

Measurement Results

1-8684/19-01-06_log1_conducted

[Test logging](#)

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Document authorized:

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IUT Summary

IUT DEFINITION & Common settings	
Manufacturer	FLIR Systems AB
Type	FLIR-C8940
Serial No. Setup No.	894000030 1.0
SW Version HW Version	-/- -/-
Comment 1 2	Region: EN -/-
Tlow Tmid Thigh [°C]	-10 20 50
Vlow Vmid Vhigh [V] @Imax [A]	3.3 3.7 4.2 @1
Auto Control enabled Power Supply Climatic Box	No No
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0.3

IUT Common Settings WLAN2G4	
Number of Antenna Ports	1
User Interaction	No

1. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:09:12
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

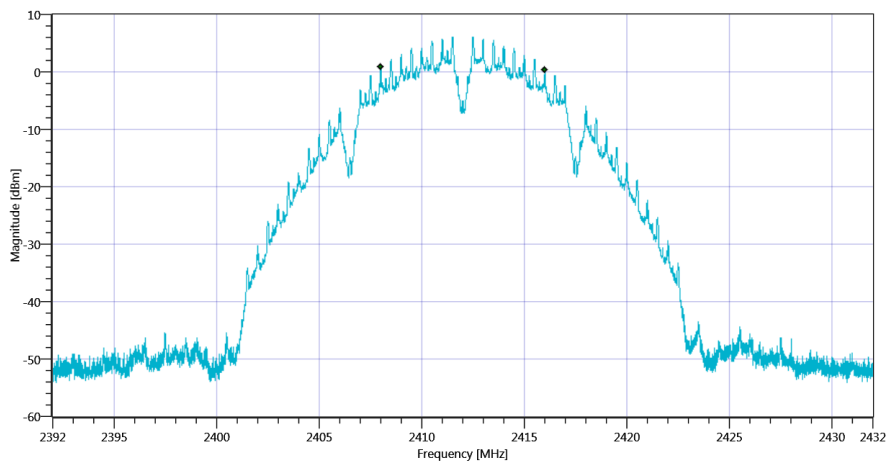
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	13.87 12.79 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

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	8024	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode_20012020_130942.png

TEST FINISHED

General Verdict	20.01.2020 13:09:43 / RT: 30 s	PASS
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2. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:09:47
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

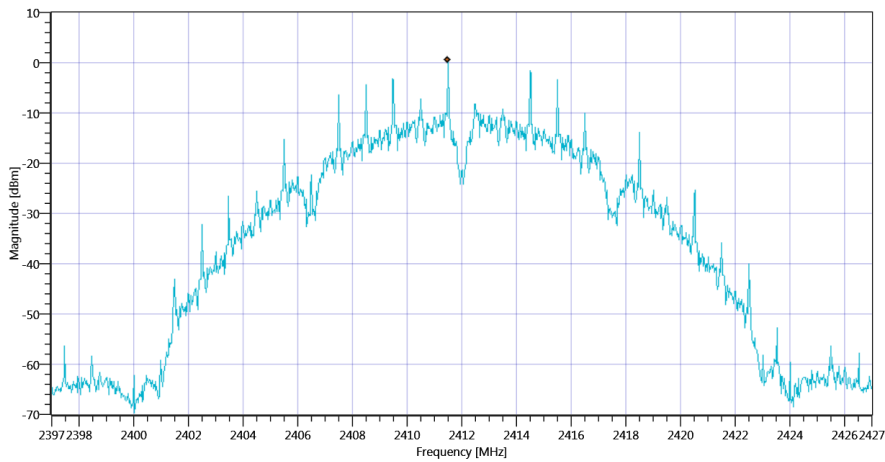
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	13.89 12.79 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

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	0.44	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode_20012020_131024.png

TEST FINISHED

General Verdict	20.01.2020 13:10:25 / RT: 38 s	PASS
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3. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:10:29
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

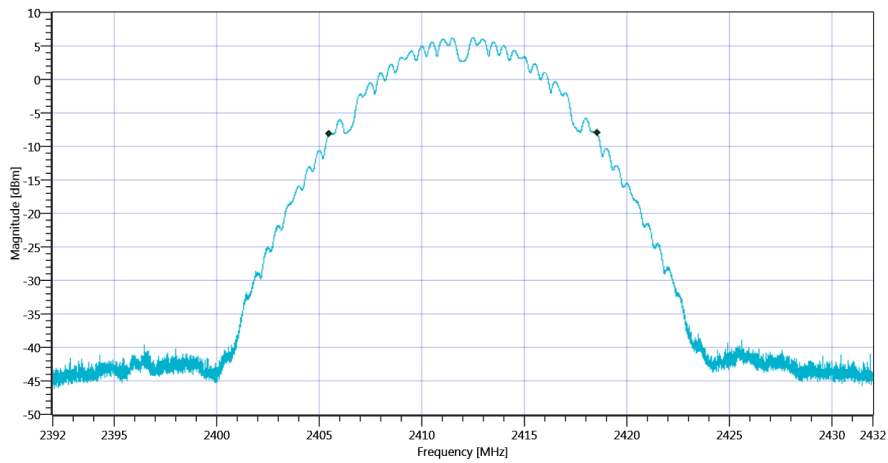
Test at TX 2412 MHz

READ SA SETTINGS:

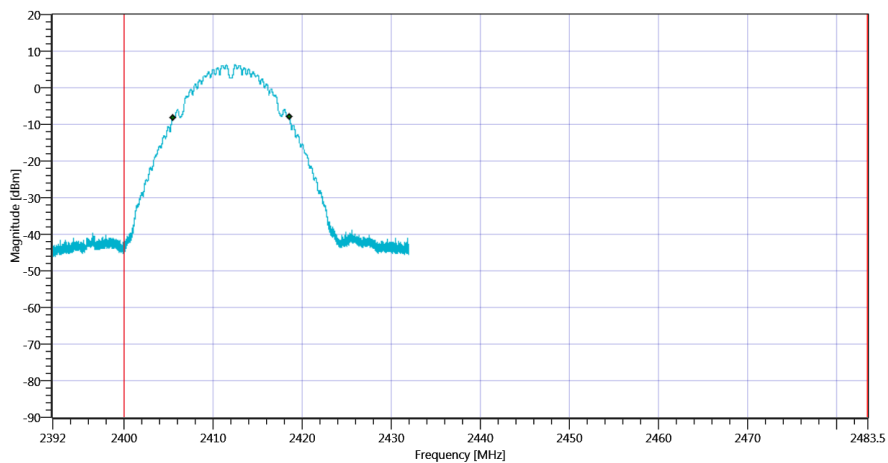
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	13.96 12.79 20
Start [MHz] Stop [MHz]	2392.000 2432.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	13055	kHz	Information
T1 99%	2400.000000	---	2405.5006	MHz	PASS
T2 99%	---	2483.500000	2418.5553	MHz	PASS



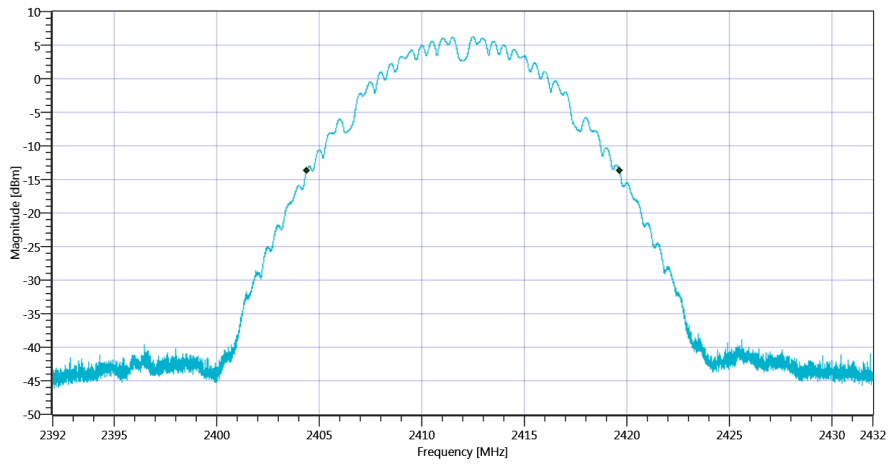
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode 99PCT_20012020_131057.png



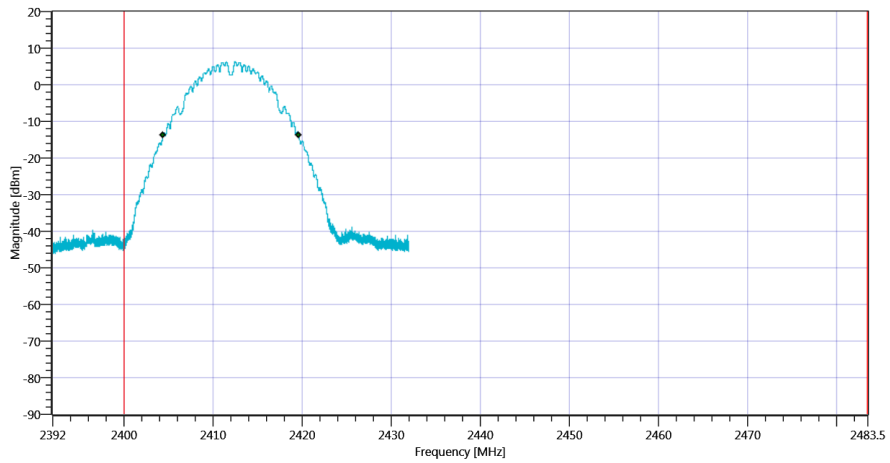
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_131101.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	15268	kHz	Information
T1 20dB	2400.000000	---	2404.3840	MHz	PASS
T2 20dB	---	2483.500000	2419.6520	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_131105.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_131109.png

TEST FINISHED

General Verdict

20.01.2020 13:11:10 / RT: 40 s

PASS

4. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:11:14
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

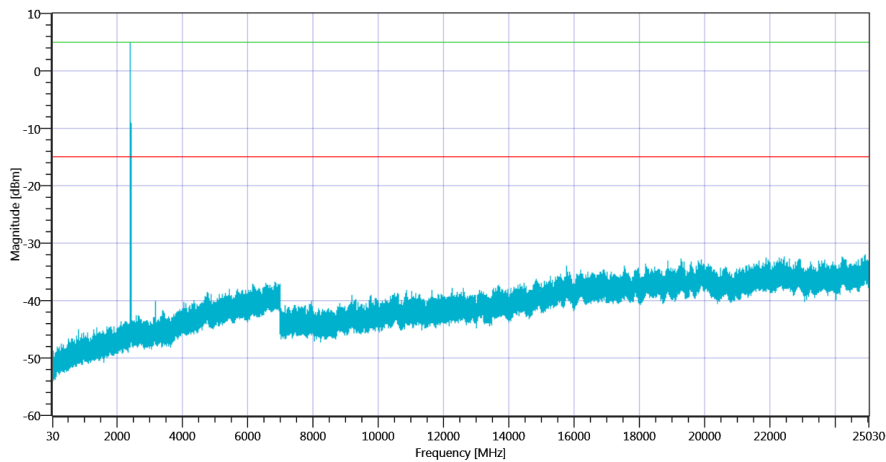
Test at TX 2412 MHz

READ SA SETTINGS:

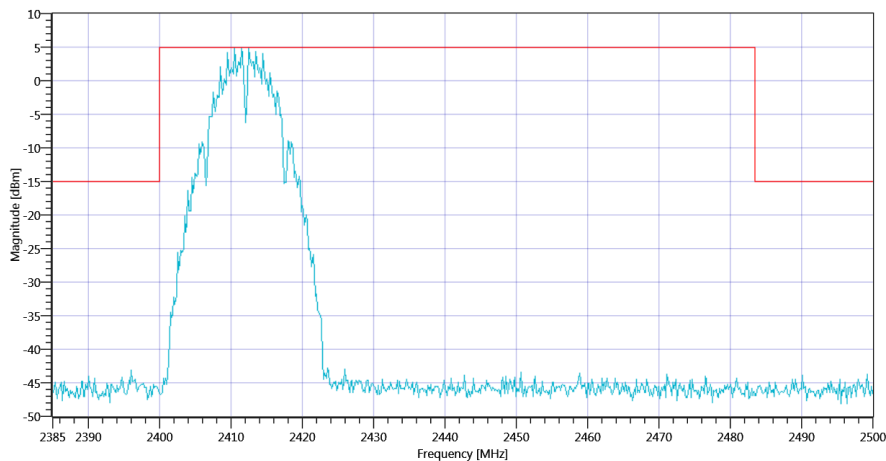
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.36 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2412.50 MHz	---	---	5.00	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2412_20012020_131602.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2412_20012020_131605.png

TEST FINISHED

General Verdict 20.01.2020 13:16:07 / RT: 292 s

PASS

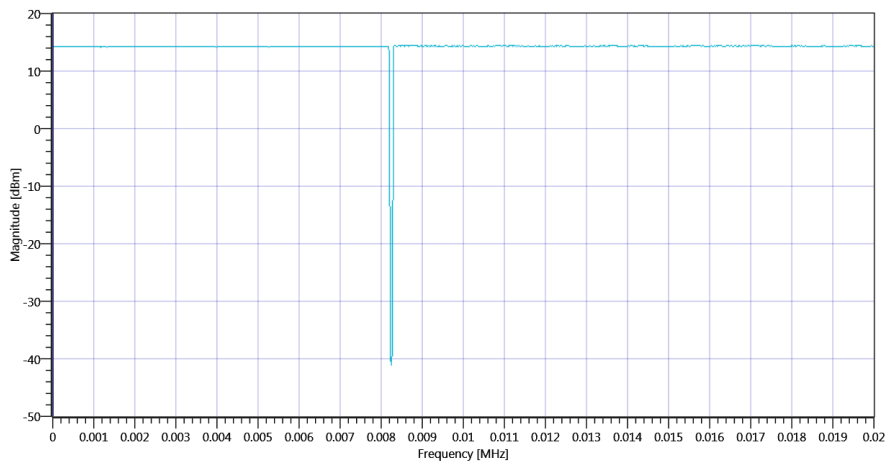
5. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:16:11
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2412 MHz

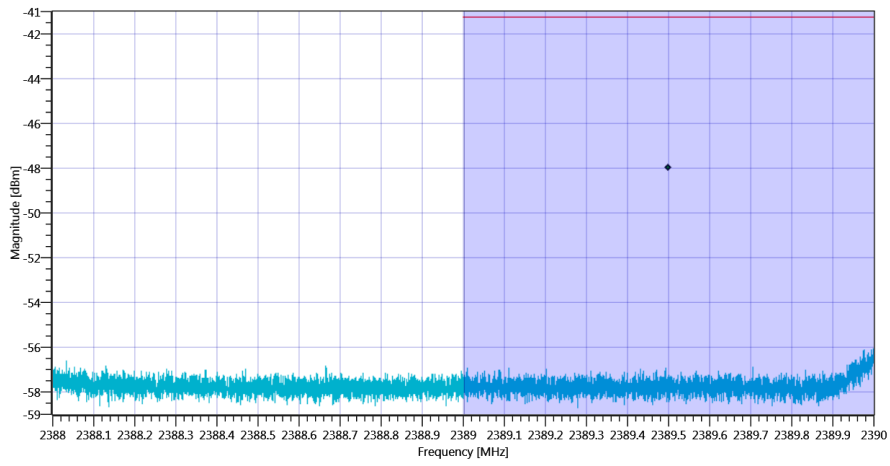
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	Information
Duty Cycle max	---	---	0	dB	Information
Duty Cycle (Burst Ratio) min	---	---	1	---	Information
Duty Cycle min	---	---	0	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode 2412 MHz - Duty Cycle_20012020_131627.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.06 12.79 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0	dB	Information
Band Power without Antenna Gain Avg	---	---	-47.99	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-47.99	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-47.99	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode_20012020_131650.png

TEST FINISHED

General Verdict

20.01.2020 13:16:50 / RT: 39 s

PASS

6. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:16:55
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2412 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	17.42	dBm	PASS

TEST FINISHED		
General Verdict	20.01.2020 13:17:01 / RT: 6 s	PASS

7. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:26:13
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

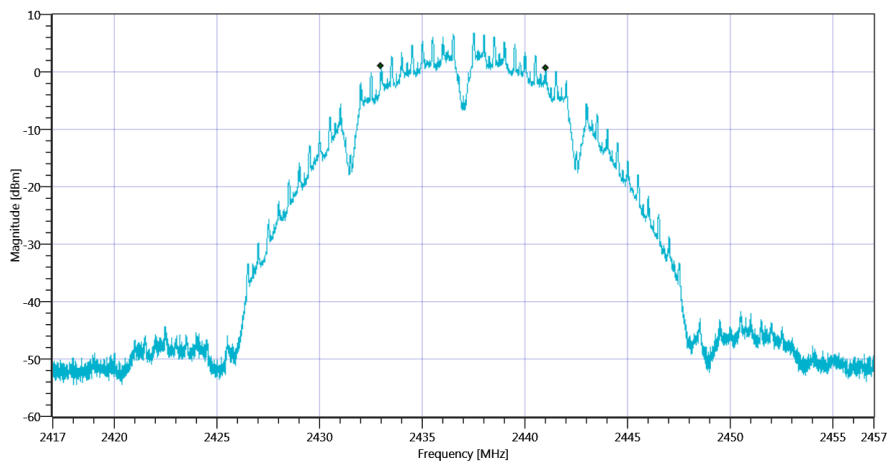
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.56 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	8044	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode_20012020_132642.png

TEST FINISHED

General Verdict	20.01.2020 13:26:42 / RT: 29 s	PASS
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8. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:26:47
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

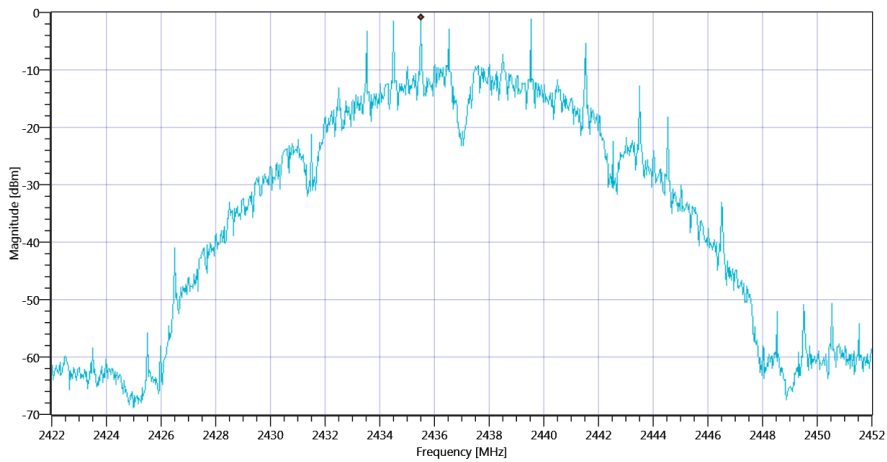
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.58 12.8 20
Start [MHz] Stop [MHz]	2422.000 2452.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-0.9	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode_20012020_132723.png

TEST FINISHED

General Verdict	20.01.2020 13:27:24 / RT: 37 s	PASS
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9. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:27:28
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

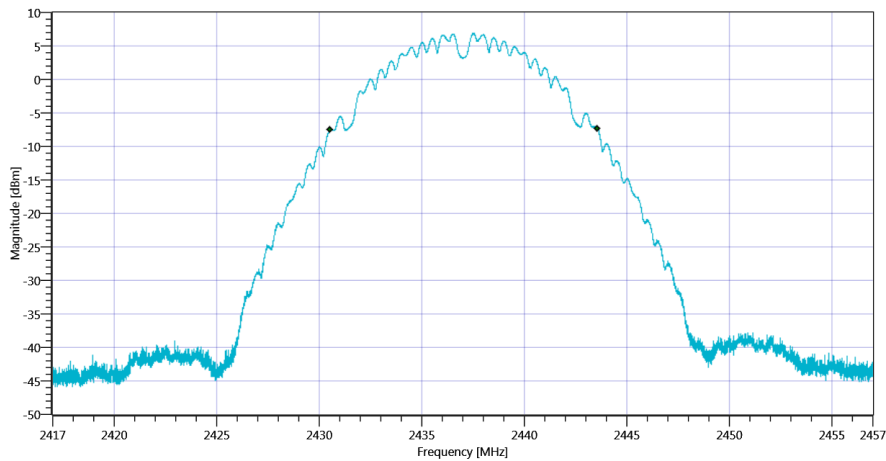
Test at TX 2437 MHz

READ SA SETTINGS:

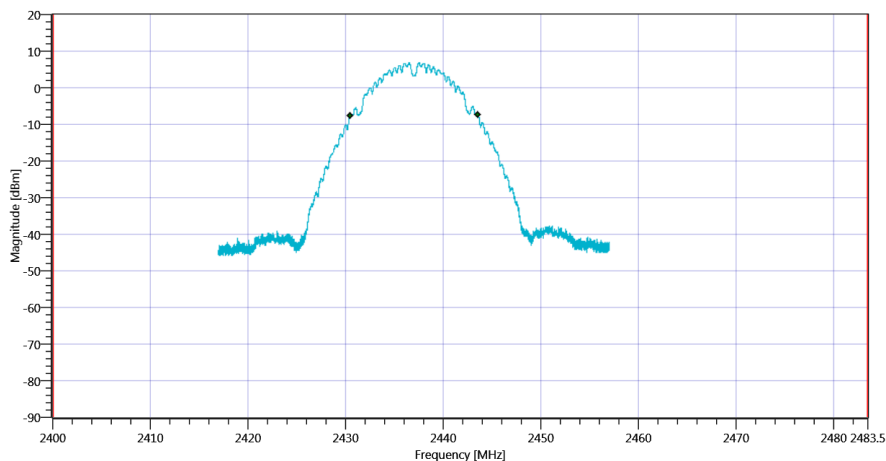
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.57 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	13043	kHz	Information
T1 99%	2400.000000	---	2430.5446	MHz	PASS
T2 99%	---	2483.500000	2443.5873	MHz	PASS



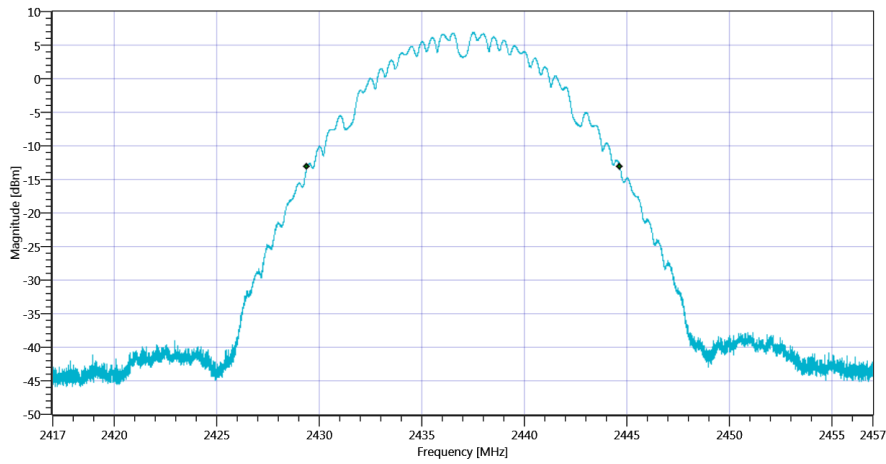
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode 99PCT_20012020_132755.png



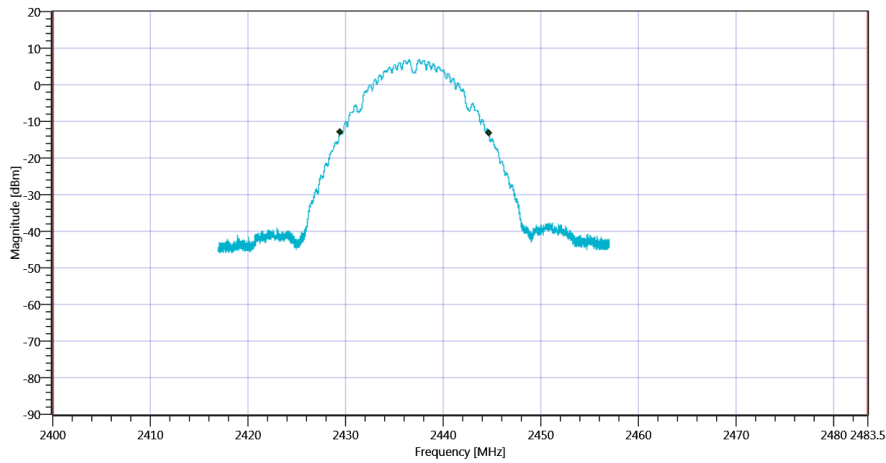
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_132758.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	15244	kHz	Information
T1 20DB	2400.000000	---	2429.4160	MHz	PASS
T2 20dB	---	2483.500000	2444.6600	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_132803.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_132807.png

TEST FINISHED

General Verdict

20.01.2020 13:28:08 / RT: 39 s

PASS

10. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:28:12
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

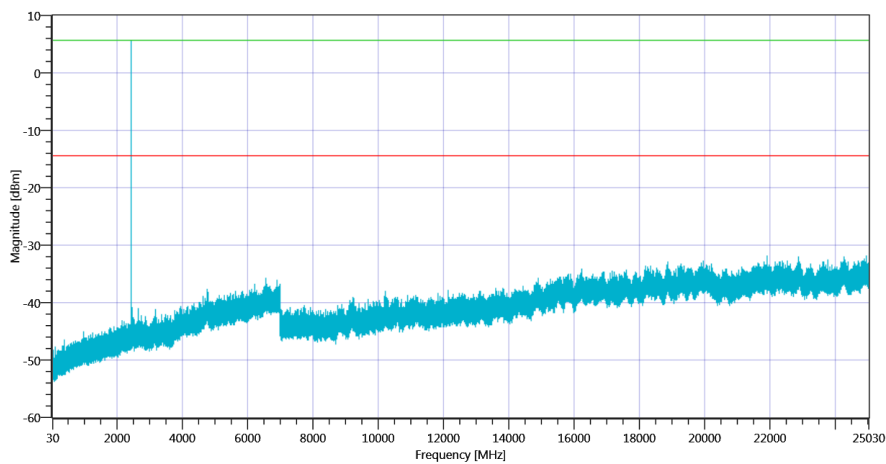
Test at TX 2437 MHz

READ SA SETTINGS:

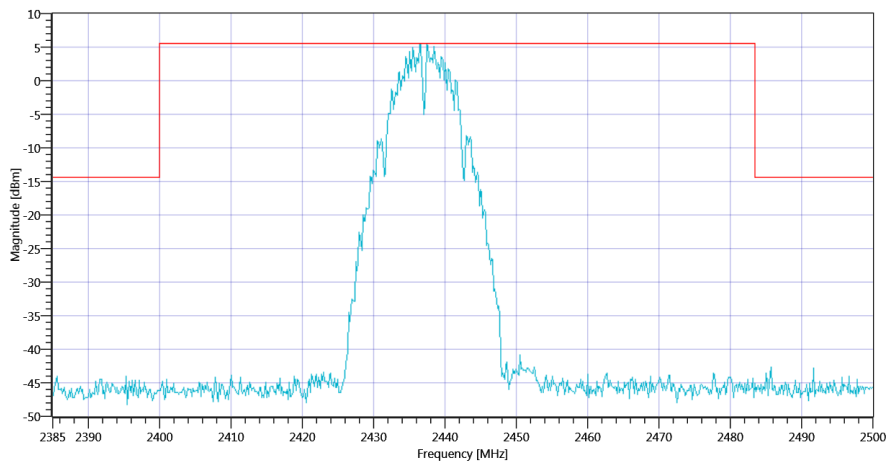
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.85 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2436.50 MHz	---	---	5.60	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2437_20012020_133300.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2437_20012020_133302.png

TEST FINISHED

General Verdict	20.01.2020 13:33:04 / RT: 291 s	PASS
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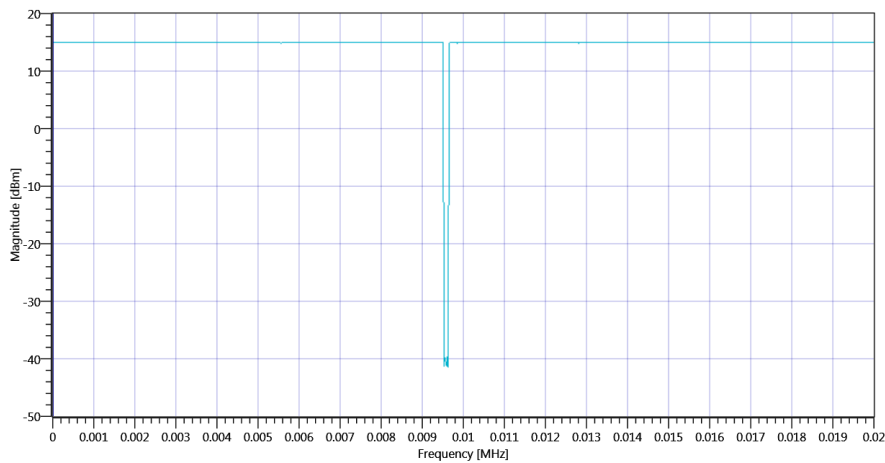
11. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:33:08
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2437 MHz

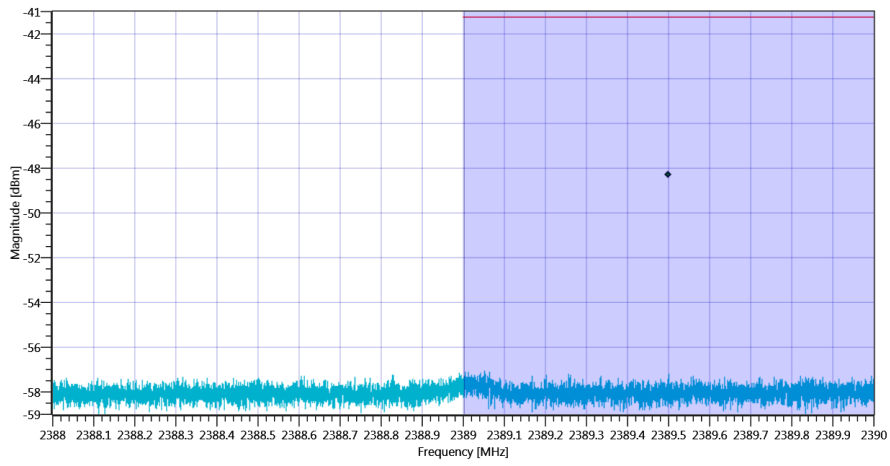
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	Information
Duty Cycle max	---	---	0	dB	Information
Duty Cycle (Burst Ratio) min	---	---	1	---	Information
Duty Cycle min	---	---	0	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode 2437 MHz - Duty Cycle_20012020_133323.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.61 12.8 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0	dB	Information
Band Power without Antenna Gain Avg	---	---	-48.3	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-48.3	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-48.3	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode_20012020_133346.png

TEST FINISHED

General Verdict

20.01.2020 13:33:46 / RT: 38 s

PASS

12. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:33:50
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	17.94	dBm	PASS

TEST FINISHED

General Verdict	20.01.2020 13:33:57 / RT: 6 s	PASS
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13. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:36:06
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

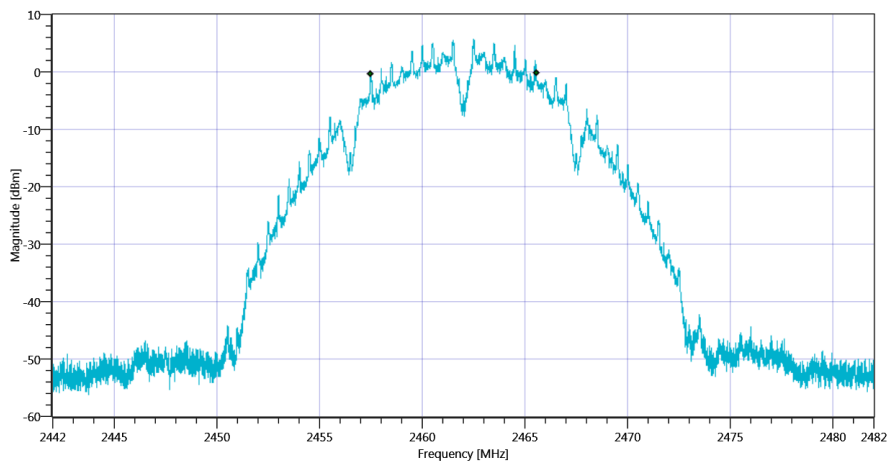
Test at TX 2462 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.48 12.82 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	8068	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 b-mode_20012020_133635.png

TEST FINISHED

General Verdict	20.01.2020 13:36:36 / RT: 29 s	PASS
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14. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:36:40
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

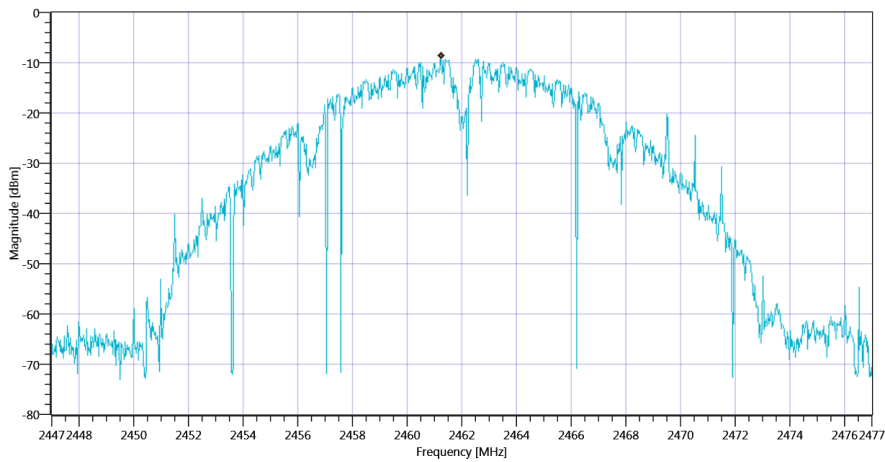
Test at TX 2462 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.54 12.82 20
Start [MHz] Stop [MHz]	2447.000 2477.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-8.72	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 b-mode_20012020_133717.png

TEST FINISHED

General Verdict	20.01.2020 13:37:17 / RT: 37 s	PASS
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15. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:37:21
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

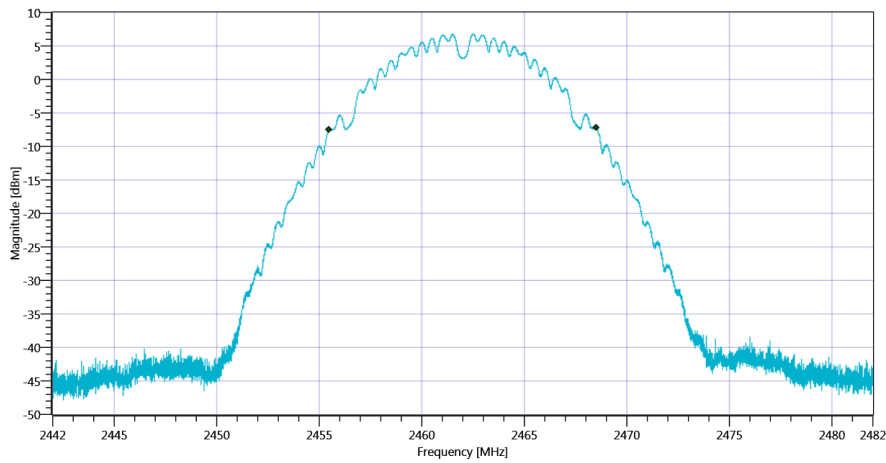
Test at TX 2462 MHz

READ SA SETTINGS:

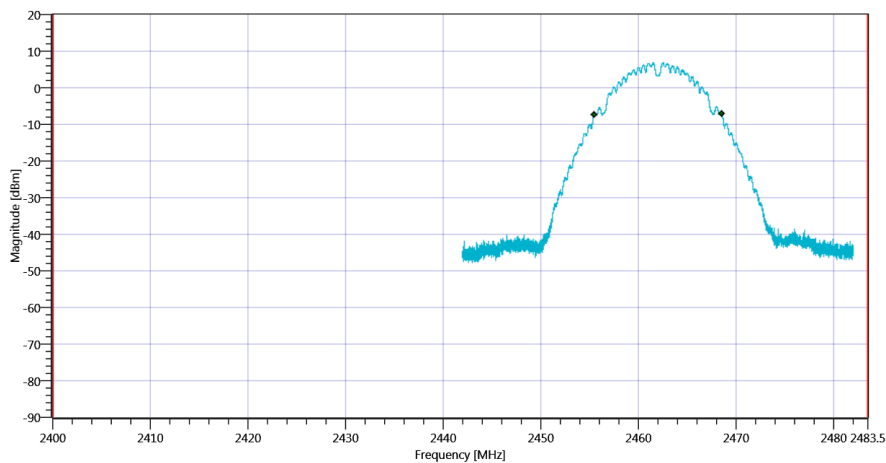
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.60 12.82 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	13039	kHz	Information
T1 99%	2400.000000	---	2455.5006	MHz	PASS
T2 99%	---	2483.500000	2468.5393	MHz	PASS



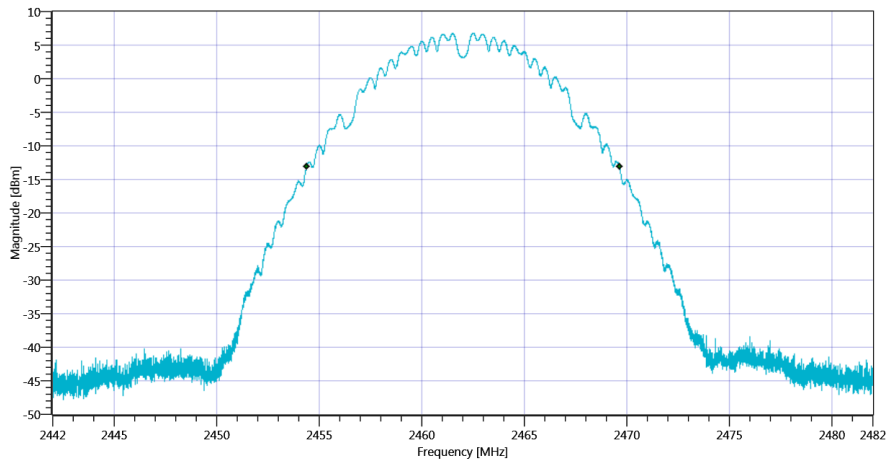
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode 99PCT_20012020_133748.png



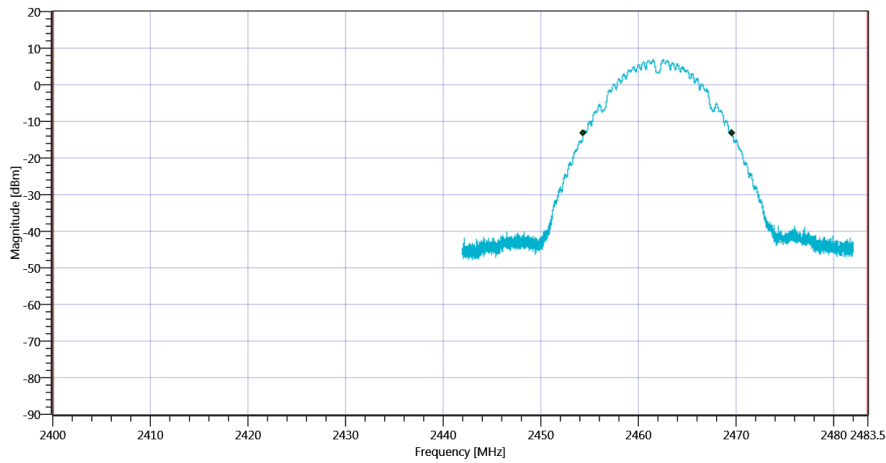
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_133752.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	15260	kHz	Information
T1 20DB	2400.000000	---	2454.3800	MHz	PASS
T2 20dB	---	2483.500000	2469.6400	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode 20dB_20012020_133757.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 b-mode_20012020_133801.png

TEST FINISHED

General Verdict

20.01.2020 13:38:01 / RT: 39 s

PASS

16. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:38:06
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

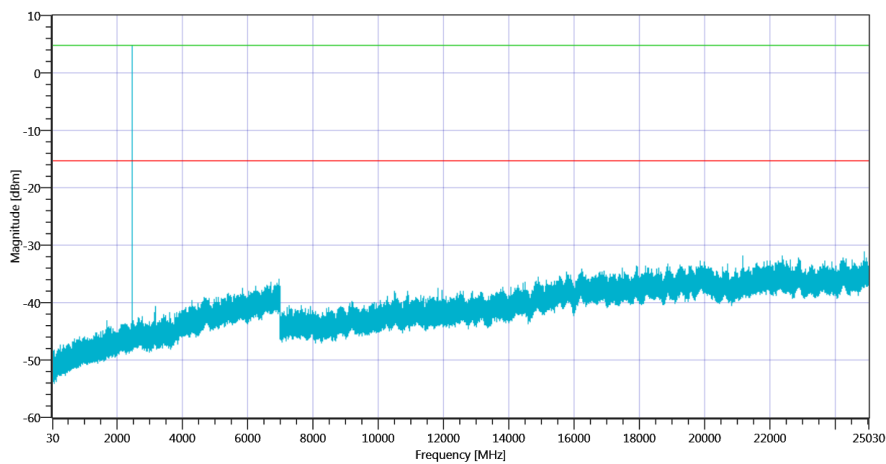
Test at TX 2462 MHz

READ SA SETTINGS:

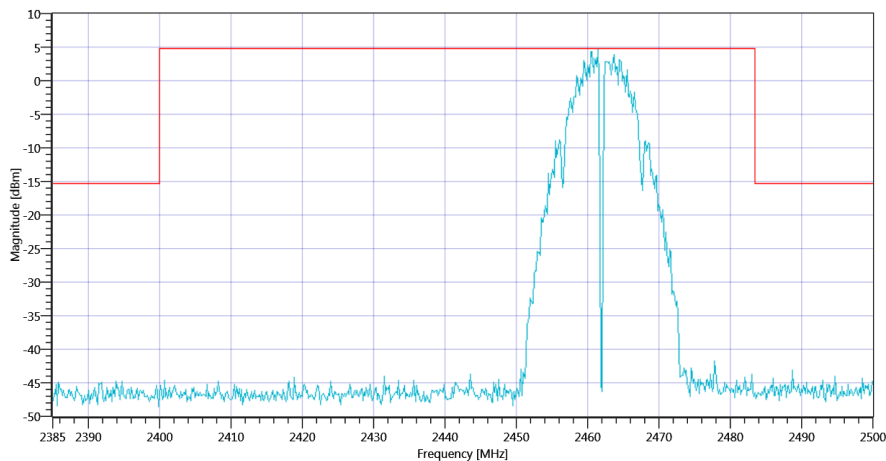
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.64 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2461.50 MHz	---	---	4.71	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2462_20012020_134253.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 b-mode 2462_20012020_134256.png

TEST FINISHED

General Verdict 20.01.2020 13:42:58 / RT: 292 s

PASS

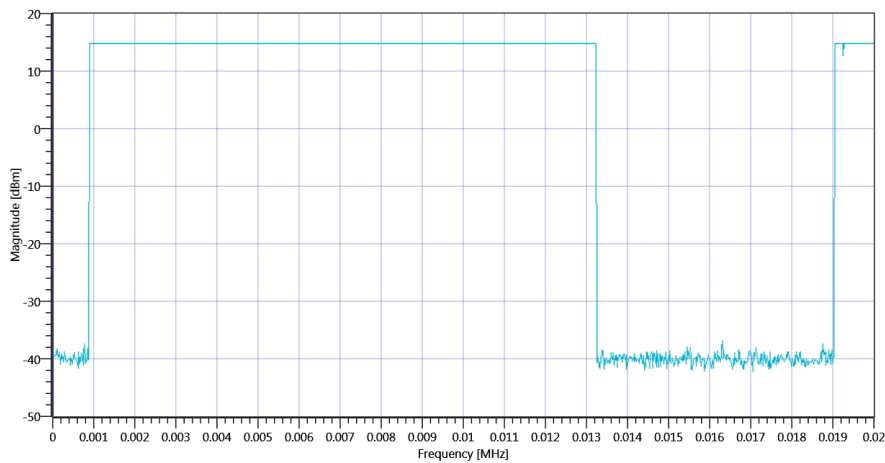
17. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:43:02
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2462 MHz

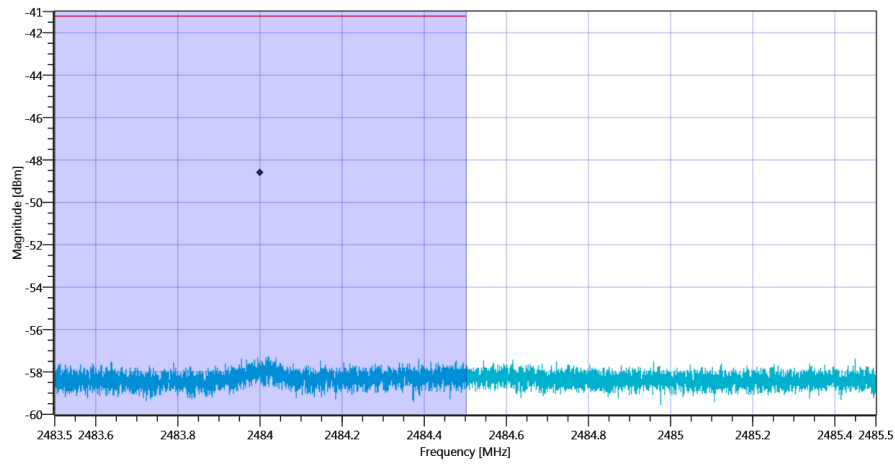
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
No enough Bursts detected, Duty Cycle Burst Ratio set to 1					
Duty Cycle (Burst Ratio) max	---	---	1	---	Information
Duty Cycle max	---	---	0	dB	Information
Duty Cycle (Burst Ratio) min	---	---	1	---	Information
Duty Cycle min	---	---	0	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode 2462 MHz - Duty Cycle_20012020_134317.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.52 12.82 25
Start [MHz] Stop [MHz]	2483.500 2485.500
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0	dB	Information
Band Power without Antenna Gain Avg	---	---	-48.59	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-48.59	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-48.59	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 b-mode_20012020_134340.png

TEST FINISHED

General Verdict

20.01.2020 13:43:40 / RT: 38 s

PASS

18. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 b-mode

Test References	
TC Start	20.01.2020 13:43:45
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 b-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 b-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2462 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	17.9	dBm	PASS

TEST FINISHED

General Verdict	20.01.2020 13:43:51 / RT: 6 s	PASS
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19. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:45:56
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

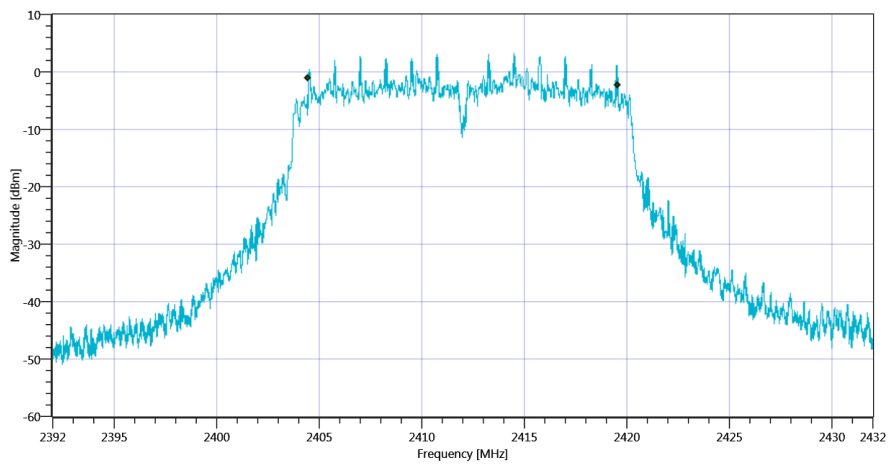
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.25 12.79 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

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	15108	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode_20012020_134626.png

TEST FINISHED

General Verdict	20.01.2020 13:46:26 / RT: 30 s	PASS
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20. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:46:31
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

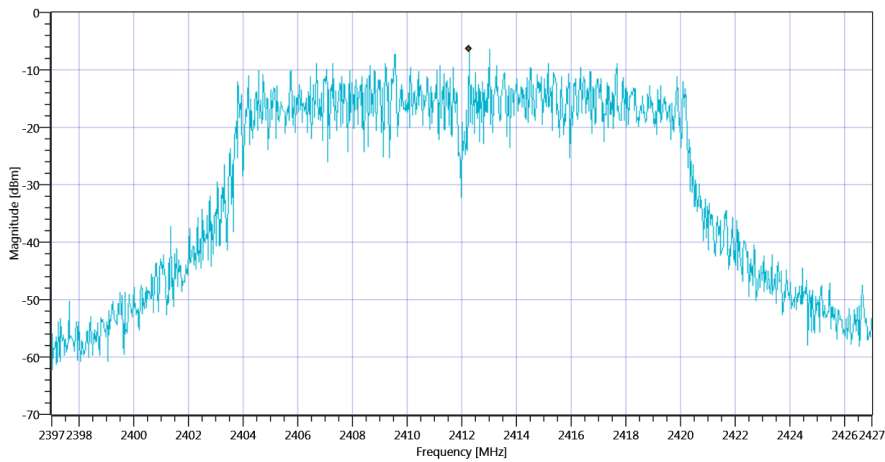
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.20 12.79 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

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-6.36	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode_20012020_134707.png

TEST FINISHED

General Verdict	20.01.2020 13:47:08 / RT: 37 s	PASS
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21. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:47:12
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

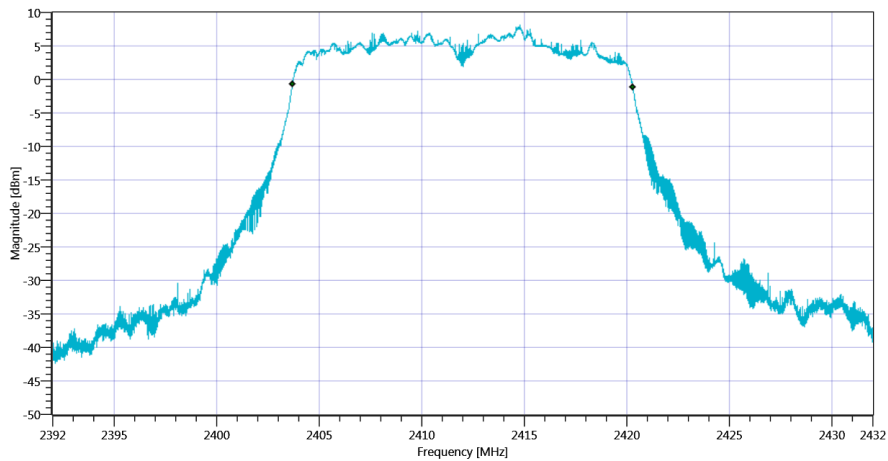
Test at TX 2412 MHz

READ SA SETTINGS:

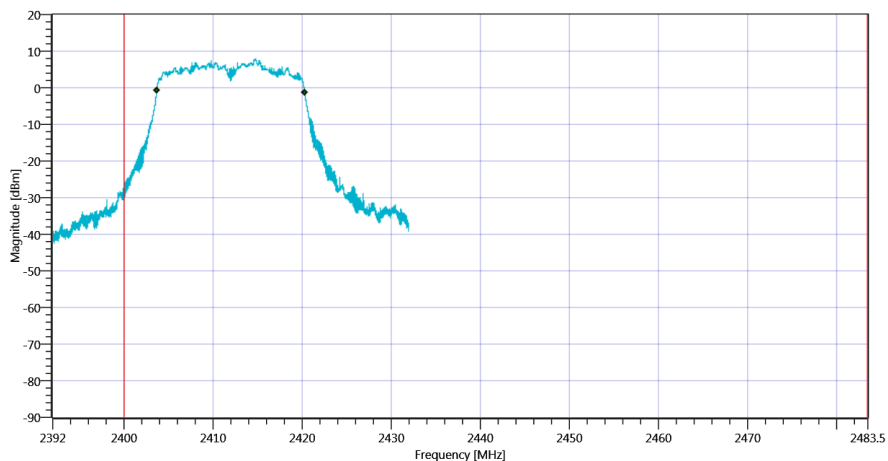
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.17 12.79 20
Start [MHz] Stop [MHz]	2392.000 2432.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16602	kHz	Information
T1 99%	2400.000000	---	2403.6928	MHz	PASS
T2 99%	---	2483.500000	2420.2952	MHz	PASS



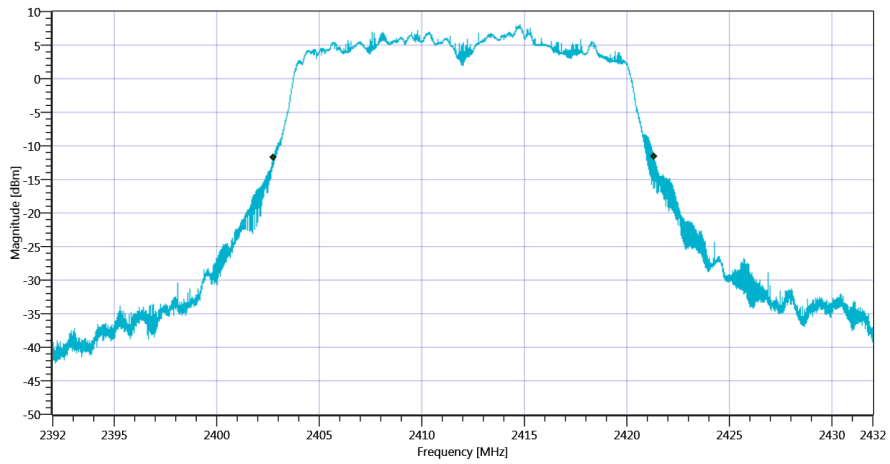
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 99PCT_20012020_134739.png



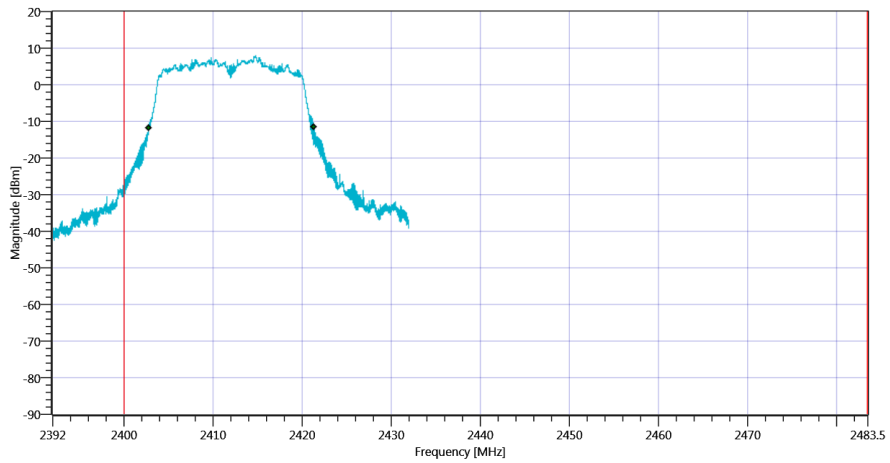
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_134743.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18552	kHz	Information
T1 20dB	2400.000000	---	2402.7680	MHz	PASS
T2 20dB	---	2483.500000	2421.3200	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 20dB_20012020_134747.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_134751.png

TEST FINISHED

General Verdict

20.01.2020 13:47:52 / RT: 39 s

PASS

22. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:47:56
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

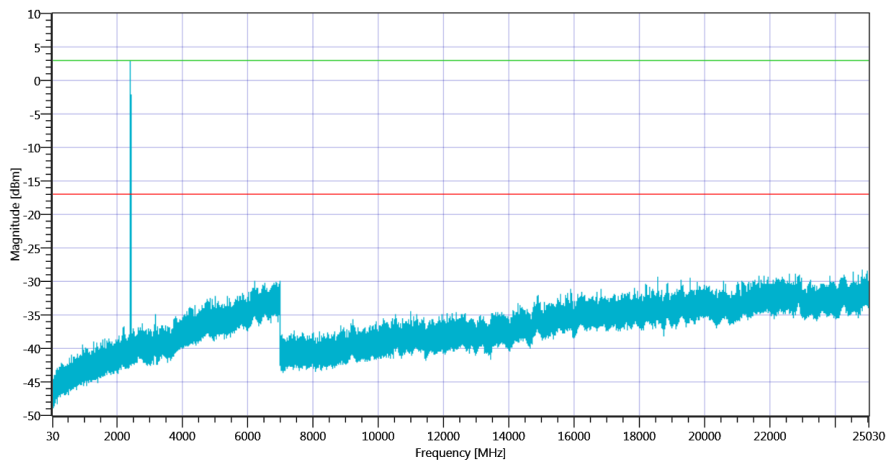
Test at TX 2412 MHz

READ SA SETTINGS:

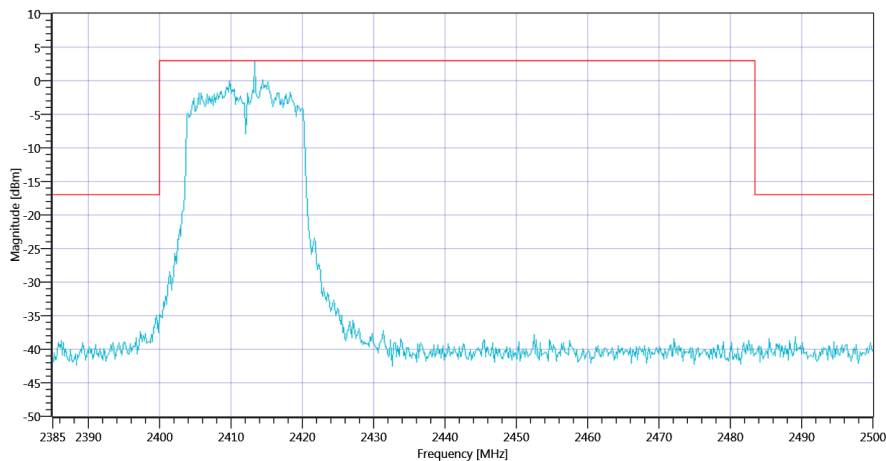
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	15.90 0 35
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2413.33 MHz	---	---	3.04	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2412_20012020_135244.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2412_20012020_135246.png

TEST FINISHED

General Verdict	20.01.2020 13:52:48 / RT: 291 s	PASS
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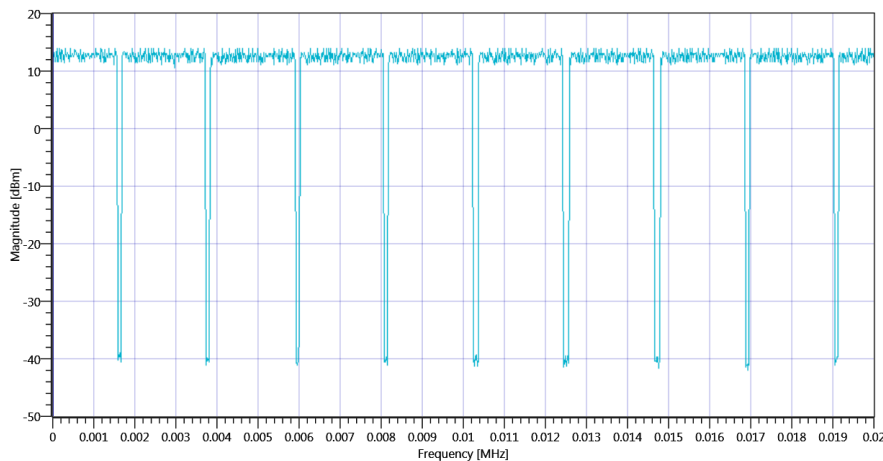
23. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:52:52
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2412 MHz

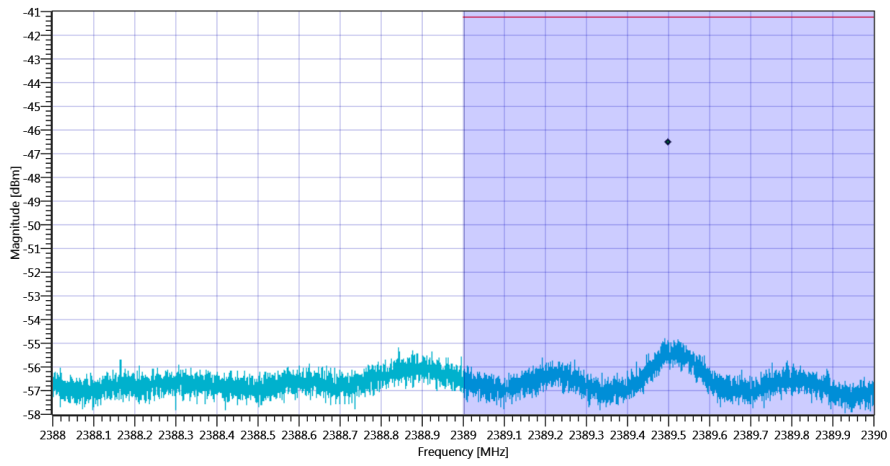
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Result Duty Cycles					
Duty Cycle (Burst Ratio) 1	---	---	0.935	---	Information
Duty Cycle (Burst Ratio) 2	---	---	0.936	---	Information
Duty Cycle (Burst Ratio) 3	---	---	0.935	---	Information
Duty Cycle (Burst Ratio) 4	---	---	0.918	---	Information
Duty Cycle (Burst Ratio) 5	---	---	0.918	---	Information
Duty Cycle (Burst Ratio) 6	---	---	0.919	---	Information
Duty Cycle (Burst Ratio) 7	---	---	0.936	---	Information
Duty Cycle (Burst Ratio) max	---	---	0.936	---	Information
Duty Cycle max	---	---	0.287	dB	Information
Duty Cycle (Burst Ratio) min	---	---	0.918	---	Information
Duty Cycle min	---	---	0.372	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode 2412 MHz - Duty Cycle_20012020_135308.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	21.27 12.79 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0.372	dB	Information
Band Power without Antenna Gain Avg	---	---	-46.88	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-46.508	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-46.508	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode_20012020_135330.png

TEST FINISHED

General Verdict

20.01.2020 13:53:31 / RT: 38 s

PASS

24. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:53:35
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2412 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	21.02	dBm	PASS

TEST FINISHED

General Verdict 20.01.2020 13:53:42 / RT: 6 s

PASS

25. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:55:30
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

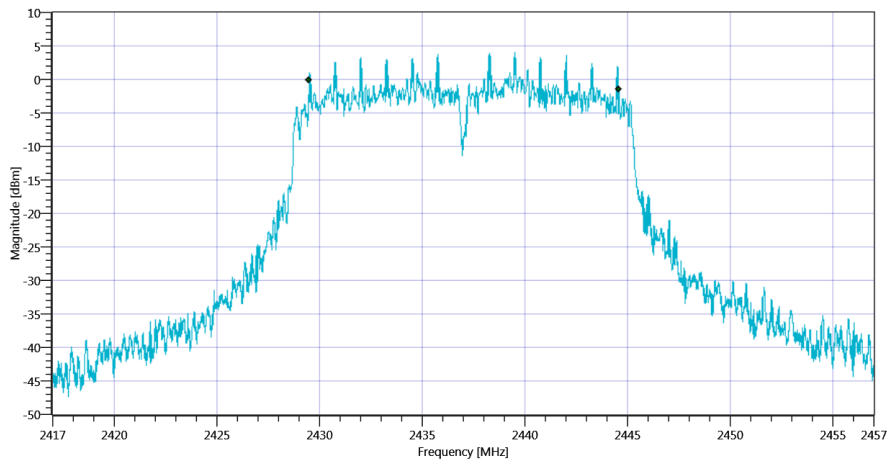
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.87 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	15104	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode_20012020_135559.png

TEST FINISHED

General Verdict	20.01.2020 13:55:59 / RT: 29 s	PASS
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26. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:56:03
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

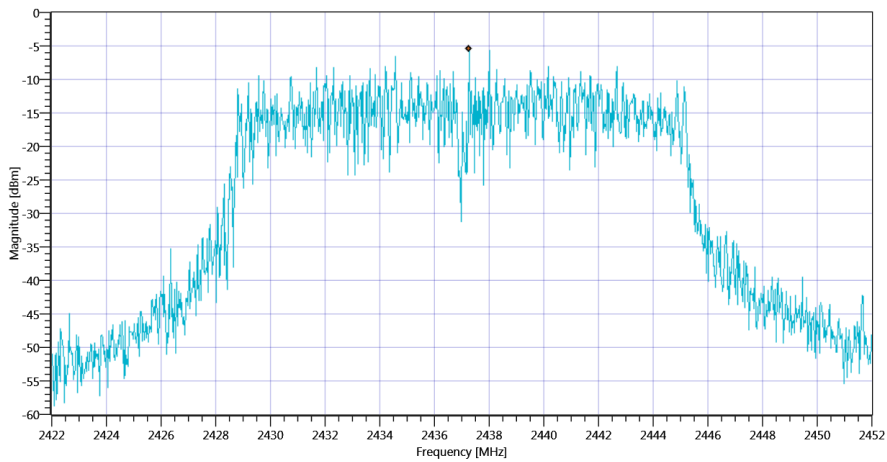
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.66 12.8 20
Start [MHz] Stop [MHz]	2422.000 2452.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-5.46	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode_20012020_135640.png

TEST FINISHED

General Verdict	20.01.2020 13:56:41 / RT: 37 s	PASS
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27. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:56:45
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

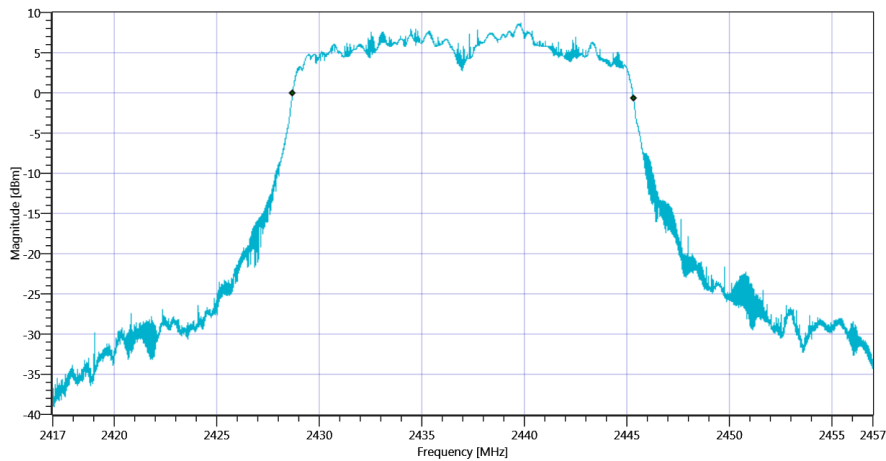
Test at TX 2437 MHz

READ SA SETTINGS:

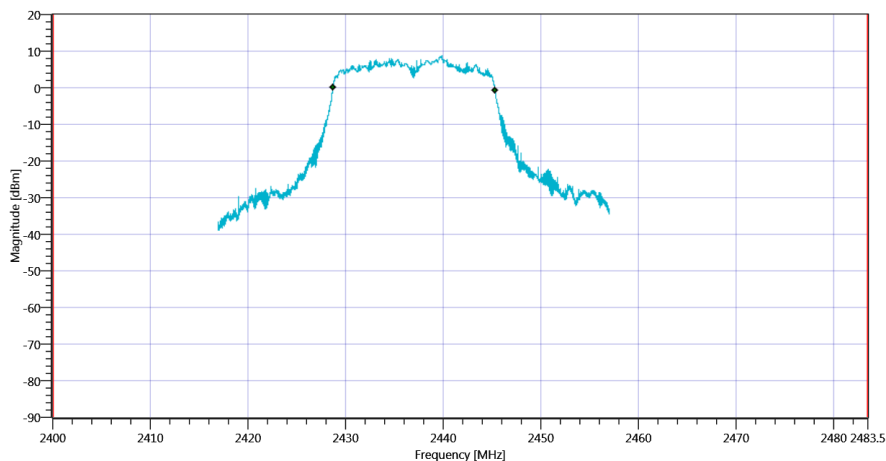
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.97 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16626	kHz	Information
T1 99%	2400.000000	---	2428.7008	MHz	PASS
T2 99%	---	2483.500000	2445.3272	MHz	PASS



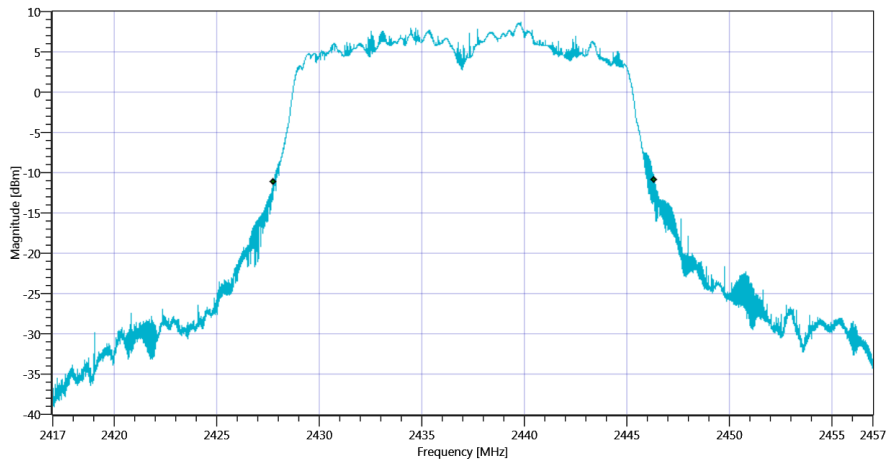
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 99PCT_20012020_135712.png



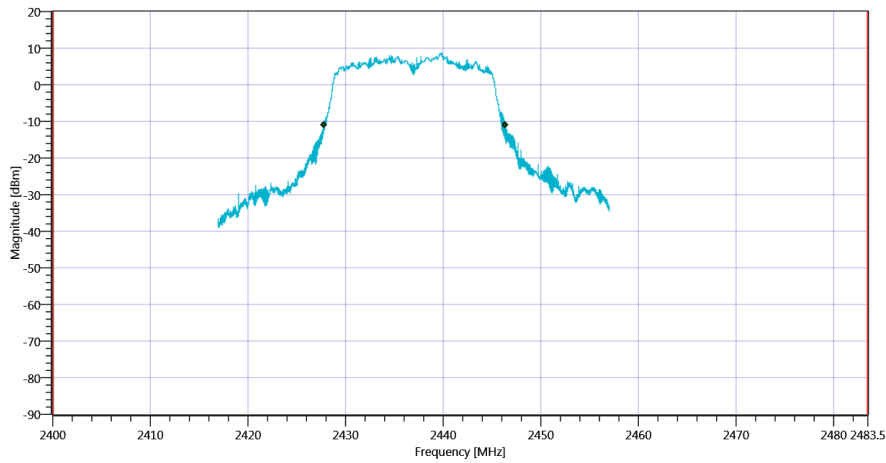
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_135716.png

RESULT: TC_VM_FCC15247_Bandwidth_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18564	kHz	Information
T1 20dB	2400.000000	---	2427.7720	MHz	PASS
T2 20dB	---	2483.500000	2446.3360	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 20dB_20012020_135721.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_135724.png

TEST FINISHED

General Verdict

20.01.2020 13:57:25 / RT: 39 s

PASS

28. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 13:57:29
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

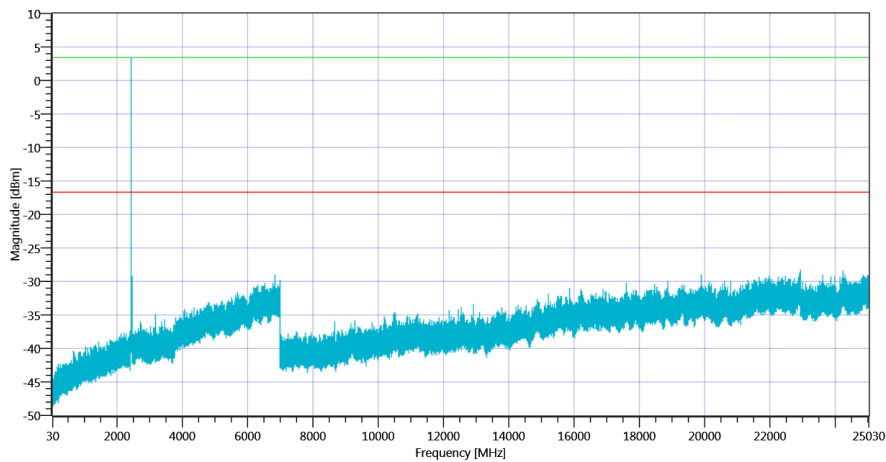
Test at TX 2437 MHz

READ SA SETTINGS:

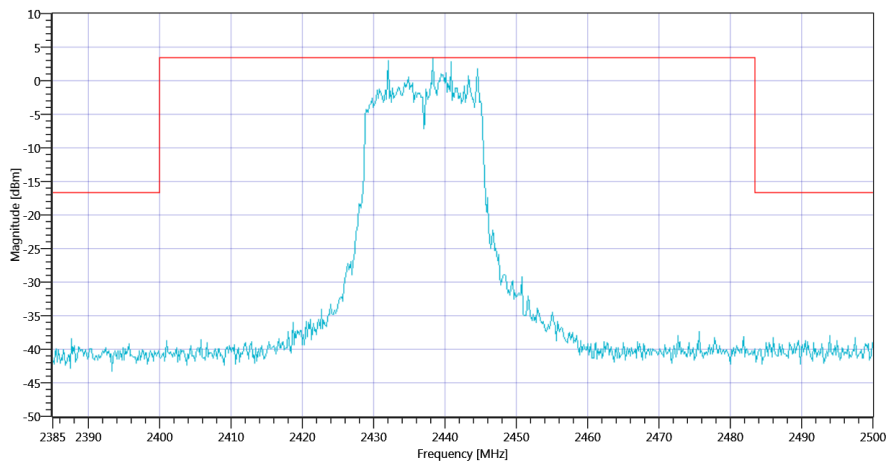
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.86 0 35
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2438.33 MHz	---	---	3.36	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2437_20012020_140217.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2437_20012020_140219.png

TEST FINISHED

General Verdict 20.01.2020 14:02:21 / RT: 291 s

PASS

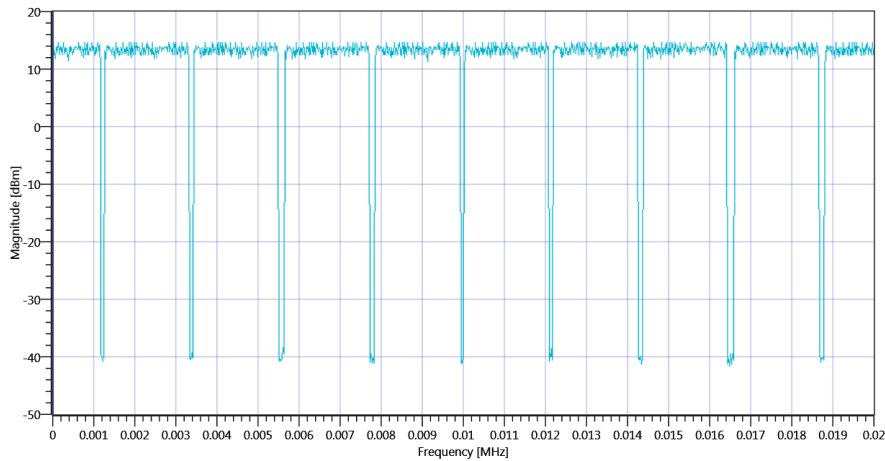
29. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:02:25
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2437 MHz

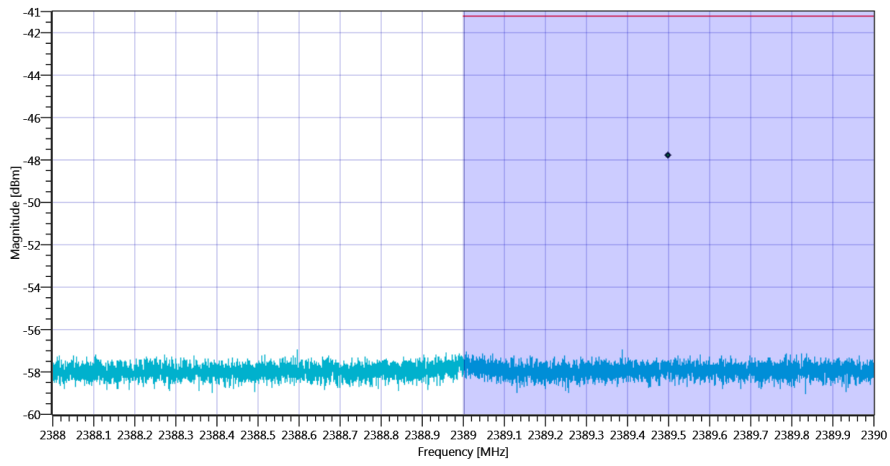
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Result Duty Cycles					
Duty Cycle (Burst Ratio) 1	---	---	0.936	---	Information
Duty Cycle (Burst Ratio) 2	---	---	0.91	---	Information
Duty Cycle (Burst Ratio) 3	---	---	0.918	---	Information
Duty Cycle (Burst Ratio) 4	---	---	0.944	---	Information
Duty Cycle (Burst Ratio) 5	---	---	0.936	---	Information
Duty Cycle (Burst Ratio) 6	---	---	0.927	---	Information
Duty Cycle (Burst Ratio) 7	---	---	0.91	---	Information
Duty Cycle (Burst Ratio) max	---	---	0.944	---	Information
Duty Cycle max	---	---	0.25	dB	Information
Duty Cycle (Burst Ratio) min	---	---	0.91	---	Information
Duty Cycle min	---	---	0.41	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode 2437 MHz - Duty Cycle_20012020_140241.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	22.01 12.8 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0.41	dB	Information
Band Power without Antenna Gain Avg	---	---	-48.21	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-47.8	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-47.8	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode_20012020_140304.png

TEST FINISHED

General Verdict

20.01.2020 14:03:04 / RT: 39 s

PASS

30. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:03:09
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	21.51	dBm	PASS

TEST FINISHED		
General Verdict	20.01.2020 14:03:15 / RT: 6 s	PASS

31. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:07:51
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

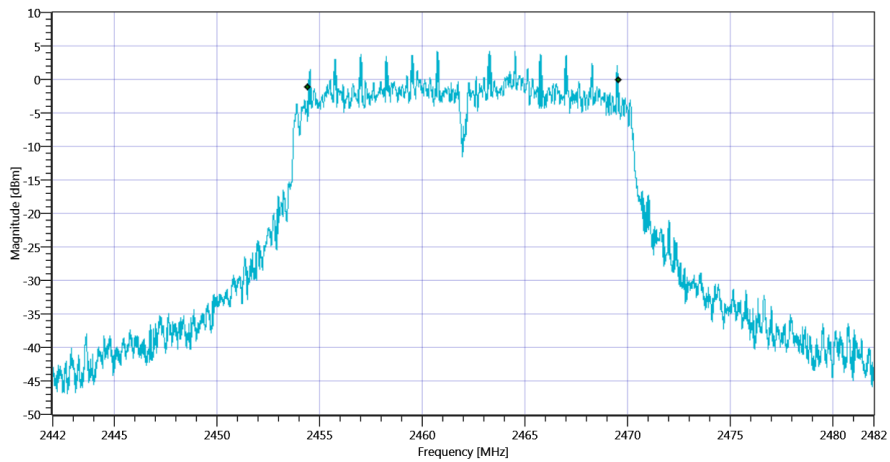
Test at TX 2462 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.85 12.82 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	15112	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 g-mode_20012020_140820.png

TEST FINISHED

General Verdict	20.01.2020 14:08:21 / RT: 30 s	PASS
-----------------	--------------------------------	------

32. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:08:25
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

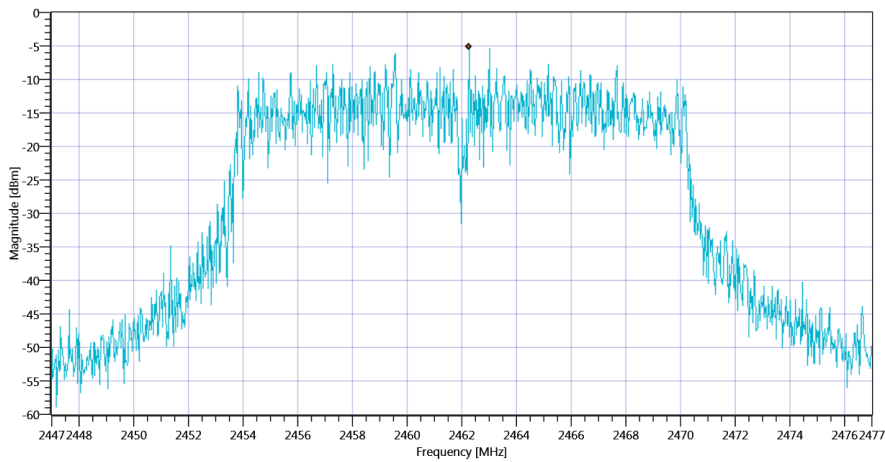
Test at TX 2462 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	16.98 12.82 20
Start [MHz] Stop [MHz]	2447.000 2477.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-5.17	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 g-mode_20012020_140902.png

TEST FINISHED

General Verdict	20.01.2020 14:09:03 / RT: 37 s	PASS
-----------------	--------------------------------	------

33. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:09:07
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

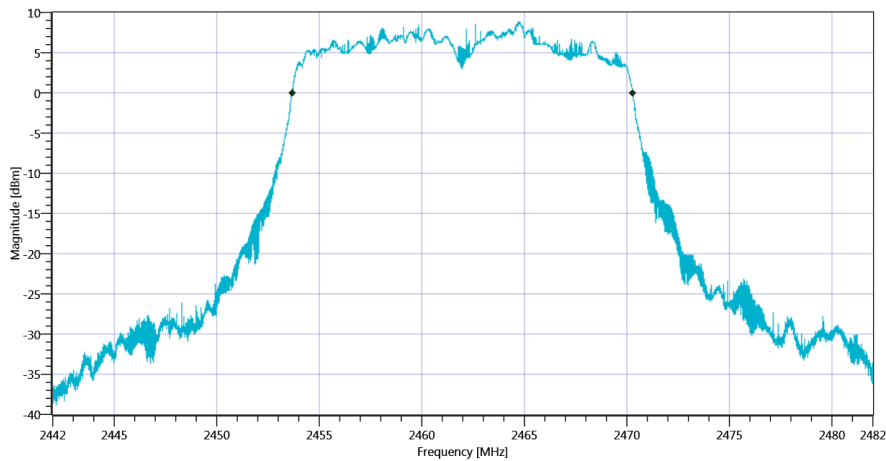
Test at TX 2462 MHz

READ SA SETTINGS:

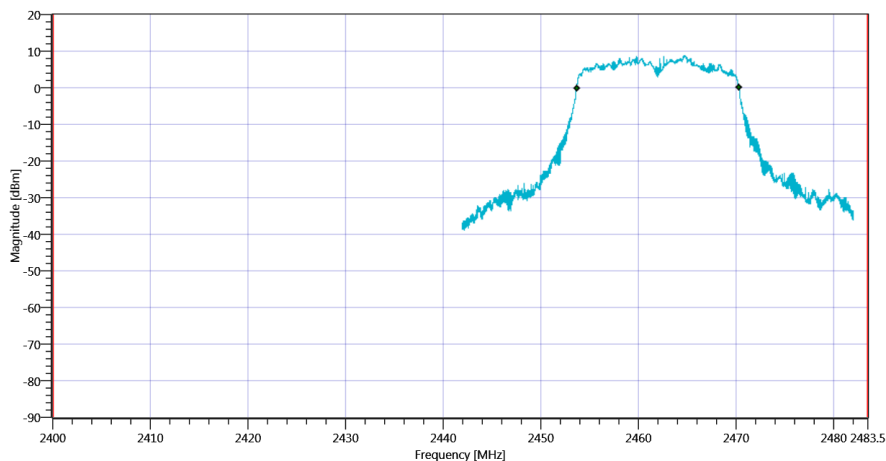
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	17.26 12.82 20
Start [MHz] Stop [MHz]	2442.000 2482.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	16606	kHz	Information
T1 99%	2400.000000	---	2453.6808	MHz	PASS
T2 99%	---	2483.500000	2470.2872	MHz	PASS



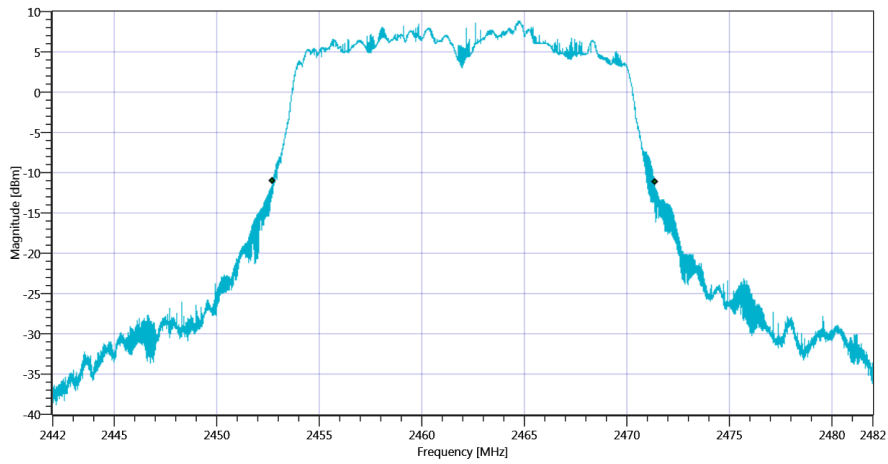
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 99PCT_20012020_140934.png



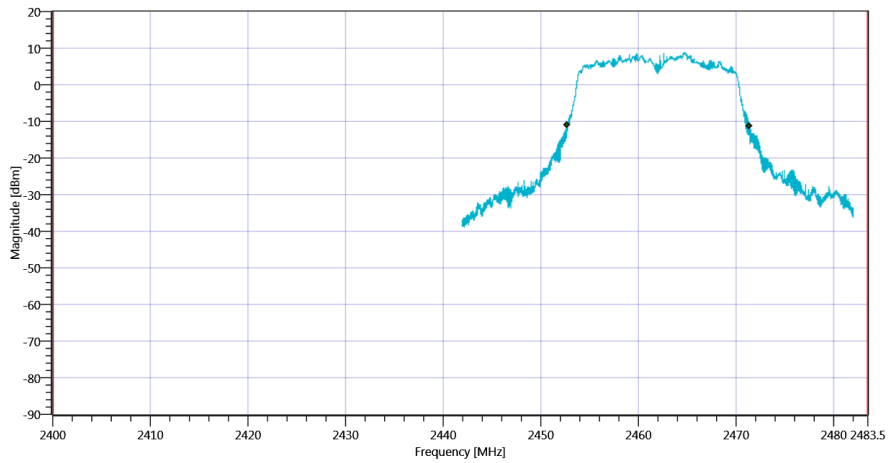
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_140938.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	18632	kHz	Information
T1 20dB	2400.000000	---	2452.7280	MHz	PASS
T2 20dB	---	2483.500000	2471.3600	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode 20dB_20012020_140943.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 g-mode_20012020_140947.png

TEST FINISHED

General Verdict

20.01.2020 14:09:47 / RT: 40 s

PASS

34. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:09:52
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

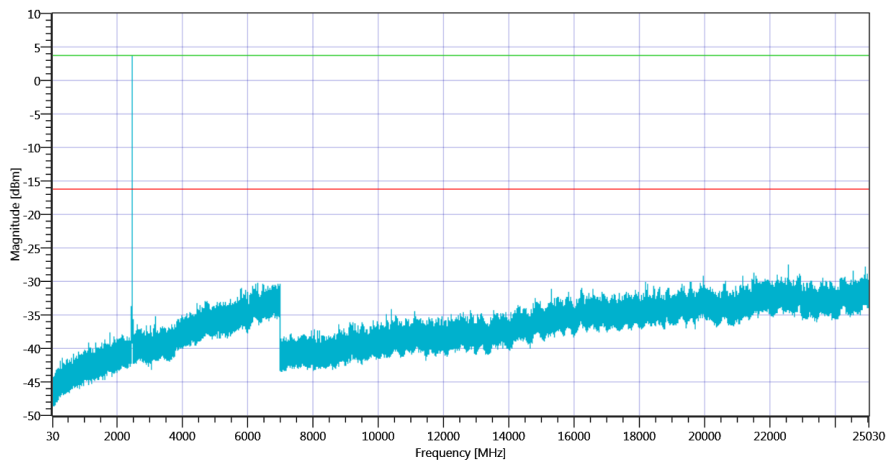
Test at TX 2462 MHz

READ SA SETTINGS:

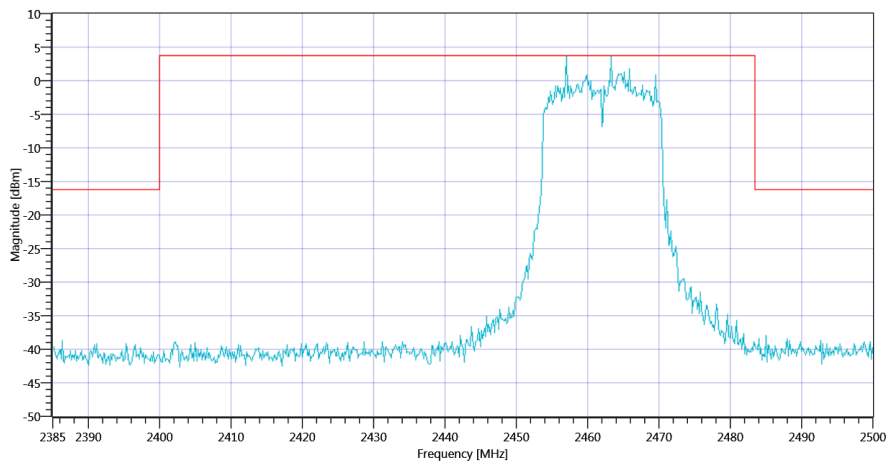
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	17.06 0 35
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2463.33 MHz	---	---	3.79	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2462_20012020_141440.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 g-mode 2462_20012020_141443.png

TEST FINISHED

General Verdict 20.01.2020 14:14:44 / RT: 292 s

PASS

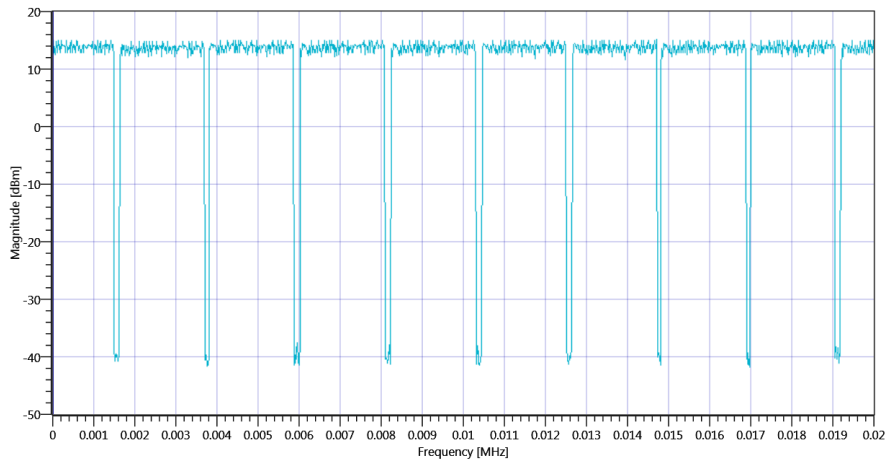
35. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:14:48
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2462 MHz

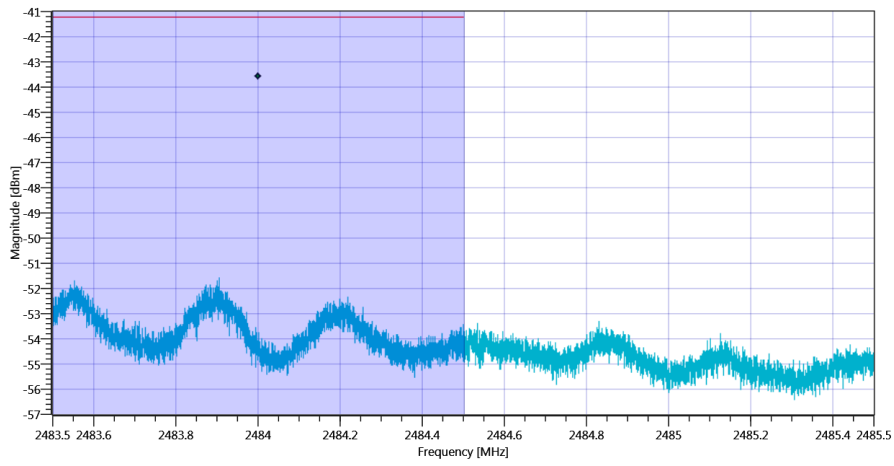
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Result Duty Cycles					
Duty Cycle (Burst Ratio) 1	---	---	0.927	---	Information
Duty Cycle (Burst Ratio) 2	---	---	0.91	---	Information
Duty Cycle (Burst Ratio) 3	---	---	0.918	---	Information
Duty Cycle (Burst Ratio) 4	---	---	0.919	---	Information
Duty Cycle (Burst Ratio) 5	---	---	0.918	---	Information
Duty Cycle (Burst Ratio) 6	---	---	0.944	---	Information
Duty Cycle (Burst Ratio) 7	---	---	0.936	---	Information
Duty Cycle (Burst Ratio) max	---	---	0.944	---	Information
Duty Cycle max	---	---	0.25	dB	Information
Duty Cycle (Burst Ratio) min	---	---	0.91	---	Information
Duty Cycle min	---	---	0.41	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode 2462 MHz - Duty Cycle_20012020_141505.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	21.99 12.82 25
Start [MHz] Stop [MHz]	2483.500 2485.500
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0.41	dB	Information
Band Power without Antenna Gain Avg	---	---	-43.97	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-43.56	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-43.56	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 g-mode_20012020_141527.png

TEST FINISHED

General Verdict

20.01.2020 14:15:28 / RT: 39 s

PASS

36. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 g-mode

Test References	
TC Start	20.01.2020 14:15:32
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 g-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 g-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2462 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	21.78	dBm	PASS

TEST FINISHED		
General Verdict	20.01.2020 14:15:39 / RT: 6 s	PASS

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

Test References	
TC Start	20.01.2020 14:19:35
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

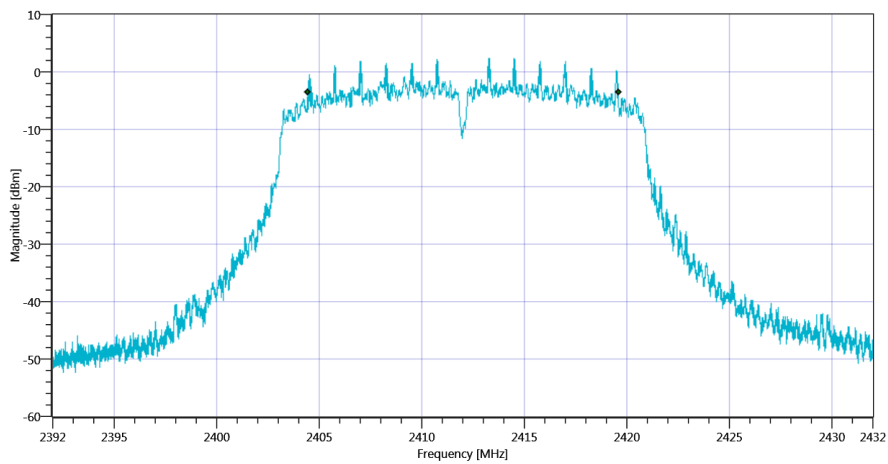
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.05 12.79 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

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	15132	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode_20012020_142006.png

TEST FINISHED

General Verdict	20.01.2020 14:20:06 / RT: 31 s	PASS
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38. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:20:10
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

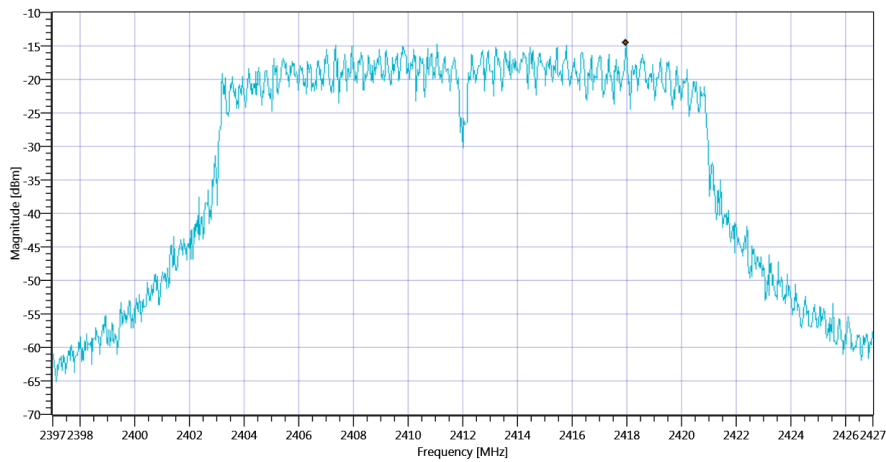
Test at TX 2412 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.91 12.79 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

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-14.55	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT20-mode_20012020_142048.png

TEST FINISHED

General Verdict	20.01.2020 14:20:48 / RT: 37 s	PASS
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39. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:20:52
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

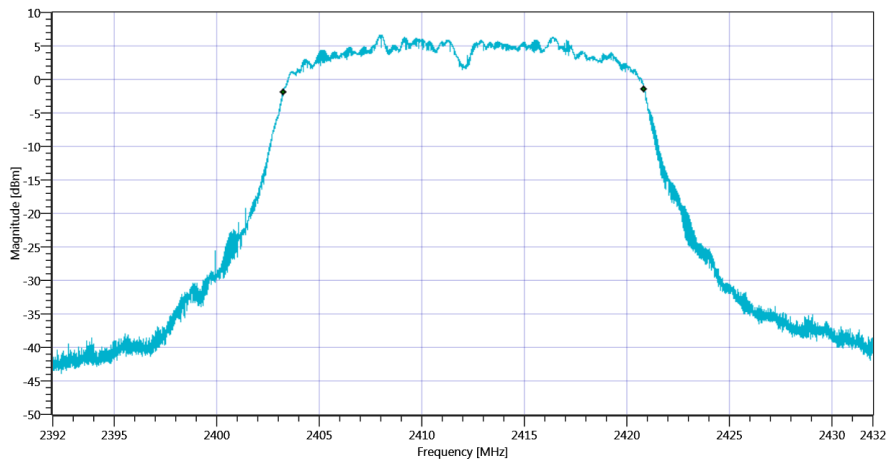
Test at TX 2412 MHz

READ SA SETTINGS:

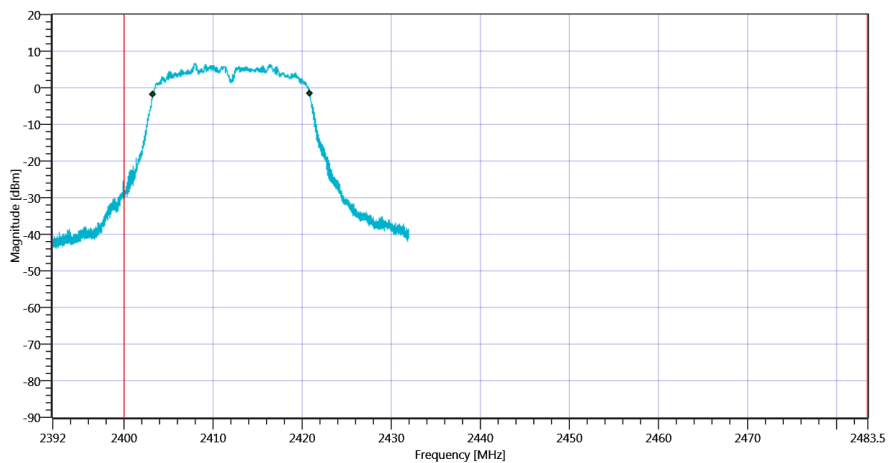
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.11 12.79 20
Start [MHz] Stop [MHz]	2392.000 2432.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17606	kHz	Information
T1 99%	2400.000000	---	2403.2569	MHz	PASS
T2 99%	---	2483.500000	2420.8631	MHz	PASS



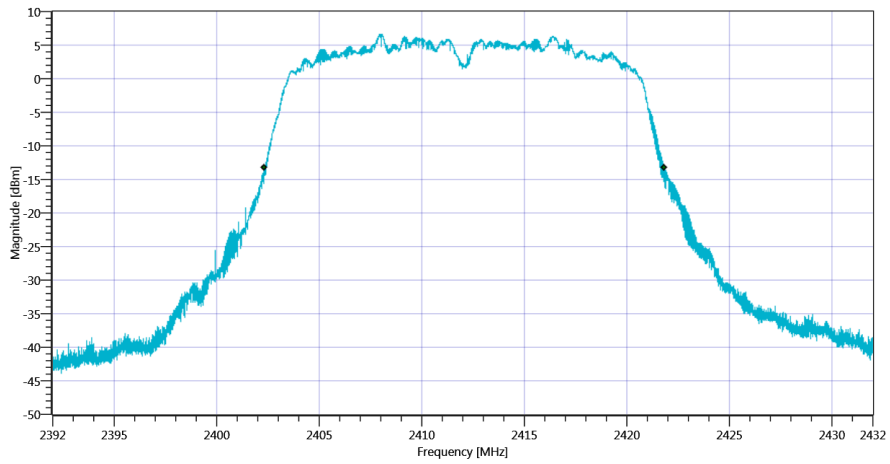
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT_20012020_142120.png



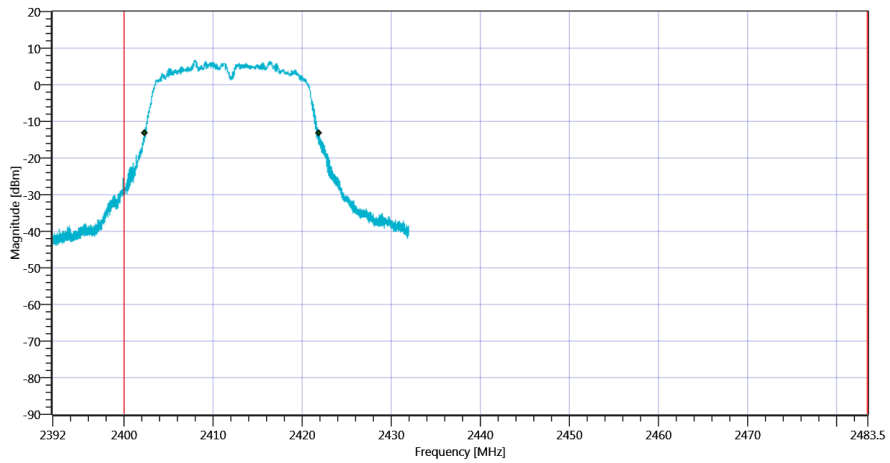
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode_20012020_142124.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	19512	kHz	Information
T1 20DB	2400.000000	---	2402.3280	MHz	PASS
T2 20dB	---	2483.500000	2421.8400	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 20dB_20012020_142129.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode_20012020_142133.png

TEST FINISHED

General Verdict

20.01.2020 14:21:33 / RT: 40 s

PASS

40. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:21:37
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

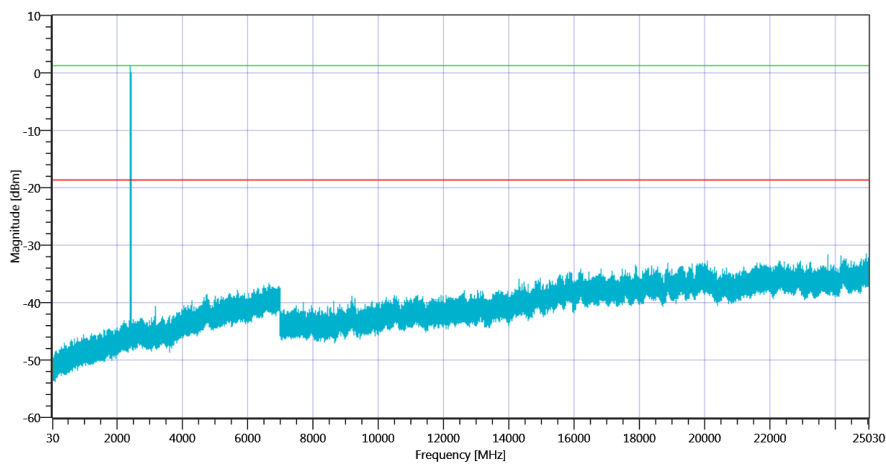
Test at TX 2412 MHz

READ SA SETTINGS:

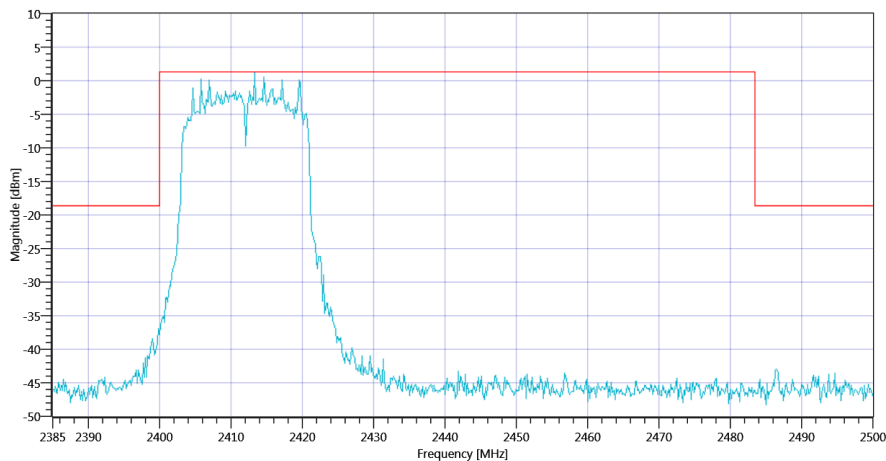
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.42 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2413.33 MHz	---	---	1.34	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2412_20012020_142625.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2412_20012020_142628.png

TEST FINISHED

General Verdict 20.01.2020 14:26:29 / RT: 291 s

PASS

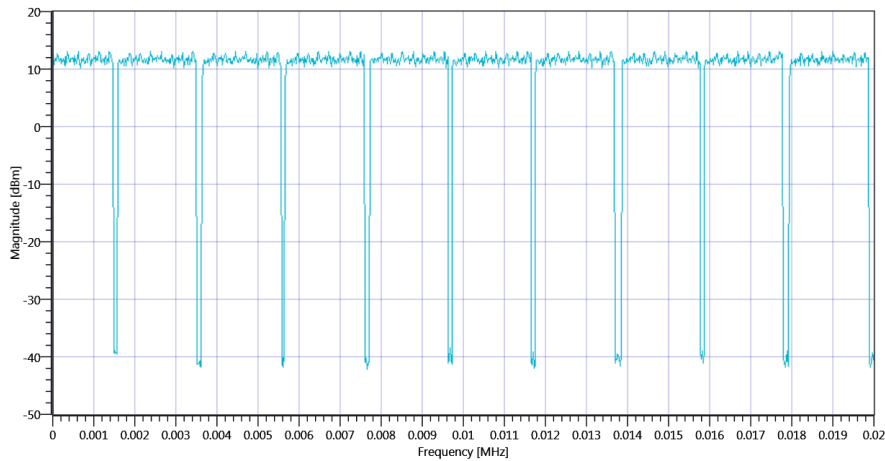
41. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:26:33
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2412 MHz

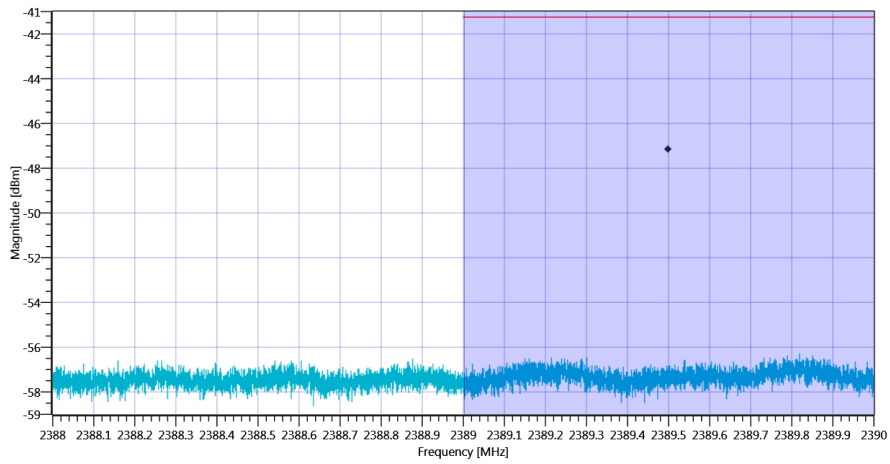
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Result Duty Cycles					
Duty Cycle (Burst Ratio) 1	---	---	0.922	---	Information
Duty Cycle (Burst Ratio) 2	---	---	0.941	---	Information
Duty Cycle (Burst Ratio) 3	---	---	0.922	---	Information
Duty Cycle (Burst Ratio) 4	---	---	0.931	---	Information
Duty Cycle (Burst Ratio) 5	---	---	0.931	---	Information
Duty Cycle (Burst Ratio) 6	---	---	0.905	---	Information
Duty Cycle (Burst Ratio) 7	---	---	0.931	---	Information
Duty Cycle (Burst Ratio) max	---	---	0.941	---	Information
Duty Cycle max	---	---	0.264	dB	Information
Duty Cycle (Burst Ratio) min	---	---	0.905	---	Information
Duty Cycle min	---	---	0.434	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode 2412 MHz - Duty Cycle_20012020_142650.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.40 12.79 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0.434	dB	Information
Band Power without Antenna Gain Avg	---	---	-47.59	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-47.156	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-47.156	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode_20012020_142712.png

TEST FINISHED

General Verdict

20.01.2020 14:27:13 / RT: 39 s

PASS

42. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:27:17
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT20-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2412 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	20.15	dBm	PASS

TEST FINISHED

General Verdict	20.01.2020 14:27:24 / RT: 6 s	PASS
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43. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:31:43
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 TCID_FCC15247_1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

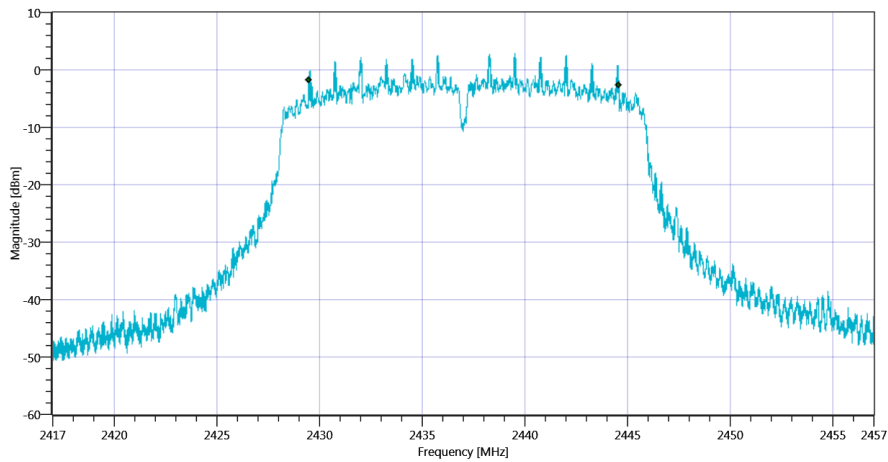
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.77 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	15112	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode_20012020_143212.png

TEST FINISHED

General Verdict	20.01.2020 14:32:12 / RT: 29 s	PASS
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44. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:32:17
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Class / TC Version / TC ID	TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1 TCID_FCC15247_6
My Description	FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

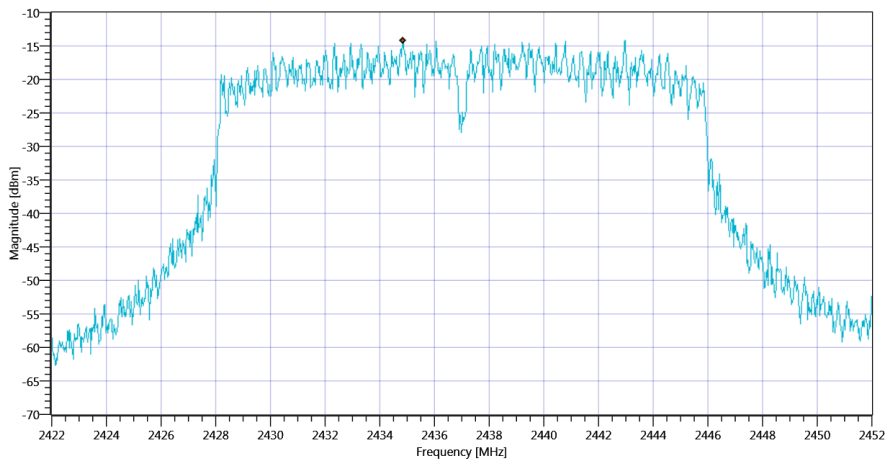
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.69 12.8 20
Start [MHz] Stop [MHz]	2422.000 2452.000
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	1000 20 1001 SWE

RESULT: TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-14.16	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT20-mode_20012020_143254.png

TEST FINISHED

General Verdict

20.01.2020 14:32:54 / RT: 37 s

PASS

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

Test References	
TC Start	20.01.2020 14:32:58
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version / TC ID	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 TCID_FCC15247_2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

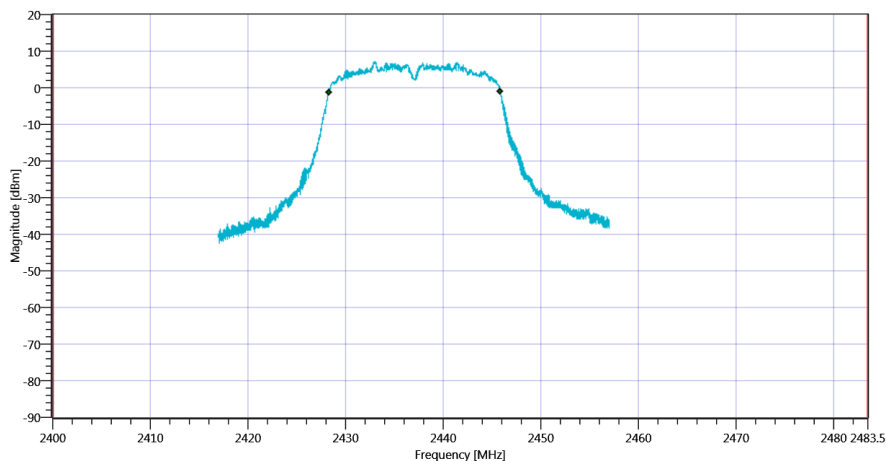
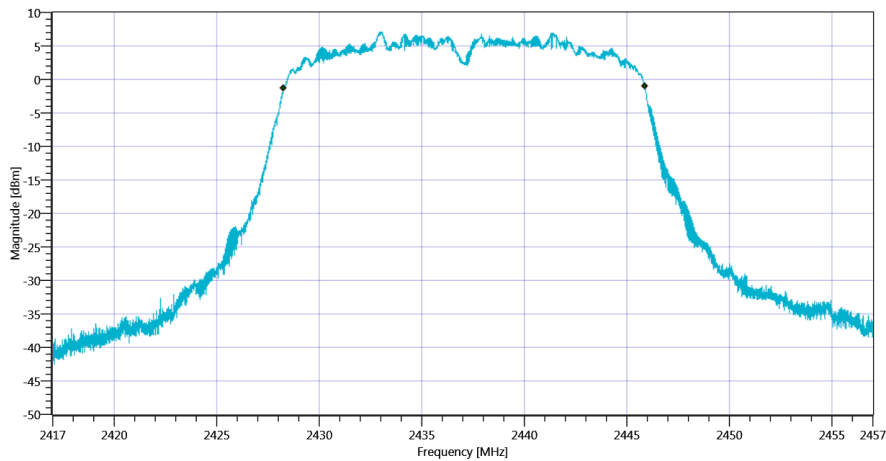
Test at TX 2437 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.78 12.8 20
Start [MHz] Stop [MHz]	2417.000 2457.000
RBW [MHz] VBW [MHz]	0.500000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

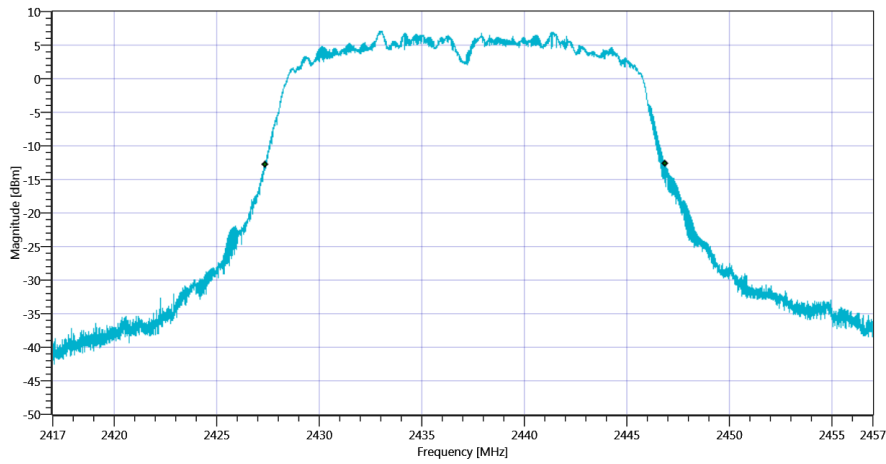
RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	17602	kHz	Information
T1 99%	2400.000000	---	2428.2729	MHz	PASS
T2 99%	---	2483.500000	2445.8751	MHz	PASS

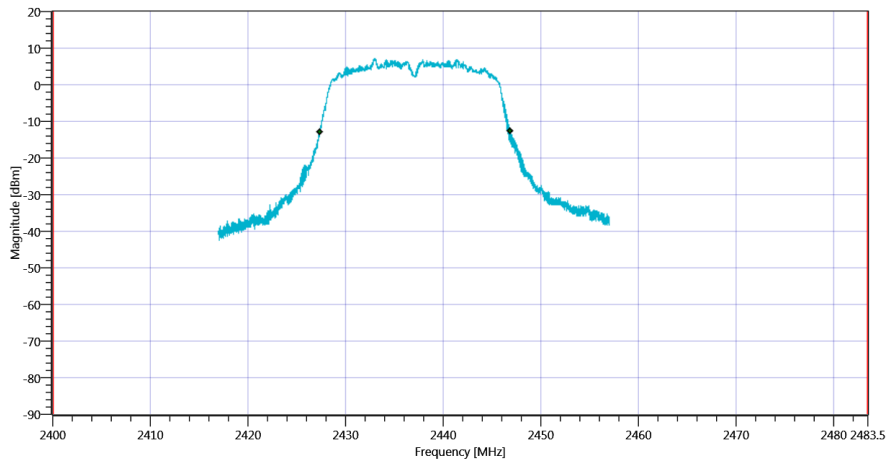


RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	19516	kHz	Information
T1 20DB	2400.000000	---	2427.3520	MHz	PASS
T2 20dB	---	2483.500000	2446.8680	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 20dB_20012020_143334.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode_20012020_143338.png

TEST FINISHED

General Verdict

20.01.2020 14:33:39 / RT: 40 s

PASS

46. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:33:43
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable.
Class / TC Version / TC ID	TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1 TCID_FCC15247_8
My Description	FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

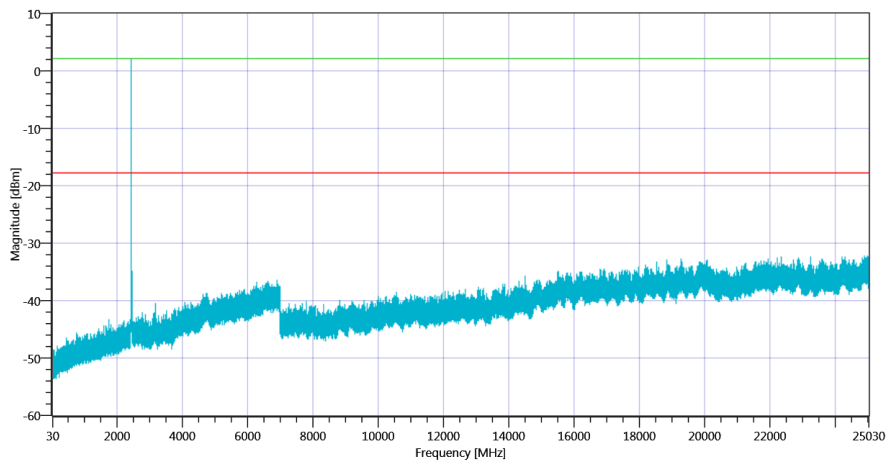
Test at TX 2437 MHz

READ SA SETTINGS:

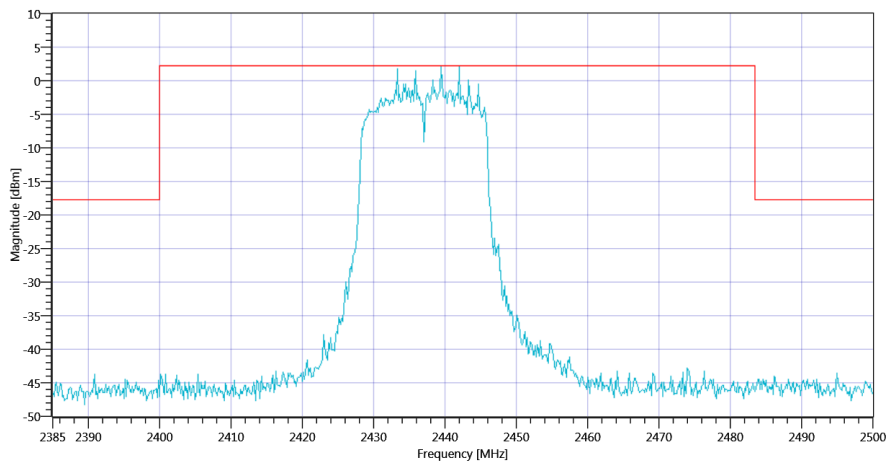
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.95 0 30
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2442.00 MHz	---	---	2.24	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2437_20012020_143831.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2437_20012020_143833.png

TEST FINISHED

General Verdict

20.01.2020 14:38:35 / RT: 291 s

PASS

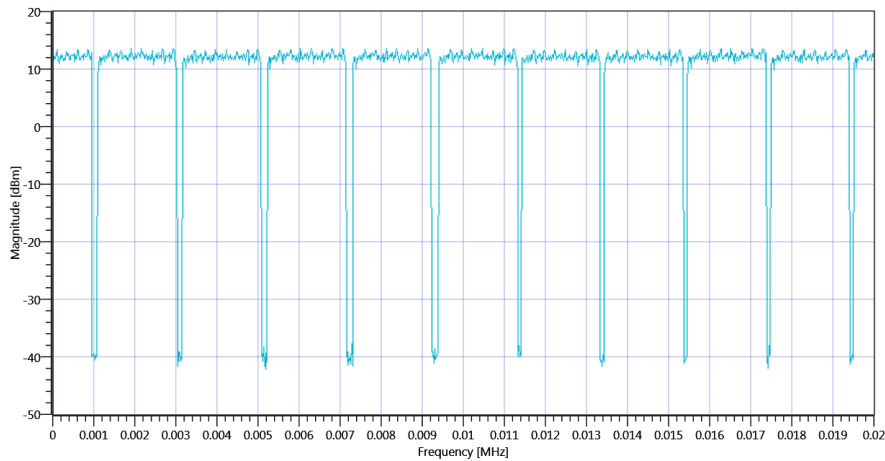
47. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:38:39
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction
Class / TC Version / TC ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1 TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2437 MHz

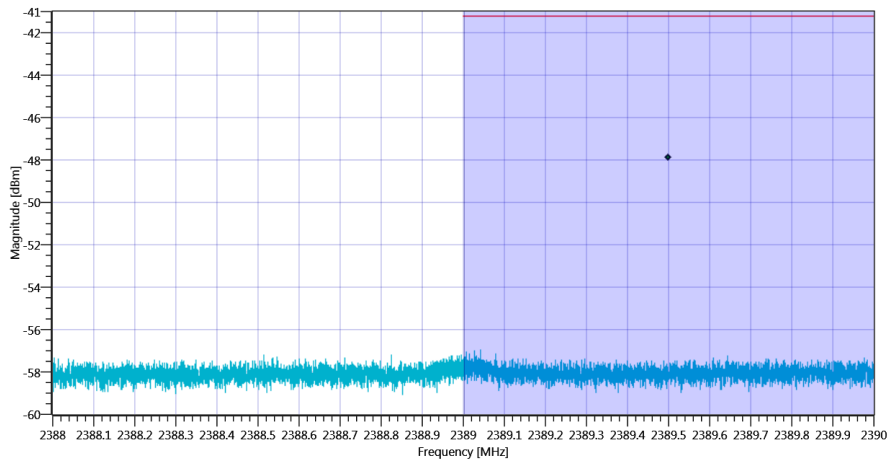
RESULT: Duty Cycle evaluation					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Result Duty Cycles					
Duty Cycle (Burst Ratio) 1	---	---	0.922	---	Information
Duty Cycle (Burst Ratio) 2	---	---	0.913	---	Information
Duty Cycle (Burst Ratio) 3	---	---	0.904	---	Information
Duty Cycle (Burst Ratio) 4	---	---	0.904	---	Information
Duty Cycle (Burst Ratio) 5	---	---	0.941	---	Information
Duty Cycle (Burst Ratio) 6	---	---	0.931	---	Information
Duty Cycle (Burst Ratio) 7	---	---	0.941	---	Information
Duty Cycle (Burst Ratio) 8	---	---	0.931	---	Information
Duty Cycle (Burst Ratio) max	---	---	0.941	---	Information
Duty Cycle max	---	---	0.264	dB	Information
Duty Cycle (Burst Ratio) min	---	---	0.904	---	Information
Duty Cycle min	---	---	0.438	dB	Information



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode 2437 MHz - Duty Cycle_20012020_143855.png

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.74 12.8 25
Start [MHz] Stop [MHz]	2388.000 2390.000
RBW [MHz] VBW [MHz]	0.100000 0.500000
Detector TraceMode	RMS AVER
Sweep: Time [ms] Count Points per Section Type	32 300 32000 SWE

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Duty Cycle worst case	---	---	0.438	dB	Information
Band Power without Antenna Gain Avg	---	---	-48.33	dBm	Information
Band Power without Antenna Gain Avg DC corrected	---	---	-47.892	dBm	Information
Band Power incl. Antenna Gain Avg DC corrected	---	-41.23	-47.892	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode_20012020_143918.png

TEST FINISHED

General Verdict

20.01.2020 14:39:18 / RT: 39 s

PASS

48. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	20.01.2020 14:39:23
System Version	1.0.0.29
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Class / TC Version / TC ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01 Version: 0.0.1 TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT20-mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	True Freq [MHz] 2437
Frequency high to test	False Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - PowerMeter
Devices in use	PM: Keysight Technologies,U2021XA,MY59190010,A.04.06

Test at TX 2437 MHz

RESULT: TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Found Peak cond.	--	--	20.35	dBm	PASS

TEST FINISHED

General Verdict	20.01.2020 14:39:29 / RT: 6 s	PASS
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49. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT20-mode

Test References	
TC Start	25.02.2020 14:07:19
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	99
Class / TC Version	TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT20_mode
Add. Information	

Test Parameter	
Technology to test	WLAN2G4 nHT20-mode
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2412
Frequency mid to test	False Freq [MHz] 2437
Frequency high to test	True Freq [MHz] 2462
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60