

# Measurement Results

1-9135/19-01-02\_Annex\_MR\_A\_1

[Test logging](#)

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## IUT Summary

IUT DEFINITION	
Manufacturer	AWARE Systems GmbH
Type	Scout
Serial No.   Setup No.	NI   1.0
SW Version   HW Version	NI   NI
Comment 1   2	

IUT Common Settings	
Tlow   Tmid   Thigh [°C]	20   20   20
Vlow   Vmid   Vhigh [V] @Imax [A]	5   5   5 @1
Auto Control enabled Power Supply   Climatic Box	No   No
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0.3

IUT Common Settings BT Low Energy	
Intermodulation Value N	3
Image Freq. Low   Mid   High [MHz]	0   0   0
Power Class	2
1 Mbps supported	True   TXpayload 255   RXpayload 255
2 Mbps supported	False   TXpayload 255   RXpayload 255
Longrange S8 supported	False   TXpayload 255   RXpayload 255
Longrange S2 supported	False   TXpayload 255   RXpayload 255
Signaling Settings	USB_RS232   HCI   21   B115K   None   S1   None   On
Signaling RF Settings	RF1com   0   0   On
User Interaction	No
Switch Matrix & Pathcompensation enabled	Yes

## 1. Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 Msps

Test References	
TC Start	24.09.2019 11:14:00
System Version	1.0.0.20
Test Specification	None
Test Method	
Class / TC Version / TC ID	TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1   TCID_Common2G4_1
My Description	Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps
Add. Information	

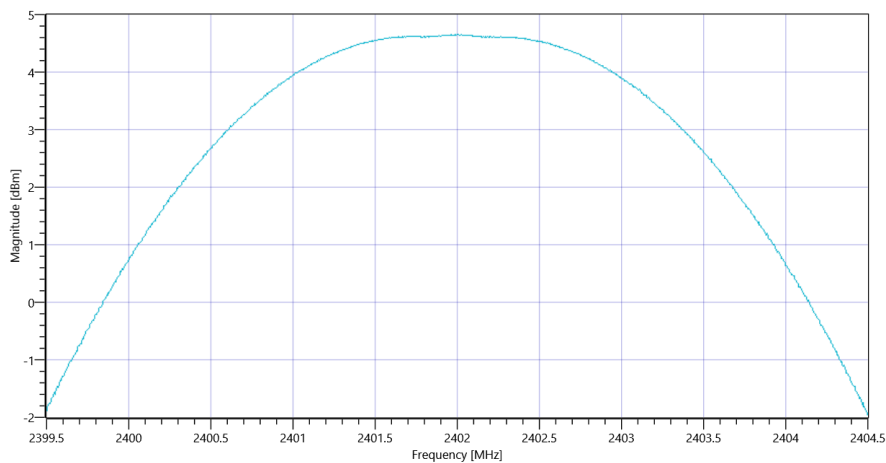
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.51   10.09   20
Start [MHz]   Stop [MHz]	2399.500   2404.500
RBW [MHz]   VBW [MHz]	3.000000   3.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1000   10   1001   SWE

RESULT: TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.65	dBm	Information
Peak Power	---	1000	2.917427	mW	Information
Frequency at Peak	---	---	2402.005	MHz	Information



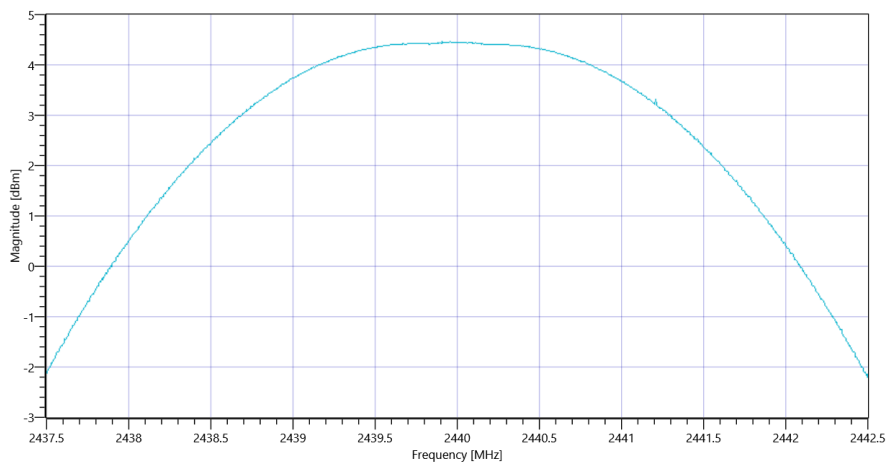
Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 Msps\_24092019\_111425.png

## Test at TX 2440 MHz

RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.27   10.21   20
Start [MHz]   Stop [MHz]	2437.500   2442.500
RBW [MHz]   VBW [MHz]	3.000000   3.000000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	1000   10   1001   SWE

RESULT: TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.46	dBm	Information
Peak Power	---	1000	2.792544	mW	Information
Frequency at Peak	---	---	2439.955	MHz	Information



Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 Msps\_24092019\_111449.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

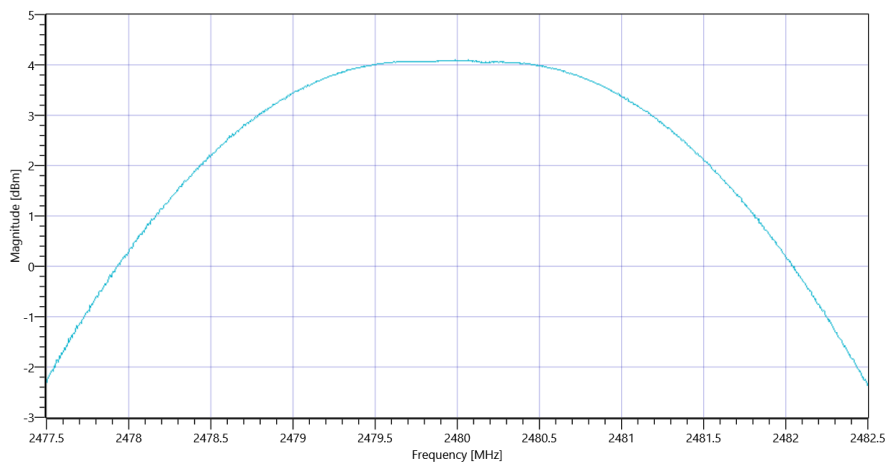
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	13.95   10.26   20				
Start [MHz]   Stop [MHz]	2477.500   2482.500				
RBW [MHz]   VBW [MHz]	3.000000   3.000000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	1000   10   1001   SWE				

### RESULT: TC\_VM\_Common2G4\_Peak\_Output\_Power\_Conducted\_3MHz\_3MHz\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.09	dBm	Information
Peak Power	---	1000	2.564484	mW	Information
Frequency at Peak	---	---	2480.065	MHz	Information



Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 Msp\_24092019\_111513.png

### TEST FINISHED

General Verdict

24.09.2019 11:15:13 / RT: 73 s

PASS

## 2. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps

Test References	
TC Start	24.09.2019 11:15:17
System Version	1.0.0.20
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 ID	TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1   TCID_FCC15247_3
My Description	FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40



## Test at TX 2402 MHz

### RESULT: DTM Connection check

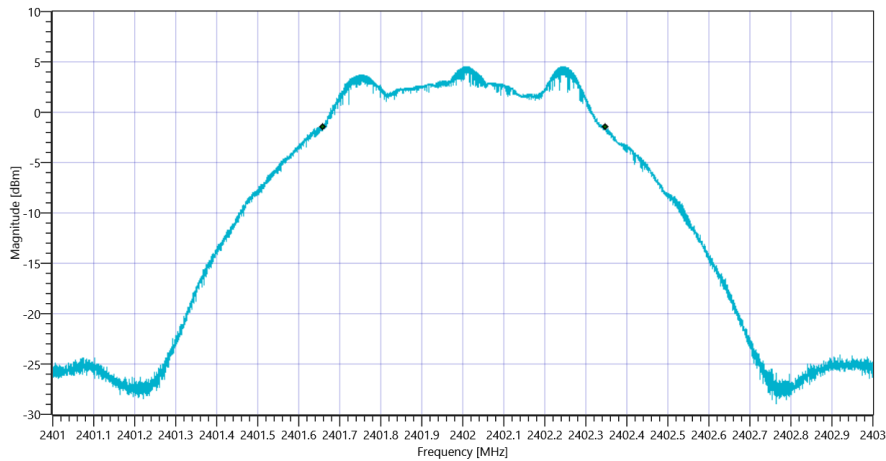
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.47   10.09   15				
Start [MHz]   Stop [MHz]	2401.000   2403.000				
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: DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	688	kHz	Information



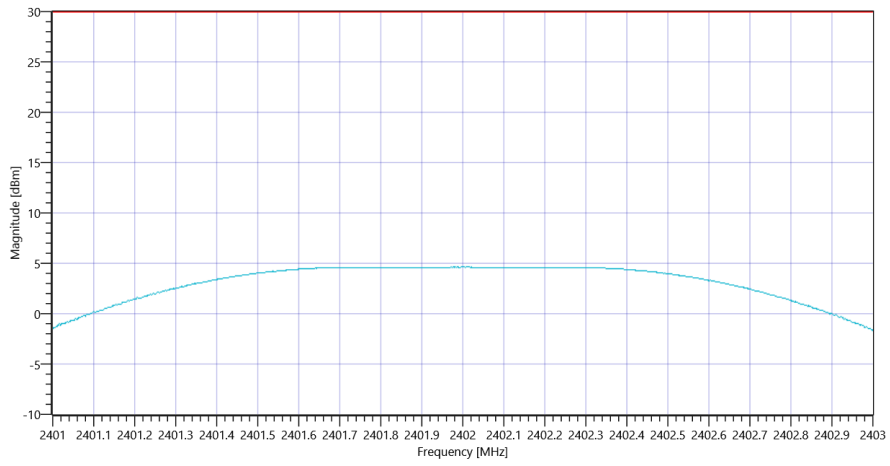
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW \_24092019\_111542.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.47   10.09   20				
Start [MHz]   Stop [MHz]	2401.000   2403.000				
RBW [MHz]   VBW [MHz]	1.000000   5.000000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE				

### RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_DTS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.62	dBm	PASS
Peak Power	---	1000	2.897344	mW	PASS
Frequency at Peak	---	---	2402.002	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_24092019\_111556.png

## Test at TX 2440 MHz

### RESULT: DTM Connection check

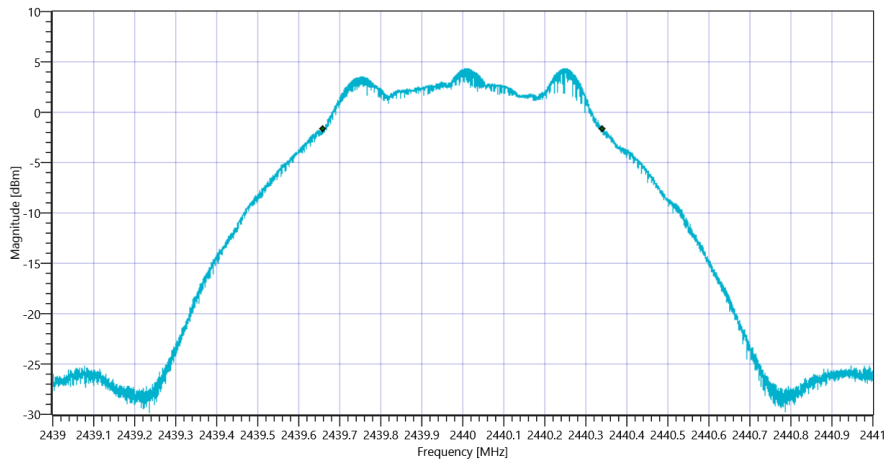
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.25   10.21   15				
Start [MHz]   Stop [MHz]	2439.000   2441.000				
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: DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	681	kHz	Information



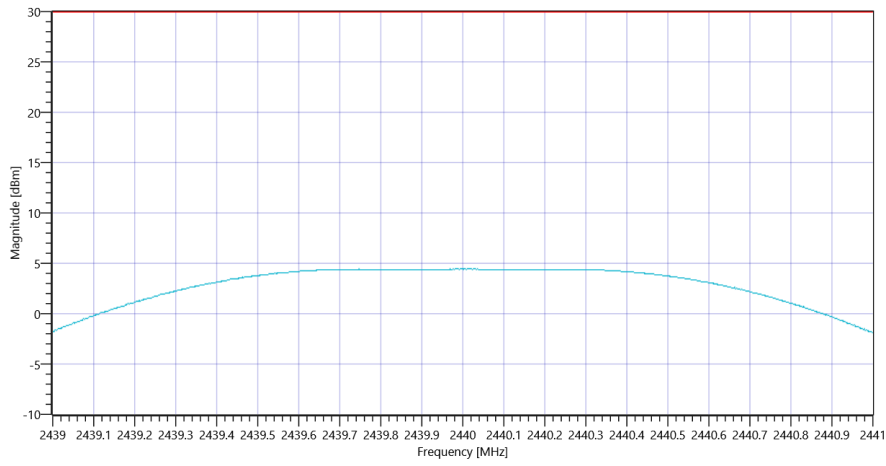
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW \_24092019\_111621.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.25   10.21   20				
Start [MHz]   Stop [MHz]	2439.000   2441.000				
RBW [MHz]   VBW [MHz]	1.000000   5.000000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE				

### RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_DTS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.43	dBm	PASS
Peak Power	---	1000	2.77332	mW	PASS
Frequency at Peak	---	---	2439.998	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_24092019\_111635.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

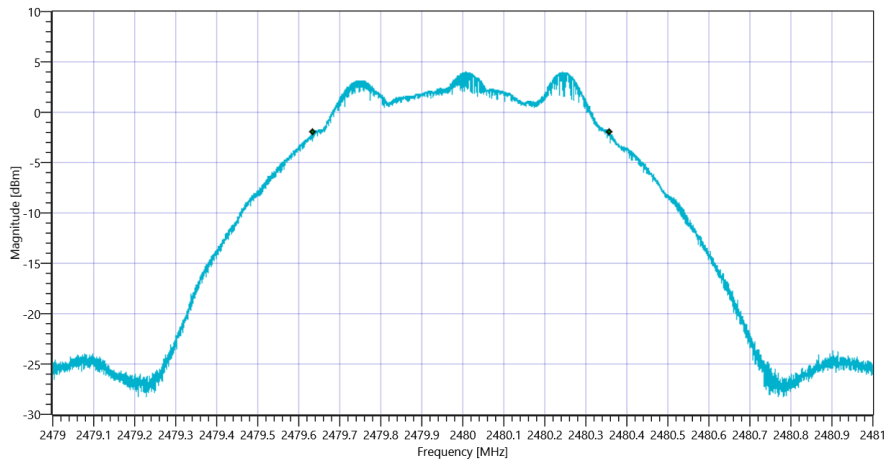
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.93   10.26   15				
Start [MHz]   Stop [MHz]	2479.000   2481.000				
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: DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	724	kHz	Information



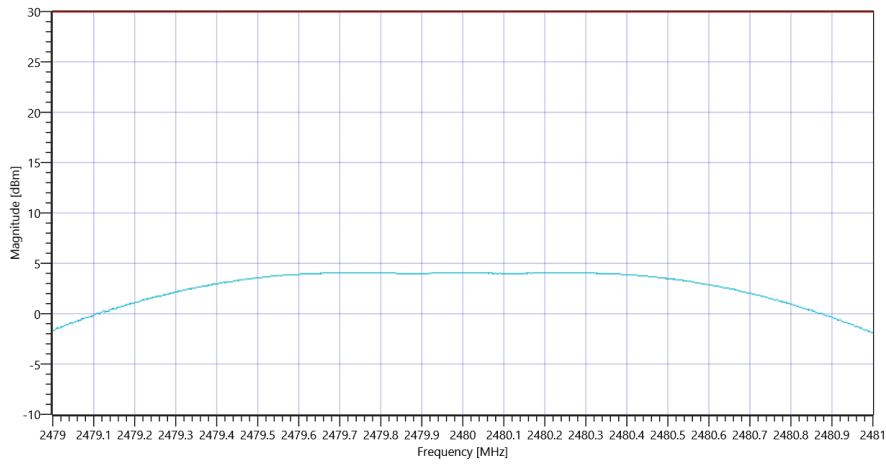
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW \_24092019\_111700.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	13.93   10.26   20				
Start [MHz]   Stop [MHz]	2479.000   2481.000				
RBW [MHz]   VBW [MHz]	1.000000   5.000000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	50   200   1001   SWE				

### RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_DTS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	4.07	dBm	PASS
Peak Power	---	1000	2.552701	mW	PASS
Frequency at Peak	---	---	2479.998	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_24092019\_111715.png

TEST FINISHED

General Verdict

24.09.2019 11:17:15 / RT: 118 s

PASS

### 3. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msp

Test References	
TC Start	24.09.2019 11:17:19
System Version	1.0.0.20
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 - BT LE 1 Msp
Add. Information	

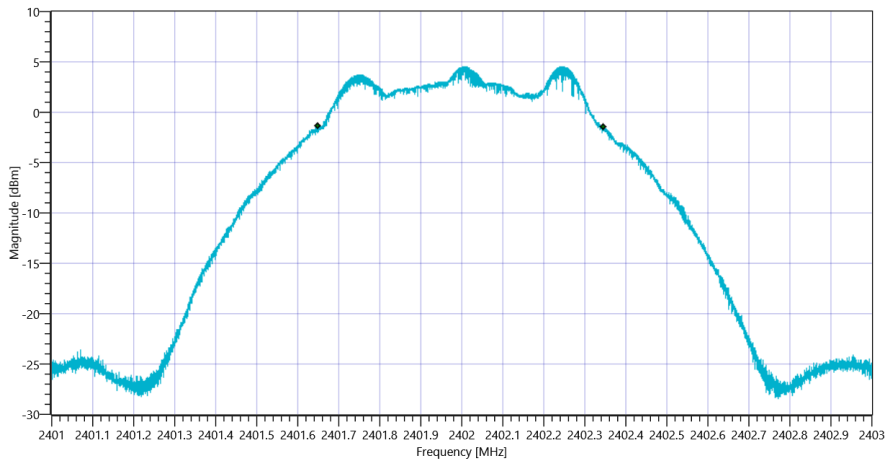
Test Parameter	
Technology to test	BT LE 1 Msp
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.47   10.09   15
Start [MHz]   Stop [MHz]	2401.000   2403.000
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	---	698	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msp\_s\_24092019\_111744.png

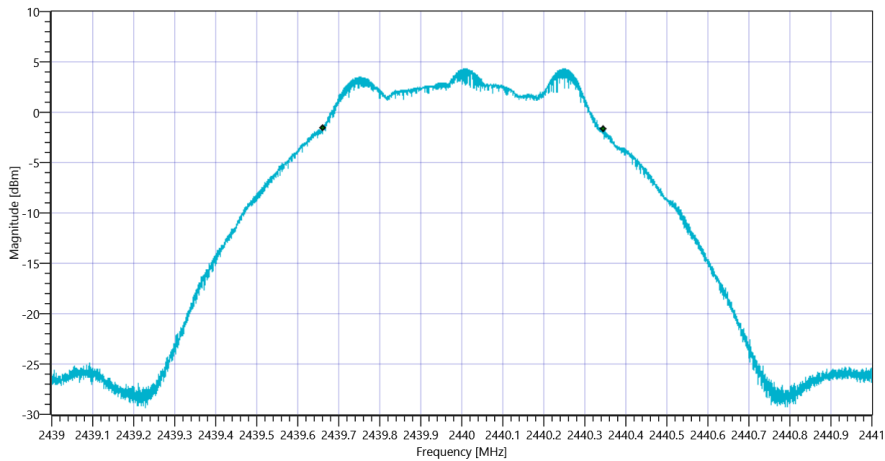


## Test at TX 2440 MHz

RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.25   10.21   15
Start [MHz]   Stop [MHz]	2439.000   2441.000
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	---	683	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS\_24092019\_111808.png

## Test at TX 2480 MHz

RESULT: DTM Connection check

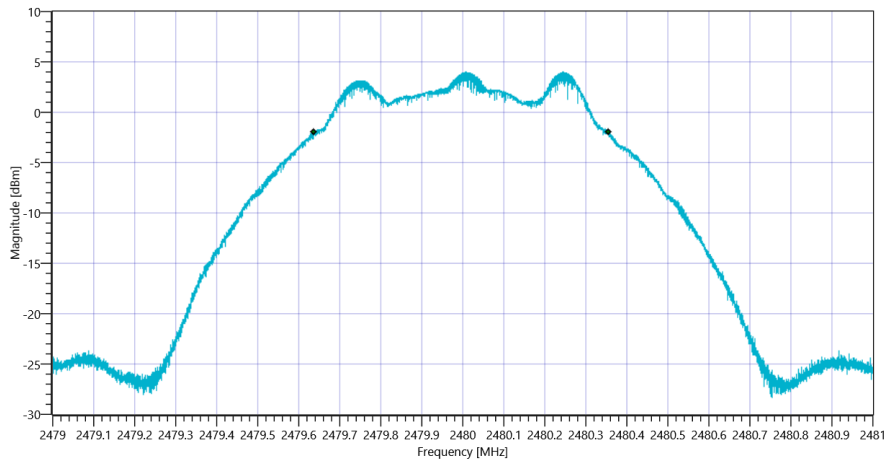
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.93   10.26   15				
Start [MHz]   Stop [MHz]	2479.000   2481.000				
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	---	720	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS\_24092019\_111833.png

TEST FINISHED

General Verdict

24.09.2019 11:18:33 / RT: 73 s

PASS

## 4. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps

Test References	
TC Start	24.09.2019 11:18:37
System Version	1.0.0.20
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 - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

RESULT: DTM Connection check

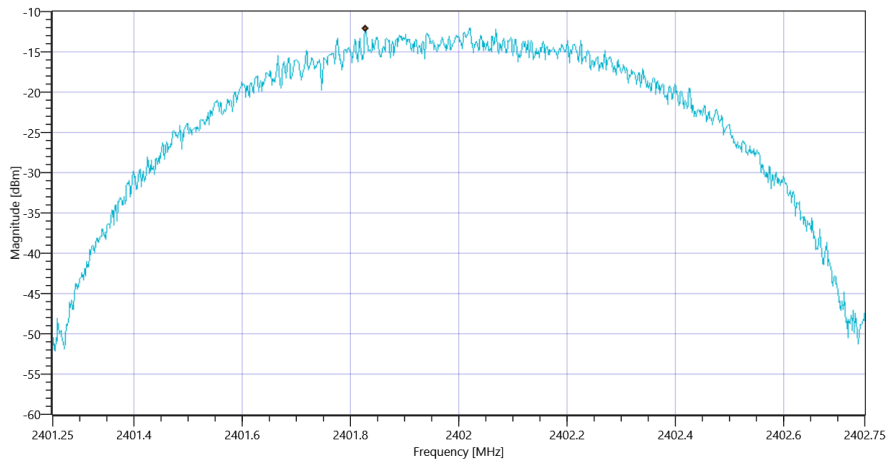
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.48   10.09   15				
Start [MHz]   Stop [MHz]	2401.250   2402.750				
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	-12.08	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_24092019\_111911.png

## Test at TX 2440 MHz

RESULT: DTM Connection check

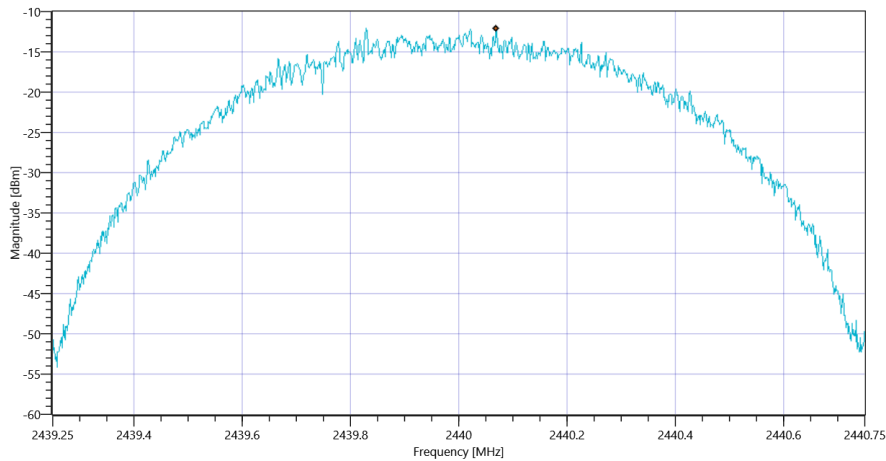
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.24   10.21   15				
Start [MHz]   Stop [MHz]	2439.250   2440.750				
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	-12.12	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_24092019\_111945.png

## Test at TX 2480 MHz

RESULT: DTM Connection check

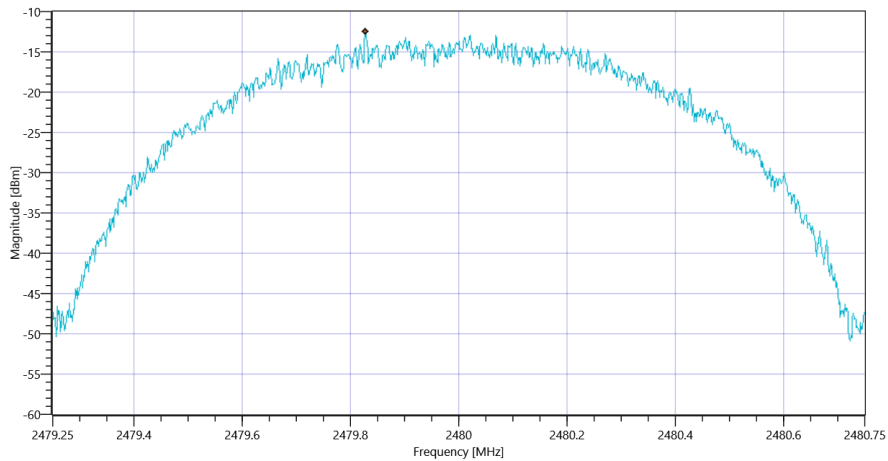
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.93   10.26   15				
Start [MHz]   Stop [MHz]	2479.250   2480.750				
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	-12.54	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_24092019\_112019.png

TEST FINISHED

General Verdict

24.09.2019 11:20:19 / RT: 102 s

PASS

## 5. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps

Test References	
TC Start	24.09.2019 11:20:23
System Version	1.0.0.20
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 - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

### RESULT: DTM Connection check

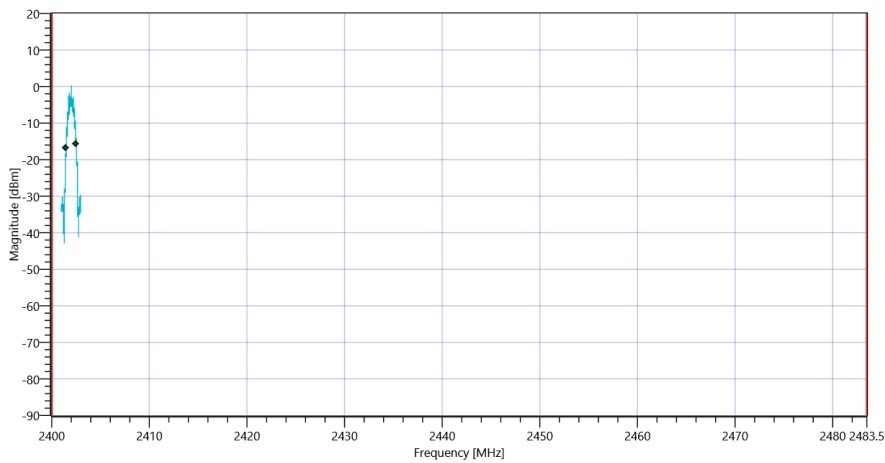
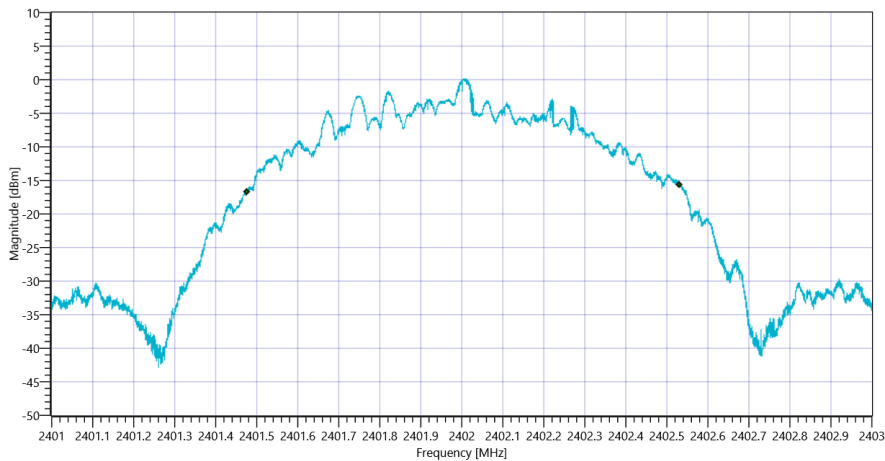
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.46   10.09   15				
Start [MHz]   Stop [MHz]	2401.000   2403.000				
RBW [MHz]   VBW [MHz]	0.020000   0.050000				
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%	---	---	1054	kHz	Information
T1 99%	2400.000000	---	2401.4773	MHz	PASS
T2 99%	---	2483.500000	2402.5313	MHz	PASS



### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1155	kHz	Information
T1 20dB	2400.000000	---	2401.4238	MHz	PASS



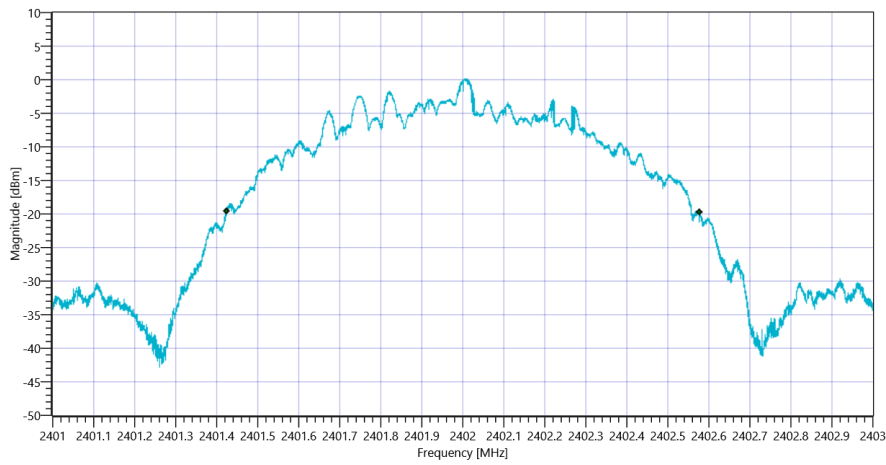
T2 20dB

2483.50000

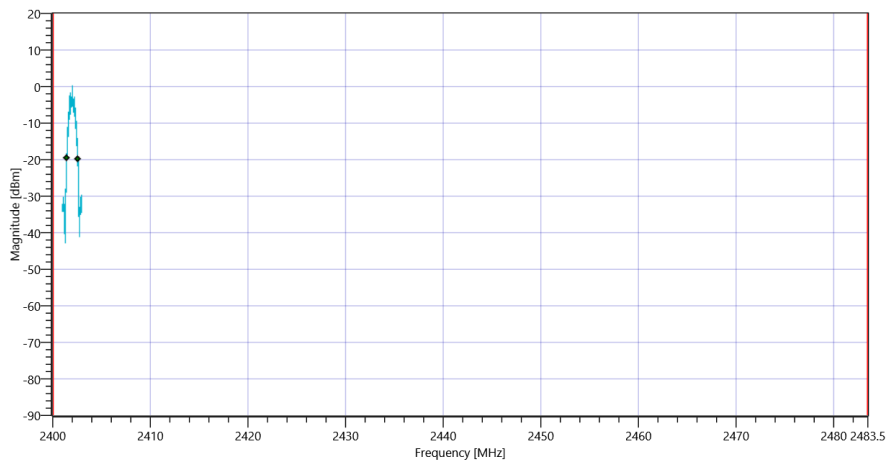
2402.5784

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112054.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112057.png

## Test at TX 2440 MHz

### RESULT: DTM Connection check

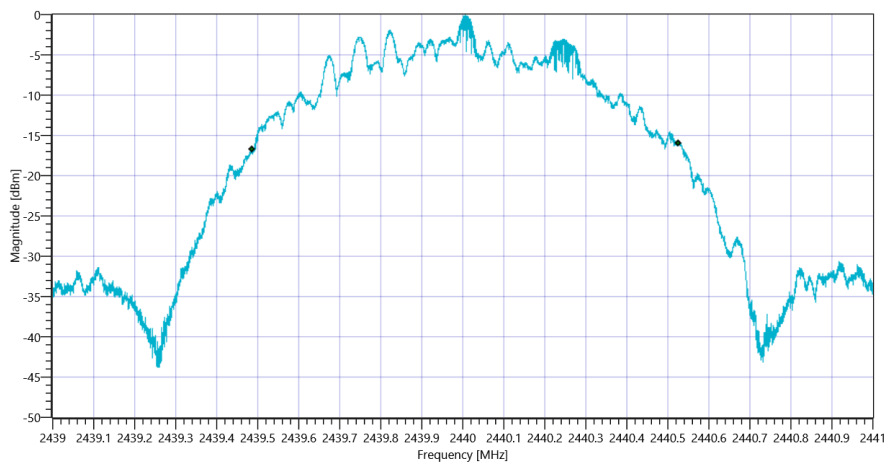
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	--	--	--	--	PASS

### READ SA SETTINGS:

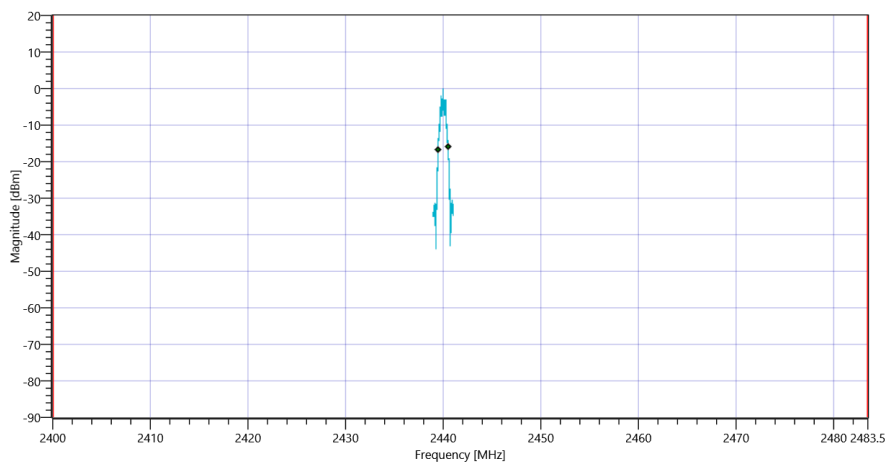
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.25   10.21   15				
Start [MHz]   Stop [MHz]	2439.000   2441.000				
RBW [MHz]   VBW [MHz]	0.020000   0.050000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	50   200   10001   SWE				

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	1040	kHz	Information
T1 99%	2400.000000	--	2439.4857	MHz	PASS
T2 99%	--	2483.500000	2440.5261	MHz	PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 99PCT\_24092019\_112122.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112125.png

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	1150	kHz	Information
T1 20dB	2400.000000	--	2439.4260	MHz	PASS

T2 20dB

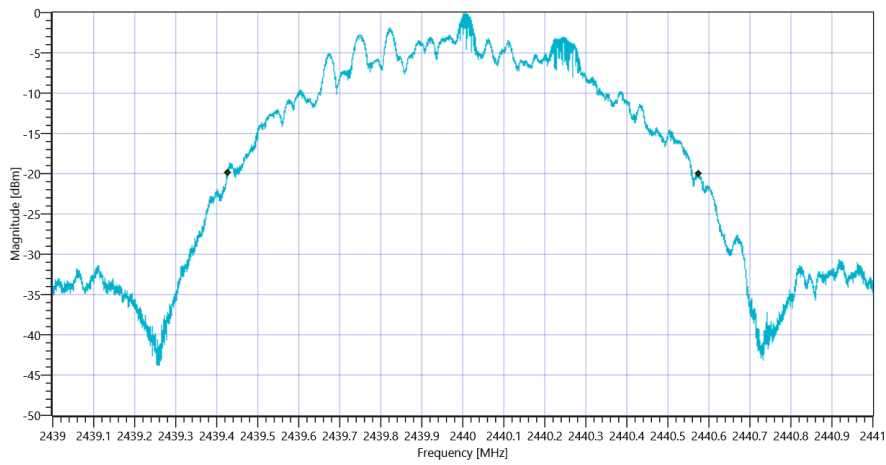
--

2483.50000

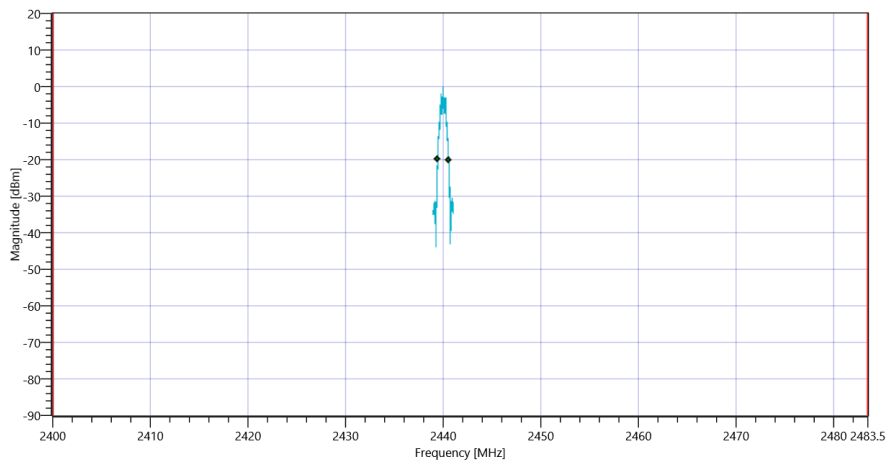
2440.5762

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112129.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112132.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

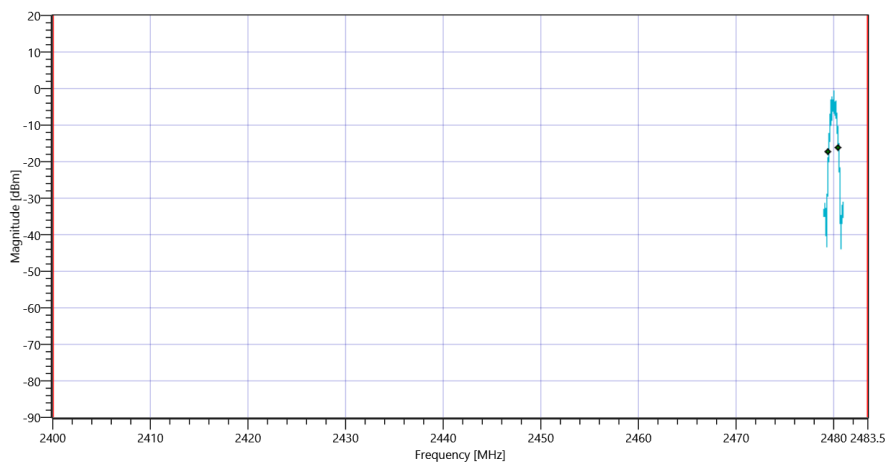
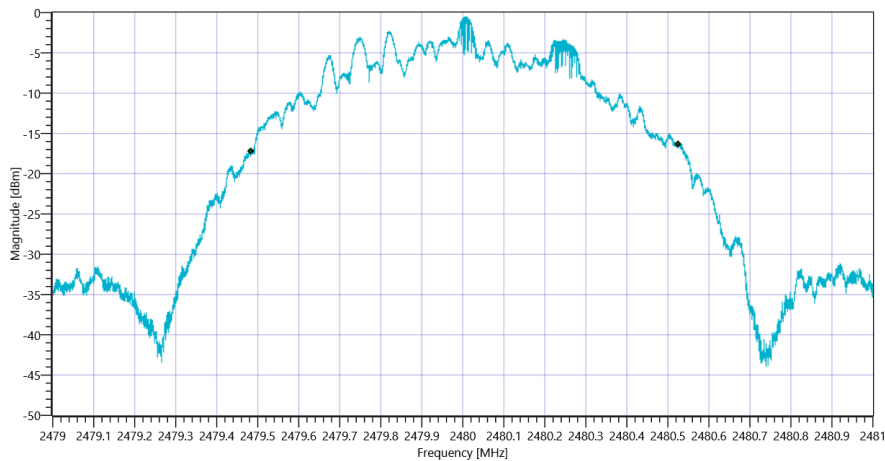
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.94   10.26   15				
Start [MHz]   Stop [MHz]	2479.000   2481.000				
RBW [MHz]   VBW [MHz]	0.020000   0.050000				
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%	---	---	1042	kHz	Information
T1 99%	2400.000000	---	2479.4847	MHz	PASS
T2 99%	---	2483.500000	2480.5263	MHz	PASS



### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1153	kHz	Information
T1 20dB	2400.000000	---	2479.4250	MHz	PASS

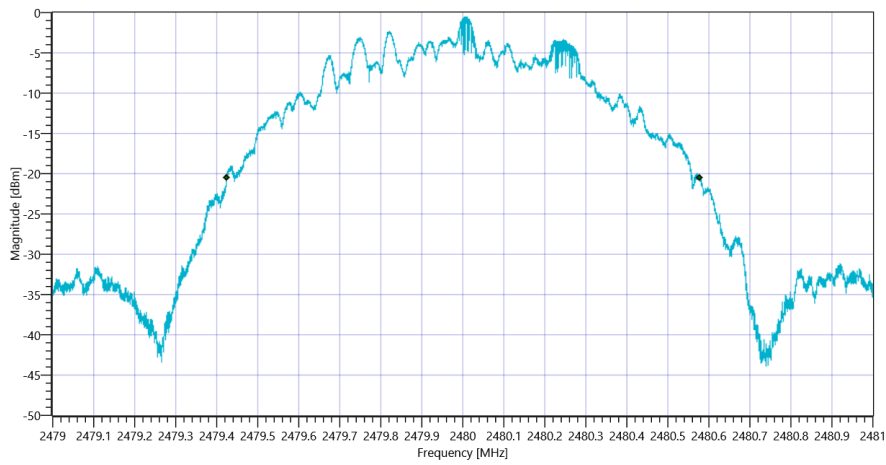
T2 20dB

2483.50000

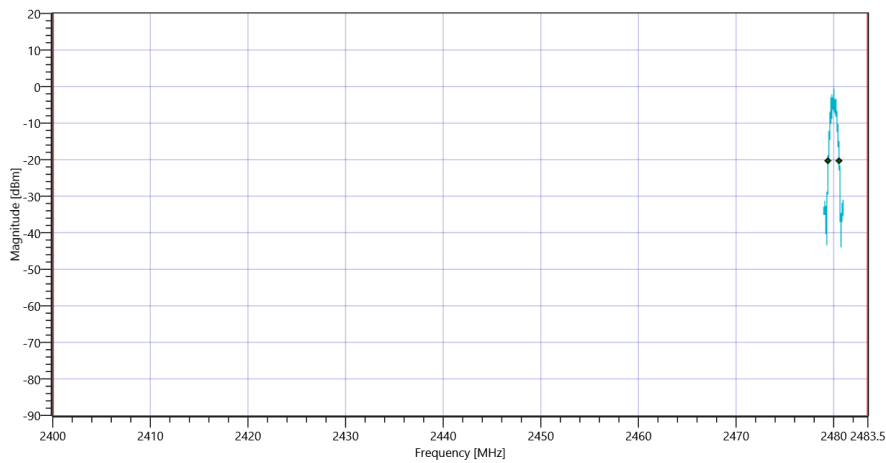
2480.5778

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112204.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_24092019\_112207.png

TEST FINISHED

General Verdict

24.09.2019 11:22:08 / RT: 104 s

PASS

## 6. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msp

Test References	
TC Start	24.09.2019 11:22:12
System Version	1.0.0.20
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 - BT LE 1 Msp
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msp
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

RESULT: DTM Connection check

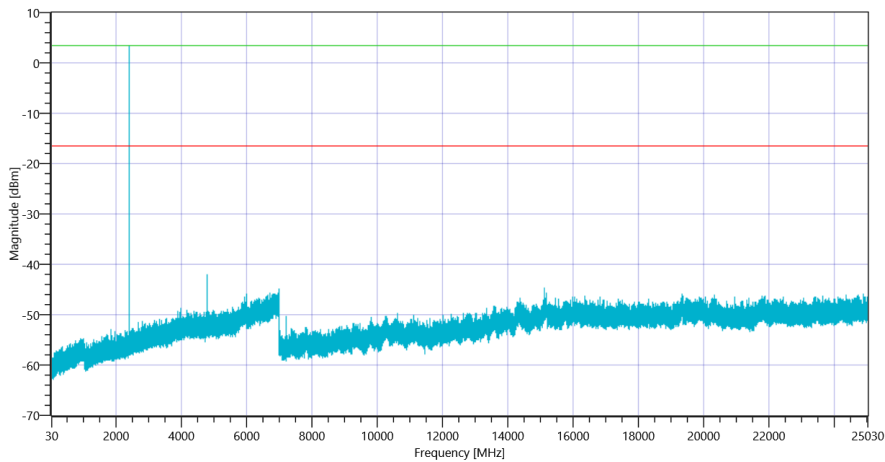
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

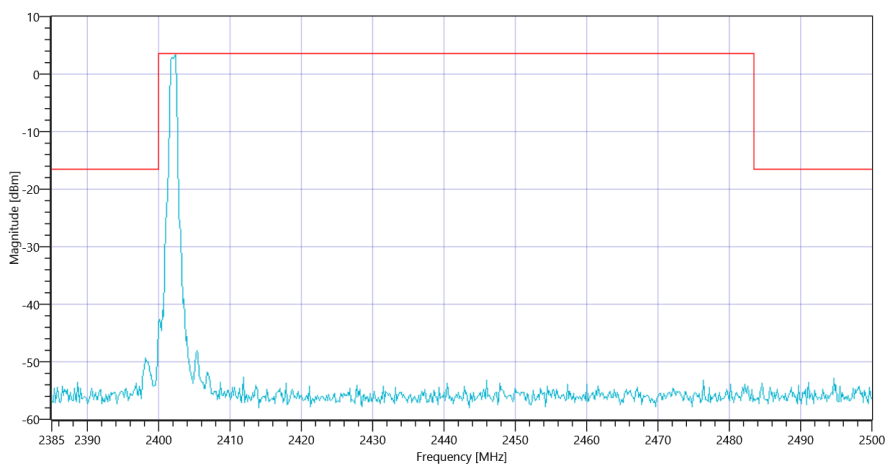
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.85   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2402.33 MHz	---	---	3.52	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2402\_24092019\_112653.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2402\_24092019\_112656.png

## Test at TX 2440 MHz

RESULT: DTM Connection check

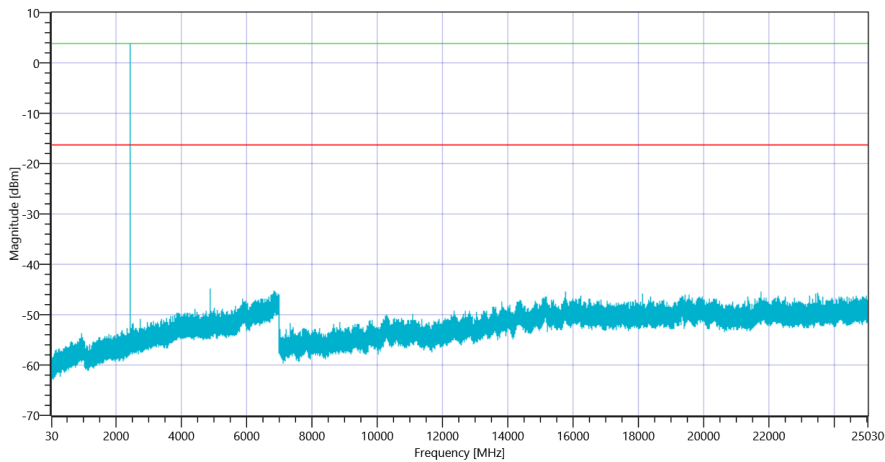
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

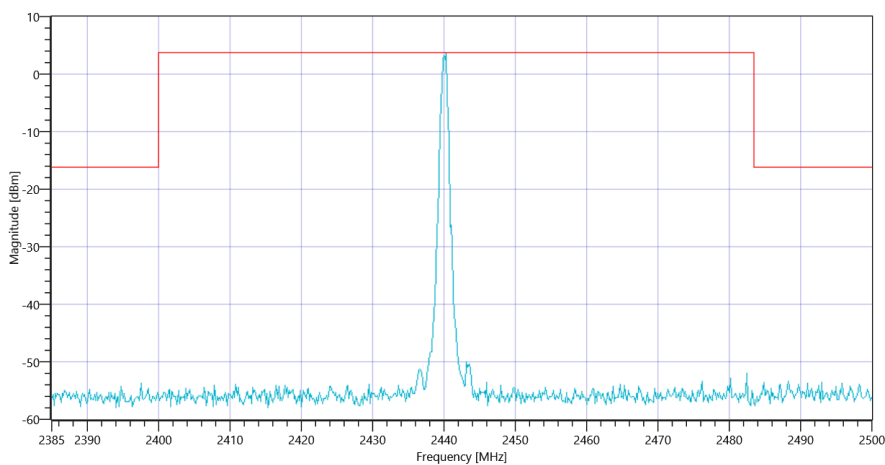
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.64   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2440.33 MHz	---	---	3.76	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2440\_24092019\_113137.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2440\_24092019\_113140.png



## Test at TX 2480 MHz

RESULT: DTM Connection check

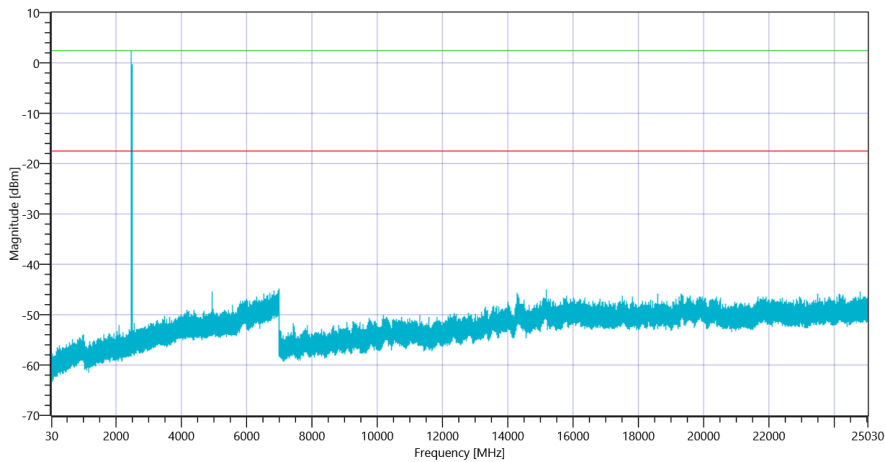
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:

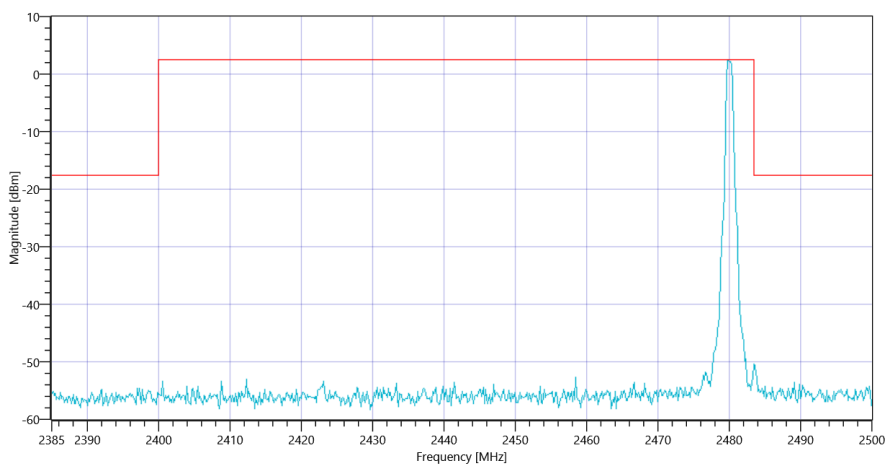
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.21   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2479.83 MHz	---	---	2.49	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480\_24092019\_113621.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480\_24092019\_113624.png

TEST FINISHED

General Verdict	24.09.2019 11:36:25 / RT: 853 s	PASS
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## 7. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps

Test References	
TC Start	24.09.2019 11:36:29
System Version	1.0.0.20
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 ID	TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Peak_V01 Version: 0.0.1   TCID_FCC15247_7
My Description	FCC 15.247 Restricted Band Edge Conducted Peak DTS - BT LE 1 Msps
Add. Information	

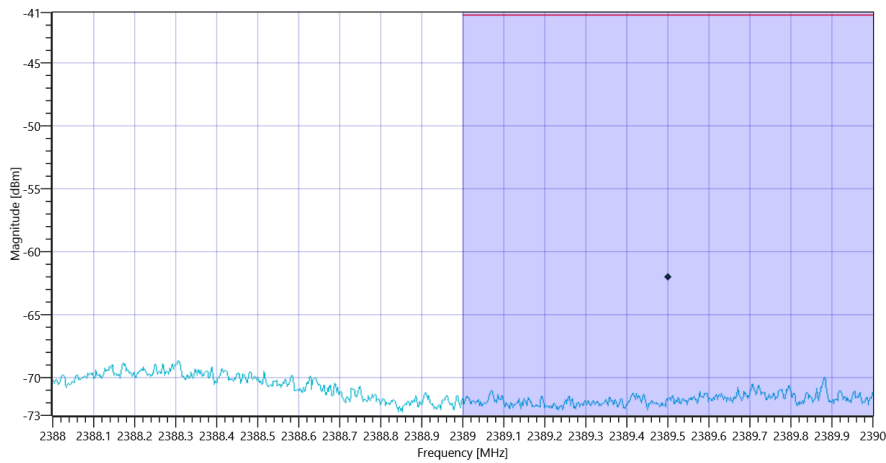
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	False   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.70   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.40

## Test at TX 2402 MHz

RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	9.49   10.09   15
Start [MHz]   Stop [MHz]	2388.000   2390.000
RBW [MHz]   VBW [MHz]	0.100000   0.002000
Detector   TraceMode	POS   MAXH
Sweep: Time [ms]   Count   Points per Section   Type	8   300   1001   SWE
Marker Method	Band Power

RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Peak_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power without Antenna Gain	---	-41.23	-62	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-62	dBm	PASS



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps\_24092019\_113647.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

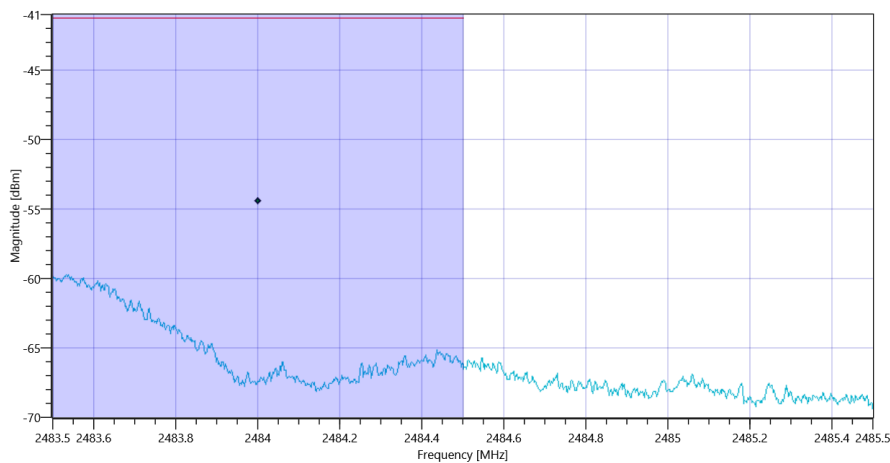
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	8.93   10.26   15				
Start [MHz]   Stop [MHz]	2483.500   2485.500				
RBW [MHz]   VBW [MHz]	0.100000   0.002000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	8   300   1001   SWE				
Marker Method	Band Power				

### RESULT: TC\_VM\_FCC15247\_Restricted\_Band\_Edge\_Conducted\_Peak\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power without Antenna Gain	---	-41.23	-54.41	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-54.41	dBm	PASS



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps\_24092019\_113703.png

### TEST FINISHED

General Verdict

24.09.2019 11:37:03 / RT: 34 s

PASS

- END OF DOCUMENT -