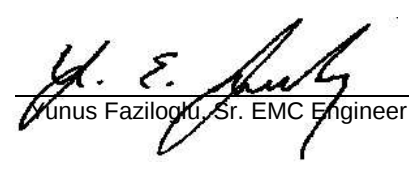


Test Report



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS

Report No	ER1807-4 Appendix A
Client	Honeywell International, Inc.
Address	277 West Main Street Niantic, CT 06357
Phone	860-739 4468
Items tested FCC ID IC Emission Designator	e7 Thermostat - Model Number: 201-528-100-BK, 201-528-100-WH HS9-201528100 573R-201528100 745KF1D
Equipment Type Equipment Code	Digital Transmission System DTS
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2
Test Dates	Jul 20, 2017
Results	As detailed within this report
Prepared by	 Zachary Johnson, Test Engineer
Authorized by	 Yunus Faziloglu, Sr. EMC Engineer
Issue Date	<u>11/2/2017</u>
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 54 of this report.



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Conditions Of Testing54

Report REV Sep-08-2017 - YF



Summary and Test Methodology

This test report is an Appendix to Curtis-Straus Test Report ER1807-4 and includes antenna port RF conducted measurement data to demonstrate compliance with the following rules sections:

CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2

We found that the product met the above requirements without modification.

All testing was performed according to the following rules/procedures/documents;
CFR 47 Part 15.247, RSS-247 Issue 2, RSS-Gen Issue 4, FCC KDB 558074 D01 DTS
Measurement Guidance v04 and ANSI C63.10-2013.

Test samples were received in good condition.

Test Results



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CFR Title 47 FCC Part §15.247 2400-2483.5 MHz

DUT Information

DUT Name: e7 Thermostat
 Manufacturer: Honeywell
 Model: 201-528-100-BK, 201-528-100-WH
 Comment: BLE

Frequencies
 BLE CH 0 (2402 MHz) BLE CH 19 (2440 MHz) BLE CH 39 (2480 MHz)

Bandwidths
 1 MHz

Power
 Power Setting 1 (Max Power)

Beamforming Gain
 N/A

Antenna Gain
 Chip Antenna (1.3dBi)

DUT Settings
 No. of transmission chains 1
 Digital Modulation Yes
 Frequency Hopping No
 Equipment Type Other

Hardware Setup: WMS Measurements\TS8997 Hardware Setup

Rev. 9/17/2017

Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
FSV40 Spectrum Analyzer		10Hz-40GHz	FSV40	ROHDE & SCHWARZ	101551	2200	I	6/30/2018	6/30/2017
Cables		Range		Mfr			Cat	Calibration Due	Calibrated on
DUT1		30MHz-26GHz		Micro-Coax			II	6/21/2018	6/21/2017
Attenuators		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
10dB Attenuator-01 Brown		30MHz-26GHz		Mini Circuits			II	7/13/2018	7/14/2017
Power/Noise Meters			MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
OSP - open switch and control platform		30MHz-18GHz	OSP120	ROHDE & SCHWARZ	101674		I	6/1/2018	6/1/2017

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



Summary (2402MHz, Channel 0)

Test	Frequency (MHz)	Result
RF average output power	2402.000	PASS
Peak Power Spectral Density	2402.000	PASS
Minimum Emission Bandwidth 6 dB	2402.000	PASS
Band Edge low	2402.000	PASS
Band Edge high	2402.000	PASS
Tx Spurious Emission	2402.000	PASS

RF average output power (2402 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2402.000000	4.5	30.0	5.8	100.000	PASS

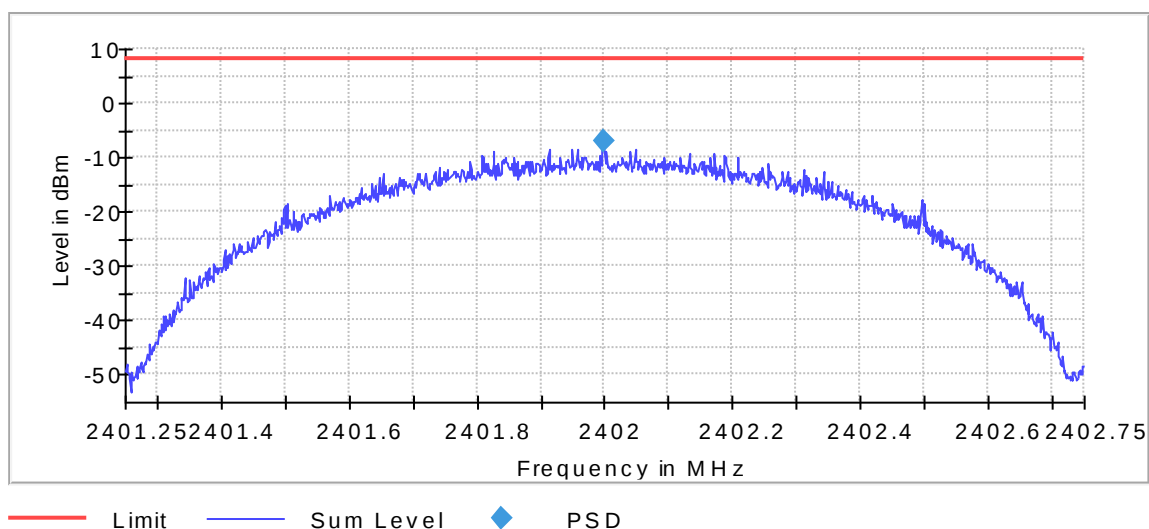
Peak Power Spectral Density (2402 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

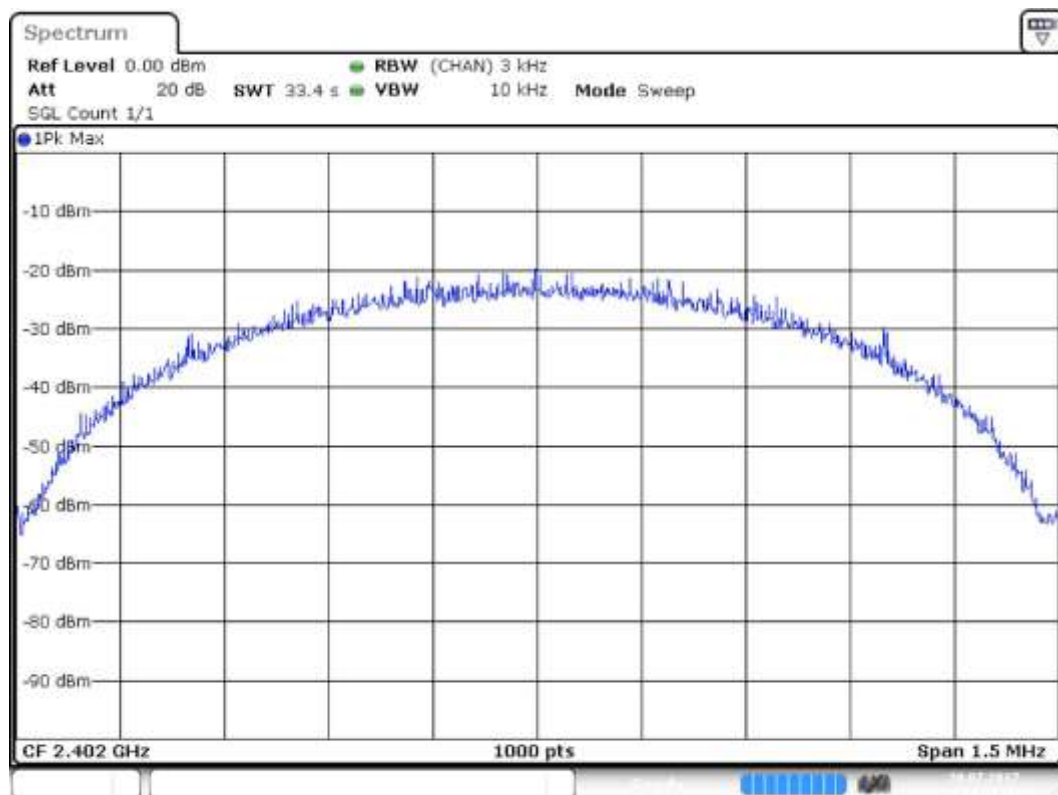
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.3 dB

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.998501	-6.814	8.0	PASS



PSD Connector 1



Date: 20 JUL 2017 14:33:45

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40125 GHz	2.40125 GHz
Stop Frequency	2.40275 GHz	2.40275 GHz
Span	1.500 MHz	1.500 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1000	~ 1000
SweepTime	33.400 s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off

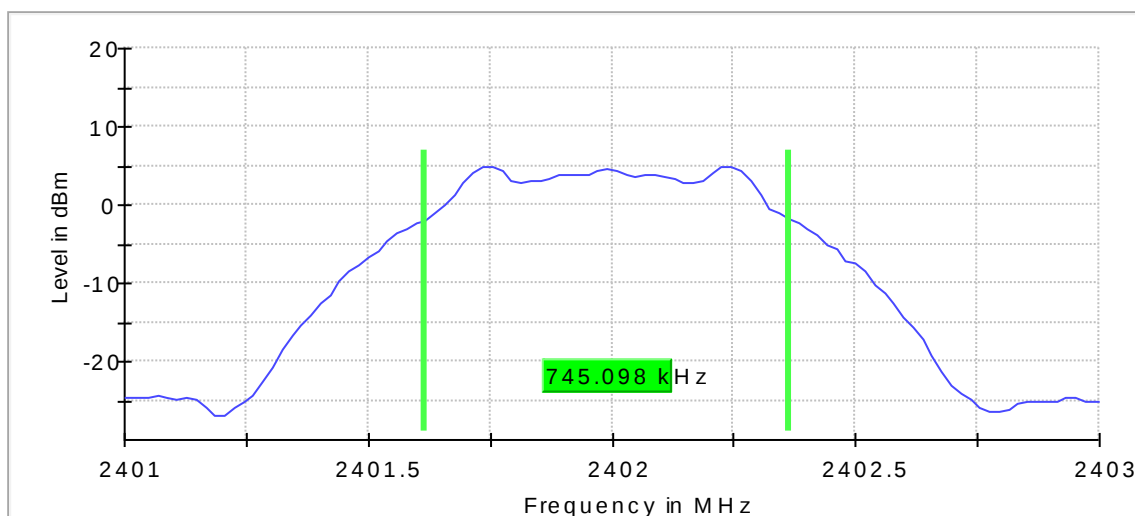
Minimum Emission Bandwidth 6 dB (2402 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 2%

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2402.000000	0.745098	0.500000	---	2401.617647	2402.362745	4.9	PASS



Bandwidth



Date: 20 JUL 2017 14:33:57

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 20
SweepTime	18.938 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	20 / max. 150	max. 150
Stable	15 / 15	15
Max Stable Difference	0.16 dB	0.50 dB

Band Edge low (2402 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

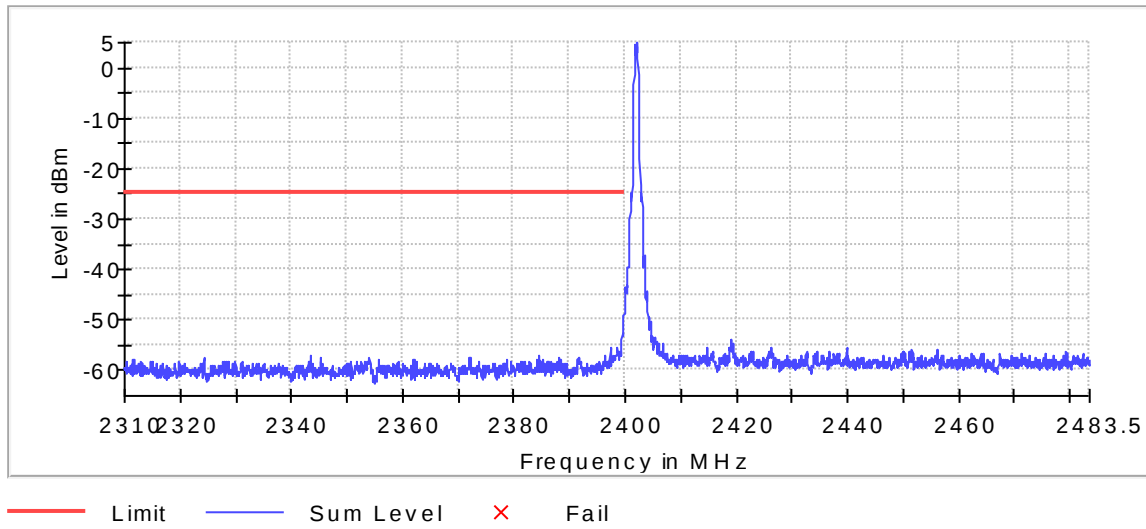
DUT Frequency (MHz)	Result
2402.000000	PASS

Inband Peak

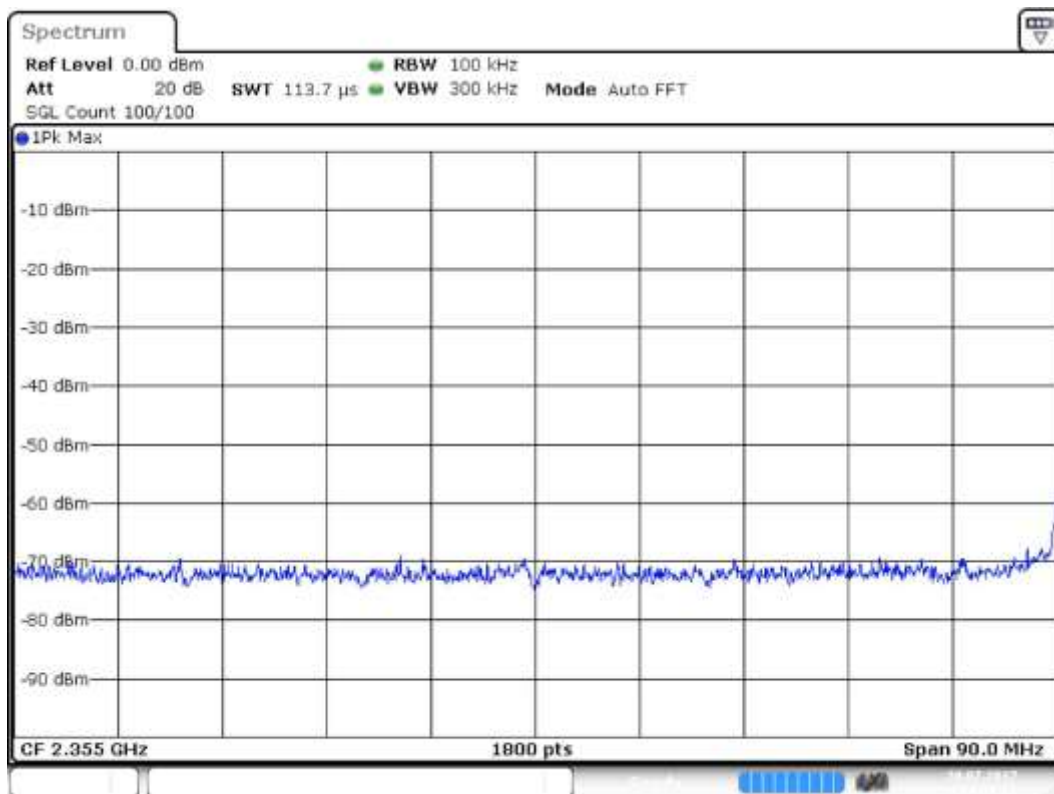
Frequency (MHz)	Level (dBm)
2402.223668	5.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.925042	-46.4	21.3	-25.0	PASS
2399.875069	-46.8	21.8	-25.0	PASS
2399.825097	-48.6	23.6	-25.0	PASS
2399.775125	-49.2	24.2	-25.0	PASS
2399.725153	-51.1	26.1	-25.0	PASS
2399.675180	-51.7	26.7	-25.0	PASS
2399.575236	-52.6	27.5	-25.0	PASS
2399.625208	-52.6	27.6	-25.0	PASS
2399.475292	-52.8	27.8	-25.0	PASS
2399.525264	-53.0	28.0	-25.0	PASS
2399.425319	-53.7	28.7	-25.0	PASS
2398.525819	-55.4	30.4	-25.0	PASS
2397.376458	-55.5	30.5	-25.0	PASS
2399.375347	-55.7	30.7	-25.0	PASS
2399.325375	-56.0	30.9	-25.0	PASS

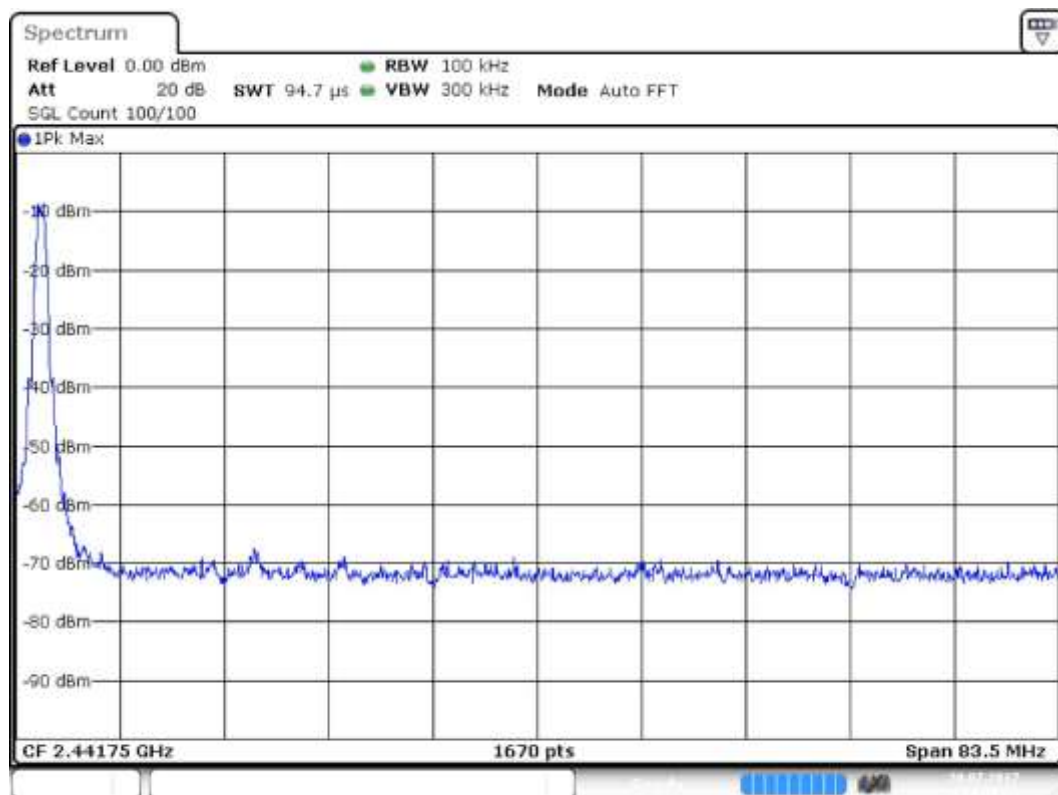


Band Edge Connector 1_0



Date: 20 JUL 2017 14:34:11

Band Edge Connector 1_1



Date: 20 JUL 2017 14:34:25

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.33 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
Sweptime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	8 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.19 dB	0.50 dB

Band Edge high (2402)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

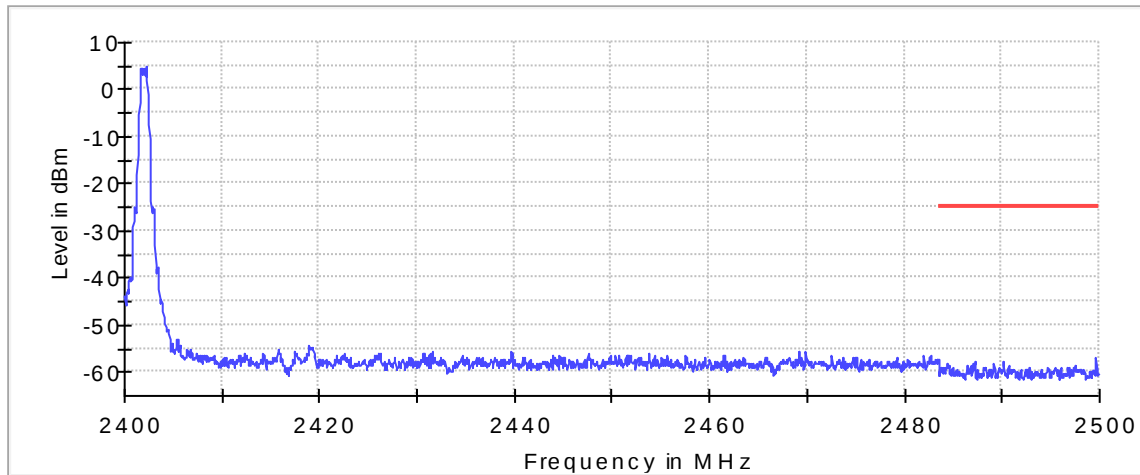
DUT Frequency (MHz)	Result
2402.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2402.223668	5.1

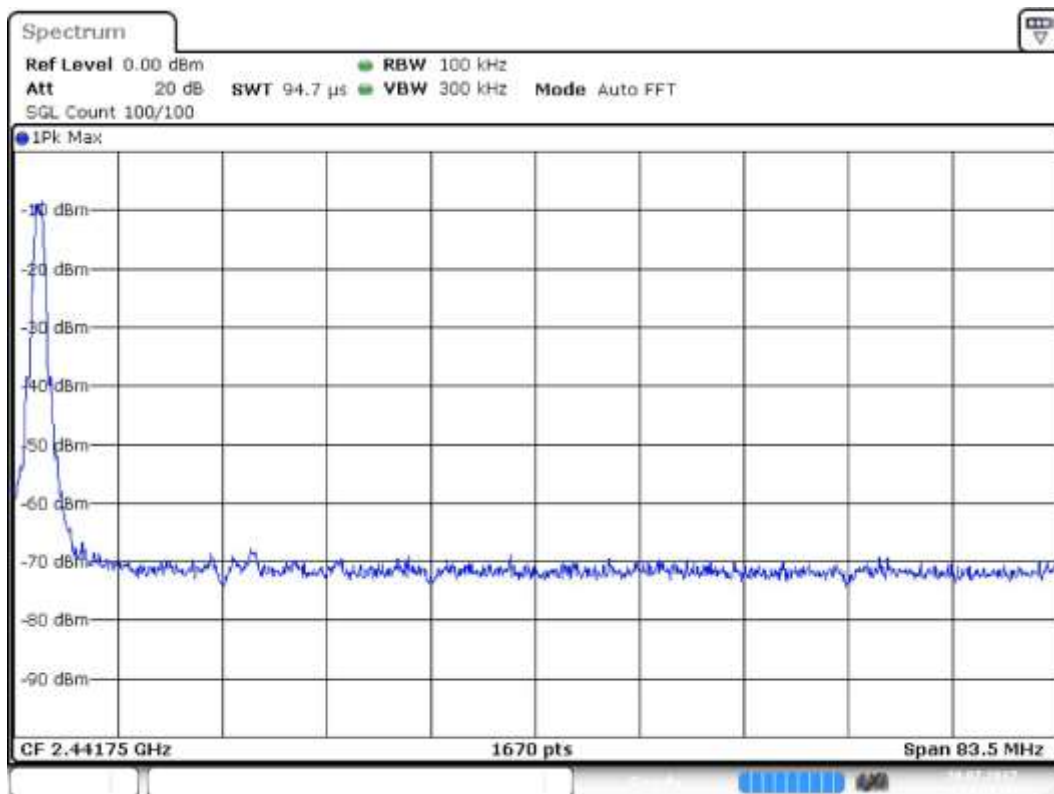
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2499.626133	-57.0	32.1	-24.9	PASS
2499.675982	-57.1	32.2	-24.9	PASS
2487.263595	-57.9	33.0	-24.9	PASS
2490.154834	-58.0	33.1	-24.9	PASS
2489.207704	-58.1	33.2	-24.9	PASS
2487.213746	-58.2	33.3	-24.9	PASS
2487.064199	-58.3	33.4	-24.9	PASS
2484.422205	-58.3	33.4	-24.9	PASS
2487.114048	-58.4	33.5	-24.9	PASS
2490.104985	-58.4	33.5	-24.9	PASS
2487.014350	-58.4	33.5	-24.9	PASS
2489.157855	-58.5	33.6	-24.9	PASS
2484.372356	-58.5	33.6	-24.9	PASS
2497.532477	-58.5	33.6	-24.9	PASS
2490.204683	-58.6	33.7	-24.9	PASS



— Limit — Sum Level × Fail

Band Edge Connector 1_0



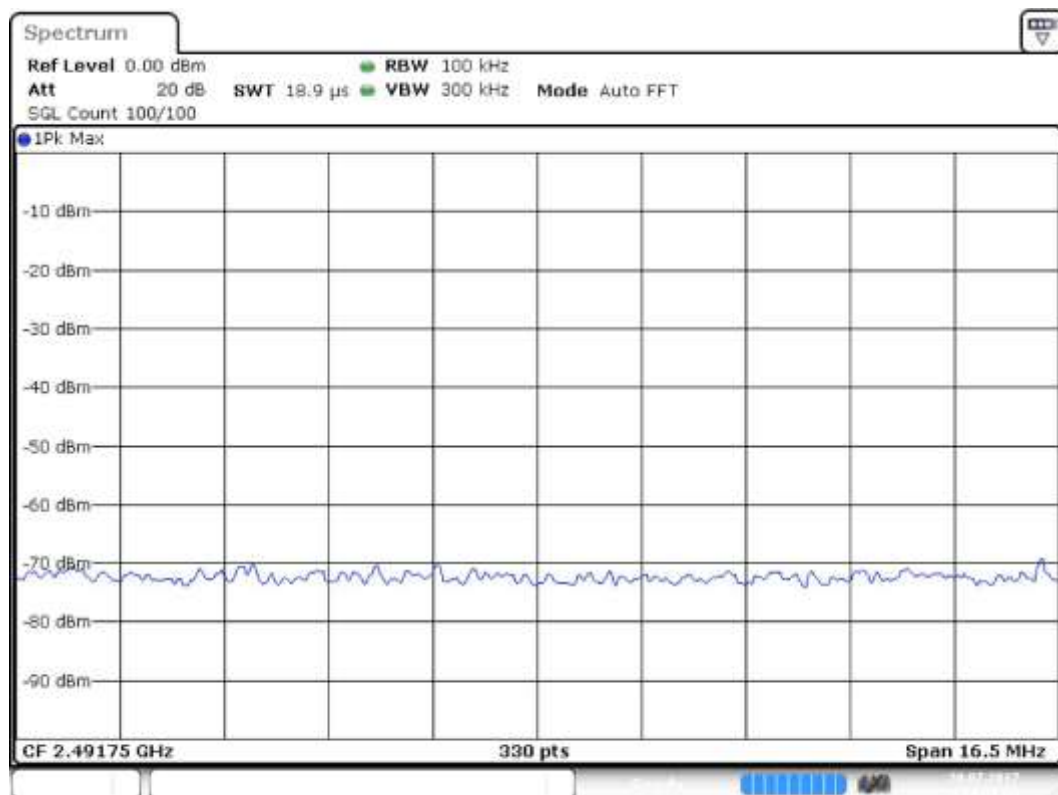
Date: 20 JUL 2017 14:34:45

Band Edge Connector 1_1



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Date: 20 JUL 2017 14:34:51

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	11 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	330	~ 330
Sweeptime	18.945 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2402)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.8 dB

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

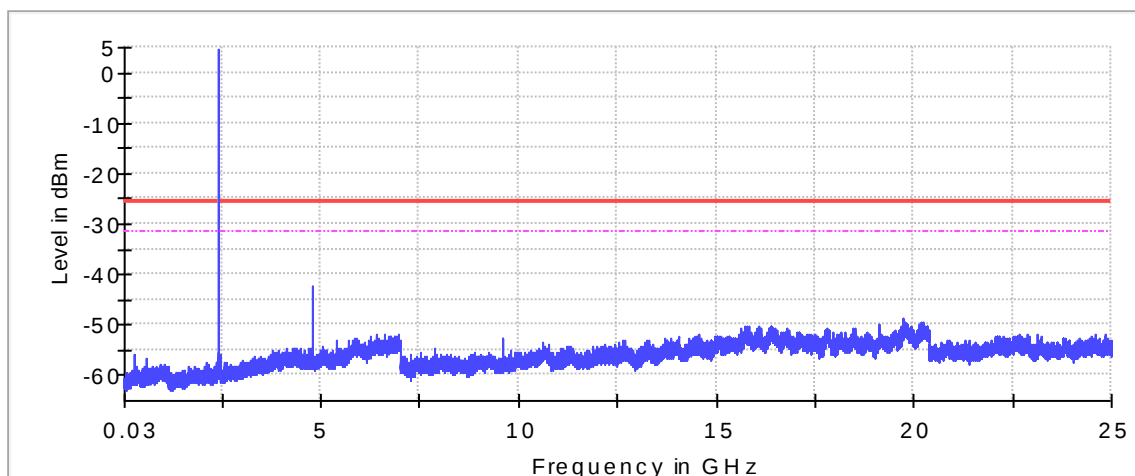
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4804.043654	-42.4	16.9	-25.5
4803.263390	-43.1	17.6	-25.5
4804.823917	-46.4	20.9	-25.5
19757.017843	-48.6	23.1	-25.5
19744.533623	-49.5	24.0	-25.5
19774.963909	-49.5	24.0	-25.5
19739.071777	-49.6	24.1	-25.5
19743.753359	-49.6	24.1	-25.5
20223.615555	-49.6	24.1	-25.5
20204.108962	-49.7	24.2	-25.5
19768.721799	-49.7	24.2	-25.5
20259.507687	-49.8	24.3	-25.5
19758.578370	-49.8	24.3	-25.5
19851.429754	-49.9	24.4	-25.5
19769.502062	-49.9	24.4	-25.5

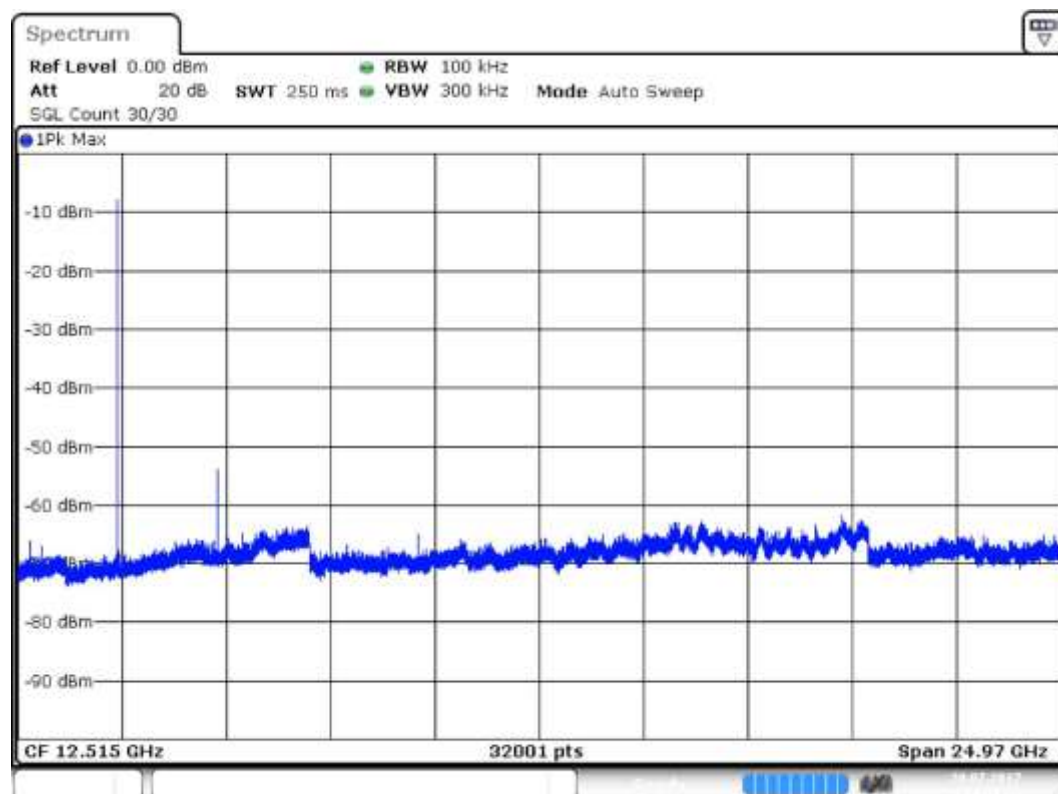
Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	25000.000000	1	1



— Limit — Sum Level - - - Threshold × Critical × Final Critical

Spurious Connector 1_0



Date: 20 JUL 2017 14:38:32

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	32001	~ 320001
Sweeptime	250.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 10	max. 10
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Summary (2440MHz, Channel 19)

Test	Frequency (MHz)	Result
RF average output power	2440.000	PASS
Peak Power Spectral Density	2440.000	PASS
Minimum Emission Bandwidth 6 dB	2440.000	PASS
Band Edge low	2440.000	PASS
Band Edge high	2440.000	PASS
Tx Spurious Emission	2440.000	PASS

RF average output power (2440 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2440.000000	4.4	30.0	5.7	100.000	PASS

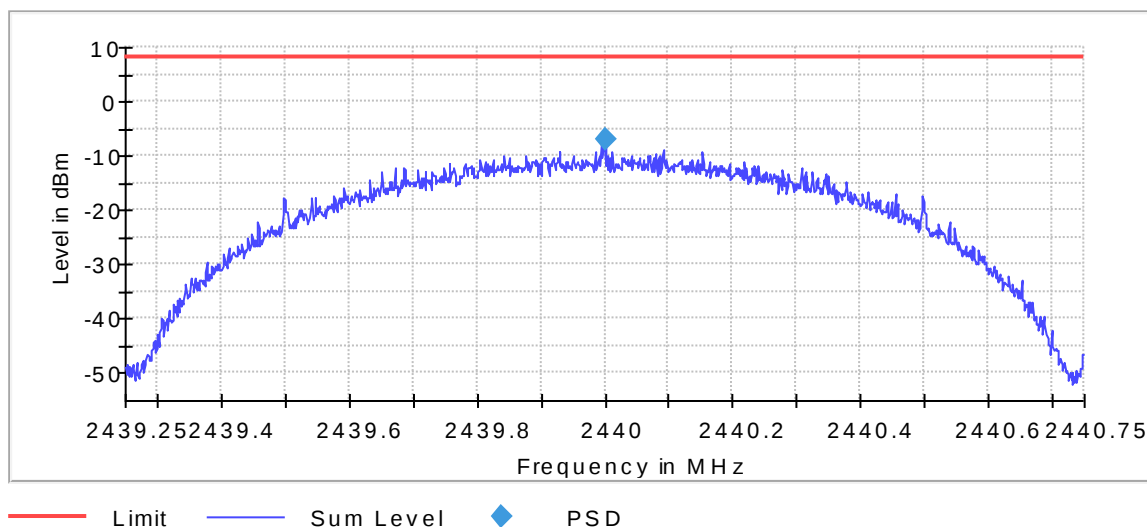
Peak Power Spectral Density (2440 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

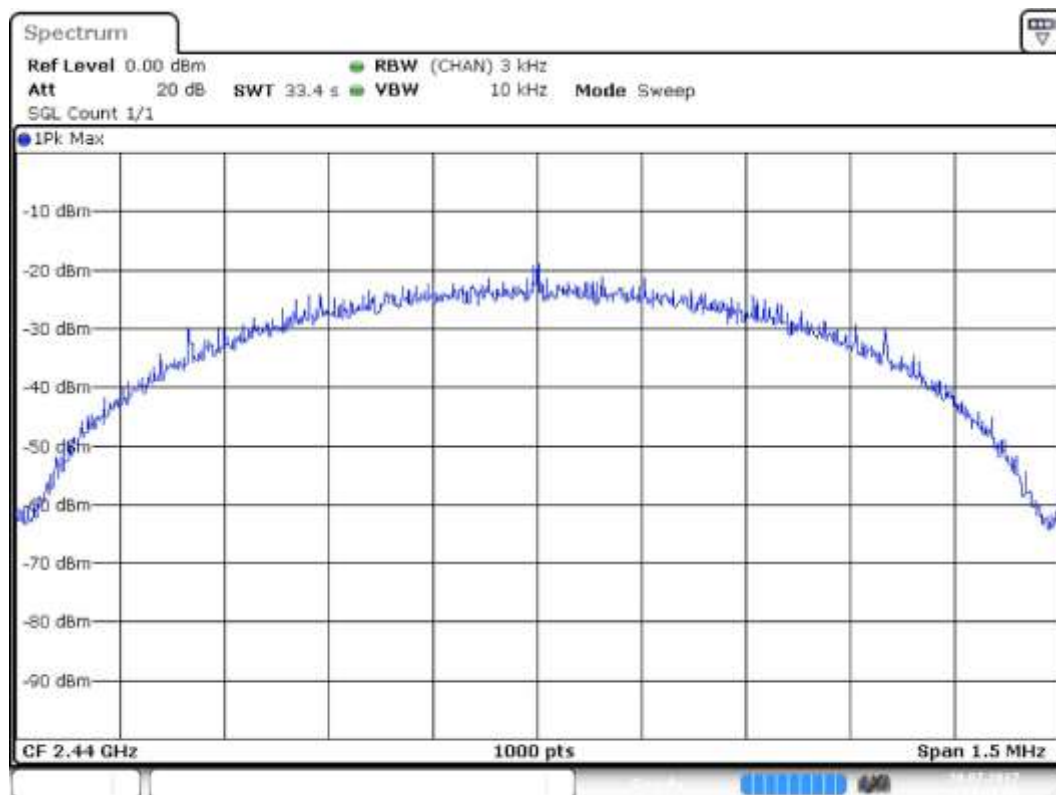
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.3 dB

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2440.000000	2440.001499	-6.835	8.0	PASS



PSD Connector 1



Date: 20 JUL 2017 13:41:00

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43925 GHz	2.43925 GHz
Stop Frequency	2.44075 GHz	2.44075 GHz
Span	1.500 MHz	1.500 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1000	~ 1000
SweepTime	33.400 s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off

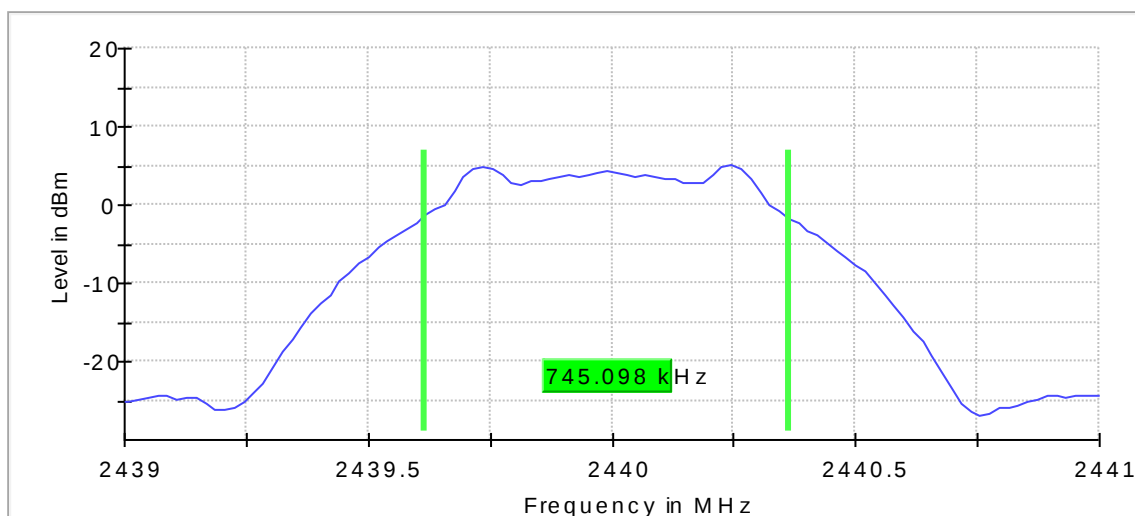
Minimum Emission Bandwidth 6 dB (2440 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 2%

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2440.000000	0.745098	0.500000	---	2439.617647	2440.362745	5.0	PASS



Bandwidth



Date: 20 JUL 2017 13:41:14

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43900 GHz	2.43900 GHz
Stop Frequency	2.44100 GHz	2.44100 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 20
SweepTime	18.938 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	28 / max. 150	max. 150
Stable	15 / 15	15
Max Stable Difference	0.18 dB	0.50 dB

Band Edge low (2440 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

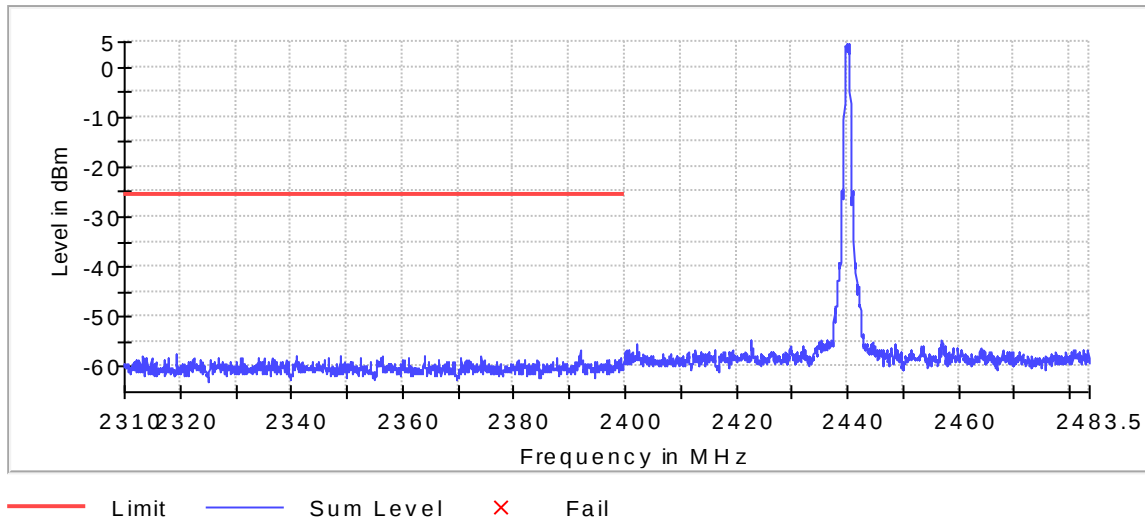
DUT Frequency (MHz)	Result
2440.000000	PASS

Inband Peak

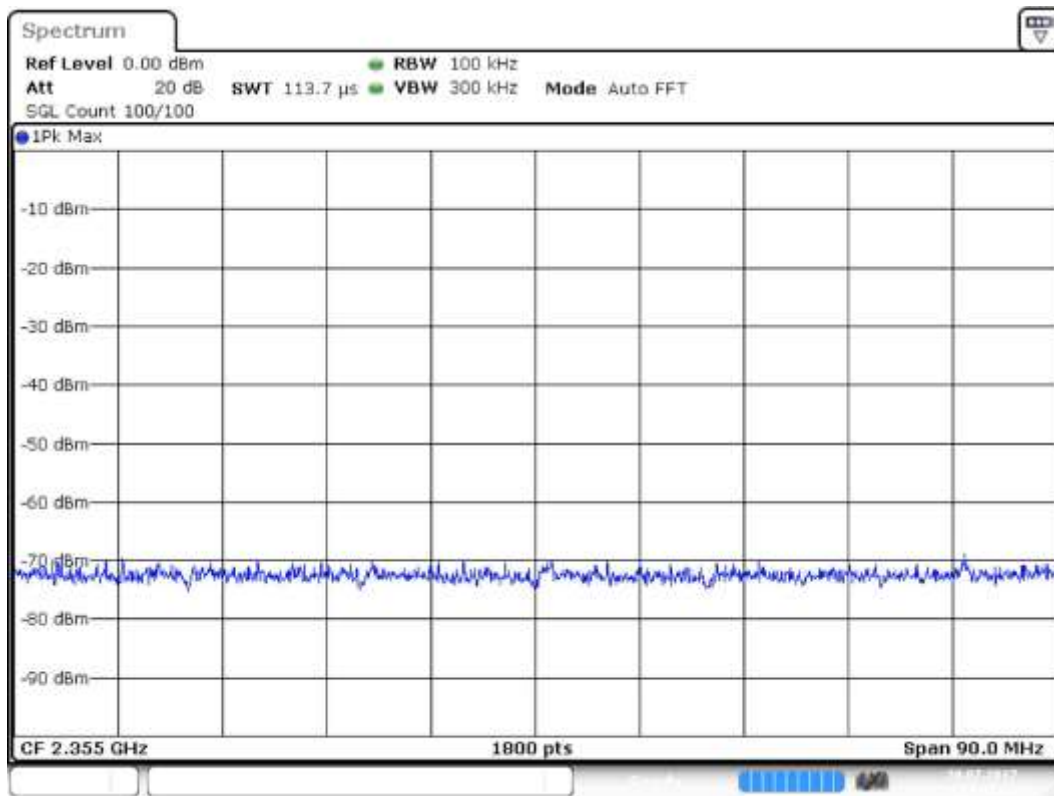
Frequency (MHz)	Level (dBm)
2439.951077	4.5

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2391.979456	-56.7	31.2	-25.5	PASS
2391.929484	-56.8	31.3	-25.5	PASS
2319.369795	-57.4	31.9	-25.5	PASS
2319.319822	-57.6	32.0	-25.5	PASS
2391.829539	-57.7	32.1	-25.5	PASS
2363.995003	-57.7	32.2	-25.5	PASS
2363.945031	-57.7	32.2	-25.5	PASS
2313.323154	-57.7	32.2	-25.5	PASS
2313.373126	-57.8	32.2	-25.5	PASS
2348.753470	-57.9	32.3	-25.5	PASS
2392.029428	-57.9	32.4	-25.5	PASS
2356.299278	-57.9	32.4	-25.5	PASS
2374.239311	-58.0	32.4	-25.5	PASS
2340.857857	-58.0	32.4	-25.5	PASS
2374.189339	-58.0	32.5	-25.5	PASS



Band Edge Connector 1_0



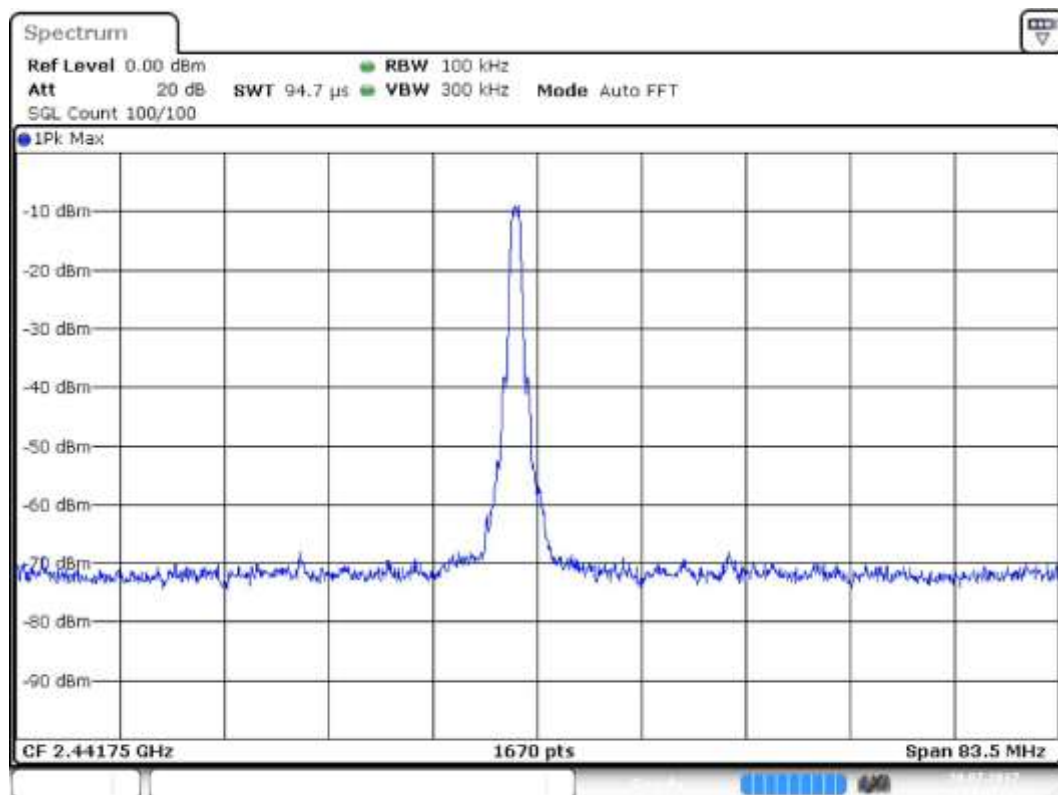
Date: 20 JUL 2017 13:41:26

Band Edge Connector 1_1



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS
One Distribution Center Circle, #1 • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828





Date: 20 JUL 2017 13:41:38

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
Sweptime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.14 dB	0.50 dB

Band Edge high (2440 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

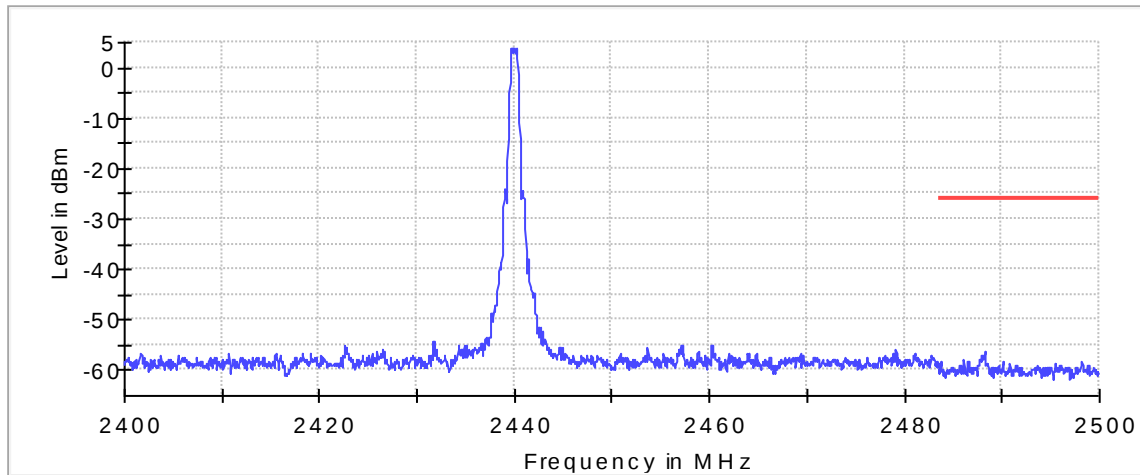
DUT Frequency (MHz)	Result
2440.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2440.250898	4.0

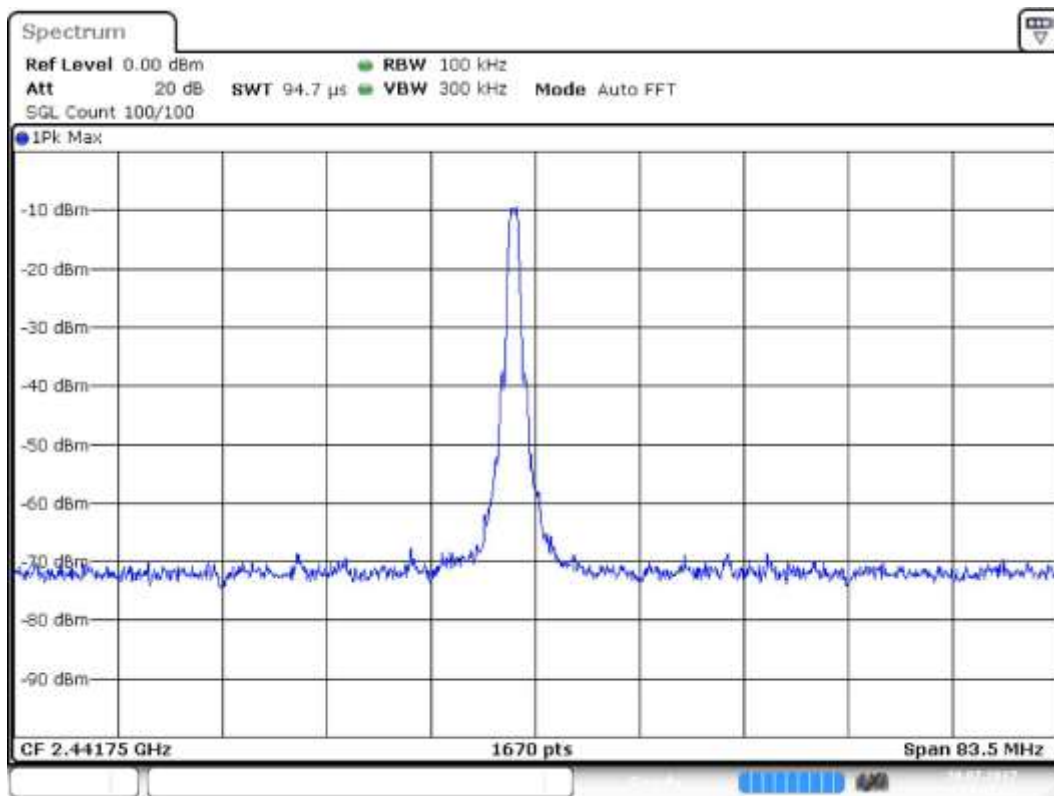
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2488.260574	-56.3	30.3	-26.0	PASS
2488.210725	-56.8	30.8	-26.0	PASS
2488.310423	-56.9	30.9	-26.0	PASS
2488.011329	-57.1	31.1	-26.0	PASS
2487.961480	-57.2	31.2	-26.0	PASS
2488.111027	-57.5	31.5	-26.0	PASS
2488.061178	-57.6	31.6	-26.0	PASS
2487.911631	-57.7	31.7	-26.0	PASS
2486.067221	-57.7	31.7	-26.0	PASS
2487.762085	-57.8	31.8	-26.0	PASS
2486.117069	-57.9	31.9	-26.0	PASS
2487.811934	-57.9	31.9	-26.0	PASS
2488.160876	-58.0	32.0	-26.0	PASS
2498.230363	-58.2	32.2	-26.0	PASS
2487.861782	-58.2	32.2	-26.0	PASS



— Limit — Sum Level × Fail

Band Edge Connector 1_0



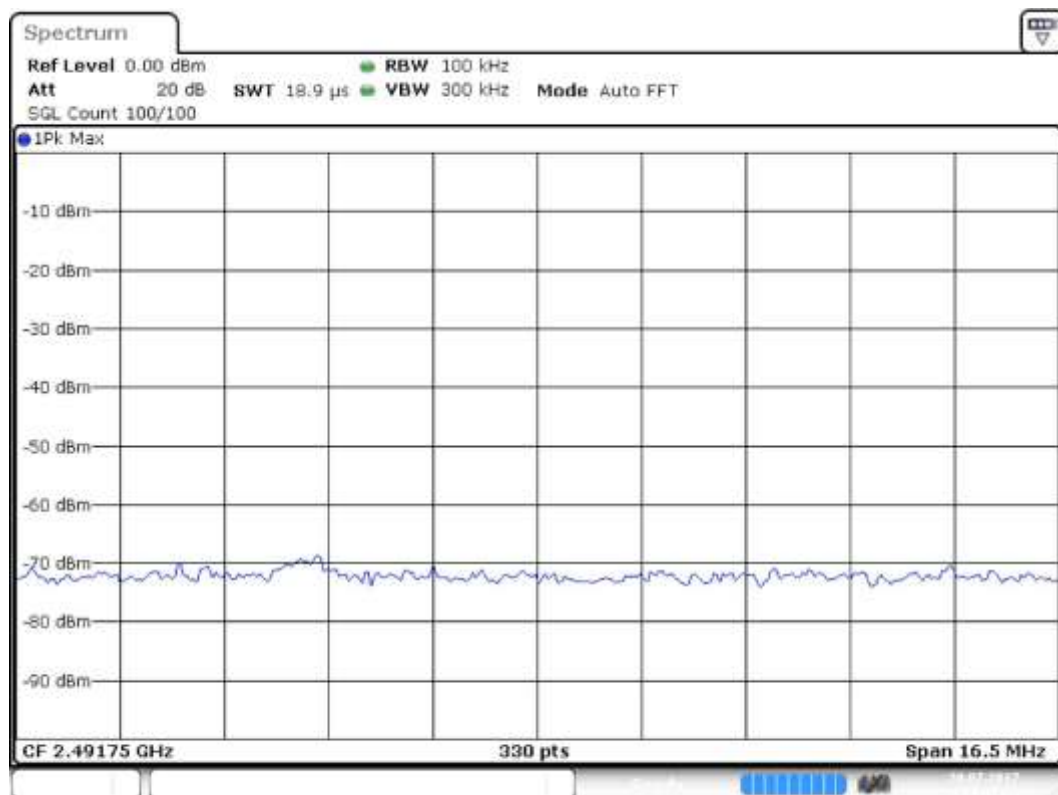
Date: 20 JUL 2017 13:41:52

Band Edge Connector 1_1



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS
One Distribution Center Circle, #1 • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828





Date: 20 JUL 2017 13:41:57

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.40 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	330	~ 330
Sweptime	18.945 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2440 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.8 dB

Result

DUT Frequency (MHz)	Result
2440.000000	PASS

Final measurements

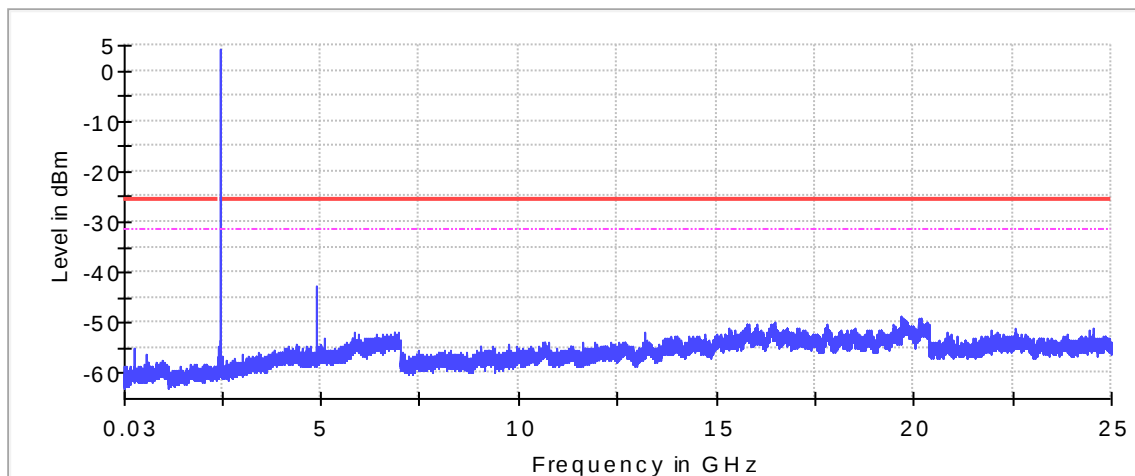
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4879.729236	-42.7	17.0	-25.7
4880.509499	-43.3	17.6	-25.7
4878.948972	-45.4	19.8	-25.7
19703.959909	-48.8	23.1	-25.7
20112.818105	-49.0	23.3	-25.7
19734.390194	-49.2	23.5	-25.7
20169.777358	-49.3	23.6	-25.7
19774.963909	-49.4	23.7	-25.7
19755.457315	-49.4	23.8	-25.7
19783.546810	-49.5	23.8	-25.7
20172.898413	-49.7	24.0	-25.7
20347.677489	-49.7	24.0	-25.7
19744.533623	-49.7	24.0	-25.7
19768.721799	-49.8	24.1	-25.7
19778.084963	-49.8	24.1	-25.7

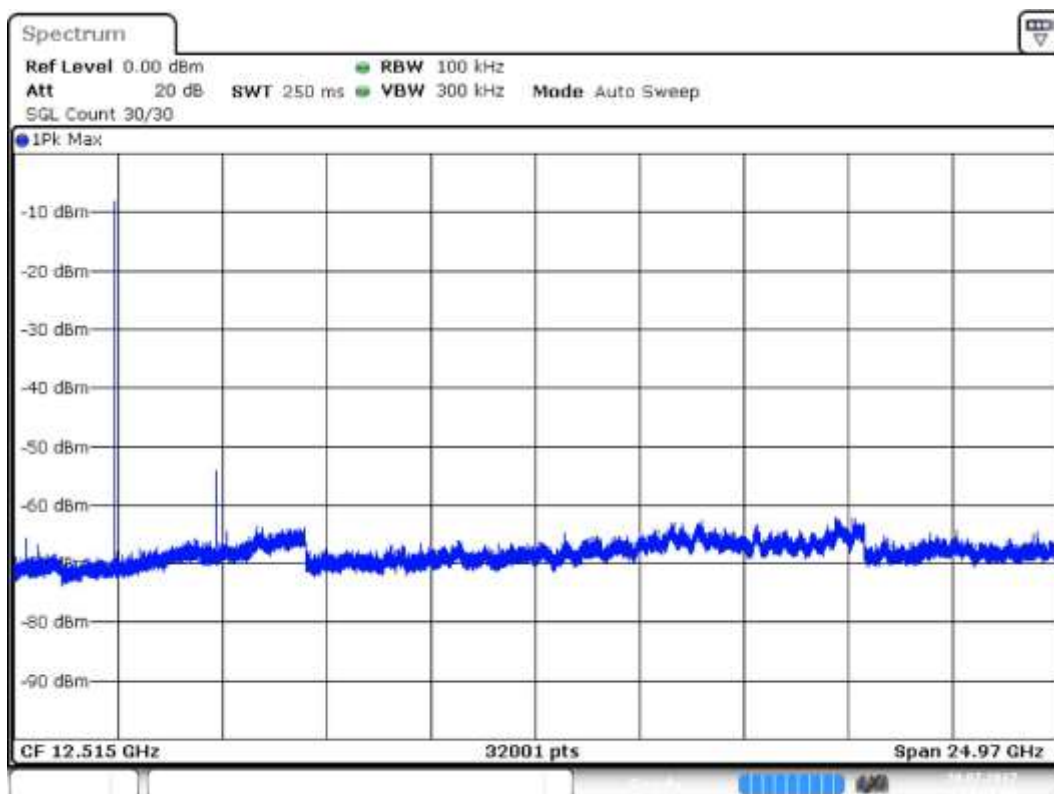
Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	25000.000000	1	1



— Limit — Sum Level - - - Threshold × Critical × Final Critical

Spurious Connector 1_0



Date: 20 JUL 2017 13:46:41

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	32001	~ 320001
Sweeptime	250.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	8 / max. 10	max. 10
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Summary (2480MHz, Channel 39)

Test	Frequency (MHz)	Result
RF average output power	2480.000	PASS
Peak Power Spectral Density	2480.000	PASS
Minimum Emission Bandwidth 6 dB	2480.000	PASS
Band Edge low	2480.000	PASS
Band Edge high	2480.000	PASS
Tx Spurious Emission	2480.000	PASS

RF average output power (2480 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2480.000000	4.2	30.0	5.5	100.000	PASS

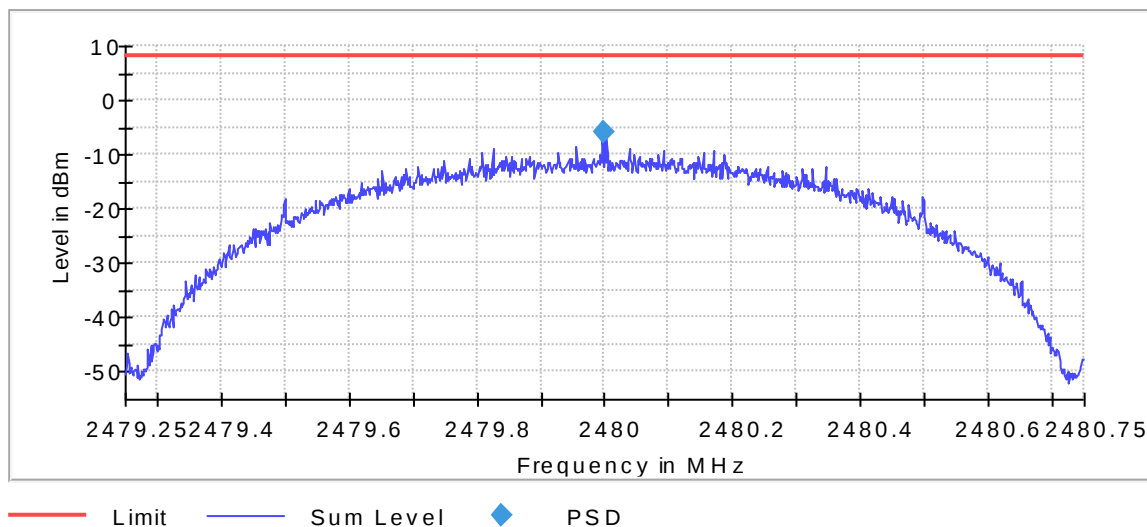
Peak Power Spectral Density (2480 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

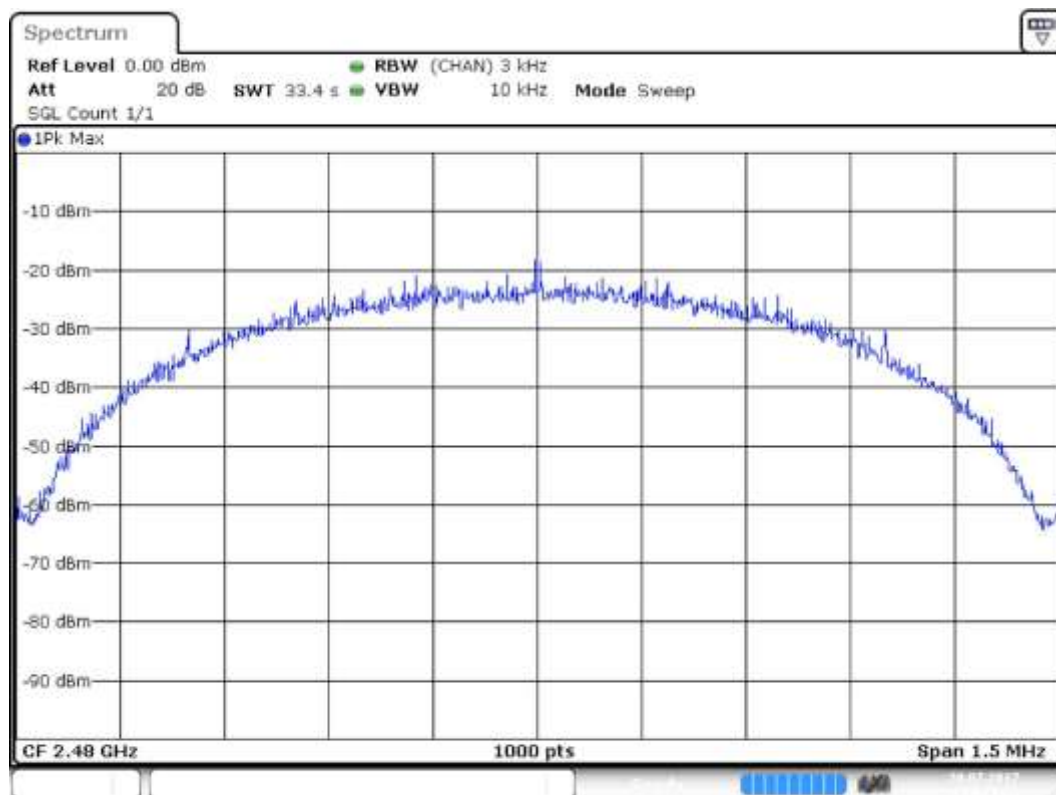
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.3 dB

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2480.000000	-5.993	8.0	PASS



PSD Connector 1



Date: 20 JUL 2017 14:19:29

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47925 GHz	2.47925 GHz
Stop Frequency	2.48075 GHz	2.48075 GHz
Span	1.500 MHz	1.500 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1000	~ 1000
SweepTime	33.400 s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off

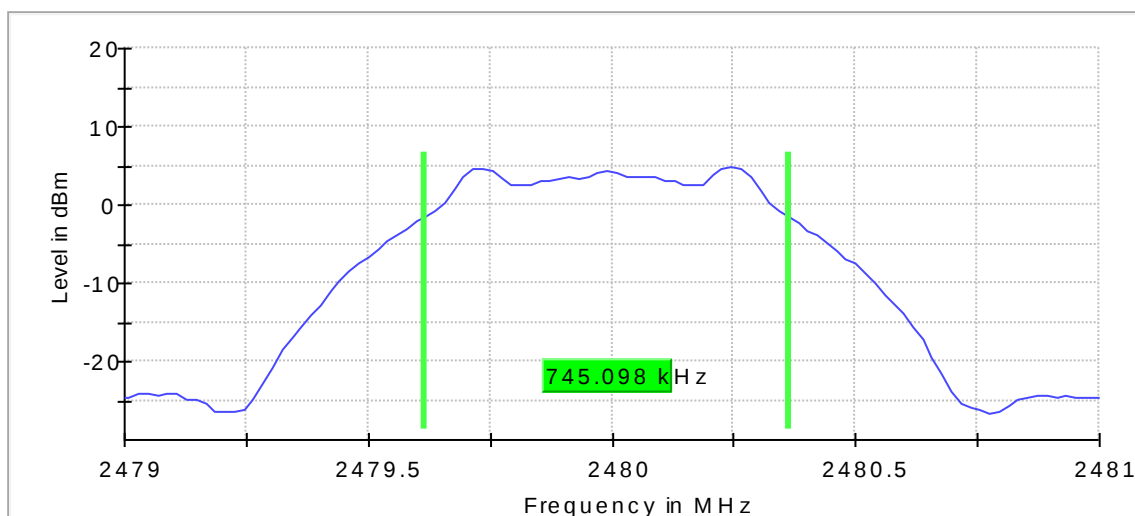
Minimum Emission Bandwidth 6 dB (2480 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 2%

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2480.000000	0.745098	0.500000	---	2479.617647	2480.362745	4.8	PASS



Bandwidth



Date: 20 JUL 2017 14:19:42

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 20
SweepTime	18.938 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150
Stable	15 / 15	15
Max Stable Difference	0.00 dB	0.50 dB

Band Edge low (2480 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

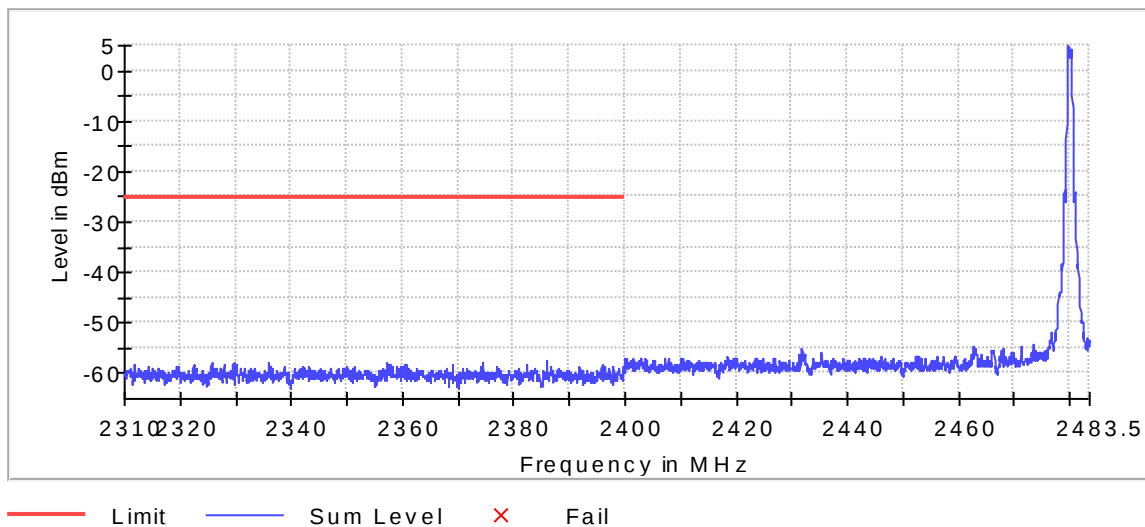
DUT Frequency (MHz)	Result
2480.000000	PASS

Inband Peak

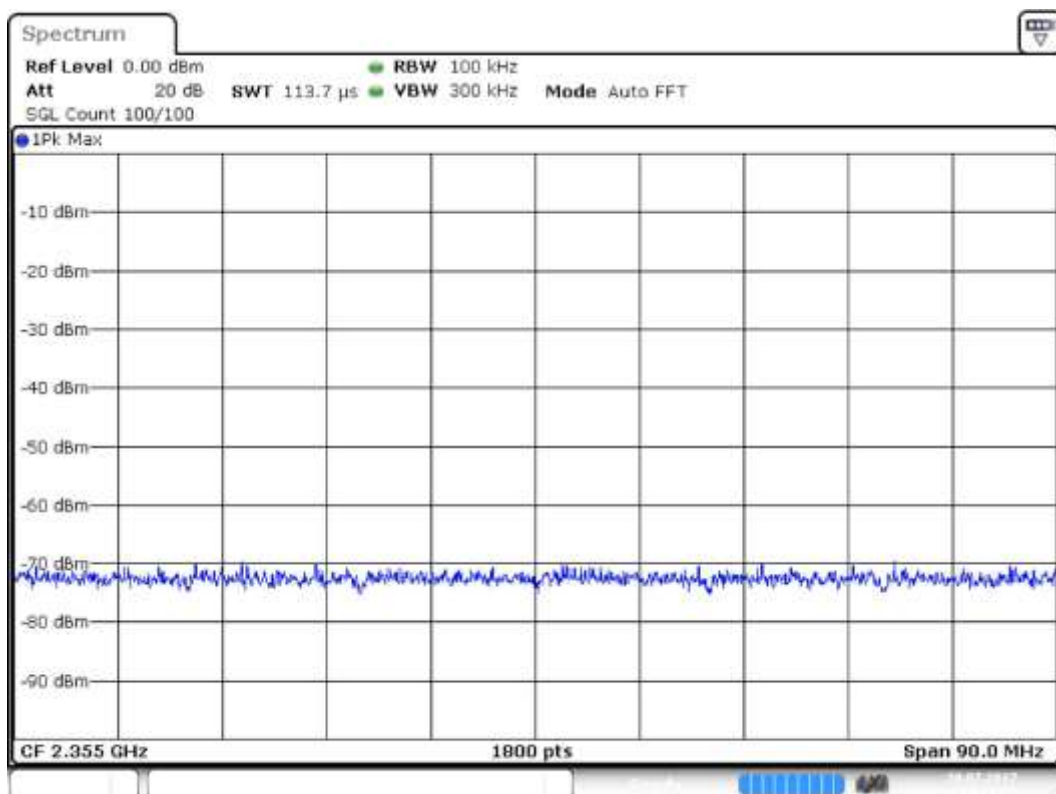
Frequency (MHz)	Level (dBm)
2479.677289	4.8

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2385.882843	-57.4	32.3	-25.2	PASS
2385.932815	-57.6	32.4	-25.2	PASS
2329.664076	-57.6	32.5	-25.2	PASS
2336.010550	-57.8	32.6	-25.2	PASS
2336.060522	-57.8	32.7	-25.2	PASS
2325.716269	-57.9	32.7	-25.2	PASS
2325.666297	-57.9	32.8	-25.2	PASS
2374.539145	-57.9	32.8	-25.2	PASS
2357.298723	-58.0	32.8	-25.2	PASS
2374.489173	-58.0	32.8	-25.2	PASS
2329.614103	-58.1	33.0	-25.2	PASS
2395.877290	-58.2	33.0	-25.2	PASS
2382.384786	-58.2	33.0	-25.2	PASS
2357.698501	-58.2	33.0	-25.2	PASS
2369.042199	-58.2	33.1	-25.2	PASS



Band Edge Connector 1_0



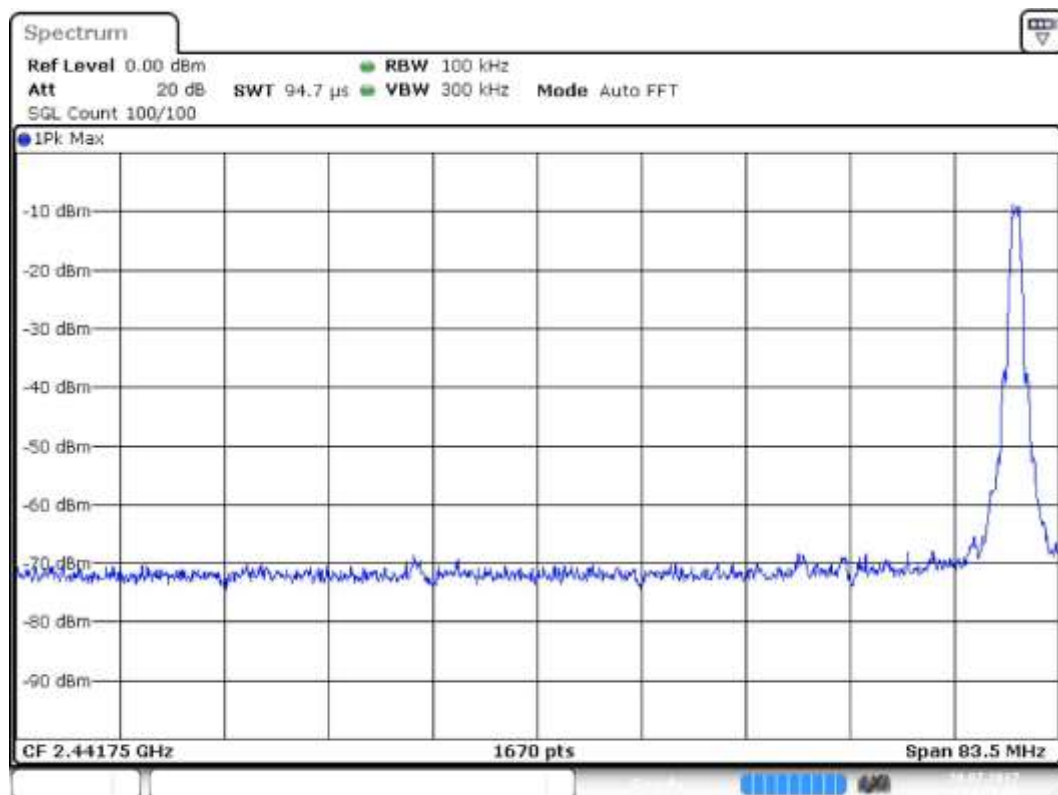
Date: 20 JUL 2017 14:19:55

Band Edge Connector 1_1



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS
One Distribution Center Circle, #1 • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828





Date: 20 JUL 2017 14:20:09

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	113.672 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
Sweeptime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	8 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.16 dB	0.50 dB

Band Edge high (2480 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 0.8 dB

Result

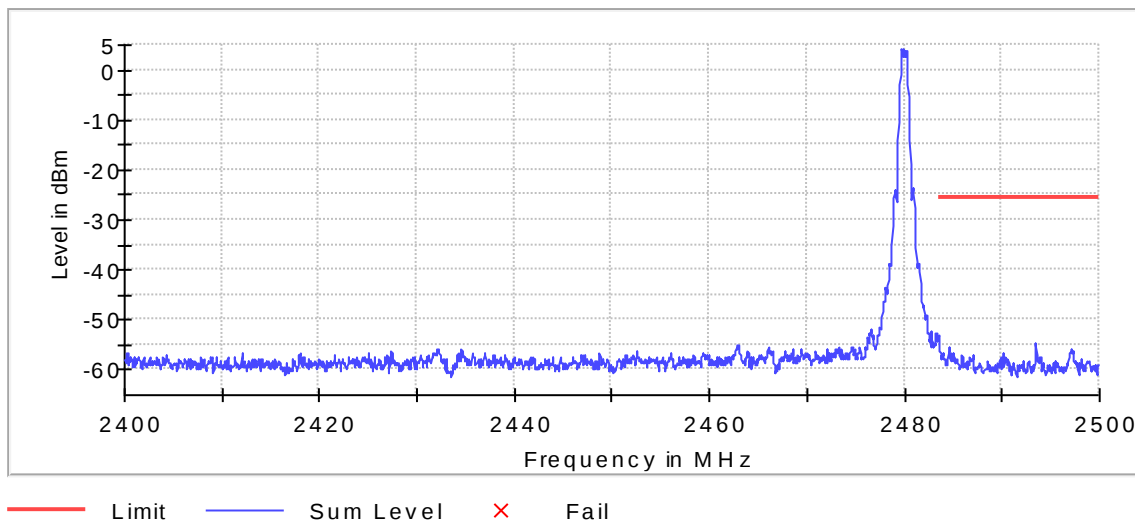
DUT Frequency (MHz)	Result
2480.000000	PASS

Inband Peak

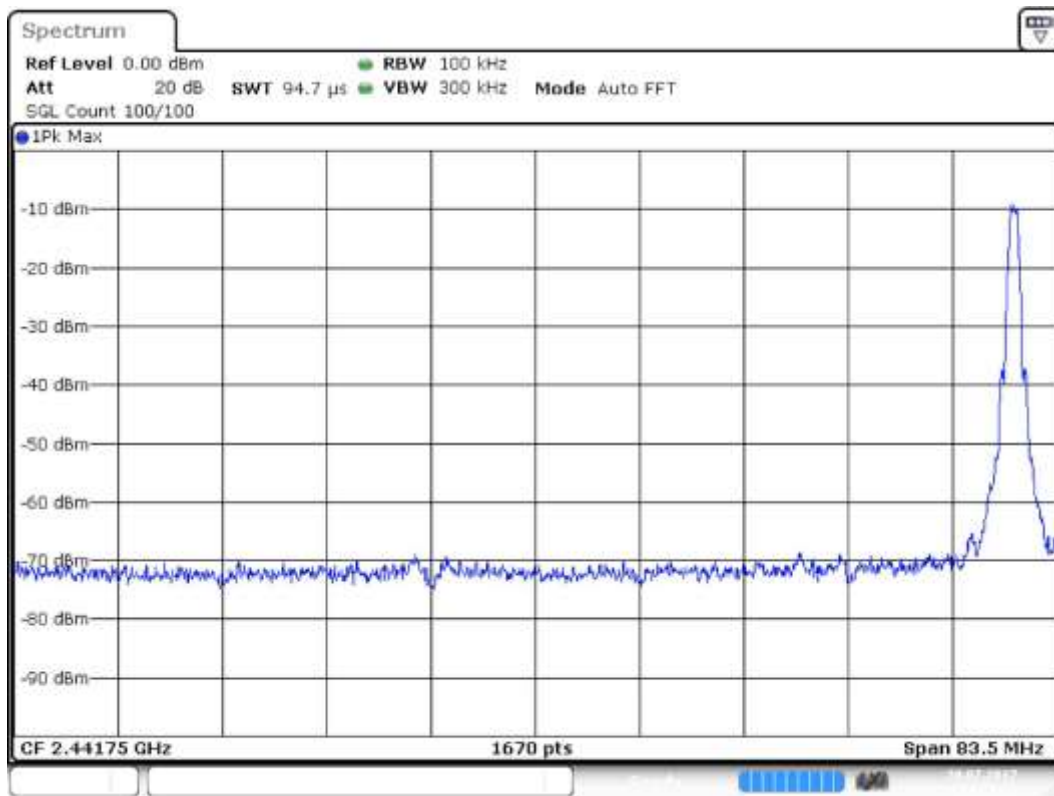
Frequency (MHz)	Level (dBm)
2479.927139	4.4

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.524924	-54.2	28.6	-25.6	PASS
2483.624622	-54.6	28.9	-25.6	PASS
2483.574773	-54.7	29.0	-25.6	PASS
2493.444864	-54.8	29.2	-25.6	PASS
2493.494713	-54.9	29.2	-25.6	PASS
2484.571752	-55.6	30.0	-25.6	PASS
2484.621601	-55.7	30.1	-25.6	PASS
2497.083837	-56.0	30.4	-25.6	PASS
2497.133686	-56.0	30.4	-25.6	PASS
2483.674471	-56.1	30.4	-25.6	PASS
2497.033988	-56.4	30.8	-25.6	PASS
2497.333082	-56.4	30.8	-25.6	PASS
2484.521903	-56.4	30.8	-25.6	PASS
2497.183535	-56.5	30.9	-25.6	PASS
2497.283233	-56.6	30.9	-25.6	PASS

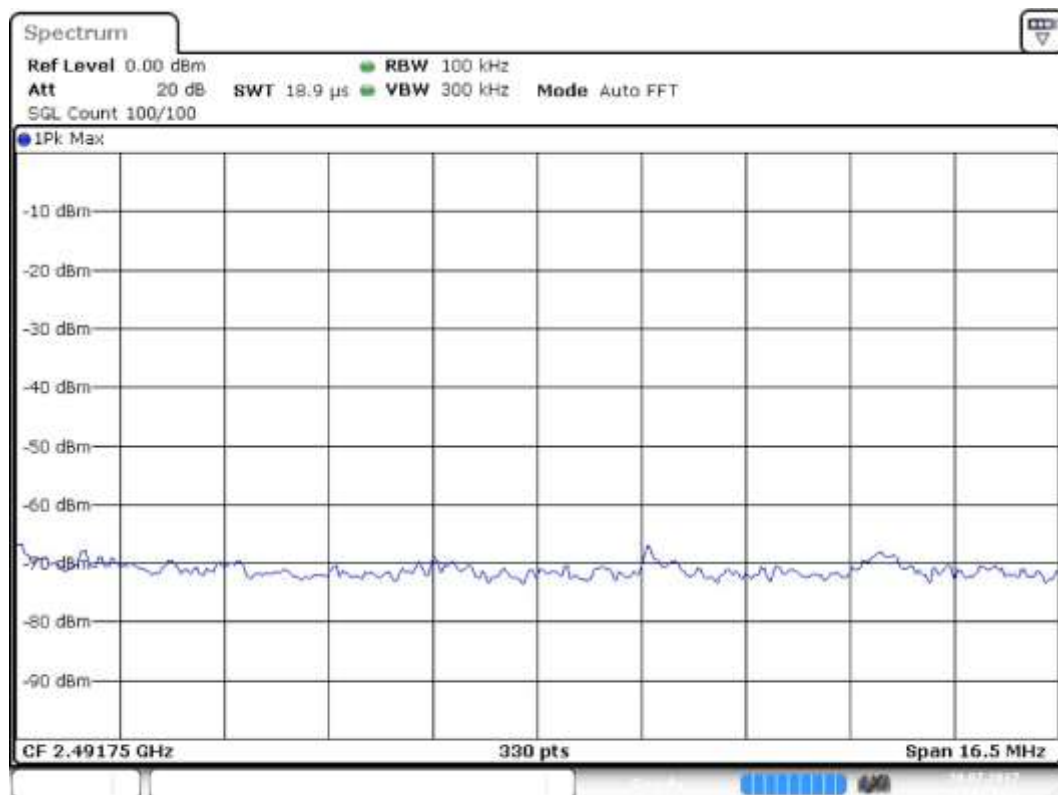


Band Edge Connector 1_0



Date: 20 JUL 2017 14:20:23

Band Edge Connector 1_1



Date: 20 JUL 2017 14:20:29

Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	94.727 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.21 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	330	~ 330
Sweeptime	18.945 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2480 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Uncertainty (K=2) < 1.8 dB

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

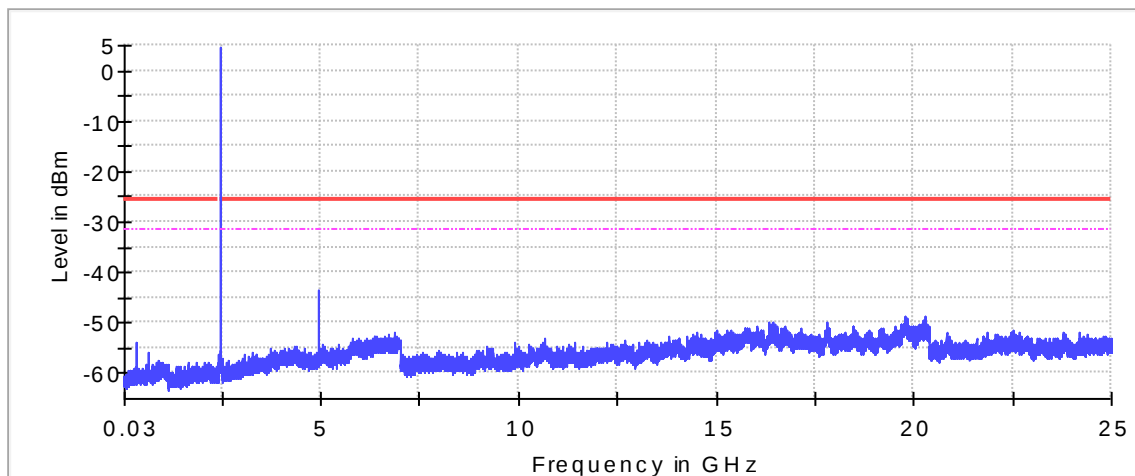
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4960.096400	-43.7	18.1	-25.6
4959.316136	-44.1	18.5	-25.6
19777.304700	-48.6	23.0	-25.6
20292.278764	-48.7	23.1	-25.6
19822.559996	-49.1	23.5	-25.6
20224.395819	-49.5	24.0	-25.6
20295.399819	-49.7	24.1	-25.6
4960.876664	-49.8	24.2	-25.6
20300.081401	-49.8	24.2	-25.6
16347.265327	-49.8	24.2	-25.6
19776.524436	-49.8	24.2	-25.6
19773.403381	-49.9	24.3	-25.6
16436.215393	-50.0	24.4	-25.6
19798.371821	-50.0	24.4	-25.6
19771.062590	-50.0	24.4	-25.6

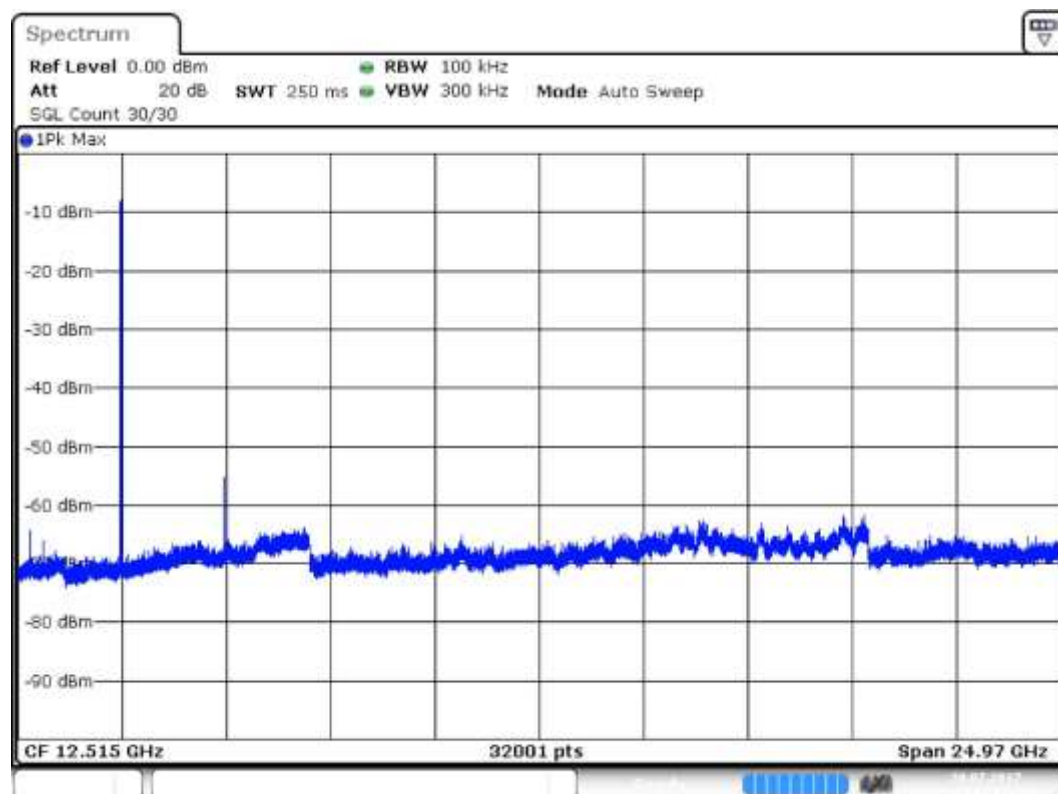
Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	25000.000000	1	1



— Limit — Sum Level - - - Threshold × Critical × Final Critical

Spurious Connector 1_0



Date: 20 JUL 2017 14:24:38

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	32001	~ 320001
Sweeptime	250.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 10	max. 10
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Conditions Of Testing

[Bureau Veritas Consumer Products Services, Inc., a Massachusetts corporation], and/or its affiliates (collectively, the "Company") will conduct, at the request of the Submitter ("Client"), the tests specified on the submitted Test Request Form or equivalent in accordance with, and subject to, the following terms and conditions (collectively, "Conditions"):

1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless and until such order is accepted by it, as evidenced by the issuance of a written report ("Test Report") by the Company. The Test Report is issued solely by the Company, is intended for the exclusive use of Client and shall not be published, used for advertising purposes, copied or replicated for distribution to any other person or entity or otherwise publicly disclosed without the prior written consent of the Company. By submitting a request for services to the Company, Client consents to the disclosure to accreditation bodies of those records of Client relevant to the accreditation body's assessment of the Company's competence and compliance with relevant accreditation criteria. The Company shall not be liable for any loss or damage whatsoever resulting from the failure of the Company to provide its services within any time period for completion estimated by the Company. If Client anticipates using the Test Report in any legal proceeding, arbitration, dispute resolution forum or other proceeding, it shall so notify the Company prior to submitting the Test Report in such proceeding. The Company has no obligation to provide a fact or expert witness at such proceeding unless the Company agrees in advance to do so for a separate and additional fee.
2. The Test Report will set forth the findings of the Company solely with respect to the test samples identified therein. Unless specifically and expressly indicated in the Test Report, the results set forth in such Test Report are not intended to be indicative or representative of the quality or characteristics of the lot from which a test sample is taken, and Client shall not rely upon the Test Report as being so indicative or representative of the lot or of the tested product in general. The Test Report will reflect the findings of the Company at the time of testing only, and the Company shall have no obligation to update the Test Report after its issuance. The Test Report will set forth the results of the tests performed by the Company based upon the written information provided to the Company. The Test Report will be based solely on the samples and written information submitted to the Company by Client, and the Company shall not be obligated to conduct any independent investigation or inquiry with respect thereto.
3. The Company may, in its sole discretion, destroy samples which have been furnished to the Company for testing and which have not been destroyed in the course of testing. The Company may delegate the performance of all or a portion of the services contemplated hereunder to an affiliate, agent or subcontractor of the Company, and Client consents to such delegation.
4. These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof and of the Test Report, and no modification, variance or extrapolation with respect thereto shall be permitted without the prior written consent of the Company.
5. The names, service marks, trademarks and copyrights of the Company and its affiliates, including the names **"BUREAU VERITAS," "BUREAU VERITAS CONSUMER PRODUCTS SERVICES," "BVCPS," "MTL," "ACTS," "MTL-ACTS" and CURTIS-STRAUS** (collectively, the "Marks") are and shall remain the sole property of the Company or its affiliates and shall not be used by Client except solely to the extent that Client obtains the prior written approval of the Company and then only in the manner prescribed by the Company. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of the Company or its affiliates.
6. Payment in full shall be due 30 days after the date of invoice. Interest shall be due on overdue amounts from the due date until paid at an interest rate of 1.5% per month or, if less, the maximum rate permitted by law. The Company reserves the right, at any time and from time to time, to revoke any credit extended to Client. Client shall reimburse the Company for any costs it incurs in collecting past due amounts, including court costs and fees and expenses of attorneys and collection agencies. The Test Report may not be used or relied upon by Client if and for so long as Client fails to pay when due any invoice issued by the Company or any affiliate of it to Client or any affiliate or subsidiary of Client together with interest and penalties, if any, accrued thereon.
7. The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
8. Client understands and agrees that the Company is neither an insurer nor a guarantor, that the Company does not take the place of Client or any designer, manufacturer, agent, buyer, distributor or transportation or shipping company, and that the Company disclaims all liability in such capacities. Client further understands that if it seeks assurance against loss or damage, it should obtain appropriate insurance.
9. Client agrees that the Company, by providing the services, does not take the place of Client nor any third party, nor does the Company release them from any of their obligations, nor does the Company otherwise assume, abridge, abrogate or undertake to discharge any duty of any third party to Client or any duty of Client or any third party to any other third party, and Client will not release any third party from its obligations and duties with respect to the tested goods.
10. Client shall, on a timely basis, (a) provide adequate instructions to the Company in order to enable the Company to perform properly its services, (b) provide, or cause Client's suppliers and contractors to provide, the Company with all documents necessary to enable the Company to perform its services, (c) furnish the Company with all relevant information regarding Client's intended use and purposes of the tested goods, (d) advise the Company of essential dates and deadlines relevant to the tested goods and (e) fully exercise all rights and remedies available to Client against third parties in respect of the tested goods.
11. The Company shall undertake due care and ordinary skill in the performance of its services to Client, and the Company shall accept responsibility only where such skill has not been exercised and, even in such event, only to the extent of the limitation of liability set forth herein.
12. If Client desires to assert a claim arising from or relating to (i) the performance, purported performance or non-performance of any services by the Company or (ii) the sale, resale, manufacture, distribution or use of any tested goods, it must submit that claim to the Company in a writing that sets forth with particularity the basis for such claim within 60 days from discovery of the potential claim and not more than six months after the date of issuance of the Test Report to Client. Client waives any and all such claims including, without limitation, claims that the Test Report is inaccurate, incomplete or misleading or that additional or different testing is required, unless and then only to the extent that Client submits a written claim to the Company within both such time periods.
13. CLIENT SHALL, EXCEPT TO THE EXTENT OF COMPANY'S LIABILITY TO CLIENT HEREUNDER (WHICH IN NO EVENT SHALL EXCEED THE LIMITATION OF LIABILITY HEREIN), HOLD HARMLESS AND INDEMNIFY THE COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL ACTUAL OR ALLEGED THIRD PARTY CLAIMS FOR LOSS, DAMAGE OR EXPENSE OF WHATSOEVER NATURE AND HOWSOEVER ARISING FROM OR RELATING TO (i) THE PERFORMANCE, PURPORTED PERFORMANCE OR NON-PERFORMANCE OF ANY SERVICES BY THE COMPANY OR (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY TESTED GOODS.
14. EXCEPT AS MAY OTHERWISE BE EXPRESSLY AGREED TO IN WRITING BY THE COMPANY AND NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN OR IN ANY TEST REPORT, NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, IS MADE.



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15. (A) IN NO EVENT WHATSOEVER SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY OR PUNITIVE DAMAGES IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE TEST REPORT OR THE SERVICES PROVIDED BY THE COMPANY HEREUNDER, INCLUDING WITHOUT LIMITATION LOSS OF OR DAMAGE TO PROPERTY; LOSS OF INCOME, PROFIT OR USE; OR ANY CLAIMS OR DEMANDS MADE AGAINST CLIENT OR ANY OTHER PERSON BY ANY THIRD PARTY IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE SERVICES PROVIDED BY THE COMPANY HEREUNDER.

(B) NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN, AND IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS TO CLIENT AND THE COMPANY ASSOCIATED WITH THE TESTING SERVICES CONTEMPLATED HEREBY, THE RISKS HAVE BEEN ALLOCATED SUCH THAT UNDER NO CIRCUMSTANCES WHATSOEVER SHALL THE LIABILITY OF THE COMPANY TO CLIENT OR ANY THIRD PARTY IN RESPECT OF ANY CLAIM FOR LOSS, DAMAGE OR EXPENSE, OF WHATSOEVER NATURE OR MAGNITUDE, AND HOWSOEVER ARISING, EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF THE FEES PAID TO THE COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM OR U.S.\$10,000, WHICHEVER IS THE LESSER AMOUNT.

16. The Company shall not be liable for any loss or damage resulting from any delay or failure in performance of its obligations hereunder resulting directly or indirectly from any event of force majeure or any event outside the control of the Company. If any such event occurs, the Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

17. Company's services, including these Conditions, shall be governed by, and construed in accordance with, the local laws of the country where the Company performs the tests or, in the case of tests performed in the United States of America, the laws of Massachusetts without regard to conflicts of laws principles. If any aspect(s) of these Conditions is found to be illegal or unenforceable, the validity, legality and enforceability of all remaining aspects of these Conditions shall not in any way be affected or impaired thereby. Any proceeding related to the subject matter hereof shall be brought, if at all, in the courts of the country where the Company performs the tests or, in the case of tests performed in the United States of America, in the courts of Massachusetts. Client waives the right to interpose any counterclaim or setoffs of any nature in any litigation arising hereunder.

The complete list of the Approved Subcontractors Curtis-Straus may use to delegate the performance of work can be provided upon request.
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