



element

Inspire Medical Systems

New Telemetry Cable

FCC 15.247:2020

802.11bgn SISO Radio

Report: INSP0011 Rev. 1, Issue Date: August 6, 2020



NVLAP LAB CODE: 200881-0



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CERTIFICATE OF TEST



Last Date of Test: June 5, 2020
Inspire Medical Systems
EUT: New Telemetry Cable

Radio Equipment Testing

Standards

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

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	N/A	Characterization of radio operation.
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:

David Schaefer, 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
01	Removed unnecessary comment.	2020-08-05	19
	Updated power in Spurious Radiated Emissions. Testing was carried out at 120VAC/60Hz	2020-08-05	19
	Power Settings Table added.	2020-08-05	11
	Test description changed to reflect that a peak detector was used.	2020-08-05	70
	Comment was added to the test description that explains why the limit is -30 dBc.	2020-08-05	86
	Comment was added to the test description that explains why the limit is -30 dBc.	2020-08-05	97
	The limits were adjusted.	2020-08-05	98, 99

ACCREDITATIONS AND AUTHORIZATIONS



United States

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

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

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

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

European Union

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

Australia/New Zealand

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

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

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

FACILITIES



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



MEASUREMENT UNCERTAINTY



Measurement Uncertainty

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

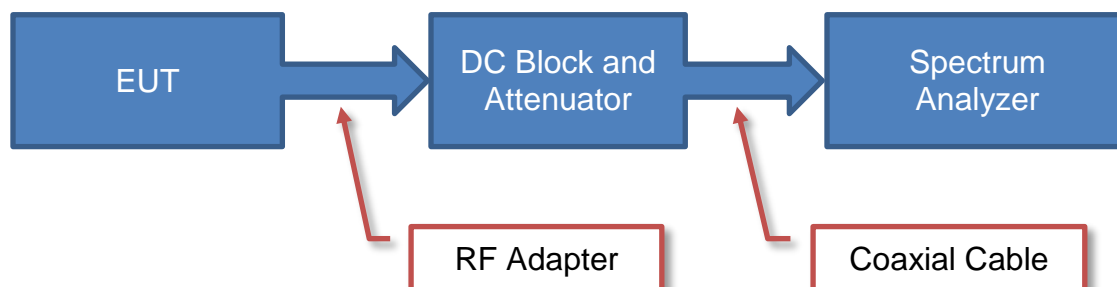
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable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

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

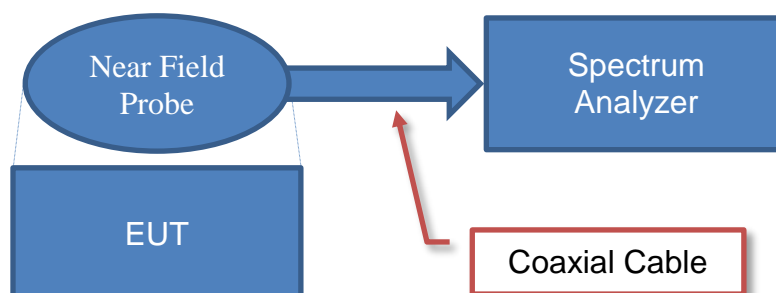
Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field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

Test Setup Block Diagrams

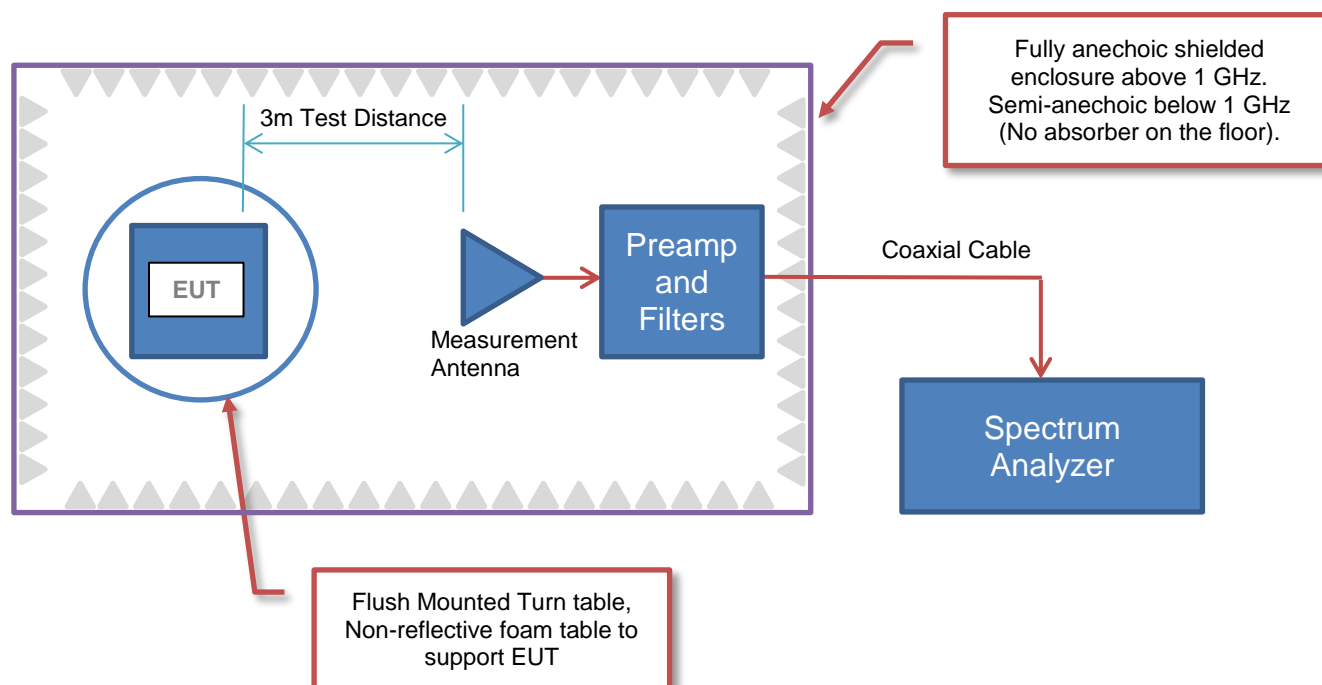
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Inspire Medical Systems
Address:	1600 Wayzata Blvd, Suite 1600
City, State, Zip:	Golden Valley, MN 55416
Test Requested By:	Jordan McIver
EUT:	Programmer Cable
First Date of Test:	May 26, 2020
Last Date of Test:	June 5, 2020
Receipt Date of Samples:	May 26, 2020
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Attachment for the tablet programmer containing inductive and Bluetooth Low Energy and 802.11bgn (2.4 GHz only) radios.

Testing Objective:

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

CONFIGURATIONS



Configuration INSP0011- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Programmer Cable	Inspire Medical Systems	2740	P000051

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	GlobTek, Inc.	TR9CE1500CCP-IMR6B	020056138/18

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Programmer Cable	No	2.1 m	No	Power Supply	Wand
AC Cable	No	2.4 m	No	AC Mains	Power Supply
DC Cable	No	1.2 m	No	Power Supply	Programmer Cable

Configuration INSP0011- 2

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Programmer Cable	Inspire Medical Systems	2740	P000026

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Power Supply	GlobTek, Inc.	TR9CE1500CCP-IMR6B	020056138/18

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Programmer Cable	No	2.1 m	No	Power Supply	Wand
AC Cable	No	2.4 m	No	AC Mains	Power Supply
DC Cable	No	1.2 m	No	Power Supply	Programmer Cable

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2020-05-26	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2020-06-01	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2020-06-01	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2020-06-01	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.
5	2020-06-01	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.
6	2020-06-01	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.
7	2020-06-01	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2020-06-05	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWER SETTINGS



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

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types	Channel Bandwidths	Channel	Position	Frequency (MHz)	Attenuation Setting
1 Mbps, 11 Mbps, 6 Mbps, 36 Mbps, 54 Mbps, MCS0, MCS7	20	1	Low Channel	2412	2
		6	Mid Channel	2437	2
		11	High Channel	2462	2
MCS0, MCS7	40	1/5	Low Channel	2422	2
		4/8	Mid Channel	2437	2
		7/11	High Channel	2452	2

POWERLINE CONDUCTED EMISSIONS

TEST DESCRIPTION

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	2020-03-15	2021-03-15
Receiver	Rohde & Schwarz	ESR7	ARI	2019-07-08	2020-07-08
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK	MNCA	2020-03-11	2021-03-11

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.6 dB	-2.6 dB

CONFIGURATIONS INVESTIGATED

INSP0011-1

MODES INVESTIGATED

Transmitting on Wifi midchannel 6 mode, Bandwidth 40MHz and Wifi rate MCS7

POWERLINE CONDUCTED EMISSIONS



EUT:	New Telemetry Cable	Work Order:	INSP0011
Serial Number:	P000051	Date:	2020-06-05
Customer:	Inspire Medical Systems	Temperature:	24.1°C
Attendees:	Charlie Kellerman	Relative Humidity:	47%
Customer Project:	None	Bar. Pressure:	1015 mb
Tested By:	William Hoffa	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	INSP0011-1

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	8	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

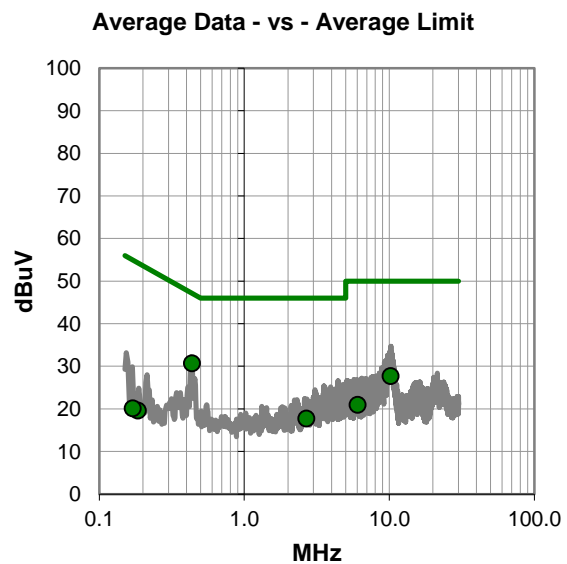
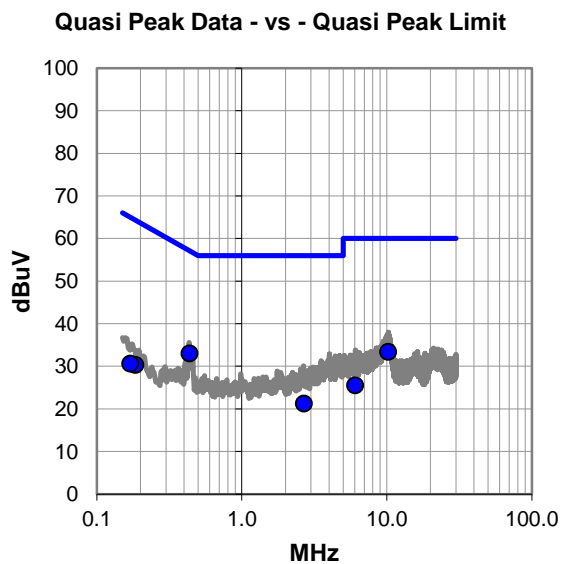
None

EUT OPERATING MODES

Transmitting on Wifi midchannel 6 mode, Bandwidth 40MHz and Wifi rate MCS7

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #8

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.436	12.5	20.5	33.0	57.1	-24.1
10.215	12.5	20.9	33.4	60.0	-26.6
0.184	9.6	20.7	30.3	64.3	-34.0
0.170	9.8	20.8	30.6	65.0	-34.4
6.048	4.8	20.7	25.5	60.0	-34.5
2.684	0.6	20.6	21.2	56.0	-34.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.436	10.2	20.5	30.7	47.1	-16.4
10.215	6.8	20.9	27.7	50.0	-22.3
2.684	-2.9	20.6	17.7	46.0	-28.3
6.048	0.2	20.7	20.9	50.0	-29.1
0.184	-1.1	20.7	19.6	54.3	-34.7
0.170	-0.7	20.8	20.1	55.0	-34.9

CONCLUSION

Pass

William Hoffa

Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	New Telemetry Cable	Work Order:	INSP0011
Serial Number:	P000051	Date:	2020-06-05
Customer:	Inspire Medical Systems	Temperature:	24.1°C
Attendees:	Charlie Kellerman	Relative Humidity:	47%
Customer Project:	None	Bar. Pressure:	1015 mb
Tested By:	William Hoffa	Job Site:	MN03
Power:	110VAC/60Hz	Configuration:	INSP0011-1

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	9	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

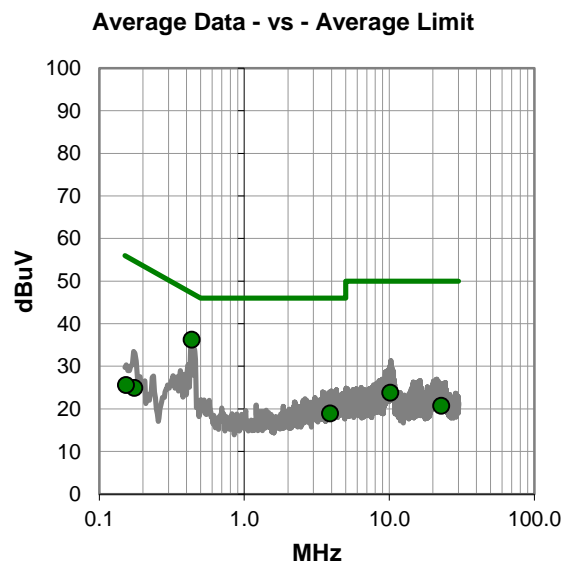
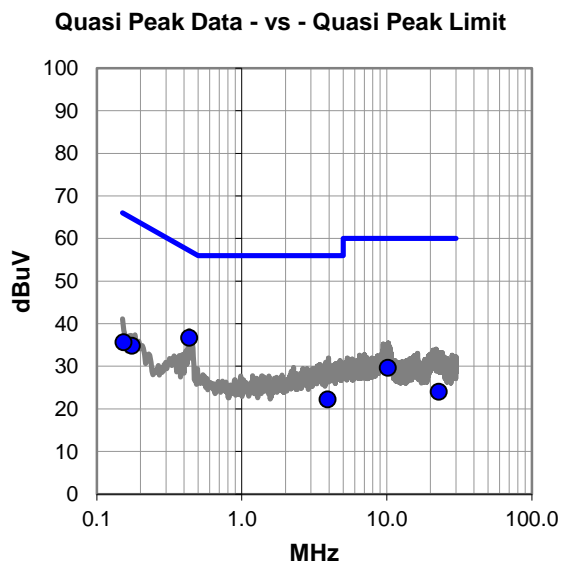
None

EUT OPERATING MODES

Transmitting on Wifi midchannel 6 mode, Bandwidth 40MHz and Wifi rate MCS7

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #9

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.435	16.2	20.5	36.7	57.2	-20.5
0.175	14.0	20.8	34.8	64.7	-29.9
0.153	14.6	21.0	35.6	65.8	-30.2
10.188	8.7	20.9	29.6	60.0	-30.4
3.914	1.5	20.7	22.2	56.0	-33.8
22.896	2.7	21.3	24.0	60.0	-36.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.435	15.7	20.5	36.2	47.2	-11.0
10.188	2.9	20.9	23.8	50.0	-26.2
3.914	-1.8	20.7	18.9	46.0	-27.1
22.896	-0.6	21.3	20.7	50.0	-29.3
0.175	4.1	20.8	24.9	54.7	-29.8
0.153	4.6	21.0	25.6	55.8	-30.2

CONCLUSION

Pass

William Hoffa

Tested By

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2020.04.03.0

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 on Low channel (2412 MHz), Mid channel (2437 MHz), and High channel (2462 MHz) at 20 MHz bandwidth; and Low channel (2422 MHz), Mid channel (2437 MHz), and High channel (2452 MHz) at 40 MHz bandwidth. Various data rates.

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

INSP0011 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26500 MHz
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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.	Interval
Attenuator	Coaxicom	3910-20	AXY	2019-09-17	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HFM	2019-09-18	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1064-9079 and SA18E-10	AOO	2020-02-18	12 mo
Cable	Element	Biconilog Cable	MNX	2020-02-18	12 mo
Antenna - Biconilog	Ametek	CBL 6141B	AYS	2019-03-19	24 mo
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	2019-09-11	12 mo
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNP	2019-09-11	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	0 mo
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-12001800-30-10P	PAP	2020-02-18	12 mo
Antenna - Standard Gain	ETS-Lindgren	3160-08	AJP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2020-02-18	12 mo
Cable	Element	Standard Gain Cable	MNW	2020-02-18	12 mo
Antenna - Standard Gain	ETS-Lindgren	3160-07	AJJ	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	2020-02-18	12 mo
Cable	Element	Double Ridge Guide Horn Cables	MNV	2020-02-18	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	2018-08-27	24 mo
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2020-04-14	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 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

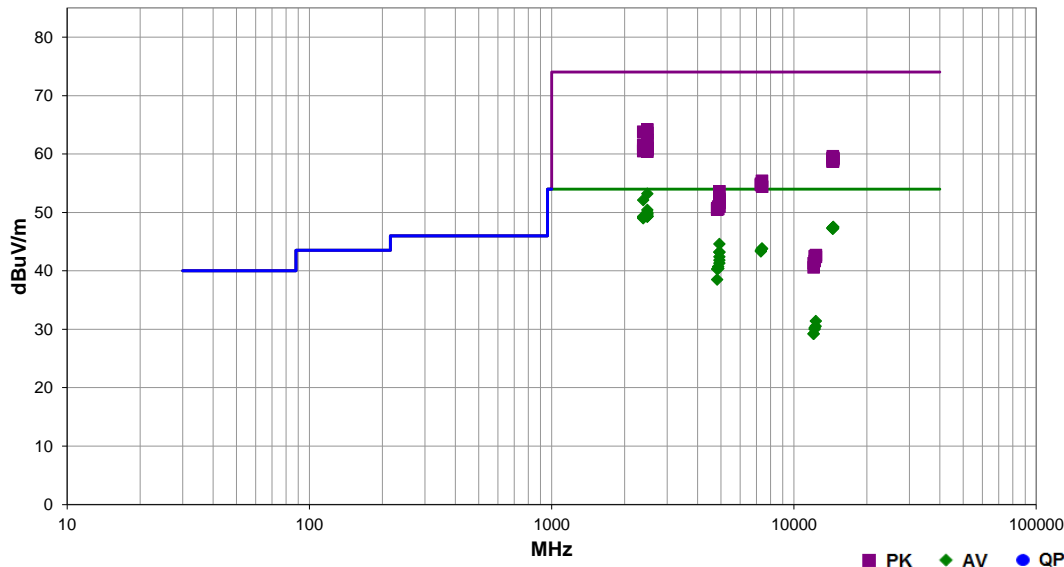


EmiR5 2020.04.20.0 PSA-ESCI 2020.04.03.0

Work Order:	INSP0011	Date:	2020-05-26	
Project:	None	Temperature:	24 °C	
Job Site:	MN09	Humidity:	64.6% RH	
Serial Number:	P000051	Barometric Pres.:	1013 mbar	
EUT: New Telemetry Cable				Tested by: Andrew Rogstad
Configuration:	1			
Customer:	Inspire Medical Systems			
Attendees:	Darrell Wagner			
EUT Power:	120VAC/60Hz			
Operating Mode:	Transmitting on Low channel (2412 MHz), Mid channel (2437 MHz), and High channel (2462 MHz) at 20 MHz bandwidth; and Low channel (2422 MHz), Mid channel (2437 MHz), and High channel (2452 MHz) at 40 MHz bandwidth. Various data rates.			
Deviations:	None			
Comments:	See comments for EUT orientation, transmit channel, data rate, and bandwidth.			

Test Specifications	FCC 15.247:2020	Test Method	ANSI C63.10:2013
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Run #	12	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.993	36.1	-2.9	1.5	6.0	3.0	20.0	Horz	AV	0.0	53.2	54.0	-0.8	EUT horz, High ch., MCS0, 40 MHz BW
2386.367	35.3	-3.2	1.0	94.0	3.0	20.0	Horz	AV	0.0	52.1	54.0	-1.9	EUT horz, Low ch., MCS0, 40 MHz BW
2483.713	33.3	-2.9	2.2	308.0	3.0	20.0	Horz	AV	0.0	50.4	54.0	-3.6	EUT horz, High ch., 36 Mbps, 20 MHz BW
2483.533	32.9	-2.9	1.4	15.0	3.0	20.0	Horz	AV	0.0	50.0	54.0	-4.0	EUT horz, High ch., 6 Mbps, 20 MHz BW
2483.520	32.7	-2.9	2.7	86.0	3.0	20.0	Horz	AV	0.0	49.8	54.0	-4.2	EUT horz, High ch., MCS7, 40 MHz BW
2483.573	32.6	-2.9	1.4	329.0	3.0	20.0	Horz	AV	0.0	49.7	54.0	-4.3	EUT horz, High ch., MCS0, 20 MHz BW
2484.027	32.4	-2.9	1.7	291.0	3.0	20.0	Horz	AV	0.0	49.5	54.0	-4.5	EUT horz, High ch., 54 Mbps, 20 MHz BW
2483.627	32.2	-2.9	1.5	145.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT horz, High ch., MCS7, 20 MHz BW
2484.307	32.2	-2.9	1.5	216.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT horz, High ch., 1 Mbps, 20 MHz BW
2483.533	32.2	-2.9	1.5	175.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT horz, High ch., 11 Mbps, 20 MHz BW
2389.953	32.5	-3.2	1.5	31.0	3.0	20.0	Horz	AV	0.0	49.3	54.0	-4.7	EUT horz, Low ch., 6 Mbps, 20 MHz BW
2389.147	32.3	-3.2	1.5	200.0	3.0	20.0	Horz	AV	0.0	49.1	54.0	-4.9	EUT horz, Low ch., 36 Mbps, 20 MHz BW
2389.760	32.2	-3.2	1.5	37.0	3.0	20.0	Horz	AV	0.0	49.0	54.0	-5.0	EUT horz, Low ch., 1 Mbps, 20 MHz BW
14534.480	31.8	15.7	1.5	53.0	3.0	0.0	Vert	AV	0.0	47.5	54.0	-6.5	EUT horz, Low ch., MCS0, 40 MHz BW
14473.510	31.6	15.8	1.5	9.0	3.0	0.0	Vert	AV	0.0	47.4	54.0	-6.6	EUT horz, Low ch., 1 Mbps, 20 MHz BW
14473.170	31.5	15.8	1.5	63.0	3.0	0.0	Horz	AV	0.0	47.3	54.0	-6.7	EUT on side, Low ch., 1 Mbps, 20 MHz BW
14473.550	31.5	15.8	1.9	341.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., 6 Mbps, 20 MHz BW
14472.850	31.5	15.8	3.6	188.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., 36 Mbps, 20 MHz BW
14471.490	31.5	15.8	1.5	335.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., 54 Mbps, 20 MHz BW
14473.260	31.5	15.8	1.5	275.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., MCS0, 20 MHz BW
14473.530	31.5	15.8	1.5	183.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., MCS7, 20 MHz BW
14529.620	31.7	15.6	2.2	354.0	3.0	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT horz, Low ch., MCS7, 40 MHz BW
14472.920	31.4	15.8	1.5	333.0	3.0	0.0	Vert	AV	0.0	47.2	54.0	-6.8	EUT horz, Low ch., 11 Mbps, 20 MHz BW
4924.583	39.2	5.4	1.2	327.0	3.0	0.0	Horz	AV	0.0	44.6	54.0	-9.4	EUT on side, High ch., 1 Mbps, 20 MHz BW
2484.833	47.1	-2.9	1.5	6.0	3.0	20.0	Horz	PK	0.0	64.2	74.0	-9.8	EUT horz, High ch., MCS0, 40 MHz BW
7384.567	29.5	14.3	1.5	171.0	3.0	0.0	Vert	AV	0.0	43.8	54.0	-10.2	EUT horz, High ch., 1 Mbps, 20 MHz BW
7387.017	29.5	14.3	1.5	321.0	3.0	0.0	Horz	AV	0.0	43.8	54.0	-10.2	EUT on side, High ch., 1 Mbps, 20 MHz BW
2388.887	47.0	-3.2	1.0	94.0	3.0	20.0	Horz	PK	0.0	63.8	74.0	-10.2	EUT horz, Low ch., MCS0, 40 MHz BW

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.820	46.5	-2.9	2.2	308.0	3.0	20.0	Horz	PK	0.0	63.6	74.0	-10.4	EUT horz, High ch., 36 Mbps, 20 MHz BW
7312.587	29.6	13.9	1.5	49.0	3.0	0.0	Vert	AV	0.0	43.5	54.0	-10.5	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
7312.160	29.4	13.9	2.9	10.0	3.0	0.0	Horz	AV	0.0	43.3	54.0	-10.7	EUT on side, Mid ch., 1 Mbps, 20 MHz BW
4924.733	37.8	5.4	1.5	349.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	EUT horz, High ch., 1 Mbps, 20 MHz BW
4924.617	37.8	5.4	3.3	327.0	3.0	0.0	Vert	AV	0.0	43.2	54.0	-10.8	EUT horz, High ch., 1 Mbps, 20 MHz BW
4924.517	37.0	5.4	2.9	302.0	3.0	0.0	Horz	AV	0.0	42.4	54.0	-11.6	EUT vert, High ch., 1 Mbps, 20 MHz BW
2484.873	45.3	-2.9	2.7	86.0	3.0	20.0	Horz	PK	0.0	62.4	74.0	-11.6	EUT horz, High ch., MCS7, 40 MHz BW
2483.933	44.9	-2.9	1.4	15.0	3.0	20.0	Horz	PK	0.0	62.0	74.0	-12.0	EUT horz, High ch., 6 Mbps, 20 MHz BW
4924.633	36.4	5.4	1.5	343.0	3.0	0.0	Vert	AV	0.0	41.8	54.0	-12.2	EUT vert, High ch., 1 Mbps, 20 MHz BW
2386.707	44.8	-3.2	1.5	31.0	3.0	20.0	Horz	PK	0.0	61.6	74.0	-12.4	EUT horz, Low ch., 6 Mbps, 20 MHz BW
4924.700	35.9	5.4	3.5	291.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	EUT on side, High ch., 1 Mbps, 20 MHz BW
2485.080	43.9	-2.9	1.5	175.0	3.0	20.0	Horz	PK	0.0	61.0	74.0	-13.0	EUT horz, High ch., 11 Mbps, 20 MHz BW
2484.380	43.9	-2.9	1.7	291.0	3.0	20.0	Horz	PK	0.0	61.0	74.0	-13.0	EUT horz, High ch., 54 Mbps, 20 MHz BW
2485.733	43.7	-2.9	1.4	329.0	3.0	20.0	Horz	PK	0.0	60.8	74.0	-13.2	EUT horz, High ch., MCS0, 20 MHz BW
2485.687	43.7	-2.9	1.5	216.0	3.0	20.0	Horz	PK	0.0	60.8	74.0	-13.2	EUT horz, High ch., 1 Mbps, 20 MHz BW
2389.200	44.0	-3.2	1.5	37.0	3.0	20.0	Horz	PK	0.0	60.8	74.0	-13.2	EUT horz, Low ch., 1 Mbps, 20 MHz
4874.520	35.4	5.3	2.6	132.0	3.0	0.0	Horz	AV	0.0	40.7	54.0	-13.3	EUT on side, Mid ch., 1 Mbps, 20 MHz BW
2389.887	43.7	-3.2	1.5	200.0	3.0	20.0	Horz	PK	0.0	60.5	74.0	-13.5	EUT horz, Low ch., 36 Mbps, 20 MHz BW
2484.660	43.3	-2.9	1.5	145.0	3.0	20.0	Horz	PK	0.0	60.4	74.0	-13.6	EUT horz, High ch., MCS7, 20 MHz BW
4874.767	35.1	5.3	1.7	149.0	3.0	0.0	Vert	AV	0.0	40.4	54.0	-13.6	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
4824.620	35.1	5.2	1.1	124.0	3.0	0.0	Horz	AV	0.0	40.3	54.0	-13.7	EUT on side, Low ch., 1 Mbps, 20 MHz BW
14471.910	43.8	15.8	1.5	63.0	3.0	0.0	Horz	PK	0.0	59.6	74.0	-14.4	EUT on side, Low ch., 1 Mbps, 20 MHz BW
14470.710	43.5	15.8	1.5	335.0	3.0	0.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT horz, Low ch., 54 Mbps, 20 MHz BW
14473.490	43.5	15.8	1.5	183.0	3.0	0.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT horz, Low ch., MCS7, 20 MHz BW
14533.020	43.6	15.7	1.5	53.0	3.0	0.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT horz, Low ch., MCS0, 40 MHz BW
14473.990	43.4	15.8	1.5	9.0	3.0	0.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT horz, Low ch., 1 Mbps, 20 MHz BW
14530.530	43.5	15.6	2.2	354.0	3.0	0.0	Vert	PK	0.0	59.1	74.0	-14.9	EUT horz, Low ch., MCS7, 40 MHz BW
14470.400	43.1	15.8	1.5	275.0	3.0	0.0	Vert	PK	0.0	58.9	74.0	-15.1	EUT horz, Low ch., MCS0, 20 MHz BW
14472.240	43.0	15.8	1.9	341.0	3.0	0.0	Vert	PK	0.0	58.8	74.0	-15.2	EUT horz, Low ch., 6 Mbps, 20 MHz BW
14470.980	42.9	15.8	1.5	333.0	3.0	0.0	Vert	PK	0.0	58.7	74.0	-15.3	EUT horz, Low ch., 11 Mbps, 20 MHz BW
14472.260	42.9	15.8	3.6	188.0	3.0	0.0	Vert	PK	0.0	58.7	74.0	-15.3	EUT horz, Low ch., 36 Mbps, 20 MHz
4824.627	33.3	5.2	1.5	127.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	EUT horz, Low ch., 1 Mbps, 20 MHz BW
7385.217	41.1	14.3	1.5	321.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT on side, High ch., 1 Mbps, 20 MHz BW
7309.293	41.0	13.9	2.9	10.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	EUT on side, Mid ch., 1 Mbps, 20 MHz BW
7310.173	40.8	13.9	1.5	49.0	3.0	0.0	Vert	PK	0.0	54.7	74.0	-19.3	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
7390.450	40.1	14.3	1.5	171.0	3.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	EUT horz, High ch., 1 Mbps, 20 MHz BW
4923.867	48.2	5.4	1.2	327.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	EUT on side, High ch., 1 Mbps, 20 MHz BW
4923.933	46.9	5.4	3.3	327.0	3.0	0.0	Vert	PK	0.0	52.3	74.0	-21.7	EUT horz, High ch., 1 Mbps, 20 MHz BW
4924.033	46.6	5.4	1.5	349.0	3.0	0.0	Horz	PK	0.0	52.0	74.0	-22.0	EUT horz, High ch., 1 Mbps, 20 MHz BW
4924.000	46.3	5.4	1.5	343.0	3.0	0.0	Vert	PK	0.0	51.7	74.0	-22.3	EUT vert, High ch., 1 Mbps, 20 MHz BW
4923.767	46.2	5.4	2.9	302.0	3.0	0.0	Horz	PK	0.0	51.6	74.0	-22.4	EUT vert, High ch., 1 Mbps, 20 MHz BW
12309.970	31.8	-0.4	3.5	240.0	3.0	0.0	Horz	AV	0.0	31.4	54.0	-22.6	EUT on side, High ch., 1 Mbps, 20 MHz BW
4923.917	45.6	5.4	3.5	291.0	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	EUT on side, High ch., 1 Mbps, 20 MHz BW
4874.233	45.7	5.3	2.6	132.0	3.0	0.0	Horz	PK	0.0	51.0	74.0	-23.0	EUT on side, Mid ch., 1 Mbps, 20 MHz BW
4823.853	45.5	5.2	1.1	124.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	EUT on side, Low ch., 1 Mbps, 20 MHz BW
4873.713	45.3	5.3	1.7	149.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
12307.950	30.9	-0.4	2.1	166.0	3.0	0.0	Vert	AV	0.0	30.5	54.0	-23.5	EUT horz, High ch., 1 Mbps, 20 MHz BW
4823.793	45.3	5.2	1.5	127.0	3.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	EUT horz, Low ch., 1 Mbps, 20 MHz BW
12184.960	30.6	-0.4	2.2	117.0	3.0	0.0	Horz	AV	0.0	30.2	54.0	-23.8	EUT on side, Mid ch., 1 Mbps, 20 MHz
12183.270	30.4	-0.4	1.5	246.0	3.0	0.0	Vert	AV	0.0	30.0	54.0	-24.0	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
12061.570	30.7	-1.5	1.8	235.0	3.0	0.0	Horz	AV	0.0	29.2	54.0	-24.8	EUT on side, Low ch., 1 Mbps, 20 MHz BW
12061.650	30.7	-1.5	1.2	313.0	3.0	0.0	Vert	AV	0.0	29.2	54.0	-24.8	EUT horz, Low ch., 1 Mbps, 20 MHz BW
12309.980	43.1	-0.4	3.5	240.0	3.0	0.0	Horz	PK	0.0	42.7	74.0	-31.3	EUT on side, High ch., 1 Mbps, 20 MHz BW
12184.890	42.9	-0.4	1.5	246.0	3.0	0.0	Vert	PK	0.0	42.5	74.0	-31.5	EUT horz, Mid ch., 1 Mbps, 20 MHz BW
12309.200	42.8	-0.4	2.1	166.0	3.0	0.0	Vert	PK	0.0	42.4	74.0	-31.6	EUT horz, High ch., 1 Mbps, 20 MHz BW
12185.410	42.1	-0.4	2.2	117.0	3.0	0.0	Horz	PK	0.0	41.7	74.0	-32.3	EUT on side, Mid ch., 1 Mbps, 20 MHz
12060.920	42.8	-1.5	1.8	235.0	3.0	0.0	Horz	PK	0.0	41.3	74.0	-32.7	EUT on side, Low ch., 1 Mbps, 20 MHz BW
12061.870	42.1	-1.5	1.2	313.0	3.0	0.0	Vert	PK	0.0	40.6	74.0	-33.4	EUT horz, Low ch., 1 Mbps, 20 MHz BW

DUTY CYCLE



XMM 2020.03.25.0

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E4422B	TGQ	15-Mar-18	15-Mar-21
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	RFW	10-Feb-20	10-Feb-21
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20
Analyzer - Spectrum Analyzer	Keysight	N9010A (EXA)	AFQ	21-Dec-19	21-Dec-20

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 test software provided for operation in a fixed, single channel mode allows the EUT to operate continuously at 100% Duty Cycle.

OCCUPIED BANDWIDTH



XMI 2020.03.25.0

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E4422B	TGQ	15-Mar-18	15-Mar-21
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Attenuator	S.M. Electronics	SA26B-20	RFW	10-Feb-20	10-Feb-21
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20
Analyzer - Spectrum Analyzer	Keysight	N9010A (EXA)	AFQ	21-Dec-19	21-Dec-20

TEST DESCRIPTION

The EUT was set to the channels and modes listed in the datasheet.

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

OCCUPIED BANDWIDTH



TelTx 2019.08.30.0 XMt 2020.03.25.0

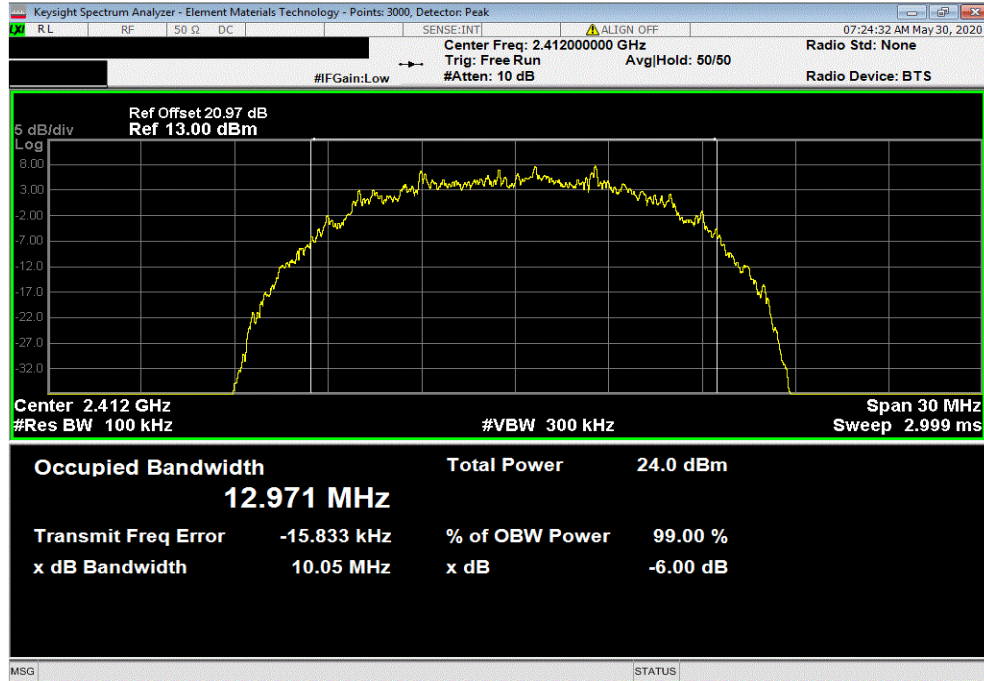
EUT: New Telemetry Cable		Work Order: INSP0011	
Serial Number: P000026		Date: 1-Jun-20	
Customer: Inspire Medical Systems		Temperature: 24.6 °C	
Attendees: Darrell Wagner		Humidity: 51.1% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Andrew Rogstad		Power: 120VAC/60Hz	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes measurement cable, DC block, and 20 dB attenuator.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	2	Signature <i>Andrew Rogstad</i>	
		Value	Limit (>) Result
20 MHz Bandwidth			
802.11(b) 1 Mbps			
	Low Channel 1, 2412 MHz	10.054 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	10.055 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	10.058 MHz	500 kHz Pass
802.11(b) 11 Mbps			
	Low Channel 1, 2412 MHz	9.621 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	9.624 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	9.613 MHz	500 kHz Pass
802.11(g) 6 Mbps			
	Low Channel 1, 2412 MHz	16.38 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.374 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	16.383 MHz	500 kHz Pass
802.11(g) 36 Mbps			
	Low Channel 1, 2412 MHz	16.464 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.464 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	16.465 MHz	500 kHz Pass
802.11(g) 54 Mbps			
	Low Channel 1, 2412 MHz	16.473 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	16.475 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	16.473 MHz	500 kHz Pass
802.11(n) MCS0			
	Low Channel 1, 2412 MHz	17.025 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	17.017 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	17.012 MHz	500 kHz Pass
802.11(n) MCS7			
	Low Channel 1, 2412 MHz	17.012 MHz	500 kHz Pass
	Mid Channel 6, 2437 MHz	17.013 MHz	500 kHz Pass
	High Channel 11, 2462 MHz	17.006 MHz	500 kHz Pass
40 MHz Bandwidth			
802.11(n) MCS0			
	Low Channel 1/5, 2422 MHz	36.367 MHz	500 kHz Pass
	Mid Channel 4/8, 2437 MHz	36.368 MHz	500 kHz Pass
	High Channel 7/11, 2452 MHz	36.373 MHz	500 kHz Pass
802.11(n) MCS7			
	Low Channel 1/5, 2422 MHz	36.421 MHz	500 kHz Pass
	Mid Channel 4/8, 2437 MHz	36.425 MHz	500 kHz Pass
	High Channel 7/11, 2452 MHz	36.407 MHz	500 kHz Pass

OCCUPIED BANDWIDTH

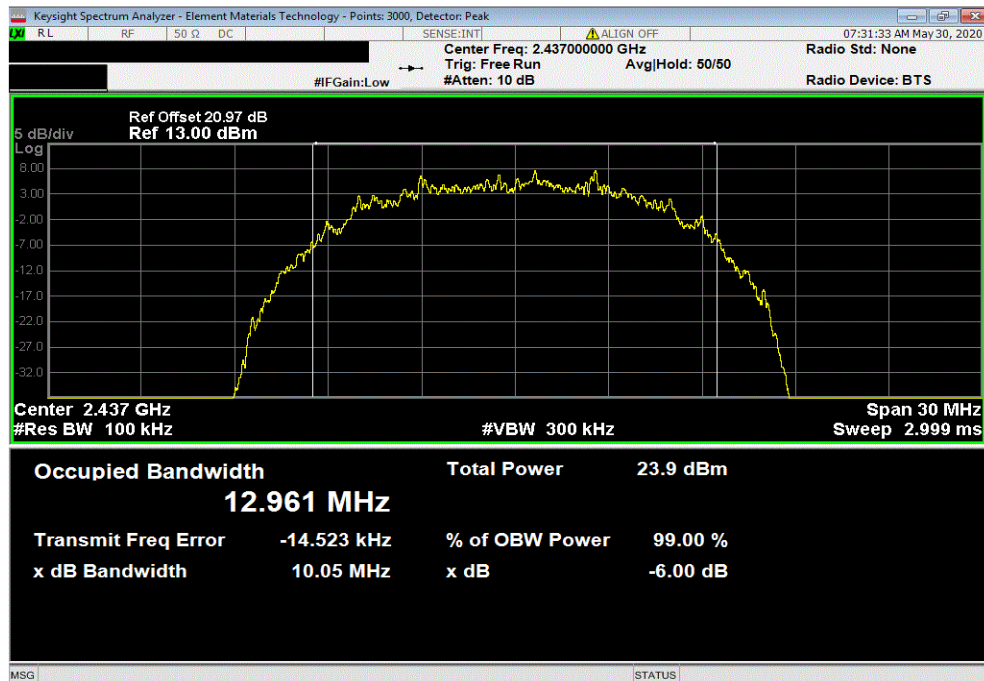


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20 MHz Bandwidth, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Result
				10.054 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Result
				10.055 MHz	500 kHz	Pass

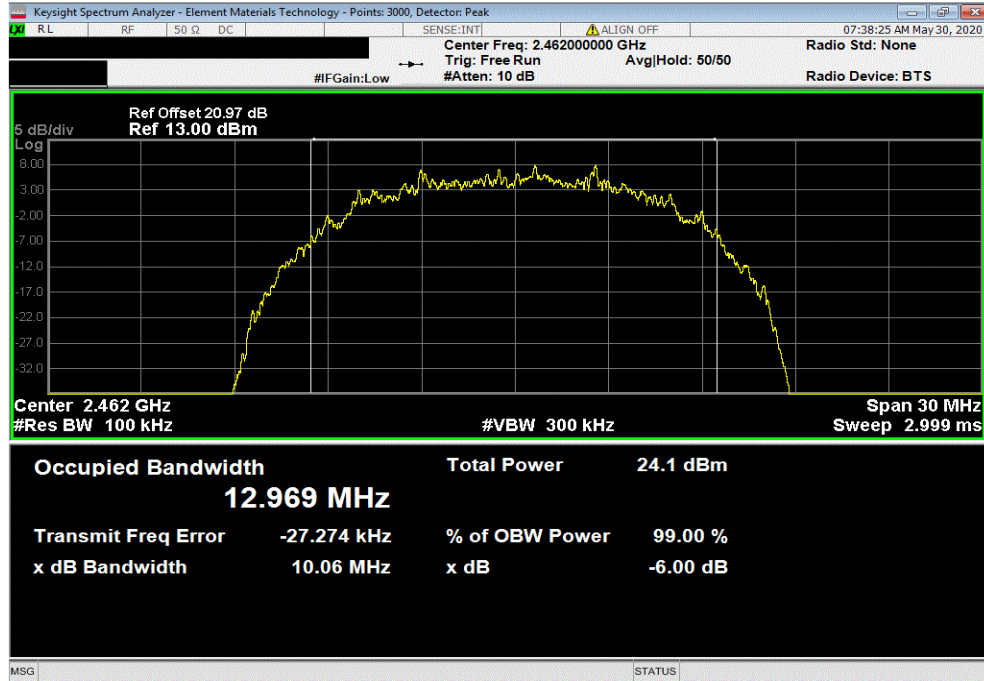


OCCUPIED BANDWIDTH

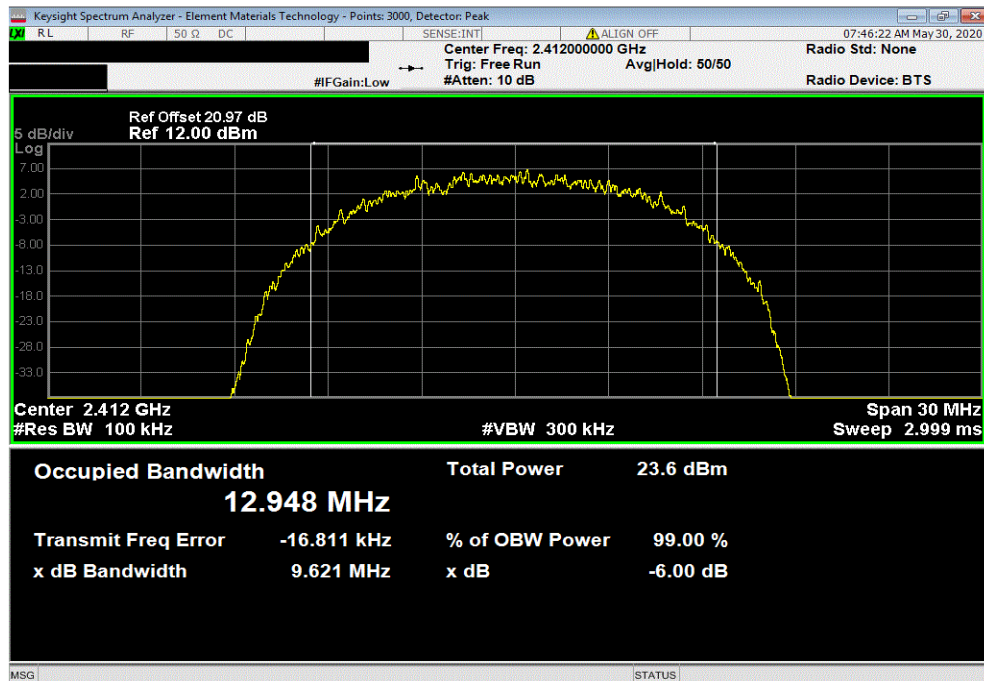


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				10.058 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				9.621 MHz	500 kHz	Pass

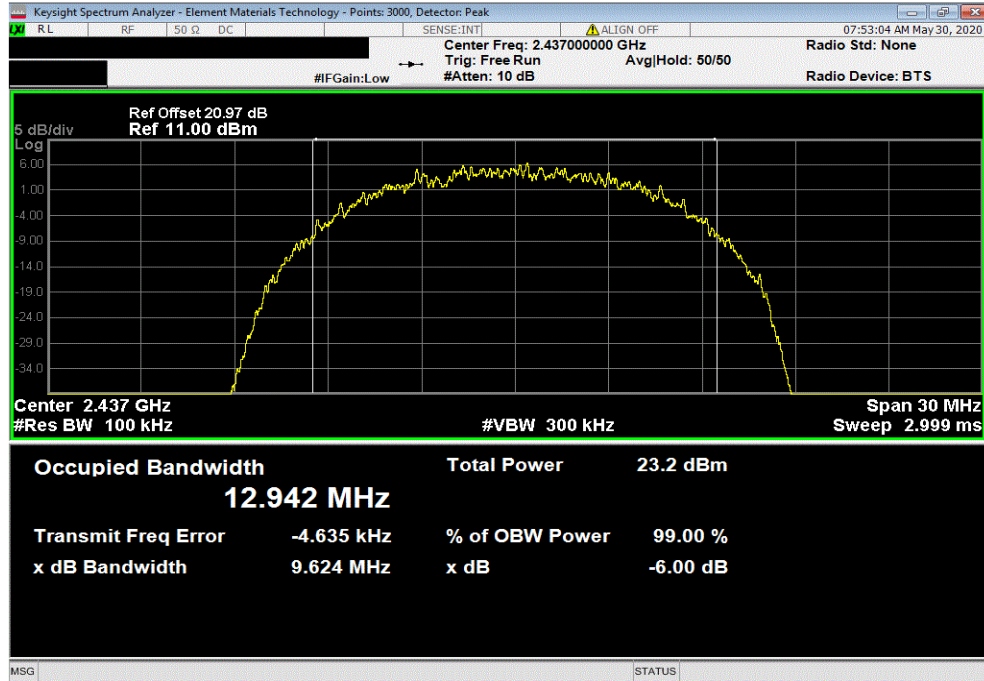


OCCUPIED BANDWIDTH

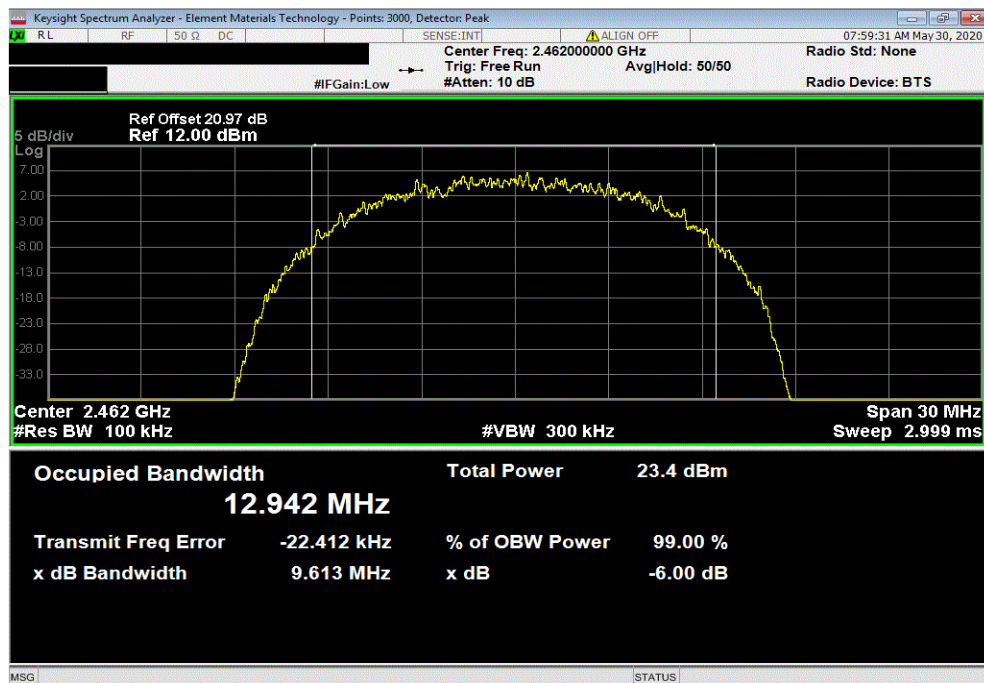


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				9.624 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				9.613 MHz	500 kHz	Pass

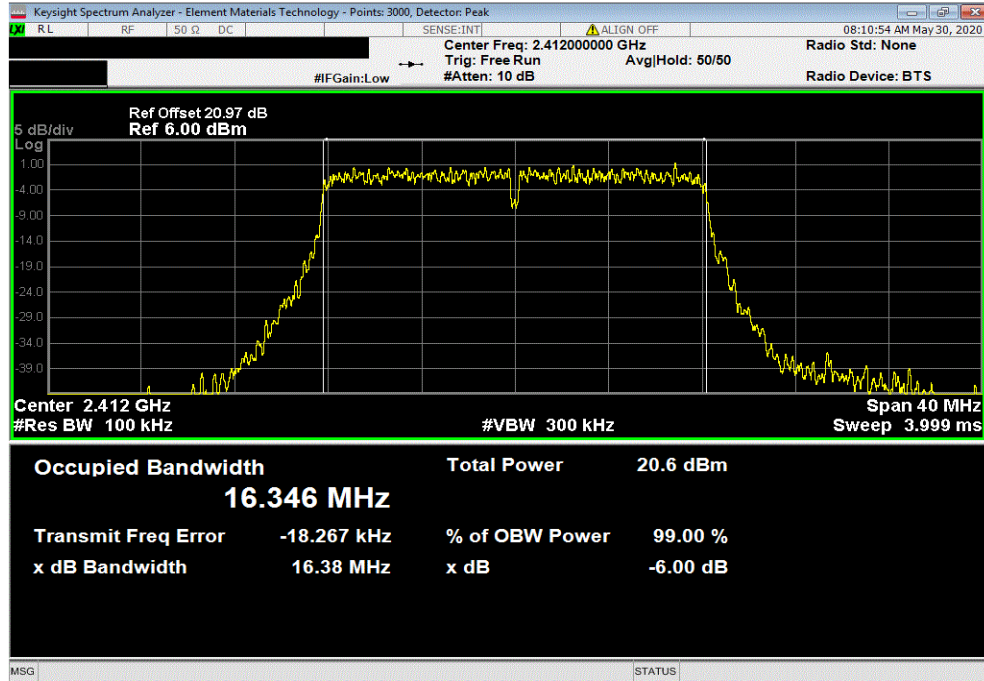


OCCUPIED BANDWIDTH

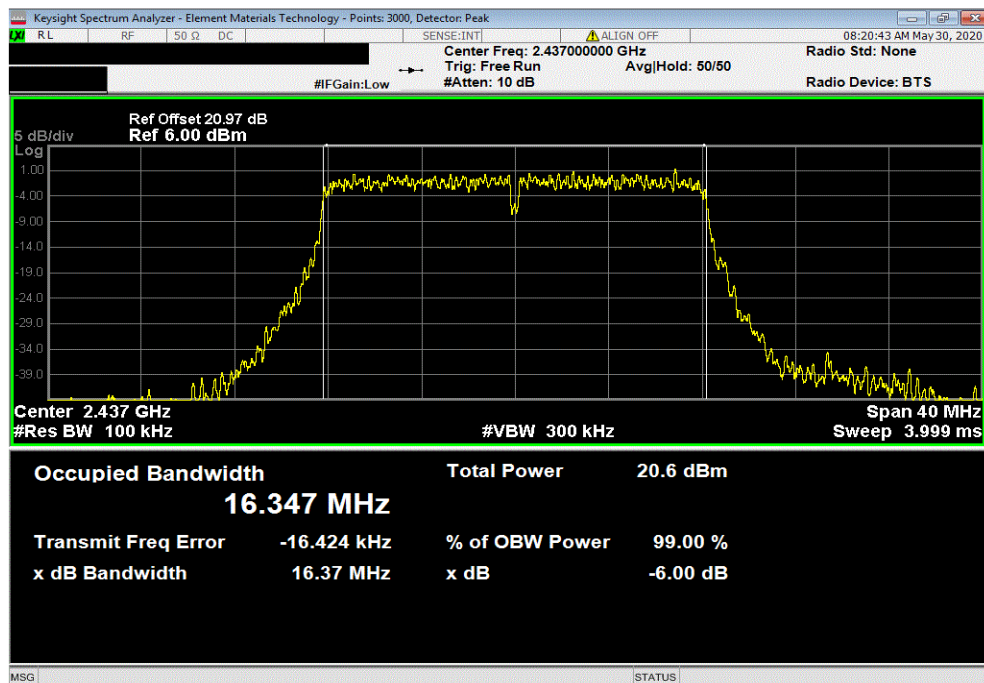


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				16.38 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				16.374 MHz	500 kHz	Pass

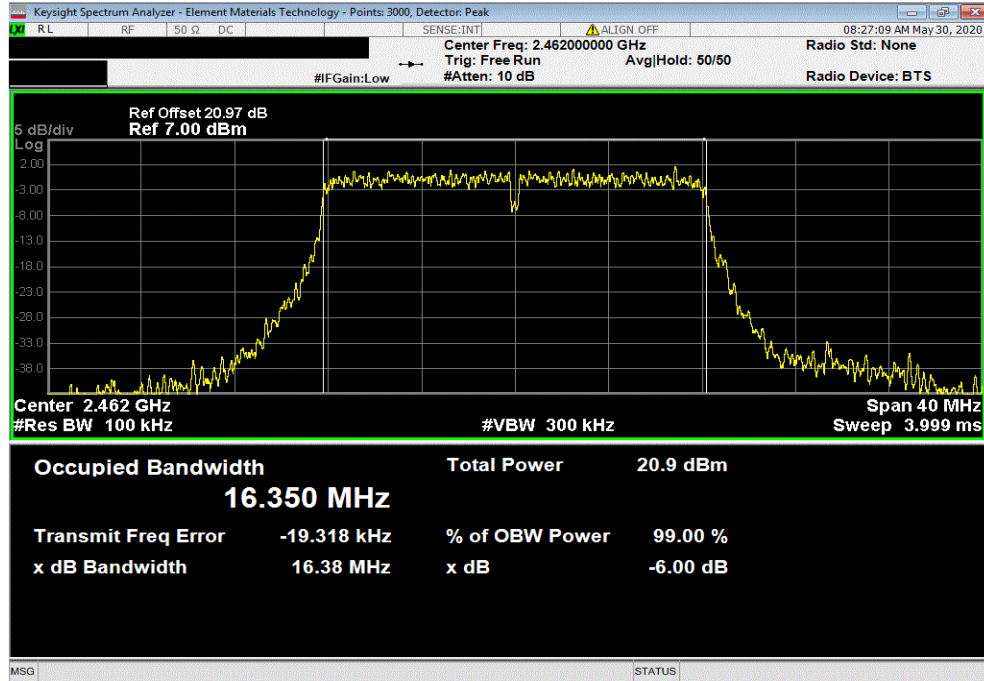


OCCUPIED BANDWIDTH

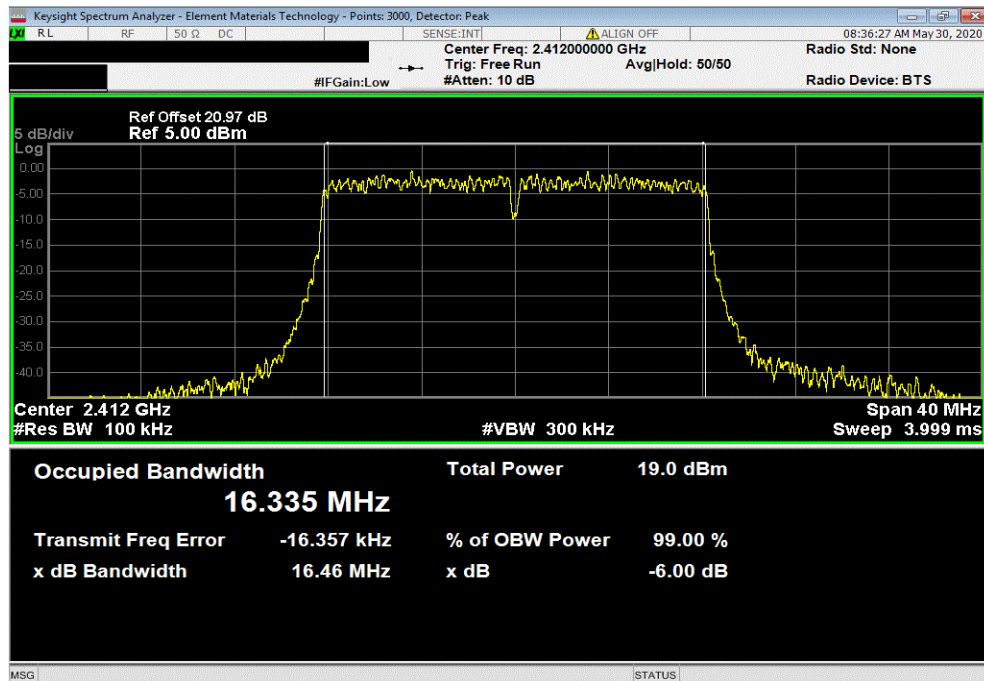


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				16.383 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				16.464 MHz	500 kHz	Pass

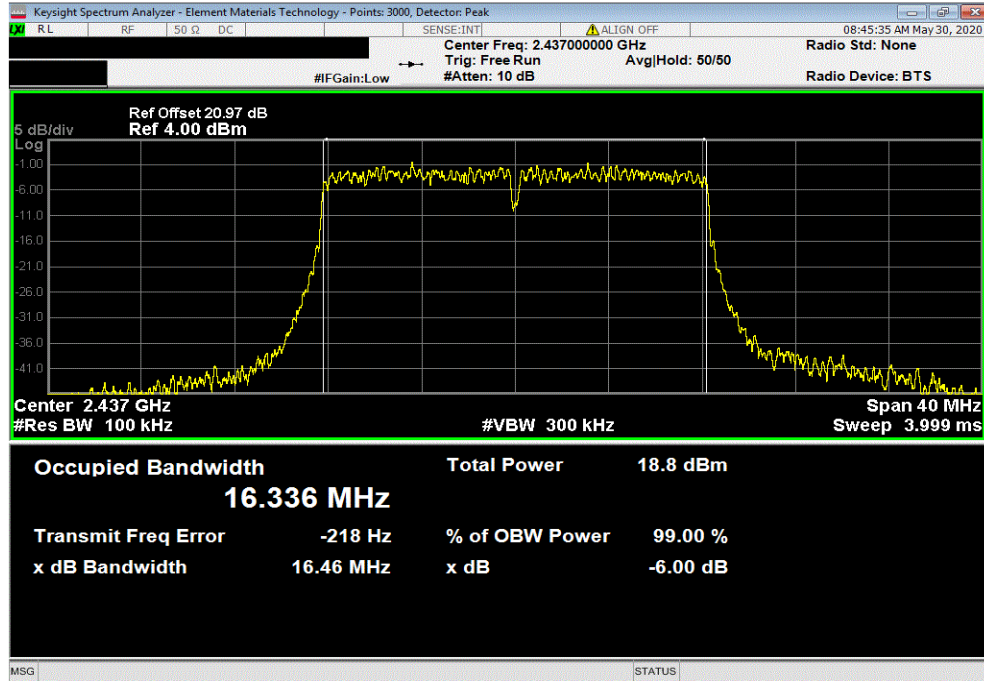


OCCUPIED BANDWIDTH

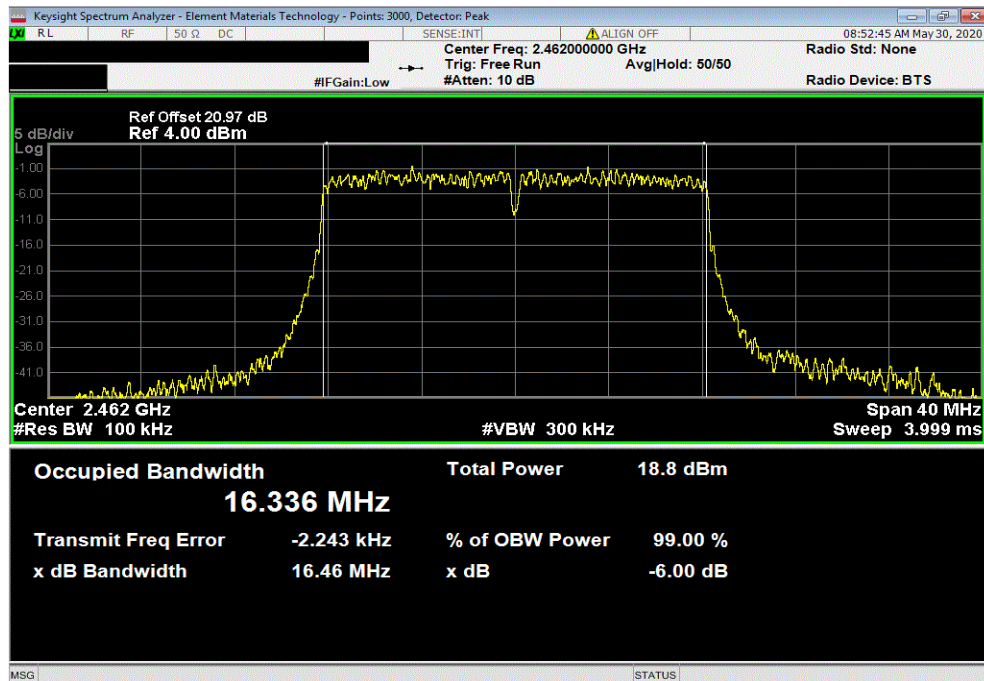


TbTx 2019.08.30.0 XMI 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				16.464 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				16.465 MHz	500 kHz	Pass

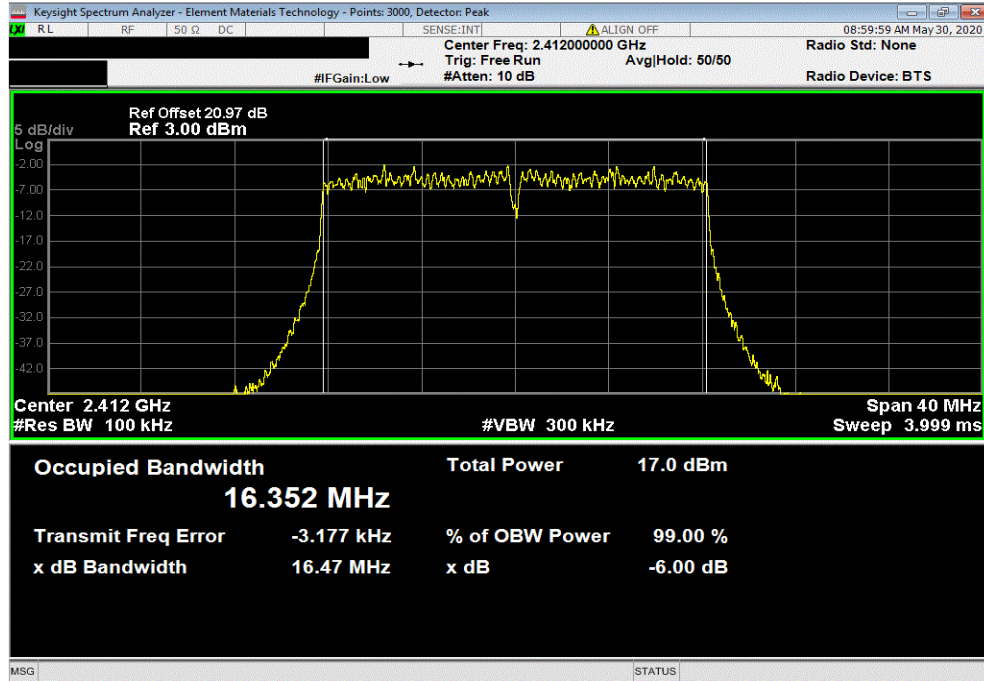


OCCUPIED BANDWIDTH

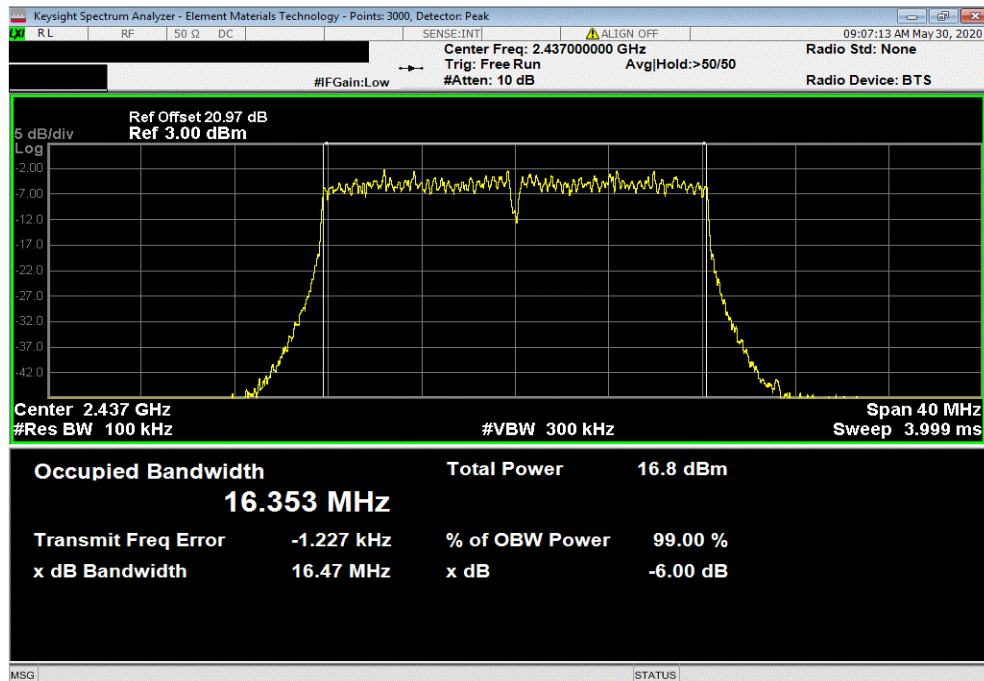


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				16.473 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				16.475 MHz	500 kHz	Pass

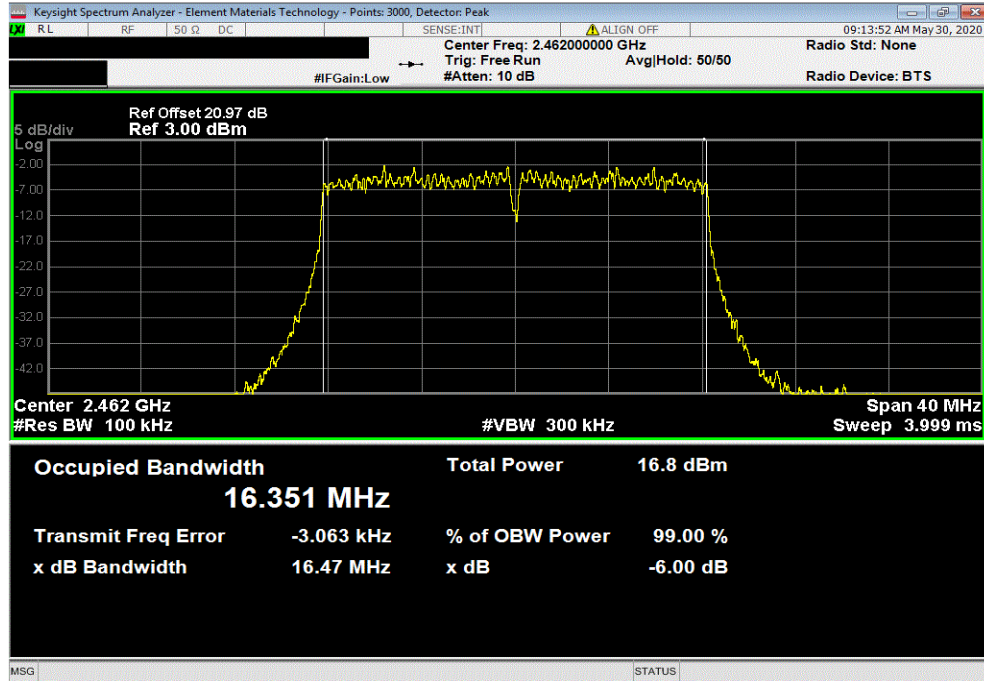


OCCUPIED BANDWIDTH

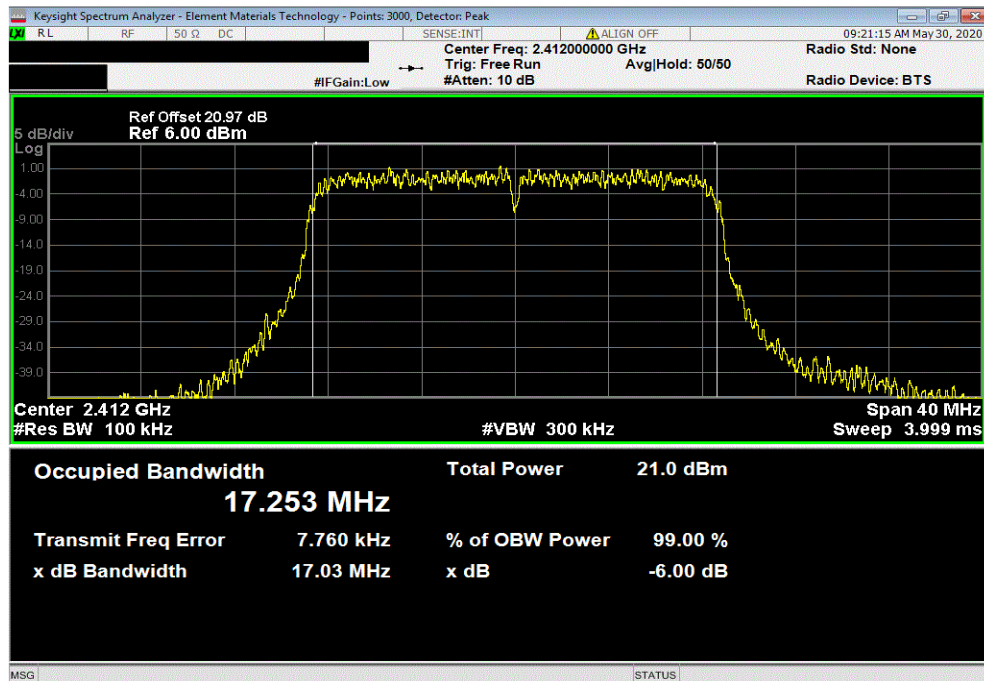


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				16.473 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				17.025 MHz	500 kHz	Pass

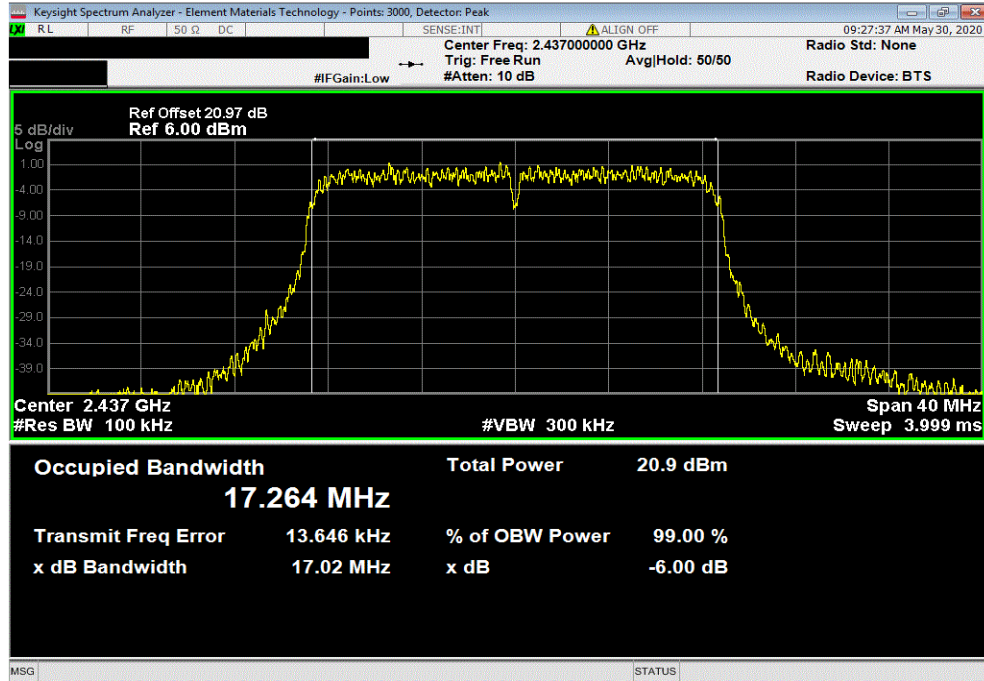


OCCUPIED BANDWIDTH

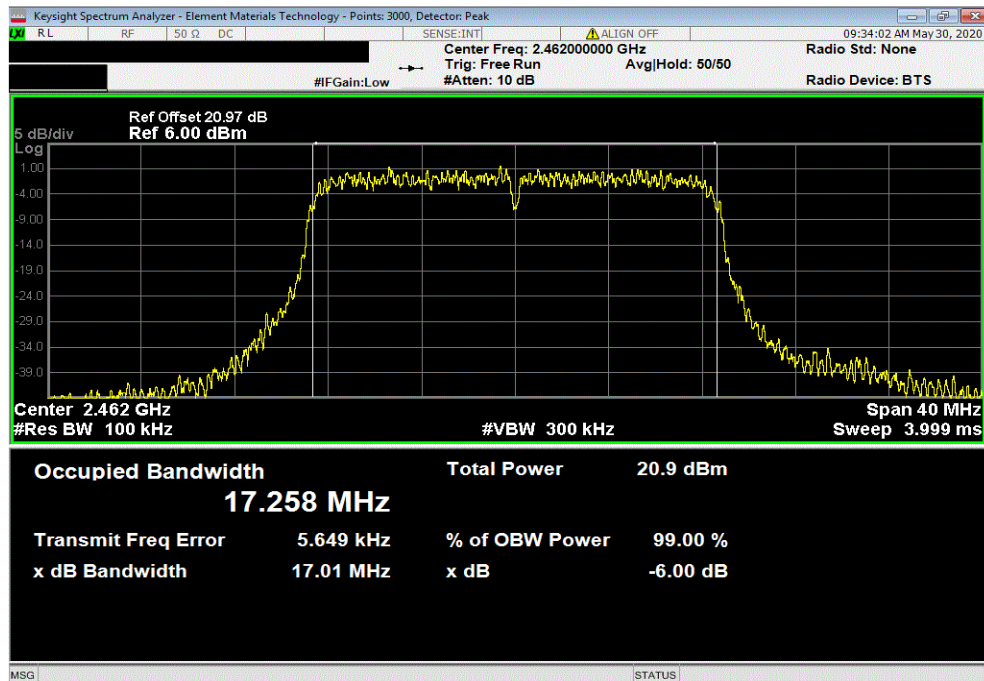


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				17.017 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				17.012 MHz	500 kHz	Pass

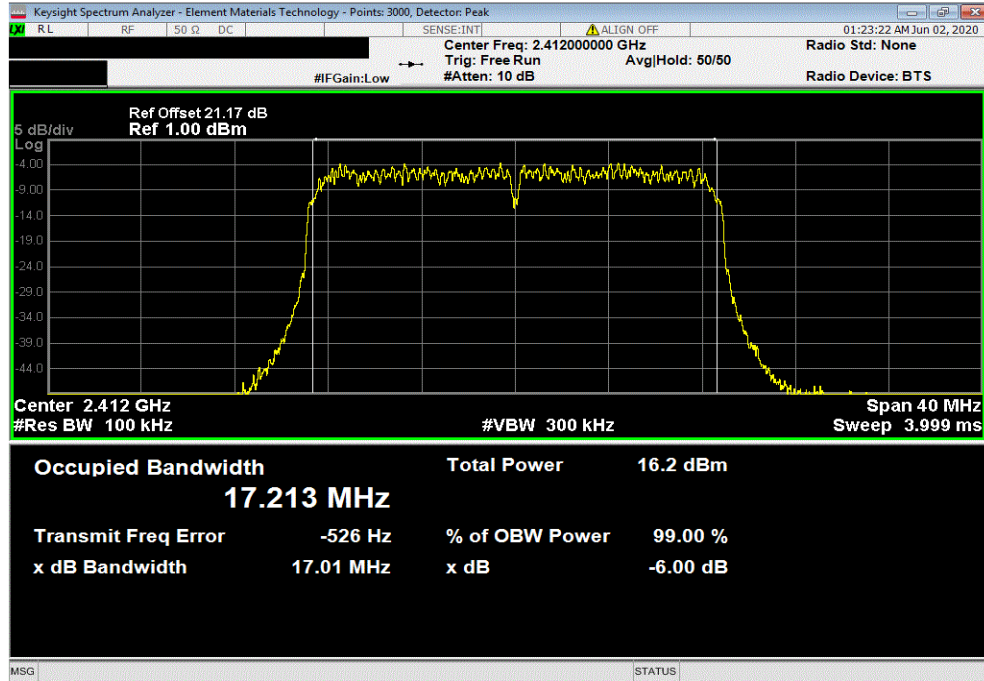


OCCUPIED BANDWIDTH

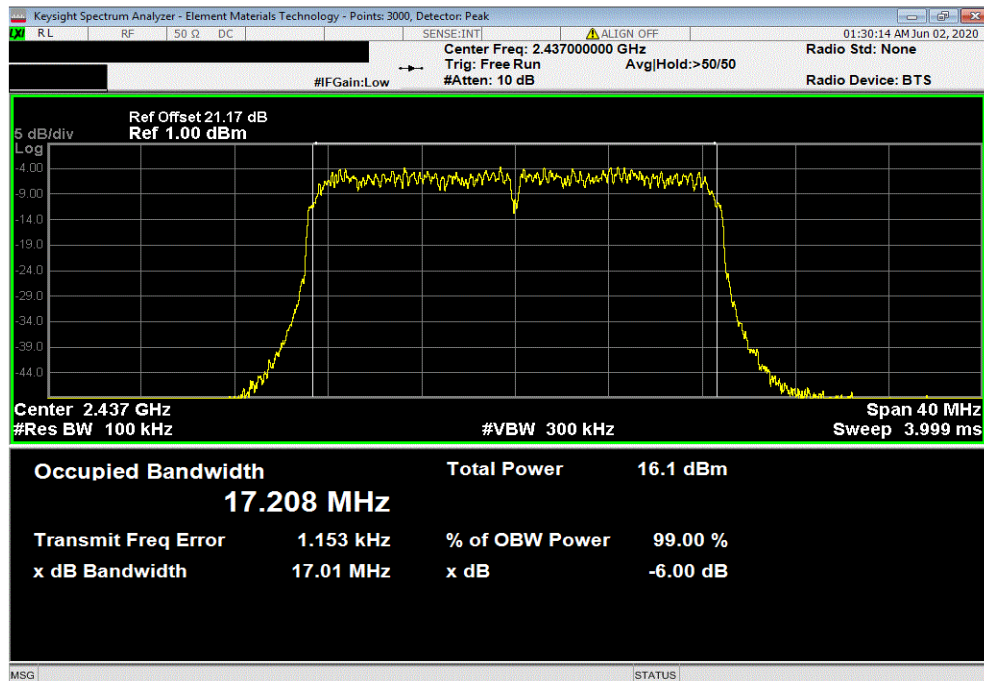


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value	Limit (>)	Result
				17.012 MHz	500 kHz	Pass



20 MHz Bandwidth, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value	Limit (>)	Result
				17.013 MHz	500 kHz	Pass

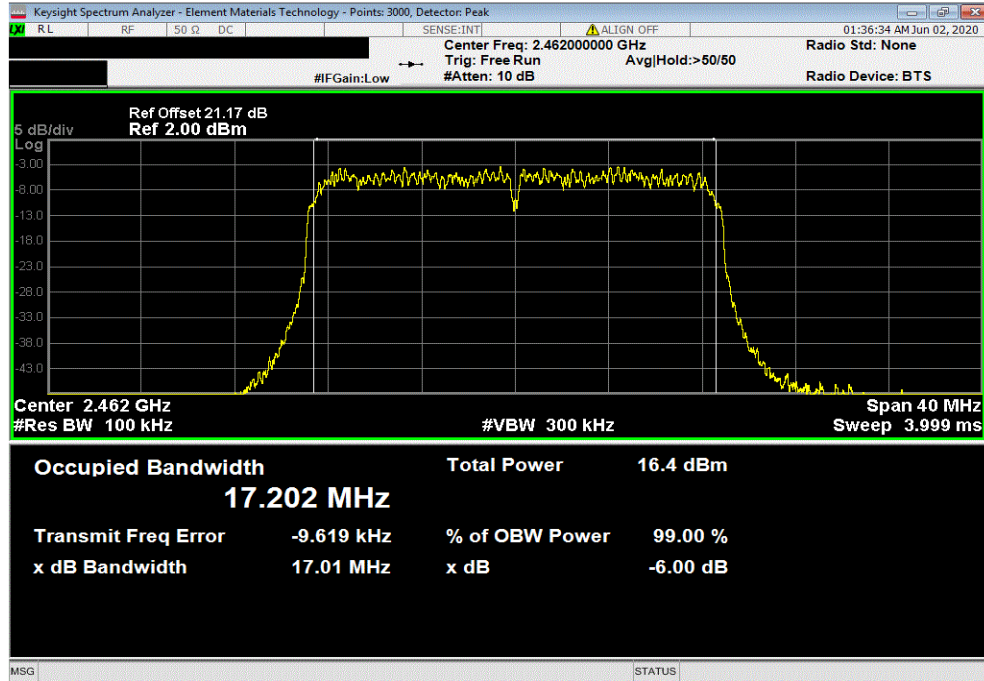


OCCUPIED BANDWIDTH

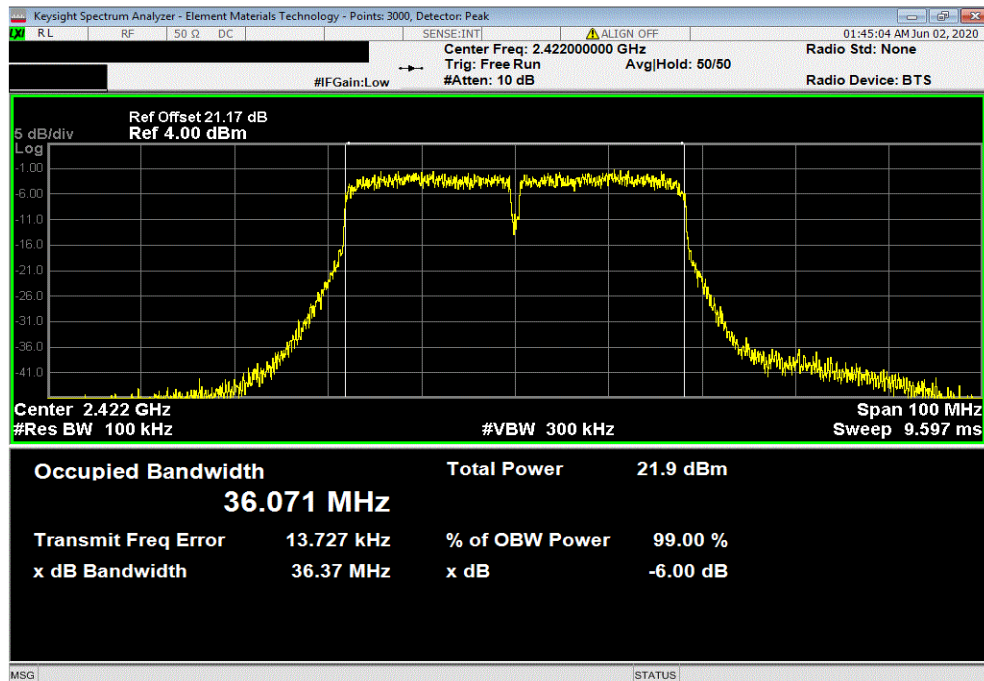


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value	Limit (>)	Result
				17.006 MHz	500 kHz	Pass



40 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz						
				Value	Limit (>)	Result
				36.367 MHz	500 kHz	Pass

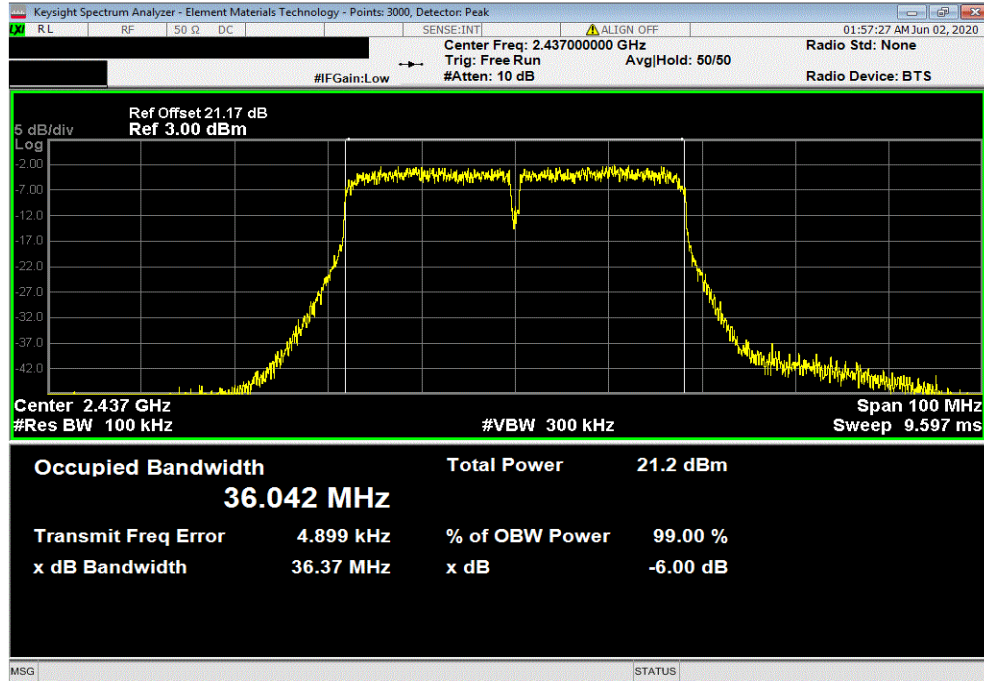


OCCUPIED BANDWIDTH

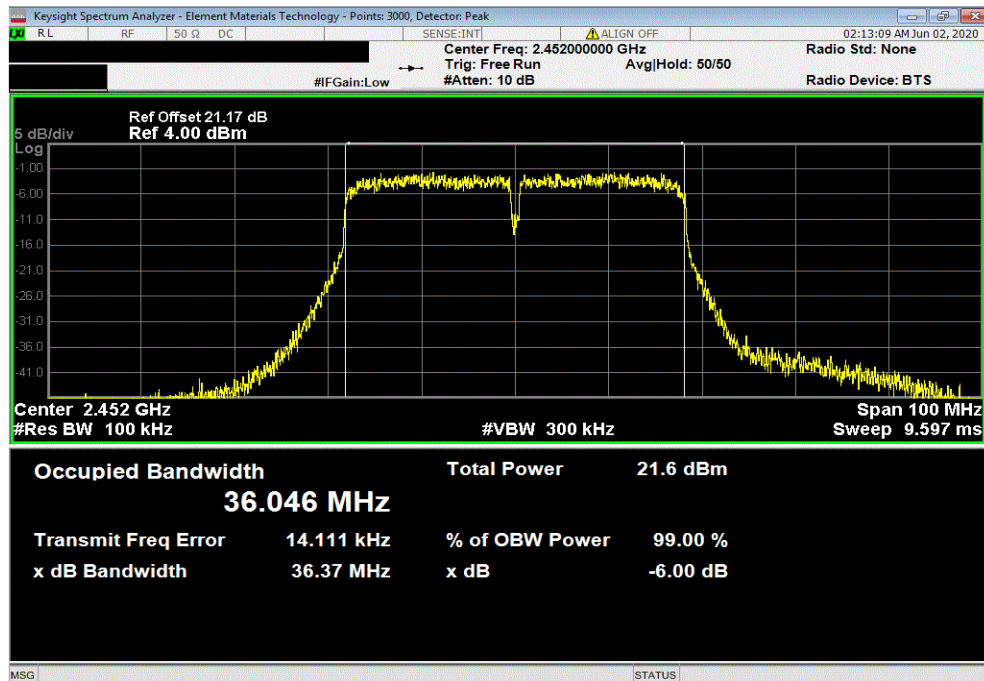


TbTx 2019.08.30.0 XMt 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz						
				Value	Limit (>)	Result
				36.368 MHz	500 kHz	Pass



40 MHz Bandwidth, 802.11(n) MCS0, High Channel 7/11, 2452 MHz						
				Value	Limit (>)	Result
				36.373 MHz	500 kHz	Pass

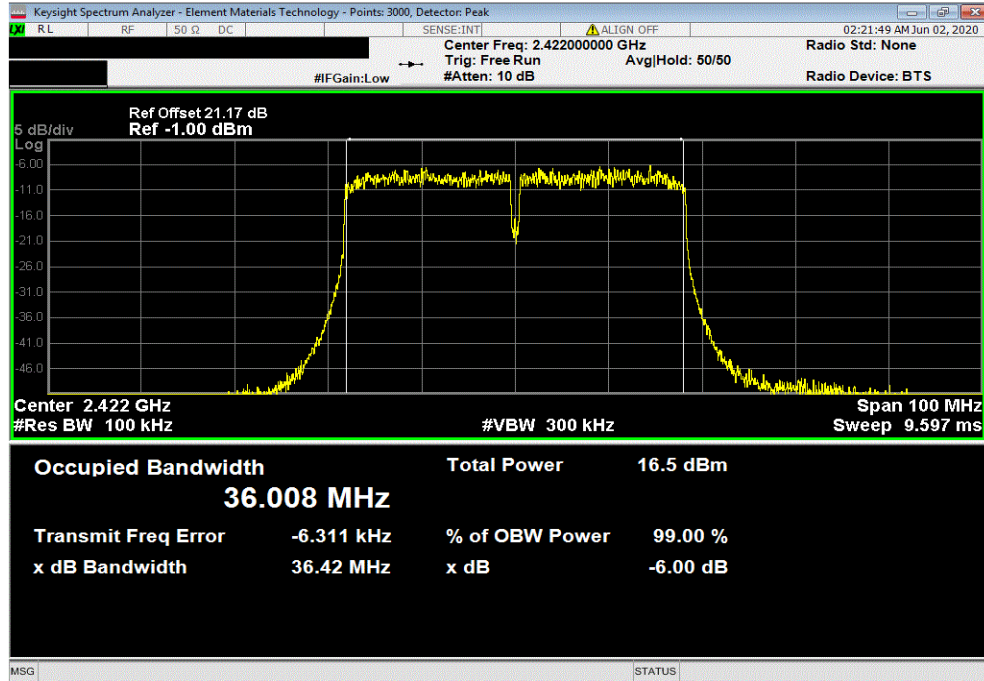


OCCUPIED BANDWIDTH

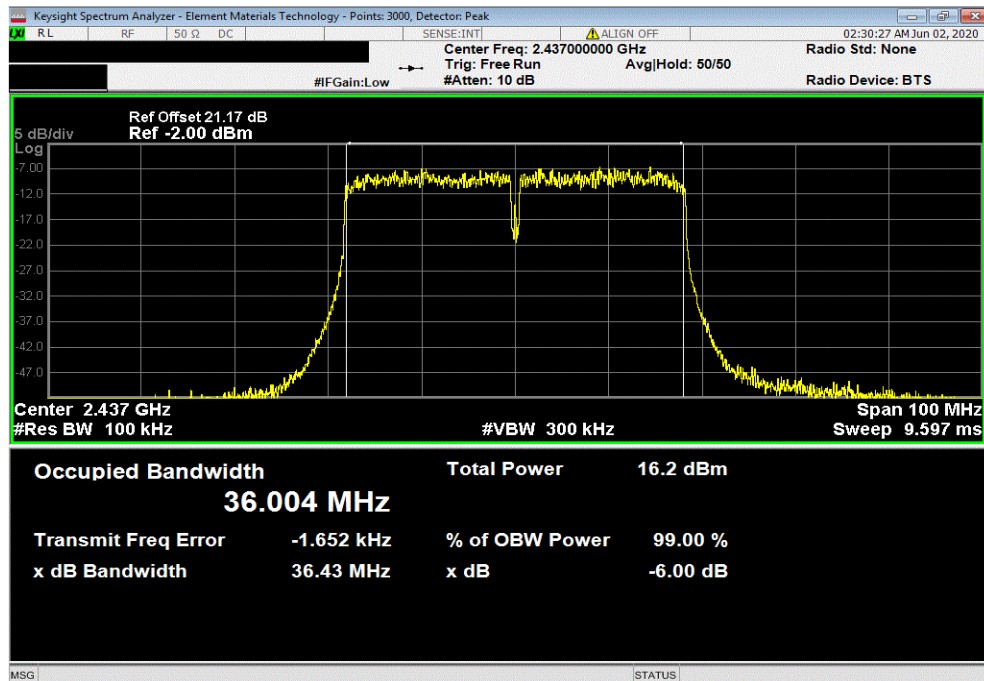


TbTx 2019.08.30.0 XMt 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz						
				Value	Limit (>)	Result
				36.421 MHz	500 kHz	Pass



40 MHz Bandwidth, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz						
				Value	Limit (>)	Result
				36.425 MHz	500 kHz	Pass



OCCUPIED BANDWIDTH



TbTx 2019.08.30.0 XMt 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS7, High Channel 7/11, 2452 MHz						
	Value	Limit	Result			
	36.407 MHz	500 kHz	Pass			

