

OUTPUT POWER



XMI 2019.09.05

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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

OUTPUT POWER



TMTx 2019.08.30.0 XMI 2019.09.05

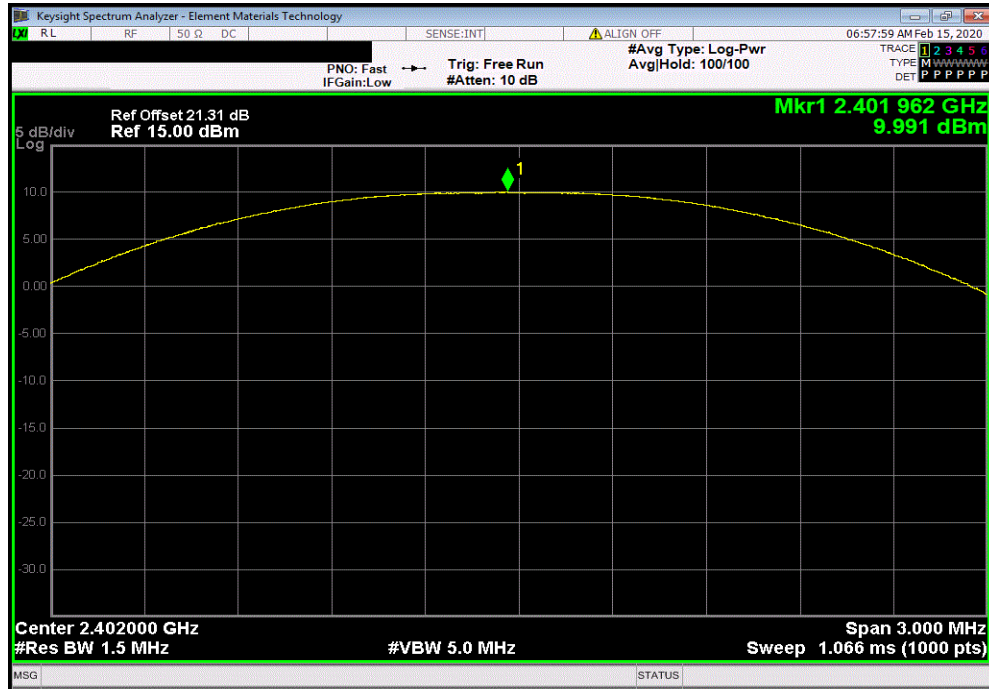
EUT: C2-03CPU		Work Order: KOYO0001	
Serial Number: N/A		Date: 14-Feb-20	
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22 °C	
Attendees: None		Humidity: 14.7% RH	
Project: None		Barometric Pres.: 1025 mbar	
Tested by: Andrew Rogstad		Power: 24 VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes 20 dB attenuator, DC block, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature <i>Andrew Rogstad</i>	
		Out Pwr (dBm)	Limit (dBm)
			Result
DH5, GFSK			
	Low Channel (2402 MHz)	9.991	21
	Mid Channel (2441 MHz)	9.749	21
	High Channel (2480 MHz)	9.835	21
2DH5, pi/4-DQPSK			
	Low Channel (2402 MHz)	12.022	21
	Mid Channel (2441 MHz)	12.099	21
	High Channel (2480 MHz)	12.213	21
3DH5, 8-DPSK			
	Low Channel (2402 MHz)	12.492	21
	Mid Channel (2441 MHz)	12.477	21
	High Channel (2480 MHz)	12.403	21

OUTPUT POWER

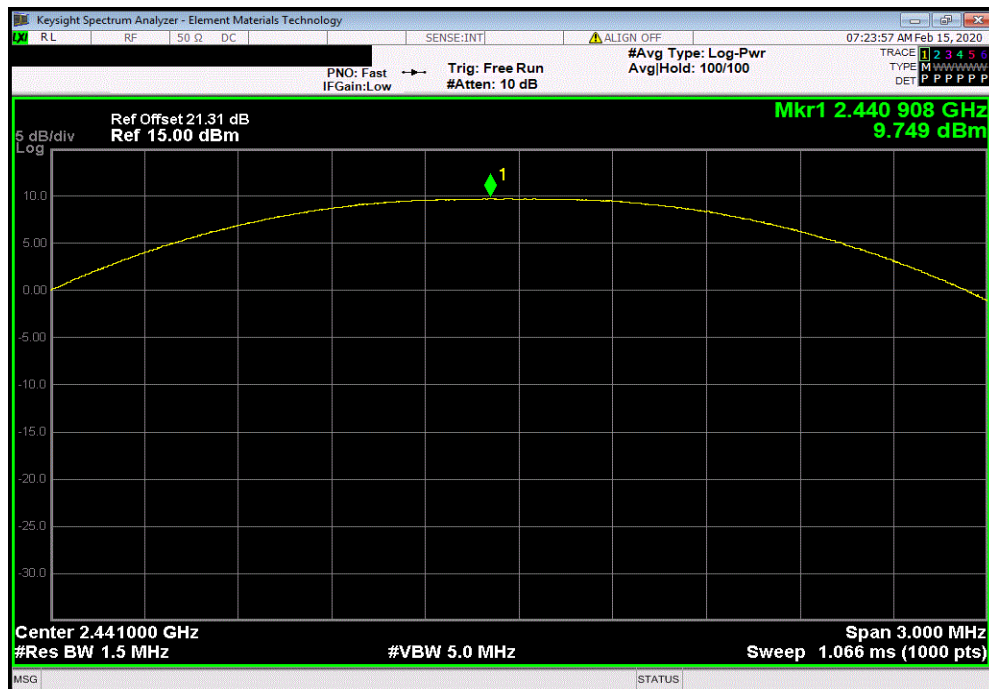


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DH5, GFSK, Low Channel (2402 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.991	21	Pass



DH5, GFSK, Mid Channel (2441 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.749	21	Pass

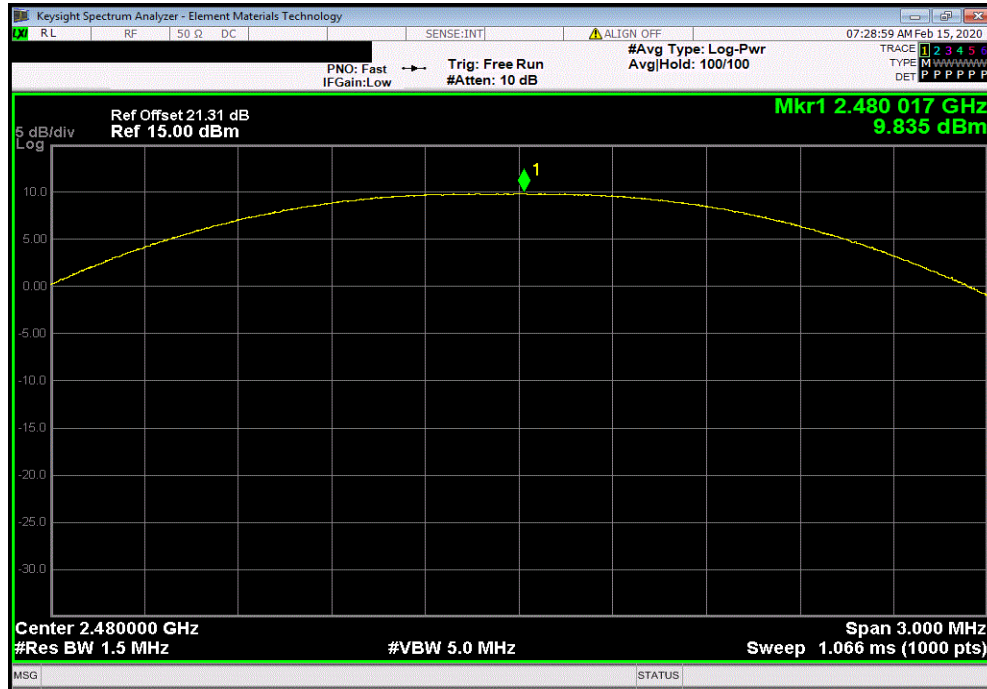


OUTPUT POWER

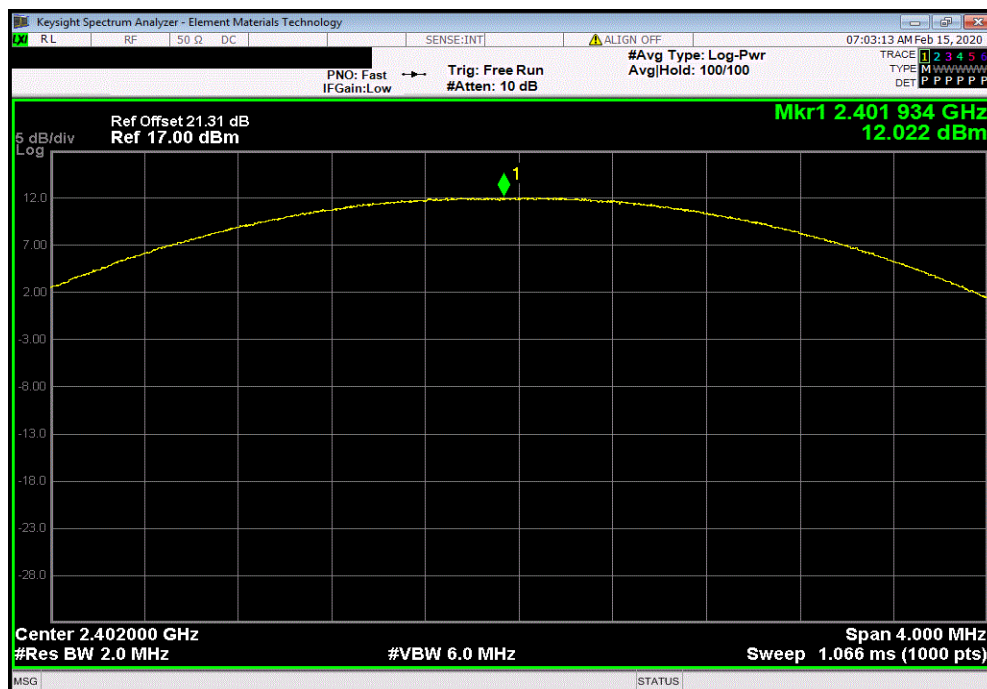


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DH5, GFSK, High Channel (2480 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.835	21	Pass



2DH5, pi/4-DQPSK, Low Channel (2402 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.022	21	Pass

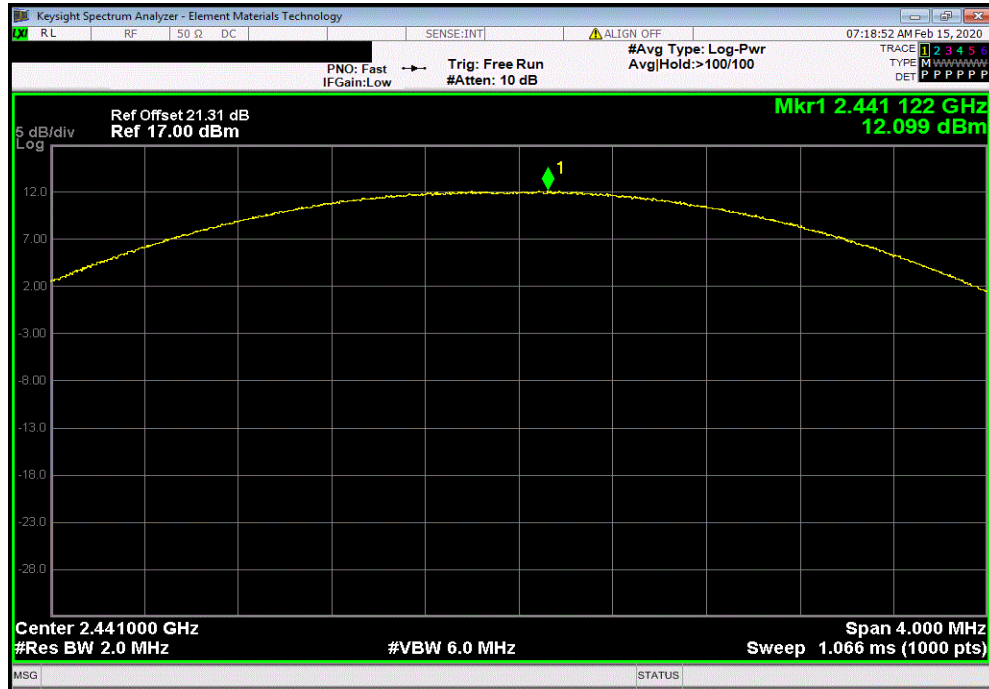


OUTPUT POWER

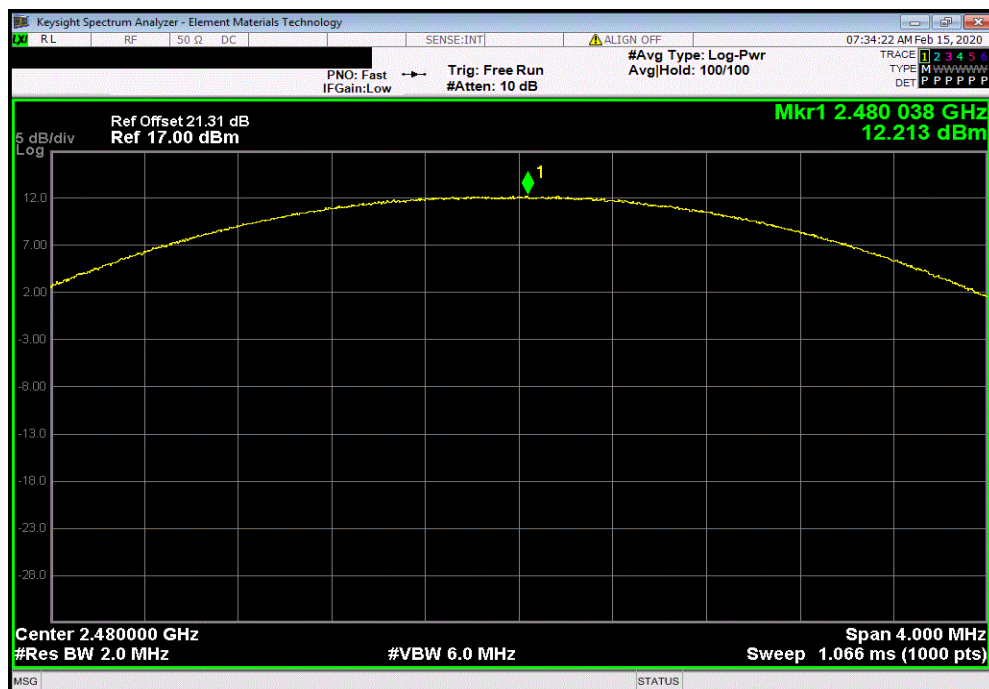


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2DH5, pi/4-DQPSK, Mid Channel (2441 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.099	21	Pass



2DH5, pi/4-DQPSK, High Channel (2480 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.213	21	Pass

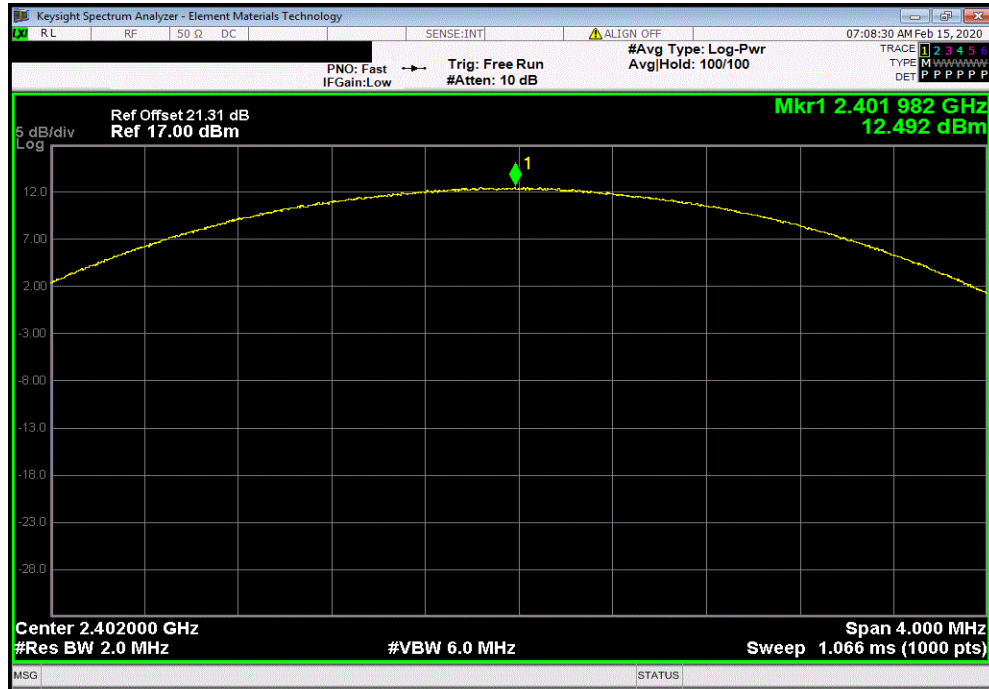


OUTPUT POWER

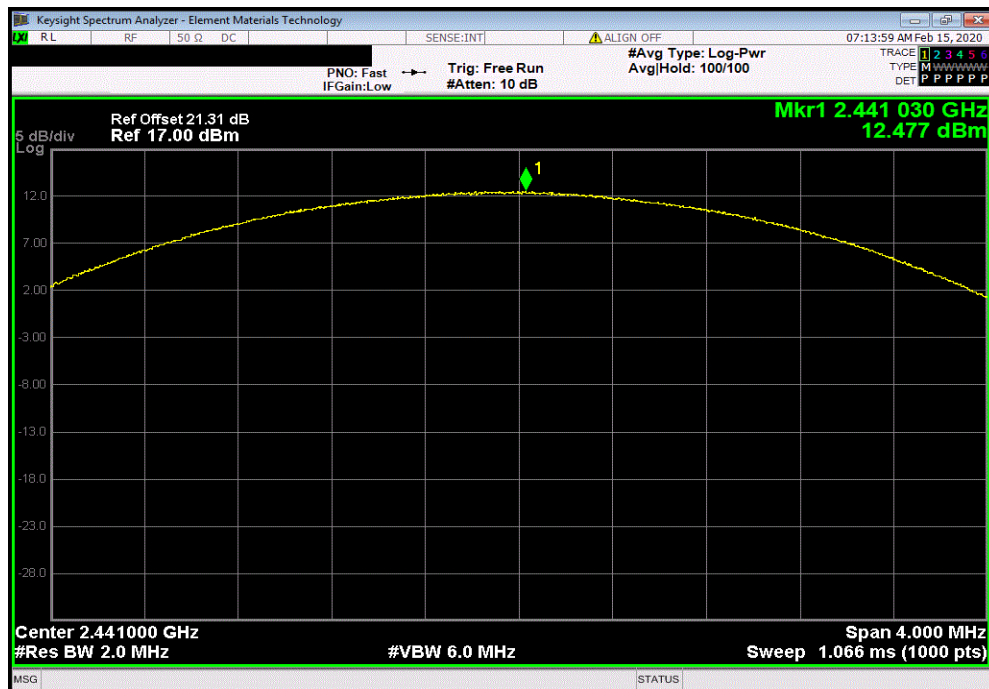


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3DH5, 8-DPSK, Low Channel (2402 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.492	21	Pass



3DH5, 8-DPSK, Mid Channel (2441 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.477	21	Pass

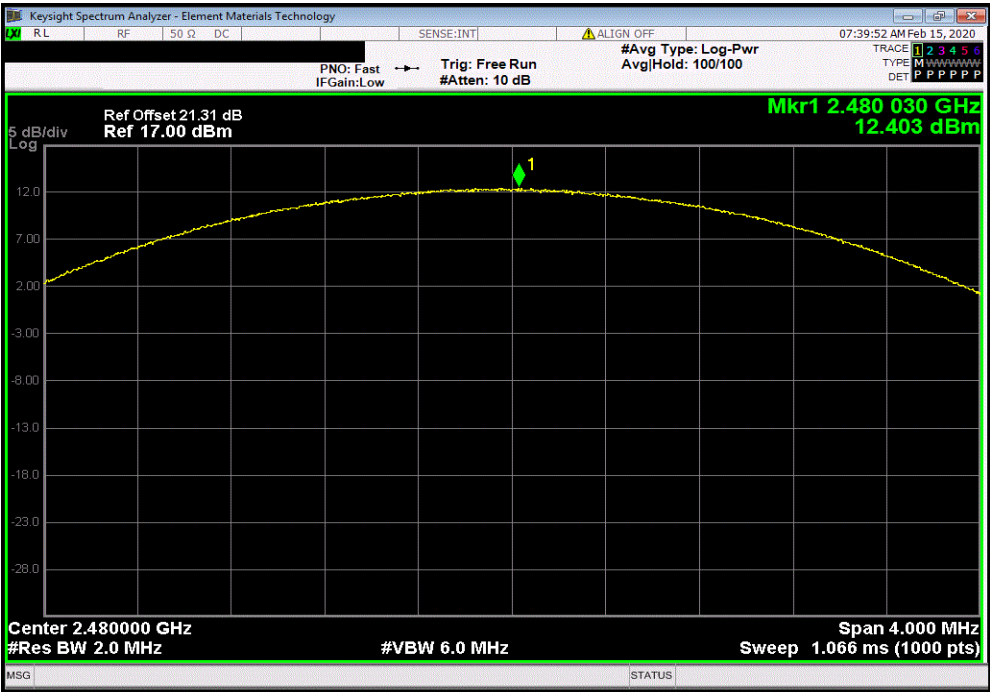


OUTPUT POWER



TbTx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, High Channel (2480 MHz)						
				Out Pwr (dBm)	Limit (dBm)	Result
				12.403	21	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



XMIT 2019.09.05

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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TMTx 2019.08.30.0 XMI 2019.09.05

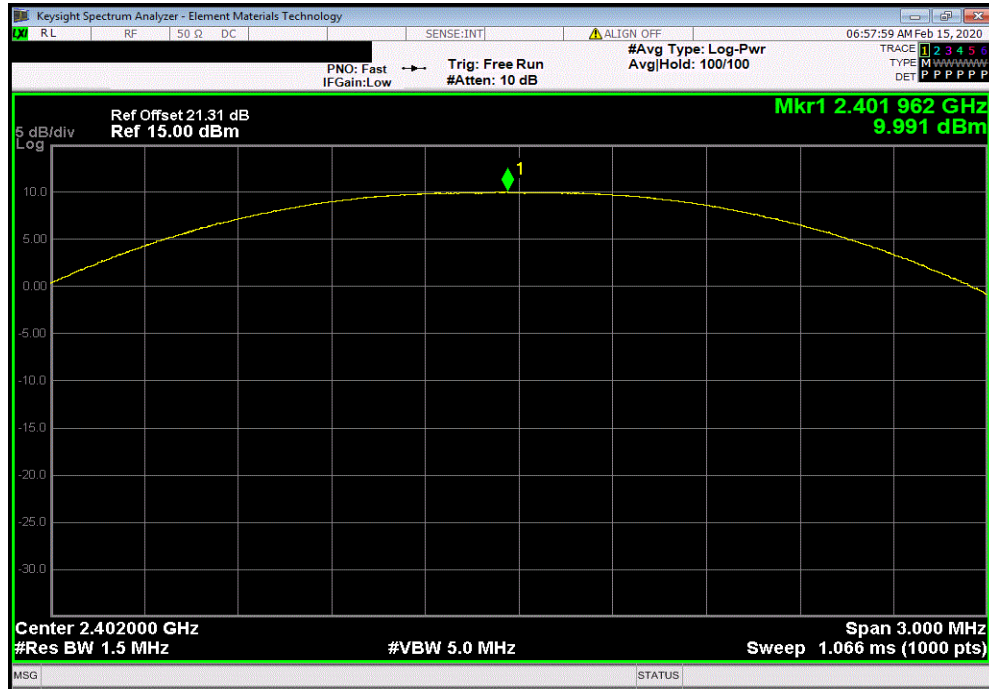
EUT: C2-03CPU		Work Order: KOYO0001	
Serial Number: N/A		Date: 14-Feb-20	
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22.1 °C	
Attendees: None		Humidity: 14.6% RH	
Project: None		Barometric Pres.: 1025 mbar	
Tested by: Andrew Rogstad		Power: 24 VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes 20 dB attenuator, DC block, and measurement cable. Data shown with highest gain antenna variant.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature <i>Andrew Rogstad</i>	
		Out Pwr (dBm)	Antenna Gain (dBi)
		EIRP (dBm)	EIRP Limit (dBm)
			Result
DH5, GFSK			
	Low Channel (2402 MHz)	9.991	1.8
	Mid Channel (2441 MHz)	9.749	1.8
	High Channel (2480 MHz)	9.835	1.8
2DH5, pi/4-DQPSK			
	Low Channel (2402 MHz)	12.022	1.8
	Mid Channel (2441 MHz)	12.099	1.8
	High Channel (2480 MHz)	12.213	1.8
3DH5, 8-DPSK			
	Low Channel (2402 MHz)	12.492	1.8
	Mid Channel (2441 MHz)	12.477	1.8
	High Channel (2480 MHz)	12.403	1.8

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

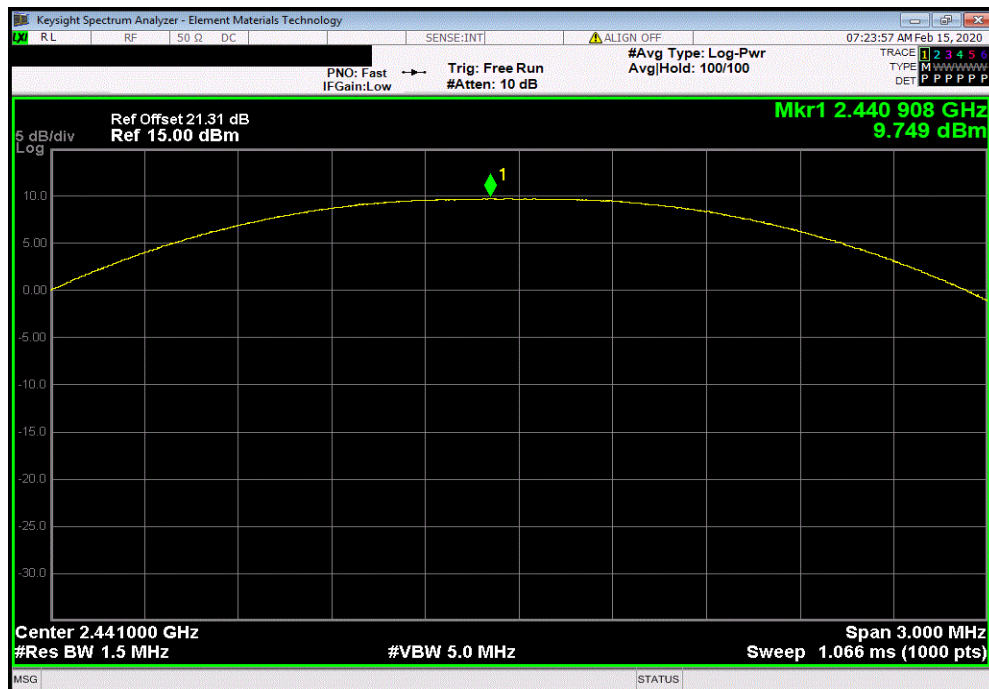


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DH5, GFSK, Low Channel (2402 MHz)						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	9.991	1.8	11.791	27	Pass	



DH5, GFSK, Mid Channel (2441 MHz)						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	9.749	1.8	11.549	27	Pass	

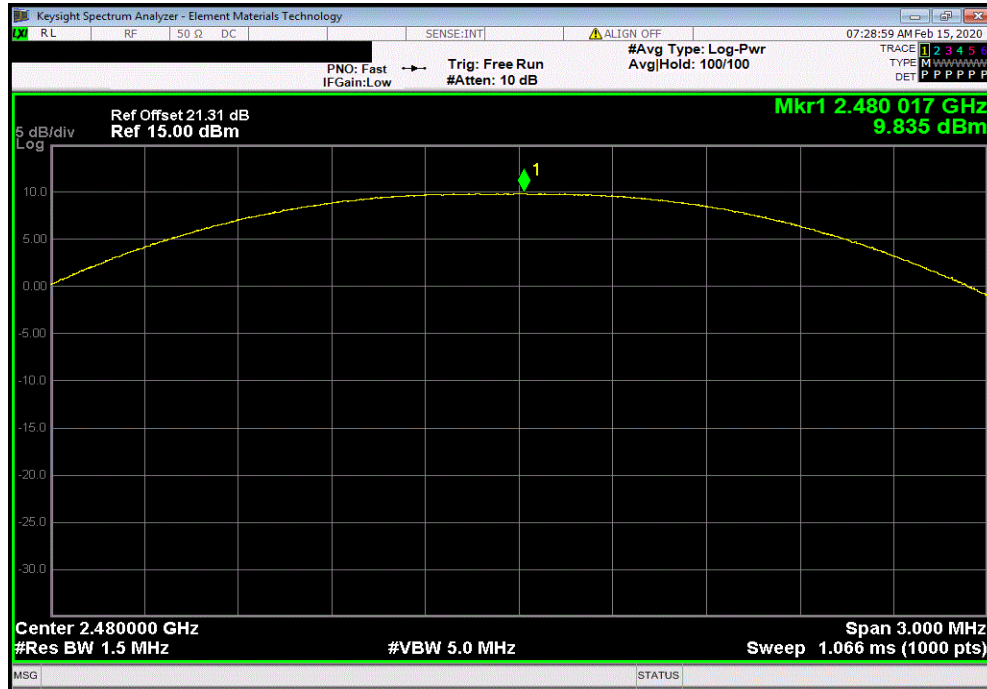


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

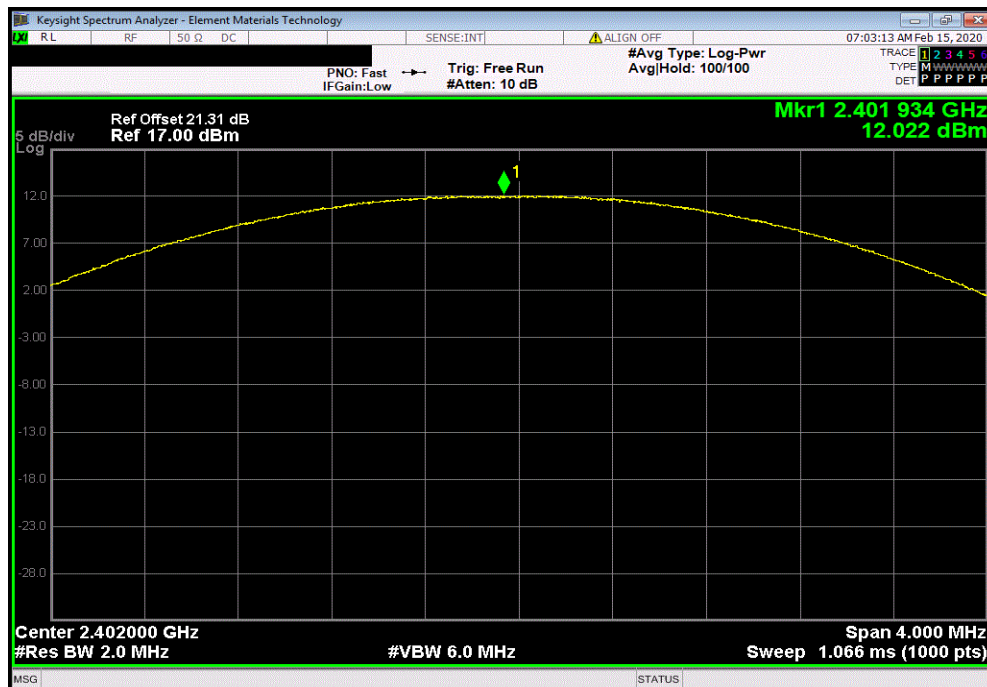


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DH5, GFSK, High Channel (2480 MHz)					
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
9.835	1.8	11.635	27	Pass	



2DH5, pi/4-DQPSK, Low Channel (2402 MHz)					
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
12.022	1.8	13.822	27	Pass	

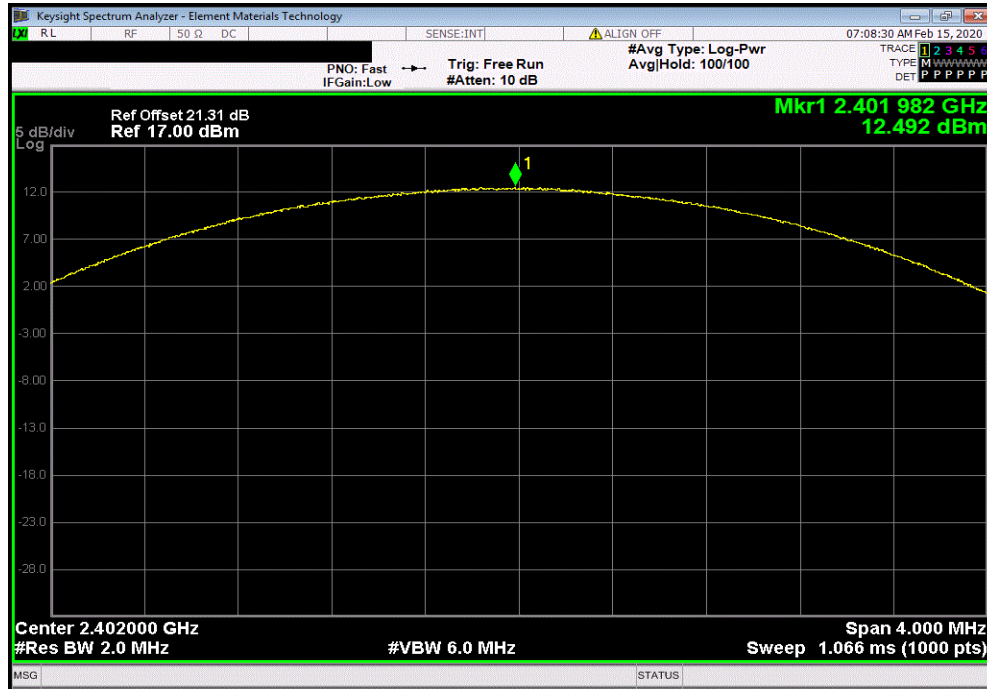


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

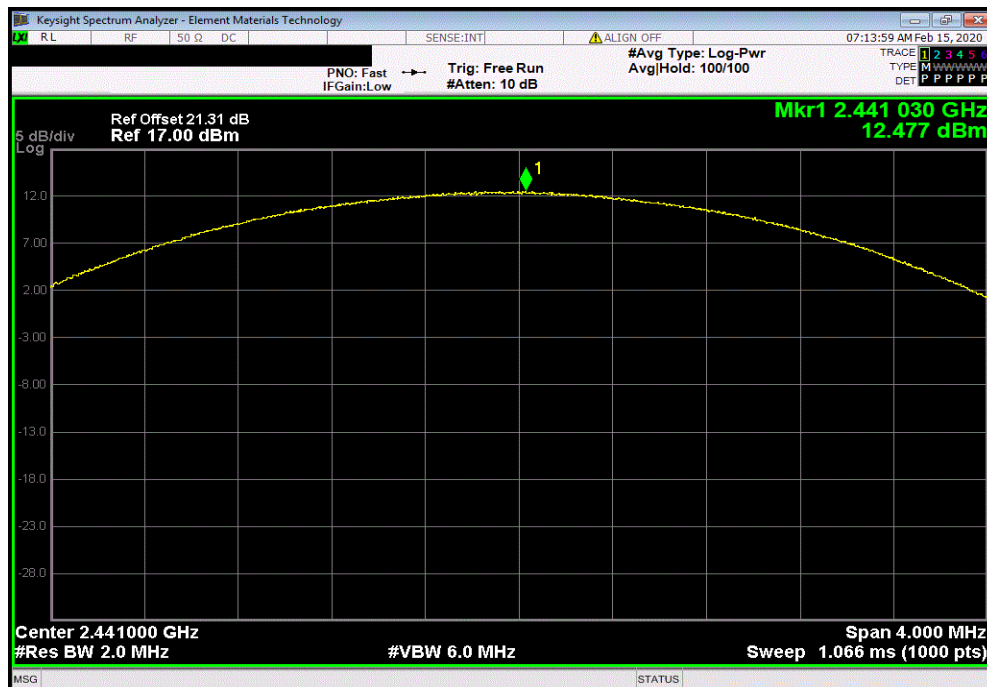


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3DH5, 8-DPSK, Low Channel (2402 MHz)					
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
12.492	1.8	14.292	27	Pass	



3DH5, 8-DPSK, Mid Channel (2441 MHz)					
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
12.477	1.8	14.277	27	Pass	

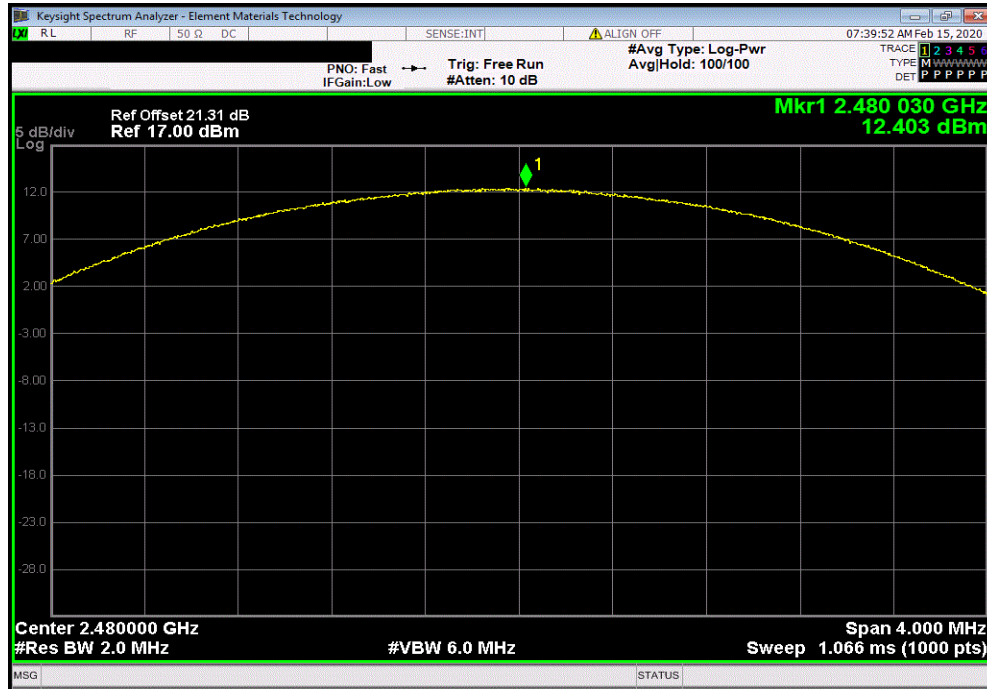


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TbTx 2019.08.30.0 XMt 2019.09.05

3DH5, 8-DPSK, High Channel (2480 MHz)					
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
12.403	1.8	14.203	27	Pass	



BAND EDGE COMPLIANCE -HOPPING MODE



XMIT 2019.09.05

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to its normal pseudo-random hopping sequence. 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.

BAND EDGE COMPLIANCE -HOPPING MODE



TMTx 2019.08.30.0 XMI 2019.09.05

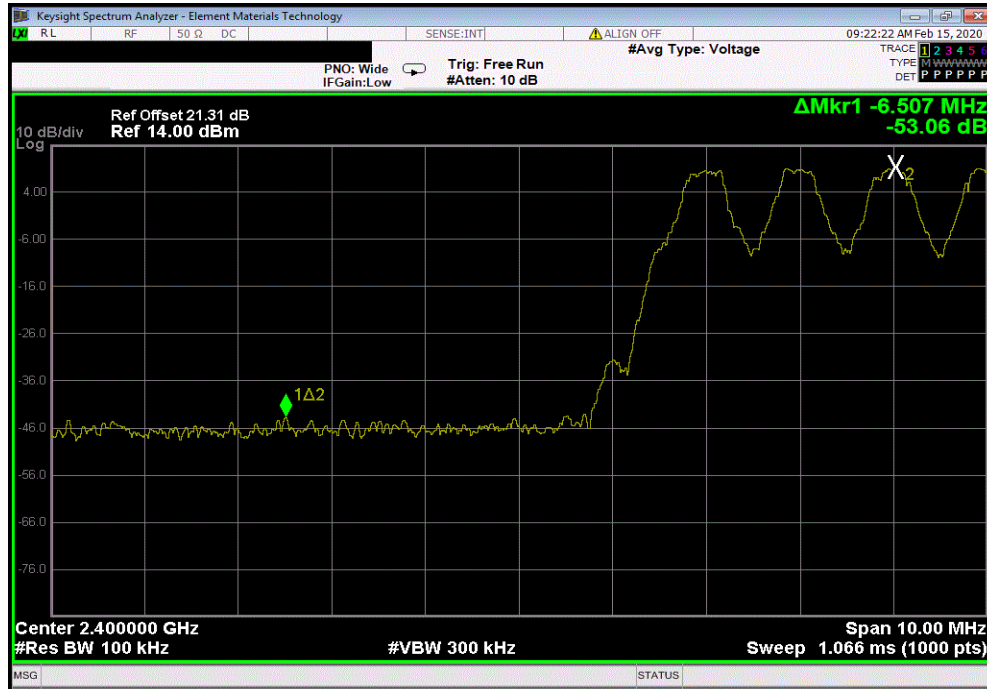
EUT: C2-03CPU		Work Order: KOYO0001	
Serial Number: N/A		Date: 14-Feb-20	
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22.3 °C	
Attendees: None		Humidity: 14.6% RH	
Project: None		Barometric Pres.: 1026 mbar	
Tested by: Andrew Rogstad		Power: 24 VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes 20 dB attenuator, DC block, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature <i>Andrew Rogstad</i>	
		Value (dBc)	Limit ≤ (dBc) Result
Hopping Mode (All Channels)			
DH5, GFSK			
Low Channel, 2402 MHz		-53.06	-20 Pass
High Channel, 2480 MHz		-50.36	-20 Pass
2DH5, pi/4-DQPSK			
Low Channel, 2402 MHz		-53.47	-20 Pass
High Channel, 2480 MHz		-51.55	-20 Pass
3DH5, 8-DPSK			
Low Channel, 2402 MHz		-50.57	-20 Pass
High Channel, 2480 MHz		-50.39	-20 Pass

BAND EDGE COMPLIANCE -HOPPING MODE

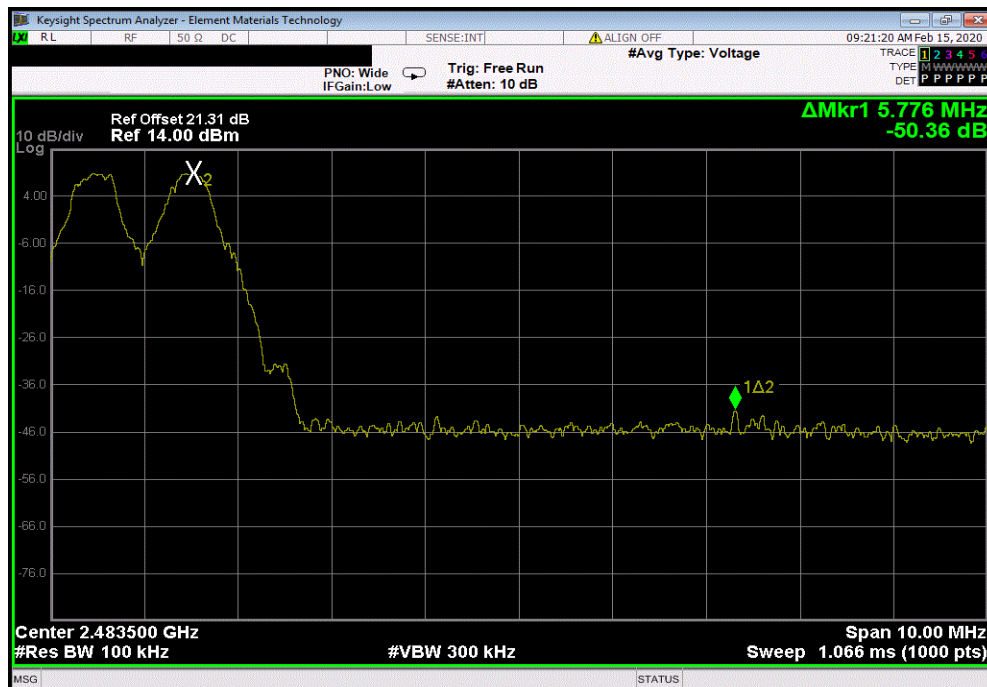


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Hopping Mode (All Channels), DH5, GFSK, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.06	-20	Pass



Hopping Mode (All Channels), DH5, GFSK, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.36	-20	Pass

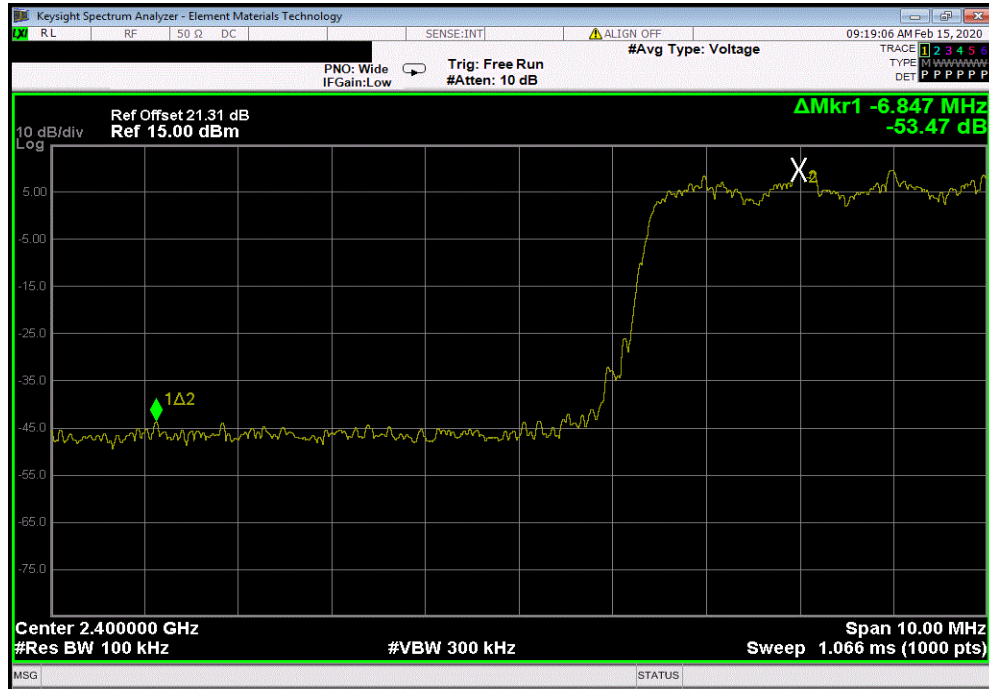


BAND EDGE COMPLIANCE -HOPPING MODE

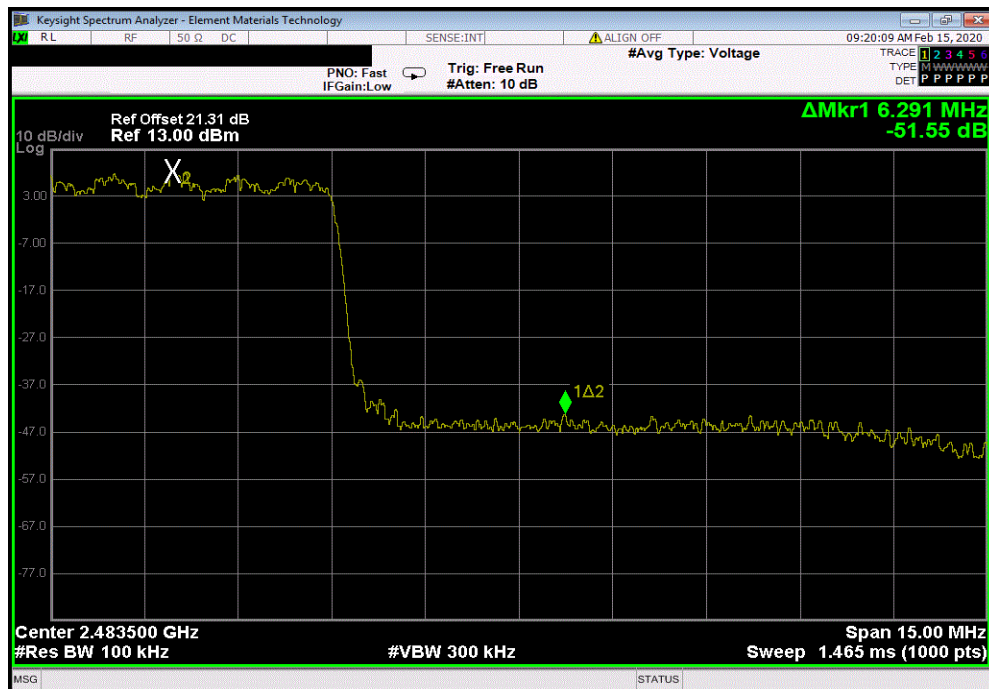


TbTtx 2019.08.30.0 XMI 2019.09.05

Hopping Mode (All Channels), 2DH5, pi/4-DQPSK, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.47	-20	Pass



Hopping Mode (All Channels), 2DH5, pi/4-DQPSK, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.55	-20	Pass

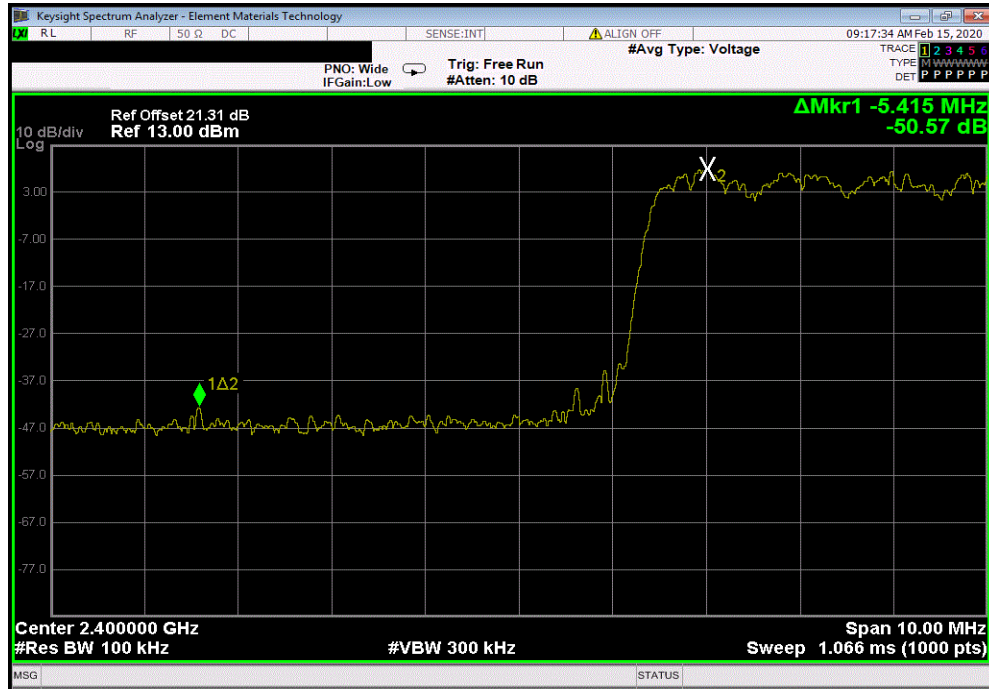


BAND EDGE COMPLIANCE -HOPPING MODE

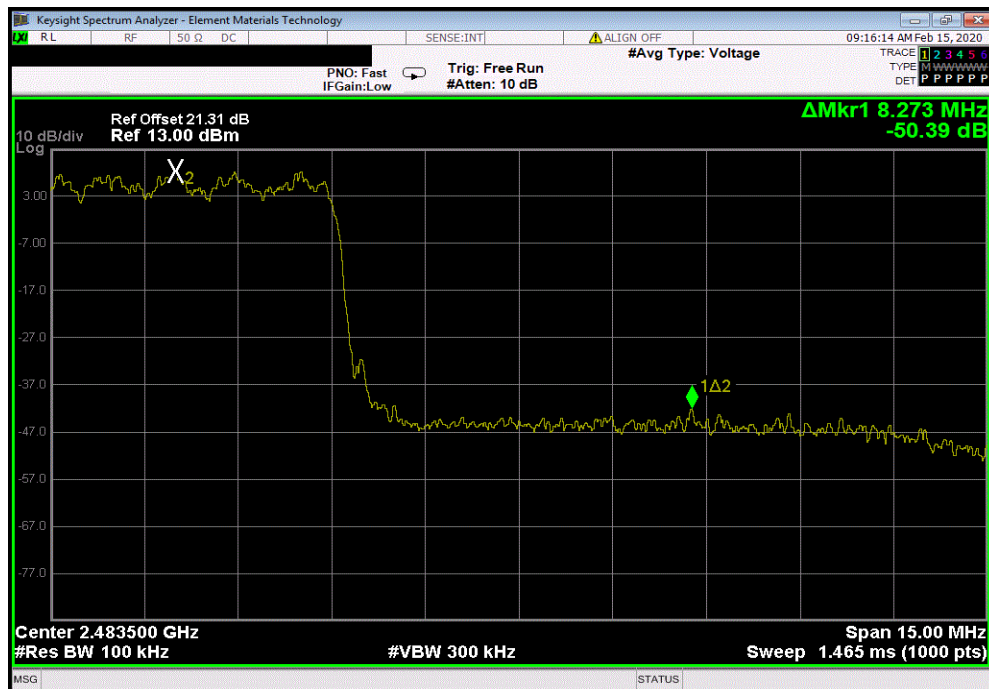


TbTtx 2019.08.30.0 XMI 2019.09.05

Hopping Mode (All Channels), 3DH5, 8-DPSK, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.57	-20	Pass



Hopping Mode (All Channels), 3DH5, 8-DPSK, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.39	-20	Pass



BAND EDGE COMPLIANCE



XMit 2019.09.05

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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

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

BAND EDGE COMPLIANCE



TMTx 2019.08.30.0 XMI 2019.09.05

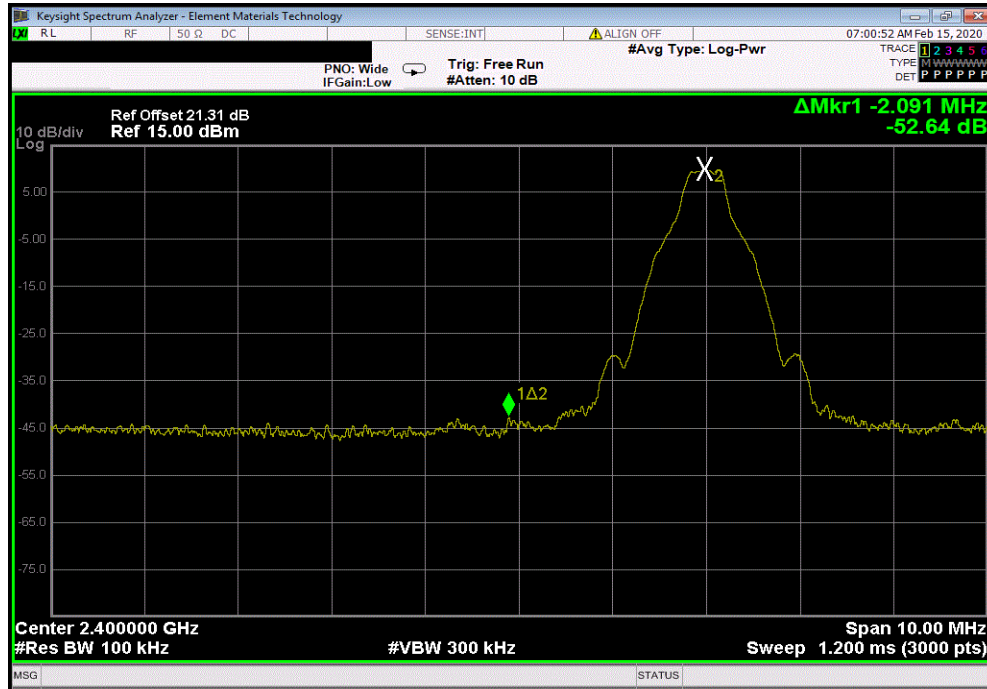
EUT: C2-03CPU		Work Order: KOYO0001	
Serial Number: N/A		Date: 14-Feb-20	
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22.1 °C	
Attendees: None		Humidity: 14.6% RH	
Project: None		Barometric Pres.: 1025 mbar	
Tested by: Andrew Rogstad		Power: 24 VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes 20 dB attenuator, DC block, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature <i>Andrew Rogstad</i>	
		Value (dBc)	Limit ≤ (dBc) Result
DH5, GFSK			
	Low Channel (2402 MHz)	-52.65	-20 Pass
	High Channel (2480 MHz)	-50.91	-20 Pass
2DH5, pi/4-DQPSK			
	Low Channel (2402 MHz)	-51.73	-20 Pass
	High Channel (2480 MHz)	-51.4	-20 Pass
3DH5, 8-DPSK			
	Low Channel (2402 MHz)	-51.7	-20 Pass
	High Channel (2480 MHz)	-51.31	-20 Pass

BAND EDGE COMPLIANCE

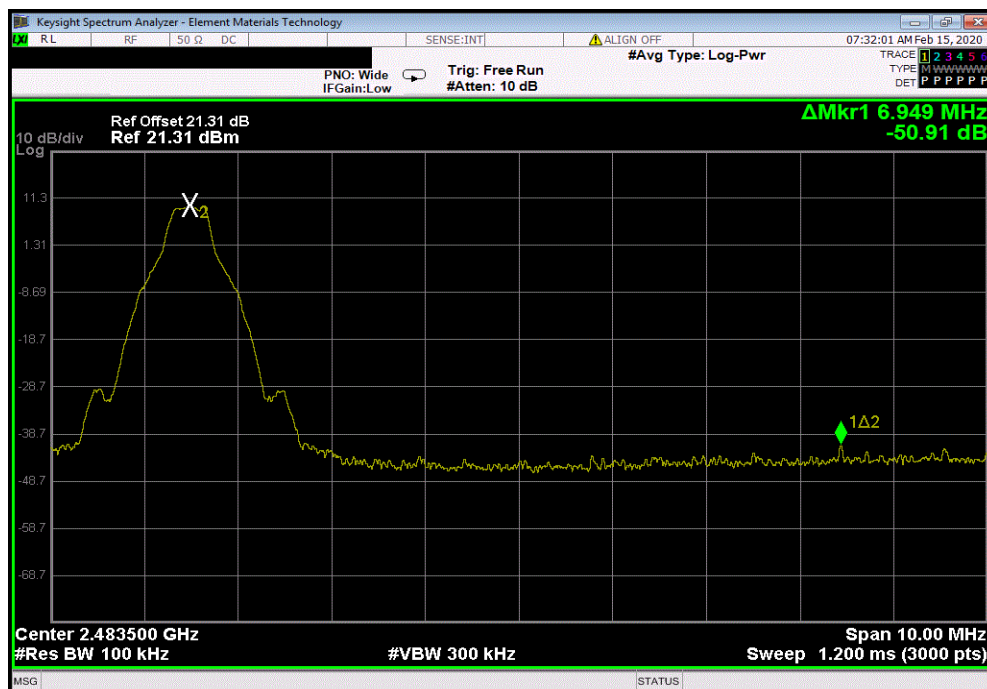


TbTtx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, Low Channel (2402 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-52.65	-20	Pass



DH5, GFSK, High Channel (2480 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.91	-20	Pass

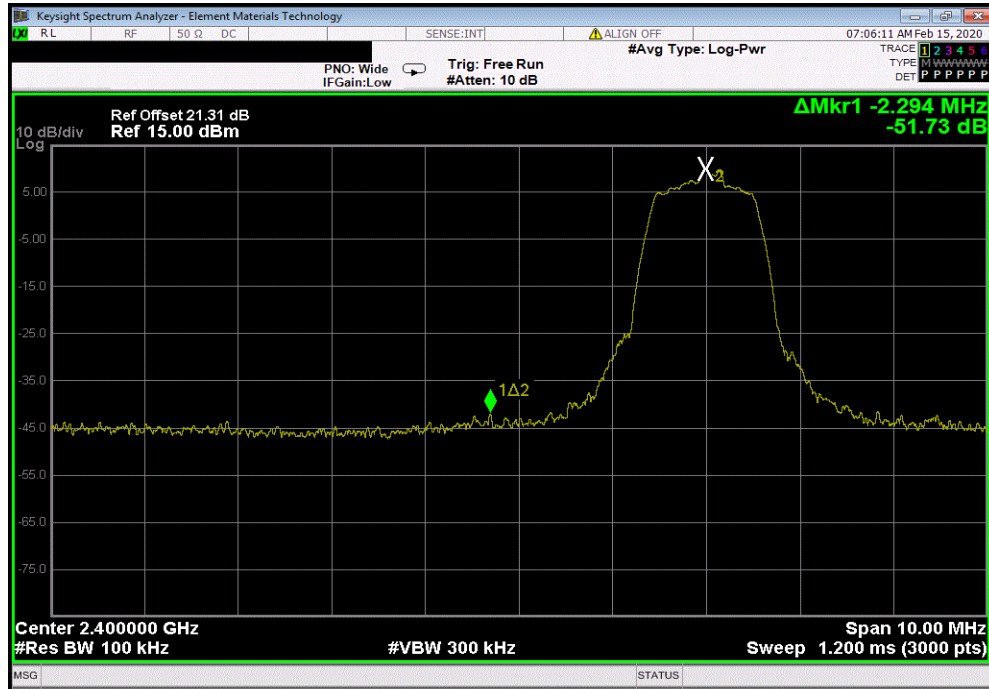


BAND EDGE COMPLIANCE

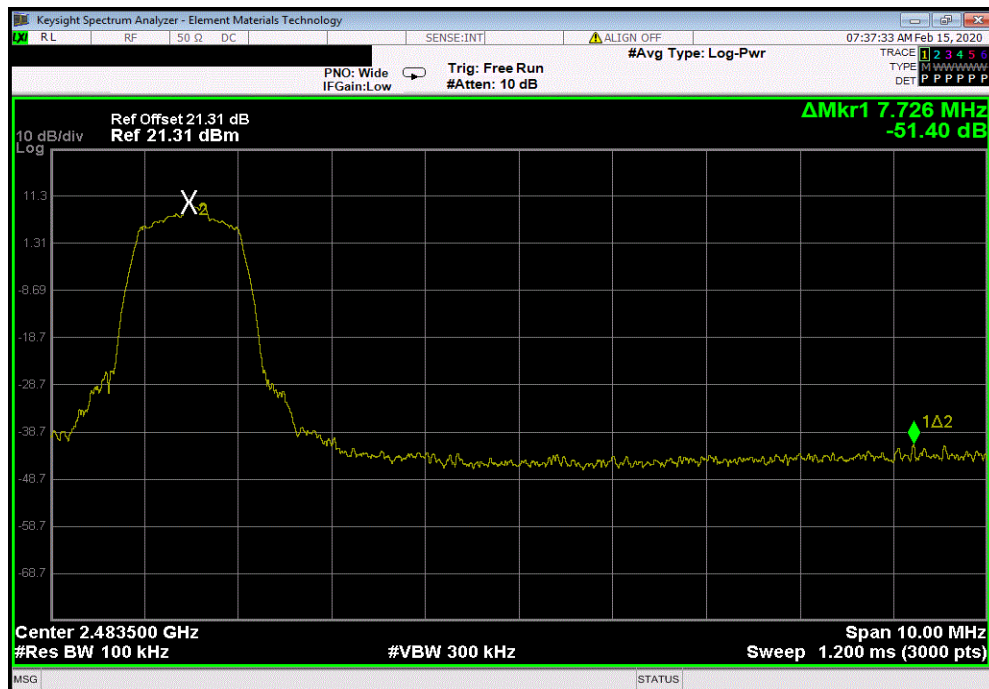


TbTtx 2019.08.30.0 XMI 2019.09.05

2DH5, pi/4-DQPSK, Low Channel (2402 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.73	-20	Pass



2DH5, pi/4-DQPSK, High Channel (2480 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.4	-20	Pass

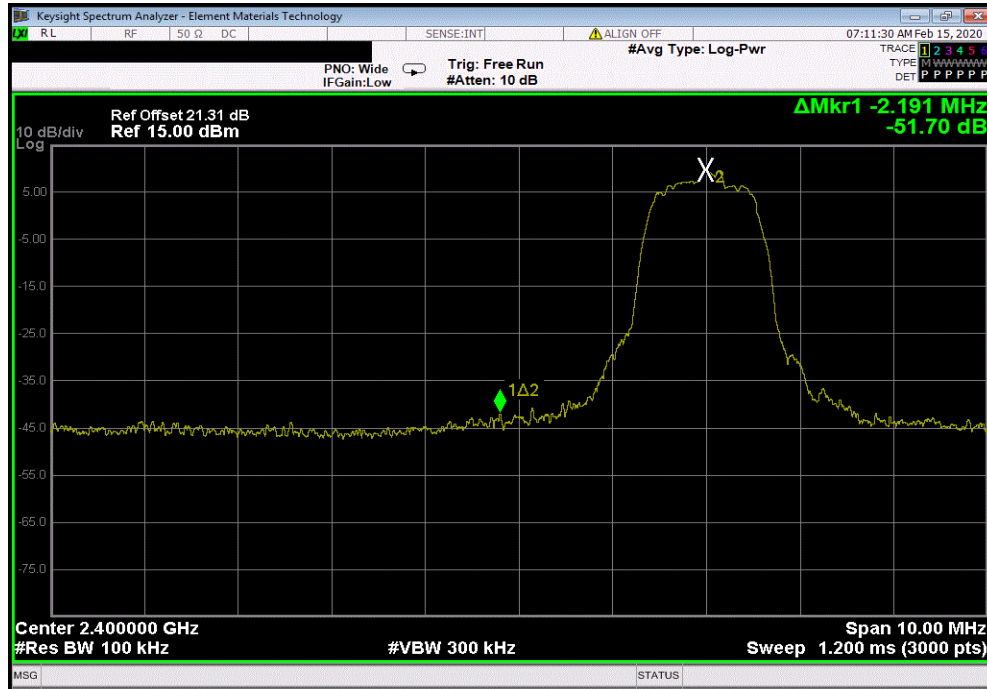


BAND EDGE COMPLIANCE

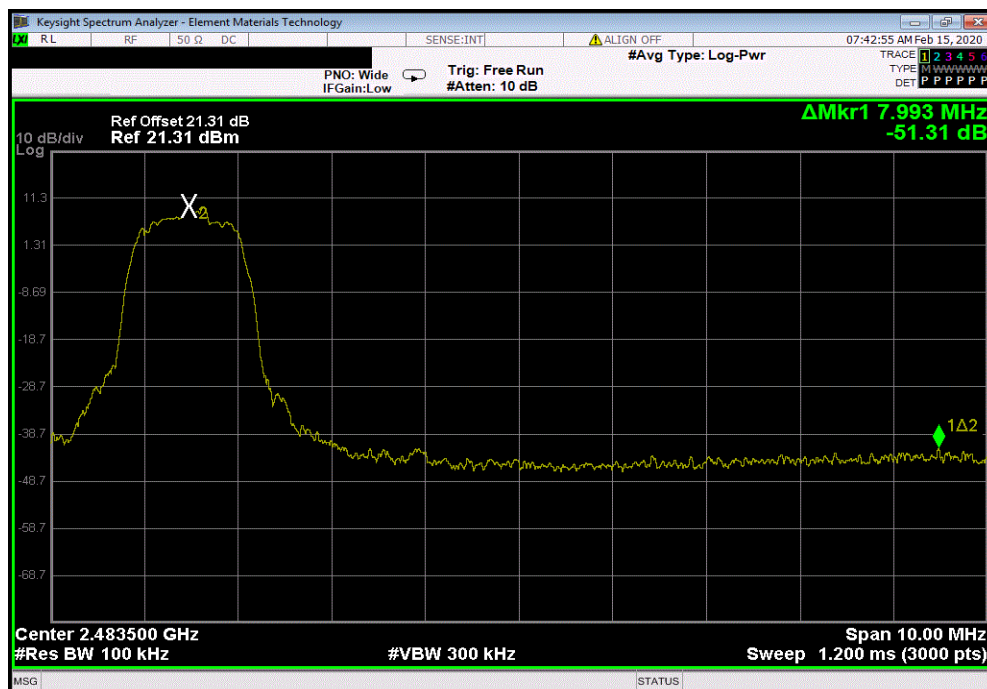


TbTtx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, Low Channel (2402 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.7	-20	Pass



3DH5, 8-DPSK, High Channel (2480 MHz)						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.31	-20	Pass



OCCUPIED BANDWIDTH



XMIT 2019.09.05

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The 20 dB occupied bandwidth was measured with the EUT set to low, medium and high transmit frequencies in the band. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode.

OCCUPIED BANDWIDTH



TMTx 2019.08.30.0 XMI 2019.09.05

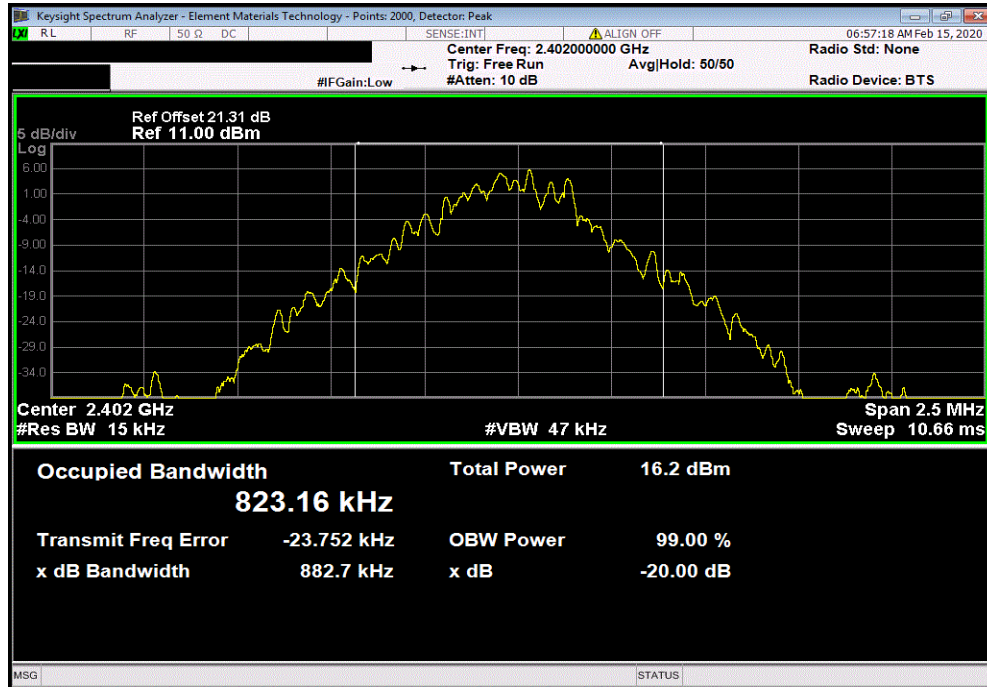
EUT: C2-03CPU		Work Order: KOYO0001	
Serial Number: N/A		Date: 14-Feb-20	
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22.1 °C	
Attendees: None		Humidity: 14.7% RH	
Project: None		Barometric Pres.: 1025 mbar	
Tested by: Andrew Rogstad		Power: 24 VDC	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2020		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes 20 dB attenuator, DC block, and measurement cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature <i>Andrew Rogstad</i>	
		Value	Limit (<) Result
DH5, GFSK			
	Low Channel (2402 MHz)	882.656 kHz	1.5 MHz Pass
	Mid Channel (2441 MHz)	918.687 kHz	1.5 MHz Pass
	High Channel (2480 MHz)	881.615 kHz	1.5 MHz Pass
2DH5, pi/4-DQPSK			
	Low Channel (2402 MHz)	1.322 MHz	1.5 MHz Pass
	Mid Channel (2441 MHz)	1.321 MHz	1.5 MHz Pass
	High Channel (2480 MHz)	1.32 MHz	1.5 MHz Pass
3DH5, 8-DPSK			
	Low Channel (2402 MHz)	1.308 MHz	1.5 MHz Pass
	Mid Channel (2441 MHz)	1.307 MHz	1.5 MHz Pass
	High Channel (2480 MHz)	1.308 MHz	1.5 MHz Pass

OCCUPIED BANDWIDTH

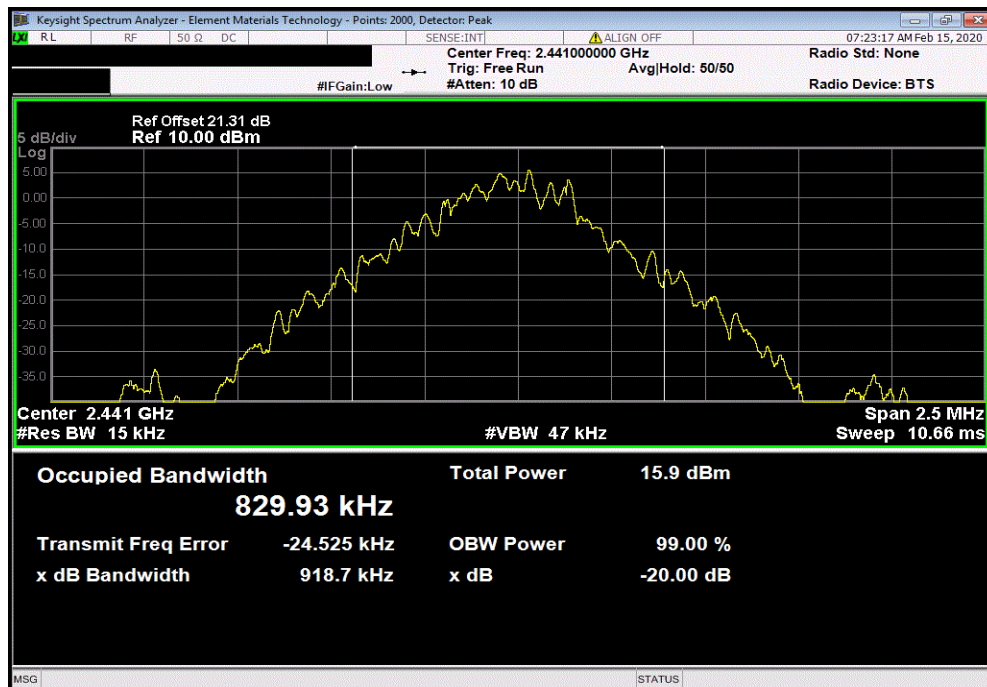


TbTx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, Low Channel (2402 MHz)						
				Value	Limit (<)	Result
				882.656 kHz	1.5 MHz	Pass



DH5, GFSK, Mid Channel (2441 MHz)						
				Value	Limit (<)	Result
				918.687 kHz	1.5 MHz	Pass

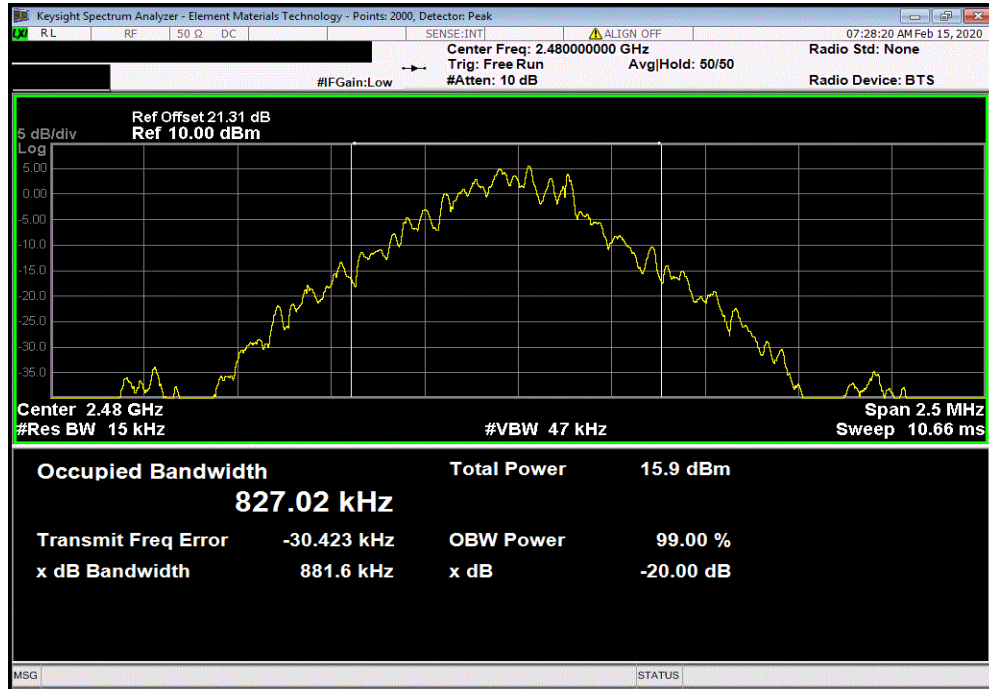


OCCUPIED BANDWIDTH

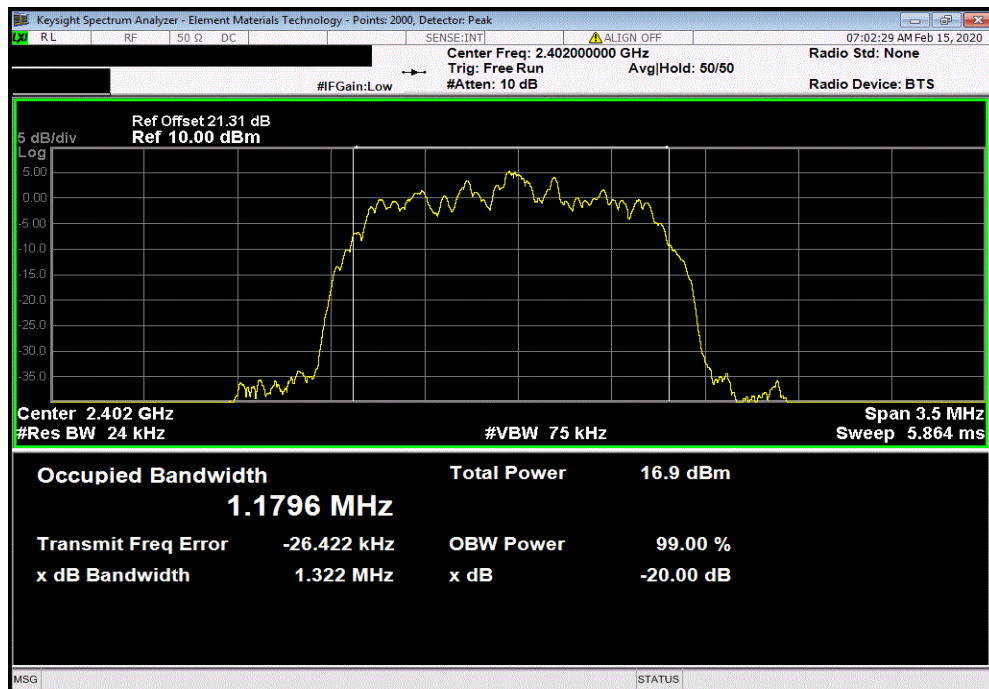


TbTx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, High Channel (2480 MHz)						
				Value	Limit (<)	Result
				881.615 kHz	1.5 MHz	Pass



2DH5, pi/4-DQPSK, Low Channel (2402 MHz)						
				Value	Limit (<)	Result
				1.322 MHz	1.5 MHz	Pass

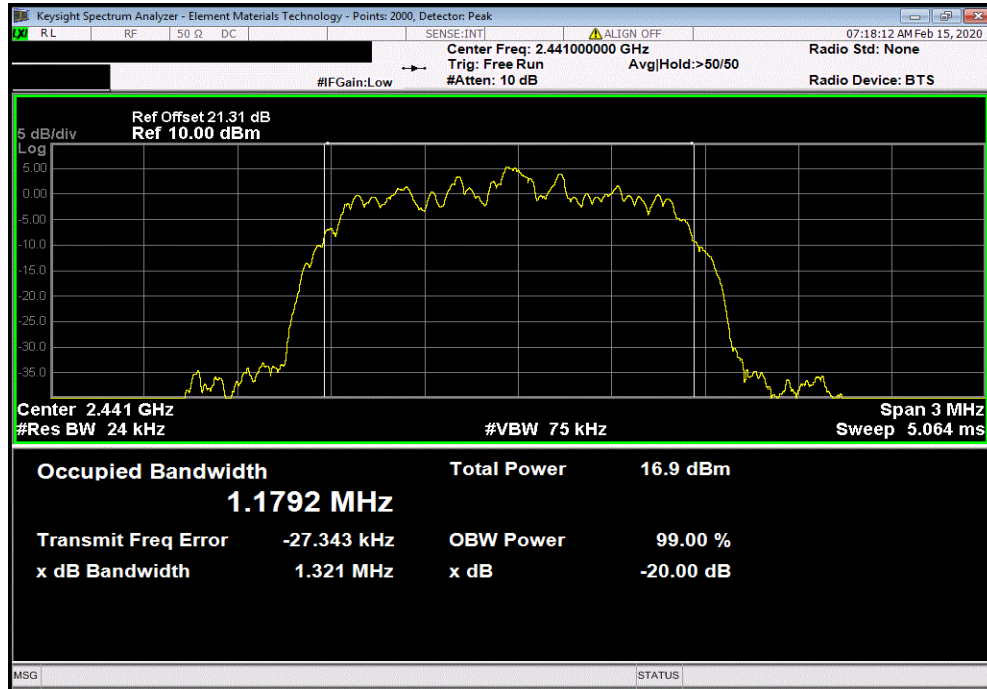


OCCUPIED BANDWIDTH

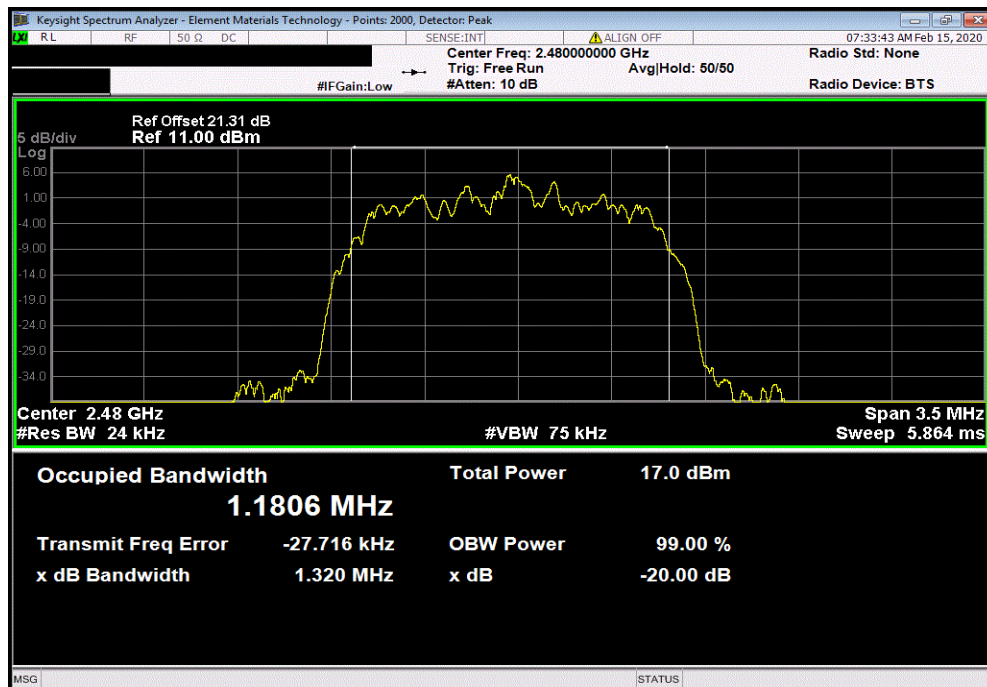


TbTx 2019.08.30.0 XMI 2019.09.05

2DH5, pi/4-DQPSK, Mid Channel (2441 MHz)						
				Value	Limit (<)	Result
				1.321 MHz	1.5 MHz	Pass



2DH5, pi/4-DQPSK, High Channel (2480 MHz)						
				Value	Limit (<)	Result
				1.32 MHz	1.5 MHz	Pass

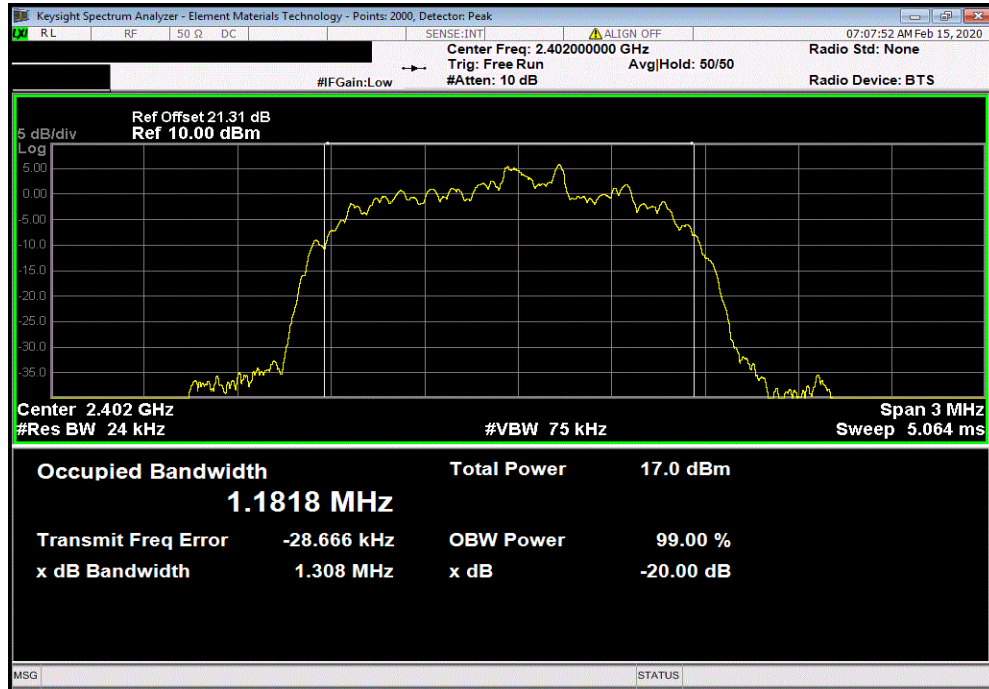


OCCUPIED BANDWIDTH

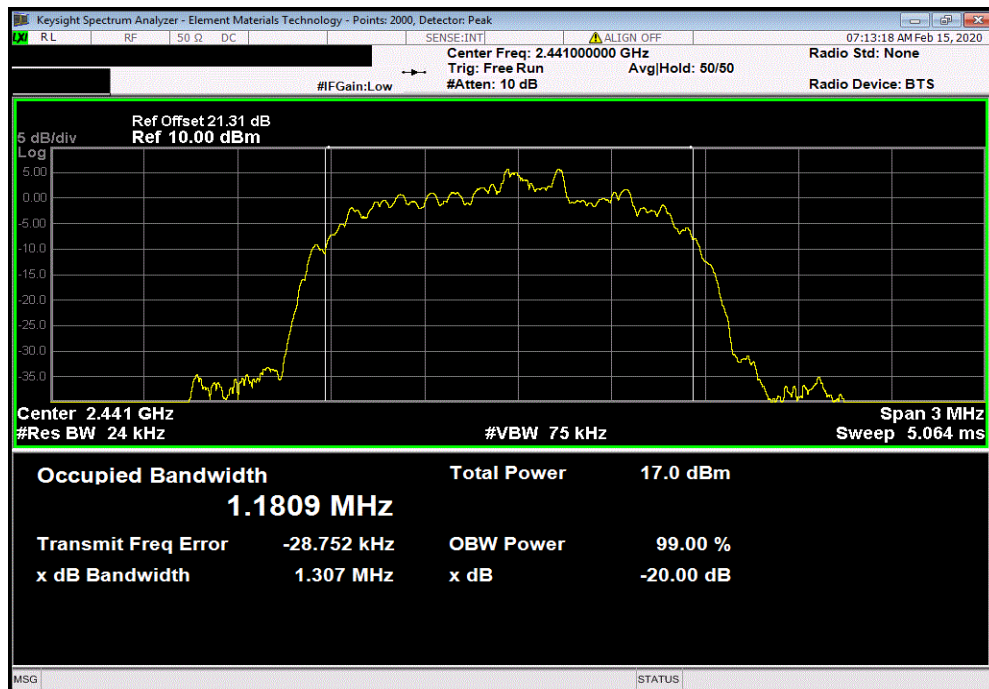


TbTx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, Low Channel (2402 MHz)						
				Value	Limit (<)	Result
				1.308 MHz	1.5 MHz	Pass



3DH5, 8-DPSK, Mid Channel (2441 MHz)						
				Value	Limit (<)	Result
				1.307 MHz	1.5 MHz	Pass

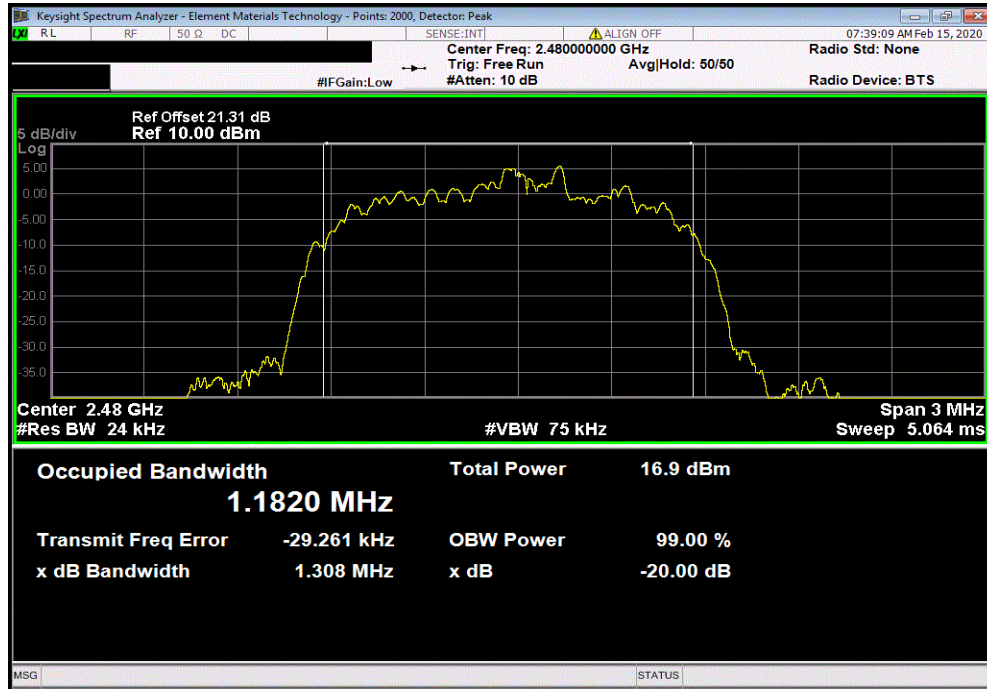


OCCUPIED BANDWIDTH



TbTx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, High Channel (2480 MHz)						
Value				Limit	Result	
				(<)		
1.308 MHz				1.5 MHz	Pass	



SPURIOUS CONDUCTED EMISSIONS



XMit 2019.09.05

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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMI	6-Aug-19	6-Aug-20
Attenuator	S.M. Electronics	SA26B-20	TZP	9-Nov-19	9-Nov-20
Generator - Signal	Keysight	N5171B (EXG)	TEY	31-Dec-19	31-Dec-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	23-Dec-19	23-Dec-20
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	15-Sep-19	15-Sep-20

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS



TMTx 2019.08.30.0 XMM 2019.09.05

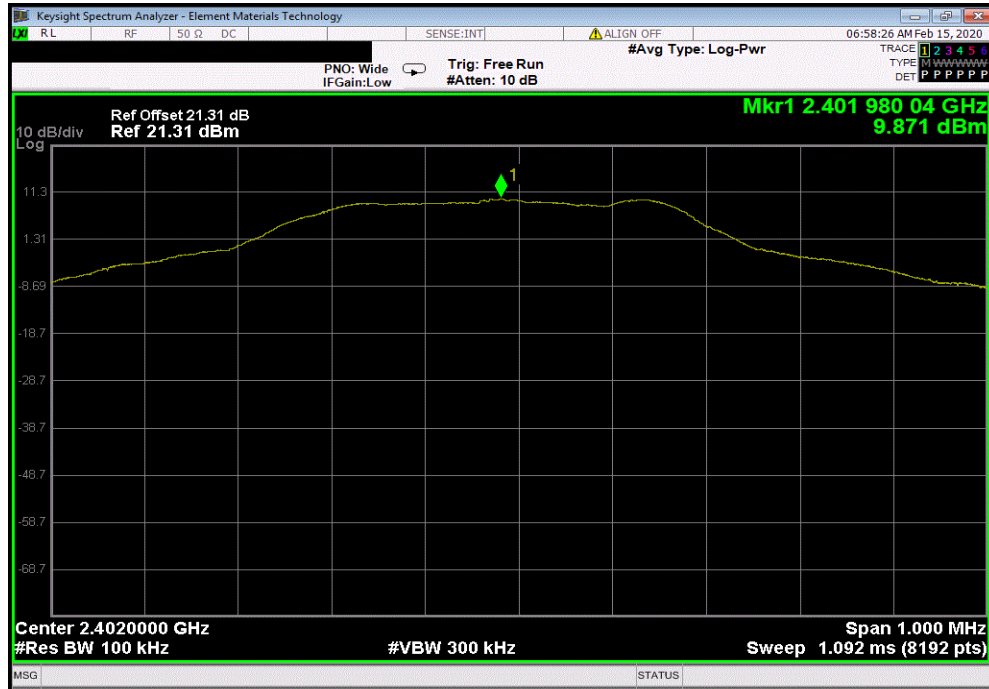
EUT: C2-03CPU		Work Order: KOYO0001			
Serial Number: N/A		Date: 14-Feb-20			
Customer: Koyo Electronics Industries Co., LTD		Temperature: 22 °C			
Attendees: None		Humidity: 15% RH			
Project: None		Barometric Pres.: 1025 mbar			
Tested by: Andrew Rogstad		Power: 24 VDC			
		Job Site: MN08			
TEST SPECIFICATIONS		Test Method			
FCC 15.247:2020		ANSI C63.10:2013			
COMMENTS					
Reference level offset includes 20 dB attenuator, DC block, and measurement cable.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	10	Signature <i>Andrew Rogstad</i>			
	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
DH5, GFSK					
Low Channel (2402 MHz)	Fundamental	2401.98	N/A	N/A	N/A
Low Channel (2402 MHz)	30 MHz - 12.5 GHz	3202.69	-48.22	-20	Pass
Low Channel (2402 MHz)	12.5 GHz - 25 GHz	24381.94	-60.96	-20	Pass
Mid Channel (2441 MHz)	Fundamental	2440.97	N/A	N/A	N/A
Mid Channel (2441 MHz)	30 MHz - 12.5 GHz	3254.45	-50.57	-20	Pass
Mid Channel (2441 MHz)	12.5 GHz - 25 GHz	24993.9	-61.05	-20	Pass
High Channel (2480 MHz)	Fundamental	2479.98	N/A	N/A	N/A
High Channel (2480 MHz)	30 MHz - 12.5 GHz	3306.21	-52.58	-20	Pass
High Channel (2480 MHz)	12.5 GHz - 25 GHz	24653.58	-61.14	-20	Pass
2DH5, pi/4-DQPSK					
Low Channel (2402 MHz)	Fundamental	2401.98	N/A	N/A	N/A
Low Channel (2402 MHz)	30 MHz - 12.5 GHz	3202.69	-47.53	-20	Pass
Low Channel (2402 MHz)	12.5 GHz - 25 GHz	24073.68	-60.75	-20	Pass
Mid Channel (2441 MHz)	Fundamental	2440.98	N/A	N/A	N/A
Mid Channel (2441 MHz)	30 MHz - 12.5 GHz	3254.45	-50.12	-20	Pass
Mid Channel (2441 MHz)	12.5 GHz - 25 GHz	23672.32	-60.48	-20	Pass
High Channel (2480 MHz)	Fundamental	2479.98	N/A	N/A	N/A
High Channel (2480 MHz)	30 MHz - 12.5 GHz	3306.21	-52.67	-20	Pass
High Channel (2480 MHz)	12.5 GHz - 25 GHz	25000	-60.59	-20	Pass
3DH5, 8-DPSK					
Low Channel (2402 MHz)	Fundamental	2401.97	N/A	N/A	N/A
Low Channel (2402 MHz)	30 MHz - 12.5 GHz	3202.69	-47.86	-20	Pass
Low Channel (2402 MHz)	12.5 GHz - 25 GHz	23817.3	-60.86	-20	Pass
Mid Channel (2441 MHz)	Fundamental	2440.98	N/A	N/A	N/A
Mid Channel (2441 MHz)	30 MHz - 12.5 GHz	3254.45	-50.25	-20	Pass
Mid Channel (2441 MHz)	12.5 GHz - 25 GHz	24119.46	-60.88	-20	Pass
High Channel (2480 MHz)	Fundamental	2479.97	N/A	N/A	N/A
High Channel (2480 MHz)	30 MHz - 12.5 GHz	2487.16	-51.86	-20	Pass
High Channel (2480 MHz)	12.5 GHz - 25 GHz	24989.32	-60.68	-20	Pass

SPURIOUS CONDUCTED EMISSIONS

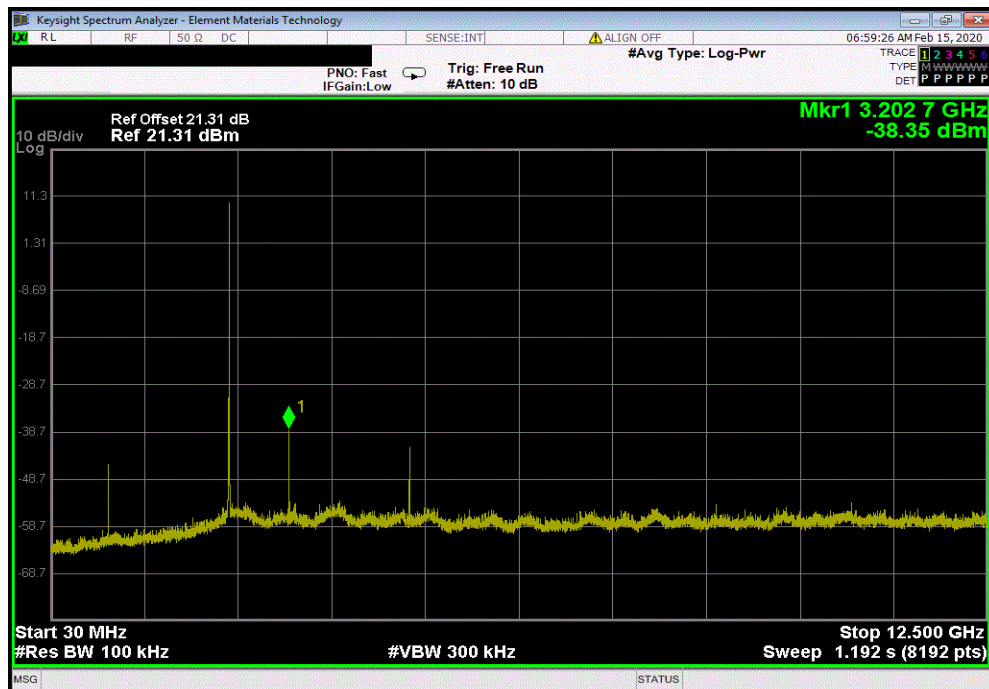


TbTtx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, Low Channel (2402 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2401.98	N/A	N/A	N/A		



DH5, GFSK, Low Channel (2402 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	3202.69	-48.22	-20	Pass		

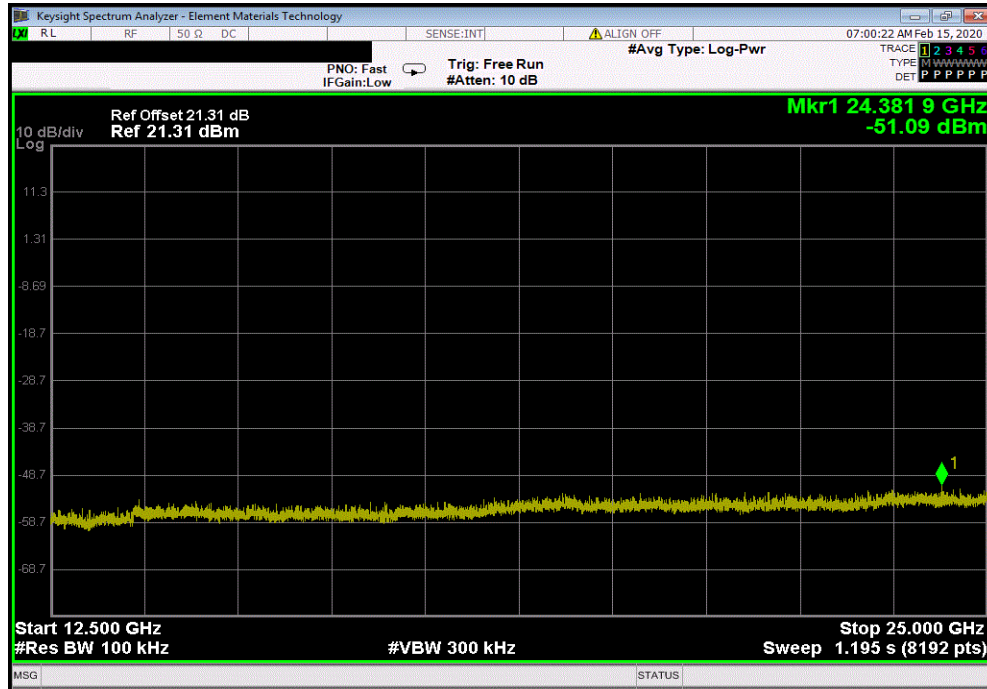


SPURIOUS CONDUCTED EMISSIONS

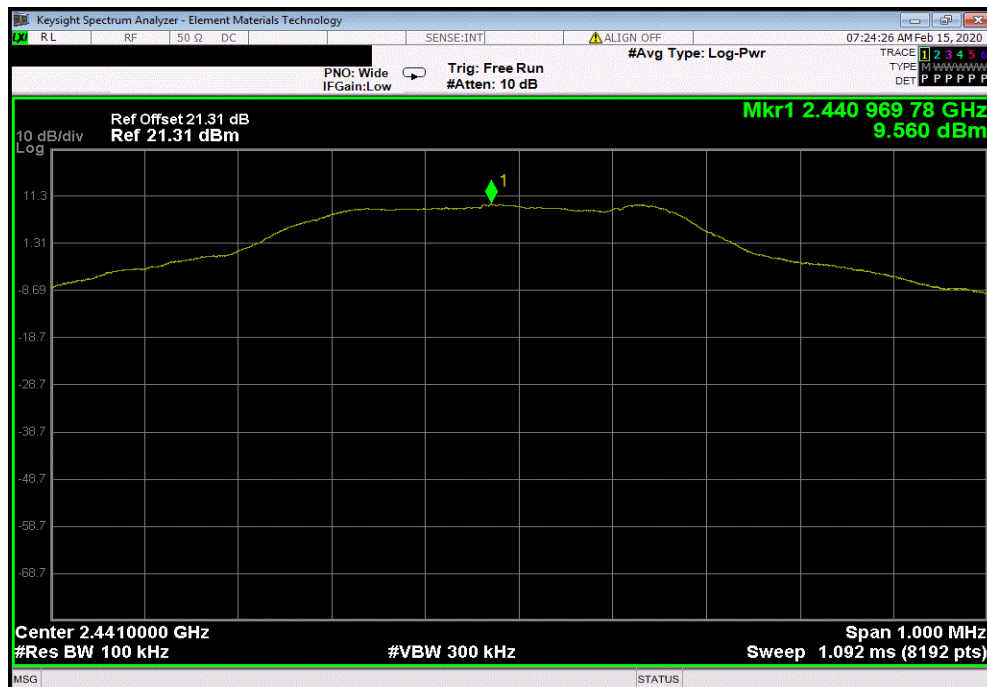


TbTtX 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, Low Channel (2402 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24381.94	-60.96	-20	Pass	



DH5, GFSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2440.97	N/A	N/A	N/A	

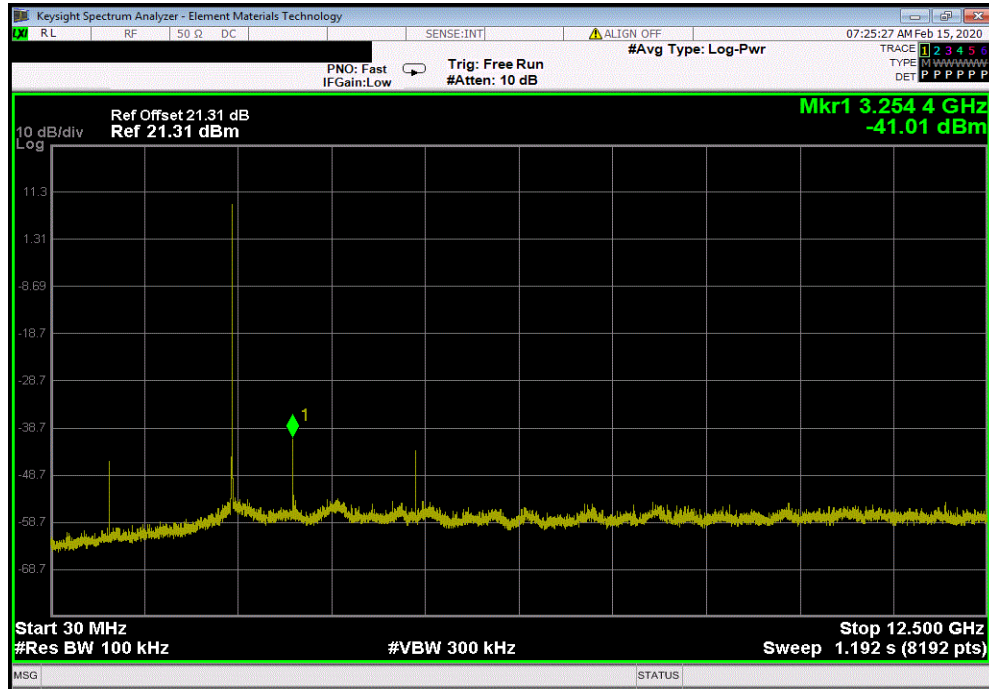


SPURIOUS CONDUCTED EMISSIONS

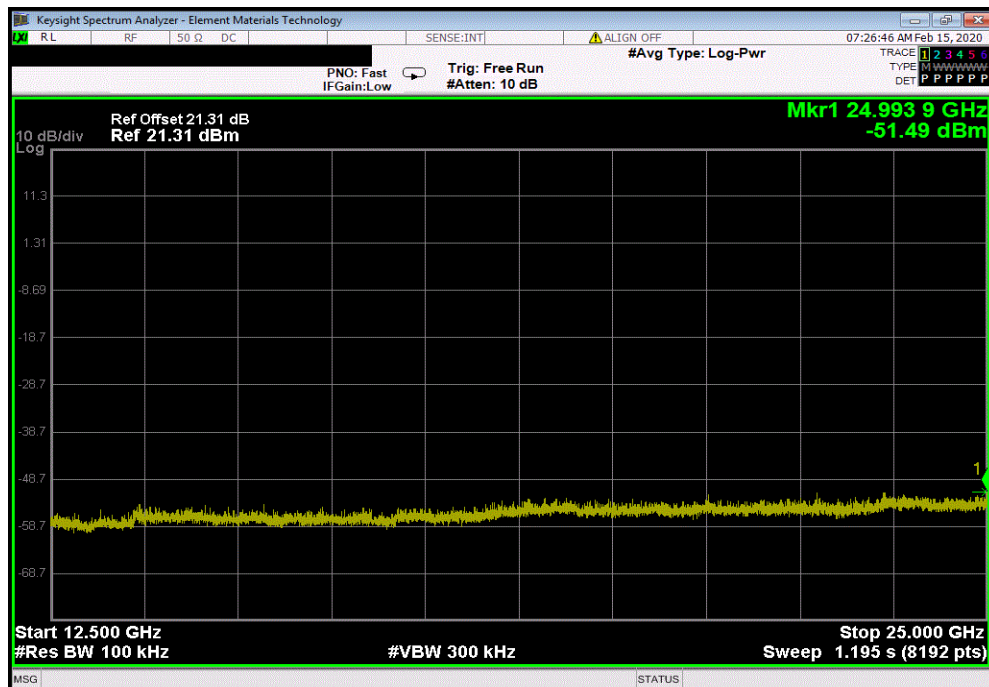


TbTtx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	3254.45	-50.57	-20	Pass	



DH5, GFSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24993.9	-61.05	-20	Pass	

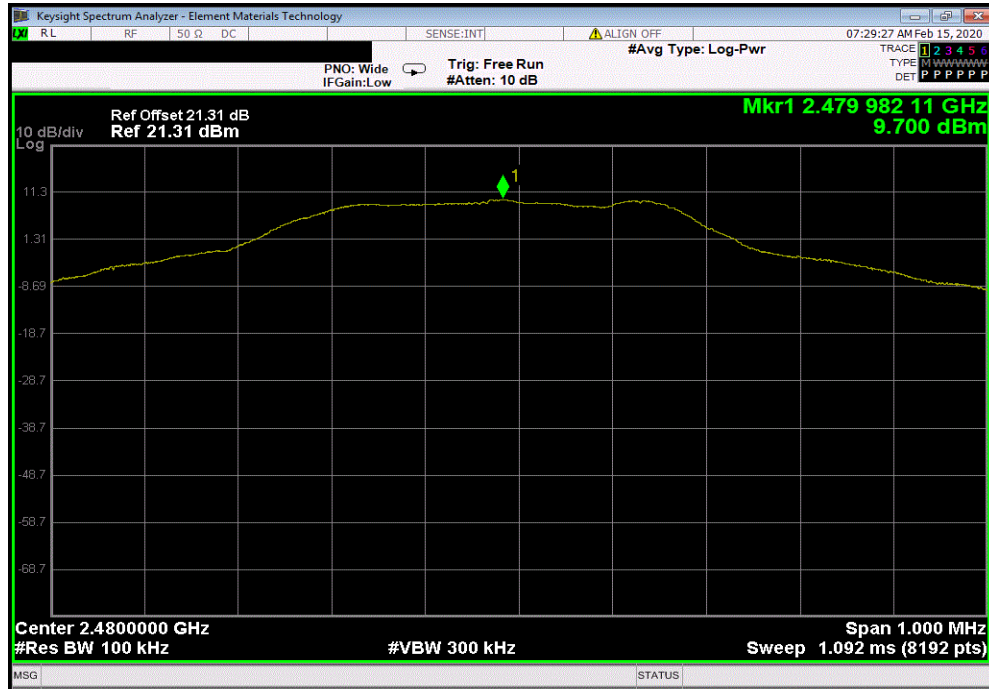


SPURIOUS CONDUCTED EMISSIONS

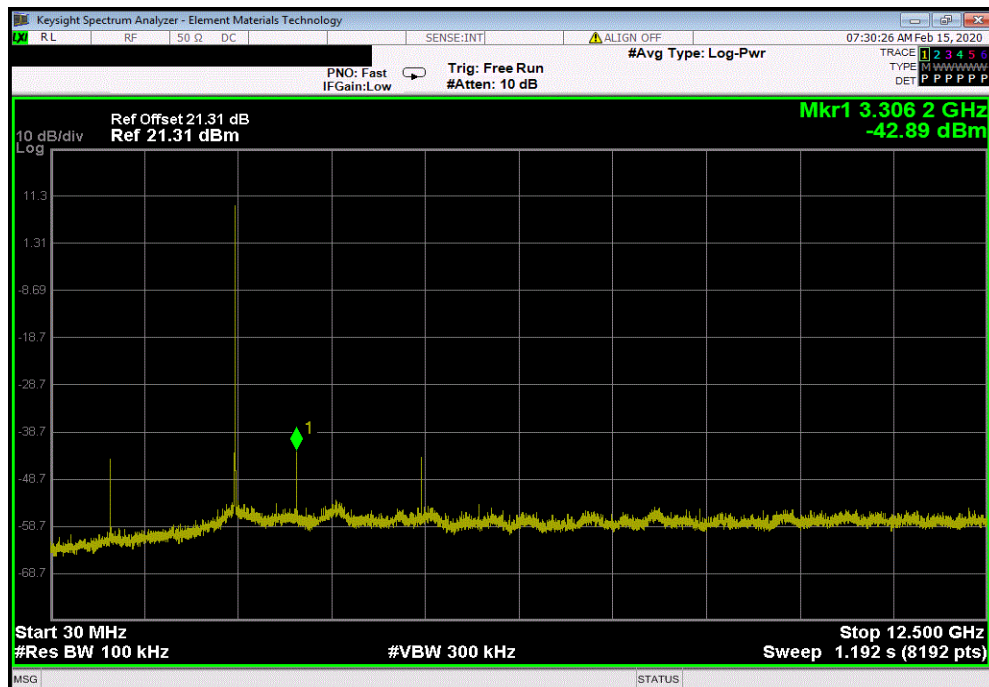


TbTtx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, High Channel (2480 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2479.98	N/A	N/A	N/A		



DH5, GFSK, High Channel (2480 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	3306.21	-52.58	-20	Pass		

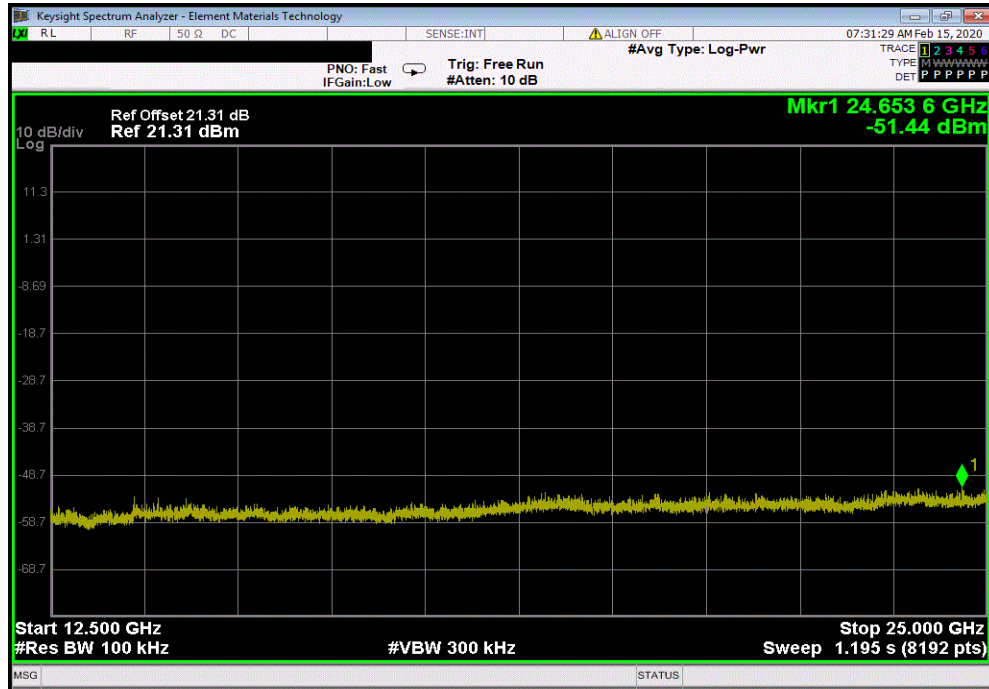


SPURIOUS CONDUCTED EMISSIONS

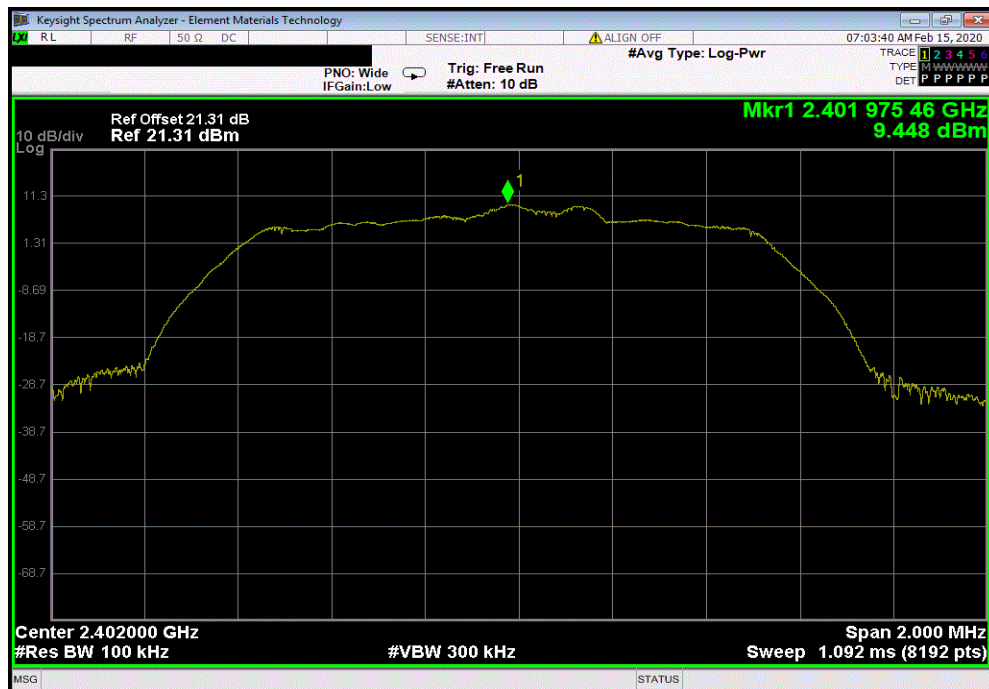


TbTtx 2019.08.30.0 XMI 2019.09.05

DH5, GFSK, High Channel (2480 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24653.58	-61.14	-20	Pass	



2DH5, pi/4-DQPSK, Low Channel (2402 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2401.98	N/A	N/A	N/A	

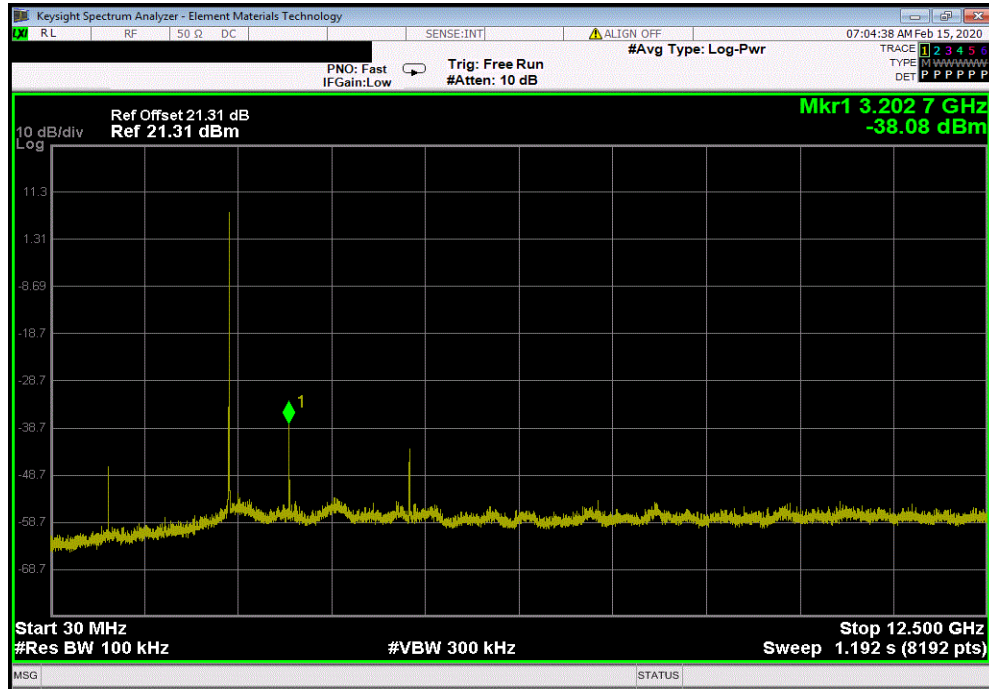


SPURIOUS CONDUCTED EMISSIONS

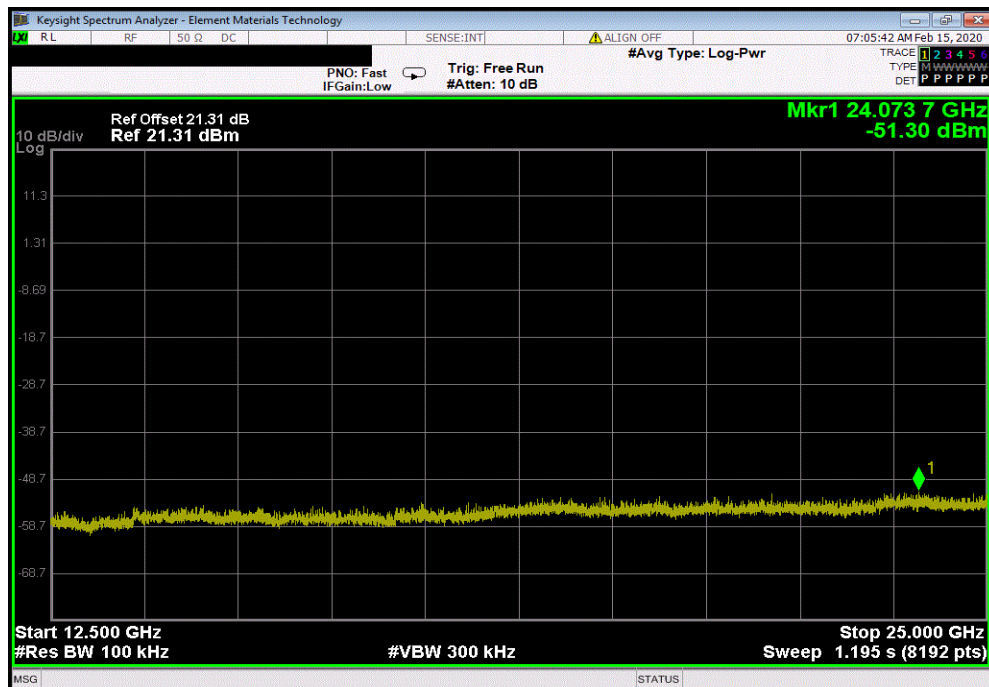


TbTtx 2019.08.30.0 XMI 2019.09.05

2DH5, pi/4-DQPSK, Low Channel (2402 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	3202.69	-47.53	-20	Pass	



2DH5, pi/4-DQPSK, Low Channel (2402 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24073.68	-60.75	-20	Pass	

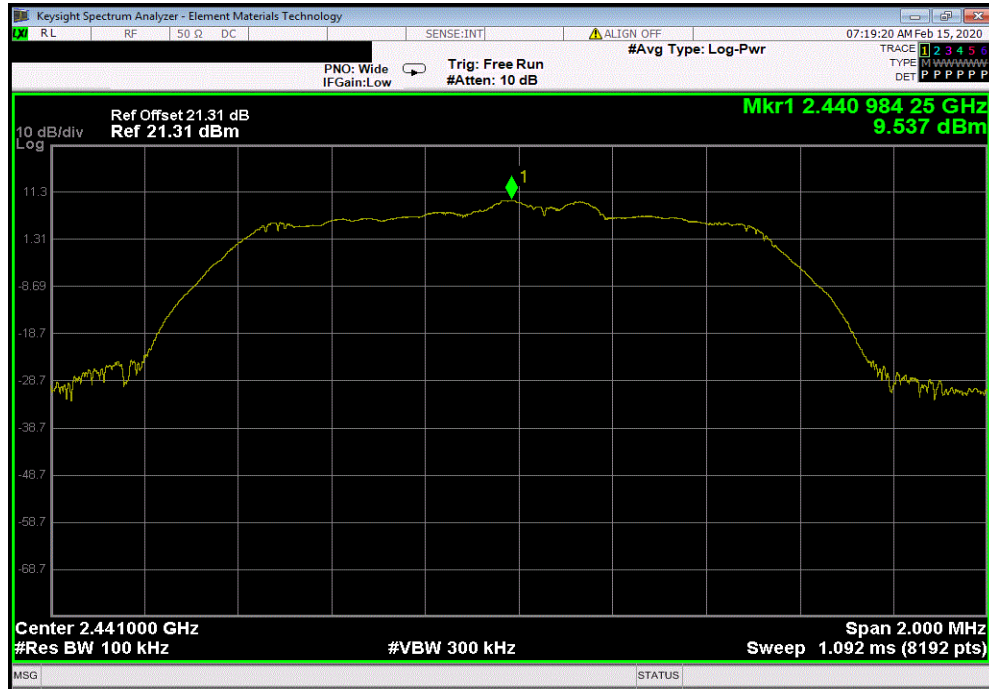


SPURIOUS CONDUCTED EMISSIONS

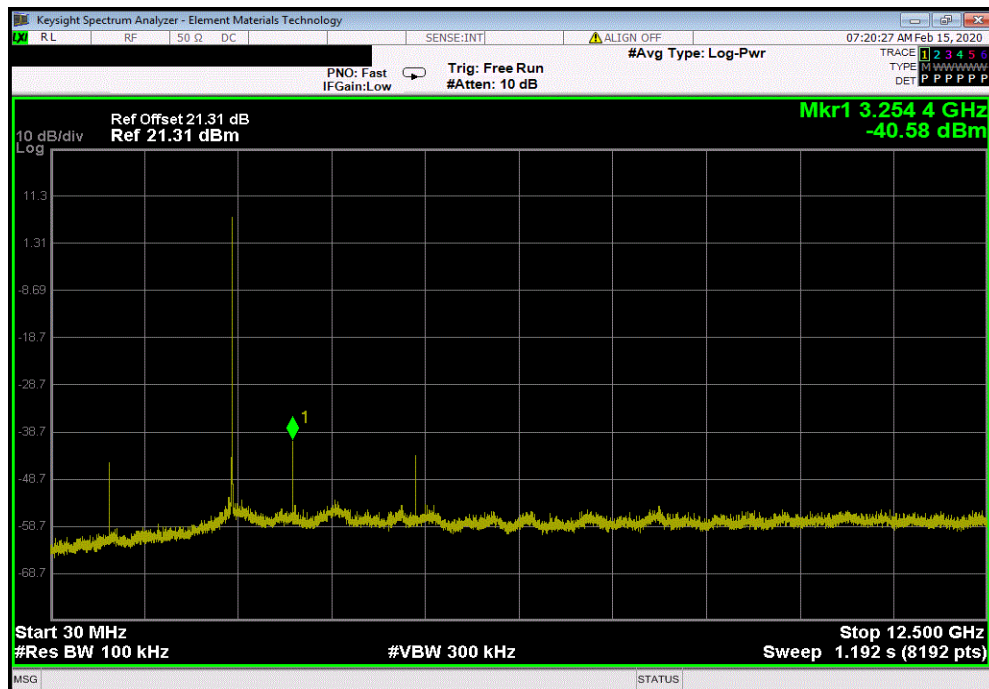


TbTtx 2019.08.30.0 XMt 2019.09.05

2DH5, pi/4-DQPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2440.98	N/A	N/A	N/A	



2DH5, pi/4-DQPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	3254.45	-50.12	-20	Pass	

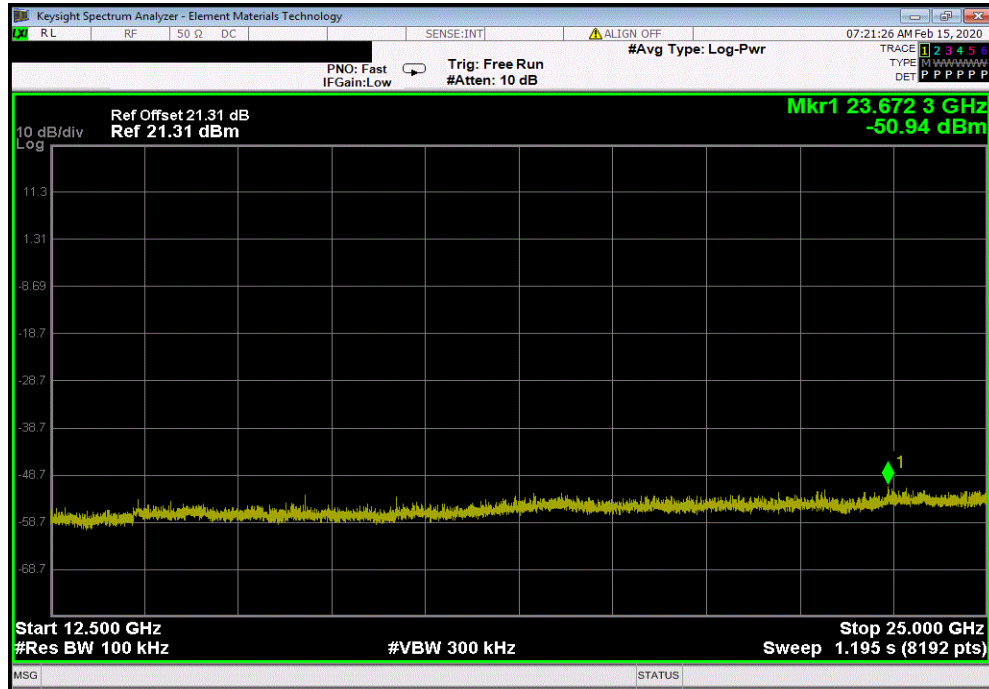


SPURIOUS CONDUCTED EMISSIONS

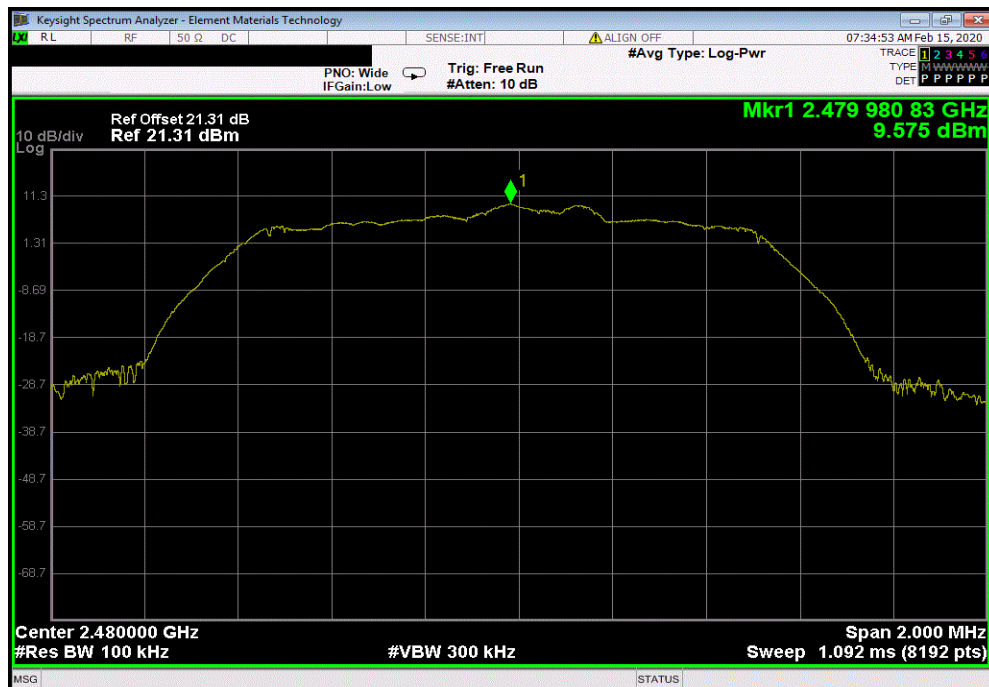


TbTx 2019.08.30.0 XMI 2019.09.05

2DH5, pi/4-DQPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	23672.32	-60.48	-20	Pass	



2DH5, pi/4-DQPSK, High Channel (2480 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2479.98	N/A	N/A	N/A	

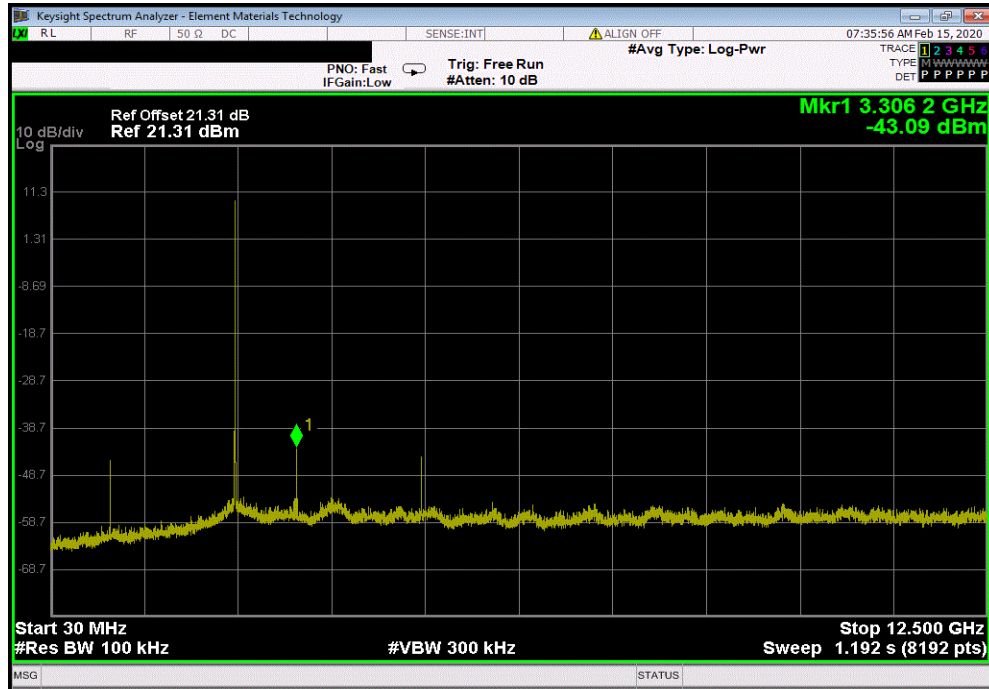


SPURIOUS CONDUCTED EMISSIONS

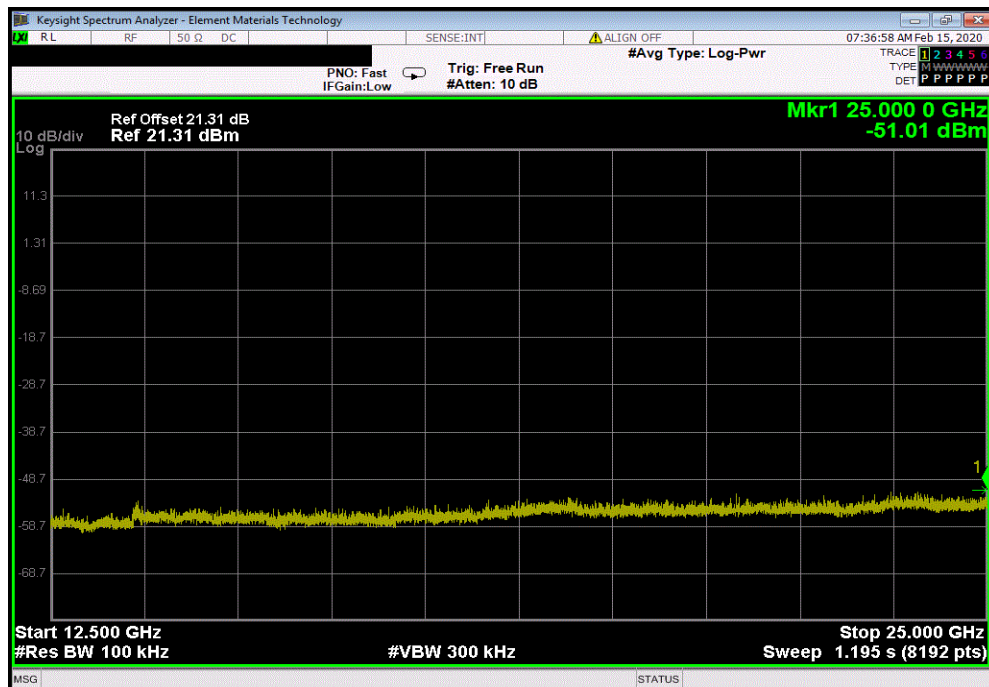


TbTtX 2019.08.30.0 XMI 2019.09.05

2DH5, pi/4-DQPSK, High Channel (2480 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	3306.21	-52.67	-20	Pass	



2DH5, pi/4-DQPSK, High Channel (2480 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	25000	-60.59	-20	Pass	

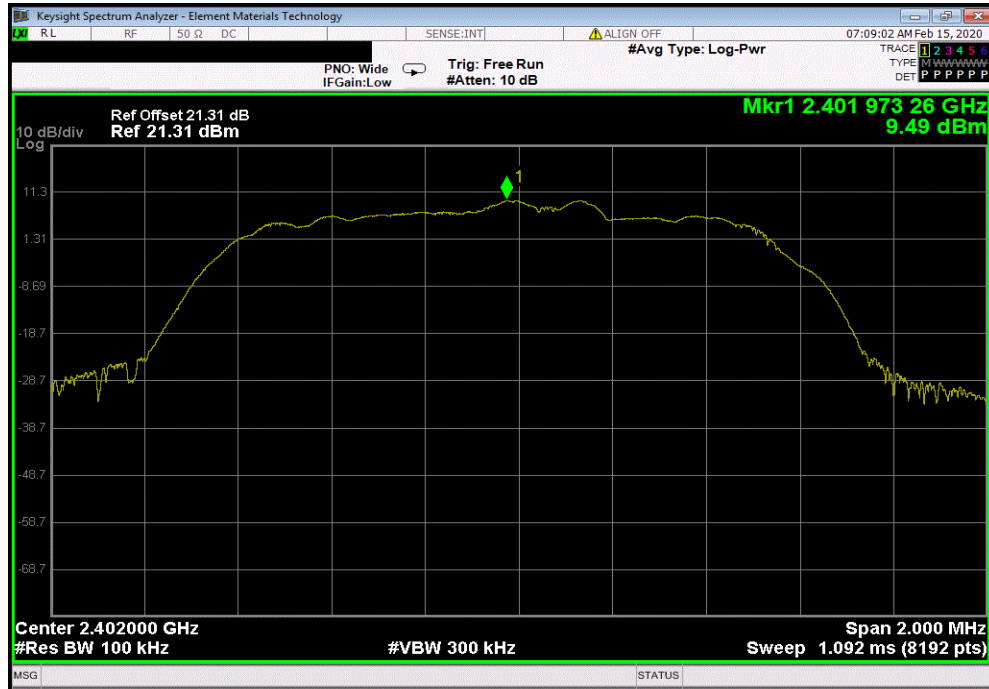


SPURIOUS CONDUCTED EMISSIONS

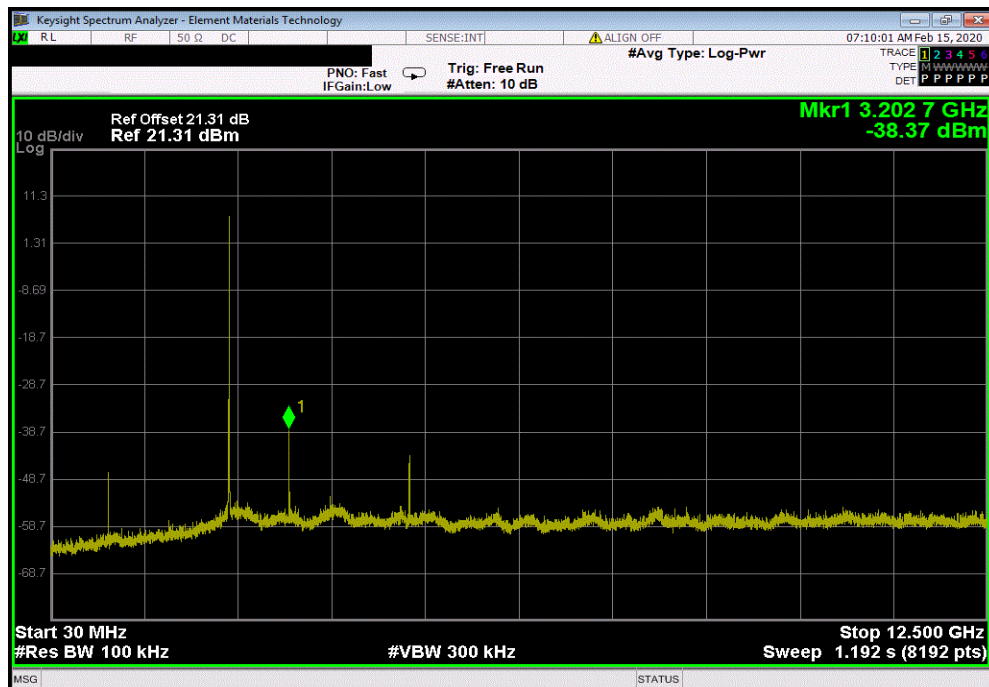


TbTtx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, Low Channel (2402 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2401.97	N/A	N/A	N/A		



3DH5, 8-DPSK, Low Channel (2402 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	3202.69	-47.86	-20	Pass		

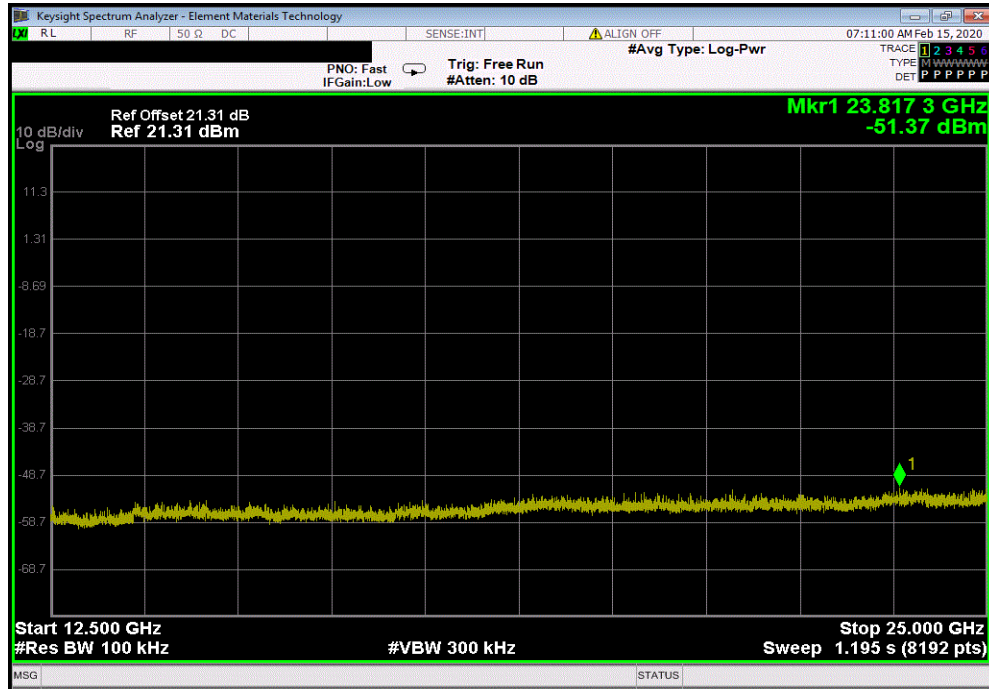


SPURIOUS CONDUCTED EMISSIONS

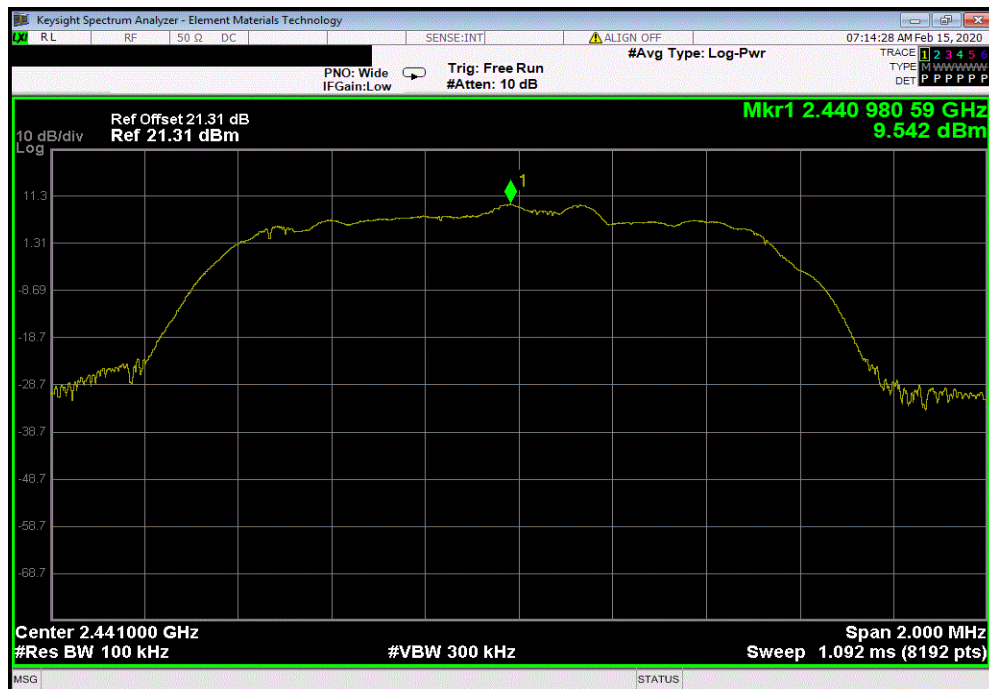


TbTtX 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, Low Channel (2402 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	23817.3	-60.86	-20	Pass	



3DH5, 8-DPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2440.98	N/A	N/A	N/A	

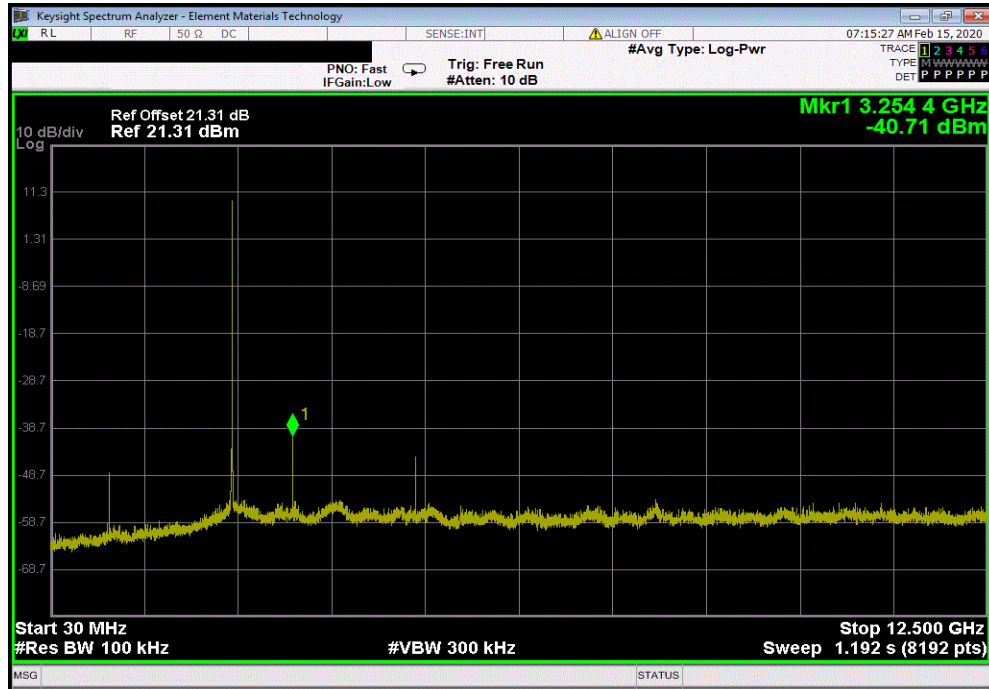


SPURIOUS CONDUCTED EMISSIONS

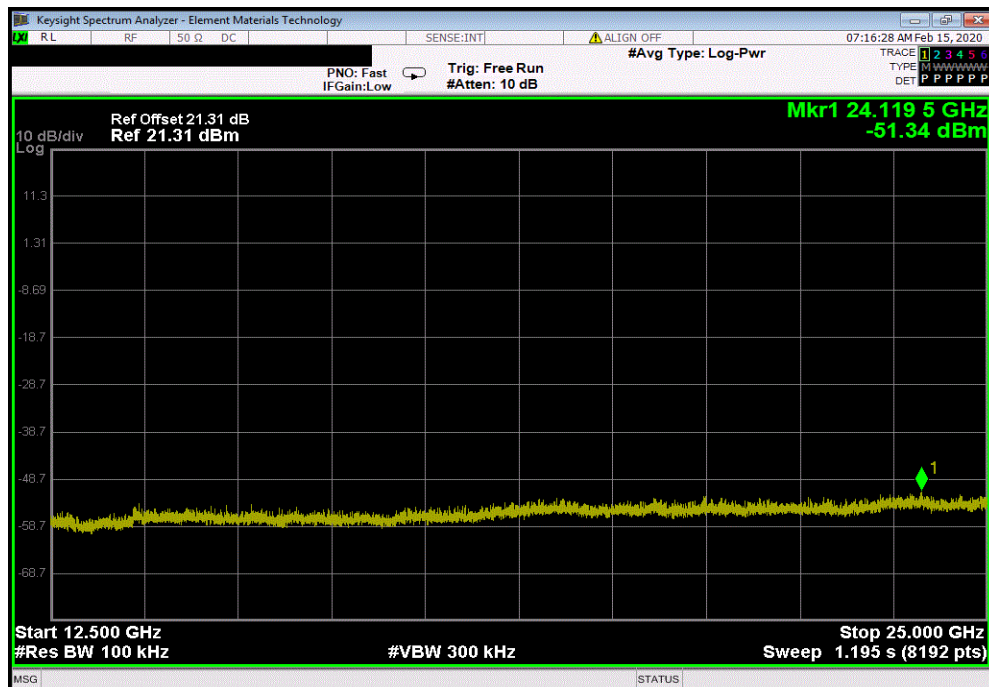


TbTtx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	3254.45	-50.25	-20	Pass	



3DH5, 8-DPSK, Mid Channel (2441 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24119.46	-60.88	-20	Pass	

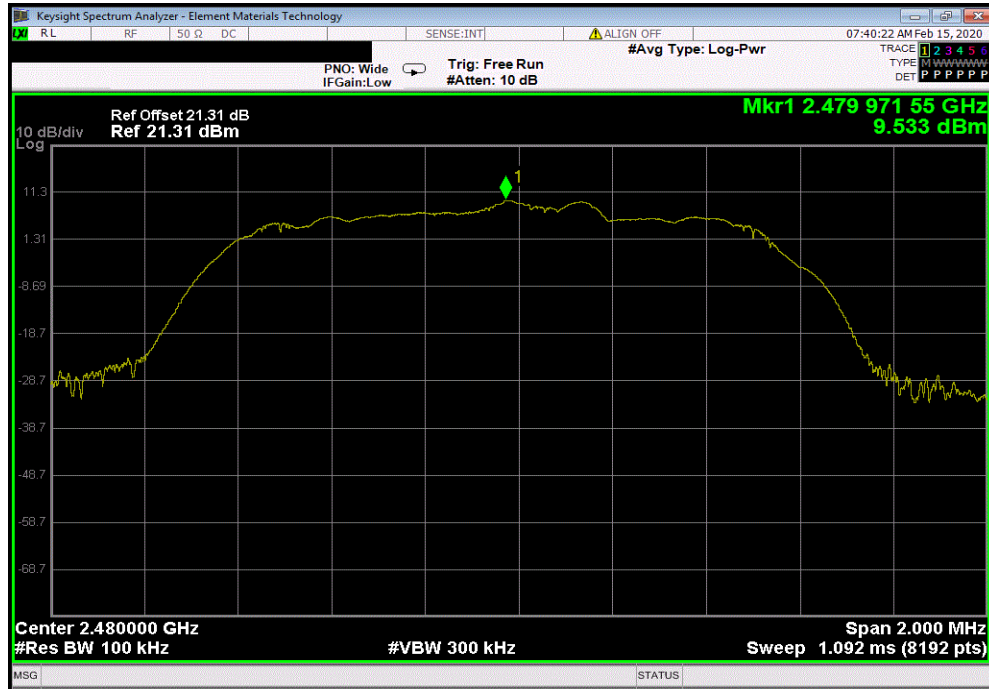


SPURIOUS CONDUCTED EMISSIONS

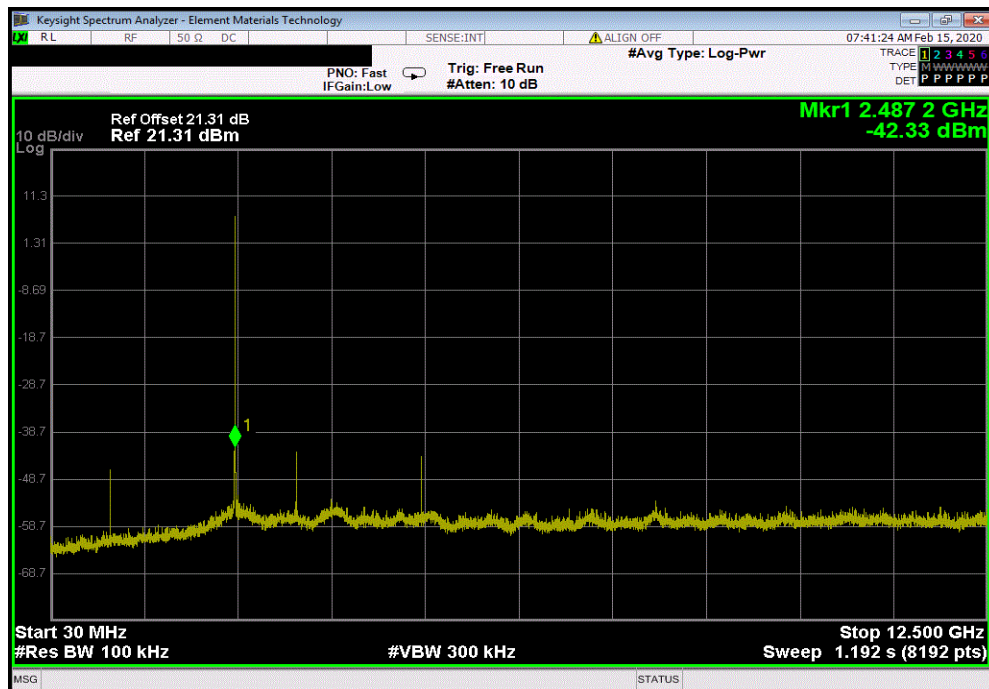


TbTtx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, High Channel (2480 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2479.97	N/A	N/A	N/A		



3DH5, 8-DPSK, High Channel (2480 MHz)						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	2487.16	-51.86	-20	Pass		



SPURIOUS CONDUCTED EMISSIONS



TbTx 2019.08.30.0 XMI 2019.09.05

3DH5, 8-DPSK, High Channel (2480 MHz)					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24989.32	-60.68	-20	Pass	

