

# Measurement Results

1-6563/18-01-03\_log1\_conducted

[Test logging](#)

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## Table of Content

IUT Summary	3
1. Common2G4 Peak Output Power conducted 3MHz_3MHz ~ BT LE 1 Msps	4
2. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps	8
3. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps	15
4. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps	19
5. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps	23
6. FCC Part 15.247 TX Spurious Conduced ~ BT LE 1 Msps	30
7. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps	34

## IUT Summary

IUT DEFINITION & Common settings	
Manufacturer	Hamilton Bonaduz AG
Type	Arc Wi 1G Adapter BT
Serial No.   Setup No.	Not available
SW Version   HW Version	NI   NI
Comment 1   2	Power over Arc USB Power Cable
Tlow   Tmid   Thigh [°C]	5   20   70
Vlow   Vmid   Vhigh [V] @Imax [A]	24 V DC by adapter
Auto Control enabled Power Supply   Climatic Box	No   No
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0.5

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 37   RXpayload 37
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	WS_USB_RS232   TW0   102   19200   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	10.02.2020 11:17:08
System Version	1.0.0.29
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	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

### RESULT: DTM Connection check

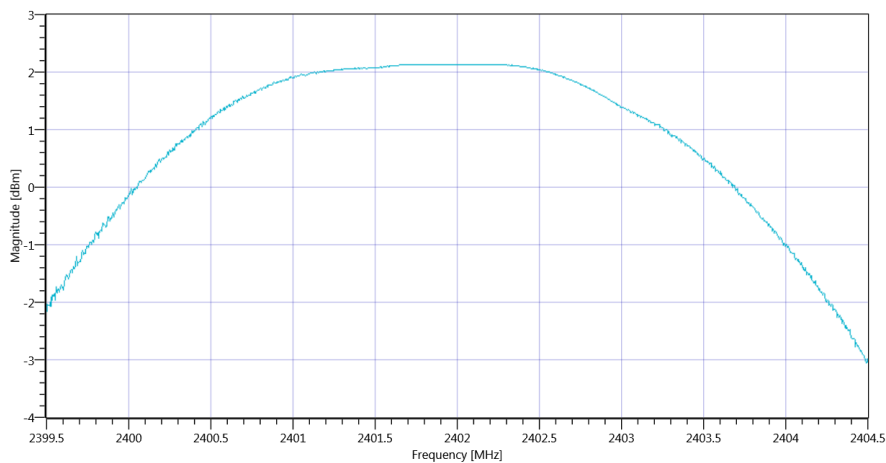
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	12.13   10.31   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	---	---	2.13	dBm	Information
Peak Power	---	---	1.633052	mW	Information
Frequency at Peak	---	---	2401.715	MHz	Information



Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 MspS\_10022020\_111736.png

## Test at TX 2440 MHz

### RESULT: DTM Connection check

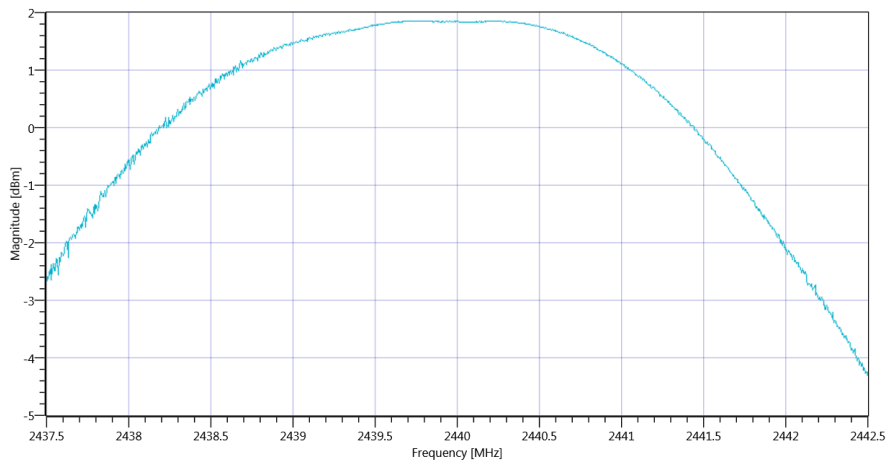
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	11.83   10.4   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	---	---	1.85	dBm	Information
Peak Power	---	---	1.531087	mW	Information
Frequency at Peak	---	---	2440.19	MHz	Information



Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 MspS\_10022020\_111802.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

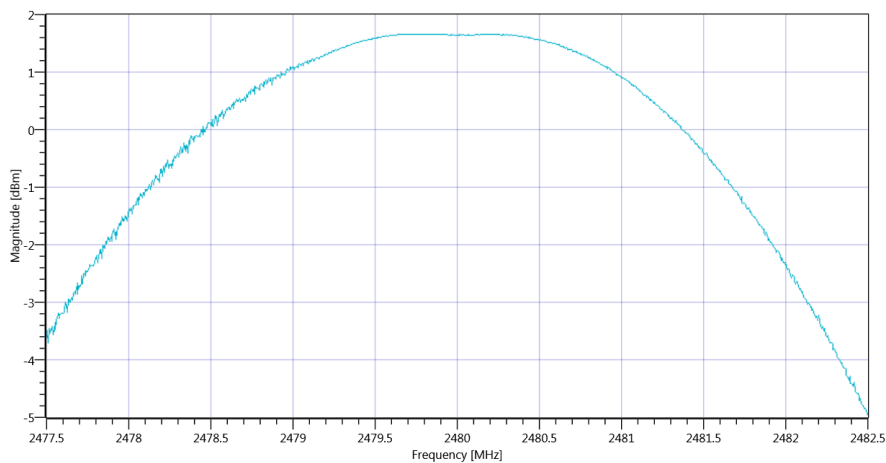
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	11.65   10.45   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	---	---	1.66	dBm	Information
Peak Power	---	---	1.465548	mW	Information
Frequency at Peak	---	---	2479.745	MHz	Information



Plot\_Common2G4 Peak Output Power conducted 3MHz\_3MHz ~ BT LE 1 Msp\_s\_10022020\_111828.png

### TEST FINISHED

General Verdict

10.02.2020 11:18:29 / RT: 80 s

PASS

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

Test References	
TC Start	10.02.2020 11:18:33
System Version	1.0.0.29
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 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	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60



## Test at TX 2402 MHz

### RESULT: DTM Connection check

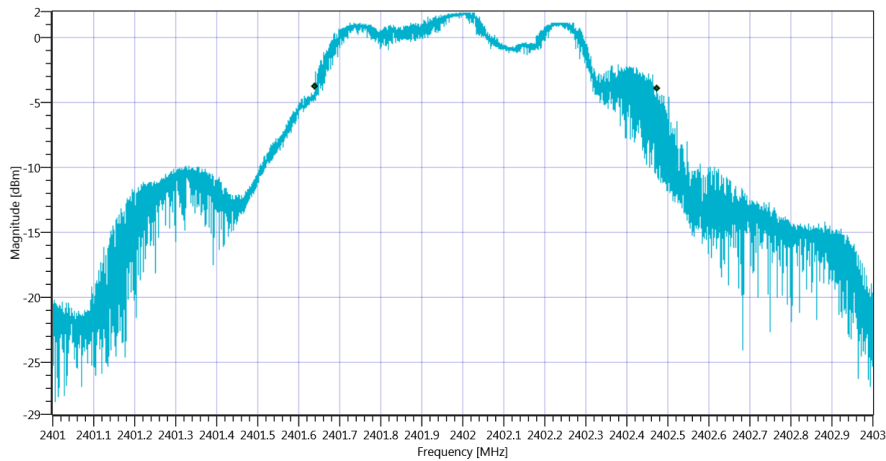
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.12   10.31   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)	---	---	834	kHz	Information



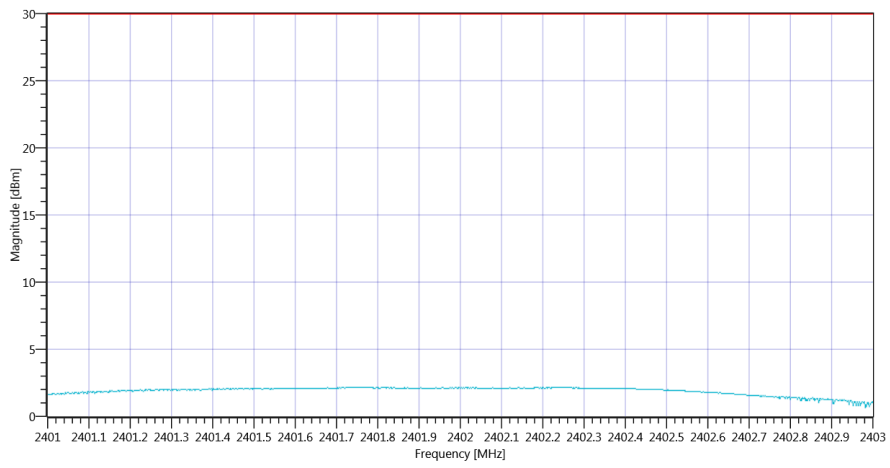
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW\_10022020\_111901.png

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	12.12   10.31   20				
Start [MHz]   Stop [MHz]	2401.000   2403.000				
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: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_DTS\_V01

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	2.13	dBm	PASS
Peak Power	---	1000	1.633052	mW	PASS
Frequency at Peak	---	---	2402.25	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_10022020\_111916.png

## Test at TX 2440 MHz

### RESULT: DTM Connection check

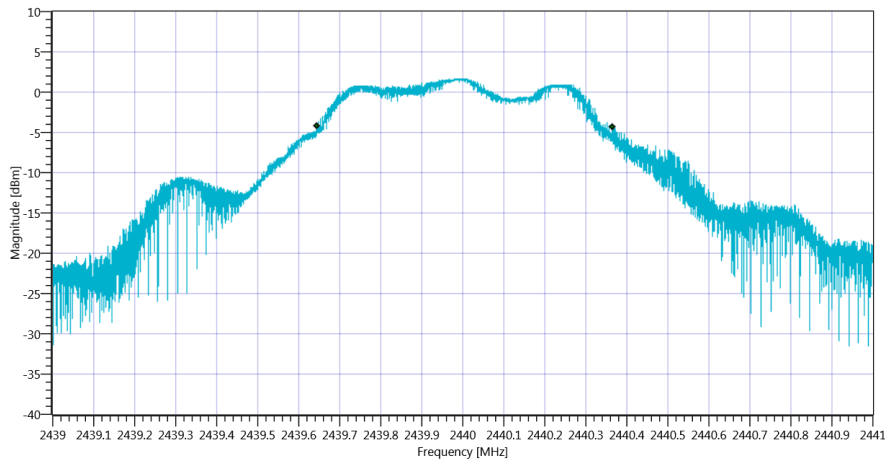
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.91   10.4   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)	---	---	723	kHz	Information

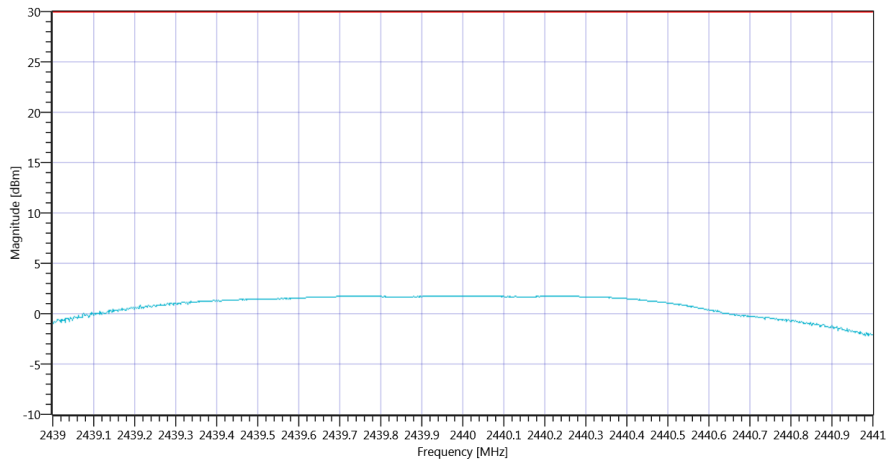


### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	11.91   10.4   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	1.71	dBm	PASS
Peak Power	---	1000	1.482518	mW	PASS
Frequency at Peak	---	---	2439.728	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_10022020\_111959.png

## Test at TX 2480 MHz

### RESULT: DTM Connection check

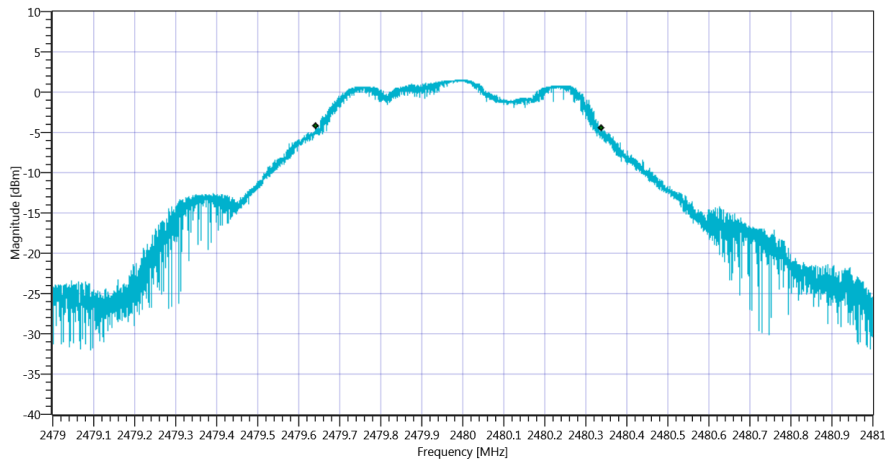
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.73   10.45   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)	---	---	696	kHz	Information

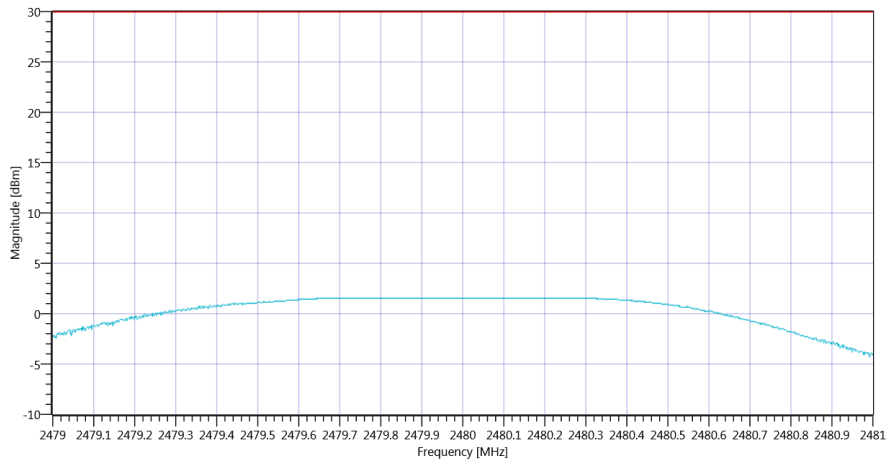


### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	11.73   10.45   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	1.56	dBm	PASS
Peak Power	---	1000	1.432188	mW	PASS
Frequency at Peak	---	---	2479.748	MHz	Information



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_10022020\_112042.png

TEST FINISHED

General Verdict

10.02.2020 11:20:43 / RT: 129 s

PASS

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

Test References	
TC Start	10.02.2020 11:20:47
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 - BT LE 1 Msps
Add. Information	

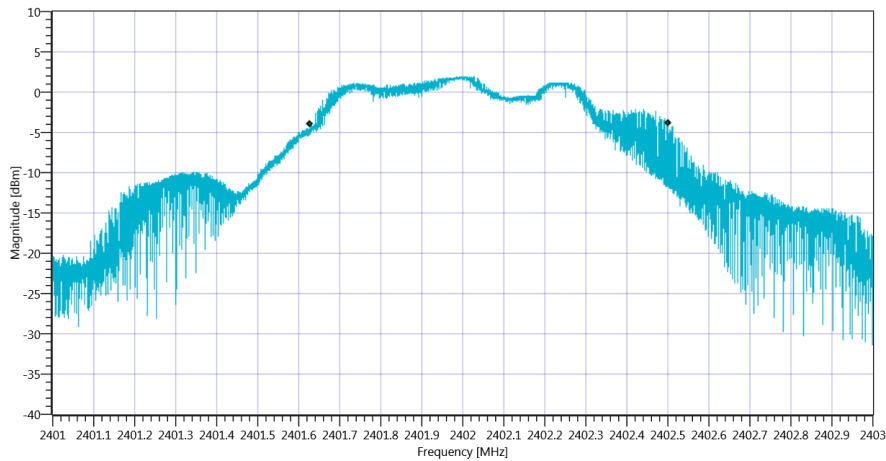
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	True   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

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

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.09   10.31   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	---	873	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS\_10022020\_112115.png

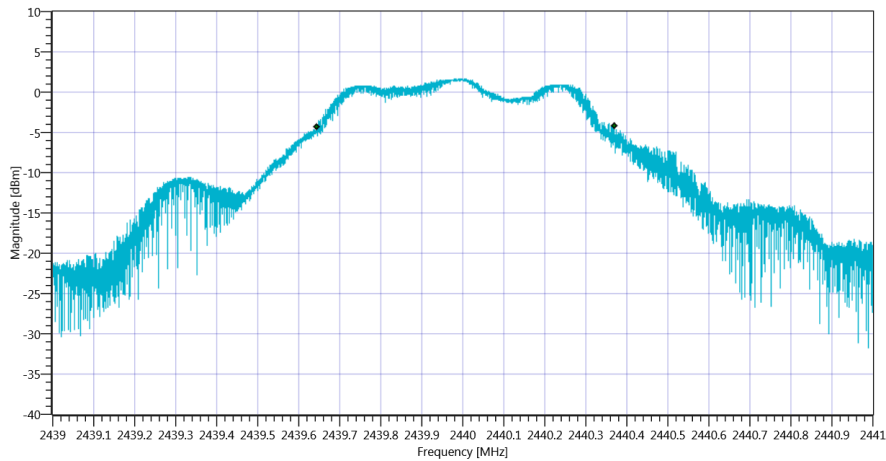


## Test at TX 2440 MHz

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

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.86   10.4   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	--	724	kHz	PASS



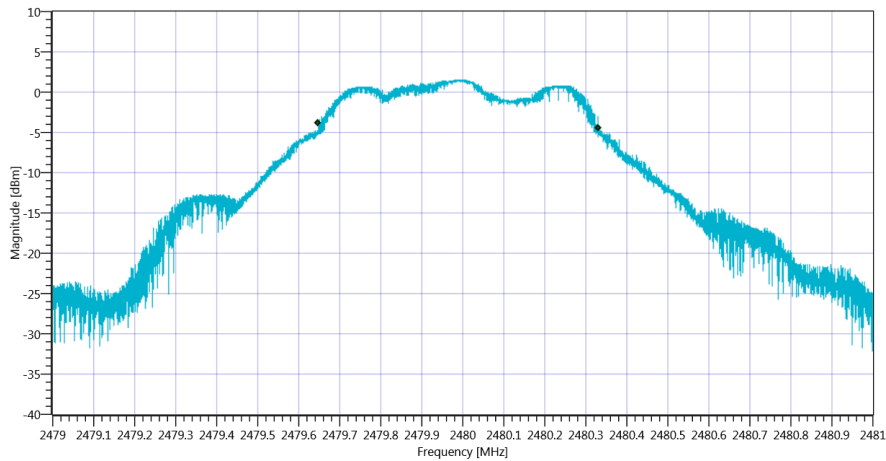
Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS\_10022020\_112141.png

## Test at TX 2480 MHz

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

READ SA SETTINGS:					
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.70   10.45   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	--	684	kHz	PASS



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS\_10022020\_112208.png

TEST FINISHED		
General Verdict	10.02.2020 11:22:08 / RT: 81 s	PASS

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

Test References	
TC Start	10.02.2020 11:22:13
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 - 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	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

**RESULT: DTM Connection check**

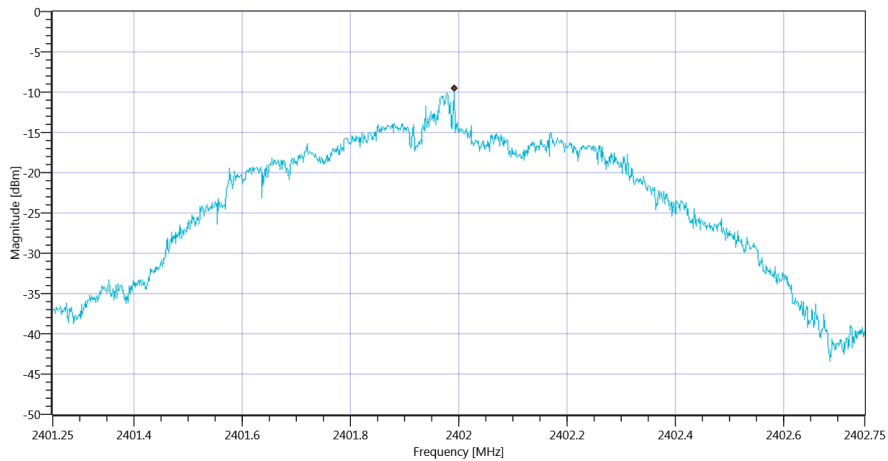
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

**READ SA SETTINGS:**

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.10   10.31   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	-9.59	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_10022020\_112250.png

## Test at TX 2440 MHz

**RESULT: DTM Connection check**

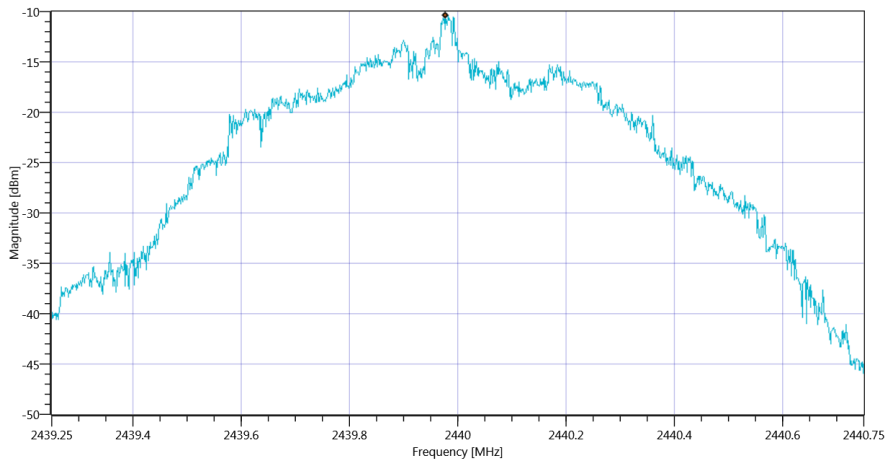
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

**READ SA SETTINGS:**

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.86   10.4   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	-10.4	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_10022020\_112325.png

## Test at TX 2480 MHz

**RESULT: DTM Connection check**

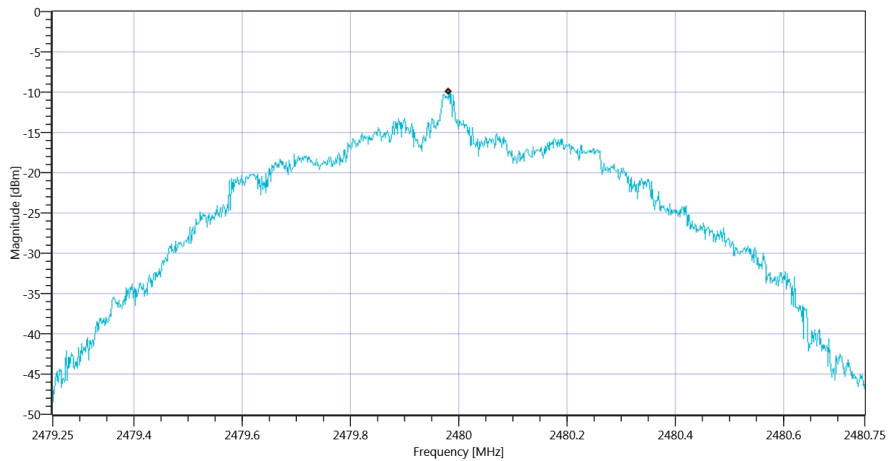
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

**READ SA SETTINGS:**

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.71   10.45   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	-9.96	dBm/3KHz	PASS



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 MspS\_10022020\_112401.png

**TEST FINISHED**

General Verdict	10.02.2020 11:24:01 / RT: 108 s	PASS
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## 5. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps

Test References	
TC Start	10.02.2020 11:24:06
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 - 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	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

RESULT: DTM Connection check

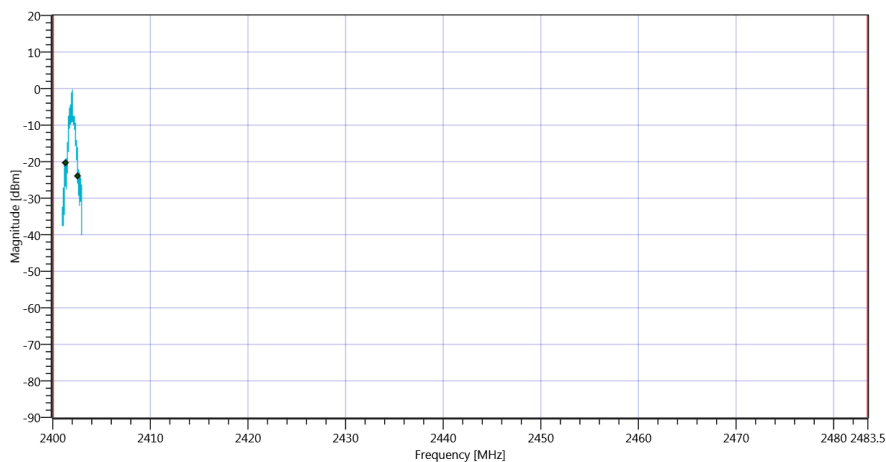
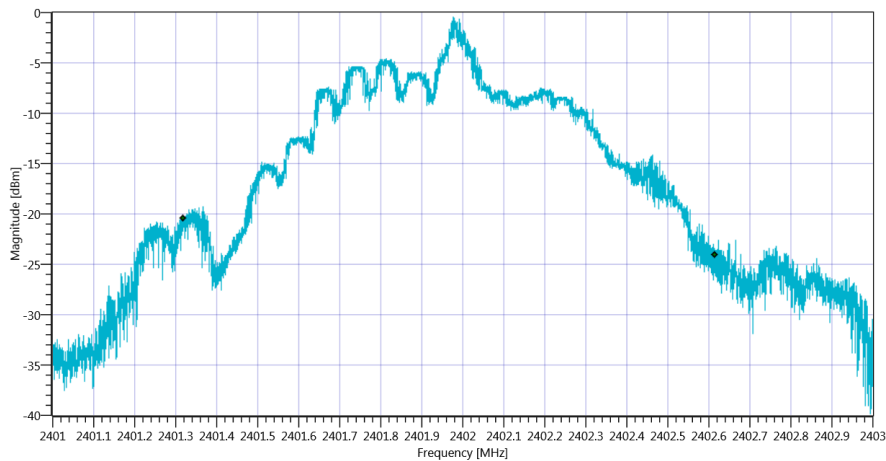
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.08   10.31   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%	---	---	1296	kHz	Information
T1 99%	2400.000000	---	2401.3195	MHz	PASS
T2 99%	---	2483.500000	2402.6157	MHz	PASS



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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1242	kHz	Information
T1 20DB	2400.000000	---	2401.3134	MHz	PASS



T2 20dB

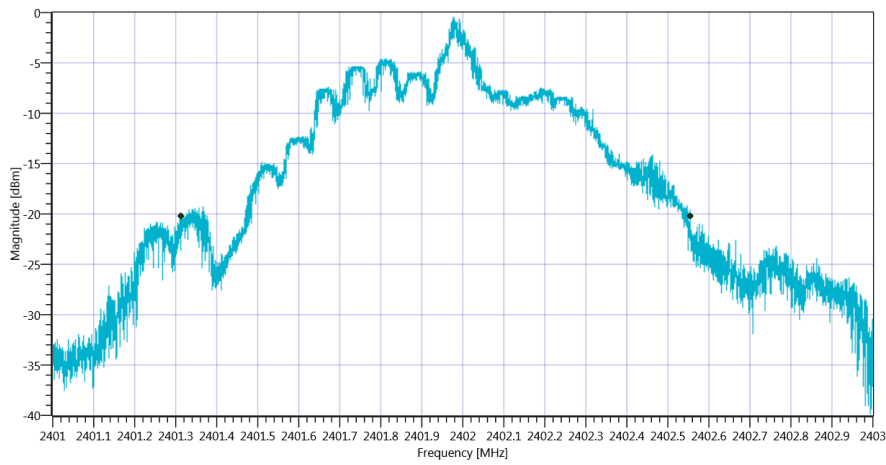
--

2483.50000

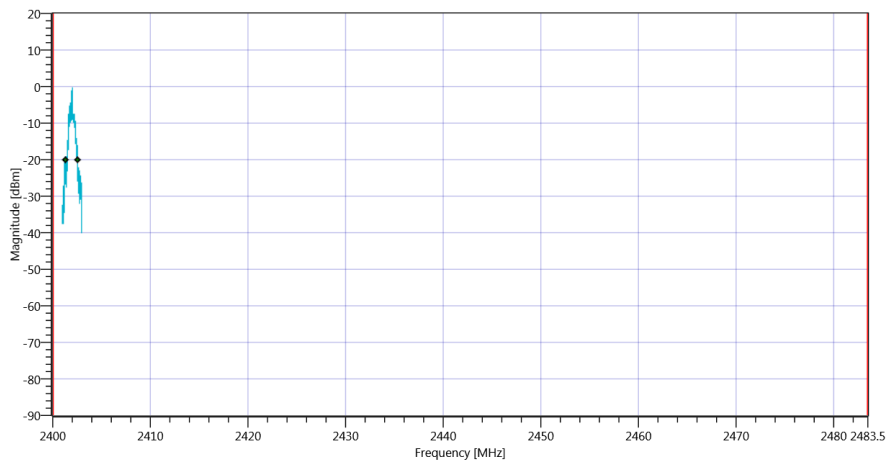
2402.5552

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_10022020\_112443.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_10022020\_112447.png

## Test at TX 2440 MHz

RESULT: DTM Connection check

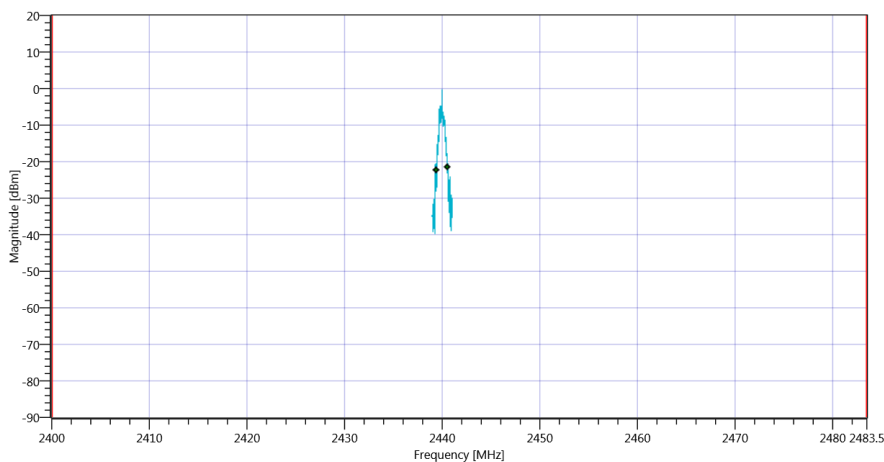
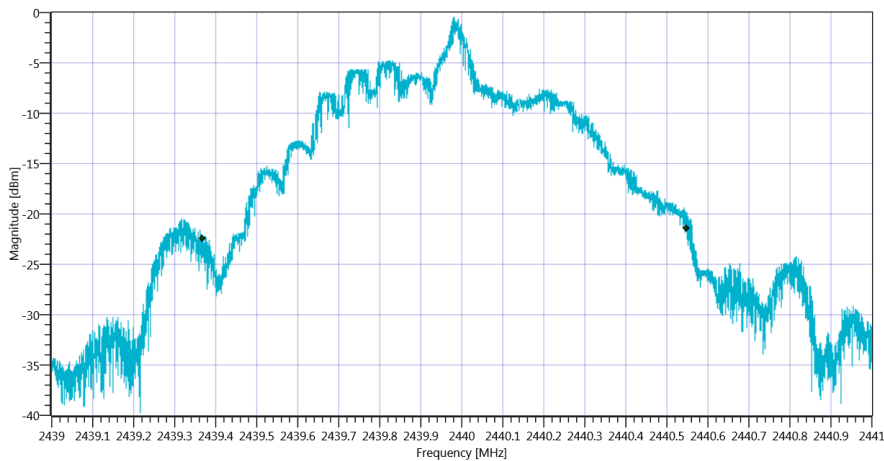
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.84   10.4   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%	---	---	1181	kHz	Information
T1 99%	2400.000000	---	2439.3671	MHz	PASS
T2 99%	---	2483.500000	2440.5481	MHz	PASS



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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1234	kHz	Information
T1 20DB	2400.000000	---	2439.3176	MHz	PASS

T2 20dB

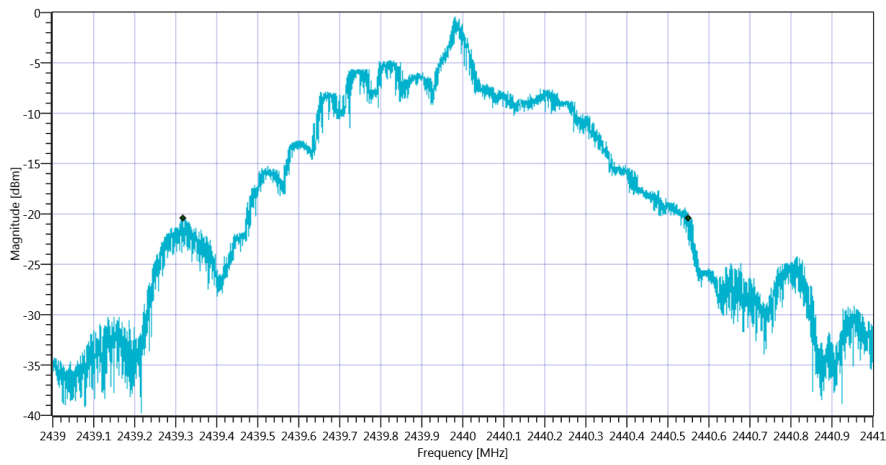
--

2483.50000

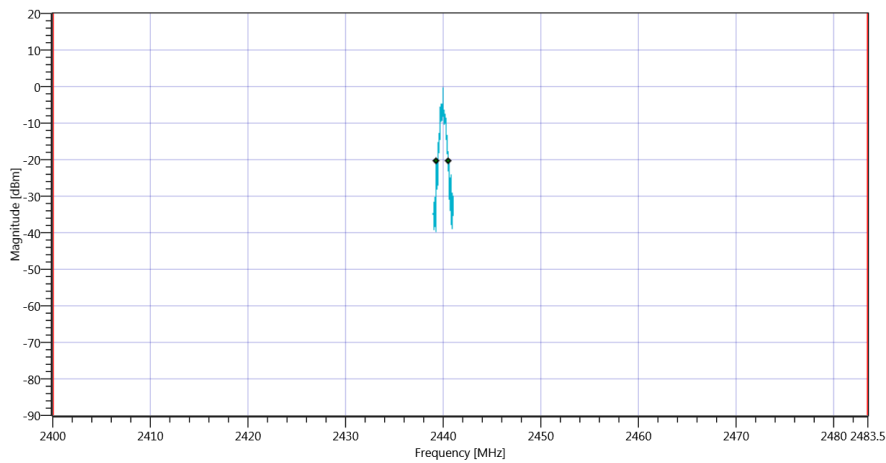
2440.5518

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_10022020\_112524.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_10022020\_112528.png

## Test at TX 2480 MHz

RESULT: DTM Connection check

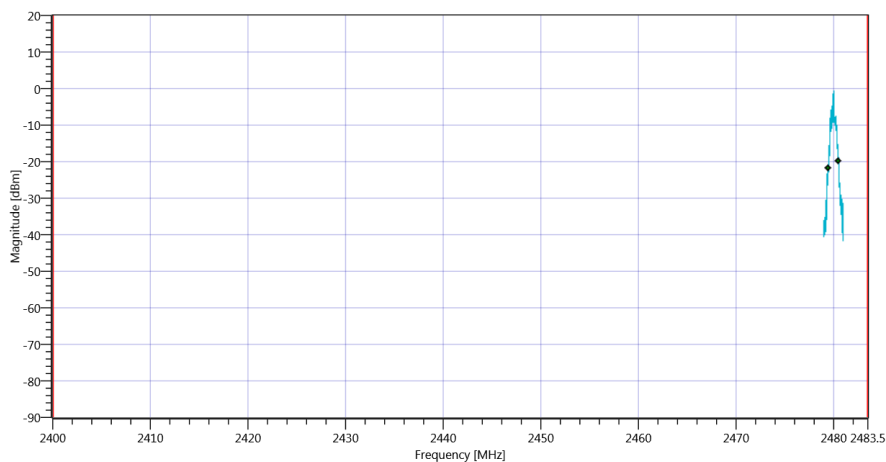
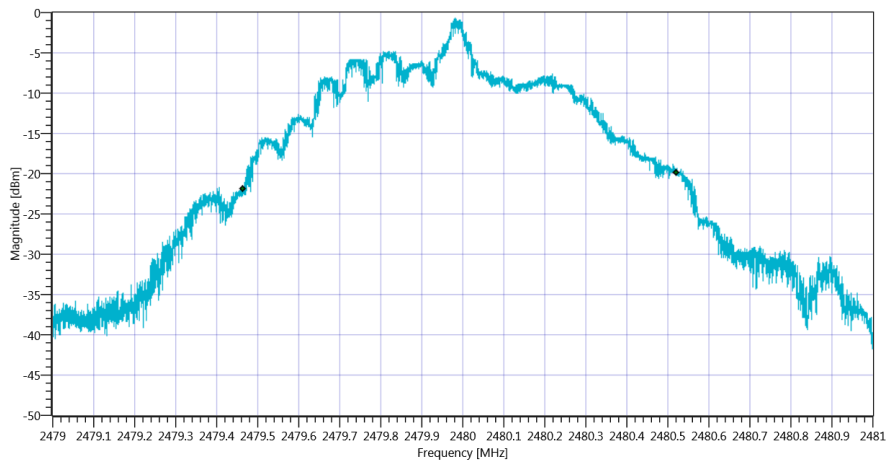
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.66   10.45   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%	---	---	1058	kHz	Information
T1 99%	2400.000000	---	2479.4633	MHz	PASS
T2 99%	---	2483.500000	2480.5217	MHz	PASS



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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1074	kHz	Information
T1 20DB	2400.000000	---	2479.4718	MHz	PASS

T2 20dB

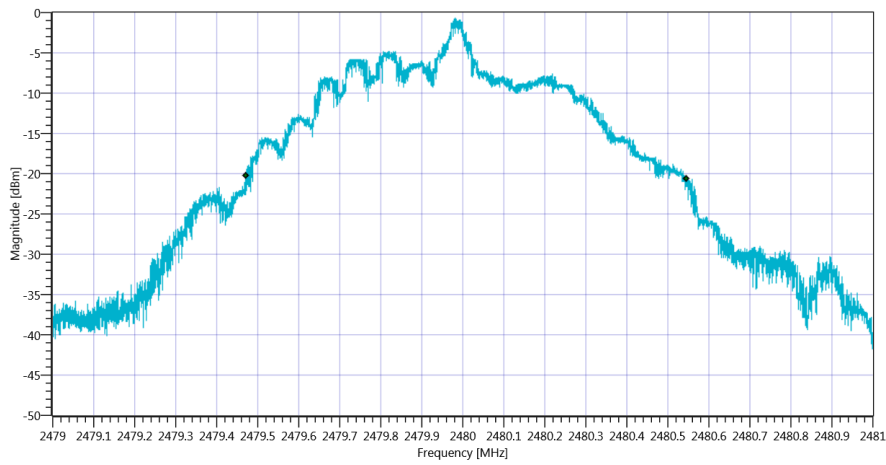
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2483.50000

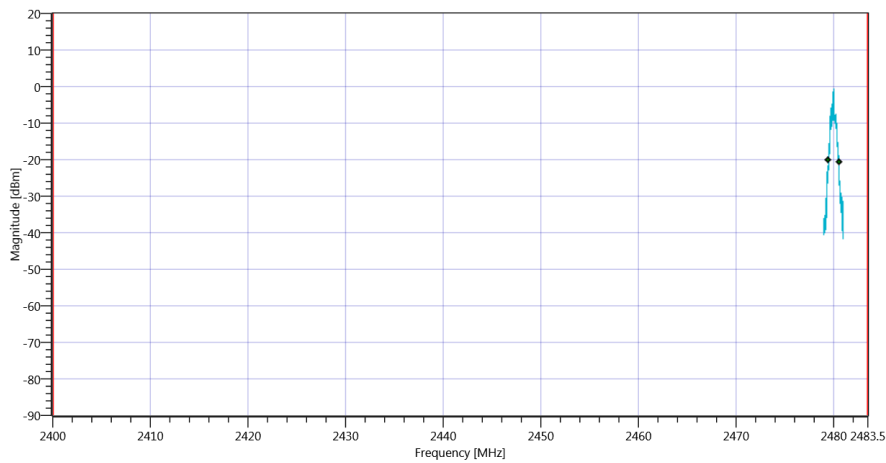
2480.5460

MHz

PASS



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_10022020\_112606.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_10022020\_112610.png

TEST FINISHED

General Verdict

10.02.2020 11:26:11 / RT: 125 s

PASS

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

Test References	
TC Start	10.02.2020 11:26:16
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 - 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	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

RESULT: DTM Connection check

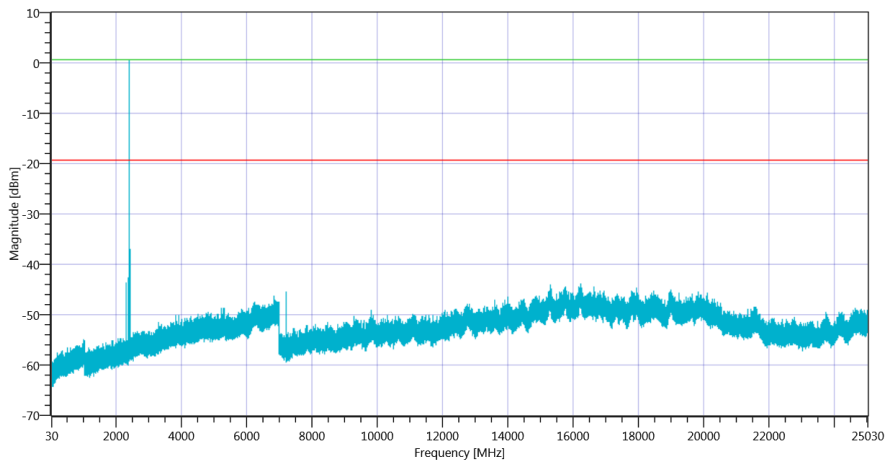
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

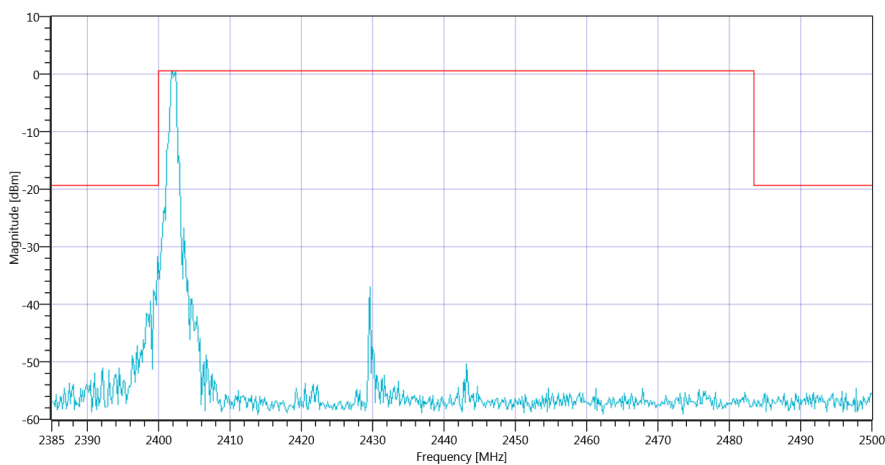
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.30   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2401.83 MHz	---	---	0.59	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2402\_10022020\_113106.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2402\_10022020\_113109.png

## Test at TX 2440 MHz

RESULT: DTM Connection check

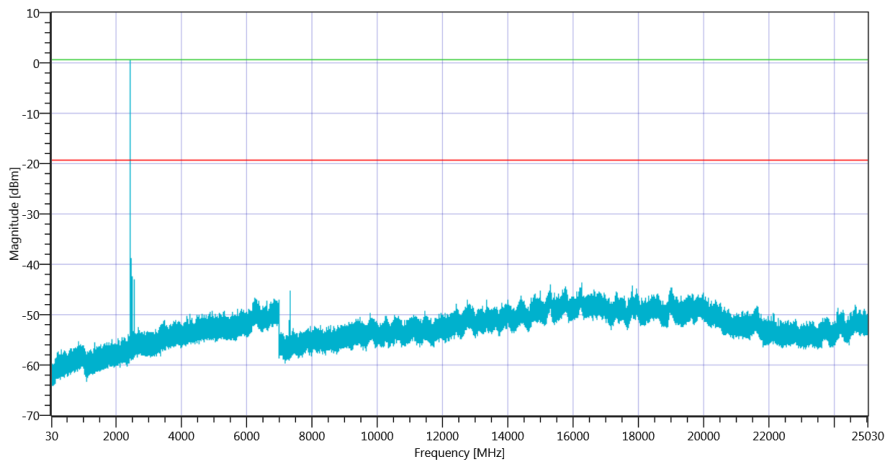
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

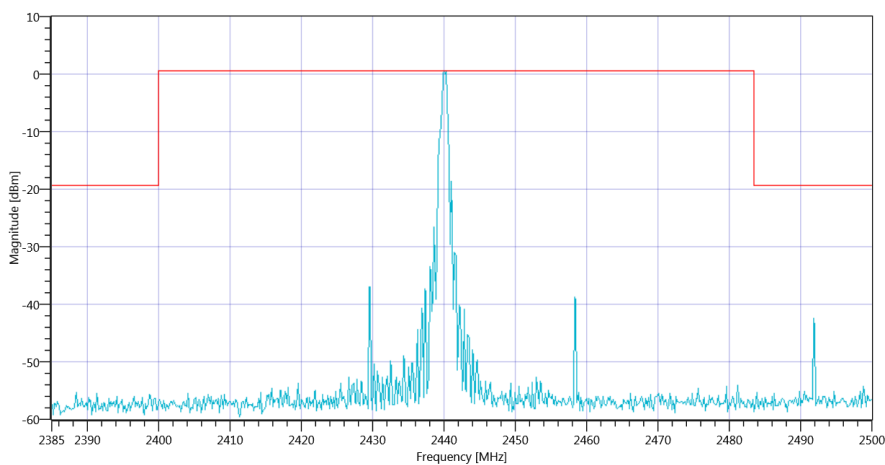
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.97   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2440.00 MHz	---	---	0.61	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2440\_10022020\_113559.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2440\_10022020\_113602.png



## Test at TX 2480 MHz

RESULT: DTM Connection check

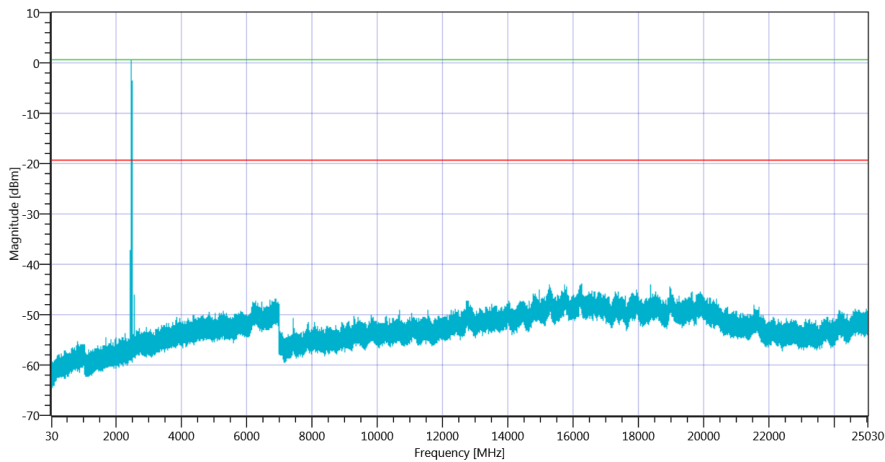
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

READ SA SETTINGS:

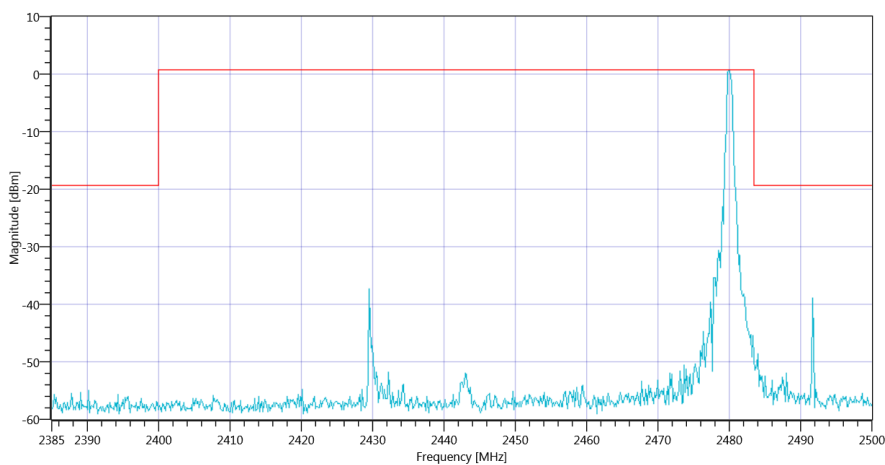
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.70   0   25				
Start [MHz]   Stop [MHz]	24530.000   25030.000				
RBW [MHz]   VBW [MHz]	0.100000   0.300000				
Detector   TraceMode	POS   MAXH				
Sweep: Time [ms]   Count   Points per Section   Type	500   8   3001   SWE				

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

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.00 MHz	---	---	0.71	dBm	Information
No peaks detected	---	---			PASS



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2480\_10022020\_114052.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS 2480\_10022020\_114055.png

TEST FINISHED

General Verdict	10.02.2020 11:40:56 / RT: 880 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	10.02.2020 11:41:01
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 11.13.3.2 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	

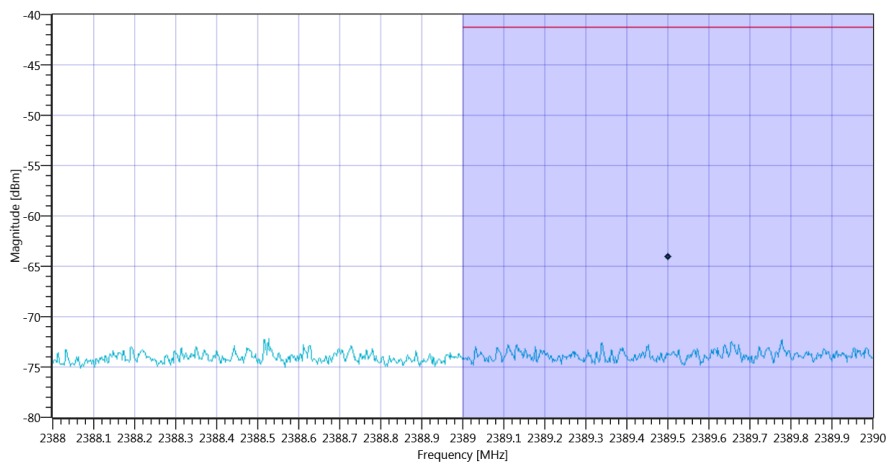
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True   Freq [MHz] 2402
Frequency mid to test	False   Freq [MHz] 2440
Frequency high to test	True   Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

## Test at TX 2402 MHz

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

READ SA SETTINGS:	
RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	7.05   10.31   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

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	-64.1	dBm	Information
Band Power incl. Antenna Gain	--	-41.23	-64.1	dBm	PASS



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps\_10022020\_114120.png

## Test at TX 2480 MHz

**RESULT: DTM Connection check**

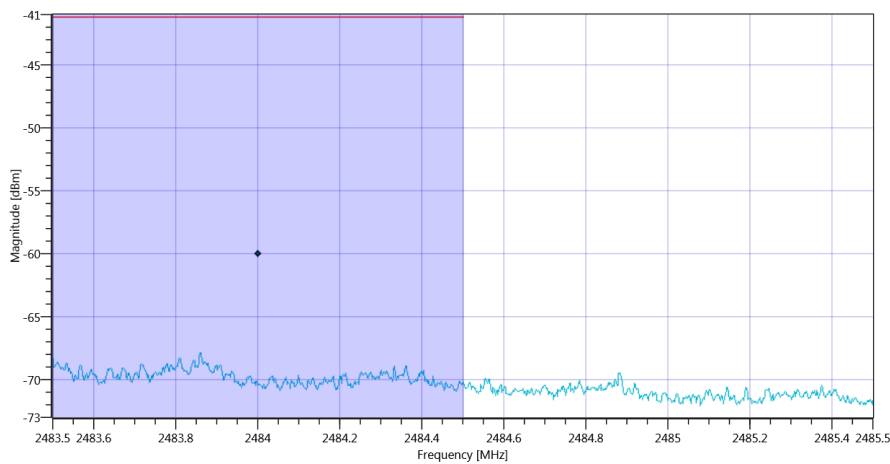
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	RESET OK

**READ SA SETTINGS:**

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	6.55   10.45   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				

**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	-60.02	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-60.02	dBm	PASS



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS ~ BT LE 1 Msps\_10022020\_114139.png

**TEST FINISHED**

General Verdict

10.02.2020 11:41:40 / RT: 39 s

PASS

- END OF DOCUMENT -