

POWER SPECTRAL DENSITY



XMit 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 power spectral density was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method PKPSD in section 11.10.3 of ANSI C63.10:2013 was used to make the measurement. This method uses peak detection across the full power of the burst.

POWER SPECTRAL DENSITY



TSTx 2019.08.30.0 XMR 2020.03.25.0

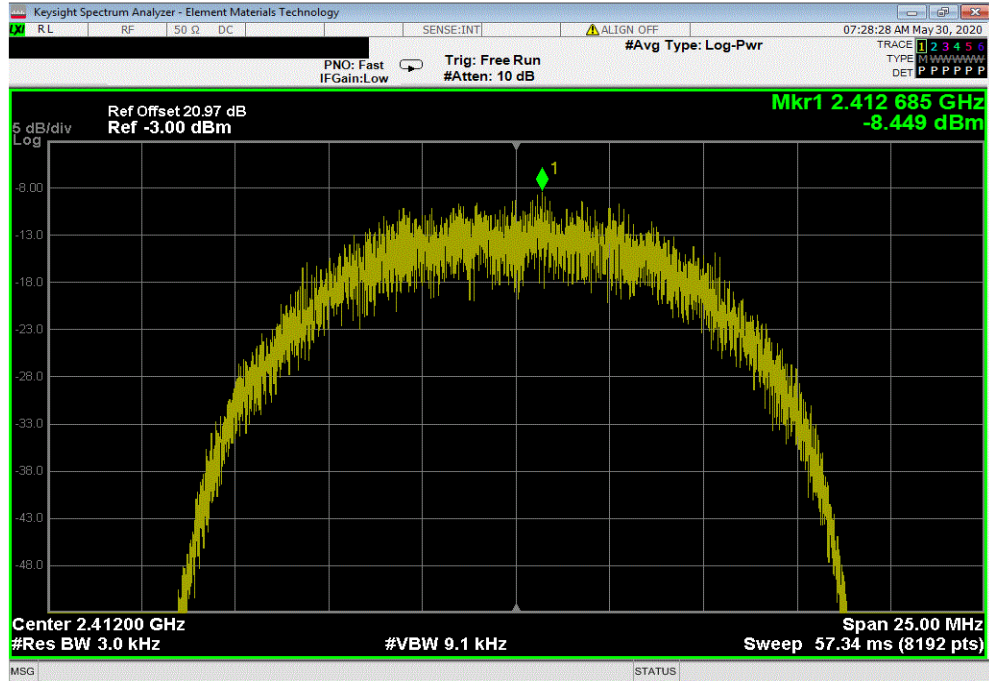
EUT: New Telemetry Cable		Work Order: INSP0011	
Serial Number: P000026		Date: 1-Jun-20	
Customer: Inspire Medical Systems		Temperature: 24.7 °C	
Attendees: Darrell Wagner		Humidity: 50.6% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Andrew Rogstad		Power: 120VAC/60Hz	
		Job Site: MN08	
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 dBm/3kHz	Limit < dBm/3kHz
Results			
20 MHz Bandwidth			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz		-8.449	8
Mid Channel 6, 2437 MHz		-8.474	8
High Channel 11, 2462 MHz		-8.292	8
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz		-8.377	8
Mid Channel 6, 2437 MHz		-8.559	8
High Channel 11, 2462 MHz		-8.502	8
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz		-13.846	8
Mid Channel 6, 2437 MHz		-13.915	8
High Channel 11, 2462 MHz		-13.751	8
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz		-13.804	8
Mid Channel 6, 2437 MHz		-13.97	8
High Channel 11, 2462 MHz		-14.039	8
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz		-16.153	8
Mid Channel 6, 2437 MHz		-16.381	8
High Channel 11, 2462 MHz		-16.425	8
802.11(n) MCS0			
Low Channel 1, 2412 MHz		-13.209	8
Mid Channel 6, 2437 MHz		-13.33	8
High Channel 11, 2462 MHz		-13.165	8
802.11(n) MCS7			
Low Channel 1, 2412 MHz		-17.372	8
Mid Channel 6, 2437 MHz		-17.159	8
High Channel 11, 2462 MHz		-16.189	8
40 MHz Bandwidth			
802.11(n) MCS0			
Low Channel 1/5, 2422 MHz		-14.371	8
Mid Channel 4/8, 2437 MHz		-14.756	8
High Channel 7/11, 2452 MHz		-14.482	8
802.11(n) MCS7			
Low Channel 1/5, 2422 MHz		-19.016	8
Mid Channel 4/8, 2437 MHz		-17.018	8
High Channel 7/11, 2452 MHz		-16.686	8

POWER SPECTRAL DENSITY

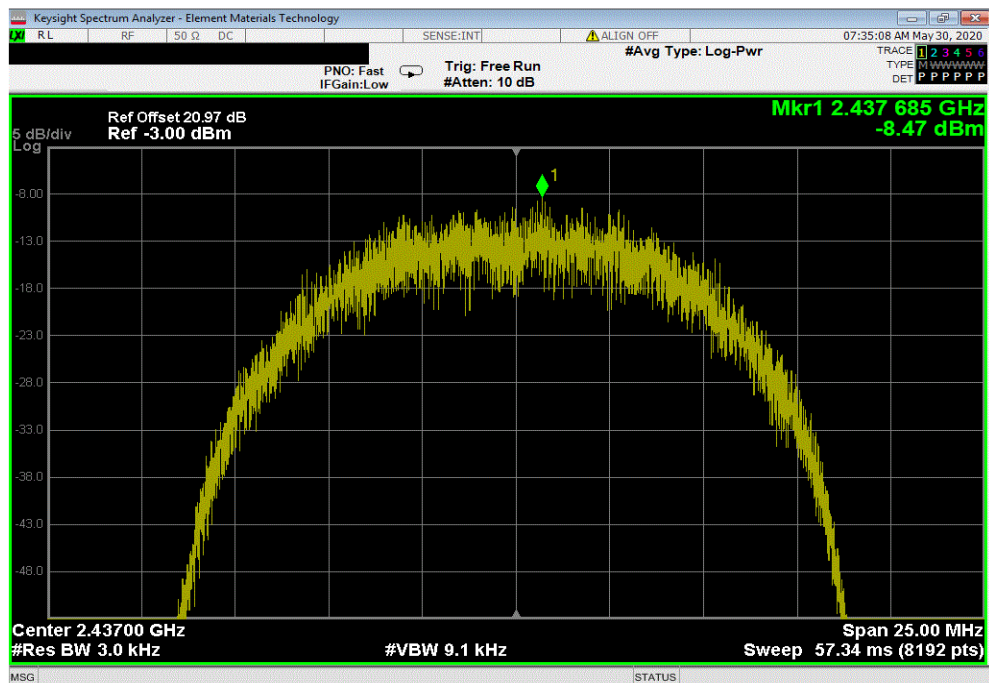


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20 MHz Bandwidth, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-8.449	8	Pass



20 MHz Bandwidth, 802.11(b) 1 Mbps, Mid Channel 6, 2437 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-8.474	8	Pass

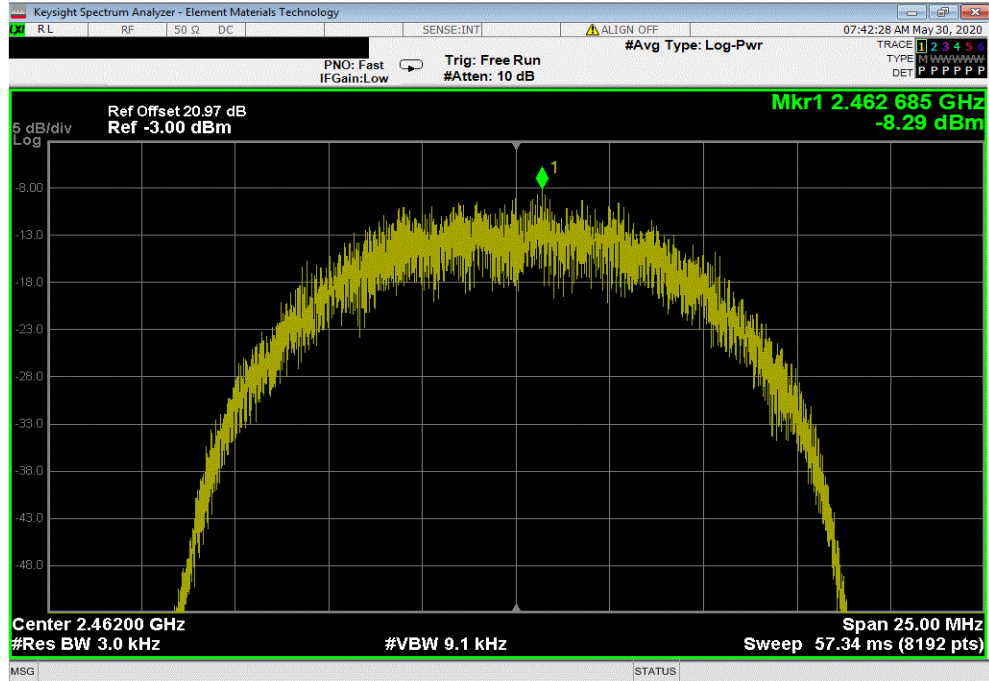


POWER SPECTRAL DENSITY

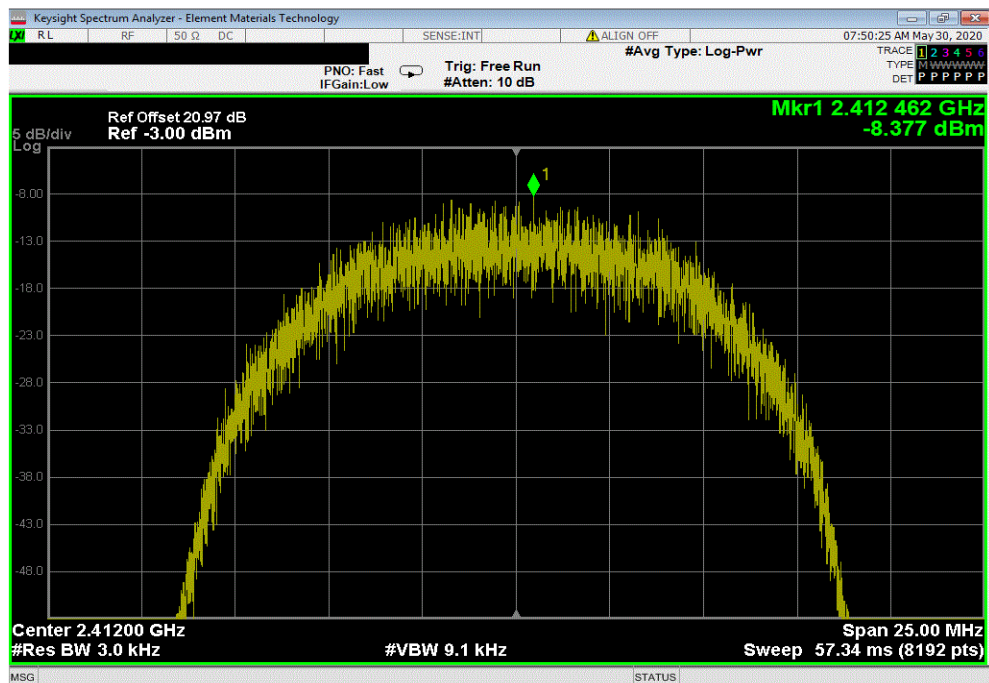


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20 MHz Bandwidth, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-8.292	8	Pass			



20 MHz Bandwidth, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-8.377	8	Pass			

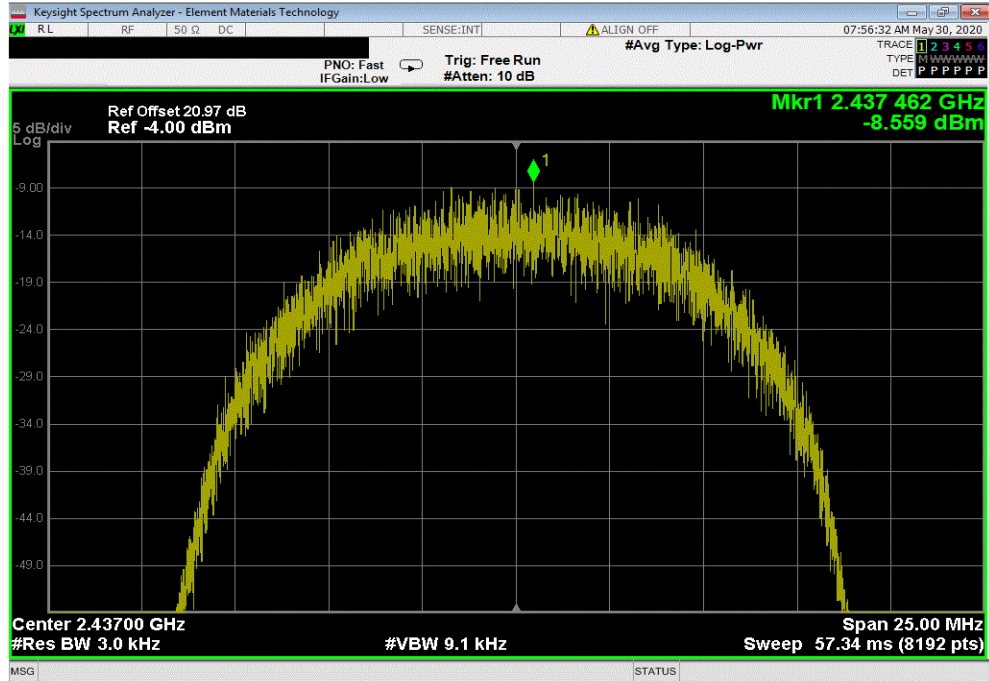


POWER SPECTRAL DENSITY

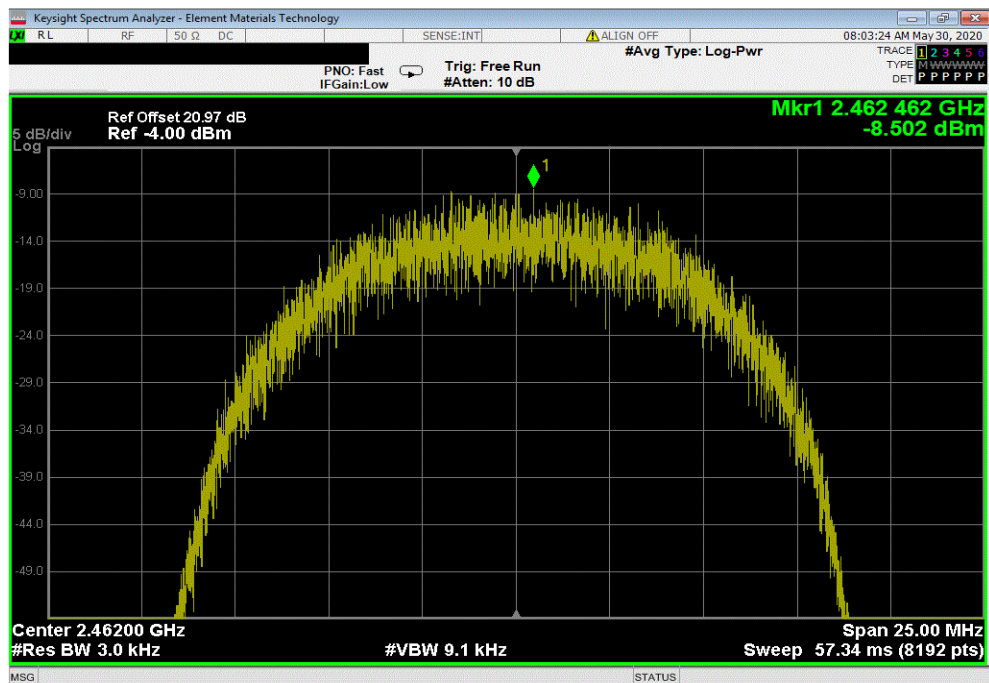


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(b) 11 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-8.559	8	Pass			



20 MHz Bandwidth, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-8.502	8	Pass			

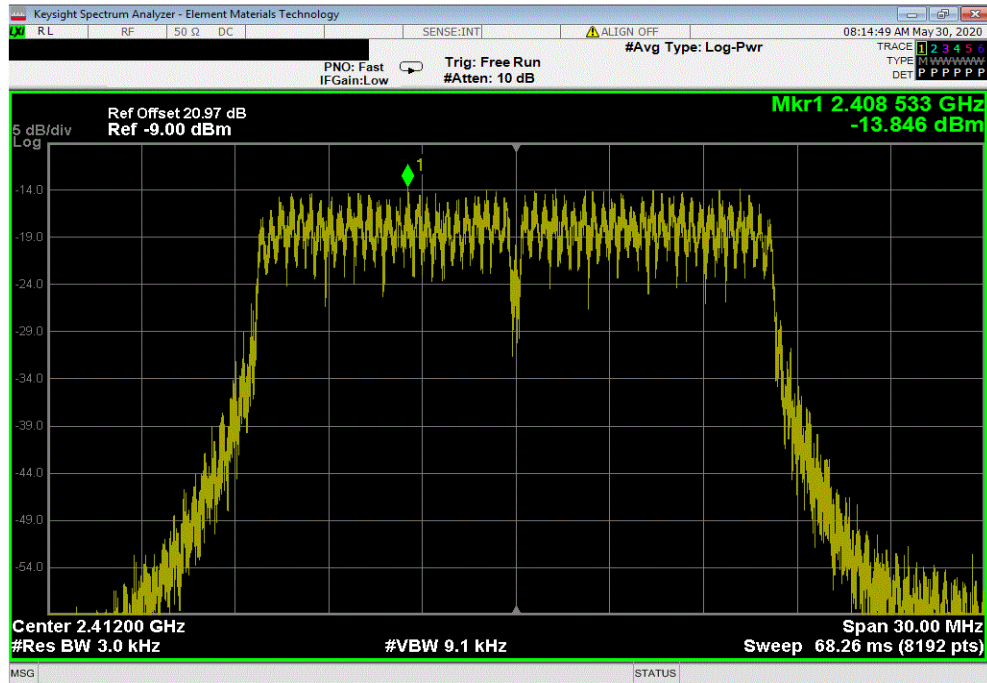


POWER SPECTRAL DENSITY

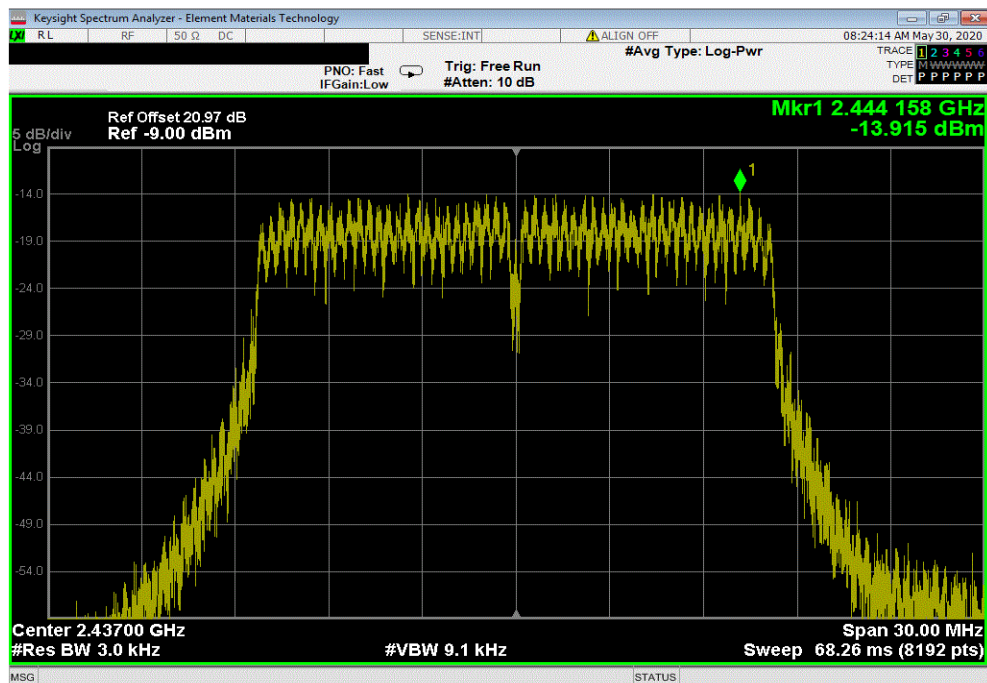


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20 MHz Bandwidth, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.846	8	Pass			



20 MHz Bandwidth, 802.11(g) 6 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.915	8	Pass			

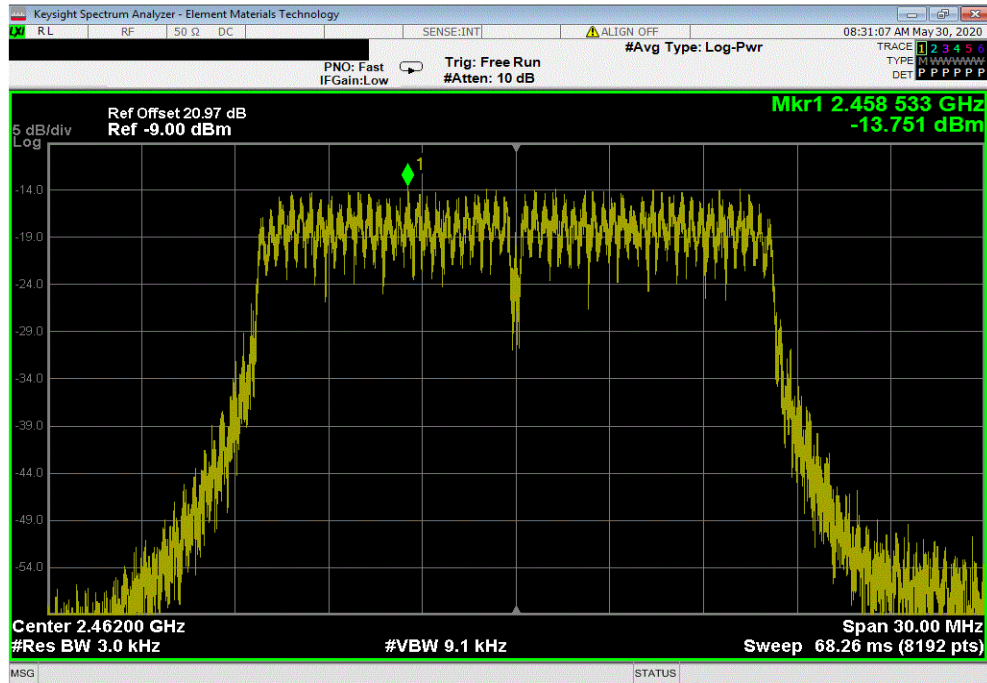


POWER SPECTRAL DENSITY

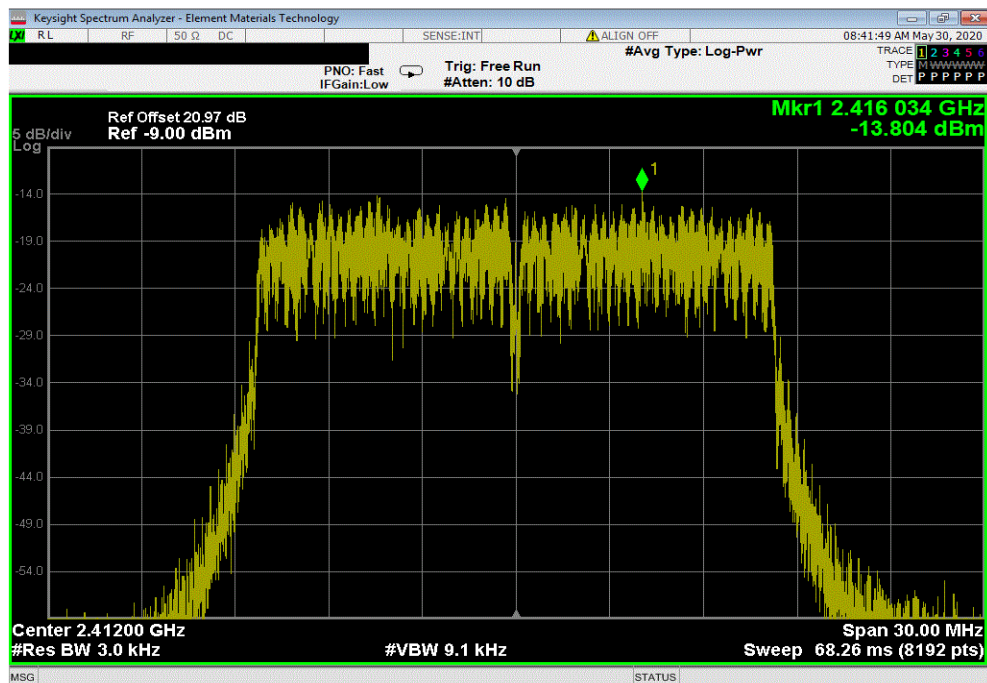


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-13.751	8	Pass



20 MHz Bandwidth, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-13.804	8	Pass

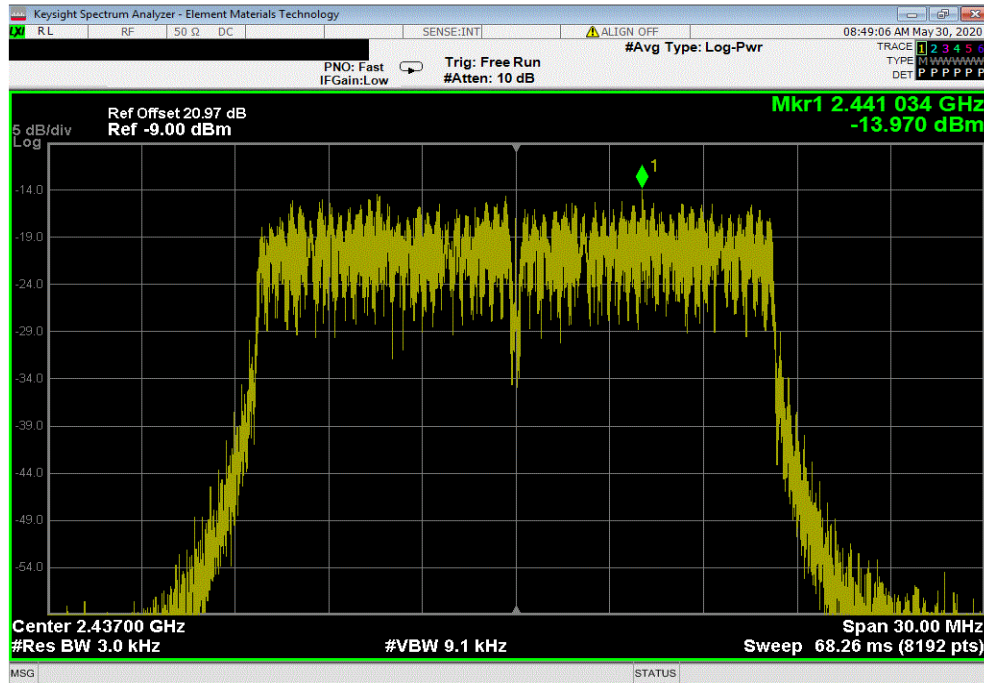


POWER SPECTRAL DENSITY

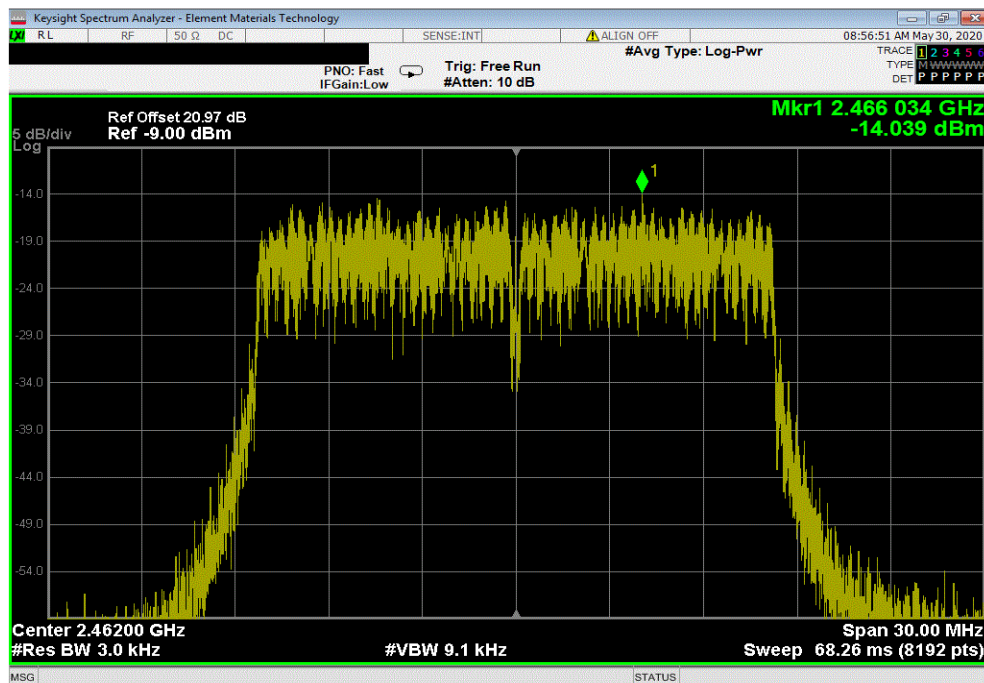


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 36 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.97	8	Pass			



20 MHz Bandwidth, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-14.039	8	Pass			

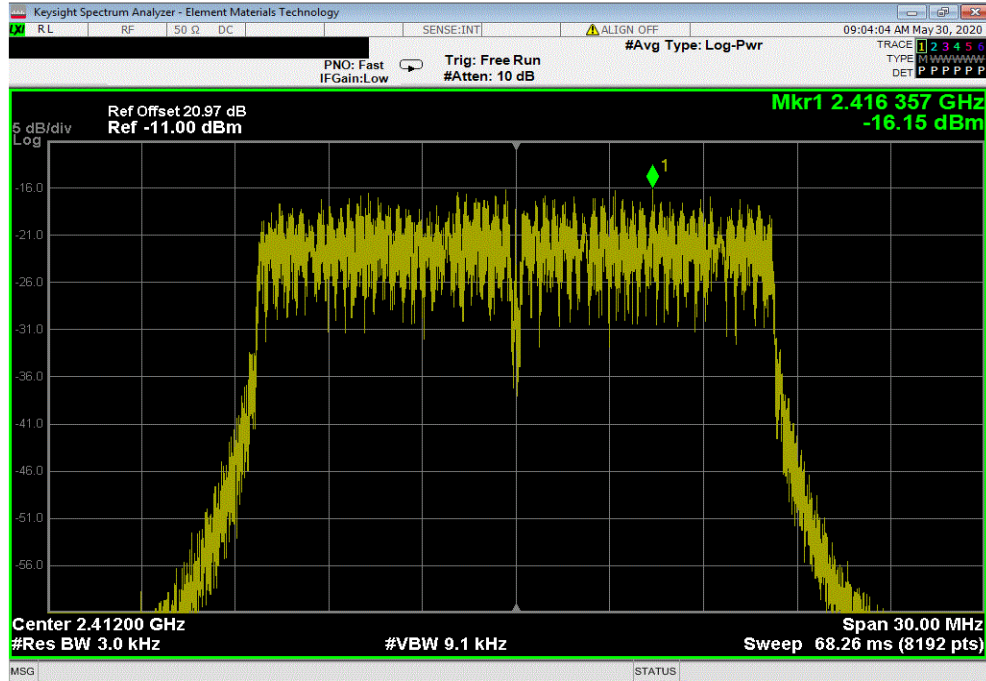


POWER SPECTRAL DENSITY

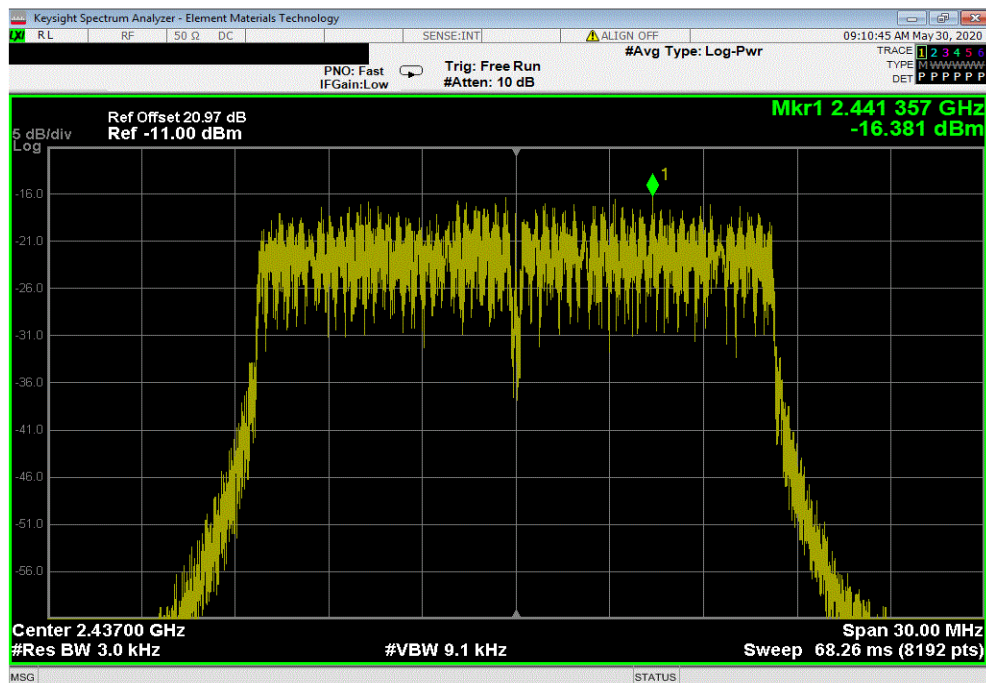


TMTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-16.153	8	Pass			



20 MHz Bandwidth, 802.11(g) 54 Mbps, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-16.381	8	Pass			

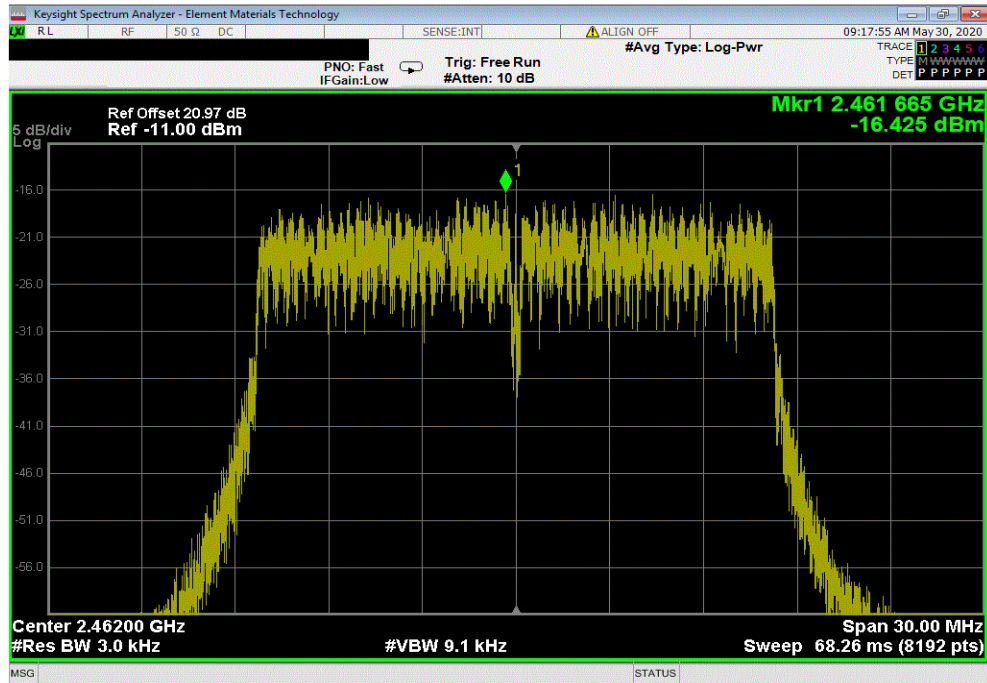


POWER SPECTRAL DENSITY

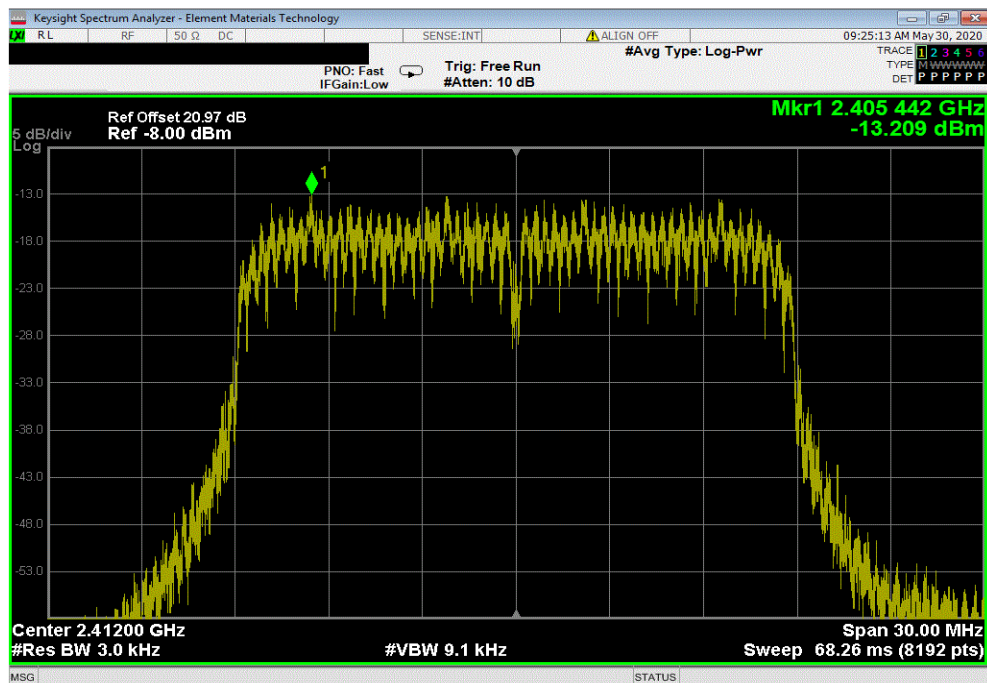


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-16.425	8	Pass			



20 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.209	8	Pass			

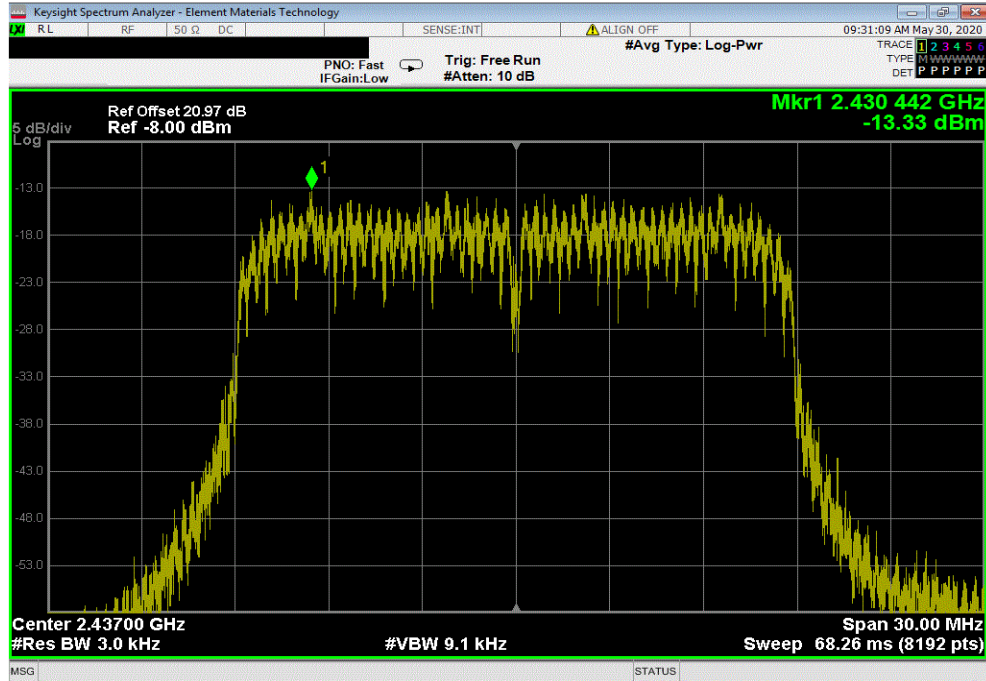


POWER SPECTRAL DENSITY

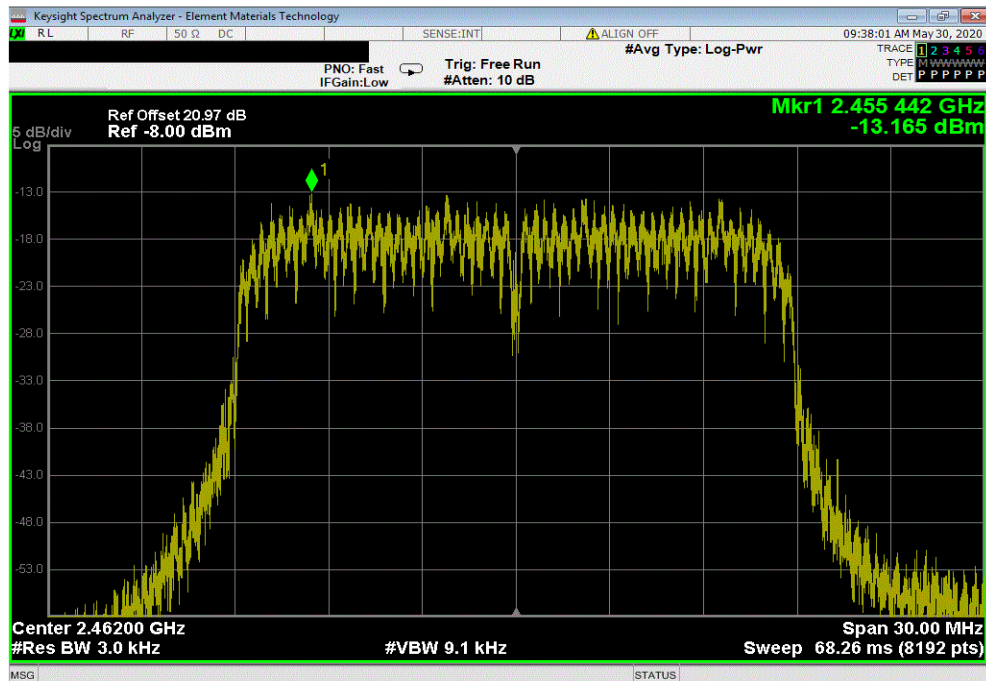


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS0, Mid Channel 6, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.33	8	Pass			



20 MHz Bandwidth, 802.11(n) MCS0, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-13.165	8	Pass			

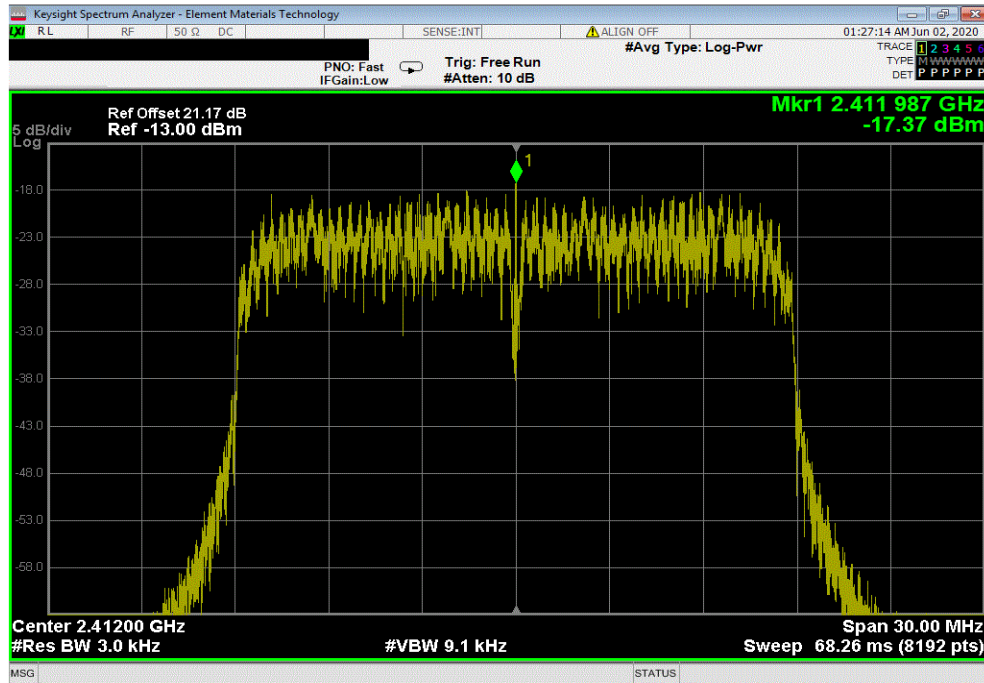


POWER SPECTRAL DENSITY

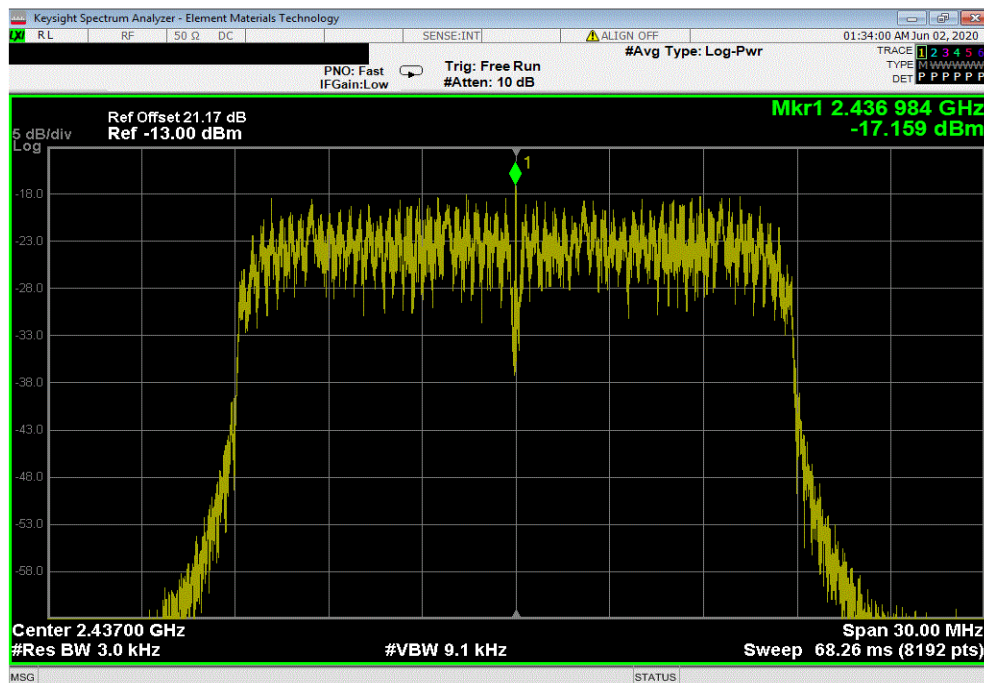


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.372	8	Pass



20 MHz Bandwidth, 802.11(n) MCS7, Mid Channel 6, 2437 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				-17.159	8	Pass

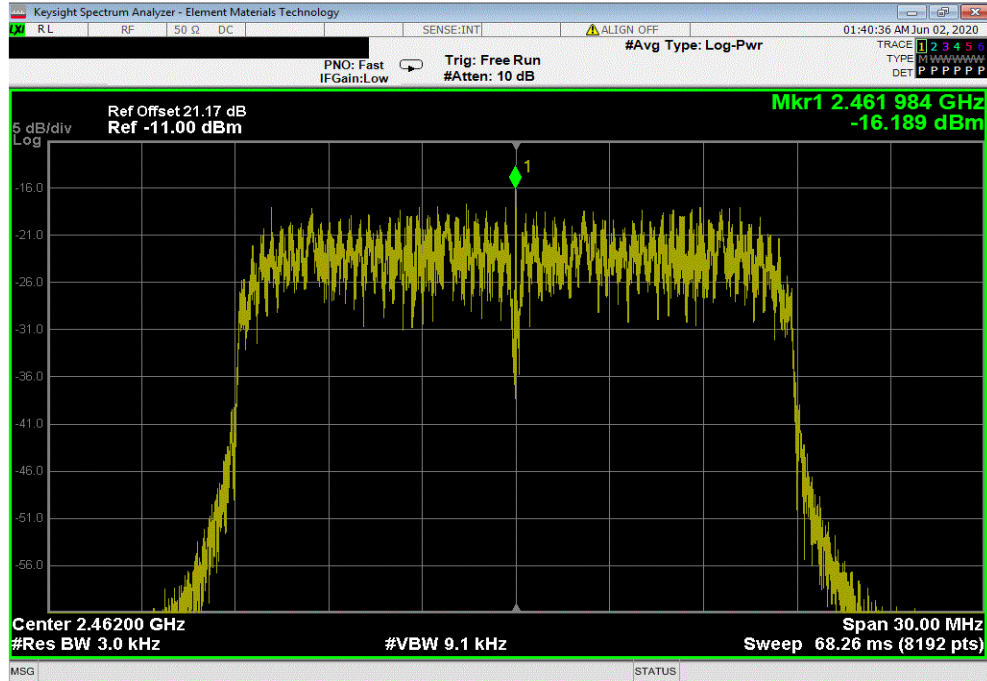


POWER SPECTRAL DENSITY

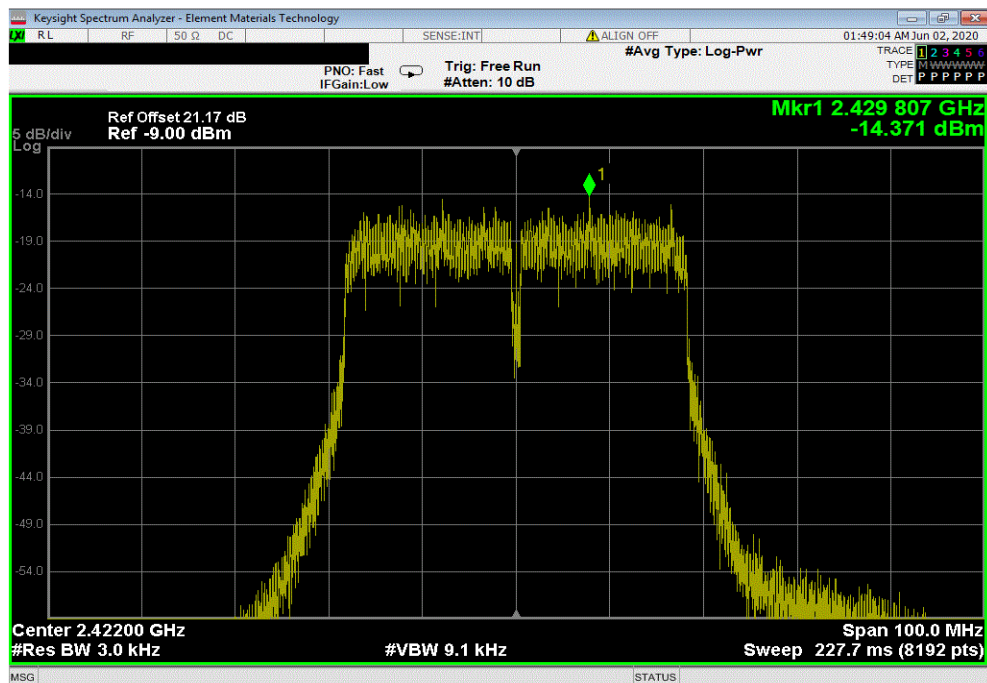


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS7, High Channel 11, 2462 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-16.189	8	Pass			



40 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-14.371	8	Pass			

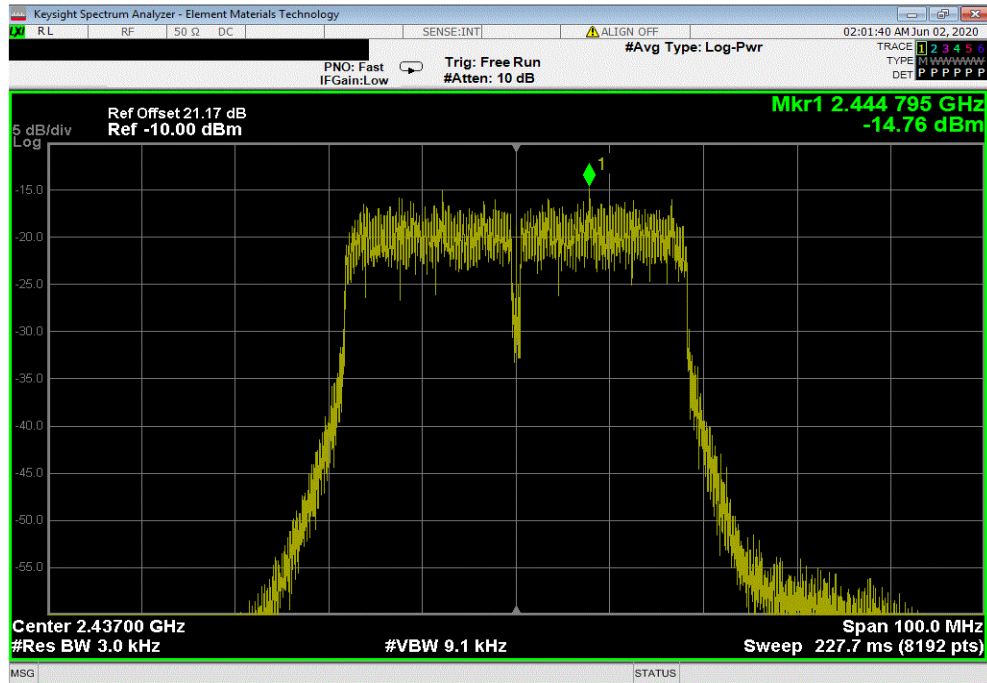


POWER SPECTRAL DENSITY

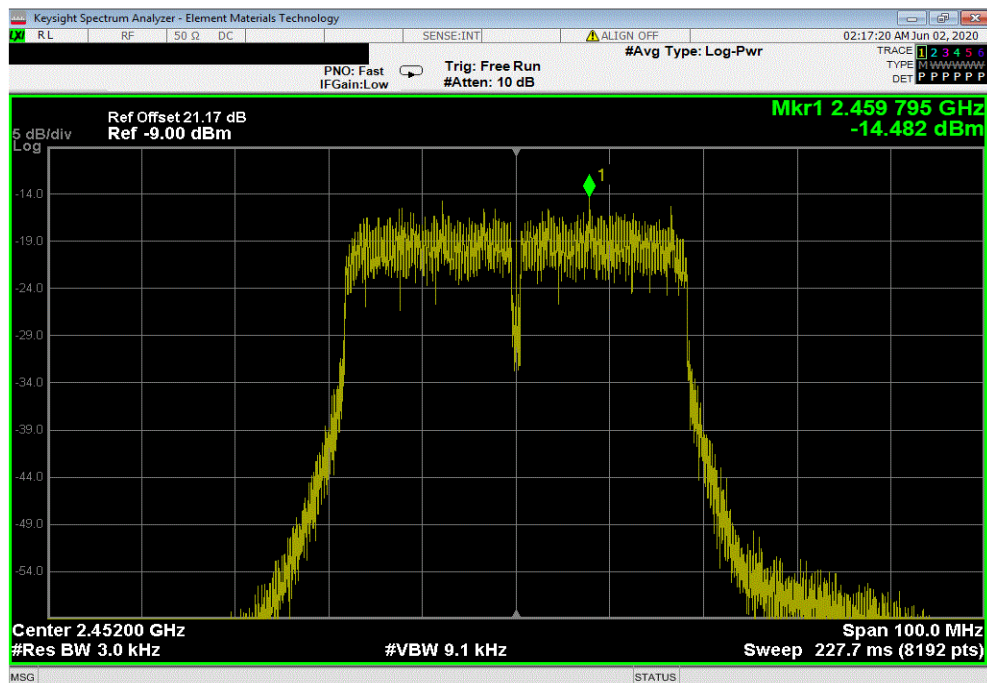


TMTx 2019.08.30.0 XMR 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS0, Mid Channel 4/8, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-14.756	8	Pass			



40 MHz Bandwidth, 802.11(n) MCS0, High Channel 7/11, 2452 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-14.482	8	Pass			

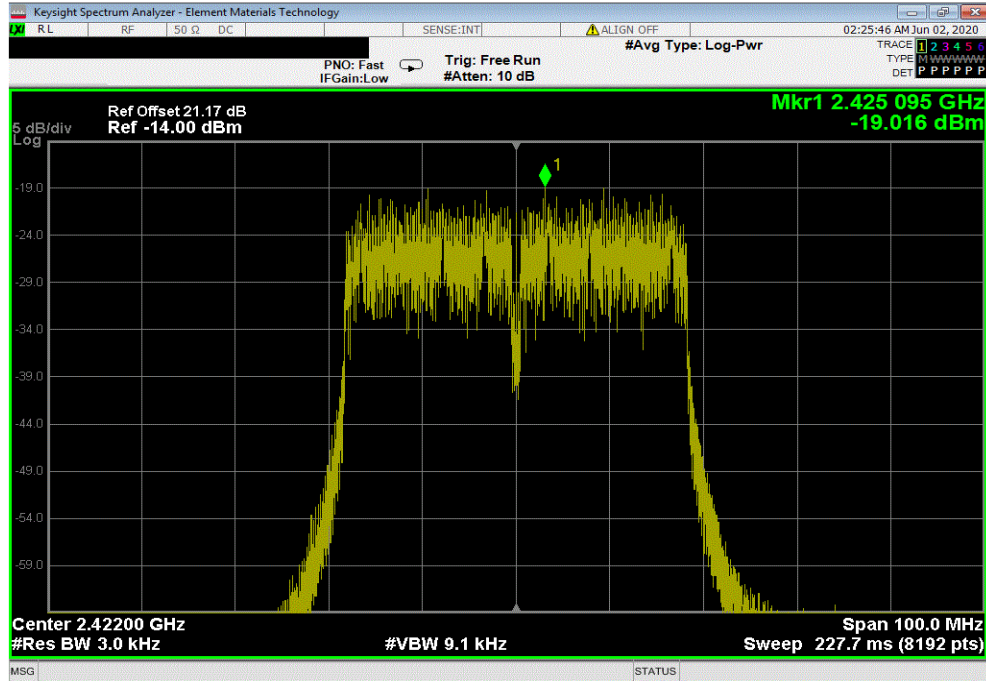


POWER SPECTRAL DENSITY

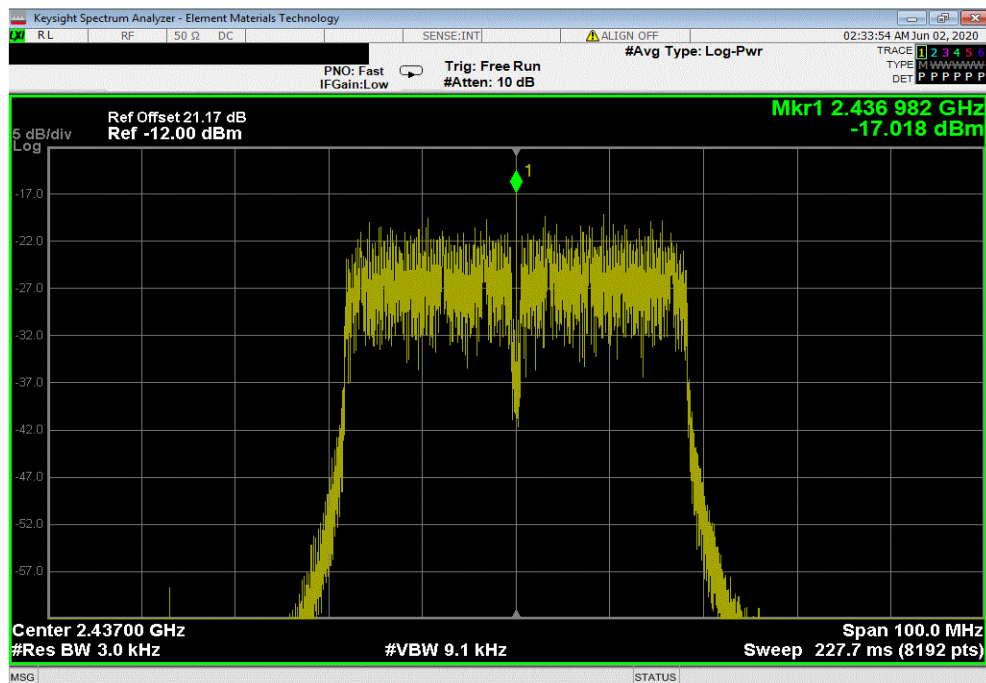


TbTx 2019.08.30.0 XMt 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-19.016	8	Pass			



40 MHz Bandwidth, 802.11(n) MCS7, Mid Channel 4/8, 2437 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-17.018	8	Pass			

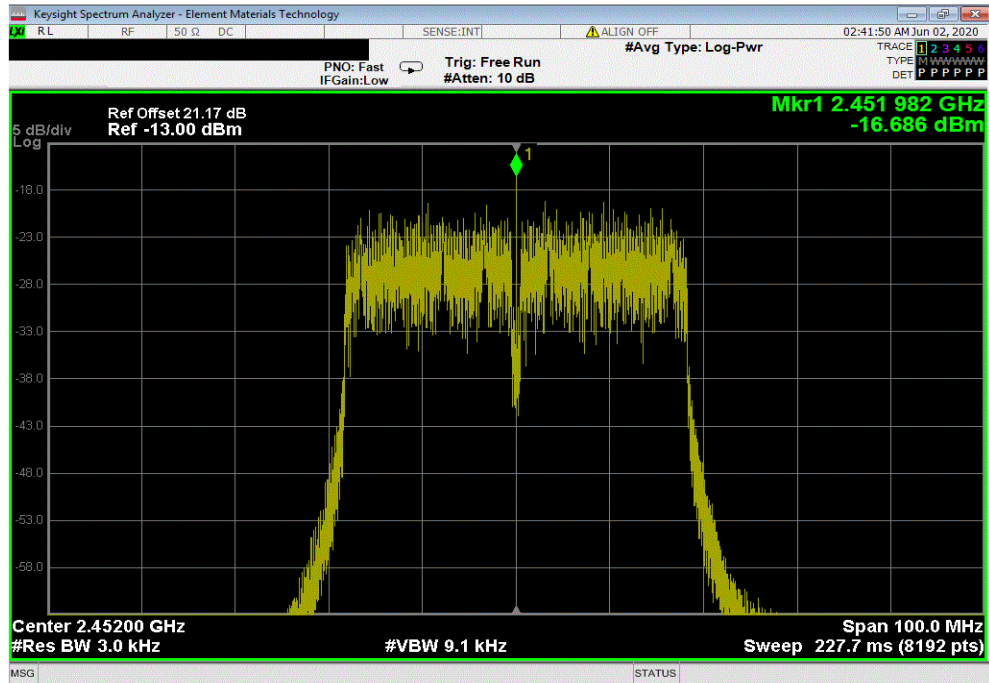


POWER SPECTRAL DENSITY



TbTtx 2019.08.30.0 XMt 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS7, High Channel 7/11, 2452 MHz						
				Value	Limit	Results
				dBm/3kHz	< dBm/3kHz	
				-16.686	8	Pass



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
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 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.

The limit is -30 dBc due to the fact that the output power was measured using an average method.

BAND EDGE COMPLIANCE



TMTx 2019.08.30.0 XMR 2020.03.25.0

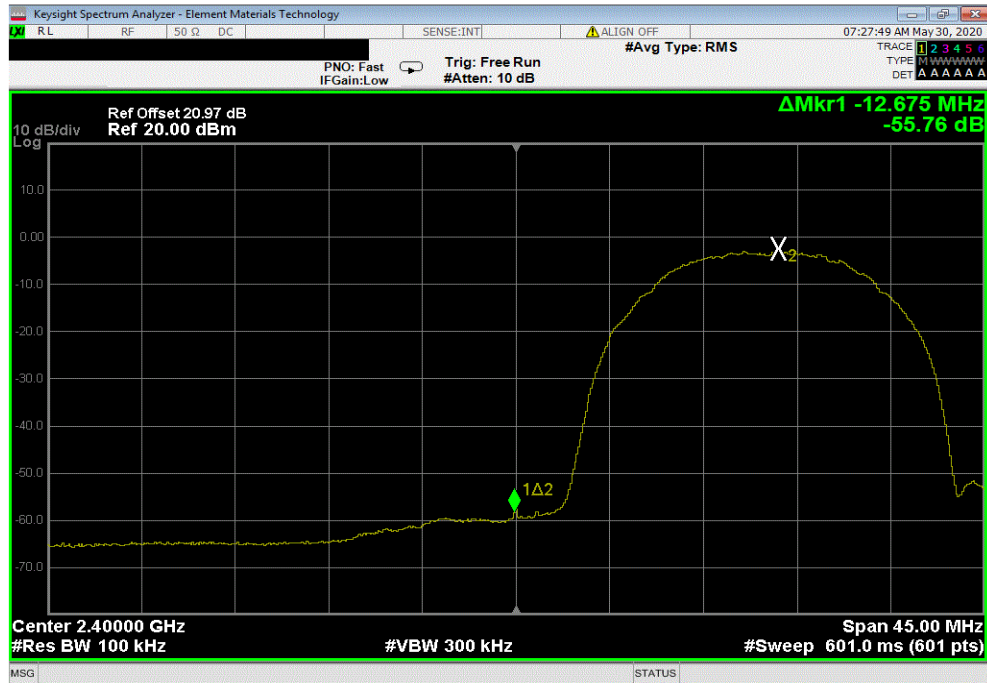
EUT: New Telemetry Cable		Work Order: INSP0011	
Serial Number: P000026		Date: 1-Jun-20	
Customer: Inspire Medical Systems		Temperature: 24.2 °C	
Attendees: Darrell Wagner		Humidity: 50.9% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Andrew Rogstad		Power: 120VAC/60Hz	
		Job Site: MN08	
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 (dBc)	Limit ≤ (dBc) Result
20 MHz Bandwidth			
802.11(b) 1 Mbps			
Low Channel 1, 2412 MHz		-55.76	-30 Pass
High Channel 11, 2462 MHz		-60.2	-30 Pass
802.11(b) 11 Mbps			
Low Channel 1, 2412 MHz		-55.78	-30 Pass
High Channel 11, 2462 MHz		-60.72	-30 Pass
802.11(g) 6 Mbps			
Low Channel 1, 2412 MHz		-42.31	-30 Pass
High Channel 11, 2462 MHz		-49.82	-30 Pass
802.11(g) 36 Mbps			
Low Channel 1, 2412 MHz		-44.44	-30 Pass
High Channel 11, 2462 MHz		-49.6	-30 Pass
802.11(g) 54 Mbps			
Low Channel 1, 2412 MHz		-46.91	-30 Pass
High Channel 11, 2462 MHz		-51.46	-30 Pass
802.11(n) MCS0			
Low Channel 1, 2412 MHz		-41.89	-30 Pass
High Channel 11, 2462 MHz		-48.72	-30 Pass
802.11(n) MCS7			
Low Channel 1, 2412 MHz		-47.36	-30 Pass
High Channel 11, 2462 MHz		-50.73	-30 Pass
40 MHz Bandwidth			
802.11(n) MCS0			
Low Channel 1/5, 2422 MHz		-30.42	-30 Pass
High Channel 7/11, 2452 MHz		-39.29	-30 Pass
802.11(n) MCS7			
Low Channel 1/5, 2422 MHz		-38.4	-30 Pass
High Channel 7/11, 2452 MHz		-43.64	-30 Pass

BAND EDGE COMPLIANCE

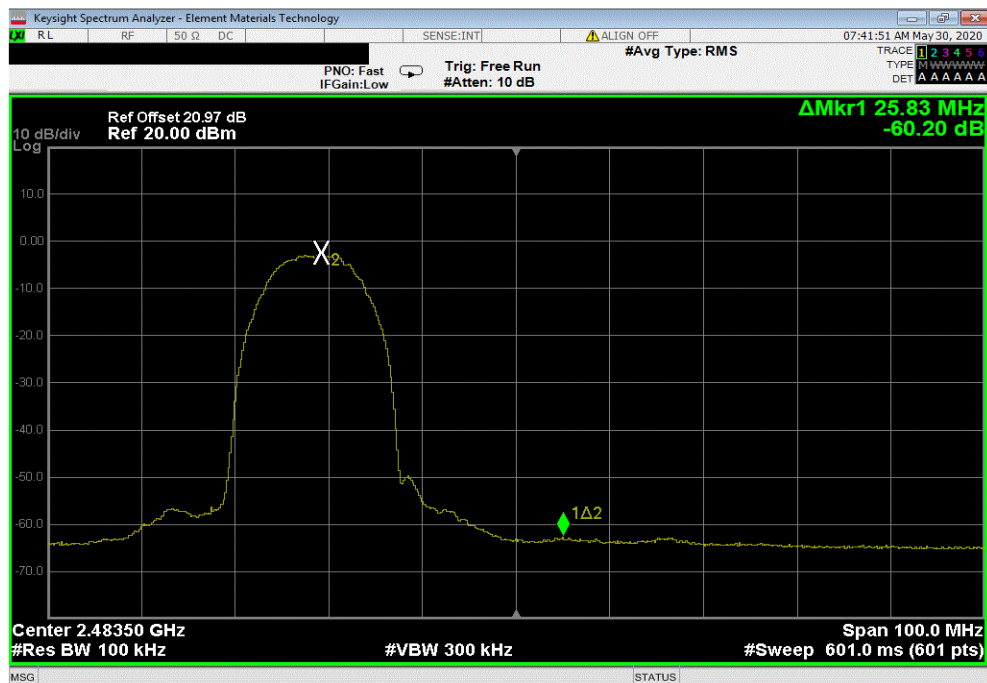


TbTx 2019.08.30.0 XMI 2020.03.25.0

20 MHz Bandwidth, 802.11(b) 1 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-55.76	-30	Pass



20 MHz Bandwidth, 802.11(b) 1 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-60.2	-30	Pass

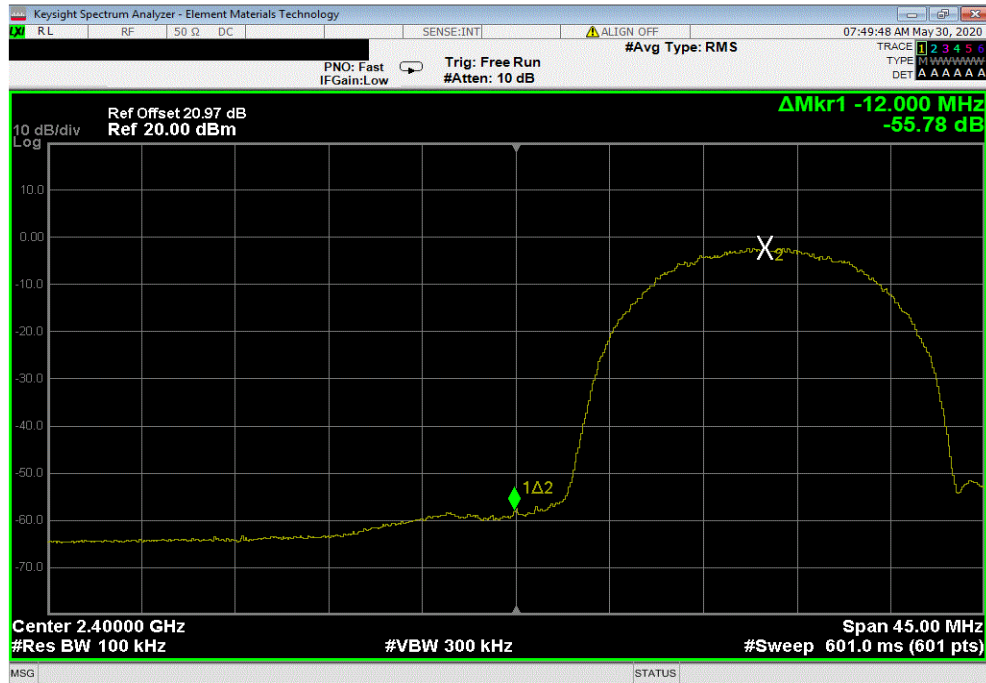


BAND EDGE COMPLIANCE

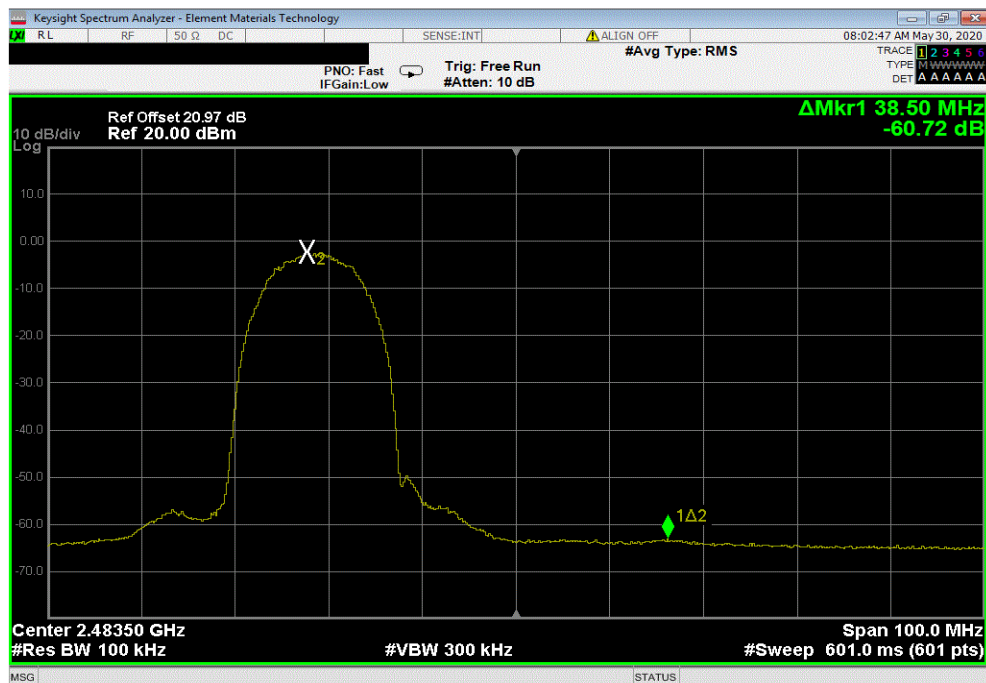


TbTtx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(b) 11 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-55.78	-30	Pass



20 MHz Bandwidth, 802.11(b) 11 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-60.72	-30	Pass

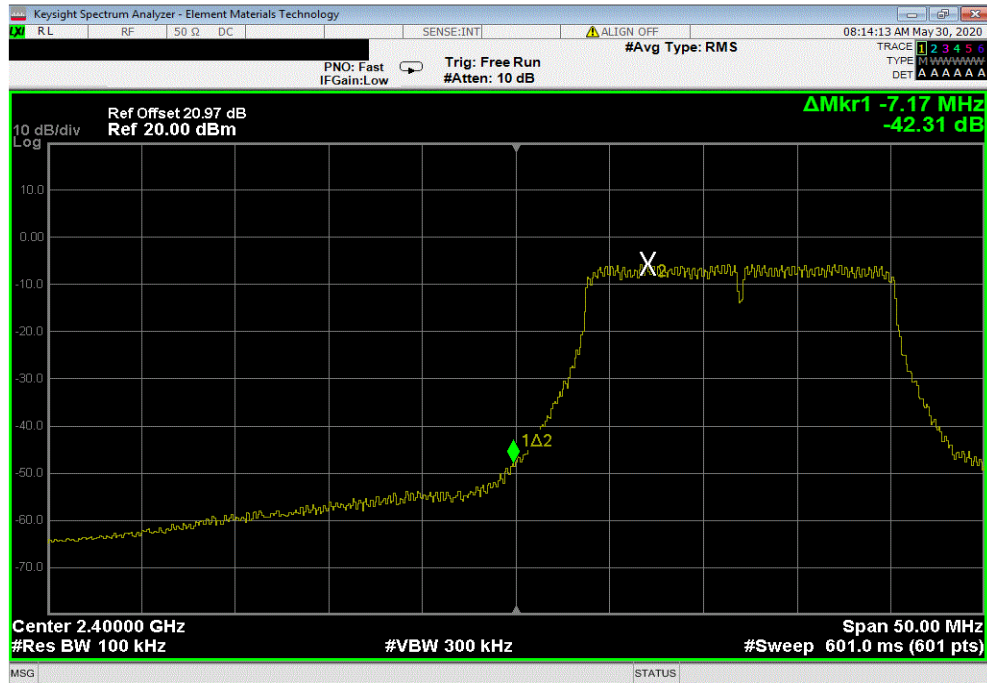


BAND EDGE COMPLIANCE

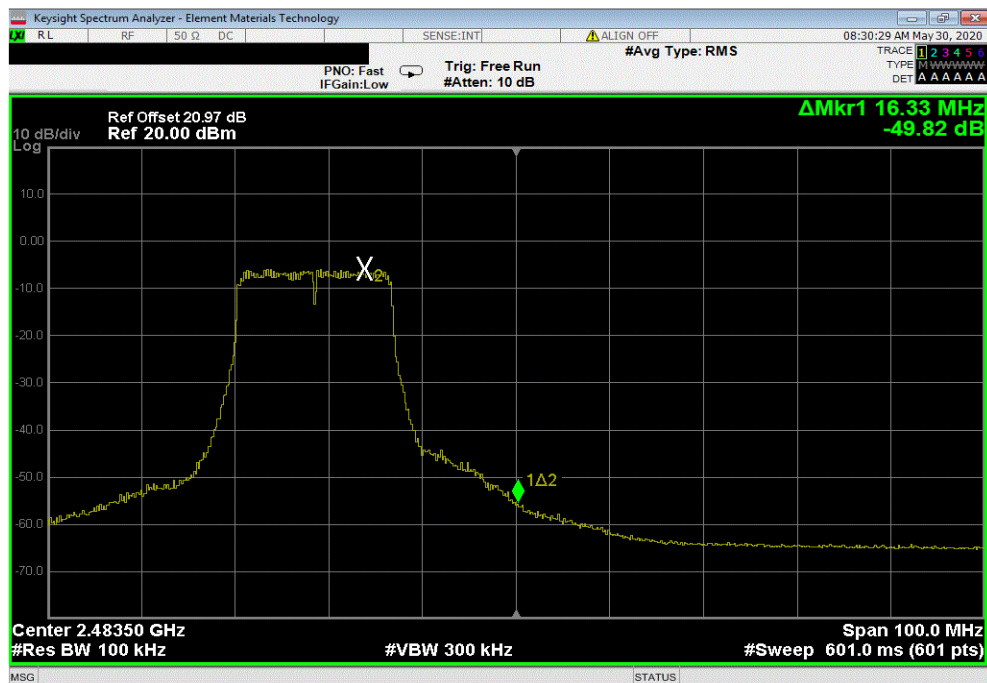


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 6 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-42.31	-30	Pass



20 MHz Bandwidth, 802.11(g) 6 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.82	-30	Pass

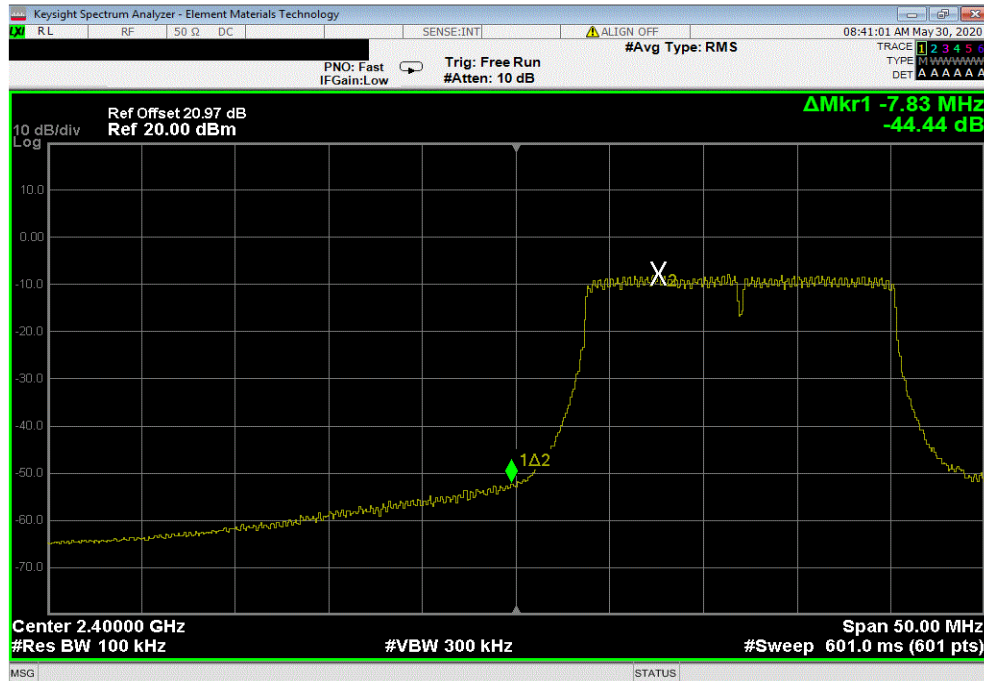


BAND EDGE COMPLIANCE

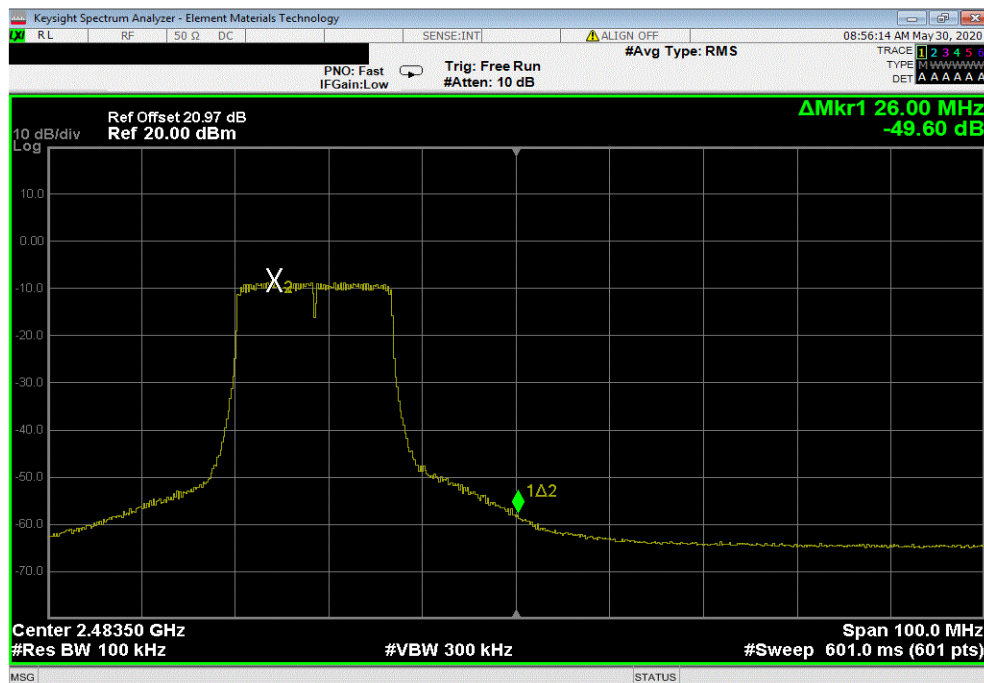


TbTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 36 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-44.44	-30	Pass



20 MHz Bandwidth, 802.11(g) 36 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.6	-30	Pass

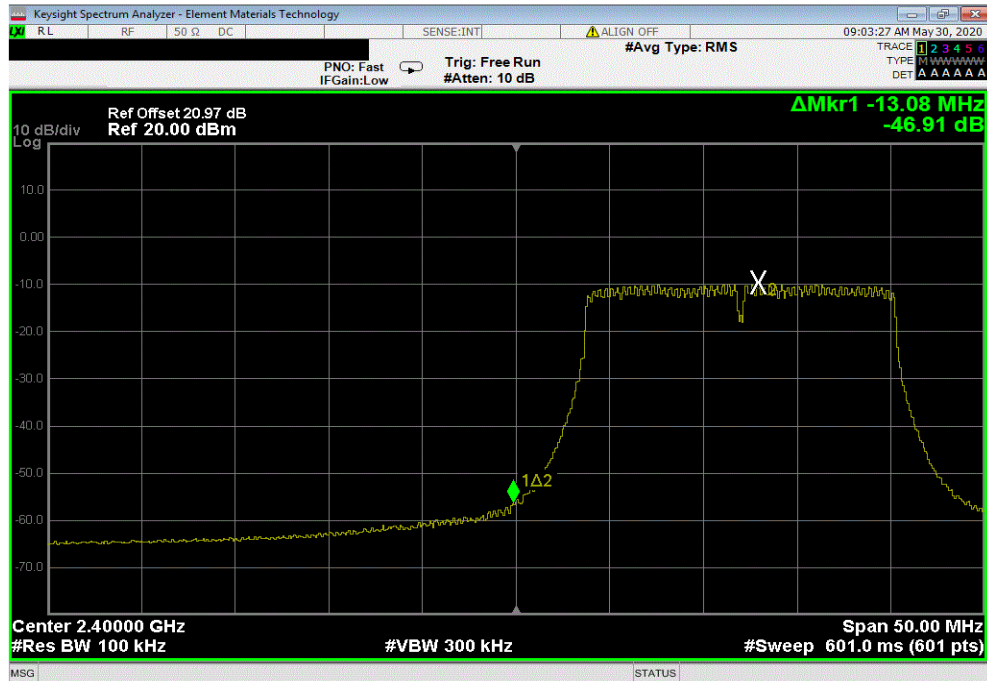


BAND EDGE COMPLIANCE

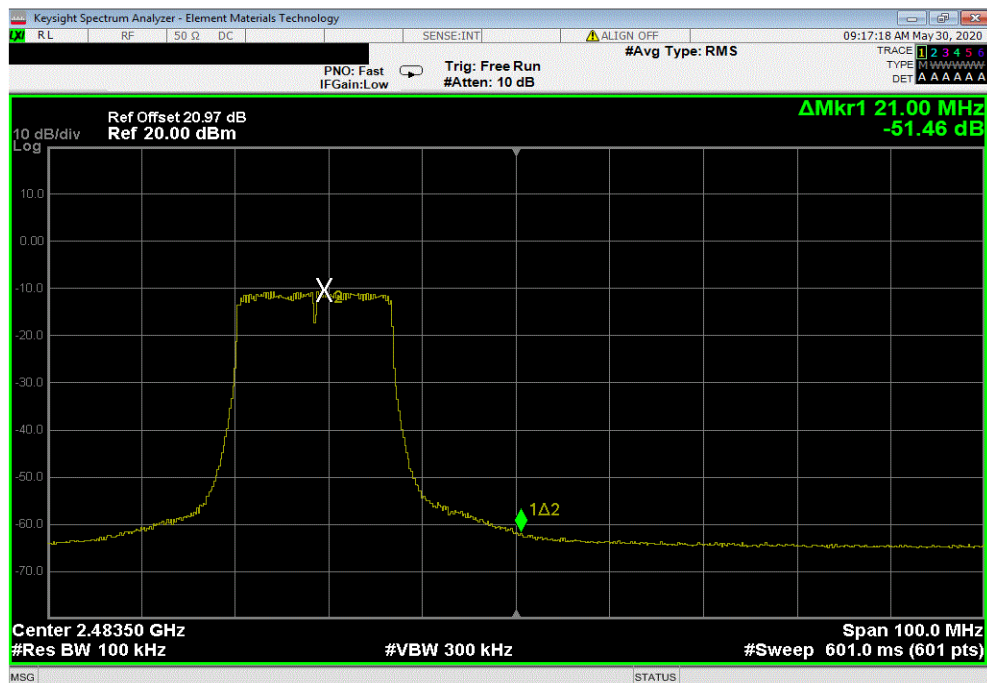


TbTtx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(g) 54 Mbps, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-46.91	-30	Pass



20 MHz Bandwidth, 802.11(g) 54 Mbps, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.46	-30	Pass

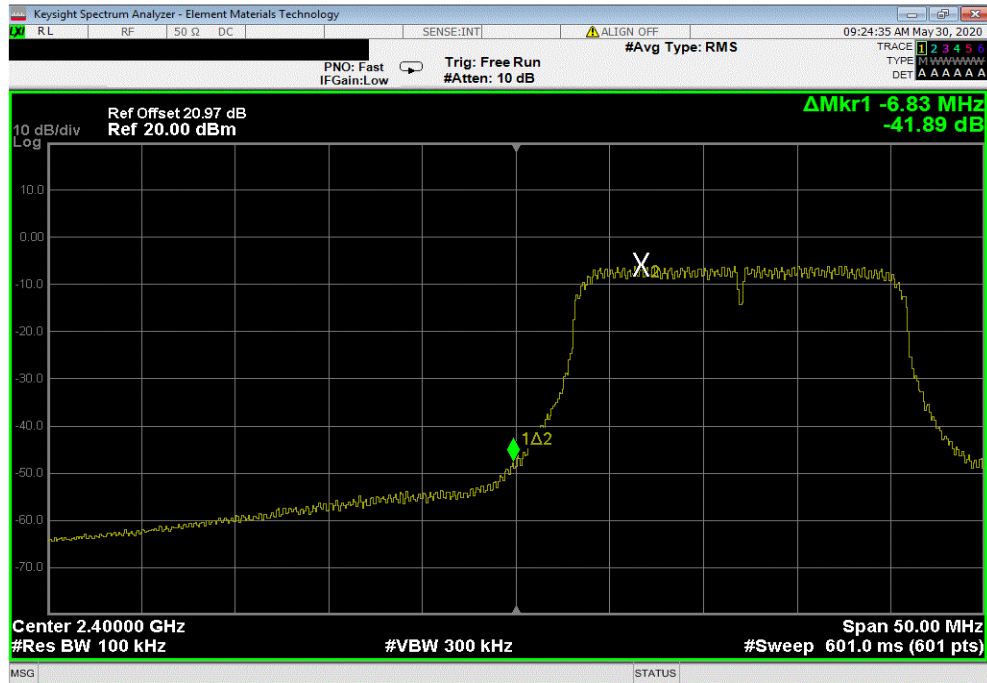


BAND EDGE COMPLIANCE

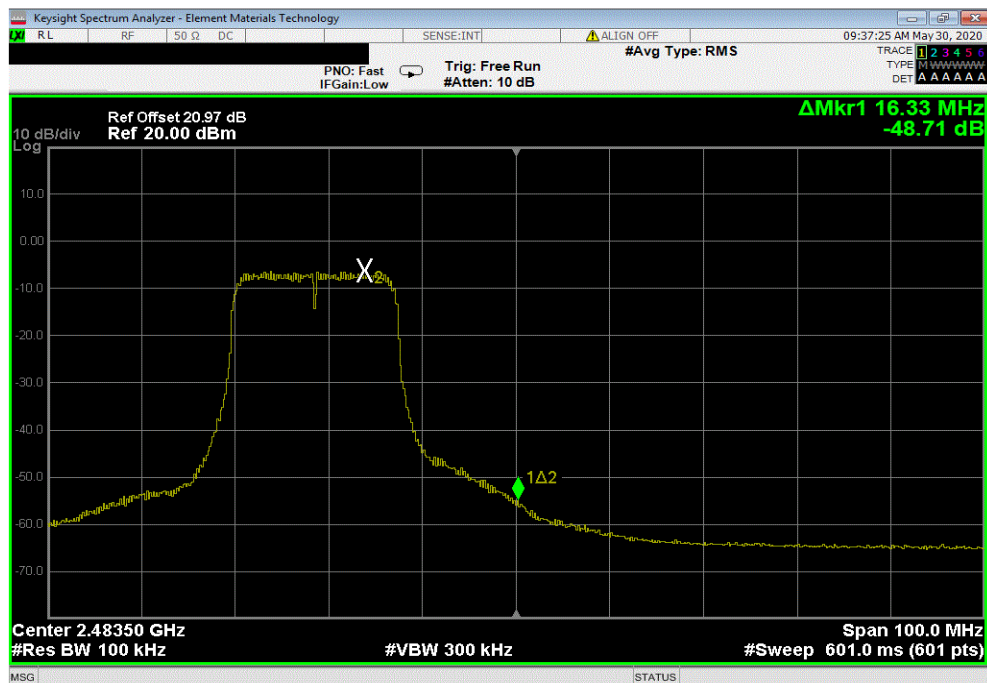


TMTx 2019.08.30.0 XMt 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-41.89	-30	Pass



20 MHz Bandwidth, 802.11(n) MCS0, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.72	-30	Pass

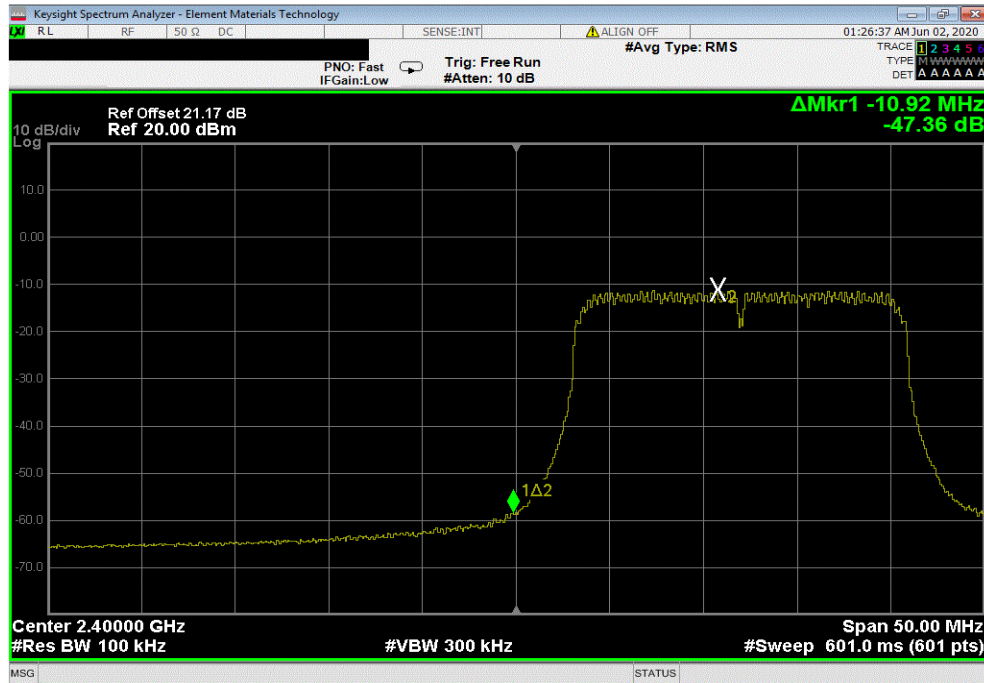


BAND EDGE COMPLIANCE

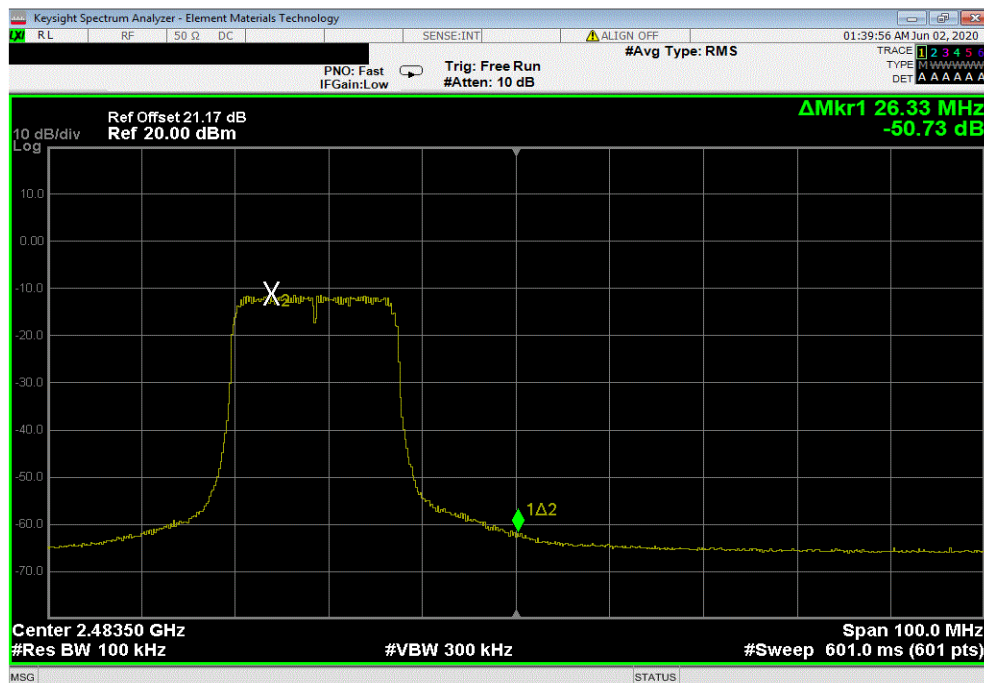


TMTx 2019.08.30.0 XMR 2020.03.25.0

20 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1, 2412 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-47.36	-30	Pass



20 MHz Bandwidth, 802.11(n) MCS7, High Channel 11, 2462 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.73	-30	Pass

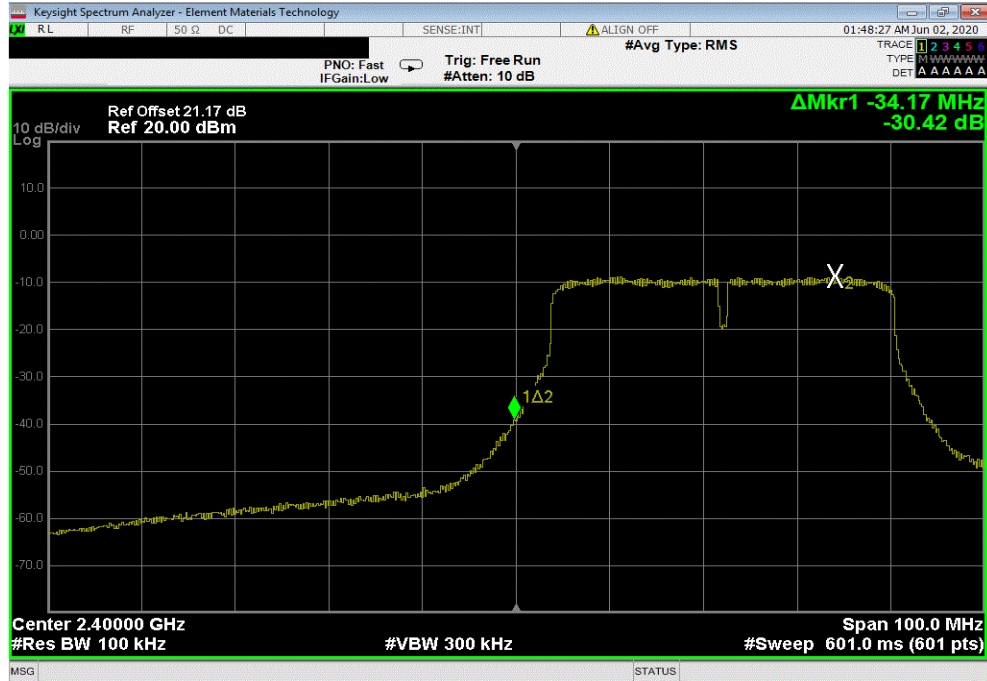


BAND EDGE COMPLIANCE



TMTx 2019.08.30.0 XMR 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS0, Low Channel 1/5, 2422 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-30.42	-30	Pass



40 MHz Bandwidth, 802.11(n) MCS0, High Channel 7/11, 2452 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.29	-30	Pass

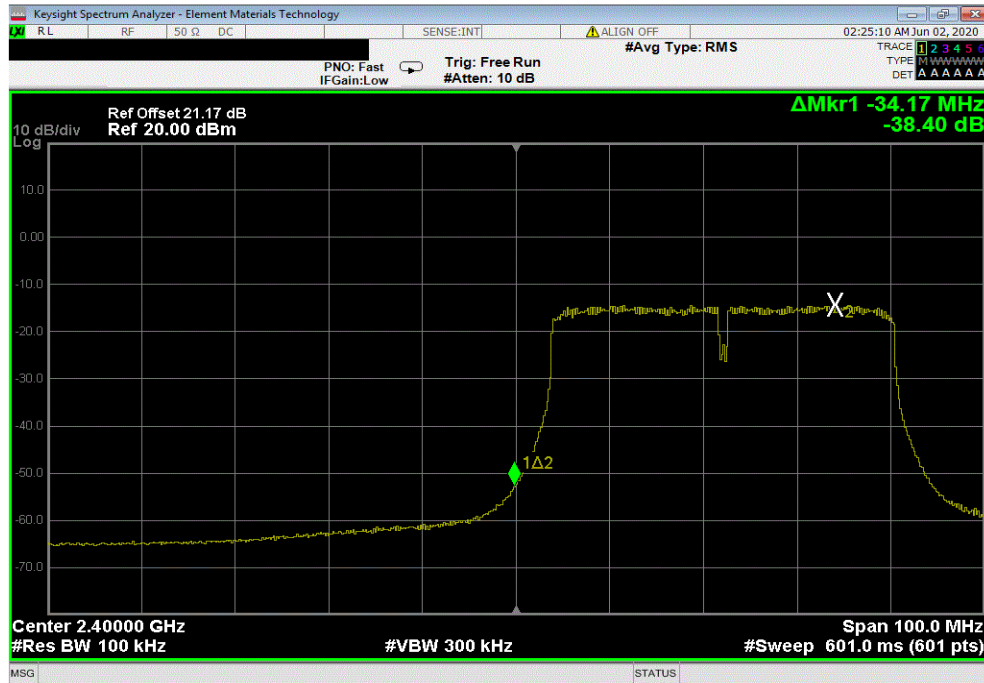


BAND EDGE COMPLIANCE



TMTx 2019.08.30.0 XMR 2020.03.25.0

40 MHz Bandwidth, 802.11(n) MCS7, Low Channel 1/5, 2422 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-38.4	-30	Pass



40 MHz Bandwidth, 802.11(n) MCS7, High Channel 7/11, 2452 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-43.64	-30	Pass

