

Measurement Results

1-9420/19-01-05_log1_conducted.pdf

[Test logging](#)

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Document authorized:

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IUT Summary

IUT DEFINITION & Common settings	
Manufacturer	Valeo
Type	KEY FOB (KFML1)
Serial No. Setup No.	No.1 –
SW Version HW Version	V3.27 –
Comment 1 2	
Tlow Tmid Thigh [°C]	– 22 –
Vlow Vmid Vhigh [V] @Imax [A]	– 3.0 – @ 1A
Auto Control enabled Power Supply Climatic Box	No No
Antenna Gain [dBi] (only considered if explicitly mentioned in testresult)	0
Additional Path Loss [dB]	0

IUT Common Settings 2G4	
Hopping supported	No
Burst length [ms]	10
Nominal Bandwidth [MHz]	1.5
User Interaction	Yes

1. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:28:19
Ambit Temp [°C] Humidity [rel%]	23.7 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

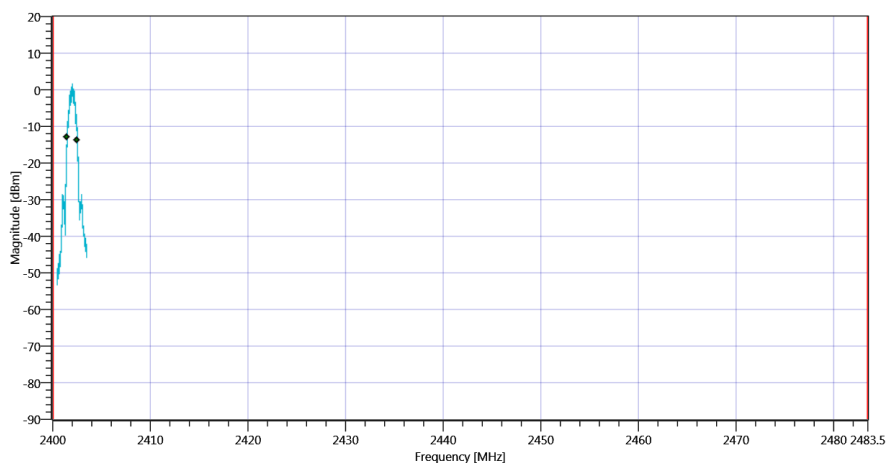
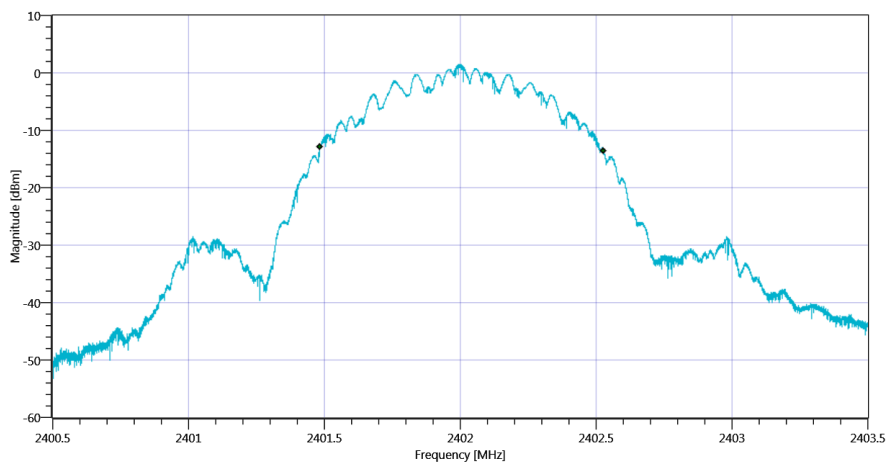
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2441
Frequency high to test	False Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2402 MHz

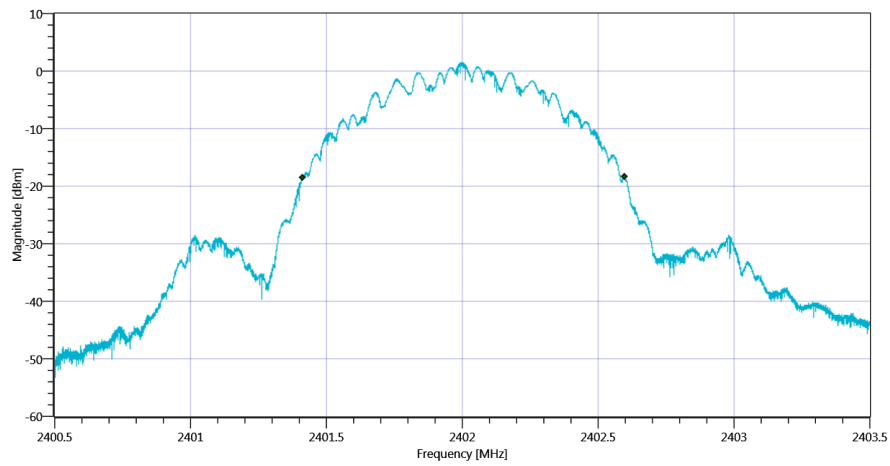
READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	10.90 15.57 15
Start [MHz] Stop [MHz]	2400.500 2403.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

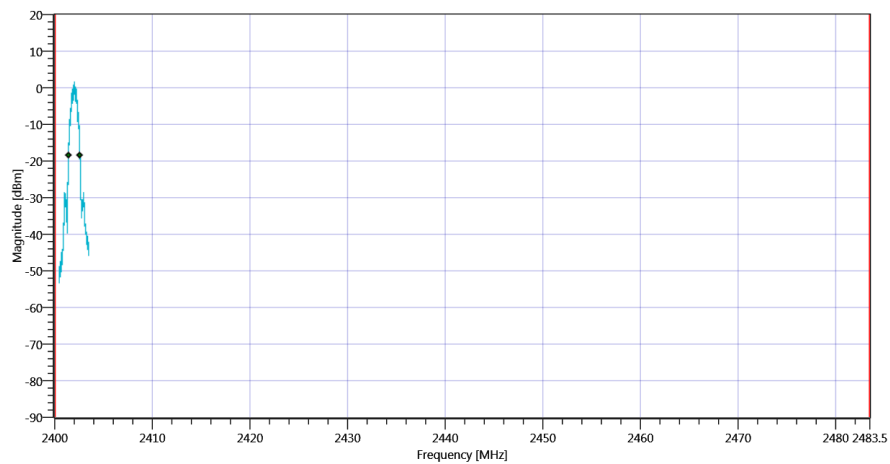
RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1041	kHz	INFO
T1 99%	2400.000000	---	2401.4850	MHz	PASS
T2 99%	---	2483.500000	2402.5258	MHz	PASS



RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1187	kHz	INFO
T1 20dB	2400.000000	---	2401.4132	MHz	PASS
T2 20dB	---	2483.500000	2402.5997	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_22092020_082908.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_082912.png

TEST FINISHED

General Verdict

22.09.2020 08:29:12 / RT: 53 s

PASS

2. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:30:09
Ambit Temp [°C] Humidity [rel%]	23.7 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

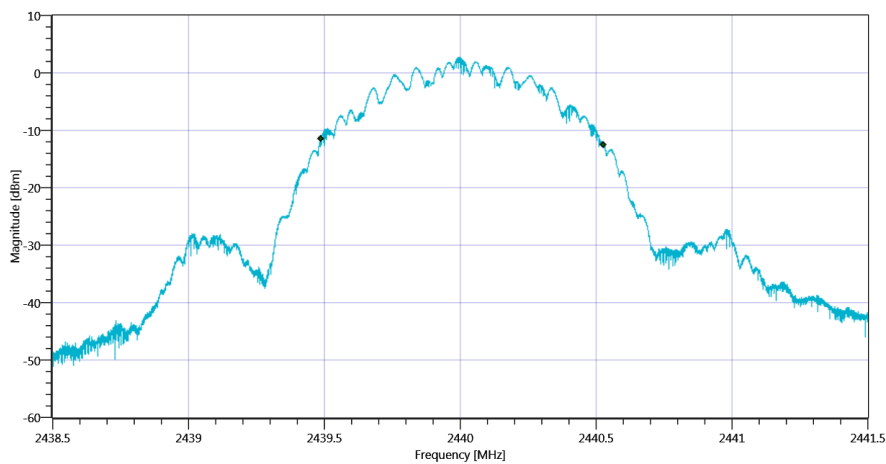
Test at TX 2440 MHz

READ SA SETTINGS:

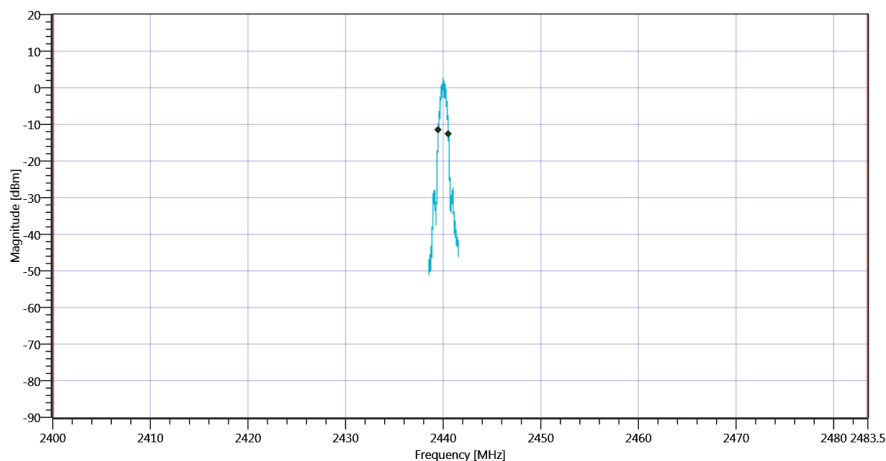
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	12.04 15.48 15
Start [MHz] Stop [MHz]	2438.500 2441.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1041	kHz	INFO
T1 99%	2400.000000	---	2439.4868	MHz	PASS
T2 99%	---	2483.500000	2440.5279	MHz	PASS



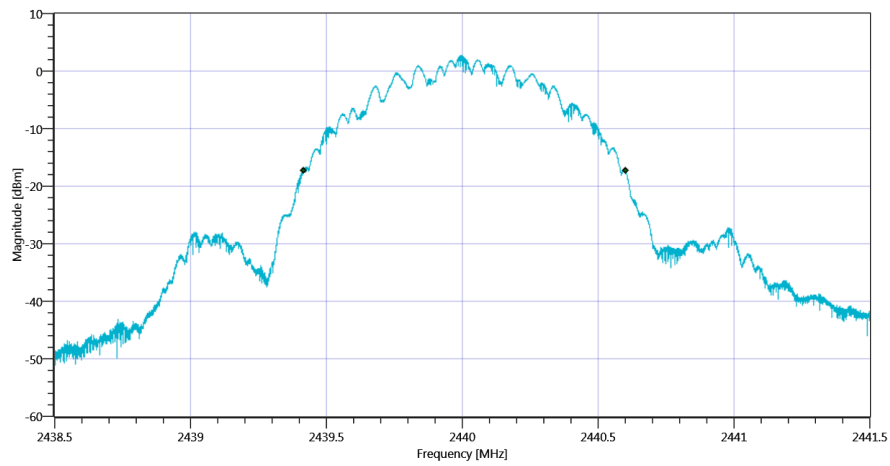
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_22092020_083043.png



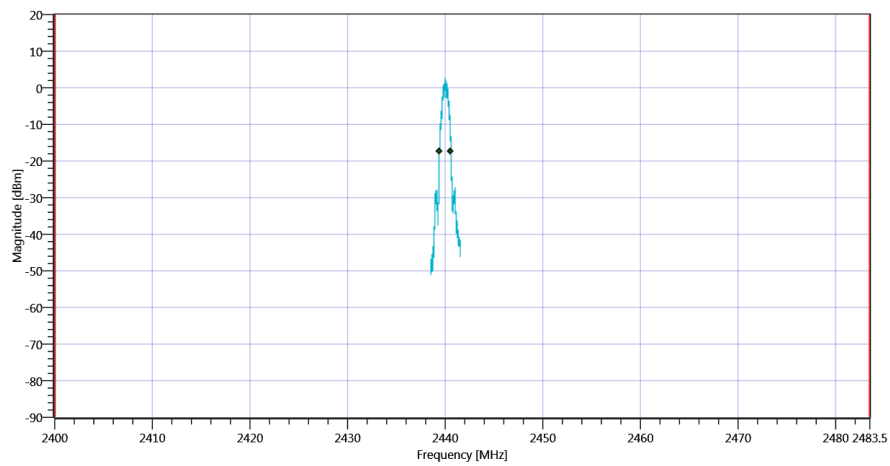
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083047.png

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1185	kHz	INFO
T1 20dB	2400.000000	---	2439.4159	MHz	PASS
T2 20dB	---	2483.500000	2440.6012	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_22092020_083052.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083056.png

TEST FINISHED

General Verdict

22.09.2020 08:30:57 / RT: 47 s

PASS

3. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:31:34
Ambit Temp [°C] Humidity [rel%]	23.7 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

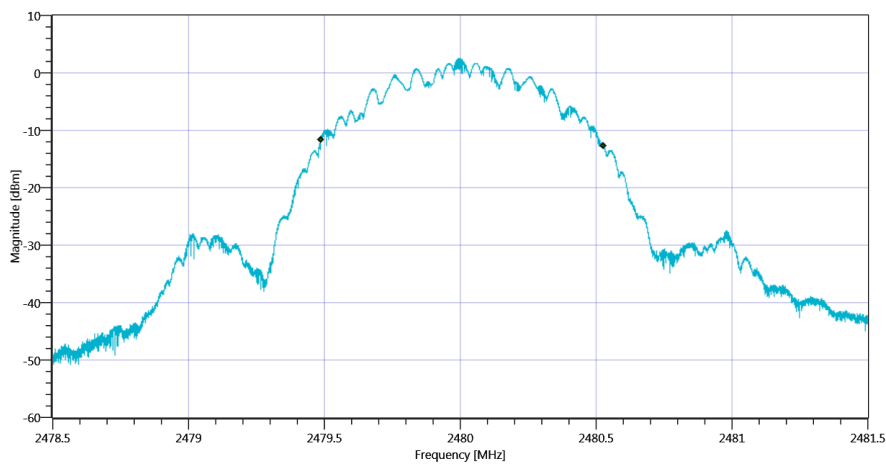
Test at TX 2480 MHz

READ SA SETTINGS:

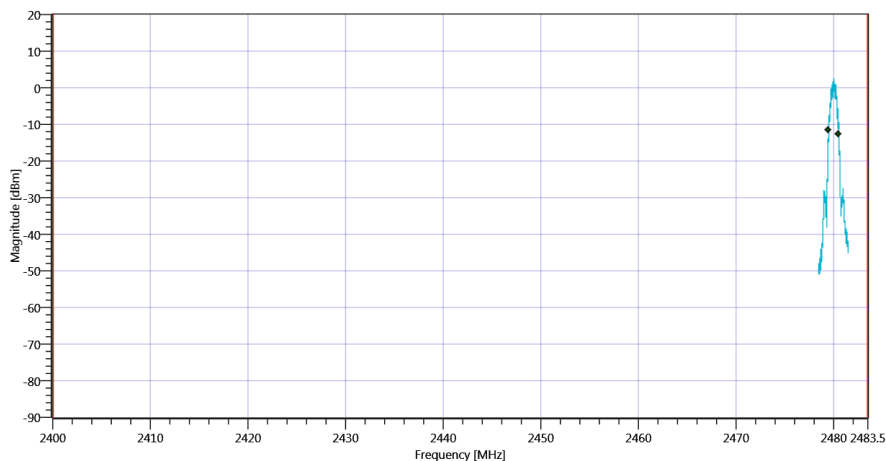
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	11.87 15.41 15
Start [MHz] Stop [MHz]	2478.500 2481.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1041	kHz	INFO
T1 99%	2400.000000	---	2479.4859	MHz	PASS
T2 99%	---	2483.500000	2480.5270	MHz	PASS



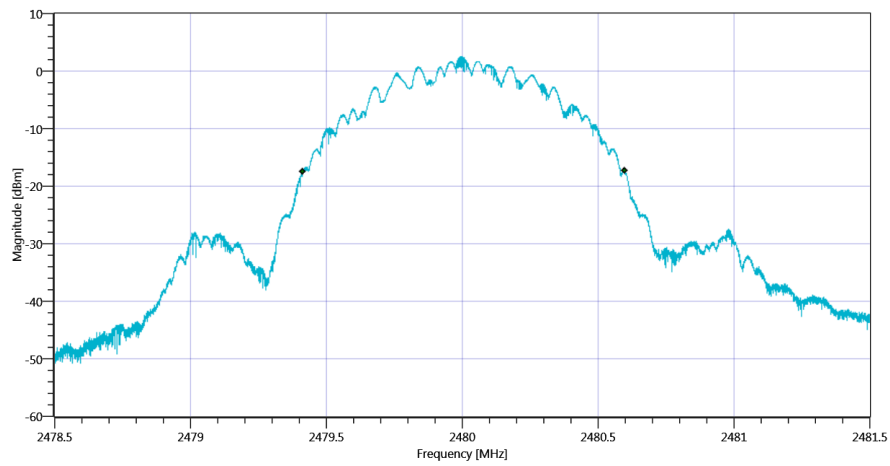
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_22092020_083206.png



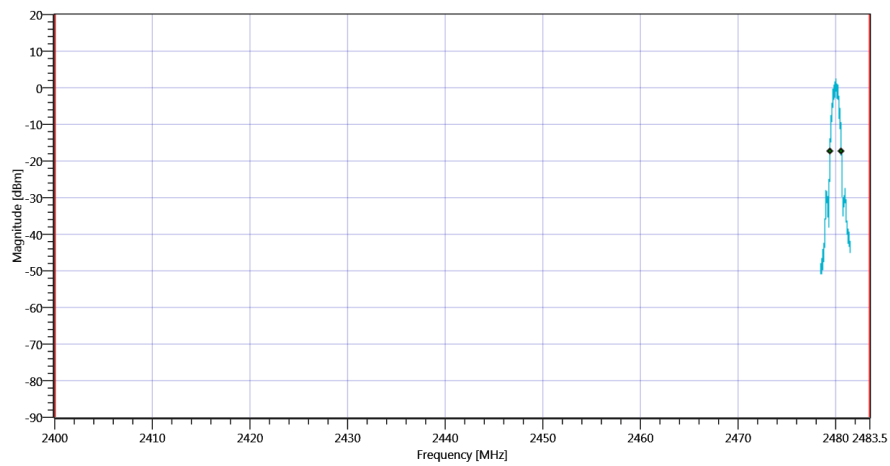
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083210.png

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1187	kHz	INFO
T1 20dB	2400.000000	---	2479.4123	MHz	PASS
T2 20dB	---	2483.500000	2480.5994	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_22092020_083216.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083220.png

TEST FINISHED

General Verdict

22.09.2020 08:32:20 / RT: 46 s

PASS

4. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:33:48
Ambit Temp [°C] Humidity [rel%]	23.6 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

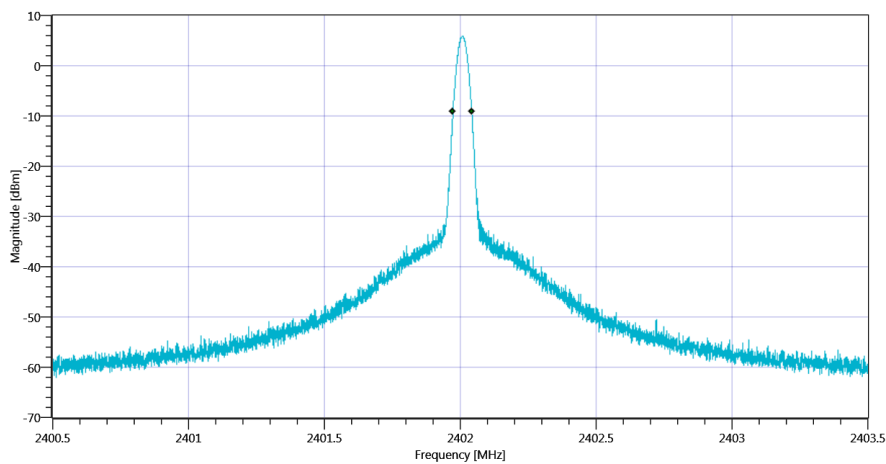
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2402 MHz

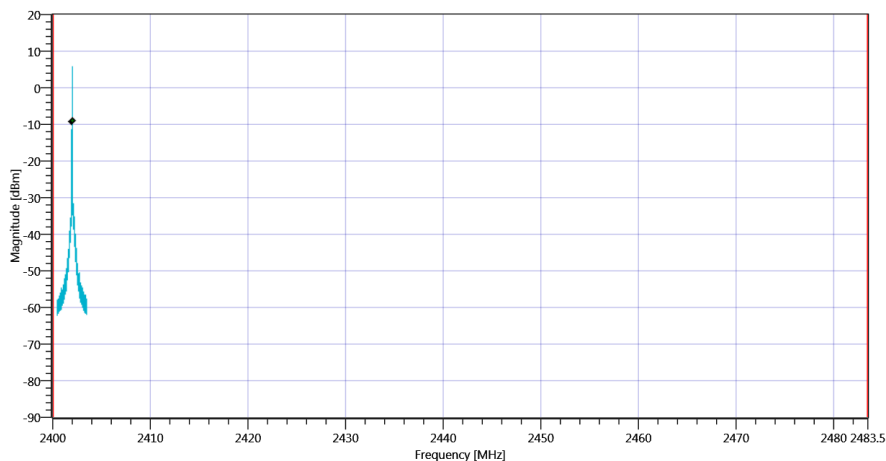
READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	10.88 15.57 15
Start [MHz] Stop [MHz]	2400.500 2403.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	68	kHz	INFO
T1 99%	2400.000000	---	2401.9736	MHz	PASS
T2 99%	---	2483.500000	2402.0420	MHz	PASS

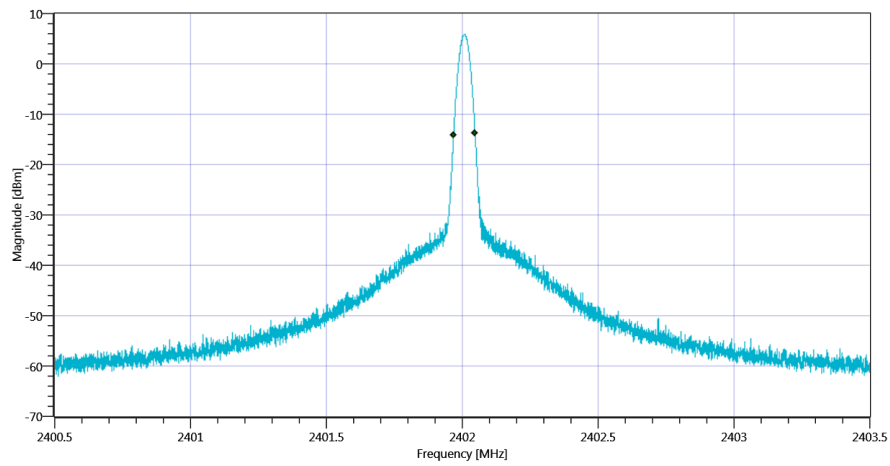


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_22092020_083424.png

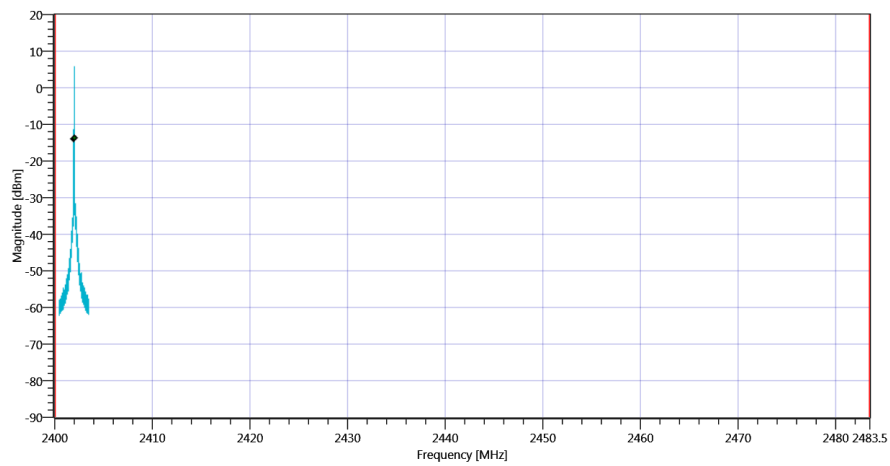


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083428.png

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	79	kHz	INFO
T1 20dB	2400.000000	---	2401.9679	MHz	PASS
T2 20dB	---	2483.500000	2402.0471	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_22092020_083433.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083437.png

TEST FINISHED

General Verdict

22.09.2020 08:34:38 / RT: 49 s

PASS

5. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:37:41
Ambit Temp [°C] Humidity [rel%]	23.5 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

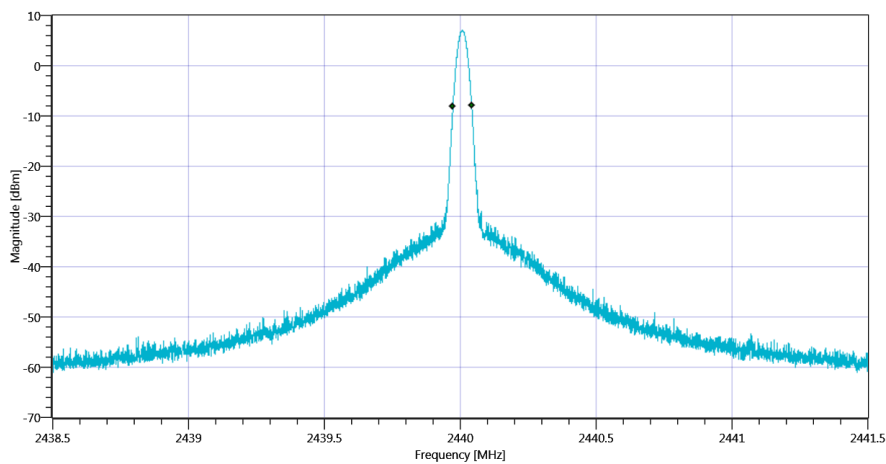
Test at TX 2440 MHz

READ SA SETTINGS:

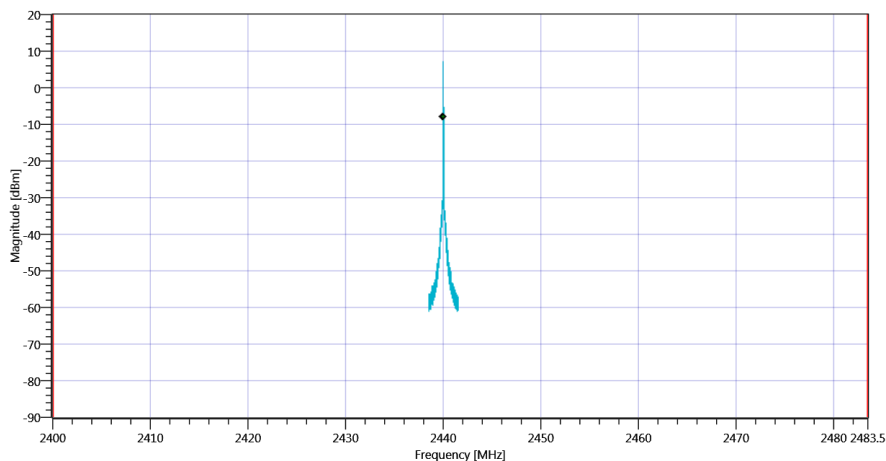
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	11.97 15.48 15
Start [MHz] Stop [MHz]	2438.500 2441.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	68	kHz	INFO
T1 99%	2400.000000	---	2439.9733	MHz	PASS
T2 99%	---	2483.500000	2440.0417	MHz	PASS



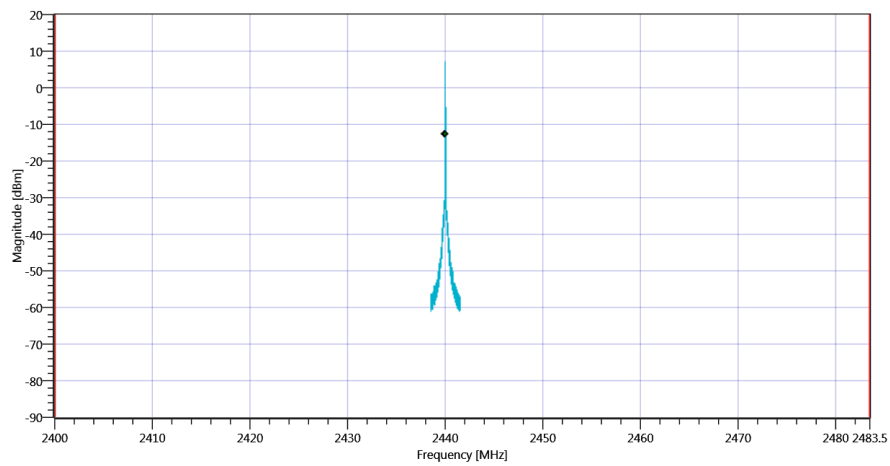
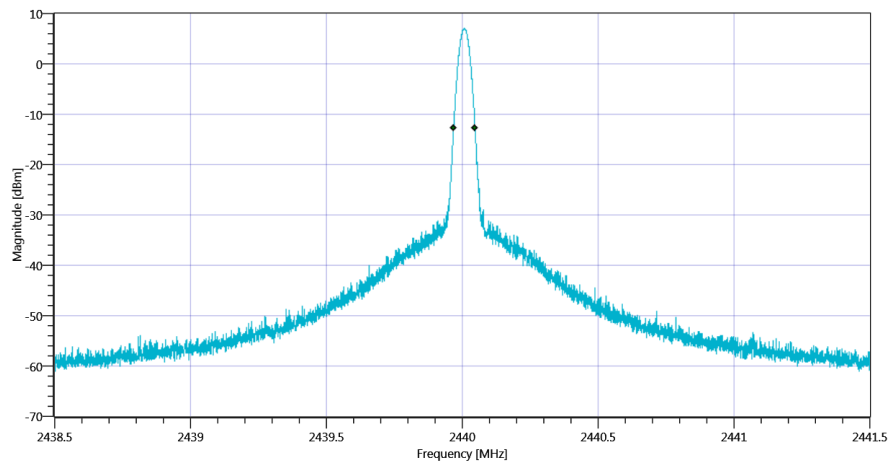
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_22092020_083814.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083818.png

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	79	kHz	INFO
T1 20dB	2400.000000	---	2439.9682	MHz	PASS
T2 20dB	---	2483.500000	2440.0468	MHz	PASS



TEST FINISHED

General Verdict

22.09.2020 08:38:28 / RT: 46 s

PASS

6. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	22.09.2020 08:39:15
Ambit Temp [°C] Humidity [rel%]	23.5 0
System Version	1.0.0.51
Test Specification	FCC Part 15.247
Test Method	
Class / TC Version	TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20DB DTS - Generic 2G4
Add. Information	

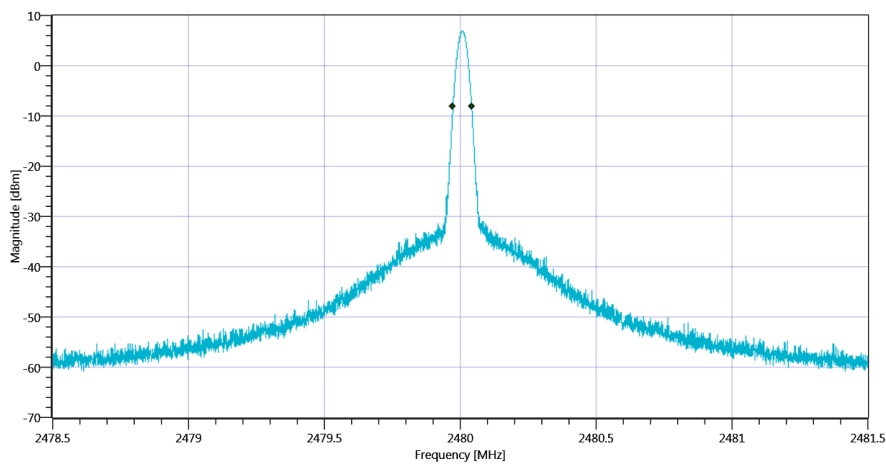
Test Parameter	
Technology to test	Generic 2G4
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.60

Test at TX 2480 MHz

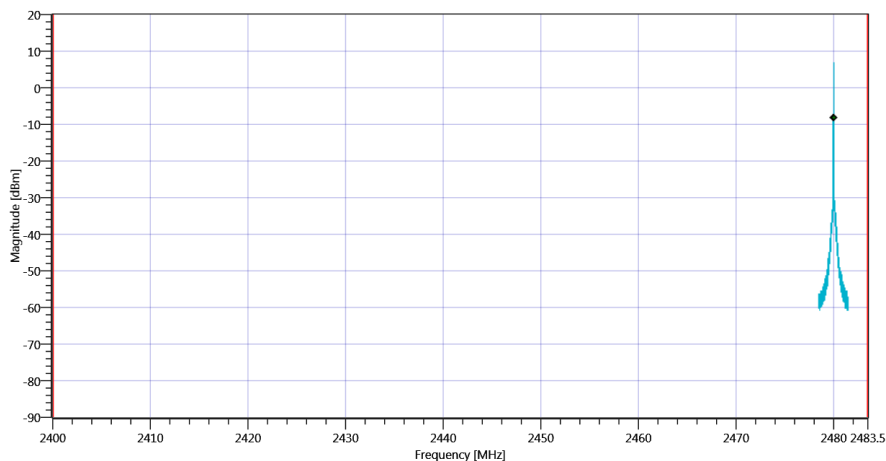
READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	11.83 15.41 15
Start [MHz] Stop [MHz]	2478.500 2481.500
RBW [MHz] VBW [MHz]	0.030000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	68	kHz	INFO
T1 99%	2400.000000	---	2479.9733	MHz	PASS
T2 99%	---	2483.500000	2480.0417	MHz	PASS

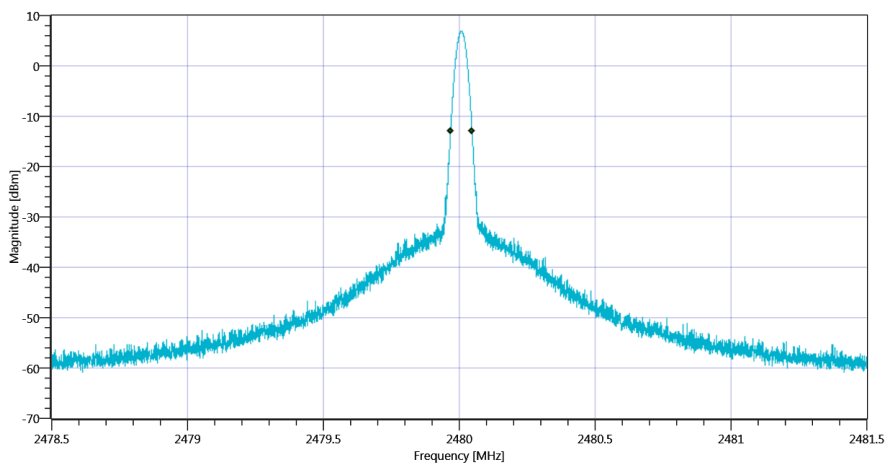


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT_22092020_083949.png

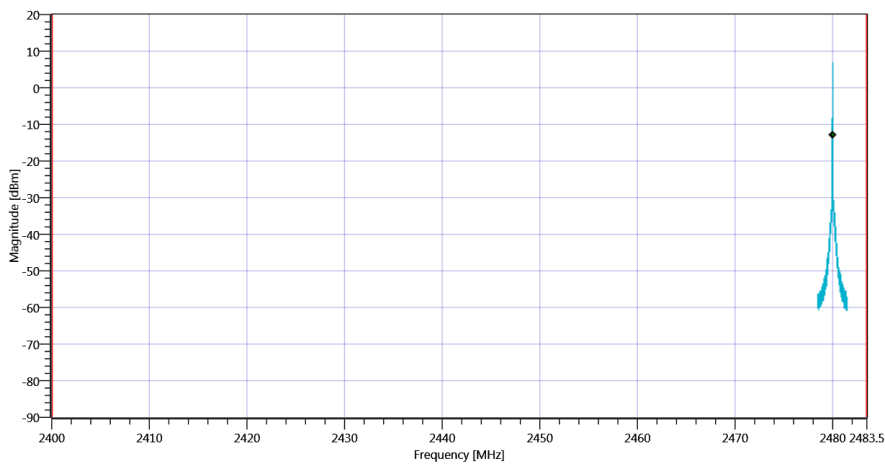


Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_083953.png

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	79	kHz	INFO
T1 20dB	2400.000000	---	2479.9682	MHz	PASS
T2 20dB	---	2483.500000	2480.0471	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB_22092020_083959.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4_22092020_084003.png

TEST FINISHED		
General Verdict	22.09.2020 08:40:03 / RT: 48 s	PASS

- END OF DOCUMENT -