

# Measurement Results

No.1-5761/23-01-05\_Annex\_MR\_13

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## Test logging

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## EUT Information

### EUT DEFINITION

Manufacturer	Sagemcom
Type	NI
Serial Number	Config#1 (conducted)
Setup Number	1.0
Version SW	NI
Version FW	NI
Version HW	NI
Comment 1	
Comment 2	
Temperature [°C] Min	-20
Temperature [°C] Nom	20
Temperature [°C] Max	55
Voltage [V] Min	3.3
Voltage [V] Nom	3.8
Voltage [V] Max	4.2

## # Message with SA scan ~

### Test References

TC Start	15.03.2023 09:43:11
Ambit Temp [°C]   Humidity [rel%]	22.1   34
System Version	3.5.0.9
Test Specification	-
Test Method	
TC Version	0.0.1
My Description	Message with SA Scan ac_VHT20_U_NII_1
Add. Information	

### Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	15.03.2023 09:43:12
Message	set WLAN5Gx to ac_VHT20_U_NII_1, Frequency [MHz] 5180 ,

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

### Verdict

INFO

## FCC 15.407 # Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:44:29
Ambit Temp [°C]   Humidity [rel%]	22.1   34
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	KDB789033 D02, F, E.2.e.
TC Version	0.0.1
My Description	FCC 15.407 Max Output Power & PSD - WLAN5Gx ac-VHT20 mode U-NII-1

Add. Information

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 5180
Frequency mid to test	False   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70  
 Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

## Test at TX 5180 MHz

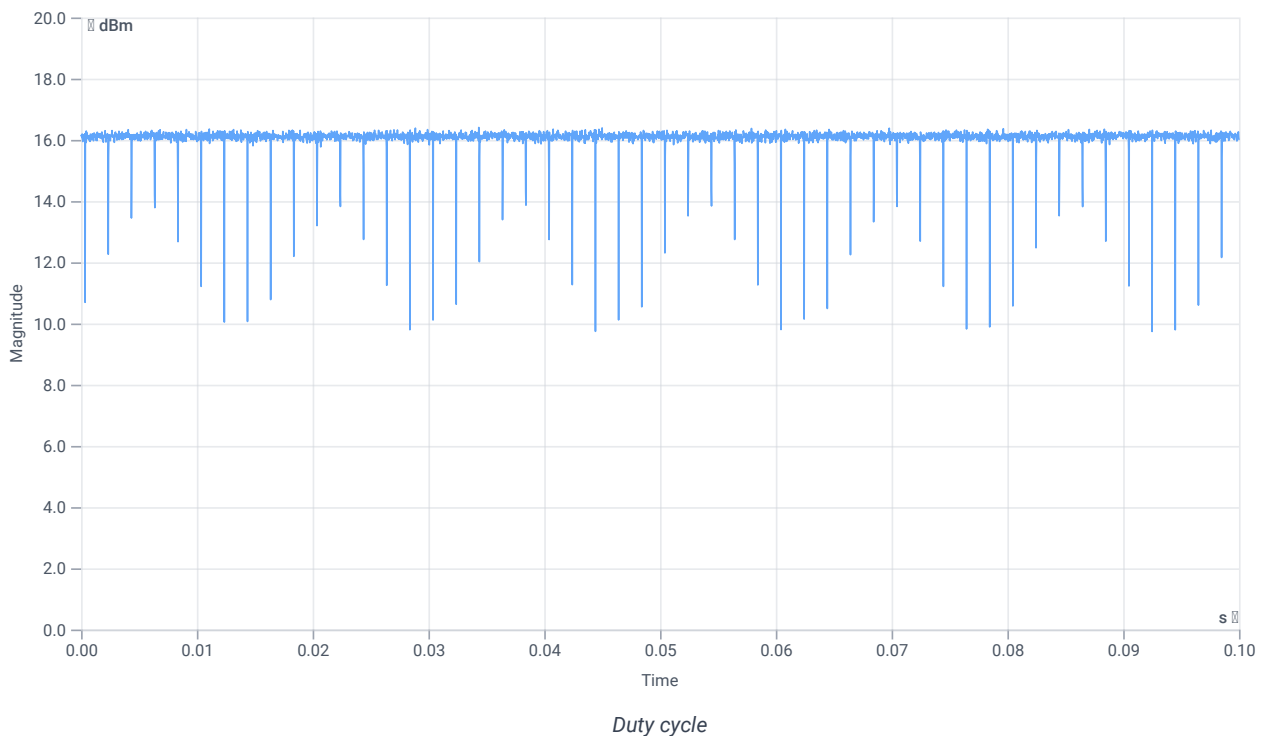
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	15.23	dBm	INFO
Ref. Frequency	--	--	5179.000	MHz	INFO

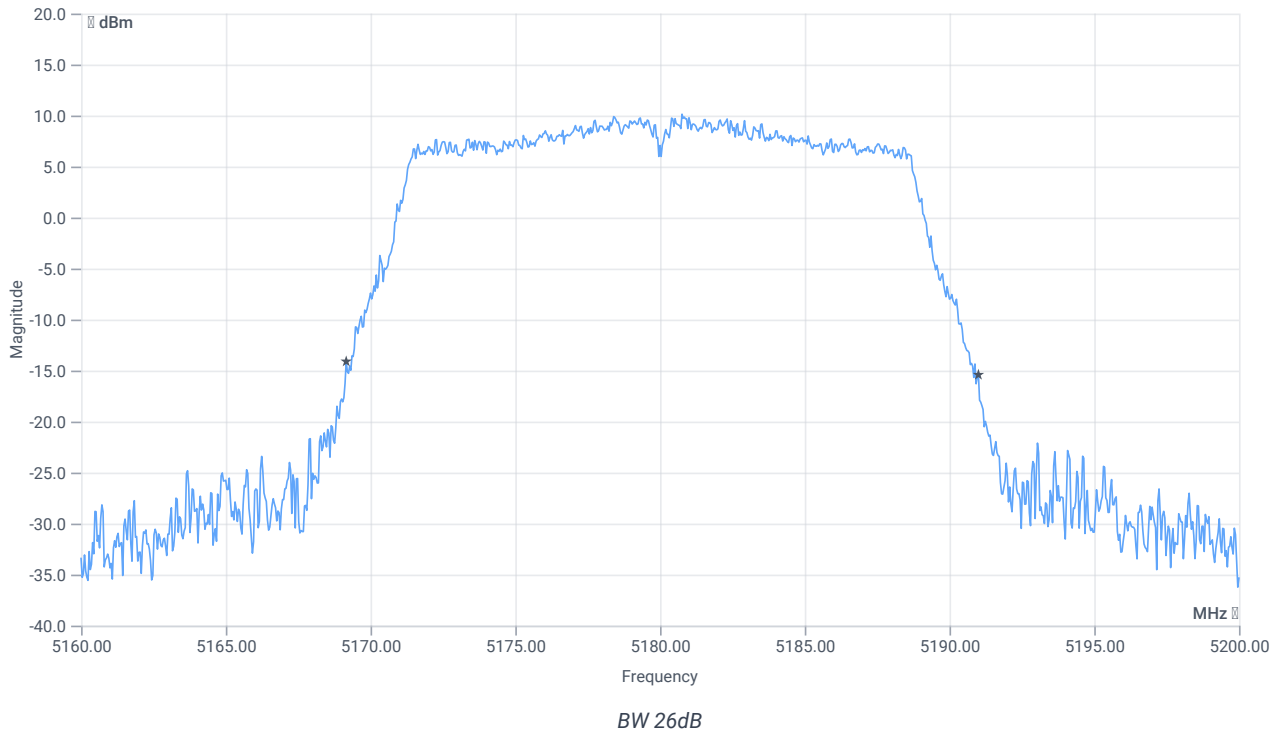
## Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	--	--	1	--	INFO
Duty Cycle max	--	--	0	dB	INFO
Duty Cycle (Burst Ratio) min	--	--	1	--	INFO
Duty Cycle min	--	--	0	dB	INFO



## Evaluation Bandwidth



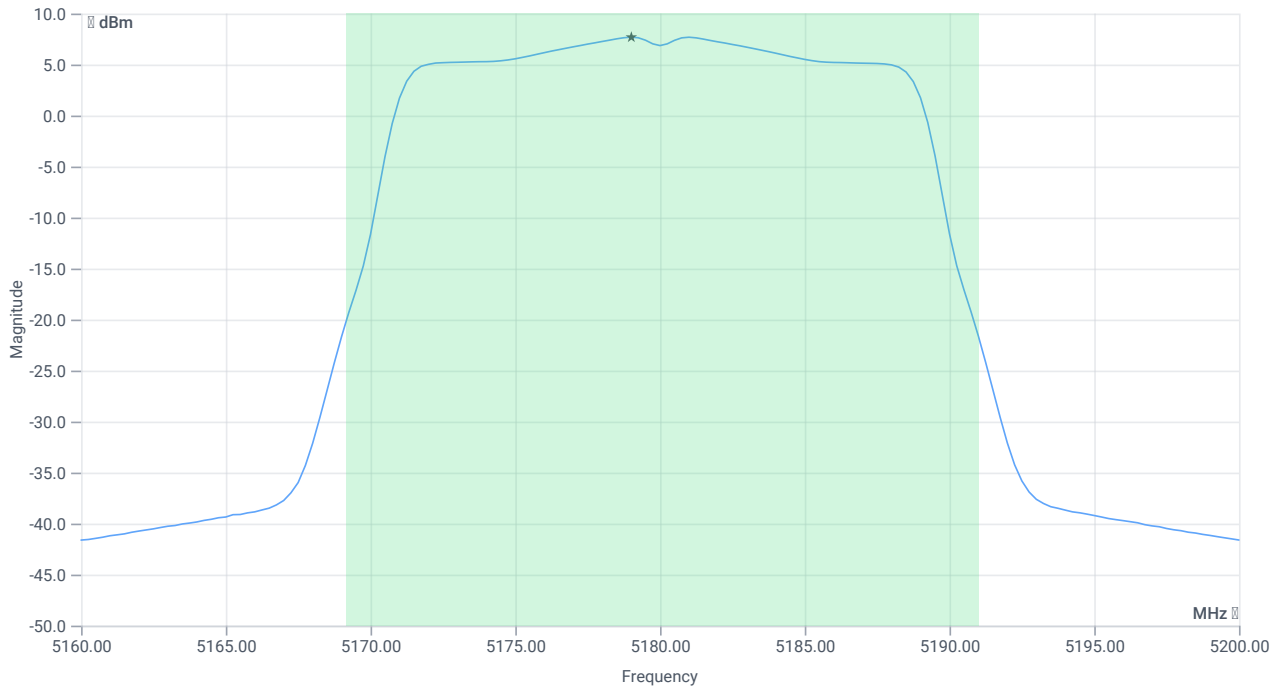
## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	---	---	21.84	MHz	INFO
T1 26dB	---	---	5169.1600	MHz	INFO
T2 26dB	---	---	5191.0000	MHz	INFO

## Maximum Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.23   16.49   25
Start [MHz]   Stop [MHz]	5160.000   5200.000
RBW [MHz]   VBW [MHz]	1.000000   3.000000
Detector   TraceMode	RMS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	53700   1   161   SWE



Max OP and PSD

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Output Power	--	--	18.44	dBm	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	--	24	18.44	dBm	PASS
Limit: 11 dBm + 10 log 21.84					
Max Output Power DC corrected	--	24.39	18.44	dBm	na

## Power Spectral Density

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Power Spectral Density	--	--	7.68	dBm/1MHz	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Power Spectral Density DC corrected	--	11	7.68	dBm/1MHz	PASS

Verdict

PASS



## FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:45:59
Ambit Temp [°C]   Humidity [rel%]	22.1   33
System Version	3.5.0.9
Test Specification	FCC 15.407, ISED RSS247 -
Test Method	26dB Bandwidth KDB789033 D02, C.1 / ISED RSS-GEN
TC Version	0.0.1
My Description	FCC 15.407 Bandwidths - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 5180
Frequency mid to test	False   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

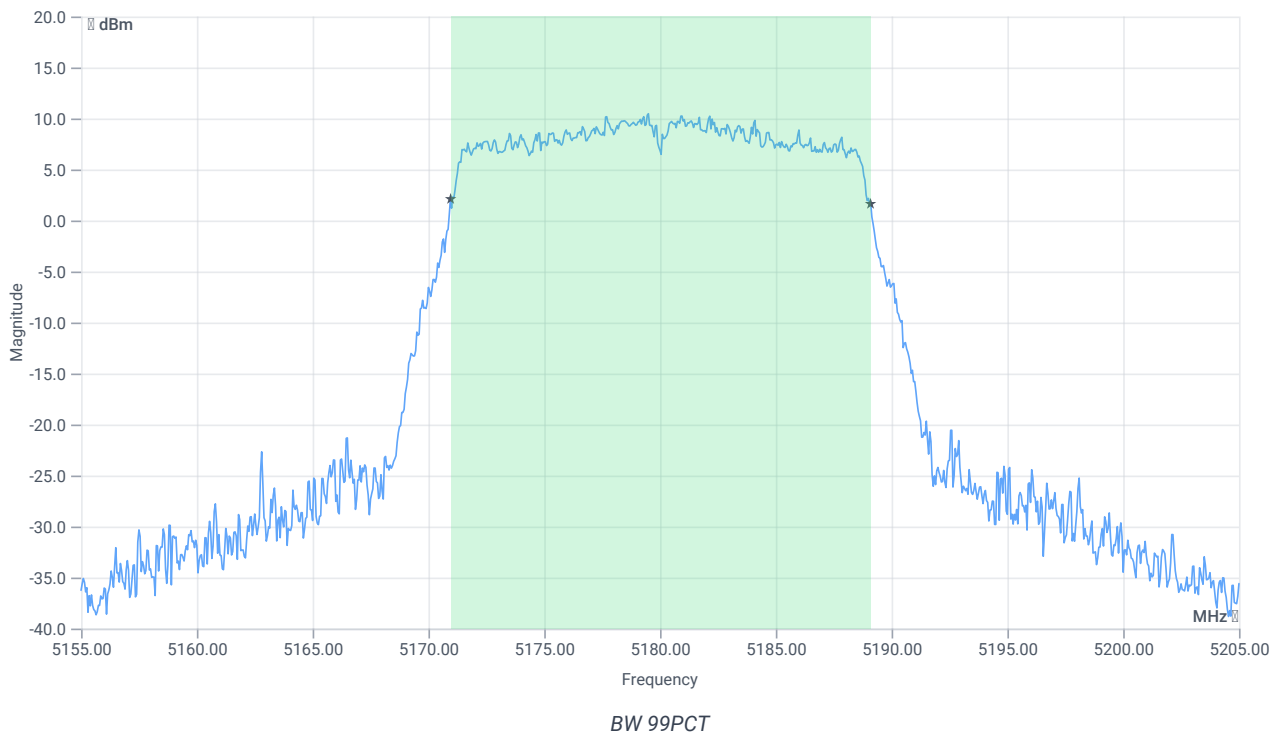
## Test at TX 5180 MHz

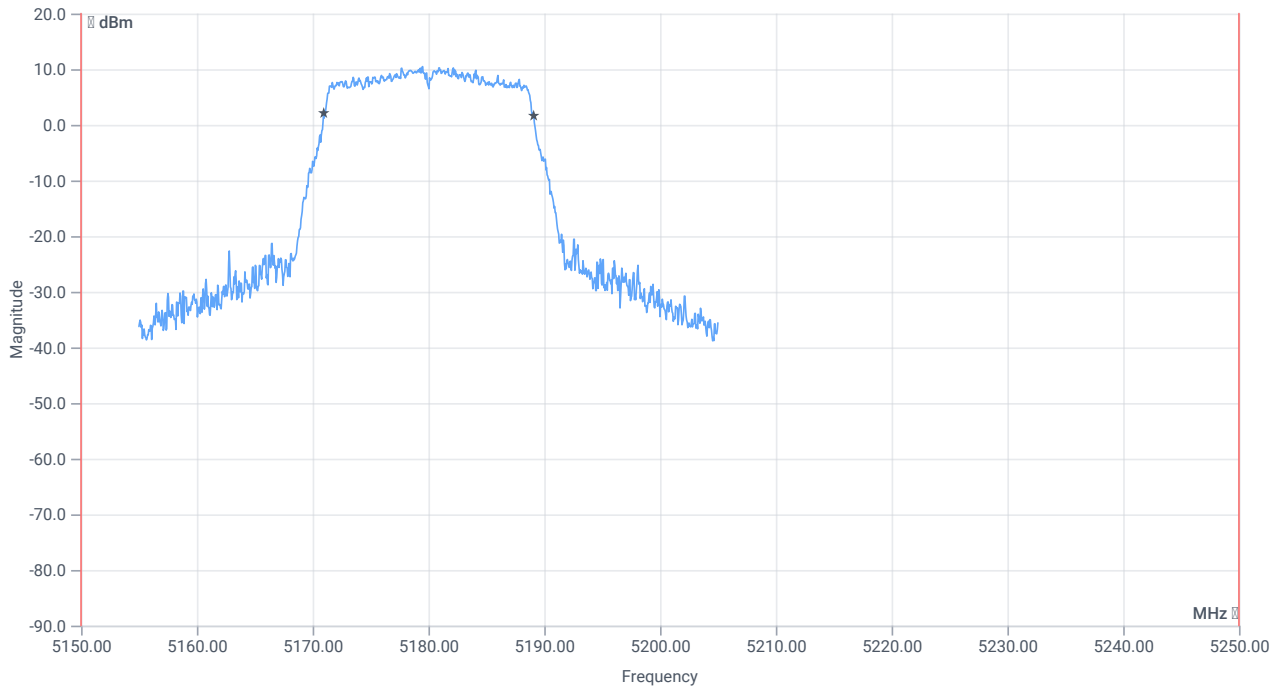
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	14.86	dBm	INFO
Ref. Frequency	--	--	5180.800	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	22.86   16.49   25
Start [MHz]   Stop [MHz]	5155.000   5205.000
RBW [MHz]   VBW [MHz]	0.300000   1.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1   2500   1001   SWE

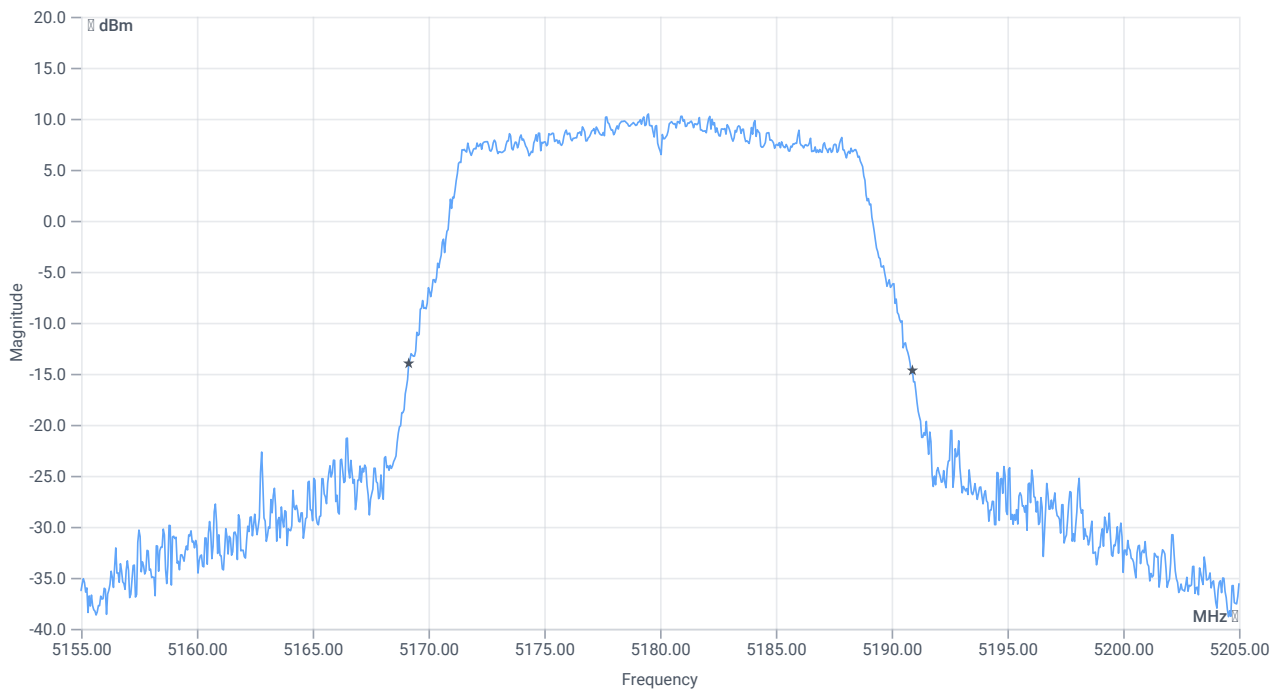




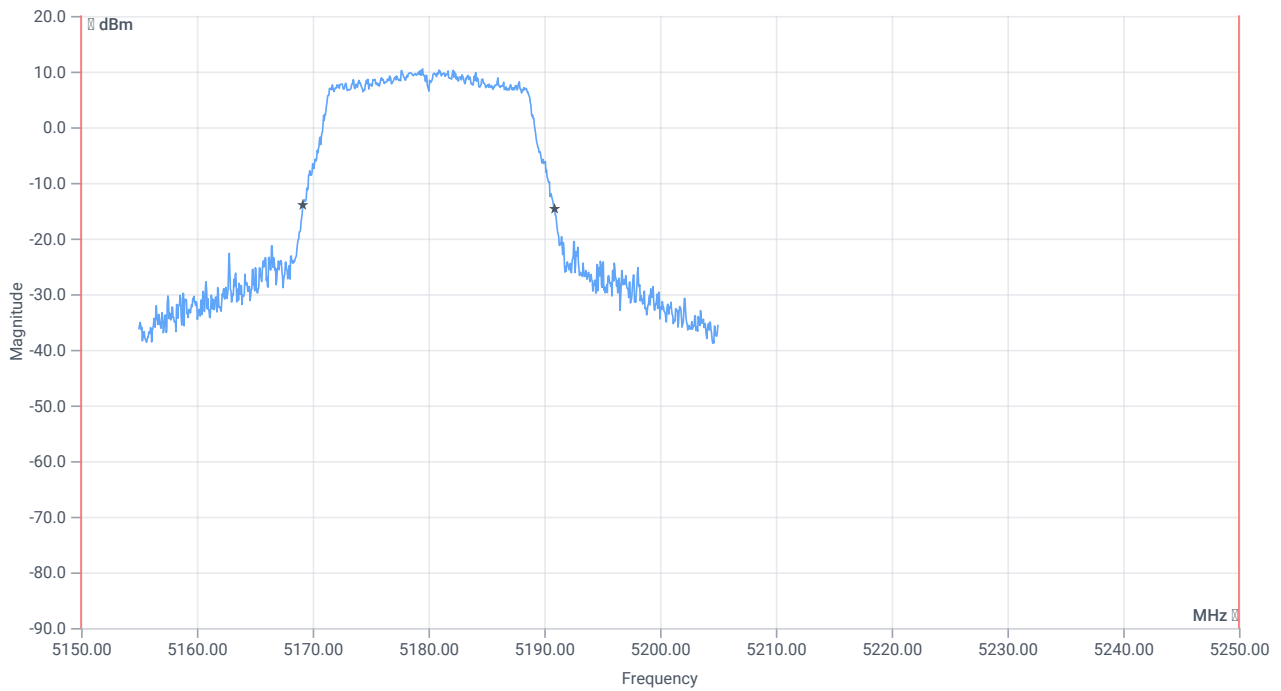
*BW within Band 99PCT*

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18.132	MHz	INFO
T1 99%	5150.000000	--	5170.9590	MHz	PASS
T2 99%	--	5250.000000	5189.0909	MHz	PASS



BW 26dB



BW within Band 26dB

**RESULT**

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	---	---	21.75	MHz	INFO
T1 26dB	5150.000000	---	5169.1500	MHz	PASS
T2 26dB	---	5250.000000	5190.9000	MHz	PASS

Verdict

PASS

## FCC 15.407 # Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:46:34
Ambit Temp [°C]   Humidity [rel%]	22.1   33
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	KDB789033 D02, F, E.2.e.
TC Version	0.0.1
My Description	FCC 15.407 Max Output Power & PSD - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 5180
Frequency mid to test	False   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70  
 Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

## Test at TX 5180 MHz

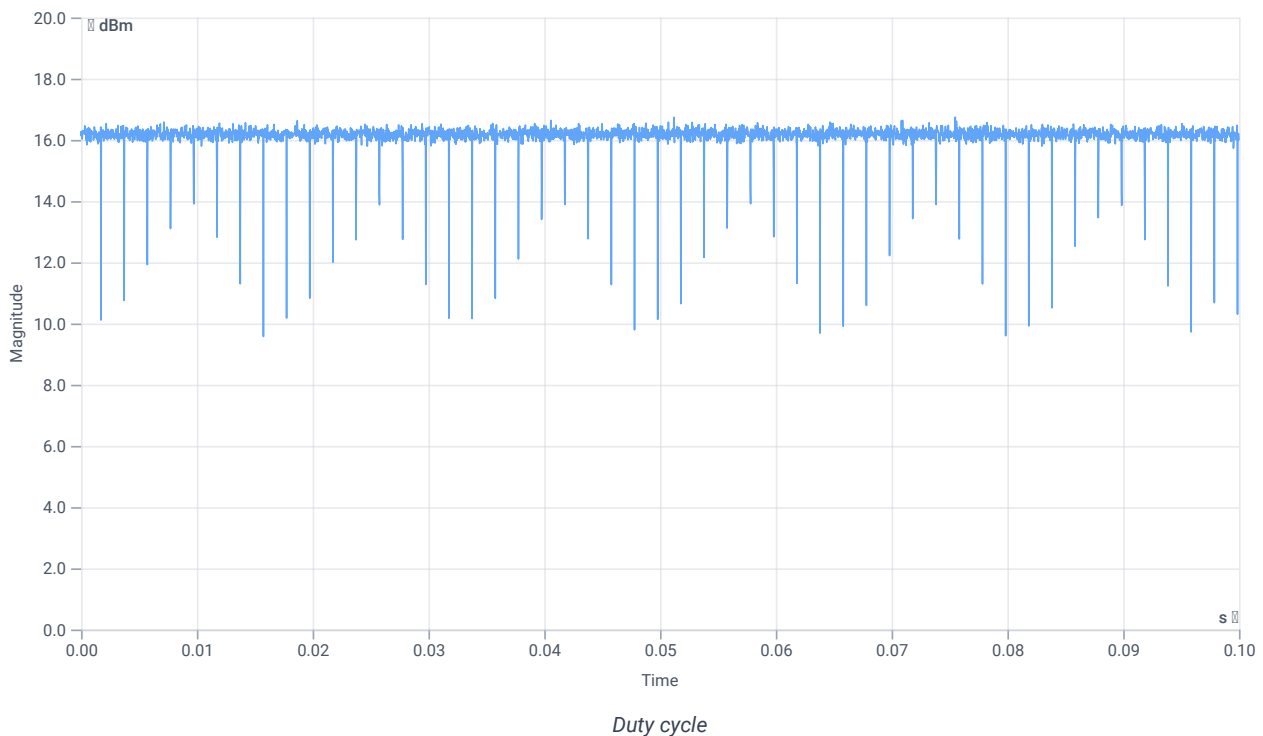
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	15.67	dBm	INFO
Ref. Frequency	---	---	5178.400	MHz	INFO

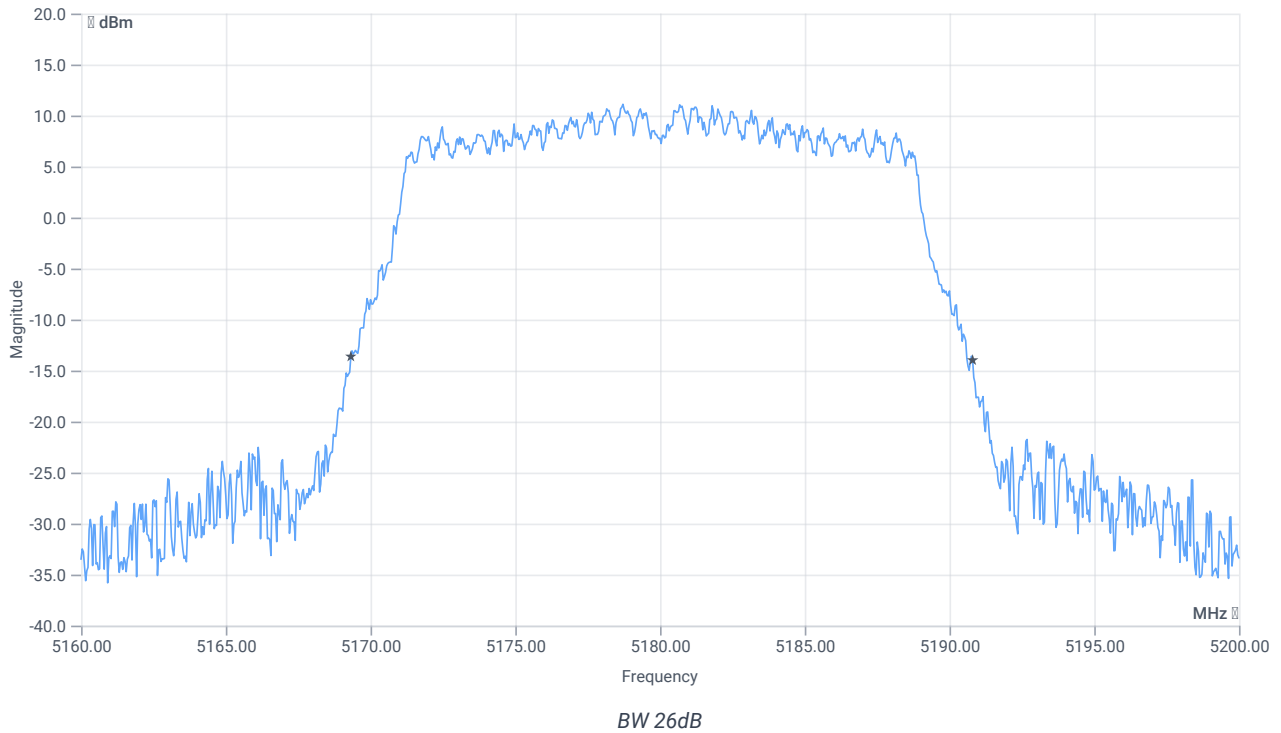
## Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



## Evaluation Bandwidth



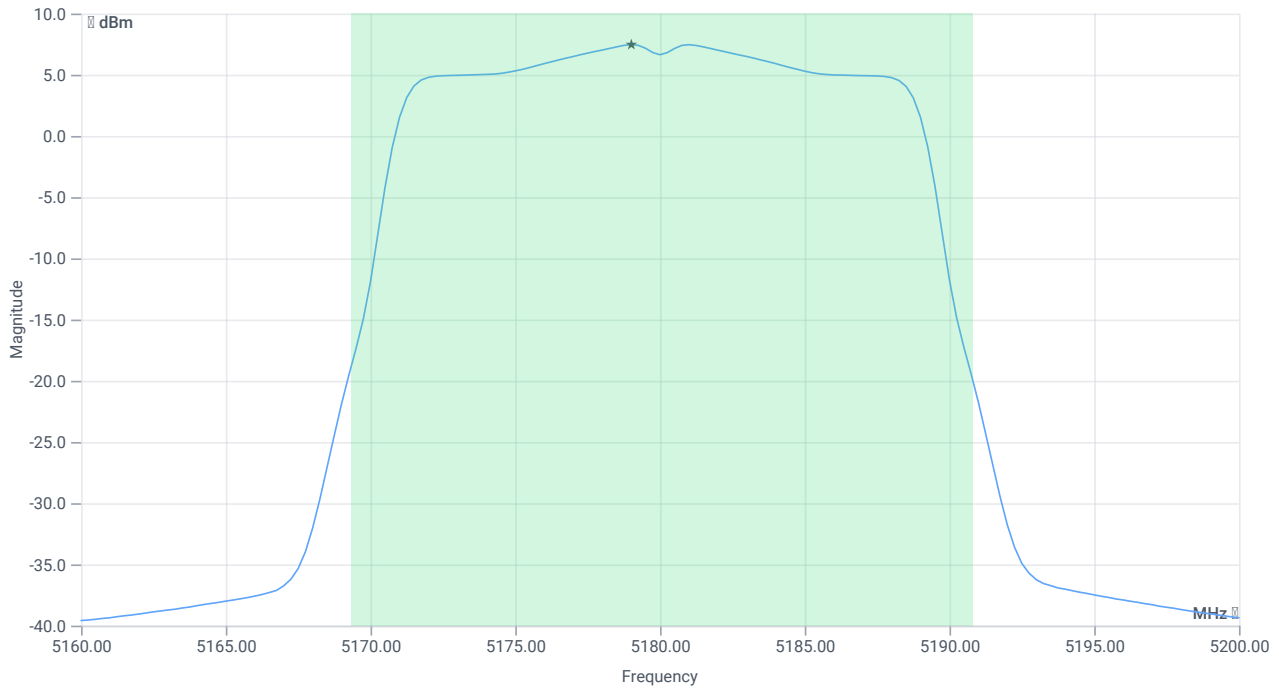
## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	---	---	21.48	MHz	INFO
T1 26dB	---	---	5169.3200	MHz	INFO
T2 26dB	---	---	5190.8000	MHz	INFO

## Maximum Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.67   16.49   30
Start [MHz]   Stop [MHz]	5160.000   5200.000
RBW [MHz]   VBW [MHz]	1.000000   3.000000
Detector   TraceMode	RMS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	53700   1   161   SWE



Max OP and PSD

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Output Power	--	--	18.21	dBm	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	--	24	18.21	dBm	PASS
Limit: 11 dBm + 10 log 21.48					
Max Output Power DC corrected	--	24.32	18.21	dBm	na

## Power Spectral Density

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Power Spectral Density	--	--	7.46	dBm/1MHz	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Power Spectral Density DC corrected	--	11	7.46	dBm/1MHz	PASS

Verdict

PASS



## FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:48:04
Ambit Temp [°C]   Humidity [rel%]	22.2   34
System Version	3.5.0.9
Test Specification	FCC 15.407, ISED RSS247 -
Test Method	26dB Bandwidth KDB789033 D02, C.1 / ISED RSS-GEN
TC Version	0.0.1
My Description	FCC 15.407 Bandwidths - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 5180
Frequency mid to test	False   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

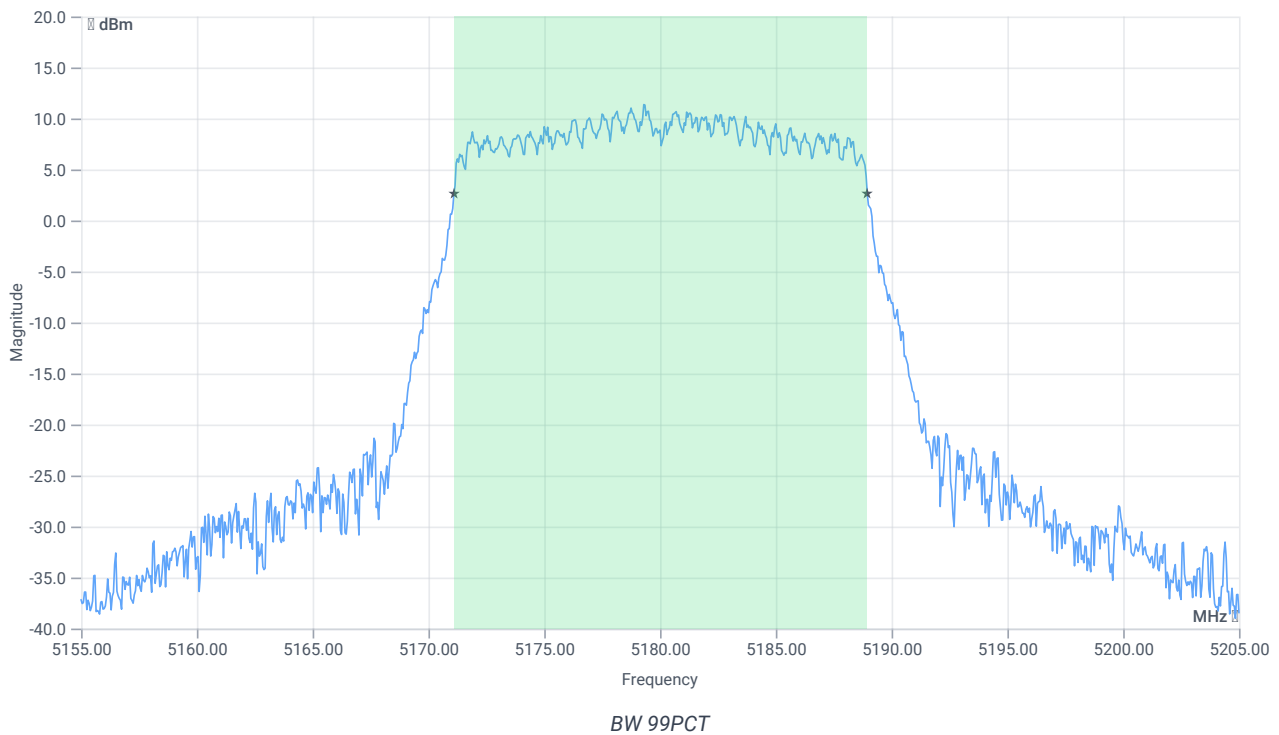
## Test at TX 5180 MHz

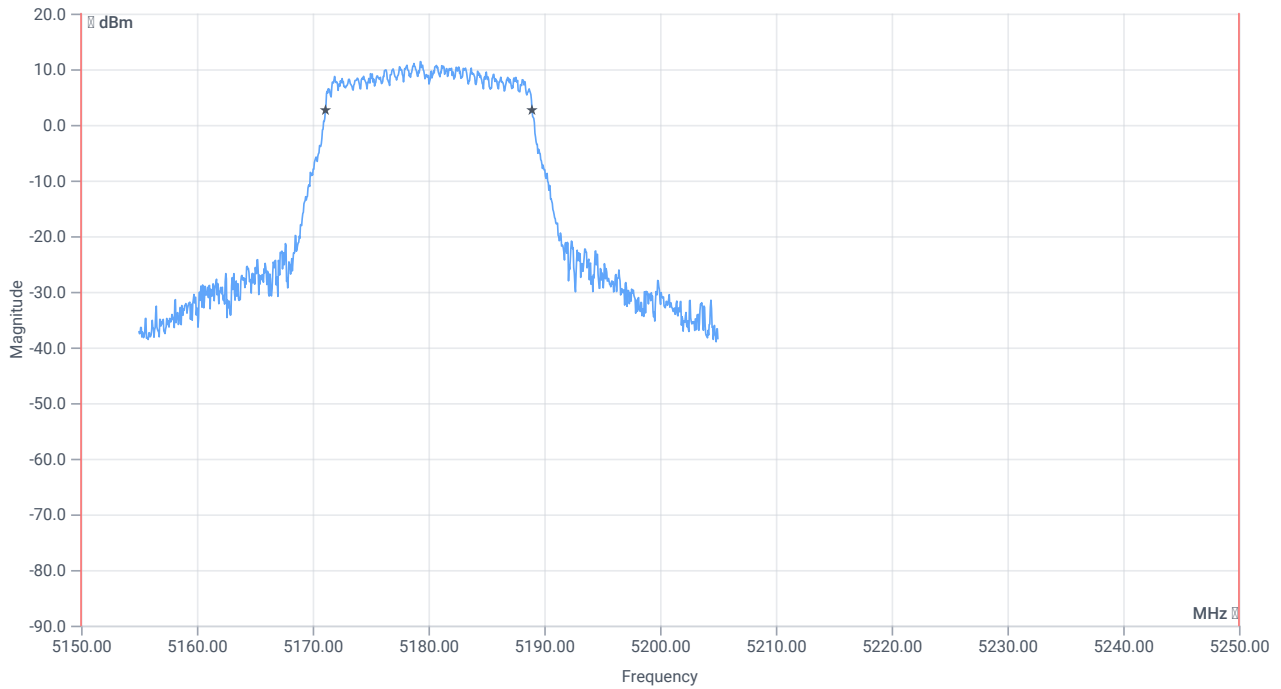
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	15.60	dBm	INFO
Ref. Frequency	--	--	5182.400	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	23.60   16.49   25
Start [MHz]   Stop [MHz]	5155.000   5205.000
RBW [MHz]   VBW [MHz]	0.300000   1.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1   2500   1001   SWE

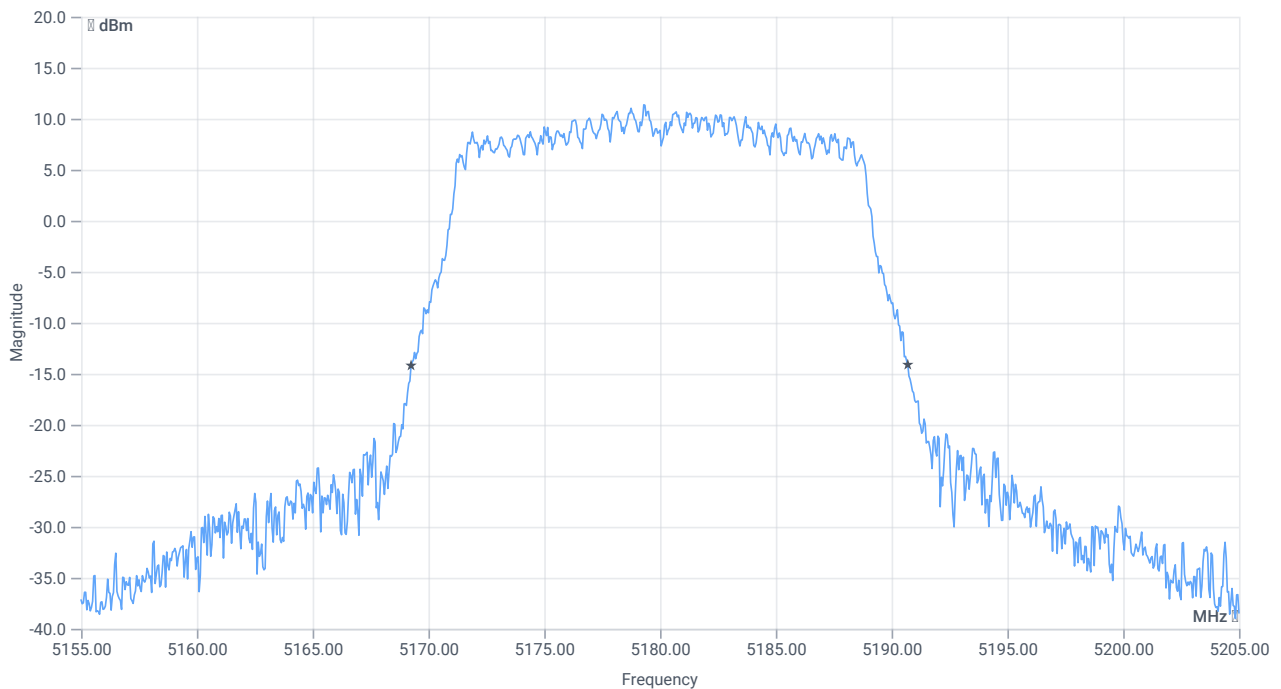




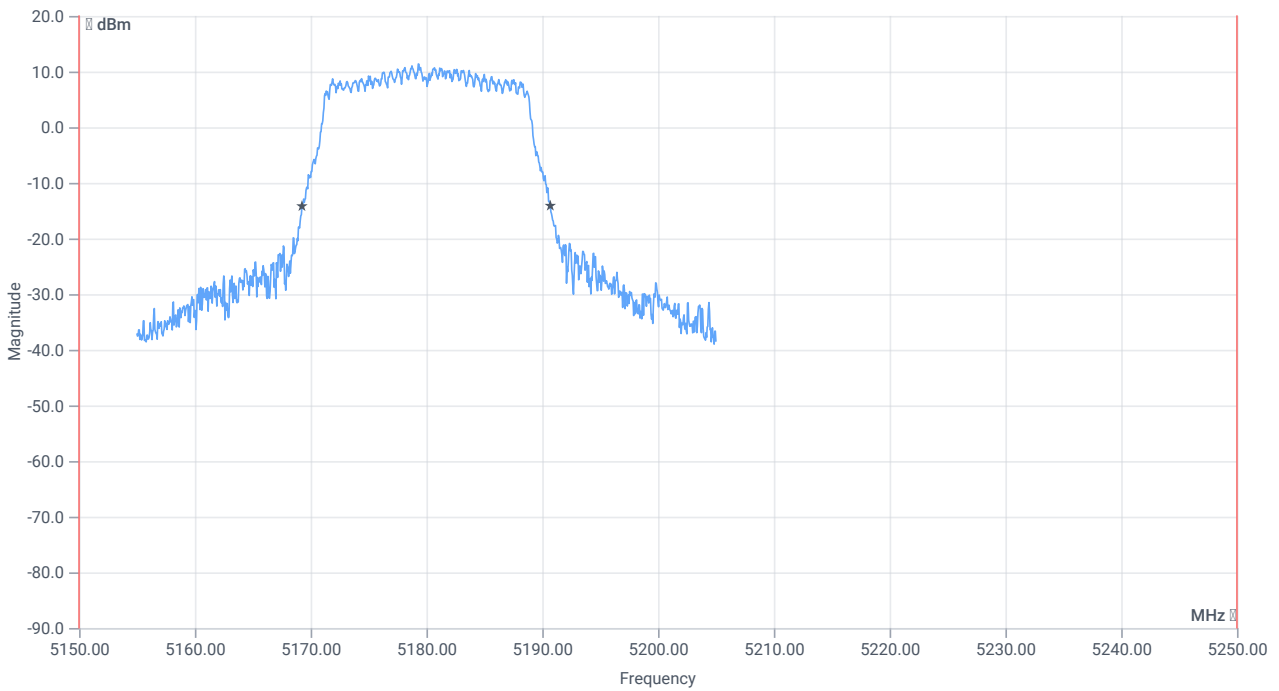
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	17.832	MHz	INFO
T1 99%	5150.000000	--	5171.1089	MHz	PASS
T2 99%	--	5250.000000	5188.9411	MHz	PASS



BW 26dB



BW within Band 26dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	--	--	21.45	MHz	INFO
T1 26dB	5150.000000	--	5169.2500	MHz	PASS
T2 26dB	--	5250.000000	5190.7000	MHz	PASS

Verdict

PASS

## FCC 15.407 # MIMO $\Sigma$ Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:48:39
Ambit Temp [°C]   Humidity [rel%]	22.2   33
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	
TC Version	0.0.1
My Description	MIMO $\Sigma$ FCC Power & psd - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	several
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 5180
Frequency mid to test	False   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	None

### Test Equipment

## Test at TX 5180 MHz

### RESULT Power

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ant:1 Max Output Power DC corrected	--	--	18.44	dBm	INFO
Ant:1 BW 26dB	--	--	21.840	MHz	INFO
Ant:2 Max Output Power DC corrected	--	--	18.21	dBm	INFO
Ant:2 BW 26dB	--	--	21.480	MHz	INFO
Σ Limit absolute	--	24	21.34	dBm	PASS
Σ Limit: 11 dBm + 10 log 21.48	--	24.32	21.34	dBm	na

### RESULT PSD

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ant:1 PSD	--	--	7.68	dBm/1MHz	INFO
Ant:2 PSD	--	--	7.46	dBm/1MHz	INFO
Σ	--	11	10.58	dBm/1MHz	PASS

### Verdict

PASS

## # Message with SA scan ~

### Test References

TC Start	15.03.2023 09:48:58
Ambit Temp [°C]   Humidity [rel%]	22.2   33
System Version	3.5.0.9
Test Specification	-
Test Method	
TC Version	0.0.1
My Description	Message with SA Scan ac_VHT20_U_NII_1
Add. Information	

### Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	15.03.2023 09:48:59
Message	set WLAN5Gx to ac_VHT20_U_NII_1, Frequency [MHz] 5200 ,

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

### Verdict

INFO

## FCC 15.407 # Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:49:49
Ambit Temp [°C]   Humidity [rel%]	22.2   33
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	KDB789033 D02, F, E.2.e.
TC Version	0.0.1
My Description	FCC 15.407 Max Output Power & PSD - WLAN5Gx ac-VHT20 mode U-NII-1

Add. Information

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 5180
Frequency mid to test	True   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70  
 Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI



## Test at TX 5200 MHz

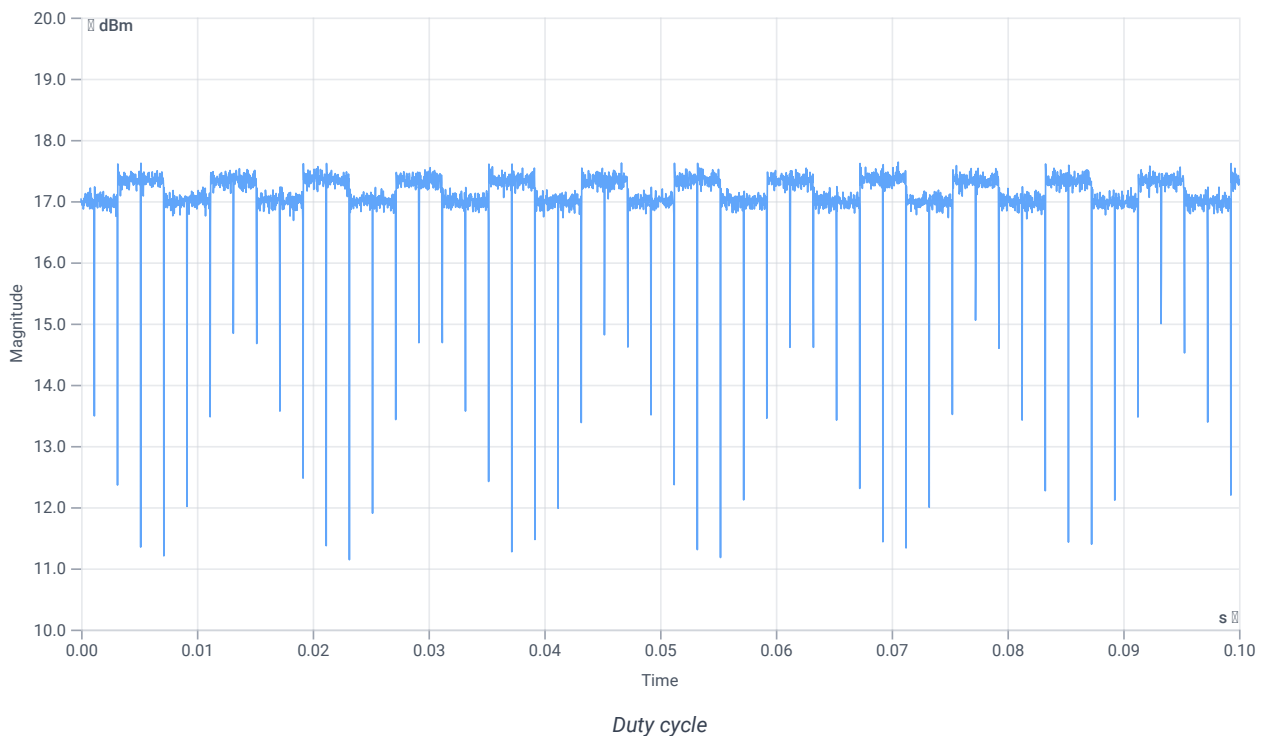
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	16.00	dBm	INFO
Ref. Frequency	--	--	5195.000	MHz	INFO

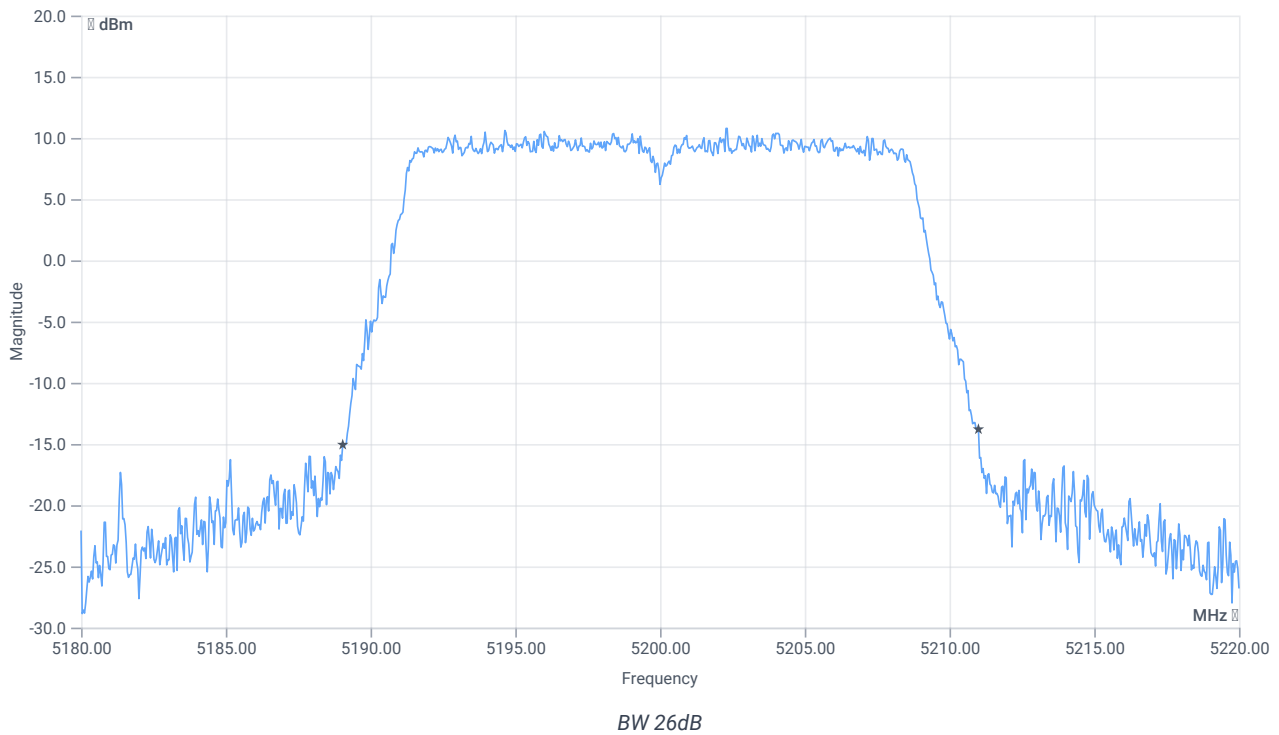
## Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	--	--	1	--	INFO
Duty Cycle max	--	--	0	dB	INFO
Duty Cycle (Burst Ratio) min	--	--	1	--	INFO
Duty Cycle min	--	--	0	dB	INFO



## Evaluation Bandwidth



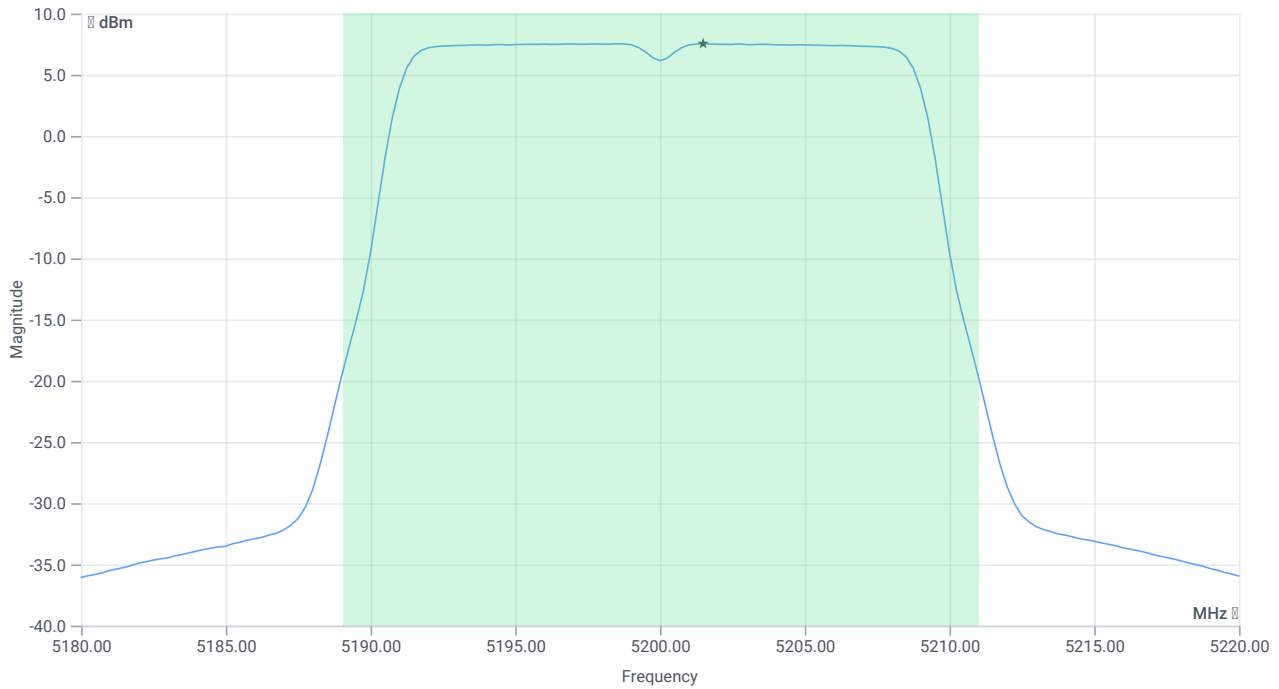
## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	---	---	21.96	MHz	INFO
T1 26dB	---	---	5189.0400	MHz	INFO
T2 26dB	---	---	5211.0000	MHz	INFO

## Maximum Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	28.00   16.41   30
Start [MHz]   Stop [MHz]	5180.000   5220.000
RBW [MHz]   VBW [MHz]	1.000000   3.000000
Detector   TraceMode	RMS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	53700   1   161   SWE



Max OP and PSD

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Output Power	--	--	19.59	dBm	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	--	24	19.59	dBm	PASS
Limit: 11 dBm + 10 log 21.96					
Max Output Power DC corrected	--	24.42	19.59	dBm	na

## Power Spectral Density

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Power Spectral Density	--	--	7.54	dBm/1MHz	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Power Spectral Density DC corrected	--	11	7.54	dBm/1MHz	PASS

Verdict

PASS

## FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:51:16
Ambit Temp [°C]   Humidity [rel%]	22.2   33
System Version	3.5.0.9
Test Specification	FCC 15.407, ISED RSS247 -
Test Method	26dB Bandwidth KDB789033 D02, C.1 / ISED RSS-GEN
TC Version	0.0.1
My Description	FCC 15.407 Bandwidths - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 5180
Frequency mid to test	True   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

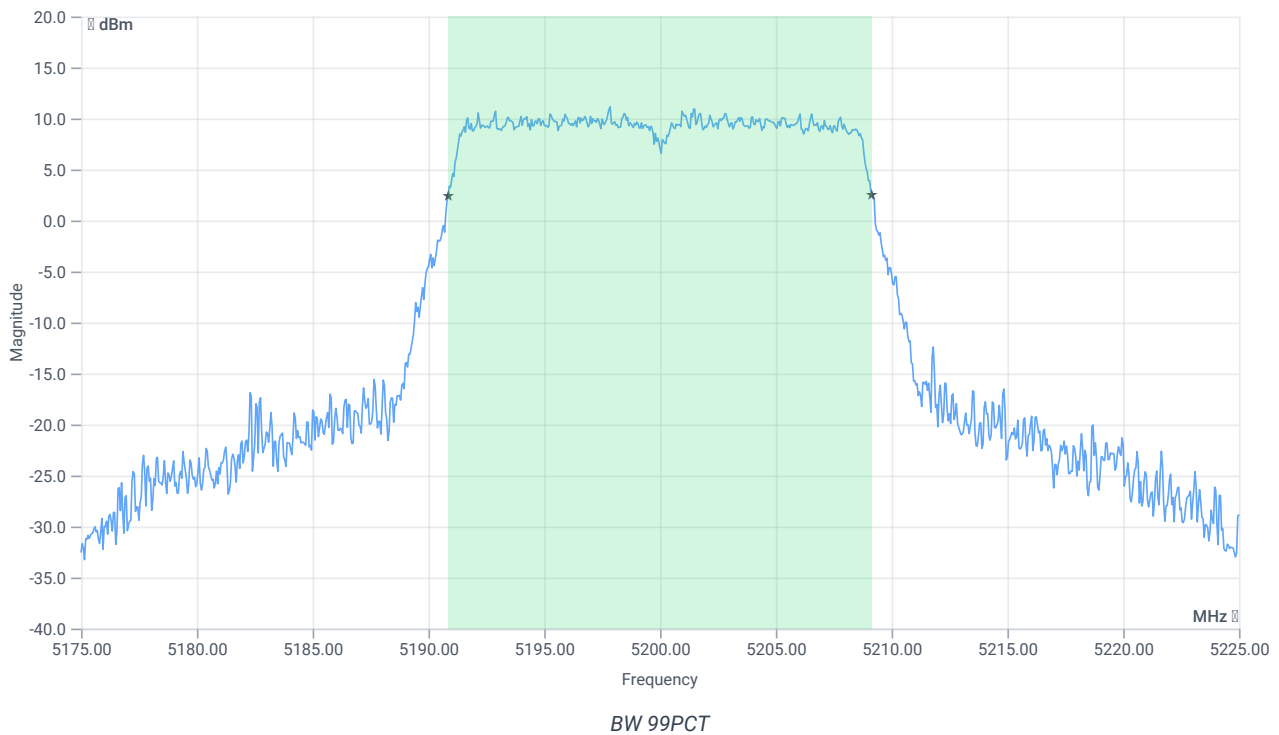
## Test at TX 5200 MHz

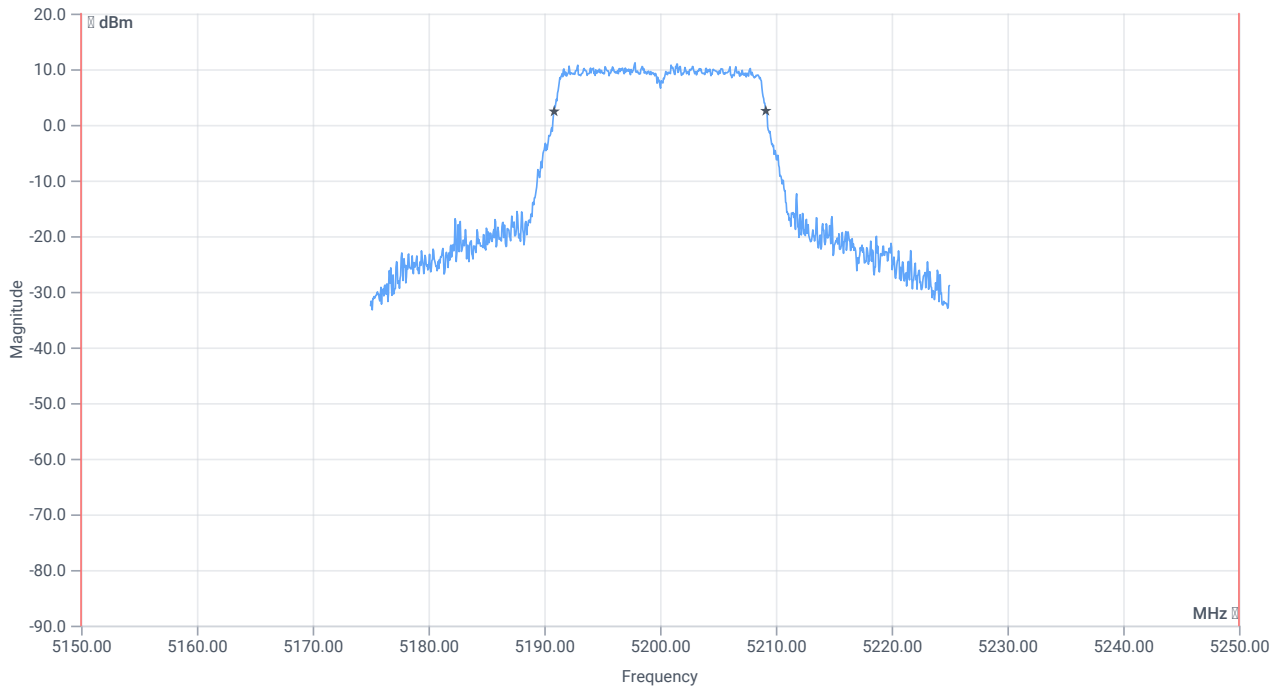
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	15.28	dBm	INFO
Ref. Frequency	--	--	5194.010	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	23.28   16.41   25
Start [MHz]   Stop [MHz]	5175.000   5225.000
RBW [MHz]   VBW [MHz]	0.300000   1.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1   2500   1001   SWE

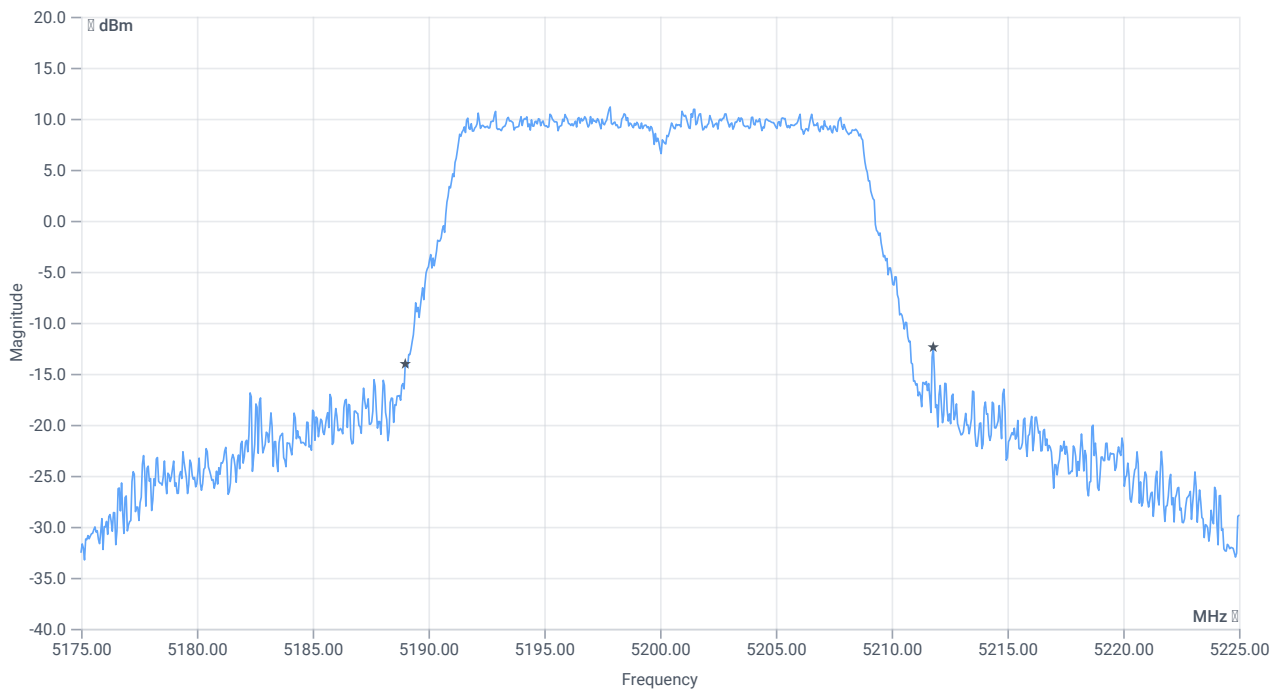




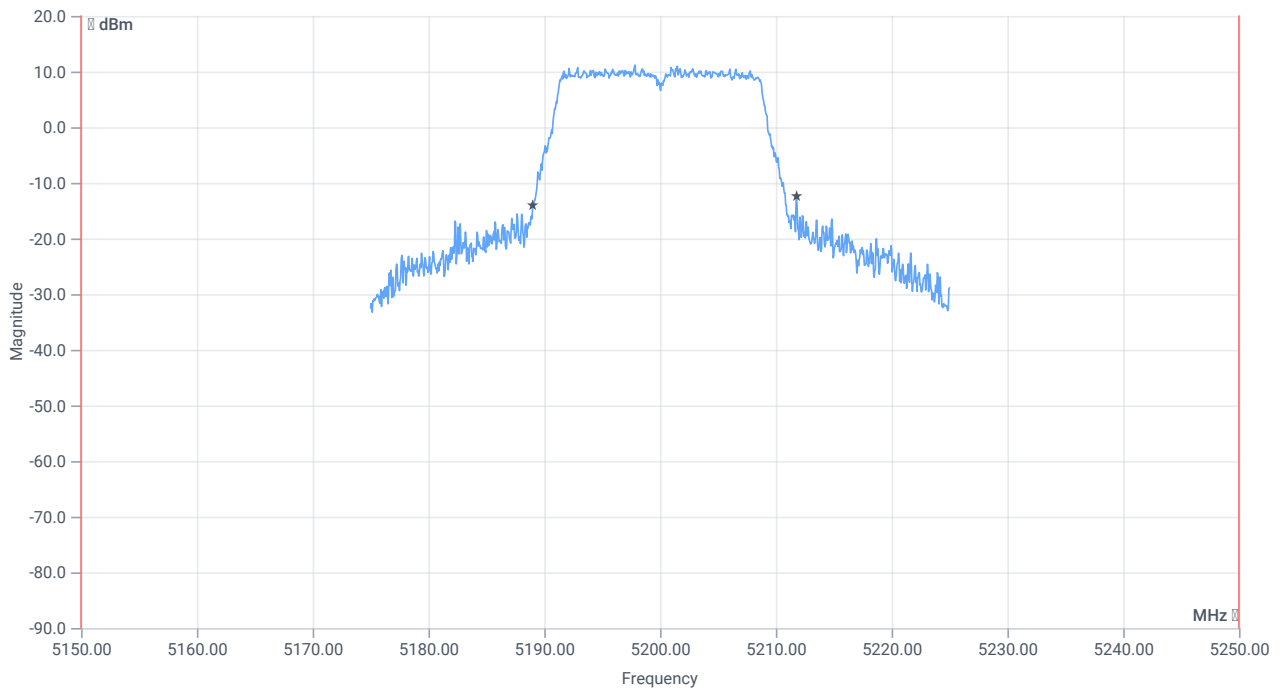
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18.282	MHz	INFO
T1 99%	5150.000000	--	5190.8591	MHz	PASS
T2 99%	--	5250.000000	5209.1409	MHz	PASS



## BW 26dB



BW within Band 26dB

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	--	--	22.8	MHz	INFO
T1 26dB	5150.000000	--	5189.0000	MHz	PASS
T2 26dB	--	5250.000000	5211.8000	MHz	PASS

## Verdict

PASS

## FCC 15.407 # Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:51:52
Ambit Temp [°C]   Humidity [rel%]	22.2   34
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	KDB789033 D02, F, E.2.e.
TC Version	0.0.1
My Description	FCC 15.407 Max Output Power & PSD - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 5180
Frequency mid to test	True   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70  
 Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI



## Test at TX 5200 MHz

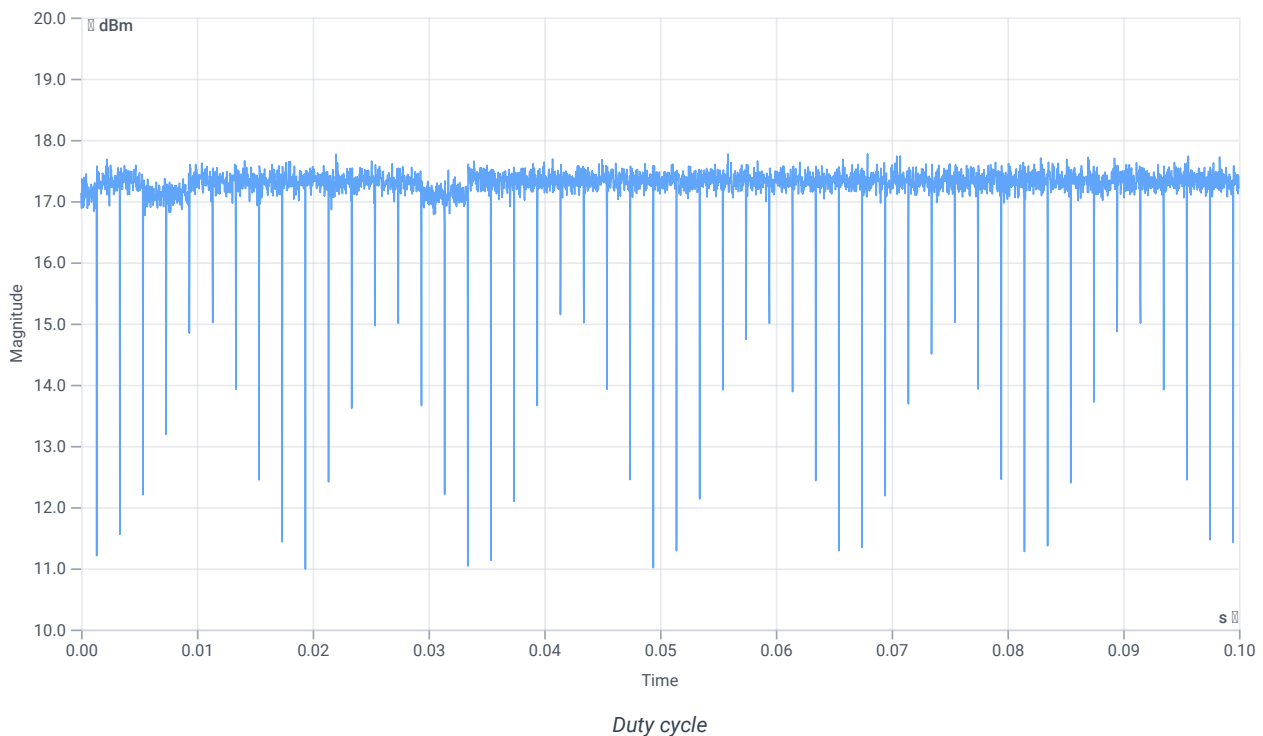
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	16.39	dBm	INFO
Ref. Frequency	--	--	5196.800	MHz	INFO

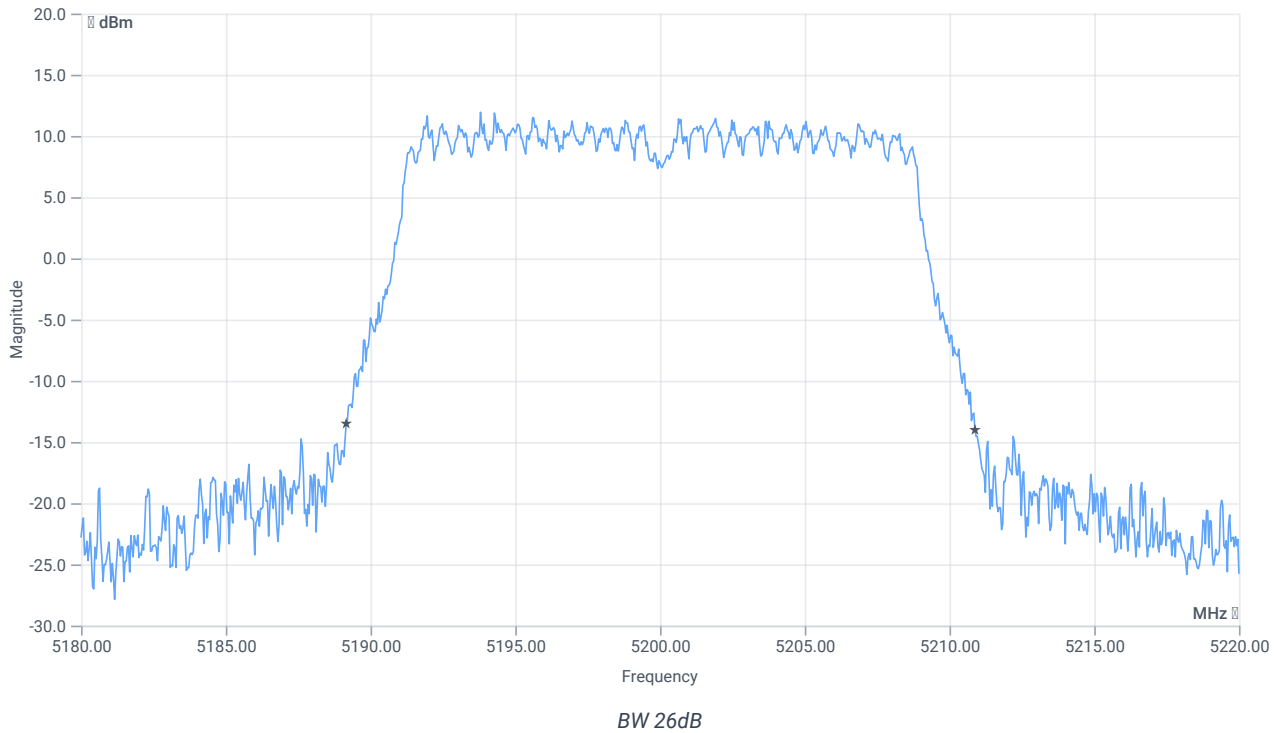
## Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	--	--	1	--	INFO
Duty Cycle max	--	--	0	dB	INFO
Duty Cycle (Burst Ratio) min	--	--	1	--	INFO
Duty Cycle min	--	--	0	dB	INFO



## Evaluation Bandwidth



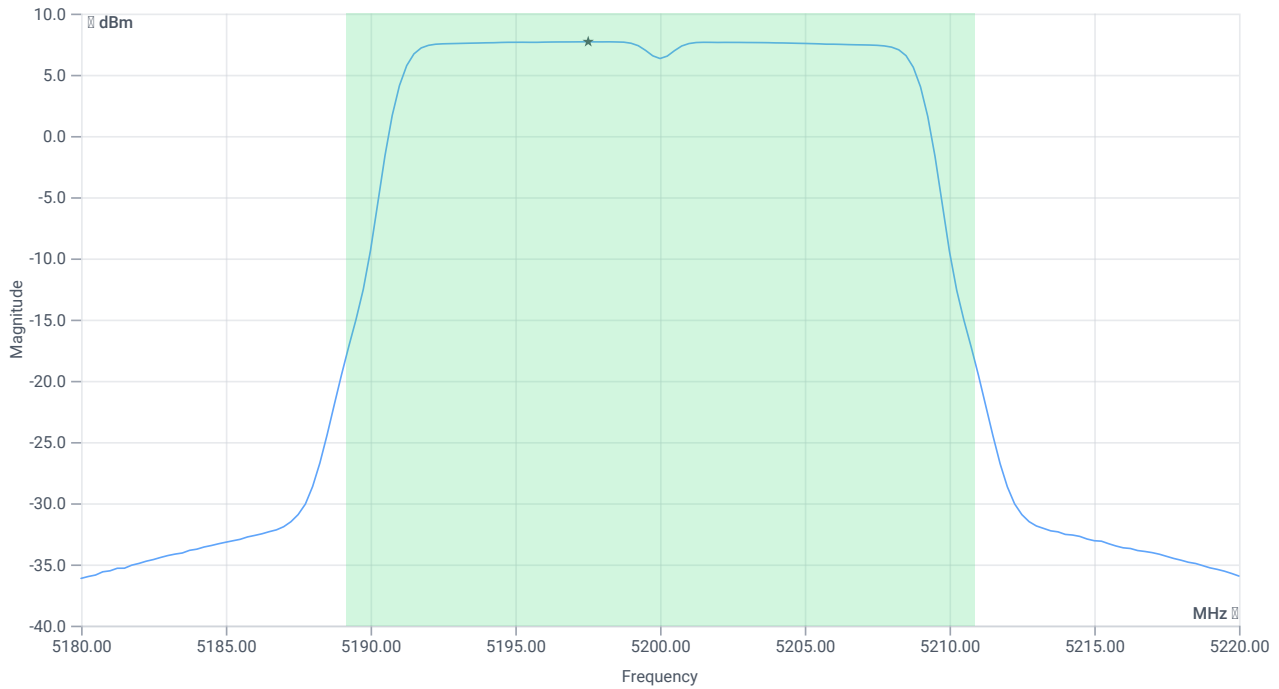
## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	---	---	21.72	MHz	INFO
T1 26dB	---	---	5189.1600	MHz	INFO
T2 26dB	---	---	5210.8800	MHz	INFO

## Maximum Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	28.39   16.41   30
Start [MHz]   Stop [MHz]	5180.000   5220.000
RBW [MHz]   VBW [MHz]	1.000000   3.000000
Detector   TraceMode	RMS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	53700   1   161   SWE



Max OP and PSD

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Output Power	--	--	19.74	dBm	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	--	24	19.74	dBm	PASS
Limit: 11 dBm + 10 log 21.72					
Max Output Power DC corrected	--	24.37	19.74	dBm	na

## Power Spectral Density

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Power Spectral Density	--	--	7.7	dBm/1MHz	INFO
Duty Cycle Correction	--	--	0	dB	INFO
Power Spectral Density DC corrected	--	11	7.7	dBm/1MHz	PASS

Verdict

PASS

## FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:53:18
Ambit Temp [°C]   Humidity [rel%]	22.3   33
System Version	3.5.0.9
Test Specification	FCC 15.407, ISED RSS247 -
Test Method	26dB Bandwidth KDB789033 D02, C.1 / ISED RSS-GEN
TC Version	0.0.1
My Description	FCC 15.407 Bandwidths - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 5180
Frequency mid to test	True   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

### Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

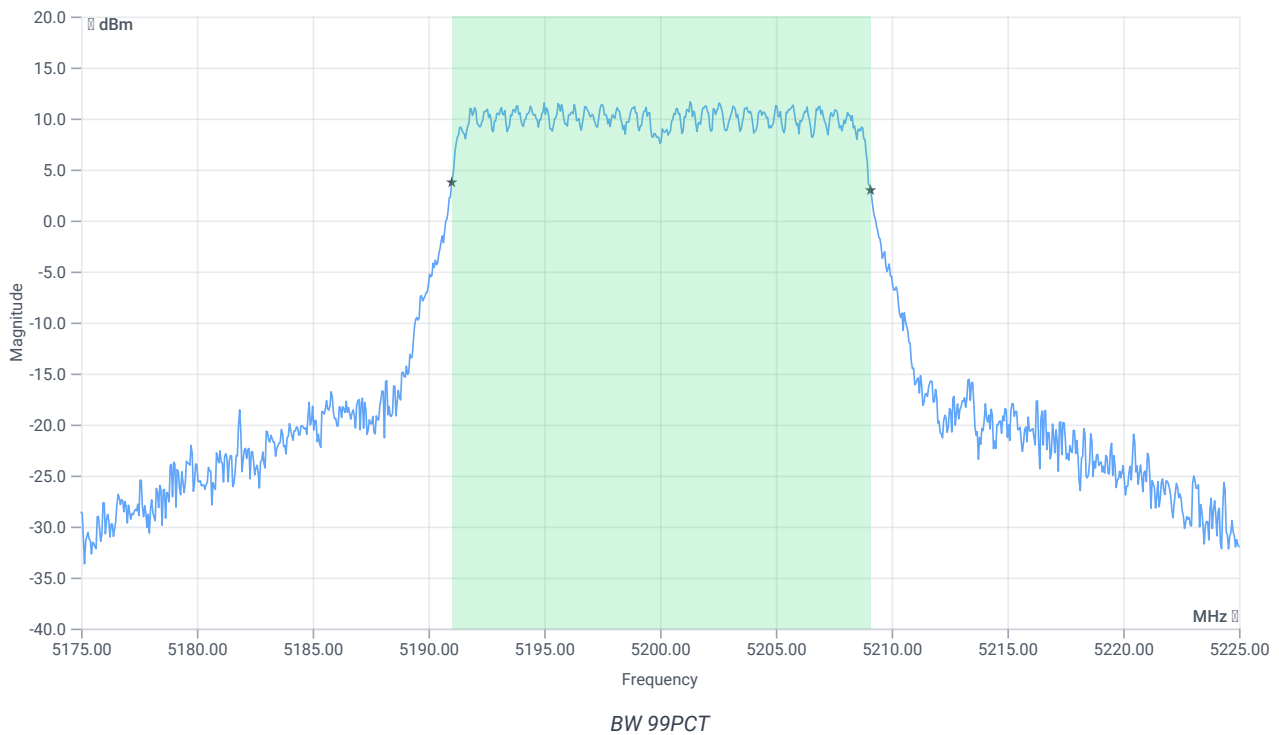
## Test at TX 5200 MHz

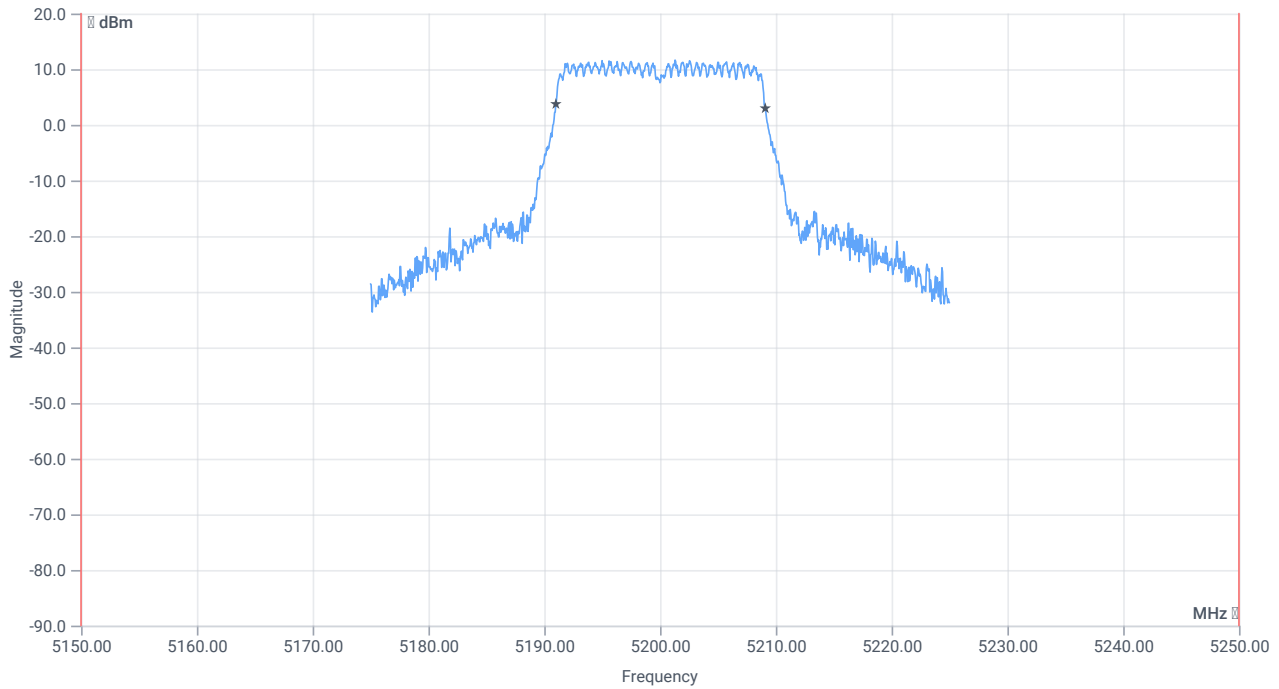
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	16.43	dBm	INFO
Ref. Frequency	--	--	5197.400	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.43   16.41   25
Start [MHz]   Stop [MHz]	5175.000   5225.000
RBW [MHz]   VBW [MHz]	0.300000   1.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1   2500   1001   SWE

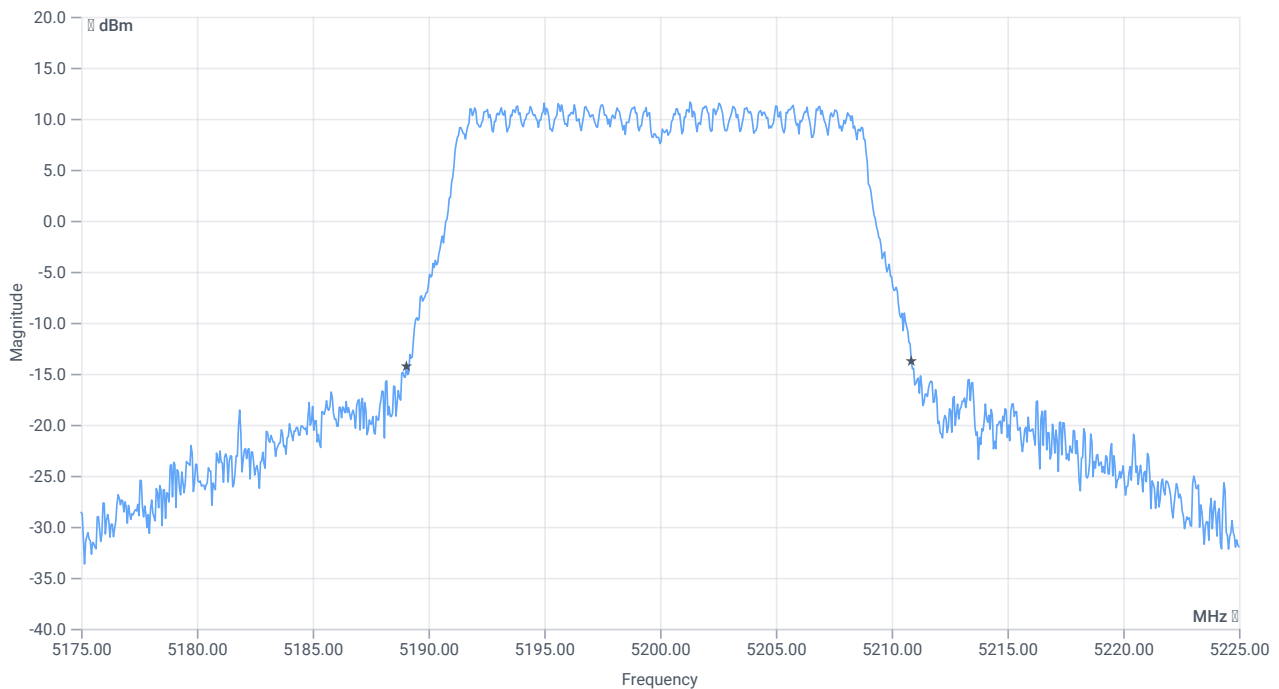




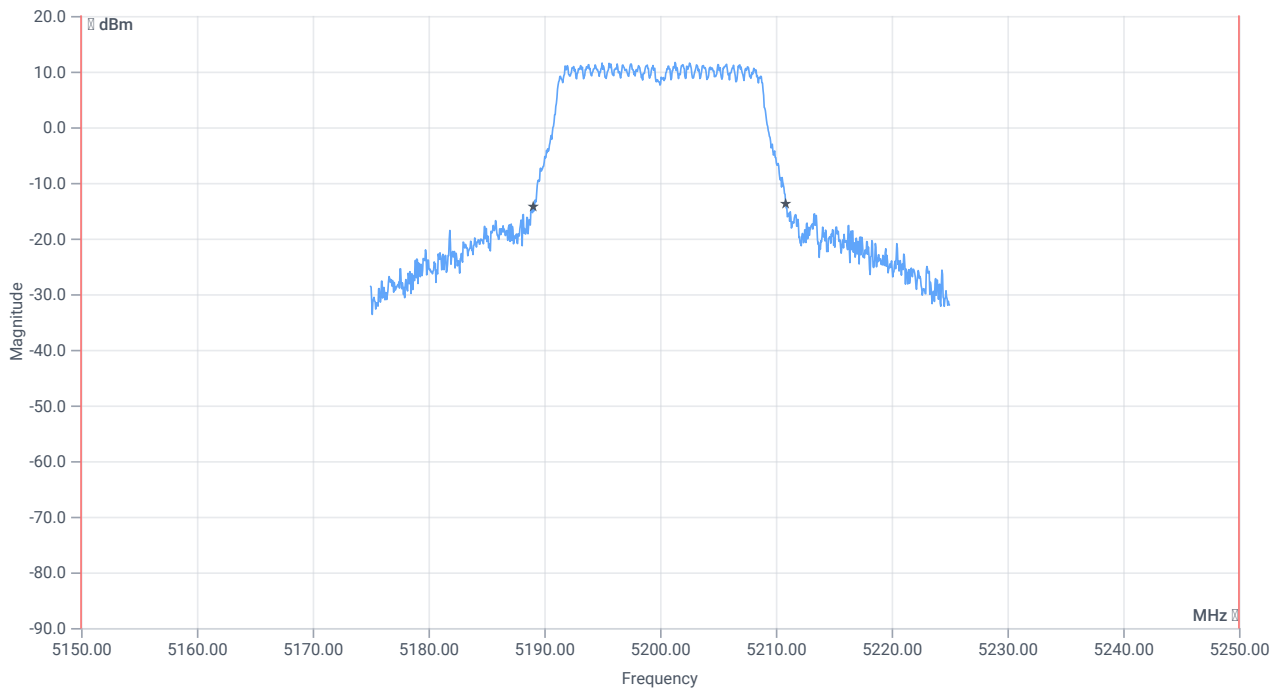
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18.082	MHz	INFO
T1 99%	5150.000000	--	5191.0090	MHz	PASS
T2 99%	--	5250.000000	5209.0909	MHz	PASS



BW 26dB



BW within Band 26dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 26dB	--	--	21.8	MHz	INFO
T1 26dB	5150.000000	--	5189.0500	MHz	PASS
T2 26dB	--	5250.000000	5210.8500	MHz	PASS

Verdict

PASS

## FCC 15.407 # MIMO $\Sigma$ Max output power and psd ~ WLAN5Gx ac-VHT20 mode U-NII-1

### Test References

TC Start	15.03.2023 09:53:53
Ambit Temp [°C]   Humidity [rel%]	22.3   33
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	
TC Version	0.0.1
My Description	MIMO $\Sigma$ FCC Power & psd - WLAN5Gx ac-VHT20 mode U-NII-1
Add. Information	

### EUT Common Settings WLAN5Gx

Number of Antenna Ports	2
User Interaction	No
Device Class UNII_1	Client
Limit W52 Japan	Standard

### Test Parameter

Technology to test	WLAN5Gx ac-VHT20 mode
Antenna Port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 5180
Frequency mid to test	True   Freq [MHz] 5200
Frequency high to test	False   Freq [MHz] 5240
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	1.4
Switched Path	None

### Test Equipment



## Test at TX 5200 MHz

### RESULT Power

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ant:1 Max Output Power DC corrected	--	--	19.59	dBm	INFO
Ant:1 BW 26dB	--	--	21.960	MHz	INFO
Ant:2 Max Output Power DC corrected	--	--	19.74	dBm	INFO
Ant:2 BW 26dB	--	--	21.720	MHz	INFO
Σ Limit absolute	--	24	22.68	dBm	PASS
Σ Limit: 11 dBm + 10 log 21.72	--	24.37	22.68	dBm	na

### RESULT PSD

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ant:1 PSD	--	--	7.54	dBm/1MHz	INFO
Ant:2 PSD	--	--	7.7	dBm/1MHz	INFO
Σ	--	11	10.63	dBm/1MHz	PASS

### Verdict

PASS

- END OF DOCUMENT -