

Measurement Results

1-9211/19-01-05_log1_conducted

[Test logging](#)

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Document authorized:

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IUT Summary

IUT DEFINITION & Common settings	
Manufacturer	Sphinx Electronics GmbH & Co. KG
Type	EFL 30
Serial No. Setup No.	4421020115 1.0
SW Version HW Version	NI NI
Comment 1 2	
Tlow Tmid Thigh [°C]	0 20 55
Vlow Vmid Vhigh [V] @Imax [A]	2.3 3.2 5 @1
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.7

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	WS_USB_RS232 TWO 41 19200 None S1 None On
Signaling RF Settings	RF1com 0 0 On
User Interaction	No
Switch Matrix & Pathcompensation enabled	Yes

1. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 Msps

Test References	
TC Start	18.11.2020 07:05:13
Ambit Temp [°C] Humidity [rel%]	20.5 38
System Version	1.0.1.2
Test Specification	None
Test Method	
Class / TC Version	TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps
Add. Information	

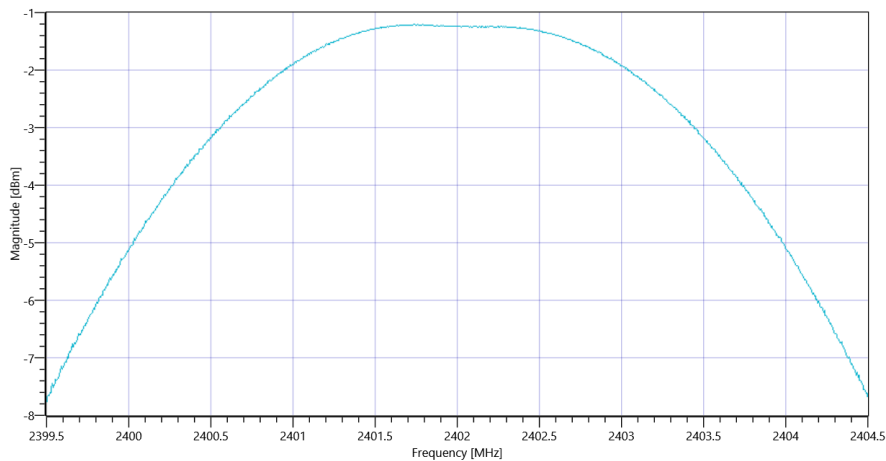
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170 SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60

Test at TX 2402 MHz

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]	8.98 10.79 15
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	--	--	-1.21	dBm	Info
Peak Power	--	--	0.756833	mW	Info
Frequency at Peak	--	--	2401.735	MHz	Info



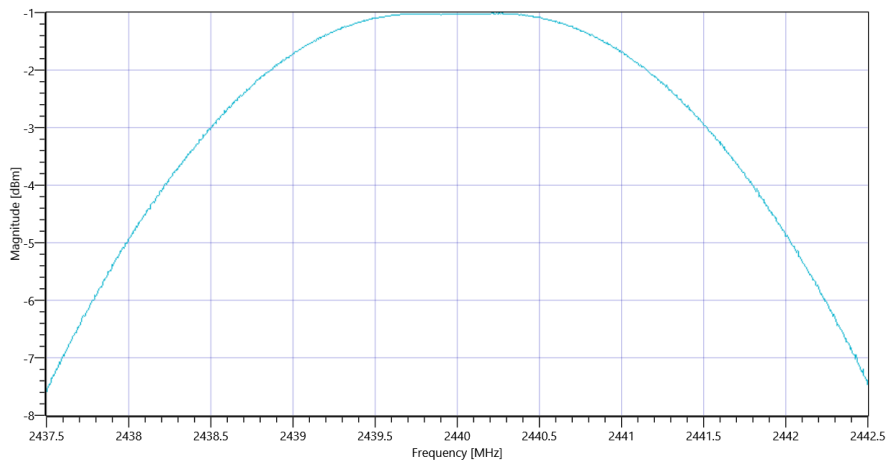
Plot_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps_18112020_070540.png

Test at TX 2440 MHz

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]	9.20 10.8 15
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	---	-1.01	dBm	Info
Peak Power	---	---	0.792501	mW	Info
Frequency at Peak	---	---	2440.21	MHz	Info



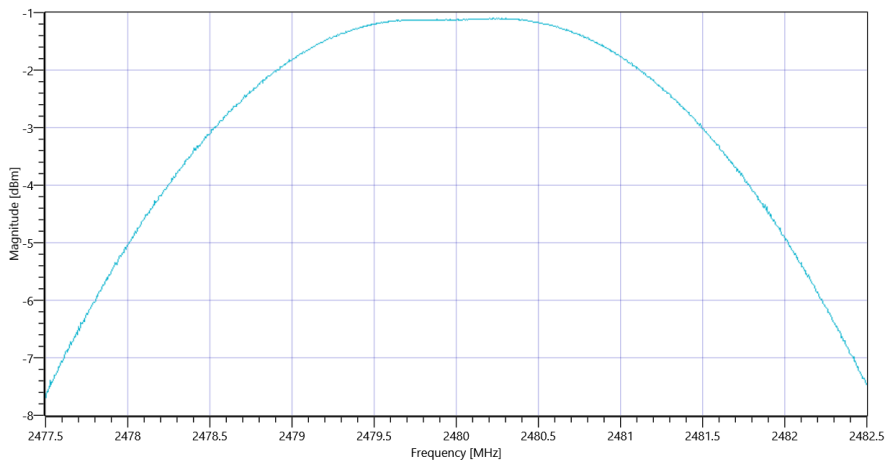
Plot_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msp_s_18112020_070605.png

Test at TX 2480 MHz

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]	8.97 10.85 15
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	---	-1.1	dBm	Info
Peak Power	---	---	0.776247	mW	Info
Frequency at Peak	---	---	2480.205	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps_18112020_070631.png

TEST FINISHED		
General Verdict	18.11.2020 07:06:32 / RT: 78 s	PASS

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

Test References	
TC Start	24.11.2020 08:22:25
Ambit Temp [°C] Humidity [rel%]	21.6 34
System Version	1.0.1.2
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 DTS - BT LE 1 Msps
Add. Information	

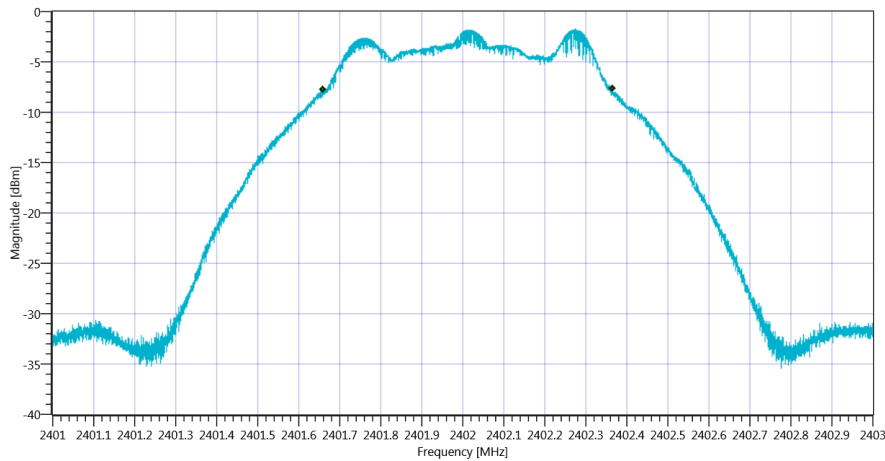
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

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]			3.42 10.91 10		
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		

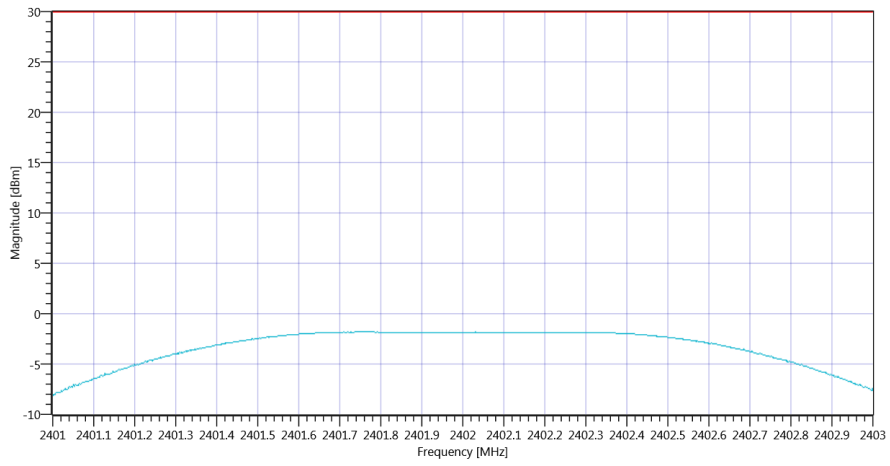
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	706	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW_24112020_082254.png

READ SA SETTINGS:					
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]			8.42 10.91 15		
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-1.82	dBm	PASS
Peak Power	---	1000	0.657658	mW	PASS
Frequency at Peak	---	---	2401.74	MHz	INFO



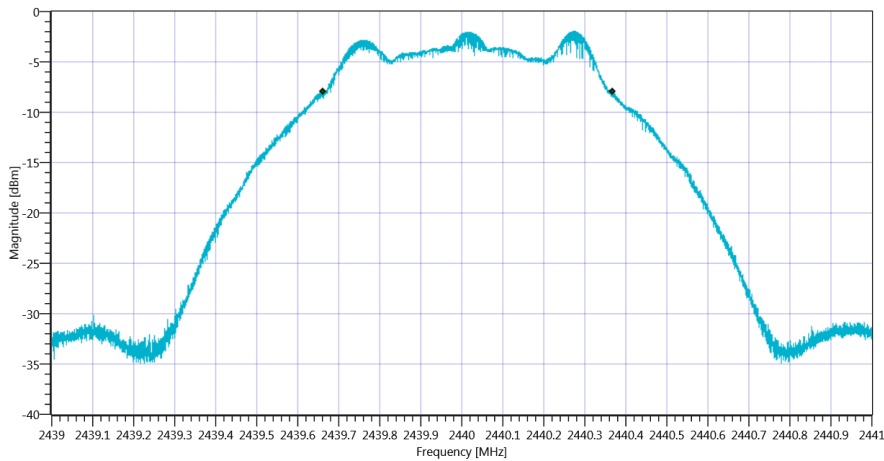
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_24112020_082310.png

Test at TX 2440 MHz

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]			3.31 10.99 10		
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		

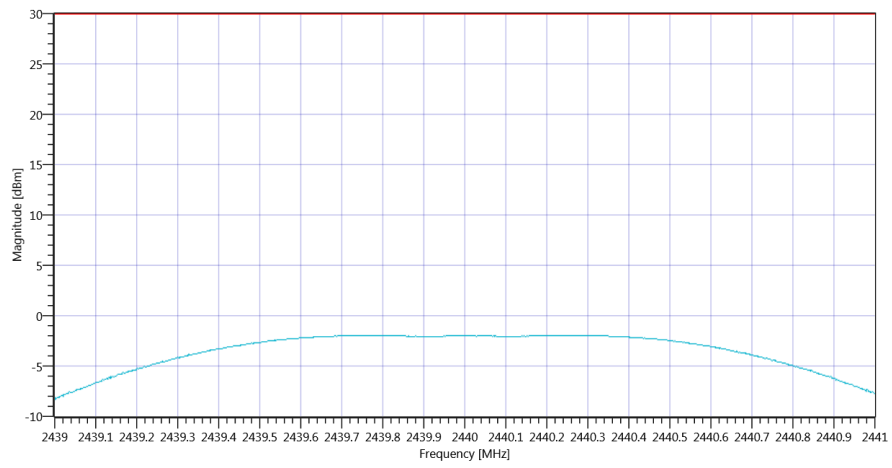
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	706	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW_24112020_082337.png

READ SA SETTINGS:					
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]			8.31 10.99 15		
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-1.98	dBm	PASS
Peak Power	---	1000	0.63387	mW	PASS
Frequency at Peak	---	---	2440.276	MHz	INFO



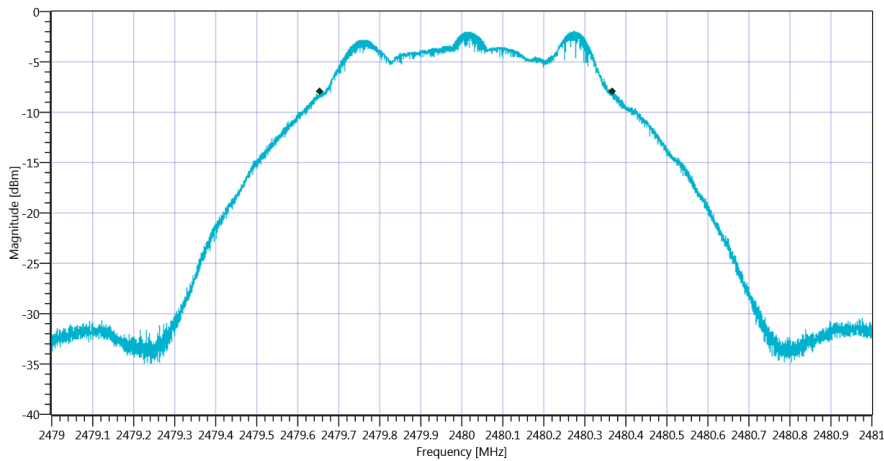
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_24112020_082353.png

Test at TX 2480 MHz

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]			3.28 11.06 10		
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		

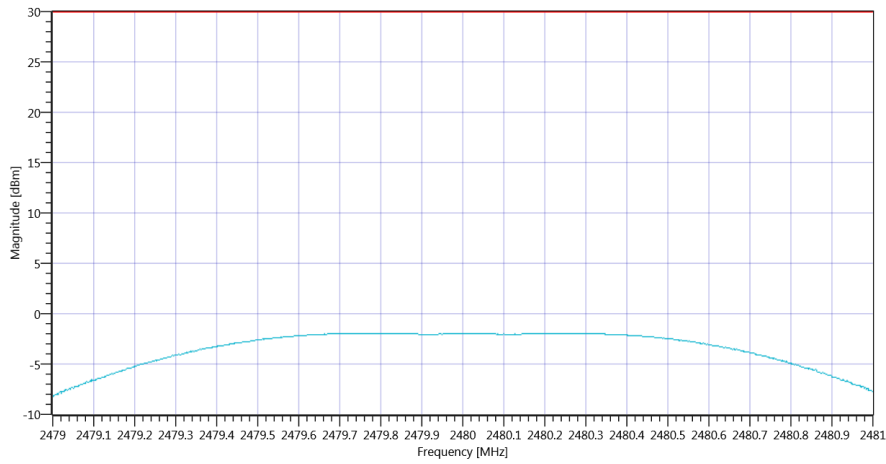
DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	711	kHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW_24112020_082420.png

READ SA SETTINGS:					
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]			8.28 11.06 15		
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	---	30.00	-1.97	dBm	PASS
Peak Power	---	1000	0.635331	mW	PASS
Frequency at Peak	---	---	2479.76	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_24112020_082437.png

TEST FINISHED

General Verdict

24.11.2020 08:24:37 / RT: 132 s

PASS

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

Test References	
TC Start	24.11.2020 08:24:42
Ambit Temp [°C] Humidity [rel%]	21.9 33
System Version	1.0.1.2
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 - BT LE 1 Msps
Add. Information	

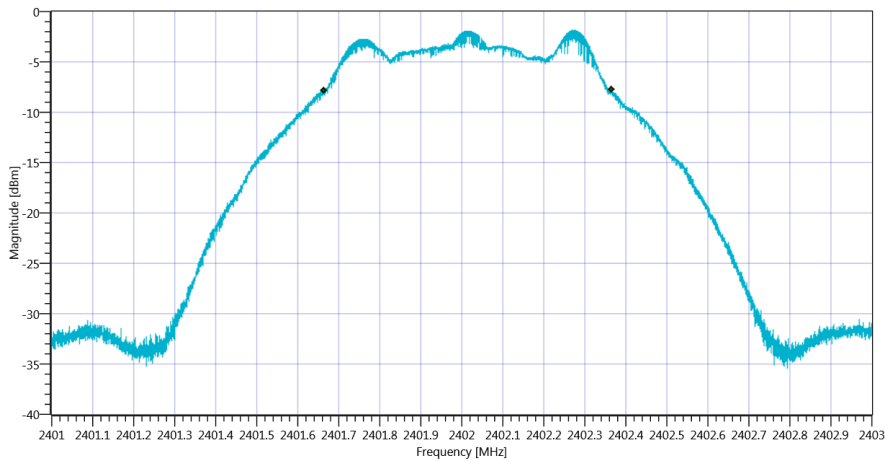
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

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]	3.35 10.91 10
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	700	kHz	PASS



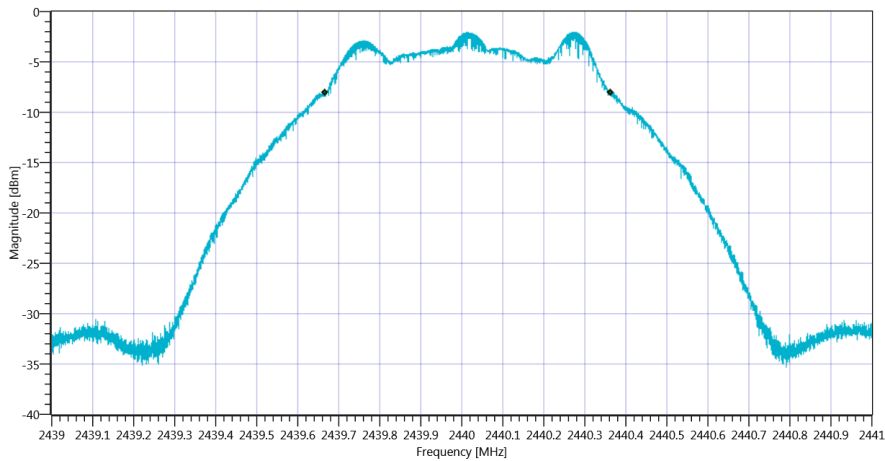
Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps_24112020_082510.png

Test at TX 2440 MHz

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]	3.21 10.99 10
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	697	kHz	PASS



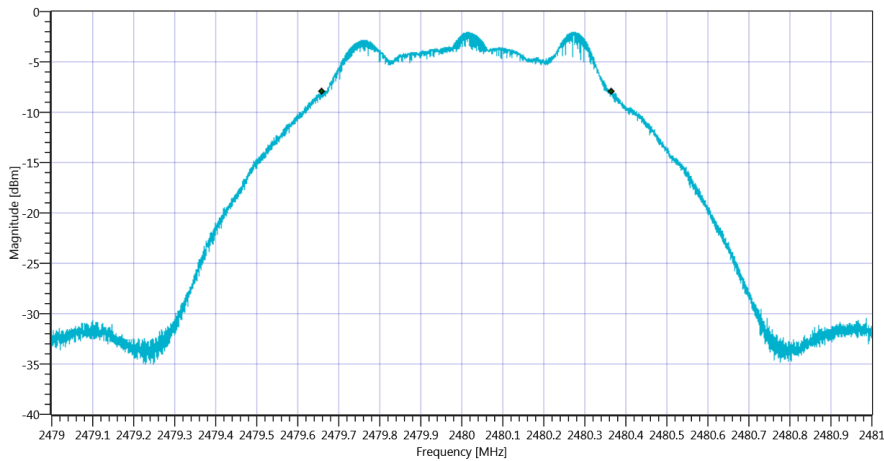
Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps_24112020_082537.png

Test at TX 2480 MHz

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]	3.20 11.06 10
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	500	---	705	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS_24112020_082605.png

TEST FINISHED		
General Verdict	24.11.2020 08:26:05 / RT: 83 s	PASS

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

Test References	
TC Start	24.11.2020 08:26:10
Ambit Temp [°C] Humidity [rel%]	22.1 33
System Version	1.0.1.2
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 - BT LE 1 Msps
Add. Information	

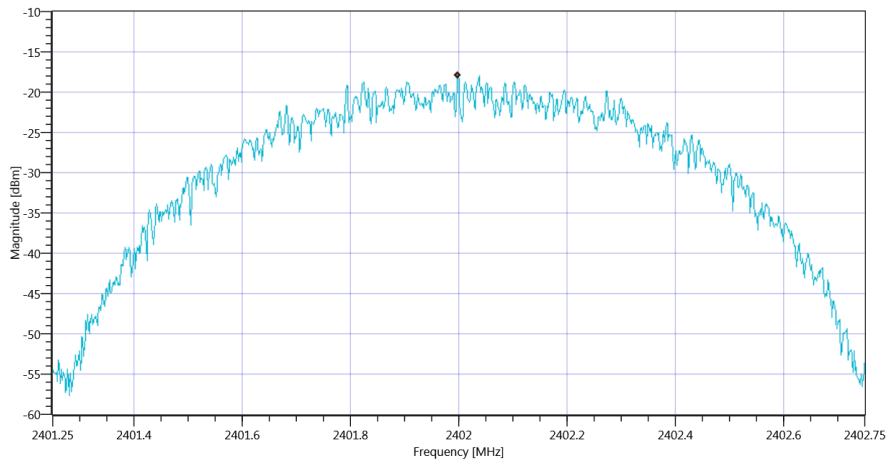
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

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]	3.37 10.91 10
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-17.89	dBm/3KHz	PASS



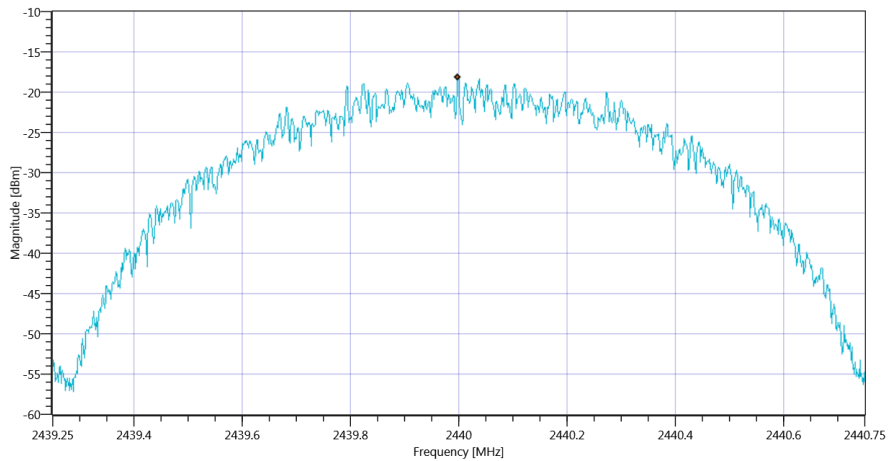
Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps_24112020_082647.png

Test at TX 2440 MHz

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]			3.13 10.99 10		
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-18.16	dBm/3KHz	PASS



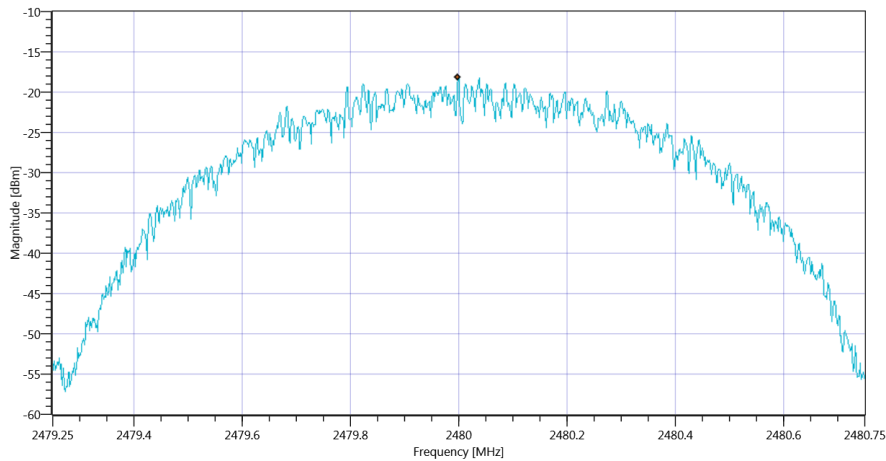
Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 MspS_24112020_082724.png

Test at TX 2480 MHz

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]	3.16 11.06 10
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					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Max Peak power Density	---	8	-18.22	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps_24112020_082800.png

TEST FINISHED		
General Verdict	24.11.2020 08:28:01 / RT: 110 s	PASS

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

Test References	
TC Start	24.11.2020 08:28:05
Ambit Temp [°C] Humidity [rel%]	22.3 32
System Version	1.0.1.2
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 - BT LE 1 Msps
Add. Information	

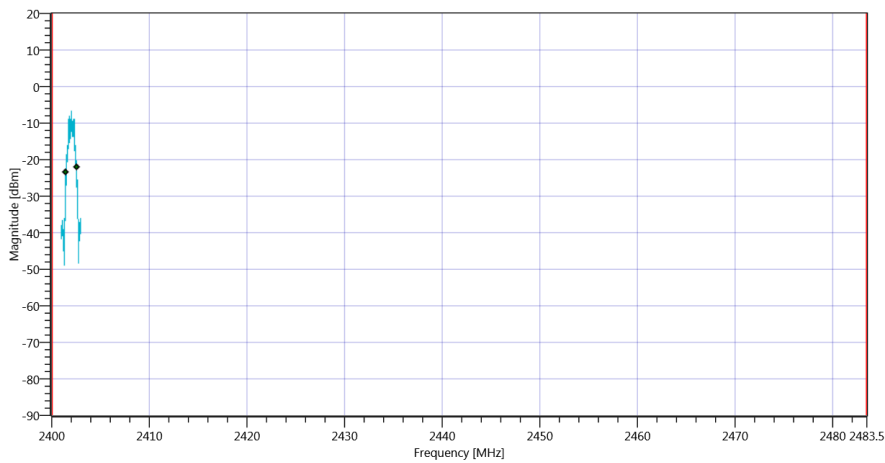
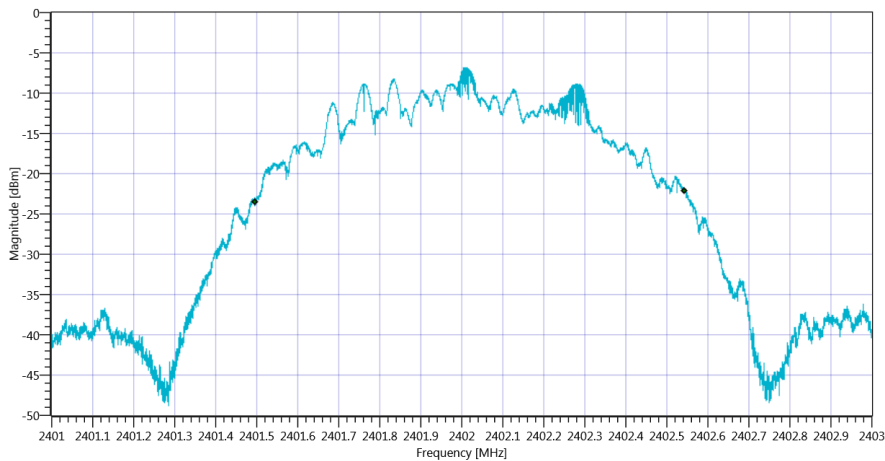
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

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]				3.33 10.91 10	
Start [MHz] Stop [MHz]				2401.000 2403.000	
RBW [MHz] VBW [MHz]				0.020000 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%	---	---	1047	kHz	INFO
T1 99%	2400.000000	---	2401.4967	MHz	PASS
T2 99%	---	2483.500000	2402.5435	MHz	PASS



RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1163	kHz	INFO
T1 20DB	2400.000000	---	2401.4378	MHz	PASS

T2 20dB

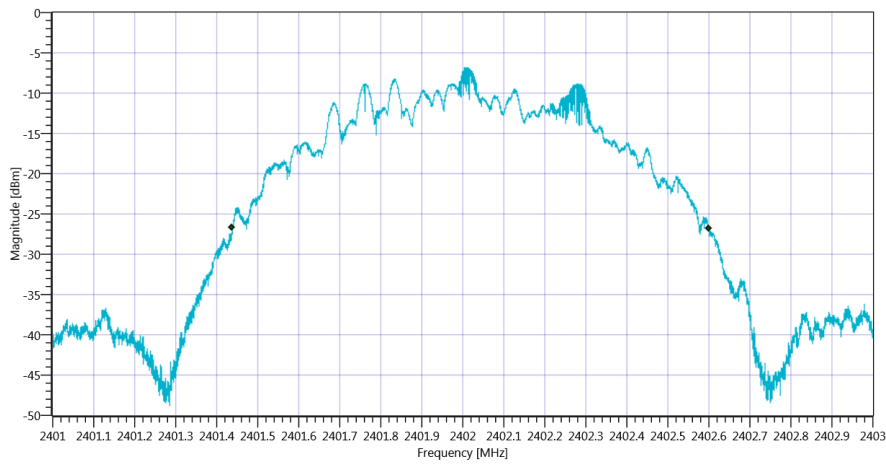
--

2483.50000

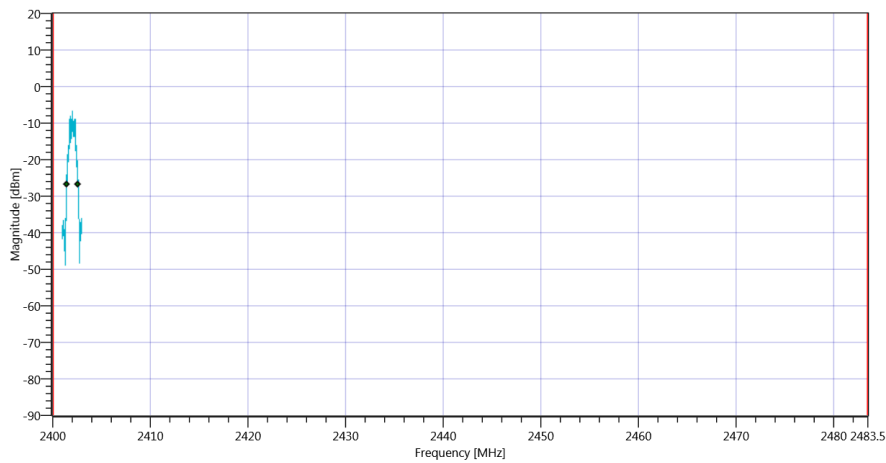
2402.6004

MHz

PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_082843.png



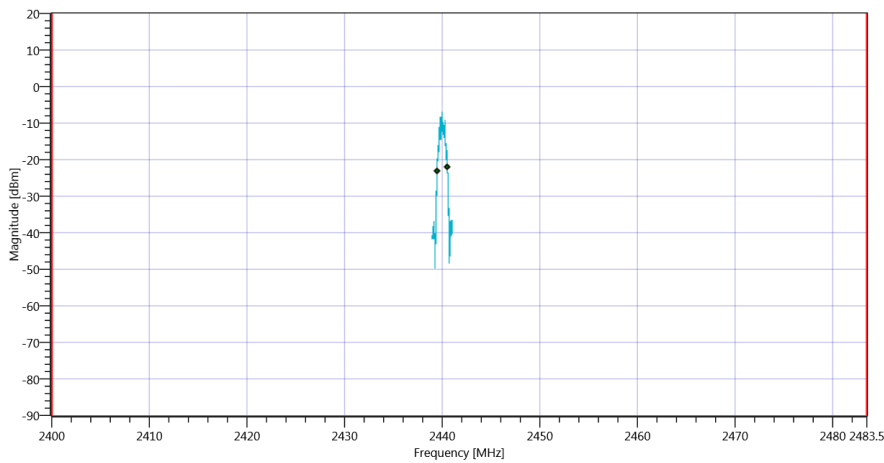
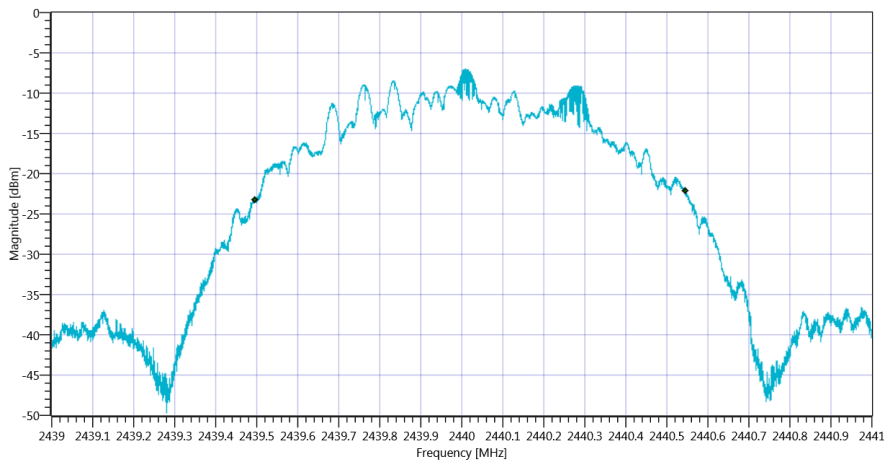
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_082847.png

Test at TX 2440 MHz

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]			3.15 10.99 10		
Start [MHz] Stop [MHz]			2439.000 2441.000		
RBW [MHz] VBW [MHz]			0.020000 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%	---	---	1050	kHz	INFO
T1 99%	2400.000000	---	2439.4955	MHz	PASS
T2 99%	---	2483.500000	2440.5457	MHz	PASS



RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1163	kHz	INFO
T1 20DB	2400.000000	---	2439.4390	MHz	PASS

T2 20dB

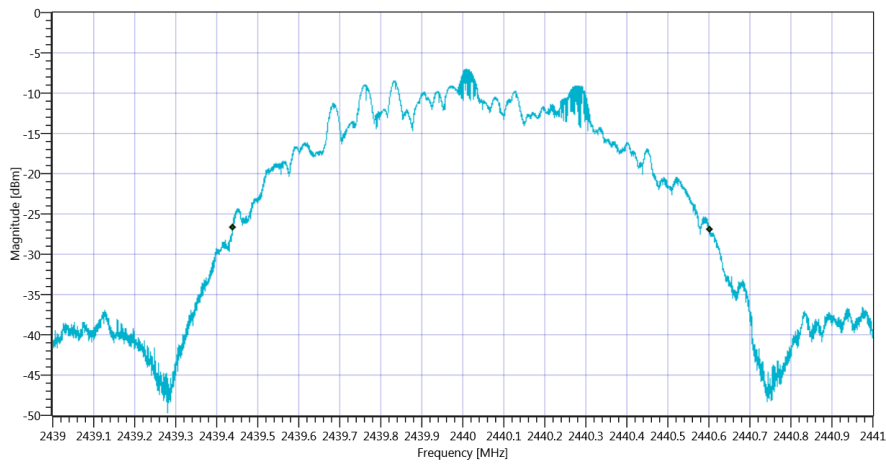
--

2483.50000

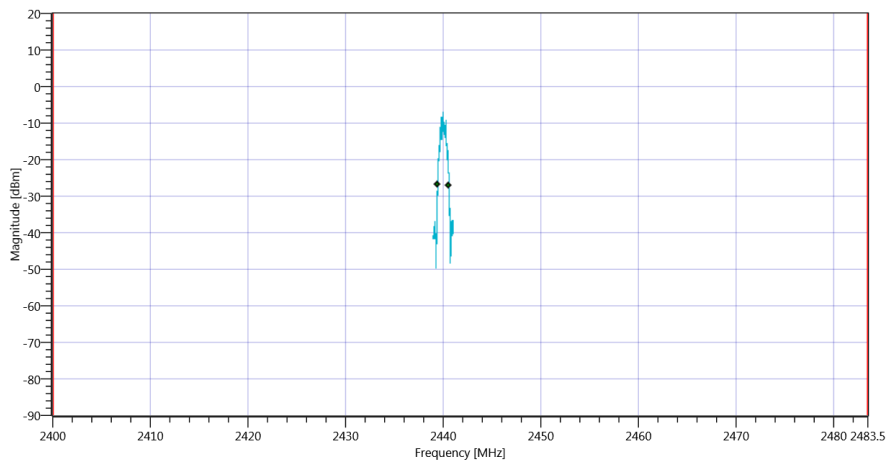
2440.6016

MHz

PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_082925.png



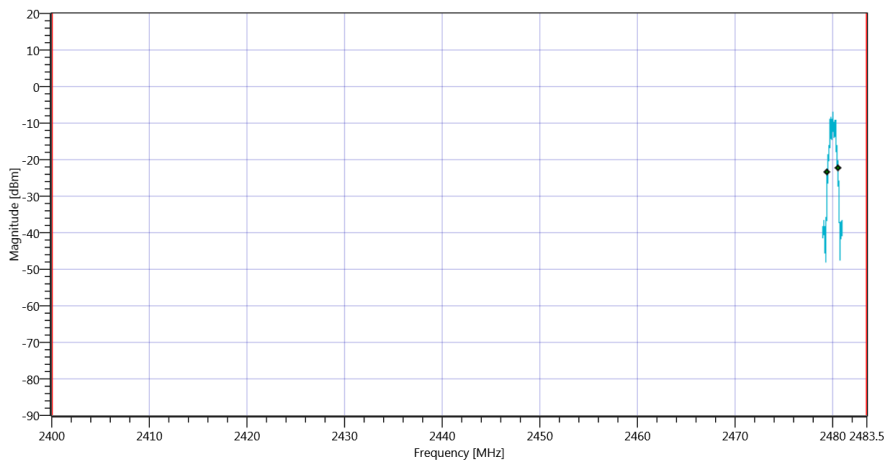
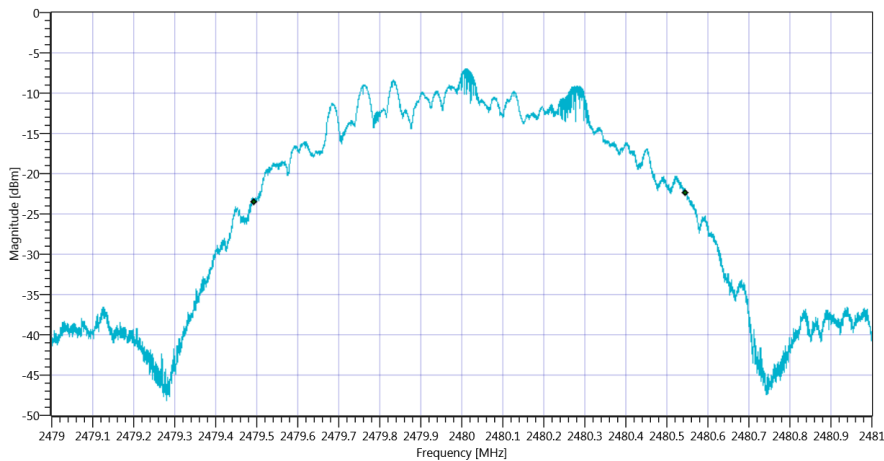
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_082929.png

Test at TX 2480 MHz

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]			3.13 11.06 10		
Start [MHz] Stop [MHz]			2479.000 2481.000		
RBW [MHz] VBW [MHz]			0.020000 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%	---	---	1051	kHz	INFO
T1 99%	2400.000000	---	2479.4947	MHz	PASS
T2 99%	---	2483.500000	2480.5459	MHz	PASS



RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1164	kHz	INFO
T1 20DB	2400.000000	---	2479.4376	MHz	PASS

T2 20dB

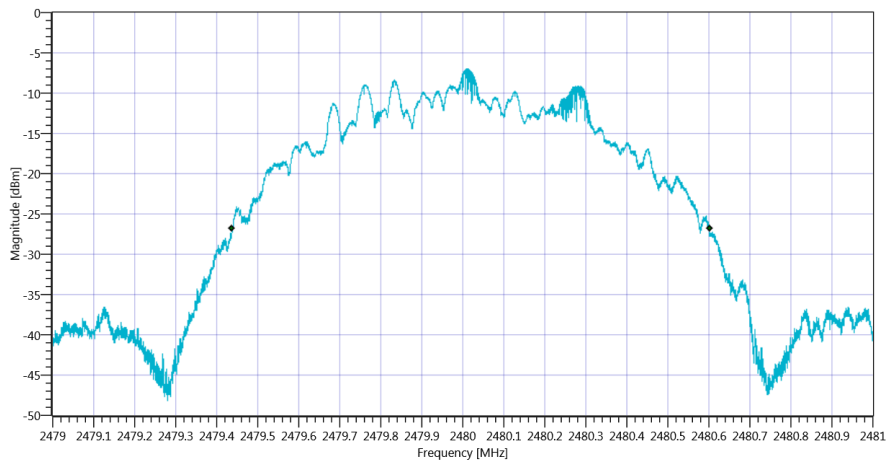
--

2483.50000

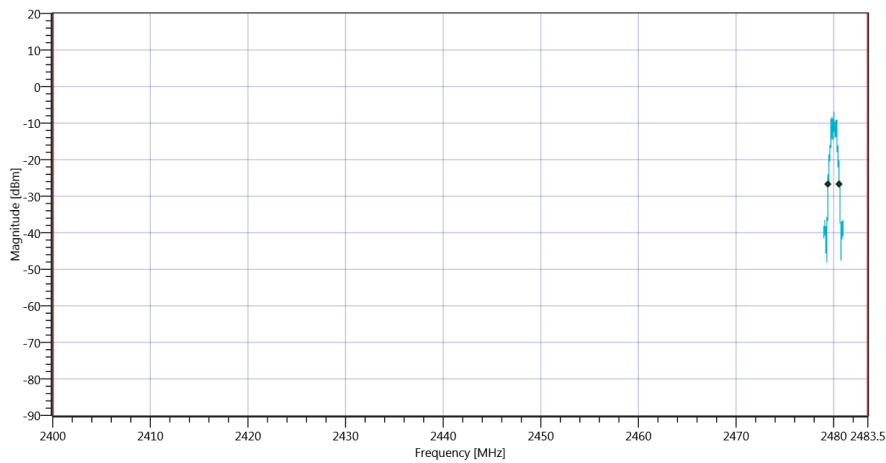
2480.6016

MHz

PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_083008.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_24112020_083012.png

TEST FINISHED

General Verdict

24.11.2020 08:30:12 / RT: 127 s

PASS

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

Test References	
TC Start	24.11.2020 08:30:17
Ambit Temp [°C] Humidity [rel%]	22.6 32
System Version	1.0.1.2
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 - BT LE 1 Msp
Add. Information	

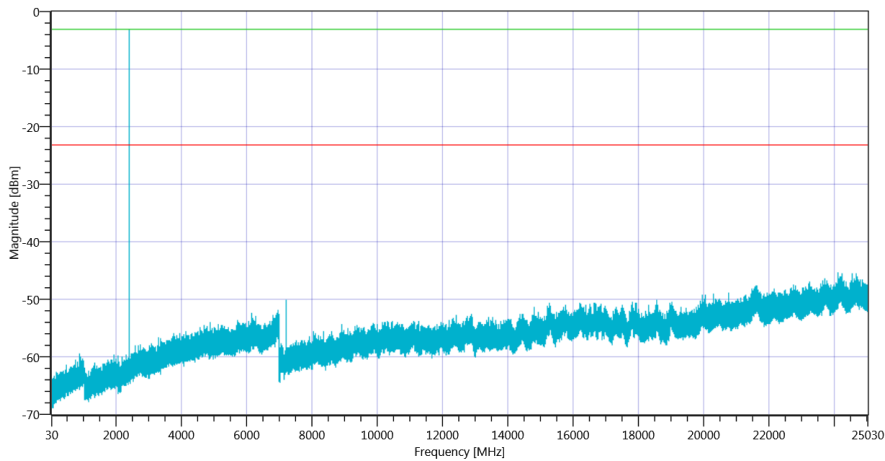
Test Parameter	
Technology to test	BT LE 1 Msp
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

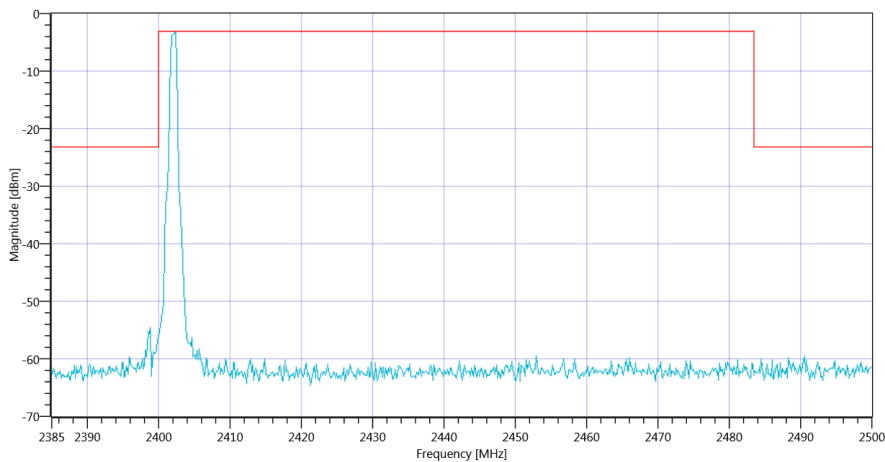
DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	---	RESET OK

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-1.69 0 15
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 @ 2402.33 MHz	---	---	-3.14	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24125.333 MHz	0	---	22.31	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402_24112020_083508.png



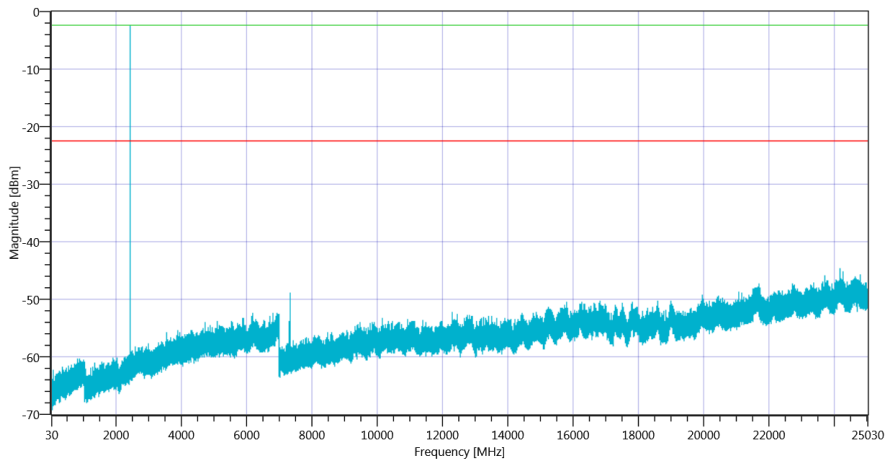
Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402_24112020_083511.png

Test at TX 2440 MHz

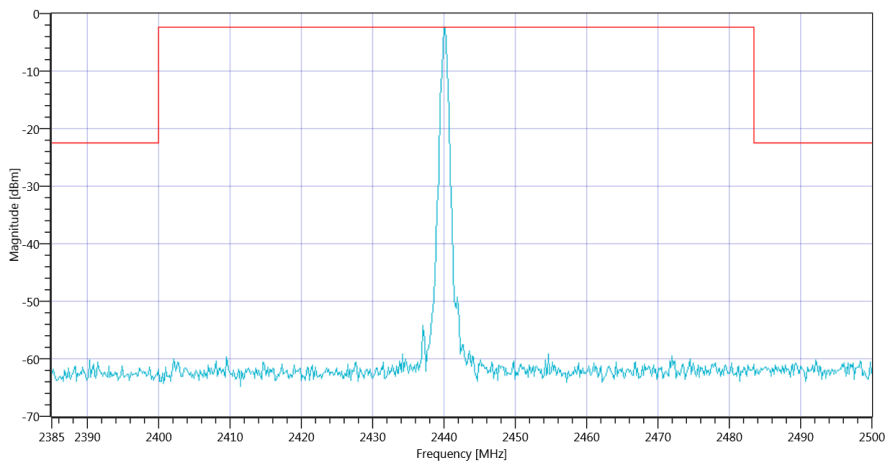
DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	---	RESET OK

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-1.98 0 15
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 @ 2440.00 MHz	---	---	-2.41	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24173.167 MHz	0	---	22.22	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2440_24112020_084001.png



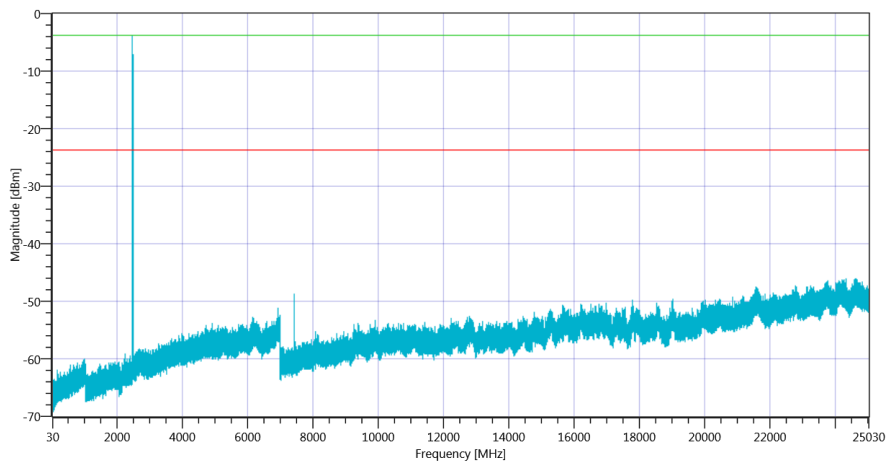
Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2440_24112020_084004.png

Test at TX 2480 MHz

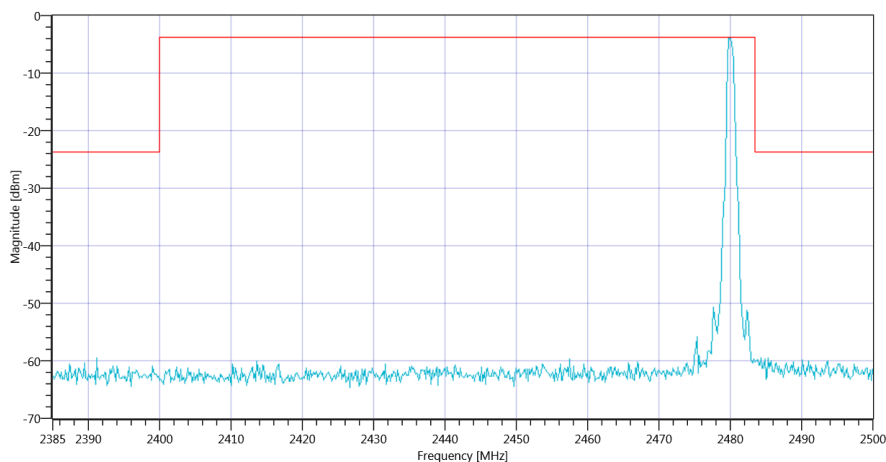
DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	---	RESET OK

READ SA SETTINGS:					
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]			-2.01 0 15		
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 @ 2479.83 MHz	---	---	-3.76	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24627.833 MHz	0	---	22.28	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480_24112020_084455.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480_24112020_084457.png

TEST FINISHED		
General Verdict	24.11.2020 08:44:59 / RT: 881 s	PASS

7. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ BT LE 1 MspS

Test References	
TC Start	24.11.2020 08:45:03
Ambit Temp [°C] Humidity [rel%]	24.4 30
System Version	1.0.1.2
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 - 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

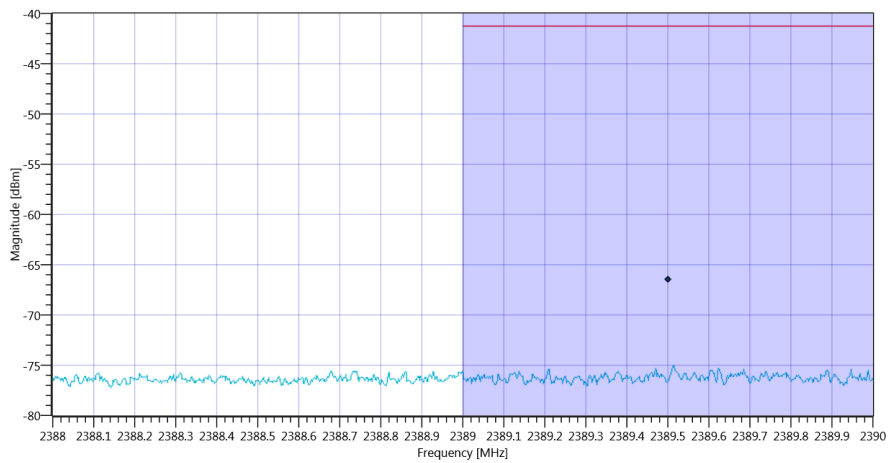
Test at TX 2402 MHz

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]			3.00 10.91 10		
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		

Antenna Gain					
Considered Antenna Gain: [dBi]:			0		

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power	---	-41.23	-66.51	dBm	INCON



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ BT LE 1 Msps_24112020_084524.png

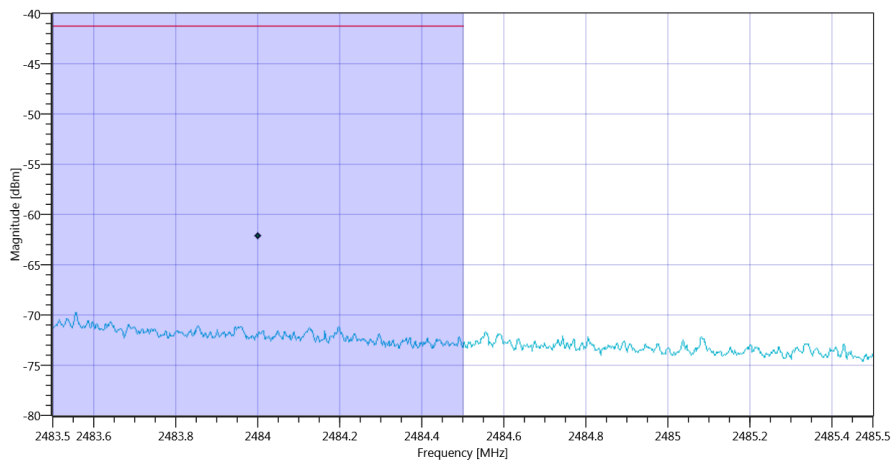
Test at TX 2480 MHz

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]	2.90 11.06 10
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

Antenna Gain	
Considered Antenna Gain: [dBi]:	0

RESULT					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Band Power	---	-41.23	-62.21	dBm	INCON



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS Video Avg (cond) ~ BT LE 1 Msps_24112020_084544.png

TEST FINISHED		
General Verdict	24.11.2020 08:45:44 / RT: 40 s	INCON

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