



element

King

Falcon

FCC 15.247:2018

802.11bgn SISO (DTS) Radio

Report # KING0032



NVLAP LAB CODE: 200676-0



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CERTIFICATE OF TEST



Last Date of Test: August 17, 2018
King
Model: Falcon

Radio Equipment Testing

Standards

| Specification | Method |
|-----------------|------------------------------|
| FCC 15.247:2018 | ANSI C63.10:2013, KDB 558074 |

Results

| Method Clause | Test Description | Applied | Results | Comments |
|----------------------------|-------------------------------|---------|---------|------------------------------------------------------------------------------------------------------------|
| 6.2 | Powerline Conducted Emissions | No | N/A | Not required. Covered by previous testing under the original system level certification. FCC ID: V7TAC6-V2 |
| 11.12.1, 11.13.2, 6.5, 6.6 | Spurious Radiated Emissions | Yes | Pass | |
| 11.6 | Duty Cycle | Yes | Pass | |
| 11.8.2 | Occupied Bandwidth | Yes | Pass | |
| 11.9.2.2.4 | Output Power | Yes | Pass | |
| 11.10.2 | Power Spectral Density | No | N/A | Not required. Covered by previous testing under the original system level certification. FCC ID: V7TAC6-V2 |
| 11.11 | Band Edge Compliance | No | N/A | Not required. Covered by previous testing under the original system level certification. FCC ID: V7TAC6-V2 |
| 11.11 | Spurious Conducted Emissions | No | N/A | Not required. Covered by previous testing under the original system level certification. FCC ID: V7TAC6-V2 |

Deviations From Test Standards

None

Approved By:

Victor Ratinoff, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY



| Revision Number | Description | Date (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). Certification chambers and Open Area Test Sites are filed with ISED.

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:

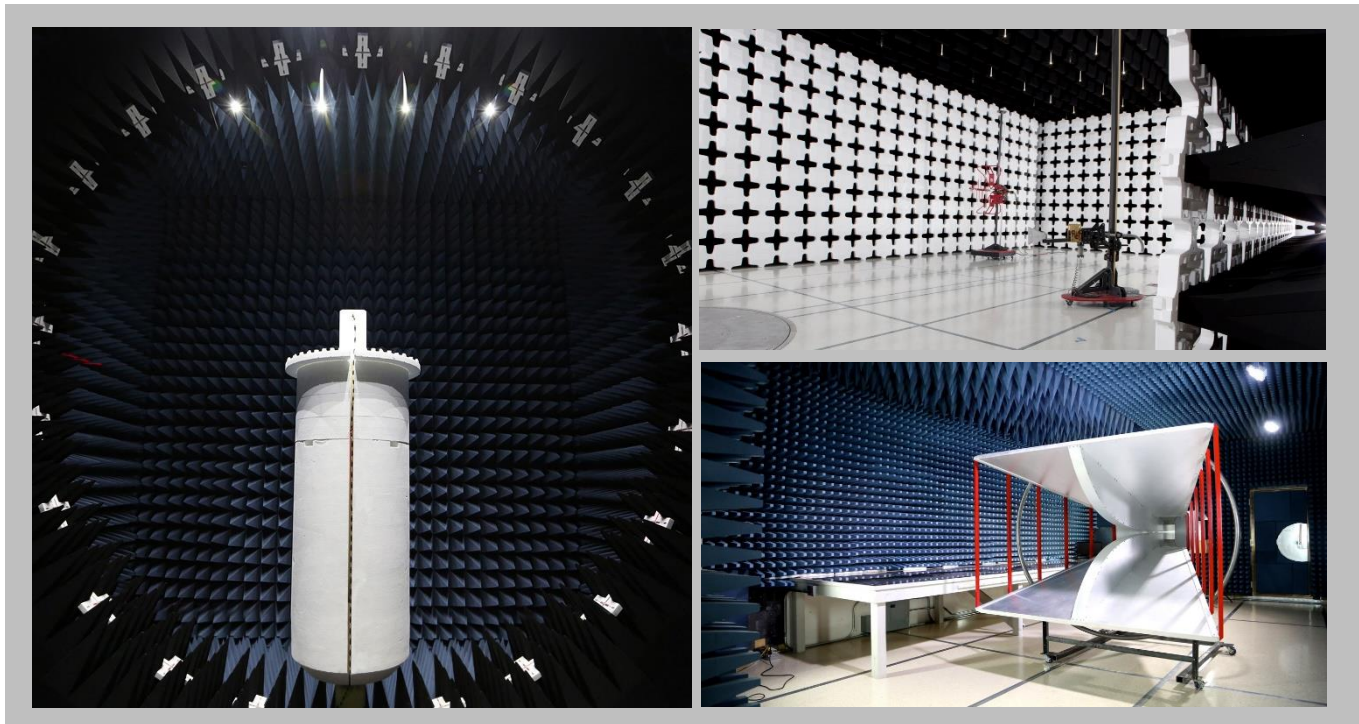
<http://portlandcustomer.element.com/ts/scope/scope.htm>

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

FACILITIES



| | | | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918 | Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136 | New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214 | Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066 | Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255 | Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600 |
| NVLAP | | | | | |
| NVLAP Lab Code: 200676-0 | NVLAP Lab Code: 200881-0 | NVLAP Lab Code: 200761-0 | NVLAP Lab Code: 200630-0 | NVLAP Lab Code:201049-0 | NVLAP Lab Code: 200629-0 |
| Innovation, Science and Economic Development Canada | | | | | |
| 2834B-1, 2834B-3 | 2834E-1, 2834E-3 | N/A | 2834D-1, 2834D-2 | 2834G-1 | 2834F-1 |
| BSMI | | | | | |
| SL2-IN-E-1154R | SL2-IN-E-1152R | N/A | SL2-IN-E-1017 | SL2-IN-E-1158R | SL2-IN-E-1153R |
| VCCI | | | | | |
| A-0029 | A-0109 | N/A | A-0108 | A-0201 | A-0110 |
| Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA | | | | | |
| US0158 | US0175 | N/A | US0017 | US0191 | US0157 |



MEASUREMENT UNCERTAINTY



Measurement Uncertainty

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

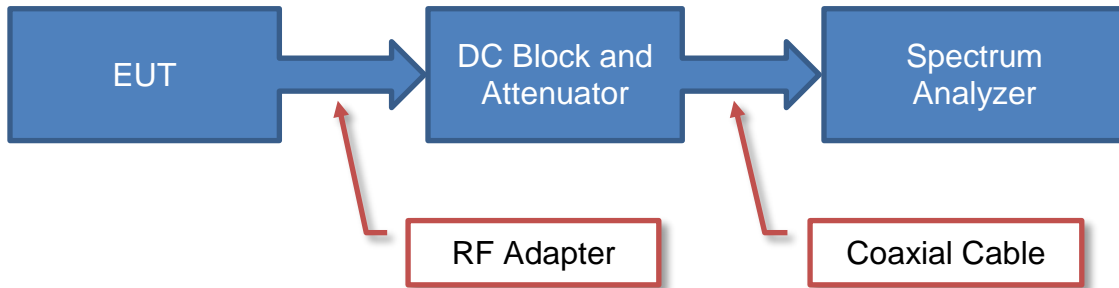
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable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

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

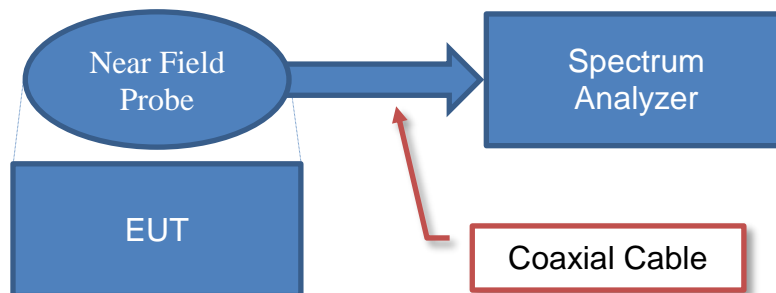
| Test | + MU | - MU |
|---------------------------------------|-------------|-------------|
| Frequency Accuracy (Hz) | 0.0007% | -0.0007% |
| Amplitude Accuracy (dB) | 1.2 dB | -1.2 dB |
| Conducted Power (dB) | 0.3 dB | -0.3 dB |
| Radiated Power via Substitution (dB) | 0.7 dB | -0.7 dB |
| Temperature (degrees C) | 0.7°C | -0.7°C |
| Humidity (% RH) | 2.5% RH | -2.5% RH |
| Voltage (AC) | 1.0% | -1.0% |
| Voltage (DC) | 0.7% | -0.7% |
| Field Strength (dB) | 5.1 dB | -5.1 dB |
| AC Powerline Conducted Emissions (dB) | 2.4 dB | -2.4 dB |

Test Setup Block Diagrams

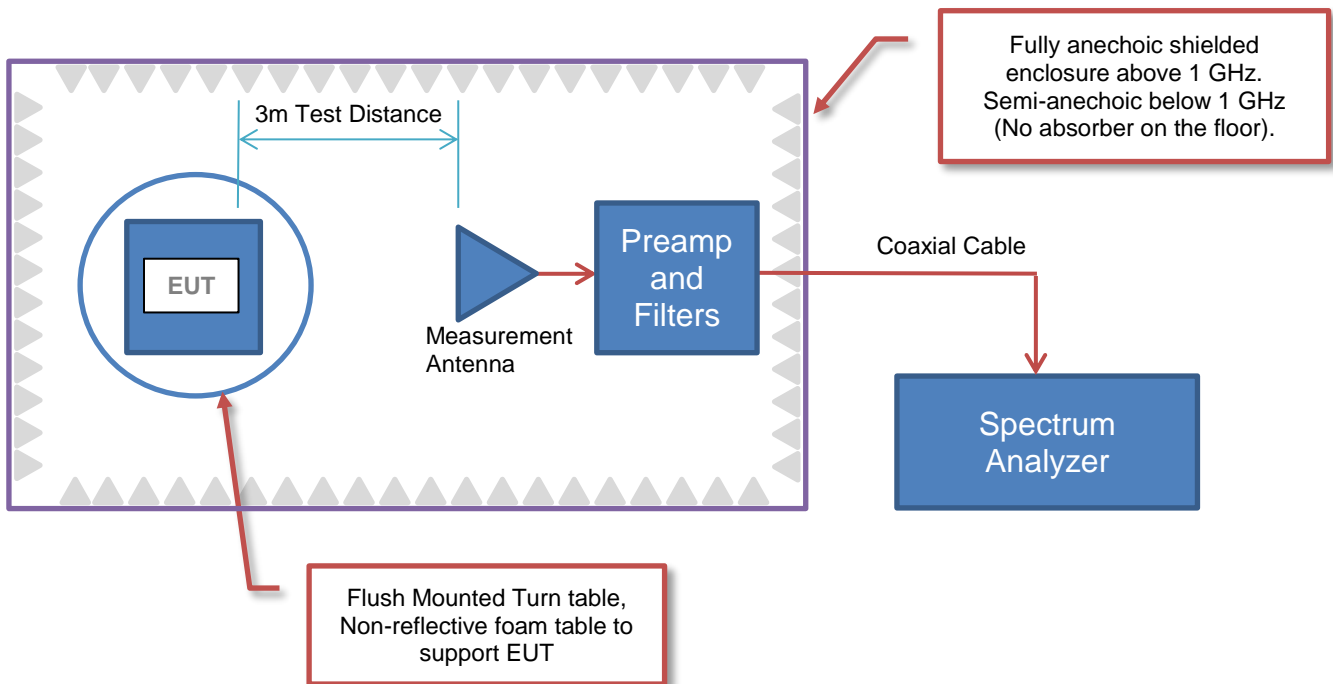
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

| | |
|---------------------------------|--------------------------|
| Company Name: | King |
| Address: | 11200 Hampshire Ave S |
| City, State, Zip: | Bloomington, MN 55438 |
| Test Requested By: | Michael Bendzick |
| Model: | Falcon (KF1000 / KF1001) |
| First Date of Test: | August 1, 2018 |
| Last Date of Test: | August 17, 2018 |
| Receipt Date of Samples: | July 26, 2018 |
| Equipment Design Stage: | Production |
| Equipment Condition: | No Damage |
| Purchase Authorization: | Verified |

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Wi-Fi extenders to the Recreational (RV) market so that users can extend campground or retail store Wi-Fi to a variety of devices in their vehicle.

Model Equivalency Statement:

Additional Falcon antenna model comes in black and has a different model number, KF1001, and can be used with the KWM1000 WiFi Extender.

Testing Objective:

To demonstrate compliance of the 802.11 radio with the Yagi and antenna connector change under FCC 15.247 for operation in the 2.4 GHz band.

CONFIGURATIONS



Configuration KING0032- 1

| Software/Firmware Running during test | |
|---------------------------------------|---------|
| Description | Version |
| RTL819x | 3.4 |

| EUT | | | |
|-----------------------------|---------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Router | KING | KWM1000 | None |
| Router Power Supply | Generic | BN049-A05009U | None |
| Antenna Assembly | KING | KF1000 | 122GE-02090 |
| Power Inserter | KING | 23239R2 | D0718S00015 |
| Power Inserter Power Supply | GlobTek, Inc. | GT-46180-1812 | None |

| Peripherals in test setup boundary | | | |
|------------------------------------|--------------|-------------------|------------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Laptop | Lenovo | E530 | MP-11AN9-12-07 |
| Laptop Power Supply | Lenovo | 45N0197 | 11S45N0197Z1ZK1E23F0MH |

| Cables | | | | | |
|------------------------|--------|------------|---------|---------------------|------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Cable (wall wart) | No | 1.8m | No | Router | AC Mains |
| Ethernet Cable | No | 3.0m | No | Router | Laptop |
| RG316 Cable | Yes | 0.33m | No | Router | Power Inserter |
| Antenna Assembly Cable | No | 3.3m | Yes | Power Inserter | Antenna Assembly |
| DC Cable (wall wart) | No | 1.0m | Yes | Power Inserter | AC Mains |
| AC Cable | No | 1.0m | No | Laptop Power Supply | AC Mains |
| DC Cable | No | 2.0m | Yes | Laptop Power Supply | Laptop |
| Ethernet Cable (3) | No | 1.0m | No | Router | Unterminated |

CONFIGURATIONS



Configuration KING0032- 2

| Software/Firmware Running during test | |
|---------------------------------------|---------|
| Description | Version |
| RTL819x | 3.4 |

| EUT | | | |
|---------------------|--------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Router | KING | KWM1000 | None |
| Router Power Supply | Generic | BN049-A05009U | None |

| Peripherals in test setup boundary | | | |
|------------------------------------|--------------|-------------------|------------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Laptop | Lenovo | E530 | MP-11AN9-12-07 |
| Laptop Power Supply | Lenovo | 45N0197 | 11S45N0197Z1ZK1E23F0MH |

| Cables | | | | | |
|----------------------|--------|------------|---------|---------------------|--------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Cable (wall wart) | No | 1.8m | No | Router | AC Mains |
| Ethernet Cable | No | 3.0m | No | Router | Laptop |
| DC Cable (wall wart) | No | 1.0m | Yes | Power Inserter | AC Mains |
| AC Cable | No | 1.0m | No | Laptop Power Supply | AC Mains |

CONFIGURATIONS



Configuration KING0038- 1

| Software/Firmware Running during test | |
|---------------------------------------|---------|
| Description | Version |
| RTL819x | 3.4 |

| EUT | | | |
|-----------------------------|---------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Router | KING | KWM1000 | None |
| Router Power Supply | Generic | BN049-A05009U | None |
| Antenna Assembly | KING | KF1000 | 122GE-02090 |
| Power Inserter | KING | 23239R2 | D0718S00015 |
| Power Inserter Power Supply | GlobTek, Inc. | GT-46180-1812 | None |

| Peripherals in test setup boundary | | | |
|------------------------------------|--------------|-------------------|------------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Laptop | Lenovo | E530 | MP-11AN9-12-07 |
| Laptop Power Supply | Lenovo | 45N0197 | 11S45N0197Z1ZK1E23F0MH |

| Cables | | | | | |
|------------------------|--------|------------|---------|---------------------|------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Cable (wall wart) | No | 1.8m | No | Router | AC Mains |
| Ethernet Cable | No | 3.0m | No | Router | Laptop |
| RG316 Cable | Yes | 0.33m | No | Router | Power Inserter |
| Antenna Assembly Cable | No | 3.3m | Yes | Power Inserter | Antenna Assembly |
| DC Cable (wall wart) | No | 1.0m | Yes | Power Inserter | AC Mains |
| AC Cable | No | 1.0m | No | Laptop Power Supply | AC Mains |
| DC Cable | No | 2.0m | Yes | Laptop Power Supply | Laptop |
| Ethernet Cable (3) | No | 1.0m | No | Router | Unterminated |

MODIFICATIONS



Equipment Modifications

| Item | Date | Test | Modification | Note | Disposition of EUT |
|------|------------|-----------------------------|--------------------------------------|---------------------------------------------------------------------|---------------------------------------------|
| 1 | 2018-08-01 | Duty Cycle | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 2 | 2018-08-01 | Occupied Bandwidth | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 3 | 2018-08-01 | Output Power | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 4 | 2018-08-17 | Spurious Radiated Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed. |

POWER SETTINGS



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

SETTINGS FOR ALL TESTS IN THIS REPORT

| Modulation Types | Channel Bandwidths | Channel | Position | Frequency (MHz) | Default Power Setting | Final Power Setting |
|------------------|--------------------|---------|--------------|-----------------|-----------------------|---------------------|
| 1 Mbps | 20 | 1 | Low Channel | 2412 | 36 | 29 |
| | | 6 | Mid Channel | 2437 | 38 | 31 |
| | | 11 | High Channel | 2462 | 40 | 36 |
| 11 Mbps | 20 | 1 | Low Channel | 2412 | 36 | 36 |
| | | 6 | Mid Channel | 2437 | 38 | 38 |
| | | 11 | High Channel | 2462 | 40 | 40 |
| 6 Mbps | 20 | 1 | Low Channel | 2412 | 23 | 23 |
| | | 6 | Mid Channel | 2437 | 25 | 25 |
| | | 11 | High Channel | 2462 | 27 | 27 |
| 36 Mbps | 20 | 1 | Low Channel | 2412 | 23 | 23 |
| | | 6 | Mid Channel | 2437 | 25 | 25 |
| | | 11 | High Channel | 2462 | 27 | 27 |
| 54 Mbps | 20 | 1 | Low Channel | 2412 | 23 | 23 |
| | | 6 | Mid Channel | 2437 | 25 | 25 |
| | | 11 | High Channel | 2462 | 27 | 27 |
| MCS0 | 20 | 1 | Low Channel | 2412 | 20 | 20 |
| | | 6 | Mid Channel | 2437 | 23 | 23 |
| | | 11 | High Channel | 2462 | 25 | 25 |
| MCS7 | 20 | 1 | Low Channel | 2412 | 20 | 20 |
| | | 6 | Mid Channel | 2437 | 23 | 23 |
| | | 11 | High Channel | 2462 | 25 | 25 |
| MCS0 | 40 | 1/5 | Low Channel | 2422 | 21 | 21 |
| | | 4/8 | Mid Channel | 2437 | 23 | 23 |
| | | 7/11 | High Channel | 2452 | 23 | 23 |
| MCS7 | 40 | 1/5 | Low Channel | 2422 | 21 | 21 |
| | | 4/8 | Mid Channel | 2437 | 23 | 23 |
| | | 7/11 | High Channel | 2452 | 23 | 23 |

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2018.05.04

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

Transmitting at 802.11 b/g/n: Low Ch 1 (2412 MHz), High Ch 11 (2462 MHz) and Low Ch 3 (2422 MHz), High Ch 9 (2452 MHz)

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

KING0032 - 1

FREQUENCY RANGE INVESTIGATED

| | | | |
|-----------------|--------|----------------|----------|
| Start Frequency | 30 MHz | Stop Frequency | 8200 MHz |
|-----------------|--------|----------------|----------|

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|------------------------------|--------------------|------------------------|-----|-------------|----------|
| Attenuator | Fairview Microwave | SA18H-20 | TKQ | NCR | 0 mo |
| Amplifier - Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | AVJ | 10-Jul-2018 | 12 mo |
| Cable | ESM Cable Corp. | 1-8GHz cables | OCX | 14-May-2018 | 12 mo |
| Antenna - Double Ridge | ETS Lindgren | 3115 | AIR | 28-Jun-2018 | 24 mo |
| Filter - Low Pass | Micro-Tronics | LPM50004 | HGK | 25-Jan-2018 | 12 mo |
| Amplifier - Pre-Amplifier | Miteq | AM-1551 | AOX | 1-Aug-2018 | 12 mo |
| Cable | ESM Cable Corp. | 30-1GHz cables | OCW | 10-May-2018 | 12 mo |
| Antenna - Biconilog | EMCO | 3142 | AXB | 5-Apr-2018 | 24 mo |
| Analyzer - Spectrum Analyzer | Agilent | N9010A | AFJ | 8-Dec-2017 | 12 mo |

MEASUREMENT BANDWIDTHS

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

TEST DESCRIPTION

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

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

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

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

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

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

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

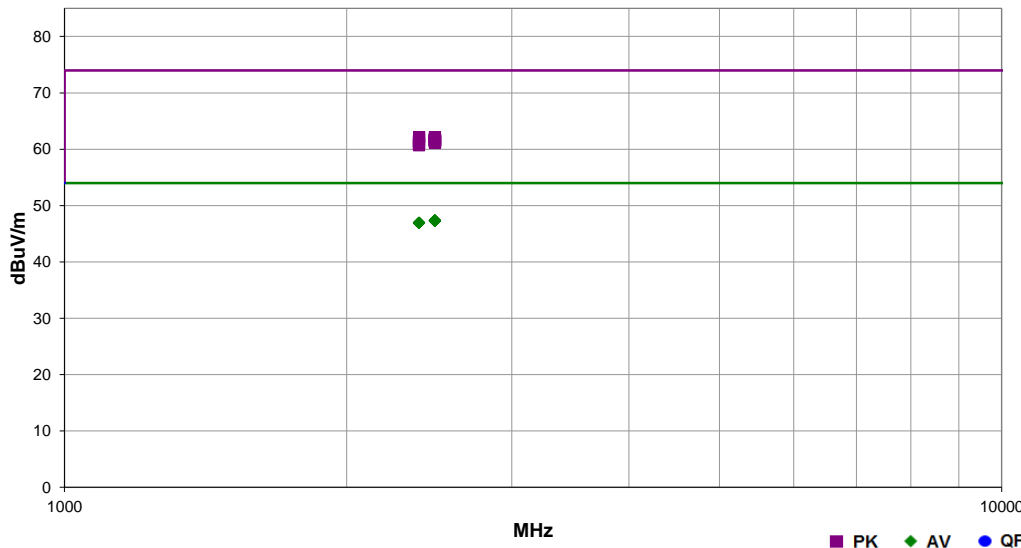
SPURIOUS RADIATED EMISSIONS



EmRS 2018.05.07 PSA-ESCI 2018.05.04

| | | | | |
|------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|--|
| Work Order: | KING0032 | Date: | 29-Aug-2018 | |
| Project: | None | Temperature: | 25.4 °C | |
| Job Site: | OC10 | Humidity: | 43.9% RH | |
| Serial Number: | See Configurations | Barometric Pres.: | 1015 mbar | |
| EUT: | Falcon | | | |
| Configuration: | 1 | | | |
| Customer: | King | | | |
| Attendees: | None | | | |
| EUT Power: | 110VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11 b/g/n: Low Ch 1 (2412 MHz), High Ch 11 (2462 MHz) and Low Ch 3 (2422 MHz), High Ch 9 (2452 MHz) | | | |
| Deviations: | None | | | |
| Comments: | See comments for data rates. | | | |

| | | | |
|----------------------------|--------------------------|--------------------------|----------------|
| Test Specifications | Test Method | | |
| FCC 15.247:2018 | ANSI C63.10:2013 | | |
| Run # | Test Distance (m) | Antenna Height(s) | Results |
| 0 | 3 | 1 to 4(m) | Pass |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|------------------------------------------------|
| 2484.037 | 24.5 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.4 | 54.0 | -6.6 | EUT Horz, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2483.690 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2483.720 | 24.4 | 2.9 | 1.0 | 208.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Vert, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2484.477 | 24.4 | 2.9 | 1.0 | 170.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Vert, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2484.773 | 24.4 | 2.9 | 1.0 | 95.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT on Side, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2484.577 | 24.4 | 2.9 | 1.0 | 334.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT on Side, High Ch 9, MCS0, 40MHz, TX Pwr=23 |
| 2483.583 | 24.4 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 2483.553 | 24.4 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 1Mbps, 20MHz, TX Pwr=36 |
| 2483.500 | 24.4 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 11Mbps, 20MHz, TX Pwr=40 |
| 2484.500 | 24.4 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 36Mbps, 20MHz, TX Pwr=27 |
| 2483.787 | 24.4 | 2.9 | 1.0 | 17.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 54Mbps, 20MHz, TX Pwr=27 |
| 2484.360 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 2484.037 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 1Mbps, 20MHz, TX Pwr=36 |
| 2485.010 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 11Mbps, 20MHz, TX Pwr=40 |
| 2483.737 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 6Mbps, 20MHz, TX Pwr=27 |
| 2485.337 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 36Mbps, 20MHz, TX Pwr=27 |
| 2483.693 | 24.4 | 2.9 | 1.3 | 167.0 | 3.0 | 20.0 | Vert | AV | 0.0 | 47.3 | 54.0 | -6.7 | EUT Horz, High Ch 11, 54Mbps, 20MHz, TX Pwr=27 |
| 2389.800 | 24.5 | 2.5 | 1.0 | 113.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 47.0 | 54.0 | -7.0 | EUT Horz, Low Ch 1, 6Mbps, 20MHz, TX Pwr=23 |
| 2388.507 | 24.4 | 2.5 | 1.0 | 113.0 | 3.0 | 20.0 | Horz | AV | 0.0 | 46.9 | 54.0 | -7.1 | EUT Horz, Low Ch 1, 1Mbps, 20MHz, TX Pwr=29 |

SPURIOUS RADIATED EMISSIONS - HARMONICS



PSA-ESCI 2018.05.04

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

Transmitting at 802.11 b/g/n: Low Ch 1 (2412 MHz), Mid Ch 6 (2437 MHz), High Ch 11 (2462 MHz)

Transmitting at 802.11 n: Low Ch 3 (2422MHz), Mid Ch 6 (2437 MHz), High Ch 9 (2452 MHz)

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

KING0038 - 1

FREQUENCY RANGE INVESTIGATED

| | | | |
|-----------------|----------|----------------|-----------|
| Start Frequency | 1000 MHz | Stop Frequency | 26000 MHz |
|-----------------|----------|----------------|-----------|

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|------------------------------|---------------|------------------------|-----|-------------|----------|
| Amplifier - Pre-Amplifier | Miteq | AMF-6F-18002650-25-10P | AOI | 27-Dec-2017 | 12 mo |
| Cable | Northwest EMC | 18-26GHz RE Cables | OCK | 27-Dec-2017 | 12 mo |
| Antenna - Standard Gain | ETS Lindgren | 3160-09 | AHN | NCR | 0 mo |
| Amplifier - Pre-Amplifier | Miteq | AMF-6F-12001800-30-10P | AOF | 24-May-2018 | 12 mo |
| Amplifier - Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AOE | 16-Jul-2018 | 12 mo |
| Amplifier - Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | AVJ | 10-Jul-2018 | 12 mo |
| Filter - High Pass | Micro-Tronics | HPM50111 | HHX | 16-Jul-2018 | 12 mo |
| Cable | Northwest EMC | 8-18GHz RE Cables | OCO | 16-Jul-2018 | 12 mo |
| Cable | Northwest EMC | 1-8GHz RE Cables | OCJ | 2-Jul-2018 | 12 mo |
| Antenna - Standard Gain | ETS Lindgren | 3160-08 | AHT | NCR | 0 mo |
| Antenna - Standard Gain | ETS Lindgren | 3160-07 | AHR | NCR | 0 mo |
| Antenna - Double Ridge | EMCO | 3115 | AHB | 28-Mar-2018 | 24 mo |
| Analyzer - Spectrum Analyzer | Agilent | E4446A | AAY | 21-Nov-2017 | 12 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 (power 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 $10 \cdot \text{LOG}(dc)$.

SPURIOUS RADIATED EMISSIONS - HARMONICS

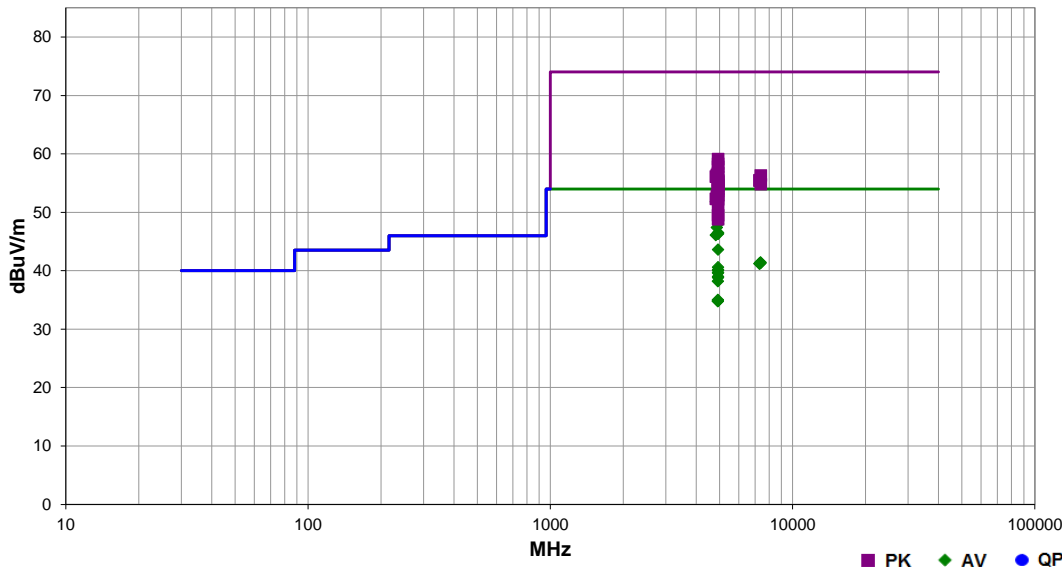


EmiRS 2018.05.07 PSA-ESCI 2018.05.04

| | | | | |
|-----------------|-----------------------------------------------------------------------------------------------|-------------------|-------------|--|
| Work Order: | KING0038 | Date: | 16-Aug-2018 | |
| Project: | None | Temperature: | 26.8 °C | |
| Job Site: | OC10 | Humidity: | 43.6% RH | |
| Serial Number: | See Configurations | Barometric Pres.: | 1018 mbar | |
| EUT: | Falcon | | | |
| Configuration: | 1 | | | |
| Customer: | King | | | |
| Attendees: | None | | | |
| EUT Power: | 110VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11 b/g/n: Low Ch 1 (2412 MHz), Mid Ch 6 (2437 MHz), High Ch 11 (2462 MHz) | | | |
| Deviations: | None | | | |
| Comments: | None | | | |

| | |
|---------------------|------------------|
| Test Specifications | Test Method |
| FCC 15.247:2018 | ANSI C63.10:2013 |

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



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-------------------------------------------|
| 4924.000 | 40.4 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 52.3 | 54.0 | -1.7 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 4874.017 | 40.9 | 11.4 | 1.1 | 100.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 52.3 | 54.0 | -1.7 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 4823.992 | 40.9 | 10.9 | 1.2 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 51.8 | 54.0 | -2.2 | EUT Vert, Low Ch 1, 1Mbps, TX Pwr=29 |
| 4923.555 | 37.9 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 49.8 | 54.0 | -4.2 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.010 | 36.1 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 48.0 | 54.0 | -6.0 | EUT Vert, High Ch 11, 11Mbps, TX Pwr=40 |
| 4874.025 | 36.0 | 11.4 | 1.0 | 230.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 47.4 | 54.0 | -6.6 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 4924.008 | 34.6 | 11.9 | 1.2 | 113.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 46.5 | 54.0 | -7.5 | EUT on Side, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.020 | 34.5 | 11.9 | 1.2 | 45.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 46.4 | 54.0 | -7.6 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.010 | 34.4 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 46.3 | 54.0 | -7.7 | EUT Horz, High Ch 11, 11Mbps, TX Pwr=40 |
| 4824.008 | 35.2 | 10.9 | 1.2 | 229.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 46.1 | 54.0 | -7.9 | EUT Horz, Low Ch 1, 1Mbps, TX Pwr=29 |
| 4924.000 | 31.7 | 11.9 | 4.0 | 177.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 43.6 | 54.0 | -10.4 | EUT on Side, High Ch 11, 1Mbps, TX Pwr=36 |
| 7385.125 | 24.8 | 16.6 | 1.0 | 12.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.4 | 54.0 | -12.6 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 7383.817 | 24.7 | 16.6 | 1.0 | 78.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.3 | 54.0 | -12.7 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 7309.400 | 24.9 | 16.3 | 1.0 | 249.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.2 | 54.0 | -12.8 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 7312.758 | 24.9 | 16.3 | 3.0 | 130.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.2 | 54.0 | -12.8 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 4923.045 | 28.7 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 40.6 | 54.0 | -13.4 | EUT Vert, High Ch 11, 6Mbps, TX Pwr=27 |
| 4924.475 | 28.2 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 40.1 | 54.0 | -13.9 | EUT Vert, High Ch 11, 36Mbps, TX Pwr=27 |
| 4923.033 | 28.2 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 40.1 | 54.0 | -13.9 | EUT Vert, High Ch 11, 54Mbps, TX Pwr=27 |
| 4924.425 | 27.8 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 39.7 | 54.0 | -14.3 | EUT Horz, High Ch 11, 6Mbps, TX Pwr=27 |
| 4923.015 | 27.7 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 39.6 | 54.0 | -14.4 | EUT Horz, High Ch 11, 54Mbps, TX Pwr=27 |
| 4924.055 | 47.2 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 59.1 | 74.0 | -14.9 | EUT Vert, High Ch 11, 11Mbps, TX Pwr=40 |
| 4923.542 | 27.1 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.0 | 54.0 | -15.0 | EUT Vert, High Ch 11, MCS0, TX Pwr=25 |
| 4923.055 | 26.9 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 38.8 | 54.0 | -15.2 | EUT Horz, High Ch 11, MCS0, TX Pwr=25 |
| 4924.125 | 46.4 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 58.3 | 74.0 | -15.7 | EUT Horz, High Ch 11, 11Mbps, TX Pwr=40 |
| 4922.670 | 26.3 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 38.2 | 54.0 | -15.8 | EUT Horz, High Ch 11, MCS7, TX Pwr=23 |
| 4923.980 | 45.9 | 11.9 | 1.0 | 73.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 57.8 | 74.0 | -16.2 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.140 | 44.8 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.7 | 74.0 | -17.3 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 4874.125 | 45.0 | 11.4 | 1.1 | 100.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.4 | 74.0 | -17.6 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 7386.400 | 39.7 | 16.6 | 1.0 | 78.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.3 | 74.0 | -17.7 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/ Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|---------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-------------------------------------------|
| 4925.410 | 44.2 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.1 | 74.0 | -17.9 | EUT Vert, High Ch 11, 6Mbps, TX Pwr=27 |
| 4823.983 | 45.2 | 10.9 | 1.2 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.1 | 74.0 | -17.9 | EUT Vert, Low Ch 1, 1Mbps, TX Pwr=29 |
| 4922.955 | 43.6 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 55.5 | 74.0 | -18.5 | EUT Horz, High Ch 11, 54Mbps, TX Pwr=27 |
| 7312.592 | 39.2 | 16.3 | 3.0 | 130.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 55.5 | 74.0 | -18.5 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 7313.150 | 39.1 | 16.3 | 1.0 | 249.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 55.4 | 74.0 | -18.6 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 4924.217 | 43.4 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 55.3 | 74.0 | -18.7 | EUT Vert, High Ch 11, 36Mbps, TX Pwr=27 |
| 4924.230 | 43.3 | 11.9 | 1.2 | 194.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 55.2 | 74.0 | -18.8 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 4922.520 | 23.1 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 35.0 | 54.0 | -19.0 | EUT Horz, High Ch 11, 36Mbps, TX Pwr=27 |
| 4921.533 | 23.0 | 11.8 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.8 | 54.0 | -19.2 | EUT Horz, High Ch 9, MCS7, TX Pwr=23 |
| 4922.100 | 23.0 | 11.8 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.8 | 54.0 | -19.2 | EUT Vert, High Ch 11, MCS7, TX Pwr=25 |
| 7386.275 | 38.2 | 16.6 | 1.0 | 12.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.8 | 74.0 | -19.2 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 4923.825 | 42.8 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.7 | 74.0 | -19.3 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.015 | 42.7 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.6 | 74.0 | -19.4 | EUT Horz, High Ch 11, 6Mbps, TX Pwr=27 |
| 4923.508 | 42.7 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 54.6 | 74.0 | -19.4 | EUT Vert, High Ch 11, 54Mbps, TX Pwr=27 |
| 4923.660 | 42.1 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.0 | 74.0 | -20.0 | EUT Horz, High Ch 11, MCS0, TX Pwr=25 |
| 4923.508 | 41.7 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.6 | 74.0 | -20.4 | EUT Vert, High Ch 11, MCS0, TX Pwr=25 |
| 4923.825 | 41.1 | 11.9 | 1.2 | 113.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 53.0 | 74.0 | -21.0 | EUT on Side, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.095 | 41.0 | 11.9 | 1.2 | 45.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.9 | 74.0 | -21.1 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 4874.125 | 41.4 | 11.4 | 1.0 | 230.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.8 | 74.0 | -21.2 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 4823.658 | 41.4 | 10.9 | 1.2 | 229.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.3 | 74.0 | -21.7 | EUT Horz, Low Ch 1, 1Mbps, TX Pwr=29 |
| 4923.885 | 40.3 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 52.2 | 74.0 | -21.8 | EUT Horz, High Ch 11, MCS7, TX Pwr=25 |
| 4924.117 | 39.2 | 11.9 | 4.0 | 177.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 51.1 | 74.0 | -22.9 | EUT on Side, High Ch 11, 1Mbps, TX Pwr=36 |
| 4924.170 | 37.6 | 11.9 | 1.2 | 85.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 49.5 | 74.0 | -24.5 | EUT Horz, High Ch 11, 36Mbps, TX Pwr=27 |
| 4926.342 | 36.9 | 11.9 | 1.6 | 97.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.8 | 74.0 | -25.2 | EUT Vert, High Ch 11, MCS7, TX Pwr=25 |

SPURIOUS RADIATED EMISSIONS - HARMONICS

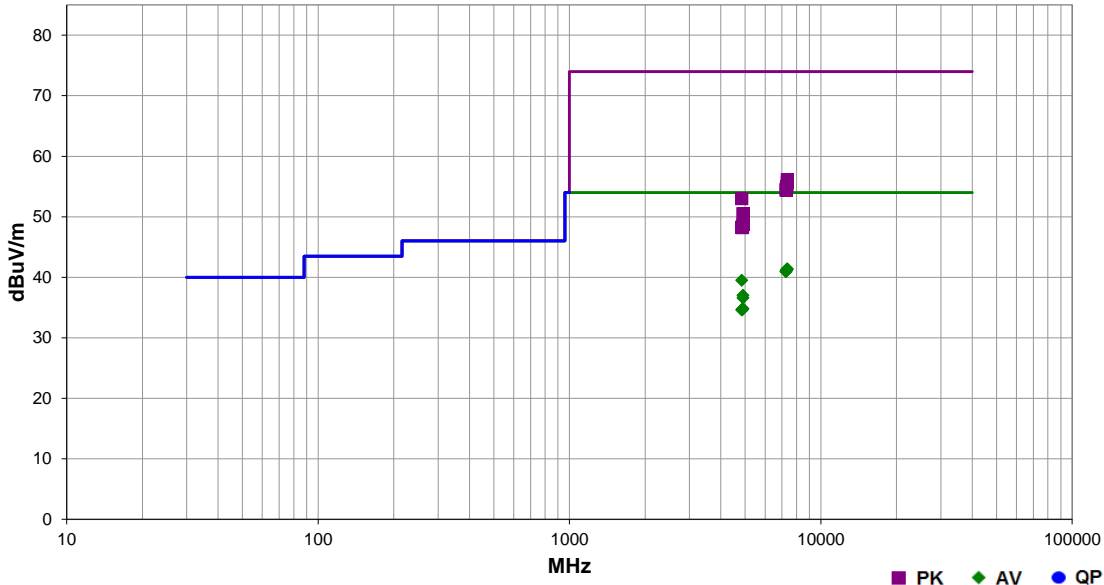


EmiRS 2018.05.07 PSA-ESCI 2018.05.04

| | | | | |
|------------------------|-----------------------------------------------------------------------------------------|-------------------------------|-------------|--|
| Work Order: | KING0038 | Date: | 17-Aug-2018 | |
| Project: | None | Temperature: | 24.2 °C | |
| Job Site: | OC10 | Humidity: | 50.9% RH | |
| Serial Number: | See Configurations | Barometric Pres.: | 1020 mbar | |
| EUT: | Falcon | Tested by: Mark Baytan | | |
| Configuration: | 1 | | | |
| Customer: | King | | | |
| Attendees: | None | | | |
| EUT Power: | 110VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11 n: Low Ch 3 (2422MHz), Mid Ch 6 (2437 MHz), High Ch 9 (2452 MHz) | | | |
| Deviations: | None | | | |
| Comments: | None | | | |

| | | | |
|----------------------------|-----------------|--------------------|------------------|
| Test Specifications | FCC 15.247:2018 | Test Method | ANSI C63.10:2013 |
|----------------------------|-----------------|--------------------|------------------|

| | | | | | | | |
|--------------|---|--------------------------|---|--------------------------|-----------|----------------|------|
| Run # | 2 | Test Distance (m) | 3 | Antenna Height(s) | 1 to 4(m) | Results | Pass |
|--------------|---|--------------------------|---|--------------------------|-----------|----------------|------|



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|---------------------------------------|
| 7353.850 | 24.9 | 16.5 | 1.0 | 223.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.4 | 54.0 | -12.6 | EUT Horz, High Ch 9, MCS0, 40MHz, T. |
| 7355.533 | 24.9 | 16.4 | 1.0 | 42.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.3 | 54.0 | -12.7 | EUT Vert, High Ch 9, MCS7, 40MHz, TX |
| 7310.642 | 24.9 | 16.3 | 1.0 | 249.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.2 | 54.0 | -12.8 | EUT Vert, Mid Ch 6, MCS7, 40MHz |
| 7311.517 | 24.9 | 16.3 | 3.0 | 130.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.2 | 54.0 | -12.8 | EUT Horz, Mid Ch 6, MCS7, 40MHz |
| 7268.233 | 25.0 | 16.0 | 1.0 | 327.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 41.0 | 54.0 | -13.0 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX |
| 7265.225 | 25.0 | 15.9 | 1.8 | 110.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 40.9 | 54.0 | -13.1 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX |
| 4842.683 | 28.4 | 11.1 | 1.0 | 104.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.5 | 54.0 | -14.5 | EUT Vert, Low Ch 3, MCS7, 40MHz, TX |
| 4902.658 | 25.3 | 11.7 | 1.0 | 52.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 37.0 | 54.0 | -17.0 | EUT Horz, High Ch 9, MCS7, 40MHz, T. |
| 4903.458 | 24.9 | 11.7 | 1.0 | 52.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 36.6 | 54.0 | -17.4 | EUT Horz, High Ch 9, MCS0, 40MHz, TX |
| 7354.975 | 39.7 | 16.4 | 1.0 | 223.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 56.1 | 74.0 | -17.9 | EUT Horz, High Ch 9, MCS0, 40MHz, TX |
| 7354.233 | 39.1 | 16.5 | 1.0 | 42.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 55.6 | 74.0 | -18.4 | EUT Vert, High Ch 9, MCS7, 40MHz, TX |
| 7311.283 | 38.7 | 16.3 | 3.0 | 130.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 55.0 | 74.0 | -19.0 | EUT Horz, Mid Ch 6, MCS7, 40MHz, TX |
| 7310.567 | 38.5 | 16.3 | 1.0 | 249.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 54.8 | 74.0 | -19.2 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX |
| 4901.600 | 23.1 | 11.7 | 1.0 | 116.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.8 | 54.0 | -19.2 | EUT Vert, High Ch 9, MCS7, 40MHz, TX |
| 4874.075 | 23.3 | 11.4 | 1.0 | 66.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.7 | 54.0 | -19.3 | EUT Vert, Mid Ch 6, MCS0, 40MHz, TX I |
| 4871.683 | 23.2 | 11.4 | 1.1 | 100.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.6 | 54.0 | -19.4 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX I |
| 7267.892 | 38.6 | 16.0 | 1.0 | 327.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.6 | 74.0 | -19.4 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX |
| 4844.017 | 23.5 | 11.1 | 1.0 | 39.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.6 | 54.0 | -19.4 | EUT Vert, High Ch 9, MCS7, 40MHz, TX |
| 7267.092 | 38.5 | 15.9 | 1.8 | 110.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 54.4 | 74.0 | -19.6 | EUT Vert, Low Ch 3, MCS7, 40MHz, TX |
| 4846.325 | 41.9 | 11.1 | 1.0 | 104.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.0 | 74.0 | -21.0 | EUT Vert, Low Ch 3, MCS7, 40MHz, TX |
| 4903.675 | 38.8 | 11.7 | 1.0 | 52.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.5 | 74.0 | -23.5 | EUT Horz, High Ch 9, MCS0, 40MHz, TX |
| 4906.125 | 38.8 | 11.7 | 1.0 | 52.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.5 | 74.0 | -23.5 | EUT Horz, High Ch 9, MCS7, 40MHz, TX |
| 4902.217 | 37.0 | 11.7 | 1.0 | 116.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.7 | 74.0 | -25.3 | EUT Vert, High Ch 9, MCS7, 40MHz, TX |
| 4875.875 | 36.9 | 11.5 | 1.0 | 66.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.4 | 74.0 | -25.6 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX I |
| 4845.675 | 37.2 | 11.1 | 1.0 | 39.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.3 | 74.0 | -25.7 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/ Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|---------------------------|----------|--------------------------|-------------------|----------------------|------------------------|---------------------------------------|
| 4874.633 | 36.7 | 11.5 | 1.1 | 100.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.2 | 74.0 | -25.8 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX I |

SPURIOUS RADIATED EMISSIONS - HARMONICS

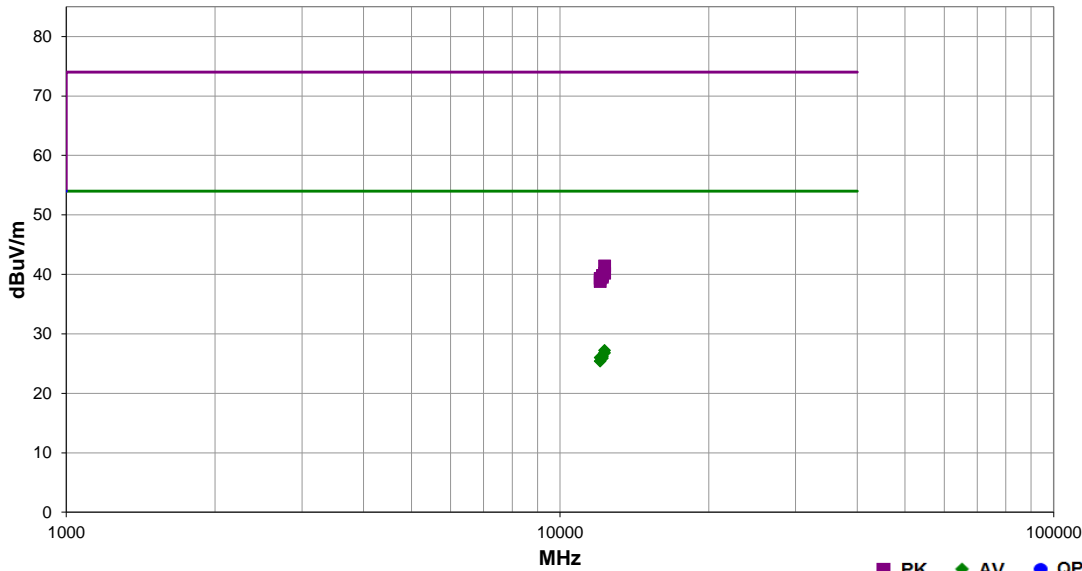


EmiR5 2018.05.07 PSA-ESCI 2018.05.04

| | | | | |
|------------------------|-----------------------------------------------------------------------------------------------|--------------------------|-------------|--|
| Work Order: | KING0038 | Date: | 17-Aug-2018 | |
| Project: | None | Temperature: | 24.2 °C | |
| Job Site: | OC10 | Humidity: | 50.9% RH | |
| Serial Number: | See Configurations | Barometric Pres.: | 1020 mbar | |
| EUT: | Falcon | | | |
| Configuration: | 1 | | | |
| Customer: | King | | | |
| Attendees: | None | | | |
| EUT Power: | 110VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11 b/g/n: Low Ch 1 (2412 MHz), Mid Ch 6 (2437 MHz), High Ch 11 (2462 MHz) | | | |
| Deviations: | None | | | |
| Comments: | None | | | |

| | |
|----------------------------|--------------------|
| Test Specifications | Test Method |
| FCC 15.247:2018 | ANSI C63.10:2013 |

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



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|----------------------------------------|
| 12310.950 | 29.8 | -2.6 | 1.0 | 158.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 27.2 | 54.0 | -26.8 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 12312.460 | 29.4 | -2.6 | 1.0 | 15.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 26.8 | 54.0 | -27.2 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 12185.890 | 30.0 | -3.8 | 1.0 | 291.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 26.2 | 54.0 | -27.8 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 12061.060 | 31.8 | -5.8 | 3.9 | 209.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 26.0 | 54.0 | -28.0 | EUT Vert, Low Ch 1, 1Mbps, TX Pwr=29 |
| 12185.150 | 29.7 | -3.8 | 1.7 | 19.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 25.9 | 54.0 | -28.1 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 12061.100 | 31.2 | -5.8 | 1.0 | 149.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 25.4 | 54.0 | -28.6 | EUT Horz, Low Ch 1, 1Mbps, TX Pwr=29 |
| 12311.880 | 44.0 | -2.6 | 1.0 | 158.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 41.4 | 74.0 | -32.6 | EUT Horz, High Ch 11, 1Mbps, TX Pwr=36 |
| 12310.440 | 42.8 | -2.6 | 1.0 | 15.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 40.2 | 74.0 | -33.8 | EUT Vert, High Ch 11, 1Mbps, TX Pwr=36 |
| 12186.330 | 43.6 | -3.8 | 1.7 | 19.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 39.8 | 74.0 | -34.2 | EUT Horz, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 12183.980 | 43.3 | -3.8 | 1.0 | 291.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 39.5 | 74.0 | -34.5 | EUT Vert, Mid Ch 6, 1Mbps, TX Pwr=31 |
| 12061.280 | 45.1 | -5.8 | 3.9 | 209.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 39.3 | 74.0 | -34.7 | EUT Vert, Low Ch 1, 1Mbps, TX Pwr=29 |
| 12060.290 | 44.6 | -5.8 | 1.0 | 149.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 38.8 | 74.0 | -35.2 | EUT Horz, Low Ch 1, 1Mbps, TX Pwr=29 |

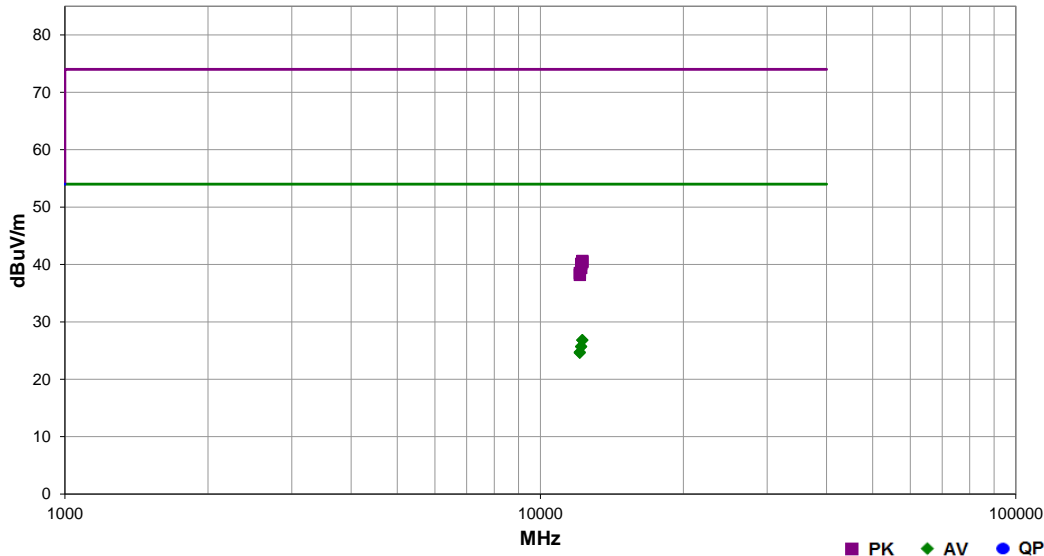
SPURIOUS RADIATED EMISSIONS - HARMONICS



EmiRS 2018.05.07 PSA-ESCI 2018.05.04

| | | | | |
|------------------------|-----------------------------------------------------------------------------------------|--------------------------|-------------|--|
| Work Order: | KING0038 | Date: | 17-Aug-2018 | |
| Project: | None | Temperature: | 24.2 °C | |
| Job Site: | OC10 | Humidity: | 50.9% RH | |
| Serial Number: | See Configurations | Barometric Pres.: | 1020 mbar | |
| EUT: | Falcon | | | |
| Configuration: | 1 | | | |
| Customer: | King | | | |
| Attendees: | None | | | |
| EUT Power: | 110VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11 n: Low Ch 3 (2422MHz), Mid Ch 6 (2437 MHz), High Ch 9 (2452 MHz) | | | |
| Deviations: | None | | | |
| Comments: | None | | | |

| | | | | | | | |
|----------------------------|-----------------|--------------------------|------------------|--------------------------|-----------|----------------|------|
| Test Specifications | FCC 15.247:2018 | Test Method | ANSI C63.10:2013 | | | | |
| Run # | 4 | Test Distance (m) | 3 | Antenna Height(s) | 1 to 4(m) | Results | Pass |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|---------------------------------------------|
| 12258.380 | 29.7 | -2.9 | 2.9 | 50.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 26.8 | 54.0 | -27.2 | EUT Vert, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 12257.710 | 29.7 | -2.9 | 1.0 | 320.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 26.8 | 54.0 | -27.2 | EUT Horz, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 12185.570 | 29.5 | -3.8 | 1.0 | 86.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 25.7 | 54.0 | -28.3 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX Pwr=23 |
| 12186.100 | 29.5 | -3.8 | 1.0 | 269.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 25.7 | 54.0 | -28.3 | EUT Horz, Mid Ch 6, MCS7, 40MHz, TX Pwr=23 |
| 12109.760 | 29.6 | -4.9 | 2.1 | 90.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 24.7 | 54.0 | -29.3 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX Pwr=21 |
| 12108.400 | 29.6 | -5.0 | 1.7 | 312.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 24.6 | 54.0 | -29.4 | EUT Vert, Low Ch 3, MCS7, 40MHz, TX Pwr=21 |
| 12260.590 | 43.4 | -2.8 | 1.0 | 320.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 40.6 | 74.0 | -33.4 | EUT Horz, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 12258.070 | 43.3 | -2.9 | 2.9 | 50.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 40.4 | 74.0 | -33.6 | EUT Vert, High Ch 9, MCS7, 40MHz, TX Pwr=23 |
| 12184.360 | 43.9 | -3.8 | 1.0 | 269.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 40.1 | 74.0 | -33.9 | EUT Horz, Mid Ch 6, MCS7, 40MHz, TX Pwr=23 |
| 12184.530 | 43.2 | -3.8 | 1.0 | 86.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 39.4 | 74.0 | -34.6 | EUT Vert, Mid Ch 6, MCS7, 40MHz, TX Pwr=23 |
| 12109.130 | 43.4 | -4.9 | 2.1 | 90.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 38.5 | 74.0 | -35.5 | EUT Horz, Low Ch 3, MCS7, 40MHz, TX Pwr=21 |
| 12109.830 | 43.1 | -4.9 | 1.7 | 312.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 38.2 | 74.0 | -35.8 | EUT Vert, Low Ch 3, MCS7, 40MHz, TX Pwr=21 |

DUTY CYCLE



XMit 2017.12.13

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|------------------|-----|-----------|-----------|
| Generator - Signal | Agilent | E8257D | TGU | 15-Feb-18 | 15-Feb-21 |
| Cable | Fairview Microwave | SCA1814-0101-120 | OCZ | NCR | NCR |
| Attenuator | Fairview Microwave | SA18H-20 | TKR | 28-Dec-17 | 28-Dec-18 |
| Block - DC | Fairview Microwave | SD3379 | AMV | 28-Dec-17 | 28-Dec-18 |
| Analyzer - Spectrum Analyzer | Agilent | E4440A | AFA | 9-Nov-17 | 9-Nov-18 |

TEST DESCRIPTION

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

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

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

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

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

DUTY CYCLE



TbTx 2017.12.14 XMM 2017.12.13

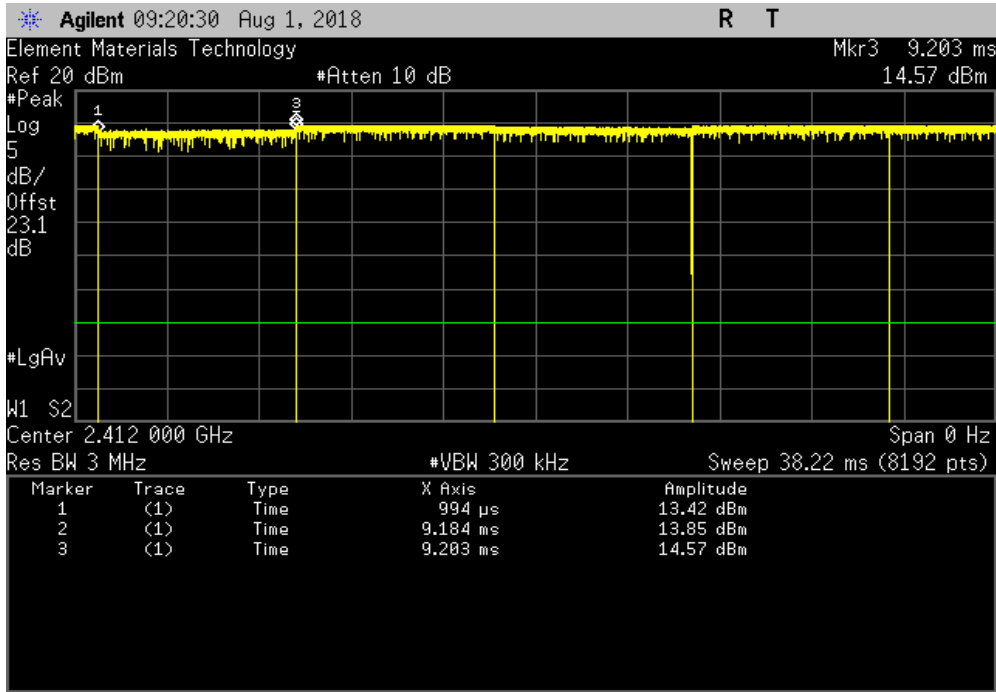
| | | | | | | | |
|-------------------------------------------------------------------------|------------------------------------------------|------------------------------------|------------|------------------|-----------|-----------|---------|
| EUT: Falcon | | Work Order: KING0032 | | | | | |
| Serial Number: See Configurations | | Date: 1-Aug-18 | | | | | |
| Customer: King | | Temperature: 26.3 °C | | | | | |
| Attendees: None | | Humidity: 44.5% RH | | | | | |
| Project: None | | Barometric Pres.: 1015 mbar | | | | | |
| Tested by: Johnny Candelas | | Power: 110VAC/60Hz | | | | | |
| TEST SPECIFICATIONS | | Test Method | | | | | |
| FCC 15.247:2018 | | ANSI C63.10:2013 | | | | | |
| COMMENTS | | | | | | | |
| Directly connected to the antenna port of the King Router (MN: KWM1000) | | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | | |
| None | | | | | | | |
| Configuration # | 2 | 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, TX Pwr=36 | 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=36 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=38 | 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=38 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=40 | 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=40 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(b) 11 Mbps | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=36 | 916.9 us | 934.3 us | 1 | 98.1 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=36 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=38 | 917.8 us | 934.2 us | 1 | 98.2 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=38 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=40 | 917.8 us | 934.2 us | 1 | 98.2 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=40 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(g) 6 Mbps | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 1.352 ms | 1.373 ms | 1 | 98.5 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 1.351 ms | 1.373 ms | 1 | 98.4 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 1.351 ms | 1.373 ms | 1 | 98.4 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(g) 36 Mbps | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 242.113 us | 256.678 us | 1 | 94.3 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 242.035 us | 256.556 us | 1 | 94.3 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 242.279 us | 256.822 us | 1 | 94.3 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(g) 54 Mbps | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 170.213 us | 184.578 us | 1 | 92.2 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 170.135 us | 184.944 us | 1 | 92 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 170.257 us | 184.700 us | 1 | 92.2 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=27 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(n) MCS0 | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | 1.263 ms | 1.284 ms | 1 | 98.3 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | 1.264 ms | 1.286 ms | 1 | 98.3 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=25 | 1.260 ms | 1.286 ms | 1 | 98 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=25 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | 620.858 us | 644.6 us | 1 | 96.3 | N/A | N/A |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | 621.458 us | 645.2 us | 1 | 96.3 | N/A | N/A |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | 621.437 us | 645.2 us | 1 | 96.3 | N/A | N/A |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| 802.11(n) MCS7 | | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | 158.257 us | 172.922 us | 1 | 91.5 | N/A | N/A |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | 158.623 us | 173.044 us | 1 | 91.7 | N/A | N/A |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=25 | 158.257 us | 172.944 us | 1 | 91.5 | N/A | N/A |
| | High Channel 11, 2462 MHz, TX Pwr=25 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | 86.445 us | 108.822 us | 1 | 79.4 | N/A | N/A |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | N/A | N/A | 5 | N/A | N/A | N/A |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | 86.445 us | 108.700 us | 1 | 79.5 | N/A | N/A |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | 86.445 us | 108.678 us | 1 | 79.5 | N/A | N/A |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | N/A | N/A | 5 | N/A | N/A | N/A |

DUTY CYCLE

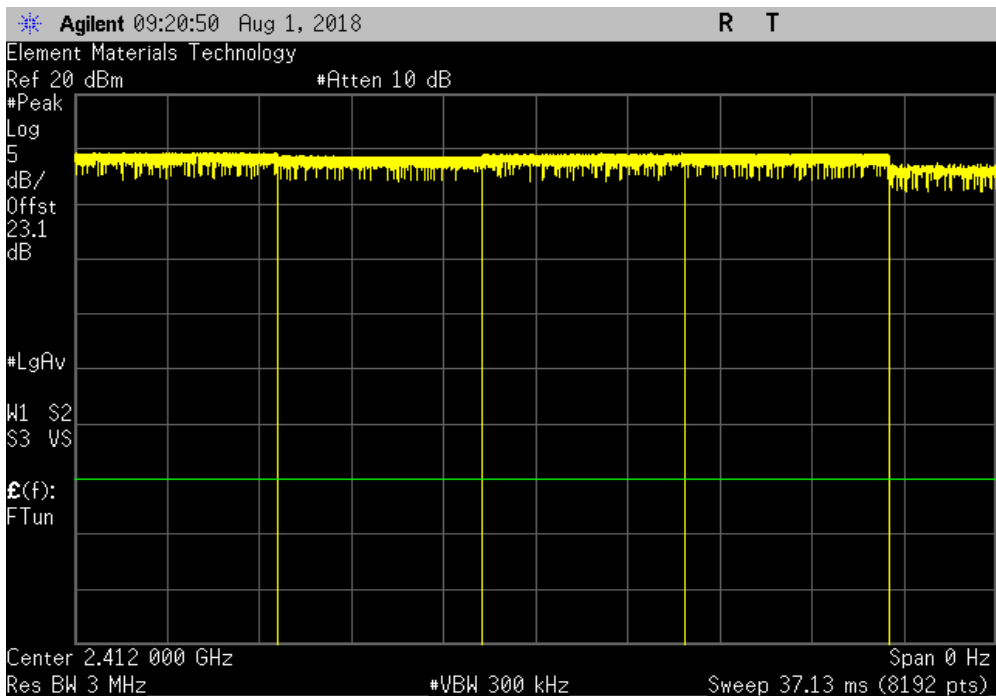


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|-----------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A | |



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

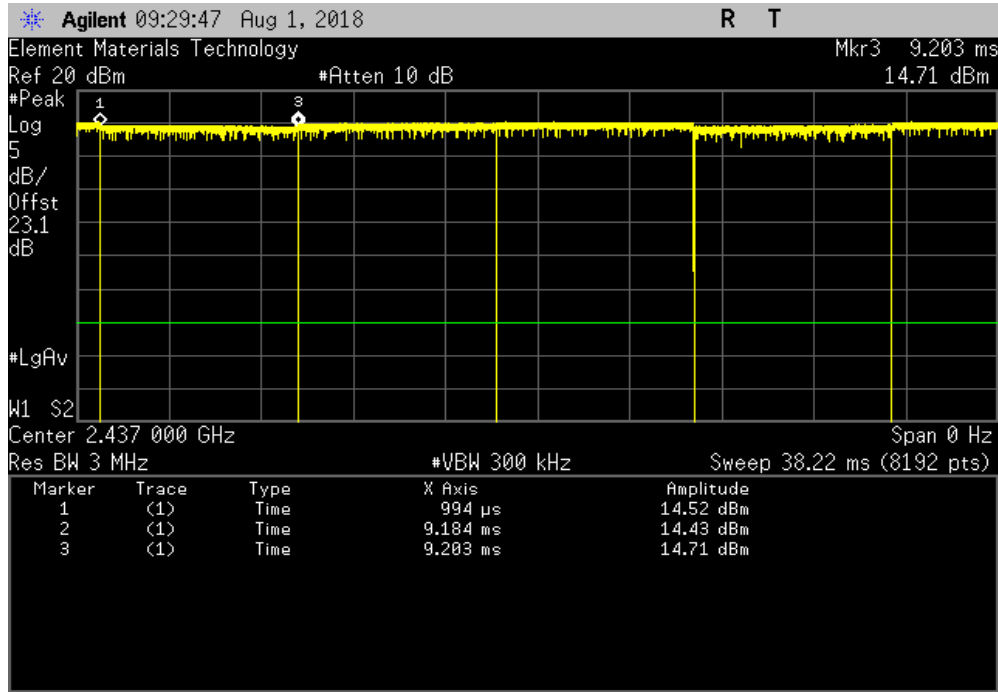


DUTY CYCLE

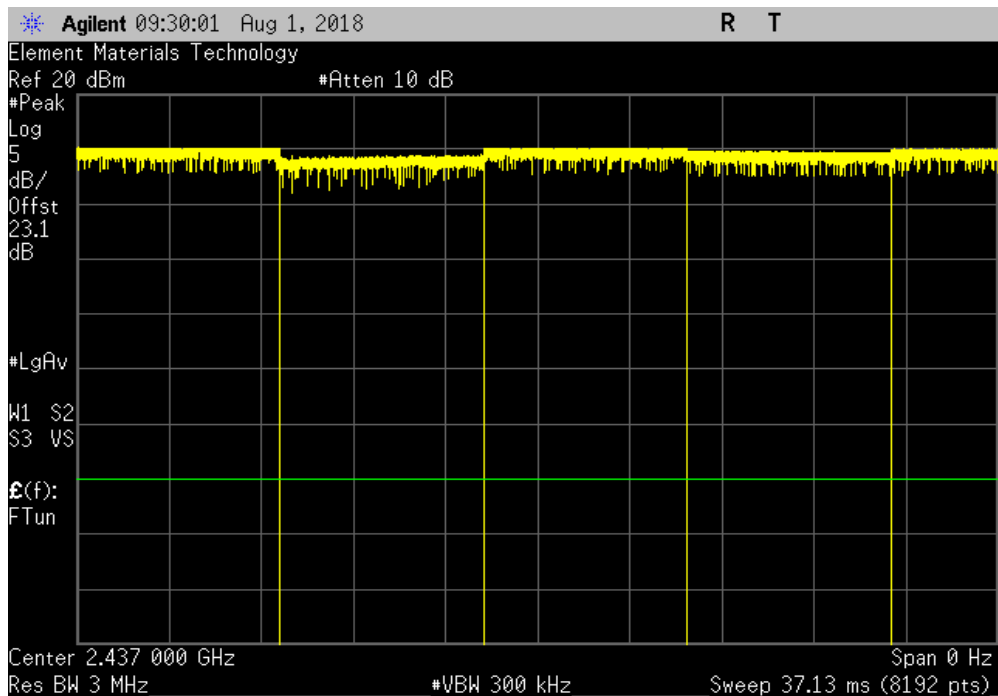


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|-----------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A | |



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

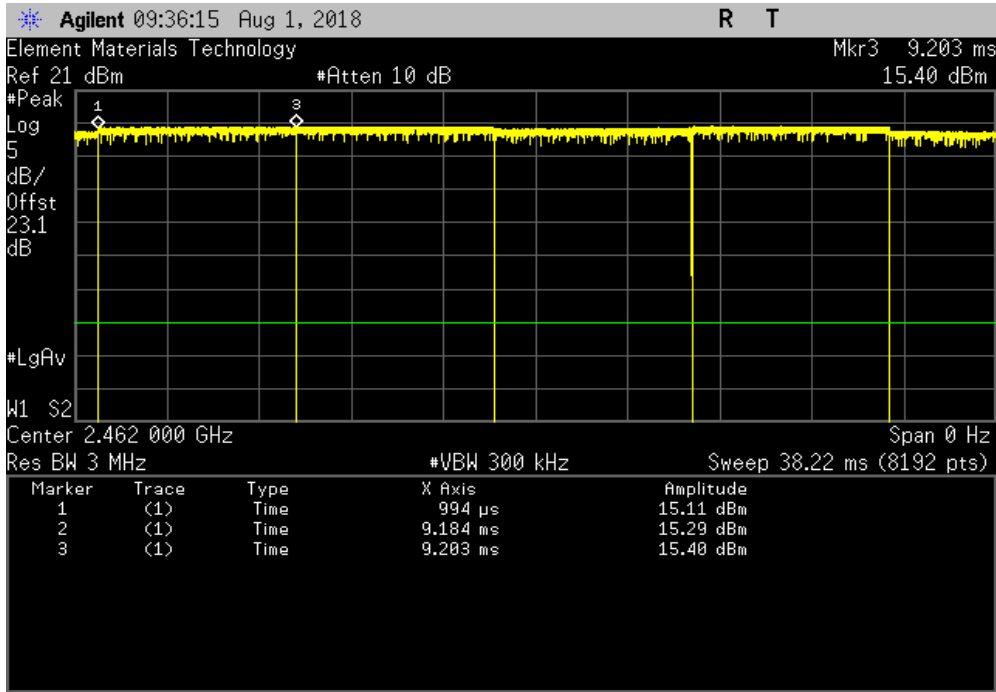


DUTY CYCLE

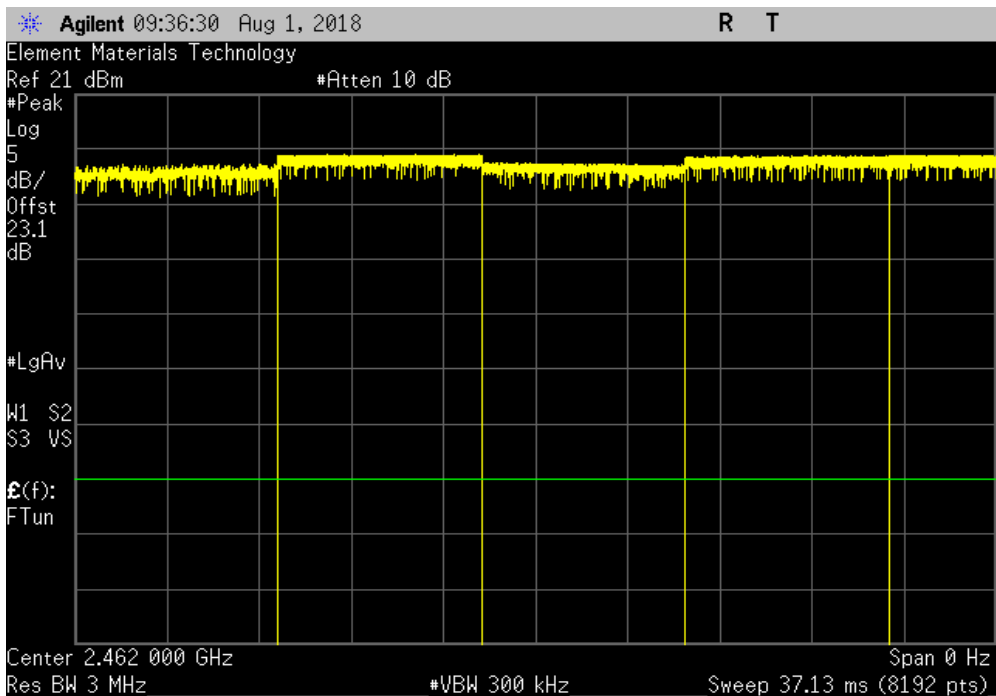


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz | | | | | | |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 8.19 ms | 8.209 ms | 1 | 99.8 | N/A | N/A | |



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

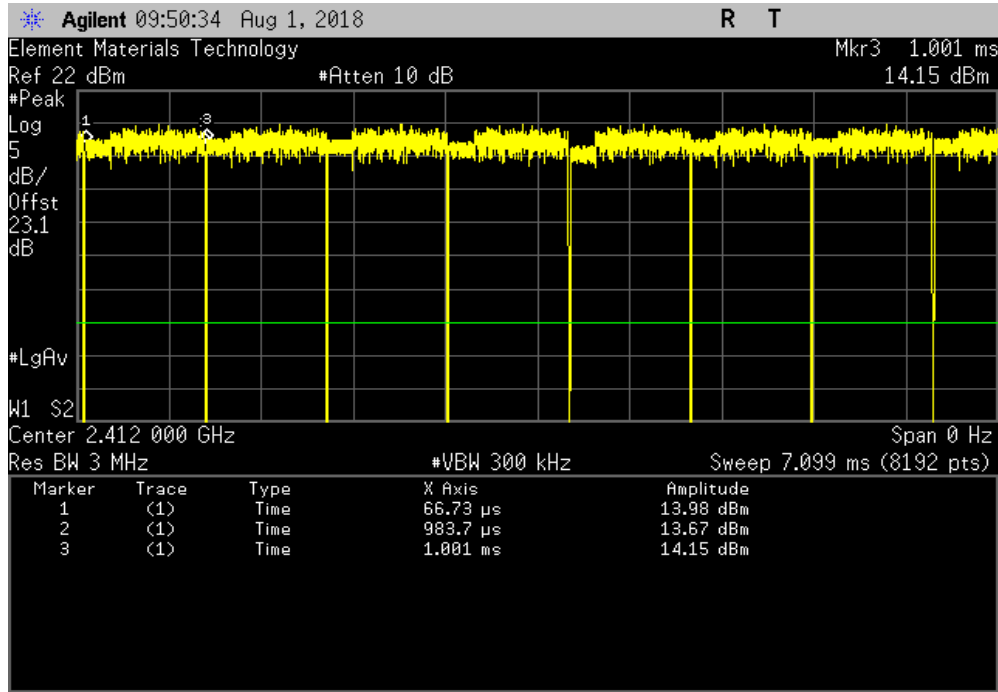


DUTY CYCLE

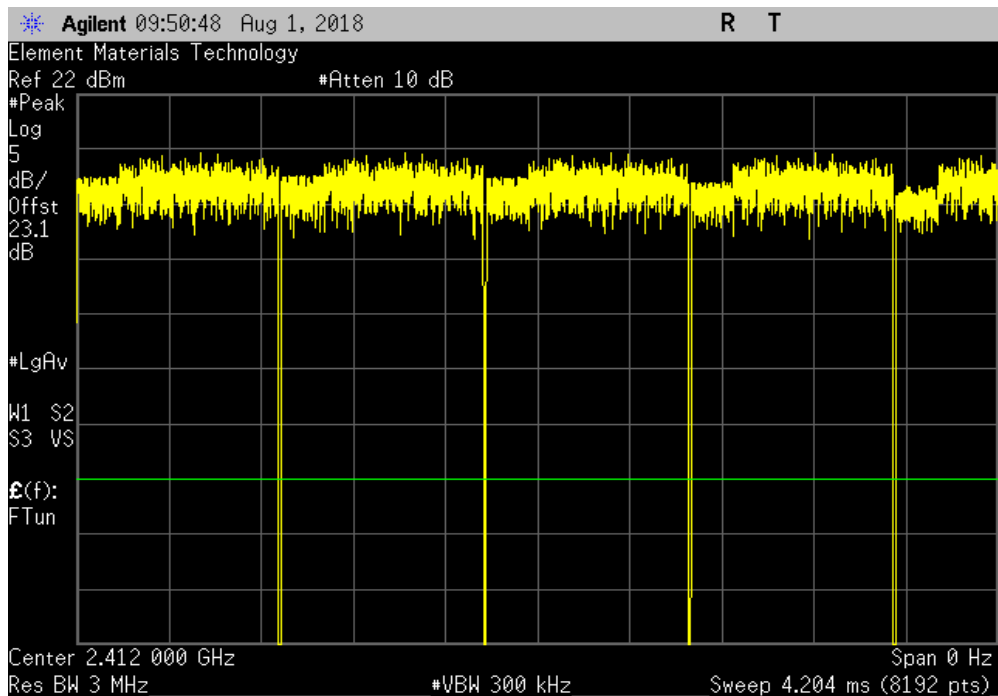


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 916.9 us | 934.3 us | 1 | 98.1 | N/A | N/A | |



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

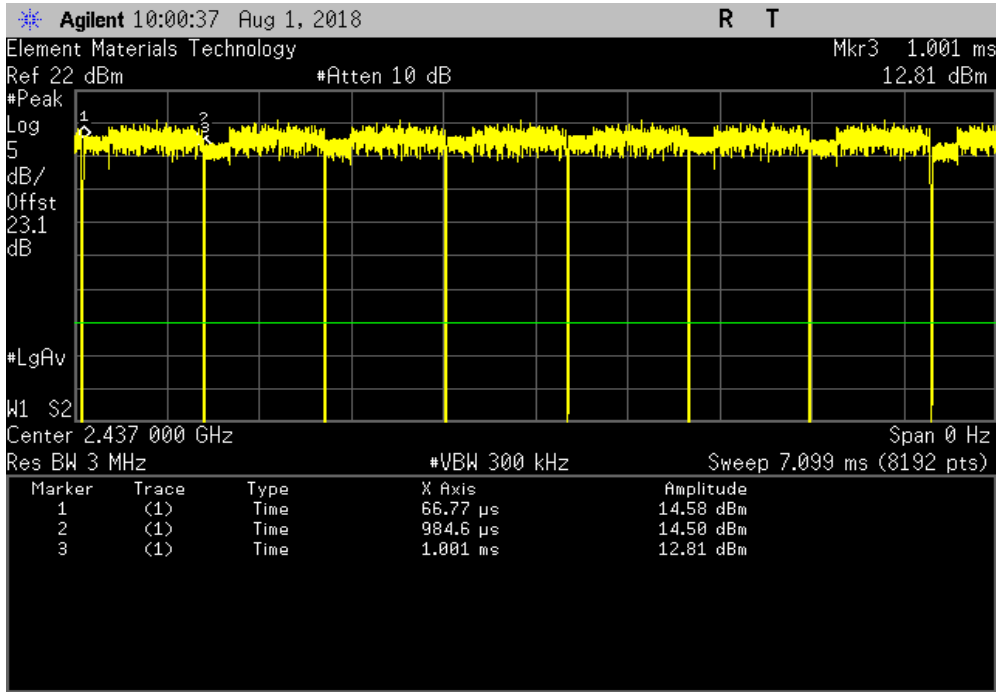


DUTY CYCLE

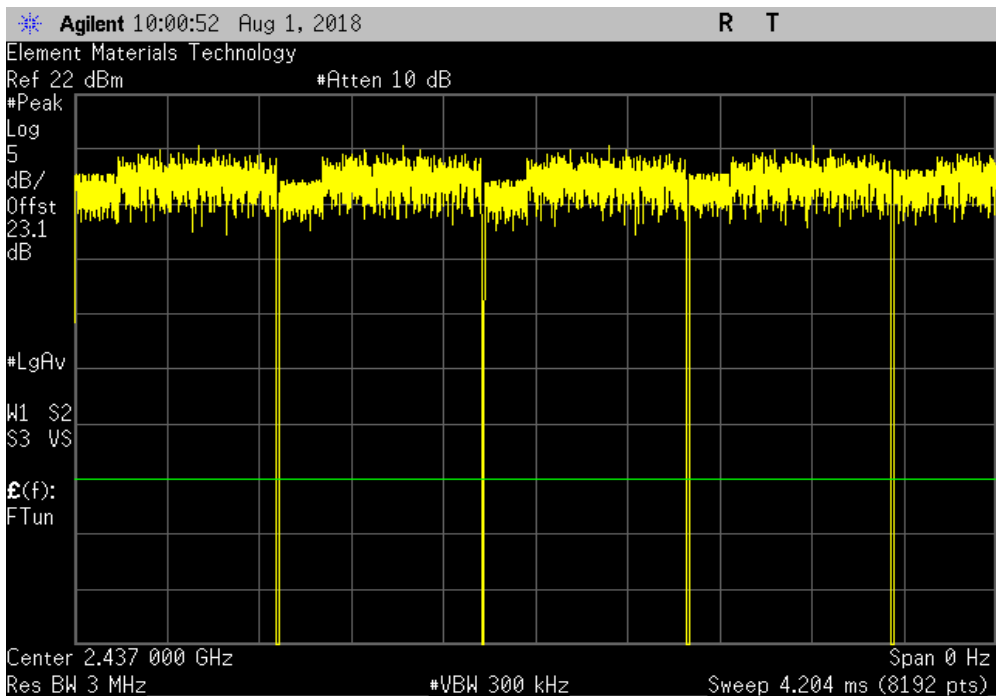


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 917.8 us | 934.2 us | 1 | 98.2 | N/A | N/A | |



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

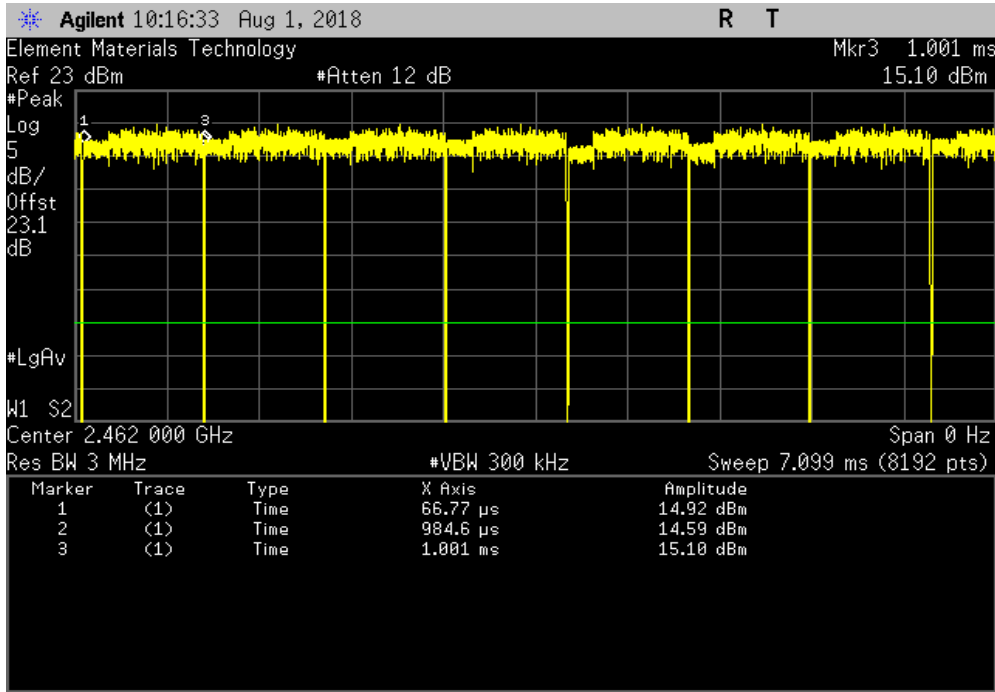


DUTY CYCLE

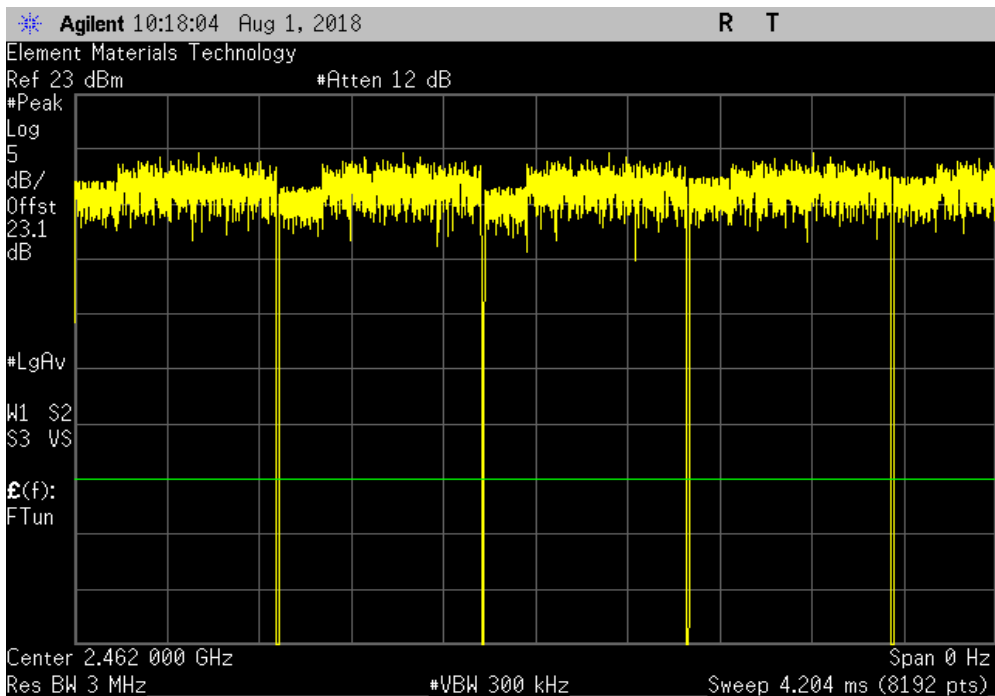


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 917.8 us | 934.2 us | 1 | 98.2 | N/A | N/A | |



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

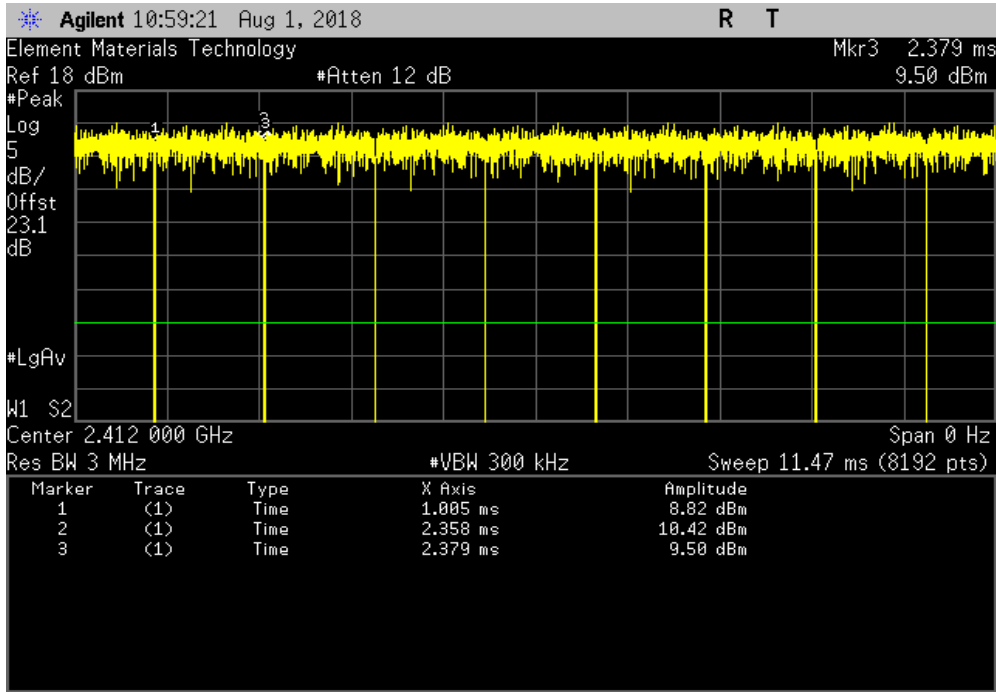


DUTY CYCLE

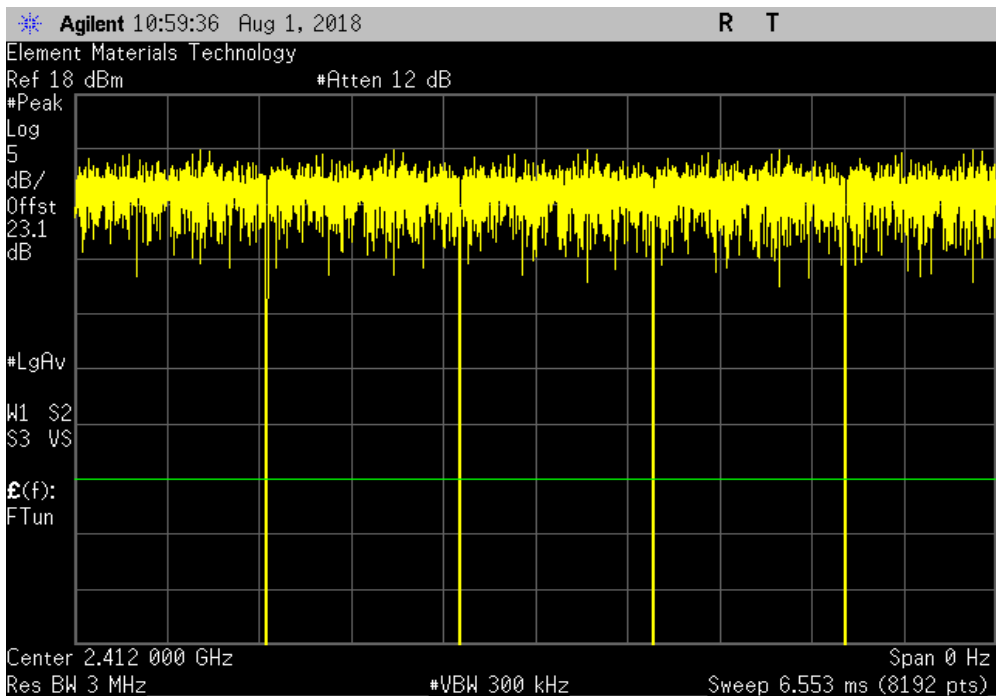


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|-----------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 1.352 ms | 1.373 ms | 1 | 98.5 | N/A | N/A | |



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

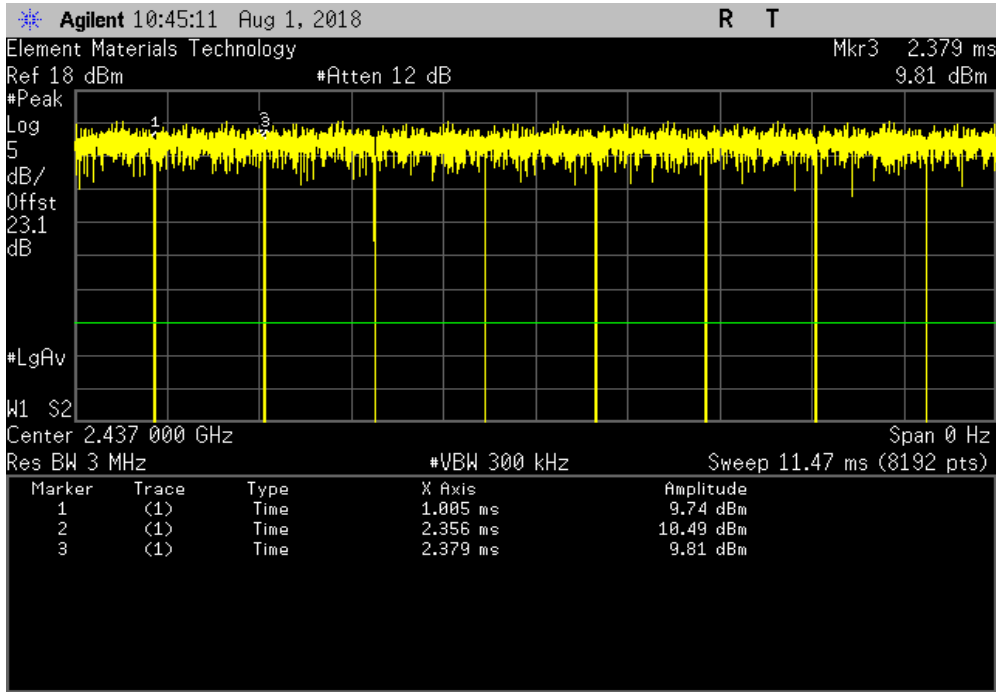


DUTY CYCLE

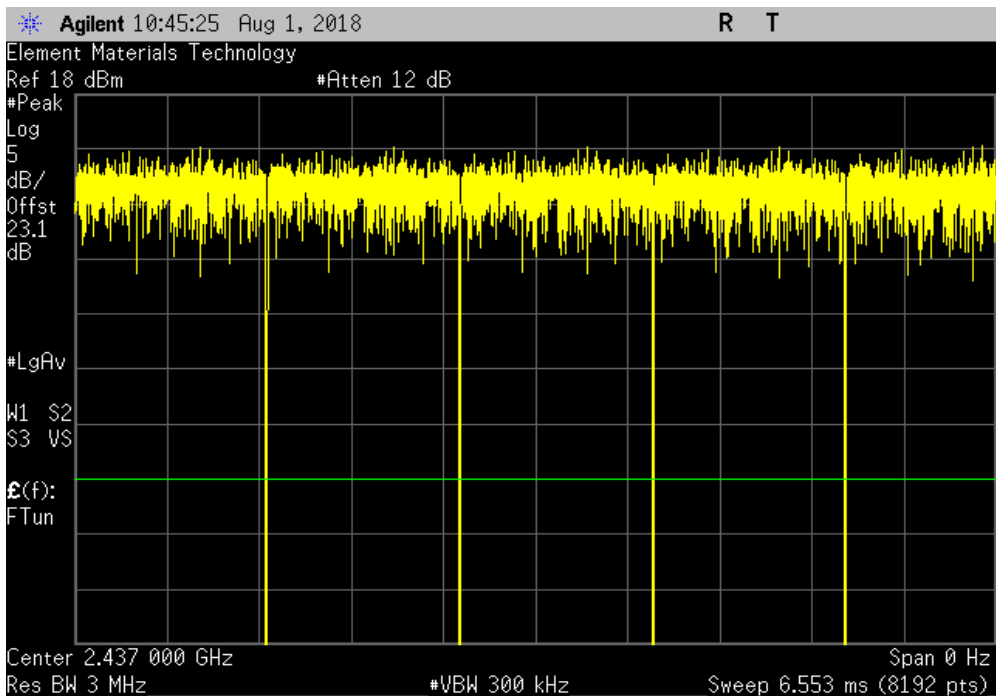


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|-----------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 1.351 ms | 1.373 ms | 1 | 98.4 | N/A | N/A | |



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

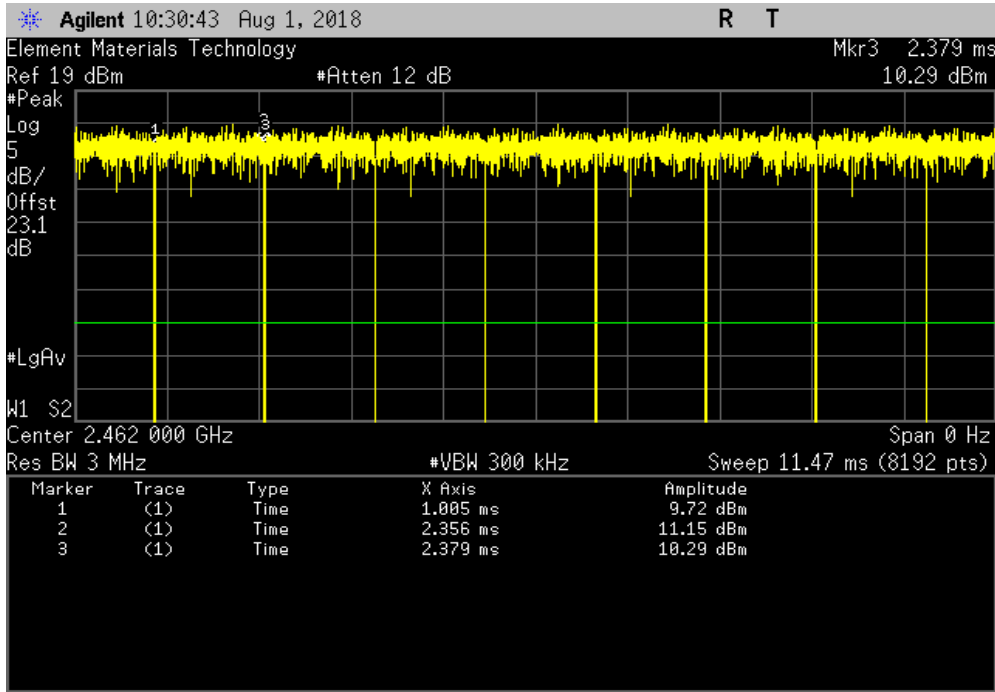


DUTY CYCLE

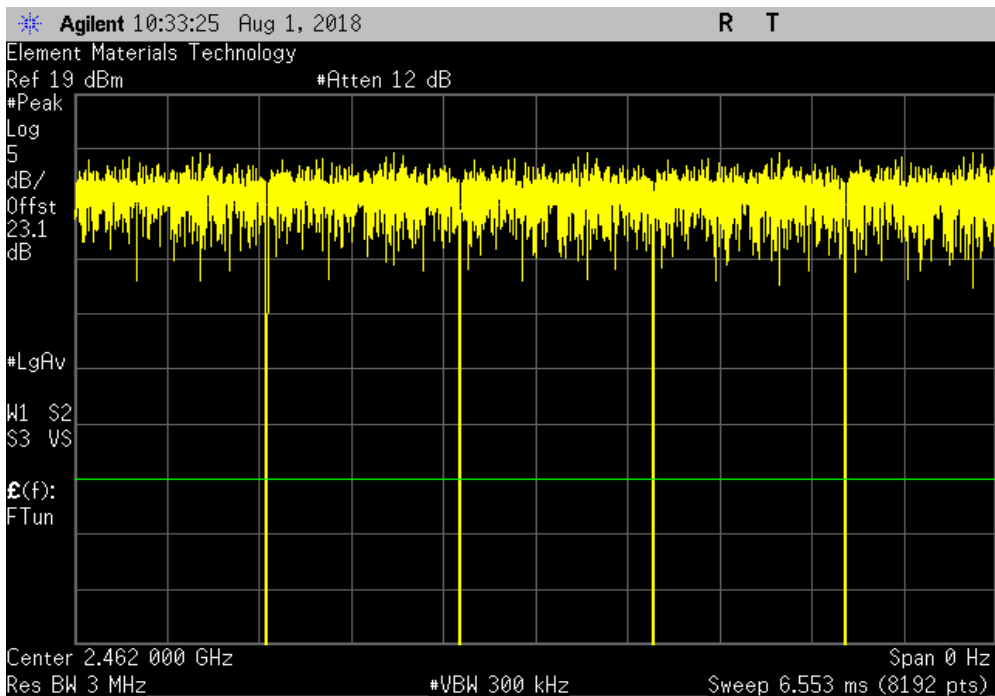


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz | | | | | | |
|-------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 1.351 ms | 1.373 ms | 1 | 98.4 | N/A | N/A | |



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

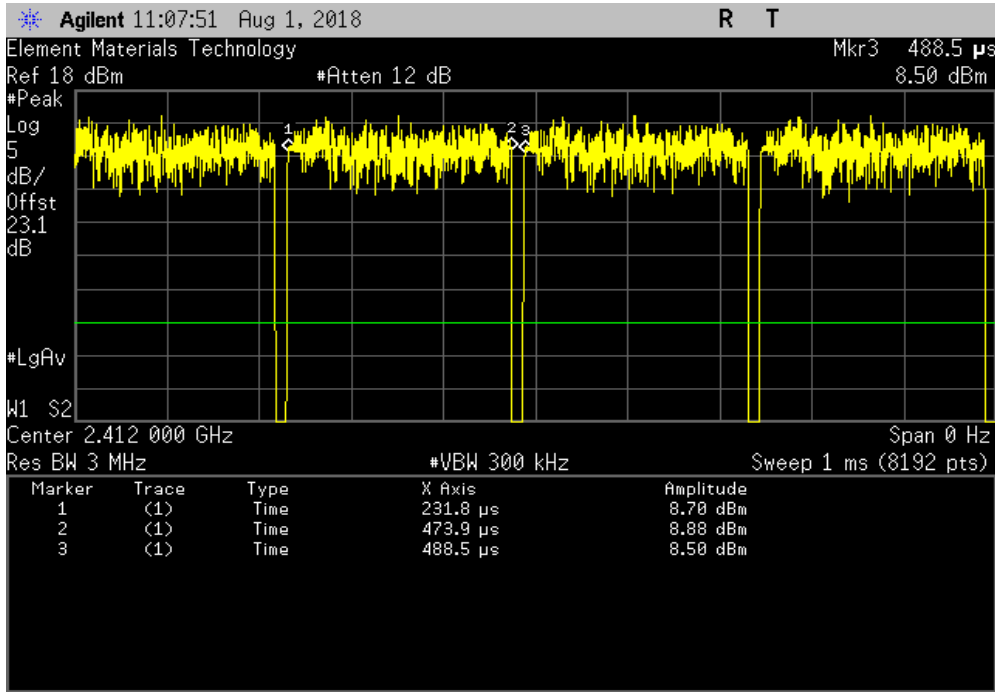


DUTY CYCLE

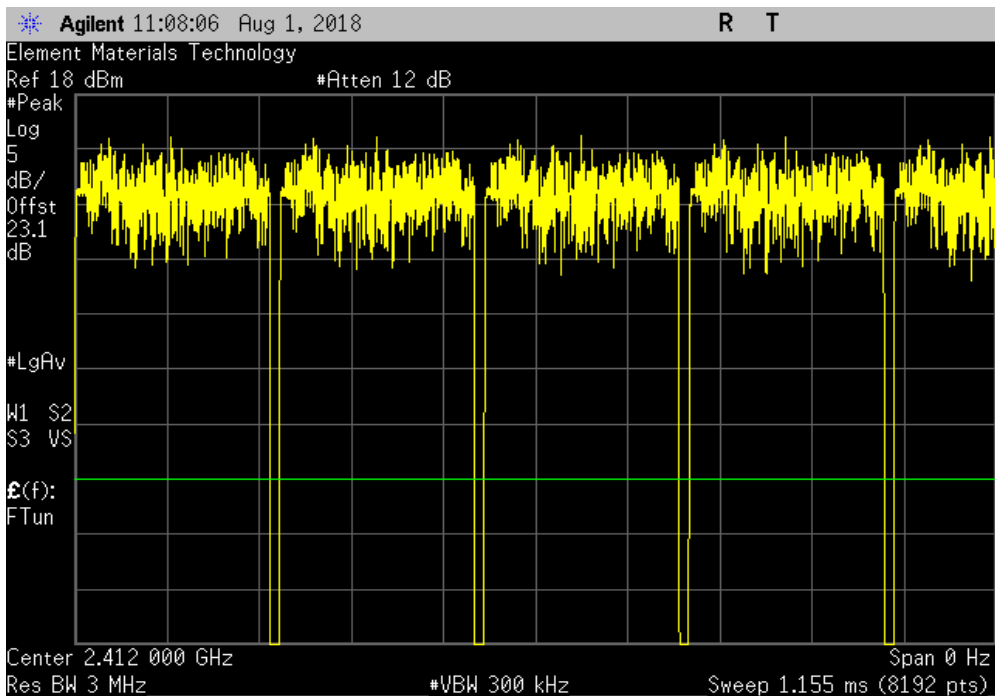


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 242.113 us | 256.678 us | 1 | 94.3 | N/A | N/A | |



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

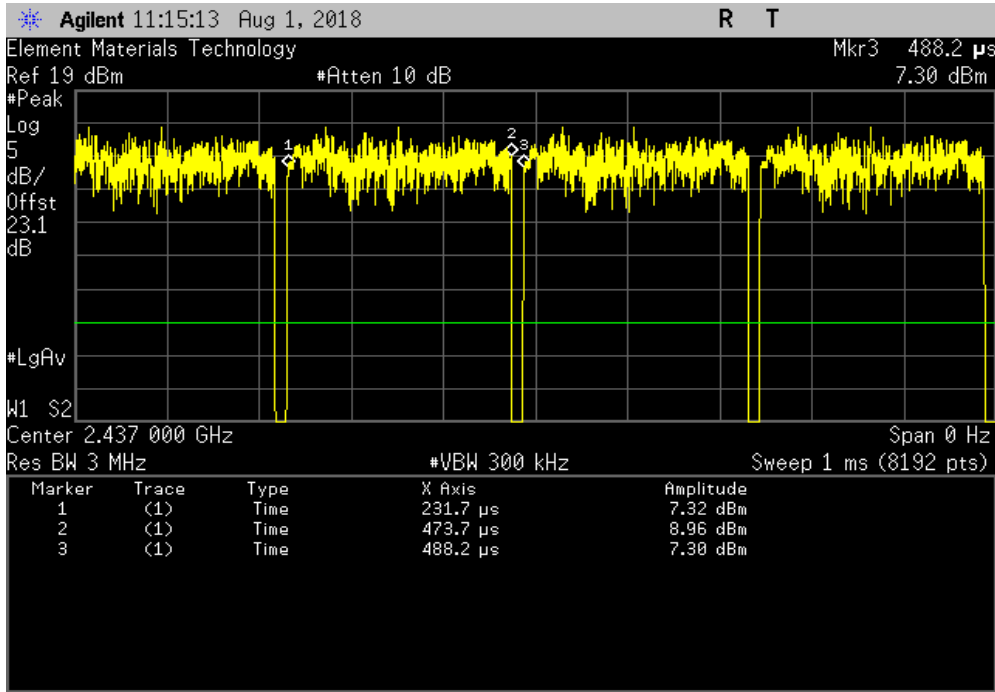


DUTY CYCLE

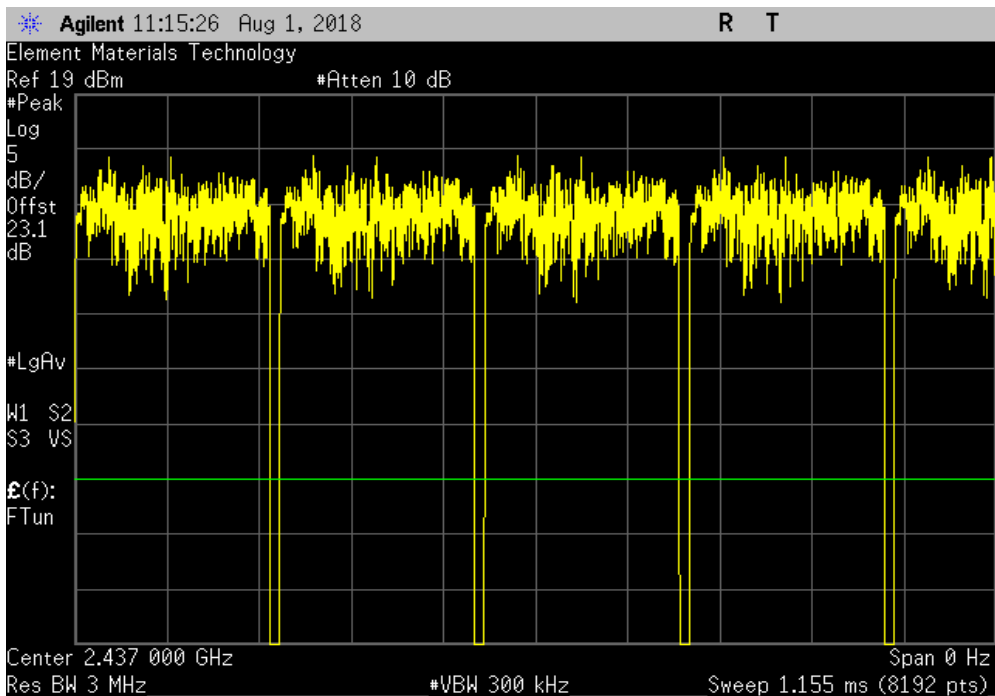


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 242.035 us | 256.556 us | 1 | 94.3 | N/A | N/A | |



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

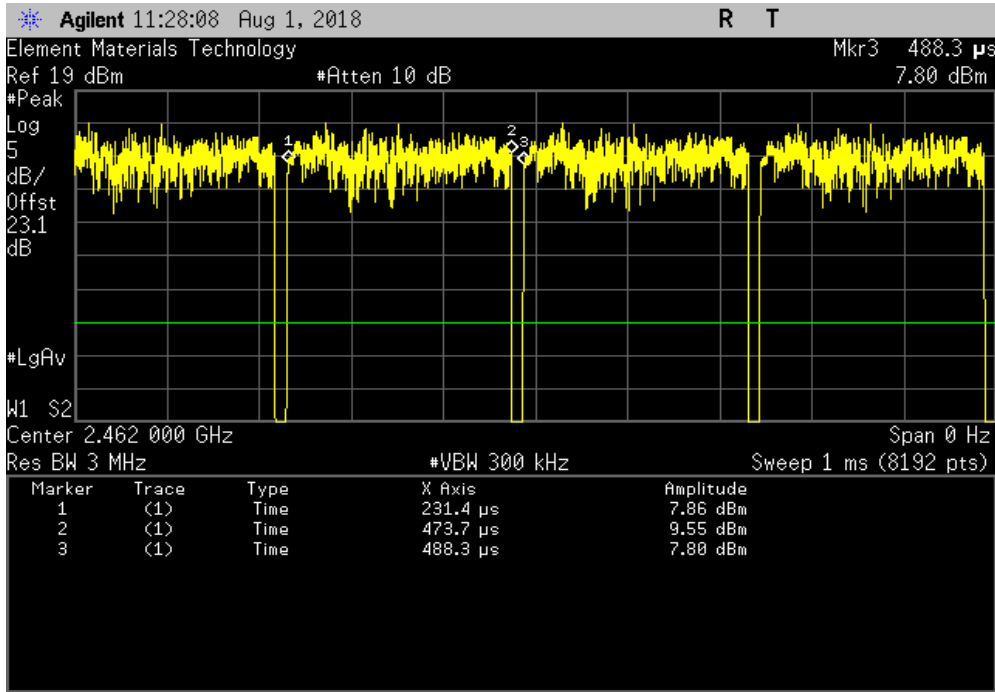


DUTY CYCLE

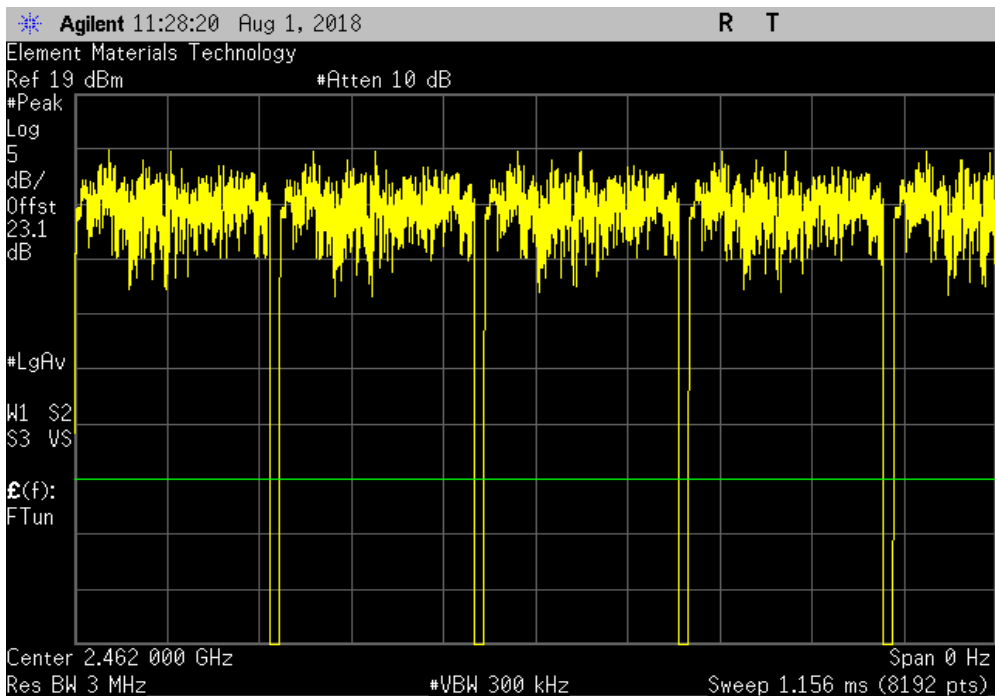


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 242.279 us | 256.822 us | 1 | 94.3 | N/A | N/A | |



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

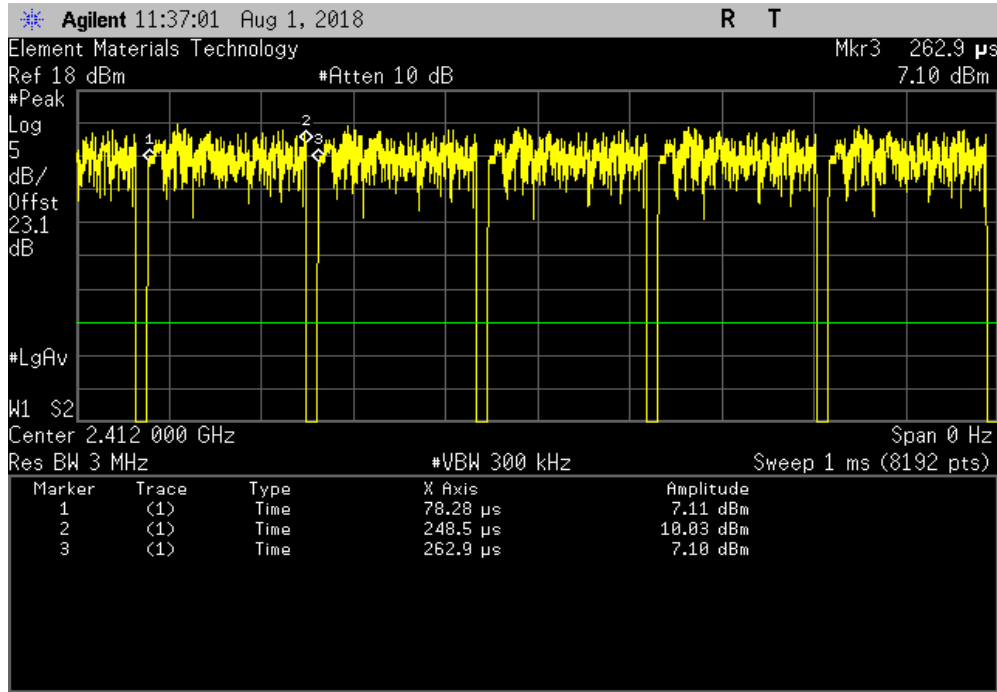


DUTY CYCLE

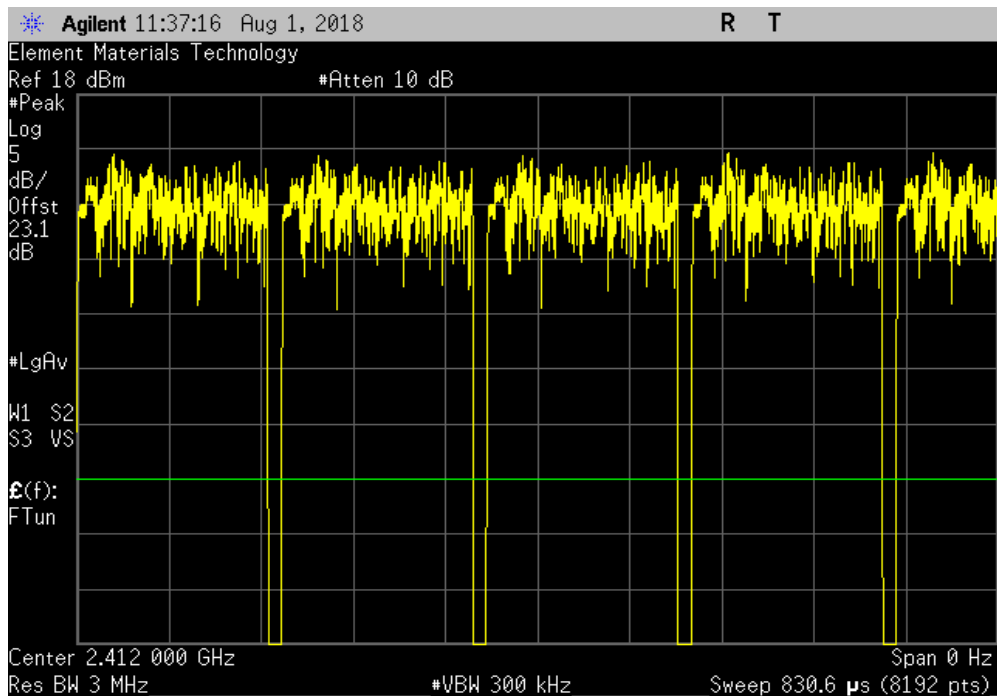


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 170.213 us | 184.578 us | 1 | 92.2 | N/A | N/A | |



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

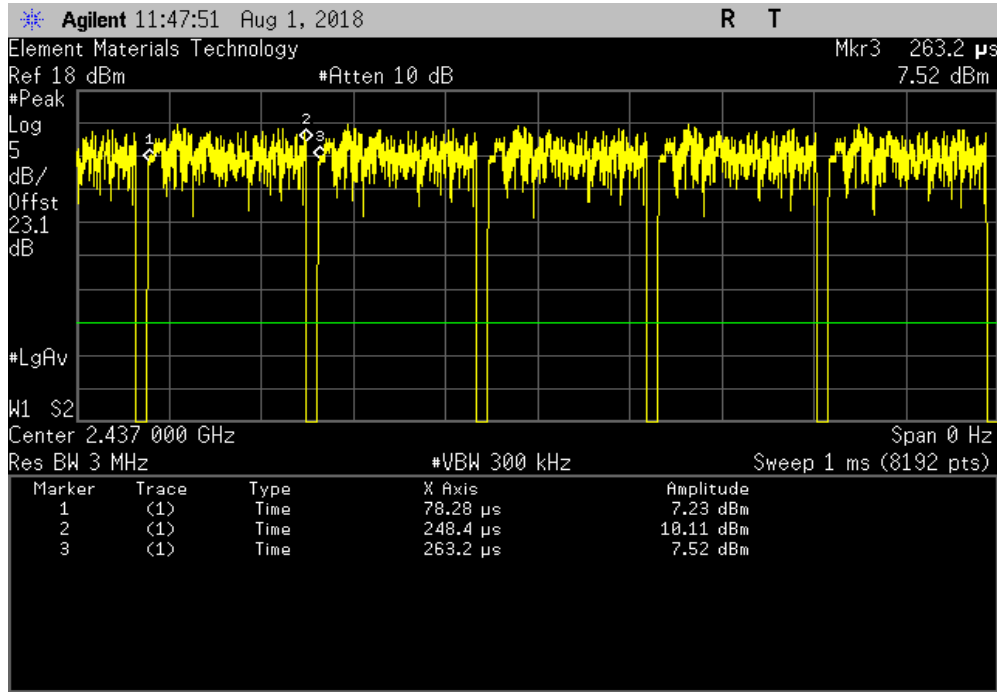


DUTY CYCLE

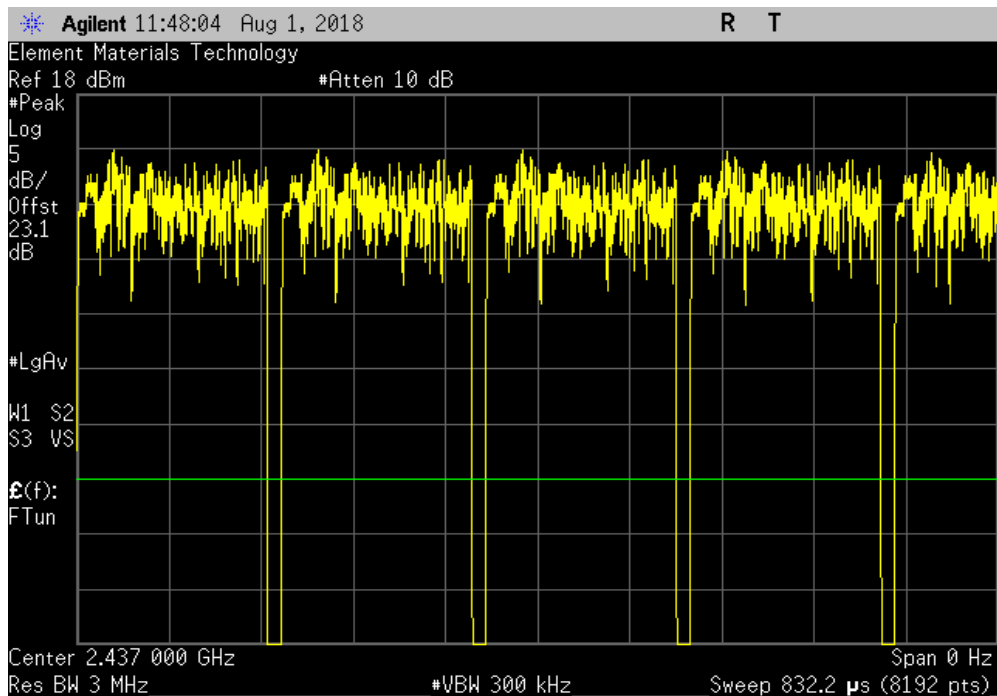


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 170.135 us | 184.944 us | 1 | 92 | N/A | N/A | |



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

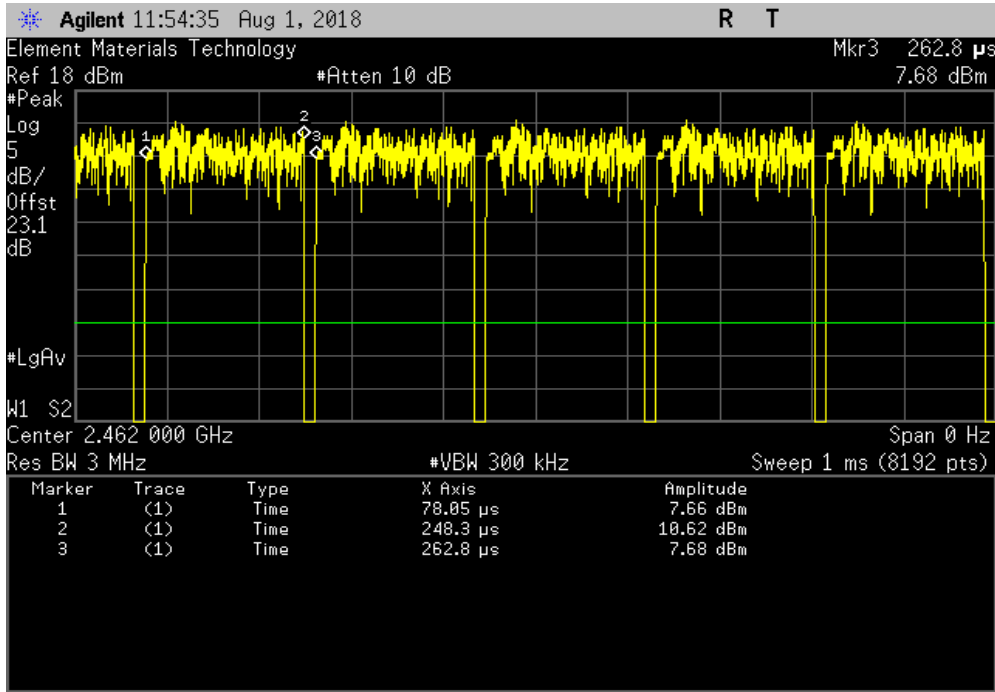


DUTY CYCLE

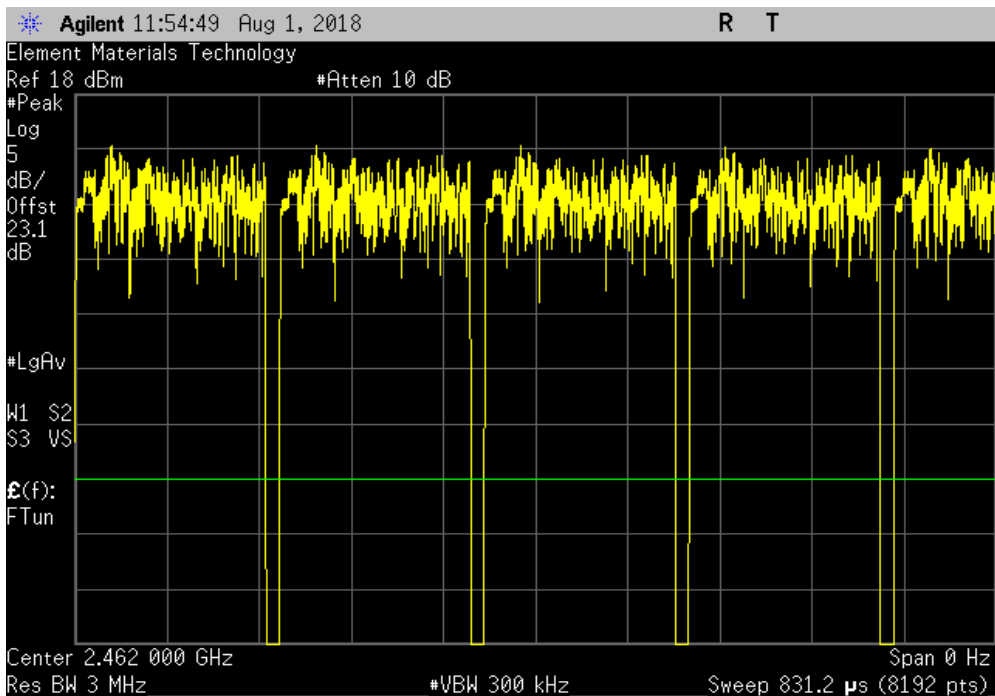


TMTX 2017.12.14 XMI 2017.12.13

| 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 | |
| 170.257 us | 184.700 us | 1 | 92.2 | 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 | |

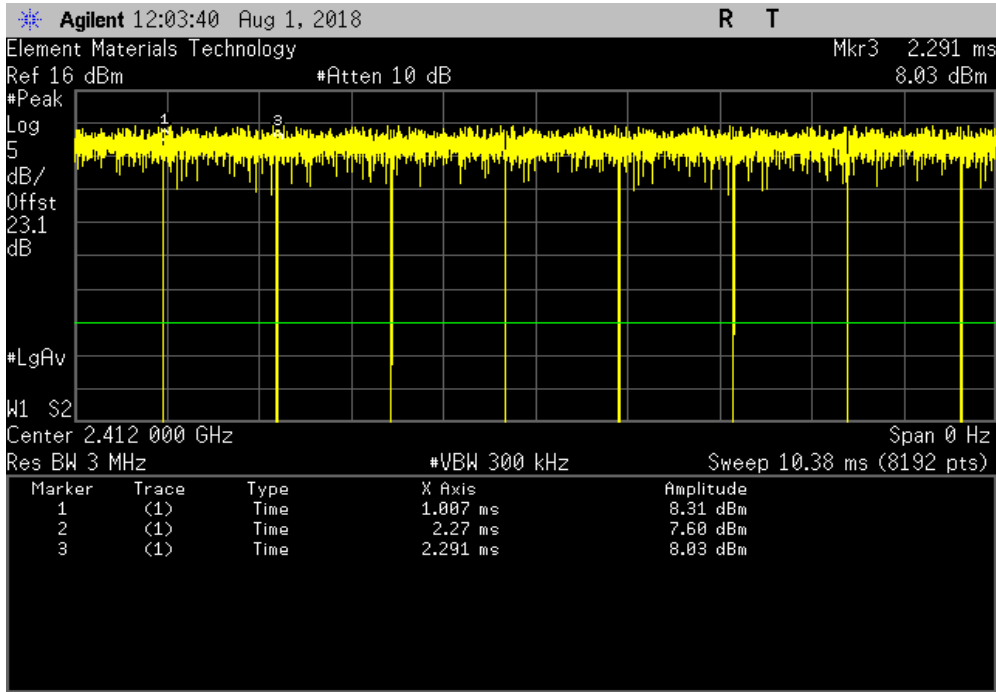


DUTY CYCLE

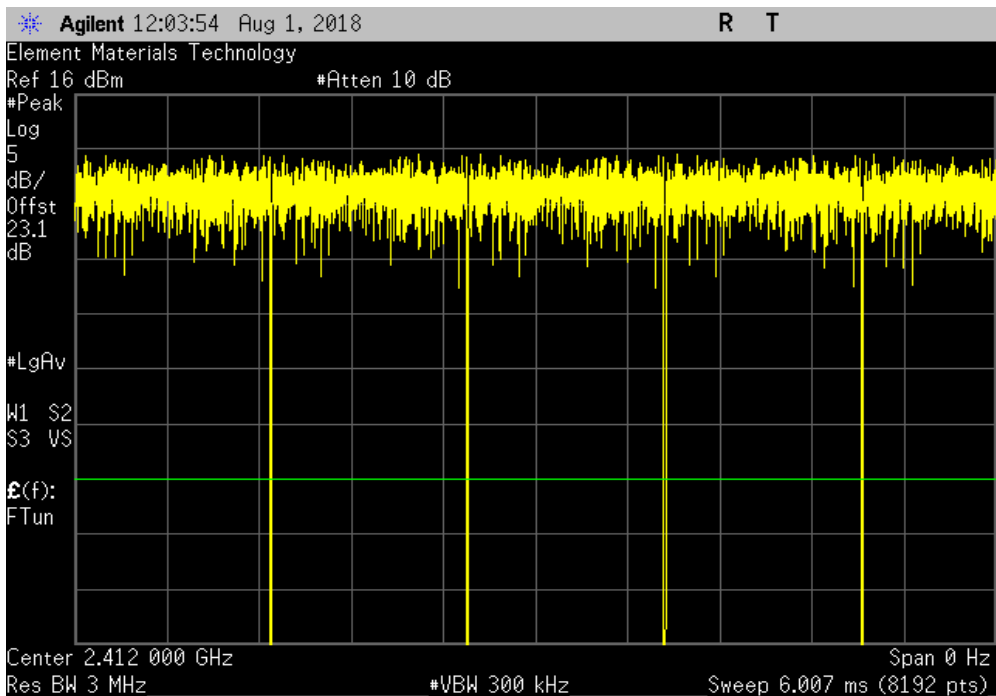


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz | | | | | | |
|---------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 1.263 ms | 1.284 ms | 1 | 98.3 | N/A | N/A | |



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

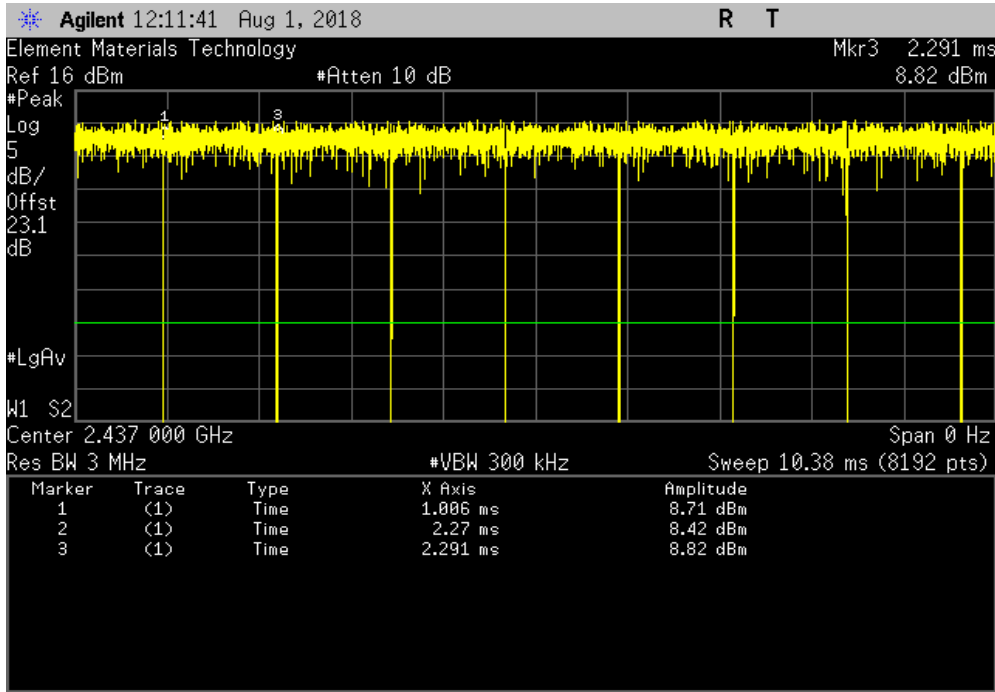


DUTY CYCLE

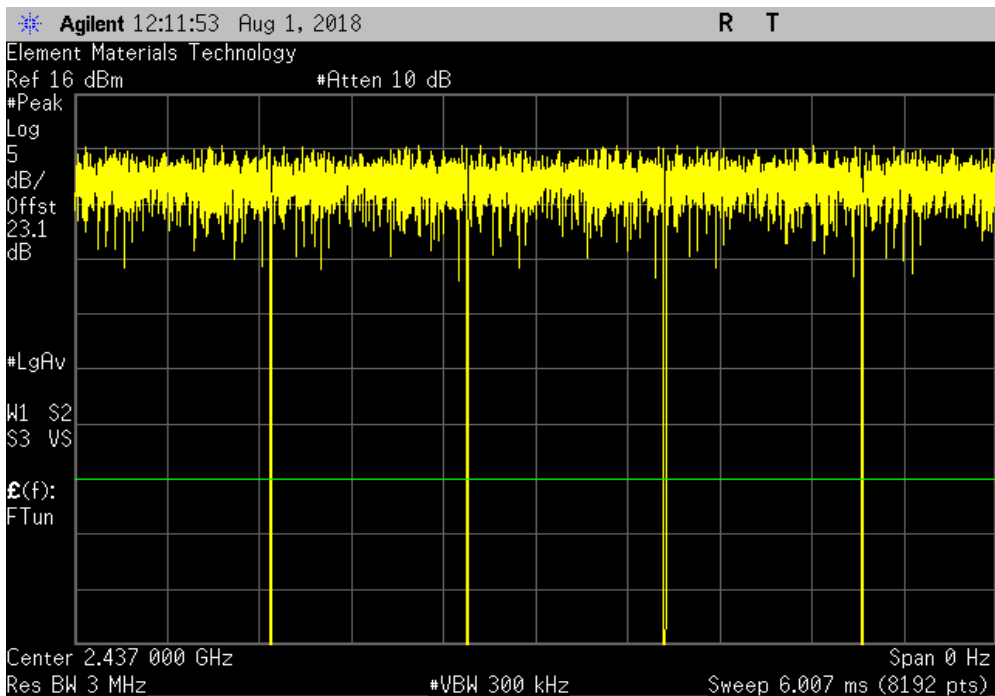


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz | | | | | | |
|---------------------------------------------------------------------|-------------|----------|------------------|-----------|-----------|---------|
| | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
| | 1.264 ms | 1.286 ms | 1 | 98.3 | N/A | N/A |



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

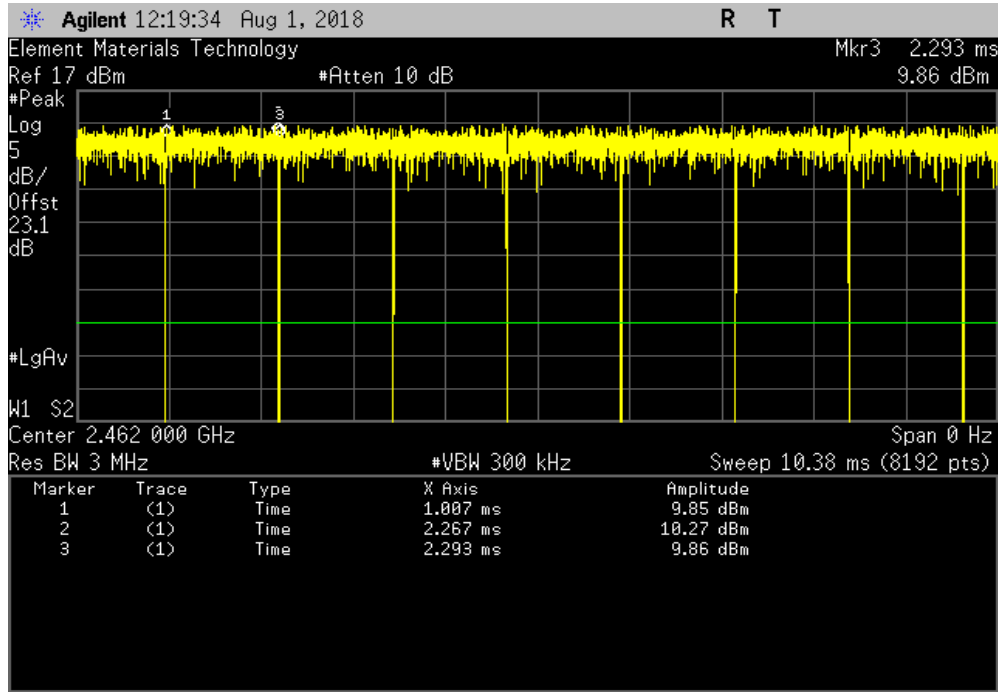


DUTY CYCLE

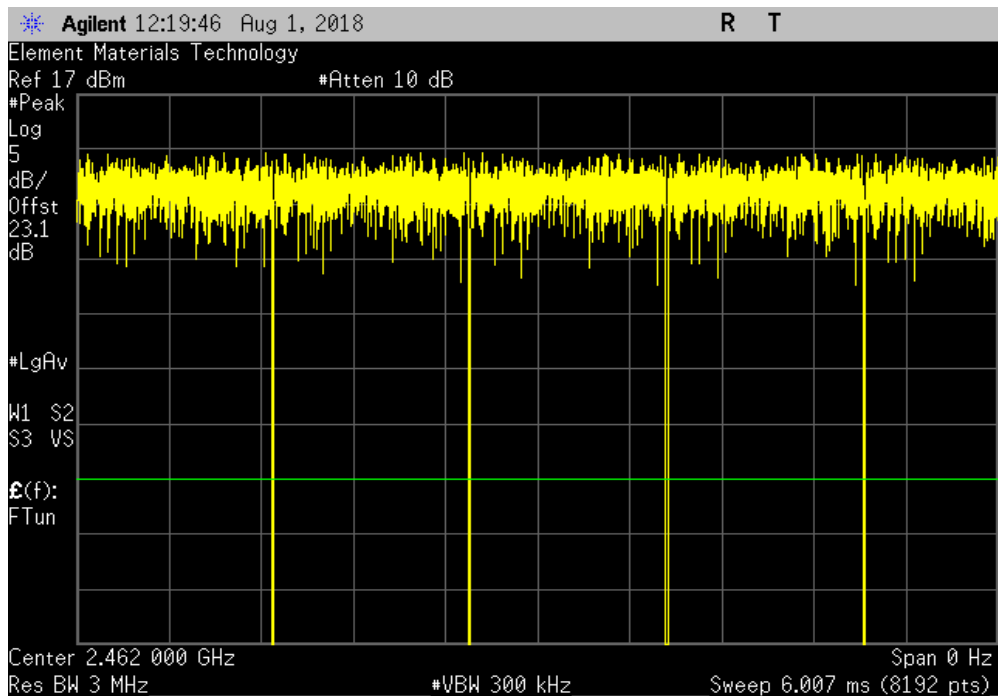


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz | | | | | | |
|-----------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 1.260 ms | 1.286 ms | 1 | 98 | N/A | N/A | |



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

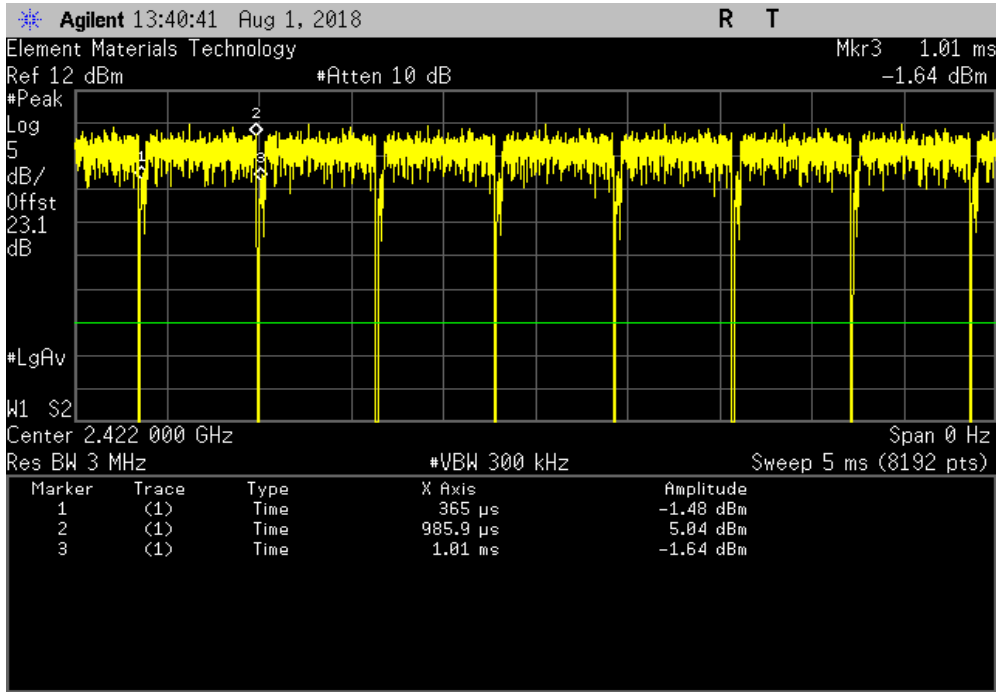


DUTY CYCLE

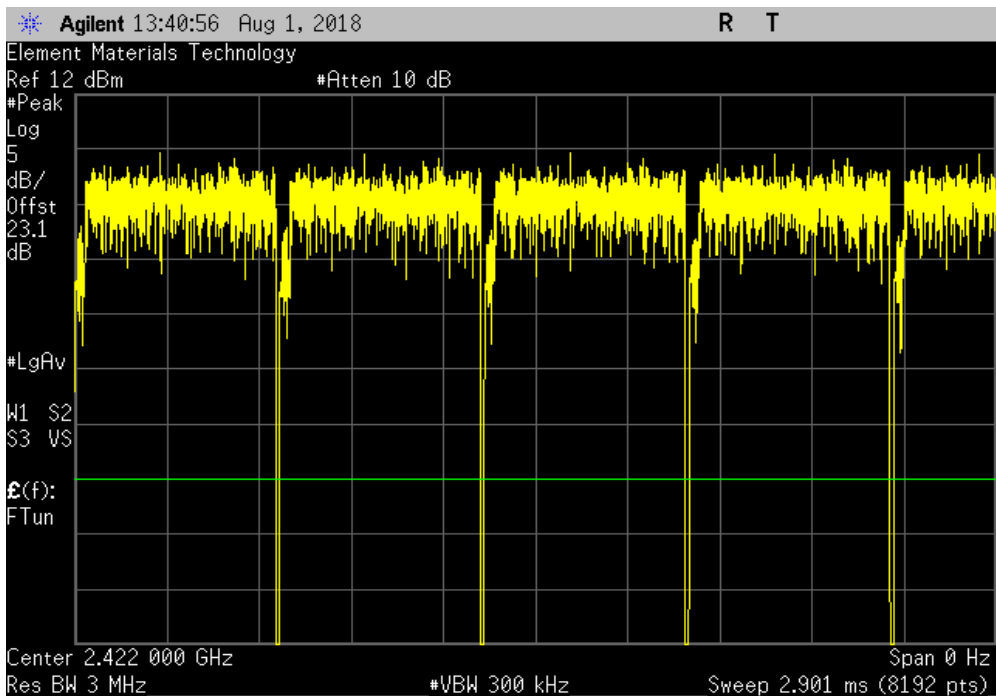


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 620.858 us | 644.6 us | 1 | 96.3 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |

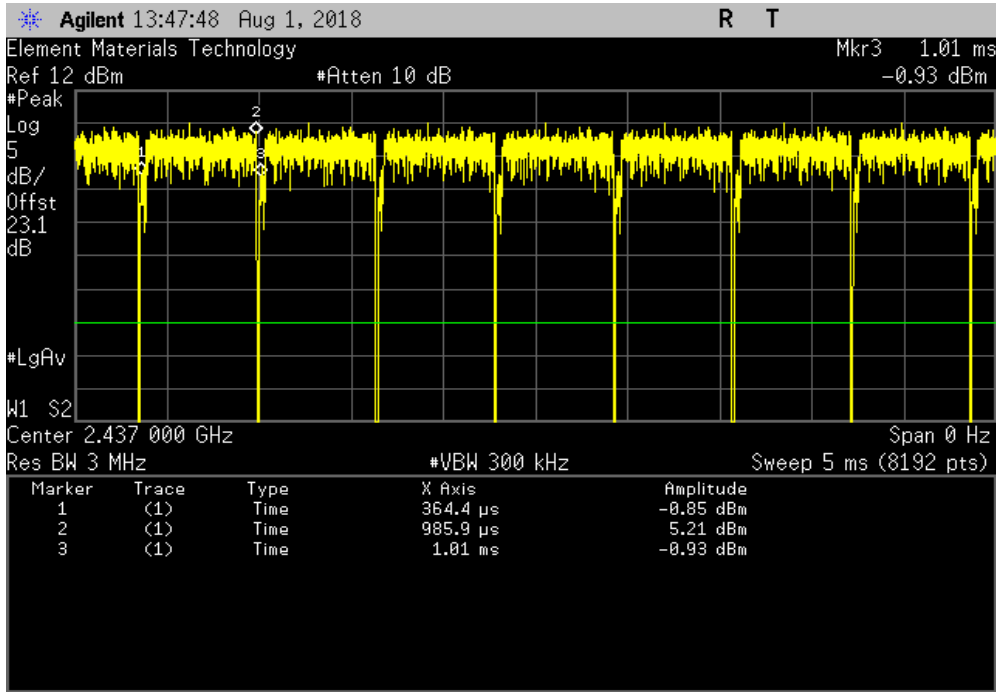


DUTY CYCLE

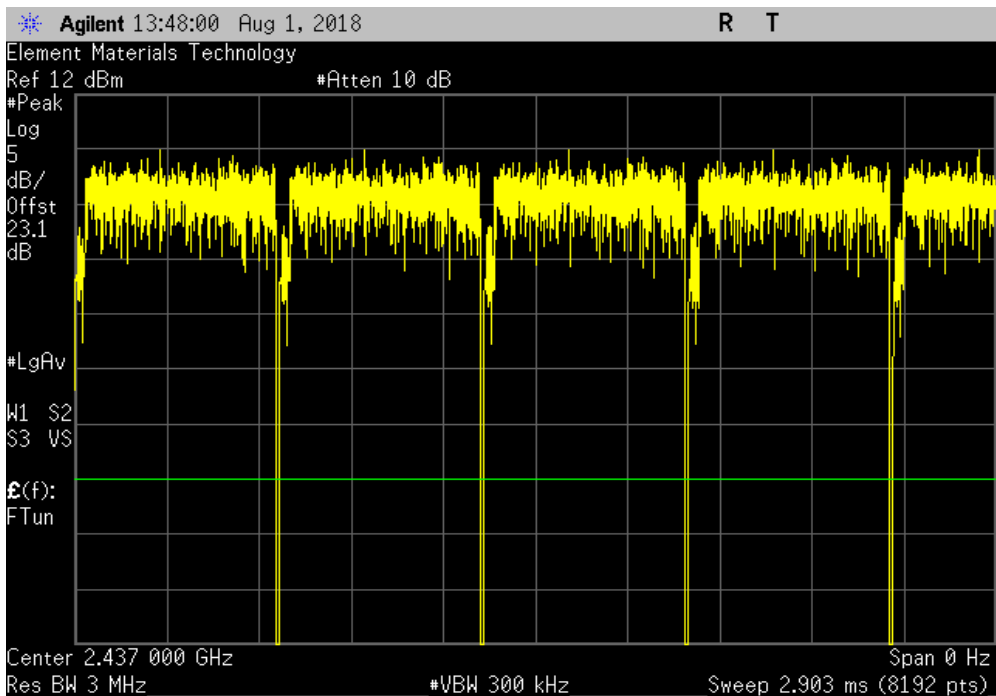


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 621.458 us | 645.2 us | 1 | 96.3 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |

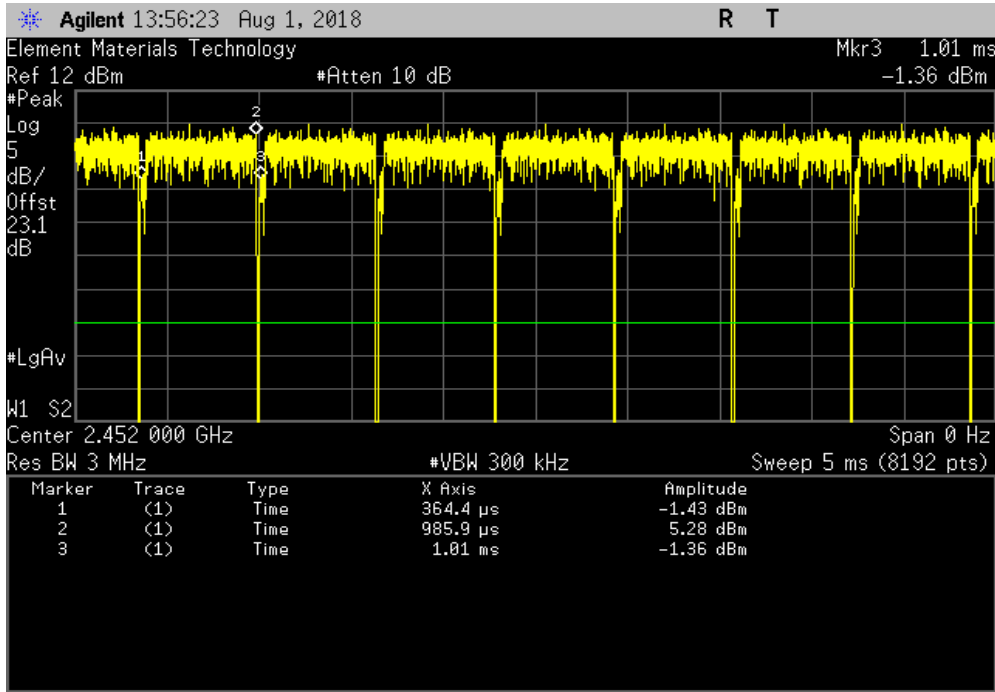


DUTY CYCLE

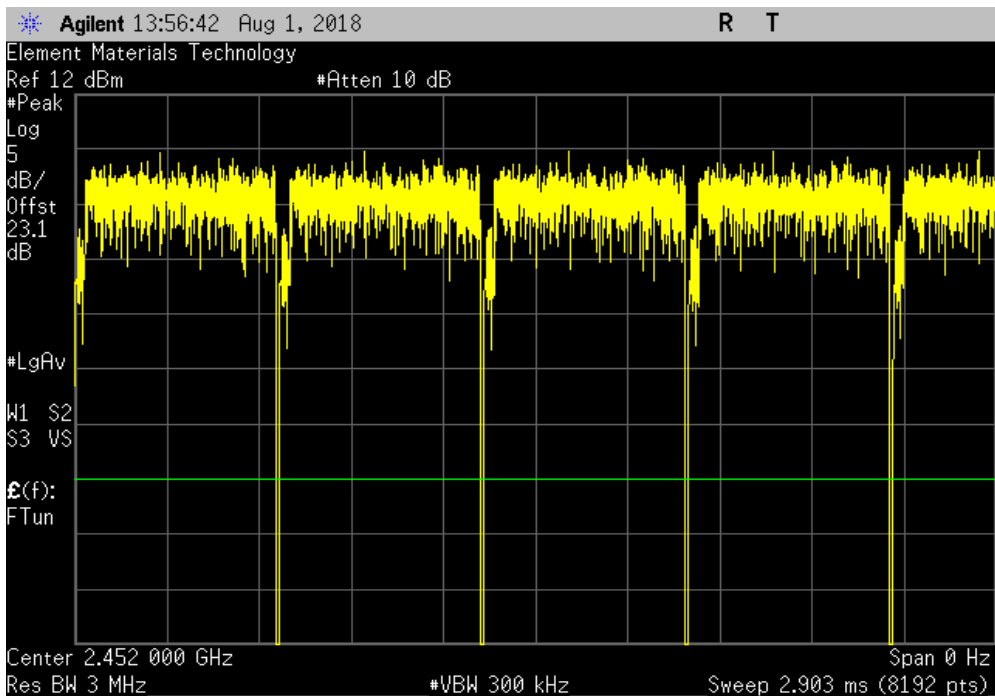


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 621.437 us | 645.2 us | 1 | 96.3 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |

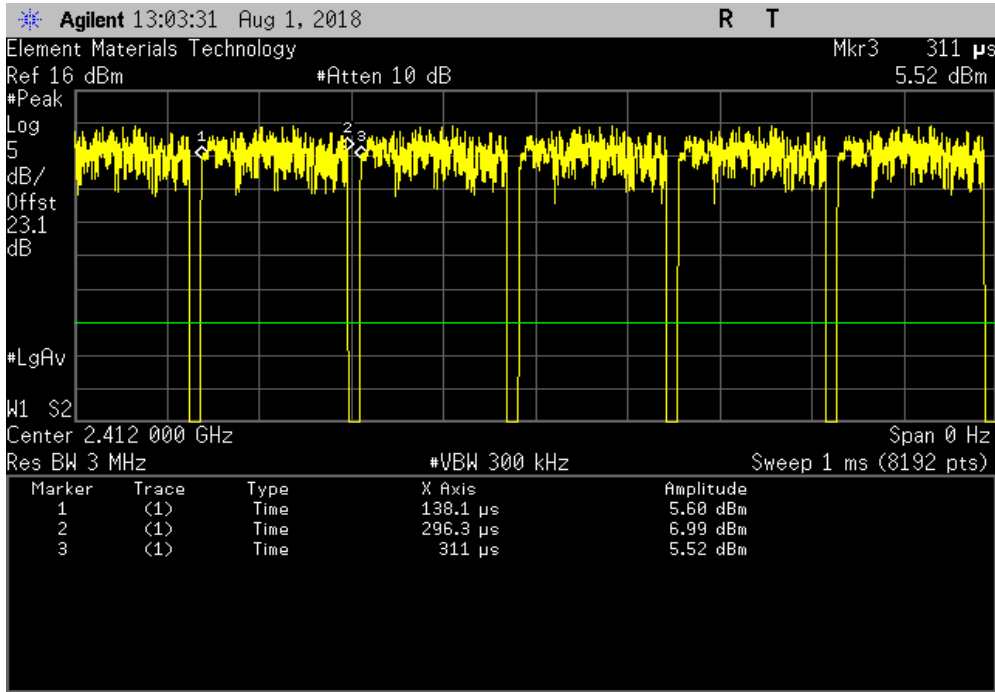


DUTY CYCLE

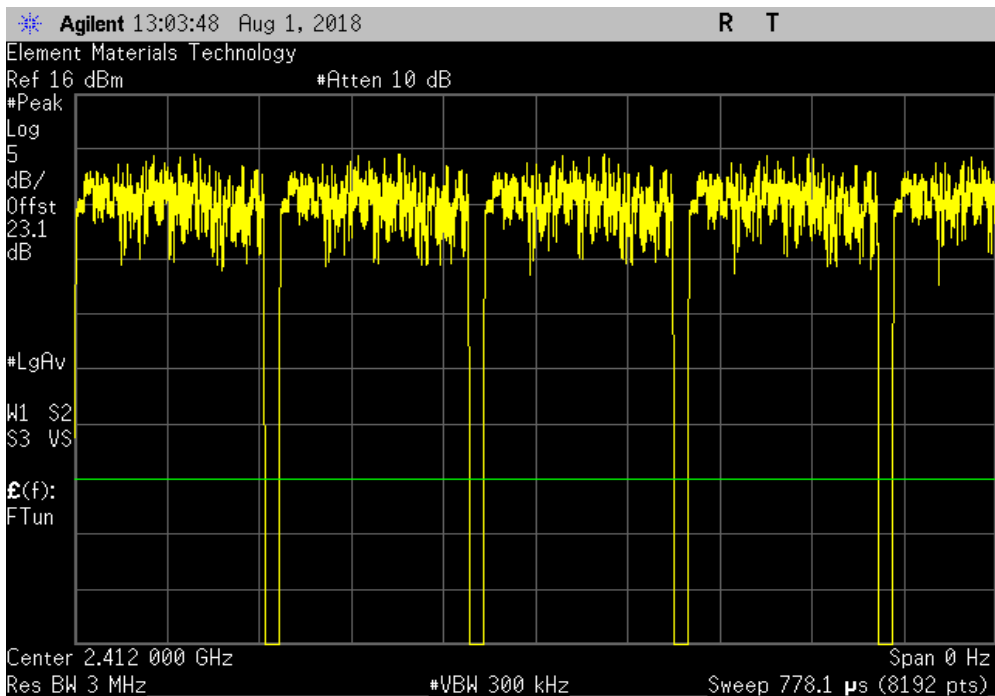


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz | | | | | | |
|---------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 158.257 us | 172.922 us | 1 | 91.5 | N/A | N/A | |



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

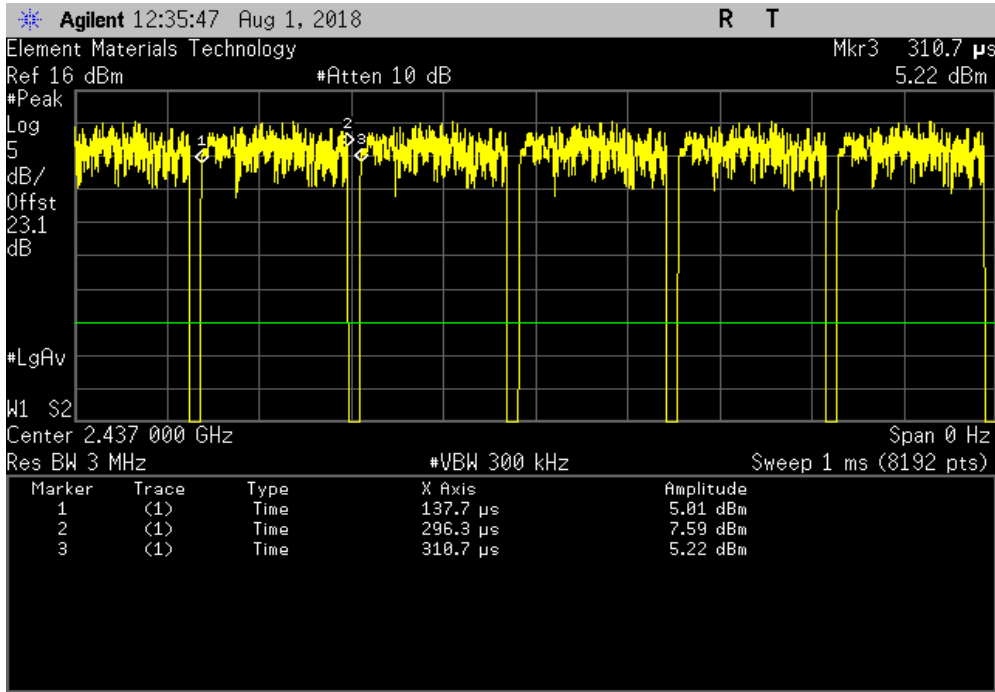


DUTY CYCLE

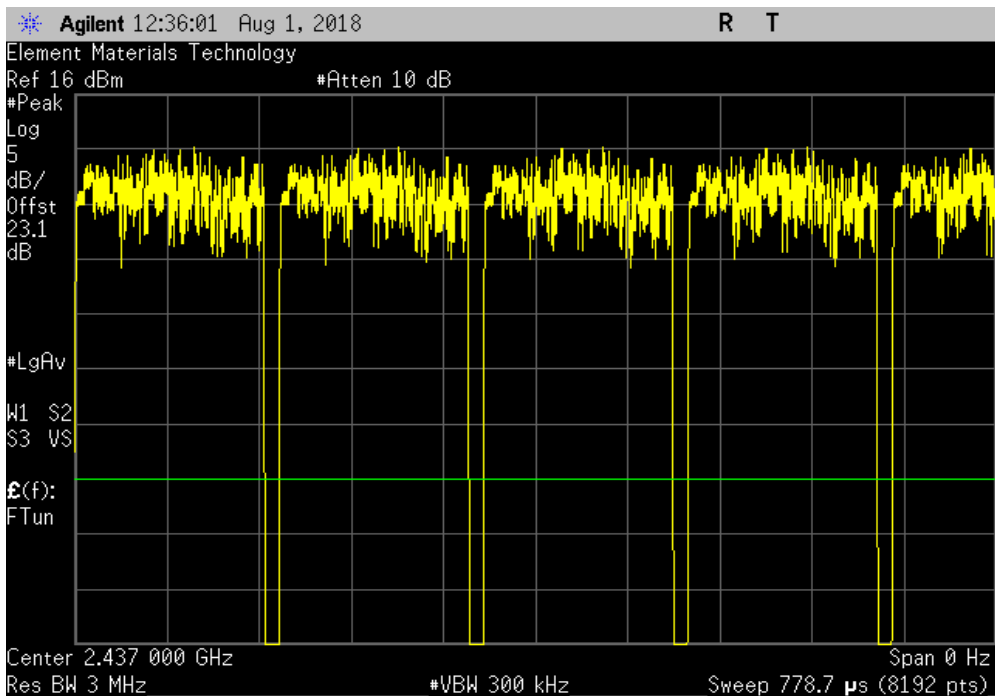


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz | | | | | | |
|---------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 158.623 us | 173.044 us | 1 | 91.7 | 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 | |

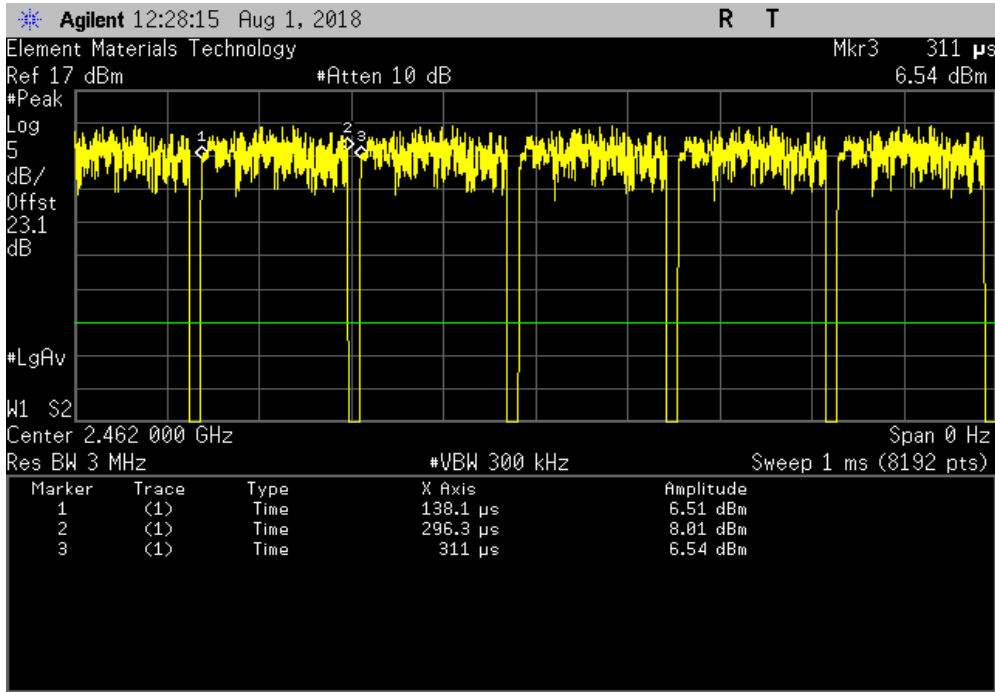


DUTY CYCLE

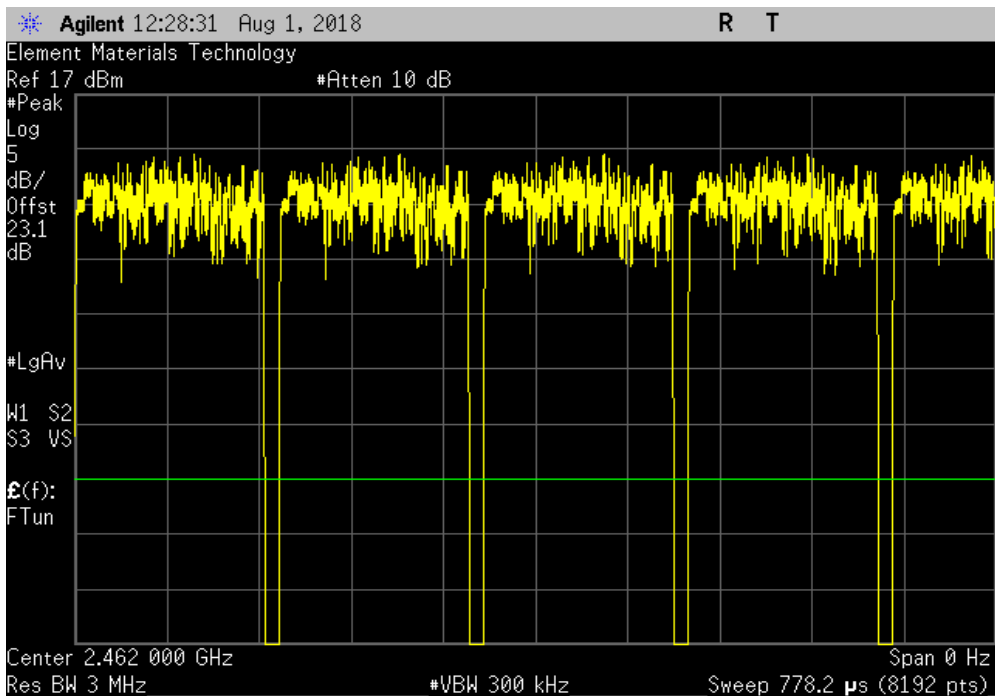


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz | | | | | | |
|-----------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 158.257 us | 172.944 us | 1 | 91.5 | N/A | N/A | |



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

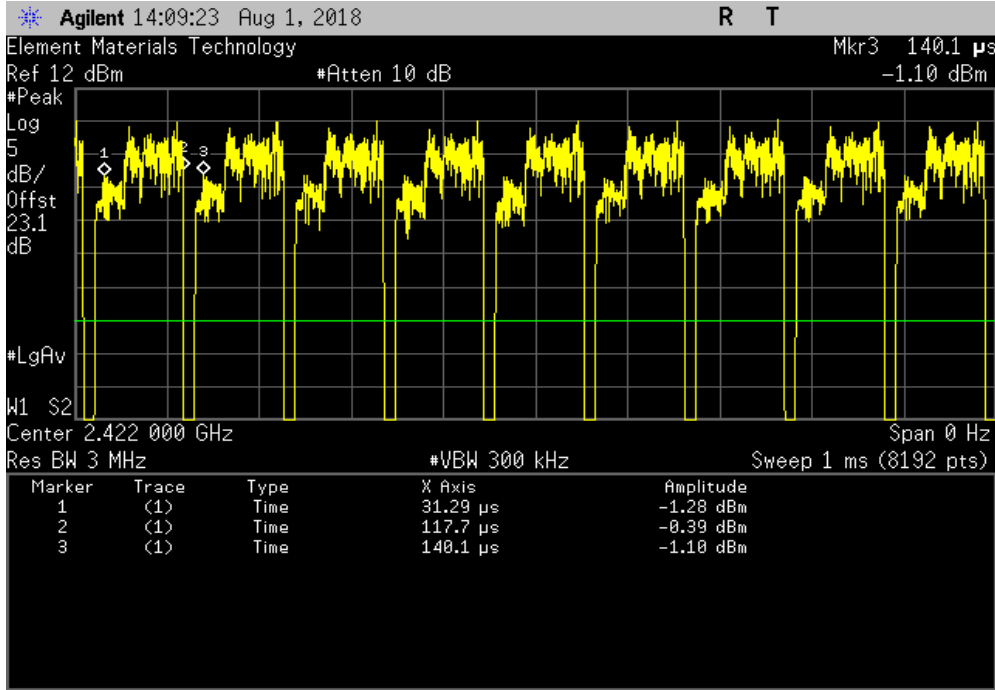


DUTY CYCLE

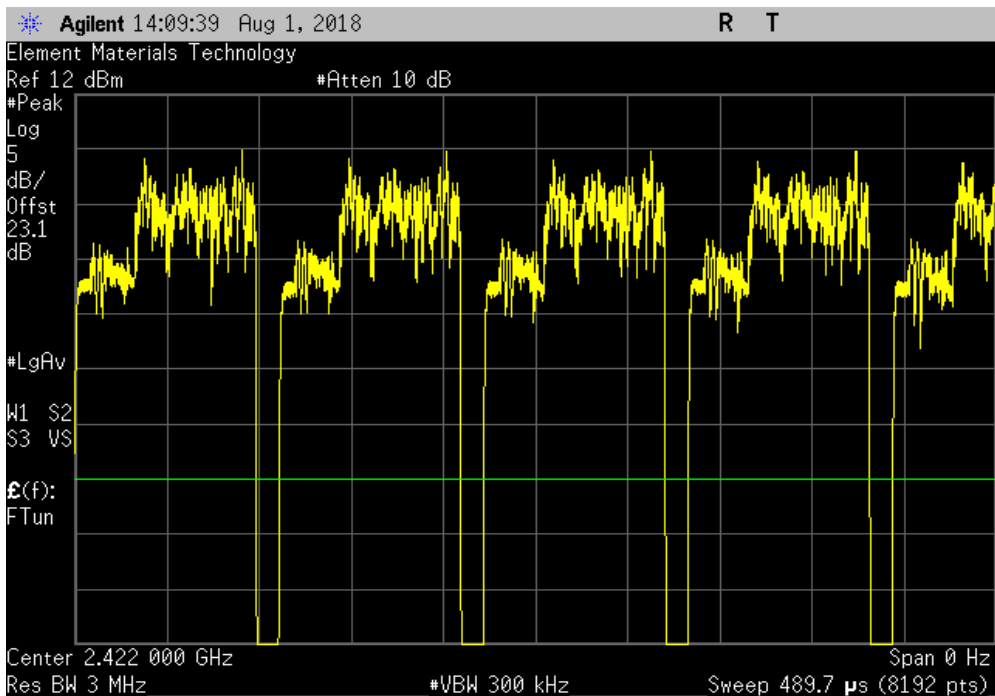


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 86.445 us | 108.822 us | 1 | 79.4 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |

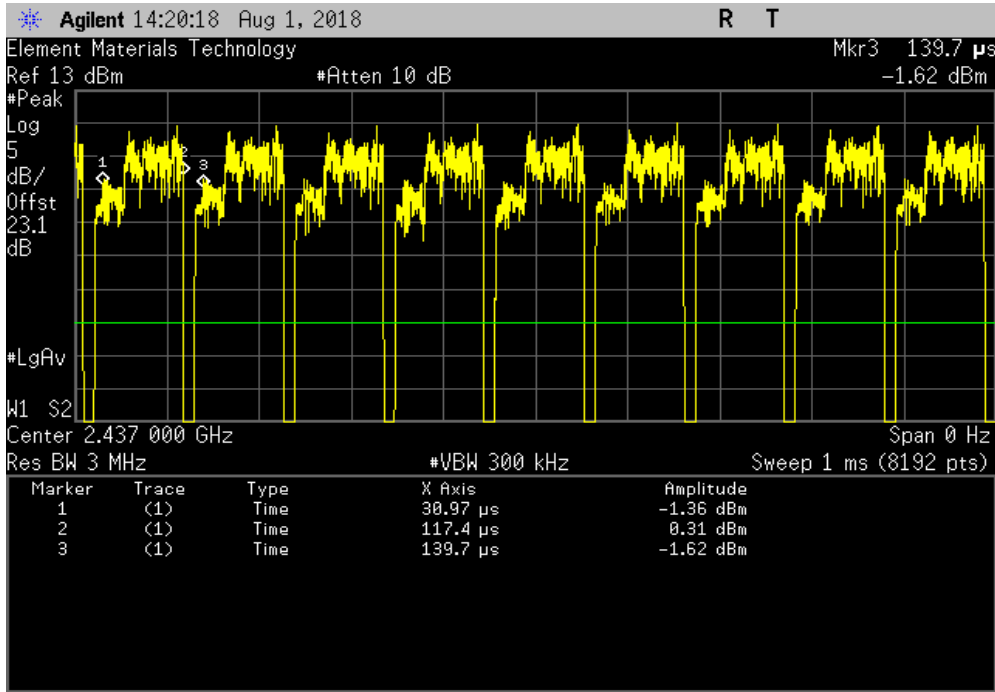


DUTY CYCLE

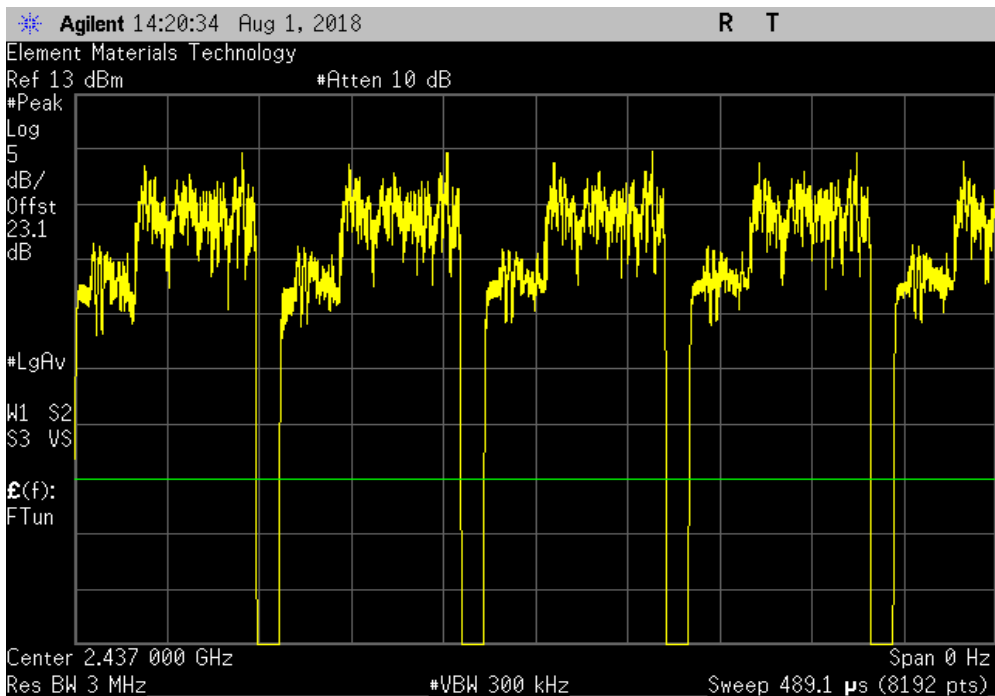


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 86.445 us | 108.700 us | 1 | 79.5 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |

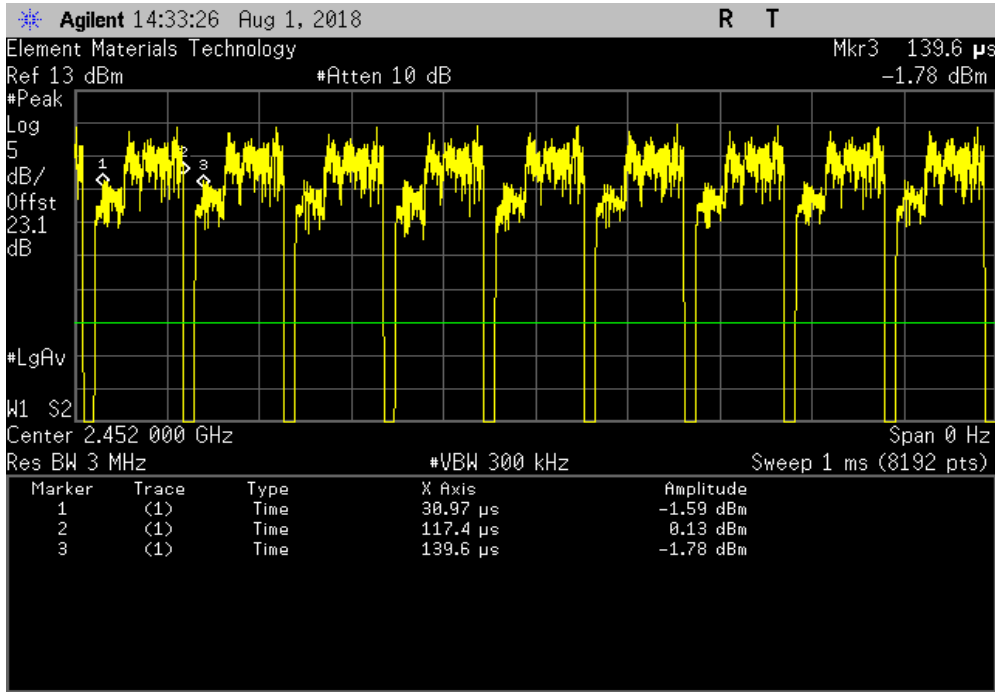


DUTY CYCLE

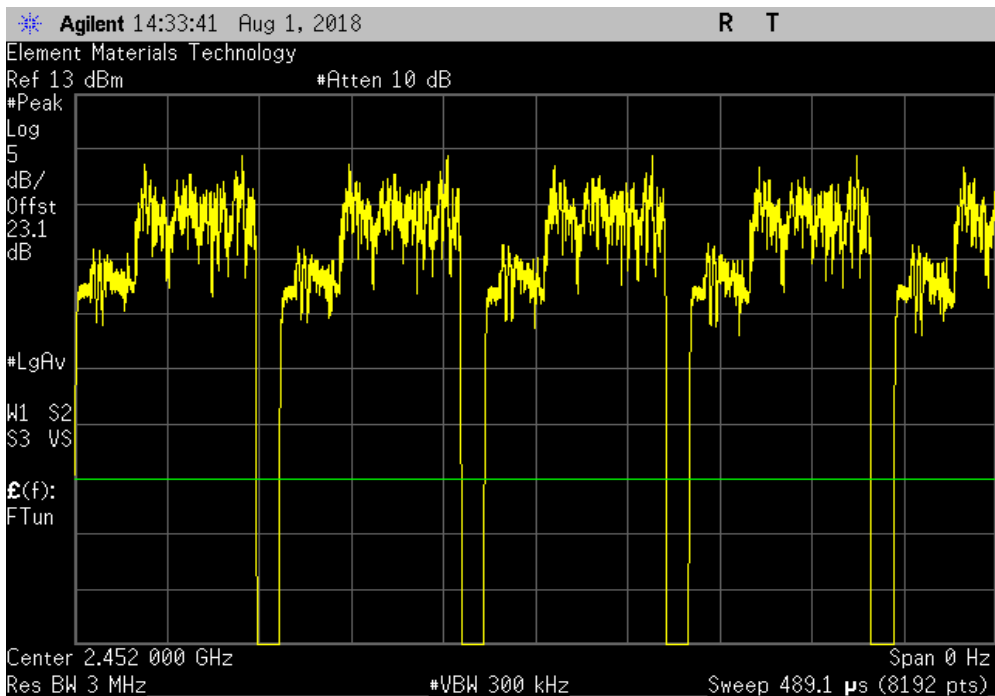


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|------------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 86.445 us | 108.678 us | 1 | 79.5 | N/A | N/A | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|--------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | |



OCCUPIED BANDWIDTH



XMIT 2017.12.13

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|------------------|-----|-----------|-----------|
| Generator - Signal | Agilent | E8257D | TGU | 15-Feb-18 | 15-Feb-21 |
| Cable | Fairview Microwave | SCA1814-0101-120 | OCZ | NCR | NCR |
| Attenuator | Fairview Microwave | SA18H-20 | TKR | 28-Dec-17 | 28-Dec-18 |
| Block - DC | Fairview Microwave | SD3379 | AMV | 28-Dec-17 | 28-Dec-18 |
| Analyzer - Spectrum Analyzer | Agilent | E4440A | AFA | 9-Nov-17 | 9-Nov-18 |

TEST DESCRIPTION


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

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

OCCUPIED BANDWIDTH



TbTx 2017.12.14 XMI 2017.12.13

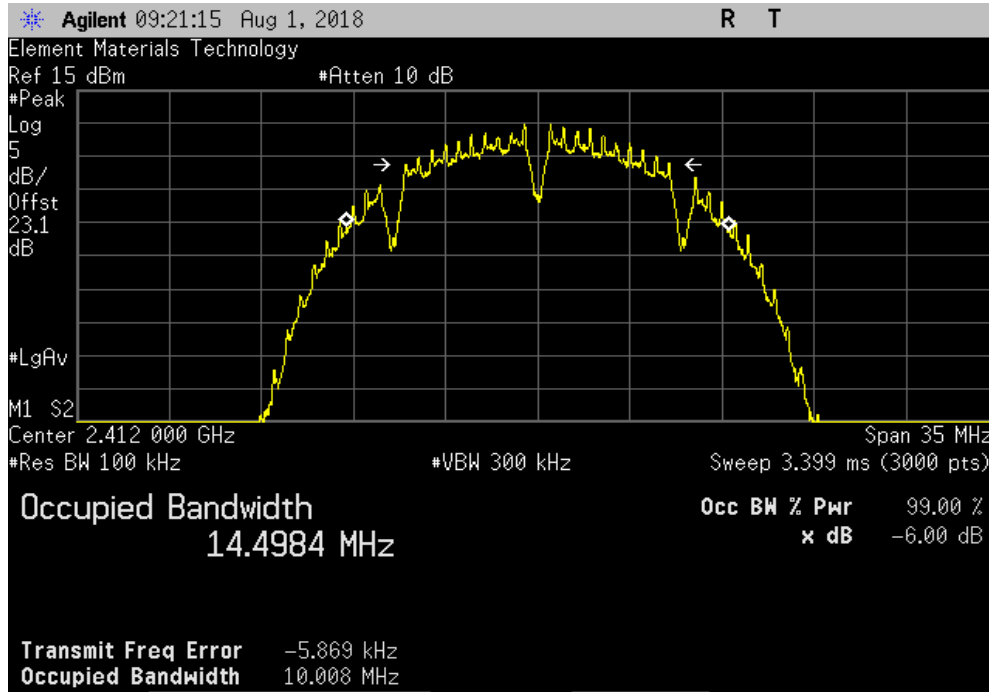
| | | | |
|-------------------------------------------------------------------------|---|-----------------------------|-----------------------------------------------------------------------------------|
| EUT: Falcon | | Work Order: KING0032 | |
| Serial Number: See Configurations | | Date: 1-Aug-18 | |
| Customer: King | | Temperature: 26.3 °C | |
| Attendees: None | | Humidity: 44.5% RH | |
| Project: None | | Barometric Pres.: 1015 mbar | |
| Tested by: Johnny Candelas | | Power: 110VAC/60Hz | |
| | | Job Site: OC13 | |
| TEST SPECIFICATIONS | | | |
| FCC 15.247:2018 | | Test Method | |
| | | ANSI C63.10:2013 | |
| COMMENTS | | | |
| Directly connected to the antenna port of the King Router (MN: KWM1000) | | | |
| DEVIATIONS FROM TEST STANDARD | | | |
| None | | | |
| Configuration # | 2 | Signature |  |
| | | Value | Limit (>) |
| 2400 MHz - 2483.5 MHz Band | | | Result |
| 802.11(b) 1 Mbps | | | |
| Low Channel 1, 2412 MHz, TX Pwr=36 | | 10.008 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=38 | | 9.277 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=40 | | 9.778 MHz | 500 kHz Pass |
| 802.11(b) 11 Mbps | | | |
| Low Channel 1, 2412 MHz, TX Pwr=36 | | 9.912 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=38 | | 9.570 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=40 | | 9.177 MHz | 500 kHz Pass |
| 802.11(g) 6 Mbps | | | |
| Low Channel 1, 2412 MHz, TX Pwr=23 | | 15.899 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=25 | | 16.112 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=27 | | 16.293 MHz | 500 kHz Pass |
| 802.11(g) 36 Mbps | | | |
| Low Channel 1, 2412 MHz, TX Pwr=23 | | 16.337 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=25 | | 16.325 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=27 | | 16.302 MHz | 500 kHz Pass |
| 802.11(g) 54 Mbps | | | |
| Low Channel 1, 2412 MHz, TX Pwr=23 | | 16.376 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=25 | | 16.375 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=27 | | 16.365 MHz | 500 kHz Pass |
| 802.11(n) MCS0 | | | |
| Low Channel 1, 2412 MHz, TX Pwr=20 | | 16.164 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=23 | | 16.278 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=25 | | 15.995 MHz | 500 kHz Pass |
| Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | | 34.871 MHz | 500 kHz Pass |
| Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | | 34.977 MHz | 500 kHz Pass |
| High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | | 35.049 MHz | 500 kHz Pass |
| 802.11(n) MCS7 | | | |
| Low Channel 1, 2412 MHz, TX Pwr=20 | | 16.635 MHz | 500 kHz Pass |
| Mid Channel 6, 2437 MHz, TX Pwr=23 | | 16.650 MHz | 500 kHz Pass |
| High Channel 11, 2462 MHz, TX Pwr=25 | | 16.636 MHz | 500 kHz Pass |
| Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | | 35.132 MHz | 500 kHz Pass |
| Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | | 35.120 MHz | 500 kHz Pass |
| High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | | 35.121 MHz | 500 kHz Pass |

OCCUPIED BANDWIDTH

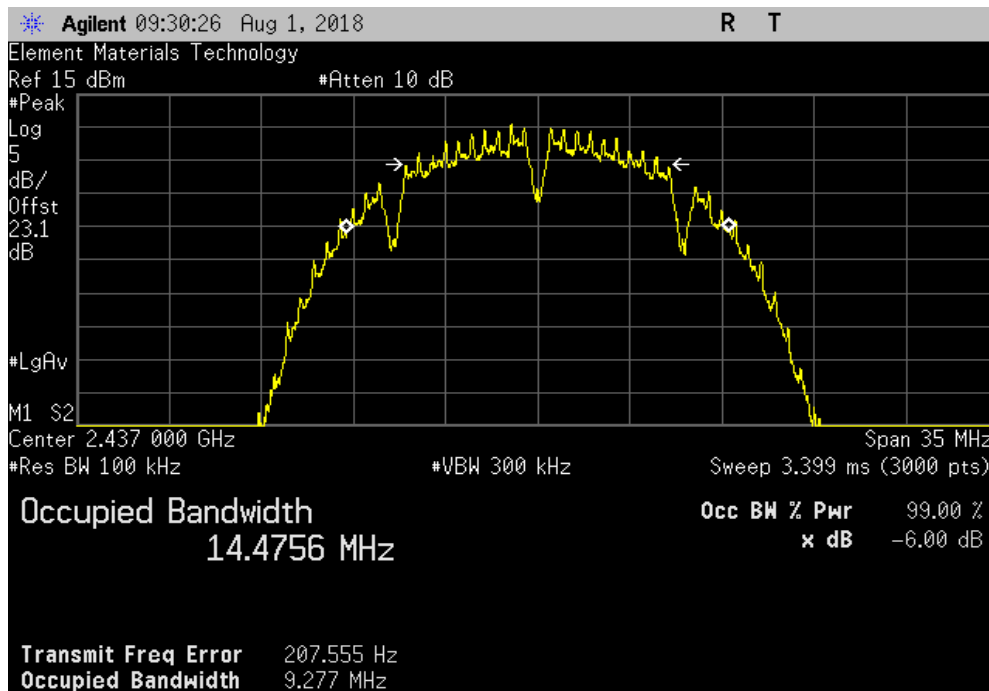


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|-----------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | (>) | | |
| | | | | 10.008 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|-----------------------------------------------------------------------|--|--|--|-----------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | (>) | | |
| | | | | 9.277 MHz | 500 kHz | Pass |

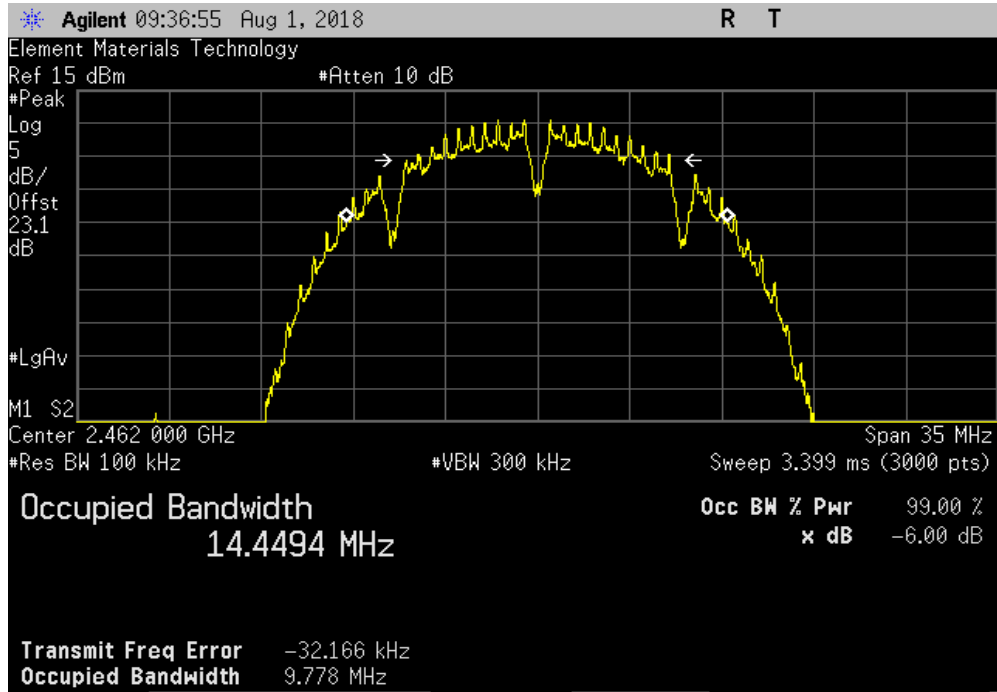


OCCUPIED BANDWIDTH

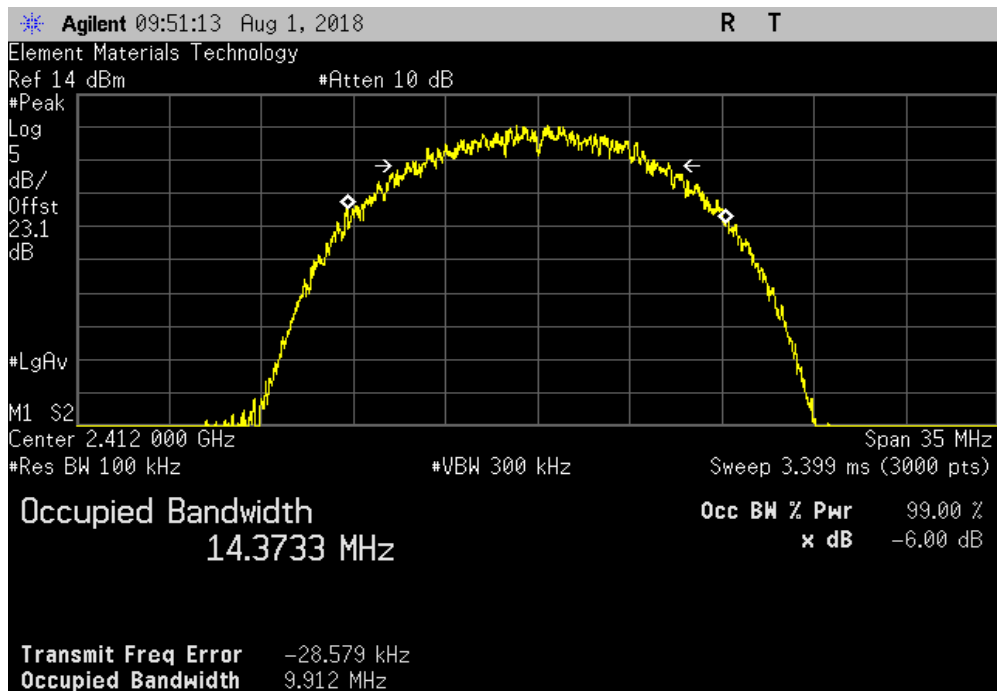


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz | | | |
|-------------------------------------------------------------------------|-----------|---------|--------|
| | Value | Limit | Result |
| | 9.778 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz | | | |
|------------------------------------------------------------------------|-----------|---------|--------|
| | Value | Limit | Result |
| | 9.912 MHz | 500 kHz | Pass |

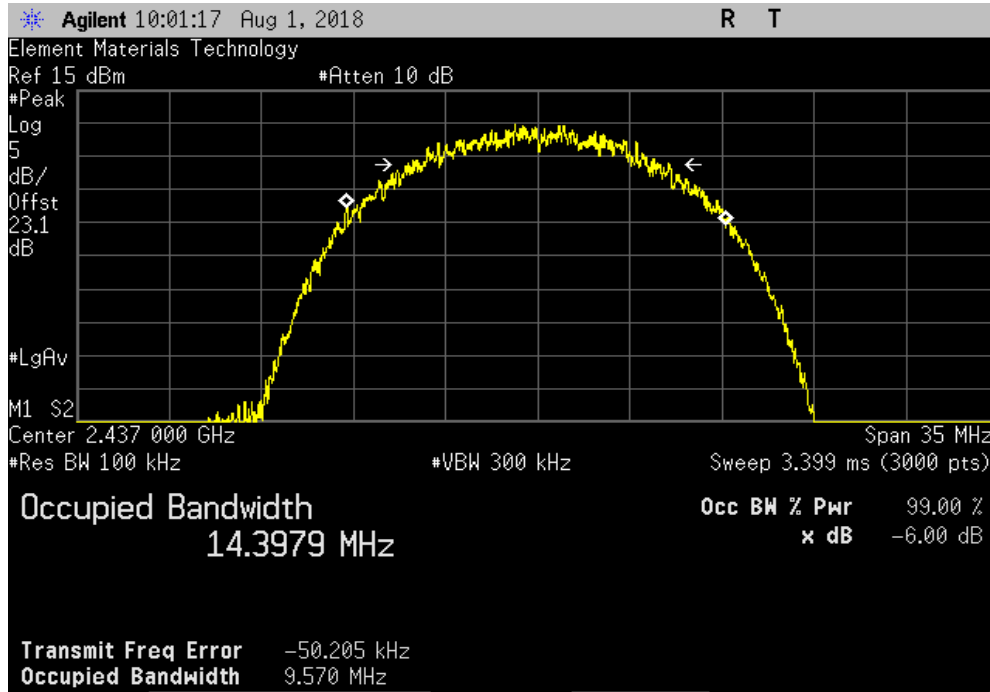


OCCUPIED BANDWIDTH

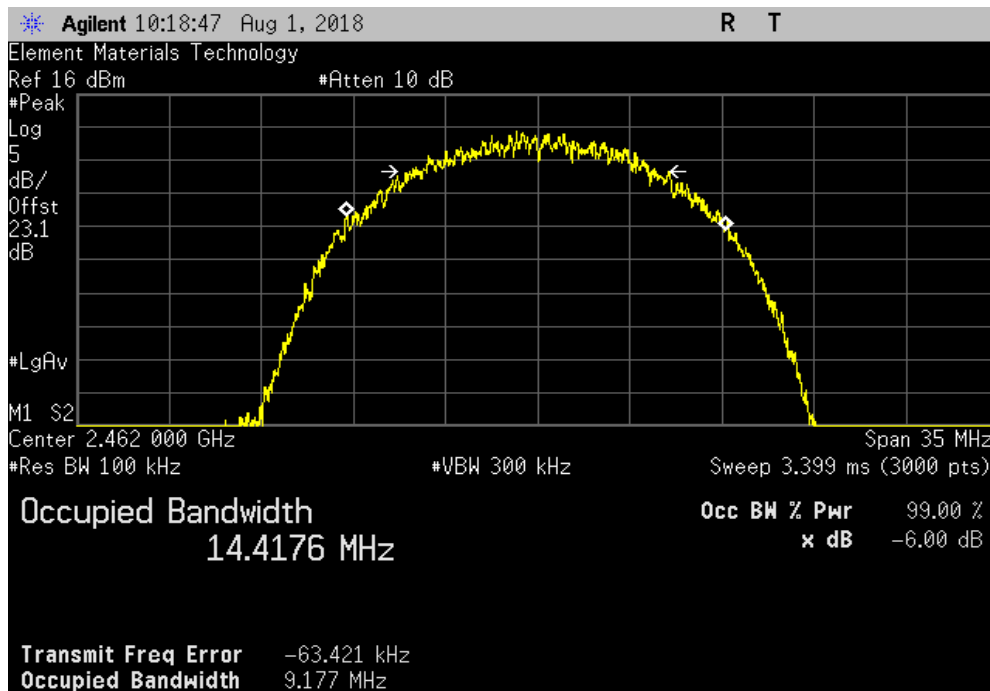


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz | | | |
|------------------------------------------------------------------------|-----------|---------|--------|
| | Value | Limit | Result |
| | 9.570 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz | | | |
|--------------------------------------------------------------------------|-----------|---------|--------|
| | Value | Limit | Result |
| | 9.177 MHz | 500 kHz | Pass |

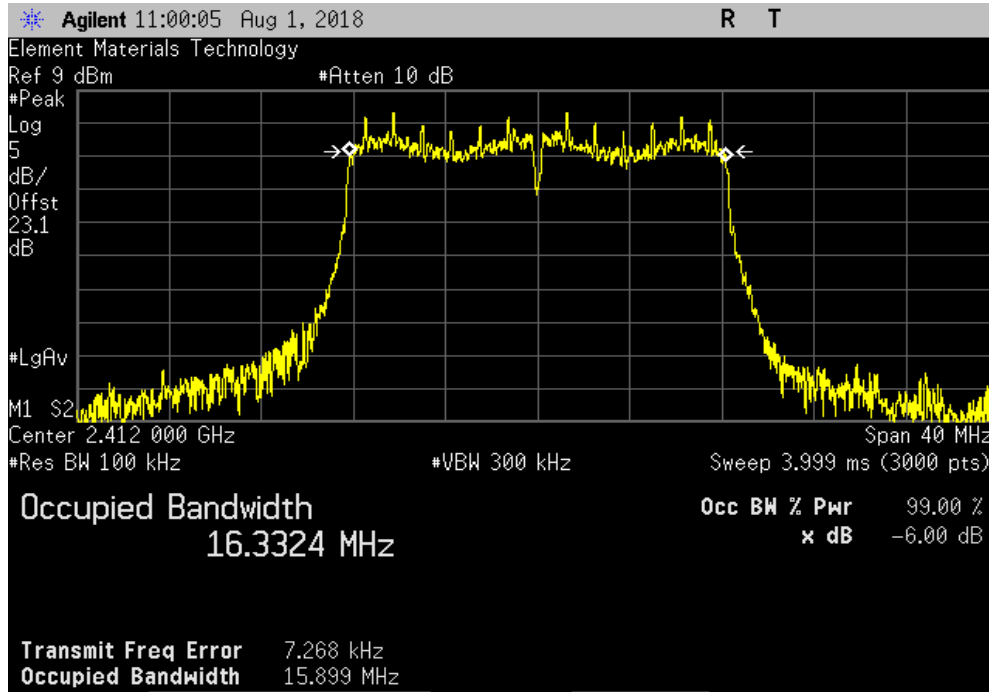


OCCUPIED BANDWIDTH

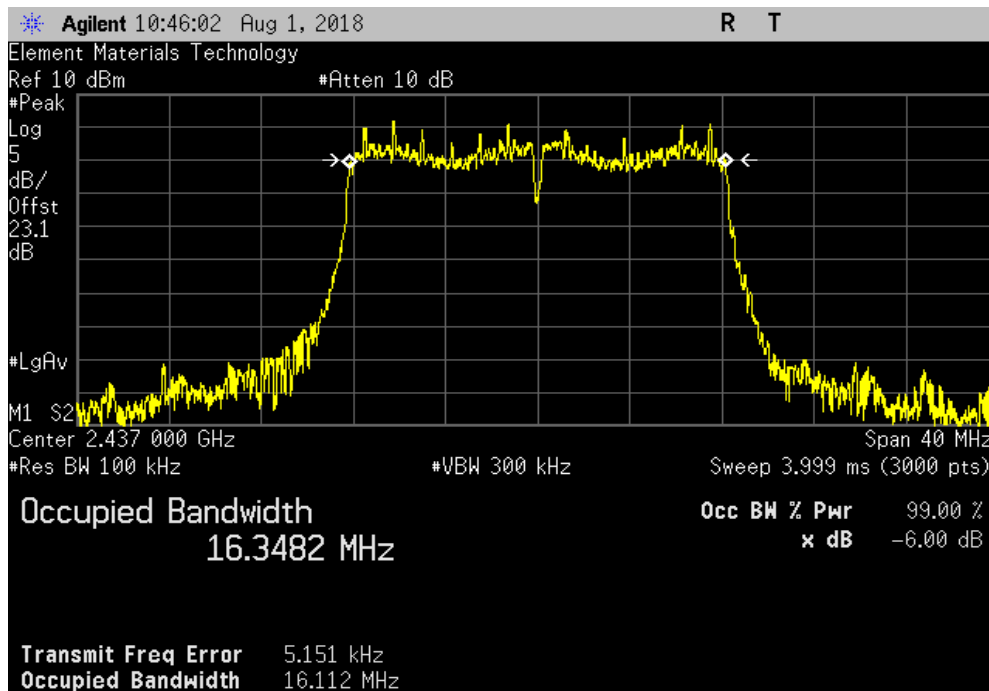


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz | | | |
|-----------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 15.899 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz | | | |
|-----------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.112 MHz | 500 kHz | Pass |

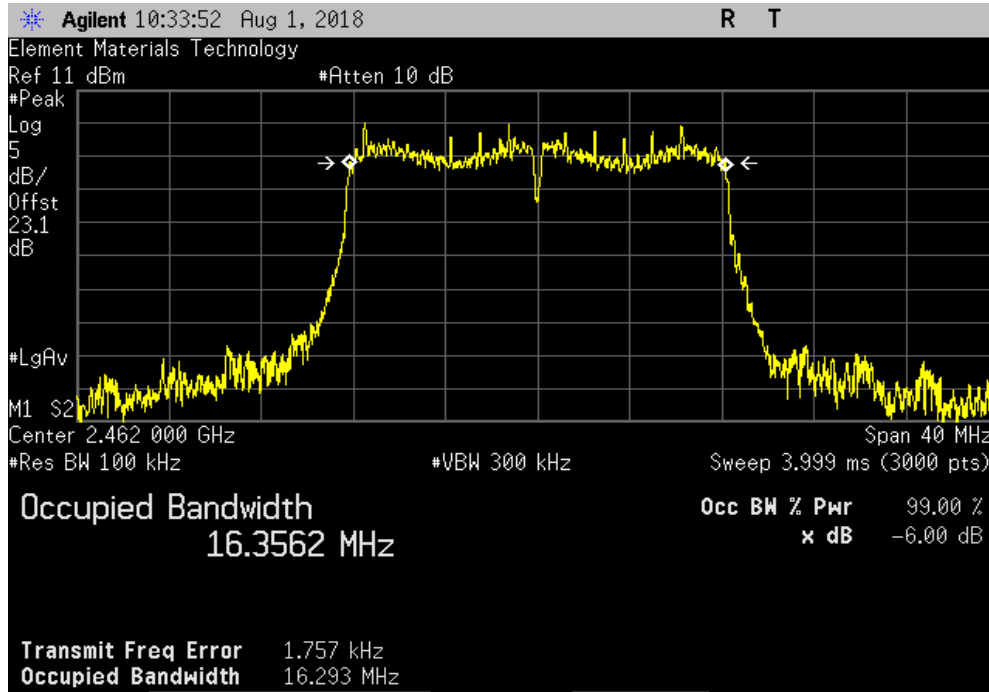


OCCUPIED BANDWIDTH

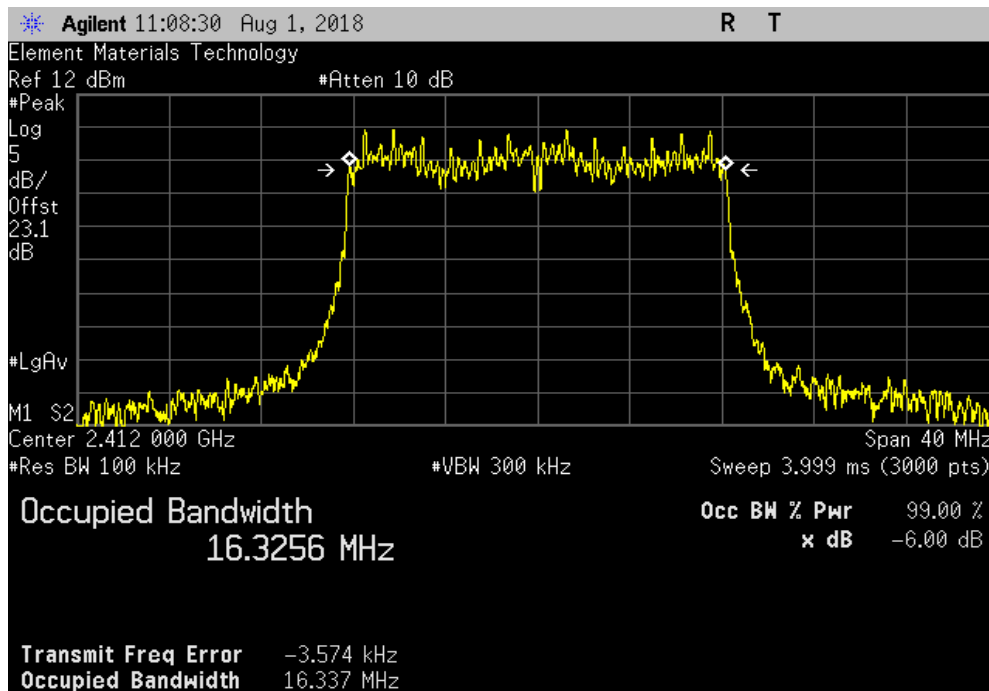


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz | | | |
|-------------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.293 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz | | | |
|------------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.337 MHz | 500 kHz | Pass |

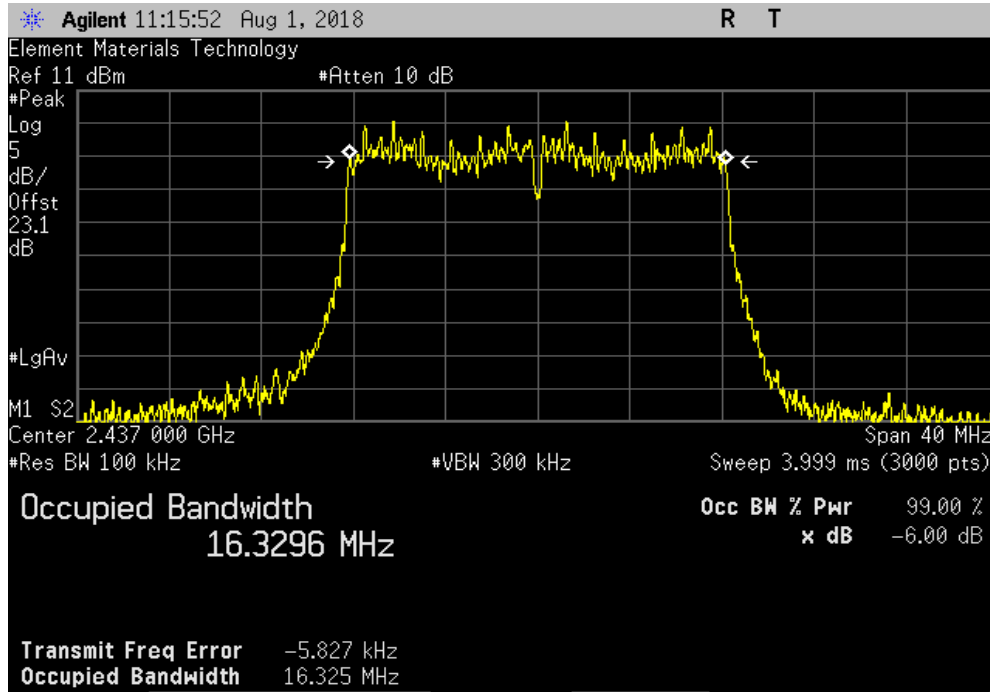


OCCUPIED BANDWIDTH

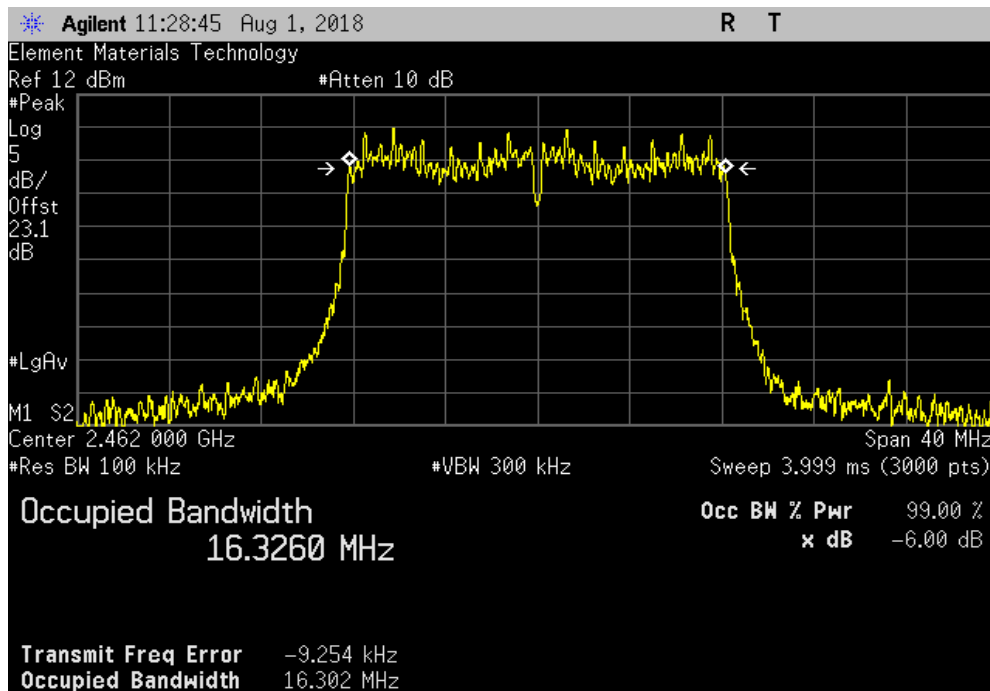


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|------------------------------------------------------------------------|--|--|--|------------|-------------|--------|
| | | | | Value | Limit | Result |
| | | | | 16.325 MHz | (>) 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz | | | | | | |
|--------------------------------------------------------------------------|--|--|--|------------|-------------|--------|
| | | | | Value | Limit | Result |
| | | | | 16.302 MHz | (>) 500 kHz | Pass |

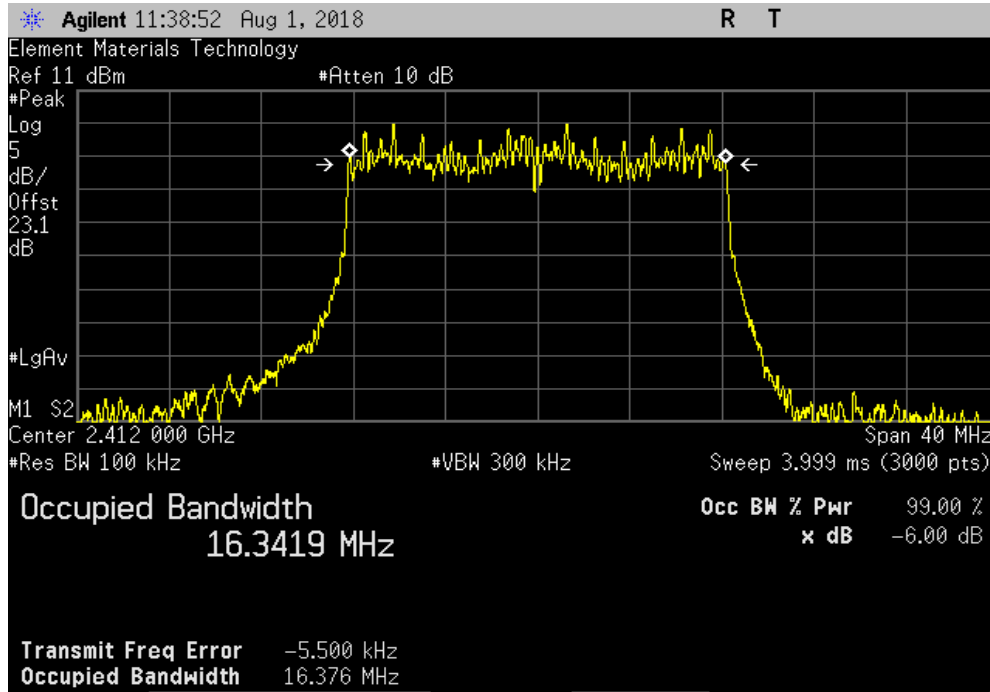


OCCUPIED BANDWIDTH

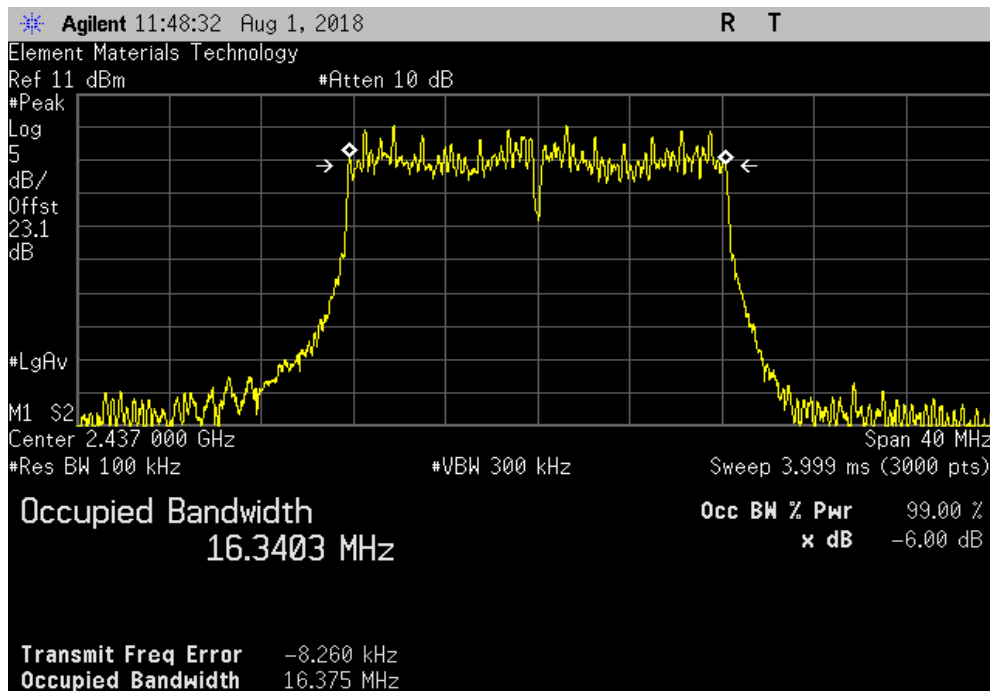


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz | | | |
|------------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.376 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz | | | |
|------------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.375 MHz | 500 kHz | Pass |

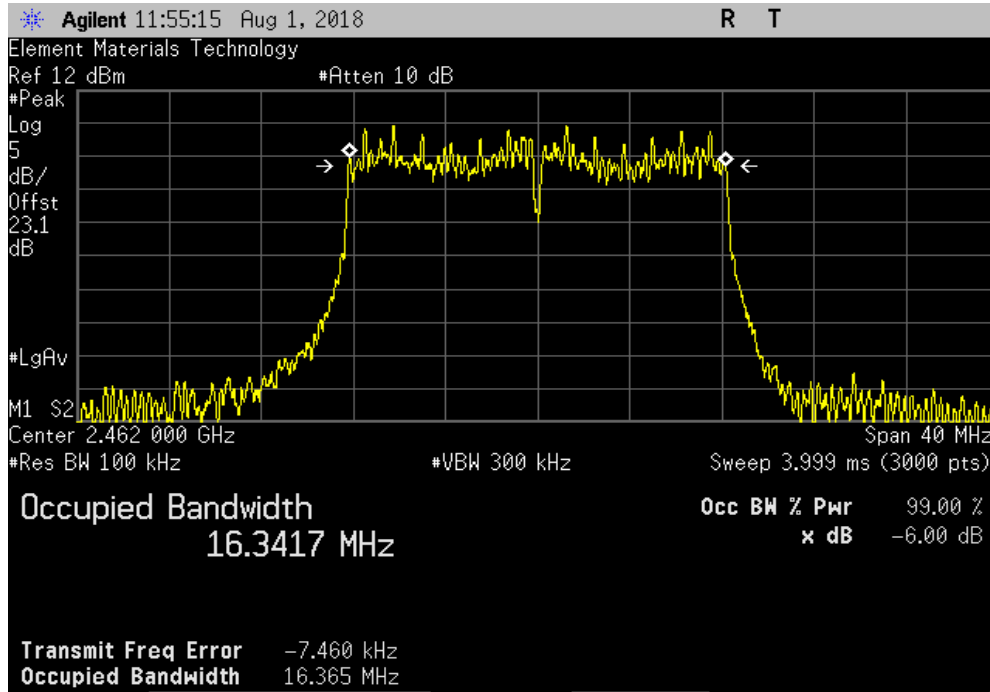


OCCUPIED BANDWIDTH

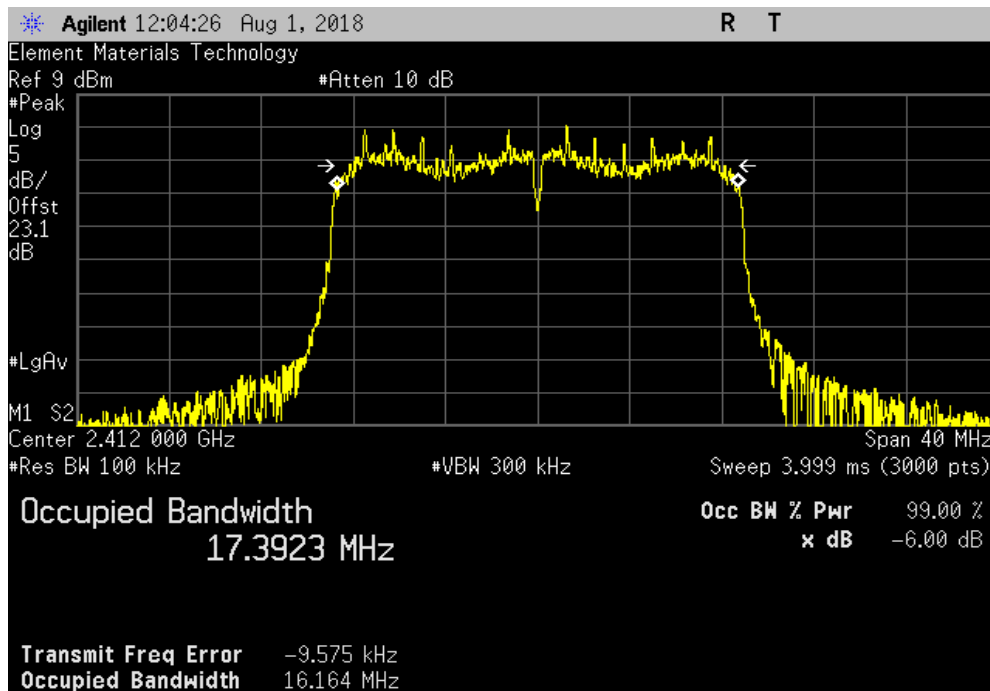


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz | | | | | | |
|--------------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 16.365 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz | | | | | | |
|---------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 16.164 MHz | 500 kHz | Pass |

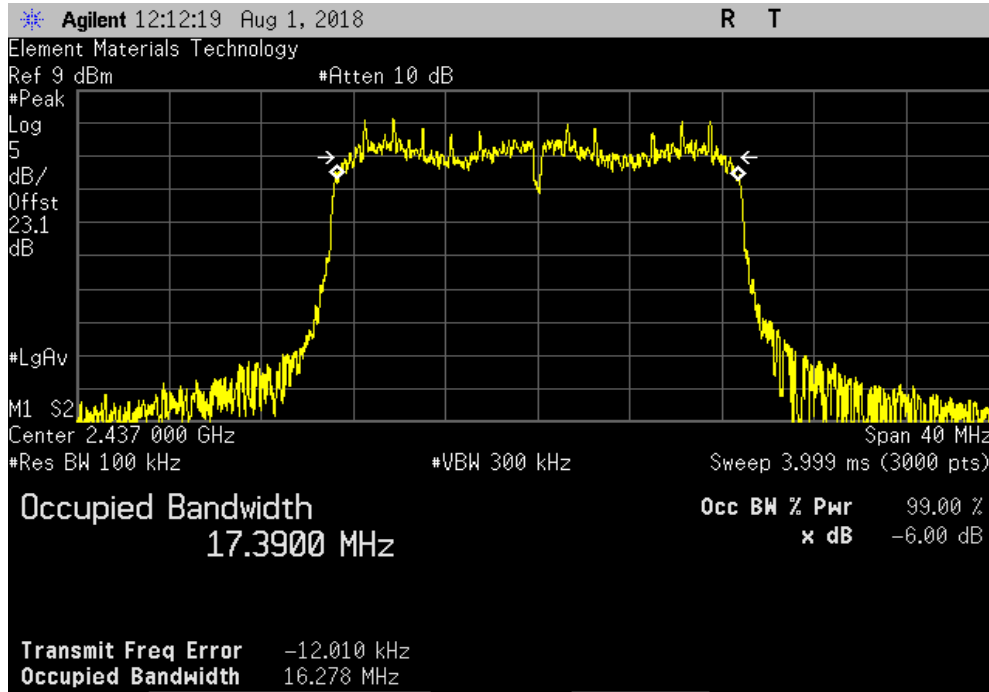


OCCUPIED BANDWIDTH

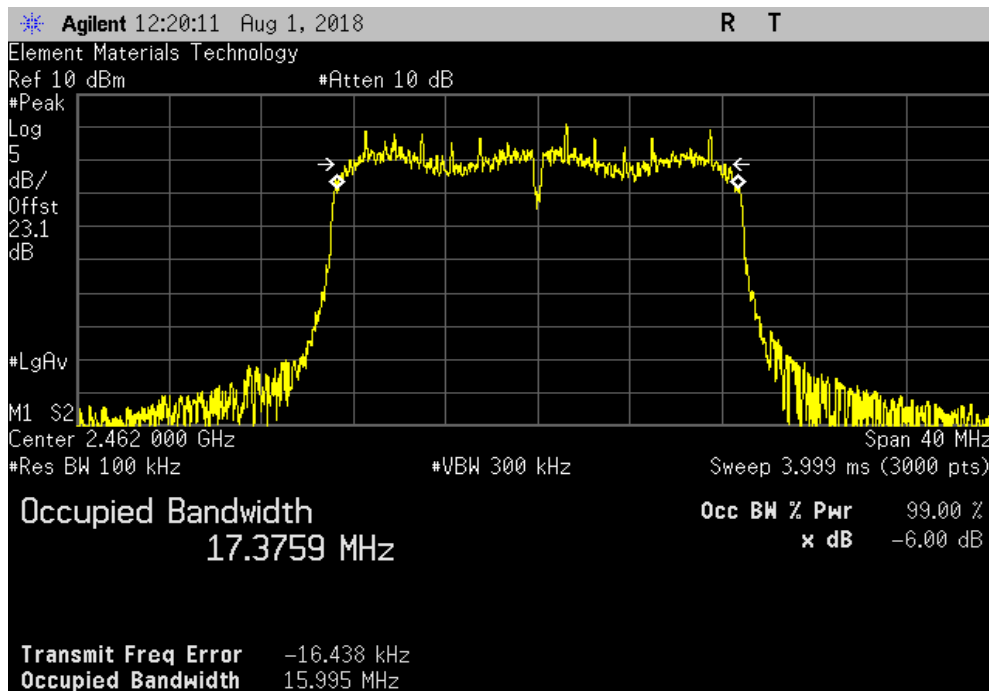


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz | | |
|---------------------------------------------------------------------|-----------|--------|
| Value | Limit (>) | Result |
| 16.278 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz | | |
|-----------------------------------------------------------------------|-----------|--------|
| Value | Limit (>) | Result |
| 15.995 MHz | 500 kHz | Pass |

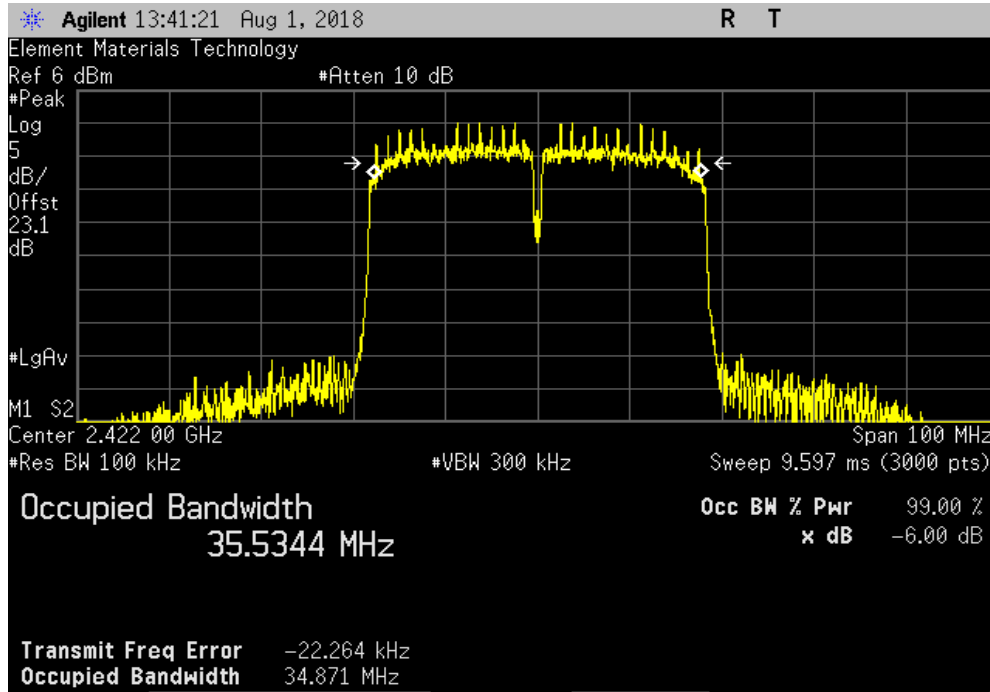


OCCUPIED BANDWIDTH

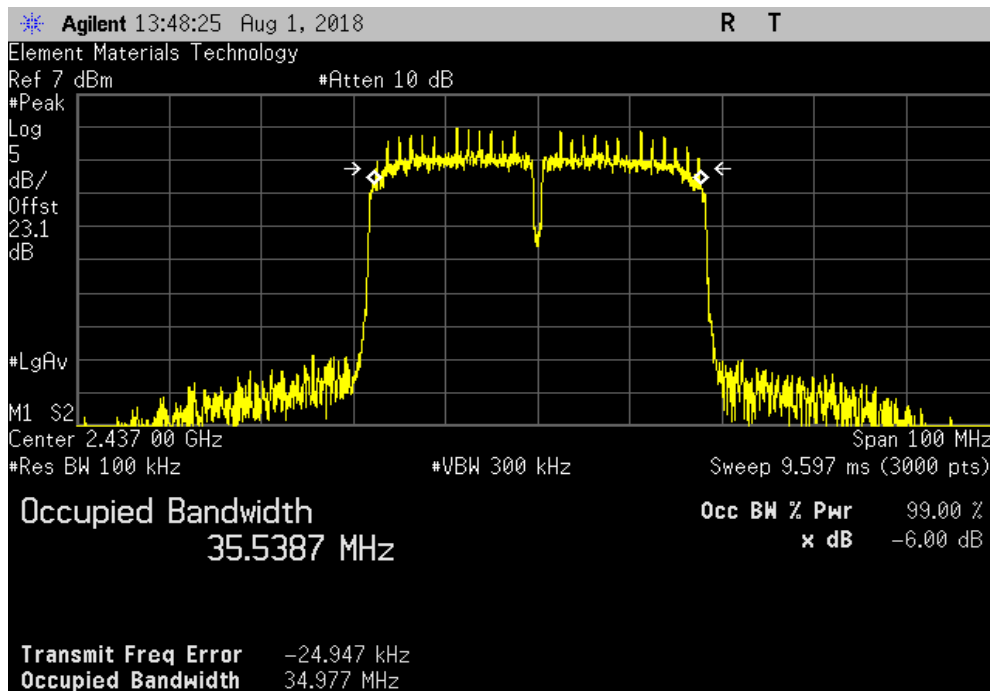


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 34.871 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 34.977 MHz | 500 kHz | Pass |

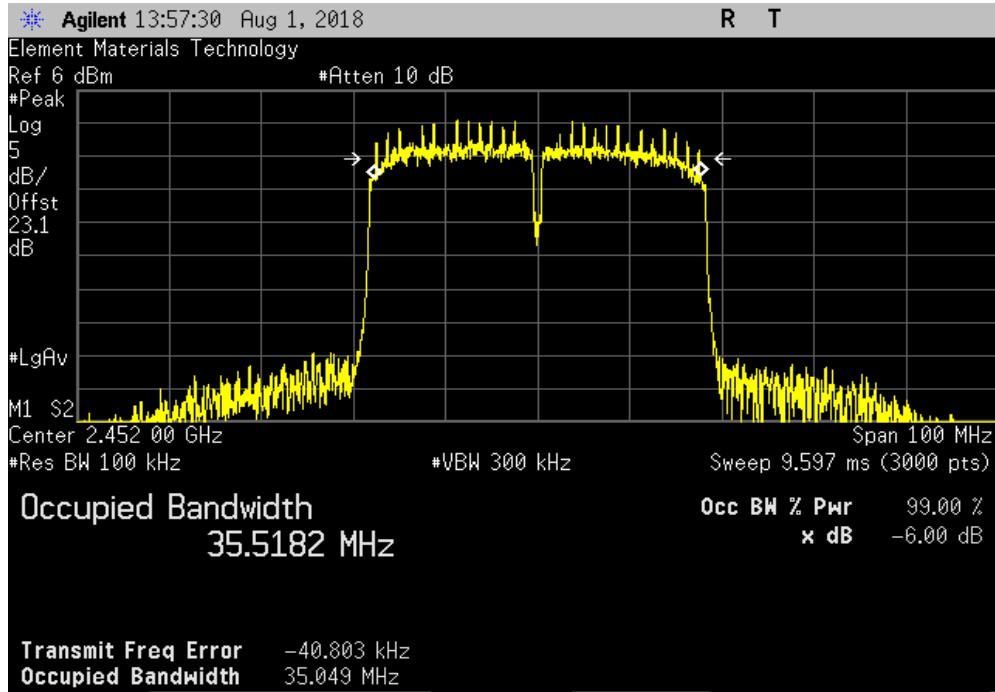


OCCUPIED BANDWIDTH

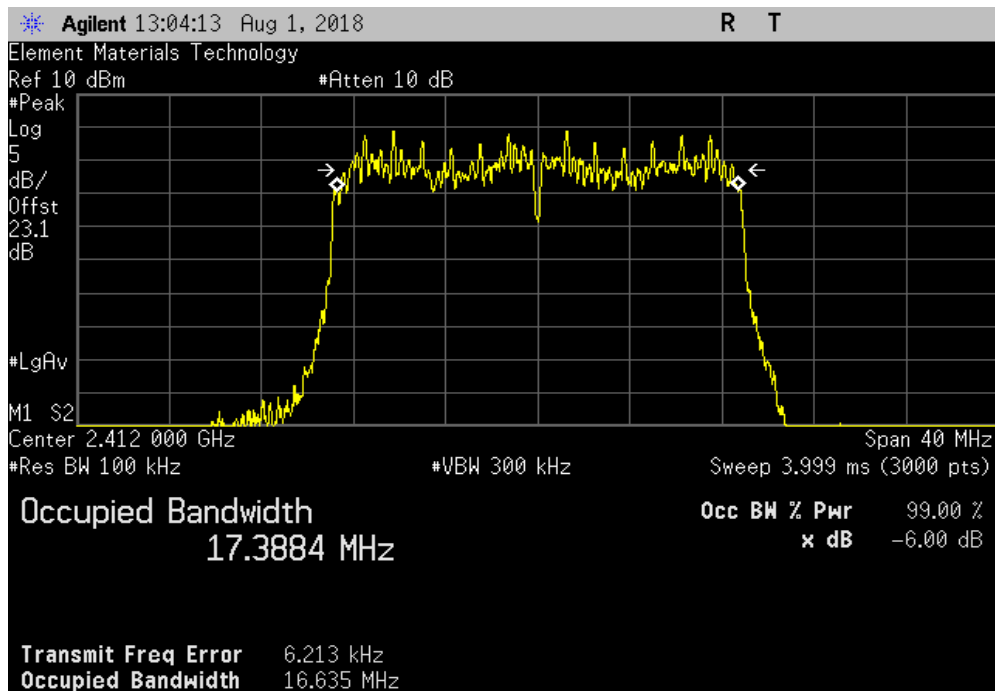


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 7/11, 2452 MHz, 40 MHz | | | |
|---------------------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 35.049 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz | | | |
|---------------------------------------------------------------------|------------|---------|--------|
| | Value | Limit | Result |
| | 16.635 MHz | 500 kHz | Pass |

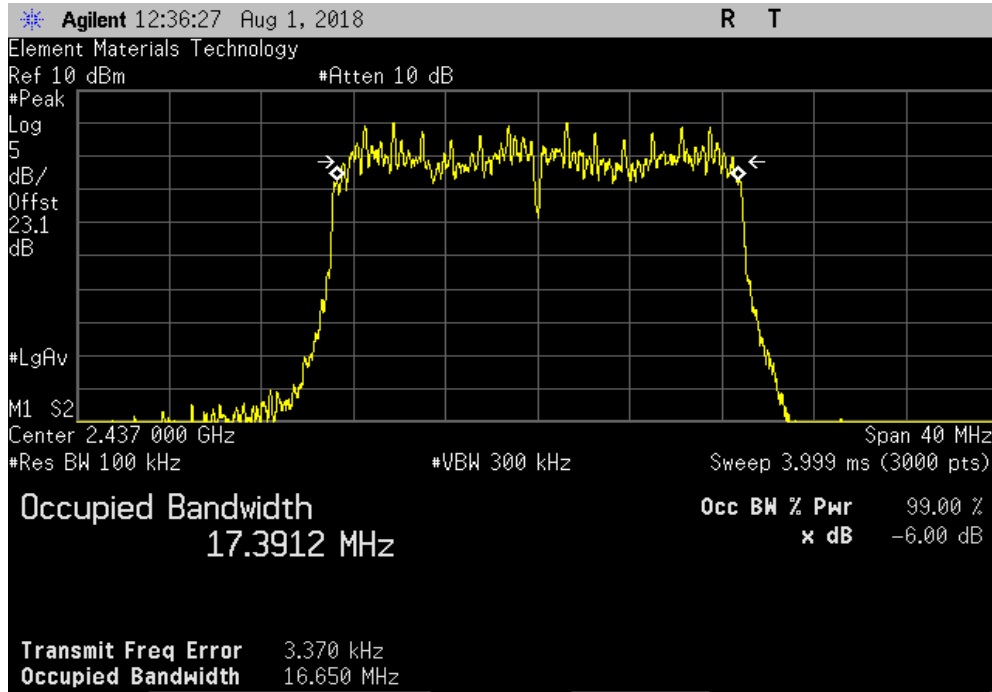


OCCUPIED BANDWIDTH

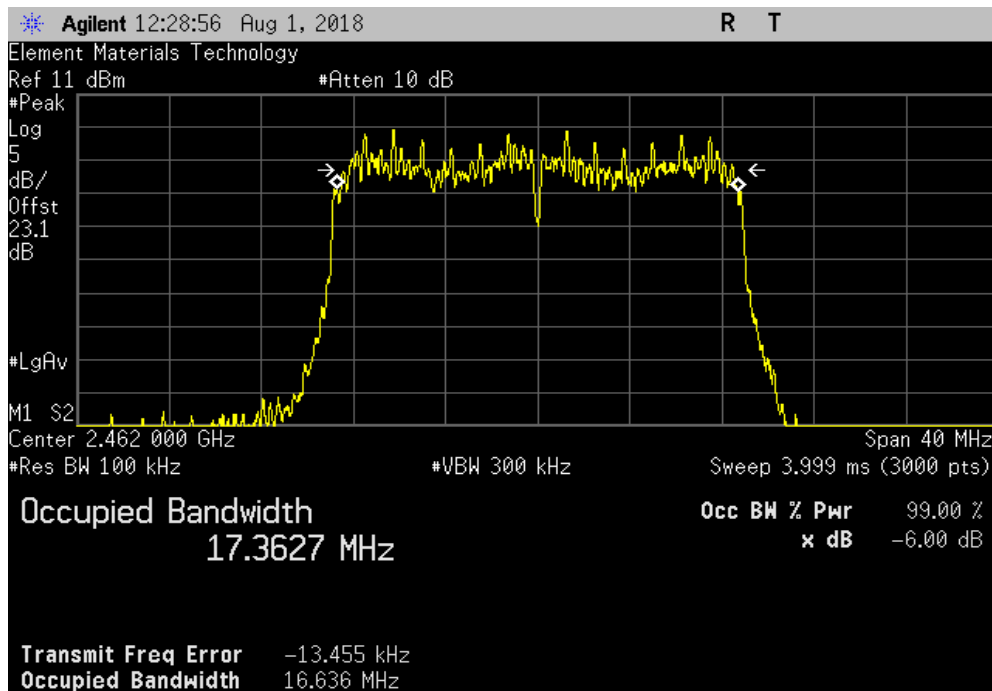


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz | | | | | | |
|---------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 16.650 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz | | | | | | |
|-----------------------------------------------------------------------|--|--|--|------------|---------|--------|
| | | | | Value | Limit | Result |
| | | | | | (>) | |
| | | | | 16.636 MHz | 500 kHz | Pass |

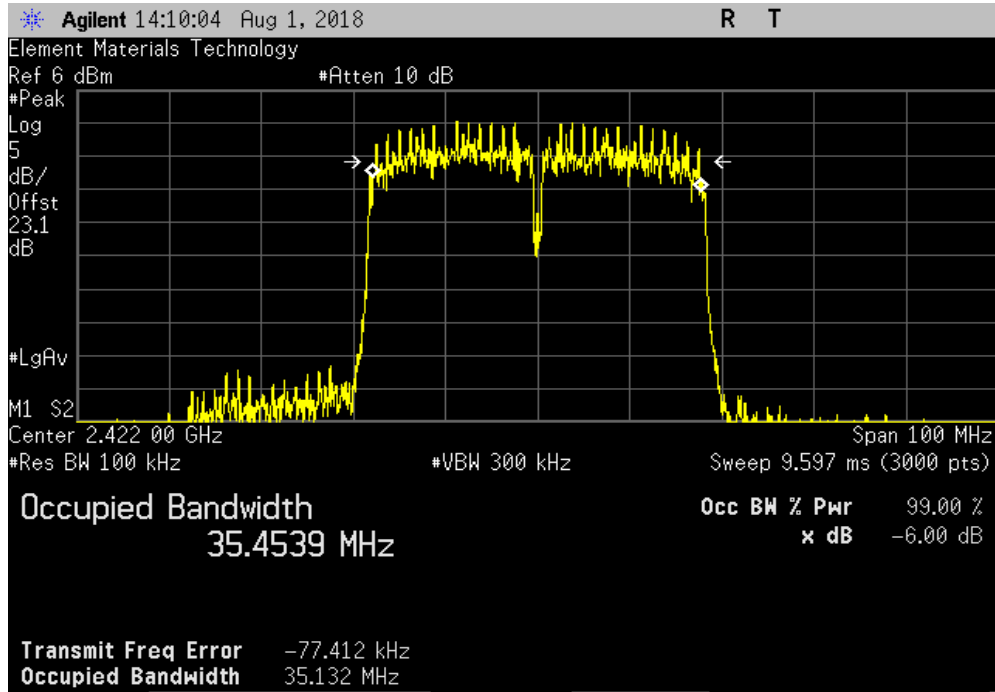


OCCUPIED BANDWIDTH

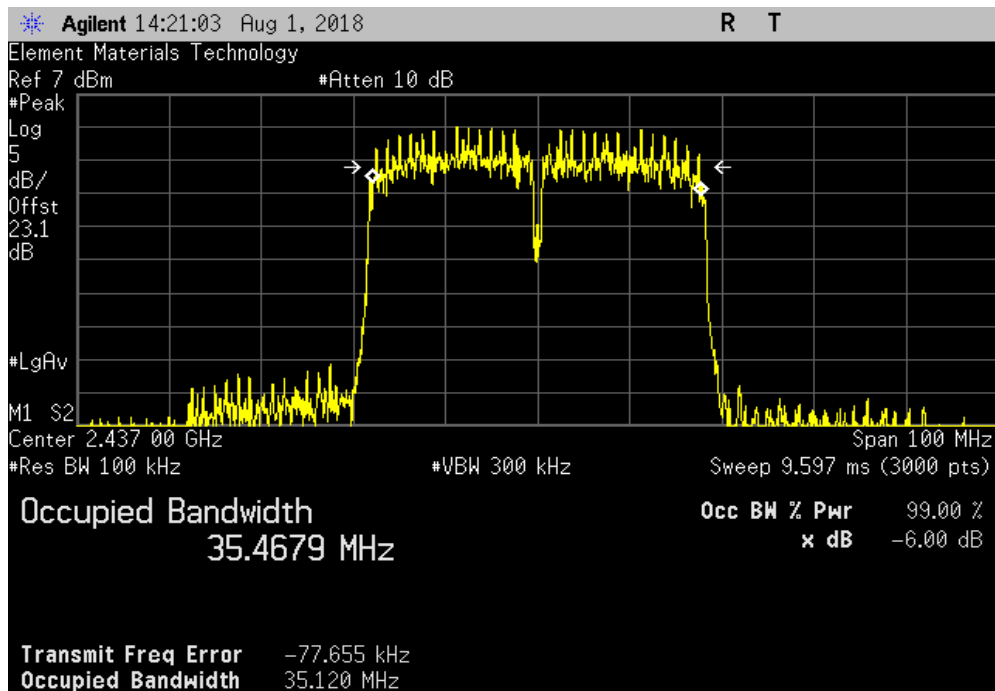


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz, 40 MHz | | |
|-------------------------------------------------------------------------------|-----------|--------|
| Value | Limit (>) | Result |
| 35.132 MHz | 500 kHz | Pass |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz, 40 MHz | | |
|-------------------------------------------------------------------------------|-----------|--------|
| Value | Limit (>) | Result |
| 35.120 MHz | 500 kHz | Pass |

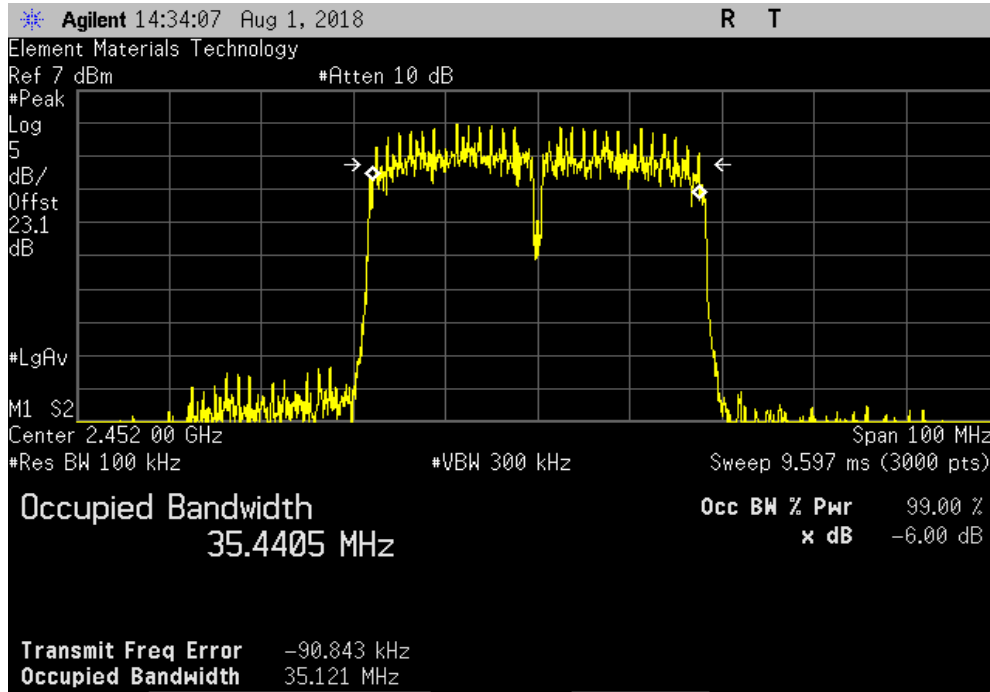


OCCUPIED BANDWIDTH



TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 7/11, 2452 MHz, 40 MHz | | |
|---------------------------------------------------------------------------------|-------------|--------|
| Value | Limit | Result |
| 35.121 MHz | (>) 500 kHz | Pass |



OUTPUT POWER



XMIT 2017.12.13

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

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|------------------|-----|-----------|-----------|
| Generator - Signal | Agilent | E8257D | TGU | 15-Feb-18 | 15-Feb-21 |
| Cable | Fairview Microwave | SCA1814-0101-120 | OCZ | NCR | NCR |
| Attenuator | Fairview Microwave | SA18H-20 | TKR | 28-Dec-17 | 28-Dec-18 |
| Block - DC | Fairview Microwave | SD3379 | AMV | 28-Dec-17 | 28-Dec-18 |
| Analyzer - Spectrum Analyzer | Agilent | E4440A | AFA | 9-Nov-17 | 9-Nov-18 |

TEST DESCRIPTION

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

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


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

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +36 dBm.
Limit of +28 dBm is being applied since the EUT uses an Antenna with 8 dBi gain.

OUTPUT POWER



TbTx 2017.12.14 XMM 2017.12.13

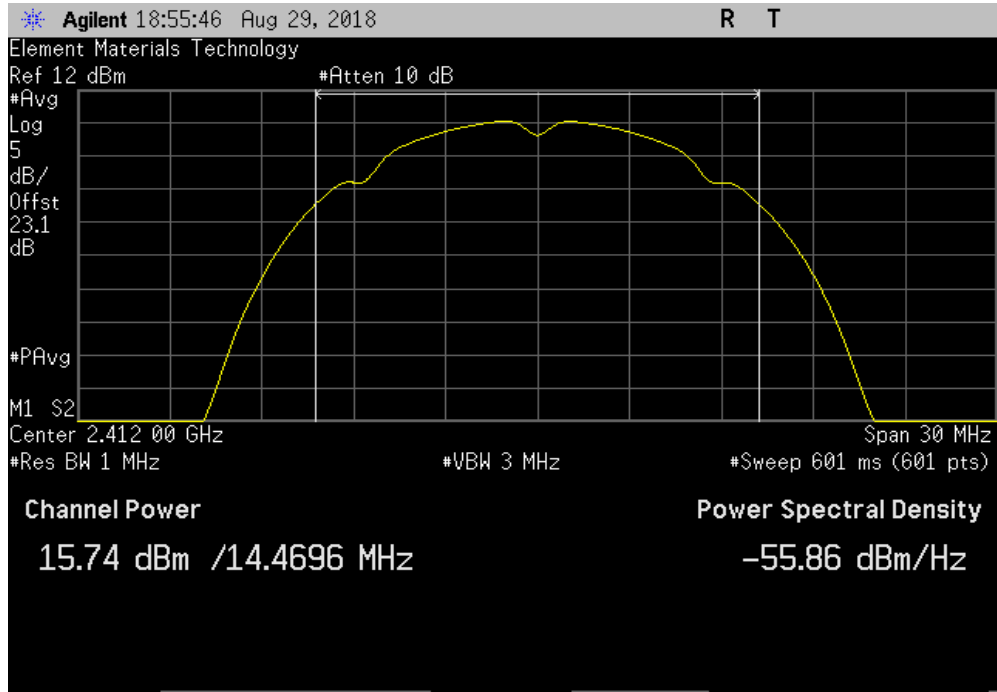
| | | | | | | |
|-------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------|-------------|-------------|---------|
| EUT: Falcon | | Work Order: KING0032 | | | | |
| Serial Number: See Configurations | | Date: 1-Aug-18 | | | | |
| Customer: King | | Temperature: 26.3 °C | | | | |
| Attendees: None | | Humidity: 44.5% RH | | | | |
| Project: None | | Barometric Pres.: 1015 mbar | | | | |
| Tested by: Johnny Candelas | | Power: 110VAC/60Hz | | | | |
| Job Site: OC13 | | | | | | |
| TEST SPECIFICATIONS | | | | | | |
| FCC 15.247:2018 | | ANSI C63.10:2013 | | | | |
| TEST METHOD | | | | | | |
| COMMENTS | | | | | | |
| Directly connected to the antenna port of the King Router (MN: KWM1000) | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | |
| None | | | | | | |
| Configuration # | 2 | Signature  | | | | |
| | | Avg Cond Pwr (dBm) | Duty Cycle Factor (dB) | Value (dBm) | Limit (dBm) | Results |
| 2400 MHz - 2483.5 MHz Band | | | | | | |
| 802.11(b) 1 Mbps | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=29 | 15.741 | 0 | 15.7 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=31 | 16.044 | 0 | 16.0 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=36 | 17.229 | 0 | 17.2 | 28 | Pass |
| 802.11(b) 11 Mbps | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=36 | 18.526 | 0.1 | 18.6 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=38 | 19.045 | 0.1 | 19.1 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=40 | 19.420 | 0.1 | 19.5 | 28 | Pass |
| 802.11(g) 6 Mbps | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 16.133 | 0.1 | 16.2 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 16.589 | 0.1 | 16.7 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 16.999 | 0.1 | 17.1 | 28 | Pass |
| 802.11(g) 36 Mbps | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 17.234 | 0.3 | 17.5 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 16.500 | 0.3 | 16.8 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 16.967 | 0.3 | 17.2 | 28 | Pass |
| 802.11(g) 54 Mbps | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=23 | 16.099 | 0.4 | 16.5 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=25 | 16.390 | 0.4 | 16.8 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=27 | 16.766 | 0.4 | 17.1 | 28 | Pass |
| 802.11(n) MCS0 | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | 14.565 | 0.1 | 14.6 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | 15.441 | 0.1 | 15.5 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=25 | 15.789 | 0.1 | 15.9 | 28 | Pass |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | 14.916 | 0.2 | 15.1 | 28 | Pass |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | 15.452 | 0.2 | 15.6 | 28 | Pass |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | 15.109 | 0.2 | 15.3 | 28 | Pass |
| 802.11(n) MCS7 | | | | | | |
| | Low Channel 1, 2412 MHz, TX Pwr=20 | 14.561 | 0.4 | 14.9 | 28 | Pass |
| | Mid Channel 6, 2437 MHz, TX Pwr=23 | 15.716 | 0.4 | 16.1 | 28 | Pass |
| | High Channel 11, 2462 MHz, TX Pwr=25 | 15.643 | 0.4 | 16.0 | 28 | Pass |
| | Low Channel 1/5, 2422 MHz, 40 MHz, TX Pwr=21 | 14.550 | 1 | 15.6 | 28 | Pass |
| | Mid Channel 4/8, 2437 MHz, 40 MHz, TX Pwr=23 | 15.222 | 1 | 16.2 | 28 | Pass |
| | High Channel 7/11, 2452 MHz, 40 MHz, TX Pwr=23 | 14.939 | 1 | 15.9 | 28 | Pass |

OUTPUT POWER

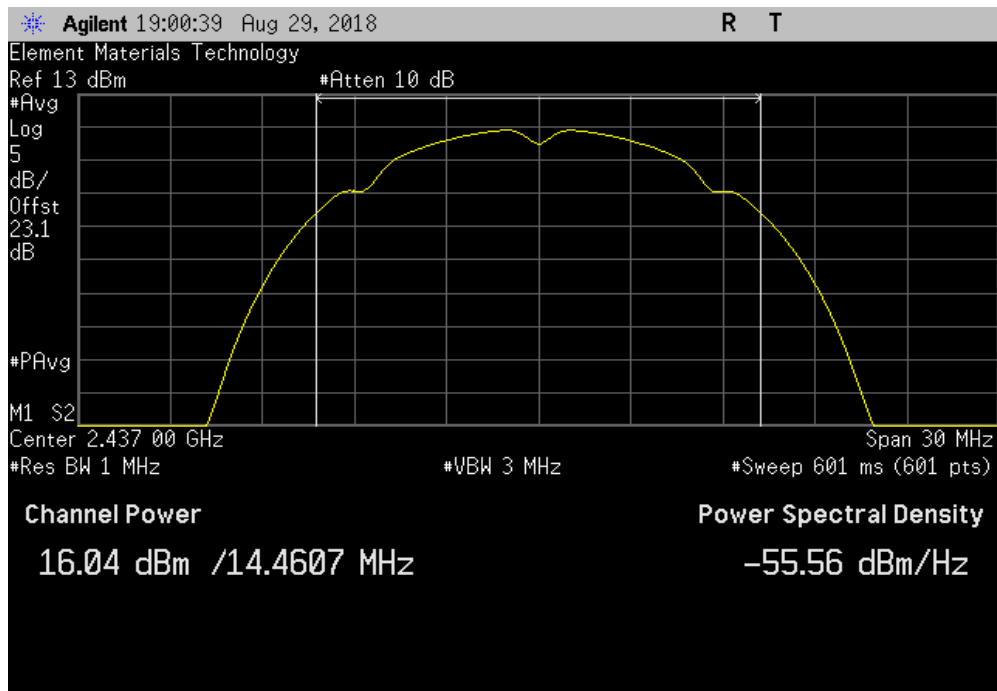


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|-----------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 15.741 | 0 | | 15.7 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|-----------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 16.044 | 0 | | 16.0 | 28 | Pass | |

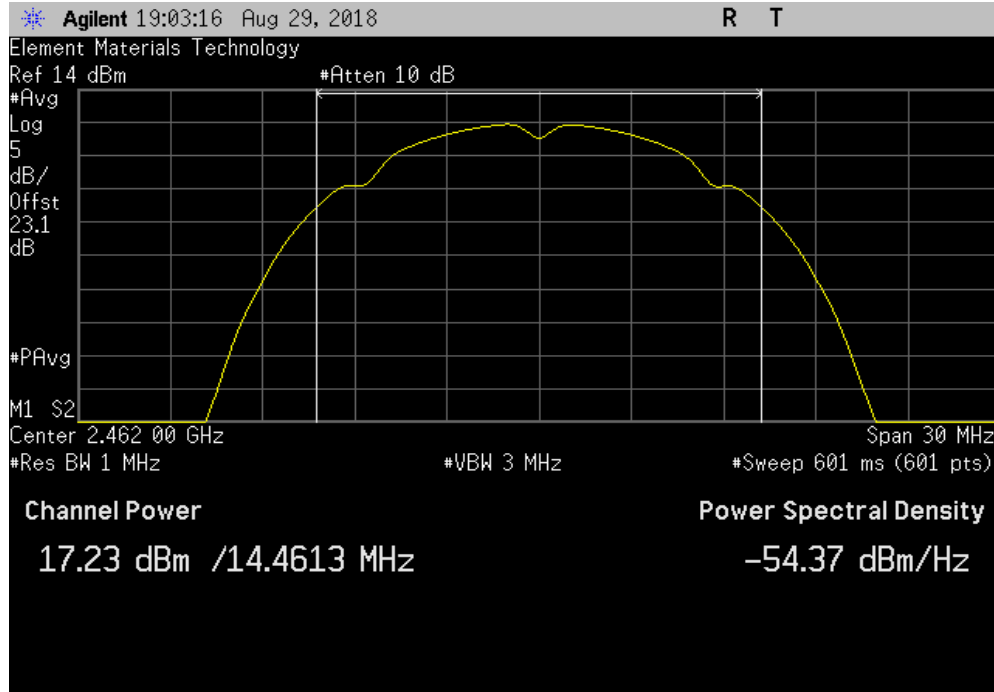


OUTPUT POWER

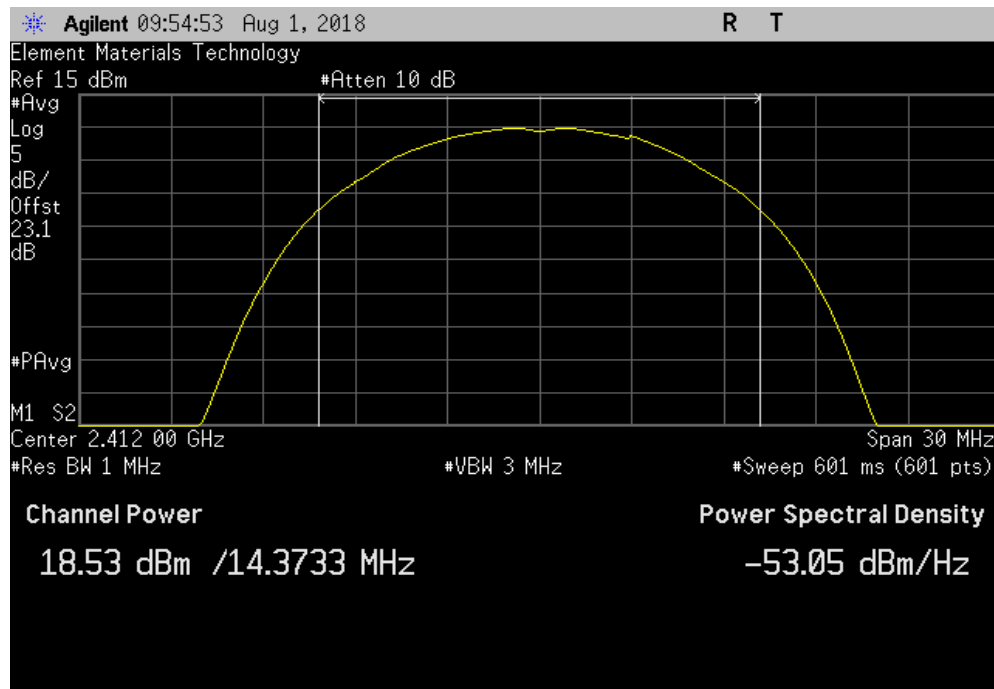


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz | | | | | | |
|-------------------------------------------------------------------------|-------------|---|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| | 17.229 | 0 | 17.2 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|-----|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| | 18.526 | 0.1 | 18.6 | 28 | Pass | |

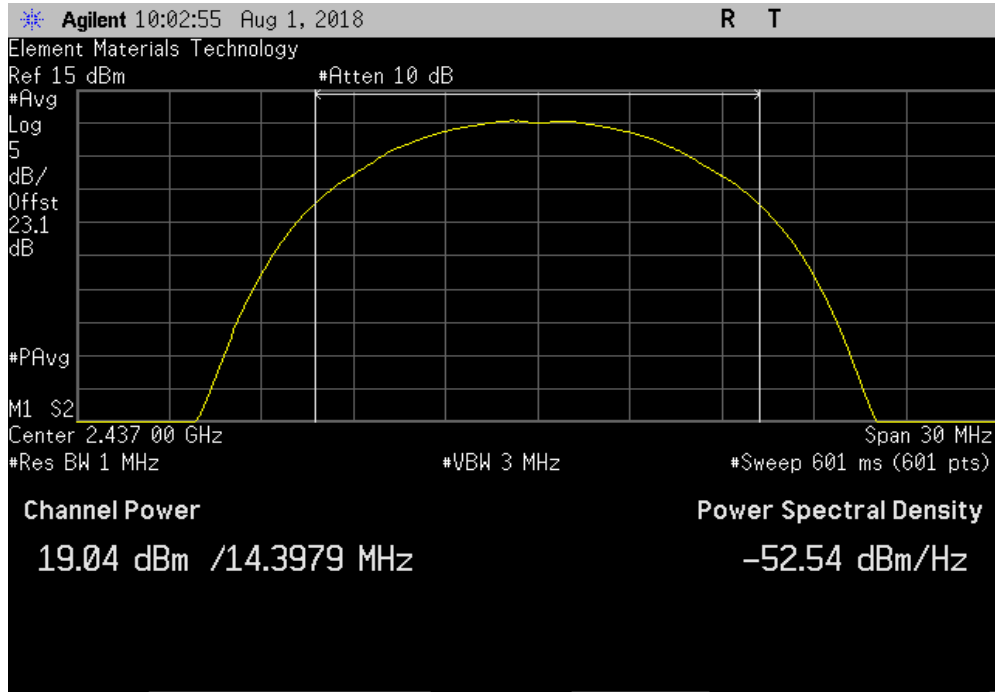


OUTPUT POWER

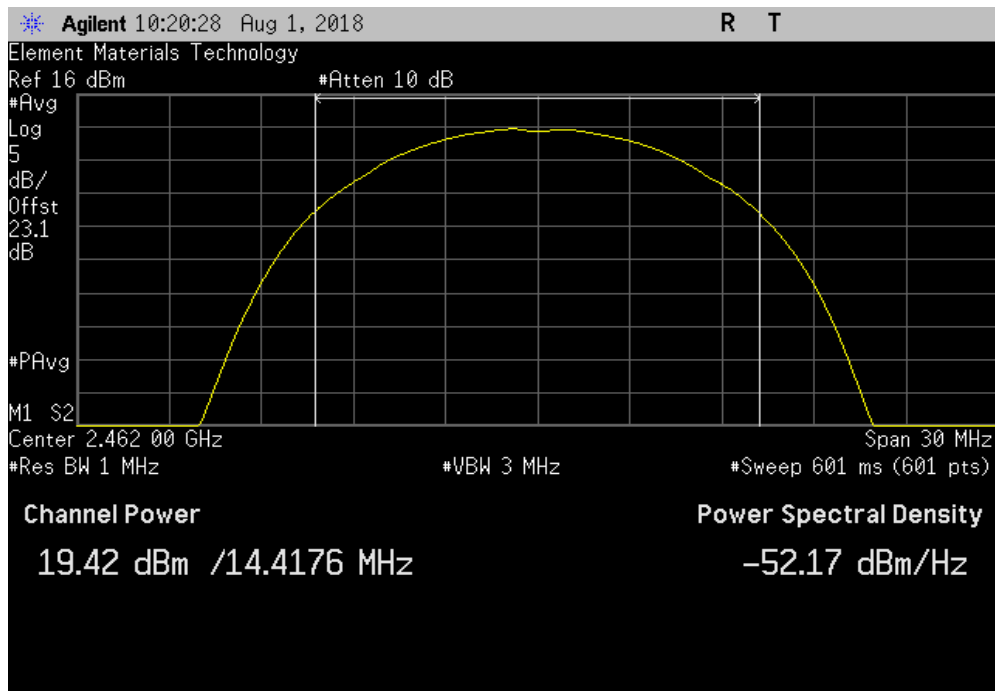


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 19.045 | 0.1 | | 19.1 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz | | | | | | |
|--------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 19.420 | 0.1 | | 19.5 | 28 | Pass | |

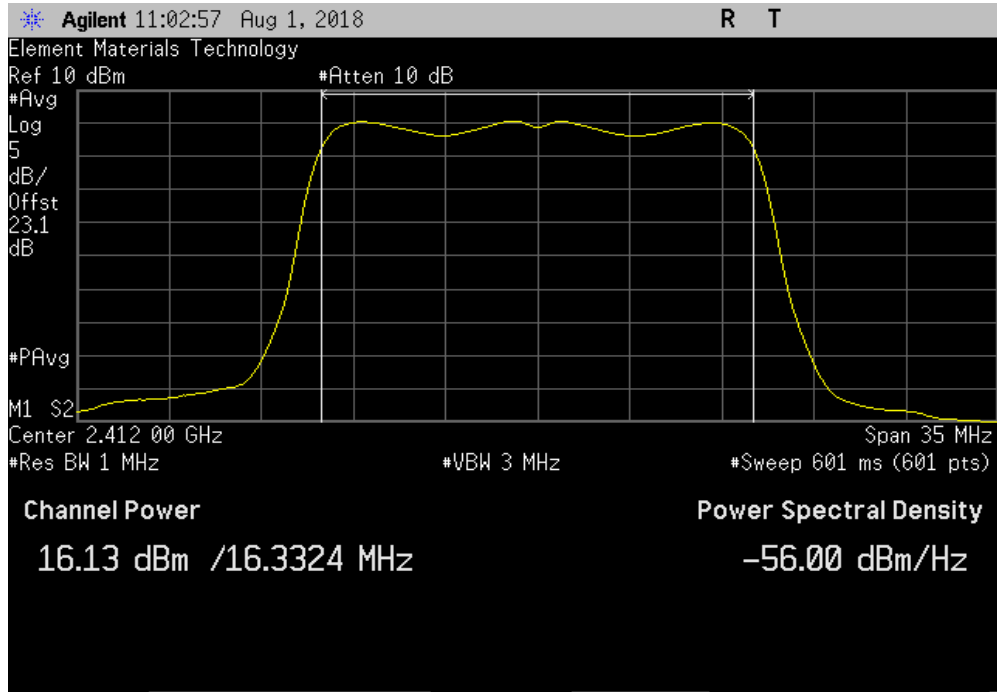


OUTPUT POWER

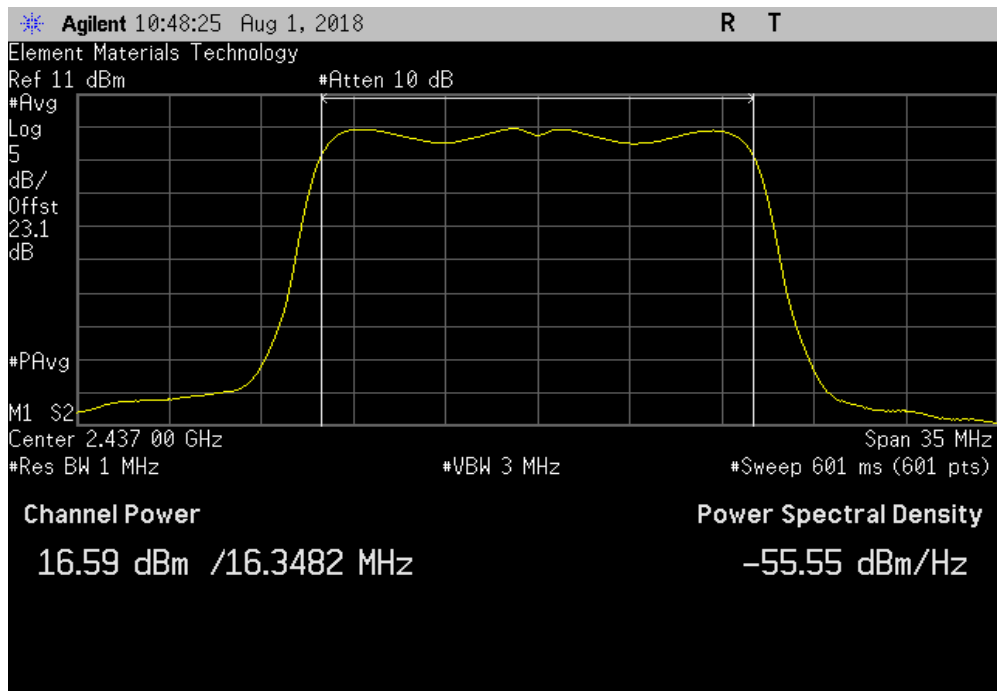


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|-----------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 16.133 | 0.1 | | 16.2 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|-----------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 16.589 | 0.1 | | 16.7 | 28 | Pass | |

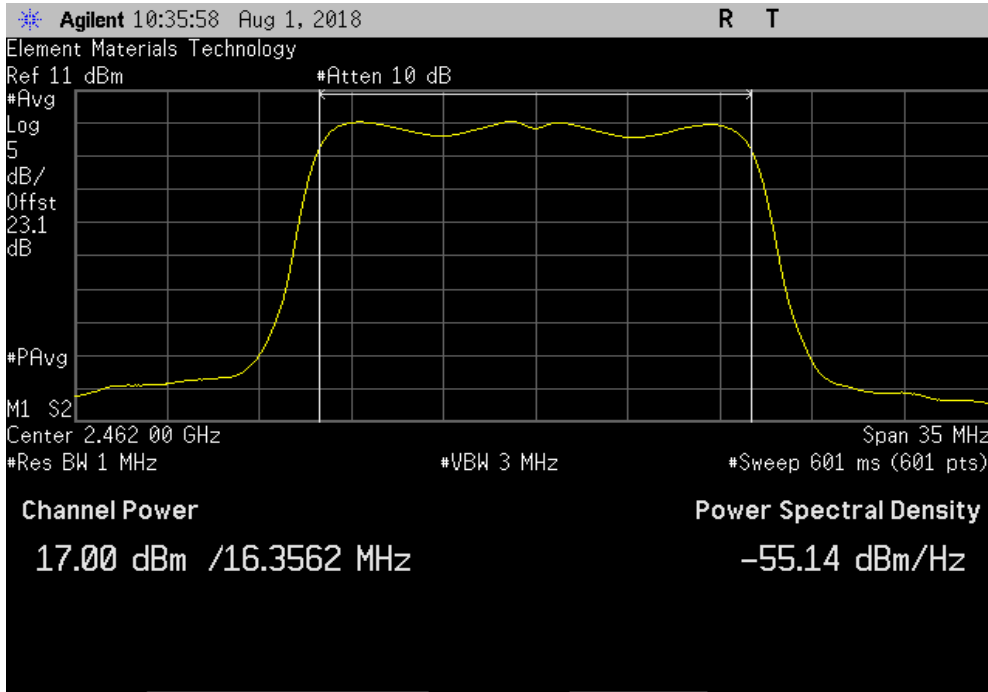


OUTPUT POWER

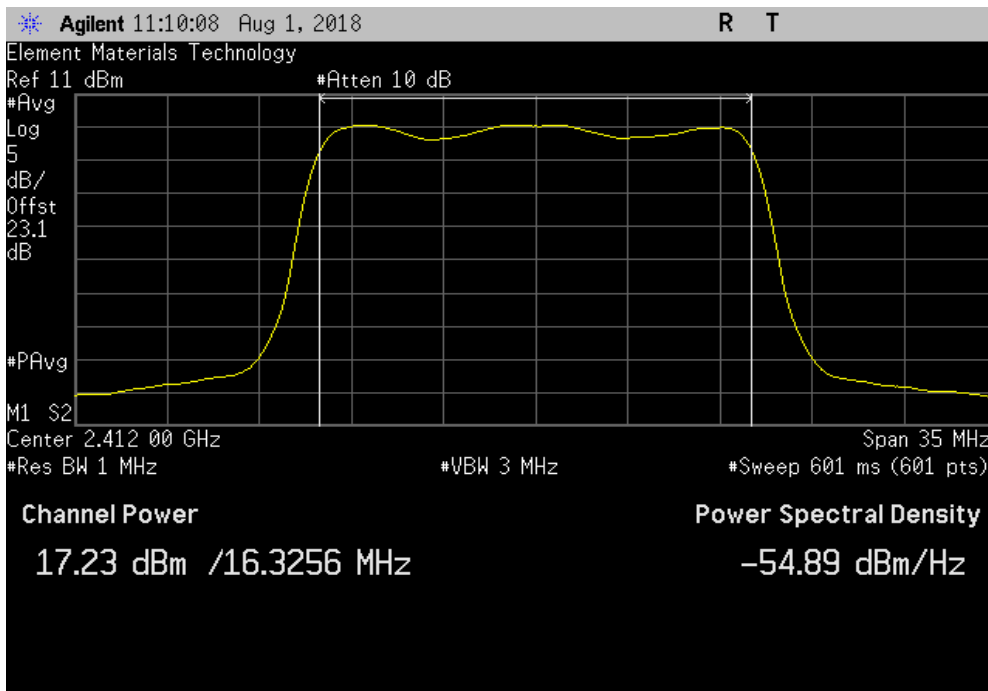


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz | | | | | | |
|-------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.999 | 0.1 | 17.1 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 17.234 | 0.3 | 17.5 | 28 | Pass | | |

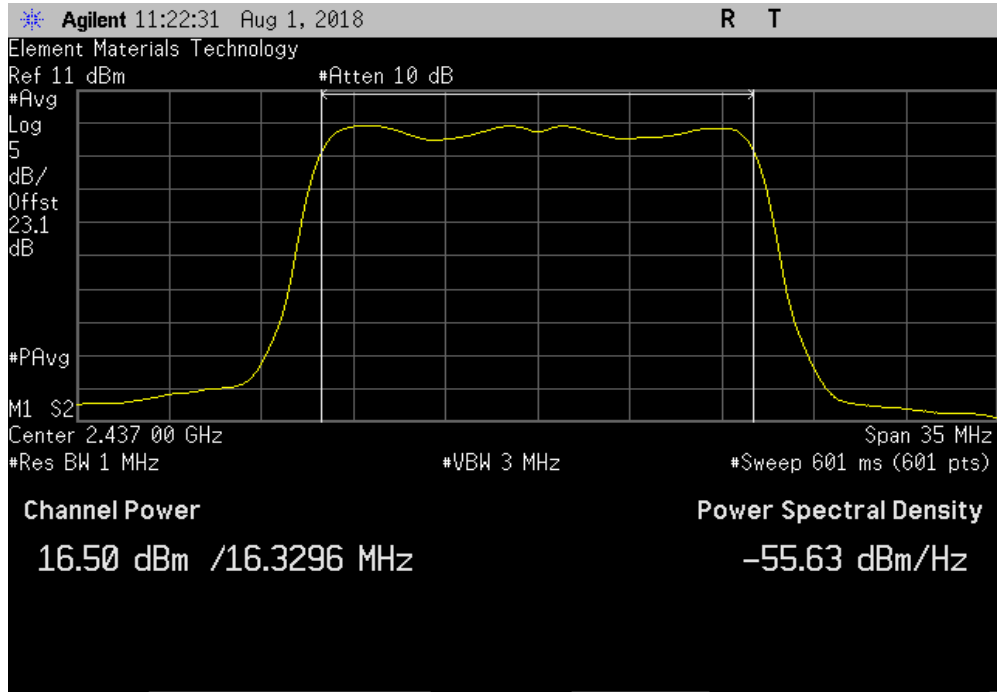


OUTPUT POWER

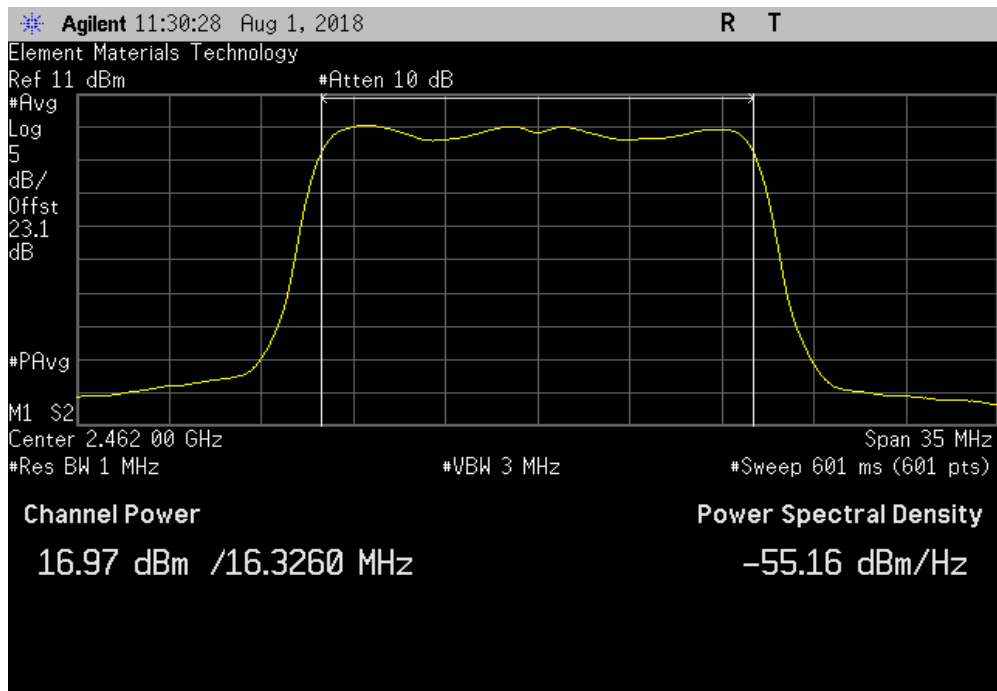


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.500 | 0.3 | 16.8 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz | | | | | | |
|--------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.967 | 0.3 | 17.2 | 28 | Pass | | |

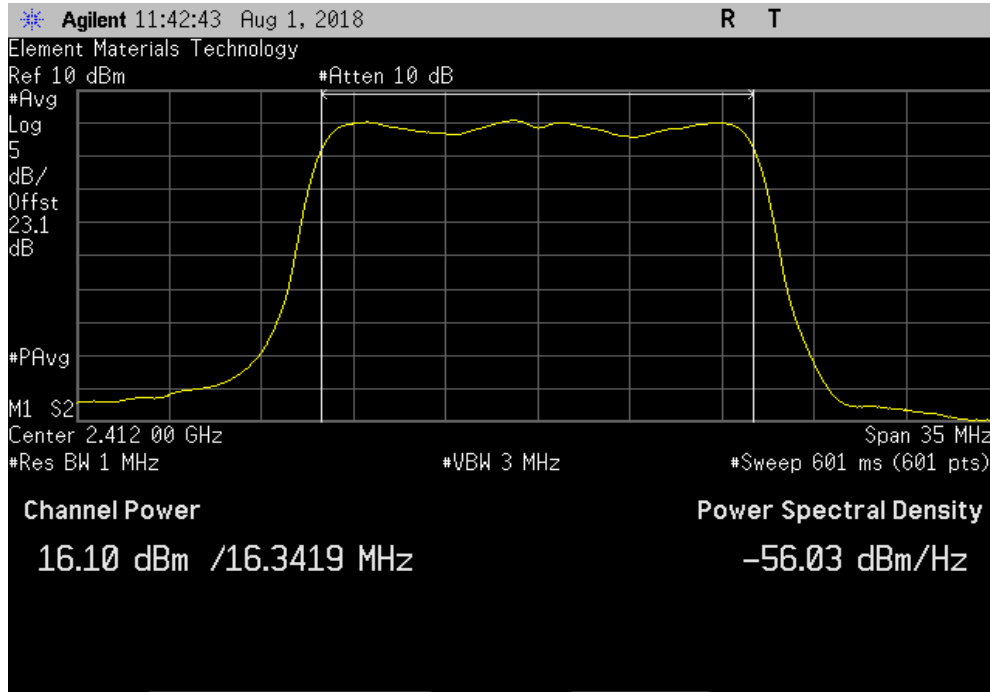


OUTPUT POWER

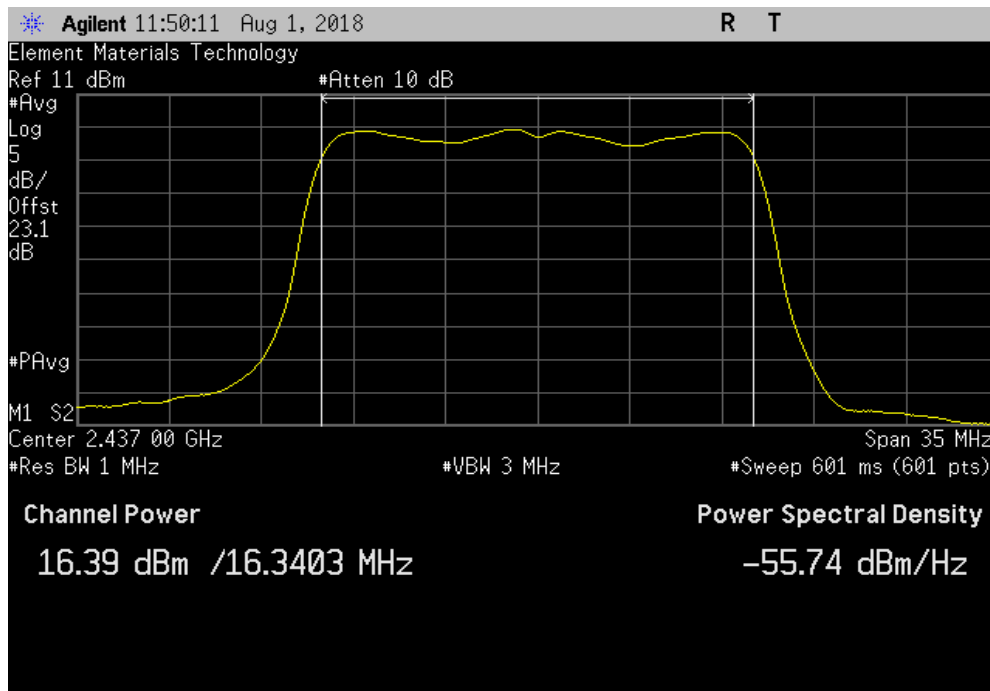


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.099 | 0.4 | 16.5 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz | | | | | | |
|------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.390 | 0.4 | 16.8 | 28 | Pass | | |

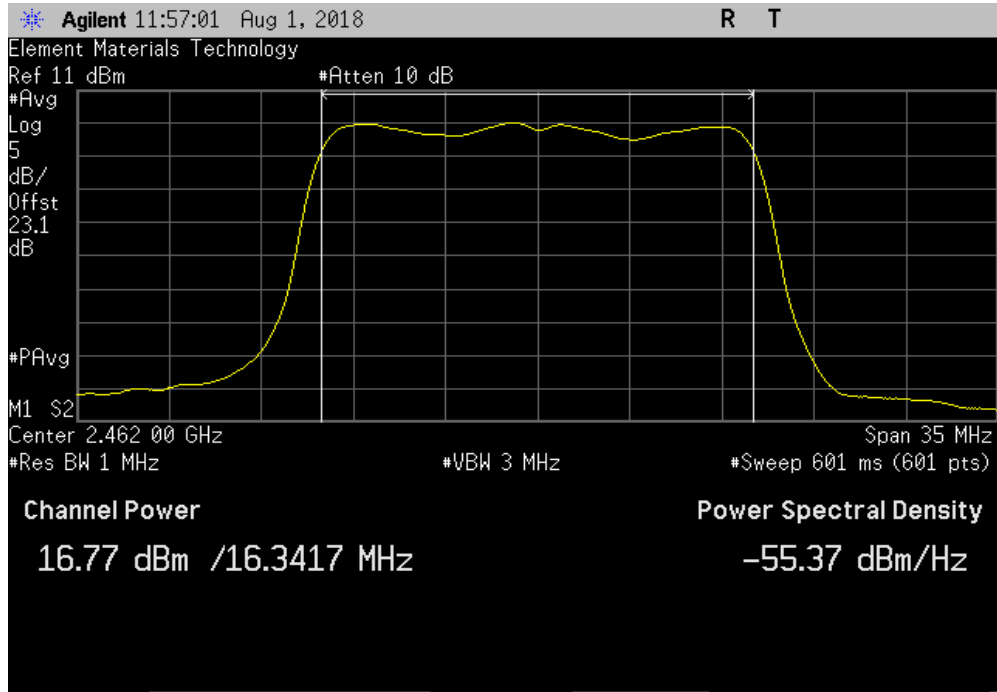


OUTPUT POWER

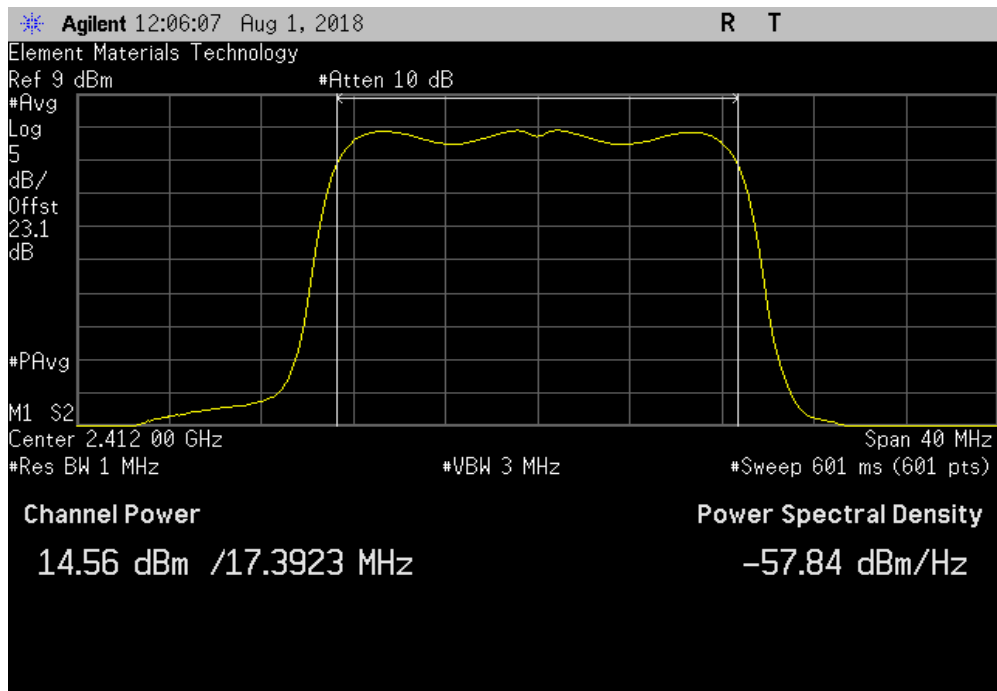


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz | | | | | | |
|--------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 16.766 | 0.4 | 17.1 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz | | | | | | |
|---------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 14.565 | 0.1 | 14.6 | 28 | Pass | | |

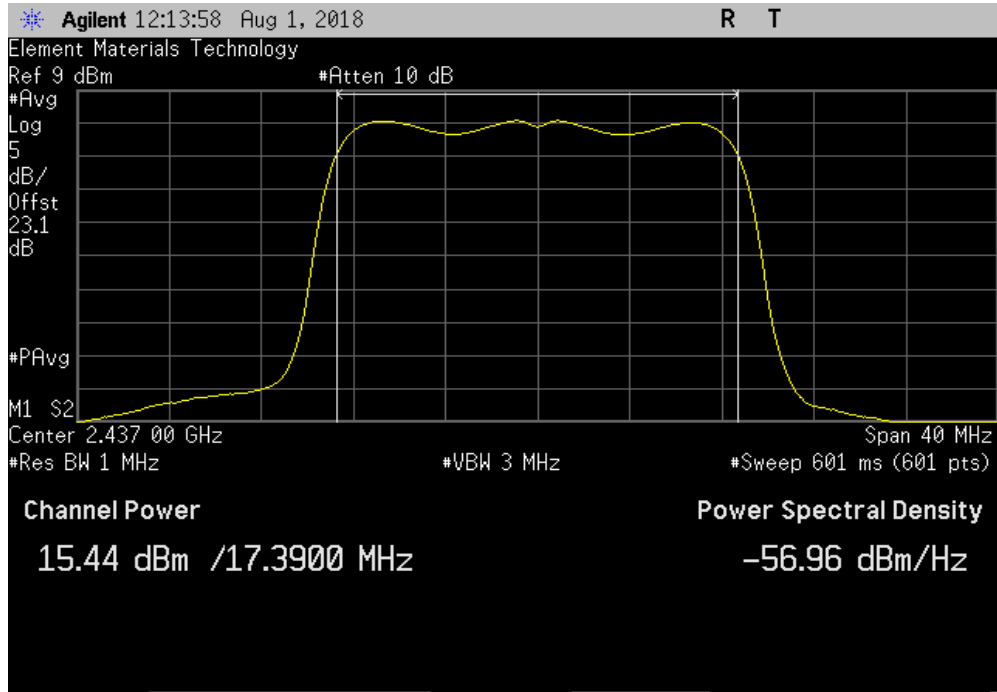


OUTPUT POWER

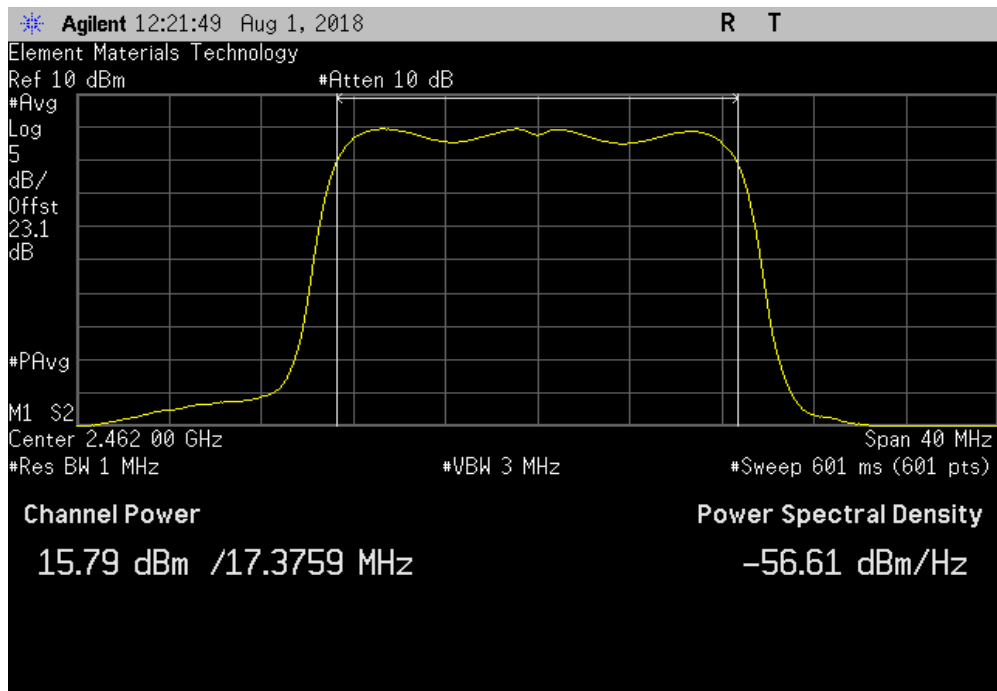


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz | | | | | | |
|---------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 15.441 | 0.1 | 15.5 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz | | | | | | |
|-----------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 15.789 | 0.1 | 15.9 | 28 | Pass | | |

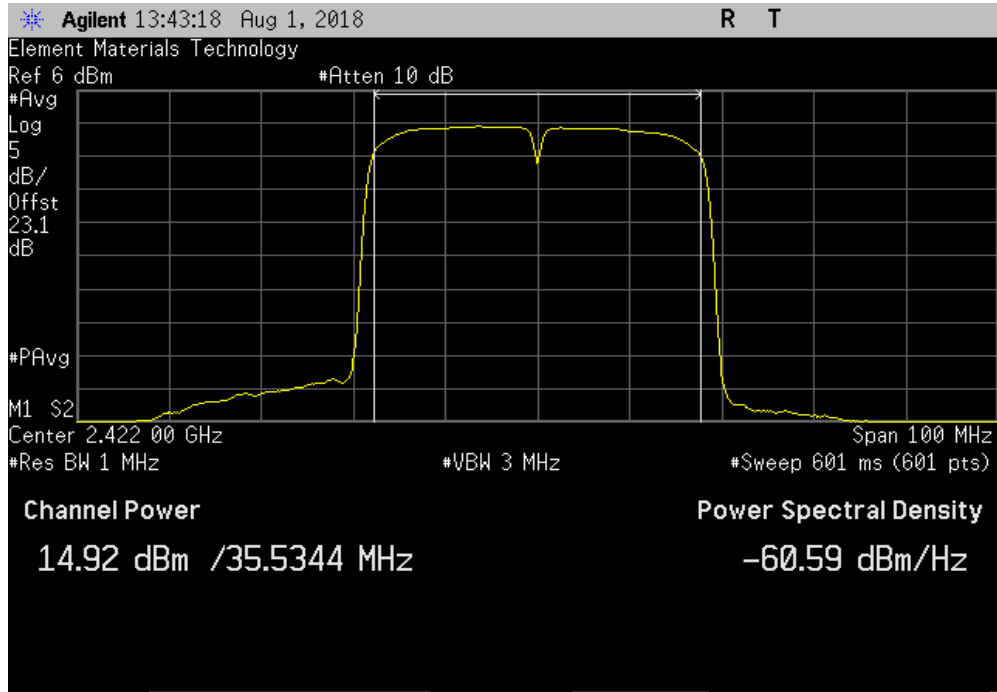


OUTPUT POWER

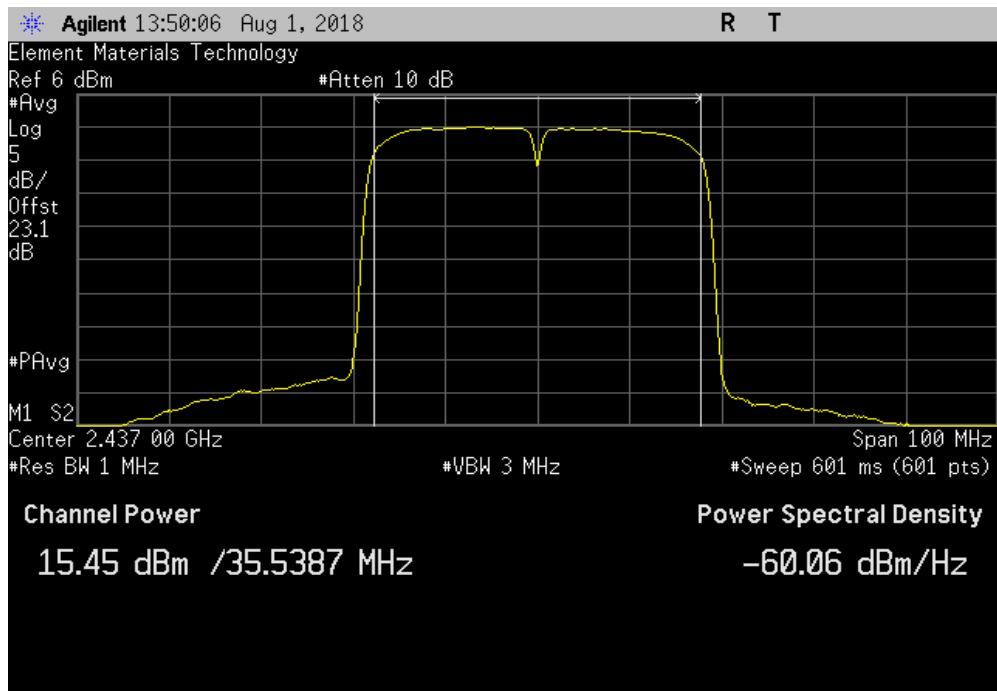


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 14.916 | 0.2 | 15.1 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|-------------|-------|-------|---------|--|--|
| Avg Cond | Duty Cycle | Value | Limit | Results | | |
| Pwr (dBm) | Factor (dB) | (dBm) | (dBm) | | | |
| 15.452 | 0.2 | 15.6 | 28 | Pass | | |

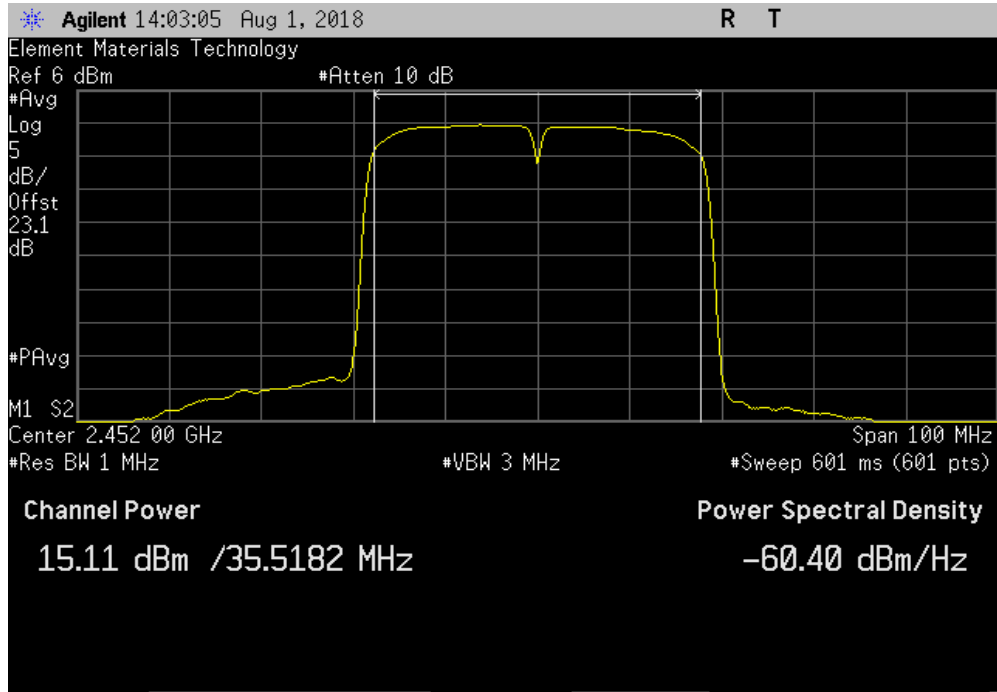


OUTPUT POWER

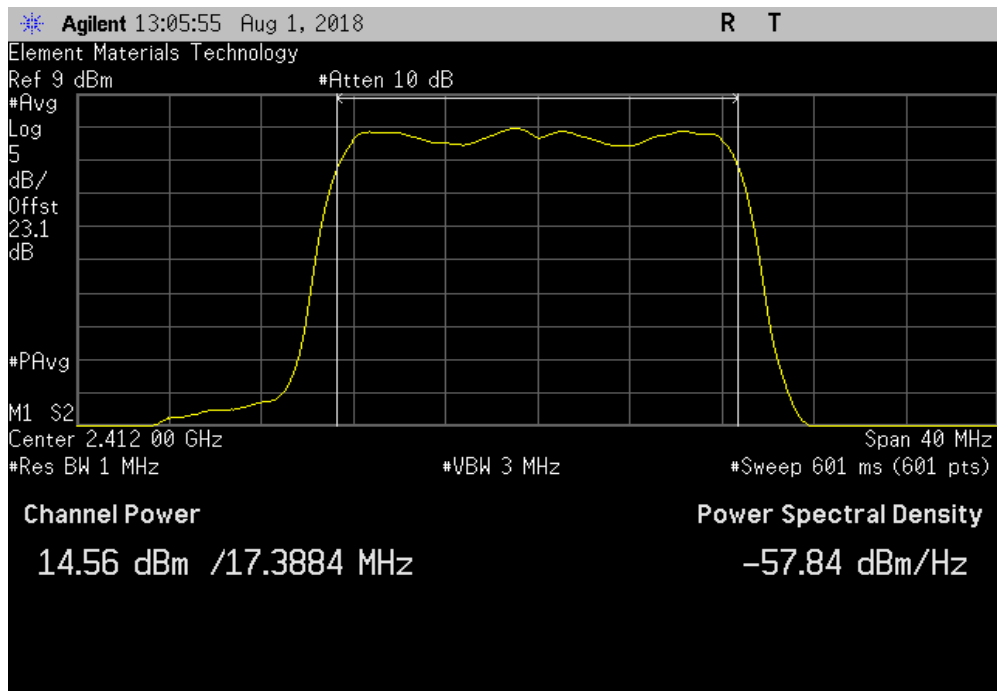


TMTX 2017.12.14 XMM 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 15.109 | 0.2 | | 15.3 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz | | | | | | |
|---------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 14.561 | 0.4 | | 14.9 | 28 | Pass | |

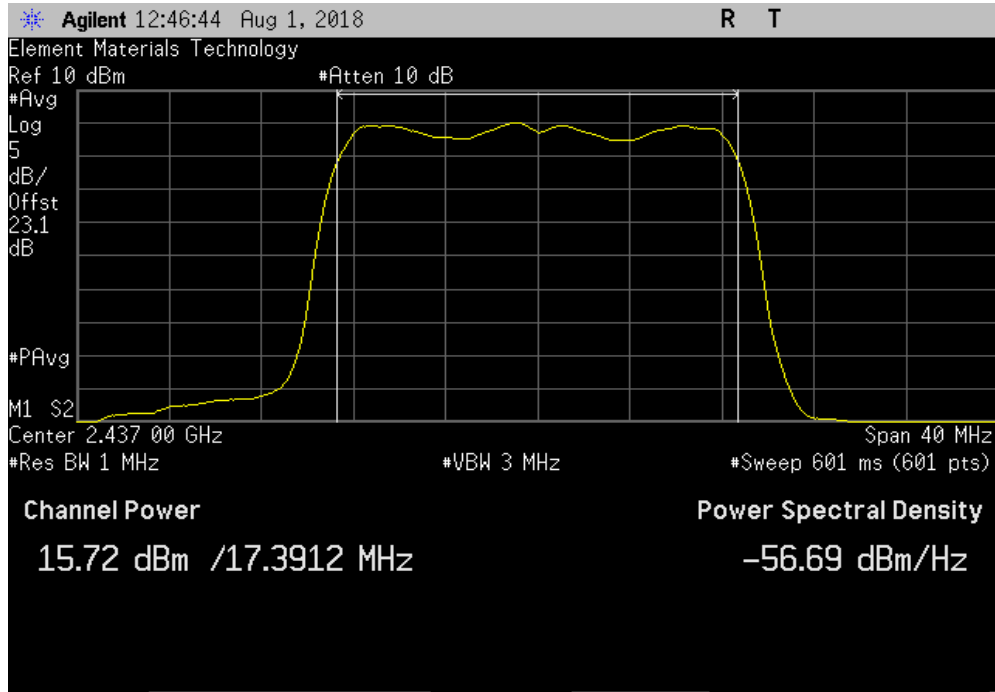


OUTPUT POWER

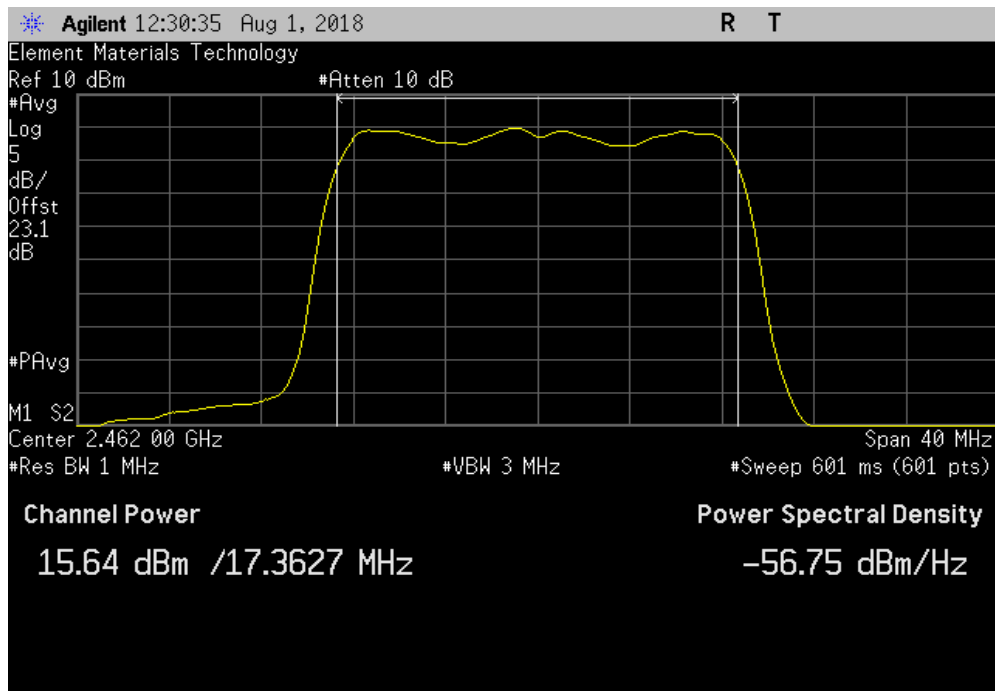


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz | | | | | | |
|---------------------------------------------------------------------|------------------------|-------------|-------------|---------|--|--|
| Avg Cond Pwr (dBm) | Duty Cycle Factor (dB) | Value (dBm) | Limit (dBm) | Results | | |
| 15.716 | 0.4 | 16.1 | 28 | Pass | | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz | | | | | | |
|-----------------------------------------------------------------------|------------------------|-------------|-------------|---------|--|--|
| Avg Cond Pwr (dBm) | Duty Cycle Factor (dB) | Value (dBm) | Limit (dBm) | Results | | |
| 15.643 | 0.4 | 16.0 | 28 | Pass | | |

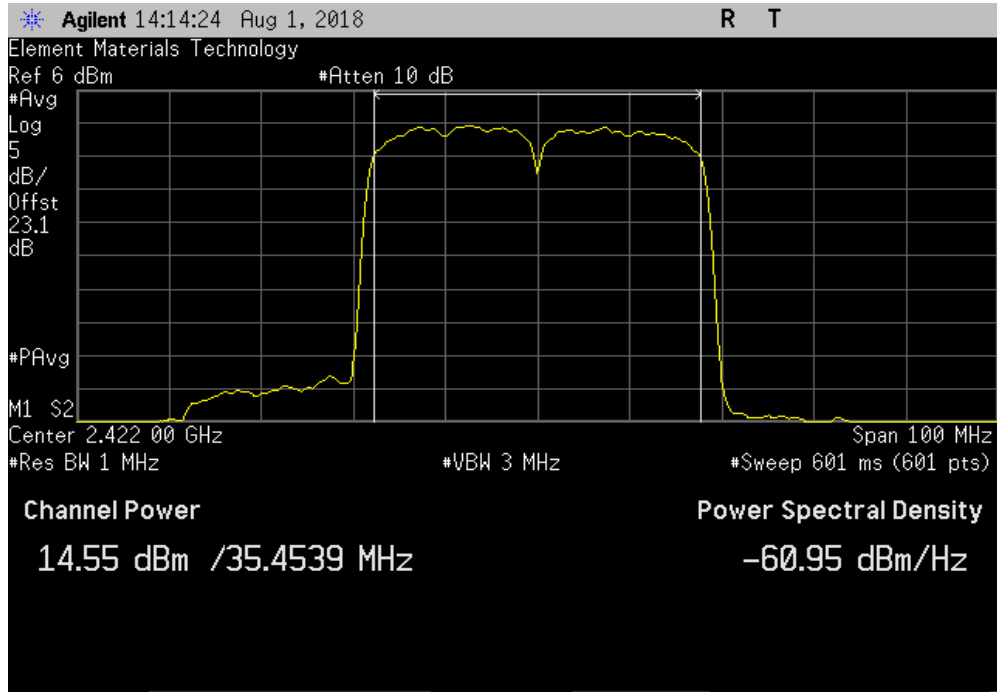


OUTPUT POWER

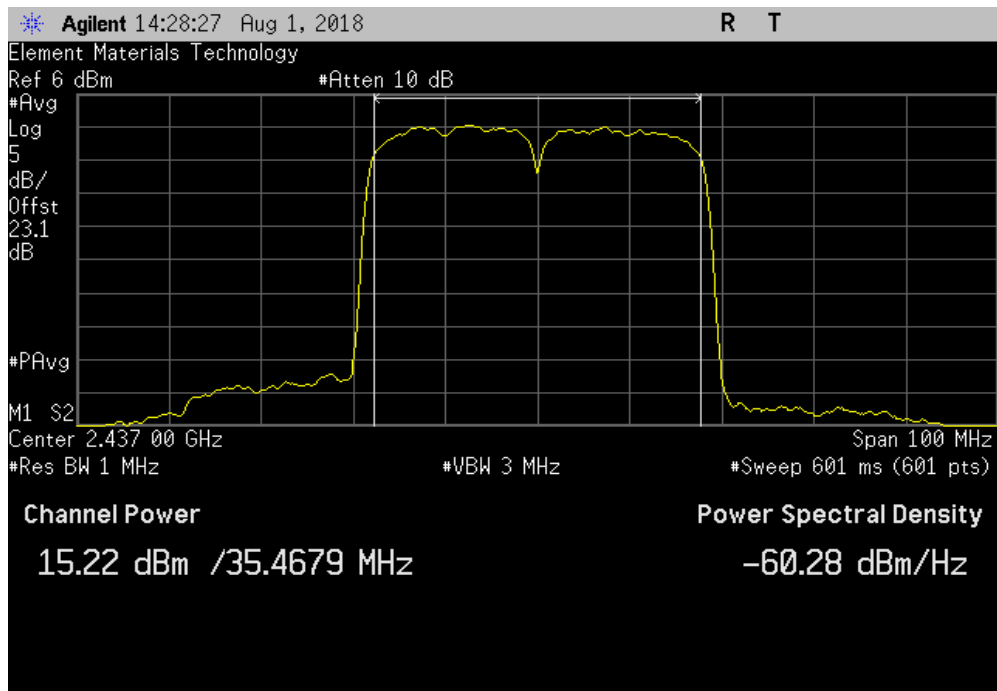


TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 14.550 | 1 | | 15.6 | 28 | Pass | |



| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz, 40 MHz | | | | | | |
|-------------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 15.222 | 1 | | 16.2 | 28 | Pass | |



OUTPUT POWER



TMTX 2017.12.14 XMI 2017.12.13

| 2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 7/11, 2452 MHz, 40 MHz | | | | | | |
|---------------------------------------------------------------------------------|-------------|--|-------|-------|---------|--|
| Avg Cond | Duty Cycle | | Value | Limit | Results | |
| Pwr (dBm) | Factor (dB) | | (dBm) | (dBm) | | |
| 14.939 | 1 | | 15.9 | 28 | Pass | |

