Conducted test results b-mode PS 18

No.1-6998/23-01-11_TR1-A201-R2

January 04, 2024

Test Standard(s)	FCC 15.247 - NI
	FCC 15.247, ISED RSS247 - NI

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

cn=Andreas Kurzkurt, o=cetecom advanced GmbH, ou=KZK-230606, email=andreas.kurzkurt@cetecom advanced.com, c=DE

Authorized

Andreas Kurzkurt
Testing Manager
Radio Labs

Table of Content

EUT Information

EUT DEFINITION

Manufacturer	Leica Geosystems AG
Type	LG1001
Serial Number	3800113
Setup Number	1.0
Version SW	0.1
Version FW	BSP v4.0.20
Version HW	C
Comment 1	
Comment 2	
Temperature [°C] Min	-30
Temperature [°C] Nom	20
Temperature [°C] Max	60
Voltage [V] Min	2.5
Voltage [V] Nom	3.7
Voltage [V] Max	4.1

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 10:55:46
Ambit temp [°C] | humidity [rel%]	22.4 | 41
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

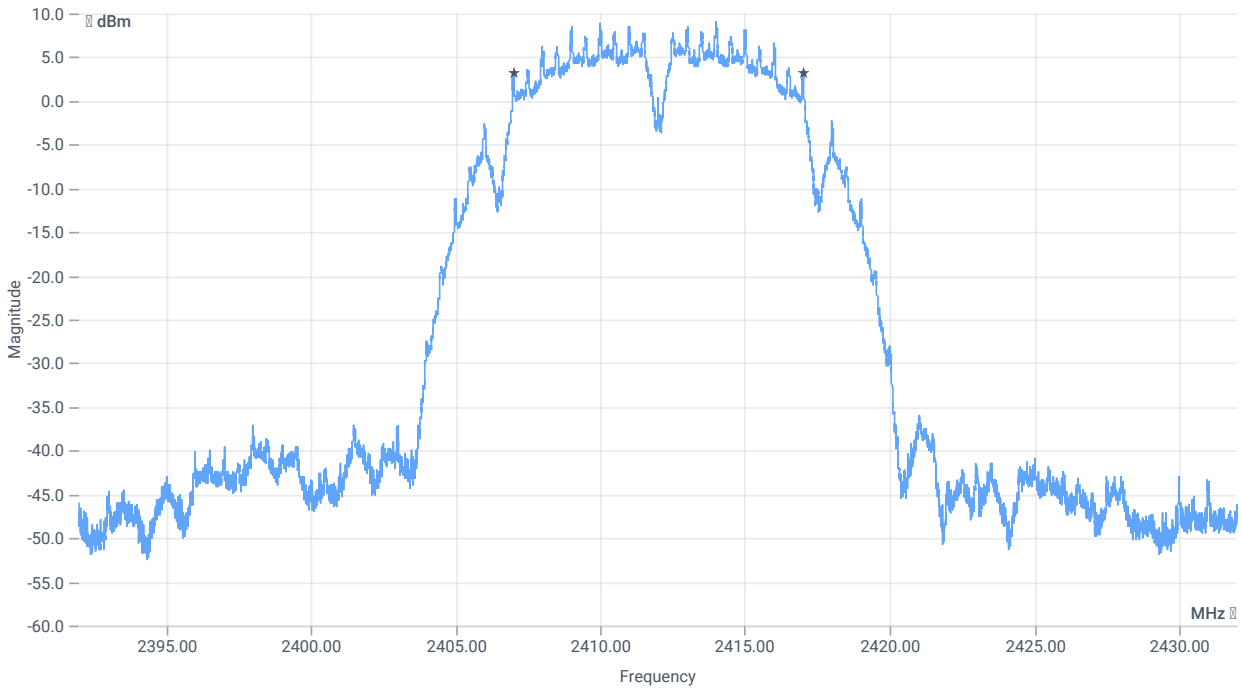
Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.00	dBm	INFO
Ref. Frequency	---	---	2410.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.00 | 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	---	10016	kHz	PASS

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 10:56:24
Ambit temp [°C] | humidity [rel%]	22.4 | 41
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

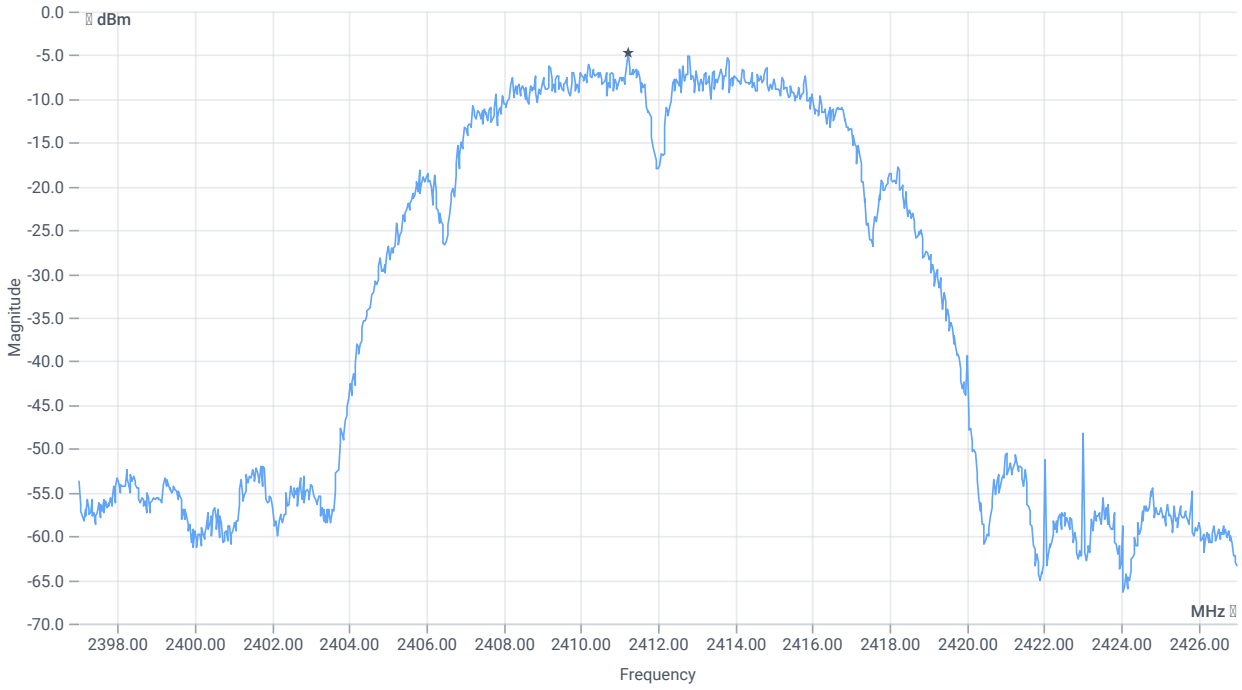
Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.13	dBm	INFO
Ref. Frequency	---	---	2413.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.13 | 13.85 | 20
Start [MHz] | Stop [MHz]	2397.000 | 2427.000
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	1000 | 20 | 1001 | SWE



Peak psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	---	8	-4.8	dBm/3KHz	PASS

Verdict

PASS

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

References

TC start	04.01.2024 10:57:09
Ambit temp [°C] | humidity [rel%]	22.4 | 41
System version	4.7.1.4
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

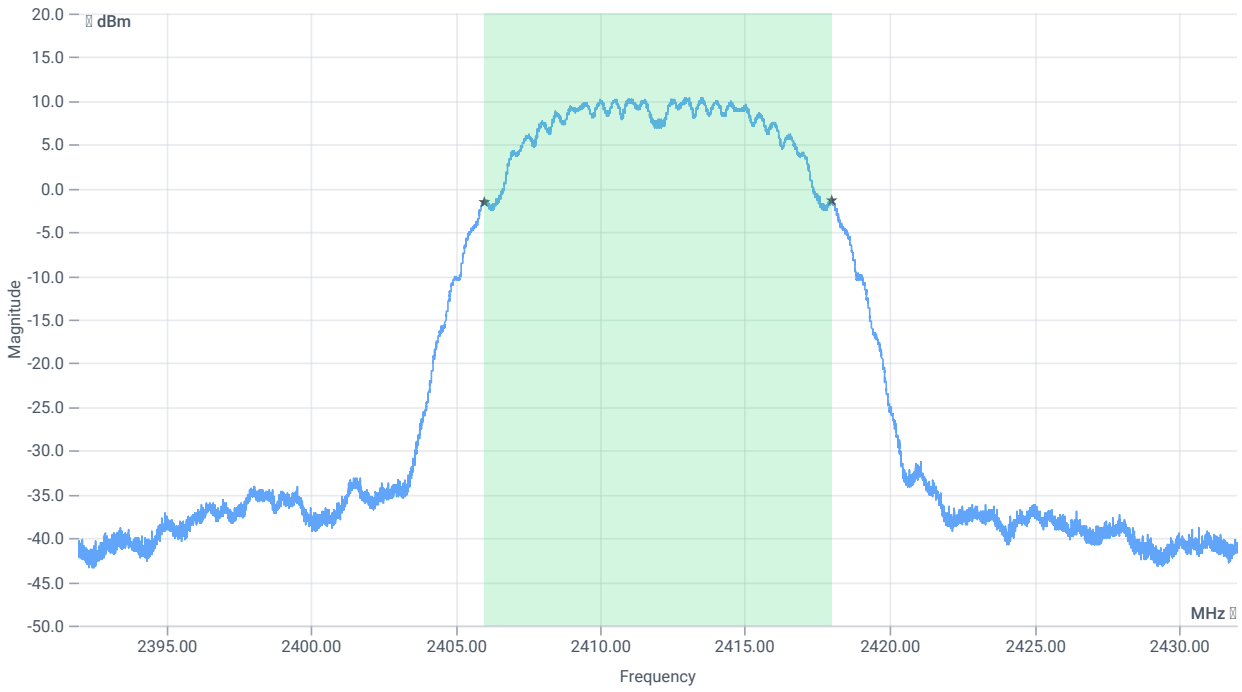
Test at TX 2412 MHz

RESULT: Reference Power cond.

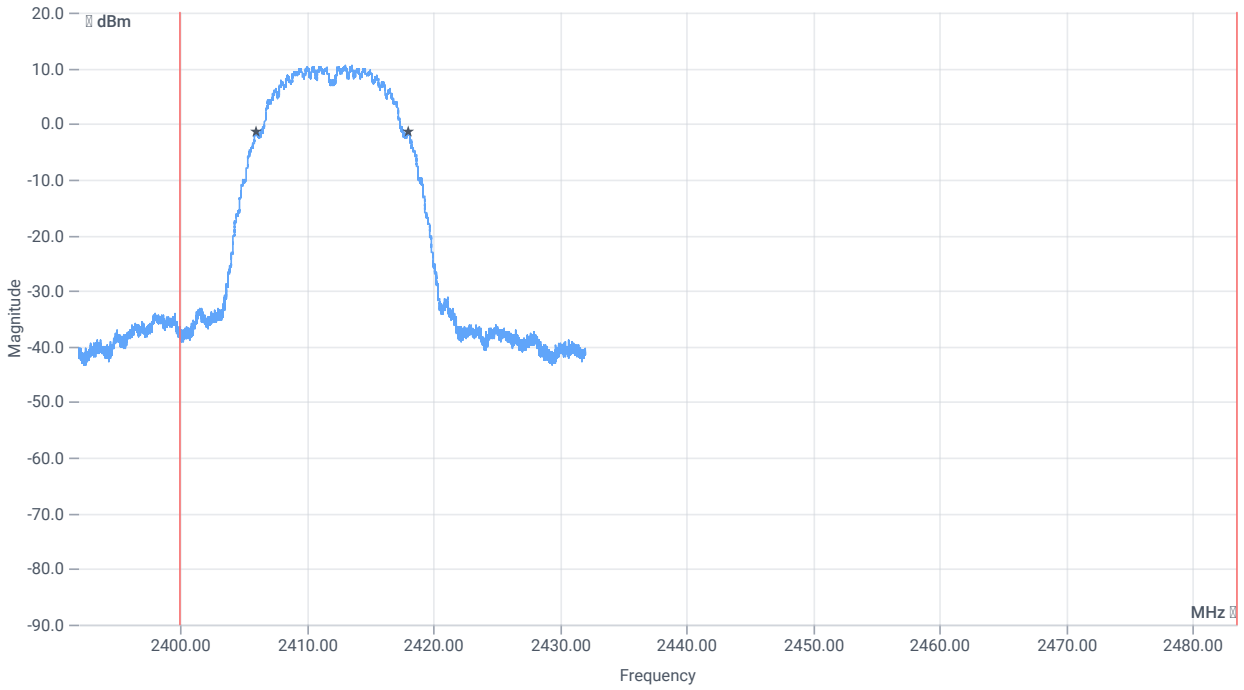
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.00	dBm	INFO
Ref. Frequency	---	---	2410.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.00 | 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



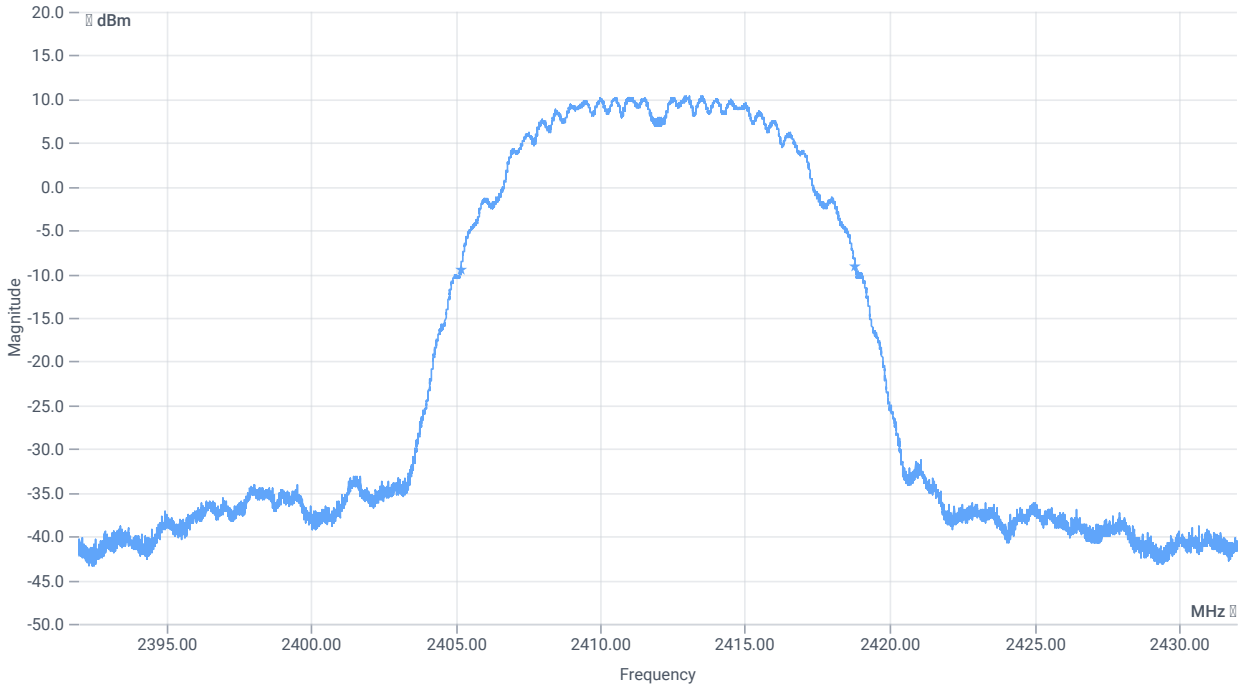
BW 99PCT



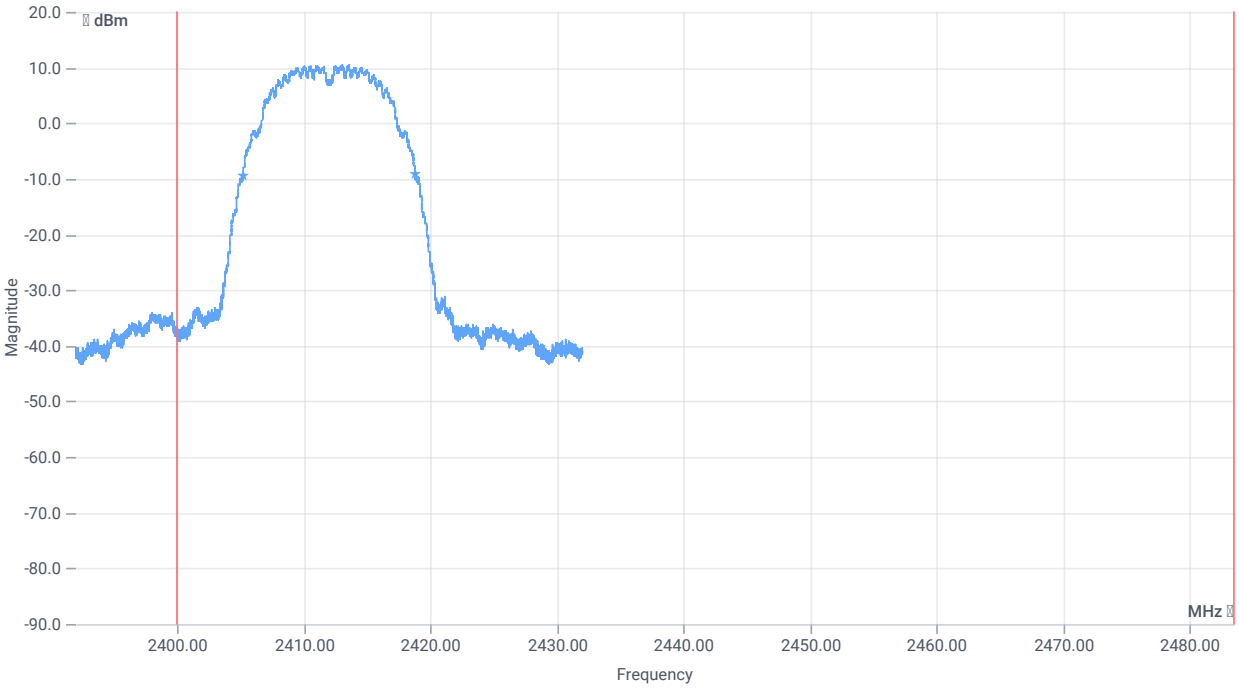
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	11995.000	kHz	INFO
T1 99%	2400.000000	---	2406.0086	MHz	PASS
T2 99%	---	2483.500000	2418.0034	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	13636	kHz	INFO
T1 20DB	2400.000000	---	2405.1920	MHz	PASS
T2 20dB	---	2483.500000	2418.8280	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

References

TC start	04.01.2024 10:57:48
Ambit temp [°C] | humidity [rel%]	22.4 | 41
System version	4.7.1.4
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 DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

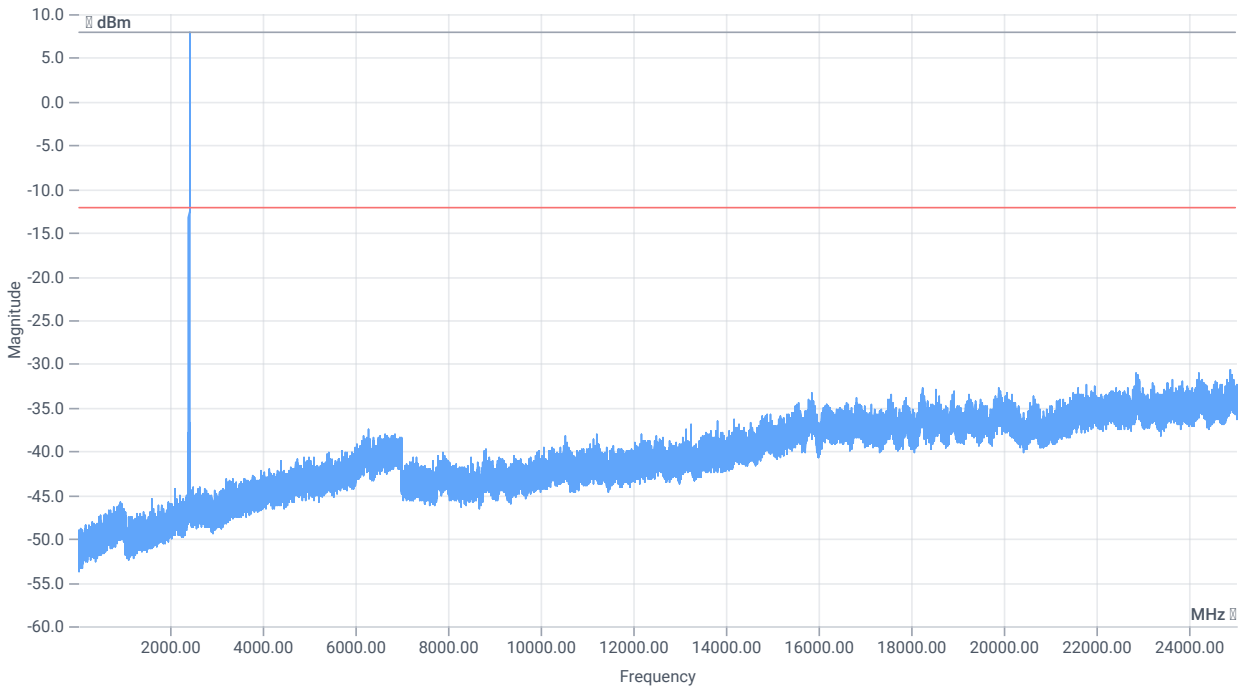
Equipment

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.	---	---	13.13	dBm	INFO
Ref. Frequency	---	---	2413.400	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.13 | 0 | 30
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	200 | 25 | 2001 | SWE

TX emissions band zoomed

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2409.00 MHz	---	---	7.94	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24892.25 MHz	0	---	18.66	dB	INFO

Verdict
PASS

FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 11:05:15
Ambit temp [°C] | humidity [rel%]	22.4 | 41
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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 - PowerMeter

Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2412 MHz

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	---	30	22.9	dBm	PASS

Verdict
PASS

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 11:07:32
Ambit temp [°C] | humidity [rel%]	22.4 | 40
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

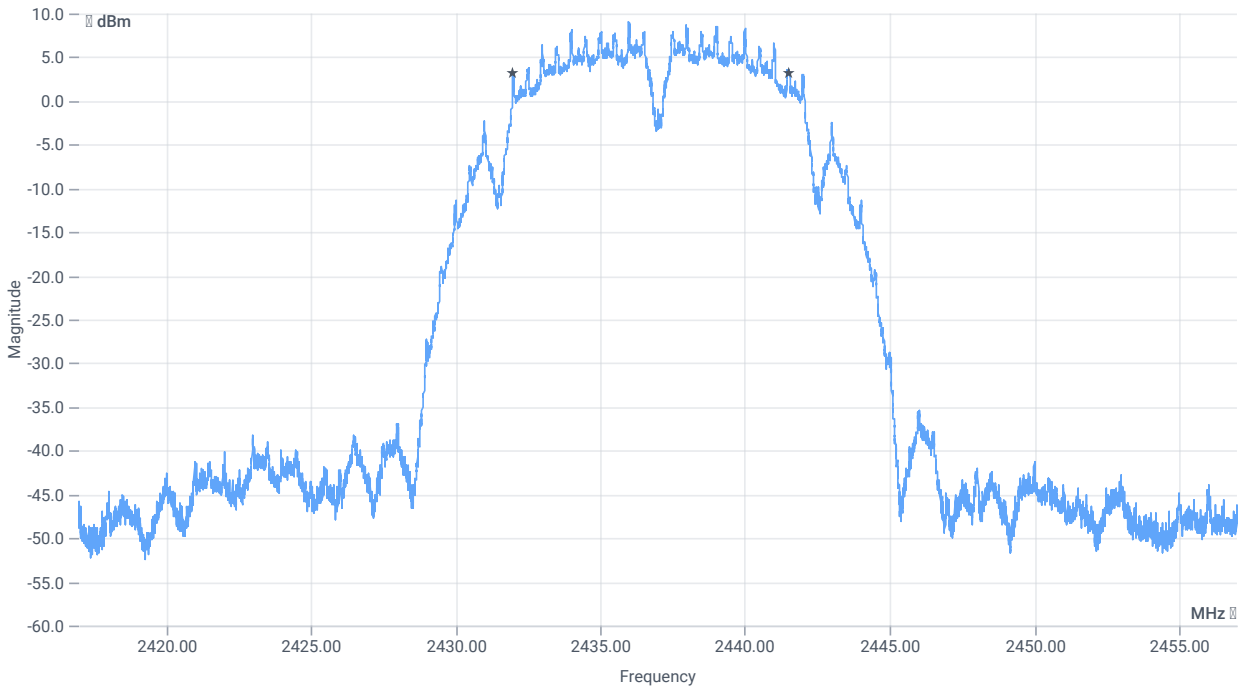
Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.20	dBm	INFO
Ref. Frequency	---	---	2435.700	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.20 | 14.01 | 20
Start [MHz] | Stop [MHz]	2417.000 | 2457.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	---	9548	kHz	PASS

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 11:08:06
Ambit temp [°C] | humidity [rel%]	22.4 | 40
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

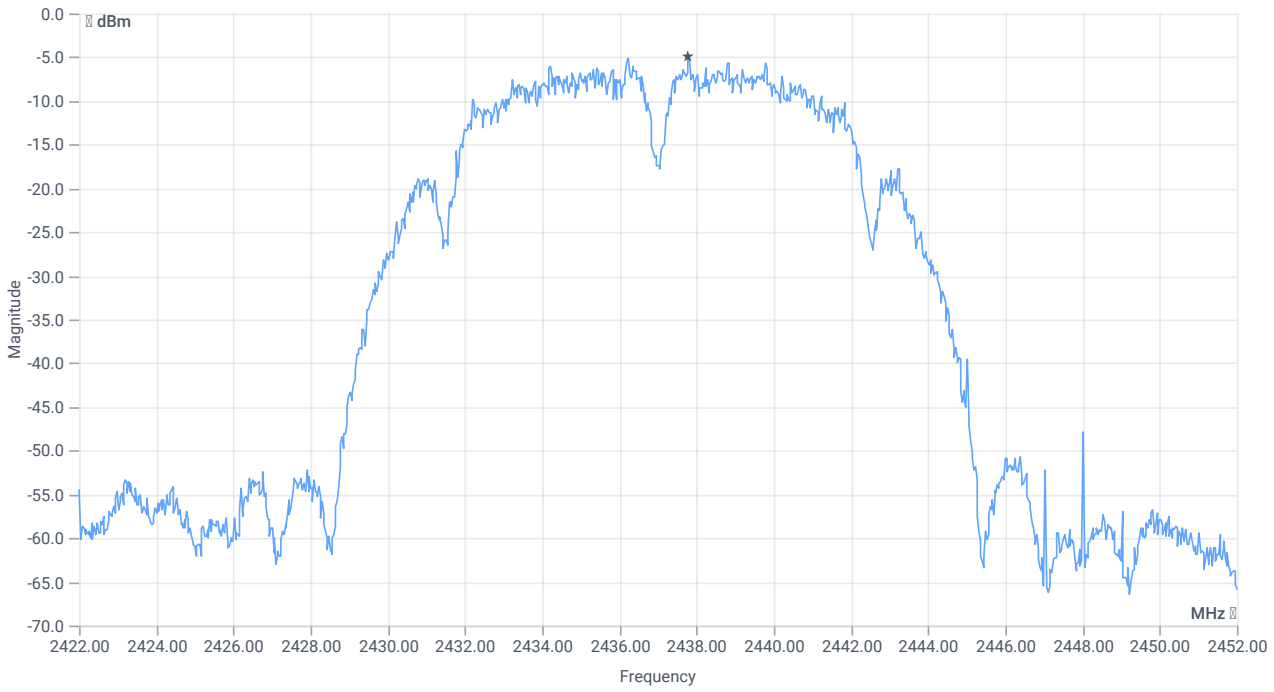
Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.53	dBm	INFO
Ref. Frequency	---	---	2438.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.53 | 14.01 | 20
Start [MHz] | Stop [MHz]	2422.000 | 2452.000
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	1000 | 20 | 1001 | SWE



Peak psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	---	8	-4.93	dBm/3KHz	PASS

Verdict

PASS

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

References

TC start	04.01.2024 11:08:50
Ambit temp [°C] | humidity [rel%]	22.3 | 40
System version	4.7.1.4
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

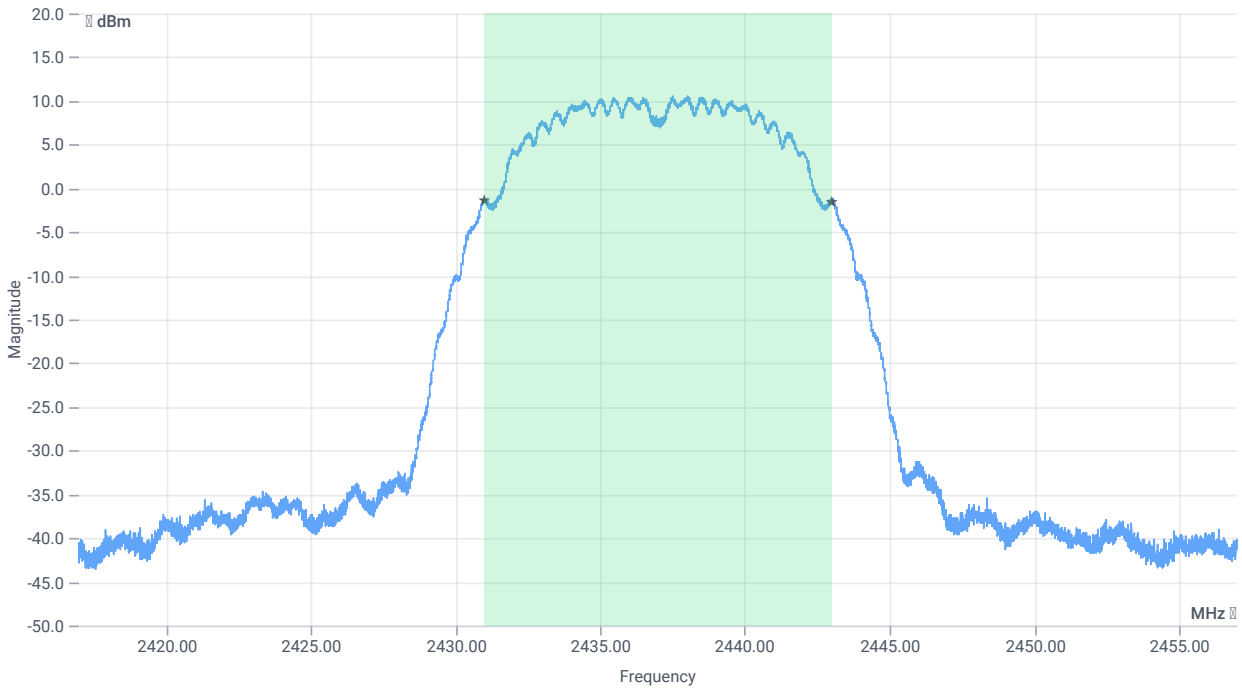
Test at TX 2437 MHz

RESULT: Reference Power cond.

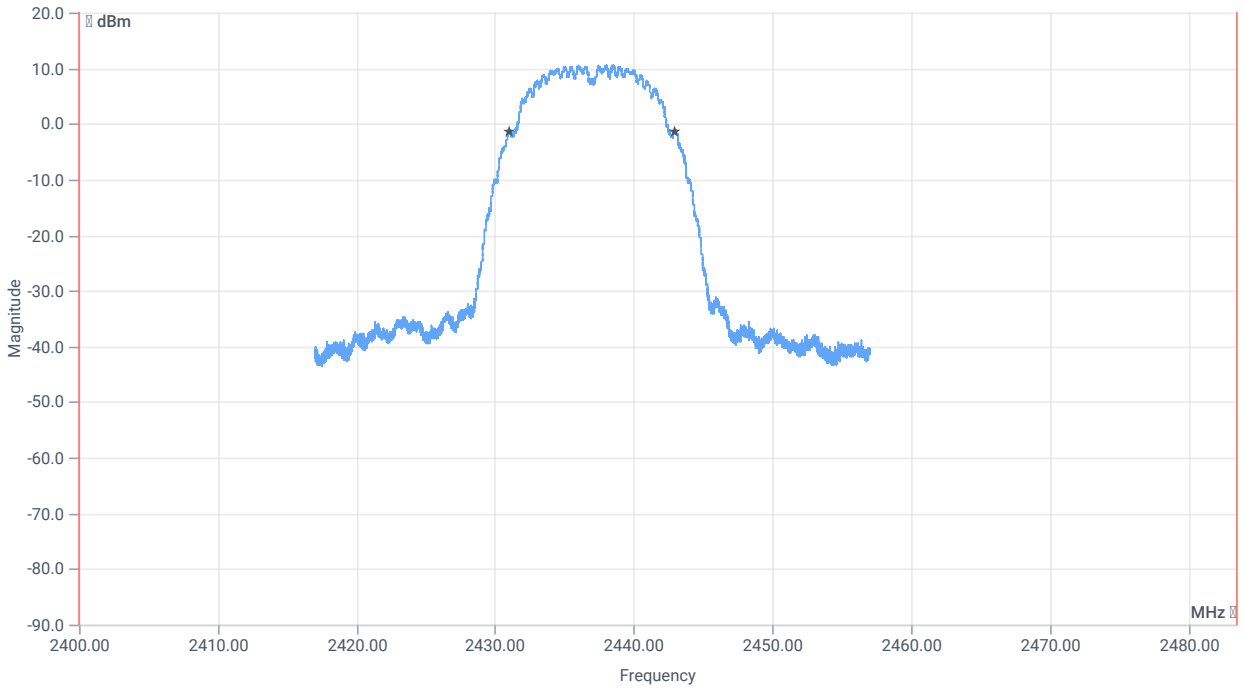
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	13.07	dBm	INFO
Ref. Frequency	---	---	2435.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	18.07 | 14.01 | 20
Start [MHz] | Stop [MHz]	2417.000 | 2457.000
RBW [MHz] | VBW [MHz]	0.500000 | 2.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	50 | 200 | 10001 | SWE



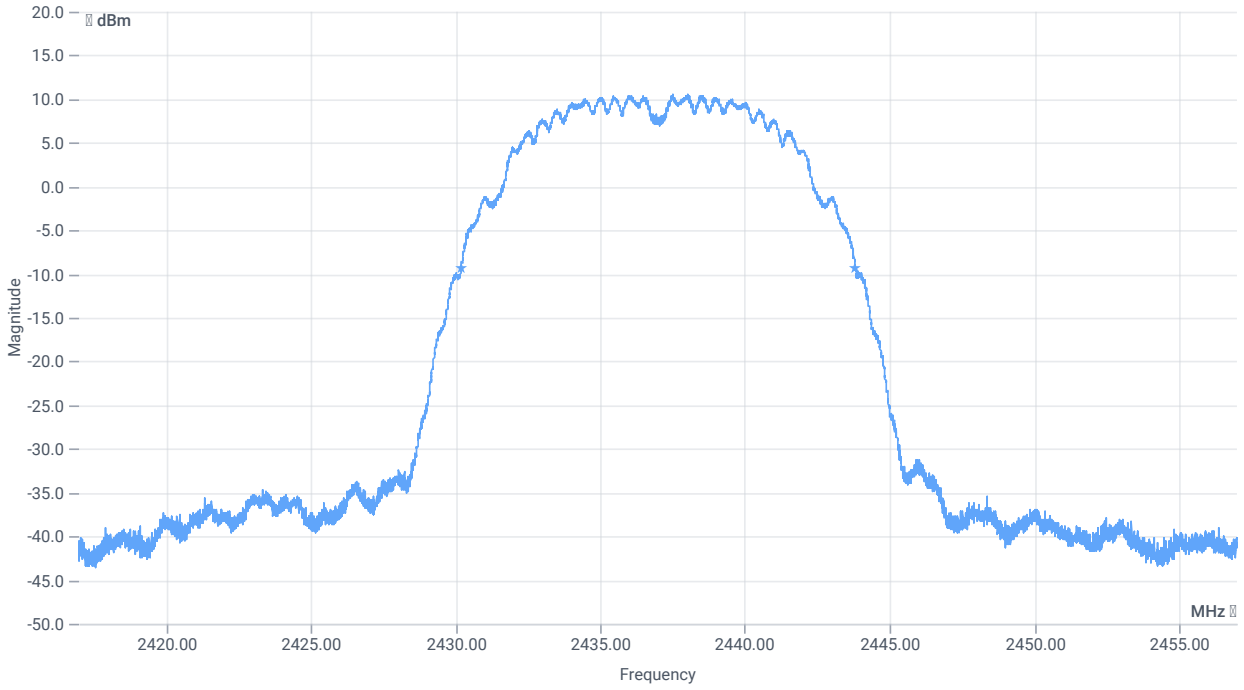
BW 99PCT



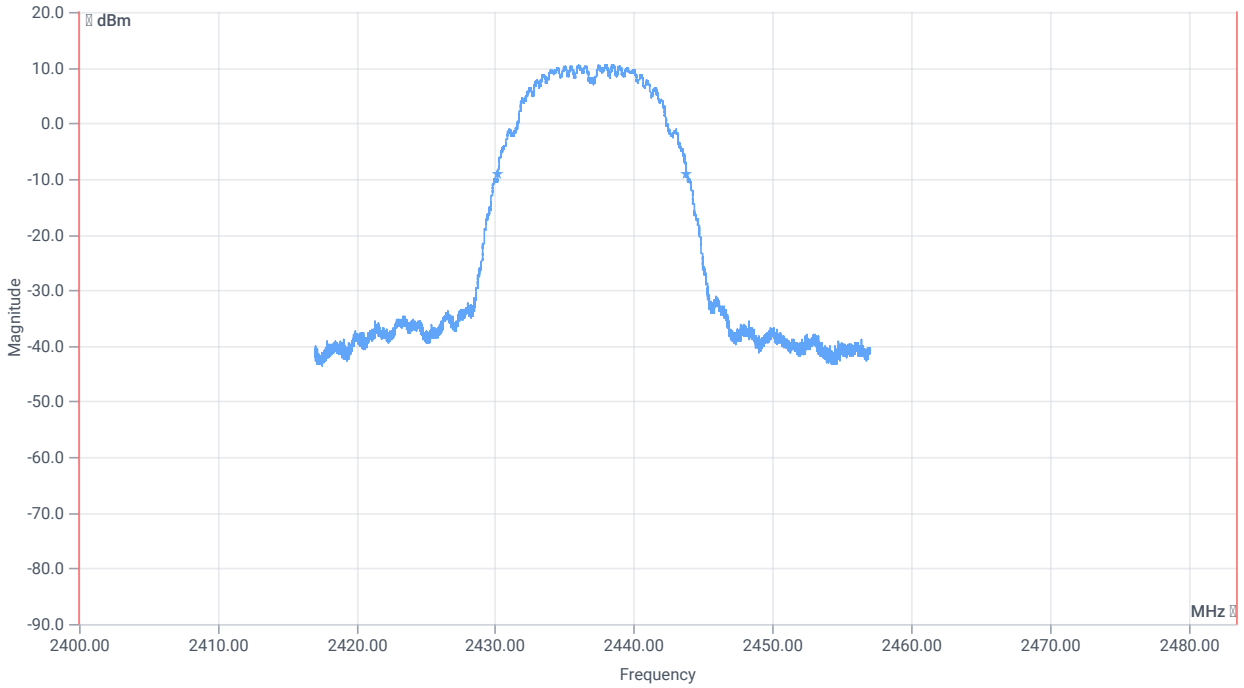
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	11979.000	kHz	INFO
T1 99%	2400.000000	---	2431.0166	MHz	PASS
T2 99%	---	2483.500000	2442.9954	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	13624	kHz	INFO
T1 20DB	2400.000000	---	2430.1960	MHz	PASS
T2 20dB	---	2483.500000	2443.8200	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

References

TC start	04.01.2024 11:09:30
Ambit temp [°C] | humidity [rel%]	22.3 | 40
System version	4.7.1.4
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 DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

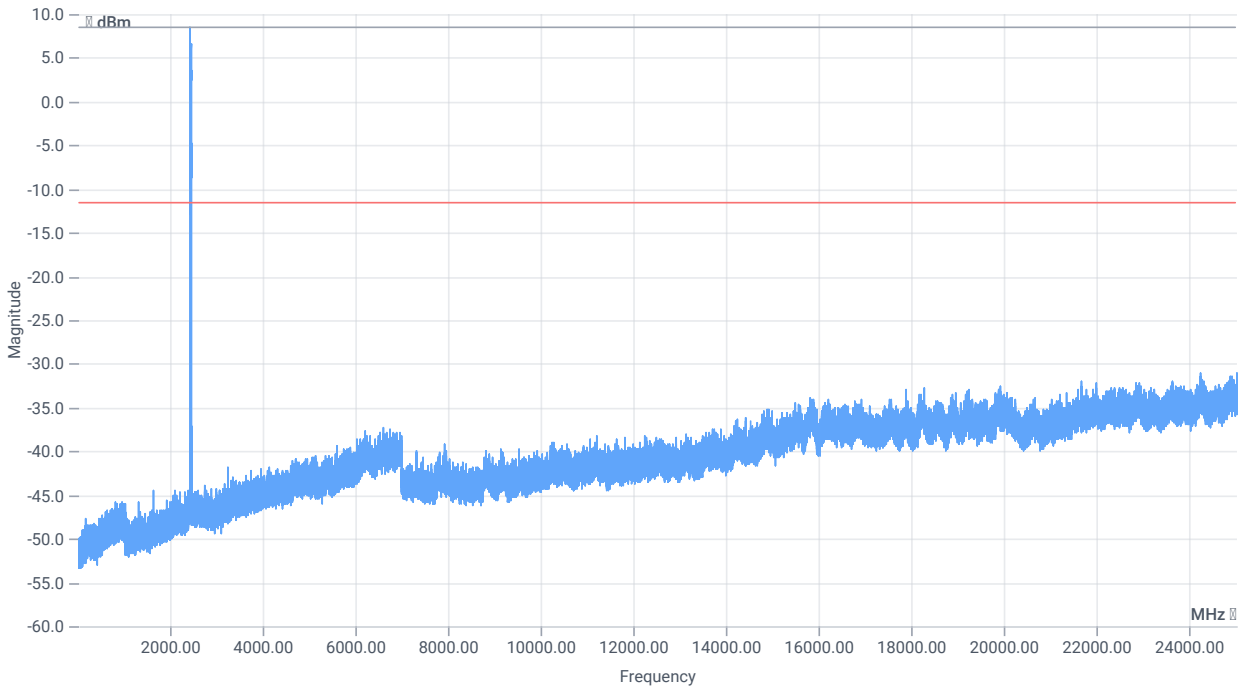
Equipment

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.	---	---	13.26	dBm	INFO
Ref. Frequency	---	---	2438.700	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	13.26 | 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 @ 2439.00 MHz	---	---	8.49	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24227 MHz	0	---	19.61	dB	INFO

Verdict
PASS

FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

References

TC start	04.01.2024 11:16:55
Ambit temp [°C] | humidity [rel%]	22.3 | 41
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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 - PowerMeter

Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	---	30	22.81	dBm	PASS

Verdict
PASS

FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

References

TC start	05.01.2024 13:36:16
Ambit temp [°C] | humidity [rel%]	20.8 | 44
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

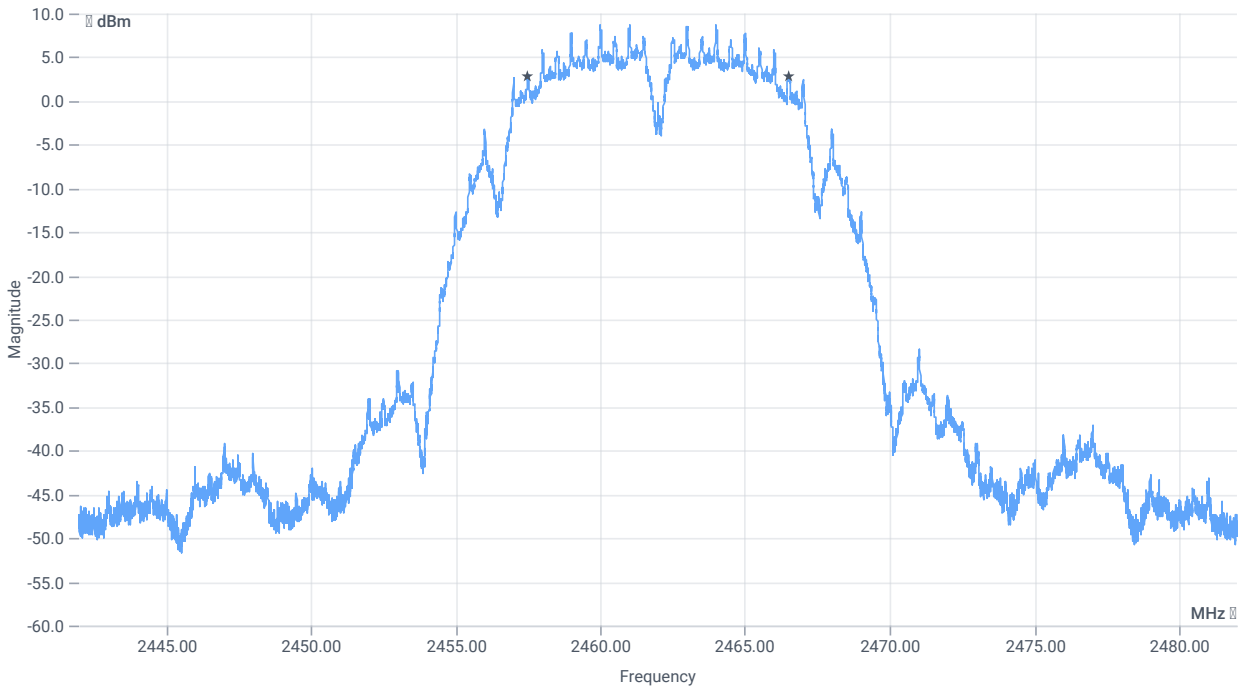
Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.56	dBm	INFO
Ref. Frequency	---	---	2463.700	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.56 | 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	---	9028	kHz	PASS

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

References

TC start	05.01.2024 13:36:54
Ambit temp [°C] | humidity [rel%]	20.8 | 44
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

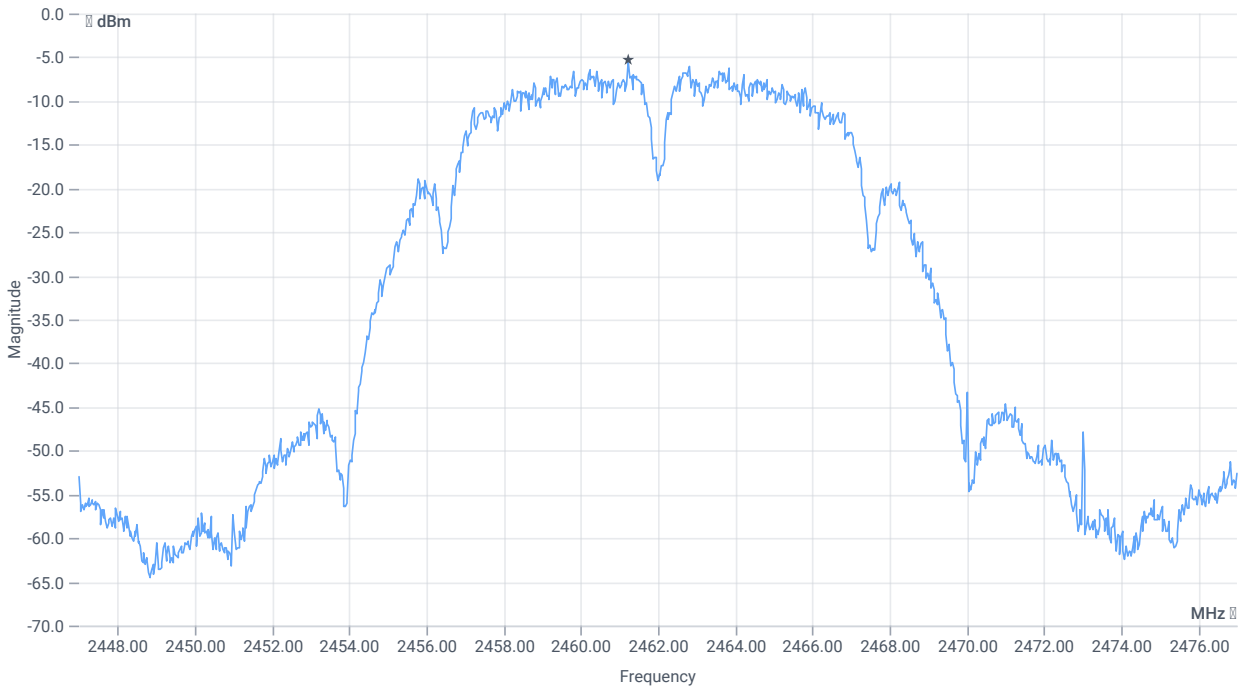
Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.55	dBm	INFO
Ref. Frequency	---	---	2460.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.55 | 14.14 | 20
Start [MHz] | Stop [MHz]	2447.000 | 2477.000
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	1000 | 20 | 1001 | SWE



Peak psd

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	---	8	-5.39	dBm/3KHz	PASS

Verdict

PASS

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

References

TC start	05.01.2024 13:37:37
Ambit temp [°C] | humidity [rel%]	20.9 | 44
System version	4.7.1.4
Standard | Version	FCC 15.247, ISED RSS247 | NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

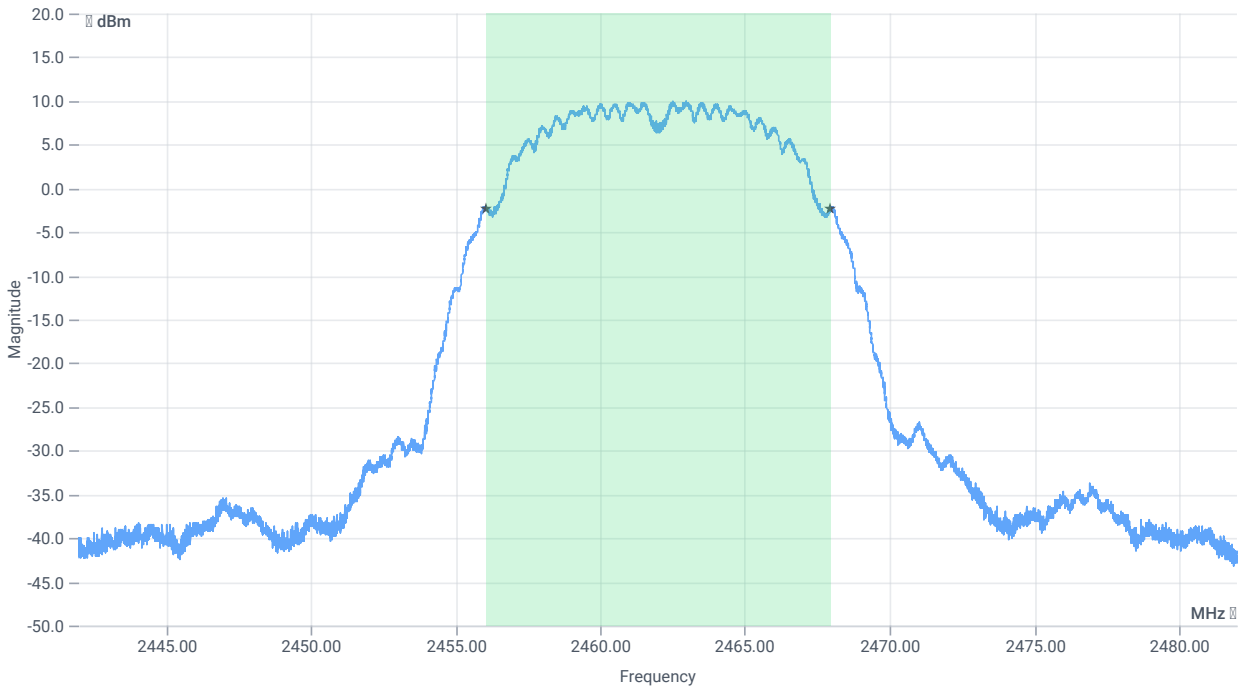
Test at TX 2462 MHz

RESULT: Reference Power cond.

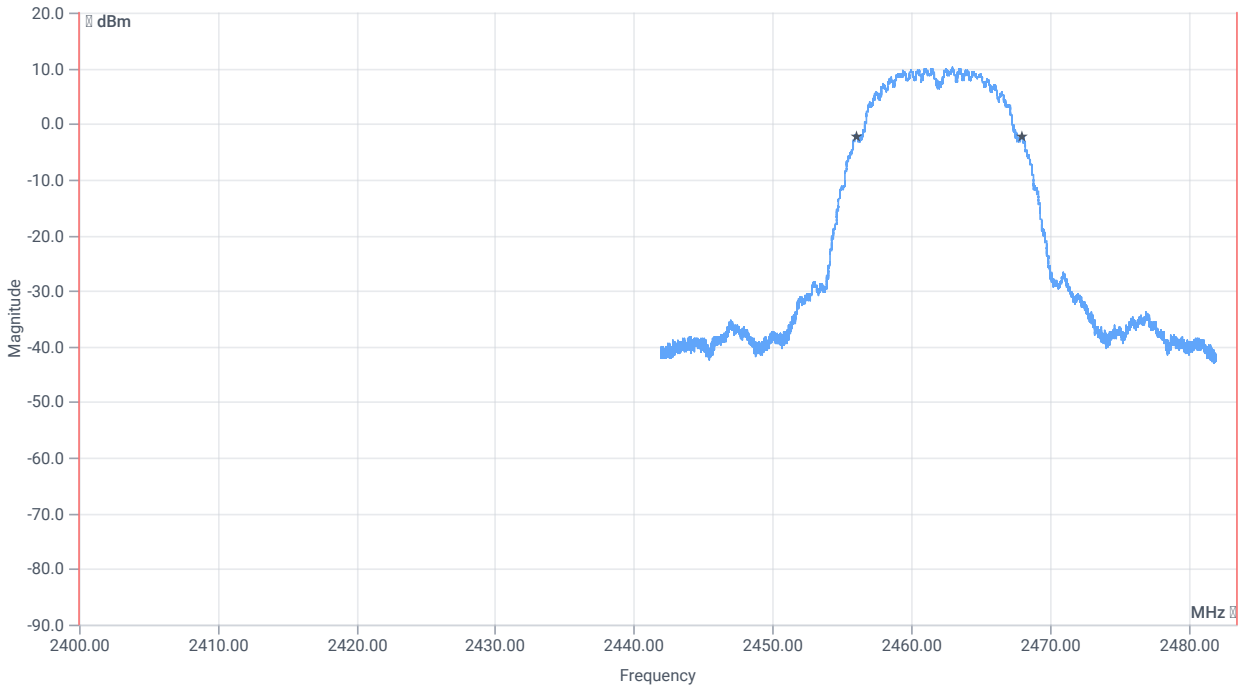
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.51	dBm	INFO
Ref. Frequency	---	---	2463.600	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	17.51 | 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



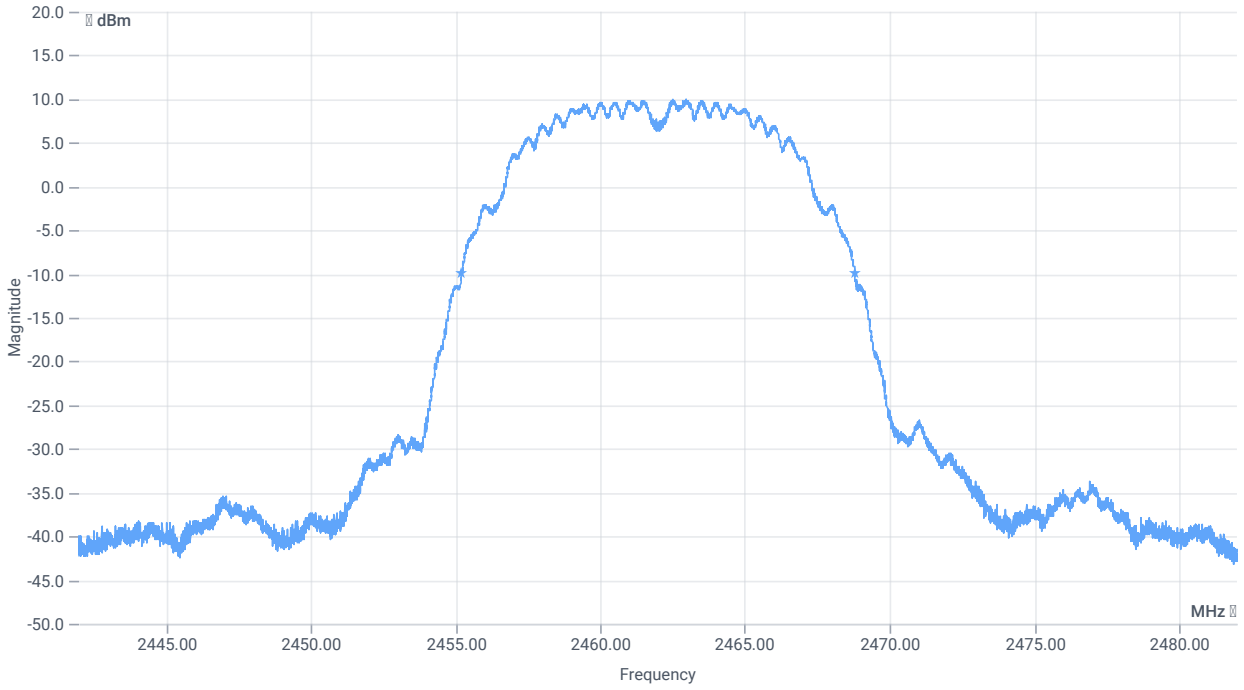
BW 99PCT



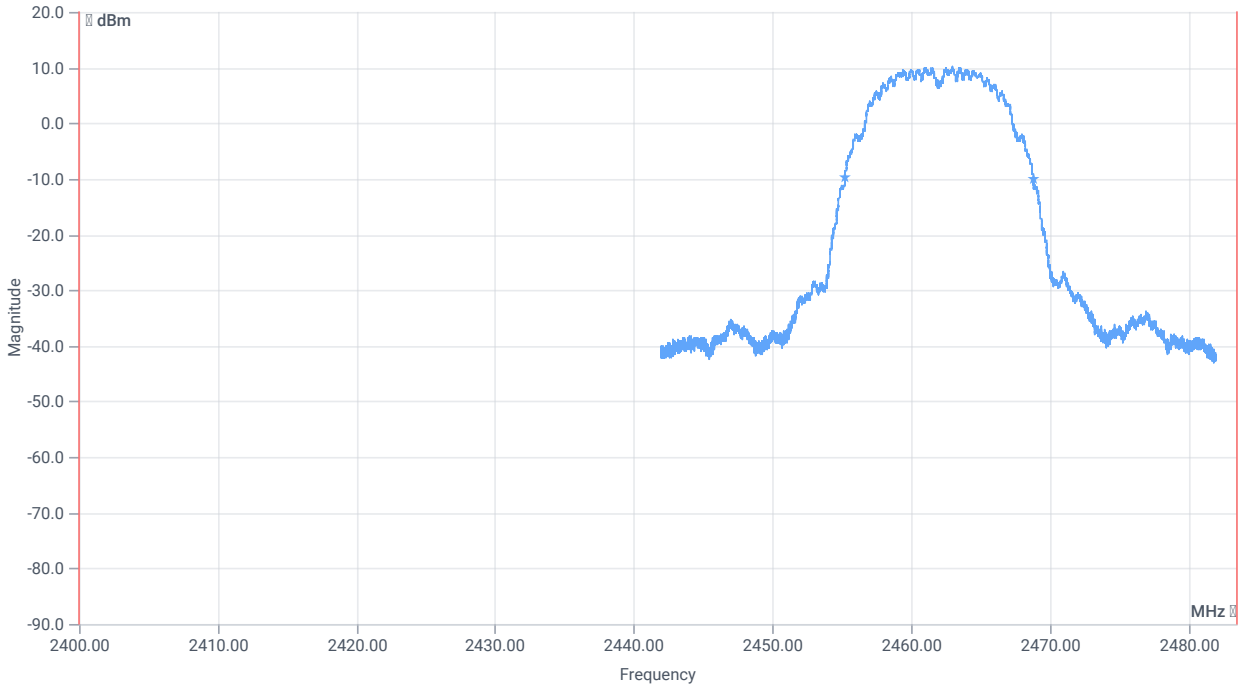
BW within Band 99PCT

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	11875.000	kHz	INFO
T1 99%	2400.000000	---	2456.0686	MHz	PASS
T2 99%	---	2483.500000	2467.9434	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	---	13568	kHz	INFO
T1 20DB	2400.000000	---	2455.2280	MHz	PASS
T2 20dB	---	2483.500000	2468.7960	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

References

TC start	05.01.2024 13:38:15
Ambit temp [°C] | humidity [rel%]	20.9 | 44
System version	4.7.1.4
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 DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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

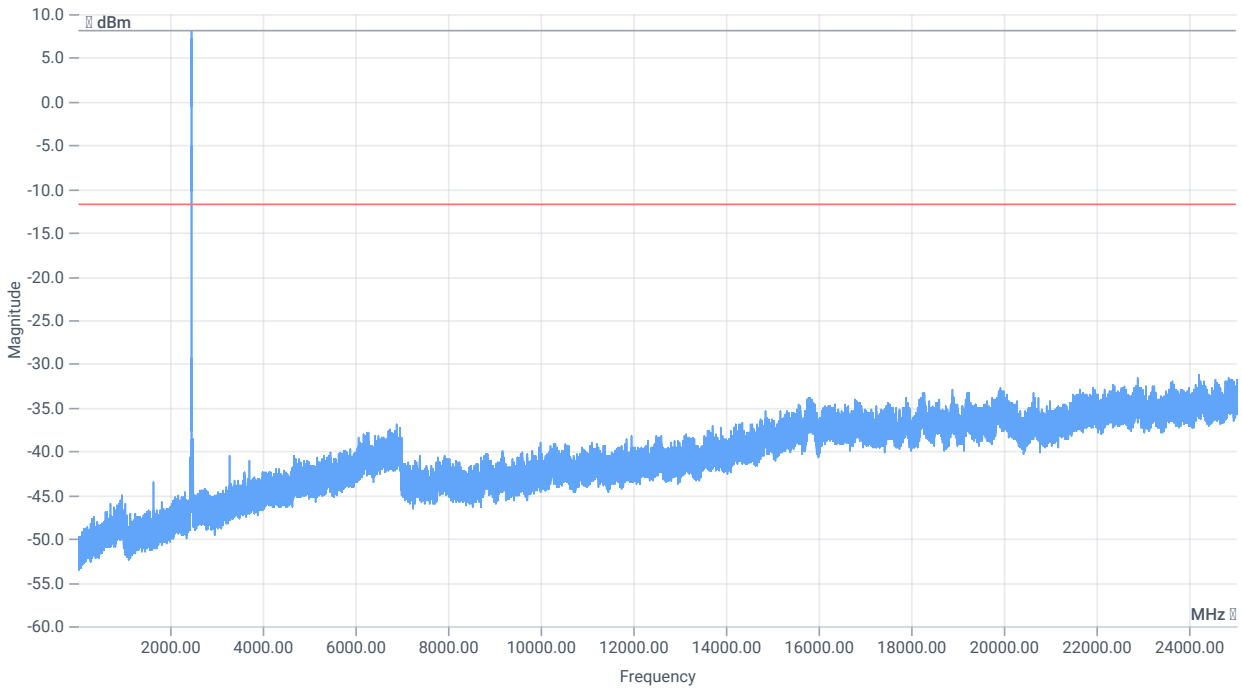
Equipment

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.

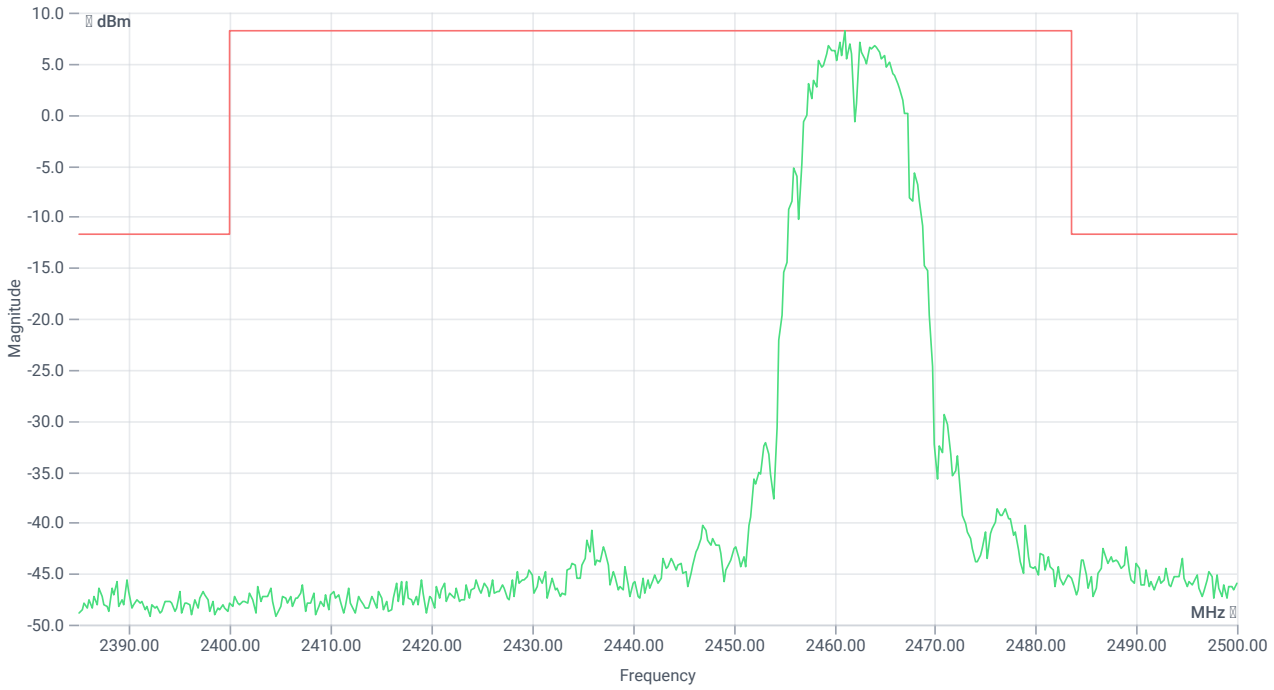
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	12.74	dBm	INFO
Ref. Frequency	---	---	2463.300	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	12.74 | 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 @ 2461.00 MHz	---	---	8.20	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24201.75 MHz	0	---	19.48	dB	INFO

Verdict
PASS

FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

References

TC start	05.01.2024 13:45:41
Ambit temp [°C] | humidity [rel%]	21.1 | 43
System version	4.7.1.4
Standard | Version	FCC 15.247 | NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode
Information	

EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

Test Parameter

Technology to test	WLAN2G4 b 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 - PowerMeter

Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2462 MHz

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	---	30	22.18	dBm	PASS

Verdict

PASS

- END OF DOCUMENT -