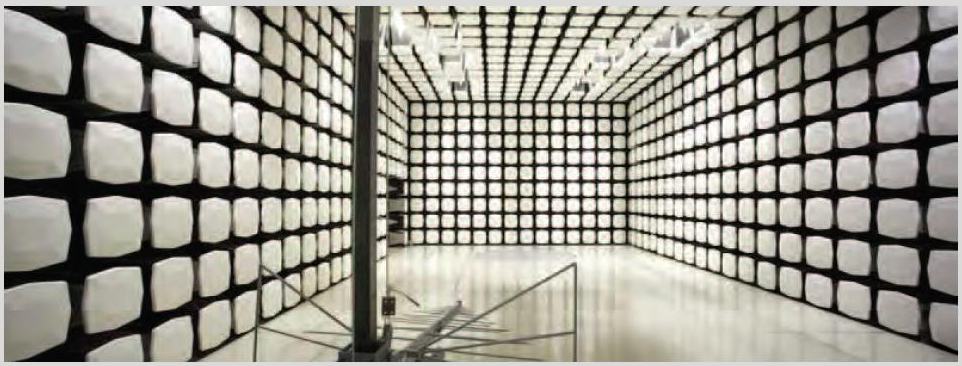
Polaris Industries, Inc.

CCU-2

FCC 15.247:2020

802.11bg SISO Radio

Report # POLR0052



NVLAP LAB CODE: 200630-0

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CERTIFICATE OF TEST

Last Date of Test: January 3, 2020
Polaris Industries, Inc.
EUT: CCU-2

Radio Equipment Testing

Standards

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

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	N/A	
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	

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

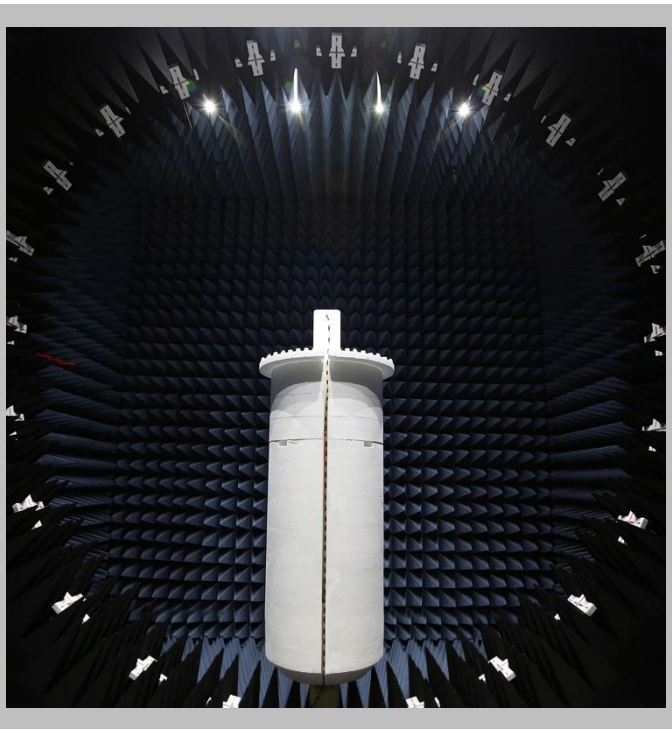
MIC – Recognized by MIC as a CAB for the acceptance of test data.

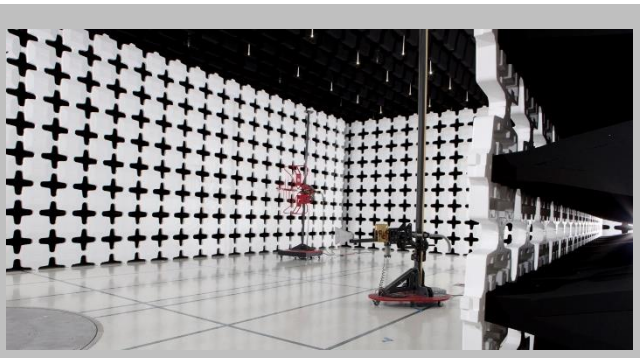
SCOPE

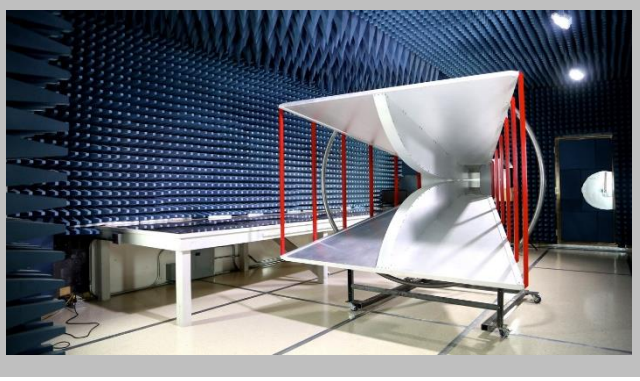
For details on the Scopes of our Accreditations, please visit:
https://www.nwemc.com/emc-testing-accreditations

FACILITIES

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP				
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 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/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
TMU.2015.07.10

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

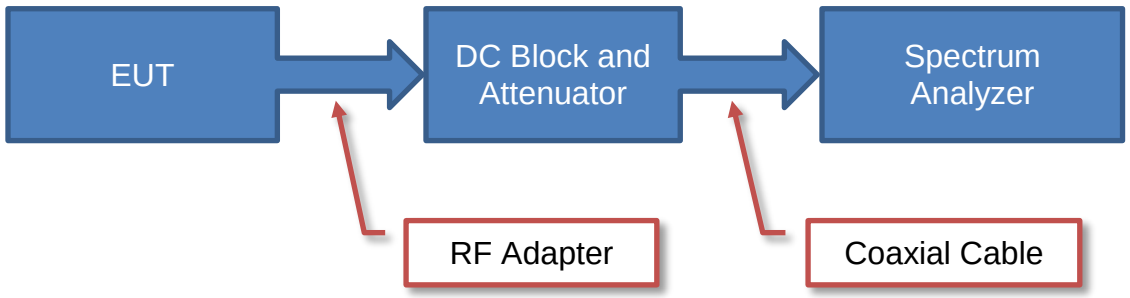
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

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

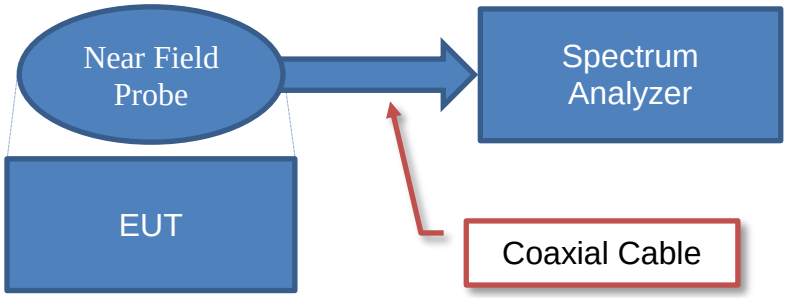
Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field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

Test Setup Block Diagrams

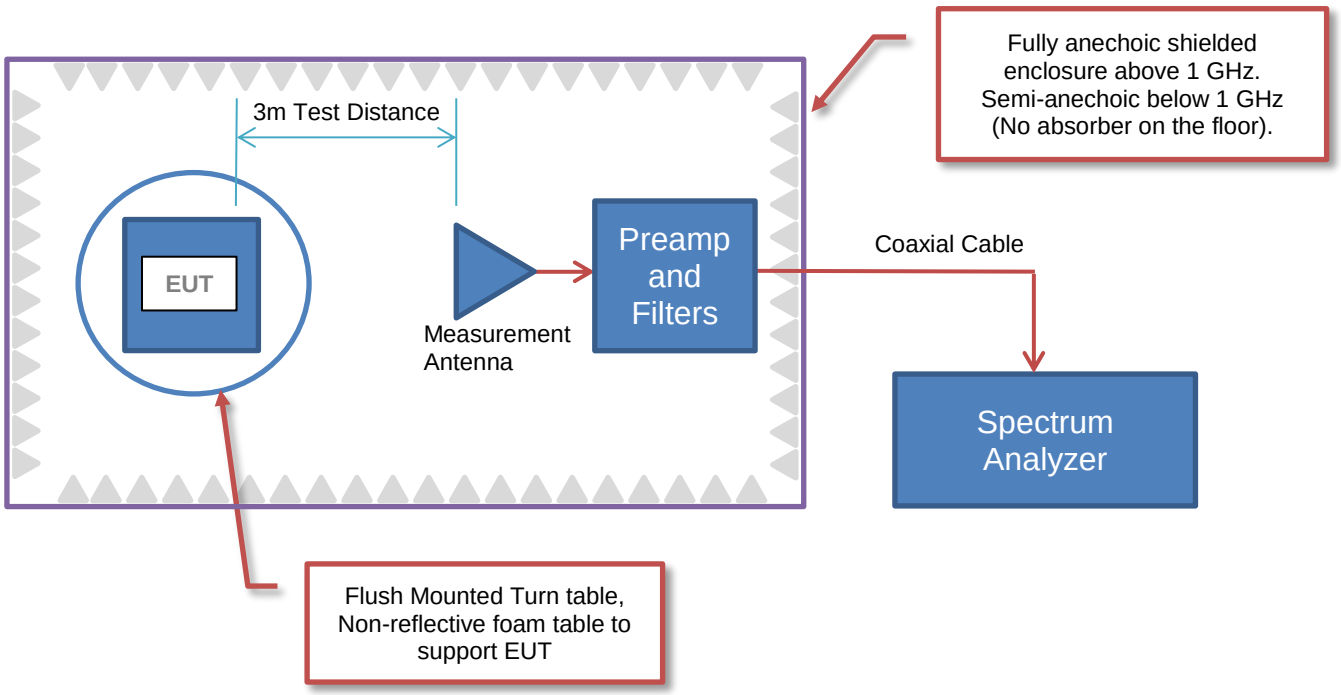
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Polaris Industries, Inc.
Address:	1600 SE 18th Ave
City, State, Zip:	Battle Ground, WA 98604
Test Requested By:	Wayne Rieger
EUT:	CCU-2
First Date of Test:	January 3, 2020
Last Date of Test:	January 3, 2020
Receipt Date of Samples:	January 3, 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:
Connectivity Control Unit

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

CONFIGURATIONS

Configuration POLR0058- 3

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Connectivity Control Unit	Polaris Industries, Inc.	CCU-2	Unit #10

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Serial to Ethernet Converter	RADMOON	None	11625
AC/DC Adapter Converter	Samsung	None	None
DC Power Supply	Topward Electric Instruments Co.	TPS 2000	TPD

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Lenovo	T430	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Power Cable	Yes	.6 m	No	AC/DC Adapter Converter	Serial to Ethernet Converter
DC Power Leads (14 volt)	No	1.6 m	No	DC Power Supply	Connectivity Control Unit
Serial Cable	No	.8 m	No	Ethernet Converter	Connectivity Control Unit
Ethernet Cat 6	No	10 m	No	Laptop	Serial to Ethernet Converter
AC Power Cable	No	1.8 m	No	AC Mains	DC Power Supply

CONFIGURATIONS

element
2018-07-17

Configuration POLR0058- 4

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Connectivity Control Unit	Polaris Industries, Inc.	CCU-2	Regulatory Unit #6

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Lenovo	T430	None
Serial to Ethernet Converter	RADMOON	None	11625
AC/DC Adapter (Laptop)	Lenovo	41r4538	11S41R4538ZVJ51U05108N
AC/DC Adapter (Converter)	Samsung	None	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power Cable (Laptop)	No	1.5m	No	AC mains	AC/DC Adapter (Laptop)
DC Power Cable (Laptop)	No	2.0m	Yes	AC/DC Adapter (Laptop)	Laptop
Ethernet CAT 5	No	1.0 m	No	Laptop	Serial to Ethernet Converter
USB Power Cable	Yes	.6 m	No	AC/DC Adapter Converter	Serial to Ethernet Converter
DC Power Leads (14 volt)	No	1.6 m	No	DC Power Supply	Connectivity Control Unit
Serial Cable	No	.8 m	No	Serial to Ethernet Converter	Connectivity Control Unit

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2020-01-03	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	2020-01-03	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	2020-01-03	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	2020-01-03	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	2020-01-03	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	2020-01-03	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	2020-01-03	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	2020-01-03	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2019.05.10

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

802.11bgn, Tx, Low Ch. 1, Mid Ch. 6, High Ch. 11, Software power setting = 10000

POWER SETTINGS INVESTIGATED

14VDC

CONFIGURATIONS INVESTIGATED

POLR0058 - 3

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26.5 GHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	24-Mar-2019	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HFO	18-Nov-2019	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFD	15-Feb-2019	12 mo
Attenuator	Coaxicom	3910-20	AXZ	15-Feb-2019	12 mo
Cable	ESM Cable Corp.	TTBJ141-KMKM-72	EVY	31-Jul-2019	12 mo
Cable	None	Standard Gain Horns Cable	EVF	19-Nov-2019	12 mo
Cable	N/A	Double Ridge Horn Cables	EVB	18-Nov-2019	12 mo
Cable	N/A	Bilog Cables	EVA	18-Nov-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	31-Jul-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	19-Nov-2019	12 mo
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-08001200-30-10P	PAO	19-Nov-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	18-Nov-2019	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	18-Nov-2019	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 - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	7-Feb-2018	24 mo
Antenna - Biconilog	Teseq	CBL 6141B	AXR	2-Oct-2018	24 mo

TEST DESCRIPTION

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

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

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

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

QP = Quasi-Peak Detector
PK = Peak Detector
AV = RMS Detector

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

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

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

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (voltage 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*LOG(dc).

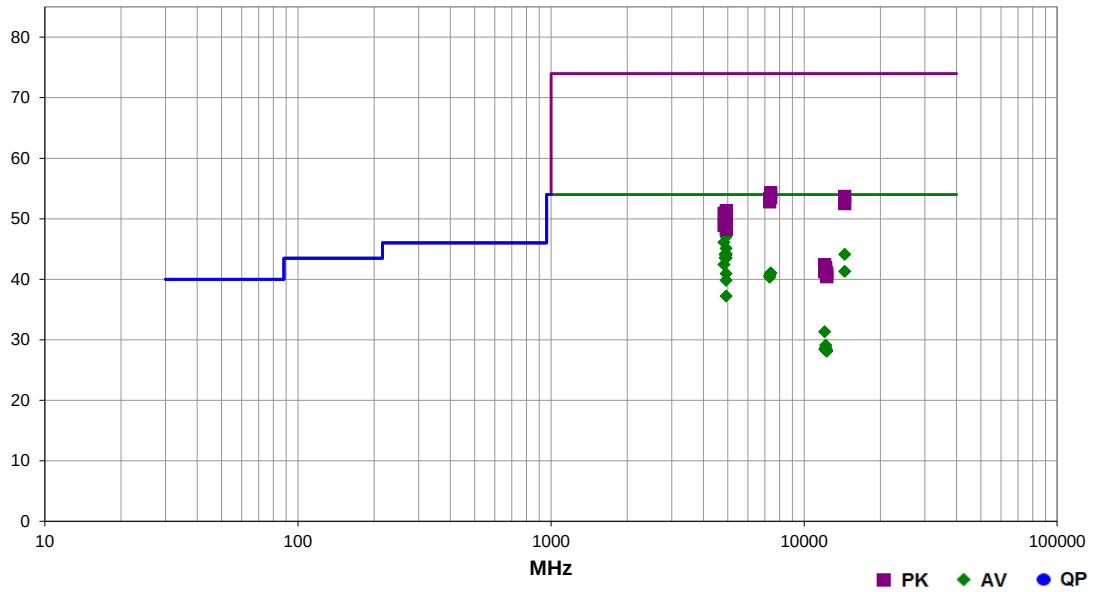
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2019.05.10

Work Order:	POLR0058	**Date:**	3-Jan-2020		
Project:	None	**Temperature:**	20.2 °C		
Job Site:	EV01	**Humidity:**	41.8% RH		
Serial Number:	Unit #10	**Barometric Pres.:**	1020 mbar	**Tested by:**	Cole Ghizzone
EUT:	CCU-2				
Configuration:	3				
Customer:	Polaris Industries, Inc.				
Attendees:	Wayne Rieger				
EUT Power:	14VDC				
Operating Mode:	802.11bgn, Tx, Low Ch. 1, Mid Ch. 6, High Ch. 11, Software power setting = 10000				
Deviations:	None				
Comments:	See data comments for channel, data rate, and EUT orientation.				

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)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4924.233	28.9	6.5	2.5	141.0	14.1	0.0	Horz	AV	0.0	49.5	54.0	-4.5	High Ch. 11, 6Mbps, EUT Vertical
4925.290	27.5	6.6	1.2	312.0	14.1	0.0	Horz	AV	0.0	48.2	54.0	-5.8	High Ch. 11, MCS7, EUT Vertical
4925.080	27.3	6.6	1.5	88.0	14.1	0.0	Horz	AV	0.0	48.0	54.0	-6.0	High Ch. 11, 54Mbps, EUT Vertical
4923.950	40.1	6.5	1.3	37.0	0.8	0.0	Horz	AV	0.0	47.4	54.0	-6.6	High Ch. 11, 1 Mbps, EUT Vertical
4925.460	28.7	6.6	1.6	293.0	11.7	0.0	Horz	AV	0.0	47.0	54.0	-7.0	High Ch. 11, 36Mbps, EUT Vertical
4823.992	39.5	5.8	2.0	140.0	0.8	0.0	Horz	AV	0.0	46.1	54.0	-7.9	Low Ch. 1, 1Mbps, EUT Vertical
4924.000	37.8	6.5	2.1	34.0	0.8	0.0	Horz	AV	0.0	45.1	54.0	-8.9	High Ch. 11, 1 Mbps, EUT On Side
4924.000	36.9	6.5	2.1	158.0	0.8	0.0	Vert	AV	0.0	44.2	54.0	-9.8	High Ch. 11, 1 Mbps, EUT On Side
4874.000	37.1	6.2	1.8	294.0	0.8	0.0	Horz	AV	0.0	44.1	54.0	-9.9	Mid Ch. 6, 1Mbps, EUT Vertical
14471.920	27.4	15.9	3.7	173.0	0.8	0.0	Horz	AV	0.0	44.1	54.0	-9.9	Low Ch. 1, 1Mbps, EUT Vertical
4924.000	36.7	6.5	1.3	158.0	0.8	0.0	Horz	AV	0.0	44.0	54.0	-10.0	High Ch. 11, 1 Mbps, EUT Horizontal
4874.008	36.5	6.2	2.0	321.0	0.8	0.0	Vert	AV	0.0	43.5	54.0	-10.5	Mid Ch. 6, 1Mbps, EUT On Side
4923.983	36.2	6.5	2.8	291.0	0.8	0.0	Vert	AV	0.0	43.5	54.0	-10.5	High Ch. 11, 1 Mbps, EUT Horizontal
4823.967	35.8	5.8	1.0	335.0	0.8	0.0	Vert	AV	0.0	42.4	54.0	-11.6	Low Ch. 1, 1Mbps, EUT On Side
14471.890	24.6	15.9	1.5	179.0	0.8	0.0	Vert	AV	0.0	41.3	54.0	-12.7	Low Ch. 1, 1Mbps, EUT On Side
7388.308	25.3	14.9	1.5	36.0	0.8	0.0	Horz	AV	0.0	41.0	54.0	-13.0	High Ch. 11, 1Mbps, EUT Vertical
7388.350	25.3	14.9	2.3	292.0	0.8	0.0	Vert	AV	0.0	41.0	54.0	-13.0	High Ch. 11, 1Mbps, EUT On Side
4924.000	33.6	6.5	2.6	203.0	0.8	0.0	Vert	AV	0.0	40.9	54.0	-13.1	High Ch. 11, 1 Mbps, EUT Vertical
7310.167	25.9	13.9	2.7	10.0	0.8	0.0	Vert	AV	0.0	40.6	54.0	-13.4	Mid Ch. 6, 1Mbps, EUT On Side
7309.717	25.6	13.9	1.5	61.0	0.8	0.0	Horz	AV	0.0	40.3	54.0	-13.7	Mid Ch. 6, 1Mbps, EUT Vertical
4925.540	29.0	6.6	1.3	69.0	4.2	0.0	Horz	AV	0.0	39.8	54.0	-14.2	High Ch. 11, MCS0, EUT Vertical
4924.017	29.9	6.5	2.3	315.0	0.8	0.0	Horz	AV	0.0	37.2	54.0	-16.8	High Ch. 11, 11Mbps, EUT Vertical
7383.650	39.4	14.9	1.5	36.0	0.0	0.0	Horz	PK	0.0	54.3	74.0	-19.7	High Ch. 11, 1Mbps, EUT Vertical
14472.170	37.8	15.9	3.7	173.0	0.0	0.0	Horz	PK	0.0	53.7	74.0	-20.3	Low Ch. 1, 1Mbps, EUT Vertical
7387.467	38.6	14.9	2.3	292.0	0.0	0.0	Vert	PK	0.0	53.5	74.0	-20.5	High Ch. 11, 1Mbps, EUT On Side

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7310.633	39.4	13.9	2.7	10.0	0.0	0.0	Vert	PK	0.0	53.3	74.0	-20.7	Mid Ch. 6, 1Mbps, EUT On Side
7313.483	38.9	13.9	1.5	61.0	0.0	0.0	Horz	PK	0.0	52.8	74.0	-21.2	Mid Ch. 6, 1Mbps, EUT Vertical
14472.620	36.6	15.9	1.5	179.0	0.0	0.0	Vert	PK	0.0	52.5	74.0	-21.5	Low Ch. 1, 1Mbps, EUT On Side
12060.740	29.5	1.0	1.8	39.0	0.8	0.0	Horz	AV	0.0	31.3	54.0	-22.7	Low Ch. 1, 1Mbps, EUT Vertical
4924.000	44.8	6.5	1.3	37.0	0.0	0.0	Horz	PK	0.0	51.3	74.0	-22.7	High Ch. 11, 1 Mbps, EUT Vertical
4823.867	45.1	5.8	2.0	140.0	0.0	0.0	Horz	PK	0.0	50.9	74.0	-23.1	Low Ch. 1, 1Mbps, EUT Vertical
4923.667	44.0	6.5	2.5	141.0	0.0	0.0	Horz	PK	0.0	50.5	74.0	-23.5	High Ch. 11, 6Mbps, EUT Vertical
4928.380	43.7	6.6	1.6	293.0	0.0	0.0	Horz	PK	0.0	50.3	74.0	-23.7	High Ch. 11, 36Mbps, EUT Vertical
4923.983	43.8	6.5	2.3	315.0	0.0	0.0	Horz	PK	0.0	50.3	74.0	-23.7	High Ch. 11, 11Mbps, EUT Vertical
4923.580	43.6	6.5	1.2	312.0	0.0	0.0	Horz	PK	0.0	50.1	74.0	-23.9	High Ch. 11, MCS7, EUT Vertical
4923.917	43.4	6.5	2.1	34.0	0.0	0.0	Horz	PK	0.0	49.9	74.0	-24.1	High Ch. 11, 1 Mbps, EUT On Side
4922.290	43.3	6.5	1.3	69.0	0.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	High Ch. 11, MCS0, EUT Vertical
4923.750	43.0	6.5	1.5	88.0	0.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	High Ch. 11, 54Mbps, EUT Vertical
4924.017	42.9	6.5	2.8	291.0	0.0	0.0	Vert	PK	0.0	49.4	74.0	-24.6	High Ch. 11, 1 Mbps, EUT Horizontal
4873.775	43.1	6.2	1.8	294.0	0.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	Mid Ch. 6, 1Mbps, EUT Vertical
4923.950	42.7	6.5	2.1	158.0	0.0	0.0	Vert	PK	0.0	49.2	74.0	-24.8	High Ch. 11, 1 Mbps, EUT On Side
12185.780	27.5	0.8	1.5	123.0	0.8	0.0	Vert	AV	0.0	29.1	54.0	-24.9	MId Ch. 6, 1Mbps, EUT On Side
4873.975	42.9	6.2	2.0	321.0	0.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Mid Ch. 6, 1Mbps, EUT On Side
4924.050	42.5	6.5	1.3	158.0	0.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	High Ch. 11, 1 Mbps, EUT Horizontal
4824.233	43.1	5.8	1.0	335.0	0.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Low Ch. 1, 1Mbps, EUT On Side
12184.160	27.1	0.8	1.5	238.0	0.8	0.0	Horz	AV	0.0	28.7	54.0	-25.3	MId Ch. 6, 1Mbps, EUT Vertical
12061.630	26.6	1.0	1.5	206.0	0.8	0.0	Vert	AV	0.0	28.4	54.0	-25.6	Low Ch. 1, 1Mbps, EUT On Side
12310.920	26.8	0.7	1.5	355.0	0.8	0.0	Vert	AV	0.0	28.3	54.0	-25.7	High Ch. 11, 1Mbps, EUT On Side
4924.150	41.8	6.5	2.6	203.0	0.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	High Ch. 11, 1 Mbps, EUT Vertical
12311.440	26.6	0.7	1.6	-1.0	0.8	0.0	Horz	AV	0.0	28.1	54.0	-25.9	High Ch. 11, 1Mbps, EUT Vertical
12061.700	41.4	1.0	1.8	39.0	0.0	0.0	Horz	PK	0.0	42.4	74.0	-31.6	Low Ch. 1, 1Mbps, EUT Vertical
12182.930	41.1	0.8	1.5	238.0	0.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	MId Ch. 6, 1Mbps, EUT Vertical
12184.660	40.5	0.8	1.5	123.0	0.0	0.0	Vert	PK	0.0	41.3	74.0	-32.7	MId Ch. 6, 1Mbps, EUT On Side
12058.760	40.2	1.0	1.5	206.0	0.0	0.0	Vert	PK	0.0	41.2	74.0	-32.8	Low Ch. 1, 1Mbps, EUT On Side
12308.260	40.3	0.7	1.6	-1.0	0.0	0.0	Horz	PK	0.0	41.0	74.0	-33.0	High Ch. 11, 1Mbps, EUT Vertical
12311.540	39.7	0.7	1.5	355.0	0.0	0.0	Vert	PK	0.0	40.4	74.0	-33.6	High Ch. 11, 1Mbps, EUT On Side

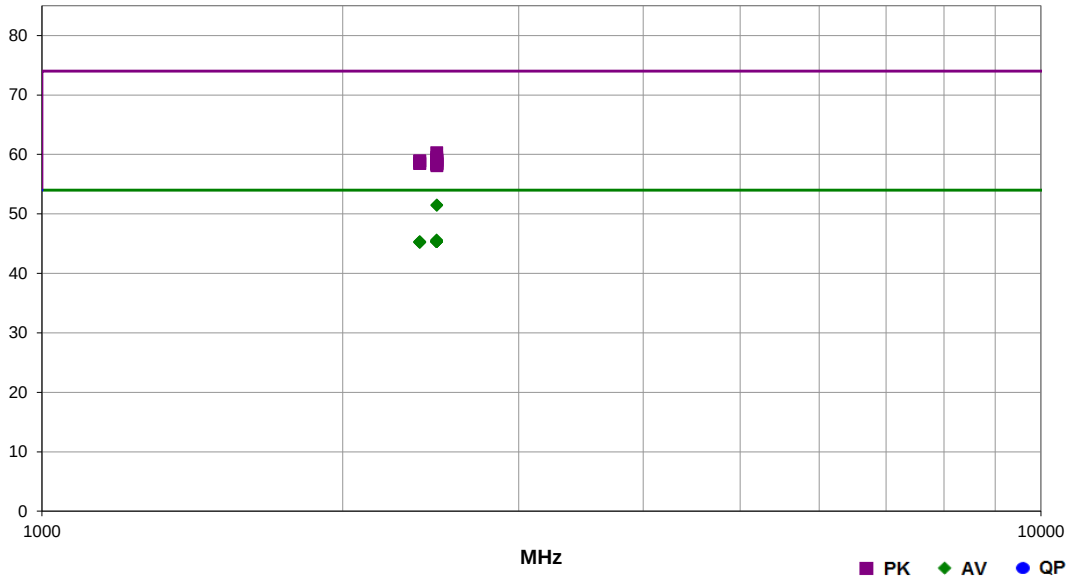
SPURIOUS RADIATED EMISSIONS

EmiR5 2019.08.15.1 PSA-ESCI 2019.05.10

Work Order:	POLR0058	**Date:**	3-Jan-2020		
Project:	None	**Temperature:**	20.5 °C		
Job Site:	EV01	**Humidity:**	41% RH		
Serial Number:	Unit #10	**Barometric Pres.:**	1028 mbar	**Tested by:**	Cole Ghizzone
EUT:	CCU-2				
Configuration:	3				
Customer:	Polaris Industries, Inc.				
Attendees:	Wayne Rieger				
EUT Power:	14VDC				
Operating Mode:	802.11bgn, Tx, Low Ch. 1, Mid Ch. 6, High Ch. 11, Software power setting = 10000				
Deviations:	None				
Comments:	See data comments for channel, data rate, and EUT orientation. Data rates that do not have a Duty Cycle Correction Factor applied to AVG measurements were noisefloor.				

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

Run #	29	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2485.437	34.4	-3.7	2.4	127.0	0.8	20.0	Horz	AV	0.0	51.5	54.0	-2.5	High Ch. 11, 1Mbps, EUT Vertical
2485.213	34.3	-3.7	1.5	81.0	0.8	20.0	Vert	AV	0.0	51.4	54.0	-2.6	High Ch. 11, 1Mbps, EUT Vertical
2483.740	28.6	-3.8	1.5	37.0	0.0	20.0	Horz	AV	0.0	45.6	54.0	-8.4	High Ch. 11, 6Mbps, EUT Vertical
2484.207	28.3	-3.7	2.0	93.0	0.0	20.0	Horz	AV	0.0	45.4	54.0	-8.6	High Ch. 11, 1Mbps, EUT On Side
2483.897	28.4	-3.8	1.5	151.0	0.0	20.0	Horz	AV	0.0	45.4	54.0	-8.6	High Ch. 11, 36Mbps, EUT Vertical
2483.590	28.4	-3.8	1.5	151.0	0.0	20.0	Horz	AV	0.0	45.4	54.0	-8.6	High Ch. 11, 54Mbps, EUT Vertical
2483.657	28.3	-3.8	1.5	301.0	0.0	20.0	Vert	AV	0.0	45.3	54.0	-8.7	High Ch. 11, 1Mbps, EUT On Side
2483.723	28.3	-3.8	1.5	269.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	High Ch. 11, 1Mbps, EUT Horizontal
2483.723	28.3	-3.8	2.7	239.0	0.0	20.0	Vert	AV	0.0	45.3	54.0	-8.7	High Ch. 11, 1Mbps, EUT Horizontal
2483.683	28.3	-3.8	1.5	220.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	High Ch. 11, 11Mbps, EUT Vertical
2483.643	28.3	-3.8	1.5	151.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	High Ch. 11, MCS0, EUT Vertical
2483.500	28.3	-3.8	1.5	151.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	High Ch. 11, MCS7, EUT Vertical
2388.077	28.5	-4.0	1.5	201.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	Low Ch. 1, 1Mbps, EUT Vertical
2389.933	28.5	-4.0	1.5	124.0	0.0	20.0	Horz	AV	0.0	45.3	54.0	-8.7	Low Ch. 1, 6Mbps, EUT Vertical
2388.110	28.4	-4.0	1.5	225.0	0.0	20.0	Vert	AV	0.0	45.2	54.0	-8.8	Low Ch. 1, 1Mbps, EUT Vertical
2389.963	28.4	-4.0	1.5	185.0	0.0	20.0	Vert	AV	0.0	45.2	54.0	-8.8	Low Ch. 1, 6Mbps, EUT Vertical
2483.897	44.1	-3.8	2.0	93.0	0.0	20.0	Horz	PK	0.0	60.3	74.0	-13.7	High Ch. 11, 1Mbps, EUT On Side
2484.543	43.2	-3.7	1.5	81.0	0.0	20.0	Vert	PK	0.0	59.5	74.0	-14.5	High Ch. 11, 1Mbps, EUT Vertical
2483.993	43.0	-3.8	1.5	37.0	0.0	20.0	Horz	PK	0.0	59.2	74.0	-14.8	High Ch. 11, 6Mbps, EUT Vertical
2485.240	42.7	-3.7	1.5	220.0	0.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	High Ch. 11, 11Mbps, EUT Vertical
2483.833	42.8	-3.8	1.5	151.0	0.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	High Ch. 11, 54Mbps, EUT Vertical
2484.503	42.6	-3.7	1.5	151.0	0.0	20.0	Horz	PK	0.0	58.9	74.0	-15.1	High Ch. 11, MCS0, EUT Vertical
2388.060	42.9	-4.0	1.5	201.0	0.0	20.0	Horz	PK	0.0	58.9	74.0	-15.1	Low Ch. 1, 1Mbps, EUT Vertical
2388.750	42.9	-4.0	1.5	225.0	0.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	Low Ch. 1, 1Mbps, EUT Vertical
2484.213	42.4	-3.7	1.5	151.0	0.0	20.0	Horz	PK	0.0	58.7	74.0	-15.3	High Ch. 11, 36Mbps, EUT Vertical
2483.833	42.3	-3.8	1.5	269.0	0.0	20.0	Horz	PK	0.0	58.5	74.0	-15.5	High Ch. 11, 1Mbps, EUT Horizontal
2485.130	42.2	-3.7	2.7	239.0	0.0	20.0	Vert	PK	0.0	58.5	74.0	-15.5	High Ch. 11, 1Mbps, EUT Horizontal

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2388.633	42.5	-4.0	1.5	124.0	0.0	20.0	Horz	PK	0.0	58.5	74.0	-15.5	Low Ch. 1, 6Mbps, EUT Vertical
2388.960	42.5	-4.0	1.5	185.0	0.0	20.0	Vert	PK	0.0	58.5	74.0	-15.5	Low Ch. 1, 6Mbps, EUT Vertical
2485.493	42.1	-3.7	2.4	127.0	0.0	20.0	Horz	PK	0.0	58.4	74.0	-15.6	High Ch. 11, 1Mbps, EUT Vertical
2484.230	42.0	-3.7	1.5	301.0	0.0	20.0	Vert	PK	0.0	58.3	74.0	-15.7	High Ch. 11, 1Mbps, EUT On Side
2484.933	41.8	-3.7	1.5	151.0	0.0	20.0	Horz	PK	0.0	58.1	74.0	-15.9	High Ch. 11, MCS7, EUT Vertical

DUTY CYCLE

XMit 2019.09.05

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
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

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

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

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

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

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

DUTY CYCLE

element

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	CCU-2			**Work Order:**	POLR0058
Serial Number:	Unit #6			**Date:**	3-Jan-20
Customer:	Polaris Industries, Inc.			**Temperature:**	21.5 °C
Attendees:	Wayne Rieger			**Humidity:**	40.6% RH
Project:	None			**Barometric Pres.:**	1016 mbar
Tested by:	Brandon Hobbs	**Power:**	14VDC	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

DEVIATIONS FROM TEST STANDARD

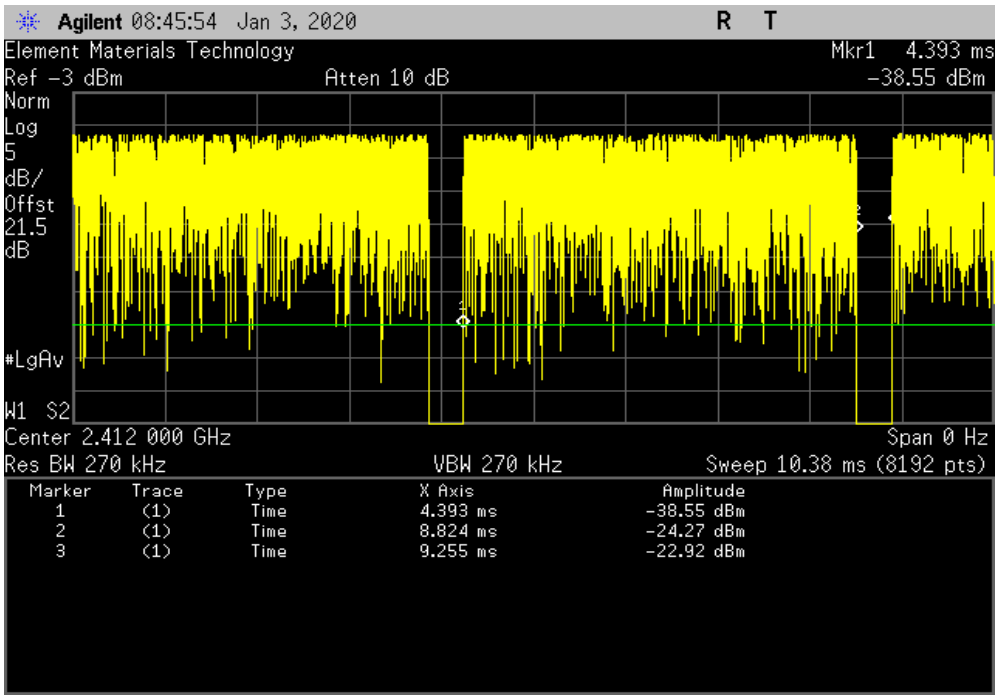
None

Configuration #	4	*Signature*

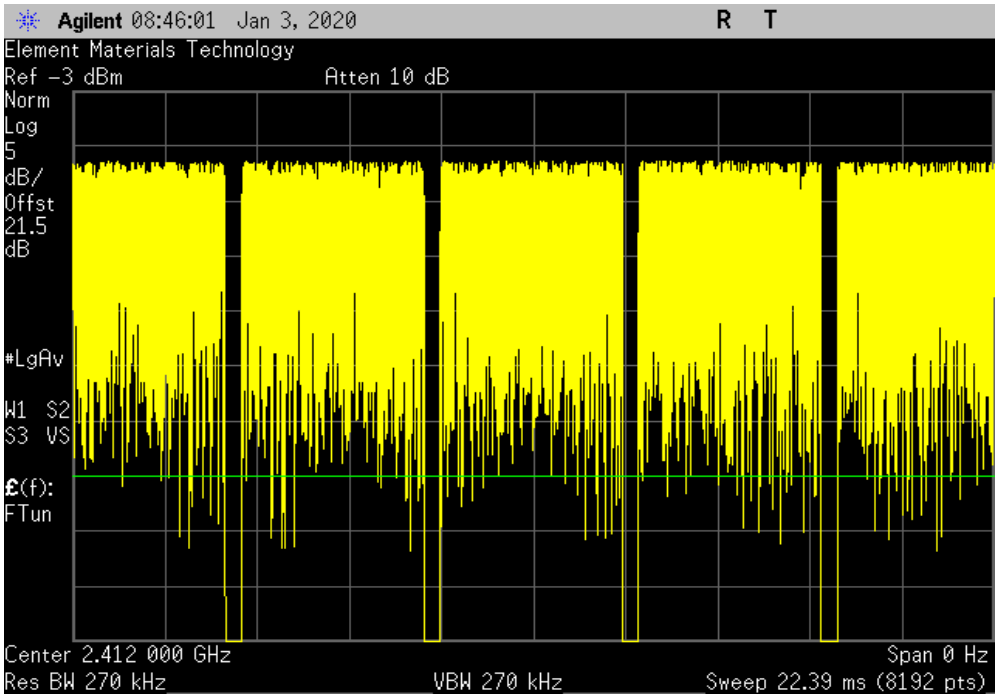
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
2400 MHz - 2483.5 MHz Band						
802.11(b) 1 Mbps						
Low Channel 1, 2412 MHz	4.431 ms	4.862 ms	1	91.1	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	87	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	4.431 ms	4.822 ms	1	91.9	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	4.431 ms	4.831 ms	1	91.7	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(b) 11 Mbps						
Low Channel 1, 2412 MHz	577 us	967.9 us	1	59.6	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	577 us	976.9 us	1	59.1	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	577 us	976.9 us	1	59.1	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 6 Mbps						
Low Channel 1, 2412 MHz	732.383 us	1.135 ms	1	64.5	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	732.233 us	1.135 ms	1	64.5	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	732.538 us	1.136 ms	1	64.5	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 36 Mbps						
Low Channel 1, 2412 MHz	139.7 us	534.4 us	1	26.1	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	139.6 us	534.6 us	1	26.1	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	139.7 us	543.5 us	1	25.7	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(g) 54 Mbps						
Low Channel 1, 2412 MHz	99.7 us	503.5 us	1	19.8	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	99.7 us	503.4 us	1	19.8	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	99.9 us	494.4 us	1	20.2	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS0						
Low Channel 1, 2412 MHz	627.067 us	1.021 ms	1	61.4	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	627.147 us	1.021 ms	1	61.4	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	628.062 us	1.021 ms	1	61.5	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A
802.11(n) MCS7						
Low Channel 1, 2412 MHz	96.8 us	491.7 us	1	19.7	N/A	N/A
Low Channel 1, 2412 MHz	N/A	N/A	5	N/A	N/A	N/A
Mid Channel 6, 2437 MHz	96.8 us	491.7 us	1	19.7	N/A	N/A
Mid Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
High Channel 11, 2462 MHz	97 us	491.6 us	1	19.7	N/A	N/A
High Channel 11, 2462 MHz	N/A	N/A	5	N/A	N/A	N/A

DUTY CYCLE

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
	4.431 ms	4.862 ms	1	91.1	N/A	N/A

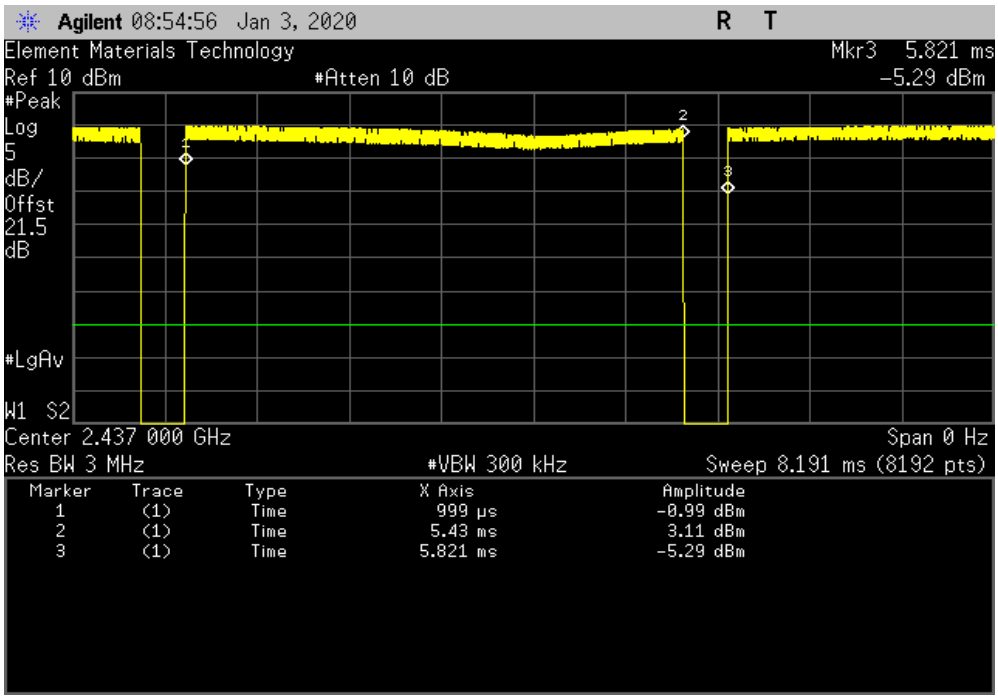


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	87	N/A	N/A	N/A

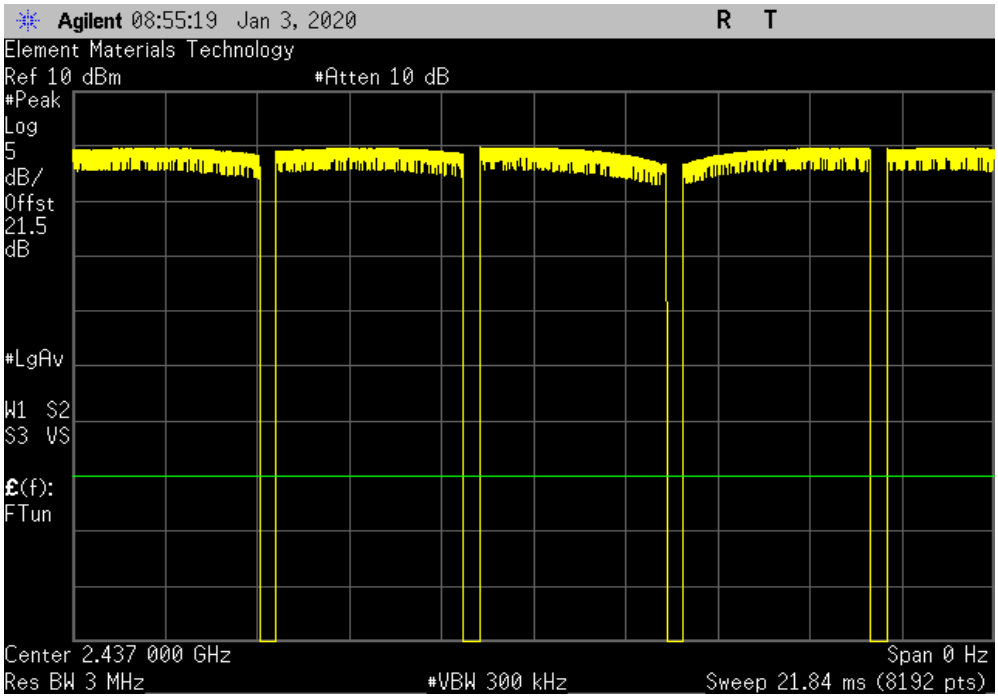


DUTY CYCLE

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
	4.431 ms	4.822 ms	1	91.9	N/A	N/A

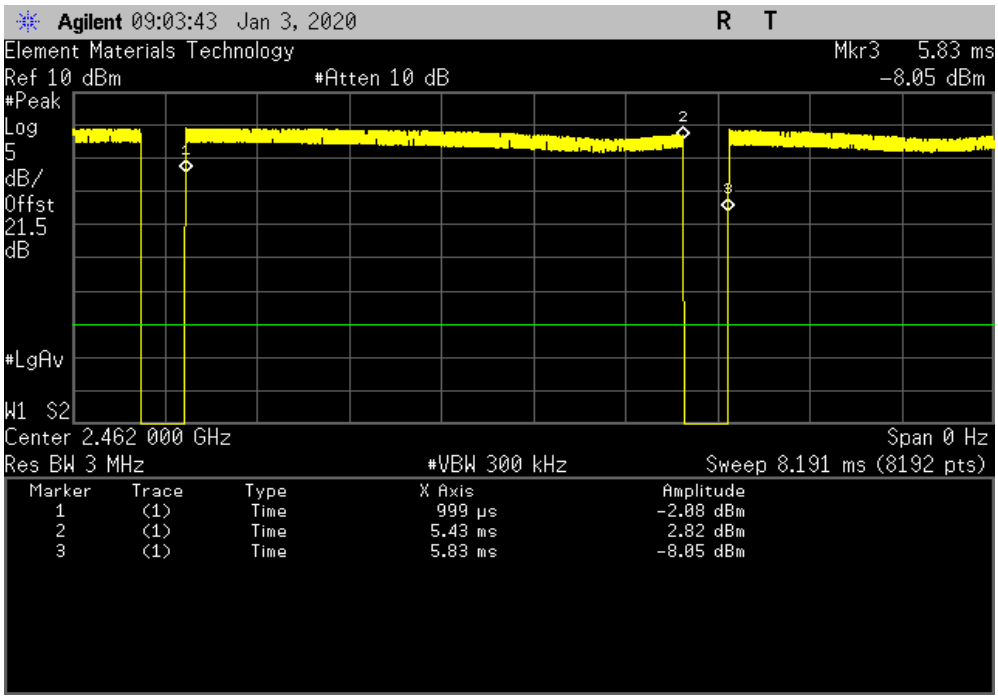


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

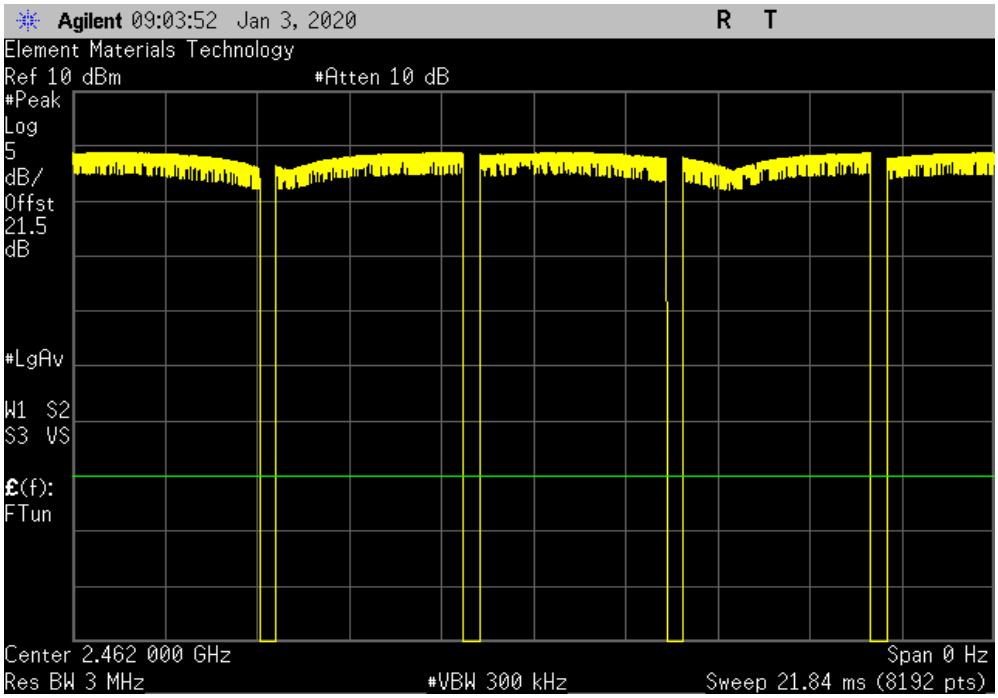


DUTY CYCLE

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
	4.431 ms	4.831 ms	1	91.7	N/A	N/A

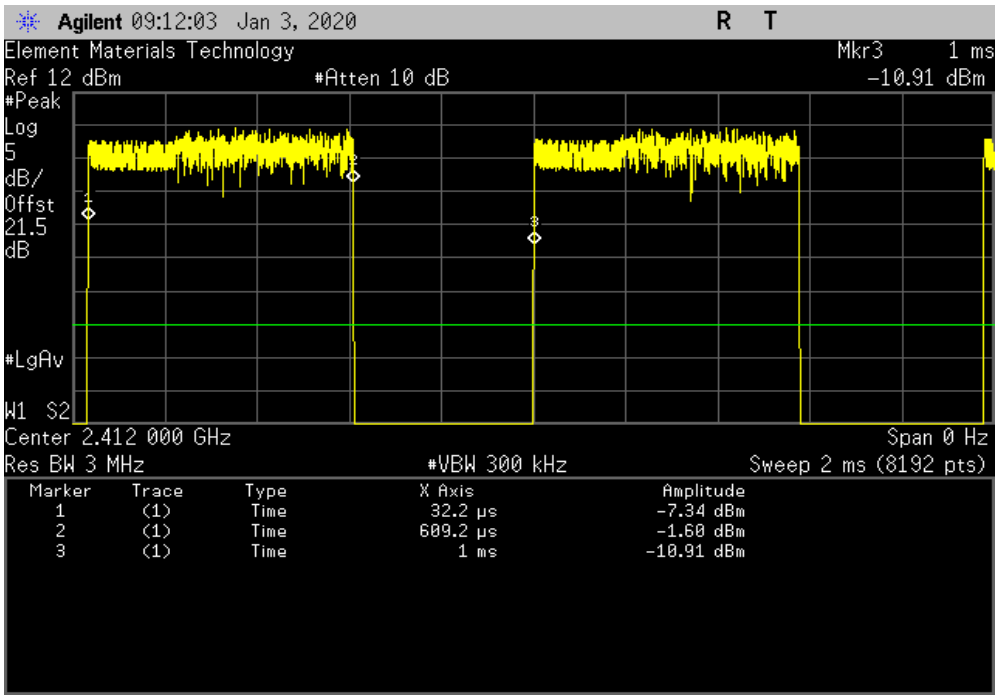


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

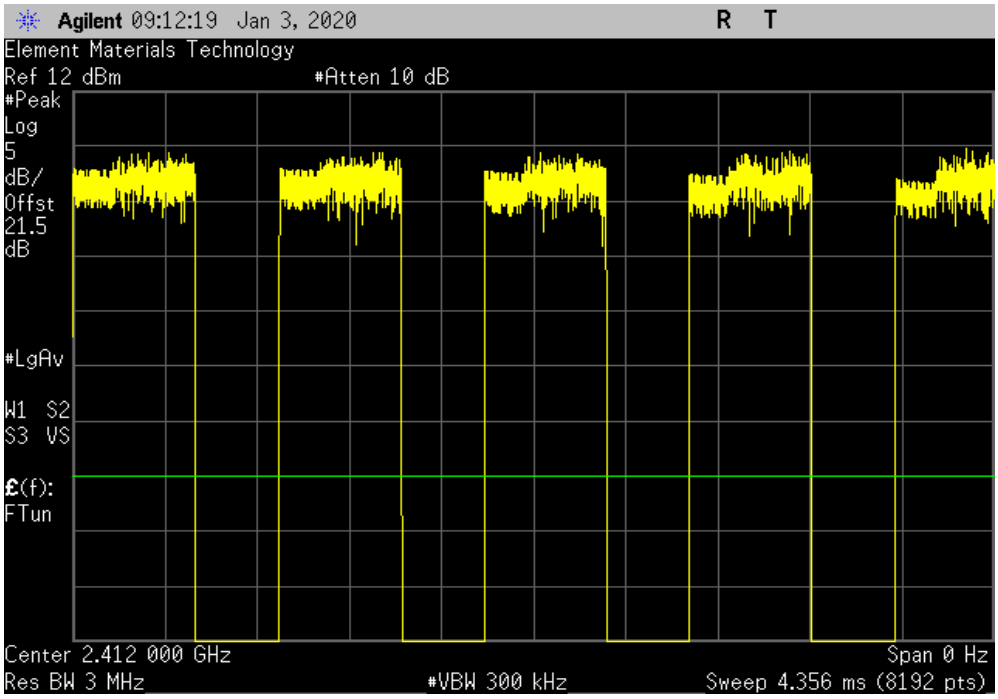


DUTY CYCLE

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
	577 us	967.9 us	1	59.6	N/A	N/A

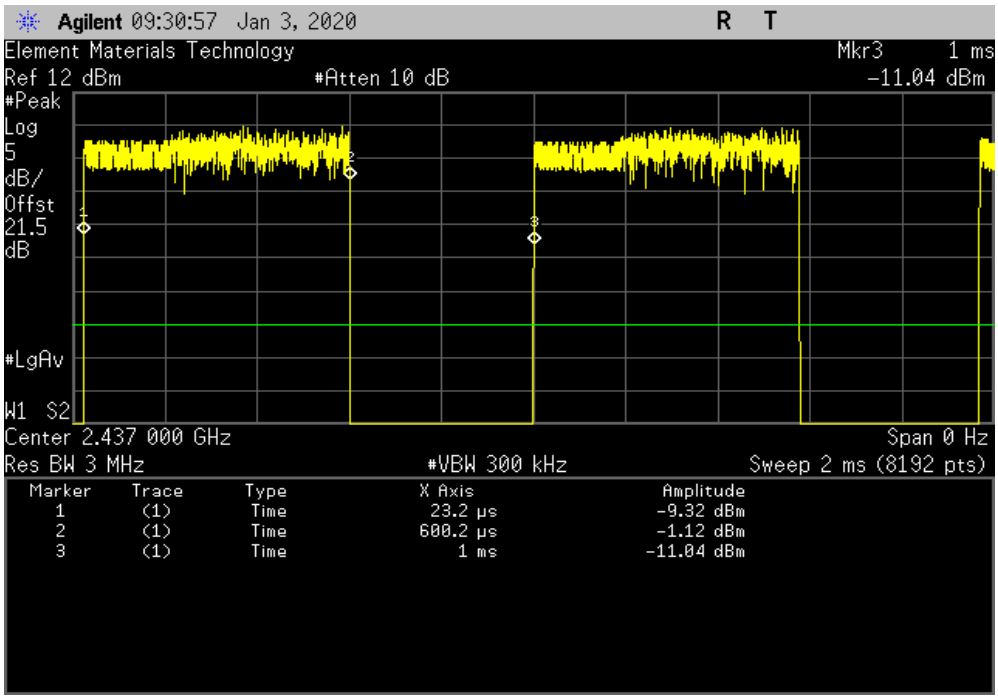


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

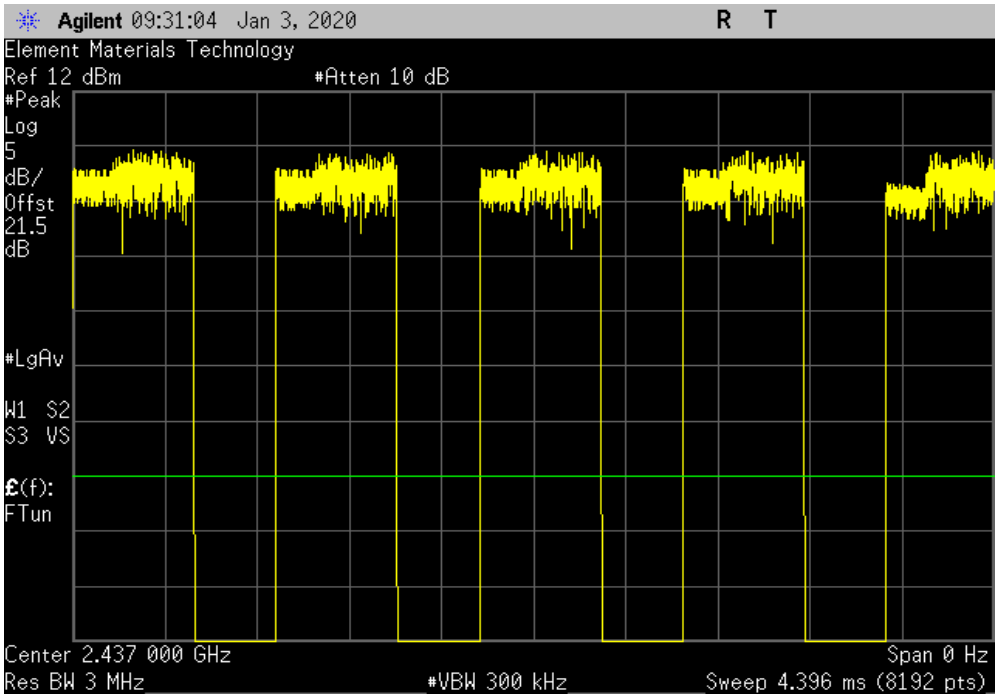


DUTY CYCLE

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
	577 us	976.9 us	1	59.1	N/A	N/A

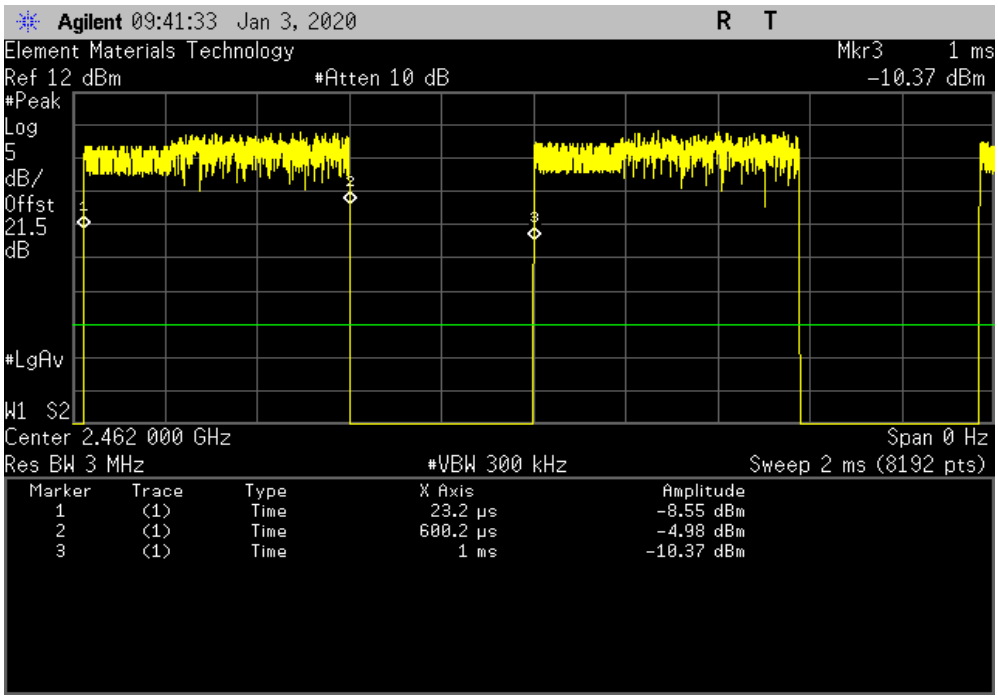


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

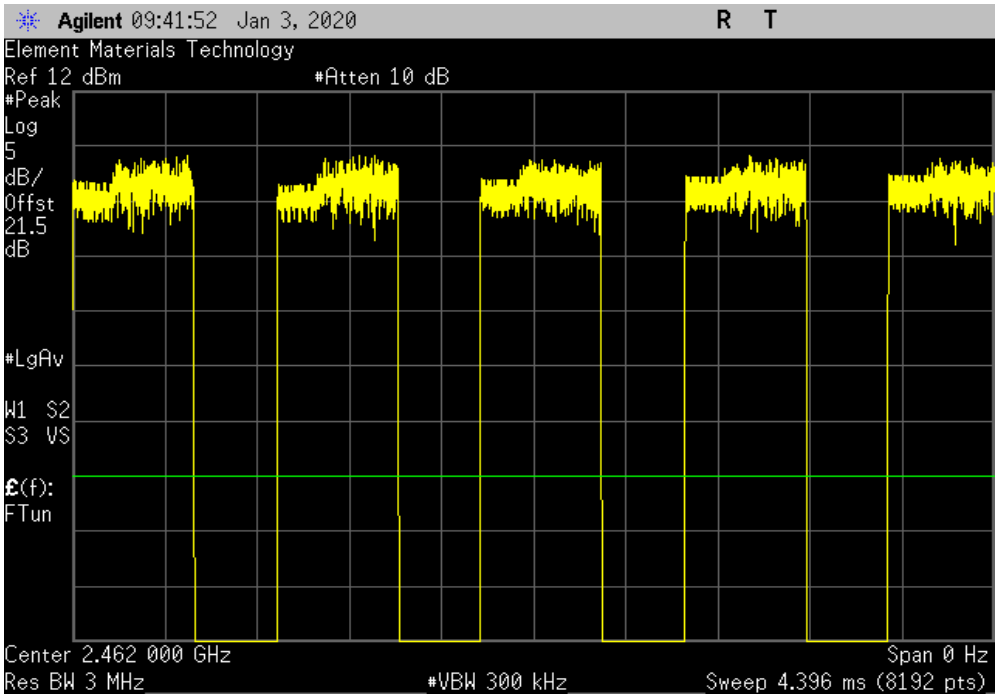


DUTY CYCLE

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
	577 us	976.9 us	1	59.1	N/A	N/A

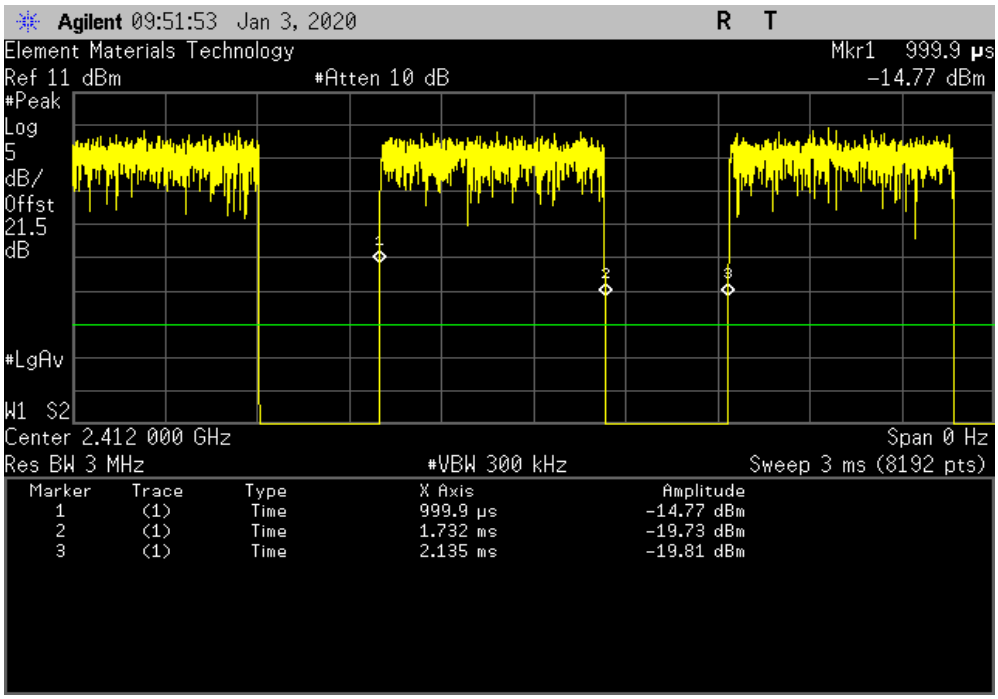


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

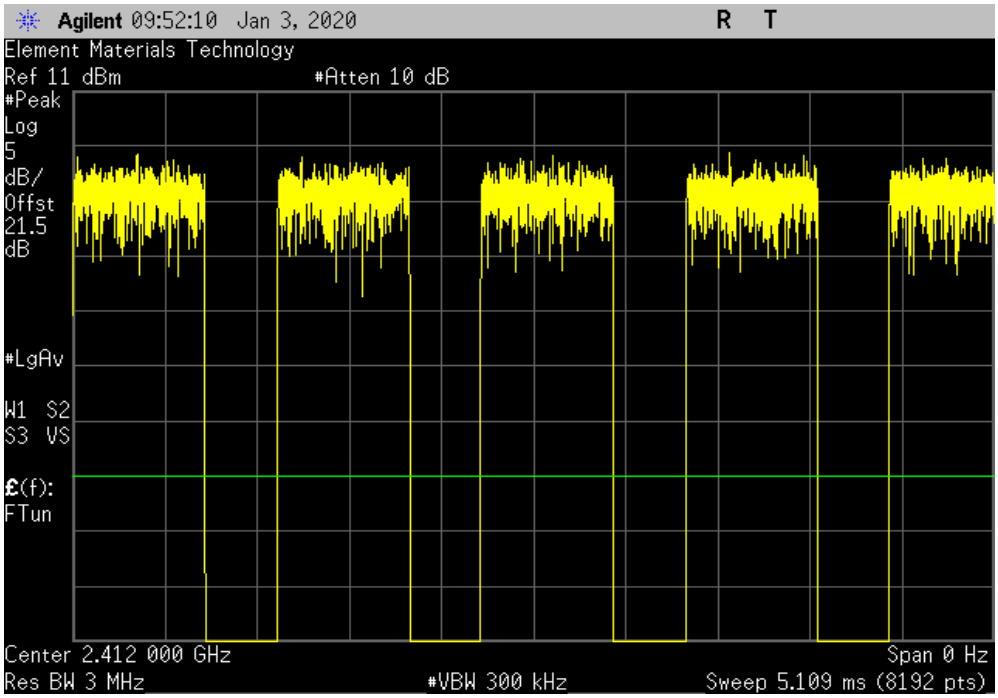


DUTY CYCLE

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
	732.383 us	1.135 ms	1	64.5	N/A	N/A

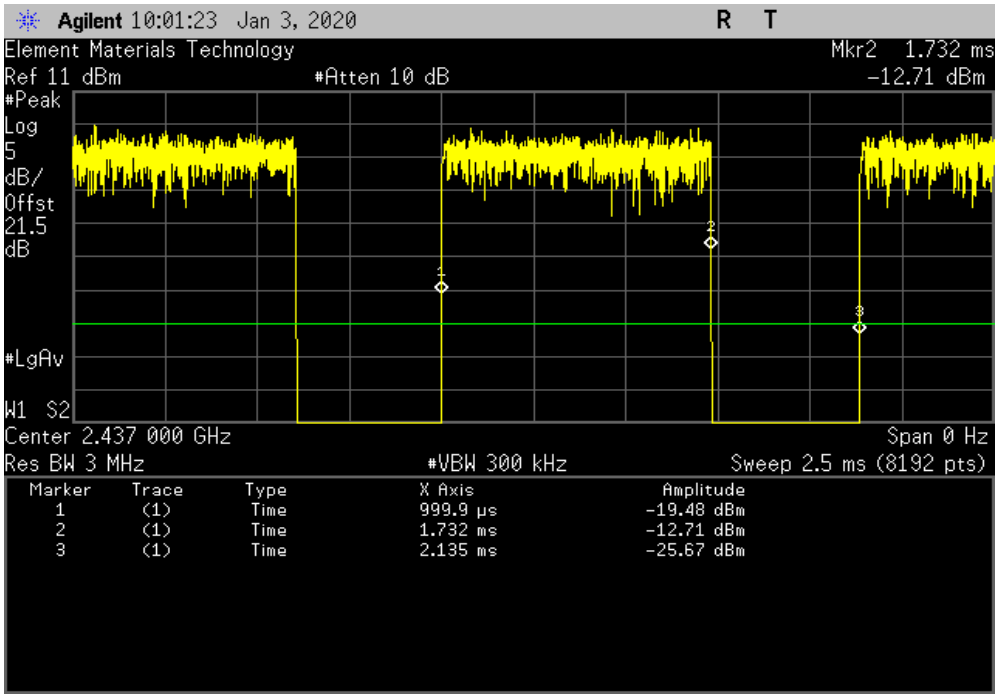


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

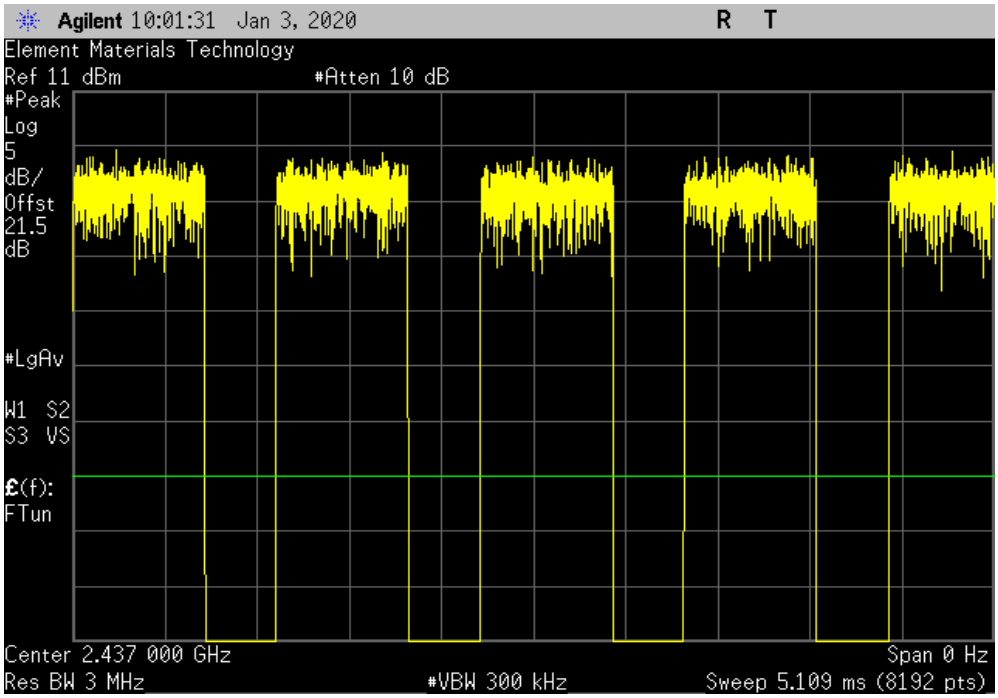


DUTY CYCLE

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
	732.233 us	1.135 ms	1	64.5	N/A	N/A

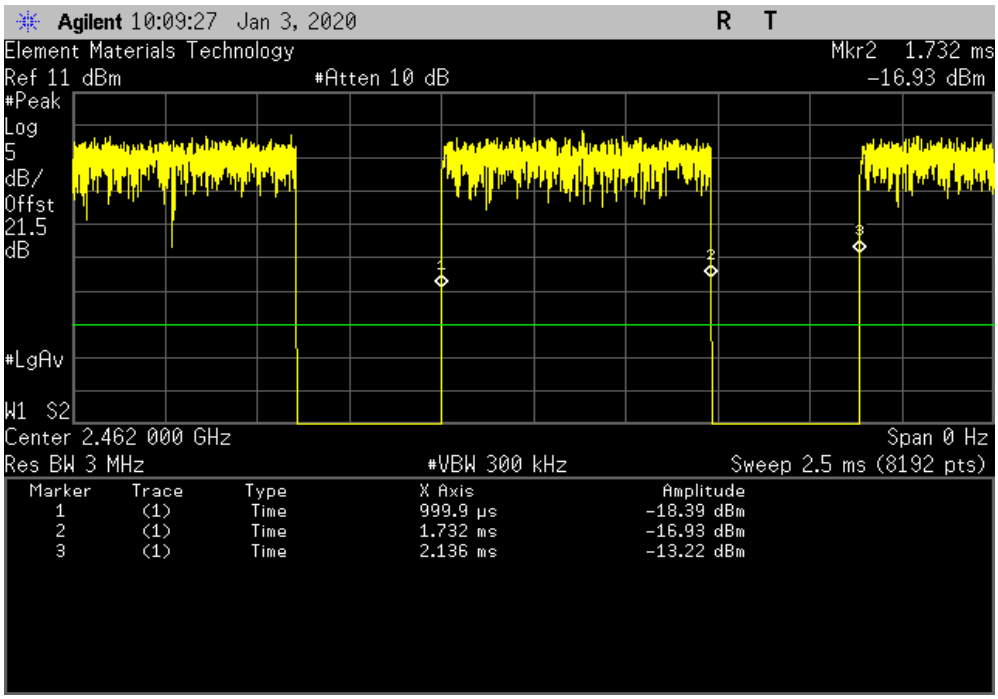


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

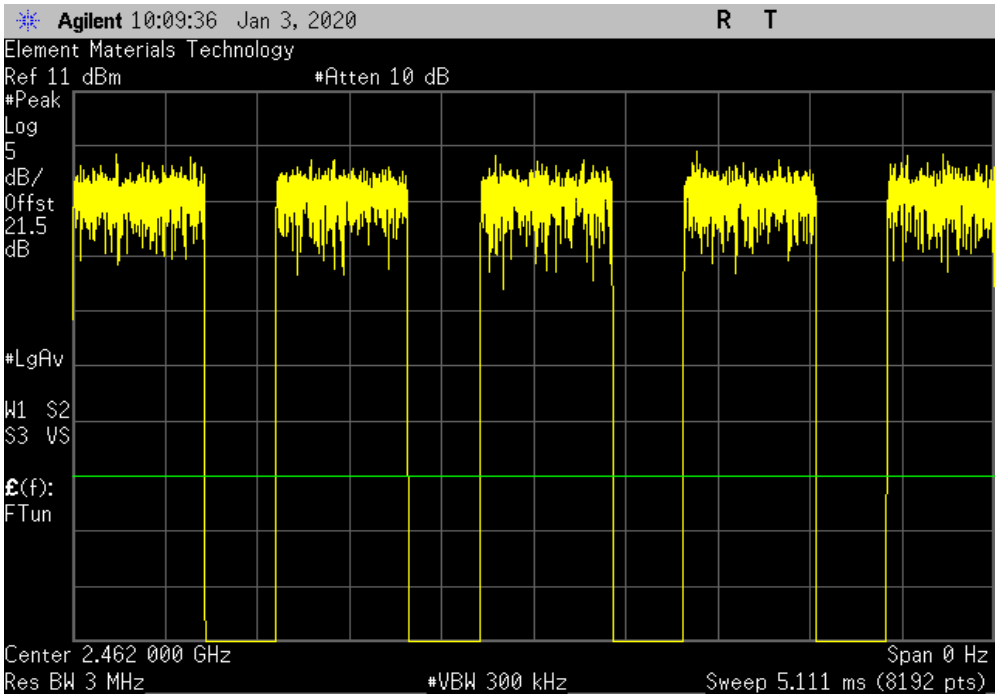


DUTY CYCLE

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
	732.538 us	1.136 ms	1	64.5	N/A	N/A

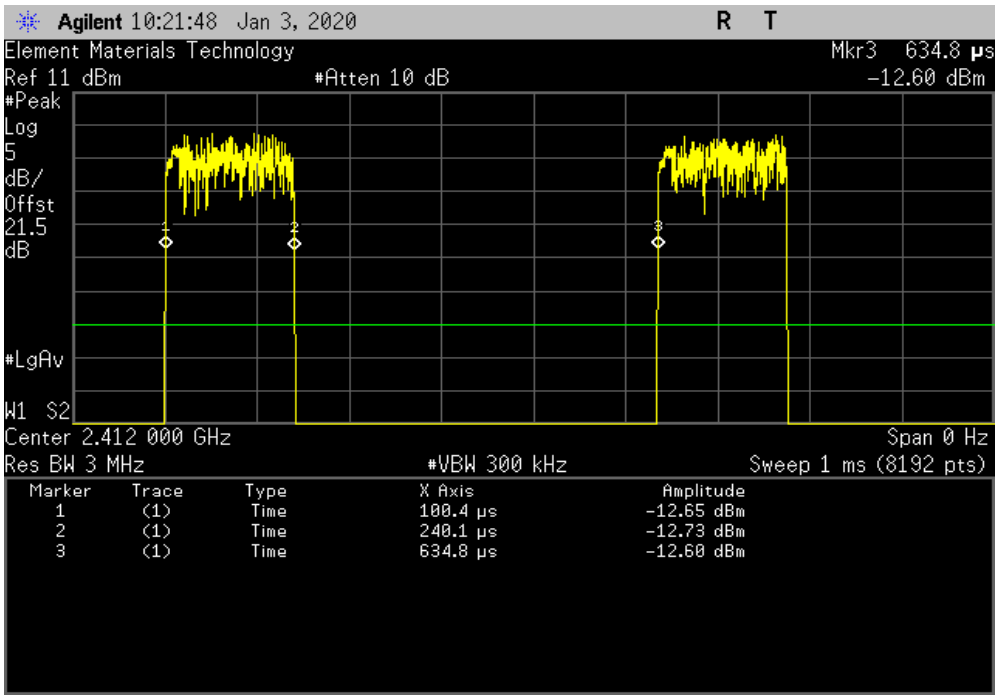


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

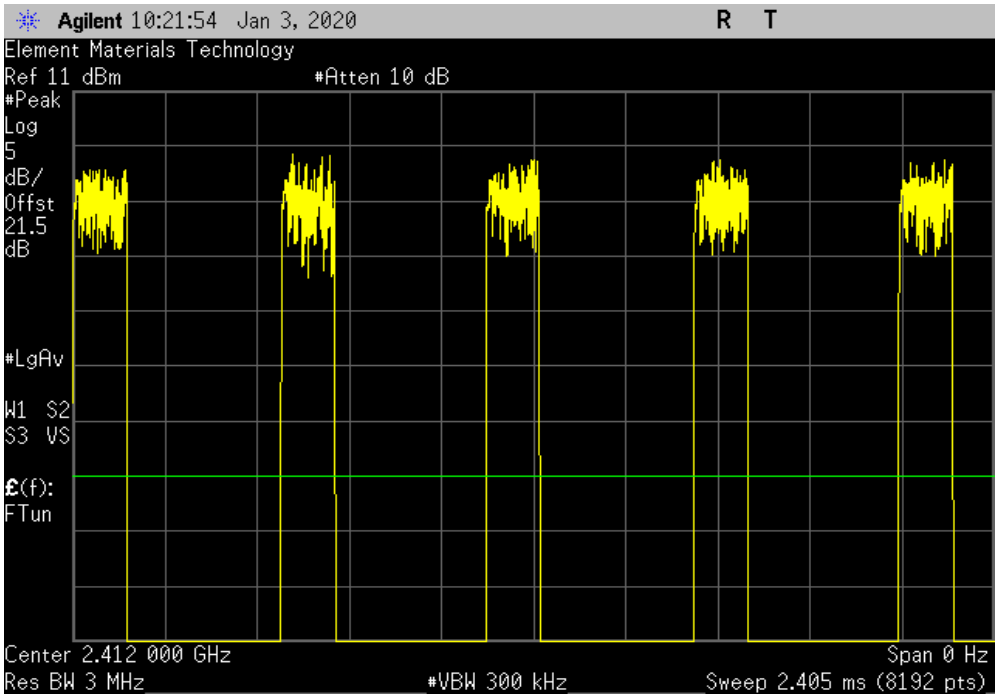


DUTY CYCLE

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
	139.7 us	534.4 us	1	26.1	N/A	N/A

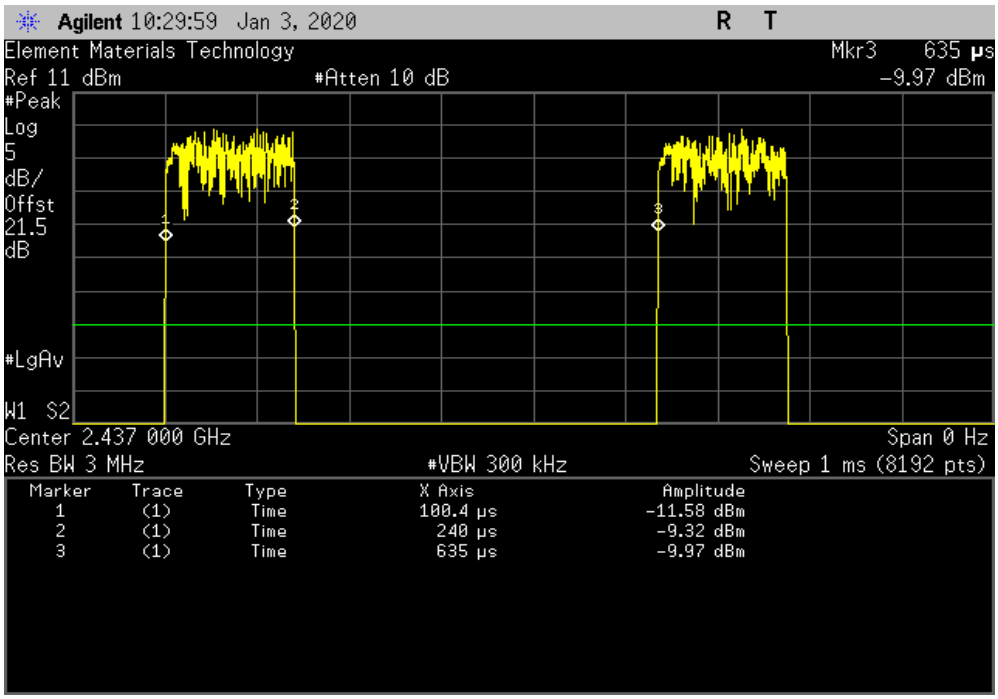


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

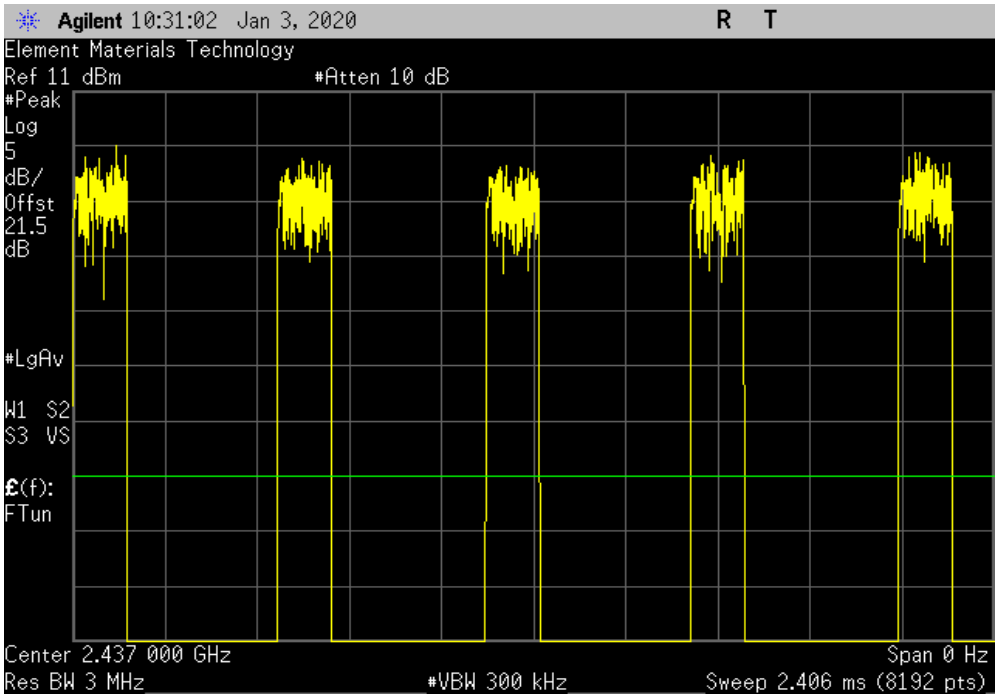


DUTY CYCLE

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
	139.6 us	534.6 us	1	26.1	N/A	N/A

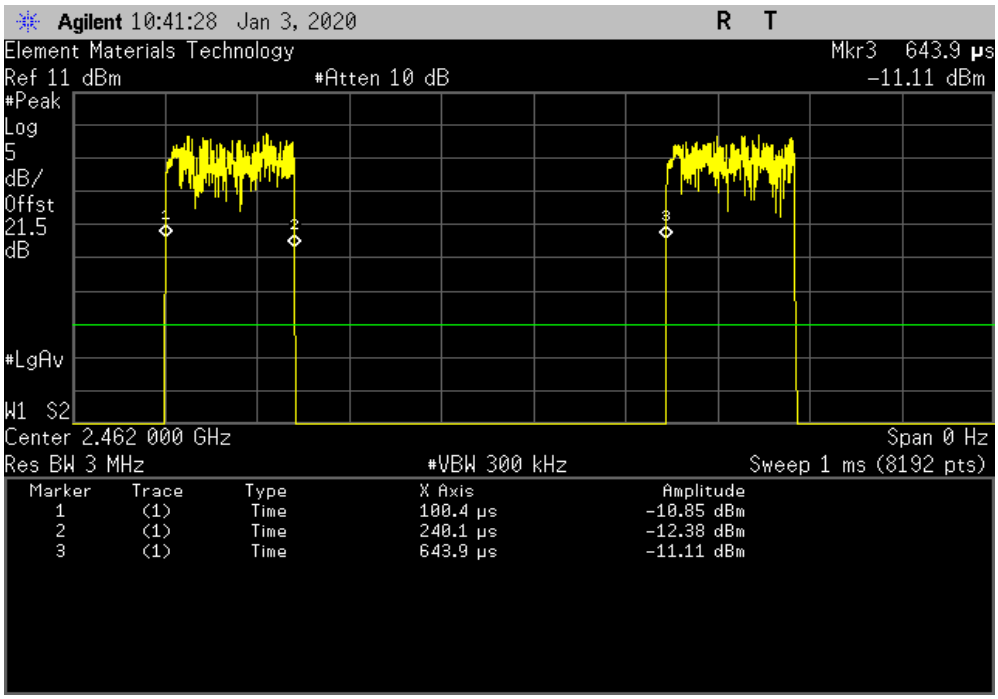


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

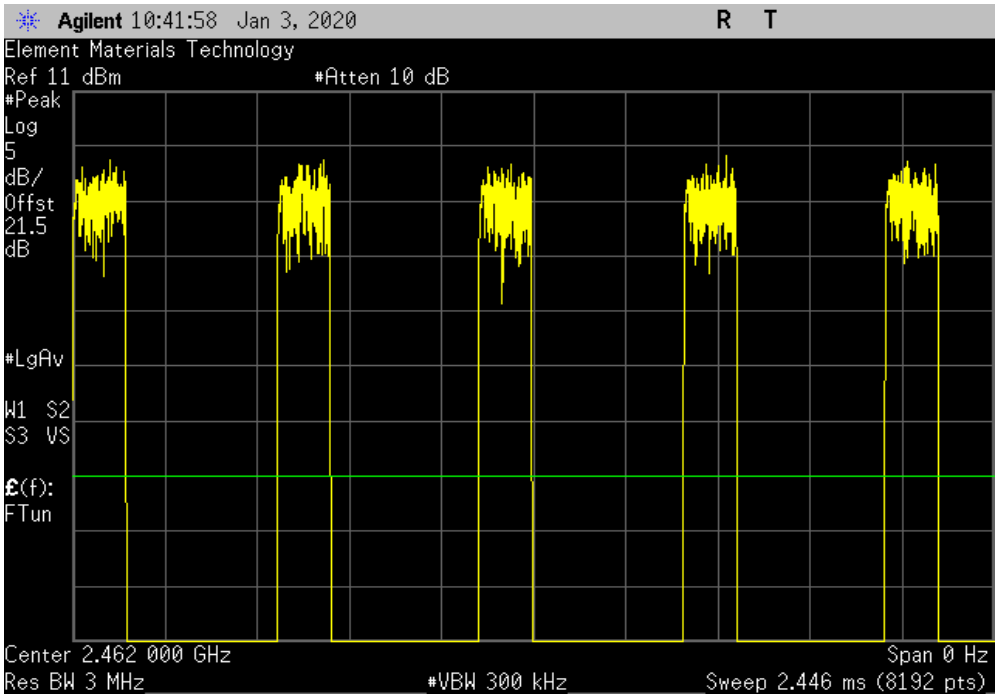


DUTY CYCLE

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
	139.7 us	543.5 us	1	25.7	N/A	N/A

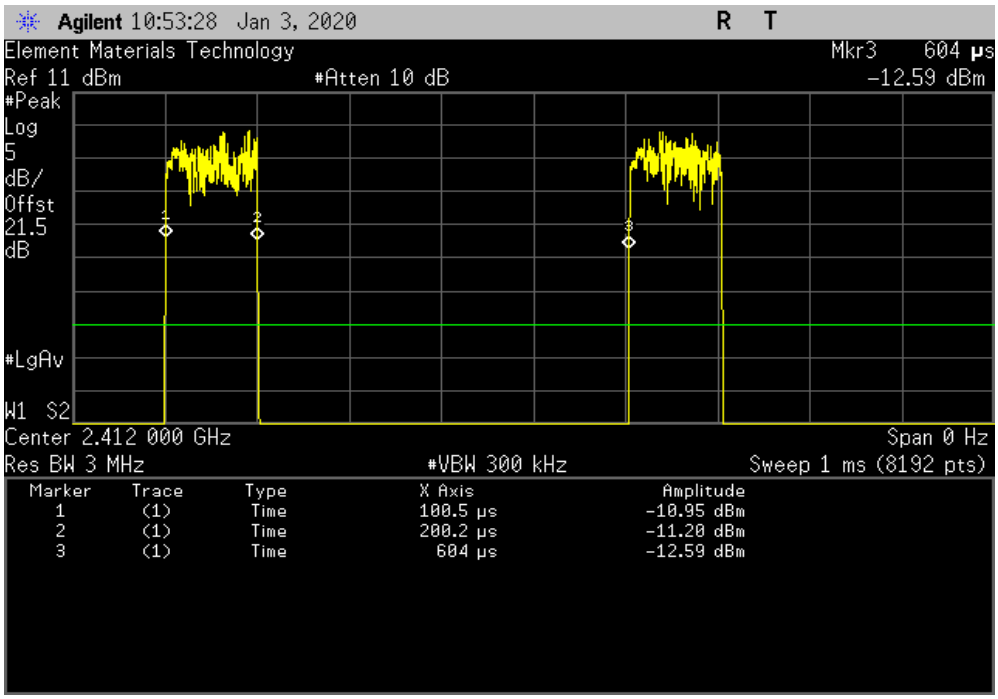


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

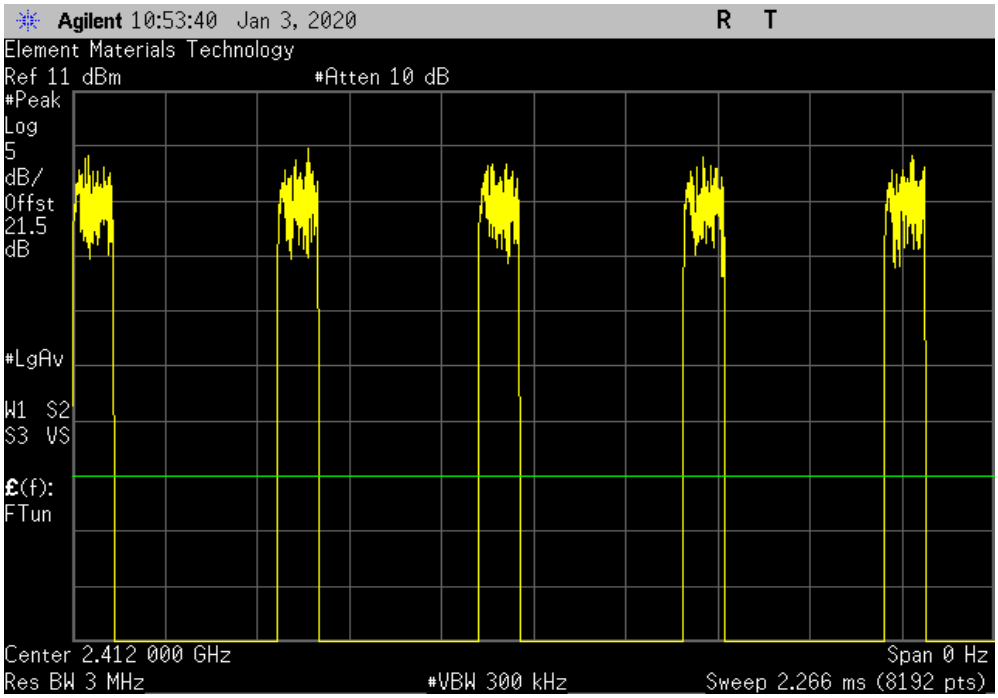


DUTY CYCLE

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
	99.7 us	503.5 us	1	19.8	N/A	N/A

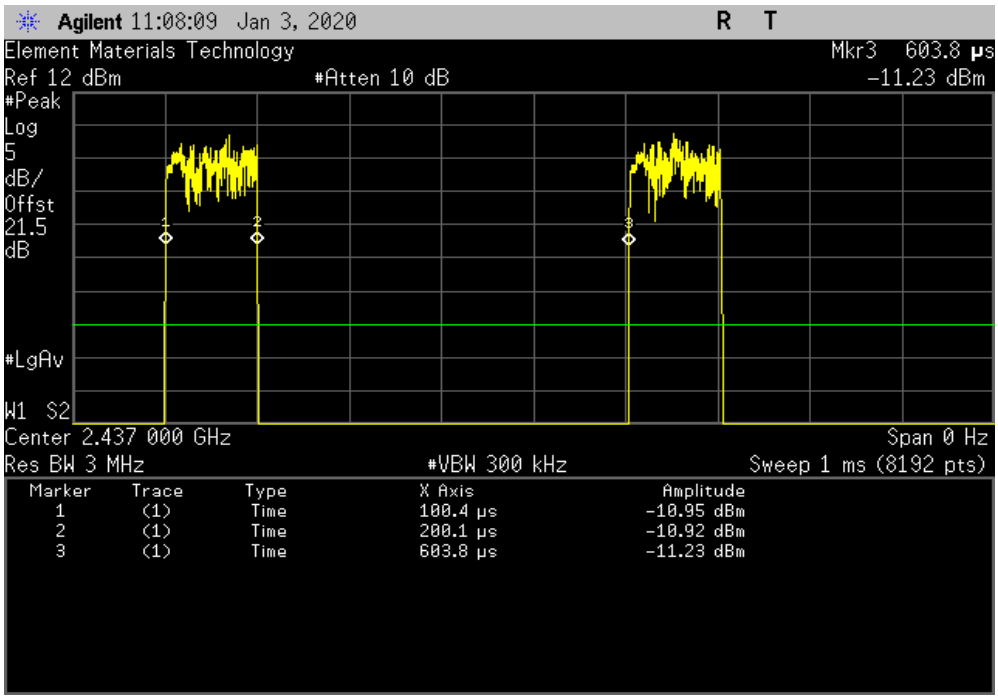


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

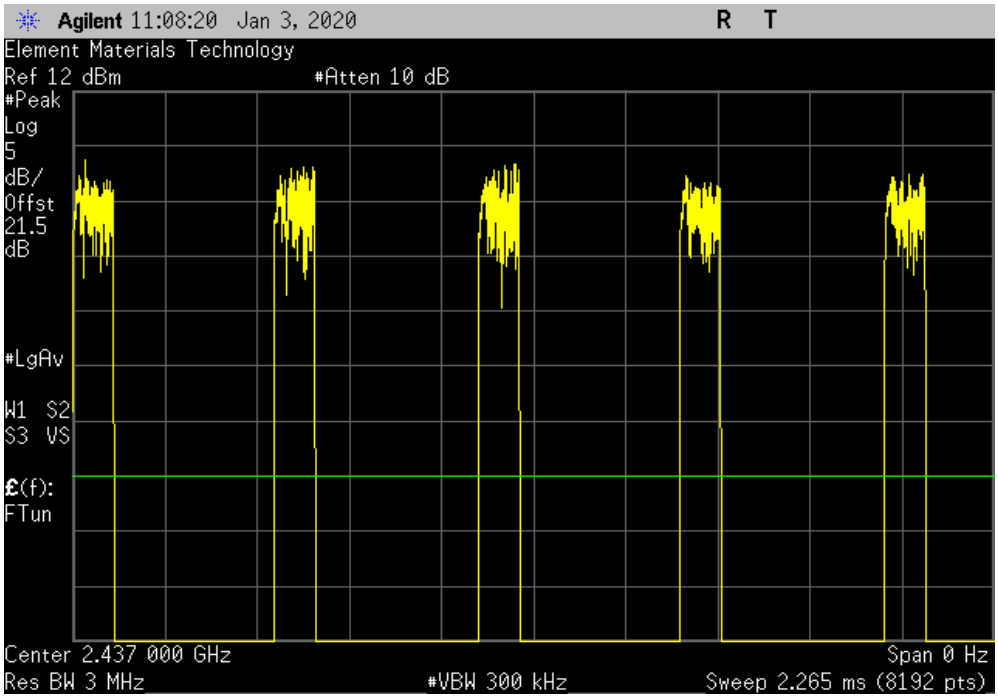


DUTY CYCLE

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
	99.7 us	503.4 us	1	19.8	N/A	N/A

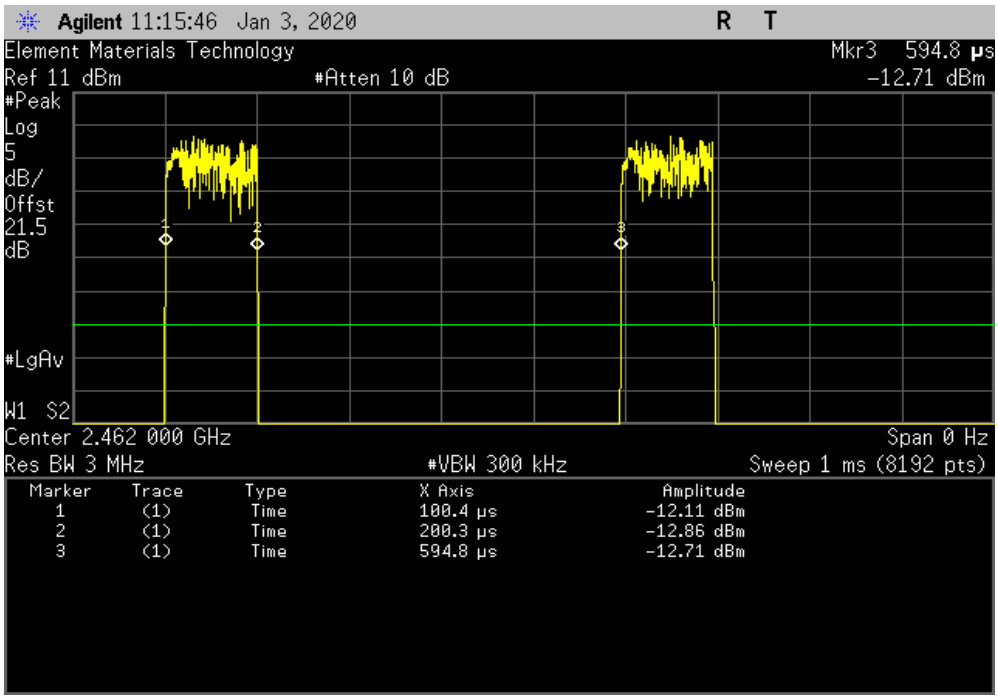


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

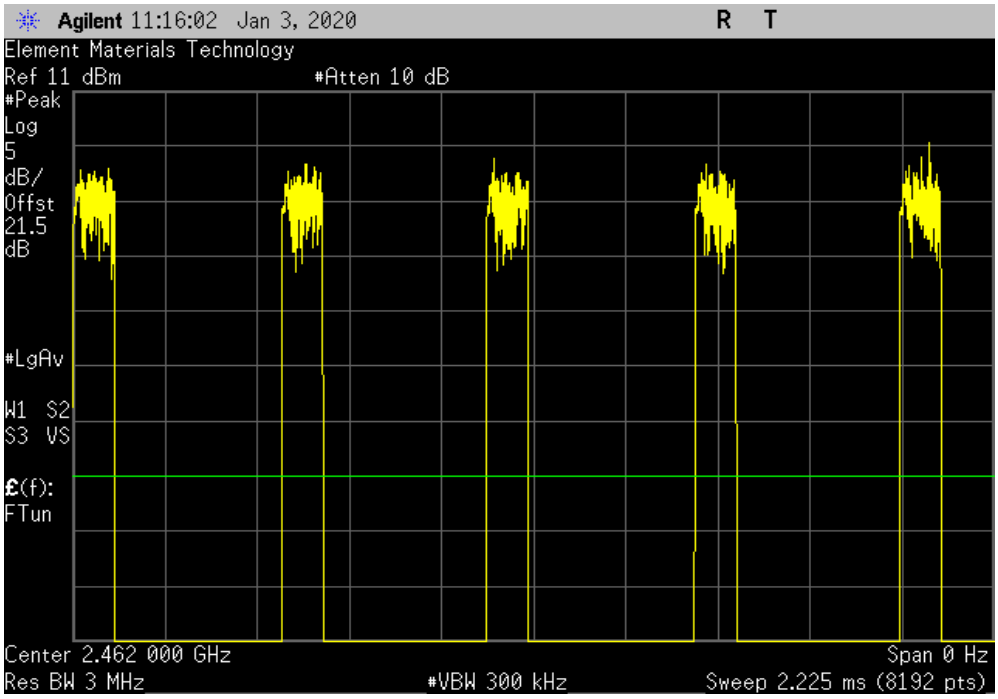


DUTY CYCLE

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
	99.9 us	494.4 us	1	20.2	N/A	N/A

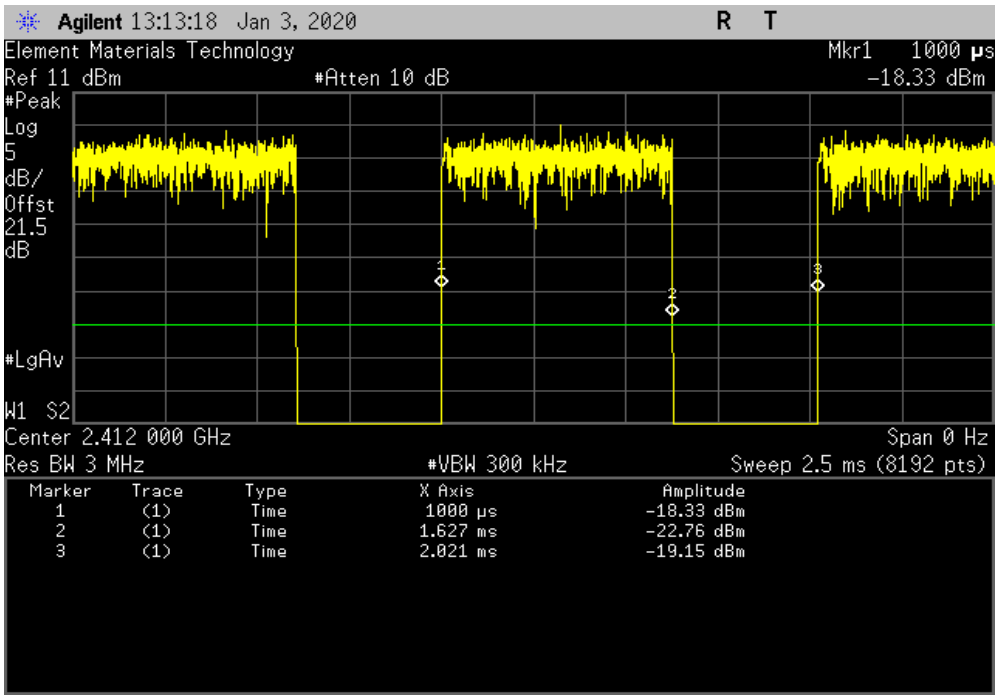


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

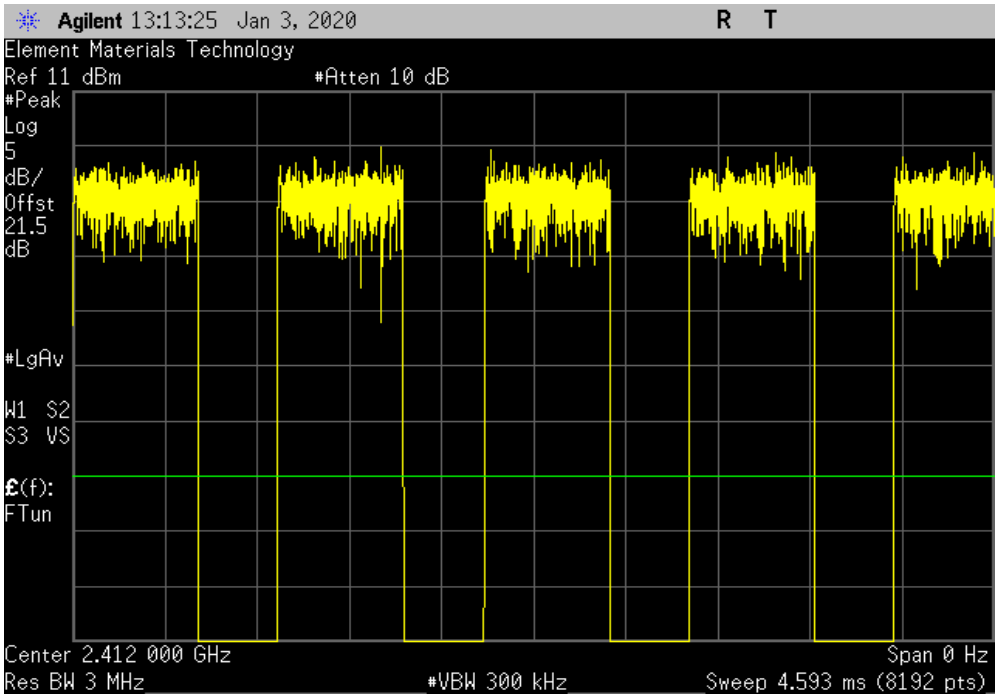


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	627.067 us	1.021 ms	1	61.4	N/A	N/A

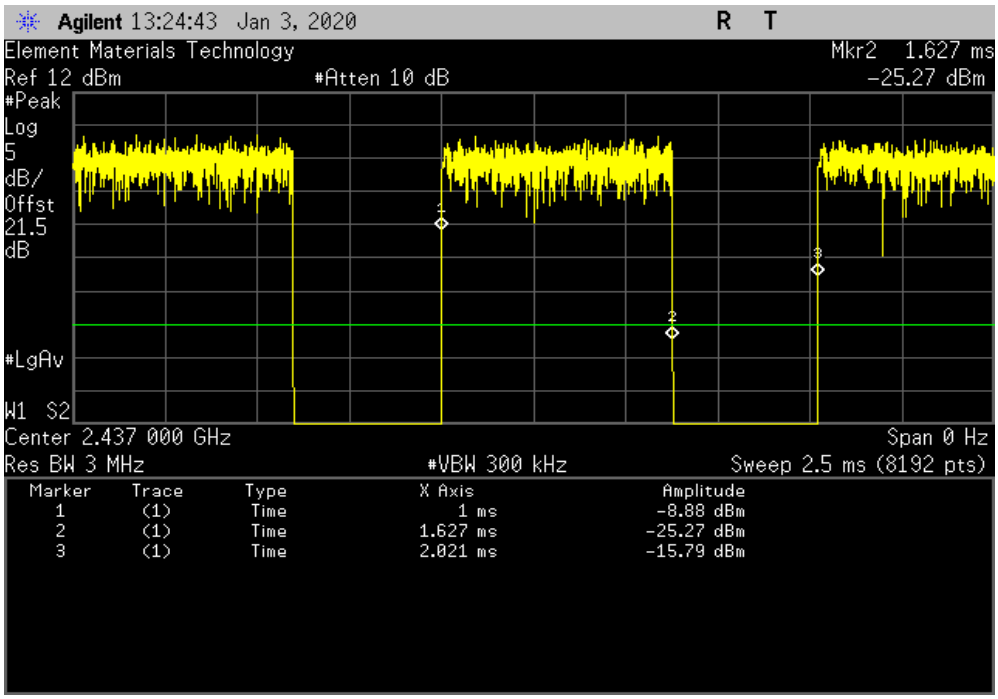


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

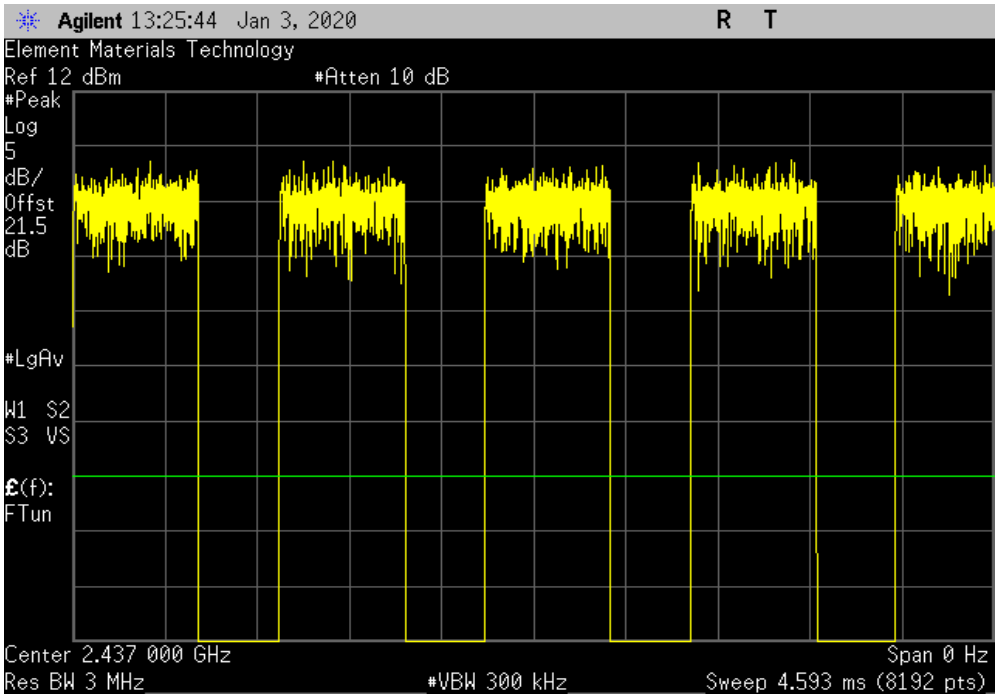


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	627.147 us	1.021 ms	1	61.4	N/A	N/A

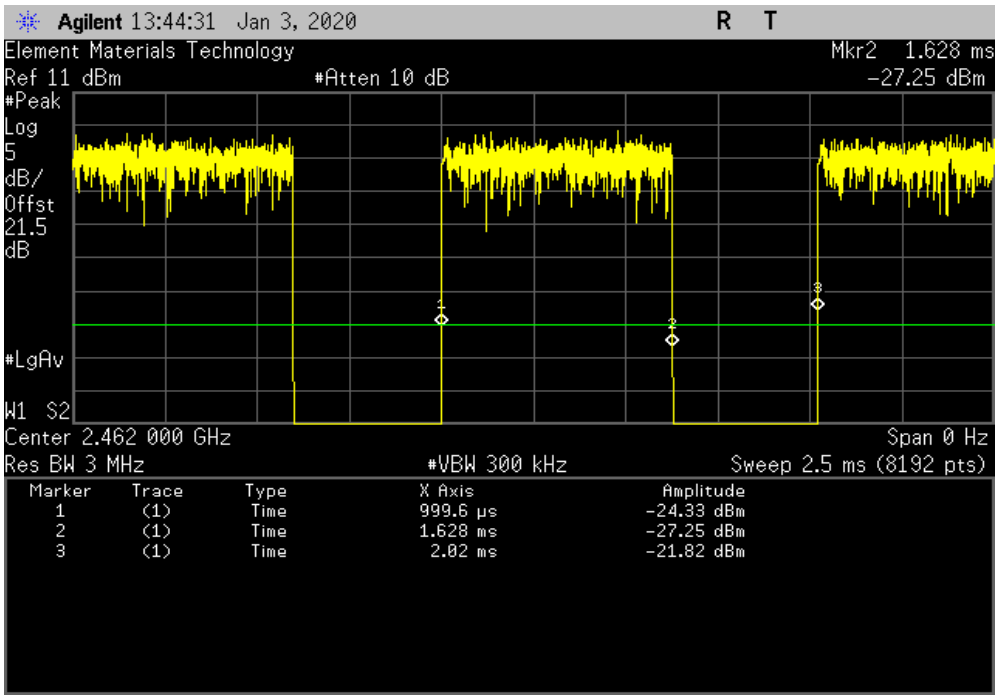


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

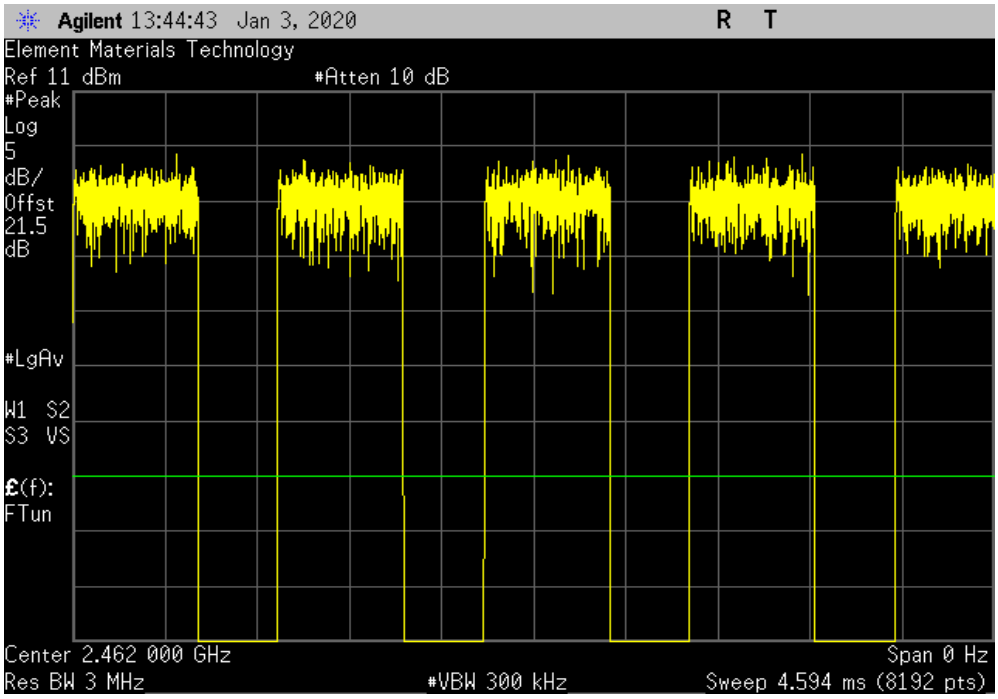


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	628.062 us	1.021 ms	1	61.5	N/A	N/A

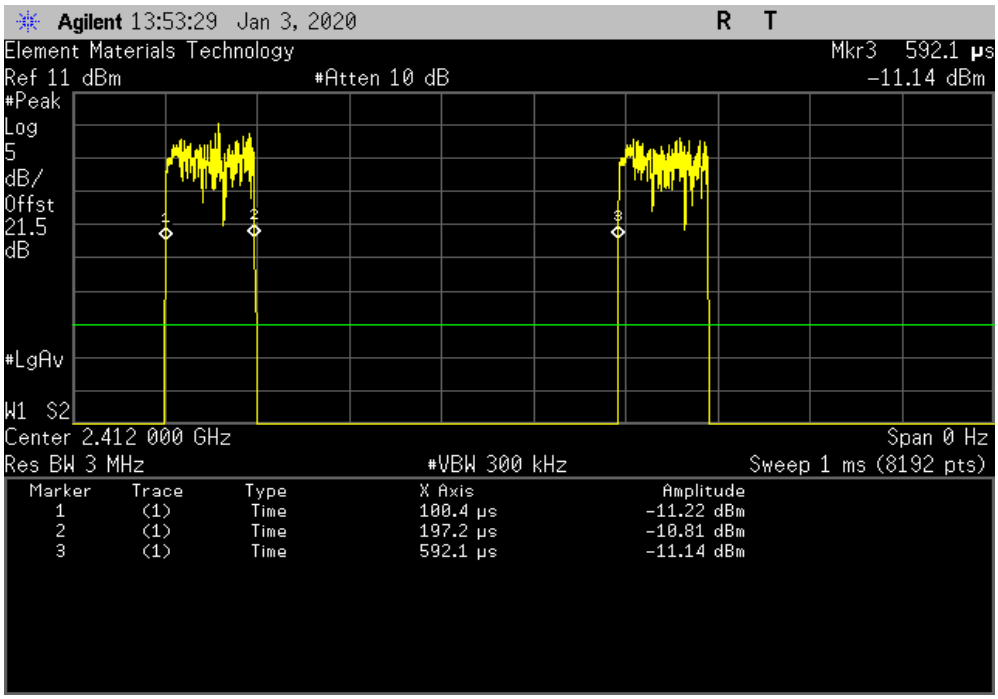


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

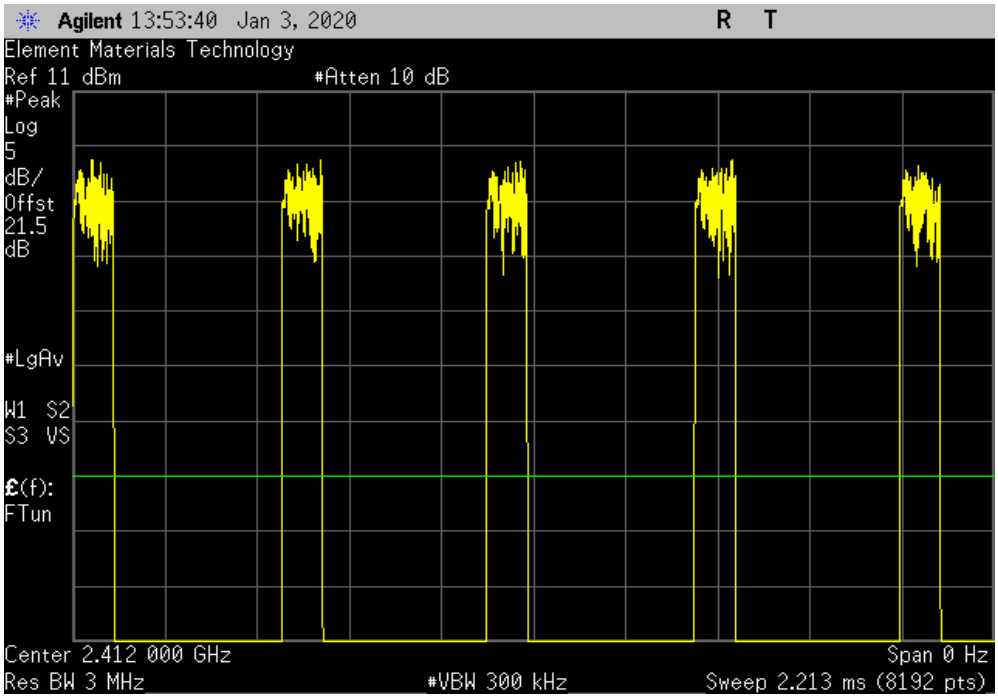


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	96.8 us	491.7 us	1	19.7	N/A	N/A

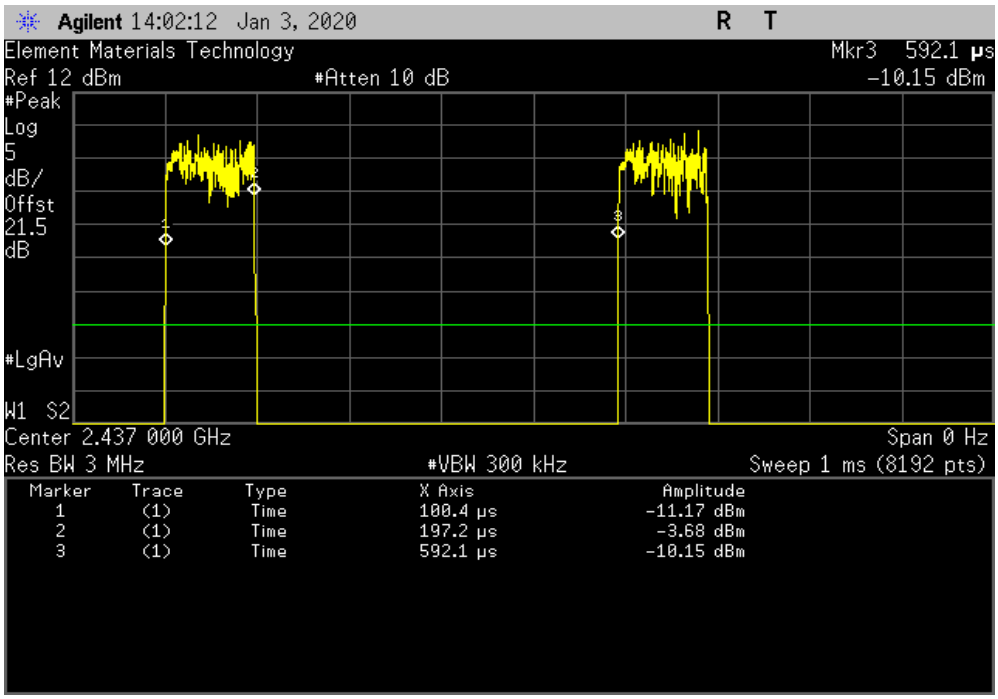


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

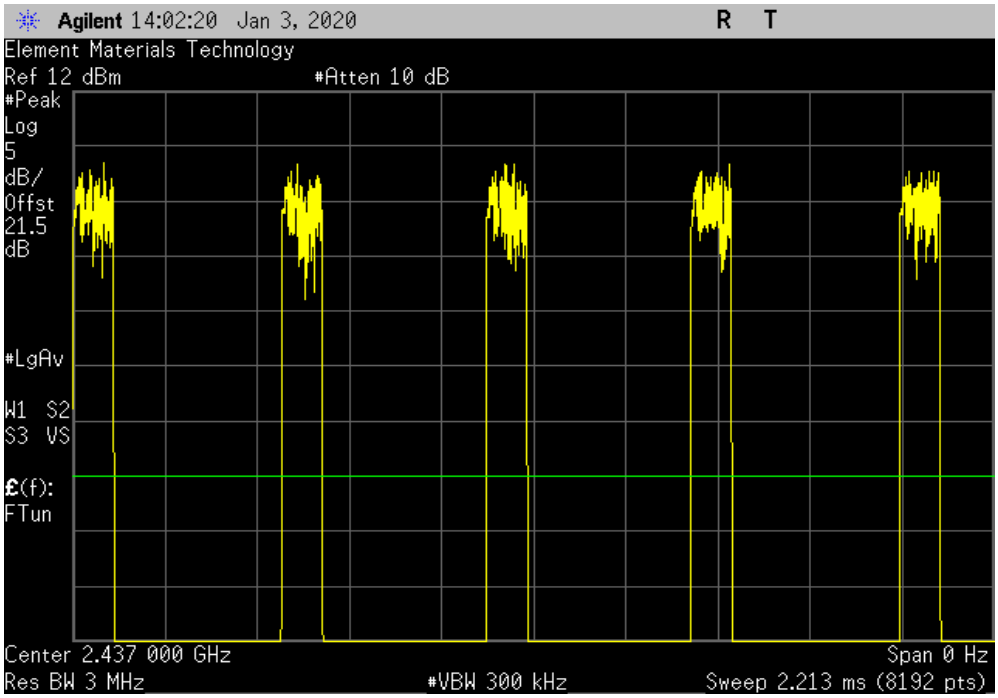


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	96.8 us	491.7 us	1	19.7	N/A	N/A

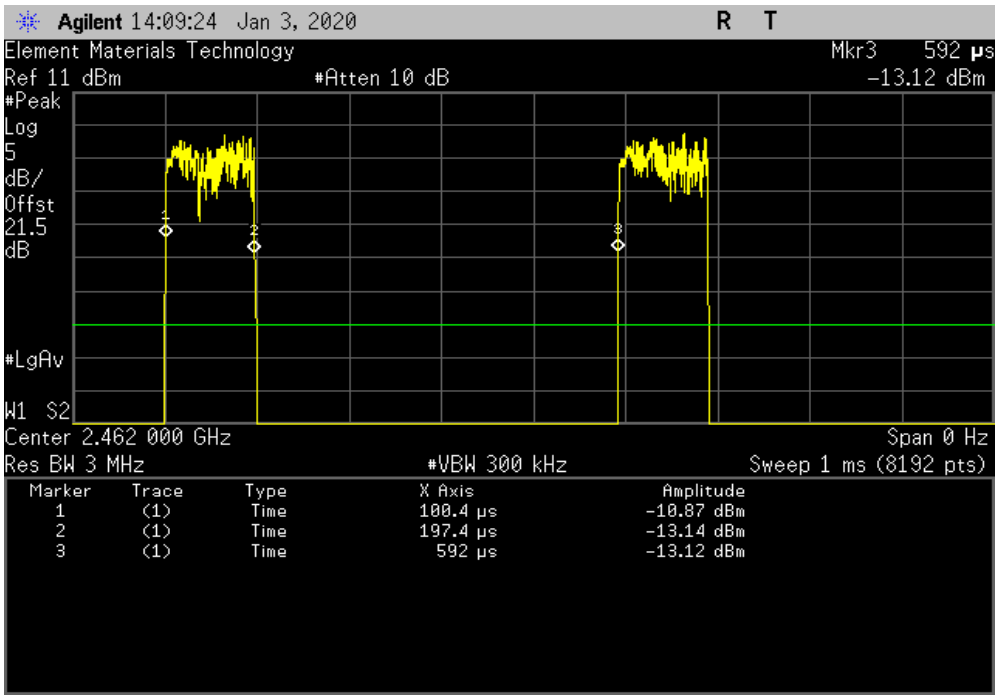


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

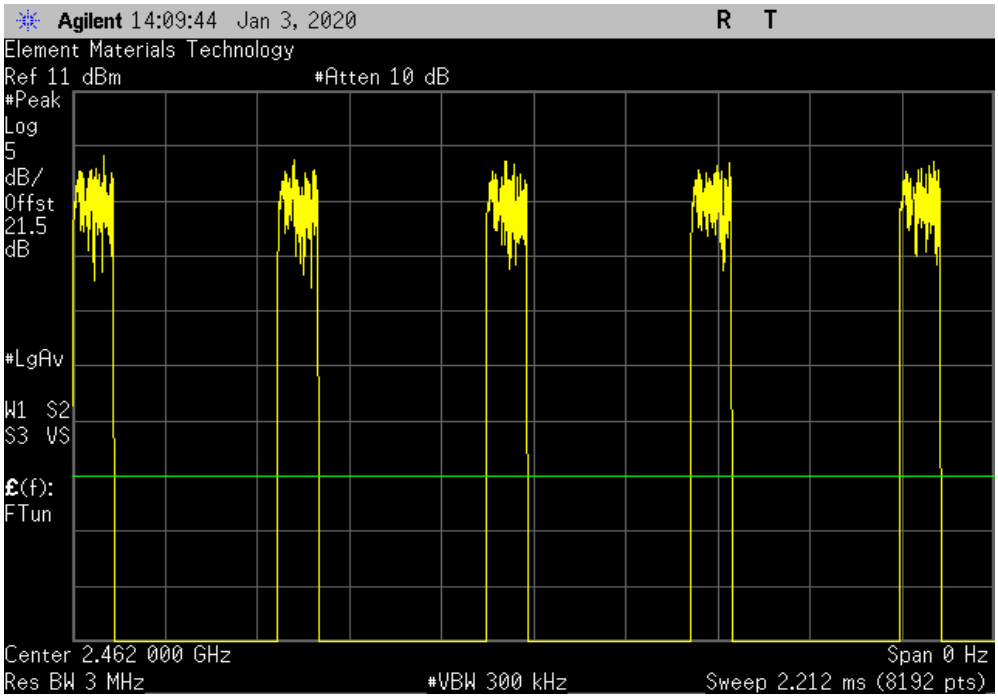


DUTY CYCLE

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	97 us	491.6 us	1	19.7	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 2019.09.05

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
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

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

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.

OCCUPIED BANDWIDTH

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	**CCU-2**			**Work Order:**	**POLR0058**
Serial Number:	**Unit #6**			**Date:**	**3-Jan-20**
Customer:	**Polaris Industries, Inc.**			**Temperature:**	**21.5 °C**
Attendees:	**Wayne Rieger**			**Humidity:**	**40.5% RH**
Project:	**None**			**Barometric Pres.:**	**1016 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**14VDC**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

DEVIATIONS FROM TEST STANDARD

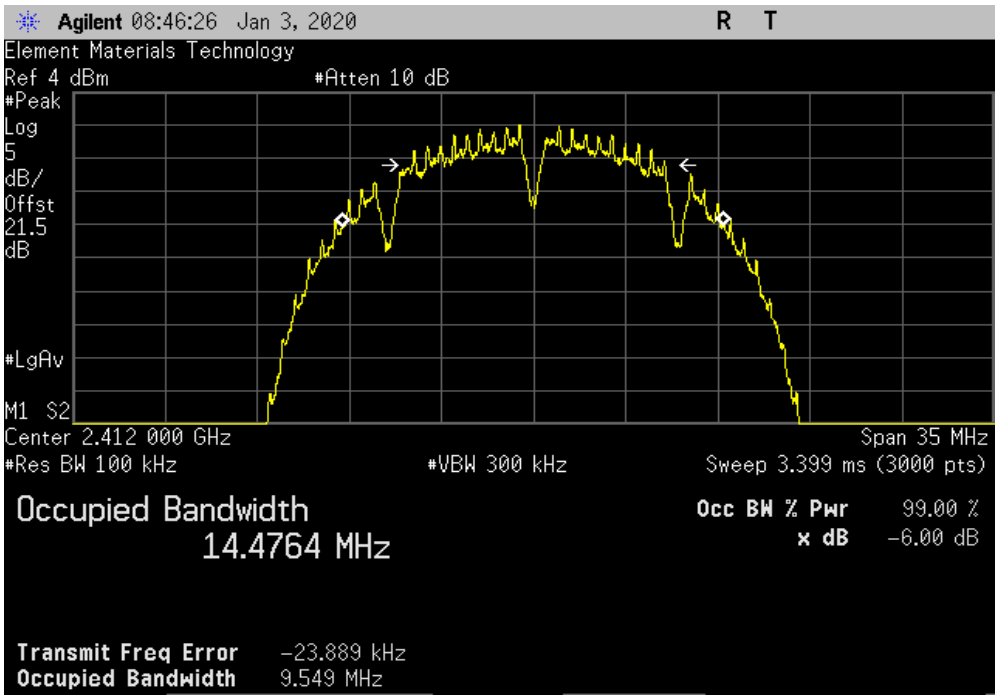
None

Configuration #	**4**	*Signature*

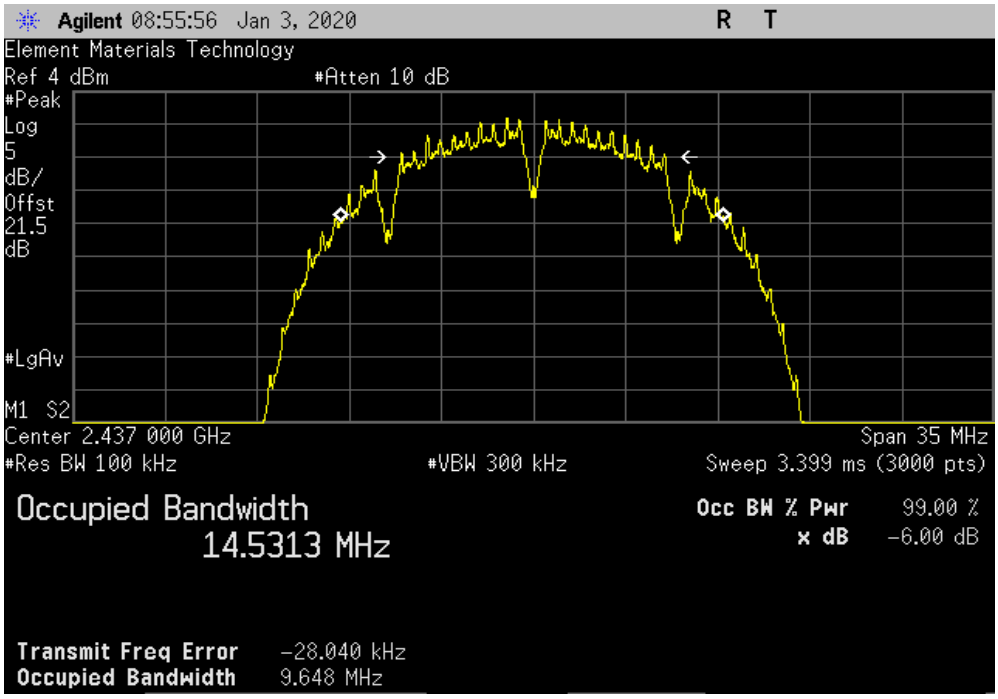
	Value	**Limit (>)**	**Result**
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	9.549 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	9.648 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	10.007 MHz	500 kHz	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	9.424 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	10.619 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	9.076 MHz	500 kHz	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	15.05 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	14.819 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	13.817 MHz	500 kHz	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	15.017 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	15.068 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	15.138 MHz	500 kHz	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	15.078 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	15.055 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	15.078 MHz	500 kHz	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	15.024 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	14.942 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	13.135 MHz	500 kHz	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	15.116 MHz	500 kHz	Pass
Mid Channel 6, 2437 MHz	15.108 MHz	500 kHz	Pass
High Channel 11, 2462 MHz	15.052 MHz	500 kHz	Pass

OCCUPIED BANDWIDTH

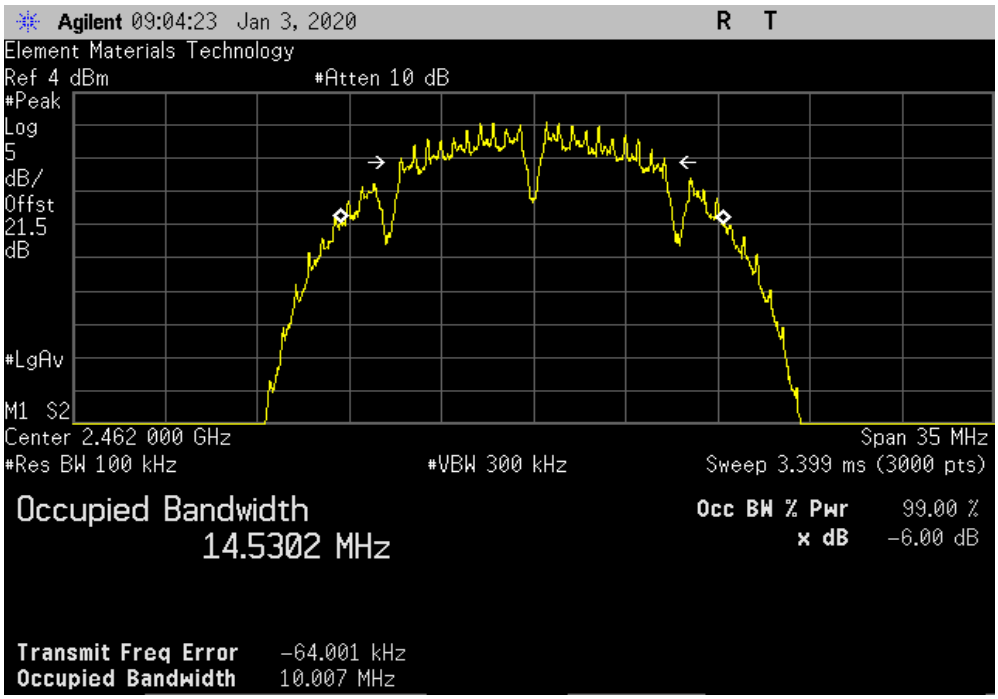
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				9.549 MHz	500 kHz	Pass



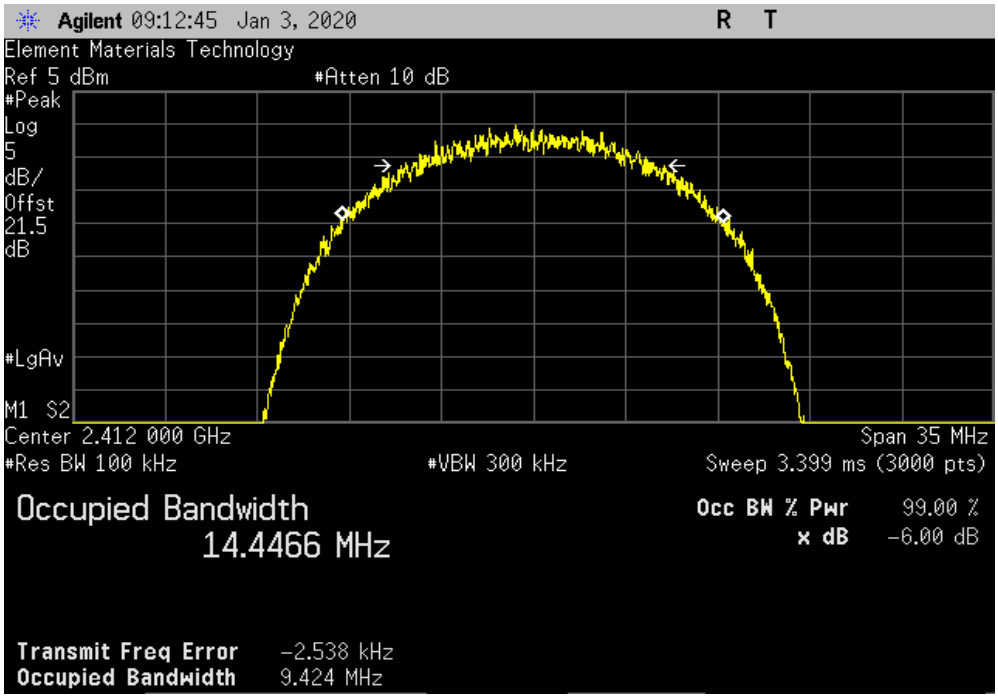
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				9.648 MHz	500 kHz	Pass



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

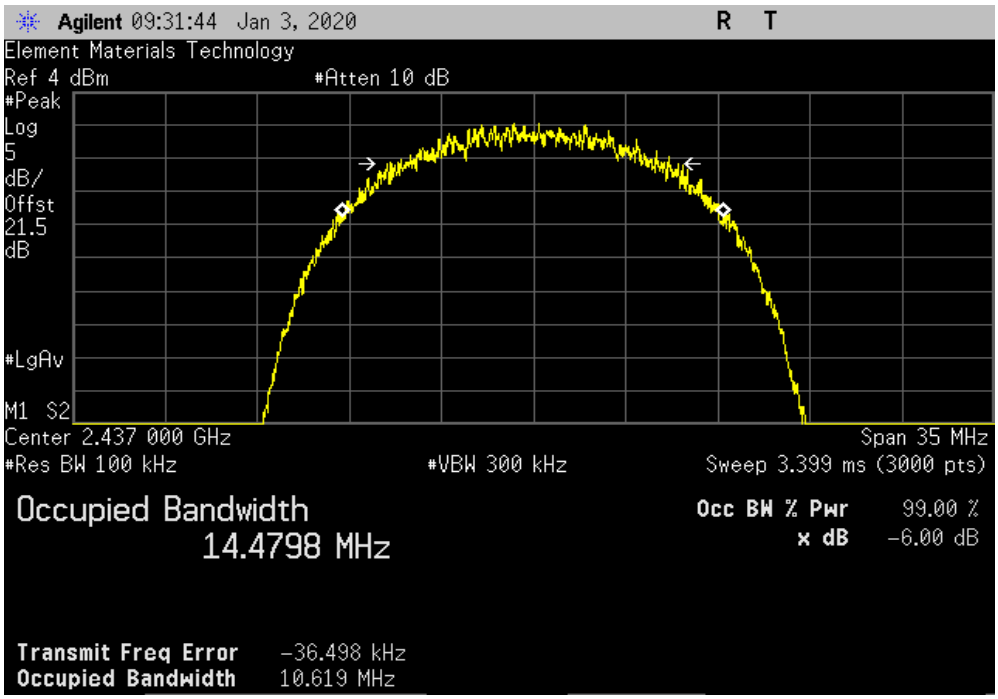


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				9.424 MHz	500 kHz	Pass

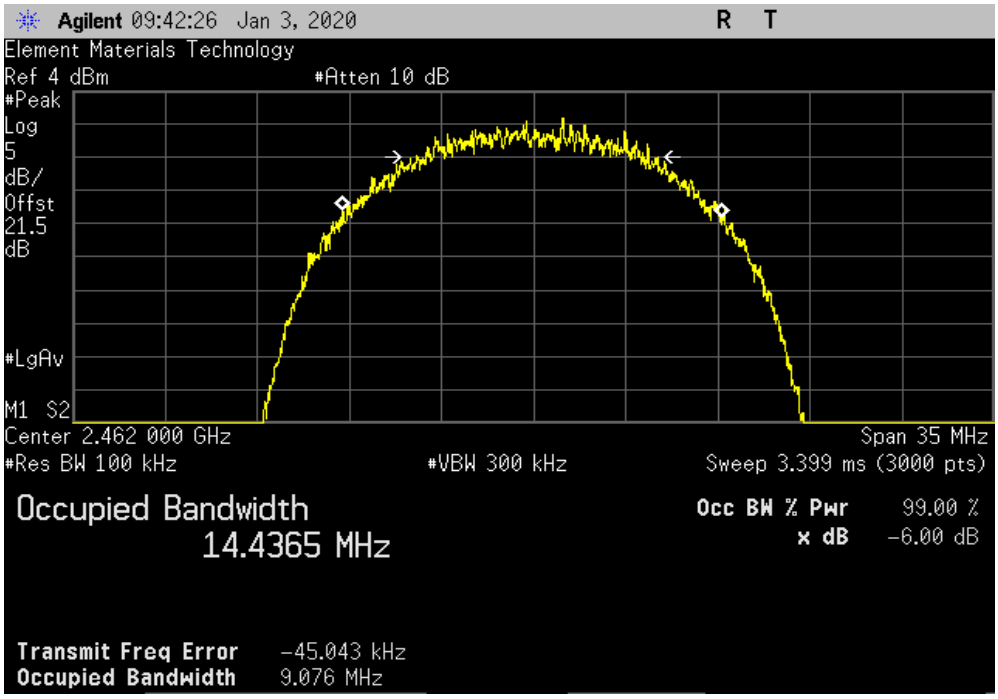


OCCUPIED BANDWIDTH

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

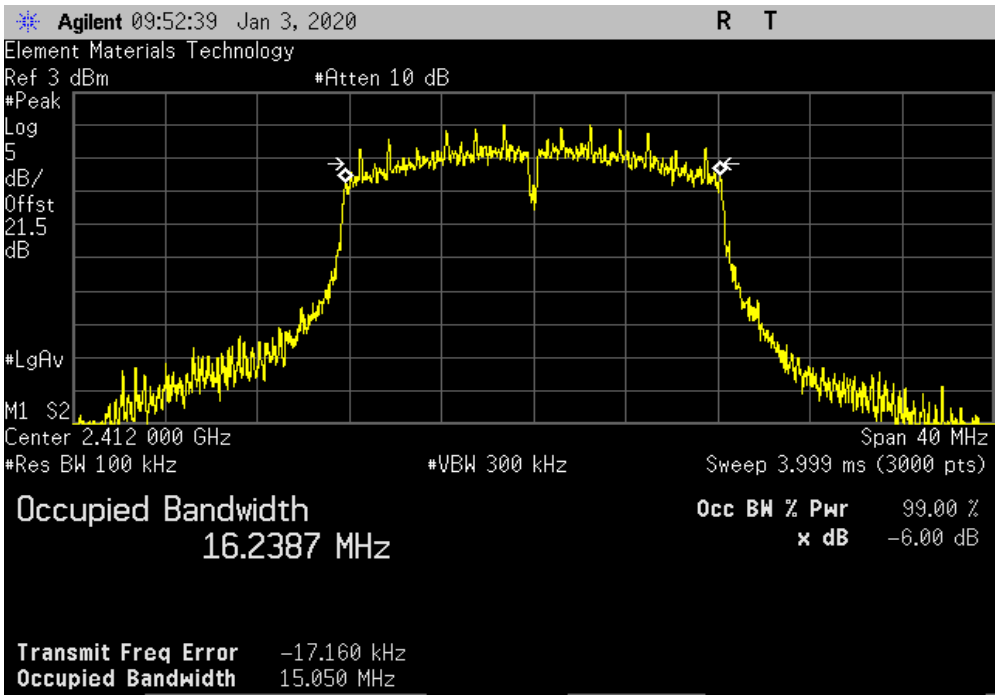


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				9.076 MHz	500 kHz	Pass

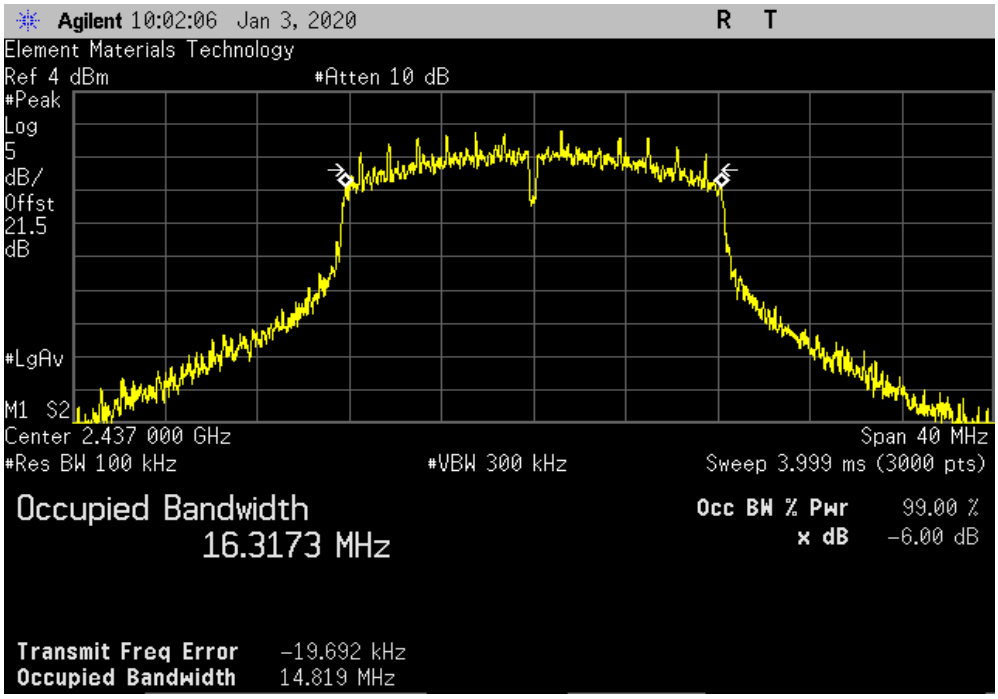


OCCUPIED BANDWIDTH

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



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



OCCUPIED BANDWIDTH

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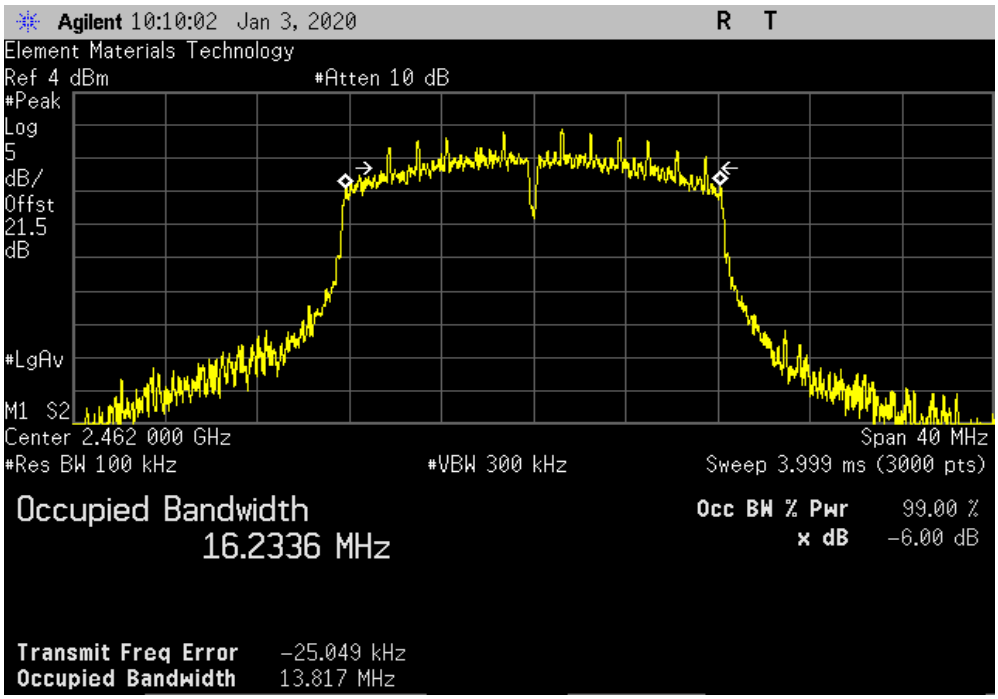
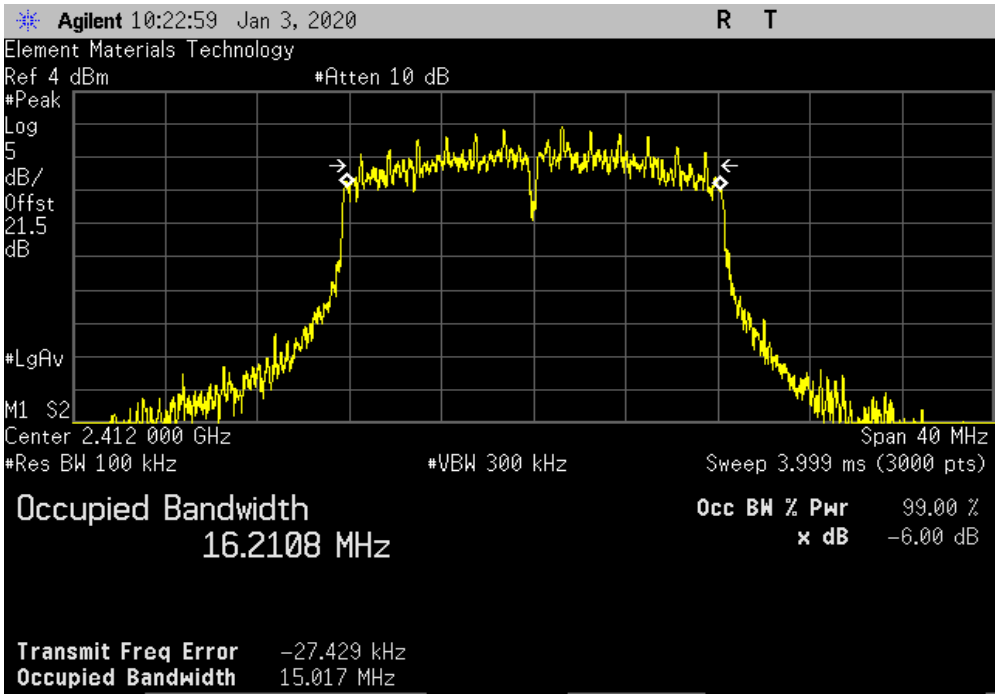
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				13.817 MHz	500 kHz	Pass

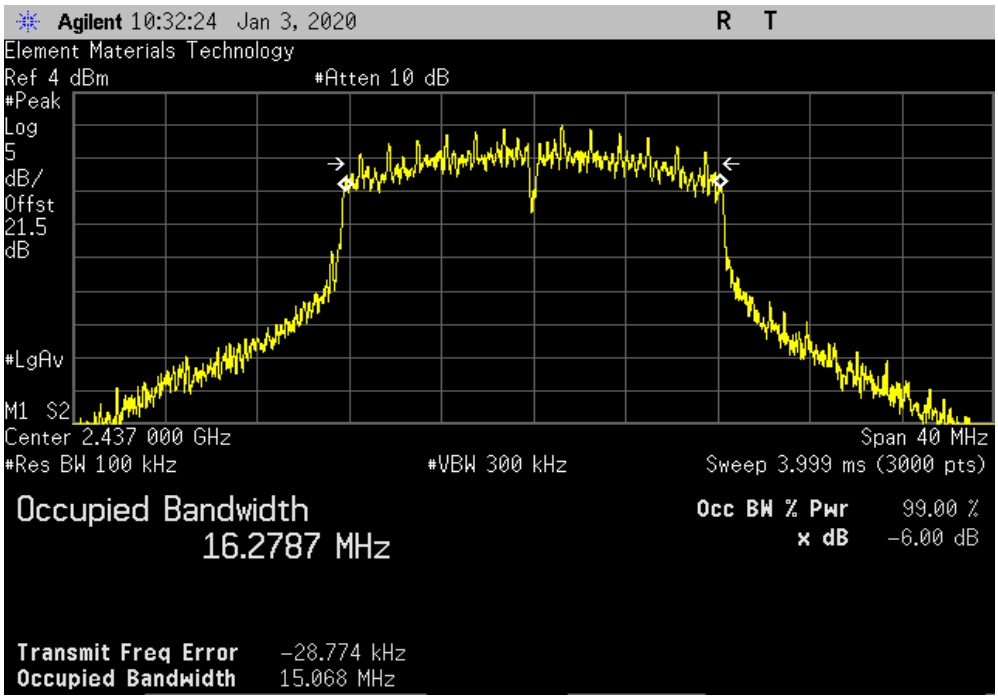


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				15.017 MHz	500 kHz	Pass

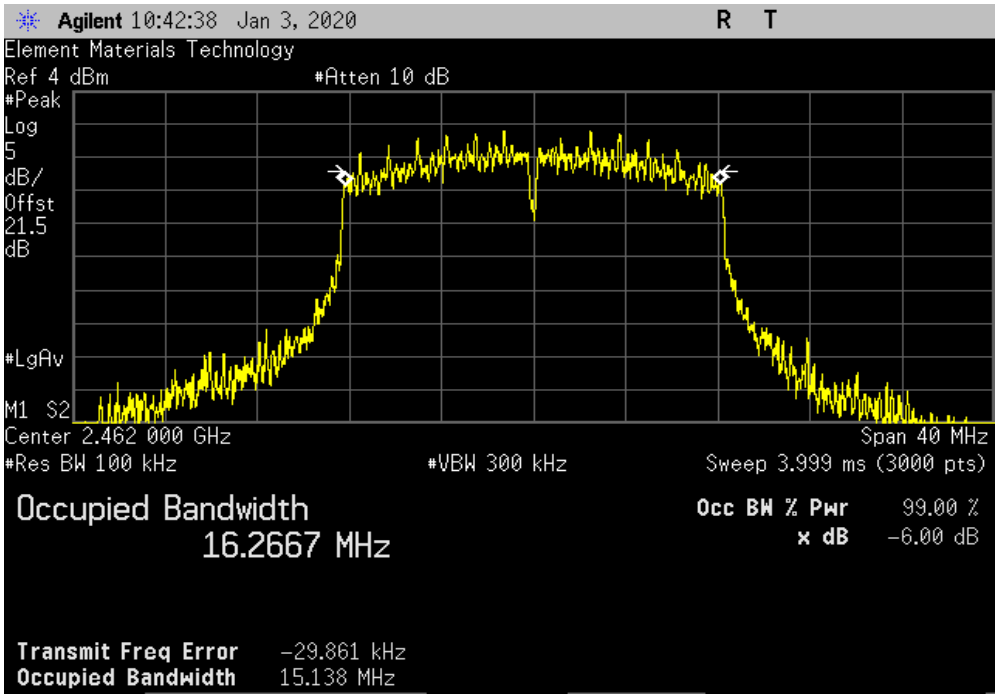


OCCUPIED BANDWIDTH

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

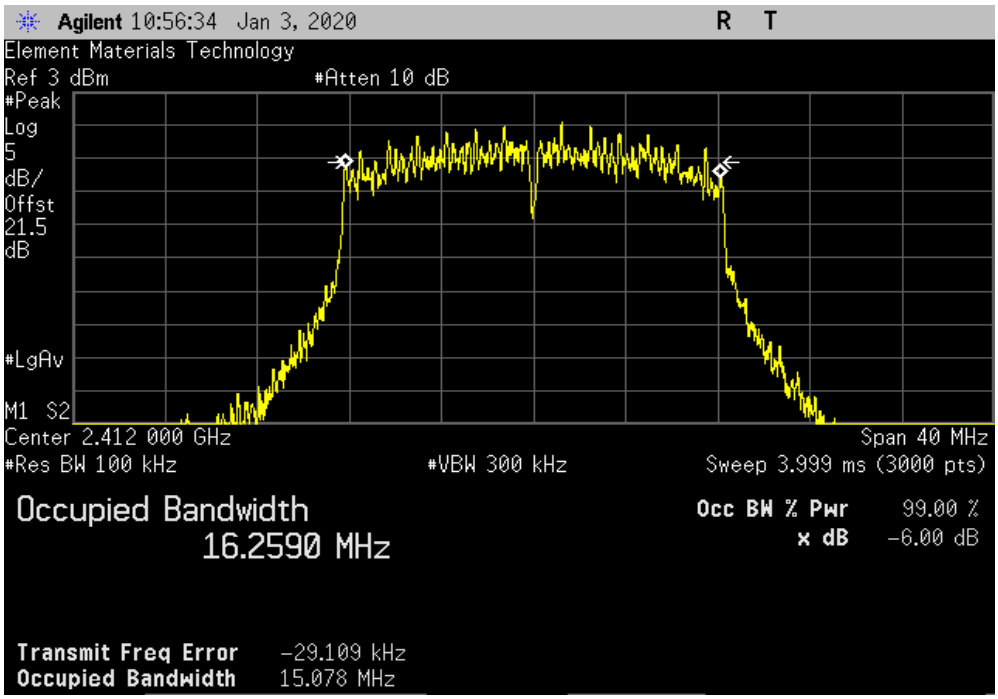


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				15.138 MHz	500 kHz	Pass

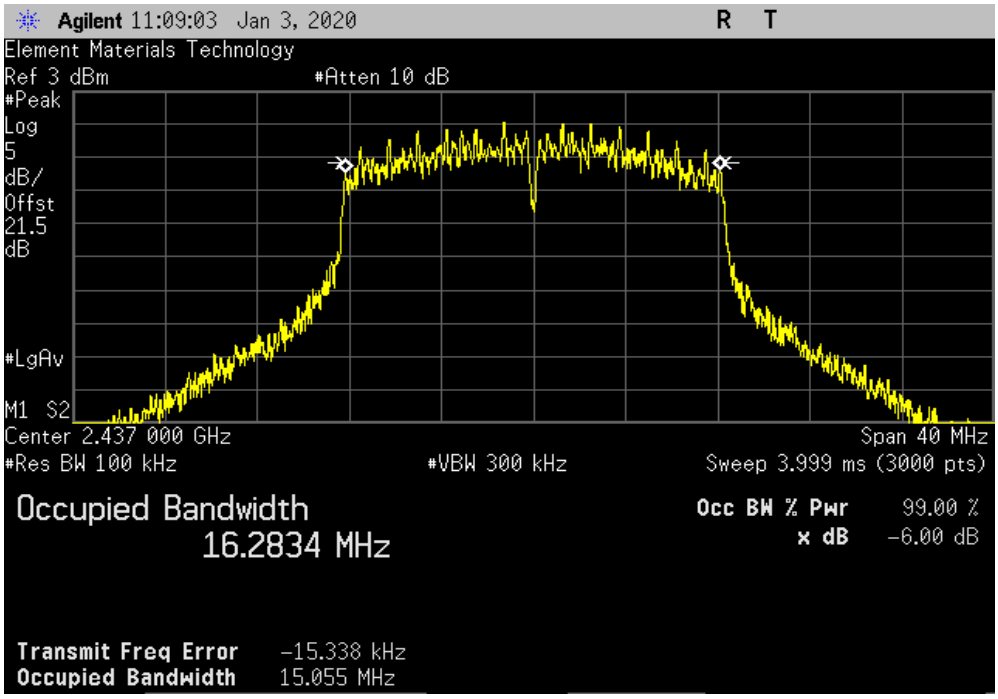


OCCUPIED BANDWIDTH

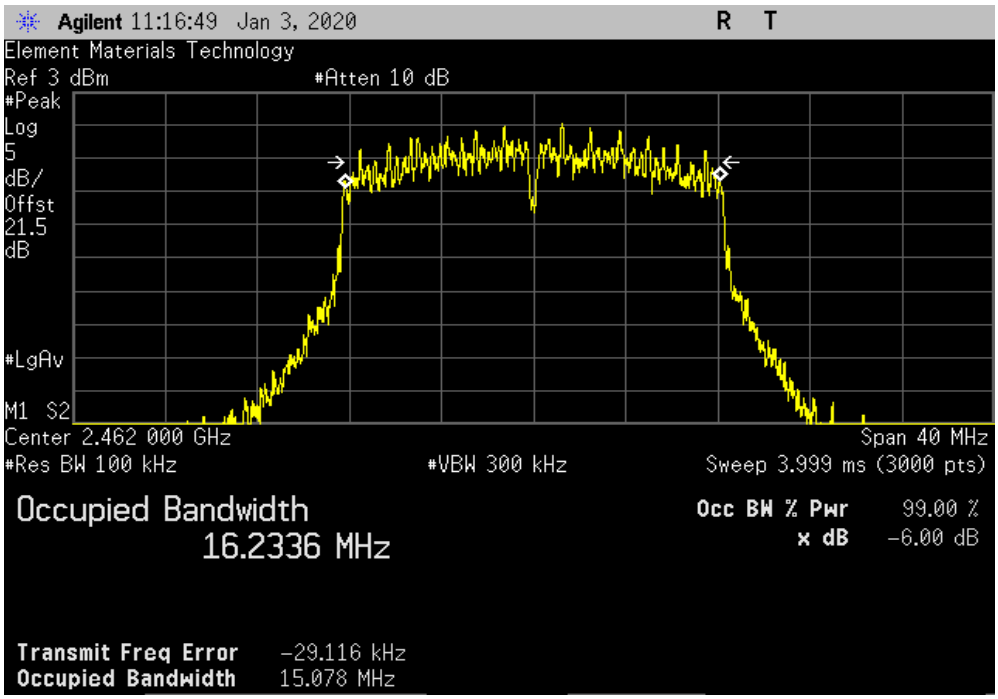
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				15.078 MHz	500 kHz	Pass



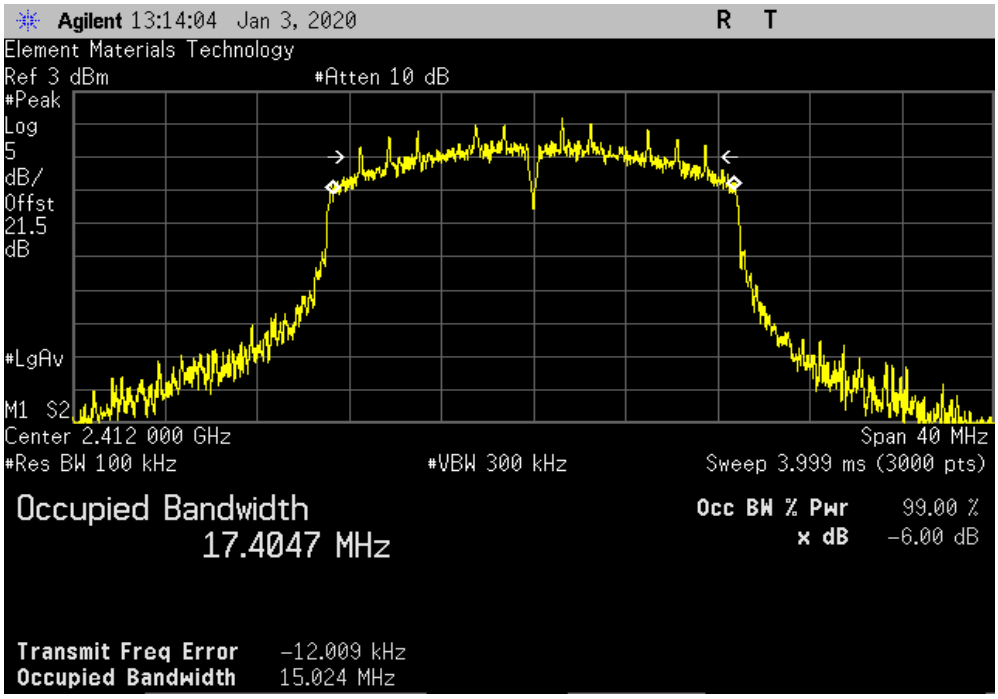
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				15.055 MHz	500 kHz	Pass



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

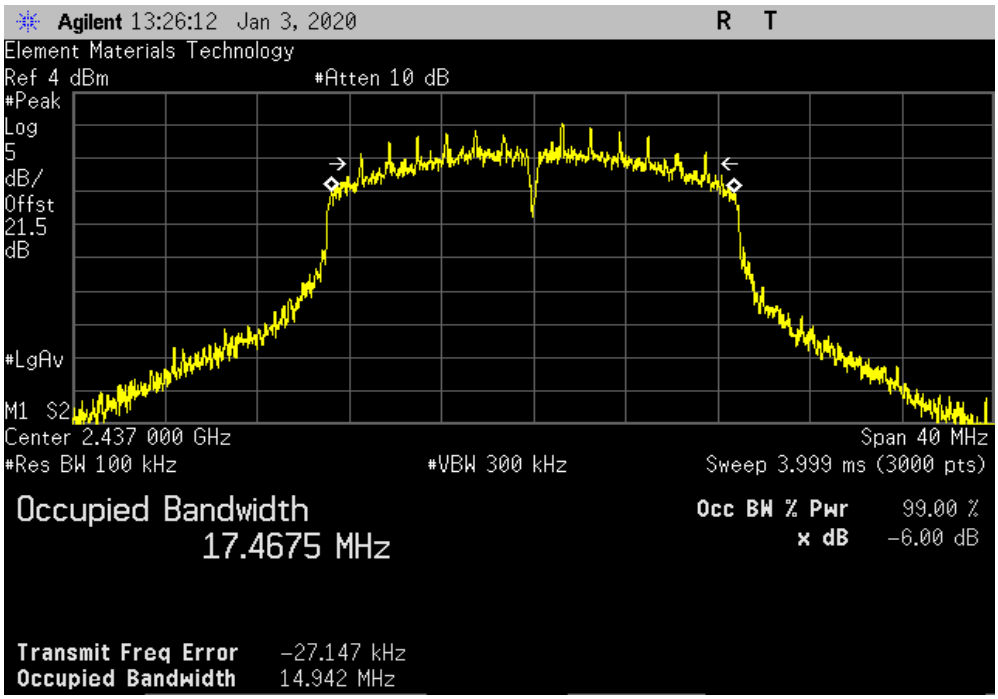


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				15.024 MHz	500 kHz	Pass

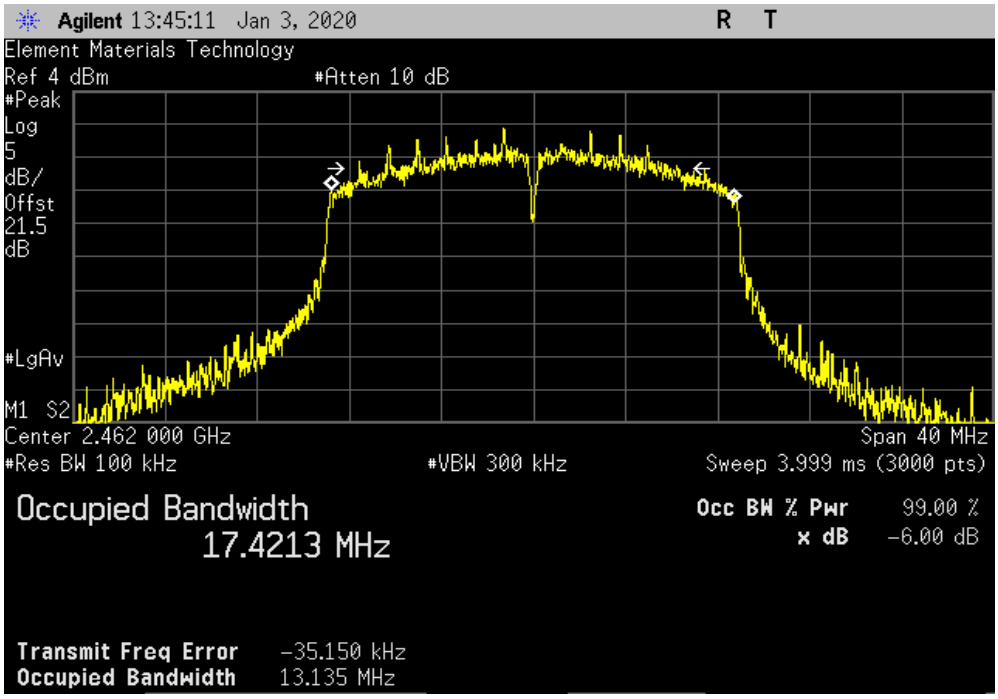


OCCUPIED BANDWIDTH

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

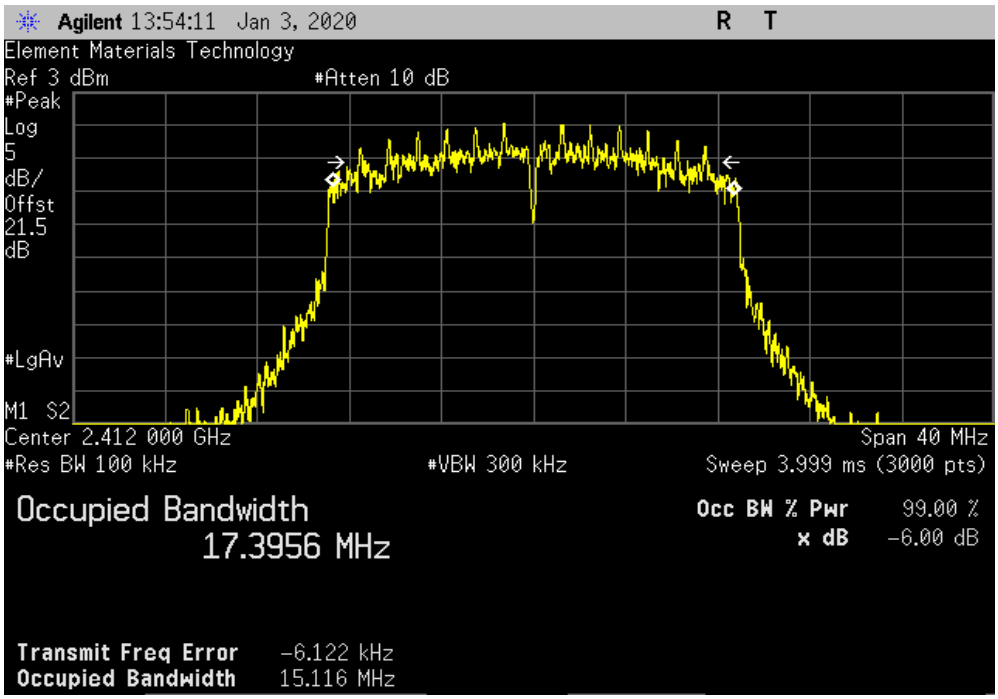


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				13.135 MHz	500 kHz	Pass

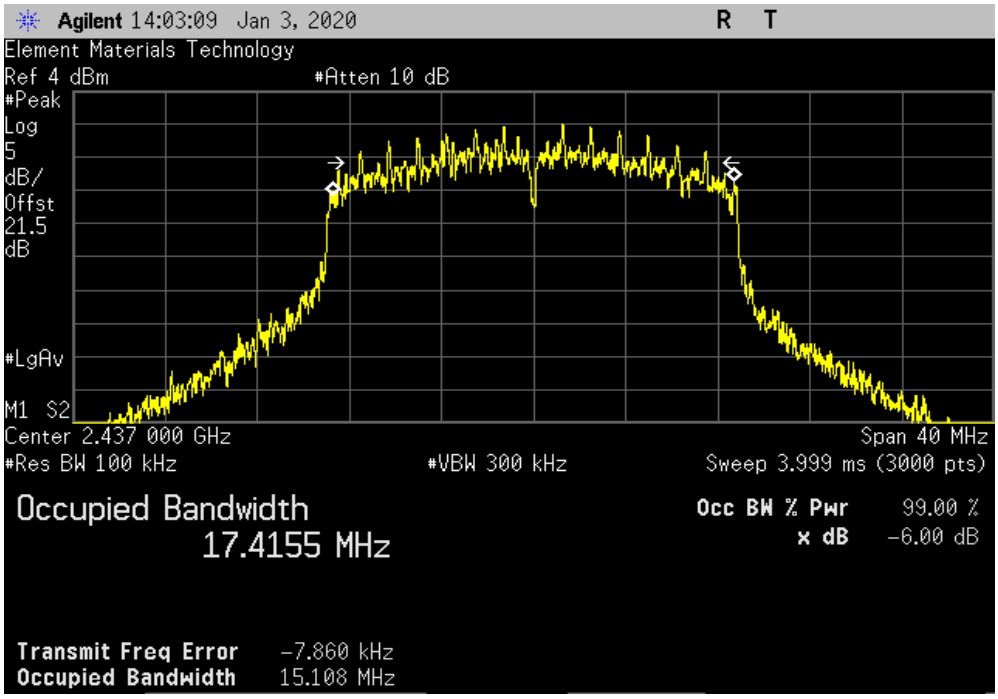


OCCUPIED BANDWIDTH

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

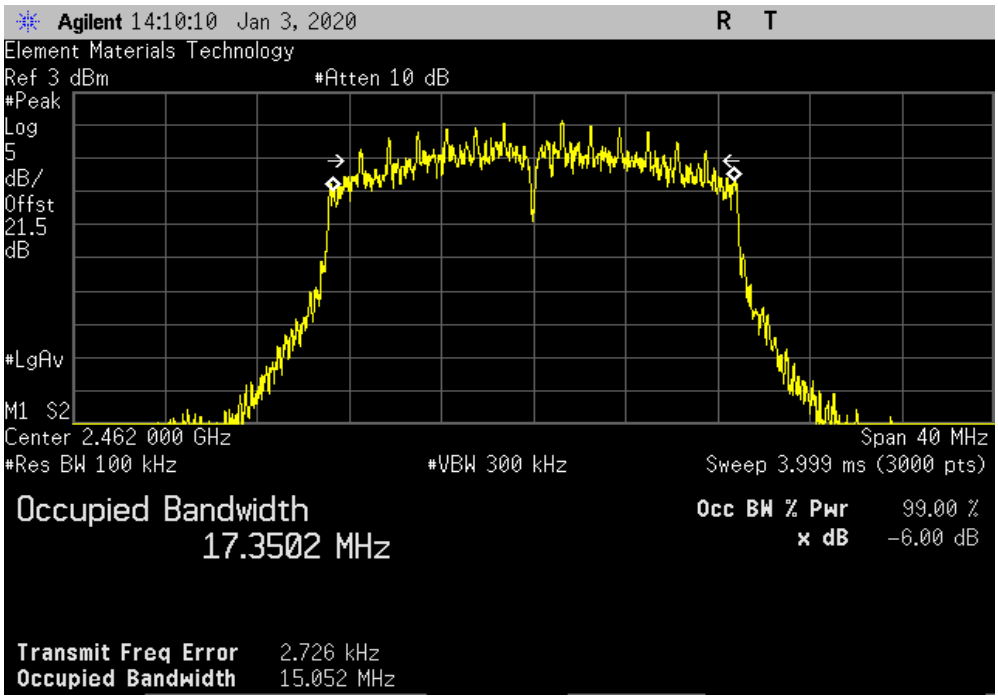


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				15.108 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH

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



OUTPUT POWER

XMit 2019.09.05

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
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

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

Prior to measuring output power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

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

OUTPUT POWER

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	**CCU-2**			**Work Order:**	**POLR0058**
Serial Number:	**Unit #6**			**Date:**	**3-Jan-20**
Customer:	**Polaris Industries, Inc.**			**Temperature:**	**21.5 °C**
Attendees:	**Wayne Rieger**			**Humidity:**	**40.5% RH**
Project:	**None**			**Barometric Pres.:**	**1016 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**14VDC**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

DEVIATIONS FROM TEST STANDARD

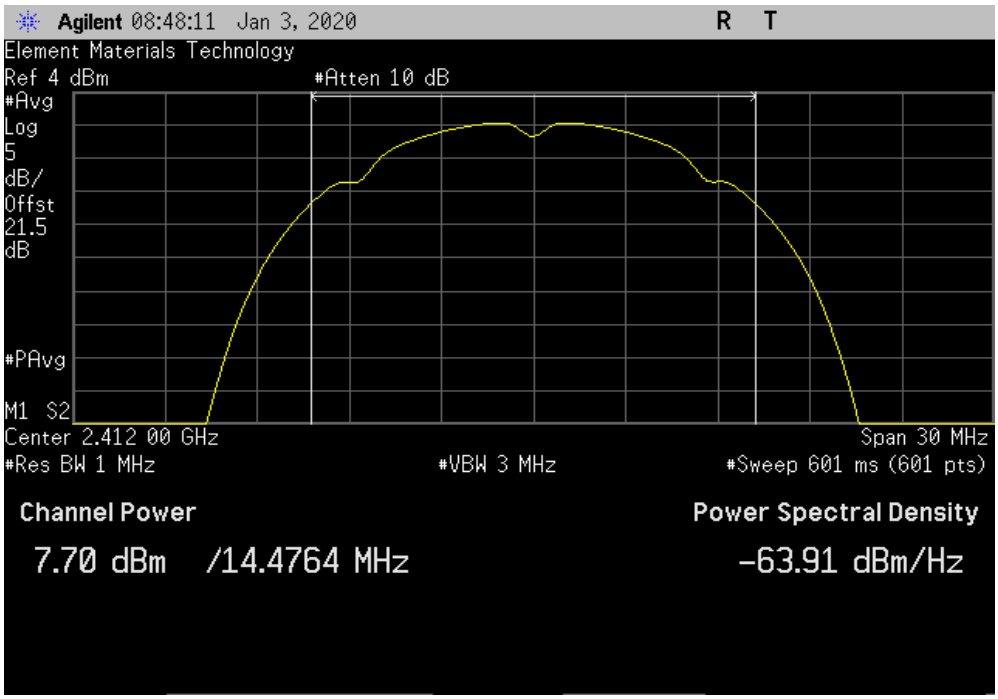
None

Configuration #	**4**	*Signature*

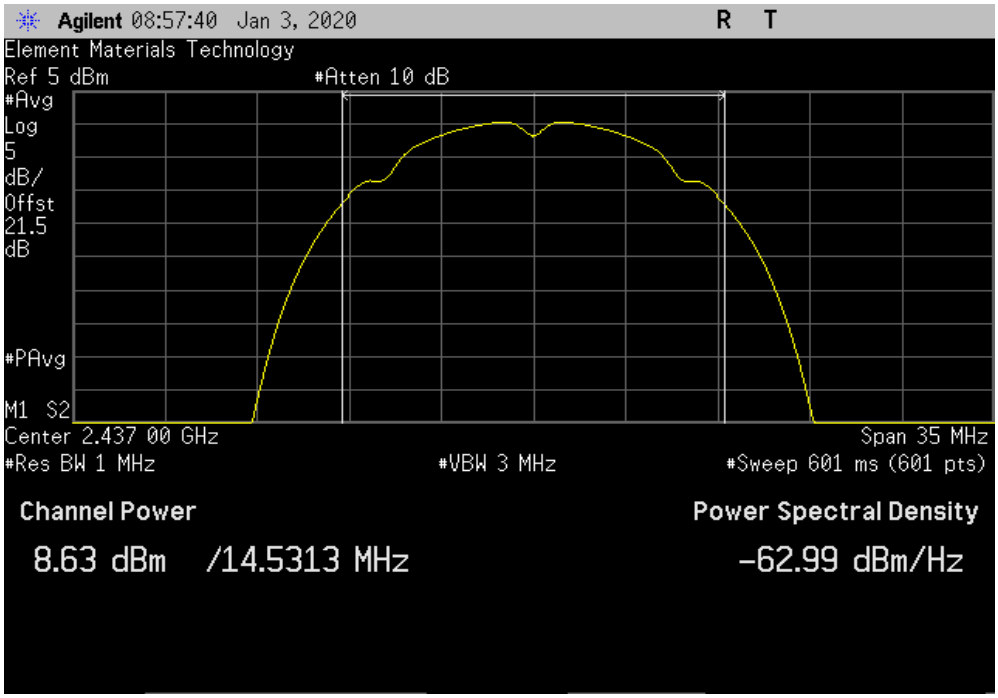
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
2400 MHz - 2483.5 MHz Band					
802.11(b) 1 Mbps					
Low Channel 1, 2412 MHz	7.7	0.4	8.1	30	Pass
Mid Channel 6, 2437 MHz	8.63	0.4	9	30	Pass
High Channel 11, 2462 MHz	8.245	0.4	8.6	30	Pass
802.11(b) 11 Mbps					
Low Channel 1, 2412 MHz	6.858	2.2	9.1	30	Pass
Mid Channel 6, 2437 MHz	6.865	2.3	9.1	30	Pass
High Channel 11, 2462 MHz	6.385	2.3	8.7	30	Pass
802.11(g) 6 Mbps					
Low Channel 1, 2412 MHz	6.741	1.9	8.6	30	Pass
Mid Channel 6, 2437 MHz	6.962	1.9	8.9	30	Pass
High Channel 11, 2462 MHz	6.575	1.9	8.5	30	Pass
802.11(g) 36 Mbps					
Low Channel 1, 2412 MHz	2.873	5.8	8.7	30	Pass
Mid Channel 6, 2437 MHz	3.164	5.8	9	30	Pass
High Channel 11, 2462 MHz	2.79	5.9	8.7	30	Pass
802.11(g) 54 Mbps					
Low Channel 1, 2412 MHz	1.589	7	8.6	30	Pass
Mid Channel 6, 2437 MHz	1.922	7	9	30	Pass
High Channel 11, 2462 MHz	1.461	6.9	8.4	30	Pass
802.11(n) MCS0					
Low Channel 1, 2412 MHz	6.476	2.1	8.6	30	Pass
Mid Channel 6, 2437 MHz	6.847	2.1	9	30	Pass
High Channel 11, 2462 MHz	6.371	2.1	8.5	30	Pass
802.11(n) MCS7					
Low Channel 1, 2412 MHz	1.748	7.1	8.8	30	Pass
Mid Channel 6, 2437 MHz	2.022	7.1	9.1	30	Pass
High Channel 11, 2462 MHz	1.571	7.1	8.6	30	Pass

OUTPUT POWER

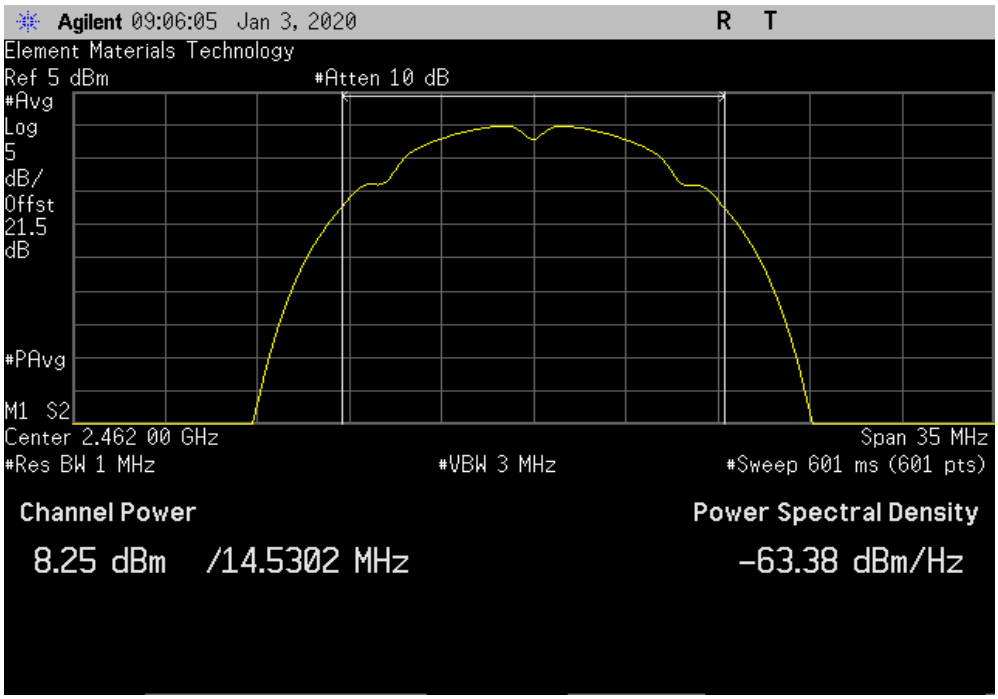
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		7.7	0.4	8.1	30	Pass



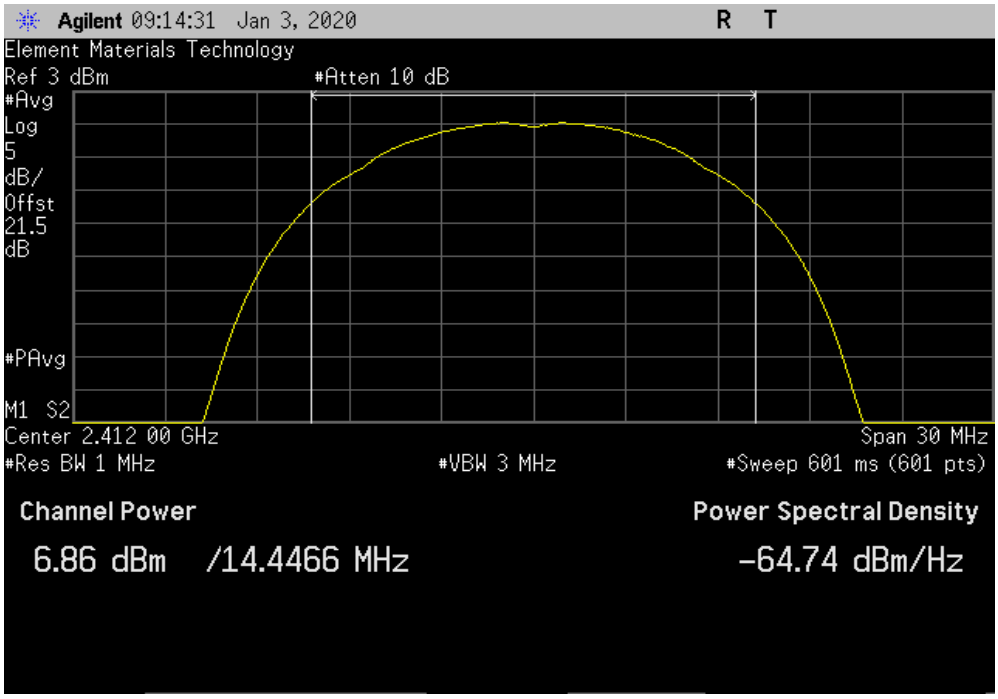
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		8.63	0.4	9	30	Pass



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
		8.245	0.4	8.6	30	Pass

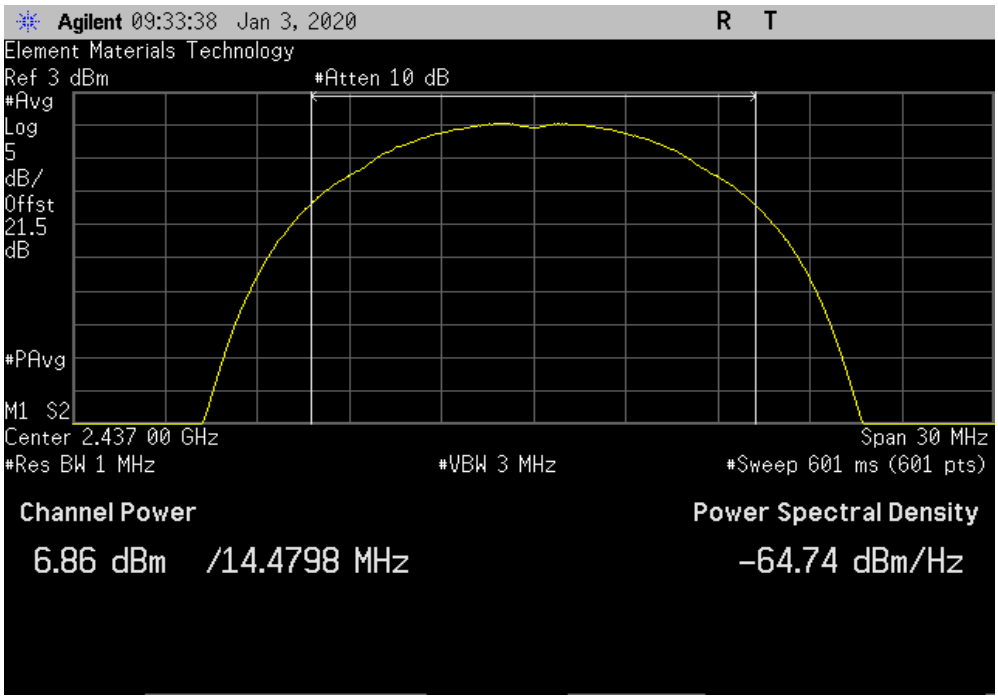


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		6.858	2.2	9.1	30	Pass

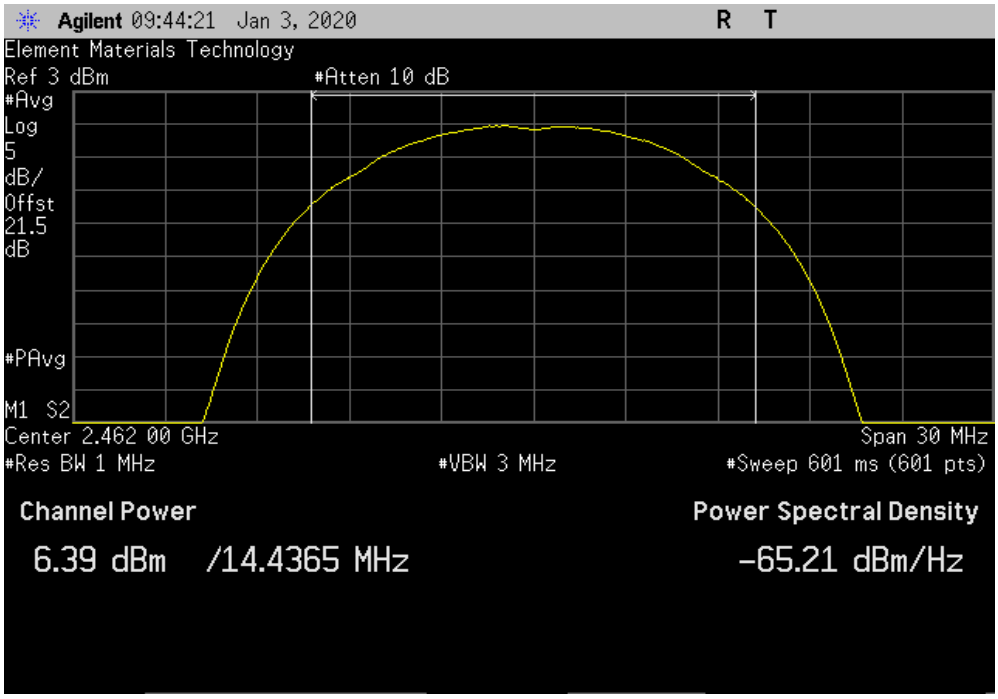


OUTPUT POWER

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
		6.865	2.3	9.1	30	Pass

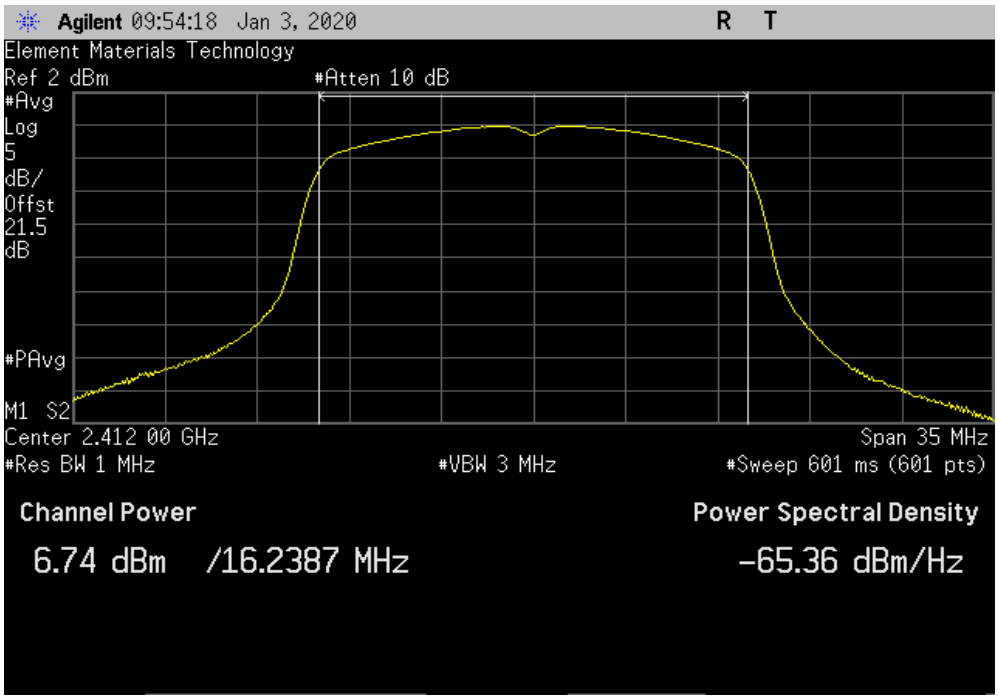


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		6.385	2.3	8.7	30	Pass

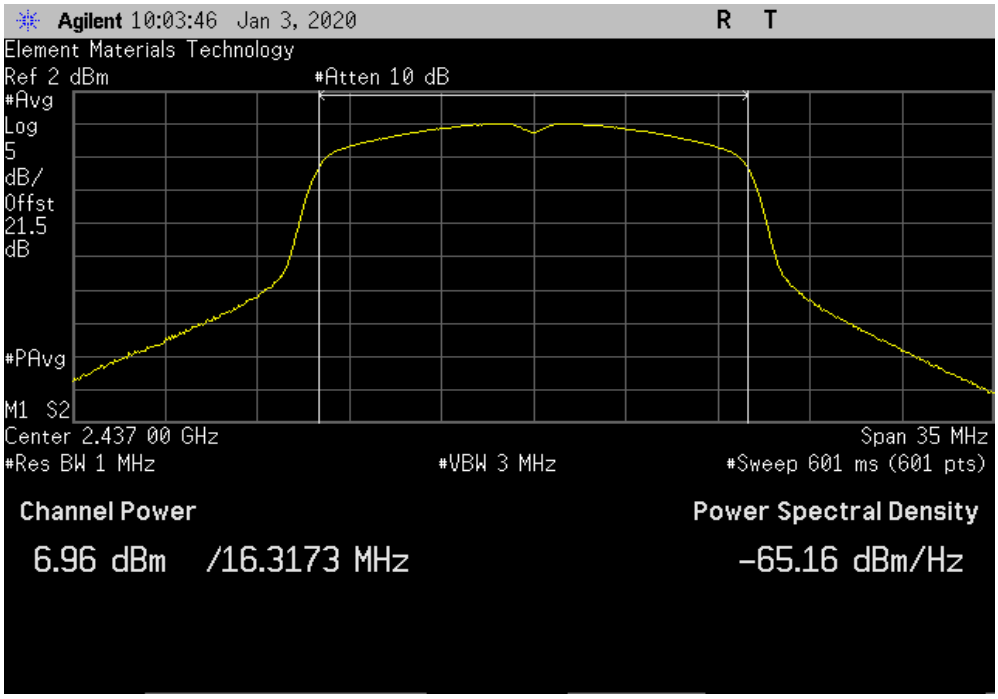


OUTPUT POWER

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
		6.741	1.9	8.6	30	Pass

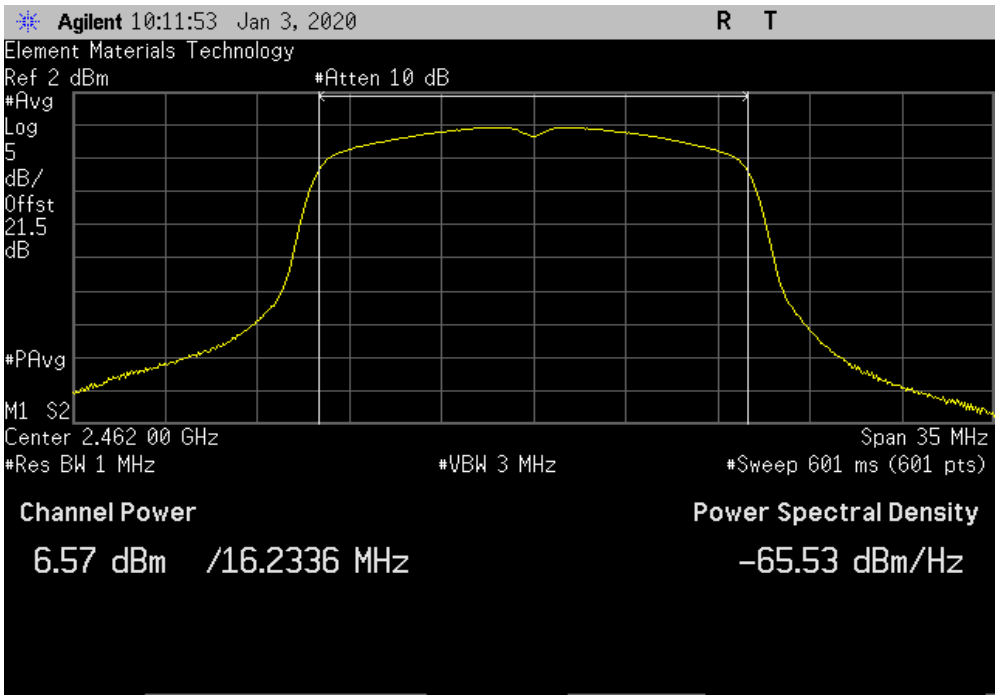


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		6.962	1.9	8.9	30	Pass

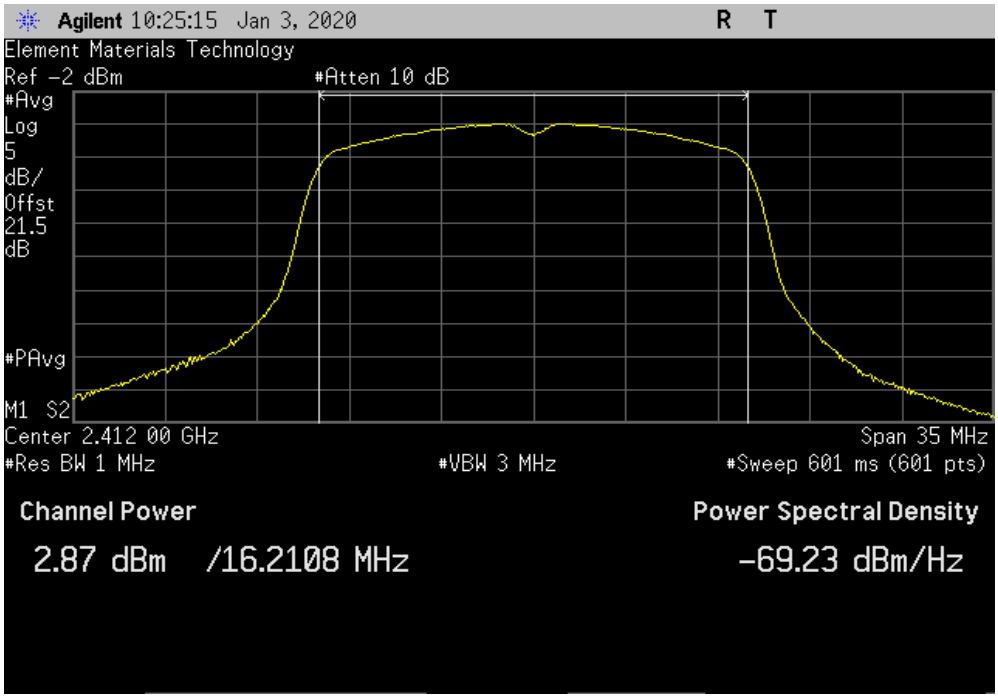


OUTPUT POWER

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
		6.575	1.9	8.5	30	Pass

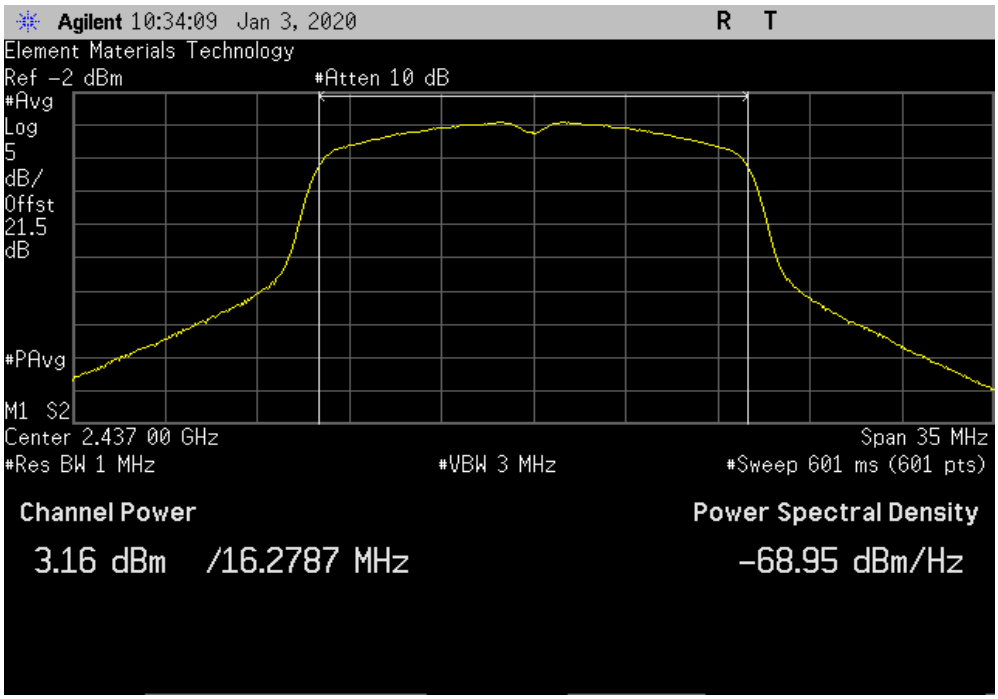


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		2.873	5.8	8.7	30	Pass

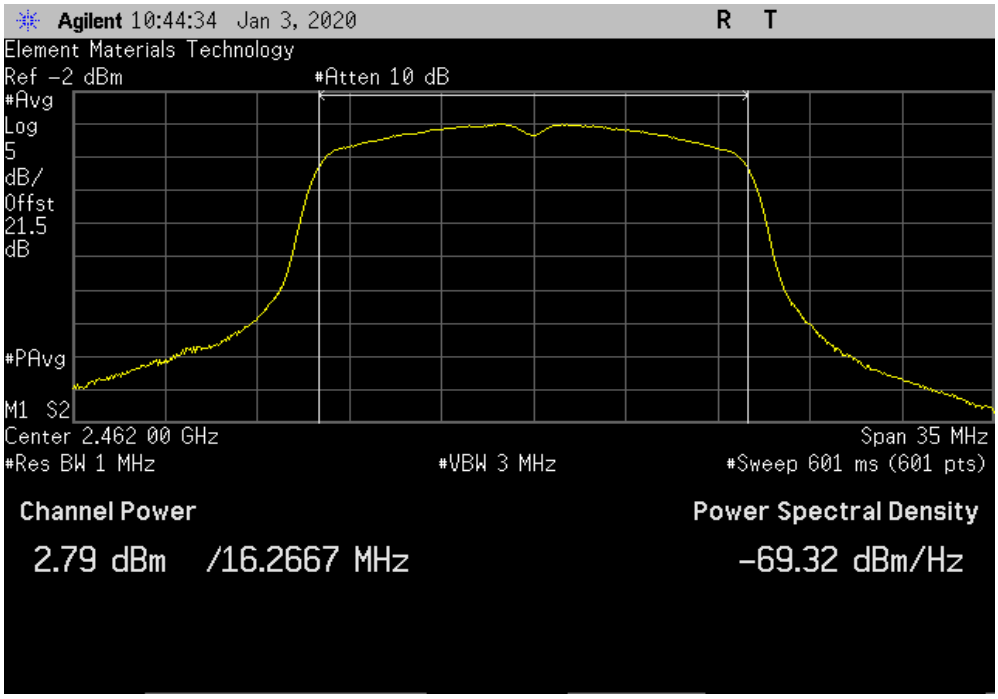


OUTPUT POWER

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
		3.164	5.8	9	30	Pass

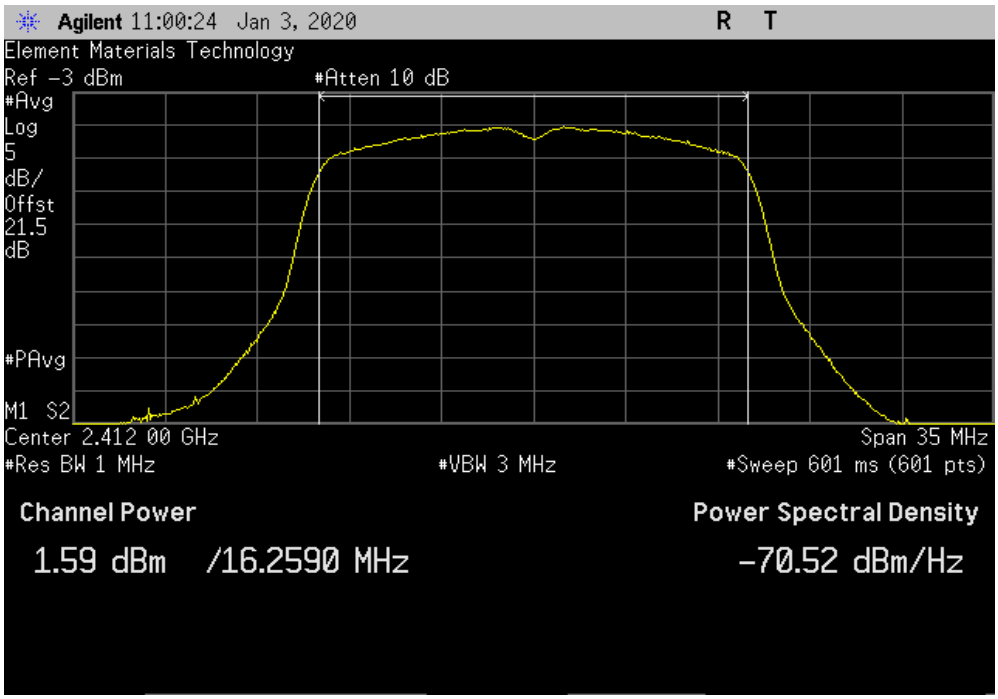


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		2.79	5.9	8.7	30	Pass

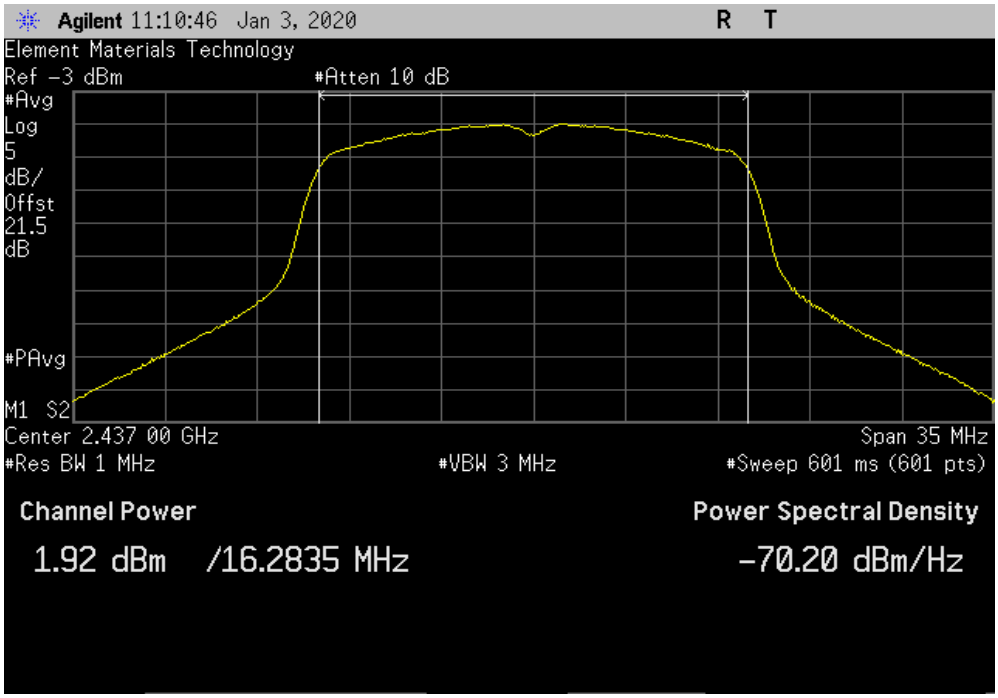


OUTPUT POWER

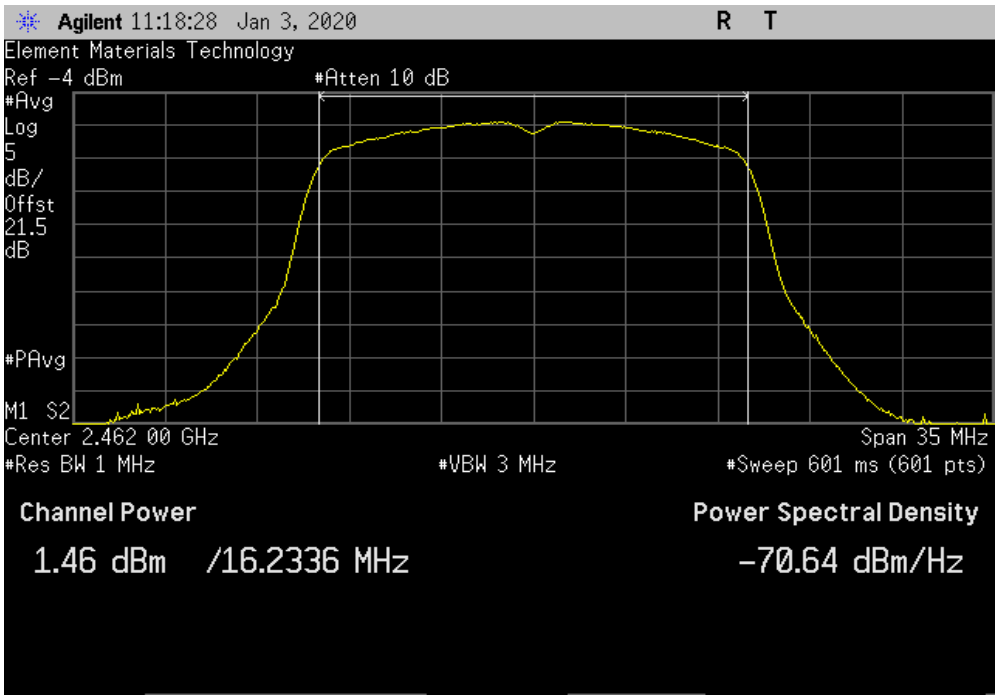
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		1.589	7	8.6	30	Pass



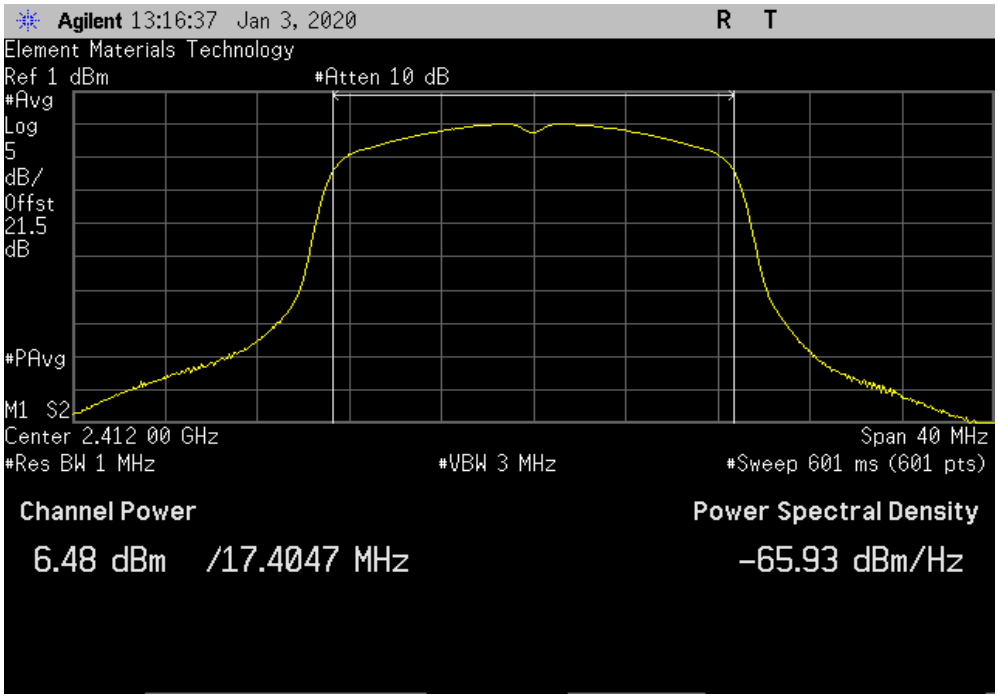
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		1.922	7	9	30	Pass



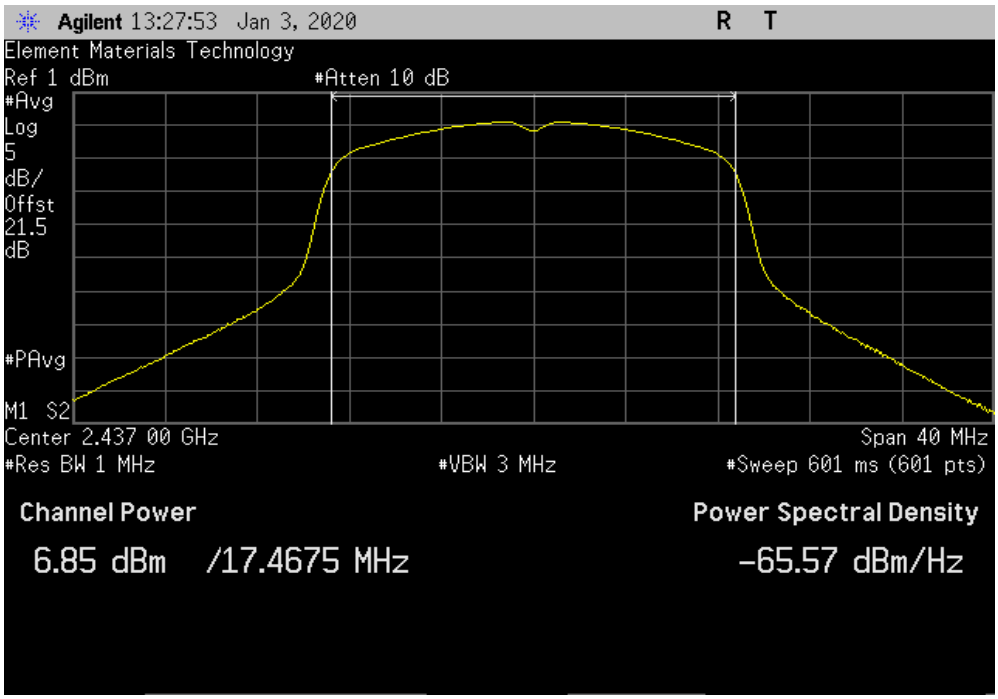
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		1.461	6.9	8.4	30	Pass



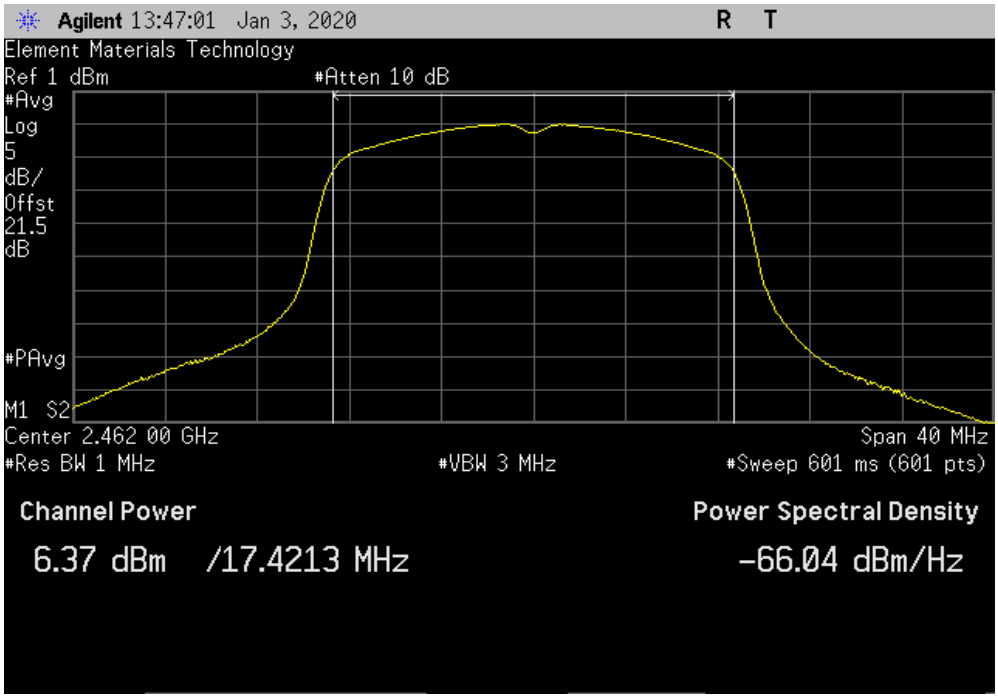
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		6.476	2.1	8.6	30	Pass



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
		6.847	2.1	9	30	Pass

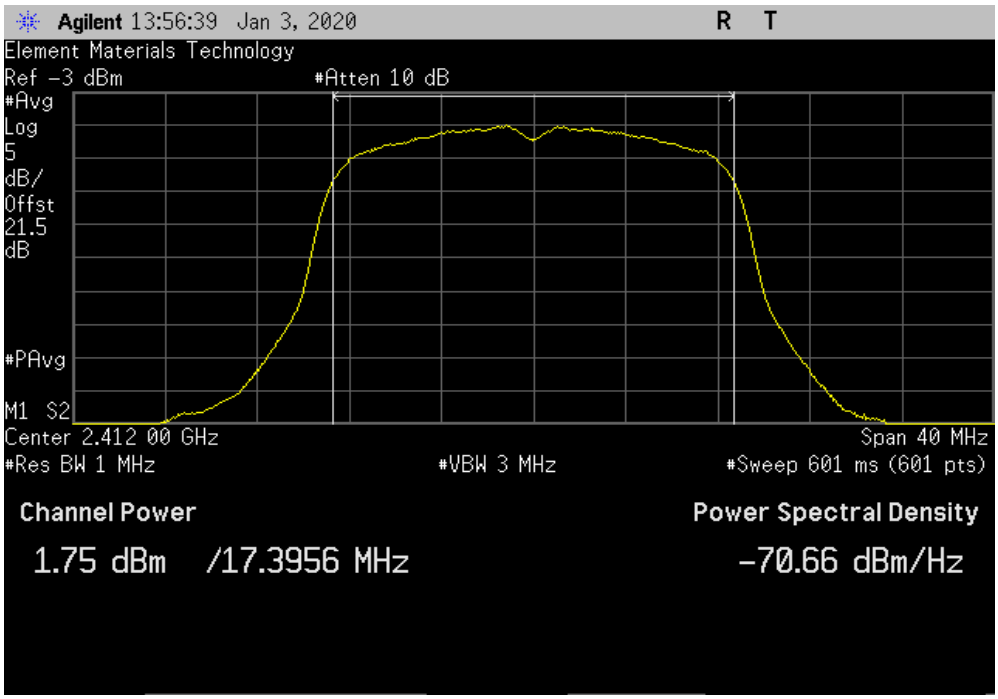


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		6.371	2.1	8.5	30	Pass

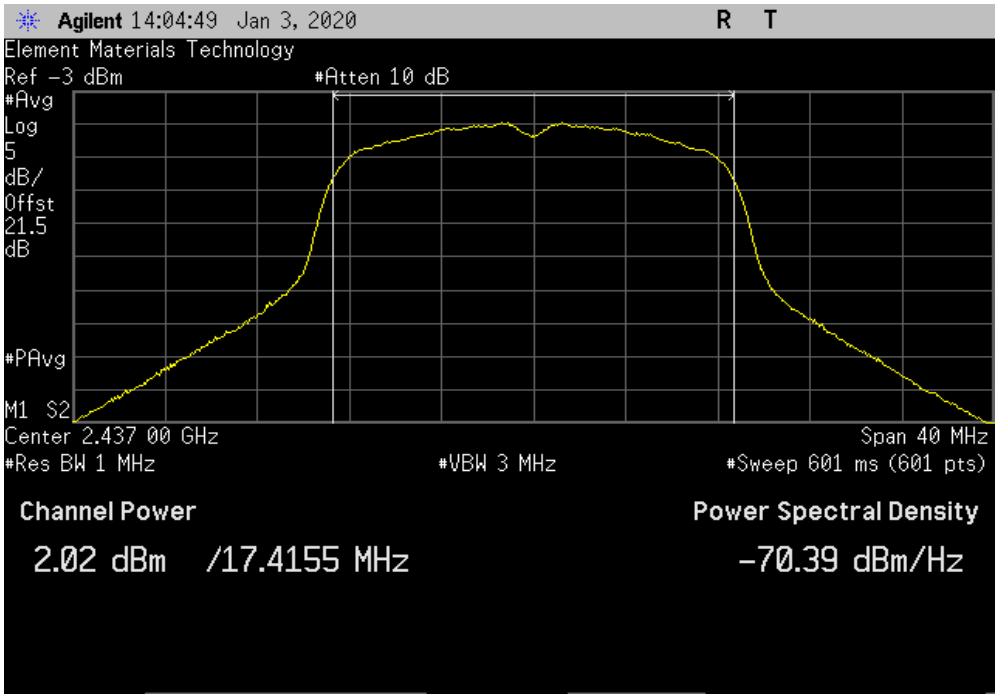


OUTPUT POWER

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
		1.748	7.1	8.8	30	Pass

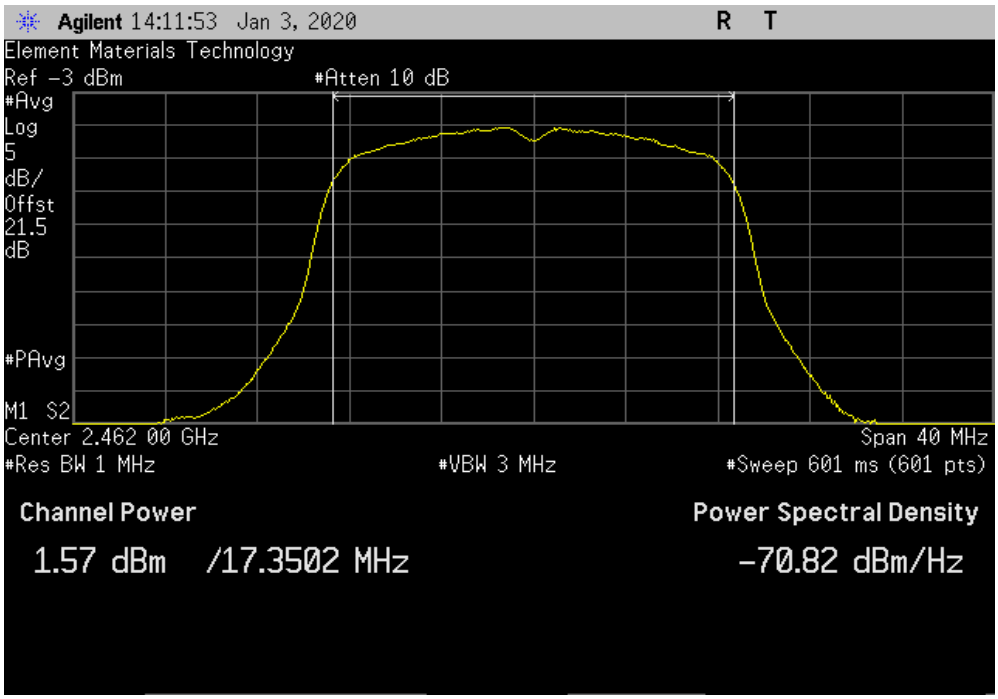


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
		2.022	7.1	9.1	30	Pass



OUTPUT POWER

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
		1.571	7.1	8.6	30	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

XMit 2019.09.05

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

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

Prior to measuring output power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

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

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	CCU-2			**Work Order:**	POLR0058
Serial Number:	Unit #6			**Date:**	3-Jan-20
Customer:	Polaris Industries, Inc.			**Temperature:**	21.5 °C
Attendees:	Wayne Rieger			**Humidity:**	40.5% RH
Project:	None			**Barometric Pres.:**	1016 mbar
Tested by:	Brandon Hobbs	**Power:**	14VDC	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

DEVIATIONS FROM TEST STANDARD

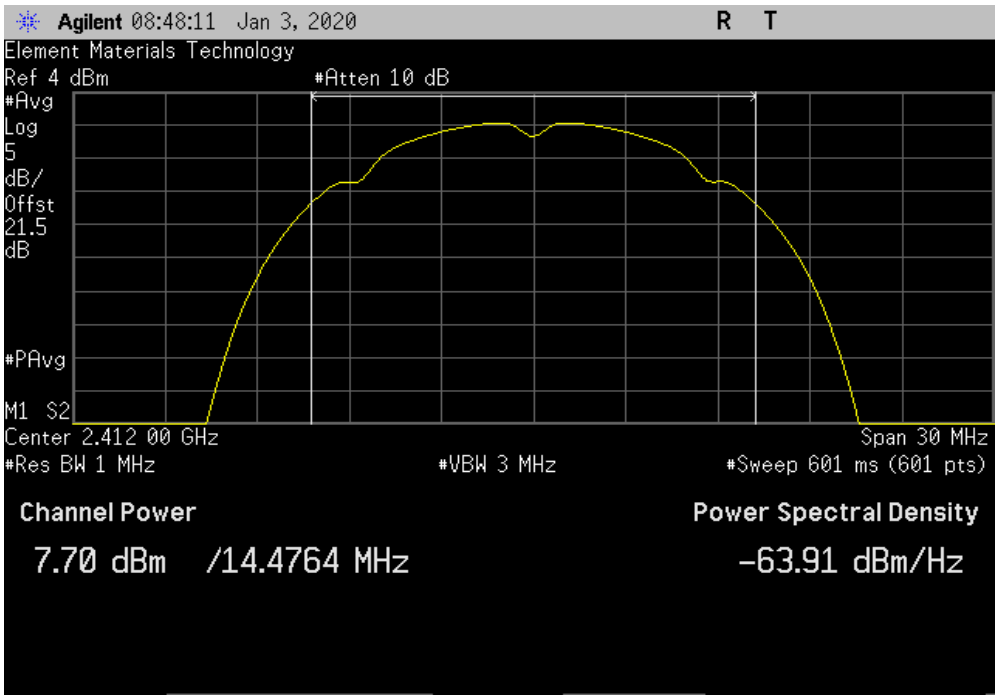
None

Configuration #	4	*Signature*

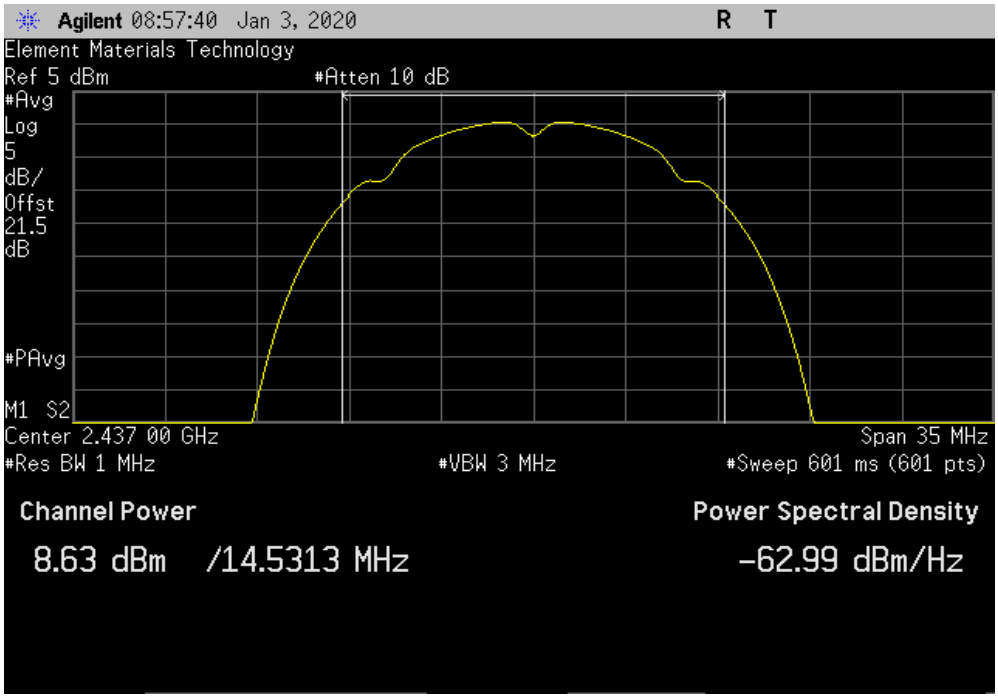
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
2400 MHz - 2483.5 MHz Band							
802.11(b) 1 Mbps							
Low Channel 1, 2412 MHz	7.7	0.4	8.1	0.5	8.6	36	Pass
Mid Channel 6, 2437 MHz	8.63	0.4	9	0.5	9.5	36	Pass
High Channel 11, 2462 MHz	8.245	0.4	8.6	0.5	9.1	36	Pass
802.11(b) 11 Mbps							
Low Channel 1, 2412 MHz	6.858	2.2	9.1	0.5	9.6	36	Pass
Mid Channel 6, 2437 MHz	6.865	2.3	9.1	0.5	9.6	36	Pass
High Channel 11, 2462 MHz	6.385	2.3	8.7	0.5	9.2	36	Pass
802.11(g) 6 Mbps							
Low Channel 1, 2412 MHz	6.741	1.9	8.6	0.5	9.1	36	Pass
Mid Channel 6, 2437 MHz	6.962	1.9	8.9	0.5	9.4	36	Pass
High Channel 11, 2462 MHz	6.575	1.9	8.5	0.5	9	36	Pass
802.11(g) 36 Mbps							
Low Channel 1, 2412 MHz	2.873	5.8	8.7	0.5	9.2	36	Pass
Mid Channel 6, 2437 MHz	3.164	5.8	9	0.5	9.5	36	Pass
High Channel 11, 2462 MHz	2.79	5.9	8.7	0.5	9.2	36	Pass
802.11(g) 54 Mbps							
Low Channel 1, 2412 MHz	1.589	7	8.6	0.5	9.1	36	Pass
Mid Channel 6, 2437 MHz	1.922	7	9	0.5	9.5	36	Pass
High Channel 11, 2462 MHz	1.461	6.9	8.4	0.5	8.9	36	Pass
802.11(n) MCS0							
Low Channel 1, 2412 MHz	6.476	2.1	8.6	0.5	9.1	36	Pass
Mid Channel 6, 2437 MHz	6.847	2.1	9	0.5	9.5	36	Pass
High Channel 11, 2462 MHz	6.371	2.1	8.5	0.5	9	36	Pass
802.11(n) MCS7							
Low Channel 1, 2412 MHz	1.748	7.1	8.8	0.5	9.3	36	Pass
Mid Channel 6, 2437 MHz	2.022	7.1	9.1	0.5	9.6	36	Pass
High Channel 11, 2462 MHz	1.571	7.1	8.6	0.5	9.1	36	Pass

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
7.7	0.4	8.1	0.5	8.6	36	Pass

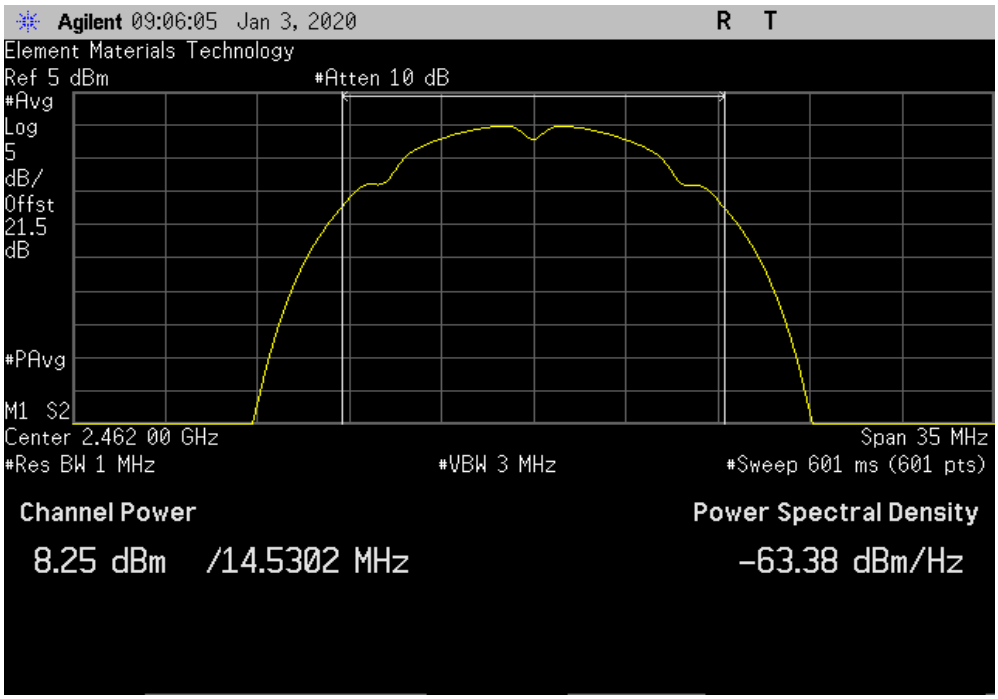


2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
8.63	0.4	9	0.5	9.5	36	Pass

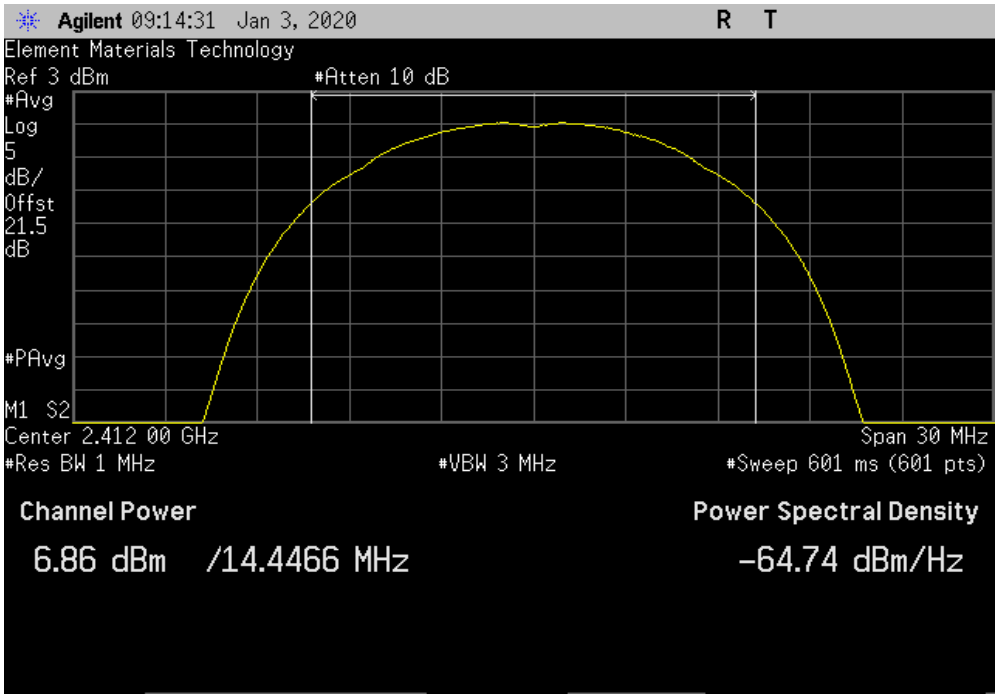


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
8.245	0.4	8.6	0.5	9.1	36	Pass

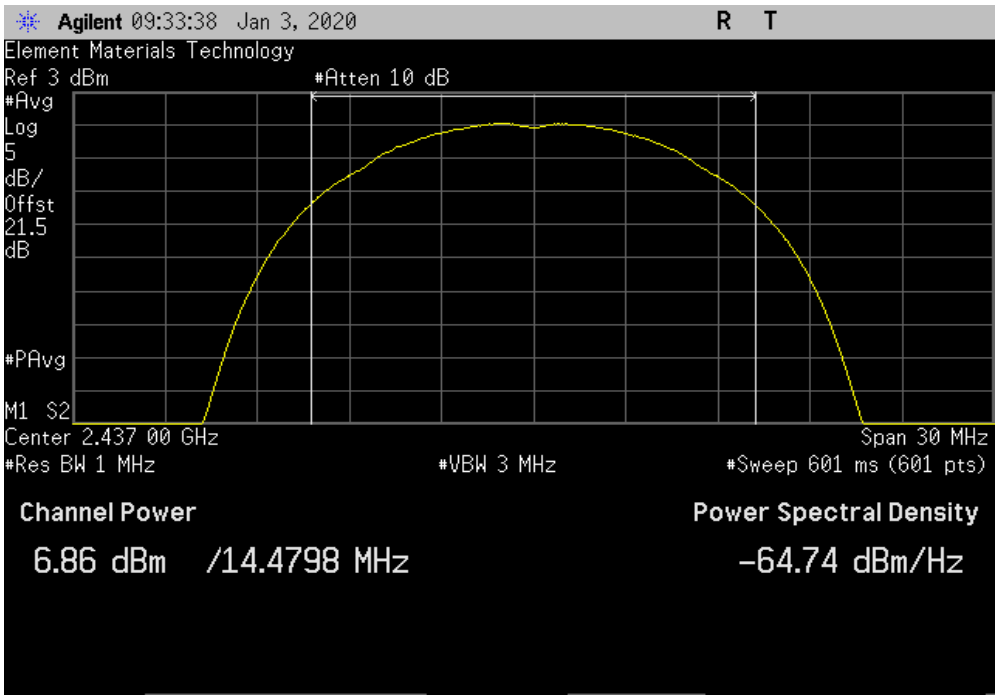


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
6.858	2.2	9.1	0.5	9.6	36	Pass

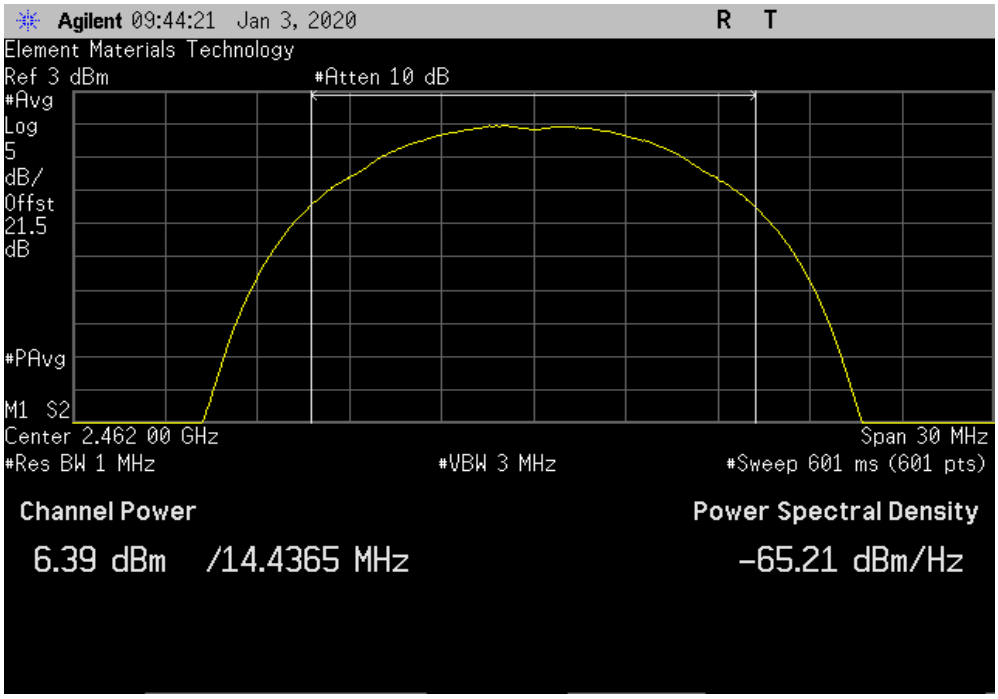


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
6.865	2.3	9.1	0.5	9.6	36	Pass

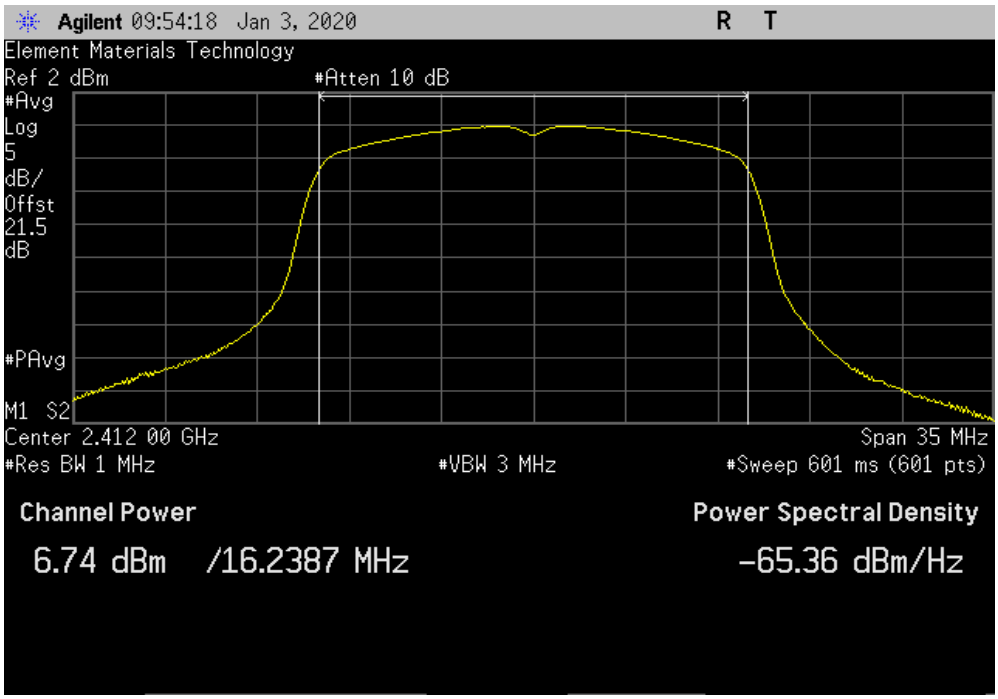


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
6.385	2.3	8.7	0.5	9.2	36	Pass

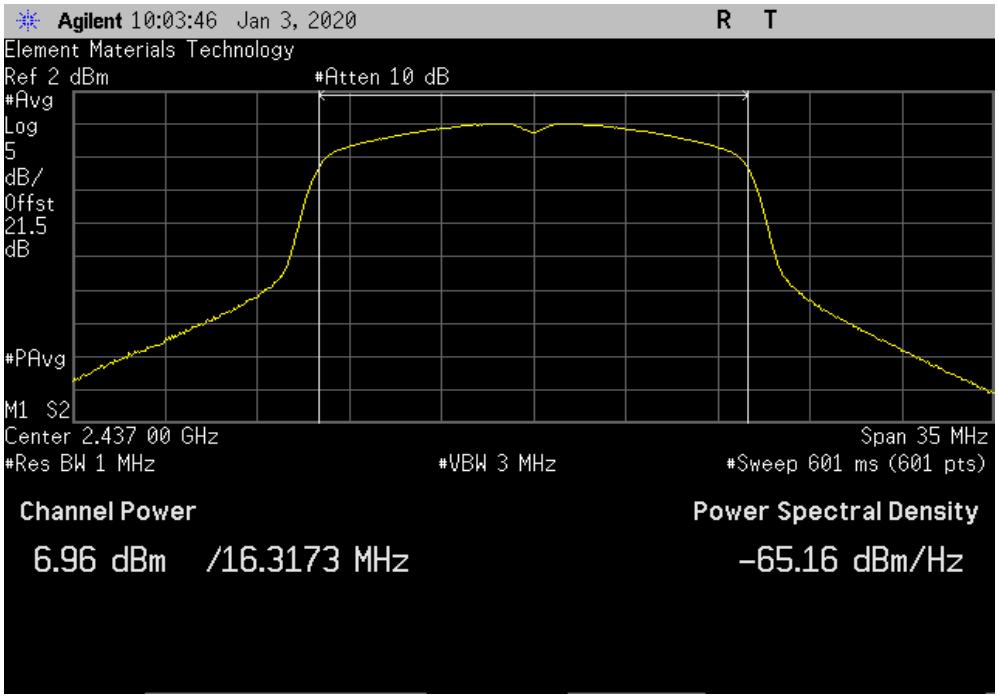


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
6.741	1.9	8.6	0.5	9.1	36	Pass

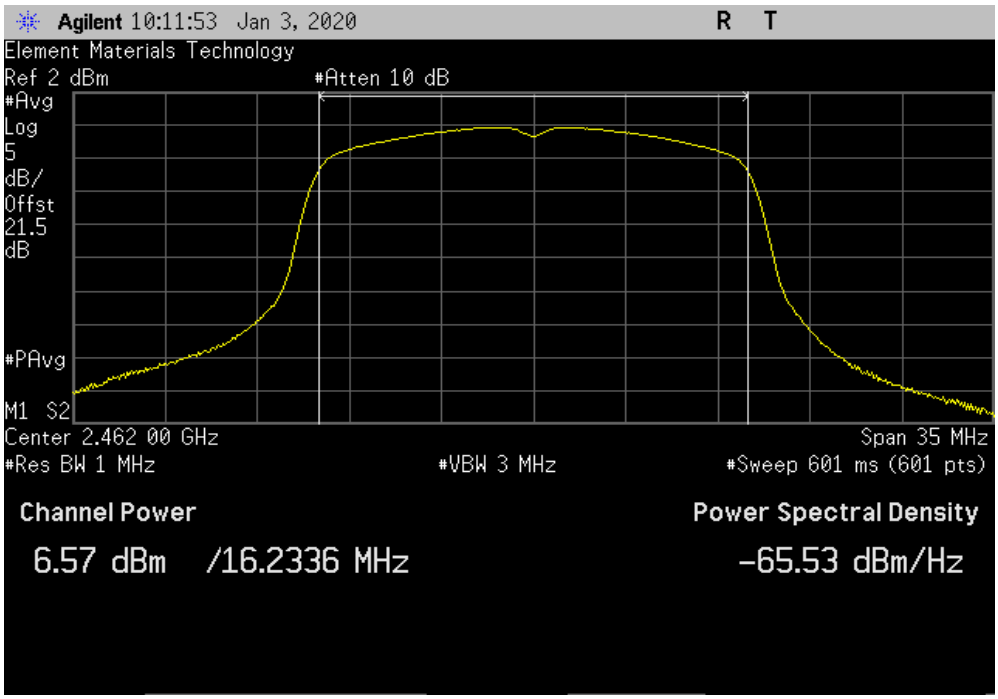


2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
6.962	1.9	8.9	0.5	9.4	36	Pass

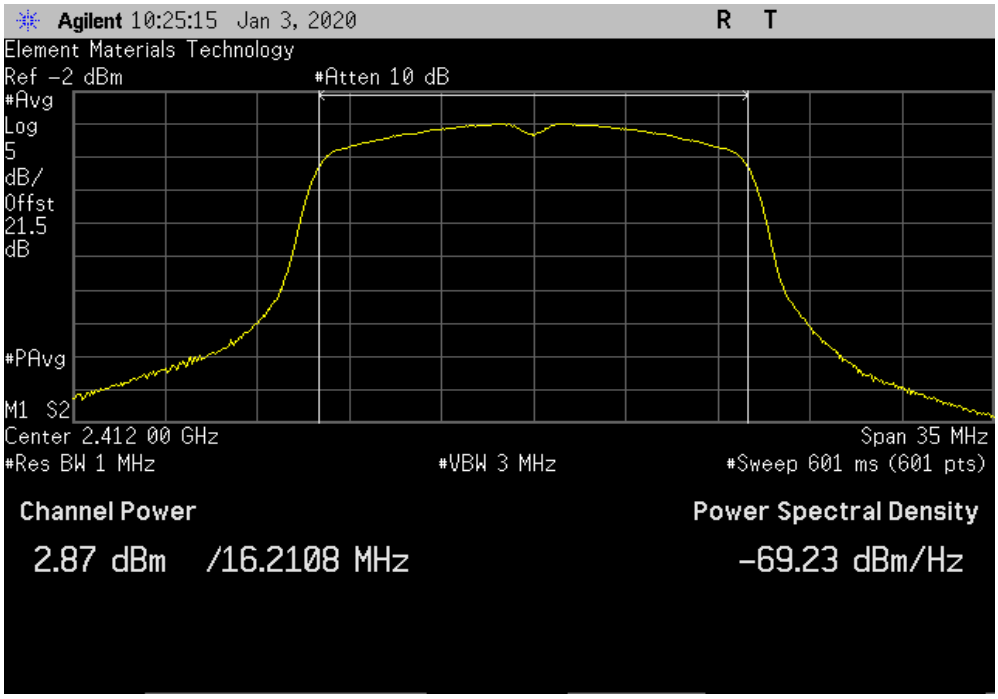


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
6.575	1.9	8.5	0.5	9	36	Pass

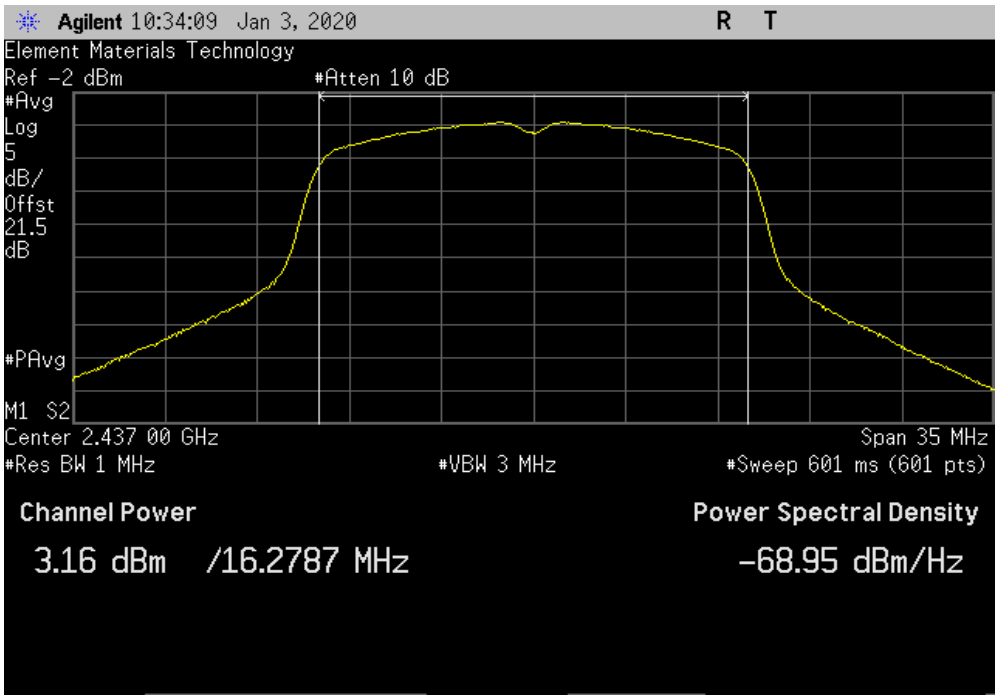


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
2.873	5.8	8.7	0.5	9.2	36	Pass

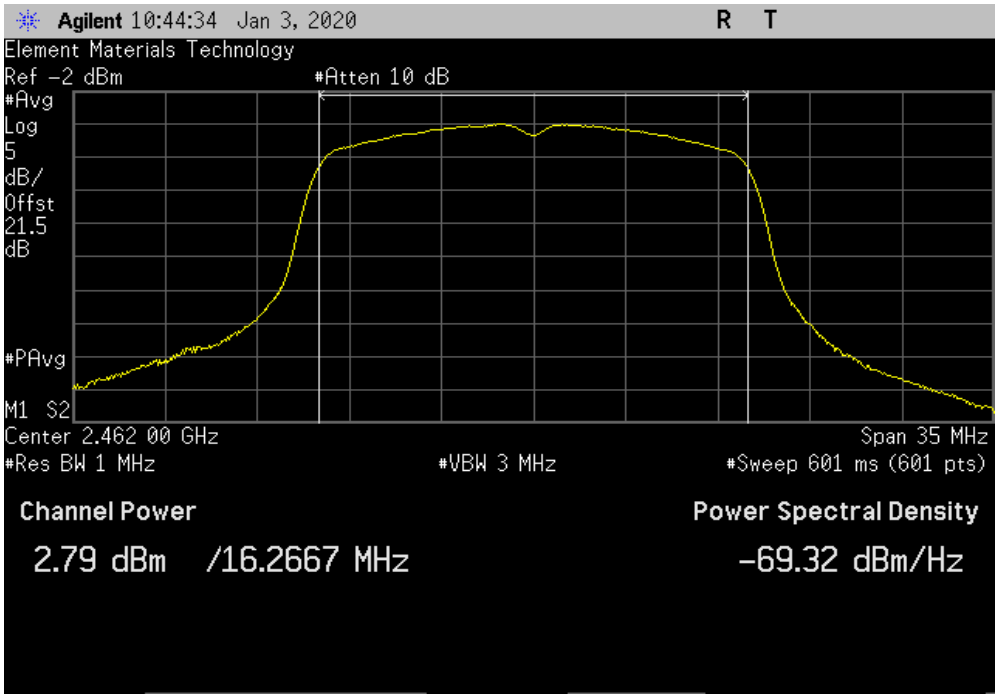


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
3.164	5.8	9	0.5	9.5	36	Pass

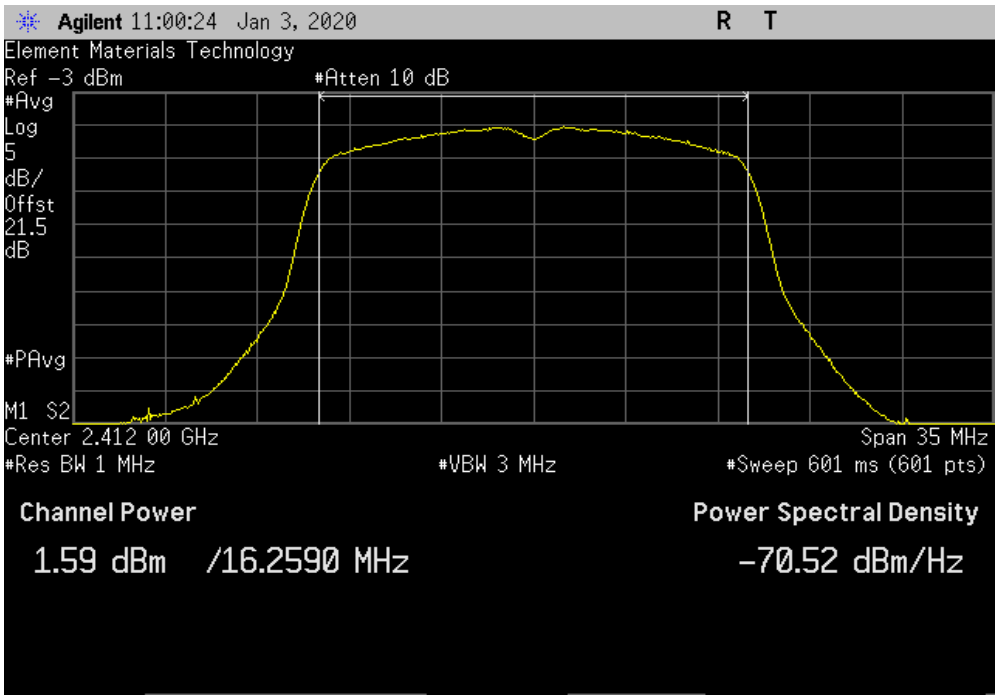


2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
2.79	5.9	8.7	0.5	9.2	36	Pass

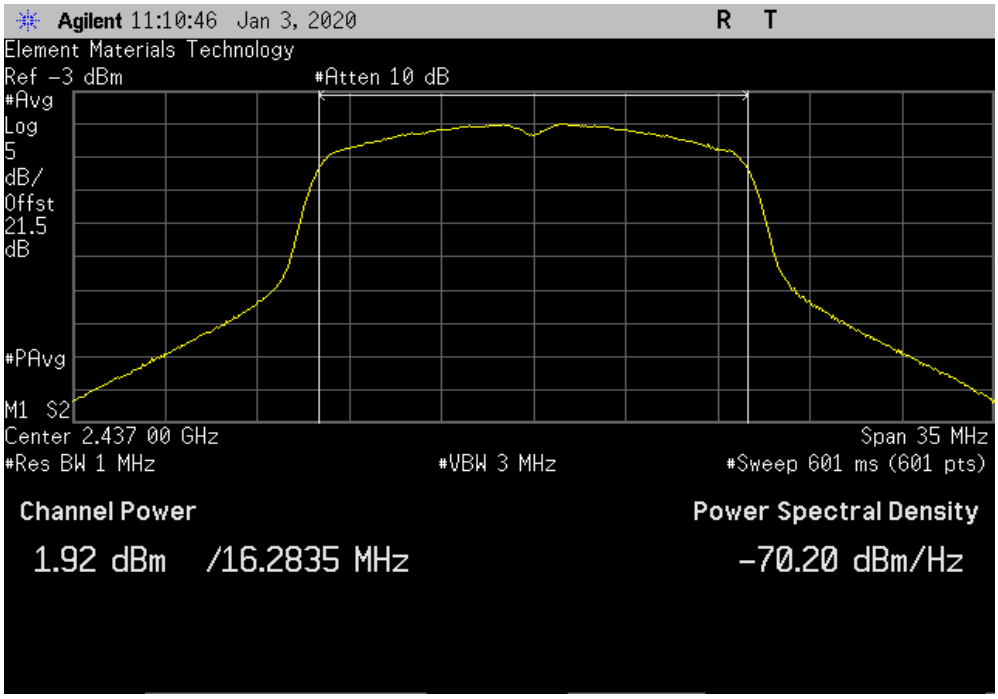


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
1.589	7	8.6	0.5	9.1	36	Pass

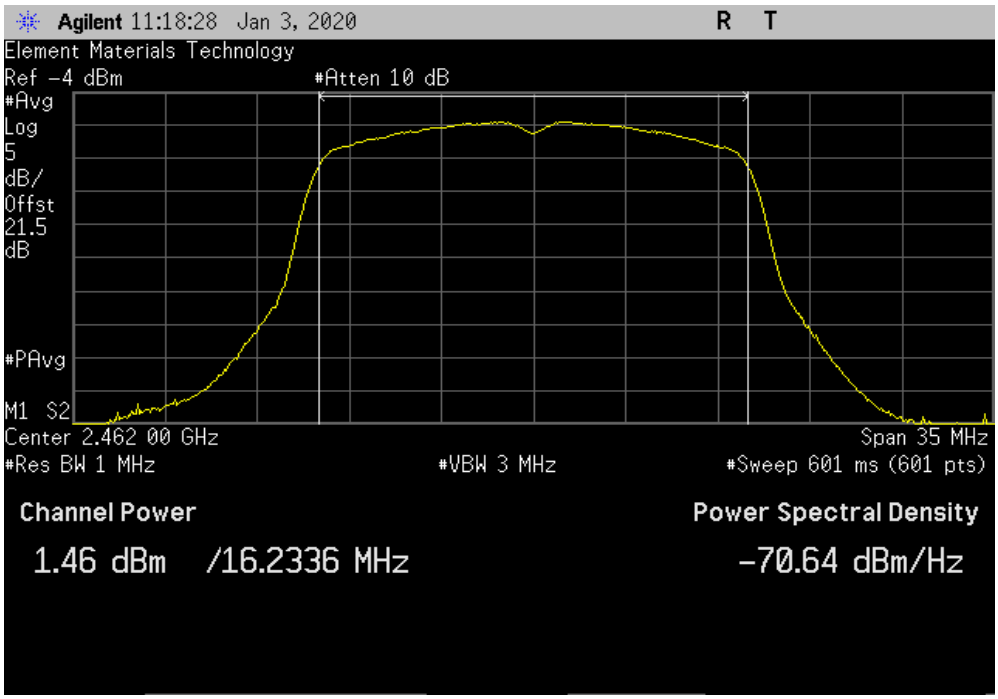


2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
1.922	7	9	0.5	9.5	36	Pass

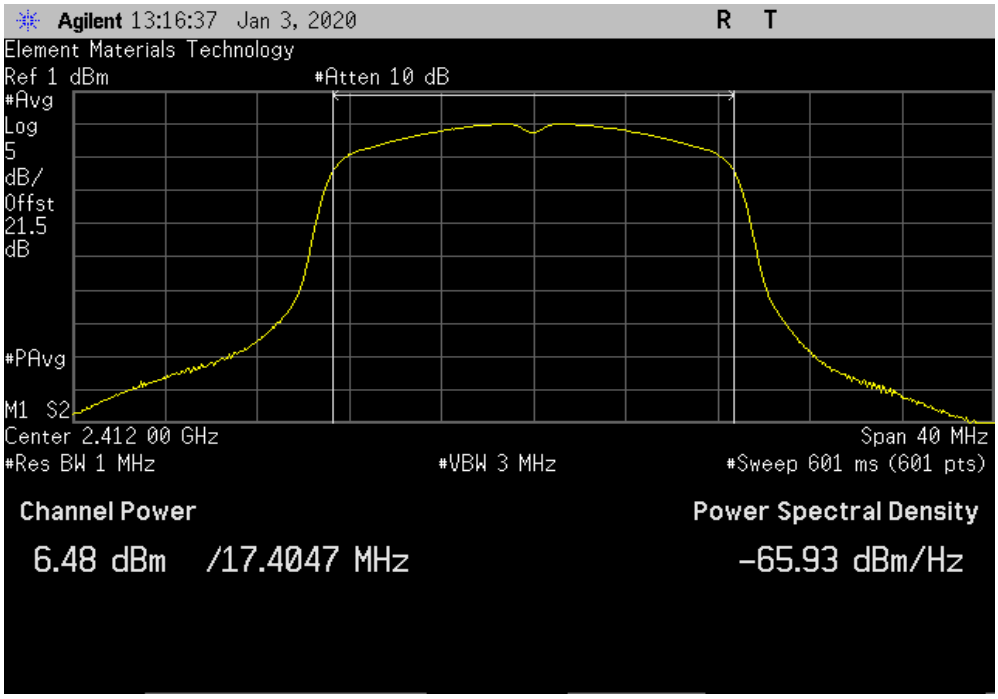


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
1.461	6.9	8.4	0.5	8.9	36	Pass

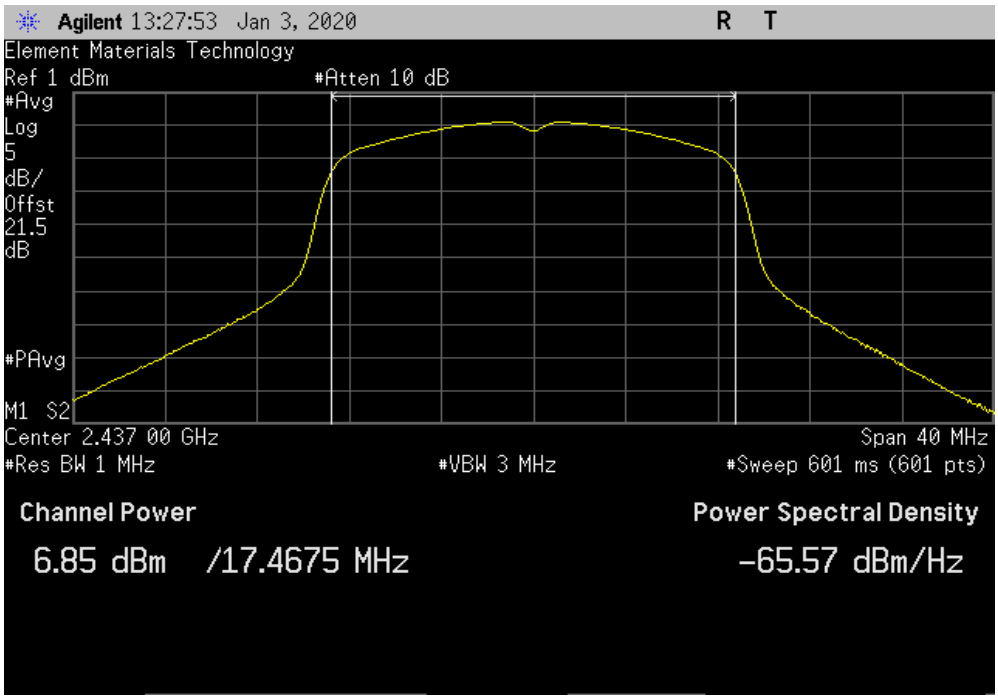


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
6.476	2.1	8.6	0.5	9.1	36	Pass

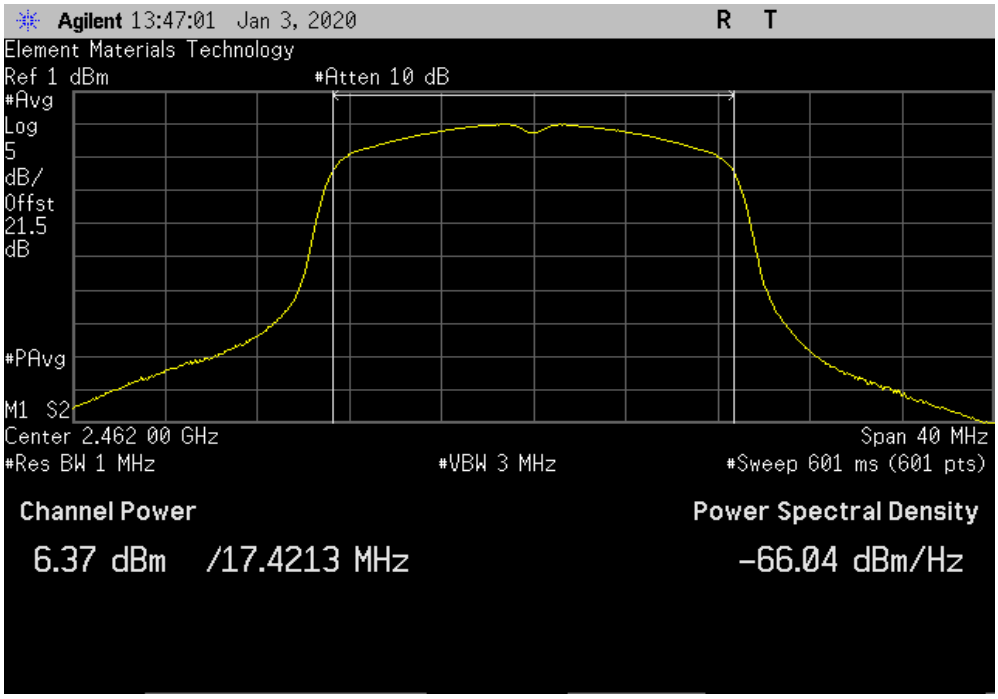


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
6.847	2.1	9	0.5	9.5	36	Pass

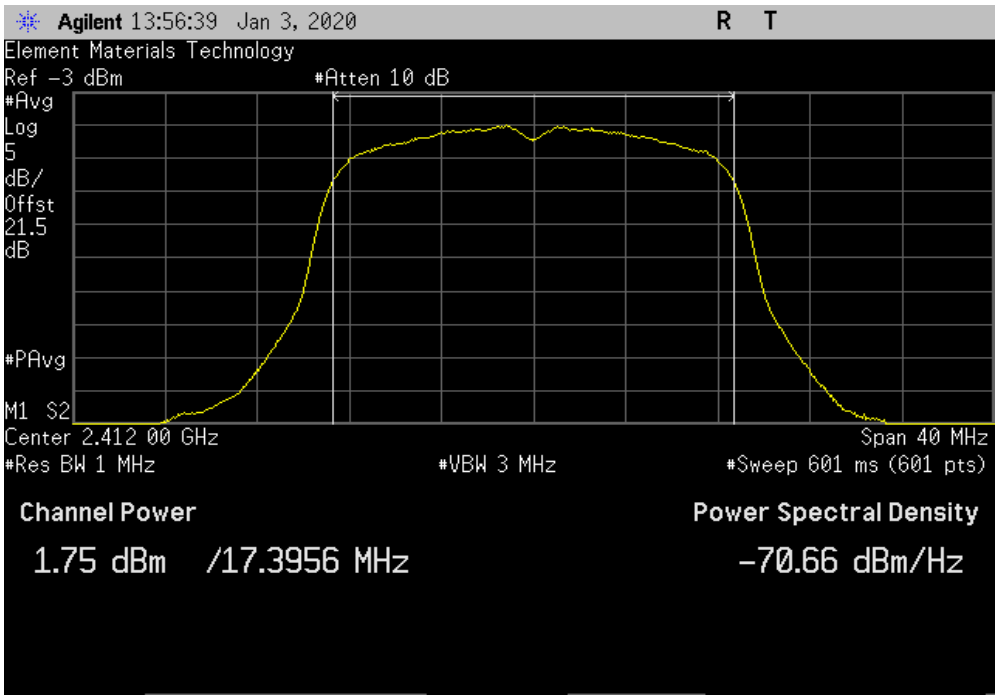


2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
6.371	2.1	8.5	0.5	9	36	Pass

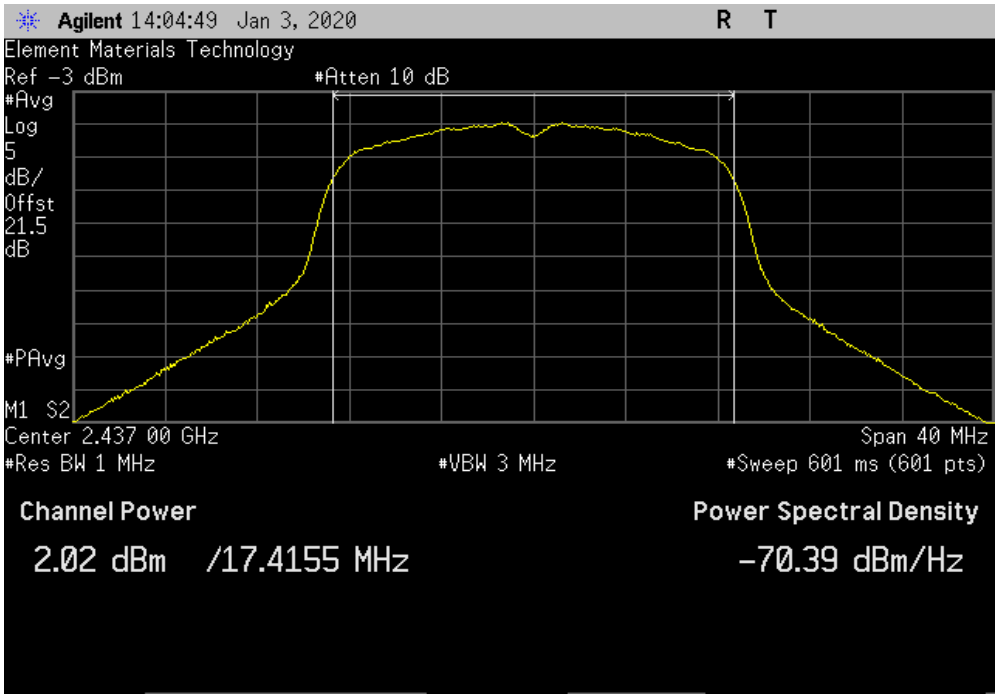


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

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
1.748	7.1	8.8	0.5	9.3	36	Pass



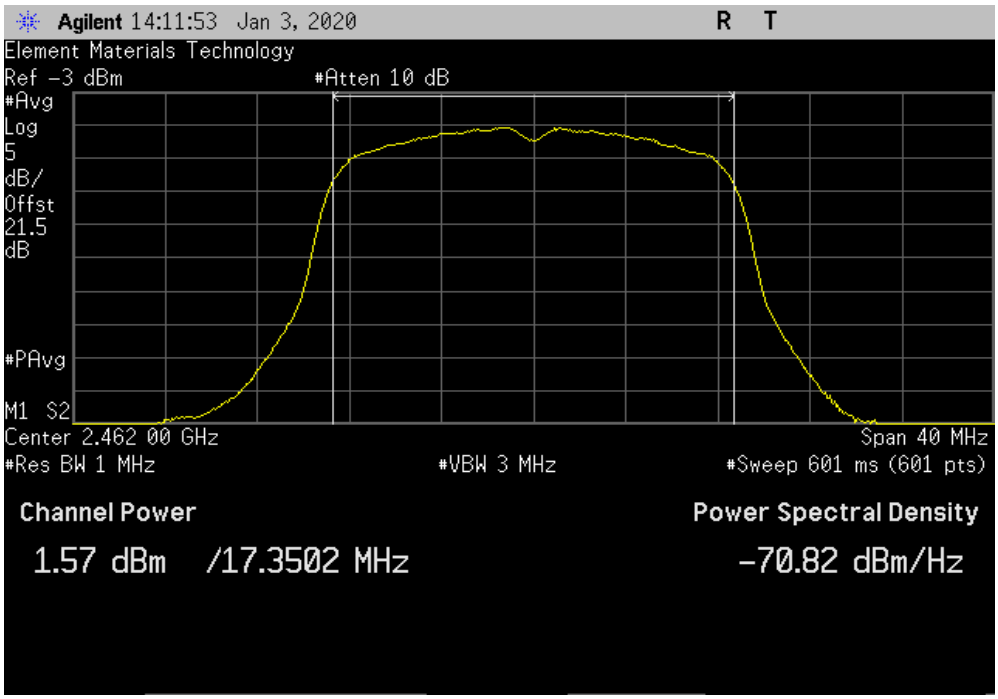
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
2.022	7.1	9.1	0.5	9.6	36	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2019.08.30.0 XMit 2019.09.05

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
1.571	7.1	8.6	0.5	9.1	36	Pass



POWER SPECTRAL DENSITY

XMit 2019.09.05

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
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

POWER SPECTRAL DENSITY

element

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	**CCU-2**			**Work Order:**	**POLR0058**
Serial Number:	**Unit #6**			**Date:**	**3-Jan-20**
Customer:	**Polaris Industries, Inc.**			**Temperature:**	**21.5 °C**
Attendees:	**Wayne Rieger**			**Humidity:**	**40.6% RH**
Project:	**None**			**Barometric Pres.:**	**1016 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**14VDC**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

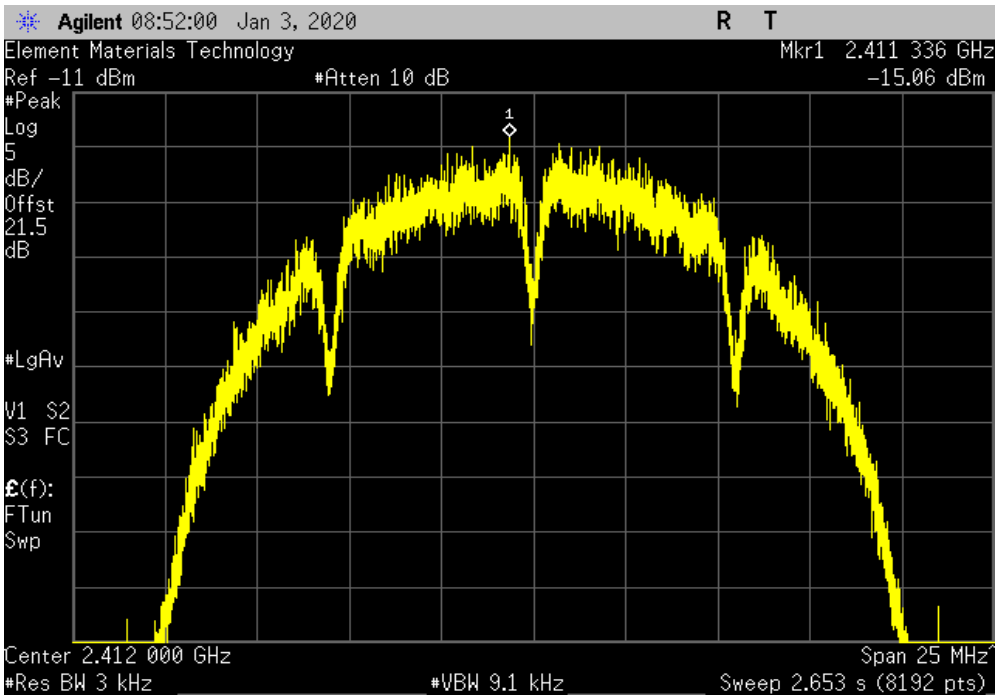
DEVIATIONS FROM TEST STANDARD

None

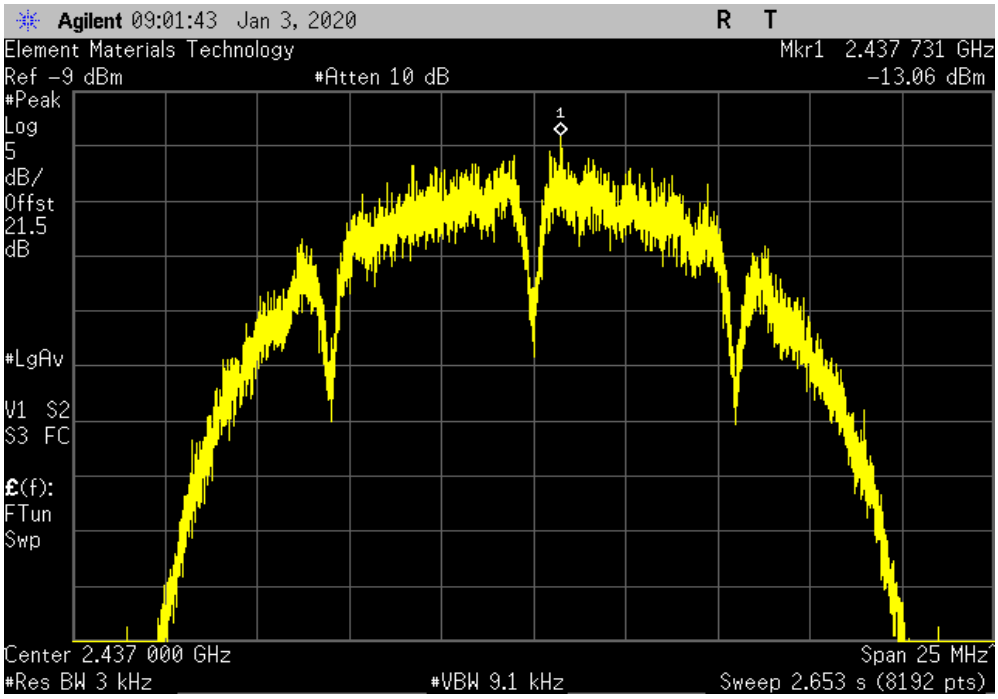
Configuration #	**4**	*Signature*

	Value dBm/3kHz	**Limit < dBm/3kHz**	**Results**
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-15.061	8	Pass
Mid Channel 6, 2437 MHz	-13.055	8	Pass
High Channel 11, 2462 MHz	-13.072	8	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-14.974	8	Pass
Mid Channel 6, 2437 MHz	-14.441	8	Pass
High Channel 11, 2462 MHz	-15.083	8	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-16.427	8	Pass
Mid Channel 6, 2437 MHz	-16.304	8	Pass
High Channel 11, 2462 MHz	-16.675	8	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-16.674	8	Pass
Mid Channel 6, 2437 MHz	-17.041	8	Pass
High Channel 11, 2462 MHz	-16.928	8	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-19.015	8	Pass
Mid Channel 6, 2437 MHz	-18.158	8	Pass
High Channel 11, 2462 MHz	-18.558	8	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	-16.24	8	Pass
Mid Channel 6, 2437 MHz	-15.051	8	Pass
High Channel 11, 2462 MHz	-17.072	8	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	-17.946	8	Pass
Mid Channel 6, 2437 MHz	-18.177	8	Pass
High Channel 11, 2462 MHz	-18.672	8	Pass

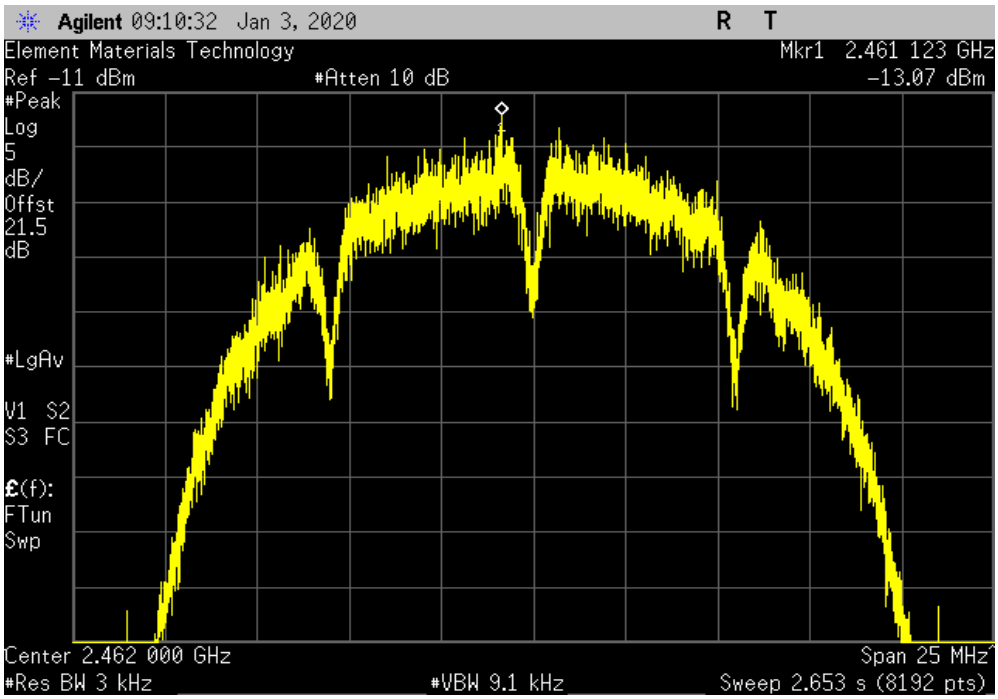
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-15.061	8	Pass



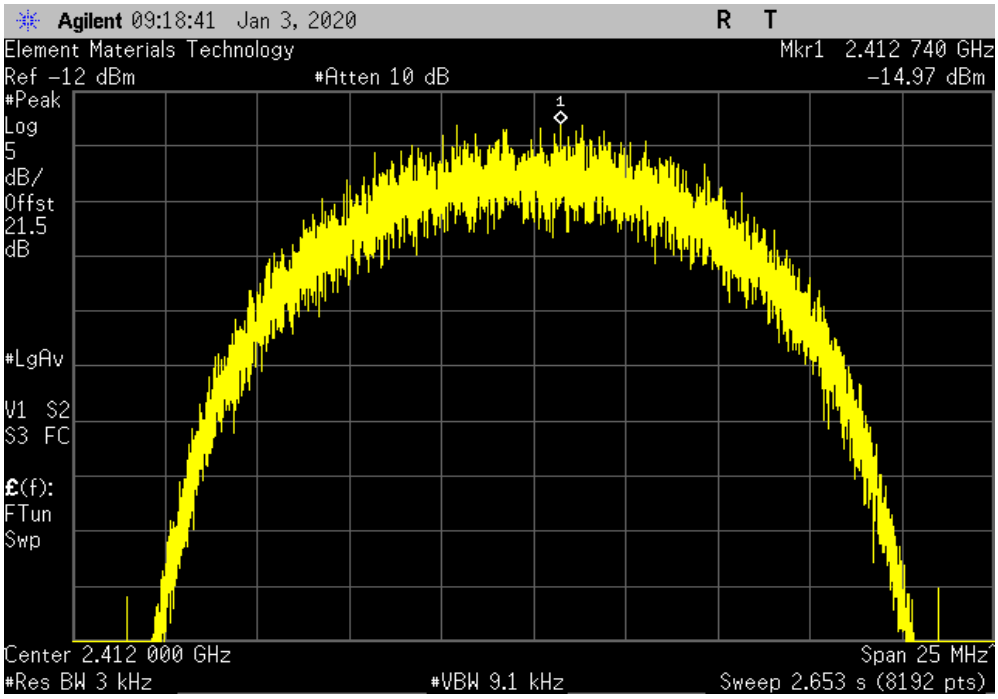
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-13.055	8	Pass



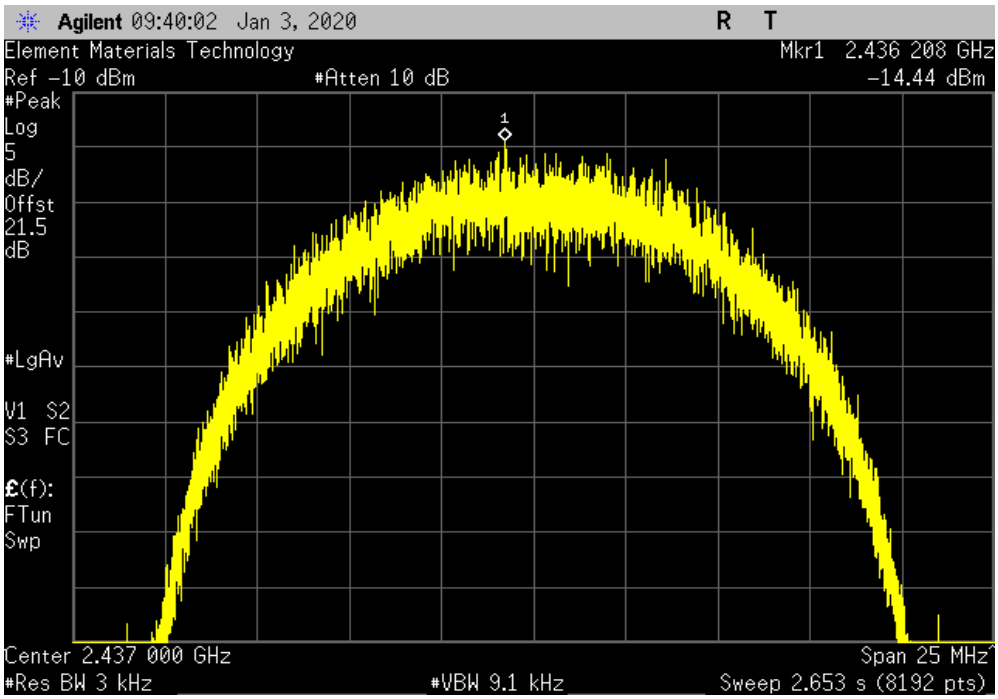
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-13.072	8	Pass



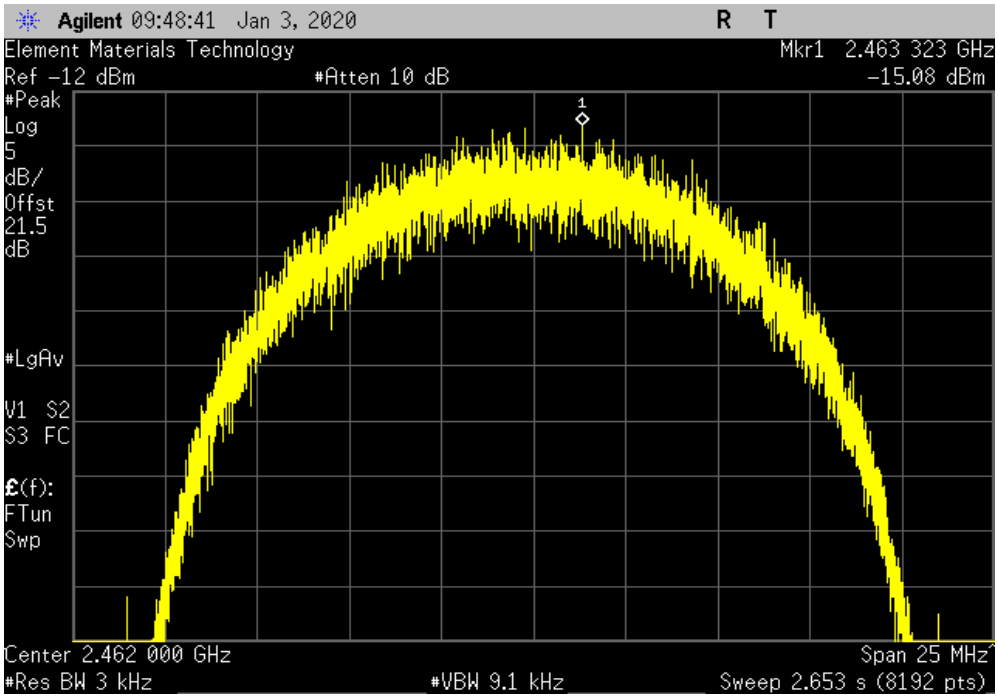
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-14.974	8	Pass



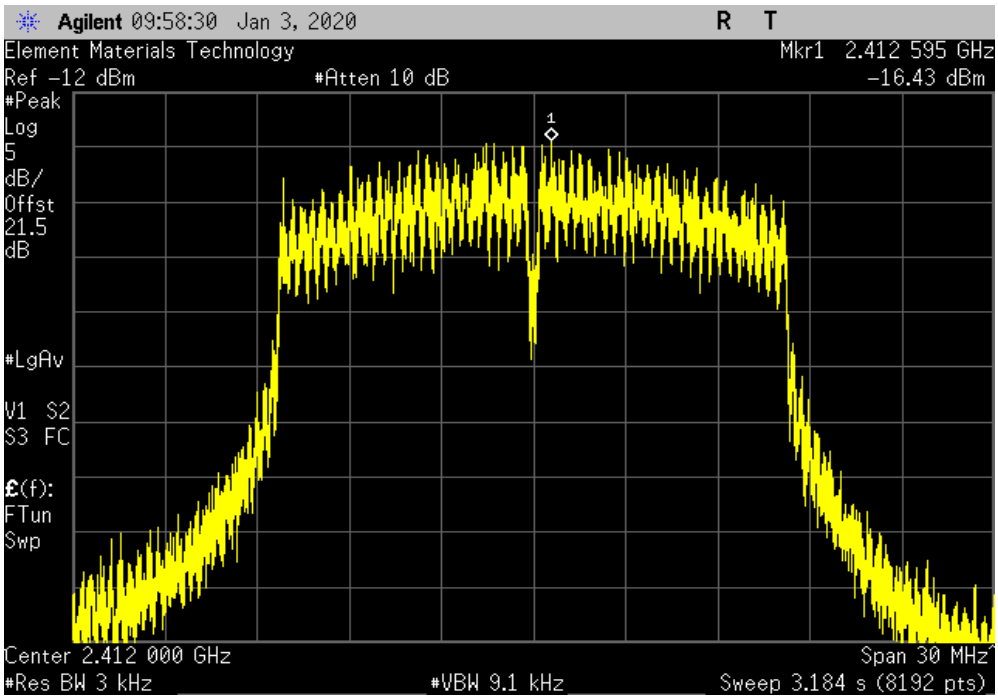
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-14.441	8	Pass



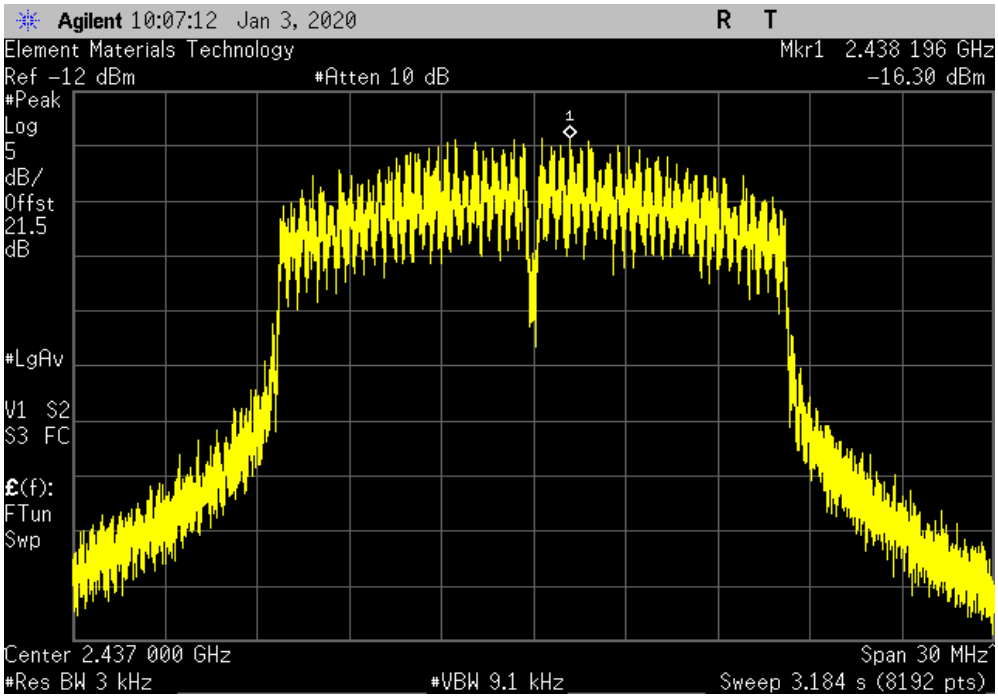
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-15.083	8	Pass



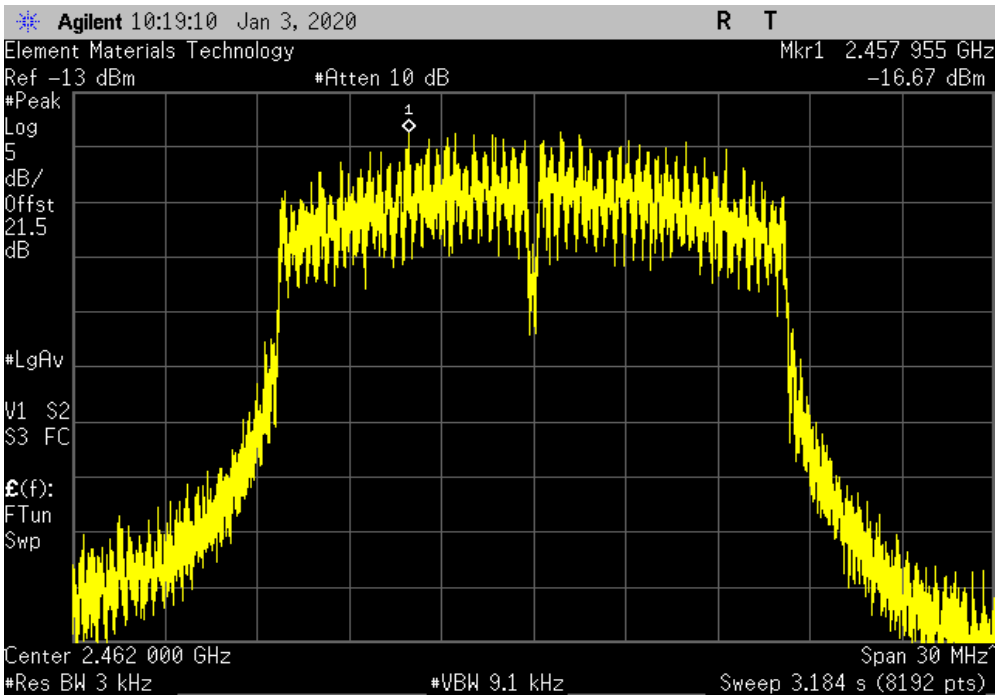
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.427	8	Pass



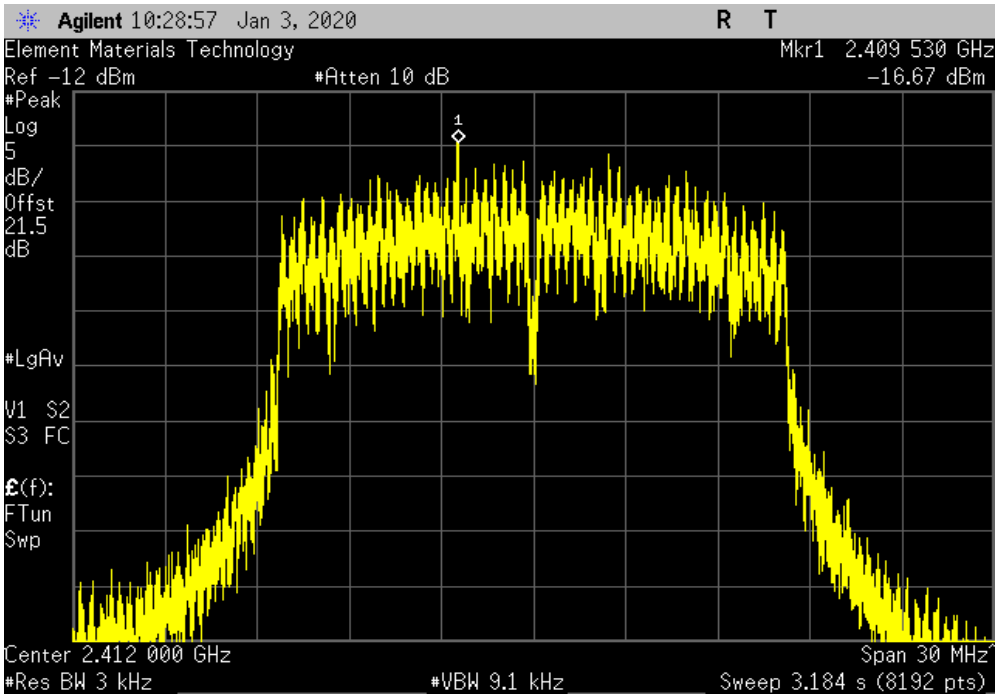
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.304	8	Pass



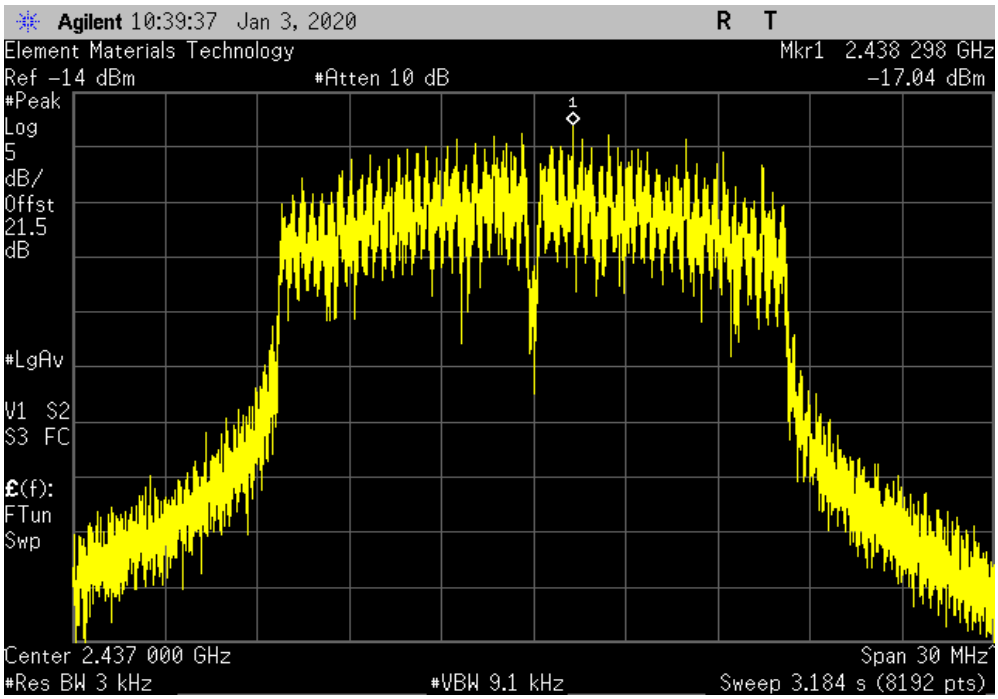
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.675	8	Pass



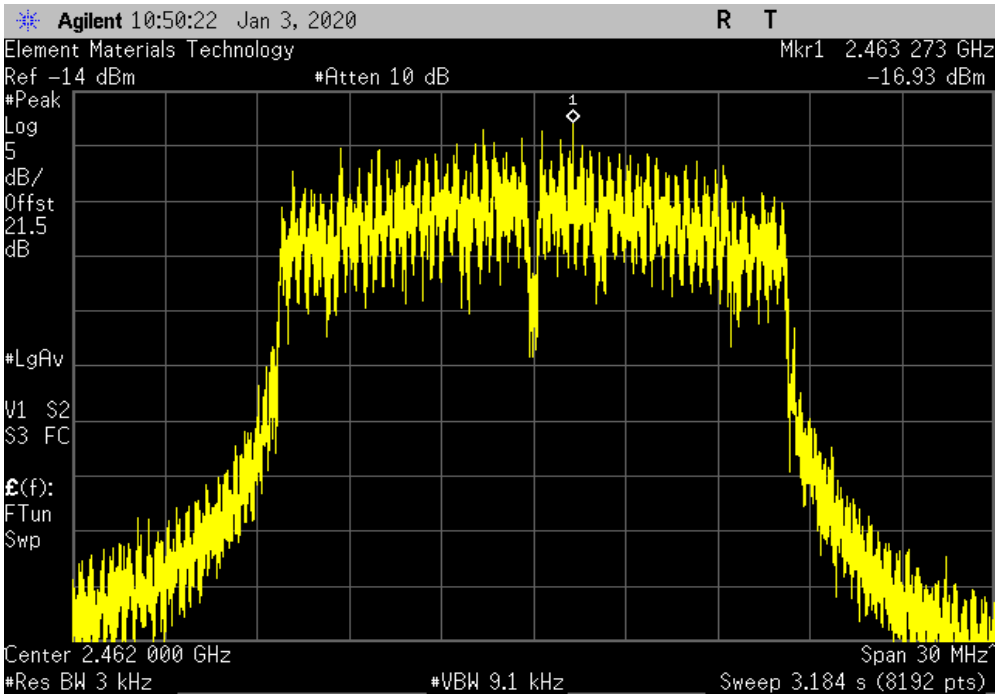
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.674	8	Pass



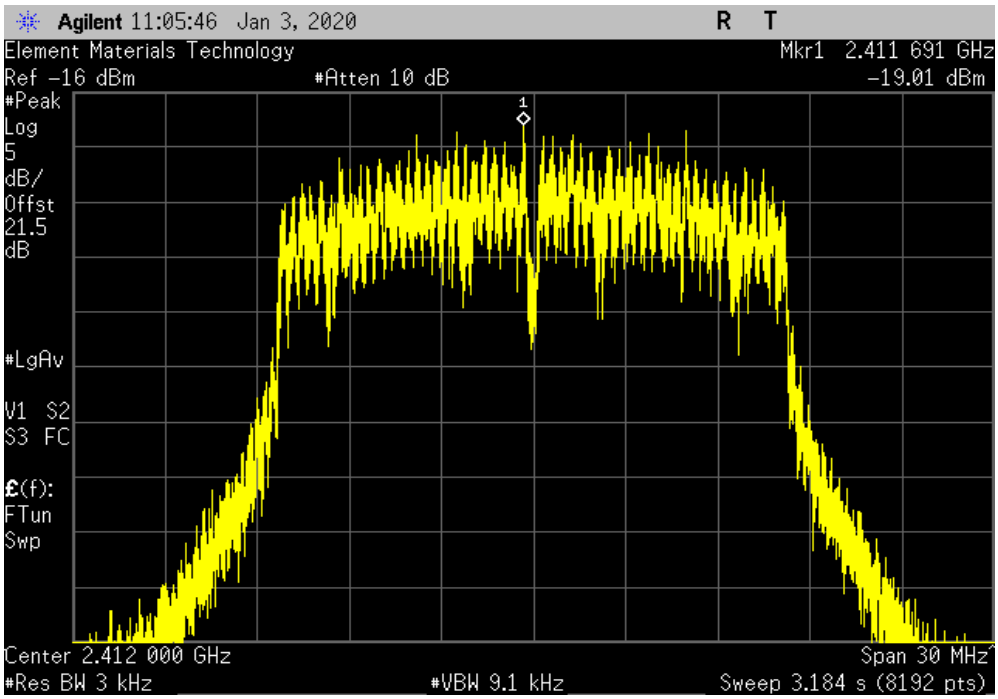
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.041	8	Pass



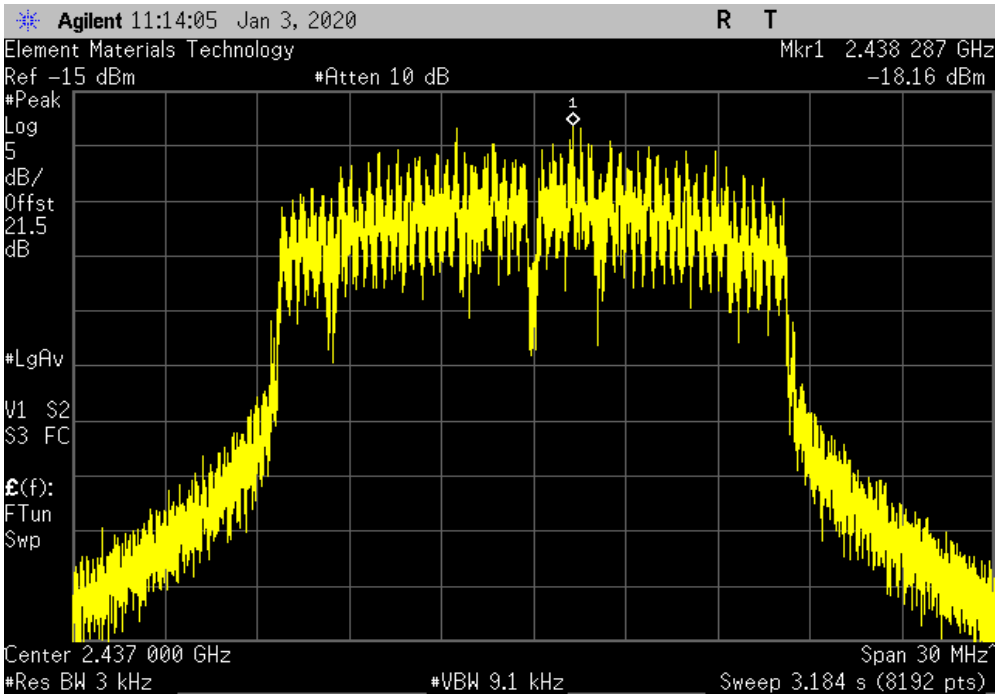
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.928	8	Pass



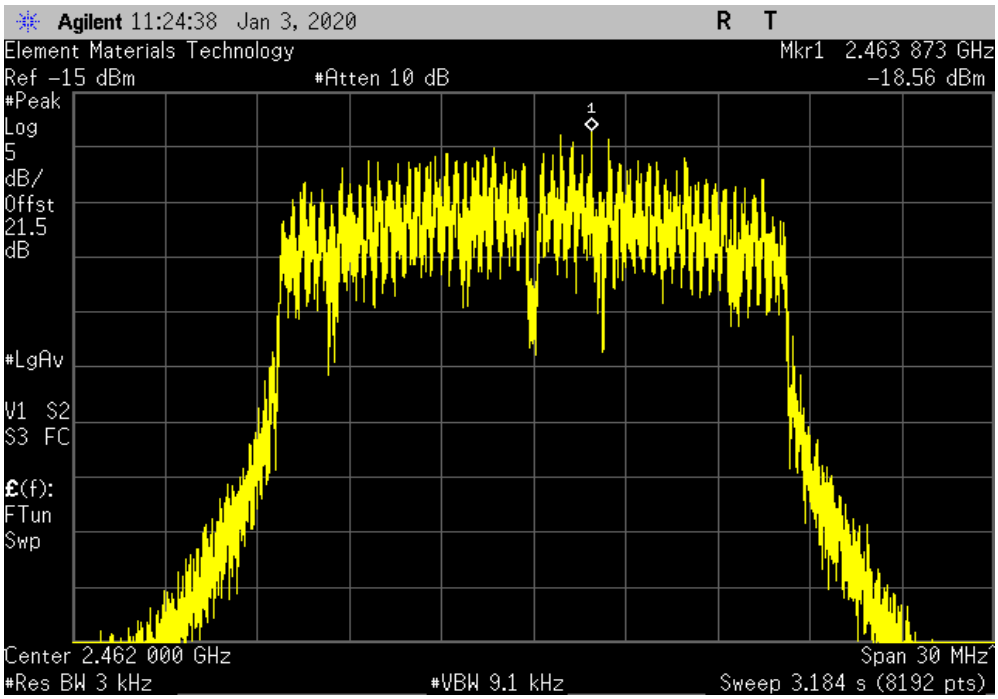
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-19.015	8	Pass



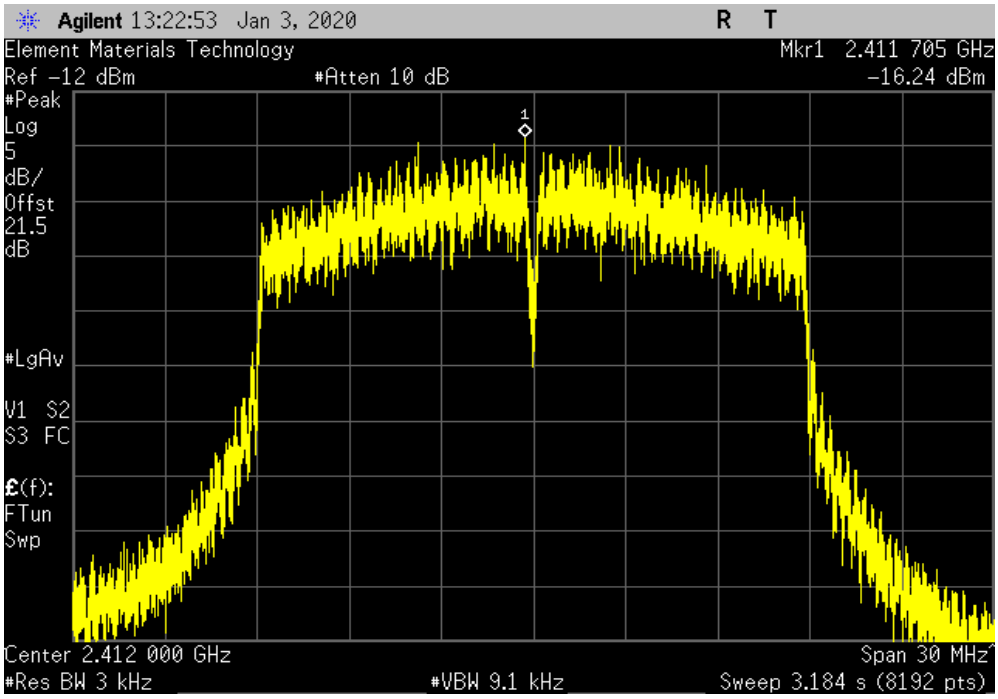
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-18.158	8	Pass



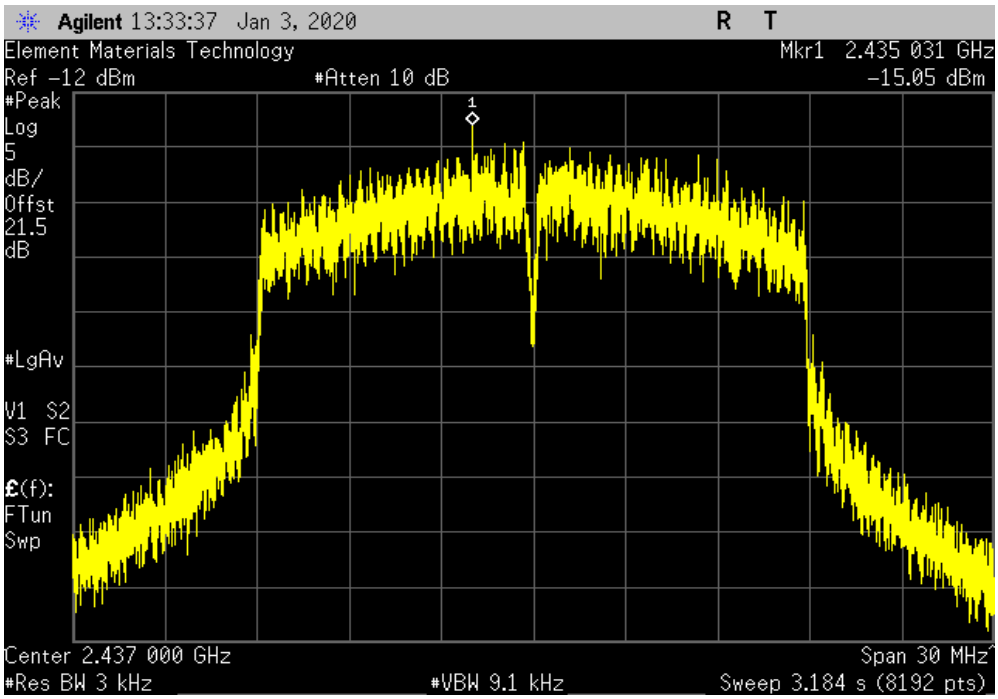
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-18.558	8	Pass



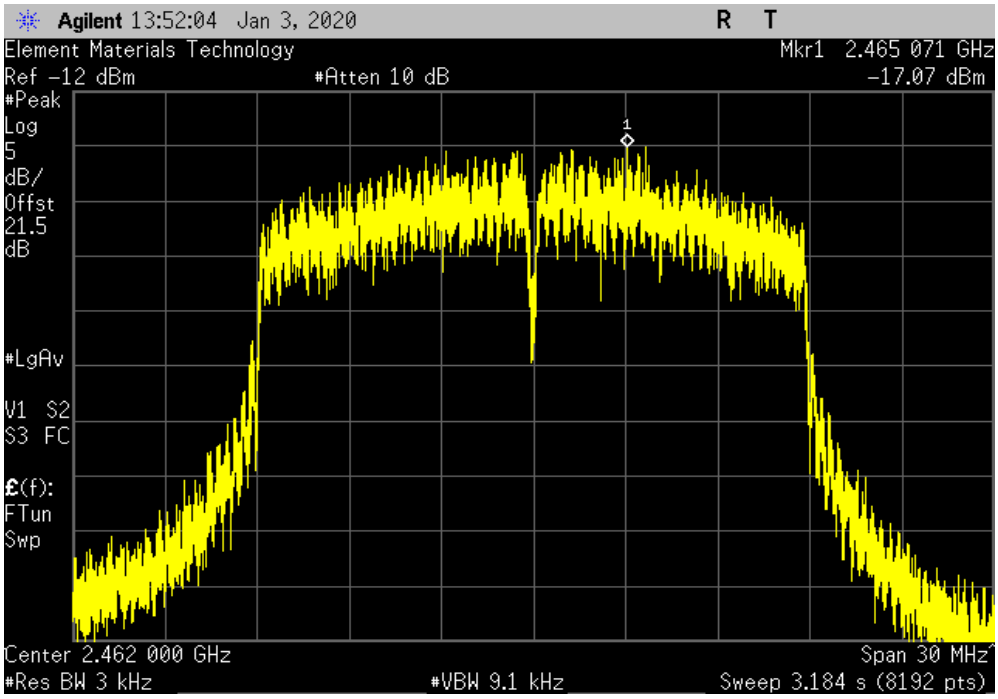
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-16.24	8	Pass



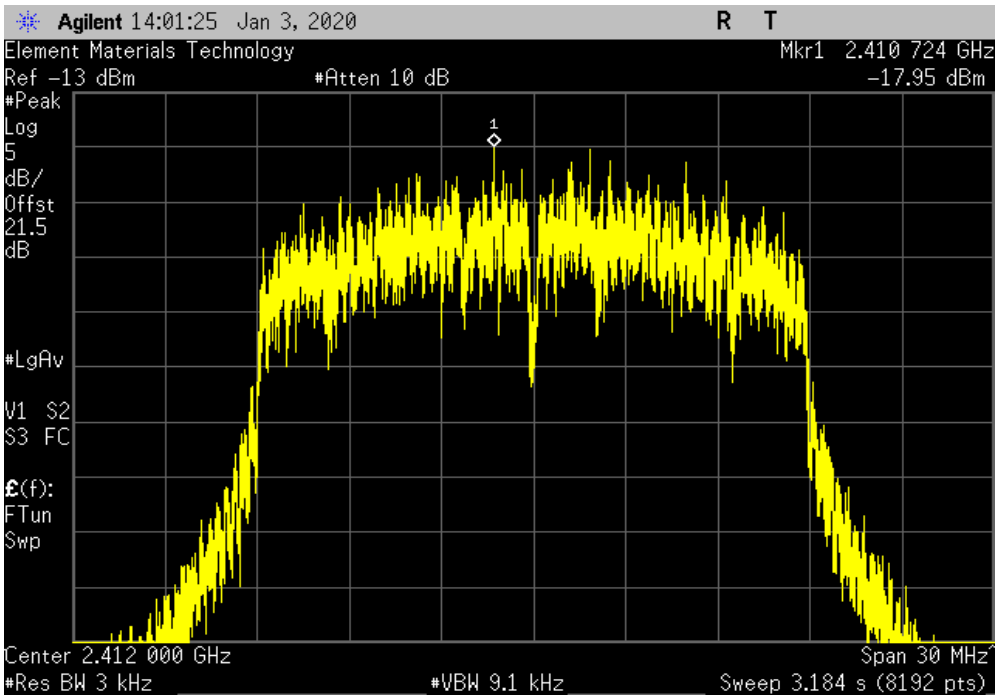
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-15.051	8	Pass



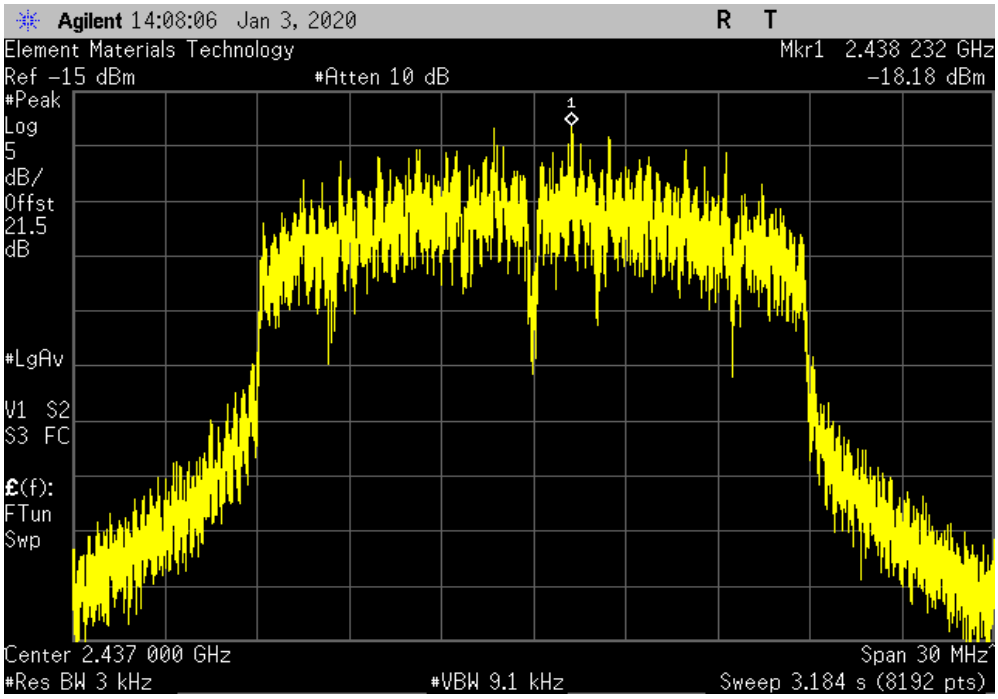
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.072	8	Pass



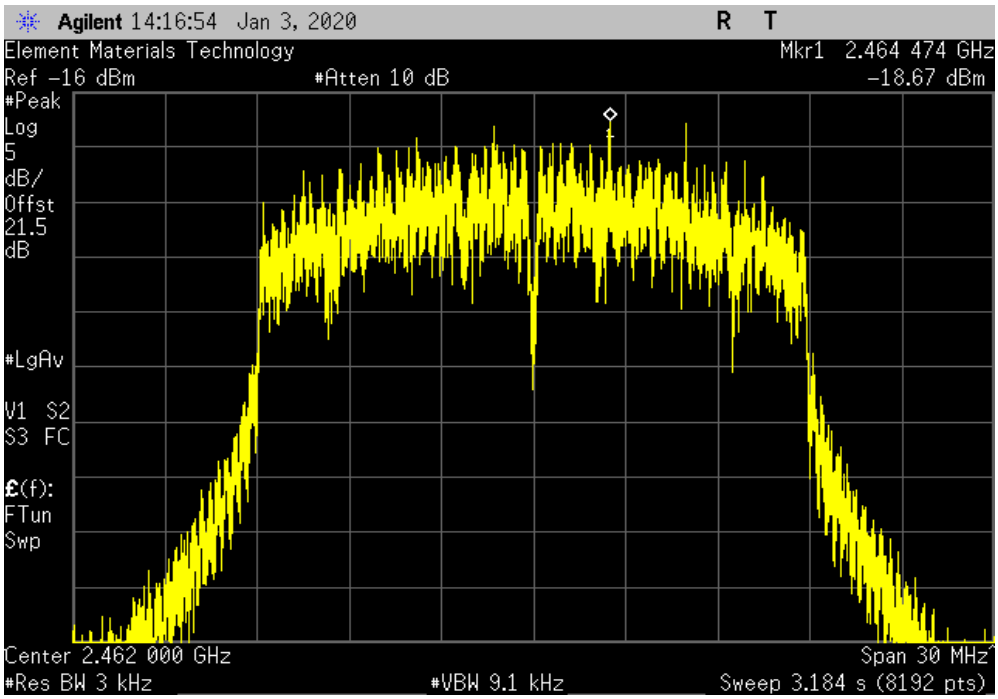
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.946	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-18.177	8	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-18.672	8	Pass



BAND EDGE COMPLIANCE

XMit 2019.09.05

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
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	**CCU-2**			**Work Order:**	**POLR0058**
Serial Number:	**Unit #6**			**Date:**	**3-Jan-20**
Customer:	**Polaris Industries, Inc.**			**Temperature:**	**21.5 °C**
Attendees:	**Wayne Rieger**			**Humidity:**	**40.6% RH**
Project:	**None**			**Barometric Pres.:**	**1016 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**14VDC**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

DEVIATIONS FROM TEST STANDARD

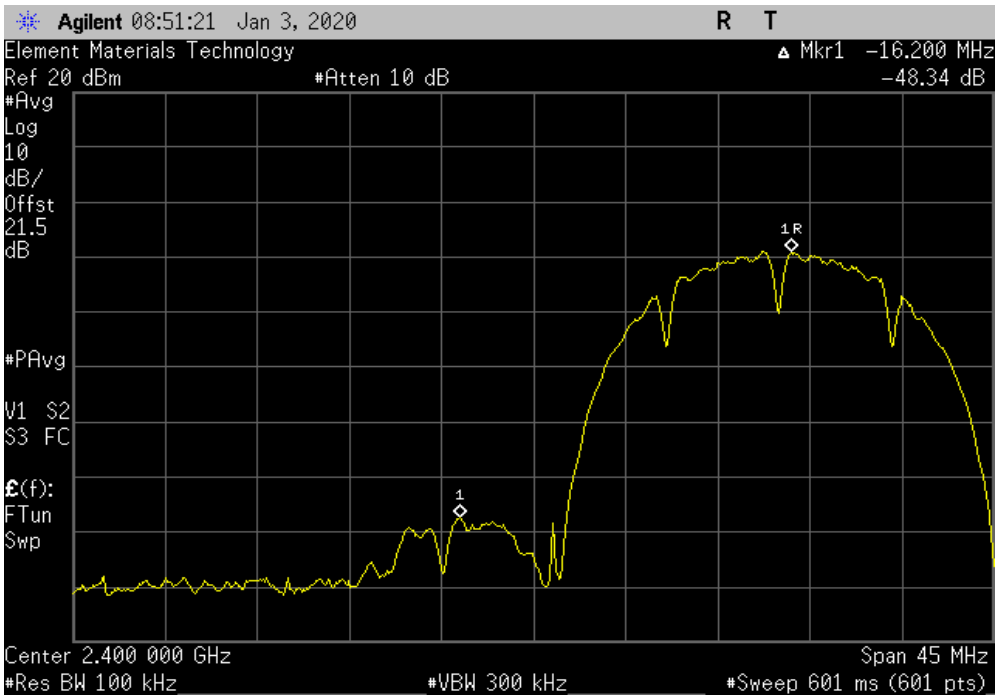
None

Configuration #	**4**	*Signature*

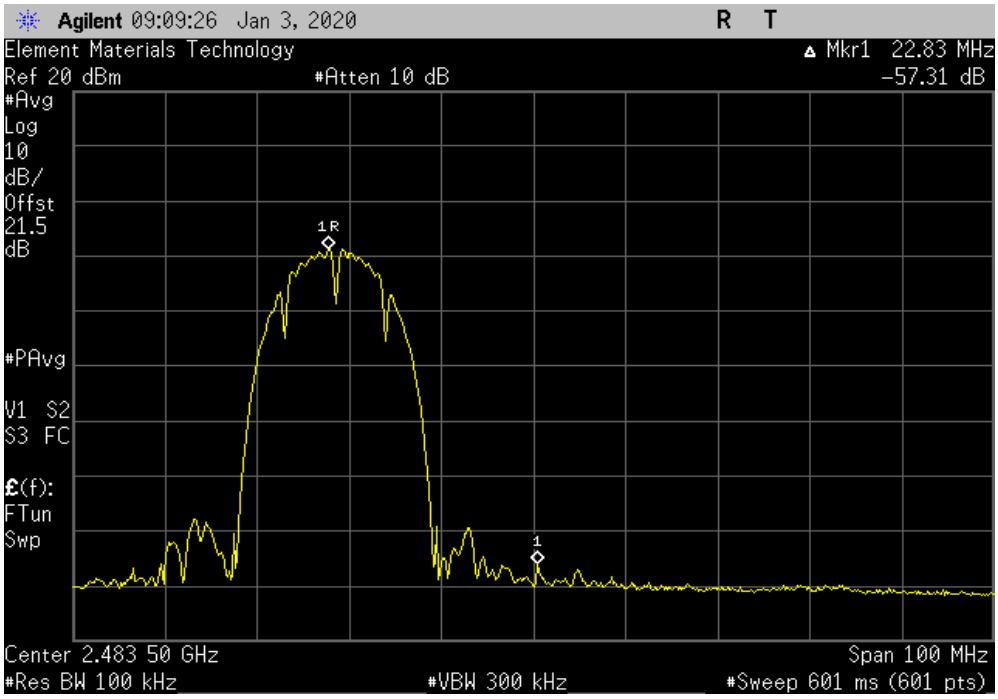
	Value (dBc)	**Limit ≤ (dBc)**	**Result**
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz	-48.34	-30	Pass
High Channel 11, 2462 MHz	-57.31	-30	Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz	-49.64	-30	Pass
High Channel 11, 2462 MHz	-56.18	-30	Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz	-35.66	-30	Pass
High Channel 11, 2462 MHz	-49.14	-30	Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz	-36.72	-30	Pass
High Channel 11, 2462 MHz	-50.01	-30	Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz	-41.72	-30	Pass
High Channel 11, 2462 MHz	-50.65	-30	Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz	-34.1	-30	Pass
High Channel 11, 2462 MHz	-48.26	-30	Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz	-40.55	-30	Pass
High Channel 11, 2462 MHz	-52.07	-30	Pass

BAND EDGE COMPLIANCE

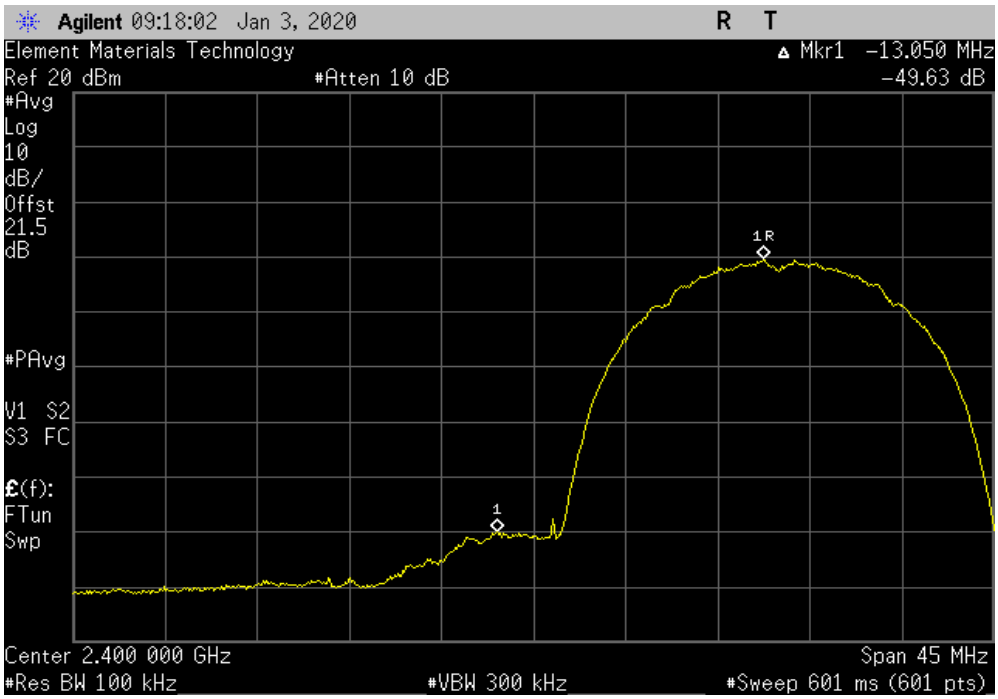
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.34	-30	Pass



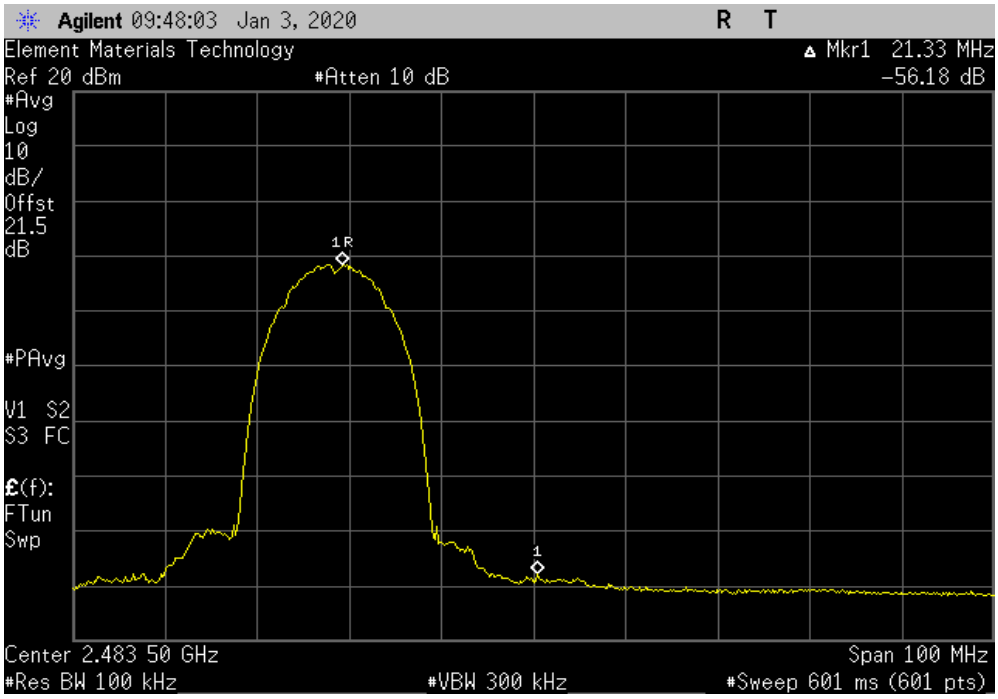
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-57.31	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.64	-30	Pass

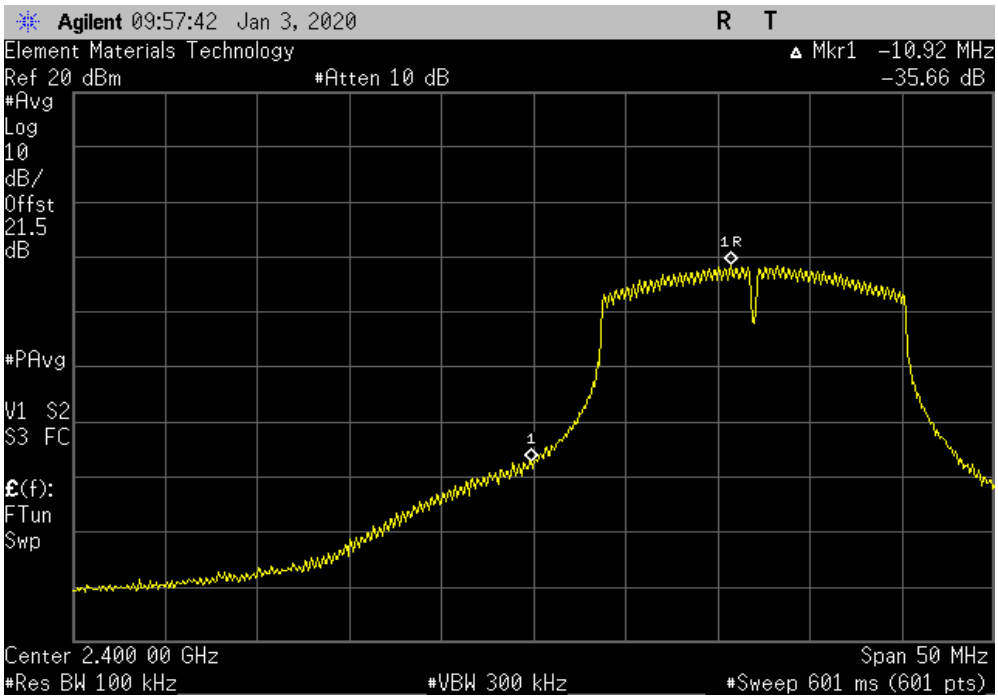


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-56.18	-30	Pass

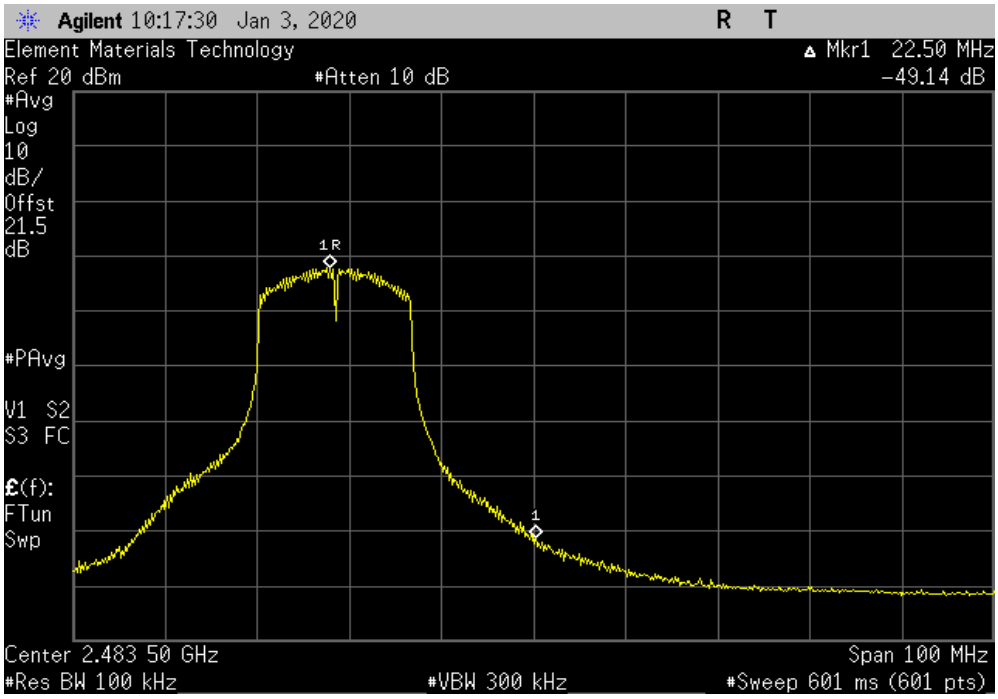


BAND EDGE COMPLIANCE

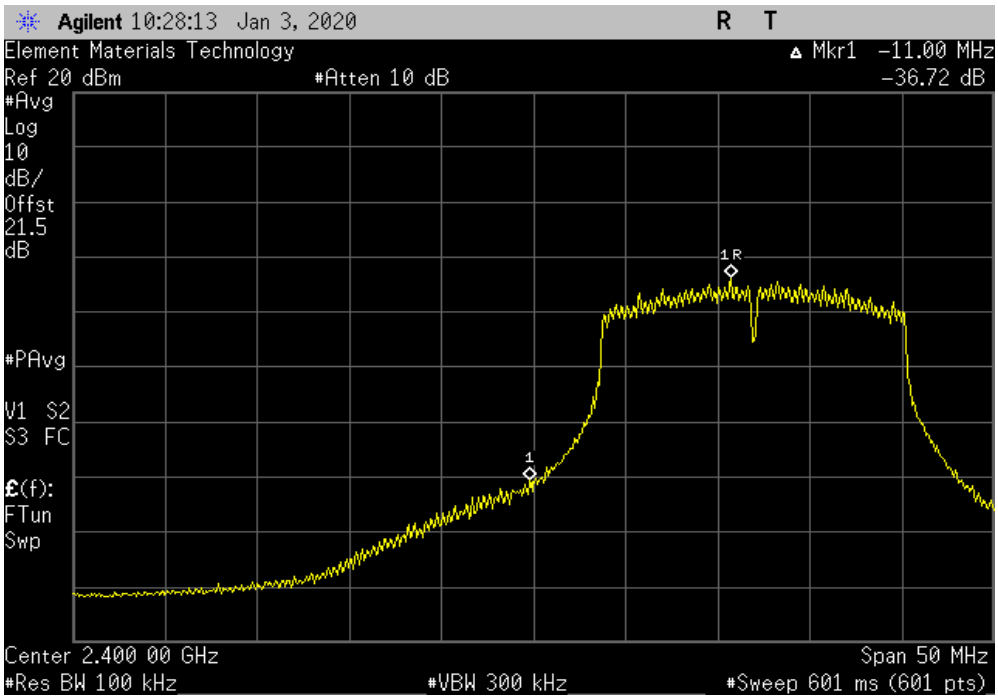
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-35.66	-30	Pass



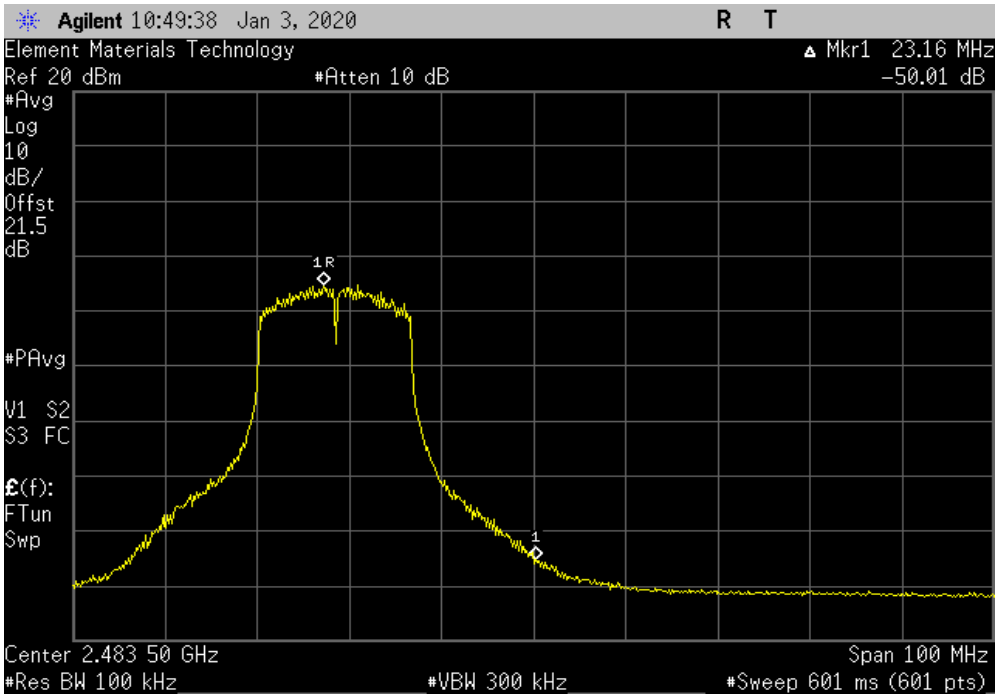
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.14	-30	Pass



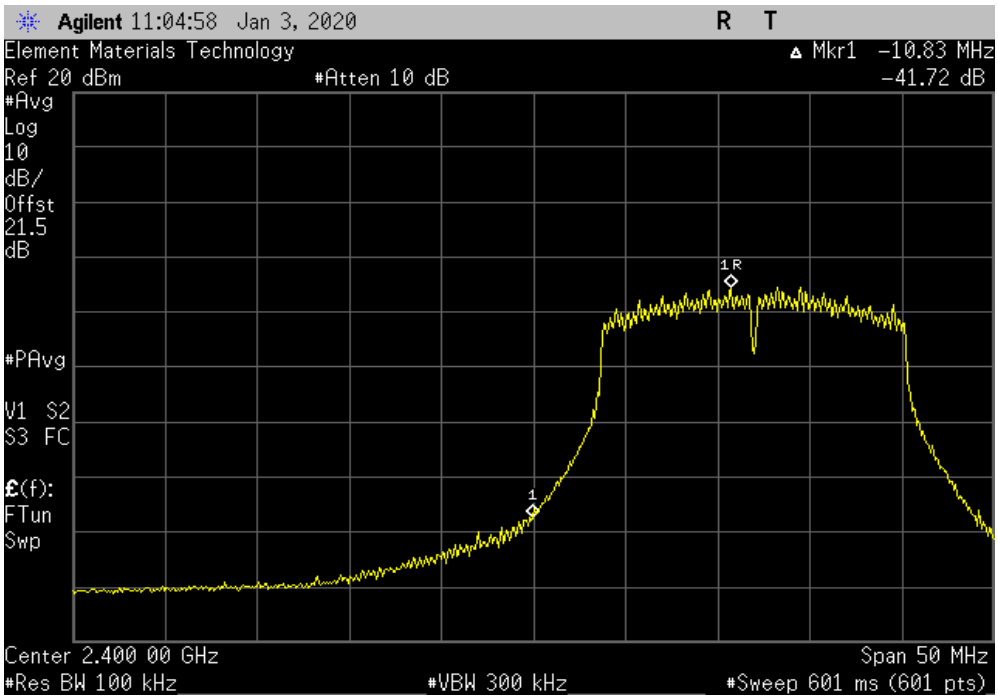
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-36.72	-30	Pass



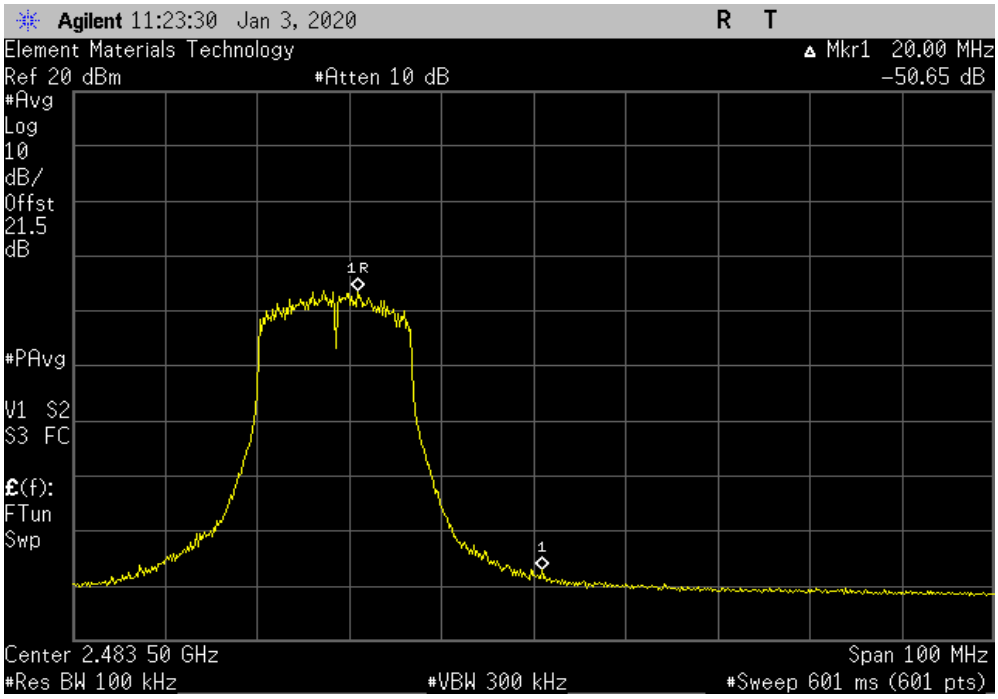
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.01	-30	Pass



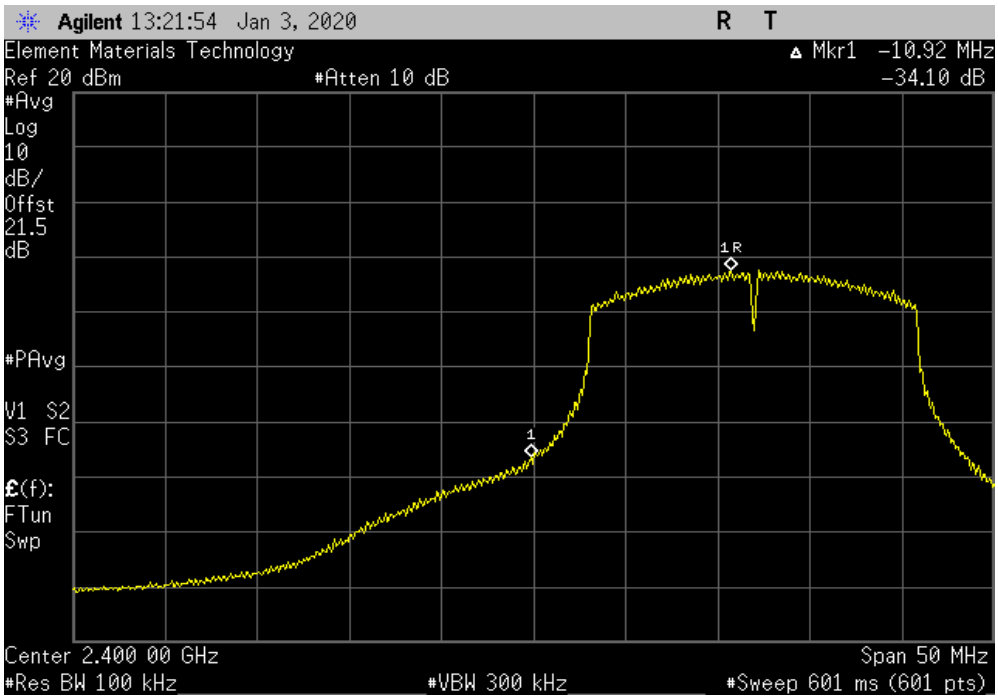
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-41.72	-30	Pass



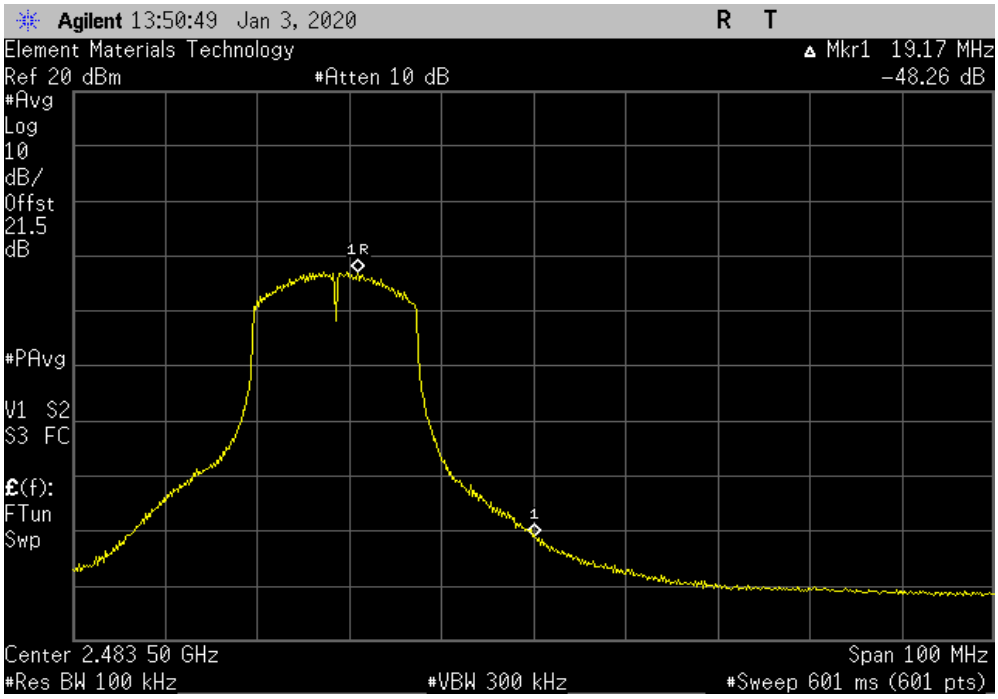
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.65	-30	Pass



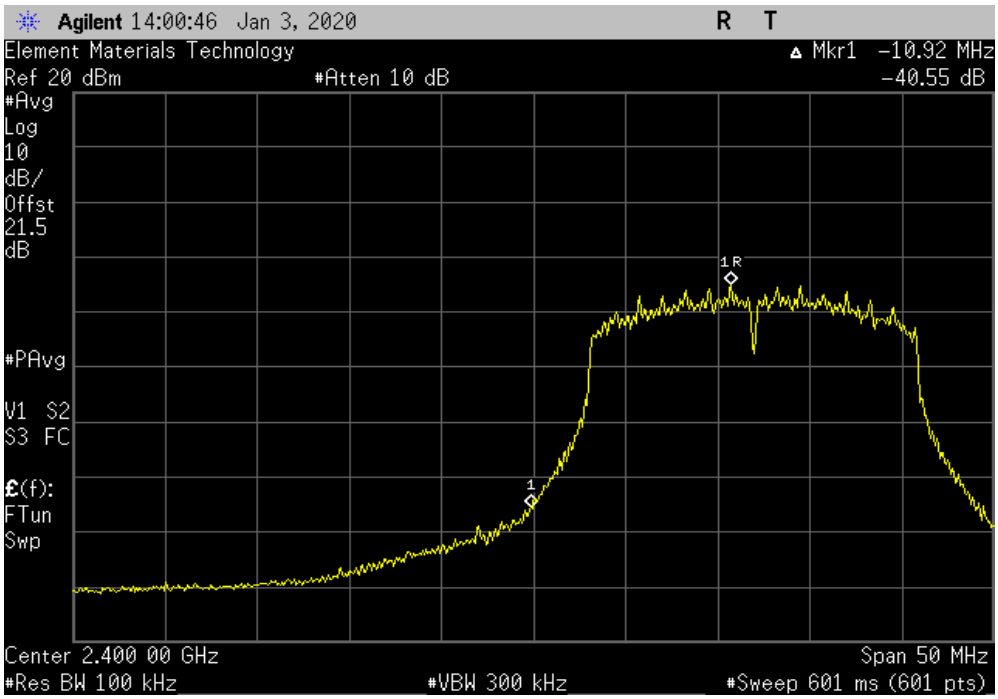
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-34.1	-30	Pass



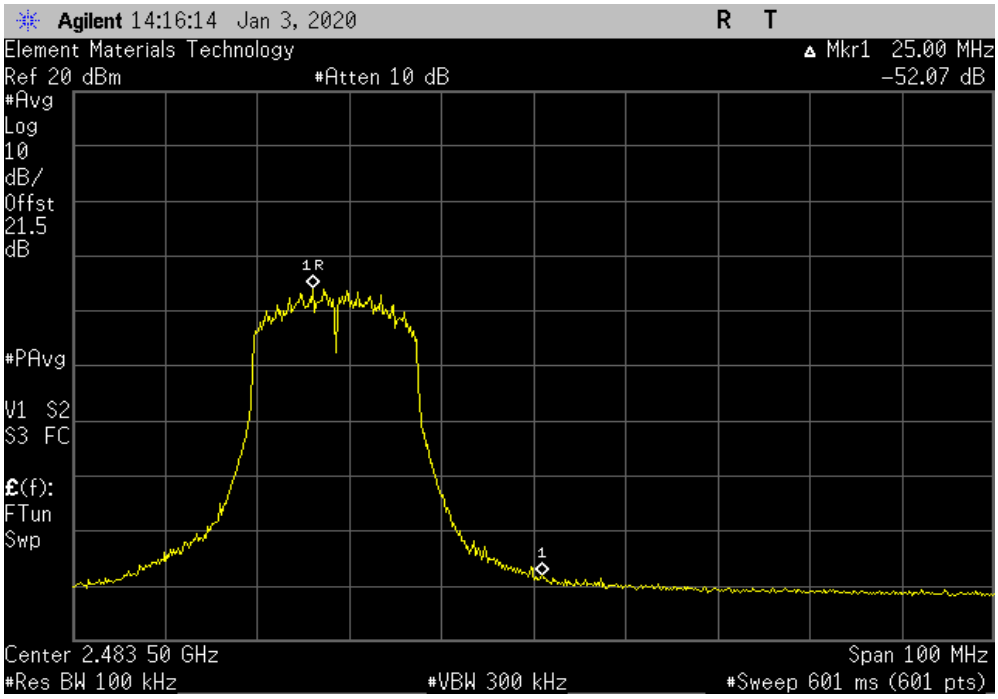
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.26	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-40.55	-30	Pass



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-52.07	-30	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2019.09.05

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	5-Nov-18	5-Nov-21
Meter - Multimeter	Tektronix	DMM912	MMH	15-Feb-19	15-Feb-22
Power Supply - DC	Dr. Meter	PS-305DM	TZZ	NCR	NCR
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	28-Mar-19	28-Mar-20
Attenuator	S.M. Electronics	SA26B-20	AUY	28-Mar-19	28-Mar-20
Terminator	S.M. Electronics	ST2B	AWM	9-Apr-19	9-Apr-20
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	12-Feb-19	12-Feb-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS

element

TbtTx 2019.08.30.0 XMit 2019.09.05

EUT:	**CCU-2**			**Work Order:**	**POLR0058**
Serial Number:	**Unit #6**			**Date:**	**3-Jan-20**
Customer:	**Polaris Industries, Inc.**			**Temperature:**	**21.5 °C**
Attendees:	**Wayne Rieger**			**Humidity:**	**40.6% RH**
Project:	**None**			**Barometric Pres.:**	**1016 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**14VDC**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2020	ANSI C63.10:2013

COMMENTS

All losses through the measurement path were accounted for. The Power level was set to a client software setting of 10000.

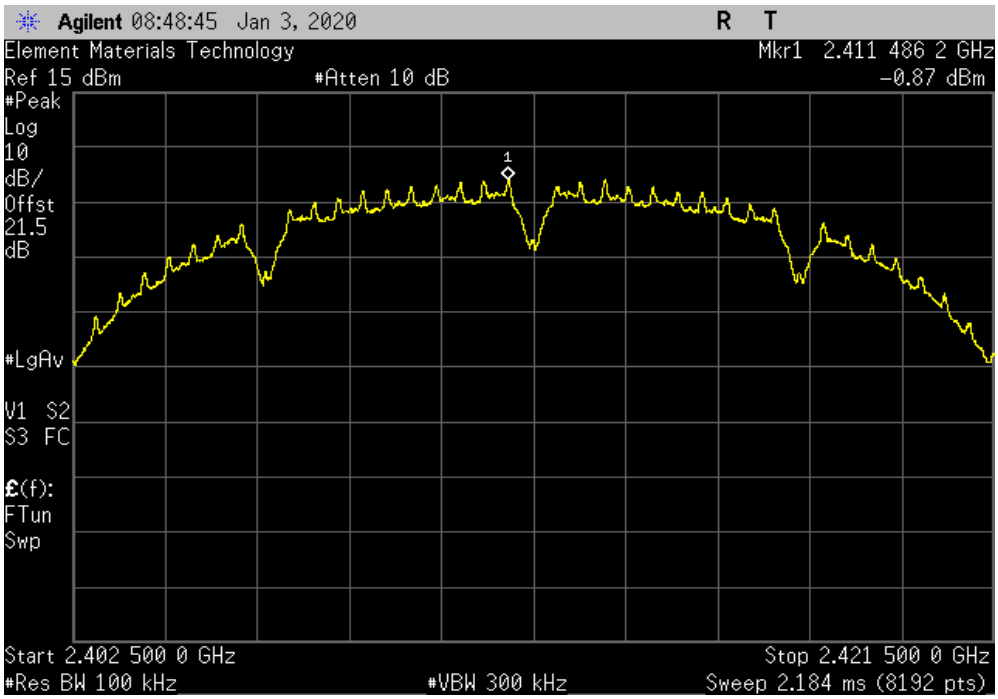
DEVIATIONS FROM TEST STANDARD

None

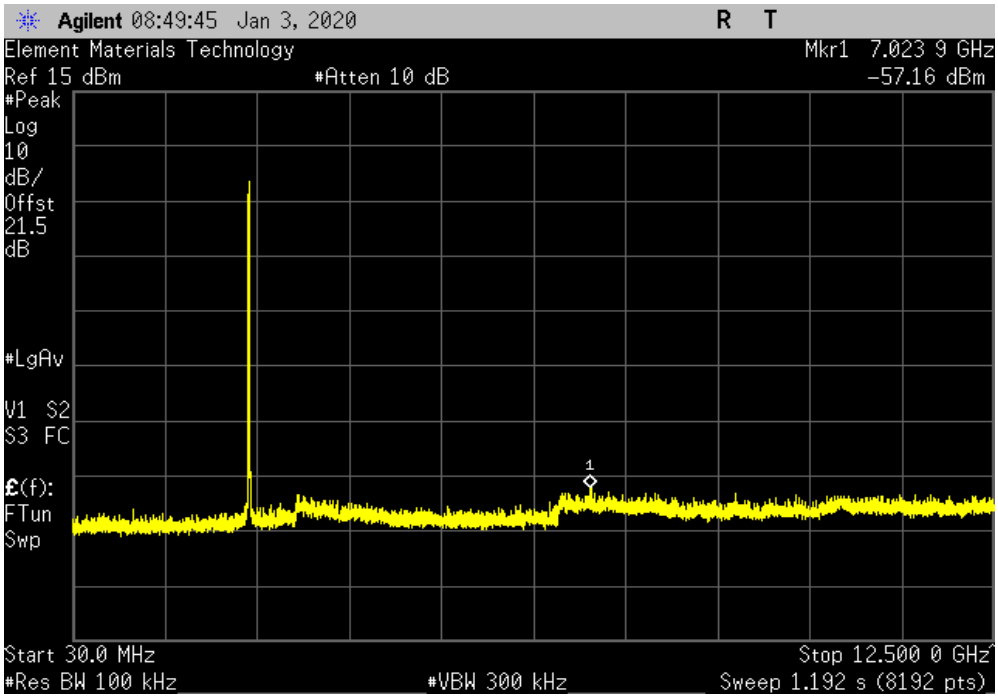
Configuration #	**4**	*Signature*

		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	2411.49	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	7023.9	-56.29	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	24845.9	-53.23	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2437.47	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	10351.9	-57.19	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	24746.7	-53.74	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2461.48	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	3097.6	-56.87	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	20754.5	-53.47	-30	Pass
	802.11(b) 11 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2411.61	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	10475.2	-58.29	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	24792.5	-54.72	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2437.53	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	6918.9	-58.29	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	24975.6	-54.47	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2461.09	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7019.4	-57.03	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24212.6	-53.86	-30	Pass
	802.11(g) 6 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	2385.2	-51.44	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	24847.4	-51.9	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2438.24	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	1870.6	-55.09	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	13577.4	-53.23	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2463.24	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7189.9	-55.81	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24203.4	-52.59	-30	Pass
	802.11(g) 36 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2413.25	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2382.1	-55.28	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	24781.8	-52.41	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2438.26	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	7011.7	-56.56	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	24600.2	-53.18	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2463.25	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	1870.6	-51.05	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24331.6	-52.43	-30	Pass
	802.11(g) 54 Mbps					
	Low Channel 1, 2412 MHz	Fundamental	2413.24	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2377.5	-55.75	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	22254.6	-52.71	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2438.26	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	7037.6	-56.83	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	24633.7	-53	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2463.25	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7011.7	-56.07	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24621.5	-52.19	-30	Pass
	802.11(n) MCS0					
	Low Channel 1, 2412 MHz	Fundamental	2413.24	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	2386.7	-52.13	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	20844.5	-53.02	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2438.23	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	7182.2	-56.18	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	22761.3	-52.14	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2463.24	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7139.6	-56.11	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24128.6	-52.55	-30	Pass
	802.11(n) MCS7					
	Low Channel 1, 2412 MHz	Fundamental	2413.25	N/A	N/A	N/A
	Low Channel 1, 2412 MHz	30 MHz - 12.5 GHz	10476.7	-56.6	-30	Pass
	Low Channel 1, 2412 MHz	12.5 GHz - 25 GHz	14314.5	-53.13	-30	Pass
	Mid Channel 6, 2437 MHz	Fundamental	2438.25	N/A	N/A	N/A
	Mid Channel 6, 2437 MHz	30 MHz - 12.5 GHz	7001.1	-56.5	-30	Pass
	Mid Channel 6, 2437 MHz	12.5 GHz - 25 GHz	13635.4	-52.39	-30	Pass
	High Channel 11, 2462 MHz	Fundamental	2463.25	N/A	N/A	N/A
	High Channel 11, 2462 MHz	30 MHz - 12.5 GHz	7004.1	-55.5	-30	Pass
	High Channel 11, 2462 MHz	12.5 GHz - 25 GHz	24038.6	-52.9	-30	Pass

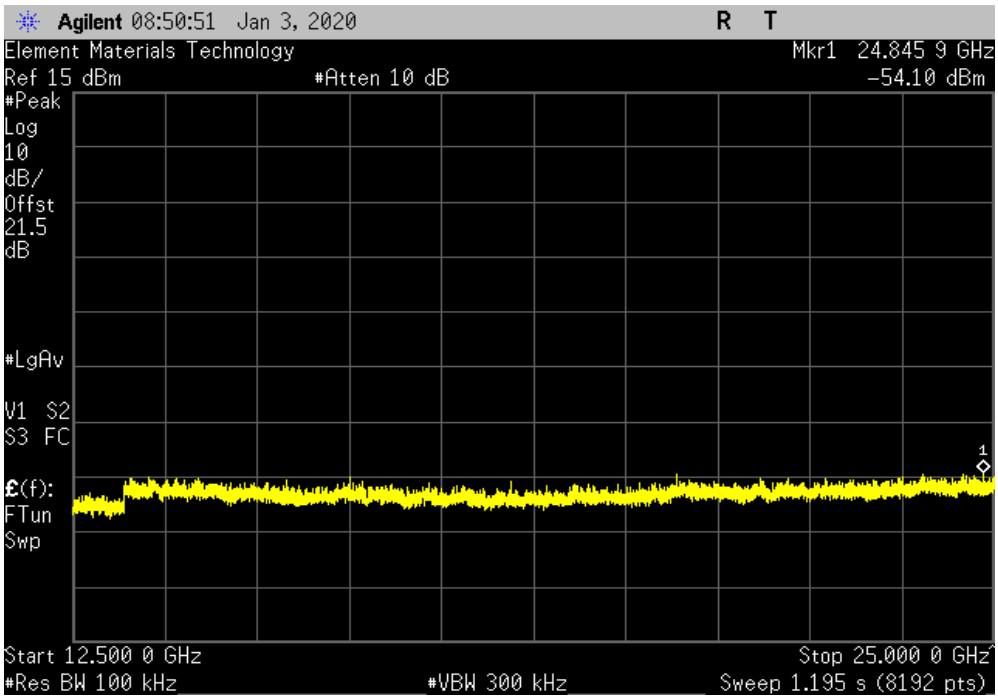
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental		2411.49	N/A	N/A	N/A



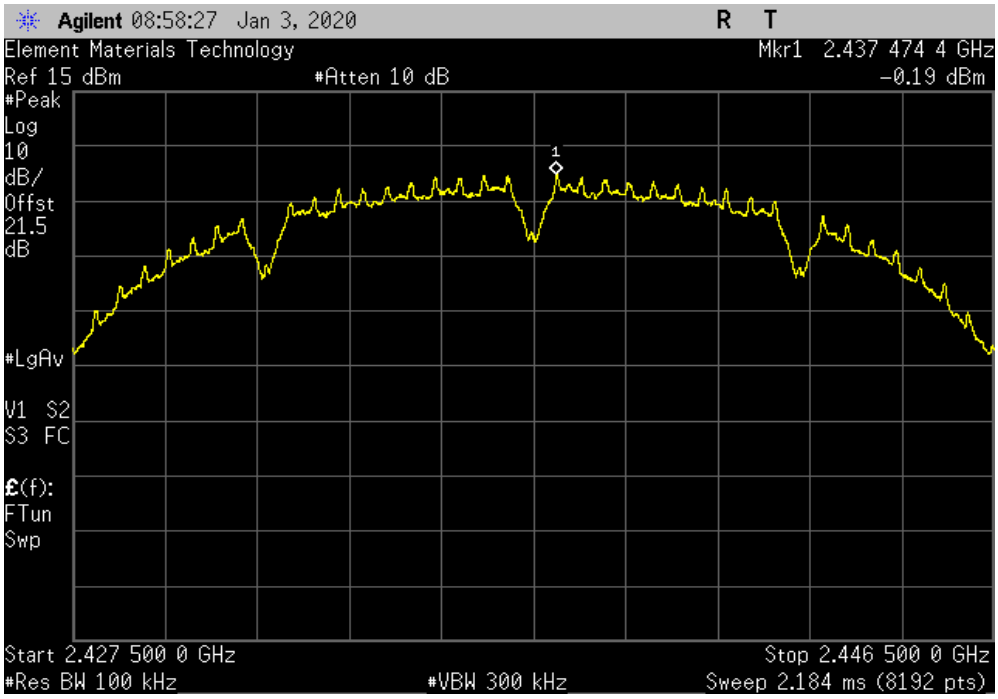
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	7023.9	-56.29	-30	Pass



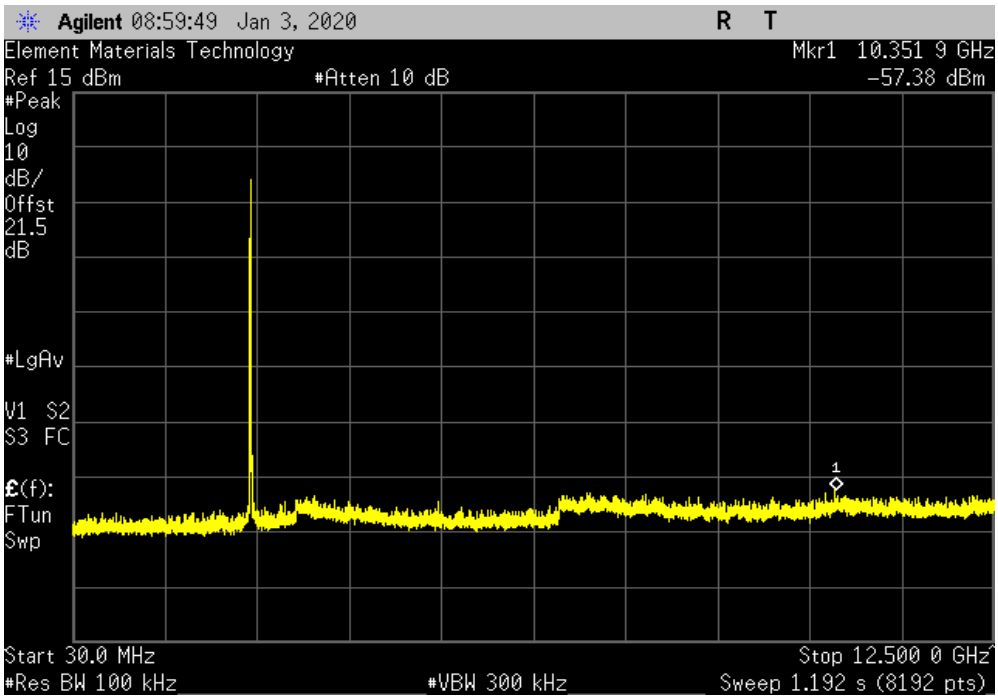
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz	24845.9	-53.23	-30	Pass



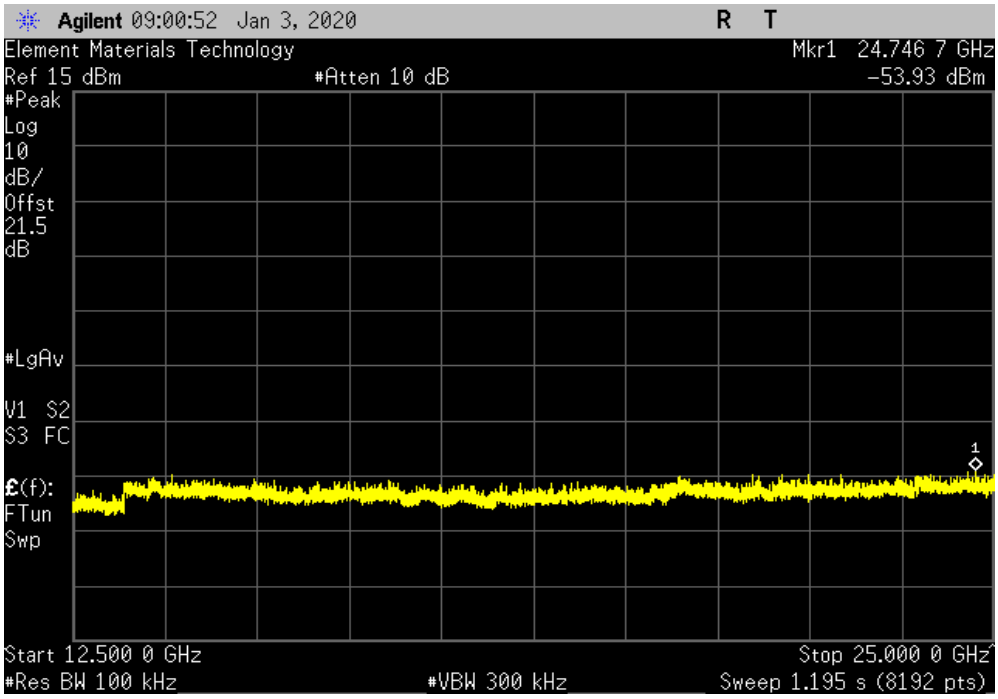
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Fundamental	2437.47	N/A	N/A	N/A



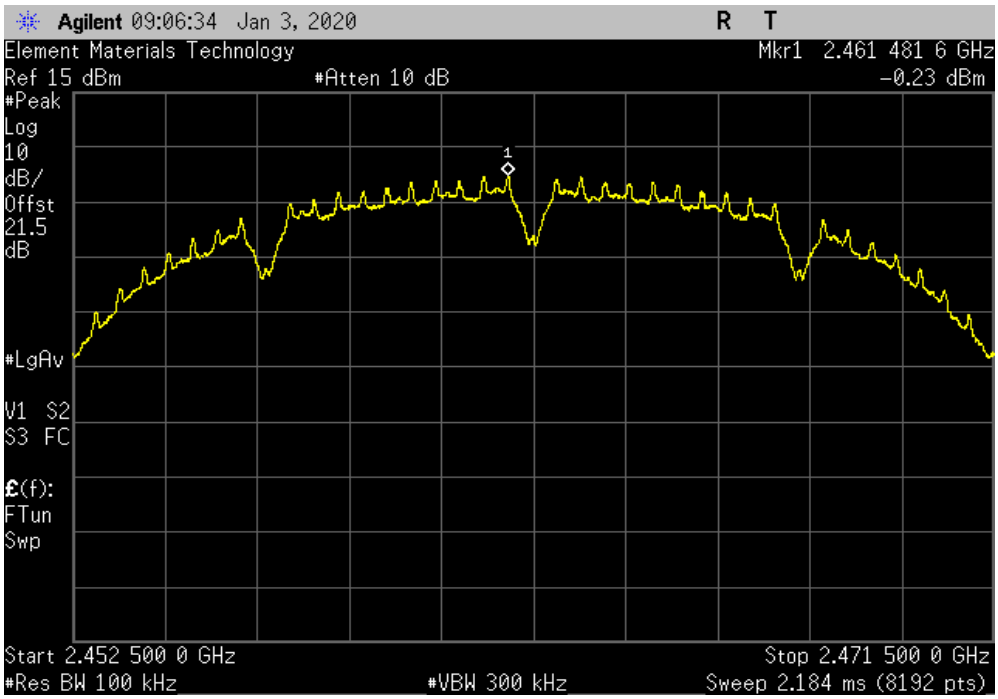
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	10351.9	-57.19	-30	Pass



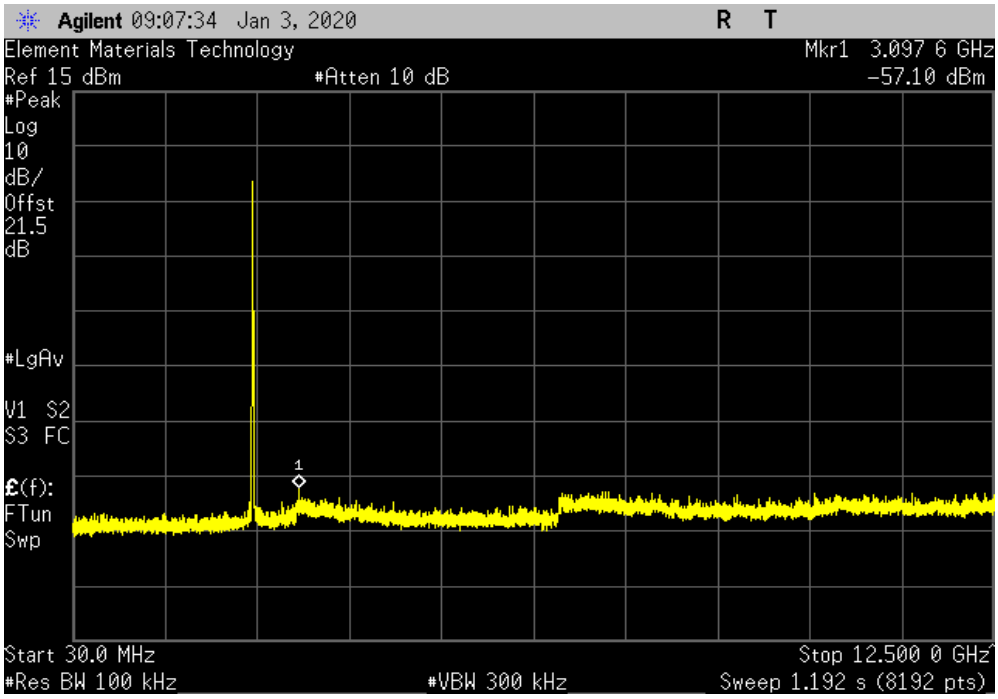
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24746.7	-53.74	-30	Pass



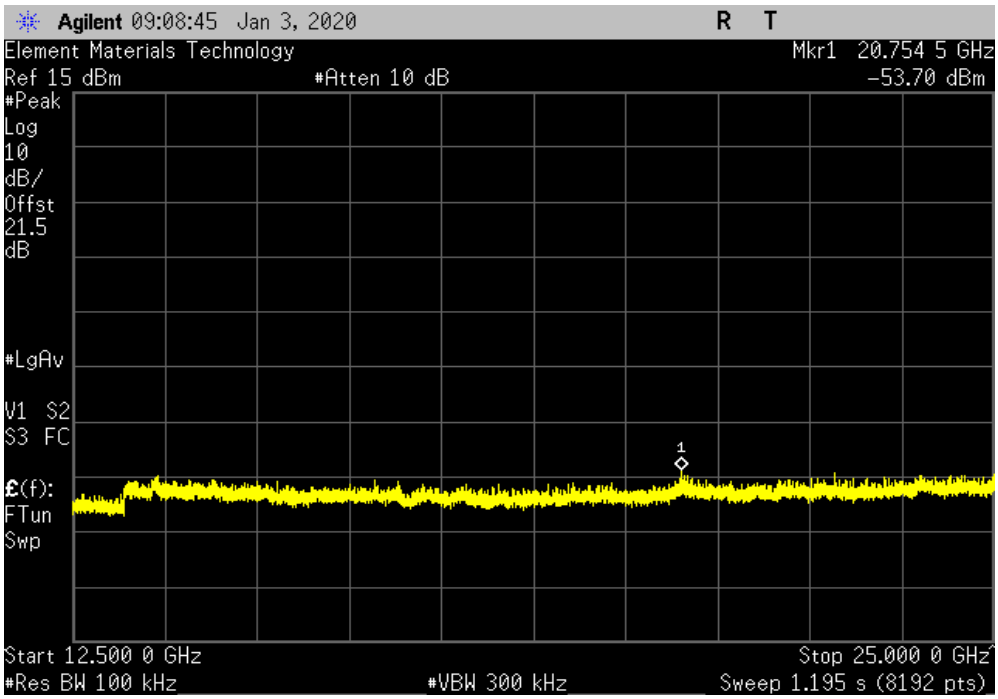
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2461.48	N/A	N/A	N/A



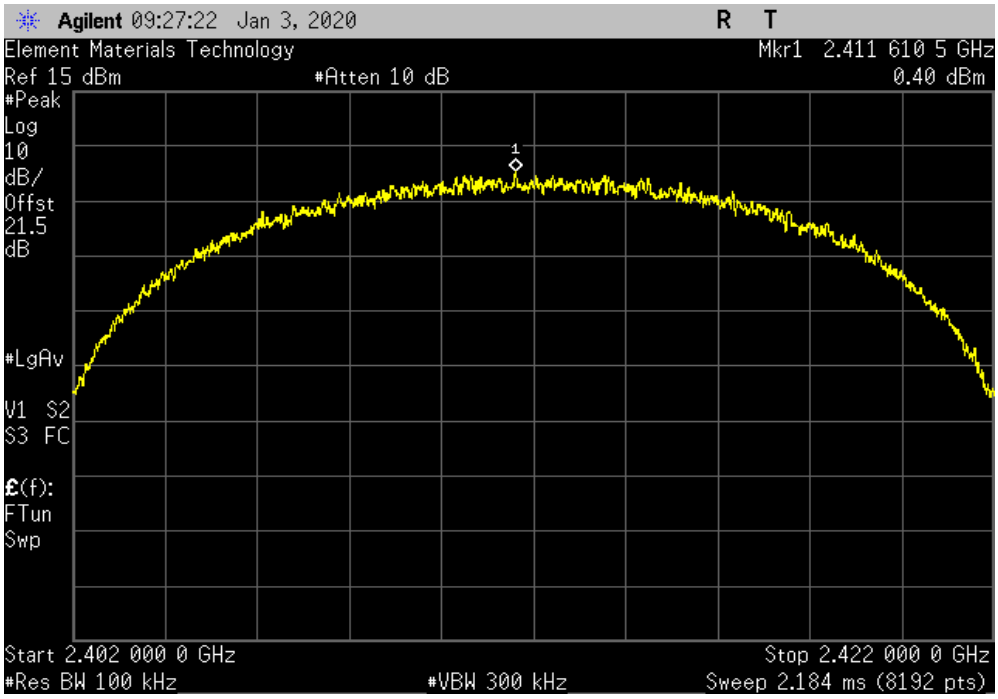
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	3097.6	-56.87	-30	Pass



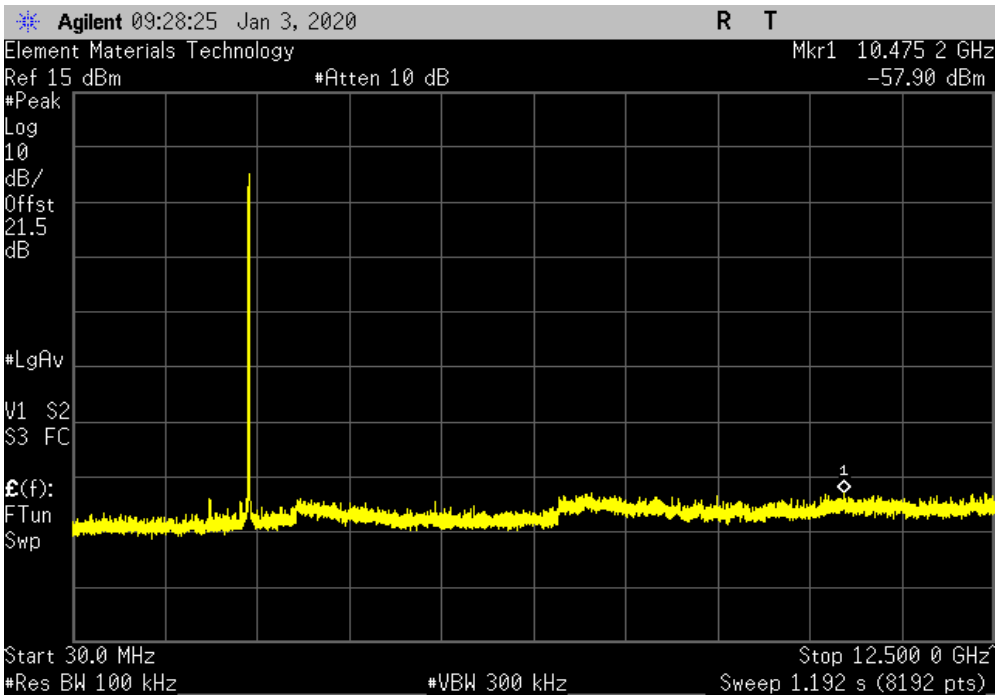
2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	20754.5	-53.47	-30	Pass



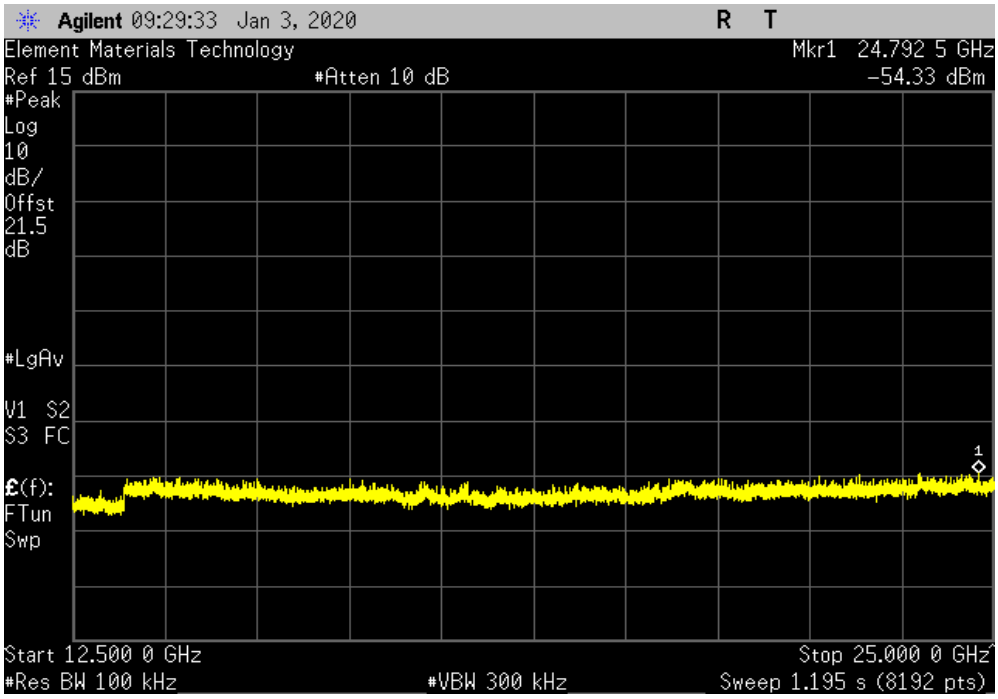
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
Fundamental		2411.61	N/A	N/A	N/A



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	10475.2	-58.29	-30	Pass

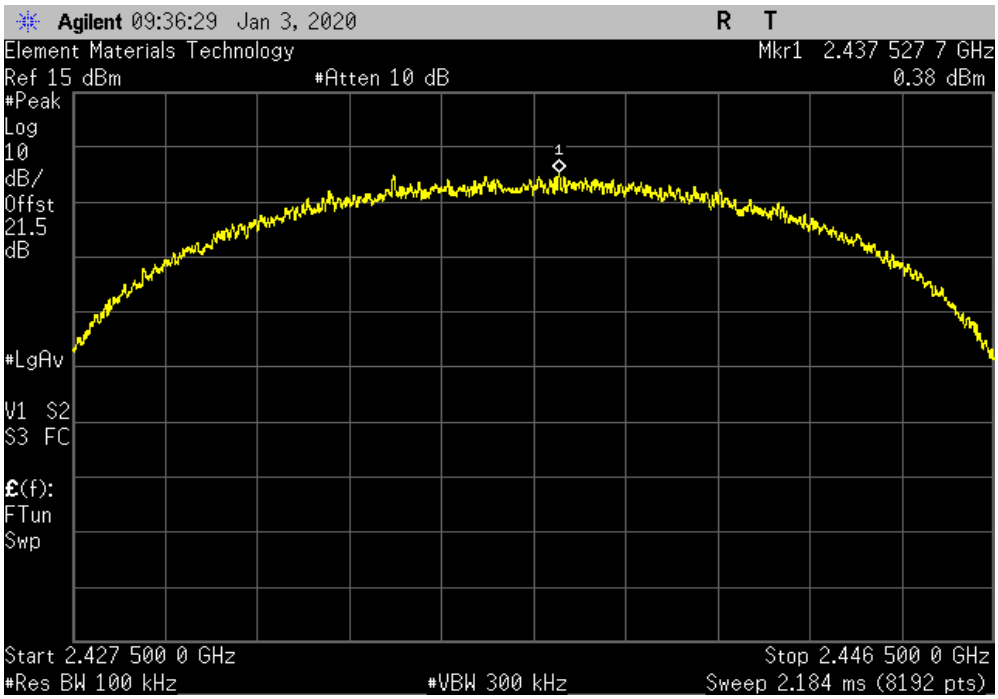


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24792.5	-54.72	-30	Pass



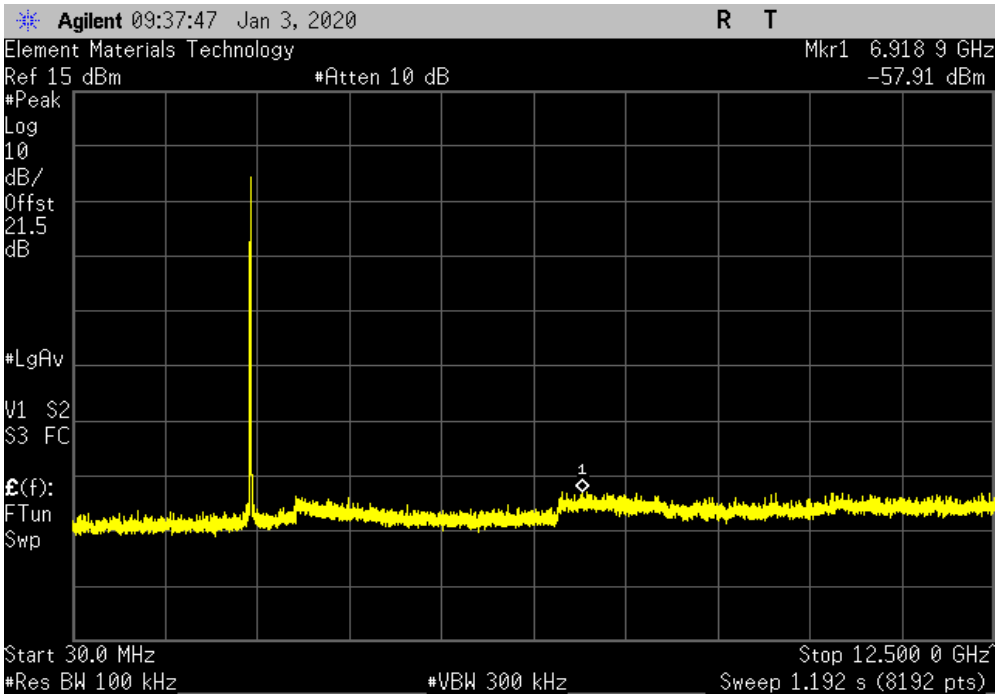
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2437.53	N/A	N/A	N/A

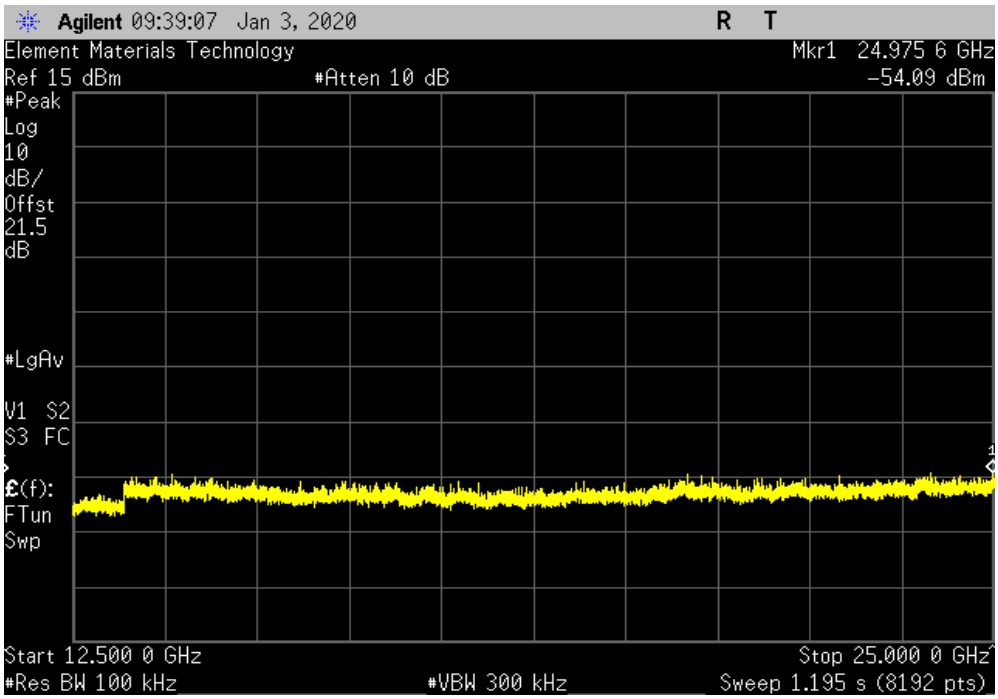


2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz

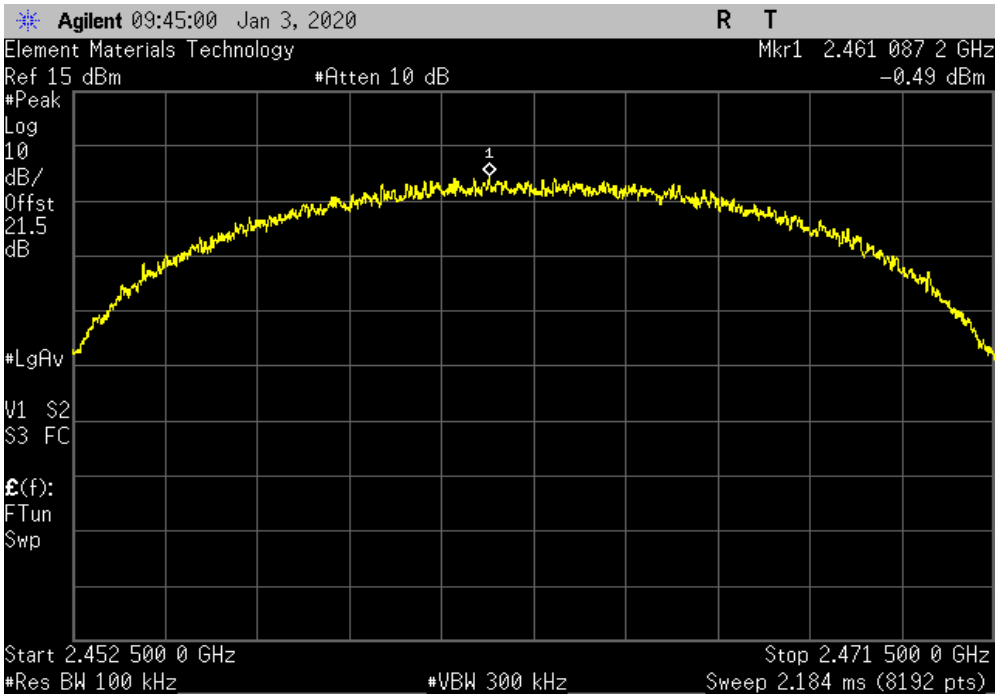
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	6918.9	-58.29	-30	Pass



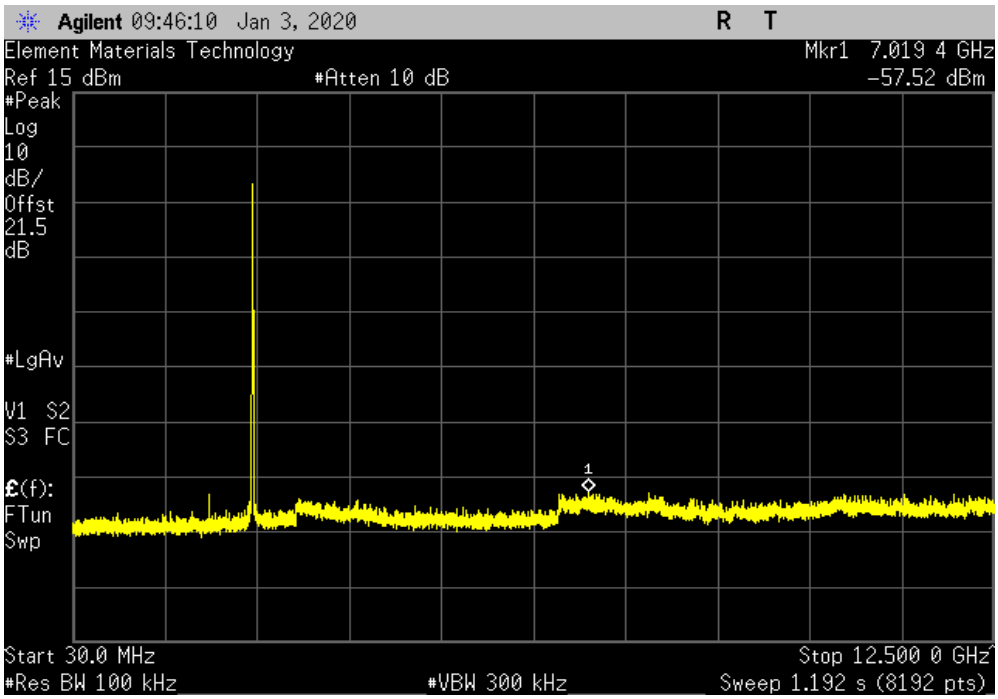
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz	24975.6	-54.47	-30	Pass



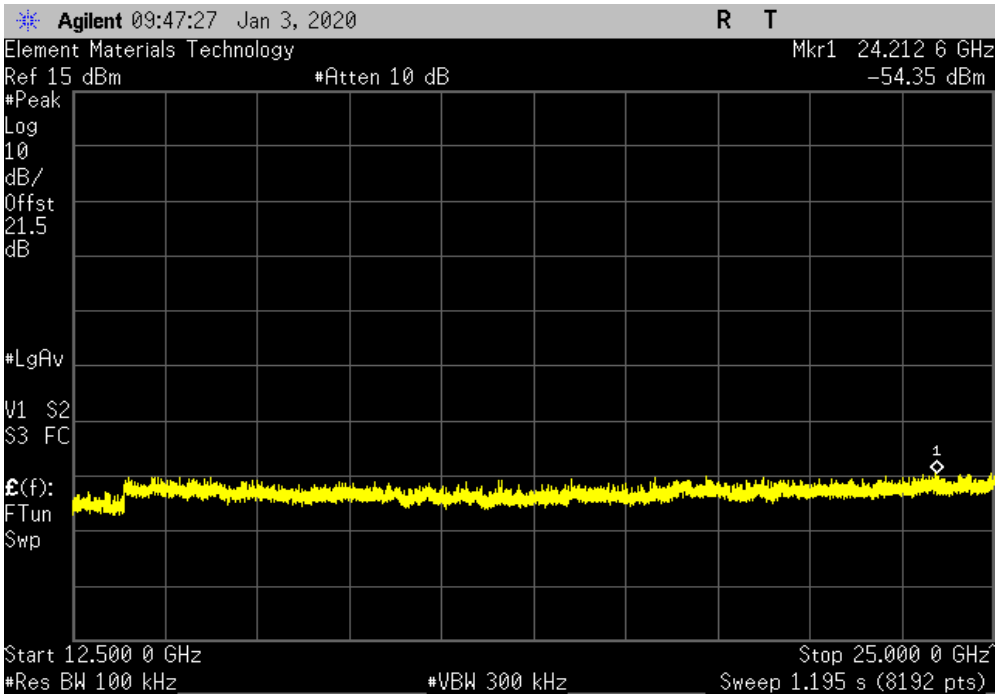
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Fundamental	2461.09	N/A	N/A	N/A



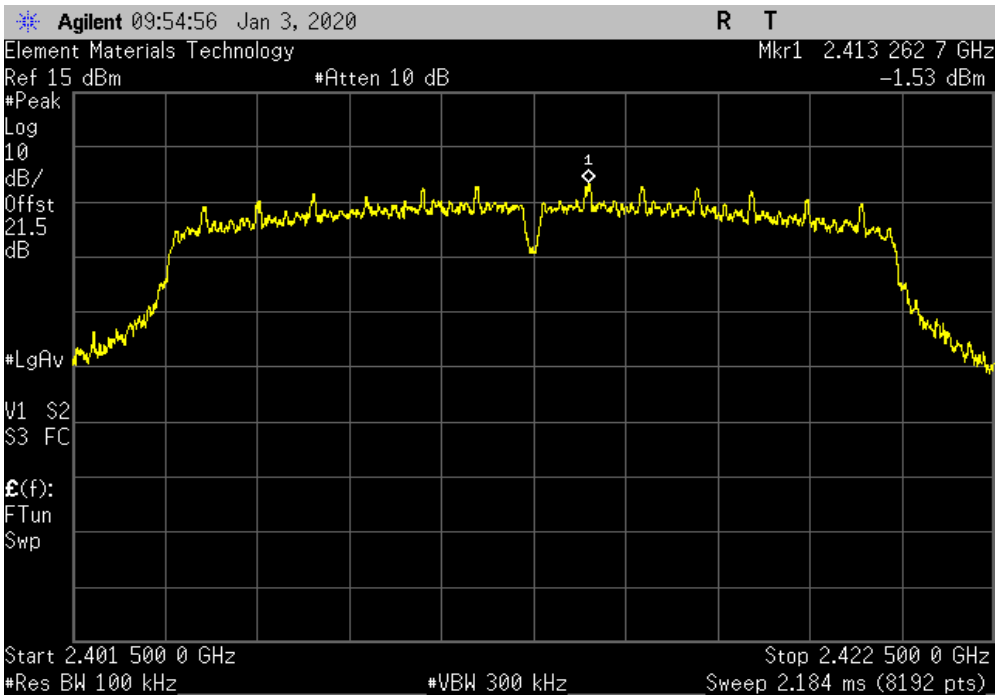
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	7019.4	-57.03	-30	Pass



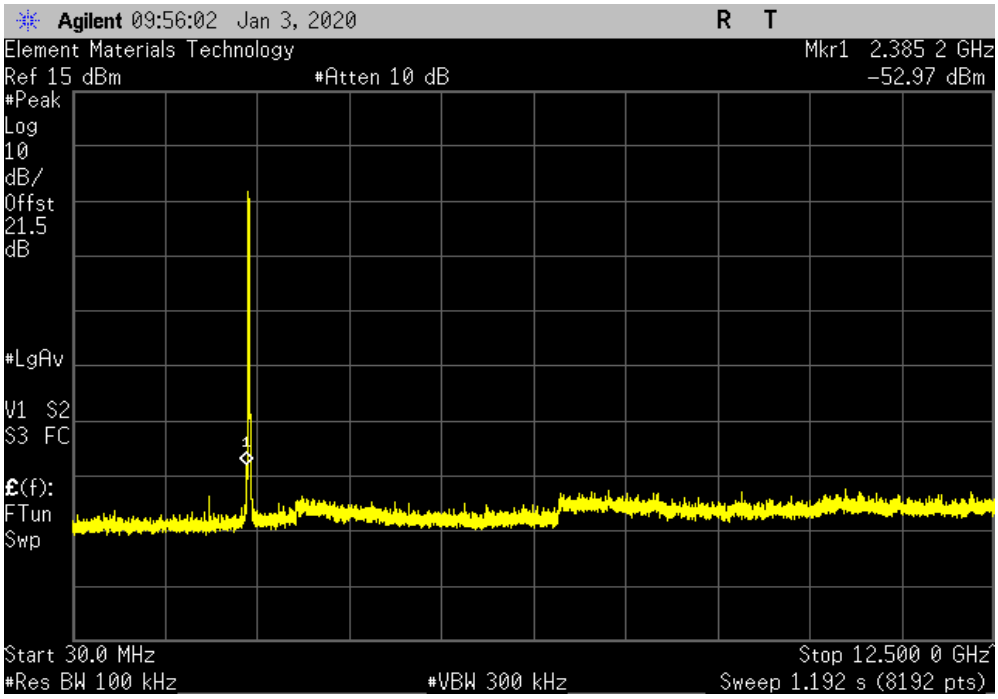
2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24212.6	-53.86	-30	Pass



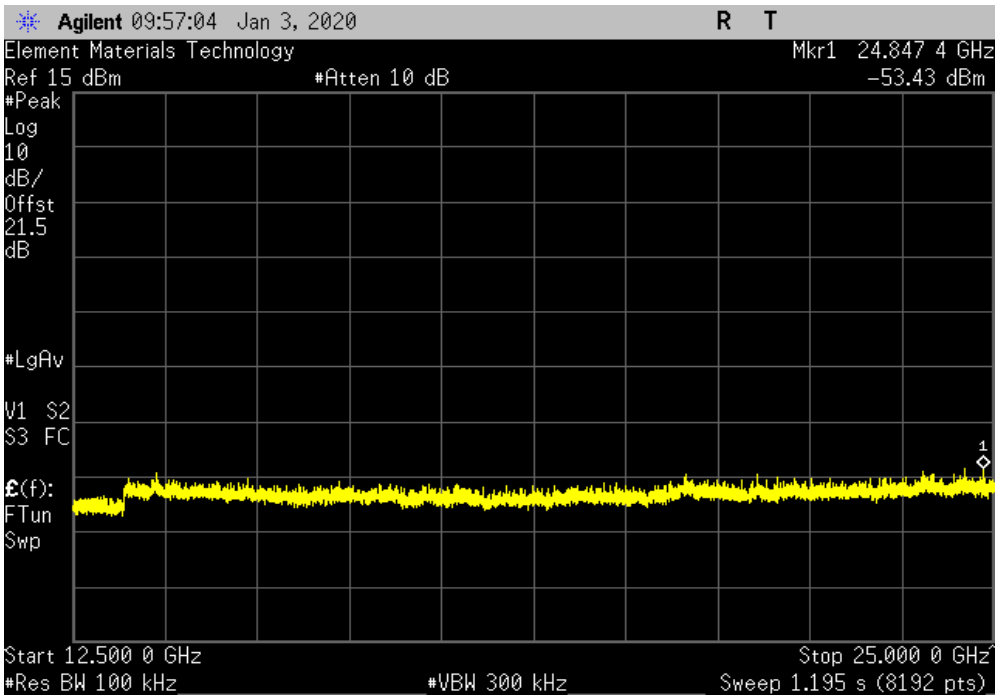
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2413.26	N/A	N/A	N/A



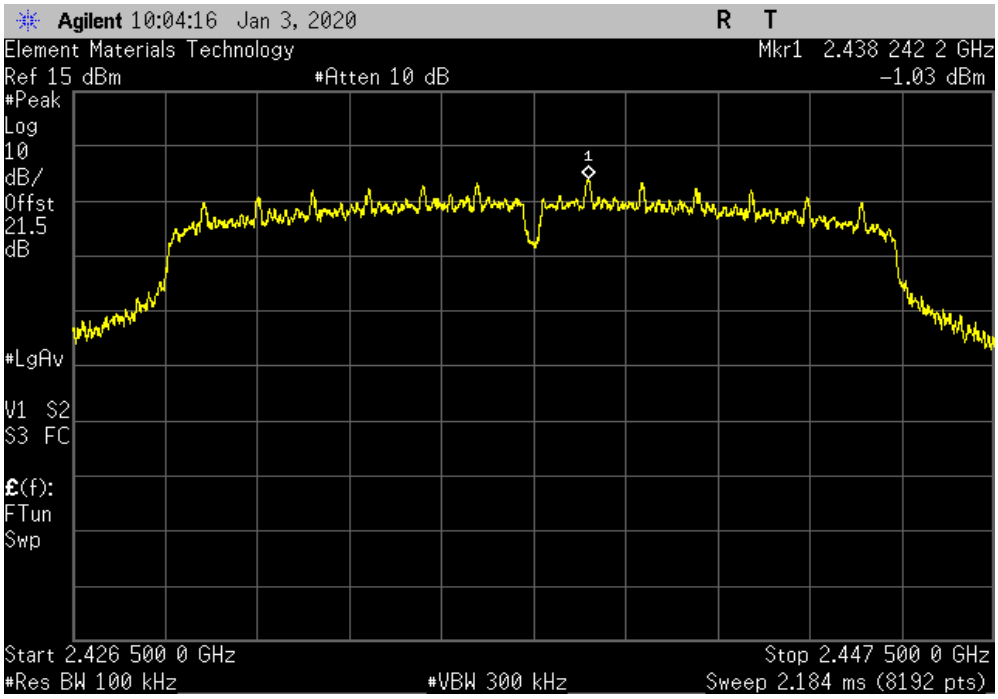
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	2385.2	-51.44	-30	Pass



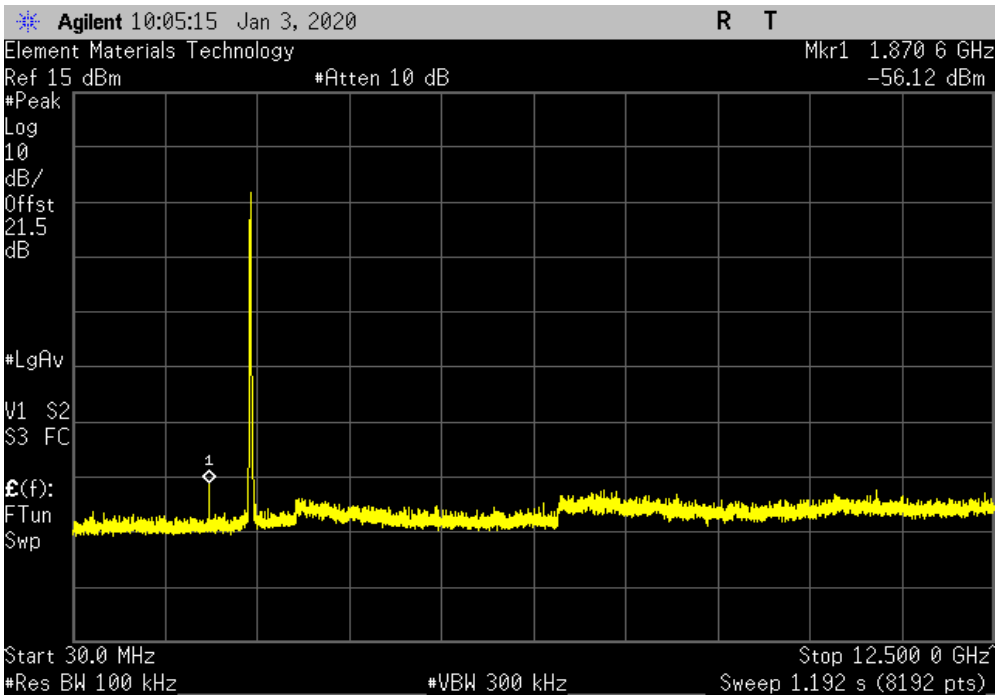
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24847.4	-51.9	-30	Pass



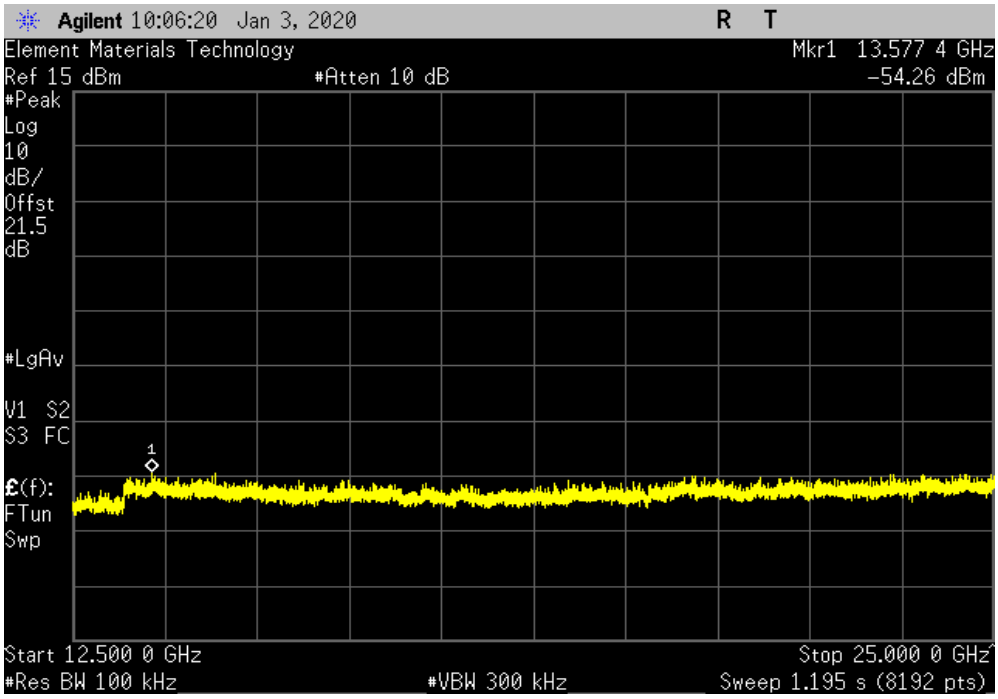
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
Fundamental	2438.24	N/A	N/A	N/A



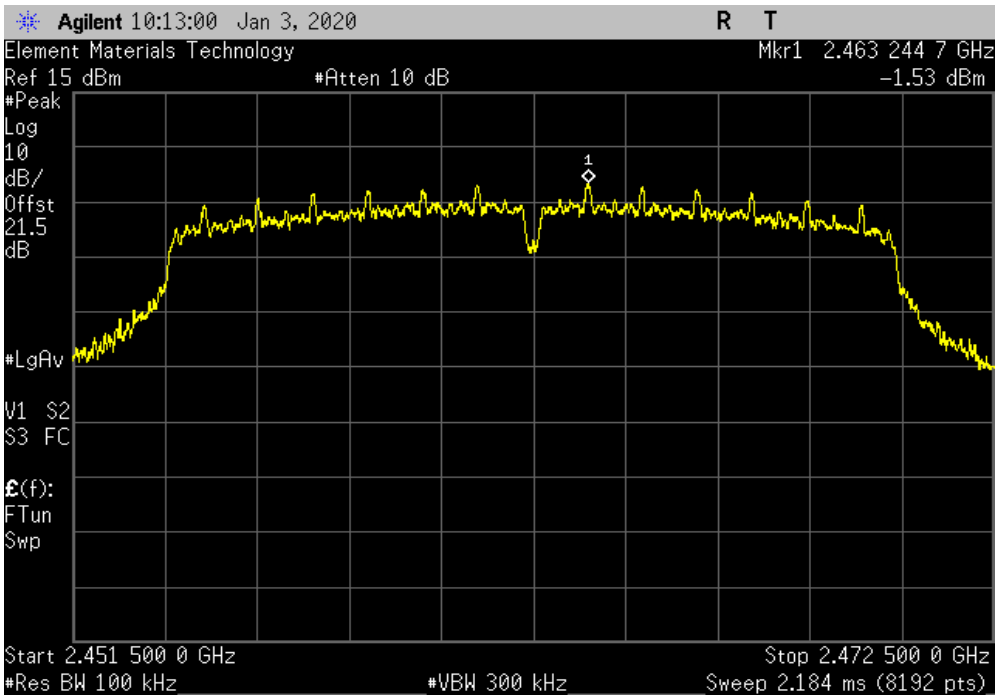
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	1870.6	-55.09	-30	Pass



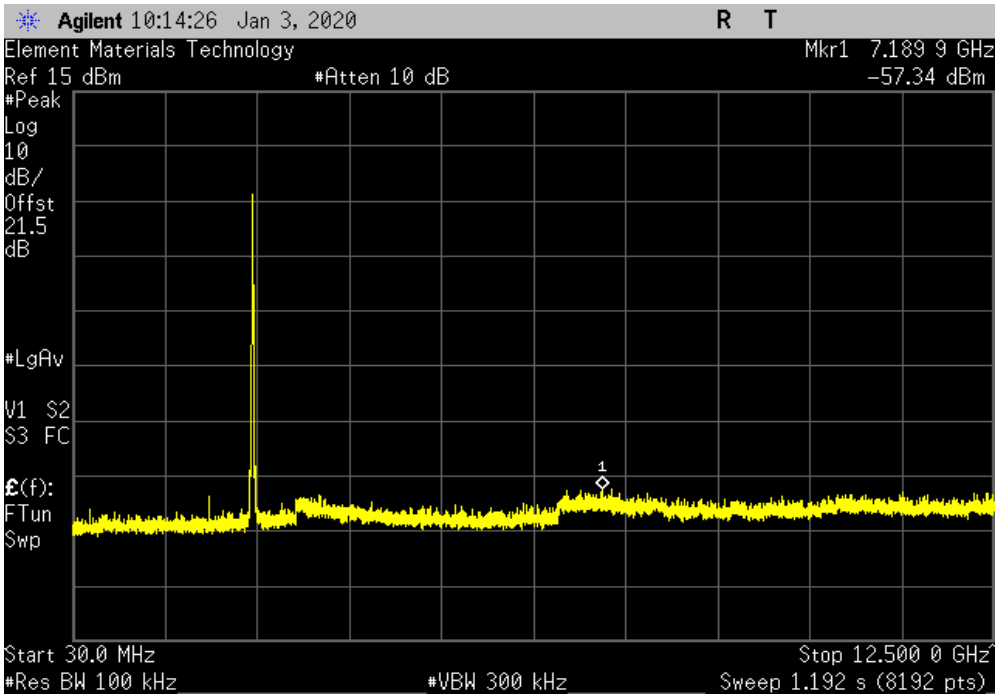
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	13577.4	-53.23	-30	Pass



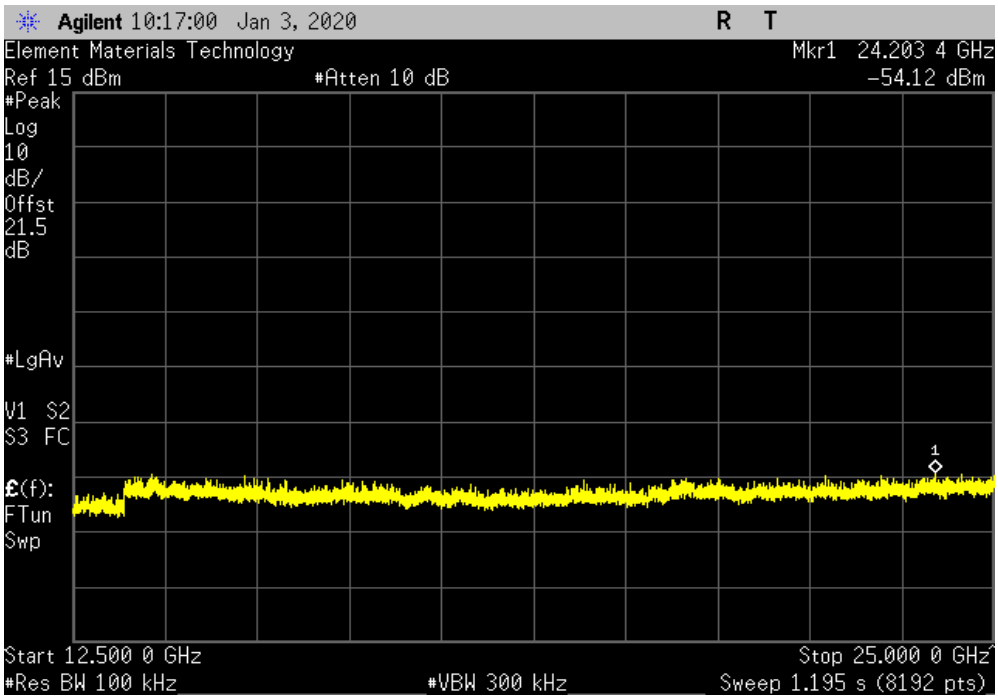
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2463.24	N/A	N/A	N/A



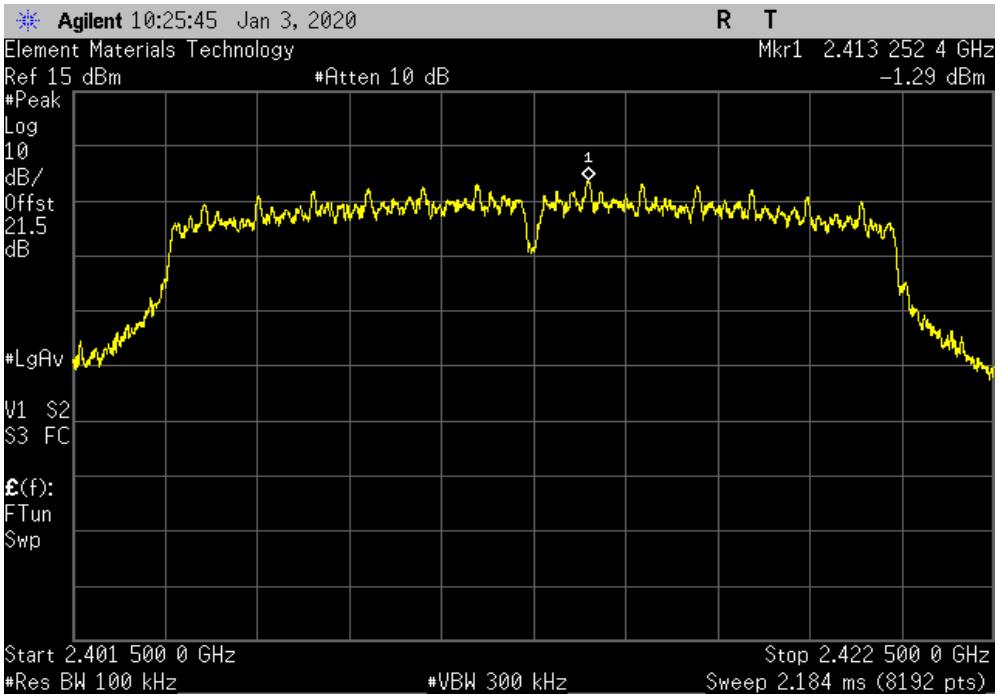
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	7189.9	-55.81	-30	Pass



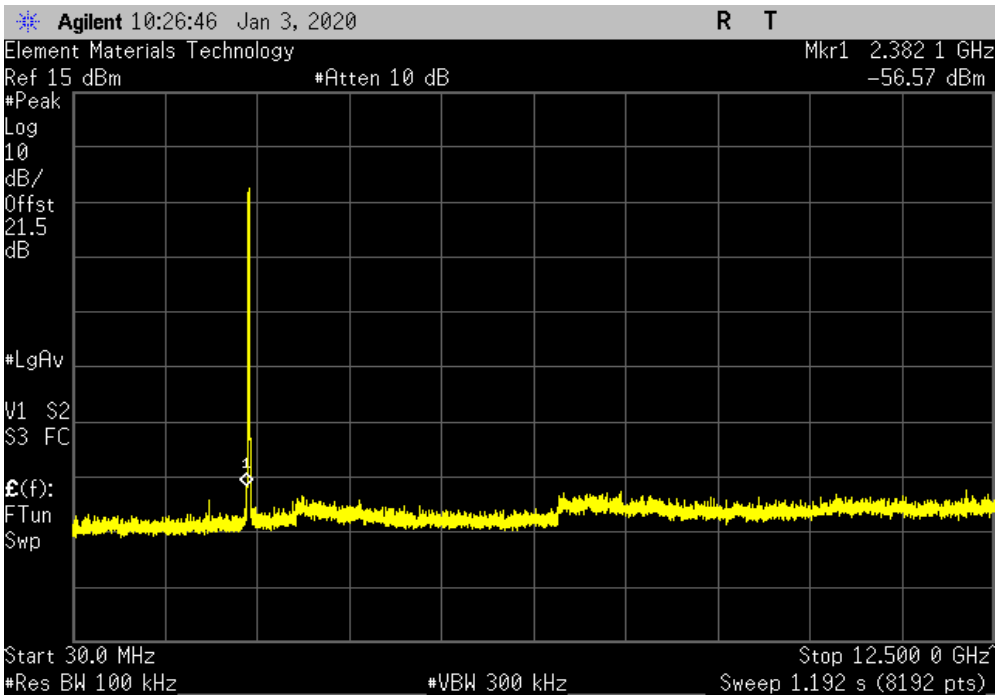
2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24203.4	-52.59	-30	Pass



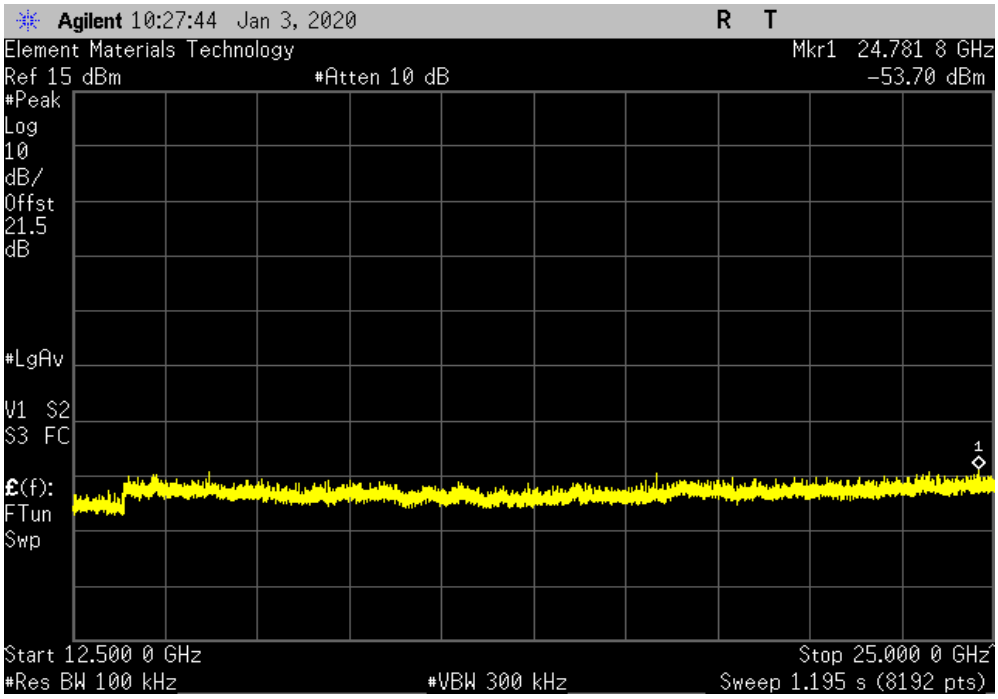
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
Fundamental		2413.25	N/A	N/A	N/A



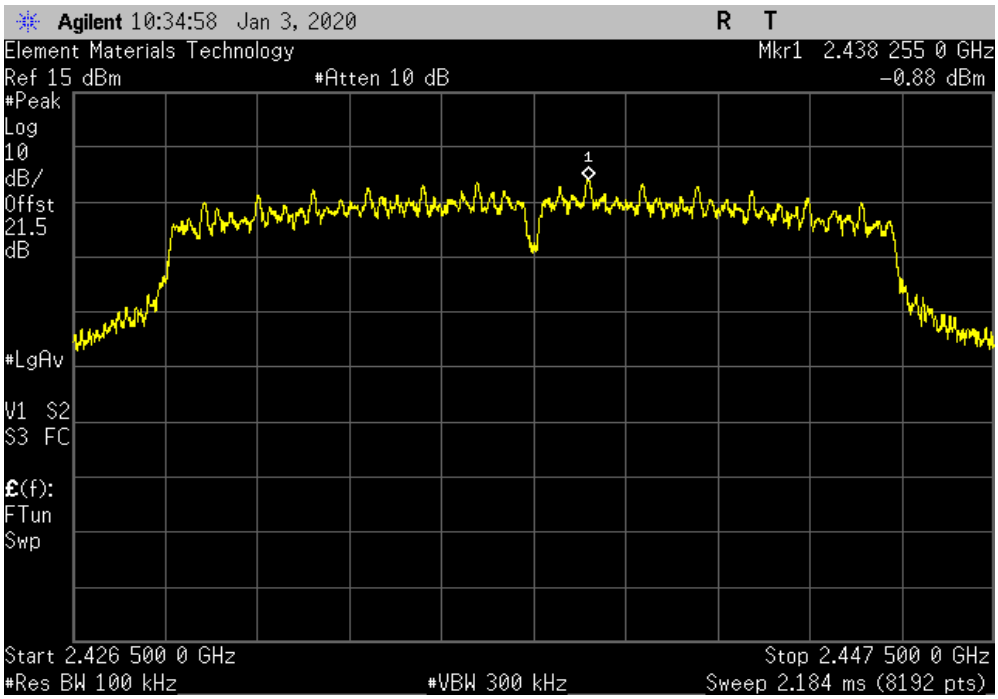
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	2382.1	-55.28	-30	Pass



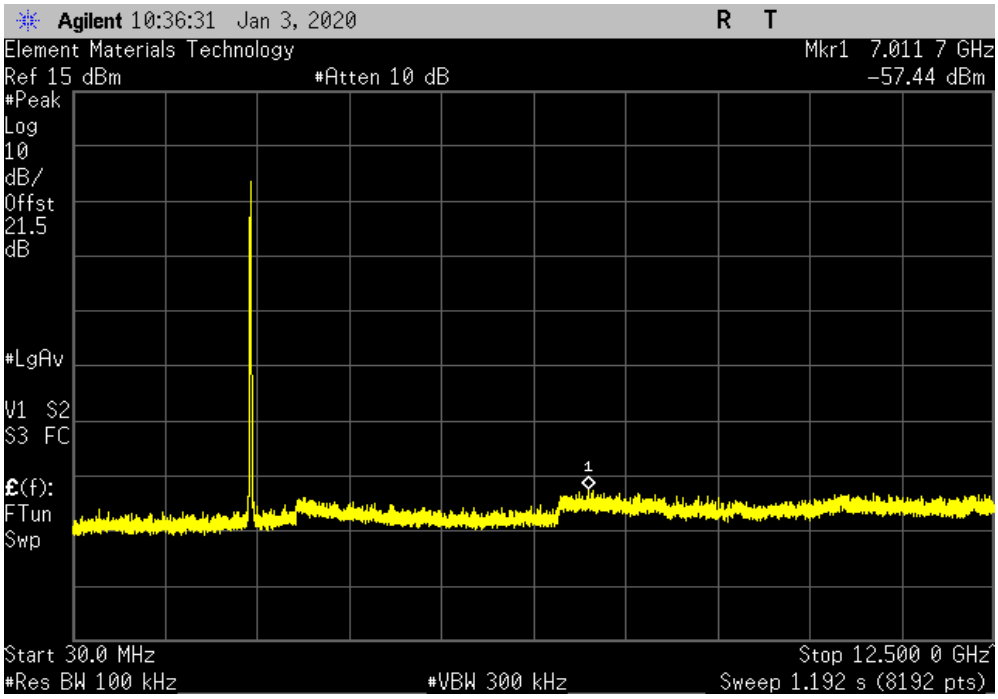
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24781.8	-52.41	-30	Pass



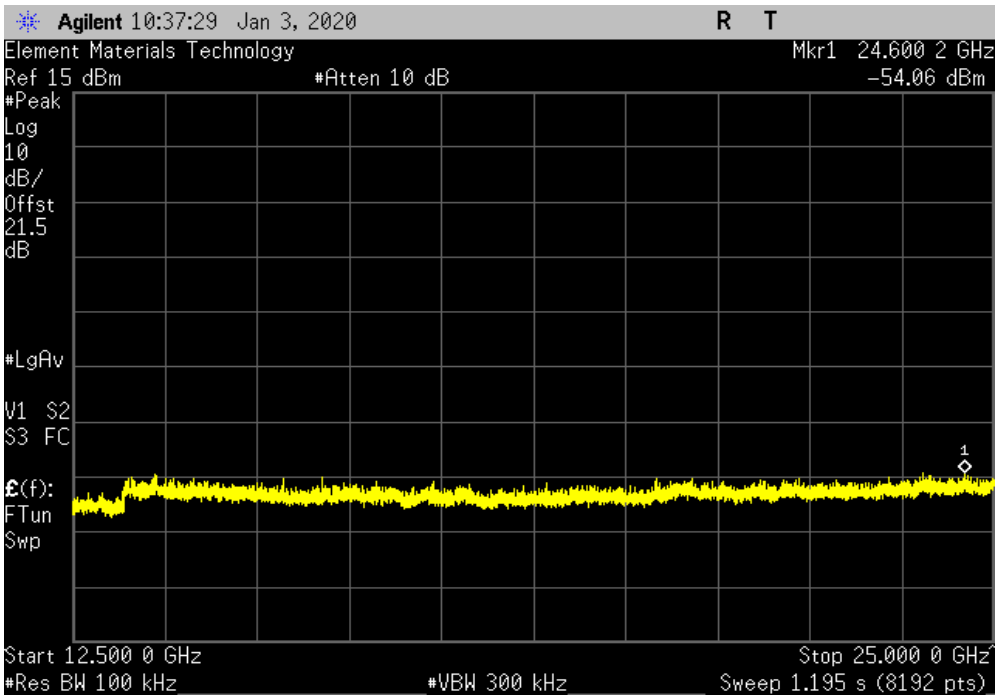
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental		2438.26	N/A	N/A	N/A



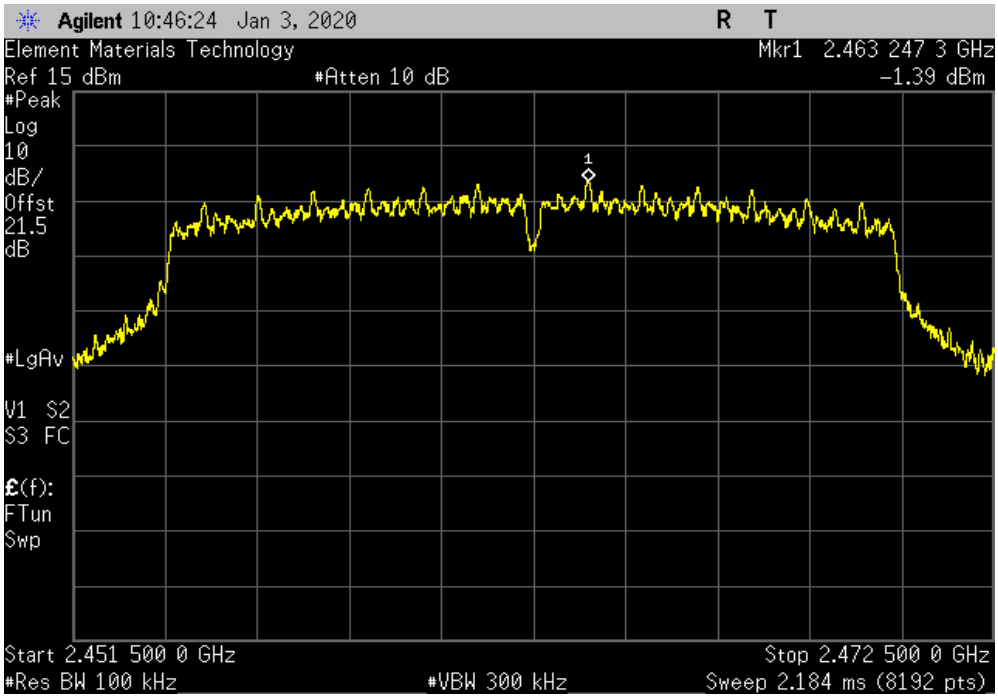
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	7011.7	-56.56	-30	Pass



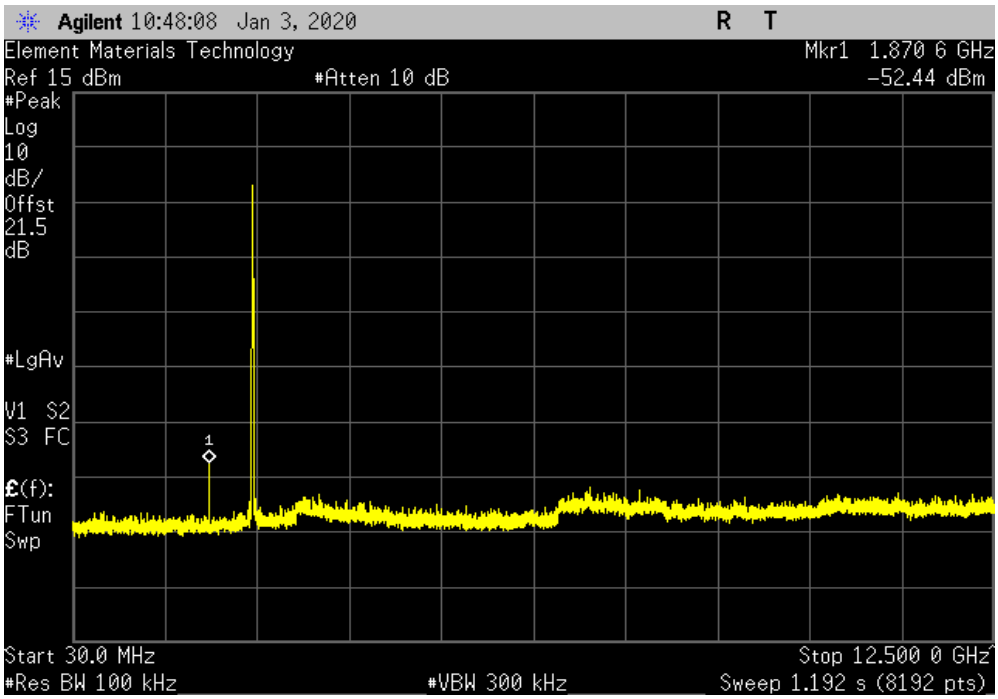
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24600.2	-53.18	-30	Pass



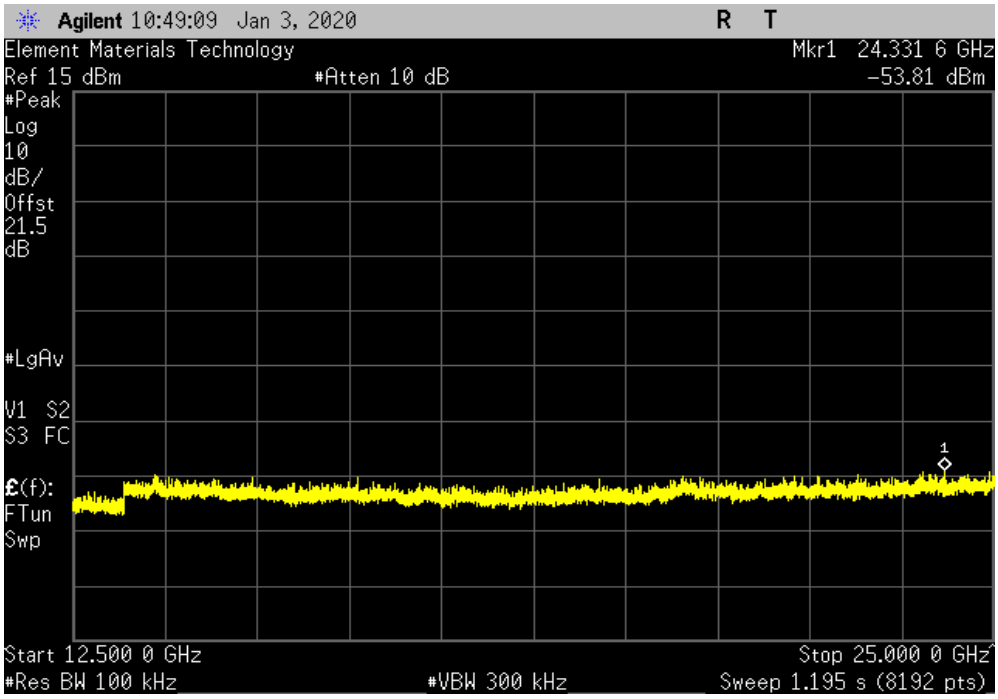
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
Fundamental		2463.25	N/A	N/A	N/A



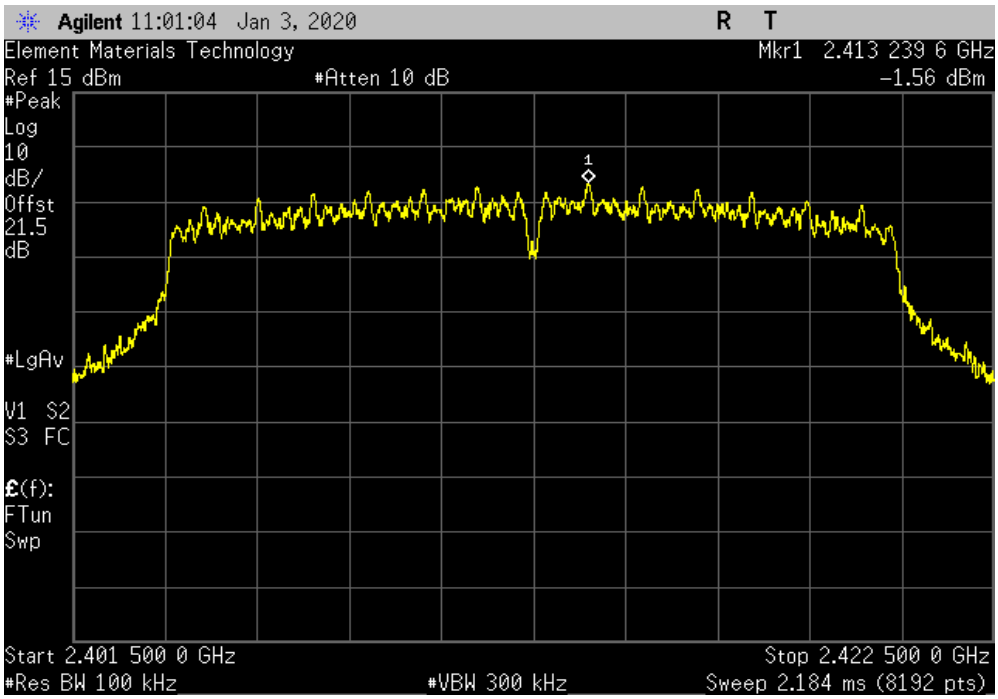
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	1870.6	-51.05	-30	Pass



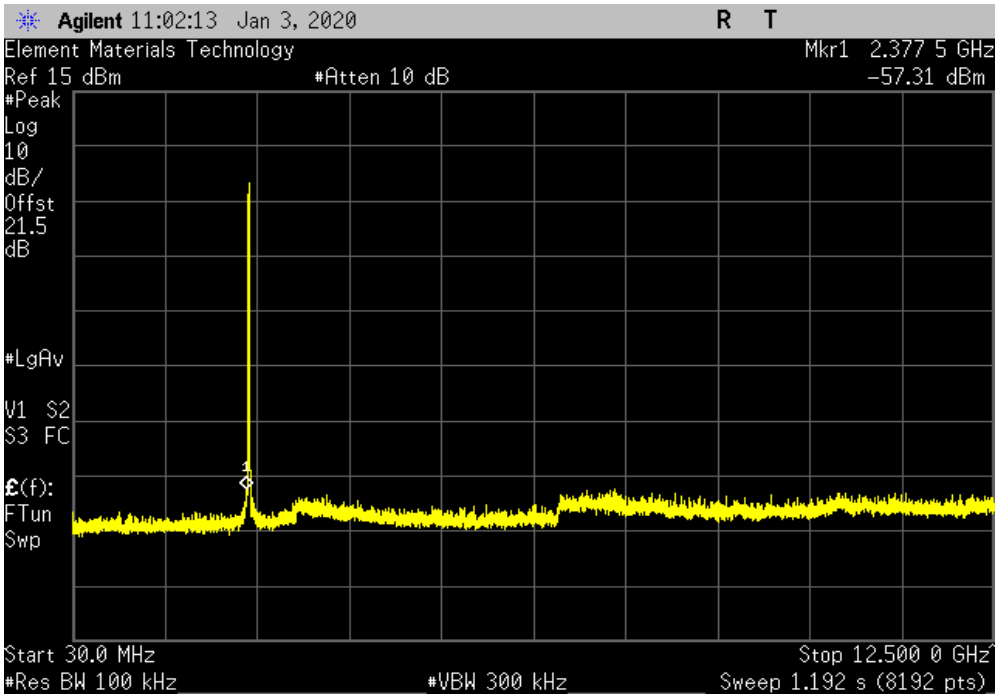
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24331.6	-52.43	-30	Pass



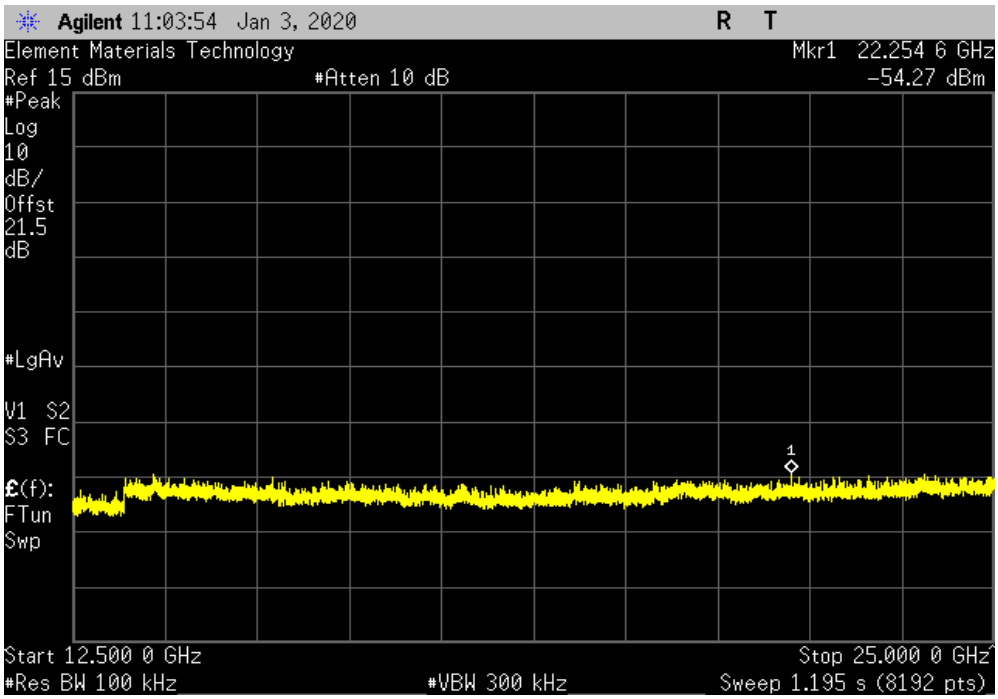
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental		2413.24	N/A	N/A	N/A



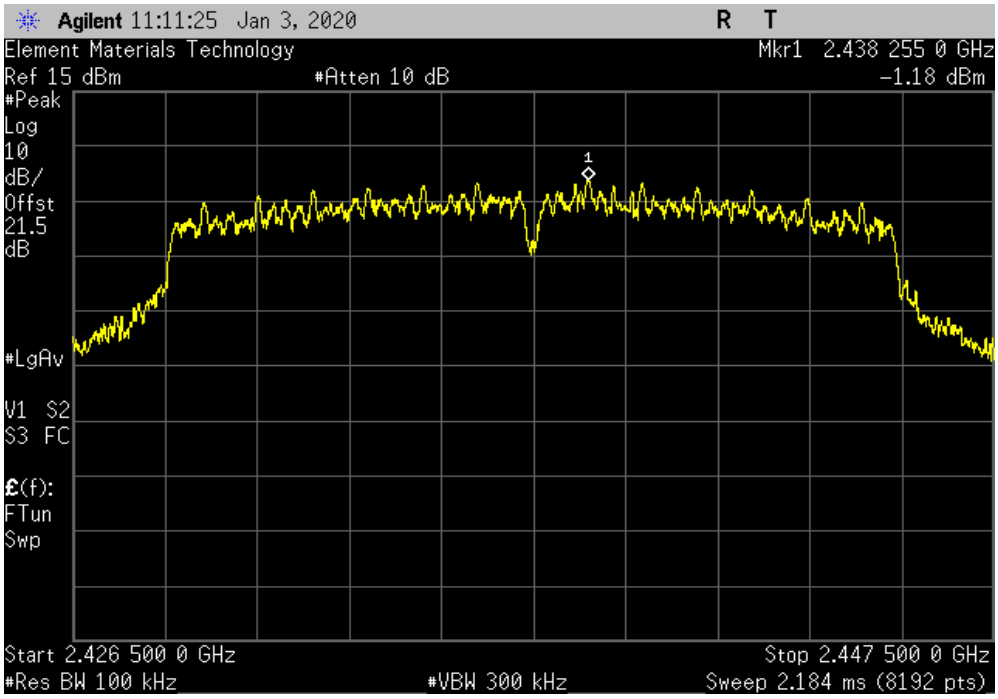
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	2377.5	-55.75	-30	Pass



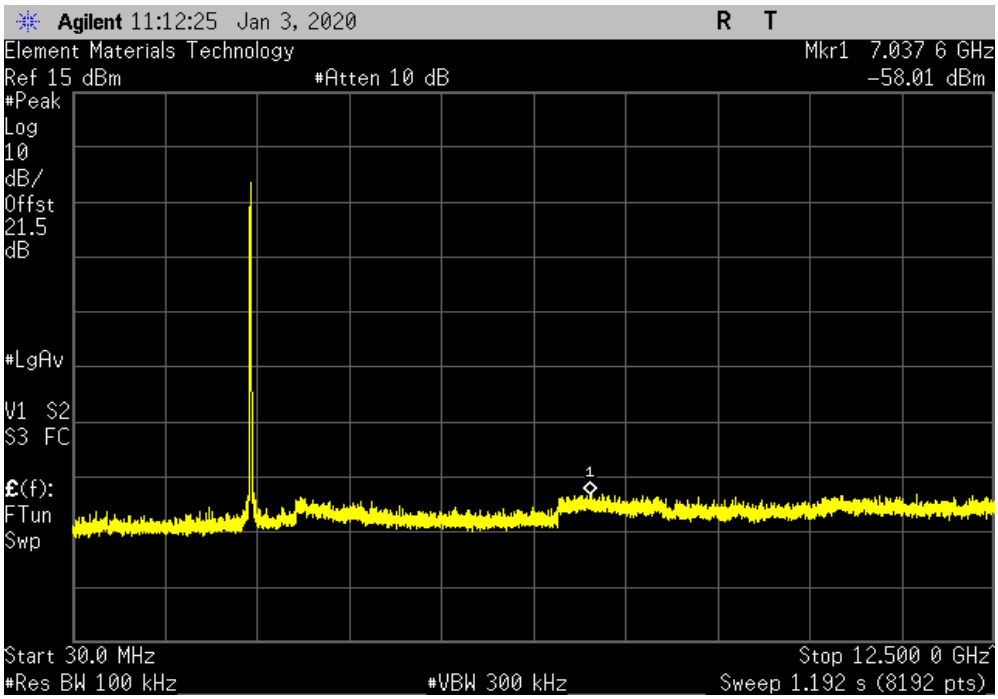
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	22254.6	-52.71	-30	Pass



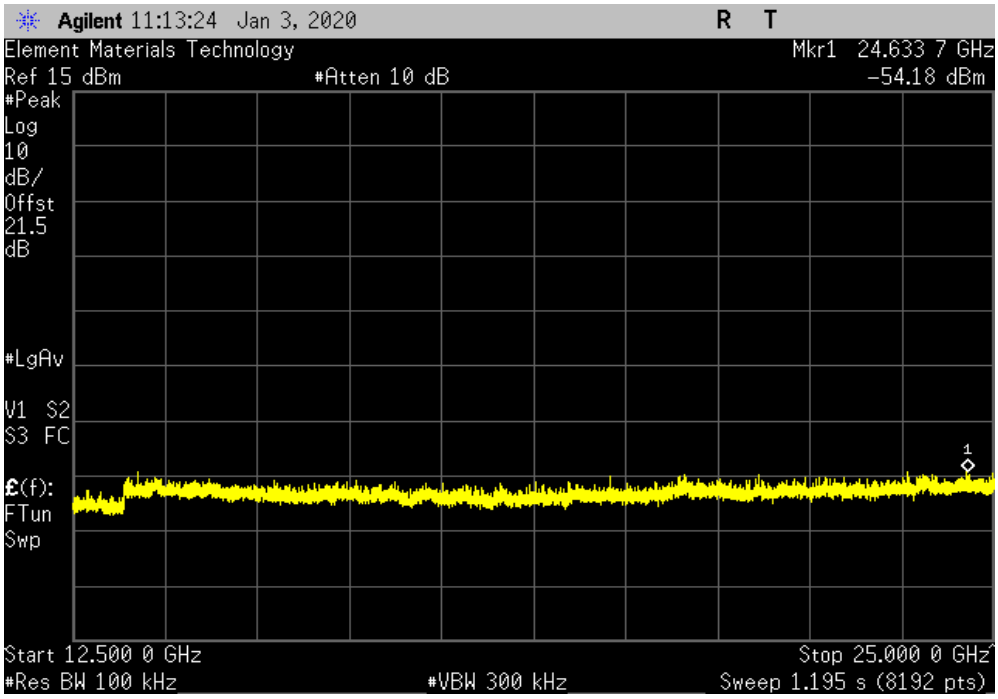
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
	Fundamental	2438.26	N/A	N/A	N/A



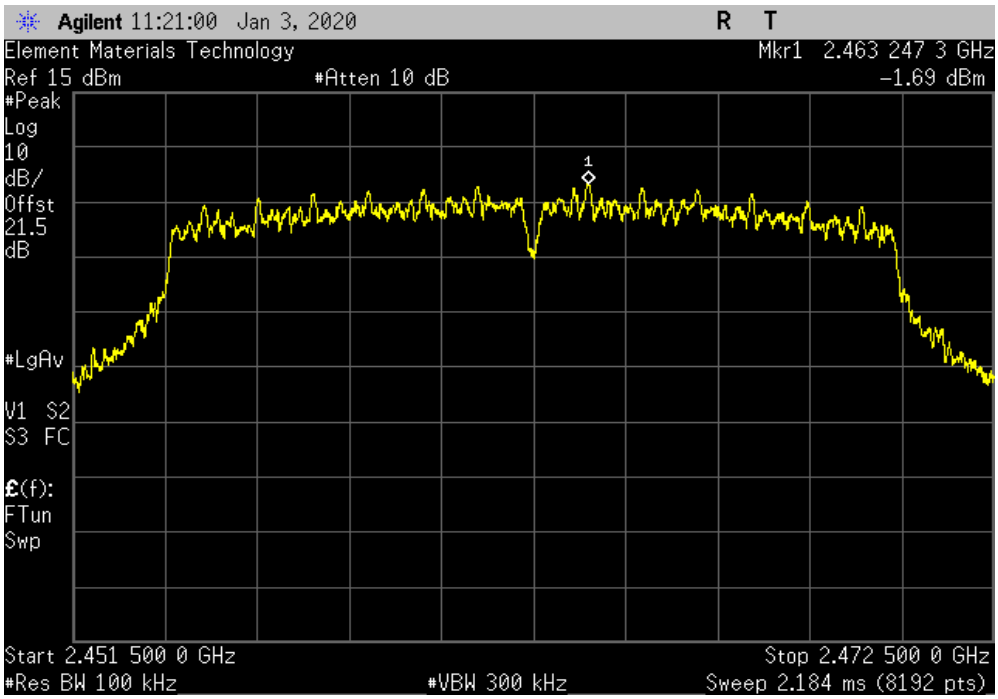
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	7037.6	-56.83	-30	Pass



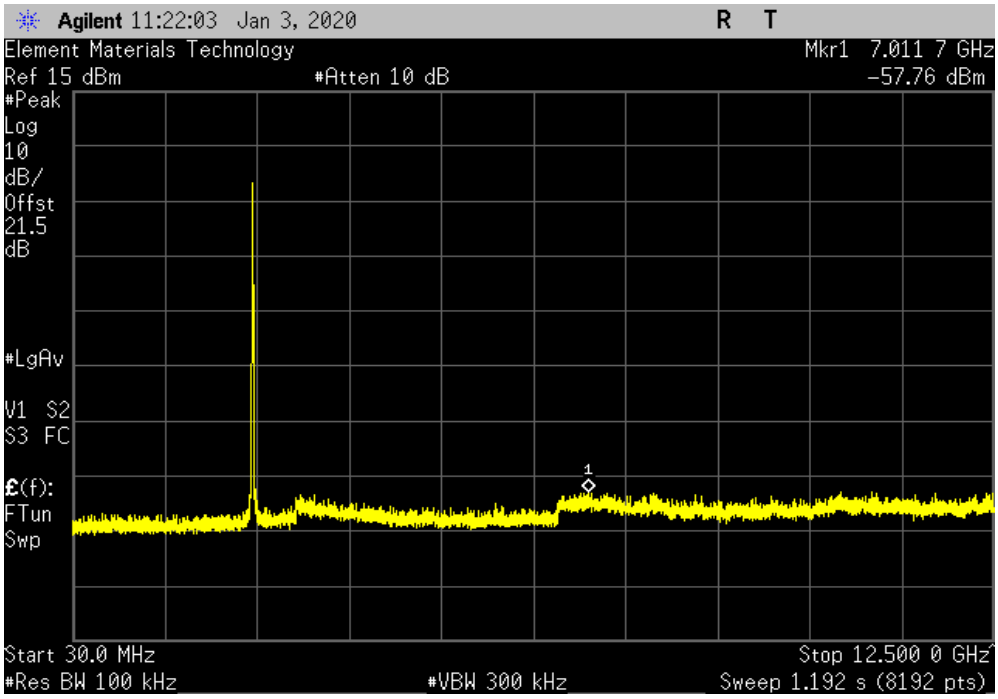
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24633.7	-53	-30	Pass



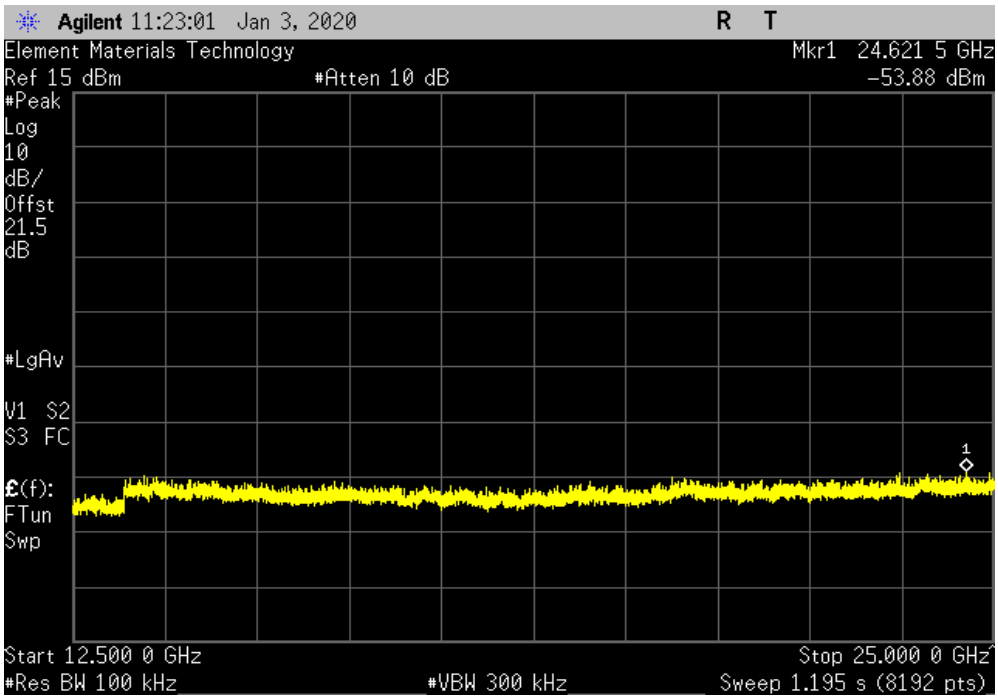
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental		2463.25	N/A	N/A	N/A



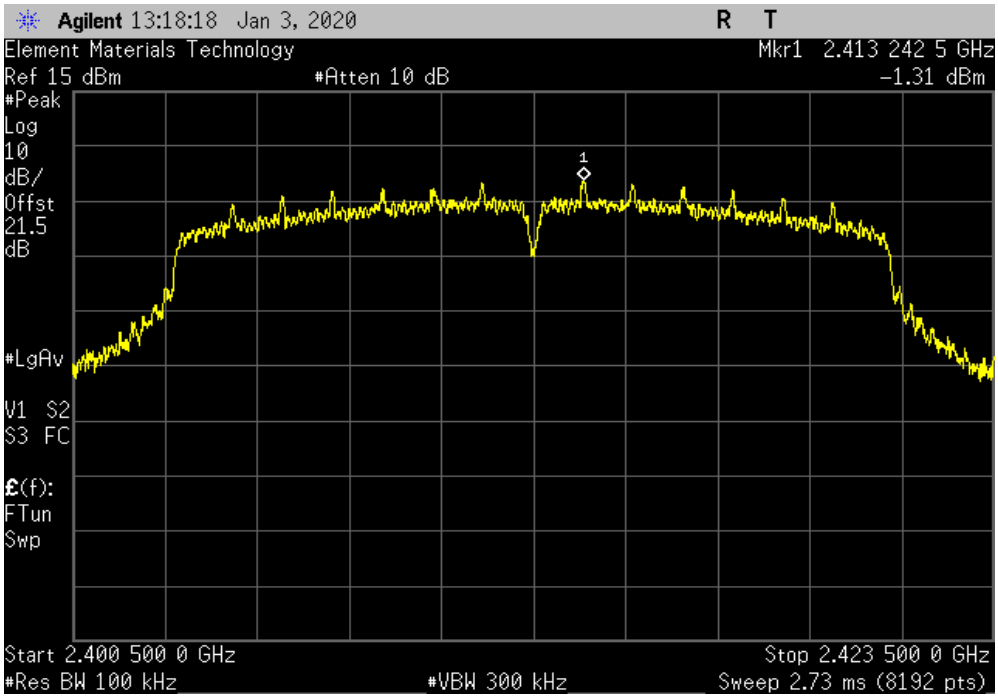
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	7011.7	-56.07	-30	Pass



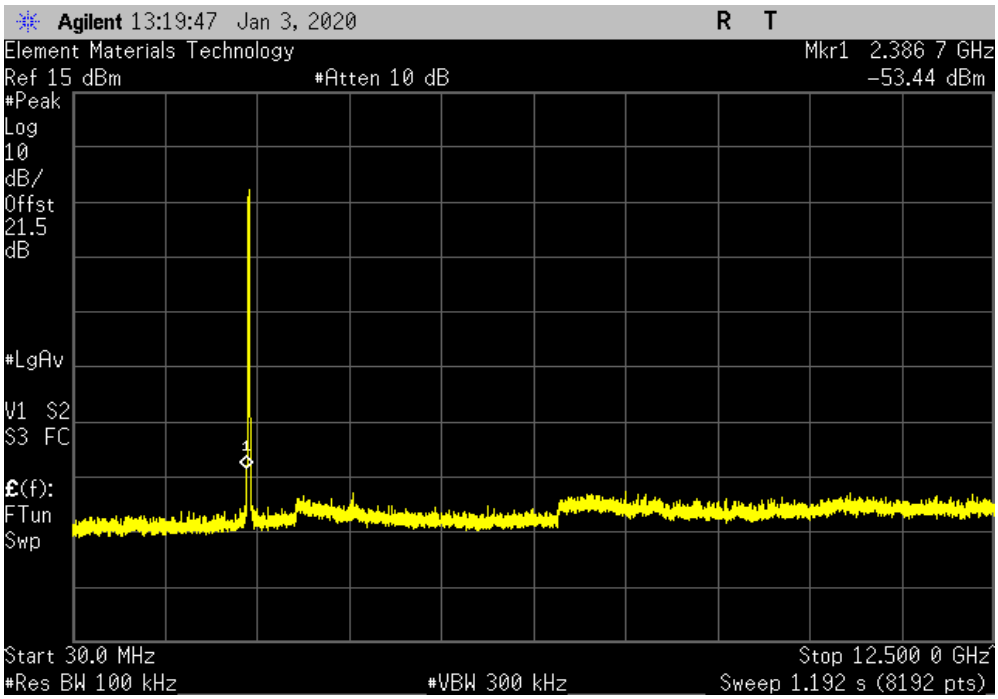
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24621.5	-52.19	-30	Pass



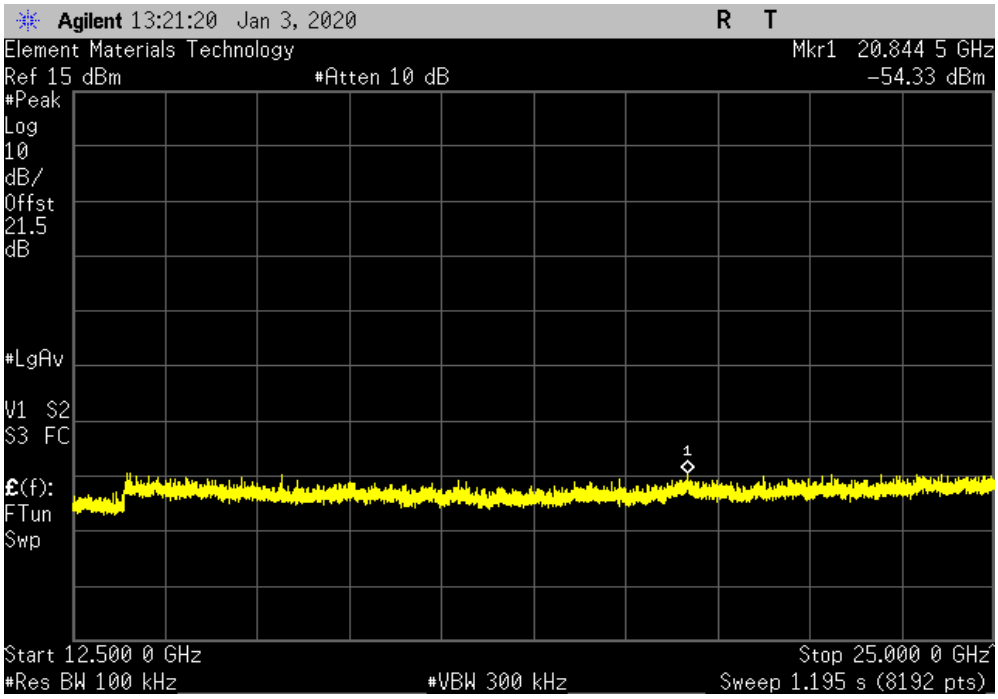
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
	Fundamental	2413.24	N/A	N/A	N/A



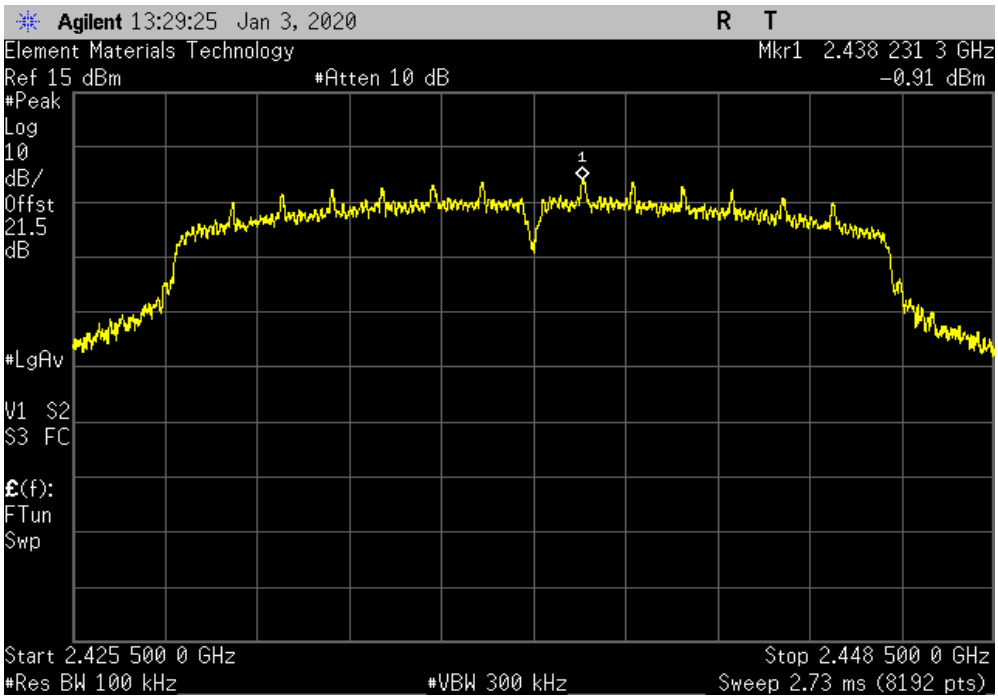
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	2386.7	-52.13	-30	Pass



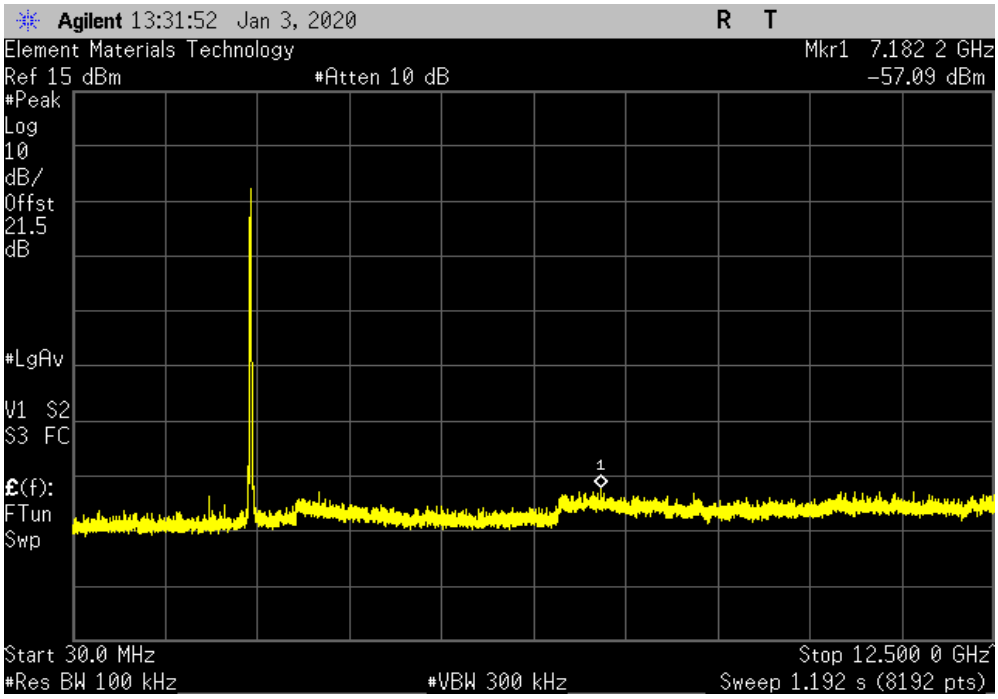
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	20844.5	-53.02	-30	Pass



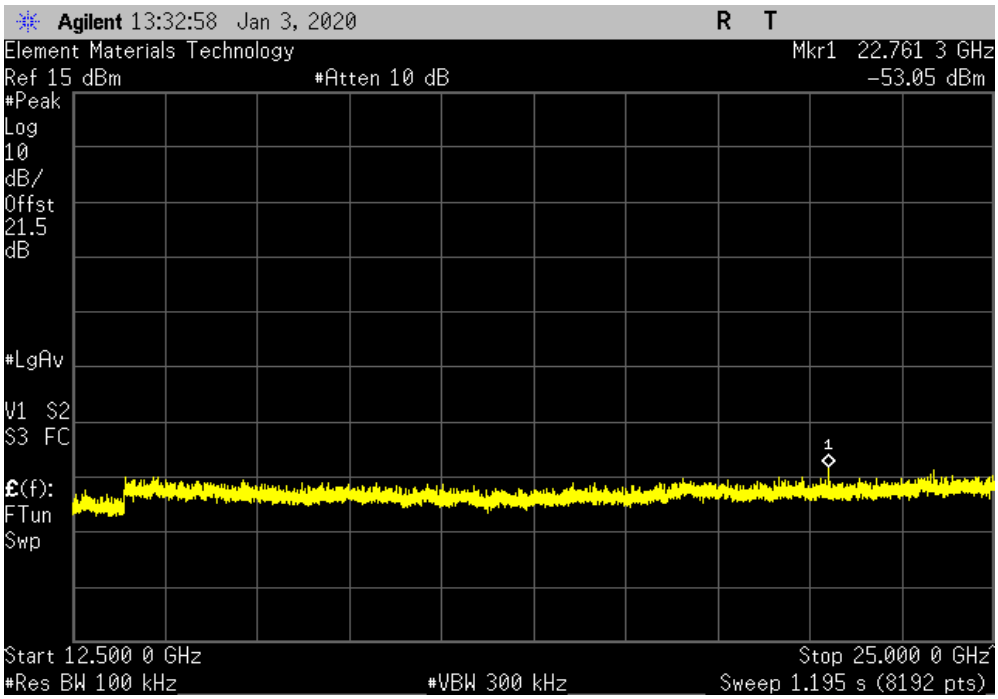
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2438.23	N/A	N/A	N/A



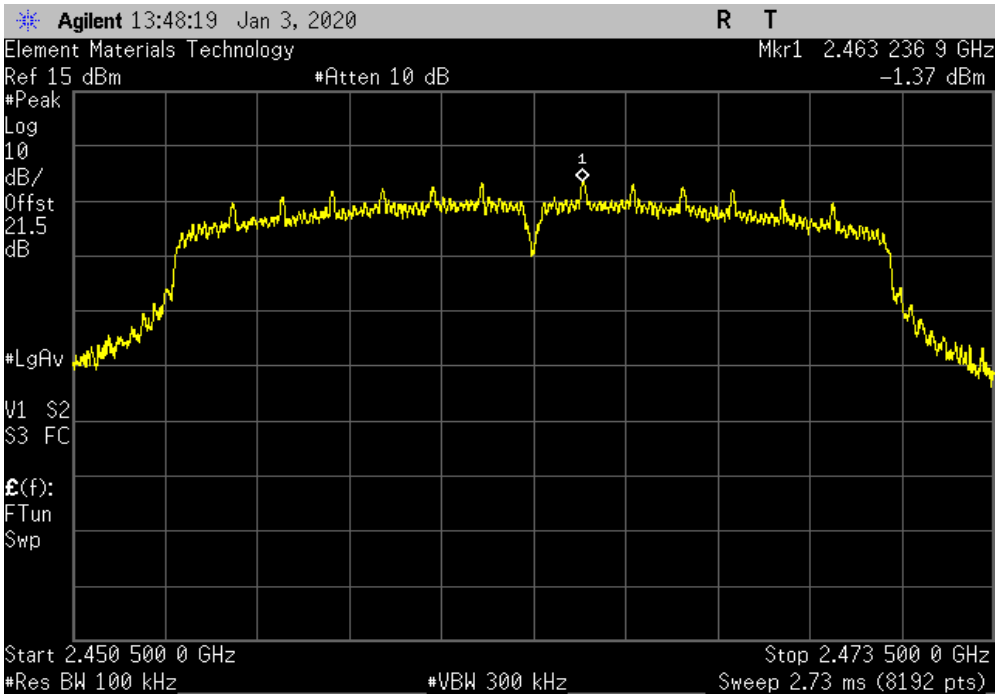
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	7182.2	-56.18	-30	Pass



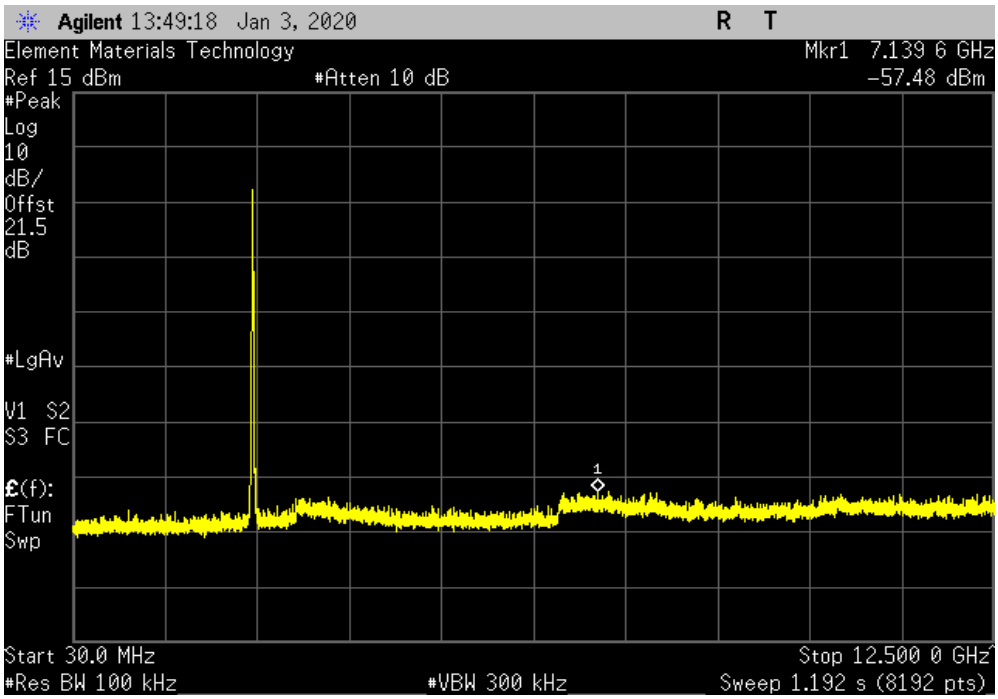
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	22761.3	-52.14	-30	Pass



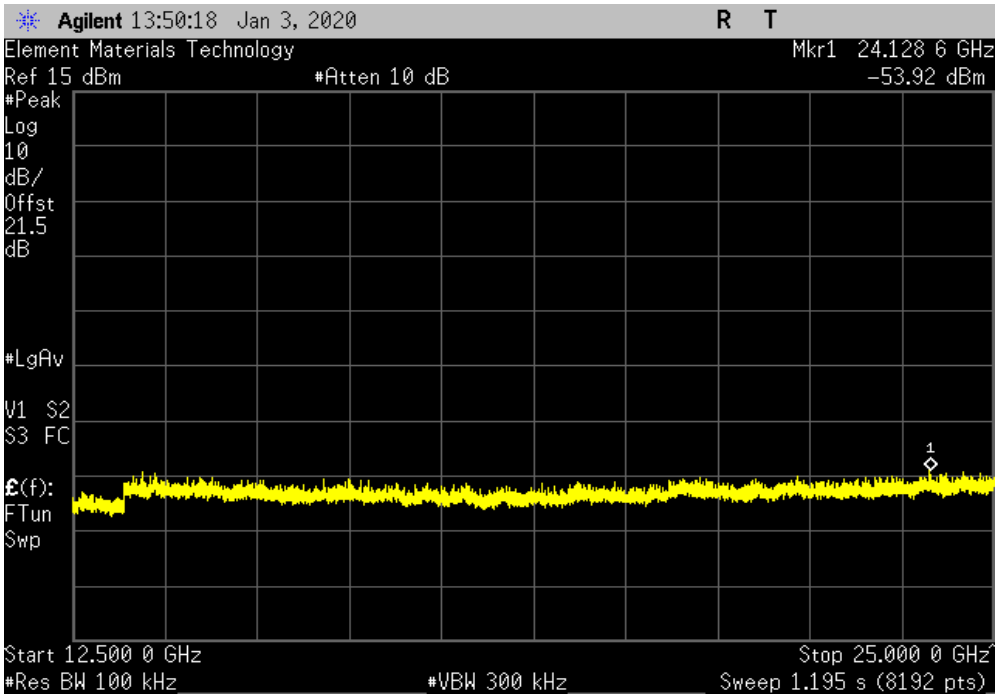
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz					
Frequency Range		**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
Fundamental		2463.24	N/A	N/A	N/A



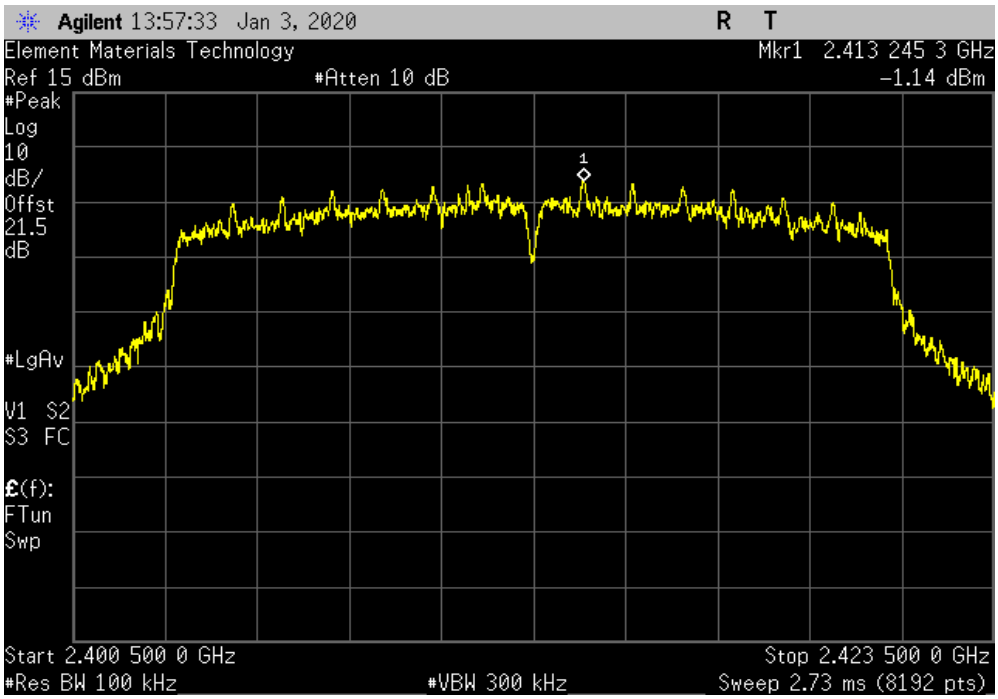
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	7139.6	-56.11	-30	Pass



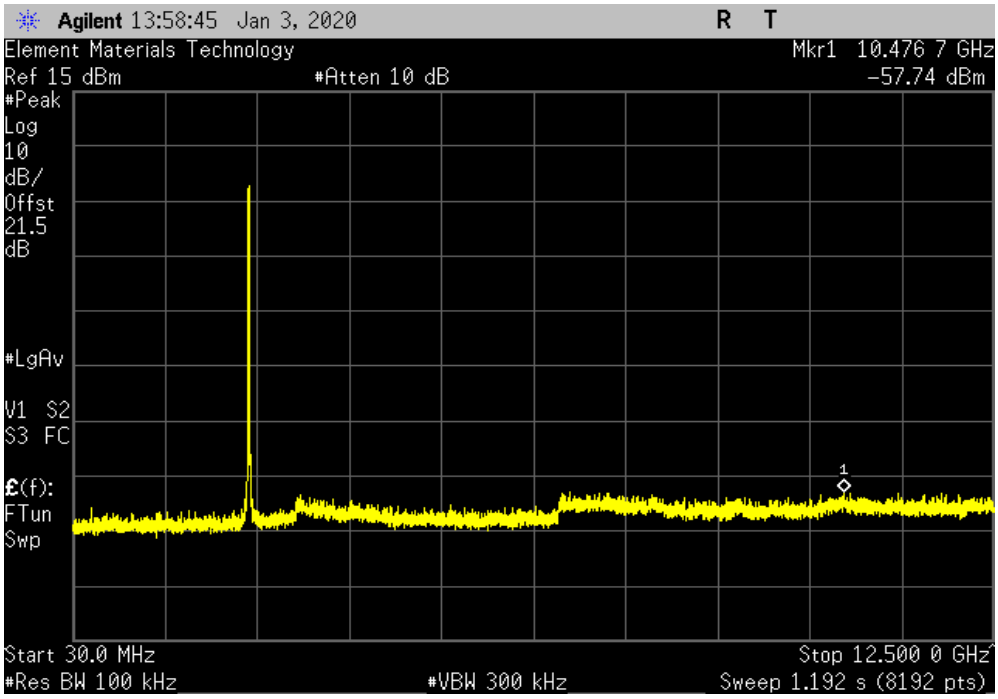
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	24128.6	-52.55	-30	Pass



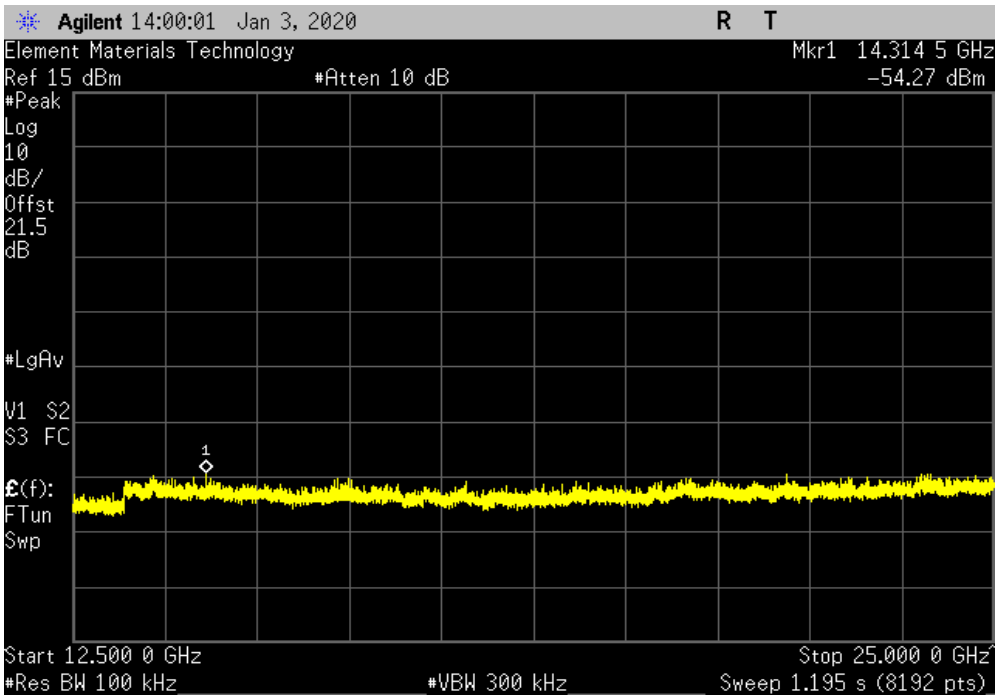
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Fundamental		2413.25	N/A	N/A	N/A



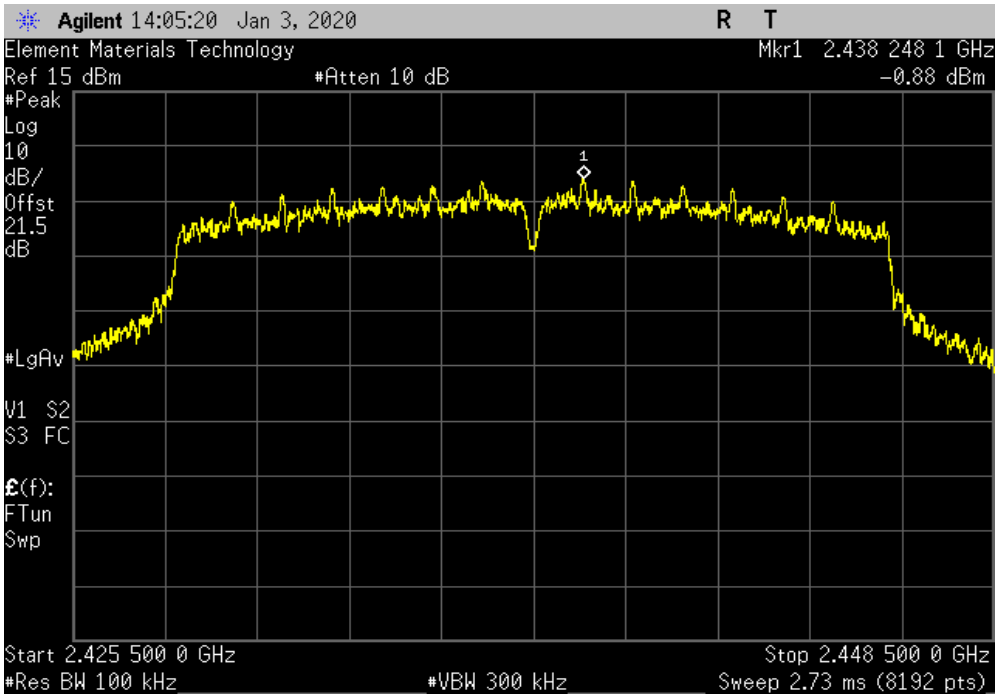
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz	10476.7	-56.6	-30	Pass



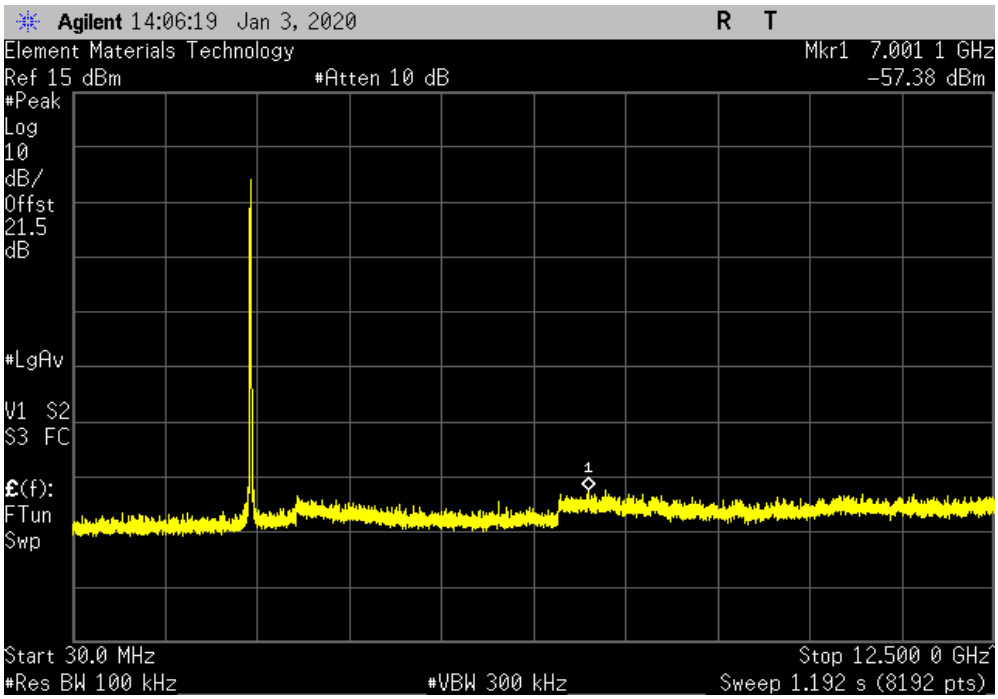
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz	14314.5	-53.13	-30	Pass



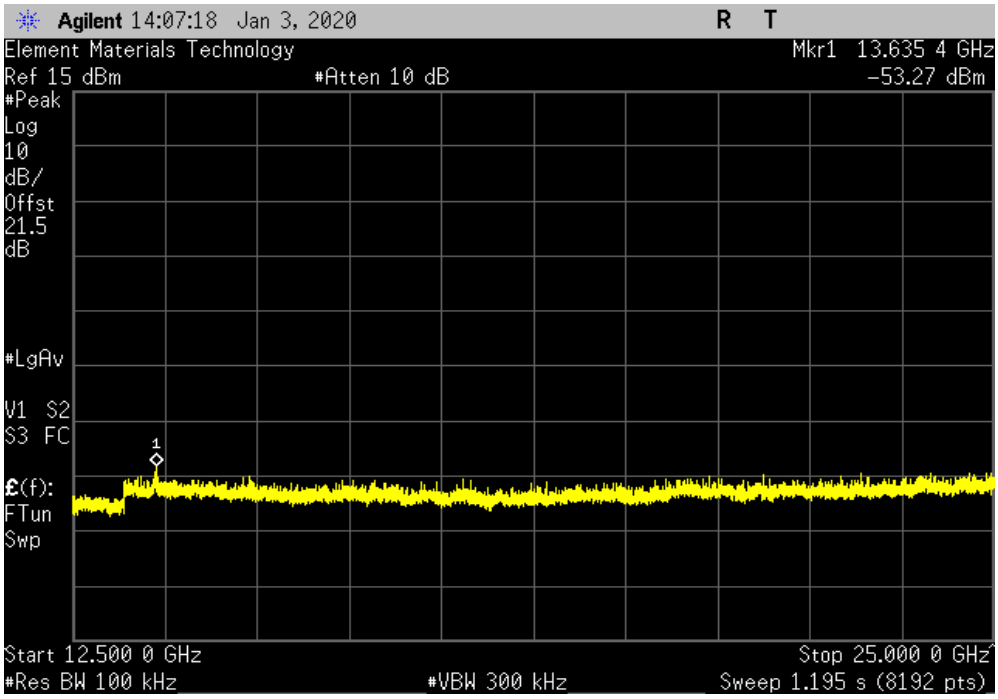
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	2438.25	N/A	N/A	N/A



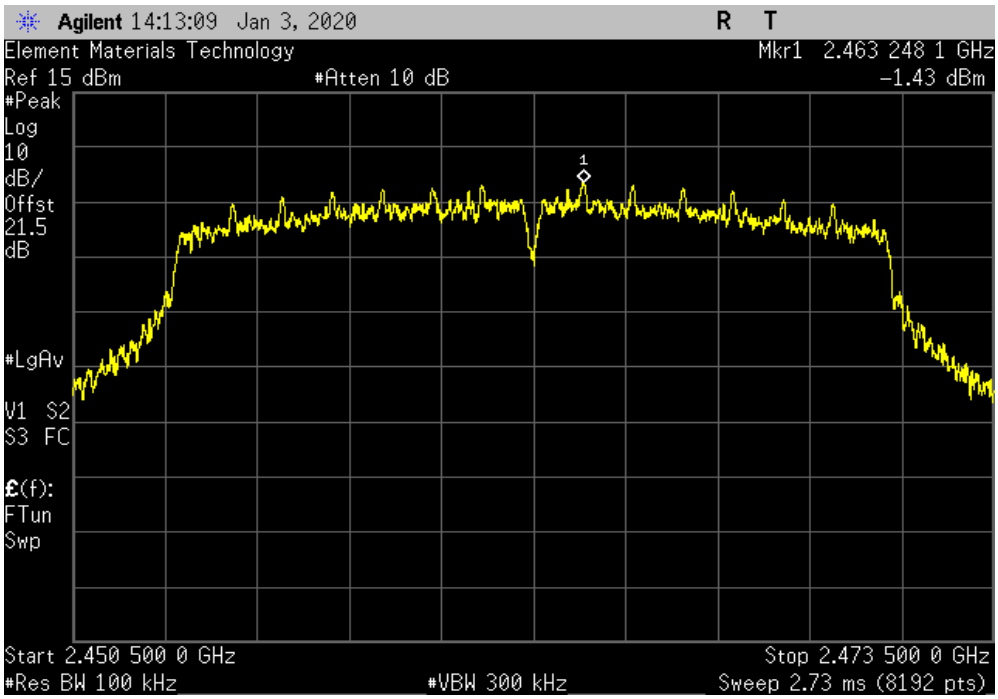
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz	7001.1	-56.5	-30	Pass



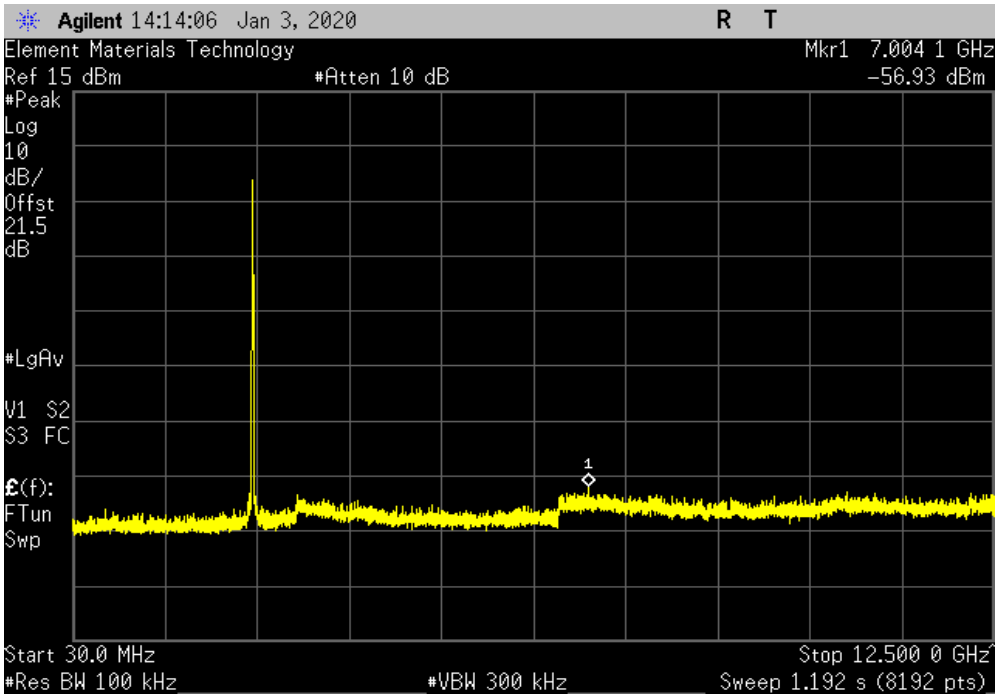
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz				
Frequency Range	**Measured Freq (MHz)**	**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz	13635.4	-52.39	-30	Pass



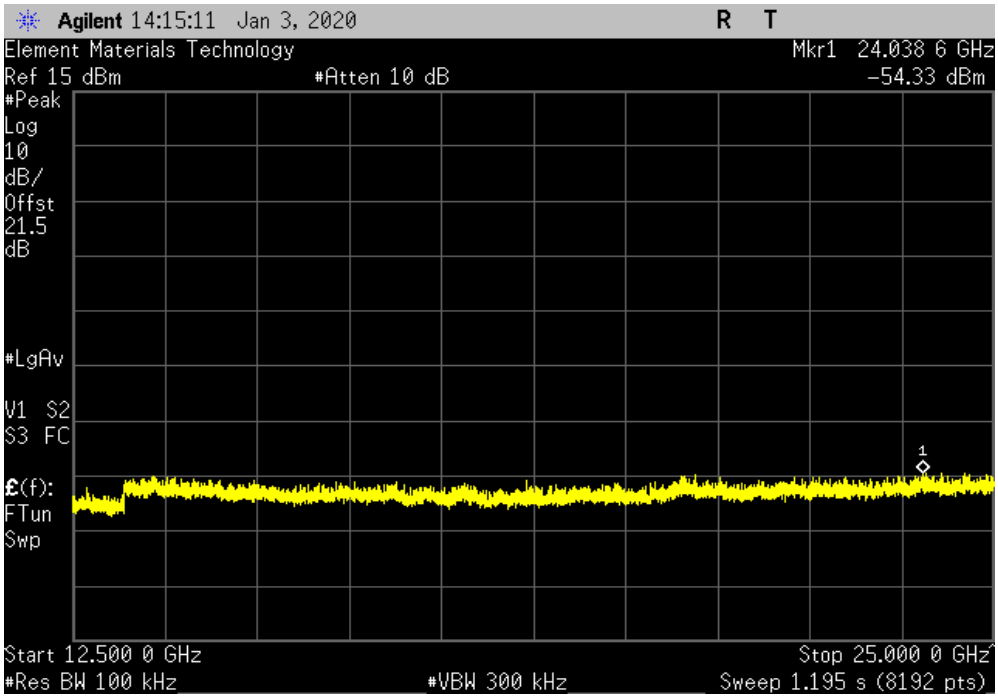
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Fundamental		2463.25	N/A	N/A	N/A



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	7004.1	-55.5	-30	Pass



SPURIOUS CONDUCTED EMISSIONS

TbtTx 2019.08.30.0 XMit 2019.09.05

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	24038.6	-52.9	-30	Pass