

# Measurement Results

No.1-5761/23-01-04\_Annex\_MR3

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## Test logging

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Lab Manager  
Radio Communications

## FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 09:16:53
Ambit Temp [°C]   Humidity [rel%]	22.8   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 n-HT20 mode

Add. Information

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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.	--	--	25.3	dBm	PASS

Verdict

PASS

# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 09:10:13
Ambit Temp [°C]   Humidity [rel%]	22.7   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

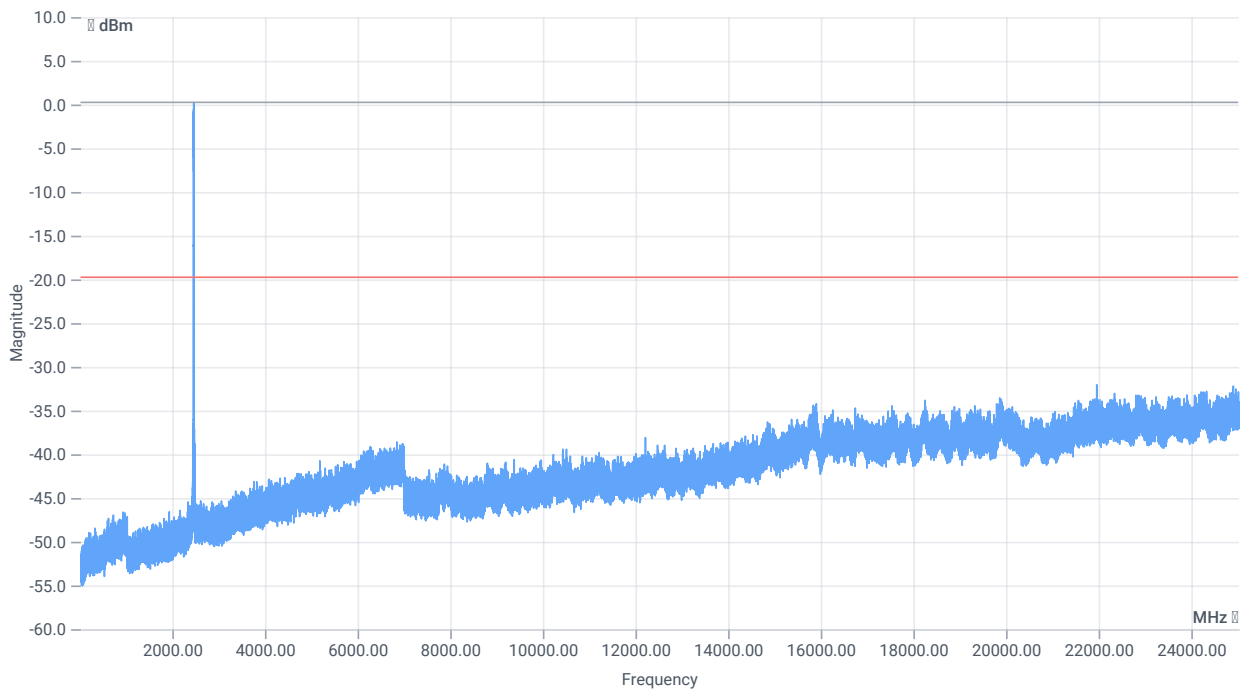
## Test Equipment

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.

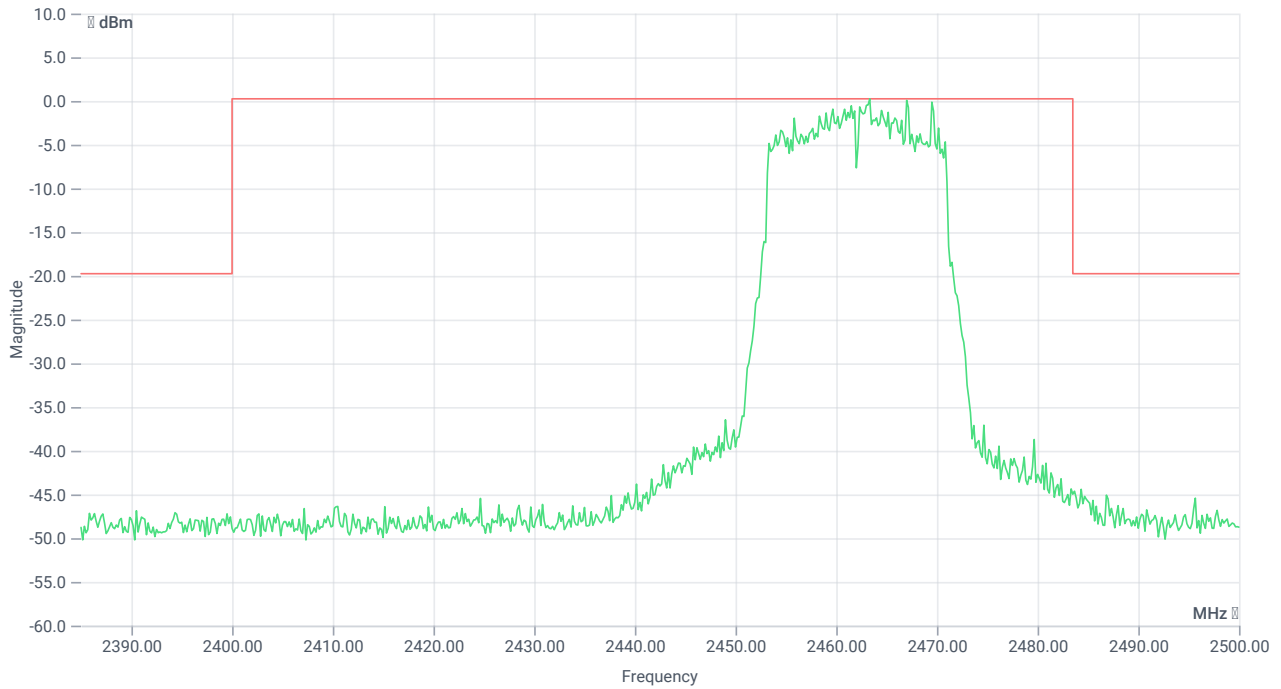
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.55	dBm	INFO
Ref. Frequency	--	--	2461.400	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	10.55   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 @ 2463.33 MHz	--	--	0.25	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 21959.833 MHz	0	--	12.3	dB	INFO

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 09:09:37
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode
Add. Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

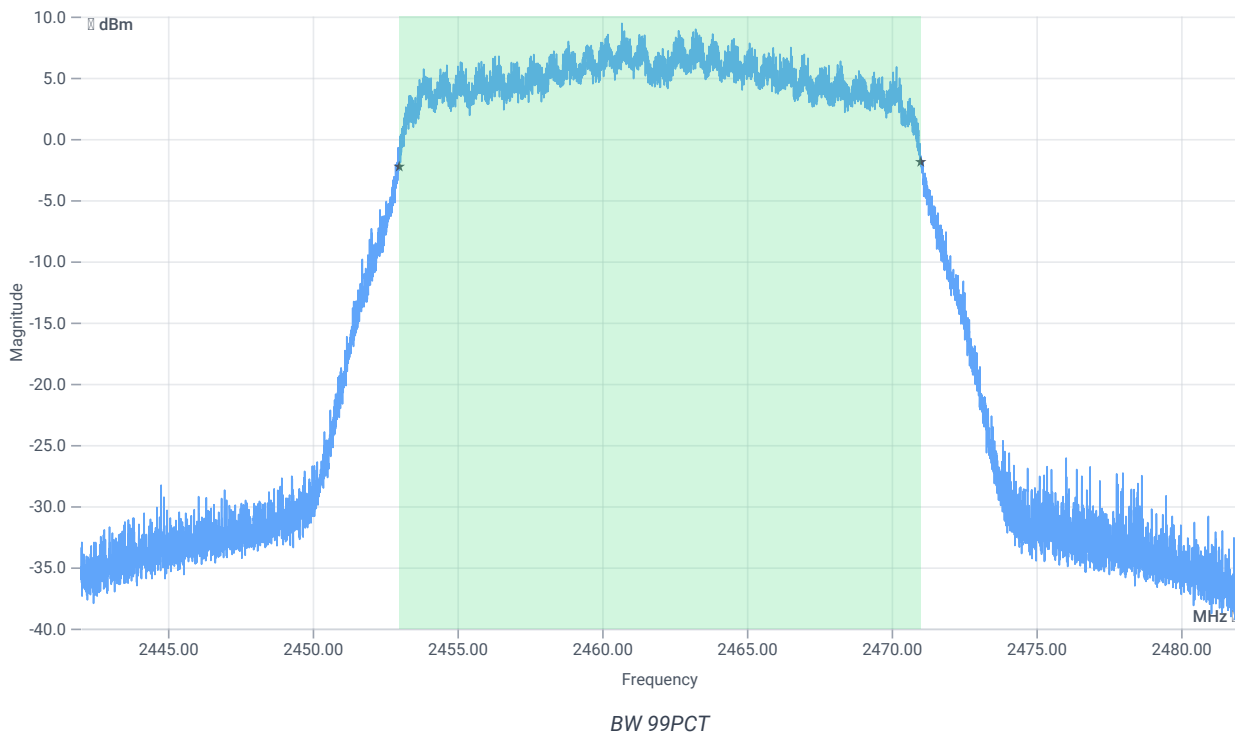
## Test at TX 2462 MHz

RESULT: Reference Power cond.

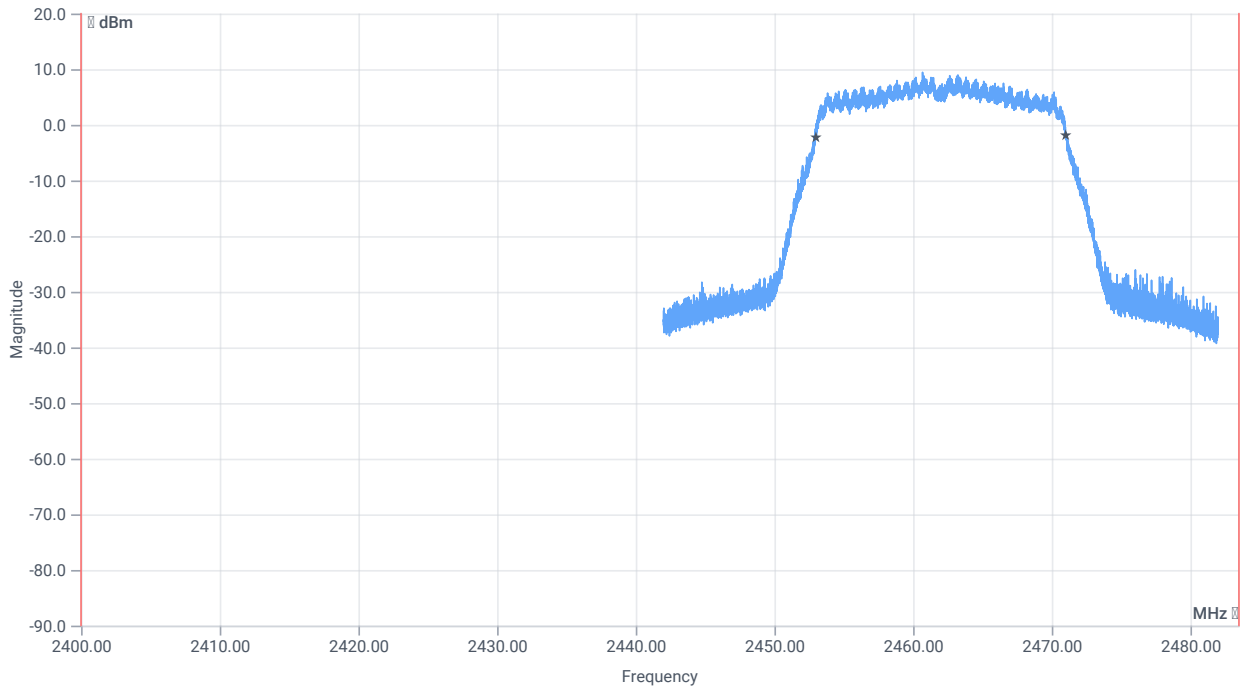
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.20	dBm	INFO
Ref. Frequency	--	--	2460.300	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	15.20   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



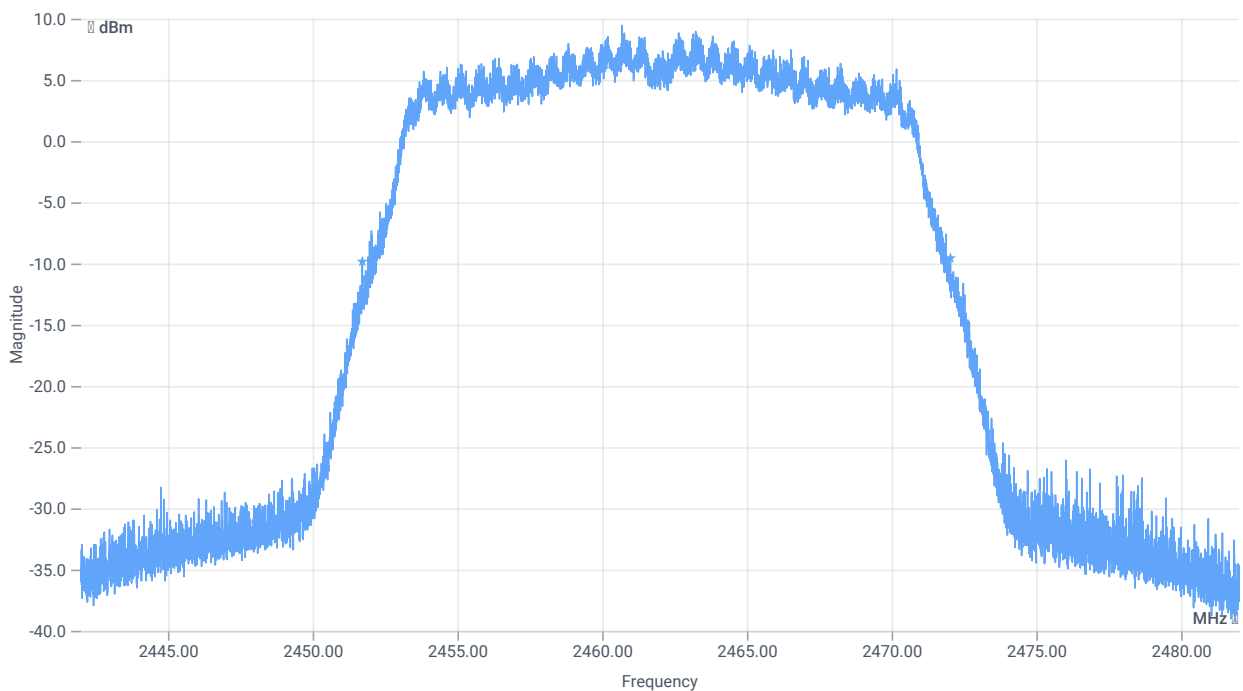




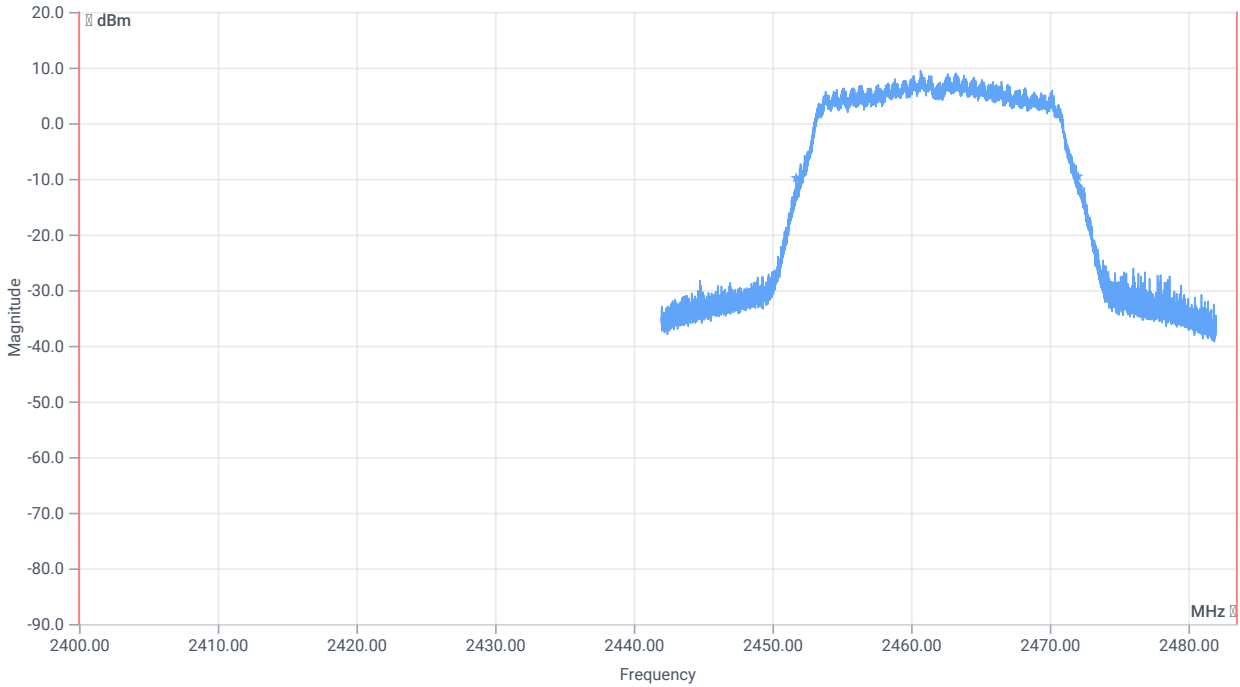
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18014.000	kHz	INFO
T1 99%	2400.000000	--	2452.9929	MHz	PASS
T2 99%	--	2483.500000	2471.0071	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	20316	kHz	INFO
T1 20DB	2400.000000	--	2451.7160	MHz	PASS
T2 20dB	--	2483.500000	2472.0320	MHz	PASS

Verdict

PASS

# FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 09:08:56
Ambit Temp [°C]   Humidity [rel%]	22.7   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

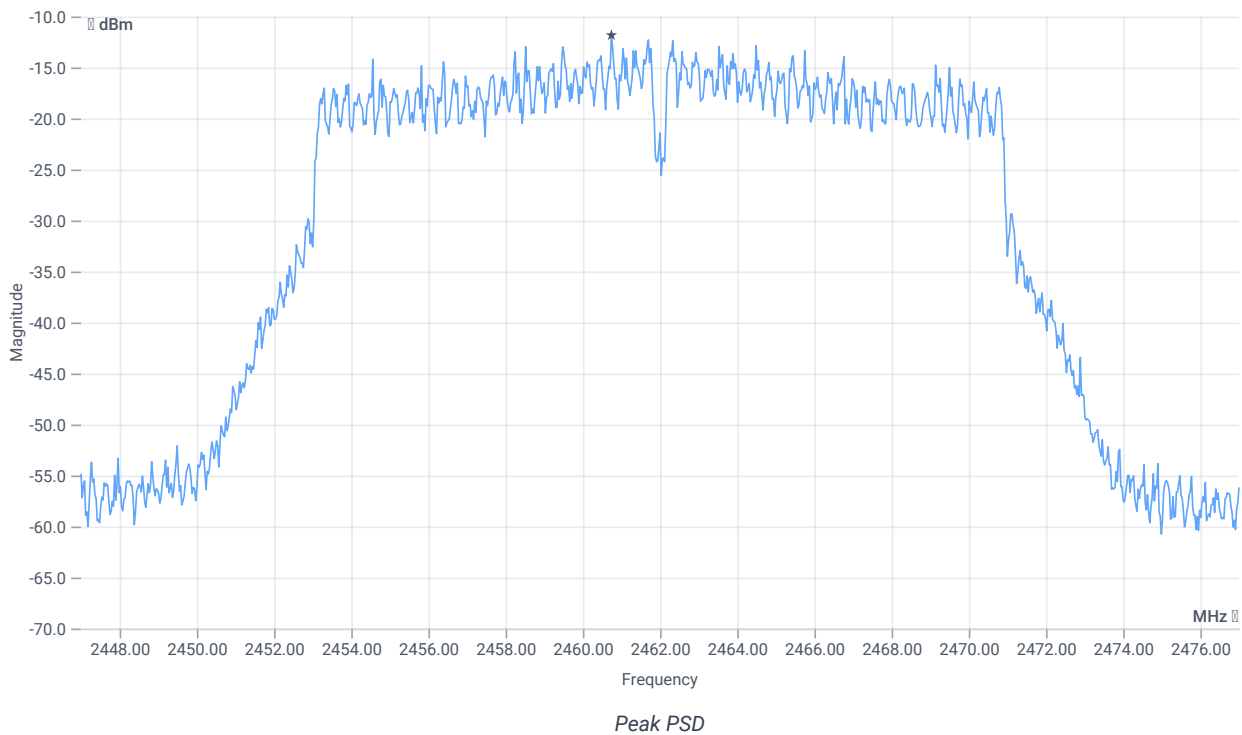
## Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	10.33	dBm	INFO
Ref. Frequency	---	---	2461.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	15.33   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	-11.83	dBm/3KHz	PASS

Verdict

PASS

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 09:08:22
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

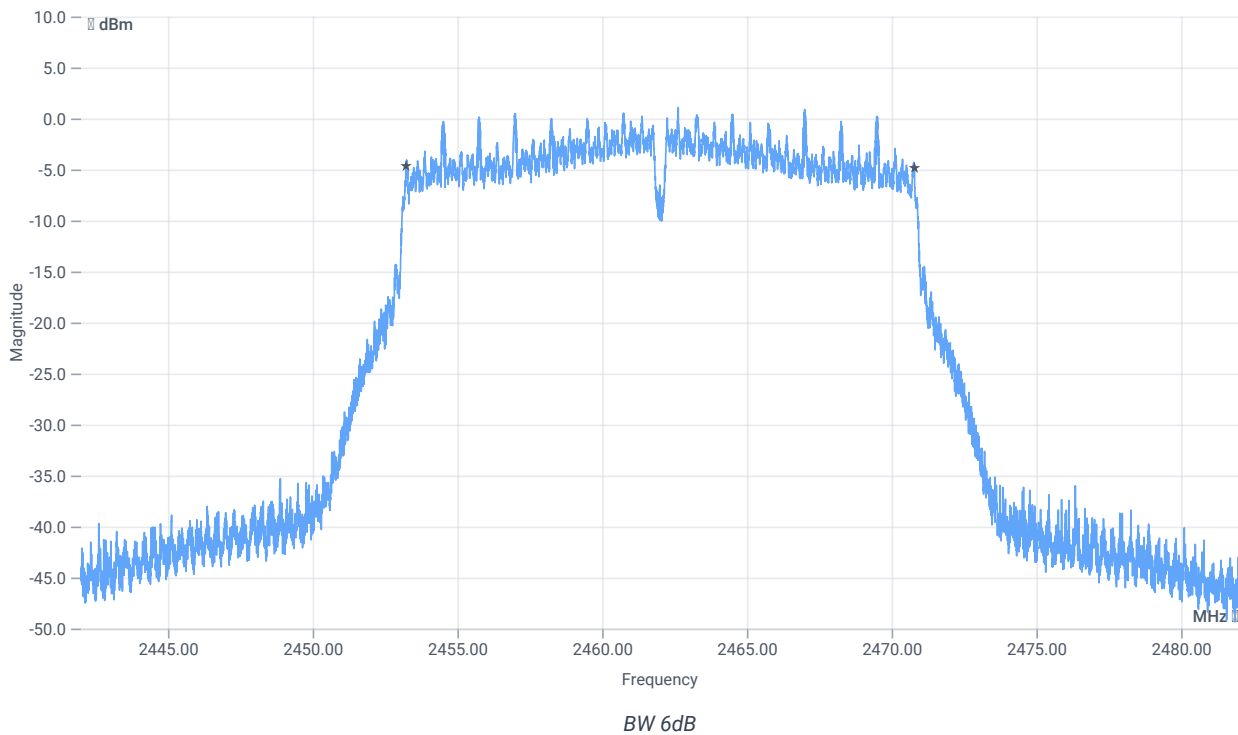
## Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	9.86	dBm	INFO
Ref. Frequency	--	--	2463.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.86   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	--	17564	kHz	PASS

Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 09:07:41
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode

Add. Information

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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.	--	--	25.05	dBm	PASS

Verdict

PASS



# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 09:01:01
Ambit Temp [°C]   Humidity [rel%]	22.7   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

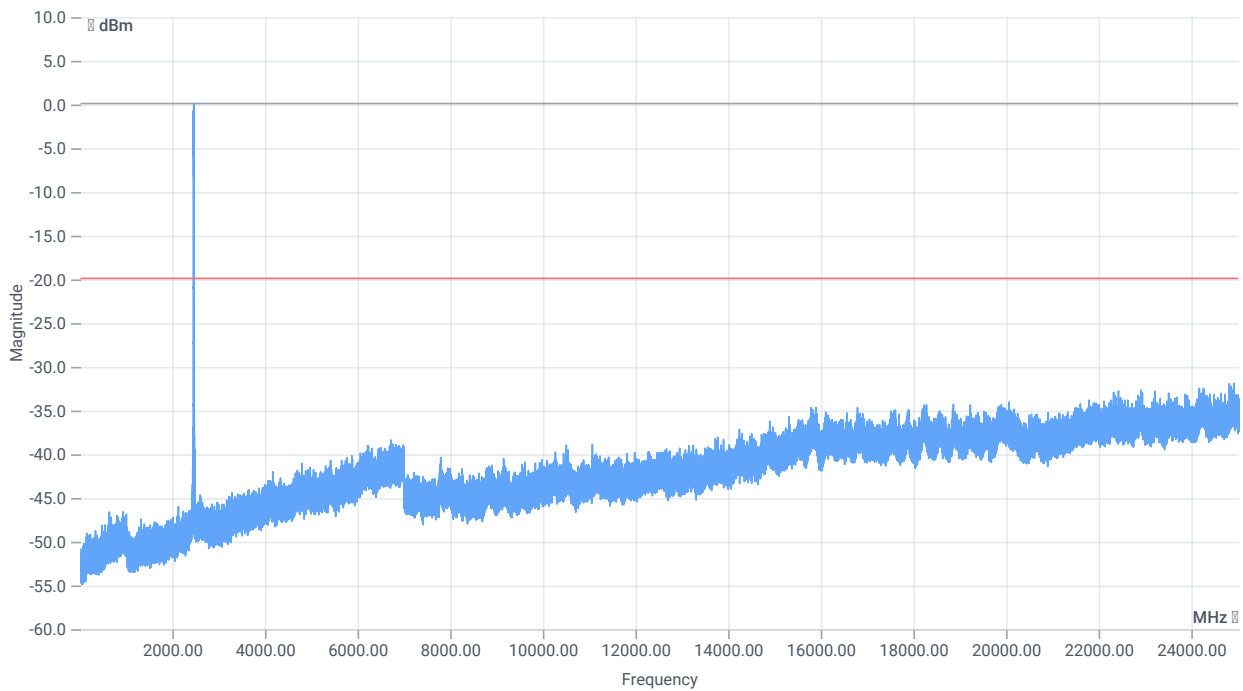
Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70

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

## Test at TX 2462 MHz

RESULT: Reference Power cond.

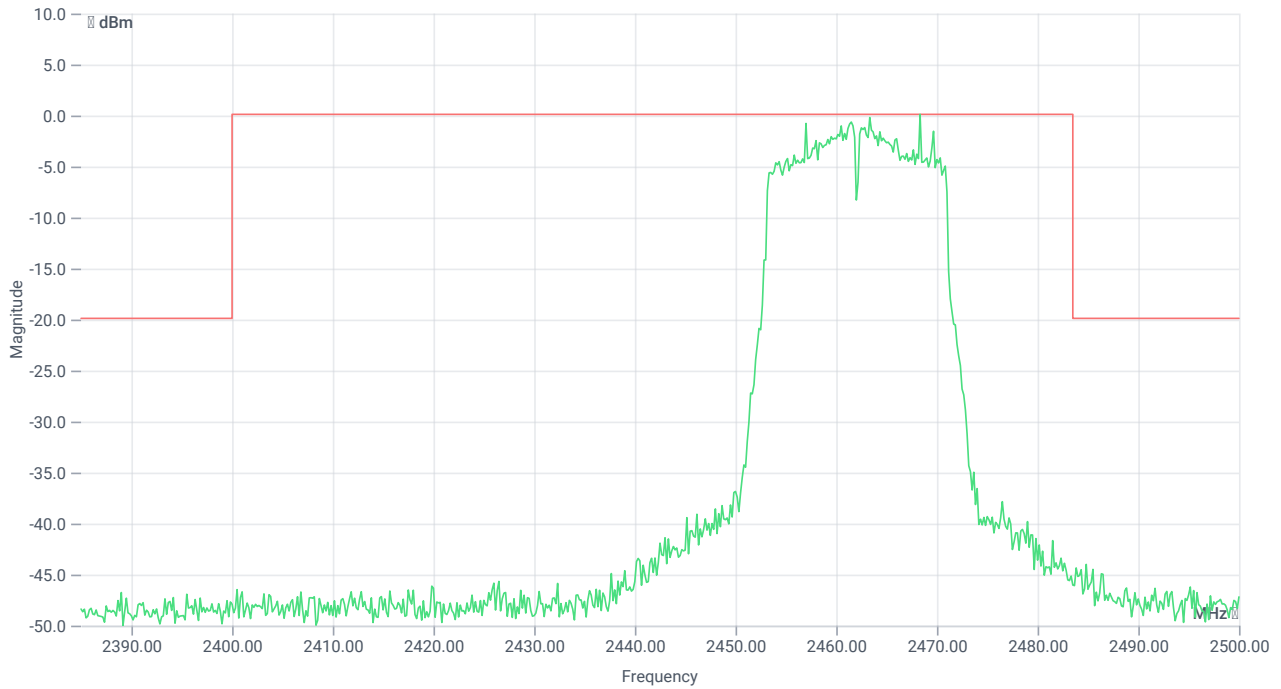
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.13	dBm	INFO
Ref. Frequency	--	--	2463.000	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	10.13   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	--	--	0.12	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 30 MHz	0	--	-149.18	dB	INFO

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 09:00:25
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode
Add. Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

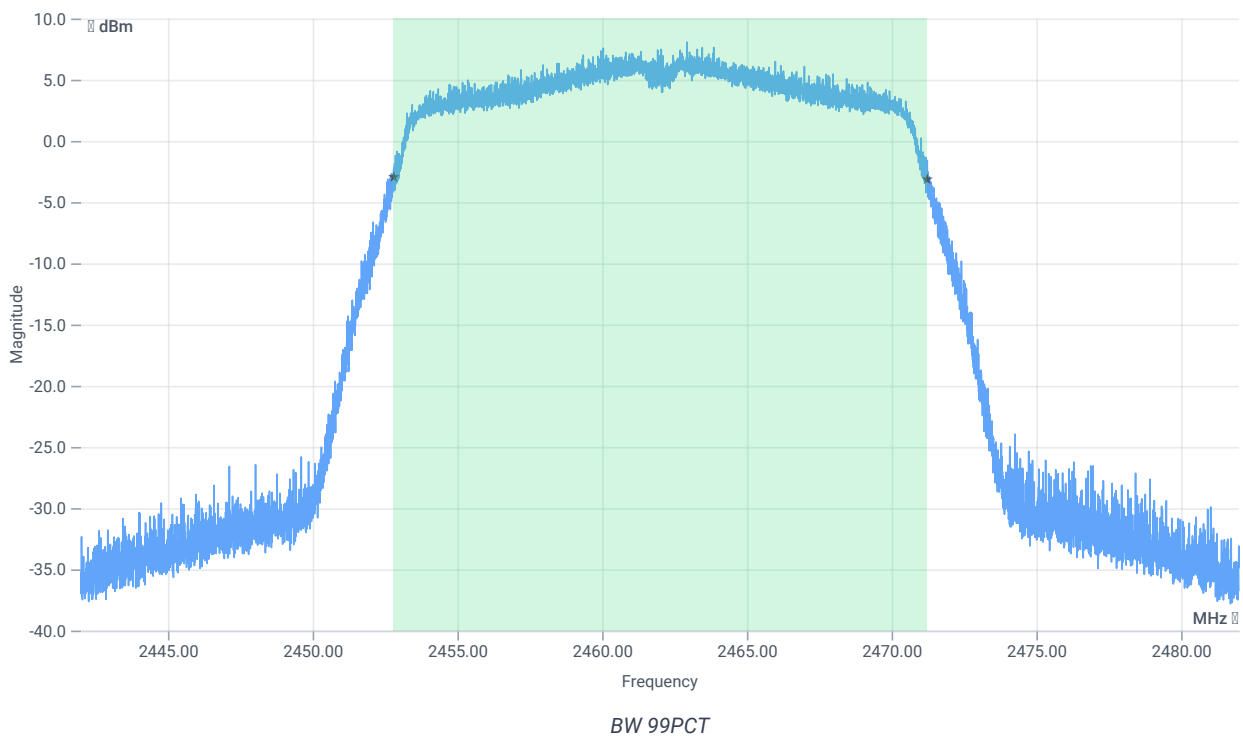
## Test at TX 2462 MHz

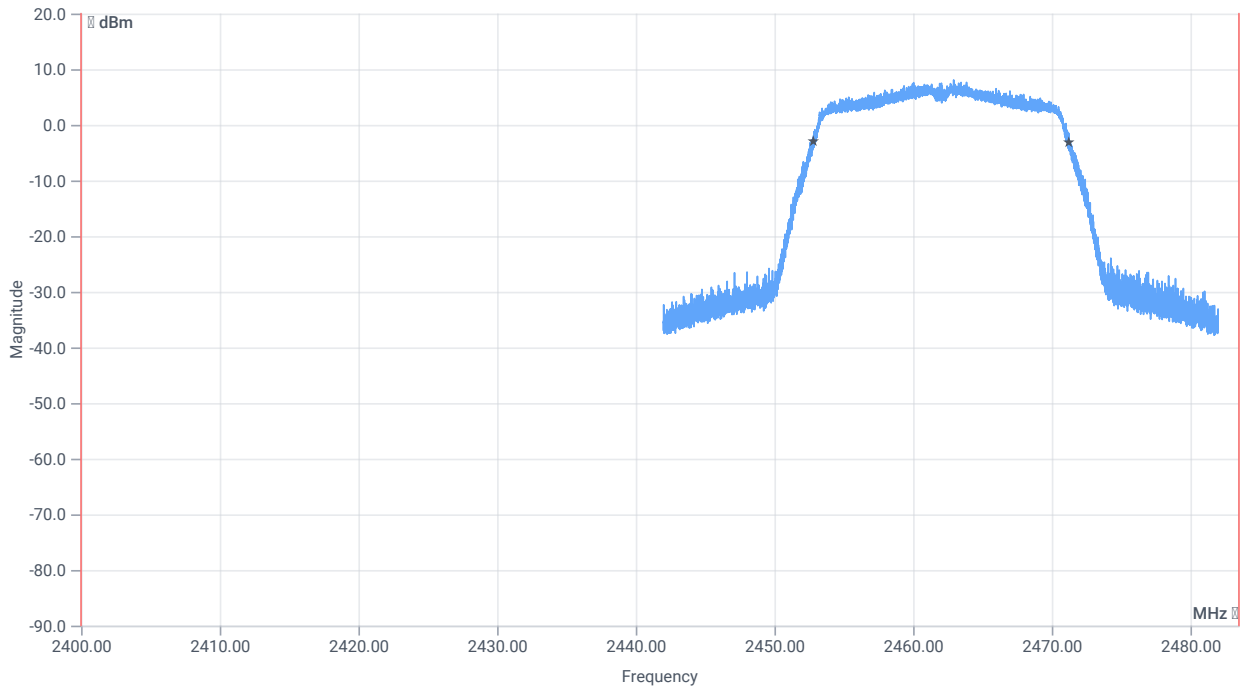
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	9.79	dBm	INFO
Ref. Frequency	--	--	2463.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.79   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

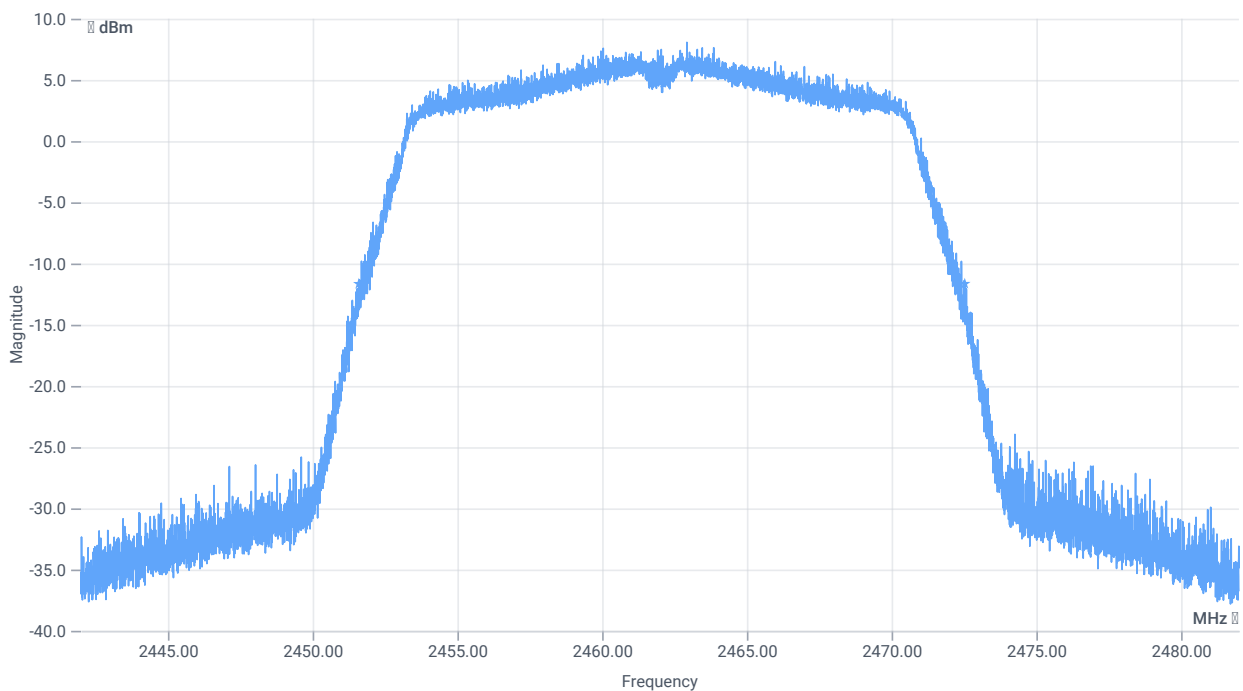




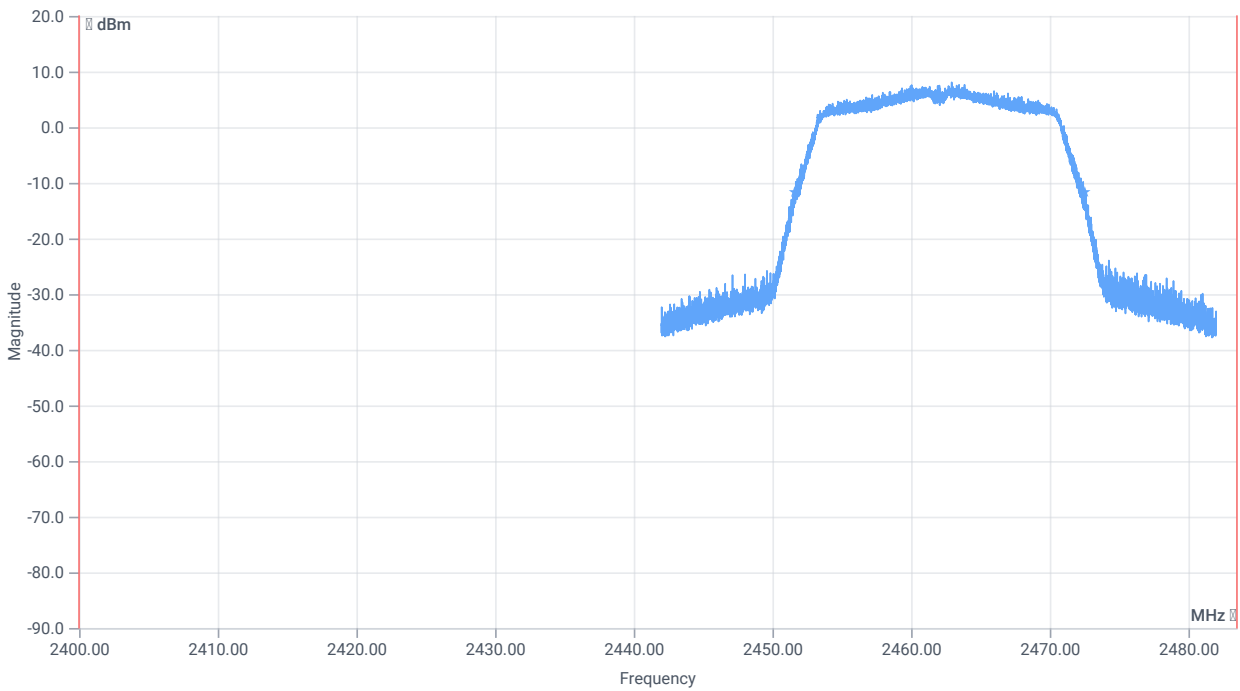
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18422.000	kHz	INFO
T1 99%	2400.000000	--	2452.8049	MHz	PASS
T2 99%	--	2483.500000	2471.2271	MHz	PASS



BW 20dB



BW within Band 20dB

**RESULT**

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	20932	kHz	INFO
T1 20DB	2400.000000	--	2451.5960	MHz	PASS
T2 20dB	--	2483.500000	2472.5280	MHz	PASS

Verdict

PASS

# FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 08:59:44
Ambit Temp [°C]   Humidity [rel%]	22.7   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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



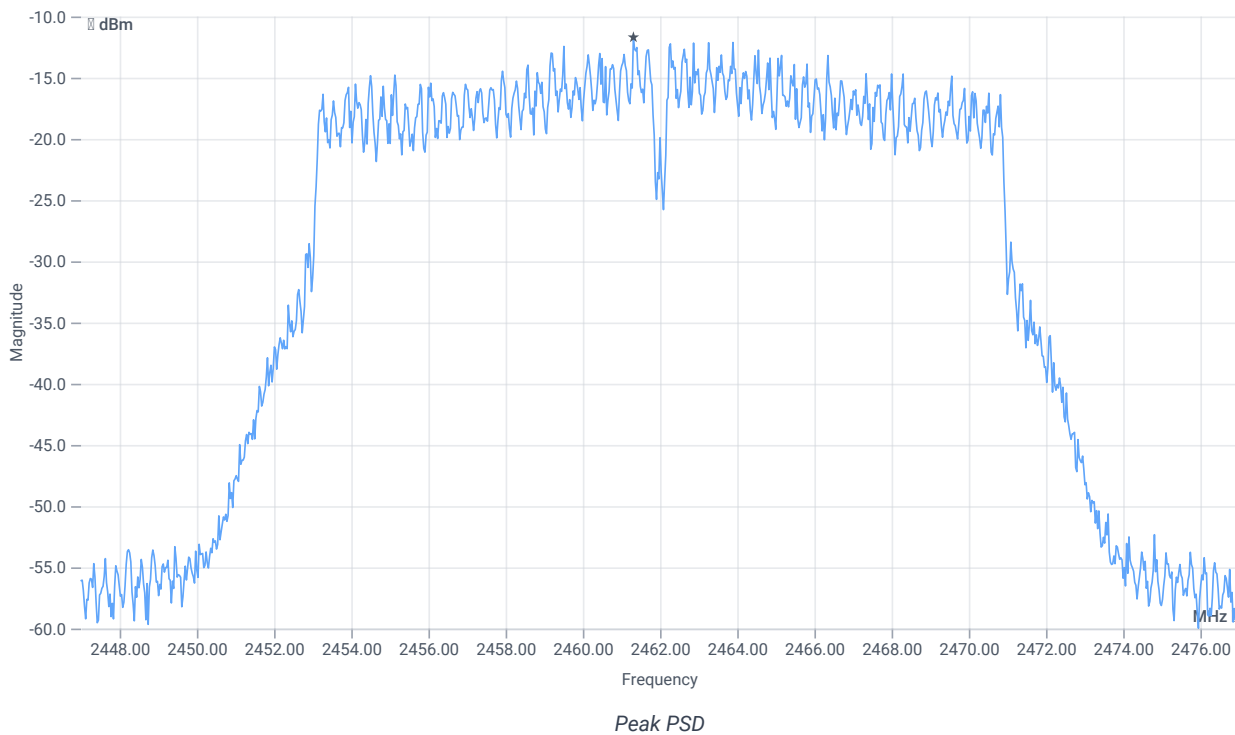
## Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	10.10	dBm	INFO
Ref. Frequency	---	---	2460.700	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	15.10   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	-11.7	dBm/3KHz	PASS

Verdict

PASS

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 08:59:10
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

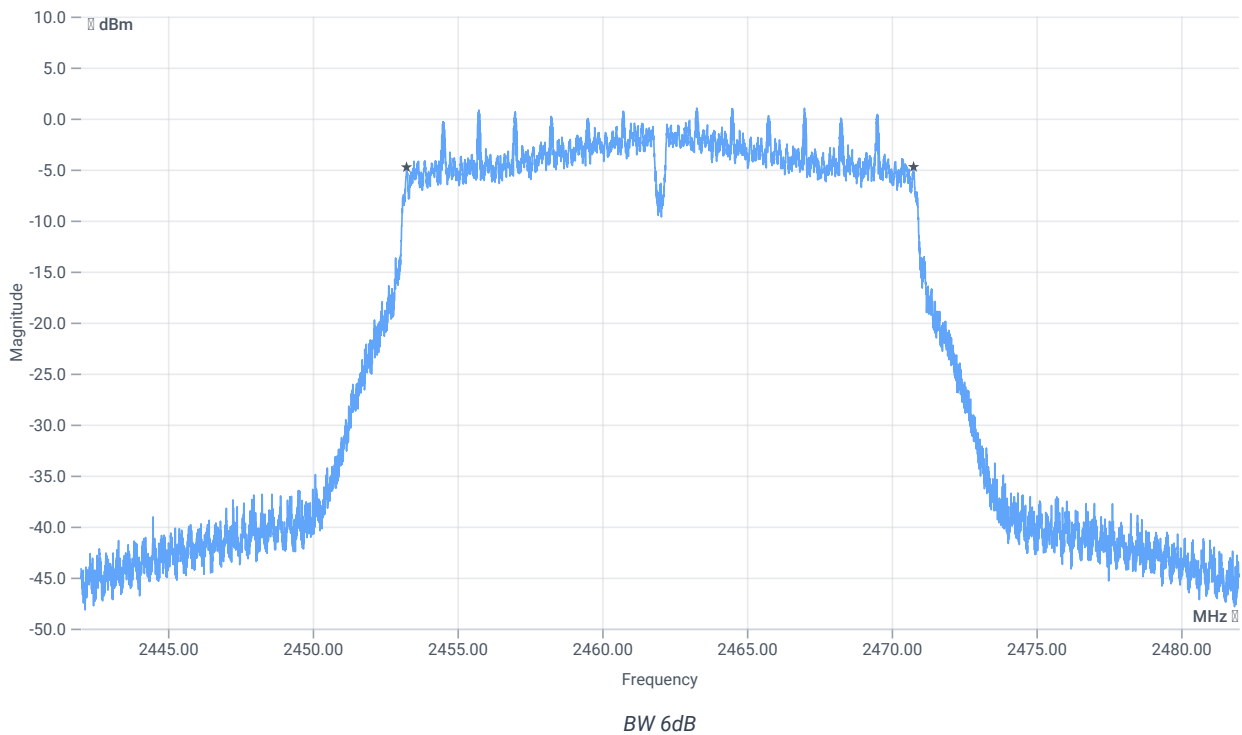
## Test at TX 2462 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	9.59	dBm	INFO
Ref. Frequency	--	--	2460.400	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.59   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	--	17516	kHz	PASS

Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 08:57:00
Ambit Temp [°C]   Humidity [rel%]	22.7   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 n-HT20 mode

Add. Information

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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.	--	--	25.73	dBm	PASS

Verdict

PASS

# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 08:50:21
Ambit Temp [°C]   Humidity [rel%]	22.6   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

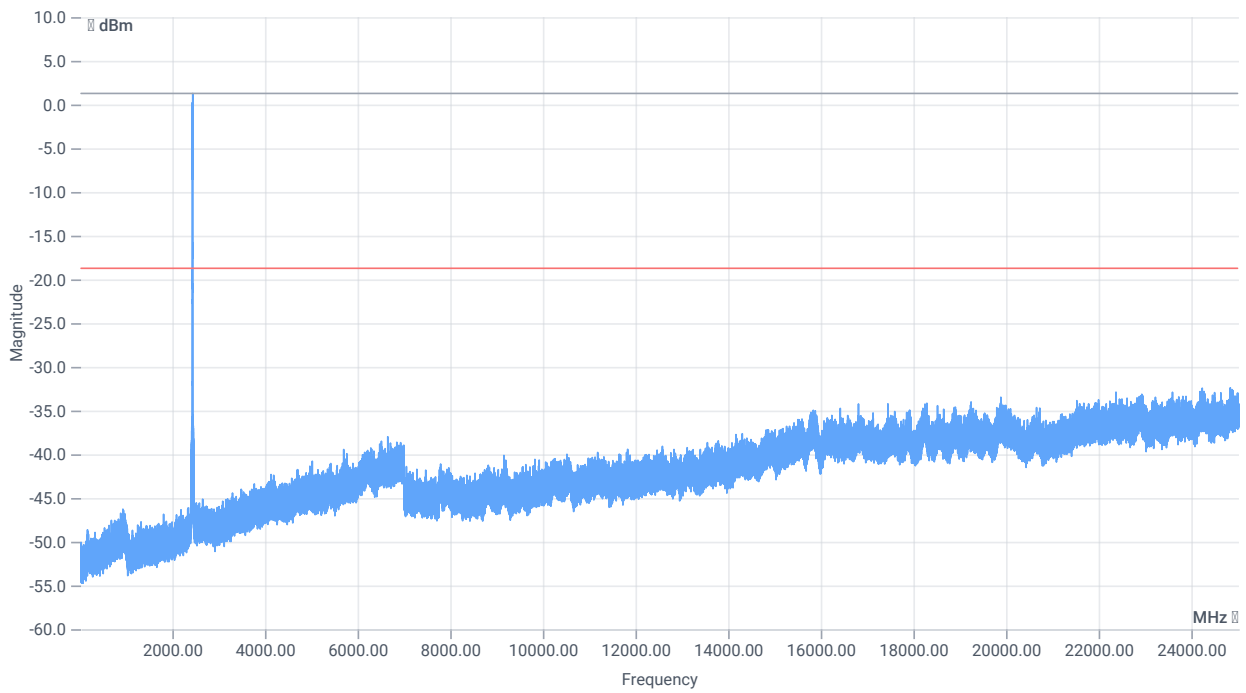
Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70

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

## Test at TX 2437 MHz

RESULT: Reference Power cond.

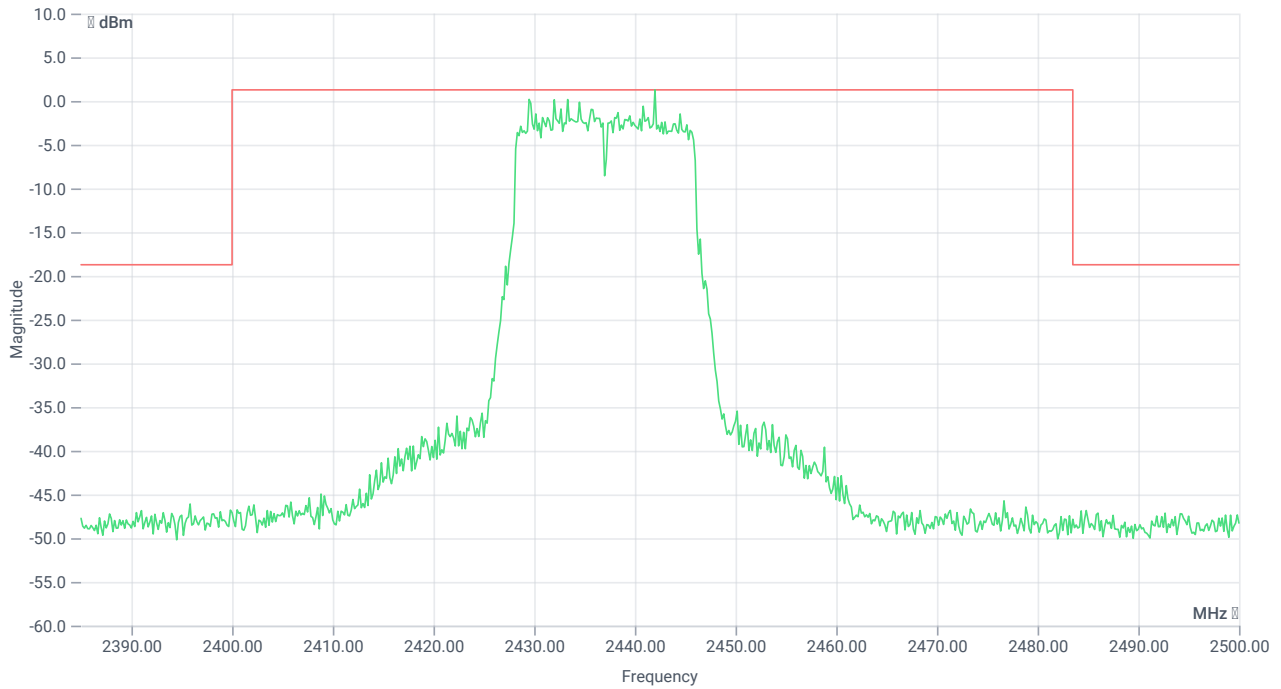
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.86	dBm	INFO
Ref. Frequency	--	--	2438.500	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	10.86   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 @ 2442.00 MHz	--	--	1.27	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24843 MHz	0	--	13.66	dB	INFO

## Verdict

PASS



# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 08:49:44
Ambit Temp [°C]   Humidity [rel%]	22.6   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 n-HT20 mode
Add. Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

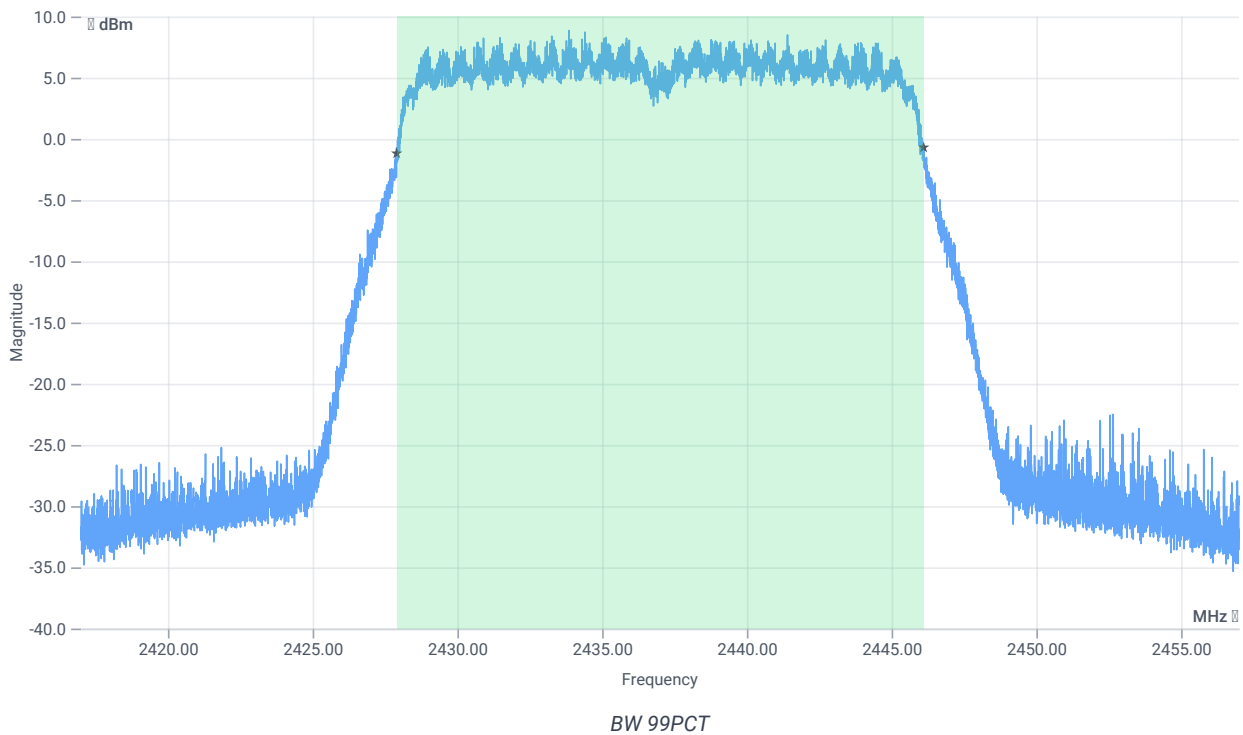
## Test at TX 2437 MHz

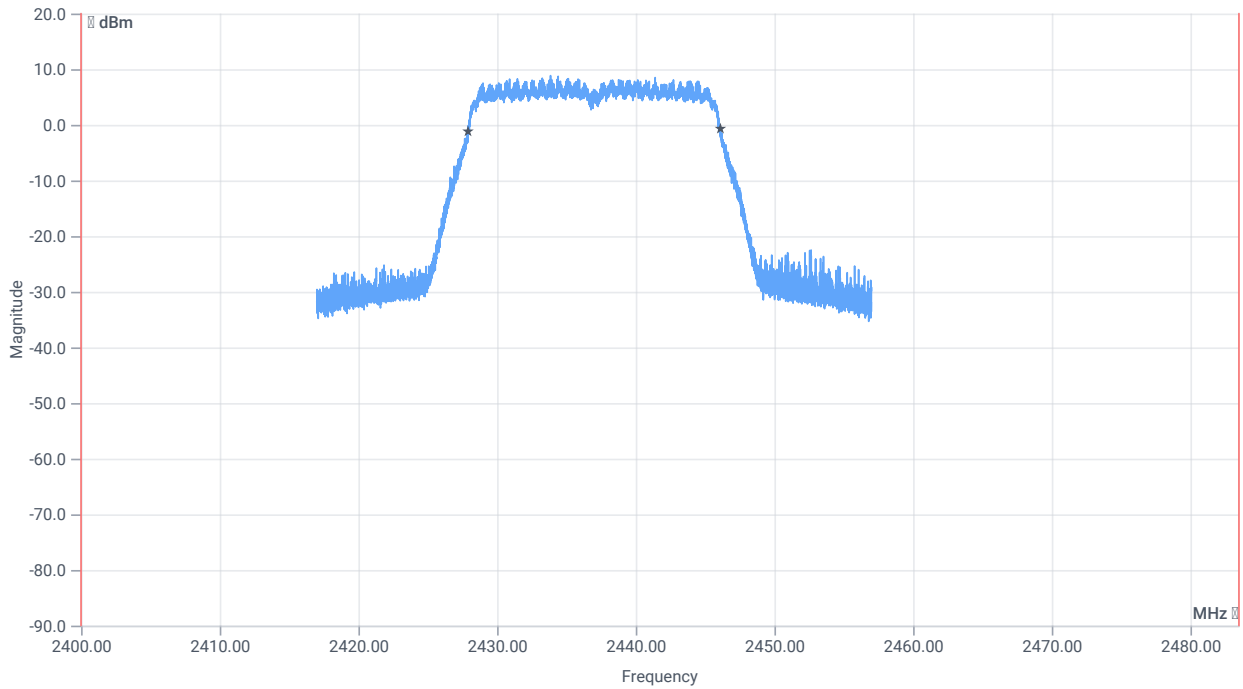
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	9.87	dBm	INFO
Ref. Frequency	--	--	2436.400	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.87   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

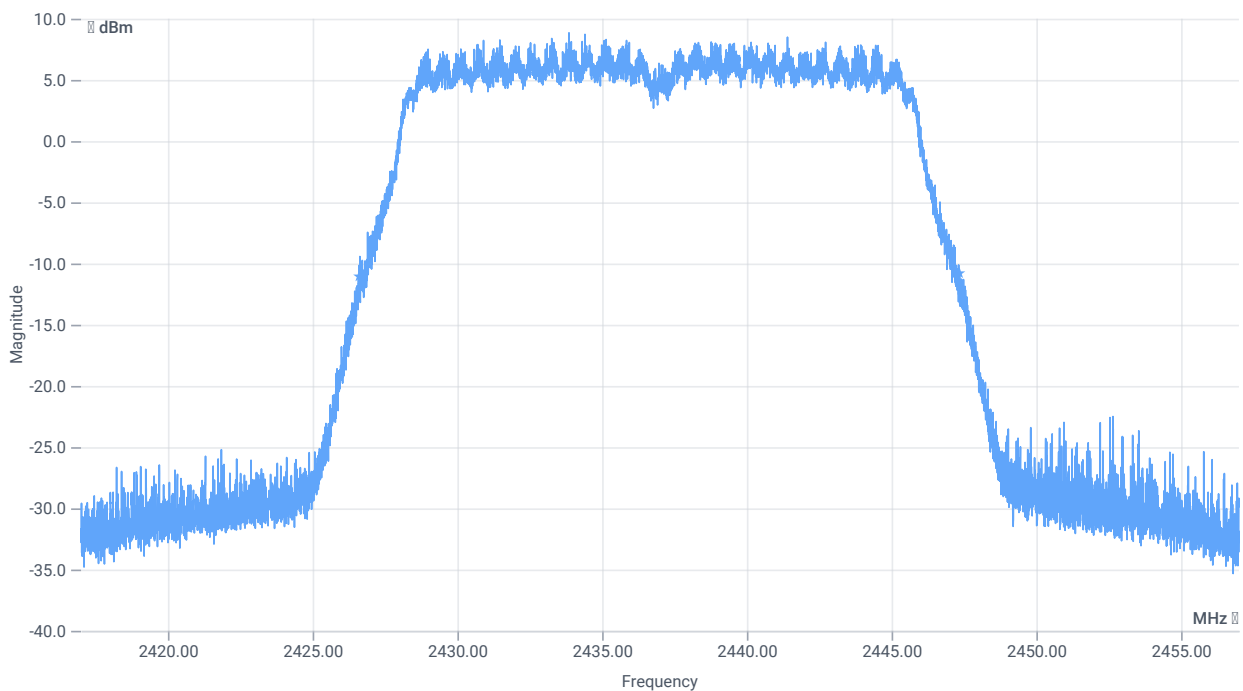




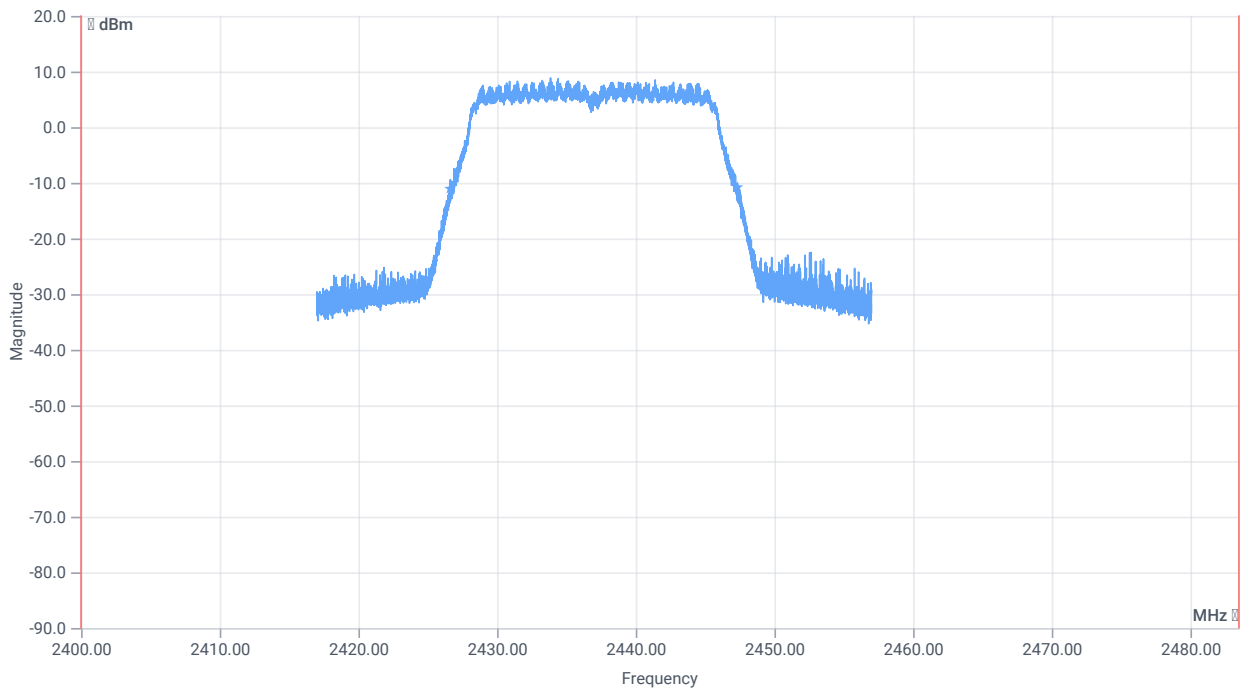
BW within Band 99PCT

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	18202.000	kHz	INFO
T1 99%	2400.000000	--	2427.9049	MHz	PASS
T2 99%	--	2483.500000	2446.1071	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	20748	kHz	INFO
T1 20dB	2400.000000	--	2426.6000	MHz	PASS
T2 20dB	--	2483.500000	2447.3480	MHz	PASS

Verdict

PASS

# FCC 15.247 # Peak power spectral density DTS ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 08:49:03
Ambit Temp [°C]   Humidity [rel%]	22.6   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

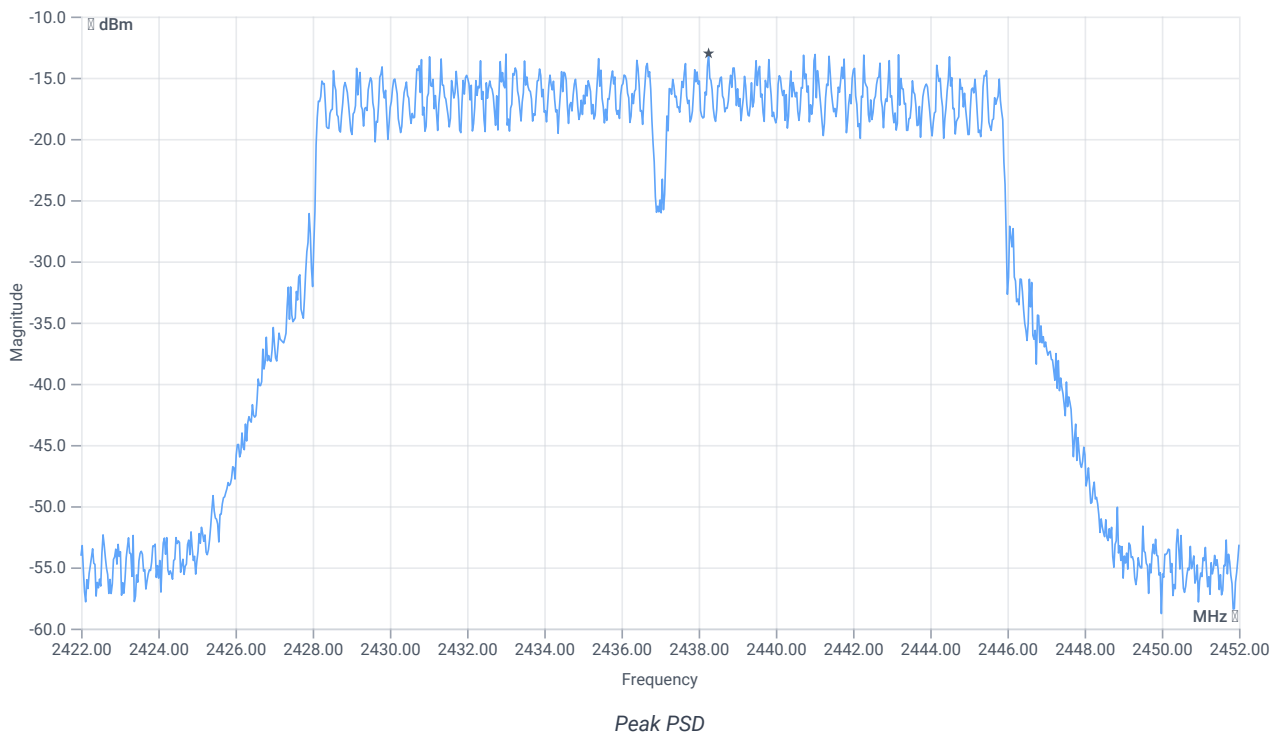
## Test at TX 2437 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	10.25	dBm	INFO
Ref. Frequency	--	--	2434.800	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	15.25   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	-13.02	dBm/3KHz	PASS

Verdict

PASS

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 08:48:30
Ambit Temp [°C]   Humidity [rel%]	22.6   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 n-HT20 mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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

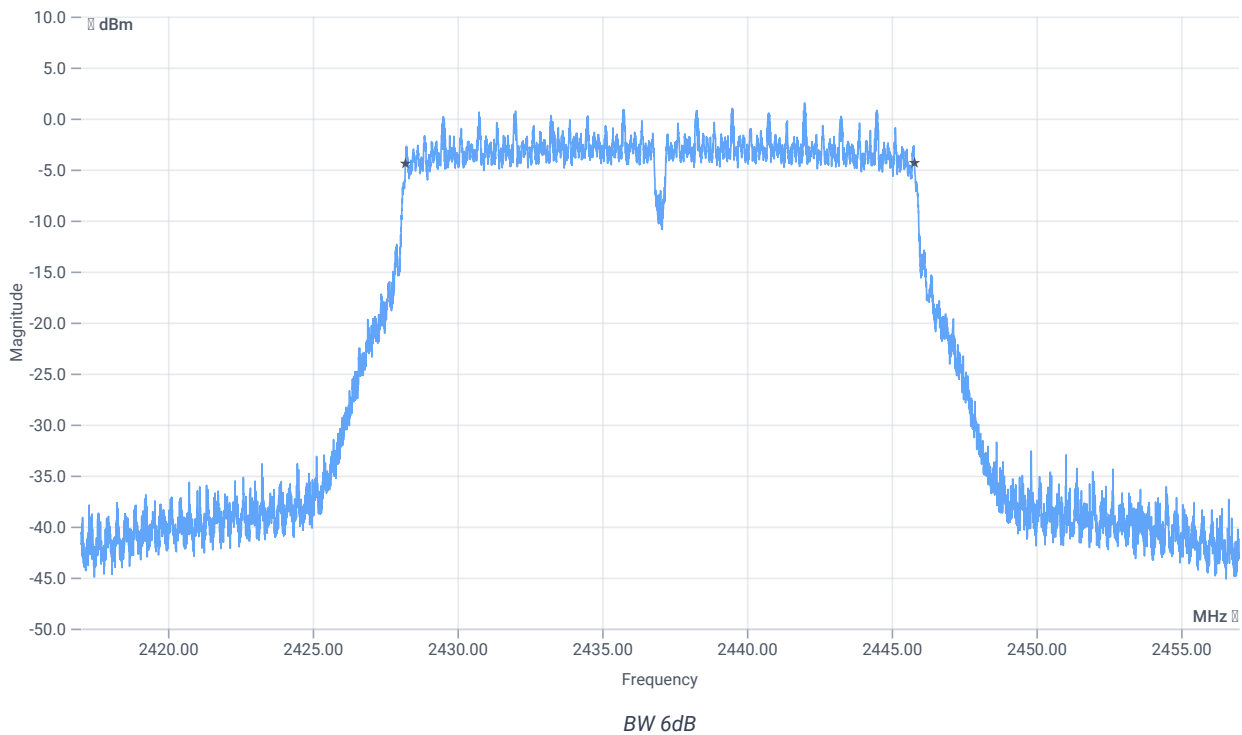
## Test at TX 2437 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	9.80	dBm	INFO
Ref. Frequency	--	--	2440.500	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.80   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	--	17584	kHz	PASS

Verdict

PASS



## FCC 15.247 # Maximum peak conducted output power PM DTS ~ WLAN2G4 n-HT20 mode

### Test References

TC Start	08.02.2023 08:47:48
Ambit Temp [°C]   Humidity [rel%]	22.6   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 n-HT20 mode

Add. Information

### EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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.	--	--	26.22	dBm	PASS

Verdict

PASS

# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## Test References

TC Start	08.02.2023 08:41:09
Ambit Temp [°C]   Humidity [rel%]	22.6   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 nHT20_mode

Add. Information

## EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
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