



427 West 12800 South
Draper, UT 84020

Test Report Attachment

FCC ID	SWX-EFG
ISED ID	6545A-EFG
Equipment Under Test	EFG
Test Report Serial Number	TR8653_01
Date of Test(s)	18 – 19 October 2023
Report Issue Date	20 November 2023

Test Personnel

Testing performed by	Tyler Parry
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Test Location

Testing was performed at the Unified Compliance Laboratory located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2023. This site has also been registered with Innovations, Science and Economic Development (ISED) department as was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2024. Unified Compliance Laboratory has been assigned Conformity Assessment Number US0223 by ISED and MRA US5037.



1 BLE Band

1.1 Summary RF Conducted

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2402.000	15.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2402.000	15.0	1.000000	PASS
Peak Power Spectral Density	2402.000	15.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2402.000	15.0	1.000000	PASS
Band Edge low	2402.000	15.0	1.000000	PASS
Tx Spurious Emission	2402.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2402.000	15.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2442.000	15.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2442.000	15.0	1.000000	PASS
Tx Spurious Emission	2442.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2442.000	15.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2480.000	15.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2480.000	15.0	1.000000	PASS
Band Edge high	2480.000	15.0	1.000000	PASS
Tx Spurious Emission	2480.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2480.000	15.0	1.000000	PASS

RF output power (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2402.000000	5.3	30.0	8.3	62.632	PASS

OSP PowerMeter settings

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

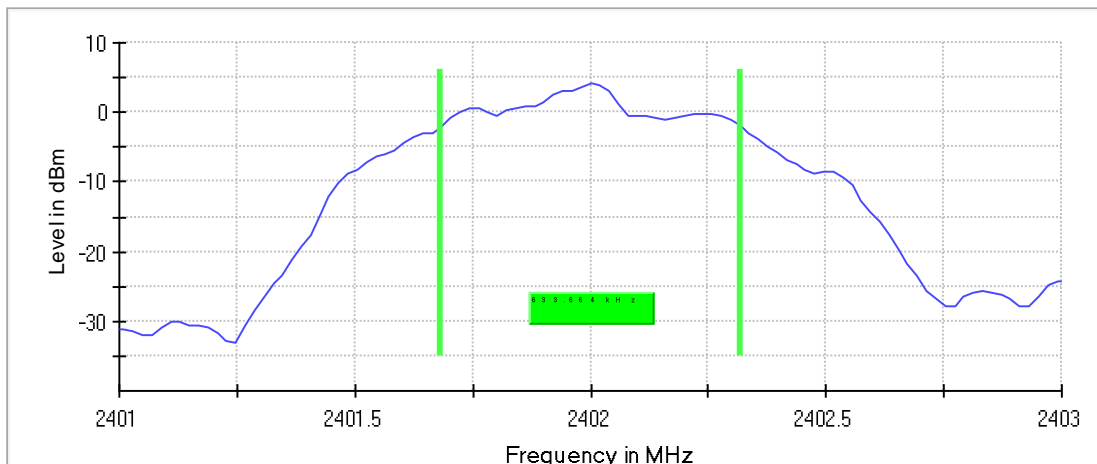
Minimum Emission Bandwidth 6 dB (2402 MHz; 15.000 dBm; 1 MHz)

6 dB Bandwidth

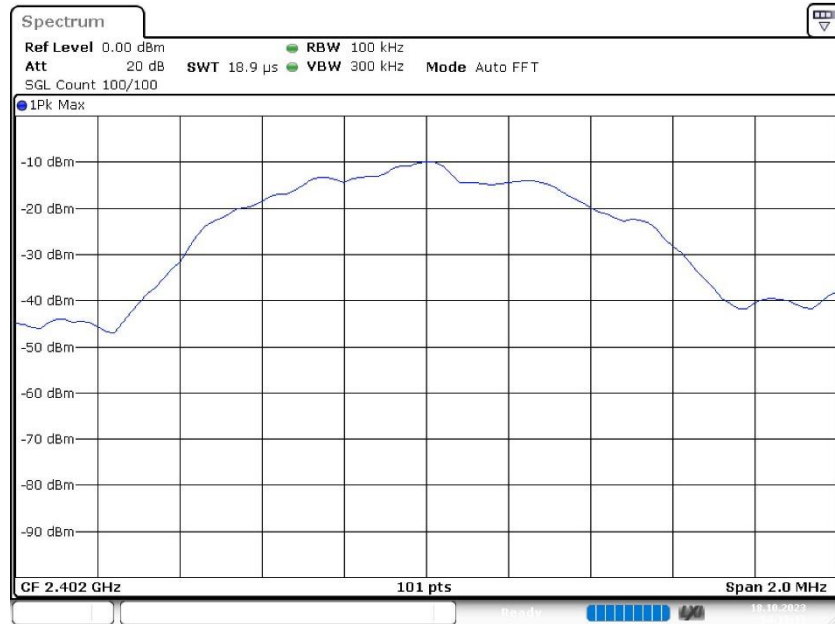
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.633664	0.500000	---	2401.683168	2402.316832

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	4.1	PASS

6 dB Bandwidth



Bandwidth



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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	~ 40
Sweptime	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

Peak Power Spectral Density (2402 MHz; 15.000 dBm; 1 MHz)

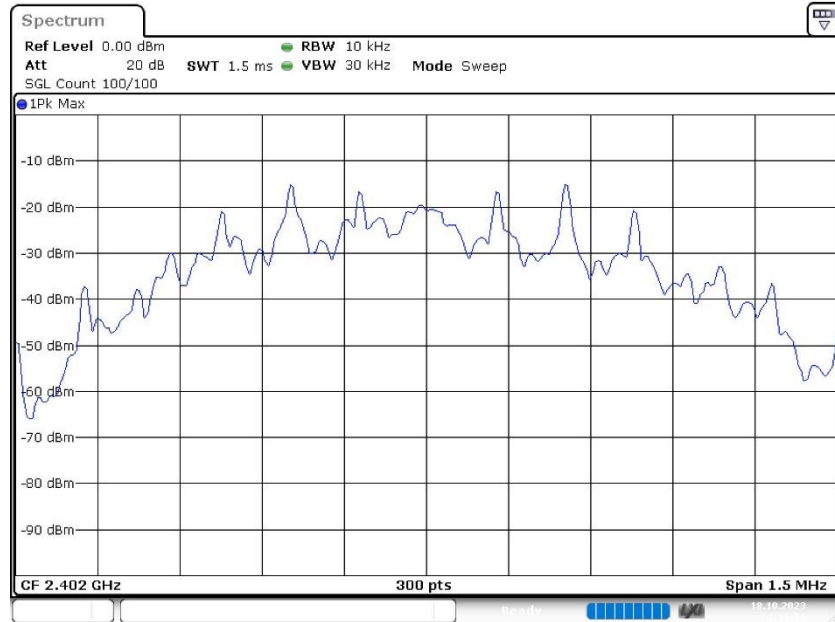
Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2402.252500	-1.214	8.0	PASS

Ports

Port	State
1	used

PSD Connector 1



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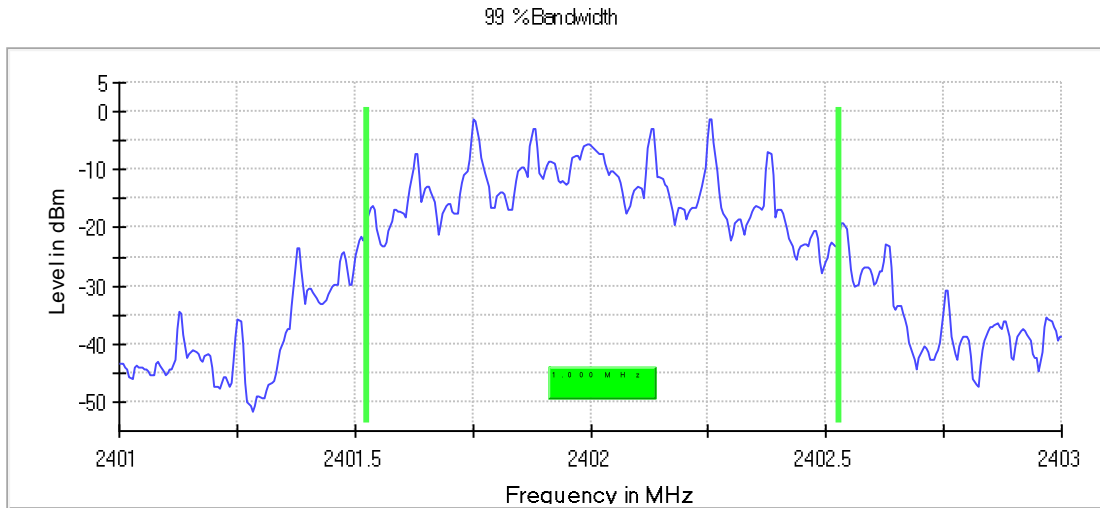
Measurement

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	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
Sweeptime	1.500 ms	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	Sweep	Sweep
Preamp	off	off

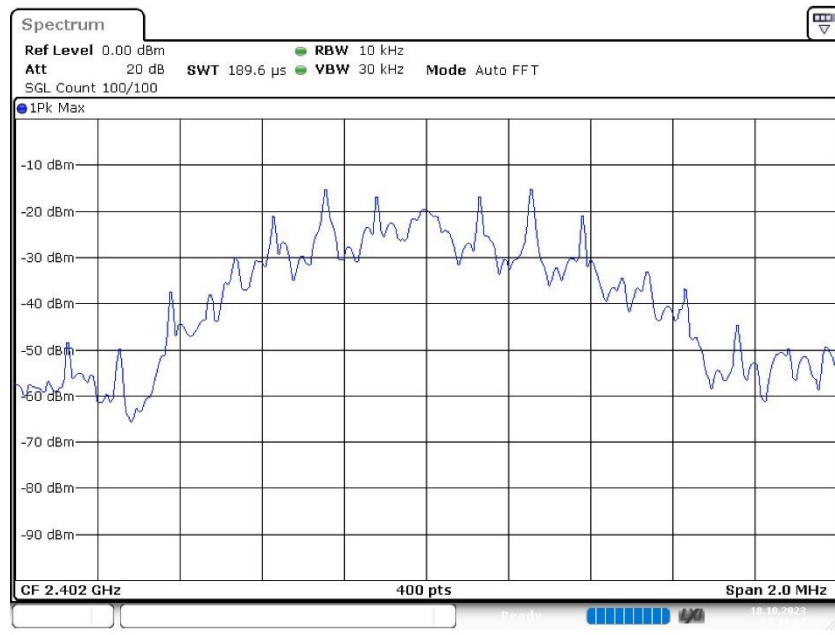
Occupied Channel Bandwidth 99% (2402 MHz; 15.000 dBm; 1 MHz)
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.000000	---	---	2401.527500	2402.527500

DUT Frequency (MHz)	Result
2402.000000	PASS



Bandwidth



Date: 18.OCT.2023 04:13:37

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	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 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

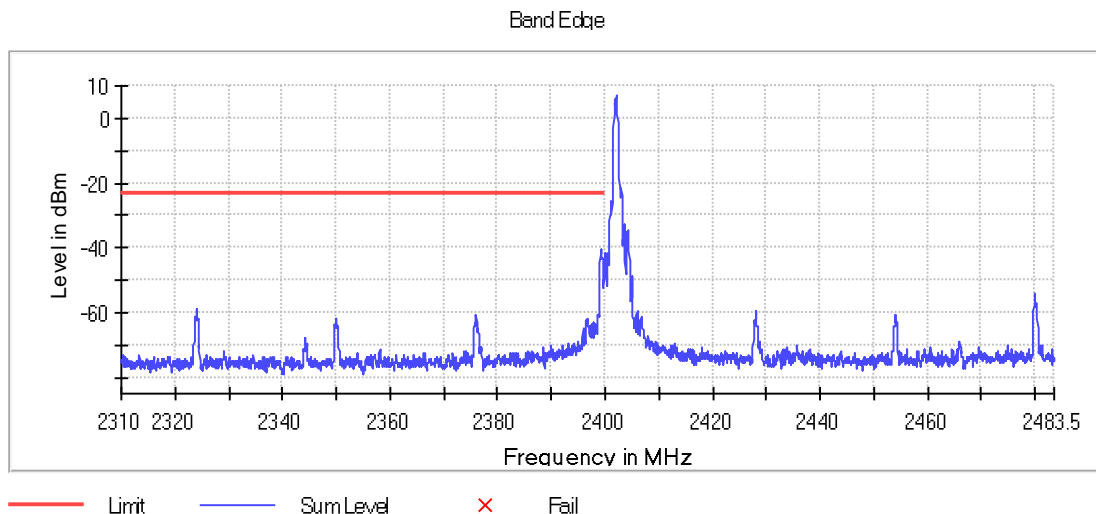
Band Edge low (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.175000	-40.7	17.7	-23.0	PASS
2399.225000	-40.7	17.7	-23.0	PASS
2399.275000	-41.4	18.4	-23.0	PASS
2399.125000	-41.5	18.6	-23.0	PASS
2399.325000	-42.6	19.7	-23.0	PASS
2399.425000	-43.0	20.0	-23.0	PASS
2399.475000	-43.5	20.5	-23.0	PASS
2399.375000	-43.6	20.6	-23.0	PASS
2399.075000	-44.5	21.5	-23.0	PASS
2399.975000	-45.8	22.8	-23.0	PASS
2399.525000	-47.3	24.3	-23.0	PASS
2399.025000	-47.5	24.5	-23.0	PASS
2399.925000	-47.8	24.8	-23.0	PASS
2399.875000	-47.8	24.9	-23.0	PASS
2399.825000	-49.4	26.4	-23.0	PASS



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
Sweeptime	113.672 μ s	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 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

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	94.727 μ s	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 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

Tx Spurious Emission (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

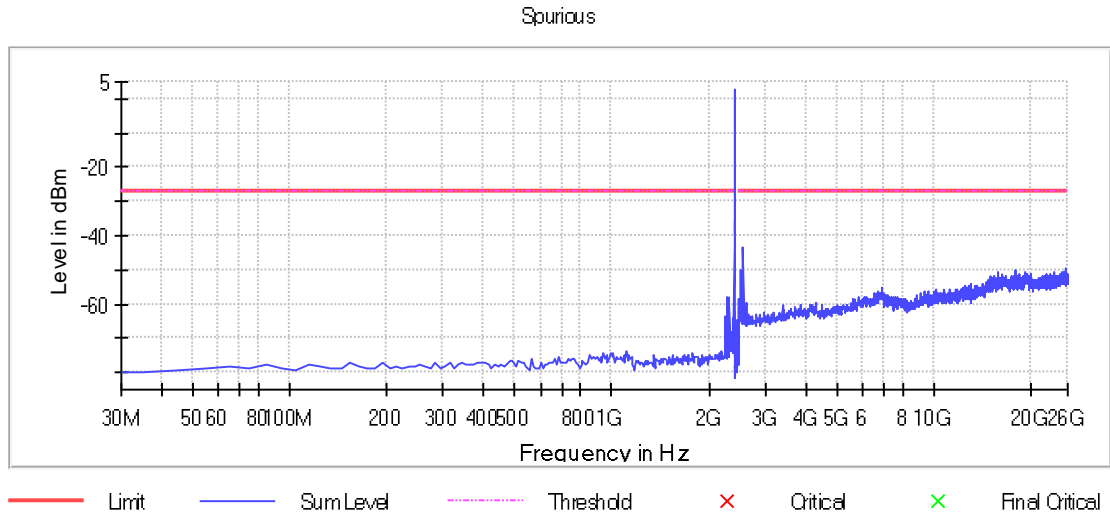
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
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Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2395.021008	-42.7	15.5	-27.2
2558.456970	-43.3	16.1	-27.2
25555.255312	-49.8	22.6	-27.2
2508.485657	-50.0	22.9	-27.2
17829.690289	-50.1	23.0	-27.2
25185.467595	-50.4	23.3	-27.2
25435.324161	-50.5	23.3	-27.2
25075.530705	-50.5	23.4	-27.2
25765.134828	-50.6	23.4	-27.2
25805.111878	-50.6	23.4	-27.2
23736.299511	-50.7	23.5	-27.2
17819.696026	-50.7	23.5	-27.2
15710.906609	-50.8	23.6	-27.2
19138.938695	-50.9	23.7	-27.2
25545.261050	-50.9	23.7	-27.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1



Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Emissions in restricted frequency bands (Average) (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

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

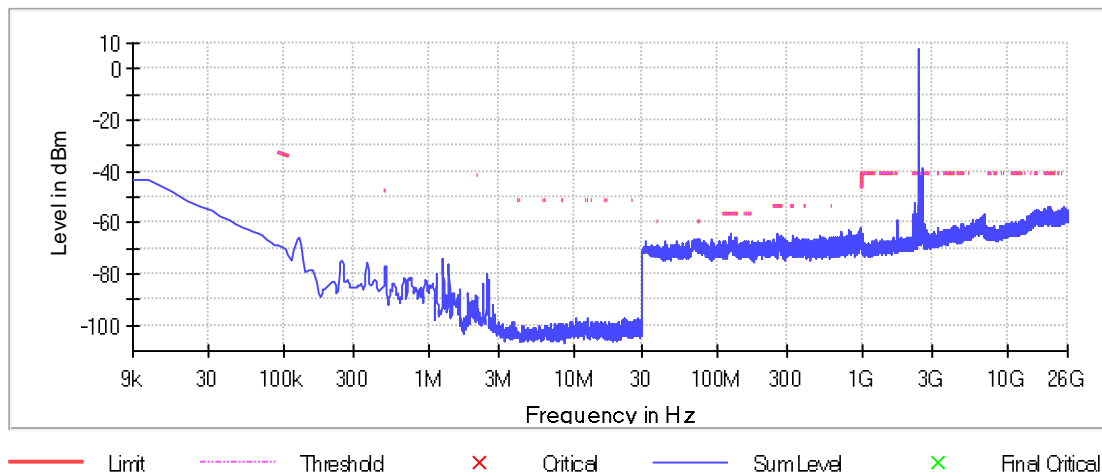
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
74.575000	-66.2	6.3	-59.9
74.525000	-66.7	6.8	-59.9
73.325000	-66.8	6.9	-59.9

73.275000	-66.9	7.0	-59.9
73.975000	-67.3	7.4	-59.9
74.875000	-67.4	7.5	-59.9
74.925000	-67.4	7.5	-59.9
74.025000	-67.5	7.6	-59.9
74.175000	-68.0	8.1	-59.9
73.675000	-68.0	8.1	-59.9
74.225000	-68.3	8.4	-59.9
73.725000	-68.4	8.5	-59.9
73.225000	-68.7	8.8	-59.9
74.825000	-68.7	8.8	-59.9
73.925000	-68.8	8.9	-59.9

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
0.009000	30.000000	2	2
30.000000	1000.000000	2	2
1000.000000	7000.000000	1	1
7000.000000	26000.000000	1	1

Restricted Band



Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	12000	~ 12000
SweepTime	12.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	Average	Average
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	10.000 kHz	≤ 10.000 kHz
VBW	30.000 kHz	≥ 30.000 kHz
SweepPoints	5998	~ 5998
SweepTime	1.327 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

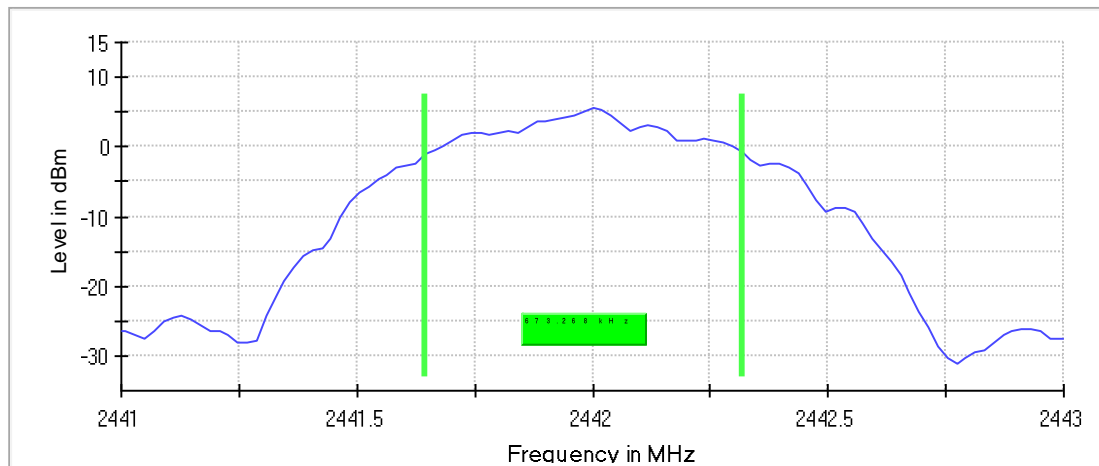
Minimum Emission Bandwidth 6 dB (2442 MHz; 15.000 dBm; 1 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	0.673268	0.500000	---	2441.643564	2442.316832

DUT Frequency (MHz)	Max Level (dBm)	Result
2442.000000	5.5	PASS

6 dB Bandwidth



Bandwidth

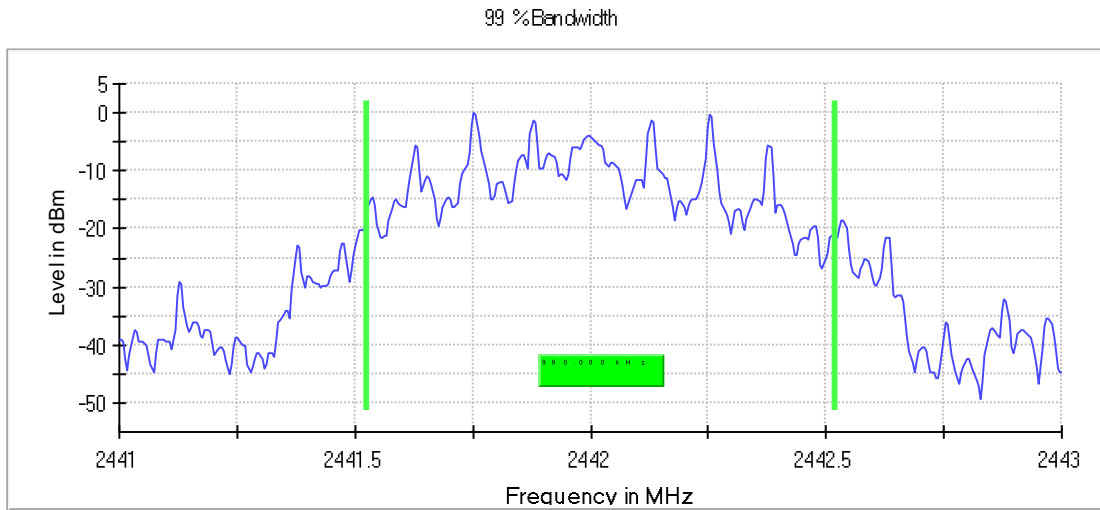


Occupied Channel Bandwidth 99% (2442 MHz; 15.000 dBm; 1 MHz)

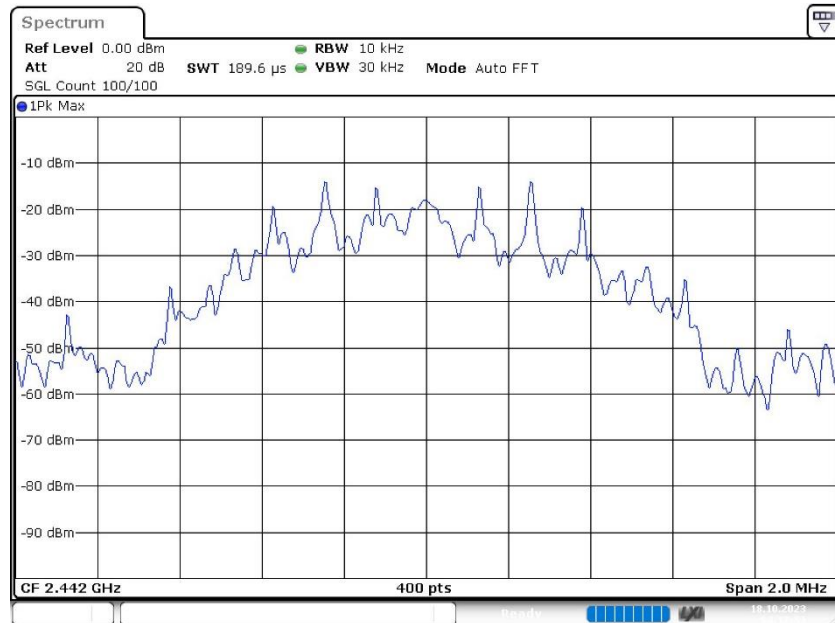
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	0.990000	---	---	2441.527500	2442.517500

DUT Frequency (MHz)	Result
2442.000000	PASS



Bandwidth



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Tx Spurious Emission (2442 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Final measurements

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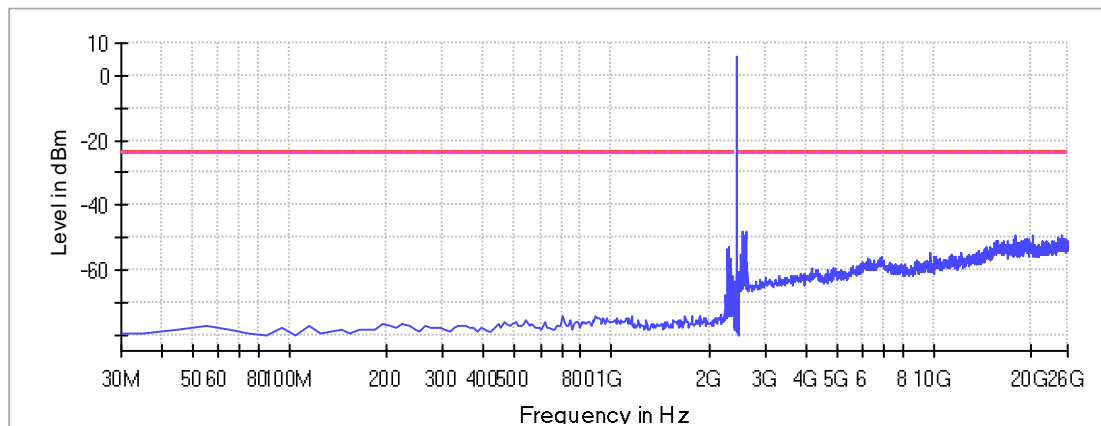
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2548.462707	-48.2	24.3	-23.9
2598.434020	-48.4	24.5	-23.9
24955.599554	-49.4	25.6	-23.9
17829.690289	-49.5	25.6	-23.9
20158.353485	-49.6	25.7	-23.9
2568.451232	-49.6	25.7	-23.9
17819.696026	-50.1	26.2	-23.9
24385.926583	-50.2	26.4	-23.9
24445.892159	-50.3	26.4	-23.9
19798.560030	-50.5	26.6	-23.9
25055.542180	-50.6	26.7	-23.9
24745.720038	-50.6	26.7	-23.9
19108.955907	-50.7	26.8	-23.9
19458.755100	-50.7	26.8	-23.9
17799.707501	-50.7	26.8	-23.9

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1

Spurious



— Limit — SumLevel - - - - Threshold × Critical × Final Critical

Emissions in restricted frequency bands (Average) (2442 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Final measurements

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

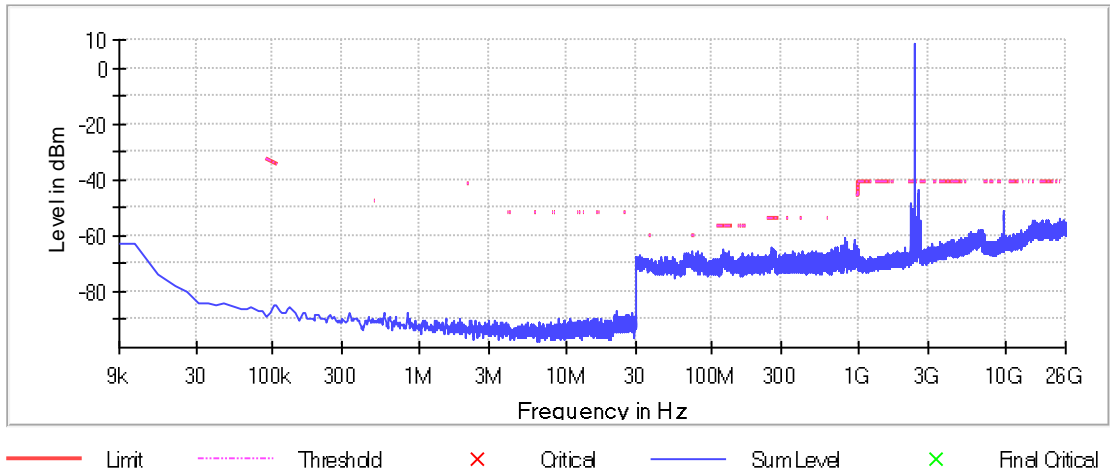
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
74.175000	-65.3	5.4	-59.9
74.225000	-65.4	5.5	-59.9
74.125000	-66.7	6.8	-59.9
2312.250000	-48.2	7.0	-41.2
74.275000	-67.3	7.4	-59.9
2286.750000	-48.8	7.6	-41.2
2286.250000	-48.9	7.7	-41.2
2312.750000	-48.9	7.7	-41.2
74.475000	-68.0	8.1	-59.9
74.425000	-68.1	8.2	-59.9
2311.750000	-49.6	8.4	-41.2
120.575000	-64.9	8.5	-56.4
120.525000	-65.0	8.6	-56.4
73.775000	-68.5	8.6	-59.9
74.975000	-68.6	8.7	-59.9

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
0.009000	30.000000	2	2
30.000000	1000.000000	2	2
1000.000000	7000.000000	1	1
7000.000000	26000.000000	1	1

Restricted Band



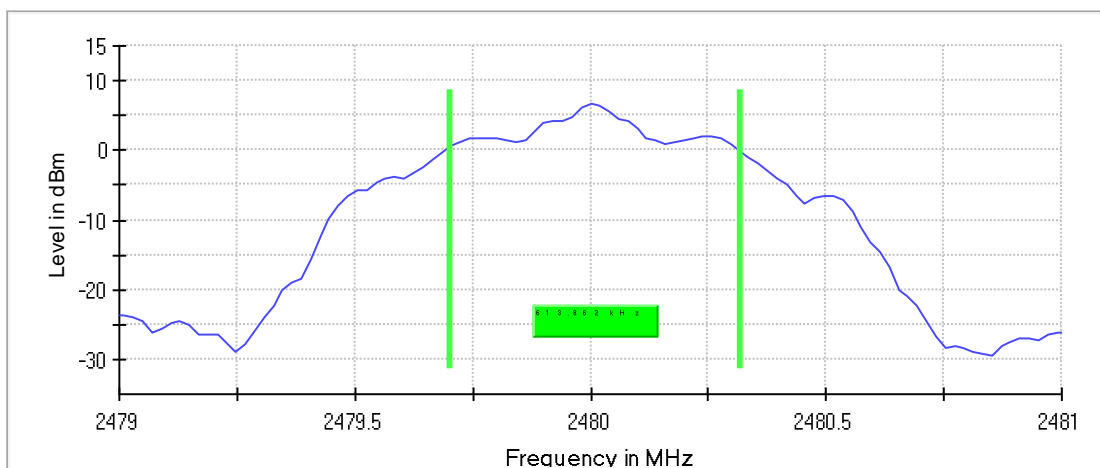
Minimum Emission Bandwidth 6 dB (2480 MHz; 15.000 dBm; 1 MHz)

6 dB Bandwidth

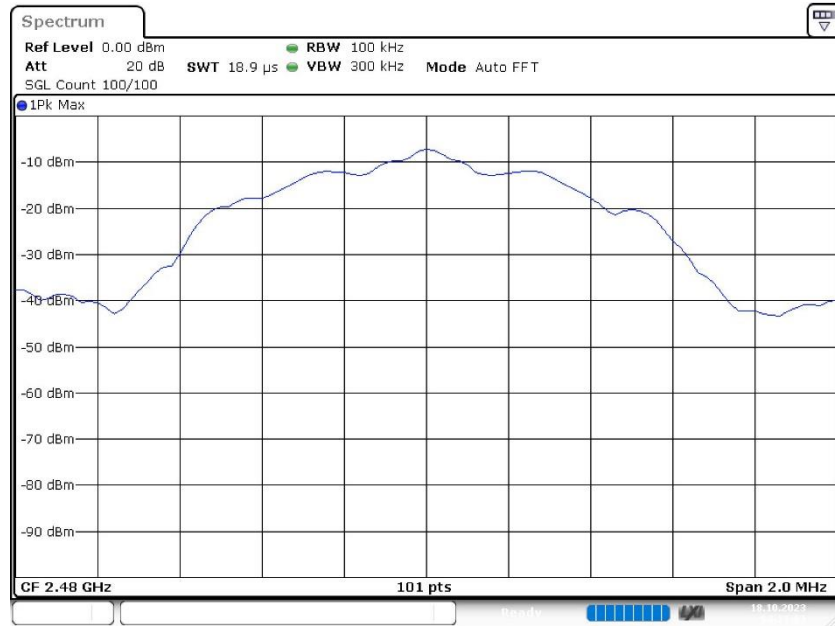
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.613862	0.500000	---	2479.702970	2480.316832

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	6.6	PASS

6 dB Bandwidth



Bandwidth



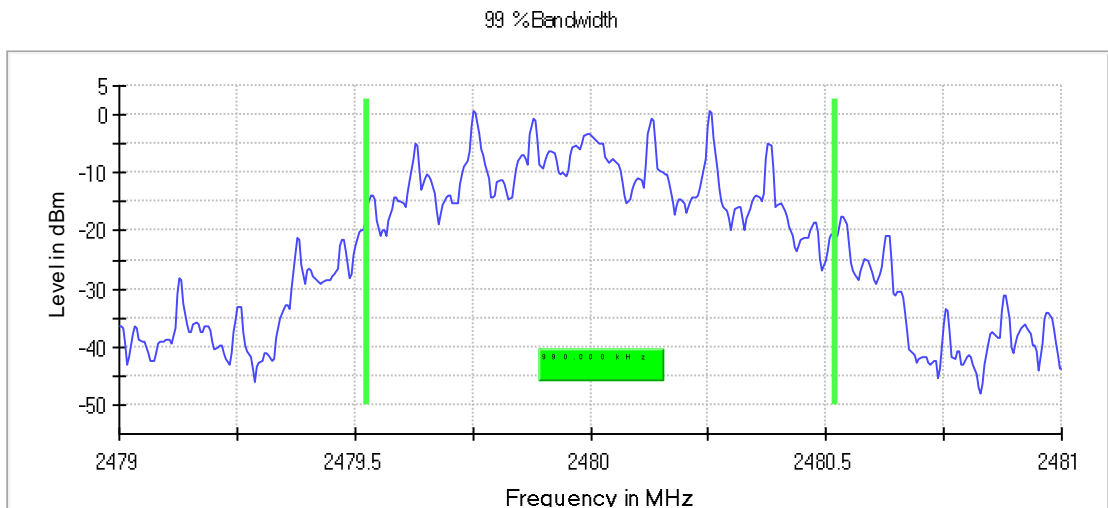
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Occupied Channel Bandwidth 99% (2480 MHz; 15.000 dBm; 1 MHz)

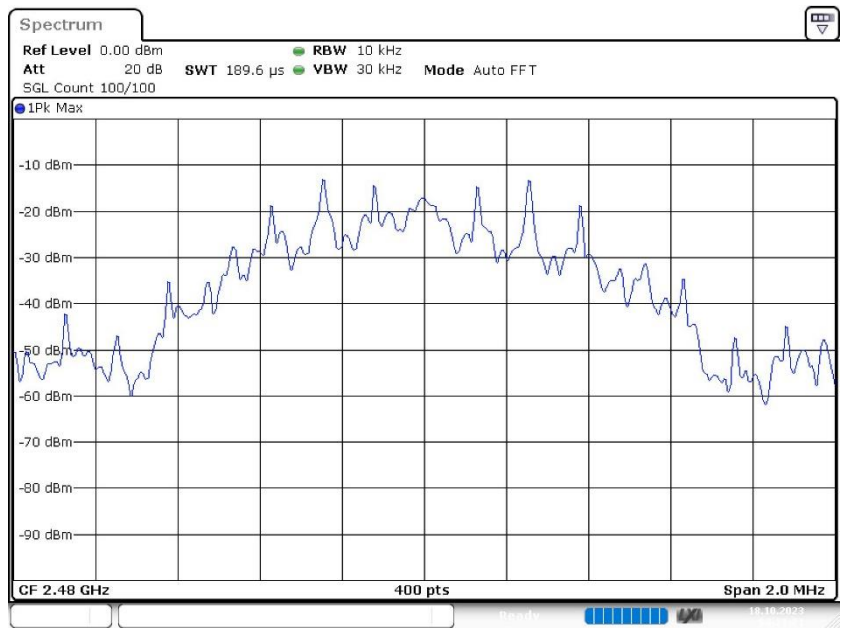
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.990000	---	---	2479.527500	2480.517500

DUT Frequency (MHz)	Result
2480.000000	PASS



Bandwidth



Band Edge high (2480 MHz; 15.000 dBm; 1 MHz)

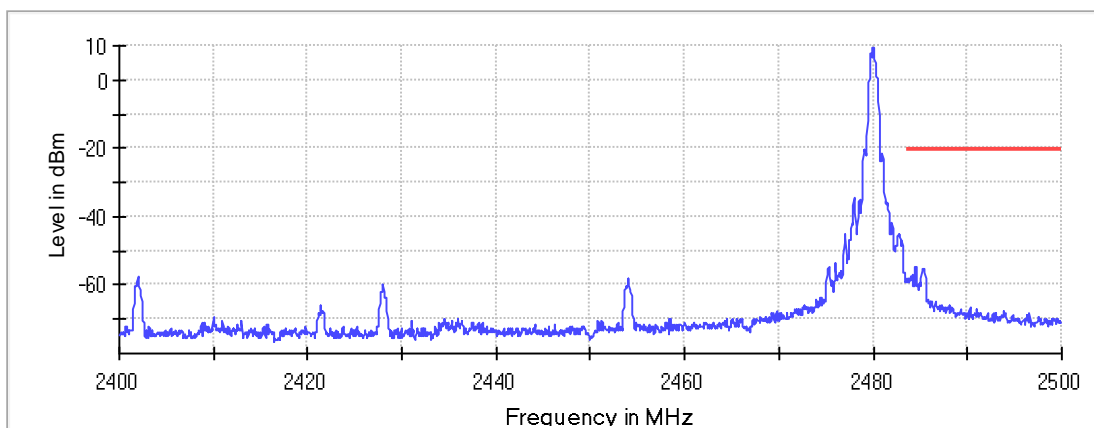
Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2484.525000	-54.6	34.2	-20.4	PASS
2484.475000	-54.7	34.4	-20.4	PASS
2485.375000	-55.0	34.7	-20.4	PASS
2485.425000	-55.1	34.8	-20.4	PASS
2485.325000	-55.5	35.1	-20.4	PASS
2485.275000	-55.5	35.2	-20.4	PASS
2485.225000	-55.6	35.2	-20.4	PASS
2485.175000	-55.8	35.5	-20.4	PASS
2485.125000	-56.0	35.6	-20.4	PASS
2485.475000	-56.4	36.0	-20.4	PASS
2484.575000	-56.6	36.3	-20.4	PASS
2484.125000	-57.1	36.7	-20.4	PASS
2484.175000	-57.1	36.8	-20.4	PASS
2483.975000	-57.5	37.1	-20.4	PASS
2484.025000	-57.5	37.2	-20.4	PASS

Band Edge



— Limit — SumLevel × Fail

Tx Spurious Emission (2480 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

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

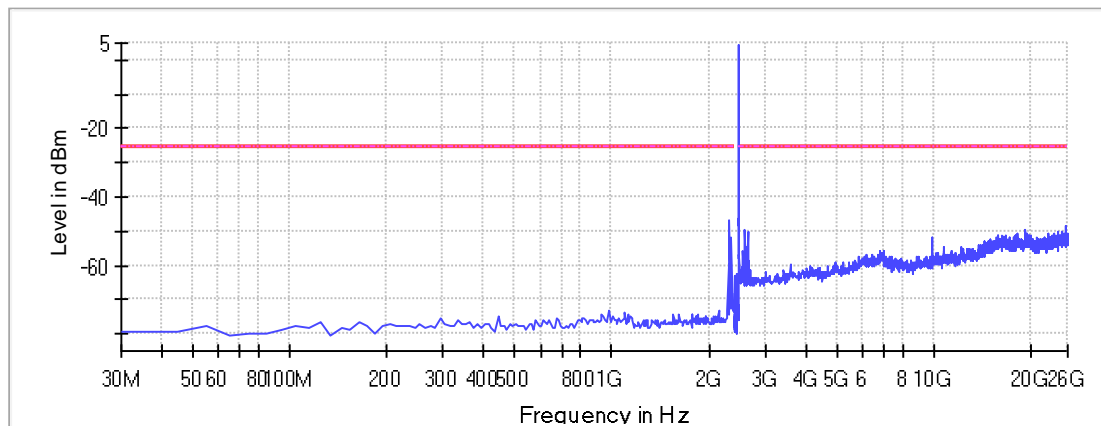
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2325.315126	-47.0	21.6	-25.3
25725.157777	-48.7	23.4	-25.3
2588.439758	-49.7	24.3	-25.3

19138.938695	-49.7	24.4	-25.3
25075.530705	-50.0	24.7	-25.3
24275.989694	-50.1	24.8	-25.3
2638.411071	-50.2	24.9	-25.3
19098.961645	-50.2	24.9	-25.3
23686.328198	-50.5	25.2	-25.3
25985.008606	-50.5	25.2	-25.3
22676.907671	-50.5	25.2	-25.3
18059.558330	-50.6	25.3	-25.3
25135.496281	-50.7	25.4	-25.3
25565.249575	-50.7	25.4	-25.3
25285.410221	-50.7	25.4	-25.3

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1

Spurious



Emissions in restricted frequency bands (Average) (2480 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

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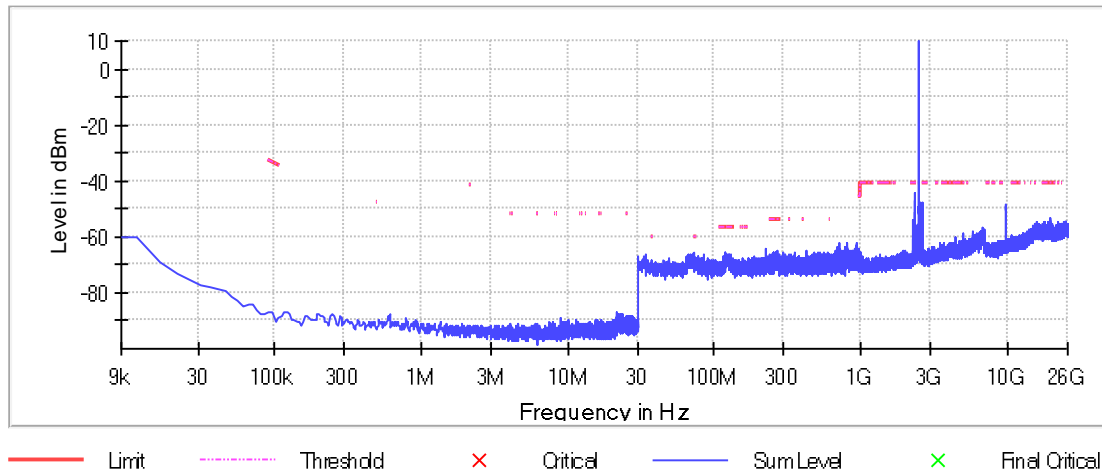
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2324.250000	-44.0	2.8	-41.2
2324.750000	-44.2	3.0	-41.2
2483.750000	-44.8	3.6	-41.2
2323.750000	-44.9	3.7	-41.2
2350.250000	-46.9	5.7	-41.2
2350.750000	-47.4	6.2	-41.2
2349.750000	-47.8	6.6	-41.2
73.875000	-66.7	6.8	-59.9
73.825000	-66.7	6.8	-59.9
73.275000	-66.8	6.9	-59.9
73.225000	-66.8	6.9	-59.9
2325.250000	-48.7	7.5	-41.2
2485.750000	-48.8	7.6	-41.2
2484.750000	-49.1	7.9	-41.2
74.975000	-68.3	8.4	-59.9

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
0.009000	30.000000	2	2
30.000000	1000.000000	2	2
1000.000000	7000.000000	1	1
7000.000000	26000.000000	1	1

Restricted Band



1.2 Summary Band Edge

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Band Edge low	2402.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2402.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Peak)	2402.000	15.0	1.000000	PASS
Band Edge low	2442.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2442.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Peak)	2442.000	15.0	1.000000	PASS
Band Edge low	2480.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Average)	2480.000	15.0	1.000000	PASS
Emissions in restricted frequency bands (Peak)	2480.000	15.0	1.000000	PASS

Band Edge low (2402 MHz; 15.000 dBm; 1 MHz)

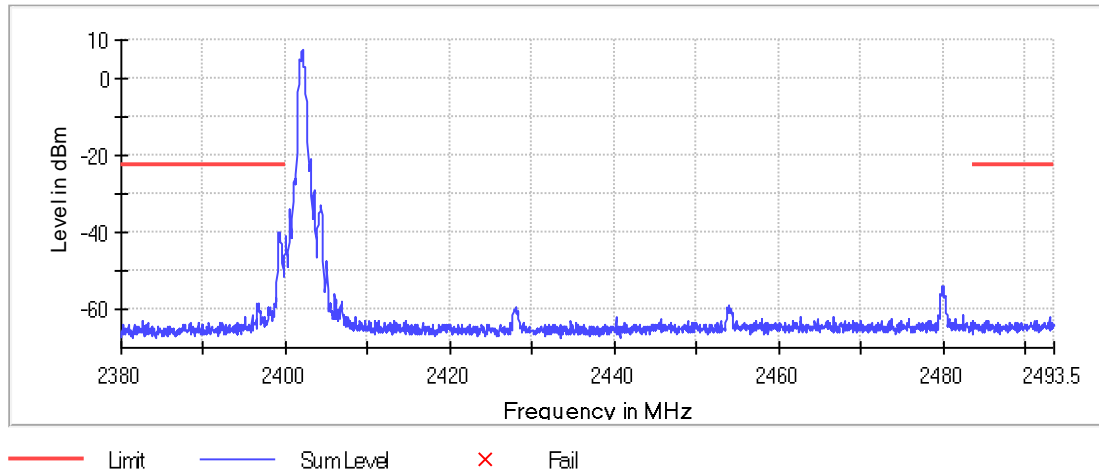
Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.225000	-39.9	17.2	-22.7	PASS
2399.175000	-40.0	17.3	-22.7	PASS
2399.125000	-40.8	18.1	-22.7	PASS
2399.275000	-41.0	18.3	-22.7	PASS
2399.975000	-41.5	18.9	-22.7	PASS
2399.375000	-42.1	19.4	-22.7	PASS
2399.425000	-42.6	19.9	-22.7	PASS
2399.325000	-42.7	20.0	-22.7	PASS
2399.475000	-42.9	20.2	-22.7	PASS
2399.075000	-44.1	21.5	-22.7	PASS
2399.525000	-44.4	21.7	-22.7	PASS
2399.925000	-45.6	22.9	-22.7	PASS
2399.875000	-46.1	23.4	-22.7	PASS
2399.575000	-46.8	24.2	-22.7	PASS
2399.025000	-47.5	24.8	-22.7	PASS

Band Edge



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	2.38000 GHz	2.38000 GHz
Stop Frequency	2.44400 GHz	2.44400 GHz
Span	64.000 MHz	64.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1280	~ 1280
SweepTime	1.000 s	1.000 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	2.44400 GHz	2.44400 GHz
Stop Frequency	2.49350 GHz	2.49350 GHz
Span	49.500 MHz	49.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	990	~ 990
SweepTime	1.000 s	1.000 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Emissions in restricted frequency bands (Average) (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

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

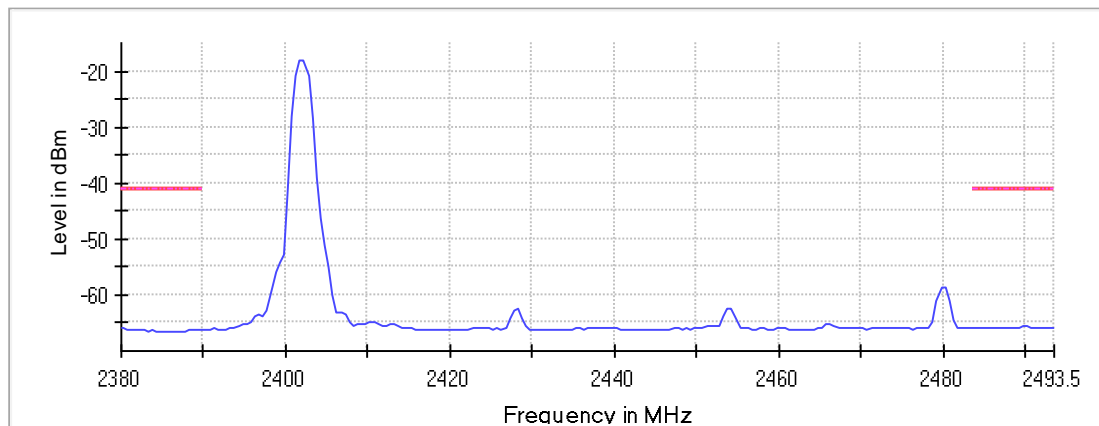
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2489.750000	-65.7	24.5	-41.2

2490.250000	-65.7	24.5	-41.2
2485.250000	-65.7	24.5	-41.2
2489.250000	-65.7	24.5	-41.2
2485.750000	-65.8	24.6	-41.2
2491.250000	-65.8	24.6	-41.2
2493.500000	-65.8	24.6	-41.2
2493.250000	-65.8	24.6	-41.2
2492.750000	-65.8	24.6	-41.2
2380.250000	-65.8	24.6	-41.2
2380.000000	-65.8	24.6	-41.2
2490.750000	-65.8	24.6	-41.2
2492.250000	-65.9	24.7	-41.2
2487.250000	-65.9	24.7	-41.2
2484.250000	-65.9	24.7	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
2380.000000	2493.500000	1	1

Restricted Band



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

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	500.000 Hz	>= 400.000 Hz
SweepPoints	227	~ 227
SweepTime	5.048 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

Emissions in restricted frequency bands (Peak) (2402 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

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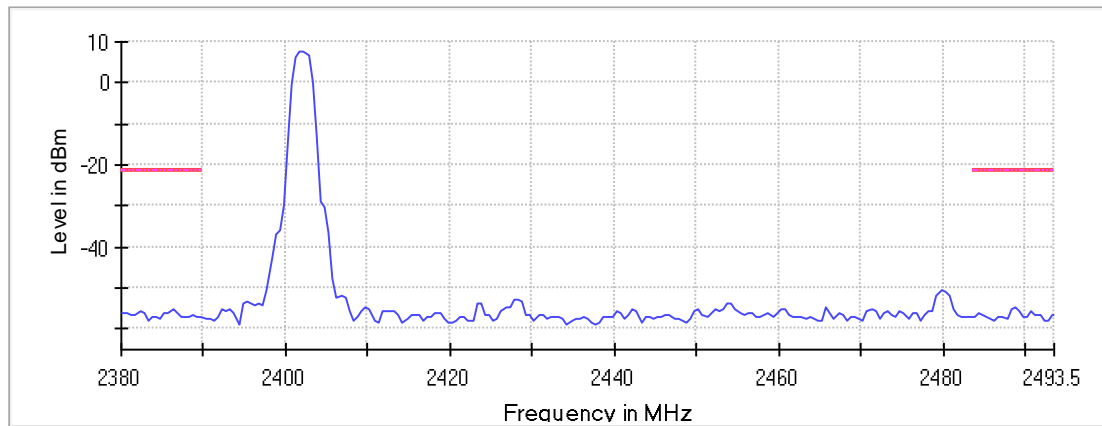
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2488.750000	-54.8	33.6	-21.2
2488.250000	-55.1	33.9	-21.2
2386.250000	-55.4	34.2	-21.2
2382.250000	-55.7	34.5	-21.2
2490.750000	-55.8	34.6	-21.2
2489.250000	-55.8	34.6	-21.2
2382.750000	-55.9	34.7	-21.2
2385.750000	-56.0	34.8	-21.2
2380.750000	-56.0	34.8	-21.2
2380.250000	-56.0	34.8	-21.2
2380.000000	-56.0	34.8	-21.2
2386.750000	-56.0	34.8	-21.2
2385.250000	-56.1	34.9	-21.2
2484.250000	-56.1	34.9	-21.2
2491.250000	-56.4	35.2	-21.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
2380.000000	2493.500000	1	1

Restricted Band



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

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	227	~ 227
SweepTime	15.250 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

Band Edge low (2442 MHz; 15.000 dBm; 1 MHz)

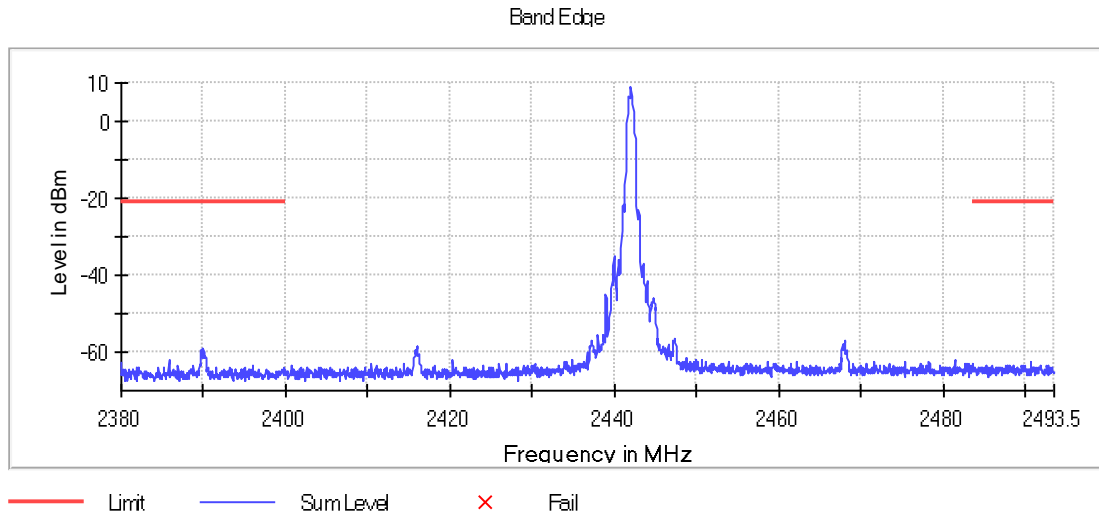
Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2389.975000	-58.9	37.8	-21.2	PASS
2389.775000	-59.7	38.6	-21.2	PASS
2389.725000	-59.7	38.6	-21.2	PASS
2389.925000	-60.0	38.8	-21.2	PASS
2390.025000	-60.1	39.0	-21.2	PASS
2389.825000	-60.6	39.4	-21.2	PASS
2390.225000	-60.9	39.7	-21.2	PASS
2389.875000	-61.3	40.1	-21.2	PASS
2390.125000	-61.4	40.3	-21.2	PASS
2390.325000	-61.4	40.3	-21.2	PASS
2390.175000	-61.5	40.3	-21.2	PASS

2390.275000	-61.5	40.3	-21.2	PASS
2389.675000	-61.5	40.4	-21.2	PASS
2390.075000	-61.7	40.6	-21.2	PASS
2385.775000	-62.2	41.1	-21.2	PASS



Emissions in restricted frequency bands (Average) (2442 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Final measurements

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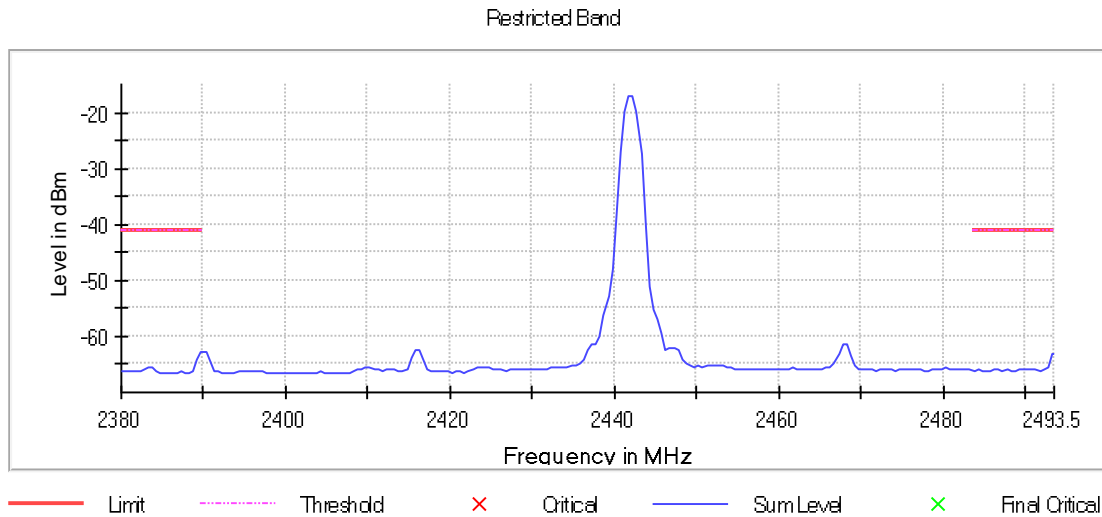
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2389.750000	-62.8	21.6	-41.2
2493.500000	-63.3	22.1	-41.2
2493.250000	-63.3	22.1	-41.2
2389.250000	-64.2	23.0	-41.2
2383.250000	-65.5	24.3	-41.2
2492.750000	-65.6	24.4	-41.2
2383.750000	-65.7	24.5	-41.2
2492.250000	-65.9	24.7	-41.2
2487.750000	-65.9	24.7	-41.2
2382.750000	-65.9	24.7	-41.2
2490.750000	-66.0	24.8	-41.2
2491.250000	-66.0	24.8	-41.2
2489.750000	-66.0	24.8	-41.2

2486.250000	-66.0	24.8	-41.2
2490.250000	-66.0	24.8	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
2380.000000	2493.500000	1	1



Emissions in restricted frequency bands (Peak) (2442 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Final measurements

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

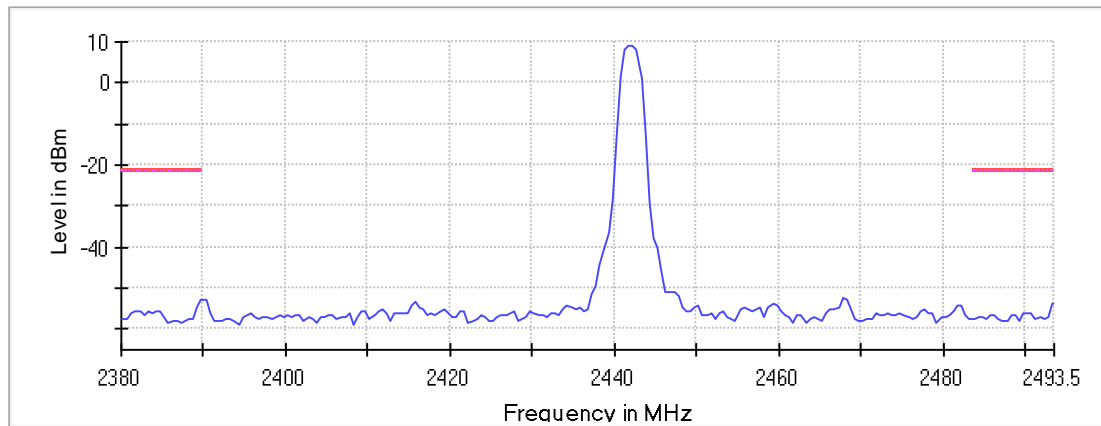
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2389.750000	-52.6	31.4	-21.2
2493.500000	-53.8	32.6	-21.2
2493.250000	-53.8	32.6	-21.2
2389.250000	-54.5	33.3	-21.2
2381.750000	-55.4	34.2	-21.2
2382.250000	-55.5	34.3	-21.2
2384.750000	-55.7	34.5	-21.2
2383.250000	-55.8	34.6	-21.2
2384.250000	-55.8	34.6	-21.2
2383.750000	-55.9	34.7	-21.2

2489.750000	-56.1	34.9	-21.2
2381.250000	-56.2	35.0	-21.2
2490.750000	-56.3	35.1	-21.2
2490.250000	-56.3	35.1	-21.2
2488.750000	-56.6	35.4	-21.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
2380.000000	2493.500000	1	1

Restricted Band



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

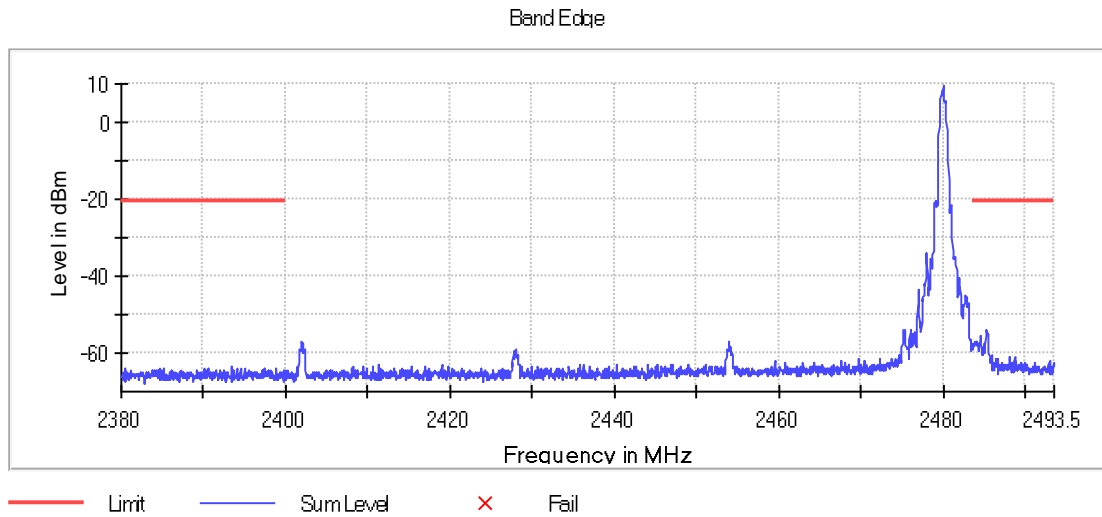
Band Edge low (2480 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2485.325000	-54.1	33.7	-20.4	PASS
2485.275000	-54.5	34.1	-20.4	PASS
2485.375000	-54.6	34.3	-20.4	PASS
2485.225000	-54.9	34.5	-20.4	PASS
2485.425000	-55.1	34.7	-20.4	PASS
2485.175000	-55.4	35.0	-20.4	PASS
2484.525000	-55.7	35.3	-20.4	PASS
2484.575000	-56.2	35.8	-20.4	PASS
2484.025000	-56.8	36.4	-20.4	PASS
2484.125000	-57.0	36.6	-20.4	PASS
2483.925000	-57.1	36.7	-20.4	PASS
2484.075000	-57.1	36.7	-20.4	PASS
2483.875000	-57.1	36.8	-20.4	PASS
2484.475000	-57.2	36.8	-20.4	PASS
2483.525000	-57.3	36.9	-20.4	PASS



Emissions in restricted frequency bands (Average) (2480 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

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

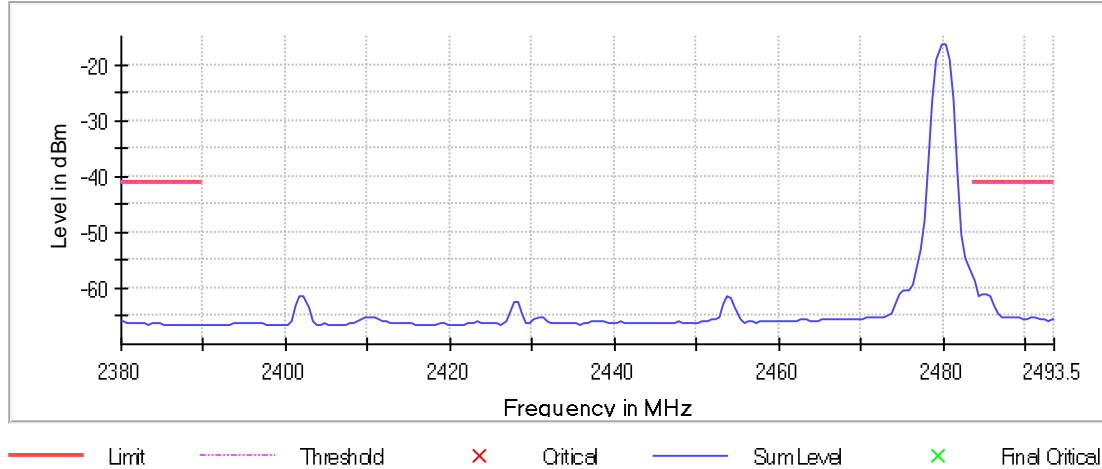
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2483.750000	-58.8	17.6	-41.2
2485.250000	-61.1	19.9	-41.2
2484.750000	-61.2	20.0	-41.2
2484.250000	-61.4	20.2	-41.2
2485.750000	-61.6	20.4	-41.2
2486.250000	-63.3	22.1	-41.2
2486.750000	-64.6	23.4	-41.2
2487.250000	-65.0	23.8	-41.2
2488.750000	-65.2	24.0	-41.2
2487.750000	-65.2	24.0	-41.2
2488.250000	-65.2	24.0	-41.2
2489.250000	-65.2	24.0	-41.2
2490.750000	-65.3	24.1	-41.2
2491.250000	-65.3	24.1	-41.2
2489.750000	-65.4	24.2	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement

2380.000000	2493.500000	1	1
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Restricted Band



Emissions in restricted frequency bands (Peak) (2480 MHz; 15.000 dBm; 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

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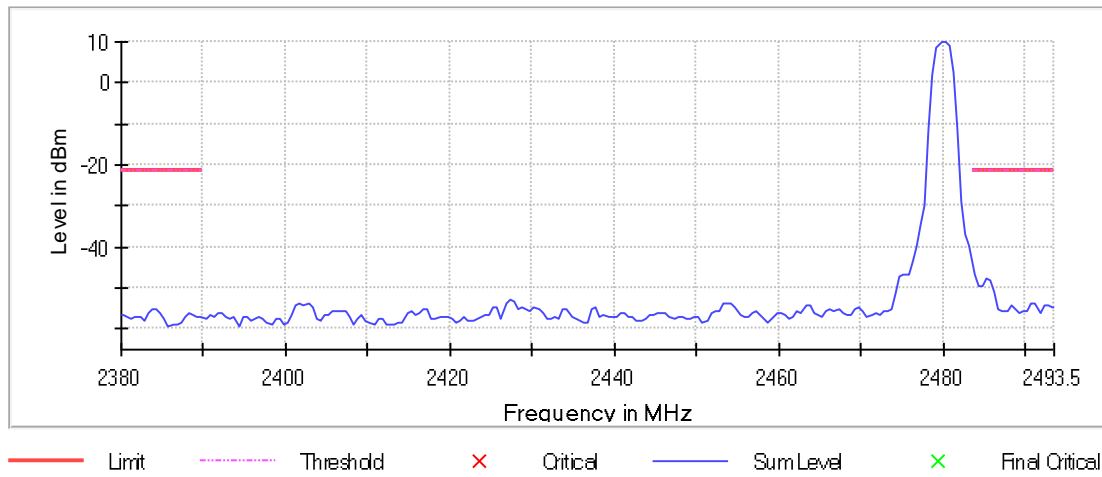
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2483.750000	-46.5	25.3	-21.2
2485.250000	-47.7	26.5	-21.2
2485.750000	-47.9	26.7	-21.2
2484.250000	-49.3	28.1	-21.2
2484.750000	-49.5	28.3	-21.2
2486.250000	-51.2	30.0	-21.2
2490.750000	-53.7	32.5	-21.2
2491.250000	-53.8	32.6	-21.2
2492.750000	-54.2	33.0	-21.2
2492.250000	-54.4	33.2	-21.2
2488.250000	-54.4	33.2	-21.2
2493.500000	-54.6	33.4	-21.2
2493.250000	-54.6	33.4	-21.2
2486.750000	-55.0	33.8	-21.2
2488.750000	-55.0	33.8	-21.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
2380.000000	2493.500000	1	1

Restricted Band



-- End of Report --