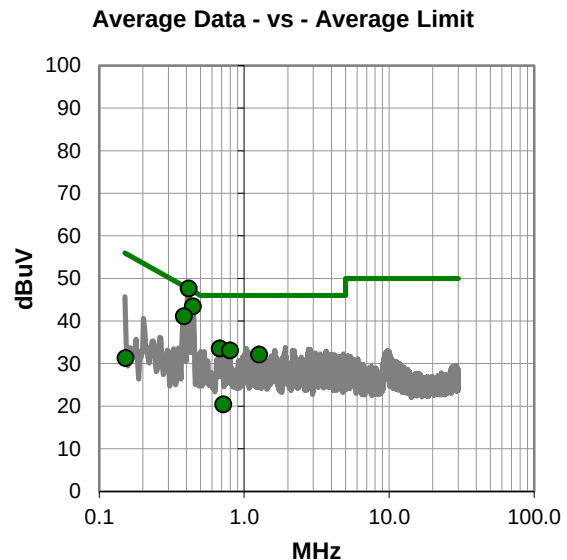
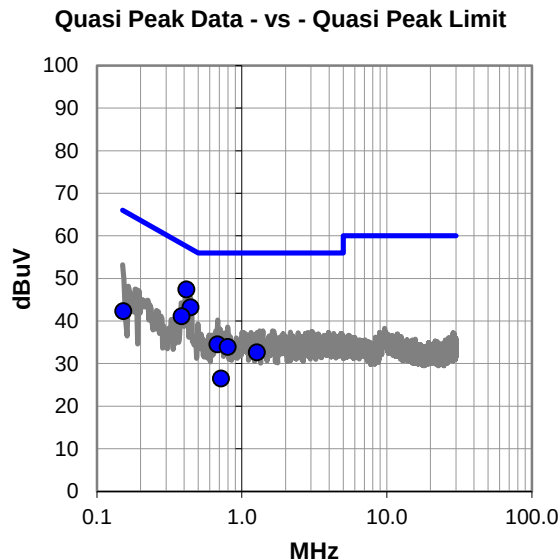
None

EUT OPERATING MODES

Continuous Tx, 802.11bgn, Ch. 6 = 2437 MHz, 1 Mbps

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.414	27.5	19.9	47.4	57.6	-10.2
0.444	23.3	19.9	43.2	57.0	-13.8
0.385	21.2	19.9	41.1	58.2	-17.1
0.680	14.6	19.9	34.5	56.0	-21.5
0.800	14.0	19.9	33.9	56.0	-22.1
1.271	12.7	19.9	32.6	56.0	-23.4
0.153	22.3	20.0	42.3	65.9	-23.6
0.719	6.6	19.9	26.5	56.0	-29.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.414	27.7	19.9	47.6	47.6	0.0
0.444	23.5	19.9	43.4	47.0	-3.6
0.385	21.2	19.9	41.1	48.2	-7.1
0.680	13.6	19.9	33.5	46.0	-12.5
0.800	13.2	19.9	33.1	46.0	-12.9
1.271	12.2	19.9	32.1	46.0	-13.9
0.153	11.3	20.0	31.3	55.9	-24.6
0.719	0.5	19.9	20.4	46.0	-25.6

CONCLUSION

Pass



Tested By

DUTY CYCLE



XMIT 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

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



TSTx 2019.08.30.0 XMR 2020.03.25.0

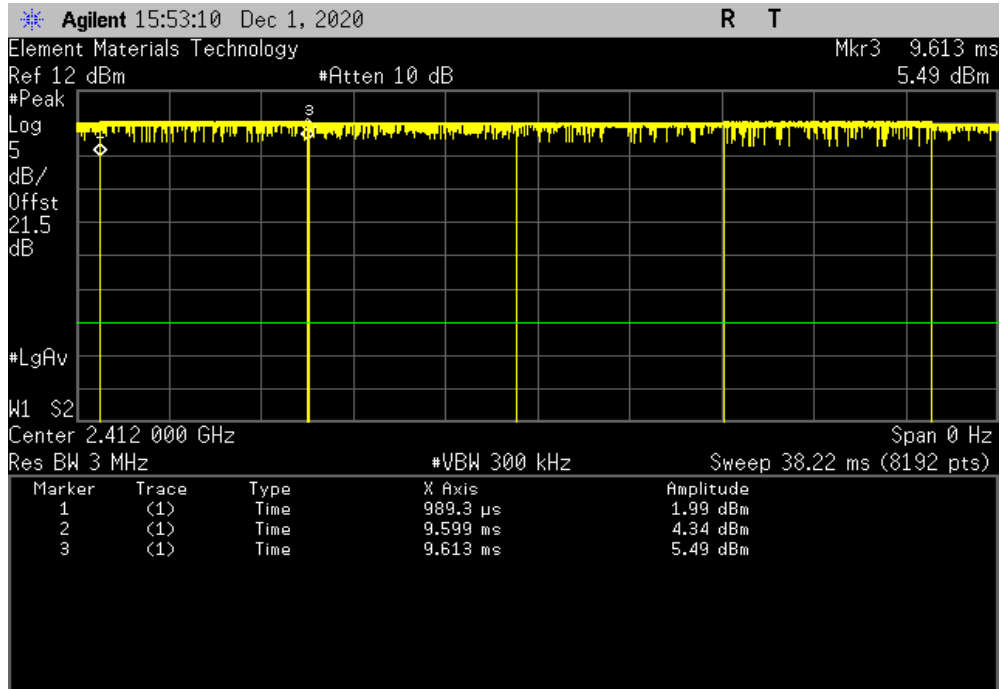
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.7 °C	
Attendees: Spencer Warneke		Humidity: 28% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcoke		Power: 110VAC/60Hz	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10-2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		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	8.61 ms	8.624 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	8.605 ms	8.619 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	8.61 ms	8.624 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	862.3 us	877.1 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	861.5 us	877.1 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	861.4 us	876.2 us
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	1.428 ms	1.45 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	1.429 ms	1.45 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	1.429 ms	1.45 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	256.4 us	278.5 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	256.5 us	278.6 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	256.3 us	278.6 us
	High Channel 11, 2462 MHz	N/A	N/A
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	180.4 us	202.4 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	180.5 us	202.5 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	180.4 us	202.5 us
	High Channel 11, 2462 MHz	N/A	N/A
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	1.337 ms	1.358 ms
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	1.337 ms	1.358 ms
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	1.337 ms	1.359 ms
	High Channel 11, 2462 MHz	N/A	N/A
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	168.5 us	190.3 us
	Low Channel 1, 2412 MHz	N/A	N/A
	Mid Channel 6, 2437 MHz	168.6 us	189.8 us
	Mid Channel 6, 2437 MHz	N/A	N/A
	High Channel 11, 2462 MHz	168.5 us	190.3 us
	High Channel 11, 2462 MHz	N/A	N/A

DUTY CYCLE

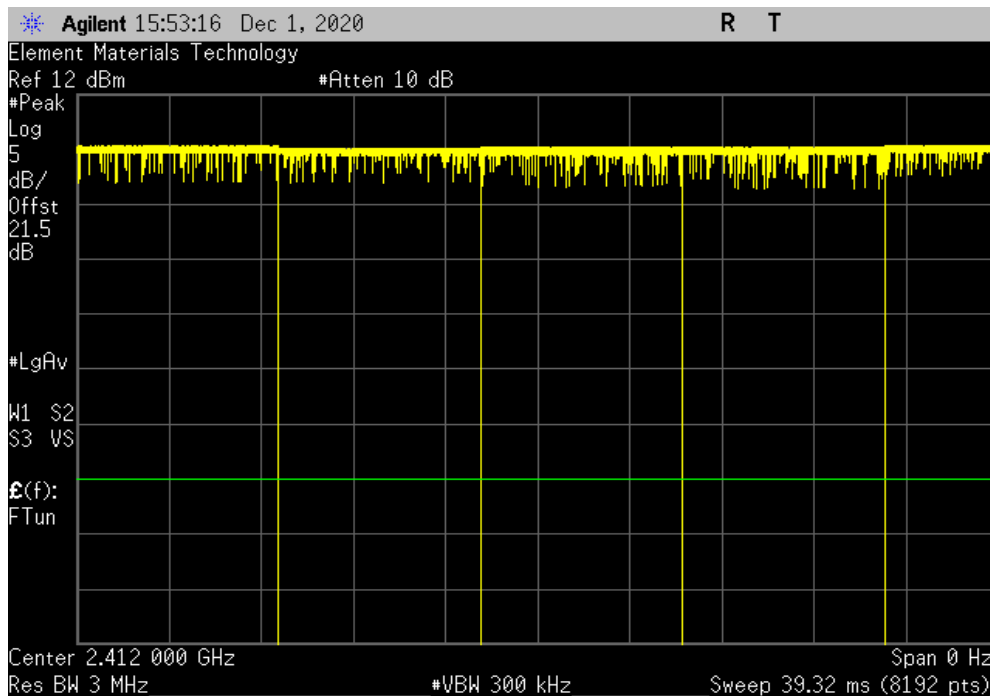


TbTx 2019.08.30.0 XMR 2020.03.25.0

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
	8.61 ms	8.624 ms	1	99.8	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

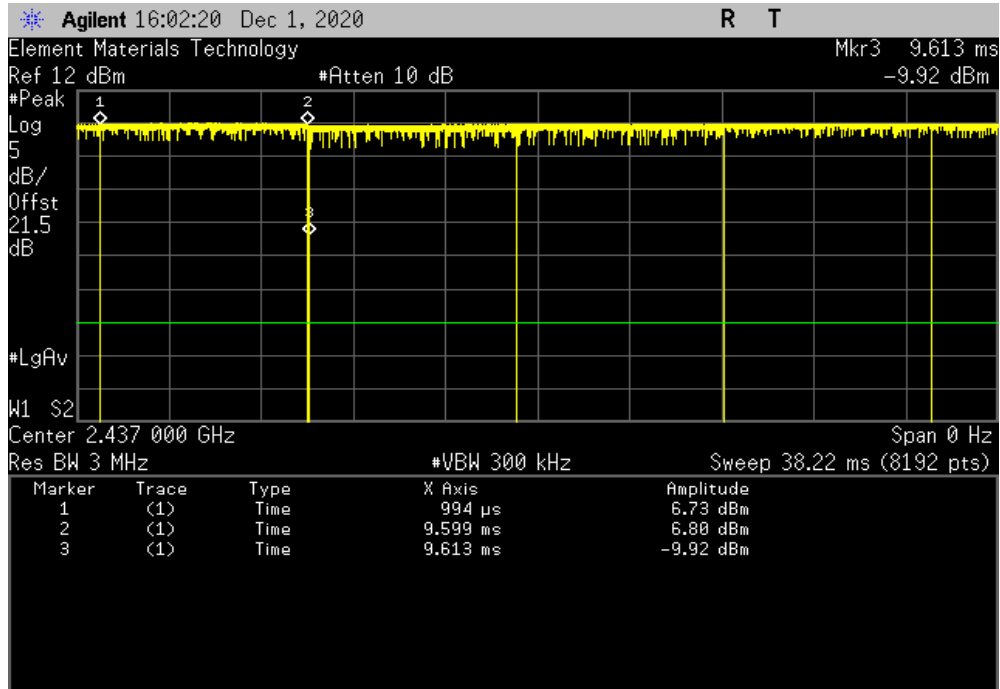


DUTY CYCLE

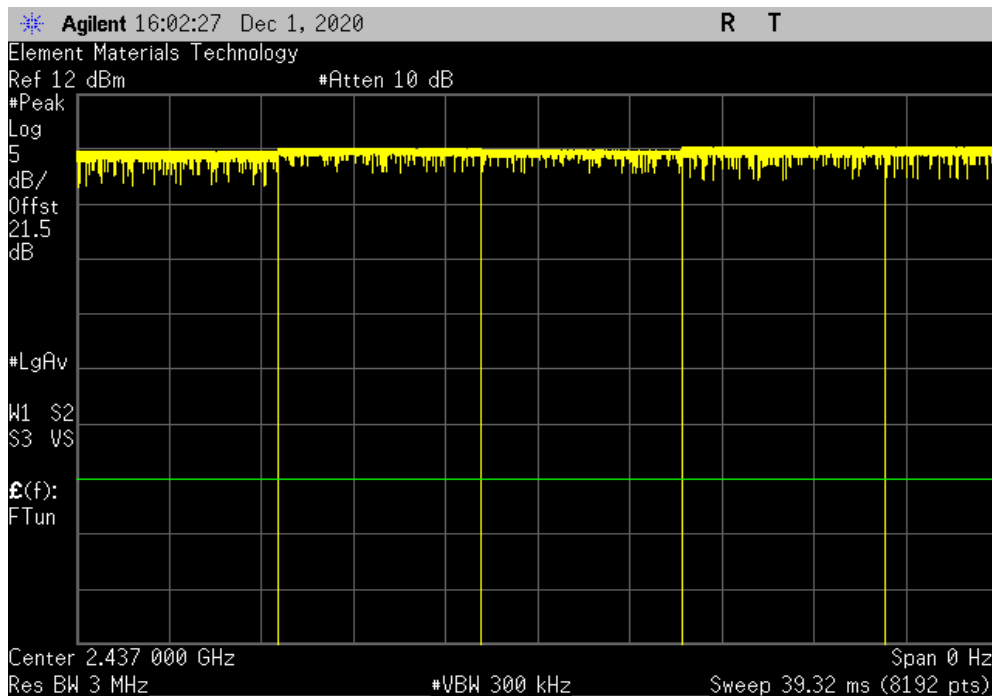


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
8.605 ms	8.619 ms	1	99.8	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	

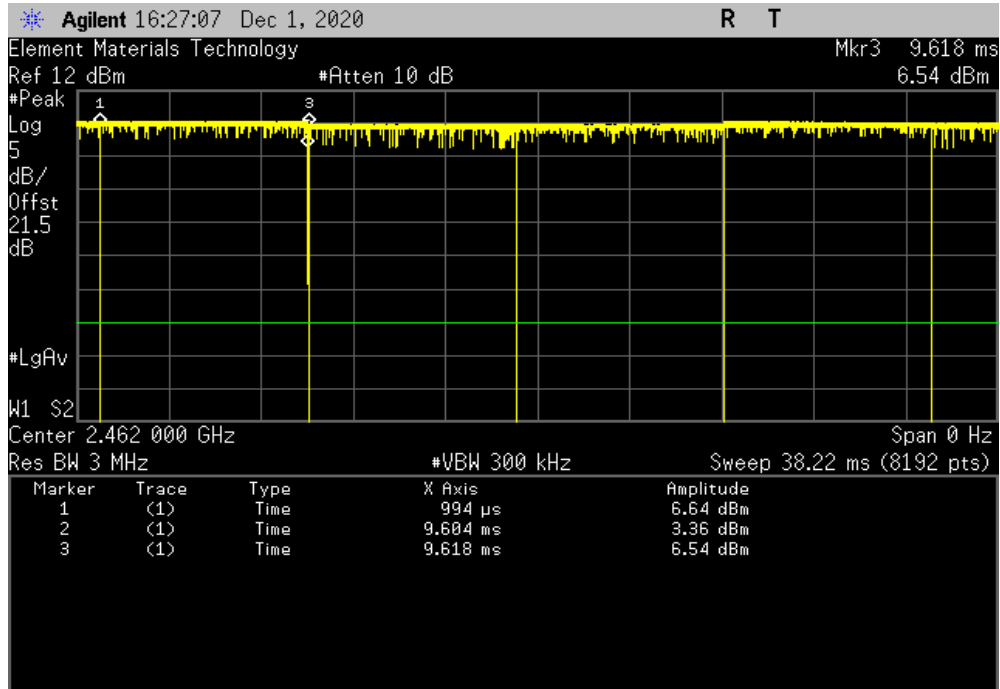


DUTY CYCLE

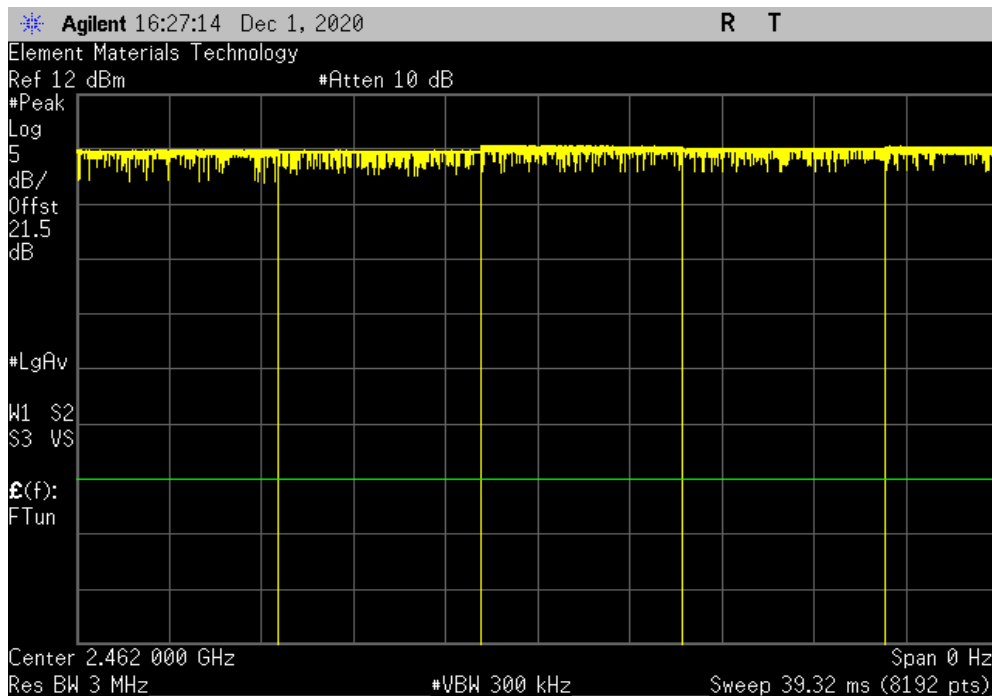


TbTx 2019.08.30.0 XMR 2020.03.25.0

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	
8.61 ms	8.624 ms	1	99.8	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	

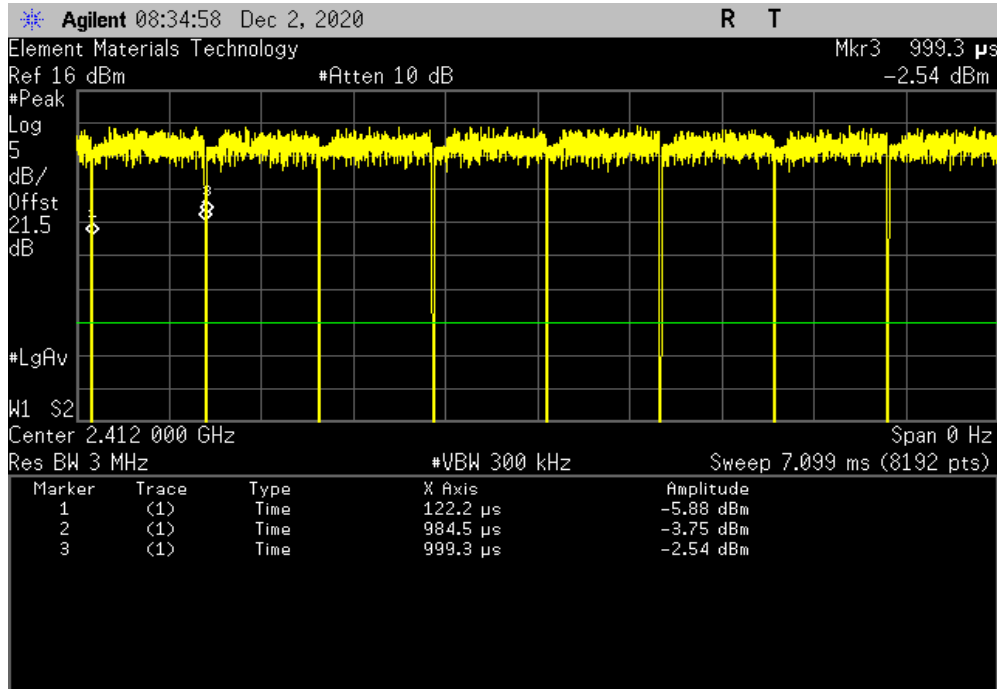


DUTY CYCLE

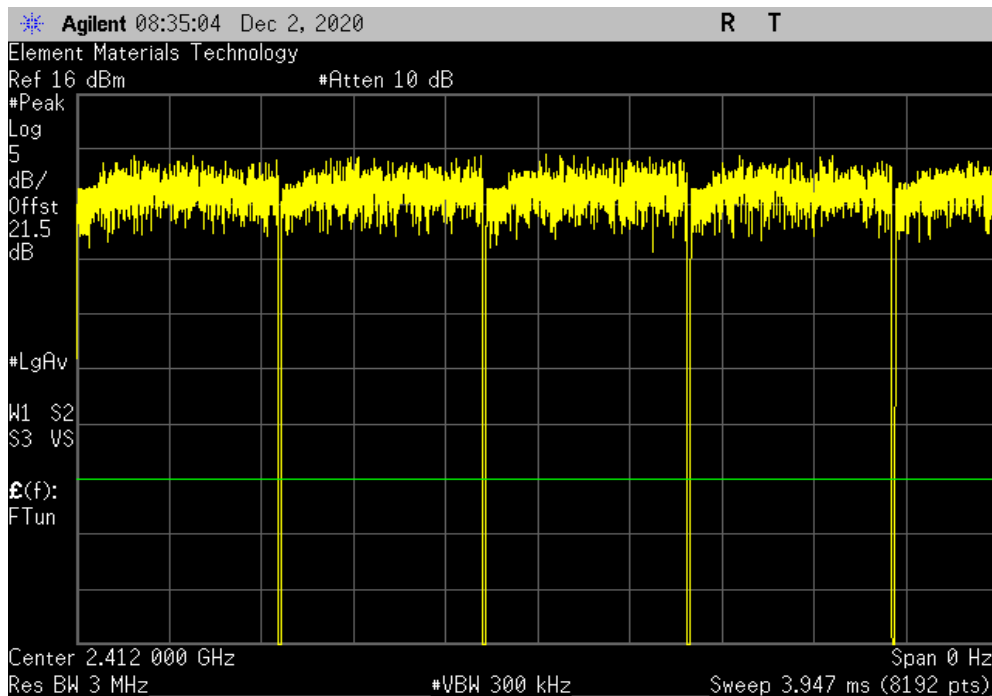


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
862.3 us	877.1 us	1	98.3	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	

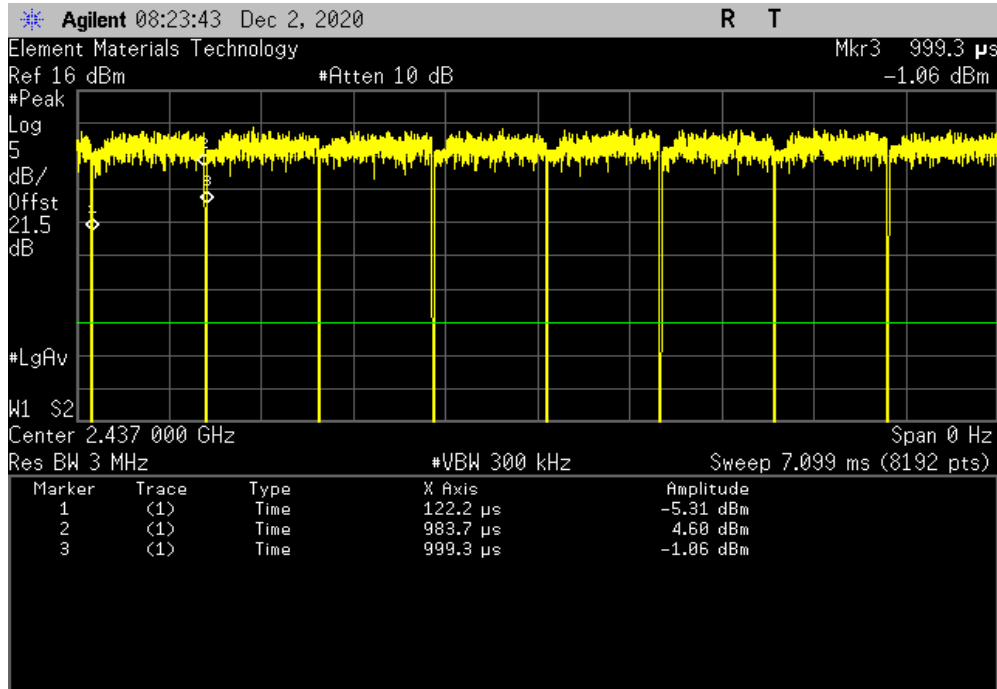


DUTY CYCLE

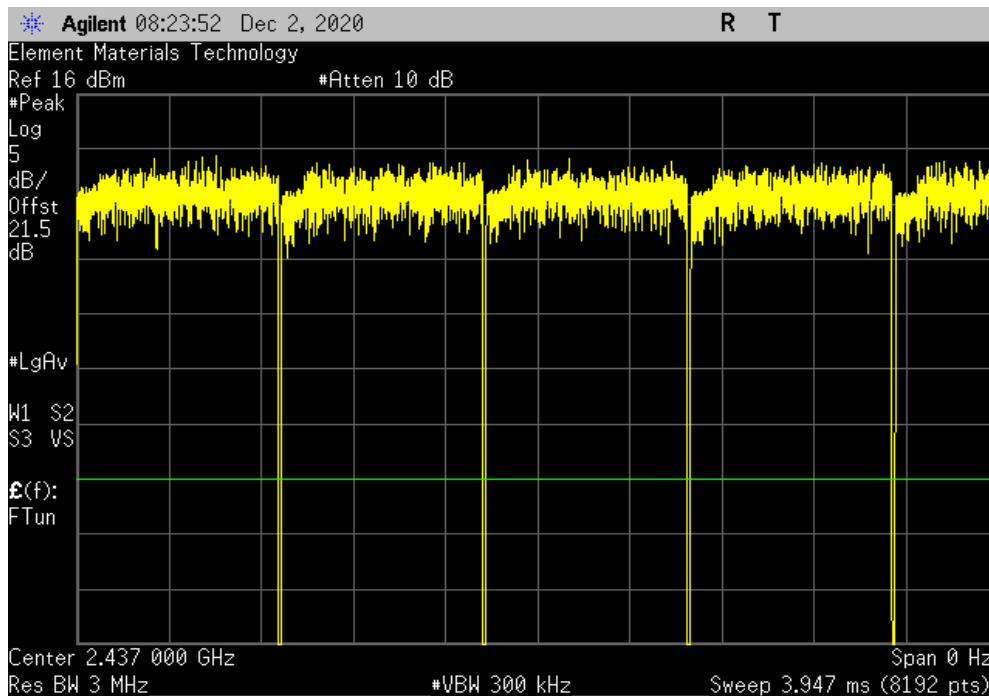


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
861.5 us	877.1 us	1	98.2	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	

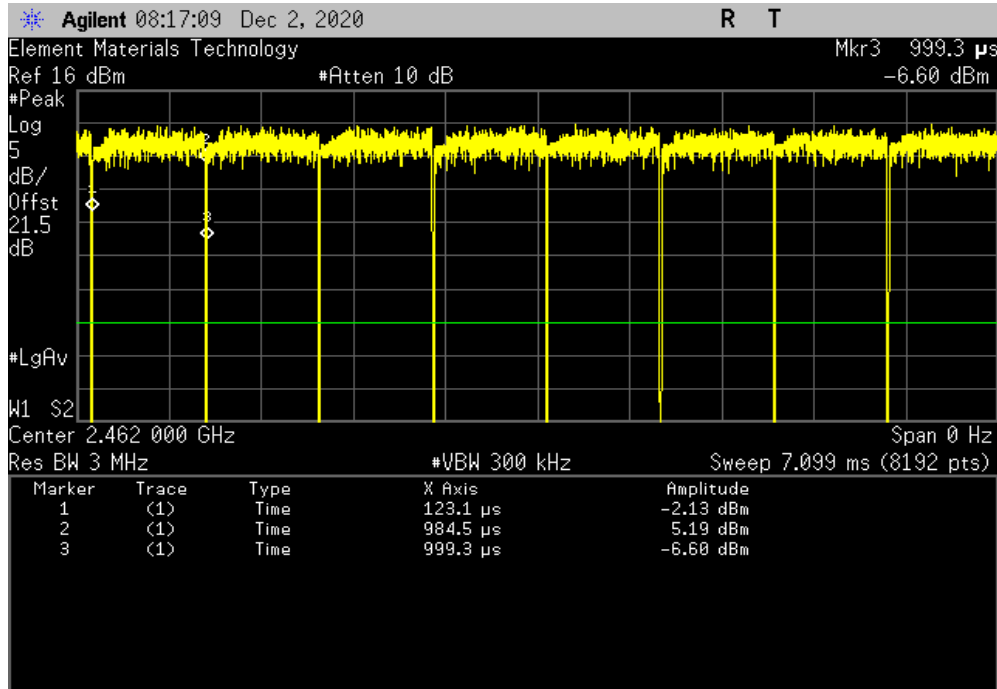


DUTY CYCLE

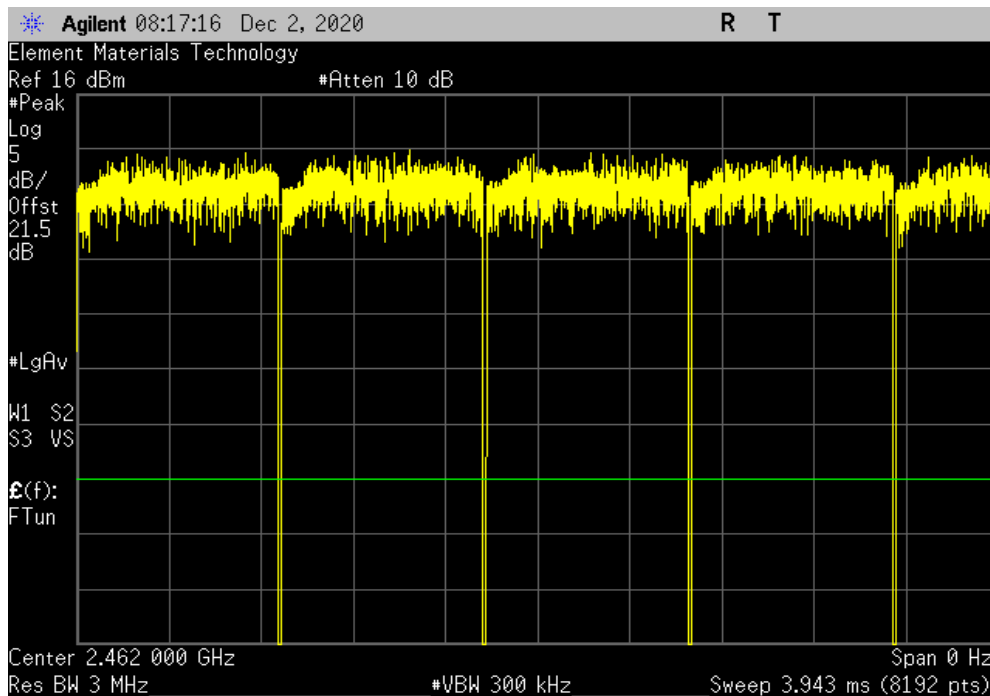


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
861.4 us	876.2 us	1	98.3	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	

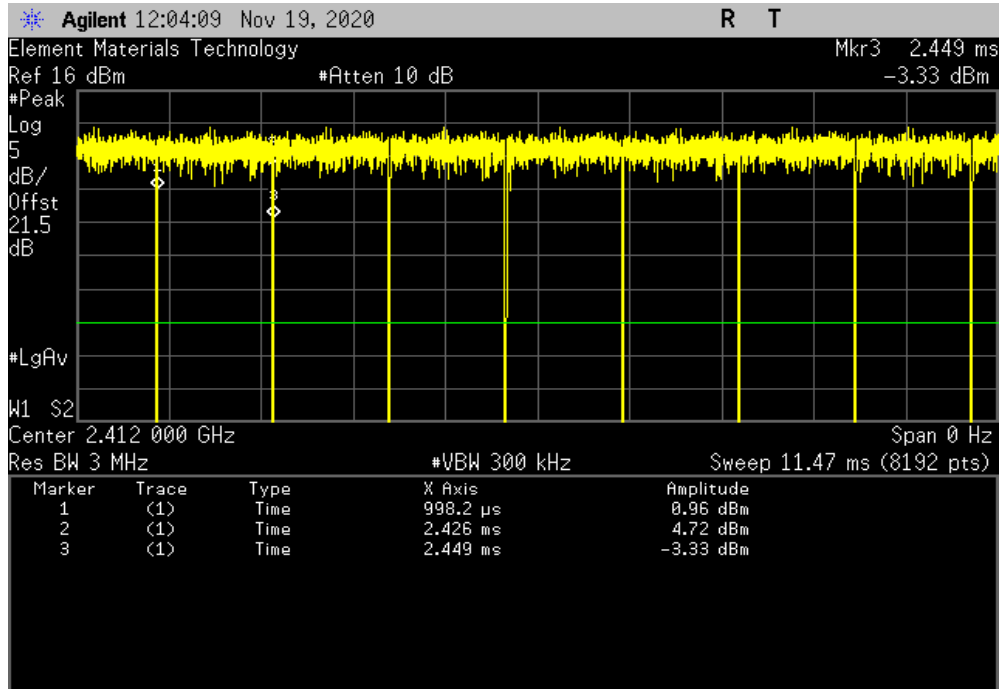


DUTY CYCLE

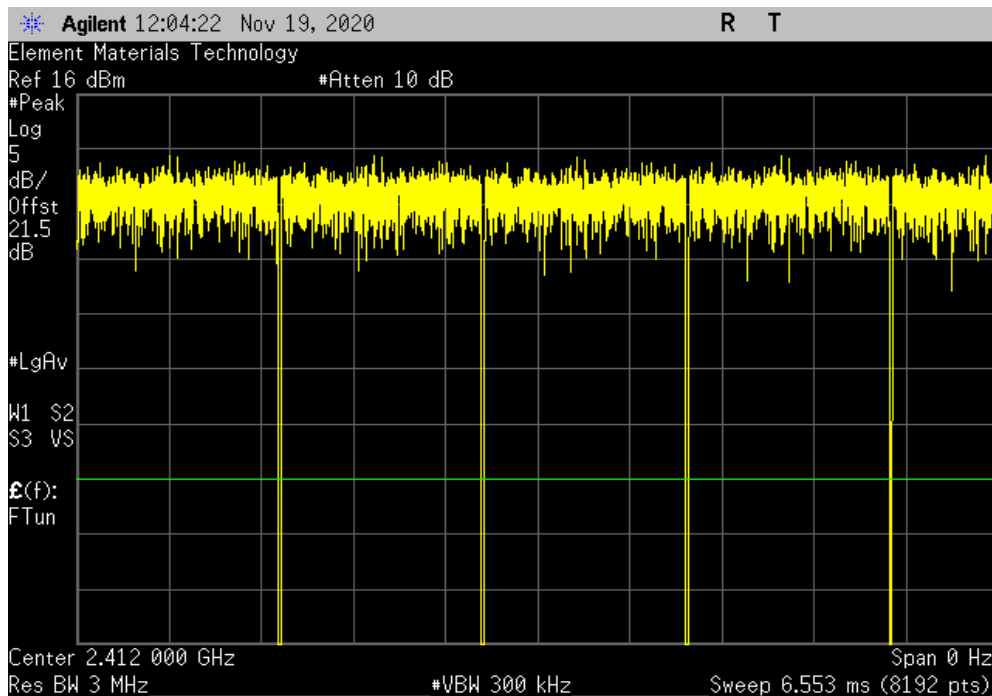


TMTx 2019.08.30.0 XMR 2020.03.25.0

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
	1.428 ms	1.45 ms	1	98.5	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

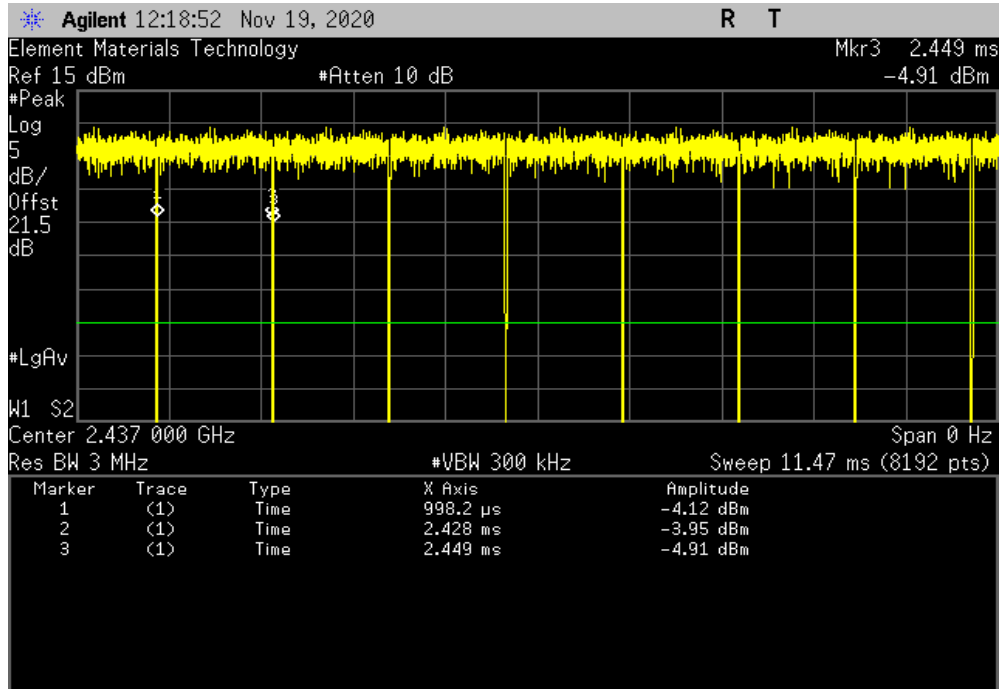


DUTY CYCLE

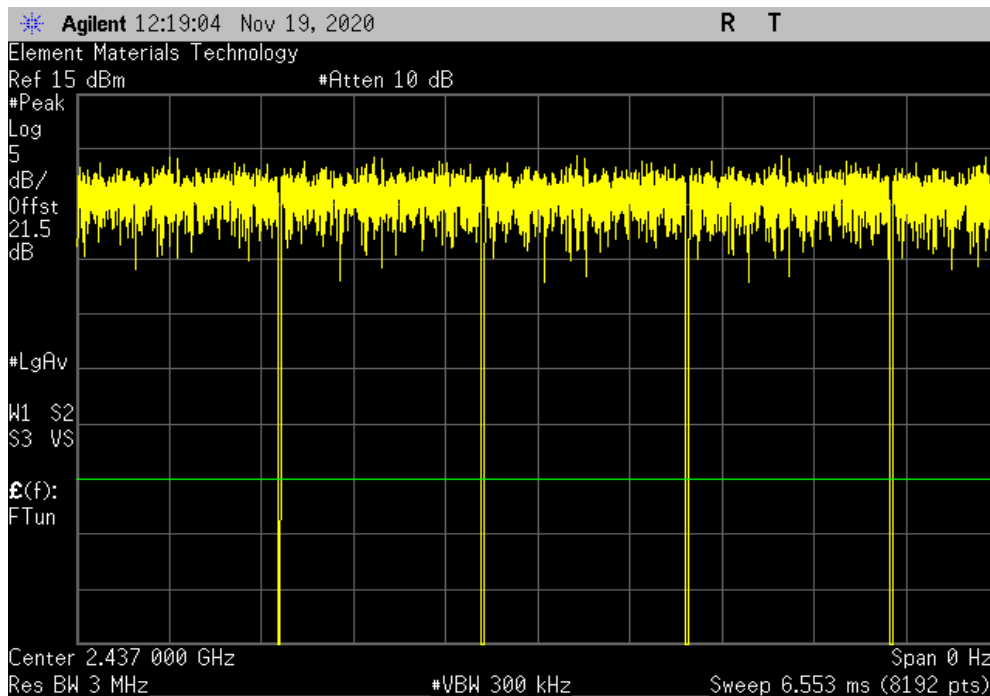


TMTx 2019.08.30.0 XMR 2020.03.25.0

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
	1.429 ms	1.45 ms	1	98.6	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

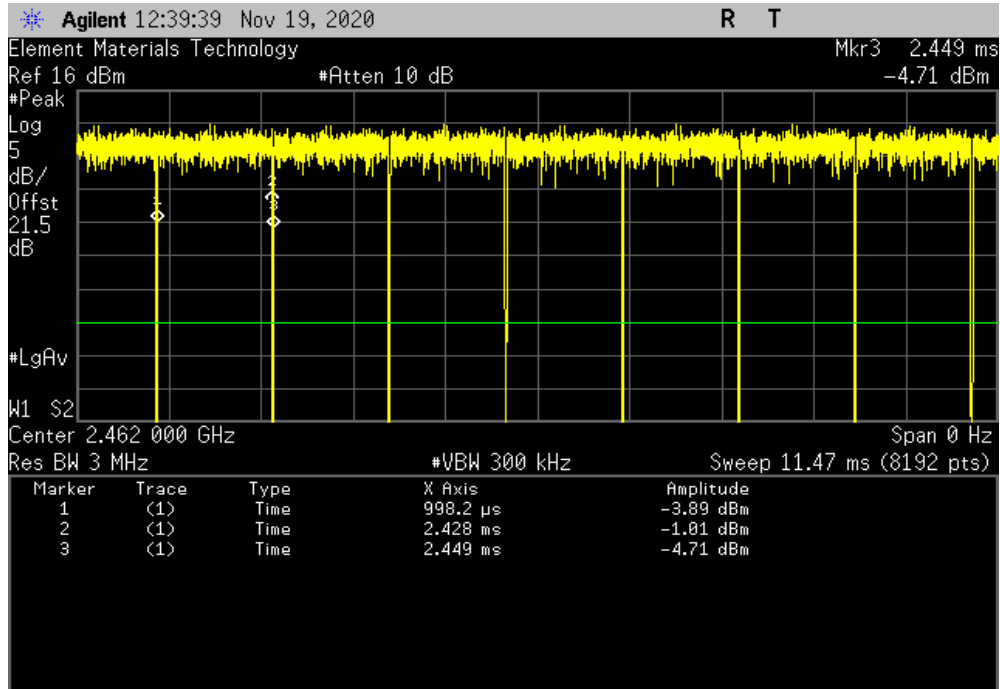


DUTY CYCLE

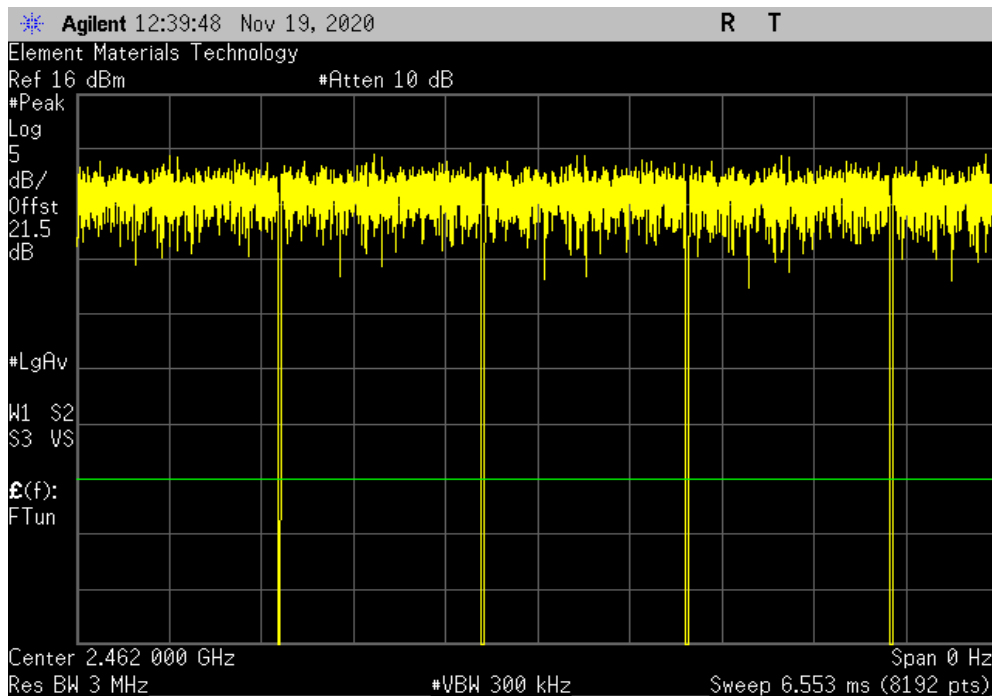


TMTx 2019.08.30.0 XMR 2020.03.25.0

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
	1.429 ms	1.45 ms	1	98.6	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

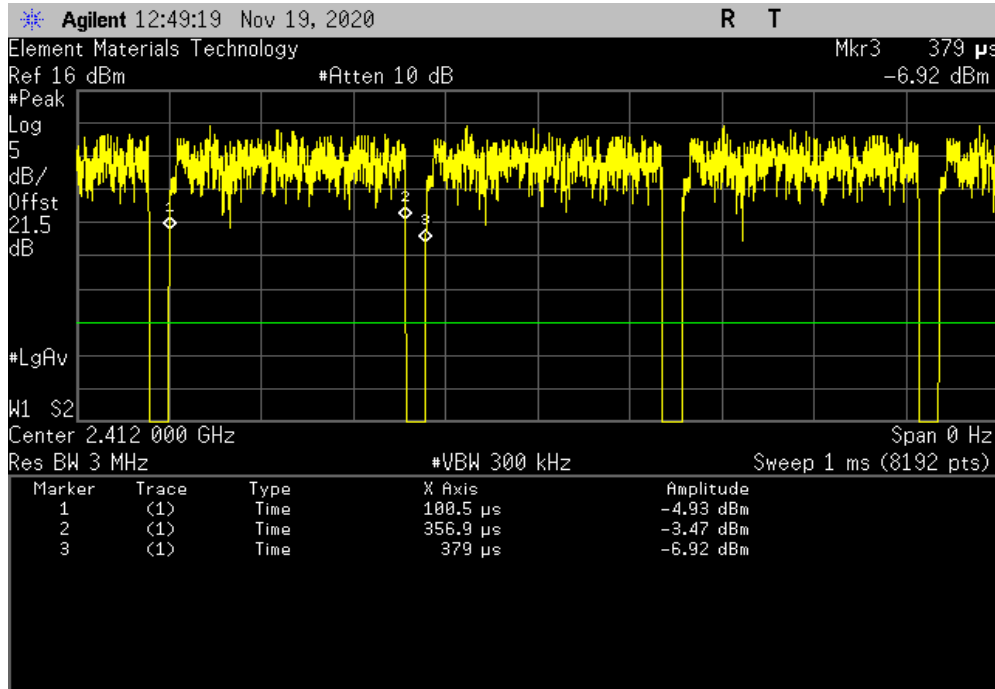


DUTY CYCLE

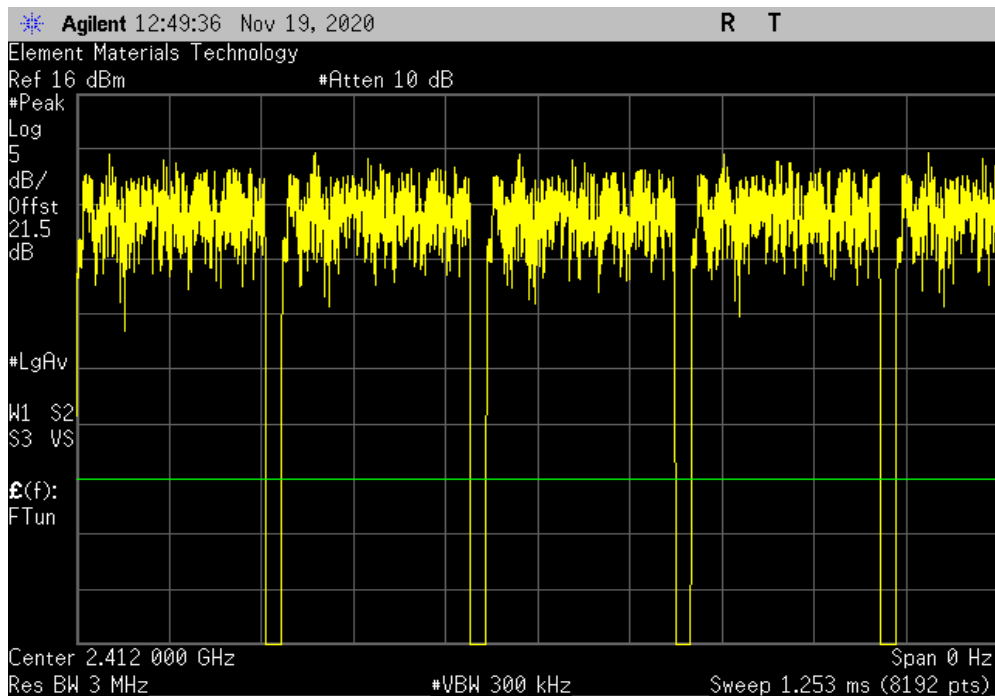


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
256.4 us	278.5 us	1	92.1	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	

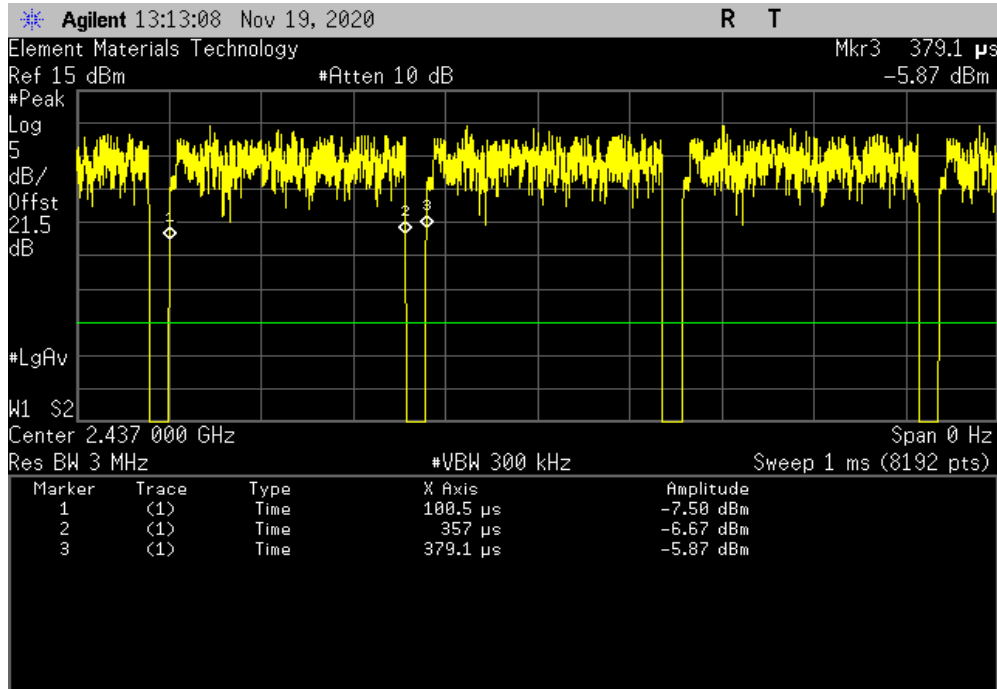


DUTY CYCLE

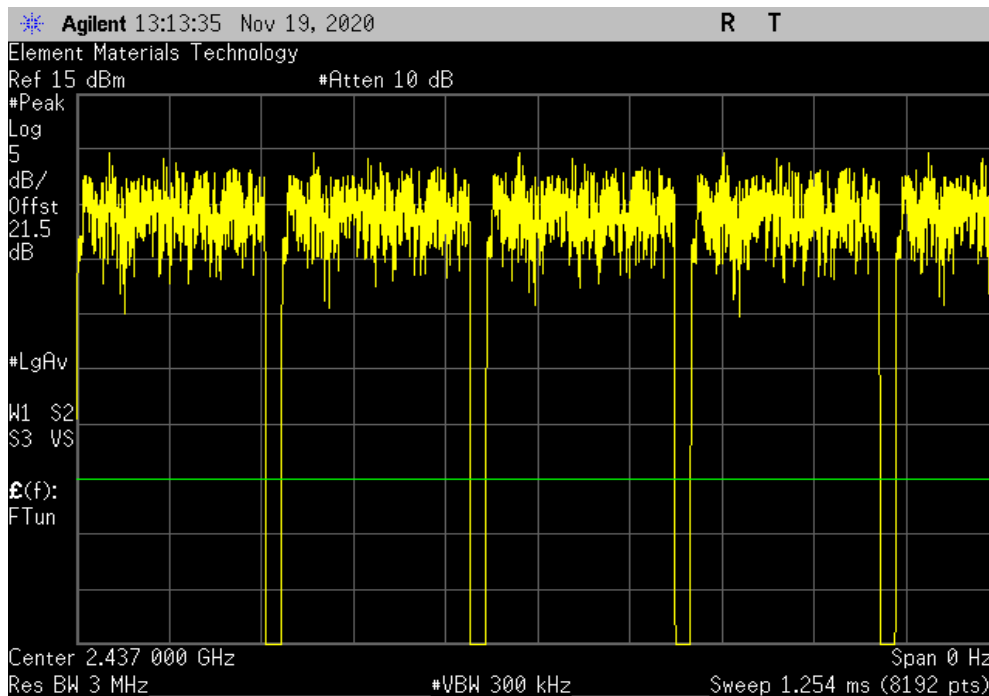


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
256.5 us	278.6 us	1	92.1	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	

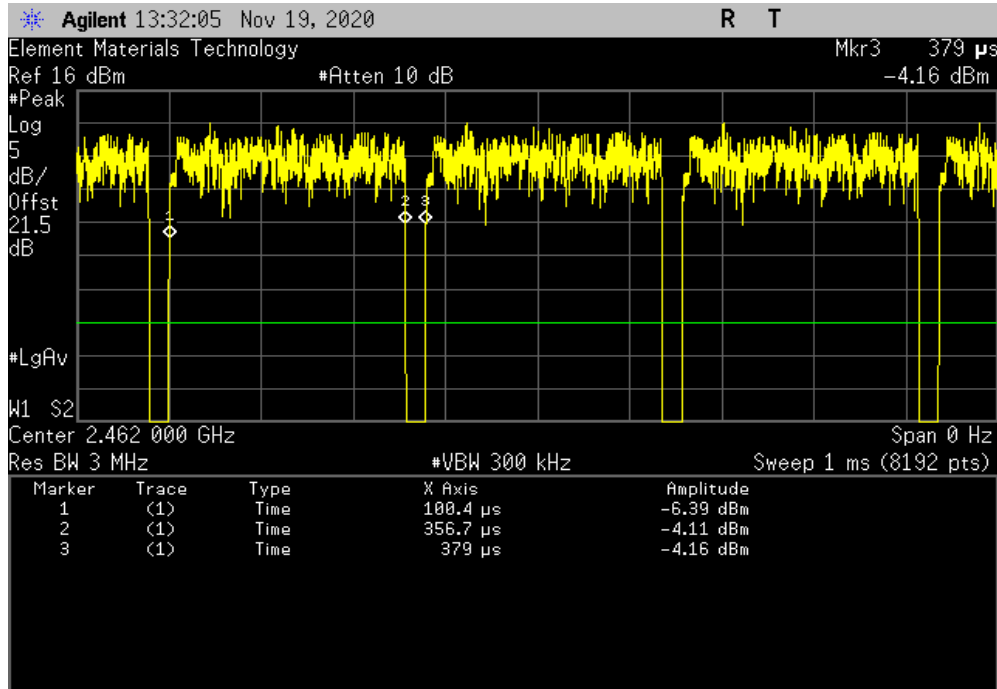


DUTY CYCLE

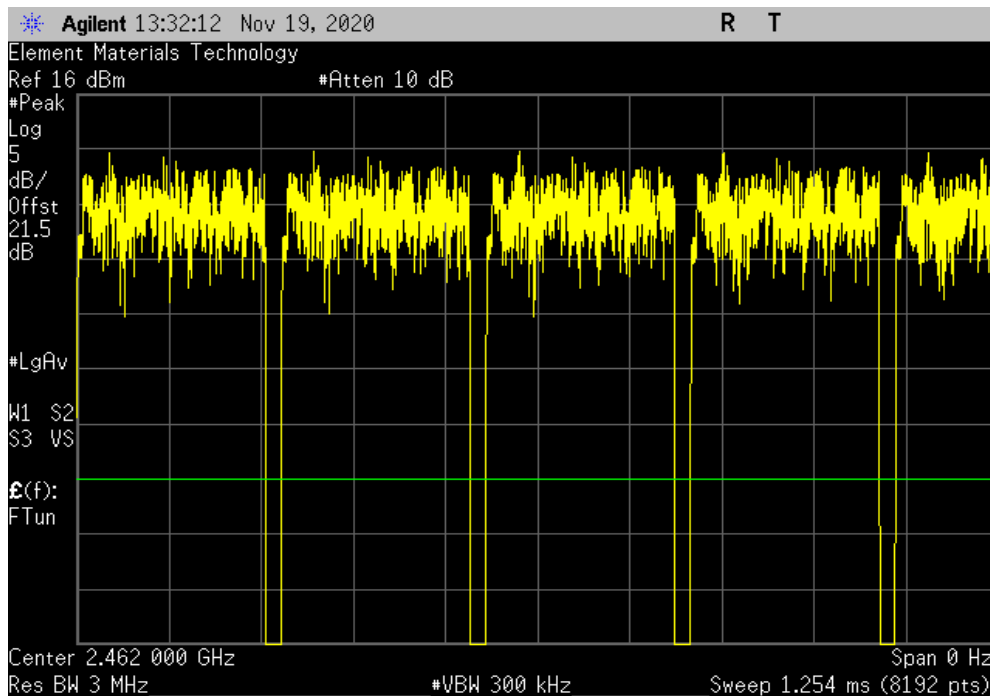


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
256.3 us	278.6 us	1	92	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	

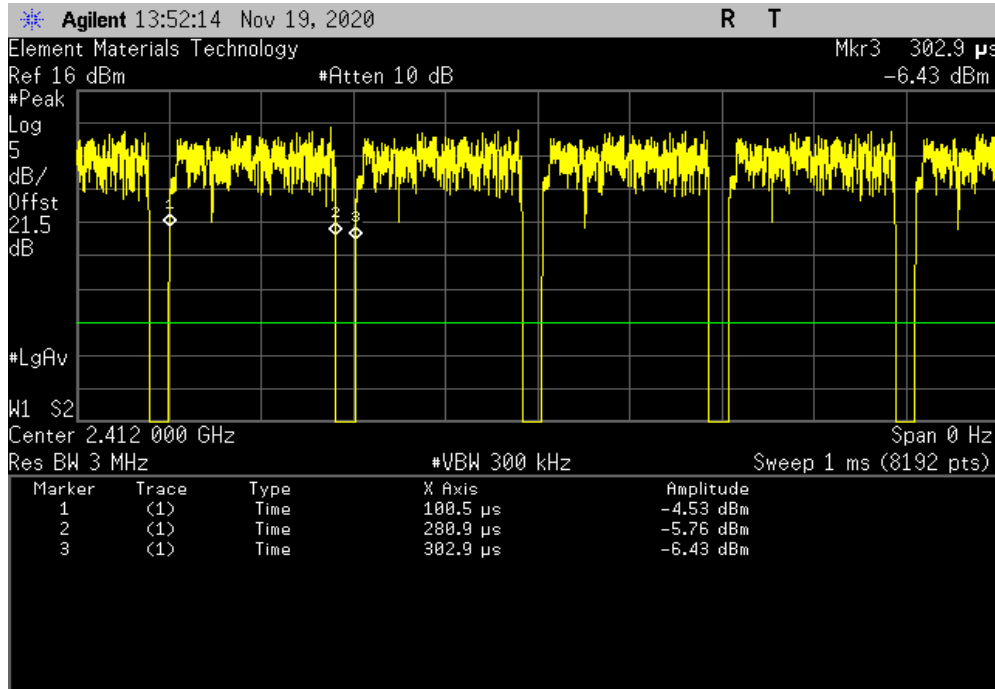


DUTY CYCLE

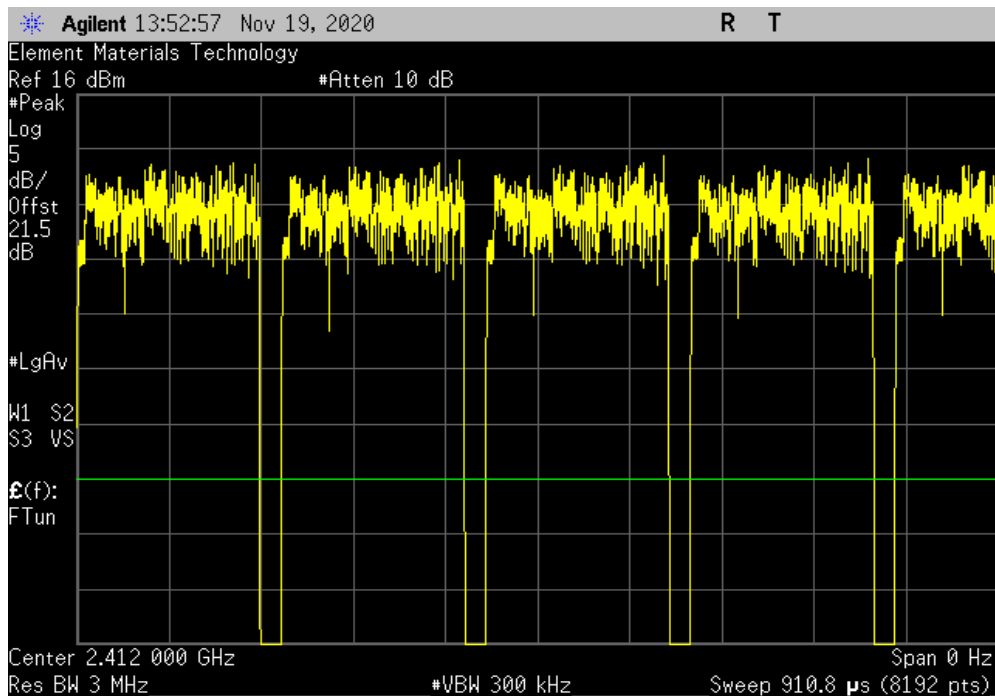


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
180.4 us	202.4 us	1	89.1	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	

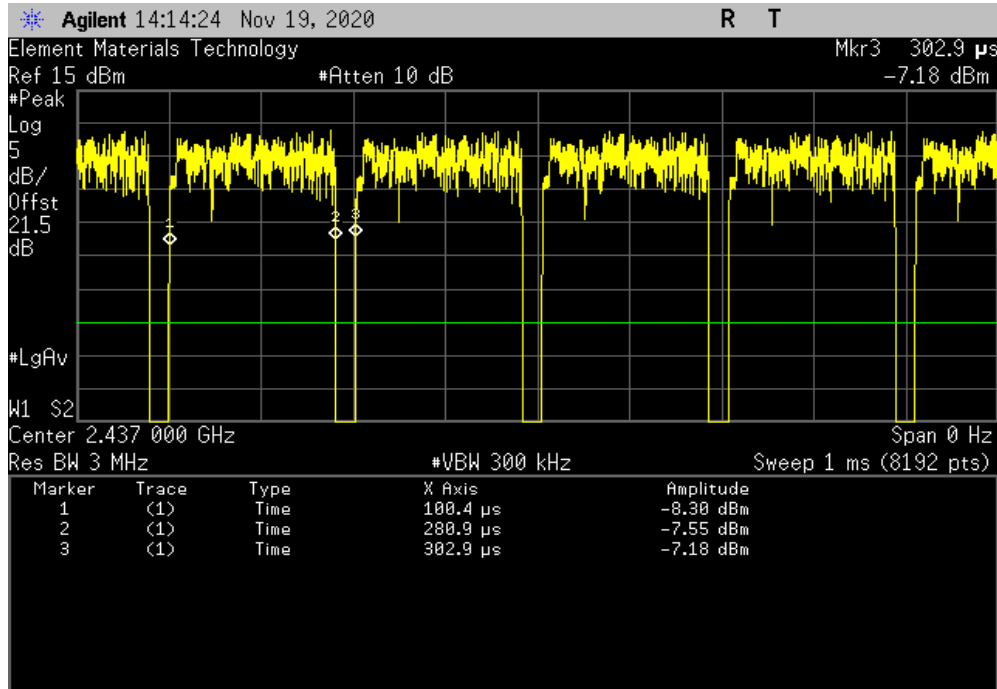


DUTY CYCLE

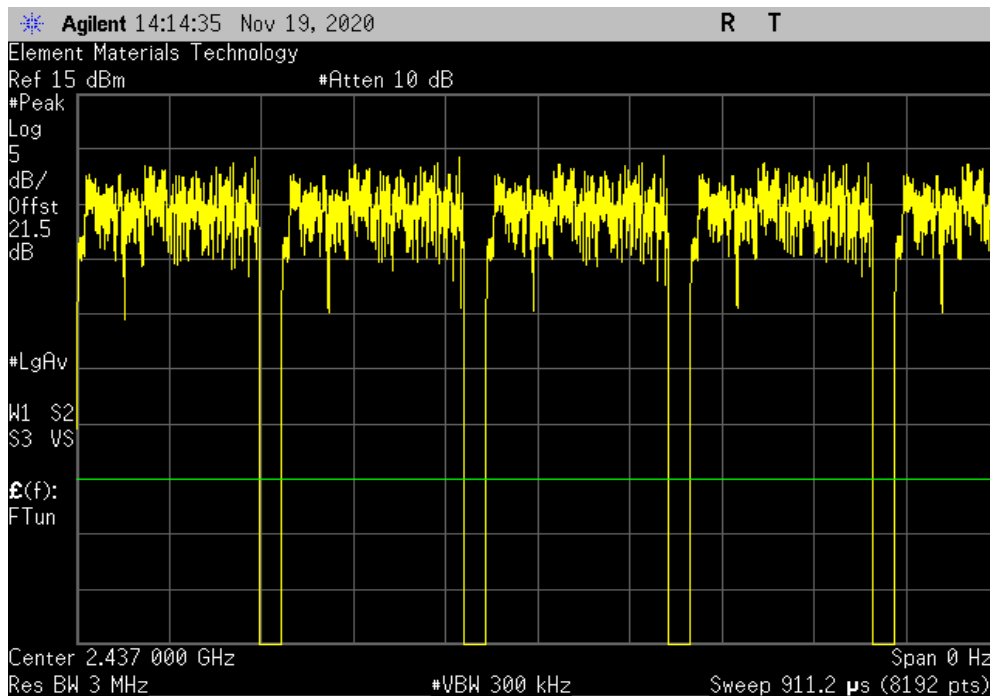


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
180.5 us	202.5 us	1	89.1	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	

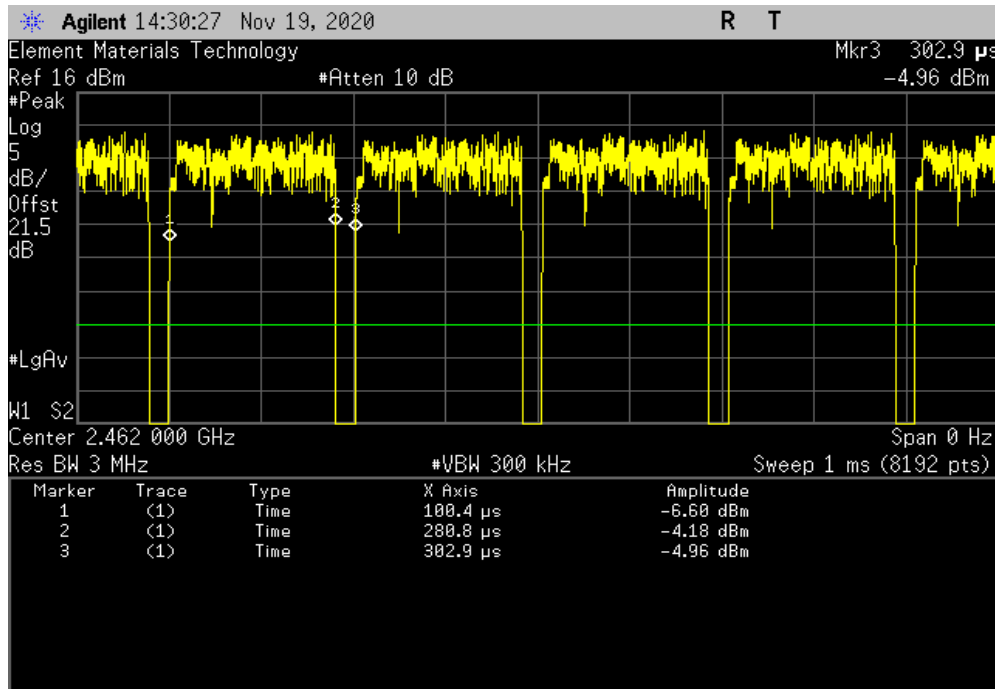


DUTY CYCLE

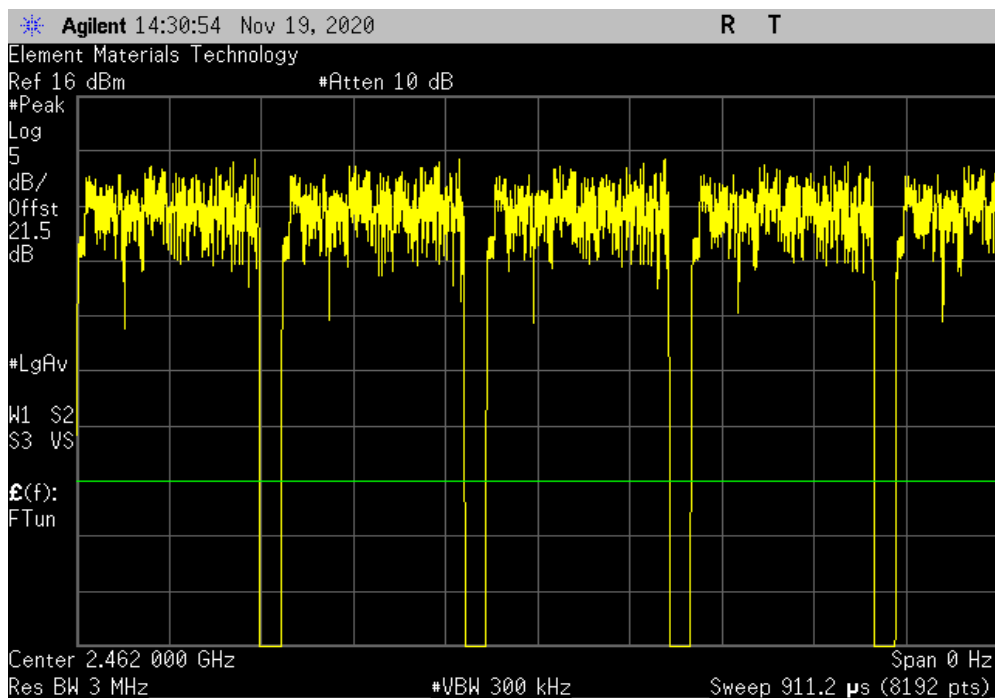


TMTx 2019.08.30.0 XMR 2020.03.25.0

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	
180.4 us	202.5 us	1	89.1	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	

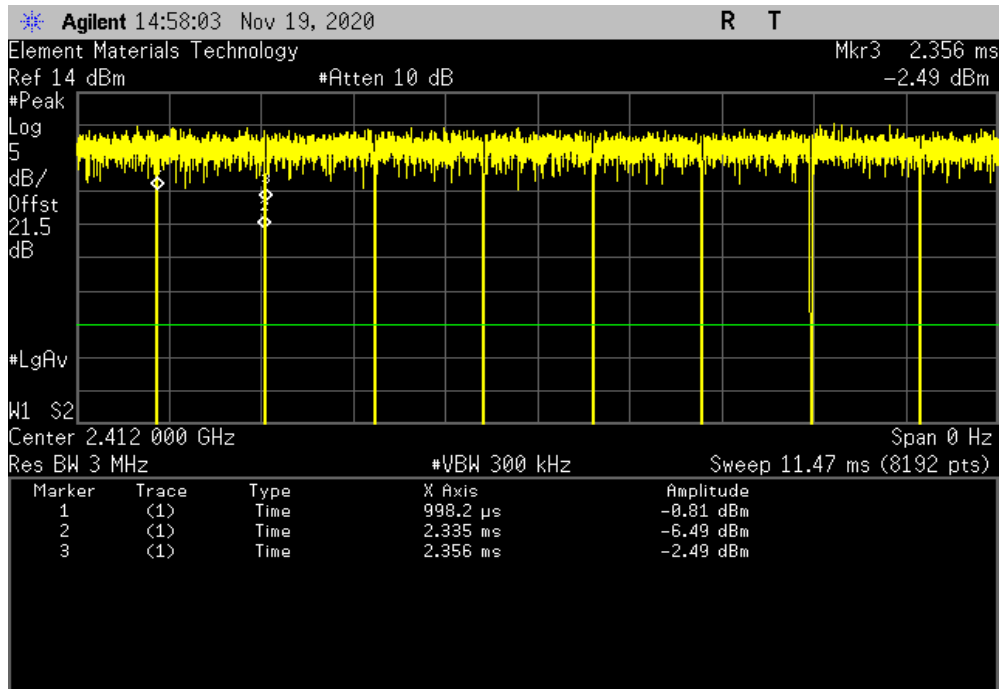


DUTY CYCLE

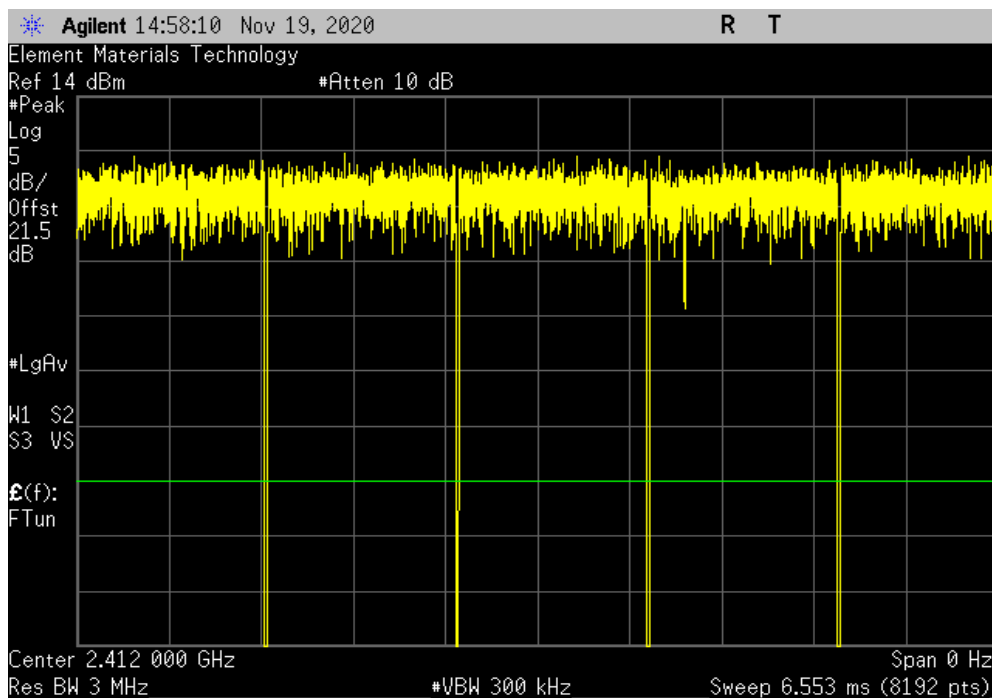


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.337 ms	1.358 ms	1	98.5	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

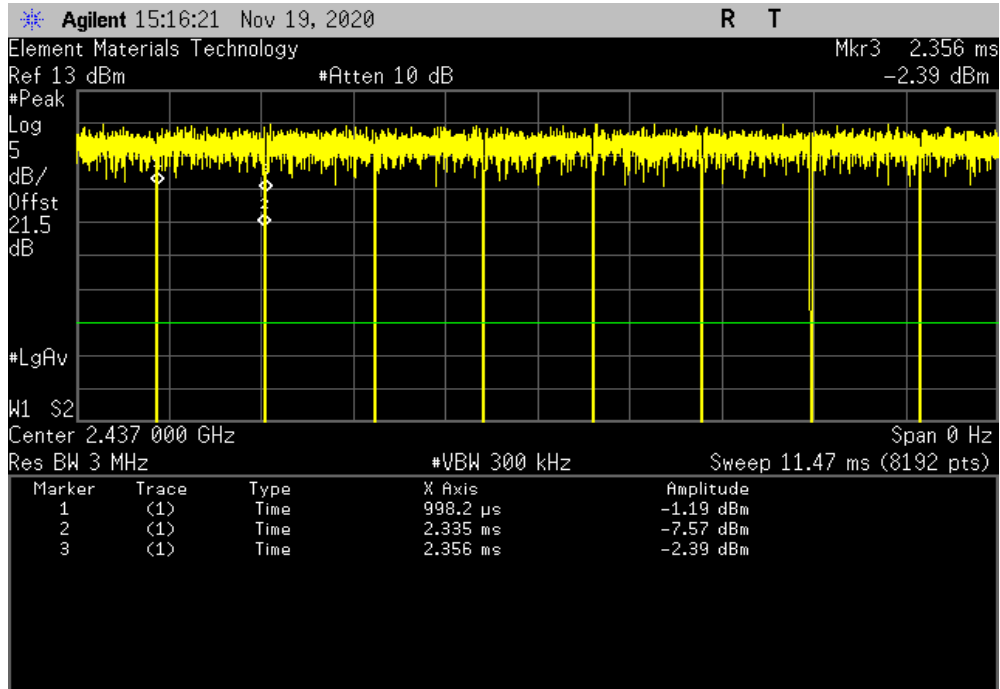


DUTY CYCLE

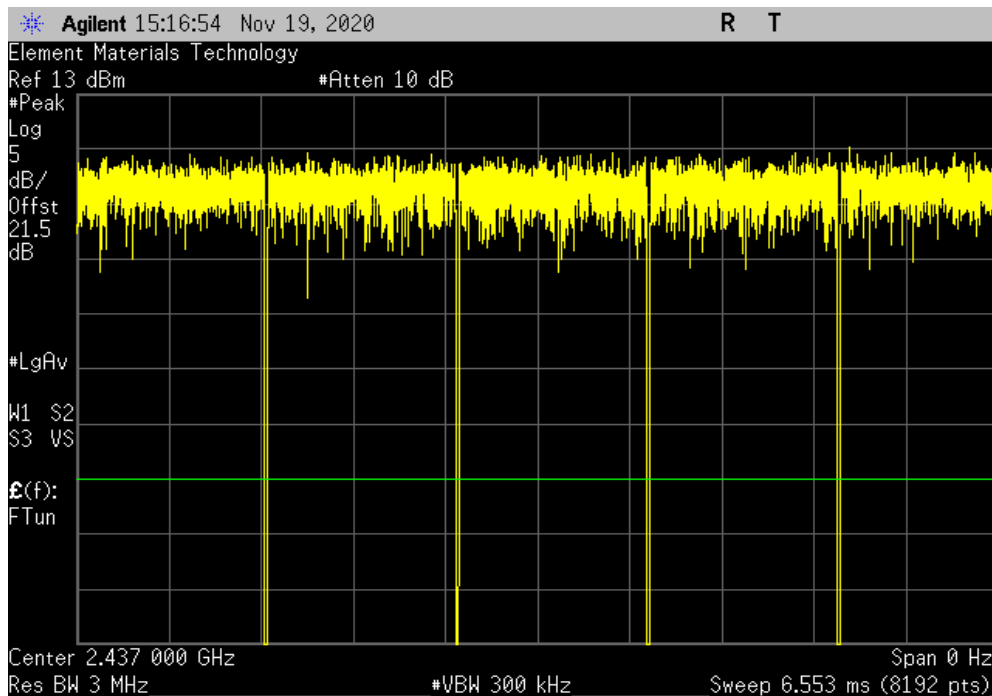


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
1.337 ms	1.358 ms	1	98.5	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	

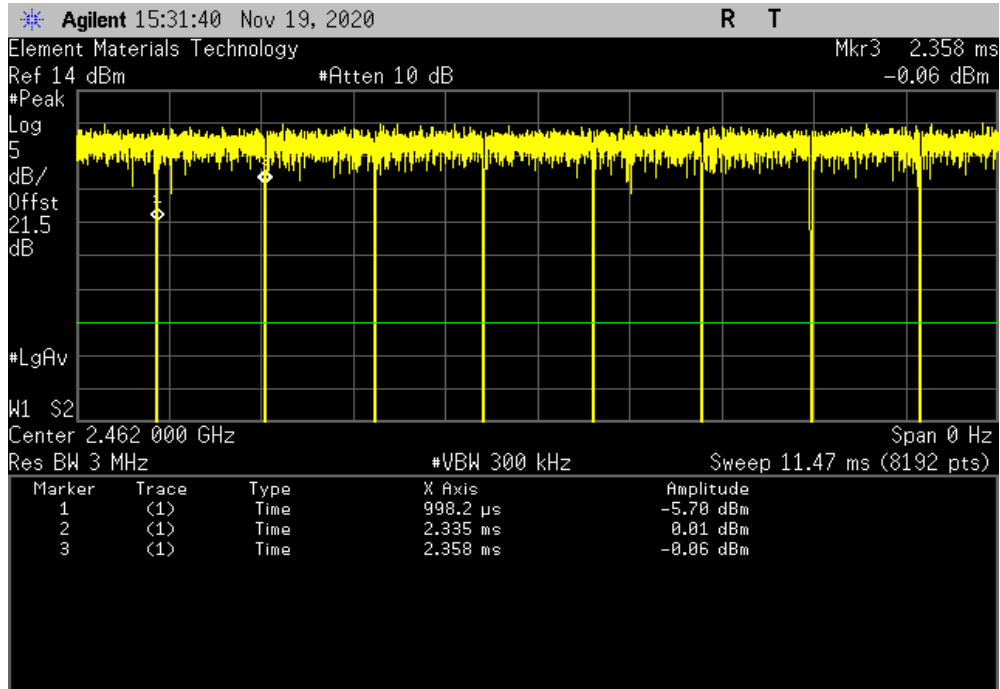


DUTY CYCLE

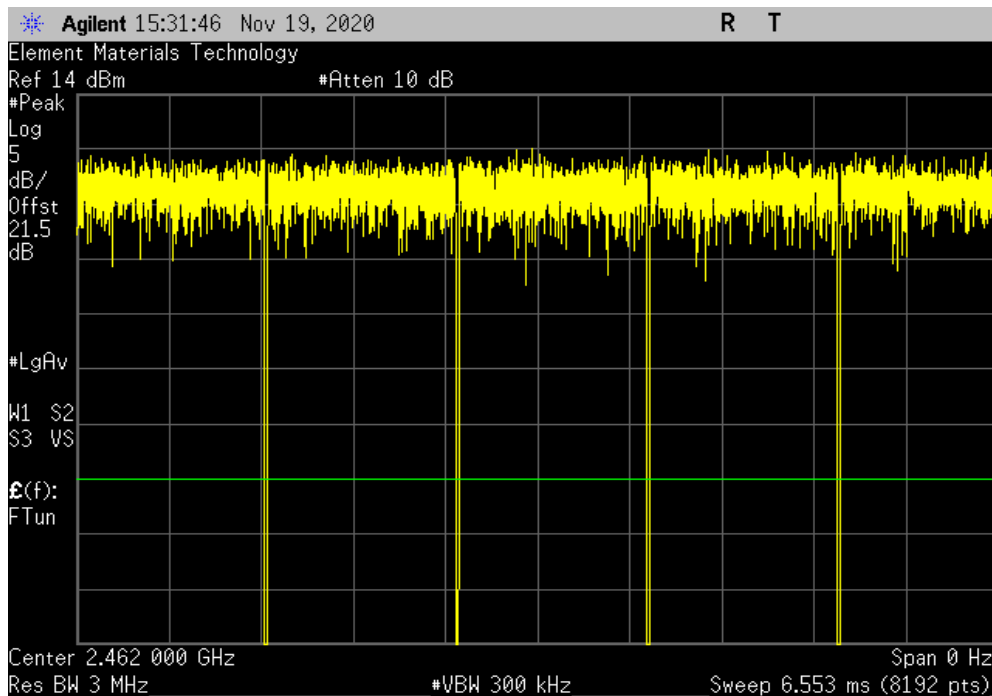


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	1.337 ms	1.359 ms	1	98.4	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

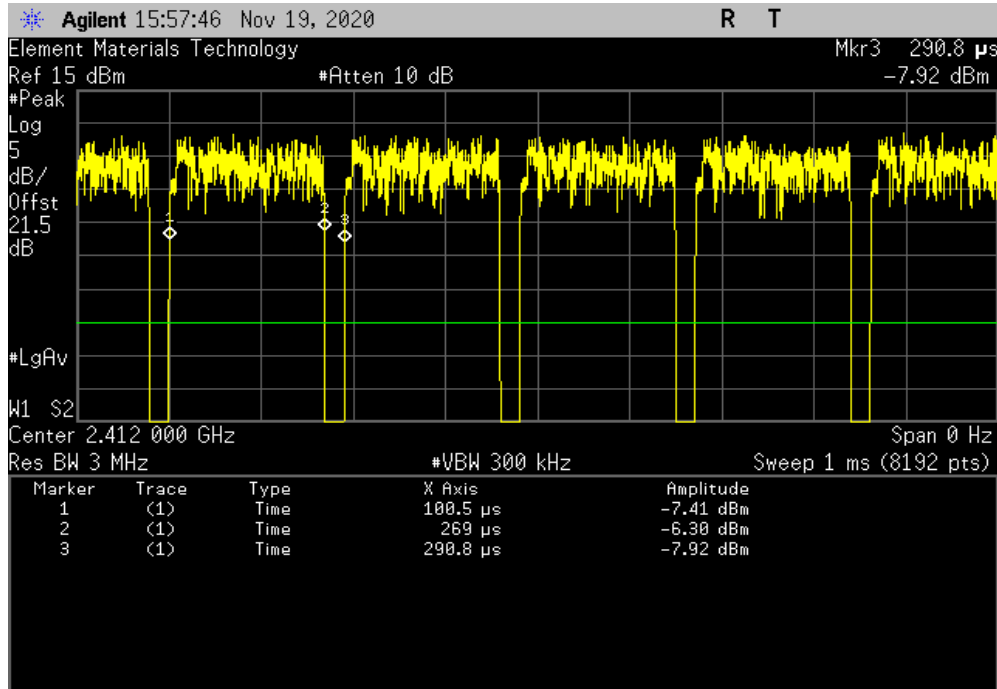


DUTY CYCLE

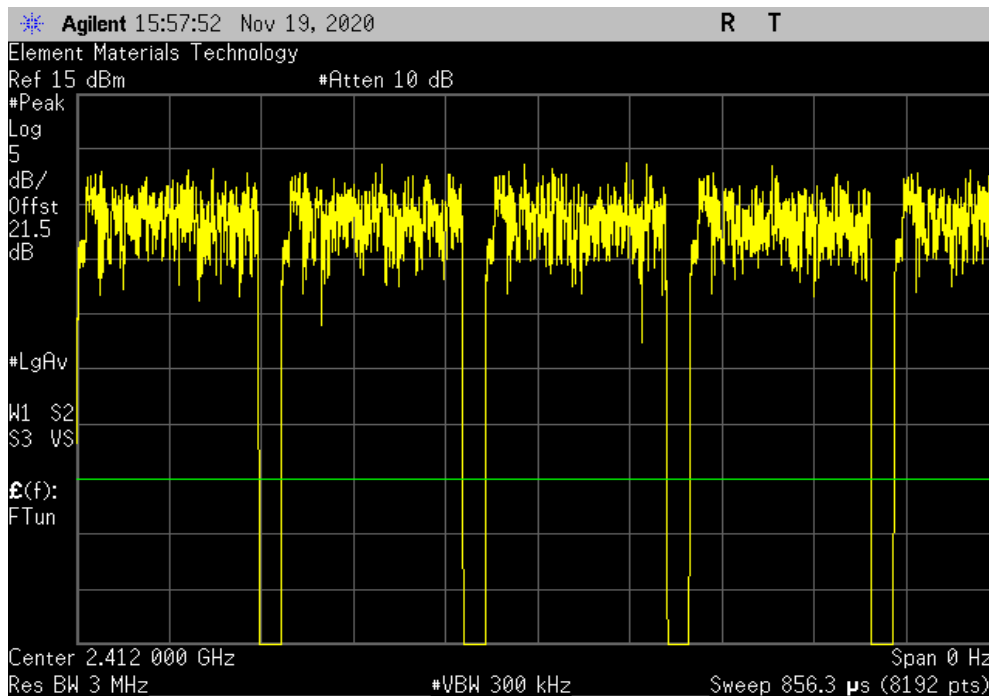


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
168.5 us	190.3 us	1	88.5	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	

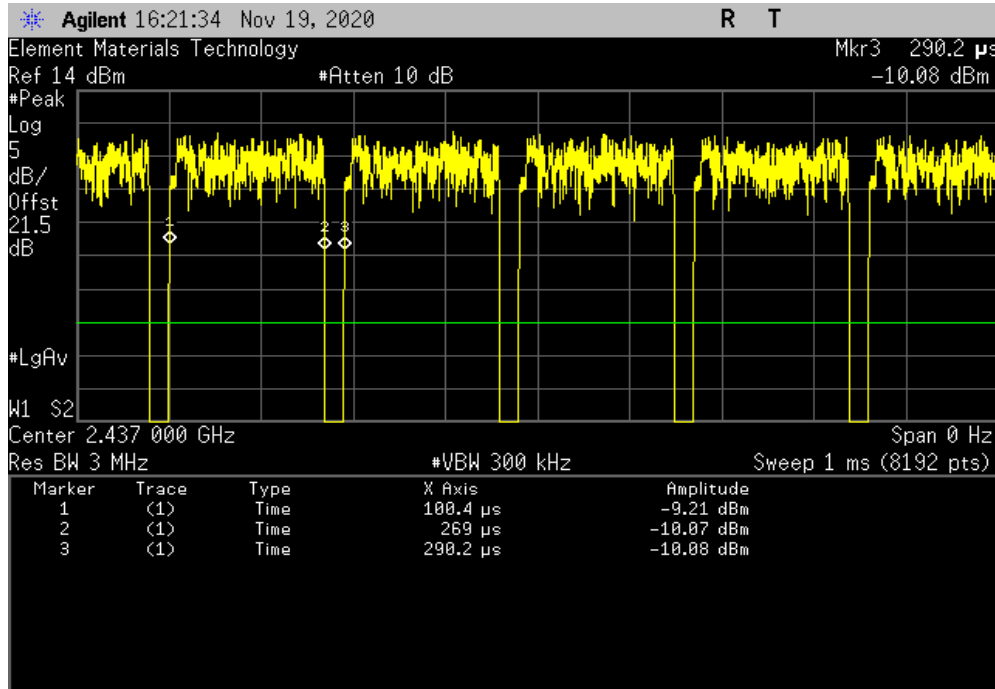


DUTY CYCLE

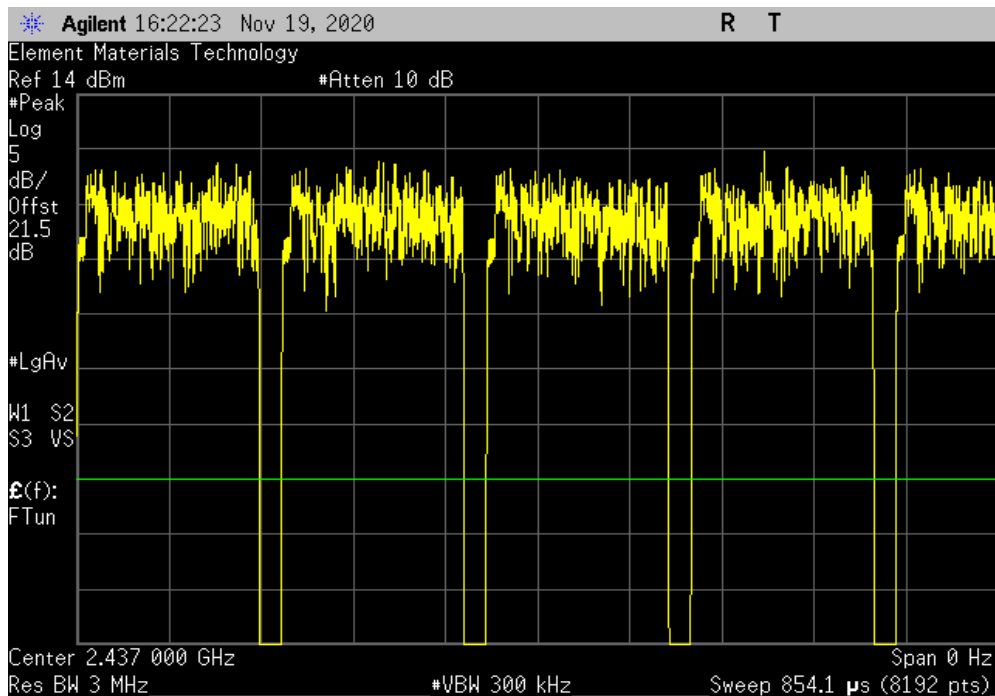


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
168.6 us	189.8 us	1	88.8	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	

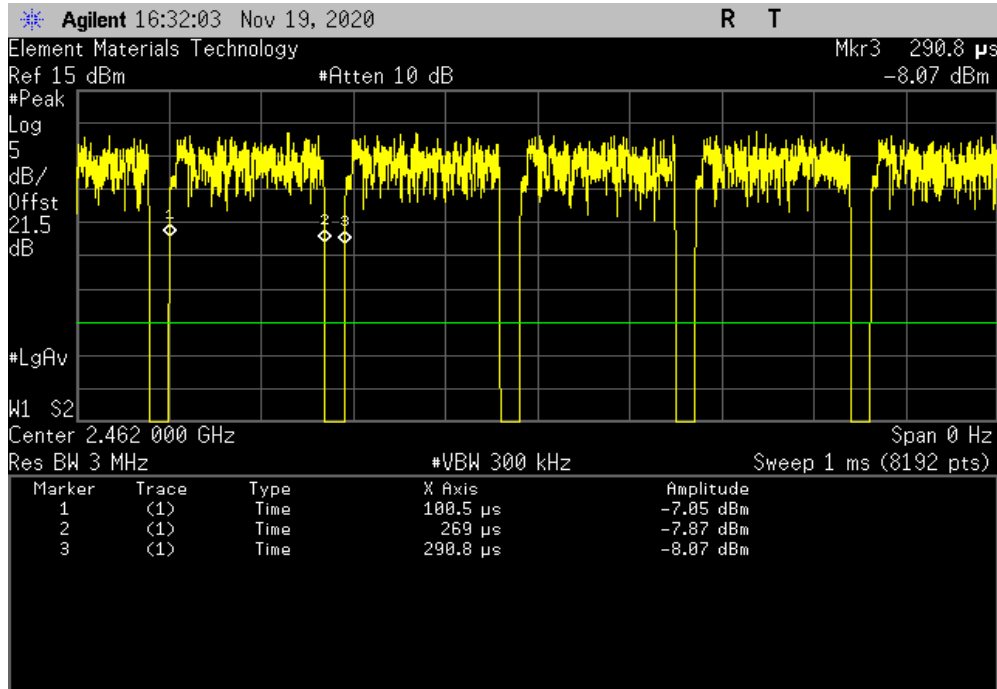


DUTY CYCLE

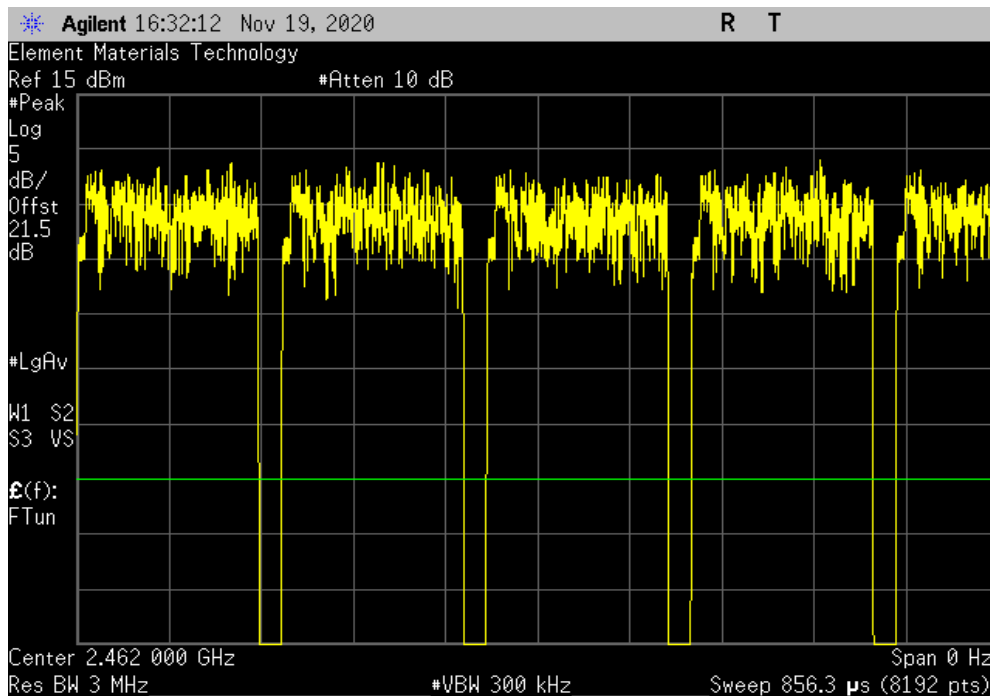


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
168.5 us	190.3 us	1	88.5	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 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

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



TSTx 2019.08.30.0 XMR 2020.03.25.0

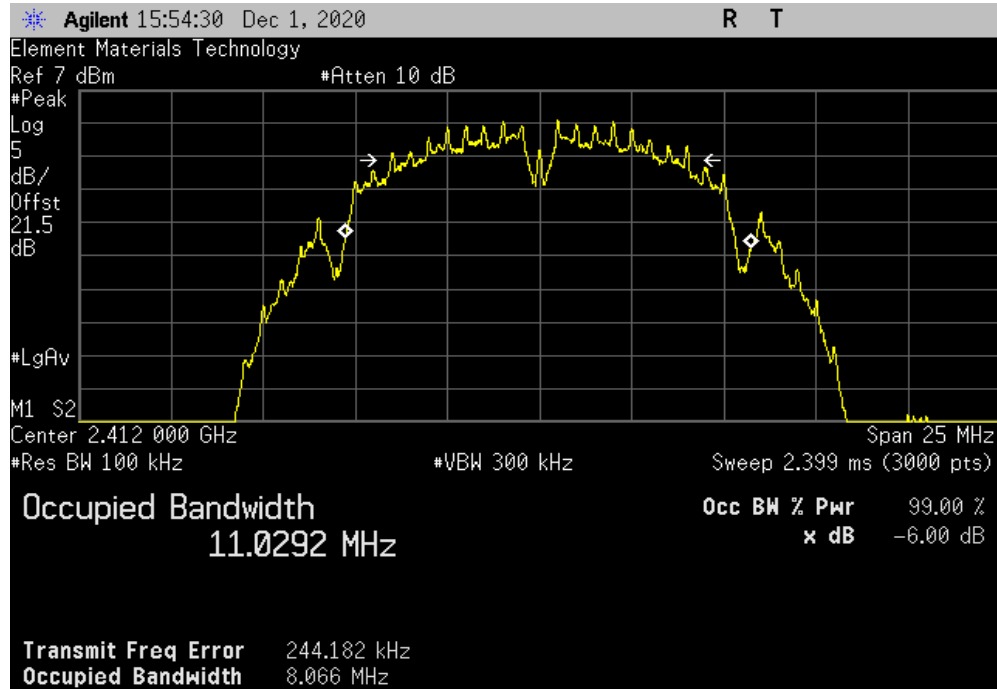
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.5 °C	
Attendees: Spencer Warneke		Humidity: 28.3% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcock	Power: 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		Value	Limit (>) Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	8.066 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	8.387 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	8.056 MHz	500 kHz Pass
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	7.894 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	8.802 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	7.714 MHz	500 kHz Pass
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	14.964 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.237 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	13.715 MHz	500 kHz Pass
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	15.491 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.301 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	15.348 MHz	500 kHz Pass
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	15.642 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.13 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	15.061 MHz	500 kHz Pass
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	15.696 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.617 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	15.28 MHz	500 kHz Pass
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	16.117 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	17.595 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	15.251 MHz	500 kHz Pass

OCCUPIED BANDWIDTH

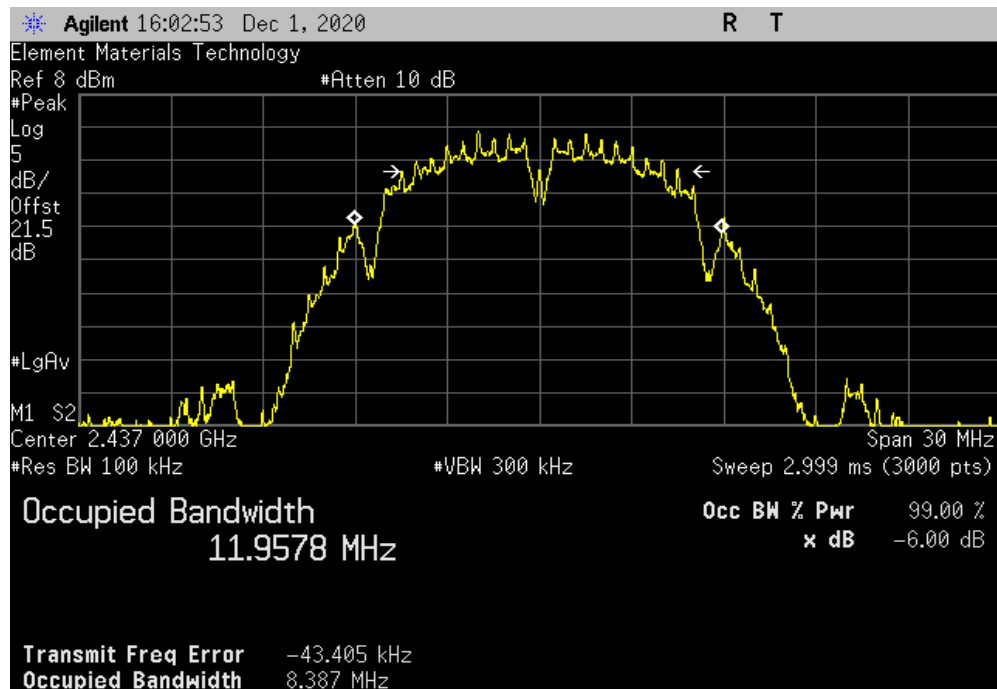


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

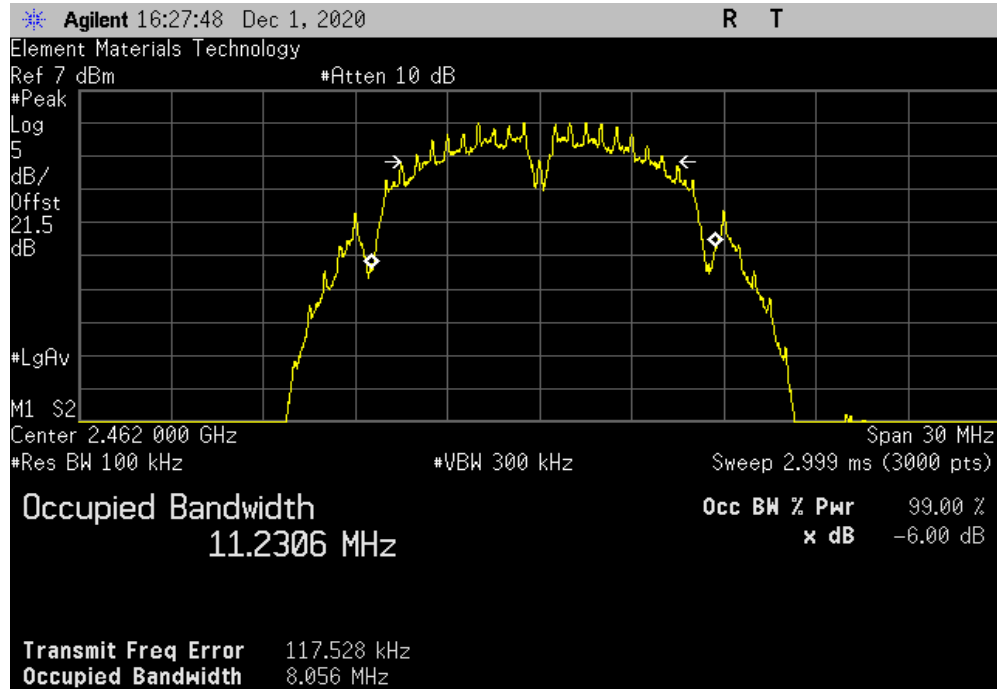


OCCUPIED BANDWIDTH

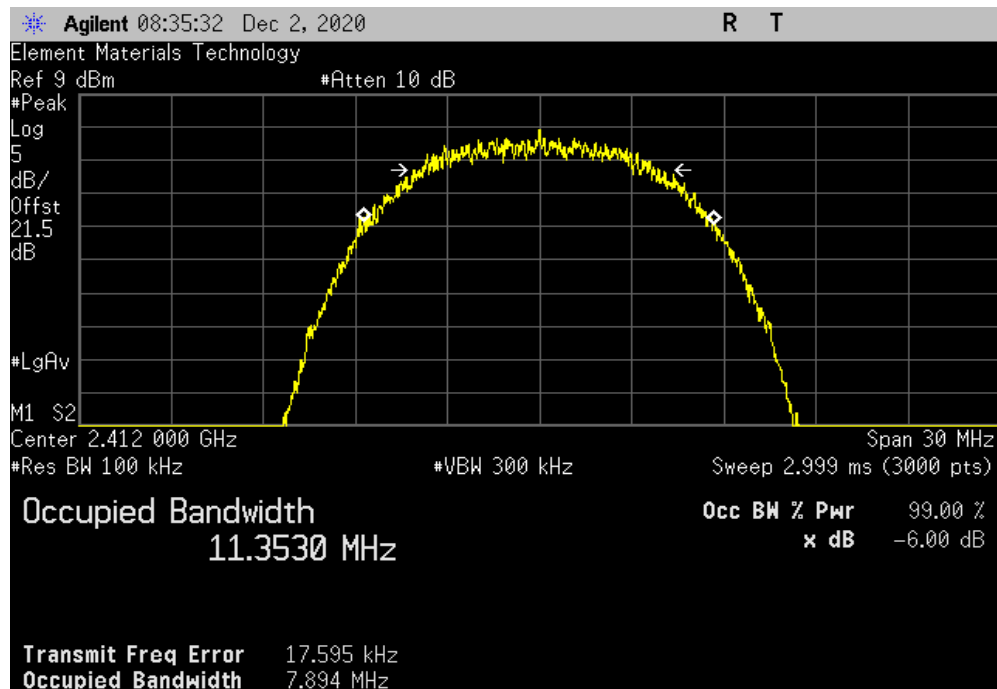


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

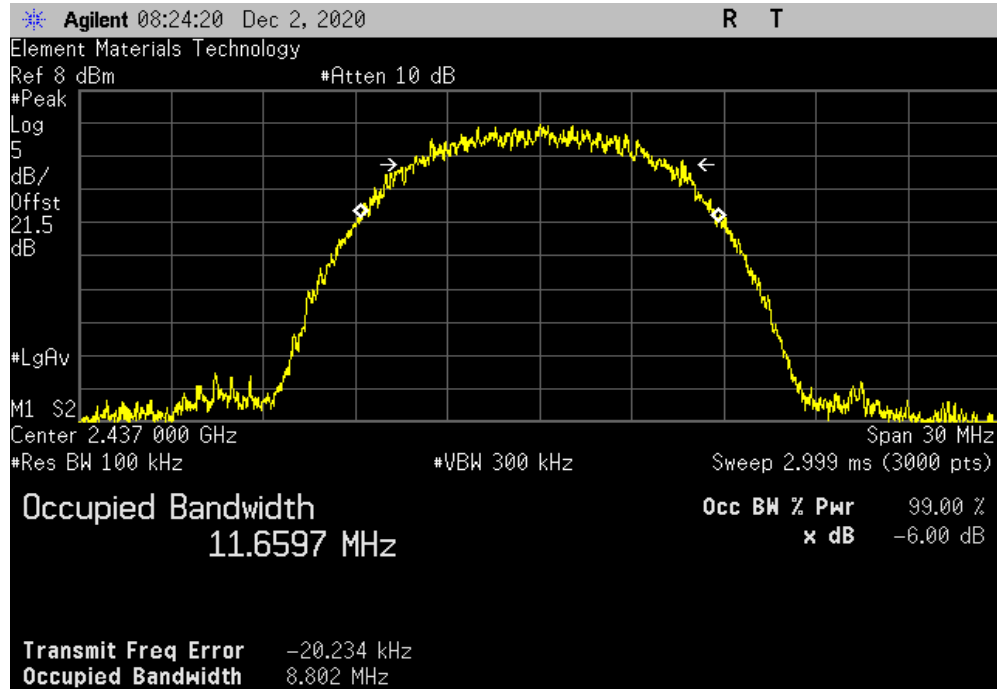


OCCUPIED BANDWIDTH

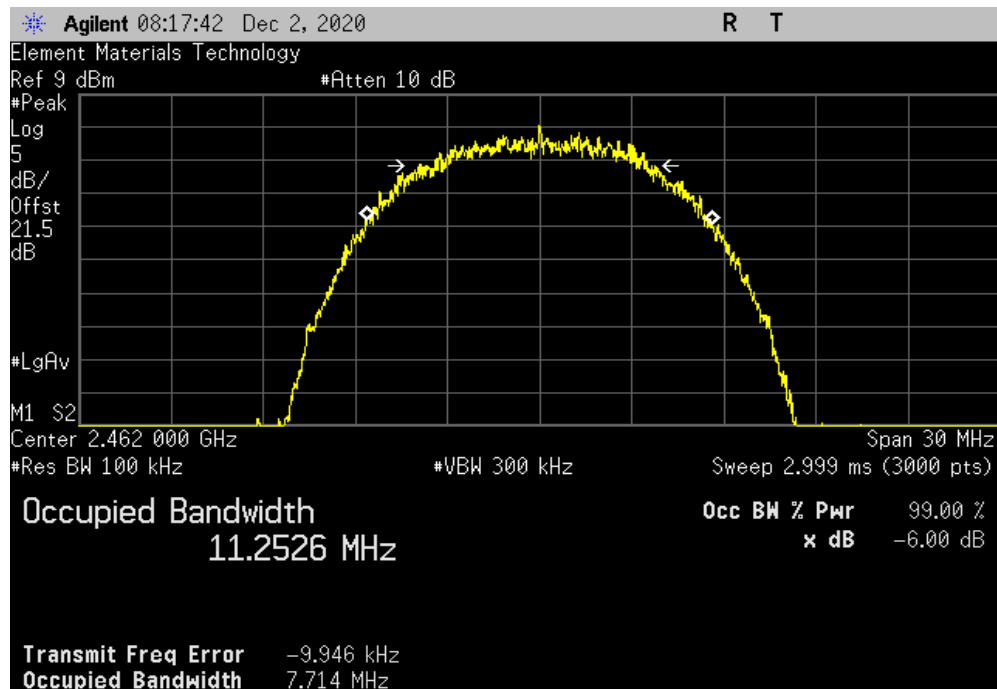


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

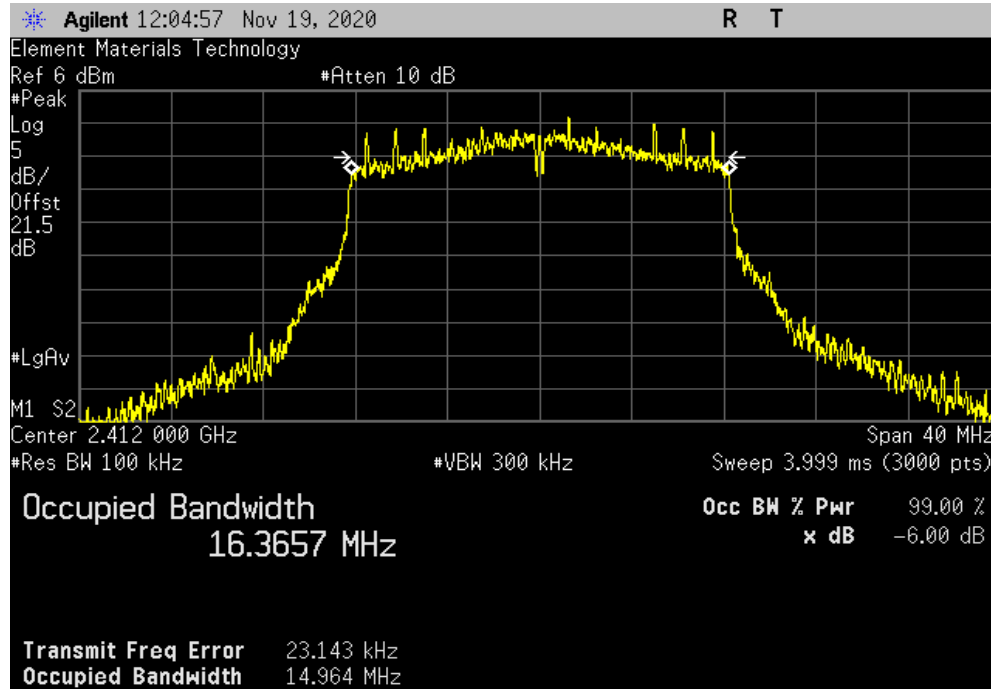


OCCUPIED BANDWIDTH

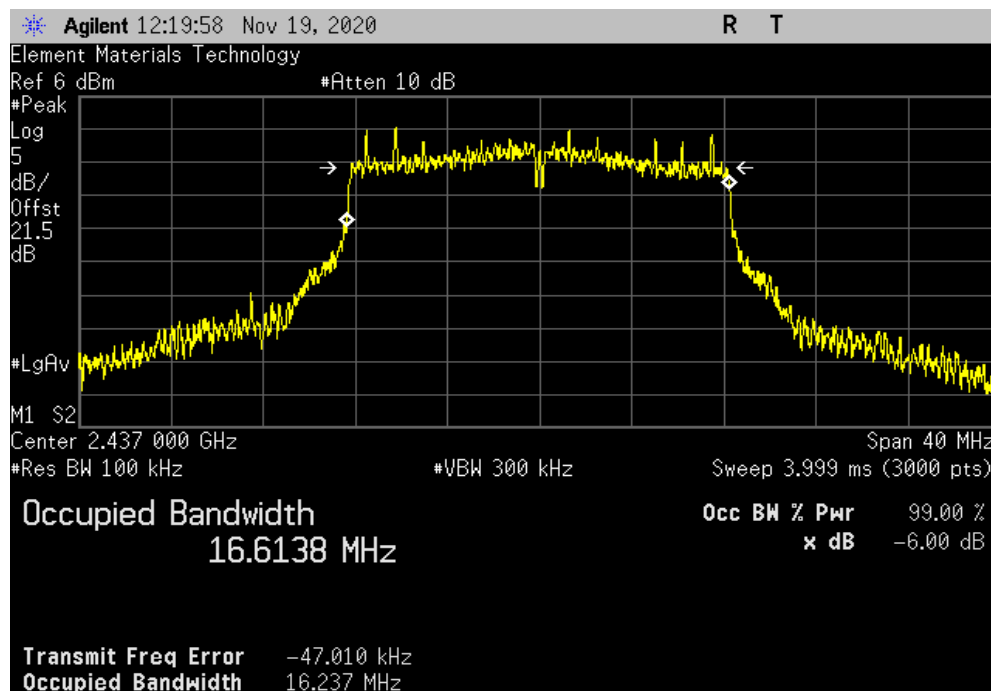


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

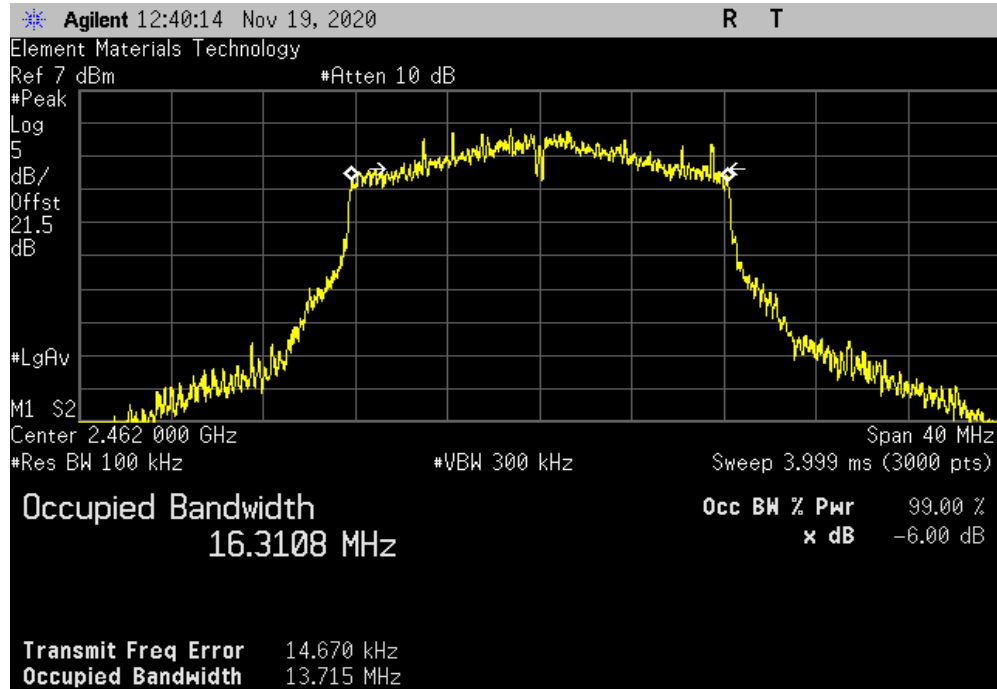


OCCUPIED BANDWIDTH

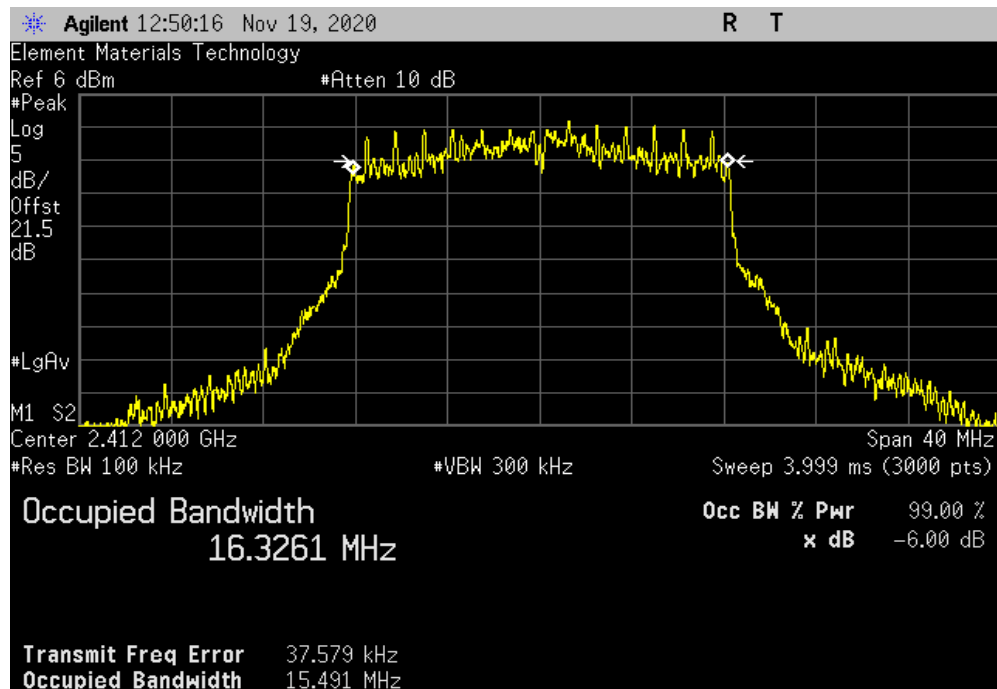


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

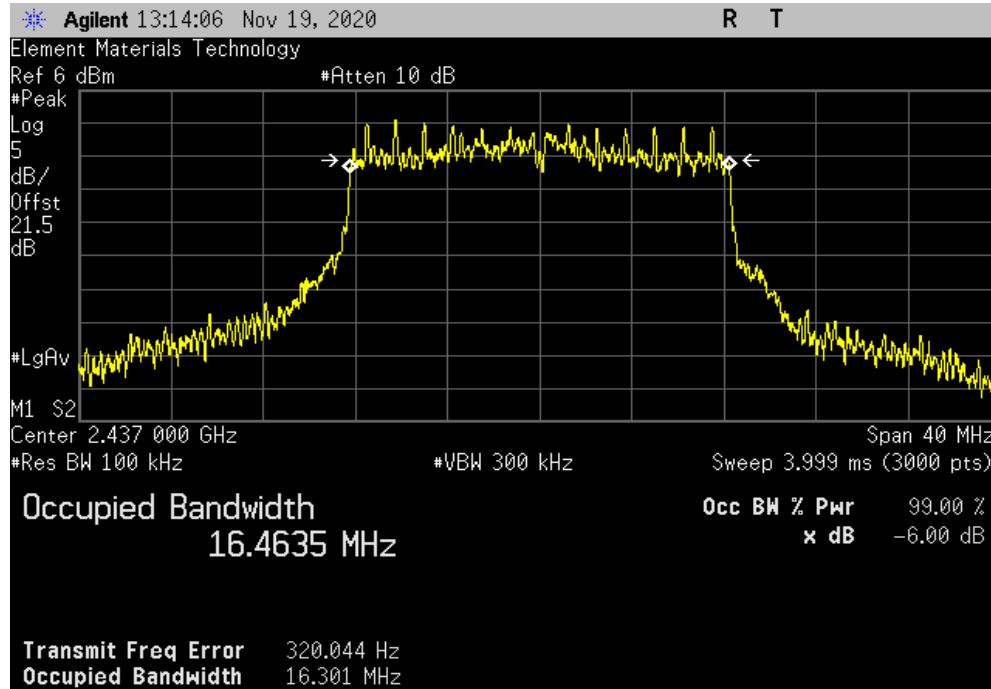


OCCUPIED BANDWIDTH

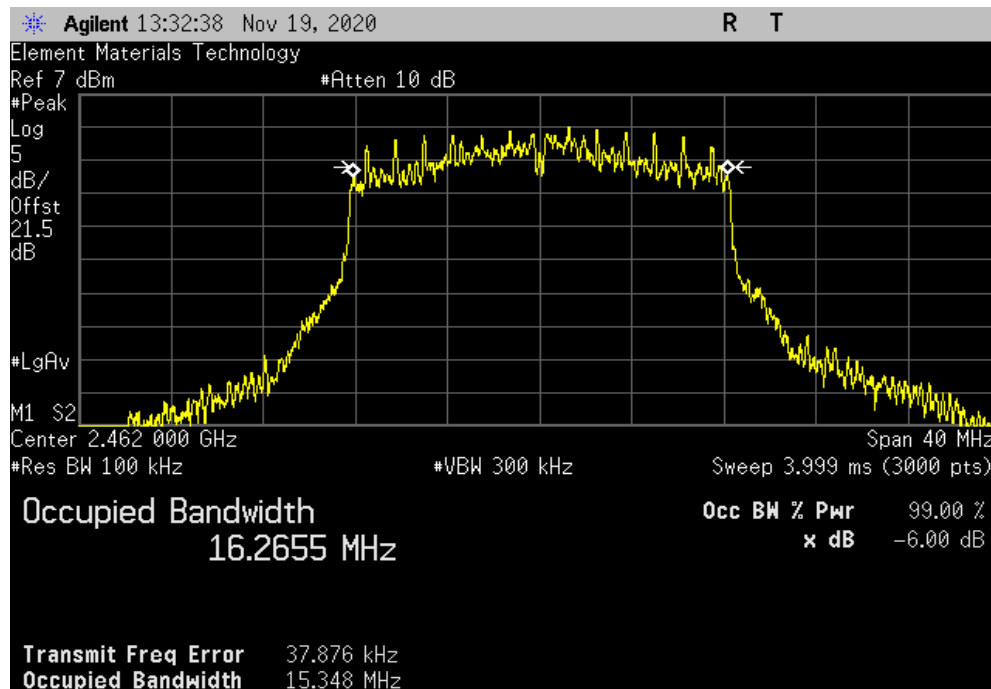


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

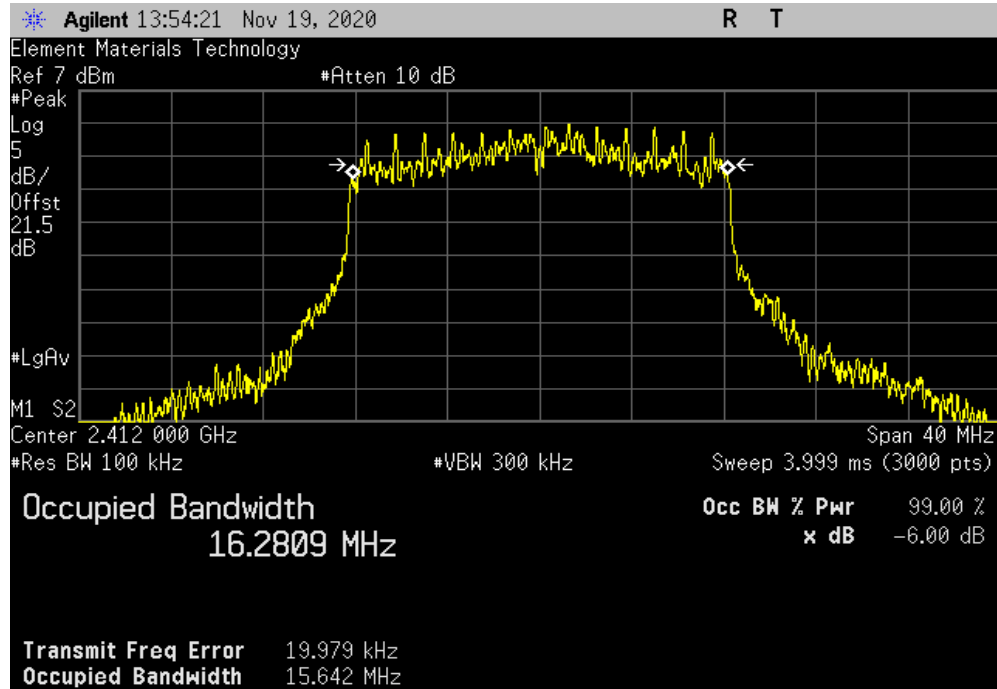


OCCUPIED BANDWIDTH

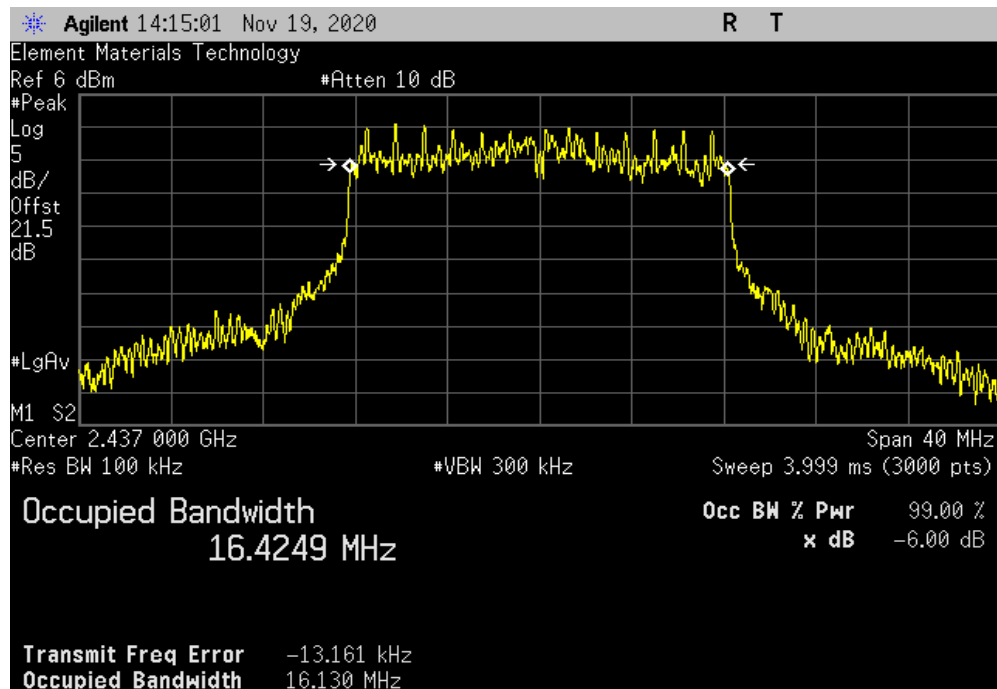


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

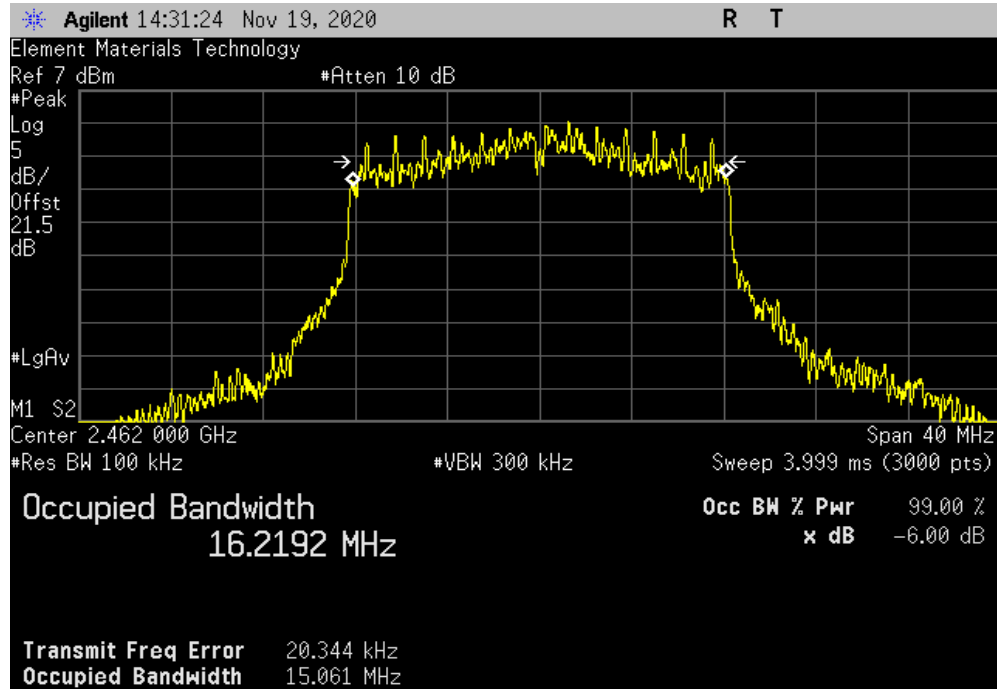


OCCUPIED BANDWIDTH

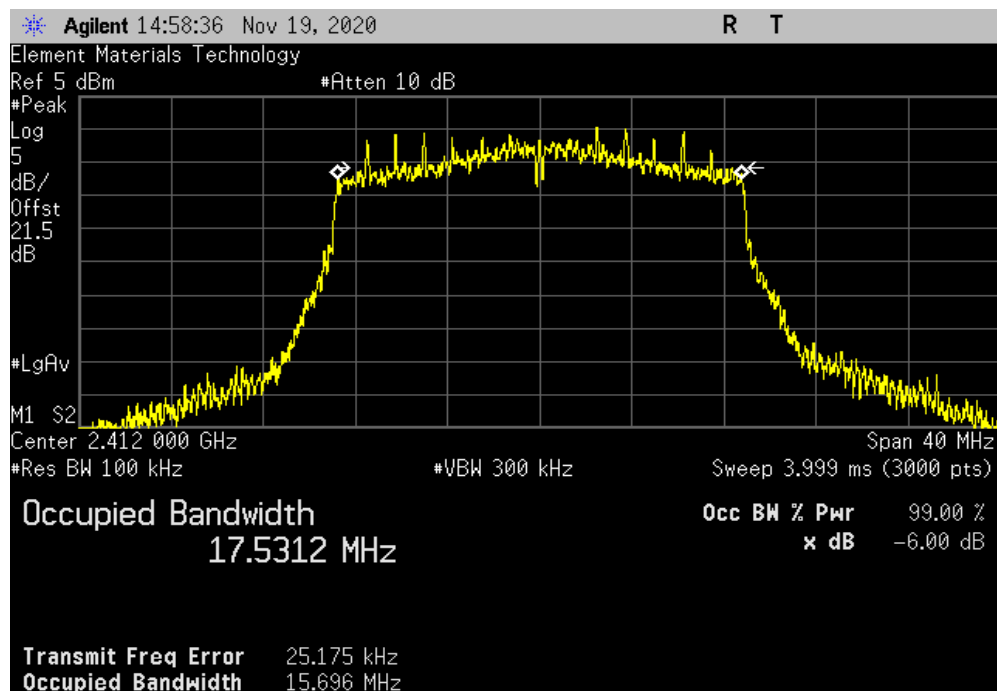


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

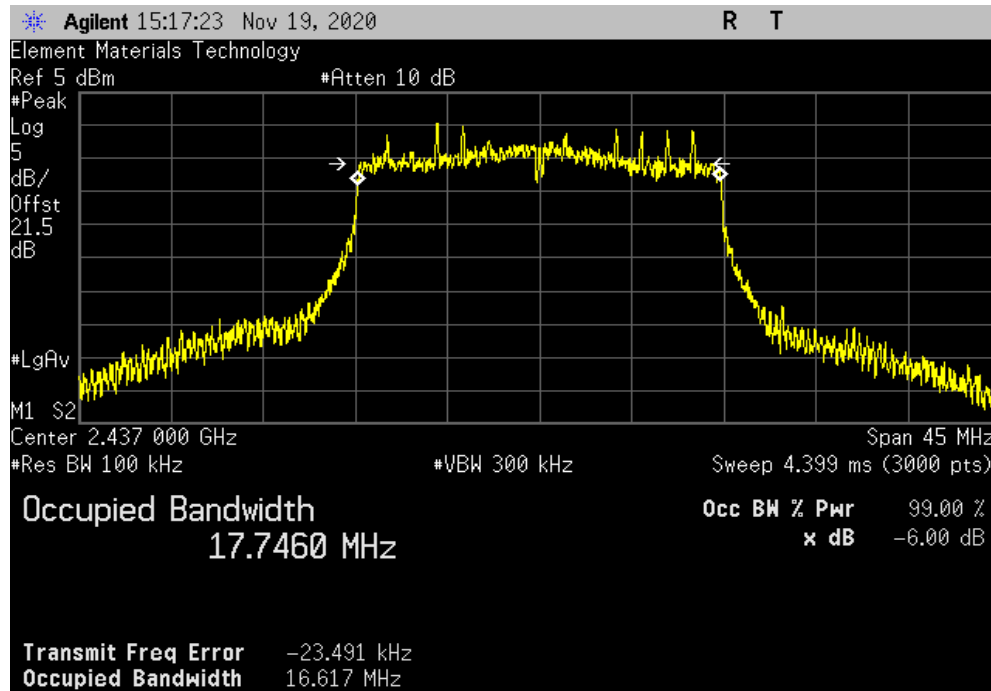


OCCUPIED BANDWIDTH

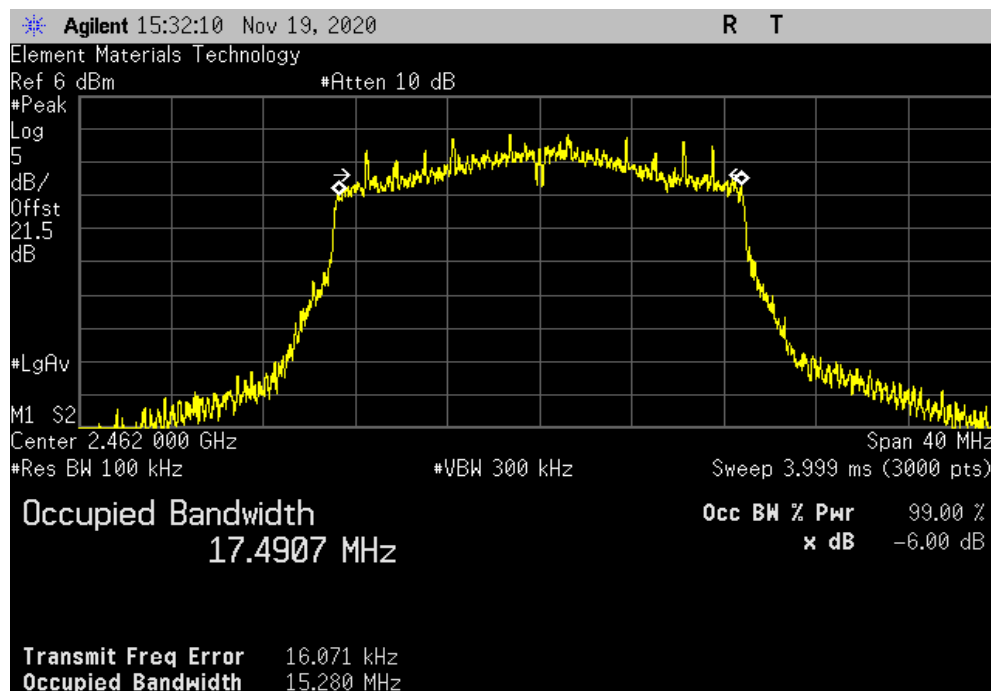


TUTx 2019.08.30.0 XMR 2020.03.25.0

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



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

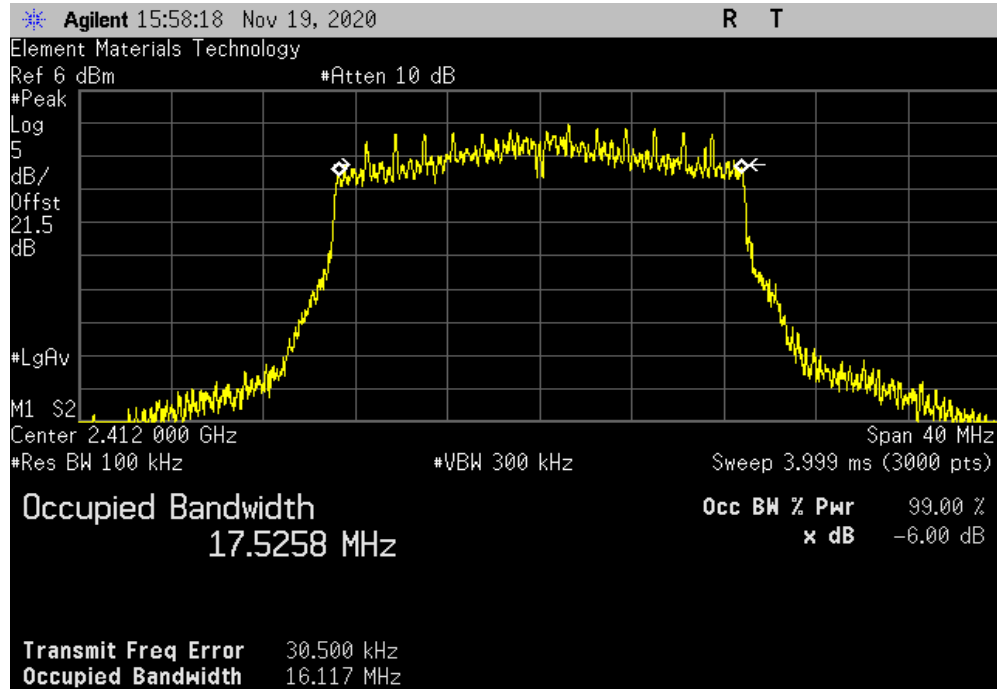


OCCUPIED BANDWIDTH

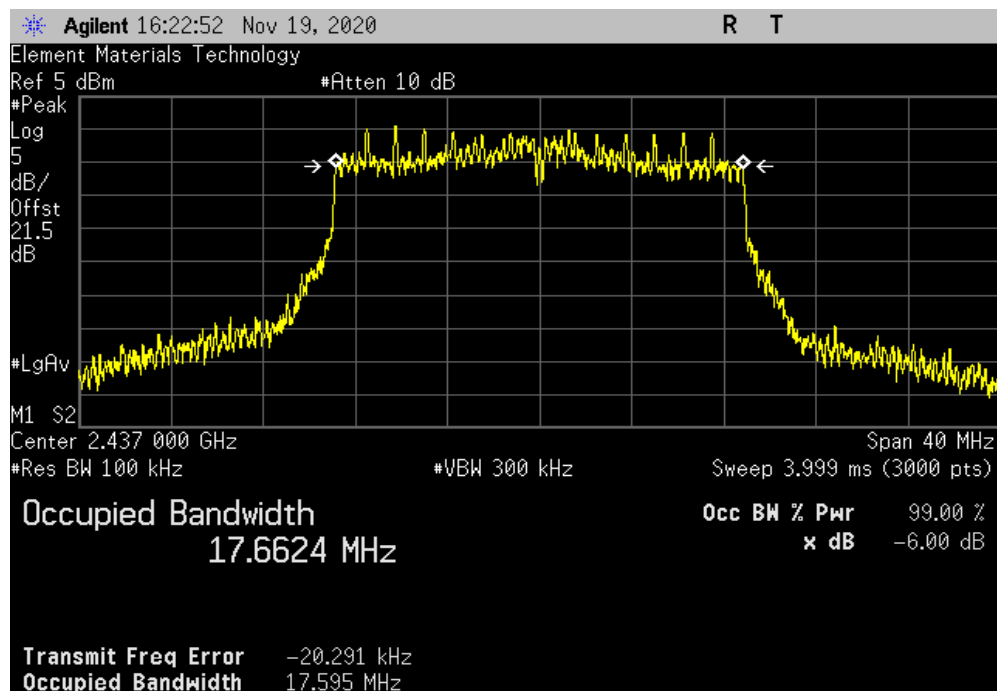


TMTx 2019.08.30.0 XMR 2020.03.25.0

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



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

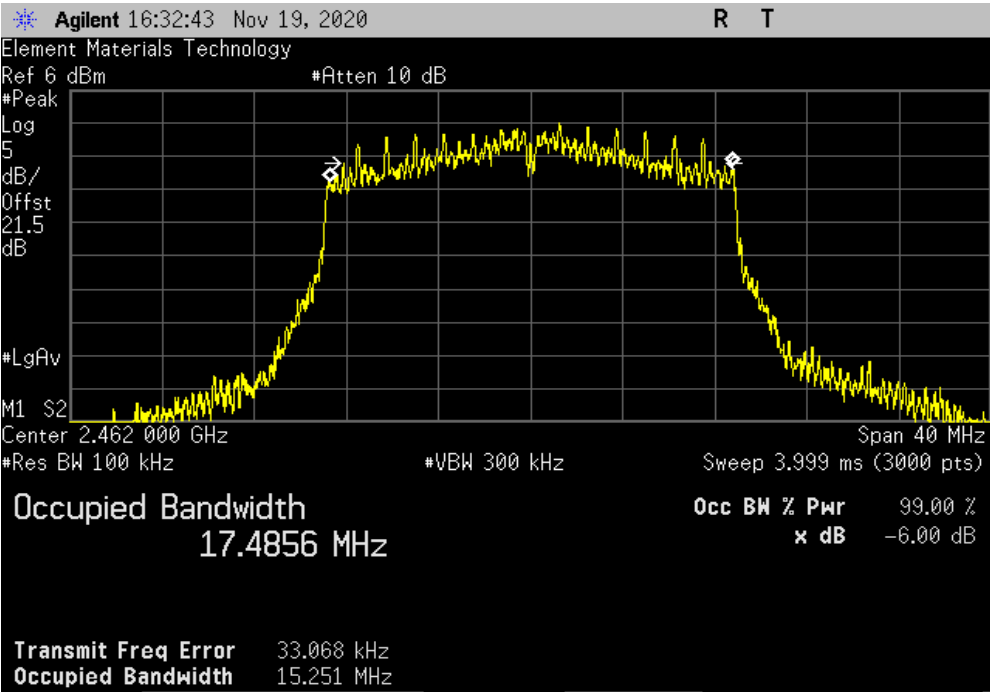


OCCUPIED BANDWIDTH



TbTx 2019.08.30.0 XMR 2020.03.25.0

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



OUTPUT POWER



XMIT 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

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.

OUTPUT POWER



TSTx 2019.08.30.0 XMR 2020.03.25.0

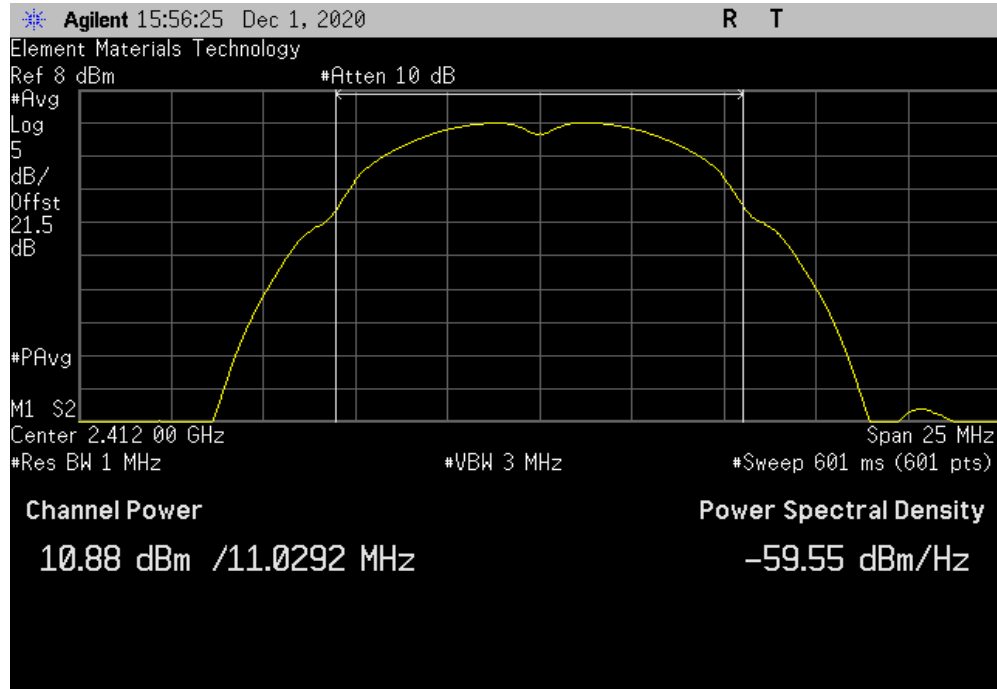
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.5 °C	
Attendees: Spencer Warneke		Humidity: 28.2% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcock	Power: 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)
		Out Pwr (dBm)	Limit (dBm)
			Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	10.88	0
	Mid Channel 6, 2437 MHz	10.845	0
	High Channel 11, 2462 MHz	10.864	0
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	11.567	0.1
	Mid Channel 6, 2437 MHz	11.465	0.1
	High Channel 11, 2462 MHz	11.536	0.1
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	12.515	0.1
	Mid Channel 6, 2437 MHz	12.079	0.1
	High Channel 11, 2462 MHz	12.464	0.1
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	12.206	0.4
	Mid Channel 6, 2437 MHz	11.753	0.4
	High Channel 11, 2462 MHz	12.249	0.4
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	12.131	0.5
	Mid Channel 6, 2437 MHz	11.722	0.5
	High Channel 11, 2462 MHz	12.057	0.5
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	11.056	0.1
	Mid Channel 6, 2437 MHz	10.853	0.1
	High Channel 11, 2462 MHz	11.12	0.1
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	10.722	0.5
	Mid Channel 6, 2437 MHz	10.496	0.5
	High Channel 11, 2462 MHz	10.654	0.5

OUTPUT POWER

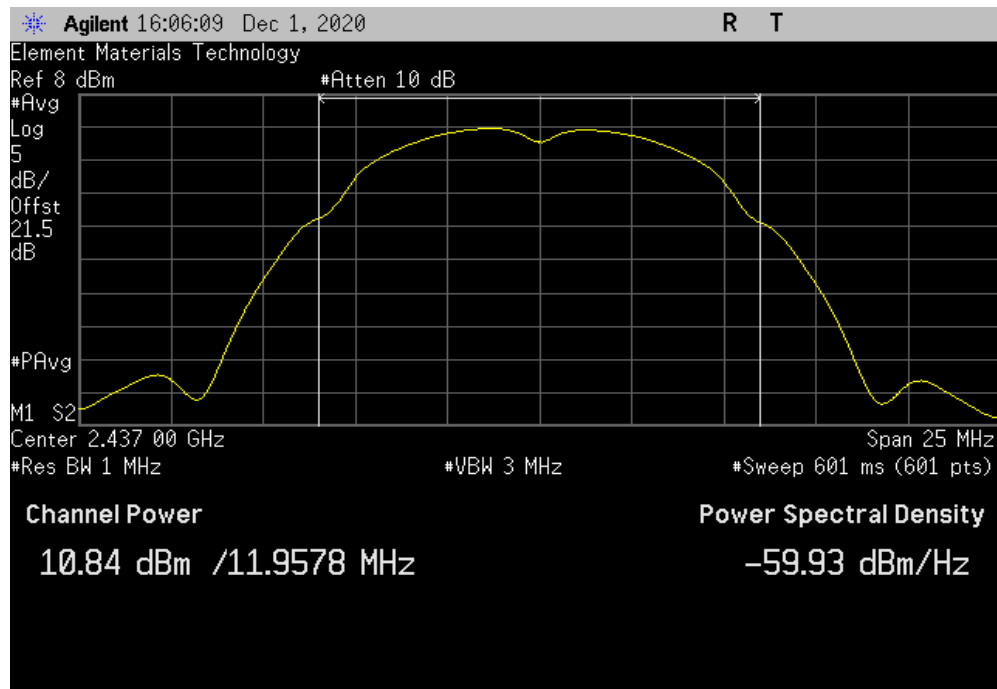


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.88	0	10.9	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.845	0	10.9	30	Pass	

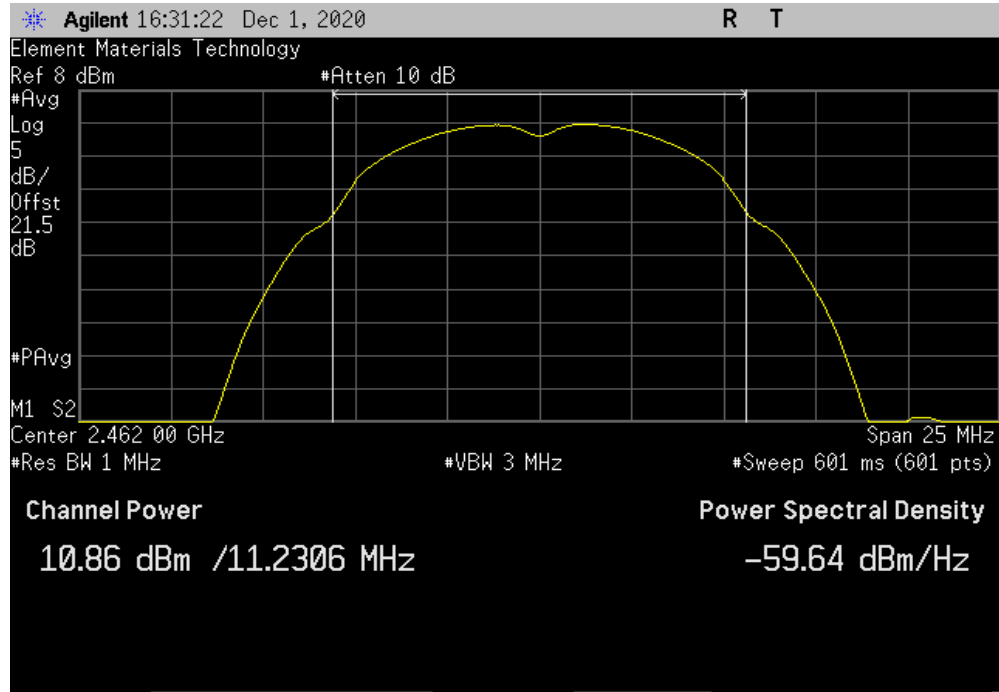


OUTPUT POWER

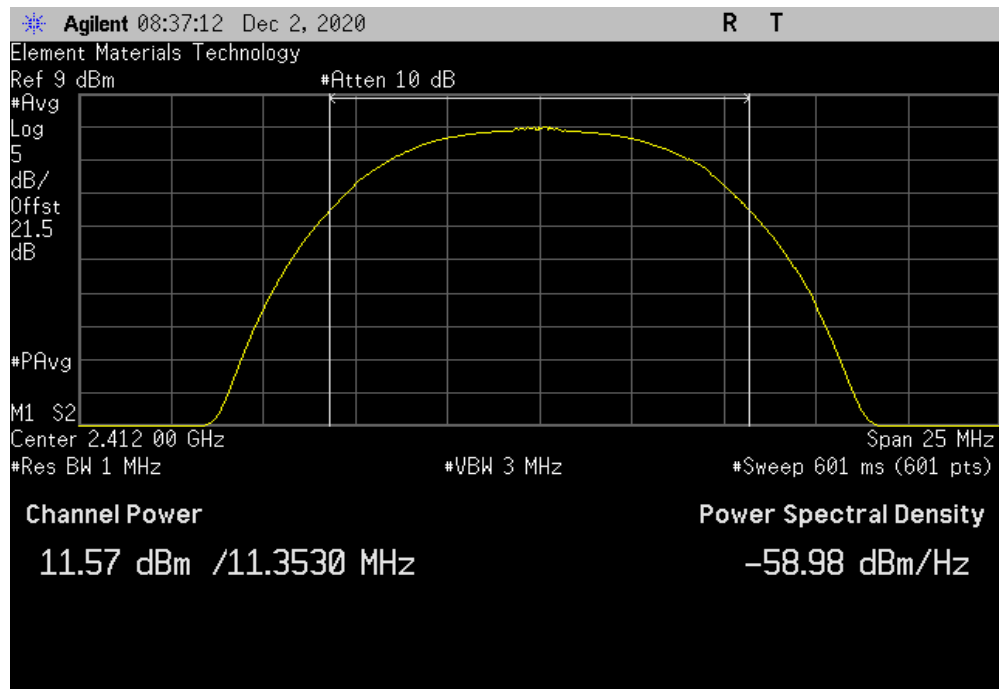


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.864	0	10.9	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.567	0.1	11.6	30	Pass	

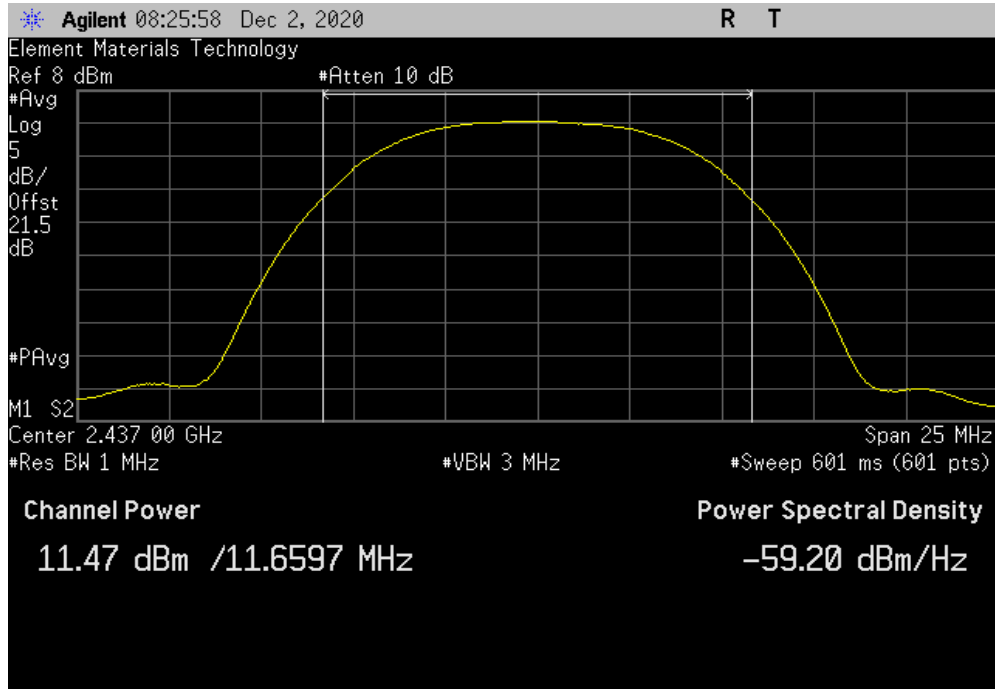


OUTPUT POWER

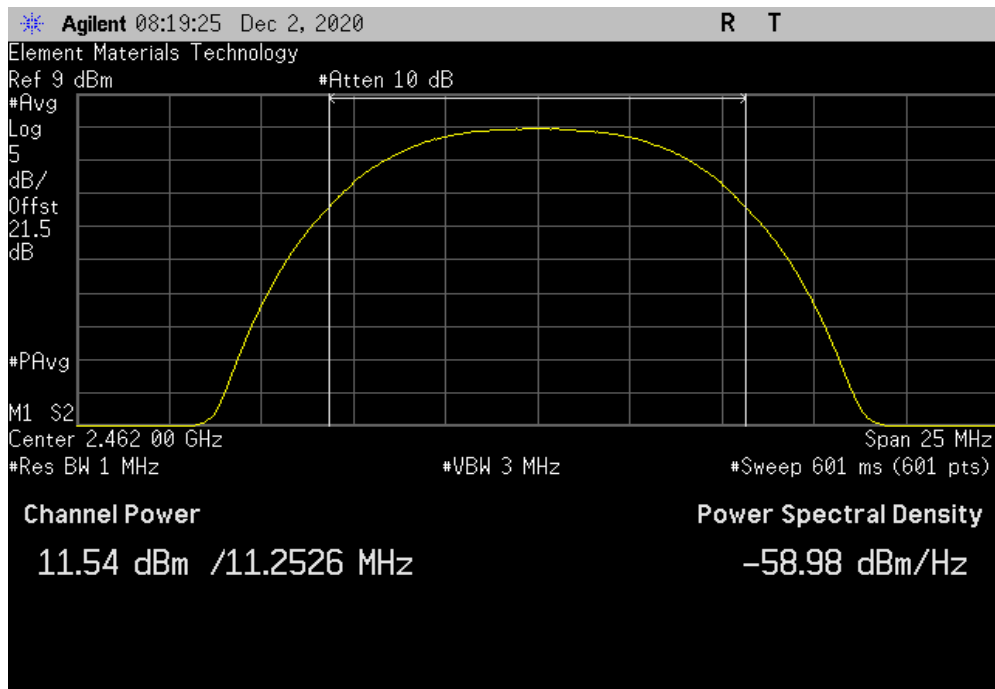


TUTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.465	0.1	11.5	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.536	0.1	11.6	30	Pass	

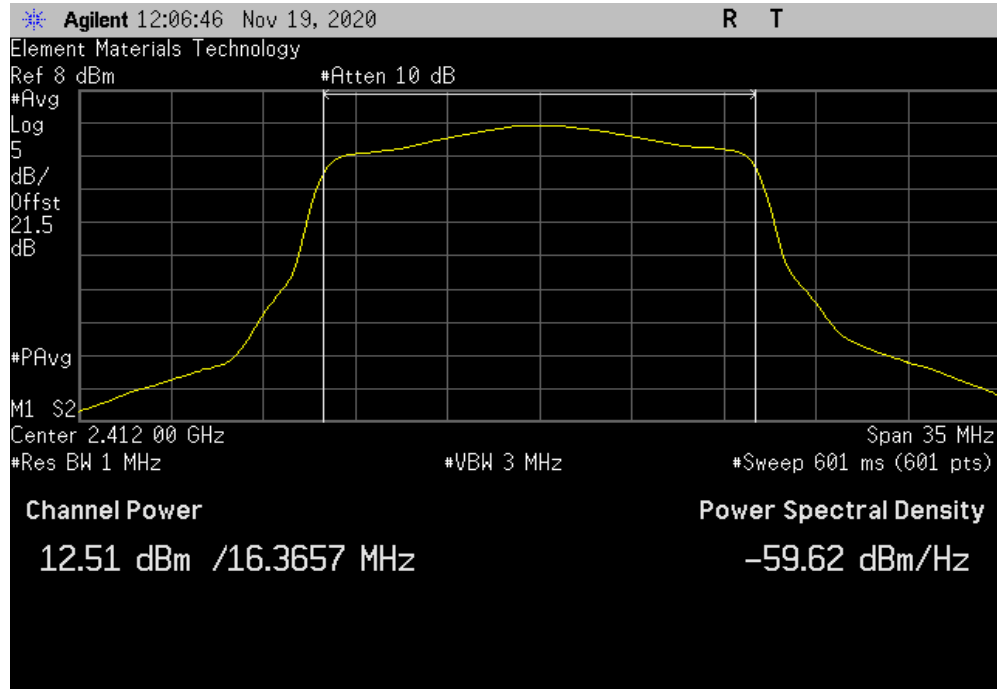


OUTPUT POWER

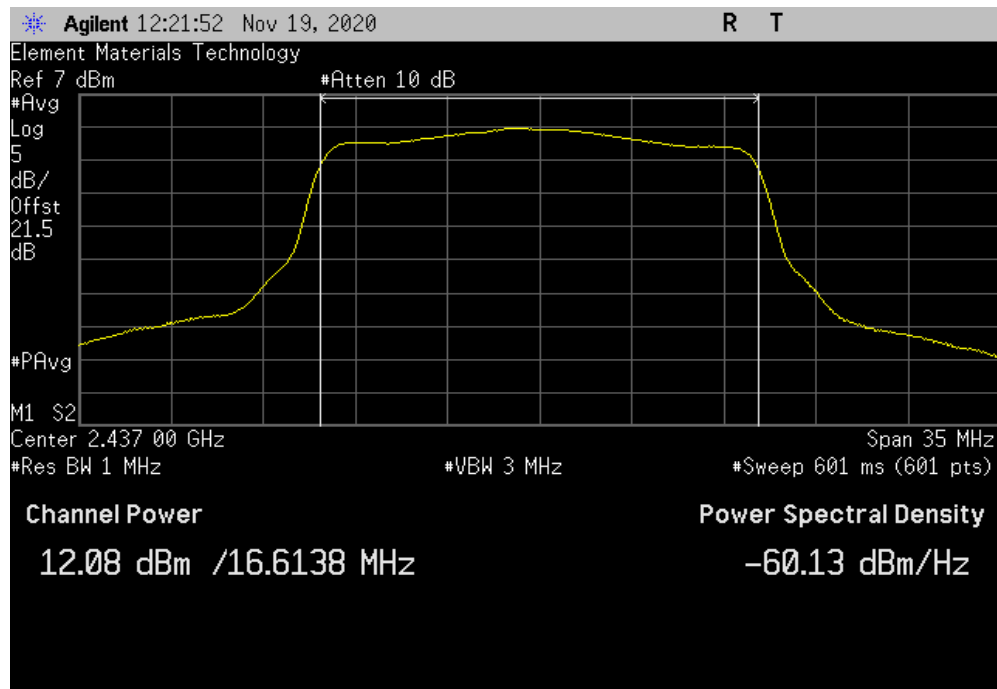


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.515	0.1	12.6	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)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.079	0.1	12.1	30	Pass	

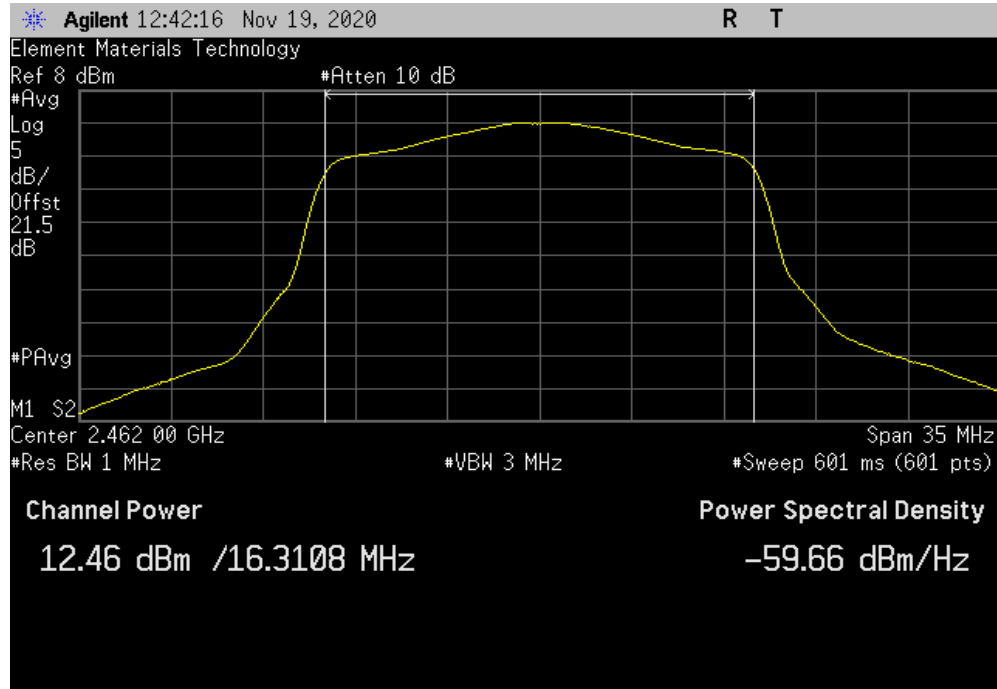


OUTPUT POWER

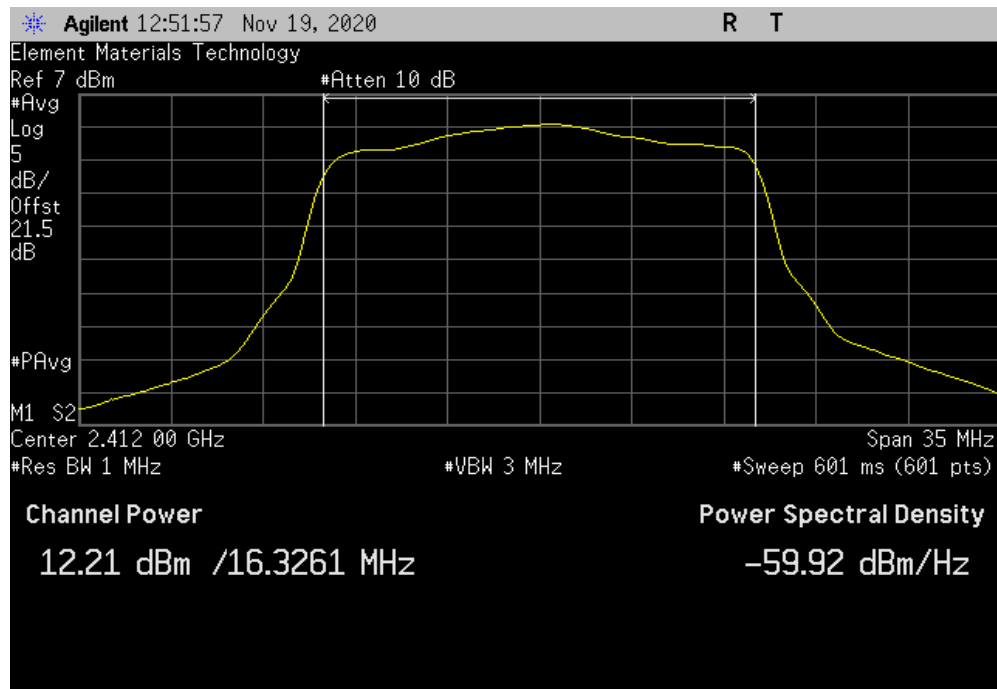


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.464	0.1	12.5	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.206	0.4	12.6	30	Pass	

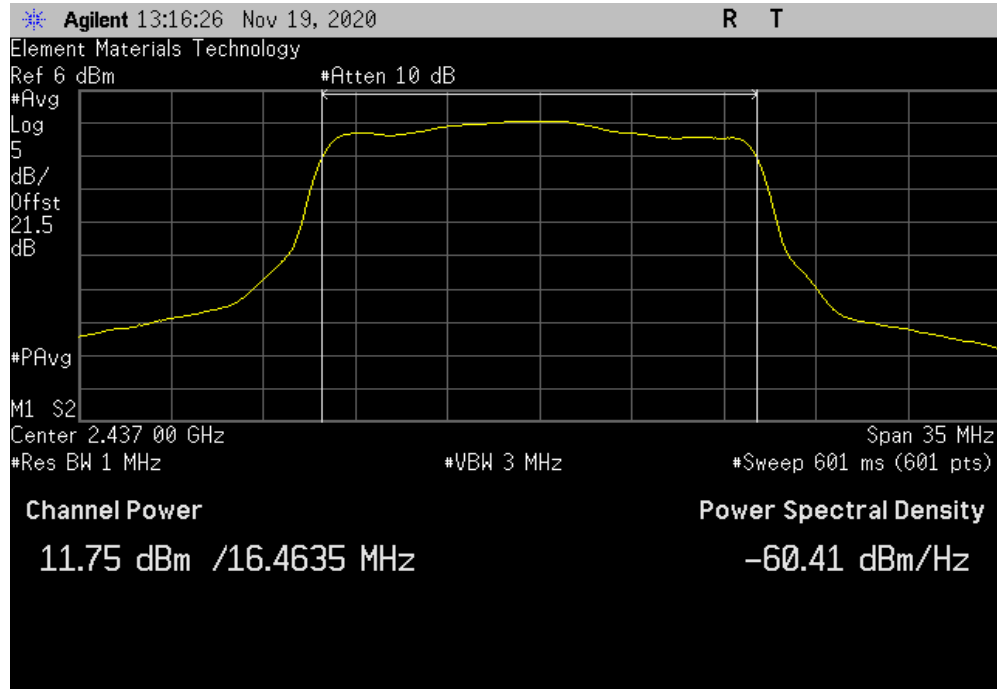


OUTPUT POWER

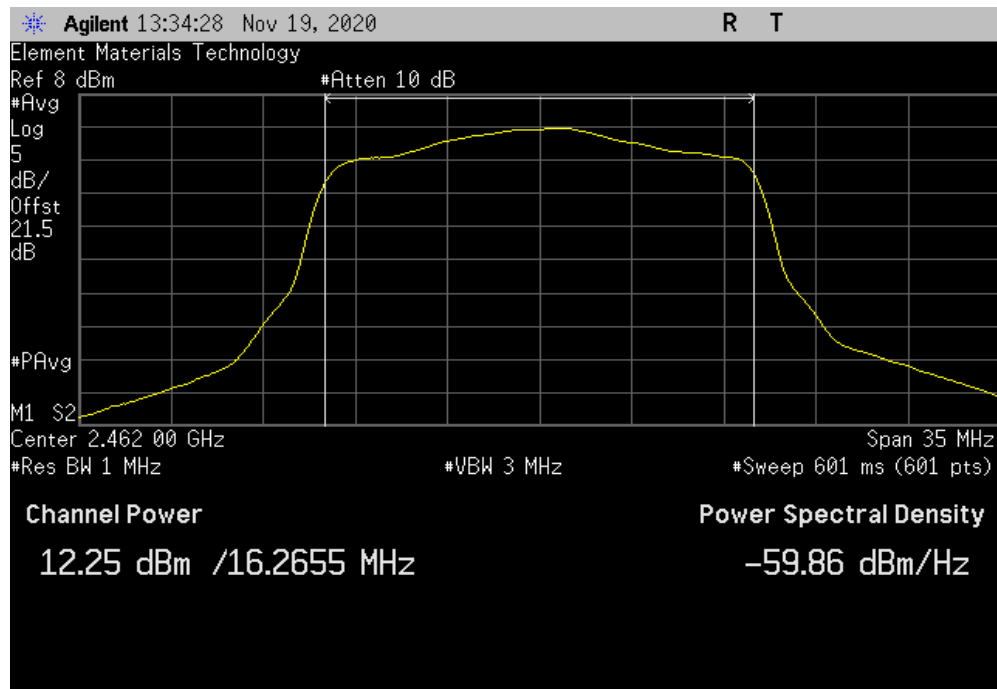


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.753	0.4	12.1	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.249	0.4	12.6	30	Pass	

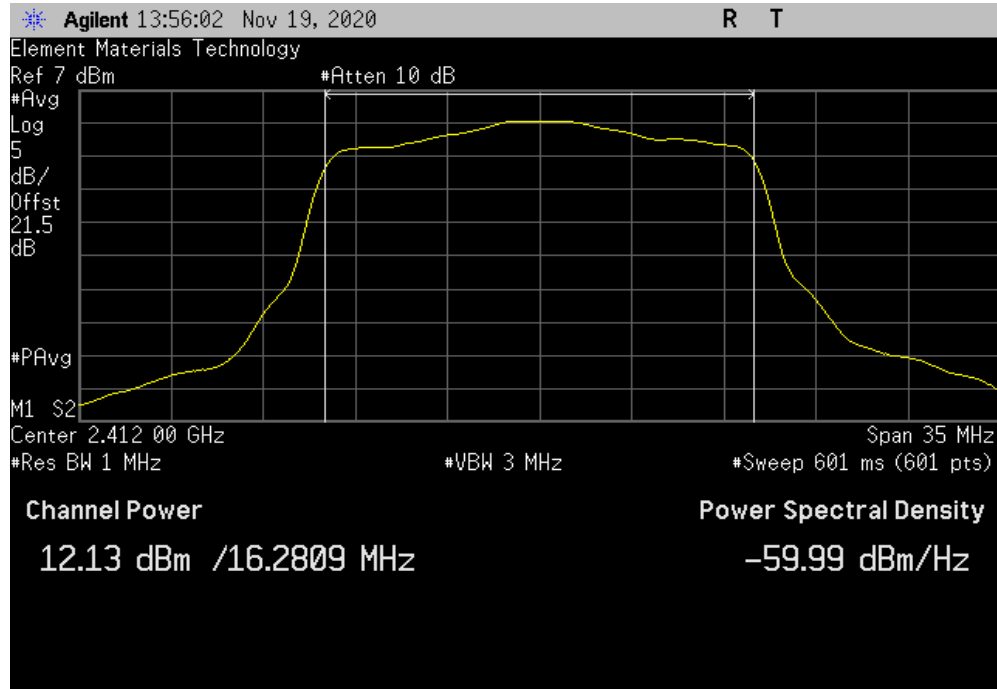


OUTPUT POWER

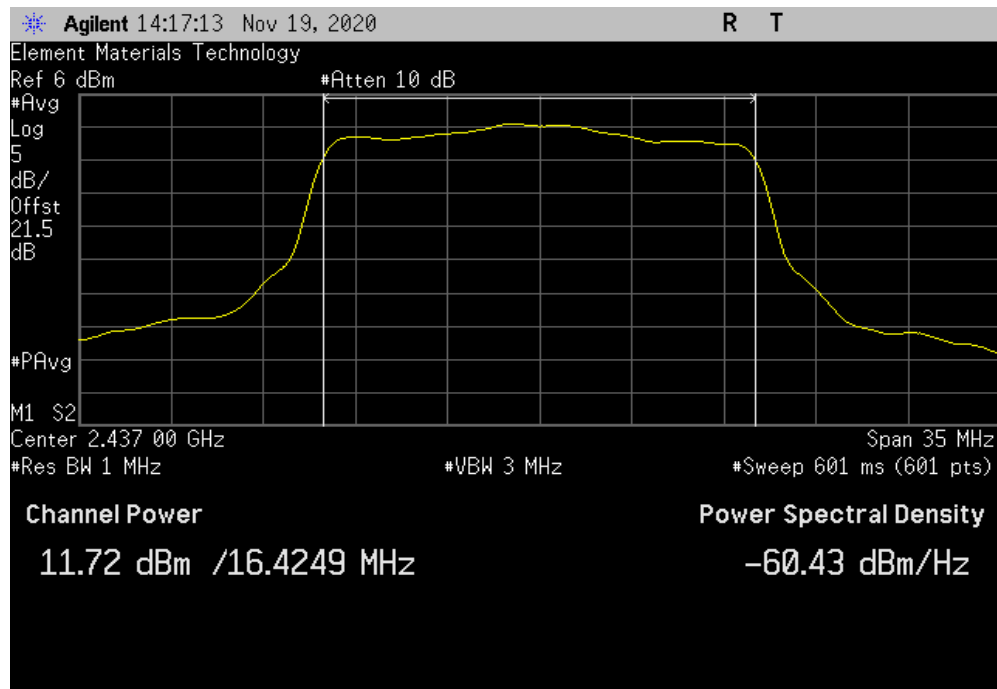


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.131	0.5	12.6	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.722	0.5	12.2	30	Pass	

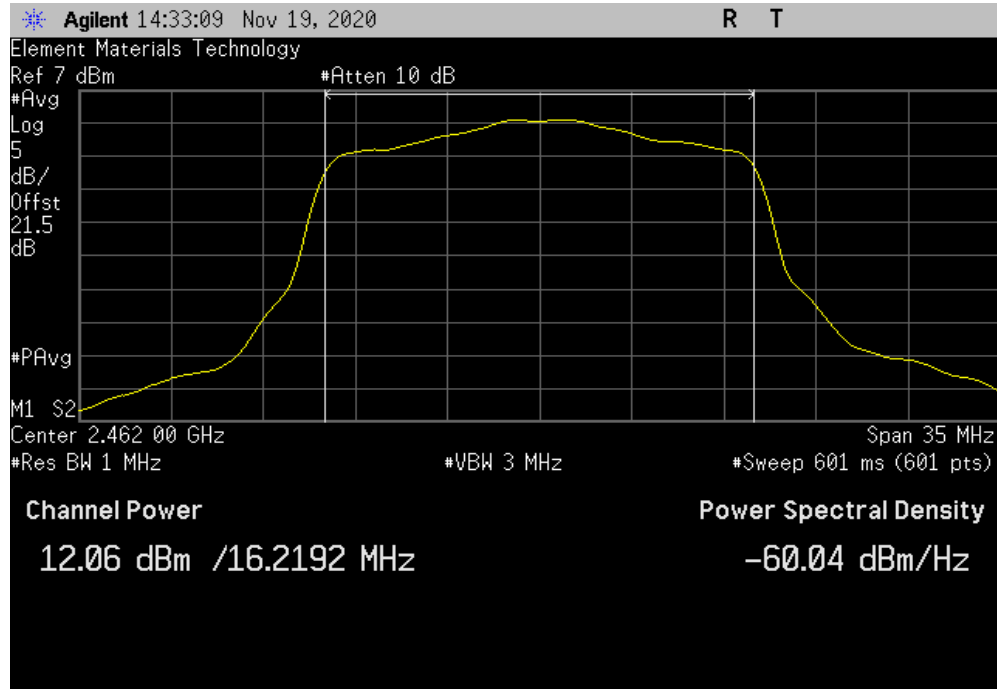


OUTPUT POWER

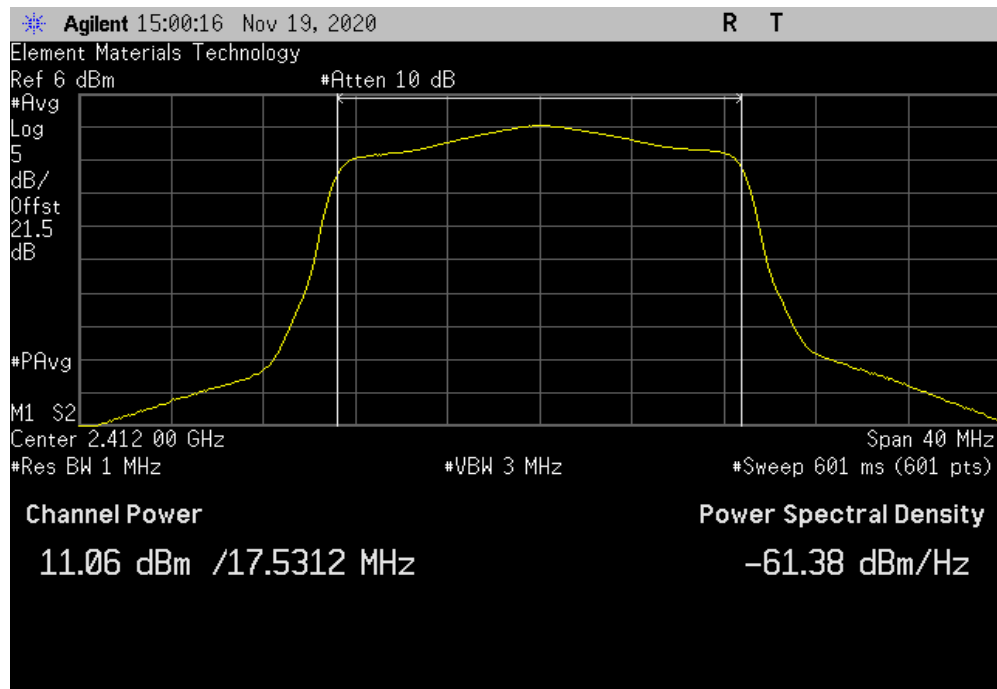


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	12.057	0.5	12.6	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.056	0.1	11.1	30	Pass	

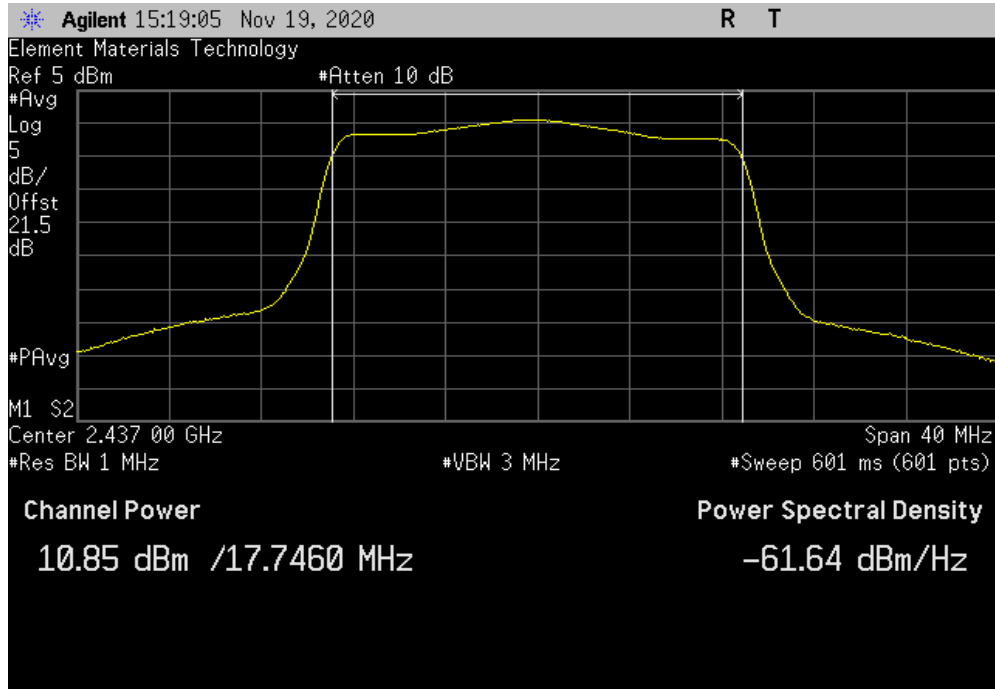


OUTPUT POWER

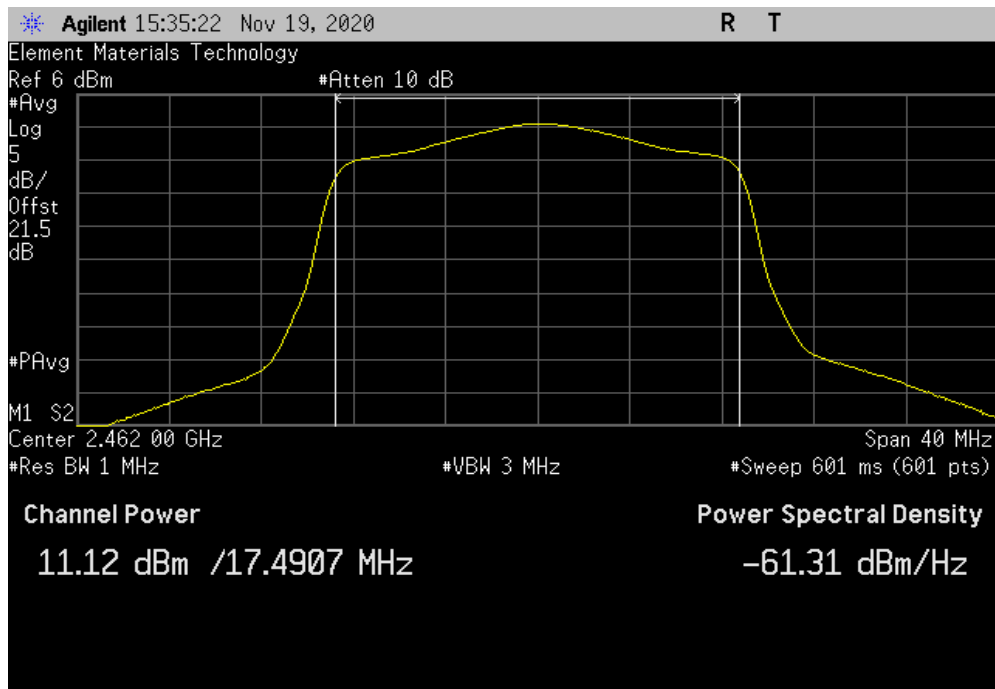


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.853	0.1	10.9	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.12	0.1	11.2	30	Pass	

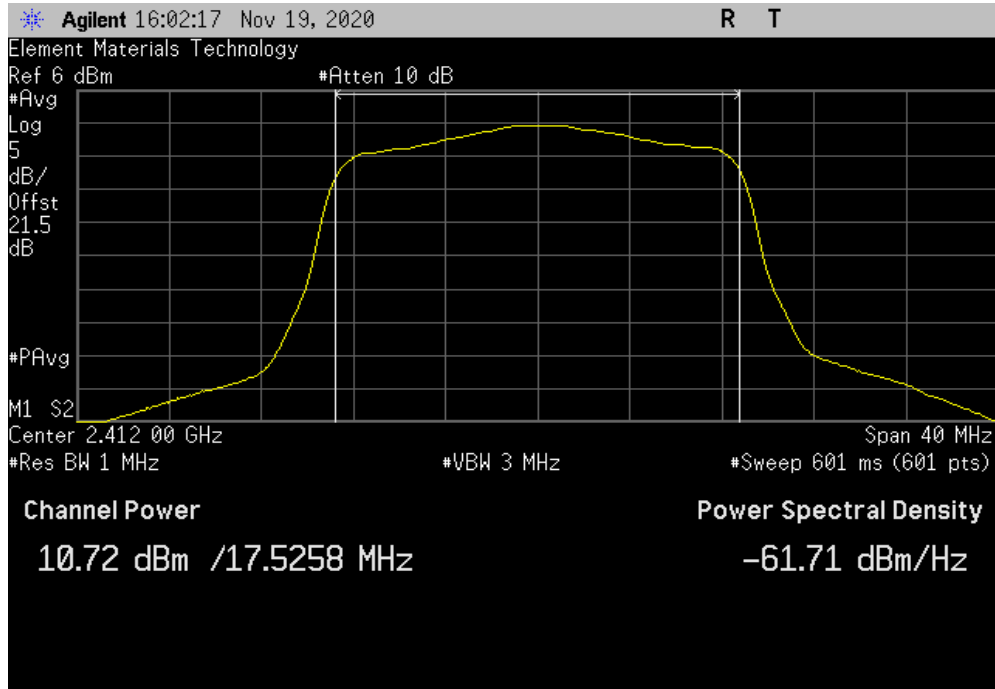


OUTPUT POWER

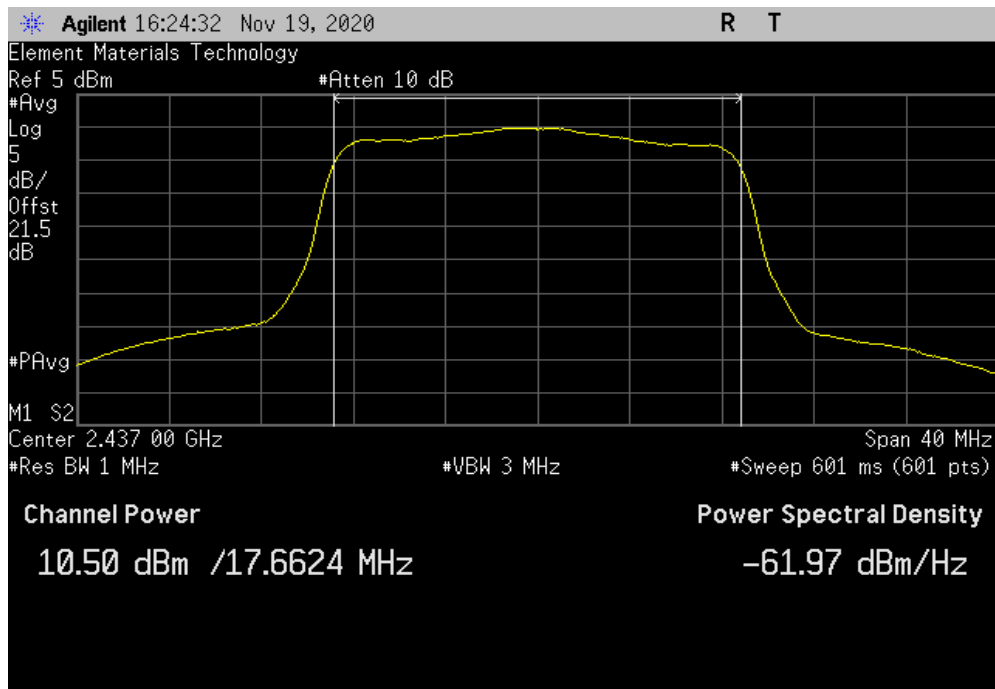


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.722	0.5	11.3	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)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.496	0.5	11	30	Pass	

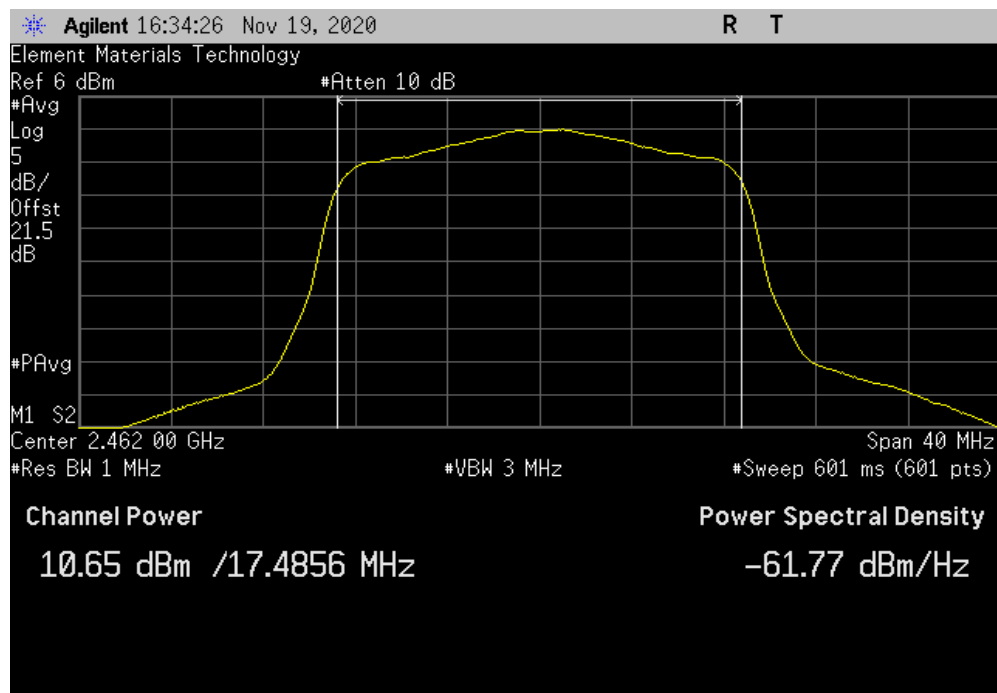


OUTPUT POWER



TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.654	0.5	11.2	30	Pass	



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



XMIT 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

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.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TSTx 2019.08.30.0 XMR 2020.03.25.0

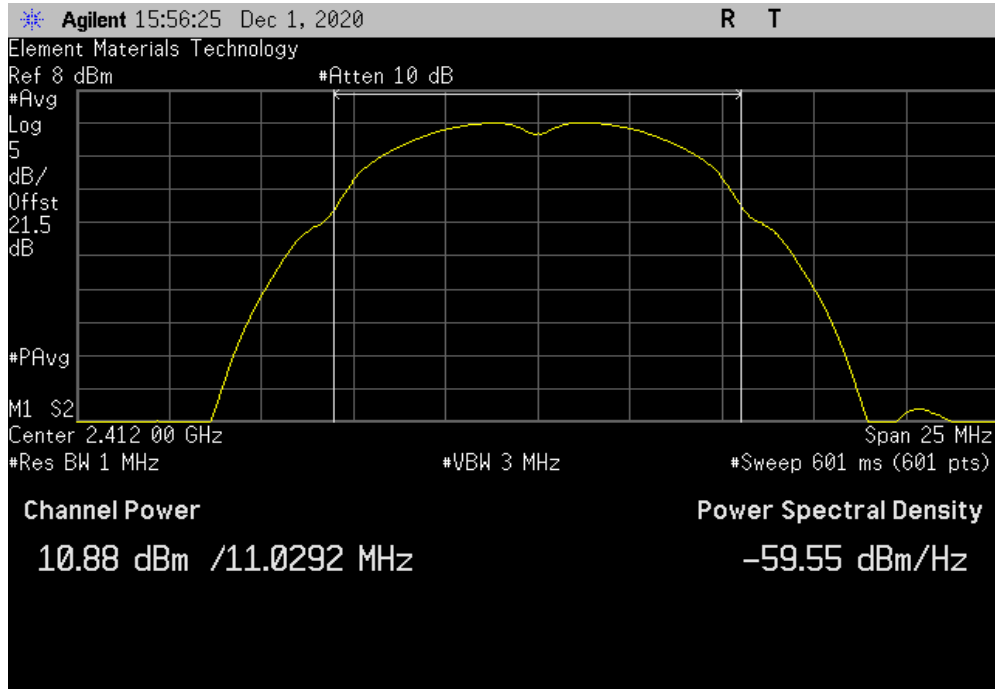
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.5 °C	
Attendees: Spencer Warneke		Humidity: 28.3% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcock		Power: 110VAC/60Hz	
TEST SPECIFICATIONS		Job Site: EV06	
FCC 15.247:2020		Test Method	
		ANSI C63.10-2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)
		Out Pwr (dBm)	Antenna Gain (dBi)
		EIRP (dBm)	EIRP Limit (dBm)
			Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	10.88	0.0
	Mid Channel 6, 2437 MHz	10.845	0.0
	High Channel 11, 2462 MHz	10.864	0.0
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	11.567	0.1
	Mid Channel 6, 2437 MHz	11.465	0.1
	High Channel 11, 2462 MHz	11.536	0.1
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	12.515	0.1
	Mid Channel 6, 2437 MHz	12.079	0.1
	High Channel 11, 2462 MHz	12.464	0.1
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	12.206	0.4
	Mid Channel 6, 2437 MHz	11.753	0.4
	High Channel 11, 2462 MHz	12.249	0.4
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	12.131	0.5
	Mid Channel 6, 2437 MHz	11.722	0.5
	High Channel 11, 2462 MHz	12.057	0.5
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	11.056	0.1
	Mid Channel 6, 2437 MHz	10.853	0.1
	High Channel 11, 2462 MHz	11.12	0.1
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	10.722	0.5
	Mid Channel 6, 2437 MHz	10.496	0.5
	High Channel 11, 2462 MHz	10.654	0.5

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

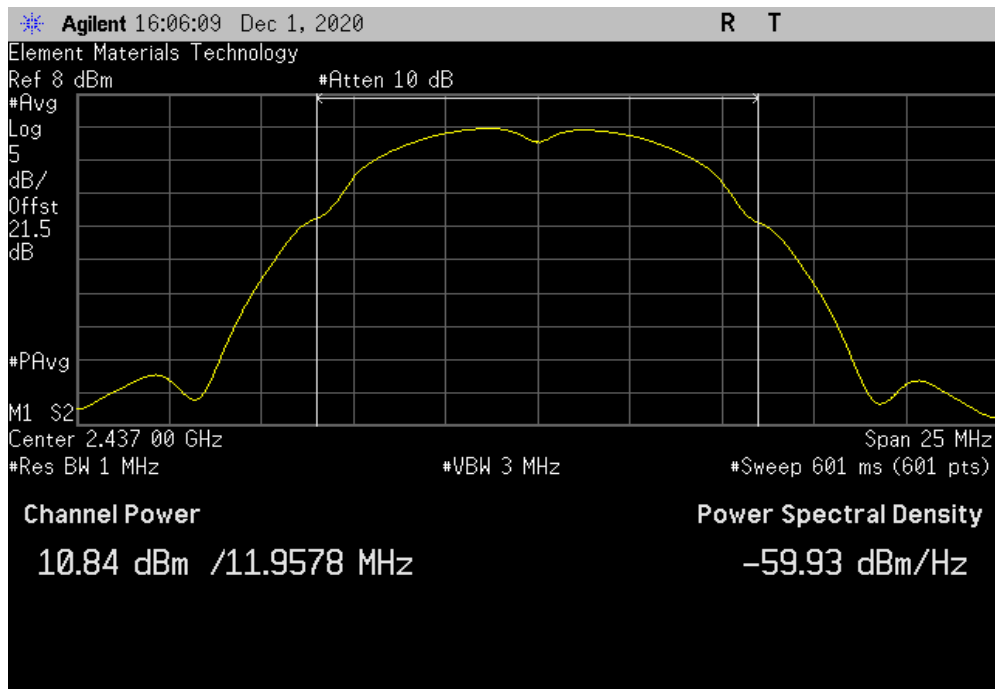


TUTTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.88	0	10.9	2.2	13.1	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.845	0	10.9	2.2	13.1	36	Pass

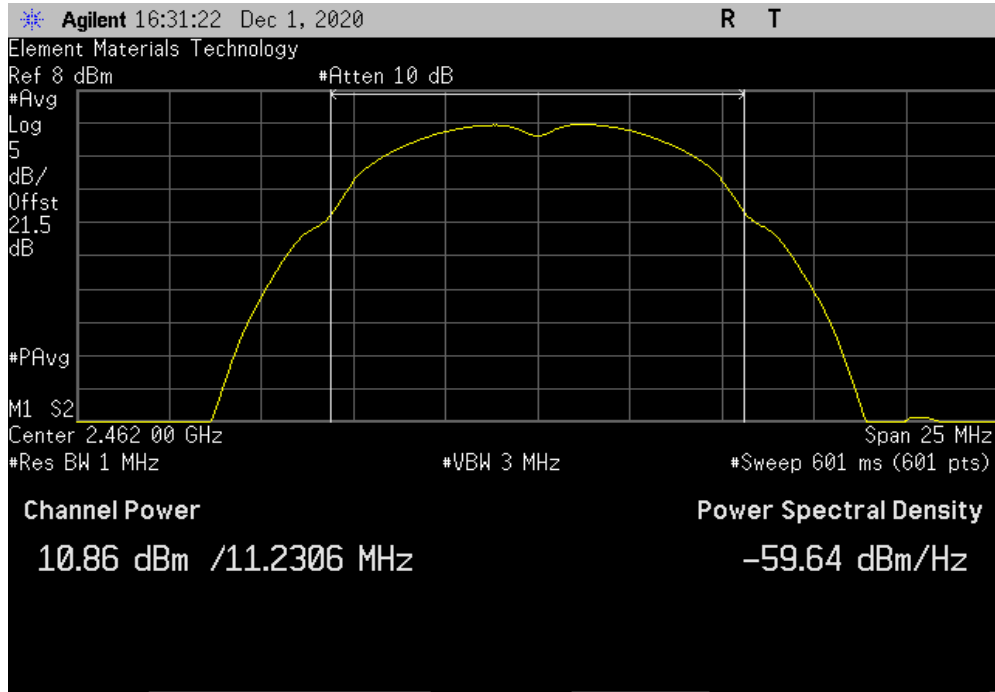


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

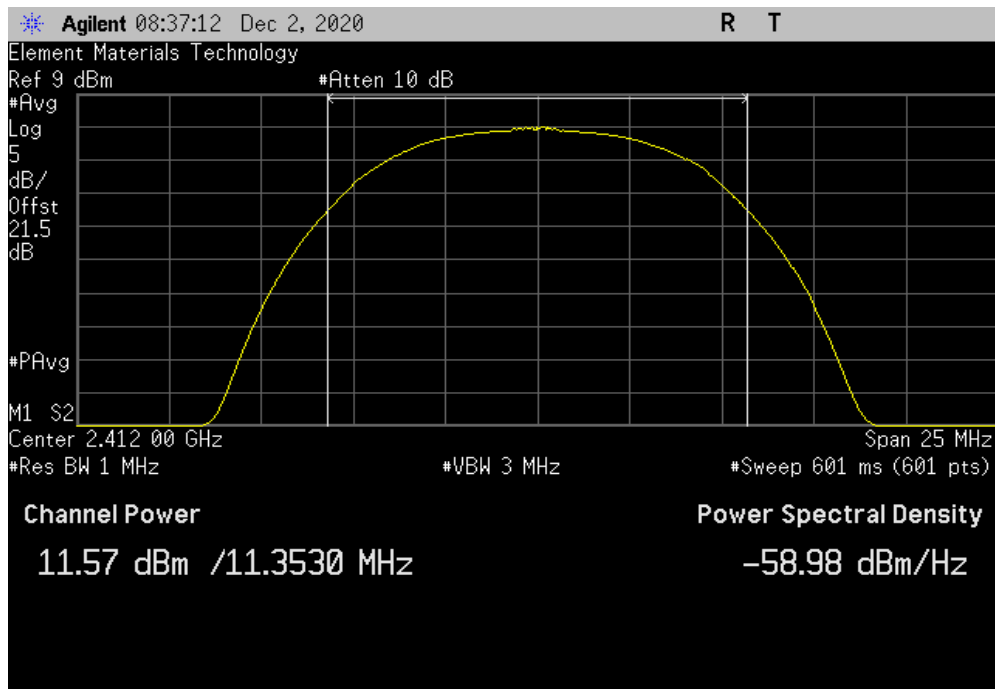


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.864	0	10.9	2.2	13.1	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.567	0.1	11.6	2.2	13.8	36	Pass

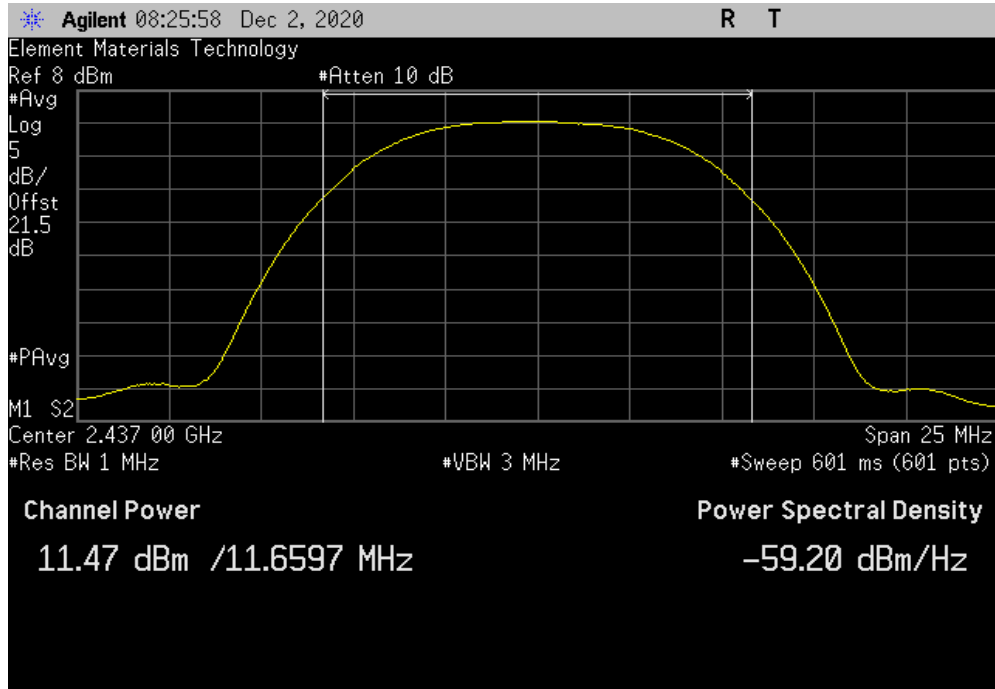


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

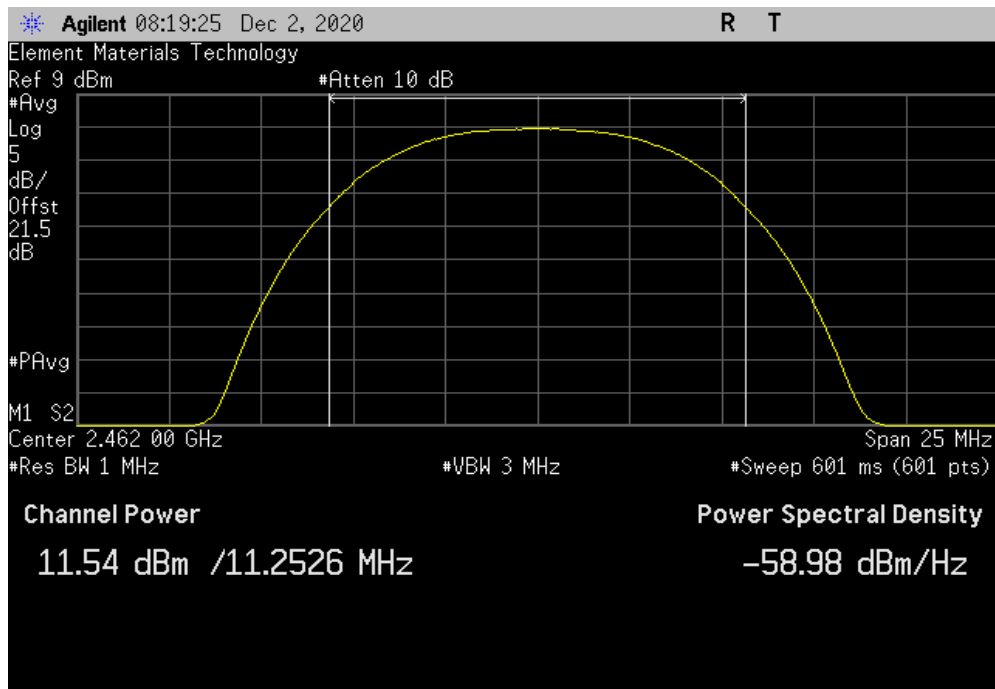


TbTx 2019.08.30.0 XMt 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.465	0.1	11.5	2.2	13.7	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.536	0.1	11.6	2.2	13.8	36	Pass

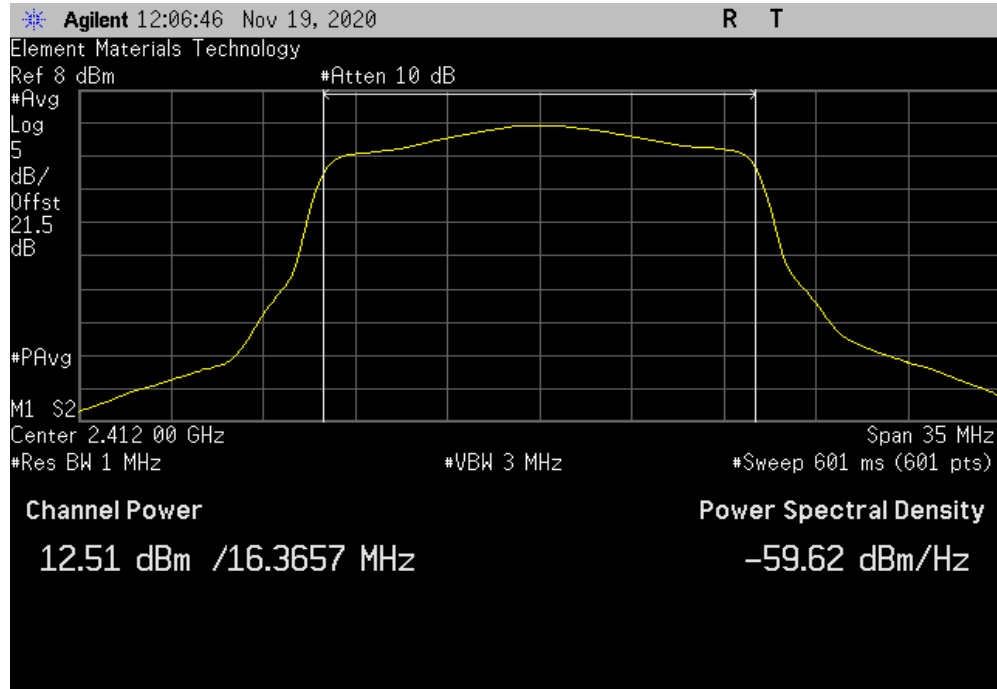


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

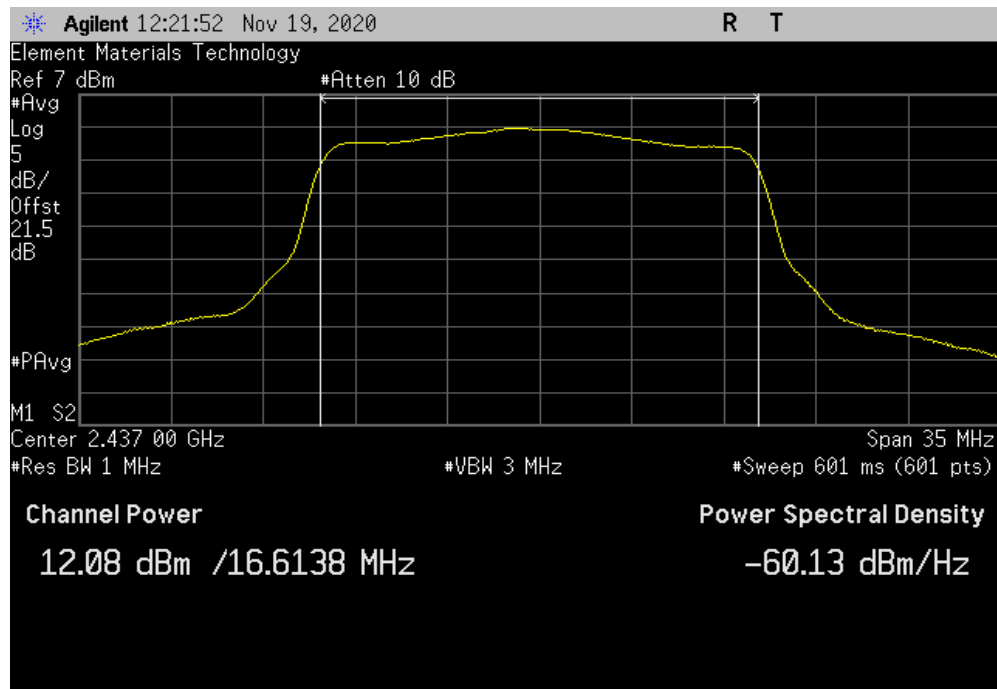


TbTx 2019.08.30.0 XMt 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.515	0.1	12.6	2.2	14.8	36	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)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.079	0.1	12.1	2.2	14.3	36	Pass

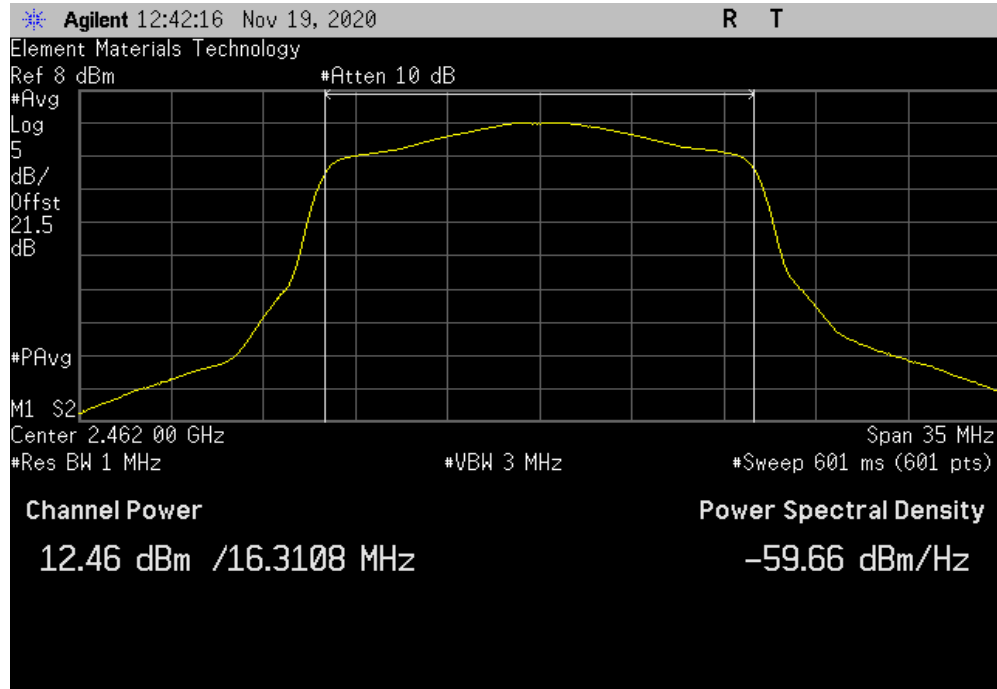


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

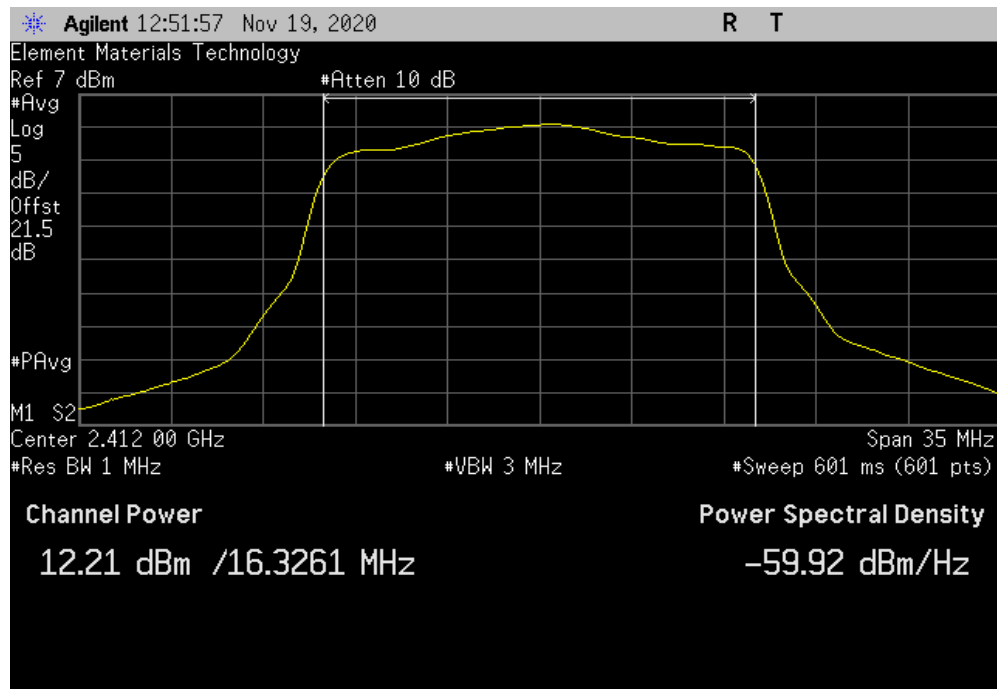


TUTTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.464	0.1	12.5	2.2	14.7	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.206	0.4	12.6	2.2	14.8	36	Pass

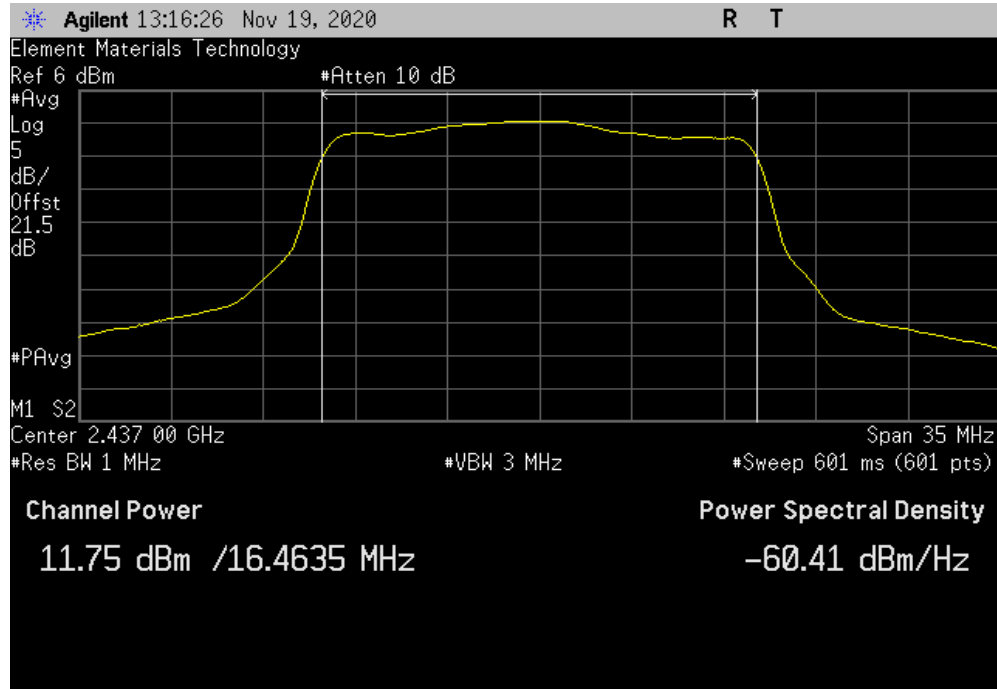


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

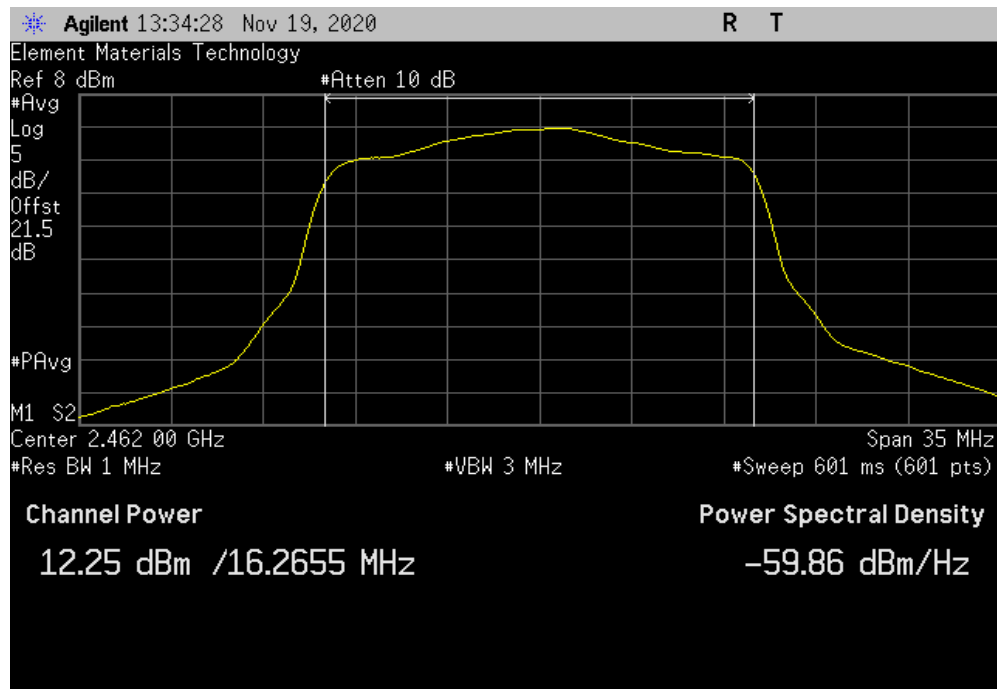


TUTTx 2019.08.30.0 XMt 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.753	0.4	12.1	2.2	14.3	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.249	0.4	12.6	2.2	14.8	36	Pass

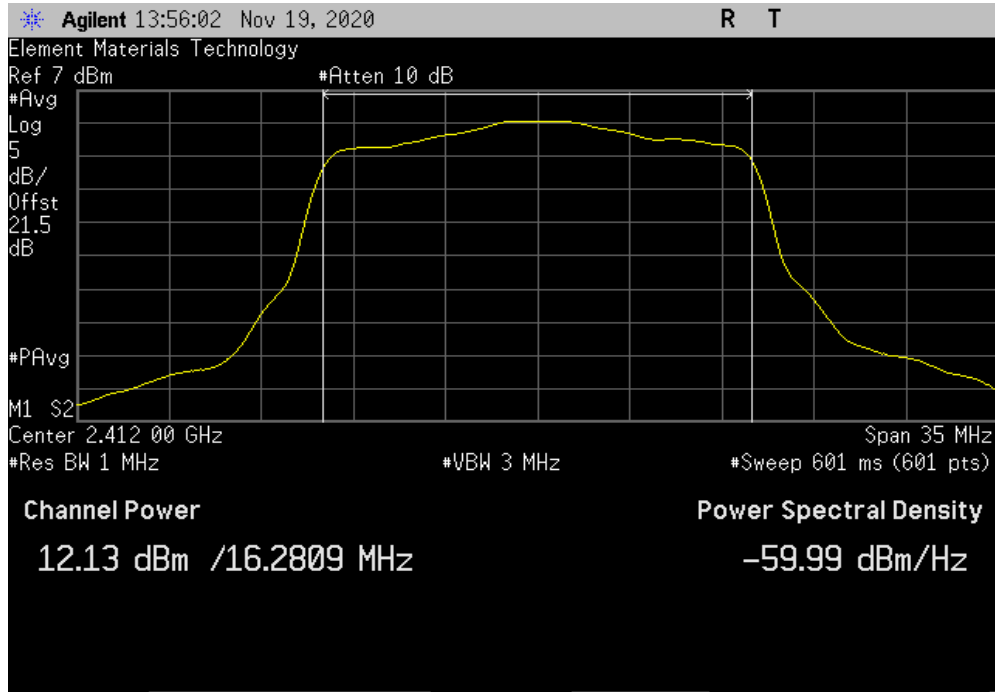


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

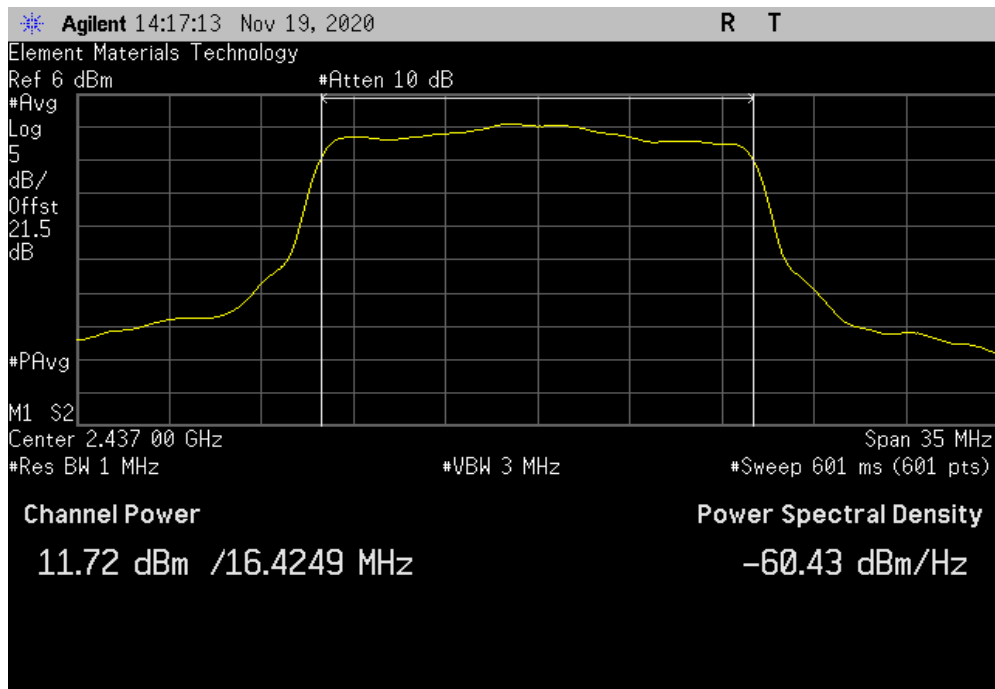


TUTTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.131	0.5	12.6	2.2	14.8	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.722	0.5	12.2	2.2	14.4	36	Pass

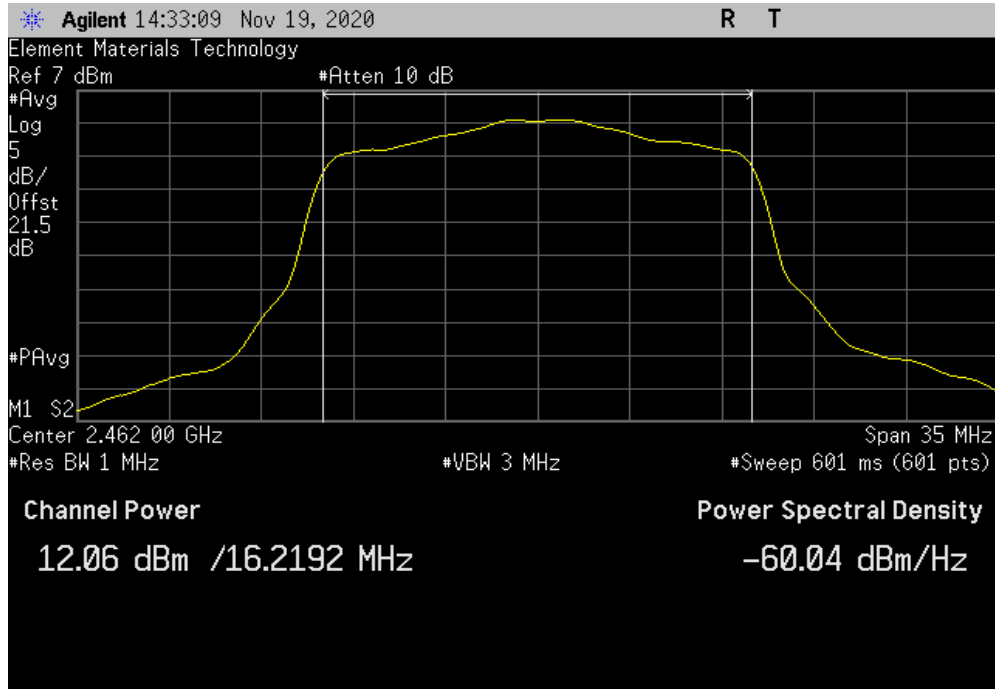


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

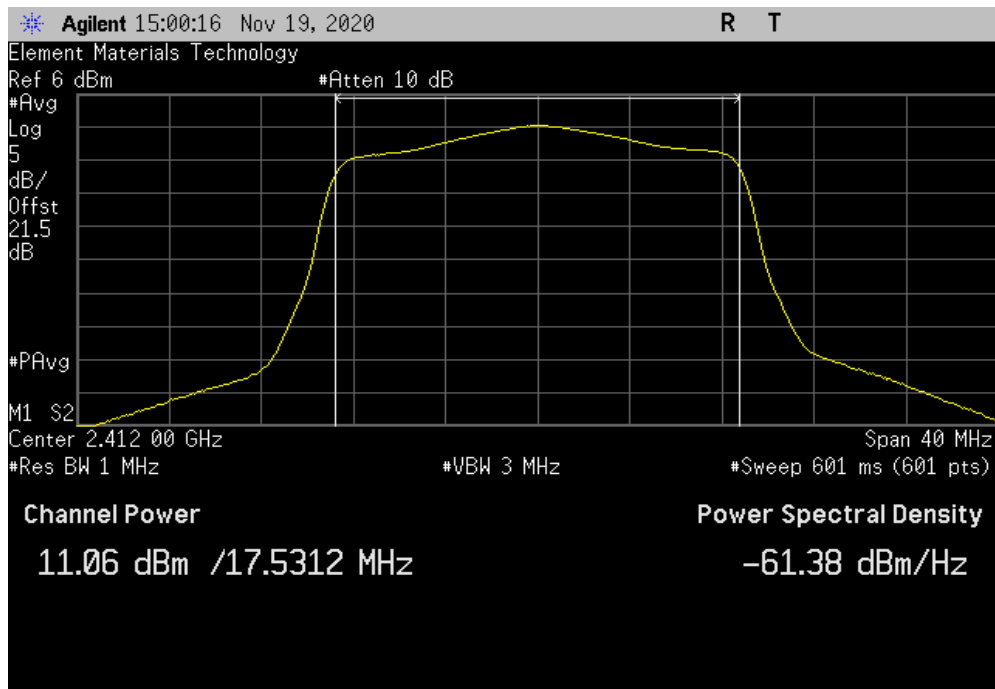


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
12.057	0.5	12.6	2.2	14.8	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.056	0.1	11.1	2.2	13.3	36	Pass

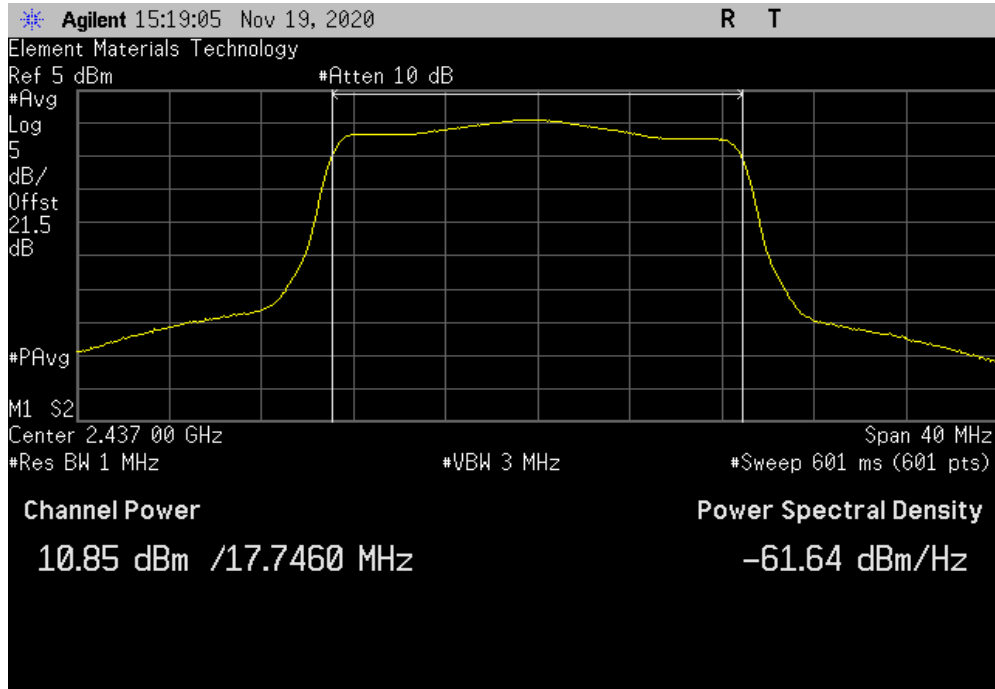


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

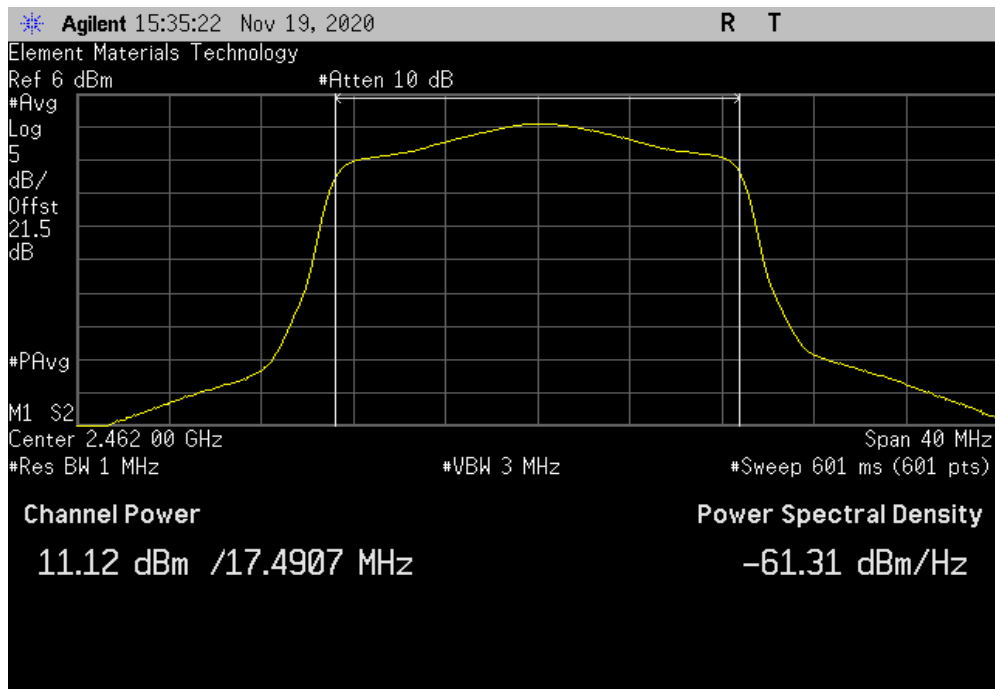


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.853	0.1	10.9	2.2	13.1	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
11.12	0.1	11.2	2.2	13.4	36	Pass

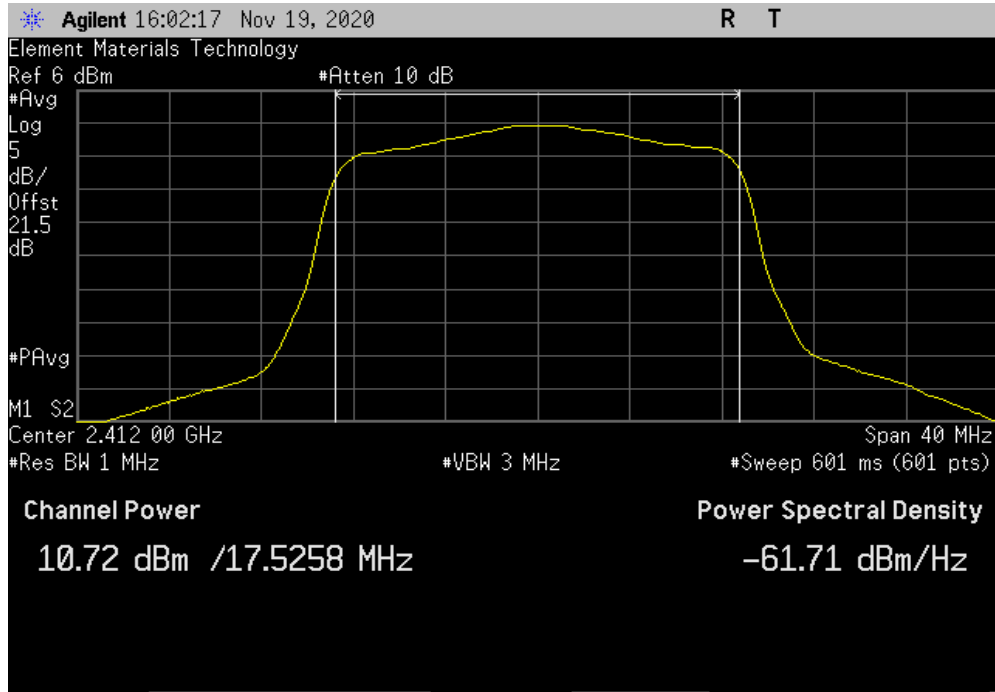


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

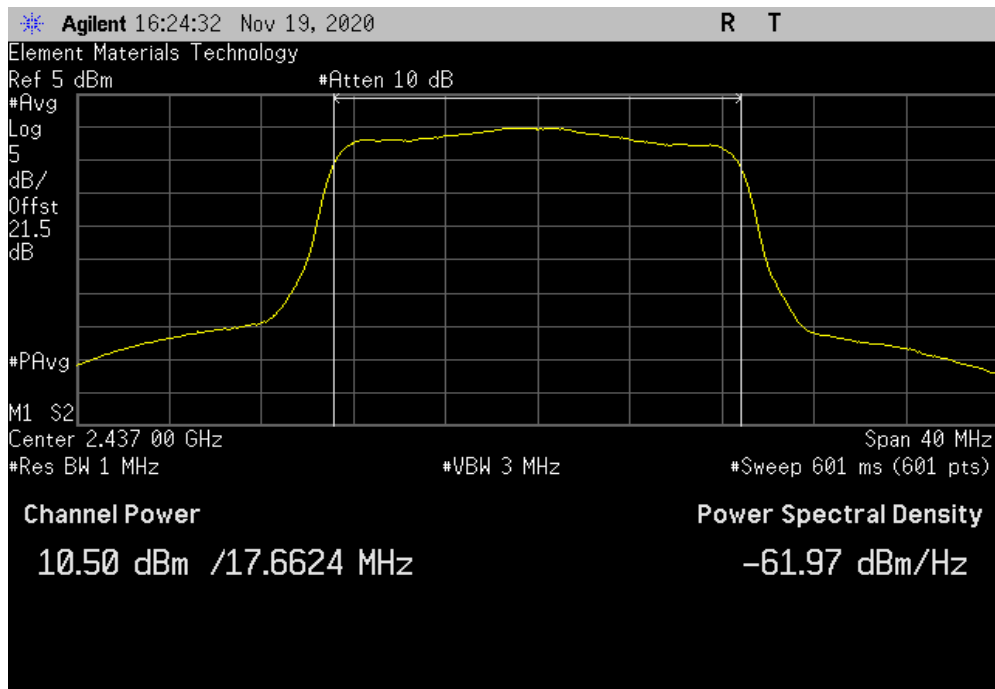


TbTx 2019.08.30.0 XMt 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.722	0.5	11.3	2.2	13.5	36	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.496	0.5	11	2.2	13.2	36	Pass

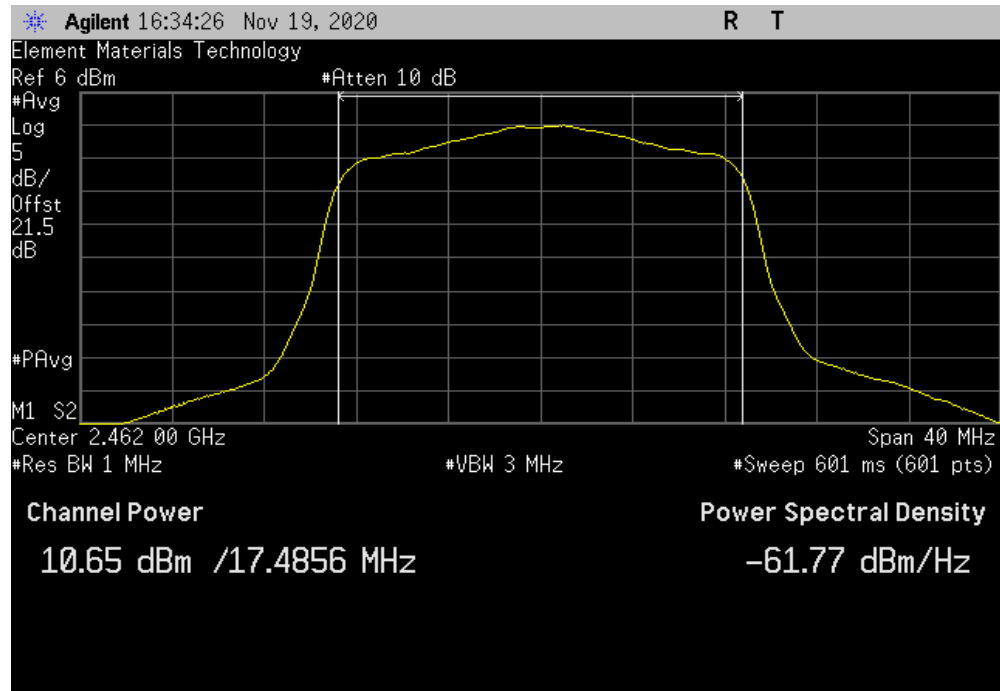


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TbTx 2019.08.30.0 XMt 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
10.654	0.5	11.2	2.2	13.4	36	Pass



POWER SPECTRAL DENSITY



XMIT 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

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



TSTx 2019.08.30.0 XMR 2020.03.25.0

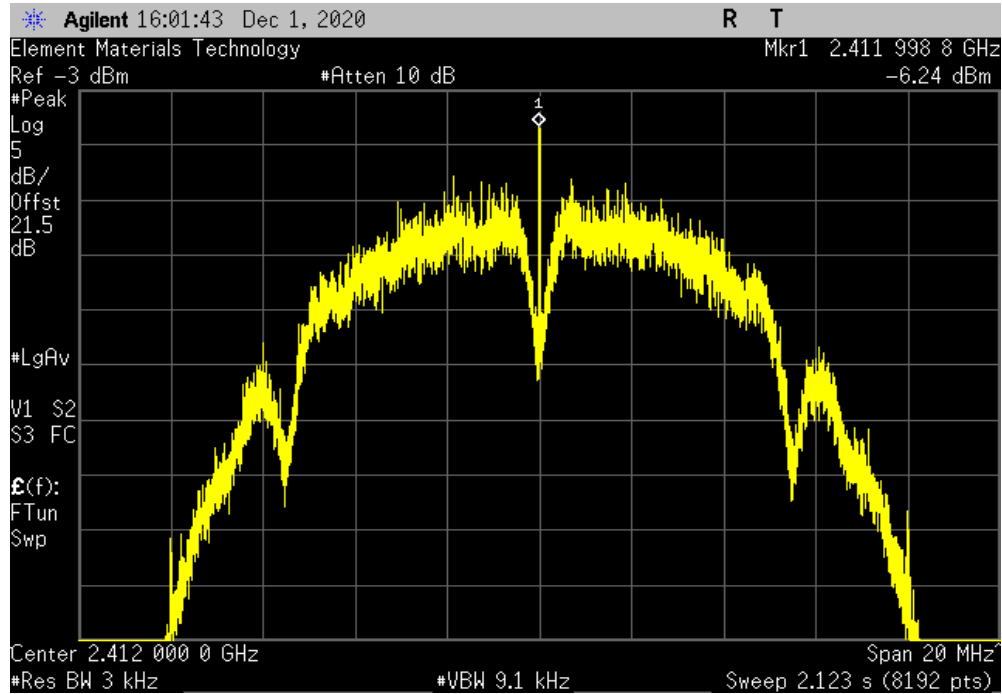
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.5 °C	
Attendees: Spencer Warneke		Humidity: 28.3% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcock	Power: 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		Value dBm/3kHz	Limit < dBm/3kHz
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	-6.237	8
	Mid Channel 6, 2437 MHz	-8.065	8
	High Channel 11, 2462 MHz	-7.681	8
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	-6.423	8
	Mid Channel 6, 2437 MHz	-7.006	8
	High Channel 11, 2462 MHz	-6.952	8
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	-3.995	8
	Mid Channel 6, 2437 MHz	-5.526	8
	High Channel 11, 2462 MHz	-4.605	8
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	-4.891	8
	Mid Channel 6, 2437 MHz	-6.721	8
	High Channel 11, 2462 MHz	-5.342	8
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	-4.885	8
	Mid Channel 6, 2437 MHz	-6.393	8
	High Channel 11, 2462 MHz	-5.714	8
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	-4.688	8
	Mid Channel 6, 2437 MHz	-5.749	8
	High Channel 11, 2462 MHz	-5.386	8
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	-5.63	8
	Mid Channel 6, 2437 MHz	-7.311	8
	High Channel 11, 2462 MHz	-6.502	8

POWER SPECTRAL DENSITY

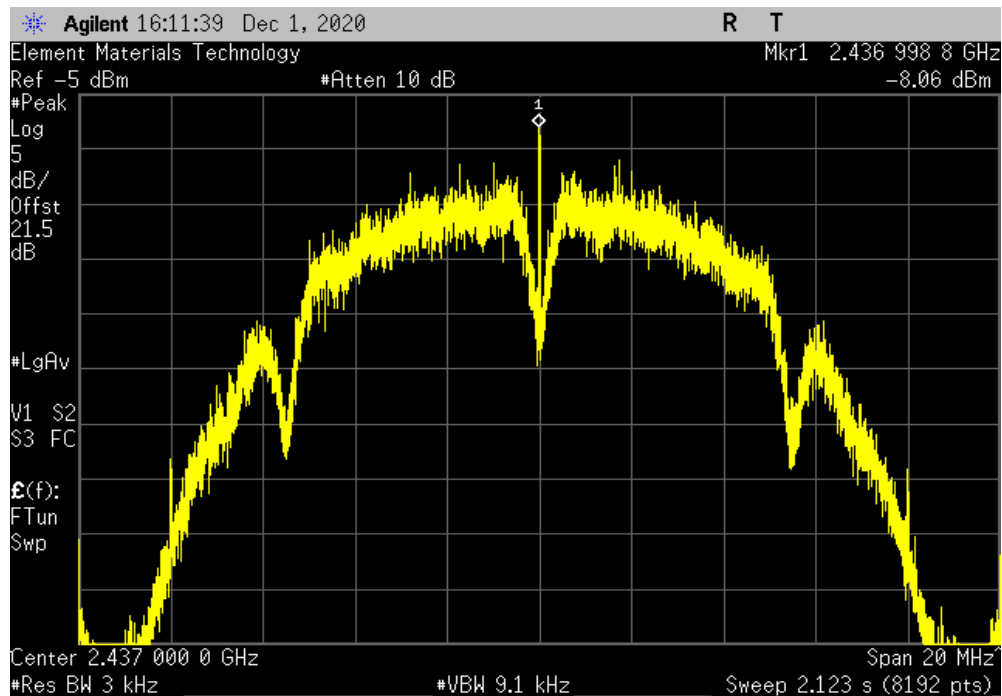


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-6.237	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-8.065	8	Pass			

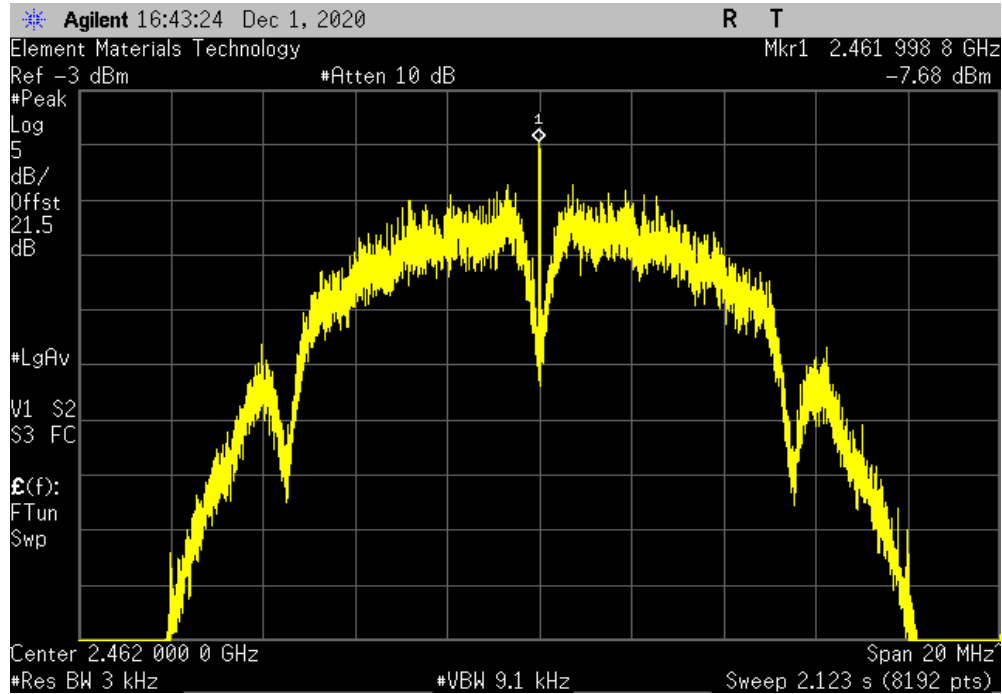


POWER SPECTRAL DENSITY

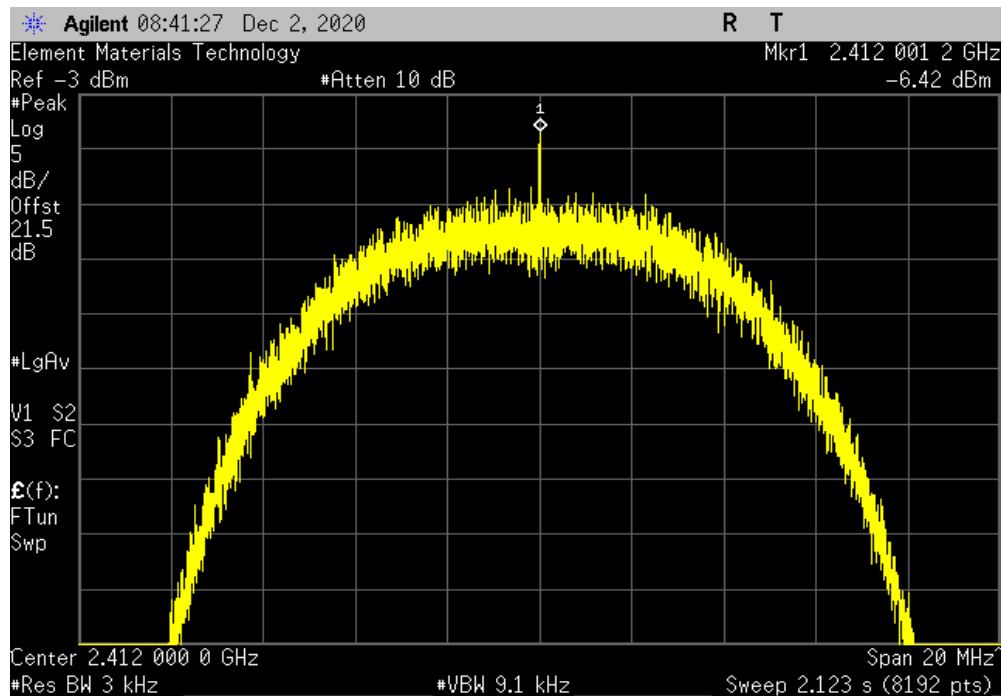


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-7.681	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-6.423	8	Pass			

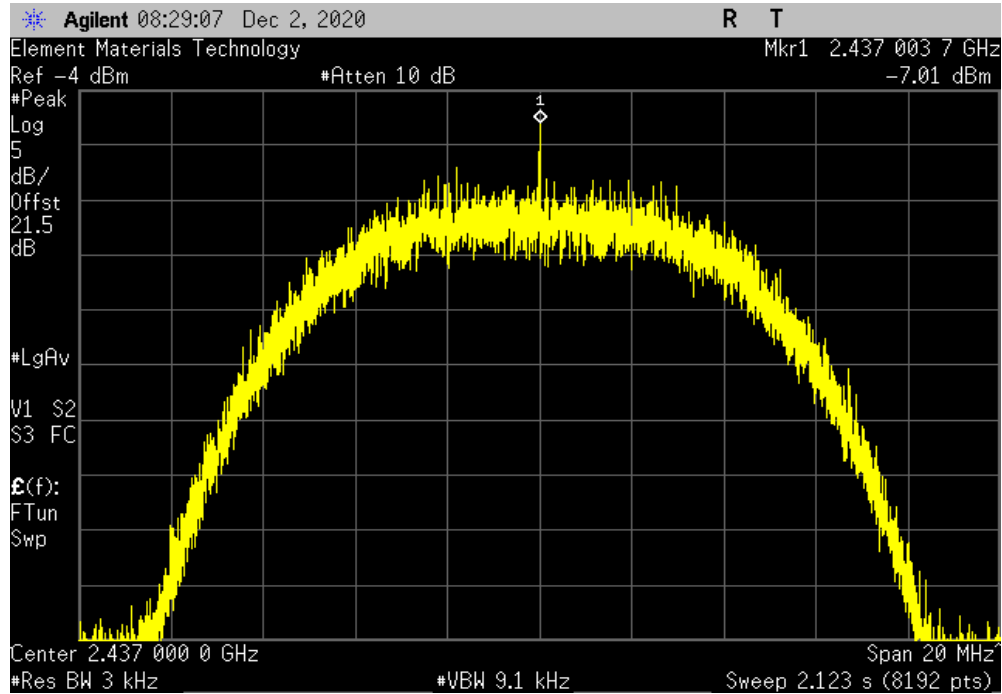


POWER SPECTRAL DENSITY

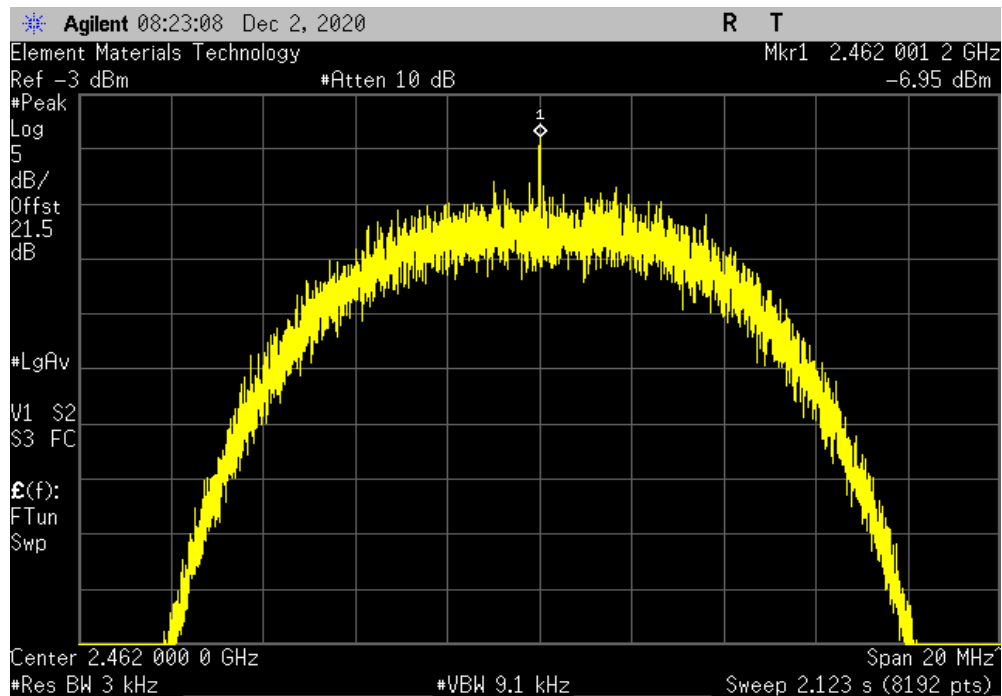


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-7.006	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-6.952	8	Pass			

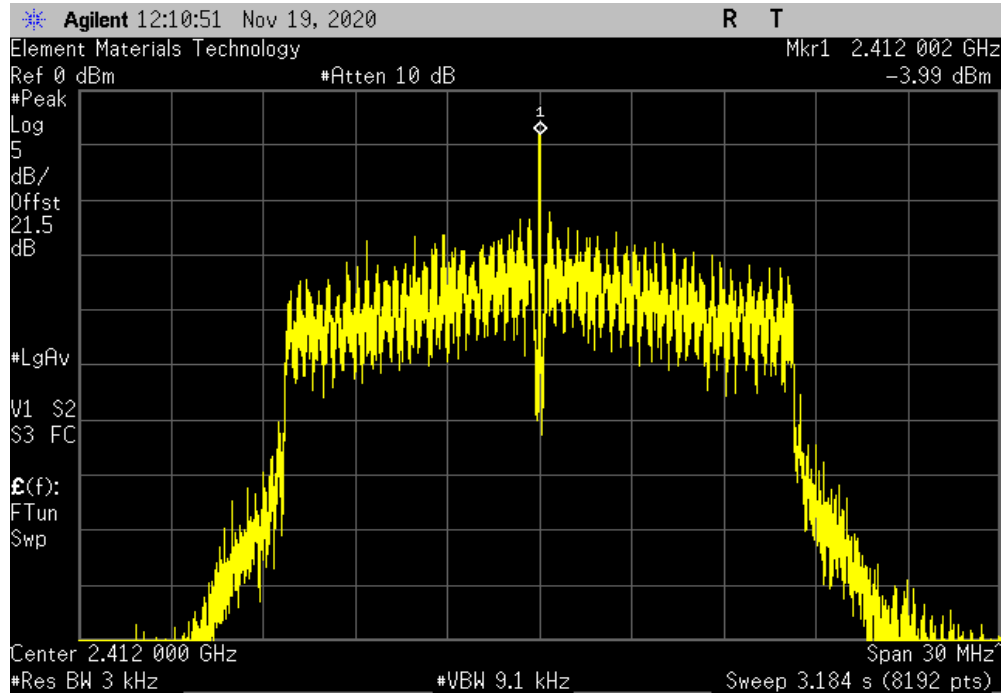


POWER SPECTRAL DENSITY

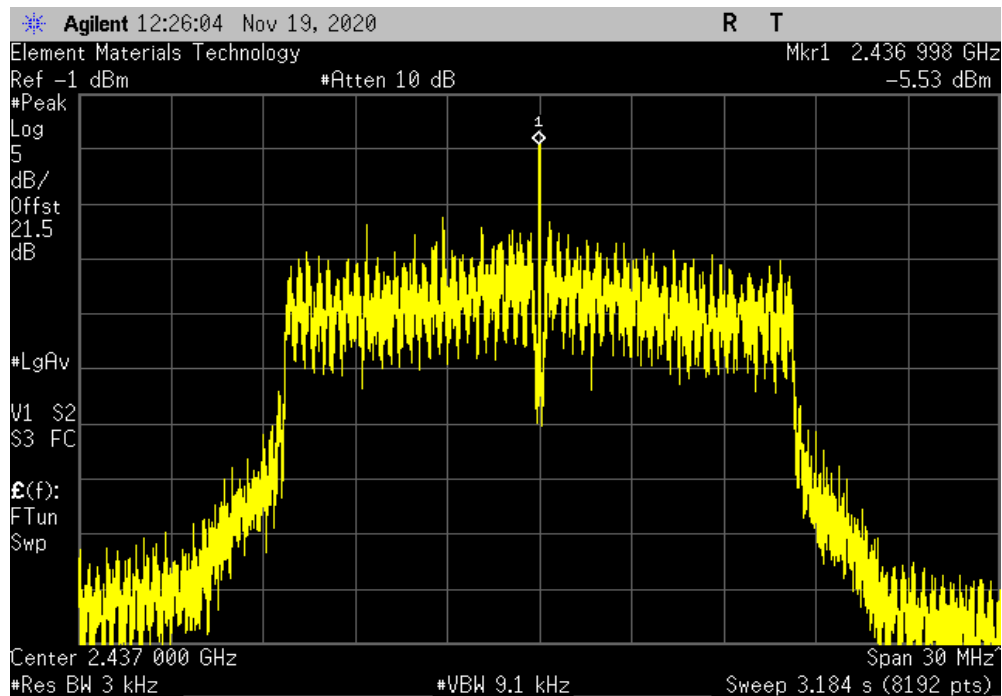


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-3.995	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.526	8	Pass			

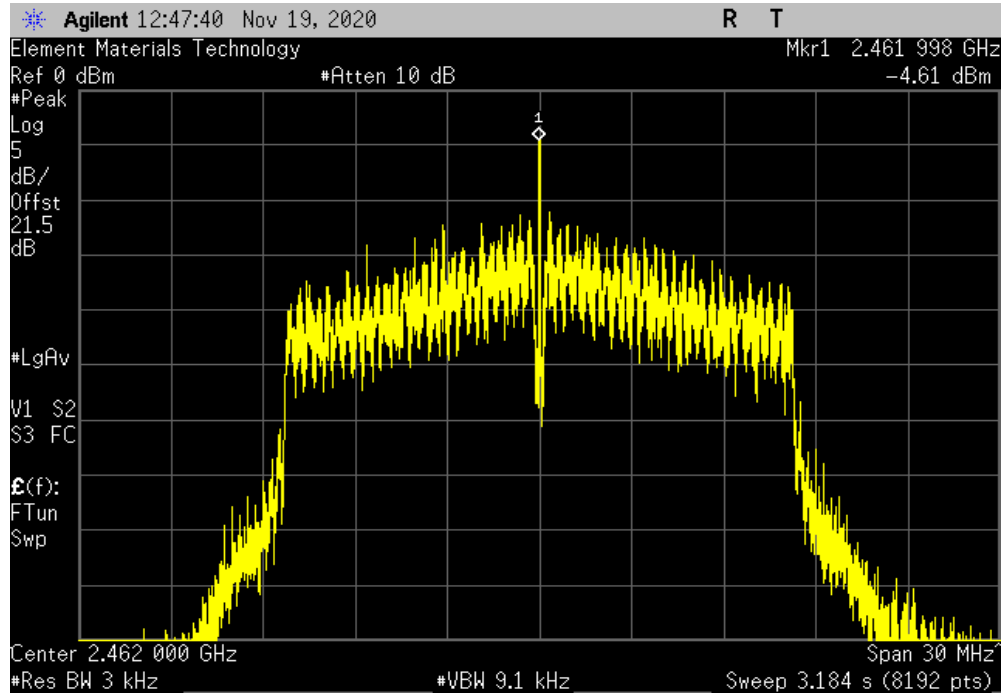


POWER SPECTRAL DENSITY

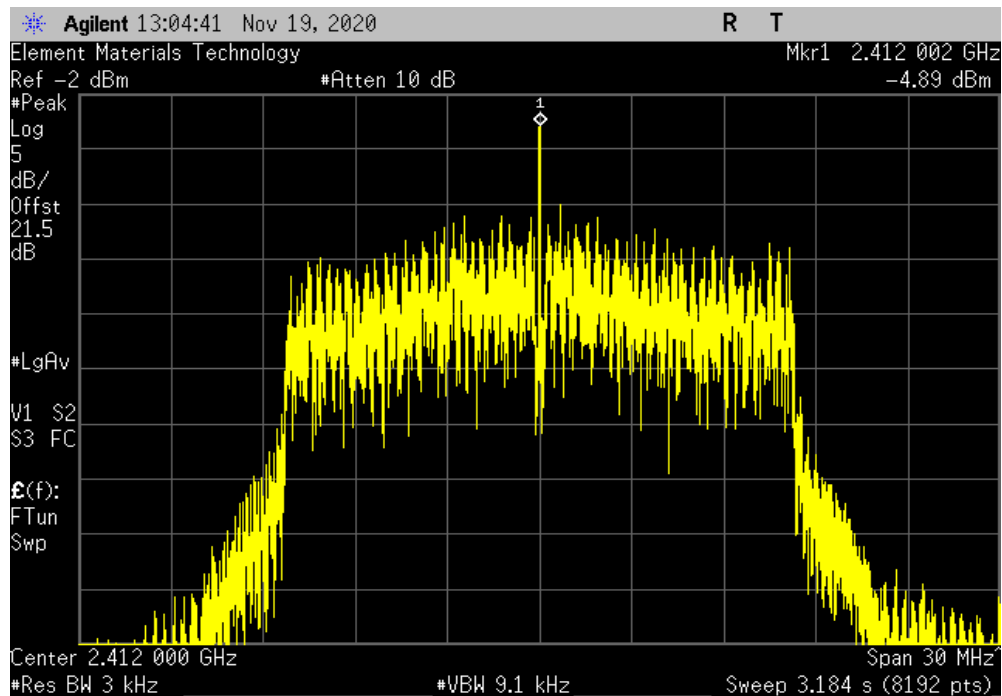


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-4.605	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-4.891	8	Pass			

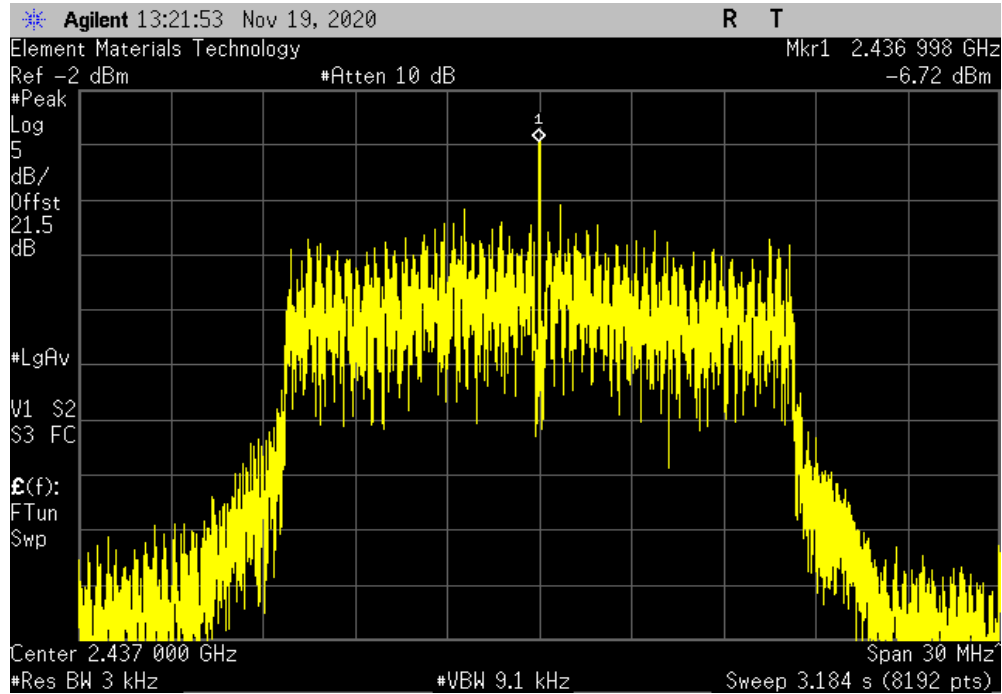


POWER SPECTRAL DENSITY

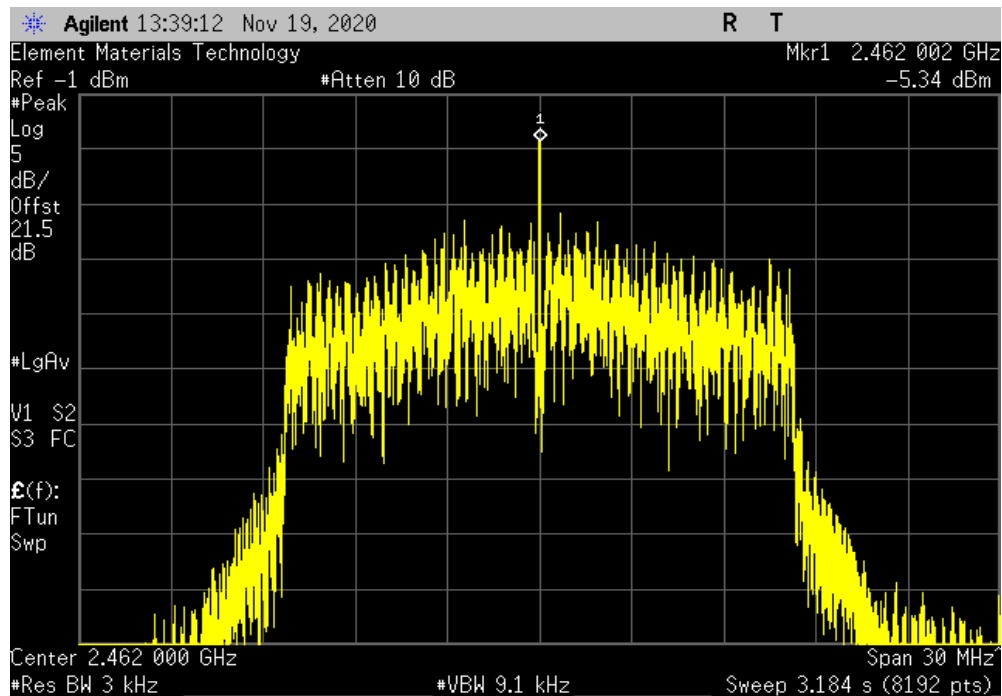


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-6.721	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.342	8	Pass			

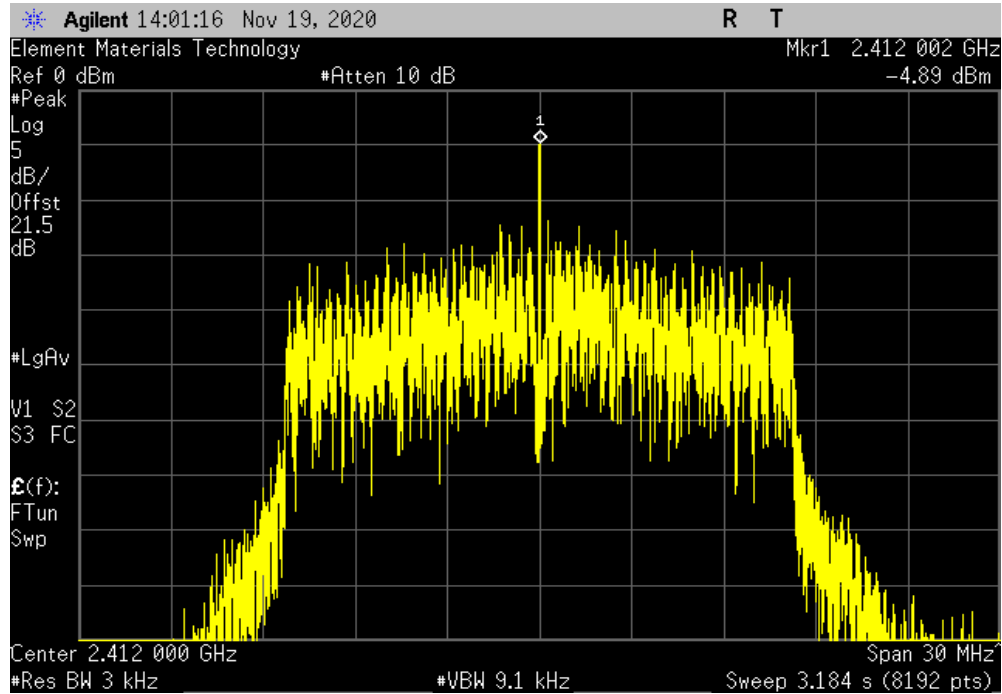


POWER SPECTRAL DENSITY

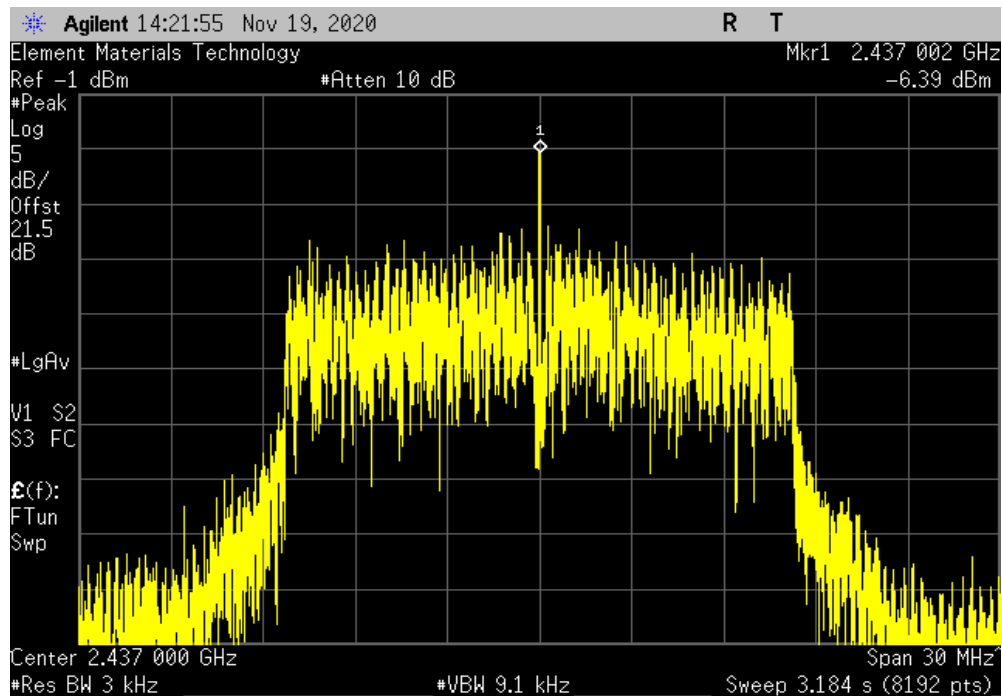


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-4.885	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-6.393	8	Pass			

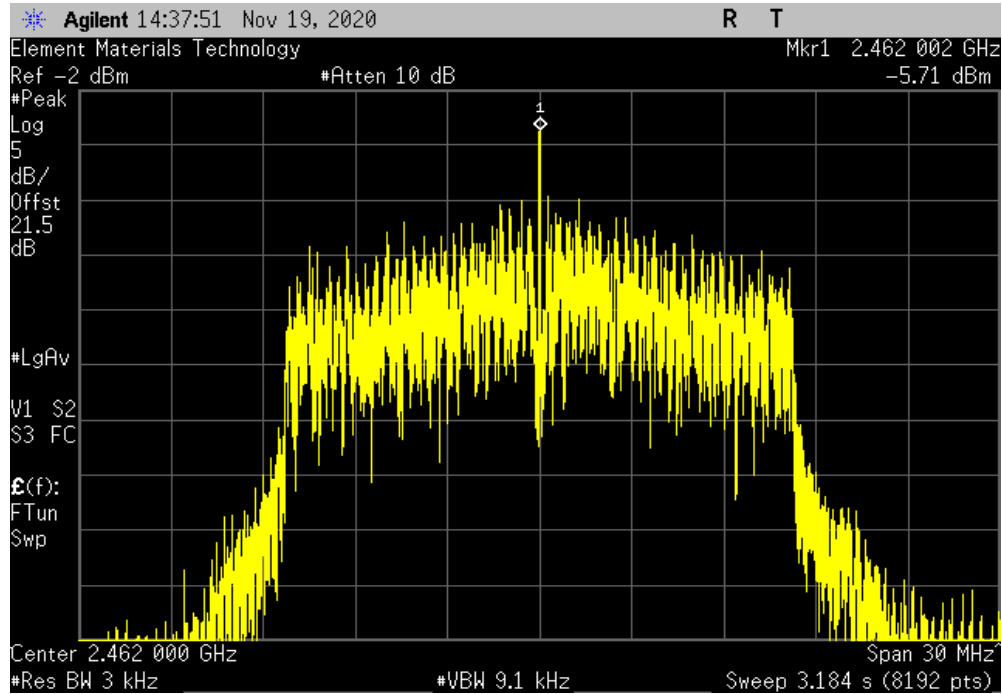


POWER SPECTRAL DENSITY

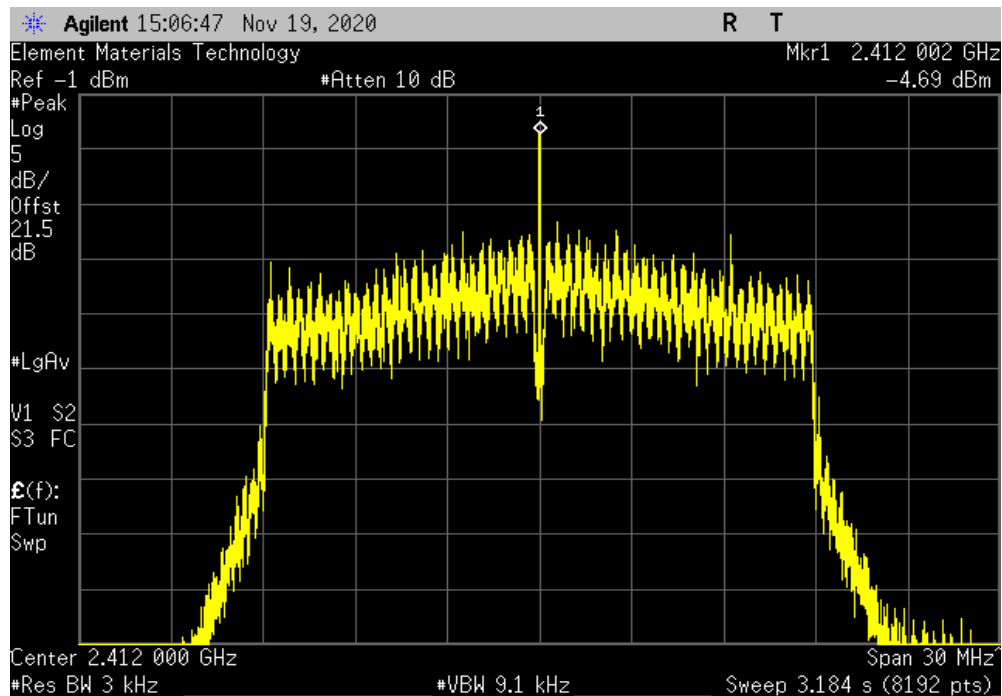


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.714	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-4.688	8	Pass			

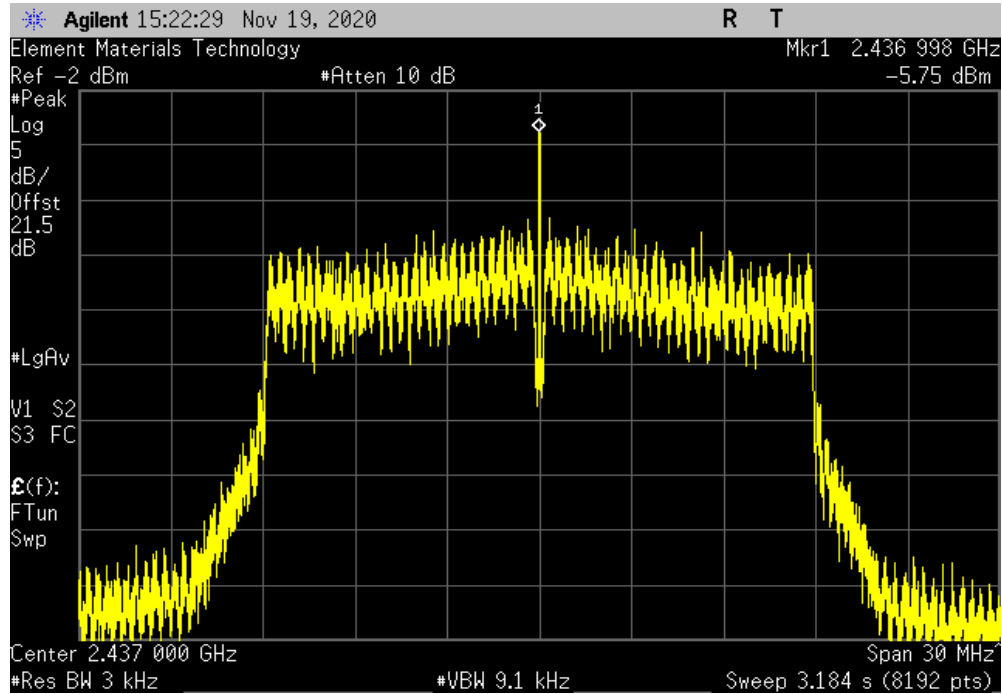


POWER SPECTRAL DENSITY

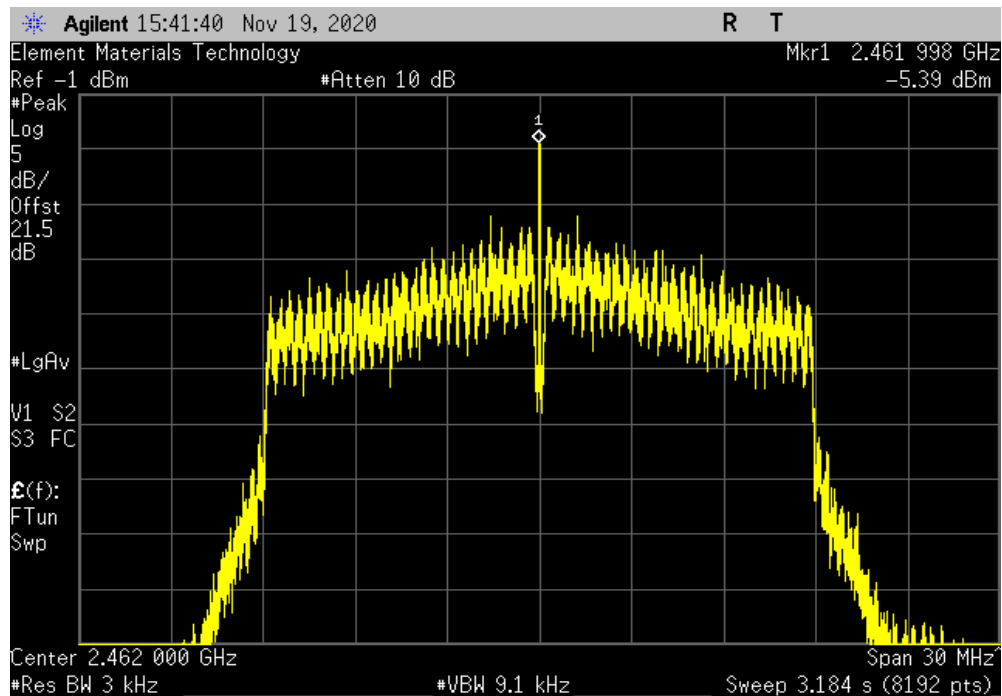


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.749	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.386	8	Pass			

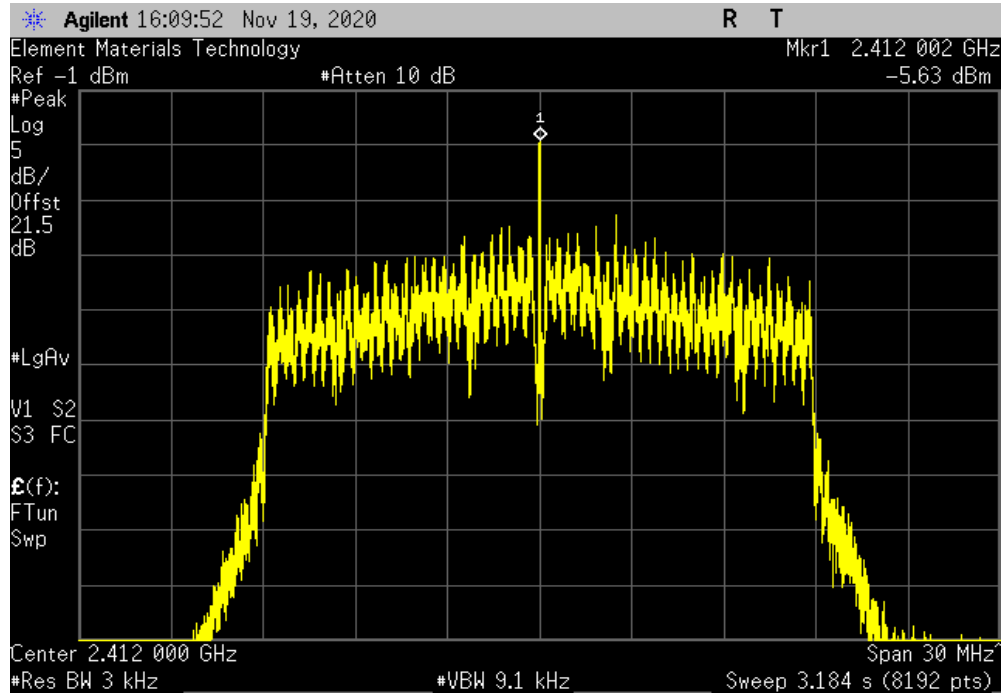


POWER SPECTRAL DENSITY

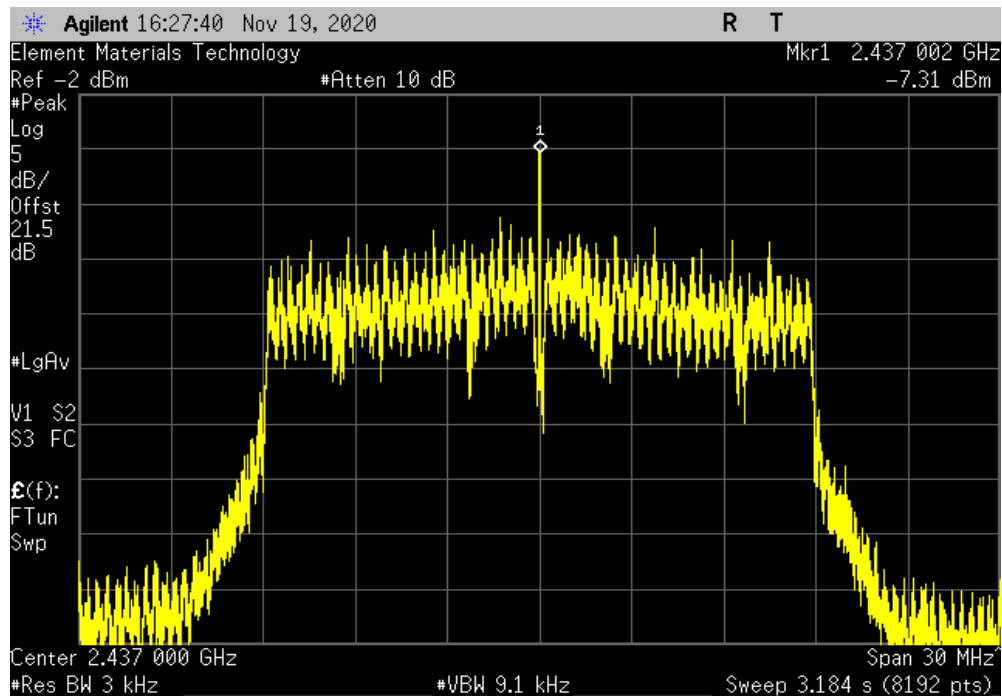


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-5.63	8	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-7.311	8	Pass			

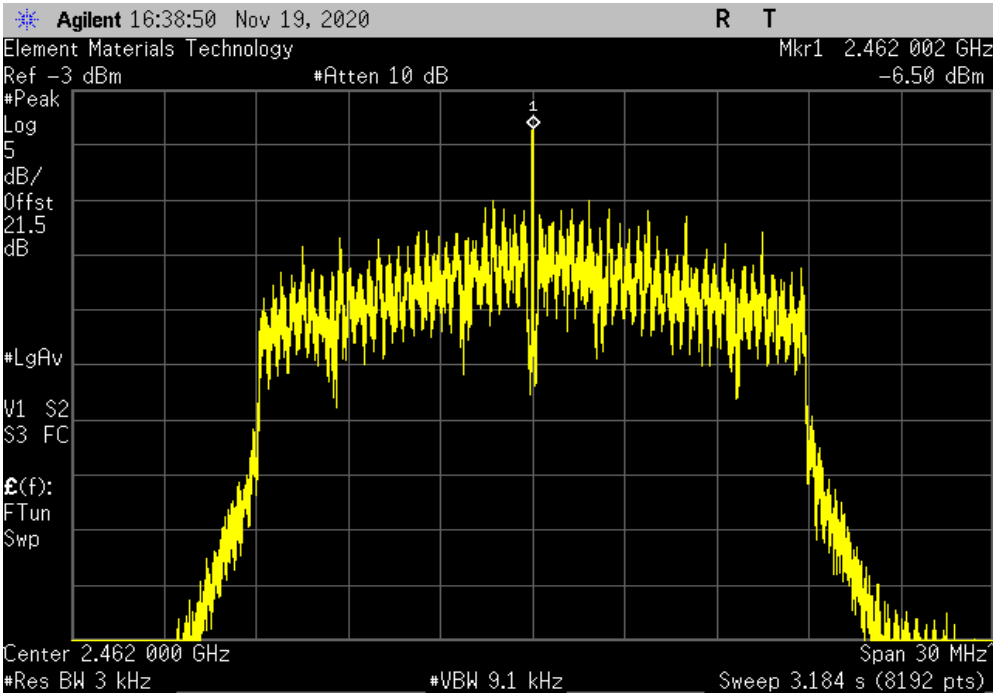


POWER SPECTRAL DENSITY



TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
			Value	Limit		
			dBm/3kHz	< dBm/3kHz	Results	
			-6.502	8	Pass	



BAND EDGE COMPLIANCE



XMit 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The 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



TSTx 2019.08.30.0 XMR 2020.03.25.0

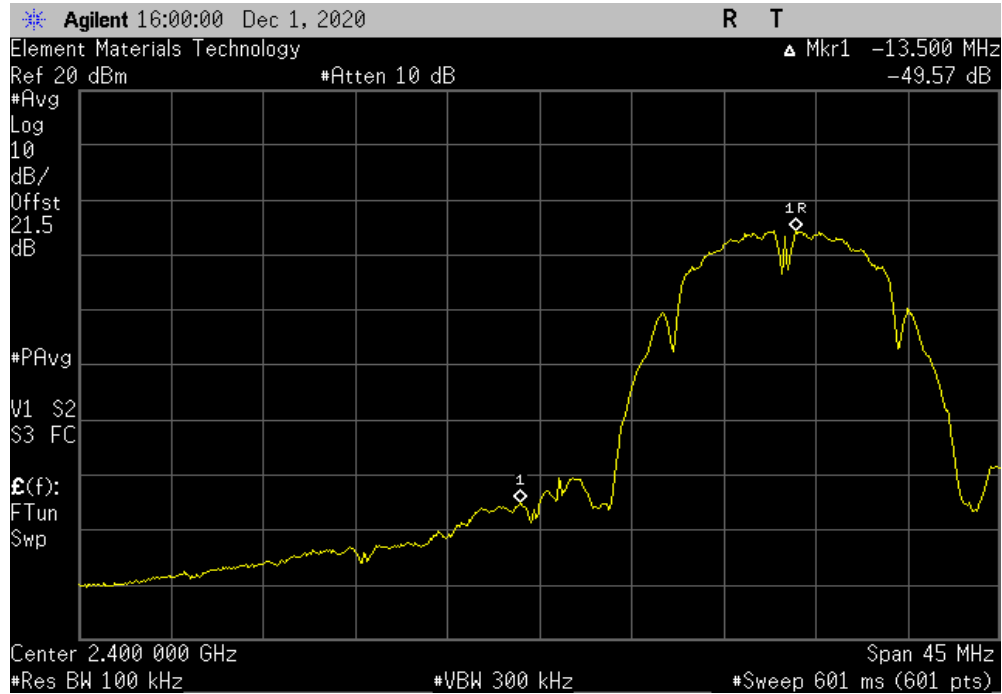
EUT: A-dec Gateway		Work Order: A-DE0149	
Serial Number: 5210041984		Date: 2-Dec-20	
Customer: A-dec, Inc.		Temperature: 22.4 °C	
Attendees: Spencer Warneke		Humidity: 28.4% RH	
Project: None		Barometric Pres.: 1027 mbar	
Tested by: Jeff Alcock	Power: 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature 	
		Value (dBc)	Limit ≤ (dBc) Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz		-49.57	-30 Pass
High Channel 11, 2462 MHz		-57.41	-30 Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz		-49.41	-30 Pass
High Channel 11, 2462 MHz		-57.07	-30 Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz		-38	-30 Pass
High Channel 11, 2462 MHz		-49.61	-30 Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz		-38.14	-30 Pass
High Channel 11, 2462 MHz		-49.79	-30 Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz		-38.66	-30 Pass
High Channel 11, 2462 MHz		-50.58	-30 Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz		-39.63	-30 Pass
High Channel 11, 2462 MHz		-48.6	-30 Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz		-39.91	-30 Pass
High Channel 11, 2462 MHz		-48.86	-30 Pass

BAND EDGE COMPLIANCE

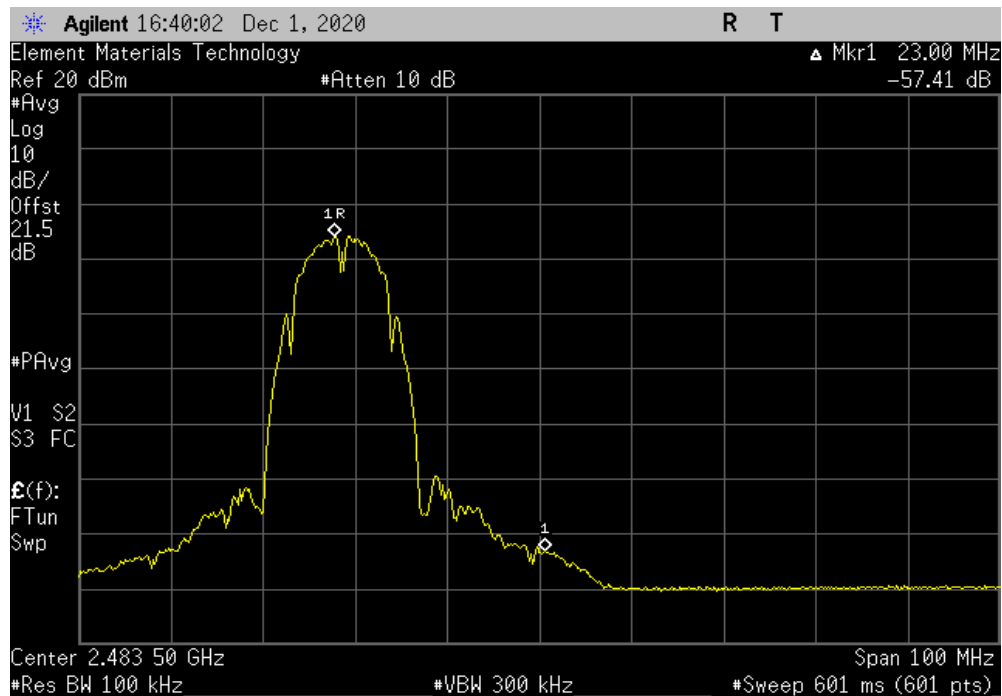


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.57	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-57.41	-30	Pass

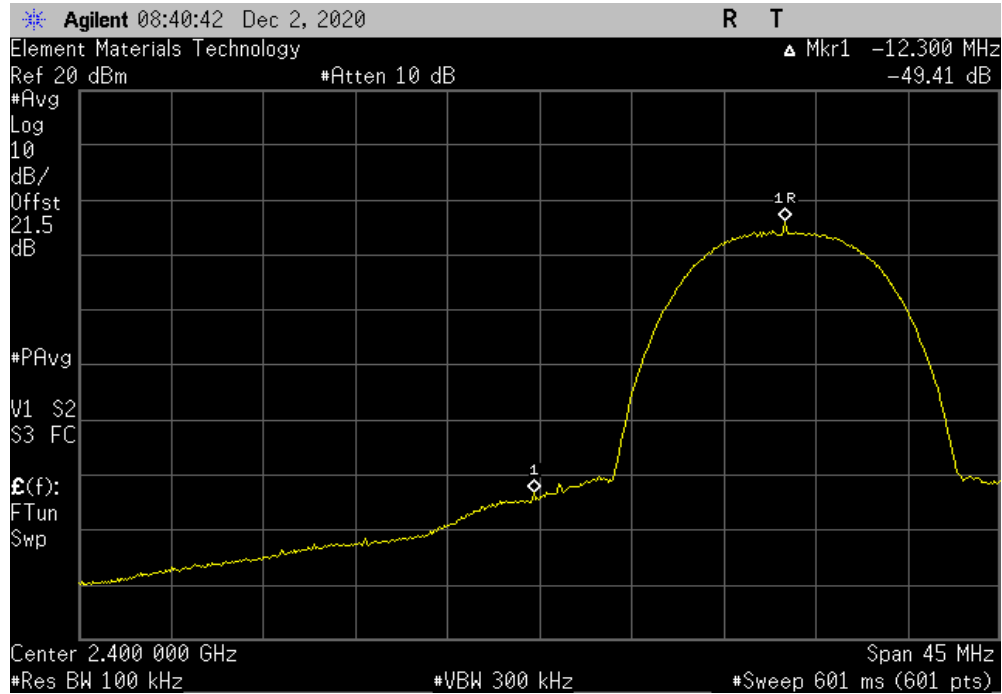


BAND EDGE COMPLIANCE

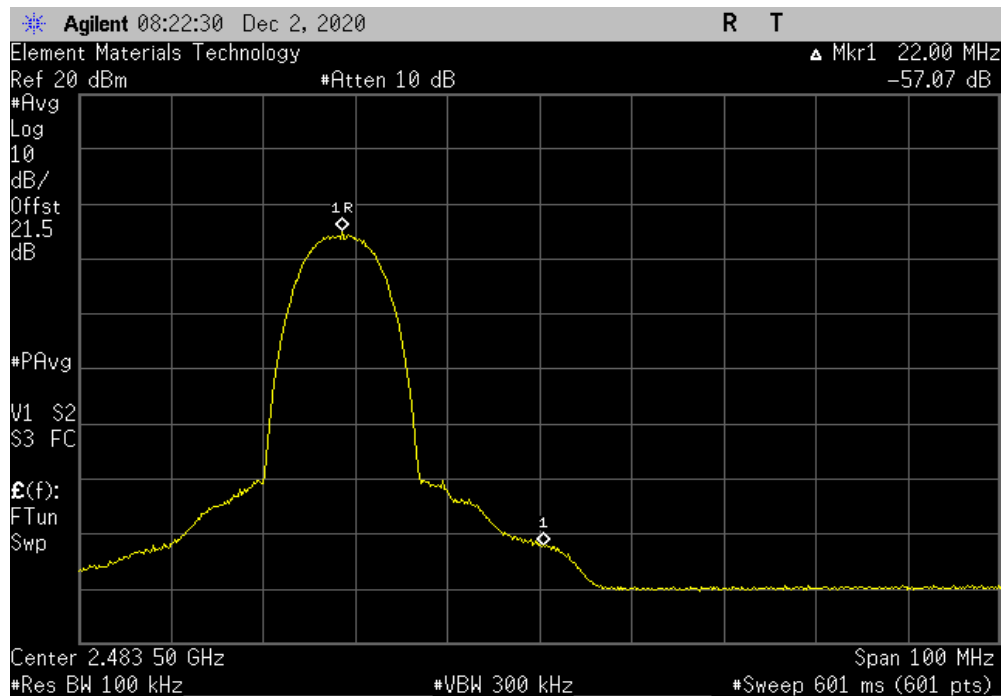


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-49.41	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-57.07	-30	Pass			

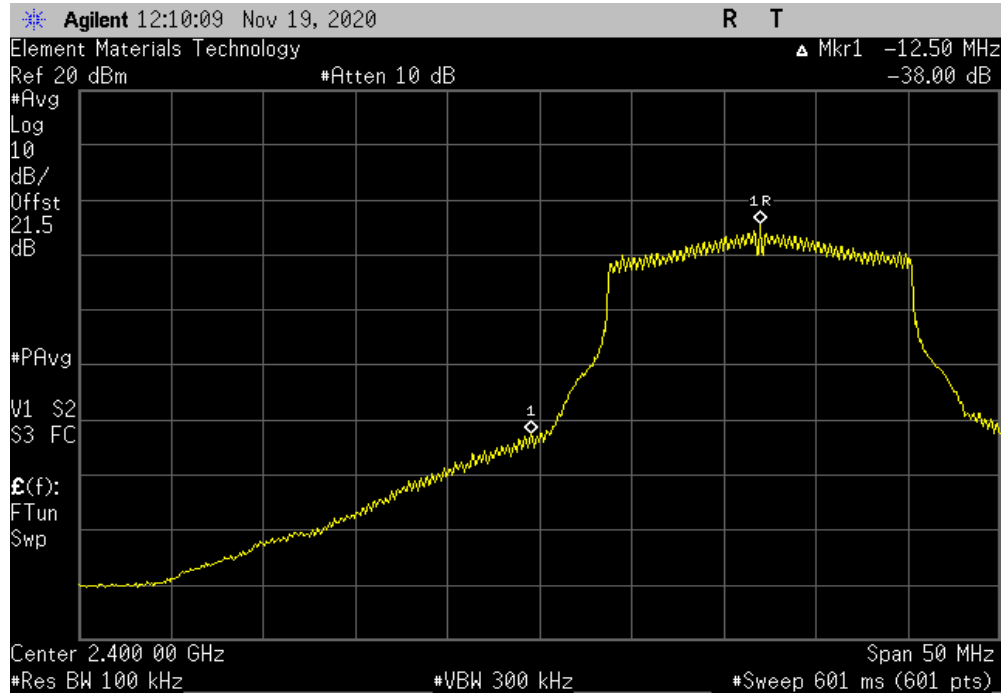


BAND EDGE COMPLIANCE

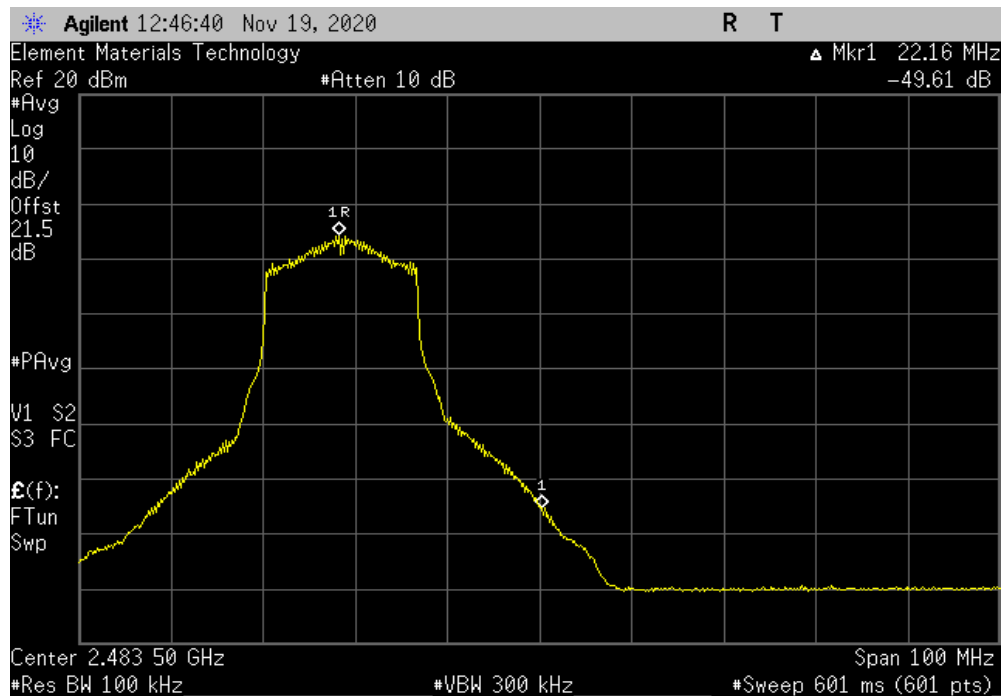


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-38	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.61	-30	Pass

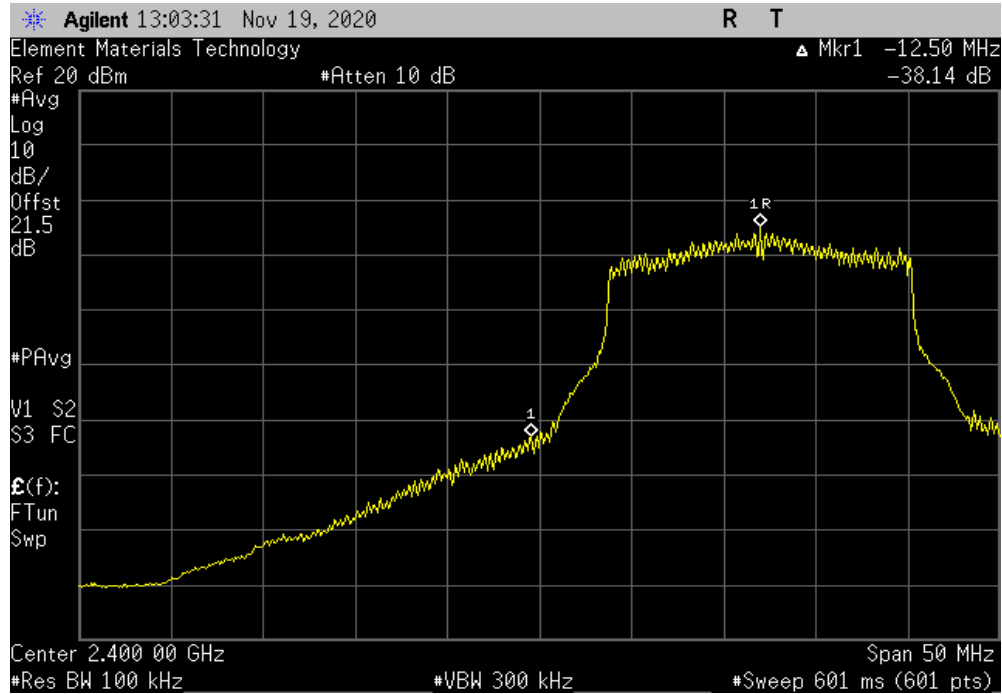


BAND EDGE COMPLIANCE

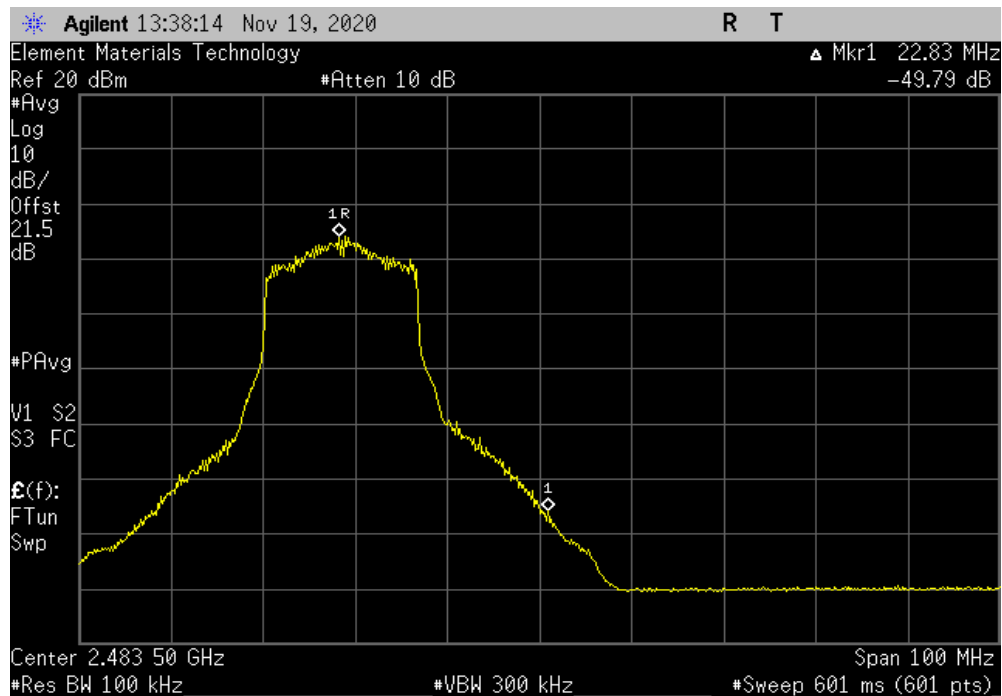


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-38.14	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.79	-30	Pass

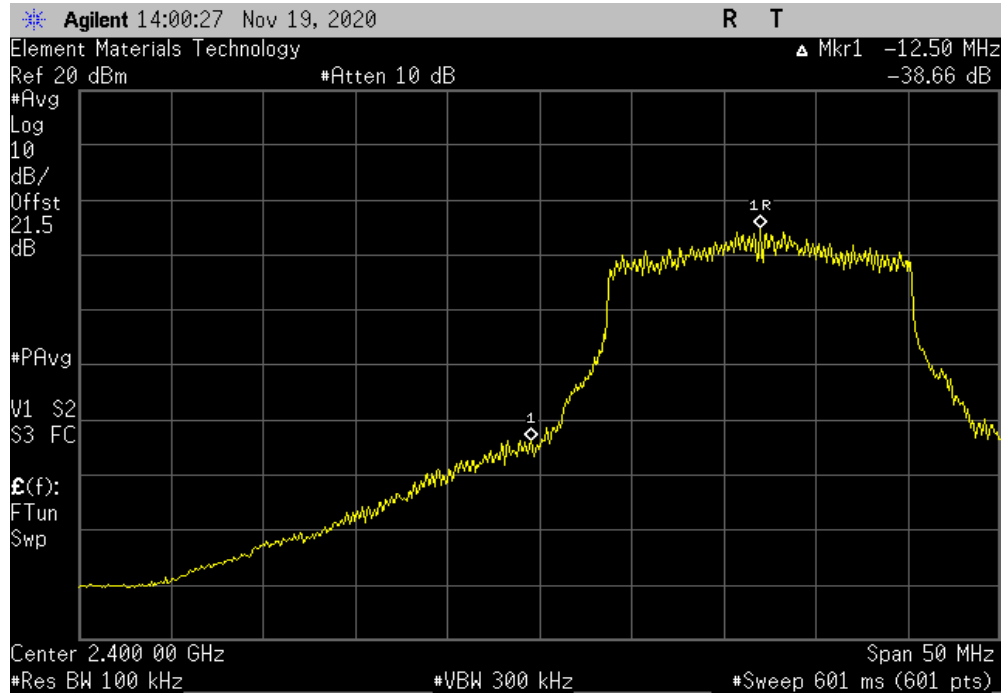


BAND EDGE COMPLIANCE

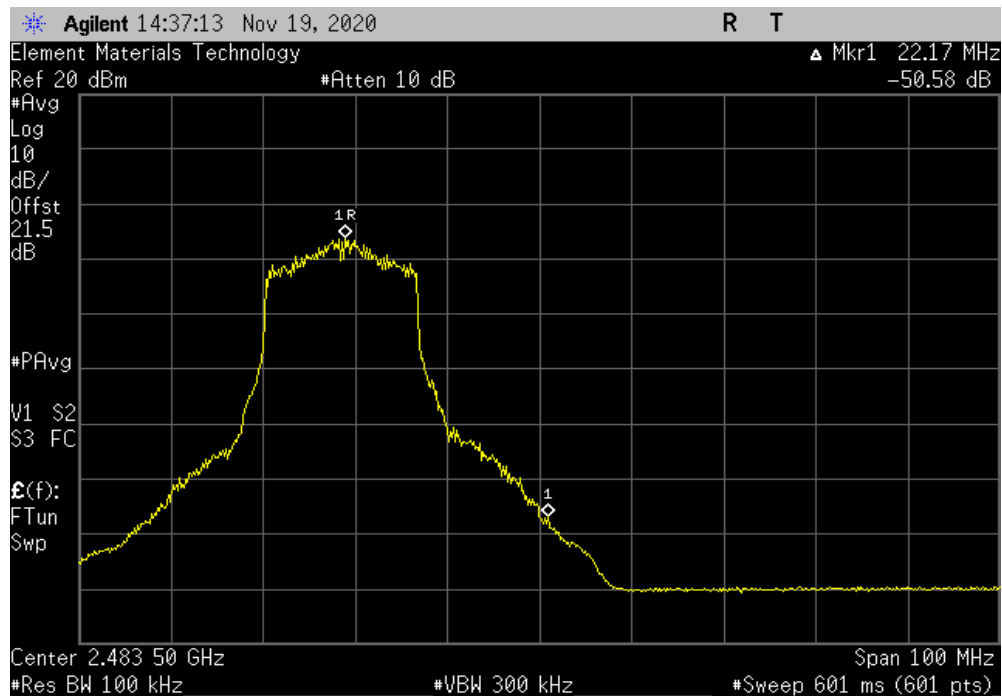


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-38.66	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.58	-30	Pass

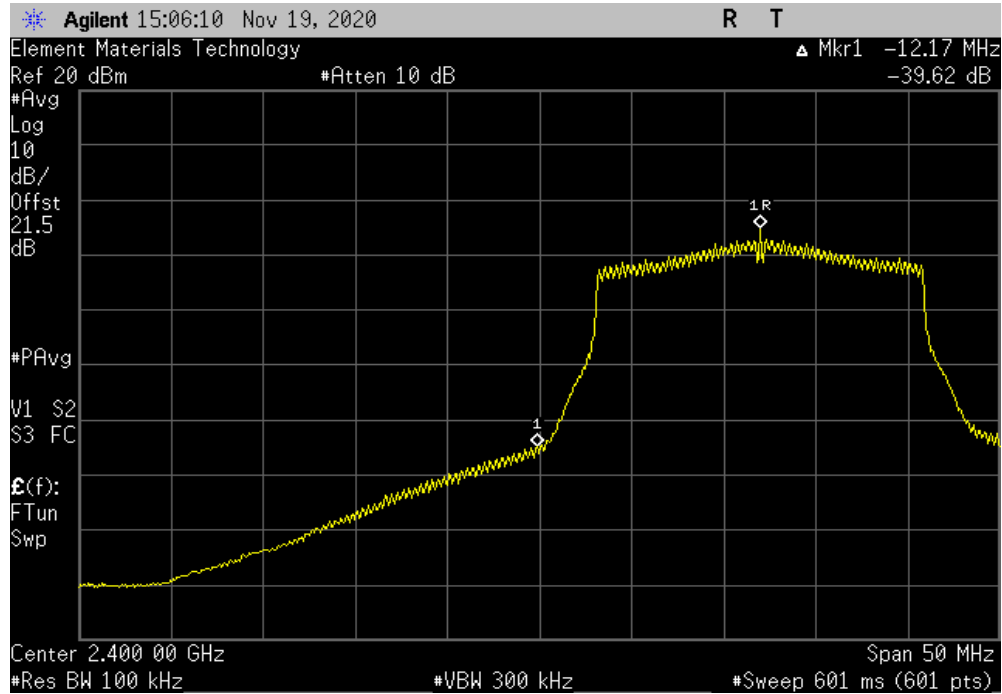


BAND EDGE COMPLIANCE

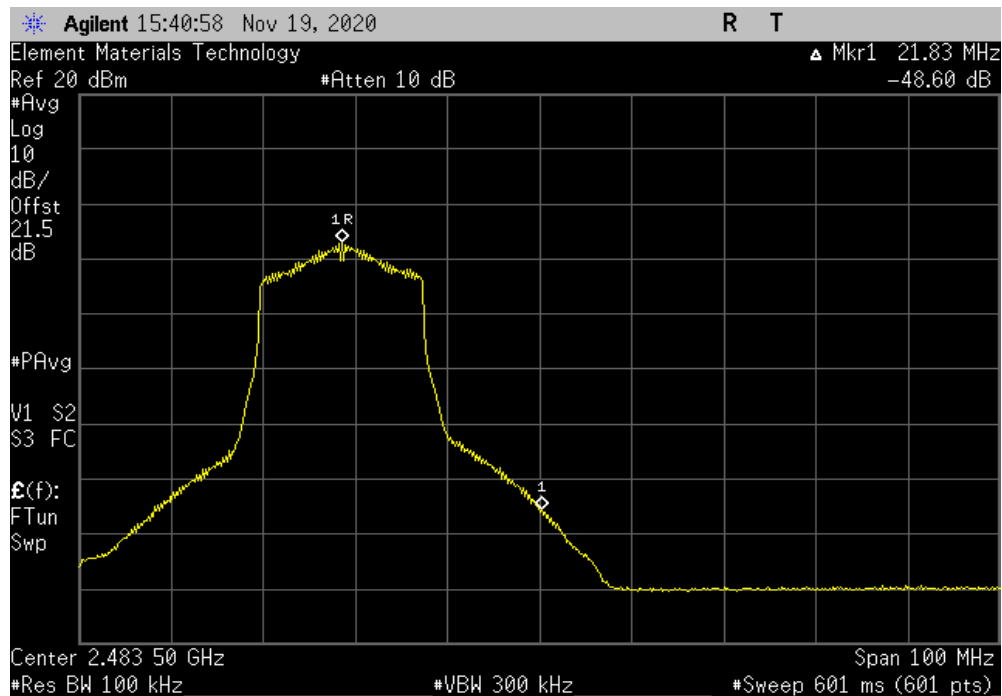


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.63	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.6	-30	Pass

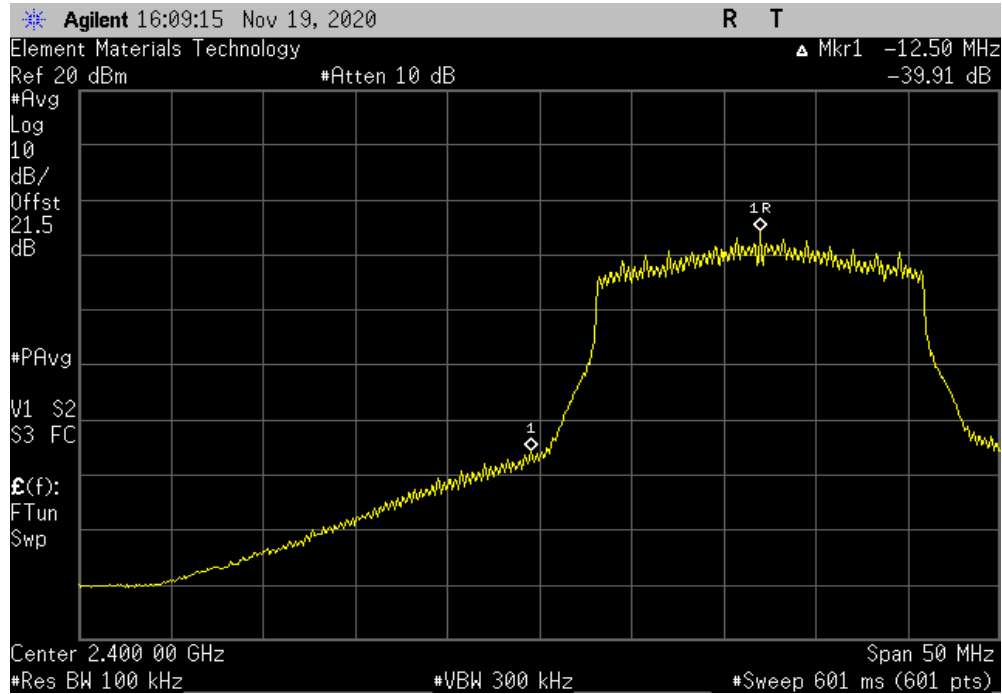


BAND EDGE COMPLIANCE

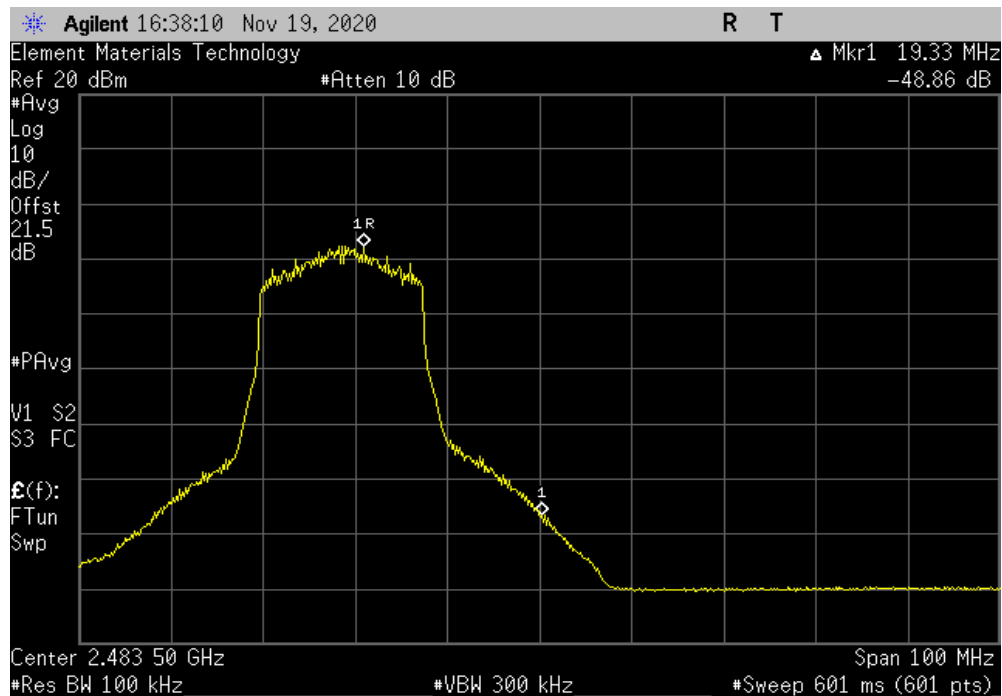


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.91	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.86	-30	Pass



SPURIOUS CONDUCTED EMISSIONS



element

XMIT 2020.03.25.0

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
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	13-Mar-20	13-Mar-21
Attenuator	S.M. Electronics	SA26B-20	AUY	13-Mar-20	13-Mar-21
Block - DC	Fairview Microwave	SD3379	AMW	13-Mar-20	13-Mar-21
Generator - Signal	Keysight	N5182B	TFU	20-Nov-20	20-Nov-22
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	28-Oct-20	28-Oct-21

TEST DESCRIPTION

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.

Because an RMS detector was used to measure Output Power, the attenuation requirement is -30 dBc.

SPURIOUS CONDUCTED EMISSIONS



TSTx 2019.08.30.0 XMR 2020.03.25.0

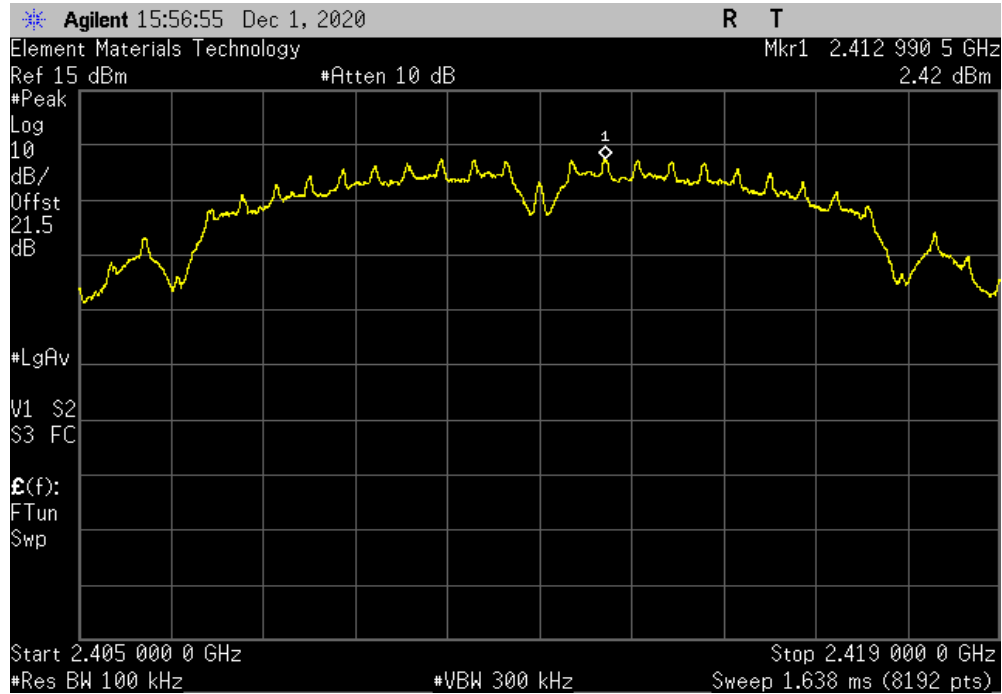
EUT: A-dec Gateway			Work Order: A-DE0149		
Serial Number: 5210041984			Date: 2-Dec-20		
Customer: A-dec, Inc.			Temperature: 22.6 °C		
Attendees: Spencer Warneke			Humidity: 28.2% RH		
Project: None			Barometric Pres.: 1027 mbar		
Tested by: Jeff Alcoke		Power: 110VAC/60Hz	Job Site: EV06		
TEST SPECIFICATIONS		Test Method			
FCC 15.247:2020		ANSI C63.10:2013			
COMMENTS					
Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
		Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ± (dBc) Result
2400 MHz - 2483.5 MHz Band					
802.11(b) 1 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2412.99	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	7112.2	-56.65	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	14024.5	-52.83	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2435.51	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	6956.9	-55.21	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	13913.1	-53.62	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2462.5	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7036.1	-55.38	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	14030.6	-52.68	-30 Pass
802.11(b) 11 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2412.52	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	7151.8	-57.51	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	13948.2	-54.64	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2437	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	12471.1	-57.31	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	24899.3	-54.98	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2462.03	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	12302.1	-58.93	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24856.5	-55.06	-30 Pass
802.11(g) 6 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2413.27	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-53.66	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	13986.4	-52.45	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2430.74	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	12478.7	-54.95	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	14033.7	-52.4	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2464.49	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7017.8	-55.86	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	13954.3	-51.86	-30 Pass
802.11(g) 36 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2413.27	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-53.9	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	13757.5	-53.08	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2430.75	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	7792.7	-55.18	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	14020	-51.66	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2463.26	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	12420.8	-56.38	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	13977.2	-53.14	-30 Pass
802.11(g) 54 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2413.26	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-54.92	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	14203.1	-52.36	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2430.75	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	12452.8	-55.69	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	13914.7	-51.92	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2463.27	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	12390.4	-56.56	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	13875	-53.22	-30 Pass
802.11(n) MCS0					
	Low Channel 1, 2412 MHz	Fundamental	2414.49	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-53.17	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	13910.1	-50.39	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2431.99	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	12349.3	-54.33	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	23568.6	-50.87	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2463.27	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	12492.4	-55.12	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	13963.5	-51.74	-30 Pass
802.11(n) MCS7					
	Low Channel 1, 2412 MHz	Fundamental	2413.27	N/A	N/A N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-52.92	-30 Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	13907	-51.38	-30 Pass
	Mid Channel 6, 2437 MHz	Fundamental	2430.75	N/A	N/A N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	12449.8	-54.69	-30 Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	13844.5	-50.89	-30 Pass
	High Channel 11, 2462 MHz	Fundamental	2463.27	N/A	N/A N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7031.5	-55.79	-30 Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	13994	-51.84	-30 Pass

SPURIOUS CONDUCTED EMISSIONS

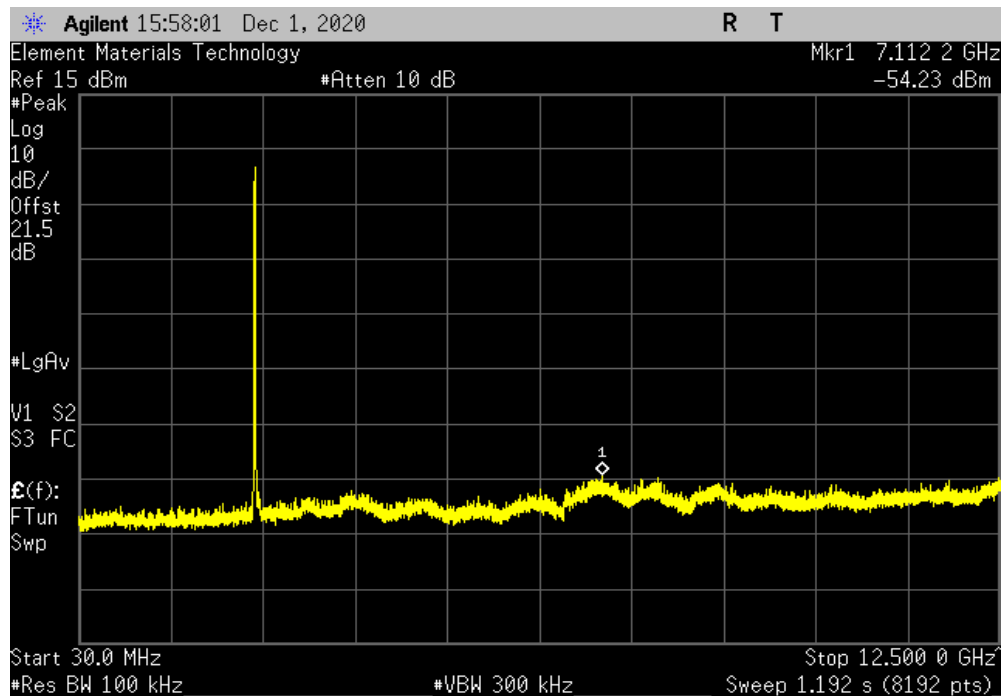


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2412.99	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7112.2	-56.65	-30	Pass		

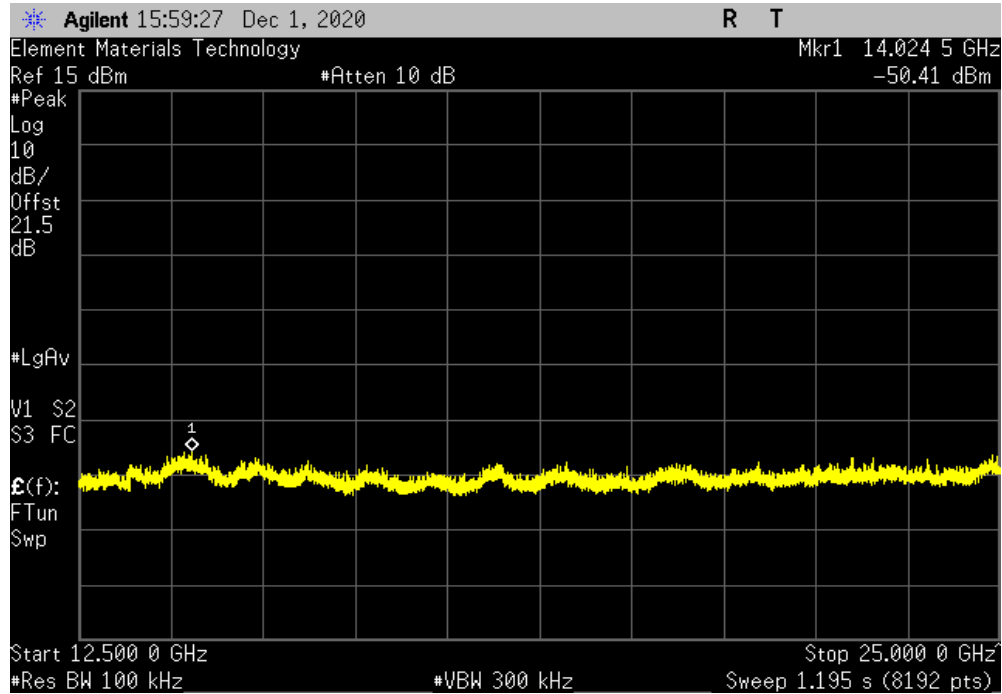


SPURIOUS CONDUCTED EMISSIONS

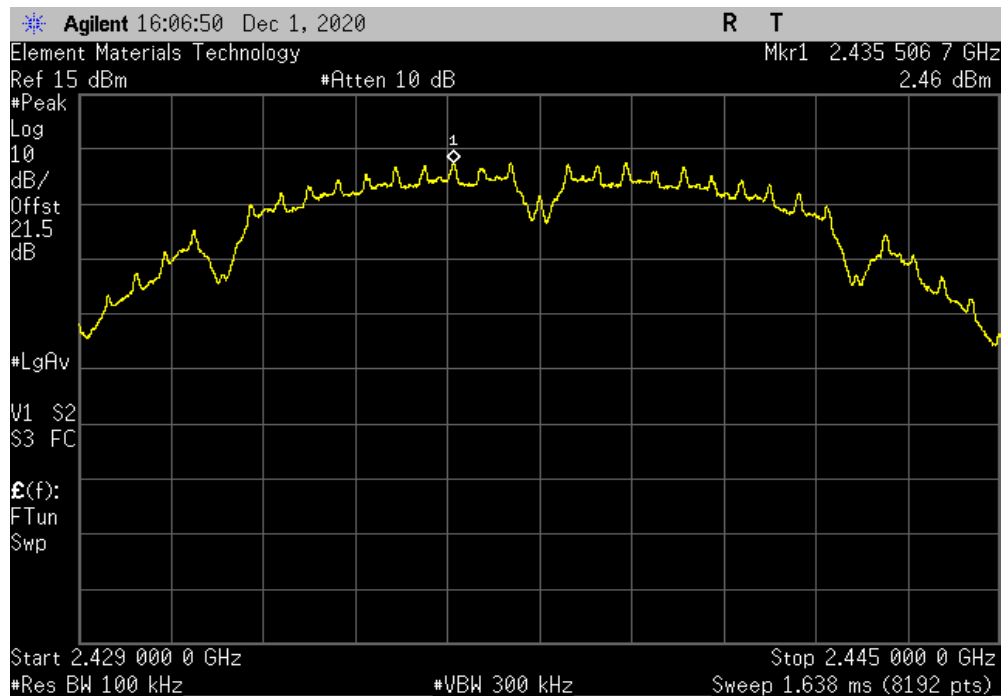


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	14024.5	-52.83	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2435.51	N/A	N/A	N/A	

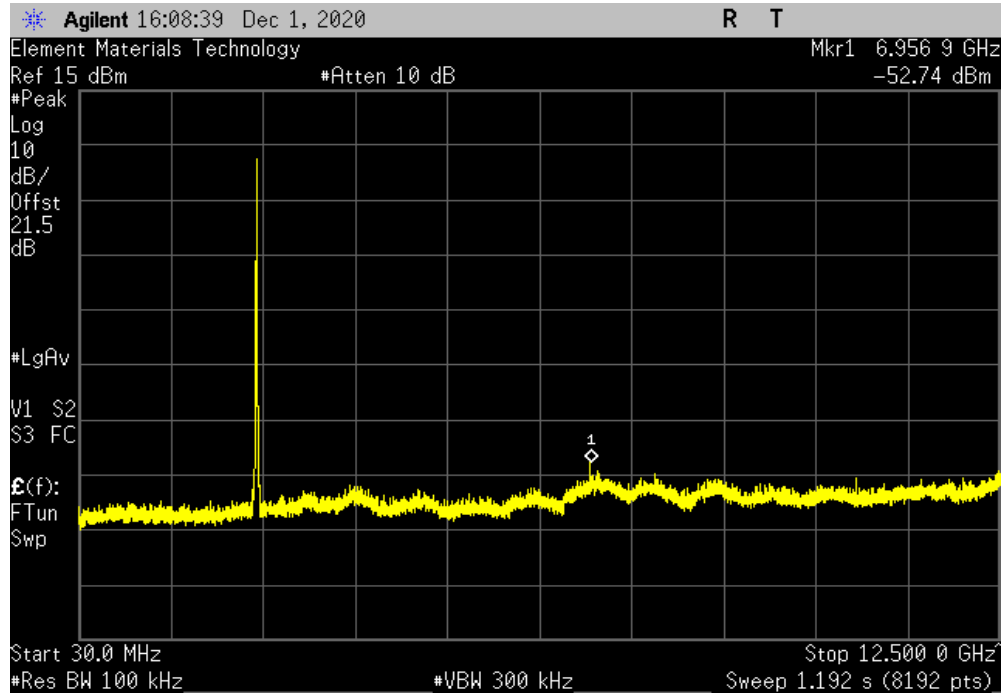


SPURIOUS CONDUCTED EMISSIONS

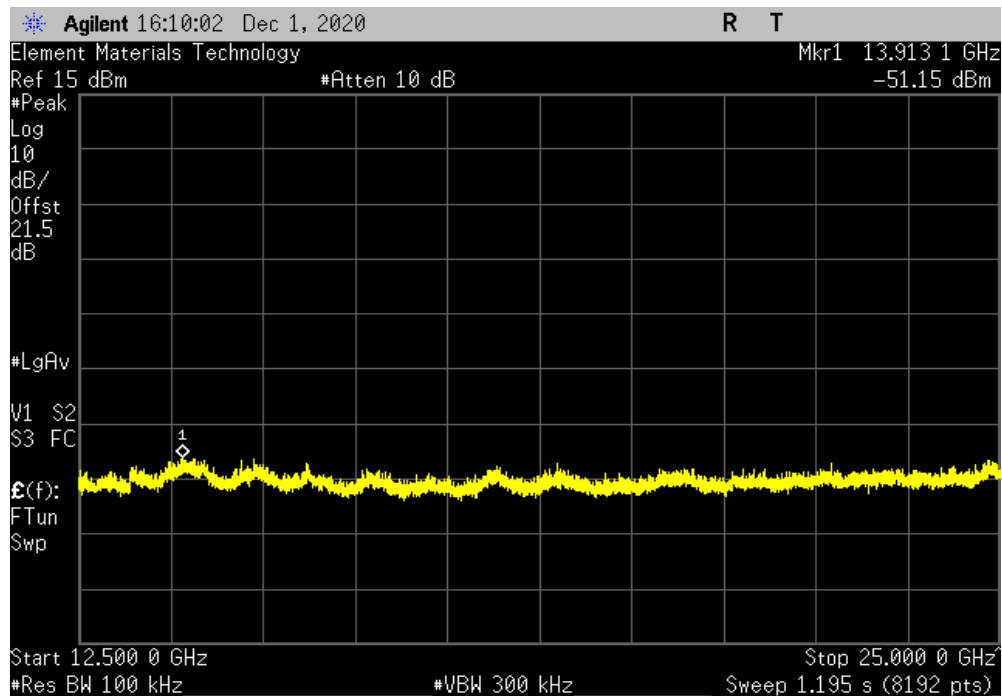


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	6956.9	-55.21	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13913.1	-53.62	-30	Pass	

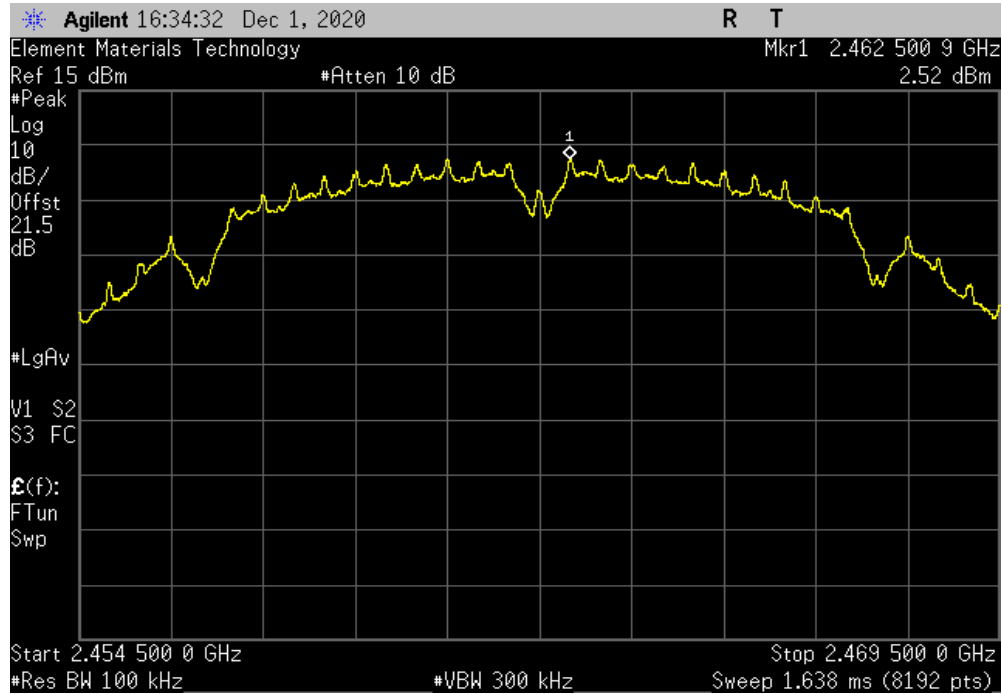


SPURIOUS CONDUCTED EMISSIONS

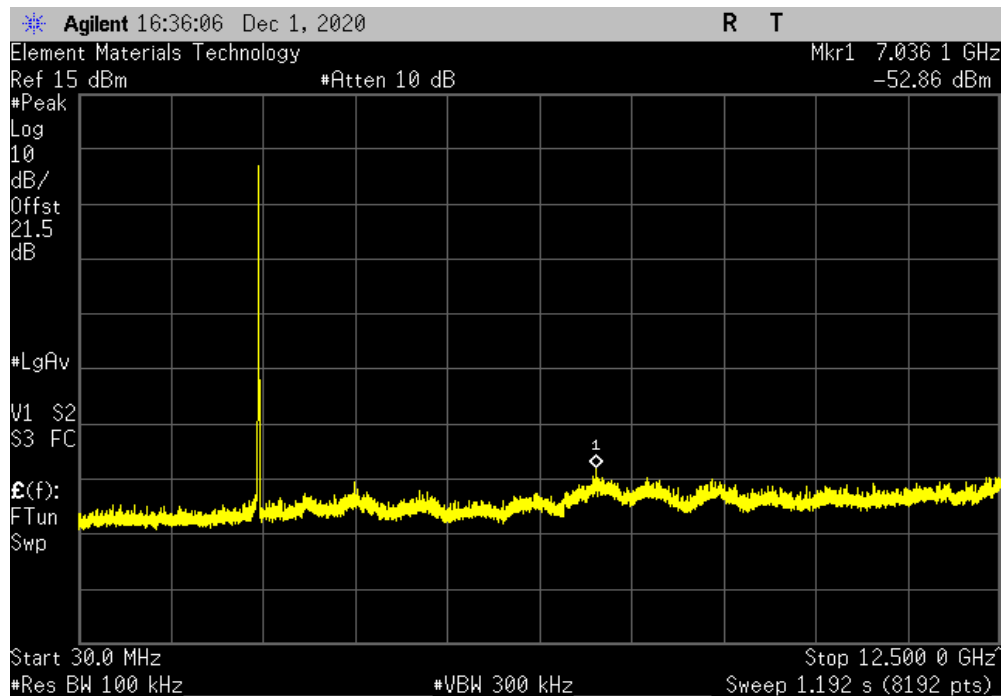


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2462.5	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7036.1	-55.38	-30	Pass		

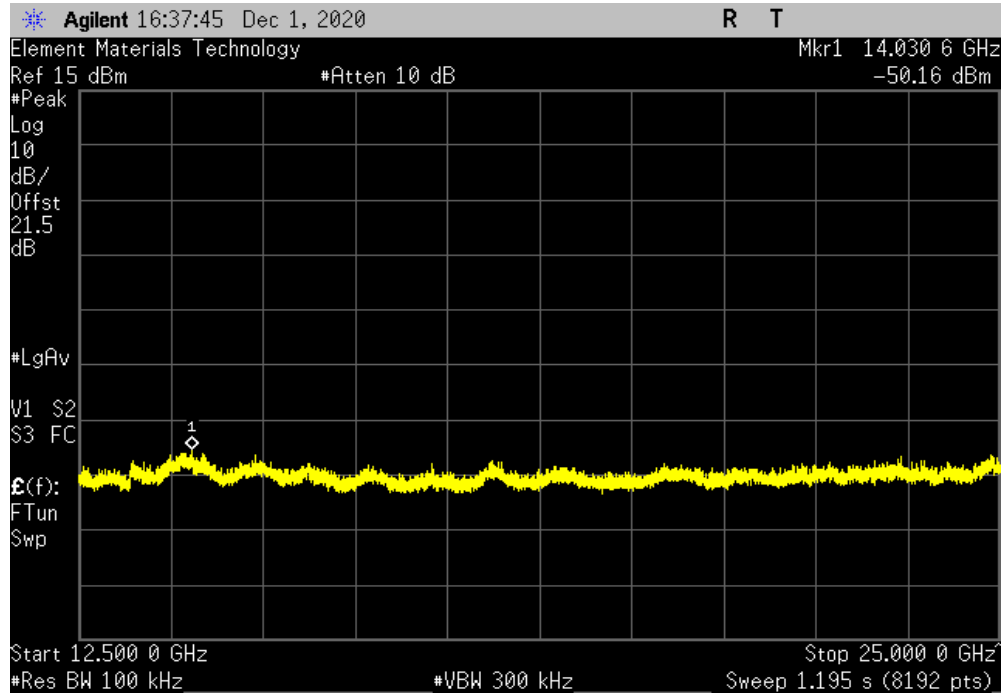


SPURIOUS CONDUCTED EMISSIONS

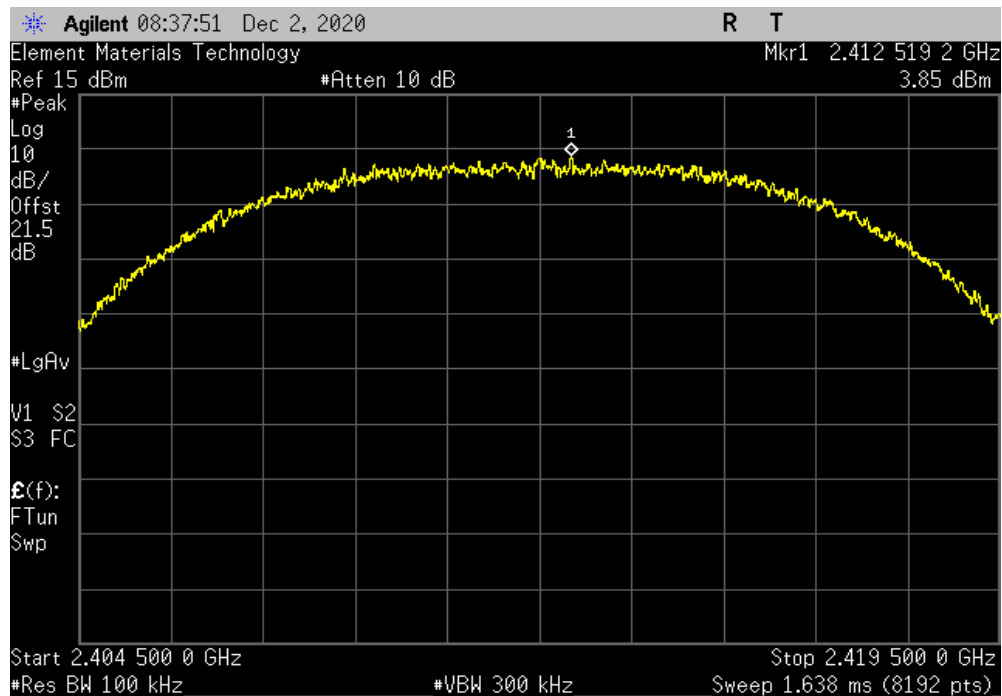


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	14030.6	-52.68	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2412.52	N/A	N/A	N/A	

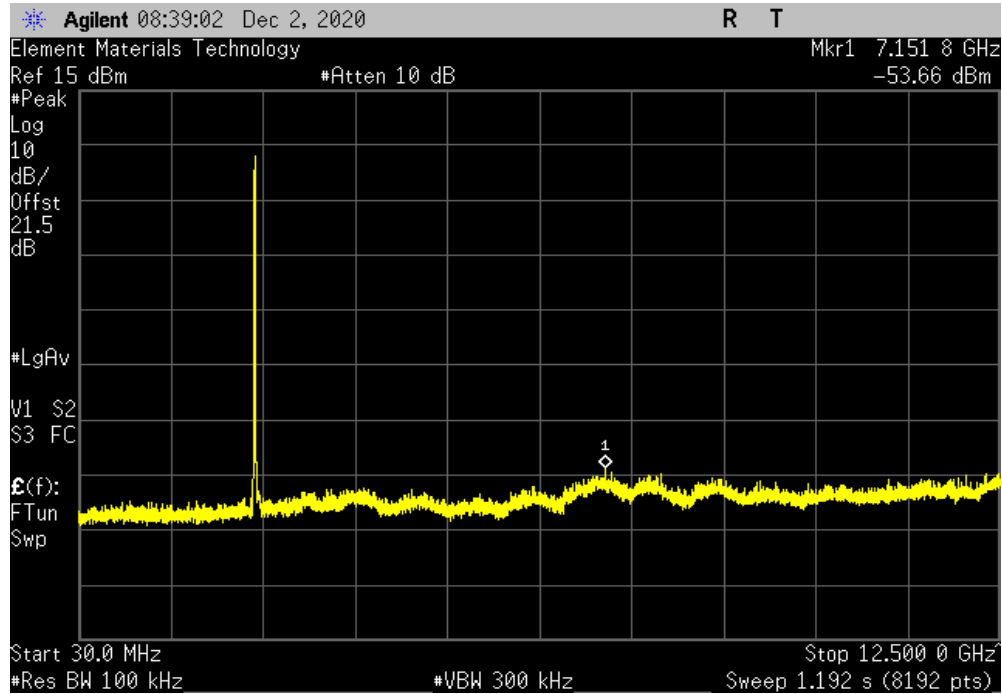


SPURIOUS CONDUCTED EMISSIONS

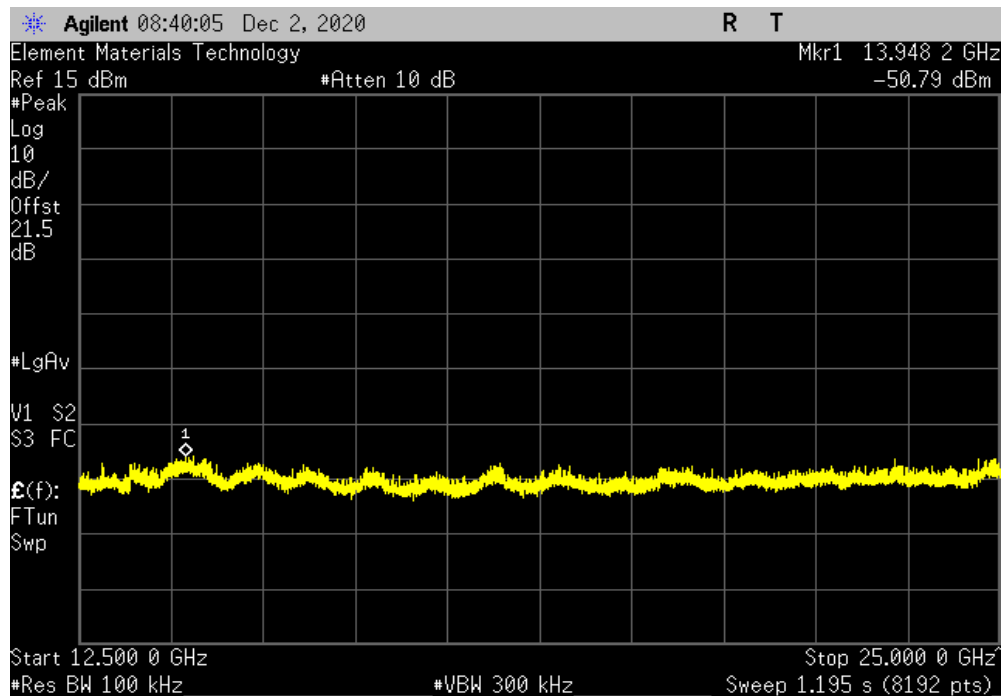


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	7151.8	-57.51	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13948.2	-54.64	-30	Pass	

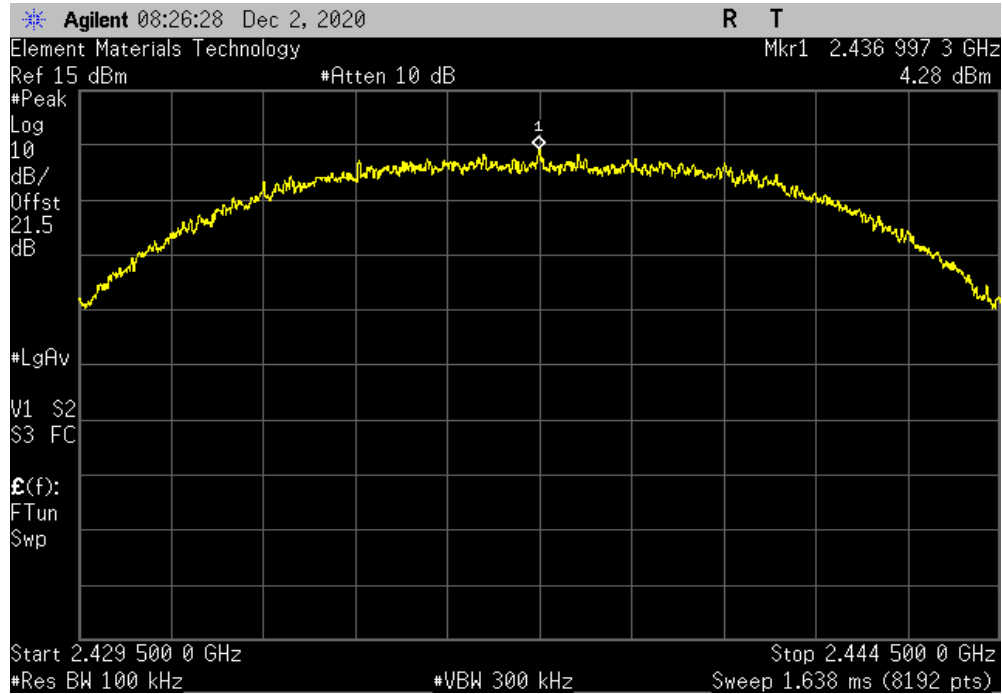


SPURIOUS CONDUCTED EMISSIONS

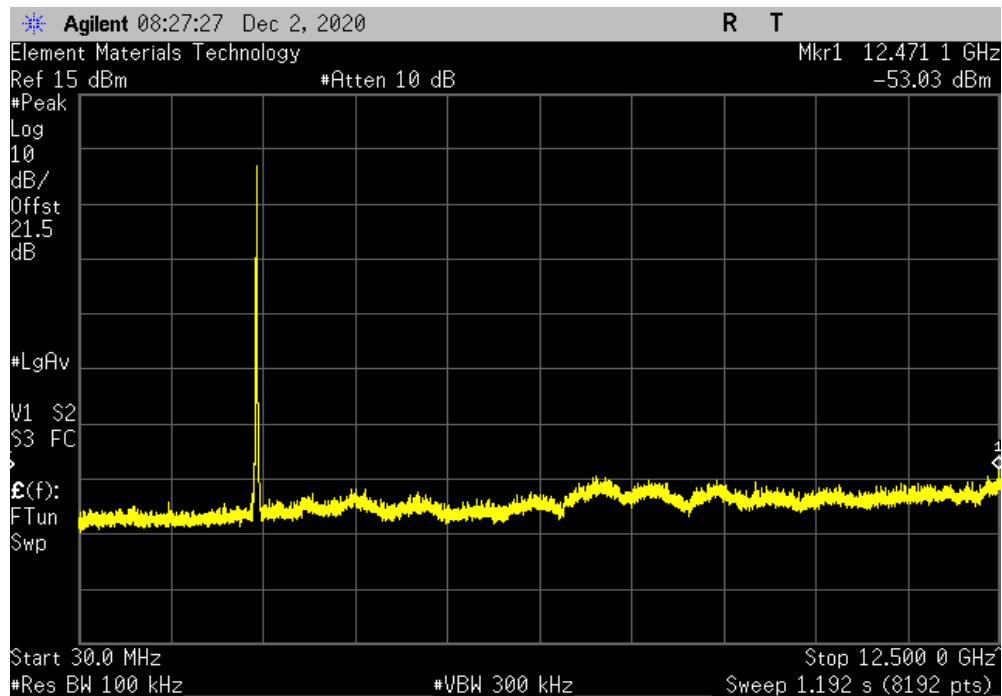


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2437	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	12471.1	-57.31	-30	Pass		

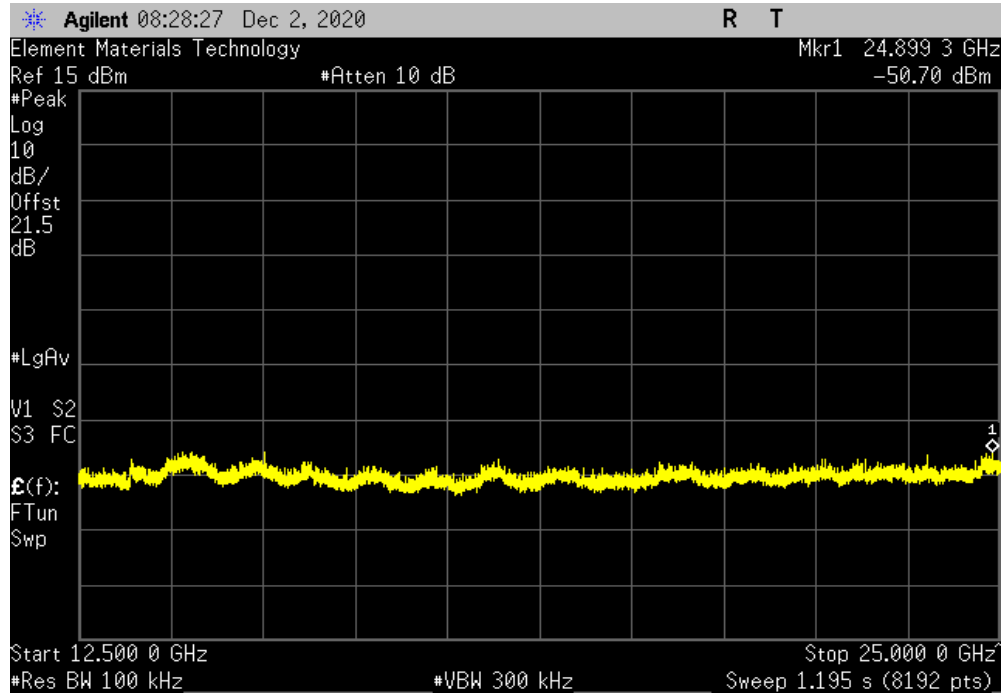


SPURIOUS CONDUCTED EMISSIONS

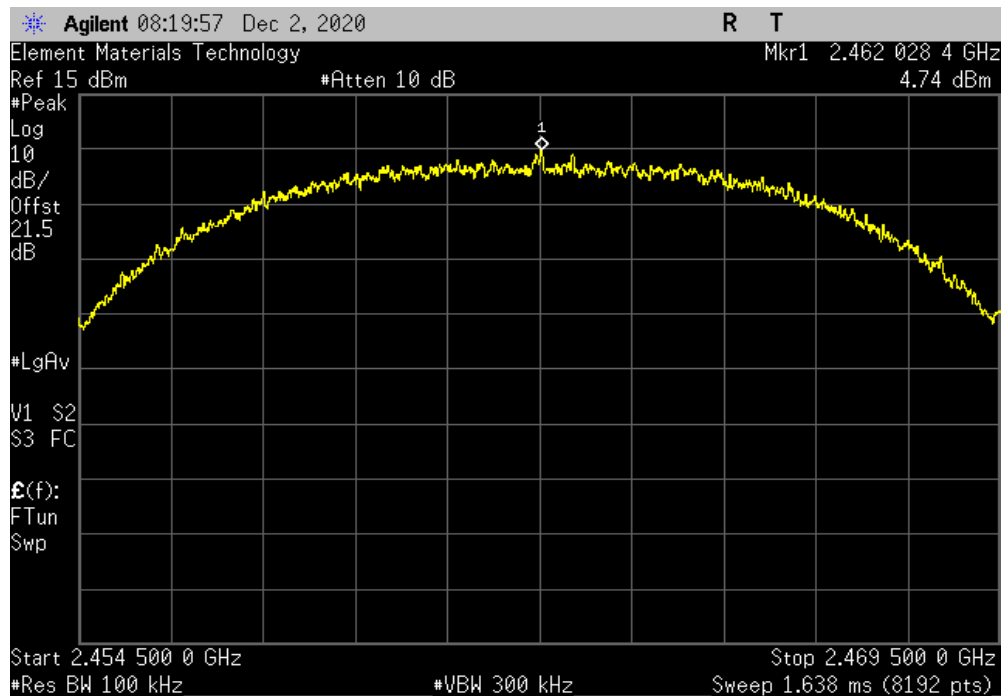


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24899.3	-54.98	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2462.03	N/A	N/A	N/A	

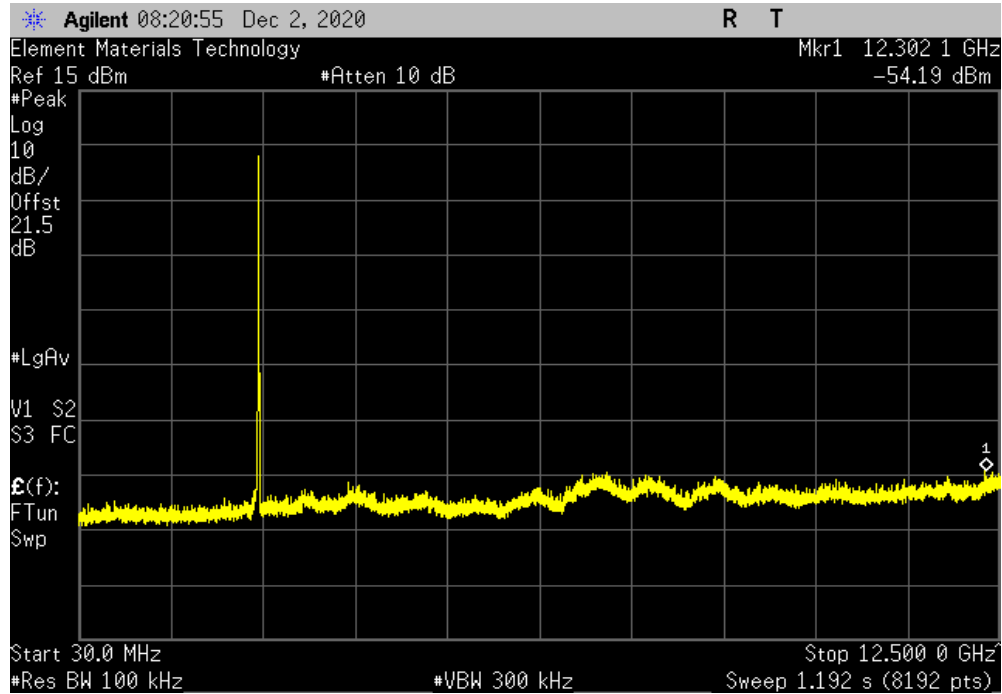


SPURIOUS CONDUCTED EMISSIONS

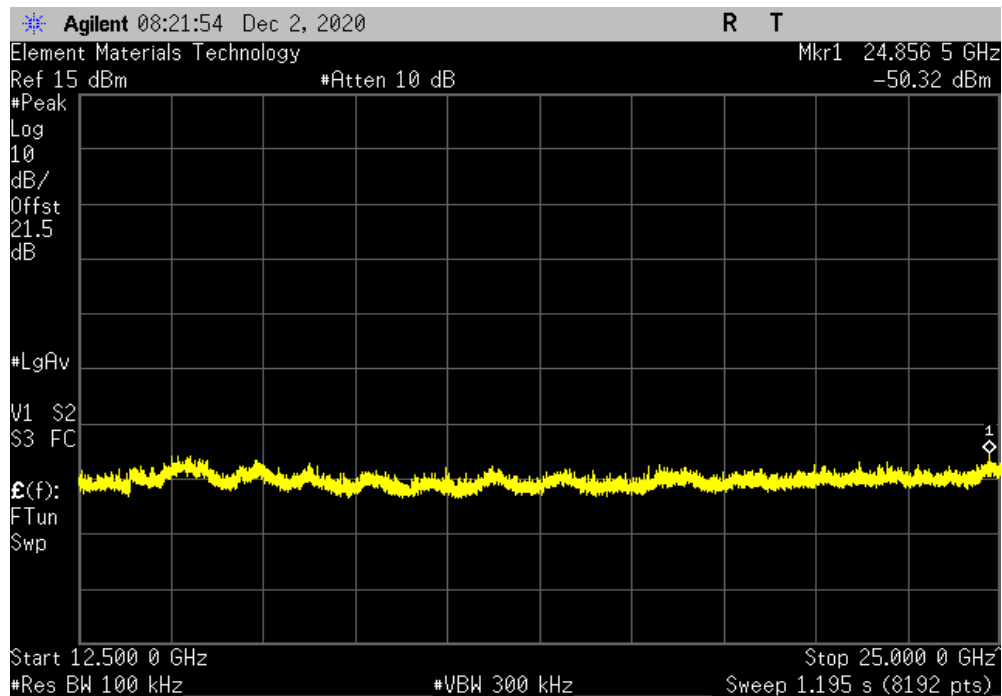


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12302.1	-58.93	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24856.5	-55.06	-30	Pass	

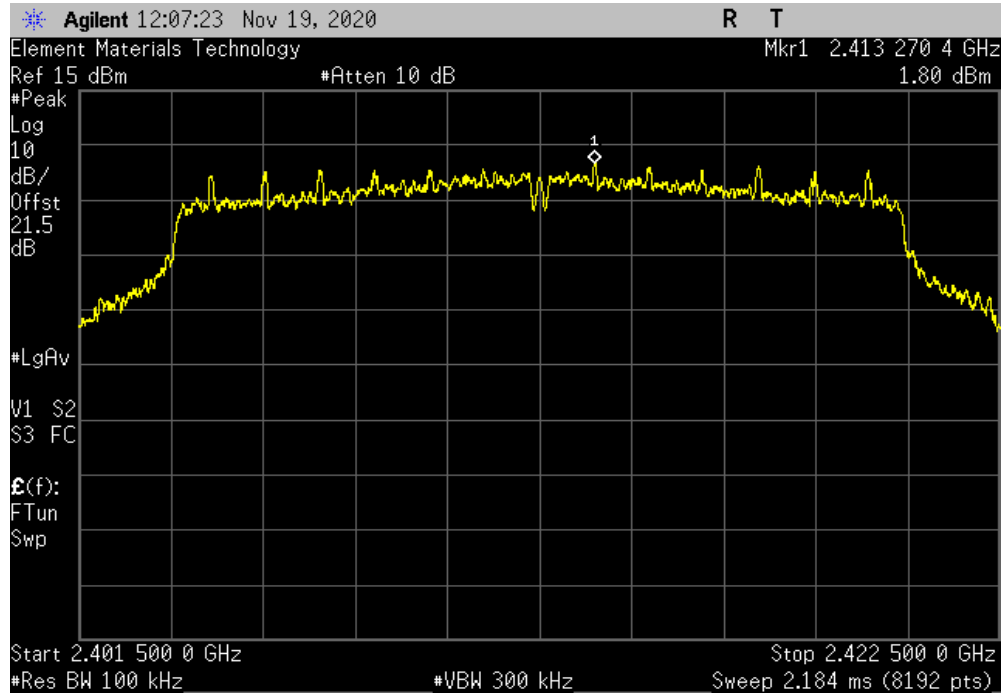


SPURIOUS CONDUCTED EMISSIONS

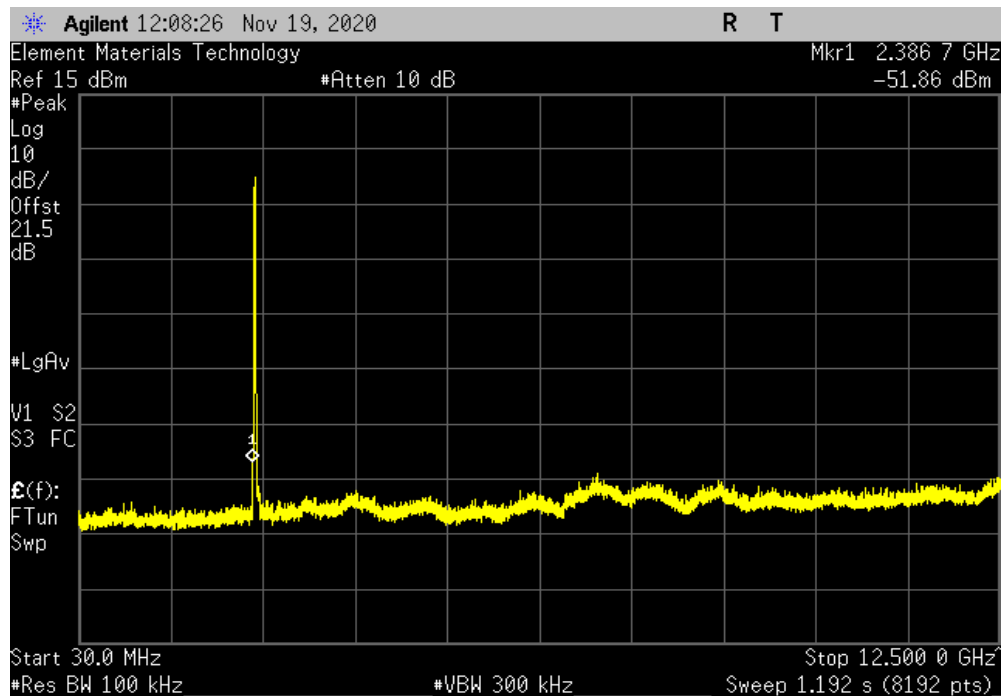


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2413.27	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	2386.7	-53.66	-30	Pass		

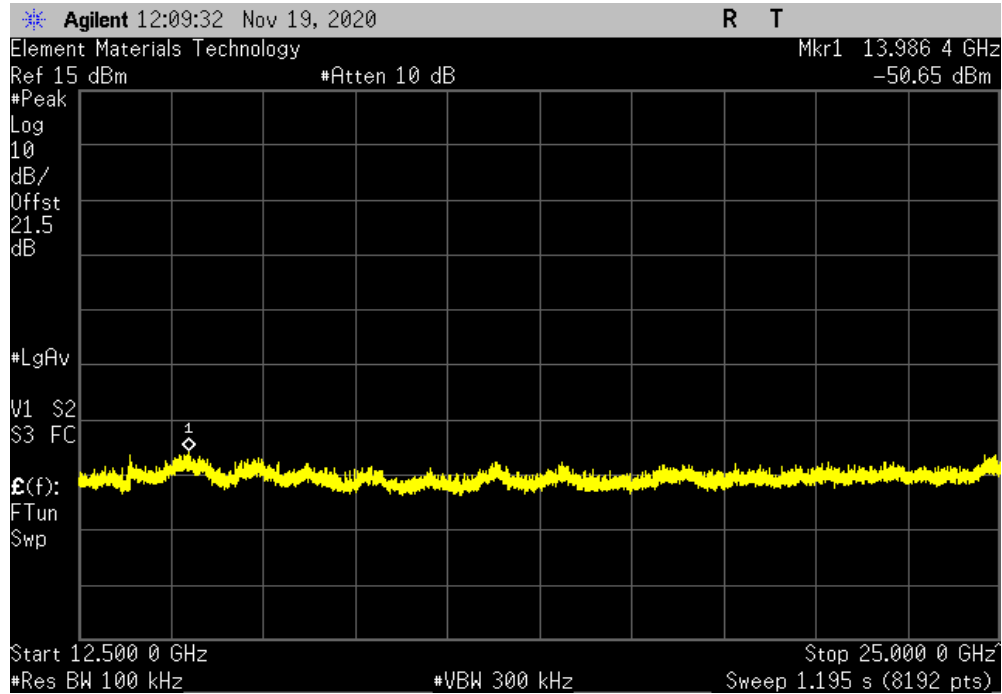


SPURIOUS CONDUCTED EMISSIONS

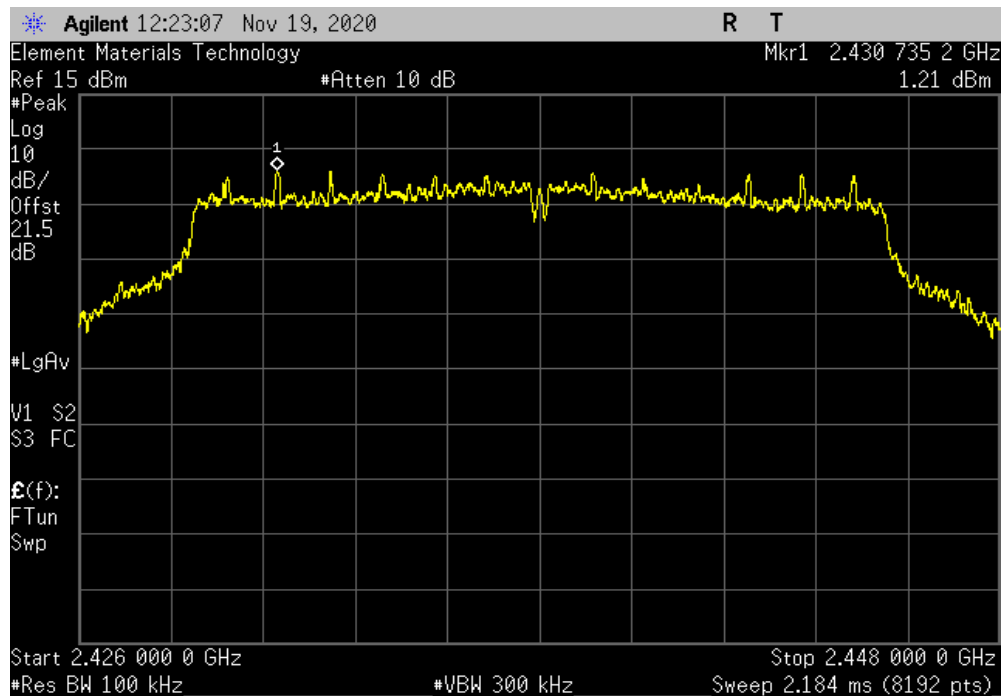


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13986.4	-52.45	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2430.74	N/A	N/A	N/A	

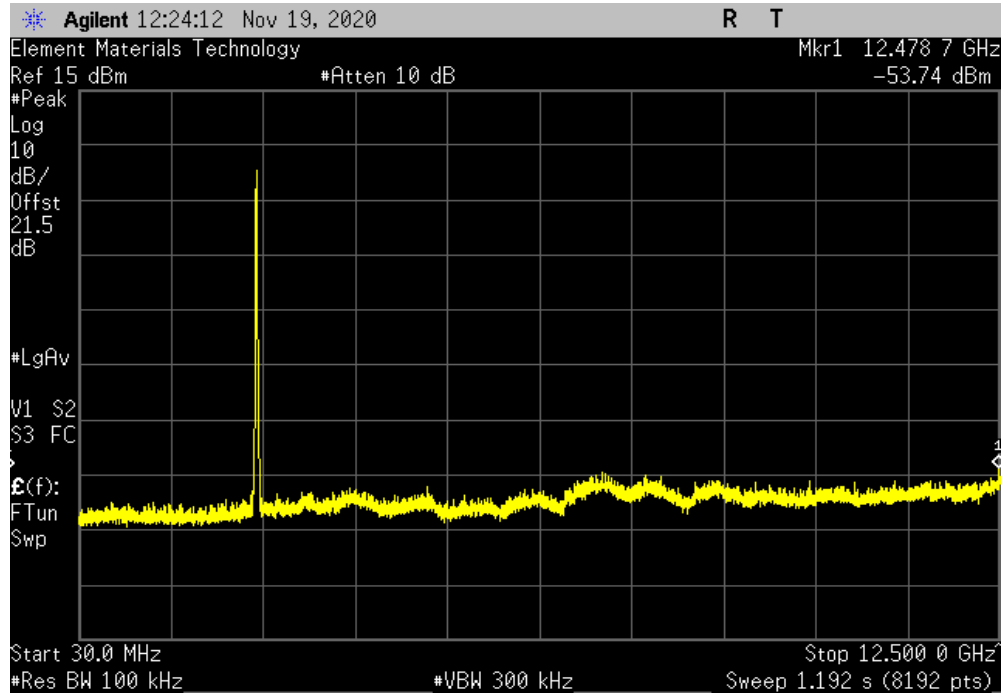


SPURIOUS CONDUCTED EMISSIONS

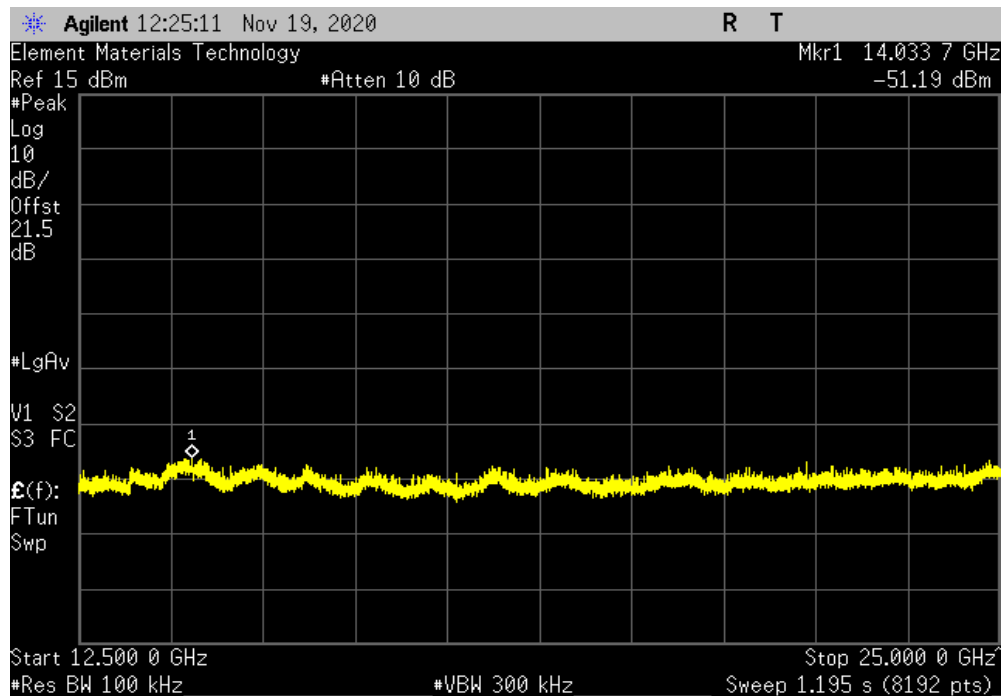


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12478.7	-54.95	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	14033.7	-52.4	-30	Pass	

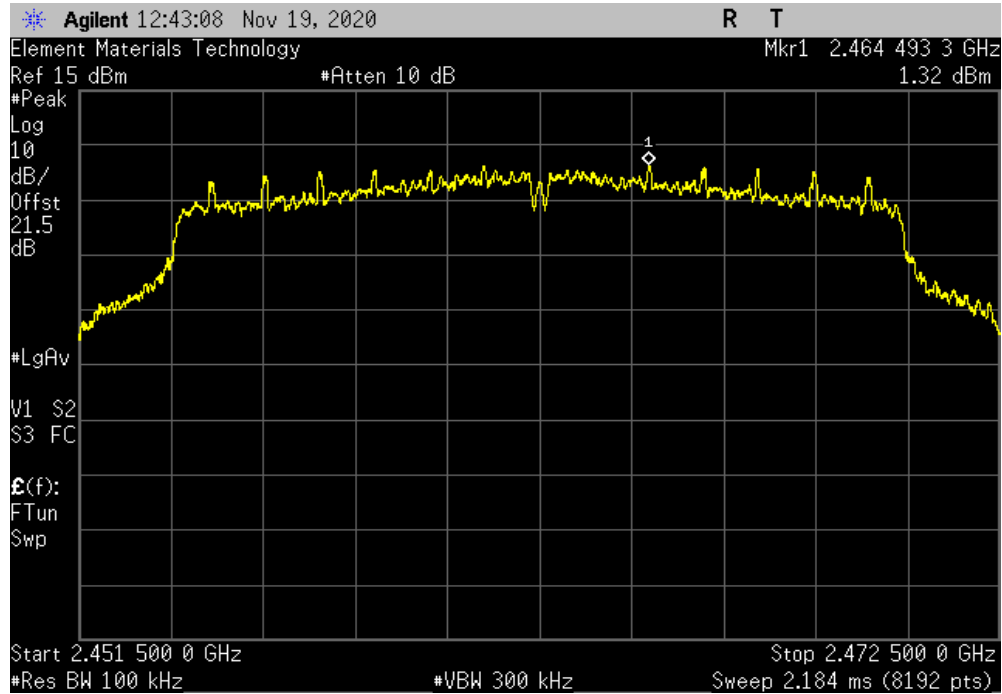


SPURIOUS CONDUCTED EMISSIONS

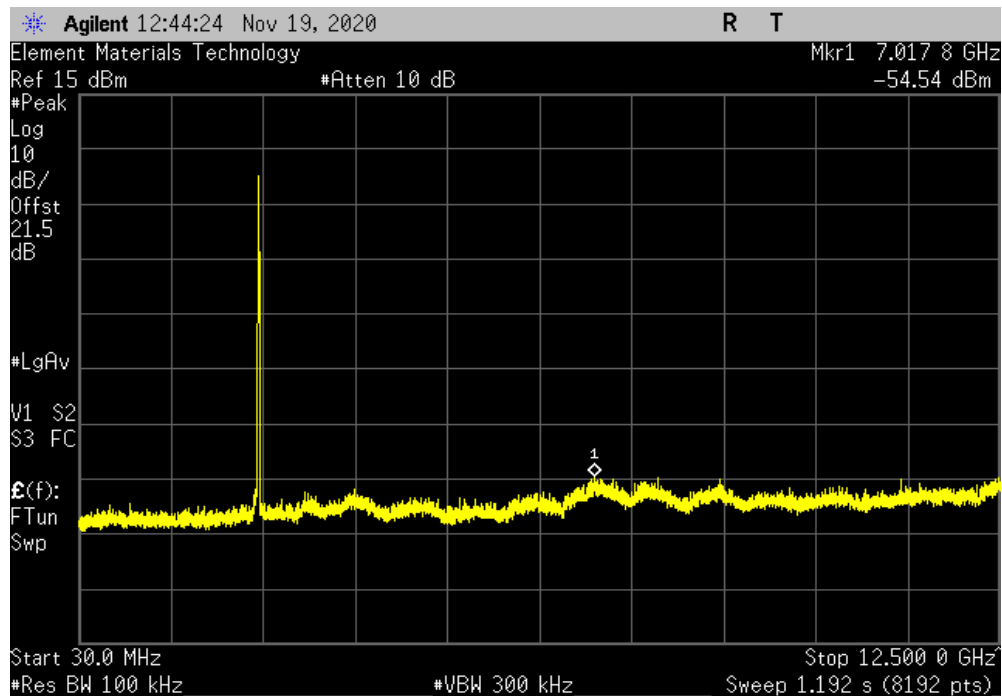


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2464.49	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7017.8	-55.86	-30	Pass		

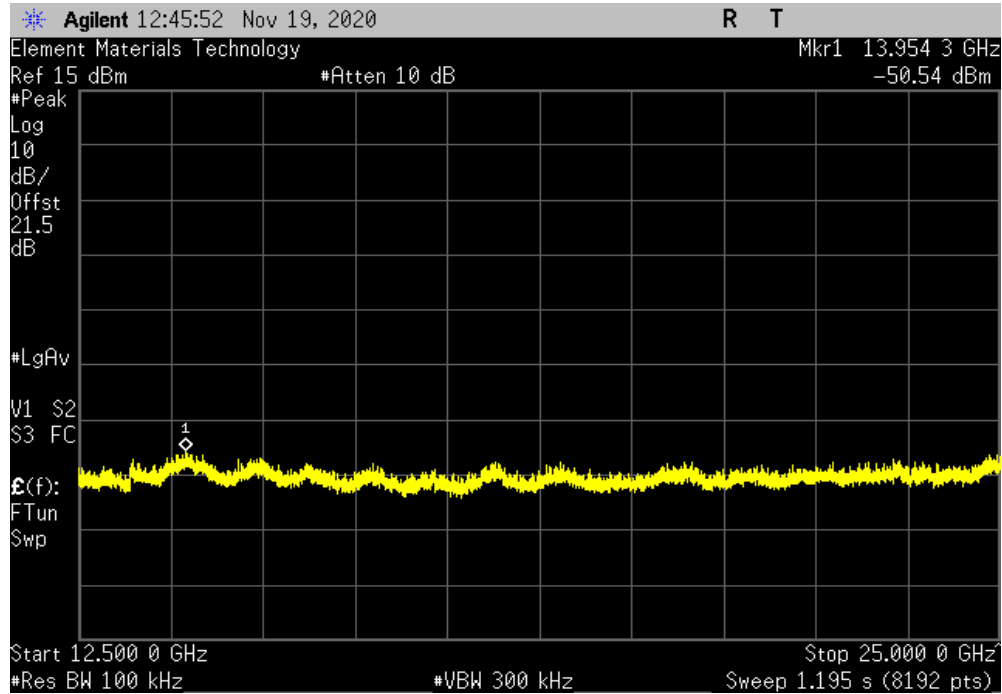


SPURIOUS CONDUCTED EMISSIONS

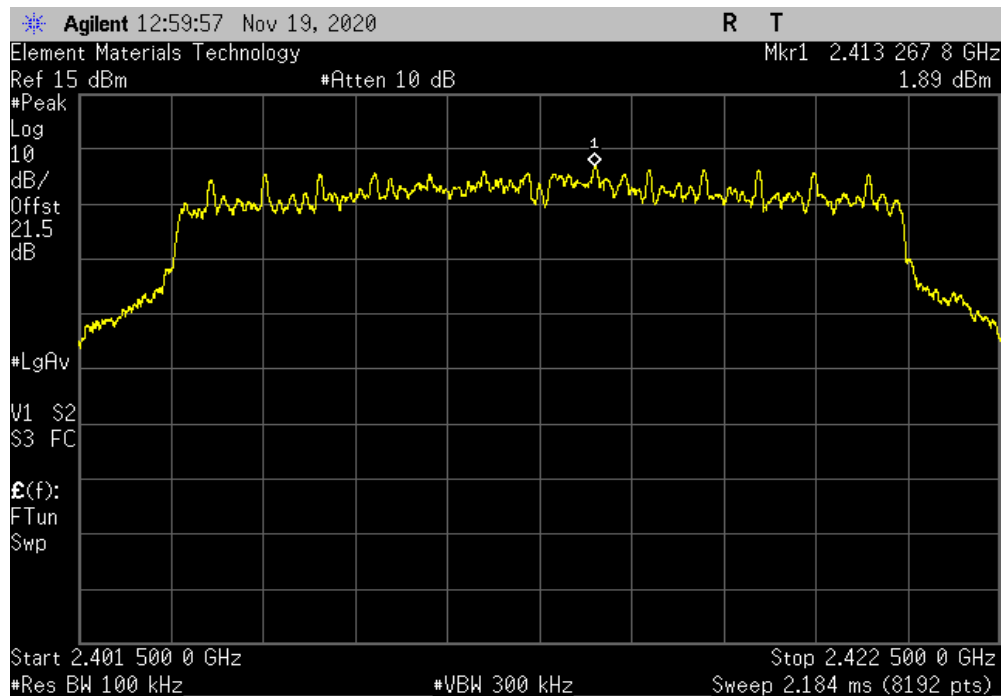


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13954.3	-51.86	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2413.27	N/A	N/A	N/A	

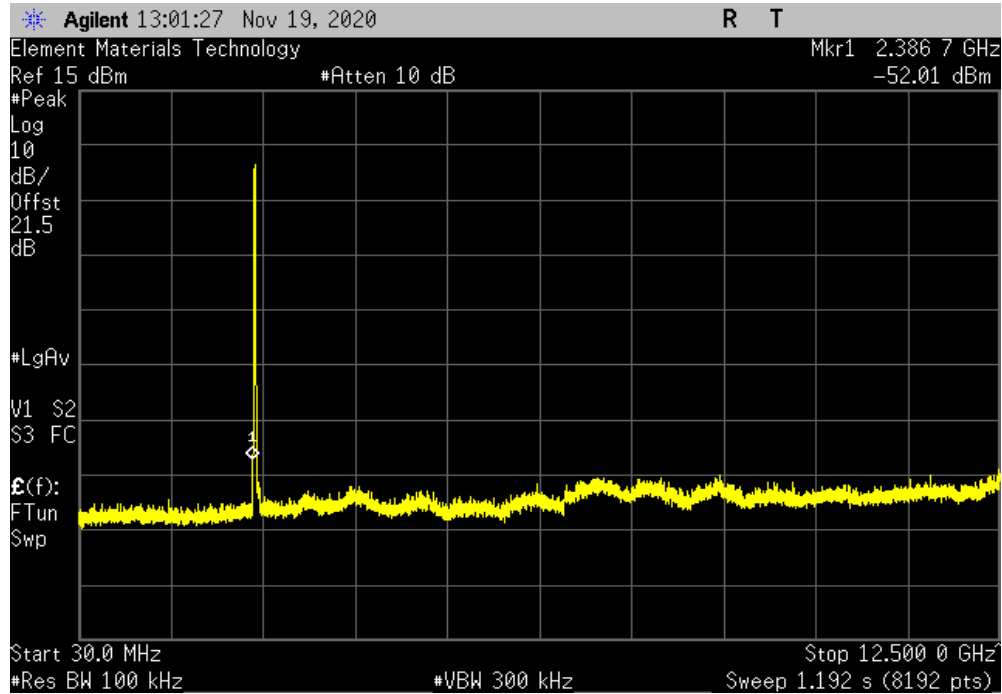


SPURIOUS CONDUCTED EMISSIONS

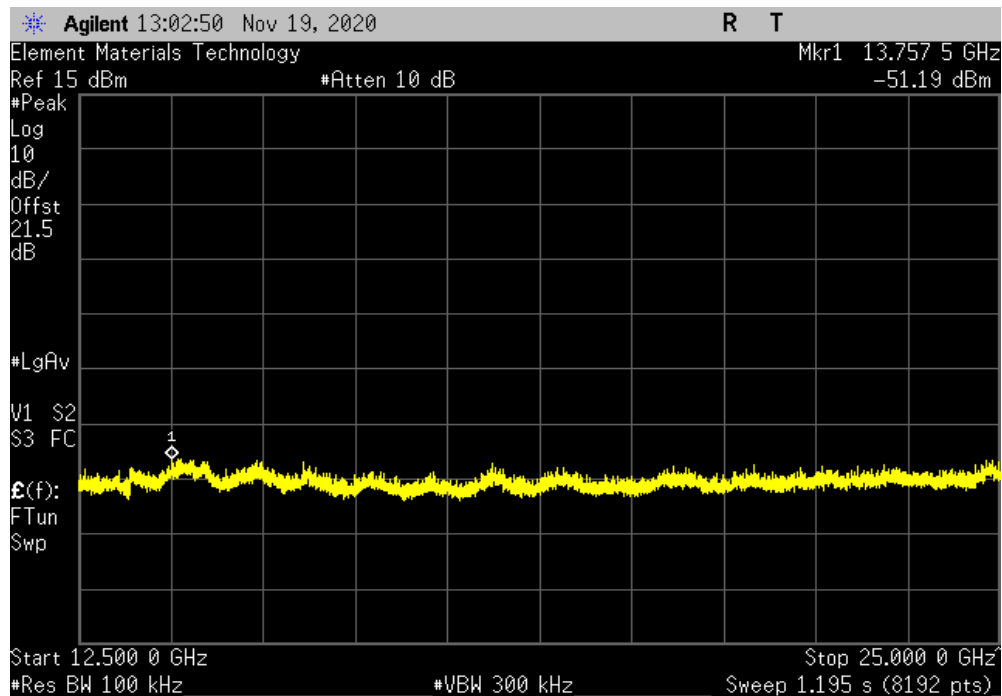


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	2386.7	-53.9	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13757.5	-53.08	-30	Pass	

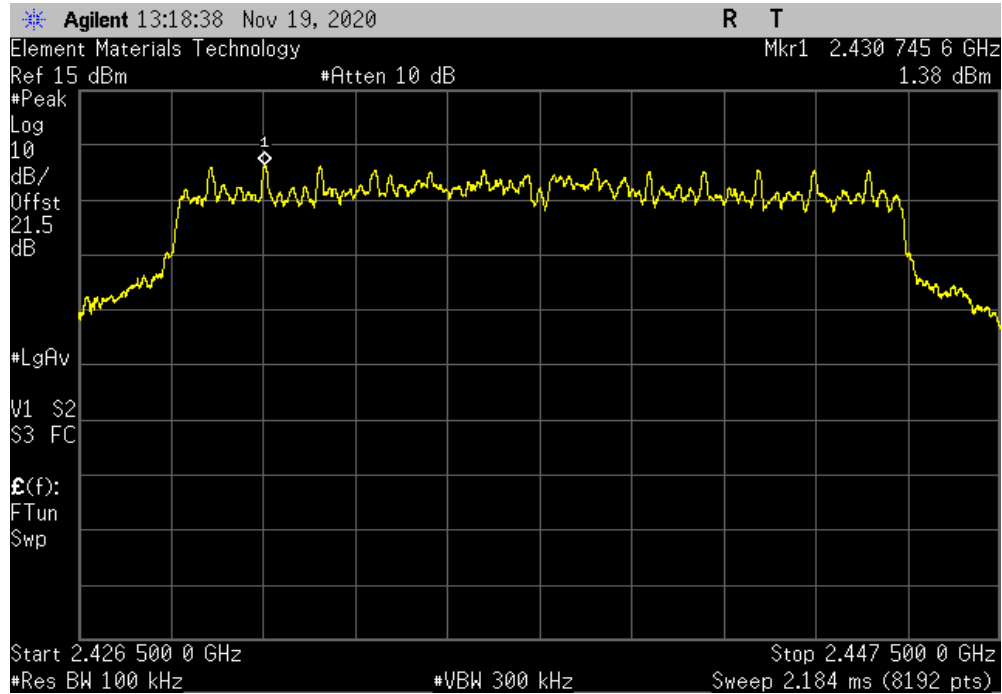


SPURIOUS CONDUCTED EMISSIONS

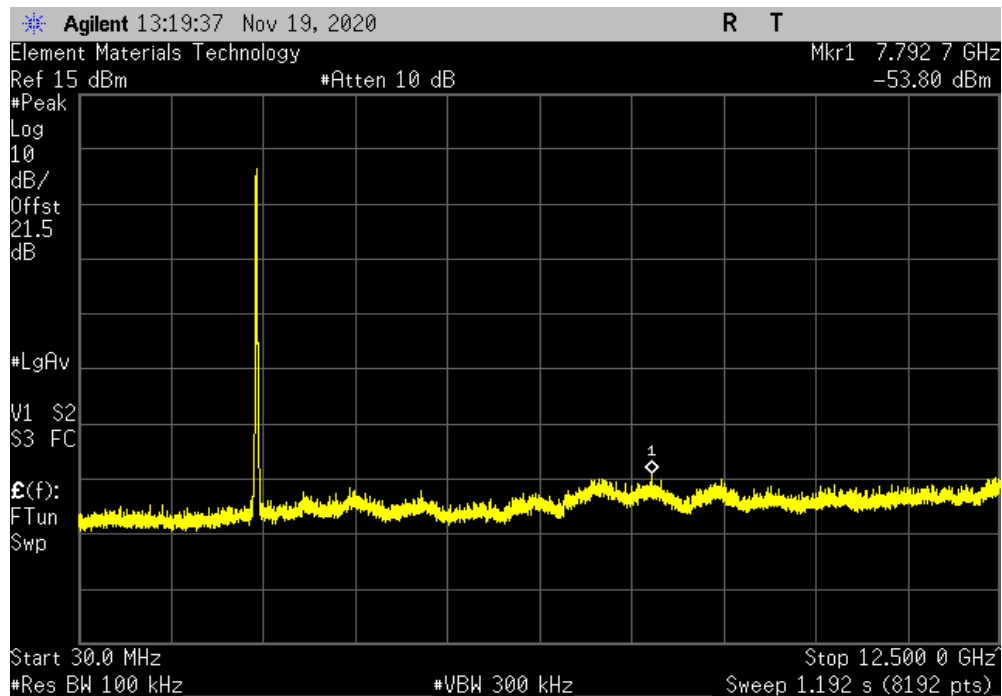


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2430.75	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7792.7	-55.18	-30	Pass		

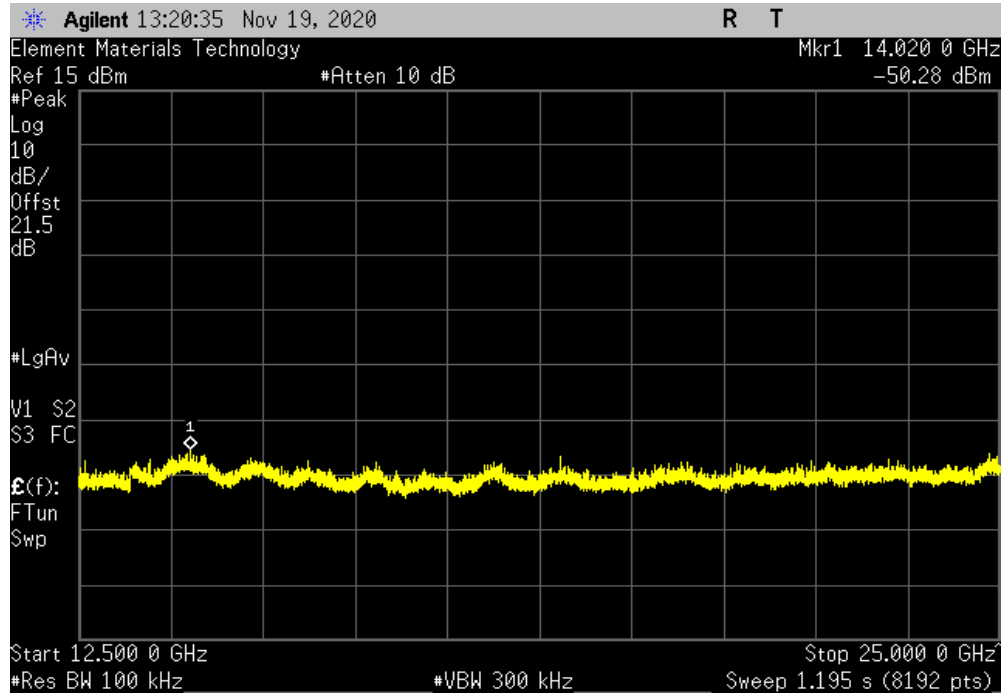


SPURIOUS CONDUCTED EMISSIONS

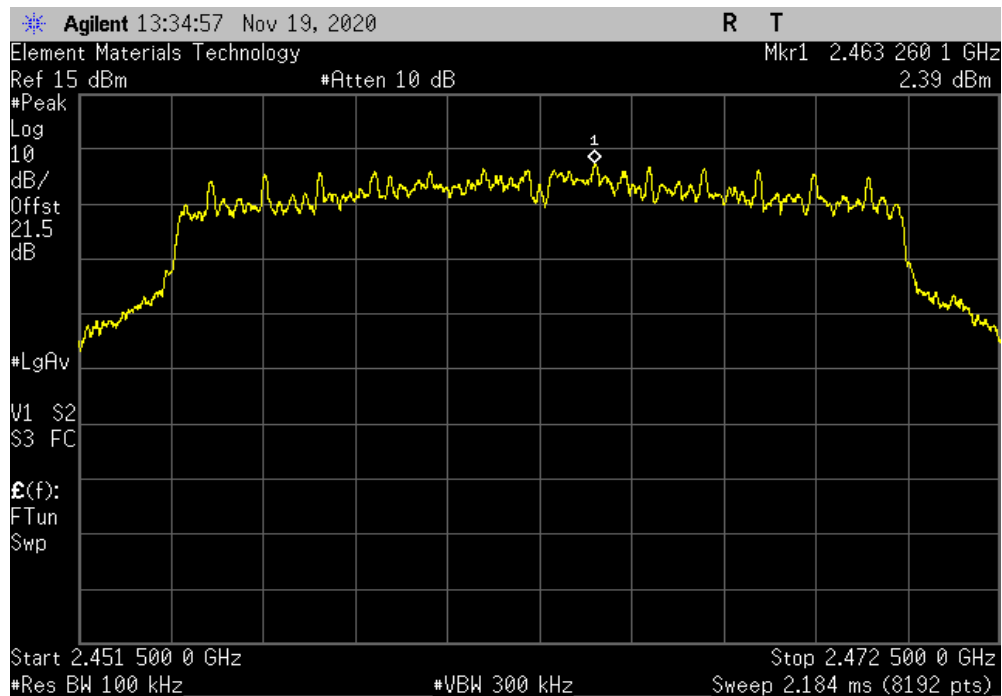


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	14020	-51.66	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2463.26	N/A	N/A	N/A	

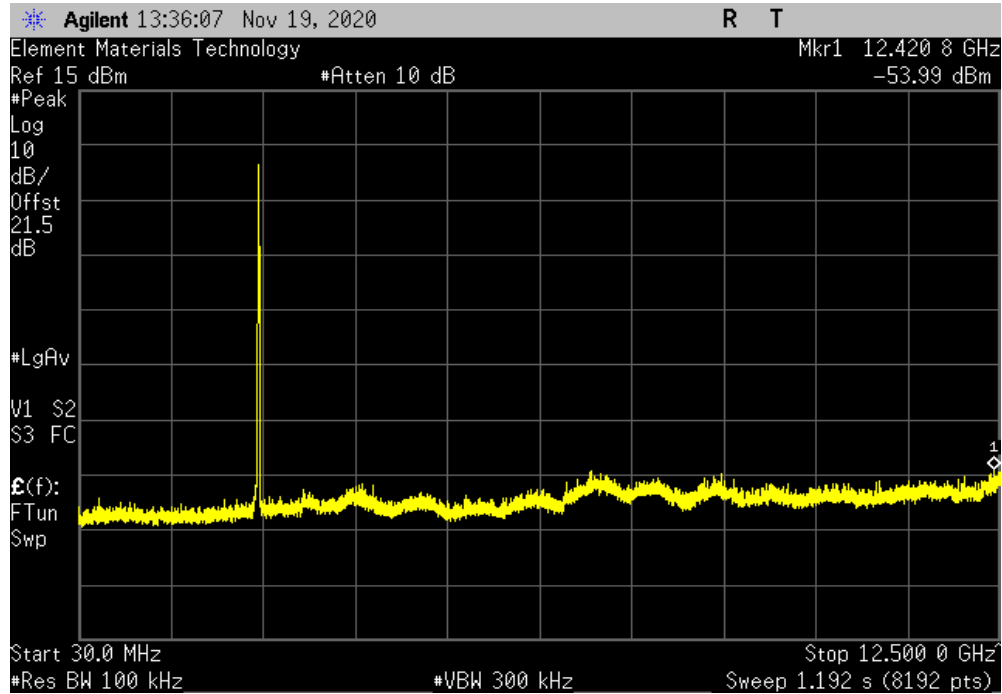


SPURIOUS CONDUCTED EMISSIONS

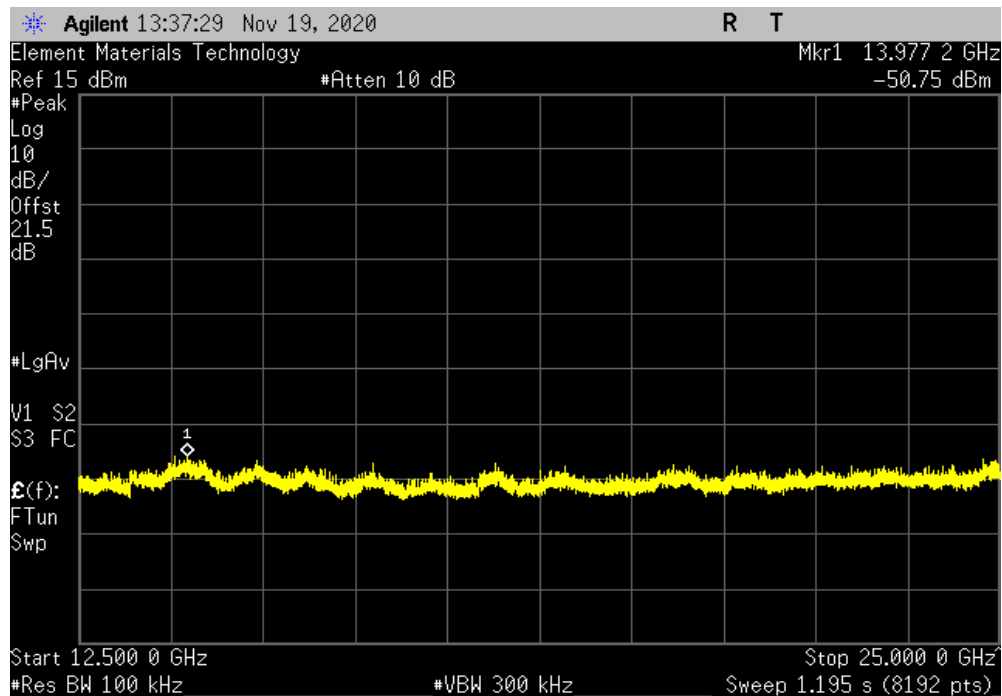


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12420.8	-56.38	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13977.2	-53.14	-30	Pass	

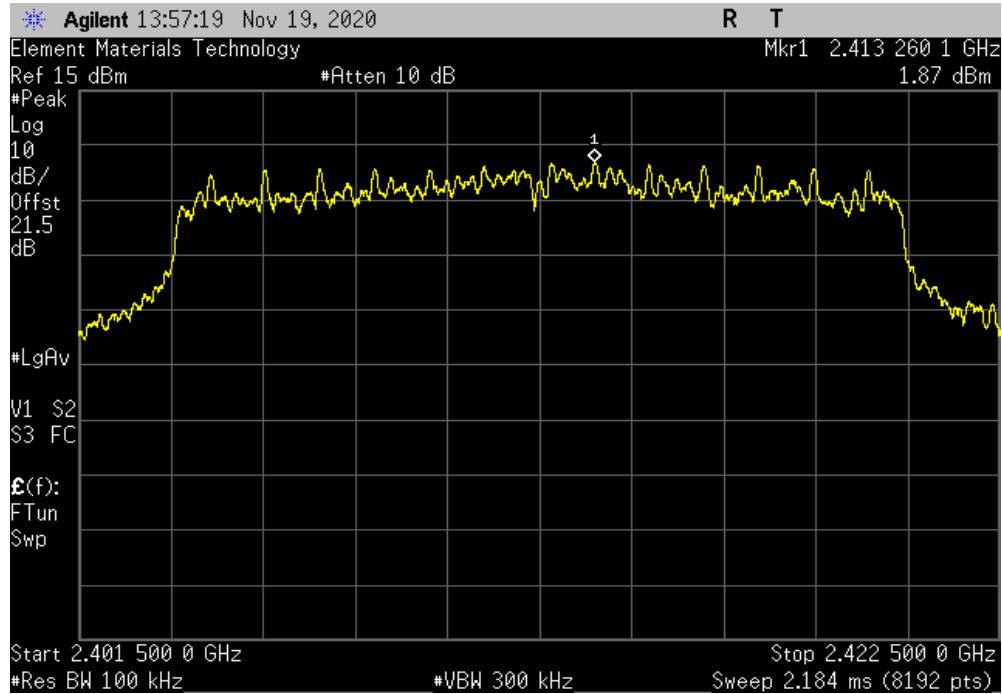


SPURIOUS CONDUCTED EMISSIONS

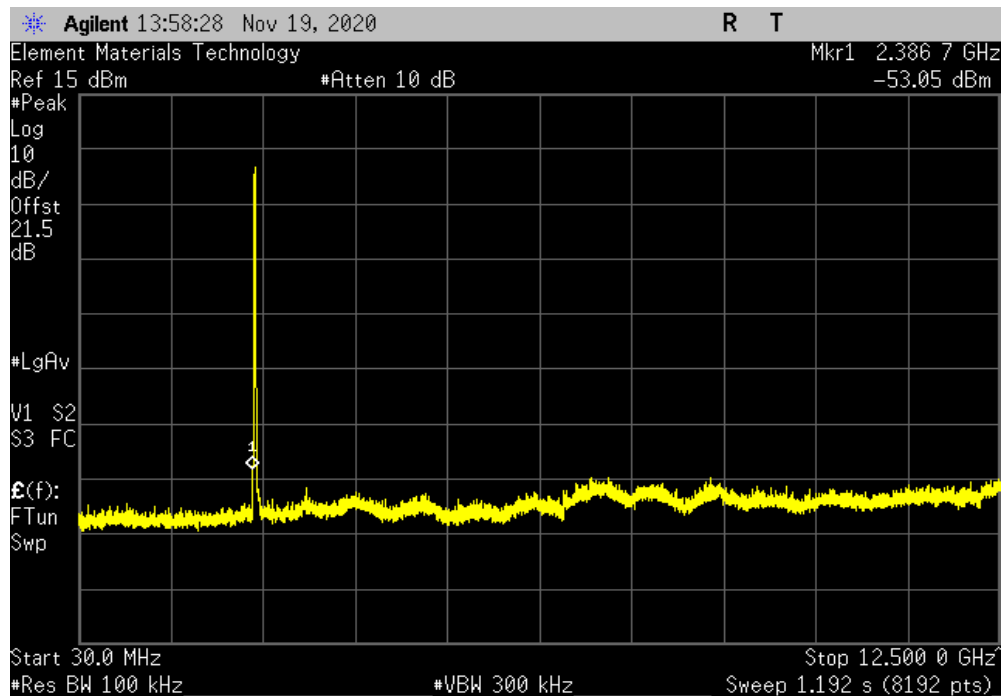


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2413.26	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	2386.7	-54.92	-30	Pass		

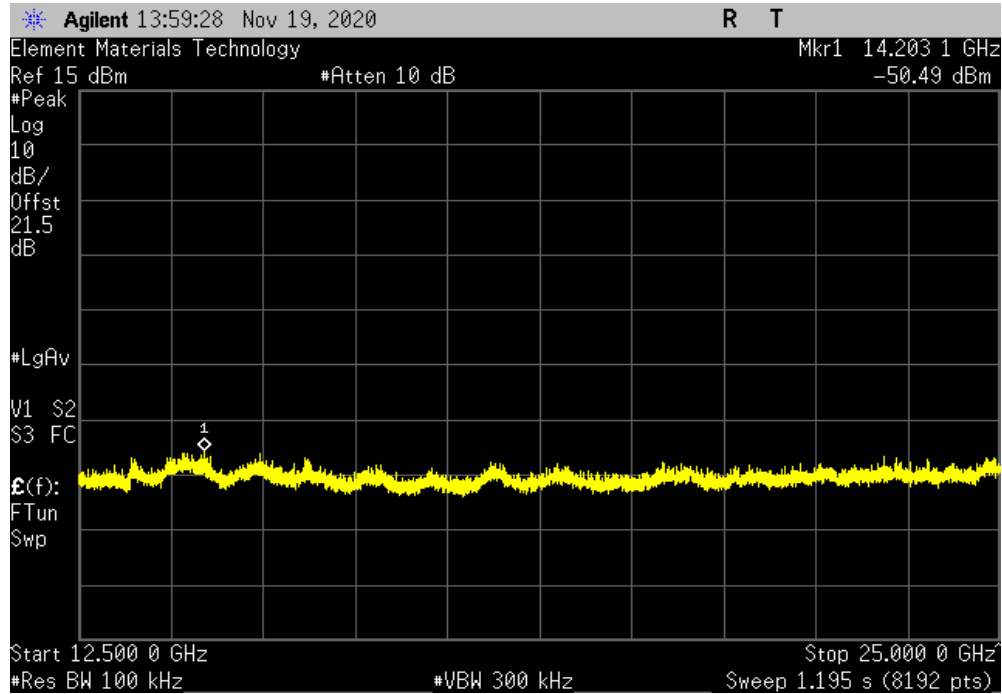


SPURIOUS CONDUCTED EMISSIONS

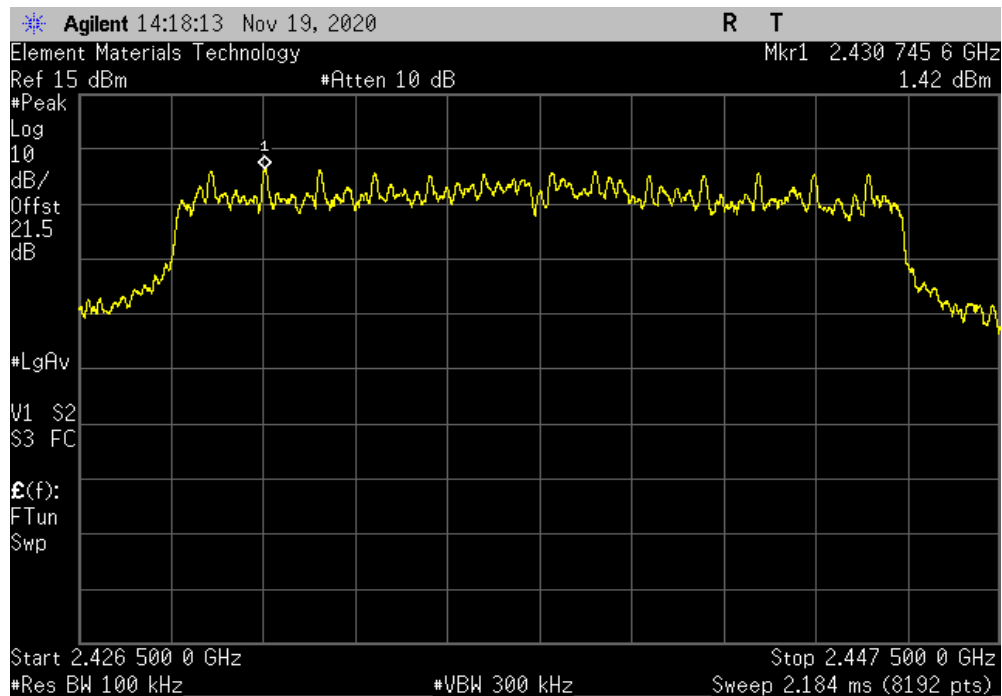


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	14203.1	-52.36	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2430.75	N/A	N/A	N/A	

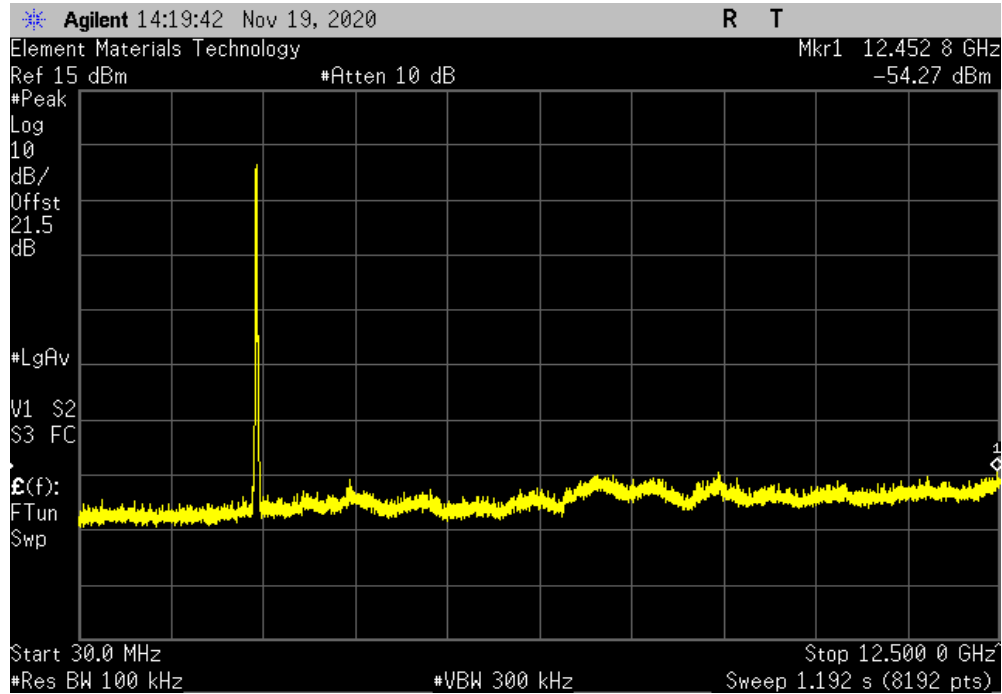


SPURIOUS CONDUCTED EMISSIONS

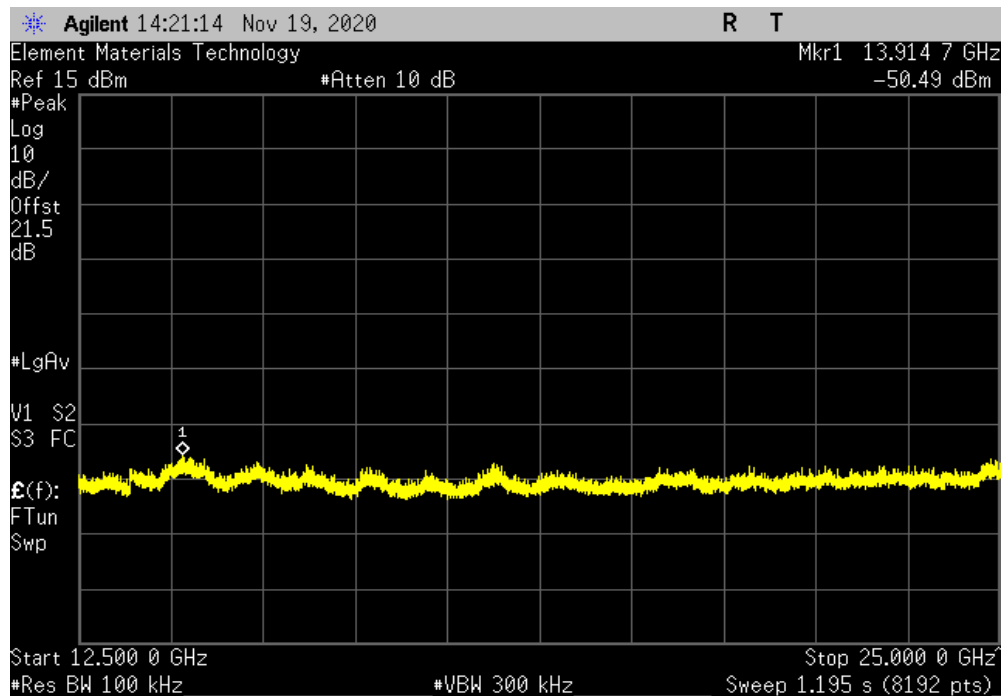


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12452.8	-55.69	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13914.7	-51.92	-30	Pass	

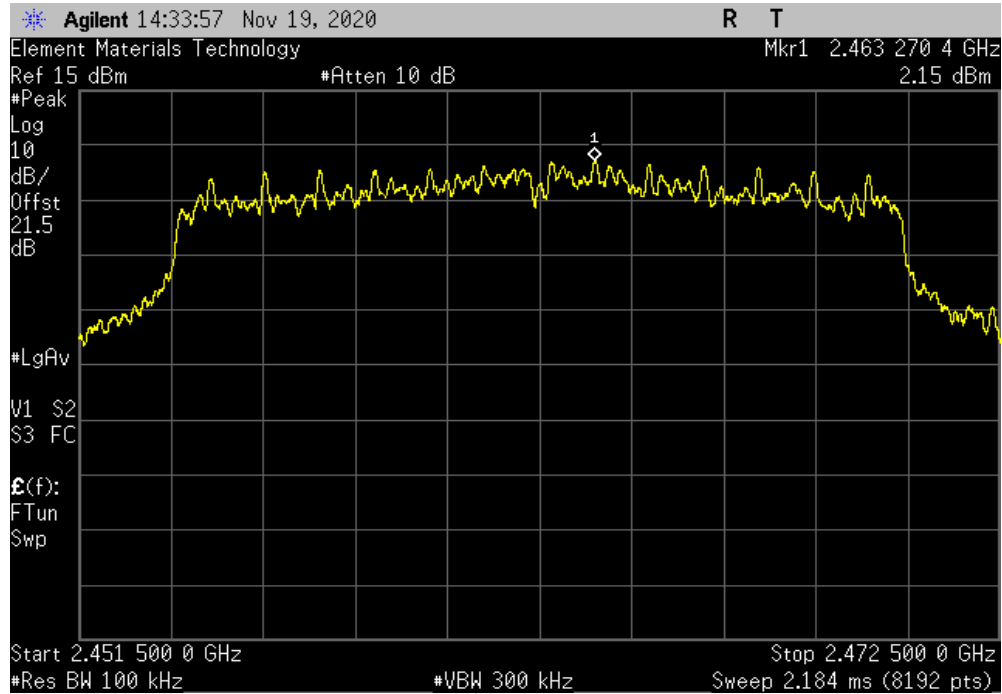


SPURIOUS CONDUCTED EMISSIONS

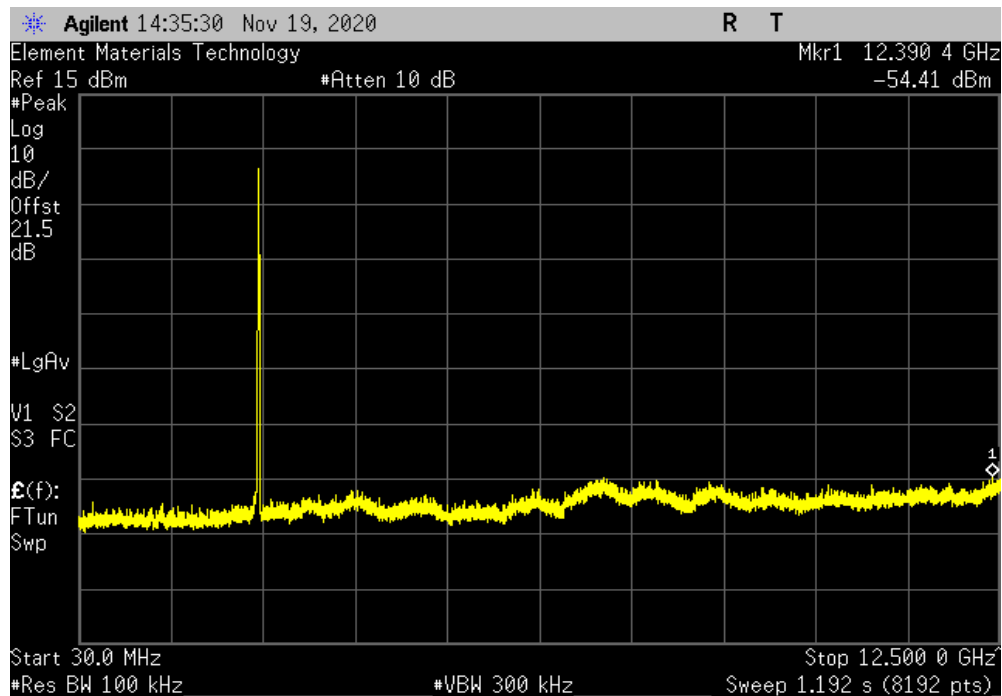


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2463.27	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	12390.4	-56.56	-30	Pass		

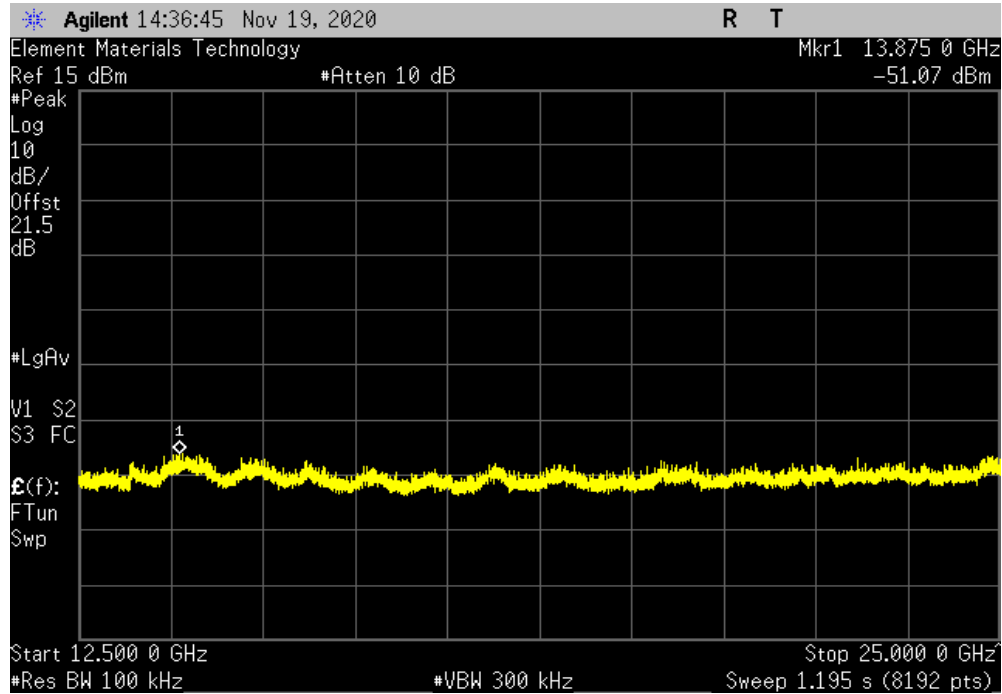


SPURIOUS CONDUCTED EMISSIONS

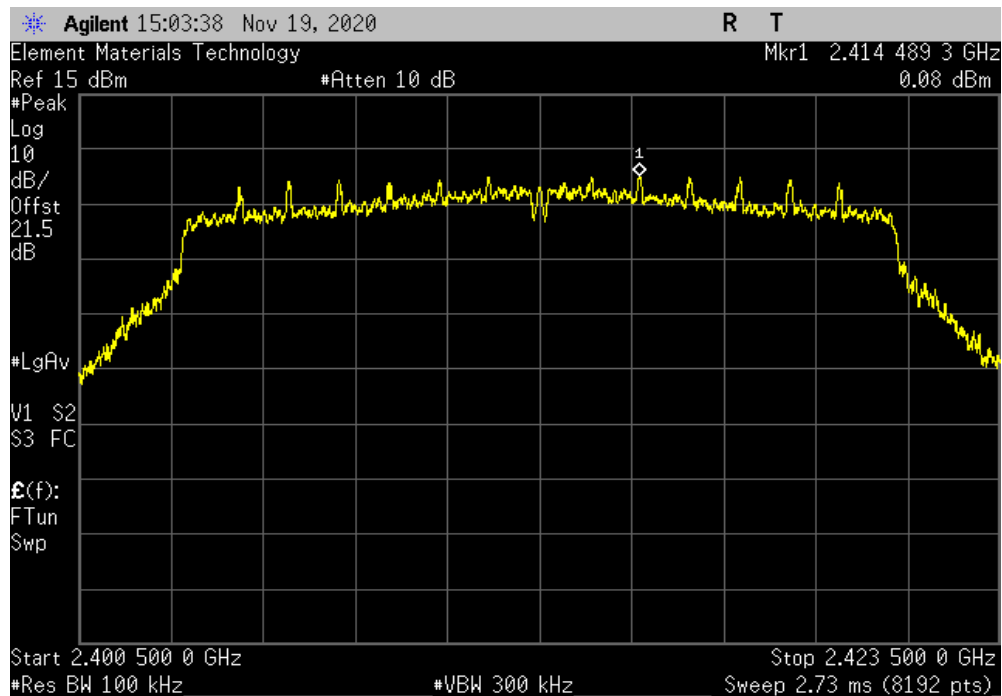


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13875	-53.22	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2414.49	N/A	N/A	N/A	

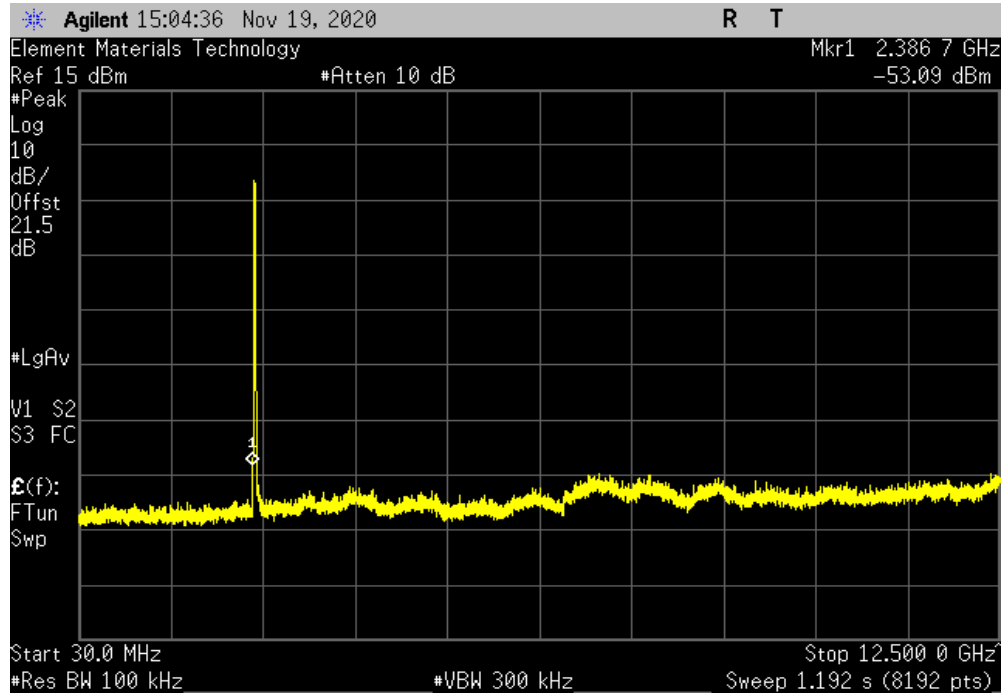


SPURIOUS CONDUCTED EMISSIONS

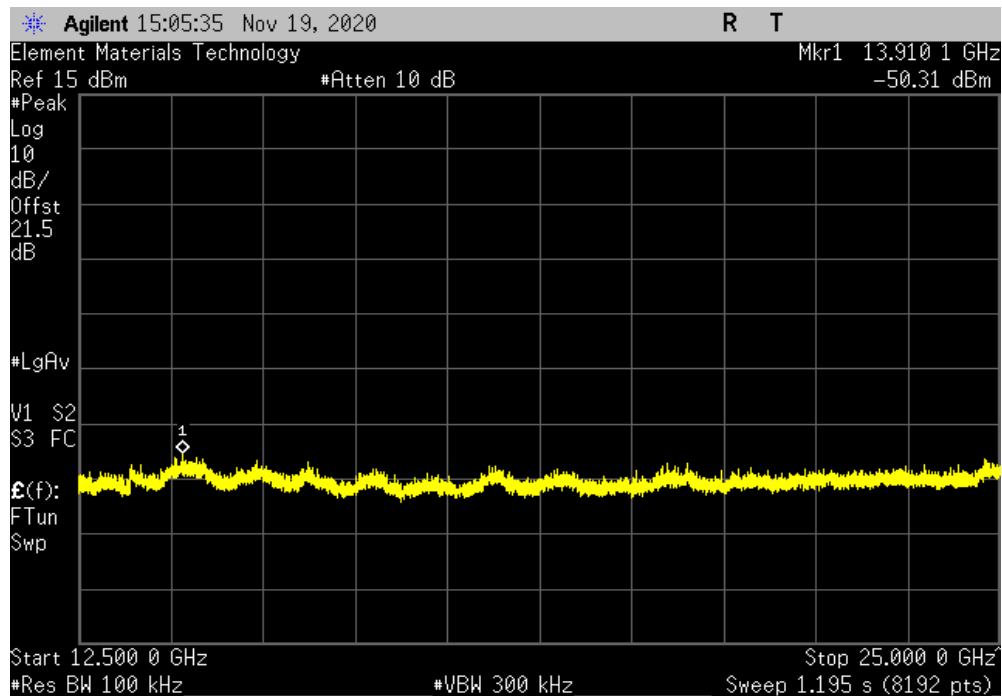


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	2386.7	-53.17	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13910.1	-50.39	-30	Pass	

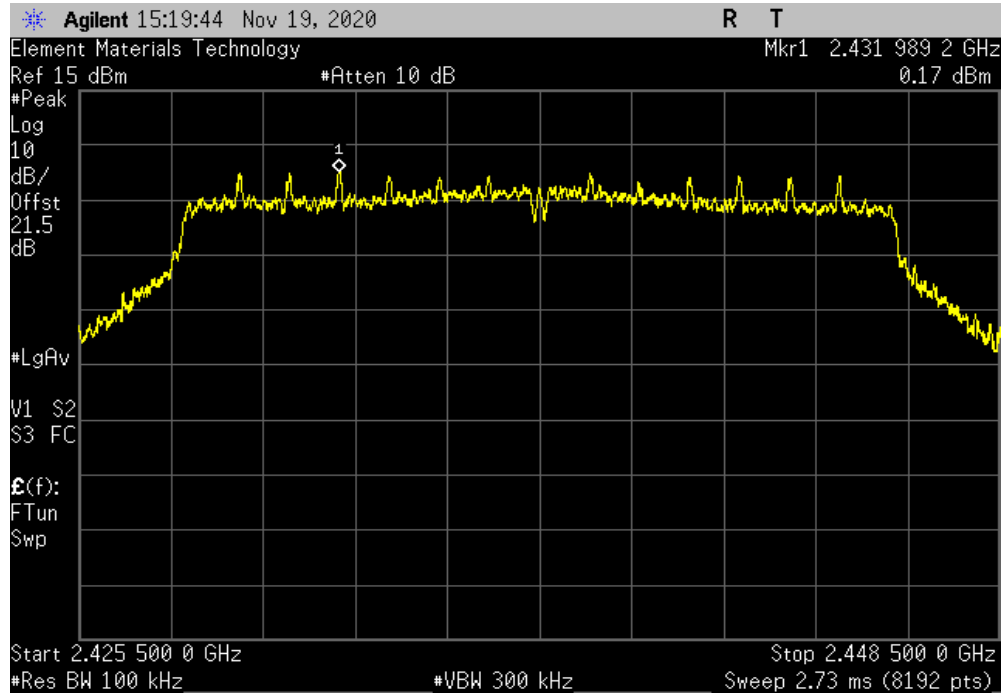


SPURIOUS CONDUCTED EMISSIONS

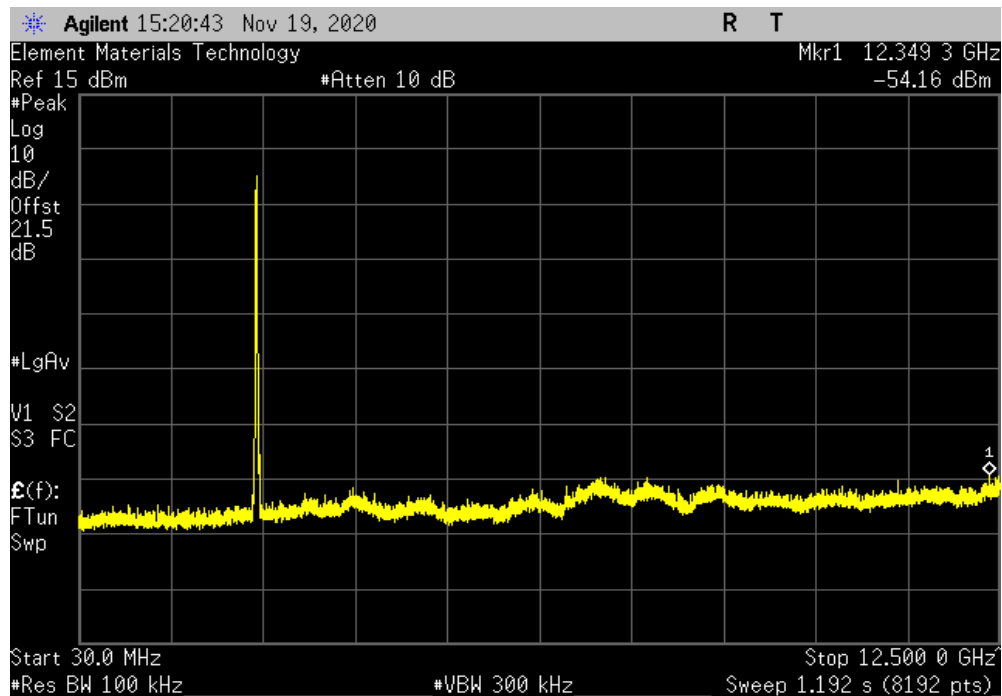


TbTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2431.99	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	12349.3	-54.33	-30	Pass		

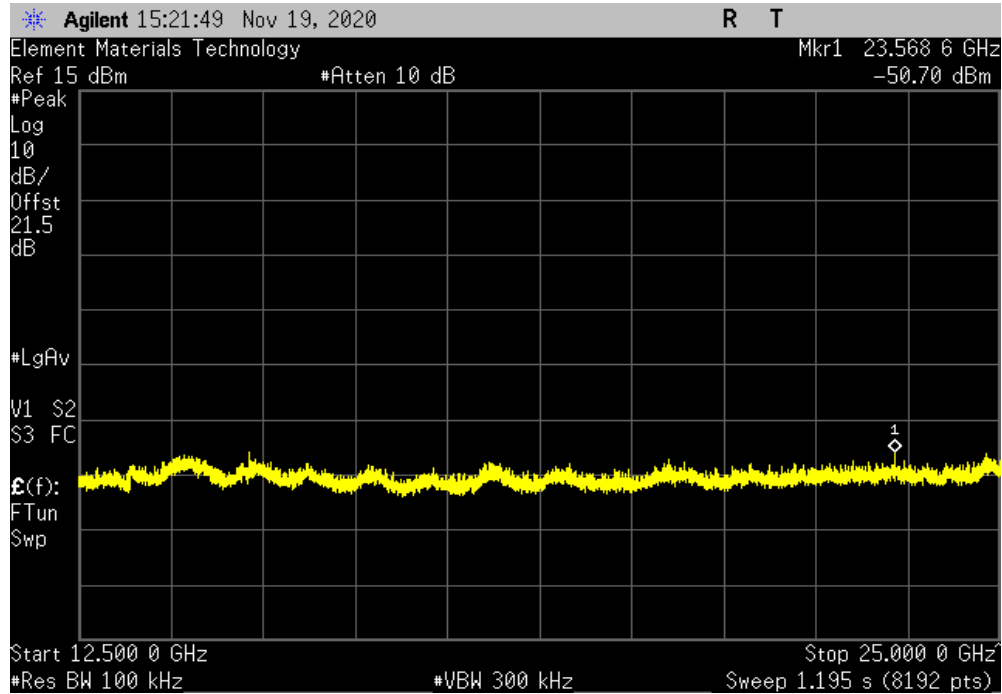


SPURIOUS CONDUCTED EMISSIONS

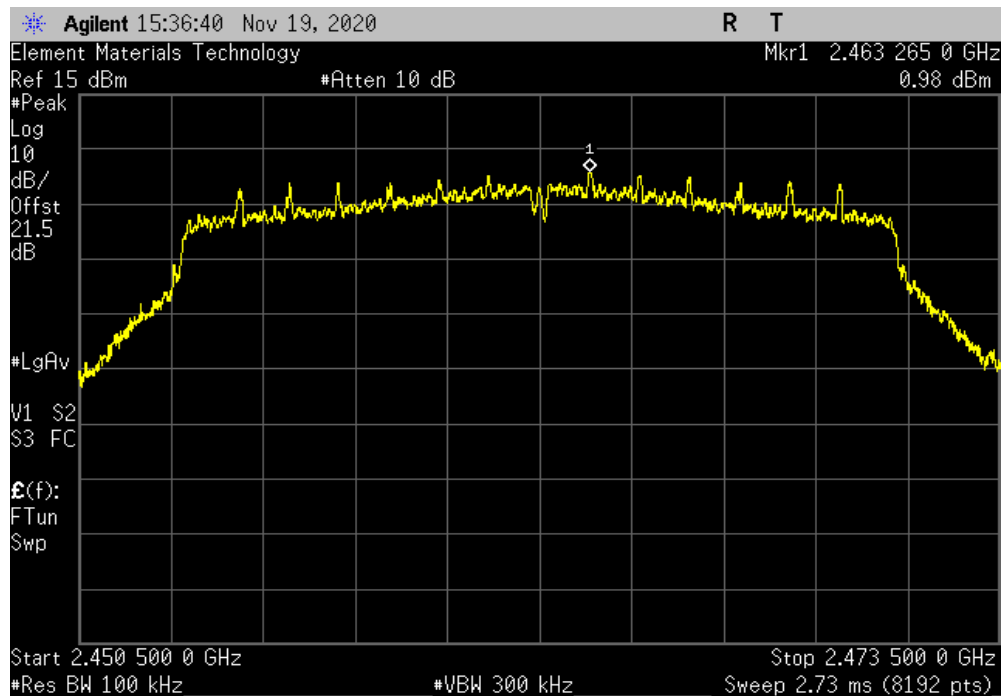


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	23568.6	-50.87	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2463.27	N/A	N/A	N/A	

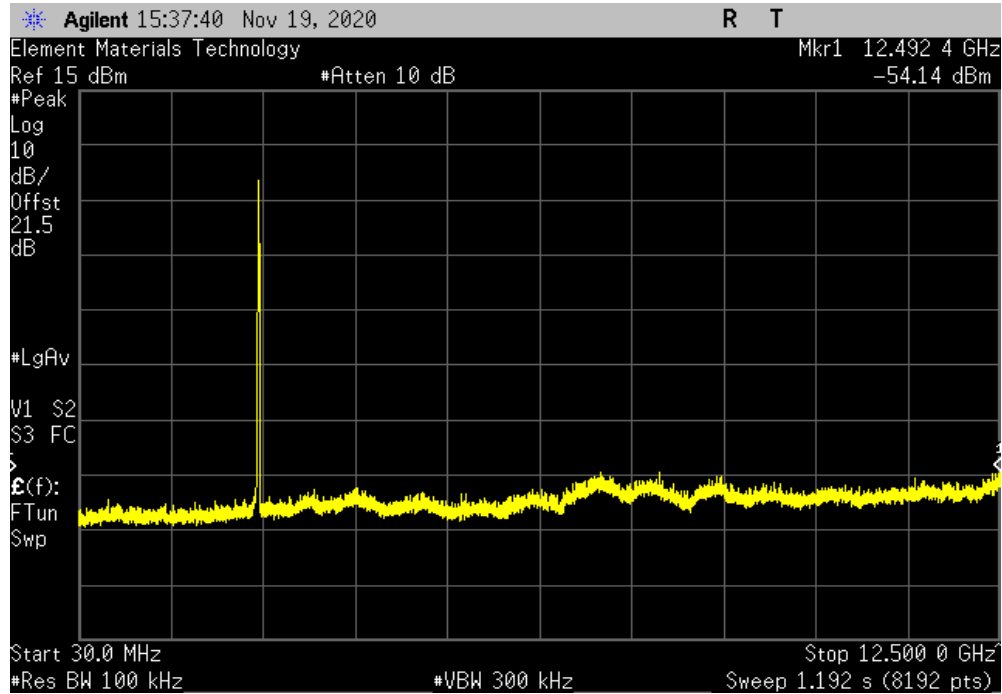


SPURIOUS CONDUCTED EMISSIONS

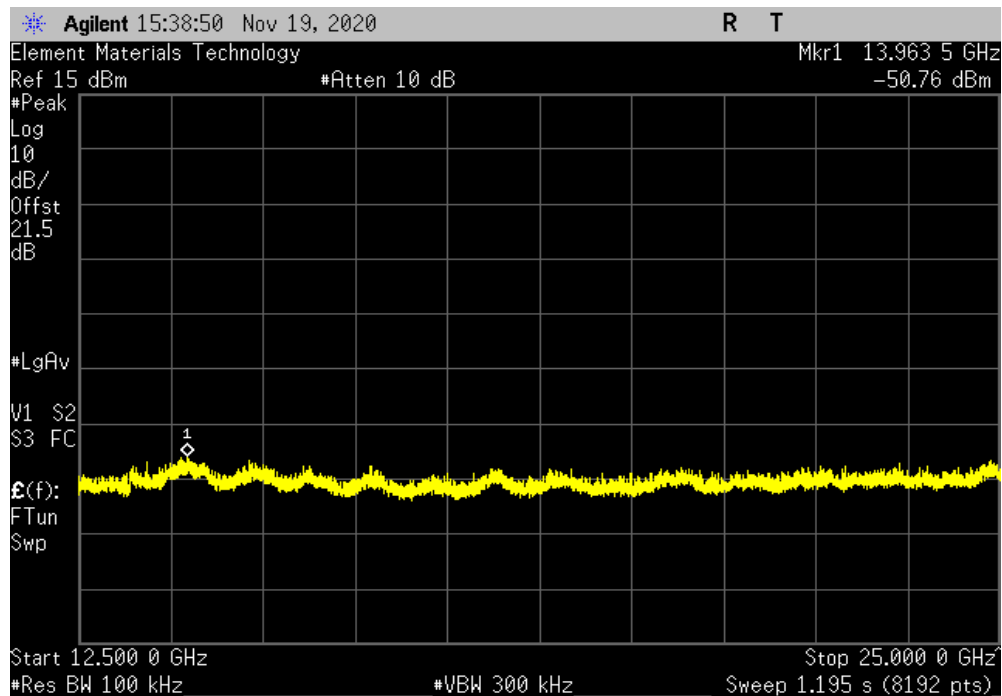


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12492.4	-55.12	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13963.5	-51.74	-30	Pass	

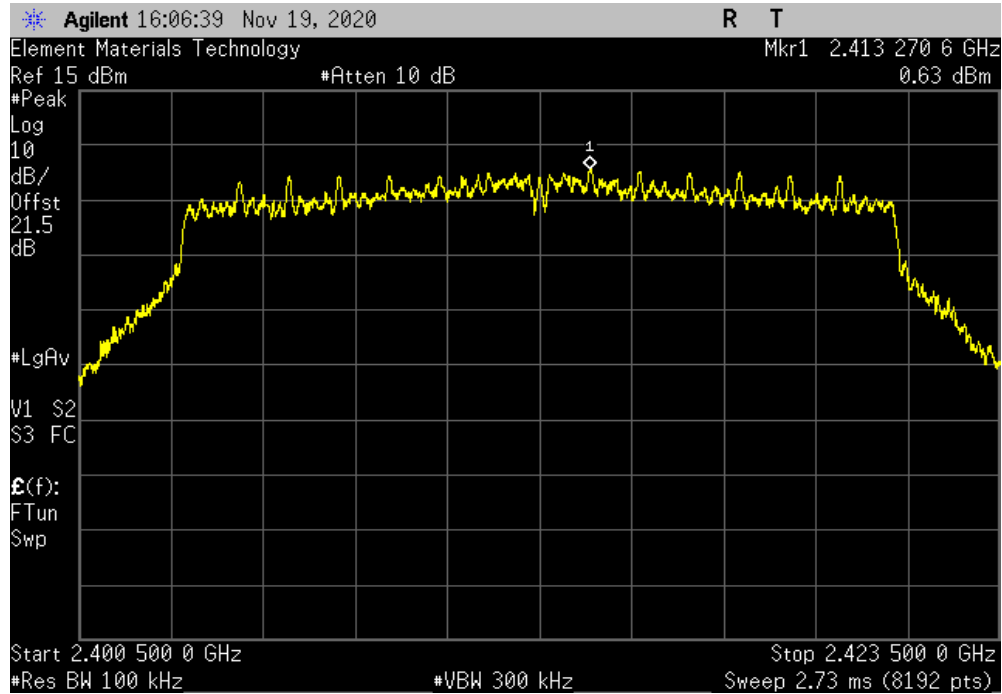


SPURIOUS CONDUCTED EMISSIONS

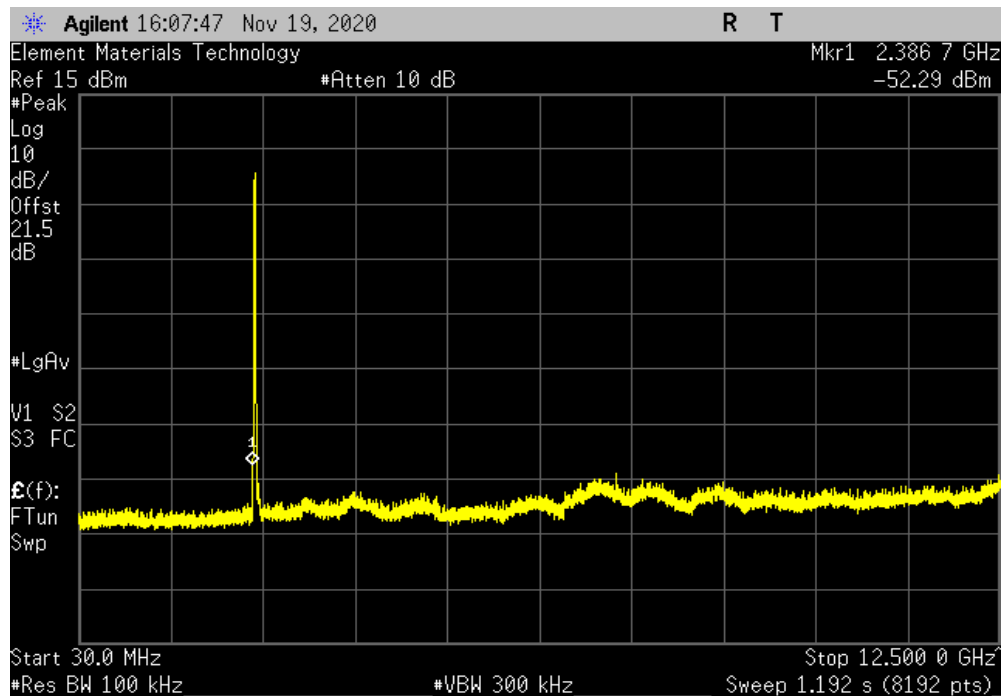


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2413.27	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	2386.7	-52.92	-30	Pass		

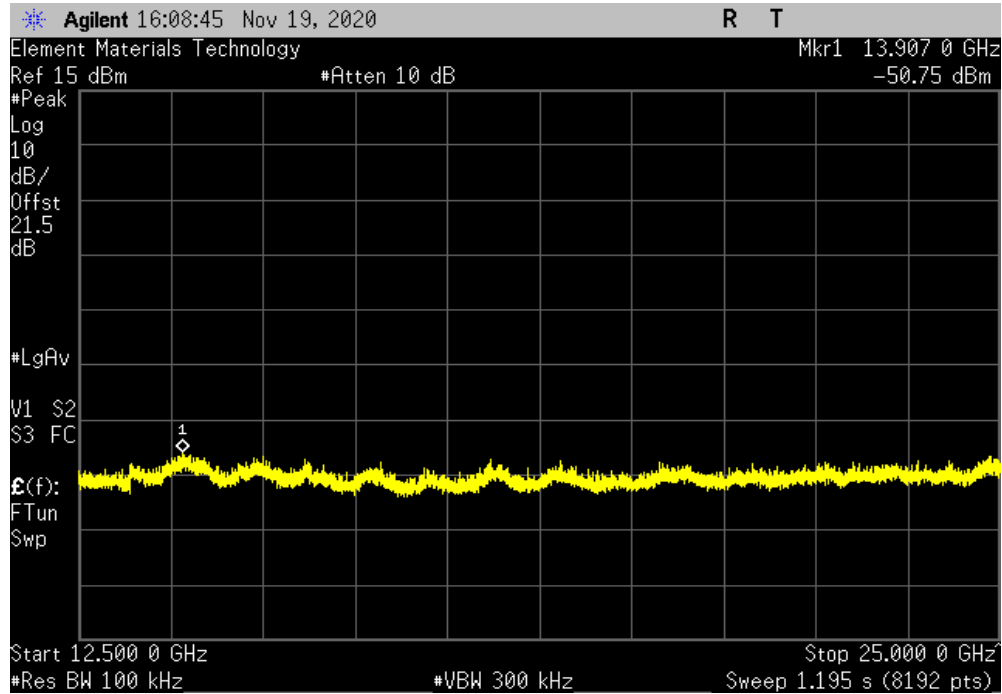


SPURIOUS CONDUCTED EMISSIONS

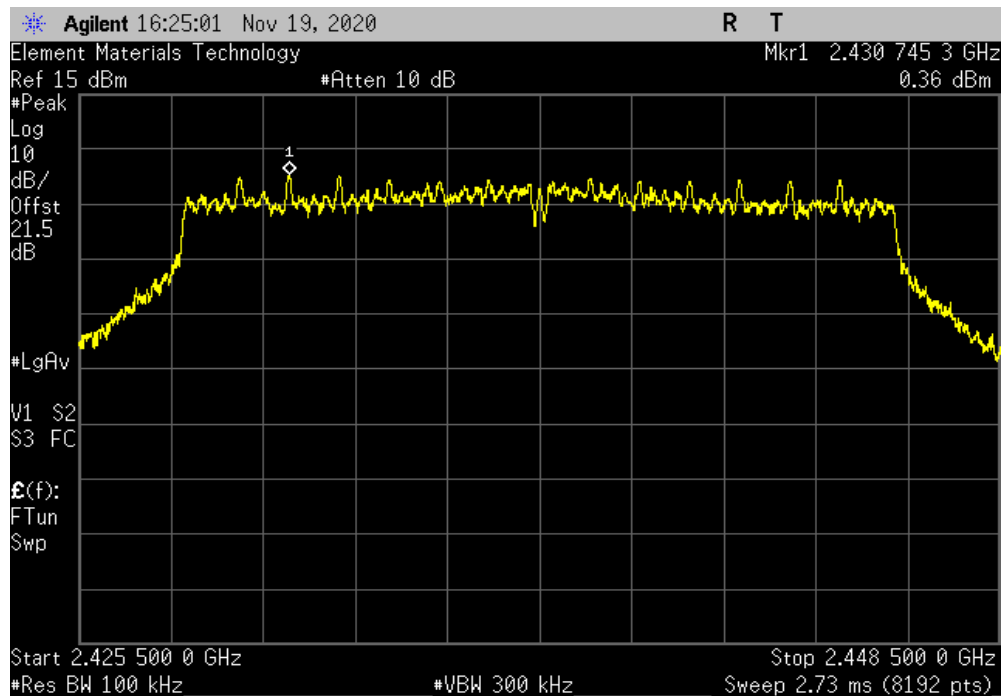


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13907	-51.38	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2430.75	N/A	N/A	N/A	

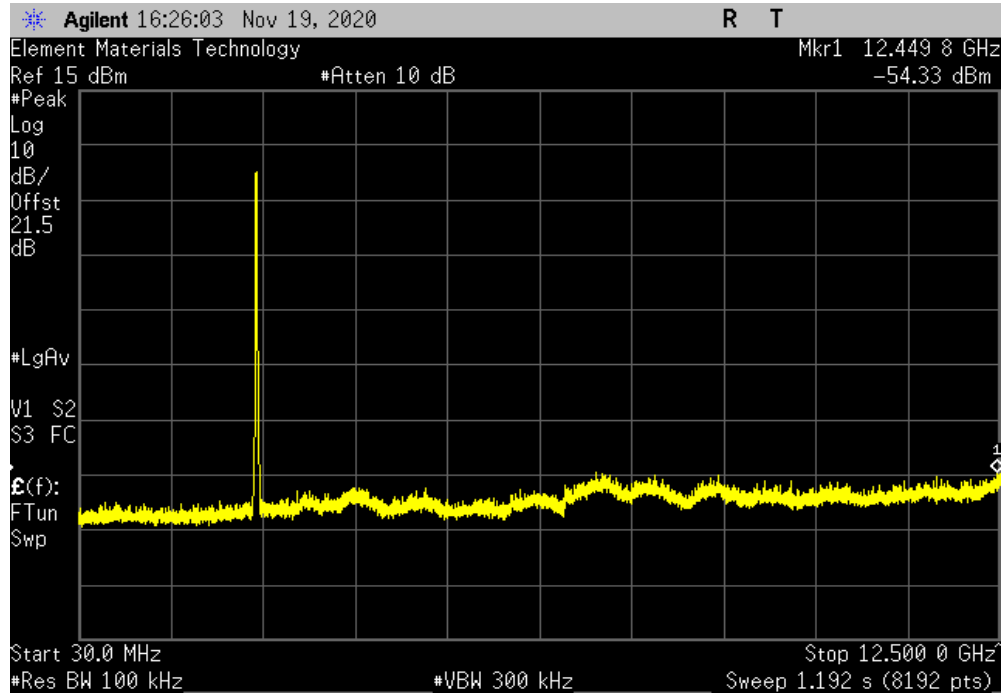


SPURIOUS CONDUCTED EMISSIONS

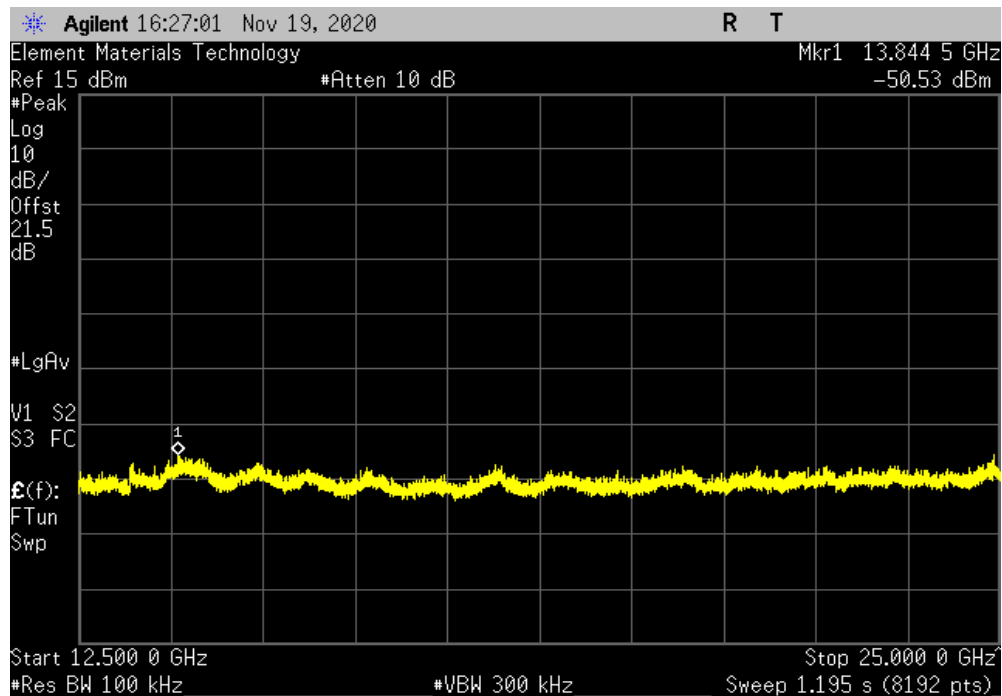


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	12449.8	-54.69	-30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13844.5	-50.89	-30	Pass	

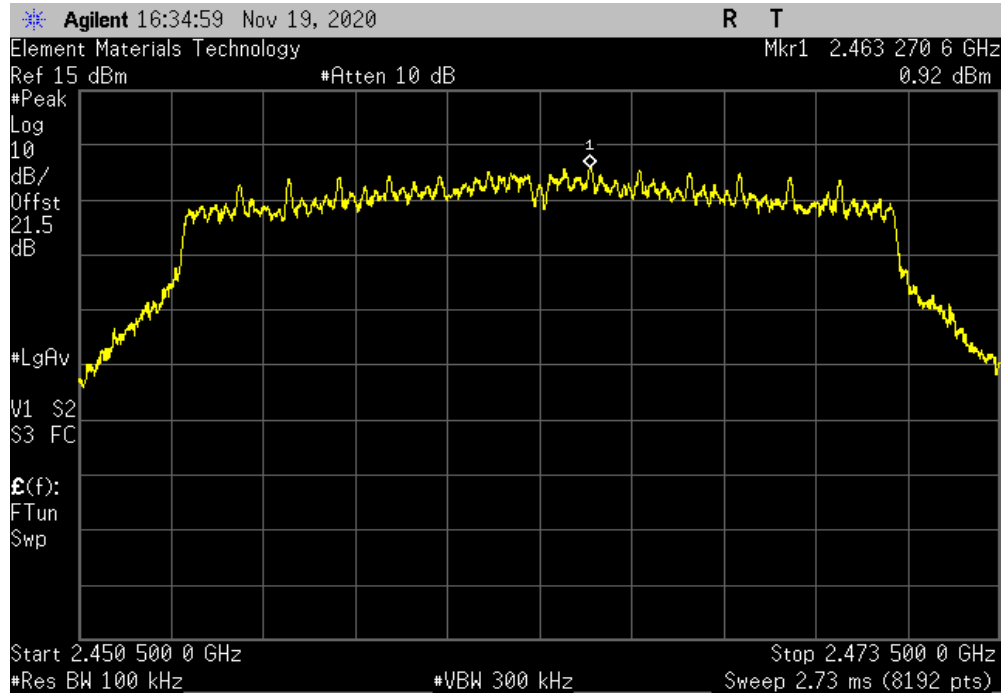


SPURIOUS CONDUCTED EMISSIONS

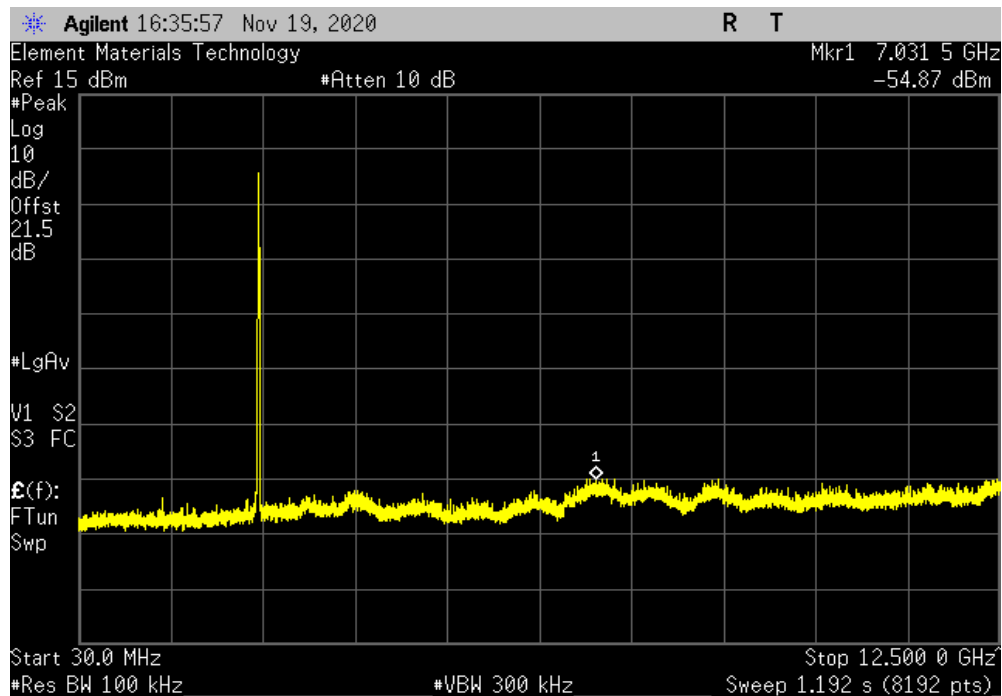


TMTx 2019.08.30.0 XMR 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2463.27	N/A	N/A	N/A		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	7031.5	-55.79	-30	Pass		

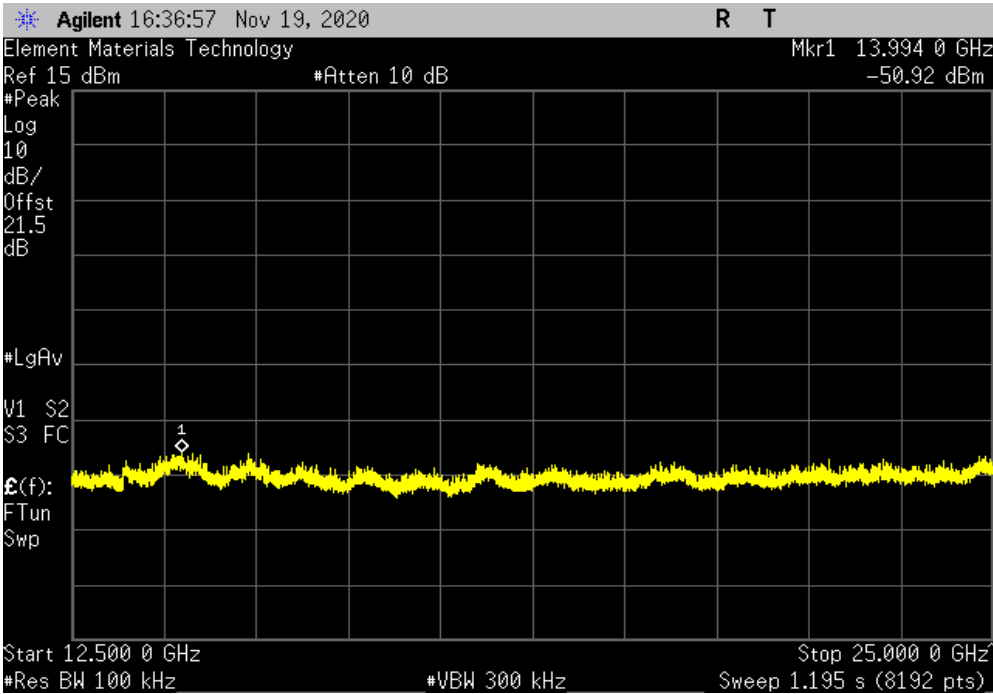


SPURIOUS CONDUCTED EMISSIONS



TM1Tx 2019.08.30.0 XM1 2020.03.25.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	13994	-51.84	-30	Pass	



SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2020.06.24.2

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

Continuous transmit 802.11bgn, Low Channel 2412MHz, Mid Channel 2437MHz, High Channel 2462 MHz, 20MHz BW

Continuous transmit 802.11bgn, Low Channel 2412 MHz & High Channel 2462 MHz, 20MHz BW

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

A-DE0149 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26500 MHz
-----------------	--------	----------------	-----------

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Filter - High Pass	Micro-Tronics	HPM50111	HFO	2020-11-17	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFD	2020-02-15	12 mo
Attenuator	Coaxicom	3910-20	AXZ	2020-02-15	12 mo
Cable	ESM Cable Corp.	TTBJ141-KMKM-72	EVY	2020-07-25	12 mo
Cable	None	Standard Gain Horns Cable	EVF	2020-11-18	12 mo
Cable	N/A	Double Ridge Horn Cables	EVB	2020-11-17	12 mo
Cable	N/A	Bilog Cables	EVA	2020-11-17	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	2020-07-25	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2020-11-18	12 mo
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-08001200-30-10P	PAO	2020-11-18	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	2020-11-17	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2020-11-17	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	0 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	0 mo
Antenna - Biconilog	EMCO	3141	AXG	2019-07-23	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0 mo
Antenna - Double Ridge	EMCO	3115	AHC	2020-07-01	24 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	2019-12-13	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

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2020.06.24.2

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

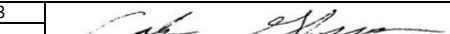
Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the CISPR (linear average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of $20 \cdot \log(1/dc)$.

SPURIOUS RADIATED EMISSIONS

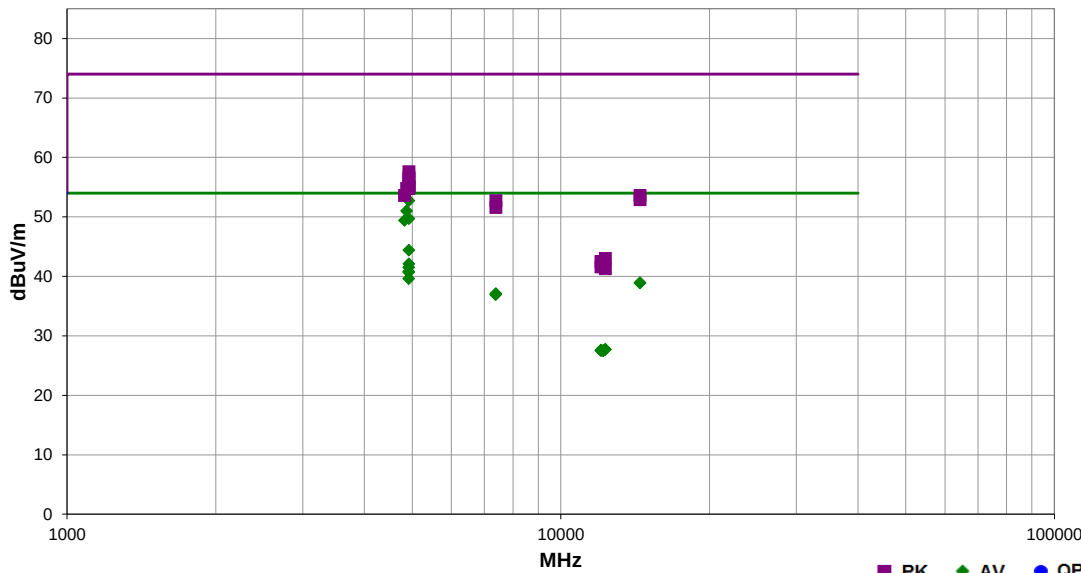


EmiR5 2020.06.24.4 PSA-ESCI 2020.06.24.2

Work Order:	A-DE0149	Date:	2020-11-23		
Project:	None	Temperature:	22.2 °C		
Job Site:	EV01	Humidity:	36.3% RH		
Serial Number:	5210041985	Barometric Pres.:	1019 mbar	Tested by:	Cole Ghizzone
EUT:	A-dec Gateway				
Configuration:	2				
Customer:	A-dec, Inc.				
Attendees:	Spencer Warneke				
EUT Power:	110VAC/60Hz				
Operating Mode:	Continuous transmit 802.11bgn, Low Channel 2412MHz, Mid Channel 2437MHz, High Channel 2462 MHz, 20MHz BW				
Deviations:	None				
Comments:	None				

Test Specifications	Test Method
FCC 15.247:2020	ANSI C63.10:2013

Run #	14	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	DCCF (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4924.000	46.7	6.0	1.56	128.0	3.0	0.0	Horz	AV	0.0	52.7	54.0	-1.3	High ch., 1Mbps, EUT Vert, pwr = 12.5
4874.000	45.0	6.0	1.77	118.0	3.0	0.0	Horz	AV	0.0	51.0	54.0	-3.0	Mid ch., 1Mbps, EUT Vert, pwr = 12.5
4924.000	43.7	6.0	2.88	89.0	3.0	0.0	Vert	AV	0.0	49.7	54.0	-4.3	High ch., 1Mbps, EUT Horz, pwr = 12.5
4824.008	44.0	5.4	1.64	119.0	3.0	0.0	Horz	AV	0.0	49.4	54.0	-4.6	Low ch., 1Mbps, EUT Vert, pwr = 12.5
4924.000	38.2	6.0	1.5	118.0	3.0	0.0	Horz	AV	0.2	44.4	54.0	-9.6	High ch., 11Mbps, EUT Vert, pwr = 12.5
4924.233	35.1	6.0	1.5	146.0	3.0	0.0	Horz	AV	1.0	42.1	54.0	-11.9	High ch., 54Mbps, EUT Vert, pwr = 13
4922.667	34.8	6.0	1.5	146.0	3.0	0.0	Horz	AV	0.7	41.5	54.0	-12.5	High ch., 36Mbps, EUT Vert, pwr = 13
4922.600	33.7	6.0	1.74	124.0	3.0	0.0	Horz	AV	1.1	40.8	54.0	-13.2	High ch., MCS7, EUT Vert, pwr = 12
4920.417	34.6	6.0	1.5	139.0	3.0	0.0	Horz	AV	0.1	40.7	54.0	-13.3	High ch., 6Mbps, EUT Vert, pwr = 13
4922.433	33.5	6.0	1.5	146.0	3.0	0.0	Horz	AV	0.1	39.6	54.0	-14.4	High ch., MCS0, EUT Vert, pwr = 12
14471.490	22.8	16.1	1.5	285.0	3.0	0.0	Vert	AV	0.0	38.9	54.0	-15.1	Low ch., 1Mbps, EUT Horz, pwr = 12.5
14471.350	22.8	16.1	1.5	277.0	3.0	0.0	Horz	AV	0.0	38.9	54.0	-15.1	Low ch., 1Mbps, EUT Vert, pwr = 12.5
4924.117	51.6	6.0	1.56	128.0	3.0	0.0	Horz	PK	0.0	57.6	74.0	-16.4	High ch., 1Mbps, EUT Vert, pwr = 13
7386.000	24.8	12.3	1.5	281.0	3.0	0.0	Vert	AV	0.0	37.1	54.0	-16.9	High ch., 1Mbps, EUT Horz, pwr = 12.5
7383.692	24.7	12.2	1.98	111.0	3.0	0.0	Horz	AV	0.0	36.9	54.0	-17.1	High ch., 1Mbps, EUT Vert, pwr = 12.5
4923.792	50.7	6.0	1.5	118.0	3.0	0.0	Horz	PK	0.0	56.7	74.0	-17.3	High ch., 11Mbps, EUT Vert, pwr = 12.5
4923.950	50.4	6.0	1.56	128.0	3.0	0.0	Horz	PK	0.0	56.4	74.0	-17.6	High ch., 1Mbps, EUT Vert, pwr = 12.5
4920.333	49.6	6.0	1.5	139.0	3.0	0.0	Horz	PK	0.0	55.6	74.0	-18.4	High ch., 6Mbps, EUT Vert, pwr = 13
4923.000	49.1	6.0	1.5	146.0	3.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	High ch., 54Mbps, EUT Vert, pwr = 13
4924.025	49.0	6.0	2.88	89.0	3.0	0.0	Vert	PK	0.0	55.0	74.0	-19.0	High ch., 1Mbps, EUT Horz, pwr = 12.5
4922.167	49.0	6.0	1.5	146.0	3.0	0.0	Horz	PK	0.0	55.0	74.0	-19.0	High ch., 36Mbps, EUT Vert, pwr = 13
4924.633	48.9	6.0	1.5	146.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	High ch., MCS0, EUT Vert, pwr = 12
4921.667	48.8	6.0	1.74	124.0	3.0	0.0	Horz	PK	0.0	54.8	74.0	-19.2	High ch., MCS7, EUT Vert, pwr = 12
4873.858	48.8	6.0	1.77	118.0	3.0	0.0	Horz	PK	0.0	54.8	74.0	-19.2	Mid ch., 1Mbps, EUT Vert, pwr = 12.5
4823.967	48.2	5.4	1.64	119.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	Low ch., 1Mbps, EUT Vert, pwr = 12.5
14472.560	37.5	16.1	1.5	277.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	Low ch., 1Mbps, EUT Vert, pwr = 12.5
14474.450	36.8	16.1	1.5	285.0	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	Low ch., 1Mbps, EUT Horz, pwr = 12.5

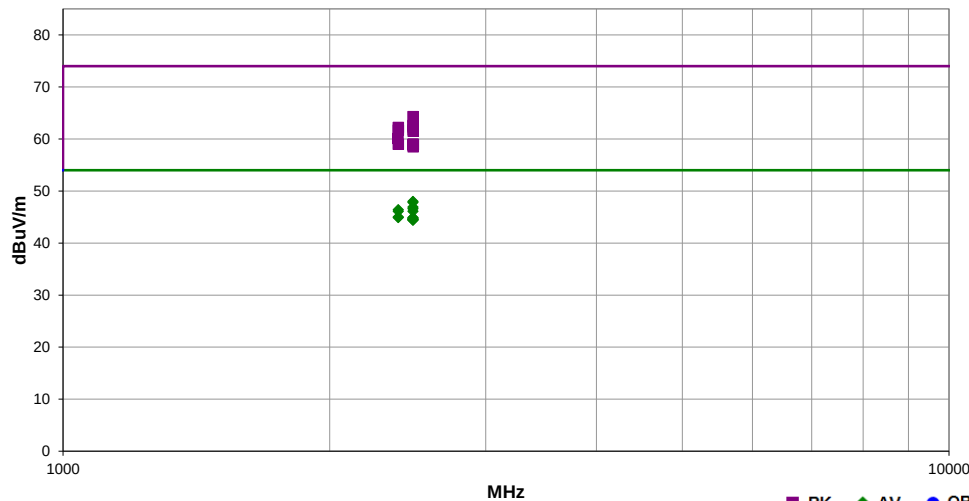
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	DCCF (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7385.683	40.4	12.3	1.5	281.0	3.0	0.0	Vert	PK	0.0	52.7	74.0	-21.3	High ch., 1Mbps, EUT Horz, pwr = 12.5
7387.375	39.3	12.3	1.98	111.0	3.0	0.0	Horz	PK	0.0	51.6	74.0	-22.4	High ch., 1Mbps, EUT Vert, pwr = 12.5
12308.220	26.3	1.4	1.5	11.0	3.0	0.0	Horz	AV	0.0	27.7	54.0	-26.3	High ch., 1Mbps, EUT Vert, pwr = 12.5
12307.510	26.3	1.4	1.5	23.0	3.0	0.0	Vert	AV	0.0	27.7	54.0	-26.3	High ch., 1Mbps, EUT Horz, pwr = 12.5
12058.320	26.3	1.3	1.5	346.0	3.0	0.0	Horz	AV	0.0	27.6	54.0	-26.4	Low ch., 1Mbps, EUT Vert, pwr =12.5
12186.460	26.5	1.0	1.5	330.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Mid ch., 1Mbps, EUT Horz, pwr =12.5
12187.340	26.5	1.0	1.5	294.0	3.0	0.0	Horz	AV	0.0	27.5	54.0	-26.5	Mid ch., 1Mbps, EUT Vert, pwr =12.5
12058.330	26.2	1.3	1.5	318.0	3.0	0.0	Vert	AV	0.0	27.5	54.0	-26.5	Low ch., 1Mbps, EUT Horz, pwr =12.5
12309.320	41.6	1.4	1.5	23.0	3.0	0.0	Vert	PK	0.0	43.0	74.0	-31.0	High ch., 1Mbps, EUT Horz, pwr = 12.5
12061.440	41.2	1.3	1.5	318.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	Low ch., 1Mbps, EUT Horz, pwr =12.5
12183.040	41.2	1.0	1.5	294.0	3.0	0.0	Horz	PK	0.0	42.2	74.0	-31.8	Mid ch., 1Mbps, EUT Vert, pwr =12.5
12184.650	40.7	1.0	1.5	330.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	Mid ch., 1Mbps, EUT Horz, pwr =12.5
12061.830	40.3	1.3	1.5	346.0	3.0	0.0	Horz	PK	0.0	41.6	74.0	-32.4	Low ch., 1Mbps, EUT Vert, pwr =12.5
12309.680	39.9	1.4	1.5	11.0	3.0	0.0	Horz	PK	0.0	41.3	74.0	-32.7	High ch., 1Mbps, EUT Vert, pwr = 12.5

SPURIOUS RADIATED EMISSIONS



Work Order:	A-DE0149	Date:	2020-11-23		
Project:	None	Temperature:	22.2 °C		
Job Site:	EV01	Humidity:	36.3% RH		
Serial Number:	5210041985	Barometric Pres.:	1019 mbar		
				Tested by:	Cole Ghizzone
EUT:	A-dec Gateway				
Configuration:	2				
Customer:	A-dec, Inc.				
Attendees:	Spencer Warneke				
EUT Power:	110VAC/60Hz				
Operating Mode:	Continuous transmit 802.11bgn, Low Channel 2412 MHz & High Channel 2462 MHz, 20MHz BW				
Deviations:	None				
Comments:	None				

Test Specifications				Test Method			
FCC 15.247:2020				ANSI C63.10:2013			
Run #	20	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	DCCF (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.503	30.6	-3.6	3.02	43.0	3.0	20.0	Horz	AV	1.0	48.0	54.0	-6.0	High ch., 54Mbps, EUT On Side, pwr = 13
2483.503	30.7	-3.6	1.5	62.0	3.0	20.0	Horz	AV	0.7	47.8	54.0	-6.2	High ch., 36Mbps, EUT On Side, pwr = 13
2483.503	29.4	-3.6	1.25	53.0	3.0	20.0	Horz	AV	1.1	46.9	54.0	-7.1	High ch., MCS7, EUT On Side, pwr = 12
2483.510	30.1	-3.6	1.5	5.0	3.0	20.0	Horz	AV	0.1	46.6	54.0	-7.4	High ch., 6Mbps, EUT On Side, pwr = 13
2389.997	29.8	-3.5	1.67	129.0	3.0	20.0	Horz	AV	0.1	46.4	54.0	-7.6	Low ch., 6Mbps, EUT On Side, pwr = 13
2483.503	29.6	-3.6	1.5	53.0	3.0	20.0	Horz	AV	0.1	46.1	54.0	-7.9	High ch., MCS0, EUT On Side, pwr = 12
2390.000	29.5	-3.5	1.5	123.0	3.0	20.0	Vert	AV	0.1	46.1	54.0	-7.9	Low ch., 6Mbps, EUT Vert, pwr = 13
2389.880	28.5	-3.5	1.5	123.0	3.0	20.0	Vert	AV	0.0	45.0	54.0	-9.0	Low ch., 1Mbps, EUT Vert, pwr = 12.5
2483.540	28.3	-3.6	1.5	6.0	3.0	20.0	Horz	AV	0.2	44.9	54.0	-9.1	High ch., 11Mbps, EUT On Side, pwr = 12.5
2390.000	28.4	-3.5	1.67	129.0	3.0	20.0	Horz	AV	0.0	44.9	54.0	-9.1	Low ch., 1Mbps, EUT On Side, pwr = 12.5
2483.590	28.4	-3.6	1.5	0.0	3.0	20.0	Horz	AV	0.0	44.8	54.0	-9.2	High ch., 1Mbps, EUT On Side, pwr = 12.5
2483.503	28.2	-3.6	1.5	120.0	3.0	20.0	Vert	AV	0.0	44.6	54.0	-9.4	High ch., 1Mbps, EUT Vert, pwr = 12.5
2483.513	28.2	-3.6	1.62	221.0	3.0	20.0	Horz	AV	0.0	44.6	54.0	-9.4	High ch., 1Mbps, EUT Horz, pwr = 12.5
2483.620	28.2	-3.6	1.5	249.0	3.0	20.0	Vert	AV	0.0	44.6	54.0	-9.4	High ch., 1Mbps, EUT On Side, pwr = 12.5
2483.547	28.0	-3.6	1.5	60.0	3.0	20.0	Horz	AV	0.0	44.4	54.0	-9.6	High ch., 1Mbps, EUT Vert, pwr = 12.5
2483.560	28.0	-3.6	1.5	119.0	3.0	20.0	Vert	AV	0.0	44.4	54.0	-9.6	High ch., 1Mbps, EUT Horz, pwr = 12.5
2483.667	47.9	-3.6	1.5	53.0	3.0	20.0	Horz	PK	0.0	64.3	74.0	-9.7	High ch., MCS0, EUT On Side, pwr = 12
2483.533	46.2	-3.6	1.5	5.0	3.0	20.0	Horz	PK	0.0	62.6	74.0	-11.4	High ch., 6Mbps, EUT On Side, pwr = 13
2483.770	45.9	-3.6	1.25	53.0	3.0	20.0	Horz	PK	0.0	62.3	74.0	-11.7	High ch., MCS7, EUT On Side, pwr = 12
2389.840	45.7	-3.5	1.67	129.0	3.0	20.0	Horz	PK	0.0	62.2	74.0	-11.8	Low ch., 6Mbps, EUT On Side, pwr = 13
2483.987	45.4	-3.6	1.5	62.0	3.0	20.0	Horz	PK	0.0	61.8	74.0	-12.2	High ch., 36Mbps, EUT On Side, pwr = 13
2389.977	45.2	-3.5	1.5	123.0	3.0	20.0	Vert	PK	0.0	61.7	74.0	-12.3	Low ch., 6Mbps, EUT Vert, pwr = 13
2484.013	45.1	-3.6	3.02	43.0	3.0	20.0	Horz	PK	0.0	61.5	74.0	-12.5	High ch., 54Mbps, EUT On Side, pwr = 13
2388.350	43.6	-3.5	1.5	123.0	3.0	20.0	Vert	PK	0.0	60.1	74.0	-13.9	Low ch., 1Mbps, EUT Vert, pwr = 12.5
2484.347	42.6	-3.6	1.5	119.0	3.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	High ch., 1Mbps, EUT Horz, pwr = 12.5
2483.653	42.6	-3.6	1.5	0.0	3.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	High ch., 1Mbps, EUT On Side, pwr = 12.5
2389.690	42.5	-3.5	1.67	129.0	3.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	High ch., 1Mbps, EUT On Side, pwr = 12.5
2484.483	42.5	-3.6	1.5	120.0	3.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	High ch., 1Mbps, EUT Vert, pwr = 12.5
2484.827	42.5	-3.6	1.5	6.0	3.0	20.0	Horz	PK	0.0	58.9	74.0	-15.1	High ch., 11Mbps, EUT On Side, pwr = 12.5
2485.210	42.4	-3.5	1.5	249.0	3.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	High ch., 1Mbps, EUT On Side, pwr = 12.5
2484.027	42.4	-3.6	1.62	221.0	3.0	20.0	Horz	PK	0.0	58.8	74.0	-15.2	High ch., 1Mbps, EUT Horz, pwr = 12.5
2484.127	42.1	-3.6	1.5	60.0	3.0	20.0	Horz	PK	0.0	58.5	74.0	-15.5	High ch., 1Mbps, EUT Vert, pwr = 12.5