Conducted test results

No.1-7077/23-01-04_TR1-A203-R1

January 16, 2024

Test Standard(s)	FCC 15.247 ISED RSS247

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NA # Message with SA scan ~

References

TC start	13.01.2024 13:53:43
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Message with SA Scan n-HT20 mode
Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	13.01.2024 13:53:44
Message	set WLAN2G4 to n-HT20 mode, Frequency [MHz] 2412 ,

Equipment

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

Verdict
INFO

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

References

TC start	13.01.2024 13:53:53
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

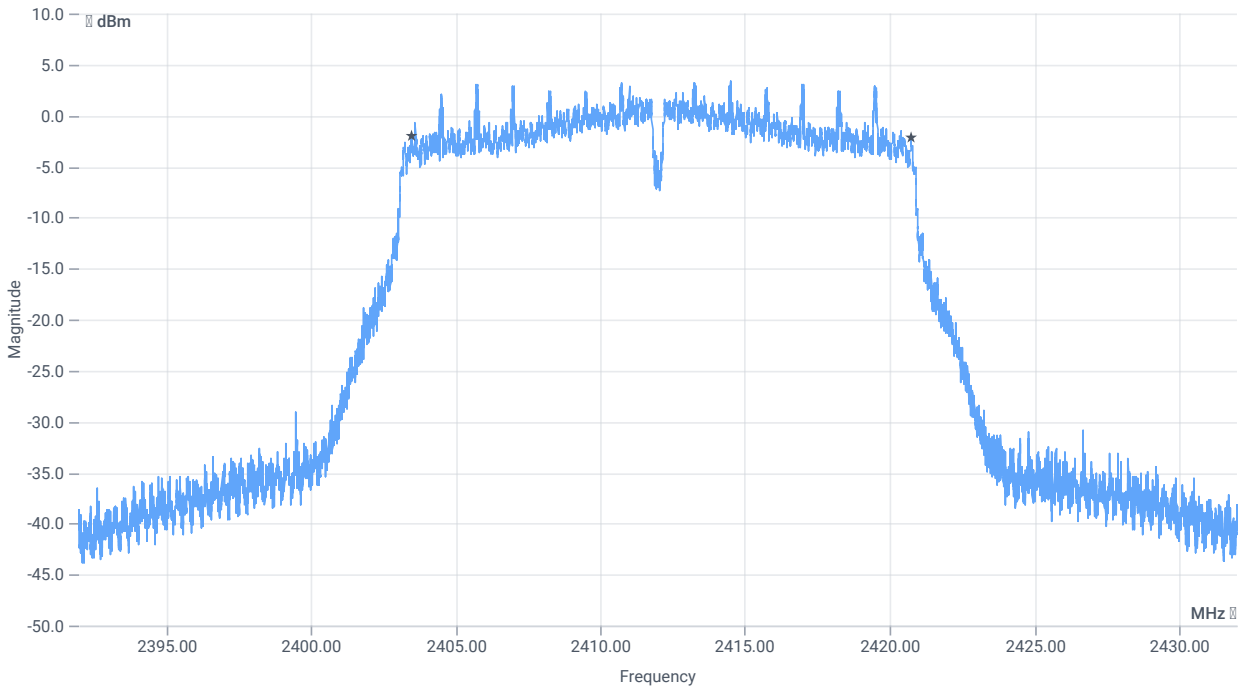
Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.20	dBm	INFO
Ref. Frequency	---	---	2410.600	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.20 | 13.85 | 20
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



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17256	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 13:54:27
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2412 MHz

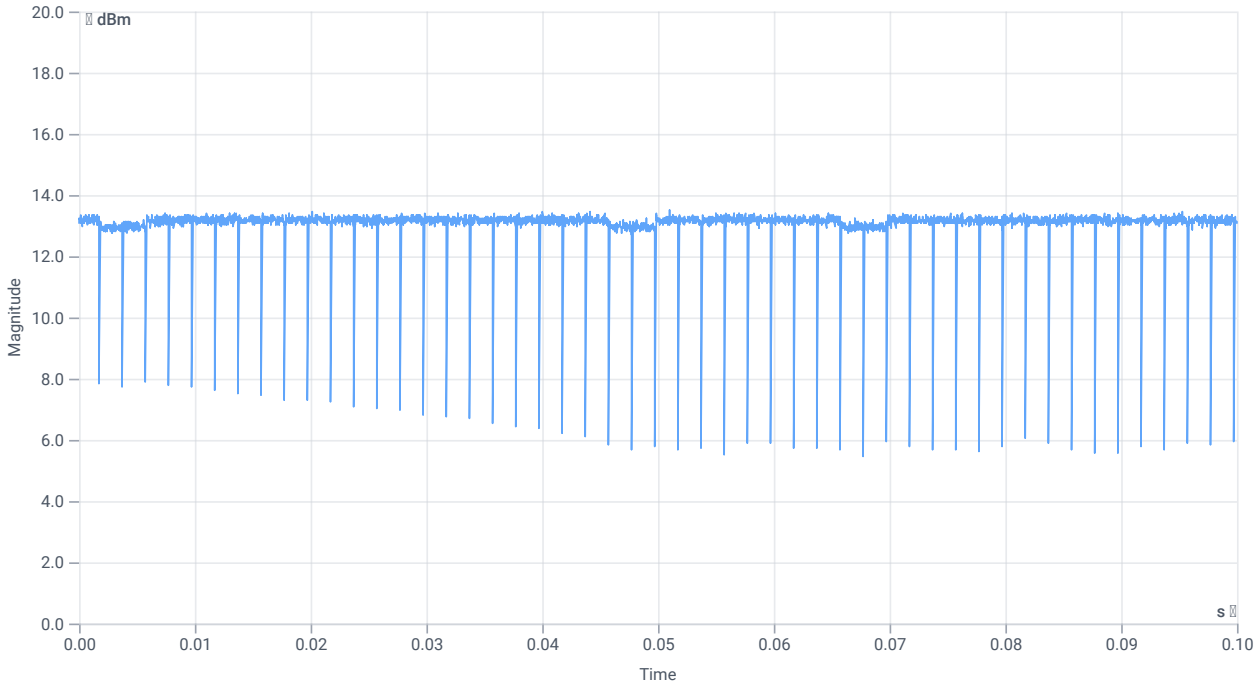
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.28	dBm	INFO
Ref. Frequency	---	---	2413.300	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

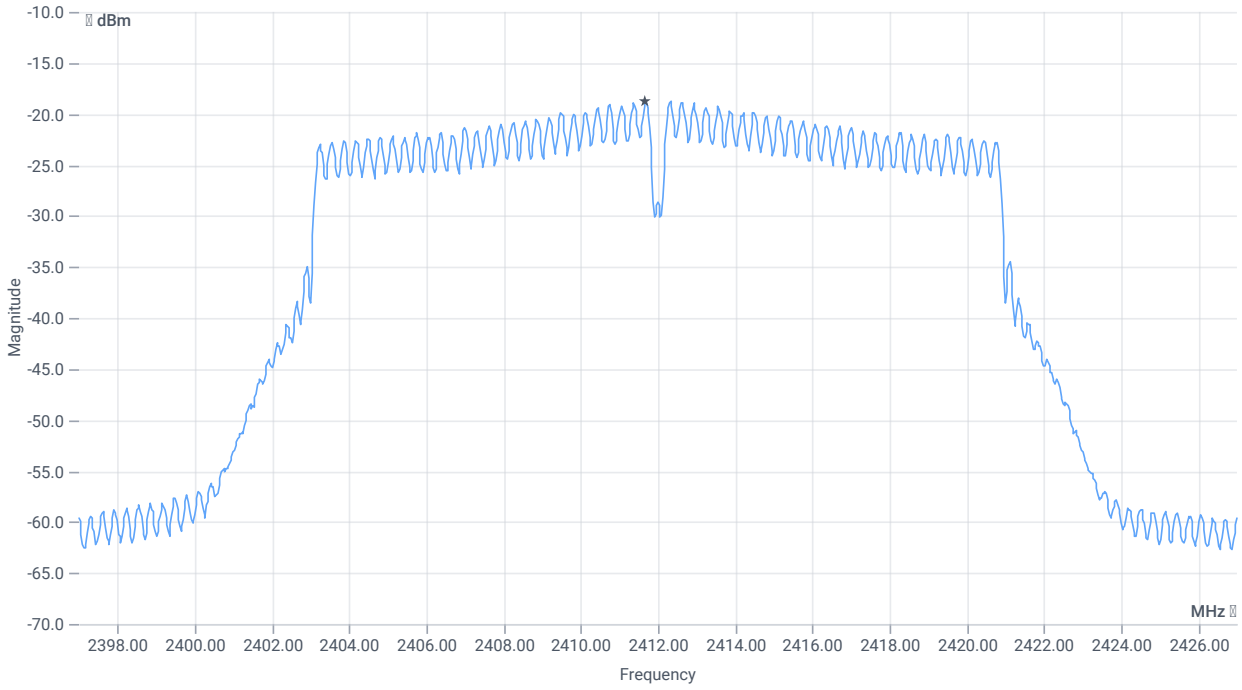
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.28 | 13.85 | 20
Start [MHz] | Stop [MHz]	2397.000 | 2427.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-18.74	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-18.74	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	13.01.2024 13:55:30
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

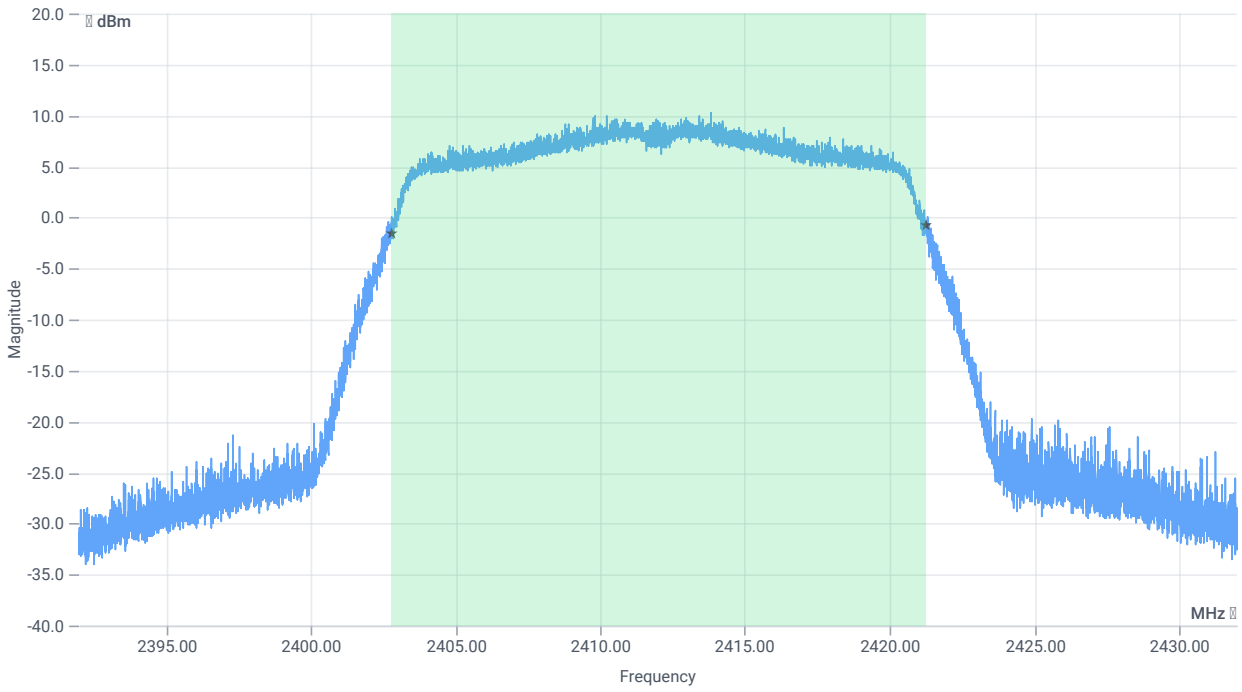
Test at TX 2412 MHz

RESULT: Reference Power cond.

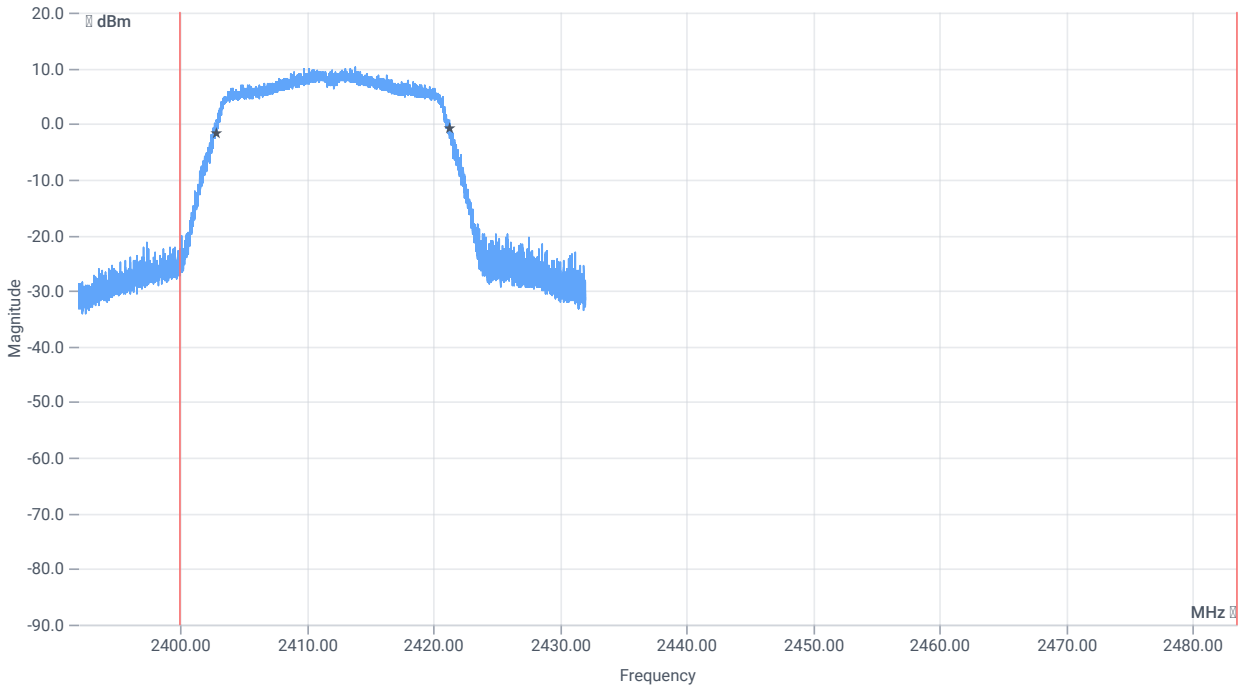
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.24	dBm	INFO
Ref. Frequency	---	---	2415.100	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.24 | 13.85 | 20
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



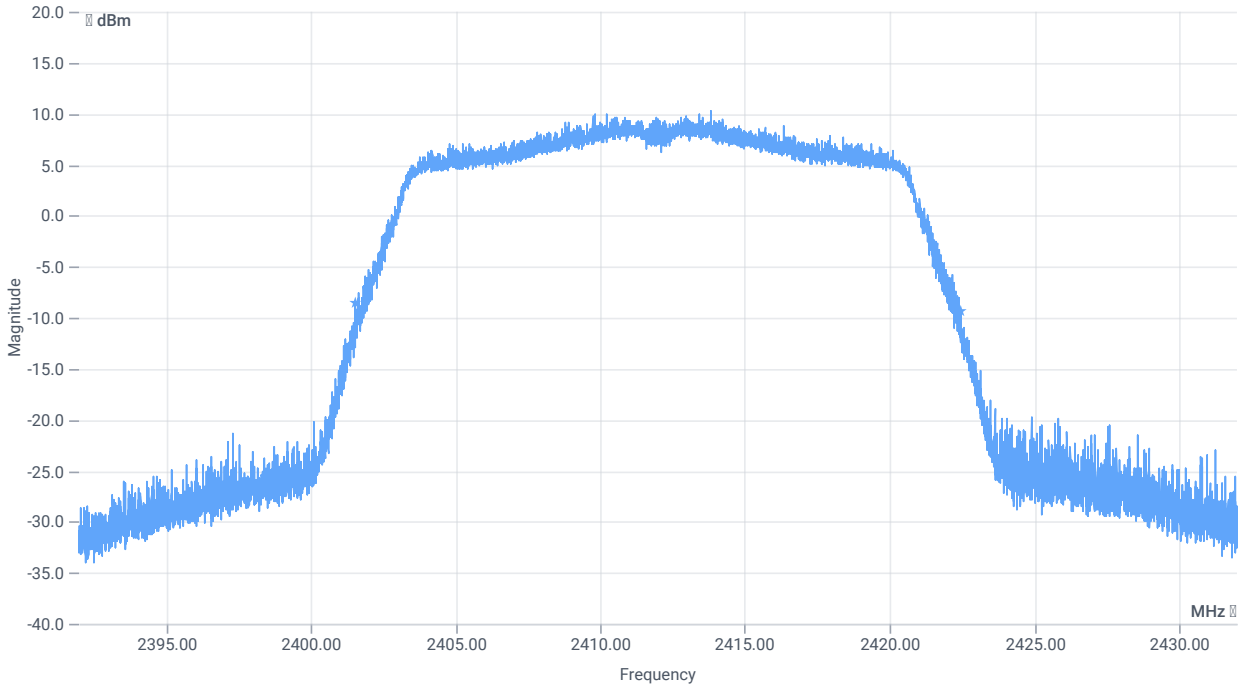
BW 99PCT



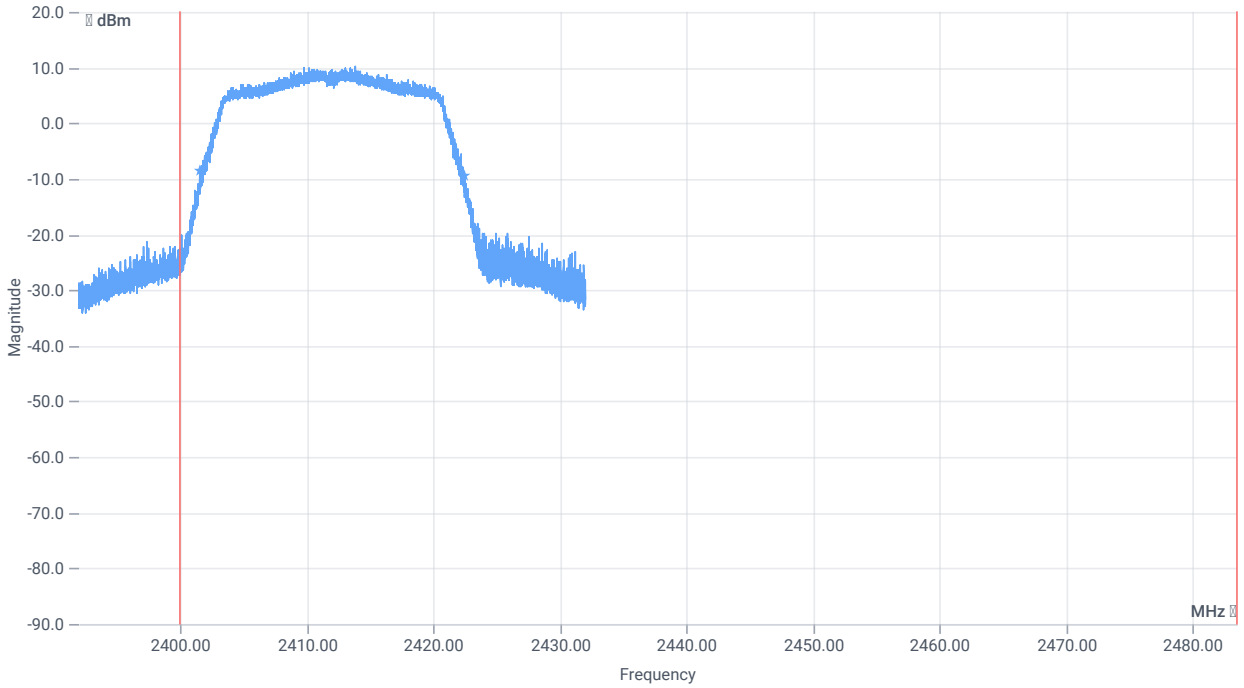
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18438.000	kHz	INFO
T1 99%	2400.000000	---	2402.8009	MHz	PASS
T2 99%	---	2483.500000	2421.2391	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20936	kHz	INFO
T1 20DB	2400.000000	---	2401.5360	MHz	PASS
T2 20dB	---	2483.500000	2422.4720	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 13:56:09
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

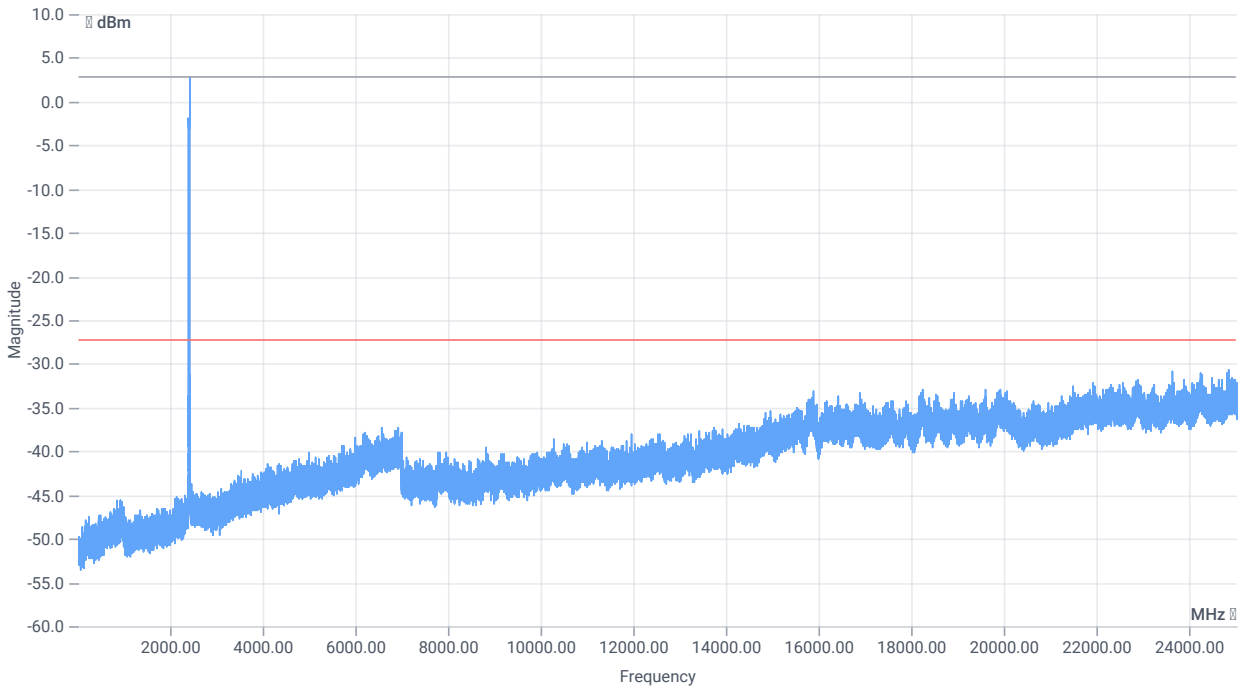
Equipment

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

Test at TX 2412 MHz

RESULT: Reference Power cond.

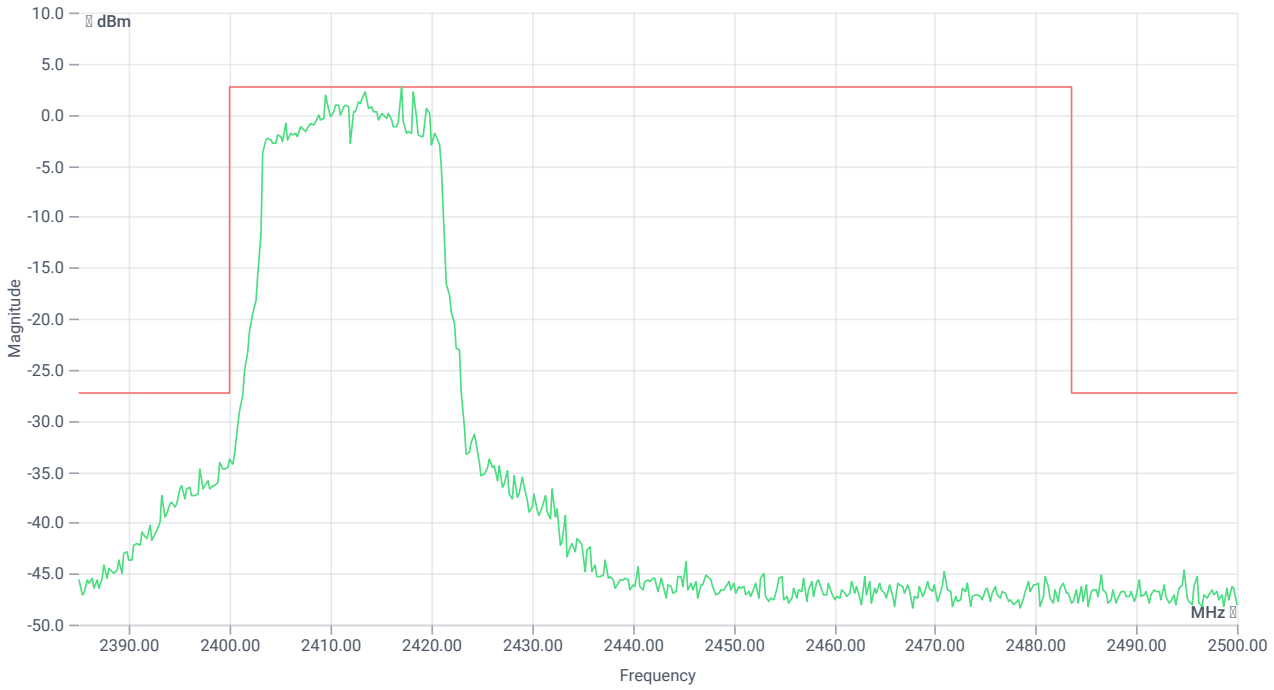
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	11.86	dBm	INFO
Ref. Frequency	---	---	2410.600	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	11.86 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2417.00 MHz	---	---	2.76	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-149.82	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:02:52
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2412 MHz

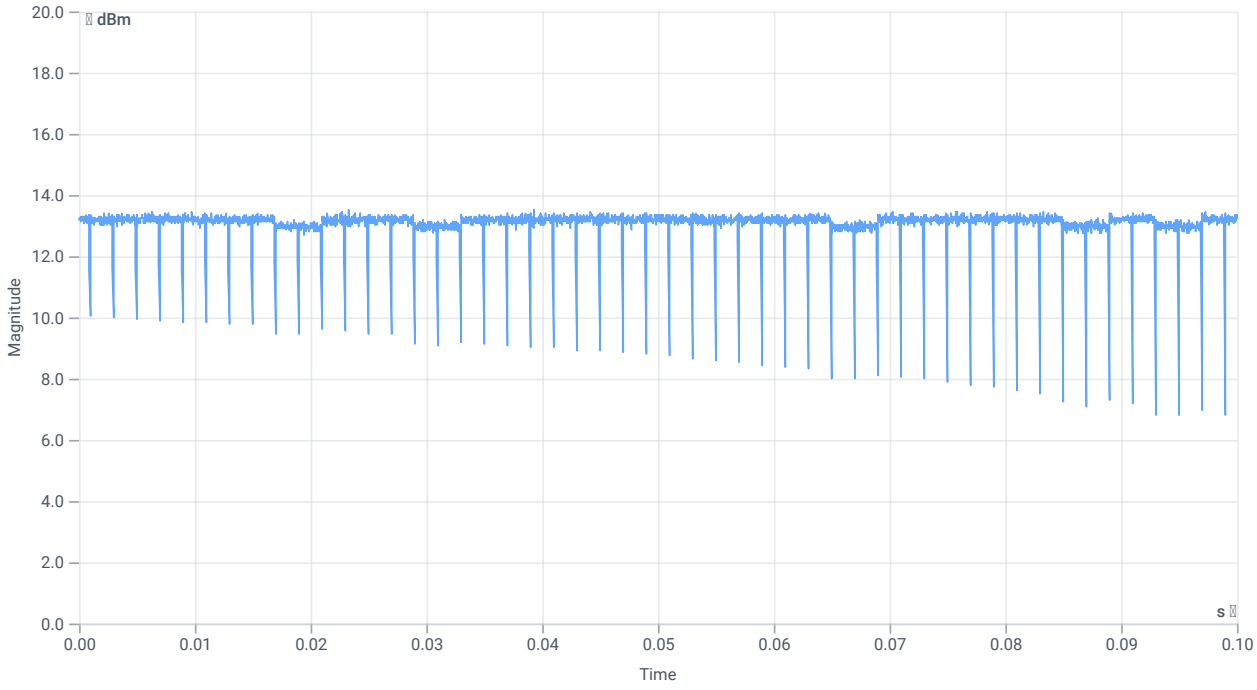
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.05	dBm	INFO
Ref. Frequency	---	---	2410.800	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

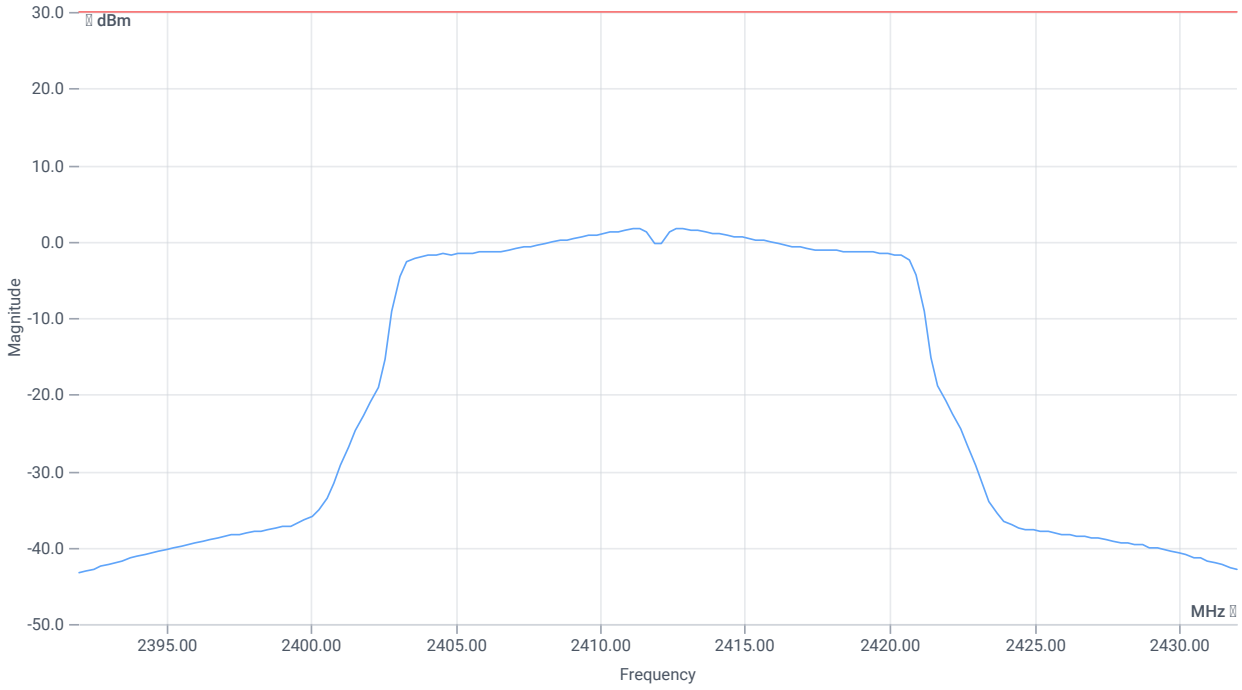
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	22.05 | 13.85 | 25
Start [MHz] | Stop [MHz]	2392.000 | 2432.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	15.01	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	15.01	dBm	PASS

Verdict

PASS

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

References

TC start	13.01.2024 14:04:07
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

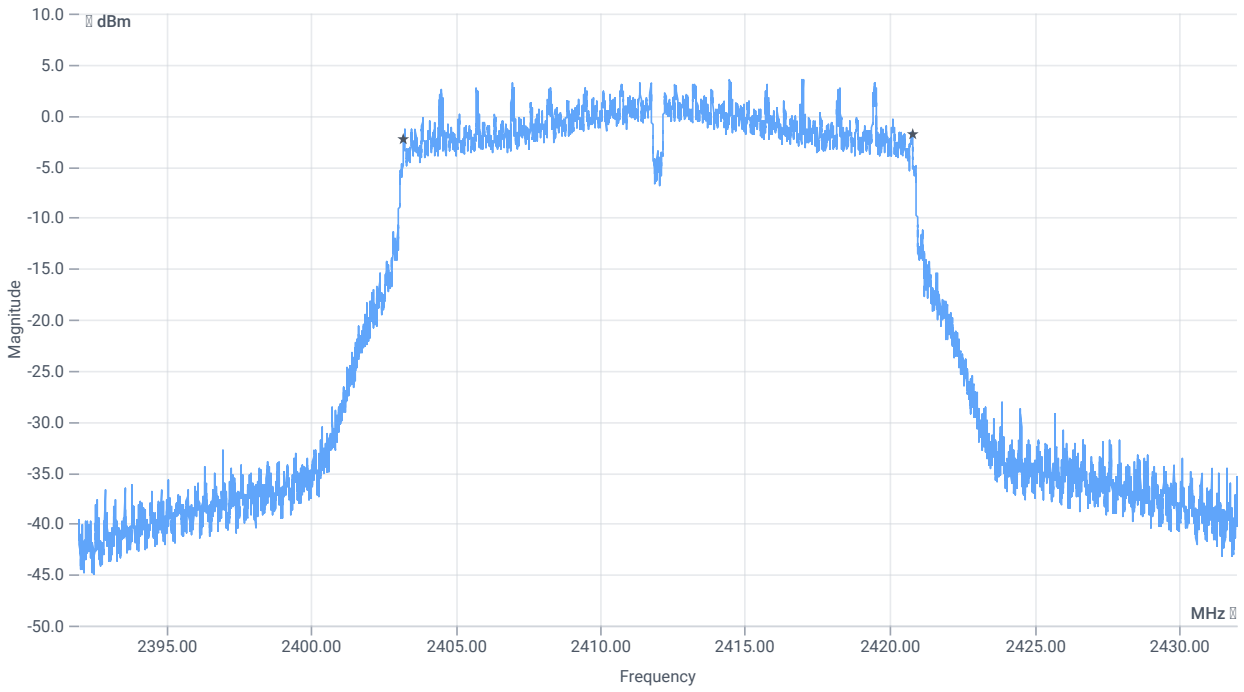
Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.77	dBm	INFO
Ref. Frequency	---	---	2413.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.77 | 13.85 | 20
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



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17556	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:04:41
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2412 MHz

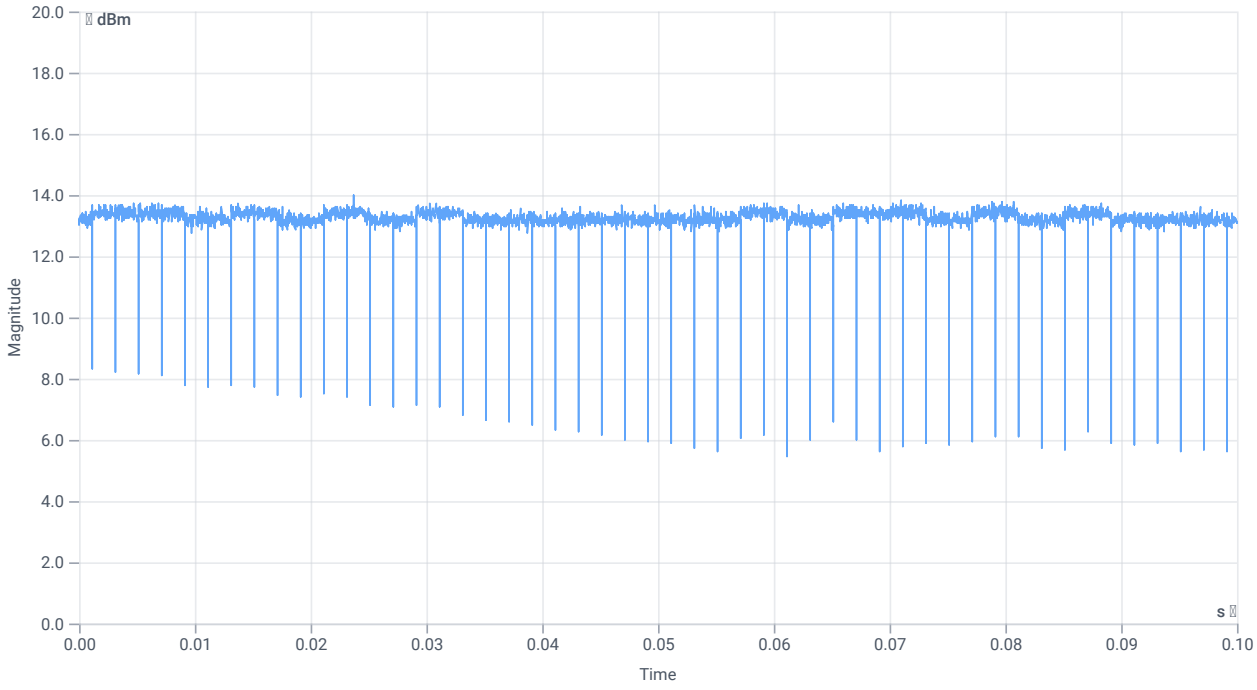
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.52	dBm	INFO
Ref. Frequency	---	---	2413.300	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

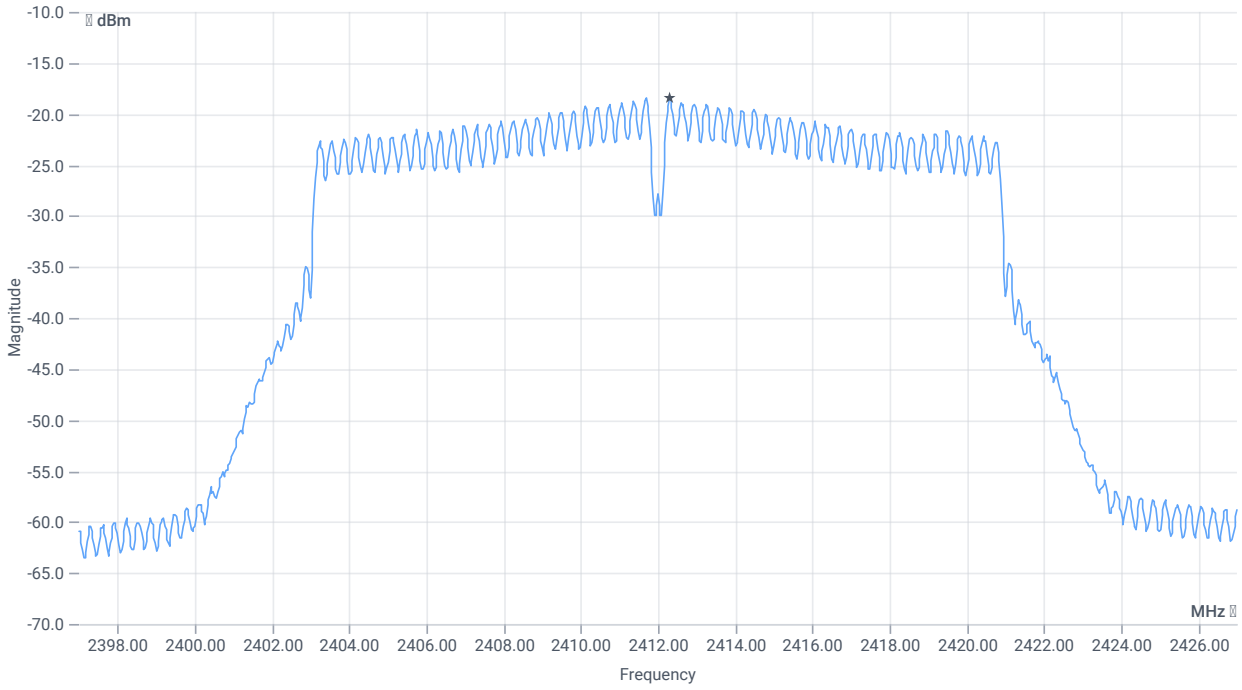
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.52 | 13.85 | 20
Start [MHz] | Stop [MHz]	2397.000 | 2427.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-18.44	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-18.44	dBm/3kHz	PASS

Verdict
PASS

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

References

TC start	13.01.2024 14:05:46
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

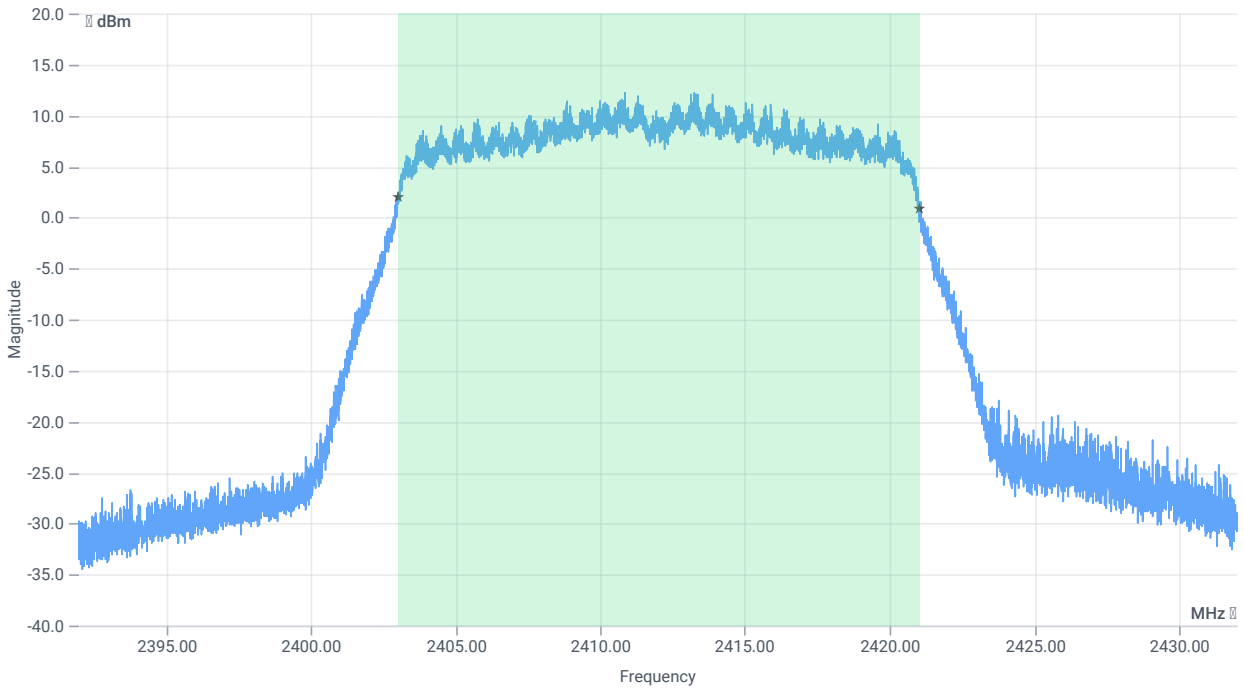
Test at TX 2412 MHz

RESULT: Reference Power cond.

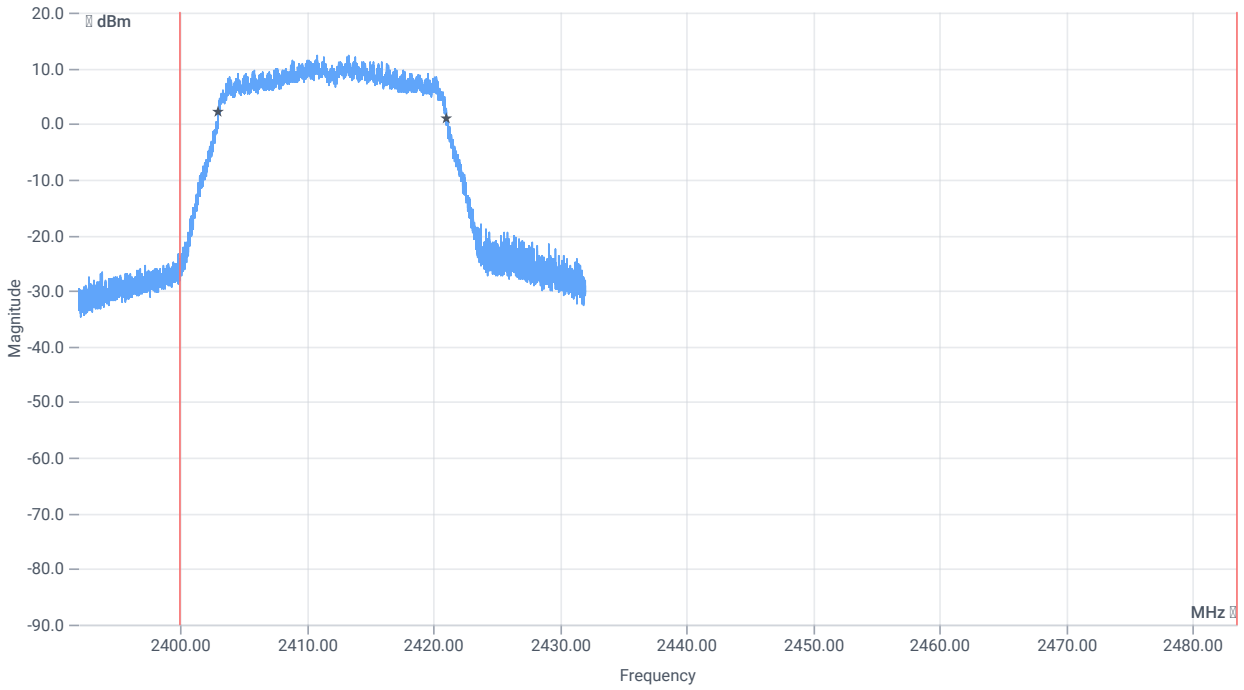
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.61	dBm	INFO
Ref. Frequency	---	---	2413.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.61 | 13.85 | 20
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



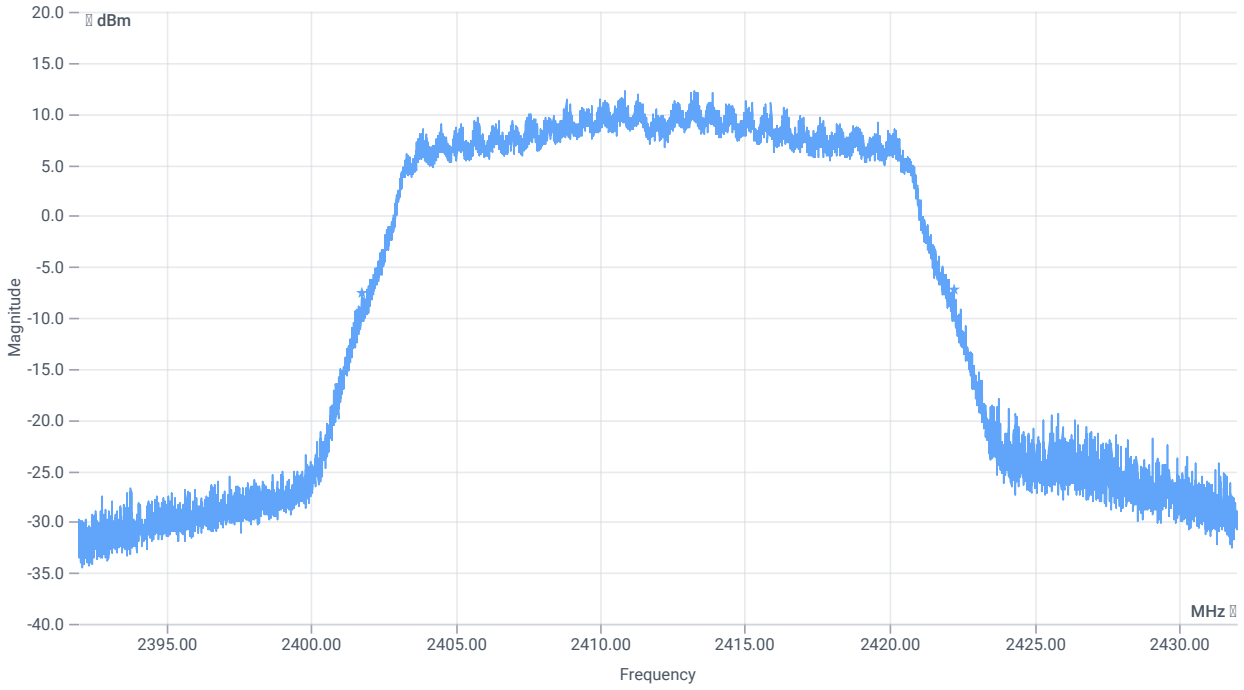
BW 99PCT



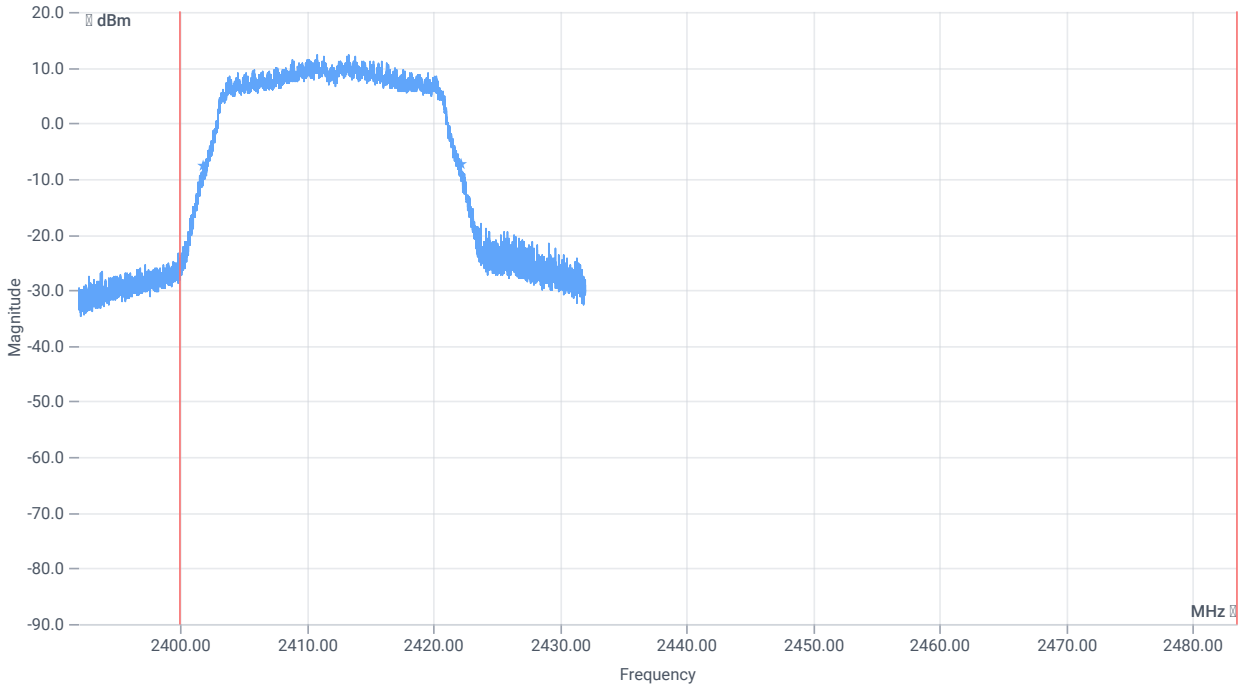
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18014.000	kHz	INFO
T1 99%	2400.000000	---	2403.0049	MHz	PASS
T2 99%	---	2483.500000	2421.0191	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20476	kHz	INFO
T1 20DB	2400.000000	---	2401.7440	MHz	PASS
T2 20dB	---	2483.500000	2422.2200	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:06:22
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

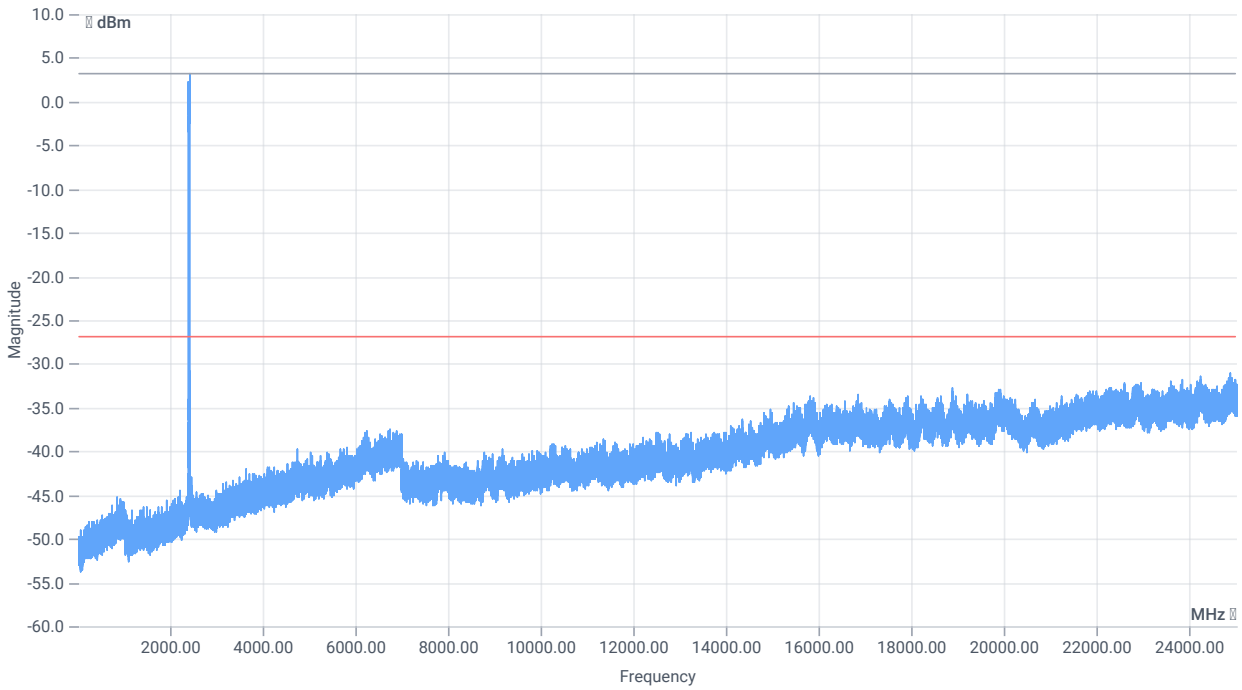
Equipment

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

Test at TX 2412 MHz

RESULT: Reference Power cond.

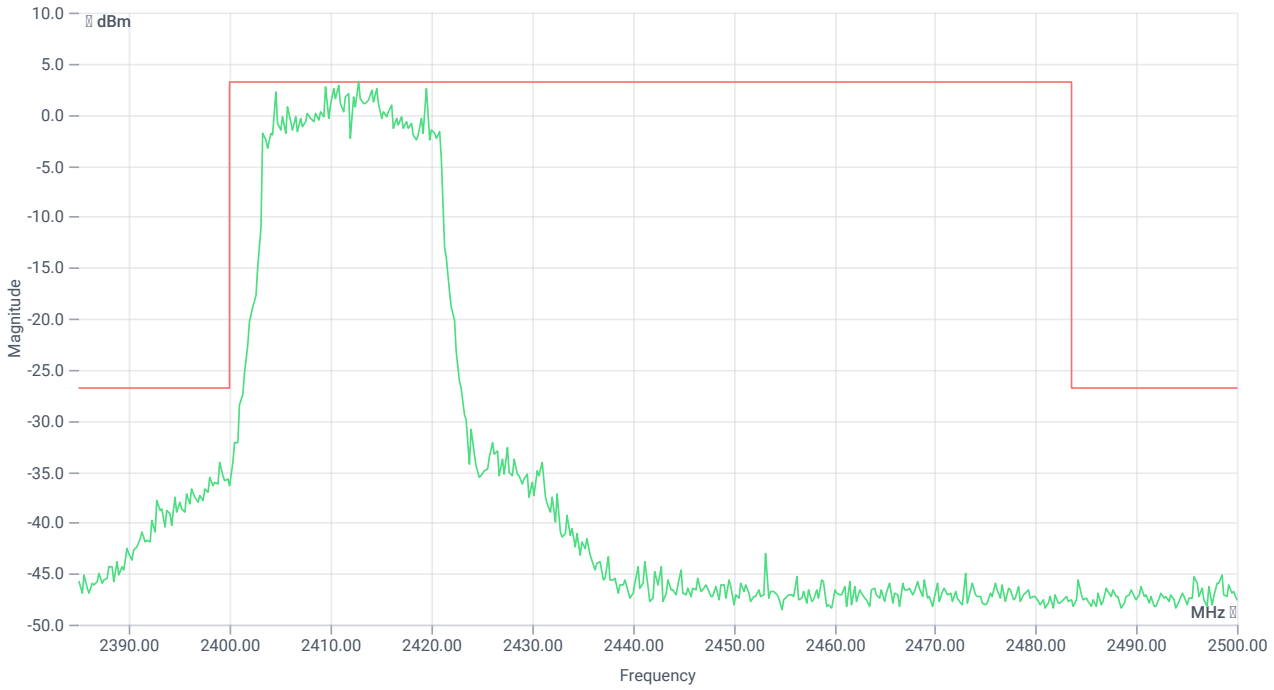
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.01	dBm	INFO
Ref. Frequency	---	---	2411.300	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.01 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2412.75 MHz	---	---	3.18	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24886.25 MHz	0	---	4.29	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:13:06
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	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]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2412 MHz

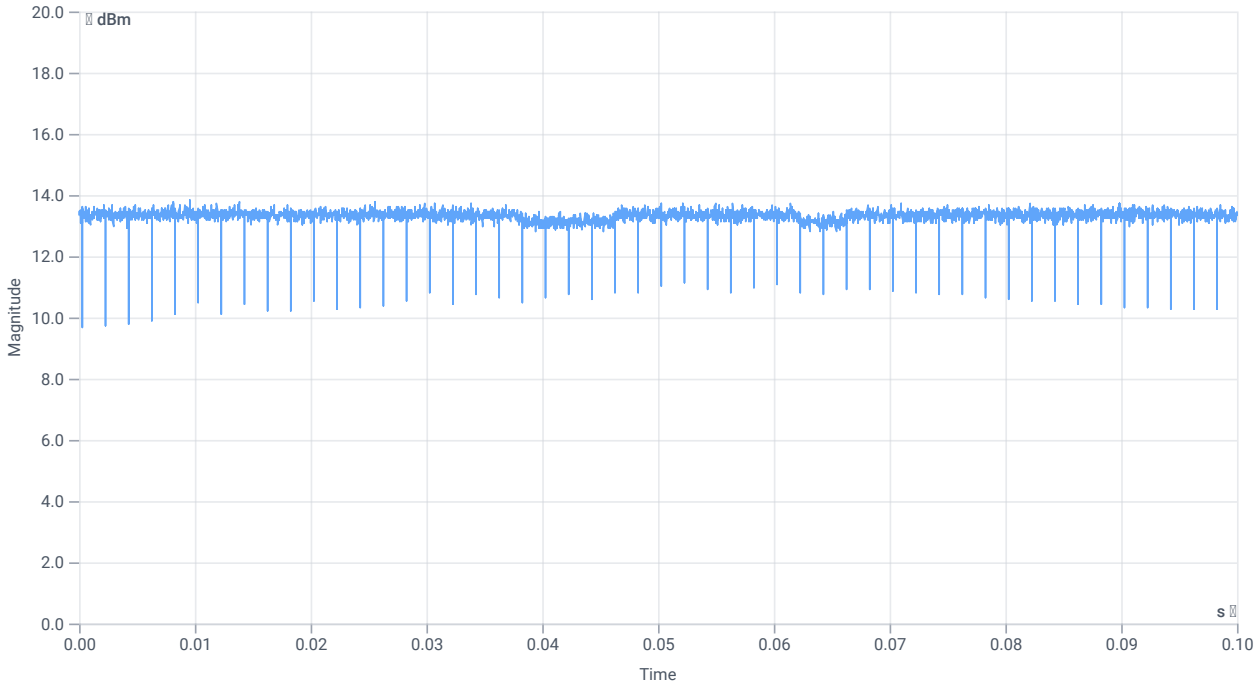
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.88	dBm	INFO
Ref. Frequency	---	---	2413.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

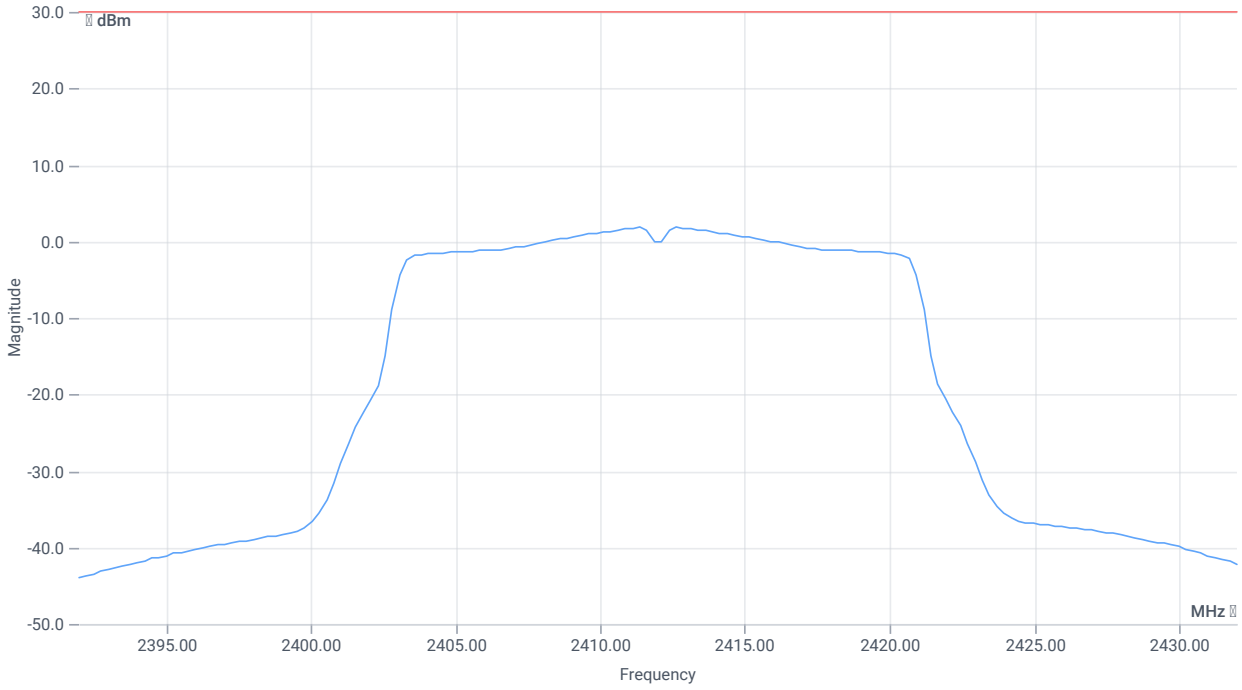
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	22.88 | 13.85 | 25
Start [MHz] | Stop [MHz]	2392.000 | 2432.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	15.19	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	15.19	dBm	PASS

Verdict

PASS

FCC 15.247 # MIMO ∑ Avg output power SA DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 14:14:20
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg output power SA DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
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]	0.7
Full path name | type	None

Equipment

Test at TX 2412 MHz

RESULT Power

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg power DC corr.	---	---	15.01	dBm	INFO
Ant:2 Avg power DC corr.	---	---	15.19	dBm	INFO
∑ Avg output power DC corr.	---	30	18.11	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg psd DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 14:25:23
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg psd DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
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]	0.7
Full path name | type	None

Equipment

Test at TX 2412 MHz

RESULT psd

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg psd DC corr	---	---	-18.74	dBm/3kHz	INFO
Ant:2 Avg psd DC corr	---	---	-18.44	dBm/3kHz	INFO
∑ Avg psd DC corr	---	8	-15.58	dBm/3kHz	PASS

Verdict
PASS

NA # Message with SA scan ~

References

TC start	13.01.2024 14:26:08
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Message with SA Scan n-HT20 mode
Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	13.01.2024 14:26:08
Message	set WLAN2G4 to n-HT20 mode, Frequency [MHz] 2437 ,

Equipment

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

Verdict
INFO

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

References

TC start	13.01.2024 14:28:52
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

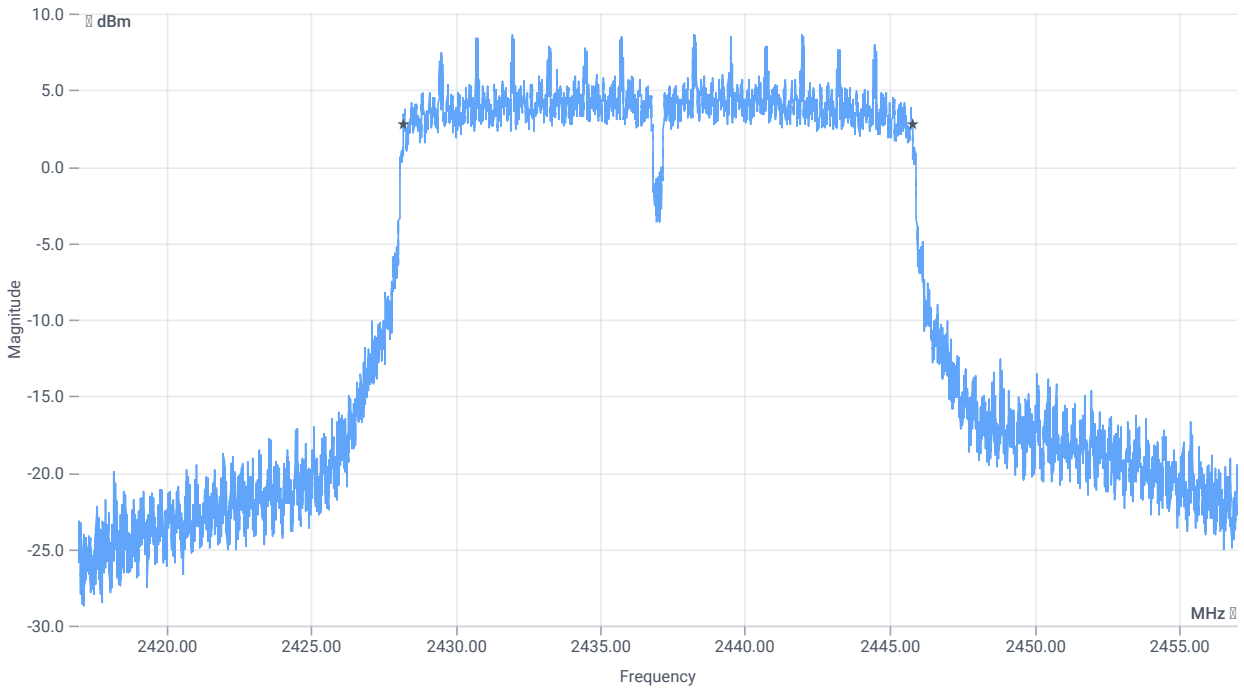
Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.21	dBm	INFO
Ref. Frequency	---	---	2433.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	21.21 | 14.01 | 25
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



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17572	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:29:24
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2437 MHz

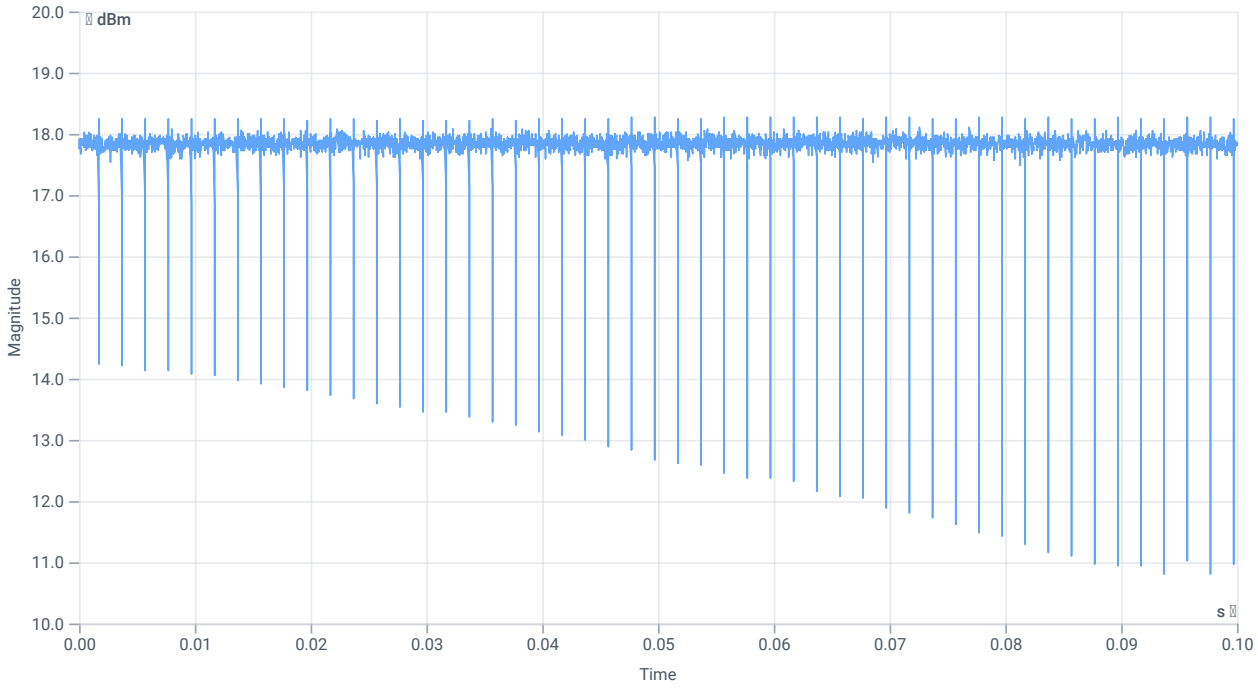
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.55	dBm	INFO
Ref. Frequency	---	---	2432.600	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

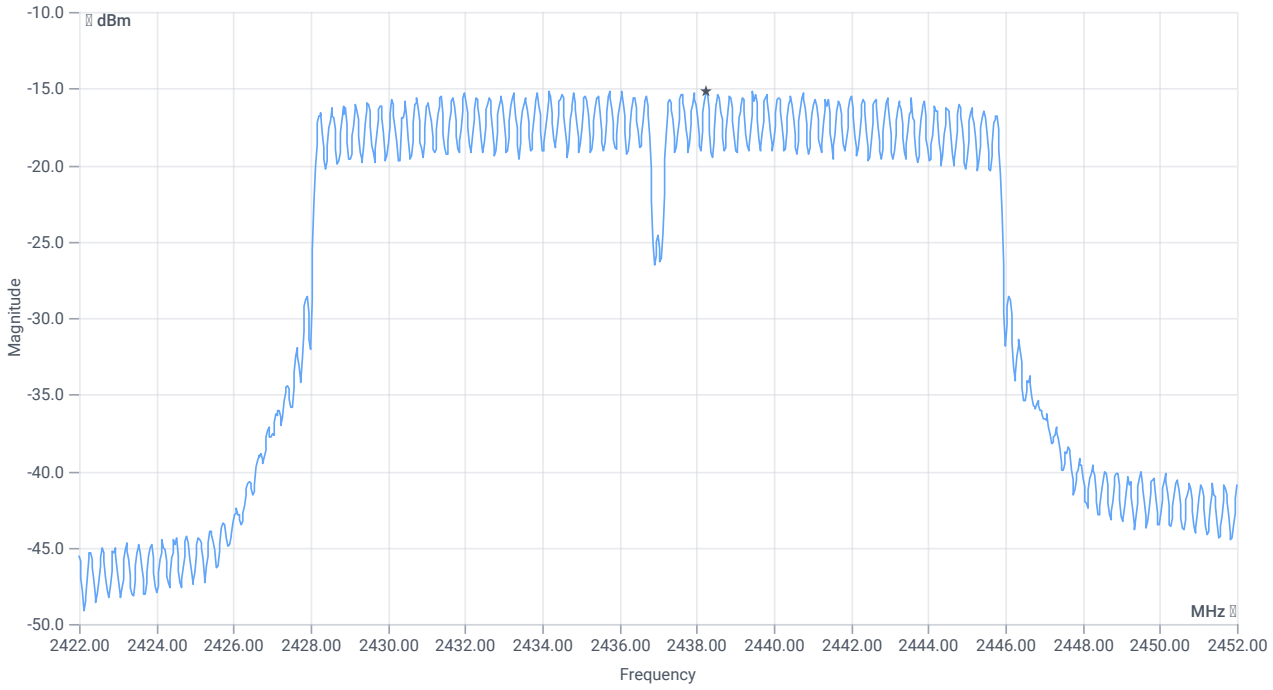
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	21.55 | 14.01 | 25
Start [MHz] | Stop [MHz]	2422.000 | 2452.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-15.17	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-15.17	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	13.01.2024 14:30:27
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

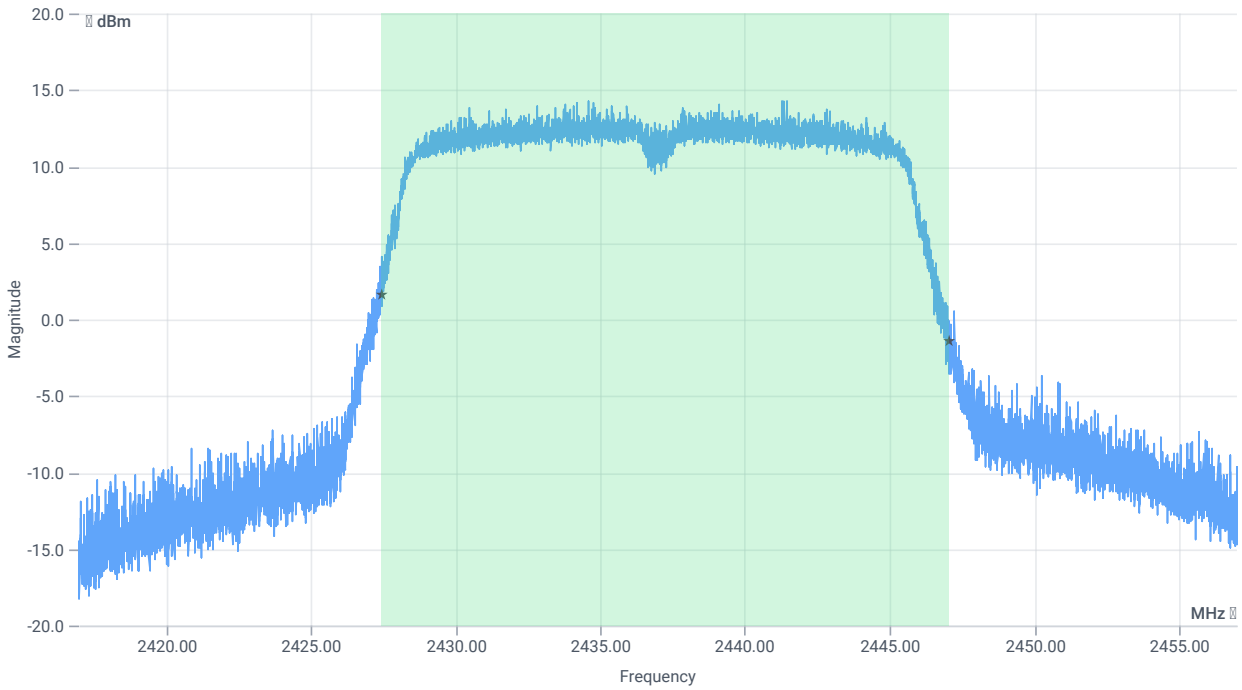
Test at TX 2437 MHz

RESULT: Reference Power cond.

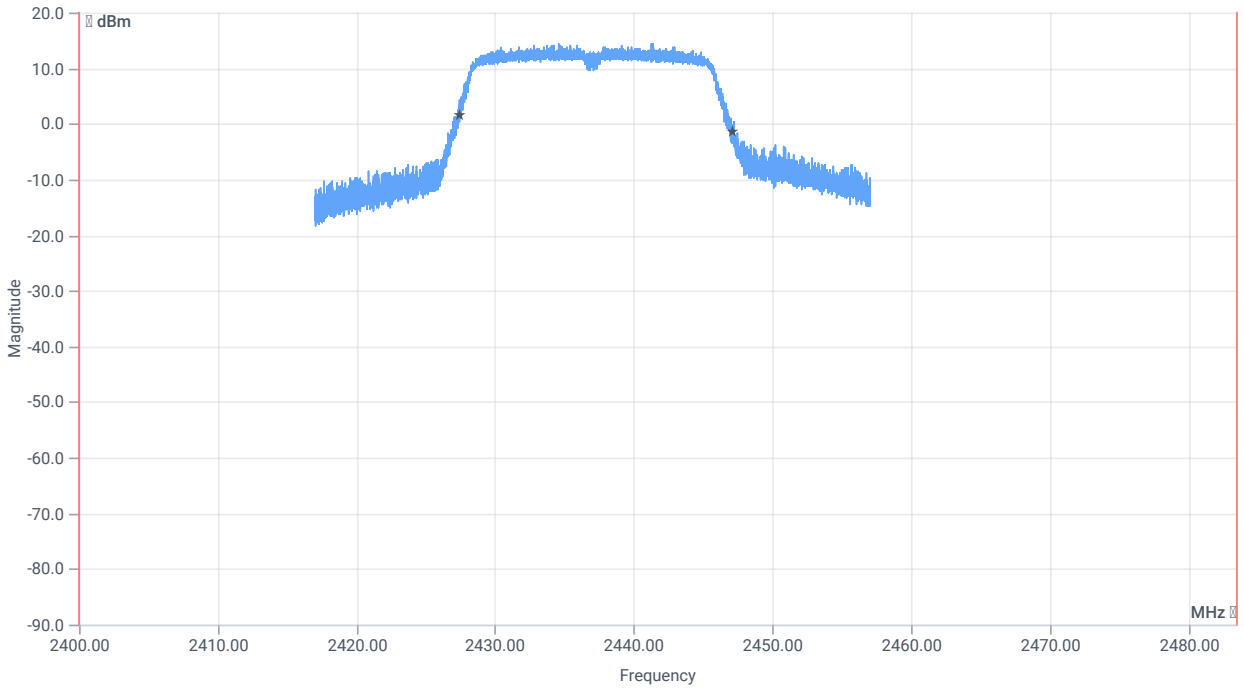
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.31	dBm	INFO
Ref. Frequency	---	---	2433.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	21.31 | 14.01 | 25
Start [MHz] | Stop [MHz]	2417.000 | 2457.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



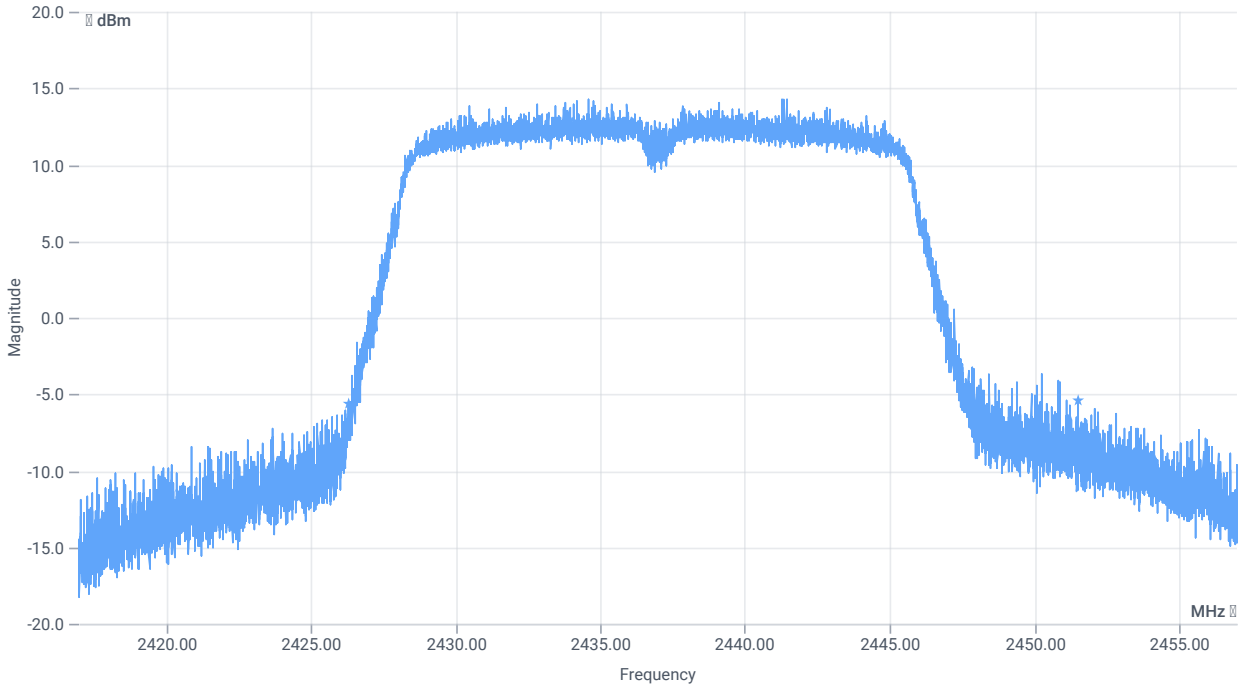
BW 99PCT



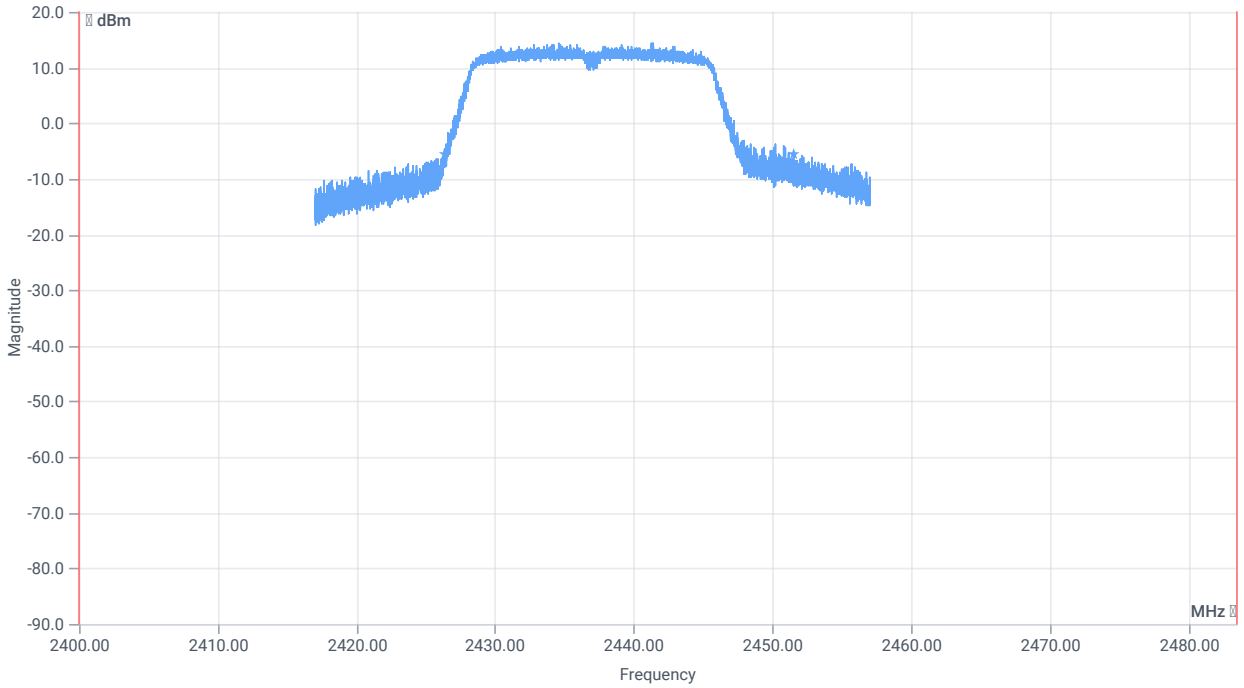
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	19626.000	kHz	INFO
T1 99%	2400.000000	---	2427.4530	MHz	PASS
T2 99%	---	2483.500000	2447.0790	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	25168	kHz	INFO
T1 20DB	2400.000000	---	2426.3360	MHz	PASS
T2 20dB	---	2483.500000	2451.5040	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:31:06
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

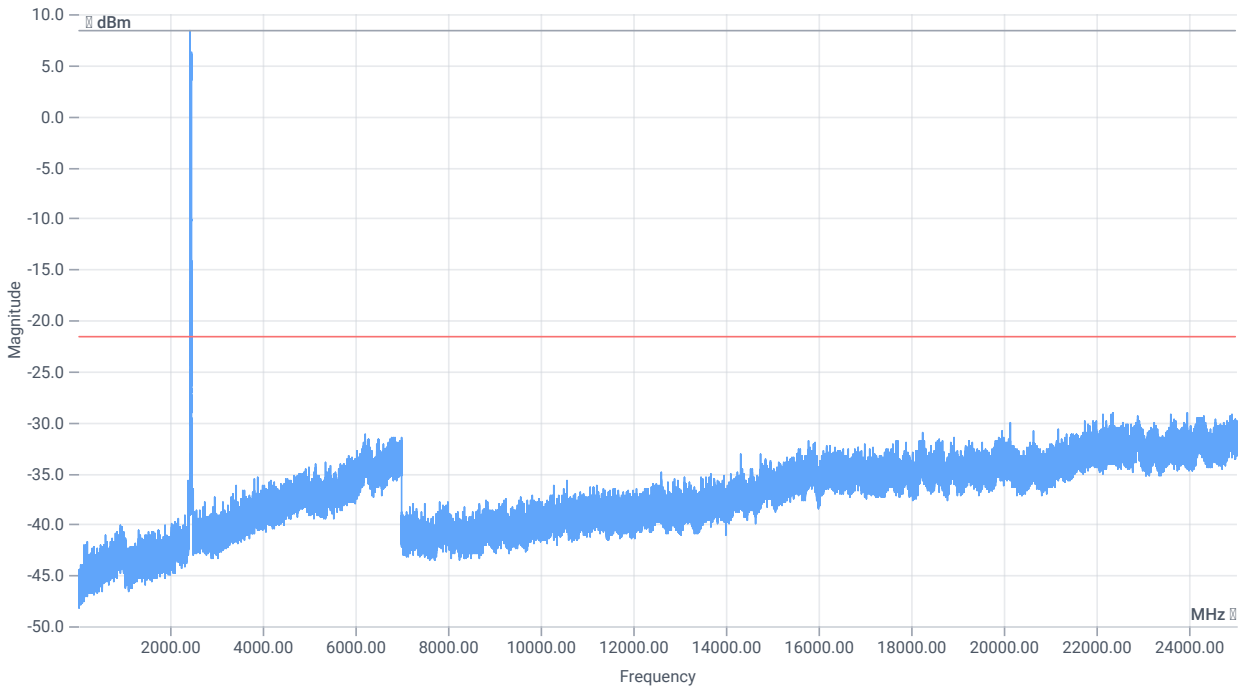
Equipment

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

Test at TX 2437 MHz

RESULT: Reference Power cond.

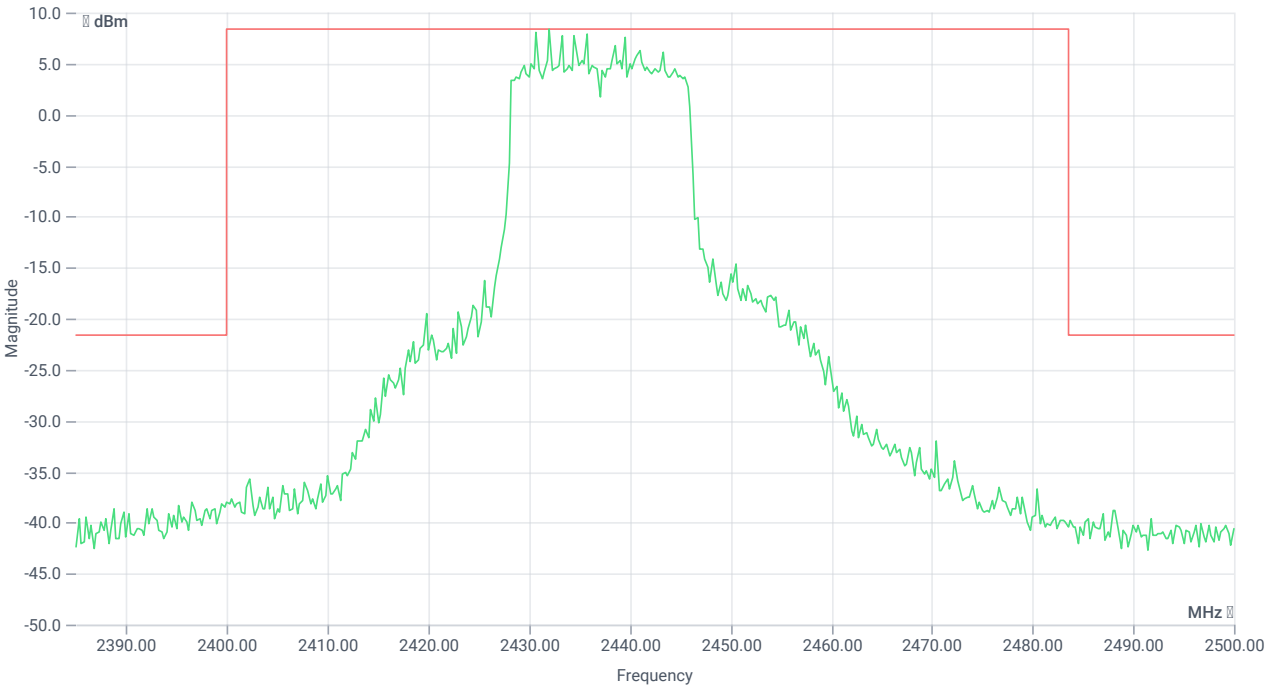
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.26	dBm	INFO
Ref. Frequency	---	---	2434.200	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	16.26 | 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 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2432.00 MHz	---	---	8.30	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 22342.25 MHz	0	---	7.4	dB	INFO

Verdict

PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:37:49
Ambit temp [°C] | humidity [rel%]	22.4 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2437 MHz

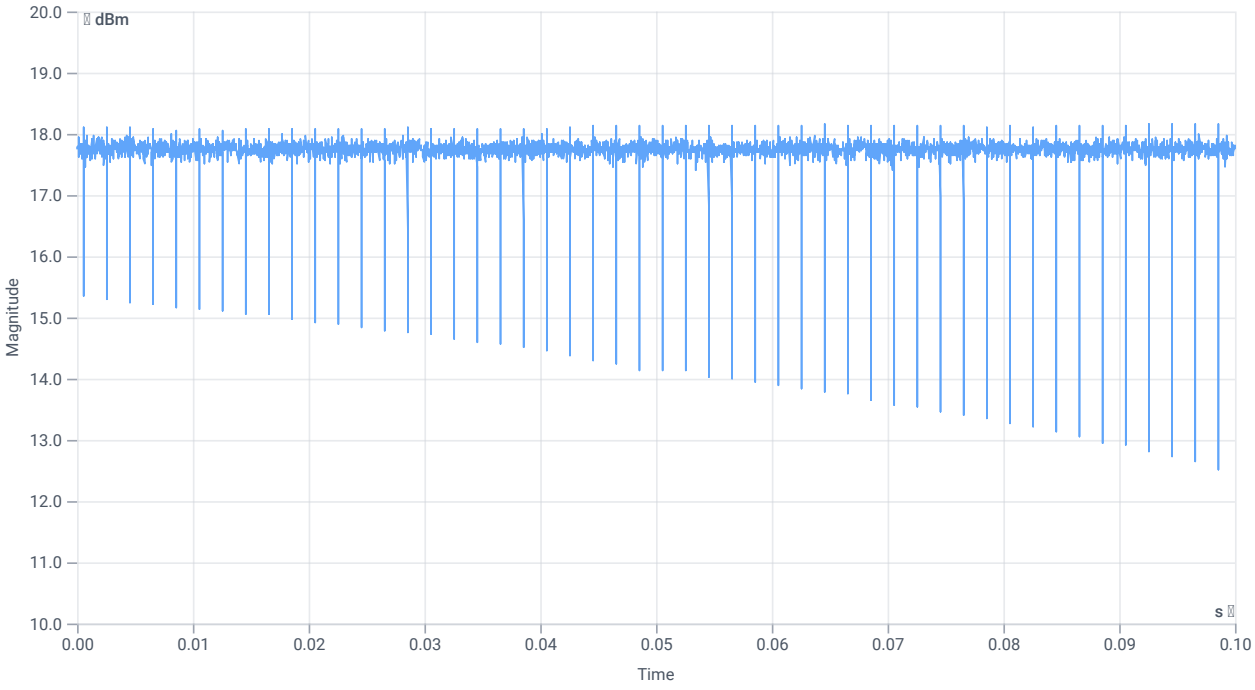
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.08	dBm	INFO
Ref. Frequency	---	---	2439.600	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

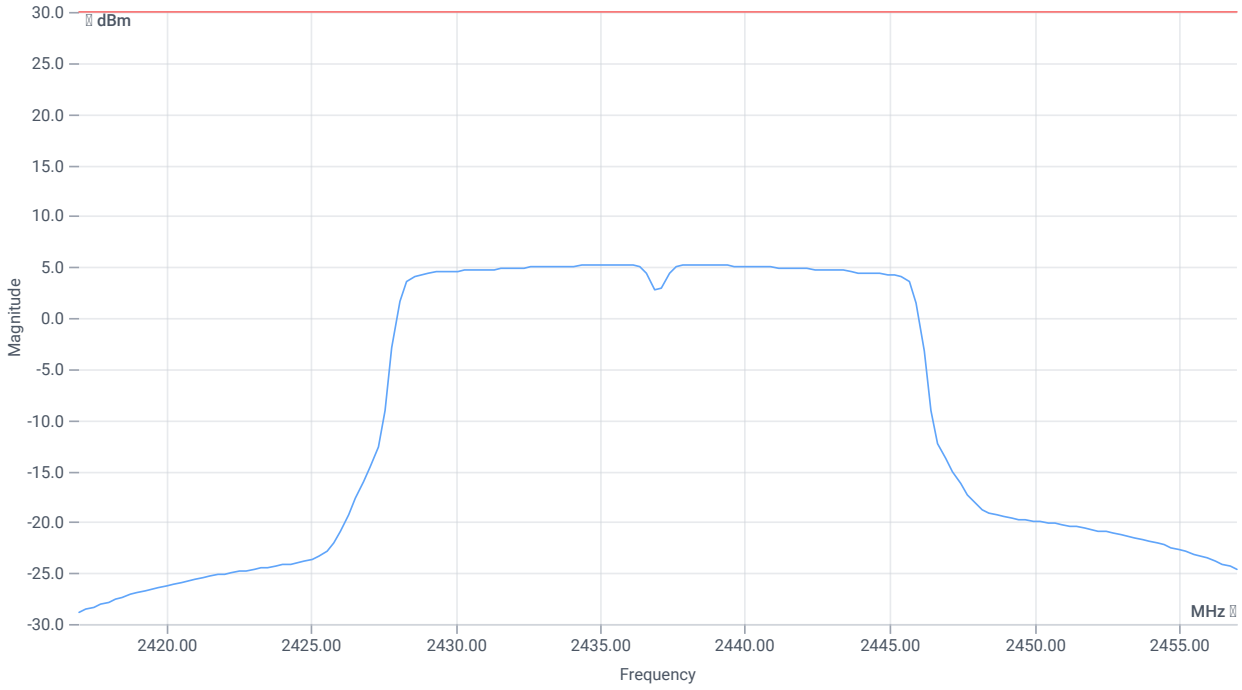
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	26.08 | 14.01 | 30
Start [MHz] | Stop [MHz]	2417.000 | 2457.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	20.01	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	20.01	dBm	PASS

Verdict
PASS

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

References

TC start	13.01.2024 14:39:03
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

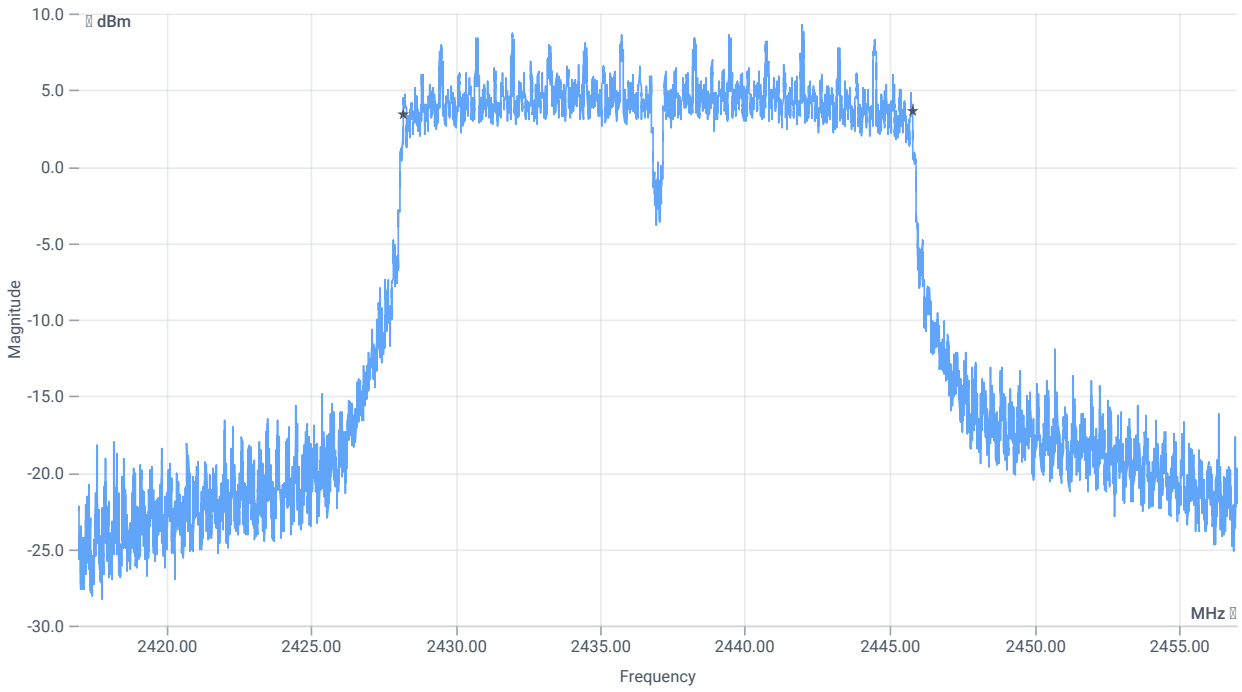
Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.96	dBm	INFO
Ref. Frequency	---	---	2430.810	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	21.96 | 14.01 | 25
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



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17584	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:39:36
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2437 MHz

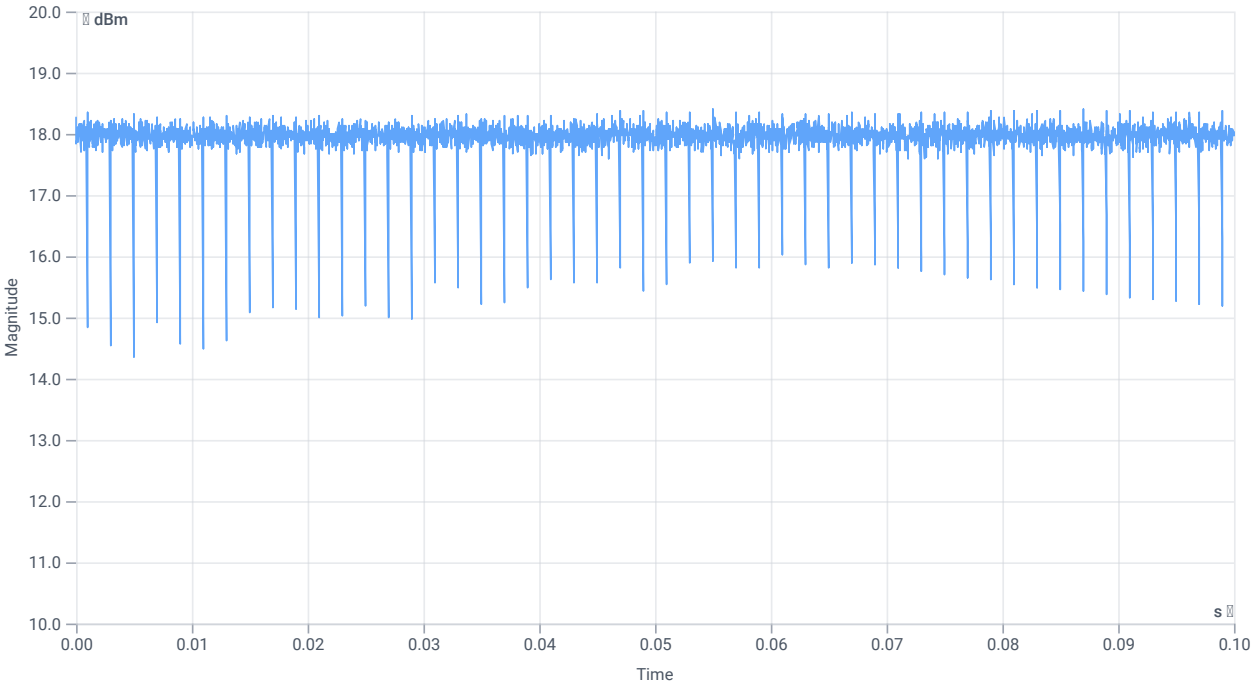
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	16.84	dBm	INFO
Ref. Frequency	---	---	2443.190	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

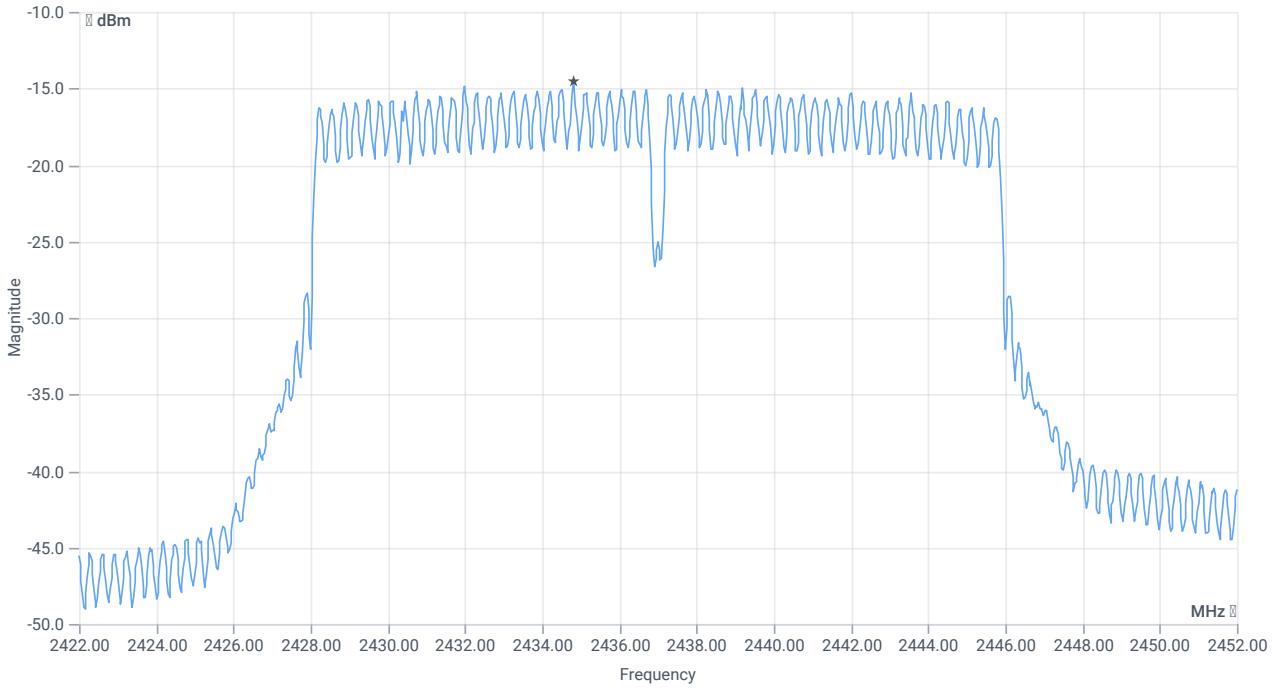
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	21.84 | 14.01 | 25
Start [MHz] | Stop [MHz]	2422.000 | 2452.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-14.5	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-14.5	dBm/3kHz	PASS

Verdict
PASS

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

References

TC start	13.01.2024 14:40:41
Ambit temp [°C] | humidity [rel%]	22.4 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

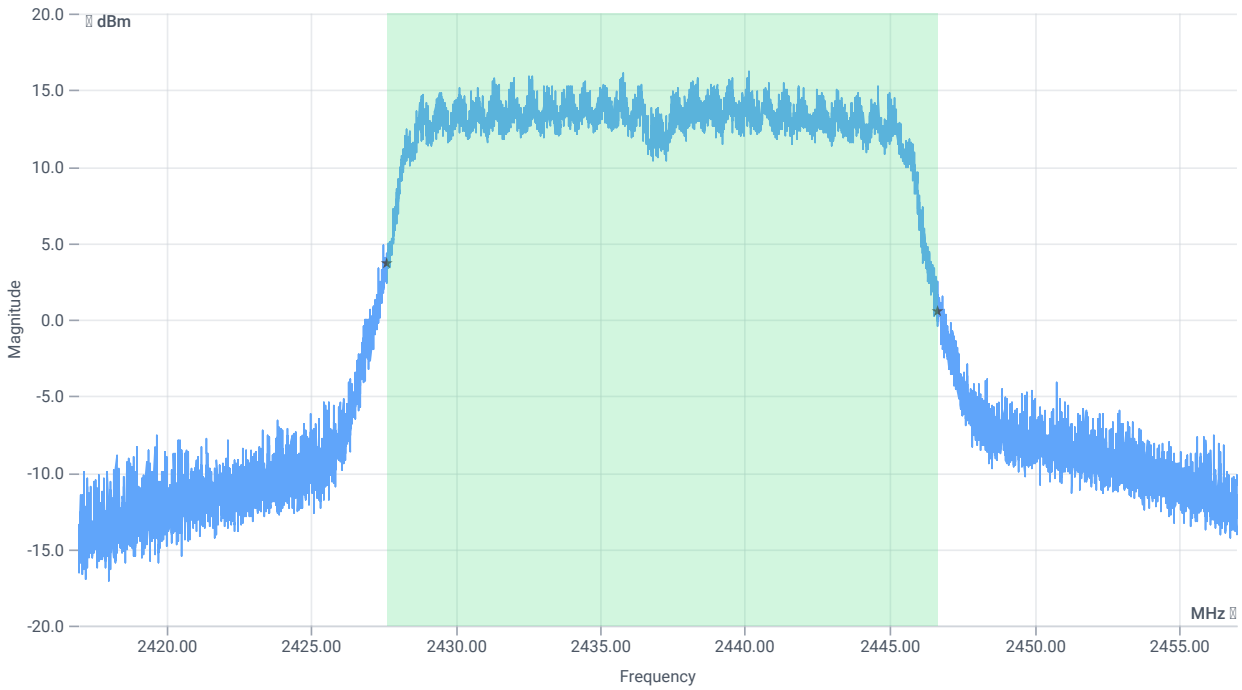
Test at TX 2437 MHz

RESULT: Reference Power cond.

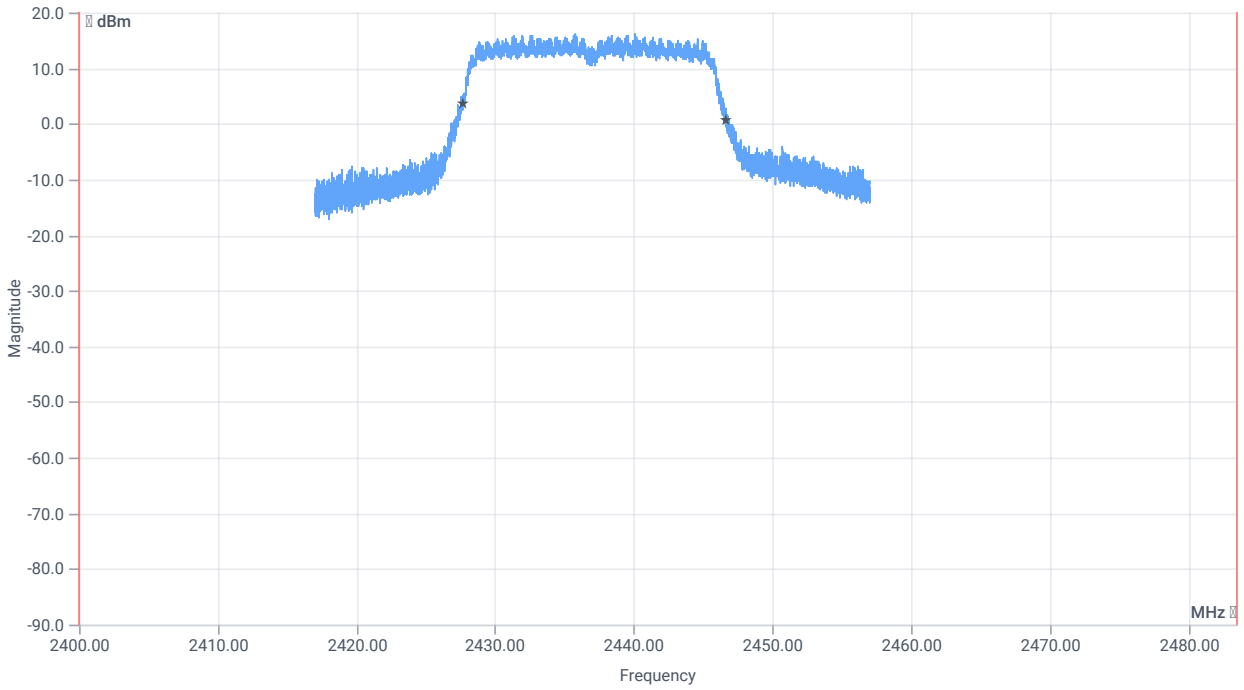
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	17.09	dBm	INFO
Ref. Frequency	---	---	2442.490	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	22.09 | 14.01 | 25
Start [MHz] | Stop [MHz]	2417.000 | 2457.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



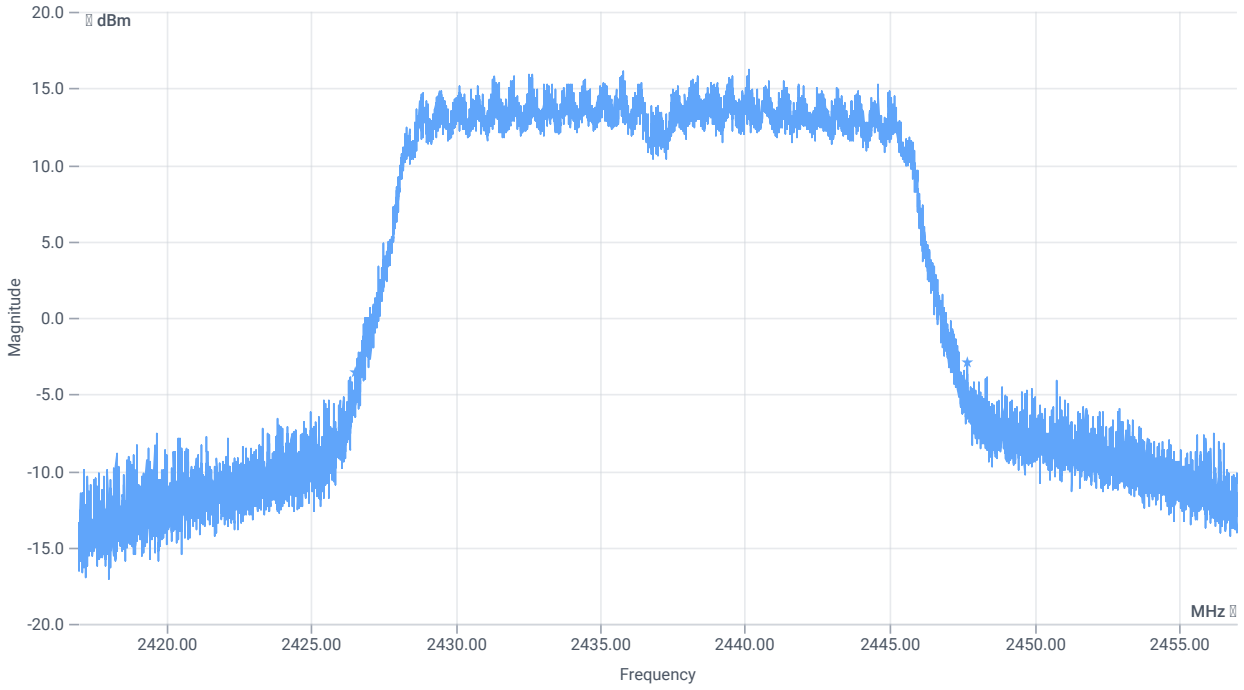
BW 99PCT



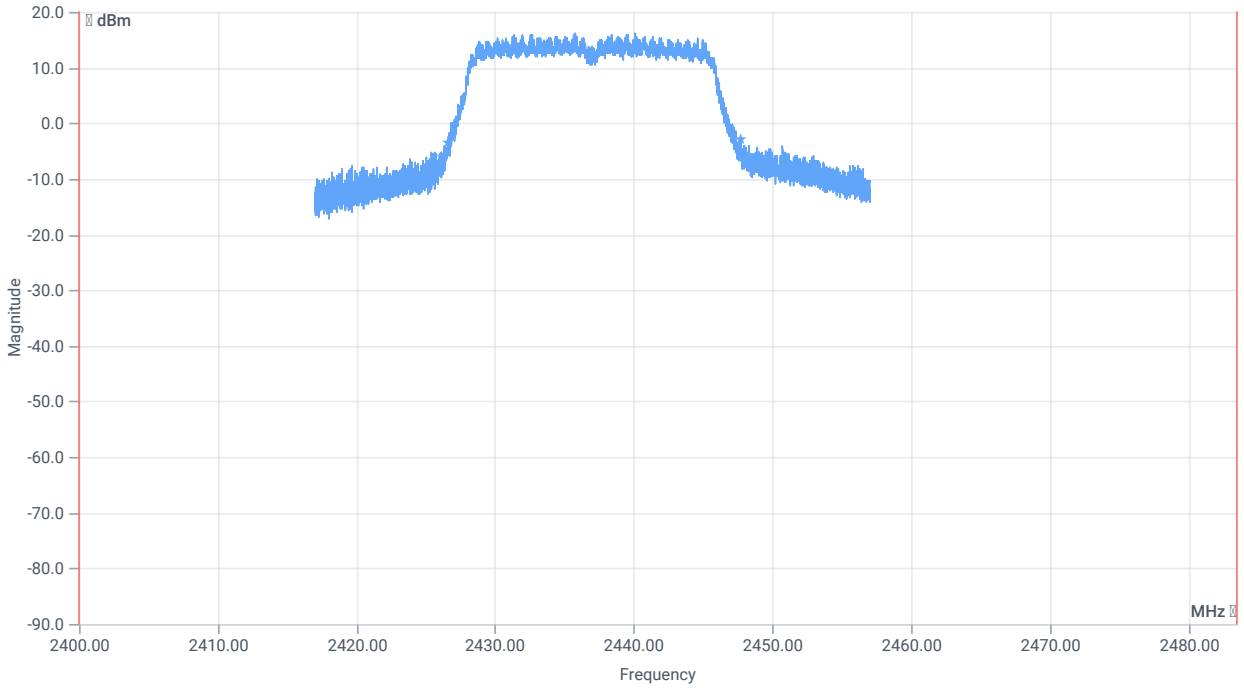
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	19010.000	kHz	INFO
T1 99%	2400.000000	---	2427.6329	MHz	PASS
T2 99%	---	2483.500000	2446.6430	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	21148	kHz	INFO
T1 20DB	2400.000000	---	2426.5560	MHz	PASS
T2 20dB	---	2483.500000	2447.7040	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:41:17
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

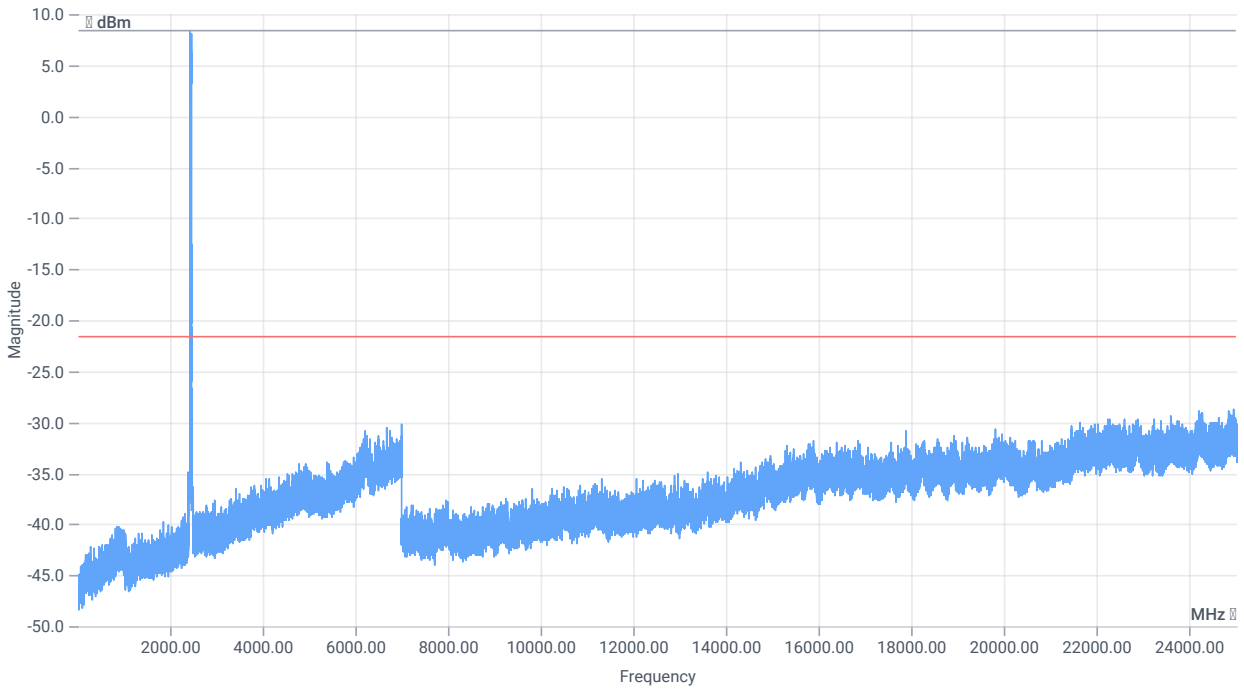
Equipment

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

Test at TX 2437 MHz

RESULT: Reference Power cond.

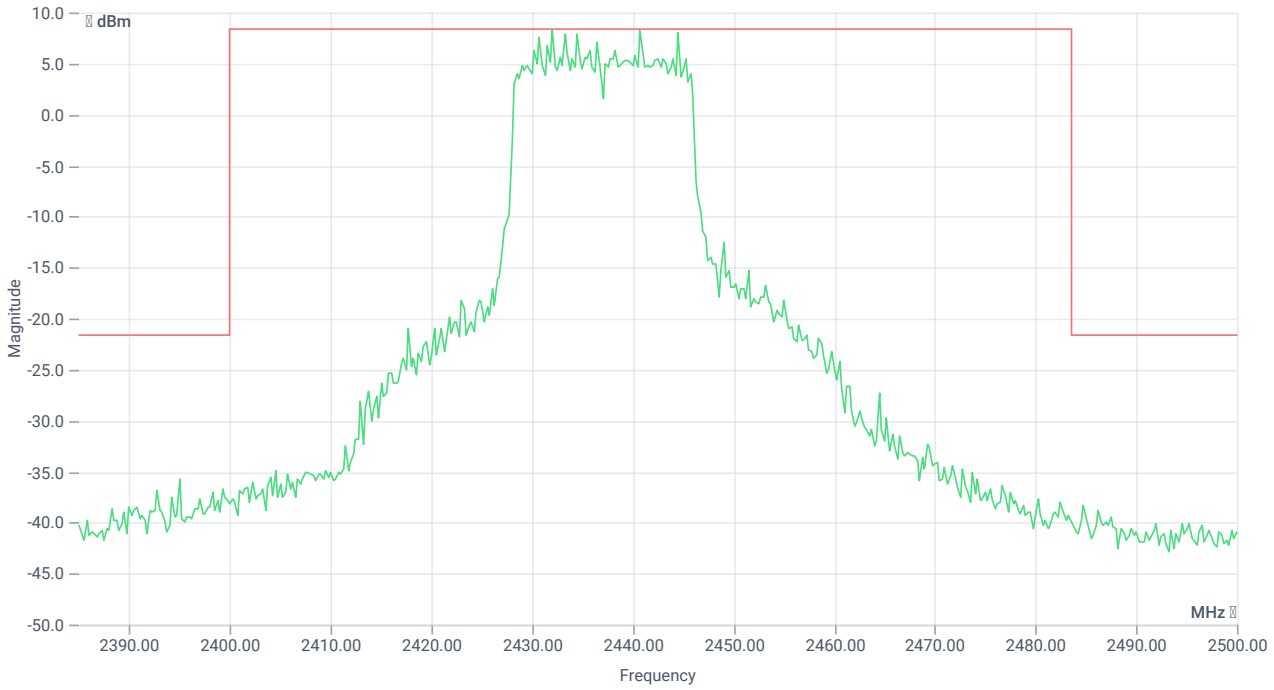
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	17.25	dBm	INFO
Ref. Frequency	---	---	2439.000	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.25 | 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 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2432.00 MHz	---	---	8.36	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24952.75 MHz	0	---	7.11	dB	INFO

Verdict

PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:48:00
Ambit temp [°C] | humidity [rel%]	22.4 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2437 MHz

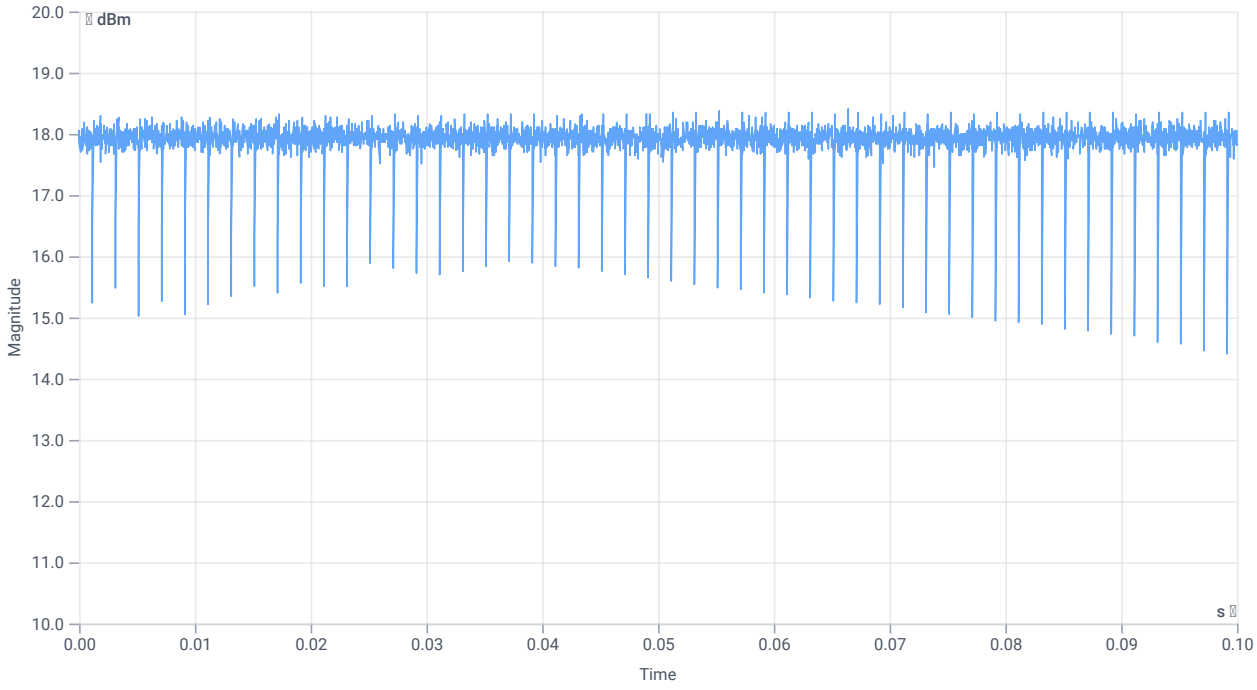
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	17.21	dBm	INFO
Ref. Frequency	---	---	2435.300	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

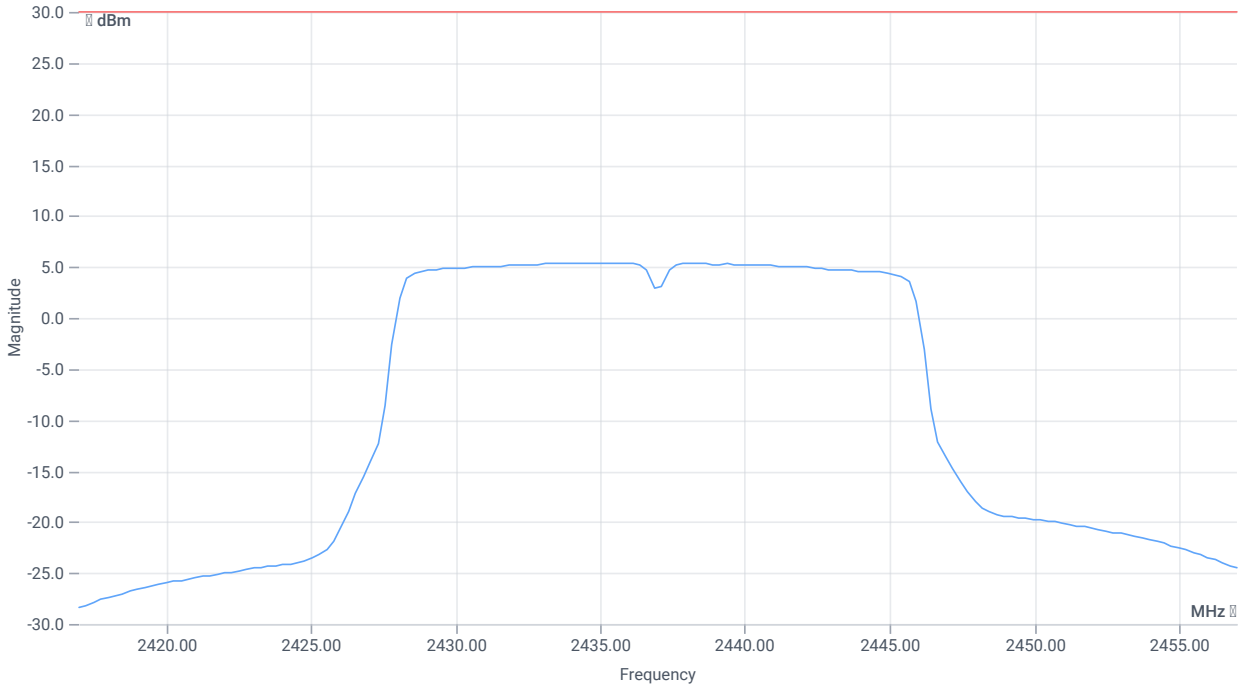
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	27.21 | 14.01 | 30
Start [MHz] | Stop [MHz]	2417.000 | 2457.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	20.21	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	20.21	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg output power SA DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 14:49:15
Ambit temp [°C] | humidity [rel%]	22.4 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg output power SA DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2437 MHz

RESULT Power

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg power DC corr.	---	---	20.01	dBm	INFO
Ant:2 Avg power DC corr.	---	---	20.21	dBm	INFO
∑ Avg output power DC corr.	---	30	23.12	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg psd DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 14:50:39
Ambit temp [°C] | humidity [rel%]	22.4 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg psd DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	True | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2437 MHz

RESULT psd

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg psd DC corr	---	---	-15.17	dBm/3kHz	INFO
Ant:2 Avg psd DC corr	---	---	-14.5	dBm/3kHz	INFO
∑ Avg psd DC corr	---	8	-11.81	dBm/3kHz	PASS

Verdict
PASS

NA # Message with SA scan ~

References

TC start	13.01.2024 14:50:50
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Message with SA Scan n-HT20 mode
Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	13.01.2024 14:50:50
Message	set WLAN2G4 to n-HT20 mode, Frequency [MHz] 2462

Equipment

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

Verdict
INFO

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

References

TC start	13.01.2024 14:52:28
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

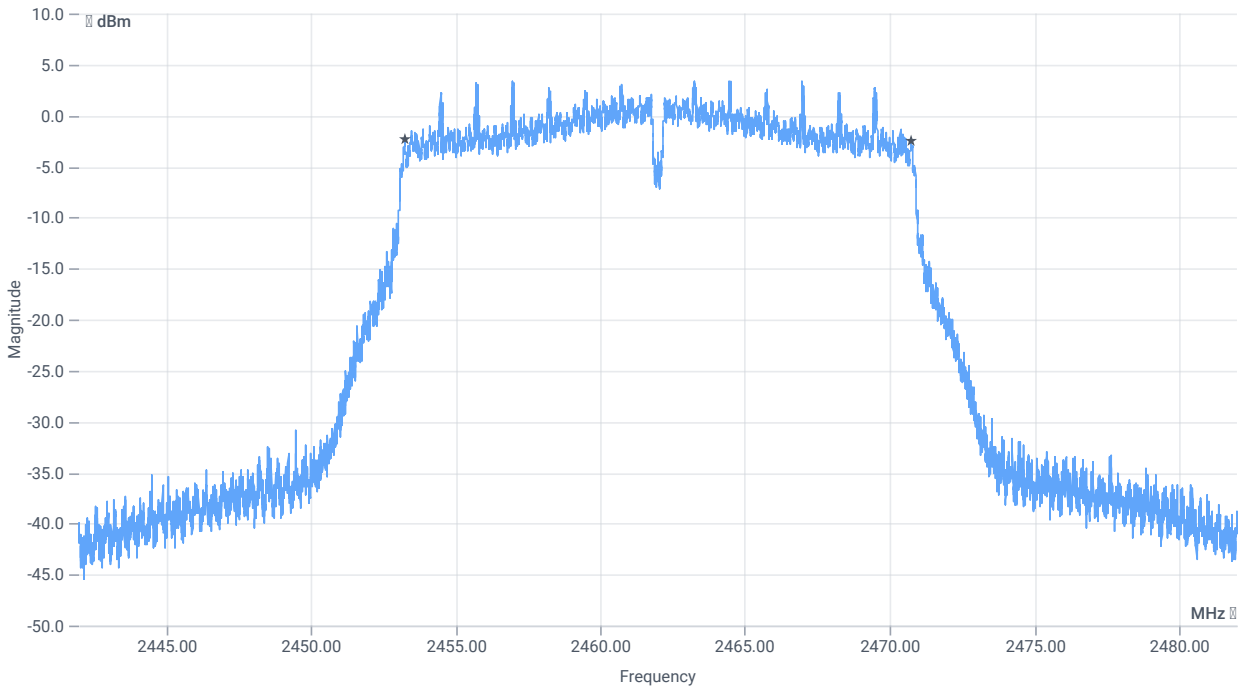
Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.36	dBm	INFO
Ref. Frequency	---	---	2463.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.36 | 14.14 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2482.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17524	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:53:03
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2462 MHz

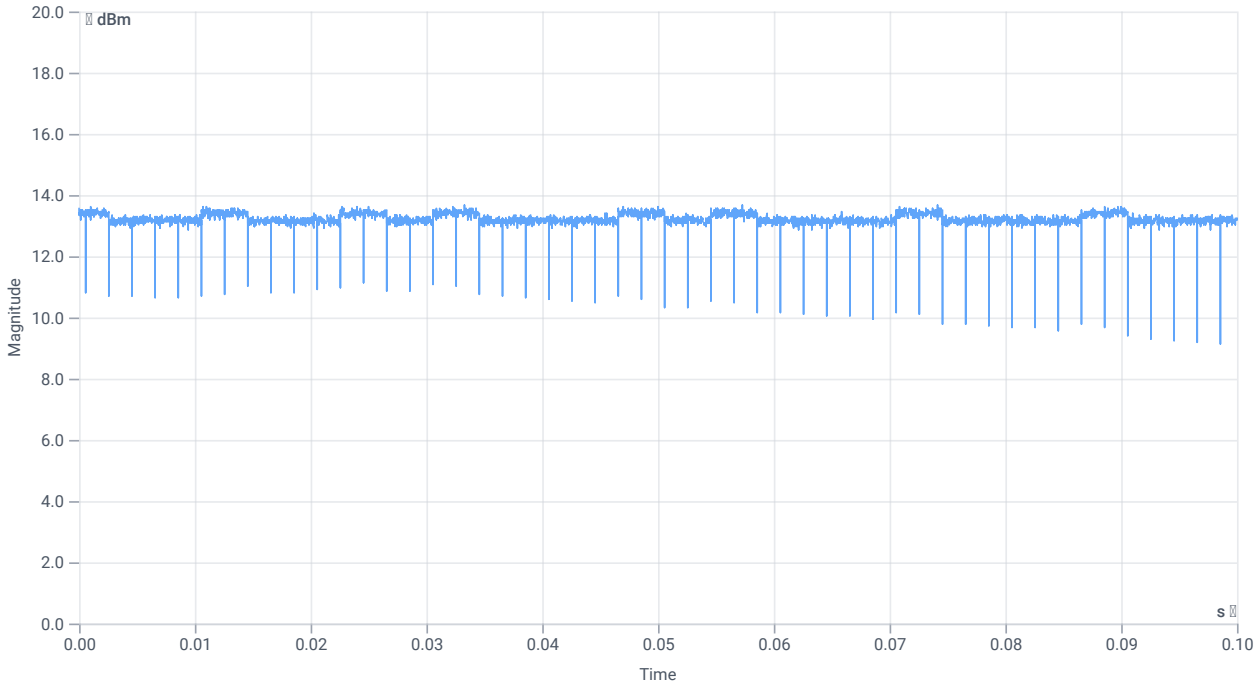
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.81	dBm	INFO
Ref. Frequency	---	---	2460.900	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

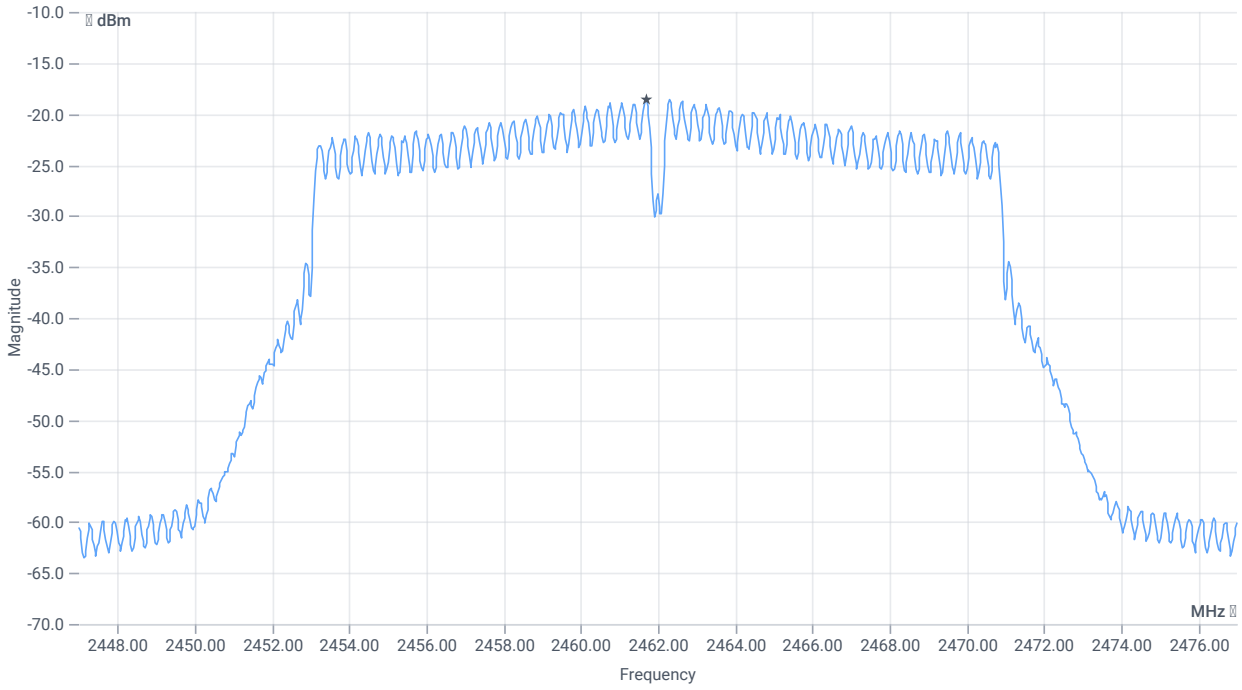
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.81 | 14.14 | 20
Start [MHz] | Stop [MHz]	2447.000 | 2477.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-18.58	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-18.58	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	13.01.2024 14:54:06
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

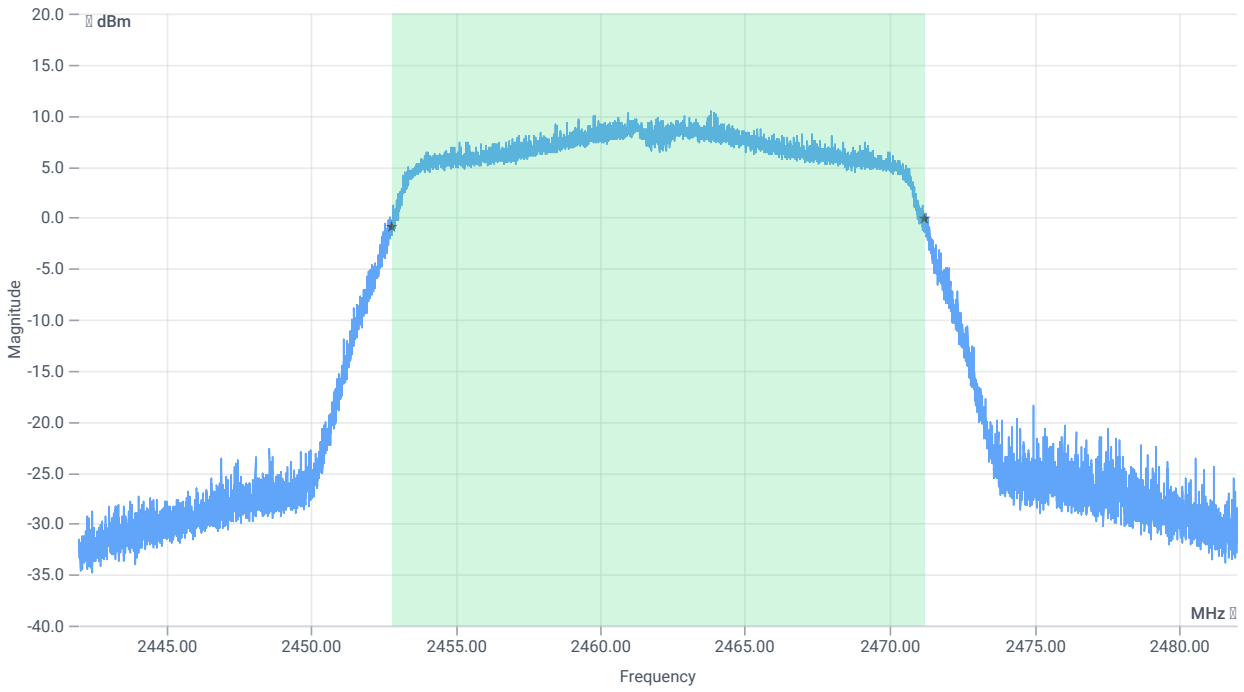
Test at TX 2462 MHz

RESULT: Reference Power cond.

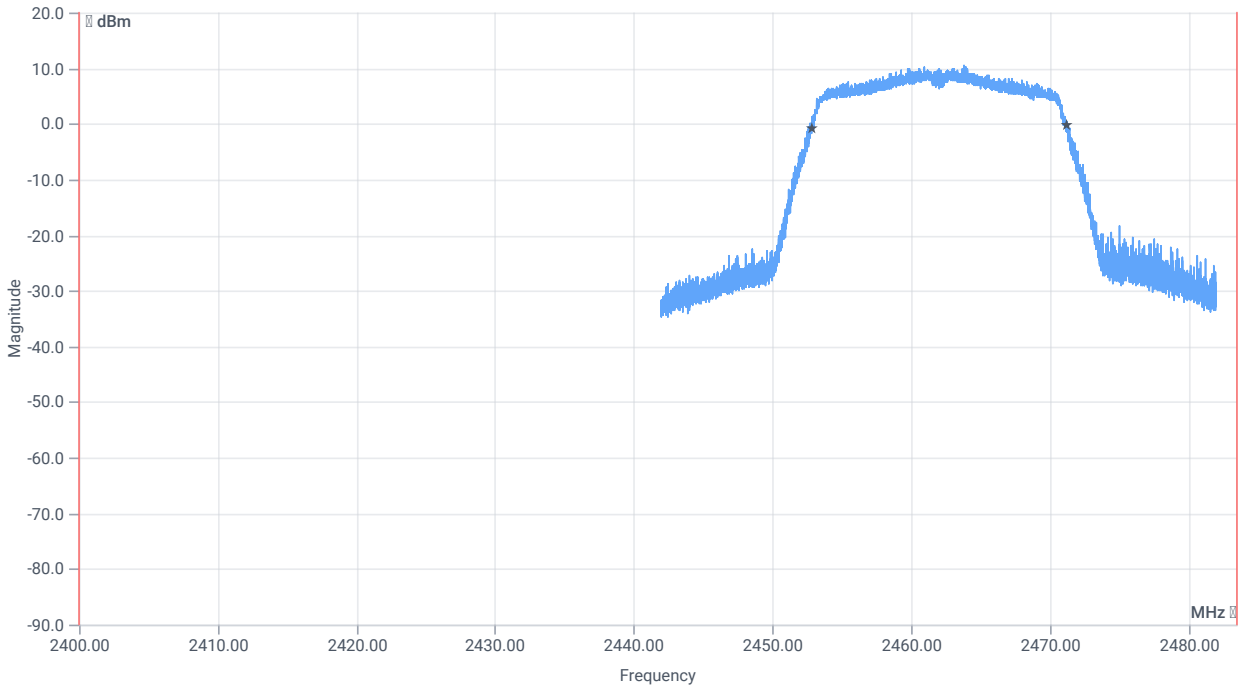
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.28	dBm	INFO
Ref. Frequency	---	---	2465.800	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.28 | 14.14 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2482.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



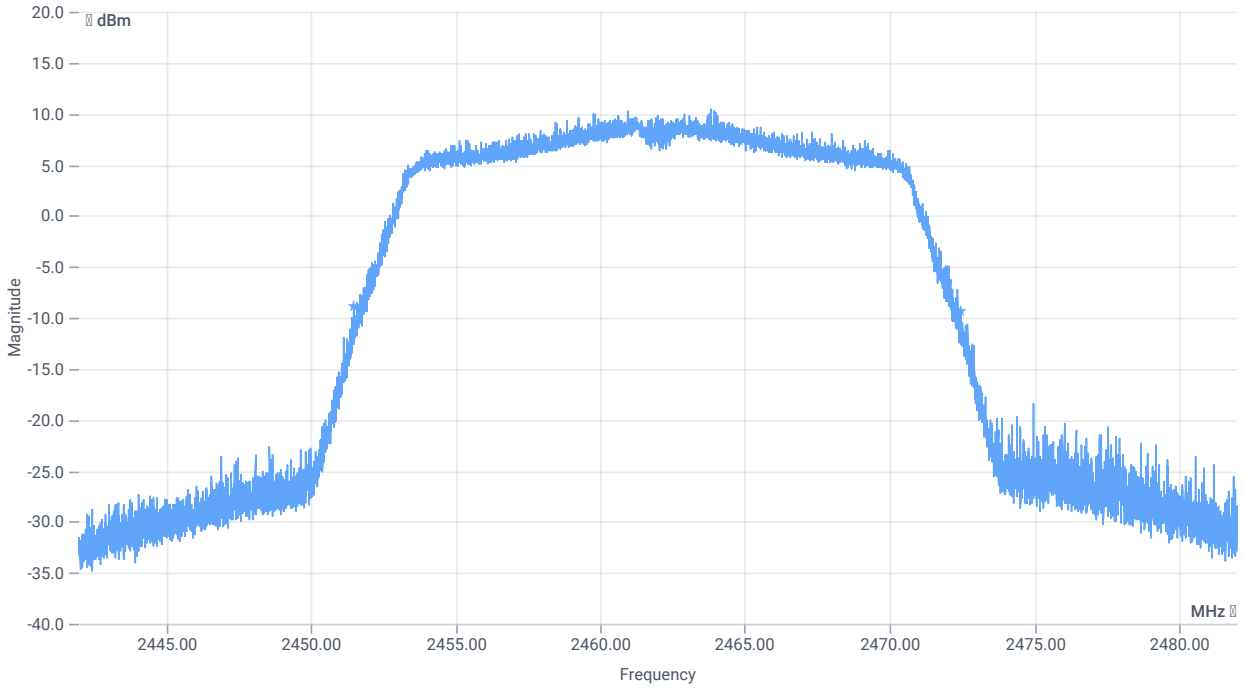
BW 99PCT



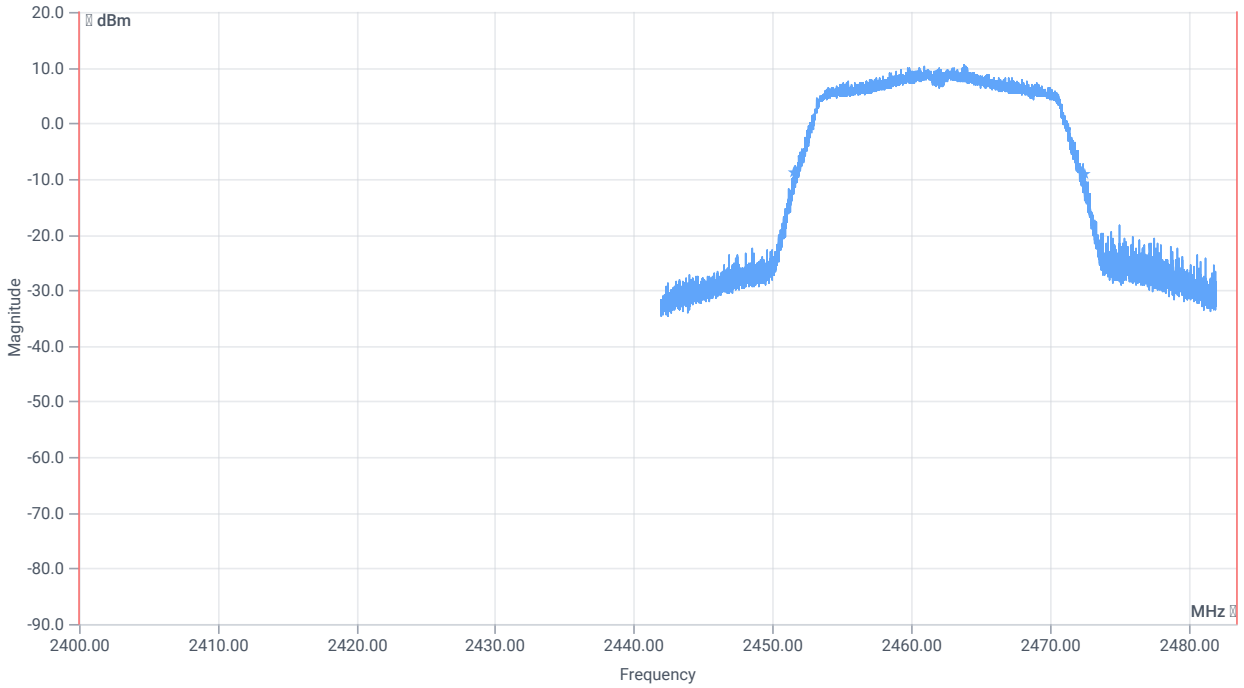
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18422.000	kHz	INFO
T1 99%	2400.000000	---	2452.7889	MHz	PASS
T2 99%	---	2483.500000	2471.2111	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20968	kHz	INFO
T1 20DB	2400.000000	---	2451.5120	MHz	PASS
T2 20dB	---	2483.500000	2472.4800	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 14:54:44
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

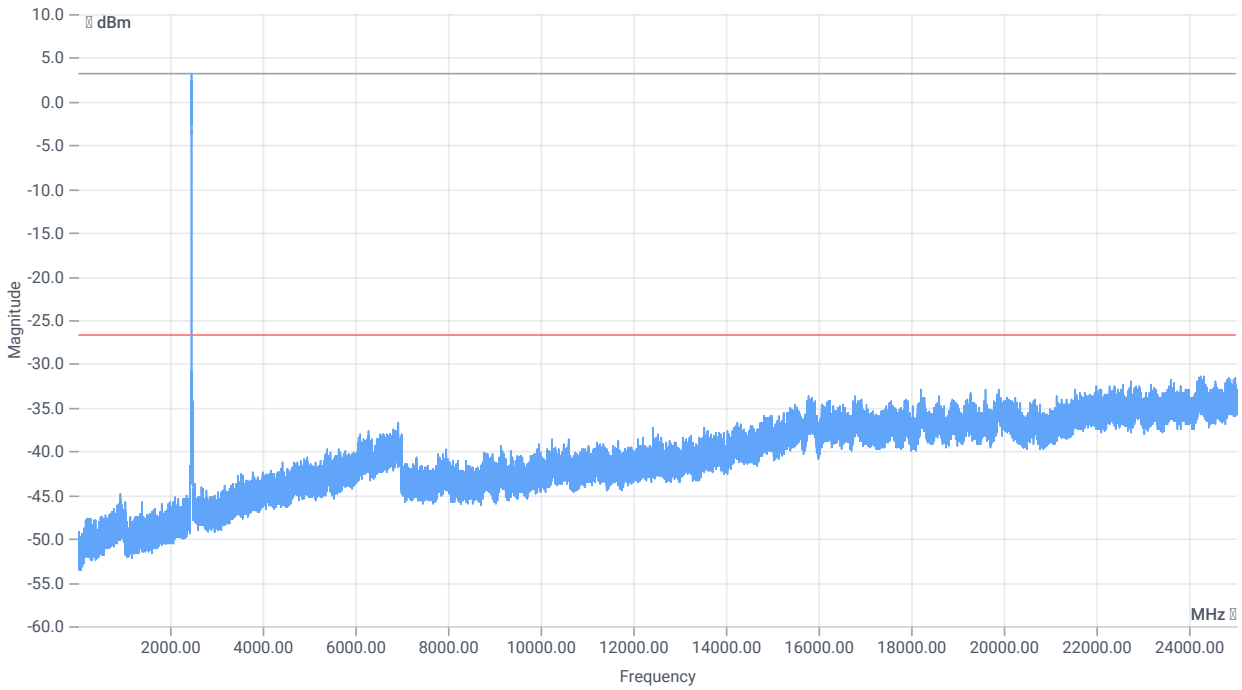
Equipment

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

Test at TX 2462 MHz

RESULT: Reference Power cond.

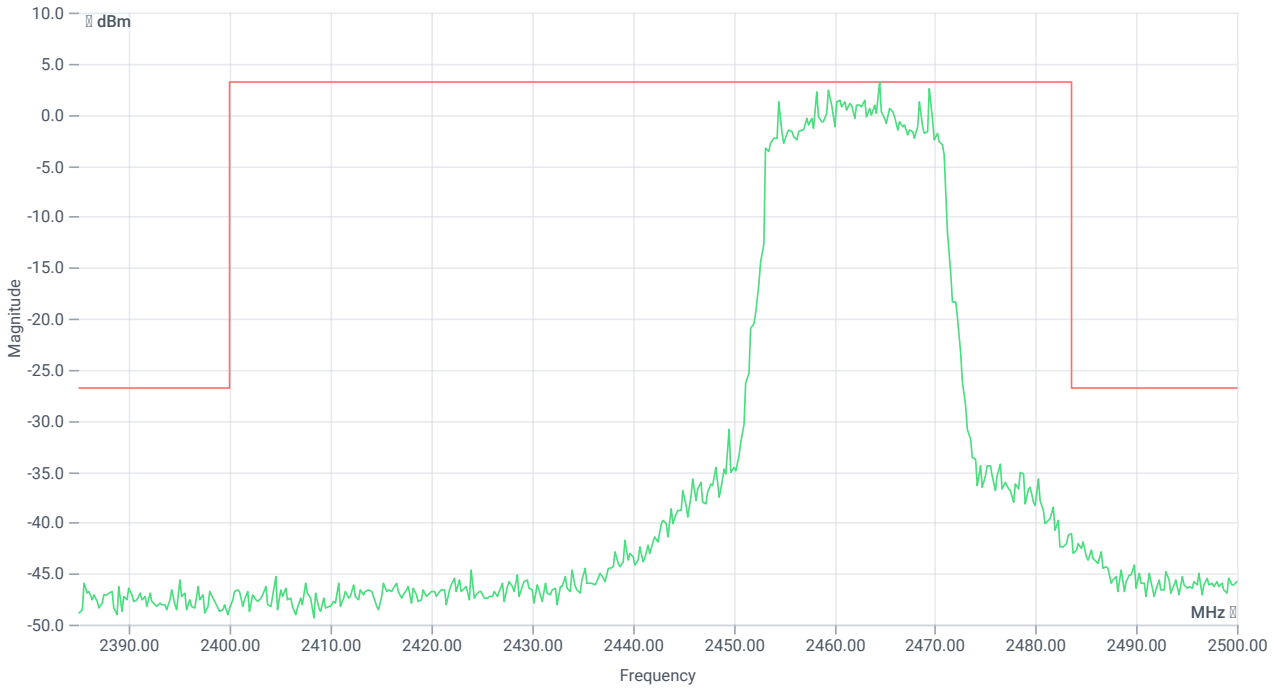
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	11.96	dBm	INFO
Ref. Frequency	---	---	2459.800	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	11.96 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2464.50 MHz	---	---	3.21	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24238 MHz	0	---	4.6	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 15:01:27
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2462 MHz

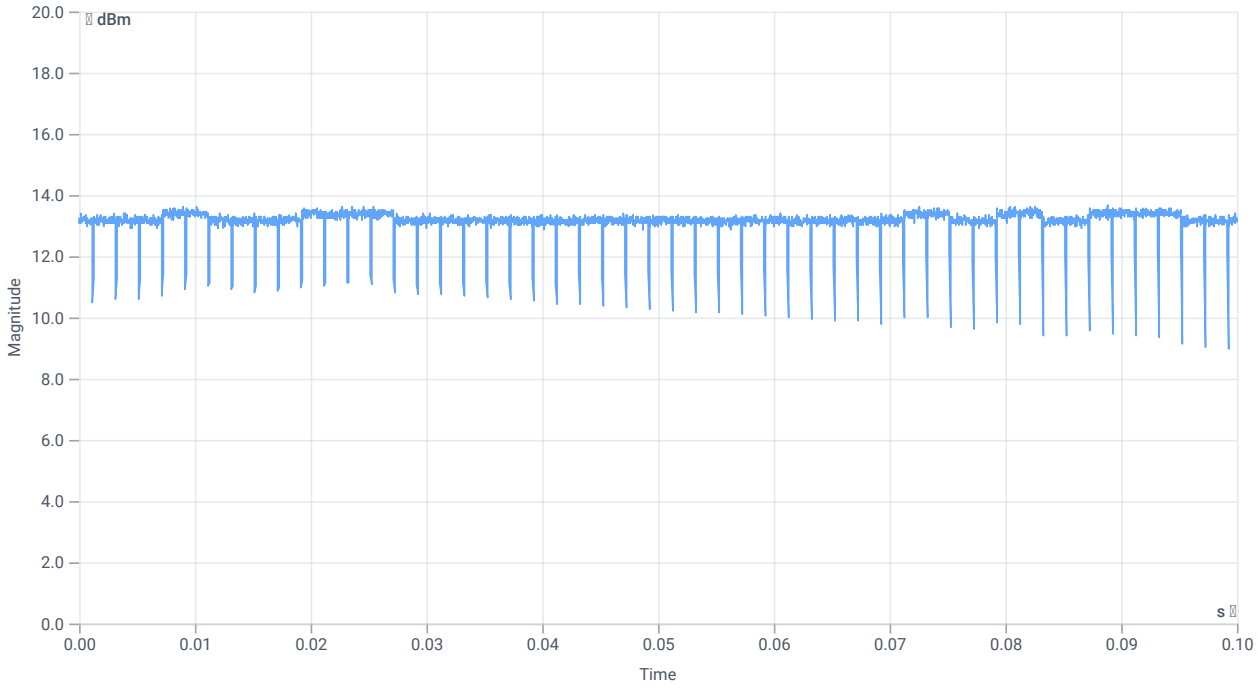
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.45	dBm	INFO
Ref. Frequency	---	---	2460.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

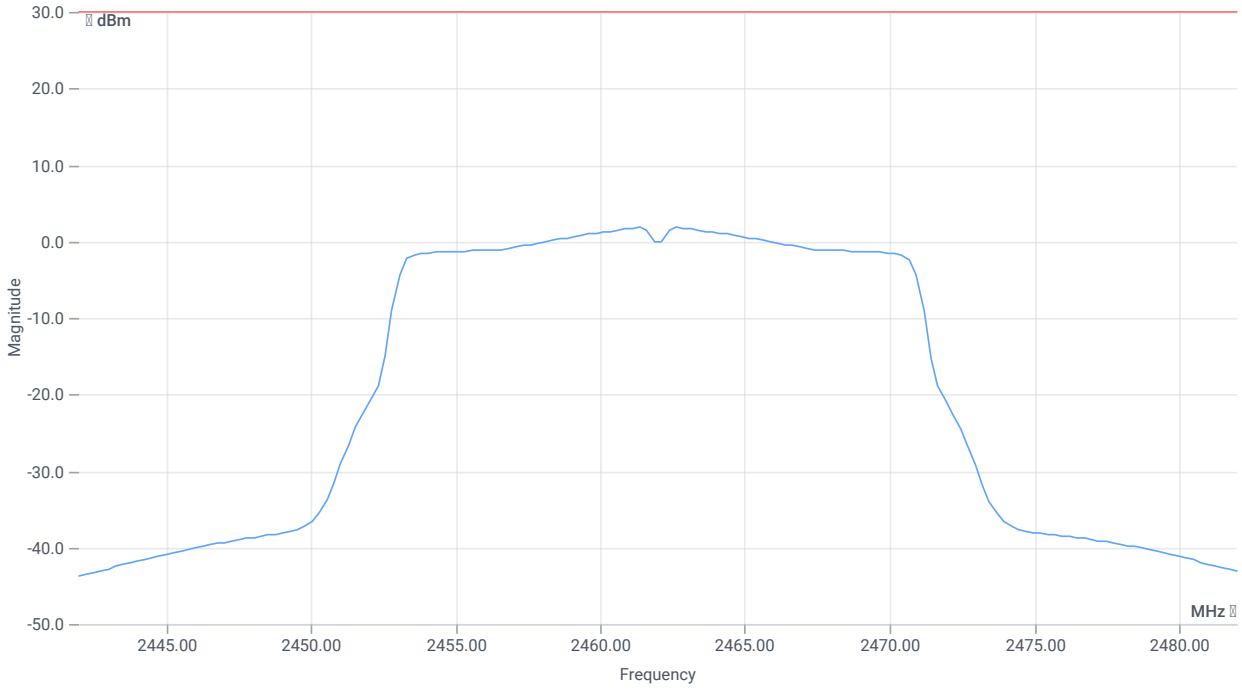
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	22.45 | 14.14 | 25
Start [MHz] | Stop [MHz]	2442.000 | 2482.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	15.17	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	15.17	dBm	PASS

Verdict
PASS

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

References

TC start	13.01.2024 15:02:42
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

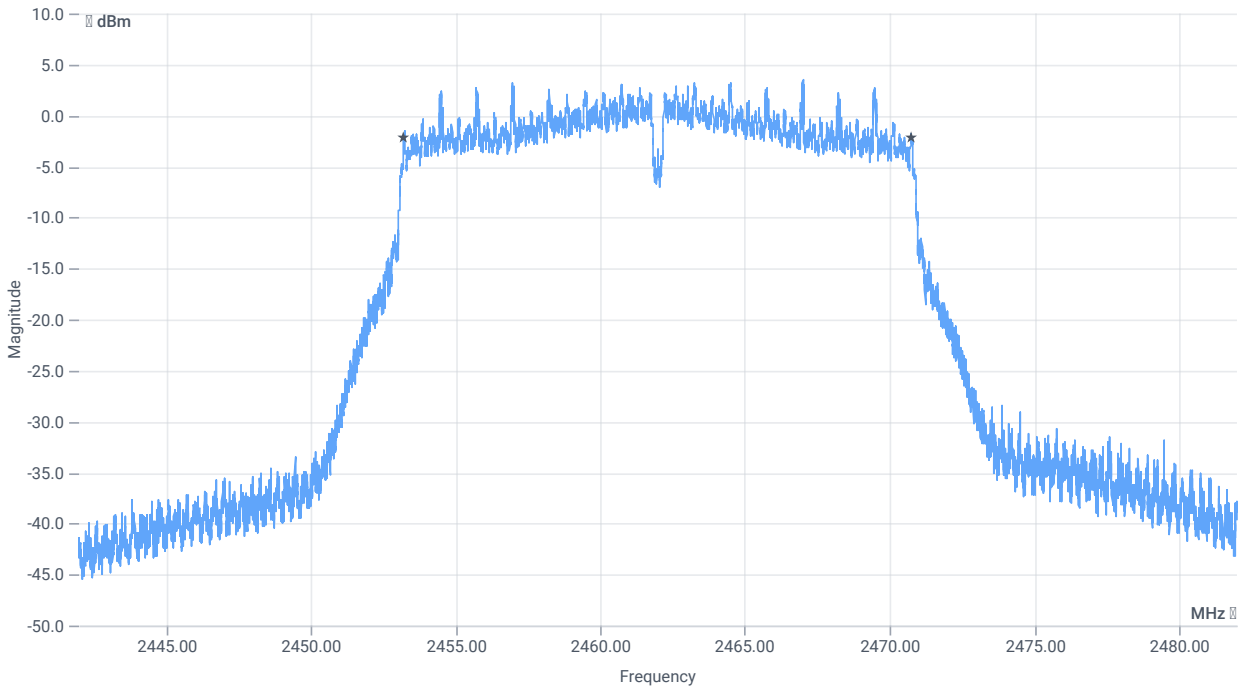
Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.15	dBm	INFO
Ref. Frequency	---	---	2460.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.15 | 14.14 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2482.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17552	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 15:03:15
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2462 MHz

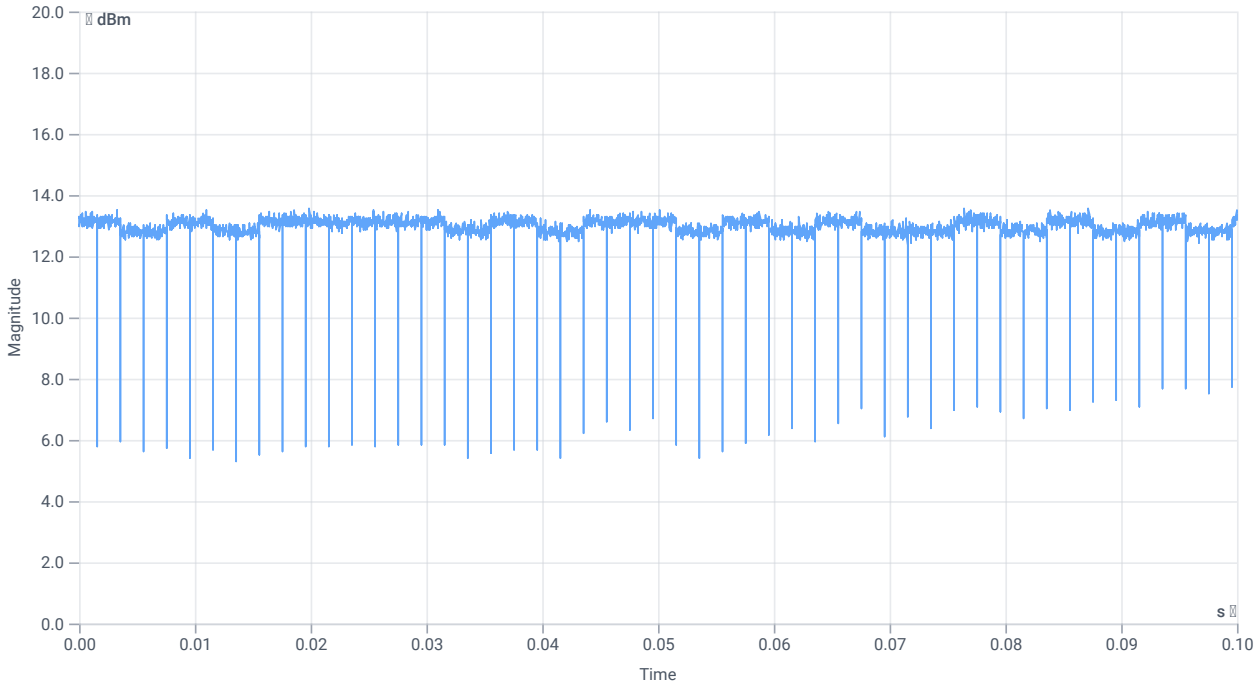
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.06	dBm	INFO
Ref. Frequency	---	---	2460.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

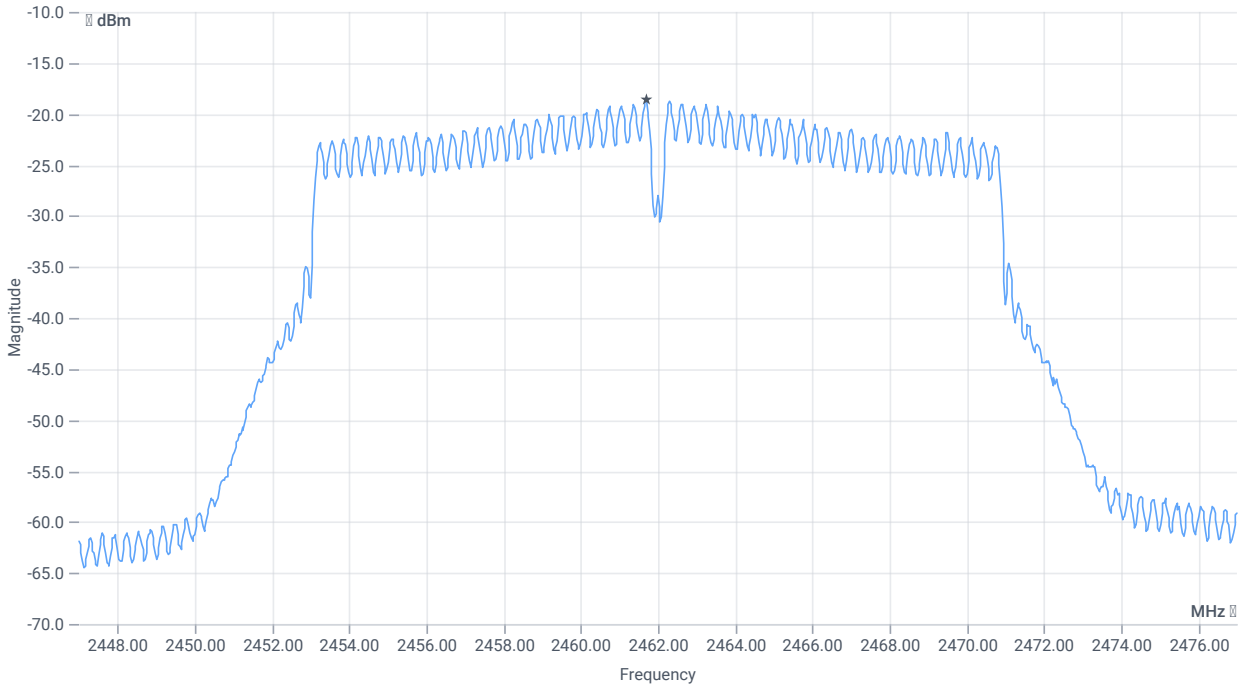
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.06 | 14.14 | 20
Start [MHz] | Stop [MHz]	2447.000 | 2477.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-18.6	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-18.6	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	13.01.2024 15:04:19
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

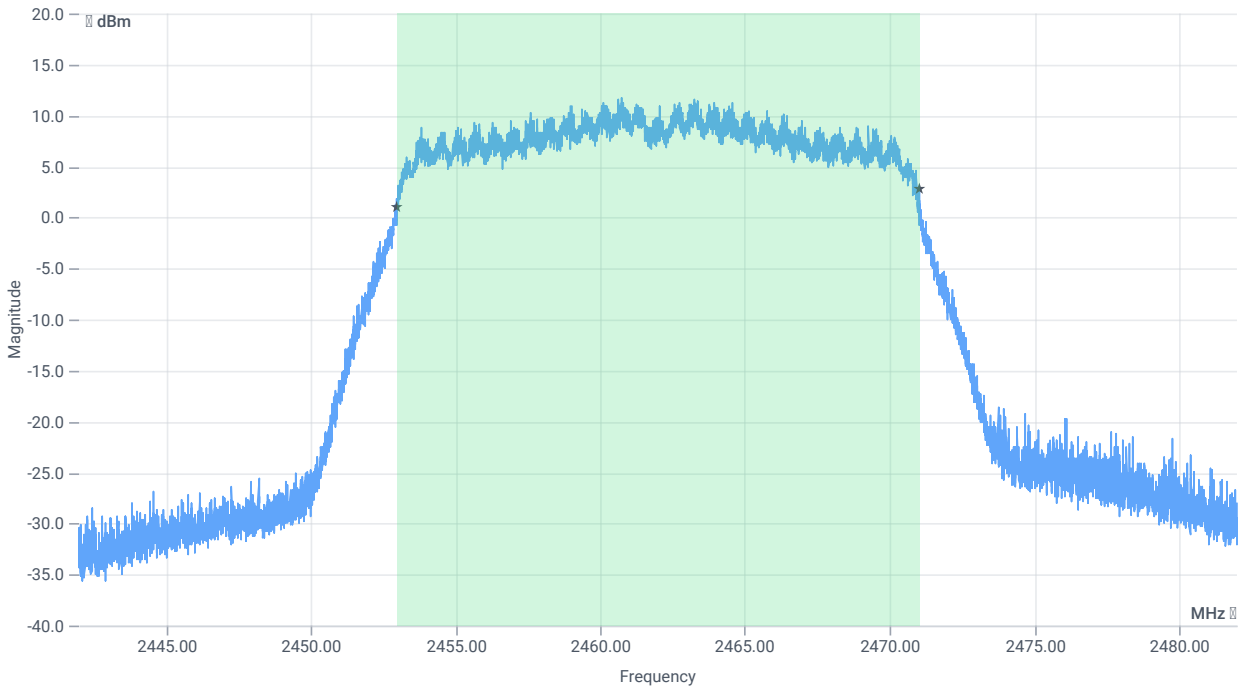
Test at TX 2462 MHz

RESULT: Reference Power cond.

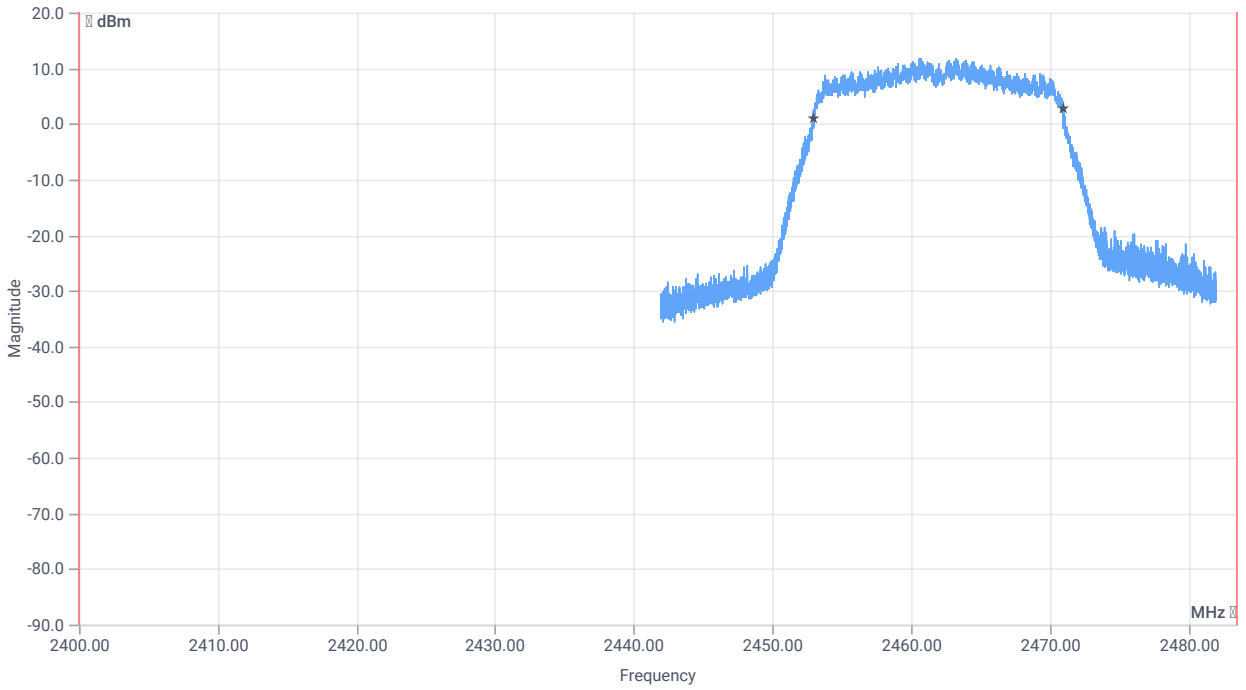
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.70	dBm	INFO
Ref. Frequency	---	---	2461.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.70 | 14.14 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2482.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



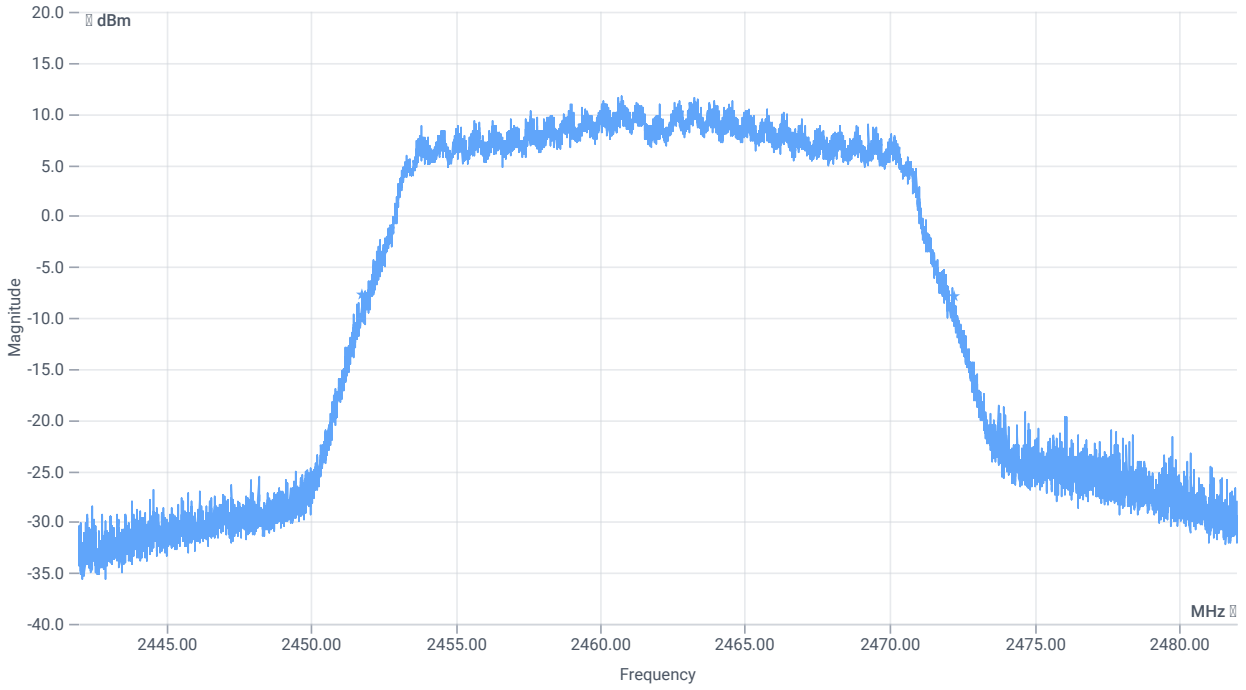
BW 99PCT



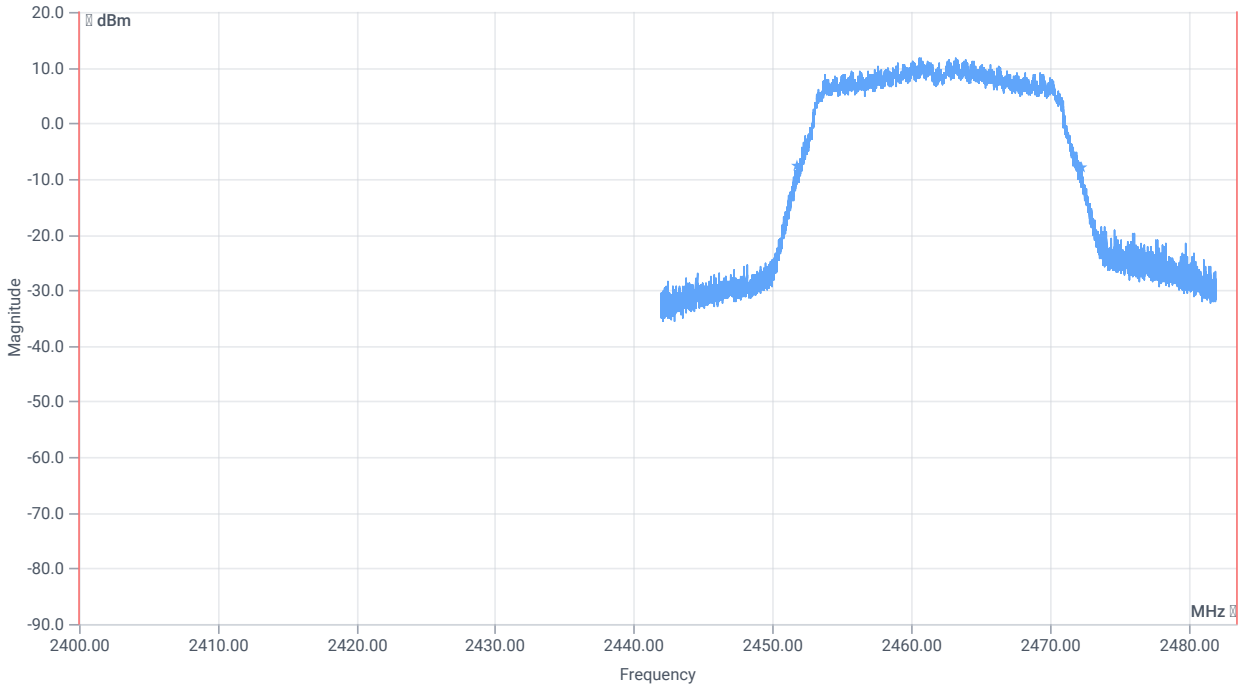
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18026.000	kHz	INFO
T1 99%	2400.000000	---	2452.9809	MHz	PASS
T2 99%	---	2483.500000	2471.0071	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20476	kHz	INFO
T1 20DB	2400.000000	---	2451.7560	MHz	PASS
T2 20dB	---	2483.500000	2472.2320	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 15:04:56
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

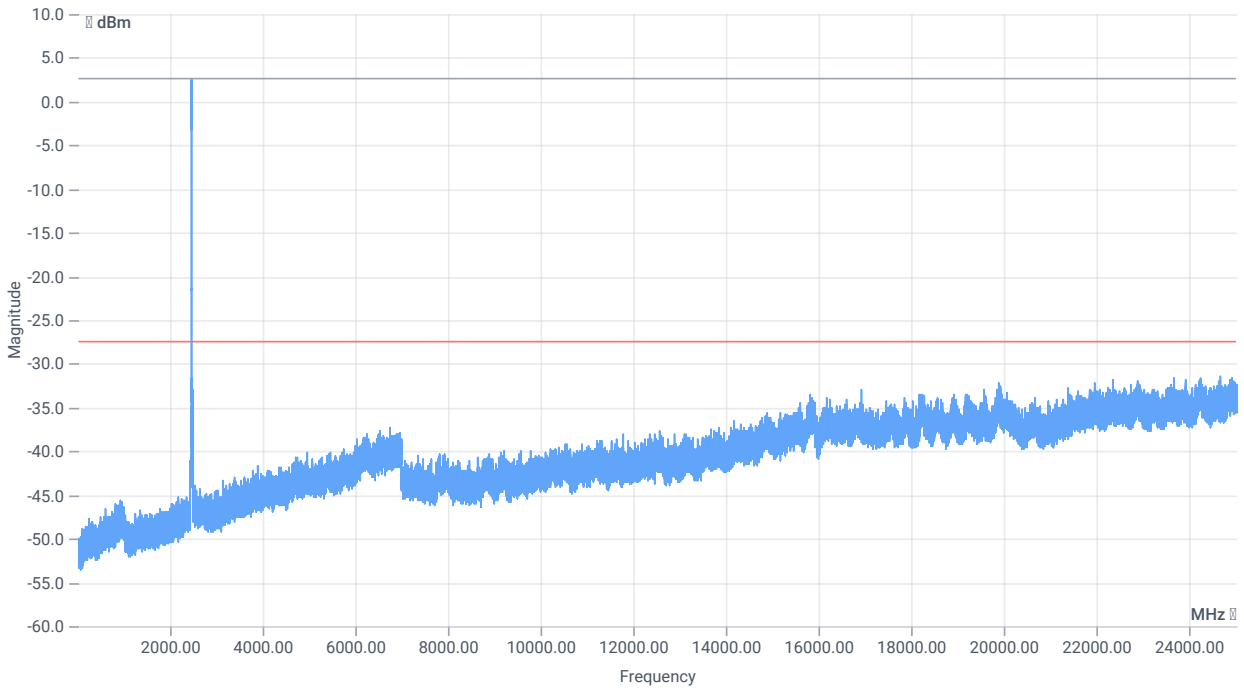
Equipment

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

Test at TX 2462 MHz

RESULT: Reference Power cond.

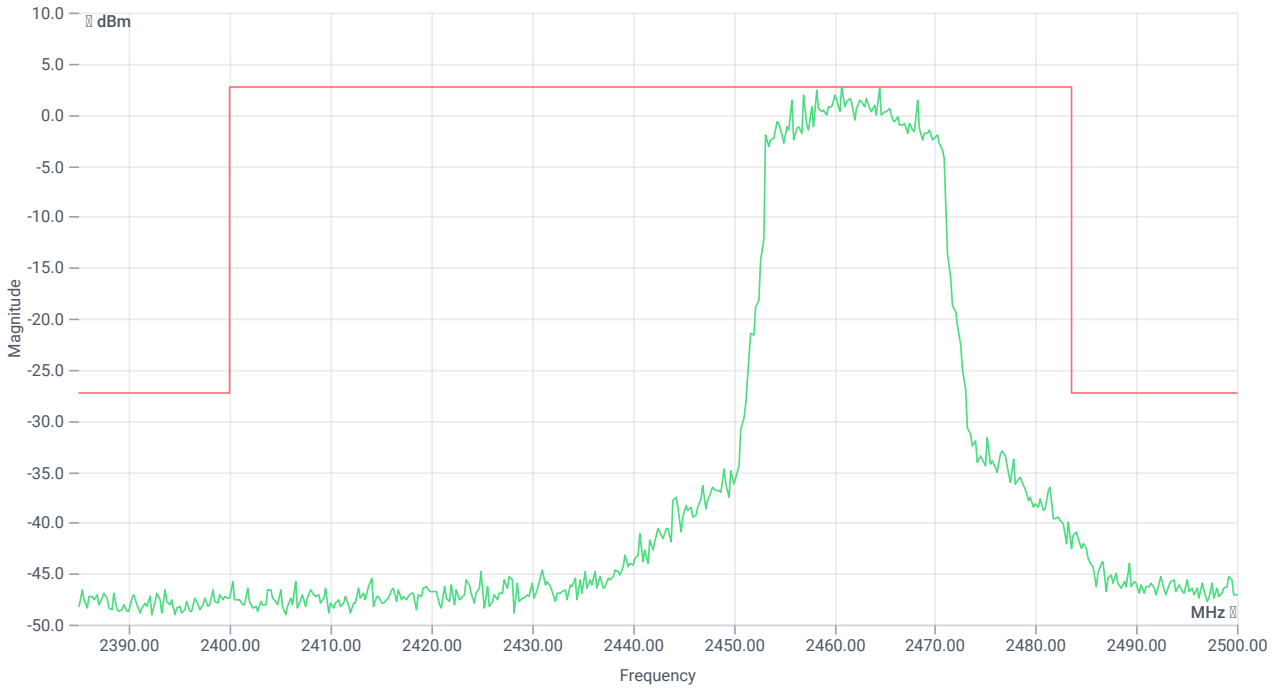
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.19	dBm	INFO
Ref. Frequency	---	---	2462.900	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	12.19 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2460.75 MHz	---	---	2.63	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24683 MHz	0	---	4.04	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	13.01.2024 15:11:39
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2462 MHz

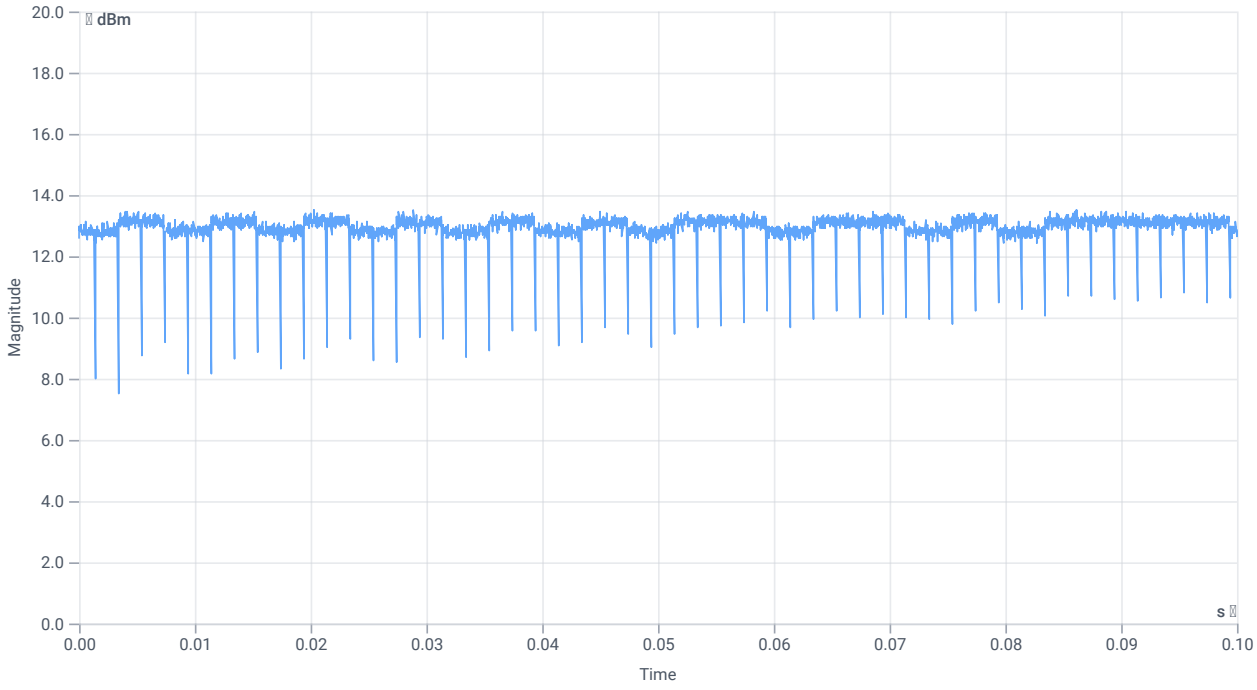
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.41	dBm	INFO
Ref. Frequency	---	---	2459.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

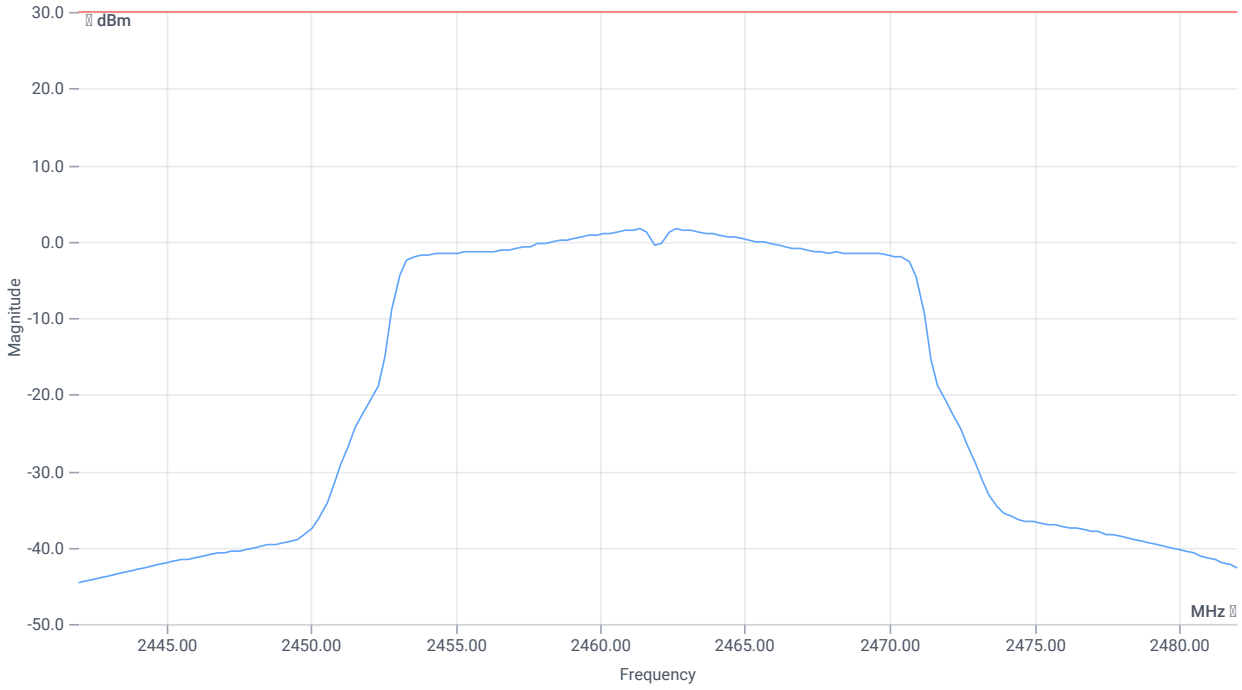
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	22.41 | 14.14 | 25
Start [MHz] | Stop [MHz]	2442.000 | 2482.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	14.96	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	14.96	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg output power SA DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 15:12:53
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg output power SA DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2462 MHz

RESULT Power

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg power DC corr.	---	---	15.17	dBm	INFO
Ant:2 Avg power DC corr.	---	---	14.96	dBm	INFO
∑ Avg output power DC corr.	---	30	18.08	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg psd DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	13.01.2024 15:13:47
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg psd DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2412
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2462
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2462 MHz

RESULT psd

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg psd DC corr	---	---	-18.58	dBm/3kHz	INFO
Ant:2 Avg psd DC corr	---	---	-18.6	dBm/3kHz	INFO
∑ Avg psd DC corr	---	8	-15.58	dBm/3kHz	PASS

Verdict
PASS

NA # Create group ~

References

TC start	13.01.2024 15:13:57
Ambit temp [°C] | humidity [rel%]	22.5 | 26
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Create group
Information	

Test Parameter

Group name	n20-mode PS 60_80_58
Clear logging/group	Yes

Verdict
INFO

NA # Message with SA scan ~

References

TC start	16.01.2024 10:24:10
Ambit temp [°C] | humidity [rel%]	22.2 | 27
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Message with SA Scan n-HT20 mode
Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	16.01.2024 10:24:11
Message	set WLAN2G4 to n-HT20 mode, Frequency [MHz] 2417 ,

Equipment

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

Verdict
INFO

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

References

TC start	16.01.2024 10:26:51
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

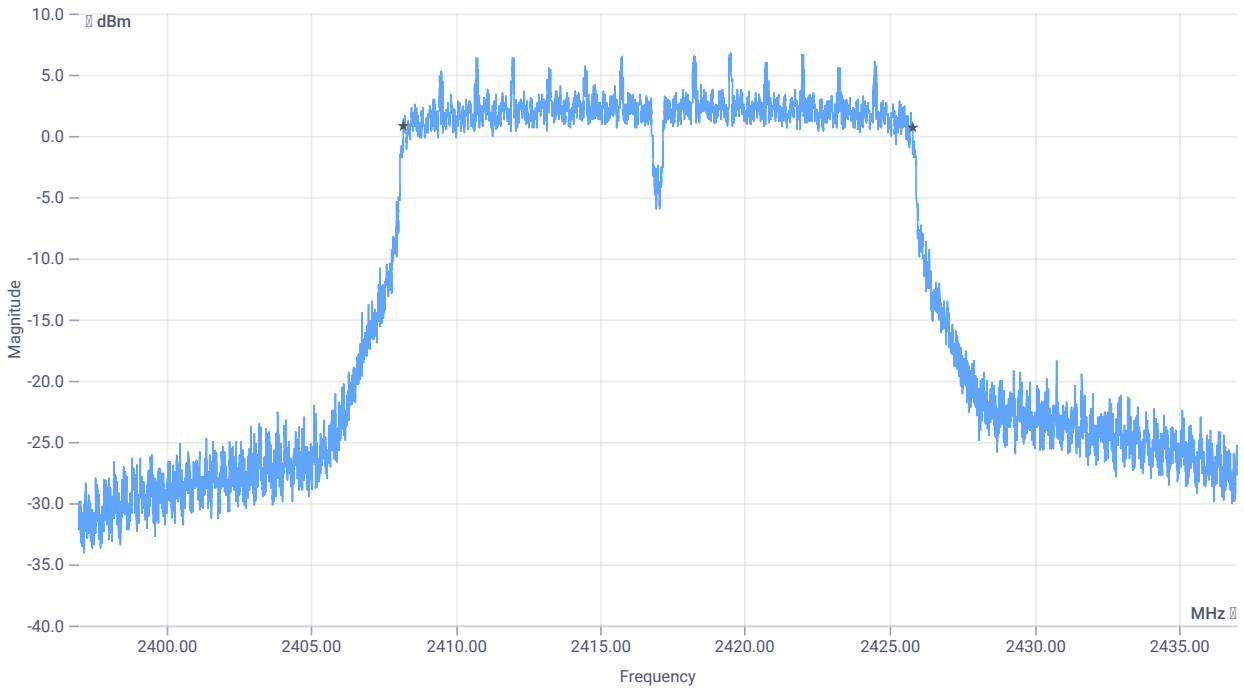
Test at TX 2417 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.26	dBm	INFO
Ref. Frequency	---	---	2414.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.26 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17564	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:27:25
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2417 MHz

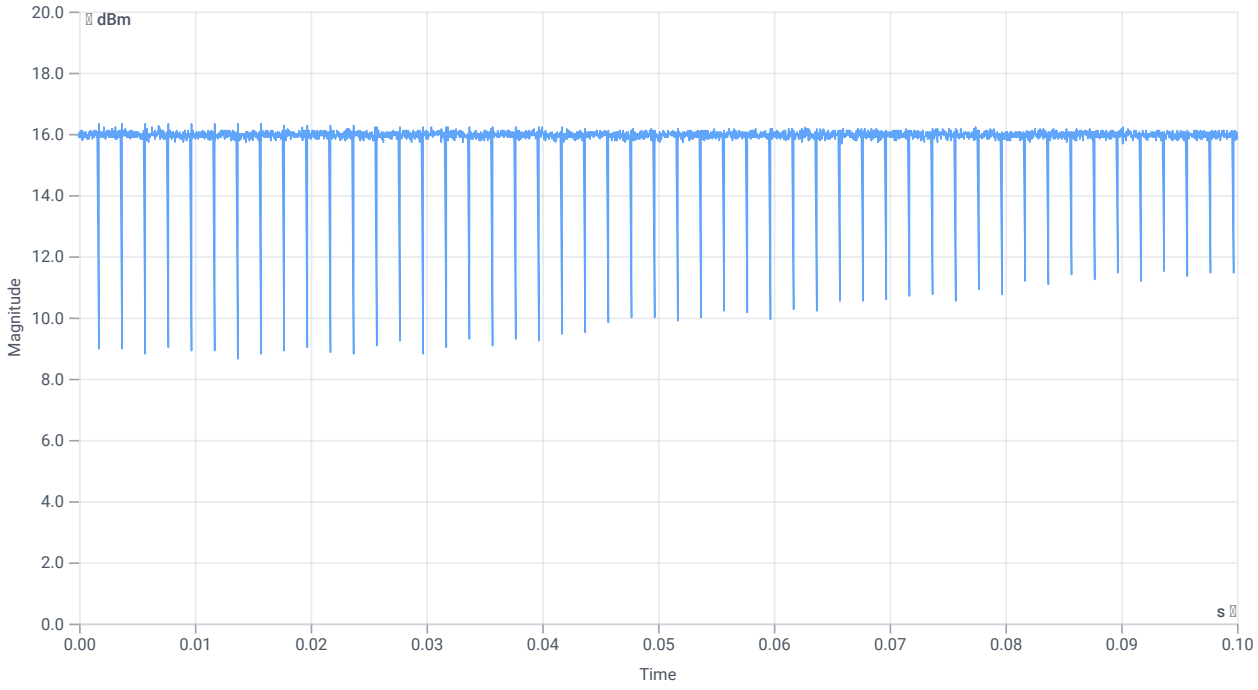
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.58	dBm	INFO
Ref. Frequency	---	---	2412.300	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

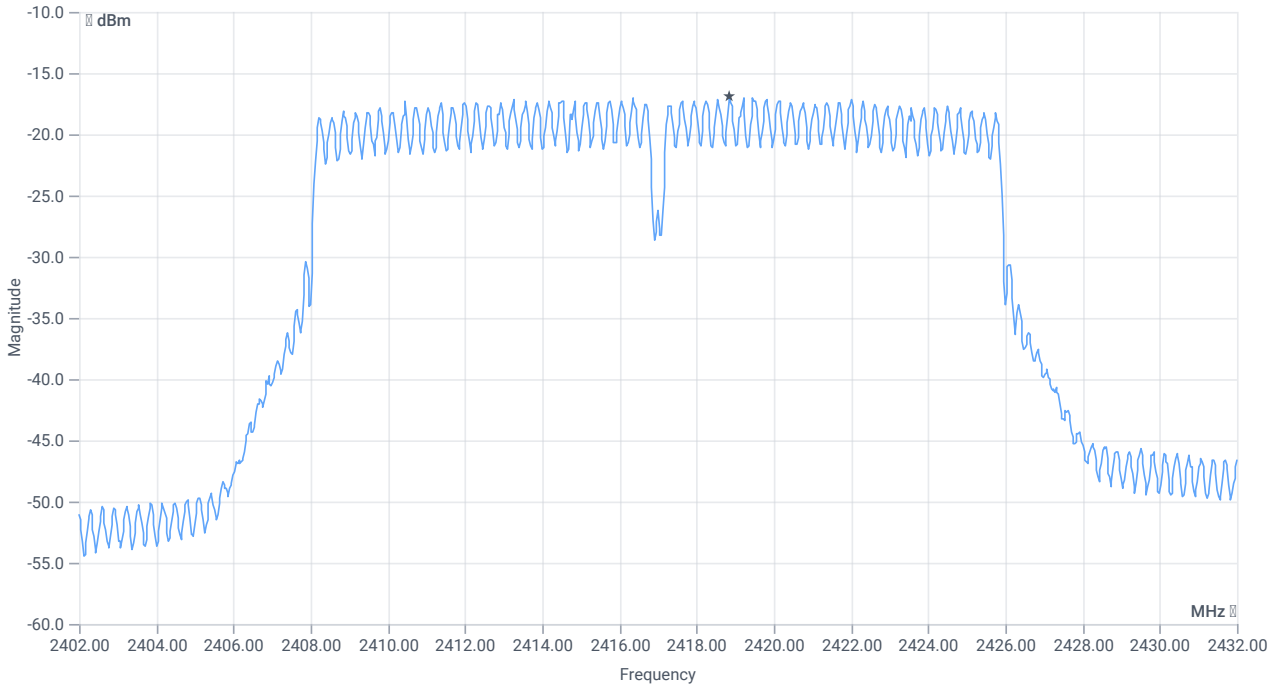
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.58 | 13.88 | 25
Start [MHz] | Stop [MHz]	2402.000 | 2432.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-16.92	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-16.92	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	16.01.2024 10:28:29
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

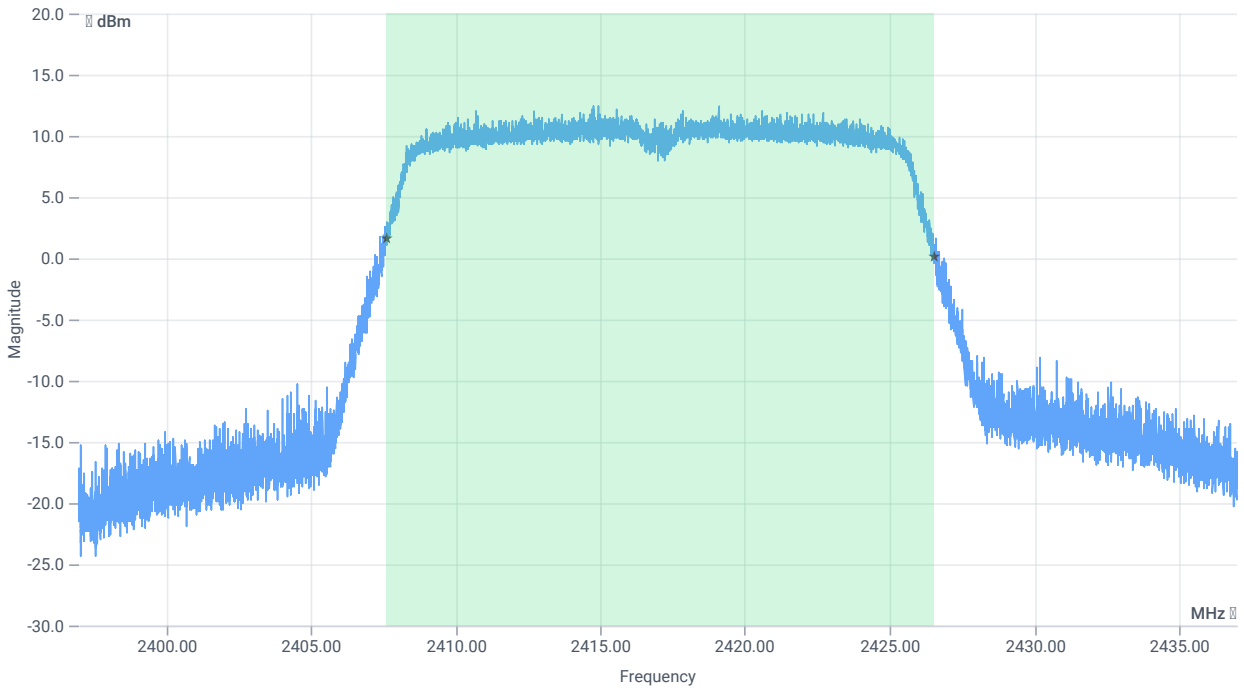
Test at TX 2417 MHz

RESULT: Reference Power cond.

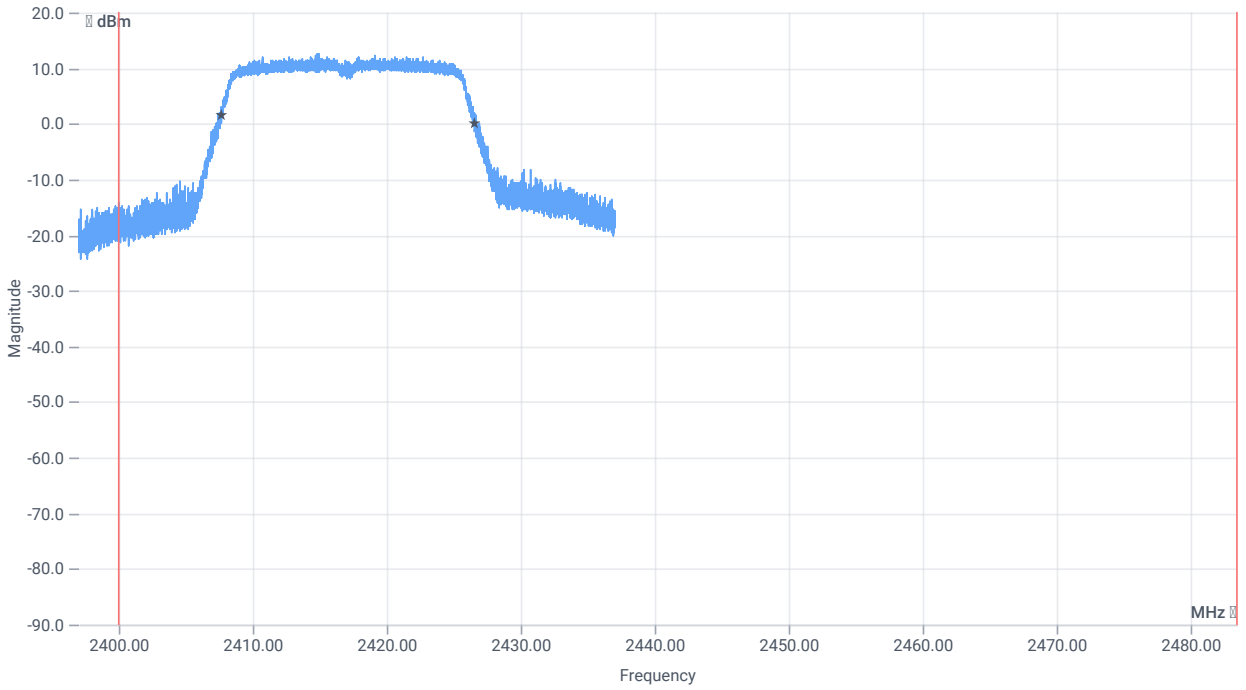
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.33	dBm	INFO
Ref. Frequency	---	---	2419.000	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.33 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



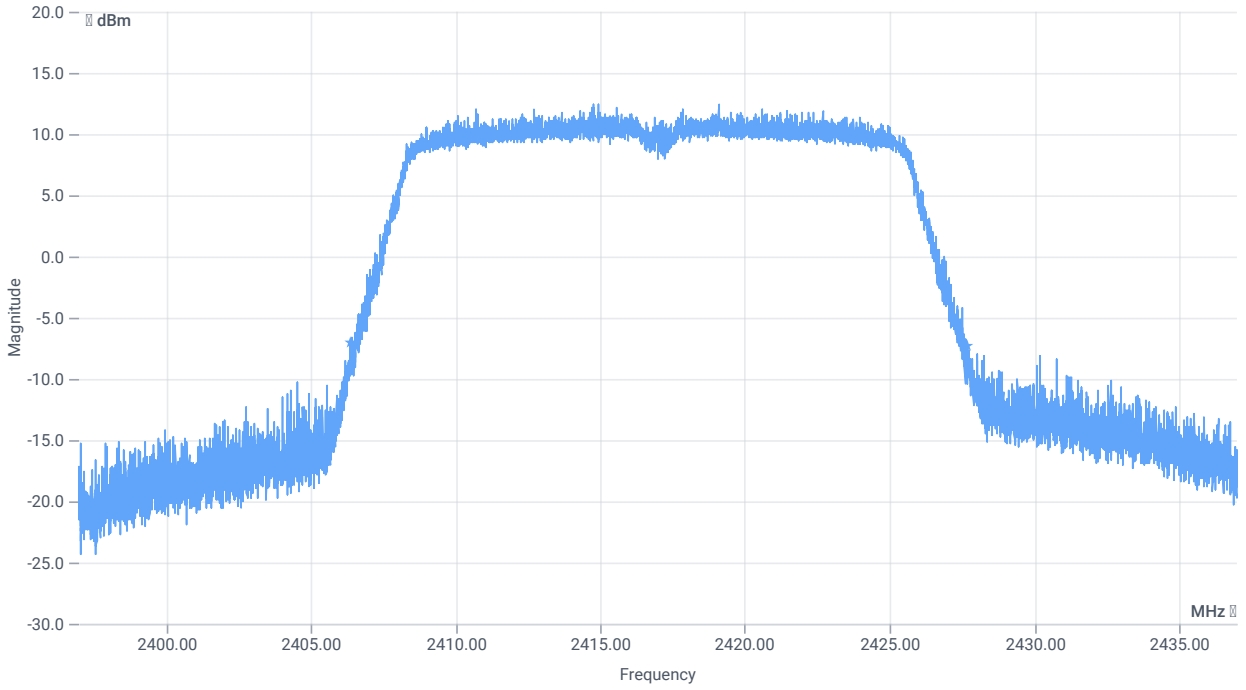
BW 99PCT



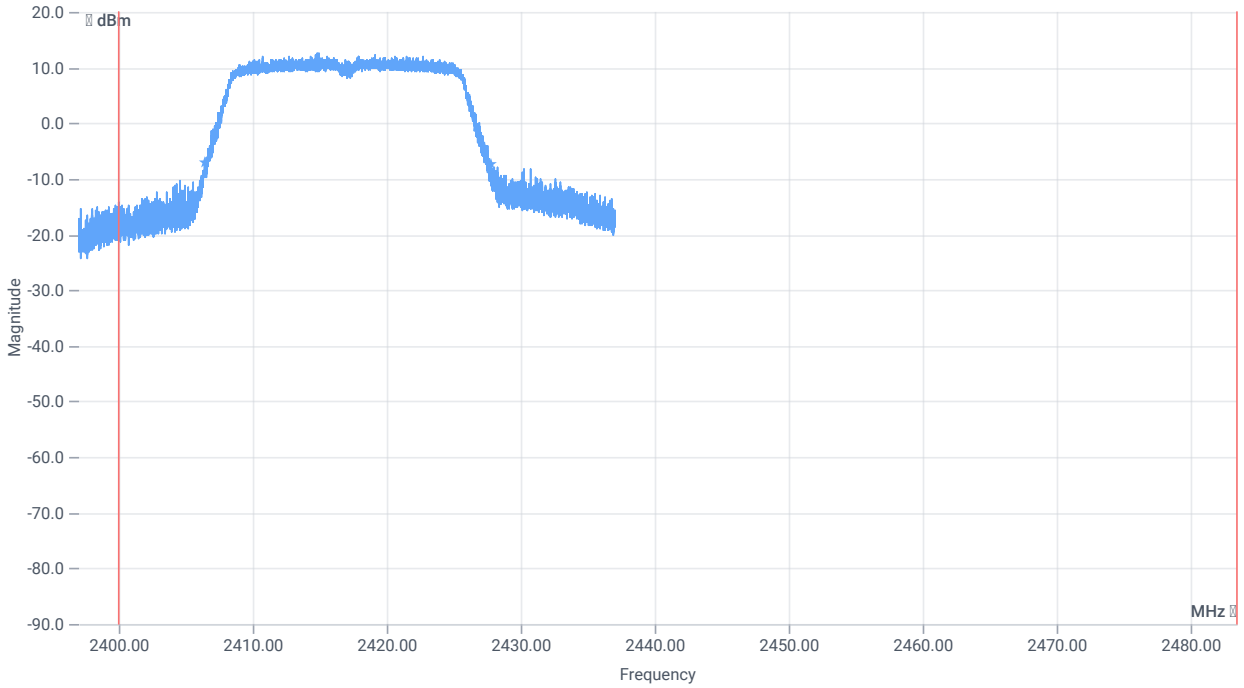
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18918.000	kHz	INFO
T1 99%	2400.000000	---	2407.6329	MHz	PASS
T2 99%	---	2483.500000	2426.5510	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	21320	kHz	INFO
T1 20DB	2400.000000	---	2406.3920	MHz	PASS
T2 20dB	---	2483.500000	2427.7120	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:29:08
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

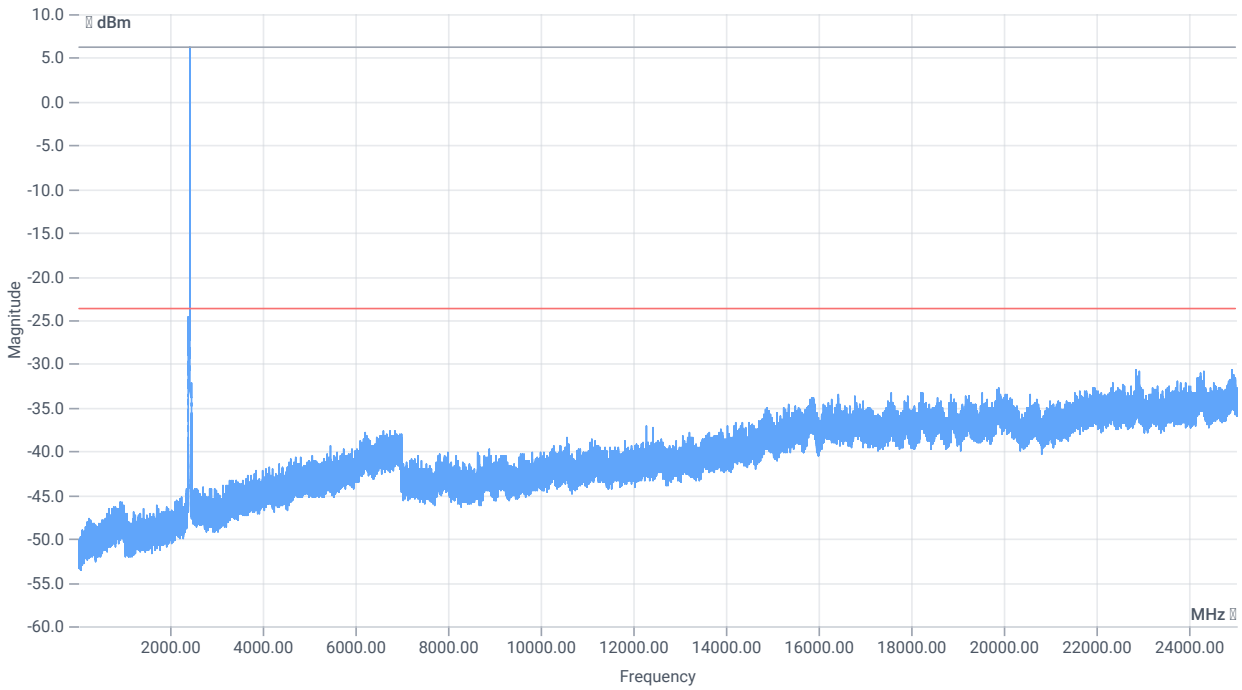
Equipment

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

Test at TX 2417 MHz

RESULT: Reference Power cond.

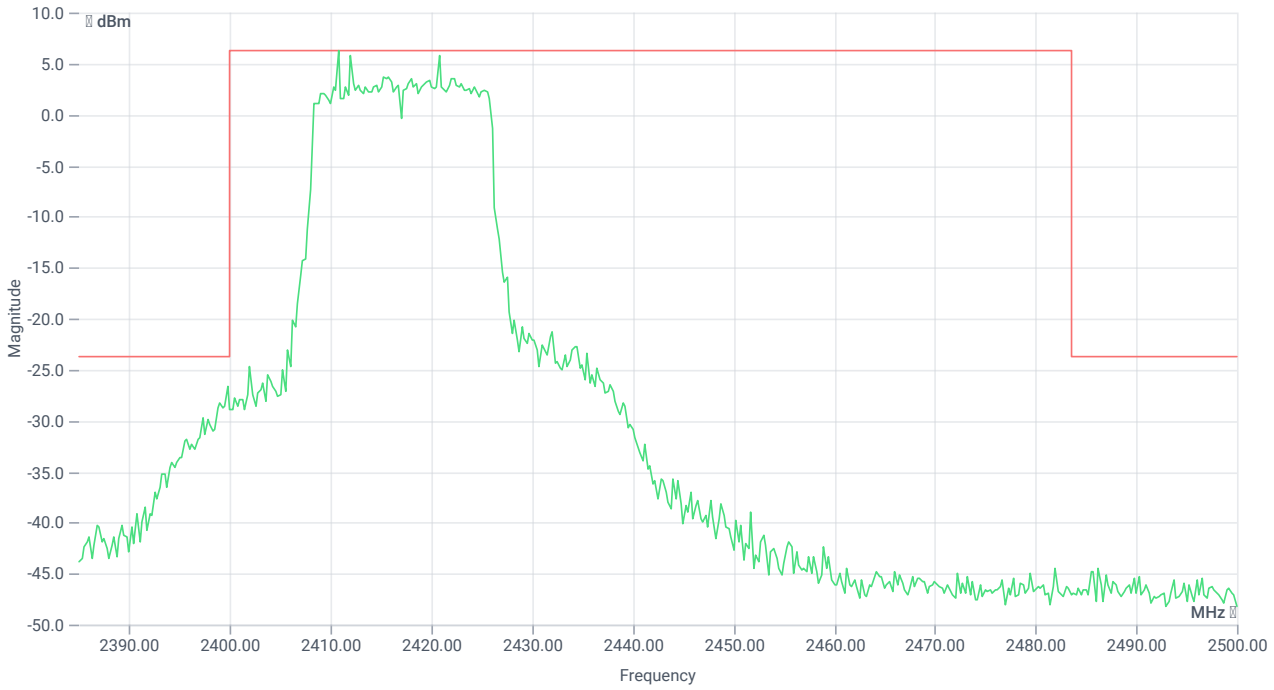
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.41	dBm	INFO
Ref. Frequency	---	---	2419.800	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.41 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2410.75 MHz	---	---	6.26	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 2399.75 MHz	0	---	2.89	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:35:52
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2417 MHz

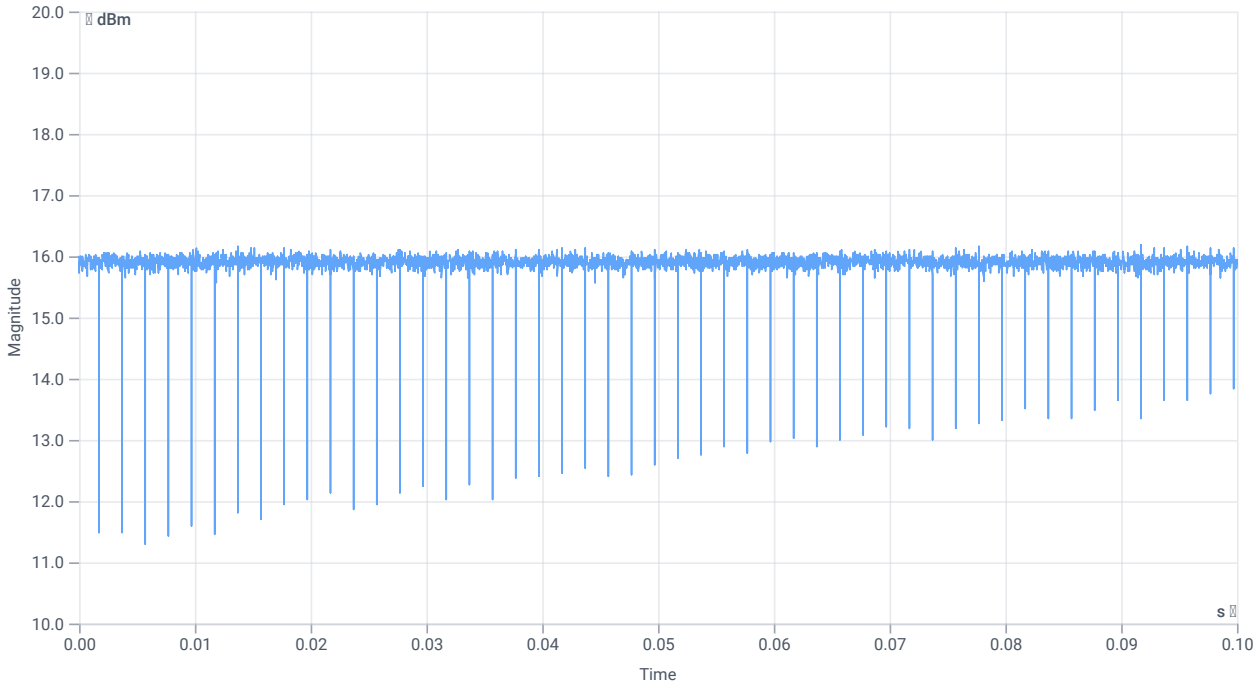
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.32	dBm	INFO
Ref. Frequency	---	---	2419.900	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

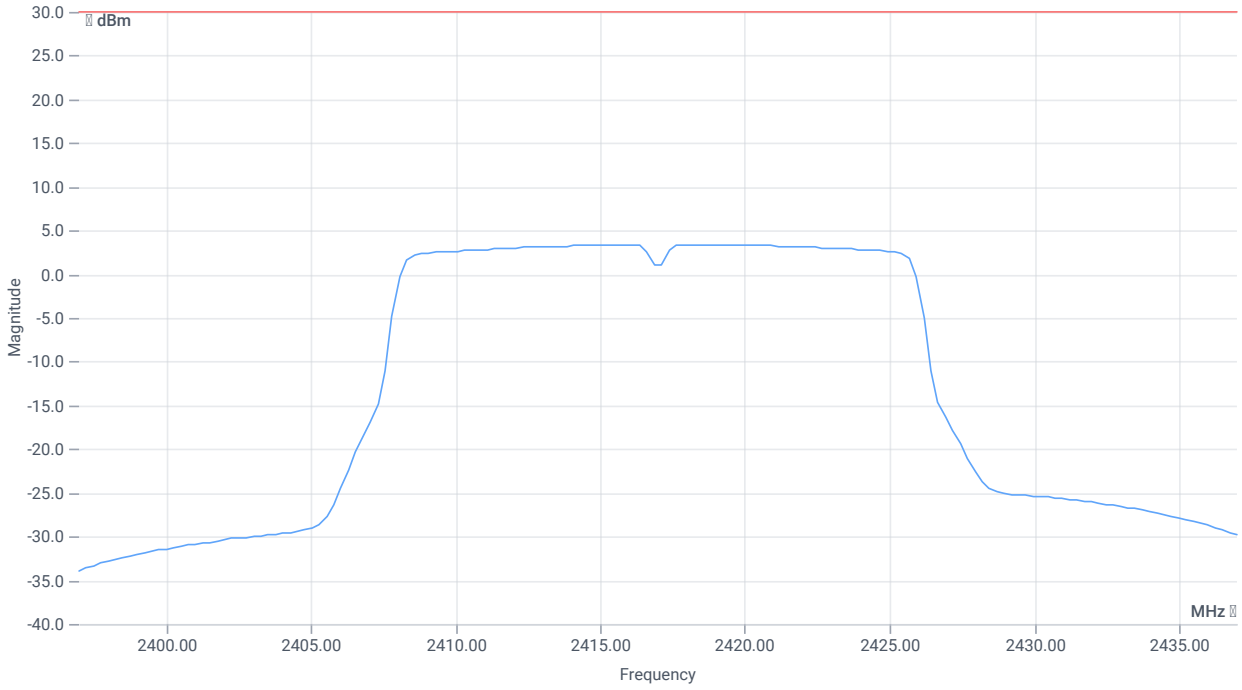
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	24.32 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	18.21	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	18.21	dBm	PASS

Verdict
PASS

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

References

TC start	16.01.2024 10:37:08
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

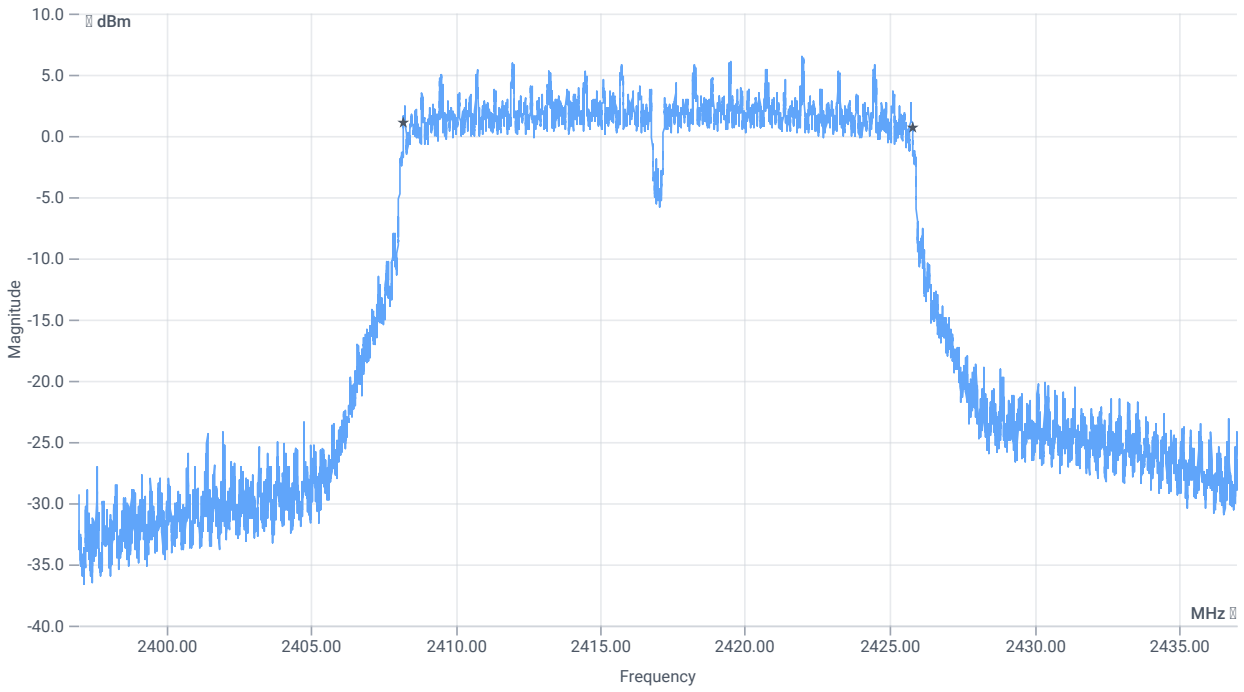
Test at TX 2417 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.58	dBm	INFO
Ref. Frequency	---	---	2421.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.58 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17580	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:37:42
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2417 MHz

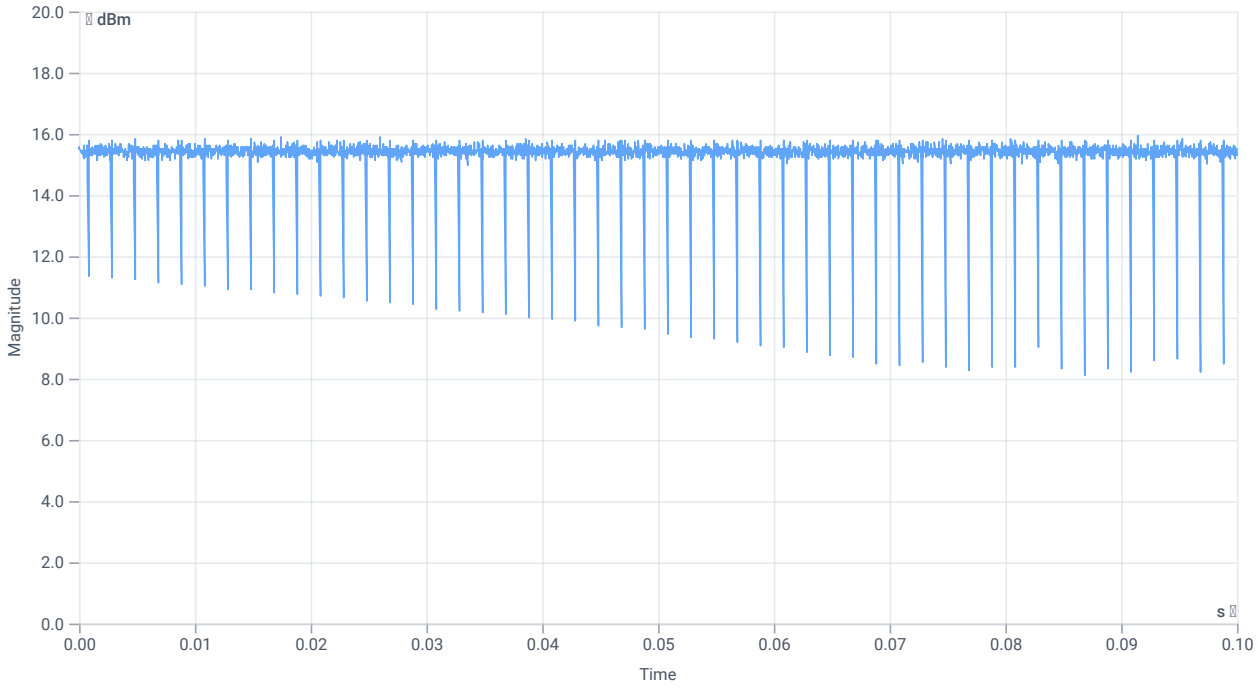
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	15.04	dBm	INFO
Ref. Frequency	---	---	2421.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

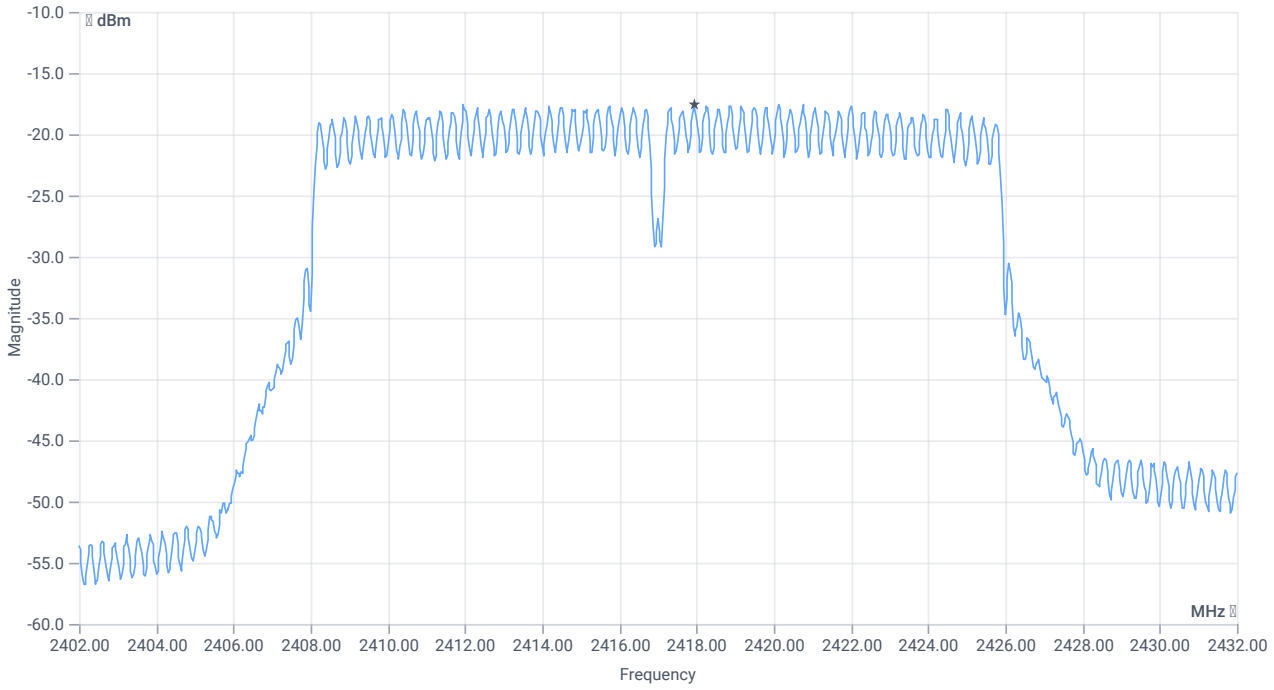
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	20.04 | 13.88 | 25
Start [MHz] | Stop [MHz]	2402.000 | 2432.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-17.53	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-17.53	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	16.01.2024 10:38:48
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

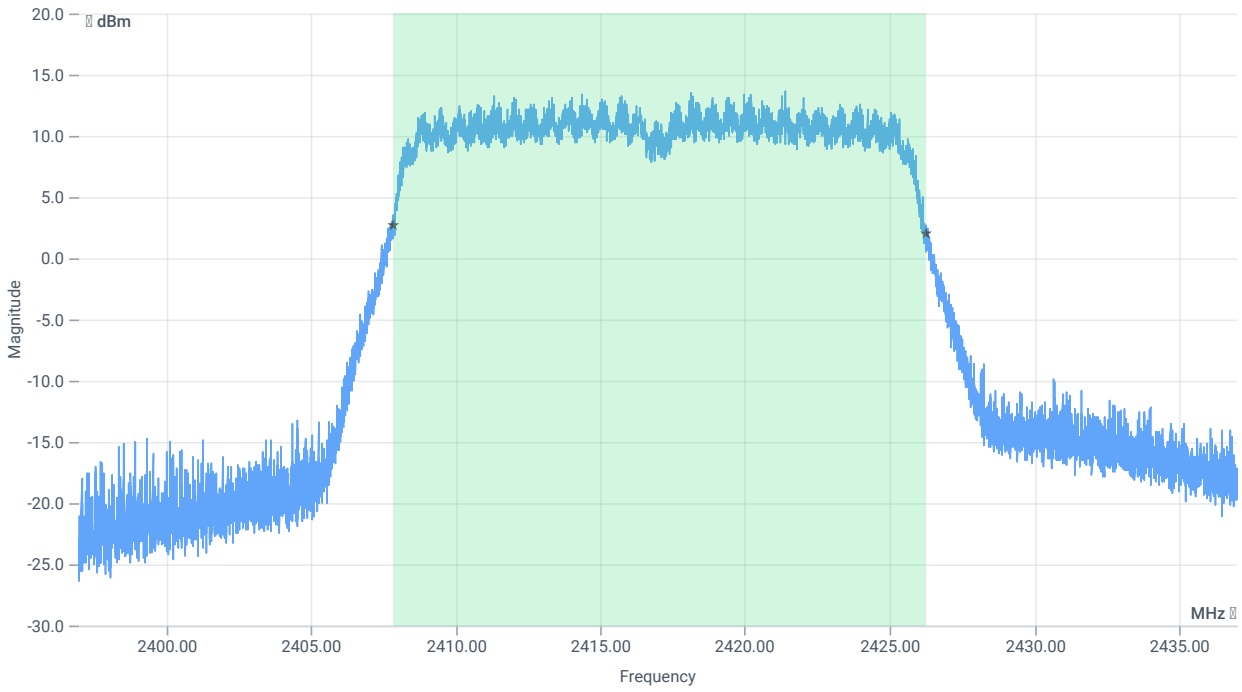
Test at TX 2417 MHz

RESULT: Reference Power cond.

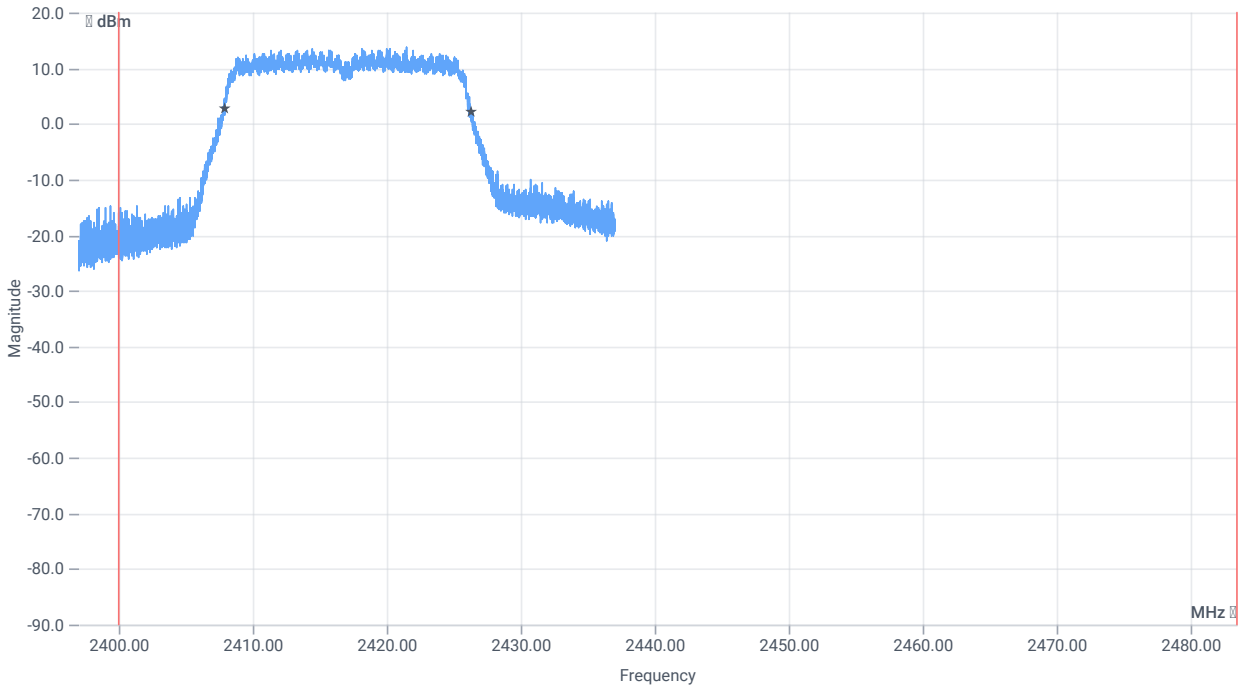
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.55	dBm	INFO
Ref. Frequency	---	---	2419.000	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.55 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



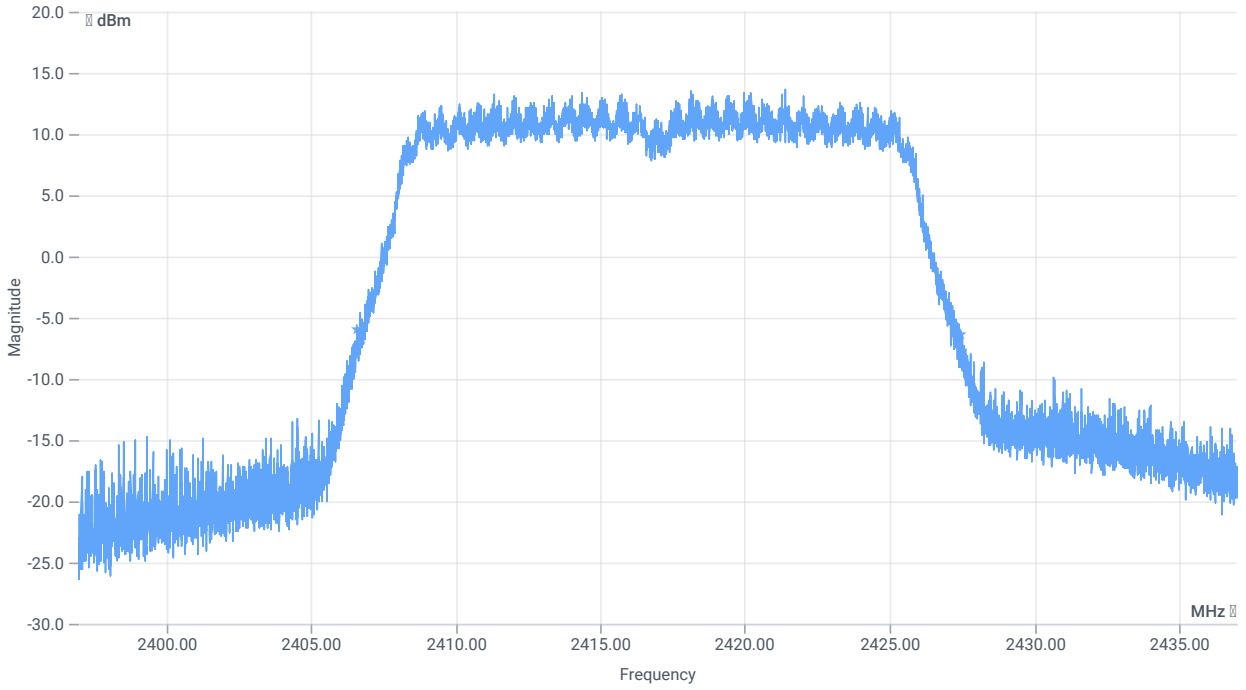
BW 99PCT



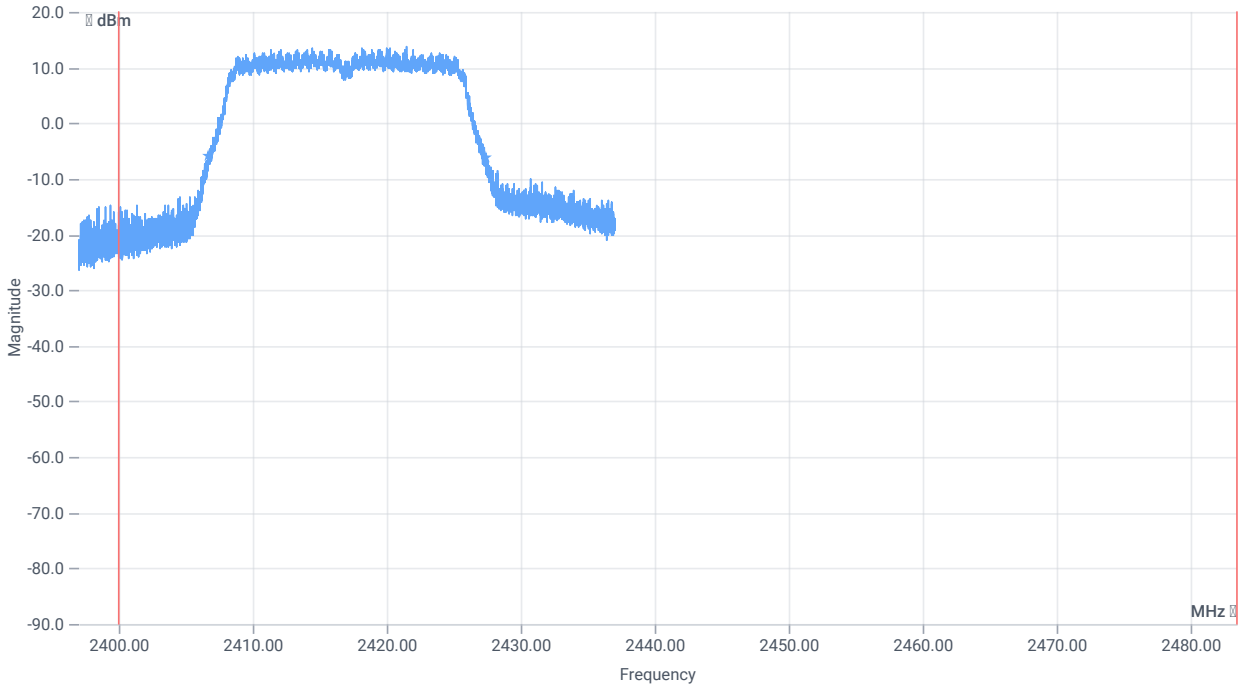
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18378.000	kHz	INFO
T1 99%	2400.000000	---	2407.8769	MHz	PASS
T2 99%	---	2483.500000	2426.2551	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20848	kHz	INFO
T1 20DB	2400.000000	---	2406.6080	MHz	PASS
T2 20dB	---	2483.500000	2427.4560	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:39:26
Ambit temp [°C] | humidity [rel%]	22.3 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

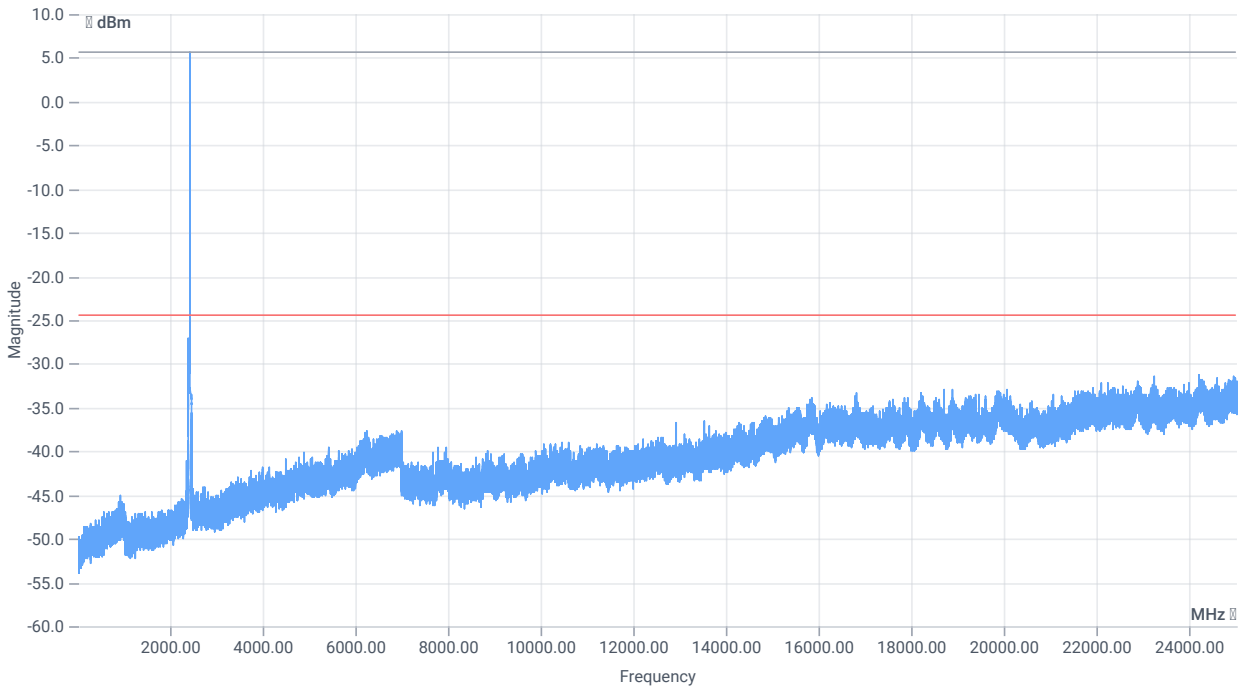
Equipment

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

Test at TX 2417 MHz

RESULT: Reference Power cond.

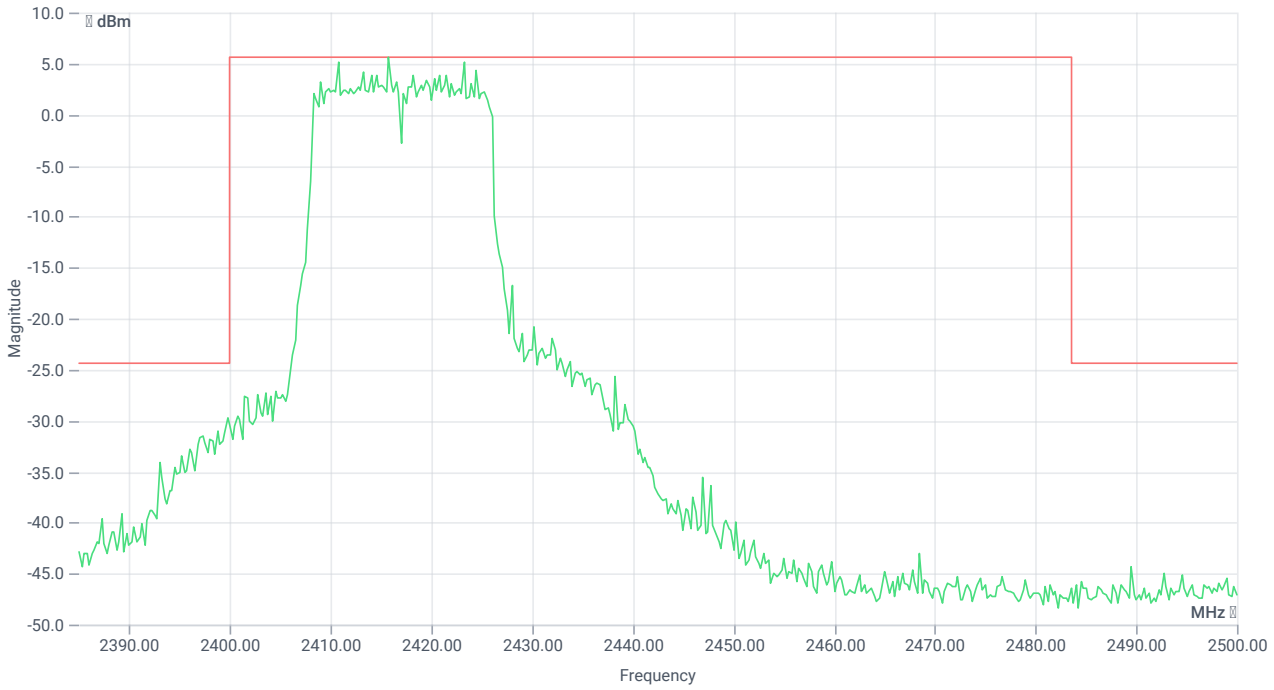
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.79	dBm	INFO
Ref. Frequency	---	---	2420.100	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.79 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2415.75 MHz	---	---	5.57	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 2399.75 MHz	0	---	5.37	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:46:10
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2417 MHz

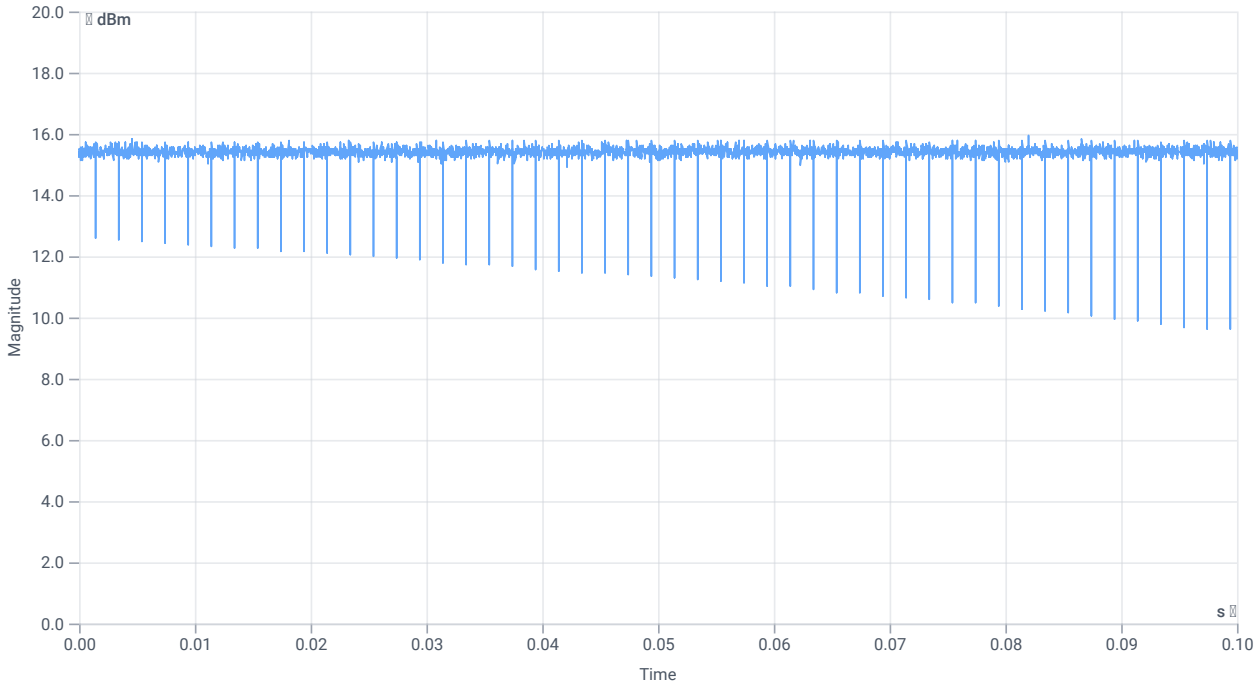
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.24	dBm	INFO
Ref. Frequency	---	---	2413.800	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

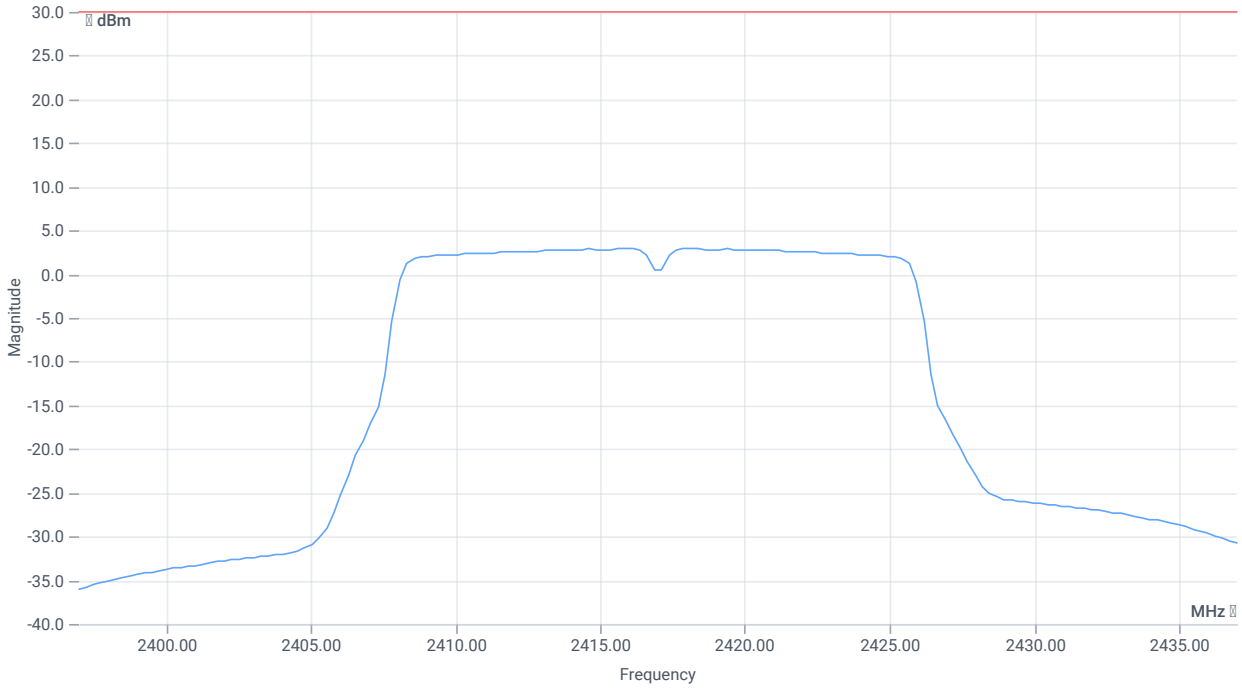
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	24.24 | 13.88 | 25
Start [MHz] | Stop [MHz]	2397.000 | 2437.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	17.72	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	17.72	dBm	PASS

Verdict

PASS

FCC 15.247 # MIMO ∑ Avg output power SA DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	16.01.2024 10:47:26
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg output power SA DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2417 MHz

RESULT Power

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg power DC corr.	---	---	18.21	dBm	INFO
Ant:2 Avg power DC corr.	---	---	17.72	dBm	INFO
∑ Avg output power DC corr.	---	30	20.98	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg psd DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	16.01.2024 10:48:09
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg psd DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	False | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2417 MHz

RESULT psd

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg psd DC corr	---	---	-16.92	dBm/3kHz	INFO
Ant:2 Avg psd DC corr	---	---	-17.53	dBm/3kHz	INFO
∑ Avg psd DC corr	---	8	-14.2	dBm/3kHz	PASS

Verdict
PASS

NA # Message with SA scan ~

References

TC start	16.01.2024 10:48:19
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	NA | NI
Method	
Description	Message with SA Scan n-HT20 mode
Information	

Test Parameter

Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Message start	16.01.2024 10:48:19
Message	set WLAN2G4 to n-HT20 mode, Frequency [MHz] 2457

Equipment

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

Verdict
INFO

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

References

TC start	16.01.2024 10:50:19
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

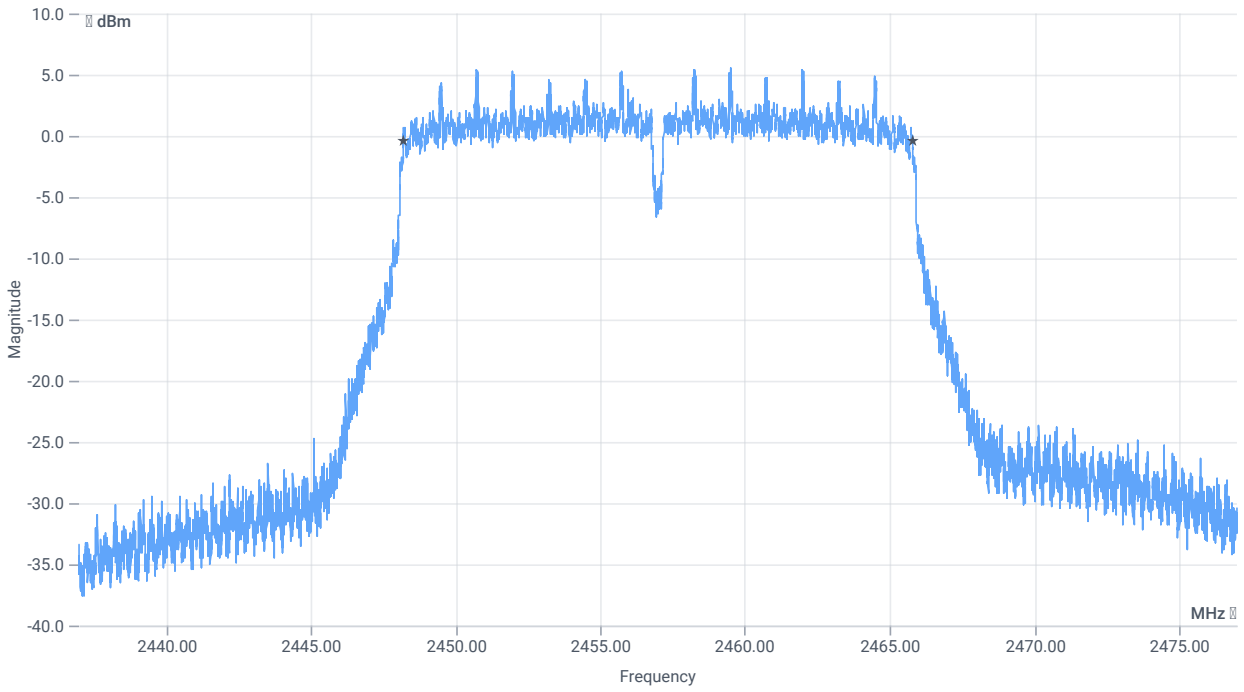
Test at TX 2457 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.58	dBm	INFO
Ref. Frequency	---	---	2455.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.58 | 14.13 | 20
Start [MHz] | Stop [MHz]	2437.000 | 2477.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17580	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:50:52
Ambit temp [°C] | humidity [rel%]	22.4 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2457 MHz

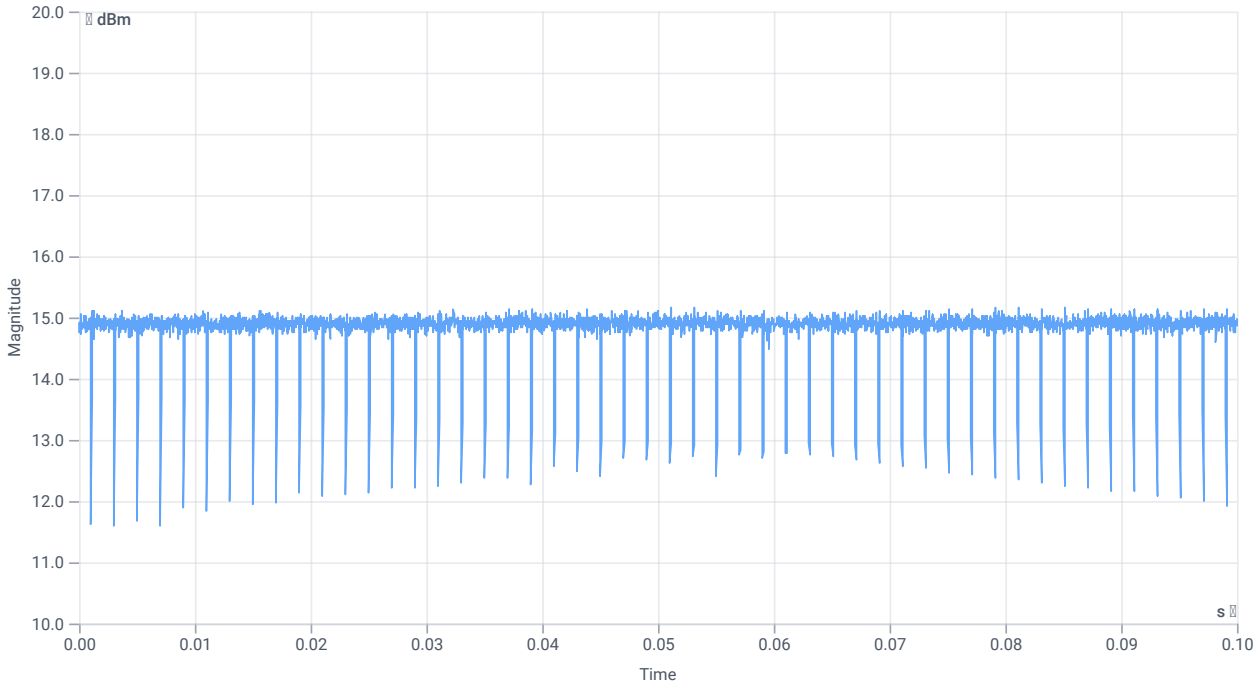
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.42	dBm	INFO
Ref. Frequency	---	---	2454.600	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

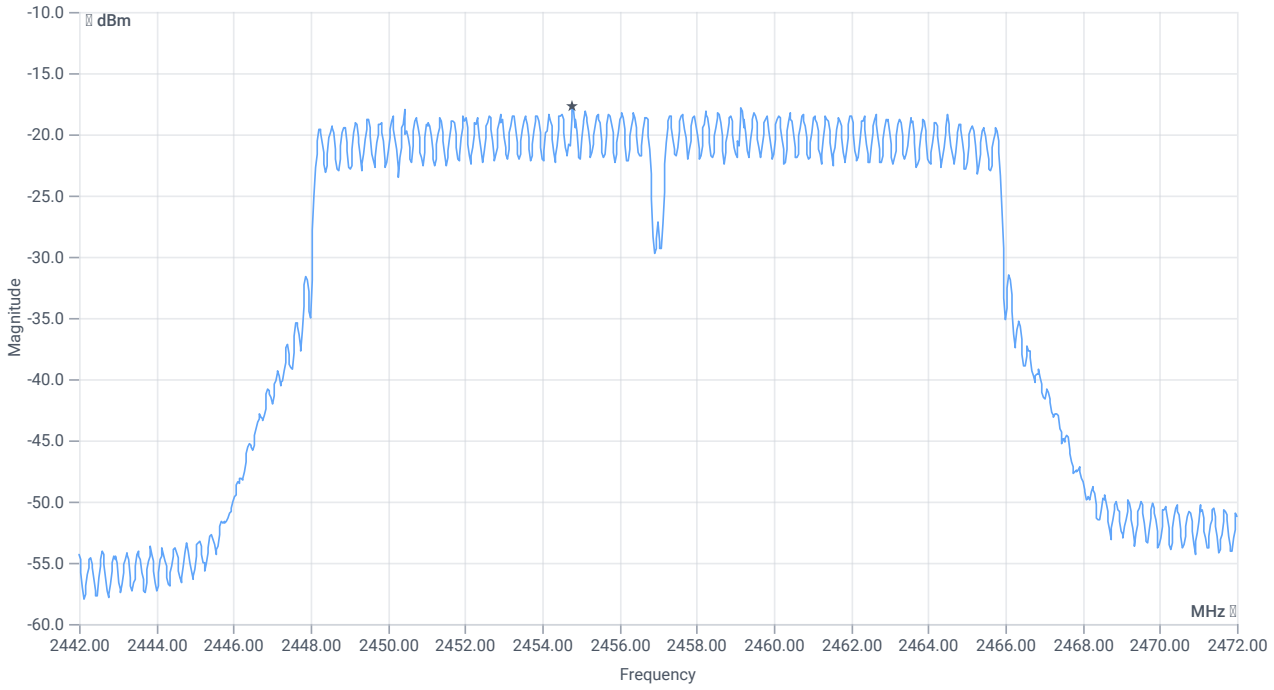
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.42 | 14.13 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2472.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-17.64	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-17.64	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	16.01.2024 10:51:56
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

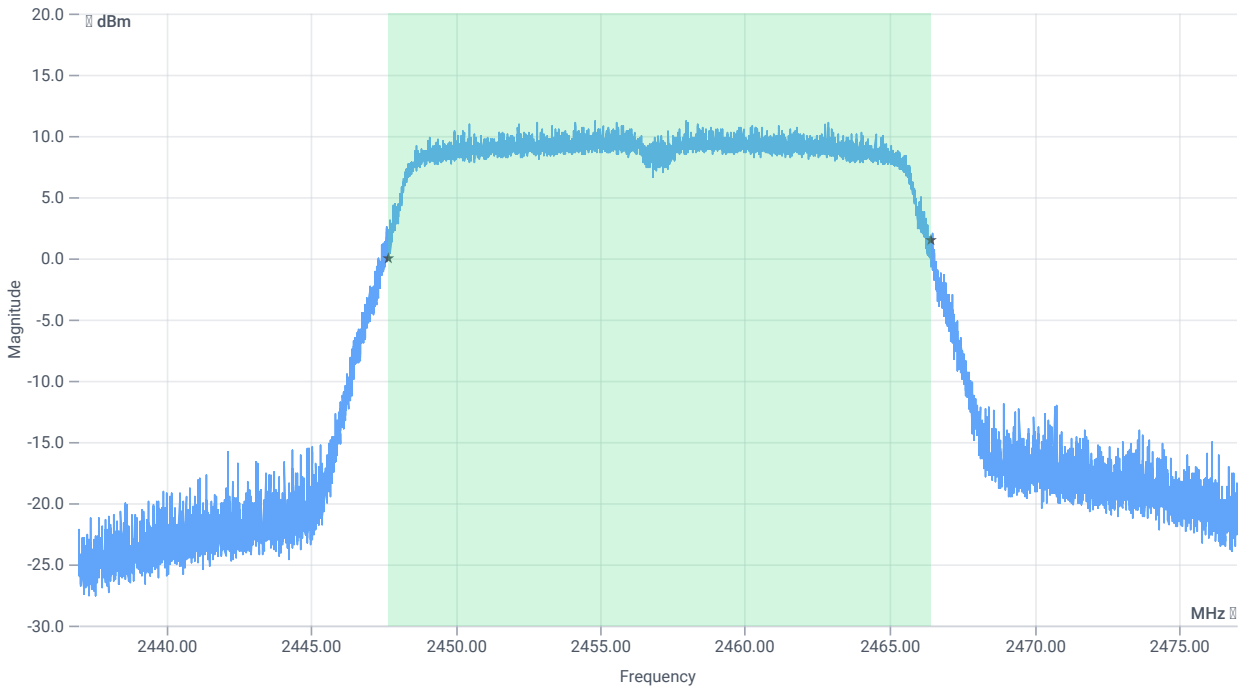
Test at TX 2457 MHz

RESULT: Reference Power cond.

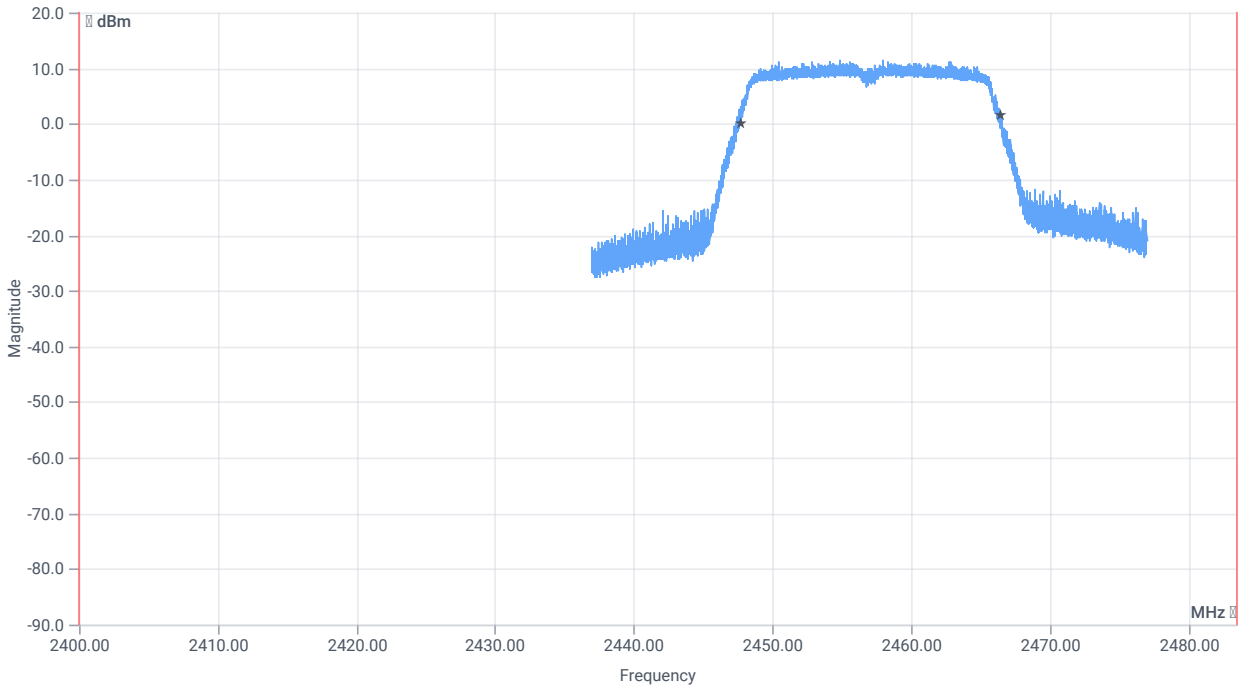
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.33	dBm	INFO
Ref. Frequency	---	---	2455.700	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.33 | 14.13 | 20
Start [MHz] | Stop [MHz]	2437.000 | 2477.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



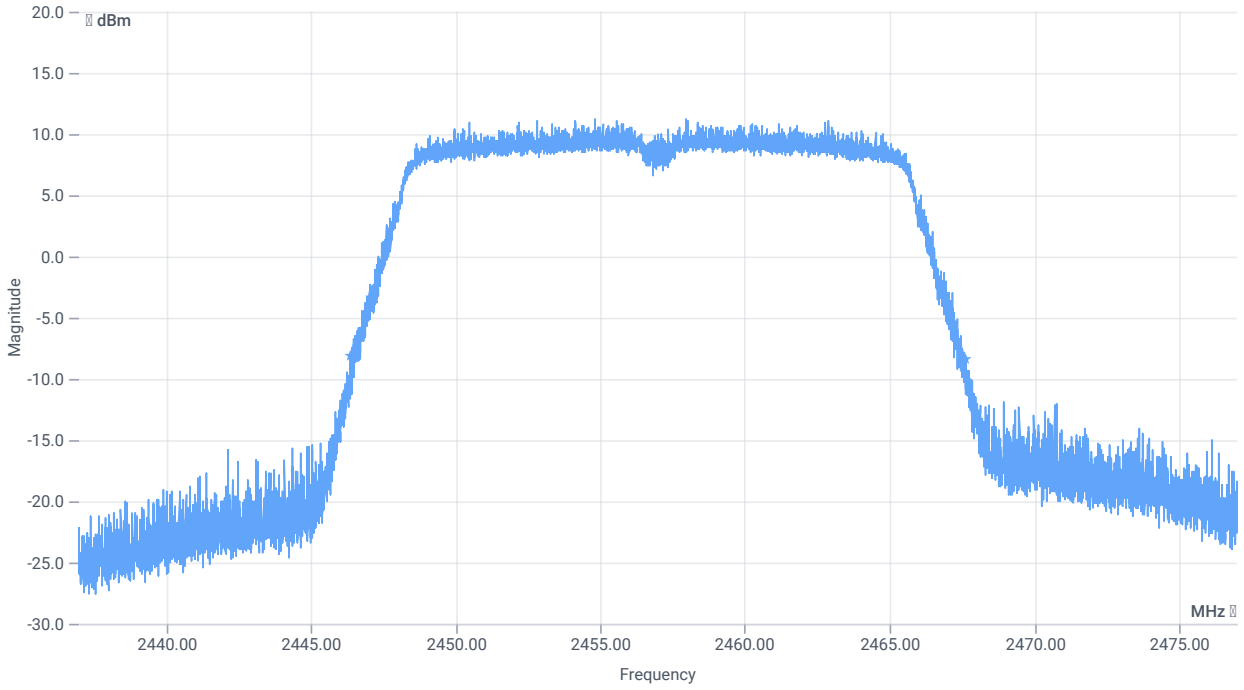
BW 99PCT



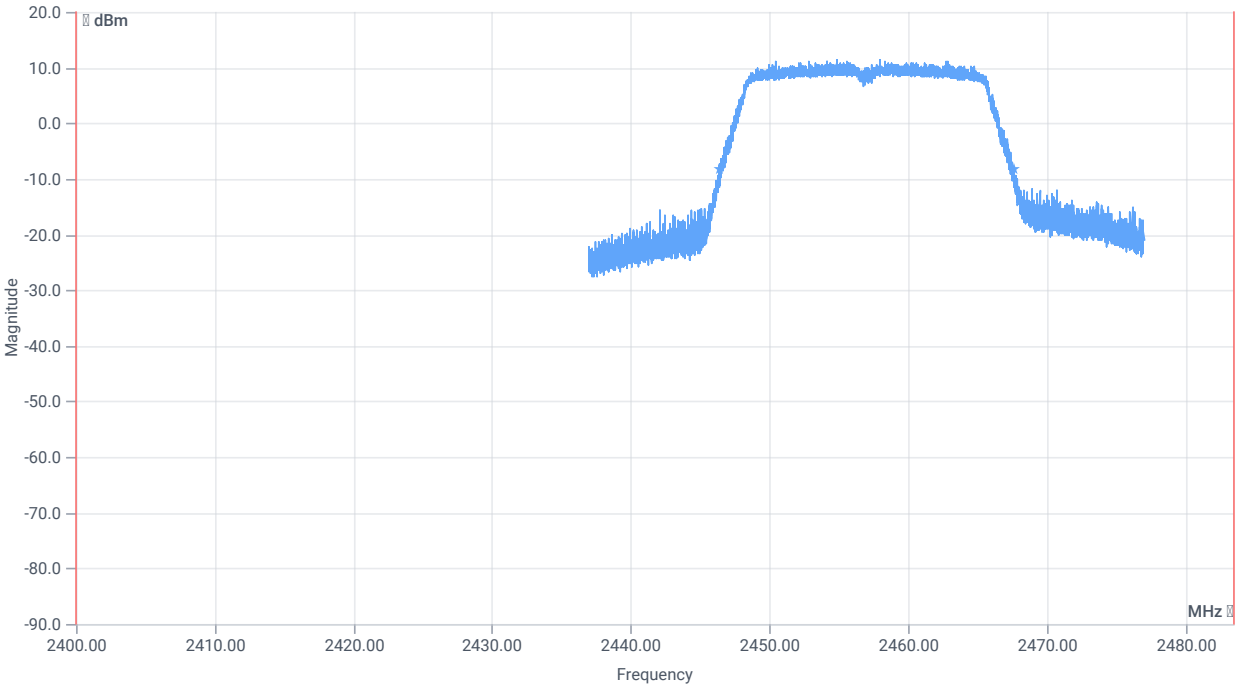
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18738.000	kHz	INFO
T1 99%	2400.000000	---	2447.6649	MHz	PASS
T2 99%	---	2483.500000	2466.4031	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	21272	kHz	INFO
T1 20DB	2400.000000	---	2446.3680	MHz	PASS
T2 20dB	---	2483.500000	2467.6400	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:52:35
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

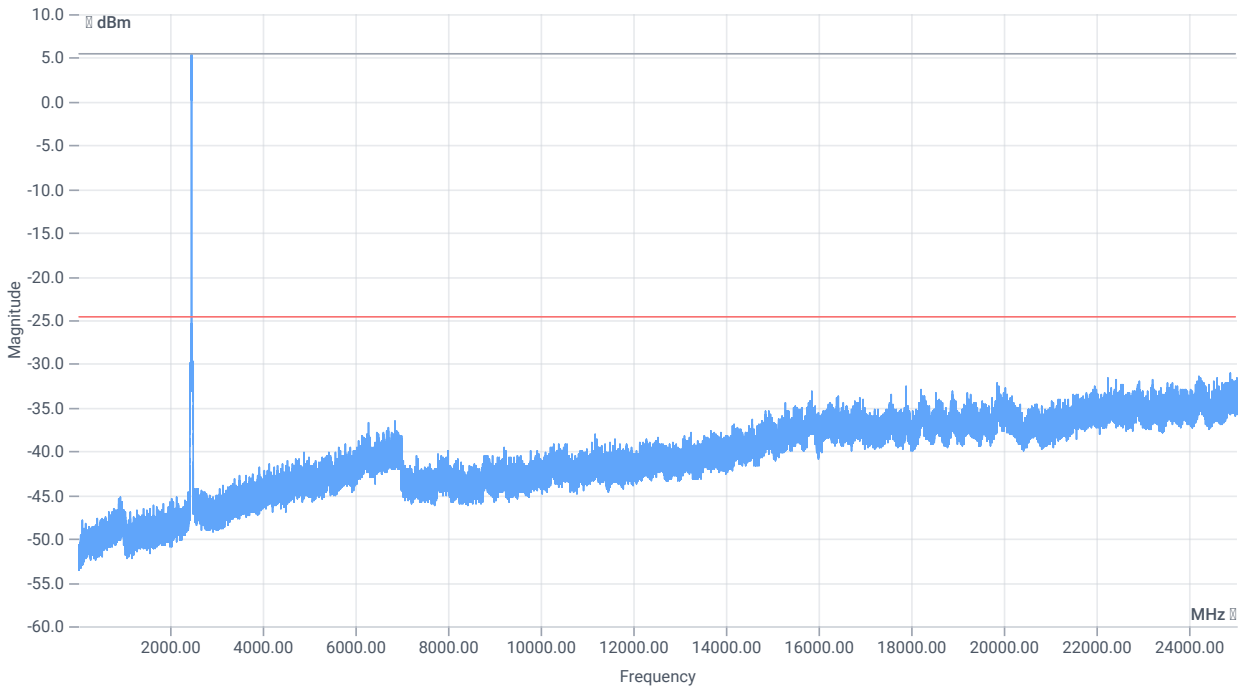
Equipment

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

Test at TX 2457 MHz

RESULT: Reference Power cond.

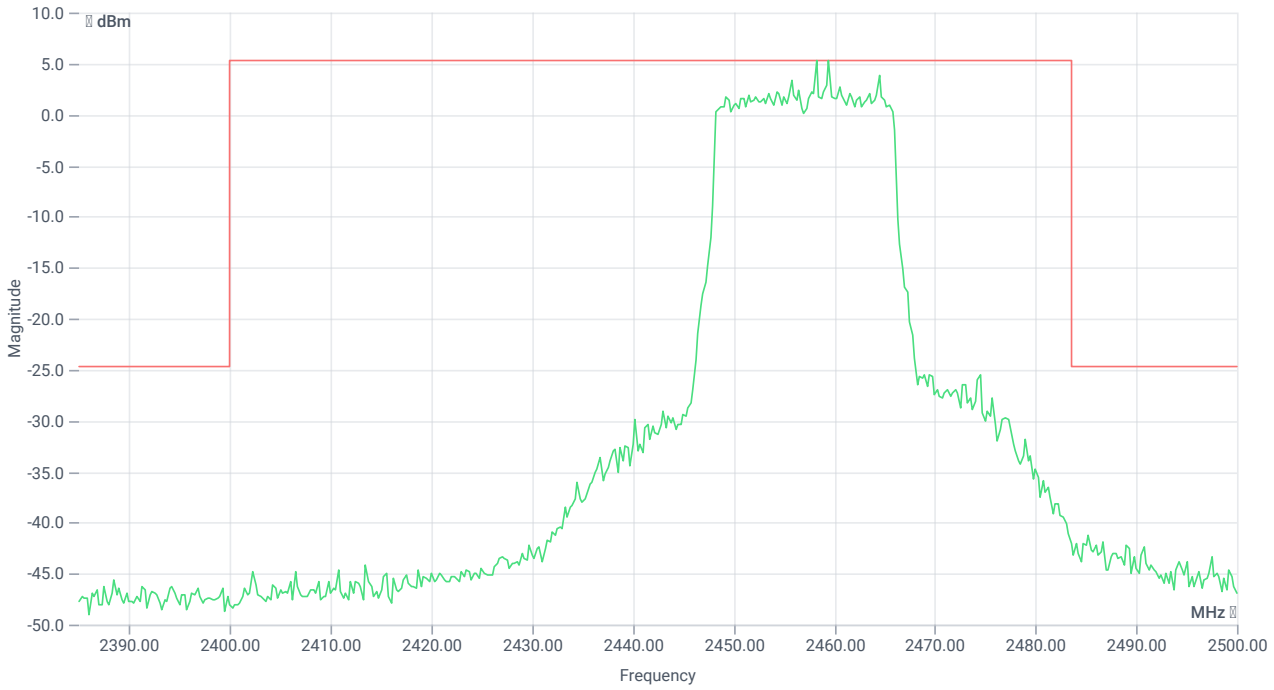
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.40	dBm	INFO
Ref. Frequency	---	---	2458.300	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.40 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2459.50 MHz	---	---	5.37	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24879.25 MHz	0	---	6.52	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 10:59:20
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2457 MHz

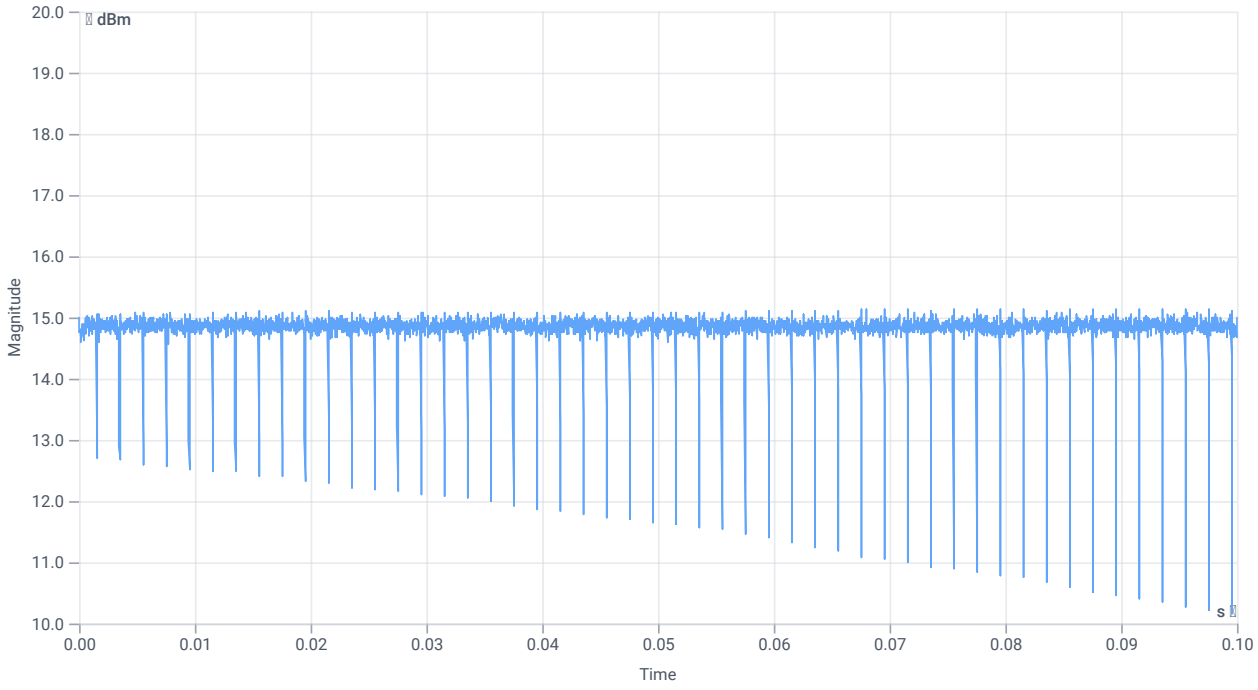
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.38	dBm	INFO
Ref. Frequency	---	---	2458.700	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

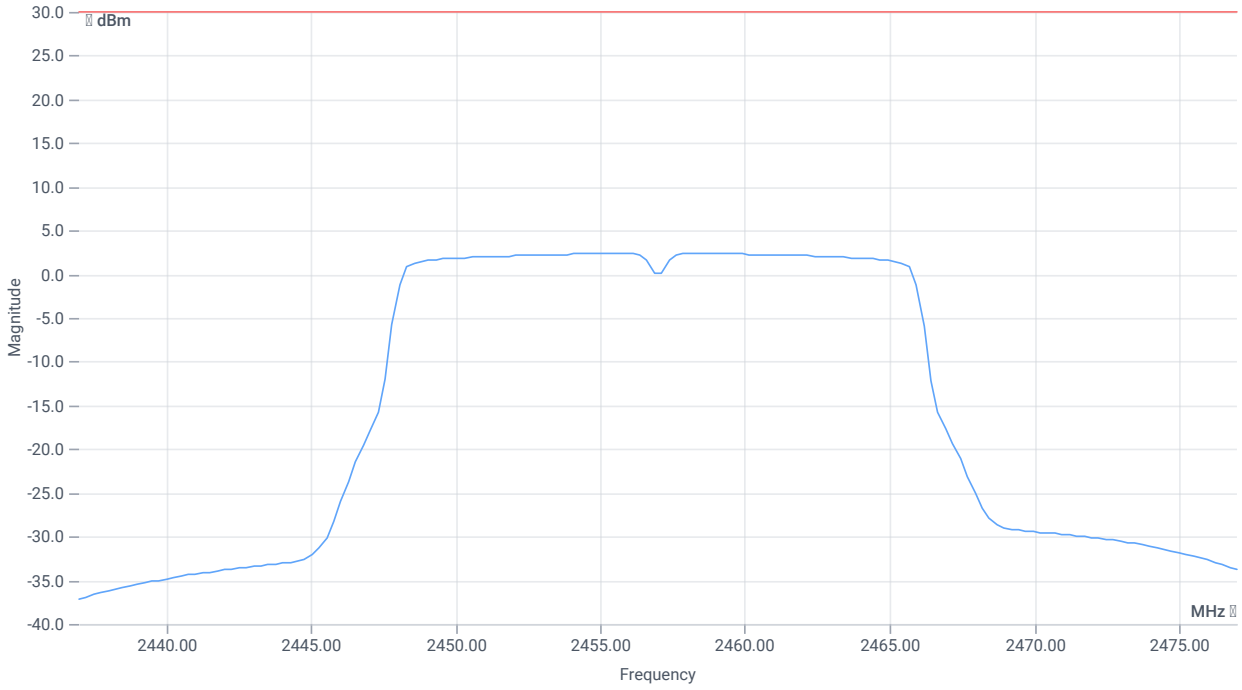
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	23.38 | 14.13 | 25
Start [MHz] | Stop [MHz]	2437.000 | 2477.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	17.24	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	17.24	dBm	PASS

Verdict
PASS

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

References

TC start	16.01.2024 11:00:35
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

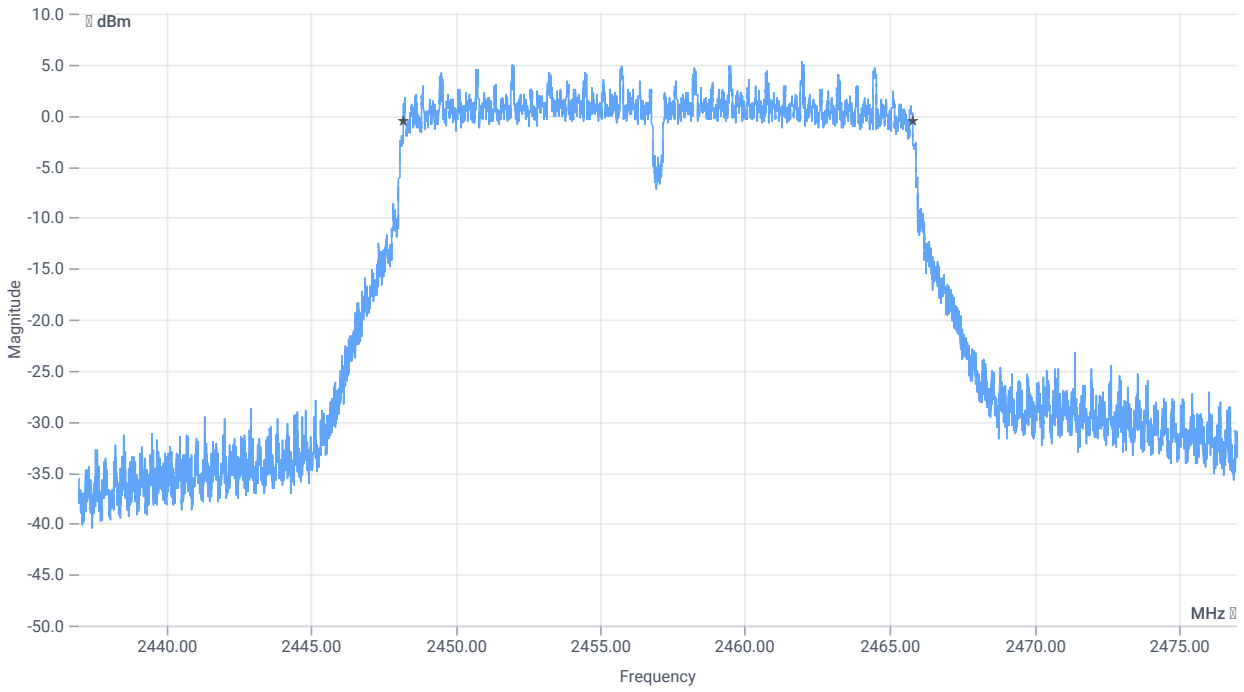
Test at TX 2457 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.03	dBm	INFO
Ref. Frequency	---	---	2458.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	19.03 | 14.13 | 20
Start [MHz] | Stop [MHz]	2437.000 | 2477.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	17584	kHz	PASS

Verdict

PASS

FCC 15.247 # Avg psd DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 11:01:09
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.10.5 or.3
Description	FCC 15.247 Avg psd DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2457 MHz

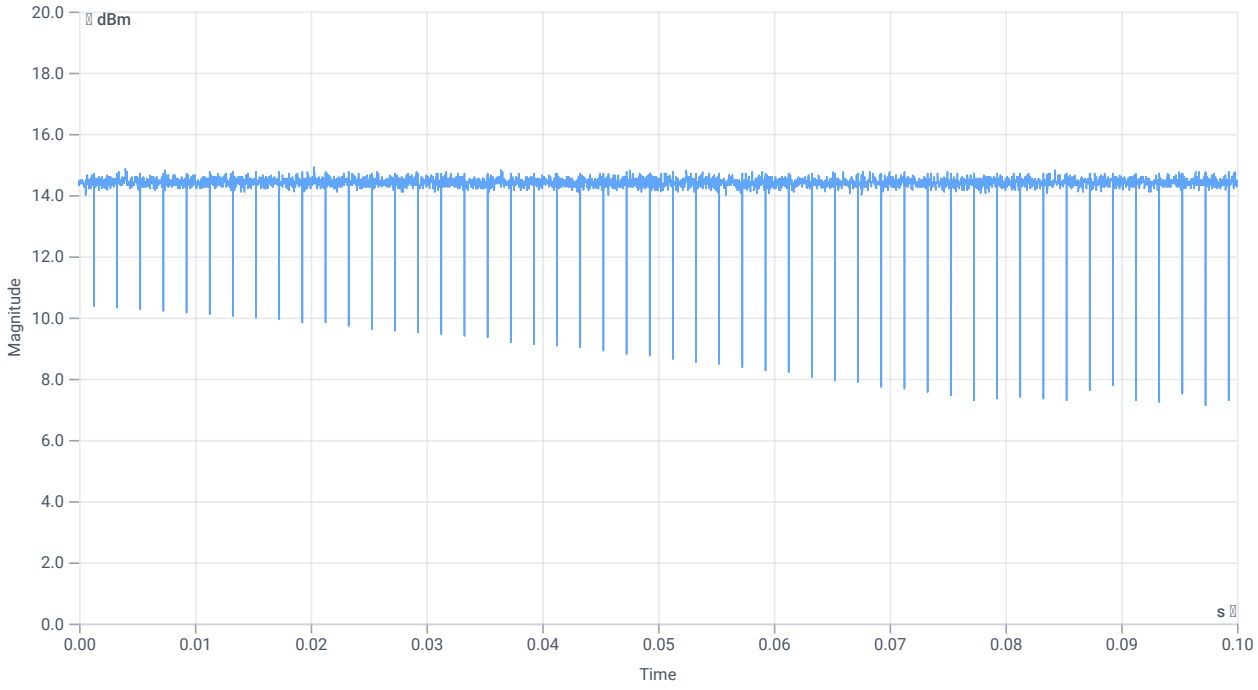
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.54	dBm	INFO
Ref. Frequency	---	---	2459.100	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

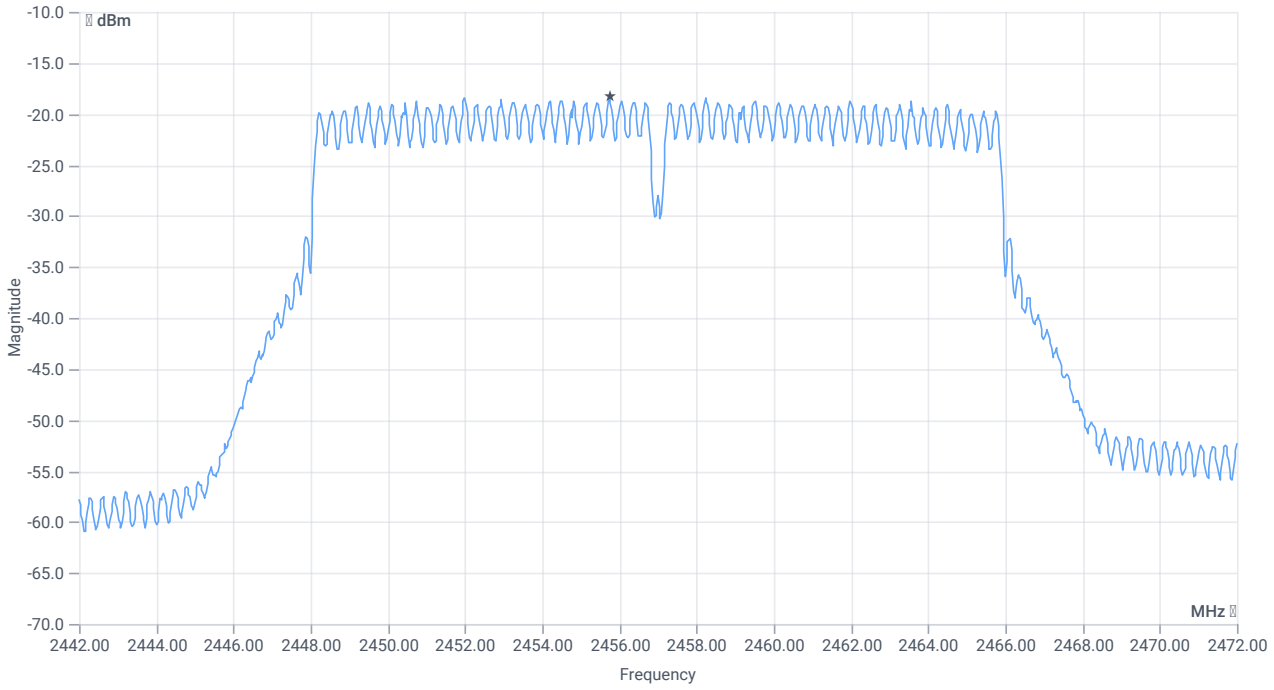
Avg. psd

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.54 | 14.13 | 20
Start [MHz] | Stop [MHz]	2442.000 | 2472.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	334 | 100 | 1001 | SWE



Avg psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg psd uncorrected	---	---	-18.34	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg psd DC corrected	---	8	-18.34	dBm/3kHz	PASS

Verdict

PASS

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

References

TC start	16.01.2024 11:02:15
Ambit temp [°C] | humidity [rel%]	22.5 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

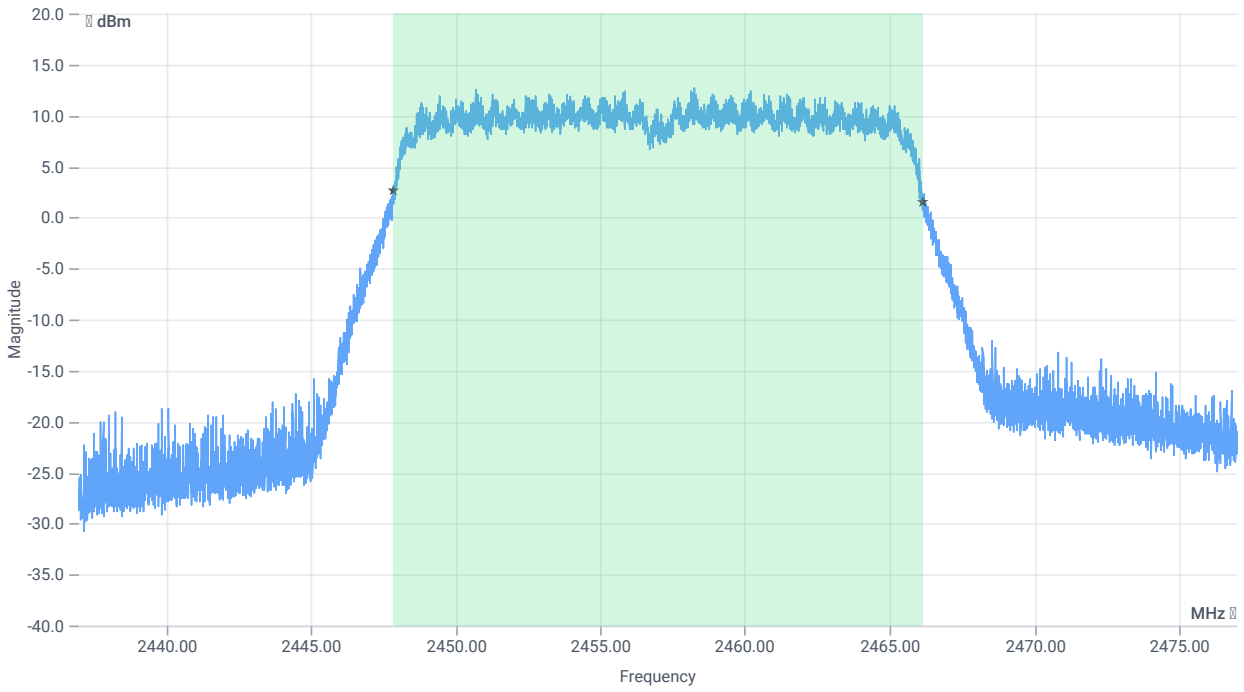
Test at TX 2457 MHz

RESULT: Reference Power cond.

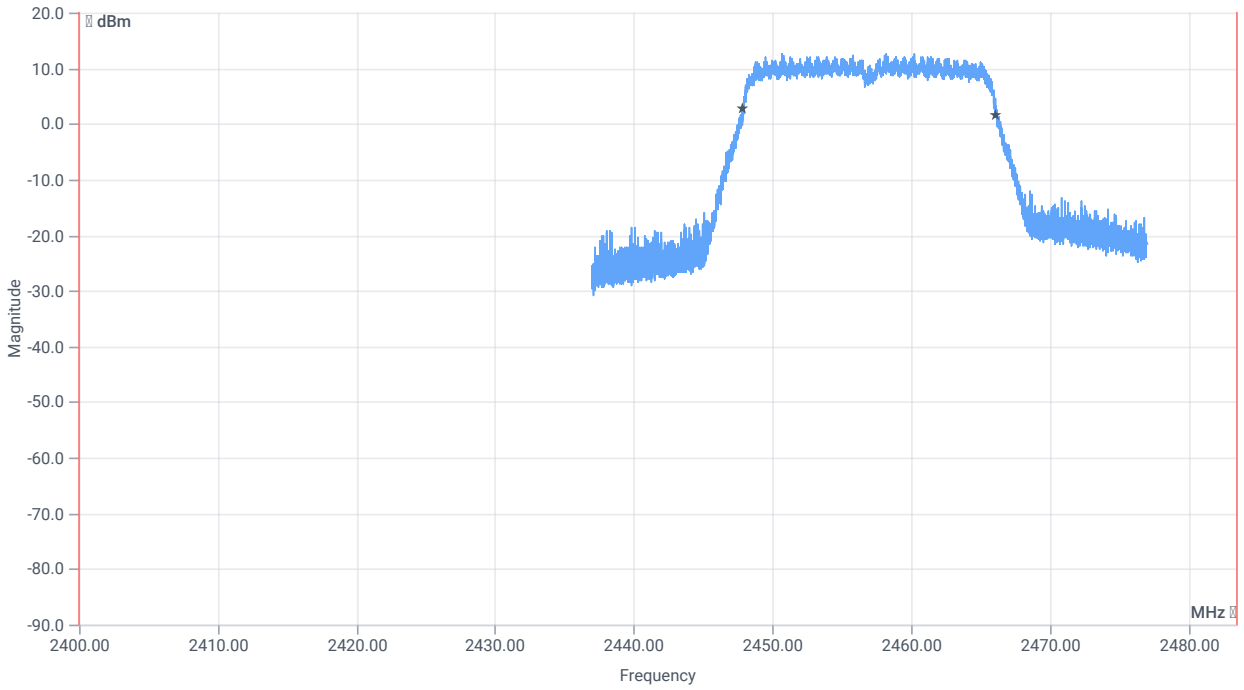
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.77	dBm	INFO
Ref. Frequency	---	---	2462.990	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.77 | 14.13 | 20
Start [MHz] | Stop [MHz]	2437.000 | 2477.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



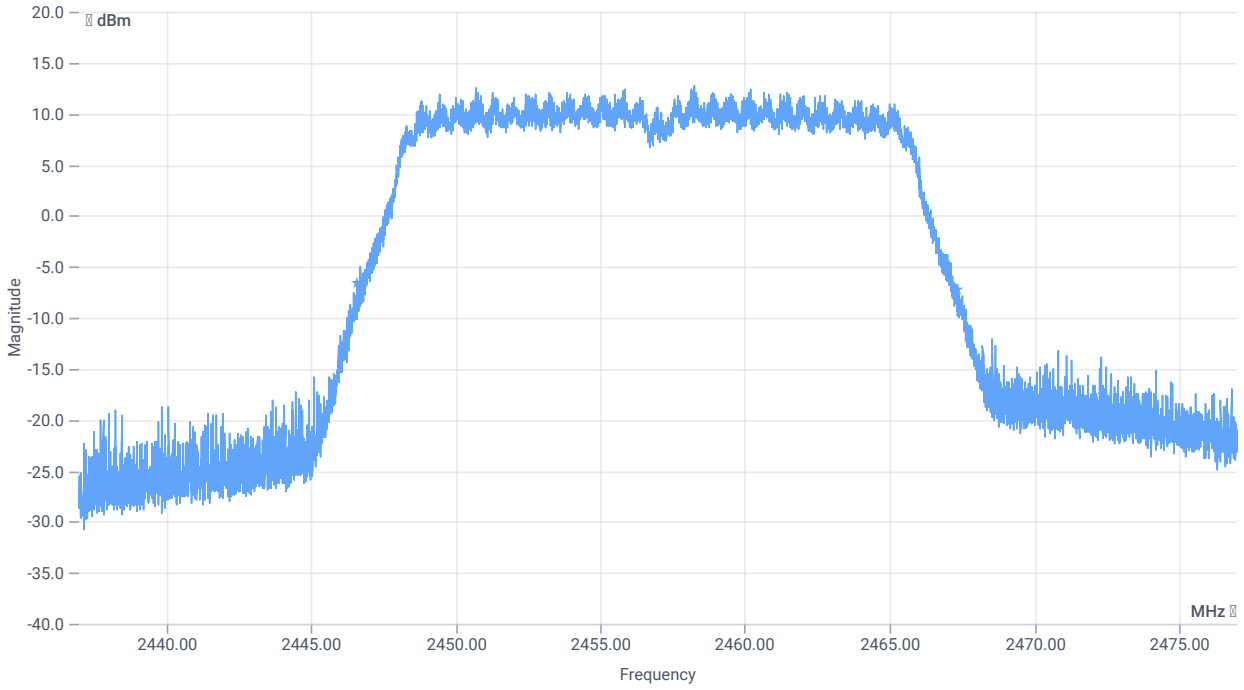
BW 99PCT



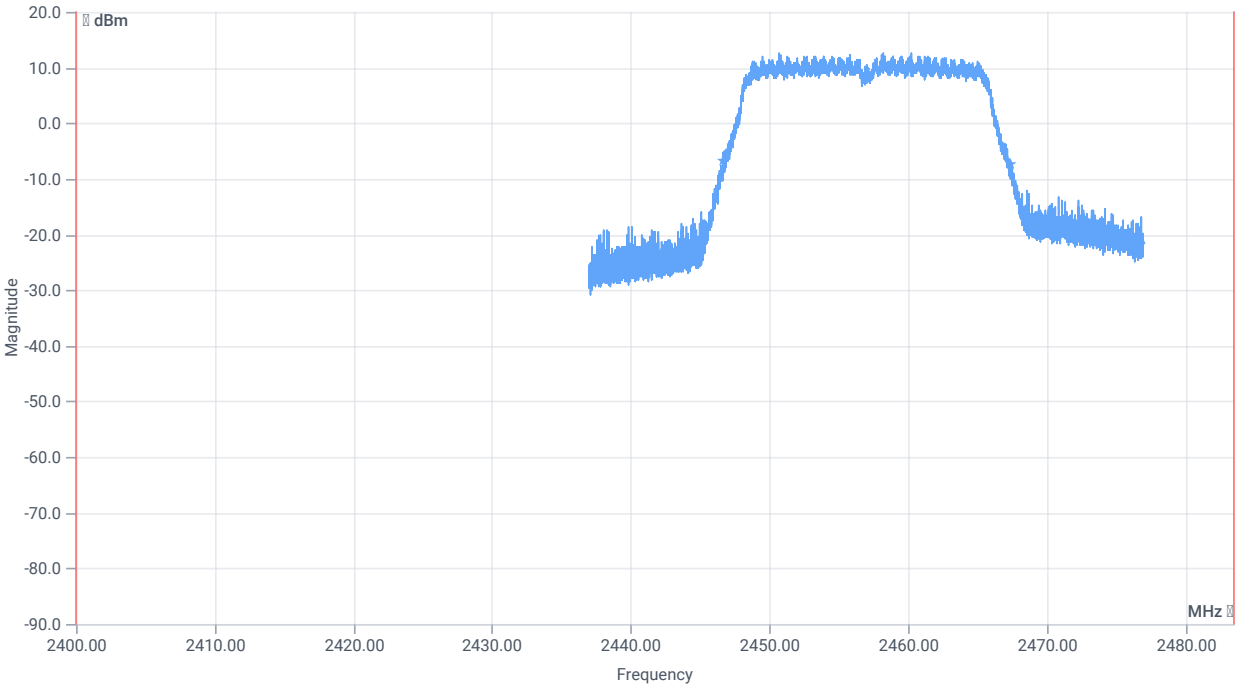
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	18246.000	kHz	INFO
T1 99%	2400.000000	---	2447.8849	MHz	PASS
T2 99%	---	2483.500000	2466.1311	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	20756	kHz	INFO
T1 20DB	2400.000000	---	2446.5880	MHz	PASS
T2 20dB	---	2483.500000	2467.3440	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 30dBc ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 11:02:52
Ambit temp [°C] | humidity [rel%]	22.6 | 27
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted 30dBc DTS DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

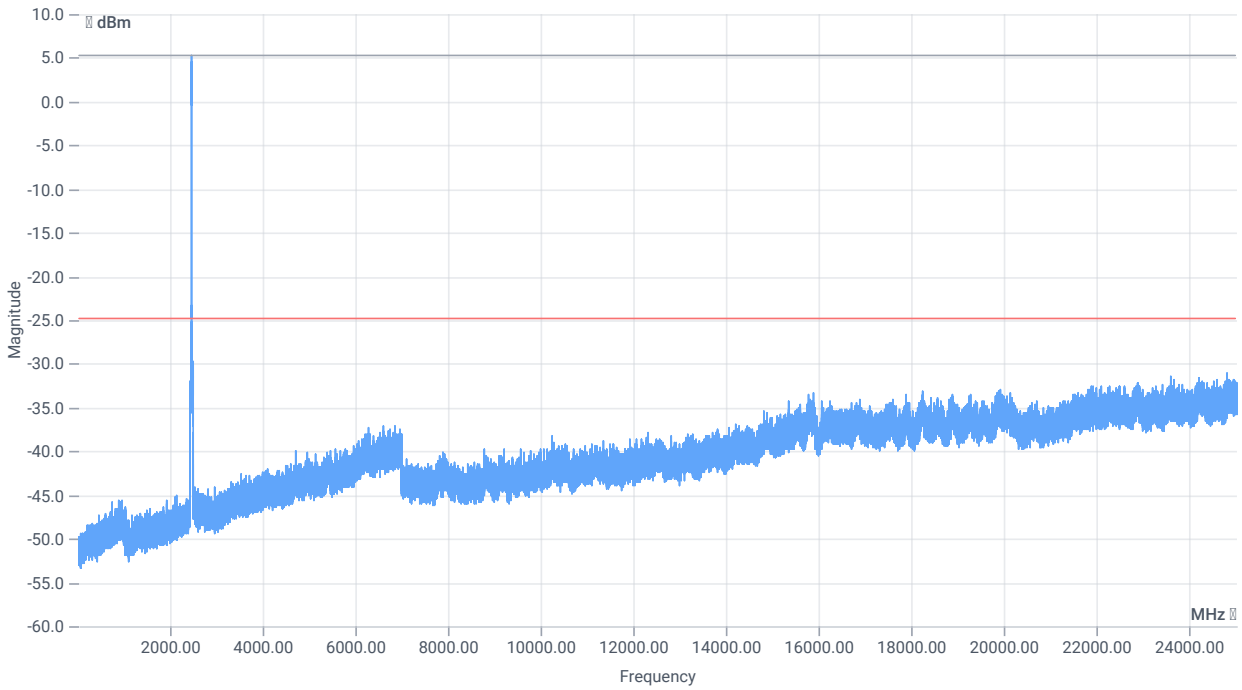
Equipment

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

Test at TX 2457 MHz

RESULT: Reference Power cond.

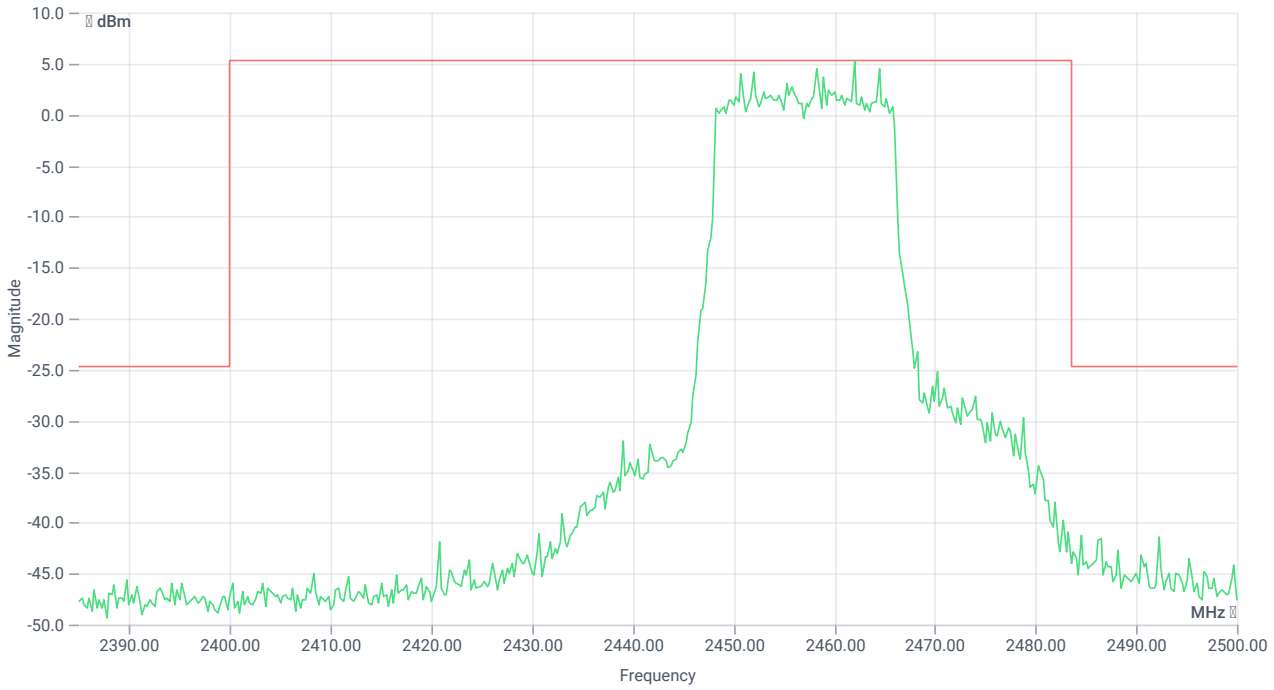
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.03	dBm	INFO
Ref. Frequency	---	---	2455.800	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.03 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE



TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2462.00 MHz	---	---	5.24	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-147.75	dB	INFO

Verdict
PASS

FCC 15.247 # Avg output power SA DTS ~ WLAN2G4 n-HT20 mode

References

TC start	16.01.2024 11:09:37
Ambit temp [°C] | humidity [rel%]	22.6 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	ANSI C63.10-2013 Chapter 11.9.2.2.2 or .4
Description	FCC 15.247 Avg output power SA DTS - WLAN2G4 n-HT20 mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	2
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	EUT - SignalingUnit - SpectrumAnalyzer

Equipment

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

Test at TX 2457 MHz

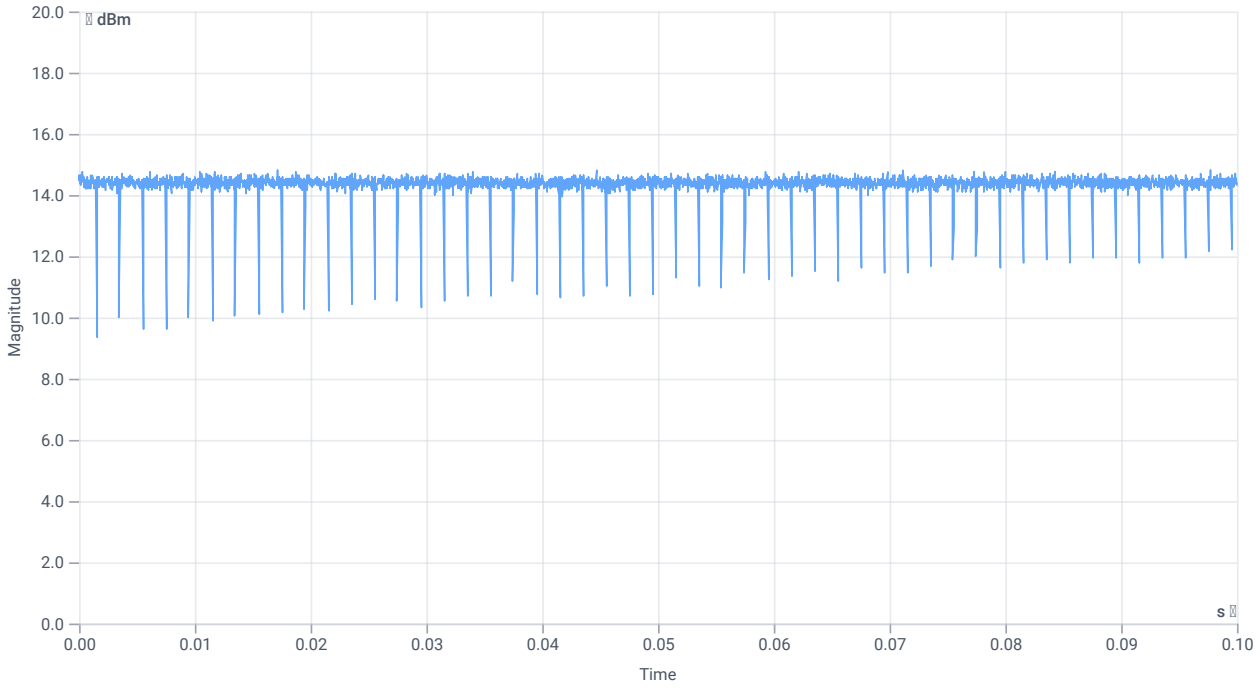
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.44	dBm	INFO
Ref. Frequency	---	---	2454.200	MHz	INFO

Evaluation max. Duty Cycle

Duty Cycle evaluation

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	INFO
Duty Cycle max	---	---	0	dB	INFO
Duty Cycle (Burst Ratio) min	---	---	1	---	INFO
Duty Cycle min	---	---	0	dB	INFO



Duty cycle

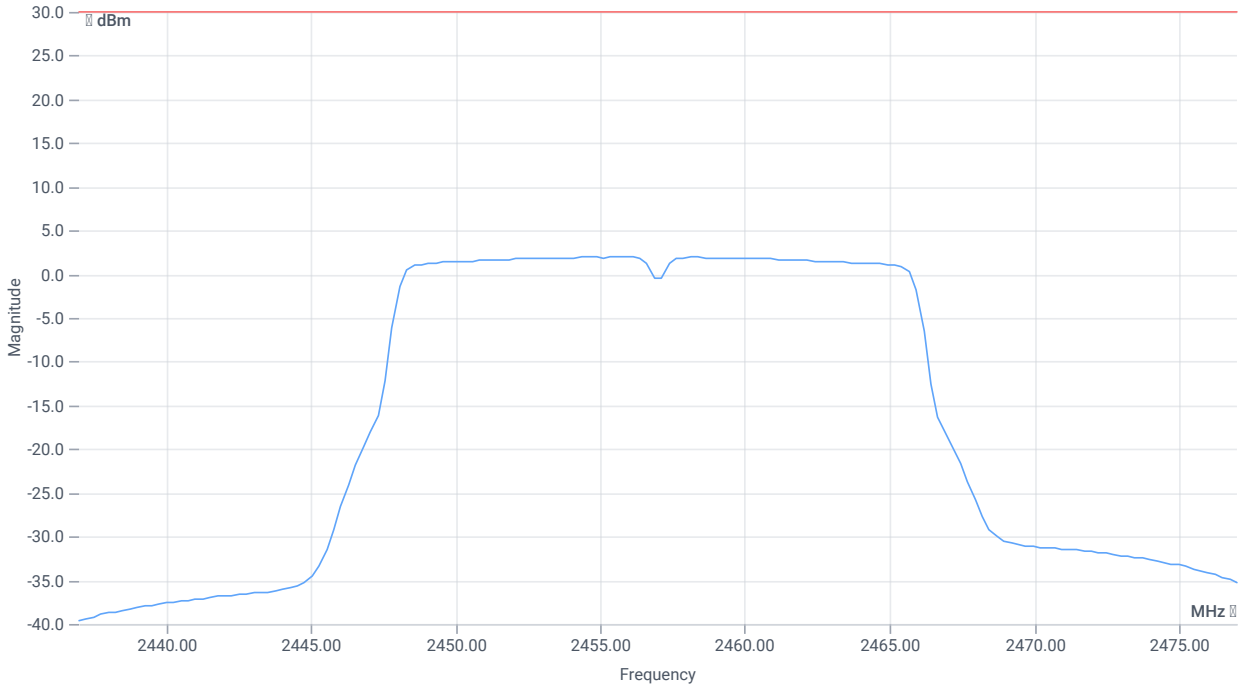
Avg output power SA DTS

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	23.44 | 14.13 | 25
Start [MHz] | Stop [MHz]	2437.000 | 2477.000

READ SA SETTINGS:

RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	RMS | AVER
Sweep: time [ms] | count | points per Section | type	500 | 100 | 160 | SWE



Avg output power SA DTS

RESULT (Channel power method)

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Avg output power uncorrected	---	---	16.79	dBm	INFO
Duty cycle correction	---	---	0	dB	INFO
Avg power DC corrected	---	30	16.79	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg output power SA DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	16.01.2024 11:10:52
Ambit temp [°C] | humidity [rel%]	22.7 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg output power SA DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2457 MHz

RESULT Power

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg power DC corr.	---	---	17.24	dBm	INFO
Ant:2 Avg power DC corr.	---	---	16.79	dBm	INFO
∑ Avg output power DC corr.	---	30	20.03	dBm	PASS

Verdict
PASS

FCC 15.247 # MIMO ∑ Avg psd DTS ~ WLAN2G4 n-HT20 mode 2400-2483.5 MHz

References

TC start	16.01.2024 11:11:45
Ambit temp [°C] | humidity [rel%]	22.7 | 26
System version	4.7.1.5
Standard | Version	FCC 15.247 | NI
Method	
Description	MIMO ∑ FCC Avg psd DTS - WLAN2G4 n-HT20 mode 2400-2483.5 MHz
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	2
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	several
Temperature	nom
Voltage	nom
Frequency low to test	False | Freq [MHz] 2417
Frequency mid to test	False | Freq [MHz] 2437
Frequency high to test	True | Freq [MHz] 2457
Auto control enabled power supply | Climatic Box	No | No
Additional path loss [dB]	0.7
Full path name | type	None

Equipment

Test at TX 2457 MHz

RESULT psd

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ant:1 Avg psd DC corr	---	---	-17.64	dBm/3kHz	INFO
Ant:2 Avg psd DC corr	---	---	-18.34	dBm/3kHz	INFO
∑ Avg psd DC corr	---	8	-14.97	dBm/3kHz	PASS

Verdict

PASS

- END OF DOCUMENT -