

WatchGuard Video

VISTA XLT

FCC 15.247:2018 2.4GHz Band Single Channel DTS Radio

Report # WTVD0014.1







CERTIFICATE OF TEST



Last Date of Test: November 9, 2018 WatchGuard Video Model: VISTA XLT

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 for a battery powered EUT.
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.2.2.4	Output Power	Yes	Pass	
11.9.2.2.4	Equivalent Isotropic Radiated Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Jeremiah Darden, Operations Manager

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

REVISION HISTORY



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

ACCREDITATIONS AND AUTHORIZATIONS



United States

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

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). 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

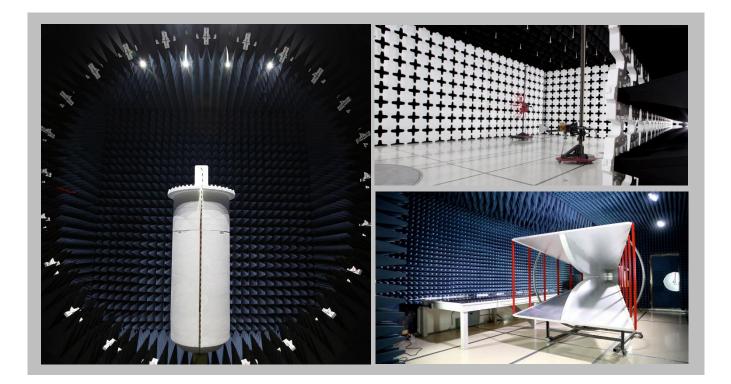
For details on the Scopes of our Accreditations, please visit: https://www.nwemc.com/emc-testing-accreditations

FACILITIES





California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	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		
		NV	LAP				
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		
		BS	МІ				
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R		
		VC	CI				
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.

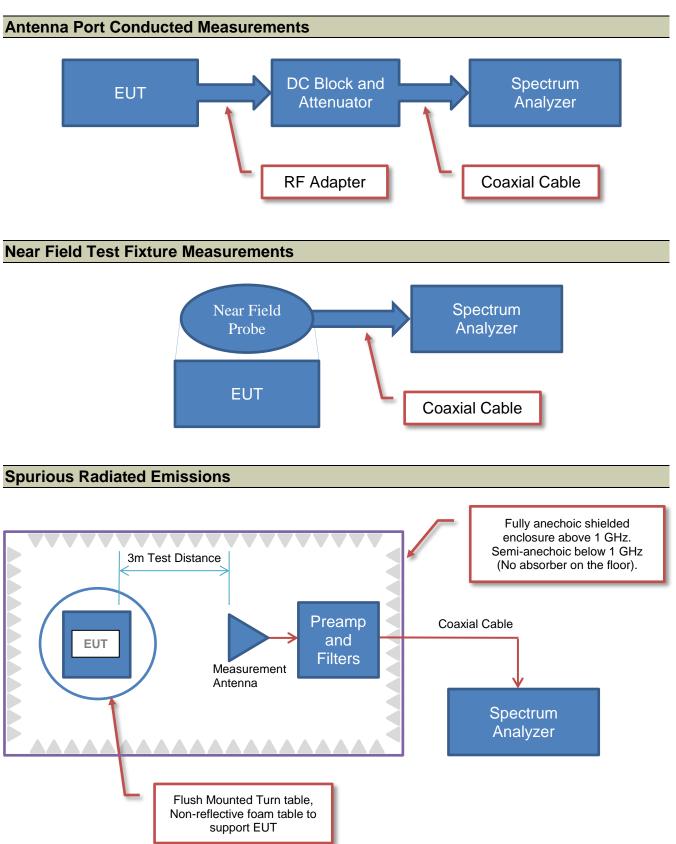
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable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





PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	WatchGuard Video
Address:	415 East Exchange Parkway
City, State, Zip:	Allen, TX 75002
Test Requested By:	Navaid Karimi
Model:	Vista XLT
First Date of Test:	November 8, 2018
Last Date of Test:	November 9, 2018
Receipt Date of Samples:	November 8, 2018
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Body cam for law enforcement with single channel wireless link (Same as VISTA but with belt clip and cabled camera)

Testing Objective:

To demonstrate compliance of the single channel DTS radio under FCC 15.247 for operation in the 2.4 GHz band.

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)	Power Setting
6 Mbps	20	6	Single Channel	2437	20000 (Max)
36 Mbps	20	6	Single Channel	2437	20000 (Max)
54 Mbps	20	6	Single Channel	2437	20000 (Max)
MCS0	20	6	Single Channel	2437	20000 (Max)
MCS4	20	6	Single Channel	2437	20000 (Max)
MCS7	20	6	Single Channel	2437	20000 (Max)





Configuration WTVD0014-1

EUT							
Description	Manufacturer	Model/Part Number	Serial Number				
Body Camera with WiFi Link (Body Sensor)	WatchGuard Video	VISTA XLT	VXL1-001324 XBC1- 001149				

Configuration WTVD0014-2

EUT						
Description	Manufacturer	Model/Part Number	Serial Number			
Body Camera with WiFi Link (Direct Connect)	WatchGuard Video	VISTA XLT	VXL1-000683 XBC1- 001149			

Peripherals in test setup boundary							
Description	Manufacturer	Model/Part Number	Serial Number				
Laptop Computer	Dell	Latitude 7480	27904748150				
Command Console Board	WatchGuard Video	WGA00341	0615413600				
Charging Base	WatchGuard Video	WGA00537	VHB1-05863				
AC/DC Power Supply (Base)	Unknown	M120100A0	None				

Cables								
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2			
DC Power (Base)	No	1.5m	No	AC/DC Power Supply (Base)	Charging Base			
USB to RS-232	Yes	0.5m	No	Laptop Computer	Command Console Board			

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2018-11-08	Spurious Radiated	Tested as delivered to	No EMI suppression devices were added or	EUT remained at Element following the
		Emissions	Test Station.	modified during this test.	test.
2	2018-11-09	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2018-11-09	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2018-11-09	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2018-11-09	Equivalent Isotropic Radiated Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2018-11-09	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2018-11-09	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2018-11-09	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2018.07.27

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

Continuously Transmitting at Single Channel 6, 2437 MHz	
POWER SETTINGS INVESTIGATED	
Battery	
CONFIGURATIONS INVESTIGATED	
WTVD0014 - 1	
FREQUENCY RANGE INVESTIGATED	

Start Frequency 30 MHz

Stop Frequency 26500 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator	Weinschel Corp	4H-20	AWB	16-Mar-2018	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HGC	16-Mar-2018	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	3-Aug-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAM	10-Oct-2018	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	21-Aug-2018	24 mo
Cable	Northwest EMC	18-40GHz	TXE	10-Oct-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	PAL	9-Oct-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AJG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	PAK	9-Oct-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AJF	NCR	0 mo
Cable	Northwest EMC	8-18GHz	TXD	31-May-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAJ	31-May-2018	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJL	11-Oct-2018	24 mo
Cable	Northwest EMC	1-8.2 GHz	TXC	31-May-2018	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1551	AVK	31-May-2018	12 mo
Antenna - Biconilog	ETS Lindgren	3143B	AYF	10-May-2018	24 mo
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	22-Aug-2018	12 mo
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	15-Mar-2018	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.

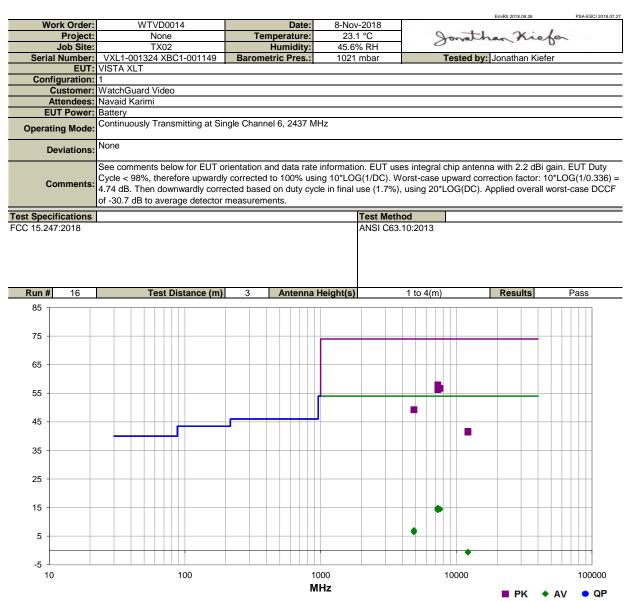
If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

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*LOG(dc).

SPURIOUS RADIATED EMISSIONS





Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	
													Comments
7311.610	43.1	14.9	1.2	196.9	0.0	0.0	Horz	PK	0.0	58.0	74.0	-16.0	EUT Horz, 6 Mbps
7311.805	42.4	14.9	1.2	164.0	0.0	0.0	Vert	PK	0.0	57.3	74.0	-16.7	EUT Vert, 6 Mbps
7309.830	42.2	14.9	1.2	159.9	0.0	0.0	Horz	PK	0.0	57.1	74.0	-16.9	EUT Horz, MCS7 72.2 Mbps
7309.905	42.0	14.9	1.2	337.0	0.0	0.0	Horz	PK	0.0	56.9	74.0	-17.1	EUT On Side, 6 Mbps
7309.595	42.0	14.9	1.2	171.9	0.0	0.0	Vert	PK	0.0	56.9	74.0	-17.1	EUT On Side, 6 Mbps
7310.330	41.8	14.9	1.2	295.0	0.0	0.0	Vert	PK	0.0	56.7	74.0	-17.3	EUT Horz, 6 Mbps
7312.265	41.8	14.9	1.2	298.9	0.0	0.0	Horz	PK	0.0	56.7	74.0	-17.3	EUT Vert, 6 Mbps
7593.755	41.5	15.2	1.2	196.9	0.0	0.0	Vert	PK	0.0	56.7	74.0	-17.3	EUT Horz, 6 Mbps
7312.400	41.6	14.9	1.2	19.0	0.0	0.0	Horz	PK	0.0	56.5	74.0	-17.5	EUT Horz, MCS0 7.2 Mbps
7312.145	41.6	14.9	1.2	288.0	0.0	0.0	Horz	PK	0.0	56.5	74.0	-17.5	EUT Horz, MCS4 43.3 Mbps
7312.240	41.5	14.9	1.2	105.9	0.0	0.0	Horz	PK	0.0	56.4	74.0	-17.6	EUT Horz, 54 Mbps
7310.950	41.4	14.9	1.2	136.9	0.0	0.0	Horz	PK	0.0	56.3	74.0	-17.7	EUT Horz, 36 Mbps
4873.525	42.3	7.0	1.2	3.0	0.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	EUT Horz, 6 Mbps
4872.990	42.2	7.0	1.2	190.9	0.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	EUT Horz, 6 Mbps
12185.590	42.3	-0.6	1.2	198.0	0.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	EUT Horz, 6 Mbps
12183.640	42.0	-0.6	1.2	165.9	0.0	0.0	Horz	PK	0.0	41.4	74.0	-32.6	EUT Horz, 6 Mbps
7312.110	30.6	14.9	1.2	196.9	-30.7	0.0	Horz	AV	0.0	14.9	54.0	-39.2	EUT Horz, 6 Mbps
7311.780	30.5	14.9	1.2	298.9	-30.7	0.0	Horz	AV	0.0	14.8	54.0	-39.3	EUT Vert, 6 Mbps
7312.040	30.5	14.9	1.2	337.0	-30.7	0.0	Horz	AV	0.0	14.8	54.0	-39.3	EUT On Side, 6 Mbps
7312.125	30.4	14.9	1.2	295.0	-30.7	0.0	Vert	AV	0.0	14.7	54.0	-39.4	EUT Horz, 6 Mbps
7312.000	30.3	14.9	1.2	164.0	-30.7	0.0	Vert	AV	0.0	14.6	54.0	-39.5	EUT Vert, 6 Mbps
7310.850	30.3	14.9	1.2	171.9	-30.7	0.0	Vert	AV	0.0	14.6	54.0	-39.5	EUT On Side, 6 Mbps
7595.550	29.9	15.2	1.2	196.9	-30.7	0.0	Vert	AV	0.0	14.5	54.0	-39.6	EUT Horz, 6 Mbps
7311.010	30.1	14.9	1.2	136.9	-30.7	0.0	Horz	AV	0.0	14.4	54.0	-39.7	EUT Horz, 36 Mbps

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7312.230	30.1	14.9	1.2	159.9	-30.7	0.0	Horz	AV	0.0	14.4	54.0	-39.7	EUT Horz, MCS7 72.2 Mbps
7312.460	30.0	14.9	1.2	19.0	-30.7	0.0	Horz	AV	0.0	14.3	54.0	-39.8	EUT Horz, MCS0 7.2 Mbps
7311.970	30.0	14.9	1.2	288.0	-30.7	0.0	Horz	AV	0.0	14.3	54.0	-39.8	EUT Horz, MCS4 43.3 Mbps
7312.475	29.9	14.9	1.2	105.9	-30.7	0.0	Horz	AV	0.0	14.2	54.0	-39.9	EUT Horz, 54 Mbps
4873.930	30.7	7.0	1.2	3.0	-30.7	0.0	Vert	AV	0.0	7.1	54.0	-47.0	EUT Horz, 6 Mbps
4873.265	30.1	7.0	1.2	190.9	-30.7	0.0	Horz	AV	0.0	6.5	54.0	-47.6	EUT Horz, 6 Mbps
12185.850	30.7	-0.6	1.2	198.0	-30.7	0.0	Vert	AV	0.0	-0.5	54.0	-54.6	EUT Horz, 6 Mbps
12186.190	30.6	-0.6	1.2	165.9	-30.7	0.0	Horz	AV	0.0	-0.6	54.0	-54.7	EUT Horz, 6 Mbps

SPURIOUS RADIATED EMISSIONS



Proje	ler:	WTVD0014	Da	te: 8-Nov	-2018		EmiR5 2018.09.26	PSA-ESCI
		None	Temperatu		1 °C	Jonat	than Kie	hen
Job S		TX02	Humidi		% RH	0.00		0
Serial Numb		L1-001324 XBC1-001149	Barometric Pre	s.: 1021	mbar	Tested	by: Jonathan Kief	er
E	JT: VIS	TA XLT	•	•	•			
Configurati								
		tchGuard Video						
		aid Karimi						
EUT Pow								
Operating Mo	de: Con	tinuously Transmitting at Si	ingle Channel 6, 243	7 MHz				
Deviatio	ns: Nor	e						
Comme	nts: with corr 20*I	d Edge measurements. Se 2.2 dBi gain. EUT Duty Cy ection factor: 10*LOG(1/0.3 LOG(DC). Applied overall w	cle < 98%, therefore 336) = 4.74 dB. Ther	upwardly corr downwardly d	ected to 100% corrected base erage detecto	6 using 10*LOG(ed on duty cycle r measurements.	(1/DC). Worst-cas in final use (1.7%)	e upward
est Specificatio					Test Method			
CC 15.247:2018					ANSI C63.10	:2013		
Run # 19		Test Distance (m)) 3 Anter	na Height(s)	1	to 4(m)	Results	Pass
80								
80								
80								
70 -			••					
70 - 60 -			••					
70 -			•8					
70 60			•8					
70 - 60 -								
70 60 50			••					
70 60 50 40			••					
70			••					
70 60 50 40			•					
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70 60 50 40 30 20								
70 60 50 40 30 20								

Polarity/ Transducer Type Duty Cycle Du, Correctio Factor External Attenuation Distance Adjustment Compared to Antenna Height Spec. Limit Freq Amplitude Factor Azimuth Detector Adjusted Spec (MHz) . (dBuV) (dB) (meters) (degrees) (dB) (dB) (dB) (dBuV/m) . (dBuV/m) . (dB) Comments EUT Horz, 54 Mbps EUT Horz, 6 Mbps 2484.850 44.7 -3.4 1.2 300.0 0.0 20.0 Horz PK 0.0 61.3 74.0 -12.7 2484.790 44.6 -3.4 1.2 63.0 0.0 20.0 Vert ΡK 0.0 61.2 74.0 -12.8 44.6 PK PK PK PK EUT Horz, MCS0 7.2 Mbps 2484.180 -3.4 4.0 0.0 61.2 74.0 -12.8 266.0 0.0 20.0 Horz EUT Horz, 36 Mbps EUT Horz, 6 Mbps 2484.770 44.5 -3.4 1.2 159.9 0.0 20.0 Horz 0.0 61.1 74.0 -12.9 1.2 3.1 44.7 2388.103 -3.8 142.9 0.0 20.0 Horz 0.0 60.9 74.0 -13.1 2485.403 44.2 -3.4 156.0 0.0 20.0 0.0 60.8 74.0 -13.2 EUT Vert, 6 Mbps Vert 2484.243 2484.177 44.1 44.1 -3.4 -3.4 1.2 1.2 85.0 0.0 20.0 20.0 Horz PK PK 0.0 0.0 60.7 74.0 74.0 -13.3 -13.3 EUT Vert, 6 Mbps EUT Horz, MCS4 43.3 Mbps 153.9 0.0 60.7 Horz PK PK PK 2484.527 44.0 -3.4 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 43.0 0.0 20.0 0.0 74.0 -13.4 EUT Horz, MCS7 72.2 Mbps Horz 60.6 -3.4 -3.4 EUT Horz, 6 Mbps EUT On Side, 6 Mbps 2484.230 43.9 292.9 0.0 20.0 Horz 0.0 60.5 74.0 -13.5 2484.453 43.9 283.0 20.0 0.0 74.0 -13.5 0.0 60.5 Vert 2484.317 43.6 -3.4 55.0 0.0 20.0 Horz PK 0.0 74.0 -13.8 EUT On Side, 6 Mbps 60.2 AV AV 32.8 32.8 EUT Horz, 6 Mbps 2484.833 -3.4 292.9 -30.7 20.0 Horz 0.0 18.8 54.0 -35.3 2484.750 -3.4 300.0 -30.7 20.0 0.0 18.8 54.0 -35.3 EUT Horz, 54 Mbps Horz 2389.553 33.1 -3.8 142.9 -30.7 20.0 Horz AV 0.0 18.7 54.0 -35.4 EUT Horz, 6 Mbps EUT Horz, 6 Mbps 32.6 32.6 2484.897 -3.4 63.0 -30.7 20.0 Vert AV AV 0.0 18.6 54.0 -35.5 2485.203 -3.4 85.0 -30.7 20.0 Horz 0.0 18.6 54.0 -35.5 EUT Vert, 6 Mbps 1.2 1.2 3.1 2485.440 32.6 -3.4 159.9 -30.7 20.0 Horz AV 0.0 18.6 54.0 -35.5 EUT Horz, 36 Mbps EUT Horz, MCS7 72.2 Mbps 2483,987 32.6 32.5 AV AV -3.4 43.0 -30.7 54.0 -35.5 20.0 Horz 0.0 18.6 2485.033 -3.4 156.0 -30.7 20.0 0.0 18.5 54.0 -35.6 EUT Vert, 6 Mbps Vert 32.5 32.5 -3.4 -3.4 1.2 1.2 -30.7 -30.7 AV AV 0.0 0.0 18.5 18.5 54.0 54.0 EUT On Side, 6 Mbps EUT On Side, 6 Mbps 2483.717 55.0 20.0 Horz -35.6 2484.317 283.0 20.0 Vert -35.6 2485.337 32.5 -3.4 4.0 266.0 -30.7 20.0 Horz AV 0.0 18.5 54.0 -35.6 EUT Horz, MCS0 7.2 Mbps EUT Horz, MCS4 43.3 Mbps 2484.397 32.5 -3.4 1.2 153.9 -30.7 20.0 Horz AV 0.0 18.5 54.0 -35.6



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
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

TEST DESCRIPTION

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

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

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

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

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



	-					TbtTx 2018.09.13	XMit 2
	VISTA XLT				Work Order:		-
	:: VXL1-000683 XBC1-001149					9-Nov-18	
	: WatchGuard Video				Temperature:		
Attendees	Navaid Karimi				Humidity:		
	:: None				Barometric Pres.:		
	: Jonathan Kiefer	Power: Battery			Job Site:	TX09	
EST SPECIFICAT	TIONS	Test Method					
CC 15.247:2018		ANSI C63.10:2013					
OMMENTS							
ef Offset of 21.12	2 dB (20 dB Attenuator + DC Block + Cable). Integral an	tenna with antenna gain of 2.2 dBi.					
		-					
EVIATIONS FRO	M TEST STANDARD						
lone							
onfiguration #	2	Jonathan Kiefer					
	Signature	0					
				Number of	Value	Limit	
		Pulse Width	Period	Pulses	(%)	(%)	Result
400 MHz - 2483.5							
	802.11(g) 6 Mbps						
	Single Channel 6, 2437 MHz	1.399 ms	1.695 ms	1	82.5	N/A	N/A
	Single Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A	N/A
	802.11(g) 36 Mbps						
	Single Channel 6, 2437 MHz	250.8 us	547.1 us	1	45.8	N/A	N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	250.8 us N/A	547.1 us N/A	1 5	45.8 N/A		
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps	N/A	N/A	5	N/A	N/A N/A	N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz	N/A 174.5 us	N/A 480 us	5	N/A 36.4	N/A N/A N/A	N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A	N/A	5	N/A	N/A N/A	N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0	N/A 174.5 us N/A	N/A 480 us N/A	5 1 5	N/A 36.4 N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms	N/A 480 us N/A 1.485 ms	5 1 5 1	N/A 36.4 N/A 79.4	N/A N/A N/A N/A	N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A 174.5 us N/A	N/A 480 us N/A	5 1 5	N/A 36.4 N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms N/A	N/A 480 us N/A 1.485 ms N/A	5 1 5 1 5	N/A 36.4 N/A 79.4 N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4 Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms N/A 225.8 us	N/A 480 us N/A 1.485 ms N/A 522 us	5 1 5 1 5 1 5	N/A 36.4 N/A 79.4 N/A 43.3	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms N/A	N/A 480 us N/A 1.485 ms N/A	5 1 5 1 5	N/A 36.4 N/A 79.4 N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms N/A 225.8 us N/A	N/A 480 us N/A 1.485 ms N/A 522 us N/A	5 1 5 1 5 1 5	N/A 36.4 N/A 79.4 N/A 43.3 N/A	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A
	Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz	N/A 174.5 us N/A 1.18 ms N/A 225.8 us	N/A 480 us N/A 1.485 ms N/A 522 us	5 1 5 1 5 1 5	N/A 36.4 N/A 79.4 N/A 43.3	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A



		83.5 MHz Band	d, 802.11(g) 6 Mbps Number of	s, Single Chann Value	el 6, 2437 MHz Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
I	1.399 ms	1.695 ms	1	82.5	N/A	N/A	
Keysight Spectrum Analyze RL RF	er - Element Materials Techno 50 Ω AC		ENSE:INT	ALIGN OFF		06:12:25 PM Nov 09, 20	18
13		PNO: Fast ↔	Trig Delay-1.000 ms Trig: Video		e: Log-Pwr	TRACE 1 2 3 4	5 6
		IFGain:Low	#Atten: 10 dB			DET PPPP	-
10 dBidiy Ref 17	et 21.12 dB . 00 dBm					Mkr3 1.868 m 2.88 dBi	
			$\frac{2}{2}$		politik fordere die juniterie		
-3.00	er har i se de are				· · · · · ·		
-13.0						TRIG L	VL
-33.0							
-43.0			uld store	whether			
-63.0			and deliver				
-73.0							
Center 2.4370000	00 GHz		N 200 HU-		A	Span 0 F	
Res BW 3.0 MHz	X	#VB)	V 300 kHz	FUNCTION WIDTH	-	000 ms (8192 pt	8)
1 N 1 t 2 N 1 t	<u>172.5 µ</u> 1.571 m	s <u>3.79</u> s <u>5.78</u>	dBm dBm				
3 N 1 t 4	1.868 m	s 2.88					
6 7							
8							
			III			ĸ	-
							19231
MSG				STATUS			
MSG	2400 MHz - 24	33.5 MHz Band	d, 802.11(g) 6 Mbps	_	el 6, 2437 MHz		
MSG		33.5 MHz Band	d, 802.11(g) 6 Mbps Number of	s, Single Chann Value	Limit	Results	
MSG	2400 MHz - 243 Pulse Width		d, 802.11(g) 6 Mbps	s, Single Chann		Results N/A	
Keysight Spectrum Analyze	Pulse Width	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses	s, Single Chann Value (%)	Limit (%)	N/A	×
📕 Keysight Spectrum Analyze	Pulse Width	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5	s, Single Chann Value (%) N/A	Limit (%)	N/A	18 5 6
📕 Keysight Spectrum Analyze	Pulse Width N/A r - Element Materials Techno 50 Ω AC	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5	s, Single Chann Value (%) N/A	Limit (%) N/A	N/A	18 5 6
Keysight Spectrum Analyze	Pulse Width N/A r - Element Materials Techno 50 Ω AC	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 sense:int	s, Single Chann Value (%) N/A	Limit (%) N/A	N/A	18
Keysight Spectrum Analyze	Pulse Width N/A sr - Element Materials Techno 50 Ω AC	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 sense:int	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr	N/A	18 5 6
Keysight Spectrum Analyze	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A logy PNO: Fast → IFGain:Low	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr	N/A	18
III Keysight Spectrum Analyze Ref Offse Ref	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 sense:int	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr	N/A	18
Keysight Spectrum Analyze Ref Offse O dB/div 7.00 Ref Offse 7.00	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr	N/A	18
Keysight Spectrum Analyze Ref Offse 10 dB/div Ref 17.	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr	N/A	
Keysight Spectrum Analyze Ref Offse O dB/div 7.00 Ref Offse 7.00	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr		
Image: Register Spectrum Analyze RL RF Ref Rf OdB/div Ref 7.00 Image: Ref	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr		
Keysight Spectrum Analyze Keysight Spectrum Analyze Ref Offse O dB/div Ref 17. C o I d	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr		
Keysight Spectrum Analyze Keysight Spectrum Analyze Ref Offse CM RL RF CM Ref 17. CM Re	Pulse Width N/A sr - Element Materials Techno 50 Ω AC et 21,12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A ALIGN OFF #Avg Typ	Limit (%) N/A e: Log-Pwr		
Keysight Spectrum Analyze Keysight Spectrum Analyze Ref Offse O dB/div Ref 17. C o I d	Pulse Width N/A N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 :ense:int Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr		
Ref Offse Ref Offse	Pulse Width N/A N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr		
Keysight Spectrum Analyze Ref Offse Odd Jdiv Ref Offse Ref Offse Odd Jdiv Ref Offse Image: State of the st	Pulse Width N/A N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr		
Image: Sector in the	Pulse Width N/A N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr		
Ref Offse 10 dB/div Ref Offse 13 d0	Pulse Width N/A N/A r - Element Materials Techno 50 Ω AC et 21.12 dB 00 dBm et 21.12 dB	Period N/A	d, 802.11(g) 6 Mbps Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	s, Single Chann Value (%) N/A	Limit (%) N/A e: Log-Pwr		



	2400 MHz - 248	3.5 MHz Band,	802.11(g) 36 Mbps Number of	, Single Chanr Value	nel 6, 2437 MHz Limit		
	Pulse Width 250.8 us	Period	Pulses	(%) 45.8	(%) N/A	Results N/A	-
	230.8 US	547.1 us		43.0	IN/A	IN/A	
	zer - Element Materials Techno 50 Ω AC		NSE:INT	ALIGN OFF		06:19:05 PM Nov 09,	
		PNO: Fast	Trig Delay-100.0 μs Trig: Video #Atten: 10 dB	#Avg Typ	e: Log-Pwr	TRACE 1 2 3 TYPE WWW DET P P P	456 ////////////////////////////////////
Pef Of	set 21.12 dB	IFGain:Low	#Atten: 10 dB			Mkr3 646.4	us
10 dB/div Ref 1	6.00 dBm					1.12 di	Bm
-4.00	adalardi kardara da kardar hakar d	1414 (M) ²			the state with the state of the state	whitehousehouse	
-14.0						TRIC	GLVL
-24.0							
-44.0			- afilmationation -			uti la bi	
-54.0		V/YearVier	an and a subscription of the	hermonyoy		*****	
-74.0							
Center 2.437000 Res BW 3.0 MHz		#\/B\/	1 200 KHz	I	Swaan	Span 0	
MKR MODE TRC SCL	x	Y	I 300 kHz	UNCTION WIDTH		1.000 ms (8192) CTION VALUE	prs)
1 N 1 t 2 N 1 t 3 N 1 t	99.30 μ 350.1 μ 646.4 μ	s 0.36 d s 0.62 d s 1.12 d	Bm				
4	040.4 μ	3 1.12 u					
							-
6 6 7 8							
7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9							
7 8 9 10 11 11			m	D I STATUS			
7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9				STATUS			
7 8 9 10 11 11			802.11(g) 36 Mbps Number of	, Single Chanr Value	Limit		
7 8 9 10 11 11	2400 MHz - 248 Pulse Width N/A	3.5 MHz Band, Period N/A	802.11(g) 36 Mbps	, Single Chanr		Results N/A	
7 8 9 10 11 4 5 5	Pulse Width	Period N/A	802.11(g) 36 Mbps Number of Pulses	, Single Chanr Value (%)	Limit (%)	Results N/A	
7 8 9 10 11 4 5 5	Pulse Width	Period N/A	802.11(g) 36 Mbps Number of Pulses	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE	,2018
7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	Pulse Width N/A Zer - Element Materials Techno 50 Ω AC	Period N/A	802.11(g) 36 Mbps Number of Pulses 5	, Single Chanr Value (%) N/A	Limit (%)	Results N/A	, 2018
7 8 9 10 11 4 MSG Keysight Spectrum Analy RL RF	Pulse Width N/A zer - Element Materials Techno 50 Ω AC	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE TRACE 12 PMNov 09,	, 2018
7 8 9 10 11 4 MSG Keysight Spectrum Analy RL RF	Pulse Width N/A zer - Element Materials Techno 50 Ω AC	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE TRACE 12 PMNov 09,	, 2018
7 8 9 10 11 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Pulse Width N/A N/A zer - Element Materials Techno 50 Ω AC set 21.12 dB	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE 12 3 TYPE WWW DET P P	, 2018
7 8 9 9 10 11 4 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4	Pulse Width N/A zer - Element Materials Techno 50 Ω AC	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PM Nov 09, TRACE [] 2 3 TYPE DET P P P	, 2018
7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	Pulse Width N/A N/A zer - Element Materials Techno 50 Ω AC set 21.12 dB set 21.12 dB set 21.12 dB set 21.12 dB	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE 12 3 TYPE WWW DET P P	, 2018
7 8 9 9 10 11 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG	Pulse Width N/A N/A zer - Element Materials Techno 50 Ω AC set 21.12 dB set 21.12 dB set 21.12 dB set 21.12 dB	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE II 23 TRACE II 23 DET P P P	, 2018
7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	Pulse Width N/A N/A zer - Element Materials Techno 50 Ω AC set 21.12 dB set 21.12 dB set 21.12 dB set 21.12 dB	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE II 23 TRACE II 23 DET P P P	, 2018 4 5 6 P P P
7 8 9 9 10 11 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG 4SG	Pulse Width N/A N/A zer - Element Materials Techno 50 Ω AC set 21.12 dB set 21.12 dB set 21.12 dB set 21.12 dB	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A 06:19:12 PMNov 09, TRACE II 23 TRACE II 23 DET P P P	, 2018 4 5 6 P P P
7 8 9 10 11 4 4SG Keysight Spectrum Analy RL RF 10 10 dB/div Ref 10 6.00 4.00	Pulse Width N/A N/A zer-Element Materials Techno 50 Ω AC 50 Ω AC Set 21.12 dB 30.00 dBm	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 NSE:INT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A	Limit (%) N/A	Results N/A O6:19:12 PMNov 09, TRACE 12 23 TYPE WIDET P P	, 2018 4 3 5 6 7 P P P
7 8 9 9 10 11 1 4SG	Pulse Width N/A N/A zer-Element Materials Techno 50 Ω AC 50 Ω AC Set 21.12 dB 30.00 dBm	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 SEINT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A ALIGN OFF #Avg Type #Avg Type (http://pai/)	Limit (%) N/A	Results N/A 06:19:12 PM Nov 09, TRACE 12 3 TUPE WINDOUT	, 2018 4 3 5 7 P P P
7 8 9 9 10 11 4SG 20 8 8 9 9 9 9 10 11 4SG 20 8 8 8 8 9 9 9 10 11 4SG 20 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Pulse Width N/A N/A zer-Element Materials Techno 50 Ω AC 50 Ω AC Set 21.12 dB 30.00 dBm	Period N/A	802.11(g) 36 Mbps Number of Pulses 5 NSE:INT Trig: Video #Atten: 10 dB	, Single Chanr Value (%) N/A ALIGN OFF #Avg Type #Avg Type (http://pai/)	Limit (%) N/A	Results N/A 06:19:12 PM Nov 09, TRACE 12 3 TUPE WINDOUT	, 2018 4 3 5 7 P P P

#VBW 300 kHz

Center 2.437000000 GHz Res BW 3.0 MHz

Span 0 Hz Sweep 2.462 ms (8192 pts)



	2400 MHz - 248	3.5 MHz Band, 8	802.11(g) 54 Mbps,			Ηz	
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	;
	174.5 us	480 us	1	36.4	N/A	N/A	
🎉 Keysight Spectrum Analyzer	r - Element Materials Techno	logy					d X
	50 Ω AC		NSE:INT Trig Delay-100.0 µs		ype: Log-Pwr	06:26:16 PM Nov	v 09, 2018
		PNO: Fast +++ IFGain:Low	Trig: Video #Atten: 10 dB		Jpc. Log I m	TYPE W DET P	23456 WWWWW PPPPP
Ref Offse	et 21.12 dB					Mkr3 579	
10 dB/div Ref 15.0	00 dBm	2		1		-1.77	dBm
5 00	rahalah kating ana				nhê ye nişêr kişte		
-45.0		nlound, which a second seco	lavaniyasi palipalipani dipet			altad oppities de la constantion	WYHWAN
Center 2.43700000 Res BW 3.0 MHz		#VBW	300 kHz		-	o 1.000 ms (819	n 0 Hz 92 pts)
MKR MODE TRC SCL 1 N 1 t 2 N 1 t 3 N 1 t	× 99.30 µ 273.8 µ	Y IS -0.05 dE IS 4.97 dE	Bm	INCTION WIDTH	Fl	JNCTION VALUE	
4	579.3 µ	is -1.77 dE					
5 6 7							
8 9 9							
10							
11							-
			m	I STATUS	20		
	2400 MH7 - 248	33.5 MHz Band 4				Hz	
			802.11(g) 54 Mbps, Number of	Single Cha Value	annel 6, 2437 Mł Limit		+
	2400 MHz - 248 Pulse Width N/A	33.5 MHz Band, 8 Period N/A	802.11(g) 54 Mbps,	Single Cha	annel 6, 2437 Mł	Hz Results N/A	
	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses	Single Cha Value (%)	nnel 6, 2437 M Limit (%)	Results N/A	
11 ASG	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5	Single Cha Value (%) N/A	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018
11 ASG	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5	Single Cha Value (%) N/A	nnel 6, 2437 M Limit (%)	Results N/A	09,2018 2 3 4 5 6
11 ASG ASG Keysight Spectrum Analyzer RL RF	Pulse Width N/A r - Element Materials Technol 50 Ω AC	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int	Single Cha Value (%) N/A	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
III Image: Second Sec	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int	Single Cha Value (%) N/A	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
11 ISG ISG RE Ref Offse 10 dB/div Ref 15.0	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
11 4/5 8/6 8/6 10 <	Pulse Width N/A r - Element Materials Technol 50 Ω AC	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
11 ISG ISG RE Ref Offse 10 dB/div Ref 15.0	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
11 4/5 8/6 8/6 10 <	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	♥ 09,2018 2 3 4 5 6 ₩ ₩ ₽ P P P P
11 4 4 4 4 4 4 4 4 4 4 4 4 4	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	v 09, 2018 2 3 4 5 6
11 Image: Sectrum Analyzer ISG Ref Offse Image: Sectrum Analyzer Ref Offs	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	♥ 09,2018 2 3 4 5 6 ₩ ₩ ₽ P P P P
II AND	Pulse Width N/A	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int[Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	annel 6, 2437 Mł Limit (%) N/A	Results N/A	♥ 09,2018 2 3 4 5 6 ₩ ₩ ₽ P P P P
11 Image: Sectrum Analyzer ISG Ref Offse Image: Sectrum Analyzer Ref Offs	Pulse Width N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 VSE:INT Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A ALIGN OFF #Avg T	Innel 6, 2437 Mł Limit (%) N/A	Results	09,2018 23456 PPPPP
11 Ref Offse 0 BK	Pulse Width N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	Innel 6, 2437 Mł Limit (%) N/A ype: Log-Pwr	Results	V 09,2018 23456 PPPPP
11 Image: Constraint of the section of th	Pulse Width N/A - Element Materials Techno 50 Ω AC - Clement Materials Techno 50 Ω - Clement Mater	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 VSE:INT Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	Innel 6, 2437 Mł Limit (%) N/A	Results	09,2018 23456 PPPPP
11 Ref Offse 0 BK	Pulse Width N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	Innel 6, 2437 Mł Limit (%) N/A ype: Log-Pwr	Results	V 09,2018 23456 PPPPP
11 Image: Constraint of the section of th	Pulse Width N/A r - Element Materials Techno 50 Ω AC st 21.12 dB 00 dBm	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	Innel 6, 2437 Mł Limit (%) N/A ype: Log-Pwr	Results	V 09,2018 23456 PPPPP
11 Image: Constraint of the sector of the sect	Pulse Width N/A r - Element Materials Techno 50 Ω AC et 21.12 dB 00 dBm	Period N/A	802.11(g) 54 Mbps, Number of Pulses 5 vse:int Trig: Video #Atten: 10 dB	Single Cha Value (%) N/A	Innel 6, 2437 Mł Limit (%) N/A ype: Log-Pwr	Results N/A	V 09,2018 23456 PPPPP

STATUS



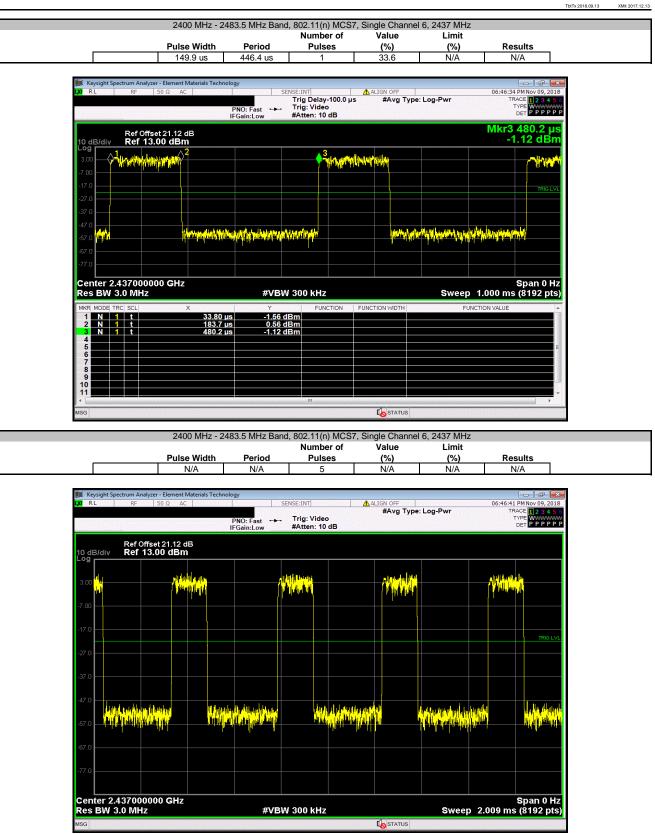
			d, 802.11(n) MCS0 Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	1.18 ms	1.485 ms	1	79.4	N/A	N/A
💓 Keysight Spectrum Analyzer		logy				
LXIRL RF	50 Ω AC	S	ENSE:INT Trig Delay-1.000 ms	ALIGN OFF	e: Log-Pwr	06:33:04 PM Nov 09, 2018
		PNO: Fast +++	Trig: Video	+Avg iy	Je. Log-Fwi	TRACE 1 2 3 4 5 TYPE WWWWWW DET P P P P P
		IFGain:Low	#Atten: 10 dB			
Ref Offse	t 21.12 dB					Mkr3 1.929 ms
10 dB/div Ref 16.						3.10 dBm
6.00 Minda	Alexander and a strategy and	. In such that and such that the	taken tid be fullete antes 2		an all a fatta fan fatna an a filmin	n in the standard state of the faile on set
-4.00		and the second second second			Period Constitution of Constitution	An the Hamilton (11 and 14 periods)
-14.0						TRIG LVL
-24.0						
-34.0						
-44.0						
-54.0	<mark></mark>		<mark>\//</mark>			
-64.0						
-74.0						
Center 2.43700000 Res BW 3.0 MHz	IO GHZ	#\/B\/	V 300 kHz		Swoon 2	Span 0 Hz 000 ms (8192 pts).
					-	· · ·
MKR MODE TRC SCL	× 443.9 µ	s <u>3.13 c</u>		FUNCTION WIDTH	FUNCT	ION VALUE
2 N 1 t	1.624 m	s 5.48 c	iBm			
3 N 1 t 4	1.929 m	s 3.10 c	IBM			
5						
7						
8						
10						
				STATUS		
•						
1000000						
•	2400 MHz - 24	83 5 MHz Ban	1 802 11(n) MCS0	Single Chann	el 6 2437 MHz	
× [2400 MHz - 24	83.5 MHz Bano	d, 802.11(n) MCS0 Number of	, Single Chann Value	el 6, 2437 MHz Limit	
•	2400 MHz - 24 Pulse Width	83.5 MHz Band				Results
•			Number of	Value	Limit	Results N/A
•	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	

G									STATUS				
enter 2.4 es BW 3	1370000 .0 MHz	00 GHz		į	¢VΒ	W 300 kHz	1			Sw	eep	7.099 ms	Span 0 H 6 (8192 pt
4.0													
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dB/div	Ref 16.	00 dBn	n d dhuula at	lie lie a stati		deal hay give that a system of	ياسي ان		المحرب فالملاب فيتح	11.at			
	Ref Offs	et 21.12	dB	IFGall.LOW		millen. ro	ub						
				PNO: Fast IFGain:Low	•••	Trig: Video #Atten: 10			#Avg Type:	Log-Pwr		11	ACE 1234
				and the second s			Street Street Street	100000000000000000000000000000000000000	IGN OFF	1 D			Mor Bar



	2400 MHz -	2483.5 MHz Ba	and, 802.11(Numb		ngle Channe Value	el 6, 2437 M Lim		
	Pulse Width	-	Pul	ses	(%)	(%) Re	esults
	225.8 us	522 us			43.3	N//	A	N/A
Keysight Spectrum Analy K RL	/zer - Element Materials Teo 50 Ω AC	chnology	SENSE:INT	A	ALIGN OFF		06:39:5	57 PM Nov 09, 2018
		PNO: Fast ↔ IFGain:Low	Trig Dela Trig: Vide #Atten: 1		#Avg Typ	e: Log-Pwr	ī	TYPE WWWWWWWW
Ref Off	fset 21.12 dB	II Gam.Low					Mkr	3 621.3 µs
10 dB/div Ref 1	6.00 dBm				A 3 Last 14		-	0.52 dBm
-4.00	Autophy Anno Mana				o s ^h imitwi	and the second	an sa	
-14.0								TRIG LVL
-24.0								
-44.0		e hill if a too	The other a	ي الم				م المالية من المالية
-54.0		NAMANA AND	AL MANANA MANANA	(in mining the set of	// //		Y	which which a
-74.0								
Center 2.437000 Res BW 3.0 MHz		#\/I	3W 300 kH	-		C14/4	ep 1.000 m	Span 0 Hz
MKR MODE TRC SCL	х	Y	FU		TION WIDTH	300	FUNCTION VALUE	s (8192 pts)
1 N 1 t 2 N 1 t 3 N 1 t	99.3 325 621	.1 µs 7.5	9 dBm 0 dBm 2 dBm					
5								
6 7 8								
9								
MSG			m		STATUS			
11 • [2400 MHz - Pulse Width N/A	2483.5 MHz Ba Period N/A	m and, 802.11(Numt Pul:	per of ses		el 6, 2437 M Lim (%	it) Re	esults N/A
	Pulse Width N/A	Period N/A	Numb	per of ses	ngle Channe Value (%)	Lim (%	it) Re	N/A
11 KG Keysight Spectrum Analy	Pulse Width N/A	Period N/A	Numt Puls SENSE:INT	ber of ses 5	ngle Channe Value (%) N/A	Lim (%	it) Re 06:40:0	N/A
11 KG Keysight Spectrum Analy	Pulse Width N/A /zer - Element Materials Teo	Period N/A		er of ses 5	ngle Channe Value (%) N/A	Lim (%	it) Re 06:40:0	N/A
MSG MSG Keysight Spectrum Analy M RL RF 10 dB/div Ref 10	Pulse Width N/A /zer - Element Materials Teo	Period N/A	Numt Pul sense:INT	er of ses 5	ngle Channe Value (%) N/A	Lim (%	it) Re 06:40:0	N/A
11 MSG Keysight Spectrum Analy W RL Ref Off	Pulse Width N/A γzer - Element Materials Tec 50 Ω AC set 21.12 dB	Period N/A	Numt Pul sense:INT	er of ses 5	ngle Channe Value (%) N/A	Lim (%	it) Re 06:40:0	N/A
MSG MSG Keysight Spectrum Analy M RL RF 10 dB/div Ref 10	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A	SENSE:INT	er of ses 5	ngle Channe Value (%) N/A	Lim (% N// e: Log-Pwr	it) Re 06:40:0	N/A
11 MSG MSG Keysight Spectrum Analy MR R R 10 dB/div Ref 0ff 10 dB/div Ref 10 0 Multi Miduli Miduli	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A chnology PNO: Fast IFGain:Low	SENSE:INT	eer of ses 5 20 0 dB	ngle Channe Value (%) N/A	Lim (%	it) Re 06:40:0	N/A
11 MSG Keysight Spectrum Analy M RL Ref Off 10 dB/div Ref 10 6.00 Maked b/div	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A chnology PNO: Fast IFGain:Low	SENSE:INT	eer of ses 5 20 0 dB	ngle Channe Value (%) N/A	Lim (% N// e: Log-Pwr	it) Re 06:40:0	
11 Keysight Spectrum Analy Keysight Spectrum Analy RL Ref Off 10 dB/div Ref Off 6.00 Autual bl/div -4.00	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A chnology PNO: Fast IFGain:Low	SENSE:INT	eer of ses 5 20 0 dB	ngle Channe Value (%) N/A	Lim (% N// e: Log-Pwr	it) Re 06:40:0	N/A
11 MSG Image: Section Analysis Image: Section Analysis<	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A chnology PNO: Fast IFGain:Low	SENSE:INT	eer of ses 5 20 0 dB	ngle Channe Value (%) N/A	Lim (% N// e: Log-Pwr	it) Re 06:40:0	
11 MSG MSG MSG Ref Off 0 dB/div Ref Off 10 dB/div Ref Off 6.00 Autoback -14.0 -34.0	Pulse Width N/A //2er - Element Materials Tec 50 Ω AC Set 21.12 dB 6.00 dBm	Period N/A chnology PNO: Fast IFGain:Low	SENSE:INT	eer of ses 5 20 0 dB	ngle Channe Value (%) N/A	Lim (% N// e: Log-Pwr	it) Re 06:40:0	
11 MSG Image: Section Analysis Image: Section Analysis<	Pulse Width N/A zer - Element Materials Tec 50 Ω AC set 21.12 dB 5.00 dBm	Period N/A	SENSE:INT	ber of ses 5 5 0 dB	ngle Channe Value (%) N/A	Lim (% e: Log-Pwr	it) Re 06:40:1 1	
11	Pulse Width N/A Vzer - Element Materials Tee SOR AC Sot AC Set 21.12 dB 6.00 dBm	Period N/A	SENSE:INT	ber of ses 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	ngle Channe Value (%) N/A ALIGN OFF #Avg Typ	Lim (% e: Log-Pwr	it) Re	
11	Pulse Width N/A zer - Element Materials Tec 50 Ω AC set 21.12 dB 5.00 dBm	Period N/A	SENSE:INT	ber of ses 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	ngle Channe Value (%) N/A	Lim (% e: Log-Pwr	it) Re 06:40:1 1	
11	Pulse Width N/A Vzer - Element Materials Tee SOR AC Sot AC Set 21.12 dB 6.00 dBm	Period N/A	SENSE:INT	ber of ses 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	ngle Channe Value (%) N/A ALIGN OFF #Avg Typ	Lim (% e: Log-Pwr	it) Re	
11 Ref Off 10 dB/div Ref Off 10 dB/div Ref Off 10 dB/div Ref Off 14.0	Pulse Width N/A V/A V/A V/A V/A V/A V/A V/A V/A V/A V	Period N/A	SENSE:INT	ber of ses 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	ngle Channe Value (%) N/A ALIGN OFF #Avg Typ	Lim (% e: Log-Pwr	it) Re	







XMit 2017.12.13

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

TEST DESCRIPTION

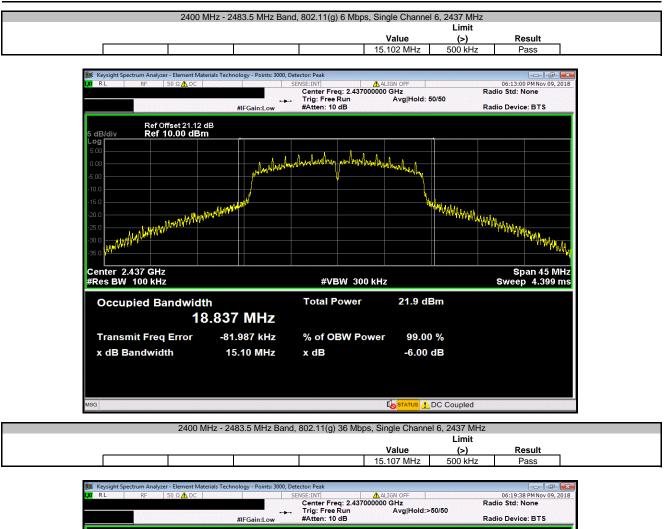
The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was set to the channels and modes listed in the datasheet.

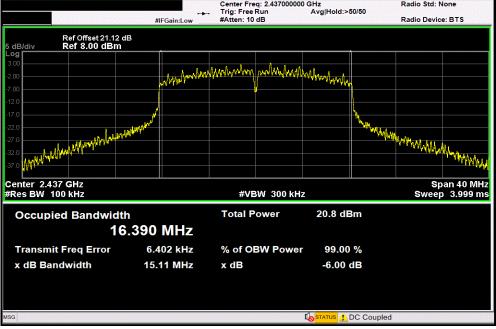
The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.



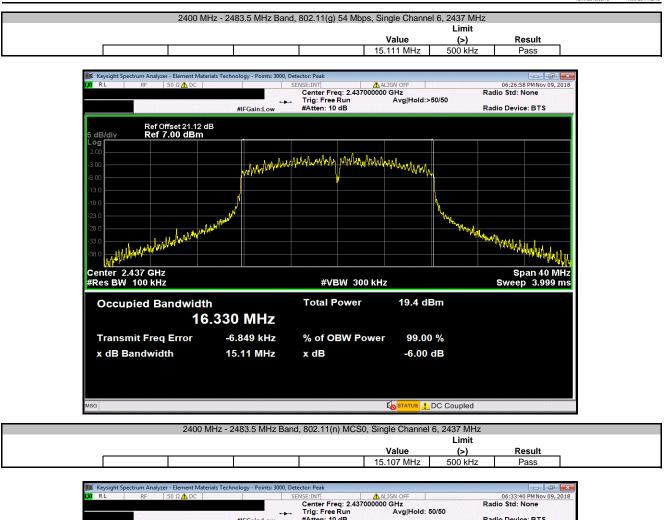
							TbtTx 2018.09.13	XMit 2017.1
	: VISTA XLT					Work Order:		
	: VXL1-000683 XBC1-0011	19					9-Nov-18	
	: WatchGuard Video					Temperature:		
	: Navaid Karimi						34.5% RH	
Project						Barometric Pres.:		
	: Jonathan Kiefer			Power	: Battery	Job Site:	TX09	
TEST SPECIFICAT	FIONS				Test Method			
FCC 15.247:2018					ANSI C63.10:2013			
COMMENTS								
Ref Offset of 21.12	2 dB (20 dB Attenuator + D	C Block + Cable). Integral a	ntenna with an	ntenna gain of	2.2 dBi.			
	M TEST STANDARD							
None								
					au 1			
None Configuration #	2		S	onether	Niefer			
	2	Signature	З	onether	Kiefer			
	2	Signature	Э	onetha	Kiefer		Limit	
Configuration #		Signature	S	onether	Niefer	Value	Limit (>)	Result
	MHz Band	Signature	Э	onatha	Niefe	Value		Result
Configuration #	MHz Band 802.11(g) 6 Mbps	<u> </u>	S	onatha	Niefe		(>)	
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr	Signature el 6, 2437 MHz	S	onether	Niefo	Value 15.102 MHz		Result Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps	el 6, 2437 MHz	Э	onether	Kiefo	15.102 MHz	(>) 500 kHz	Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr	<u> </u>	S	onetha	Niefor		(>)	
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr 802.11(g) 54 Mbps	el 6, 2437 MHz el 6, 2437 MHz	S	onathar	Niefo	15.102 MHz 15.107 MHz	(>) 500 kHz 500 kHz	Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr 802.11(g) 54 Mbps Single Chanr	el 6, 2437 MHz	Э	ontha	Kiefo	15.102 MHz	(>) 500 kHz	Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr 802.11(g) 54 Mbps Single Chanr 802.11(n) MCS0	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	S	onthe	Niefo	15.102 MHz 15.107 MHz 15.111 MHz	(>) 500 kHz 500 kHz 500 kHz	Pass Pass Pass
Configuration #	MHz Band 802,11(g) 6 Mbps Single Chanr 802,11(g) 36 Mbps Single Chanr 802,11(g) 54 Mbps Single Chanr 802,11(n) MCS0 Single Chanr	el 6, 2437 MHz el 6, 2437 MHz	S	onetha	Niefo	15.102 MHz 15.107 MHz	(>) 500 kHz 500 kHz	Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr 802.11(g) 54 Mbps Single Chanr 802.11(n) MCS0 Single Chanr 802.11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	ð	onether	Niefo	15.102 MHz 15.107 MHz 15.111 MHz 15.107 MHz	(>) 500 kHz 500 kHz 500 kHz 500 kHz	Pass Pass Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chanr 802.11(g) 36 Mbps Single Chanr 802.11(g) 54 Mbps Single Chanr 802.11(n) MCS0 Single Chanr 802.11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	S	onatha	Niefo	15.102 MHz 15.107 MHz 15.111 MHz	(>) 500 kHz 500 kHz 500 kHz	Pass Pass Pass
Configuration #	MHz Band 802,11(g) 6 Mbps Single Chanr 802,11(g) 36 Mbps Single Chanr 802,11(g) 54 Mbps Single Chanr 802,11(n) MCS4 Single Chanr 802,11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	S	ontha	Niefo	15.102 MHz 15.107 MHz 15.111 MHz 15.107 MHz	(>) 500 kHz 500 kHz 500 kHz 500 kHz	Pass Pass Pass Pass

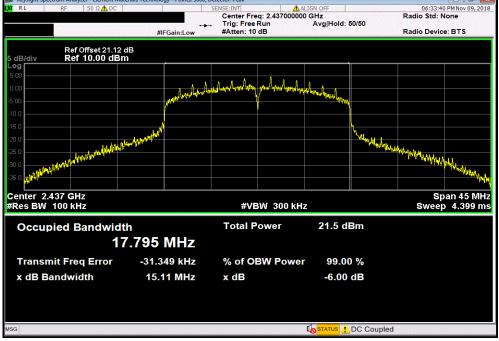




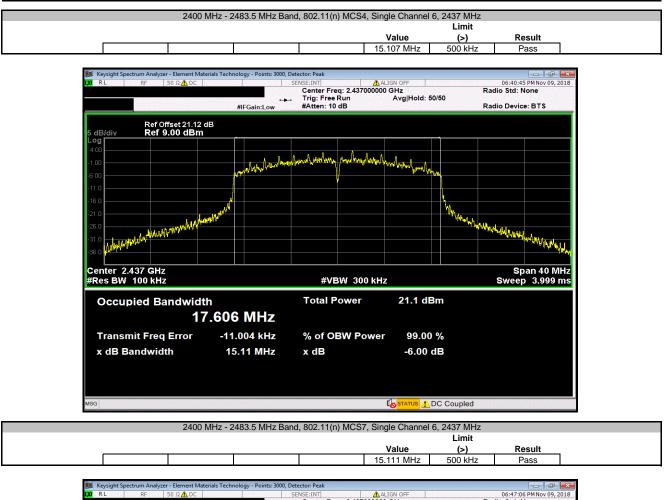


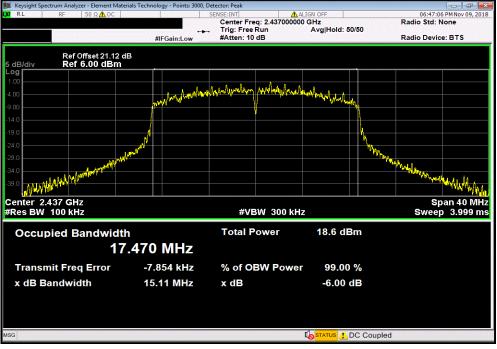














XMit 2017.12.13

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

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.



Serial Number: V Customer: W Attendees: N Project: N	VISTA XLT VXL1-000683 XBC1-00114 WatchGuard Video Navaid Karimi None Jonathan Kiefer)					Work Order:	WTVD0014 9-Nov-18	
Customer: W Attendees: N Project: N Tested by: J TEST SPECIFICATIO	WatchGuard Video Navaid Karimi None)					Date: 0	Mary 40	
Attendees: N Project: N Tested by: J TEST SPECIFICATIO	Navaid Karimi None								
Project: N Tested by: J TEST SPECIFICATIO	None						Temperature:		
Tested by: J							Humidity:		
EST SPECIFICATIO	Jonathan Kiefer			-			Barometric Pres.:		
			Power:	: Battery			Job Site:	FX09	
CC 15 247-2018	DNS			Test Method					
00 1012 1112010				ANSI C63.10:2013					
COMMENTS									
ntegral antenna with	h antenna gain of 2.2 dBi								
DEVIATIONS FROM 1	TEST STANDARD								
None									
				au : 1					
Configuration #	2	0.	Jonathar	hiefer					
		Signature			Arres Oren et Dreen	Durfu Quala	Out Dur	1.1	
					Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
2400 MHz - 2483.5 MH	La Dond				(ubili)	Factor (ub)	(uBill)	(uBill)	Result
	B02.11(g) 6 Mbps								
0		l 6, 2437 MHz			13.856	0.8	14.7	30	Pass
8	302.11(q) 36 Mbps	10, 2437 MHZ			13.650	0.0	14.7	30	F d55
		l 6, 2437 MHz			9.708	3.4	13.1	30	Pass
8	302.11(g) 54 Mbps	10, 2437 10112			3.700	5.4	13.1	30	1 833
0		l 6, 2437 MHz			7.354	4.4	11.7	30	Pass
8	302.11(n) MCS0	10,2407 11112			1.004	7.7	11.7	00	1 435
0		l 6, 2437 MHz			12.915	1	13.9	30	Pass
8	302.11(n) MCS4				12.010	•			
		l 6, 2437 MHz			9.677	3.6	13.3	30	Pass
8	302.11(n) MCS7	.,							
		l 6, 2437 MHz			6.032	4.7	10.8	30	Pass



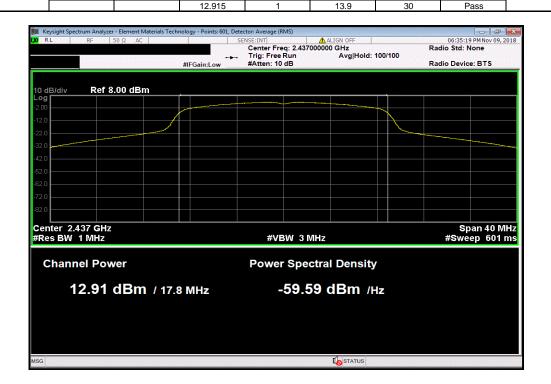


	Avg Cond Pwr	Duty Cycle	Out Pwr	Limit	
	(dBm)	Factor (dB)	(dBm)	(dBm)	Result
	9.708	3.4	13.1	30	Pass

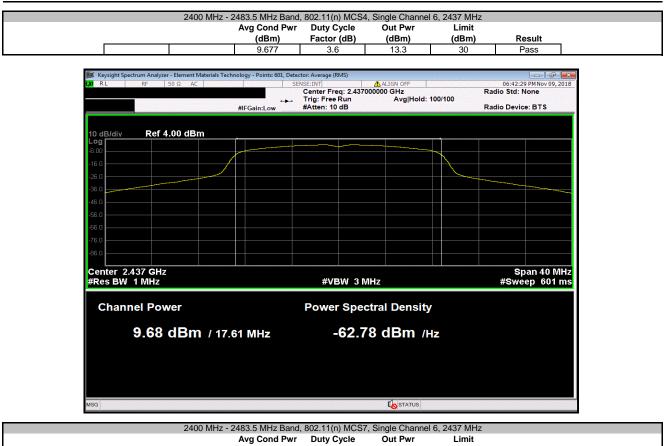
RL RF 50 Ω	AC	SENSE:INT	ALIGN OFF		06:21:32 P	MNov 09, 20
	#IFGain:Low	Center Freq: 2.43700 Trig: Free Run #Atten: 10 dB	0000 GHz Avg Hold: 100	0/100	Radio Std: No Radio Device:	
dB/div Ref 5.00 (dBm					
g			~			
0						
0						
0						
0						
0						
nter 2.437 GHz			l		Spa	n 35 MH
es BW 1 MHz		#VBW 3 MH	lz		#Swee	5 601 n
Channel Power		Power Spect	ral Density			
9.71 dB	m / 16.39 MHz	-62.44	4 dBm /нz			
			STATUS			
			STATUS			



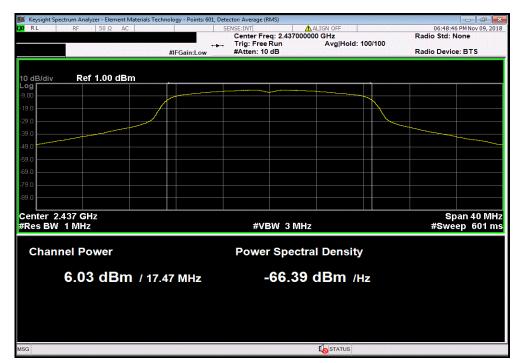








	Avg Cond Pwr	Duty Cycle	Out Pwr	Limit	
	(dBm)	Factor (dB)	(dBm)	(dBm)	Result
	6.032	4.7	10.8	30	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



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
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

TEST DESCRIPTION

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

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

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

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



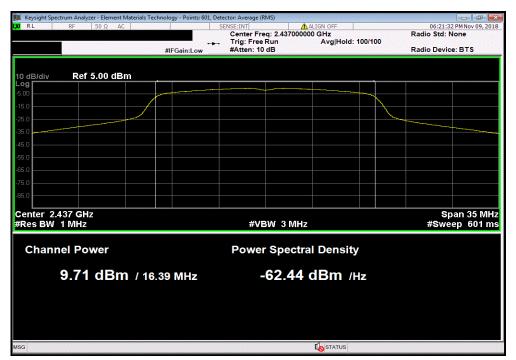
	VISTA XLT							WTVD0014	
	: VXL1-000683 XBC1-00114	19						9-Nov-18	
	: WatchGuard Video						Temperature:		
	: Navaid Karimi							34.5% RH	
Project:							Barometric Pres.:		
	: Jonathan Kiefer		Power:				Job Site:	TX09	
TEST SPECIFICAT	FIONS			Test Method					
FCC 15.247:2018			/	ANSI C63.10:2013					
COMMENTS									
ntegral antenna w	vith antenna gain of 2.2 dBi	•							
•	5								
DEVIATIONS FROI	M TEST STANDARD								
None									
None Configuration #	2		Jonathan	Kiefen					
	2	Signature	Jonathan						
	2	Signature	Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit	
Configuration #		Signature			Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
Configuration #	MHz Band	Signature	Avg Cond Pwr	Duty Cycle					Result
Configuration #	MHz Band 802.11(g) 6 Mbps	× ·	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann	Signature	Avg Cond Pwr	Duty Cycle					Result Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps	el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856	Duty Cycle Factor (dB) 0.8	(dBm) 14.7	Gain (dBi) 2.2	(dBm) 16.9	(dBm) 36	Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann	× ·	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps	el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708	Duty Cycle Factor (dB) 0.8 3.4	(dBm) 14.7 13.1	Gain (dBi) 2.2 2.2	(dBm) 16.9 15.3	(dBm) 36 36	Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann	el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856	Duty Cycle Factor (dB) 0.8	(dBm) 14.7	Gain (dBi) 2.2	(dBm) 16.9	(dBm) 36	Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann 802.11(n) MCS0	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708 7.354	Duty Cycle Factor (dB) 0.8 3.4	(dBm) 14.7 13.1 11.7	Gain (dBi) 2.2 2.2 2.2	(dBm) 16.9 15.3 13.9	(dBm) 36 36 36	Pass Pass Pass
	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann 802.11(n) MCS0 Single Chann	el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708	Duty Cycle Factor (dB) 0.8 3.4	(dBm) 14.7 13.1	Gain (dBi) 2.2 2.2	(dBm) 16.9 15.3	(dBm) 36 36	Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann 802.11(n) MCS0 Single Chann 802.11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708 7.354 12.915	Duty Cycle Factor (dB) 0.8 3.4 4.4 1	(dBm) 14.7 13.1 11.7 13.9	Gain (dBi) 2.2 2.2 2.2 2.2 2.2	(dBm) 16.9 15.3 13.9 16.1	(dBm) 36 36 36 36	Pass Pass Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann 802.11(n) MCS0 Single Chann 802.11(n) MCS4 Single Chann	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708 7.354	Duty Cycle Factor (dB) 0.8 3.4	(dBm) 14.7 13.1 11.7	Gain (dBi) 2.2 2.2 2.2	(dBm) 16.9 15.3 13.9	(dBm) 36 36 36	Pass Pass Pass
Configuration #	MHz Band 802.11(g) 6 Mbps Single Chann 802.11(g) 36 Mbps Single Chann 802.11(g) 54 Mbps Single Chann 802.11(n) MCS4 Single Chann 802.11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Avg Cond Pwr (dBm) 13.856 9.708 7.354 12.915	Duty Cycle Factor (dB) 0.8 3.4 4.4 1	(dBm) 14.7 13.1 11.7 13.9	Gain (dBi) 2.2 2.2 2.2 2.2 2.2	(dBm) 16.9 15.3 13.9 16.1	(dBm) 36 36 36 36	Pass Pass Pass Pass

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limi	
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
13.856	0.8	14.7	2.2	16.9	36	Pass
Keysight Spectrum Analyzer	- Element Materials Techno	ology - Points: 601, De	tector: Average (RMS)			
XIRL RF 5	50 Ω AC		SENSE:INT	ALIGN OFF		06:14:38 PM Nov 09, 201 Radio Std: None
			Center Freq: 2.4370 Trig: Free Run	Avg Hold	: 100/100	Radio Std: None
		#IFGain:Low	#Atten: 10 dB			Radio Device: BTS
10 dB/div Ref 9.	00 dBm					
Log						
-1.00						
-11.0						
21.0						
-31.0						
-41.0						
-51.0						
61.0						
-71.0						
-81.0						
Center 2.437 GHz						Span 40 MH
#Res BW 1 MHz			#VBW 3N	1Hz		#Sweep 601 m
Channel Pow	er		Power Spec	tral Densit	y	
13.86	dBm / 18.8	4 MHz	-58.8	9 dBm /	Hz	
ASG				STATUS		
				Norwida		

	2400 MHz - 24	83.5 MHz Band,	802.11(g) 36 Mb	os, Single Channe	el 6, 2437 MHz	
Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit	
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
9.708	3.4	13.1	2.2	15.3	36	Pass

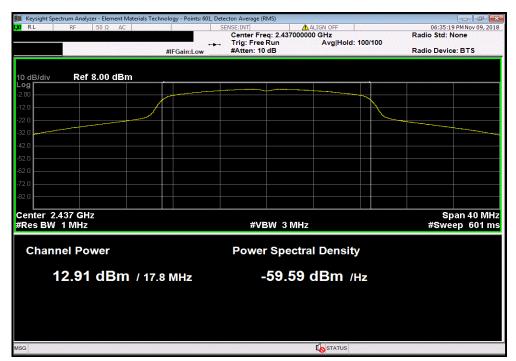


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



Avg Cond Pwr		Out Pwr	Antenna	EIRP	EIRP Limi		
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result	-
7.354	4.4	11.7	2.2	13.9	36	Pass	
📜 Keysight Spectrum Analyzer	- Element Materials Technol	ology - Points: 601, De	tector: Average (RMS)				×
LXI RL RF	50 Ω AC		Center Freq: 2.4370	ALIGN OFF		06:28:43 PM Nov 09, 2 Radio Std: None	2018
		····	Trig: Free Run	Avg Hold	I: 100/100	Radio Stu. None	
		#IFGain:Low	#Atten: 10 dB			Radio Device: BTS	
	.00 dBm						
-6.00							
-18.0							
-28.0							
-38.0							
-48.0							
-58.0							
-68.0							
-78.0							
-88.0					_		
Center 2.437 GHz						Span 35 M	
#Res BW 1 MHz			#VBW 3N	IH7		#Sweep 601	
Channel Pow	ver		Power Spec	tral Densi	ty		
			•		-		
7.35	dBm / 16.3	3 MHz	-64.7	8 dBm /	/Hz		
MSG				To STATUS			
				the second se			

	2400 IVIHZ - 2	403.5 IVITZ Dariu	, 602.11(1) 10030	, Single Channe		
Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit	
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
12.915	1	13.9	2.2	16.1	36	Pass

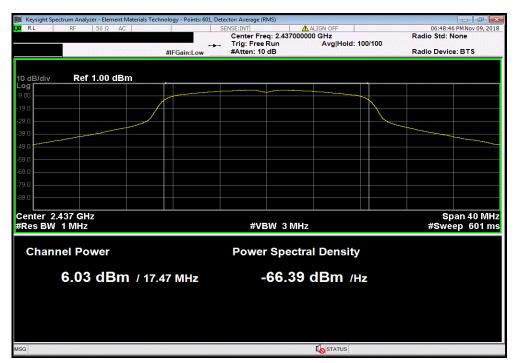


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



Avg Cond Pw	r Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limi	t
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
9.677	3.6	13.3	2.2	15.5	36	Pass
📜 Keysight Spectrum Analy	zer - Element Materials Techn	ology - Points: 601. De	tector: Average (RMS)			
W RL RF	50 Ω AC		SENSE:INT	ALIGN OFF		06:42:29 PM Nov 09, 2
			Center Freq: 2.4370 Trig: Free Run		i: 100/100	Radio Std: None
		#IFGain:Low	#Atten: 10 dB	Avginoid		Radio Device: BTS
			and a second			
10 dB/div Ref	4.00 dBm					
	4.00 UBIII					
-6.00						
-16.0						
-26.0						
-36.0						
-46.0						
-56.0						
-66.0						
-76.0						
-86.0						
Center 2.437 GH	-					Span 40 M
#Res BW 1 MHz	2		#VBW 3N	1H7		#Sweep 601 r
Channel Po	wer		Power Spec	tral Densi	ty	
9.68	dBm / 17.6	1 MHz	-62.7	8 dBm	/Hz	
MSG				I STATUS		
				and the second design of the second se		

Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit	
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
6.032	4.7	10.8	2.2	13	36	Pass





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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
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

TEST DESCRIPTION

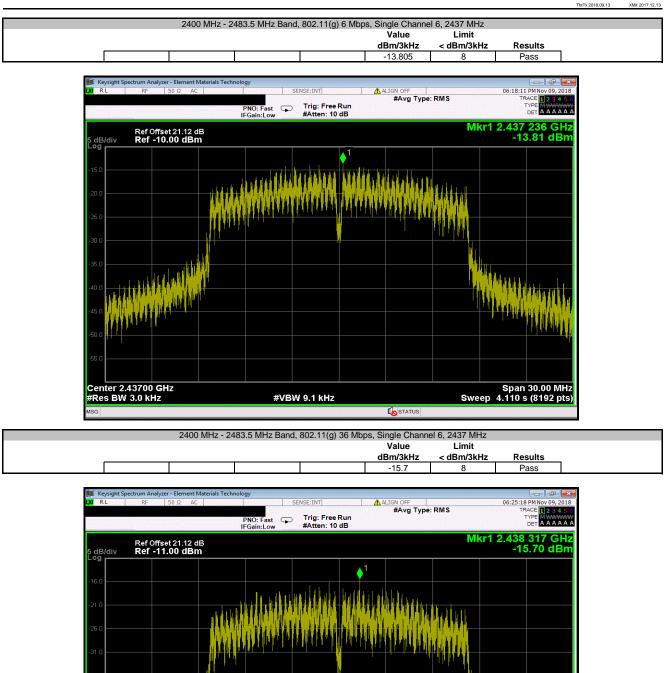
The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The power spectral density was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method AVGPSD-1 in section 11.10.3 of ANSI C63.10:2013 was used to make the measurement. This method uses trace averaging and RMS detection across the full power of the burst. This method is allowed as the same method has been used to determine the conducted output power.



EUT: VIST							Work Order:		
	.1-000683 XBC1-00114	9						9-Nov-18	
Customer: Wat							Temperature:		
Attendees: Nav								34.5% RH	
Project: Non							Barometric Pres.:		
Tested by: Jona				Power:			Job Site:	TX09	
TEST SPECIFICATIONS	i				Test Method				
FCC 15.247:2018					ANSI C63.10:2013				
COMMENTS									
Ref Offset of 21.12 dB (2	20 dB Attenuator + DC	Block + Cable). Integral ant	enna with ante	enna gain of 2	2.2 dBi.		 		
				-					
DEVIATIONS FROM TES	ST STANDARD								
None									
Configuration #	2		Jo	wathan	Kiefer				
Configuration #	2	Signature	So	mathan	Kiefer				
Configuration #	2	Signature	So	methan	Kiefer		Value	Limit	
		Signature	So	mathan	Niefer		Value dBm/3kHz	Limit < dBm/3kHz	Results
2400 MHz - 2483.5 MHz I	Band	Signature	Yo	mathan	Niefer	_			Results
2400 MHz - 2483.5 MHz I	Band .11(g) 6 Mbps	× ·	Yo	methan	Niefo		dBm/3kHz	< dBm/3kHz	
2400 MHz - 2483.5 MHz I 802.	Band .11(g) 6 Mbps Single Channe	Signature el 6, 2437 MHz	Yo	methan	Niefer				Results Pass
2400 MHz - 2483.5 MHz I 802.	Band .11(g) 6 Mbps Single Chann .11(g) 36 Mbps	el 6, 2437 MHz	Yo	methan	Niefer		dBm/3kHz -13.805	< dBm/3kHz 8	Pass
2400 MHz - 2483.5 MHz 802. 802.	Band .11(g) 6 Mbps Single Chann .11(g) 36 Mbps Single Chann	× ·	Yo	methan	Niefer		dBm/3kHz	< dBm/3kHz	
2400 MHz - 2483.5 MHz 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps	el 6, 2437 MHz el 6, 2437 MHz	So	methan	Niefor		dBm/3kHz -13.805 -15.7	< dBm/3kHz 8 8	Pass Pass
2400 MHz - 2483.5 MHz I 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe	el 6, 2437 MHz	Do	methan	Niefer		dBm/3kHz -13.805	< dBm/3kHz 8	Pass
2400 MHz - 2483.5 MHz I 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe .11(n) MCS0	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Yo	mathan	Riefor		dBm/3kHz -13.805 -15.7 -18.975	< dBm/3kHz 8 8 8	Pass Pass Pass
2400 MHz - 2483.5 MHz I 802. 802. 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe .11(n) MCS0 Single Channe	el 6, 2437 MHz el 6, 2437 MHz	Yo	nothan	Kiefor		dBm/3kHz -13.805 -15.7	< dBm/3kHz 8 8	Pass Pass
2400 MHz - 2483.5 MHz I 802. 802. 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe .11(n) MCS0 Single Channe .11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	So	mathan	Niefer		dBm/3KHz -13.805 -15.7 -18.975 -15.091	< dBm/3kHz 8 8 8 8 8	Pass Pass Pass Pass
2400 MHz - 2483.5 MHz I 802. 802. 802. 802. 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe .11(n) MCS0 Single Channe .11(n) MCS4 Single Channe	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Po	methan	Kiefor		dBm/3kHz -13.805 -15.7 -18.975	< dBm/3kHz 8 8 8	Pass Pass Pass
2400 MHz - 2483.5 MHz I 802. 802. 802. 802. 802. 802.	Band .11(g) 6 Mbps Single Channe .11(g) 36 Mbps Single Channe .11(g) 54 Mbps Single Channe .11(n) MCS4 Single Channe .11(n) MCS4	el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz el 6, 2437 MHz	Yo	wathan	Niefor		dBm/3KHz -13.805 -15.7 -18.975 -15.091	< dBm/3kHz 8 8 8 8 8	Pass Pass Pass Pass



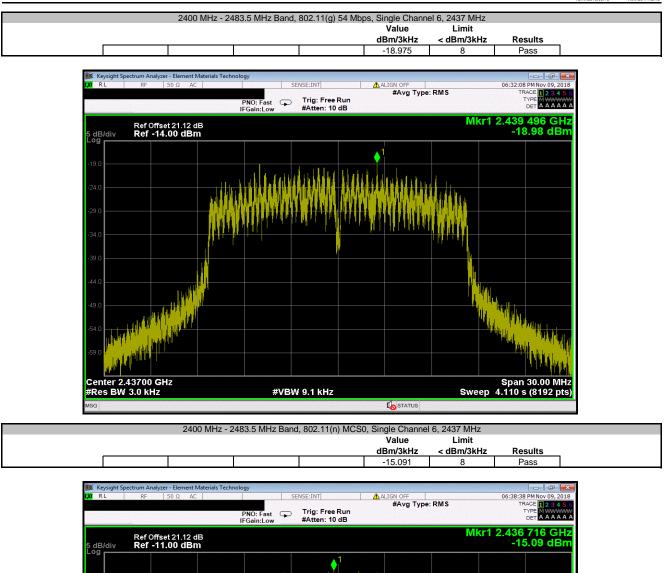


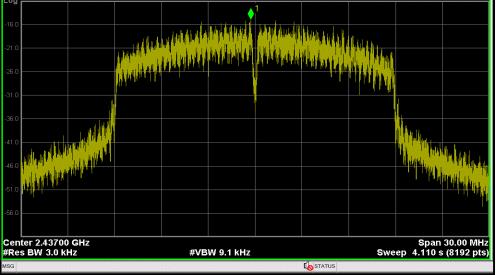
#VBW 9.1 kHz

STATUS

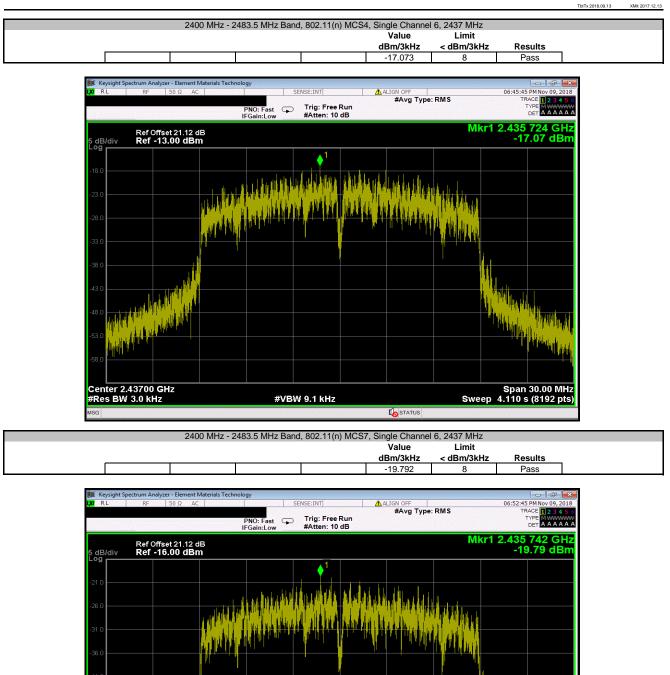
Center 2.43700 GHz #Res BW 3.0 kHz Span 30.00 MHz Sweep 4.110 s (8192 pts)

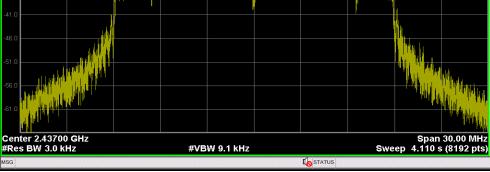














XMit 2017.12.13

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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set its single channel of operation. The EUT was transmitting at the data rate(s) listed in the datasheet.

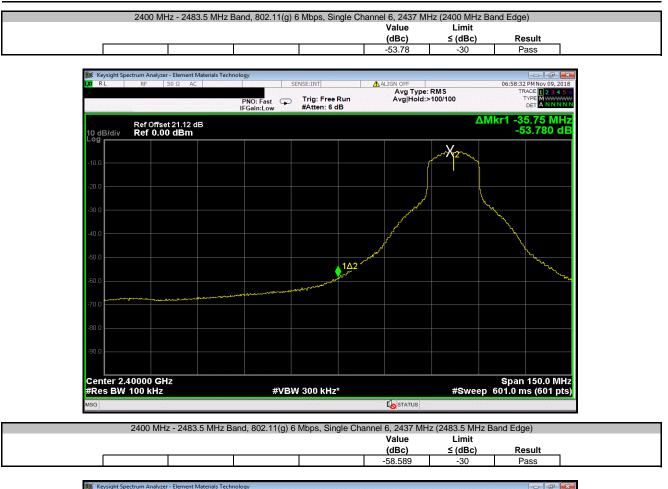
The spectrum was scanned below the lower band edge and above the higher band edge.

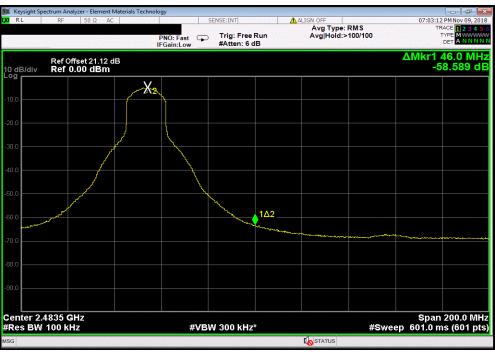
An RMS detector was used to match the method called out for Output Power. Because the reference level was taken with an RMS detector, the attenuation requirement is -30 dBc.



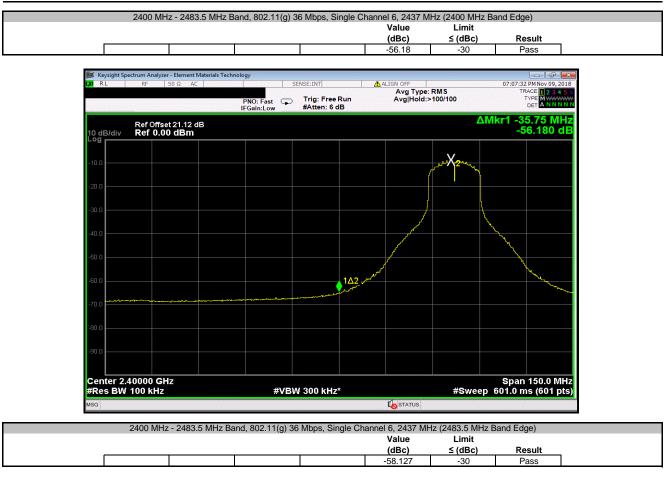
						XMit 2
EUT: VIS				Work Order:		
	L1-000683 XBC1-001149				9-Nov-18	
	tchGuard Video			Temperature:		
Attendees: Nav					34.5% RH	
Project: No				Barometric Pres.:		
Tested by: Jor		Power:		Job Site:	TX09	
EST SPECIFICATION	5		Test Method			
CC 15.247:2018			ANSI C63.10:2013			
OMMENTS						
ef Offset of 21.12 dB	(20 dB Attenuator + DC Block + Cable). Integral antenna with ar	ntenna gain of 2.2 dl	Bi.			
EVIATIONS FROM TE						
one	ST STANDARD					
one						
Configuration #	2	Jonathan	Niela			
oningulation #	Signature	Jonannan	mega			
	Signature			Value	Limit	
				(dBc)	≤ (dBc)	Result
400 MHz - 2483.5 MHz	Band			(000)	= (ubc)	Result
	2.11(g) 6 Mbps					
002	Single Channel 6, 2437 MHz (2400 MHz Band Edge)			-53.78	-30	Pass
	Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)					
000				-58 589	-30	
				-58.589	-30	Pass
802	2.11(g) 36 Mbps			-58.589	-30	
802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge)					Pass
	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)			-56.18	-30	Pass Pass
	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps			-56.18	-30	Pass Pass
	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)			-56.18 -58.127	-30 -30	Pass Pass Pass
802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge)			-56.18 -58.127 -54.917	-30 -30 -30	Pass Pass Pass Pass
802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)			-56.18 -58.127 -54.917	-30 -30 -30	Pass Pass Pass Pass
802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(n) MCS0			-56.18 -58.127 -54.917 -56.477	-30 -30 -30 -30	Pass Pass Pass Pass Pass
802 802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(n) MCS0 Single Channel 6, 2437 MHz (2400 MHz Band Edge)			-56.18 -58.127 -54.917 -56.477 -55.193	-30 -30 -30 -30 -30	Pass Pass Pass Pass Pass Pass
802 802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)			-56.18 -58.127 -54.917 -56.477 -55.193	-30 -30 -30 -30 -30	Pass Pass Pass Pass Pass Pass
802 802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2403.5 MHz Band Edge) 2.11(n) MCS4			-56.18 -58.127 -54.917 -56.477 -55.193 -59.011	-30 -30 -30 -30 -30 -30	Pass Pass Pass Pass Pass Pass Pass
802 802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2433.5 MHz Band Edge) 2.11(n) MCS0 Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) 2.11(n) MCS4 Single Channel 6, 2437 MHz (2400 MHz Band Edge)	_		-56.18 -58.127 -54.917 -56.477 -55.193 -59.011 -55.957	-30 -30 -30 -30 -30 -30 -30	Pass Pass Pass Pass Pass Pass Pass Pass
802 802	2.11(g) 36 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) 2.11(g) 54 Mbps Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2400 MHz Band Edge) Single Channel 6, 2437 MHz (2403.5 MHz Band Edge) 2.11(n) MCS9 Single Channel 6, 2437 MHz (2483.5 MHz Band Edge) Single Channel 6, 2437 MHz (2483.5 MHz Band Edge)			-56.18 -58.127 -54.917 -56.477 -55.193 -59.011 -55.957	-30 -30 -30 -30 -30 -30 -30	Pass Pass Pass Pass Pass Pass Pass Pass





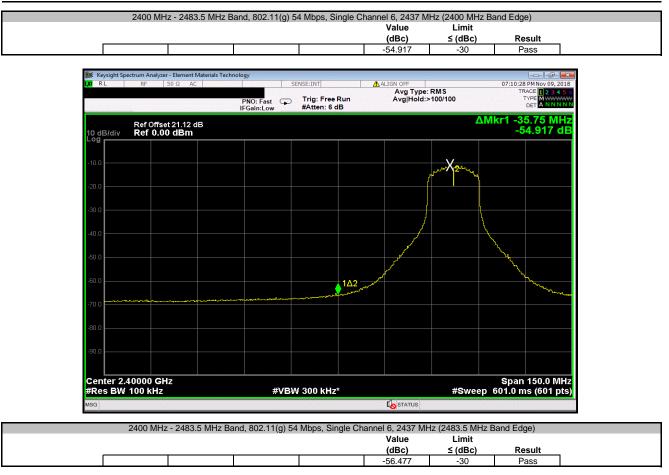


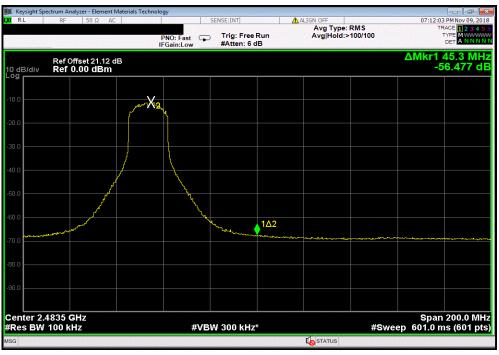










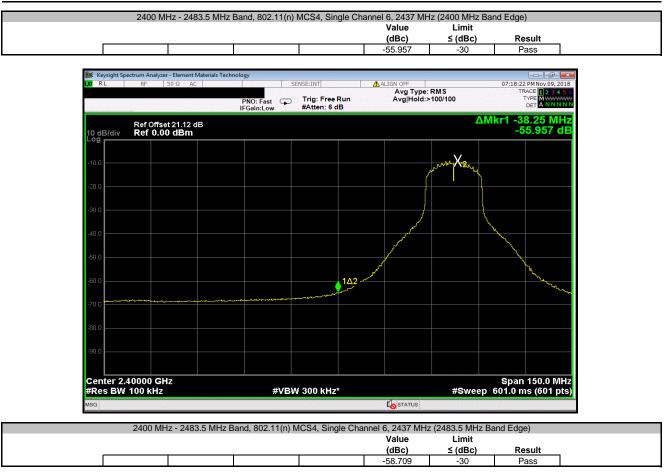






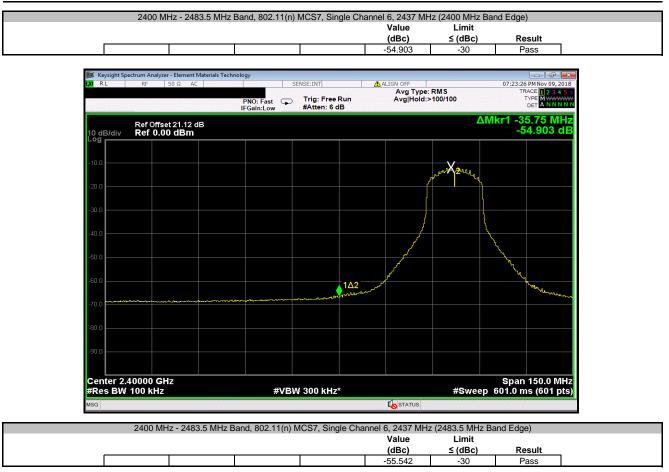


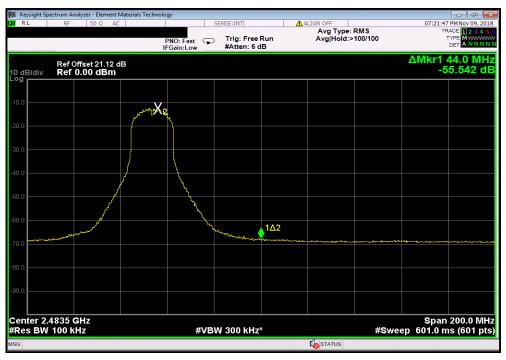














XMit 2017.12.13

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
Attenuator	Fairview Microwave	SA4018-20	TYW	29-Mar-18	29-Mar-19
Block - DC	Fairview Microwave	SD3379	AMM	29-Mar-18	29-Mar-19
Cable	Micro-Coax	UFD150A-1-0720-200200	TXG	10-Oct-18	10-Oct-19
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	19-Mar-18	19-Mar-19

TEST DESCRIPTION

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



						TbtTx 2018.09.13	XMit 2017
	VISTA XLT				Work Order:		
	VXL1-000683 XBC1-001149					9-Nov-18	
Customer:	WatchGuard Video				Temperature:		
Attendees:	Navaid Karimi				Humidity:	34.5% RH	
Project:				E	Barometric Pres.:		
	Jonathan Kiefer	Power:			Job Site:	TX09	
EST SPECIFICAT	IONS		Test Method				
CC 15.247:2018		· · · · · · · · · · · · · · · · · · ·	ANSI C63.10:2013				
OMMENTS							
ef Offset of 21.12	dB (20 dB Attenuator + DC Block + Cable	e). Integral antenna with antenna gain of 2	2 dBi				
). Integral antenna tritt antenna gant er 2					
EVIATIONS FROM	M TEST STANDARD						_
lone							
			1.000				
Configuration #	2	Jonathan	Kichen				
•	5	Signature	0.1				
			Frequency	Measured	Max Value	Limit	
			Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
400 MHz - 2483.5 I	MHz Band						
	802.11(g) 6 Mbps						
	Single Channel 6, 2437 MHz		Fundamental	2438.27	N/A	N/A	N/A
	Single Channel 6, 2437 MHz		30 MHz - 12.5 GHz	5688.77	-64.05	-30	Pass
	Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz	24964.9	-53.19	-30	Pass
	802.11(g) 36 Mbps		12.0 0112 20 0112	24004.0	00.10	00	1 435
	Single Channel 6, 2437 MHz		Fundamental	2438.27	N/A	N/A	N/A
	Single Channel 6, 2437 MHz		30 MHz - 12.5 GHz				
	Single Charnel 0, 2437 Miliz					-30	Dace
	Single Channel 6, 2437 MHz			2545.01	-61.92	-30	Pass
	Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz	2545.01 24845.87	-61.92 -51.23	-30 -30	Pass Pass
	802.11(g) 54 Mbps		12.5 GHz - 25 GHz	24845.87	-51.23	-30	Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental	24845.87 2438.27	-51.23 N/A	-30 N/A	Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz	24845.87 2438.27 3211.82	-51.23 N/A -60.31	-30 N/A -30	Pass N/A Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental	24845.87 2438.27	-51.23 N/A	-30 N/A	Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	24845.87 2438.27 3211.82 24964.9	-51.23 N/A -60.31 -49.74	-30 N/A -30 -30	Pass N/A Pass Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental	24845.87 2438.27 3211.82 24964.9 2438.27	-51.23 N/A -60.31 -49.74 N/A	-30 N/A -30 -30 N/A	Pass N/A Pass Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09	-51.23 N/A -60.31 -49.74 N/A -63.33	-30 N/A -30 -30 N/A -30	Pass N/A Pass Pass N/A Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental	24845.87 2438.27 3211.82 24964.9 2438.27	-51.23 N/A -60.31 -49.74 N/A	-30 N/A -30 -30 N/A	Pass N/A Pass Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54	-30 N/A -30 -30 N/A -30 -30	Pass N/A Pass Pass N/A Pass Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4 Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02 2438.27	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A	-30 N/A -30 -30 N/A -30 -30 N/A	Pass N/A Pass Pass N/A Pass Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 2455.02 2438.27 3170.72	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A -62.04	-30 N/A -30 -30 N/A -30 -30 N/A -30	Pass N/A Pass Pass N/A Pass Pass N/A Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02 2438.27	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A	-30 N/A -30 -30 N/A -30 -30 N/A	Pass N/A Pass Pass N/A Pass Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02 2438.27 3170.72 24995.42	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A -62.04 -51.41	-30 N/A -30 -30 N/A -30 -30 N/A -30 -30	Pass N/A Pass Pass N/A Pass Pass N/A Pass Pass
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS4 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02 2438.27 3170.72 24995.42 2438.27	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A -62.04 -51.41 N/A	-30 N/A -30 -30 N/A -30 -30 -30 -30 N/A	Pass N/A Pass Pass N/A Pass N/A Pass N/A
	802.11(g) 54 Mbps Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz 802.11(n) MCS0 Single Channel 6, 2437 MHz Single Channel 6, 2437 MHz		12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	24845.87 2438.27 3211.82 24964.9 2438.27 3230.09 24855.02 2438.27 3170.72 24995.42	-51.23 N/A -60.31 -49.74 N/A -63.33 -52.54 N/A -62.04 -51.41	-30 N/A -30 -30 N/A -30 -30 N/A -30 -30	Pass N/A Pass Pass N/A Pass Pass N/A Pass Pass



	Frequency Range	Measu Freq (I			Result
	Fundamental	2438		N/A	N/A
	r - Element Materials Technology 50 Ω AC	SENSE:INT	ALIGN OFF		06:15:01 PM Nov 09, 2018
			#Avg T	ype: RMS	TRACE 1 2 3 4 5 6
	PNO IFGai	: Fast 😱 Trig: Free n:Low #Atten: 10	l dB		
Ref Offse	et 21.12 dB			Mkr1 2.4	438 270 17 GHz
10 dB/div Ref 15.	00 dBm	1	1		4.88 dBm
			<mark>_</mark> 1		
5.00	۸ Å	A	La Carta Carta	0	
-5.00	war have more how	and have been a second and a second s	have a survey poursel as	mannaman	4 л
0.00	f.		Ť		
-15.0	/w ^{**}				My Million and and
-15.0 WWWWWWW					way have a hard the
-25.0					
-35.0					
-45.0					
-55.0					
00.0					
-65.0					
-75.0					
-/5.0					
Center 2.43700 GH					Span 24.00 MHz
#Res BW 100 kHz		#VBW 300 kHz		Sweep 3	3.276 ms (8192 pts)
MSG			I STATUS		
	0400 MUL 0400 F	MUL Devel 000 44/-			
	Frequency	MHZ Band, 802.11(g Measu) 6 Mbps, Single Char ured Max Value		
	Range	Freq (I	MHz) (dBc)	≤ (dBc)	Result
	30 MHz - 12.5 GHz	5688	.77 -64.05	-30	Pass
Mariaht Caratana Arabas	r - Element Materials Technology				
	50 Ω AC	SENSE:INT	ALIGN OFF		06:16:14 PM Nov 09, 2018
	PNO	: Fast 😱 Trig: Free	Run	ype: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A A A A A A
	IFGai	n:Low #Atten: 10) dB		
Ref Offse	et 21.12 dB			IVI	r1 5.688 8 GHz -59.17 dBm
10 dB/div Ref 15.	UU UBIII				

IO dB/div Ref 15.00 dBr	n					-55	9.17 aBn
.09							
5.00							
5.00							
15.0							
10.0							
25.0							
35.0							
45.0							
55.0				 .1			
55.0 martinetermetermetermetermetermetermetermeter	and the second second	ingenterreterreter			No. of Concession, Name of	Nieria, and integrated	
75.0							
tart 0.030 GHz Res BW 100 kHz		#VB	W 300 kHz		Swe	Stop 1 ep 1.539 s	2.500 GH
SG				STATUS			



		IHz Band, 802.11(g) 6 Mbp			
	Frequency Range	Measured Freq (MHz)	Max Value	Limit ≤ (dBc)	Result
	12.5 GHz - 25 GHz	24964.9	(dBc) -53.19	-30	Pass
		24304.5	55.15	50	1 833
Discrete Keysight Spectrum Analyze	er - Element Materials Technology				
LXI RL RF	50 Ω AC	SENSE:INT	ALIGN OFF	DME	06:17:32 PM Nov 09 2018
		ast 👝 Trig: Free Run	#Avg Type	. KWI3	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A A A A A A
	IFGain:	Low #Atten: 10 dB		Niked	and the second
10 dB/div Ref 15.	et 21.12 dB . 00 dBm			INIKET	24.964 9 GHz -48.30 dBm
Log					
5.00					
-5.00					
-15.0					
25.0					
-25.0					
-35.0					
-45.0					1 <u>/</u>
				and the second s	and the state of t
-55.0	And the second	فالمصيدينه والمعتر شانوا متواصد والطروم والمتوجلة	North Street of		
-65.0					
0.0					
-75.0					
Start 12.500 GHz					Stop 25.000 GHz
#Res BW 100 kHz		#VBW 300 kHz		Sweep 7	1.543 s (8192 pts)
MSG			STATUS		
	2400 MHz - 2483.5 M Frequency	Hz Band, 802.11(g) 36 Mbp Measured	s, Single Channe Max Value	el 6, 2437 MHz Limit	
	Range	Freg (MHz)	(dBc)	≤ (dBc)	Result
	Fundamental	2438.27	N/A	N/A	N/A
	er - Element Materials Technology	CONCE AND	AUXEN OFF		
KK RE RF	50 Ω AC	SENSE:INT	ALIGN OFF #Avg Type	RMS	06:21:56 PMNov 09, 2018 TRACE 1 2 3 4 5 6
	PNO: F IFGain:	ast Trig: Free Run Low #Atten: 10 dB			TRACE 1 2 3 4 5 6 TYPE M WWWW DET A A A A A A
Deterro	et 21.12 dB			Mkr1 2.4	438 270 4 GHz
10 dB/div Ref 15.	.00 dBm				3.10 dBm
Log					

5.00 5.00 15.0 25.0	Mannaham	m	mmmm	Ang
An Parant Market				<u>\</u>
				When the when
5.0				
.0				
.0				



Ref 13.00 dBm 5.00 <th>Result Pass 06:23:08 PM100 09, 2018 TRACE 12 34 5 6 TYPE MWWWW DET & AAAAAA kr1 2,545 0 GHz -58.82 dBm</th>	Result Pass 06:23:08 PM100 09, 2018 TRACE 12 34 5 6 TYPE MWWWW DET & AAAAAA kr1 2,545 0 GHz -58.82 dBm
X RL RF 50 Ω AC SENSE:INT ALIGN OFF PNO: Fast IFGain:Low Trig: Free Run #Atten: 10 dB 0 Ref Offset 21.12 dB N 0.00 Ref 15.00 dBm N 5.00 Image: Sense: INT Image: Sense: INT Image: Sense: INT 6.00 Image: Sense: INT Image: Sense: Int Image: Sense: Int Image: Sense: Int 5.00 Image: Sense: Int 5.00 Image: Sense: Int Ima	06:23:08 PM Nov 09, 2018 TRACE 1 2 3 4 5 0 TYPE MWWWW DET A A A A A A Kr1 2.545 0 GHz
CY RL RF 50 Q AC SENSE:INT ALIGN OFF PNO: Fast IFGain:Low Trig: Free Run #Atten: 10 dB 0 dB/div Ref Offset21.12 dB N 0 dB/div Ref 15.00 dBm Image: Sense: S	06:23:08 PM Nov 09, 2018 TRACE 1 2 3 4 5 0 TYPE MWWWW DET A A A A A A Kr1 2.545 0 GHz
Hor: Fast Trig: Free Run 10 dB/div Ref Offset 21.12 dB 0 dB/div Ref 15.00 dBm 500 1	TRACE 1 2 3 4 5 6 TYPE MWWWW DET A A A A A A Kr1 2.545 0 GHz
If Gain:Low #Atten: 10 dB 10 dB/div Ref 0ffset 21.12 dB 0 dB/div Ref 15.00 dBm 5.00 Image: Solid Science Scie	kr1 2.545 0 GHz
No. Ref 13.00 dBm 600	kr1 2.545 0 GHz -58.82 dBm
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-65.0	
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Start 0.030 GHz	negation in the second s
Start 0.030 GHz	
	Stop 12.500 GHz 1.539 s (8192 pts)
MSG 🚺	
2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Single Channel 6, 2437 MHz	
Frequency Measured Max Value Limit	
Range Freq (MHz) (dBc) ≤ (dBc) 12.5 GHz 24845.87 -51.23 -30	

2400 MHz - 2483.5 MHz Band,	802.11(g) 36 Mbp	os, Single Channe	el 6, 2437 MHz	
Frequency	Measured	Max Value	Limit	
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
12.5 GHz - 25 GHz	24845.87	-51.23	-30	Pass

RL RF 50 Ω AC		SENSE:INT	ALIGN OFF #Avg Type: RMS		:23 PM Nov 09, 20 TRACE 1 2 3 4
	PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 10 dB	#Avg Type. King		
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.0					
art 12.500 GHz				Stop Sweep 1.543	25.000 GI
es BW 100 kHz	#VB	W 300 kHz		Sweep 1.543	s (8192 pi



Range Freq (MHz) (dBc) ≤ (dBc) Result E Fundamental 2438.27 N/A N/A N/A It Result 2438.27 N/A N/A N/A It Result 2438.27 N/A N/A N/A It Result Result 0
Bit Keysight Spectrum Analyzer - Bernert Materials Technology Server: Int ALGH OFF 0023035 PMN00 Bit Ref 0.0 G. A.C. Trig: Free Run (FGalinLow) Trig: Free Run (FGalinLow) Mikr1 2.433 270 44 1002305 PMN00 10 Bit/div Ref Offset 21.12 dB Mikr1 2.433 270 44 1.36 c 500 Algo Mikr1 2.433 270 44 1.36 c 500 Algo 1.36 c 1.36 c 650 Algo 1.36 c 1.36 c 650 Algo 1.36 c 1.36 c <
BR BF 90.0 AC SREE.INT Audition OFF Dec208 SPNexor PNO. F.sst (FGain.Low) Trig: Free Run #Atten: 10 dB Trig: Free Run #Atten: 10 dB Mkr1 2.438 270 4 Trig: Free Run #Atten: 10 dB Trig: Free R
#Avg Type: RMS There is a second
IFGointLow #Atten: 10 dB Dert AA 0 gR/dlv Ref Offset 21.12 dB Mkr1 2.438 270 4 1 0 gR/dlv Ref 15.00 dBm 1.36 c 0 gR/dlv Ref 0ffset 21.12 dB 1.36 c 0 gR/dlv gR/dlv 1.36 c 0 gR/dlv
10 dB/div Ref 13.00 dBm 1.36 c 10 g 10 dB/div 10 dB/div 10 dB/div 10 g 10 dB/div 10 dB/div 10 dB/div 10 dB/div
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350 350 <td< td=""></td<>
45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 45 0 46 0 45 0 46 0 45 0 47 0 48 0 47 0 48 0 47 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0 41 0 48 0
65.0 65.0 65.0 75.0 75.0 75.0 75.0 75.0 #Res BW 100 kHz #VBW 300 kHz Span 21.00 #Res BW 100 kHz #VBW 300 kHz Sweep 2.730 ms (8192 MsG 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Range Freq (MHz) (dBc) ≤ (dBc) Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRO: Fast Freq MHz W RL RF PRO: Fast Free Run #Aug Type: RMS TRACE #Avg Type: RMS TRACE PRO: Fast Free Run #Aug Type: RMS TRACE Bet Marken: 10 dB Det Marken
65.0
155.0
75.0 Center 2.43700 GHz Span 21.00 #Res BW 100 kHz #VBW 300 kHz Sweep 2.730 ms (8192 Msc Starus 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Frequency Measured Max Value 30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Msc Sense:INT ALIGN OFF 06:30:15 PMN/vor Trig: Free Run Trig: Free Run Trace
Center 2.43700 GHz Span 21.00 Res BW 100 kHz #VBW 300 kHz Sweep 2.730 ms (8192 Msc Starus 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Keysight Spectrum Analyzer - Element Materials Technology Center (MHz)
Center 2.43700 GHz #Res BW 100 kHz Span 21.00 Sweep 2.730 ms (8192 Msg Image Status 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Range Freq (MHz) (dBc) ≤ (dBc) 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRC Fast SENSE.INT If Gain:Low Trig: Free Run PNO: Fast Trig: Free Run If Gain:Low #Atten: 10 dB
#Res BW 100 kHz #VBW 300 kHz Sweep 2.730 ms (8192 MSG Image Image 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Range Freq (MHz) 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRC: SENSE:INT Max Value Limit Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRO: Fast Free Run IFGain:Low Frig: Free Run #Atten: 10 dB Trace
#Res BW 100 kHz #VBW 300 kHz Sweep 2.730 ms (8192 MSG Image Image 2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Range Freq (MHz) 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRC: SENSE:INT Max Value Limit Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 PRO: Fast Free Run IFGain:Low Frig: Free Run #Atten: 10 dB Trace
2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Single Channel 6, 2437 MHz Frequency Measured Max Value Limit Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Image Freq (MHz) Colspan="2">Colspan="2" Image Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Image RE SENSE:INT ALIGN OFF 06:30:15 PMMov O Image: Colspan="2" Image RE SENSE:INT ALIGN OFF 06:30:15 PMMov O Image: Colspan="2" Trace I Image: Colspan="2" Trace I Image: Co
Frequency Range Measured Freq (MHz) Max Value (dBc) Limit ≤ (dBc) 30 MHz - 12.5 GHz 3211.82 -60.31 -30 30 Keysight Spectrum Analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum Analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparison of the spectrum analyzer - Element Materials Technology Image: Comparis
Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materials Technology Image: Sector Analyzer - Element Materinals Technology
30 MHz - 12.5 GHz 3211.82 -60.31 -30 Pass Keysight Spectrum Analyzer - Element Materials Technology Image: Constraint of the second seco
Keysight Spectrum Analyzer - Element Materials Technology
CM RL RF 50 Ω AC SENSE:INT ▲ ALIGN OFF 06:30:15 PM Nov 0 PNO: Fast IFGain:Low Trig: Free Run #Atten: 10 dB #Avg Type: RMS Trace 12
PNO: Fast - Trig: Free Run #Avg Type: RMS TRACE 12 IFGain:Low #Atten: 10 dB DET AA
IFGain:Low #Atten: 10 dB DET A A
Miles 4 2 044 0
Ref Offset 21.12 dB Mkr1 3.211 8 (10 dB/div. Ref 15.00 dBm -58.95 c
10 dB/div Ref 15.00 dBm -58.95 c
5.00
5.00
-15.0
-25.0

•1

#VBW 300 kHz

STATUS

Start 0.030 GHz #Res BW 100 kHz Stop 12.500 GHz Sweep 1.539 s (8192 pts)



	Frequency		Measured	Max Value	Limit	
	Range		Freq (MHz)	(dBc)	≤ (dBc)	Result
	12.5 GHz - 25 GHz		24964.9	-49.74	-30	Pass
Keysight Spectrum Analyze	er - Element Materials Techno	logy				
	50 Ω AC		INSE:INT	ALIGN OFF		06:31:27 PM Nov 09, 2018
		PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 10 dB	#Avg Type	:RMS	TRACE 1 2 3 4 5 6 TYPE M WWWW DET A A A A A A
10 dB/div Ref 15.	et 21.12 dB .00 dBm				Mkr	1 24.964 9 GHz -48.38 dBm
Log						
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-5.00						
-3.00						
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-65.0						
-75.0						
Start 12.500 GHz		-#\/D\\	/ 300 kHz		Sween	Stop 25.000 GHz 1.543 s (8192 pts)
#Res BW 100 kHz		#VBM	7 300 RHZ	STATUS	Sweep	1.543 s (8192 pts)
	2400 MHz - 24 Frequency	83.5 MHz Band	I, 802.11(n) MCS Measured), Single Channel Max Value	6, 2437 MHz Limit	
	Range		Freq (MHz)	(dBc)	≤ (dBc)	Result
	Fundamental		2438.27	N/A	N/A	N/A

Keysight Spectrum Analyzer - Element Materials T		• • • • • • • • •	
RL RF 50 Ω AC	PNO: Fast Trig: Free Run IFGain:Low #Atten: 10 dB	ALIGN OFF #Avg Type: RMS	06:35:43 PM Nov 09, 20 TRACE 2 3 4 5 TYPE M WWWW DET A A A A A
Ref Offset 21.12 dB dB/div Ref 15.00 dBm		Mkr1	2.438 270 6 GH 4.18 dBr
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enter 2.43700 GHz tes BW 100 kHz	#VBW 300 kHz	Sweep	Span 23.00 Mi 3.276 ms (8192 pt
G		STATUS	



	2400 MHz - 2483.5 MHz E				
	Frequency	Measured	Max Value	Limit	
	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
	30 MHz - 12.5 GHz	3230.09	-63.33	-30	Pass
-					
	m Analyzer - Element Materials Technology RF 50 Ω AC	SENSE:INT	ALIGN OFF		06:36:51 PM Nov 09, 2018
	NF 30.32 AC		#Avg Type	RMS	TRACE 1 2 3 4 5 6
	PNO: Fast (IFGain:Low	Trig: Free Run #Atten: 10 dB			TYPE M WWWWW DET A A A A A A
		mattern. To dib		Mk	r1 3.230 1 GHz
10 dB/div	ef Offset 21.12 dB ef 15.00 dBm			WIN	-59.15 dBm
5.00					
5.00					
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-15.0					
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-25.0					
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-45.0					
-55.0	_ 1				
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-75.0					
Start 0.030 C		t.			Stop 12.500 GHz
#Res BW 10	0 kHz #\	/BW 300 kHz		Sweep	1.539 s (8192 pts)
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		and 000 44(a) MOO	Cinala Cha		
	2400 MHz - 2483.5 MHz E Frequency	Measured	Max Value	Limit	
	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
	12.5 GHz - 25 GHz	24855.02	-52.54	-30	Pass

2400 MHz - 2483.5 MHz Ban	d, 802.11(n) MCS0), Single Channel	6, 2437 MHz	
Frequency	Measured	Max Value	Limit	
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
12.5 GHz - 25 GHz	24855.02	-52.54	-30	Pass





	Frequency	Measured	Max Value	Limit	
	Range Fundamental	Freq (MHz) 2438.27	(dBc) N/A	≤ (dBc) N/A	Result N/A
	Fundamental	2438.27	N/A	N/A	N/A
📜 Keysight Spectrum Anal	yzer - Element Materials Technology				
LXI RL RF	50 Ω AC	SENSE:INT	ALIGN OFF #Avg Type	·DMS	06:42:52 PM Nov 09, 2018
	PNO: Fas		#Avg type		TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A A A A A A
	IFGain:Lo	w #Atten: 10 db		Mkr1 2	438 267 8 GHz
10 dB/div Ref 1	fset 21.12 dB 5.00 dBm				3.47 dBm
Log					
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-15.0					WWL.
-25.0 (MANAMAN MAN					Whiteman
-35.0					
-45.0					
40.0					
-55.0					
05.0					
-65.0					
-75.0					
Center 2.43700					Span 23.00 MHz
#Res BW 100 kH	2	#VBW 300 kHz		Sweep 3.	276 ms (8192 pts)
MSG			STATUS		
	2400 MHz - 2483.5 MH	Iz Band, 802.11(n) MCS4	4, Single Channel	6, 2437 MHz	
	Frequency	Measured	Max Value	Limit	
	Range 30 MHz - 12.5 GHz	Freq (MHz) 3170.72	(dBc) -62.04	≤ (dBc) -30	Result Pass
I	50 WHZ - 12.3 OHZ	5170.72	-02.04	-50	1 000
	yzer - Element Materials Technology				
LXI RE RF	50 Ω AC	SENSE:INT	ALIGN OFF #Avg Type	: RMS	06:44:00 PM Nov 09, 2018 TRACE 1 2 3 4 5 6
	PNO: Fas IFGain:Lo	t _ Trig: Free Run w #Atten: 10 dB			

			PNO: Fast Trig: Free Run IFGain:Low #Atten: 10 dB				TYPE M WWWW DET A A A A A		
0 dB/div og r	Ref Offset 21.12 o Ref 15.00 dBm	iB 1						Mkr1 3.1 -58	70 7 GH: 3.57 dBn
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5.0									
tart 0.03 Res BW	0 GHz 100 kHz		#VB	W 300 kHz			Swe	Stop 1 eep 1.539 s	2.500 GH (8192 pts
SG						STATUS			



	Frequency	Measured	Max Value	Limit	
	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
12.	5 GHz - 25 GHz	24995.42	-51.41	-30	Pass
Re-					
Keysight Spectrum Analyzer - El	ement Materials Technology	SENSE:INT	ALIGN OFF		06:45:08 PM Nov 09, 2018
		T	#Avg Type	RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A A A A A A
	PNO: Fast IFGain:Low				DET A A A A A A
Ref Offset 2	1 12 dB			Mkr	1 24.995 4 GHz
10 dB/div Ref 15.00	dBm				-47.94 dBm
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5.00					
-5.00					
-15.0					
-25.0					
-35.0					
-35.0					
-45.0					1
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-55.0	مىيىلەرى ^{يەر ئۇرىر} ىيەر ئىرىمەر بىرىمەر بىرىمەر بىرىمەر بىرىمەر بىر	المربيب ومرادة فأشيده للناوم ومنتج سيجريا وررا والأندروس	and the second distance of the second distanc	and the second s	
and the second sec					
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Start 12.500 GHz #Res BW 100 kHz	-	¢VBW 300 kHz		Sween	Stop 25.000 GHz 1.543 s (8192 pts)
MSG	· ·		STATUS	oncop	ne to o (o toz pro)
			3		
	2400 MHz - 2483.5 MHz	, , ,	, 0		
	Frequency	Measured	Max Value	Limit	Desult
	Range Fundamental	Freq (MHz) 2438.27	(dBc) N/A	≤ (dBc) N/A	Result N/A
	unuamentai	2430.27	IN/A	IN/A	11/7

Keysight Spectrum Analyze RL RF	50 Ω AC		SENSE:INT	ALIGN OFF		49:10 PM Nov 09, 20
		PNO: Fast (IFGain:Low	Trig: Free Run #Atten: 10 dB	#Avg Type: R		TRACE 1 2 3 4 TYPE M WWW DET A A A A A
Ref Offs dB/div Ref 15.	et 21.12 dB .00 dBm				Mkr1 2.43	8 267 8 GH 0.59 dB
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When a way way way and a way way way way way way way way way w						WWWWWWWWWWWW
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nter 2.43700 Gl es BW 100 kHz		#\	/BW 300 kHz		Sweep 3.276	pan 23.00 MH i ms (8192 pt
				STATUS		



30 MHz - 12.5 GHz 5713.13 -59.71 -30 Image: Sense: INT Align OFF 06:50 Image: Sense: INT Align OFF 06:50 Image: Sense: INT Align OFF 06:50 Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: INT Image: Sense: Sense: Image: Sense:	Result Pass Image: Pass of the
30 MHz - 12.5 GHz 5713.13 -59.71 -30 Image: Constraint of the second seco	17 PM Nov 09, 2018 TRACE 123456 TYPE MWWWW DET A A A A A A 713 1 GHz
X RL RF 50 Ω AC SENSE:INT ALIGN OFF 06:50 PNO: Fast IFGain:Low Trig: Free Run #Atten: 10 dB #Avg Type: RMS Ref Offset 21.12 dB Mkr1 5. 10 dB/div Ref 15.00 dBm - - 5:00 - - - - 5:00 - - - - - -5:00 - - - - - - -5:00 -	17 PM Nov 09, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWW DET A A A A A A 713 1 GHz
D2 RL RF 50 Ω AC SENSE:INT ALIGN OFF 06:50 PN0: Fast IFGain:Low Trig: Free Run #Atten: 10 dB Mkr1 5. C Trig: Free Run #Atten: 10 dB Mkr1 5. C Trig: Free Run #Atten: 10 dB Mkr1 5. C Trig: Free Run #Atten: 10 dB Trig: Free Run #Atten: 10 dB C Trig: Free Run #Atten: 10 dB Trig: Free Run #Atten: 10 dB C C C C C C C C C C C C	17 PM Nov 09, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWW DET A A A A A A 713 1 GHz
PNO: Fast IFGain:Low Trig: Free Run #Atten: 10 dB Nkr1 5. Mkr1 5. 10 dB/div Ref Offset 21.12 dB 5.00	TYPE MWWWW DET A A A A A A
Ref Offset 21.12 dB Mkr1 5. 10 dB/div Ref 15.00 dBm - 5.00 - - 5.00 - - 5.00 - - -	713 1 GHz
OddB/div Ref 13.00 dBm 5.00	713 1 GHz 9.12 dBm
Log	
-5.00	
-5.00 -15.00 -25.0 -25.0 -35.0 -45.0 -56.0 -56.0 -1.	
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	and in the second s
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Start 0.030 GHz Stor	12.500 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 1.530	s (8192 pts)
MSG	
2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Single Channel 6, 2437 MHz	
Frequency Measured Max Value Limit	
Range Freq (MHz) (dBc) ≤ (dBc) □ 12.5 GHz - 25 GHz 24835.19 -48.84 -30	

KURL RF 50Ω AC	PI IFC	PNO: Fast FGain:Low #Atten: 10 dB		#Avg Ty	ALIGN OFF #Avg Type: RMS		06:51:28 PM Nov 09, 20: TRACE 1 2 3 4 5 TYPE M WWWW DET A A A A A	
Ref Offset 21.12 dE	3				N	1kr1 24.8 -48	35 2 GH .25 dBr	
5.00								
5.00								
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65.0								
75.0								
start 12.500 GHz Res BW 100 kHz		#VBV	V 300 kHz		Swe	Stop 2 ep 1.543 s	5.000 GH (8192 pt	