



427 West 12800 South
Draper, UT 84020

Test Report Attachment

FCC ID	SWX-E7CP
ISED ID	6545A-E7CP
Equipment Under Test	E7-Campus
Test Report Serial Number	TR9076_01
Date of Test(s)	23 and 28 May 2024
Report Issue Date	24 June 2024

Test Personnel

Testing performed by	Evan Hartzell
-----------------------------	---------------

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 2025. 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 2025. Unified Compliance Laboratory has been assigned Conformity Assessment Number US0223 by ISED and MRA US5037.



1 UNII-1 Band

1.1 Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5180.000	24.0	20.000000	PASS
RF output power	5180.000	24.0	20.000000	PASS
Power Spectral Density	5180.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5180.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5210.000	24.0	20.000000	PASS
Power Spectral Density	5210.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5210.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5240.000	24.0	20.000000	PASS
Power Spectral Density	5240.000	24.0	20.000000	PASS
Occupied Channel Bandwidth 99%	5240.000	24.0	20.000000	PASS
Emission Bandwidth 26 dB	5190.000	24.0	40.000000	PASS
Power Spectral Density	5190.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	5190.000	24.0	40.000000	PASS
Emission Bandwidth 26 dB	5230.000	24.0	40.000000	PASS
Power Spectral Density	5230.000	24.0	40.000000	PASS
Occupied Channel Bandwidth 99%	5230.000	24.0	40.000000	PASS
Emission Bandwidth 26 dB	5210.000	24.0	80.000000	PASS
Power Spectral Density	5210.000	24.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5210.000	24.0	80.000000	PASS

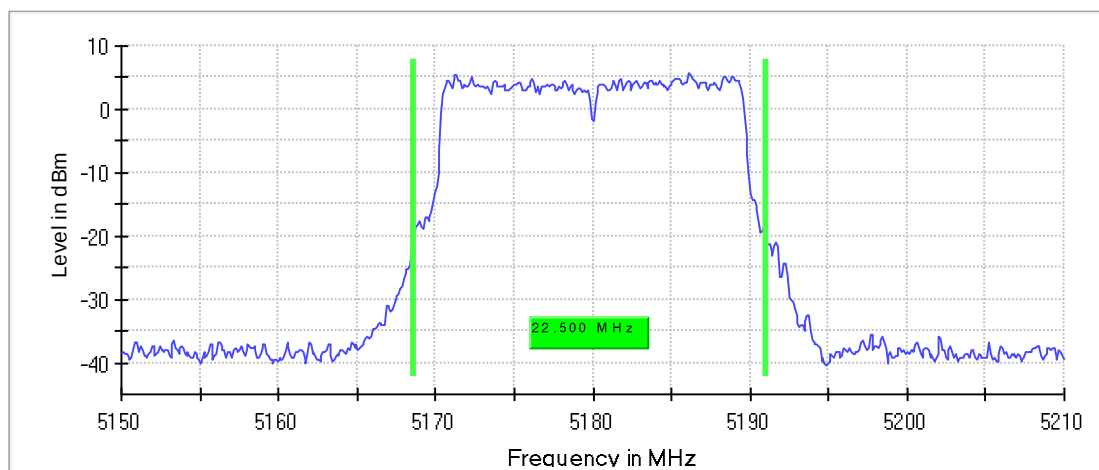
Emission Bandwidth 26 dB (5180 MHz; 24.000 dBm; 20 MHz)

26 dB Bandwidth

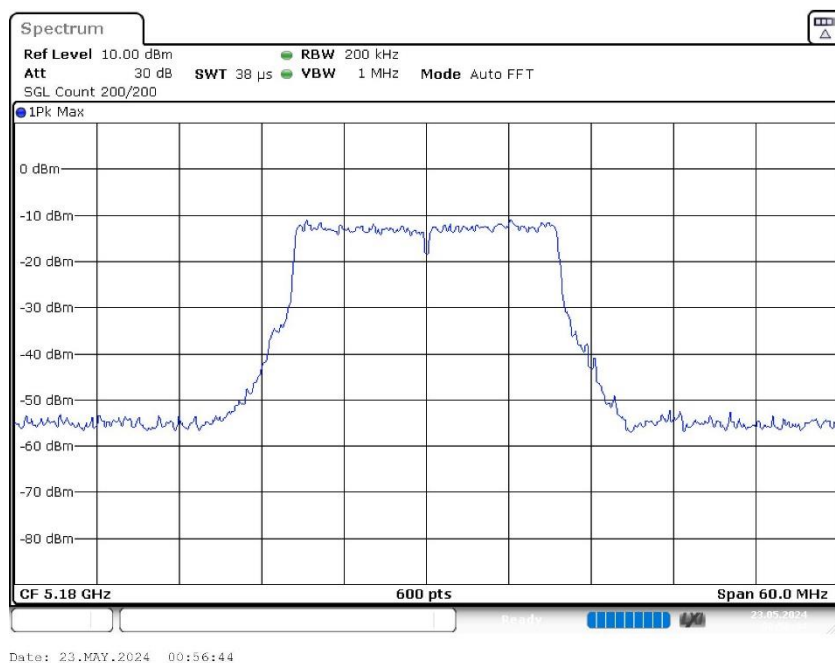
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5180.000000	22.500000	---	---	5168.550000	5191.050000

DUT Frequency (MHz)	Max Level (dBm)	Result
5180.000000	5.8	PASS

26 dB Bandwidth



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.21000 GHz	5.21000 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 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
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 (5180 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5180.000000	23.3	30.0	23.3	99.709	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

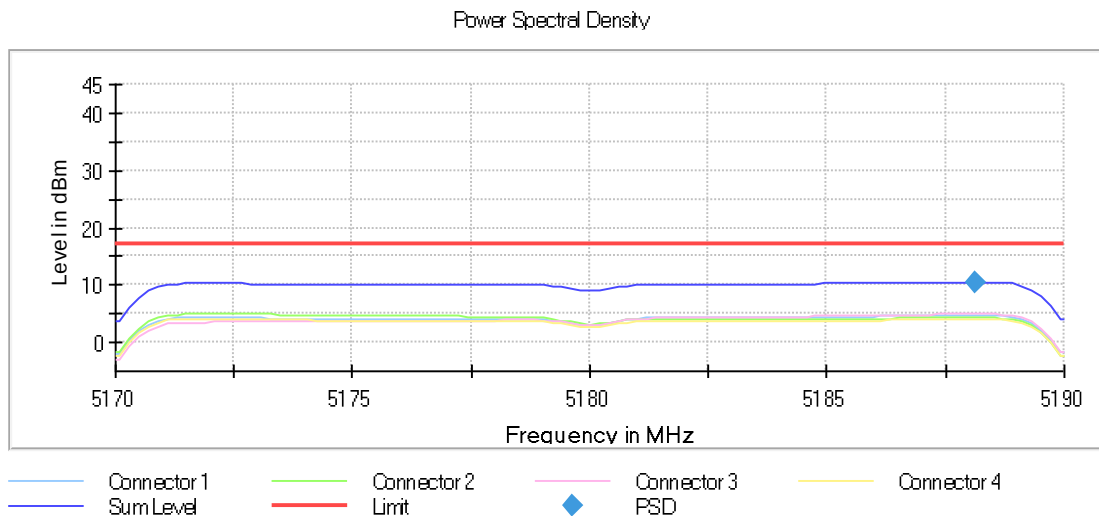
Power Spectral Density (5180 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5180.000000	5188.118812	10.555	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.17000 GHz	5.17000 GHz
Stop Frequency	5.19000 GHz	5.19000 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	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

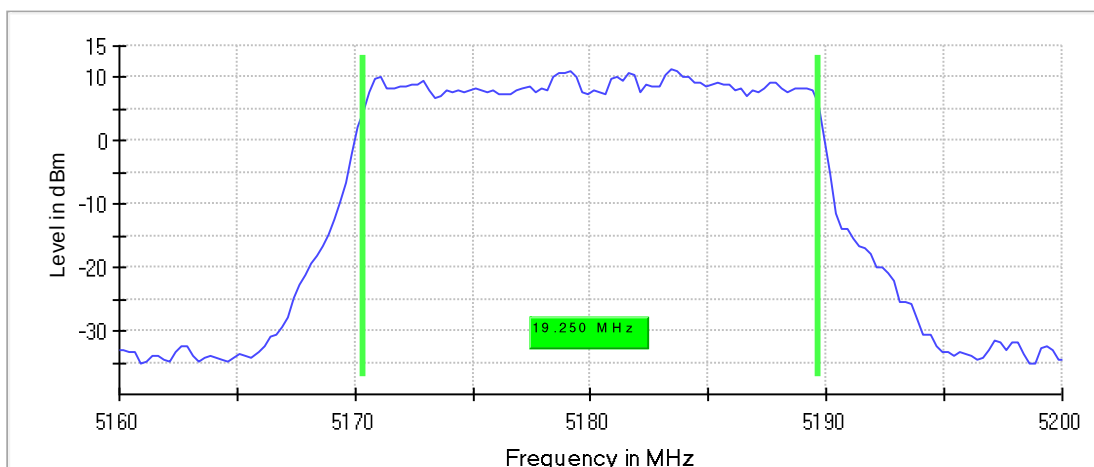
Occupied Channel Bandwidth 99% (5180 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5180.000000	19.250000	---	---	5170.375000	5189.625000

DUT Frequency (MHz)	Result
5180.000000	PASS

99 % Bandwidth



Bandwidth



Date: 23.MAY.2024 01:01:04

Measurement

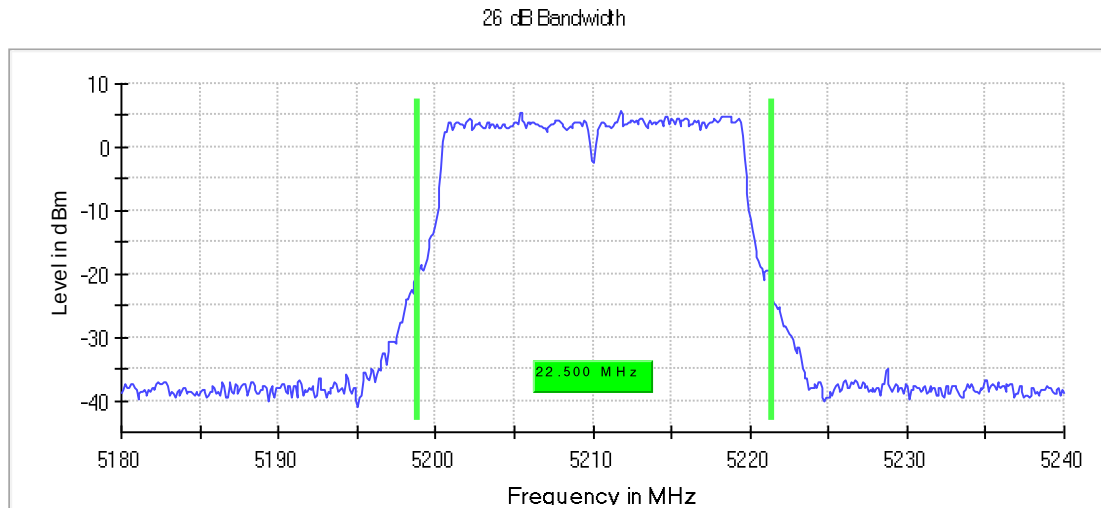
Setting	Instrument Value	Target Value
Start Frequency	5.16000 GHz	5.16000 GHz
Stop Frequency	5.20000 GHz	5.20000 GHz
Span	40.000 MHz	40.000 MHz
RBW	500.000 kHz	>= 500.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	160	~ 160
SweepTime	11.344 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
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 (5210 MHz; 24.000 dBm; 20 MHz)

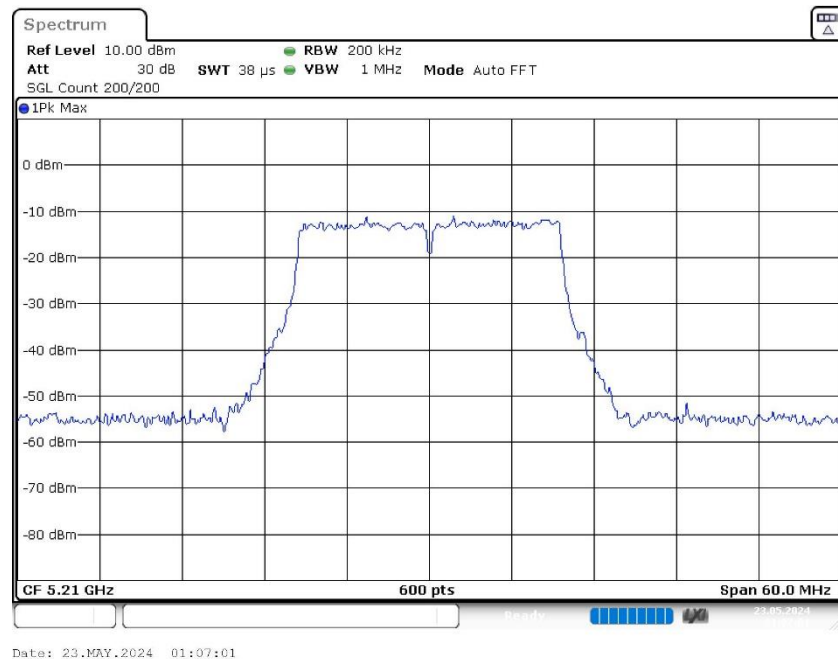
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	22.500000	---	---	5198.850000	5221.350000

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	5.6	PASS



Bandwidth



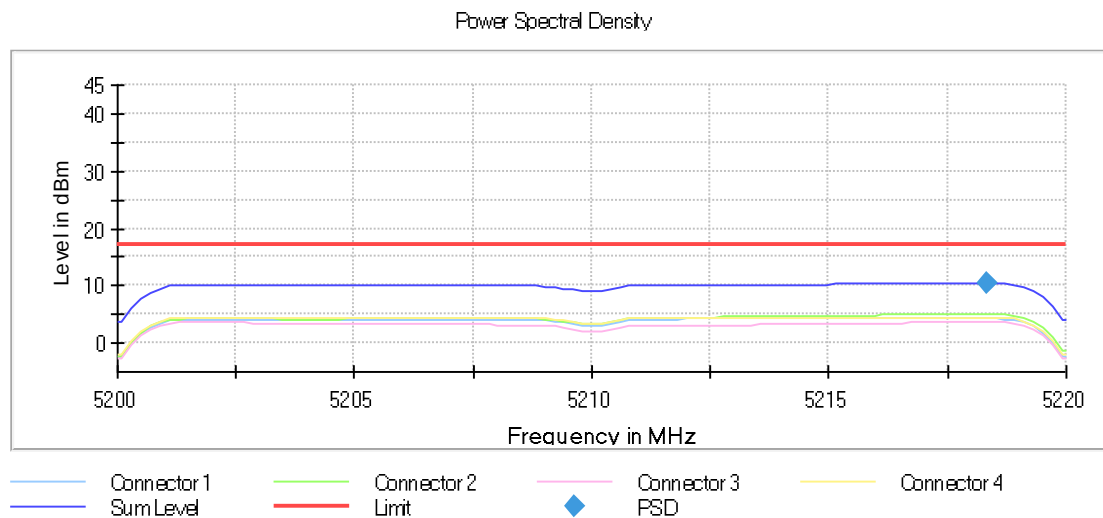
Power Spectral Density (5210 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5218.316832	10.475	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used

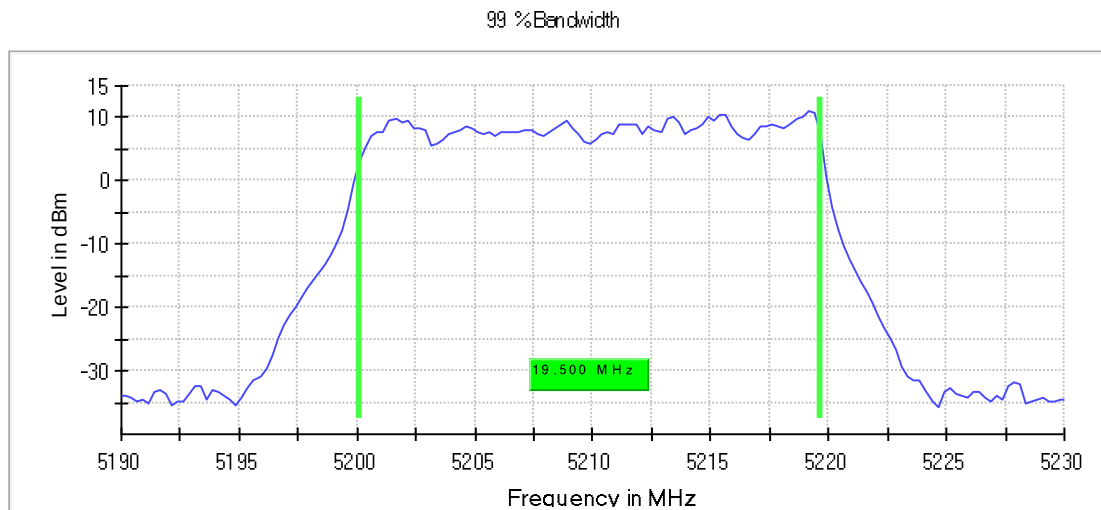


Occupied Channel Bandwidth 99% (5210 MHz; 24.000 dBm; 20 MHz)

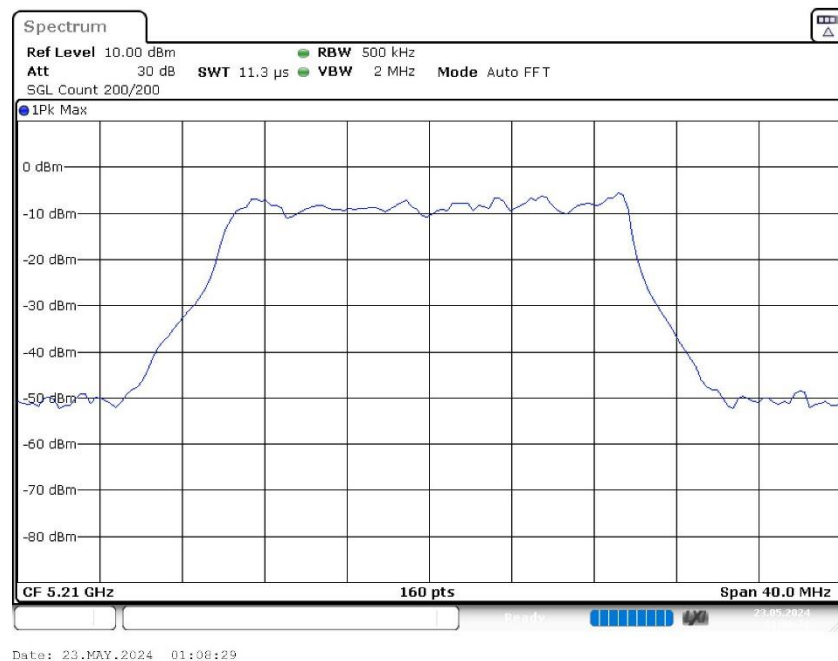
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	19.500000	---	---	5200.125000	5219.625000

DUT Frequency (MHz)	Result
5210.000000	PASS



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.19000 GHz	5.19000 GHz
Stop Frequency	5.23000 GHz	5.23000 GHz
Span	40.000 MHz	40.000 MHz
RBW	500.000 kHz	$\geq$ 500.000 kHz
VBW	2.000 MHz	$\geq$ 1.500 MHz
SweepPoints	160	$\sim$ 160
Sweptime	11.344 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm

Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

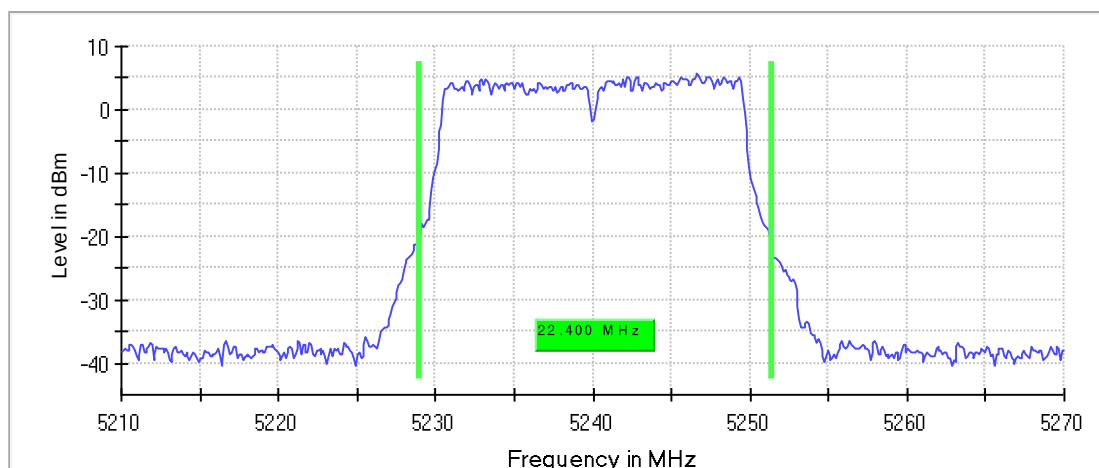
Emission Bandwidth 26 dB (5240 MHz; 24.000 dBm; 20 MHz)

26 dB Bandwidth

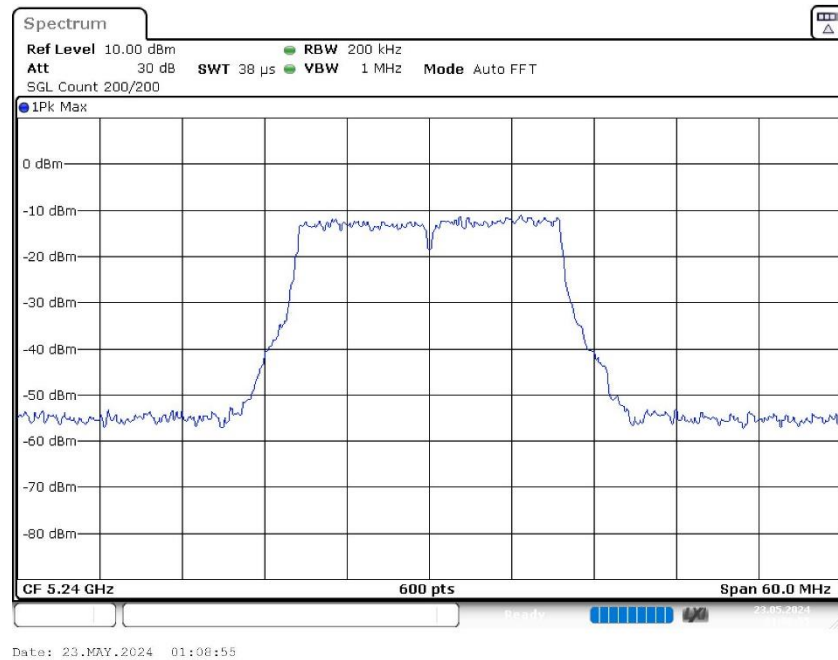
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5240.000000	22.400000	---	---	5228.950000	5251.350000

DUT Frequency (MHz)	Max Level (dBm)	Result
5240.000000	5.6	PASS

26 dB Bandwidth



Bandwidth



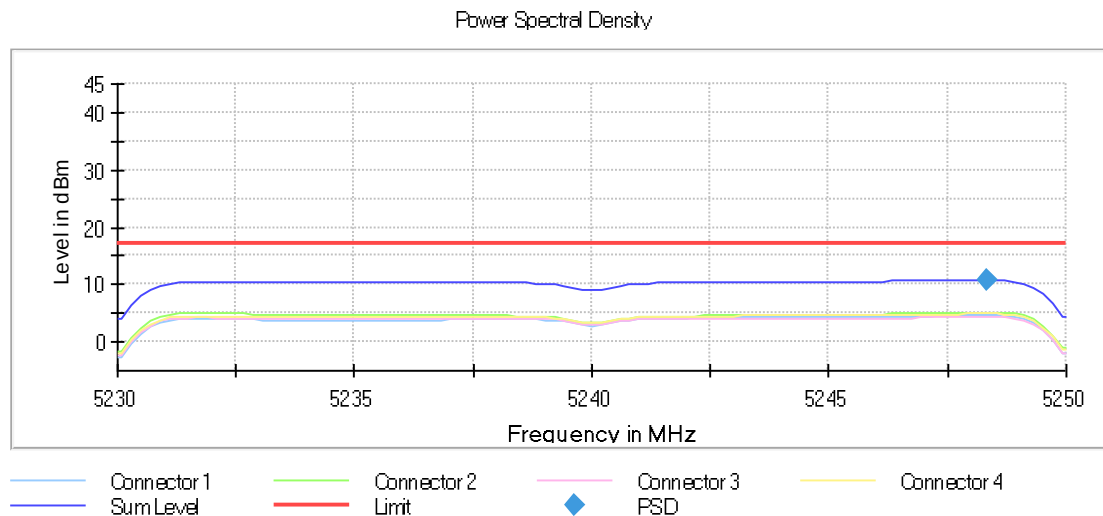
Power Spectral Density (5240 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5240.000000	5248.316832	10.811	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used

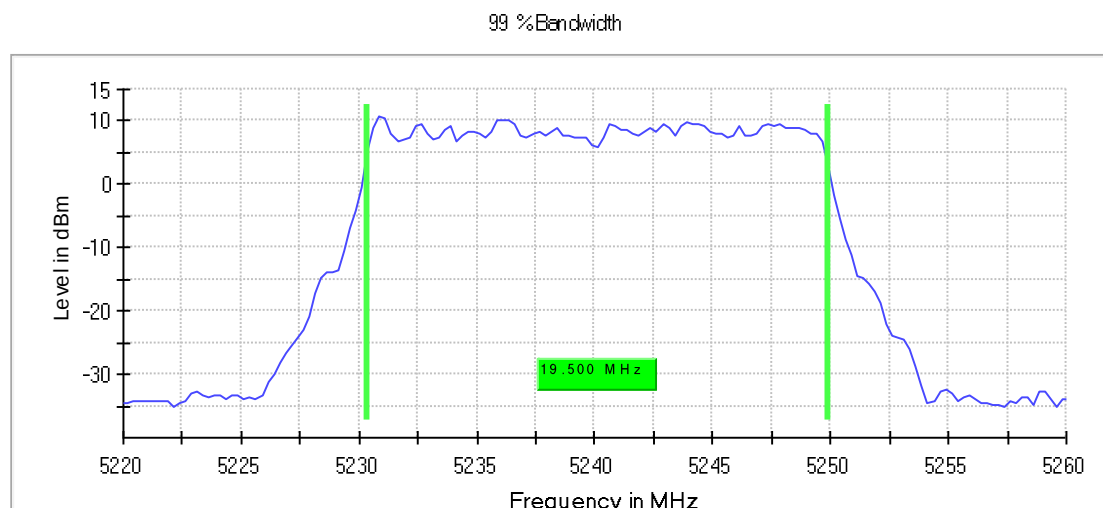


Occupied Channel Bandwidth 99% (5240 MHz; 24.000 dBm; 20 MHz)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5240.000000	19.500000	---	---	5230.375000	5249.875000

DUT Frequency (MHz)	Result
5240.000000	PASS



Bandwidth



Date: 23.MAY.2024 01:10:26

Measurement

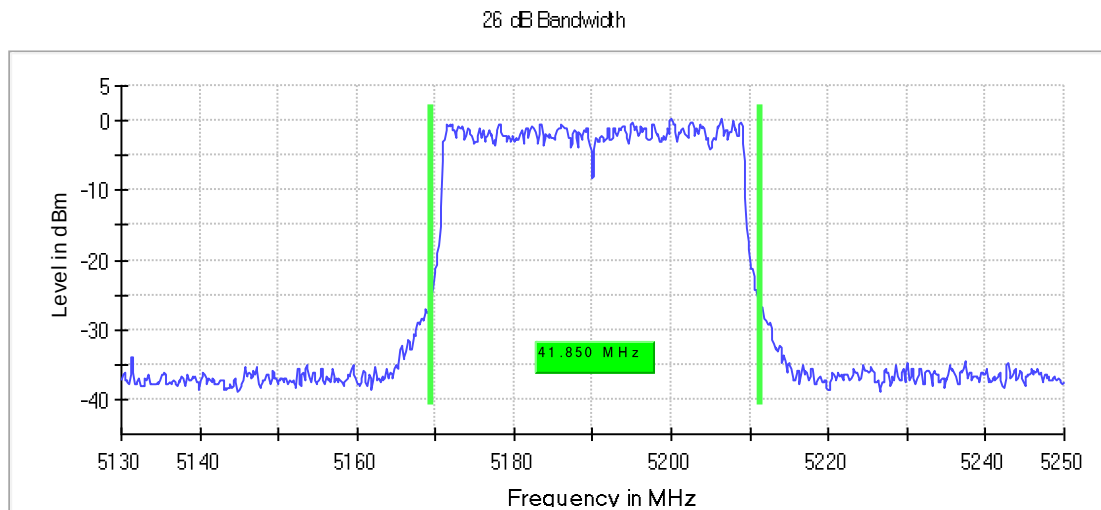
Setting	Instrument Value	Target Value
Start Frequency	5.22000 GHz	5.22000 GHz
Stop Frequency	5.26000 GHz	5.26000 GHz
Span	40.000 MHz	40.000 MHz
RBW	500.000 kHz	>= 500.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	160	~ 160
SweepTime	11.344 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
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 (5190 MHz; 24.000 dBm; 40 MHz)

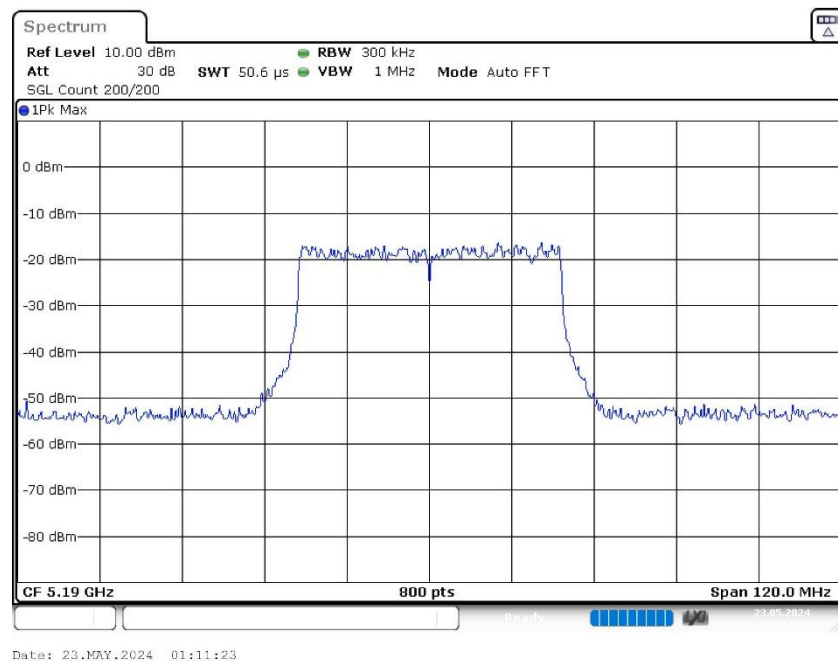
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5190.000000	41.850000	---	---	5169.375000	5211.225000

DUT Frequency (MHz)	Max Level (dBm)	Result
5190.000000	0.3	PASS



Bandwidth



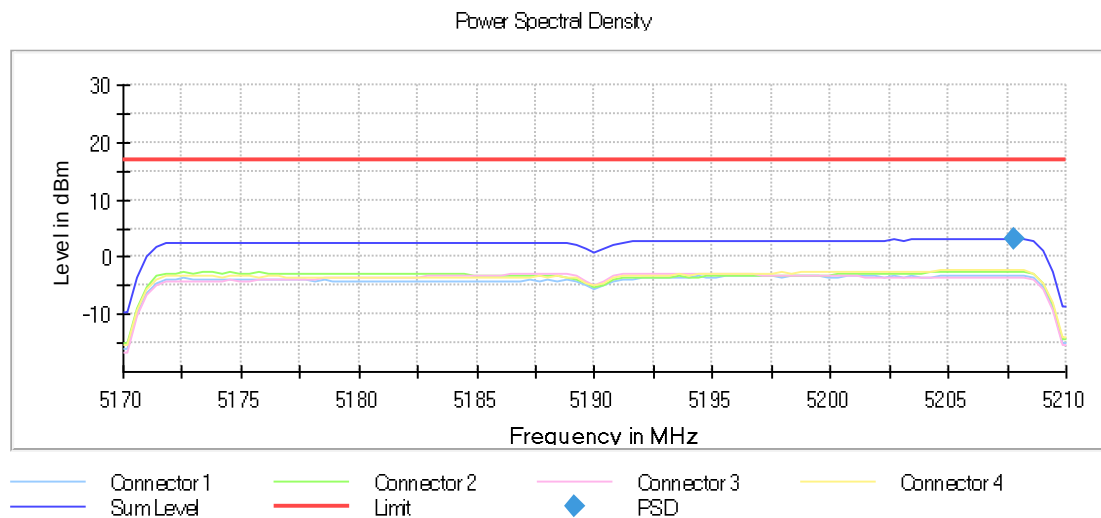
Power Spectral Density (5190 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5190.000000	5207.821782	3.271	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used

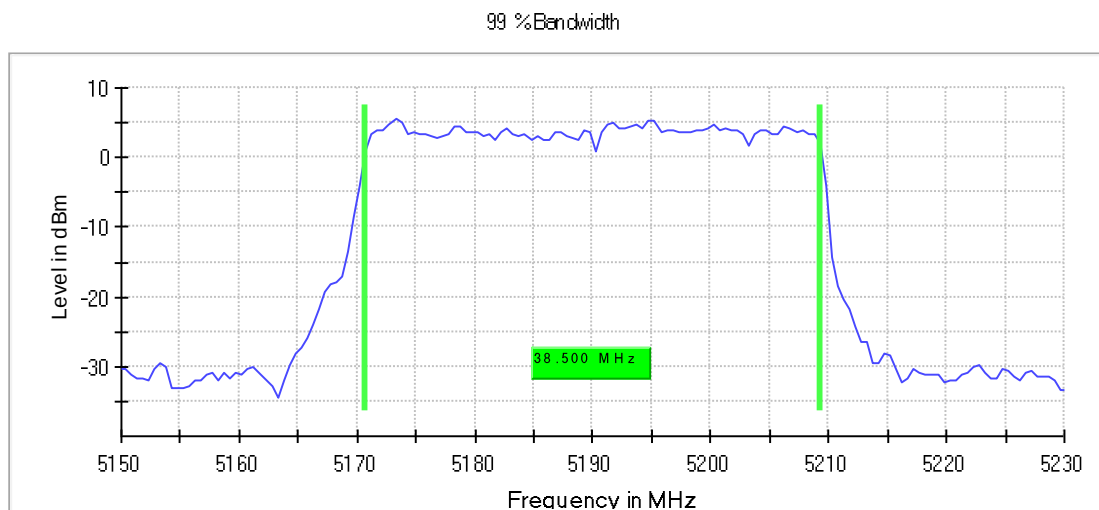


Occupied Channel Bandwidth 99% (5190 MHz; 24.000 dBm; 40 MHz)

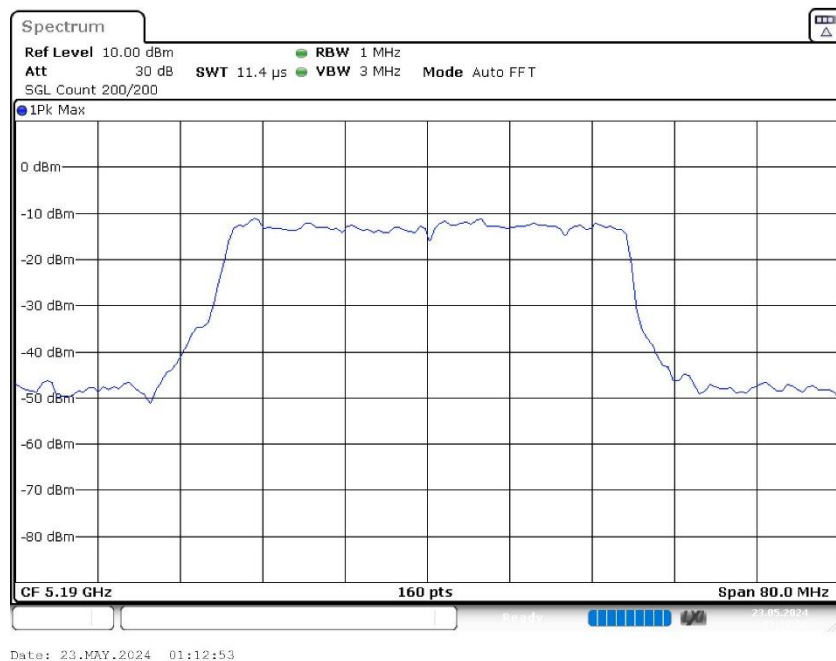
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5190.000000	38.500000	---	---	5170.750000	5209.250000

DUT Frequency (MHz)	Result
5190.000000	PASS



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.23000 GHz	5.23000 GHz
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	>= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
Sweptime	11.438 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm

Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off

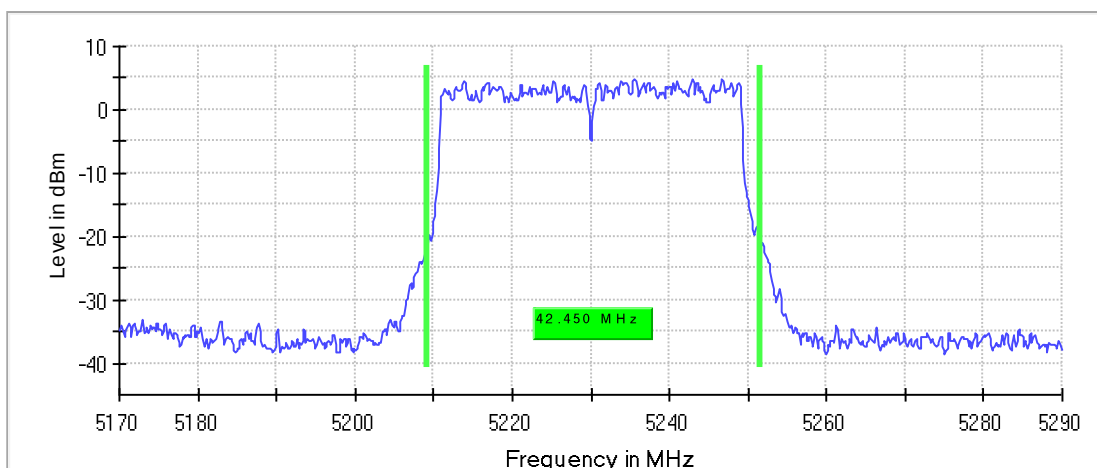
Emission Bandwidth 26 dB (5230 MHz; 24.000 dBm; 40 MHz)

26 dB Bandwidth

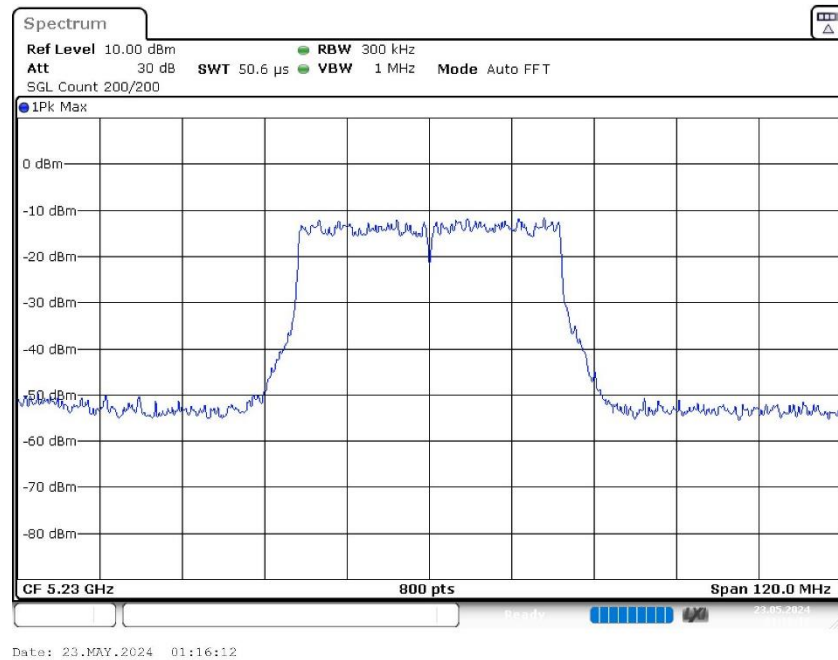
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5230.000000	42.450000	---	---	5209.225000	5251.675000

DUT Frequency (MHz)	Max Level (dBm)	Result
5230.000000	5.0	PASS

26 dB Bandwidth



Bandwidth



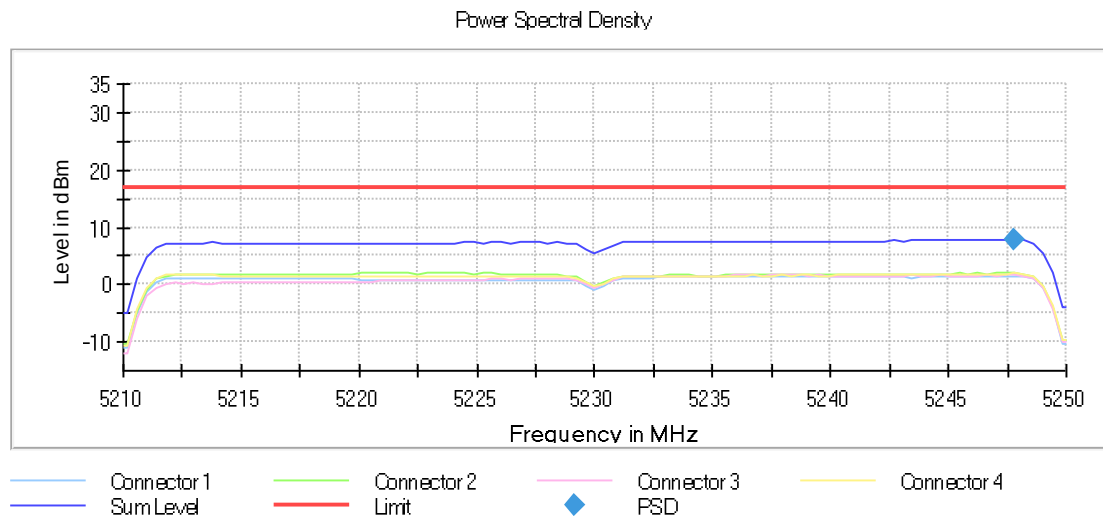
Power Spectral Density (5230 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5230.000000	5247.821782	7.839	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used

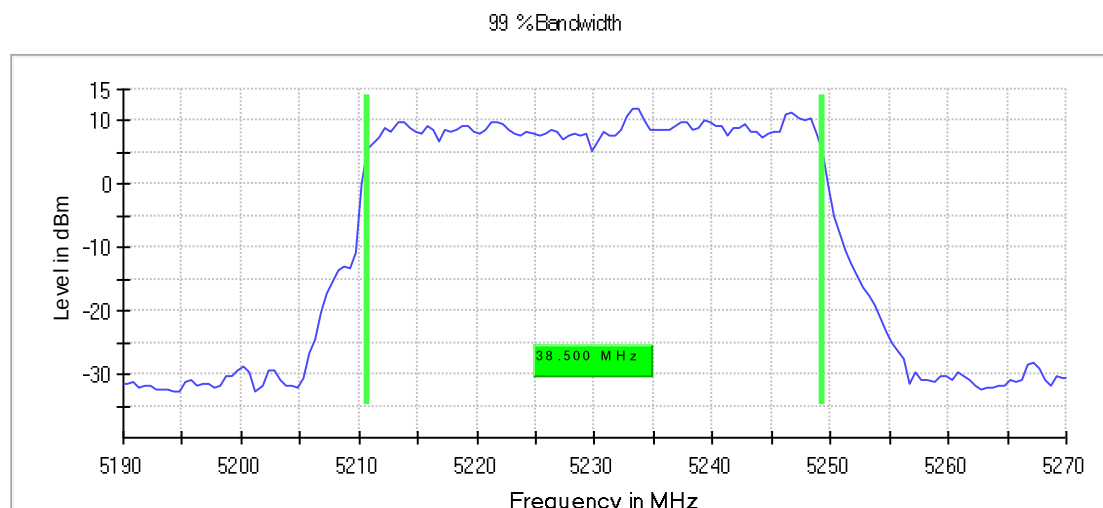


Occupied Channel Bandwidth 99% (5230 MHz; 24.000 dBm; 40 MHz)

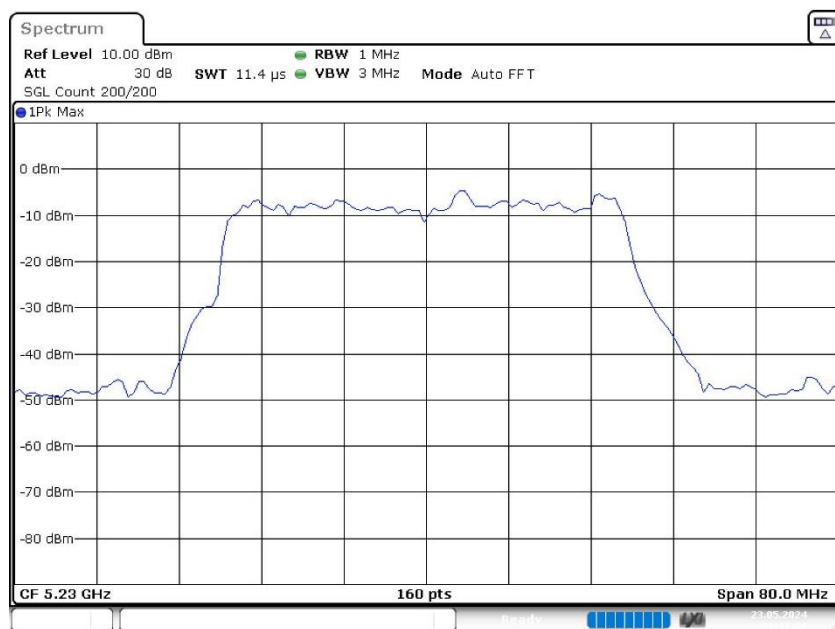
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5230.000000	38.500000	---	---	5210.750000	5249.250000

DUT Frequency (MHz)	Result
5230.000000	PASS



Bandwidth



Date: 23.MAY.2024 01:17:38

Measurement

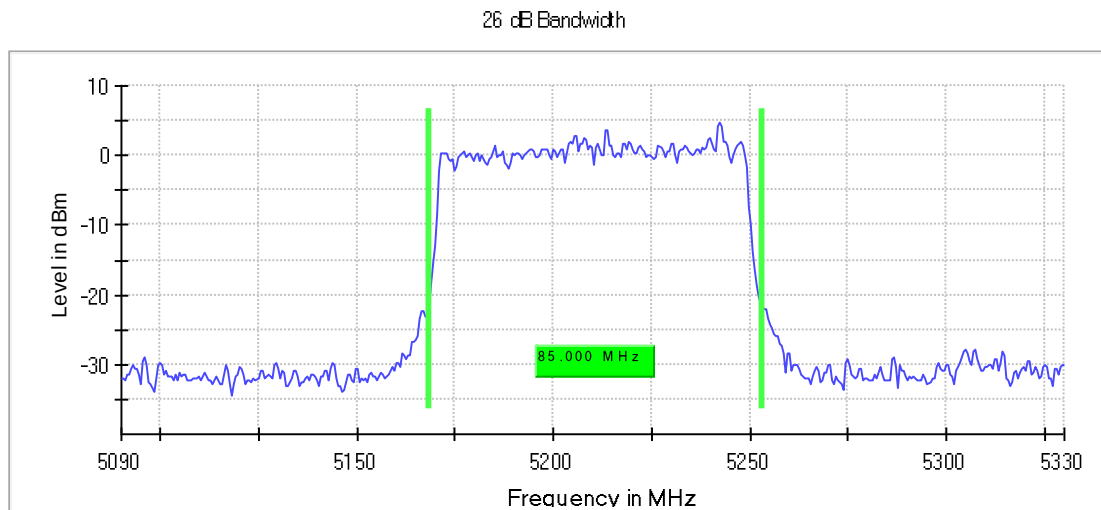
Setting	Instrument Value	Target Value
Start Frequency	5.19000 GHz	5.19000 GHz
Stop Frequency	5.27000 GHz	5.27000 GHz
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	>= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	11.438 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
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 (5210 MHz; 24.000 dBm; 80 MHz)

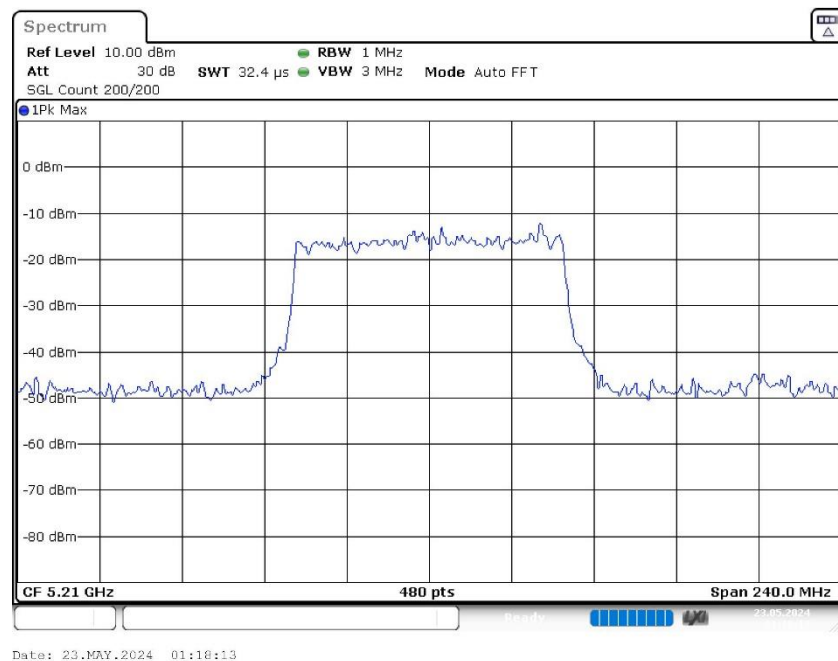
26 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	85.000000	---	---	5168.250000	5253.250000

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	4.6	PASS



Bandwidth



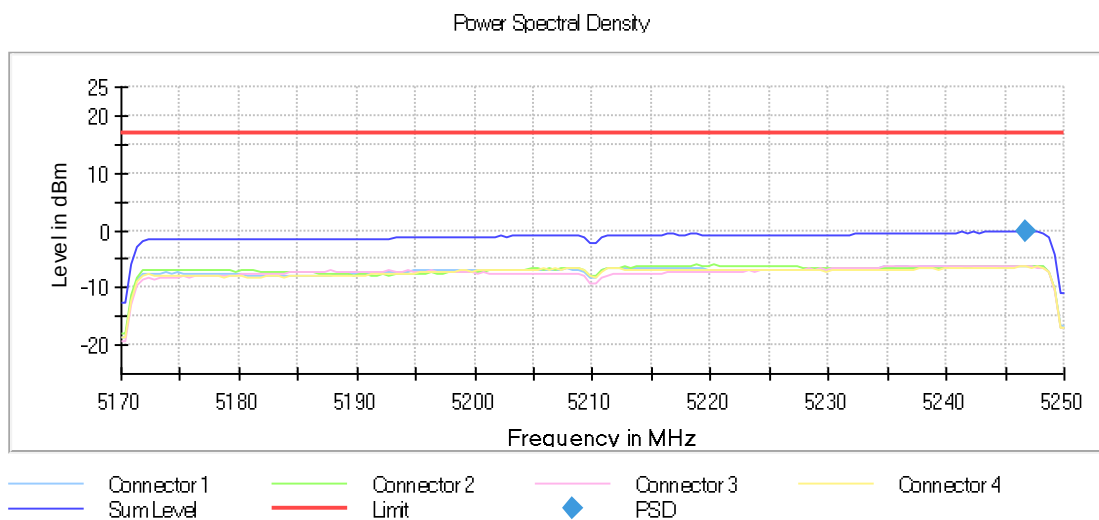
Power Spectral Density (5210 MHz; 24.000 dBm; 80 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5246.750000	-0.242	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used

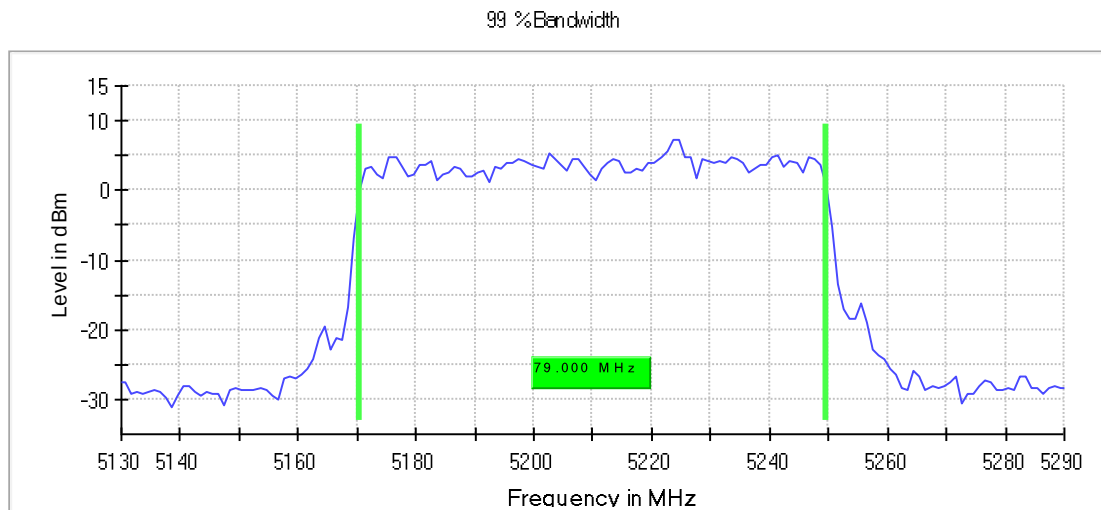


Occupied Channel Bandwidth 99% (5210 MHz; 24.000 dBm; 80 MHz)

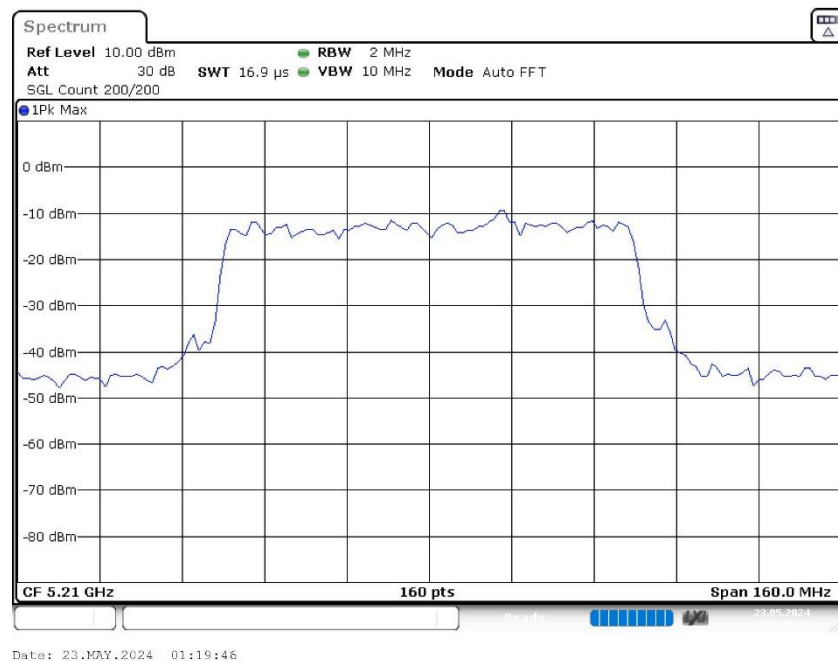
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	79.000000	---	---	5170.500000	5249.500000

DUT Frequency (MHz)	Result
5210.000000	PASS



Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	2.000 MHz	>= 2.000 MHz
VBW	10.000 MHz	>= 6.000 MHz
SweepPoints	160	~ 160
SweepTime	16.875 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm

Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off

1.2 Summary Elevation-Angle

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	5180.000	24.0	20.000000	PASS
Power Spectral Density	5180.000	24.0	20.000000	PASS
Power Spectral Density	5210.000	24.0	20.000000	PASS
Power Spectral Density	5240.000	24.0	20.000000	PASS
Power Spectral Density	5190.000	24.0	40.000000	PASS
Power Spectral Density	5230.000	24.0	40.000000	PASS
Power Spectral Density	5210.000	24.0	80.000000	PASS

RF output power (5180 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5180.000000	18.4	30.0	18.4	99.725	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

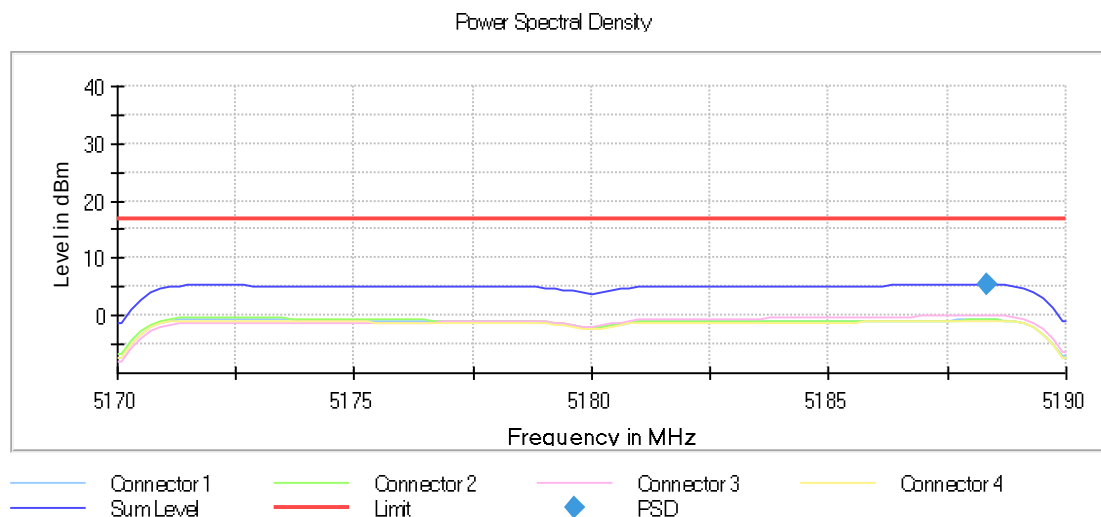
Power Spectral Density (5180 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5180.000000	5188.316832	5.486	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.17000 GHz	5.17000 GHz
Stop Frequency	5.19000 GHz	5.19000 GHz
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	$\leq$ 1.000 MHz

VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
SweepTime	2.020 ms	2.020 ms
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

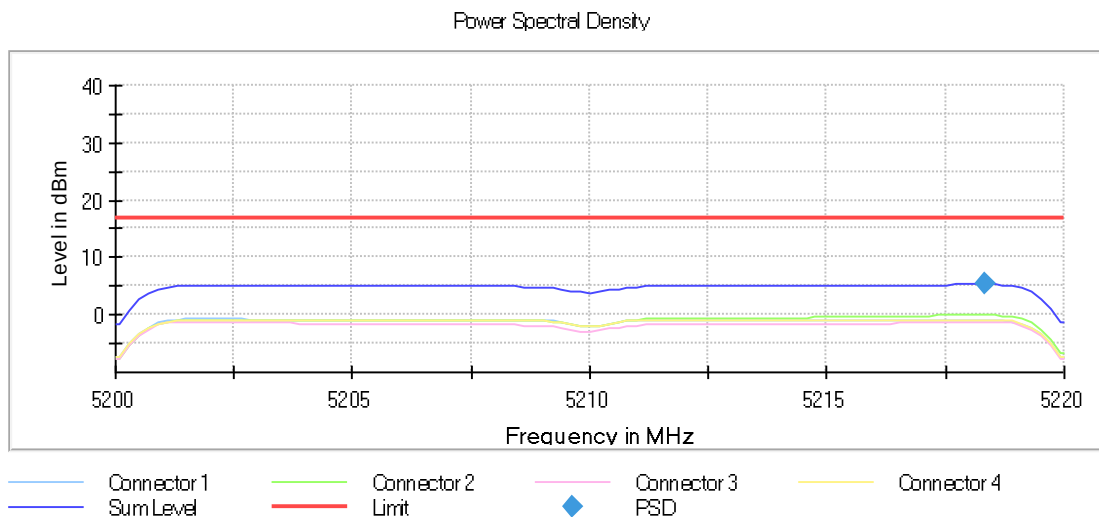
Power Spectral Density (5210 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5218.316832	5.297	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



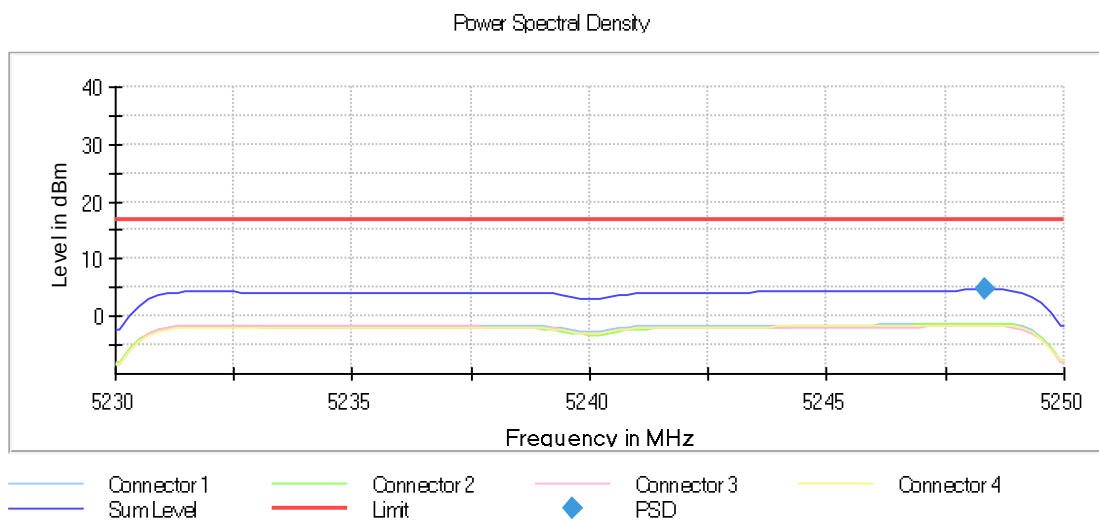
Power Spectral Density (5240 MHz; 24.000 dBm; 20 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5240.000000	5248.316832	4.648	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



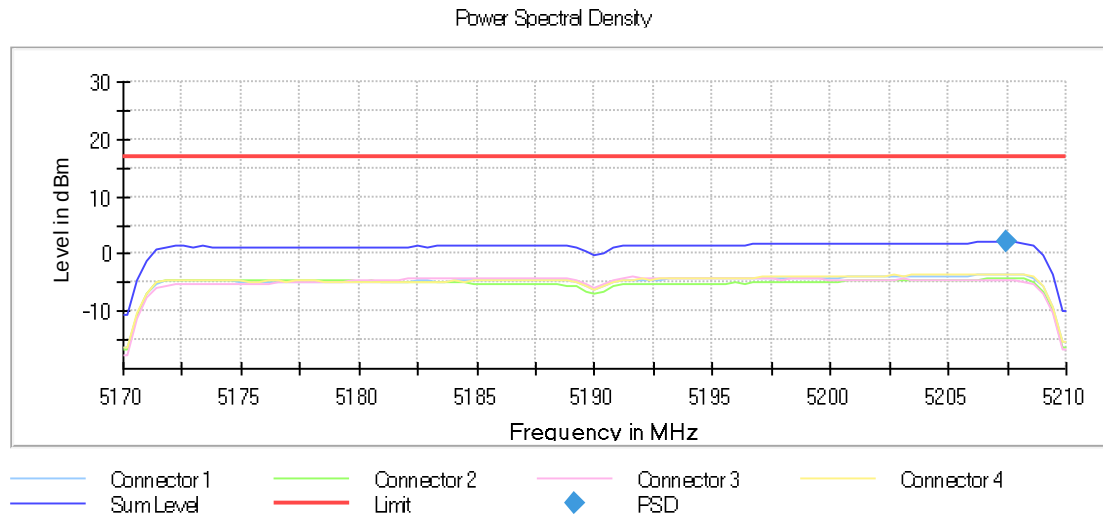
Power Spectral Density (5190 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5190.000000	5207.425743	2.050	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



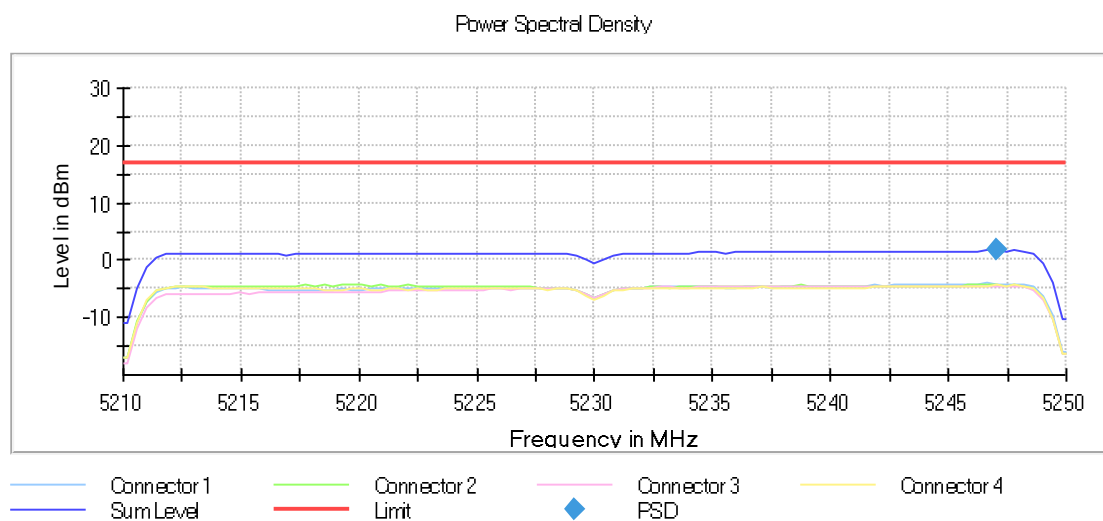
Power Spectral Density (5230 MHz; 24.000 dBm; 40 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5230.000000	5247.029703	1.701	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



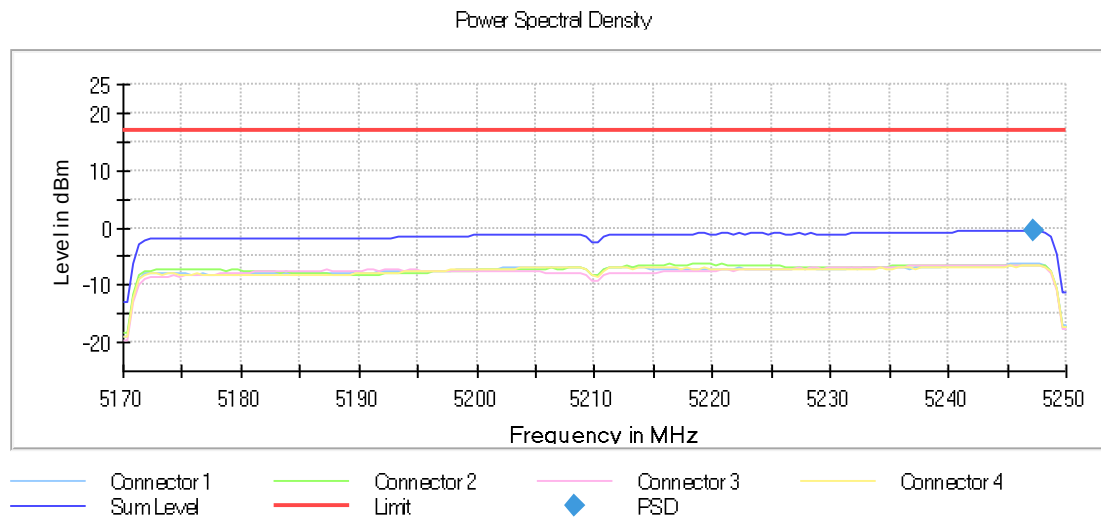
Power Spectral Density (5210 MHz; 24.000 dBm; 80 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5247.250000	-0.473	17.0	PASS

Ports

Port	State
1	used
2	used
3	used
4	used



-- End of Report --