

# Measurement Results

1-9984/20-01-07\_Annex\_MR\_A\_1

[Test logging](#)

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## IUT Summary

IUT DEFINITION & Common settings	
Manufacturer	PHONAK Communications AG
Type	Roger Earpiece / Roger Earpiece C
Serial No.   Setup No.	Main DUT   1.0
SW Version   HW Version	RC1.2   2.0
Comment 1   2	
Tlow   Tmid   Thigh [°C]	-10   20   55
Vlow   Vmid   Vhigh [V] @Imax [A]	1   1.4   1.6 @1
Auto Control enabled Power Supply   Climatic Box	No   No
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0.5

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

## 1. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:31:46
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW $\geq$ DTS Bandwidth
Class / TC Version	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - 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-30,1321.3008K30/103170,3.60

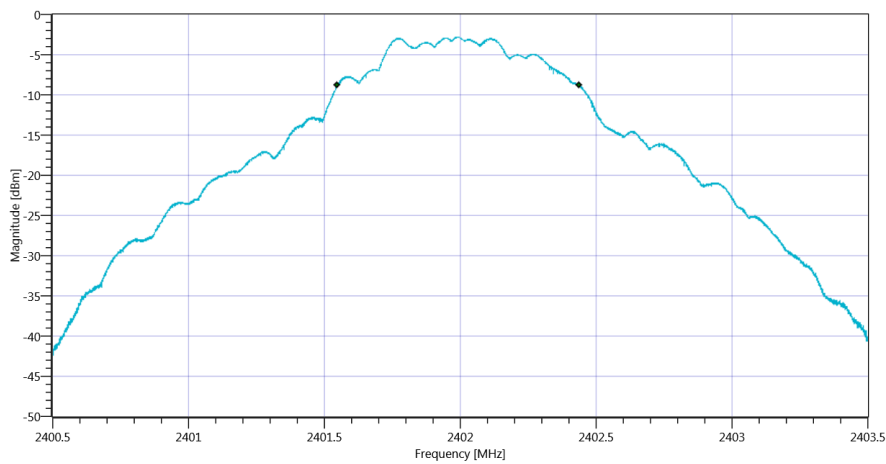
## Test at TX 2402 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.64   10.31   10
Start [MHz]   Stop [MHz]	2400.500   2403.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	888	kHz	INFO



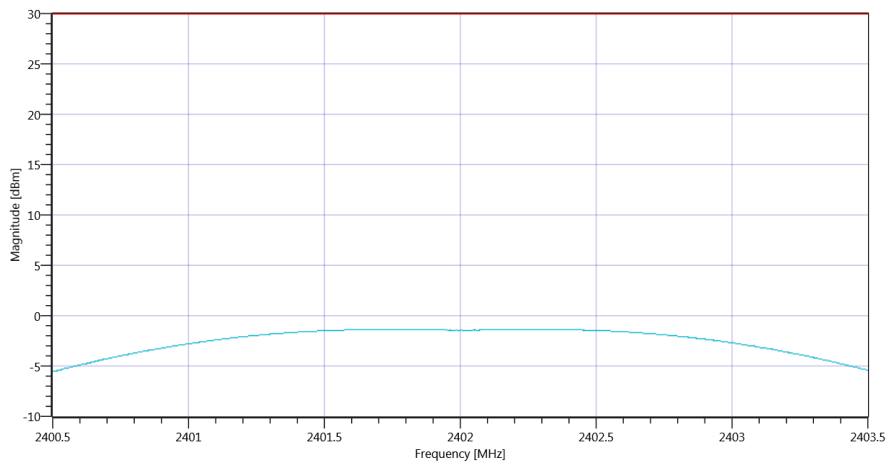
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW\_09032020\_153212.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.64   10.31   15
Start [MHz]   Stop [MHz]	2400.500   2403.500
RBW [MHz]   VBW [MHz]	2.000000   5.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-1.39	dBm	PASS
Peak Power	---	1000	0.726106	mW	PASS
Frequency at Peak	---	---	2402.312	MHz	INFO



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS -- Generic 2G4\_09032020\_153228.png

TEST FINISHED

General Verdict

09.03.2020 15:32:29 / RT: 43 s

PASS

## 2. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:57:56
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
Class / TC Version	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - 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-30,1321.3008K30/103170,3.60

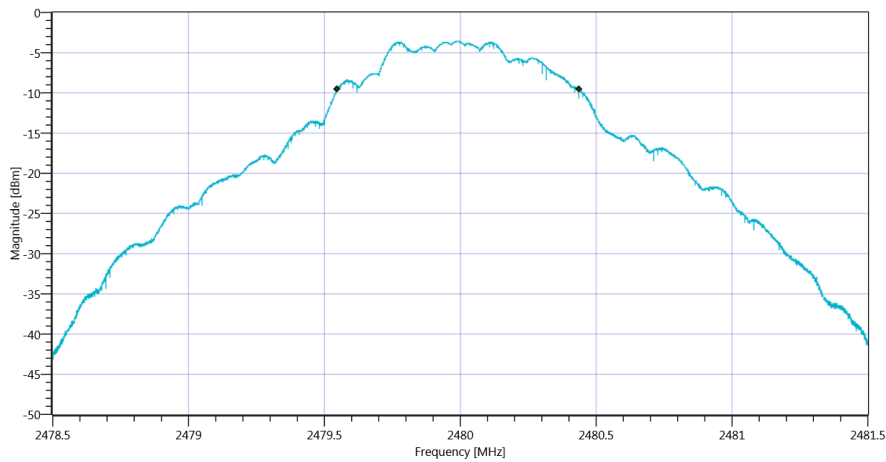
## Test at TX 2480 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.99   10.45   10
Start [MHz]   Stop [MHz]	2478.500   2481.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	890	kHz	INFO



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW\_09032020\_155823.png

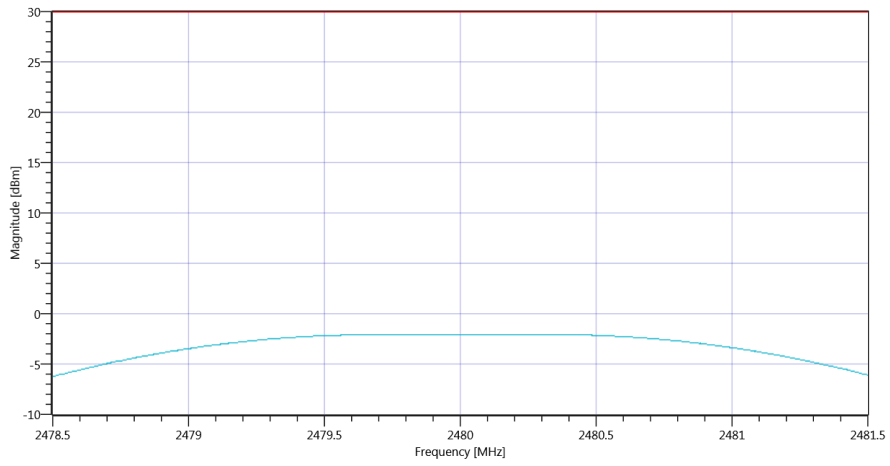
### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.99   10.45   15
Start [MHz]   Stop [MHz]	2478.500   2481.500
RBW [MHz]   VBW [MHz]	2.000000   5.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-2.07	dBm	PASS
Peak Power	---	1000	0.620869	mW	PASS
Frequency at Peak	---	---	2480.351	MHz	INFO





Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS -- Generic 2G4\_09032020\_155839.png

TEST FINISHED

General Verdict

09.03.2020 15:58:39 / RT: 43 s

PASS

### 3. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:48:39
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
Class / TC Version	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS4 - 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-30,1321.3008K30/103170,3.60

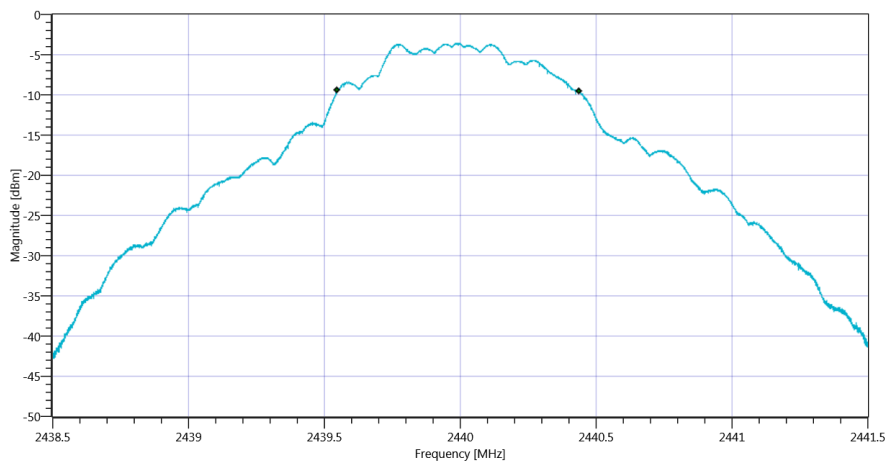
## Test at TX 2440 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.93   10.4   10
Start [MHz]   Stop [MHz]	2438.500   2441.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	889	kHz	INFO



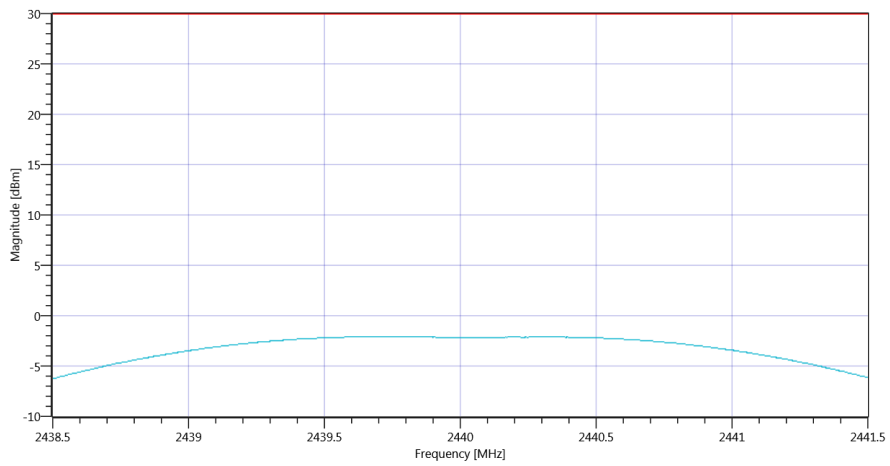
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ Generic 2G4 DTS BW\_09032020\_164906.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.93   10.4   15
Start [MHz]   Stop [MHz]	2438.500   2441.500
RBW [MHz]   VBW [MHz]	2.000000   5.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-2.1	dBm	PASS
Peak Power	---	1000	0.616595	mW	PASS
Frequency at Peak	---	---	2439.712	MHz	INFO



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS -- Generic 2G4\_09032020\_164922.png

TEST FINISHED

General Verdict

09.03.2020 16:49:23 / RT: 43 s

PASS

## 4. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:32:33
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 - 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-30,1321.3008K30/103170,3.60

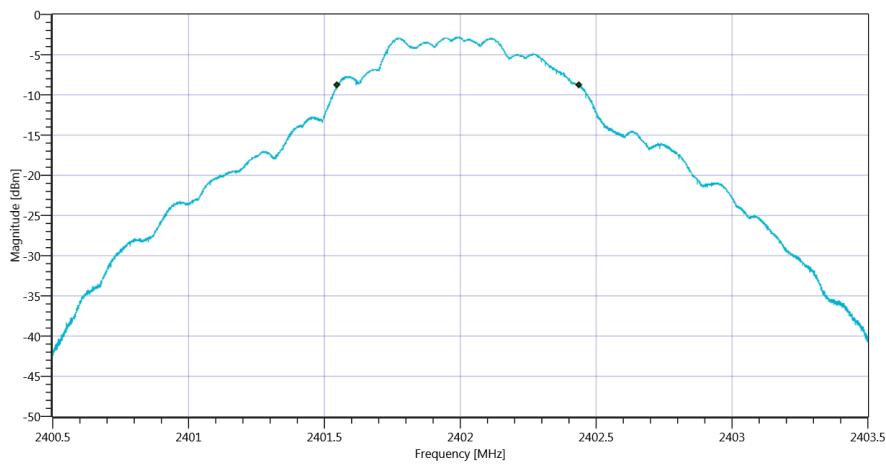
## Test at TX 2402 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.67   10.31   10
Start [MHz]   Stop [MHz]	2400.500   2403.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	888	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4\_09032020\_153300.png

### TEST FINISHED

General Verdict	09.03.2020 15:33:00 / RT: 27 s	PASS
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## 5. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:58:43
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 - 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-30,1321.3008K30/103170,3.60

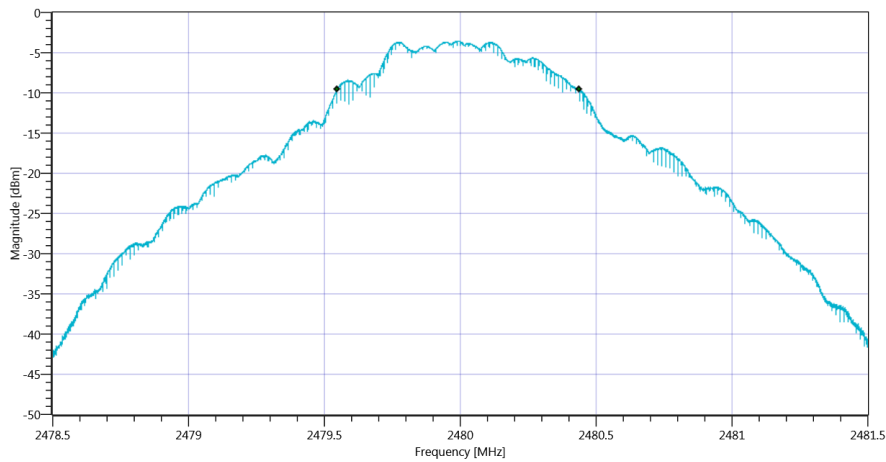
## Test at TX 2480 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.94   10.45   10
Start [MHz]   Stop [MHz]	2478.500   2481.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	--	887	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4\_09032020\_155911.png

### TEST FINISHED

General Verdict	09.03.2020 15:59:11 / RT: 27 s	PASS
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## 6. FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:49:27
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 - 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-30,1321.3008K30/103170,3.60

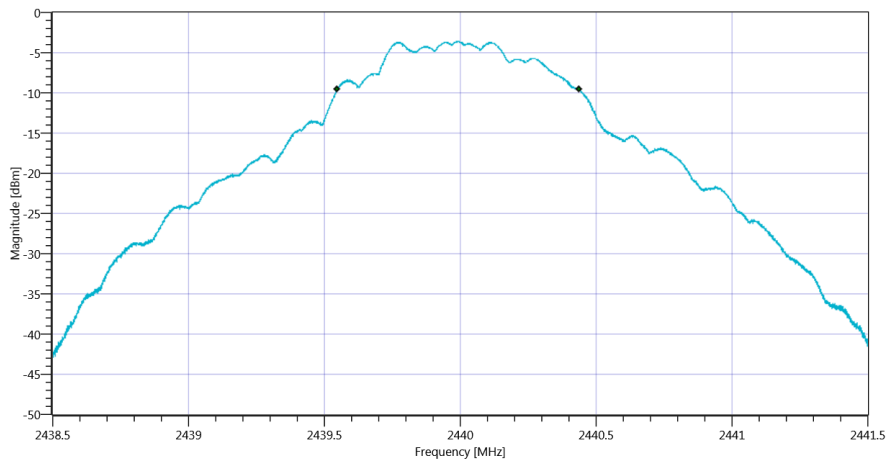
## Test at TX 2440 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.95   10.4   10
Start [MHz]   Stop [MHz]	2438.500   2441.500
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	--	890	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ Generic 2G4\_09032020\_164954.png

### TEST FINISHED

General Verdict	09.03.2020 16:49:54 / RT: 27 s	PASS
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## 7. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:33:49
System Version	1.0.0.33
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_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Peak Power Spectral Density 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-30,1321.3008K30/103170,3.60

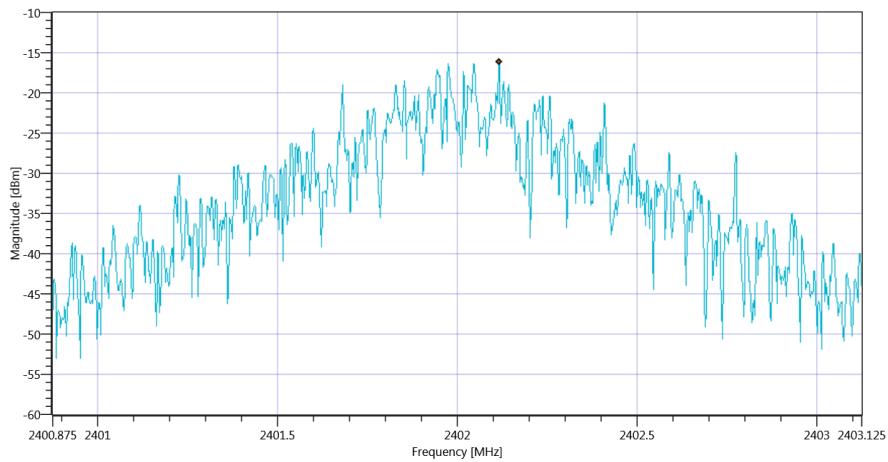
## Test at TX 2402 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.65   10.31   10
Start [MHz]   Stop [MHz]	2400.875   2403.125
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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-16.12	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4\_09032020\_153425.png

### TEST FINISHED

General Verdict	09.03.2020 15:34:26 / RT: 36 s	PASS
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## 8. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:00:01
System Version	1.0.0.33
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_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Peak Power Spectral Density 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-30,1321.3008K30/103170,3.60

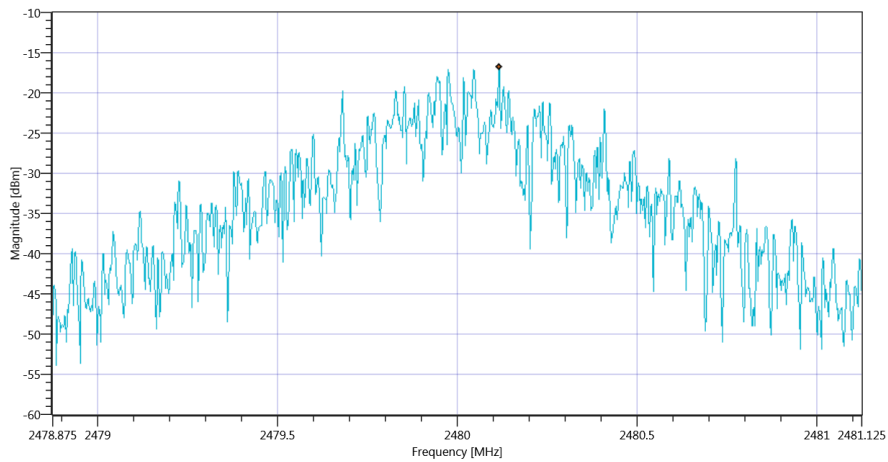
## Test at TX 2480 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.01   10.45   10
Start [MHz]   Stop [MHz]	2478.875   2481.125
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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-16.84	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4\_09032020\_160038.png

### TEST FINISHED

General Verdict	09.03.2020 16:00:38 / RT: 37 s	PASS
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## 9. FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:50:44
System Version	1.0.0.33
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_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1
My Description	FCC 15.247 Peak Power Spectral Density 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-30,1321.3008K30/103170,3.60

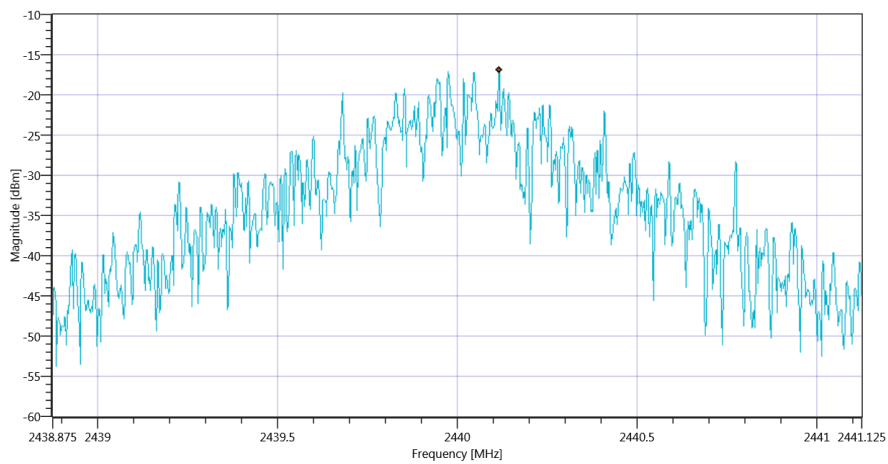
## Test at TX 2440 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.96   10.4   10
Start [MHz]   Stop [MHz]	2438.875   2441.125
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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-16.87	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ Generic 2G4\_09032020\_165121.png

### TEST FINISHED

General Verdict	09.03.2020 16:51:21 / RT: 36 s	PASS
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## 10. FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:33:04
System Version	1.0.0.33
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-30,1321.3008K30/103170,3.60

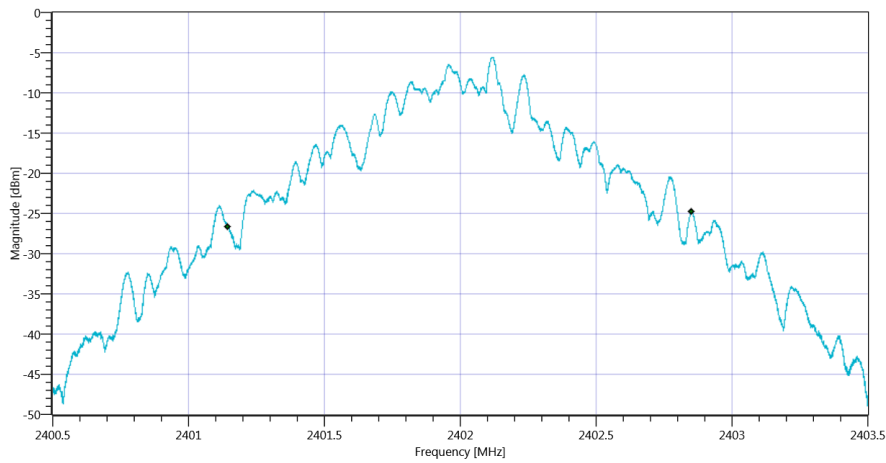
## Test at TX 2402 MHz

### READ SA SETTINGS:

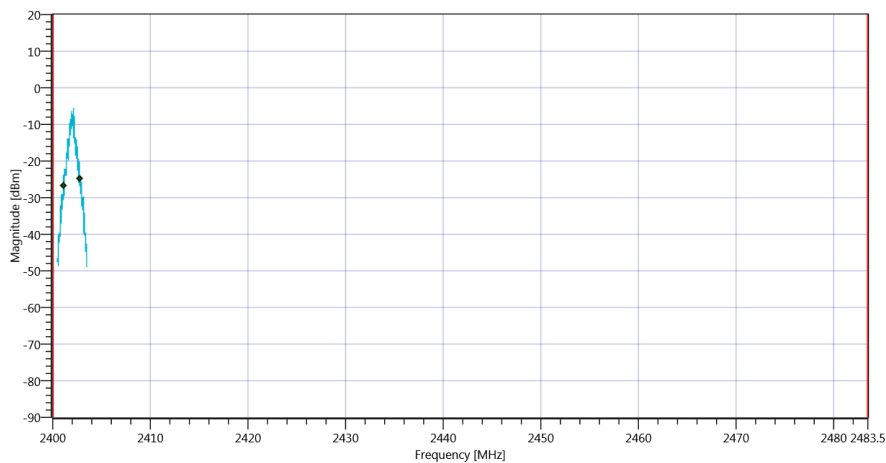
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.65   10.31   10
Start [MHz]   Stop [MHz]	2400.500   2403.500
RBW [MHz]   VBW [MHz]	0.030000   0.100000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1706	kHz	INFO
T1 99%	2400.000000	---	2401.1439	MHz	PASS
T2 99%	---	2483.500000	2402.8501	MHz	PASS



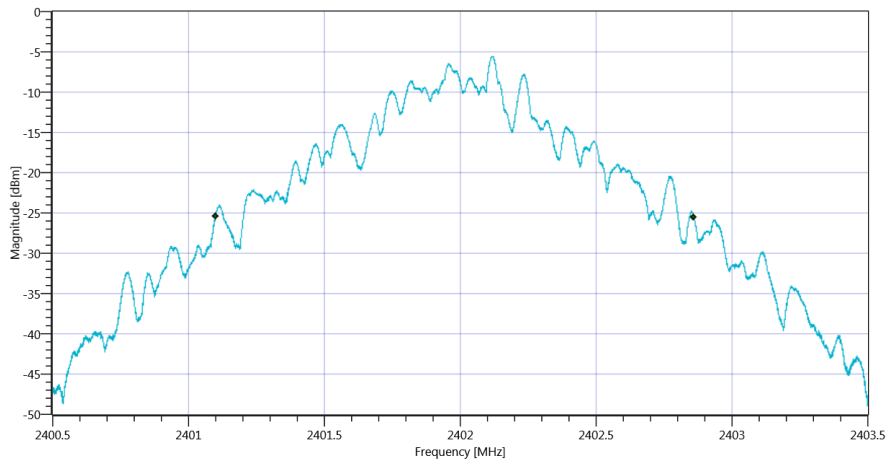
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT\_09032020\_153331.png



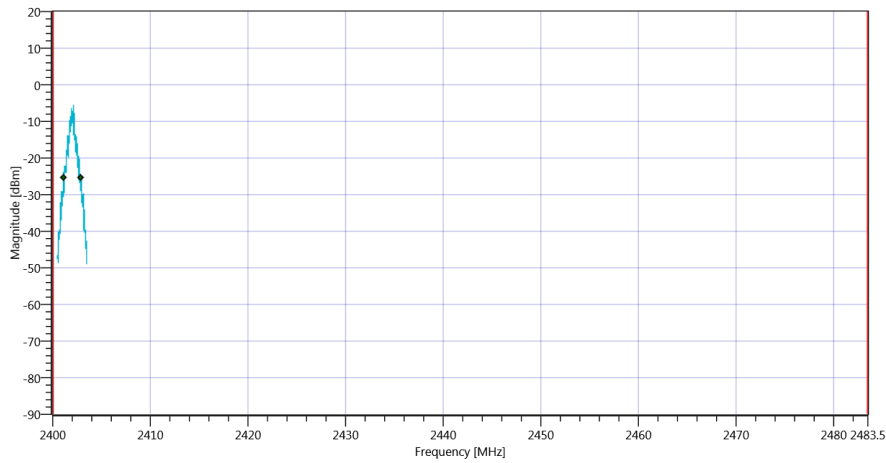
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_153335.png

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1761	kHz	INFO
T1 20DB	2400.000000	---	2401.0985	MHz	PASS
T2 20dB	---	2483.500000	2402.8598	MHz	PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB\_09032020\_153340.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_153344.png

TEST FINISHED

General Verdict

09.03.2020 15:33:45 / RT: 40 s

PASS

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

Test References	
TC Start	09.03.2020 15:59:15
System Version	1.0.0.33
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-30,1321.3008K30/103170,3.60

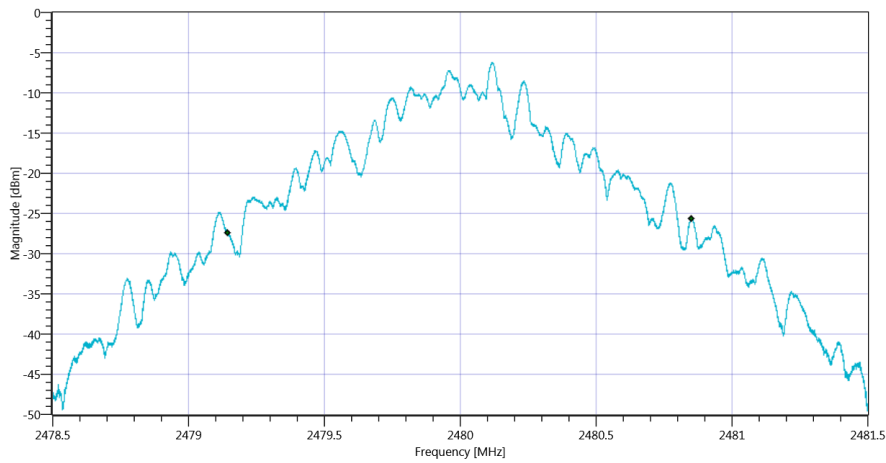
## Test at TX 2480 MHz

### READ SA SETTINGS:

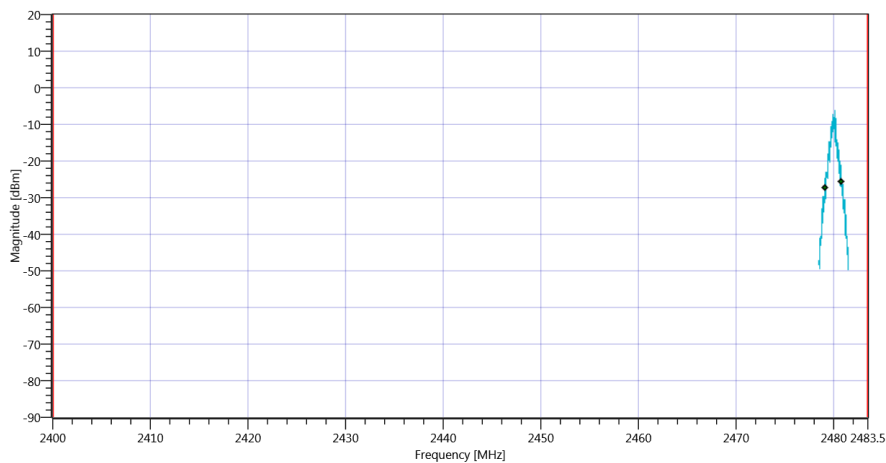
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	2.98   10.45   10
Start [MHz]   Stop [MHz]	2478.500   2481.500
RBW [MHz]   VBW [MHz]	0.030000   0.100000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1705	kHz	INFO
T1 99%	2400.000000	---	2479.1454	MHz	PASS
T2 99%	---	2483.500000	2480.8501	MHz	PASS



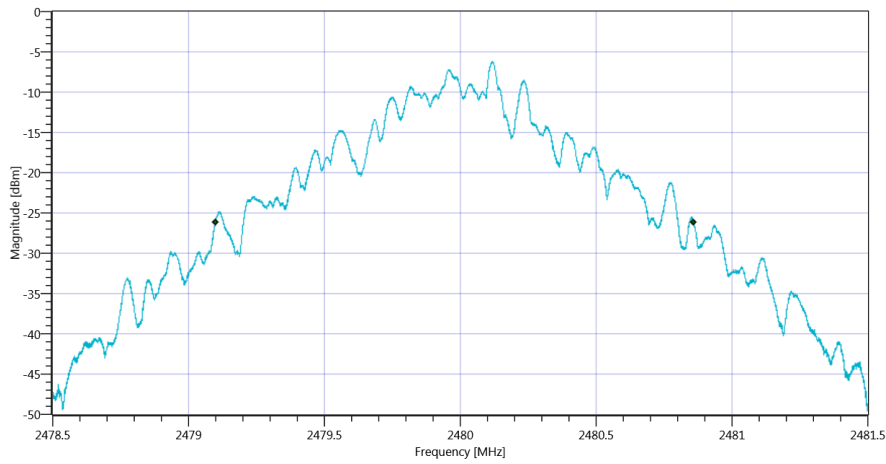
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT\_09032020\_155943.png



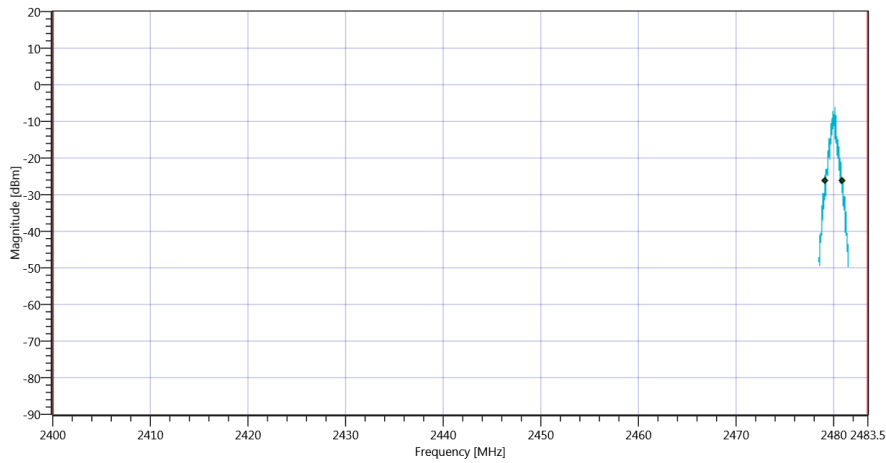
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_155947.png

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1761	kHz	INFO
T1 20dB	2400.000000	---	2479.0988	MHz	PASS
T2 20dB	---	2483.500000	2480.8598	MHz	PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB\_09032020\_155952.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_155956.png

TEST FINISHED

General Verdict

09.03.2020 15:59:57 / RT: 41 s

PASS

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

Test References	
TC Start	09.03.2020 16:49:59
System Version	1.0.0.33
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-30,1321.3008K30/103170,3.60

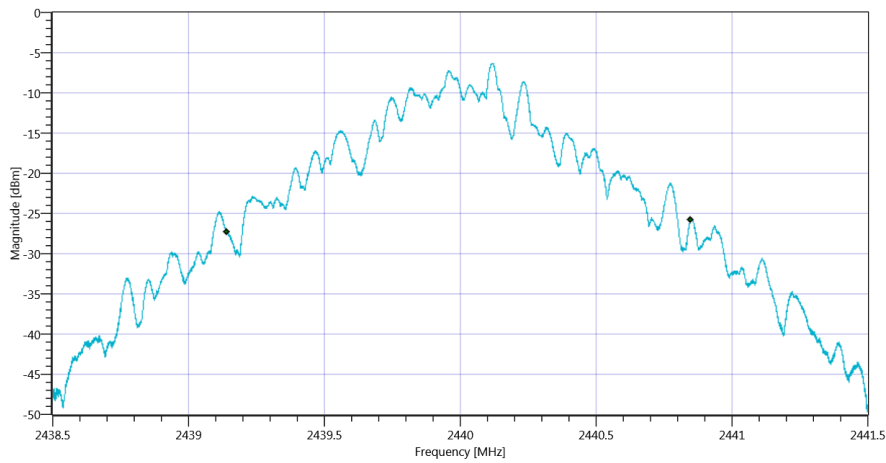
## Test at TX 2440 MHz

### READ SA SETTINGS:

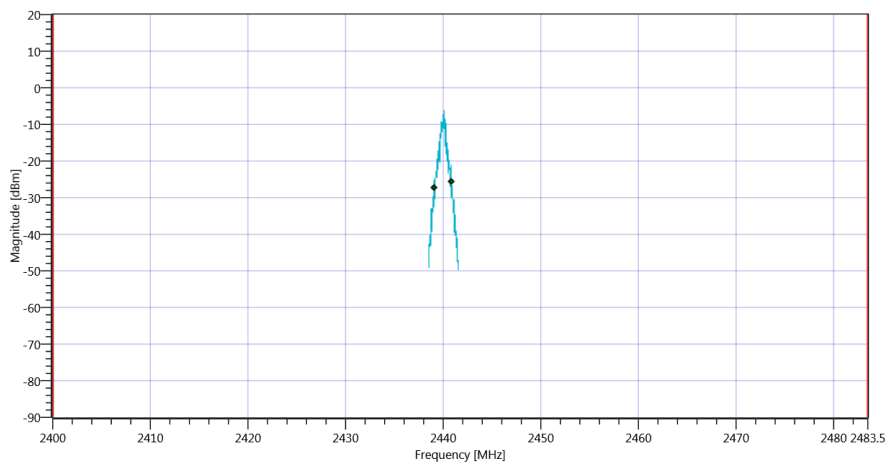
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.00   10.4   10
Start [MHz]   Stop [MHz]	2438.500   2441.500
RBW [MHz]   VBW [MHz]	0.030000   0.100000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1707	kHz	INFO
T1 99%	2400.000000	---	2439.1418	MHz	PASS
T2 99%	---	2483.500000	2440.8489	MHz	PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 99PCT\_09032020\_165026.png

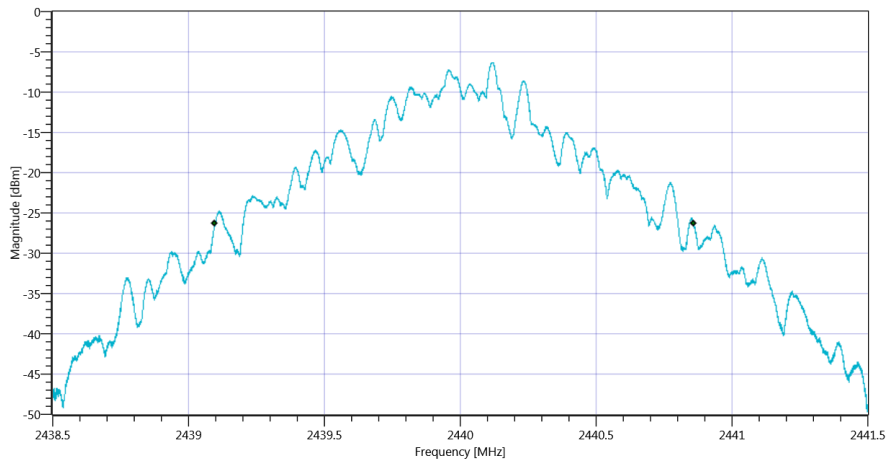


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_165030.png

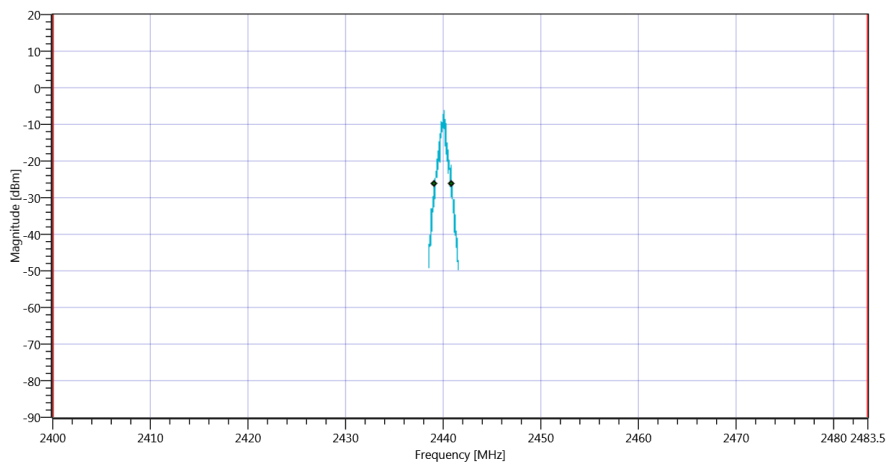
### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1762	kHz	INFO
T1 20dB	2400.000000	---	2439.0979	MHz	PASS
T2 20dB	---	2483.500000	2440.8595	MHz	PASS





Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4 20dB\_09032020\_165035.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ Generic 2G4\_09032020\_165039.png

TEST FINISHED

General Verdict

09.03.2020 16:50:40 / RT: 41 s

PASS

## 13. FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:34:30
System Version	1.0.0.33
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_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1
My Description	FCC 15.247 TX Emissions Conducted 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-30,1321.3008K30/103170,3.60

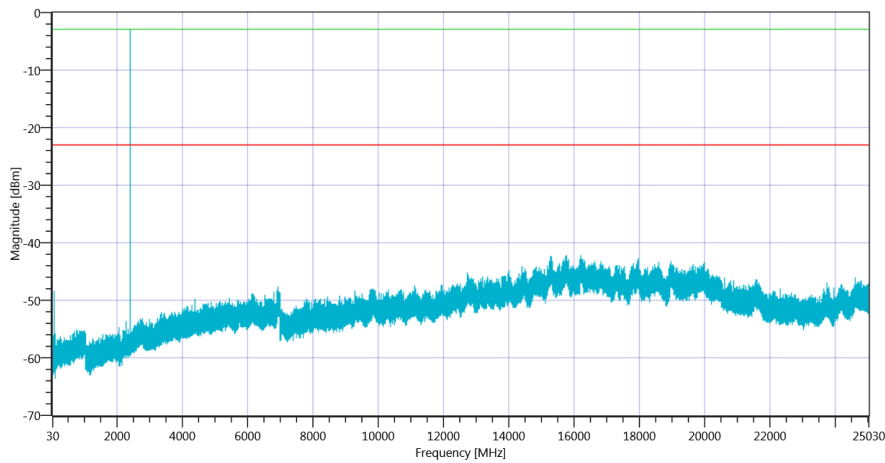
## Test at TX 2402 MHz

### READ SA SETTINGS:

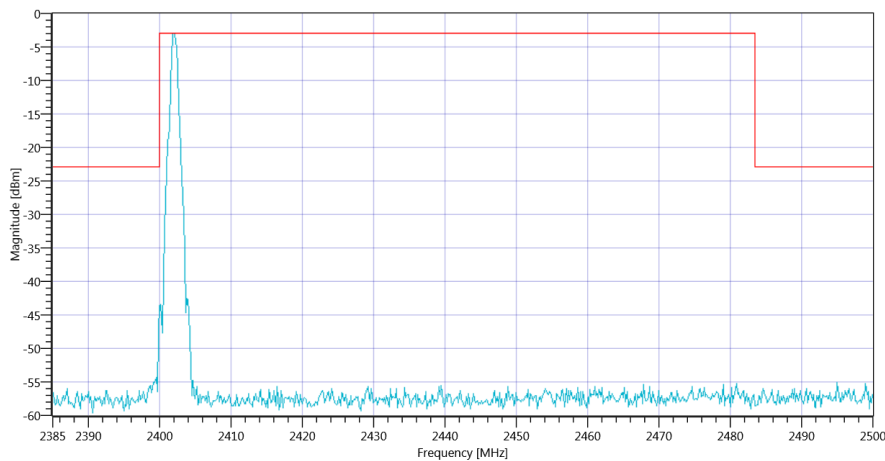
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.98   0   20
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2402.00 MHz	---	---	-2.95	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 15765.667 MHz	0	---	19.34	dB	INFO



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2402\_09032020\_153919.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2402\_09032020\_153921.png

### TEST FINISHED

General Verdict

09.03.2020 15:39:23 / RT: 293 s

PASS

## 14. FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:00:43
System Version	1.0.0.33
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_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1
My Description	FCC 15.247 TX Emissions Conducted 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-30,1321.3008K30/103170,3.60

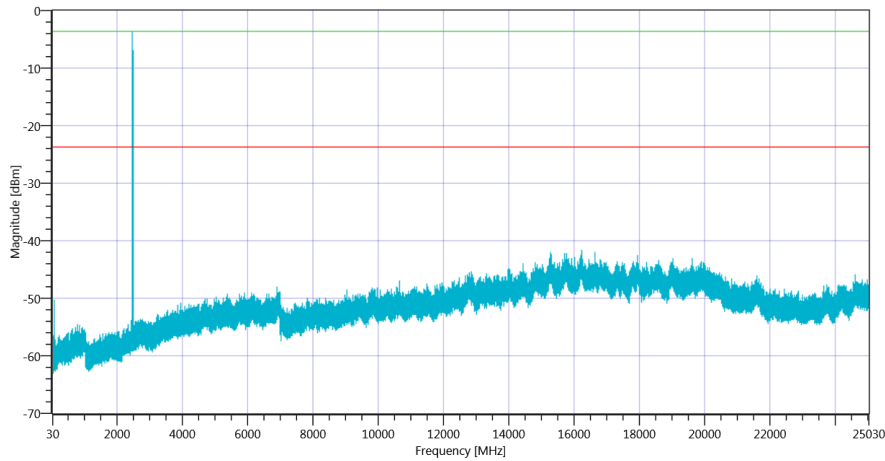
## Test at TX 2480 MHz

### READ SA SETTINGS:

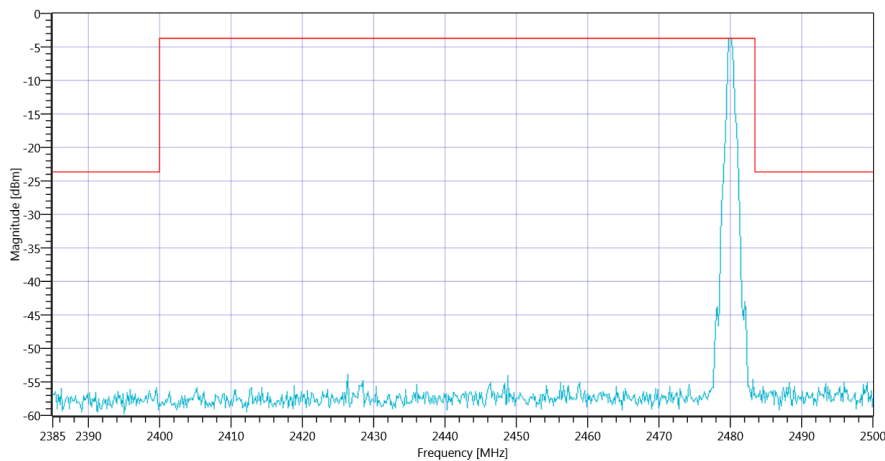
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.49   0   20
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.00 MHz	---	---	-3.70	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 16244.333 MHz	0	---	17.96	dB	INFO



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2480\_09032020\_160532.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2480\_09032020\_160535.png

### TEST FINISHED

General Verdict

09.03.2020 16:05:36 / RT: 293 s

PASS

## 15. FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:51:25
System Version	1.0.0.33
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_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1
My Description	FCC 15.247 TX Emissions Conducted 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-30,1321.3008K30/103170,3.60

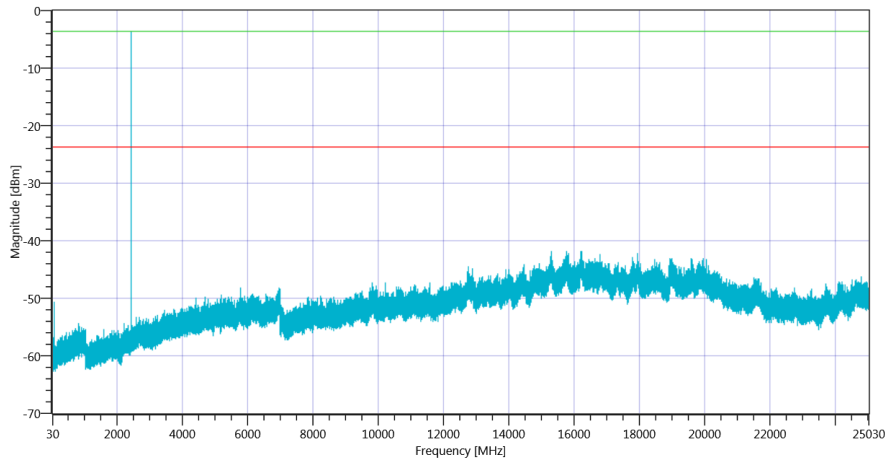
## Test at TX 2440 MHz

### READ SA SETTINGS:

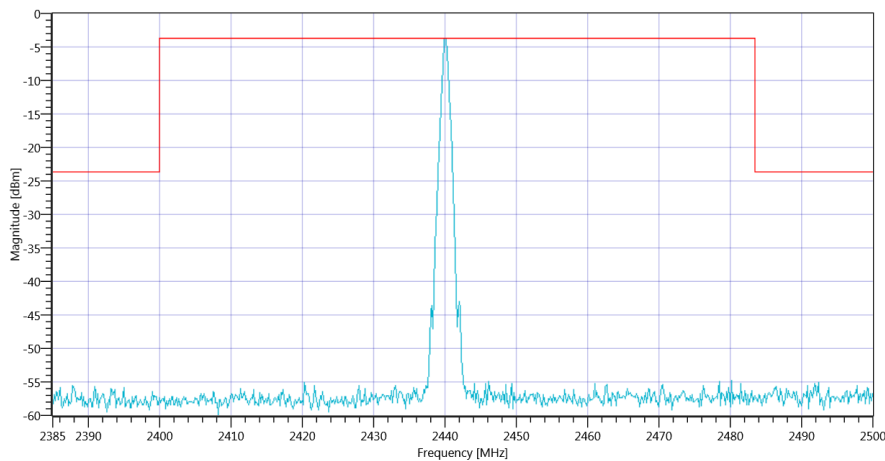
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.38   0   20
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2440.17 MHz	---	---	-3.68	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 15303 MHz	0	---	18.15	dB	INFO



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2440\_09032020\_165614.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ Generic 2G4 2440\_09032020\_165617.png

### TEST FINISHED

General Verdict

09.03.2020 16:56:18 / RT: 293 s

PASS

## 16. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg ~ Generic 2G4

Test References	
TC Start	09.03.2020 15:39:27
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.2 Peak Detection
Class / TC Version	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Peak_V01 Version: 0.0.1
My Description	FCC 15.247 Restricted Band Edge Conducted Peak 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-30,1321.3008K30/103170,3.60



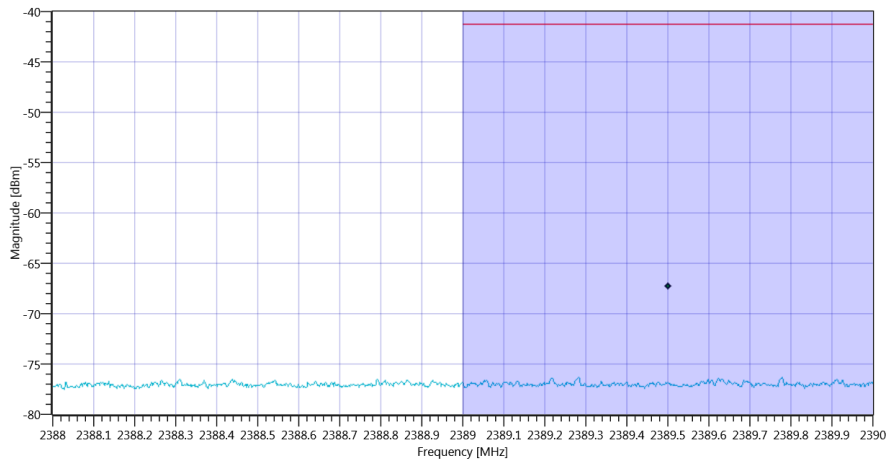
## Test at TX 2402 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.70   10.31   10
Start [MHz]   Stop [MHz]	2388.000   2390.000
RBW [MHz]   VBW [MHz]	0.100000   0.000500
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	31   300   1001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power without Antenna Gain	---	-41.23	-67.27	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-67.27	dBm	PASS



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg ~ Generic 2G4\_09032020\_153954.png

### TEST FINISHED

General Verdict

09.03.2020 15:39:54 / RT: 26 s

PASS

## 17. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg ~ Generic 2G4

Test References	
TC Start	09.03.2020 16:05:40
System Version	1.0.0.33
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.2 Peak Detection
Class / TC Version	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Peak_V01 Version: 0.0.1
My Description	FCC 15.247 Restricted Band Edge Conducted Peak 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-30,1321.3008K30/103170,3.60

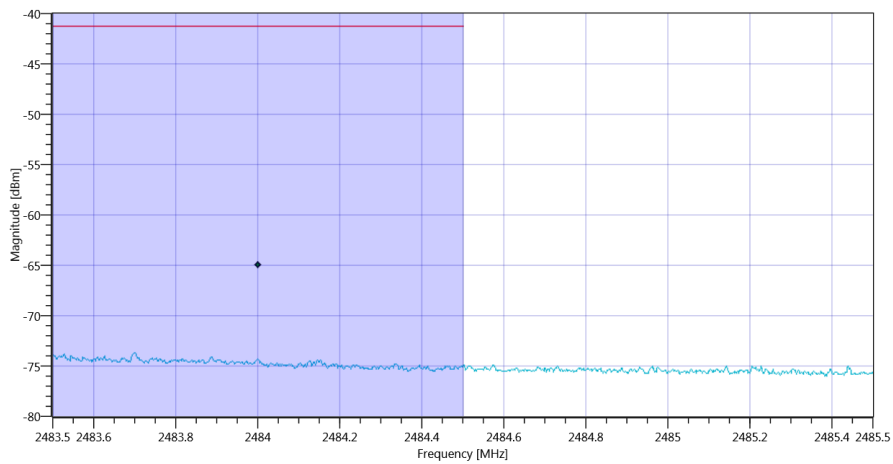
## Test at TX 2480 MHz

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	3.02   10.45   10
Start [MHz]   Stop [MHz]	2483.500   2485.500
RBW [MHz]   VBW [MHz]	0.100000   0.000500
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	31   300   1001   SWE

### RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power without Antenna Gain	---	-41.23	-65	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-65	dBm	PASS



### TEST FINISHED

General Verdict	09.03.2020 16:06:08 / RT: 27 s	PASS
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