

FCC Part 47 §15.247 2400-2483.5 MHz 2015

DUT Information

Frequencies

2402 MHz (2402 MHz)	WLAN CH 3 (2422 MHz)	WLAN CH 6 (2437 MHz)
WLAN CH 9 (2452 MHz)	2440 MHz (2440 MHz)	2480 MHz (2480 MHz)
WLAN CH 2 (2417 MHz)	WLAN CH 4 (2427 MHz)	WLAN CH 5 (2432 MHz)
WLAN CH 7 (2442 MHz)	WLAN CH 8 (2447 MHz)	WLAN CH 10 (2457 MHz)
WLAN CH 11 (2462 MHz)	WLAN CH 12 (2467 MHz)	WLAN CH 13 (2472 MHz)
WLAN CH 1 (2412 MHz)		

Bandwidths

2 MHz (2 MHz)	1 MHz (1 MHz)	20 MHz (20 MHz)
40 MHz (40 MHz)		

Power

20.000 dBm (20 dBm)

Beamforming Gain

20.000 dBm (20 dBm)	0 dB
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Gain Tables

20.000 dBm (20 dBm)	Port 1: ---;
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DUT Settings

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

Hardware Setup: WMS Measurements\TS8997

Spectrum Analyzer:	SA FSV 40 (SA FSV 40) @ VISA (ADR TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229, FW 3.40
Vector Generator:	VG SMBV100B (VG SMBV100B) @ VISA (ADR TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33
Generator:	SMB100Aa (SMB100A) @ VISA (ADR TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev 2.21.0, 07/2016, CVI 2015
OSP:	OSP-B157W (OSP-B157W) @ VISA (ADR TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. / , FW 1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Minimum Emission Bandwidth 6 dB	2422.000	20.0	40.000000	PASS
Emission Bandwidth 20 dB	2422.000	20.0	40.000000	PASS
Peak Power Spectral Density	2422.000	20.0	40.000000	PASS
Band Edge low	2422.000	20.0	40.000000	PASS
Tx Spurious Emission	2422.000	20.0	40.000000	PASS
Emission Bandwidth 20 dB	2437.000	20.0	40.000000	PASS
Minimum Emission Bandwidth 6 dB	2437.000	20.0	40.000000	PASS
Peak Power Spectral Density	2437.000	20.0	40.000000	PASS
Tx Spurious Emission	2437.000	20.0	40.000000	PASS
Emission Bandwidth 20 dB	2452.000	20.0	40.000000	PASS
Minimum Emission Bandwidth 6 dB	2452.000	20.0	40.000000	PASS
RF output power	2452.000	20.0	40.000000	PASS
Peak Power Spectral Density	2452.000	20.0	40.000000	PASS
Band Edge high	2452.000	20.0	40.000000	PASS
Tx Spurious Emission	2452.000	20.0	40.000000	PASS

Minimum Emission Bandwidth 6 dB (2422 MHz; 20.000 dBm; 40 MHz)

Customized settings.

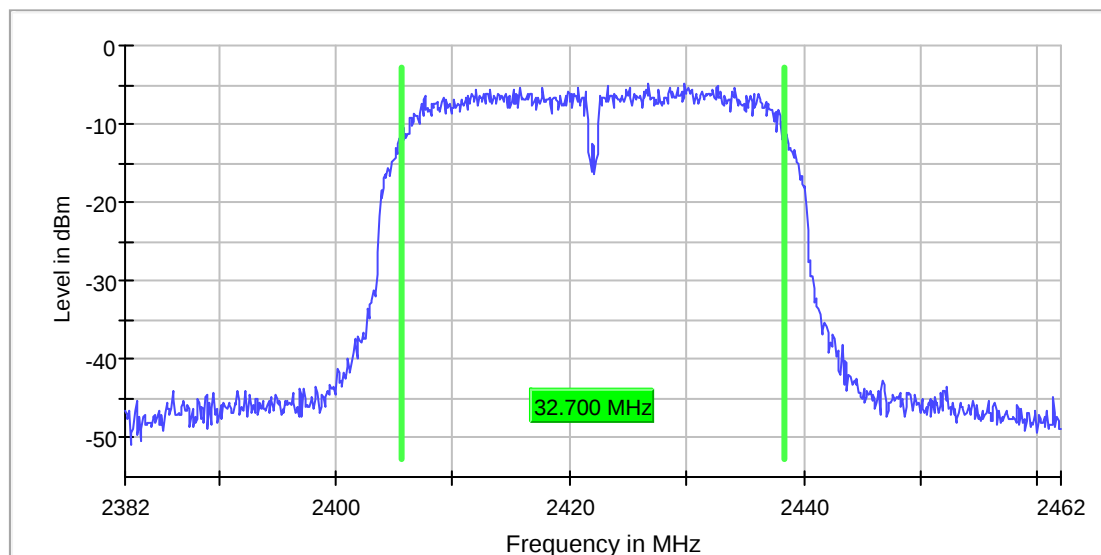
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

6 dB Bandwidth

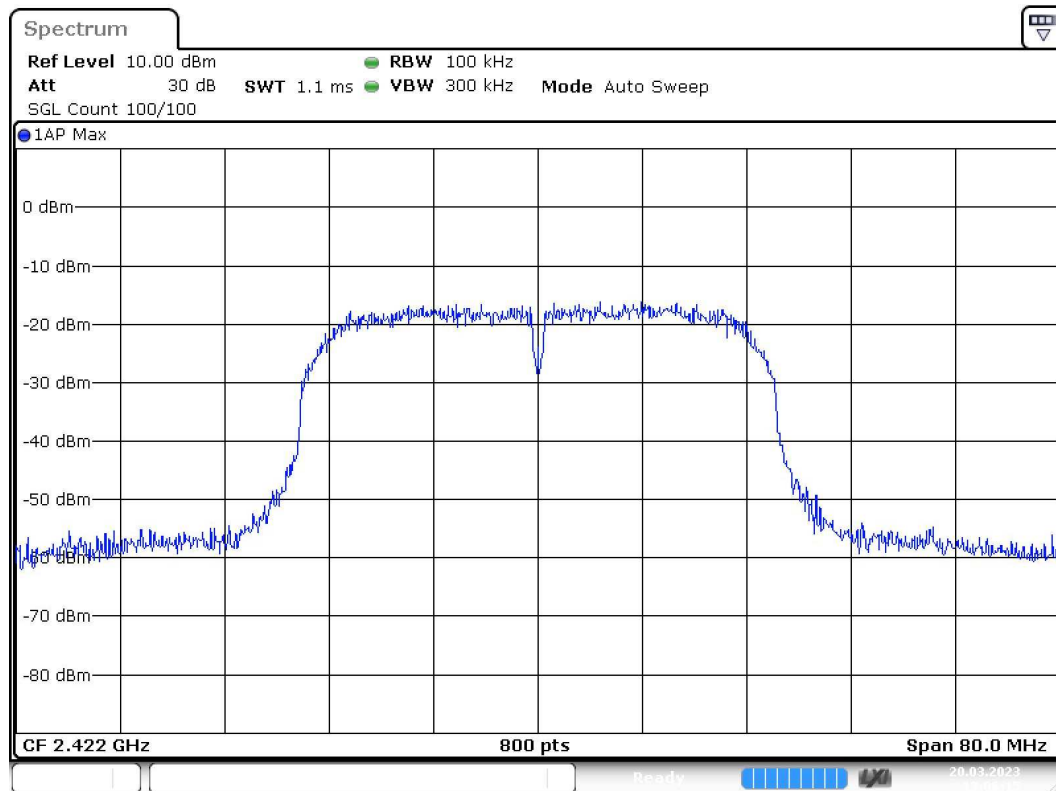
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2422.000000	32.700000	0.500000	---	2405.650000	2438.350000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2422.000000	-4.9	PASS



Bandwidth



Date: 20.MAR.2023 13:06:16

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.38200 GHz	2.38200 GHz
Stop Frequency	2.46200 GHz	2.46200 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
Sweeptime	1.070 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Emission Bandwidth 20 dB (2422 MHz; 20.000 dBm; 40 MHz)

Customized settings.

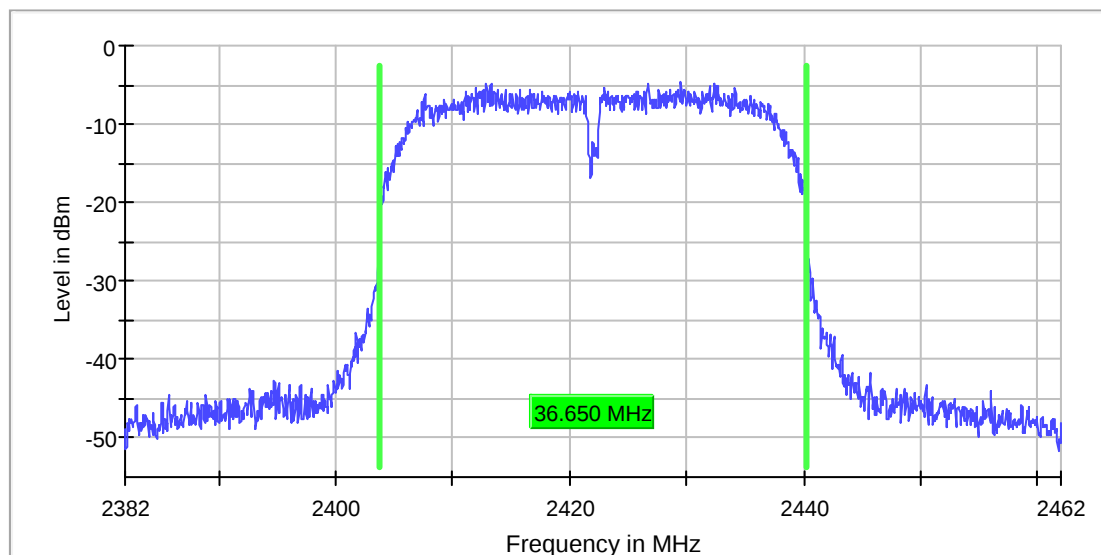
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

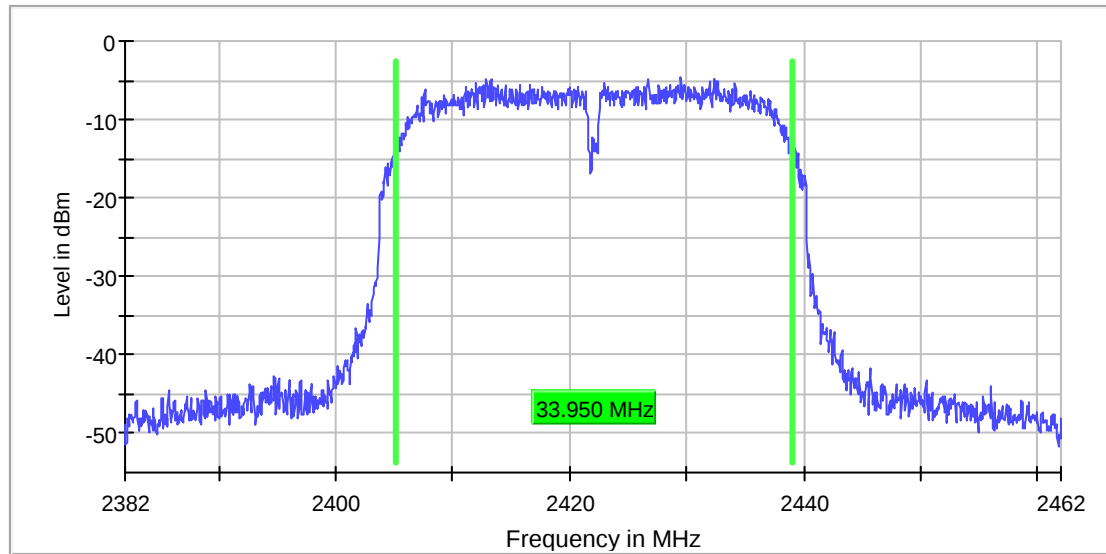
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2422.000000	36.650000	---	---	2403.675000	2440.325000

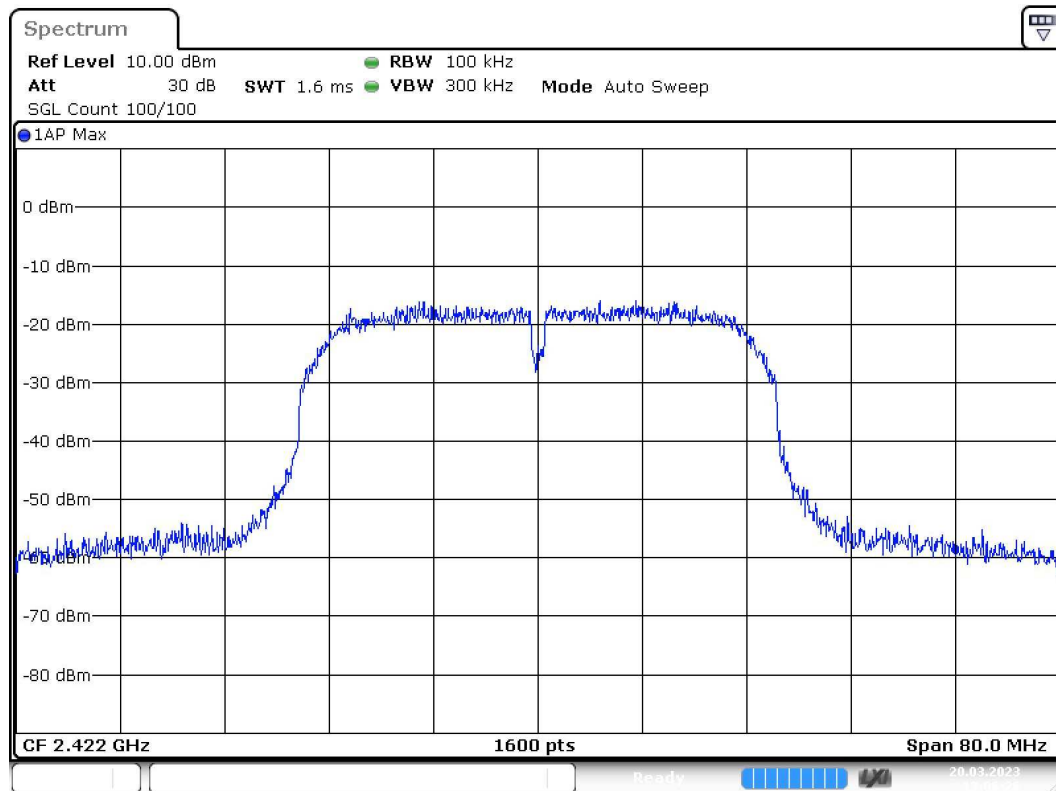
(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2422.000000	-4.7	PASS





Bandwidth



Date: 20.MAR.2023 13:06:27

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.38200 GHz	2.38200 GHz
Stop Frequency	2.46200 GHz	2.46200 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	1.600 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

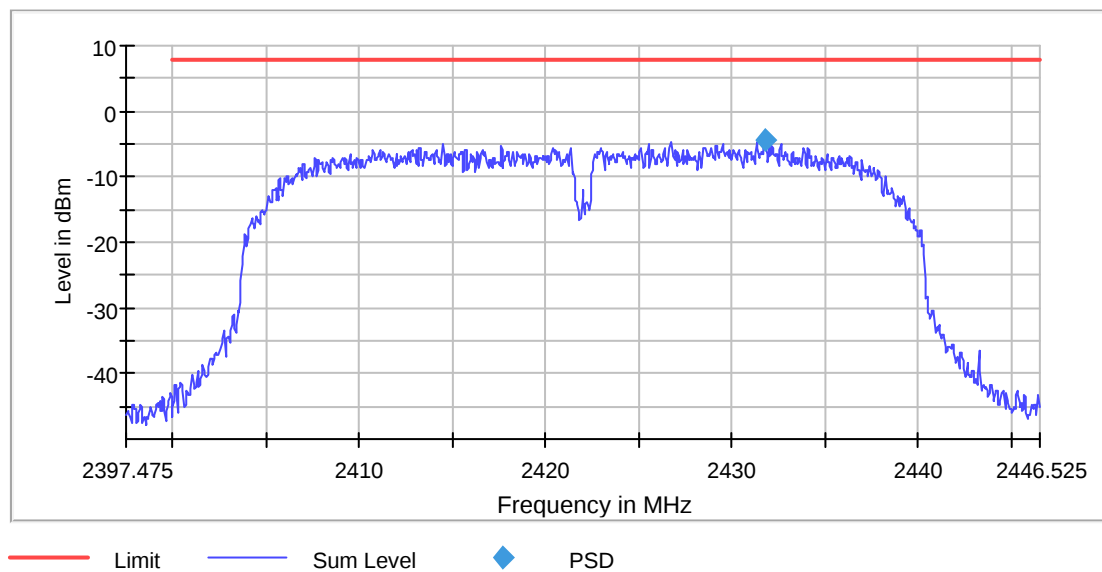
Peak Power Spectral Density (2422 MHz; 20.000 dBm; 40 MHz)

Customized settings.

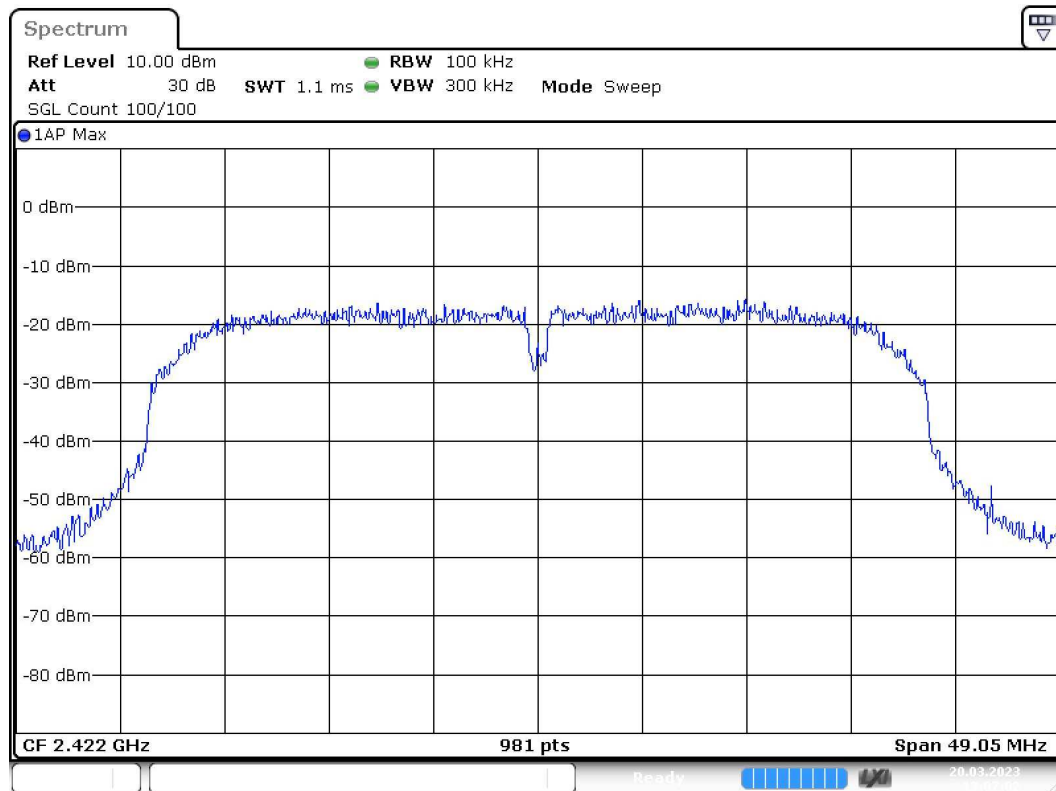
Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2422.000000	2431.750000	-4.426	8.0	PASS



PSD Connector 1



Date: 20.MAR.2023 13:07:02

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39748 GHz	2.39748 GHz
Stop Frequency	2.44653 GHz	2.44653 GHz
Span	49.050 MHz	49.050 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	981	~ 981
SweepTime	1.060 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Band Edge low (2422 MHz; 20.000 dBm; 40 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

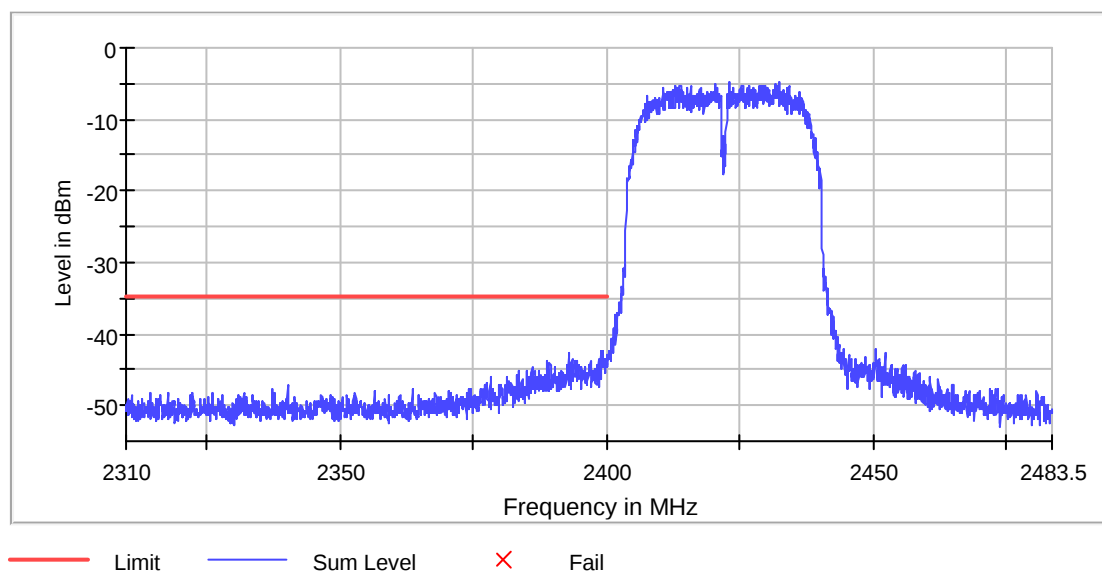
DUT Frequency (MHz)	Result
2422.000000	PASS

Inband Peak

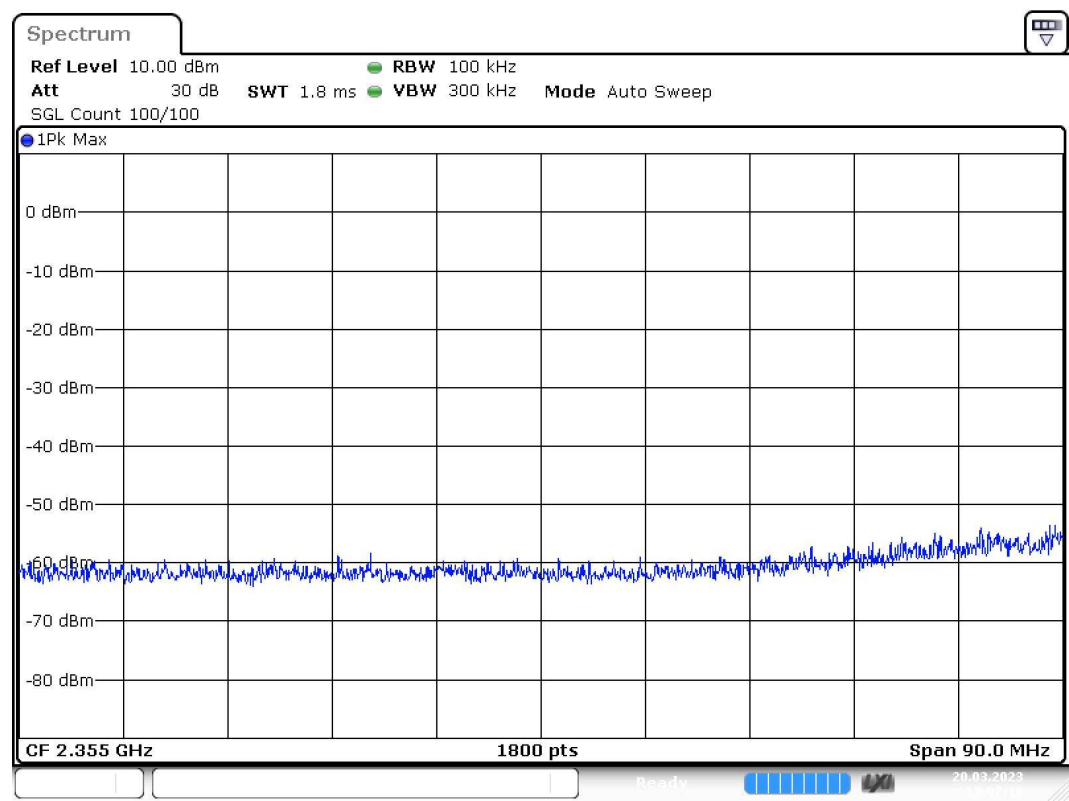
Frequency (MHz)	Level (dBm)
2422.975000	-4.8

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2398.875000	-42.4	7.6	-34.8	PASS
2399.275000	-42.5	7.7	-34.8	PASS
2392.875000	-42.8	8.0	-34.8	PASS
2398.825000	-42.9	8.1	-34.8	PASS
2399.325000	-43.0	8.2	-34.8	PASS
2392.925000	-43.3	8.5	-34.8	PASS
2392.825000	-43.3	8.6	-34.8	PASS
2399.725000	-43.5	8.7	-34.8	PASS
2398.475000	-43.5	8.8	-34.8	PASS
2393.575000	-43.5	8.8	-34.8	PASS
2398.525000	-43.6	8.8	-34.8	PASS
2399.525000	-43.6	8.9	-34.8	PASS
2396.975000	-43.8	9.0	-34.8	PASS
2394.425000	-43.8	9.0	-34.8	PASS
2388.925000	-43.8	9.0	-34.8	PASS

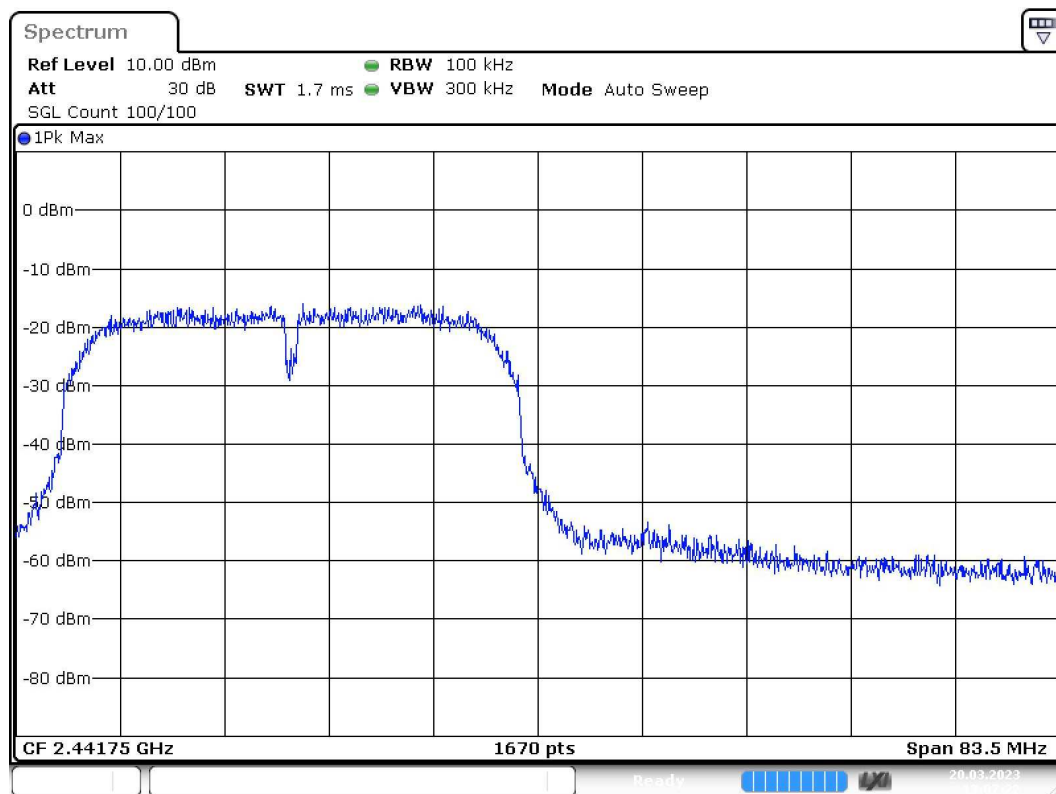


Band Edge Connector 1_0



Date: 20.MAR.2023 13:07:17

Band Edge Connector 1_1



Date: 20.MAR.2023 13:07:23

Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.31000 GHz	2.31000 GHz
Stop Frequency	2.40000 GHz	2.40000 GHz
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
Sweptime	1.800 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
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	2 / max. 11	max. 11
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz

SweepPoints	1670	~ 1670
SweepTime	1.670 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2422 MHz; 20.000 dBm; 40 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Result
2422.000000	PASS

Final measurements

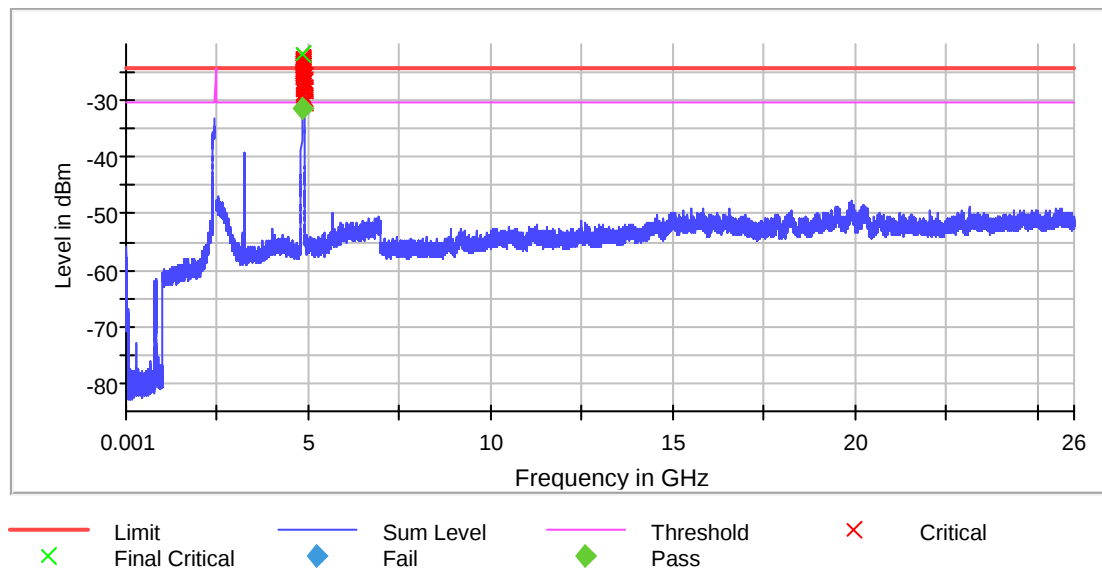
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4844.262359	-21.6	-31.4	-24.4	7.0	PASS

Pre Measurements

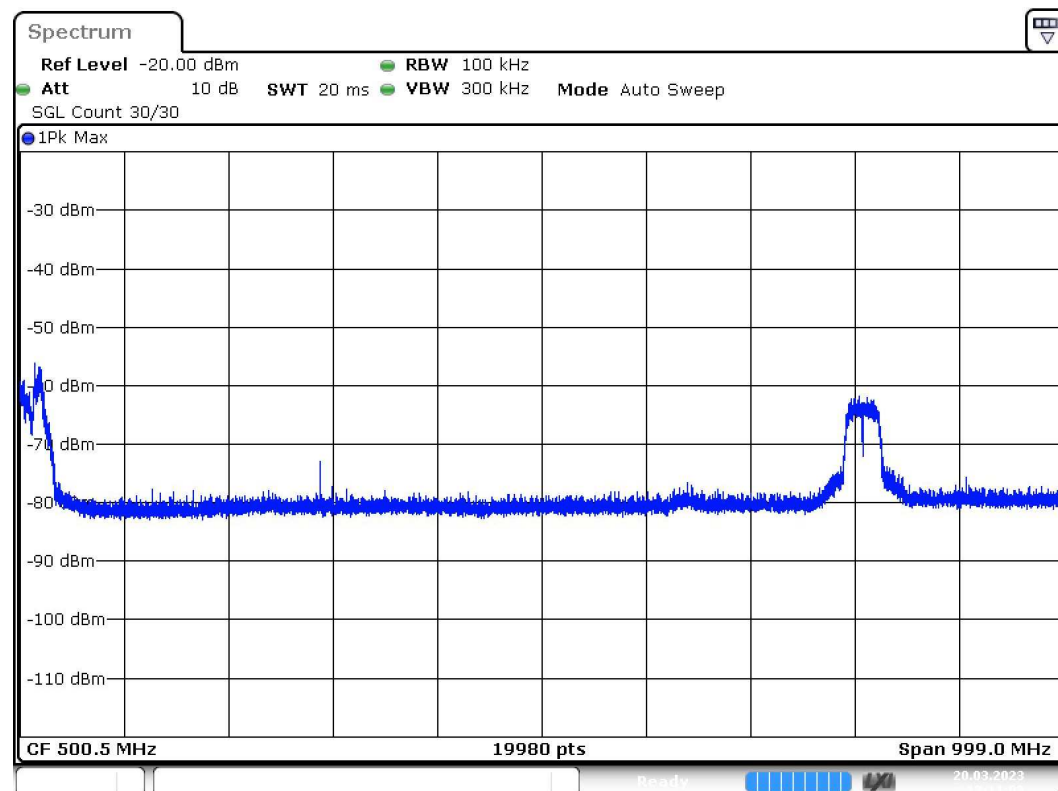
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4844.262359	-21.6	-2.8	-24.4
4851.611036	-22.4	-2.1	-24.4
4845.732094	-22.4	-2.0	-24.4
4843.527491	-22.6	-1.8	-24.4
4846.466962	-22.7	-1.7	-24.4
4844.997227	-22.7	-1.7	-24.4
4850.141300	-22.7	-1.7	-24.4
4856.755109	-22.8	-1.7	-24.4
4849.406433	-22.9	-1.5	-24.4
4854.550506	-23.0	-1.4	-24.4
4839.853153	-23.1	-1.3	-24.4
4840.588021	-23.2	-1.2	-24.4
4842.057756	-23.2	-1.2	-24.4
4836.913682	-23.2	-1.2	-24.4
4842.792624	-23.3	-1.1	-24.4

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
1.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2483.500000	26000.000000	2	2

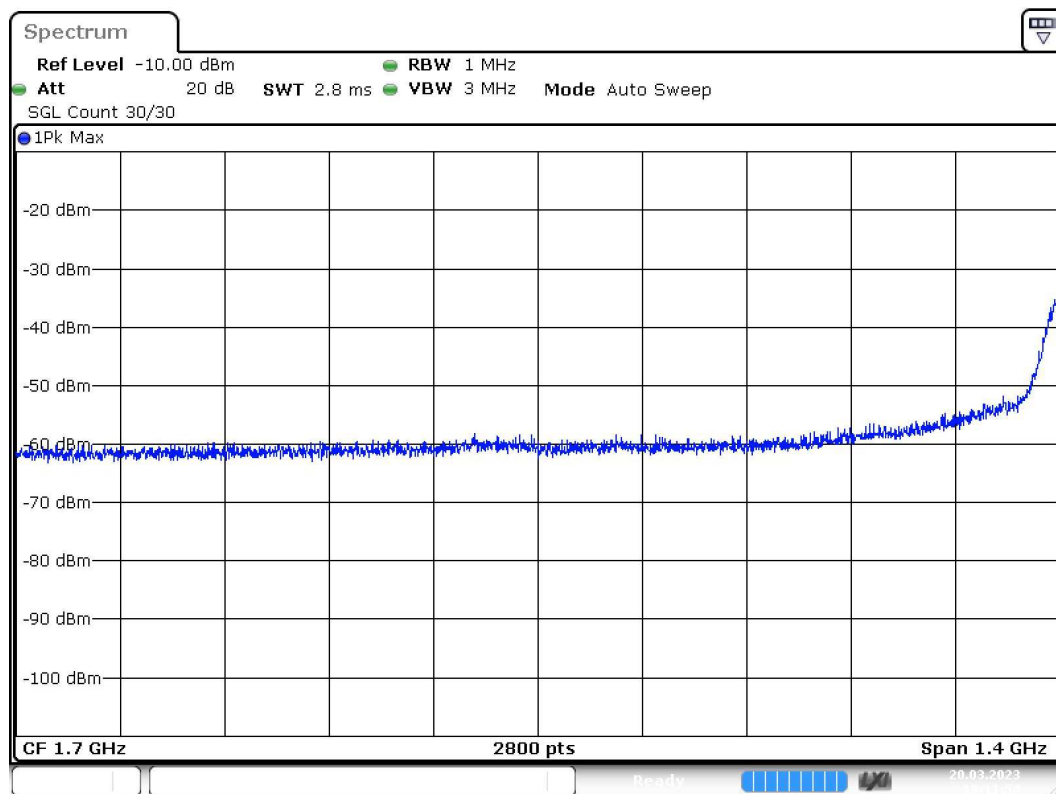


Spurious Connector 1_0



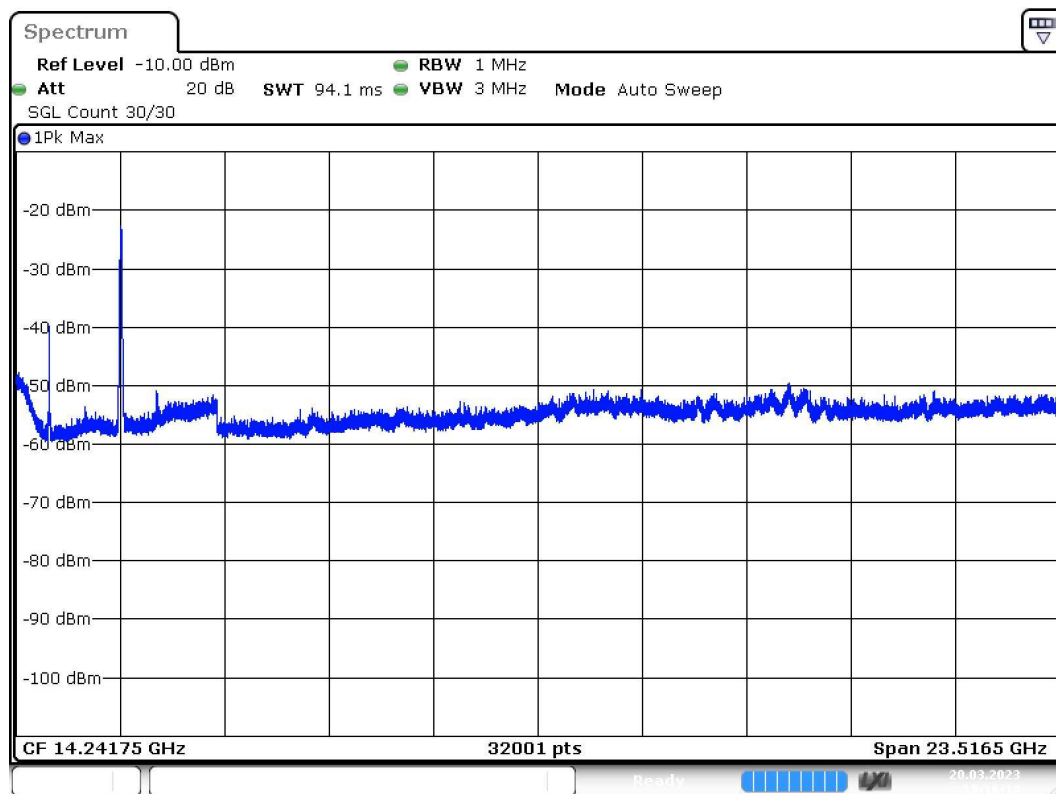
Date: 20.MAR.2023 13:11:04

Spurious Connector 1_1



Date: 20.MAR.2023 13:11:54

Spurious Connector 1_2



Date: 20.MAR.2023 13:16:14

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	19980	~ 19980
SweepTime	20.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 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	43 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.36 dB	0.50 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-10.000 dBm	-30.000 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	29 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off

Emission Bandwidth 20 dB (2437 MHz; 20.000 dBm; 40 MHz)

Customized settings.

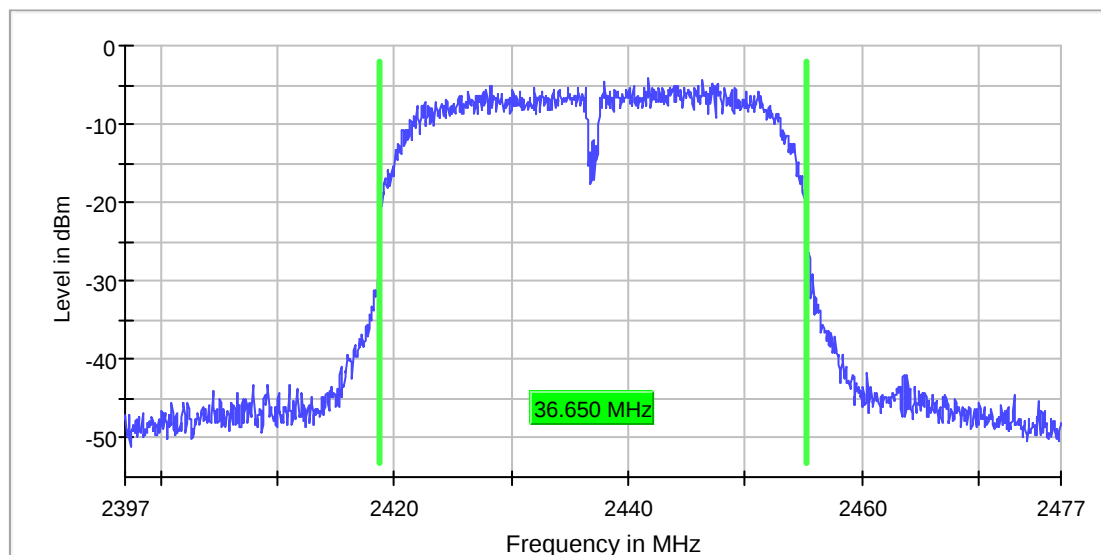
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

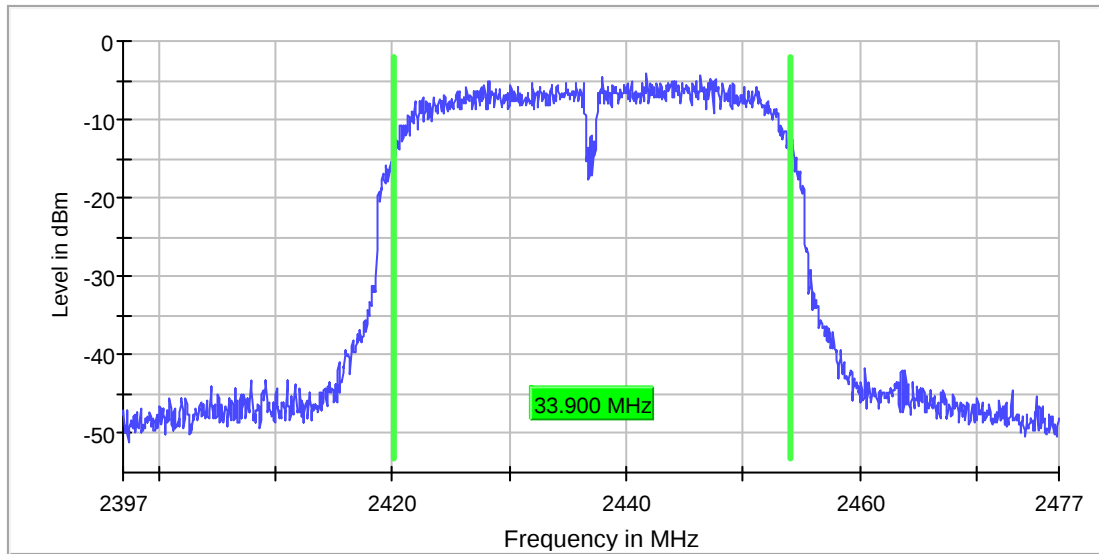
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	36.650000	---	---	2418.675000	2455.325000

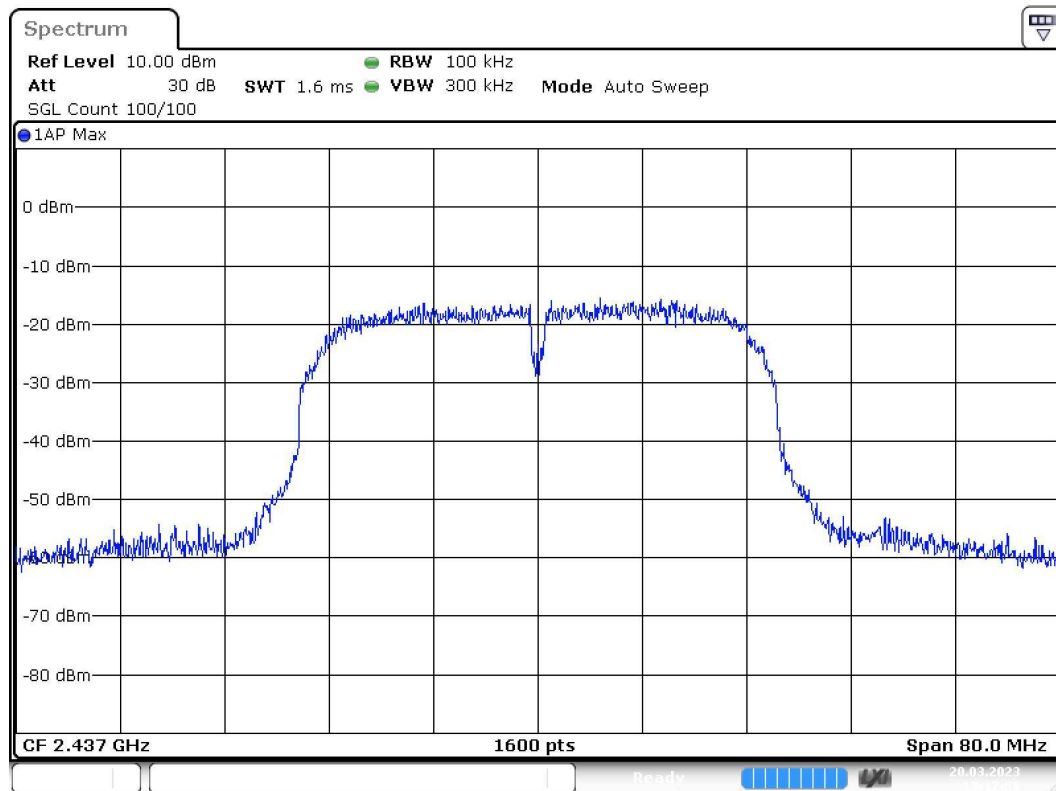
(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	-4.1	PASS





Bandwidth



Date: 20.MAR.2023 13:17:56

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39700 GHz	2.39700 GHz
Stop Frequency	2.47700 GHz	2.47700 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	1.600 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Minimum Emission Bandwidth 6 dB (2437 MHz; 20.000 dBm; 40 MHz)

Customized settings.

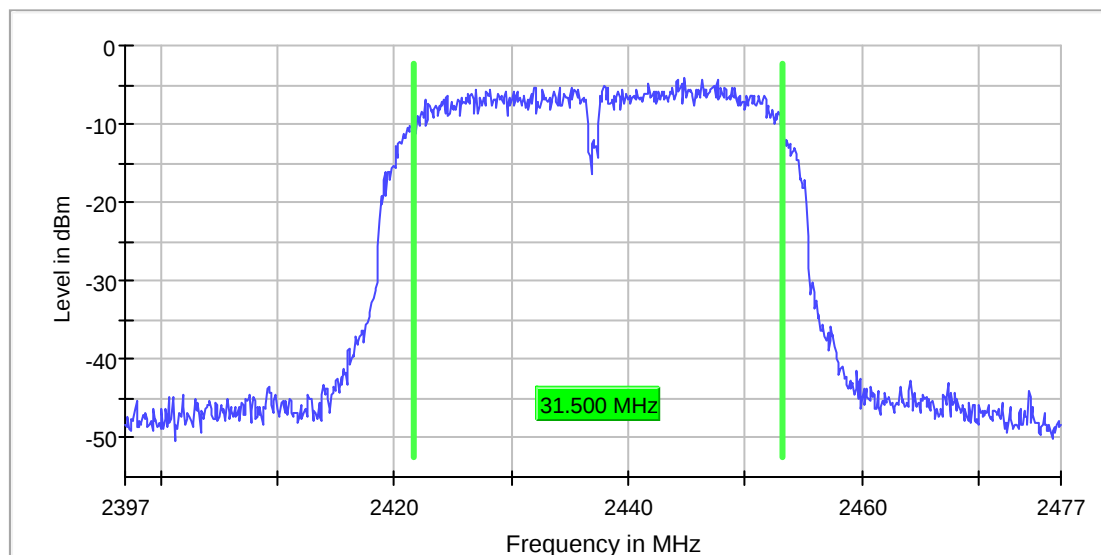
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

6 dB Bandwidth

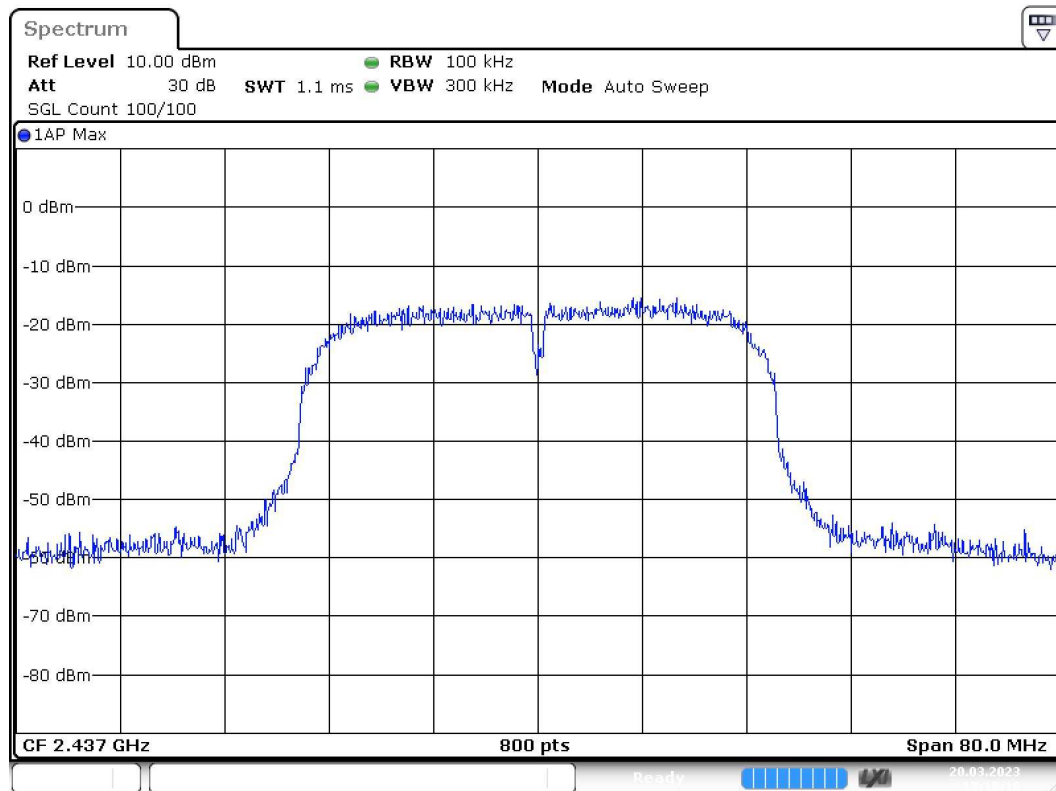
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	31.500000	0.500000	---	2421.650000	2453.150000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	-4.2	PASS



Bandwidth



Date: 20.MAR.2023 13:18:10

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39700 GHz	2.39700 GHz
Stop Frequency	2.47700 GHz	2.47700 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
SweepTime	1.070 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

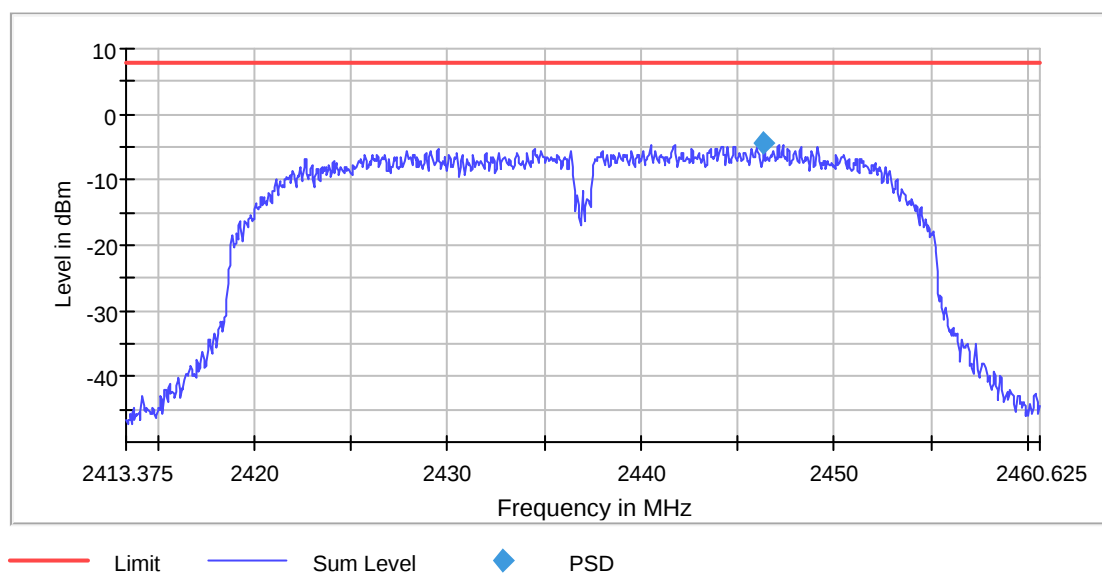
Peak Power Spectral Density (2437 MHz; 20.000 dBm; 40 MHz)

Customized settings.

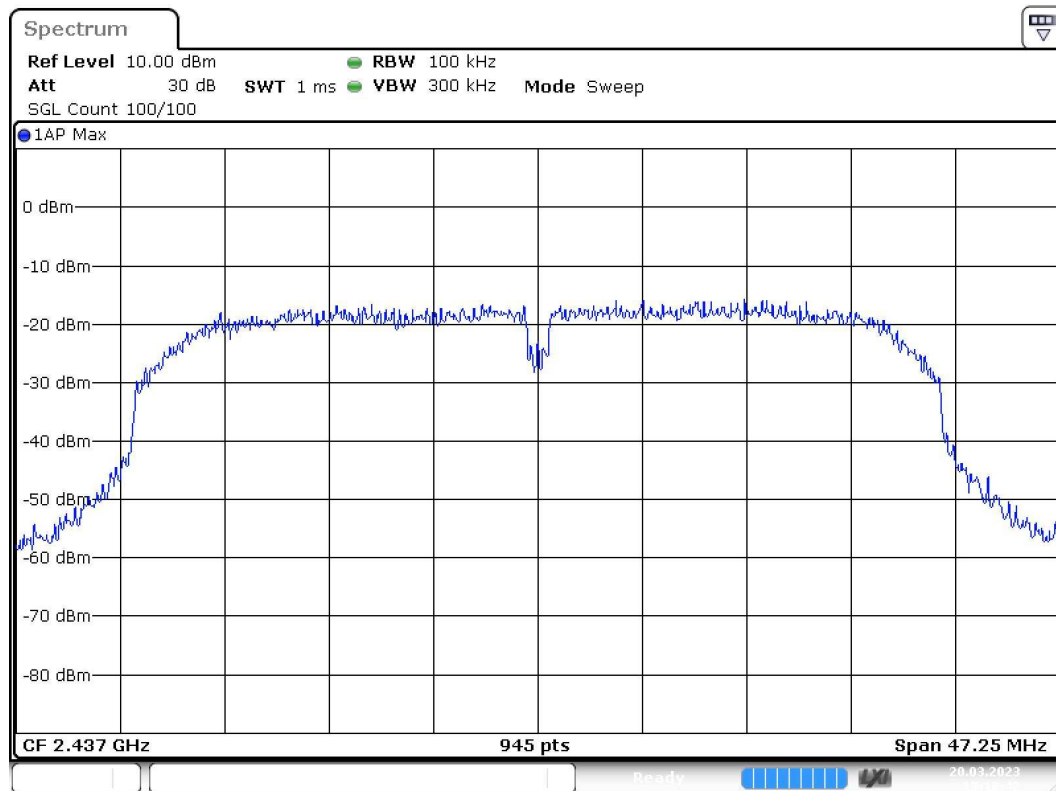
Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2437.000000	2446.350000	-4.515	8.0	PASS



PSD Connector 1



Date: 20.MAR.2023 13:18:42

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.41338 GHz	2.41338 GHz
Stop Frequency	2.46063 GHz	2.46063 GHz
Span	47.250 MHz	47.250 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	945	~ 945
SweepTime	1.020 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2437 MHz; 20.000 dBm; 40 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Result
2437.000000	PASS

Final measurements

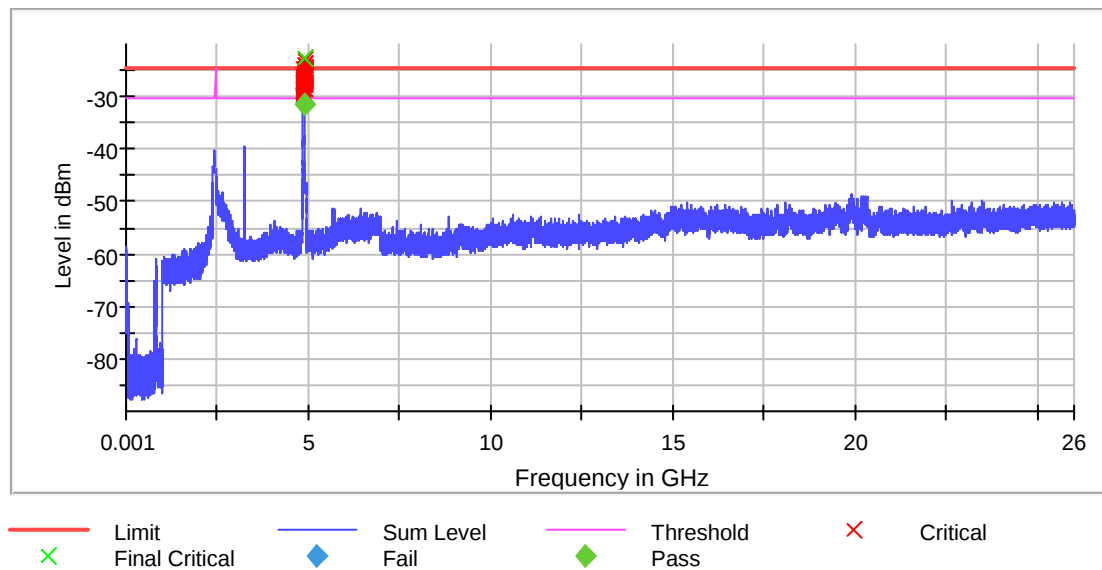
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4873.657065	-22.8	-31.6	-24.5	7.1	PASS

Pre Measurements

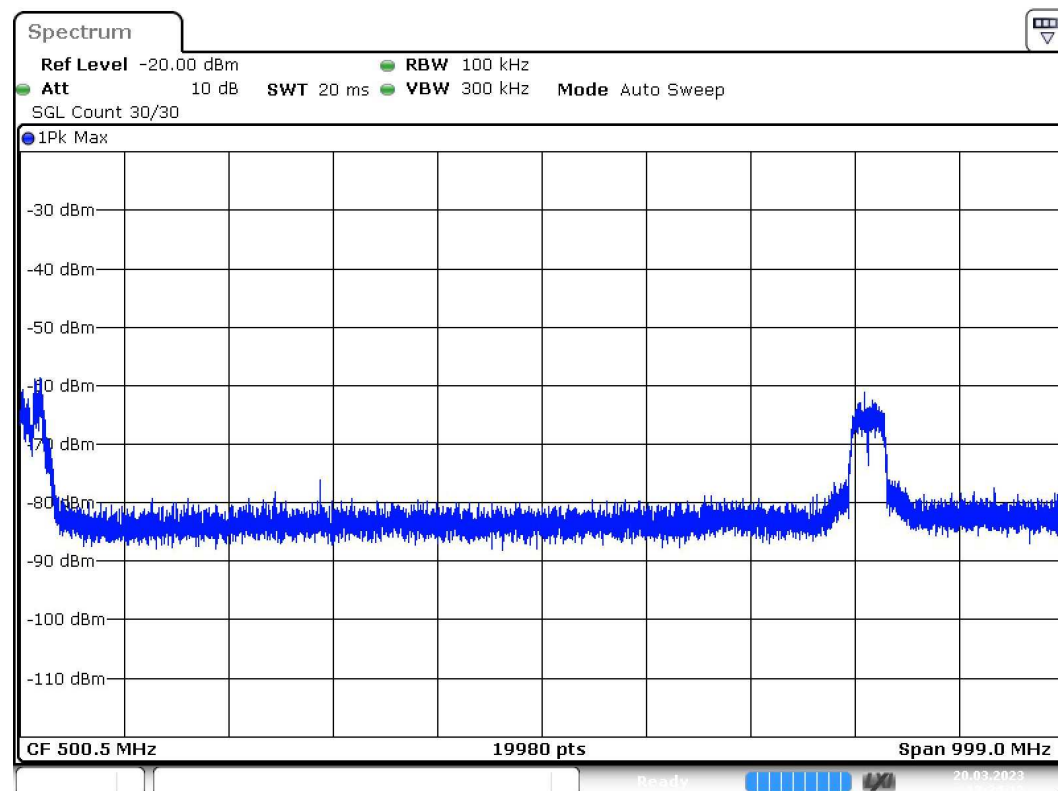
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4873.657065	-22.8	-1.7	-24.5
4881.740610	-23.2	-1.3	-24.5
4870.717595	-23.7	-0.8	-24.5
4892.028757	-23.7	-0.8	-24.5
4881.005742	-24.0	-0.5	-24.5
4876.596536	-24.4	-0.1	-24.5
4886.884683	-24.5	0.0	-24.5
4875.126801	-24.6	0.1	-24.5
4883.945213	-24.7	0.2	-24.5
4864.838653	-24.7	0.2	-24.5
4889.089286	-24.9	0.4	-24.5
4874.391933	-24.9	0.4	-24.5
4888.354419	-25.0	0.4	-24.5
4878.066271	-25.0	0.5	-24.5
4877.331404	-25.1	0.6	-24.5

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
1.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2483.500000	26000.000000	2	2

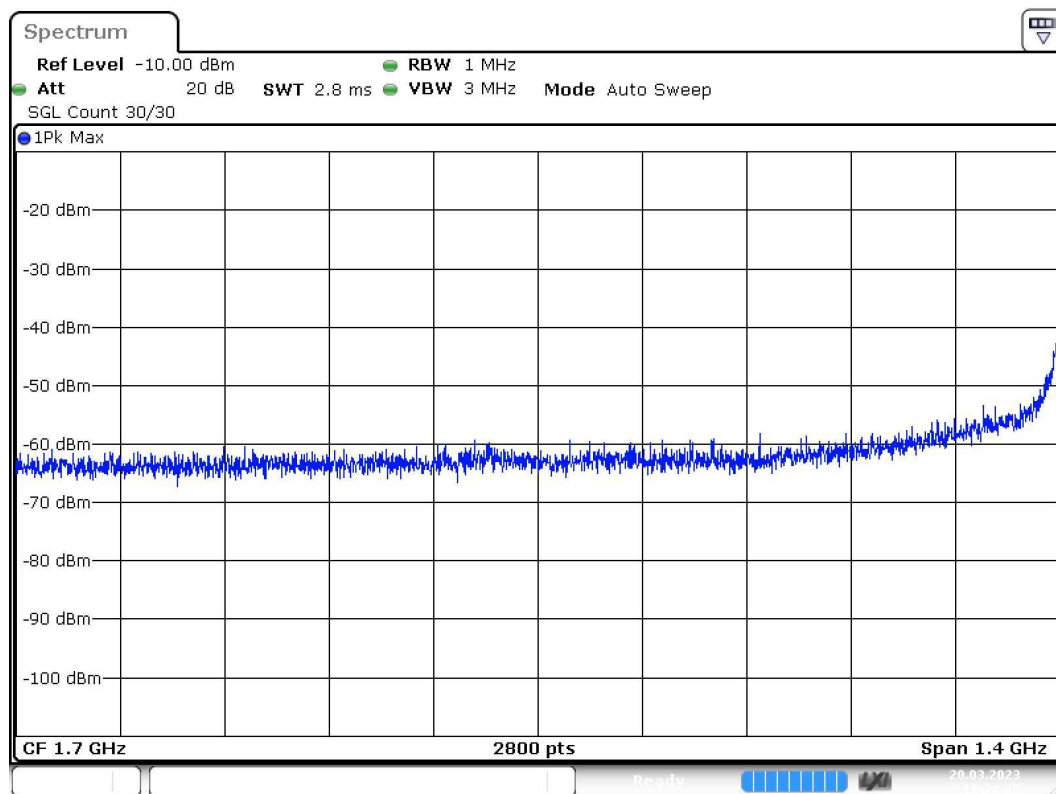


Spurious Connector 1_0



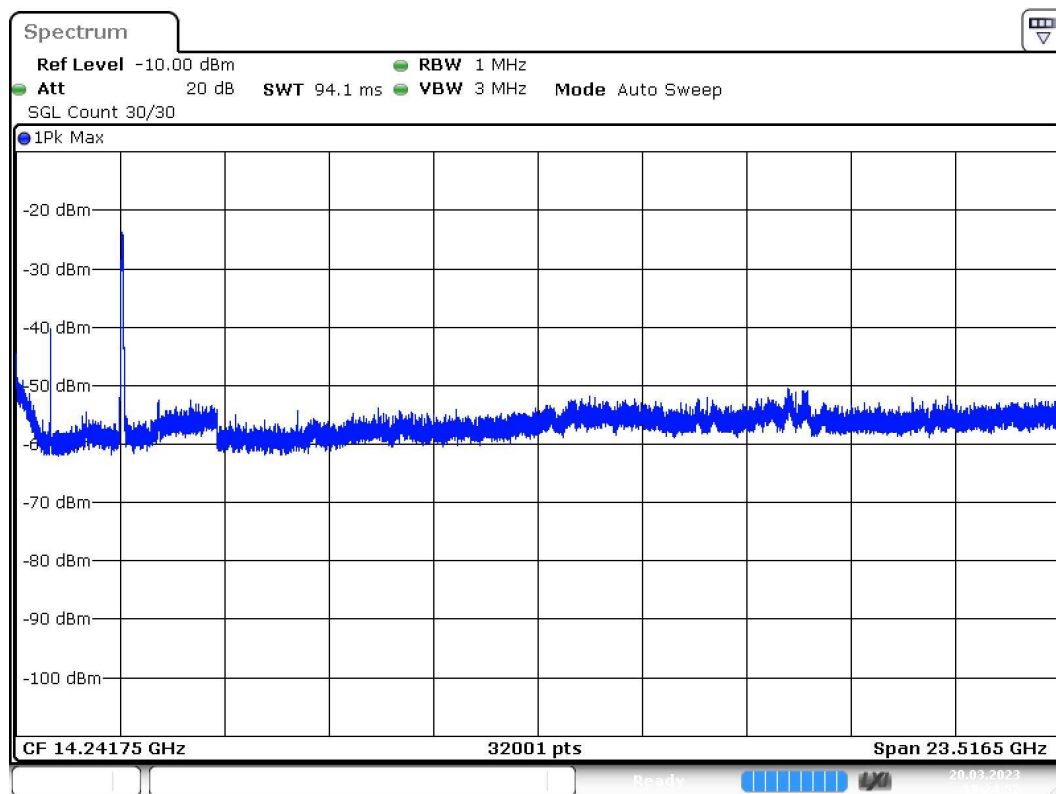
Date: 20.MAR.2023 13:24:13

Spurious Connector 1_1



Date: 20.MAR.2023 13:24:25

Spurious Connector 1_2



Date: 20.MAR.2023 13:24:52

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	19980	~ 19980
SweepTime	20.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 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	1.00 dB	1.00 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	1.00 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-10.000 dBm	-30.000 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	1.00 dB	1.00 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	1.00 dB

Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off

Emission Bandwidth 20 dB (2452 MHz; 20.000 dBm; 40 MHz)

Customized settings.

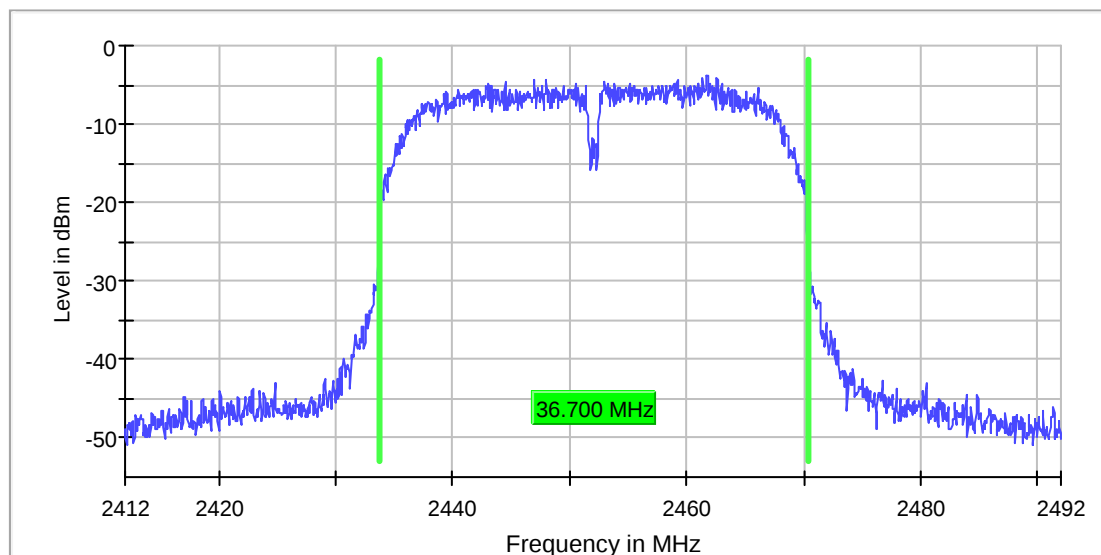
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

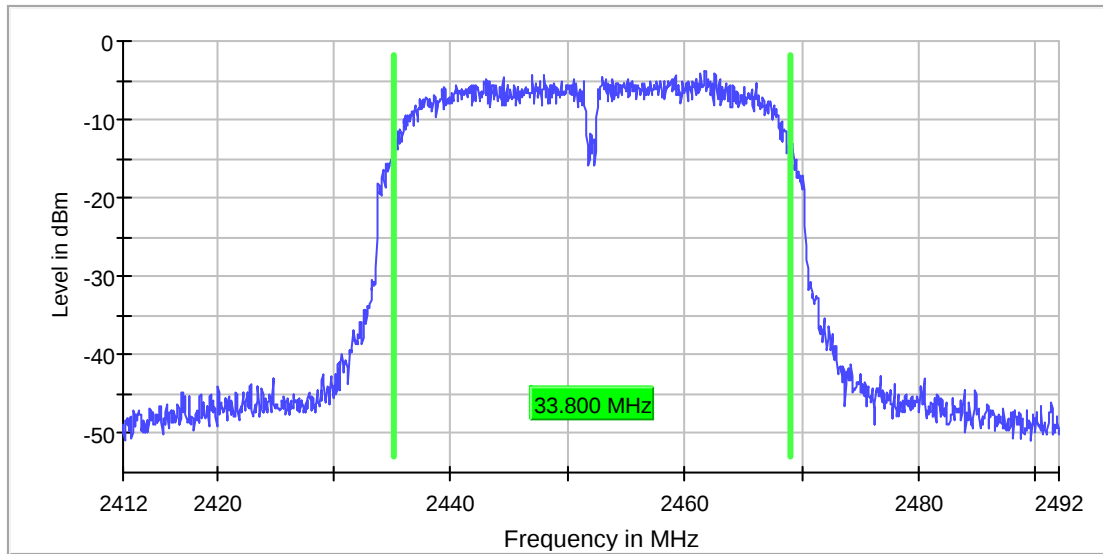
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2452.000000	36.700000	---	---	2433.675000	2470.375000

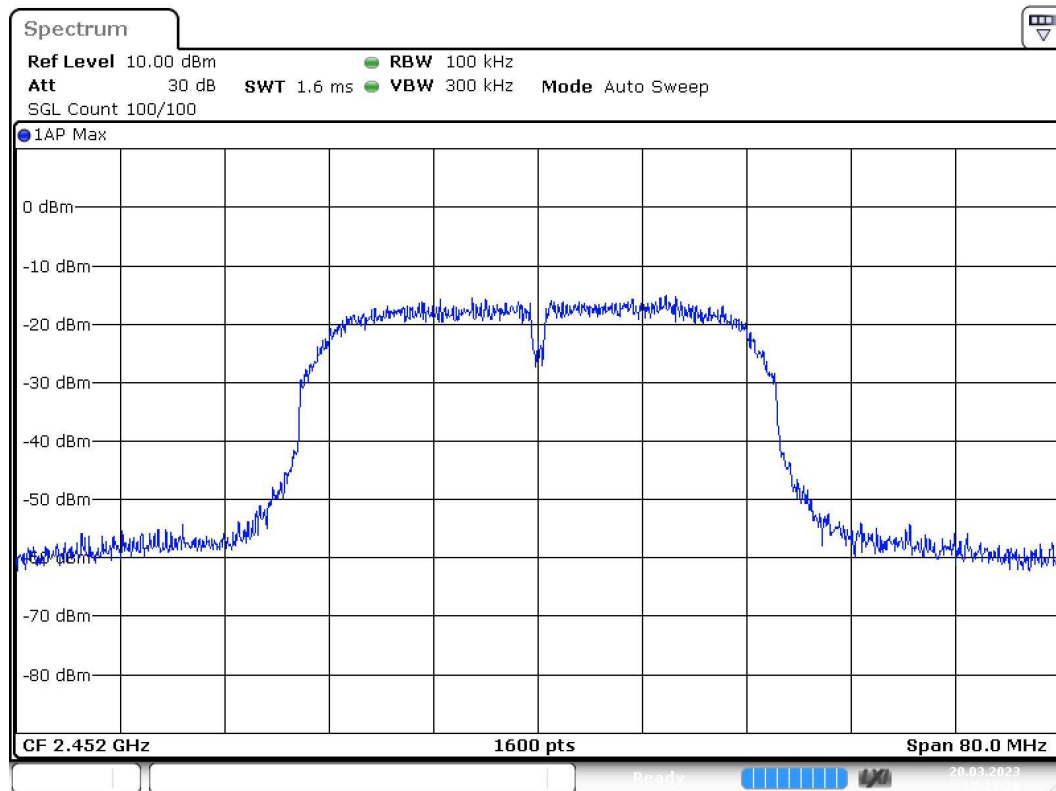
(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2452.000000	-3.9	PASS





Bandwidth



Date: 20.MAR.2023 13:27:28

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.41200 GHz	2.41200 GHz
Stop Frequency	2.49200 GHz	2.49200 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	1.600 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Minimum Emission Bandwidth 6 dB (2452 MHz; 20.000 dBm; 40 MHz)

Customized settings.

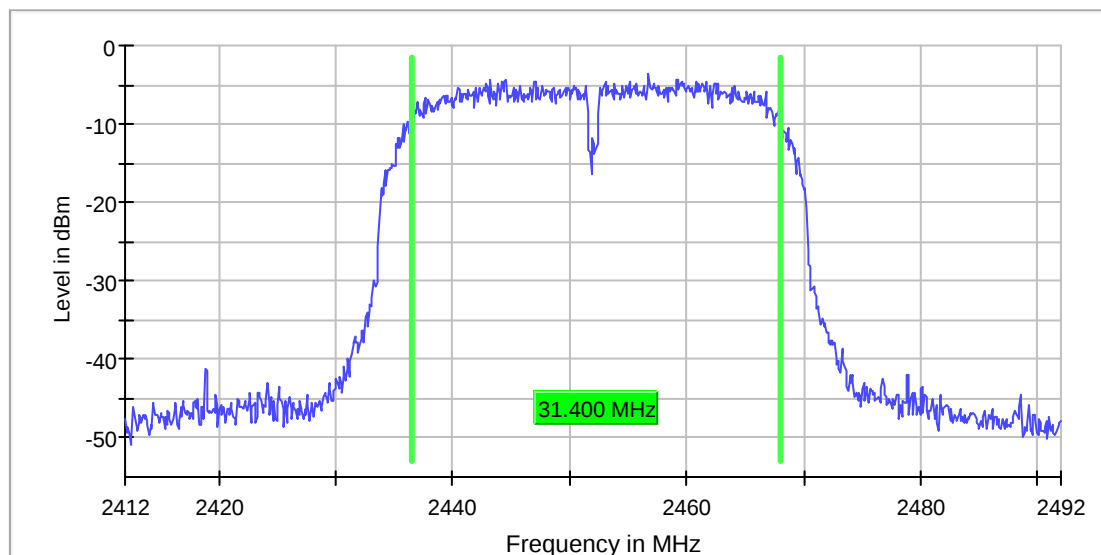
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

6 dB Bandwidth

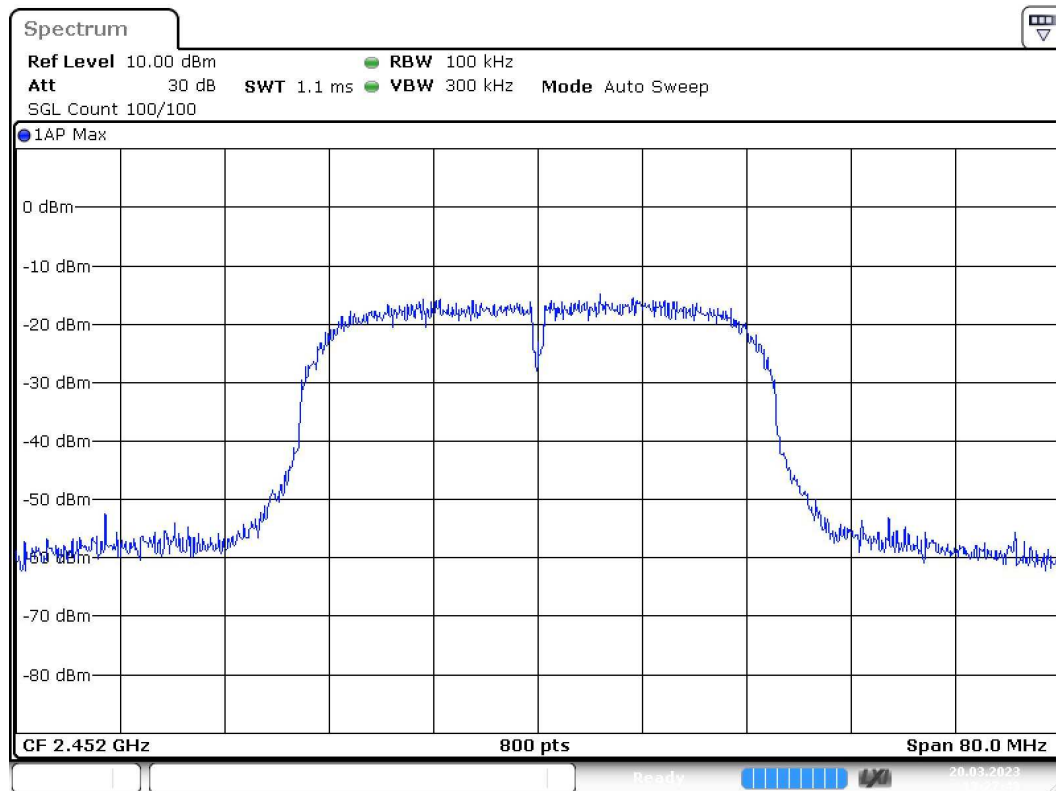
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2452.000000	31.400000	0.500000	---	2436.550000	2467.950000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2452.000000	-3.5	PASS



Bandwidth



Date: 20.MAR.2023 13:27:43

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.41200 GHz	2.41200 GHz
Stop Frequency	2.49200 GHz	2.49200 GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
Sweeptime	1.070 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

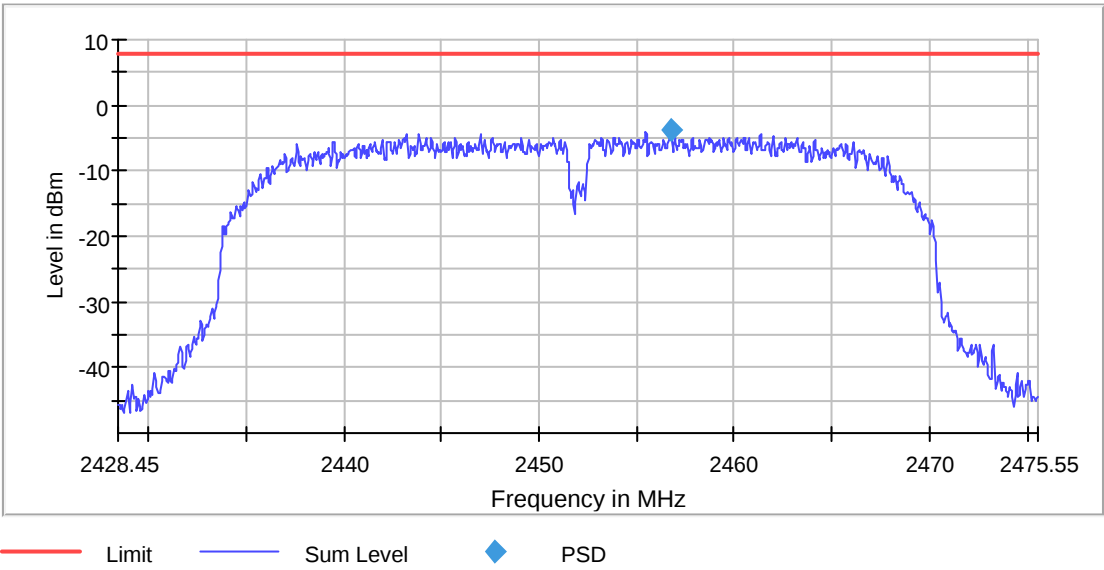
Peak Power Spectral Density (2452 MHz; 20.000 dBm; 40 MHz)

Customized settings.

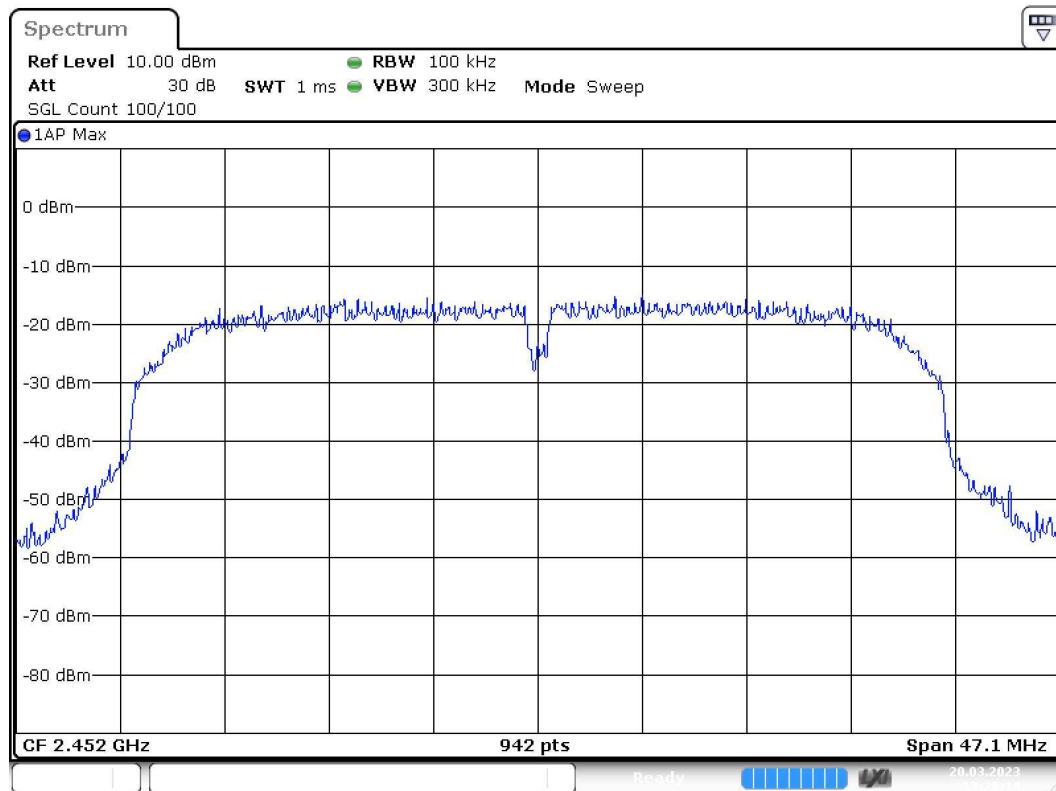
Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2452.000000	2456.725000	-3.832	8.0	PASS



PSD Connector 1



Date: 20.MAR.2023 13:28:14

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.42845 GHz	2.42845 GHz
Stop Frequency	2.47555 GHz	2.47555 GHz
Span	47.100 MHz	47.100 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	942	~ 942
Sweeptime	1.010 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	Peak	Peak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Band Edge high (2452 MHz; 20.000 dBm; 40 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

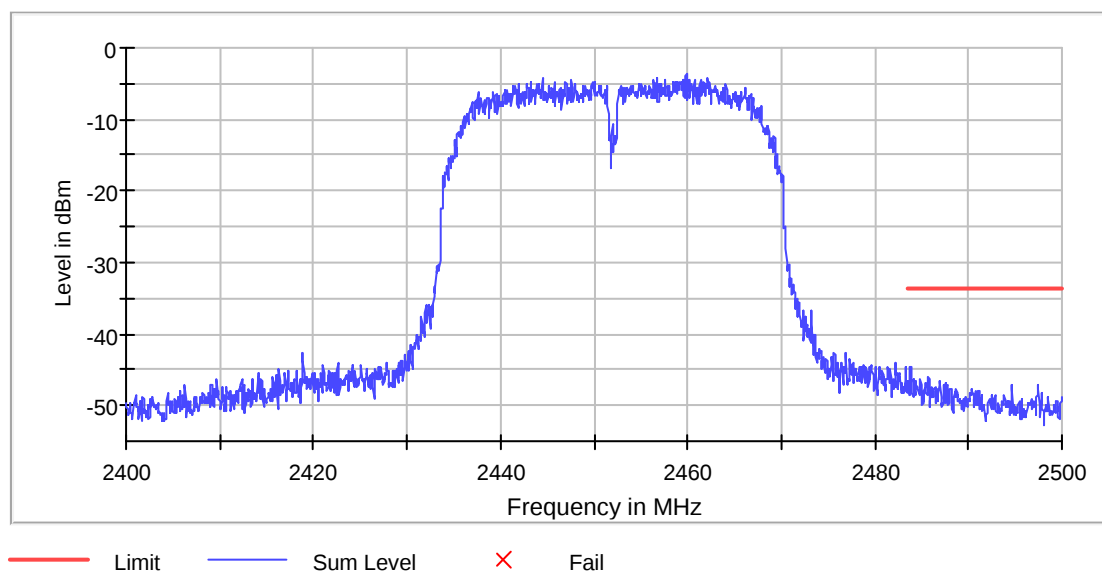
DUT Frequency (MHz)	Result
2452.000000	PASS

Inband Peak

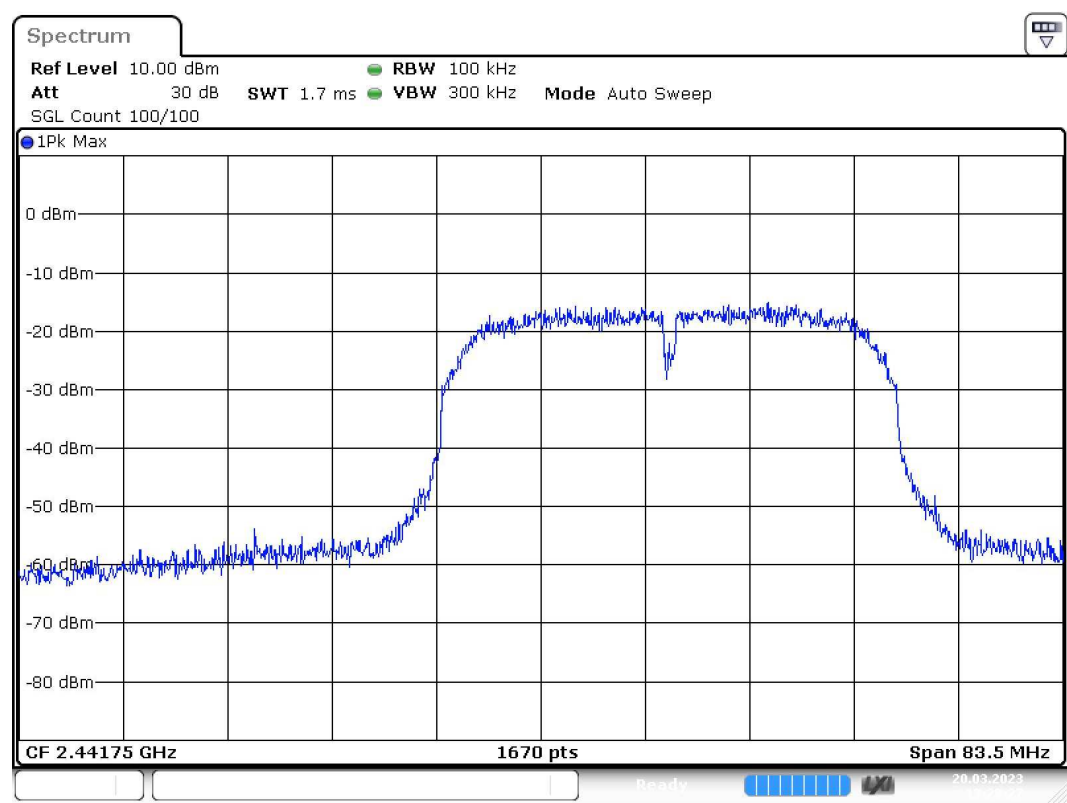
Frequency (MHz)	Level (dBm)
2459.875000	-3.8

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.825000	-44.7	10.9	-33.8	PASS
2483.875000	-44.7	11.0	-33.8	PASS
2485.725000	-45.9	12.2	-33.8	PASS
2485.675000	-46.2	12.4	-33.8	PASS
2484.175000	-46.2	12.4	-33.8	PASS
2484.875000	-46.2	12.5	-33.8	PASS
2485.775000	-46.3	12.5	-33.8	PASS
2483.925000	-46.4	12.6	-33.8	PASS
2483.775000	-46.5	12.7	-33.8	PASS
2486.975000	-46.5	12.7	-33.8	PASS
2484.375000	-46.7	12.9	-33.8	PASS
2484.225000	-46.7	12.9	-33.8	PASS
2484.325000	-46.8	13.0	-33.8	PASS
2487.025000	-46.8	13.0	-33.8	PASS
2485.475000	-46.8	13.0	-33.8	PASS

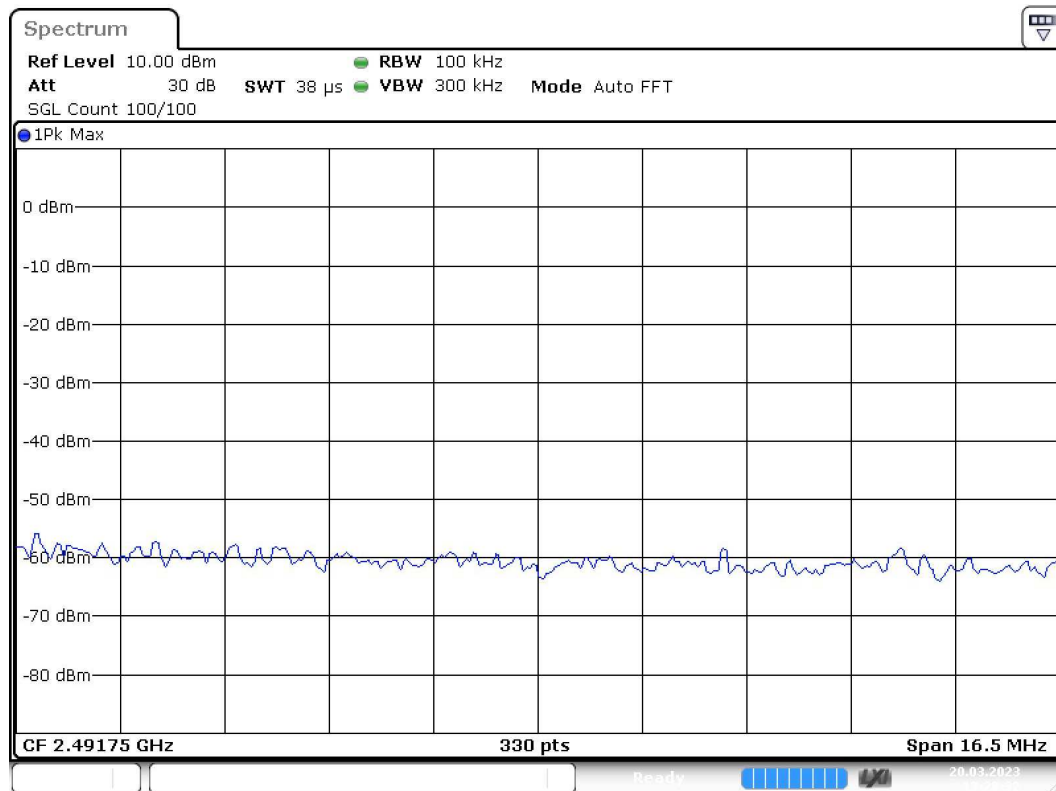


Band Edge Connector 1_0



Date: 20.MAR.2023 13:28:27

Band Edge Connector 1_1



Date: 20.MAR.2023 13:28:32

Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
Sweptime	1.670 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.48350 GHz	2.48350 GHz
Stop Frequency	2.50000 GHz	2.50000 GHz
Span	16.500 MHz	16.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz

SweepPoints	330	~ 330
SweepTime	37.969 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 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	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Tx Spurious Emission (2452 MHz; 20.000 dBm; 40 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v03r05 and ANSI C63.10

Result

DUT Frequency (MHz)	Result
2452.000000	PASS

Final measurements

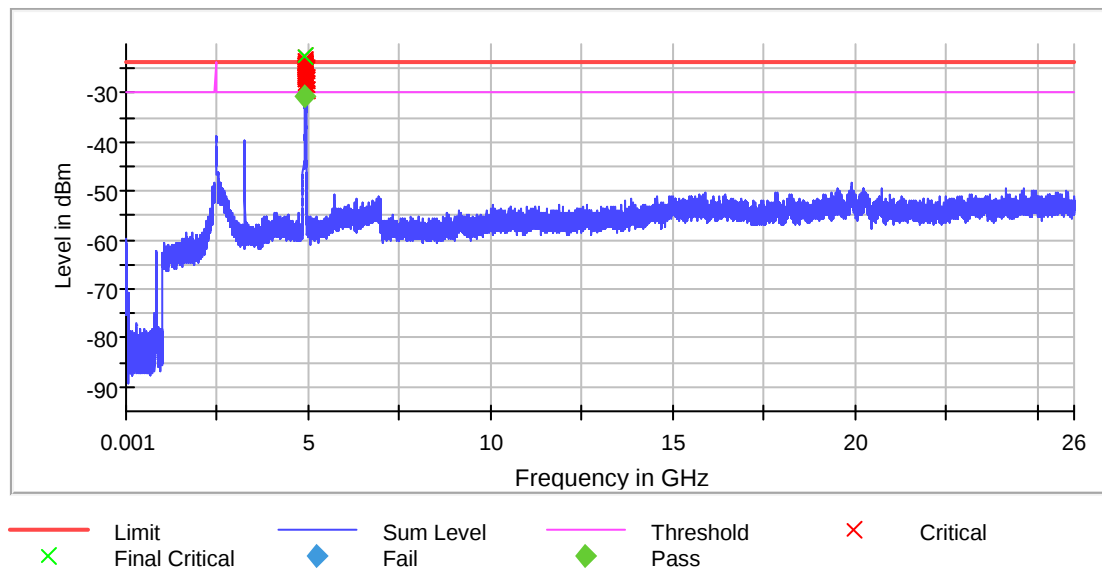
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4903.786639	-22.3	-30.8	-23.8	7.0	PASS

Pre Measurements

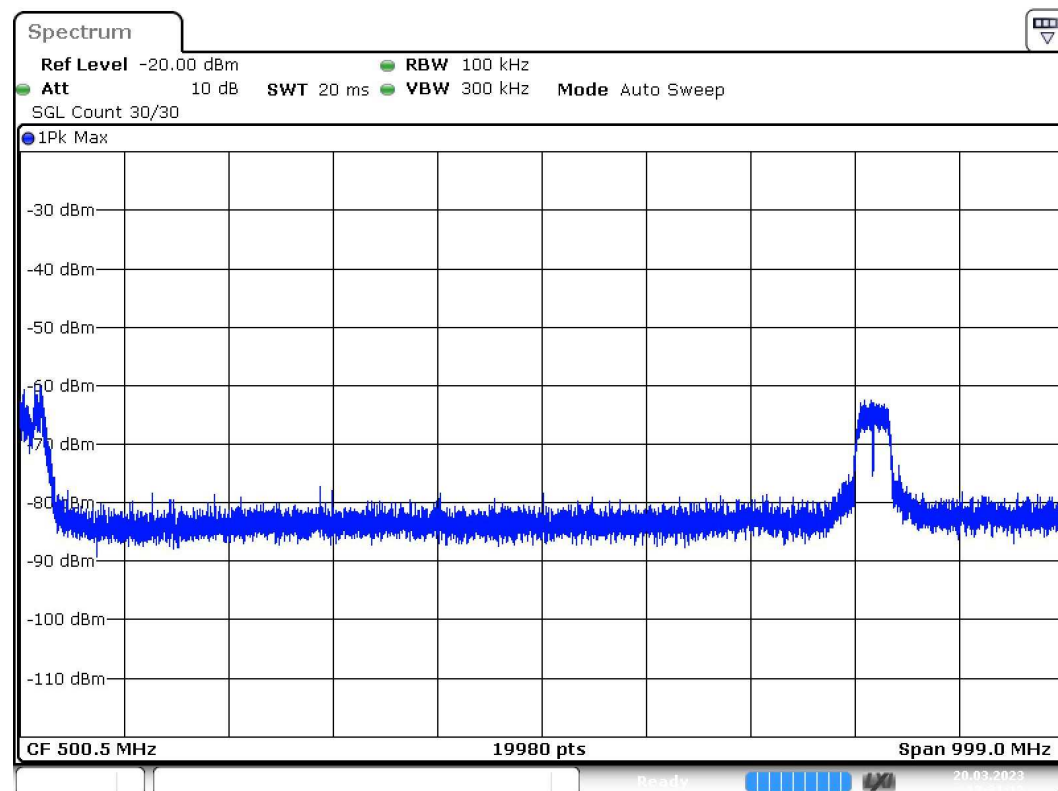
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4903.786639	-22.3	-1.5	-23.8
4908.195845	-23.5	-0.4	-23.8
4905.256375	-23.5	-0.4	-23.8
4904.521507	-23.5	-0.3	-23.8
4905.991242	-23.9	0.0	-23.8
4900.112301	-23.9	0.1	-23.8
4883.210345	-23.9	0.1	-23.8
4900.847169	-23.9	0.1	-23.8
4917.014257	-24.0	0.1	-23.8
4898.642566	-24.0	0.2	-23.8
4908.930713	-24.1	0.2	-23.8
4911.135316	-24.2	0.3	-23.8
4896.437963	-24.2	0.4	-23.8
4891.293889	-24.3	0.5	-23.8
4894.968228	-24.4	0.5	-23.8

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
1.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2483.500000	26000.000000	2	2

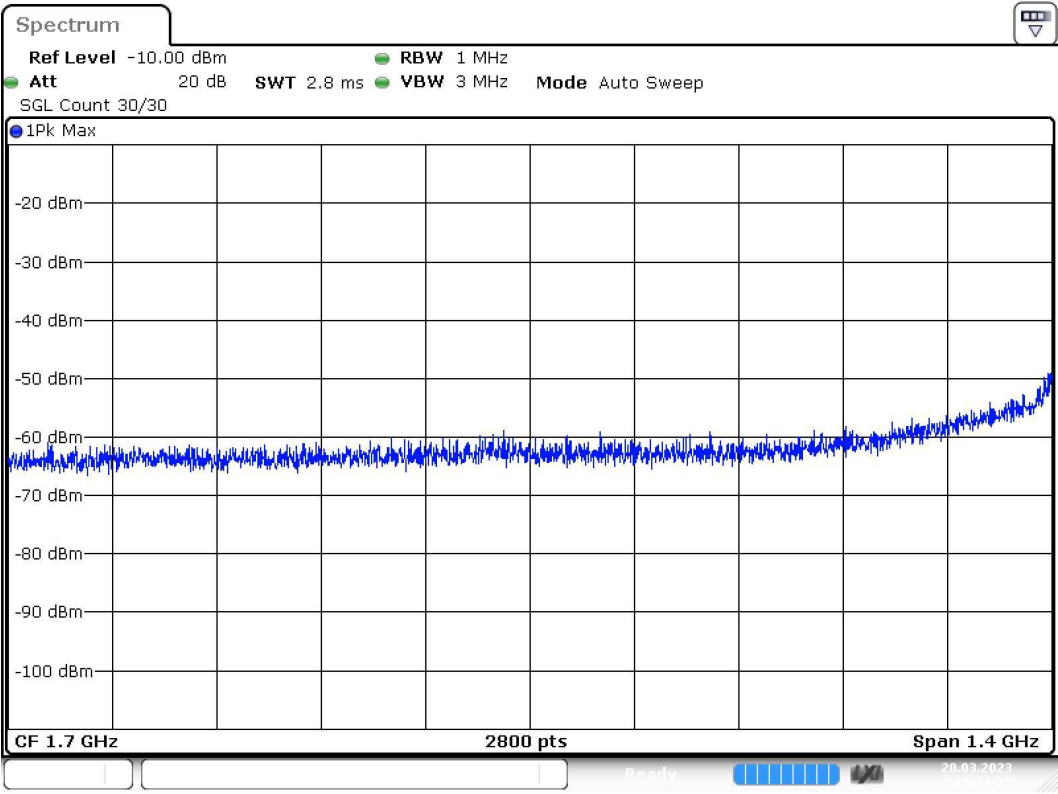


Spurious Connector 1_0



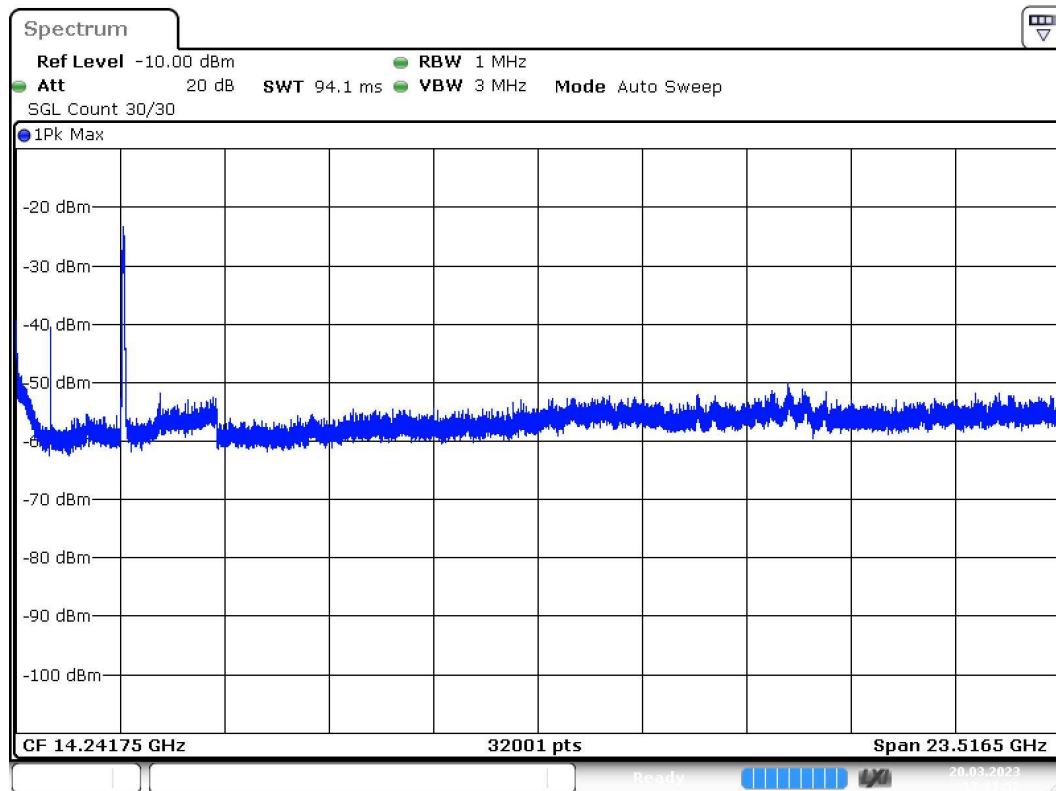
Date: 20.MAR.2023 13:31:13

Spurious Connector 1_1



Date: 20.MAR.2023 13:31:25

Spurious Connector 1_2



Date: 20.MAR.2023 13:31:52

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	19980	~ 19980
SweepTime	20.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 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	1.00 dB	1.00 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	1.00 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-10.000 dBm	-30.000 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	1.00 dB	1.00 dB
Run	1 / max. 1	max. 1
Stable	0 / 1	1
Max Stable Difference	0.00 dB	1.00 dB

Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off