

# Measurement Results

No.1-3977/22-01-04\_Annex\_MR\_A3

---

## Test logging

This document is electronically signed and valid without handwritten signature.  
For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test/s performed:

---

---

**Michael Dorongovski**  
Lab Manager  
Radio Communications

## Table of Content

EUT Information	4
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	5
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	7
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	9
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	11
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	13
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	15
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	17
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	21
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	25
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	29
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	31
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	33
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	35
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	38
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	41
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	44
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	46
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	48
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	50
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	52
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	54
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	56
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	60
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	64
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	68
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	70
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	72
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	74
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	77
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	80
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	83
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	85
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	87
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	89
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	91
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	93
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	95
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	99
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	103
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	107
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	109
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	111

FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	113
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	116
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	119
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	122
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	124
FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode	126
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	128
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	130
FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode	132
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	134
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	138
FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode	142
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	146
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	148
FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode	150
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	152
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	155
FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode	158

## EUT Information

EUT DEFINITION	
Manufacturer	SAGEMCOM BROADBAND SAS
Type	F5688W
Serial Number	NI
Setup Number	1.0
Version SW	NI
Version FW	NI
Version HW	V1.0
Comment 1	
Comment 2	
Temperature [°C] Min	0
Temperature [°C] Nom	20
Temperature [°C] Max	50
Voltage [V] Min	120
Voltage [V] Nom	120
Voltage [V] Max	120

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:33:13
Ambit Temp [°C]   Humidity [rel%]	23.1   20
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.55	dBm	INFO
Ref. Frequency	---	---	2407.100	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

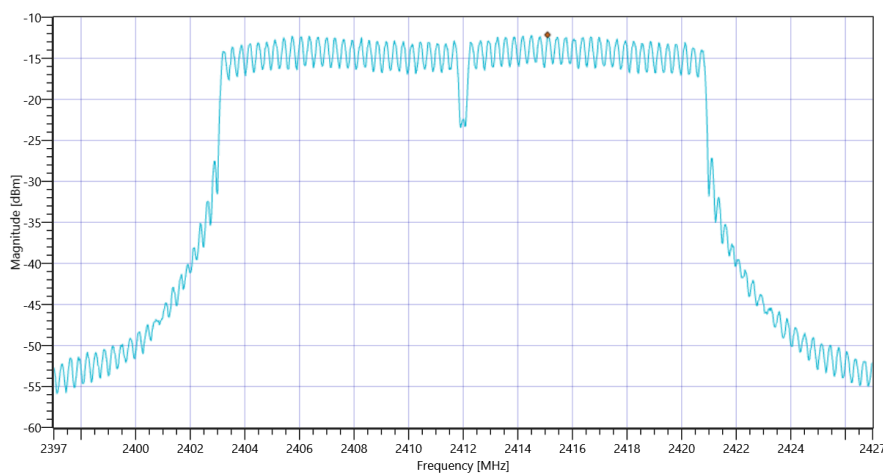
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.55   10.6   30
Start [MHz]   Stop [MHz]	2397.000   2427.000
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	---	---	-12.14	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-12.14	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:54:04
Ambit Temp [°C]   Humidity [rel%]	23.5   19
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.09	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

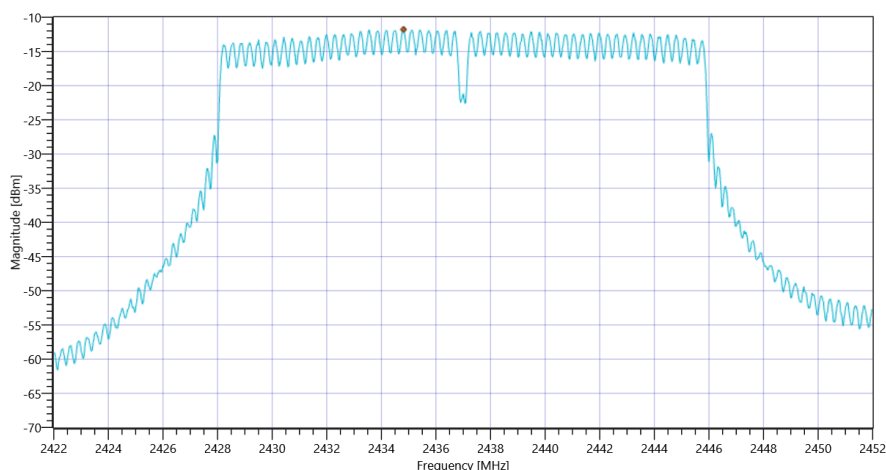
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.09   10.6   35
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	---	---	-11.78	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.78	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

**PASS**



## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:10:46
Ambit Temp [°C]   Humidity [rel%]	23.7   19
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.82	dBm	INFO
Ref. Frequency	---	---	2460.400	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

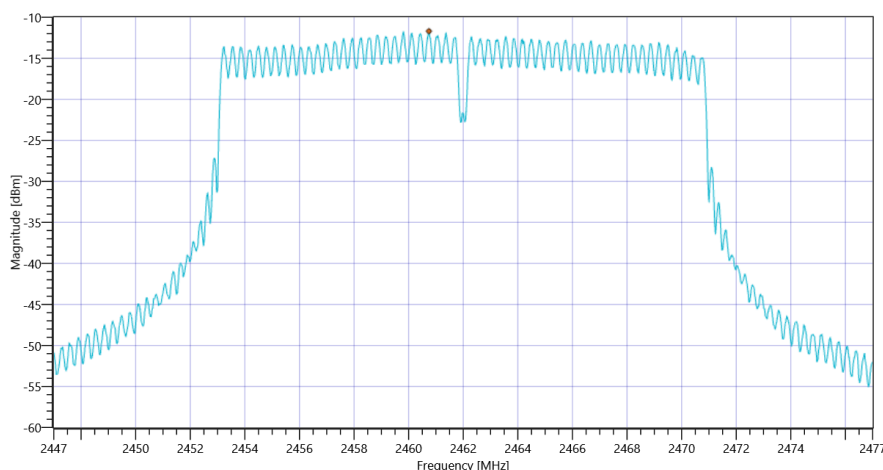
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.82   10.61   30
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	---	---	-11.69	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.69	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:32:34
Ambit Temp [°C]   Humidity [rel%]	23.0   20
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

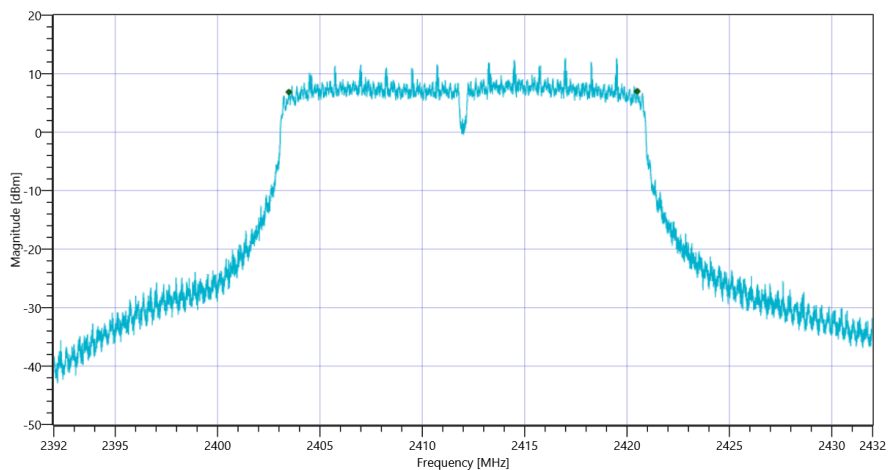
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.41	dBm	INFO
Ref. Frequency	---	---	2414.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.41   10.6   30
Start [MHz]   Stop [MHz]	2392.000   2432.000
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	---	17020	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:53:26
Ambit Temp [°C]   Humidity [rel%]	23.5   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

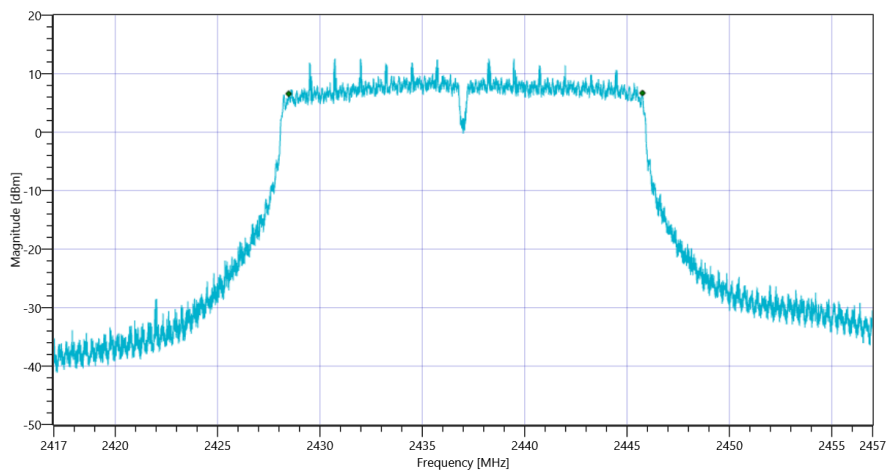
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.64	dBm	INFO
Ref. Frequency	---	---	2434.900	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.64   10.6   35
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	---	17280	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:10:08
Ambit Temp [°C]   Humidity [rel%]	23.6   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

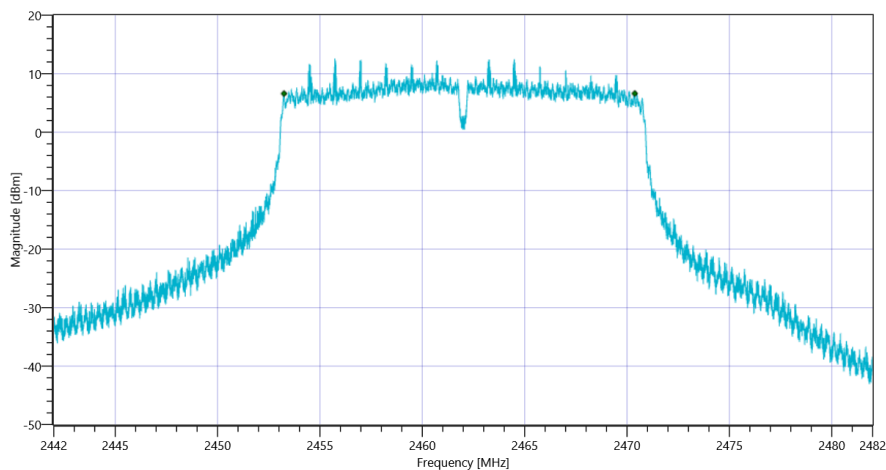
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.88	dBm	INFO
Ref. Frequency	---	---	2457.100	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.88   10.61   30
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	---	17132	kHz	PASS



General verdict

PASS



## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:34:20
Ambit Temp [°C]   Humidity [rel%]	23.2   20
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.18	dBm	INFO
Ref. Frequency	---	---	2416.200	MHz	INFO

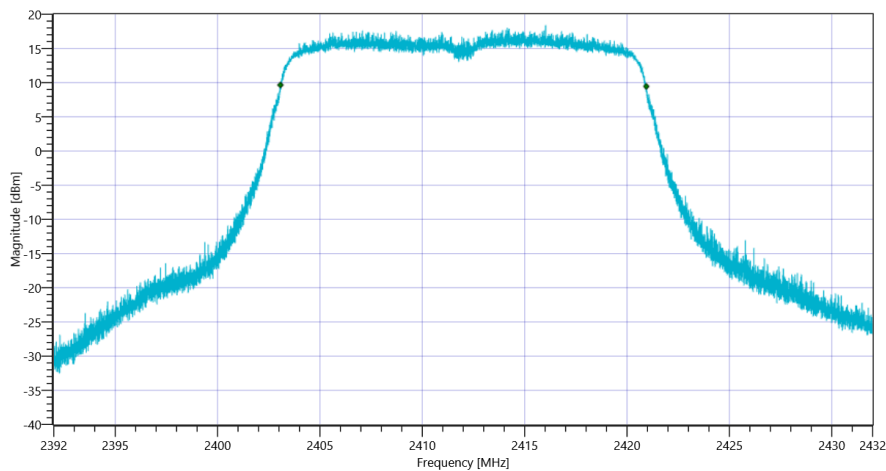
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.18   10.6   30
Start [MHz]   Stop [MHz]	2392.000   2432.000
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

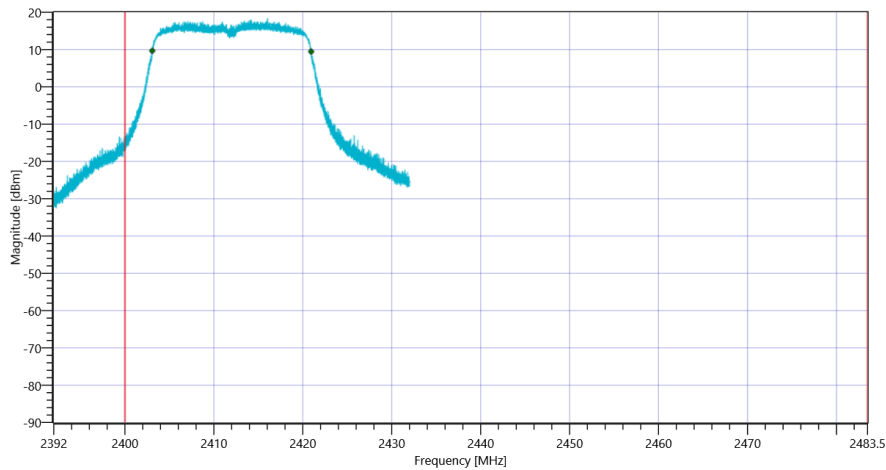
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17870.213	kHz	INFO
T1 99%	2400.000000	---	2403.0689	MHz	PASS
T2 99%	---	2483.500000	2420.9391	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

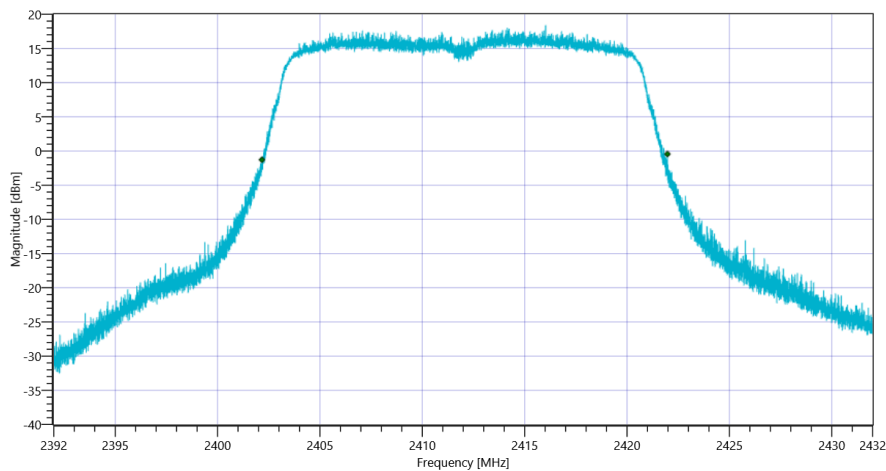
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

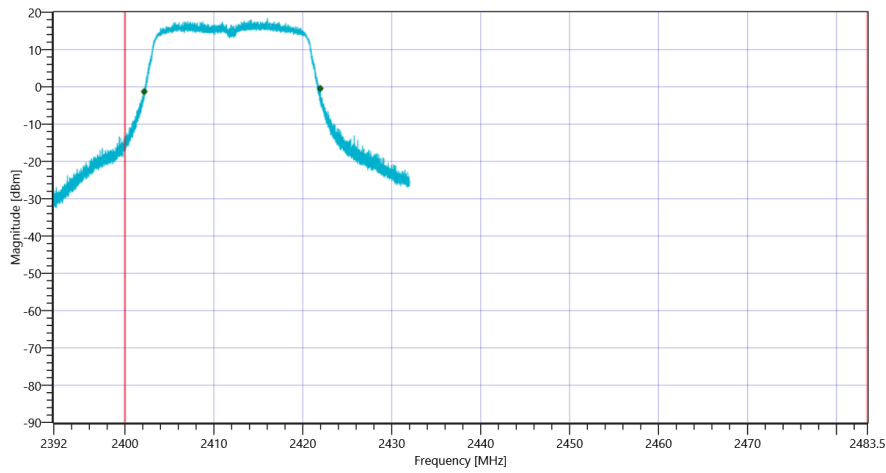
RESULT						
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict	
Bandwidth 20dB	---	---	19804	kHz	INFO	
T1 20dB	2400.000000	---	2402.1680	MHz	PASS	
T2 20dB	---	2483.500000	2421.9720	MHz	PASS	

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:55:11
Ambit Temp [°C]   Humidity [rel%]	23.6   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.15	dBm	INFO
Ref. Frequency	---	---	2439.600	MHz	INFO

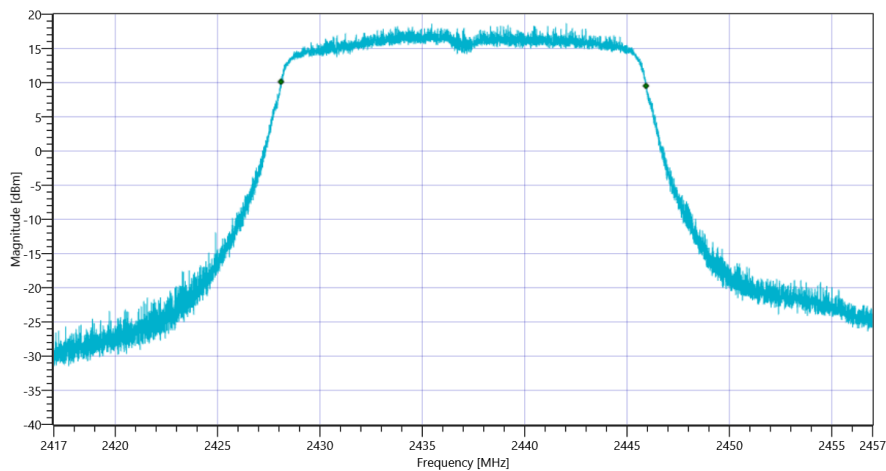
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.15   10.6   30
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

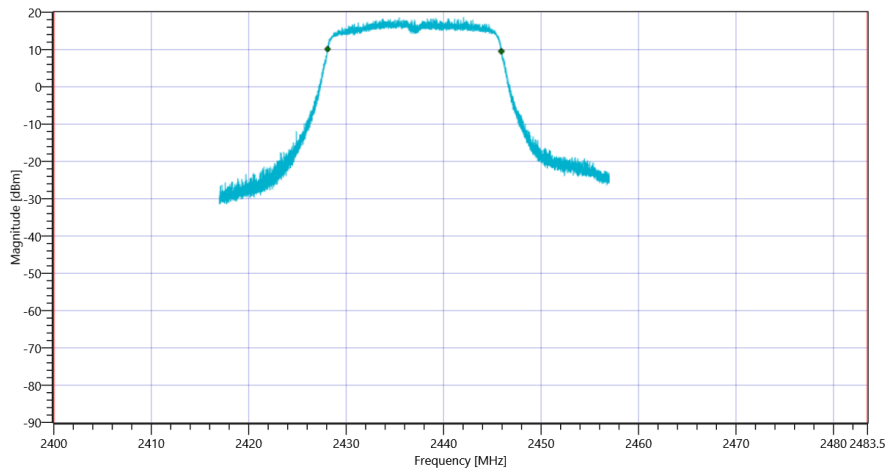
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17830.217	kHz	INFO
T1 99%	2400.000000	---	2428.0929	MHz	PASS
T2 99%	---	2483.500000	2445.9231	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

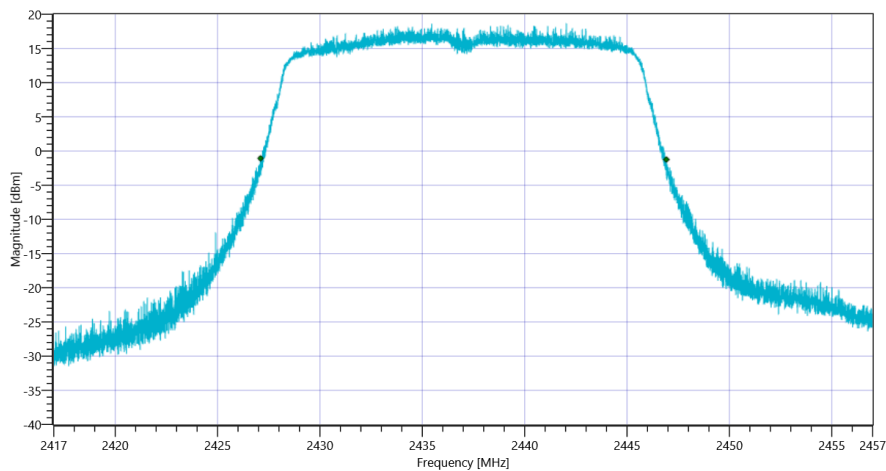
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

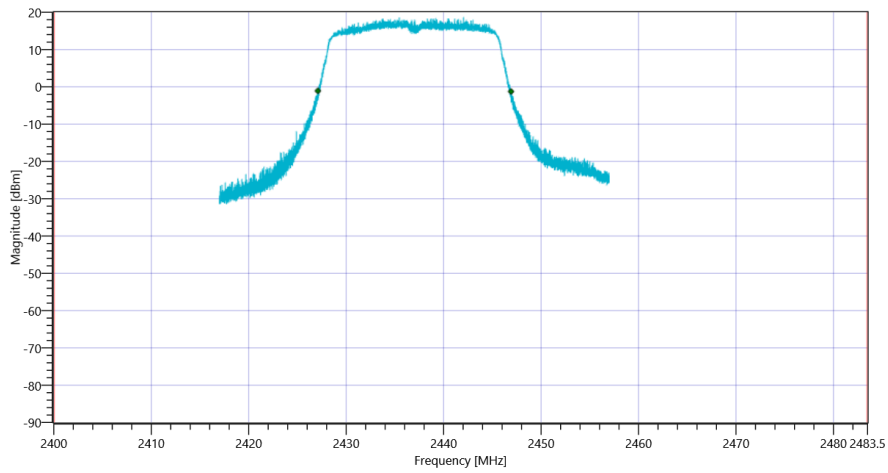
RESULT						
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict	
Bandwidth 20dB	---	---	19824	kHz	INFO	
T1 20dB	2400.000000	---	2427.0960	MHz	PASS	
T2 20dB	---	2483.500000	2446.9200	MHz	PASS	

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS



## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:11:53
Ambit Temp [°C]   Humidity [rel%]	23.7   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.41	dBm	INFO
Ref. Frequency	---	---	2464.800	MHz	INFO

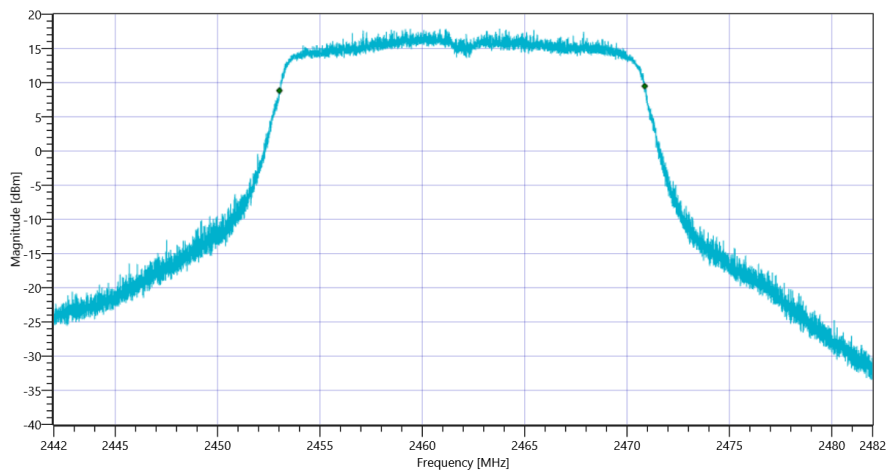
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.41   10.61   30
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

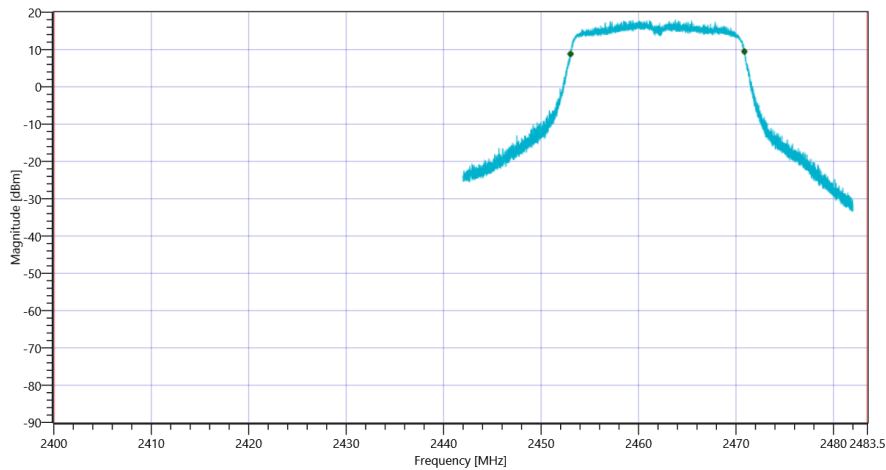
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17842.216	kHz	INFO
T1 99%	2400.000000	---	2453.0209	MHz	PASS
T2 99%	---	2483.500000	2470.8631	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

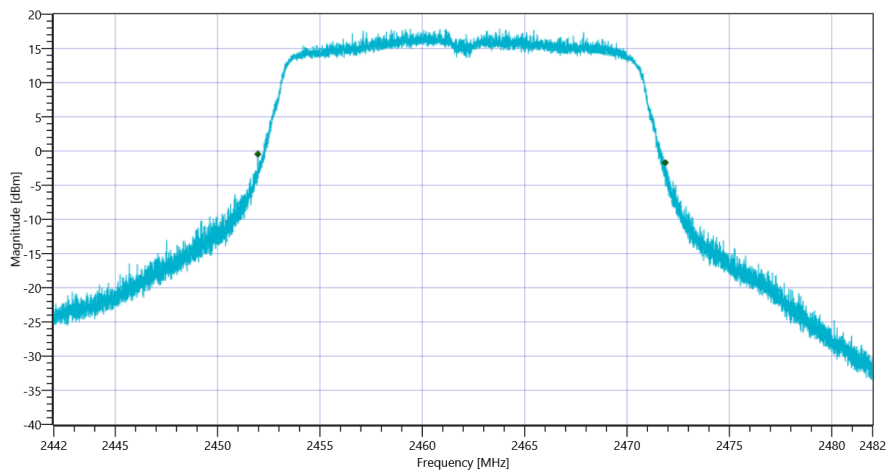
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

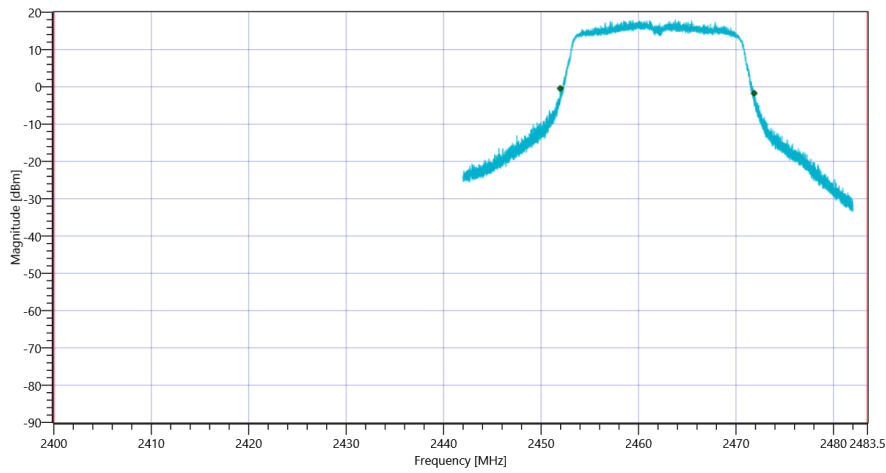
RESULT						
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict	
Bandwidth 20dB	---	---	19900	kHz	INFO	
T1 20dB	2400.000000	---	2451.9680	MHz	PASS	
T2 20dB	---	2483.500000	2471.8680	MHz	PASS	

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:42:49
Ambit Temp [°C]   Humidity [rel%]	23.5   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.48	dBm	INFO
Ref. Frequency	---	---	2416.800	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

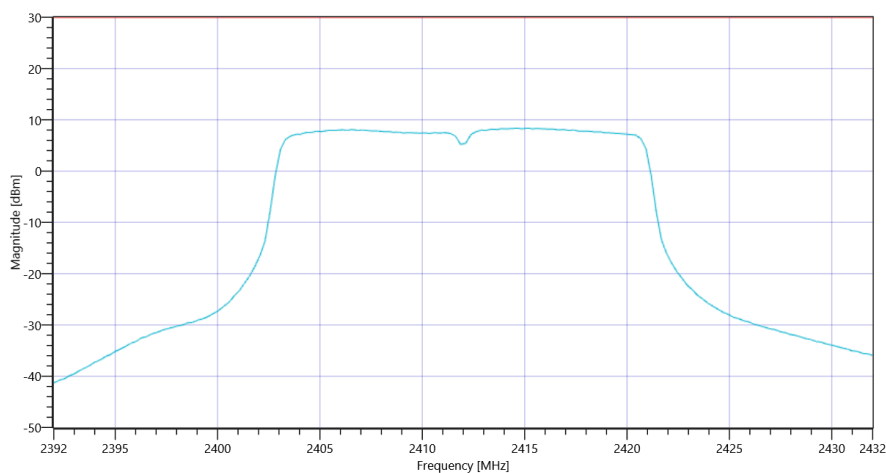
## Maximum Avg. Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	29.48   10.6   35
Start [MHz]   Stop [MHz]	2392.000   2432.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	22.9	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	22.9	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:03:38
Ambit Temp [°C]   Humidity [rel%]	23.6   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.31	dBm	INFO
Ref. Frequency	---	---	2439.100	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

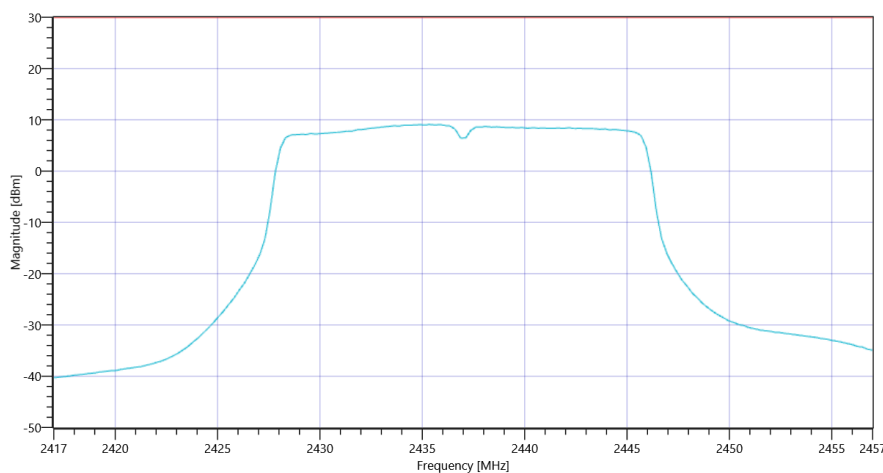
### Maximum Avg. Output Power

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	30.31   10.6   35
Start [MHz]   Stop [MHz]	2417.000   2457.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

#### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	23.44	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	23.44	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

**PASS**



## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:20:22
Ambit Temp [°C]   Humidity [rel%]	23.7   19
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.30	dBm	INFO
Ref. Frequency	---	---	2467.390	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

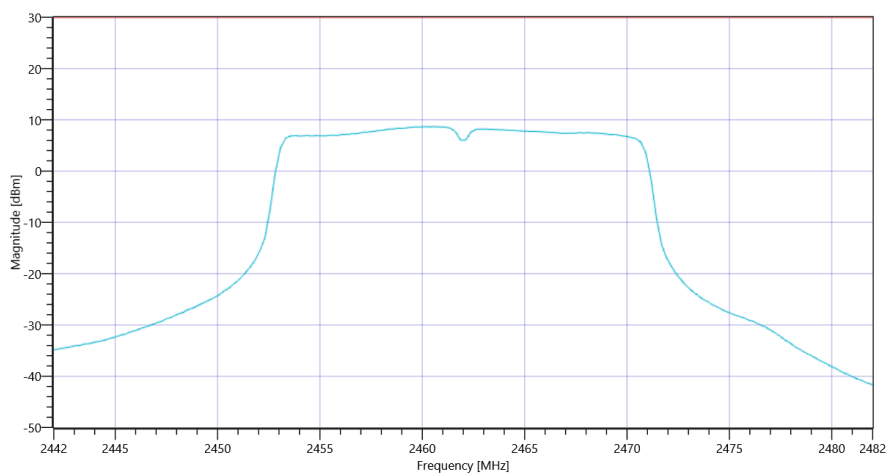
## Maximum Avg. Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	30.30   10.61   35
Start [MHz]   Stop [MHz]	2442.000   2482.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	22.83	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	22.83	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:35:18
Ambit Temp [°C]   Humidity [rel%]	23.2   20
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

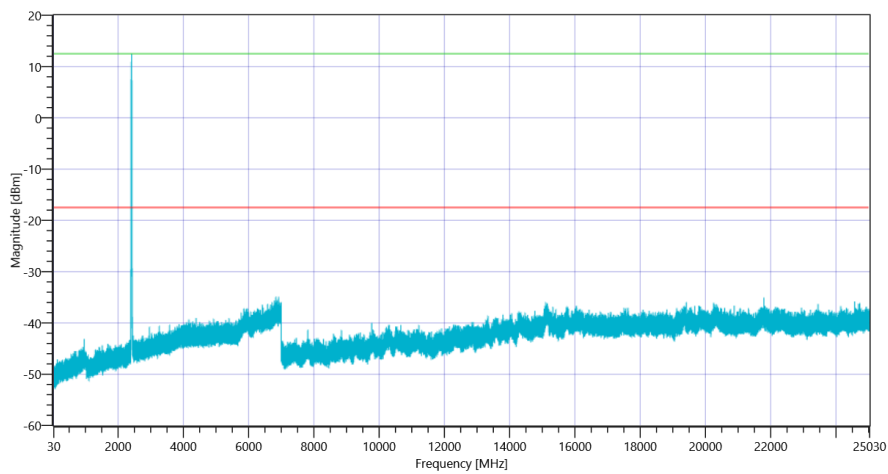
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.90	dBm	INFO
Ref. Frequency	---	---	2414.400	MHz	INFO

### READ SA SETTINGS:

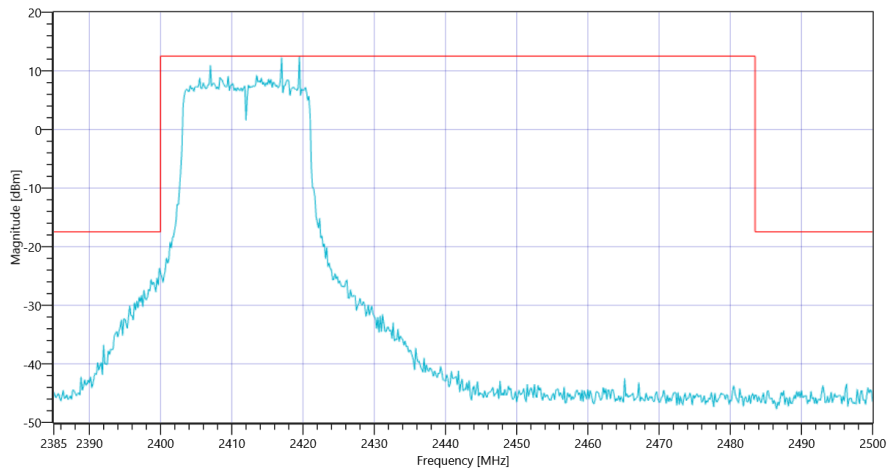
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.90   0   35
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2419.50 MHz	---	---	12.51	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 2399.833 MHz	0	---	6.15	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2412



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2412

General verdict

PASS

## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 13:56:08
Ambit Temp [°C]   Humidity [rel%]	23.6   19
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

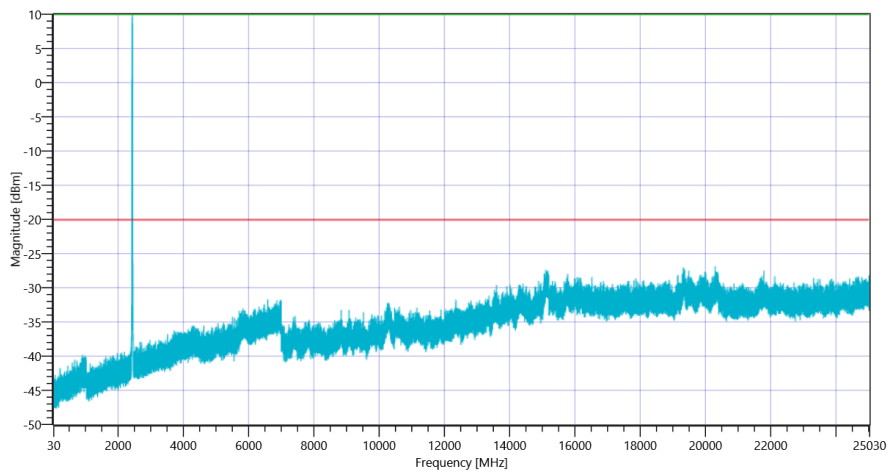
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.27	dBm	INFO
Ref. Frequency	---	---	2433.400	MHz	INFO

### READ SA SETTINGS:

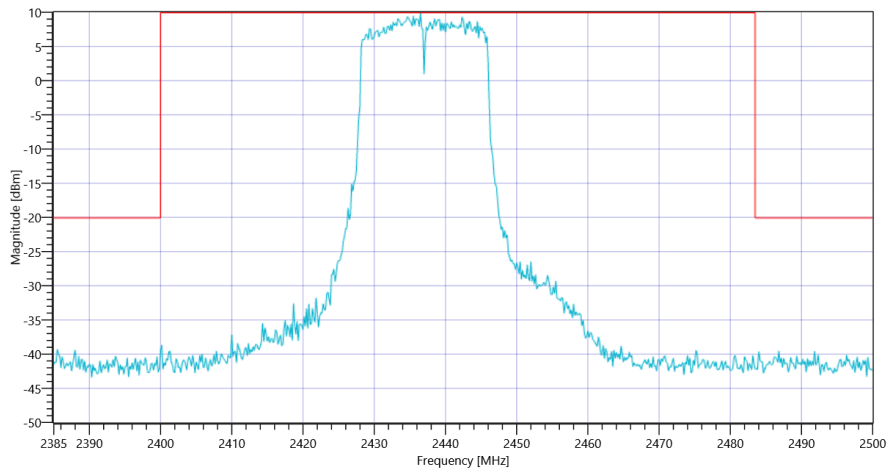
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	20.27   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2436.50 MHz	---	---	9.92	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 20297.333 MHz	0	---	6.8	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2437



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2437

General verdict

PASS



## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:12:52
Ambit Temp [°C]   Humidity [rel%]	23.7   19
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

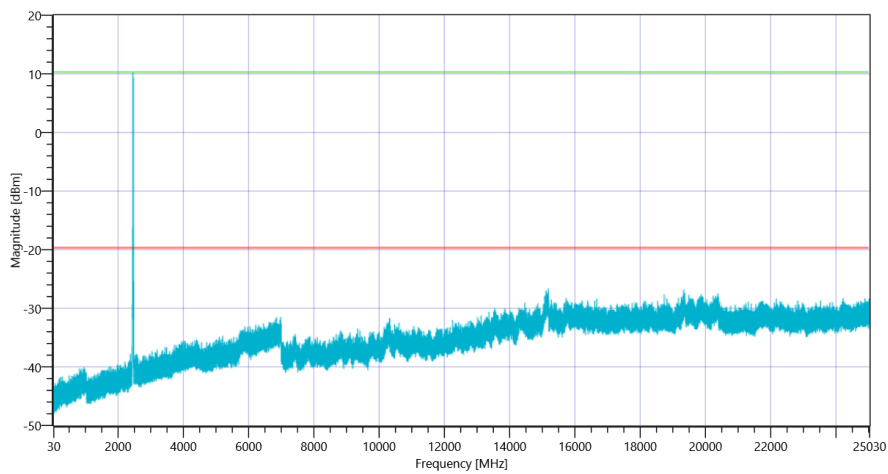
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.17	dBm	INFO
Ref. Frequency	---	---	2460.000	MHz	INFO

### READ SA SETTINGS:

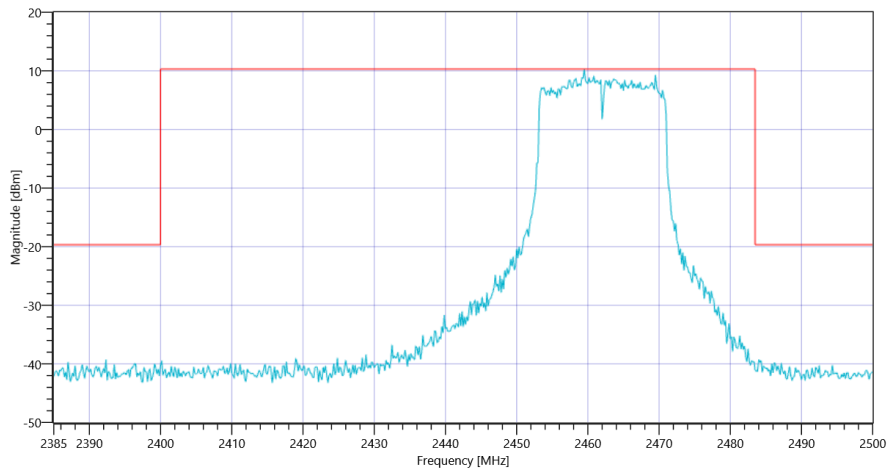
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	20.17   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2459.50 MHz	---	---	10.31	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 15183.5 MHz	0	---	6.95	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2462



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2462

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:31:54
Ambit Temp [°C]   Humidity [rel%]	23.8   18
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	2
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.52	dBm	INFO
Ref. Frequency	---	---	2408.900	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

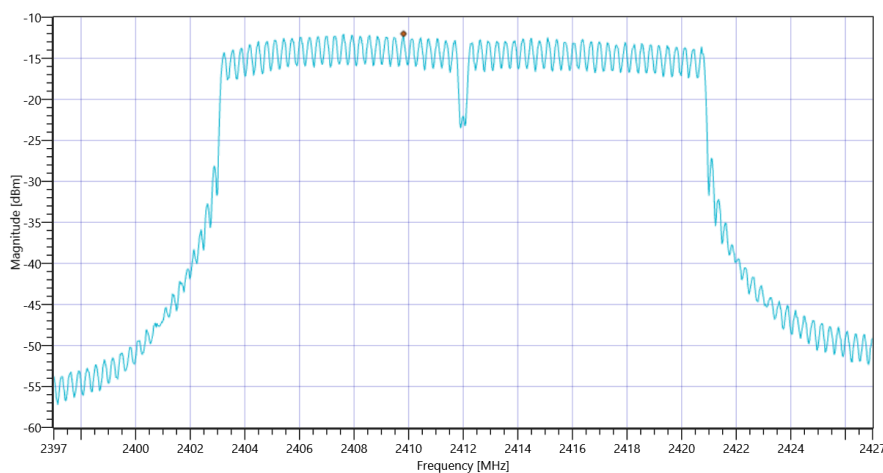
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.52   10.6   30
Start [MHz]   Stop [MHz]	2397.000   2427.000
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	---	---	-12.01	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-12.01	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:43:49
Ambit Temp [°C]   Humidity [rel%]	23.9   17
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.28	dBm	INFO
Ref. Frequency	---	---	2434.200	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

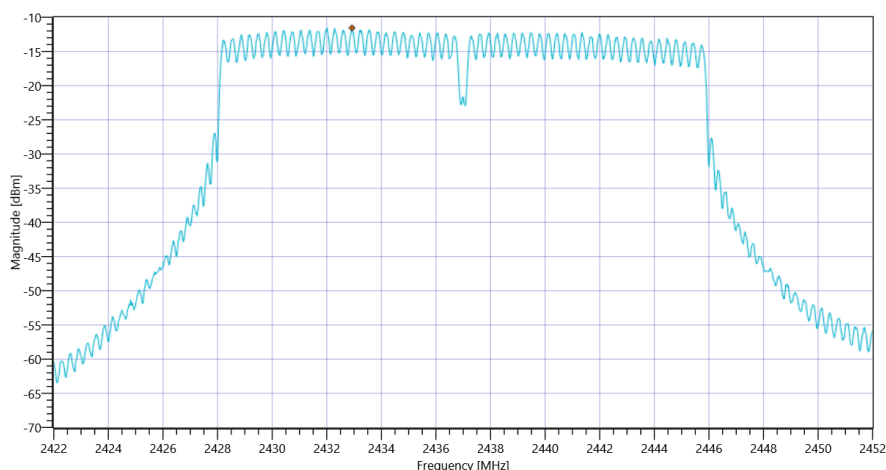
## Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.28   10.6   30
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	---	---	-11.55	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.55	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:56:02
Ambit Temp [°C]   Humidity [rel%]	23.9   17
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	



## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.52	dBm	INFO
Ref. Frequency	---	---	2465.600	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

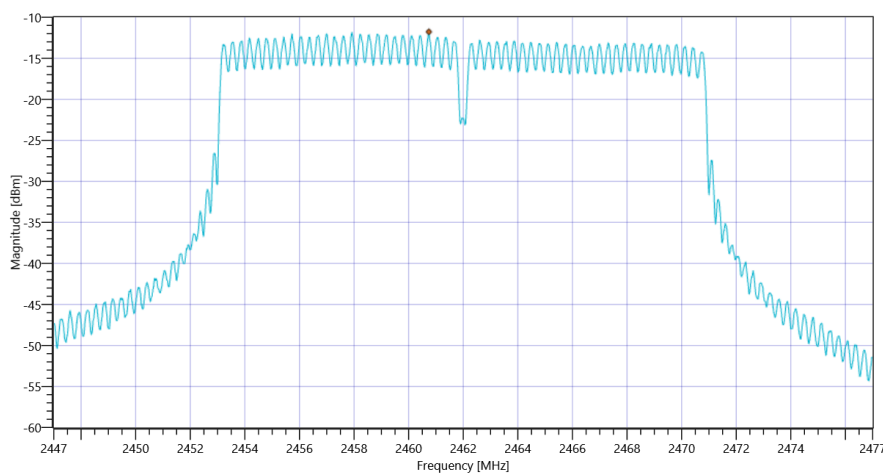
## Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.52   10.61   30
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	---	---	-11.77	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.77	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:31:14
Ambit Temp [°C]   Humidity [rel%]	23.8   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	2
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

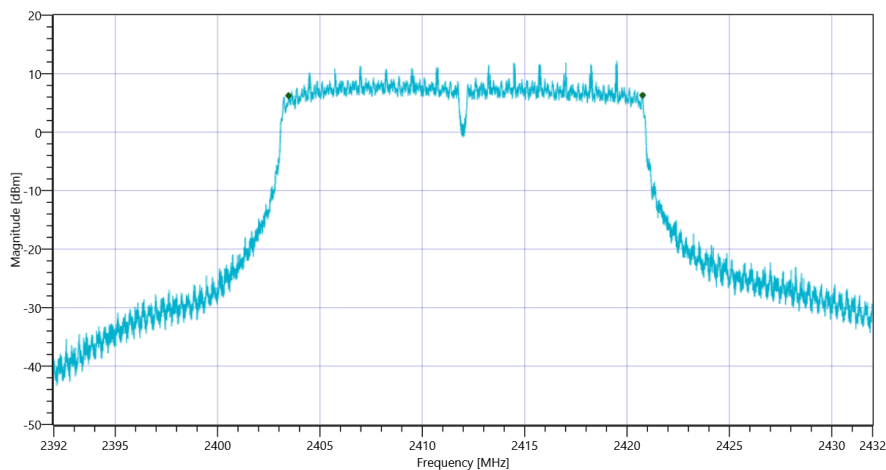
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.26	dBm	INFO
Ref. Frequency	---	---	2413.100	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.26   10.6   30
Start [MHz]   Stop [MHz]	2392.000   2432.000
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	---	17296	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:43:10
Ambit Temp [°C]   Humidity [rel%]	23.8   17
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

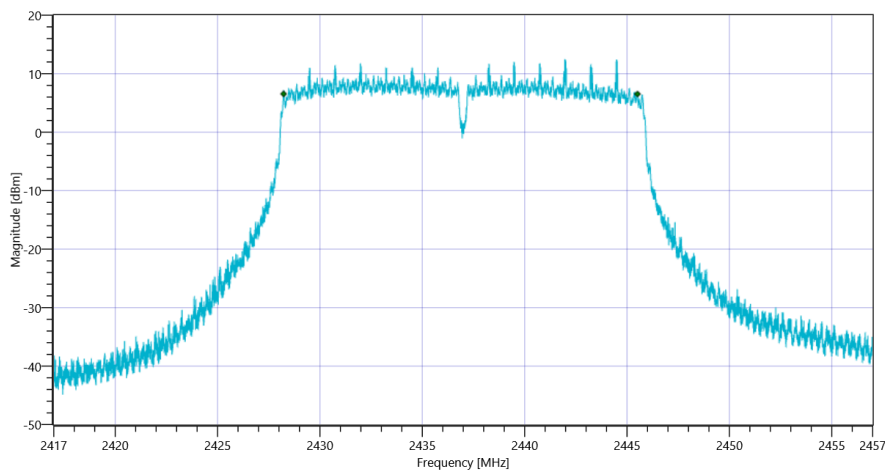
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	21.11	dBm	INFO
Ref. Frequency	---	---	2438.600	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	26.11   10.6   35
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	---	17284	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:55:23
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

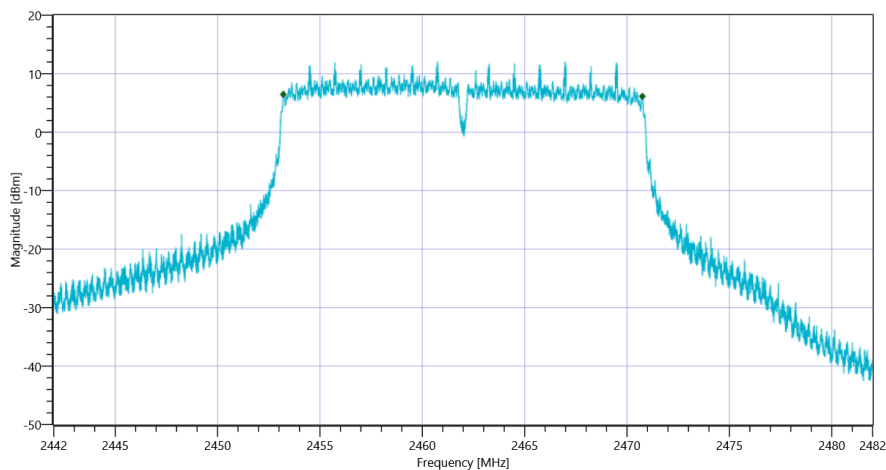
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.87	dBm	INFO
Ref. Frequency	---	---	2457.500	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.87   10.61   30
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	---	17540	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:33:01
Ambit Temp [°C]   Humidity [rel%]	23.8   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	2
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	



## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.42	dBm	INFO
Ref. Frequency	---	---	2410.100	MHz	INFO

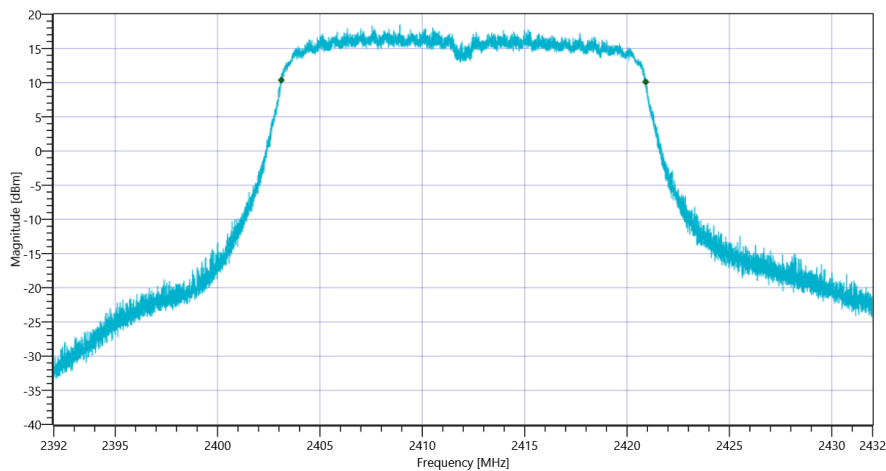
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.42   10.6   30
Start [MHz]   Stop [MHz]	2392.000   2432.000
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

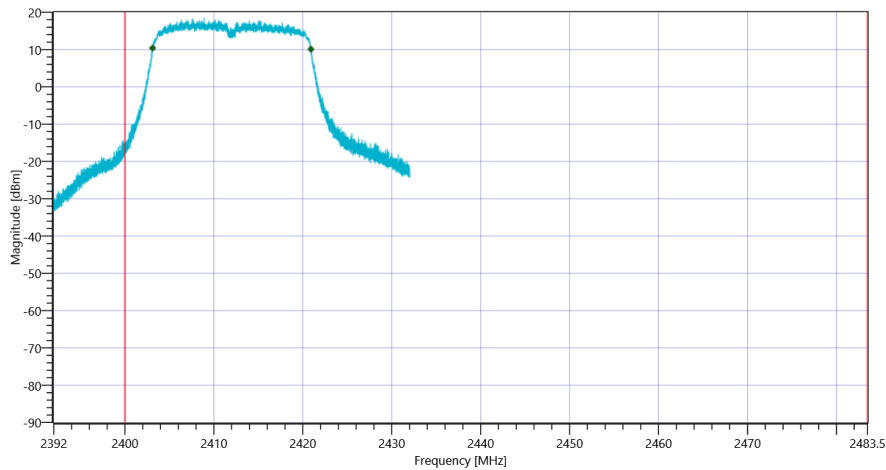
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17798.220	kHz	INFO
T1 99%	2400.000000	---	2403.1129	MHz	PASS
T2 99%	---	2483.500000	2420.9111	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

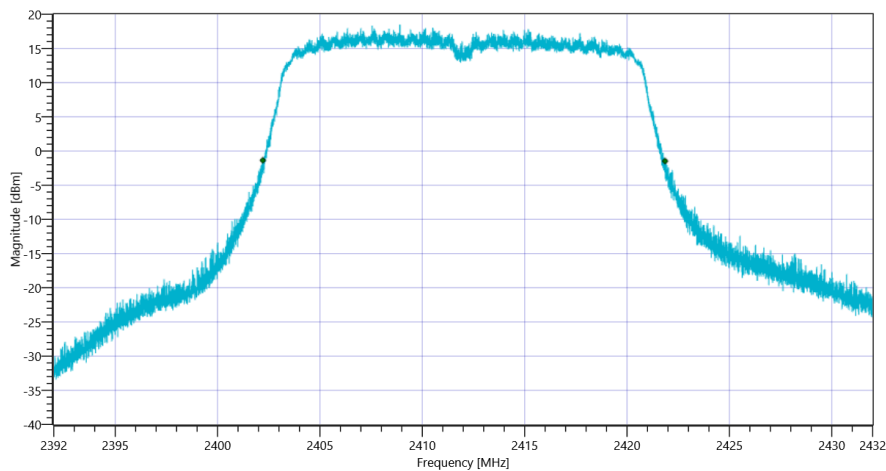
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

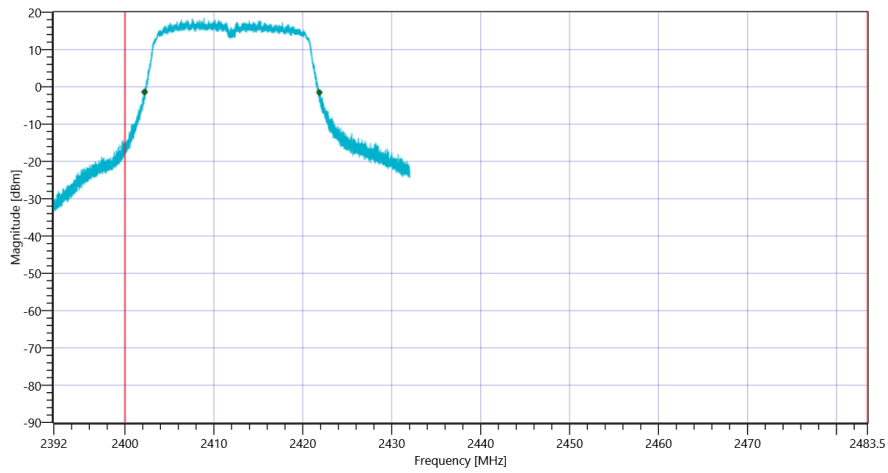
RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	19652	kHz	INFO
T1 20dB	2400.000000	---	2402.2080	MHz	PASS
T2 20dB	---	2483.500000	2421.8600	MHz	PASS

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:44:56
Ambit Temp [°C]   Humidity [rel%]	23.9   17
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.06	dBm	INFO
Ref. Frequency	---	---	2435.000	MHz	INFO

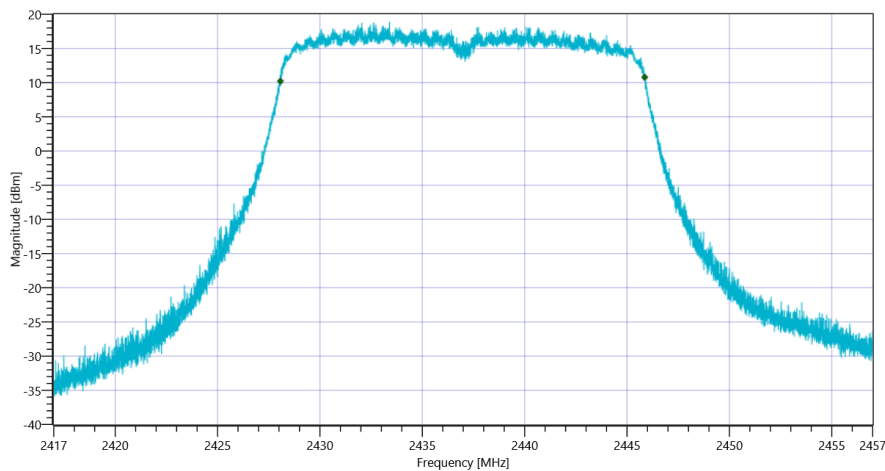
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.06   10.6   30
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

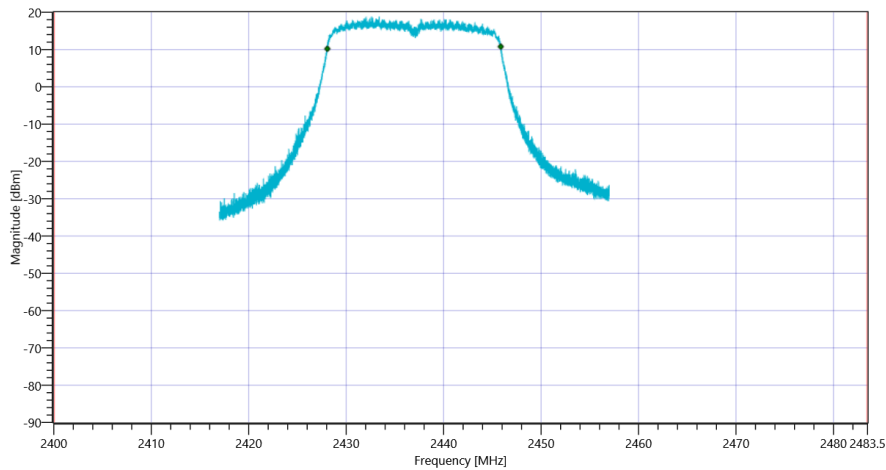
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17794.221	kHz	INFO
T1 99%	2400.000000	---	2428.0689	MHz	PASS
T2 99%	---	2483.500000	2445.8631	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

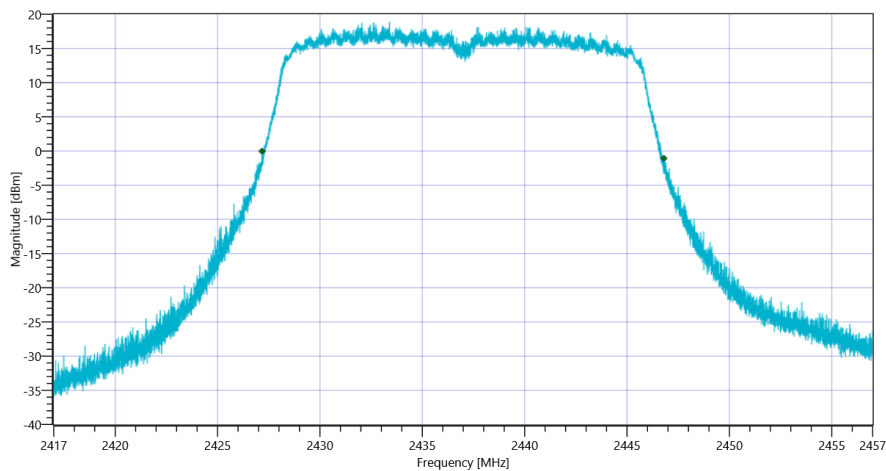
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

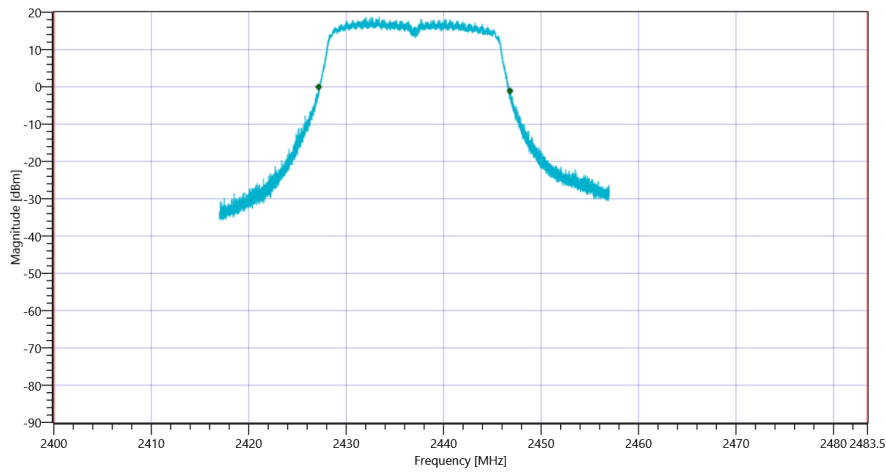
RESULT						
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict	
Bandwidth 20dB	---	---	19636	kHz	INFO	
T1 20dB	2400.000000	---	2427.1680	MHz	PASS	
T2 20dB	---	2483.500000	2446.8040	MHz	PASS	

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:57:09
Ambit Temp [°C]   Humidity [rel%]	23.9   17
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	



## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.02	dBm	INFO
Ref. Frequency	---	---	2458.400	MHz	INFO

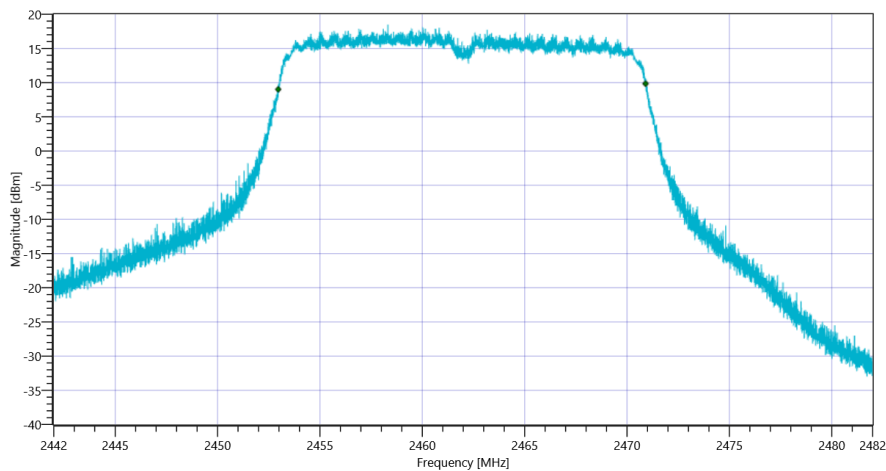
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.02   10.61   30
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

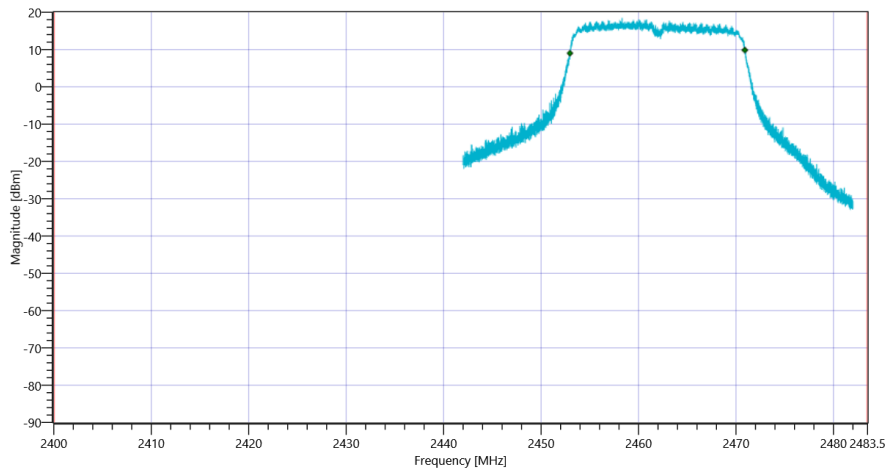
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17946.205	kHz	INFO
T1 99%	2400.000000	---	2452.9609	MHz	PASS
T2 99%	---	2483.500000	2470.9071	MHz	PASS

### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

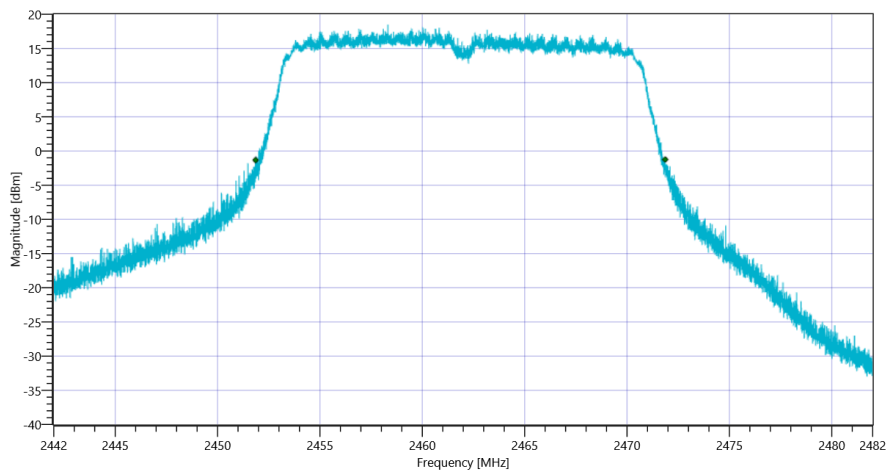
### Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

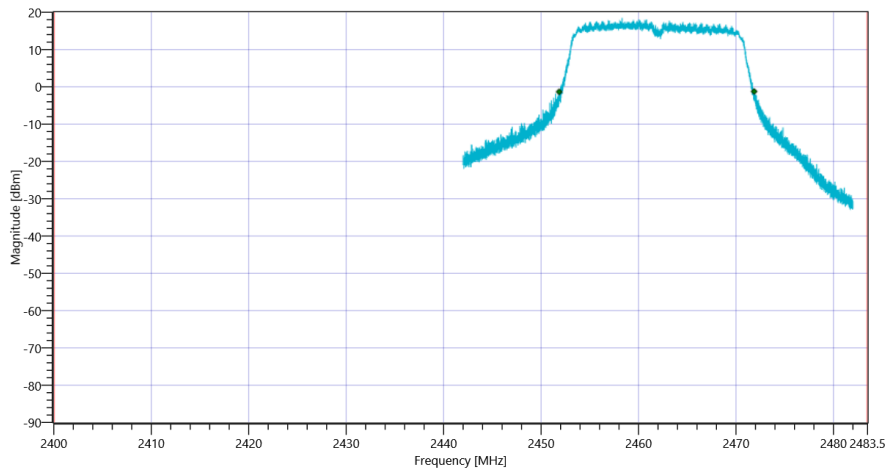
RESULT						
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict	
Bandwidth 20dB	---	---	20008	kHz	INFO	
T1 20dB	2400.000000	---	2451.8560	MHz	PASS	
T2 20dB	---	2483.500000	2471.8640	MHz	PASS	

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:41:30
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	2
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.82	dBm	INFO
Ref. Frequency	---	---	2408.700	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

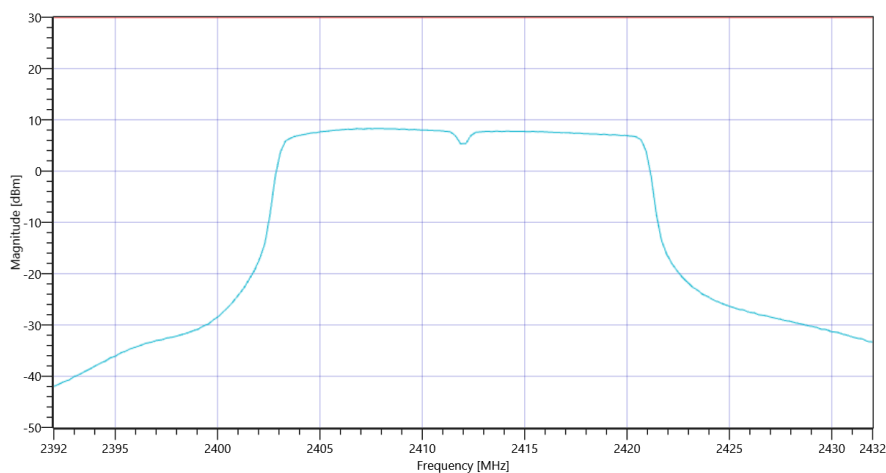
## Maximum Avg. Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	29.82   10.6   35
Start [MHz]   Stop [MHz]	2392.000   2432.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	22.8	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	22.8	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:53:26
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.18	dBm	INFO
Ref. Frequency	---	---	2435.400	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

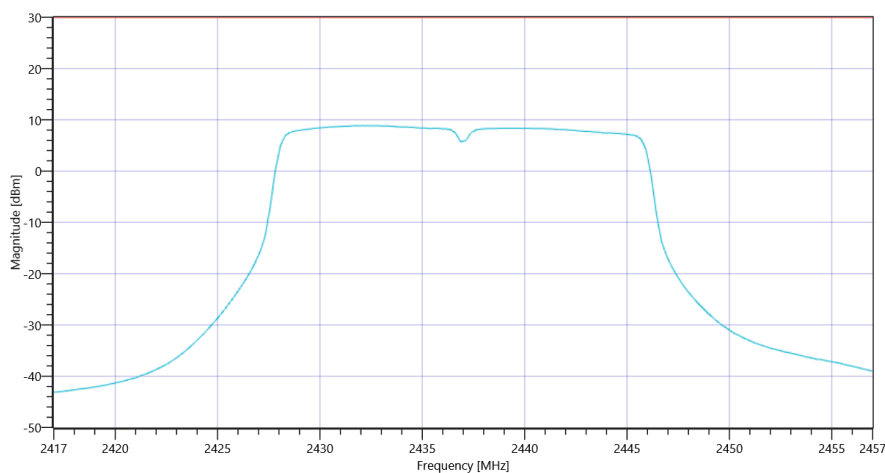
## Maximum Avg. Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	30.18   10.6   35
Start [MHz]   Stop [MHz]	2417.000   2457.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	23.36	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	23.36	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

**PASS**

## FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:05:44
Ambit Temp [°C]   Humidity [rel%]	24.0   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
TC Version	0.0.1
My Description	FCC 15.247 Max Avg Output Power Conducted SA DTS - WLAN 2G4 nHT20-mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	



## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.81	dBm	INFO
Ref. Frequency	---	---	2458.700	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

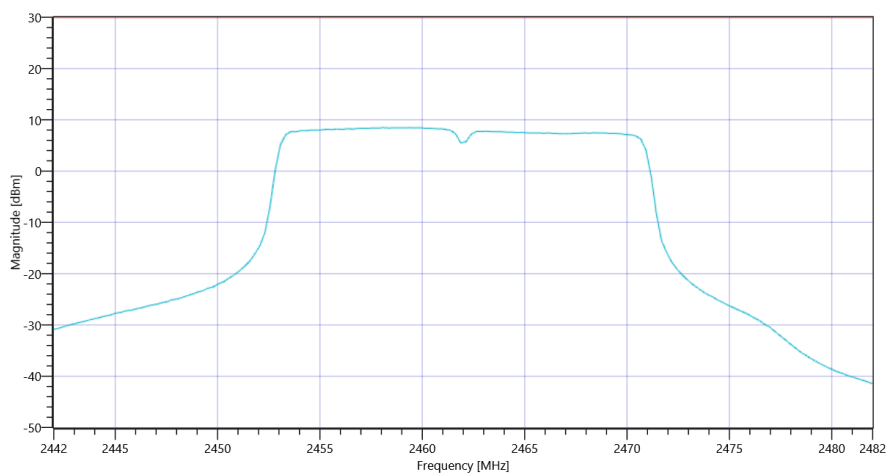
## Maximum Avg. Output Power

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	29.81   10.61   35
Start [MHz]   Stop [MHz]	2442.000   2482.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	RMS   AVER
Sweep: Time [ms]   Count   Points per Section   Type	500   100   160   SWE

### RESULT (Channel Power method)

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Avg Output Power uncorrected	---	---	22.99	dBm	INFO
Duty Cycle Correction	---	---	0	dB	INFO
Avg Output Power DC corrected	---	30	22.99	dBm	PASS



FCC Part 15.247 Maximum Avg Conducted Output Power SA DTS ~ WLAN2G4 nHT20-mode

General verdict

**PASS**

## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:34:00
Ambit Temp [°C]   Humidity [rel%]	23.8   18
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	2
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

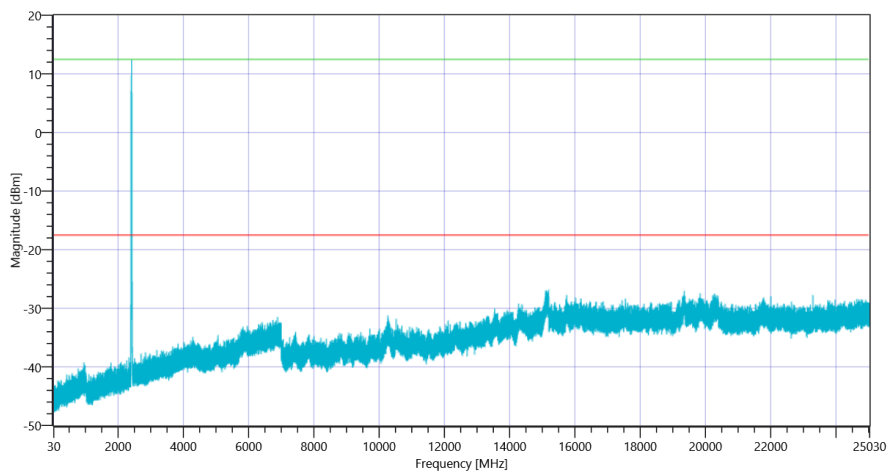
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.59	dBm	INFO
Ref. Frequency	---	---	2407.900	MHz	INFO

### READ SA SETTINGS:

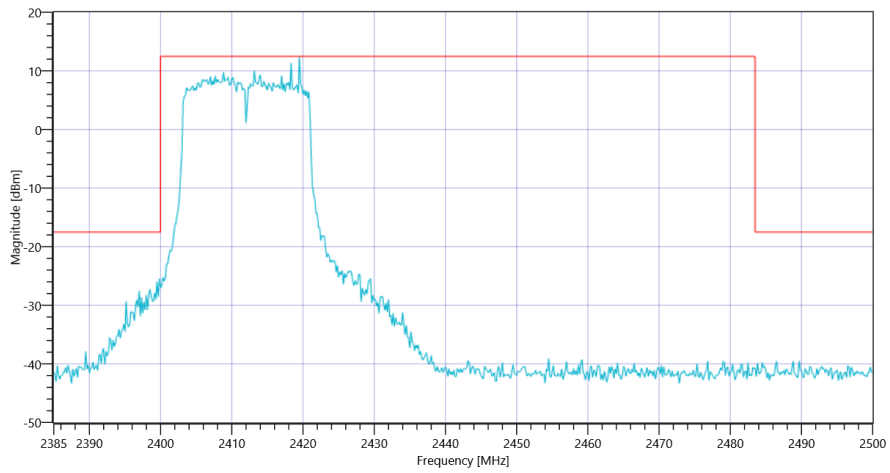
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	20.59   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2419.50 MHz	---	---	12.47	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 2399.833 MHz	0	---	7.92	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2412



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2412

General verdict

PASS

## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:45:55
Ambit Temp [°C]   Humidity [rel%]	23.9   17
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

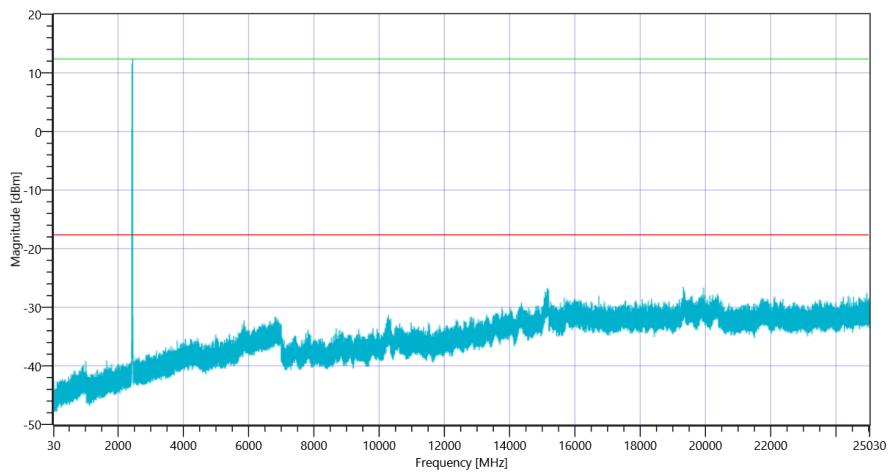
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.96	dBm	INFO
Ref. Frequency	---	---	2433.000	MHz	INFO

### READ SA SETTINGS:

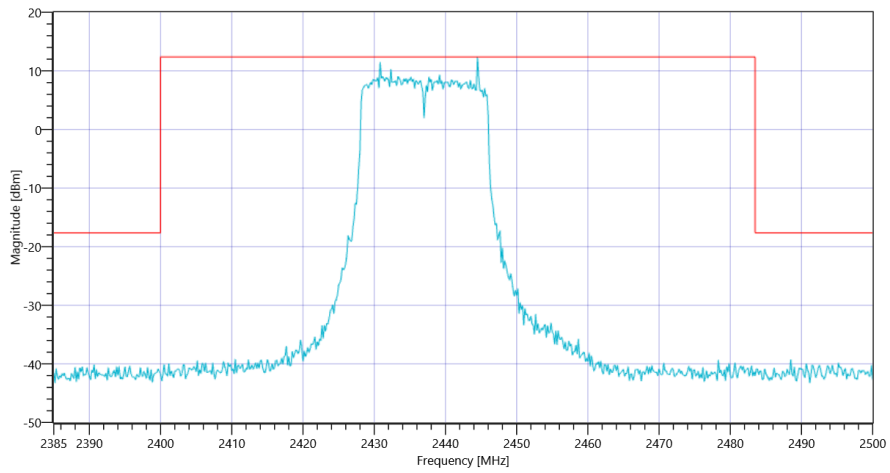
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	20.96   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2444.50 MHz	---	---	12.36	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 19322.167 MHz	0	---	8.93	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2437



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2437

General verdict

PASS

## FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 14:58:09
Ambit Temp [°C]   Humidity [rel%]	24.0   17
System Version	3.0.5.0
Test Specification	FCC Part 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 DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	



## Test at TX 2462 MHz

### RESULT: Reference Power cond.

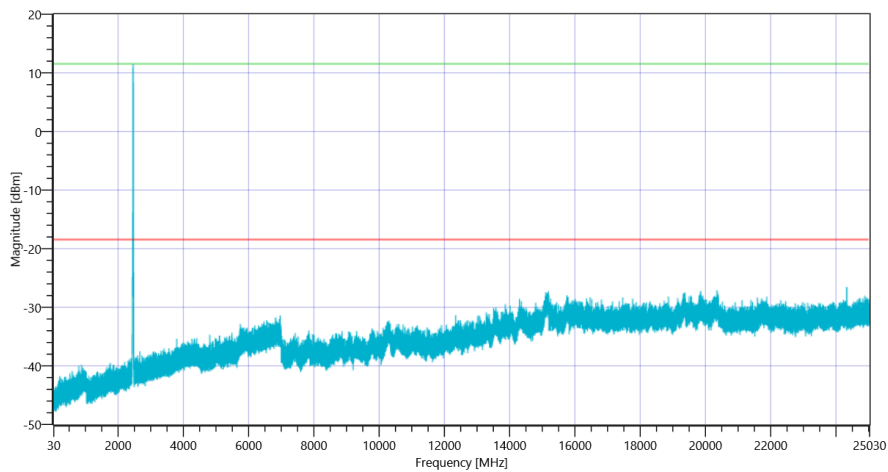
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.37	dBm	INFO
Ref. Frequency	---	---	2459.600	MHz	INFO

### READ SA SETTINGS:

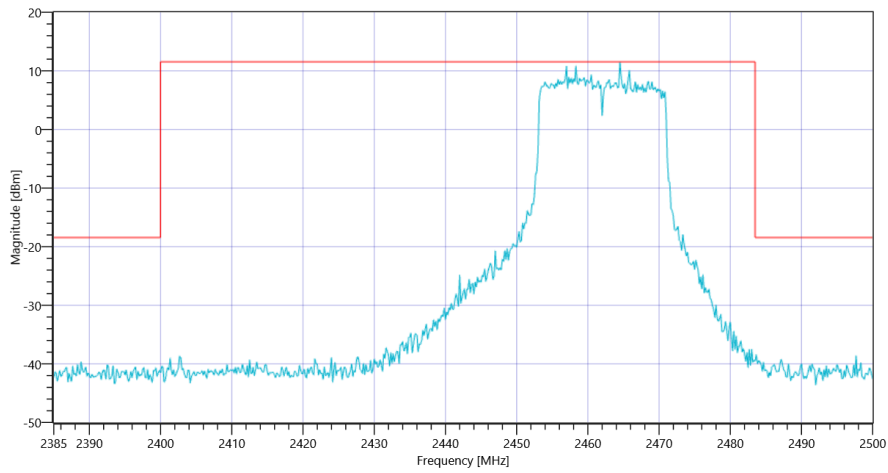
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	20.37   0   40
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	200   25   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2464.50 MHz	---	---	11.56	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24330.667 MHz	0	---	8.09	dB	INFO



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2462



FCC Part 15.247 TX Spurious Conducted 30dBc ~ WLAN2G4 nHT20-mode 2462

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:09:46
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	3
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	19.69	dBm	INFO
Ref. Frequency	---	---	2408.100	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

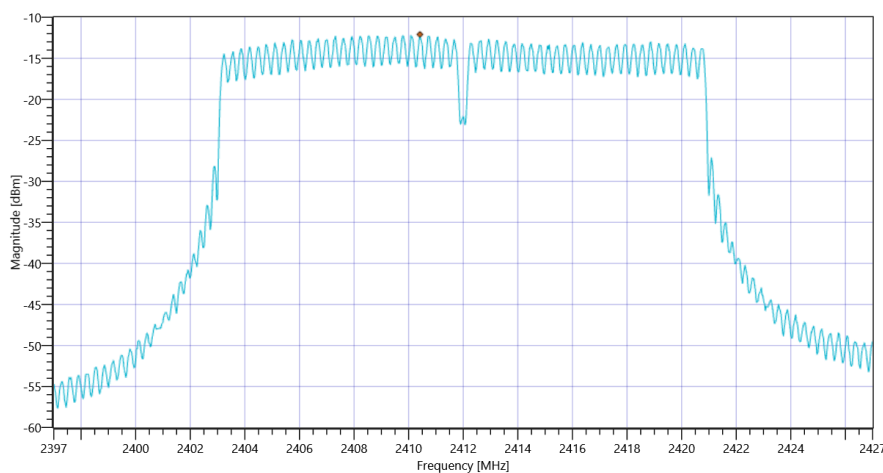
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	24.69   10.6   30
Start [MHz]   Stop [MHz]	2397.000   2427.000
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	---	---	-12.09	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-12.09	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:23:14
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.44	dBm	INFO
Ref. Frequency	---	---	2433.800	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

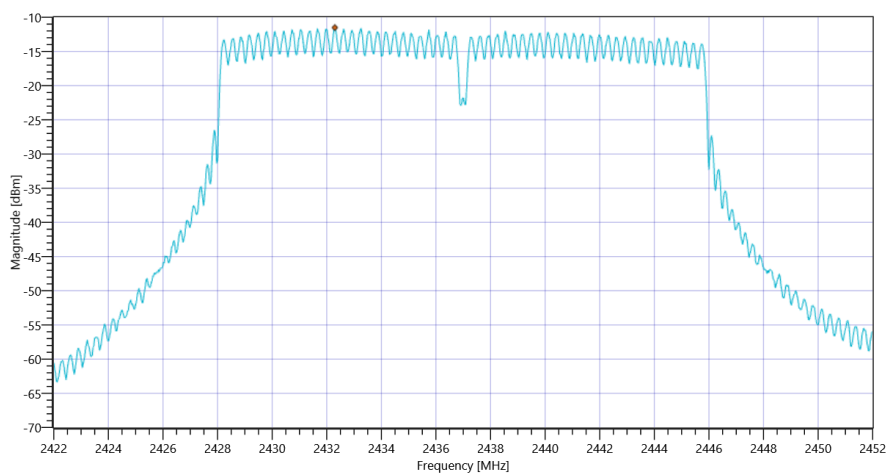
## Avg. PSD

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.44   10.6   30
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	---	---	-11.51	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.51	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:36:09
Ambit Temp [°C]   Humidity [rel%]	24.0   18
System Version	3.0.5.0
Test Specification	FCC Part 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 - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.03	dBm	INFO
Ref. Frequency	---	---	2458.700	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

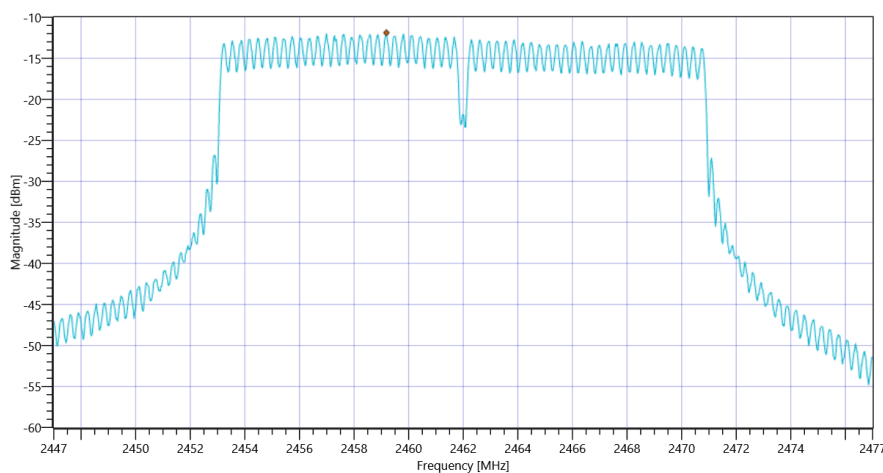
### Avg. PSD

#### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.03   10.61   30
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	---	---	-11.89	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg PSD DC corrected	---	8	-11.89	dBm/3KHz	PASS



FCC Part 15.247 Avg Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS



## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:09:06
Ambit Temp [°C]   Humidity [rel%]	24.0   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	3
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

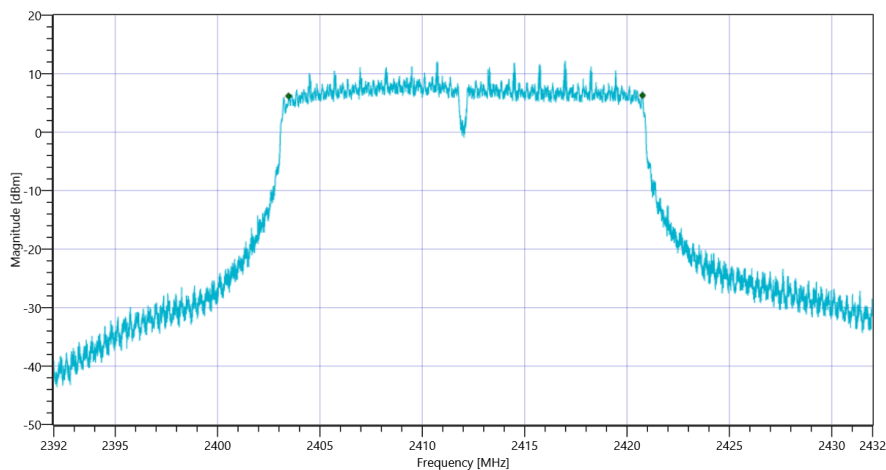
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.38	dBm	INFO
Ref. Frequency	---	---	2414.900	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.38   10.6   30
Start [MHz]   Stop [MHz]	2392.000   2432.000
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	---	17292	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:22:36
Ambit Temp [°C]   Humidity [rel%]	23.8   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2437 MHz

### RESULT: Reference Power cond.

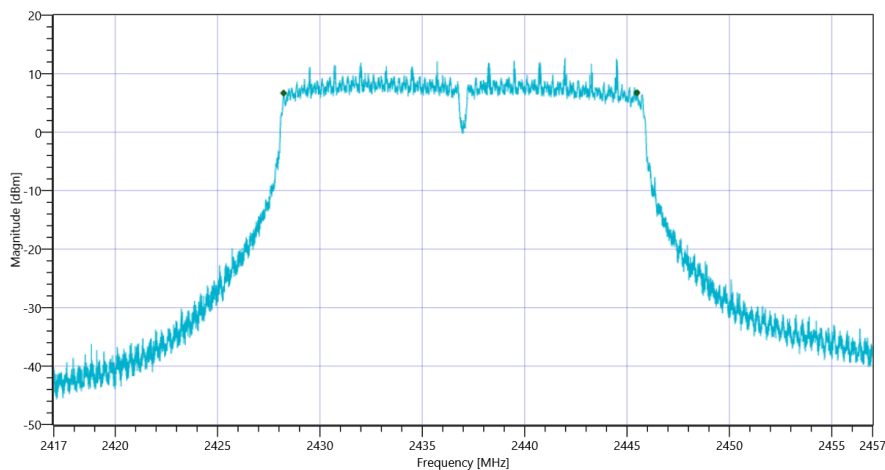
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.10	dBm	INFO
Ref. Frequency	---	---	2435.200	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.10   10.6   30
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	---	17264	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:35:31
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2462 MHz

### RESULT: Reference Power cond.

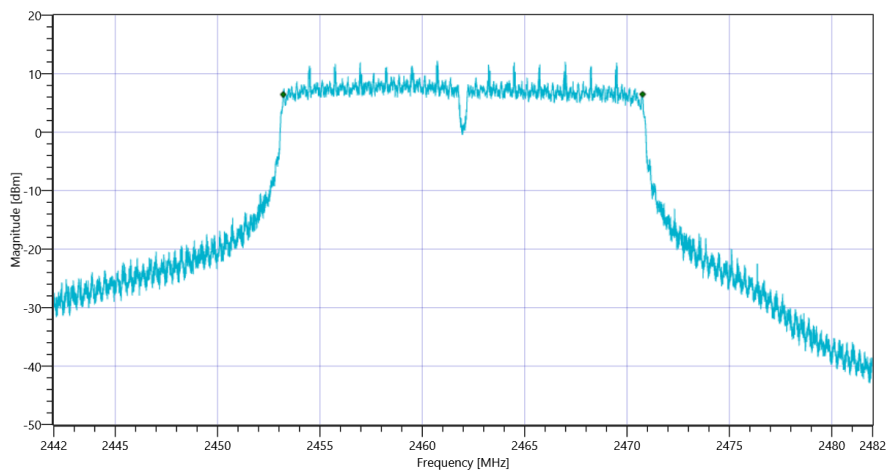
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.24	dBm	INFO
Ref. Frequency	---	---	2457.300	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.24   10.61   30
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	---	17556	kHz	PASS



FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:10:53
Ambit Temp [°C]   Humidity [rel%]	24.0   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	3
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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	

## Test at TX 2412 MHz

### RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	---	---	20.64	dBm	INFO
Ref. Frequency	---	---	2408.500	MHz	INFO

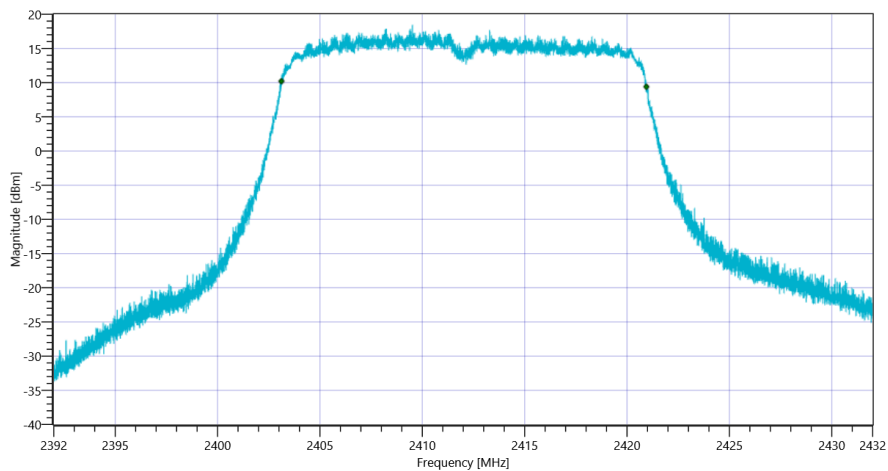
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	25.64   10.6   35
Start [MHz]   Stop [MHz]	2392.000   2432.000
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%	---	---	17826.217	kHz	INFO
T1 99%	2400.000000	---	2403.1169	MHz	PASS
T2 99%	---	2483.500000	2420.9431	MHz	PASS

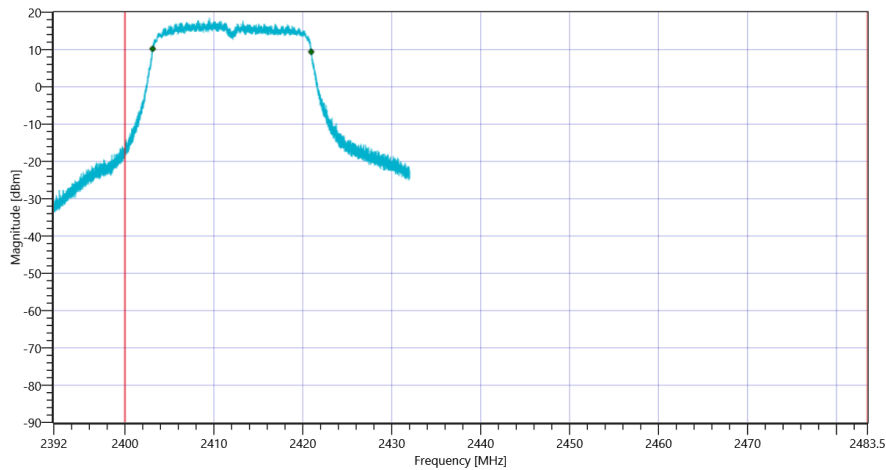
### Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT

### Plot: Bandwidth within Band

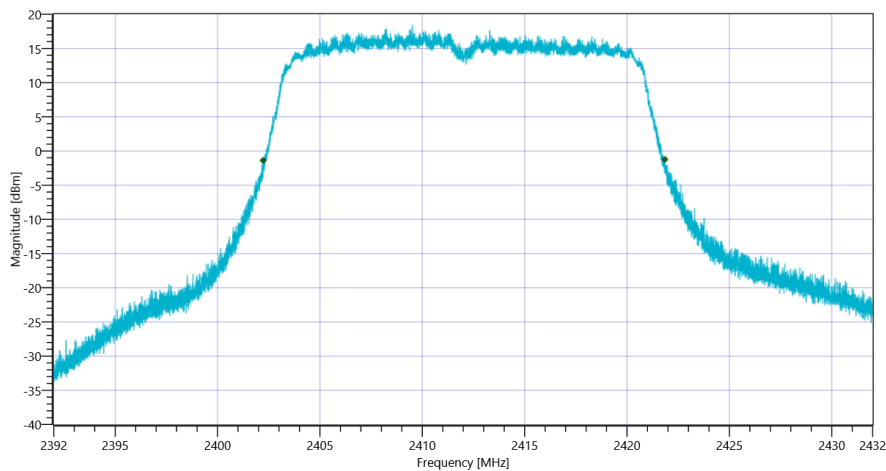




FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

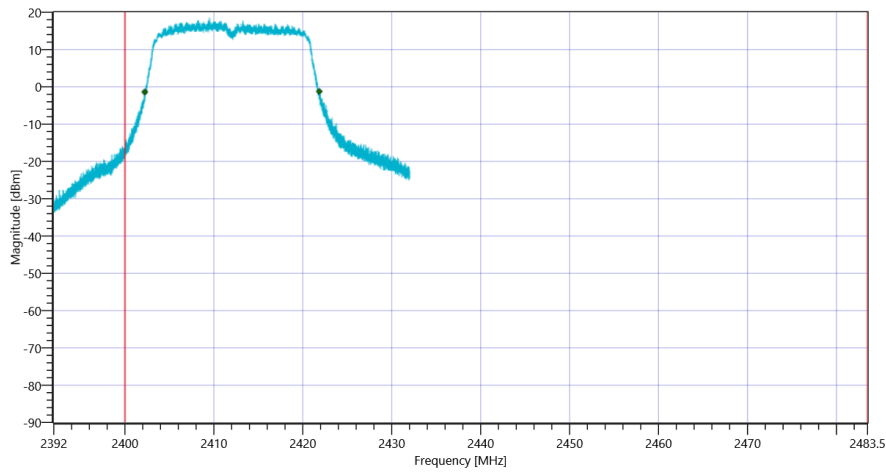
RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	19620	kHz	INFO
T1 20dB	2400.000000	---	2402.2280	MHz	PASS
T2 20dB	---	2483.500000	2421.8480	MHz	PASS

Plot: Bandwidth only



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode 20dB

Plot: Bandwidth within Band



FCC Part 15.247 Bandwidth 99PCT:20dB ~ WLAN2G4 nHT20-mode

General verdict

PASS

## FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	10.03.2022 15:24:21
Ambit Temp [°C]   Humidity [rel%]	23.9   18
System Version	3.0.5.0
Test Specification	FCC Part 15.247
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

EUT Common Settings WLAN2G4	
Number of Antenna Ports	4
User Interaction	No

Test Parameter	
Technology to test	WLAN2G4 nHT20-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]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment	
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.70	
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.61	
Switch matrix,CTCadvanced,RSM-1 NI DAQ,29655273,NI	