



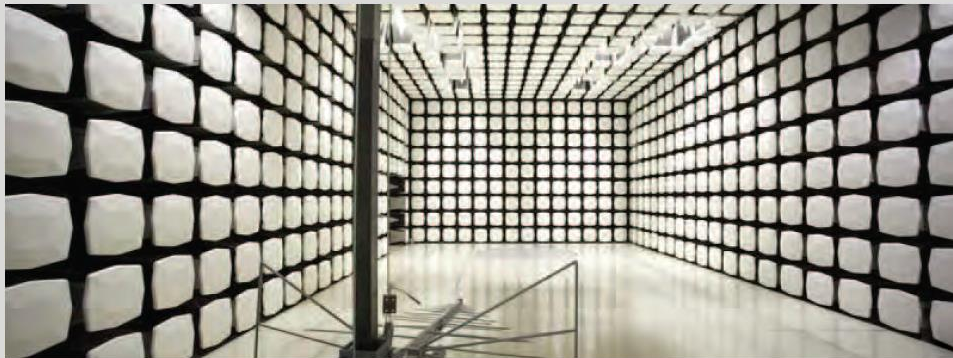
element

Neurosoft Ltd.

Neuron-Spectrum-AM

**FCC 15.247:2021
802.11bgn Radio**

Report: CORT0007, Issue Date: September 30, 2021



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CERTIFICATE OF TEST

Last Date of Test: August 30, 2021
Neurosoft Ltd.
EUT: Neuron-Spectrum-AM

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2021	ANSI C63.10:2013, KDB 558074

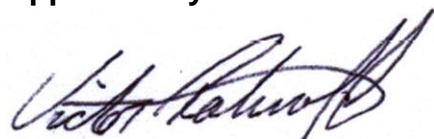
Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
11.6	Duty Cycle	No	N/A	Not required.
11.8.2	Occupied Bandwidth	No	N/A	Not required.
11.9.2.2.4	Output Power	Yes	Pass	
11.9.2.2.4	Equivalent Isotropic Radiated Power	No	N/A	Not required.
11.10.2	Power Spectral Density	No	N/A	Not required.
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	No	N/A	Not required.
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:



Victor Ratinoff, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. 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 - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

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:

[California](#)

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FACILITIES



California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157



MEASUREMENT UNCERTAINTY



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.

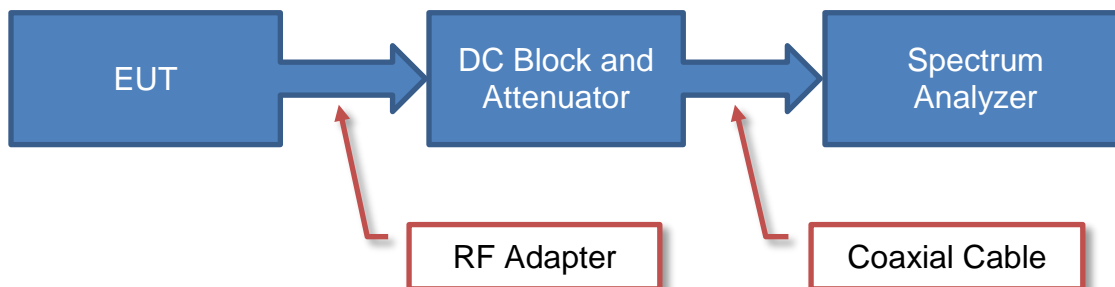
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific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

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

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

TEST SETUP BLOCK DIAGRAMS

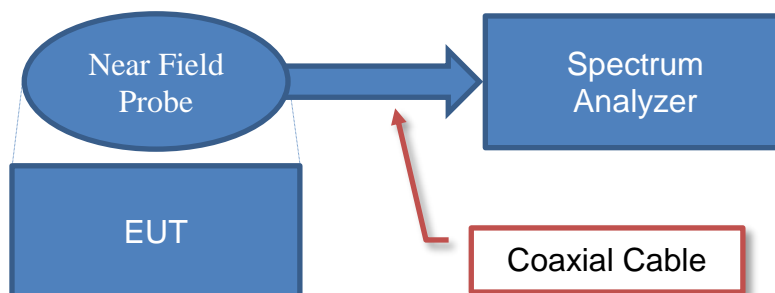
Antenna Port Conducted Measurements



Sample Calculation

Measured Value	=	Measured Level	+	Reference Level Offset
71.2		42.6		28.6

Near Field Test Fixture Measurements

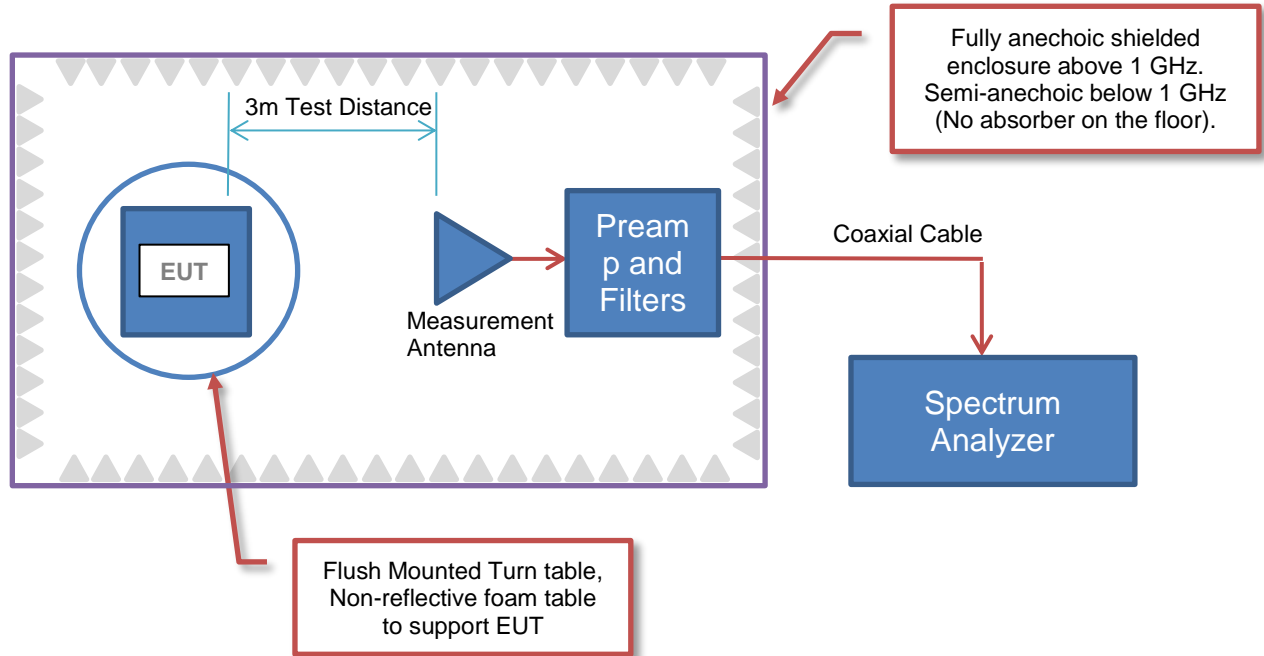


Sample Calculation

Measured Value	=	Measured Level	+	Reference Level Offset
71.2		42.6		28.6

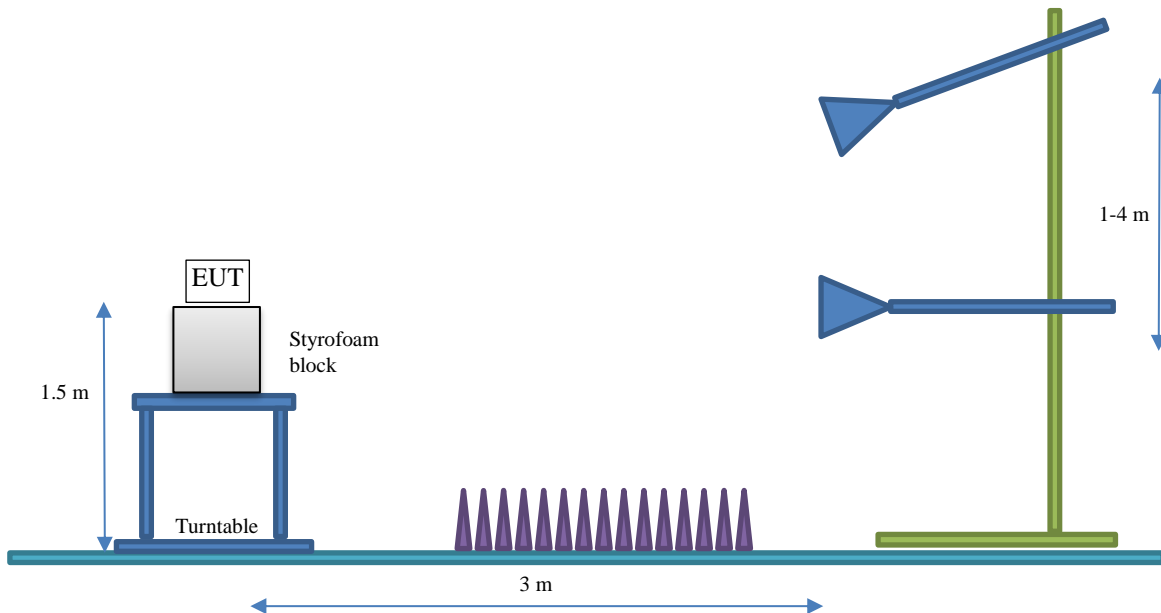
TEST SETUP BLOCK DIAGRAMS

Spurious Radiated Emissions



Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Neurosoft Ltd.
Address:	5950 La Place Ct. Suite 160
City, State, Zip:	Carlsbad, CA 92008
Test Requested By:	Vicki Chester
EUT:	Neuron-Spectrum-AM
First Date of Test:	August 30, 2021
Last Date of Test:	August 30, 2021
Receipt Date of Samples:	August 30, 2021
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

802.11bgn SISO radio

Testing Objective:

To demonstrate compliance of the 802.11 radio under FCC 15.247 for operation in the 2.4 GHz band. For a C2PC due to a high gain antenna for radio module with FCC ID 2AZHPG05300 when integrated into the host, Neuron-Spectrum-AM.

CONFIGURATIONS



Configuration CORT0007- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Neuron-Spectrum-AM	Neurosoft	NS053201.004-02	00170122

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Power Bank	Neurosoft	NS102110.001-020	22930001

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Power Bank Cable	No	10cm	No	Power Bank	Neuron-Spectrum-AM

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2021-08-30	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.
2	2021-08-30	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.
3	2021-08-30	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWER SETTINGS AND ANTENNAS



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

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
Dipole	Neurosoft Ltd.	2400-2483.5	2.68

Channel	Frequency (MHz)	Power Level
Low	2412	1 (Max)
Mid	2437	1 (Max)
High	2462	1 (Max)



XMIT 2020.12.30.0

BAND EDGE COMPLIANCE

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Block - DC	Aeroflex	INMET 8535	AMO	2021-02-22	2022-02-22
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.


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

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

BAND EDGE COMPLIANCE



TelTx 2021.03.19.1 XMI 2020.12.30.0

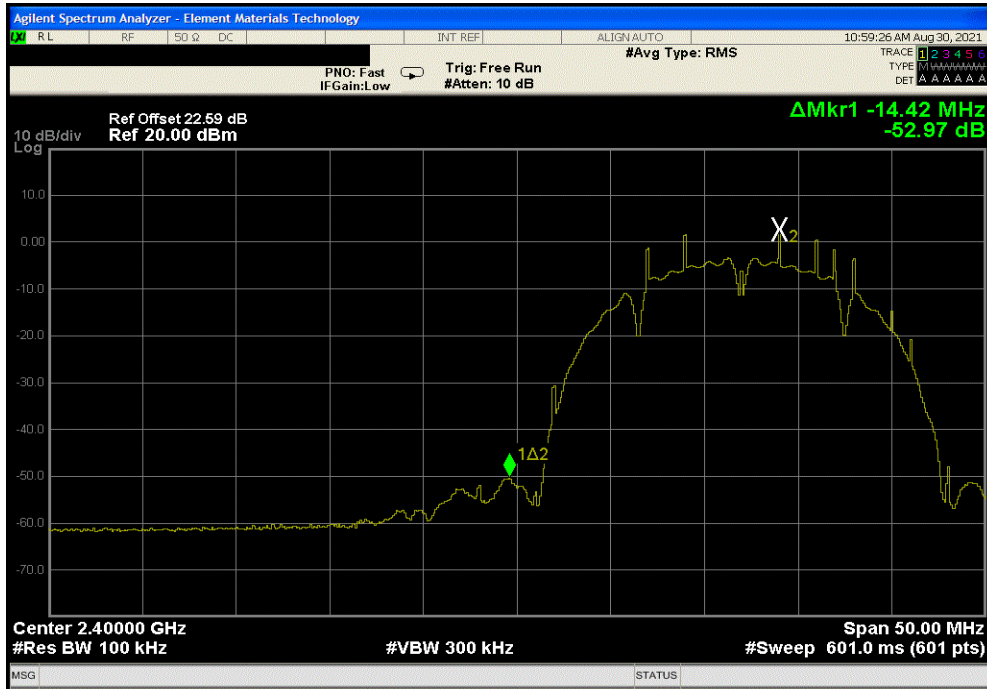
EUT: Neuron-Spectrum-AM		Work Order: CORT0007		
Serial Number: 00170122		Date: 30-Aug-21		
Customer: Neurosoft Ltd.		Temperature: 23.6 °C		
Attendees: Julio Ferro		Humidity: 50.6% RH		
Project: None		Barometric Pres.: 1012 mbar		
Tested by: Nolan De Ramos	Power: 3.7 VDC Power Bank	Job Site: OC13		
TEST SPECIFICATIONS				
FCC 15.247:2021		ANSI C63.10:2013		
TEST METHOD				
COMMENTS				
Test Cable + 20 dB Attenuator + DC Block + IFL Patch Cable = Reference Level Offset				
Transmitting 802.11bgn: Low Channel (1) 2412 MHz, High Channel (11) 2462 MHz				
Data Rates: 1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7, Power Level: 1 (Max)				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature 		
		Value (dBc)	Limit ≤ (dBc)	Result
2400 MHz - 2483.5 MHz Band				
802.11(b) 1 Mbps	Low Channel 1, 2412 MHz	-52.97	-30	Pass
	High Channel 11, 2462 MHz	-64.17	-30	Pass
802.11(b) 11 Mbps	Low Channel 1, 2412 MHz	-49.44	-30	Pass
	High Channel 11, 2462 MHz	-59.37	-30	Pass
802.11(g) 6 Mbps	Low Channel 1, 2412 MHz	-42.19	-30	Pass
	High Channel 11, 2462 MHz	-50.93	-30	Pass
802.11(g) 36 Mbps	Low Channel 1, 2412 MHz	-43.22	-30	Pass
	High Channel 11, 2462 MHz	-50.83	-30	Pass
802.11(g) 54 Mbps	Low Channel 1, 2412 MHz	-43.38	-30	Pass
	High Channel 11, 2462 MHz	-50.75	-30	Pass
802.11(n) MCS0	Low Channel 1, 2412 MHz	-42.33	-30	Pass
	High Channel 11, 2462 MHz	-50.42	-30	Pass
802.11(n) MCS7	Low Channel 1, 2412 MHz	-44.23	-30	Pass
	High Channel 11, 2462 MHz	-50.38	-30	Pass

BAND EDGE COMPLIANCE

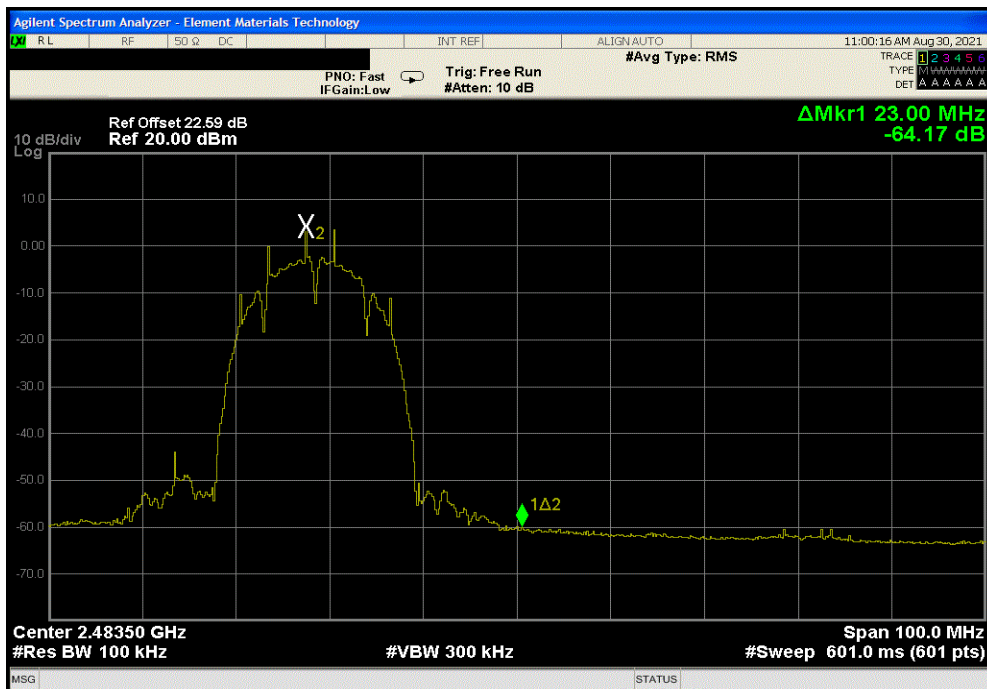


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-52.97	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-64.17	-30	Pass			

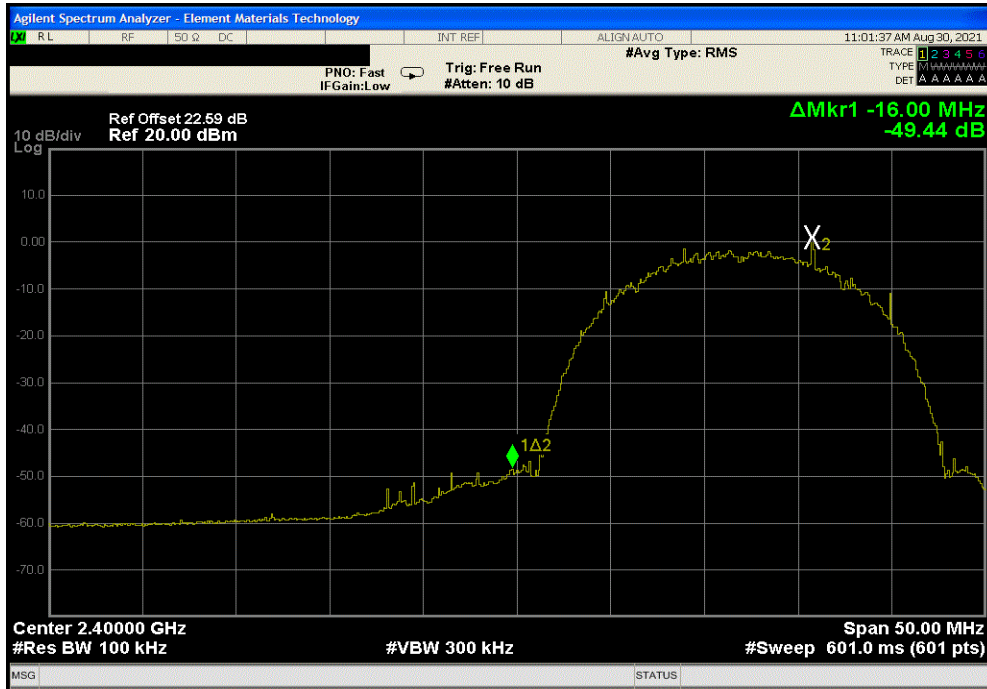


BAND EDGE COMPLIANCE

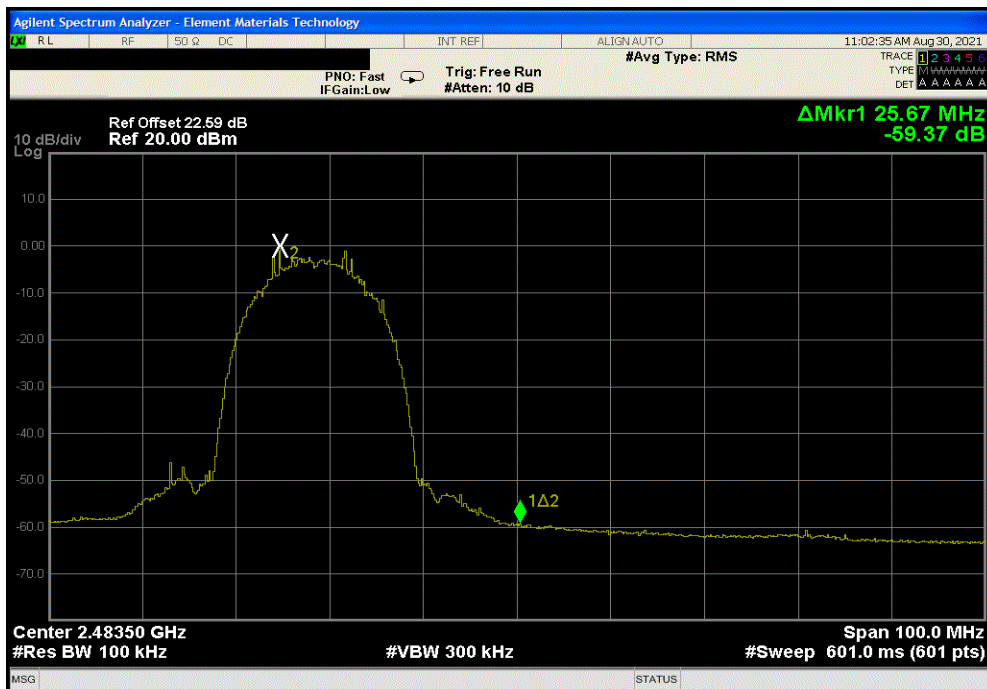


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	(dBc)	≤ (dBc)				Result
	-49.44	-30				Pass



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	(dBc)	≤ (dBc)				Result
	-59.37	-30				Pass

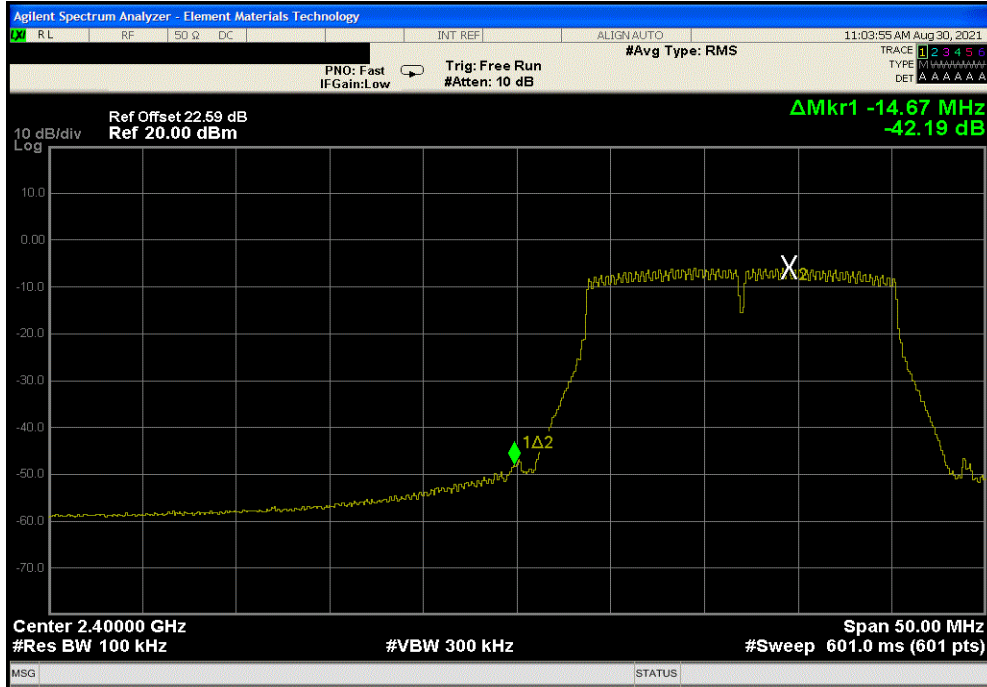


BAND EDGE COMPLIANCE

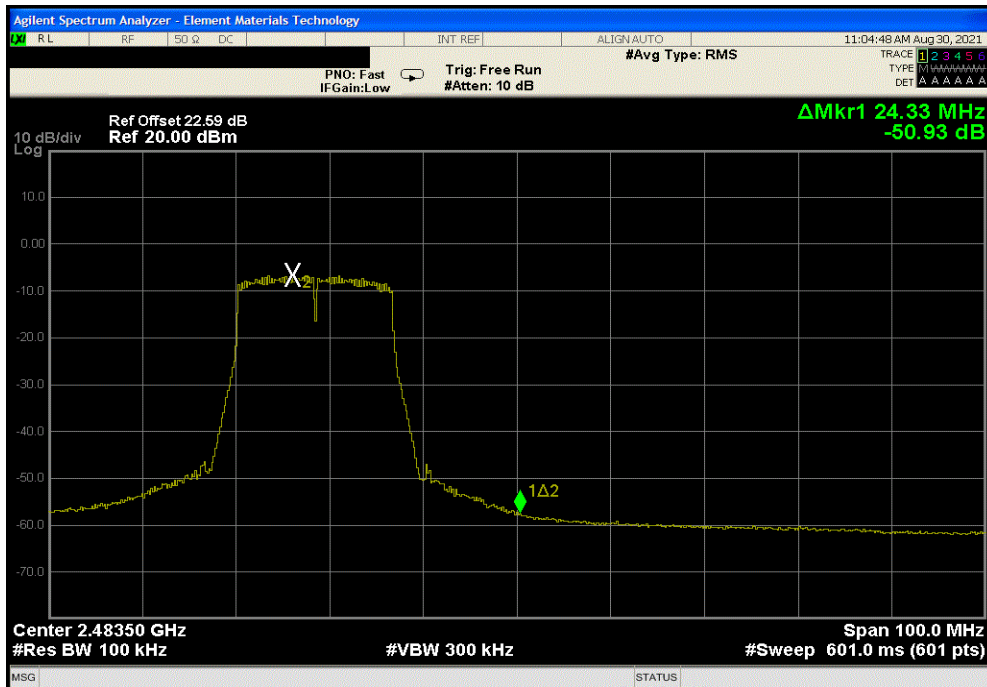


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-42.19	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-50.93	-30	Pass			

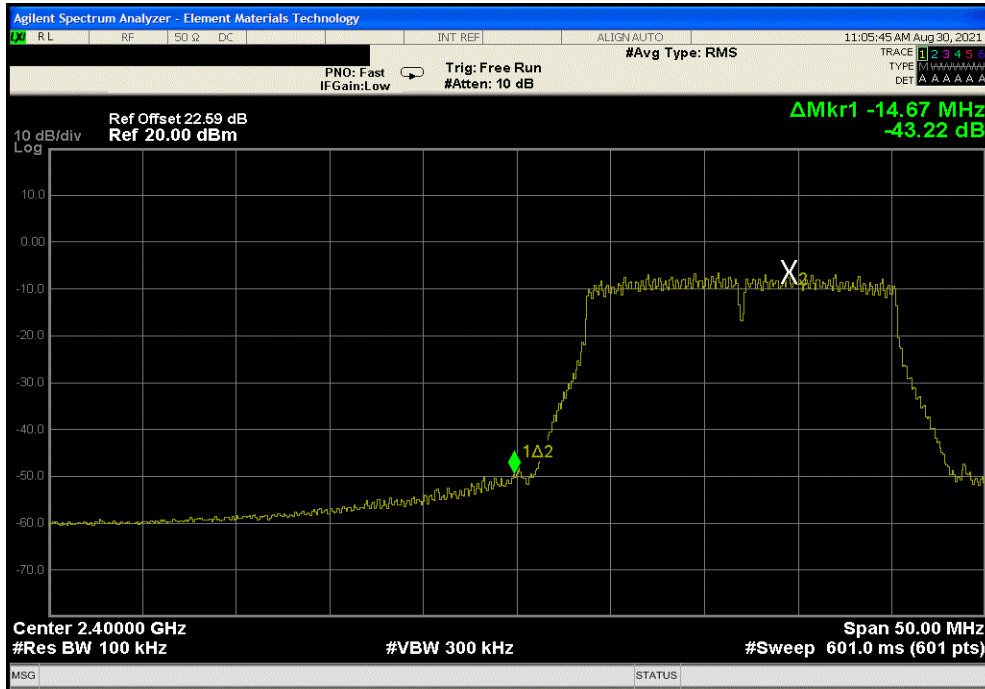


BAND EDGE COMPLIANCE

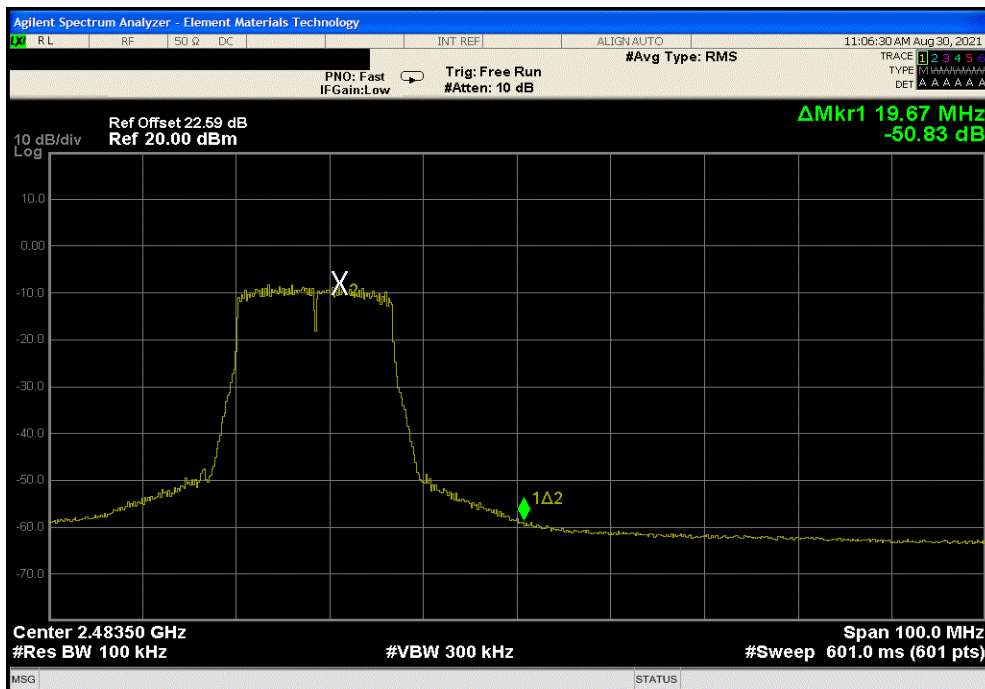


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-43.22	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-50.83	-30	Pass			

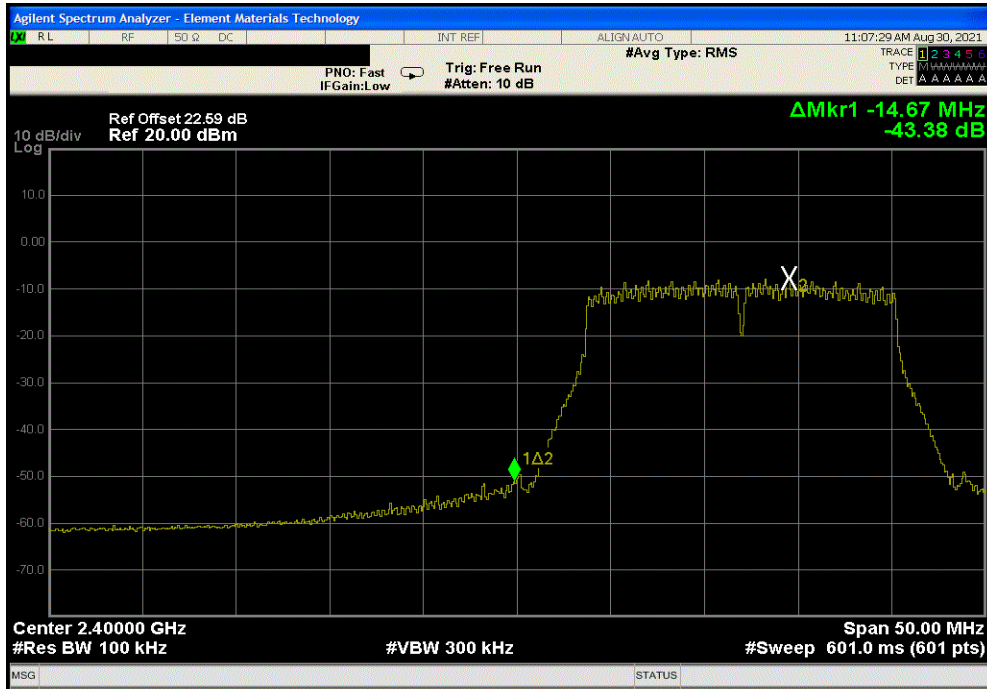


BAND EDGE COMPLIANCE

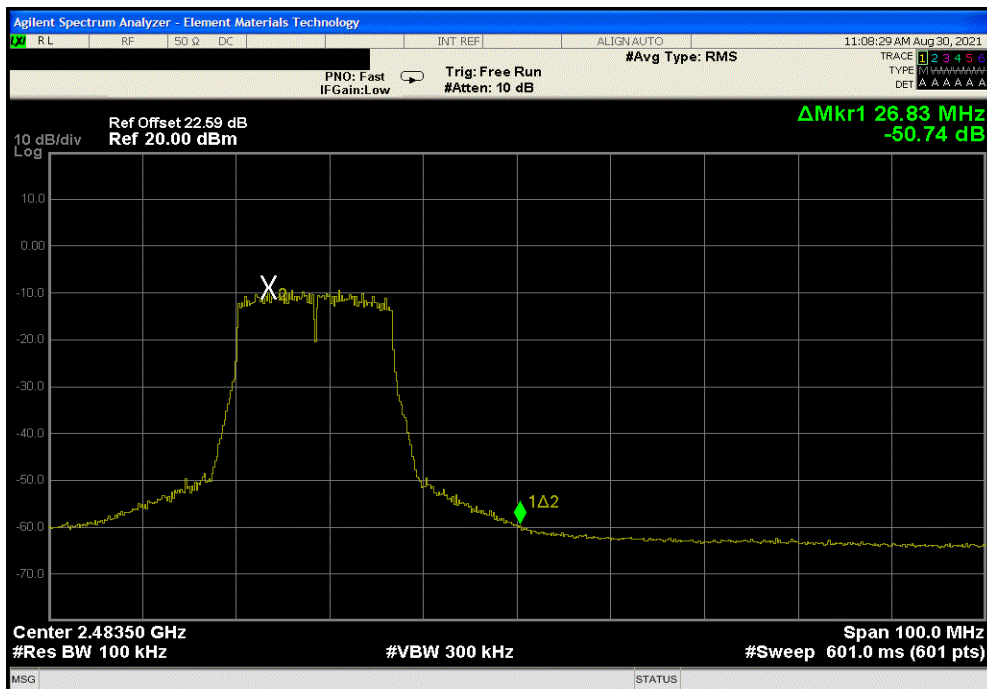


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-43.38	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-50.75	-30	Pass			

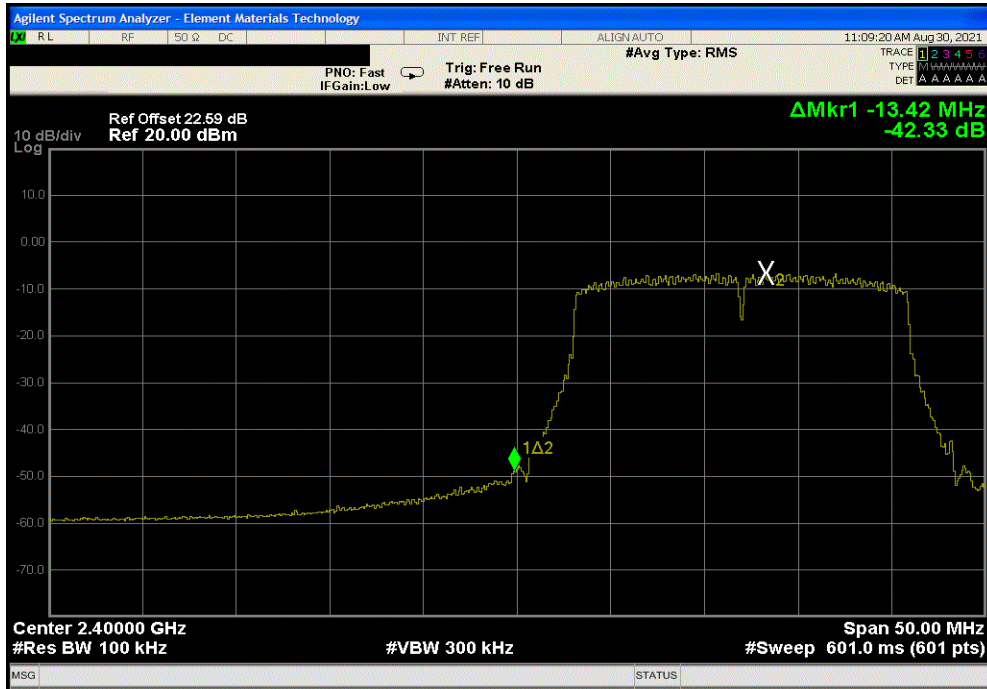


BAND EDGE COMPLIANCE

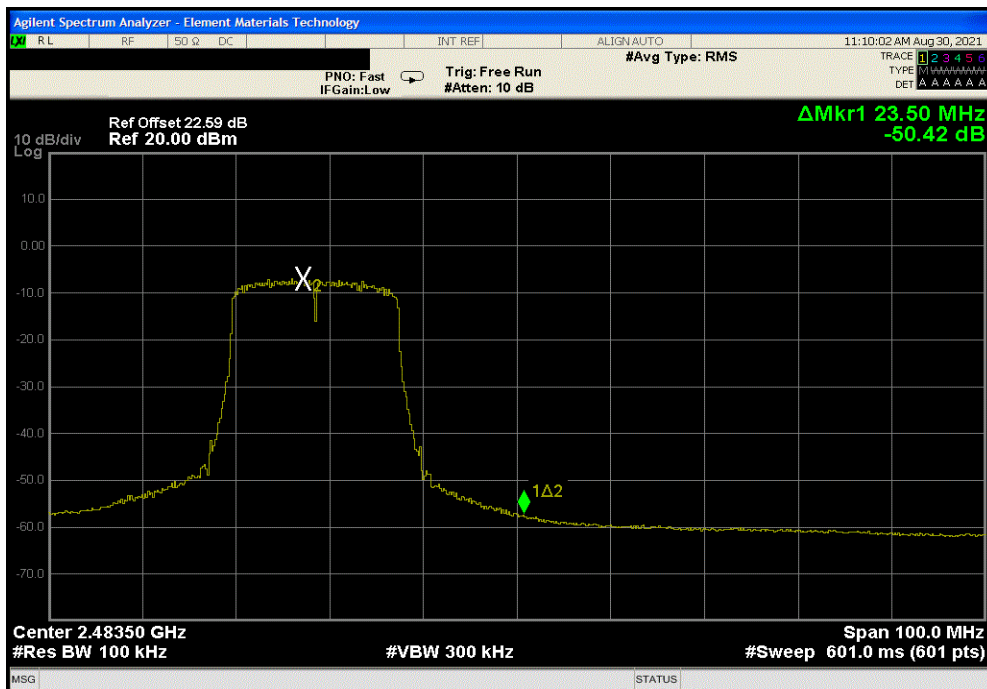


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-42.33	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Value	Limit	Result			
	(dBc)	≤ (dBc)				
	-50.42	-30	Pass			

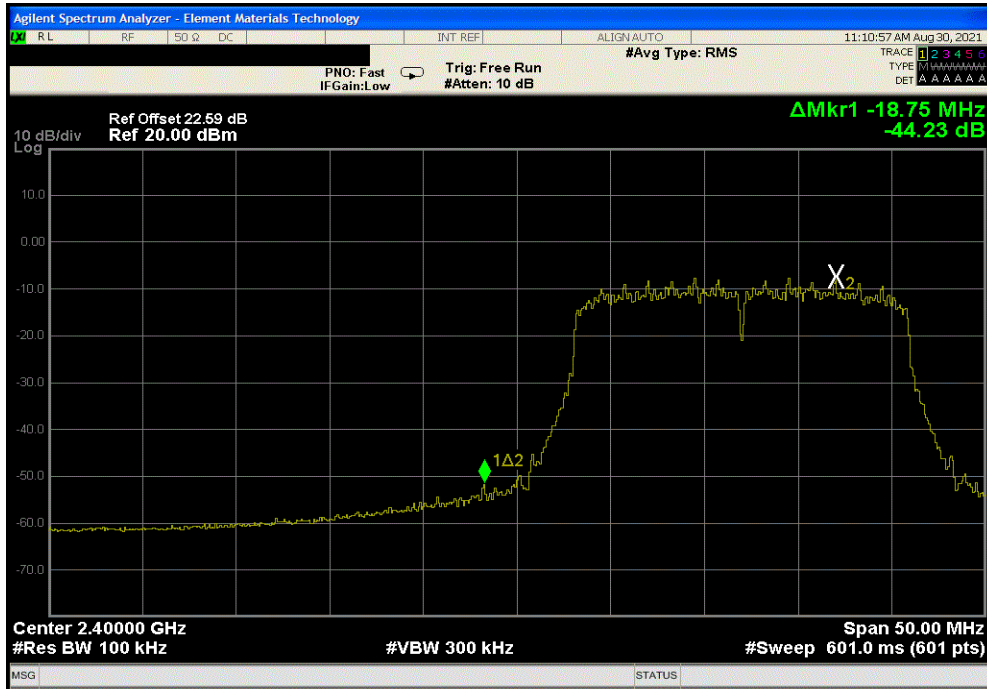


BAND EDGE COMPLIANCE

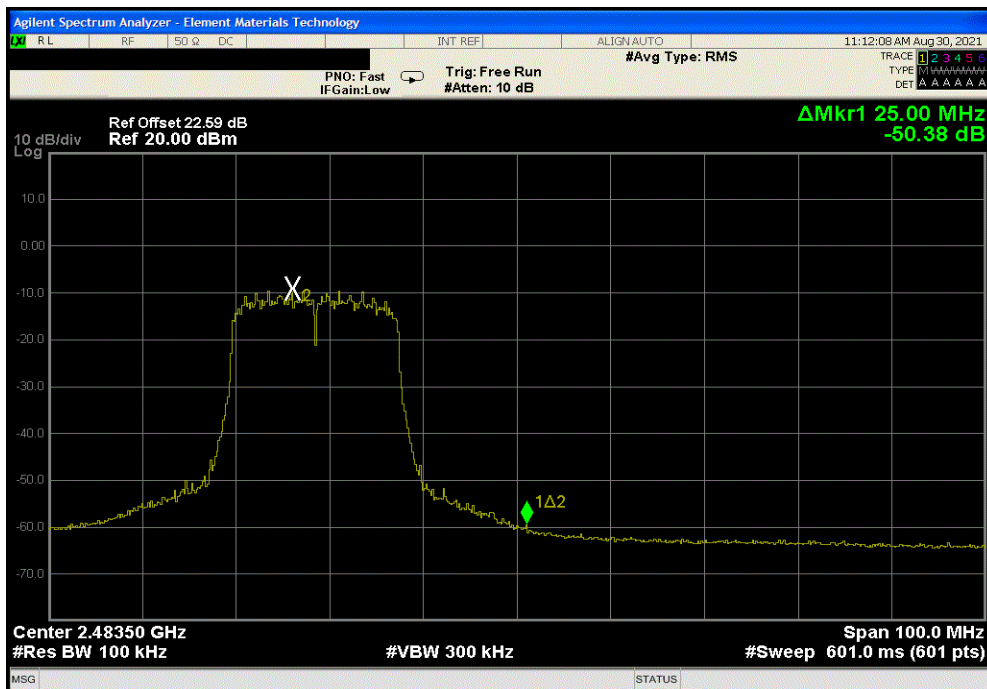


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-44.23	-30	Pass			



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Value (dBc)	Limit ≤ (dBc)	Result			
	-50.38	-30	Pass			



OUTPUT POWER



XMit 2020.12.30.0

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2021-04-27	2022-04-27
Attenuator	Fairview Microwave	SA18H-20	TKR	2020-12-18	2021-12-18
Block - DC	Aeroflex	INMET 8535	AMO	2021-02-22	2022-02-22
Generator - Signal	Agilent	E8257D	TGU	2020-11-03	2023-11-03
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2021-01-06	2022-01-06

TEST DESCRIPTION

The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.


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

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

OUTPUT POWER



TelTx 2021.03.19.1 XMt 2020.12.30.0

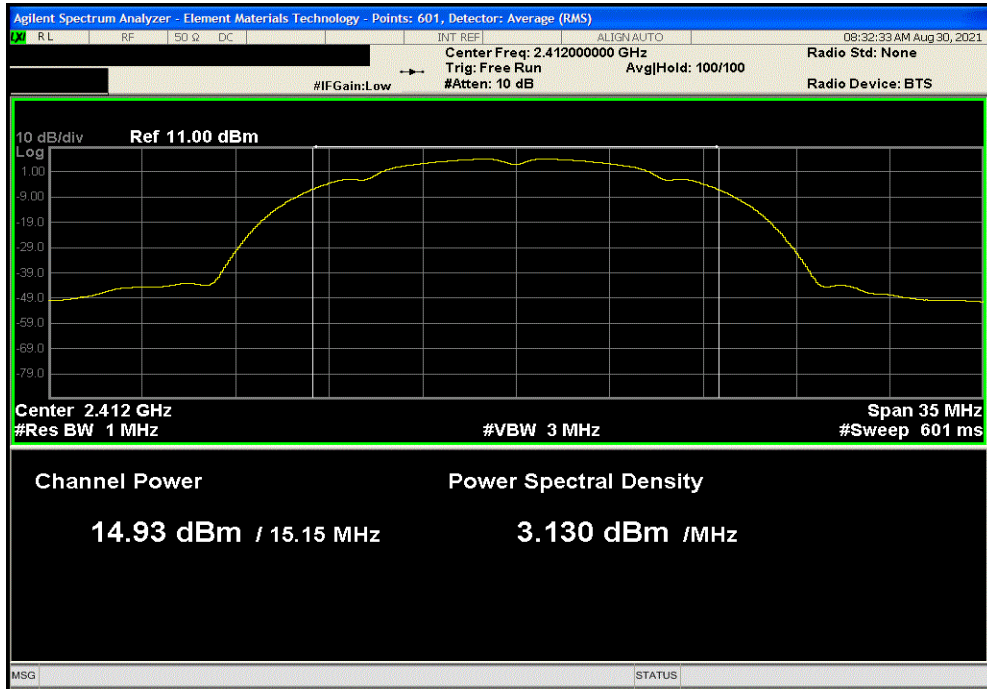
EUT: Neuron-Spectrum-AM		Work Order: CORT0007	
Serial Number: 00170122		Date: 30-Aug-21	
Customer: Neurosoft Ltd.		Temperature: 23.4 °C	
Attendees: Julio Ferro		Humidity: 50.9% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Nolan De Ramos		Power: 3.7 VDC Power Bank	
TEST SPECIFICATIONS		Job Site: OC13	
FCC 15.247:2021		Test Method	
		ANSI C63.10:2013	
COMMENTS			
Test Cable + 20 dB Attenuator + DC Block + IFL Patch Cable = Reference Level Offset.			
EUT transmitting at 100% Duty Cycle.			
Transmitting 802.11bgn: Low Channel (1) 2412 MHz, Mid Channel (6) 2437 MHz, High Channel (11) 2462 MHz			
Data Rates: 1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7, Power Level: 1 (Max)			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)
		Out Pwr (dBm)	Limit (dBm)
			Result
2400 MHz - 2483.5 MHz Band			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	14.934	0
	Mid Channel 6, 2437 MHz	14.597	0
	High Channel 11, 2462 MHz	14.025	0
			14.9
			14.6
			14
			30
			30
			30
			Pass
			Pass
			Pass
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	15.03	0
	Mid Channel 6, 2437 MHz	15.801	0
	High Channel 11, 2462 MHz	15.474	0
			15
			15.8
			15.5
			30
			30
			30
			Pass
			Pass
			Pass
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	14.114	0
	Mid Channel 6, 2437 MHz	13.839	0
	High Channel 11, 2462 MHz	13.3	0
			14.1
			13.8
			13.3
			30
			30
			30
			Pass
			Pass
			Pass
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	11.569	0
	Mid Channel 6, 2437 MHz	11.331	0
	High Channel 11, 2462 MHz	11.044	0
			11.6
			11.3
			11
			30
			30
			30
			Pass
			Pass
			Pass
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	10.421	0
	Mid Channel 6, 2437 MHz	9.801	0
	High Channel 11, 2462 MHz	9.295	0
			10.4
			9.8
			9.3
			30
			30
			30
			Pass
			Pass
			Pass
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	13.712	0
	Mid Channel 6, 2437 MHz	13.638	0
	High Channel 11, 2462 MHz	13.325	0
			13.7
			13.6
			13.3
			30
			30
			30
			Pass
			Pass
			Pass
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	10.407	0
	Mid Channel 6, 2437 MHz	9.465	0
	High Channel 11, 2462 MHz	9.227	0
			10.4
			9.5
			9.2
			30
			30
			30
			Pass
			Pass
			Pass

OUTPUT POWER

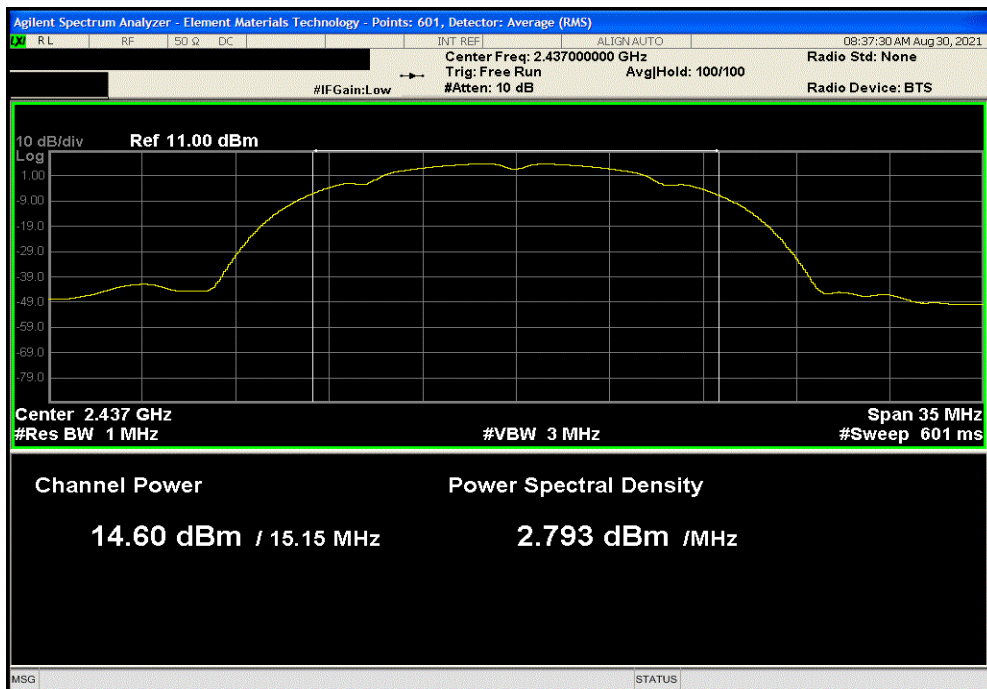


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result		
14.934	0	14.9	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result		
14.597	0	14.6	30	Pass		

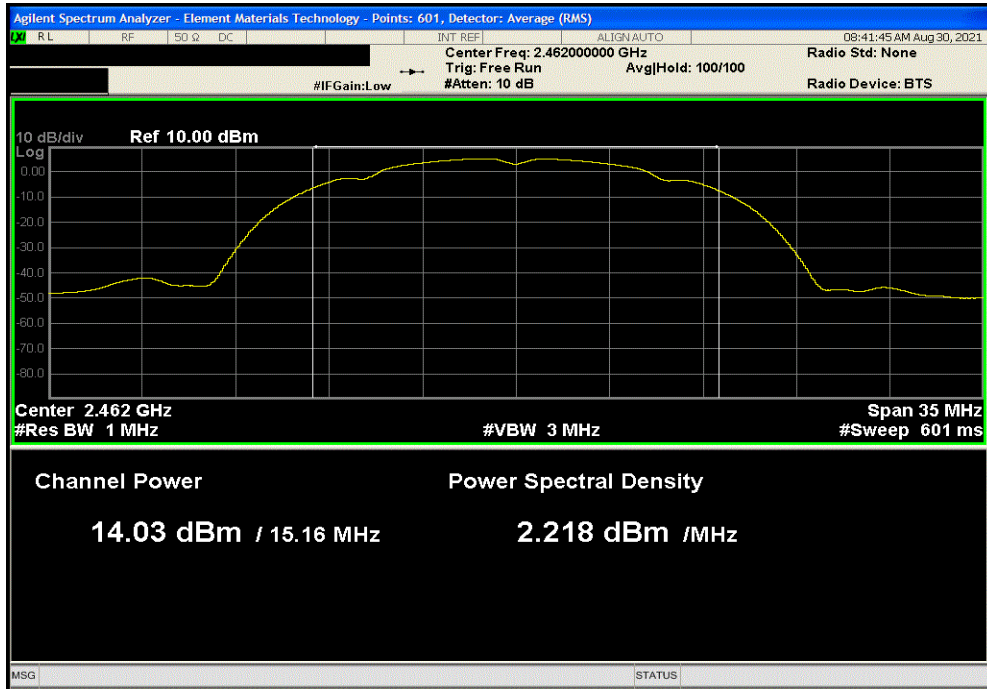


OUTPUT POWER

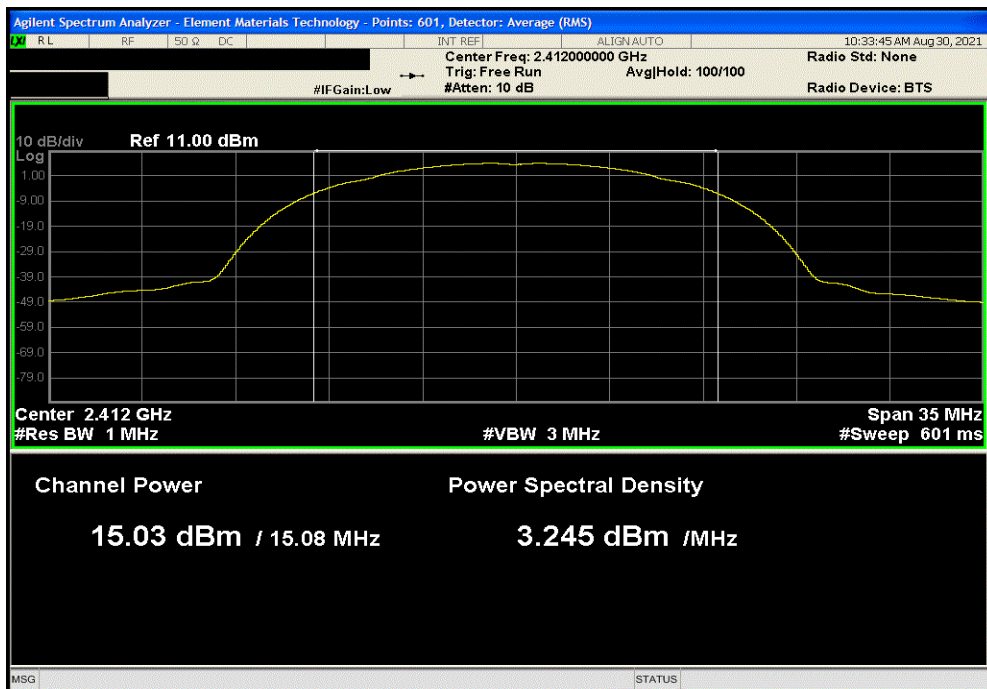


Tel: 2021.03.19.1 XMI: 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	14.025	0	14	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	15.03	0	15	30	Pass	

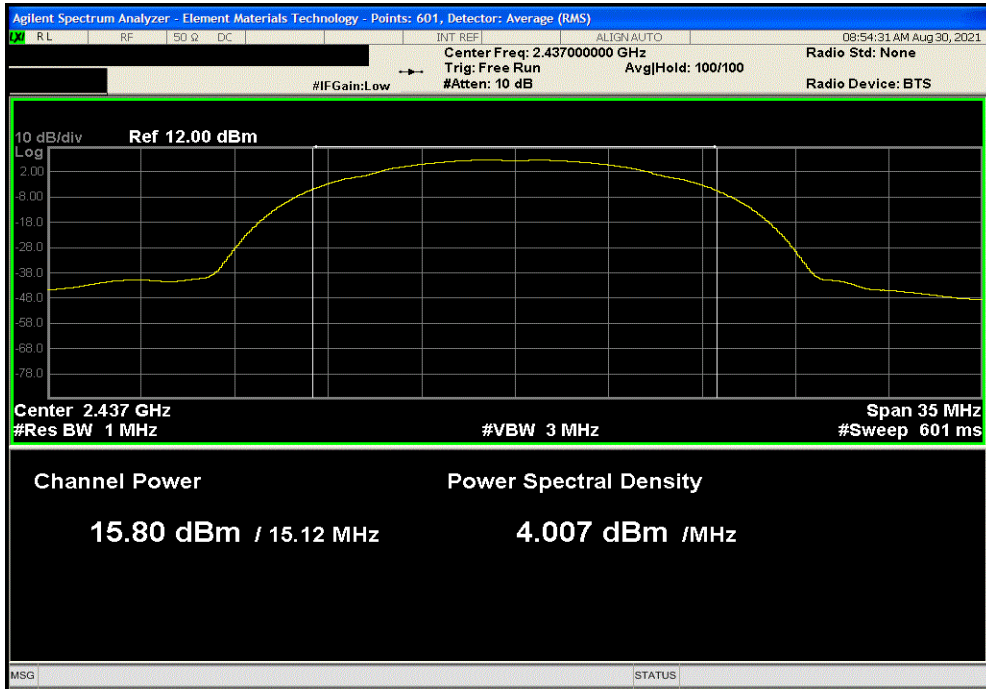


OUTPUT POWER

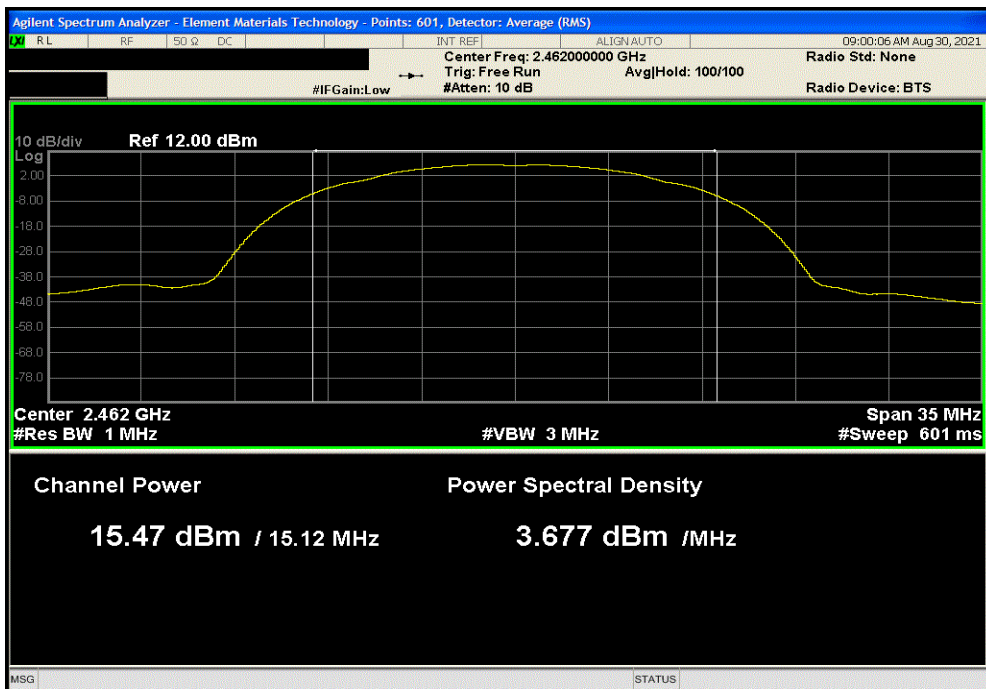


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	15.801	0	15.8	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	15.474	0	15.5	30	Pass	

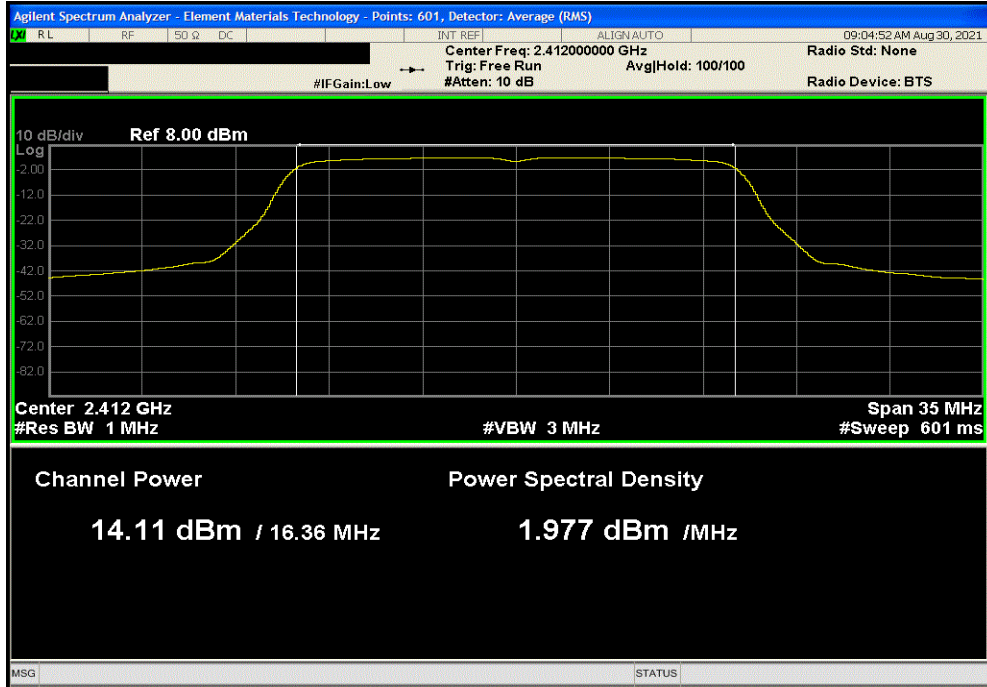


OUTPUT POWER

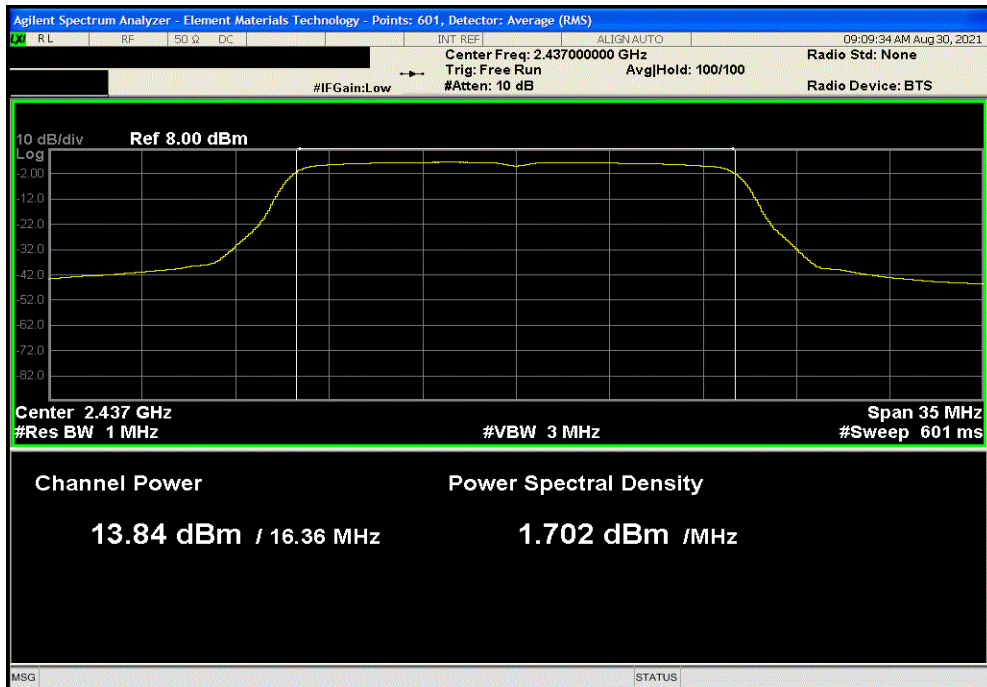


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	14.114	0	14.1	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	13.839	0	13.8	30	Pass	

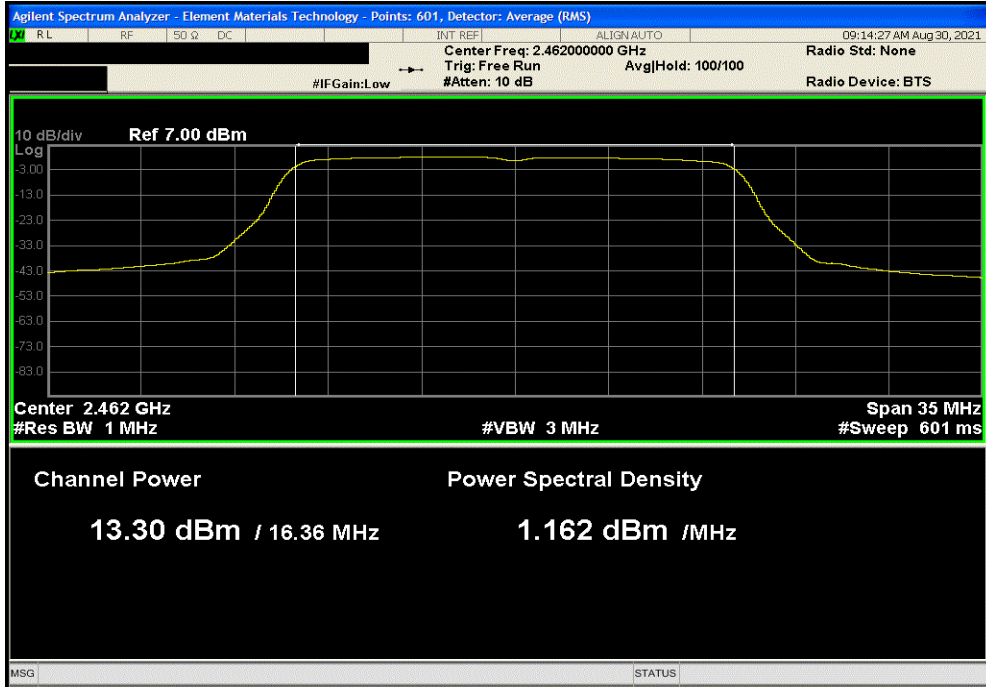


OUTPUT POWER

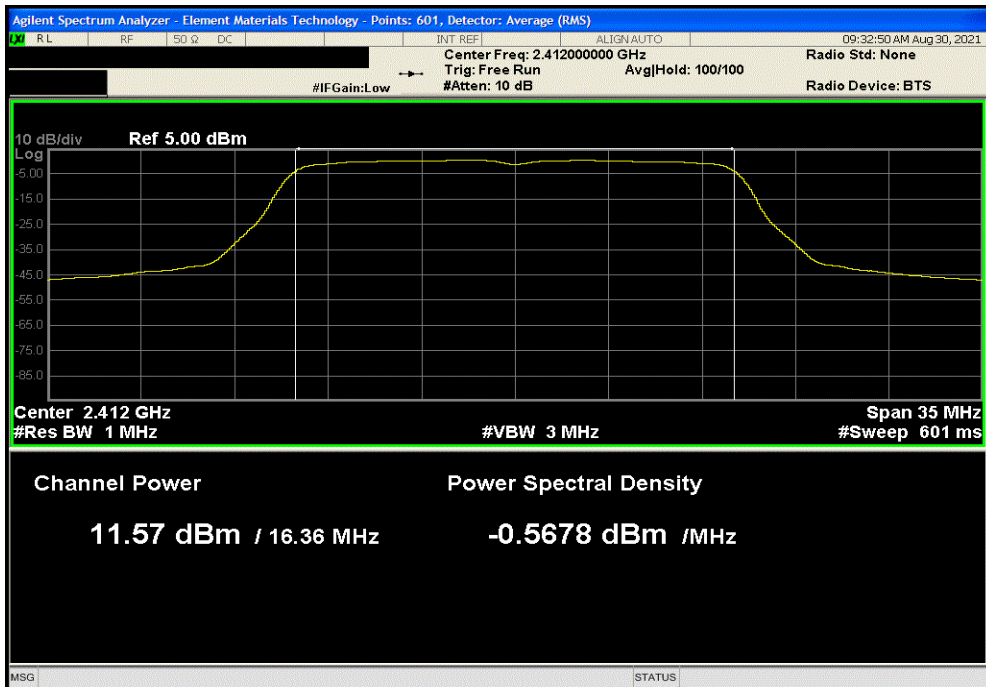


Tel: 2021.03.19.1 XMI: 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	13.3	0	13.3	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.569	0	11.6	30	Pass	

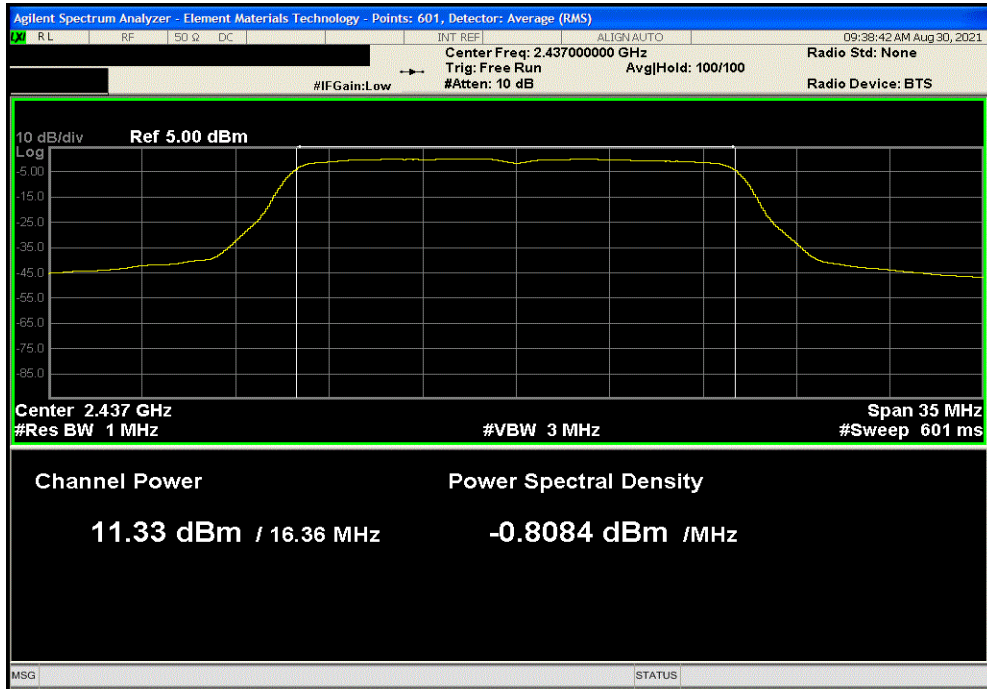


OUTPUT POWER

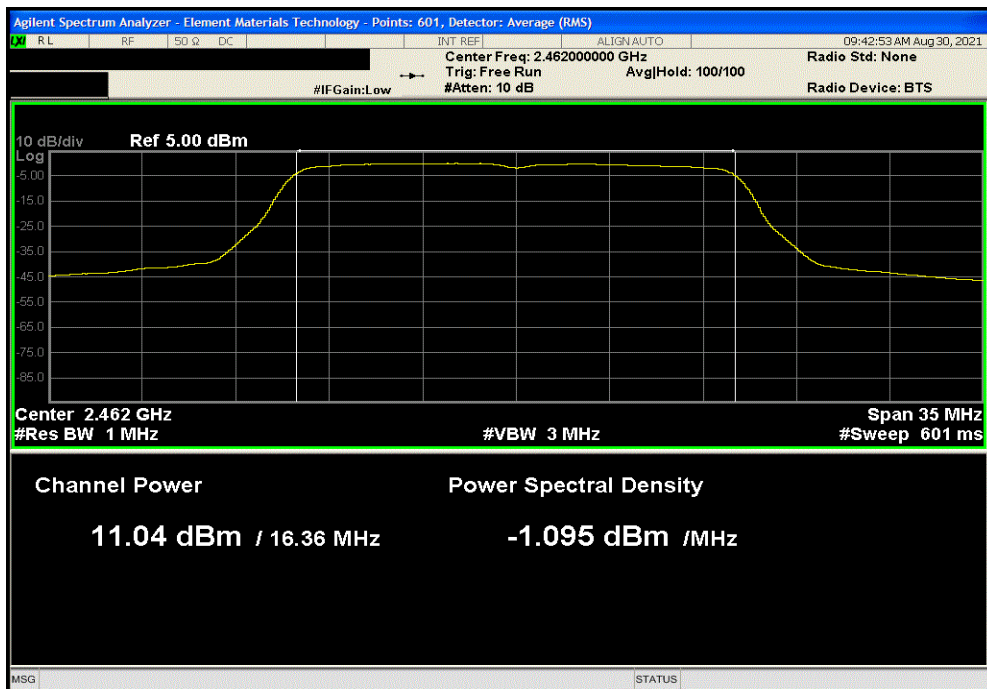


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.331	0	11.3	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	11.044	0	11	30	Pass	

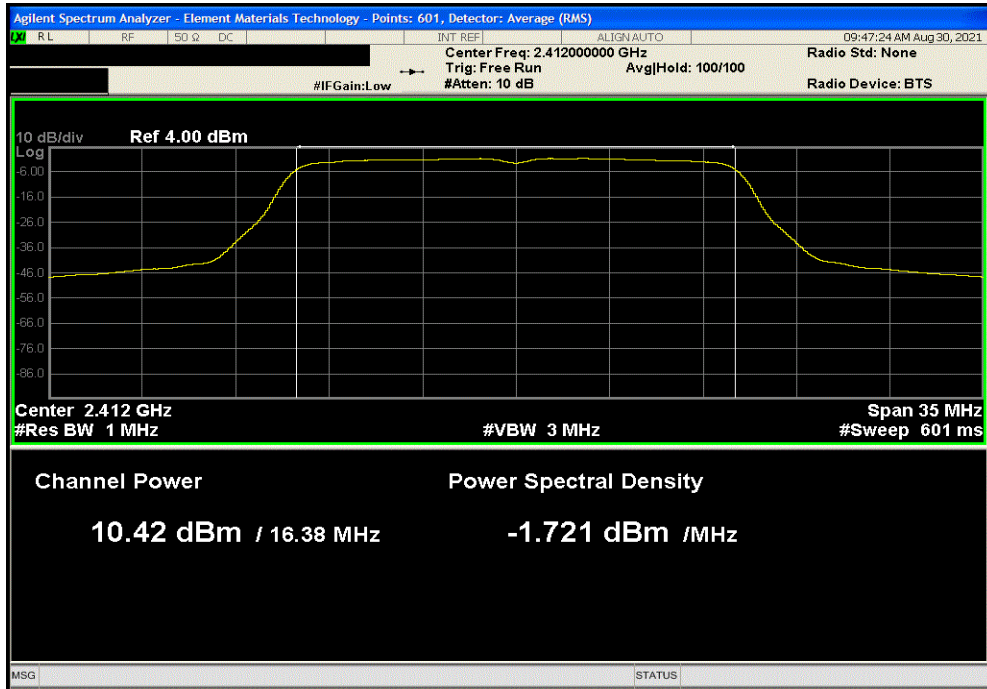


OUTPUT POWER

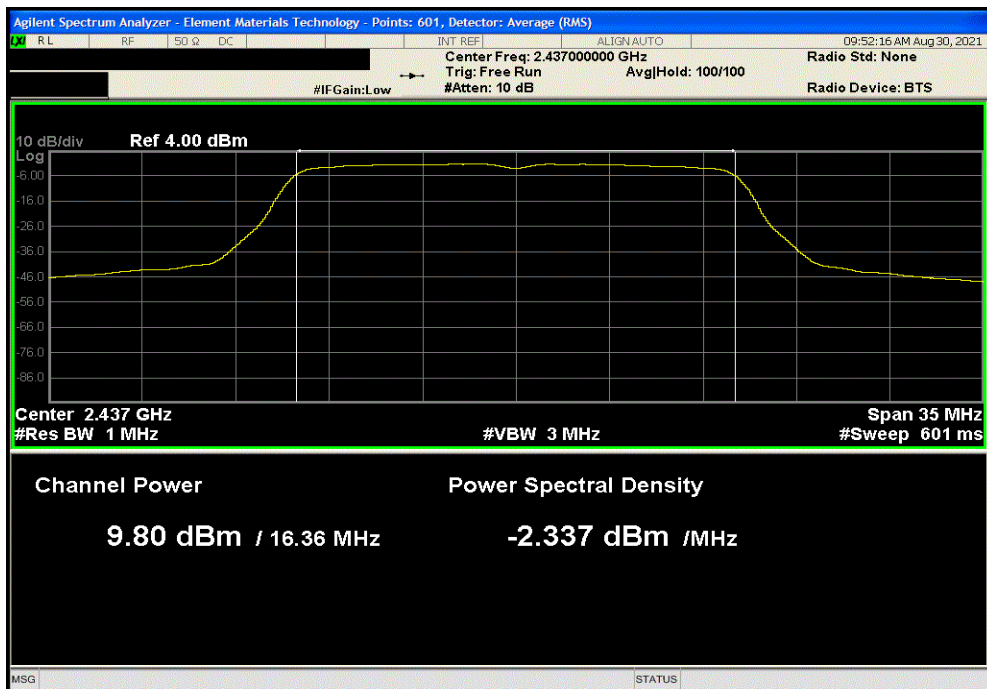


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.421	0	10.4	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	9.801	0	9.8	30	Pass	

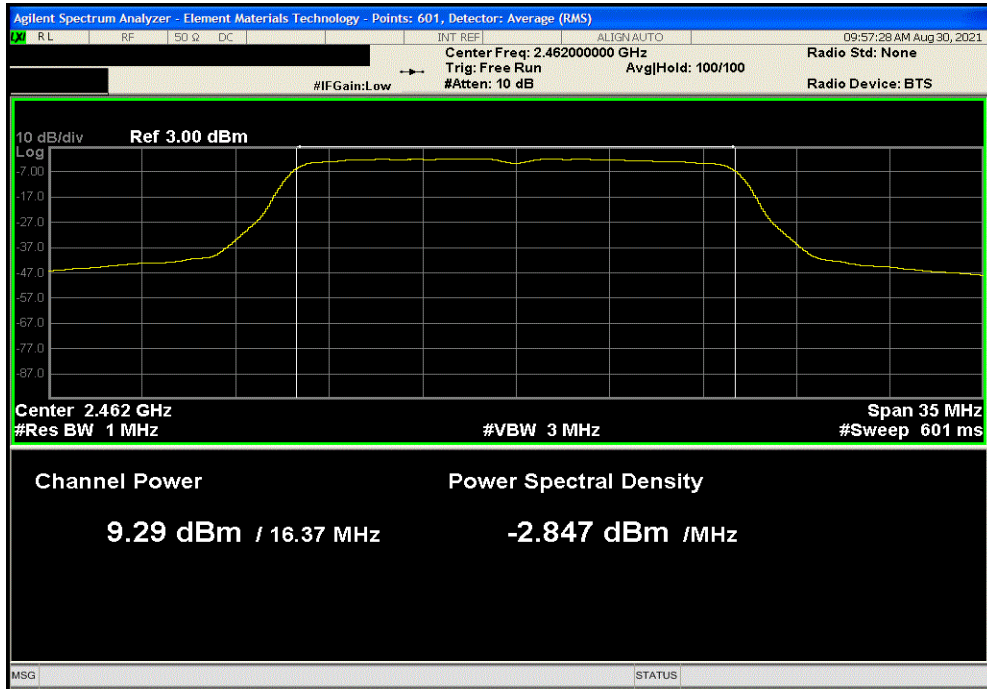


OUTPUT POWER

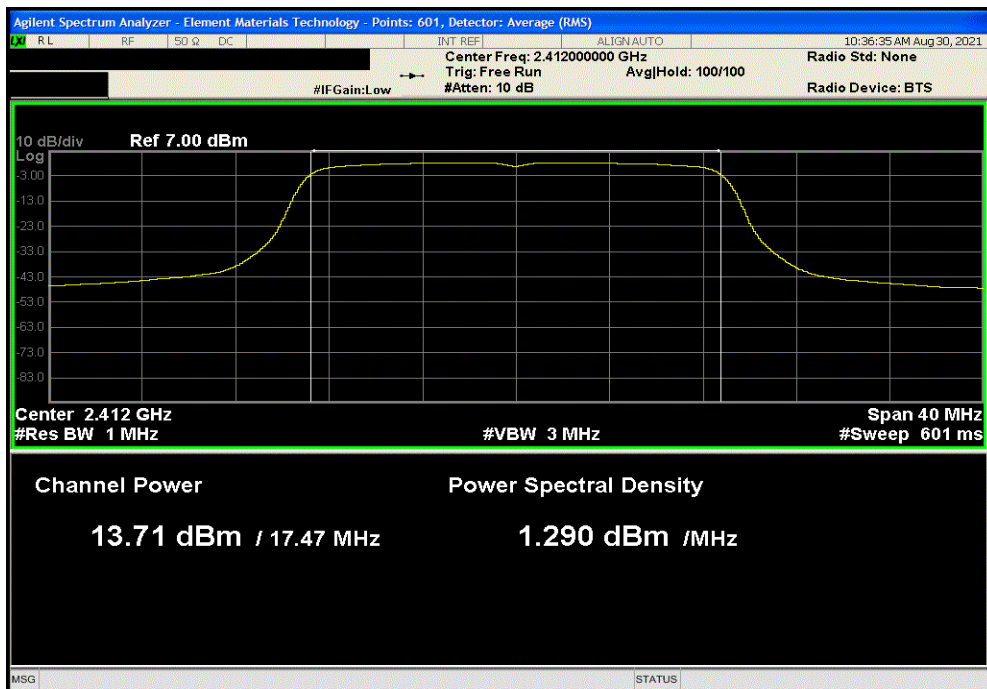


Tel: 2021.03.19.1 XMI: 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result		
9.295	0	9.3	30	Pass		



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result		
13.712	0	13.7	30	Pass		

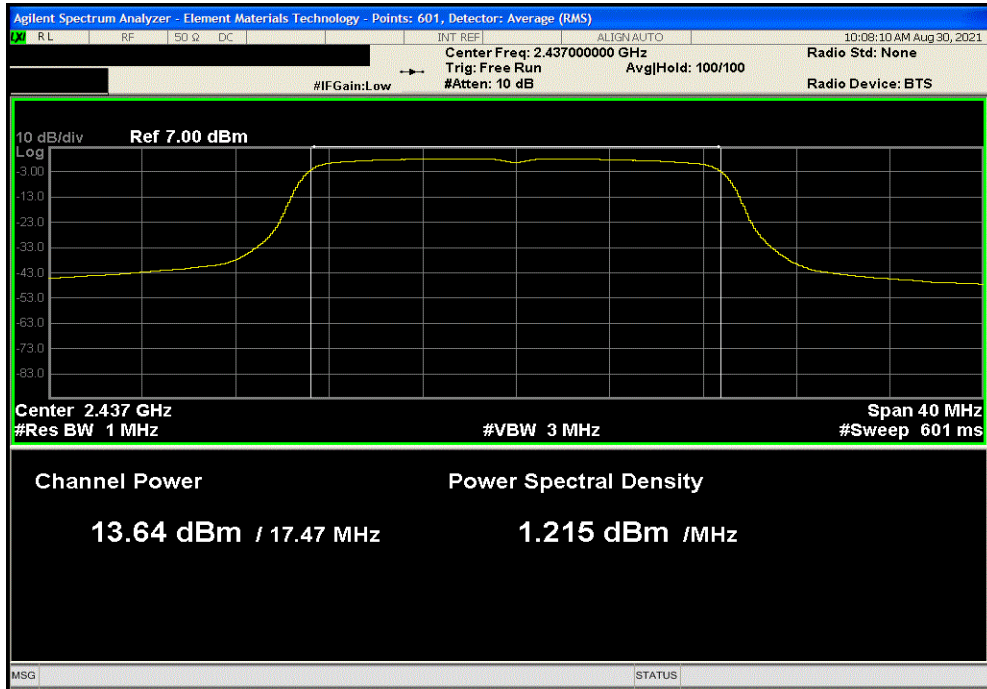


OUTPUT POWER

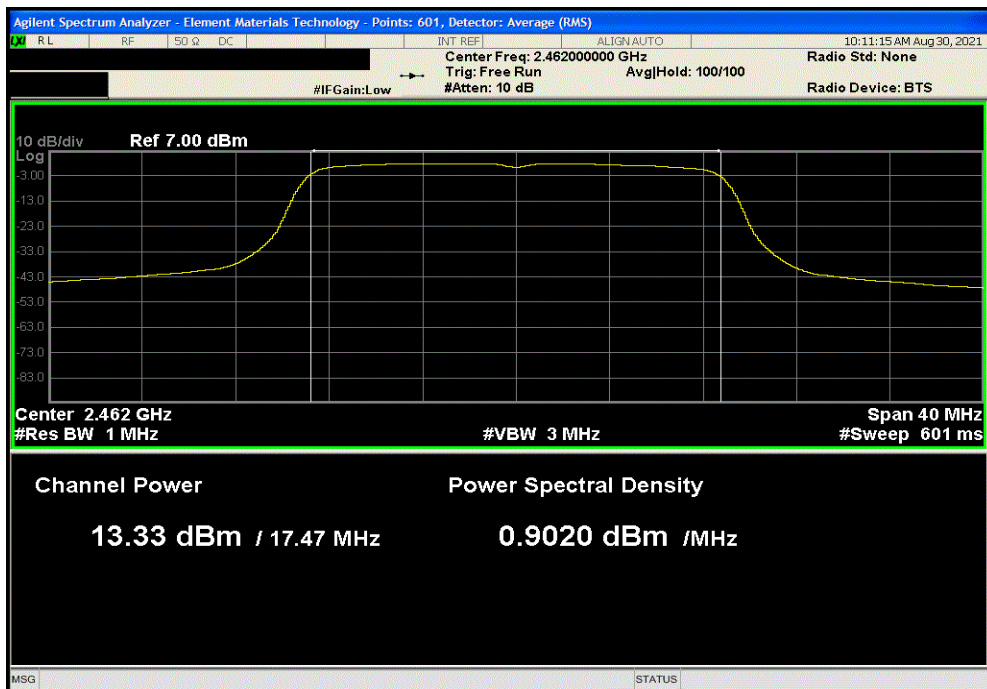


Tel: 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	13.638	0	13.6	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	13.325	0	13.3	30	Pass	

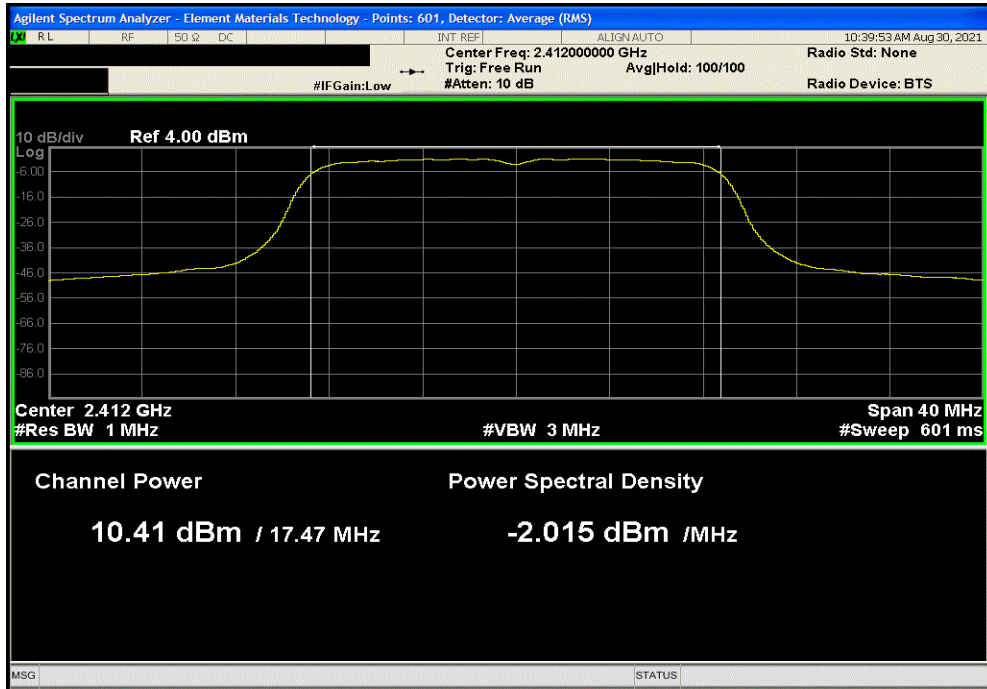


OUTPUT POWER

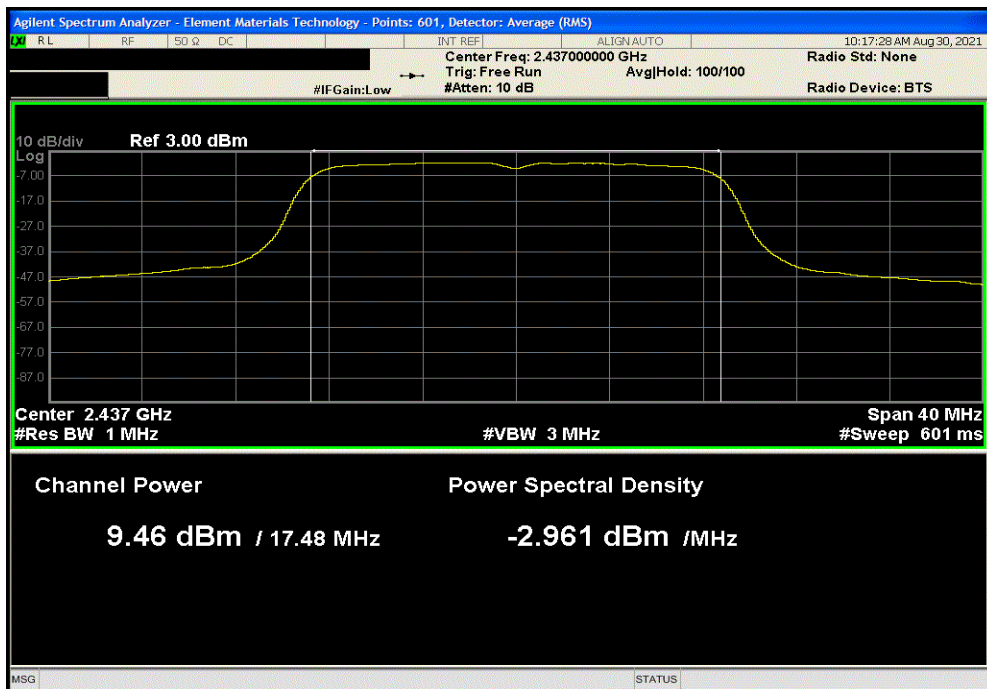


TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	10.407	0	10.4	30	Pass	



2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result	
	9.465	0	9.5	30	Pass	

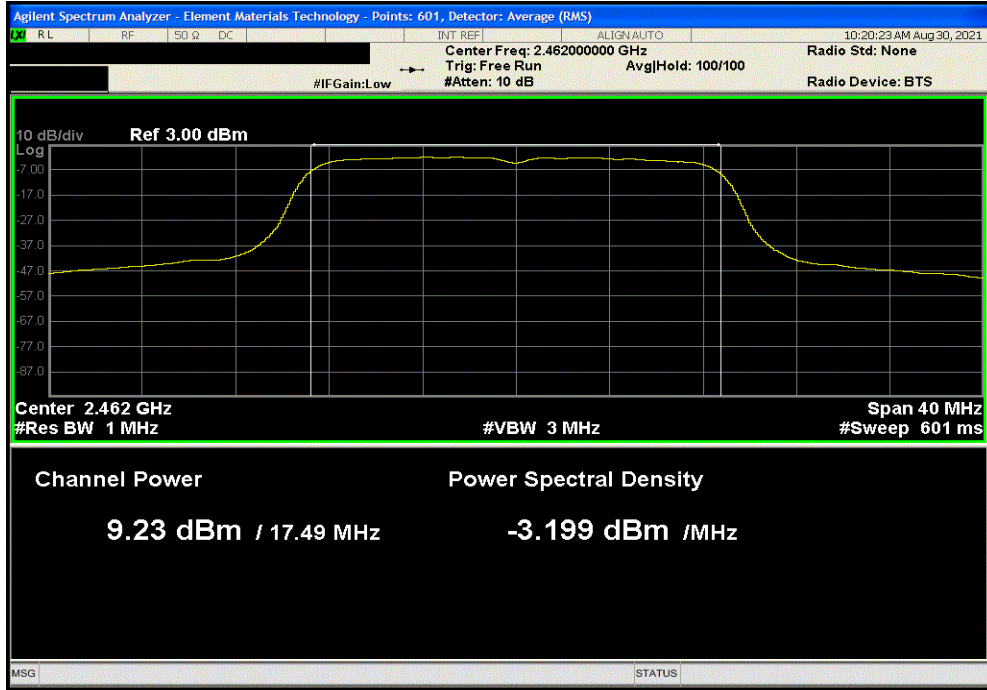


OUTPUT POWER



TbTx 2021.03.19.1 XMI 2020.12.30.0

2400 MHz - 2483.5 MHz Band, 802.11(n) MCS7, High Channel 11, 2462 MHz						
Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result		
9.227	0	9.2	30	Pass		



SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2021.03.17.0

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

MODES OF OPERATION

Transmitting 802.11bgn: Low Channel (1) 2412 MHz, Mid Channel (6) 2437 MHz, High Channel (11) 2462 MHz, Data Rates: 1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7, Power Level: 1 (Max)

POWER SETTINGS INVESTIGATED

3.7 VDC Power Bank

CONFIGURATIONS INVESTIGATED

CORT0007 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26.5 GHz
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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.	Cal. Due
Attenuator	S.M. Electronics	SA6-20	REO	2021-01-18	2022-01-18
Filter - High Pass	Micro-Tronics	HPM50108	HGP	2021-01-15	2022-01-15
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	2021-01-15	2022-01-15
Cable	Northwest EMC	18-26GHz RE Cables	OCK	2020-12-17	2021-12-17
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	2020-12-17	2021-12-17
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	2021-02-26	2022-02-26
Antenna - Standard Gain	EMCO	3160-08	AHK	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	2021-02-26	2022-02-26
Cable	ESM Cable Corp.	8-18GHz cables	OCY	2021-04-15	2022-04-15
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	2021-03-23	2022-03-23
Cable	ESM Cable Corp.	1-8GHz cables	OCX	2021-04-13	2022-04-13
Antenna - Double Ridge	ETS Lindgren	3115	AIR	2020-07-07	2022-07-07
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	2021-06-25	2022-06-25
Cable	ESM Cable Corp.	30-1GHz cables	OCW	2021-06-25	2022-06-25
Antenna - Biconilog	EMCO	3142	AXB	2020-04-15	2022-04-15
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	2020-11-17	2021-11-17

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2021.03.17.0

TEST DESCRIPTION

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

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

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

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

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

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

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

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

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of $10 \cdot \log(1/dc)$.

SPURIOUS RADIATED EMISSIONS

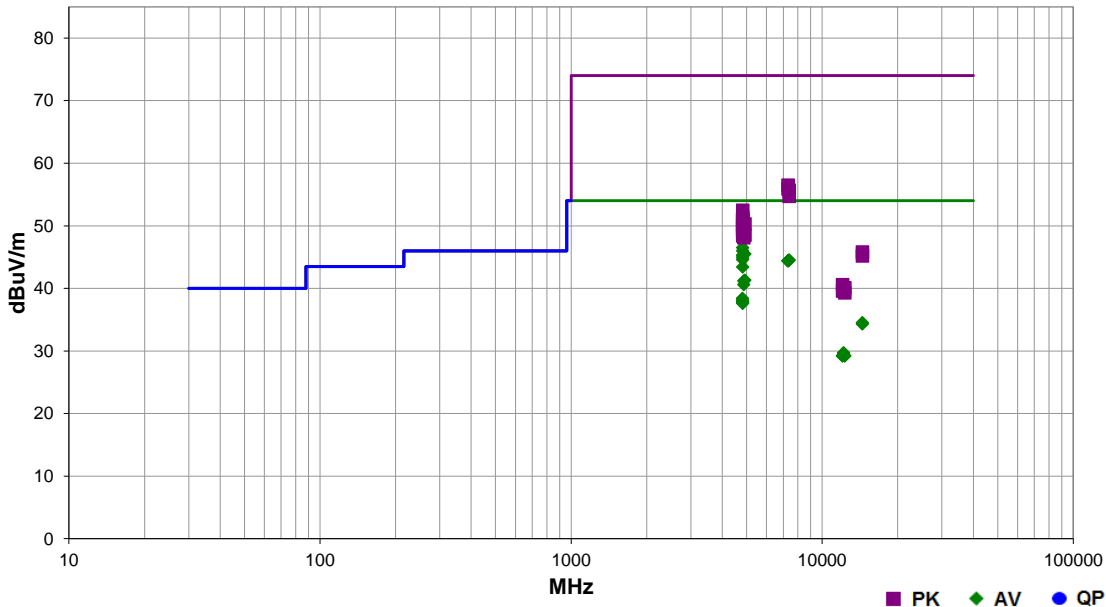


EmR5 2021.06.24.0 PSA-ESCI 2021.03.17.0

Work Order:	CORT0007	Date:	2021-08-30	
Project:	None	Temperature:	24.4 °C	
Job Site:	OC07	Humidity:	50.9% RH	
Serial Number:	00170122	Barometric Pres.:	1011 mbar	
EUT:	Neuron-Spectrum-AM			
Configuration:	1			
Customer:	Neurosoft Ltd.			
Attendees:	Julio Ferro			
EUT Power:	3.7 VDC Power Bank			
Operating Mode:	Transmitting 802.11bgn: Low Channel (1) 2412 MHz, Mid Channel (6) 2437 MHz, High Channel (11) 2462 MHz, Data Rates: 1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7, Power Level: 1 (Max)			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 15.247:2021	ANSI C63.10:2013

Run #	16	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4823.900	41.0	5.5	1.1	25.0	3.0	0.0	Vert	AV	0.0	46.5	54.0	-7.5	Tx, Low Ch, 1 Mbps, EUT on Side
4823.925	40.5	5.5	1.2	20.0	3.0	0.0	Vert	AV	0.0	46.0	54.0	-8.0	Tx, Low Ch, 1 Mbps, EUT Horz
4923.925	40.1	5.4	3.9	23.0	3.0	0.0	Horz	AV	0.0	45.5	54.0	-8.5	Tx, High Ch, 1 Mbps, EUT Vert
4823.933	39.8	5.5	1.0	336.0	3.0	0.0	Horz	AV	0.0	45.3	54.0	-8.7	Tx, Low Ch, 1 Mbps, EUT Vert
4824.017	39.7	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	Tx, Low Ch, 11 Mbps, EUT on Side
4823.925	39.4	5.5	1.1	284.0	3.0	0.0	Horz	AV	0.0	44.9	54.0	-9.1	Tx, Low Ch, 1 Mbps, EUT on Side
4823.975	39.1	5.5	1.2	178.0	3.0	0.0	Horz	AV	0.0	44.6	54.0	-9.4	Tx, Low Ch, 1 Mbps, EUT Horz
7386.367	31.4	13.1	2.6	244.0	3.0	0.0	Vert	AV	0.0	44.5	54.0	-9.5	Tx, High Ch, 1 Mbps, EUT on Side
7385.133	31.4	13.1	1.5	203.0	3.0	0.0	Horz	AV	0.0	44.5	54.0	-9.5	Tx, High Ch, 1 Mbps, EUT Vert
7311.642	31.6	12.8	2.6	91.0	3.0	0.0	Horz	AV	0.0	44.4	54.0	-9.6	Tx, Mid Ch, 1 Mbps, EUT on Side
7311.900	31.6	12.8	1.5	307.0	3.0	0.0	Vert	AV	0.0	44.4	54.0	-9.6	Tx, Mid Ch, 1 Mbps, EUT on Side
4823.975	37.9	5.5	1.2	63.0	3.0	0.0	Vert	AV	0.0	43.4	54.0	-10.6	Tx, Low Ch, 1 Mbps, EUT Vert
4923.975	35.9	5.4	1.5	62.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	Tx, High Ch, 1 Mbps, EUT on Side
4873.967	35.8	5.4	1.5	22.0	3.0	0.0	Horz	AV	0.0	41.2	54.0	-12.8	Tx, Mid Ch, 1 Mbps, EUT Vert
4873.983	35.2	5.4	1.5	137.0	3.0	0.0	Vert	AV	0.0	40.6	54.0	-13.4	Tx, Mid Ch, 1 Mbps, EUT on Side
4821.700	32.9	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	Tx, Low Ch, 6 Mbps, EUT on Side
4821.742	32.6	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	Tx, Low Ch, 36 Mbps, EUT on Side
4823.117	32.4	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	37.9	54.0	-16.1	Tx, Low Ch, MCS7, EUT on Side
4823.783	32.2	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	37.7	54.0	-16.3	Tx, Low Ch, MCS0, EUT on Side
4823.133	32.1	5.5	1.0	29.0	3.0	0.0	Vert	AV	0.0	37.6	54.0	-16.4	Tx, Low Ch, 54 Mbps, EUT on Side
7310.275	43.7	12.8	2.6	91.0	3.0	0.0	Horz	PK	0.0	56.5	74.0	-17.5	Tx, Mid Ch, 1 Mbps, EUT Vert
7313.375	43.1	12.8	1.5	307.0	3.0	0.0	Vert	PK	0.0	55.9	74.0	-18.1	Tx, Mid Ch, 1 Mbps, EUT on Side

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7386.583	42.6	13.1	1.5	203.0	3.0	0.0	Horz	PK	0.0	55.7	74.0	-18.3	Tx, High Ch, 1 Mbps, EUT Vert
7384.200	41.6	13.1	2.6	244.0	3.0	0.0	Vert	PK	0.0	54.7	74.0	-19.3	Tx, High Ch, 1 Mbps, EUT on Side
14471.980	30.5	4.0	1.5	0.0	3.0	0.0	Vert	AV	0.0	34.5	54.0	-19.5	Tx, Low Ch, 1 Mbps, EUT on Side
14470.290	30.3	4.0	1.0	121.0	3.0	0.0	Horz	AV	0.0	34.3	54.0	-19.7	Tx, Low Ch, 1 Mbps, EUT Vert
4824.000	47.0	5.5	1.1	25.0	3.0	0.0	Vert	PK	0.0	52.5	74.0	-21.5	Tx, Low Ch, 1 Mbps, EUT on Side
4824.175	45.9	5.5	1.0	336.0	3.0	0.0	Horz	PK	0.0	51.4	74.0	-22.6	Tx, Low Ch, 1 Mbps, EUT Vert
4823.908	45.5	5.5	1.2	20.0	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	Tx, Low Ch, 1 Mbps, EUT Horz
4824.058	45.5	5.5	1.0	29.0	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	Tx, Low Ch, 11 Mbps, EUT on Side
4824.217	45.2	5.5	1.2	178.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	Tx, Low Ch, 1 Mbps, EUT Vert
4923.767	44.9	5.4	3.9	23.0	3.0	0.0	Horz	PK	0.0	50.3	74.0	-23.7	Tx, High Ch, 1 Mbps, EUT Vert
4824.017	44.6	5.5	1.1	284.0	3.0	0.0	Horz	PK	0.0	50.1	74.0	-23.9	Tx, Low Ch, 1 Mbps, EUT on Side
4823.800	44.6	5.5	1.0	29.0	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	Tx, Low Ch, MCS7, EUT on Side
12185.060	33.0	-3.3	1.6	157.0	3.0	0.0	Vert	AV	0.0	29.7	54.0	-24.3	Tx, Mid Ch, 1 Mbps, EUT on Side
4824.250	44.1	5.5	1.2	63.0	3.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	Tx, Low Ch, 1 Mbps, EUT Vert
12187.460	32.8	-3.3	2.4	0.0	3.0	0.0	Horz	AV	0.0	29.5	54.0	-24.5	Tx, Mid Ch, 1 Mbps, EUT Vert
4823.075	44.0	5.5	1.0	29.0	3.0	0.0	Vert	PK	0.0	49.5	74.0	-24.5	Tx, Low Ch, 36 Mbps, EUT on Side
12308.610	32.2	-3.0	1.5	290.0	3.0	0.0	Horz	AV	0.0	29.2	54.0	-24.8	Tx, High Ch, 1 Mbps, EUT Vert
12311.340	32.2	-3.0	1.5	258.0	3.0	0.0	Vert	AV	0.0	29.2	54.0	-24.8	Tx, High Ch, 1 Mbps, EUT on Side
12060.200	32.8	-3.6	1.5	27.0	3.0	0.0	Horz	AV	0.0	29.2	54.0	-24.8	Tx, Low Ch, 1 Mbps, EUT Vert
12059.520	32.9	-3.7	1.5	176.0	3.0	0.0	Vert	AV	0.0	29.2	54.0	-24.8	Tx, Low Ch, 1 Mbps, EUT on Side
4826.400	43.7	5.4	1.0	29.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Tx, Low Ch, 6 Mbps, EUT on Side
4876.475	43.4	5.4	1.5	137.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Tx, Mid Ch, 1 Mbps, EUT on Side
4823.383	43.3	5.5	1.0	29.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Tx, Low Ch, MCS0, EUT on Side
4923.742	43.1	5.4	1.5	62.0	3.0	0.0	Vert	PK	0.0	48.5	74.0	-25.5	Tx, High Ch, 1 Mbps, EUT on Side
4824.017	42.9	5.5	1.0	29.0	3.0	0.0	Vert	PK	0.0	48.4	74.0	-25.6	Tx, Low Ch, 54 Mbps, EUT on Side
4874.333	42.7	5.4	1.5	22.0	3.0	0.0	Horz	PK	0.0	48.1	74.0	-25.9	Tx, Mid Ch, 1 Mbps, EUT Vert
14471.530	41.8	4.0	1.5	0.0	3.0	0.0	Vert	PK	0.0	45.8	74.0	-28.2	Tx, Low Ch, 1 Mbps, EUT on Side
14469.530	41.2	4.0	1.0	121.0	3.0	0.0	Horz	PK	0.0	45.2	74.0	-28.8	Tx, Low Ch, 1 Mbps, EUT Vert
12061.570	44.2	-3.6	1.5	176.0	3.0	0.0	Vert	PK	0.0	40.6	74.0	-33.4	Tx, Low Ch, 1 Mbps, EUT on Side
12308.090	43.1	-3.0	1.5	258.0	3.0	0.0	Vert	PK	0.0	40.1	74.0	-33.9	Tx, High Ch, 1 Mbps, EUT on Side
12185.240	43.4	-3.3	1.6	157.0	3.0	0.0	Vert	PK	0.0	40.1	74.0	-33.9	Tx, Mid Ch, 1 Mbps, EUT on Side
12183.490	42.9	-3.3	2.4	0.0	3.0	0.0	Horz	PK	0.0	39.6	74.0	-34.4	Tx, Mid Ch, 1 Mbps, EUT Vert
12059.660	43.3	-3.7	1.5	27.0	3.0	0.0	Horz	PK	0.0	39.6	74.0	-34.4	Tx, Low Ch, 1 Mbps, EUT Vert
12308.930	42.3	-3.0	1.5	290.0	3.0	0.0	Horz	PK	0.0	39.3	74.0	-34.7	Tx, High Ch, 1 Mbps, EUT Vert

SPURIOUS RADIATED EMISSIONS

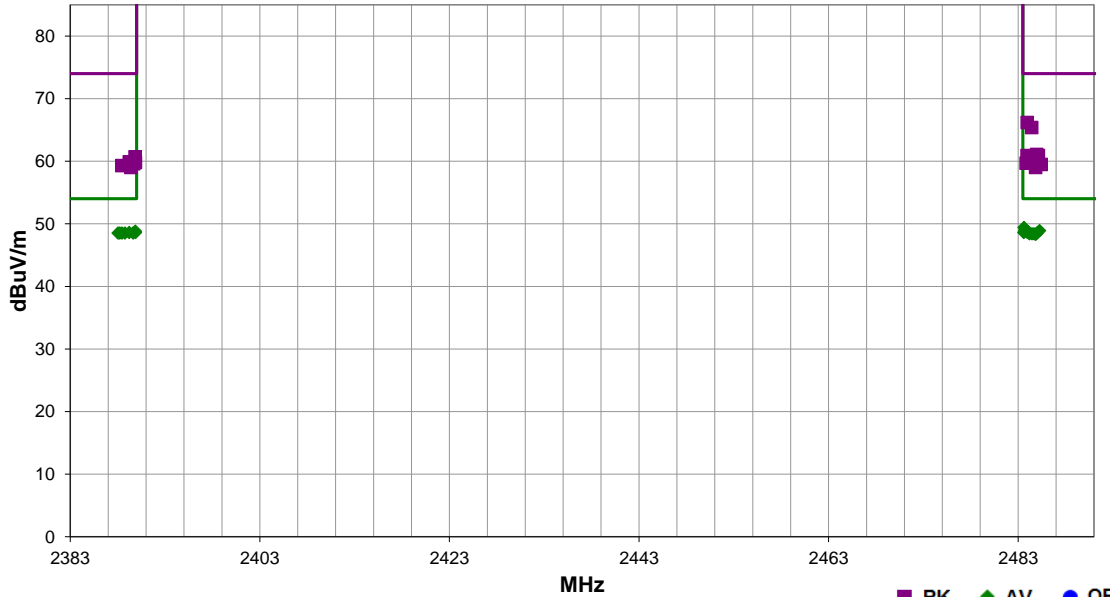


EmiR5 2021.06.24.0 PSA-ESCI 2021.03.17.0

Work Order:	CORT0007	Date:	2021-08-30	
Project:	None	Temperature:	24.4 °C	
Job Site:	OC07	Humidity:	50.9% RH	
Serial Number:	00170122	Barometric Pres.:	1011 mbar	
EUT:	Neuron-Spectrum-AM			
Configuration:	1			
Customer:	Neurosoft Ltd.			
Attendees:	Julio Ferro			
EUT Power:	3.7 VDC Power Bank			
Operating Mode:	Transmitting 802.11bgn: Low Channel (1) 2412 MHz, Mid Channel (6) 2437 MHz, High Channel (11) 2462 MHz, Data Rates: 1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7, Power Level: 1 (Max)			
Deviations:	None			
Comments:	Band Edge Measurements			

Test Specifications	Test Method
FCC 15.247:2021	ANSI C63.10:2013

Run #	20	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.627	33.3	-3.9	1.1	104.0	3.0	20.0	Vert	AV	0.0	49.4	54.0	-4.6	Tx, High Ch, MCS0, EUT on Side
2483.720	32.9	-3.9	1.1	104.0	3.0	20.0	Vert	AV	0.0	49.0	54.0	-5.0	Tx, High Ch, 36 Mbps, EUT on Side
2485.277	32.7	-3.8	1.1	104.0	3.0	20.0	Vert	AV	0.0	48.9	54.0	-5.1	Tx, High Ch, 11 Mbps, EUT on Side
2483.713	32.8	-3.9	1.1	104.0	3.0	20.0	Vert	AV	0.0	48.9	54.0	-5.1	Tx, High Ch, MCS7, EUT on Side
2389.873	33.0	-4.2	1.5	38.0	3.0	20.0	Vert	AV	0.0	48.8	54.0	-5.2	Tx, High Ch, 36 Mbps, EUT on Side
2483.893	32.6	-3.9	1.1	104.0	3.0	20.0	Vert	AV	0.0	48.7	54.0	-5.3	Tx, High Ch, 1 Mbps, EUT on Side
2484.070	32.6	-3.9	1.1	104.0	3.0	20.0	Vert	AV	0.0	48.7	54.0	-5.3	Tx, High Ch, 54 Mbps, EUT on Side
2483.597	32.5	-3.9	1.5	348.0	3.0	20.0	Vert	AV	0.0	48.6	54.0	-5.4	Tx, High Ch, 6 Mbps, EUT on Side
2389.237	32.8	-4.2	1.5	206.0	3.0	20.0	Vert	AV	0.0	48.6	54.0	-5.4	Tx, High Ch, 1 Mbps, EUT on Side
2389.890	32.8	-4.2	1.5	164.0	3.0	20.0	Vert	AV	0.0	48.6	54.0	-5.4	Tx, High Ch, 36 Mbps, EUT on Side
2485.003	32.3	-3.8	1.1	322.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, 6 Mbps, EUT Horz
2388.047	32.7	-4.2	1.5	198.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, 1 Mbps, EUT Horz
2389.640	32.7	-4.2	3.8	352.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, 6 Mbps, EUT Horz
2388.227	32.7	-4.2	1.5	138.0	3.0	20.0	Vert	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, 6 Mbps, EUT on Side
2388.457	32.7	-4.2	1.5	2.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, 36 Mbps, EUT Horz
2388.787	32.7	-4.2	1.5	218.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	Tx, High Ch, MCS0, EUT Horz
2484.190	32.3	-3.9	1.5	142.0	3.0	20.0	Horz	AV	0.0	48.4	54.0	-5.6	Tx, High Ch, 6 Mbps, EUT on Side
2484.460	32.3	-3.9	1.5	86.0	3.0	20.0	Vert	AV	0.0	48.4	54.0	-5.6	Tx, High Ch, 6 Mbps, EUT Vert
2484.687	32.3	-3.9	2.7	1.0	3.0	20.0	Vert	AV	0.0	48.4	54.0	-5.6	Tx, High Ch, 6 Mbps, EUT Horz
2484.857	32.2	-3.9	2.0	243.0	3.0	20.0	Horz	AV	0.0	48.3	54.0	-5.7	Tx, High Ch, 6 Mbps, EUT Vert
2483.953	50.1	-3.9	1.1	104.0	3.0	20.0	Vert	PK	0.0	66.2	74.0	-7.8	Tx, High Ch, 11 Mbps, EUT on Side
2484.420	49.3	-3.9	1.1	104.0	3.0	20.0	Vert	PK	0.0	65.4	74.0	-8.6	Tx, High Ch, 1 Mbps, EUT on Side

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2484.957	45.0	-3.9	1.1	104.0	3.0	20.0	Vert	PK	0.0	61.1	74.0	-12.9	Tx, High Ch, 36 Mbps, EUT on Side
2485.127	44.7	-3.8	1.1	104.0	3.0	20.0	Vert	PK	0.0	60.9	74.0	-13.1	Tx, High Ch, MCS0, EUT on Side
2483.927	44.8	-3.9	1.1	104.0	3.0	20.0	Vert	PK	0.0	60.9	74.0	-13.1	Tx, High Ch, MCS7, EUT on Side
2389.830	44.9	-4.2	1.5	38.0	3.0	20.0	Vert	PK	0.0	60.7	74.0	-13.3	Tx, High Ch, 36 Mbps, EUT on Side
2484.073	44.3	-3.9	1.1	104.0	3.0	20.0	Vert	PK	0.0	60.4	74.0	-13.6	Tx, High Ch, 54 Mbps, EUT on Side
2484.253	44.2	-3.9	1.5	348.0	3.0	20.0	Vert	PK	0.0	60.3	74.0	-13.7	Tx, High Ch, 6 Mbps, EUT on Side
2484.820	44.2	-3.9	1.1	322.0	3.0	20.0	Horz	PK	0.0	60.3	74.0	-13.7	Tx, High Ch, 6 Mbps, EUT Horz
2389.220	44.1	-4.2	1.5	198.0	3.0	20.0	Horz	PK	0.0	59.9	74.0	-14.1	Tx, High Ch, 1 Mbps, EUT Horz
2389.853	44.1	-4.2	1.5	206.0	3.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	Tx, High Ch, 1 Mbps, EUT on Side
2484.727	43.7	-3.9	1.5	142.0	3.0	20.0	Horz	PK	0.0	59.8	74.0	-14.2	Tx, High Ch, 6 Mbps, EUT on Side
2389.300	44.0	-4.2	1.5	138.0	3.0	20.0	Vert	PK	0.0	59.8	74.0	-14.2	Tx, High Ch, 6 Mbps, EUT on Side
2389.877	44.0	-4.2	1.5	164.0	3.0	20.0	Vert	PK	0.0	59.8	74.0	-14.2	Tx, High Ch, MCS0, EUT on Side
2483.847	43.6	-3.9	1.5	86.0	3.0	20.0	Vert	PK	0.0	59.7	74.0	-14.3	Tx, High Ch, 6 Mbps, EUT Vert
2389.690	43.8	-4.2	1.5	218.0	3.0	20.0	Horz	PK	0.0	59.6	74.0	-14.4	Tx, High Ch, MCS0, EUT Horz
2485.420	43.3	-3.8	2.0	243.0	3.0	20.0	Horz	PK	0.0	59.5	74.0	-14.5	Tx, High Ch, 6 Mbps, EUT Vert
2388.453	43.5	-4.2	3.8	352.0	3.0	20.0	Horz	PK	0.0	59.3	74.0	-14.7	Tx, High Ch, 6 Mbps, EUT Horz
2484.837	42.9	-3.9	2.7	1.0	3.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	Tx, High Ch, 6 Mbps, EUT Horz
2389.410	43.2	-4.2	1.5	2.0	3.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	Tx, High Ch, 36 Mbps, EUT Horz

End of Test Report