

Measurement Results

No.1-5761/23-01-04_Annex_MR5

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Document authorized:

p.o.

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Radio Communications

FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:22:47
Ambit Temp [°C] Humidity [rel%]	23.3 23
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
TC Version	0.0.1
My Description	FCC 15.247 Max Peak Output Power Powermeter Conducted DTS - WLAN2G4 ax-HE20

Add. Information

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - PowerMeter

Test Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2462 MHz

RESULT

<i>Test Description</i>	<i>Lower Limit</i>	<i>Upper Limit</i>	<i>Measured</i>	<i>Unit</i>	<i>Verdict</i>
Found Peak cond.	--	--	25.44	dBm	PASS

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:16:07
Ambit Temp [°C] Humidity [rel%]	23.2 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

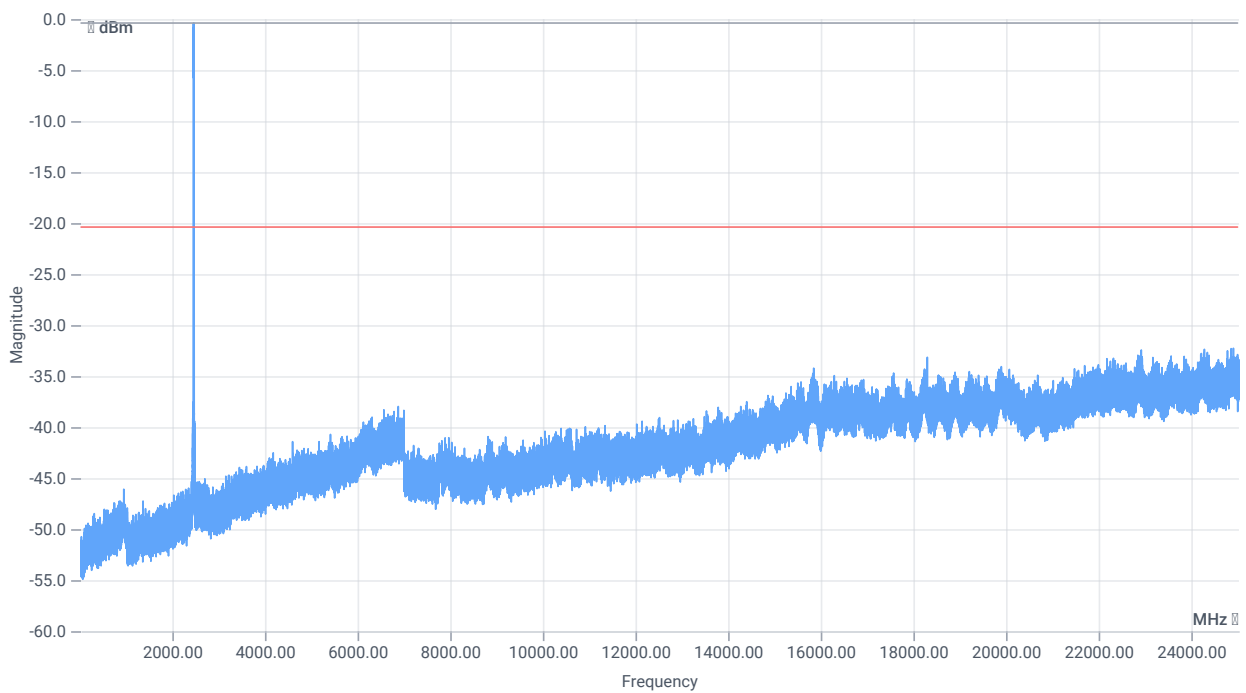
Test Equipment

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

Test at TX 2462 MHz

RESULT: Reference Power cond.

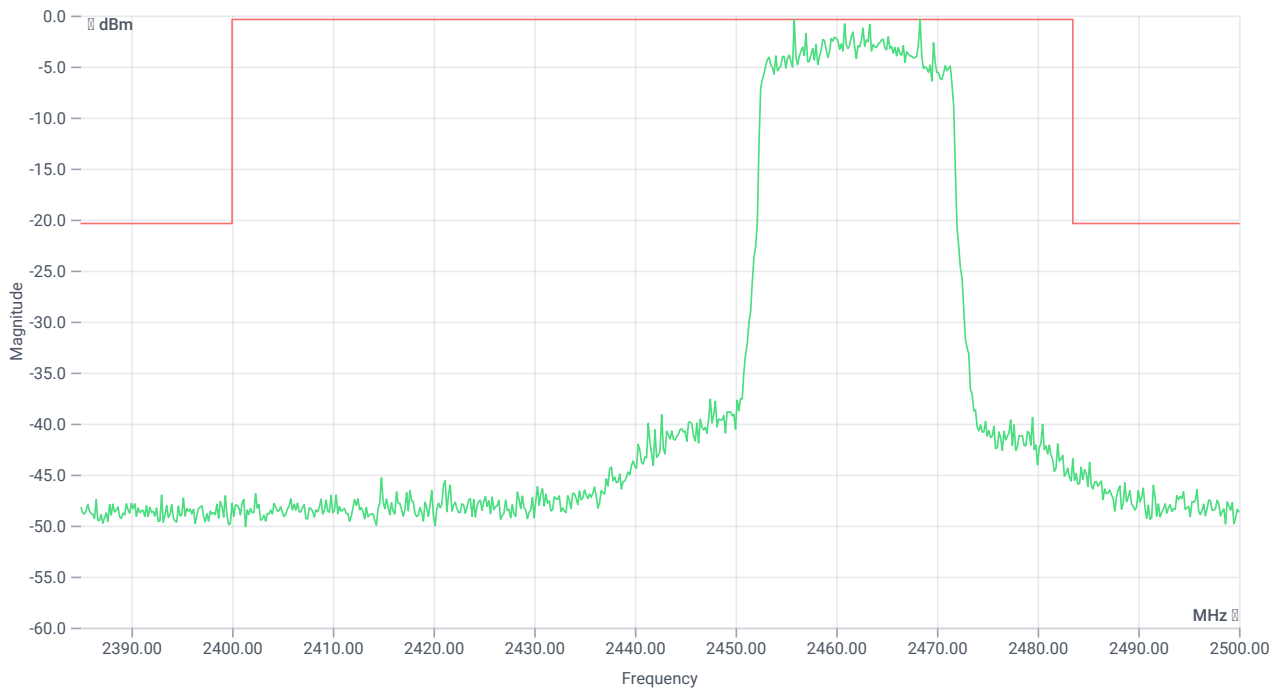
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.85	dBm	INFO
Ref. Frequency	--	--	2460.900	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	10.85 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 25 3001 SWE



TX emissions band zoomed

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2468.33 MHz	--	--	-0.39	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24910.333 MHz	0	--	11.88	dB	INFO

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:15:31
Ambit Temp [°C] Humidity [rel%]	23.1 24
System Version	3.3.4.3
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

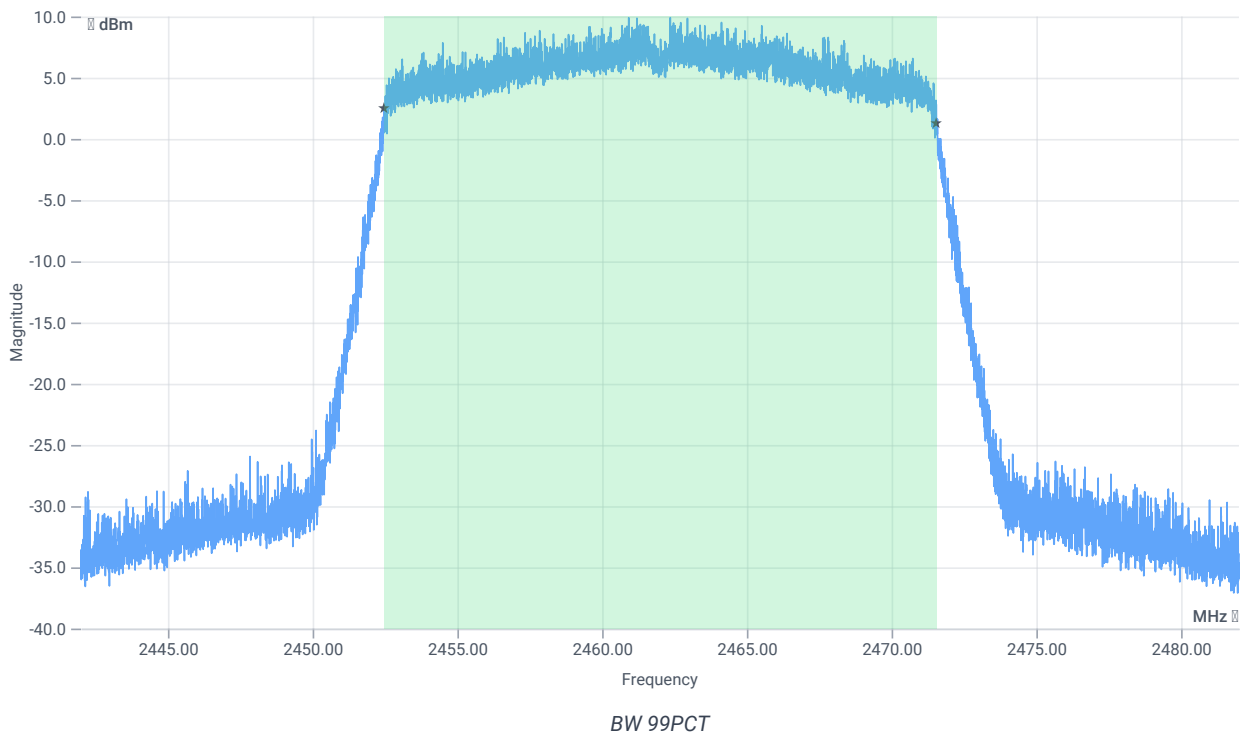
Test at TX 2462 MHz

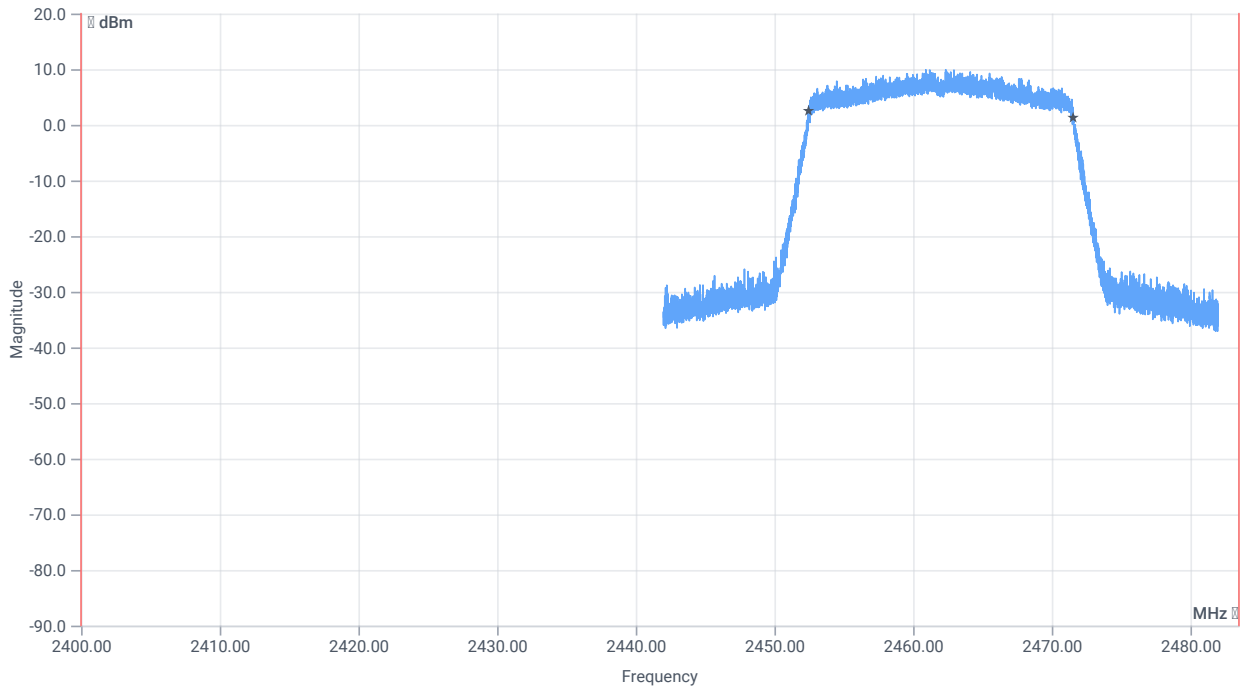
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.12	dBm	INFO
Ref. Frequency	--	--	2453.310	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.12 14.04 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.500000 2.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

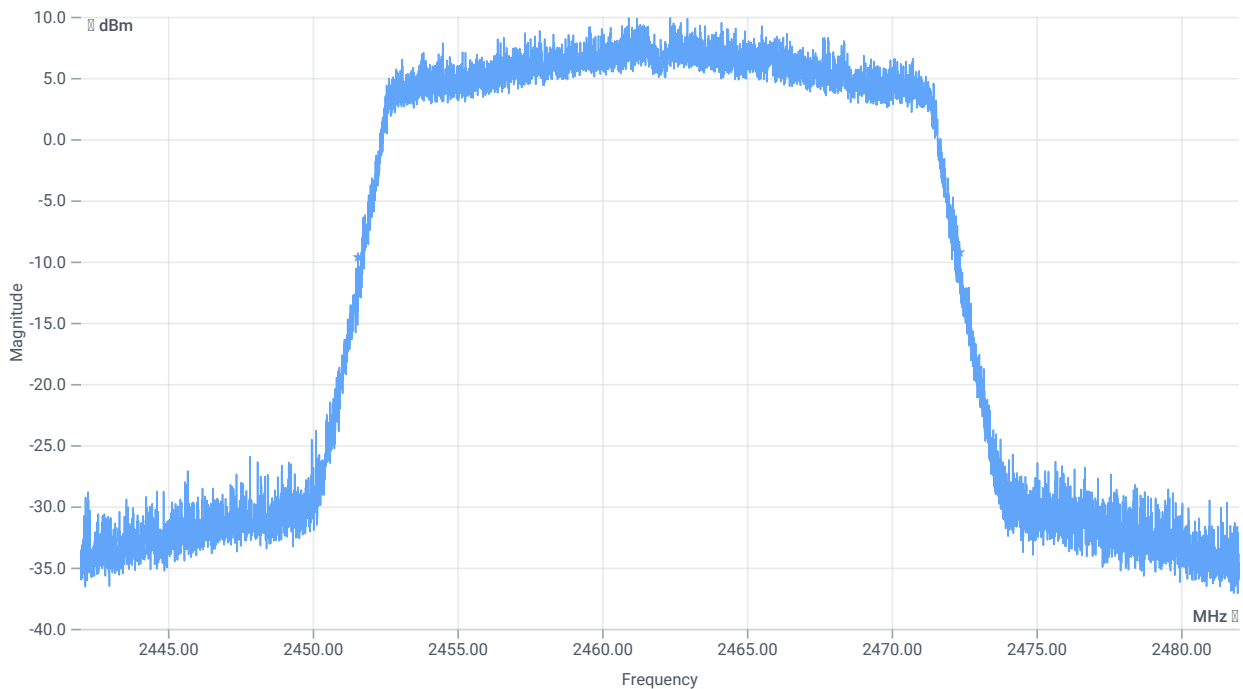




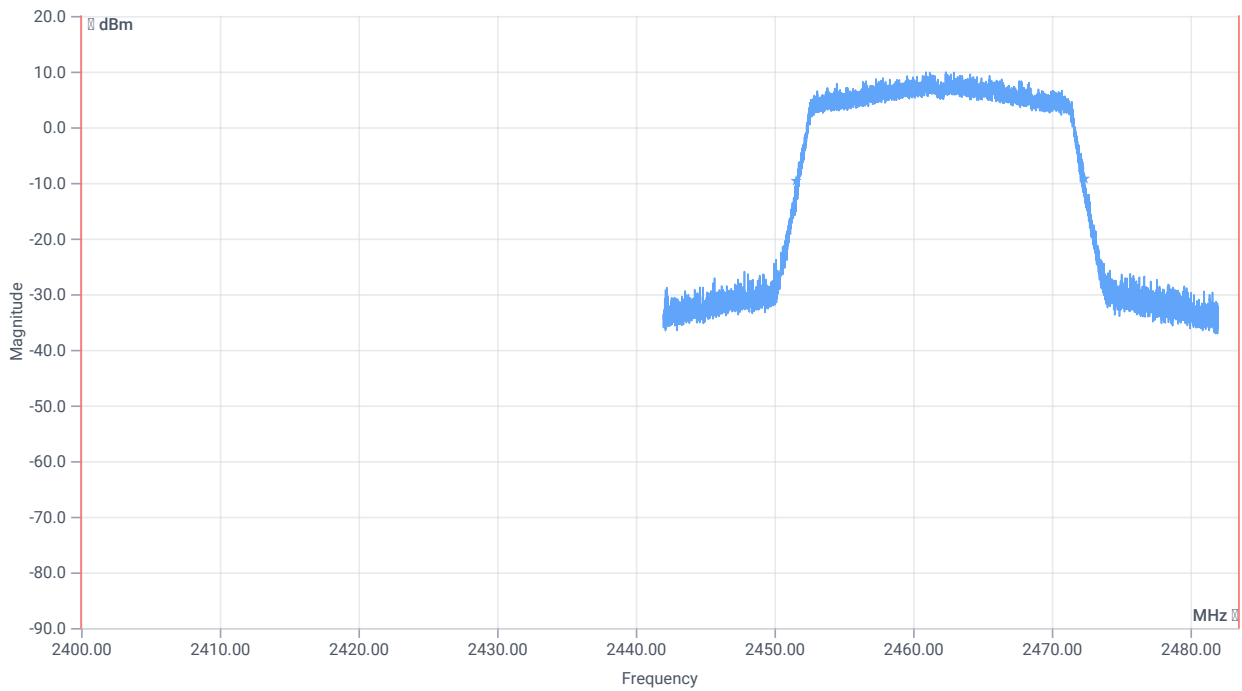
BW within Band 99PCT

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	19078.000	kHz	INFO
T1 99%	2400.000000	--	2452.4610	MHz	PASS
T2 99%	--	2483.500000	2471.5390	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	20788	kHz	INFO
T1 20DB	2400.000000	--	2451.5680	MHz	PASS
T2 20dB	--	2483.500000	2472.3560	MHz	PASS

Verdict

PASS

FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:14:50
Ambit Temp [°C] Humidity [rel%]	23.2 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

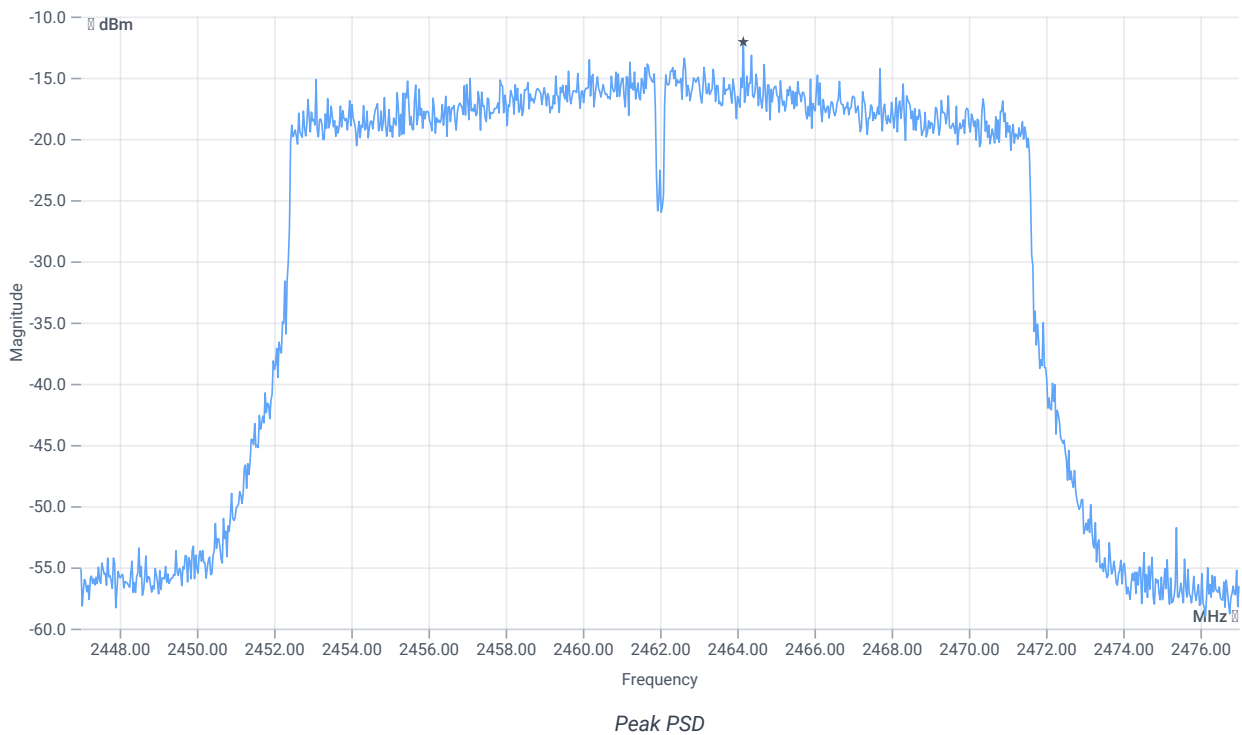
Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	10.39	dBm	INFO
Ref. Frequency	---	---	2460.000	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.39 14.04 20
Start [MHz] Stop [MHz]	2447.000 2477.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-12.08	dBm/3KHz	PASS

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:14:17
Ambit Temp [°C] Humidity [rel%]	23.2 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

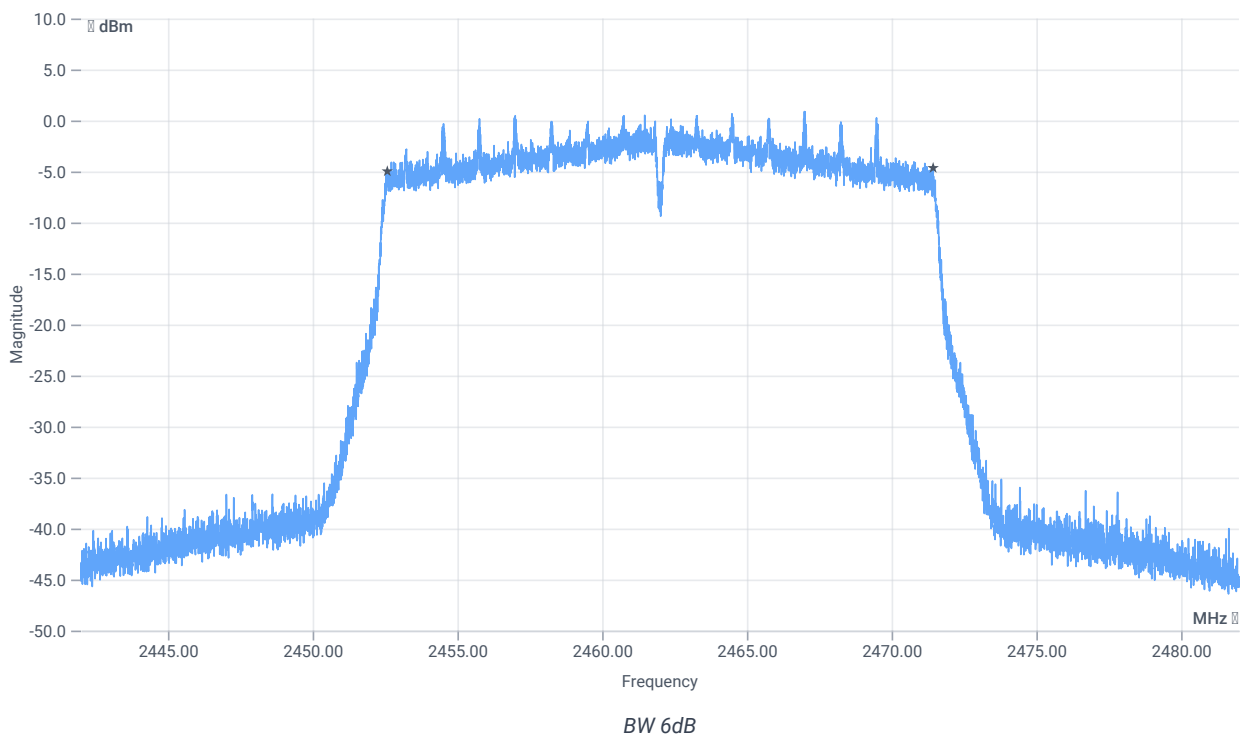
Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	11.77	dBm	INFO
Ref. Frequency	--	--	2461.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.77 14.04 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	--	18856	kHz	PASS

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:13:35
Ambit Temp [°C] Humidity [rel%]	23.2 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
TC Version	0.0.1
My Description	FCC 15.247 Max Peak Output Power Powermeter Conducted DTS - WLAN2G4 ax-HE20

Add. Information

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - PowerMeter

Test Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2462 MHz

RESULT

<i>Test Description</i>	<i>Lower Limit</i>	<i>Upper Limit</i>	<i>Measured</i>	<i>Unit</i>	<i>Verdict</i>
Found Peak cond.	--	--	25.18	dBm	PASS

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:06:55
Ambit Temp [°C] Humidity [rel%]	23.1 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

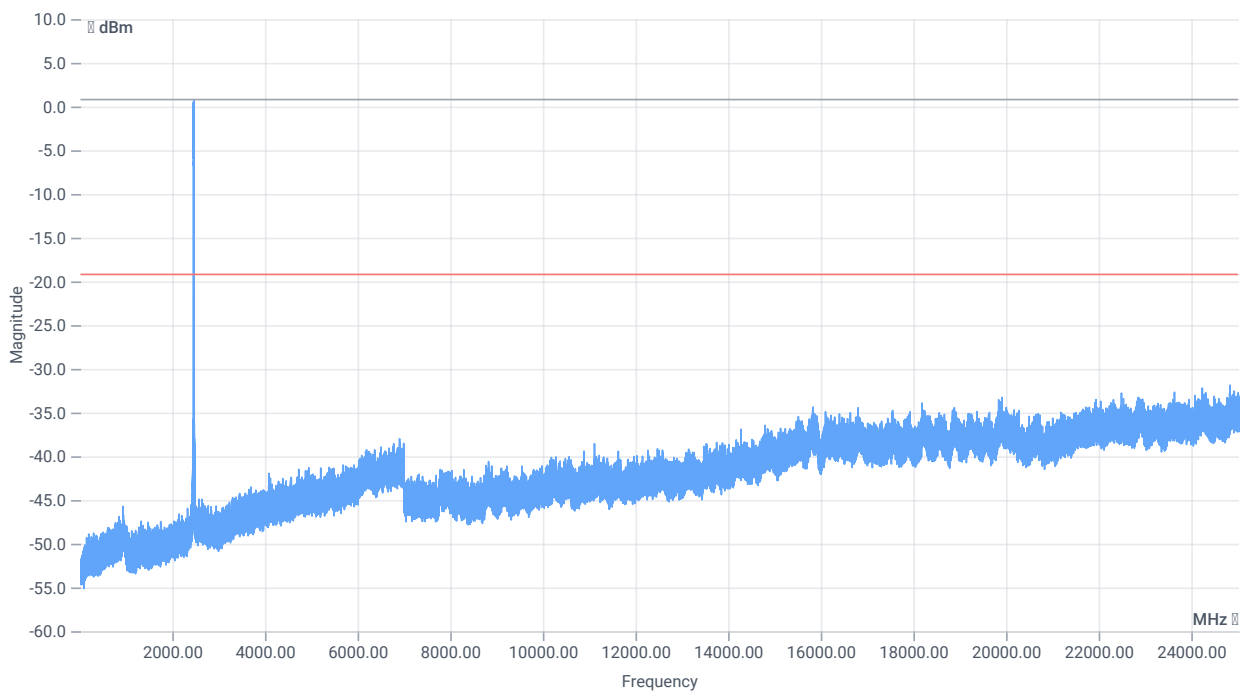
Test Equipment

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

Test at TX 2462 MHz

RESULT: Reference Power cond.

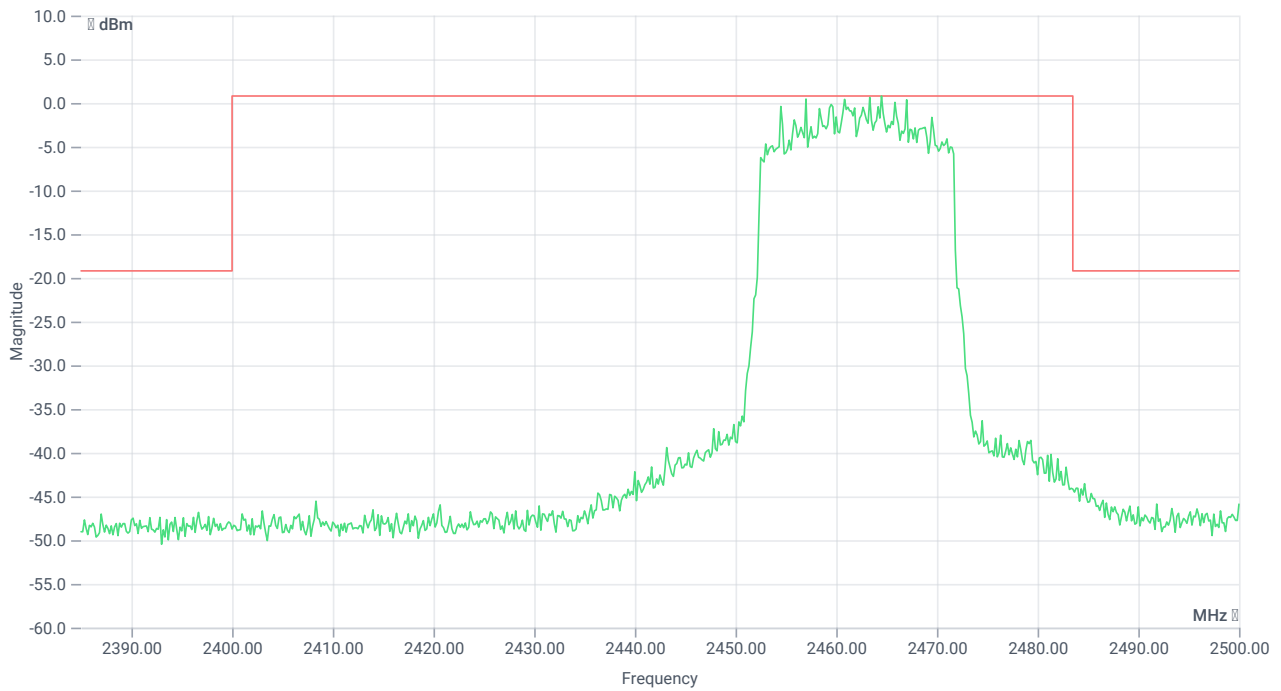
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	11.01	dBm	INFO
Ref. Frequency	--	--	2463.000	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	11.01 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 25 3001 SWE



TX emissions band zoomed

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2464.50 MHz	--	--	0.80	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24839 MHz	0	--	12.66	dB	INFO

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:06:19
Ambit Temp [°C] Humidity [rel%]	23.2 24
System Version	3.3.4.3
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

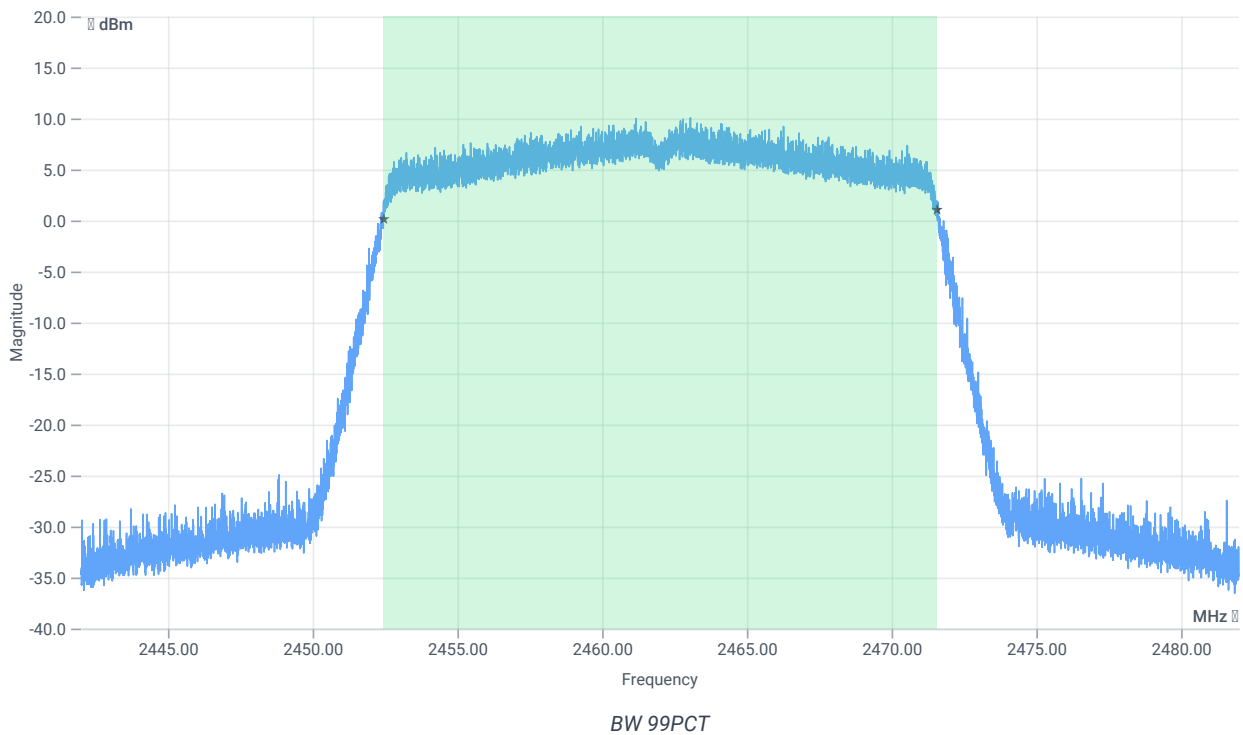
Test at TX 2462 MHz

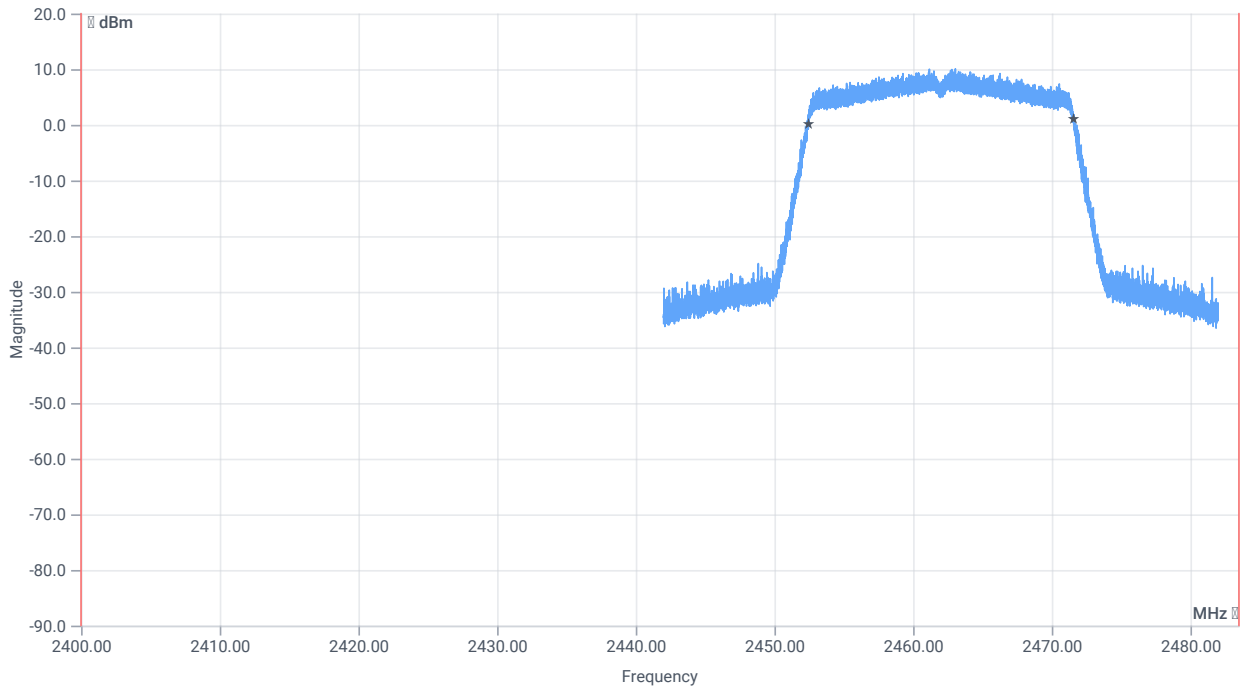
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.38	dBm	INFO
Ref. Frequency	--	--	2461.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.38 14.04 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.500000 2.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

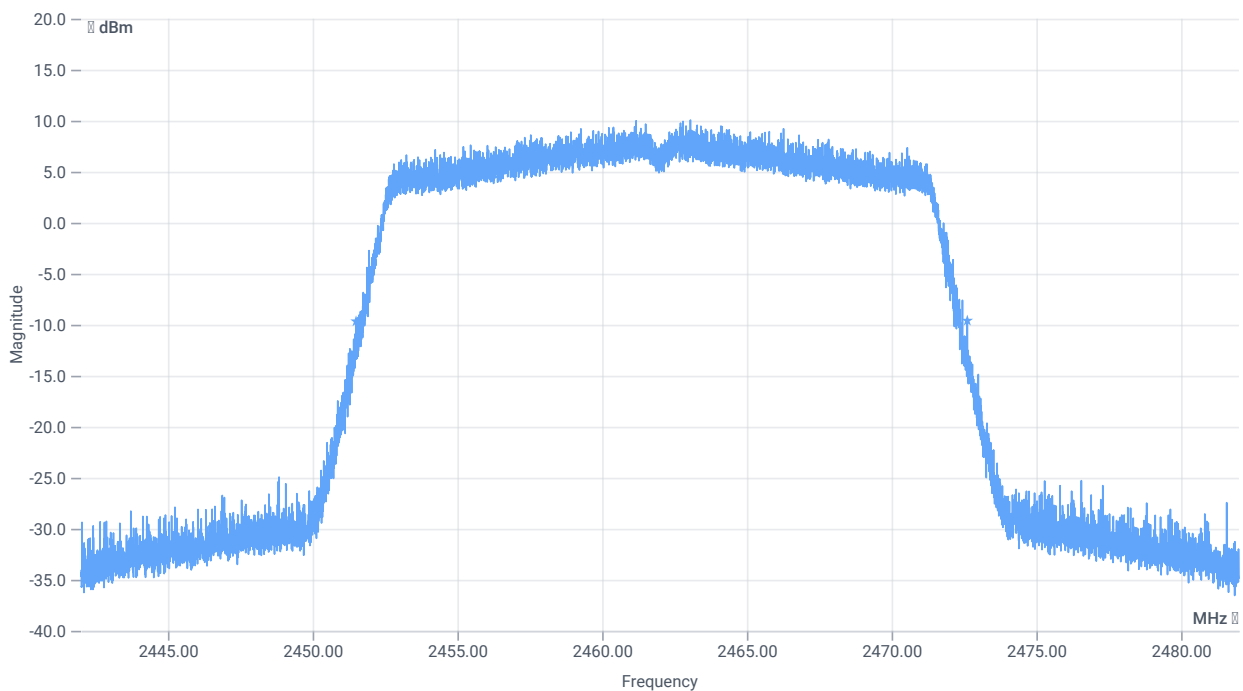




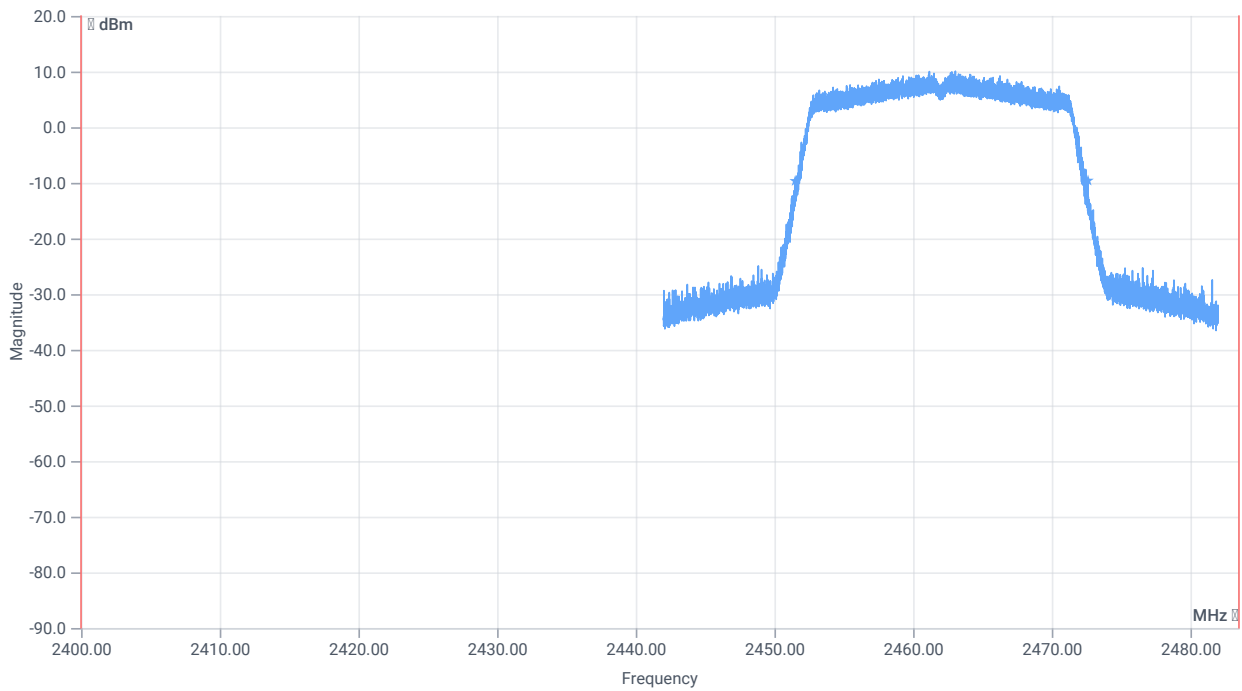
BW within Band 99PCT

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	19110.000	kHz	INFO
T1 99%	2400.000000	--	2452.4610	MHz	PASS
T2 99%	--	2483.500000	2471.5710	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	21116	kHz	INFO
T1 20dB	2400.000000	--	2451.5000	MHz	PASS
T2 20dB	--	2483.500000	2472.6160	MHz	PASS

Verdict

PASS

FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:05:38
Ambit Temp [°C] Humidity [rel%]	23.1 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

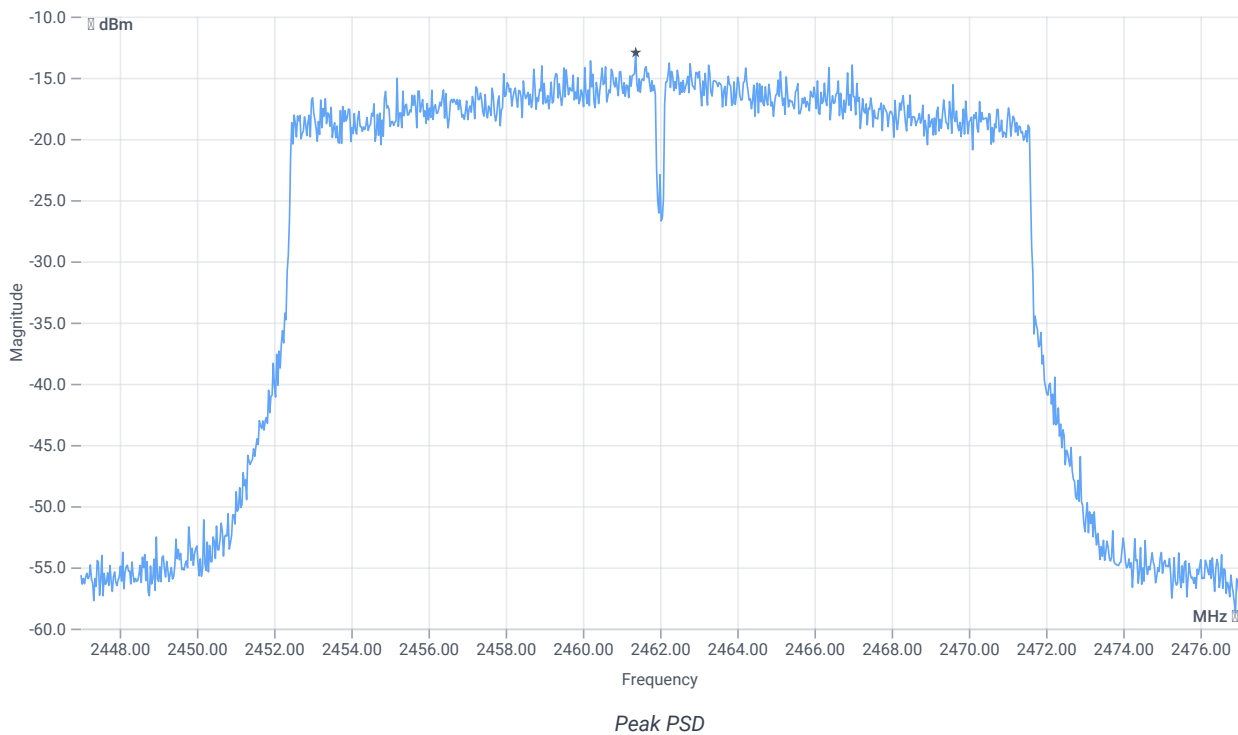
Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	10.55	dBm	INFO
Ref. Frequency	---	---	2462.700	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.55 14.04 20
Start [MHz] Stop [MHz]	2447.000 2477.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-12.95	dBm/3KHz	PASS

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:05:05
Ambit Temp [°C] Humidity [rel%]	23.1 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

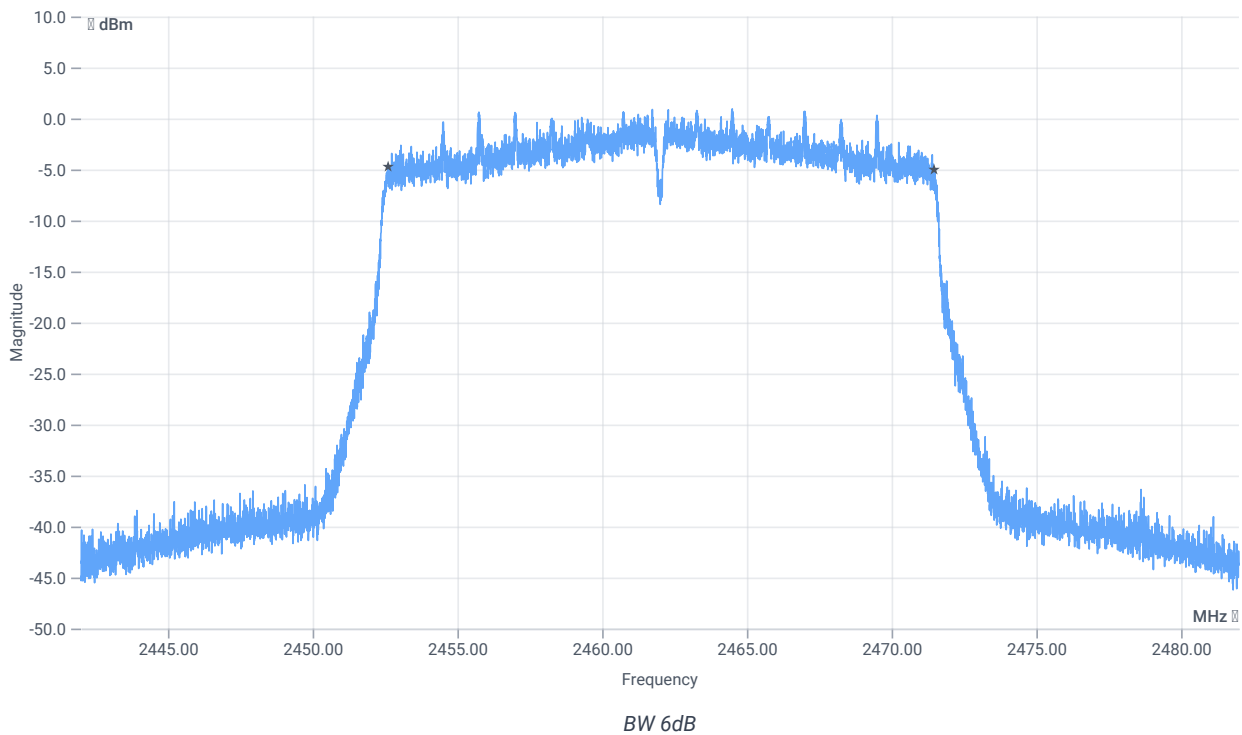
Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.28	dBm	INFO
Ref. Frequency	--	--	2464.000	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.28 14.04 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	--	18860	kHz	PASS

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 10:02:51
Ambit Temp [°C] Humidity [rel%]	23.1 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
TC Version	0.0.1
My Description	FCC 15.247 Max Peak Output Power Powermeter Conducted DTS - WLAN2G4 ax-HE20

Add. Information

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - PowerMeter

Test Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT

<i>Test Description</i>	<i>Lower Limit</i>	<i>Upper Limit</i>	<i>Measured</i>	<i>Unit</i>	<i>Verdict</i>
Found Peak cond.	--	--	25.89	dBm	PASS

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:56:12
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

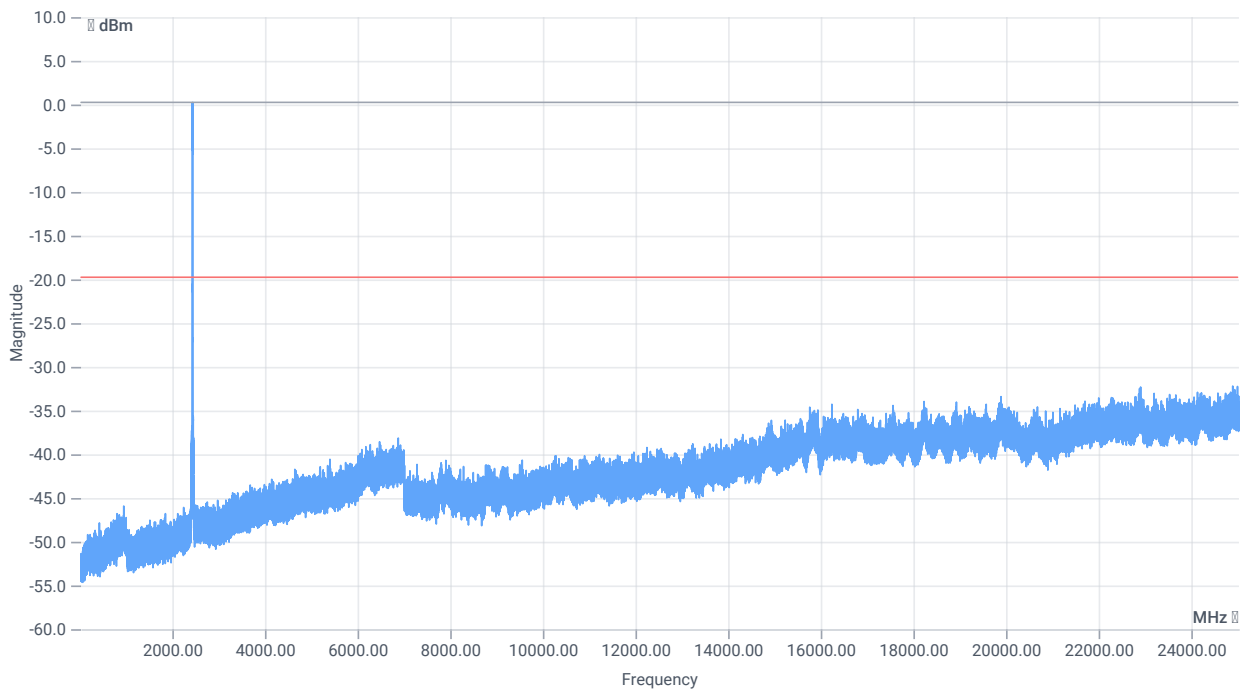
Test Equipment

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

Test at TX 2437 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	11.88	dBm	INFO
Ref. Frequency	--	--	2442.890	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	11.88 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 25 3001 SWE



TX emissions band zoomed

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2439.50 MHz	--	--	0.25	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24895.5 MHz	0	--	12.45	dB	INFO

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:55:35
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

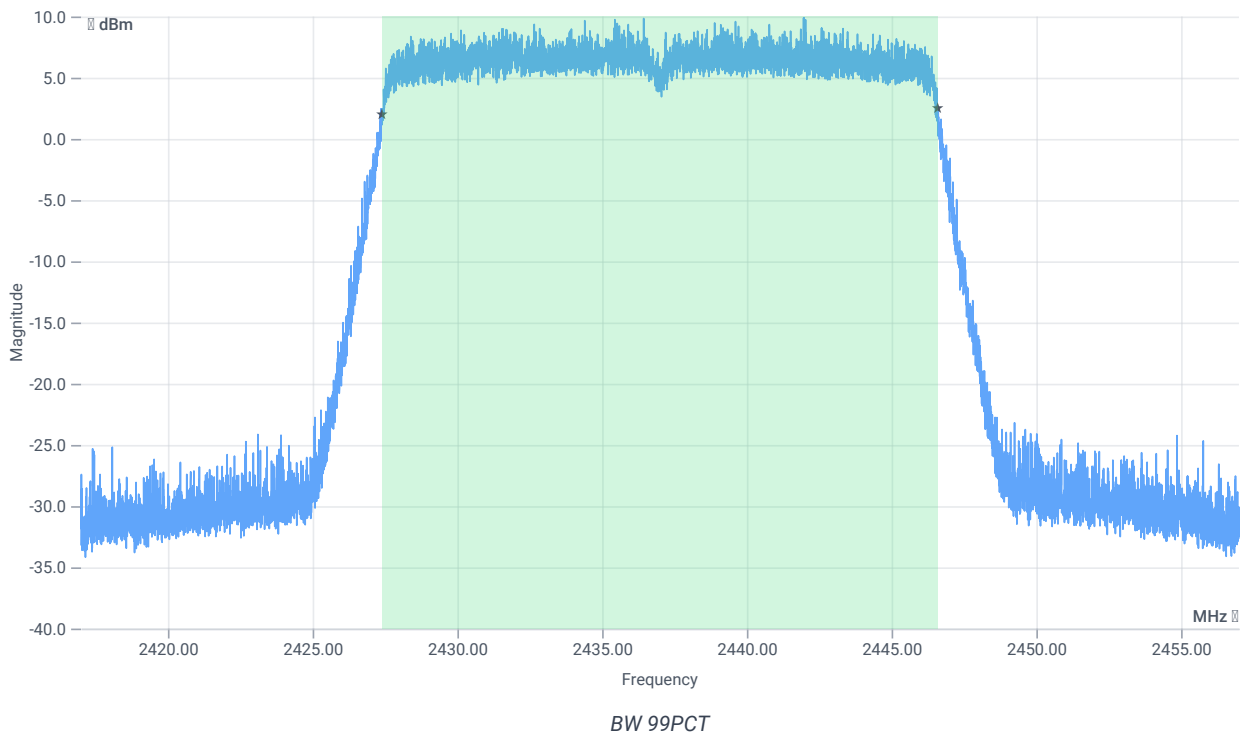
Test at TX 2437 MHz

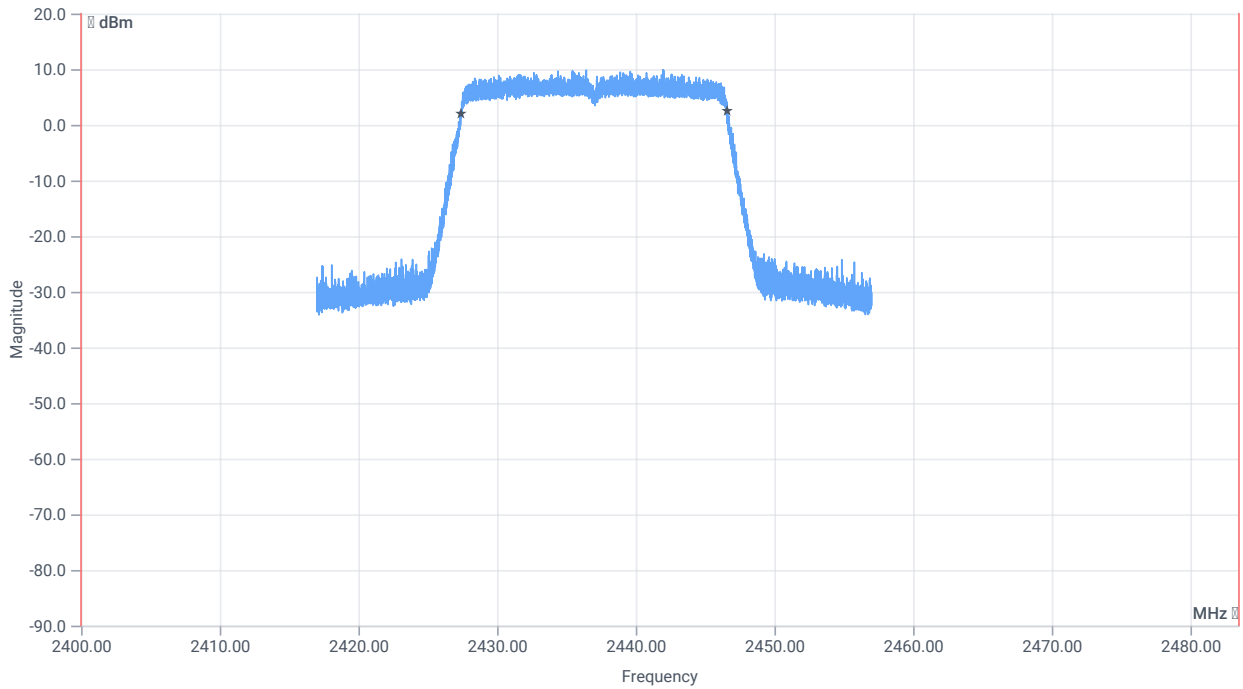
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	12.75	dBm	INFO
Ref. Frequency	--	--	2433.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	17.75 14.2 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.500000 2.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

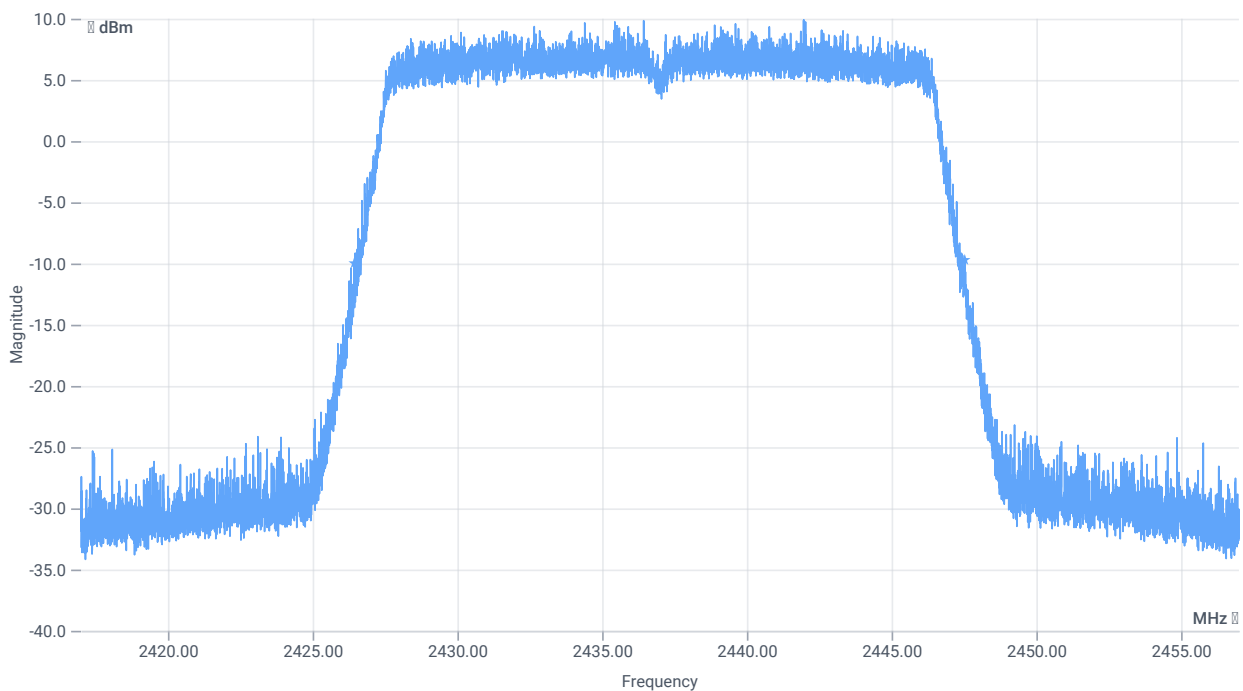




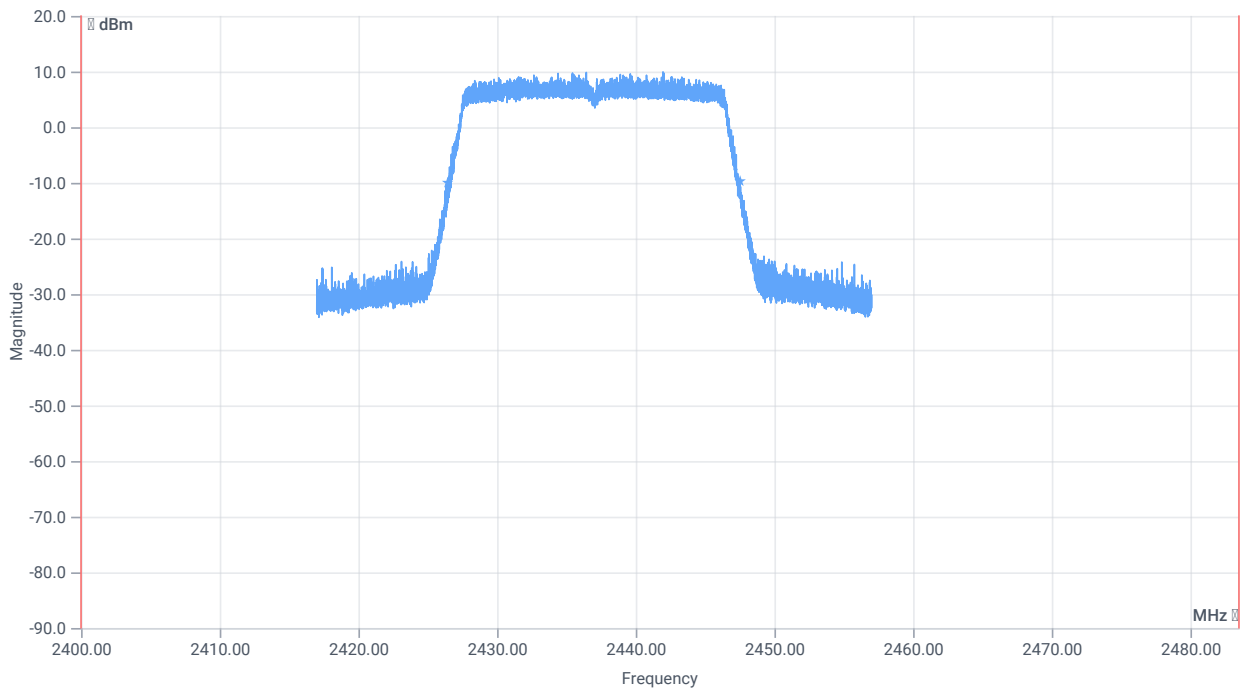
BW within Band 99PCT

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	19198.000	kHz	INFO
T1 99%	2400.000000	--	2427.3930	MHz	PASS
T2 99%	--	2483.500000	2446.5910	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	21092	kHz	INFO
T1 20DB	2400.000000	--	2426.4360	MHz	PASS
T2 20dB	--	2483.500000	2447.5280	MHz	PASS

Verdict

PASS

FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:54:54
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

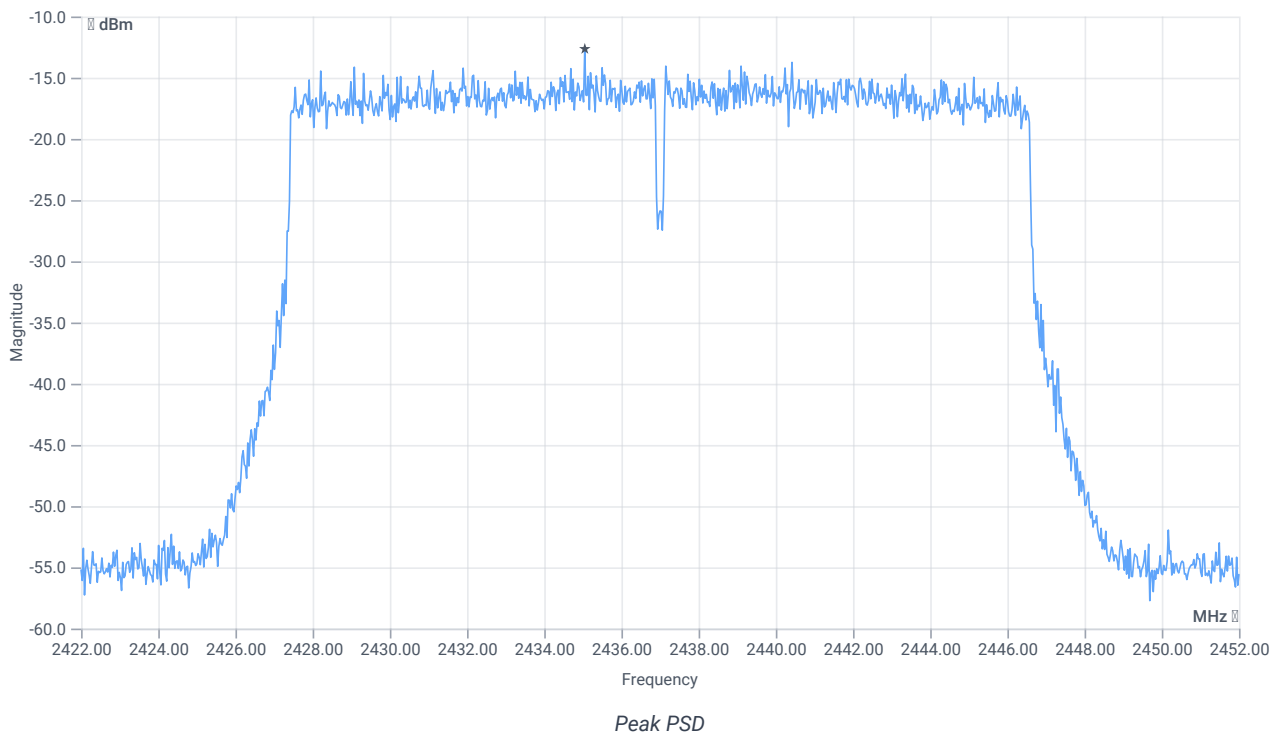
Test at TX 2437 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	11.04	dBm	INFO
Ref. Frequency	--	--	2443.190	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.04 14.2 20
Start [MHz] Stop [MHz]	2422.000 2452.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	--	8	-12.65	dBm/3KHz	PASS

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:54:21
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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

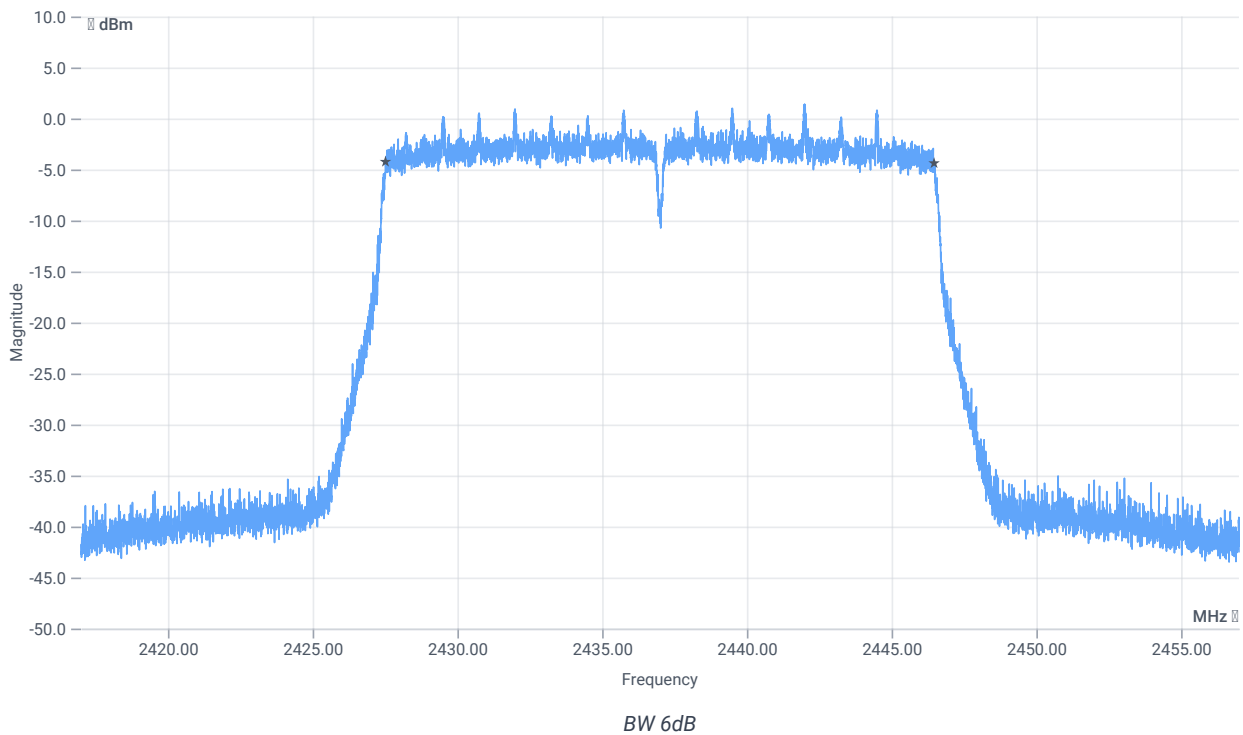
Test at TX 2437 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.60	dBm	INFO
Ref. Frequency	--	--	2435.700	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.60 14.2 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	--	18952	kHz	PASS

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:53:40
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
TC Version	0.0.1
My Description	FCC 15.247 Max Peak Output Power Powermeter Conducted DTS - WLAN2G4 ax-HE20

Add. Information

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - PowerMeter

Test Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT

<i>Test Description</i>	<i>Lower Limit</i>	<i>Upper Limit</i>	<i>Measured</i>	<i>Unit</i>	<i>Verdict</i>
Found Peak cond.	--	--	25.72	dBm	PASS

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 ax-HE20

Test References

TC Start	08.02.2023 09:47:00
Ambit Temp [°C] Humidity [rel%]	23.0 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 ax-HE20
Add. Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 ax-HE20
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7
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