

U-LTE-Backup Pro Annex WiFi b g n

Summary – b Mode

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2412.000	24.0	20.000000	PASS
Power Spectral Density	2412.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2412.000	24.0	20.000000	PASS
Tx Spurious Emission	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2437.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2437.000	24.0	20.000000	PASS
Tx Spurious Emission	2437.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2472.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2472.000	24.0	20.000000	PASS
Tx Spurious Emission	2472.000	24.0	20.000000	PASS

RF output power (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2412.000000	19.9	30.0	19.9	87.025	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

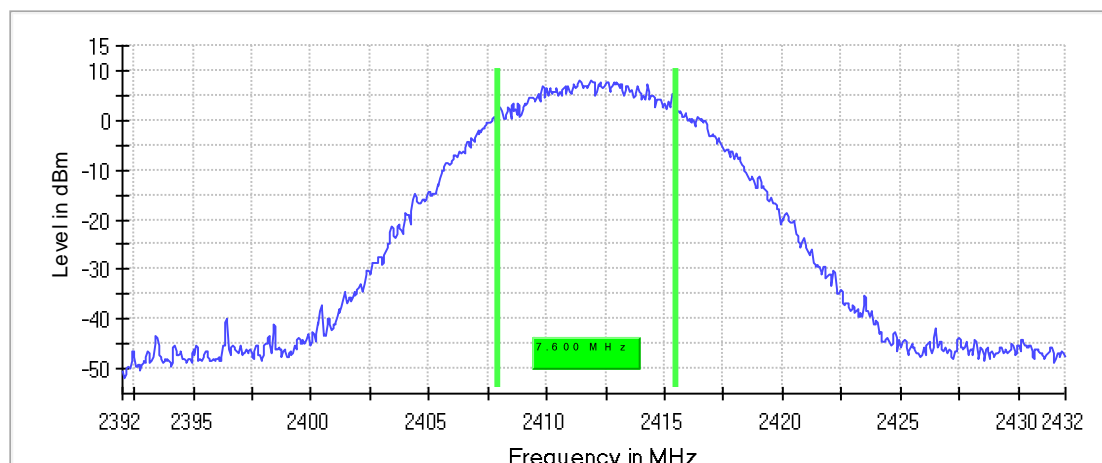
Minimum Emission Bandwidth 6 dB (2412 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

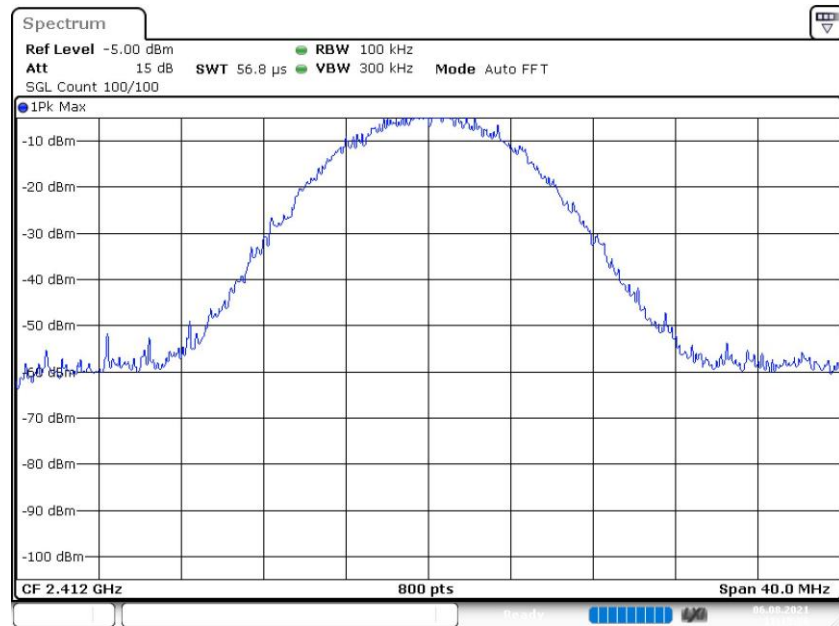
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	7.600000	0.500000	---	2407.925000	2415.525000

DUT Frequency (MHz)	Max Level (dBm)	Result
2412.000000	8.2	PASS

6 dB Bandwidth



Bandwidth



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Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
Sweeptime	56.836 μ s	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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

Power Spectral Density (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2412.000000	2411.316750	-9.464	8.0	PASS

Ports

Port	State
1	used

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39700 GHz	2.39700 GHz
Stop Frequency	2.42700 GHz	2.42700 GHz
Span	30.000 MHz	30.000 MHz
RBW	3.000 kHz	<= 3.000 kHz

VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	20000	~ 20000
Sweeptime	4.424 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Average Power	Average Power
SweepType	FFT	AUTO
Preamp	off	off

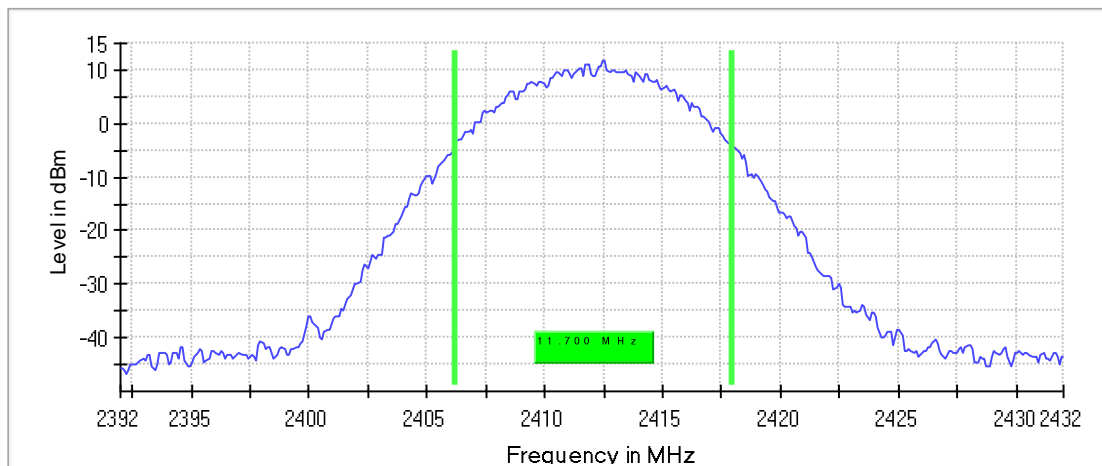
Occupied Channel Bandwidth 99% (2412 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

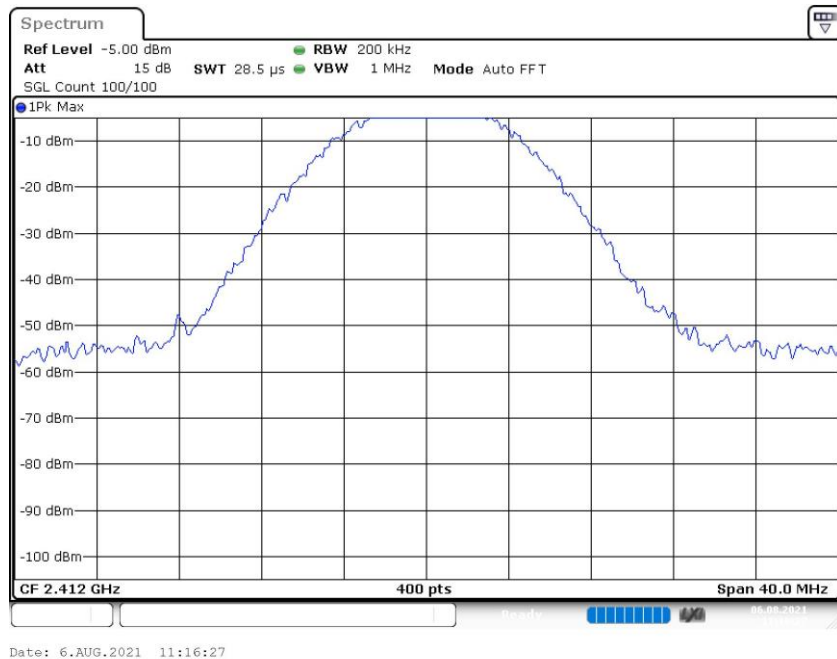
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	11.700000	---	---	2406.250000	2417.950000

DUT Frequency (MHz)	Result
2412.000000	PASS

99 %Bandwidth



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	\geq 200.000 kHz
VBW	1.000 MHz	\geq 600.000 kHz
SweepPoints	400	\sim 400
Sweptime	28.477 μ s	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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 (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2412.000000	PASS

Final measurements

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

Pre Measurements

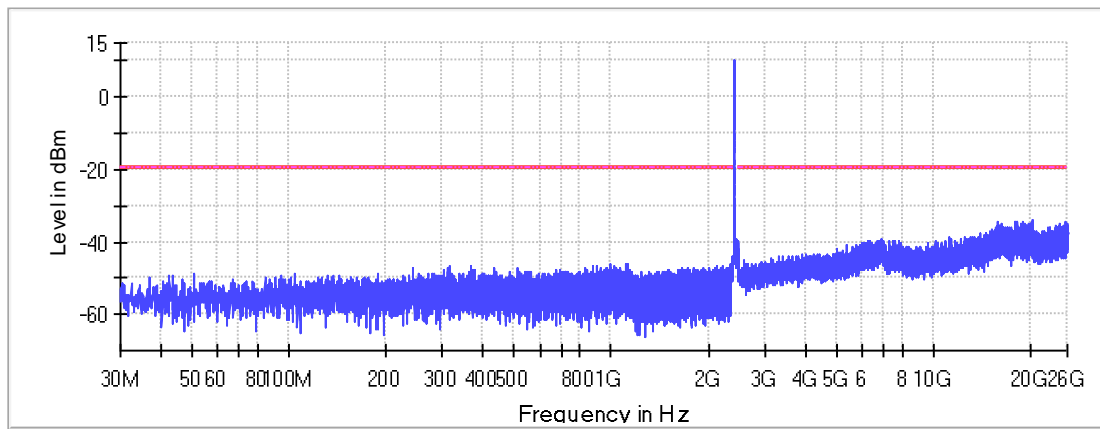
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
20194.178049	-34.1	14.6	-19.5
17849.950212	-34.2	14.7	-19.5
18257.801764	-34.3	14.8	-19.5
17915.353434	-34.5	14.9	-19.5
18196.072881	-34.5	15.0	-19.5

20150.085990	-34.6	15.0	-19.5
15832.738485	-34.6	15.1	-19.5
18850.105098	-34.6	15.1	-19.5
25605.008633	-34.7	15.1	-19.5
25961.419448	-34.9	15.4	-19.5
19879.654690	-34.9	15.4	-19.5
19931.095427	-35.1	15.5	-19.5
16199.437447	-35.1	15.5	-19.5
18555.423166	-35.1	15.6	-19.5
19620.246406	-35.1	15.6	-19.5

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	32001	~ 46400
Sweeptime	32.100 ms	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2670	~ 2670
Sweeptime	151.563 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	300	300
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold

Sweeptype	FFT	AUTO
Preamp	off	off

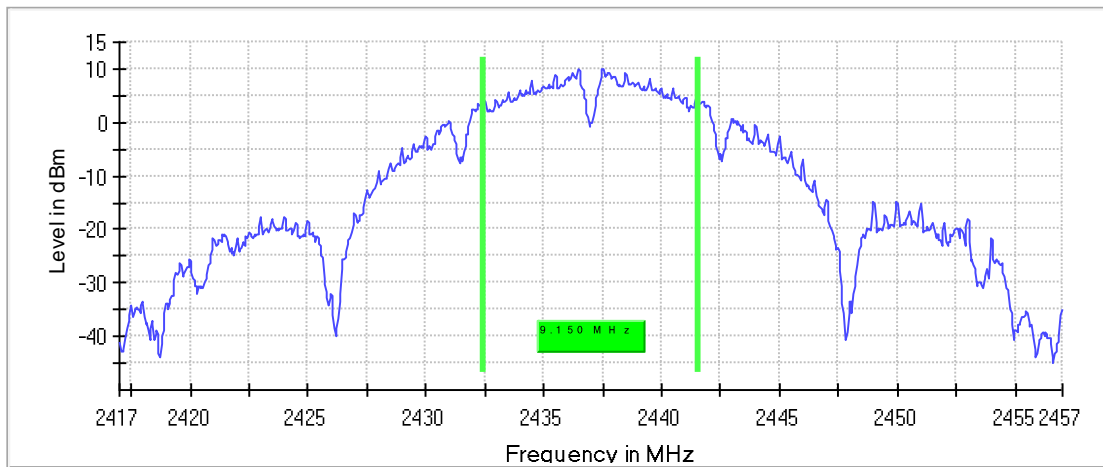
Minimum Emission Bandwidth 6 dB (2437 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

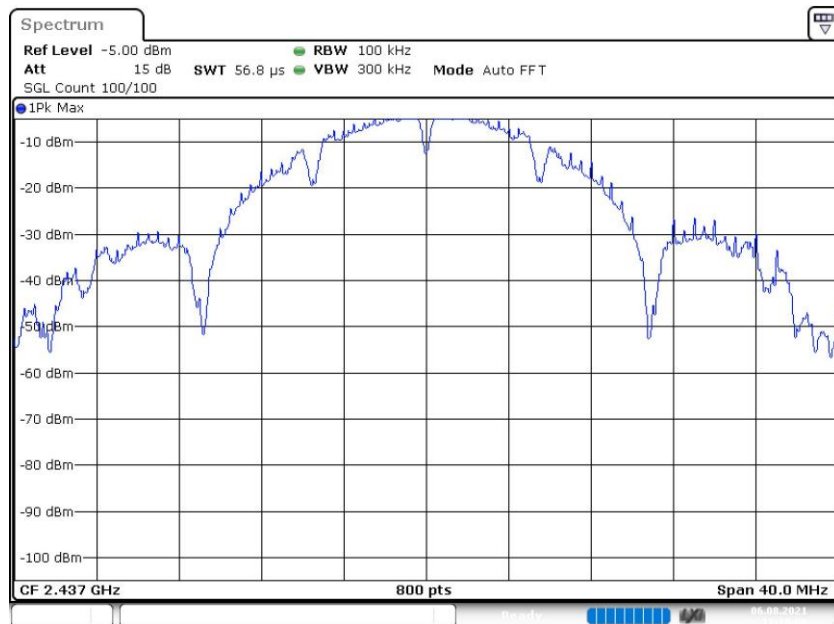
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	9.150000	0.500000	---	2432.425000	2441.575000

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	10.1	PASS

6 dB Bandwidth



Bandwidth

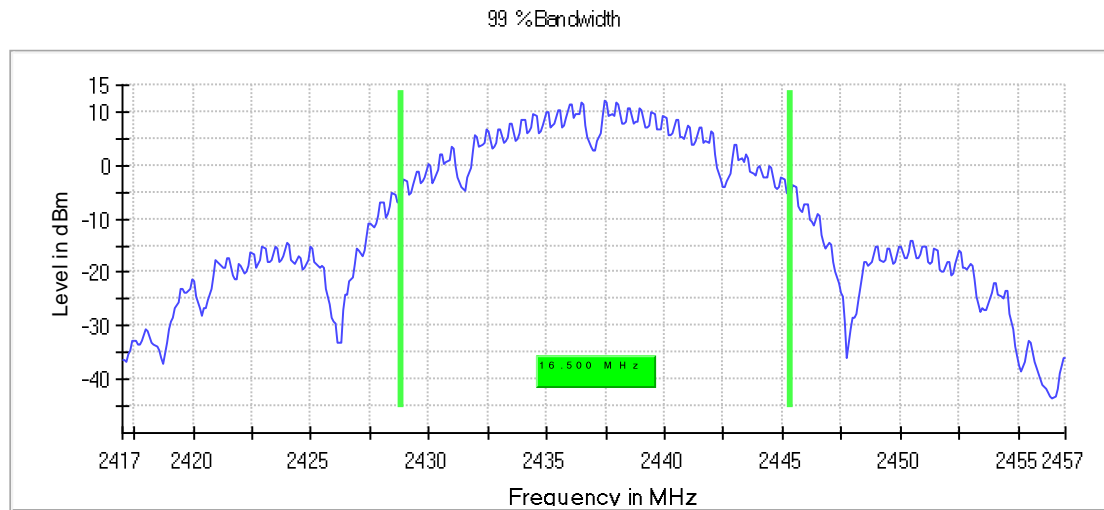


Occupied Channel Bandwidth 99% (2437 MHz; 24.000 dBm; 20 MHz)

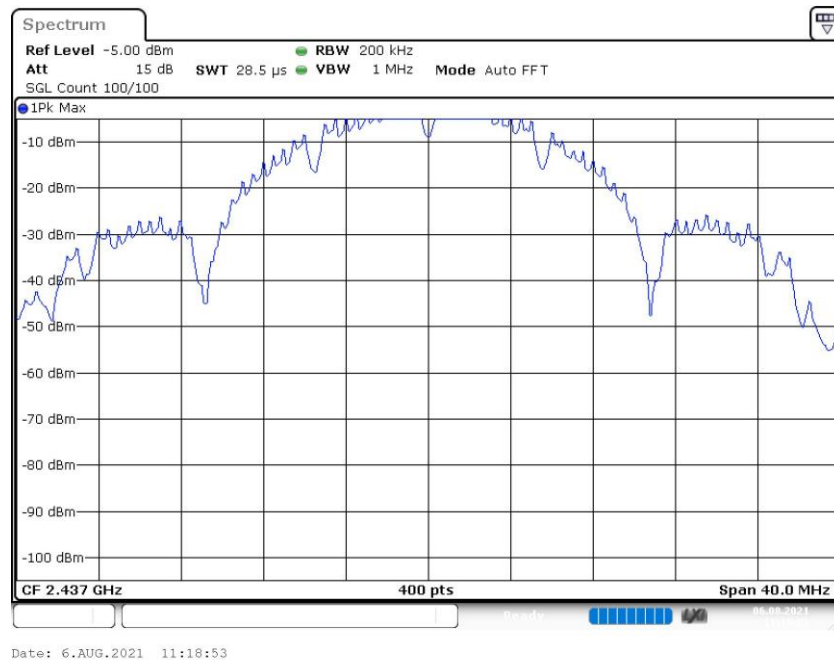
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	16.500000	---	---	2428.850000	2445.350000

DUT Frequency (MHz)	Result
2437.000000	PASS



Bandwidth



Tx Spurious Emission (2437 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2437.000000	PASS

Final measurements

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

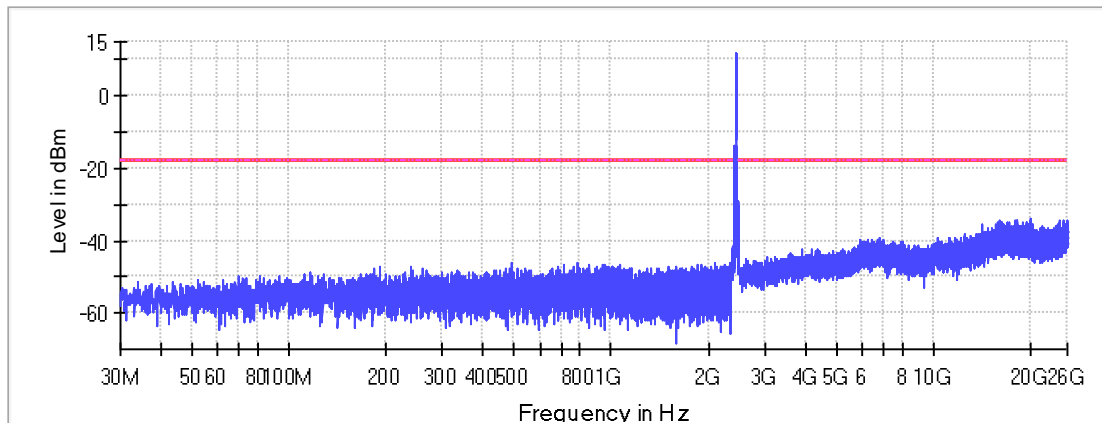
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19958.285530	-34.0	15.9	-18.0
17883.754125	-34.2	16.2	-18.0
18220.323513	-34.3	16.2	-18.0
19887.003367	-34.3	16.3	-18.0
25899.690564	-34.4	16.4	-18.0
19894.352044	-34.5	16.5	-18.0
19957.550662	-34.6	16.5	-18.0
16129.625020	-34.6	16.5	-18.0
24655.559615	-34.6	16.6	-18.0
25347.070084	-34.6	16.6	-18.0
18199.012351	-34.7	16.6	-18.0
16211.930197	-34.8	16.8	-18.0
19901.700720	-34.8	16.8	-18.0
16153.140785	-34.9	16.8	-18.0
15872.421338	-34.9	16.9	-18.0

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



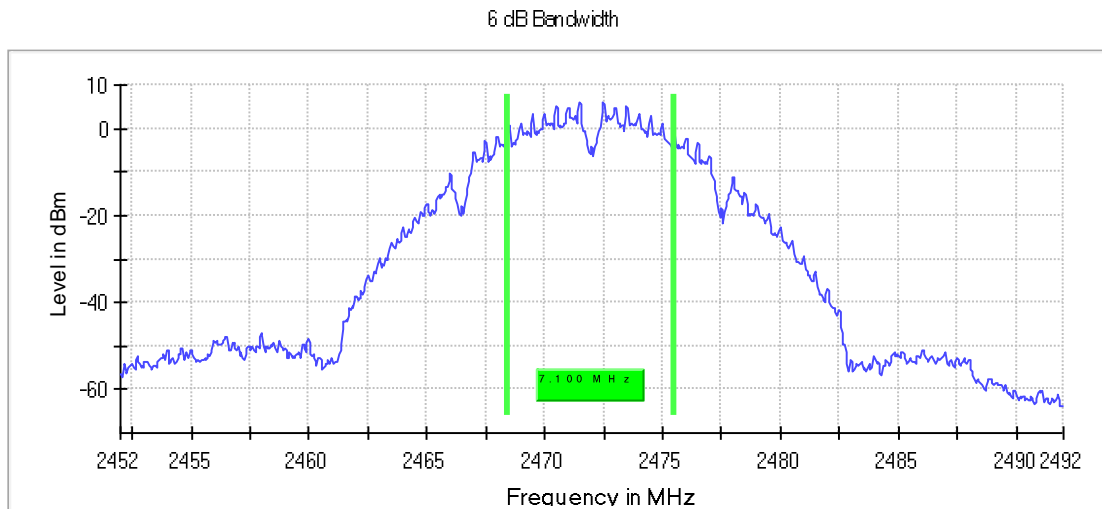
— Limit — Sum Level — Threshold × Critical × Final Critical

Minimum Emission Bandwidth 6 dB (2472 MHz; 24.000 dBm; 20 MHz)

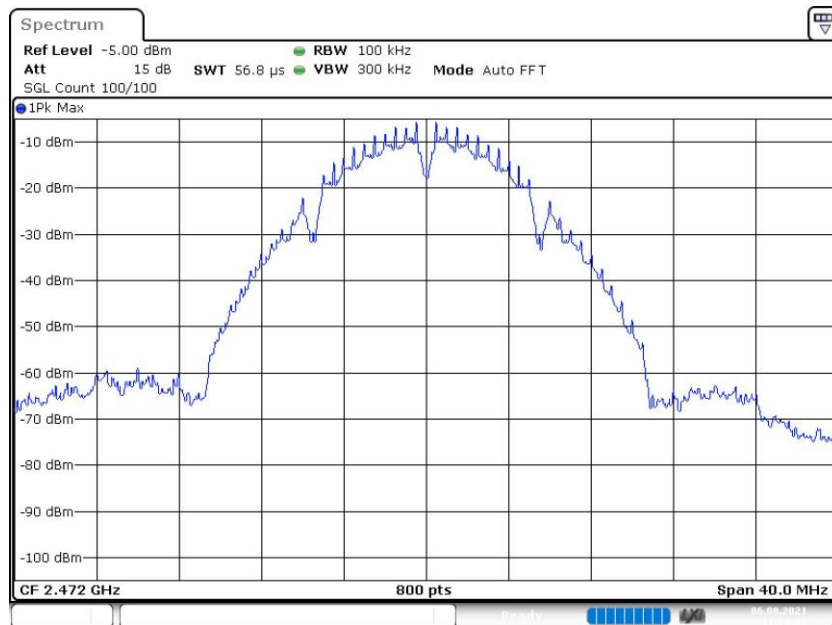
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	7.100000	0.500000	---	2468.425000	2475.525000

DUT Frequency (MHz)	Max Level (dBm)	Result
2472.000000	6.0	PASS



Bandwidth



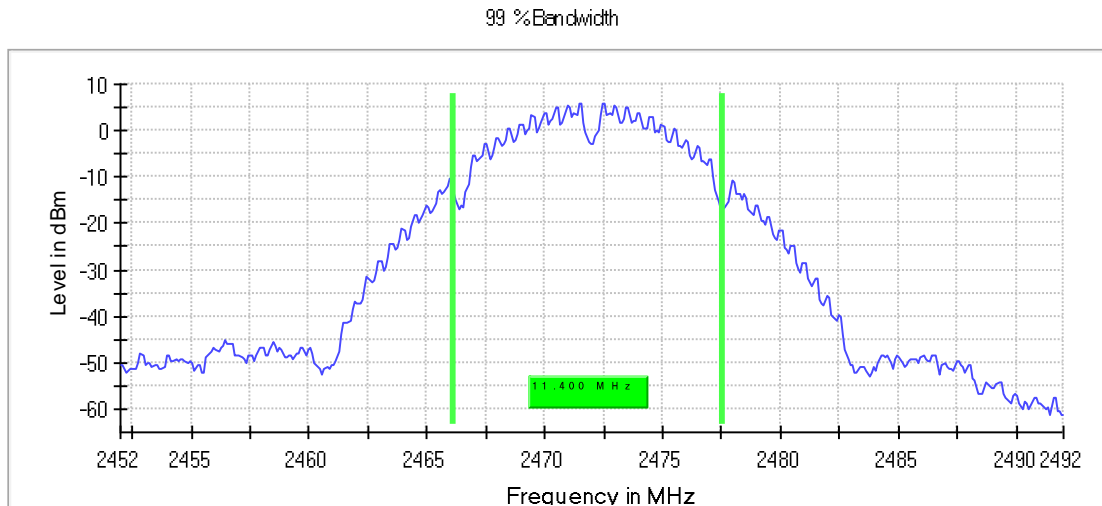
Date: 6.AUG.2021 11:20:33

Occupied Channel Bandwidth 99% (2472 MHz; 24.000 dBm; 20 MHz)

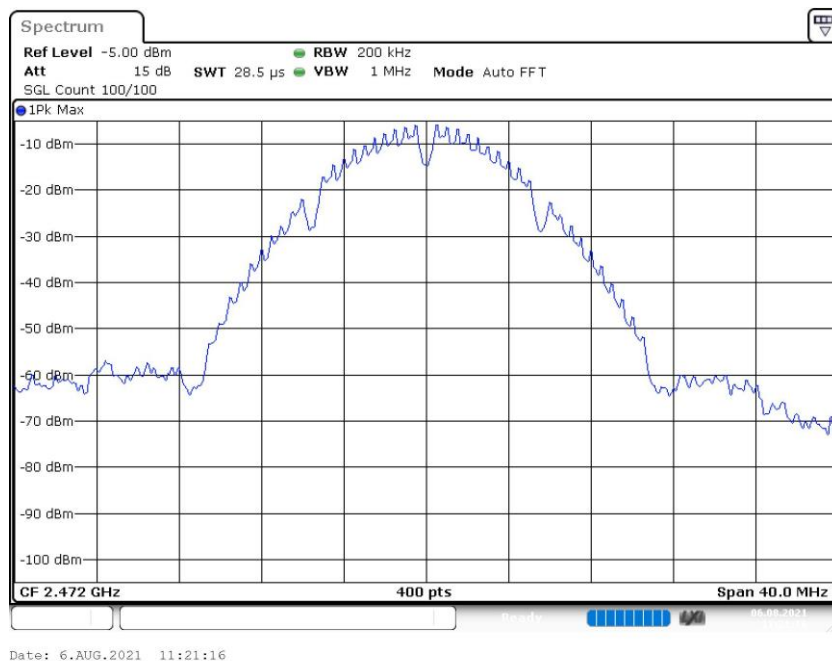
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	11.400000	---	---	2466.150000	2477.550000

DUT Frequency (MHz)	Result
2472.000000	PASS



Bandwidth



Tx Spurious Emission (2472 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2472.000000	PASS

Final measurements

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

Pre Measurements

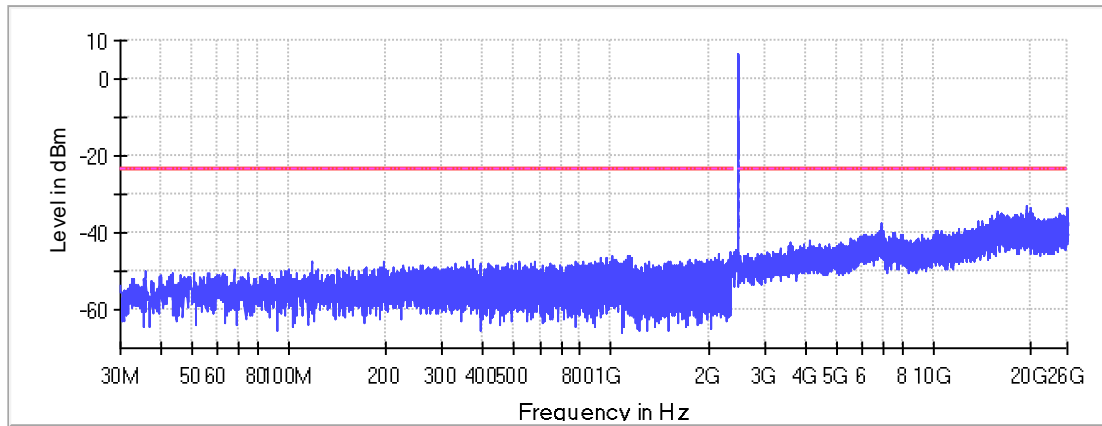
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
---	---	---	---

19554.843185	-32.8	9.1	-23.6
19862.017867	-33.5	9.8	-23.6
25891.607020	-33.7	10.0	-23.6
19564.396464	-33.9	10.3	-23.6
25952.601036	-34.2	10.6	-23.6
19565.131332	-34.3	10.6	-23.6
25920.266859	-34.3	10.6	-23.6
25932.024741	-34.4	10.8	-23.6
20020.014414	-34.5	10.8	-23.6
15832.738485	-34.5	10.9	-23.6
19878.919823	-34.7	11.0	-23.6
19909.049397	-34.8	11.1	-23.6
16227.362418	-34.8	11.2	-23.6
15773.949072	-34.8	11.2	-23.6
18527.498195	-34.8	11.2	-23.6

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

Summary – g Mode

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2412.000	24.0	20.000000	PASS
Power Spectral Density	2412.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2412.000	24.0	20.000000	PASS
Tx Spurious Emission	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2437.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2437.000	24.0	20.000000	PASS
Tx Spurious Emission	2437.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2472.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2472.000	24.0	20.000000	PASS
Tx Spurious Emission	2472.000	24.0	20.000000	PASS

RF output power (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2412.000000	14.1	30.0	14.1	90.680	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

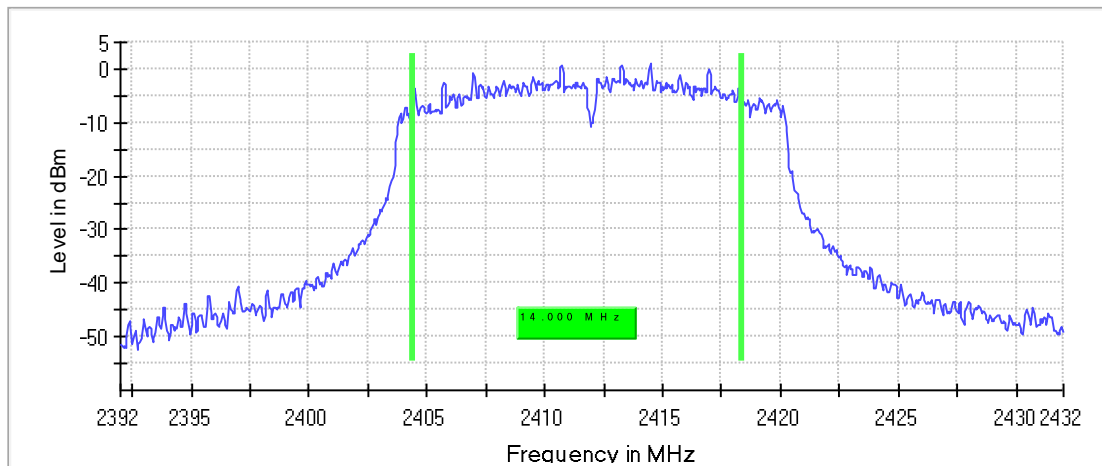
Minimum Emission Bandwidth 6 dB (2412 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

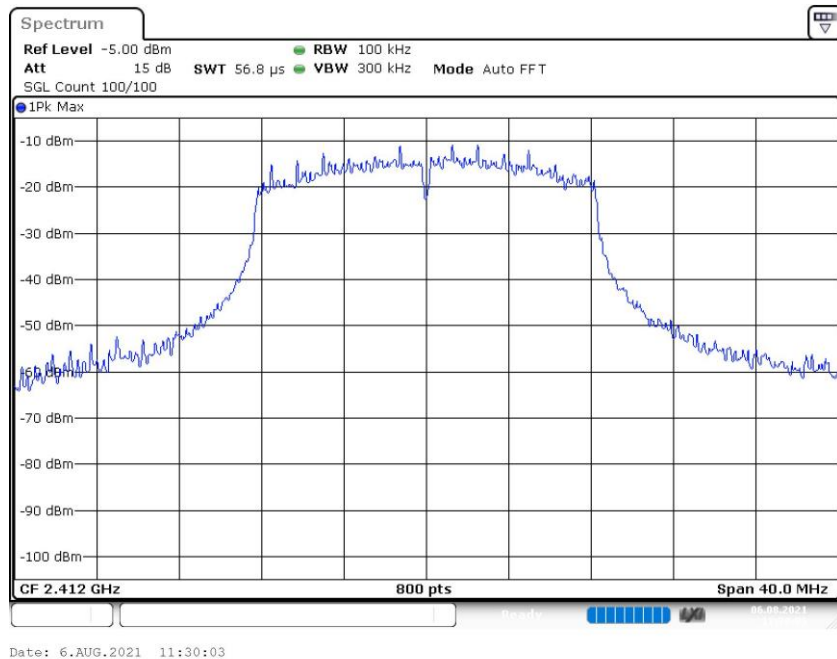
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	14.000000	0.500000	---	2404.375000	2418.375000

DUT Frequency (MHz)	Max Level (dBm)	Result
2412.000000	0.9	PASS

6 dB Bandwidth



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
Sweeptime	56.836 μs	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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

Power Spectral Density (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2412.000000	2412.618750	-21.717	8.0	PASS

Ports

Port	State
1	used

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39700 GHz	2.39700 GHz
Stop Frequency	2.42700 GHz	2.42700 GHz
Span	30.000 MHz	30.000 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	20000	~ 20000
Sweeptime	4.424 ms	AUTO

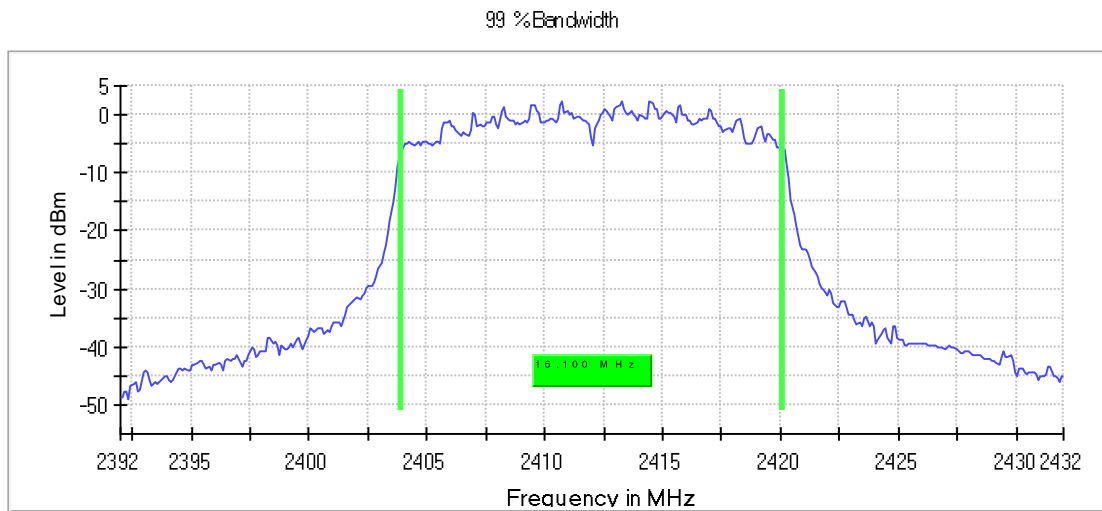
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Average Power	Average Power
SweepType	FFT	AUTO
Preamp	off	off

Occupied Channel Bandwidth 99% (2412 MHz; 24.000 dBm; 20 MHz)

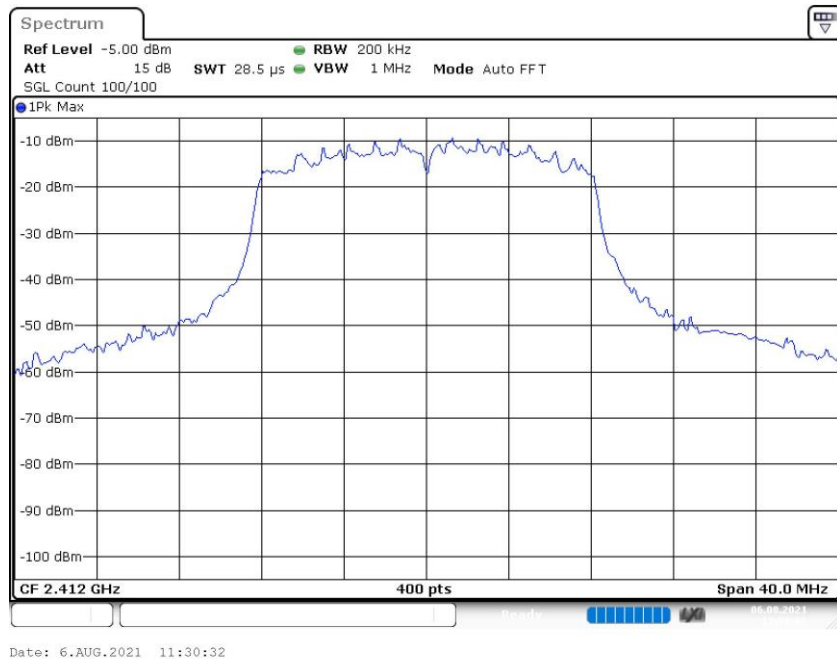
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	16.100000	---	---	2403.950000	2420.050000

DUT Frequency (MHz)	Result
2412.000000	PASS



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	\geq 200.000 kHz
VBW	1.000 MHz	\geq 600.000 kHz
SweepPoints	400	\sim 400
Sweeptime	28.477 μ s	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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 (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2412.000000	PASS

Final measurements

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

Pre Measurements

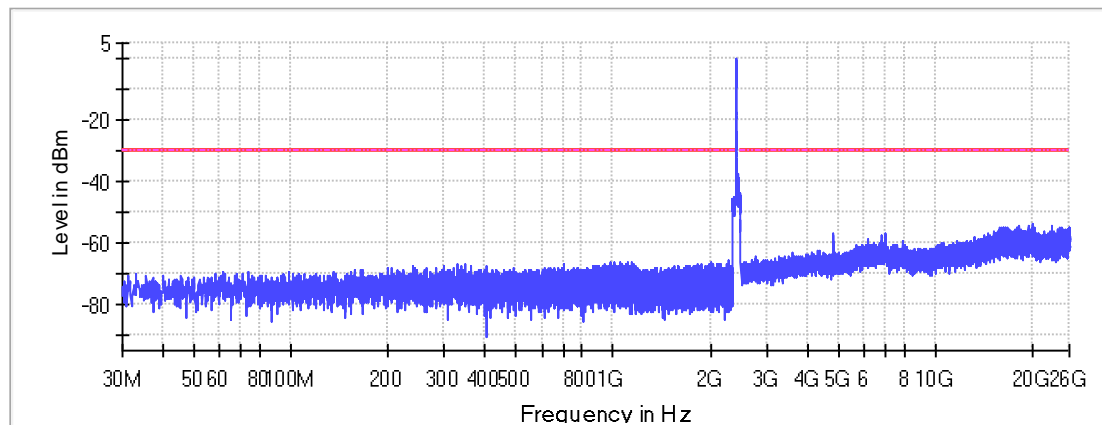
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2398.875000	-36.4	6.4	-30.0
2398.825000	-36.7	6.8	-30.0
2398.925000	-36.9	6.9	-30.0
2399.525000	-37.4	7.4	-30.0

2399.475000	-37.5	7.5	-30.0
2396.975000	-37.8	7.8	-30.0
2397.025000	-37.8	7.8	-30.0
2399.375000	-37.8	7.9	-30.0
2399.325000	-37.9	7.9	-30.0
2397.975000	-37.9	7.9	-30.0
2399.125000	-37.9	7.9	-30.0
2397.925000	-38.0	8.0	-30.0
2398.025000	-38.1	8.1	-30.0
2399.225000	-38.2	8.2	-30.0
2399.275000	-38.2	8.2	-30.0

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	32001	~ 46400
SweepTime	32.100 ms	AUTO
Reference Level	10.000 dBm	10.000 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

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2670	~ 2670
SweepTime	151.563 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	300	300

Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	AUTO
Preamp	off	off

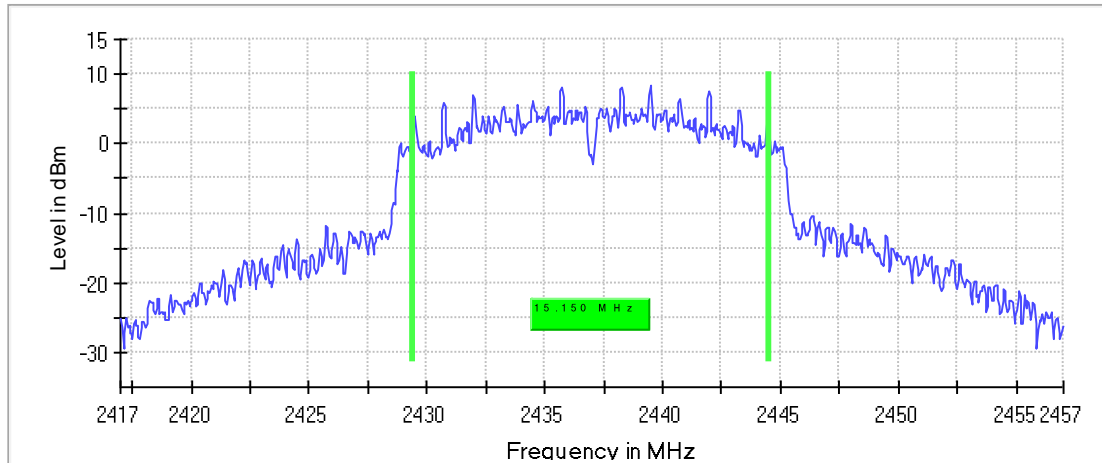
Minimum Emission Bandwidth 6 dB (2437 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

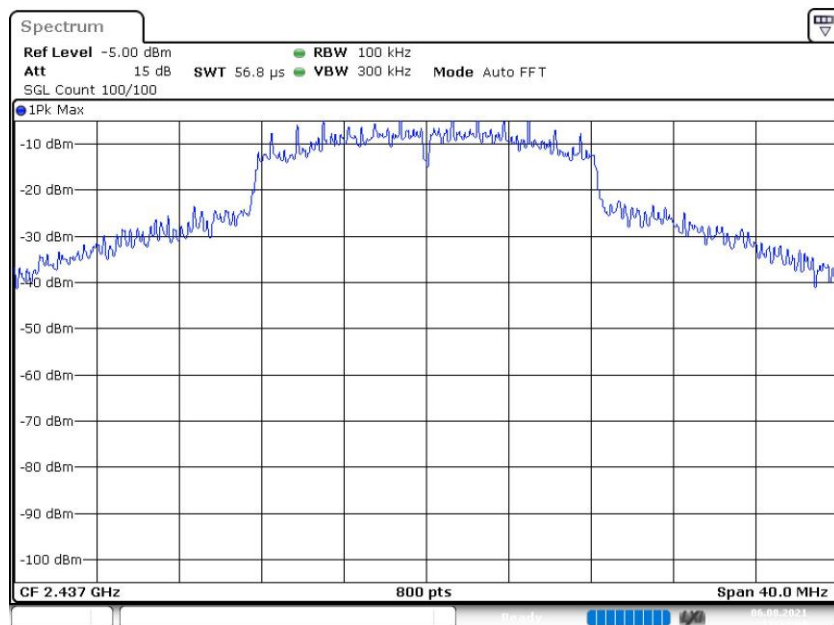
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	15.150000	0.500000	---	2429.375000	2444.525000

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	8.3	PASS

6 dB Bandwidth



Bandwidth



Date: 6.AUG.2021 11:32:04

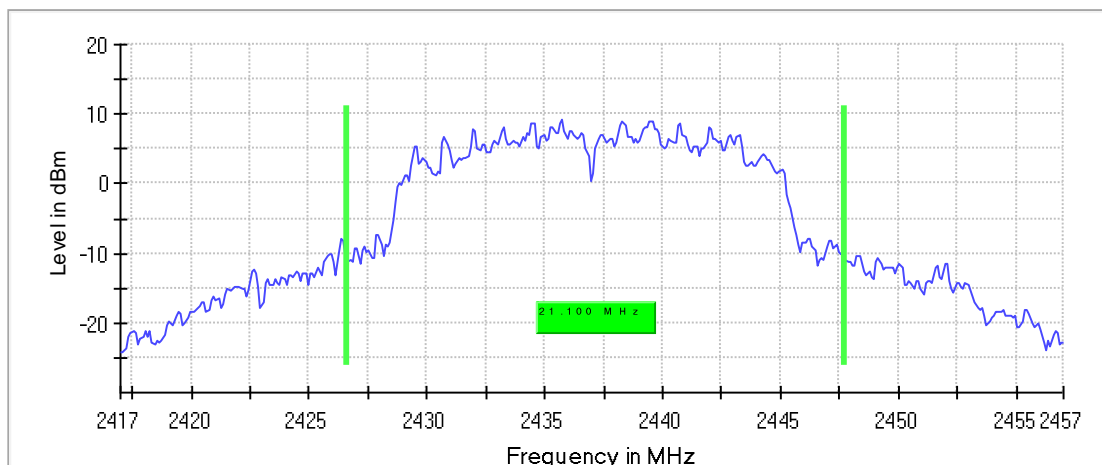
Occupied Channel Bandwidth 99% (2437 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

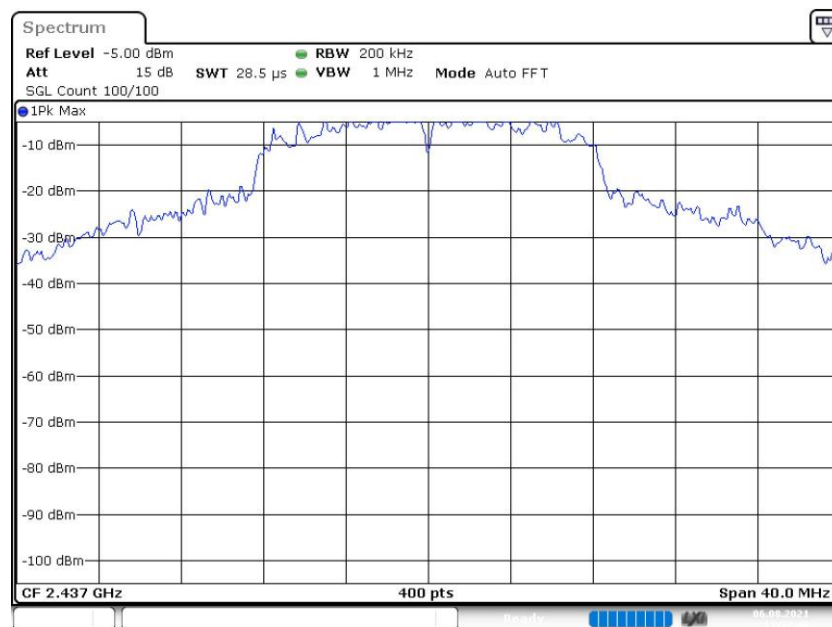
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	21.100000	---	---	2426.650000	2447.750000

DUT Frequency (MHz)	Result
2437.000000	PASS

99 %Bandwidth



Bandwidth



Date: 6.AUG.2021 11:32:46

Tx Spurious Emission (2437 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2437.000000	PASS

Final measurements

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

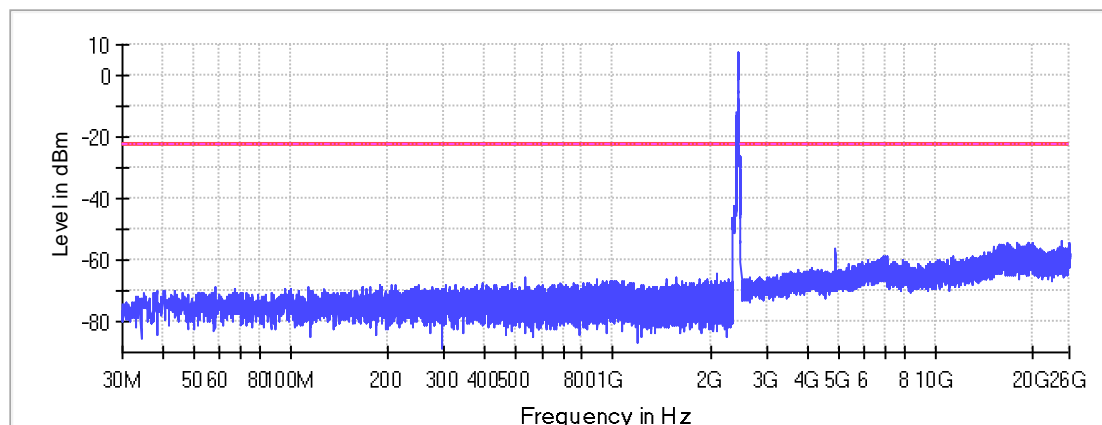
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2399.125000	-36.8	14.2	-22.5
2399.175000	-37.0	14.5	-22.5
2398.825000	-37.5	15.0	-22.5
2398.875000	-37.5	15.0	-22.5
2398.625000	-37.6	15.0	-22.5
2399.075000	-37.8	15.3	-22.5
2398.575000	-37.9	15.3	-22.5
2395.975000	-38.3	15.8	-22.5
2398.925000	-38.3	15.8	-22.5
2399.225000	-38.5	16.0	-22.5
2398.675000	-38.7	16.2	-22.5
2399.425000	-38.8	16.3	-22.5
2397.875000	-38.8	16.3	-22.5
2399.525000	-38.9	16.3	-22.5
2399.475000	-38.9	16.3	-22.5

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

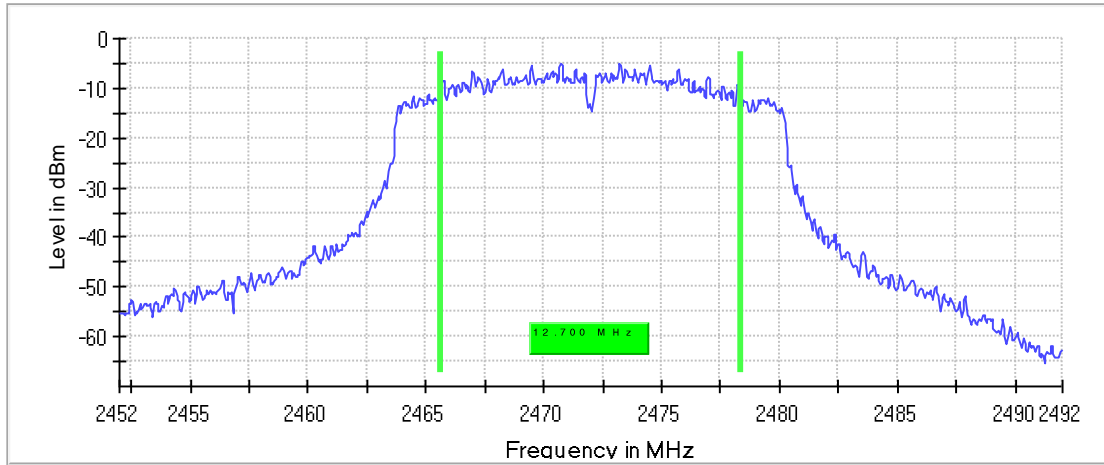
Minimum Emission Bandwidth 6 dB (2472 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

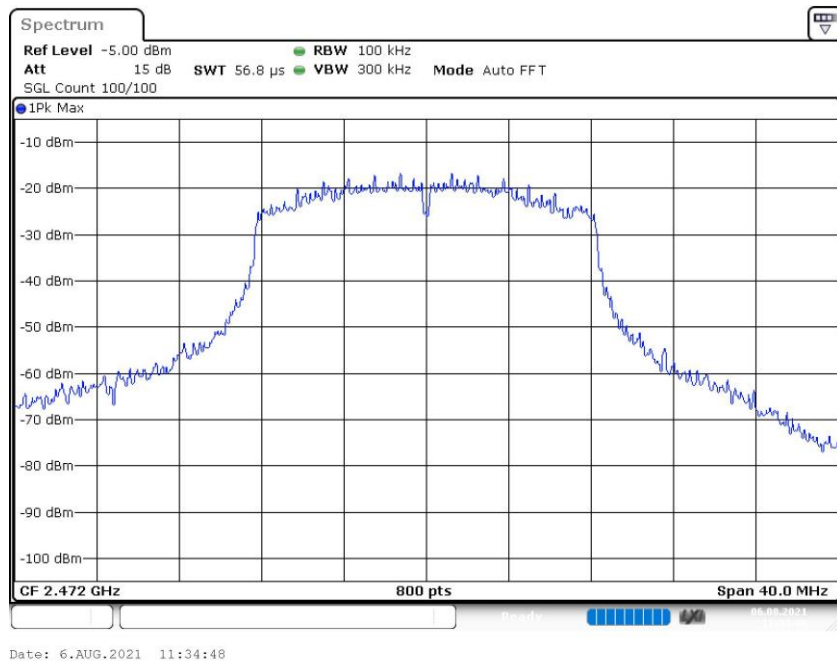
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	12.700000	0.500000	---	2465.625000	2478.325000

DUT Frequency (MHz)	Max Level (dBm)	Result
2472.000000	-4.9	PASS

6 dB Bandwidth



Bandwidth

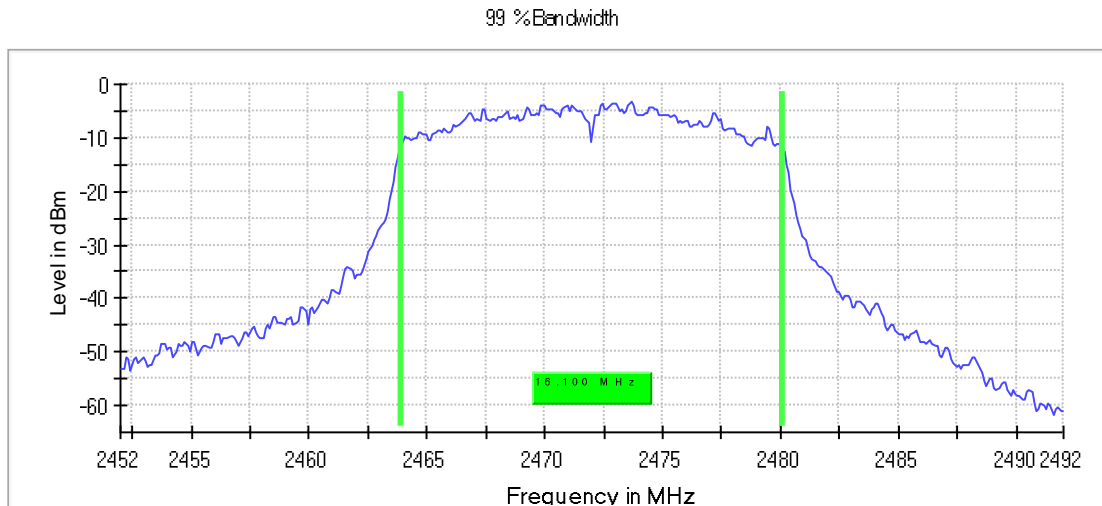


Occupied Channel Bandwidth 99% (2472 MHz; 24.000 dBm; 20 MHz)

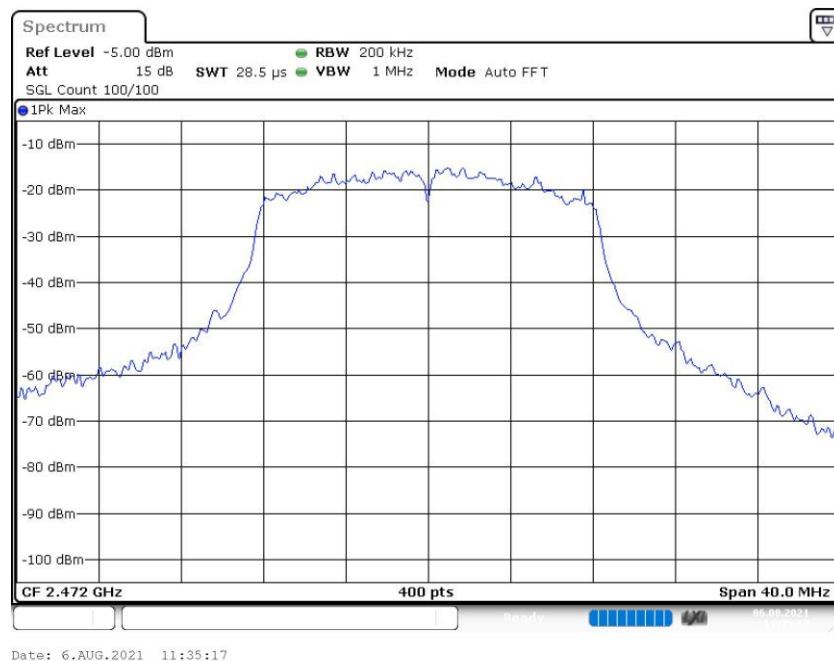
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	16.100000	---	---	2463.950000	2480.050000

DUT Frequency (MHz)	Result
2472.000000	PASS



Bandwidth



Tx Spurious Emission (2472 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2472.000000	PASS

Final measurements

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

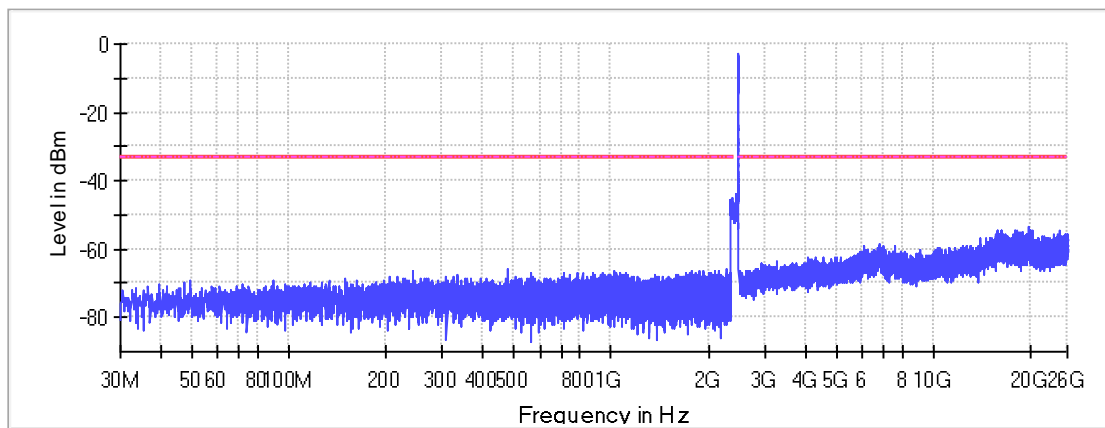
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2483.867434	-42.9	9.9	-33.0
2484.602301	-43.6	10.6	-33.0
2375.625000	-45.2	12.1	-33.0
2352.875000	-45.4	12.3	-33.0
2352.925000	-45.4	12.3	-33.0
2375.675000	-45.5	12.5	-33.0
2351.775000	-45.6	12.5	-33.0
2351.725000	-46.1	13.1	-33.0
2378.025000	-46.1	13.1	-33.0
2352.325000	-46.2	13.1	-33.0
2386.525000	-46.2	13.2	-33.0
2386.475000	-46.2	13.2	-33.0
2350.975000	-46.4	13.3	-33.0
2352.375000	-46.4	13.4	-33.0
2386.275000	-46.5	13.4	-33.0

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

Summary – n Mode

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2412.000	24.0	20.000000	PASS
Power Spectral Density	2412.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2412.000	24.0	20.000000	PASS
Tx Spurious Emission	2412.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2437.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2437.000	24.0	20.000000	PASS
Tx Spurious Emission	2437.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2472.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	2472.000	24.0	20.000000	PASS
Tx Spurious Emission	2472.000	24.0	20.000000	PASS
Minimum Emission Bandwidth 6 dB	2422.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	2422.000	24.0	40.000000	PASS
Tx Spurious Emission	2422.000	24.0	40.000000	PASS
Minimum Emission Bandwidth 6 dB	2437.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	2437.000	24.0	40.000000	PASS

Tx Spurious Emission	2437.000	24.0	40.000000	PASS
Minimum Emission Bandwidth 6 dB	2462.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	2462.000	24.0	40.000000	PASS
Tx Spurious Emission	2462.000	24.0	40.000000	PASS

RF output power (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2412.000000	13.0	30.0	13.0	90.511	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

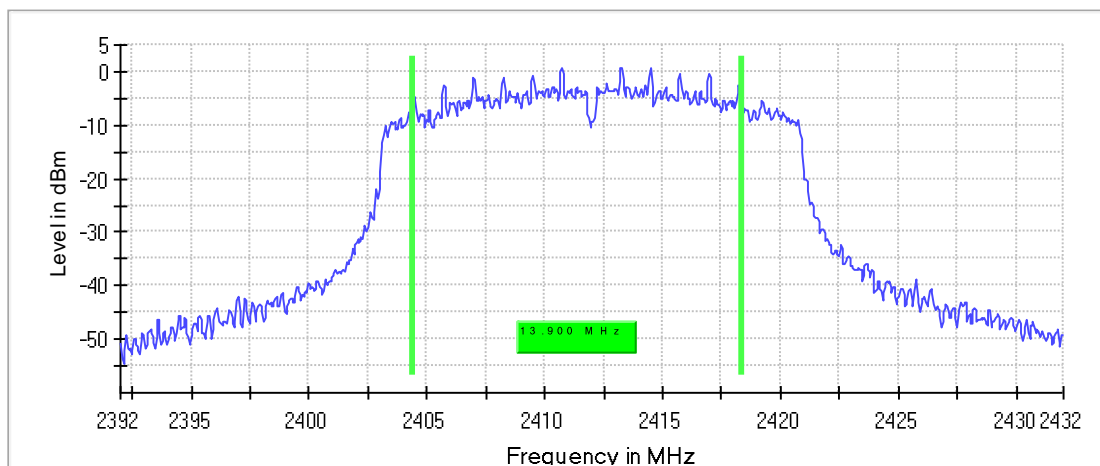
Minimum Emission Bandwidth 6 dB (2412 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

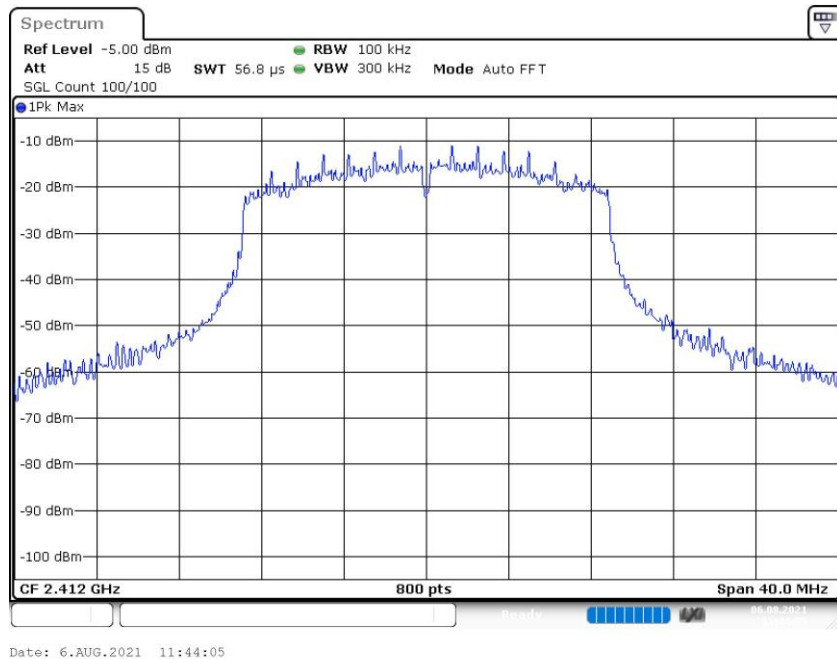
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	13.900000	0.500000	---	2404.425000	2418.325000

DUT Frequency (MHz)	Max Level (dBm)	Result
2412.000000	0.7	PASS

6 dB Bandwidth



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	800	~ 800
Sweptime	56.836 μs	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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

Power Spectral Density (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2412.000000	2414.183250	-22.558	8.0	PASS

Ports

Port	State
1	used

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39700 GHz	2.39700 GHz
Stop Frequency	2.42700 GHz	2.42700 GHz
Span	30.000 MHz	30.000 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	20000	~ 20000

Sweeptime	4.424 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Average Power	Average Power
SweepType	FFT	AUTO
Preamp	off	off

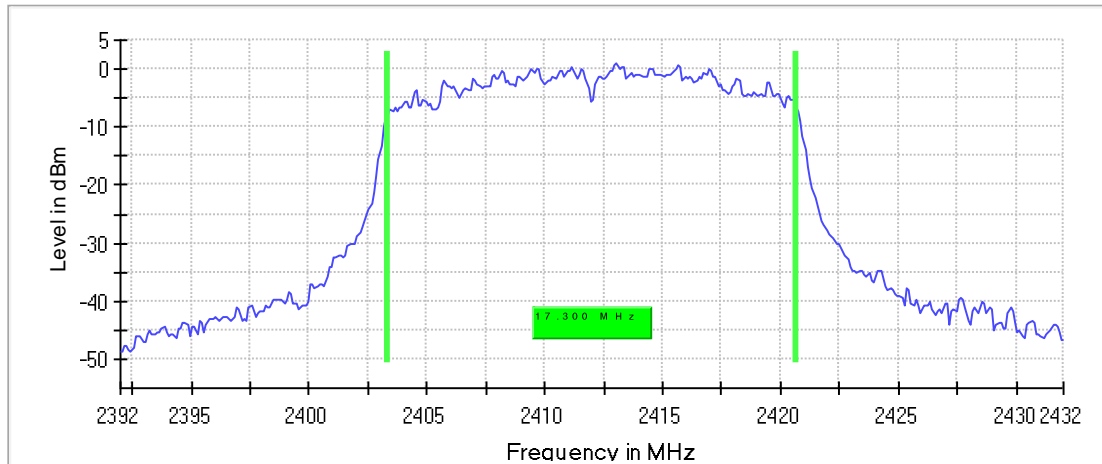
Occupied Channel Bandwidth 99% (2412 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

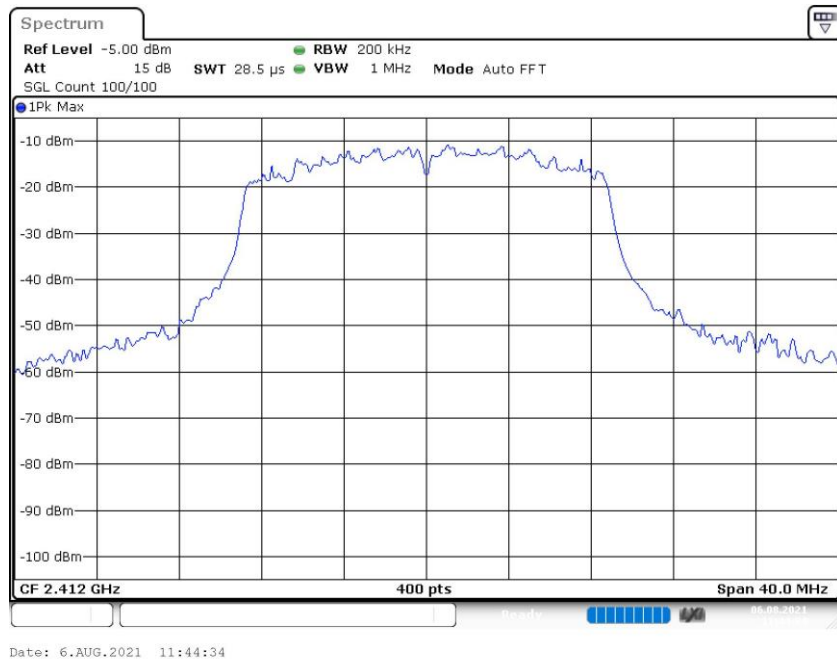
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	17.300000	---	---	2403.350000	2420.650000

DUT Frequency (MHz)	Result
2412.000000	PASS

99 %Bandwidth



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.39200 GHz	2.39200 GHz
Stop Frequency	2.43200 GHz	2.43200 GHz
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	\geq 200.000 kHz
VBW	1.000 MHz	\geq 600.000 kHz
SweepPoints	400	\sim 400
Sweeptime	28.477 μ s	AUTO
Reference Level	-5.000 dBm	-5.000 dBm
Attenuation	15.000 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 (2412 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2412.000000	PASS

Final measurements

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

Pre Measurements

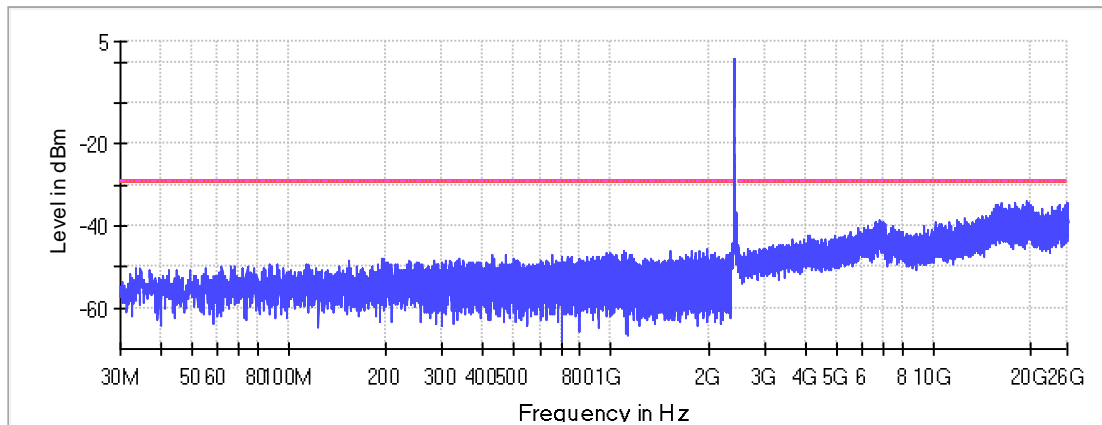
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19541.615567	-33.7	4.5	-29.1
2399.225000	-34.3	5.2	-29.1
19668.747672	-34.3	5.2	-29.1
17924.171846	-34.4	5.2	-29.1
25989.344419	-34.4	5.3	-29.1

2399.175000	-34.5	5.4	-29.1
19618.041803	-34.6	5.4	-29.1
25962.154315	-34.6	5.4	-29.1
16144.322373	-34.6	5.5	-29.1
16173.717079	-34.6	5.5	-29.1
25993.018757	-34.7	5.5	-29.1
24688.628660	-34.7	5.5	-29.1
16186.209829	-34.7	5.6	-29.1
24662.908292	-34.8	5.7	-29.1
17159.174612	-34.8	5.7	-29.1

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	32001	~ 46400
Sweeptime	32.100 ms	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2670	~ 2670
Sweeptime	151.563 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	300	300

Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	AUTO
Preamp	off	off

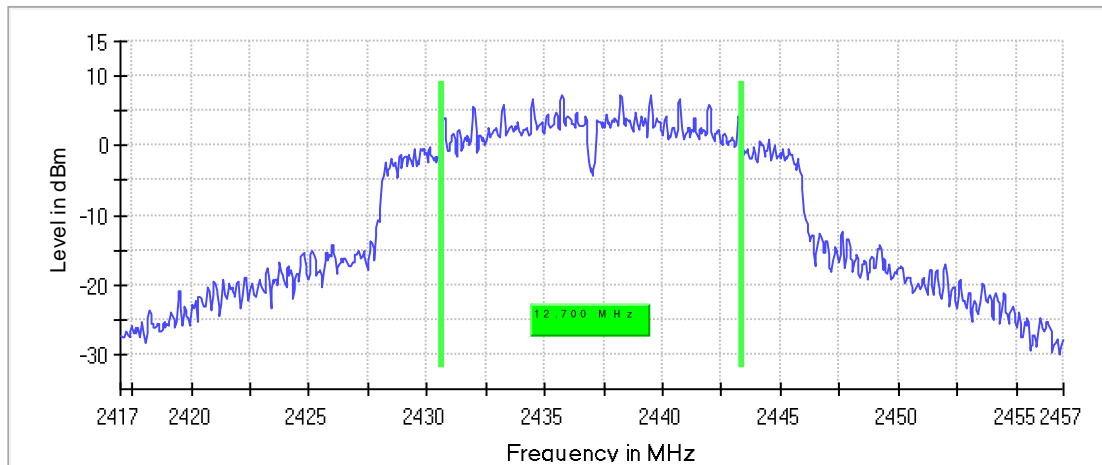
Minimum Emission Bandwidth 6 dB (2437 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

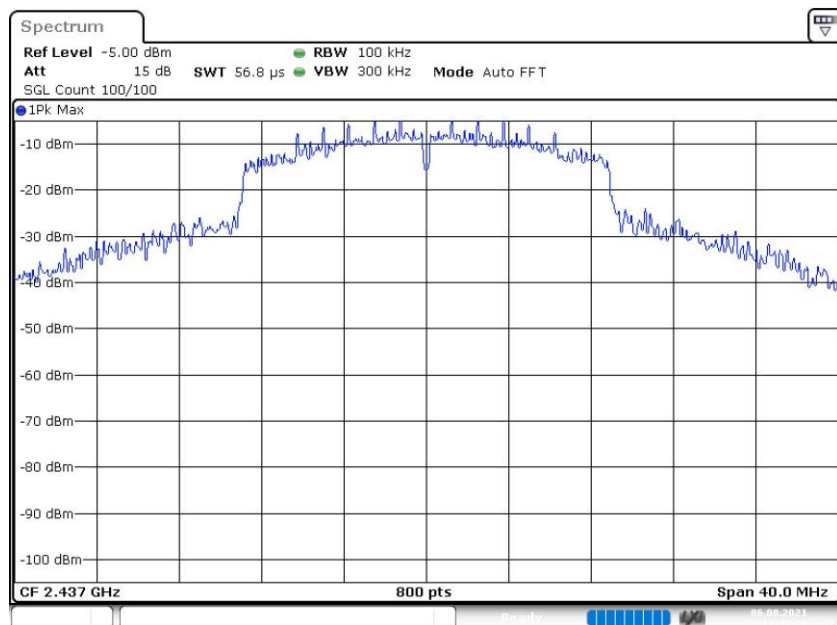
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	12.700000	0.500000	---	2430.625000	2443.325000

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	7.2	PASS

6 dB Bandwidth



Bandwidth



Date: 6.AUG.2021 11:46:59

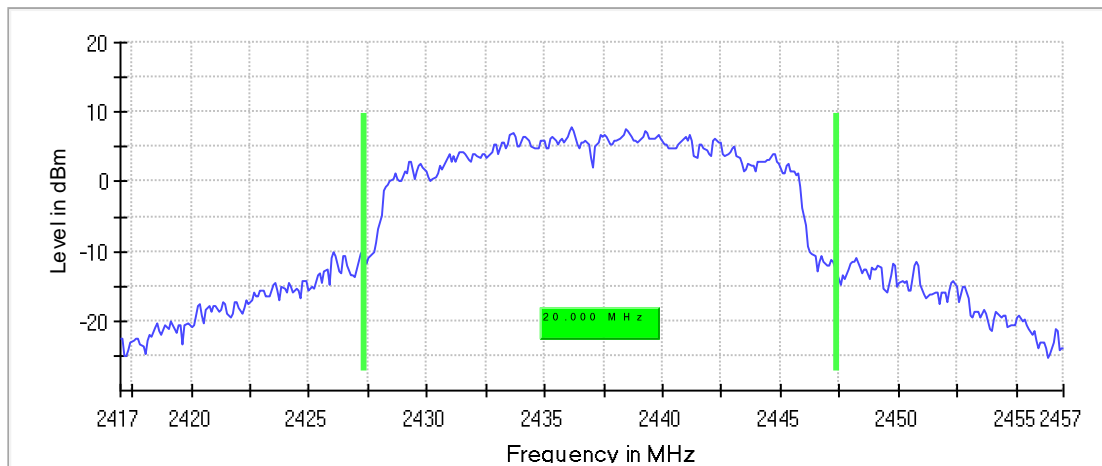
Occupied Channel Bandwidth 99% (2437 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

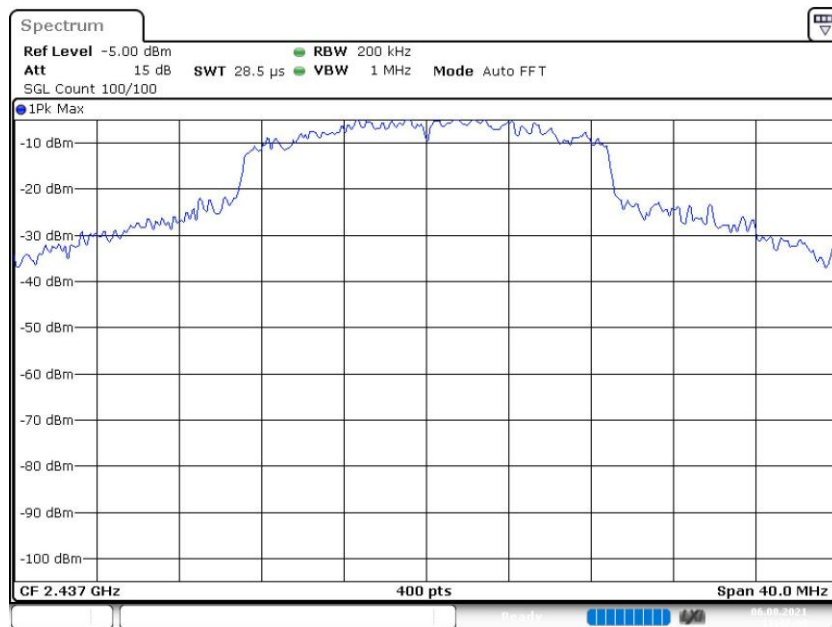
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	20.000000	---	---	2427.350000	2447.350000

DUT Frequency (MHz)	Result
2437.000000	PASS

99 %Bandwidth



Bandwidth



Date: 6.AUG.2021 11:47:44

Tx Spurious Emission (2437 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2437.000000	PASS

Final measurements

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

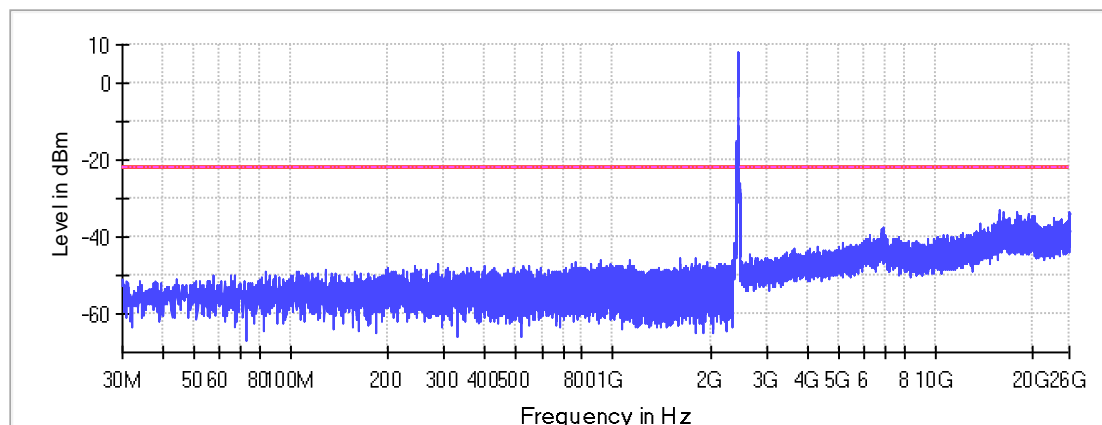
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
15894.467368	-32.9	11.1	-21.8
16186.944697	-33.6	11.8	-21.8
17896.981743	-33.7	11.9	-21.8
25932.024741	-33.7	11.9	-21.8
25862.212314	-33.9	12.1	-21.8
17907.269890	-33.9	12.1	-21.8
19543.085302	-33.9	12.1	-21.8
15843.761500	-34.1	12.3	-21.8
17855.094286	-34.1	12.3	-21.8
26000.000000	-34.2	12.4	-21.8
25999.632566	-34.2	12.4	-21.8
19884.063896	-34.3	12.5	-21.8
18223.262984	-34.5	12.7	-21.8
20252.967462	-34.5	12.7	-21.8
18260.006367	-34.5	12.7	-21.8

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



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

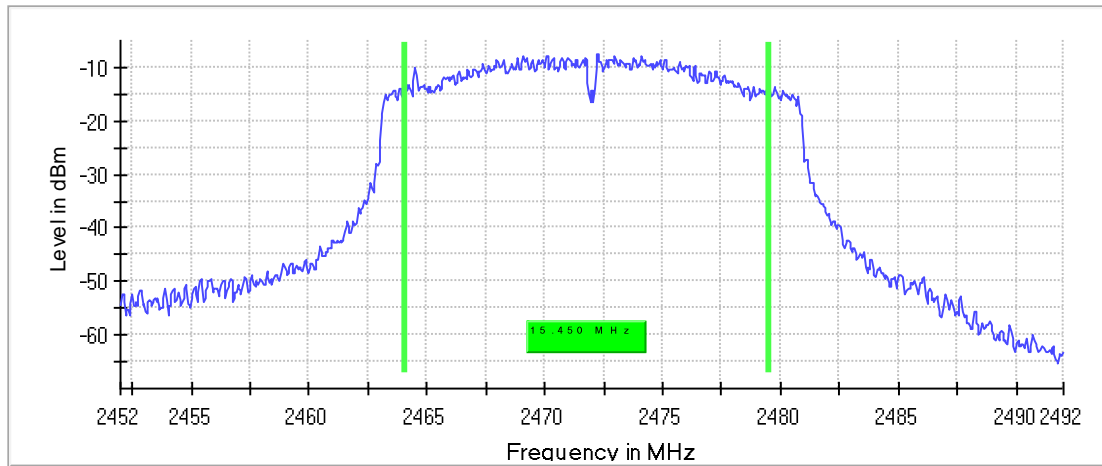
Minimum Emission Bandwidth 6 dB (2472 MHz; 24.000 dBm; 20 MHz)

6 dB Bandwidth

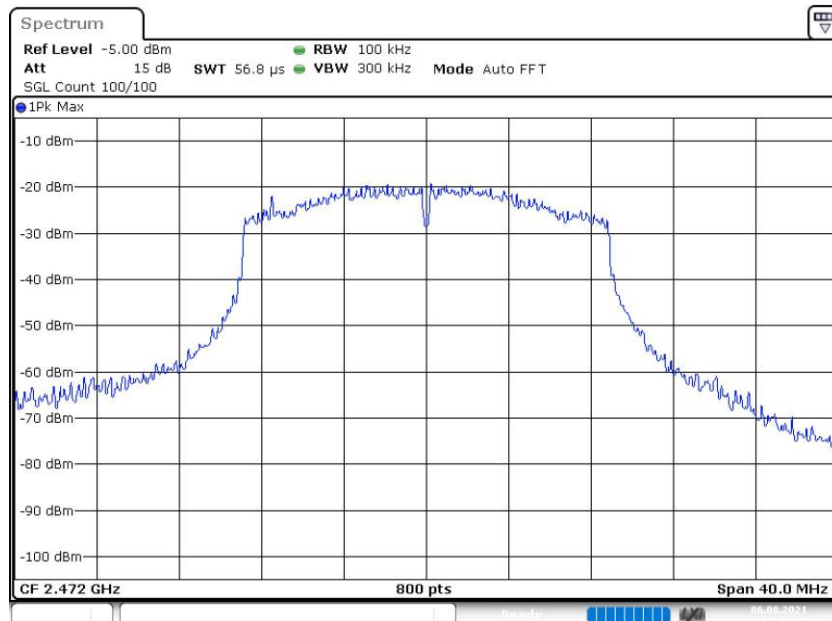
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	15.450000	0.500000	---	2464.075000	2479.525000

DUT Frequency (MHz)	Max Level (dBm)	Result
2472.000000	-7.5	PASS

6 dB Bandwidth



Bandwidth



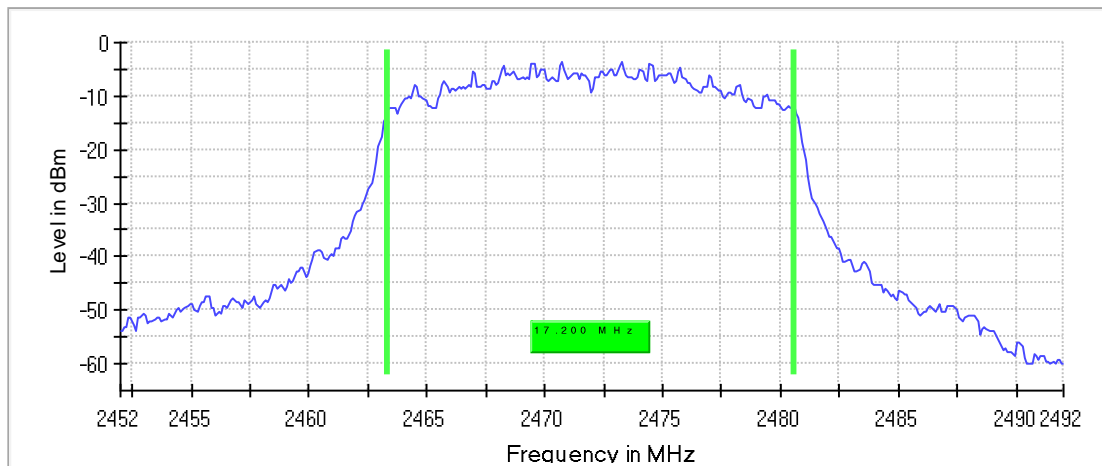
Occupied Channel Bandwidth 99% (2472 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

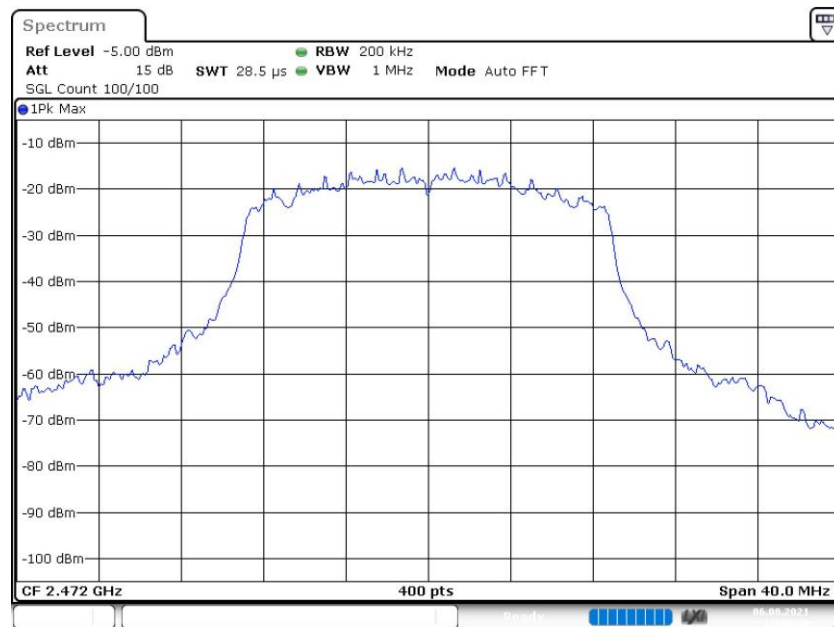
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2472.000000	17.200000	---	---	2463.350000	2480.550000

DUT Frequency (MHz)	Result
2472.000000	PASS

99 %Bandwidth



Bandwidth



Tx Spurious Emission (2472 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Result
2472.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
19862.735729	-37.5	-43.8	-33.9	9.9	PASS

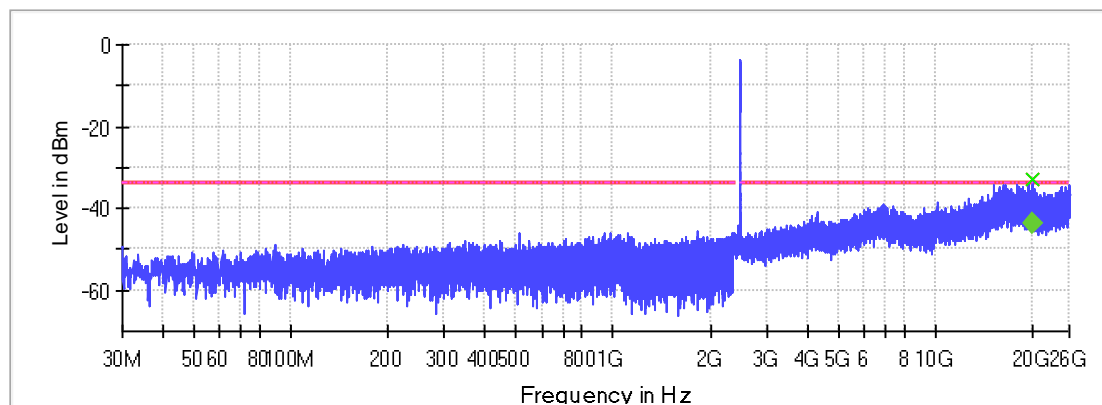
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19855.404058	-33.0	-0.9	-33.9
15246.314092	-34.1	0.2	-33.9
19873.775749	-34.1	0.2	-33.9
17883.019257	-34.2	0.3	-33.9
19548.964243	-34.2	0.3	-33.9
16569.810748	-34.3	0.5	-33.9
17909.474493	-34.4	0.6	-33.9
25854.128769	-34.4	0.6	-33.9
16152.405917	-34.5	0.6	-33.9
19525.448478	-34.5	0.6	-33.9
19858.343528	-34.5	0.7	-33.9
19901.700720	-34.6	0.7	-33.9
19537.941228	-34.6	0.7	-33.9
24699.651675	-34.6	0.7	-33.9
19859.078396	-34.6	0.7	-33.9

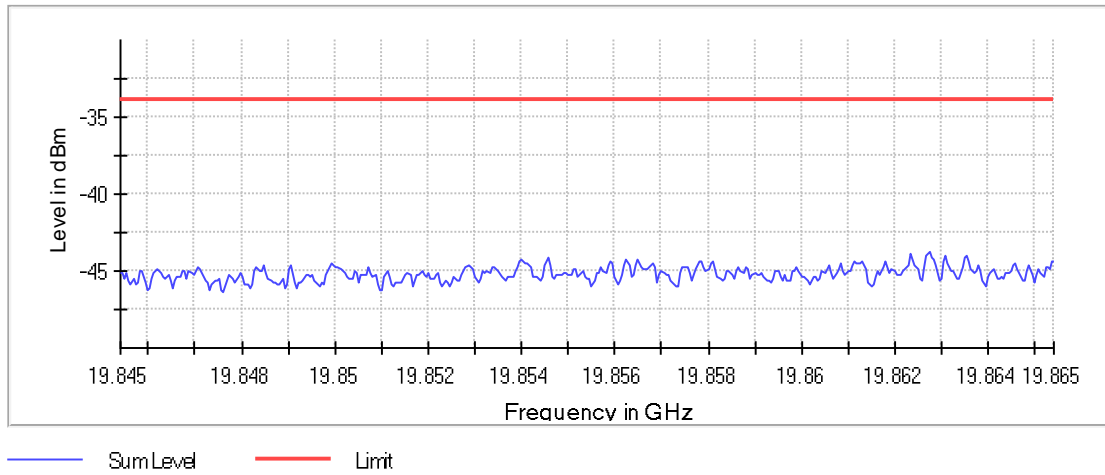
Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



FinalMess_19855404058Hz



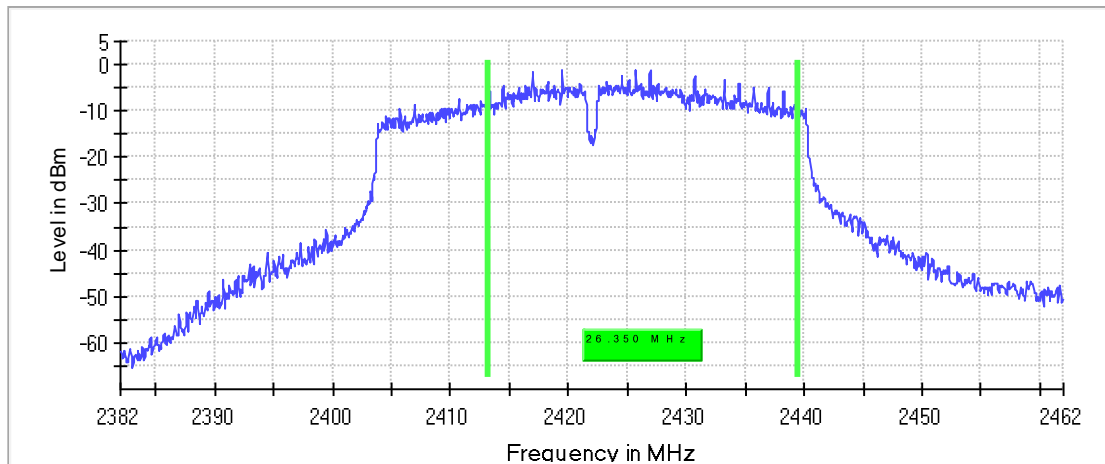
Minimum Emission Bandwidth 6 dB (2422 MHz; 24.000 dBm; 40 MHz)

6 dB Bandwidth

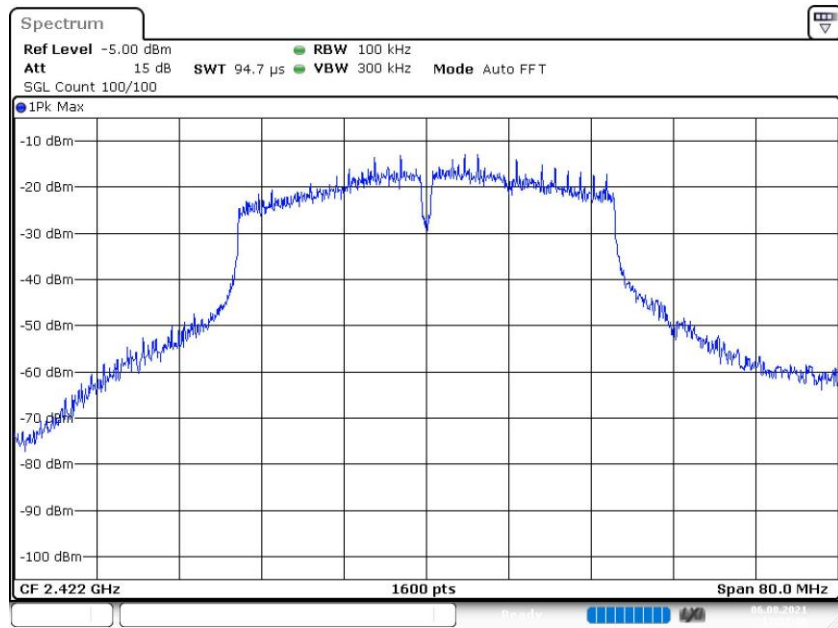
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2422.000000	26.350000	0.500000	---	2413.225000	2439.575000

DUT Frequency (MHz)	Max Level (dBm)	Result
2422.000000	-1.0	PASS

6 dB Bandwidth



Bandwidth



Date: 6.AUG.2021 11:52:48

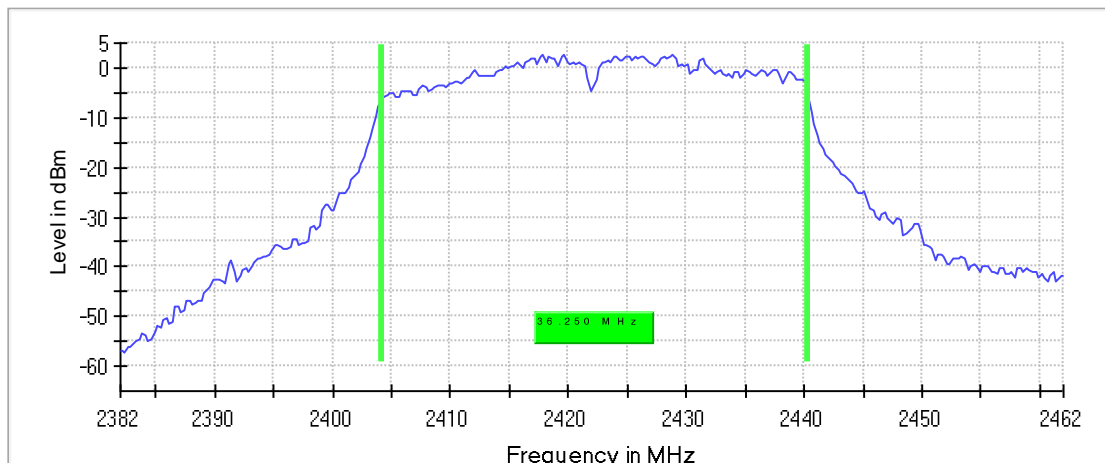
Occupied Channel Bandwidth 99% (2422 MHz; 24.000 dBm; 40 MHz)

99 % Bandwidth

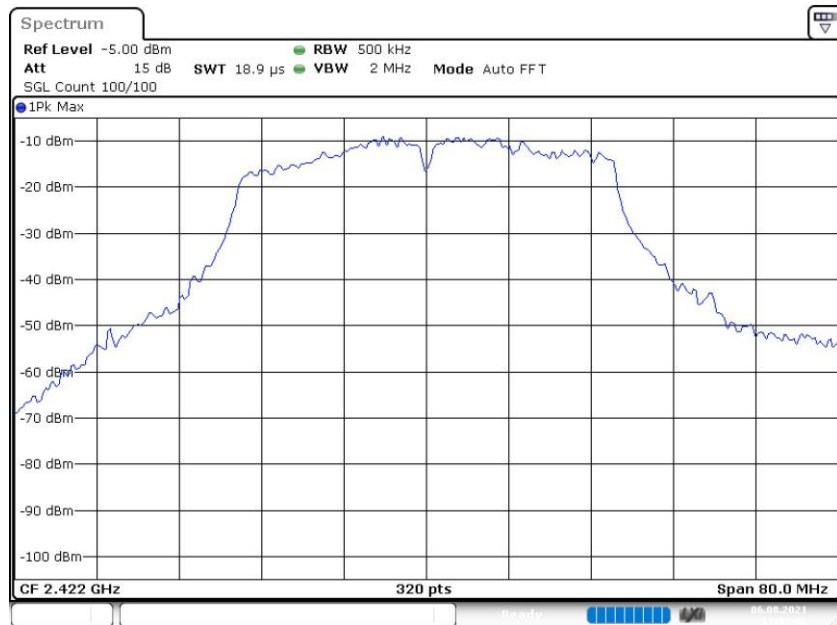
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2422.000000	36.250000	---	---	2404.125000	2440.375000

DUT Frequency (MHz)	Result
2422.000000	PASS

99 %Bandwidth



Bandwidth



Date: 6.AUG.2021 11:53:42

Tx Spurious Emission (2422 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Result
2422.000000	PASS

Final measurements

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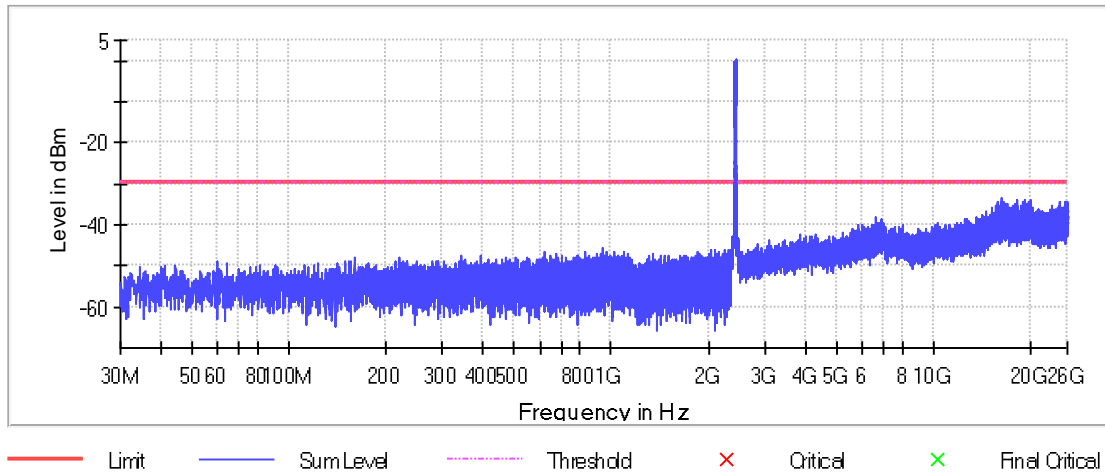
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2399.125000	-33.2	3.5	-29.7
16253.082786	-33.3	3.6	-29.7
2399.175000	-33.4	3.8	-29.7
2399.475000	-33.5	3.9	-29.7
2399.525000	-33.6	3.9	-29.7
19873.775749	-33.7	4.1	-29.7
18223.997852	-33.8	4.1	-29.7
2398.225000	-34.0	4.3	-29.7
18216.649175	-34.0	4.3	-29.7
19218.273796	-34.0	4.3	-29.7
19807.637660	-34.3	4.6	-29.7
2398.275000	-34.3	4.6	-29.7
2399.375000	-34.3	4.6	-29.7
2398.475000	-34.3	4.6	-29.7
2399.425000	-34.3	4.7	-29.7

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



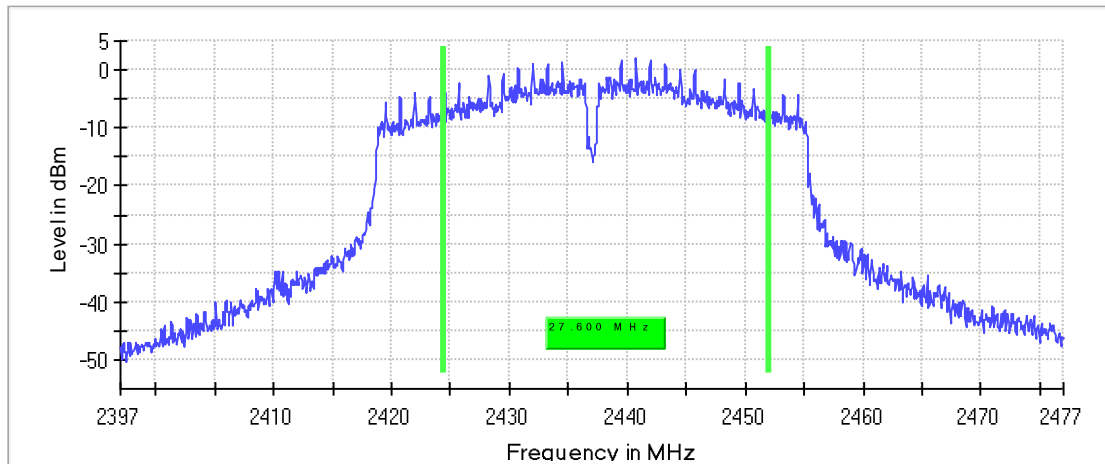
Minimum Emission Bandwidth 6 dB (2437 MHz; 24.000 dBm; 40 MHz)

6 dB Bandwidth

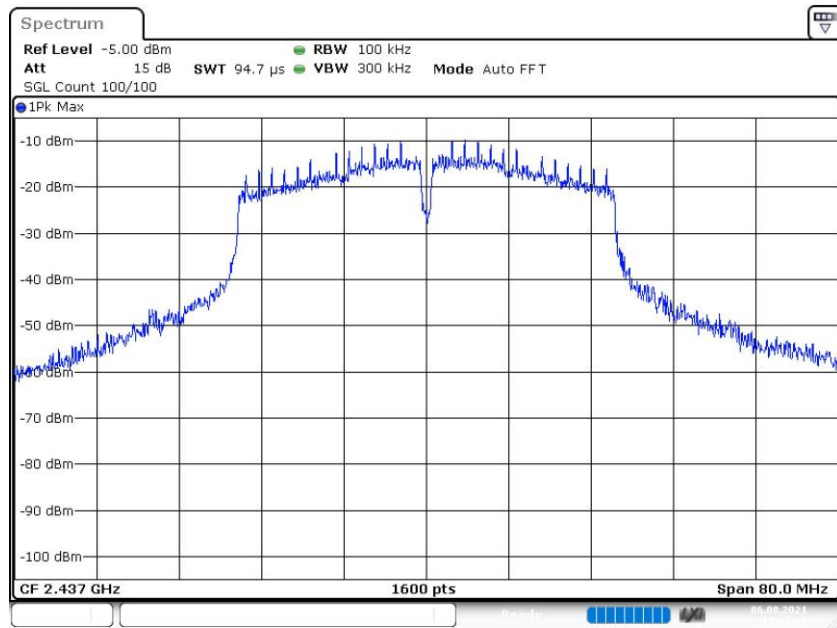
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	27.600000	0.500000	--	2424.425000	2452.025000

DUT Frequency (MHz)	Max Level (dBm)	Result
2437.000000	2.0	PASS

6 dB Bandwidth



Bandwidth



Date: 6.AUG.2021 11:57:52

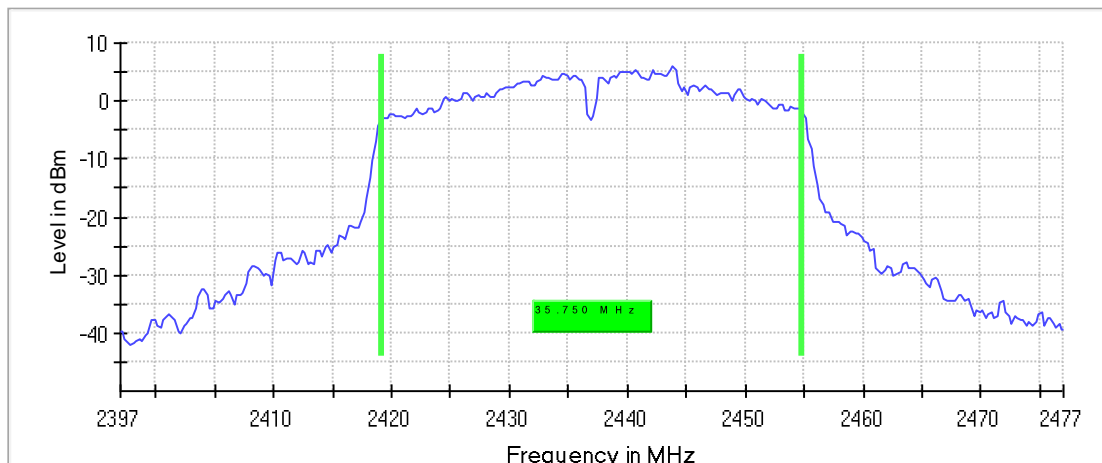
Occupied Channel Bandwidth 99% (2437 MHz; 24.000 dBm; 40 MHz)

99 % Bandwidth

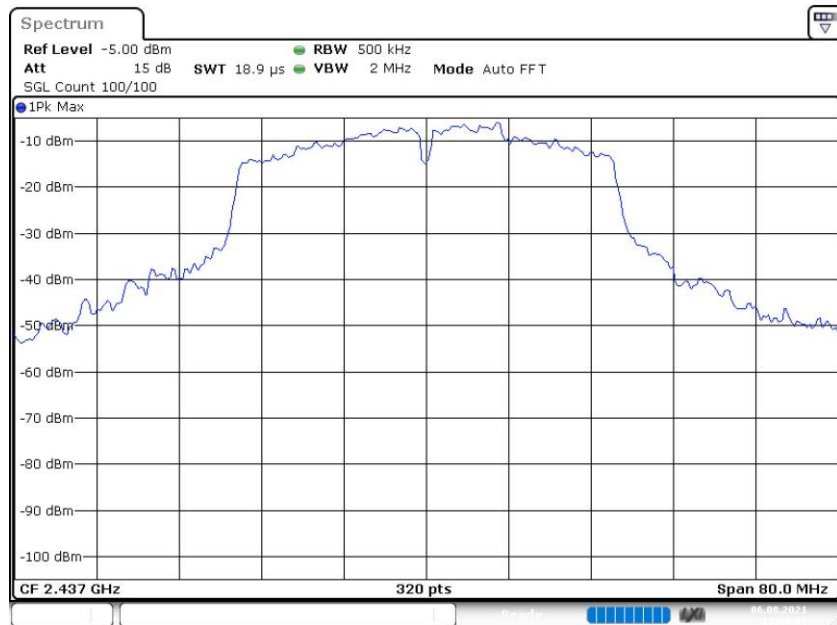
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	35.750000	---	---	2419.125000	2454.875000

DUT Frequency (MHz)	Result
2437.000000	PASS

99 %Bandwidth



Bandwidth



Date: 6.AUG.2021 11:58:31

Tx Spurious Emission (2437 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Result
2437.000000	PASS

Final measurements

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

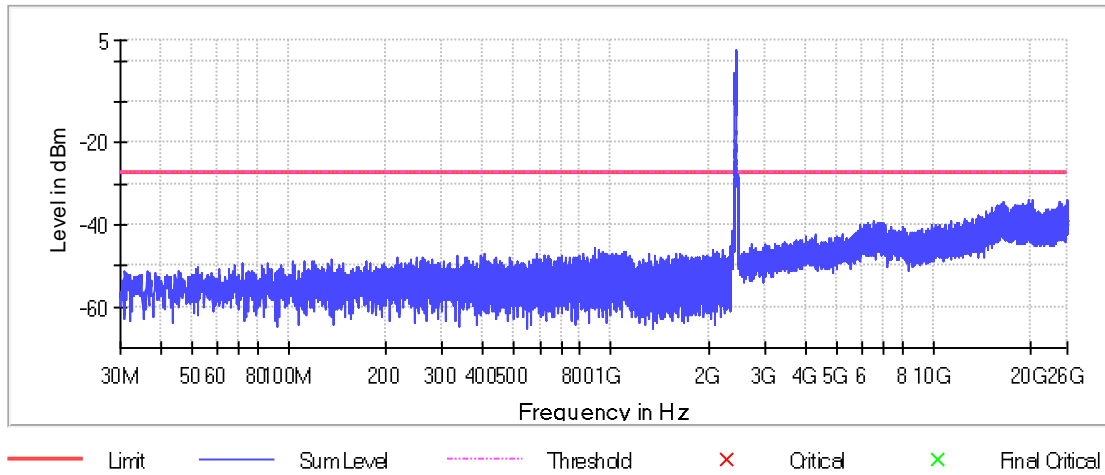
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19601.874715	-33.8	6.4	-27.4
20263.990477	-34.1	6.6	-27.4
25865.151784	-34.1	6.7	-27.4
25865.886652	-34.2	6.8	-27.4
24643.066865	-34.2	6.8	-27.4
16567.606145	-34.3	6.8	-27.4
24509.320951	-34.5	7.0	-27.4
25841.636019	-34.6	7.1	-27.4
16223.688080	-34.7	7.2	-27.4
19916.398073	-34.7	7.3	-27.4
24540.920260	-34.8	7.4	-27.4
24529.162378	-34.9	7.5	-27.4
19871.571146	-35.0	7.5	-27.4
24923.786311	-35.0	7.5	-27.4
16547.029851	-35.0	7.6	-27.4

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

Spurious



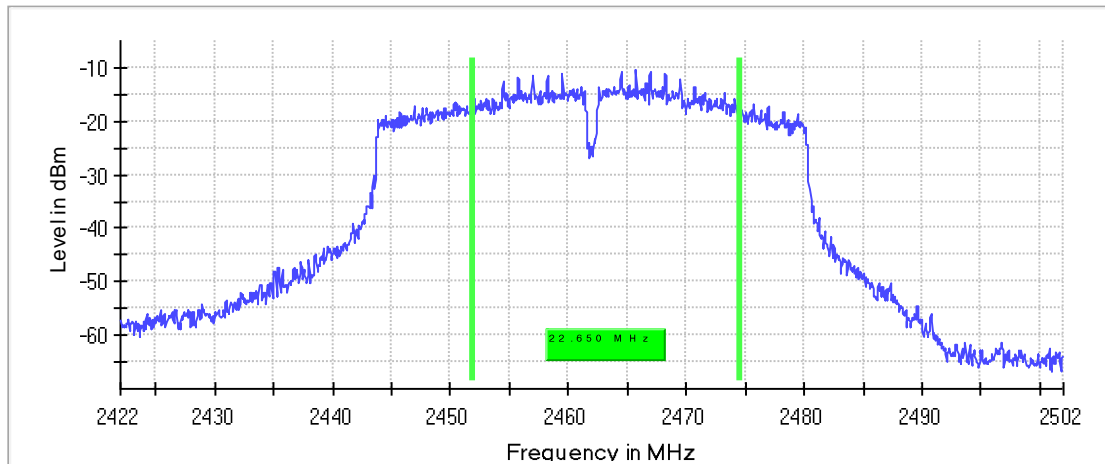
Minimum Emission Bandwidth 6 dB (2462 MHz; 24.000 dBm; 40 MHz)

6 dB Bandwidth

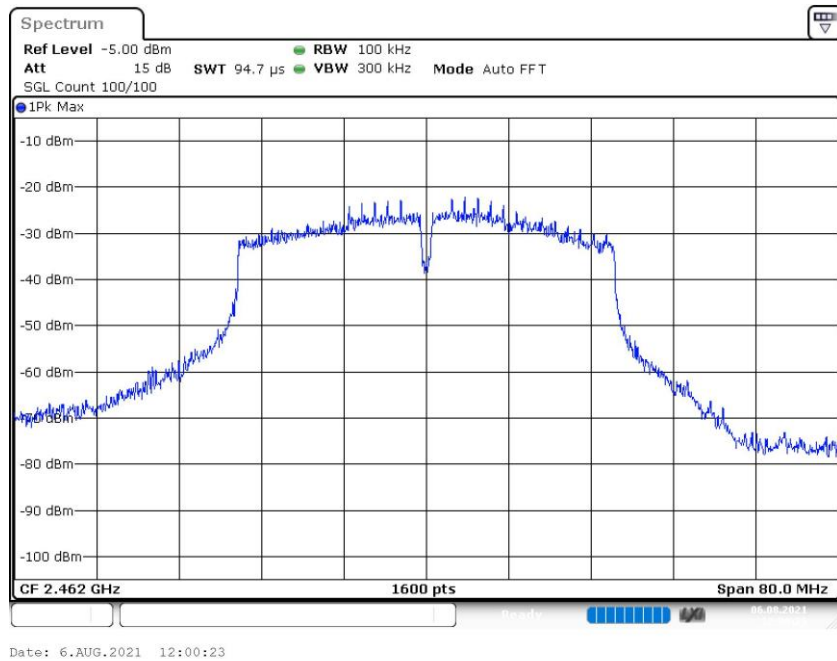
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2462.000000	22.650000	0.500000	--	2451.925000	2474.575000

DUT Frequency (MHz)	Max Level (dBm)	Result
2462.000000	-10.3	PASS

6 dB Bandwidth



Bandwidth

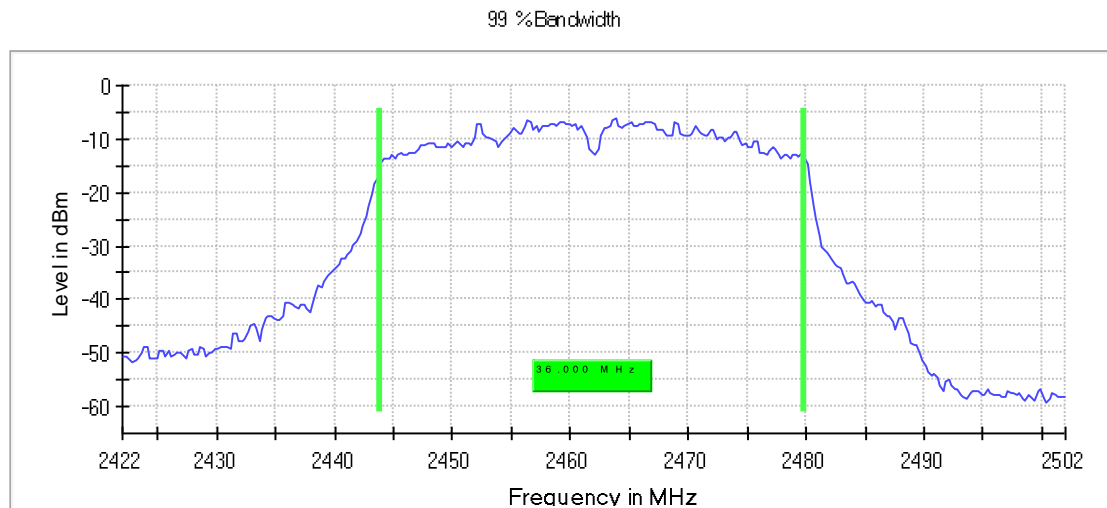


Occupied Channel Bandwidth 99% (2462 MHz; 24.000 dBm; 40 MHz)

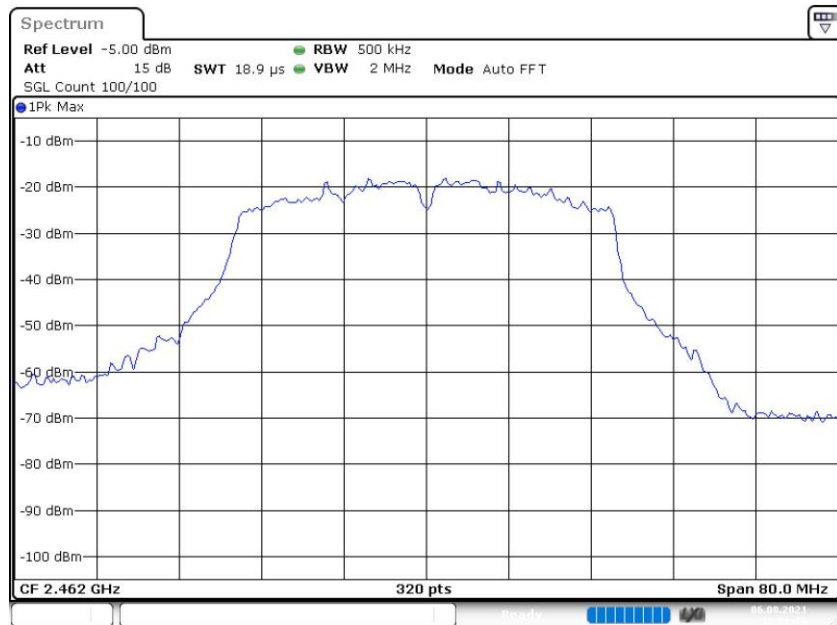
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2462.000000	36.000000	---	---	2443.875000	2479.875000

DUT Frequency (MHz)	Result
2462.000000	PASS



Bandwidth



Date: 6.AUG.2021 12:01:17

Tx Spurious Emission (2462 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Result
2462.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
15863.167311	-35.0	-44.6	-38.6	6.0	PASS
16105.729859	-38.8	-45.1	-38.6	6.5	PASS
17593.485143	-38.1	-44.4	-38.6	5.8	PASS
17896.240529	-40.3	-44.1	-38.6	5.5	PASS
18856.465787	-38.4	-44.7	-38.6	6.1	PASS
19531.626671	-36.1	-43.8	-38.6	5.2	PASS
19540.155920	-38.5	-44.0	-38.6	5.4	PASS
19884.928211	-36.6	-43.4	-38.6	4.8	PASS
24614.915297	-38.7	-43.8	-38.6	5.2	PASS
25227.838456	-39.2	-45.7	-38.6	7.1	PASS

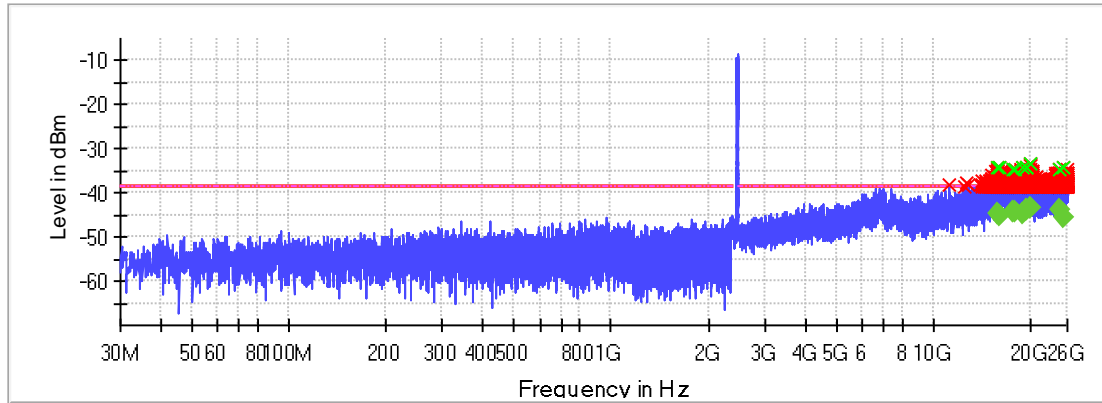
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19880.389558	-33.4	-5.2	-38.6
19878.184955	-33.6	-5.0	-38.6
19881.124426	-33.9	-4.7	-38.6
18848.635363	-34.0	-4.6	-38.6
16099.495445	-34.2	-4.4	-38.6
25224.347184	-34.3	-4.3	-38.6
15862.868059	-34.3	-4.3	-38.6
19542.350434	-34.4	-4.2	-38.6
19531.327419	-34.4	-4.2	-38.6
17902.125816	-34.5	-4.1	-38.6
19889.942838	-34.5	-4.1	-38.6
24605.588614	-34.6	-4.0	-38.6
19587.912229	-34.6	-4.0	-38.6
17601.564943	-34.7	-3.9	-38.6
18552.483696	-34.8	-3.8	-38.6

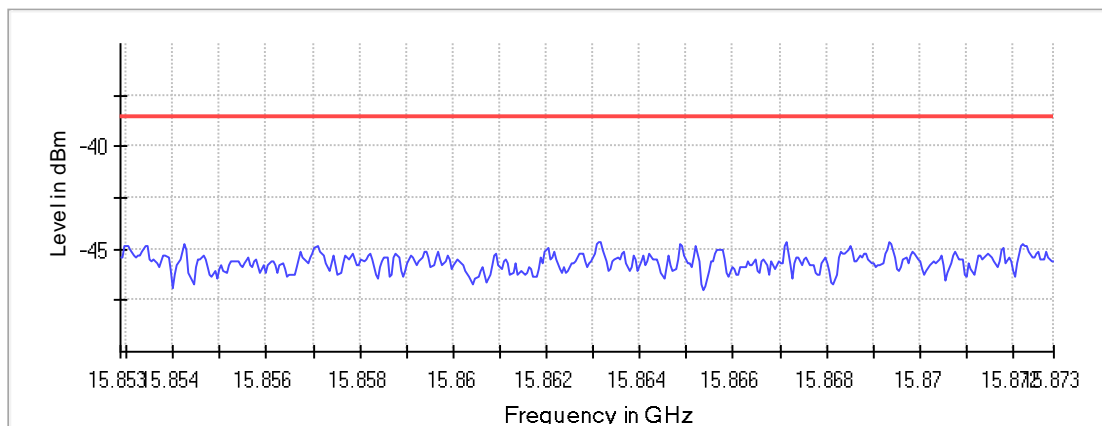
Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2350.000000	1	1
2350.000000	2483.500000	2	1
2483.500000	26000.000000	1	1

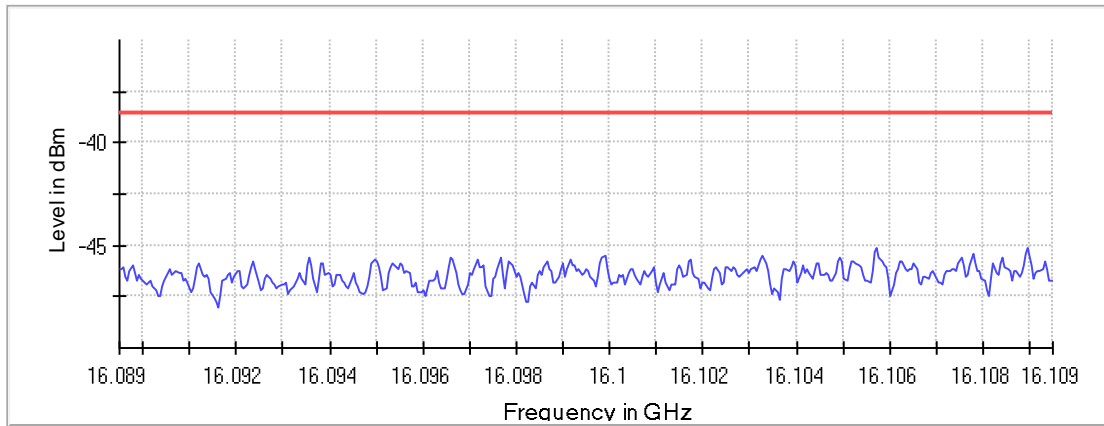
Spurious



FinalMeas_15862868059Hz

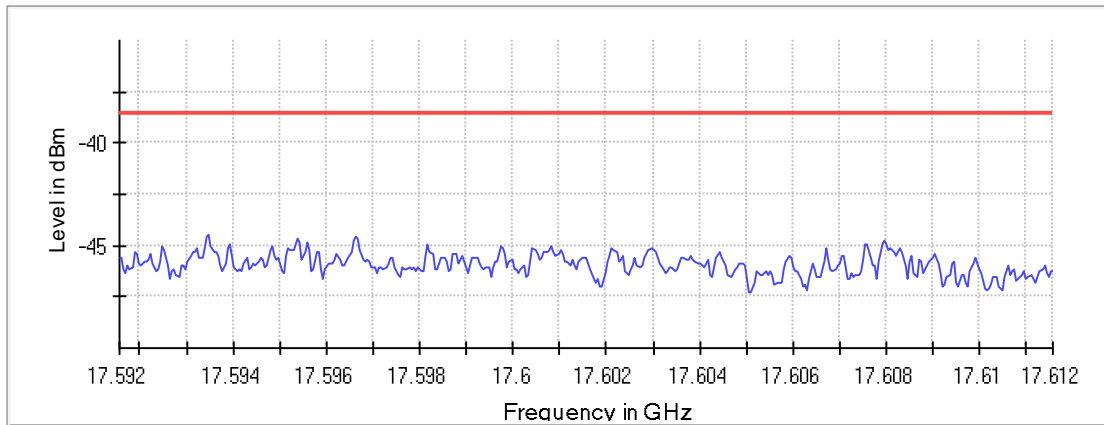


FinalMeas_16099495445Hz



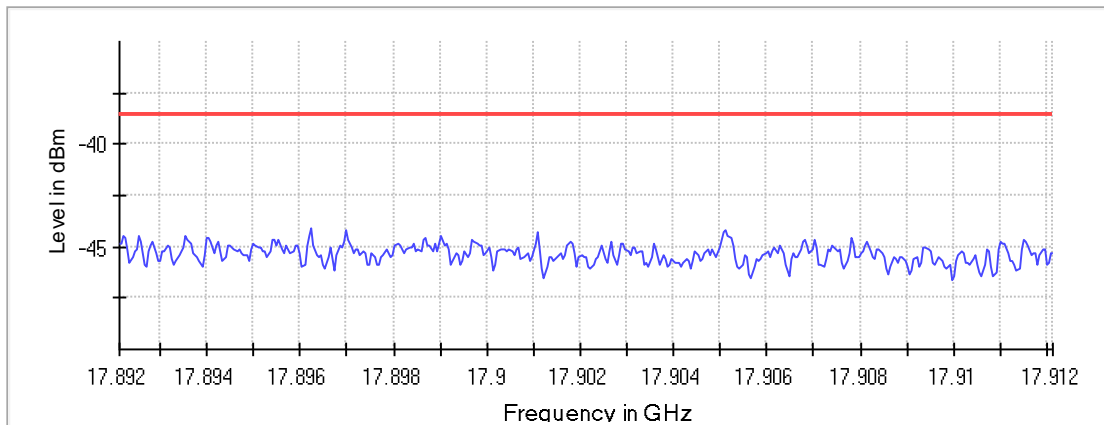
SumLevel Limit

FinalMeas_17601564943Hz



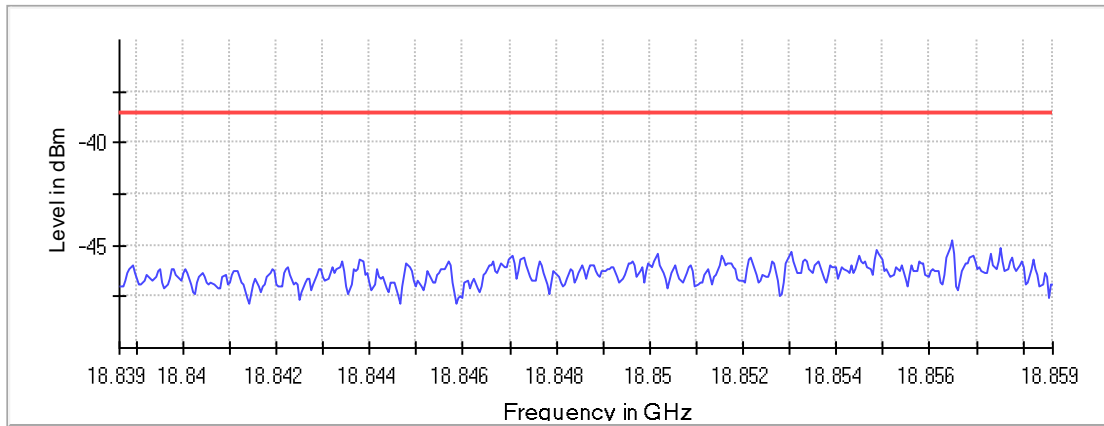
SumLevel Limit

FinalMeas_17902125816Hz



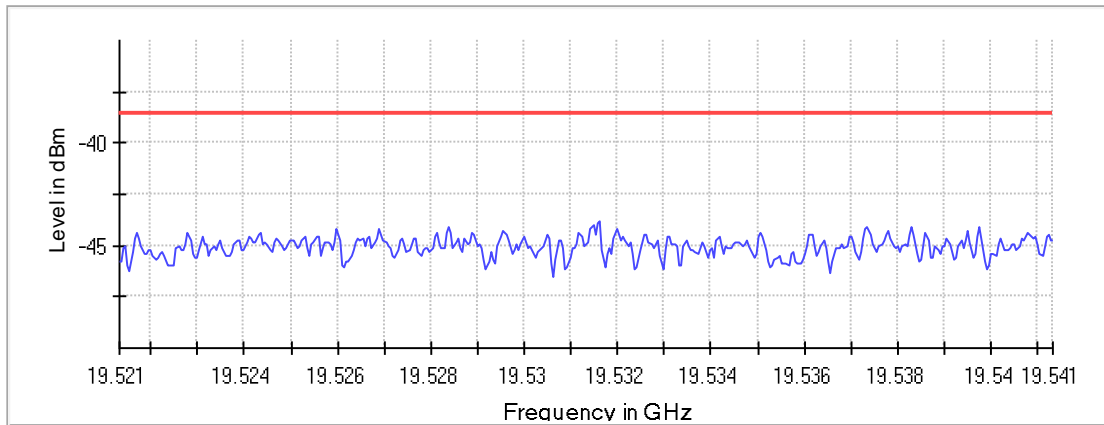
SumLevel Limit

FinalMeas_18848635363Hz



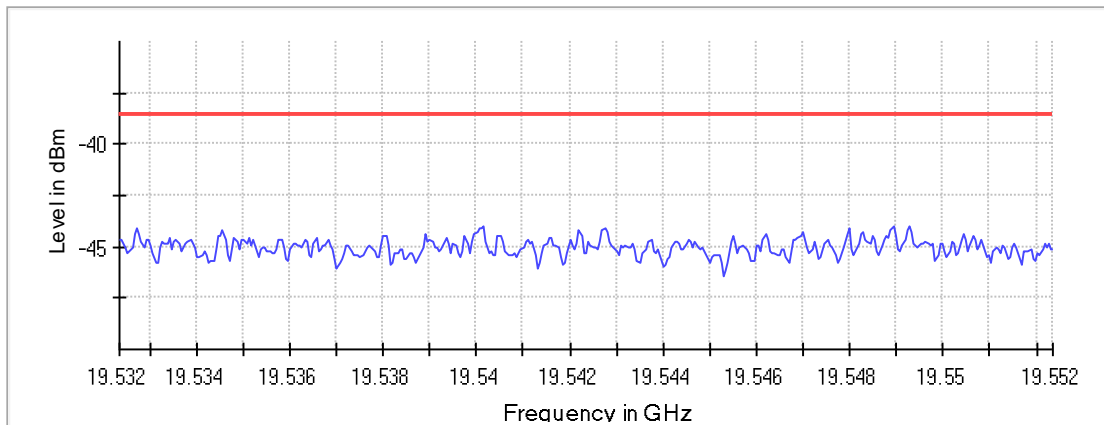
SumLevel Limit

FinalMeas_19531327419Hz



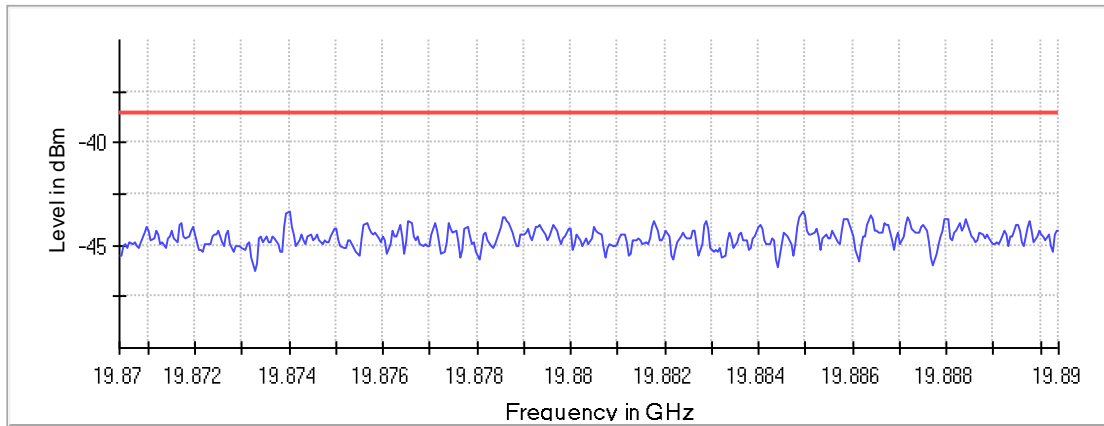
SumLevel Limit

FinalMeas_19542350434Hz

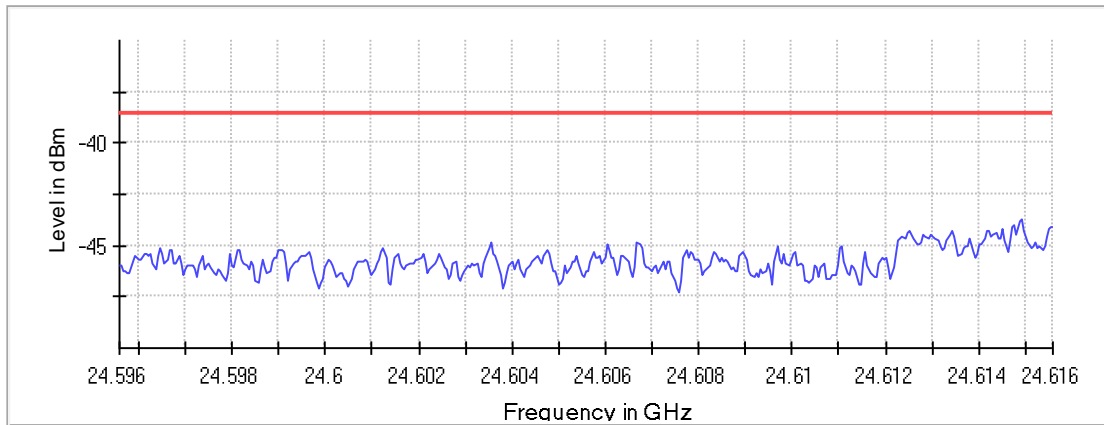


SumLevel Limit

FinalMeas_19880389558Hz



FinalMeas_24605588614Hz



FinalMeas_25224347184Hz

