



427 West 12800 South
Draper, UT 84020

Test Report Attachment

FCC ID	SWX-WAVEPRO
Equipment Under Test	Wave-Pro
Test Report Serial Number	TR7801_01
Date of Test	5 August 2022
Report Issue Date	6 January 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 2023. Unified Compliance Laboratory has been assigned Conformity Assessment Number US0223 by ISED and MRA US5037.



1 DUT Band

1.1 UNII-1 Summary

1.1.1 Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5165.000	24.0	20.000000	PASS
RF output power	5165.000	24.0	20.000000	PASS
Power Spectral Density	5165.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5165.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5200.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5200.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5240.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5240.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5175.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	5175.000	24.0	40.000000	PASS
Emission Bandwidth 26 dB	5200.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	5200.000	24.0	40.000000	PASS
Emission Bandwidth 26 dB	5230.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	5230.000	24.0	40.000000	PASS
Emission Bandwidth 26 dB	5195.000	24.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5195.000	24.0	80.000000	PASS
Emission Bandwidth 26 dB	5200.000	24.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5200.000	24.0	80.000000	PASS
Emission Bandwidth 26 dB	5210.000	24.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5210.000	24.0	80.000000	PASS

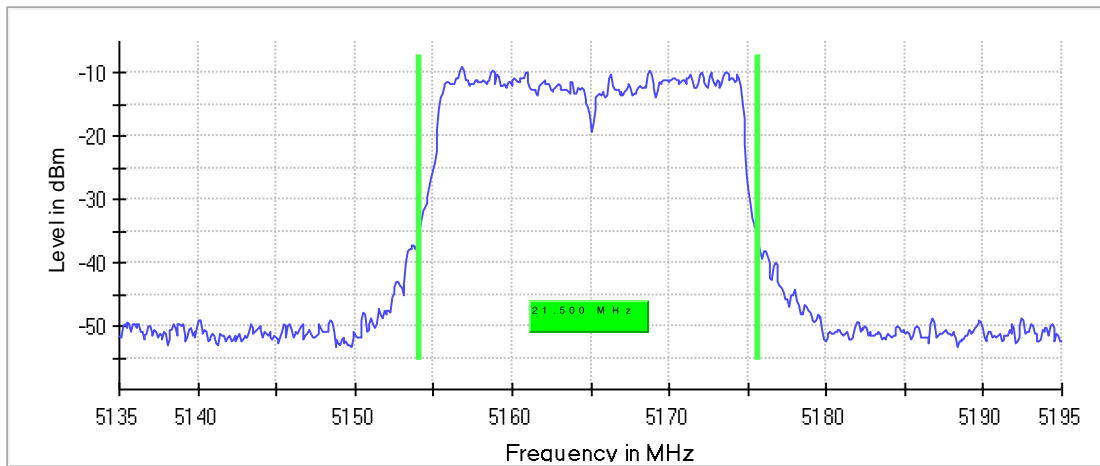
Emission Bandwidth 26 dB (5165 MHz; 24.000 dBm; 20 MHz)

26 dB Bandwidth

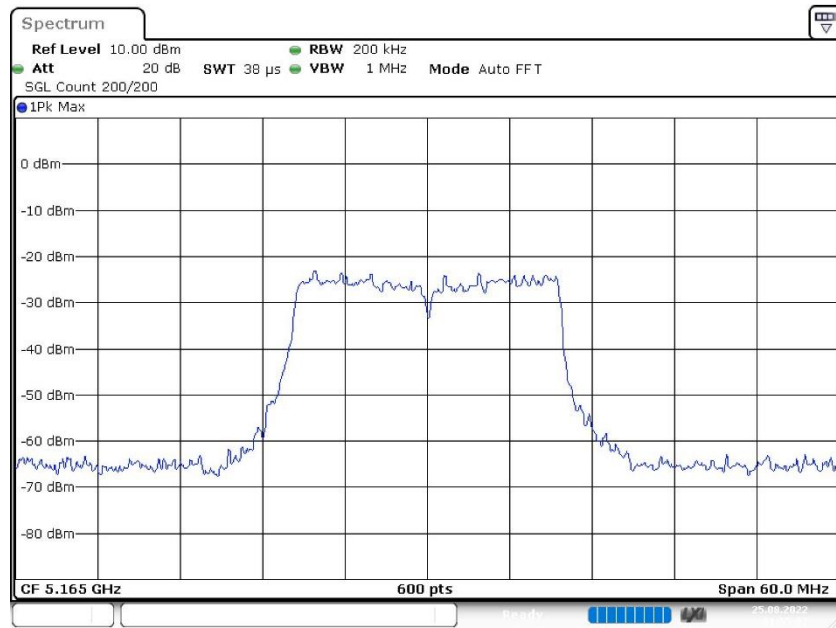
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5165.000000	21.500000	---	---	5154.150000	5175.650000

DUT Frequency (MHz)	Max Level (dBm)	Result
5165.000000	-9.0	PASS

26 dB Bandwidth



Bandwidth



Date: 25.AUG.2022 01:55:38

Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13500 GHz	5.13500 GHz
Stop Frequency	5.19500 GHz	5.19500 GHz
Span	60.000 MHz	60.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	600	~ 600
Sweeptime	37.969 μs	AUTO
Reference Level	10.000 dBm	AUTO

Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

RF output power (5165 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5165.000000	6.7	30.0	6.7	85.998	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

Power Spectral Density (5165 MHz; 24.000 dBm; 20 MHz)

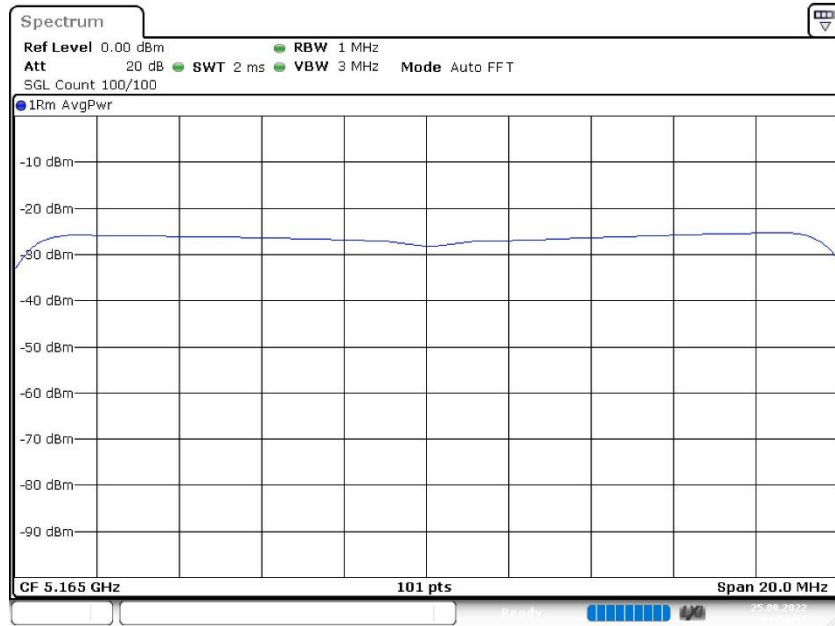
Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5165.000000	5173.514851	-8.269	17.0	PASS

Ports

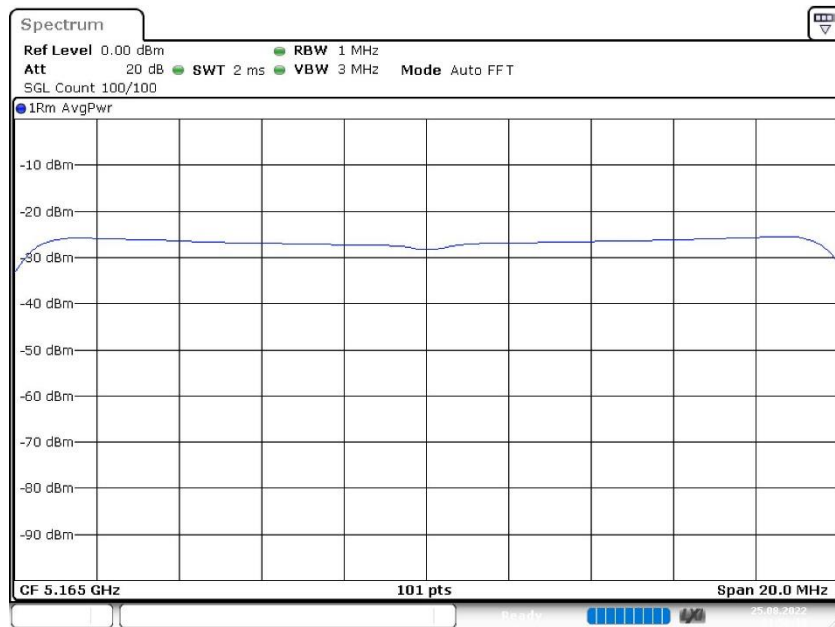
Port	State
1	used
2	used

PSD Connector 1



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PSD Connector 2



Date: 25.AUG.2022 01:56:19

Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.15500 GHz	5.15500 GHz
Stop Frequency	5.17500 GHz	5.17500 GHz
Span	20.000 MHz	20.000 MHz

RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
SweepTime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 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

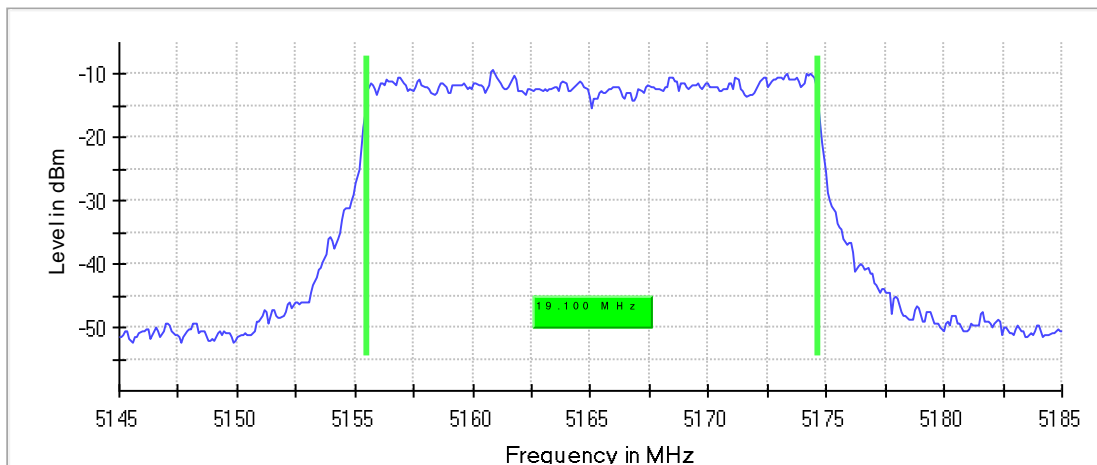
Occupied Channel Bandwidth 99% (5165 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

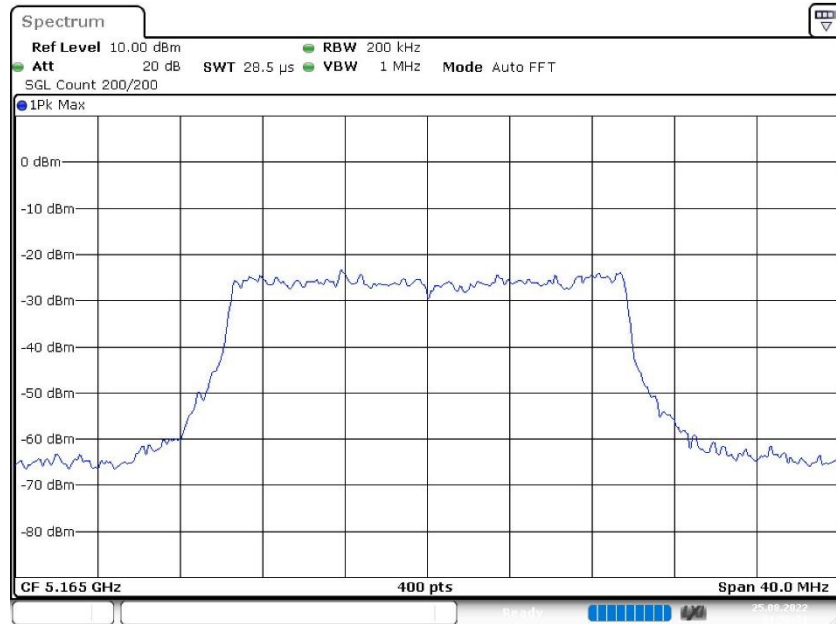
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5165.000000	19.100000	---	---	5155.550000	5174.650000

DUT Frequency (MHz)	Result
5165.000000	PASS

99 %Bandwidth



Bandwidth



Date: 29.AUG.2022 01:56:31

Measurement

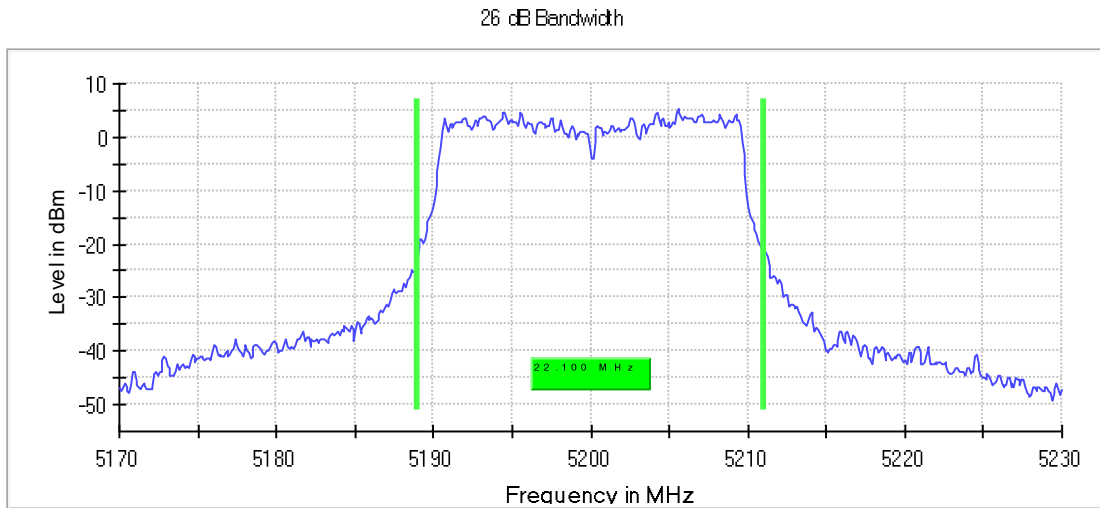
Setting	Instrument Value	Target Value
Start Frequency	5.14500 GHz	5.14500 GHz
Stop Frequency	5.18500 GHz	5.18500 GHz
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	28.477 μ s	AUTO
Reference Level	10.000 dBm	AUTO
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off

Emission Bandwidth 26 dB (5200 MHz; 24.000 dBm; 20 MHz)

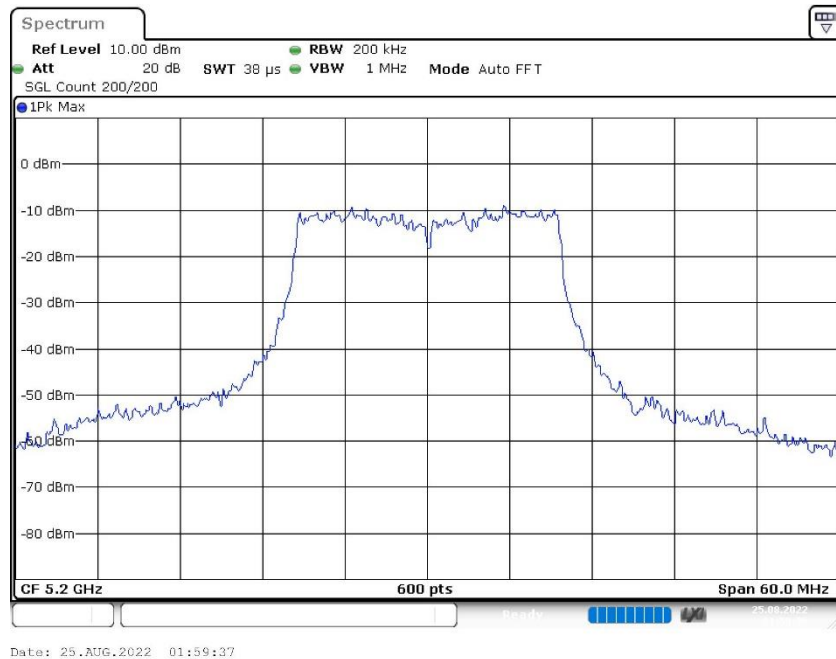
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	22.100000	---	---	5188.950000	5211.050000

DUT Frequency (MHz)	Max Level (dBm)	Result
5200.000000	5.2	PASS



Bandwidth



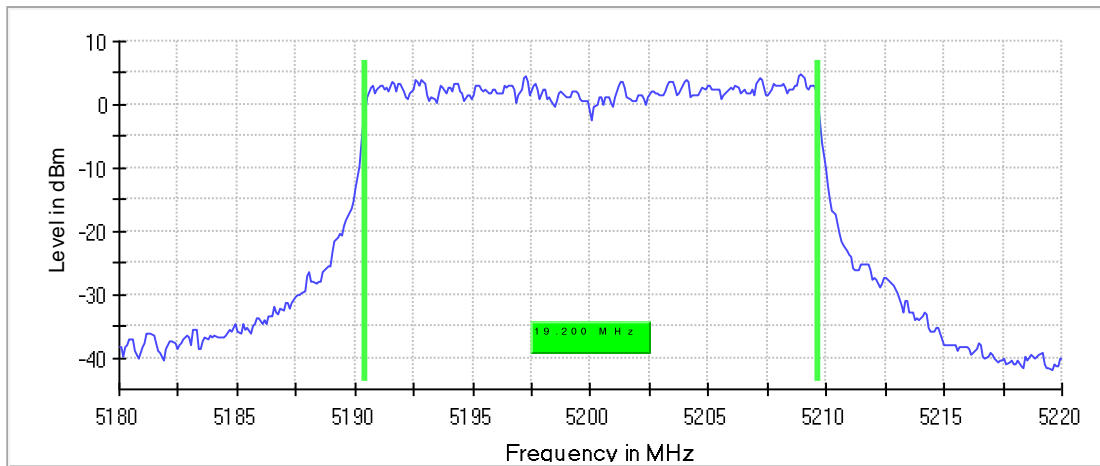
Occupied Channel Bandwidth 99% (5200 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

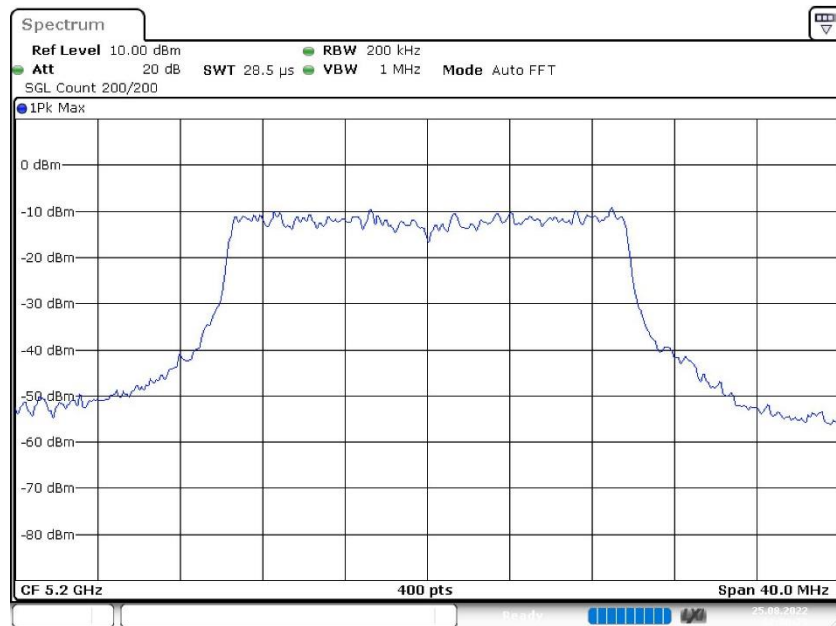
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	19.200000	---	---	5190.450000	5209.650000

DUT Frequency (MHz)	Result
5200.000000	PASS

99 %Bandwidth



Bandwidth



Date: 25.AUG.2022 02:00:26

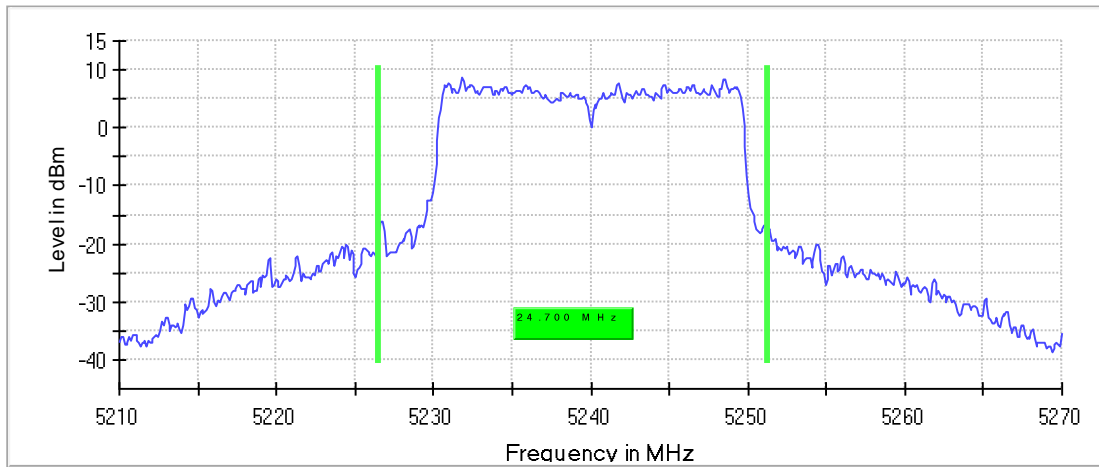
Emission Bandwidth 26 dB (5240 MHz; 24.000 dBm; 20 MHz)

26 dB Bandwidth

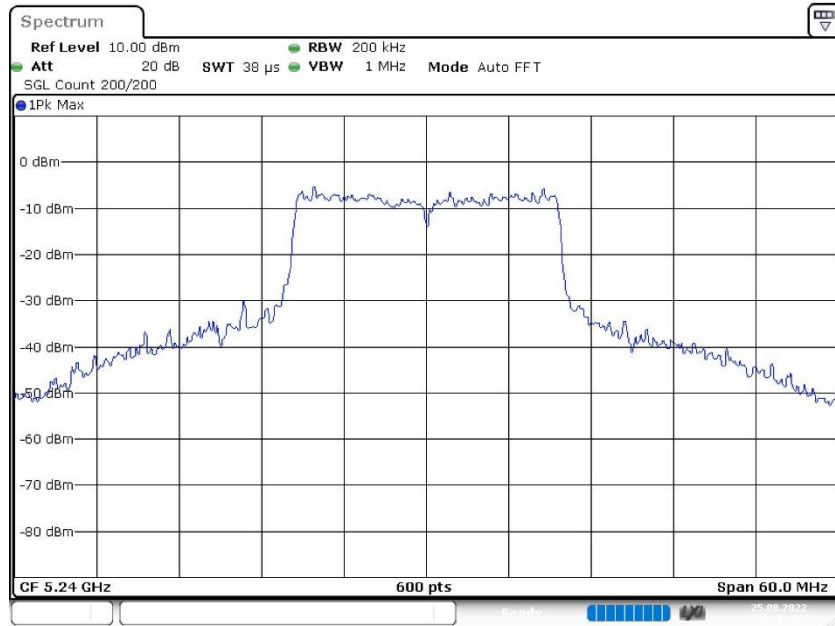
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5240.000000	24.700000	---	---	5226.550000	5251.250000

DUT Frequency (MHz)	Max Level (dBm)	Result
5240.000000	8.8	PASS

26 dB Bandwidth



Bandwidth



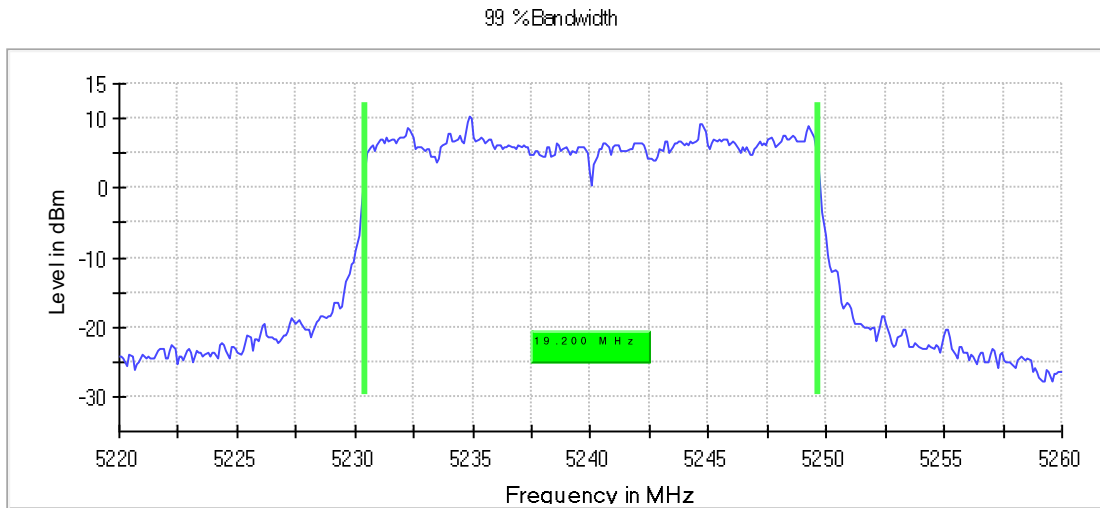
Date: 25.AUG.2022 02:02:54

Occupied Channel Bandwidth 99% (5240 MHz; 24.000 dBm; 20 MHz)

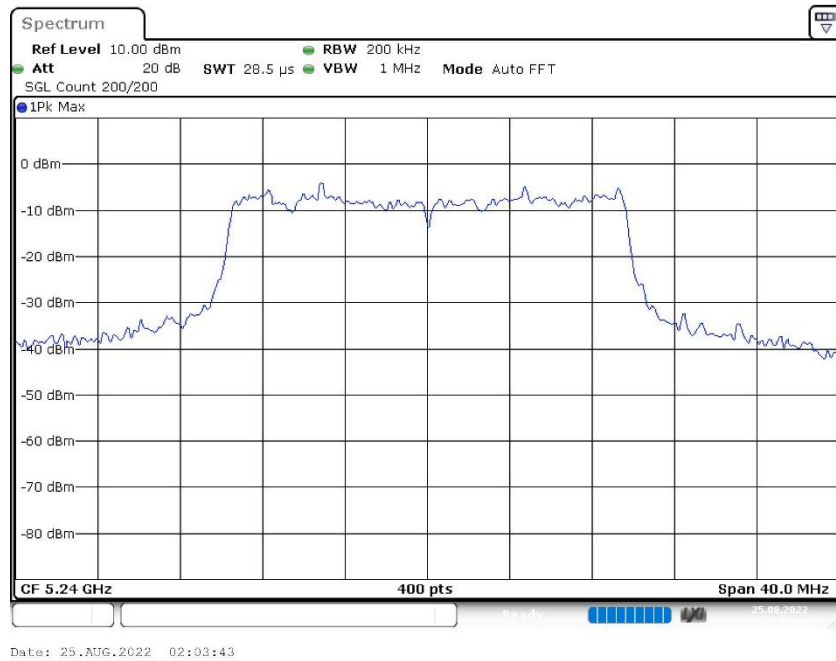
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5240.000000	19.200000	---	---	5230.450000	5249.650000

DUT Frequency (MHz)	Result
5240.000000	PASS



Bandwidth

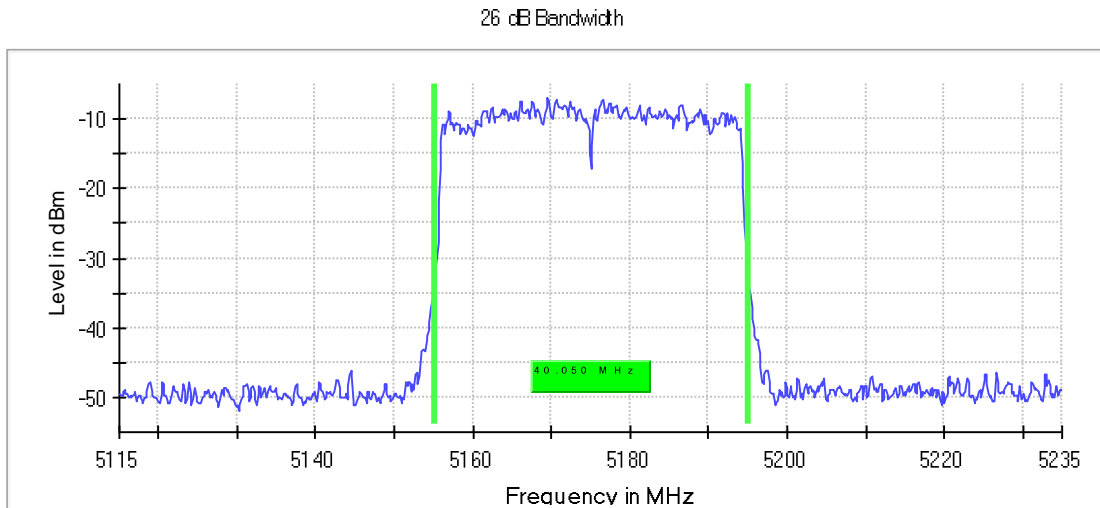


Emission Bandwidth 26 dB (5175 MHz; 24.000 dBm; 40 MHz)

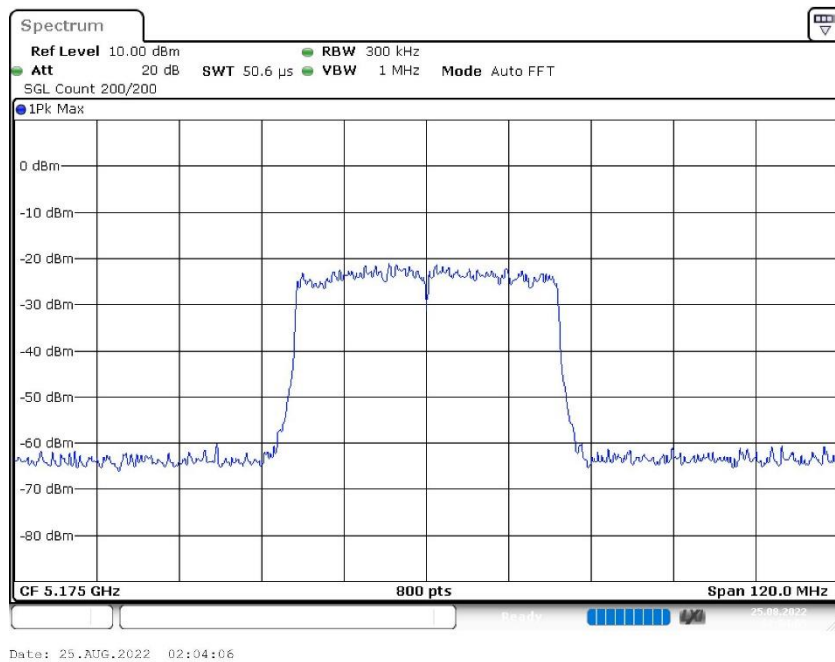
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5175.000000	40.050000	---	---	5155.125000	5195.175000

DUT Frequency (MHz)	Max Level (dBm)	Result
5175.000000	-7.1	PASS



Bandwidth



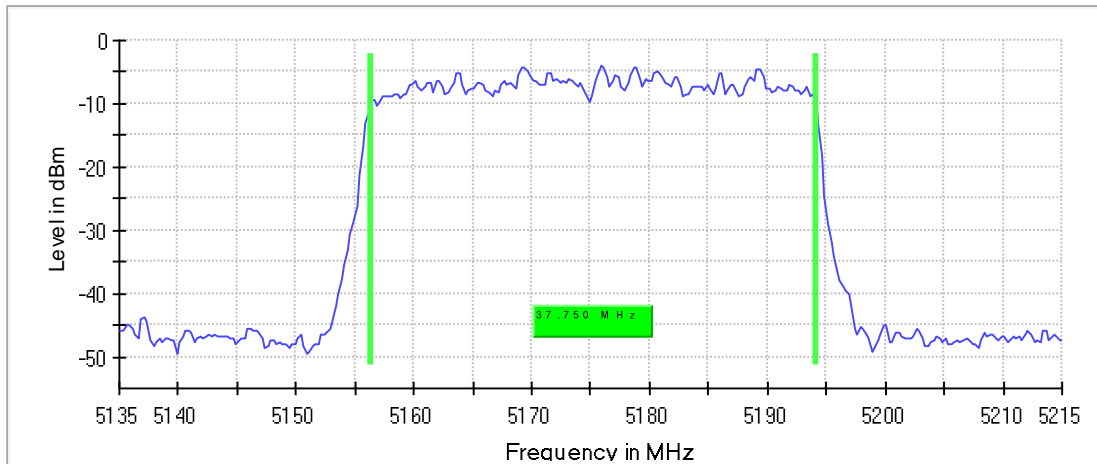
Occupied Channel Bandwidth 99% (5175 MHz; 24.000 dBm; 40 MHz)

99 % Bandwidth

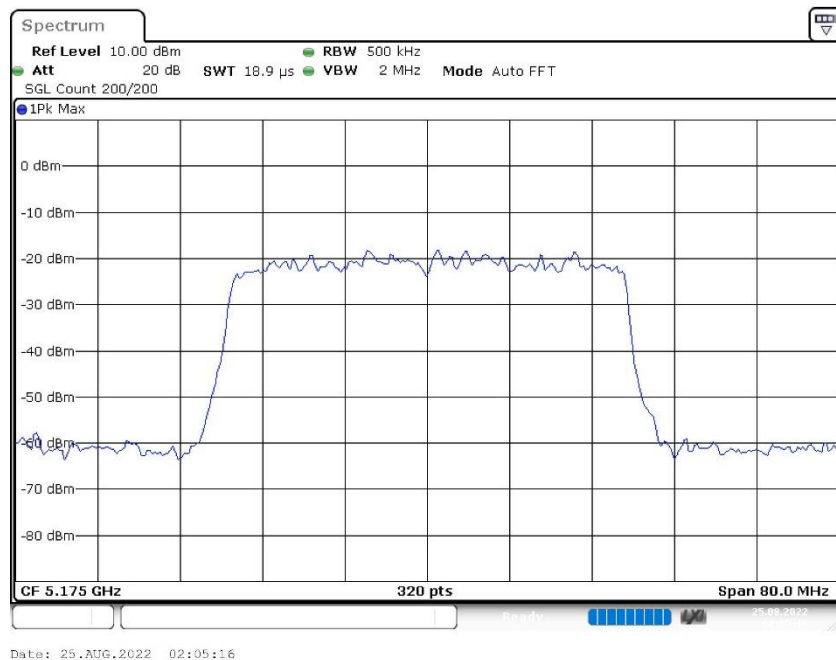
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5175.000000	37.750000	---	---	5156.375000	5194.125000

DUT Frequency (MHz)	Result
5175.000000	PASS

99 % Bandwidth



Bandwidth



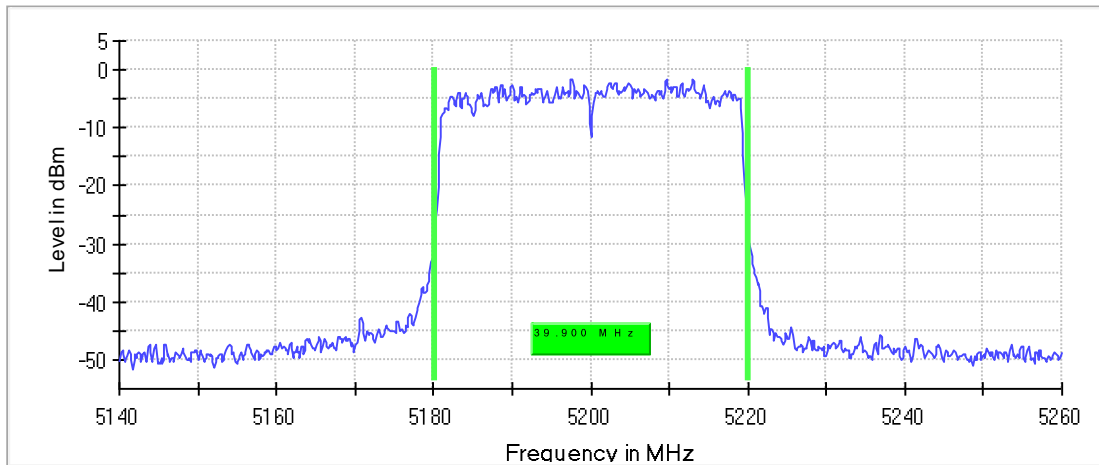
Emission Bandwidth 26 dB (5200 MHz; 24.000 dBm; 40 MHz)

26 dB Bandwidth

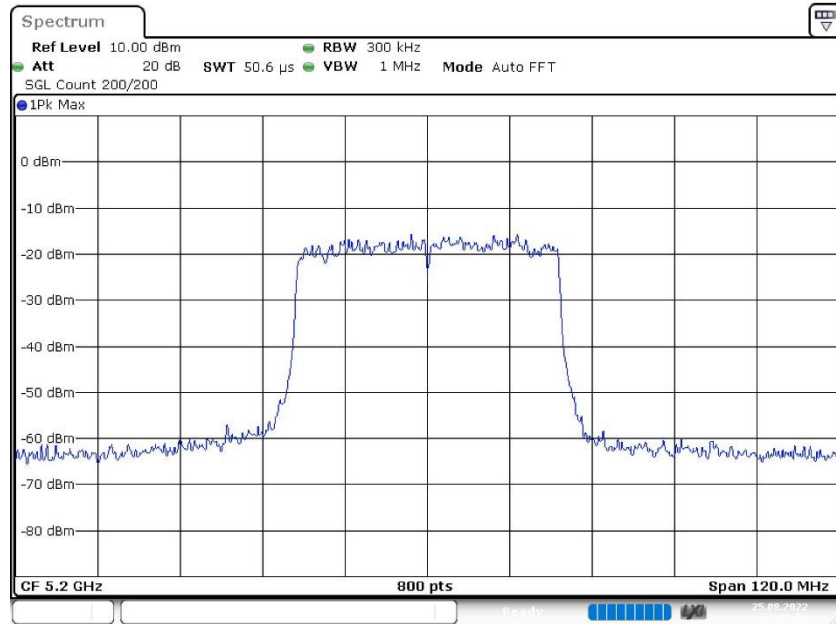
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	39.900000	---	---	5180.125000	5220.025000

DUT Frequency (MHz)	Max Level (dBm)	Result
5200.000000	-1.5	PASS

26 dB Bandwidth



Bandwidth

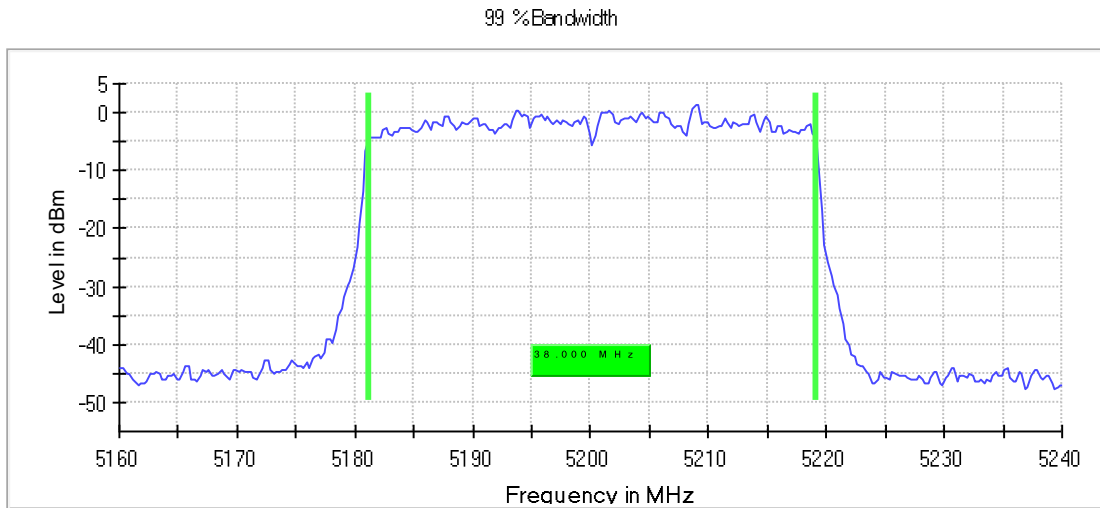


Occupied Channel Bandwidth 99% (5200 MHz; 24.000 dBm; 40 MHz)

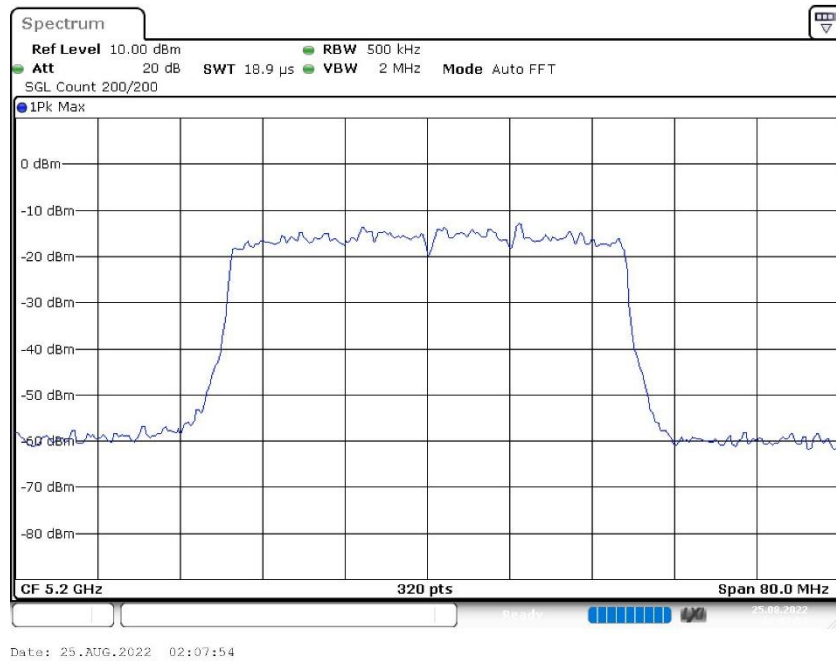
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	38.000000	---	---	5181.125000	5219.125000

DUT Frequency (MHz)	Result
5200.000000	PASS



Bandwidth

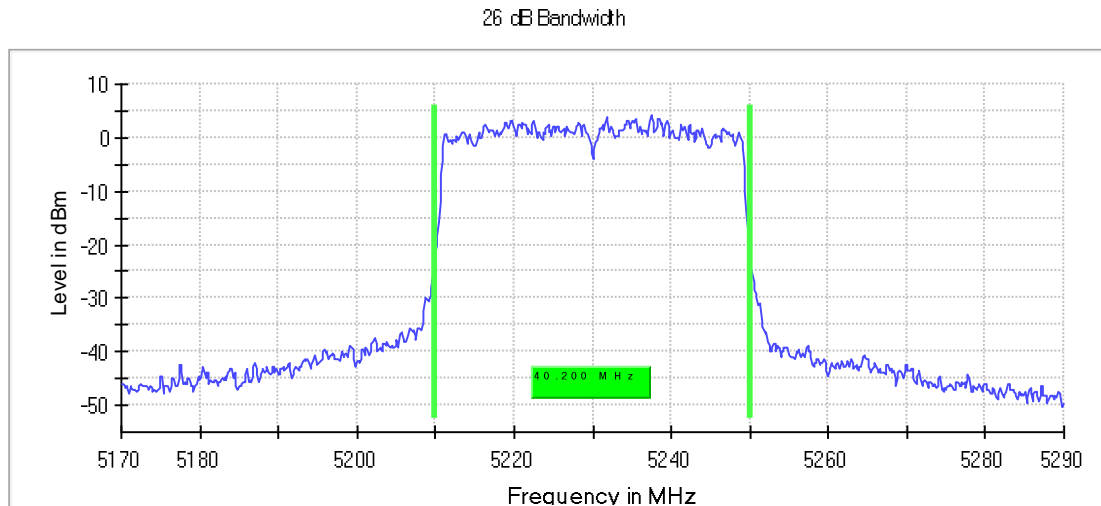


Emission Bandwidth 26 dB (5230 MHz; 24.000 dBm; 40 MHz)

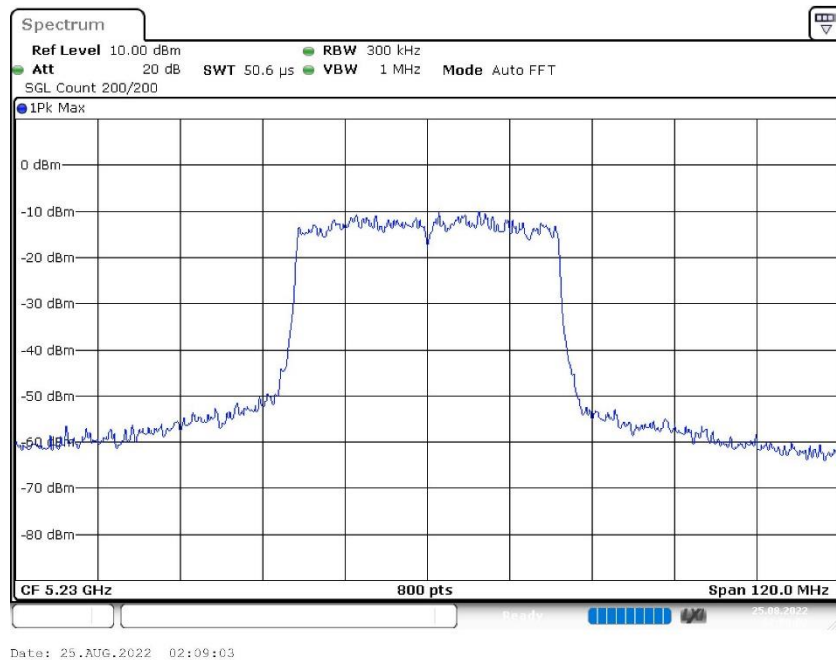
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5230.000000	40.200000	---	---	5209.825000	5250.025000

DUT Frequency (MHz)	Max Level (dBm)	Result
5230.000000	4.1	PASS



Bandwidth



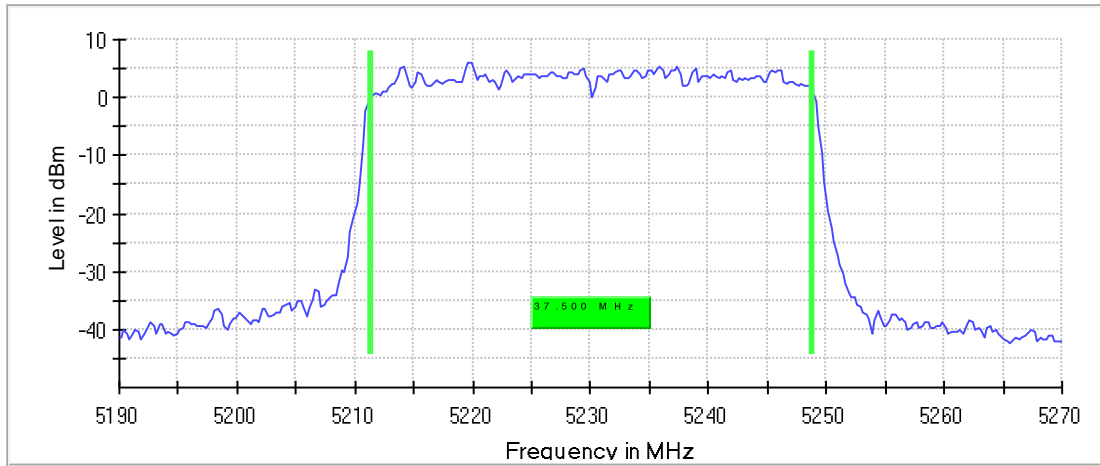
Occupied Channel Bandwidth 99% (5230 MHz; 24.000 dBm; 40 MHz)

99 % Bandwidth

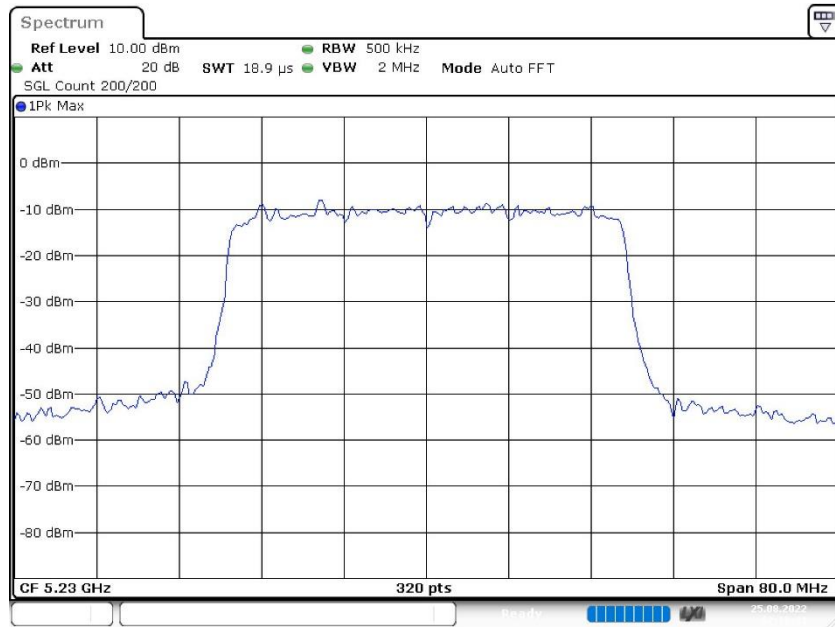
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5230.000000	37.500000	---	---	5211.375000	5248.875000

DUT Frequency (MHz)	Result
5230.000000	PASS

99 %Bandwidth



Bandwidth

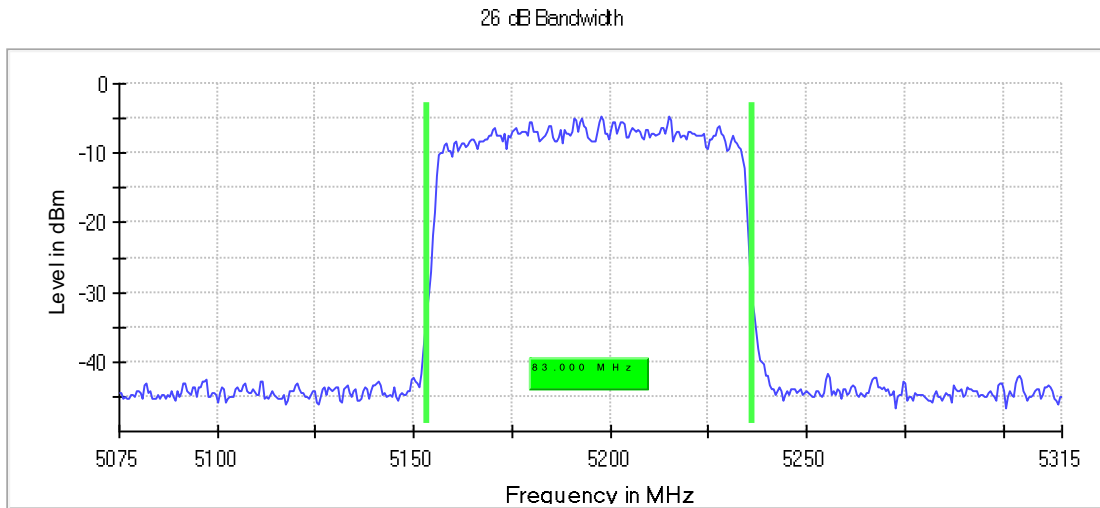


Emission Bandwidth 26 dB (5195 MHz; 24.000 dBm; 80 MHz)

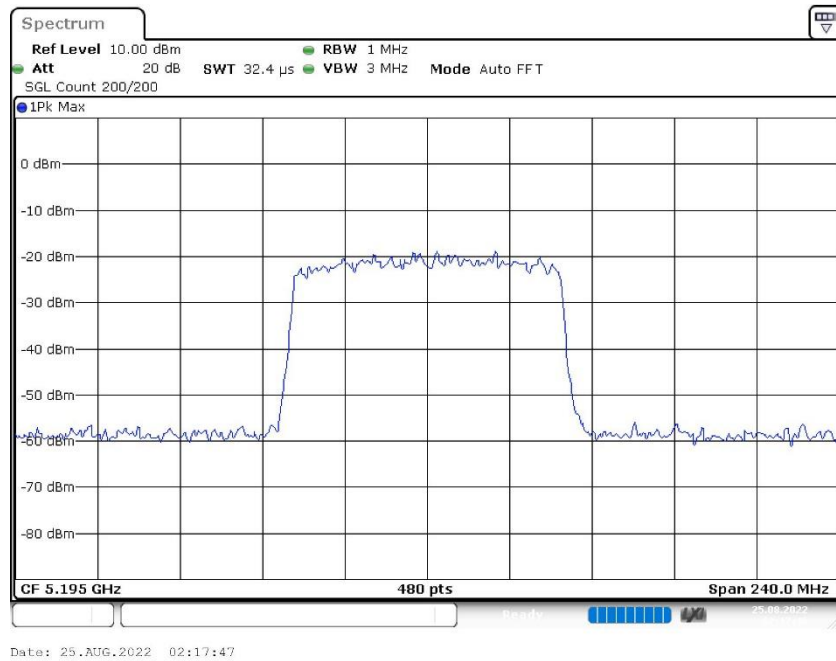
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5195.000000	83.000000	---	---	5153.250000	5236.250000

DUT Frequency (MHz)	Max Level (dBm)	Result
5195.000000	-4.7	PASS



Bandwidth

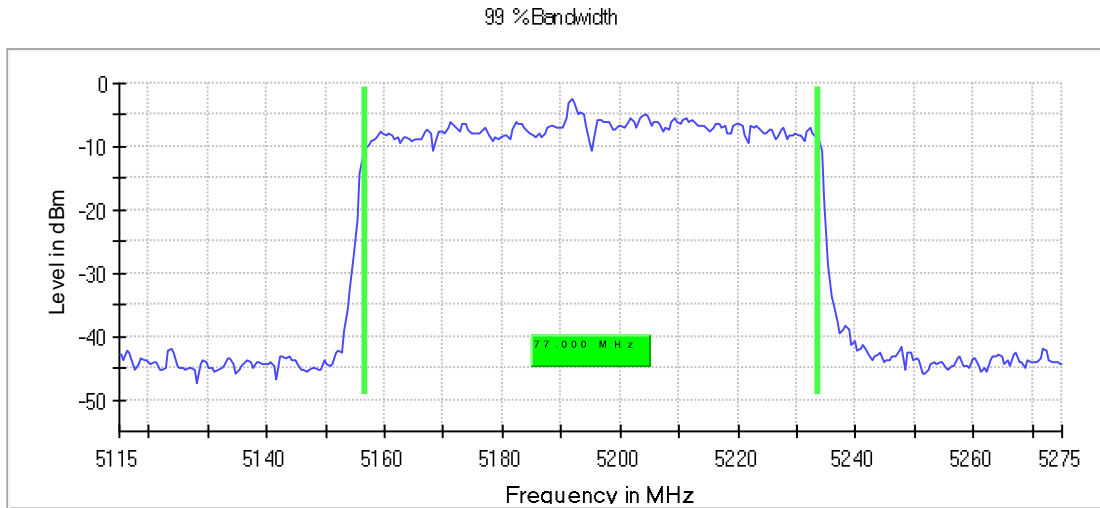


Occupied Channel Bandwidth 99% (5195 MHz; 24.000 dBm; 80 MHz)

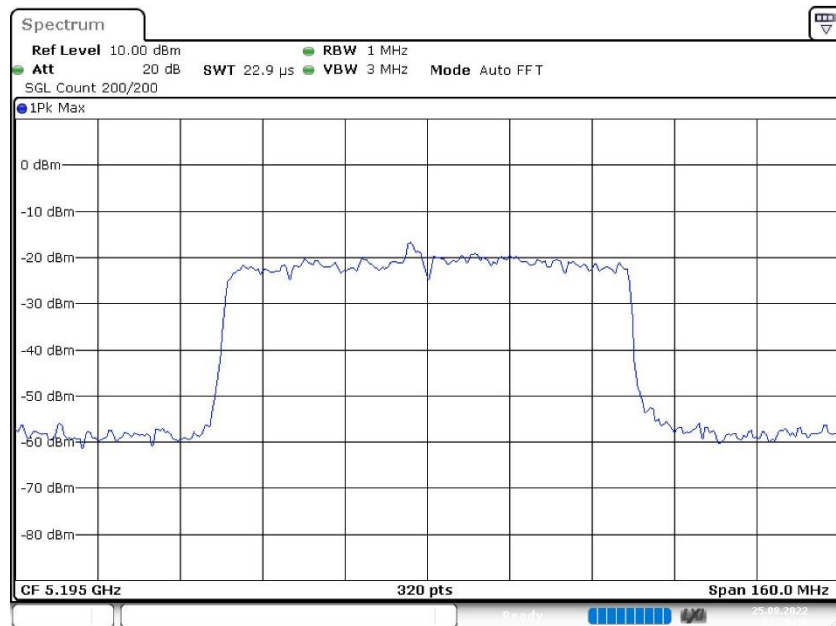
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5195.000000	77.000000	---	---	5156.750000	5233.750000

DUT Frequency (MHz)	Result
5195.000000	PASS



Bandwidth



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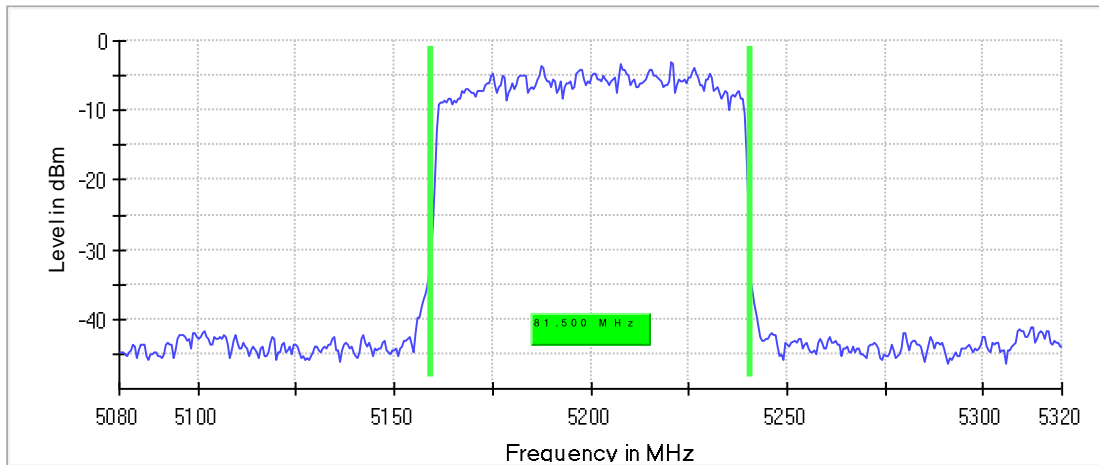
Emission Bandwidth 26 dB (5200 MHz; 24.000 dBm; 80 MHz)

26 dB Bandwidth

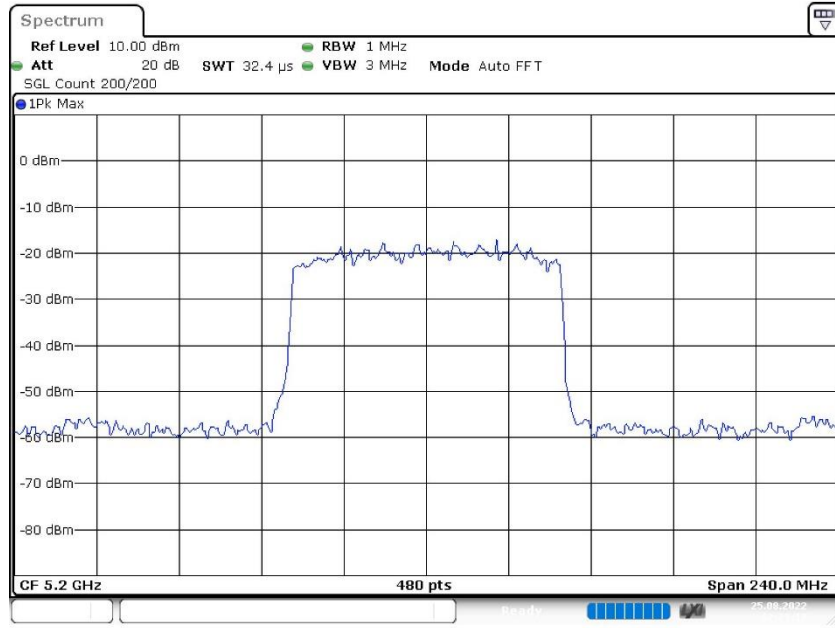
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	81.500000	---	---	5159.250000	5240.750000

DUT Frequency (MHz)	Max Level (dBm)	Result
5200.000000	-2.9	PASS

26 dB Bandwidth



Bandwidth

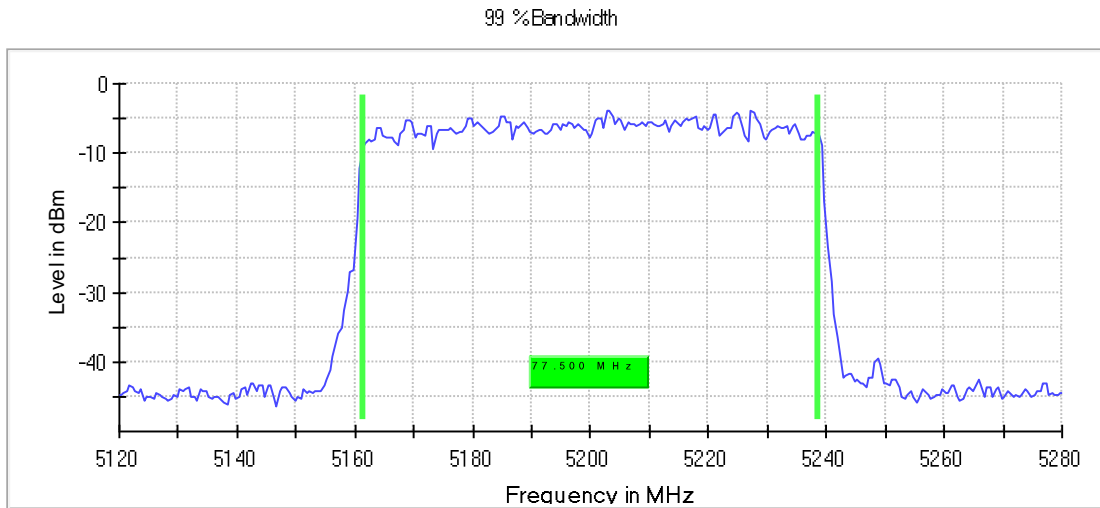


Occupied Channel Bandwidth 99% (5200 MHz; 24.000 dBm; 80 MHz)

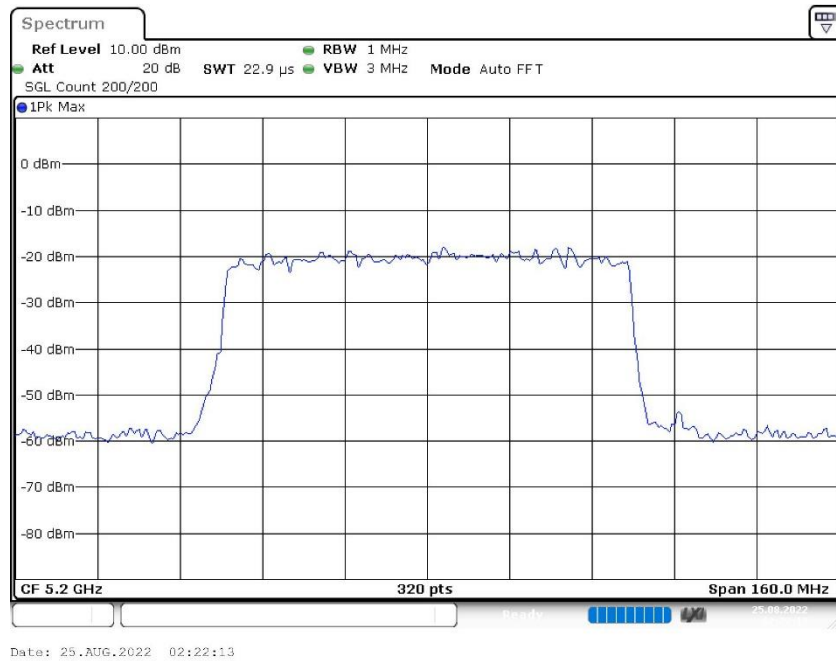
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5200.000000	77.500000	---	---	5161.250000	5238.750000

DUT Frequency (MHz)	Result
5200.000000	PASS



Bandwidth



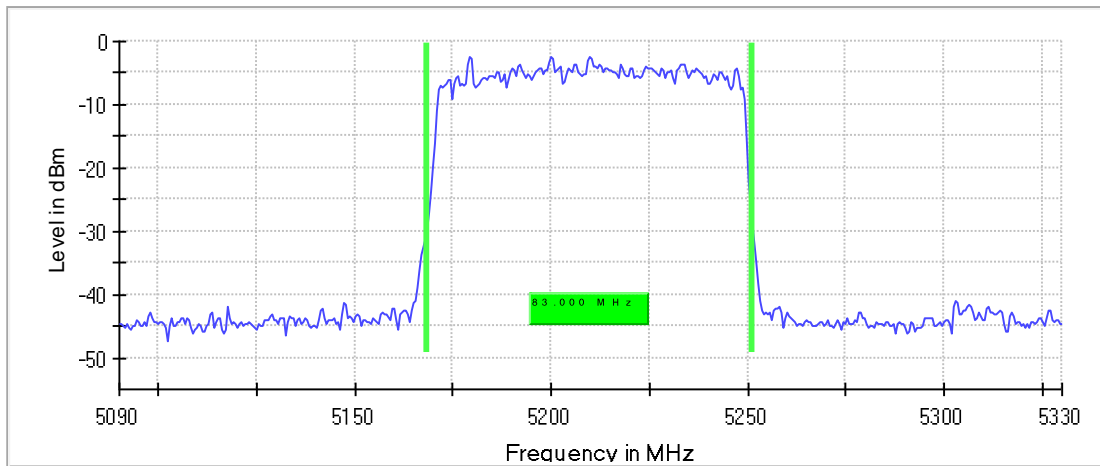
Emission Bandwidth 26 dB (5210 MHz; 24.000 dBm; 80 MHz)

26 dB Bandwidth

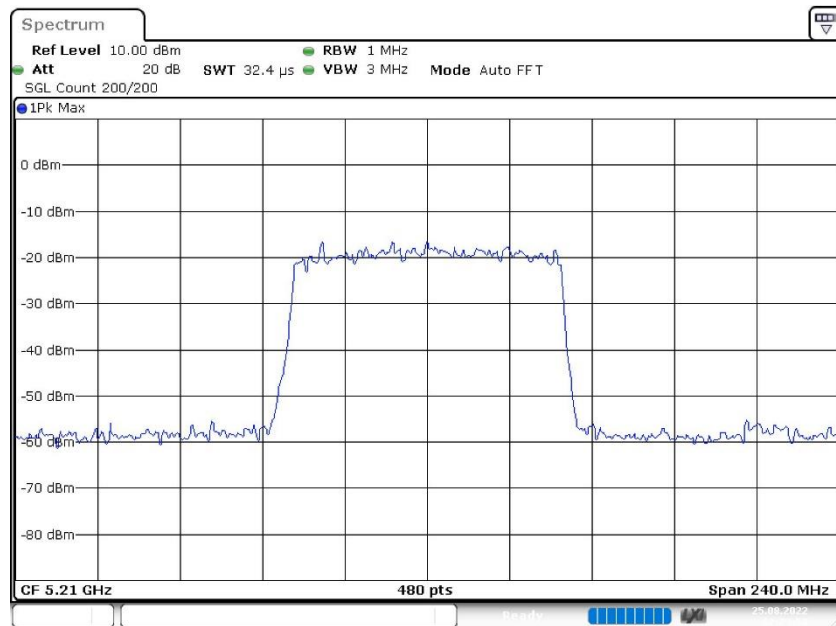
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	83.000000	---	---	5168.250000	5251.250000

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	-2.4	PASS

26 dB Bandwidth



Bandwidth



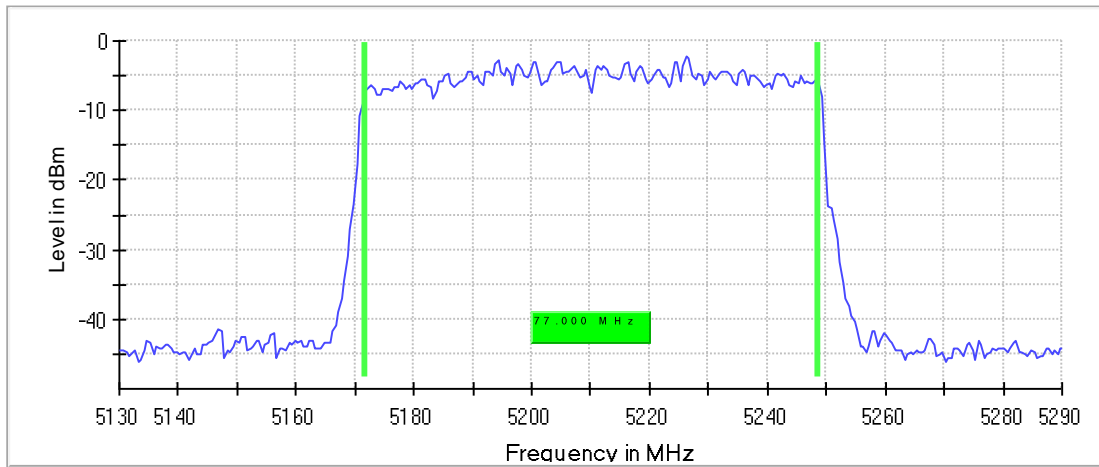
Occupied Channel Bandwidth 99% (5210 MHz; 24.000 dBm; 80 MHz)

99 % Bandwidth

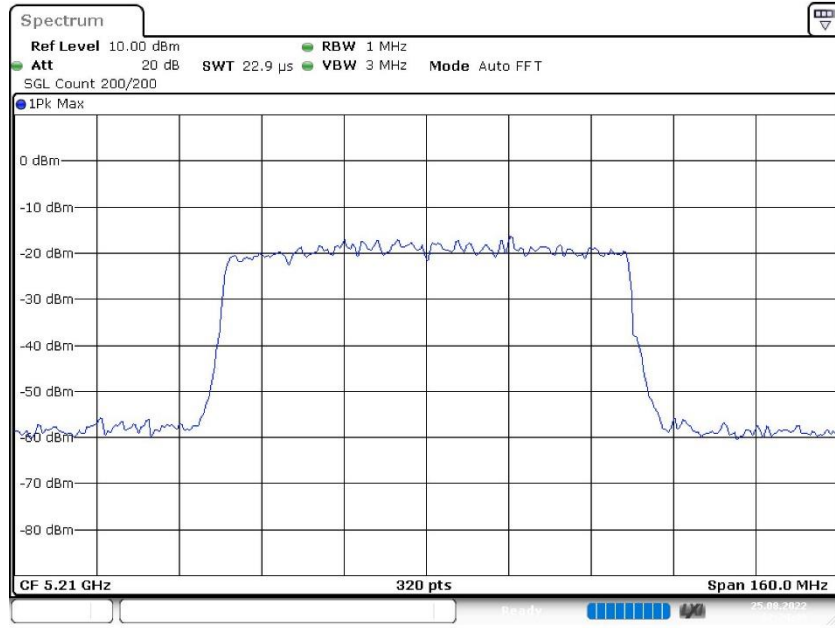
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	77.000000	---	---	5171.750000	5248.750000

DUT Frequency (MHz)	Result
5210.000000	PASS

99 %Bandwidth



Bandwidth



-- End of Report --