

# Measurement Results

No.1-3977/22-03-03\_Annex\_MR\_A2

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## Test logging

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## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 11:06:22
Ambit Temp [°C]   Humidity [rel%]	19.6   35
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.

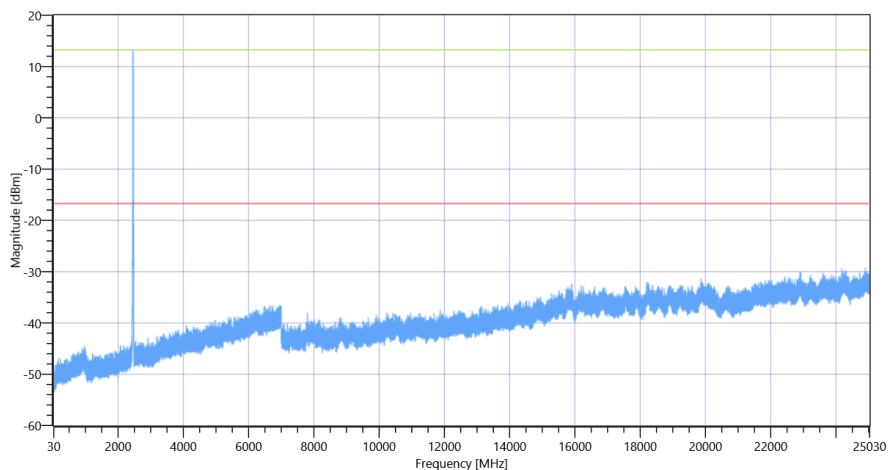
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	23.10	dBm	INFO
Ref. Frequency	---	---	2459.100	MHz	INFO

### READ SA SETTINGS:

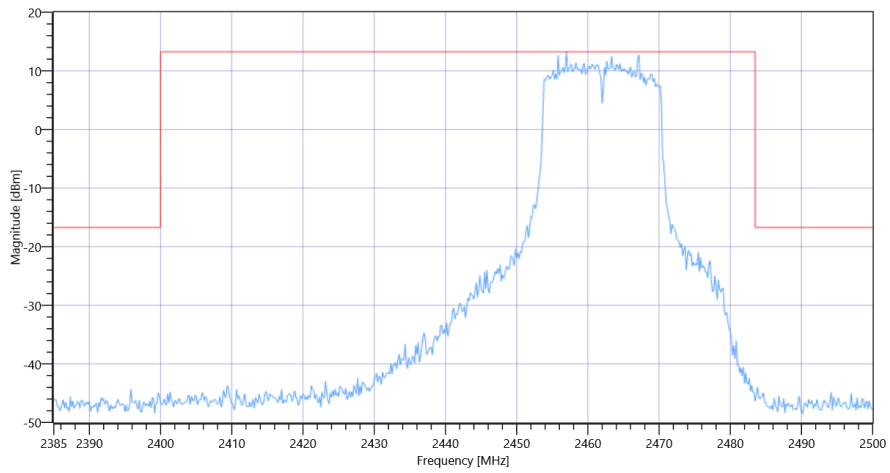
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	23.10   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2457.00 MHz	---	---	13.27	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24904.667 MHz	0	---	12.51	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 11:05:21
Ambit Temp [°C]   Humidity [rel%]	19.7   35
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.	---	---	22.47	dBm	INFO
Ref. Frequency	---	---	2461.400	MHz	INFO

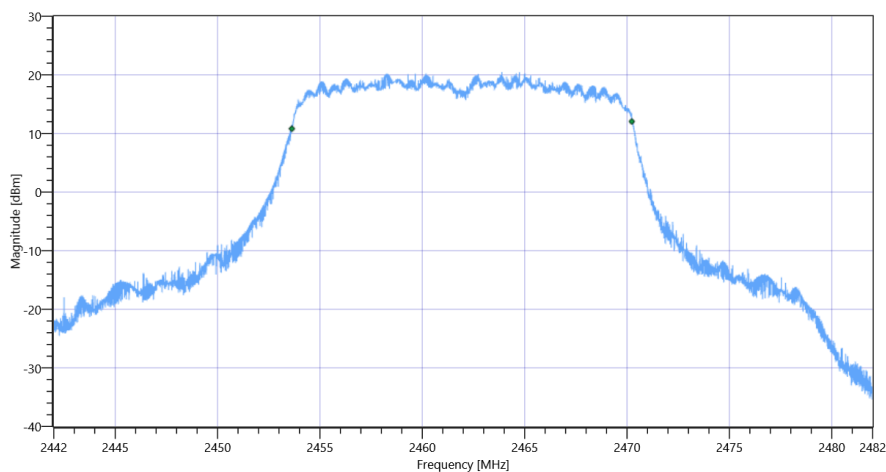
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.47   4.84   40
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

### RESULT

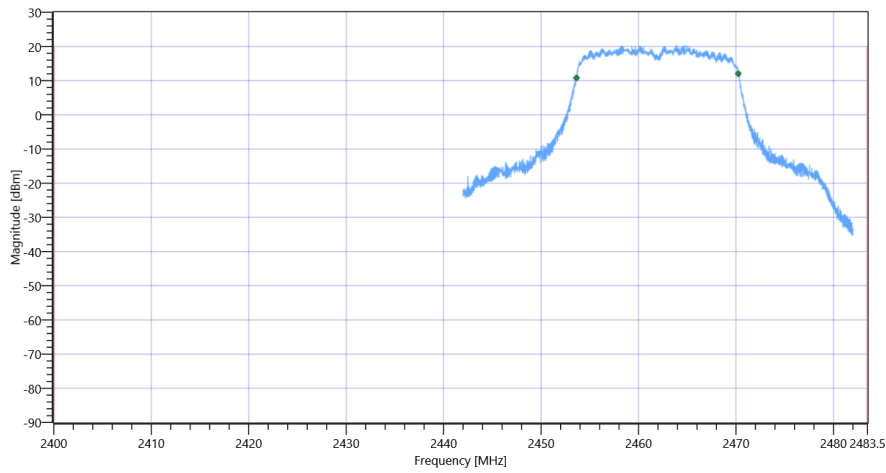
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16602.000	kHz	INFO
T1 99%	2400.000000	---	2453.6288	MHz	PASS
T2 99%	---	2483.500000	2470.2312	MHz	PASS

### Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

### Plot: Bandwidth within Band

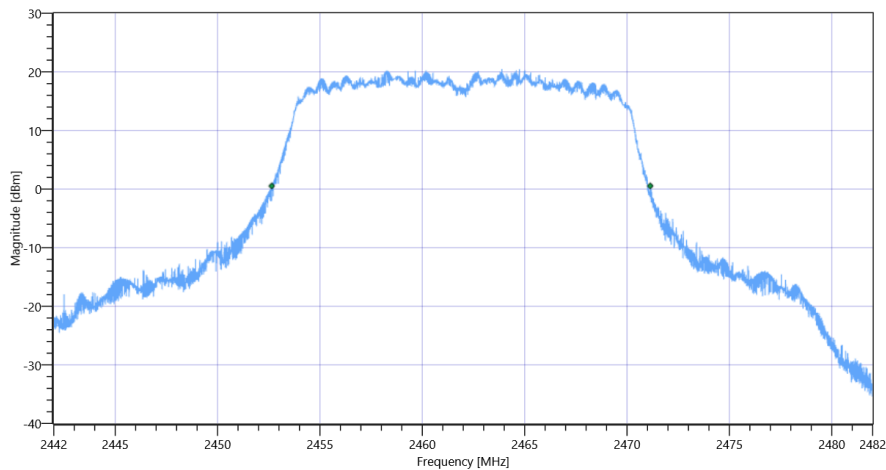


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

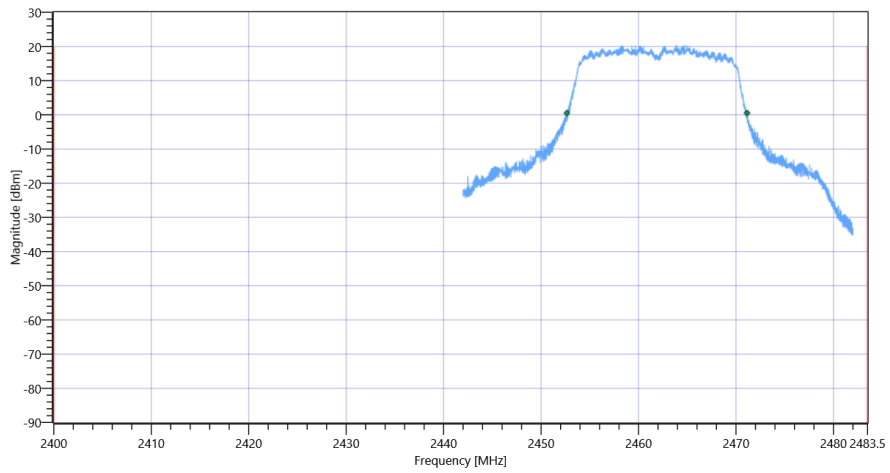
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18488	kHz	INFO
T1 20dB	2400.000000	---	2452.6440	MHz	PASS
T2 20dB	---	2483.500000	2471.1320	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode



## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 11:04:12
Ambit Temp [°C]   Humidity [rel%]	19.7   35
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.	---	---	21.93	dBm	INFO
Ref. Frequency	---	---	2460.900	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	---	---	0	dB	DC > 98% defined

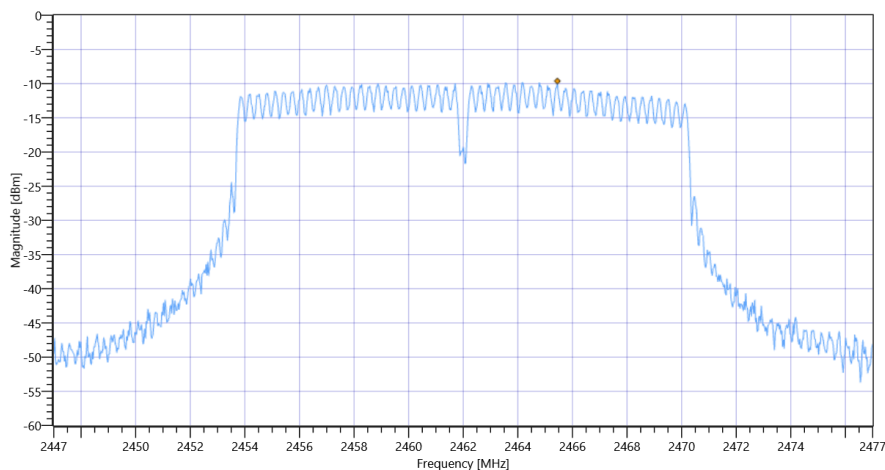
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.93   4.84   40
Start [MHz]   Stop [MHz]	2447.000   2477.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	---	---	-9.62	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-9.62	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 11:03:32
Ambit Temp [°C]   Humidity [rel%]	19.7   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.

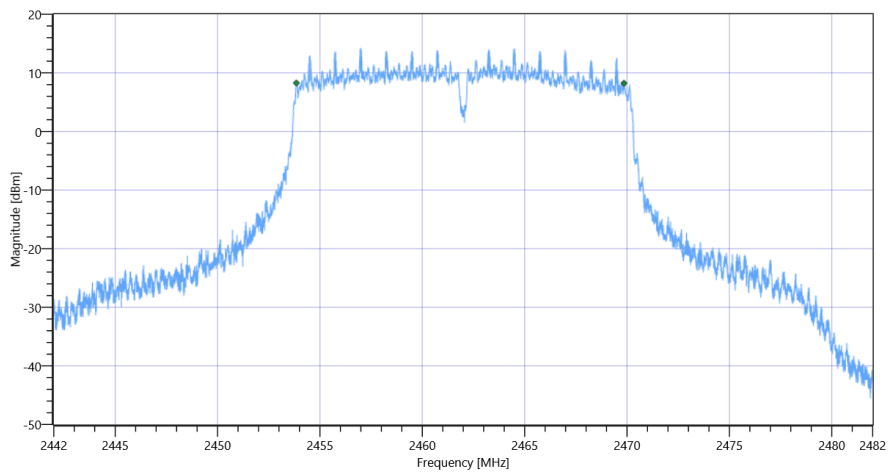
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.23	dBm	INFO
Ref. Frequency	---	---	2459.000	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.23   4.84   40
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	---	16004	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:49:46
Ambit Temp [°C]   Humidity [rel%]	19.9   34
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.

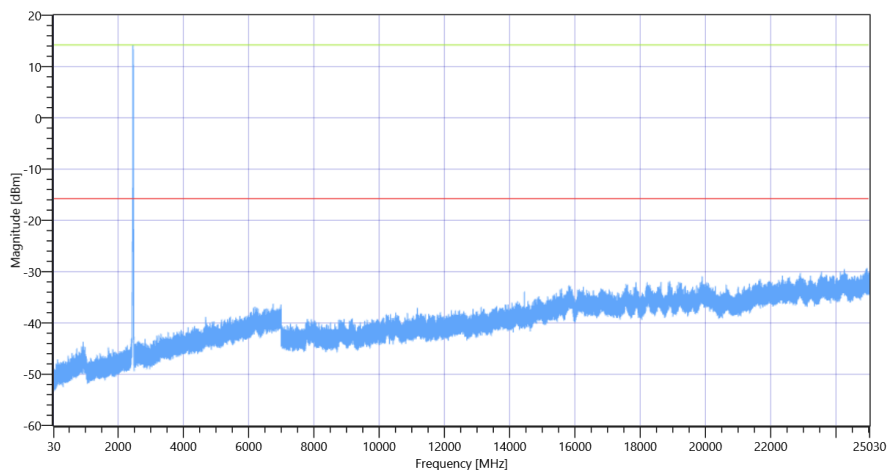
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.88	dBm	INFO
Ref. Frequency	---	---	2456.310	MHz	INFO

### READ SA SETTINGS:

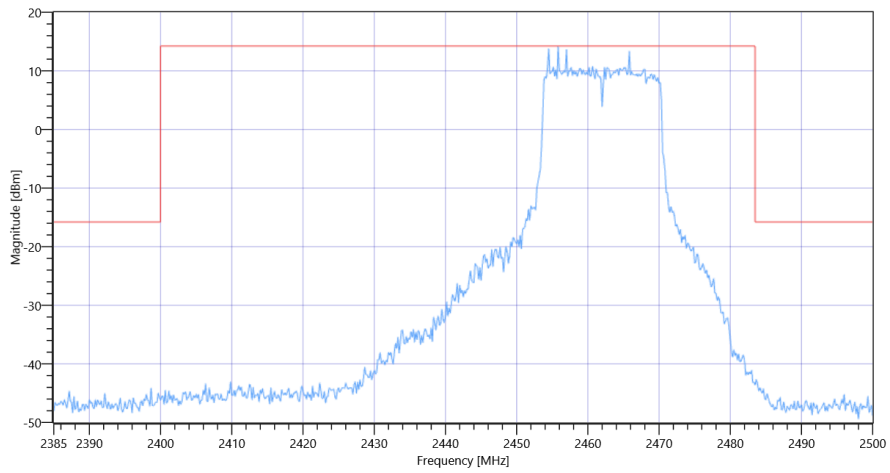
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	21.88   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2455.83 MHz	---	---	14.22	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-149.9	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:48:45
Ambit Temp [°C]   Humidity [rel%]	20.0   34
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.	--	--	21.64	dBm	INFO
Ref. Frequency	--	--	2454.910	MHz	INFO

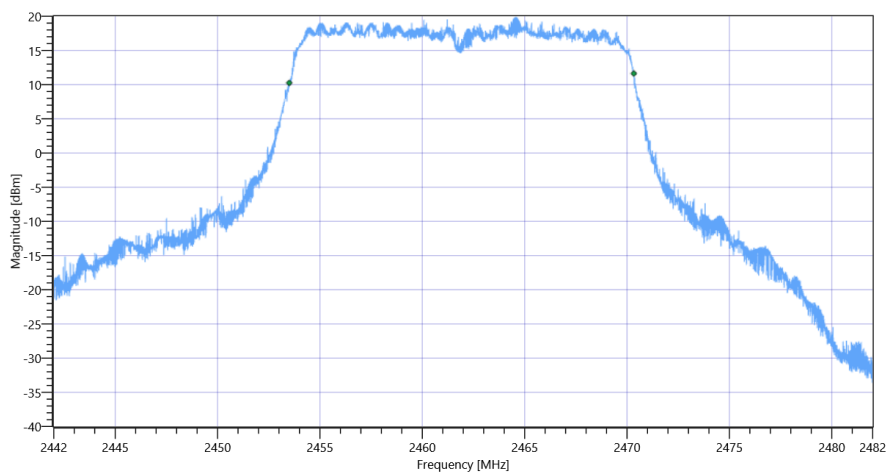
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.64   4.84   40
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

### RESULT

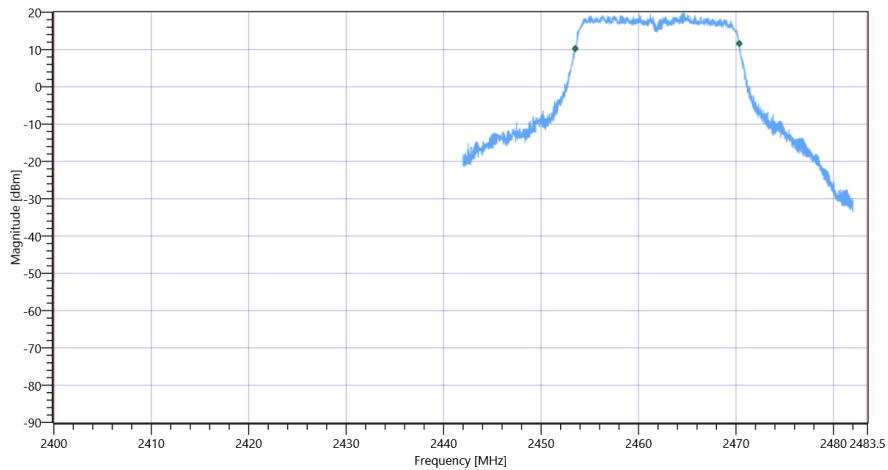
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	16830.000	kHz	INFO
T1 99%	2400.000000	--	2453.5008	MHz	PASS
T2 99%	--	2483.500000	2470.3312	MHz	PASS

### Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

### Plot: Bandwidth within Band

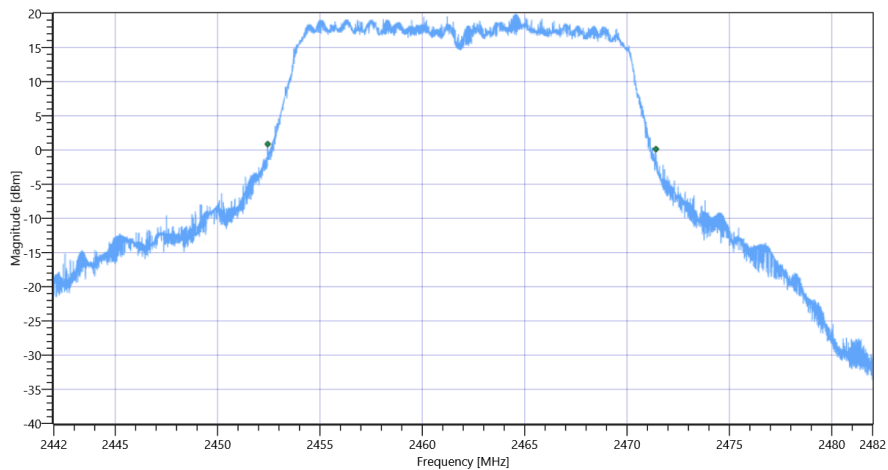


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

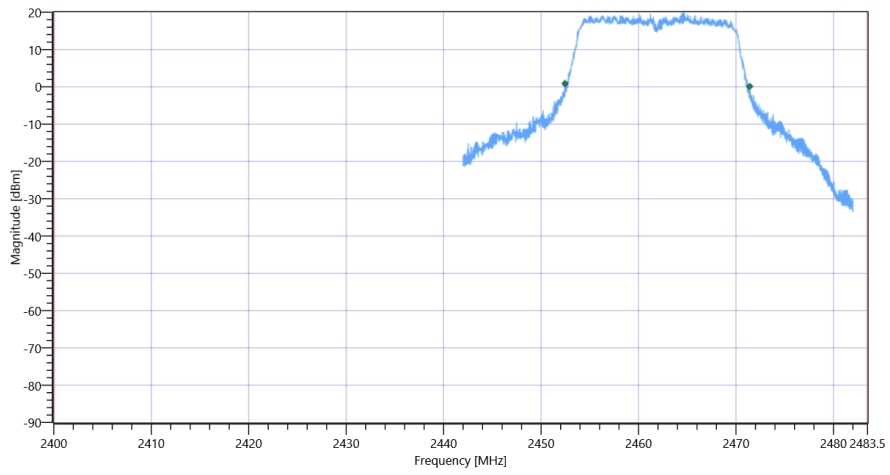
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18960	kHz	INFO
T1 20dB	2400.000000	---	2452.4480	MHz	PASS
T2 20dB	---	2483.500000	2471.4080	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:47:37
Ambit Temp [°C]   Humidity [rel%]	20.0   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.	--	--	21.73	dBm	INFO
Ref. Frequency	--	--	2465.200	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

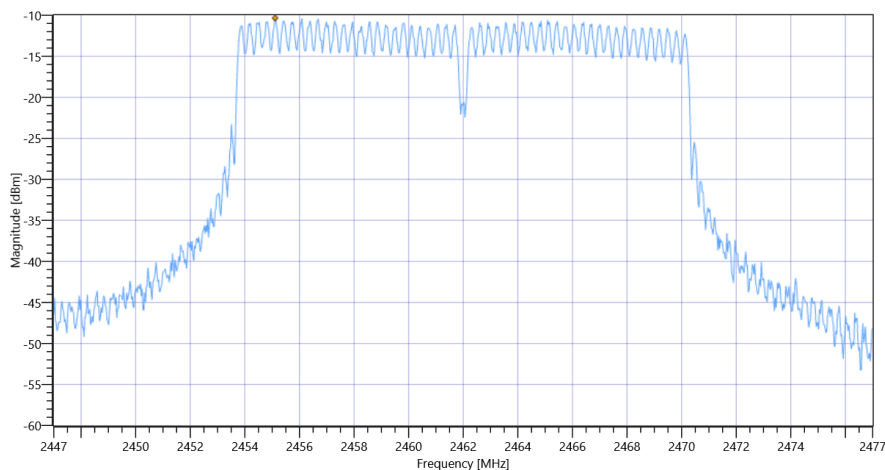
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.73   4.84   40
Start [MHz]   Stop [MHz]	2447.000   2477.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-10.34	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-10.34	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:46:56
Ambit Temp [°C]   Humidity [rel%]	20.0   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.

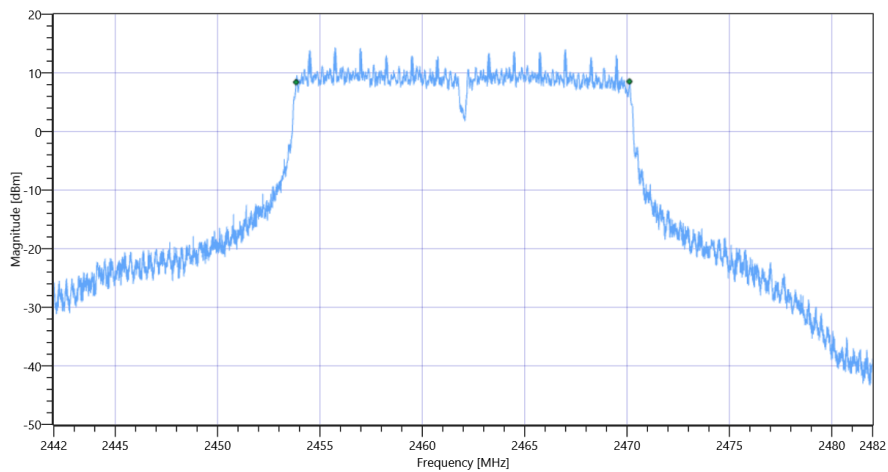
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	21.86	dBm	INFO
Ref. Frequency	--	--	2459.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.86   4.84   40
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	--	16280	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:38:42
Ambit Temp [°C]   Humidity [rel%]	20.2   34
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.

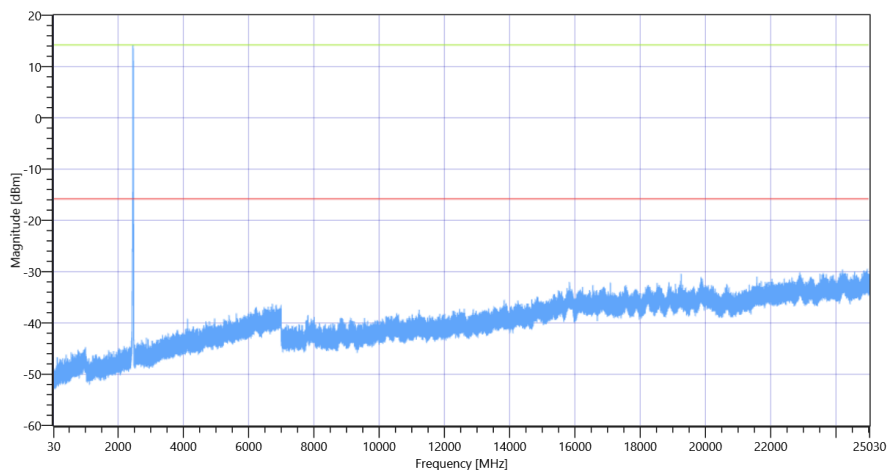
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.83	dBm	INFO
Ref. Frequency	---	---	2456.210	MHz	INFO

### READ SA SETTINGS:

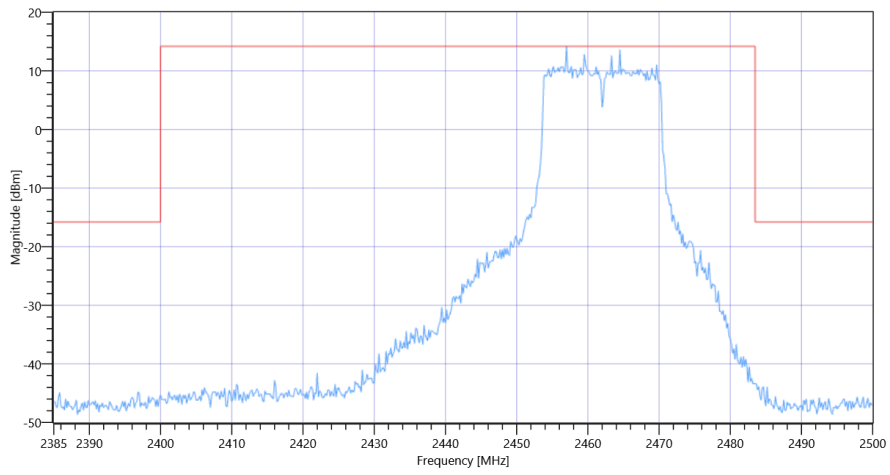
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	21.83   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2457.00 MHz	---	---	14.19	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-149.73	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:37:41
Ambit Temp [°C]   Humidity [rel%]	20.2   34
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.	---	---	21.82	dBm	INFO
Ref. Frequency	---	---	2456.310	MHz	INFO

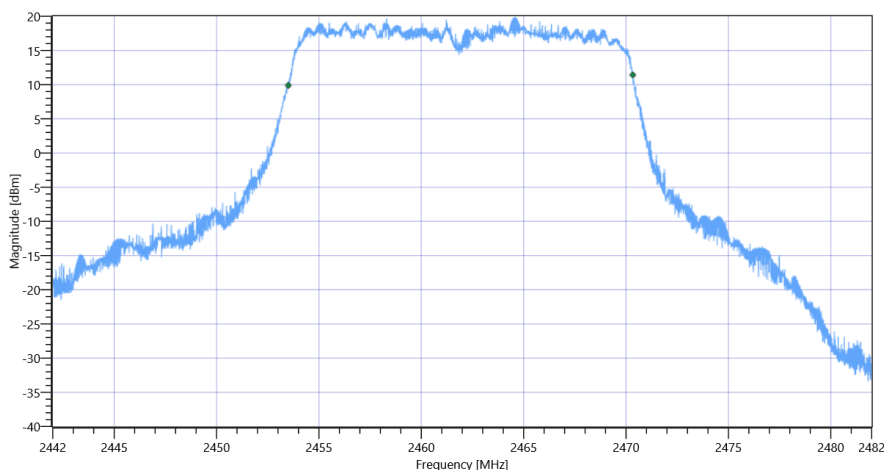
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.82   4.84   40
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

### RESULT

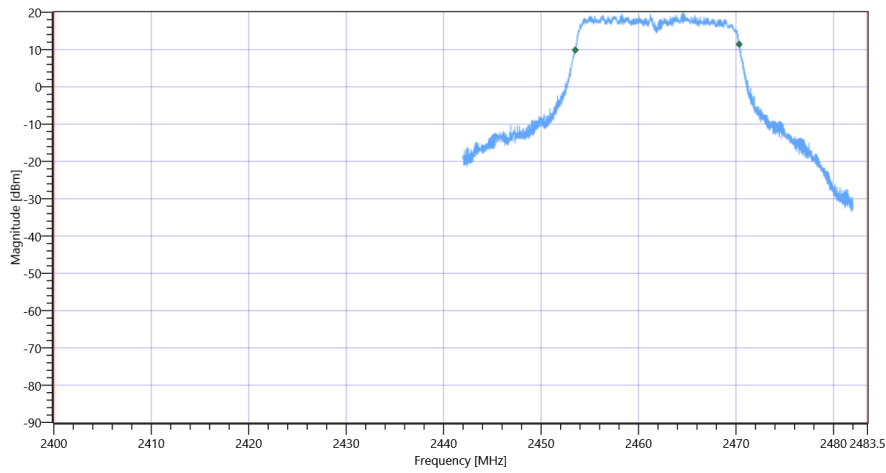
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16826.000	kHz	INFO
T1 99%	2400.000000	---	2453.5008	MHz	PASS
T2 99%	---	2483.500000	2470.3272	MHz	PASS

### Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

### Plot: Bandwidth within Band

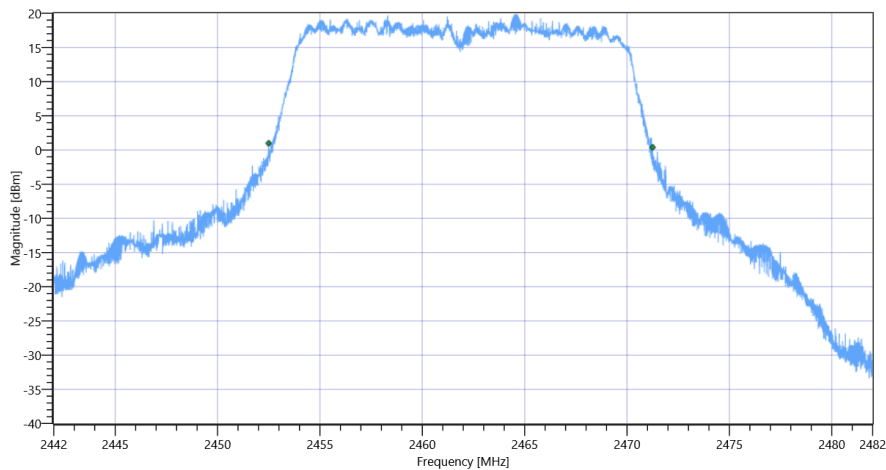


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

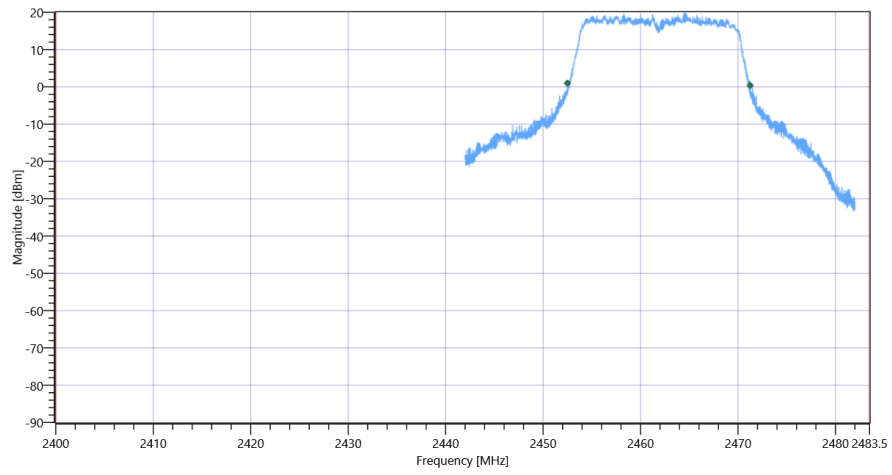
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18752	kHz	INFO
T1 20dB	2400.000000	---	2452.4960	MHz	PASS
T2 20dB	---	2483.500000	2471.2480	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:36:33
Ambit Temp [°C]   Humidity [rel%]	20.2   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	--	--	21.95	dBm	INFO
Ref. Frequency	--	--	2457.500	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

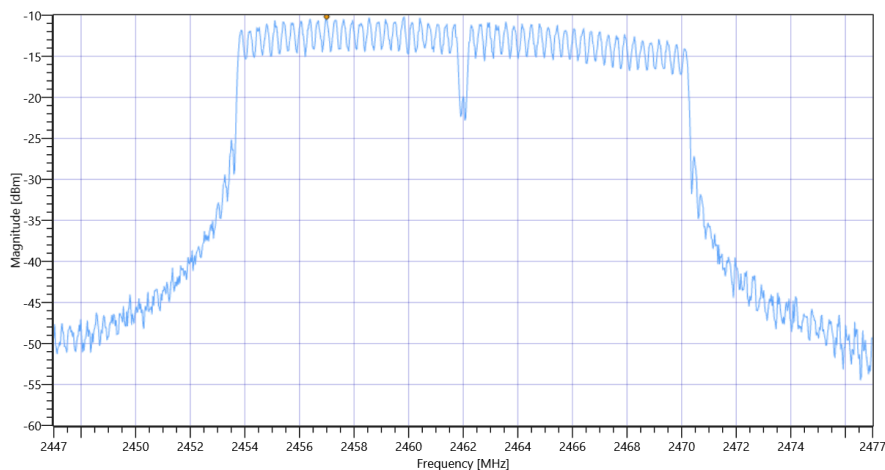
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.95   4.84   40
Start [MHz]   Stop [MHz]	2447.000   2477.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-10.17	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-10.17	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode



## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:35:53
Ambit Temp [°C]   Humidity [rel%]	20.2   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

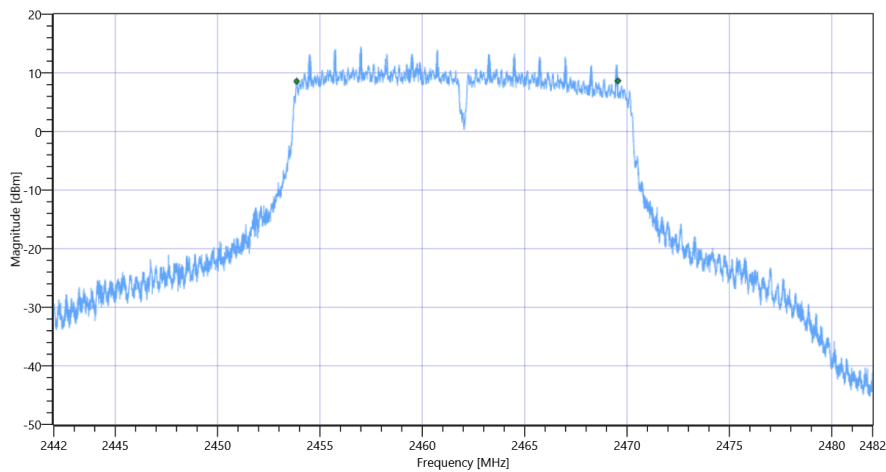
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	22.10	dBm	INFO
Ref. Frequency	--	--	2458.500	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.10   4.84   40
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	--	15696	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:26:54
Ambit Temp [°C]   Humidity [rel%]	20.3   34
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

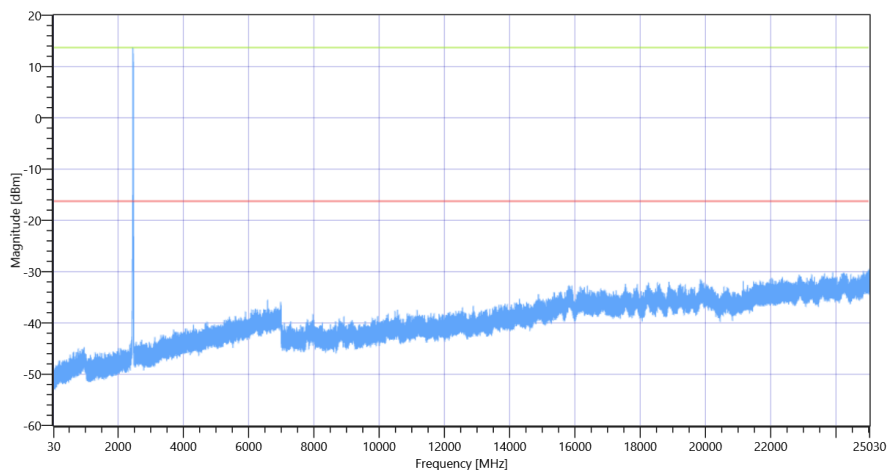
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.21	dBm	INFO
Ref. Frequency	---	---	2458.000	MHz	INFO

### READ SA SETTINGS:

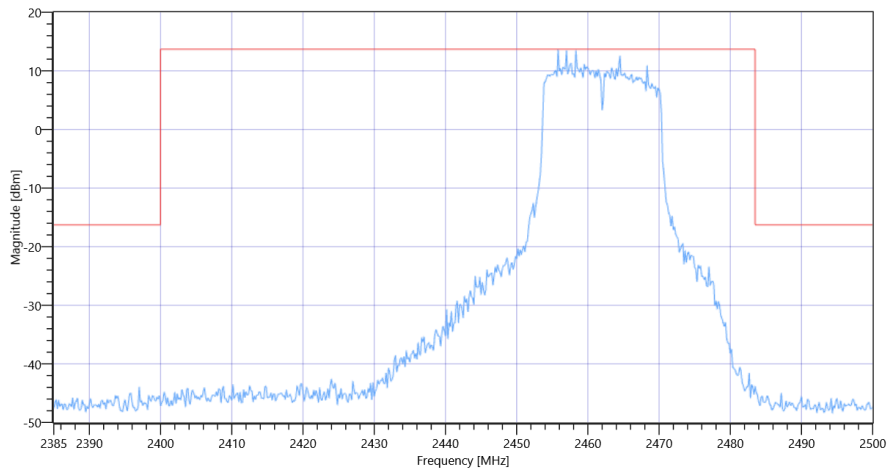
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	22.21   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2455.83 MHz	---	---	13.71	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24992 MHz	0	---	13.43	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2462

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:25:52
Ambit Temp [°C]   Humidity [rel%]	20.3   34
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	--	--	21.21	dBm	INFO
Ref. Frequency	--	--	2454.710	MHz	INFO

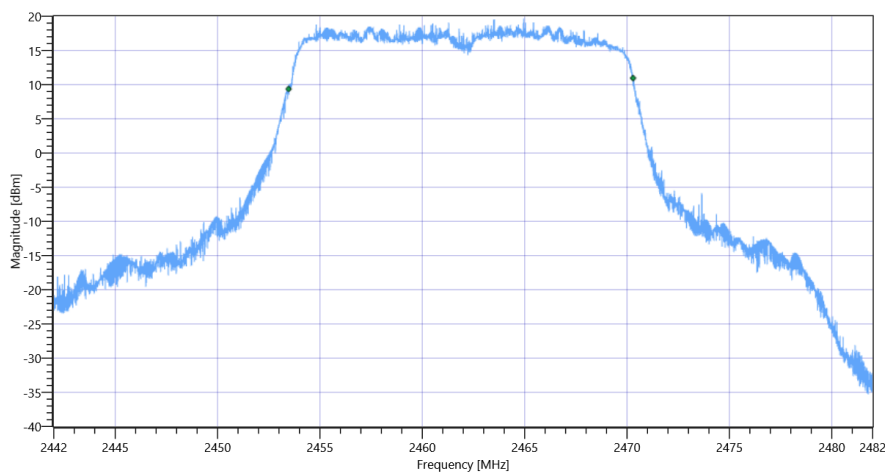
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.21   4.84   40
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

### RESULT

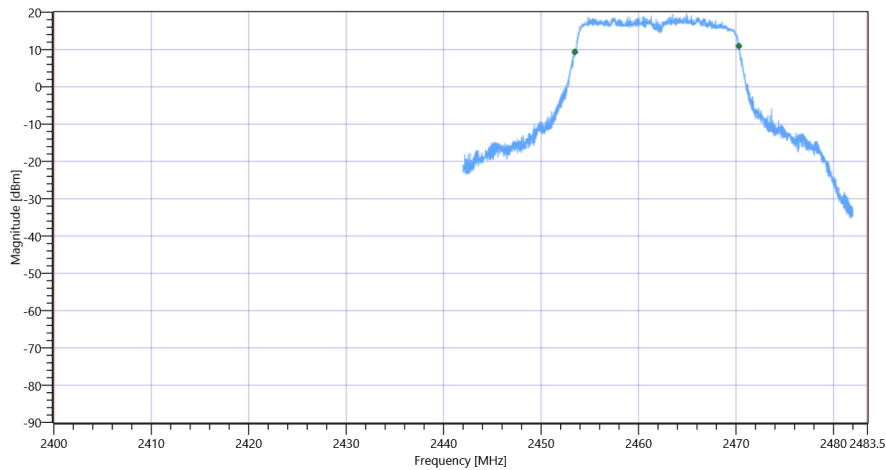
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	16826.000	kHz	INFO
T1 99%	2400.000000	--	2453.4689	MHz	PASS
T2 99%	--	2483.500000	2470.2952	MHz	PASS

### Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

### Plot: Bandwidth within Band

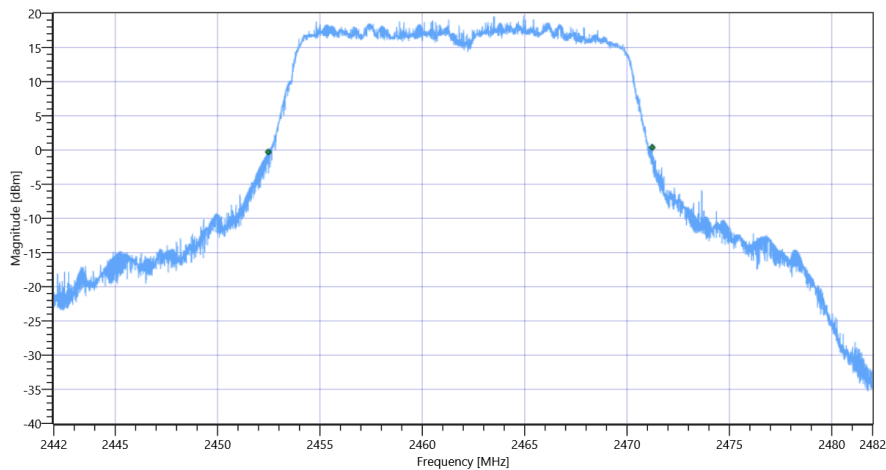


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18756	kHz	INFO
T1 20dB	2400.000000	---	2452.4760	MHz	PASS
T2 20dB	---	2483.500000	2471.2320	MHz	PASS

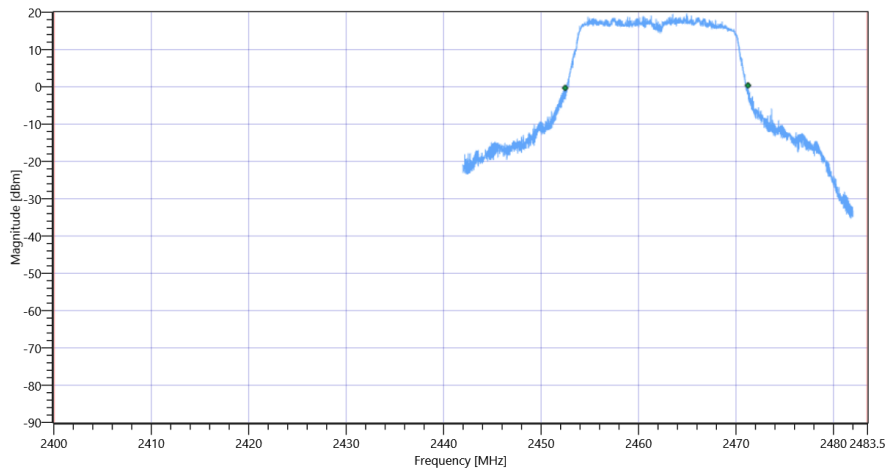
## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band





FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:24:44
Ambit Temp [°C]   Humidity [rel%]	20.4   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	--	--	21.70	dBm	INFO
Ref. Frequency	--	--	2464.800	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

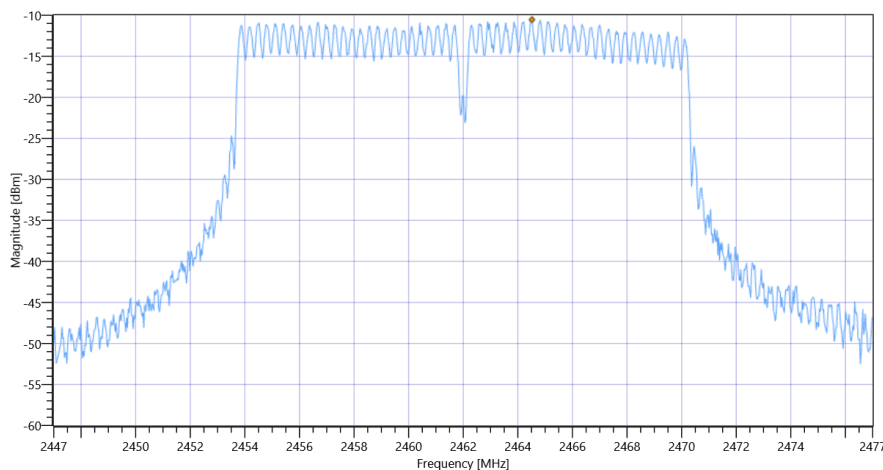
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.70   4.84   40
Start [MHz]   Stop [MHz]	2447.000   2477.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-10.53	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-10.53	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 10:24:04
Ambit Temp [°C]   Humidity [rel%]	20.4   34
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

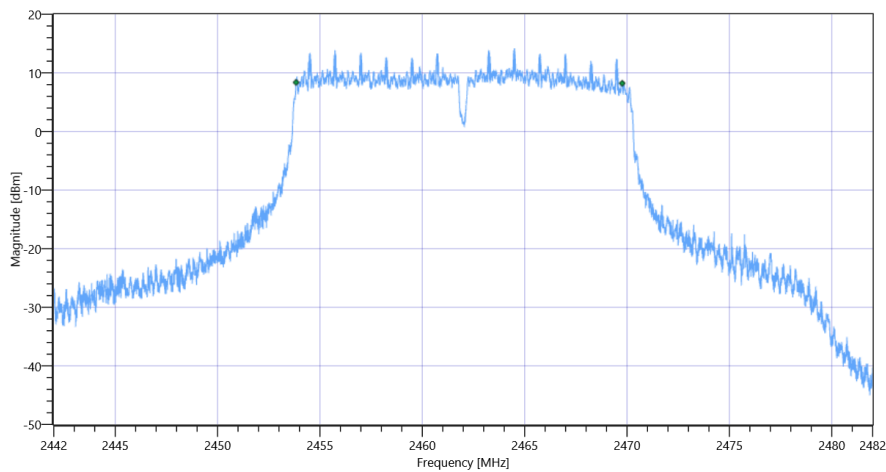
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.42	dBm	INFO
Ref. Frequency	---	---	2463.400	MHz	INFO

## READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.42   4.84   40
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	---	15928	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:46:49
Ambit Temp [°C]   Humidity [rel%]	21.0   32
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.

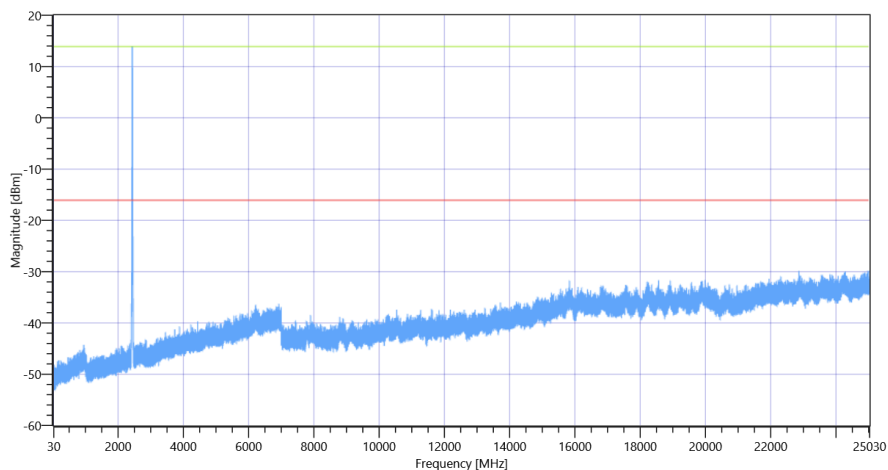
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.91	dBm	INFO
Ref. Frequency	---	---	2433.700	MHz	INFO

### READ SA SETTINGS:

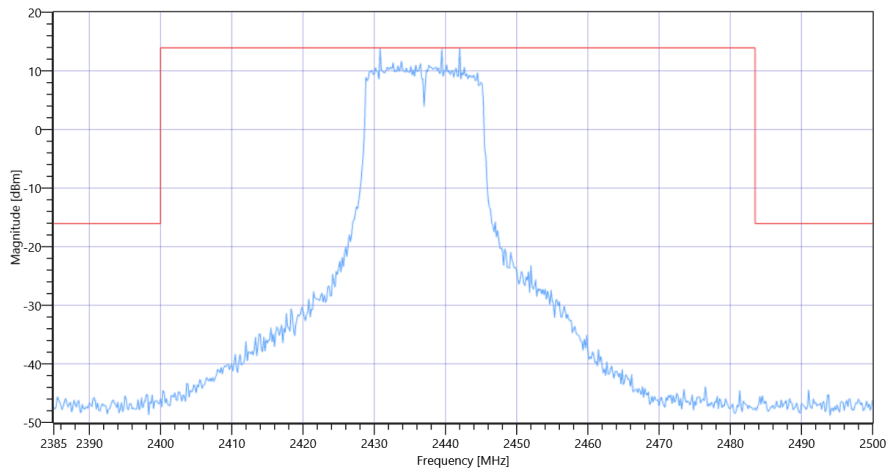
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	22.91   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2442.00 MHz	---	---	13.92	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-149.92	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437



## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:45:48
Ambit Temp [°C]   Humidity [rel%]	21.1   32
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.	---	---	22.80	dBm	INFO
Ref. Frequency	---	---	2433.800	MHz	INFO

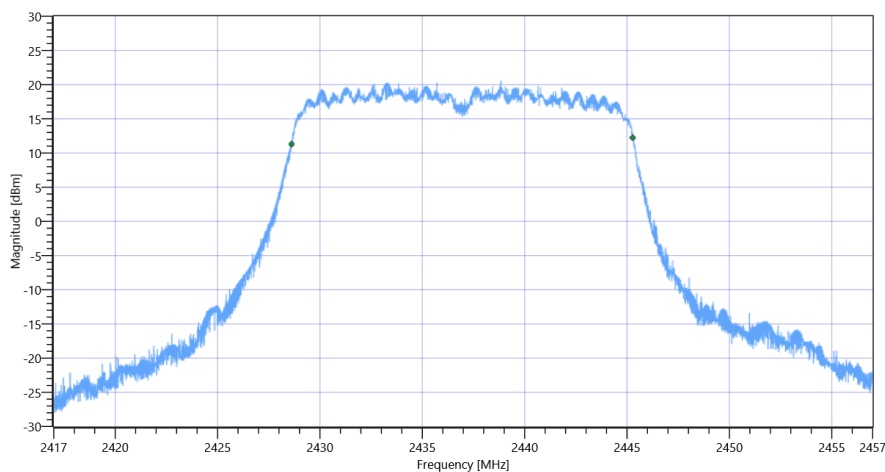
## READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.80   5   40
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

## RESULT

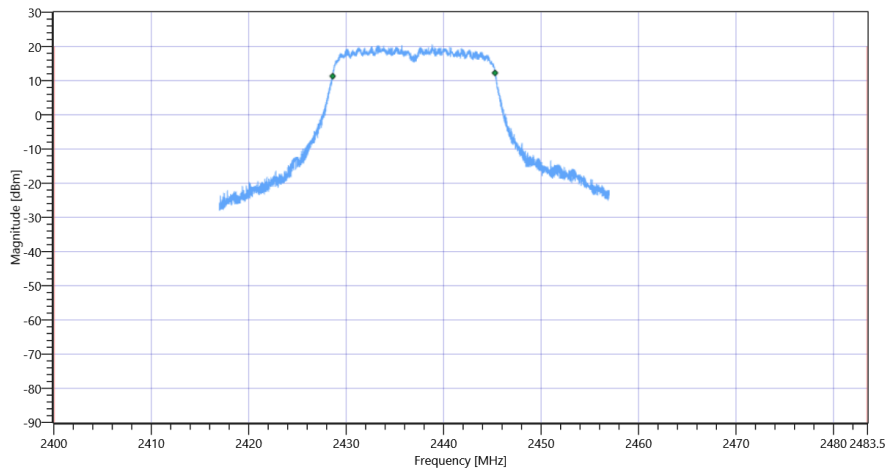
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16662.000	kHz	INFO
T1 99%	2400.000000	---	2428.6128	MHz	PASS
T2 99%	---	2483.500000	2445.2752	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

## Plot: Bandwidth within Band

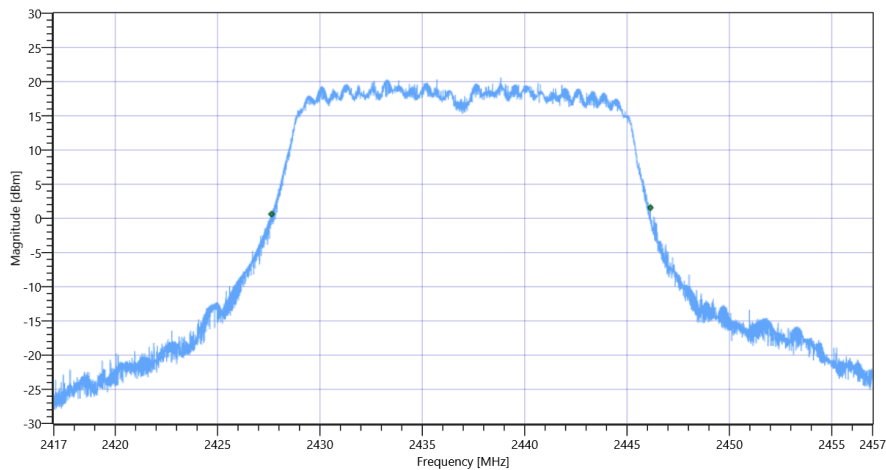


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

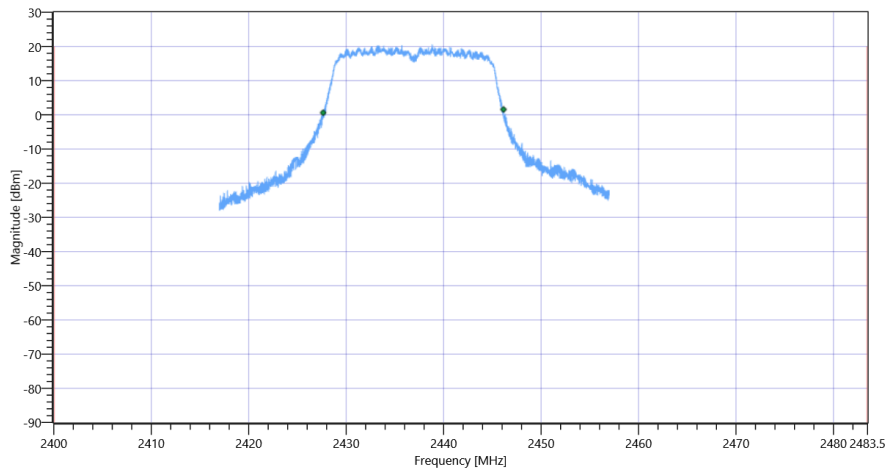
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18508	kHz	INFO
T1 20dB	2400.000000	---	2427.6360	MHz	PASS
T2 20dB	---	2483.500000	2446.1440	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:44:41
Ambit Temp [°C]   Humidity [rel%]	21.1   32
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.	--	--	22.40	dBm	INFO
Ref. Frequency	--	--	2439.500	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

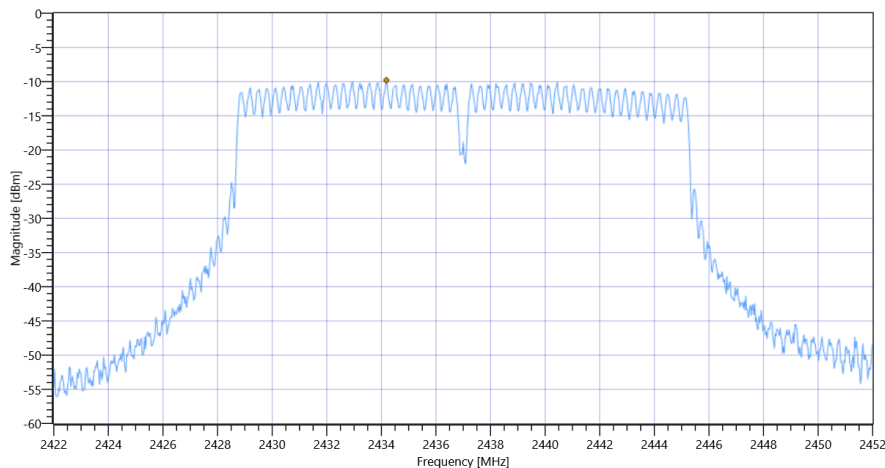
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.41   5   40
Start [MHz]   Stop [MHz]	2422.000   2452.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-9.79	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-9.79	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:44:01
Ambit Temp [°C]   Humidity [rel%]	21.1   32
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
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]	-10
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.

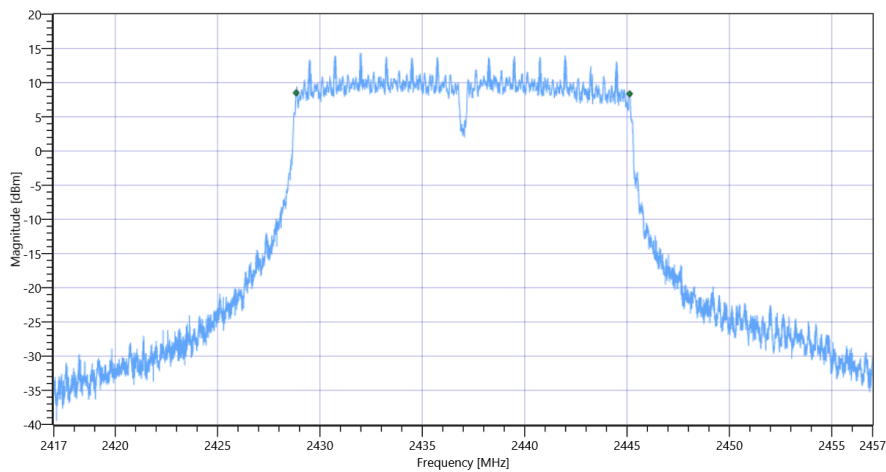
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.58	dBm	INFO
Ref. Frequency	---	---	2437.700	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.58   5   40
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	---	16284	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode



## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:33:44
Ambit Temp [°C]   Humidity [rel%]	21.5   31
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.

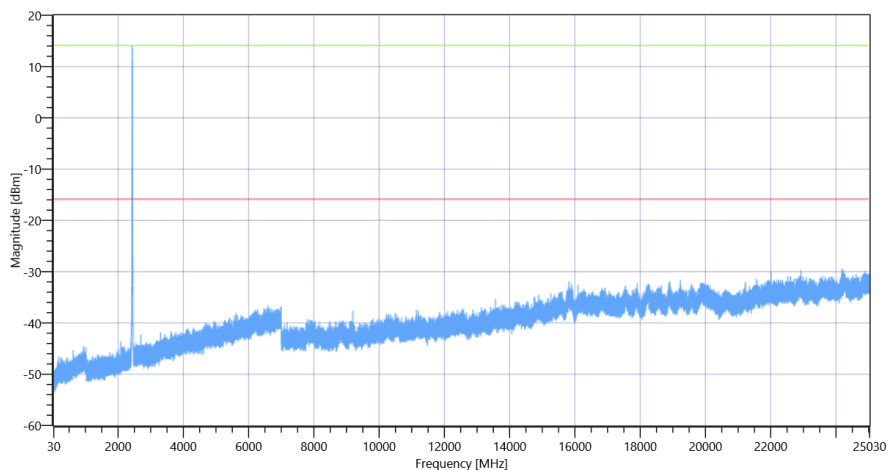
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.23	dBm	INFO
Ref. Frequency	---	---	2433.600	MHz	INFO

### READ SA SETTINGS:

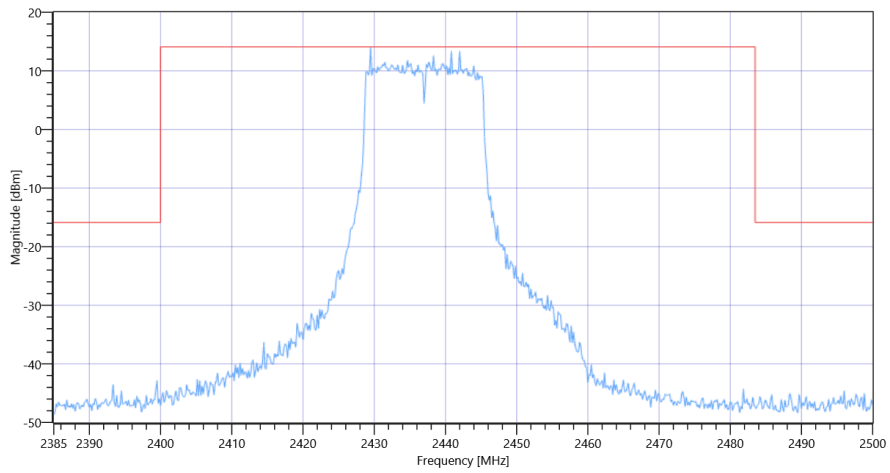
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	22.23   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2429.50 MHz	---	---	14.11	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24186.667 MHz	0	---	13.52	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:32:43
Ambit Temp [°C]   Humidity [rel%]	21.6   31
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.	---	---	22.84	dBm	INFO
Ref. Frequency	---	---	2437.900	MHz	INFO

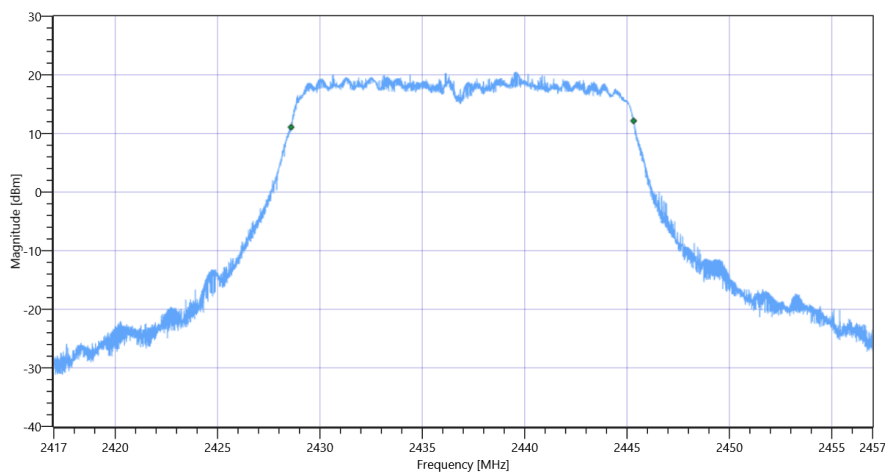
## READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.84   5   40
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

## RESULT

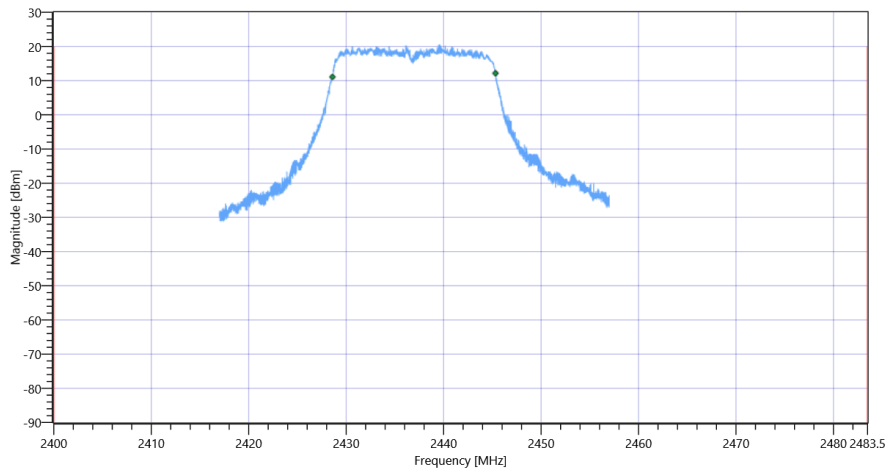
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16726.000	kHz	INFO
T1 99%	2400.000000	---	2428.5928	MHz	PASS
T2 99%	---	2483.500000	2445.3192	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

## Plot: Bandwidth within Band

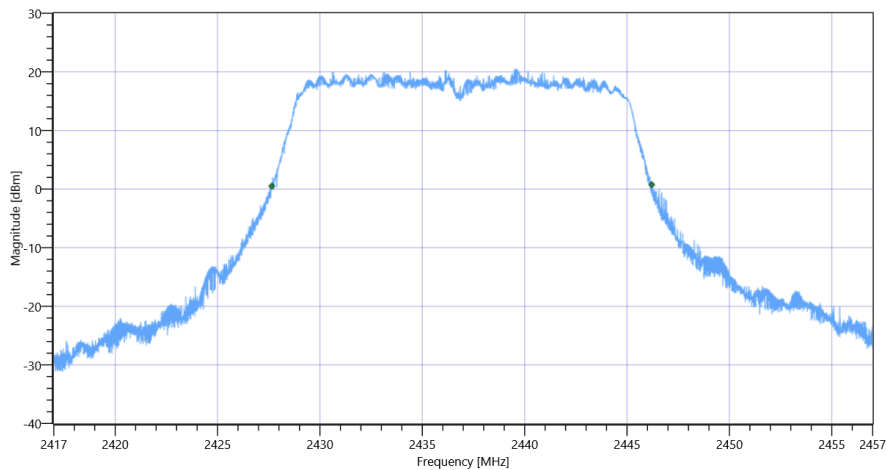


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

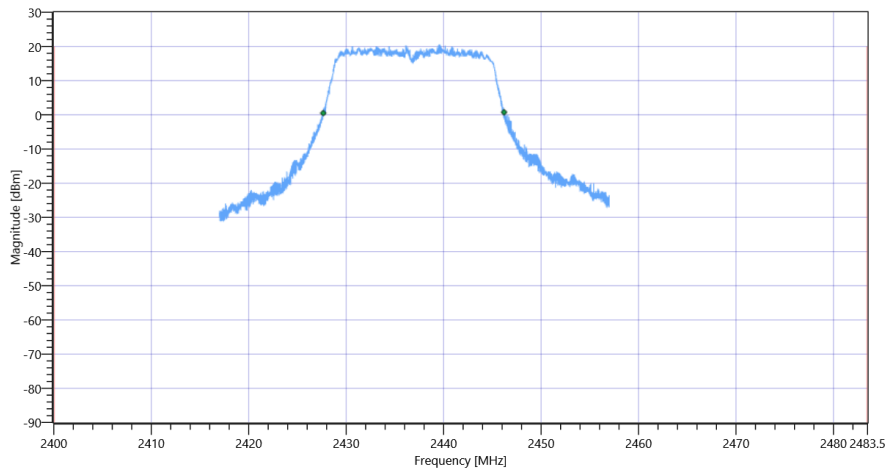
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18556	kHz	INFO
T1 20dB	2400.000000	---	2427.6480	MHz	PASS
T2 20dB	---	2483.500000	2446.2040	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:31:36
Ambit Temp [°C]   Humidity [rel%]	21.6   31
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.	--	--	22.45	dBm	INFO
Ref. Frequency	--	--	2439.700	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

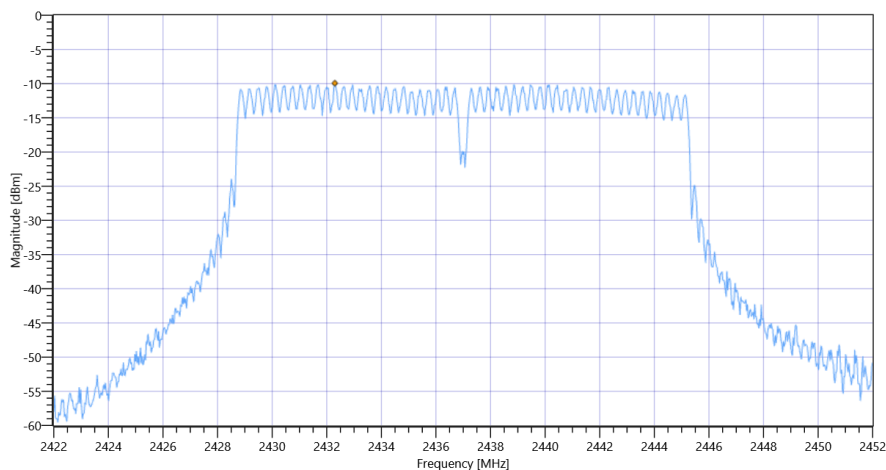
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.45   5   40
Start [MHz]   Stop [MHz]	2422.000   2452.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-9.93	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-9.93	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:30:57
Ambit Temp [°C]   Humidity [rel%]	21.6   31
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	3
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]	-10
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.

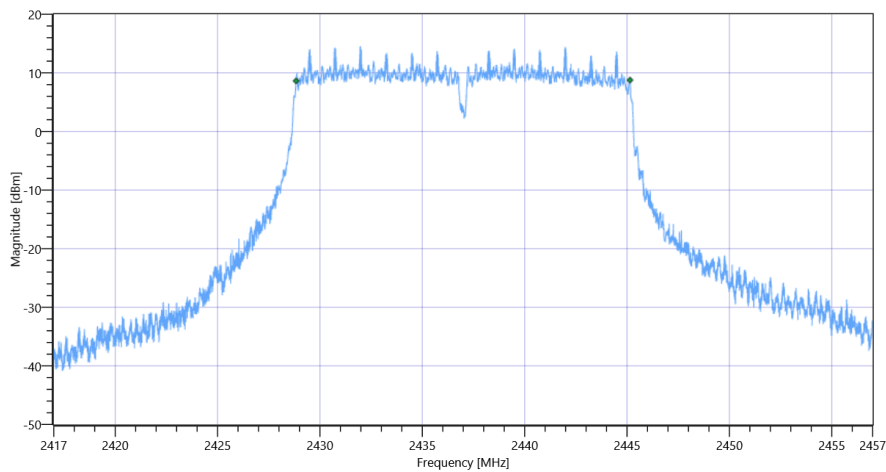
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.72	dBm	INFO
Ref. Frequency	---	---	2433.600	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.72   5   40
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	---	16308	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:20:40
Ambit Temp [°C]   Humidity [rel%]	22.1   30
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

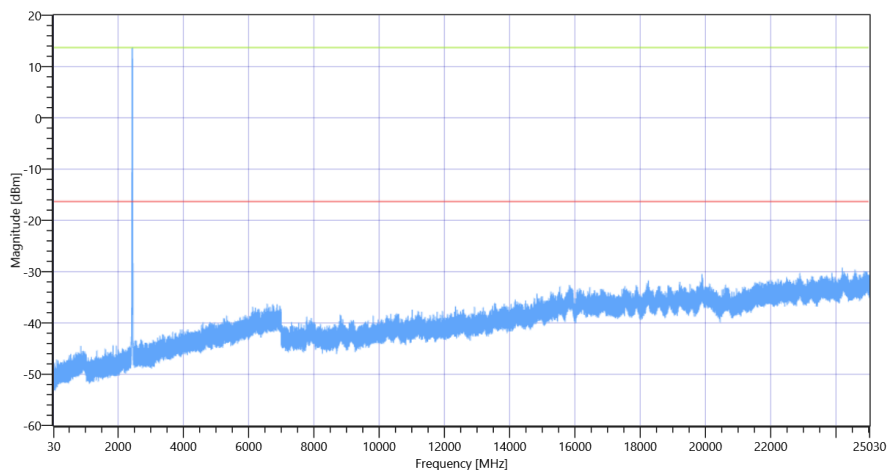
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	22.09	dBm	INFO
Ref. Frequency	---	---	2434.300	MHz	INFO

### READ SA SETTINGS:

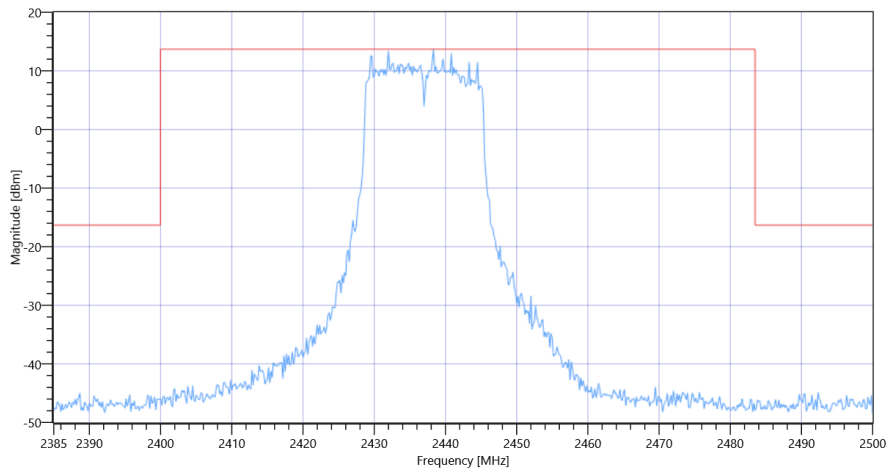
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	22.09   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2438.33 MHz	---	---	13.70	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24192.167 MHz	0	---	12.93	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:19:40
Ambit Temp [°C]   Humidity [rel%]	22.2   30
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	---	---	21.95	dBm	INFO
Ref. Frequency	---	---	2433.200	MHz	INFO

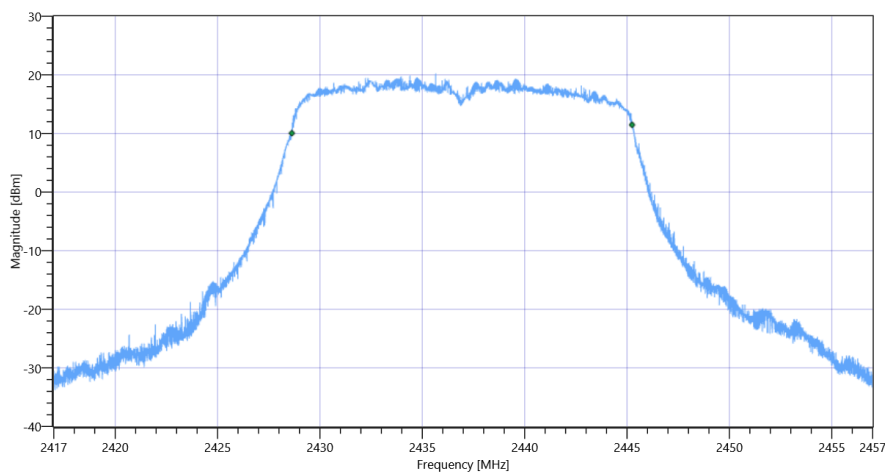
## READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.95   5   40
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

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16618.000	kHz	INFO
T1 99%	2400.000000	---	2428.6288	MHz	PASS
T2 99%	---	2483.500000	2445.2472	MHz	PASS

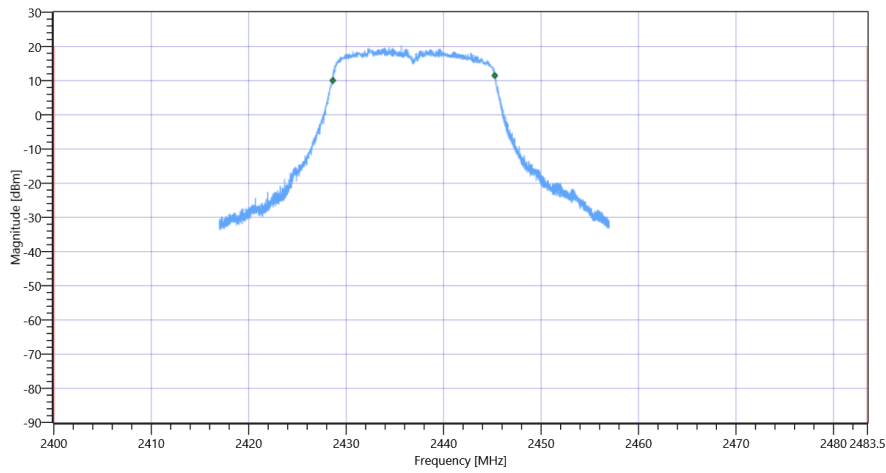
## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

## Plot: Bandwidth within Band



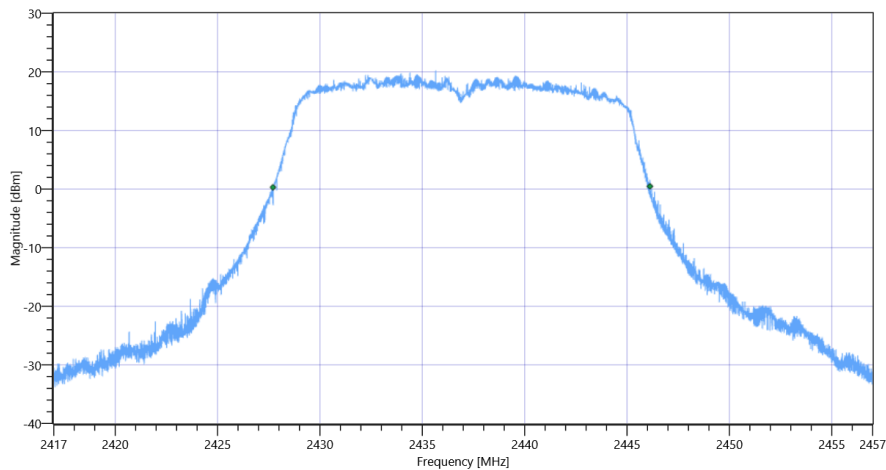


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

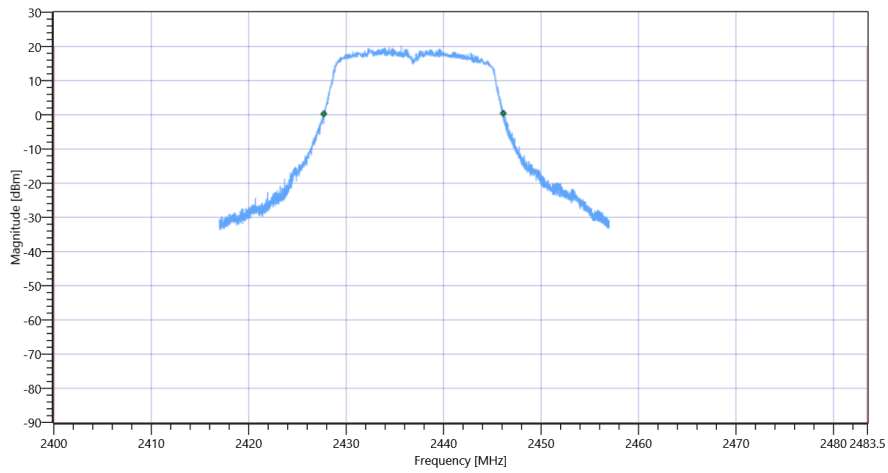
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18416	kHz	INFO
T1 20dB	2400.000000	---	2427.7040	MHz	PASS
T2 20dB	---	2483.500000	2446.1200	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:18:33
Ambit Temp [°C]   Humidity [rel%]	22.2   30
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	--	--	21.94	dBm	INFO
Ref. Frequency	--	--	2433.100	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

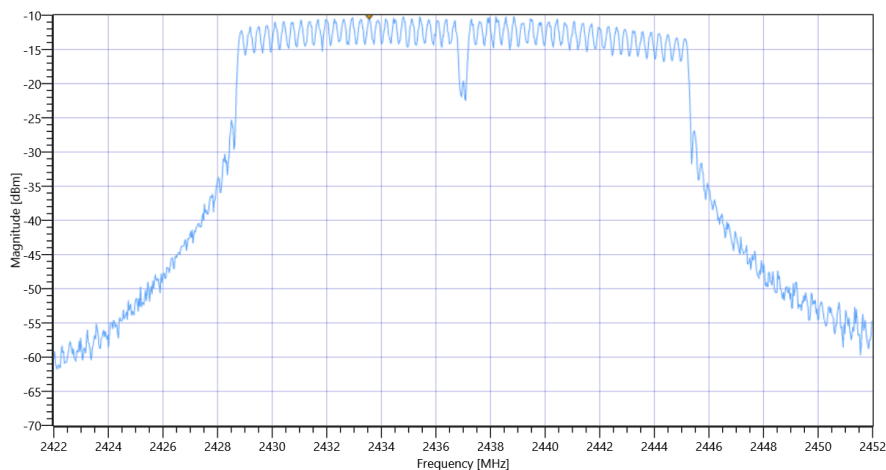
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.94   5   40
Start [MHz]   Stop [MHz]	2422.000   2452.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-10.1	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-10.1	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:17:54
Ambit Temp [°C]   Humidity [rel%]	22.2   30
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

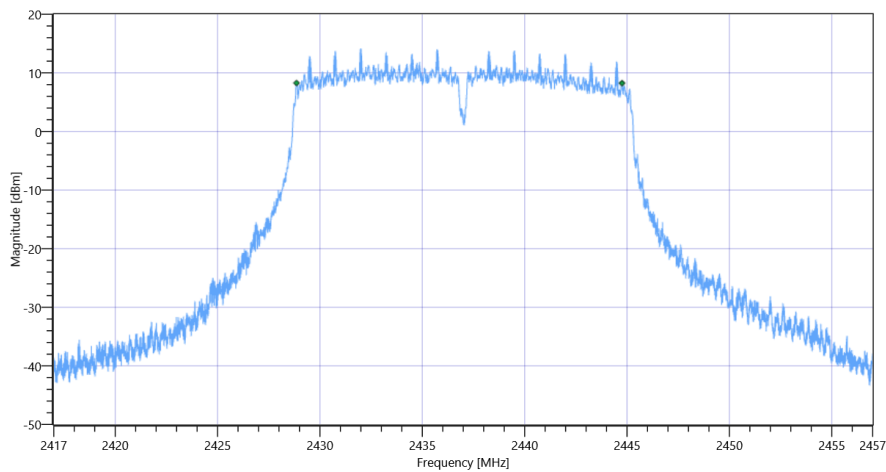
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.62	dBm	INFO
Ref. Frequency	---	---	2435.700	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.62   5   40
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	---	15900	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:07:38
Ambit Temp [°C]   Humidity [rel%]	22.7   29
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

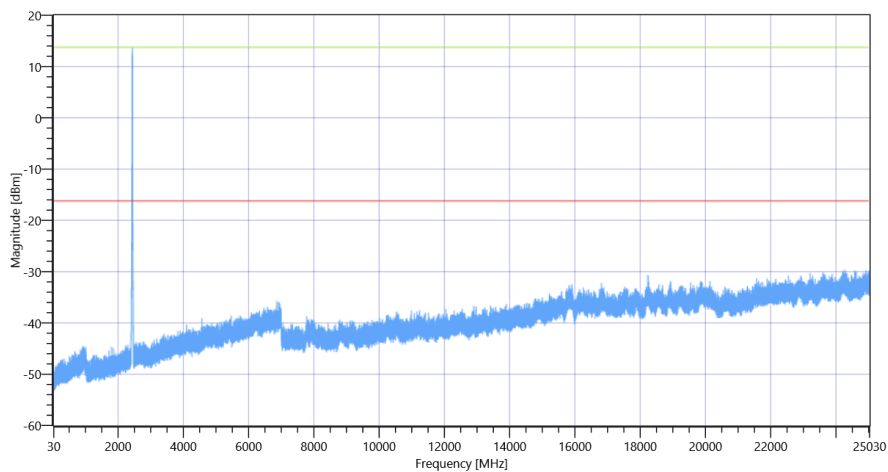
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.71	dBm	INFO
Ref. Frequency	---	---	2438.900	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	21.71   0   40
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

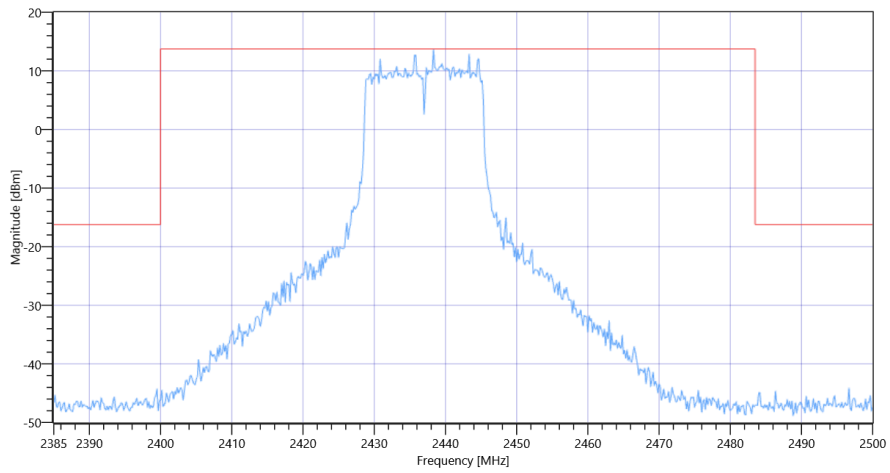
### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2438.33 MHz	---	---	13.76	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-149.35	dB	INFO



FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437





FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode 2437

## FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:06:37
Ambit Temp [°C]   Humidity [rel%]	22.8   29
System Version	3.3.3.0
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	---	---	22.11	dBm	INFO
Ref. Frequency	---	---	2438.600	MHz	INFO

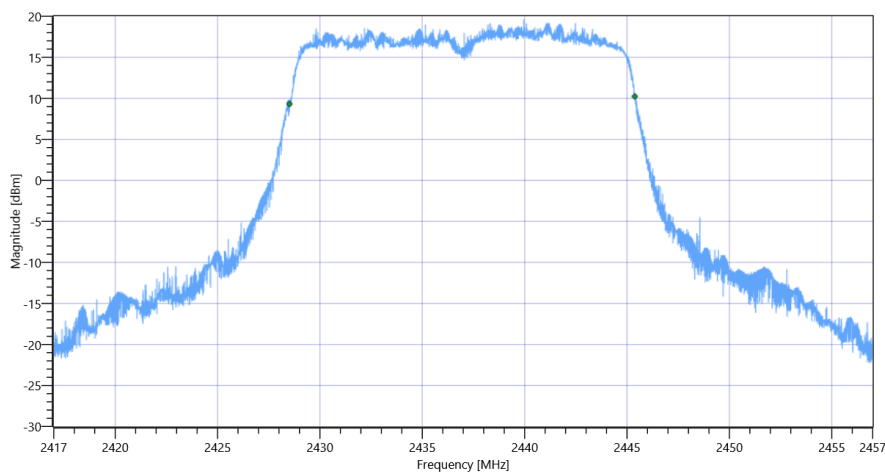
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	27.11   5   40
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

### RESULT

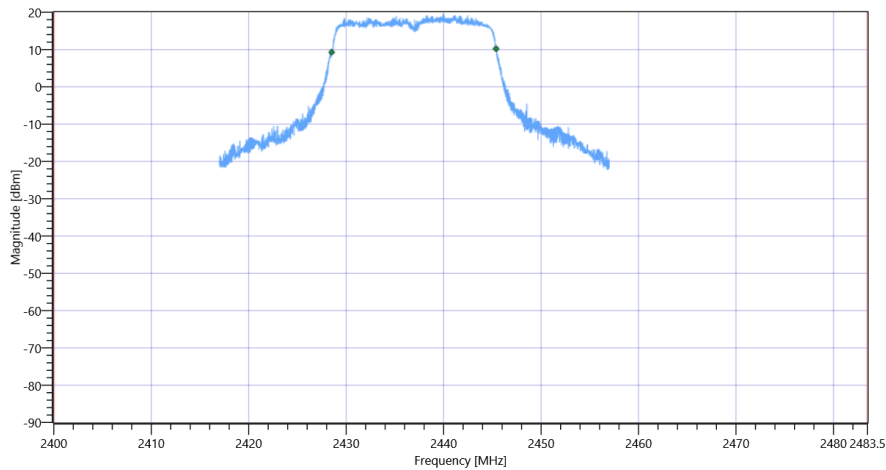
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16870.000	kHz	INFO
T1 99%	2400.000000	---	2428.5088	MHz	PASS
T2 99%	---	2483.500000	2445.3792	MHz	PASS

### Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 99PCT

### Plot: Bandwidth within Band

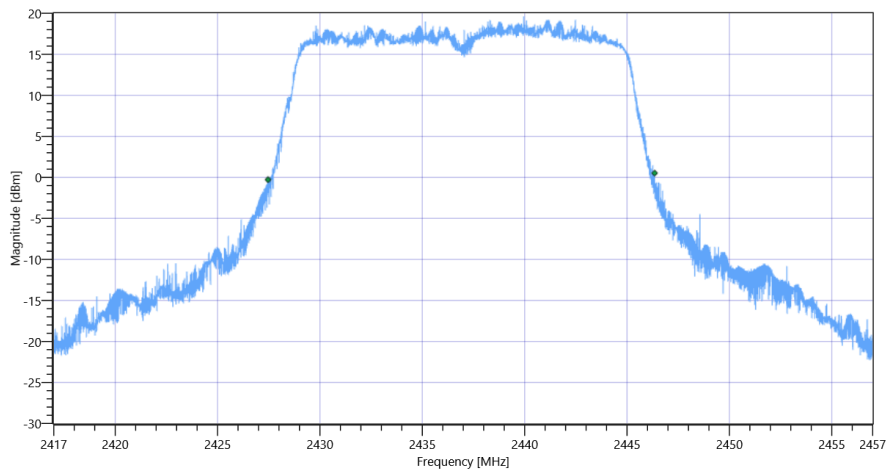


FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## RESULT

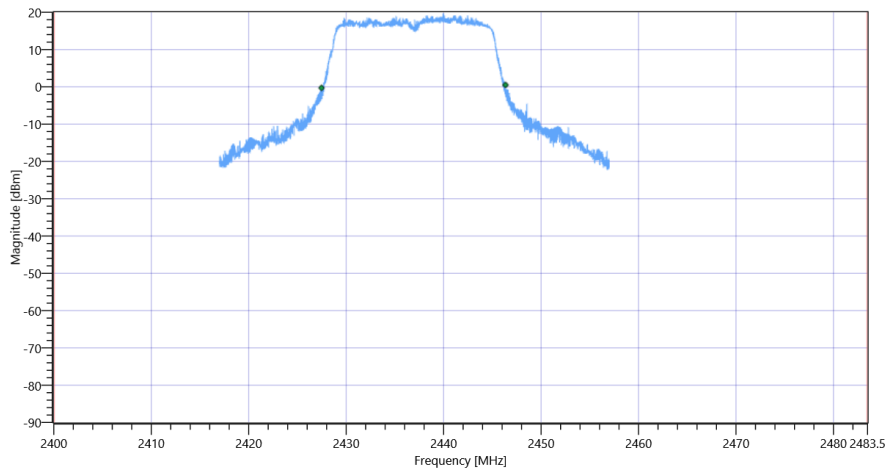
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18880	kHz	INFO
T1 20dB	2400.000000	---	2427.4680	MHz	PASS
T2 20dB	---	2483.500000	2446.3480	MHz	PASS

## Plot: Bandwidth only



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode 20dB

## Plot: Bandwidth within Band



FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 g mode

## FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:05:29
Ambit Temp [°C]   Humidity [rel%]	22.8   29
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
TC Version	0.0.1
My Description	FCC 15.247 Avg Power Spectral Density DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.	--	--	21.84	dBm	INFO
Ref. Frequency	--	--	2440.600	MHz	INFO

Evaluation max. Duty Cycle

### Duty Cycle evaluation

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle min	--	--	0	dB	DC > 98% defined

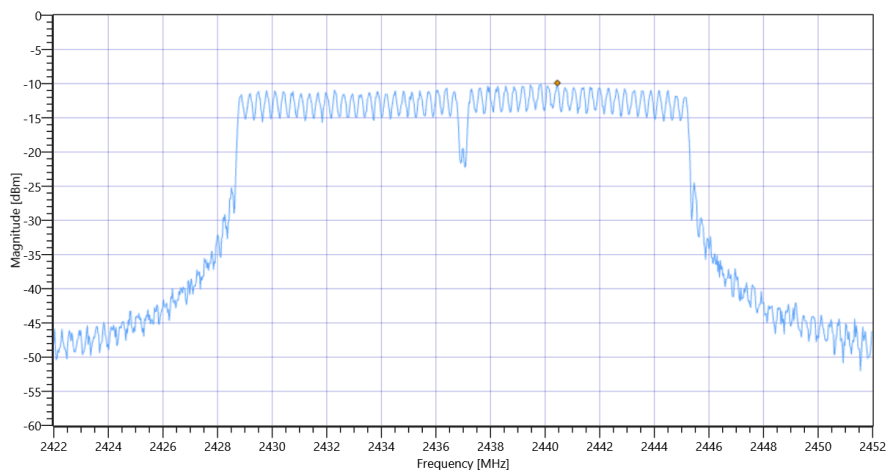
Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.84   5   40
Start [MHz]   Stop [MHz]	2422.000   2452.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	334   100   1001   SWE

## RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg PSD uncorrected	--	--	-9.9	dBm	INFO
Duty cycle correction	--	--	0	dB	INFO
Avg PSD DC corrected	--	8	-9.9	dBm/3kHz	PASS



FCC 15.247 # Avg power spectral density DTS ~ WLAN2G4 g mode

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 09:04:50
Ambit Temp [°C]   Humidity [rel%]	22.8   29
System Version	3.3.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g 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]	-10
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.

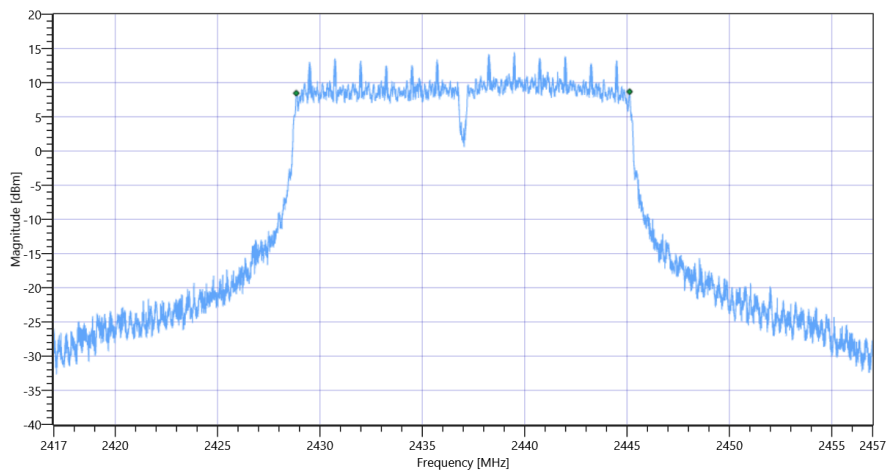
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.80	dBm	INFO
Ref. Frequency	---	---	2438.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.80   5   40
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	---	16280	kHz	PASS



FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 g mode

## FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 g mode

### Test References

TC Start	05.12.2022 08:54:03
Ambit Temp [°C]   Humidity [rel%]	23.4   29
System Version	3.3.3.0
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 30dBc DTS - WLAN2G4 g mode
Add. Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	4
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 g mode
Antenna Port used	4
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto Control enabled Power Supply   Climatic Box	No   No
Additional Path Loss [dB]	-10
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