Measurement Results

No.1-5761/23-01-05_Annex_MR_14

Test logging

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Table of Content

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 09:55:55
Ambit Temp [°C] | Humidity [rel%]	22.3 | 33
System Version	3.5.0.9
Test Specification	-
Test Method	
TC Version	0.0.1
My Description	Message with SA WLAN5Gx ax-HE20 U-NII-1
Add. Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	15.03.2023 09:55:56
Message	set WLAN5Gx to WLAN5Gx ax-HE20 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 ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 09:57:18
Ambit Temp [°C] | Humidity [rel%]	22.3 | 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 ax-HE20 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 ax-HE20
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

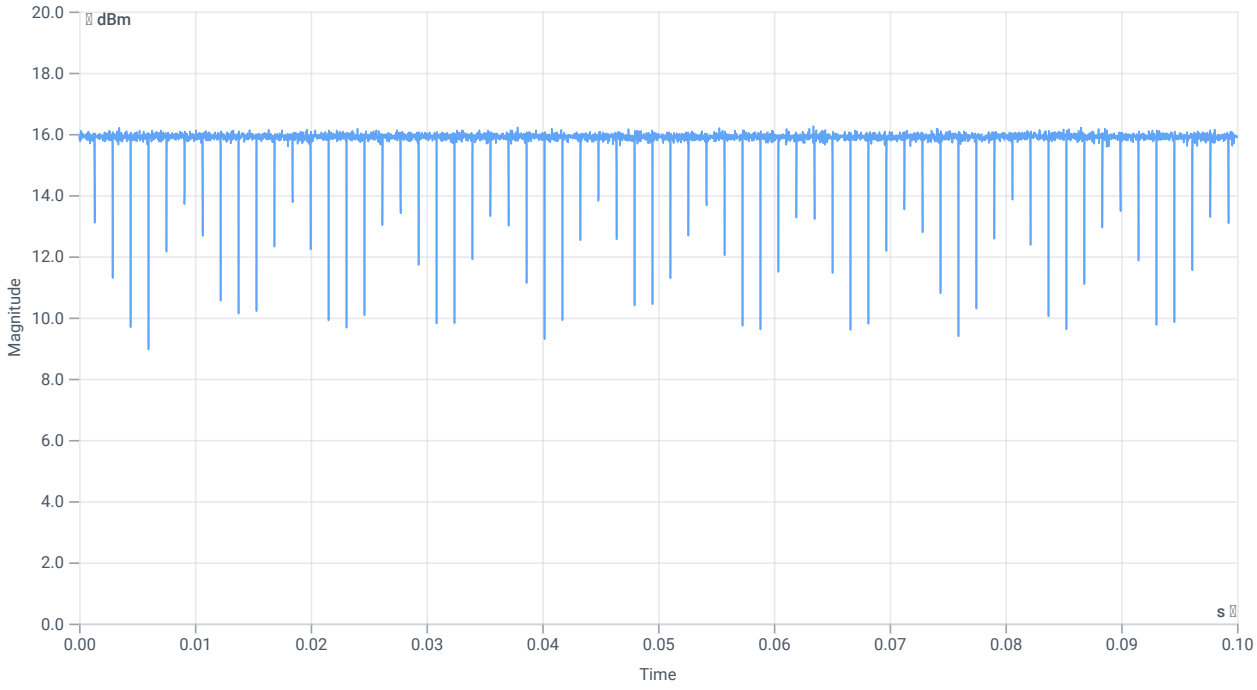
RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	15.38	dBm	INFO
Ref. Frequency	---	---	5171.410	MHz	INFO

Evaluation max. Duty Cycle

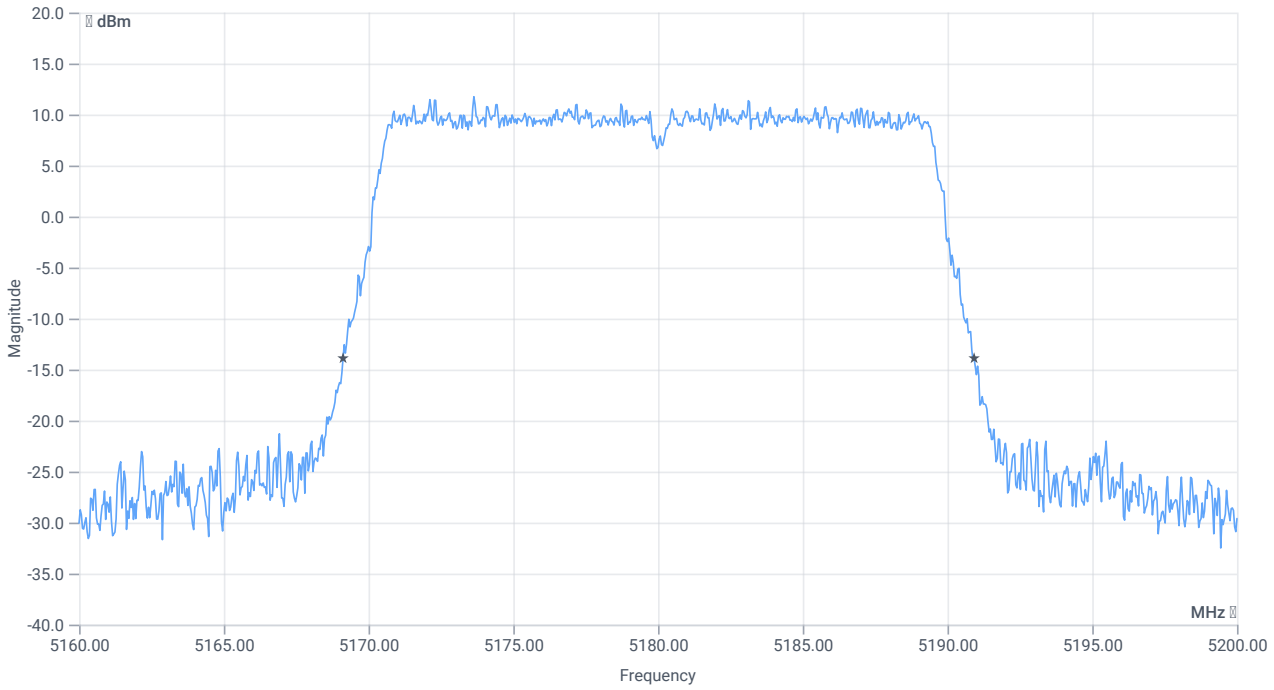
Duty Cycle evaluation

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



Duty cycle

Evaluation Bandwidth



BW 26dB

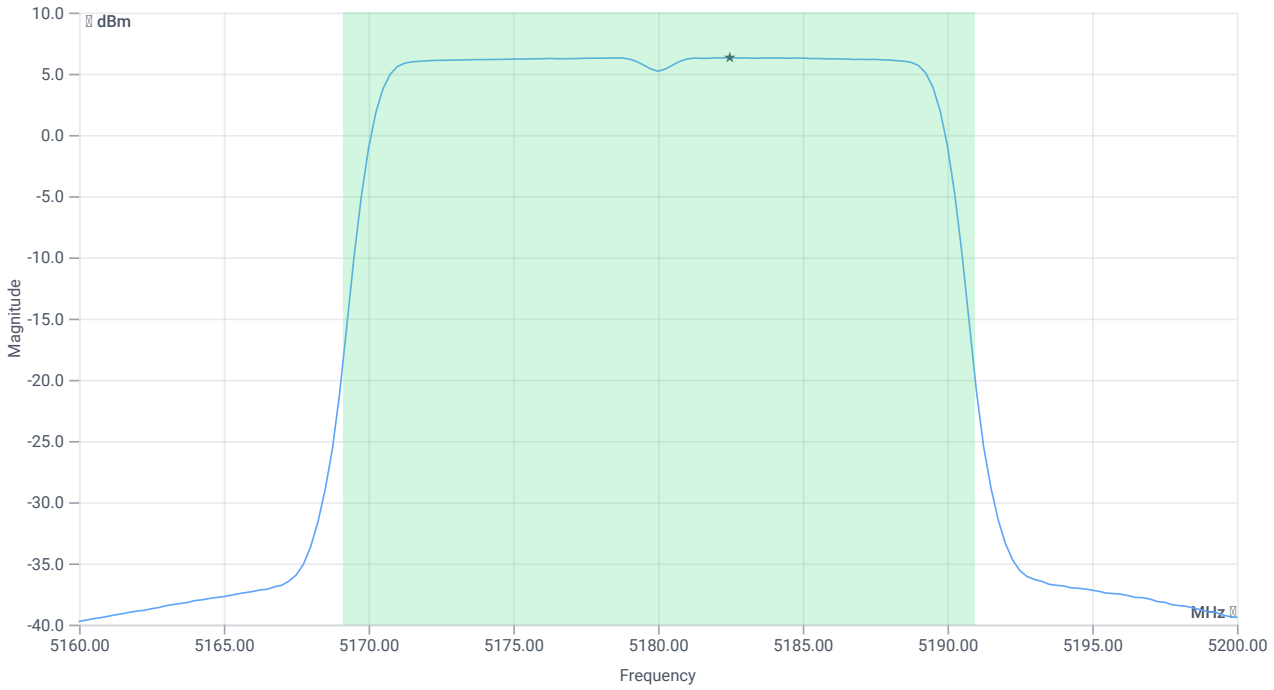
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.8	MHz	INFO
T1 26dB	---	---	5169.1200	MHz	INFO
T2 26dB	---	---	5190.9200	MHz	INFO

Maximum Output Power

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	27.38 | 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	---	---	18.68	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	---	24	18.68	dBm	PASS
Limit: 11 dBm + 10 log	21.8				
Max Output Power DC corrected	---	24.38	18.68	dBm	na

Power Spectral Density

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Power Spectral Density	---	---	6.32	dBm/1MHz	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Power Spectral Density DC corrected	---	11	6.32	dBm/1MHz	PASS

Verdict
PASS

FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 09:58:47
Ambit Temp [°C] | Humidity [rel%]	22.4 | 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 ax-HE20 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 ax-HE20
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

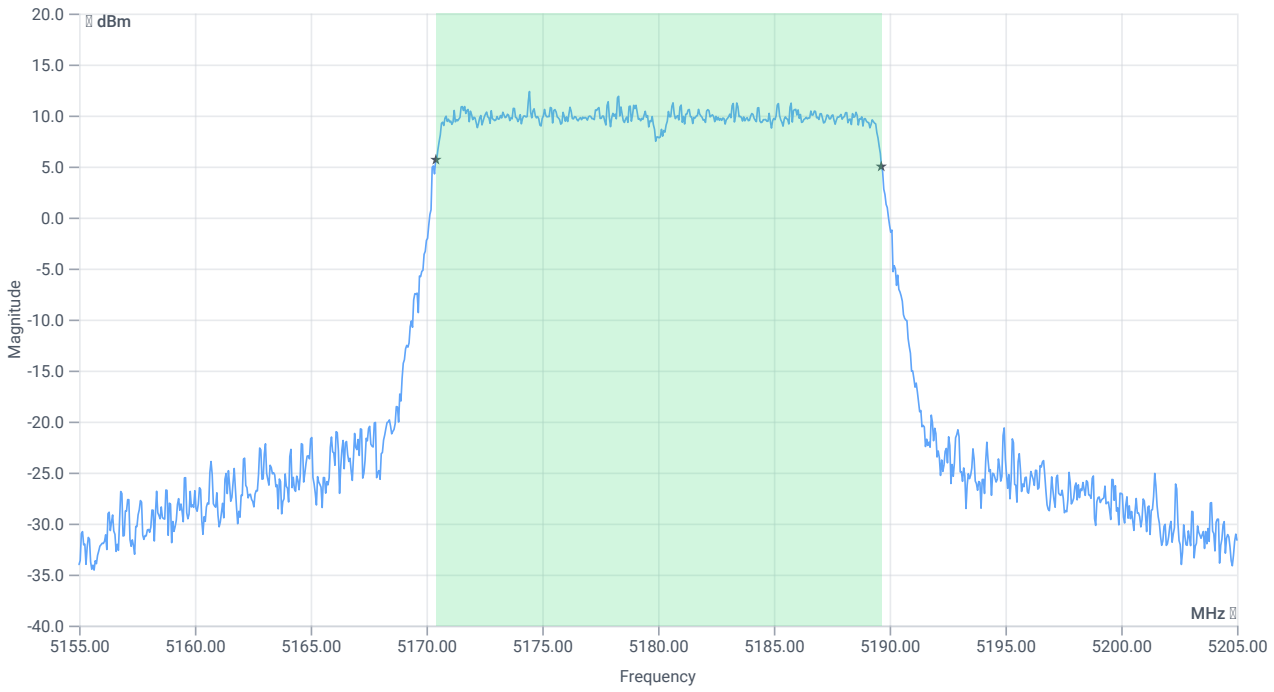
Test at TX 5180 MHz

RESULT: Reference Power cond.

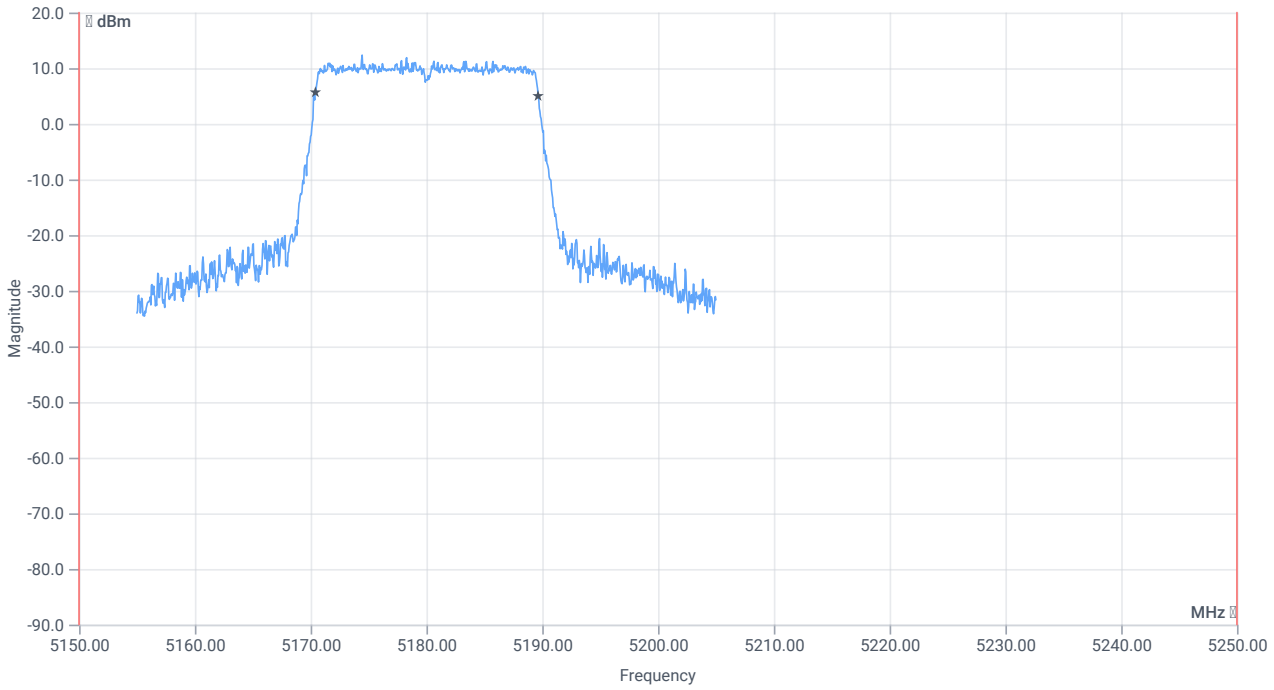
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	19.19	dBm	INFO
Ref. Frequency	---	---	5176.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	27.19 | 16.49 | 30
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



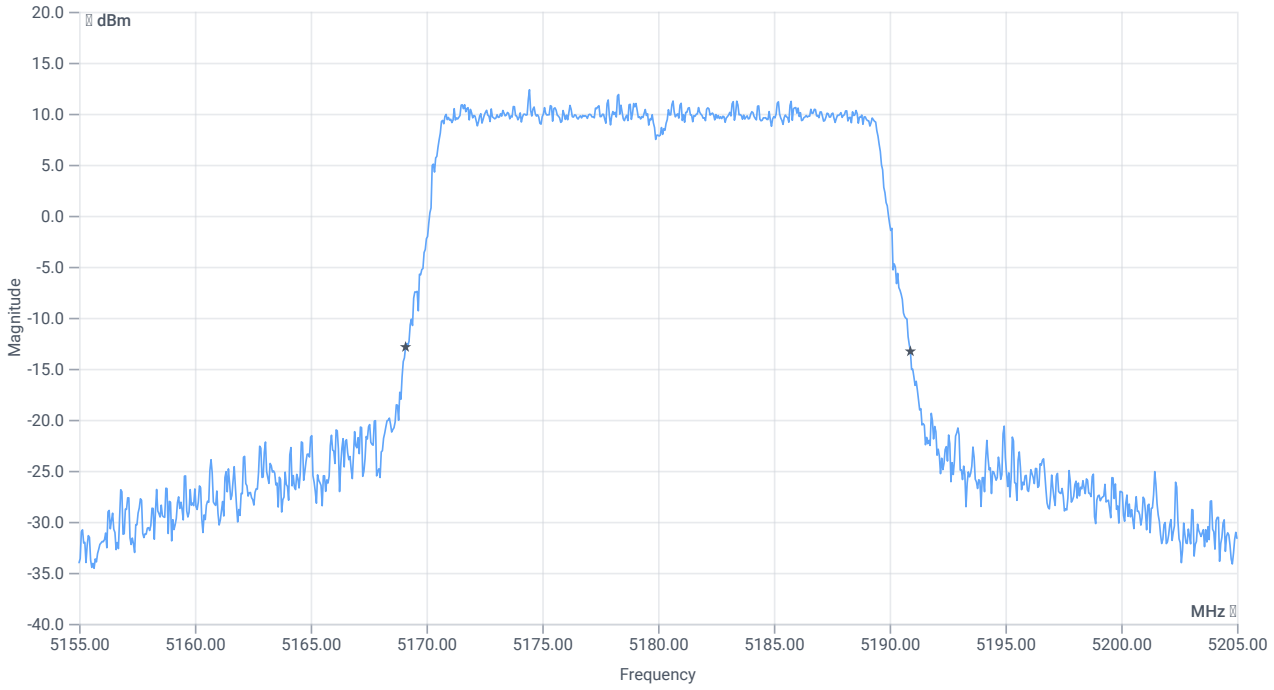
BW 99PCT



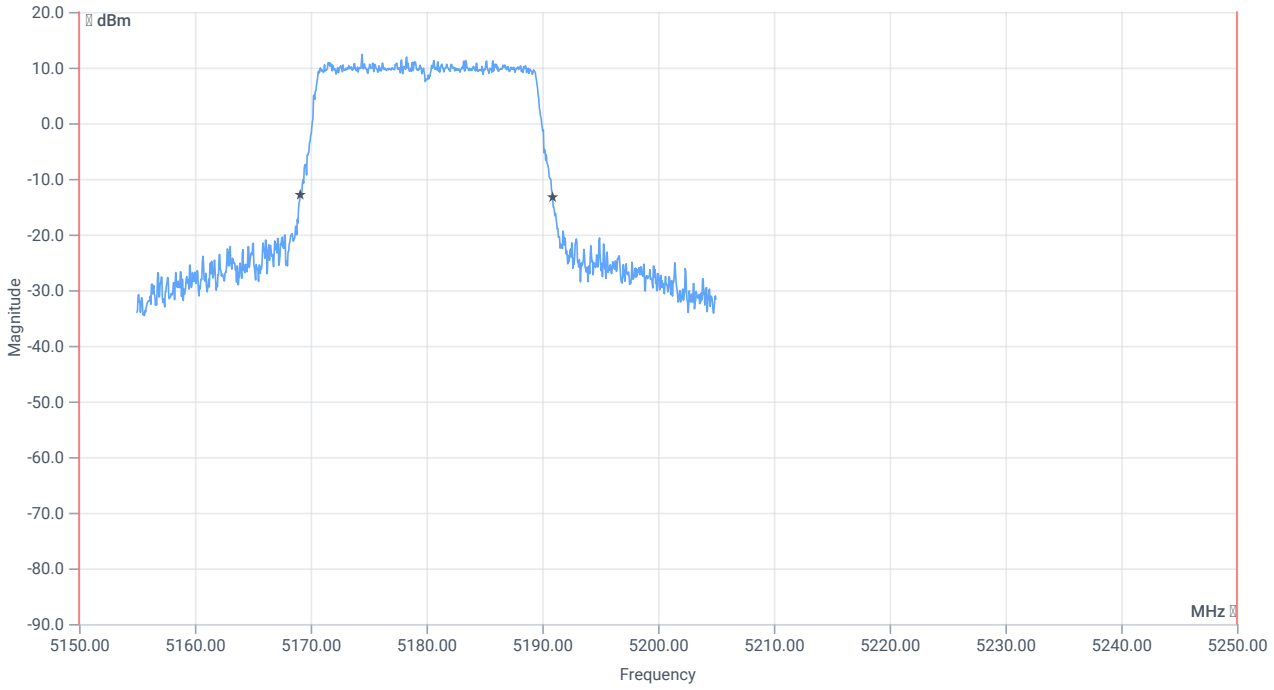
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	19.231	MHz	INFO
T1 99%	5150.000000	---	5170.4096	MHz	PASS
T2 99%	---	5250.000000	5189.6404	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	---	5169.1000	MHz	PASS
T2 26dB	---	5250.000000	5190.9000	MHz	PASS

Verdict
PASS

FCC 15.407 # Max output power and psd ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 09:59:23
Ambit Temp [°C] | Humidity [rel%]	22.4 | 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 ax-HE20 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 ax-HE20
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

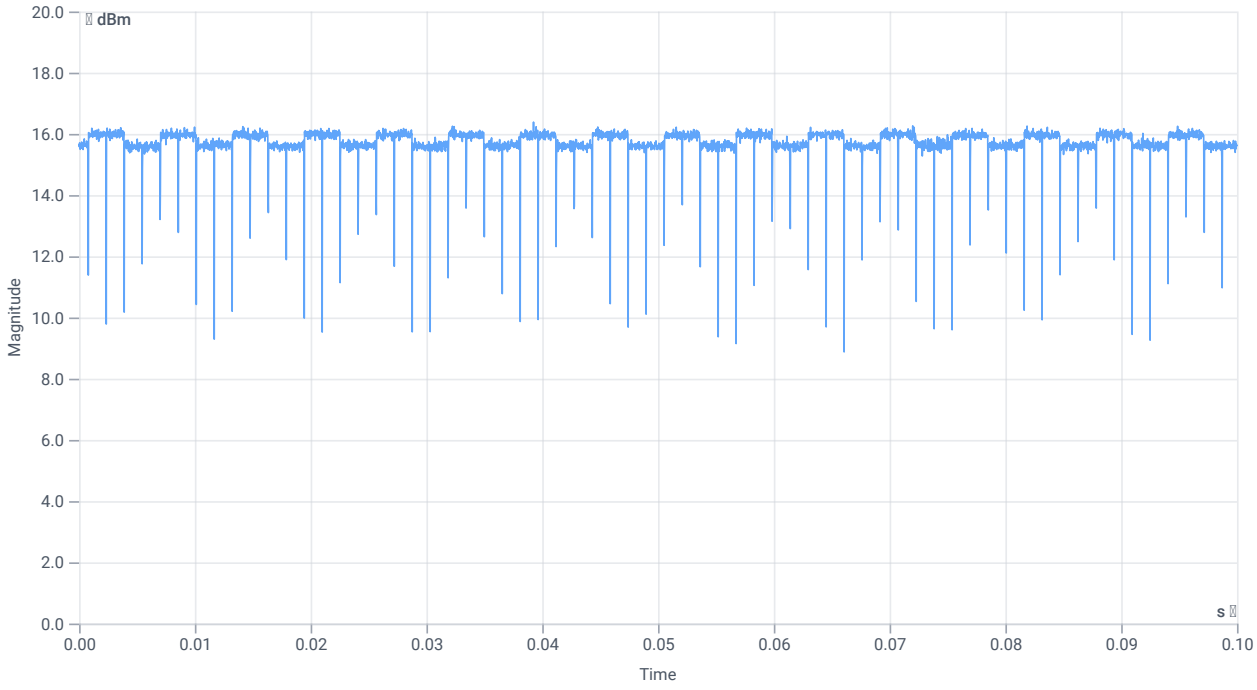
RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	16.47	dBm	INFO
Ref. Frequency	---	---	5176.000	MHz	INFO

Evaluation max. Duty Cycle

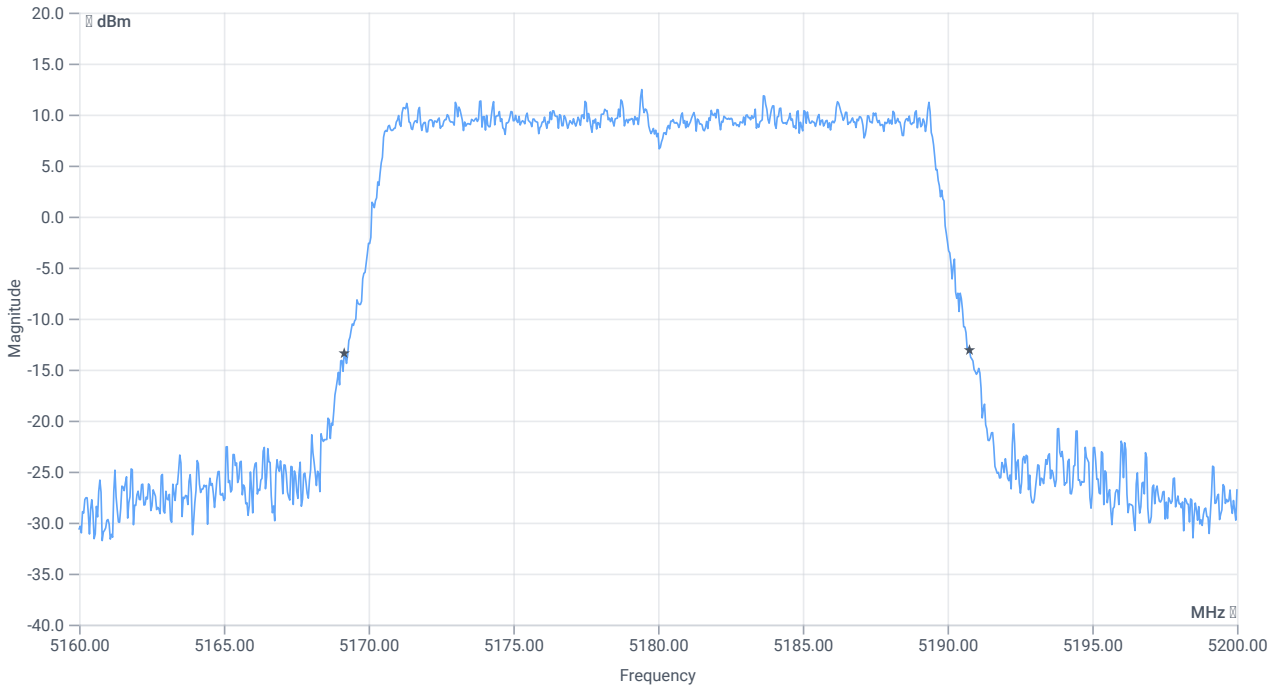
Duty Cycle evaluation

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



Duty cycle

Evaluation Bandwidth



BW 26dB

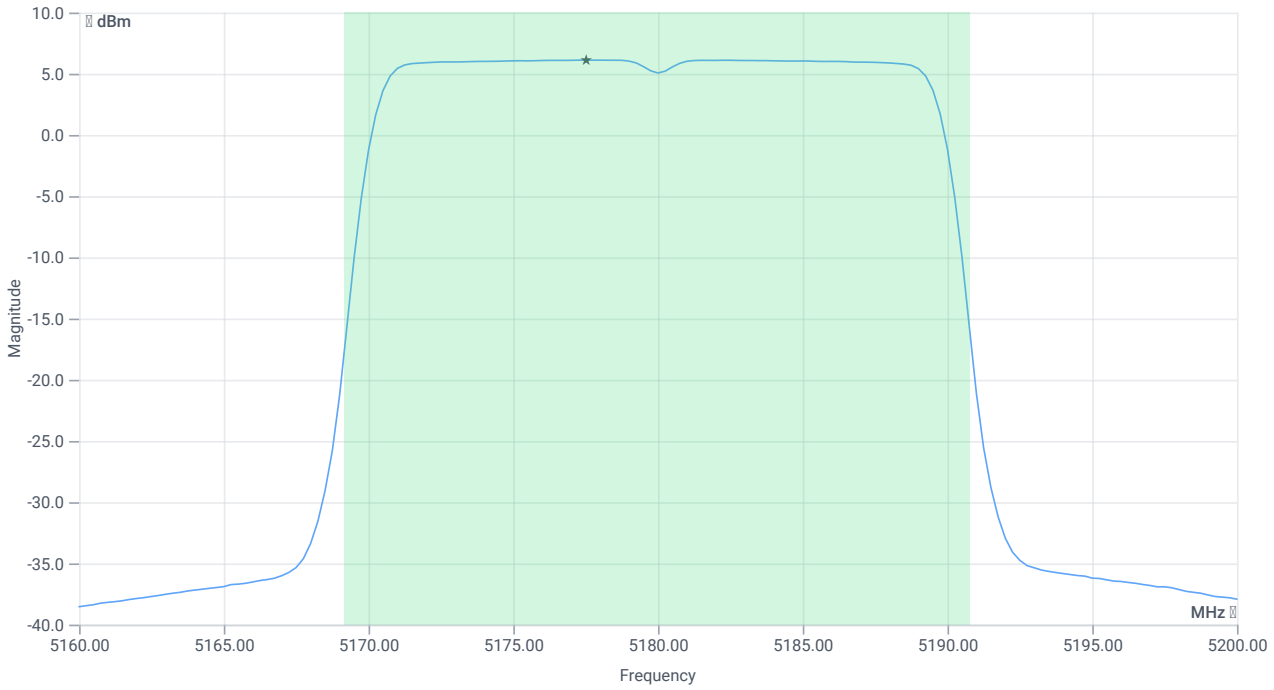
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.6	MHz	INFO
T1 26dB	---	---	5169.1600	MHz	INFO
T2 26dB	---	---	5190.7600	MHz	INFO

Maximum Output Power

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	28.47 | 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	---	---	18.5	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	---	24	18.5	dBm	PASS
Limit: 11 dBm + 10 log	21.6				
Max Output Power DC corrected	---	24.34	18.5	dBm	na

Power Spectral Density

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Power Spectral Density	---	---	6.11	dBm/1MHz	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Power Spectral Density DC corrected	---	11	6.11	dBm/1MHz	PASS

Verdict
PASS

FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:00:53
Ambit Temp [°C] | Humidity [rel%]	22.4 | 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 ax-HE20 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 ax-HE20
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

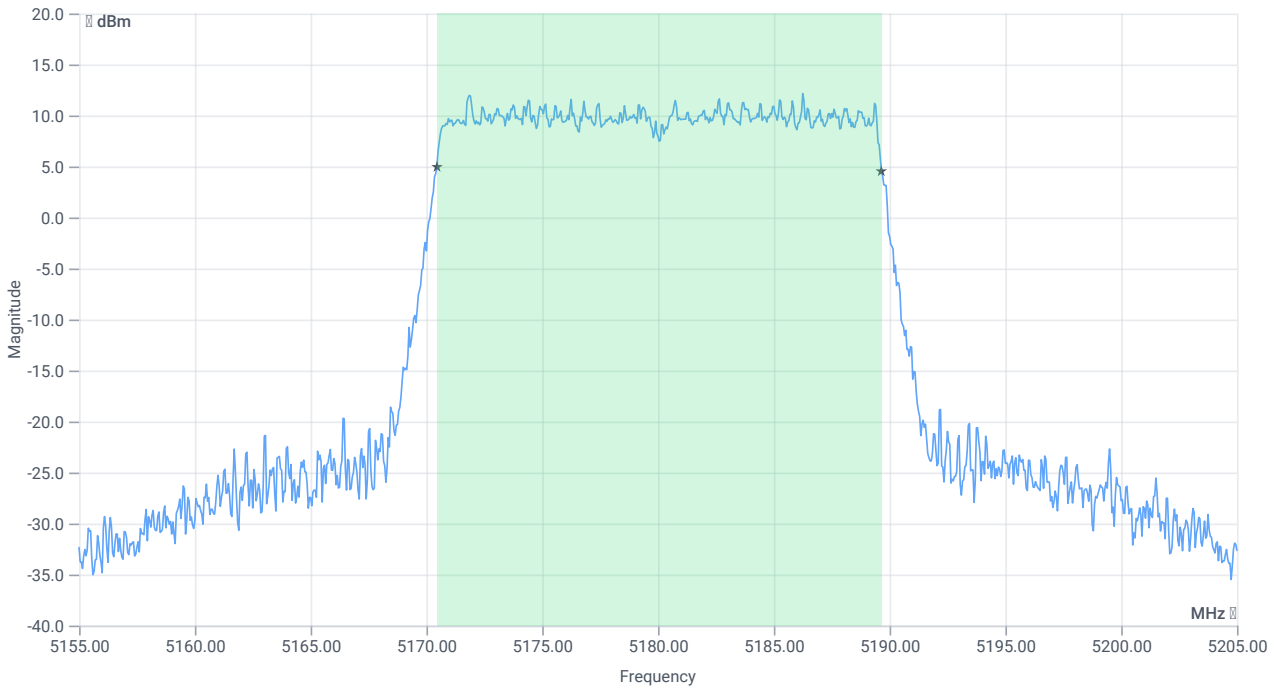
Test at TX 5180 MHz

RESULT: Reference Power cond.

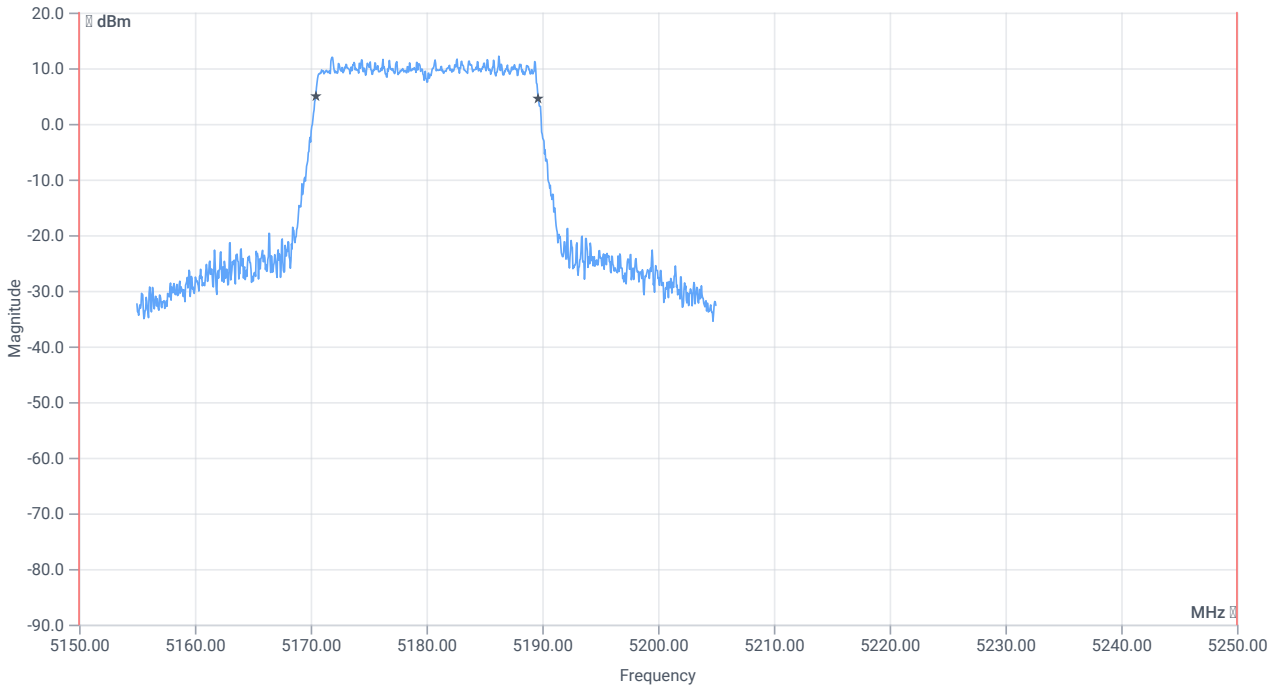
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	15.63	dBm	INFO
Ref. Frequency	---	---	5177.000	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	23.63 | 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



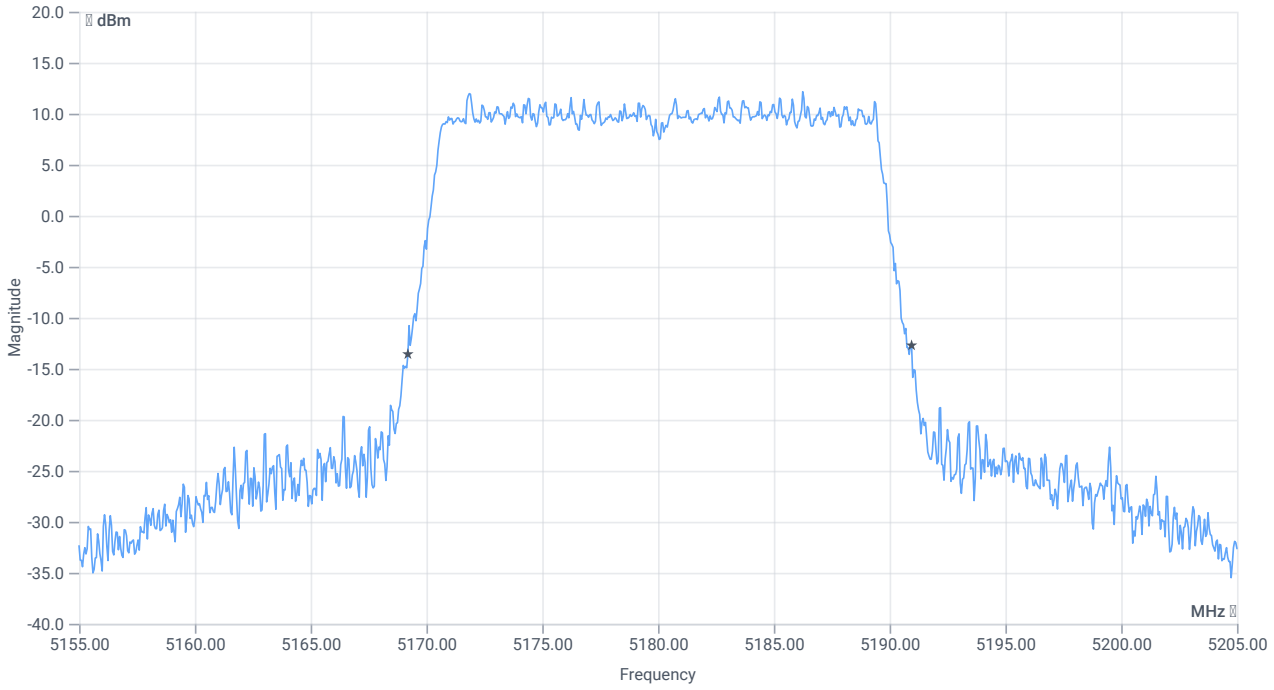
BW 99PCT



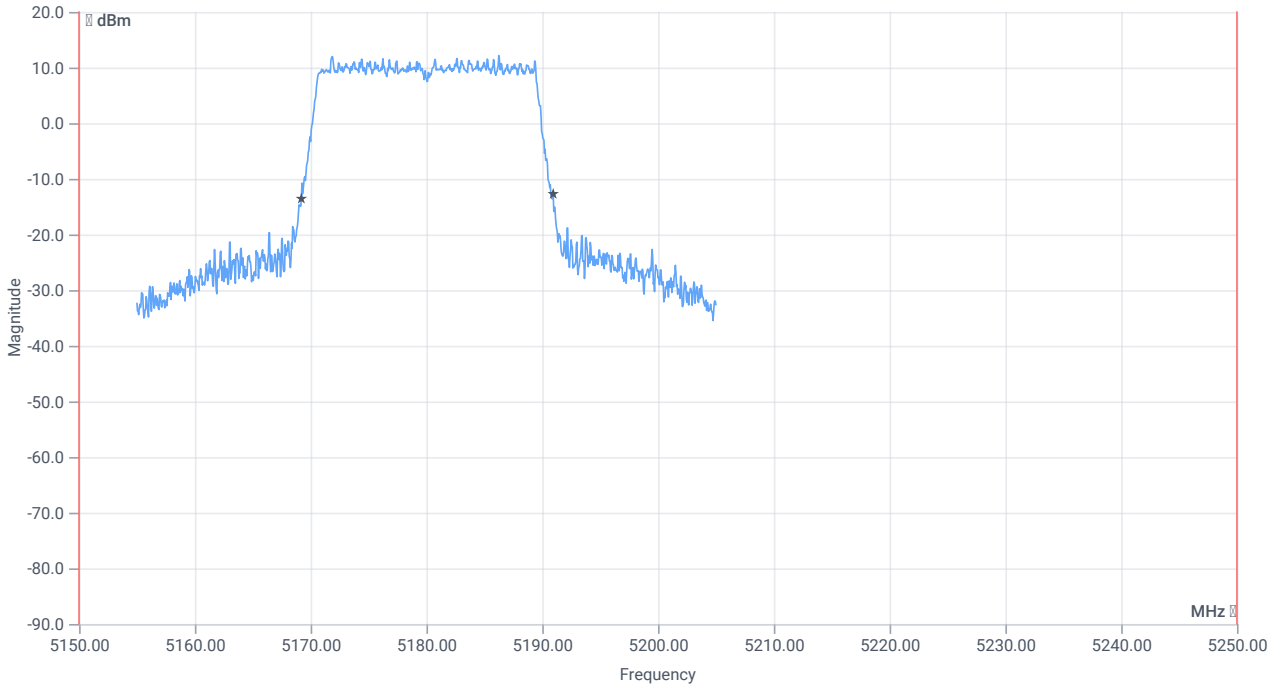
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	19.181	MHz	INFO
T1 99%	5150.000000	---	5170.4595	MHz	PASS
T2 99%	---	5250.000000	5189.6404	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	---	5169.2000	MHz	PASS
T2 26dB	---	5250.000000	5190.9500	MHz	PASS

Verdict
PASS

FCC 15.407 # MIMO ∑ Max output power and psd ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:01:28
Ambit Temp [°C] | Humidity [rel%]	22.4 | 33
System Version	3.5.0.9
Test Specification	FCC 15.407 -
Test Method	
TC Version	0.0.1
My Description	MIMO ∑ FCC Power & psd - WLAN5Gx ax-HE20 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 ax-HE20
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	---	---	18.68	dBm	INFO
Ant:1 BW 26dB	---	---	21.800	MHz	INFO
Ant:2 Max Output Power DC corrected	---	---	18.5	dBm	INFO
Ant:2 BW 26dB	---	---	21.600	MHz	INFO
∑ Limit absolute	---	24	21.6	dBm	PASS
∑ Limit: 11 dBm + 10 log 21.6	---	24.34	21.6	dBm	na

RESULT PSD

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ant:1 PSD	---	---	6.32	dBm/1MHz	INFO
Ant:2 PSD	---	---	6.11	dBm/1MHz	INFO
∑	---	11	9.23	dBm/1MHz	PASS

Verdict
PASS

Message with SA scan ~

Test References

TC Start	15.03.2023 10:01:48
Ambit Temp [°C] | Humidity [rel%]	22.4 | 33
System Version	3.5.0.9
Test Specification	-
Test Method	
TC Version	0.0.1
My Description	Message with SA WLAN5Gx ax-HE20 U-NII-1
Add. Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	15.03.2023 10:01:49
Message	set WLAN5Gx to WLAN5Gx ax-HE20 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 ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:02:41
Ambit Temp [°C] | Humidity [rel%]	22.5 | 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 ax-HE20 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 ax-HE20
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

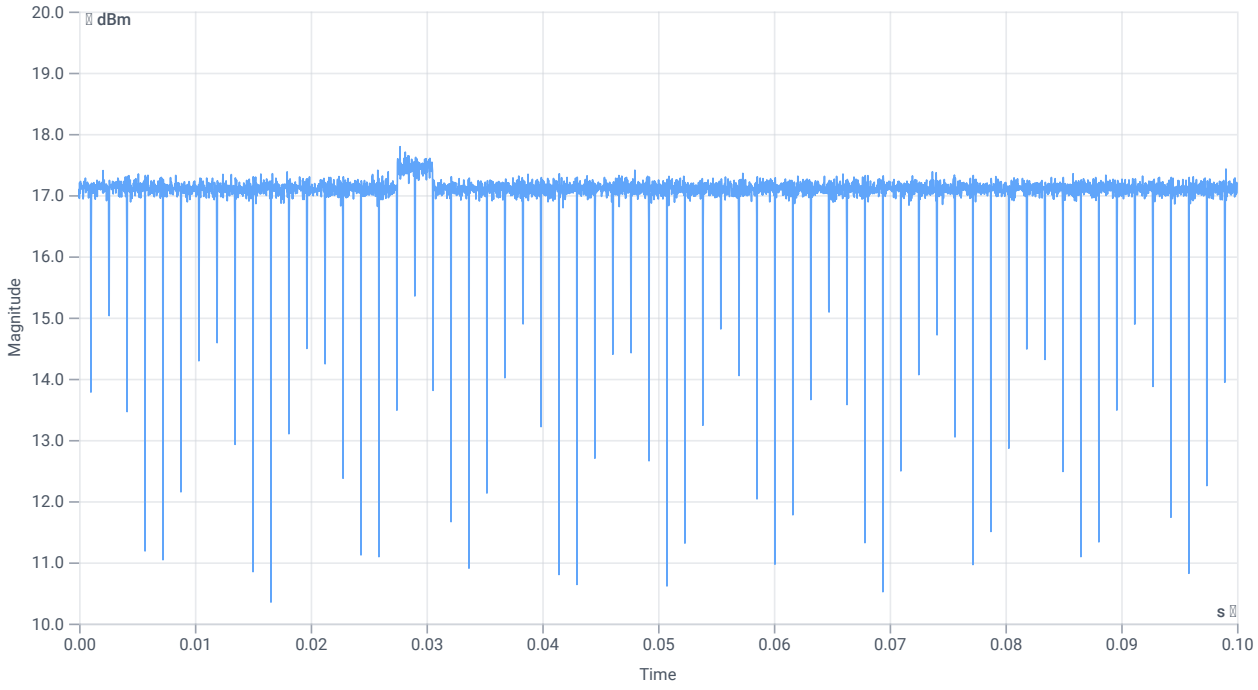
RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	16.82	dBm	INFO
Ref. Frequency	---	---	5198.600	MHz	INFO

Evaluation max. Duty Cycle

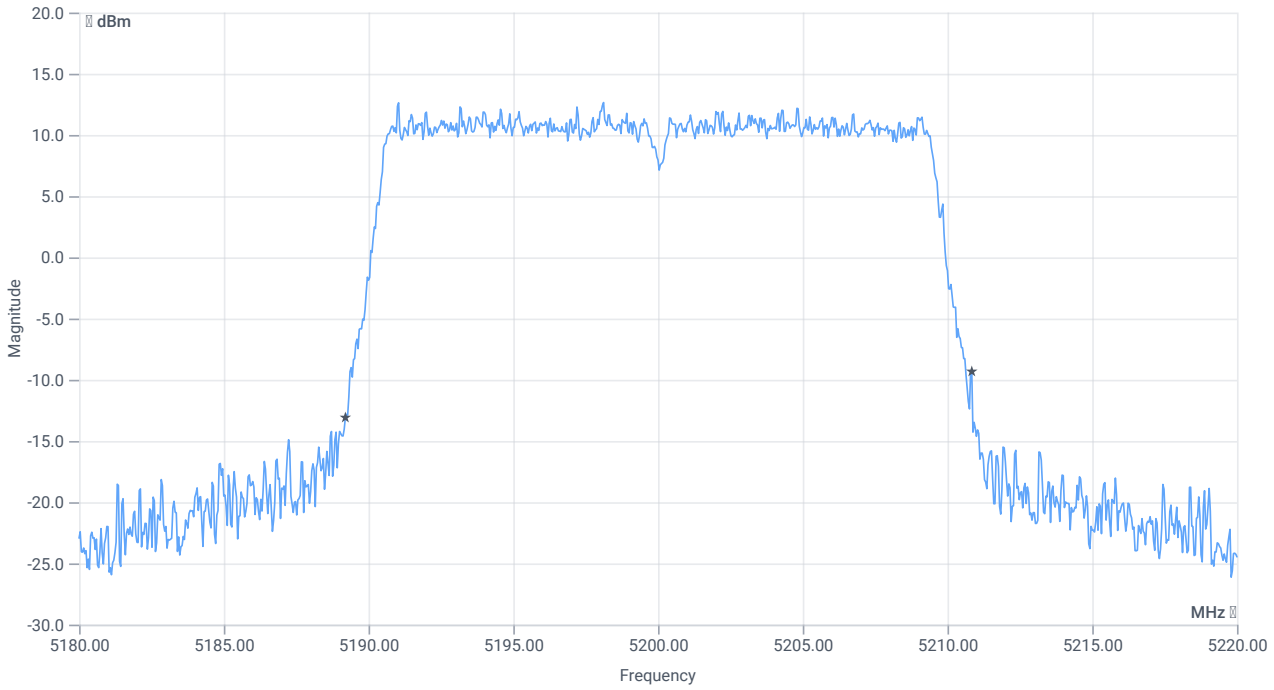
Duty Cycle evaluation

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



Duty cycle

Evaluation Bandwidth



BW 26dB

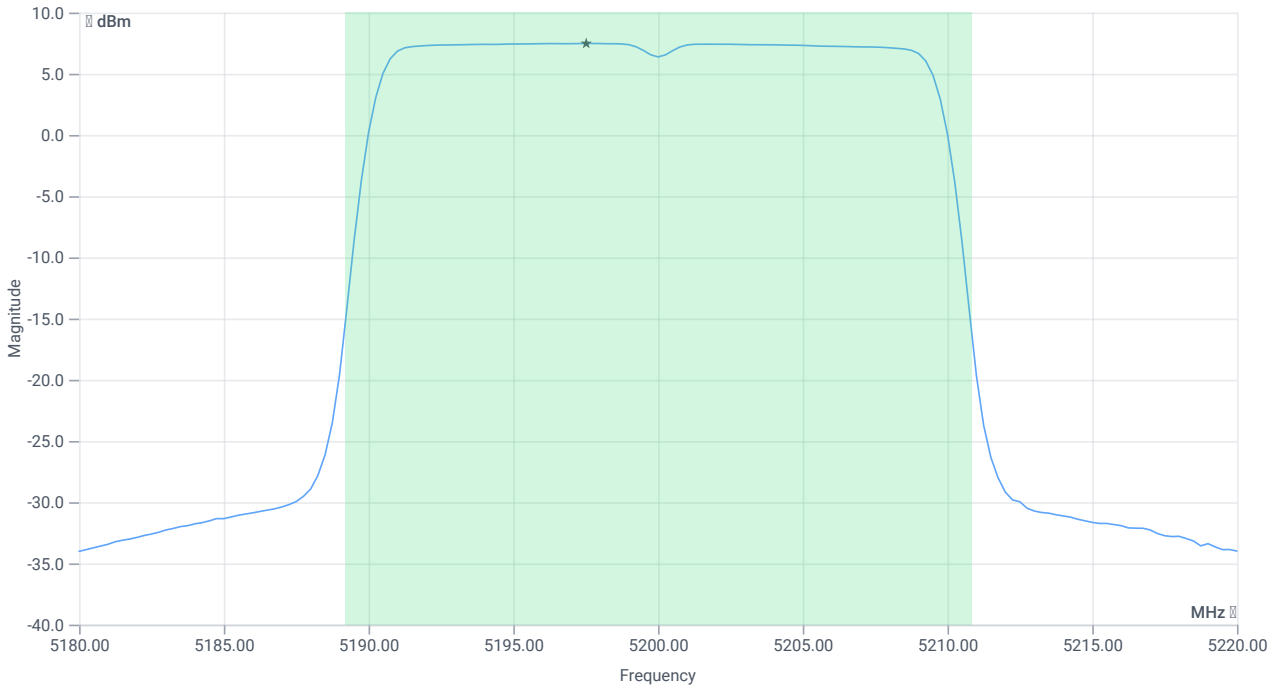
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.64	MHz	INFO
T1 26dB	---	---	5189.2000	MHz	INFO
T2 26dB	---	---	5210.8400	MHz	INFO

Maximum Output Power

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	28.82 | 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	---	---	19.82	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	---	24	19.82	dBm	PASS
Limit: 11 dBm + 10 log	21.64				
Max Output Power DC corrected	---	24.35	19.82	dBm	na

Power Spectral Density

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Power Spectral Density	---	---	7.47	dBm/1MHz	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Power Spectral Density DC corrected	---	11	7.47	dBm/1MHz	PASS

Verdict
PASS

FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:04:08
Ambit Temp [°C] | Humidity [rel%]	22.4 | 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 ax-HE20 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 ax-HE20
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

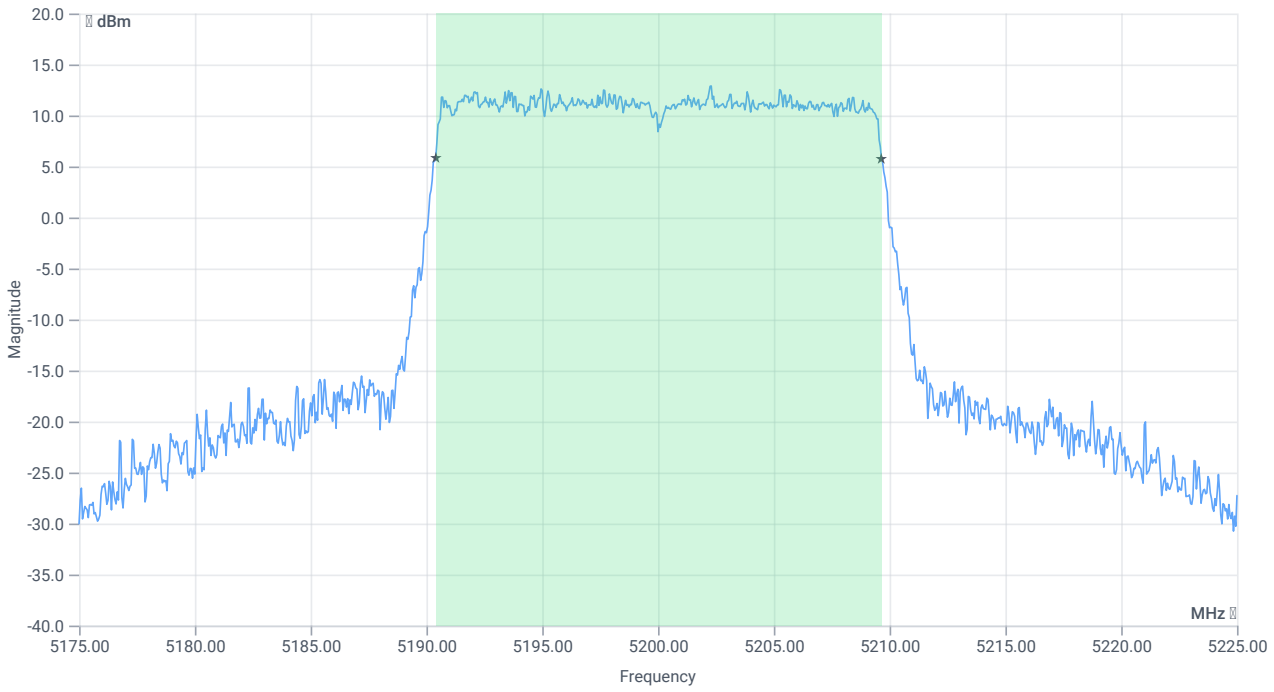
Test at TX 5200 MHz

RESULT: Reference Power cond.

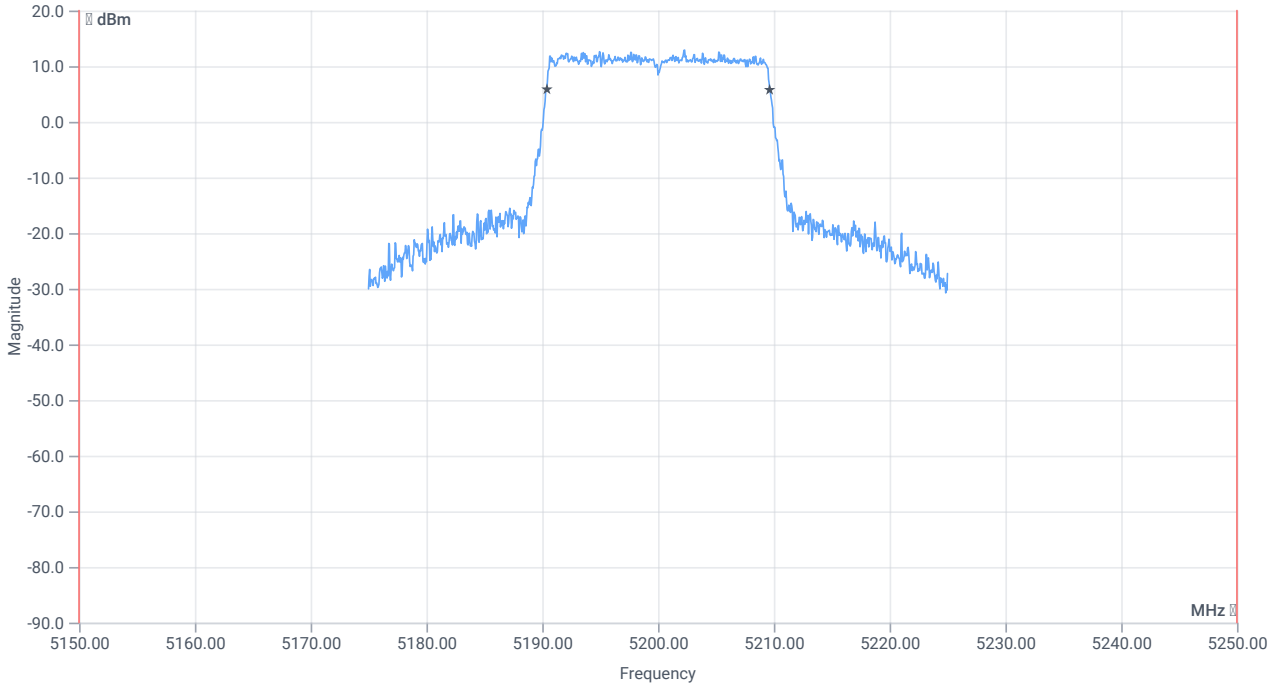
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	16.39	dBm	INFO
Ref. Frequency	---	---	5198.600	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	24.39 | 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



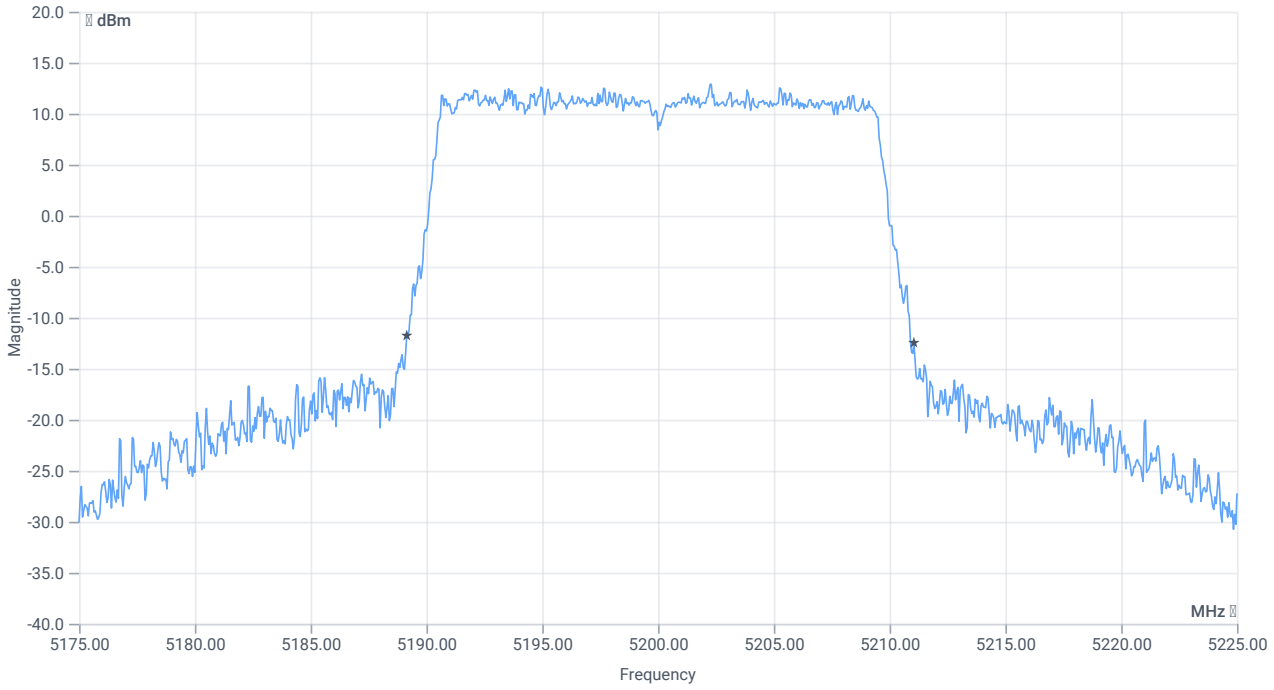
BW 99PCT



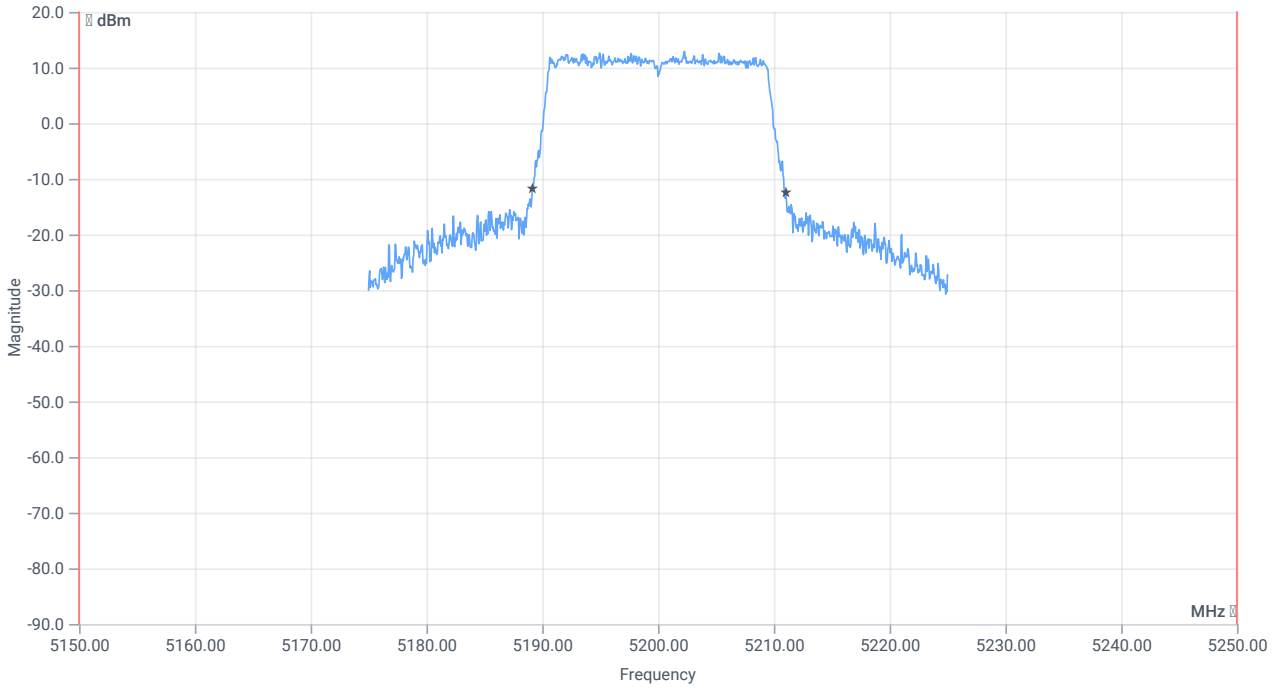
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	19.231	MHz	INFO
T1 99%	5150.000000	---	5190.4096	MHz	PASS
T2 99%	---	5250.000000	5209.6404	MHz	PASS



BW 26dB



BW within Band 26dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.9	MHz	INFO
T1 26dB	5150.000000	---	5189.1500	MHz	PASS
T2 26dB	---	5250.000000	5211.0500	MHz	PASS

Verdict
PASS

FCC 15.407 # Max output power and psd ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:04:43
Ambit Temp [°C] | Humidity [rel%]	22.4 | 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 ax-HE20 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 ax-HE20
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

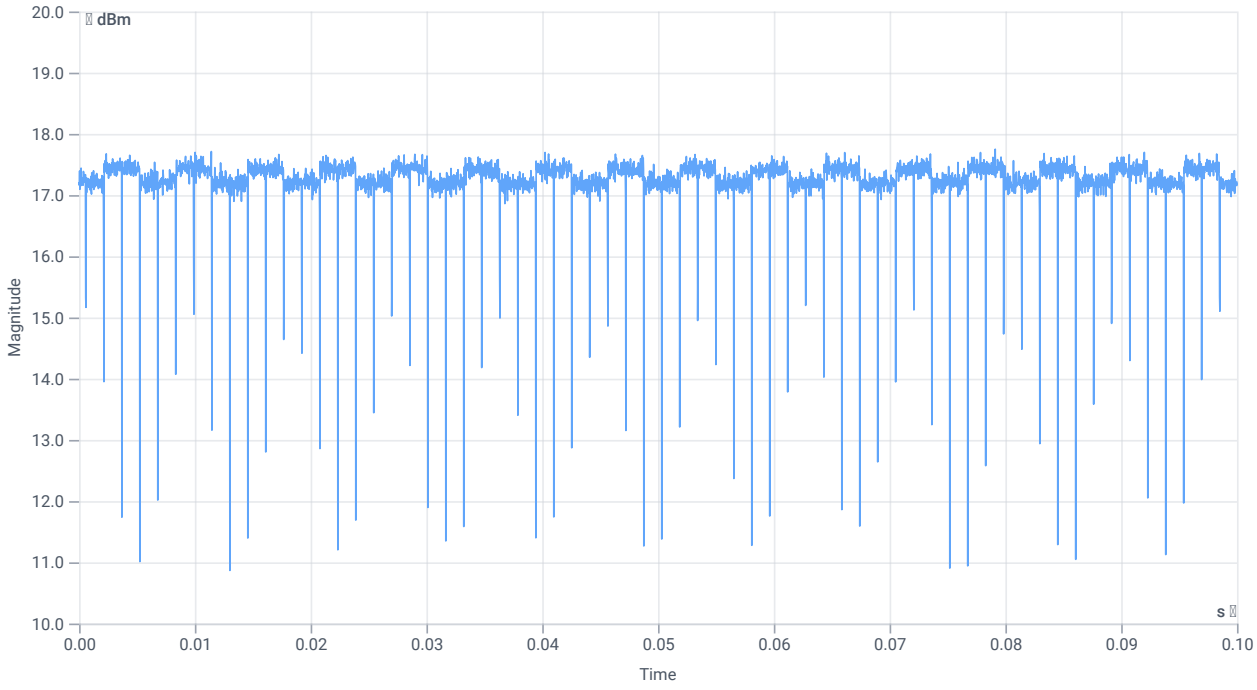
RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	16.73	dBm	INFO
Ref. Frequency	---	---	5198.200	MHz	INFO

Evaluation max. Duty Cycle

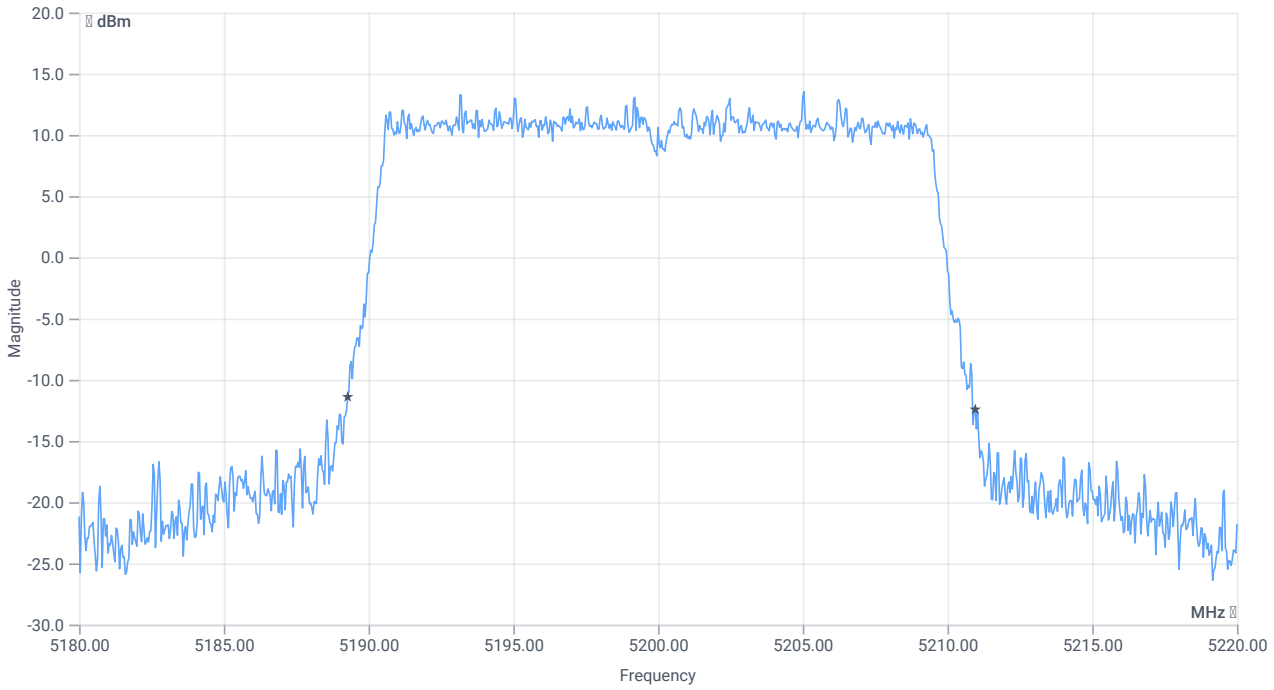
Duty Cycle evaluation

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



Duty cycle

Evaluation Bandwidth



BW 26dB

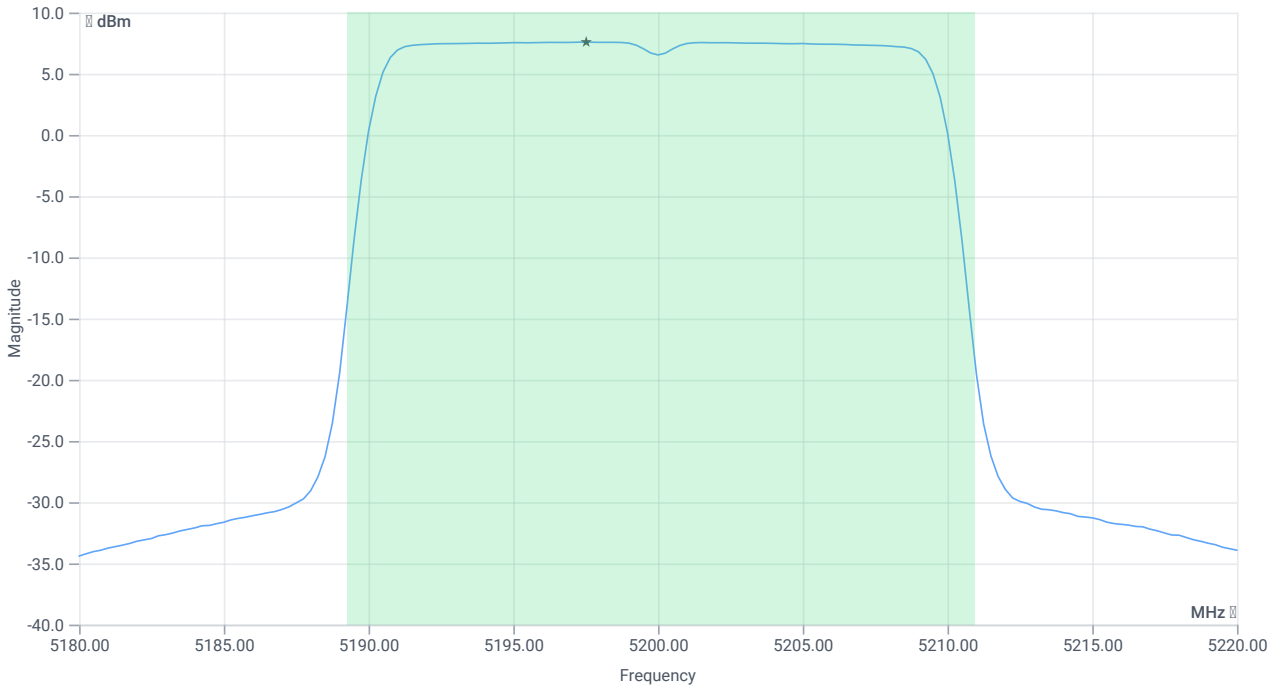
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.68	MHz	INFO
T1 26dB	---	---	5189.2800	MHz	INFO
T2 26dB	---	---	5210.9600	MHz	INFO

Maximum Output Power

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	28.73 | 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	---	---	19.94	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Limit absolute					
Max Output Power DC corrected	---	24	19.94	dBm	PASS
Limit: 11 dBm + 10 log	21.68				
Max Output Power DC corrected	---	24.36	19.94	dBm	na

Power Spectral Density

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Power Spectral Density	---	---	7.59	dBm/1MHz	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Power Spectral Density DC corrected	---	11	7.59	dBm/1MHz	PASS

Verdict
PASS

FCC 15.407, ISED RSS247 # Bandwidths 99PCT and 26dB ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:06:09
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 ax-HE20 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 ax-HE20
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

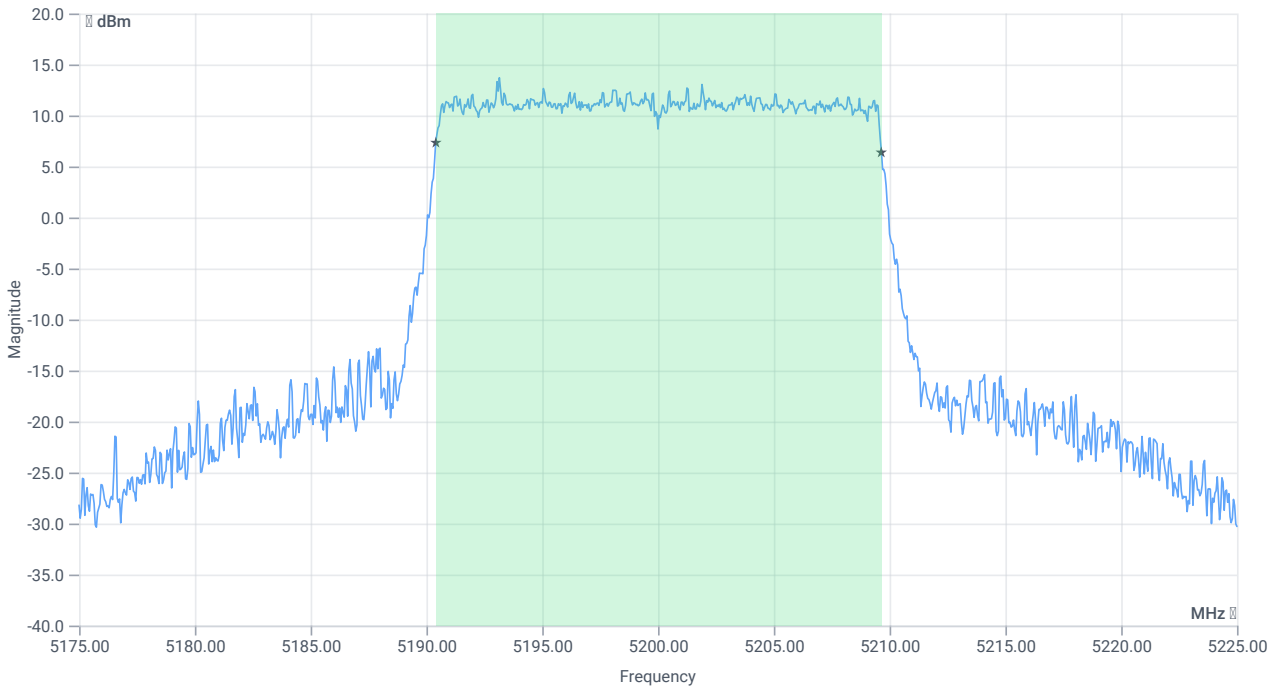
Test at TX 5200 MHz

RESULT: Reference Power cond.

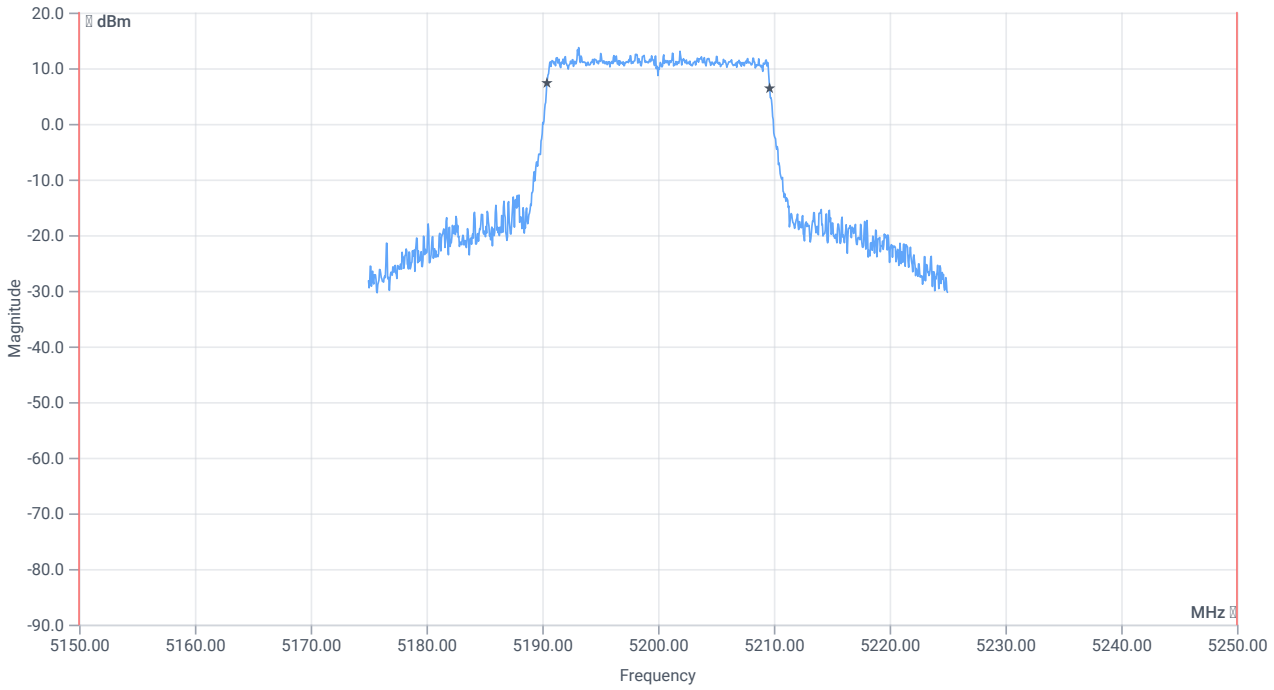
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	18.24	dBm	INFO
Ref. Frequency	---	---	5197.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	26.24 | 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



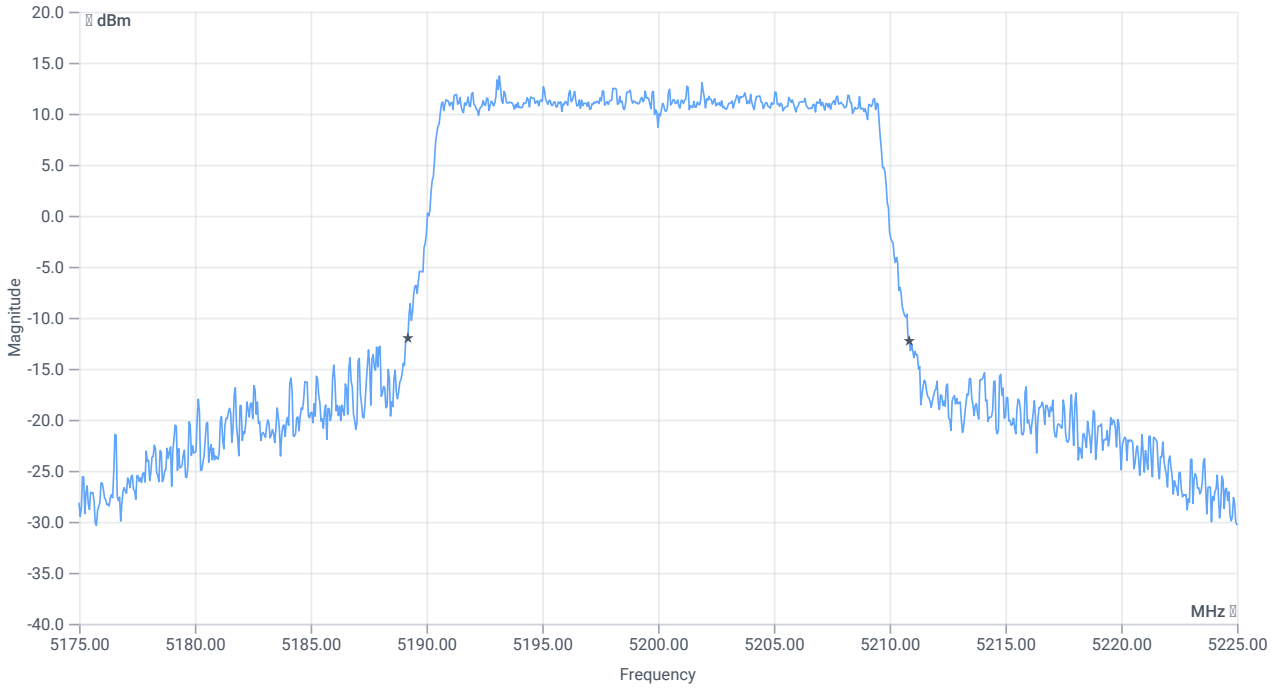
BW 99PCT



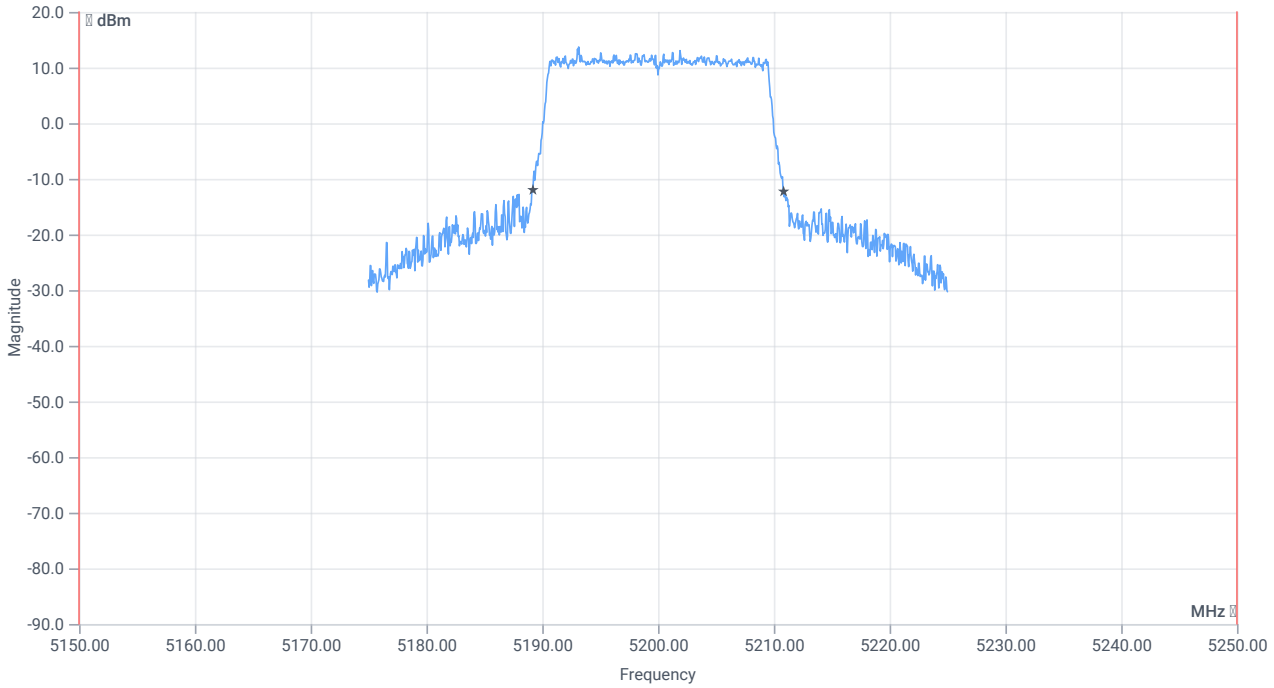
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	19.231	MHz	INFO
T1 99%	5150.000000	---	5190.4096	MHz	PASS
T2 99%	---	5250.000000	5209.6404	MHz	PASS



BW 26dB



BW within Band 26dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 26dB	---	---	21.65	MHz	INFO
T1 26dB	5150.000000	---	5189.2000	MHz	PASS
T2 26dB	---	5250.000000	5210.8500	MHz	PASS

Verdict
PASS

FCC 15.407 # MIMO ∑ Max output power and psd ~ WLAN5Gx ax-HE20 U-NII-1

Test References

TC Start	15.03.2023 10:06:45
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 ∑ FCC Power & psd - WLAN5Gx ax-HE20 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 ax-HE20
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	---	---	19.82	dBm	INFO
Ant:1 BW 26dB	---	---	21.640	MHz	INFO
Ant:2 Max Output Power DC corrected	---	---	19.94	dBm	INFO
Ant:2 BW 26dB	---	---	21.680	MHz	INFO
∑ Limit absolute	---	24	22.89	dBm	PASS
∑ Limit: 11 dBm + 10 log 21.64	---	24.35	22.89	dBm	na

RESULT PSD

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ant:1 PSD	---	---	7.47	dBm/1MHz	INFO
Ant:2 PSD	---	---	7.59	dBm/1MHz	INFO
∑	---	11	10.54	dBm/1MHz	PASS

Verdict
PASS

- END OF DOCUMENT -