Measurement Results

1-6724/18-01-04_log1

Test logging

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Table of Content

IUT Summary 3
1. FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps 4
2. FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps 11
3. FCC Part 15.247 Bandwidth 6dB DTS BT LE 1 Msps 18
4. FCC Part 15.247 Bandwidth 6dB DTS BT LE 2 Msps 22
5. FCC Part 15.247 Peak Power Spectral Density DTS BT LE 1 Msps 26
6. FCC Part 15.247 Peak Power Spectral Density DTS BT LE 2 Msps 30
7. FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 34
8. FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 42
9. FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 50
10. FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 55
11. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 1 Msps 60
12. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 2 Msps 63
13. Common2G4 Peak Output Power conducted 3MHz_3MHz BT LE 1 Msps 66

IUT Summary

IUT DEFINITION	
Manufacturer	Optrel AG
Type	panoramaxx COMM
Serial No.	#35
Setup No.	NI
SW Version	NI
HW Version	NI
Comment 1	NI
Comment 2	NI

IUT Common Settings	
Tlow [°C]	-20
Tmid [°C]	20
Thigh [°C]	70
Vlow [V]	3.3
Vmid [V]	3.7
Vhigh [V]	4.2
Imax [A]	1
Antenna Gain [dBi]	0
Additional Path Loss [dB]	0

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	True | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | TWO | 32 | B19K | None | S1 | None | On
Signaling RF Settings	RF1com | 0 | 0 | On |
User Interaction	No
Switch Matrix & Pathcompensation enabled	Yes

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

Test References	
TC Start	29.10.2018 13:26:28
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 9.1.1 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	

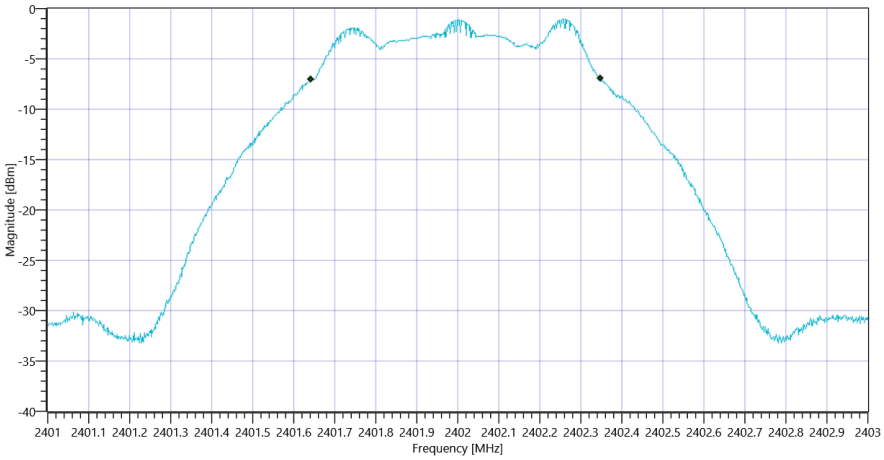
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.07
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2401.000
Freq. Stop [MHz]	2403.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

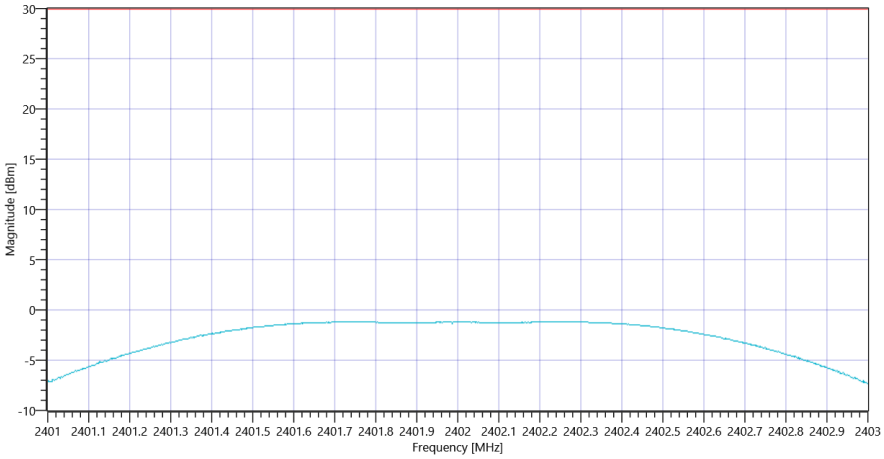
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	0.706	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps DTS BW _29102018_132704.png

READ SA SETTINGS:	
Ref. Level [dBm]	9.07
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	15
Freq. Start [MHz]	2401.000
Freq. Stop [MHz]	2403.000
Resolution BW. [MHz]	1.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.2	dBm	PASS
Peak Power	---	1000	0.758578	mW	PASS
Frequency at Peak	---	---	2402.25	MHz	Information



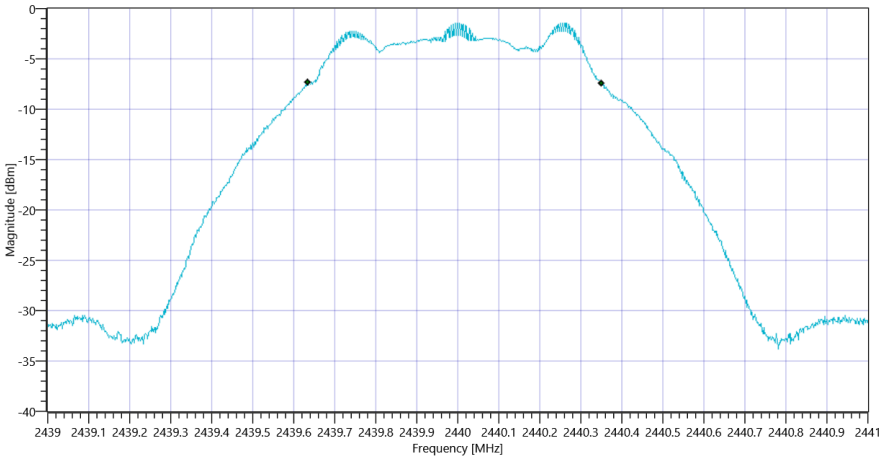
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps_29102018_132719.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.75
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2439.000
Freq. Stop [MHz]	2441.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

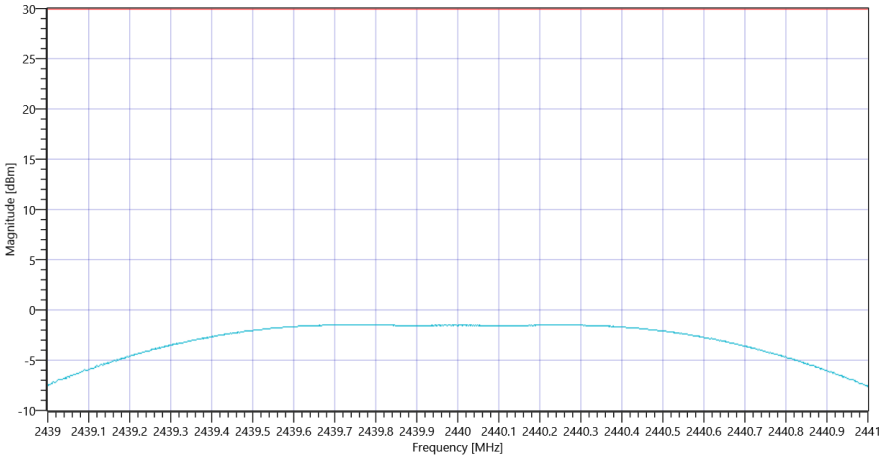
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	0.716	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps DTS BW _29102018_132759.png

READ SA SETTINGS:	
Ref. Level [dBm]	8.75
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	15
Freq. Start [MHz]	2439.000
Freq. Stop [MHz]	2441.000
Resolution BW. [MHz]	1.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.49	dBm	PASS
Peak Power	---	1000	0.709578	mW	PASS
Frequency at Peak	---	---	2439.748	MHz	Information



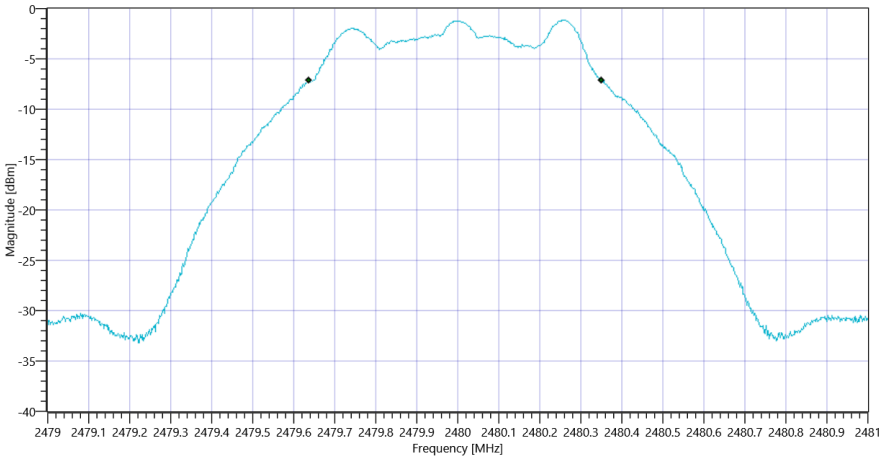
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps_29102018_132814.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.95
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2479.000
Freq. Stop [MHz]	2481.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

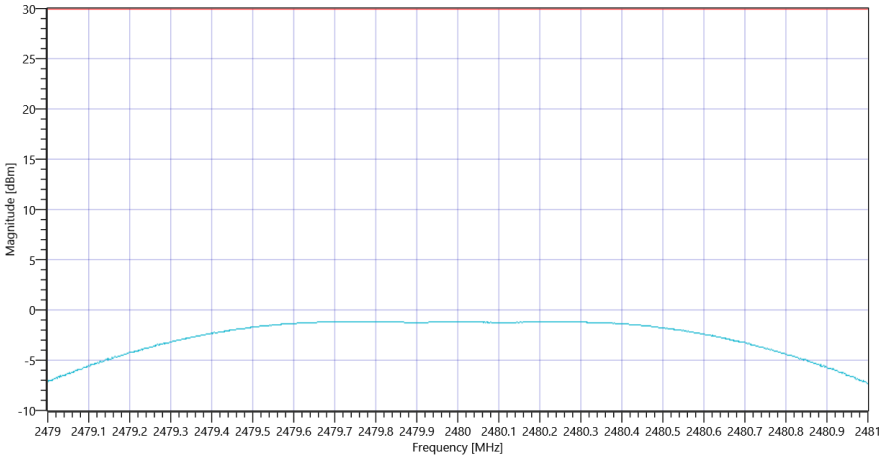
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	0.712	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps DTS BW _29102018_132855.png

READ SA SETTINGS:	
Ref. Level [dBm]	8.95
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	15
Freq. Start [MHz]	2479.000
Freq. Stop [MHz]	2481.000
Resolution BW. [MHz]	1.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.18	dBm	PASS
Peak Power	---	1000	0.762079	mW	PASS
Frequency at Peak	---	---	2479.732	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 1 Msps_29102018_132910.png

TEST FINISHED		
General Verdict	29.10.2018 13:29:10 / RT: 162 s	PASS

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

Test References	
TC Start	29.10.2018 13:29:12
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 9.1.1 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 2 Msps
Add. Information	

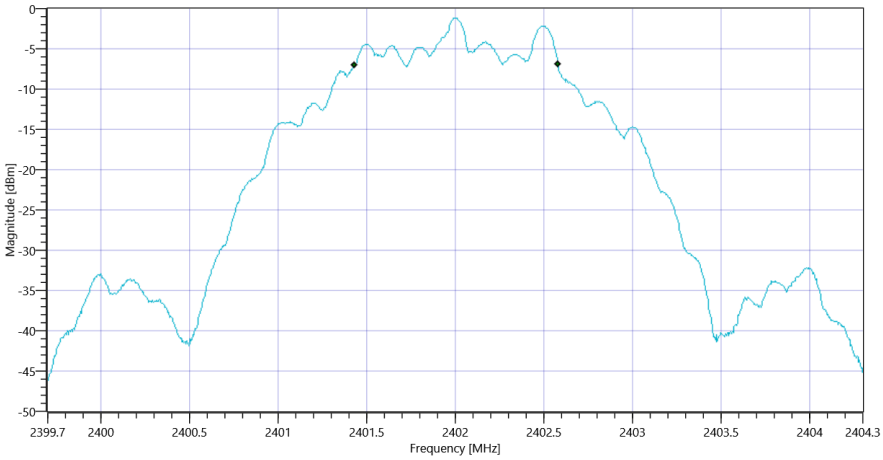
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.06
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2399.700
Freq. Stop [MHz]	2404.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

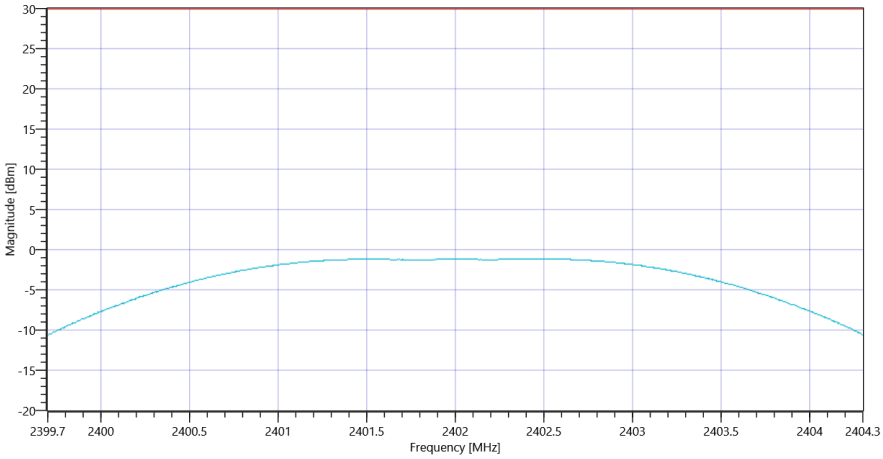
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1.145	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps DTS BW _29102018_132948.png

READ SA SETTINGS:	
Ref. Level [dBm]	9.06
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	15
Freq. Start [MHz]	2399.700
Freq. Stop [MHz]	2404.300
Resolution BW. [MHz]	2.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.18	dBm	PASS
Peak Power	---	1000	0.762079	mW	PASS
Frequency at Peak	---	---	2402.482	MHz	Information



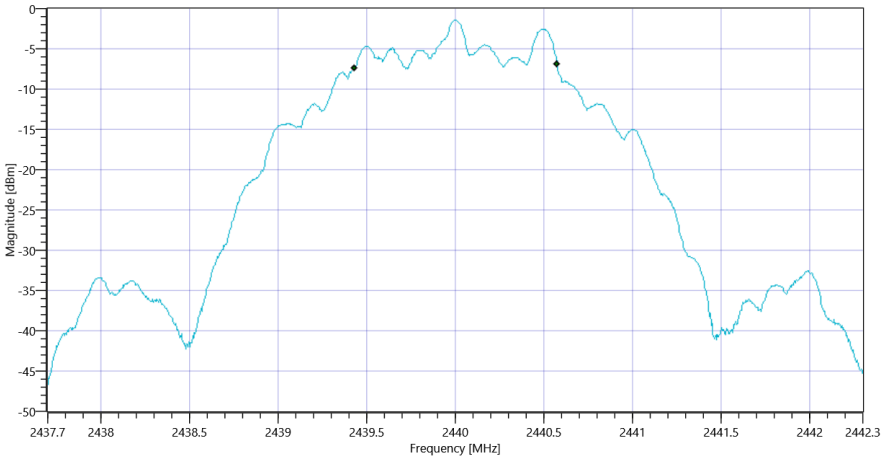
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps_29102018_133002.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.73
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2437.700
Freq. Stop [MHz]	2442.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

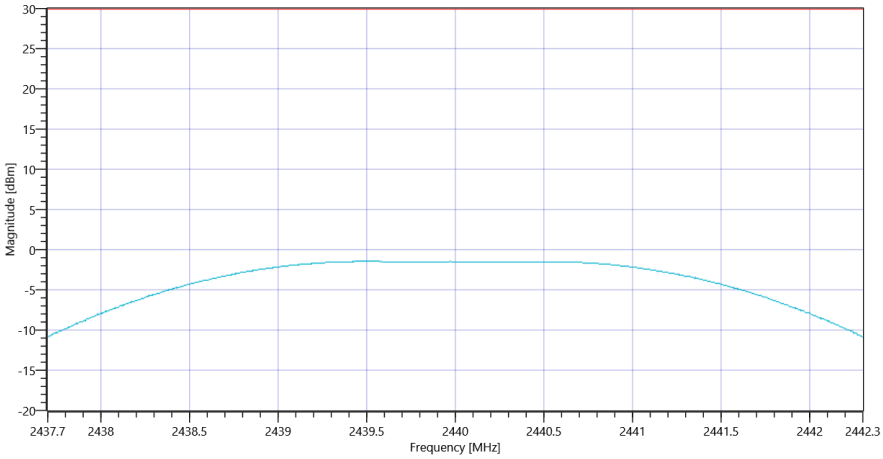
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1.145	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps DTS BW _29102018_133043.png

READ SA SETTINGS:	
Ref. Level [dBm]	8.73
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	15
Freq. Start [MHz]	2437.700
Freq. Stop [MHz]	2442.300
Resolution BW. [MHz]	2.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.46	dBm	PASS
Peak Power	---	1000	0.714496	mW	PASS
Frequency at Peak	---	---	2439.499	MHz	Information



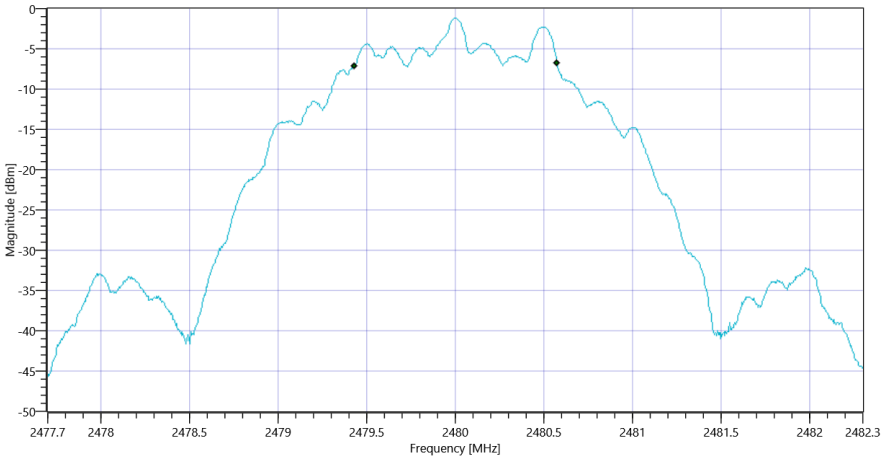
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps_29102018_133058.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.98
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2477.700
Freq. Stop [MHz]	2482.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

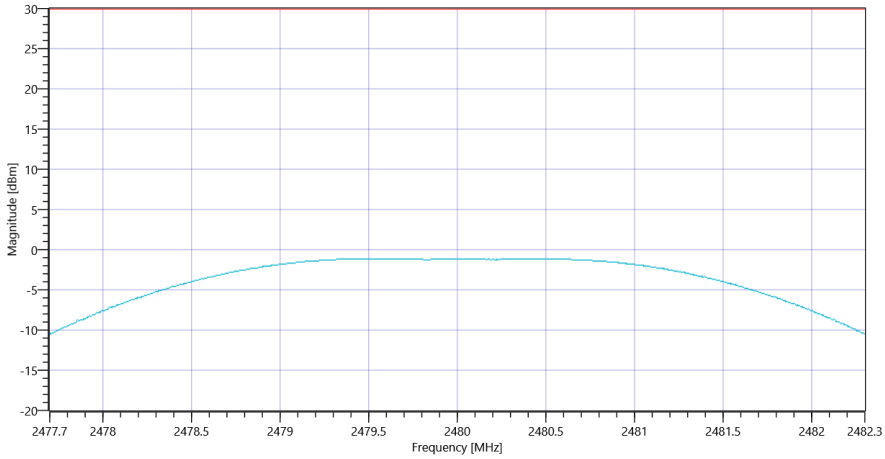
RESULT: DTS Bandwidth					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	---	---	1.145	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps DTS BW _29102018_133139.png

READ SA SETTINGS:	
Ref. Level [dBm]	8.98
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	15
Freq. Start [MHz]	2477.700
Freq. Stop [MHz]	2482.300
Resolution BW. [MHz]	2.000000
Video BW. [MHz]	5.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.14	dBm	PASS
Peak Power	---	1000	0.76913	mW	PASS
Frequency at Peak	---	---	2479.485	MHz	Information



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS BT LE 2 Msps_29102018_133153.png

TEST FINISHED		
General Verdict	29.10.2018 13:31:54 / RT: 161 s	PASS

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

Test References	
TC Start	29.10.2018 13:38:45
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 8.1 DTS Bandwidth
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	

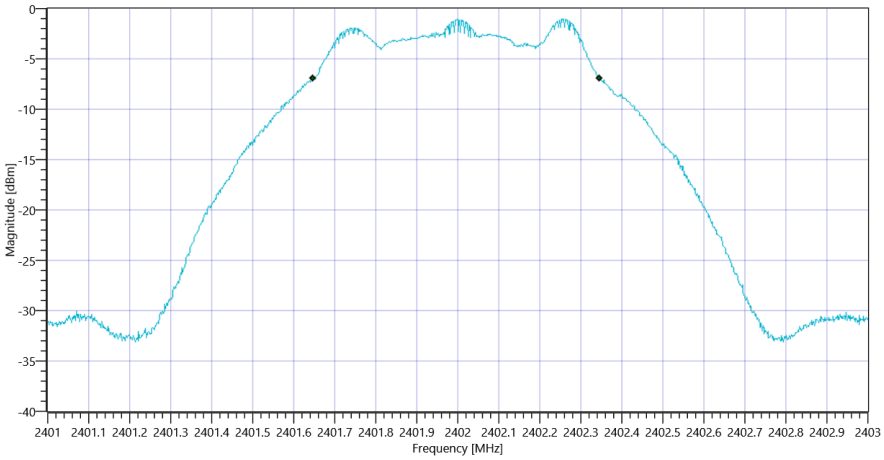
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.07
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2401.000
Freq. Stop [MHz]	2403.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	0.7	MHz	PASS



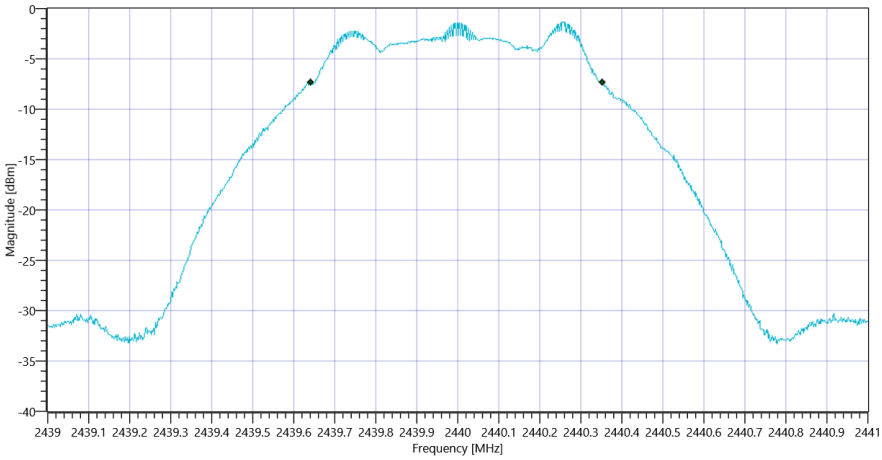
Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 1 Msps_29102018_133921.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.79
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2439.000
Freq. Stop [MHz]	2441.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	0.712	MHz	PASS



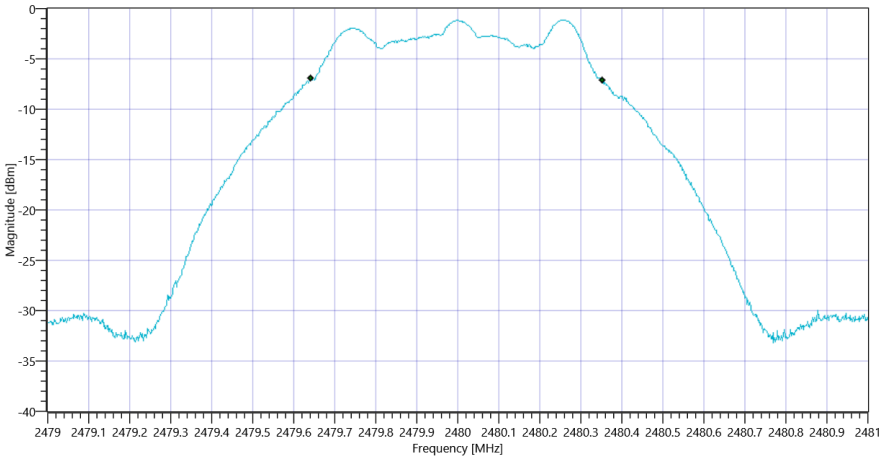
Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 1 Msps_29102018_134002.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	4.02
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2479.000
Freq. Stop [MHz]	2481.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	0.71	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 1 Msps_29102018_134043.png

TEST FINISHED		
General Verdict	29.10.2018 13:40:43 / RT: 118 s	PASS

4. FCC Part 15.247 Bandwidth 6dB DTS BT LE 2 Msps

Test References	
TC Start	29.10.2018 13:40:45
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 8.1 DTS Bandwidth
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 2 Msps
Add. Information	

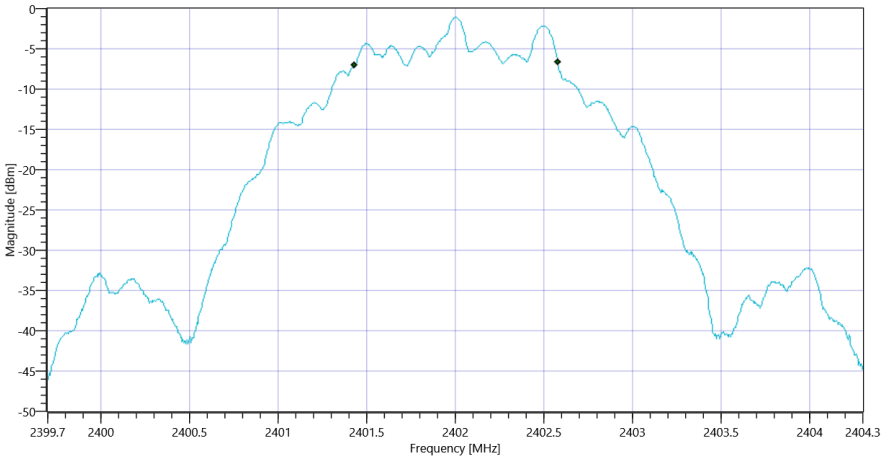
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.04
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2399.700
Freq. Stop [MHz]	2404.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	1.15	MHz	PASS



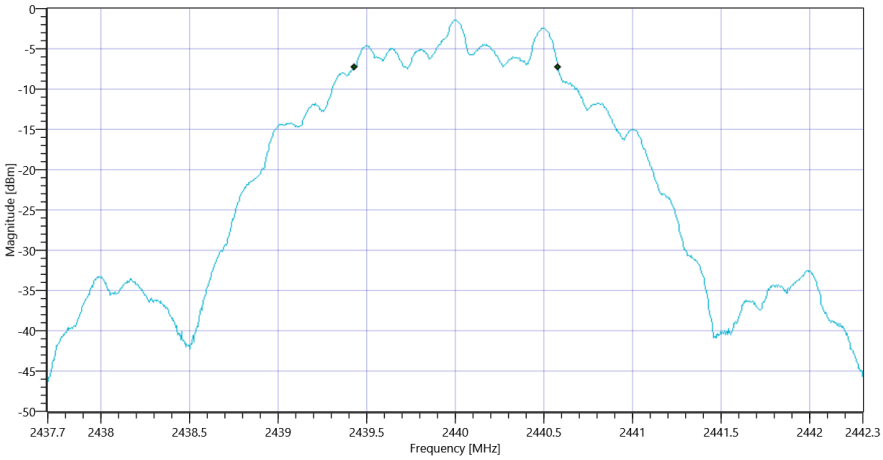
Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 2 Msps_29102018_134121.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.81
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2437.700
Freq. Stop [MHz]	2442.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	1.145	MHz	PASS



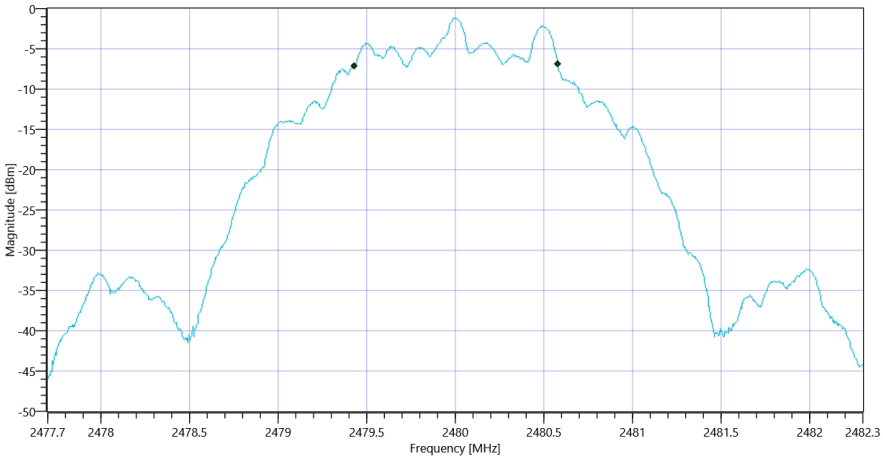
Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 2 Msps_29102018_134202.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.95
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2477.700
Freq. Stop [MHz]	2482.300
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_6dB_DTS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	0.500	---	1.15	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS BT LE 2 Msps_29102018_134242.png

TEST FINISHED		
General Verdict	29.10.2018 13:42:43 / RT: 117 s	PASS

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

Test References	
TC Start	29.10.2018 13:42:44
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 10.2 Peak PSD
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	

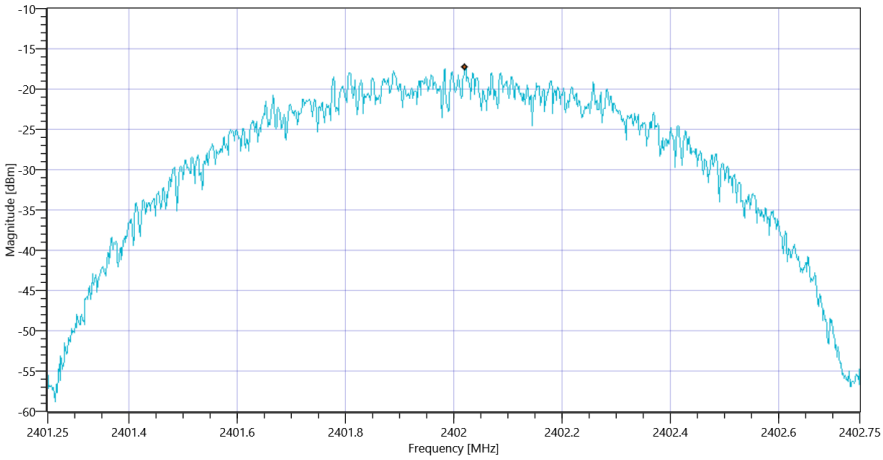
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.11
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2401.250
Freq. Stop [MHz]	2402.750
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-17.29	dBm/3KHz	PASS



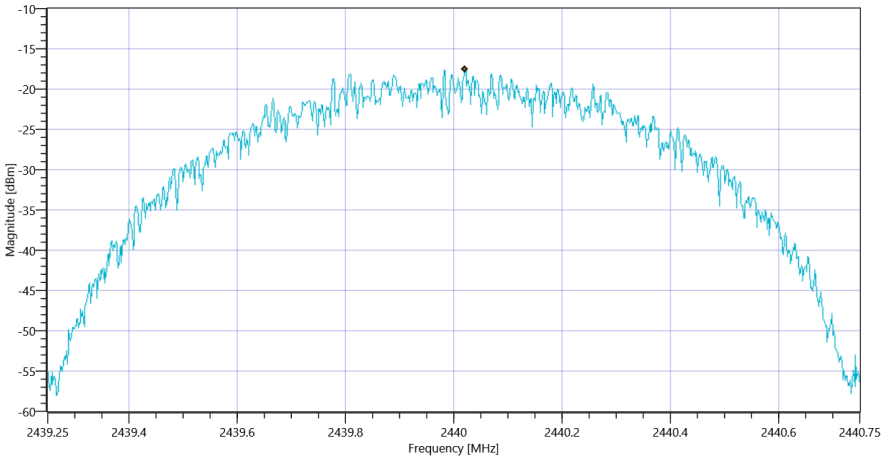
Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 1 Msps_29102018_134330.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.80
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2439.250
Freq. Stop [MHz]	2440.750
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-17.59	dBm/3KHz	PASS



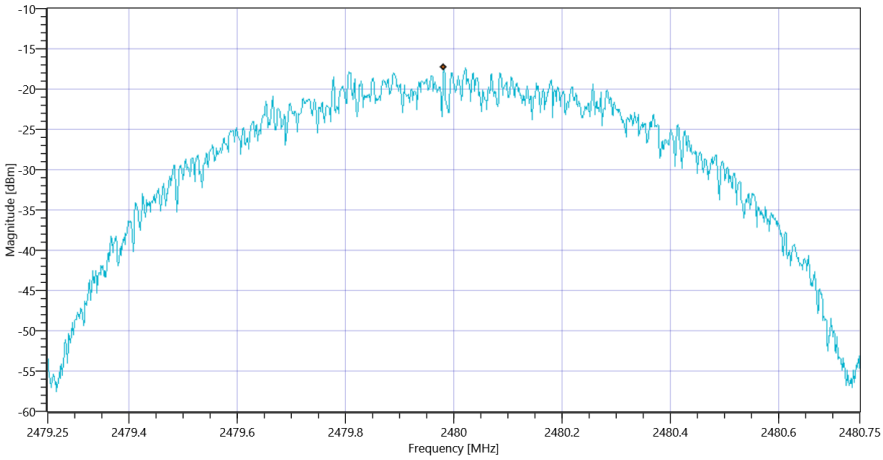
Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 1 Msps_29102018_134421.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.97
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2479.250
Freq. Stop [MHz]	2480.750
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-17.29	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 1 Msps_29102018_134512.png

TEST FINISHED		
General Verdict	29.10.2018 13:45:12 / RT: 147 s	PASS

6. FCC Part 15.247 Peak Power Spectral Density DTS BT LE 2 Msps

Test References	
TC Start	29.10.2018 13:45:13
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - Chapter 10.2 Peak PSD
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 2 Msps
Add. Information	

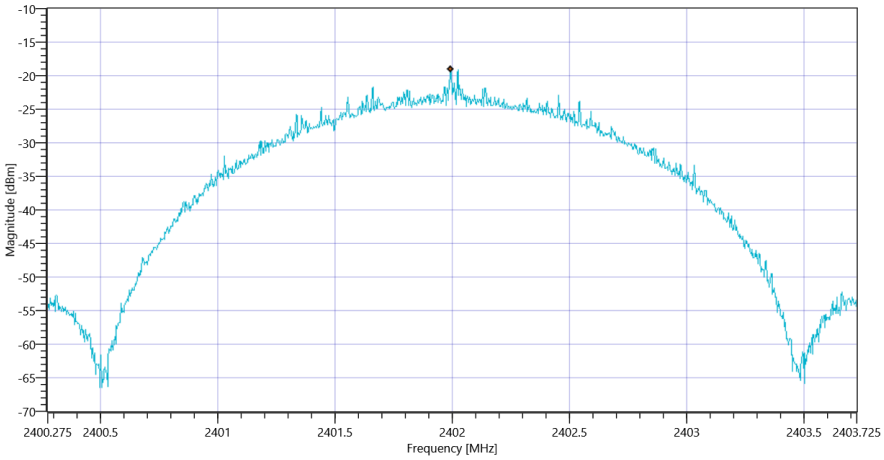
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.08
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2400.275
Freq. Stop [MHz]	2403.725
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-19.08	dBm/3KHz	PASS



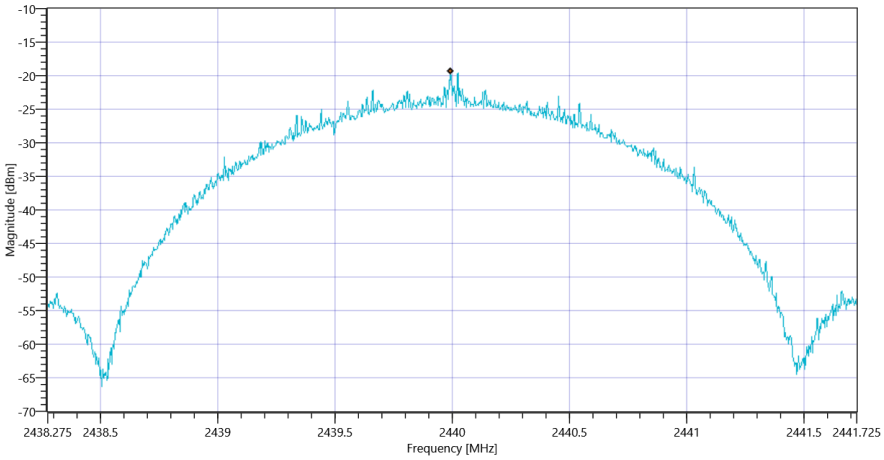
Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 2 Msps_29102018_134600.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.80
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2438.275
Freq. Stop [MHz]	2441.725
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-19.44	dBm/3KHz	PASS



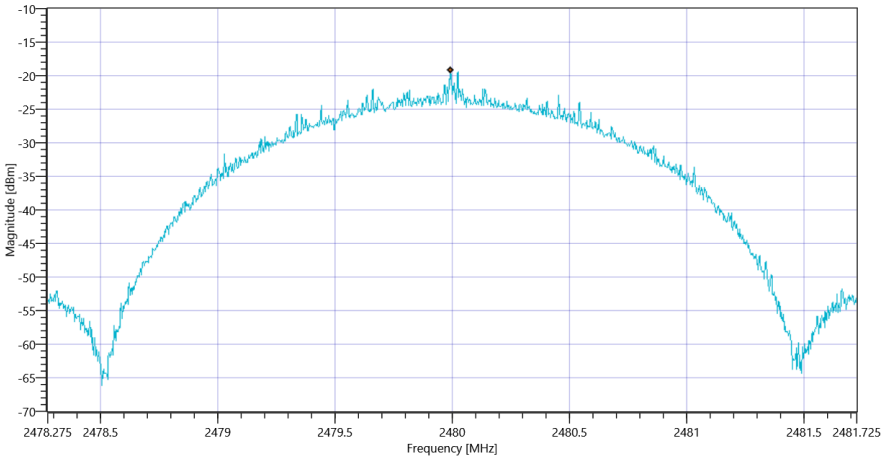
Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 2 Msps_29102018_134651.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	4.00
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2478.275
Freq. Stop [MHz]	2481.725
Resolution BW. [MHz]	0.003000
Video BW. [MHz]	0.010000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	20
Sweep Mode	MAXH
Used Sweep Type	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	-19.21	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS BT LE 2 Msps_29102018_134742.png

TEST FINISHED		
General Verdict	29.10.2018 13:47:42 / RT: 148 s	PASS

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

Test References	
TC Start	29.10.2018 13:47:44
System Version	1.0.0.10
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	

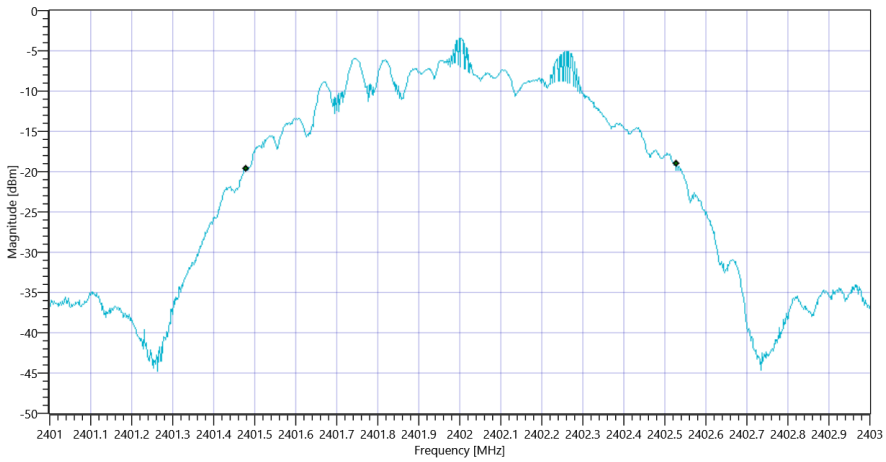
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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

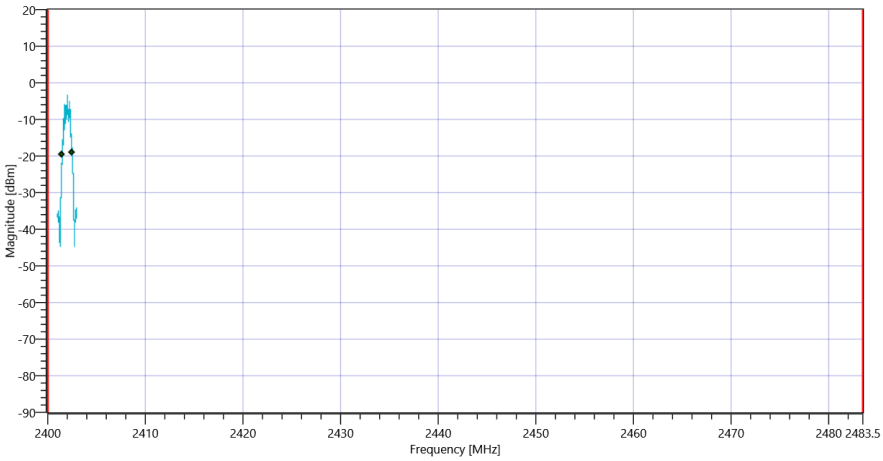
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	4.12
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2401.000
Freq. Stop [MHz]	2403.000
Resolution BW. [MHz]	0.030000
Video BW. [MHz]	0.100000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1.049	MHz	Information
T1	2400.000000	---	2401.4785	MHz	PASS
T2	---	2483.500000	2402.5275	MHz	PASS

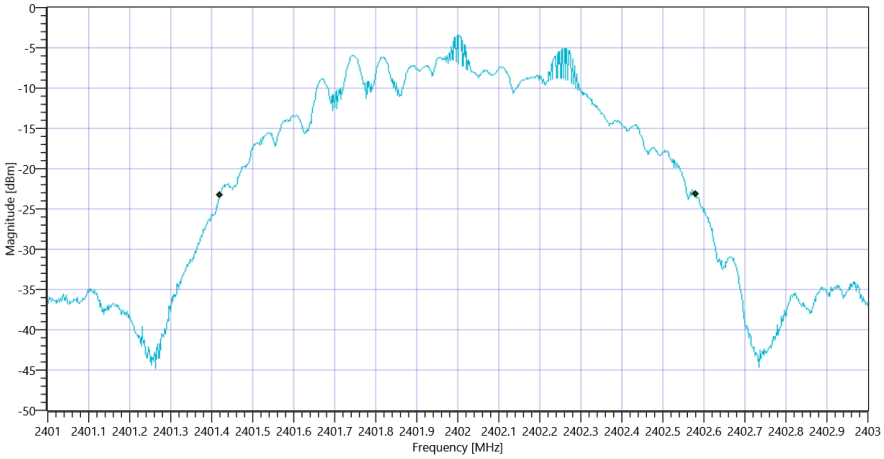


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 99PCT_29102018_134821.png

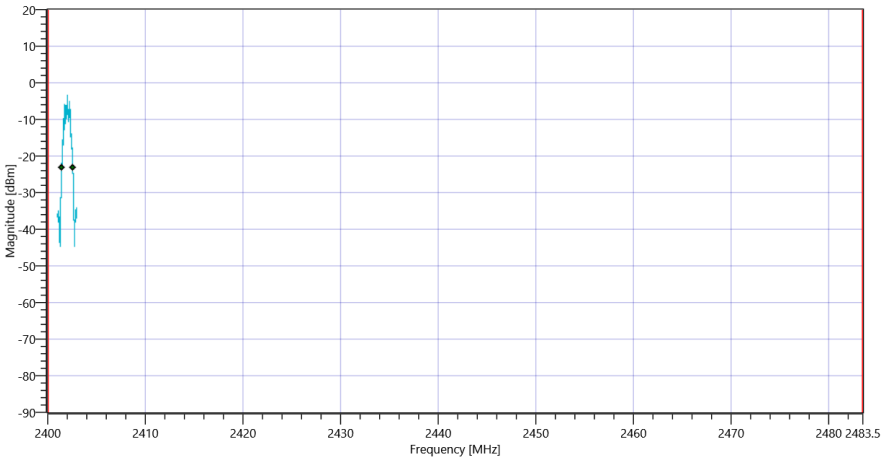


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_134823.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1.16	MHz	Information
T1 20dB	2400.000000	---	2401.4200	MHz	PASS
T2 20dB	---	2483.500000	2402.5800	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 20dB_29102018_134827.png



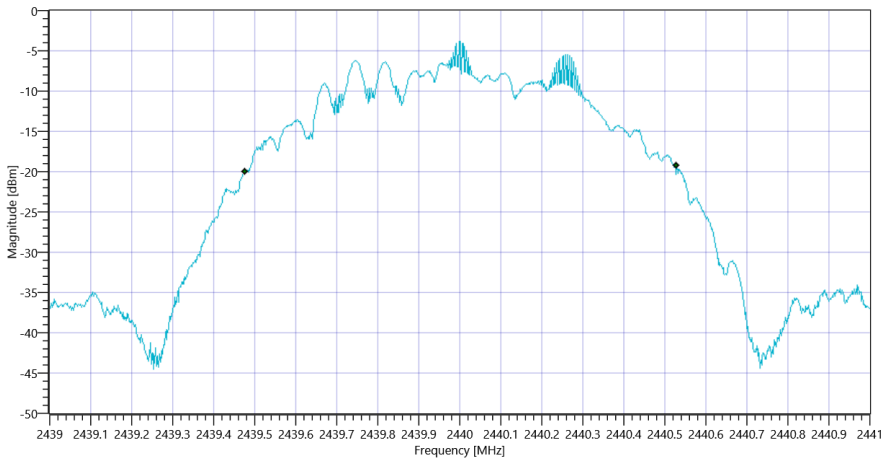
Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_134830.png

Test at TX 2440 MHz

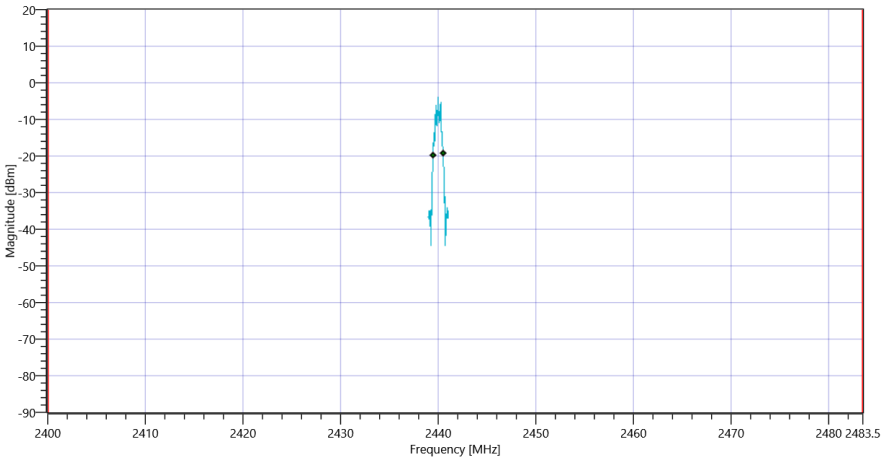
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.79
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2439.000
Freq. Stop [MHz]	2441.000
Resolution BW. [MHz]	0.030000
Video BW. [MHz]	0.100000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1.053	MHz	Information
T1	2400.000000	---	2439.4765	MHz	PASS
T2	---	2483.500000	2440.5295	MHz	PASS

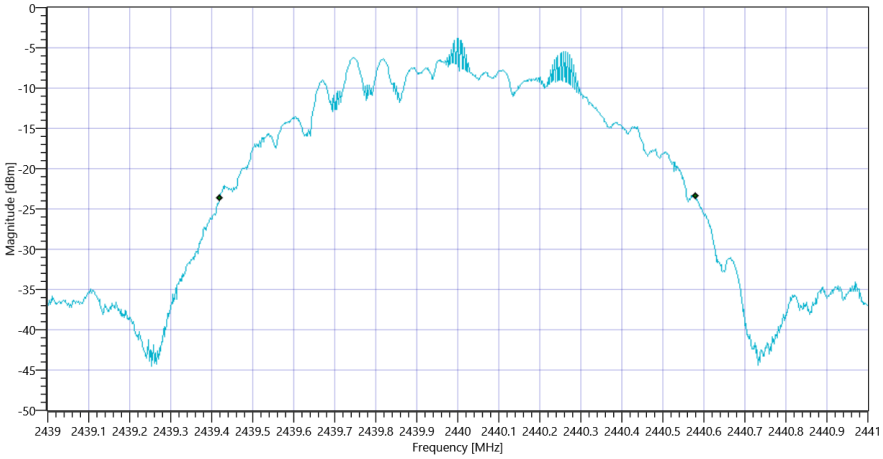


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 99PCT_29102018_134911.png

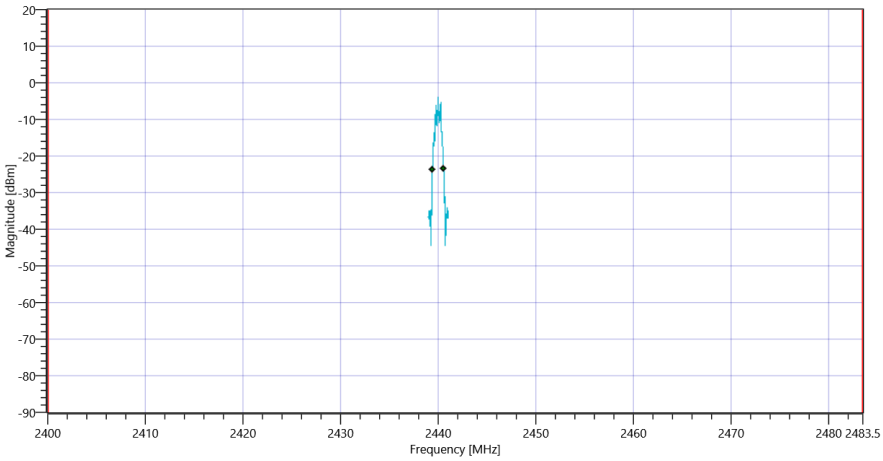


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_134914.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1.16	MHz	Information
T1 20dB	2400.000000	---	2439.4200	MHz	PASS
T2 20dB	---	2483.500000	2440.5800	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 20dB_29102018_134918.png



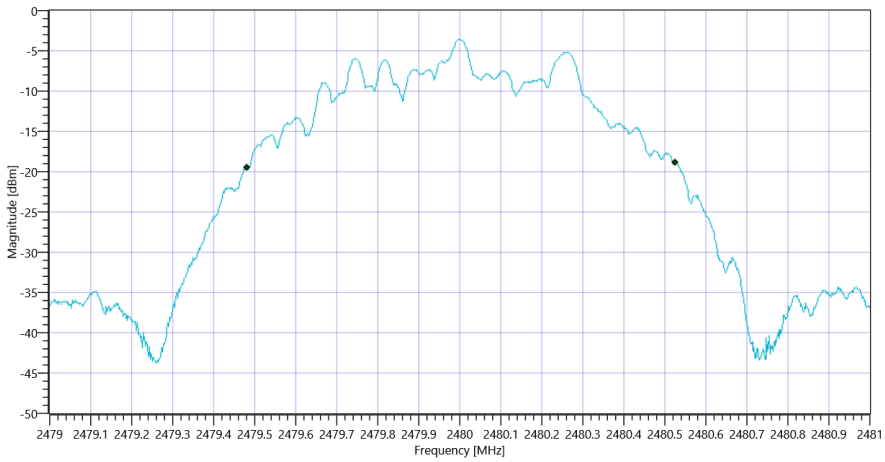
Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_134921.png

Test at TX 2480 MHz

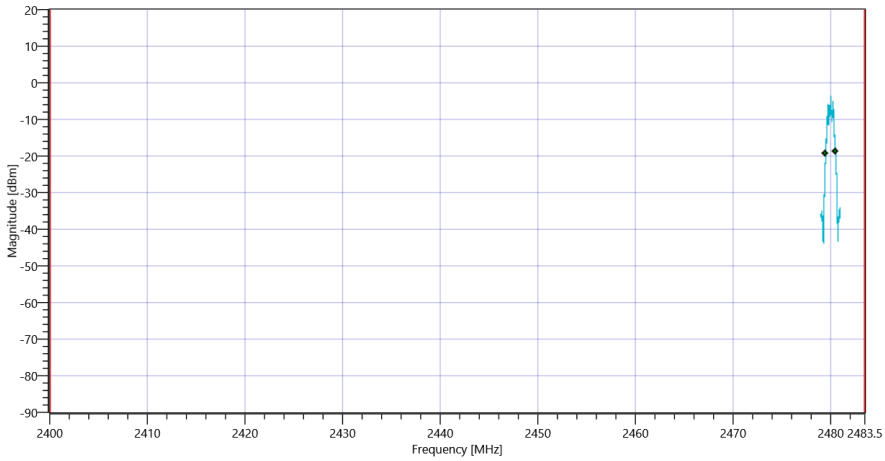
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	4.00
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2479.000
Freq. Stop [MHz]	2481.000
Resolution BW. [MHz]	0.030000
Video BW. [MHz]	0.100000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1.045	MHz	Information
T1	2400.000000	---	2479.4805	MHz	PASS
T2	---	2483.500000	2480.5255	MHz	PASS

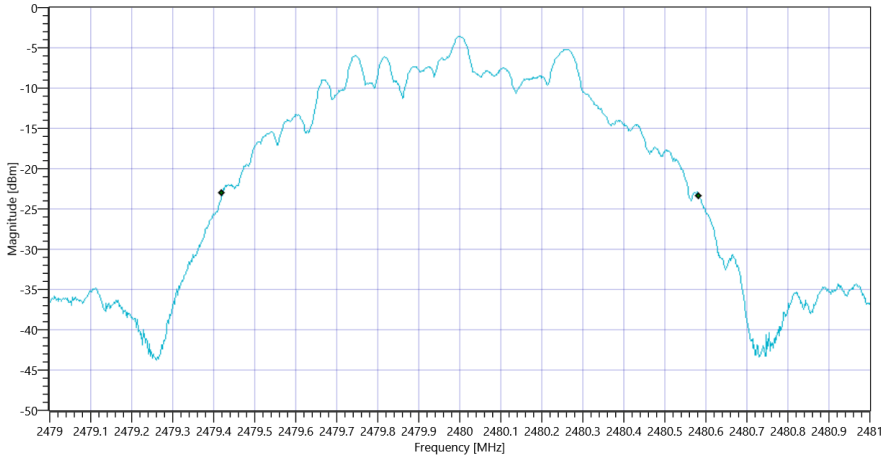


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 99PCT_29102018_135003.png

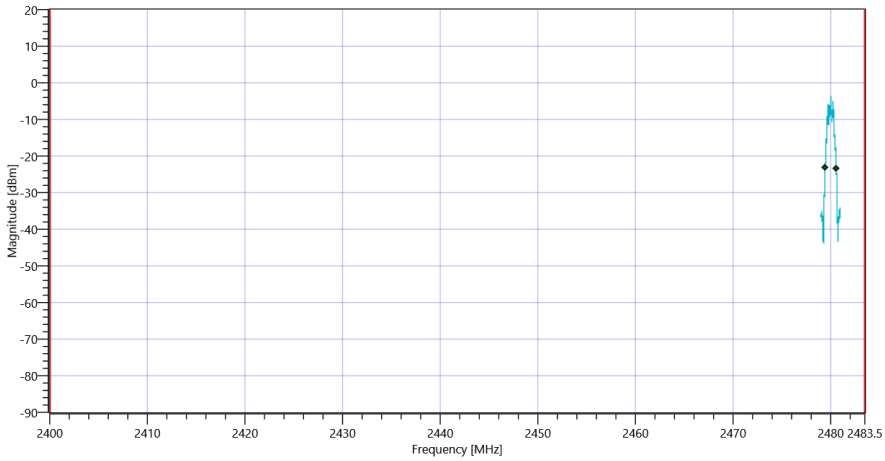


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_135006.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1.162	MHz	Information
T1 20dB	2400.000000	---	2479.4200	MHz	PASS
T2 20dB	---	2483.500000	2480.5820	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps 20dB_29102018_135010.png



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 1 Msps_29102018_135013.png

TEST FINISHED		
General Verdict	29.10.2018 13:50:13 / RT: 149 s	PASS

8. FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps

Test References	
TC Start	29.10.2018 13:50:15
System Version	1.0.0.10
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 2 Msps
Add. Information	

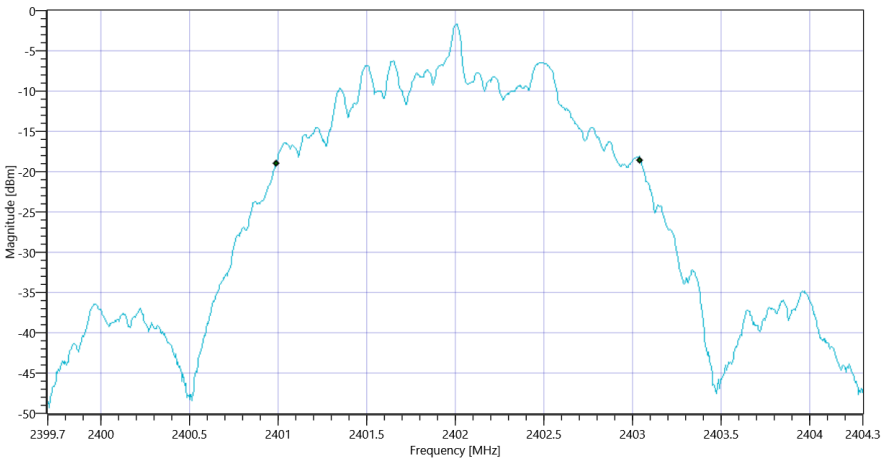
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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

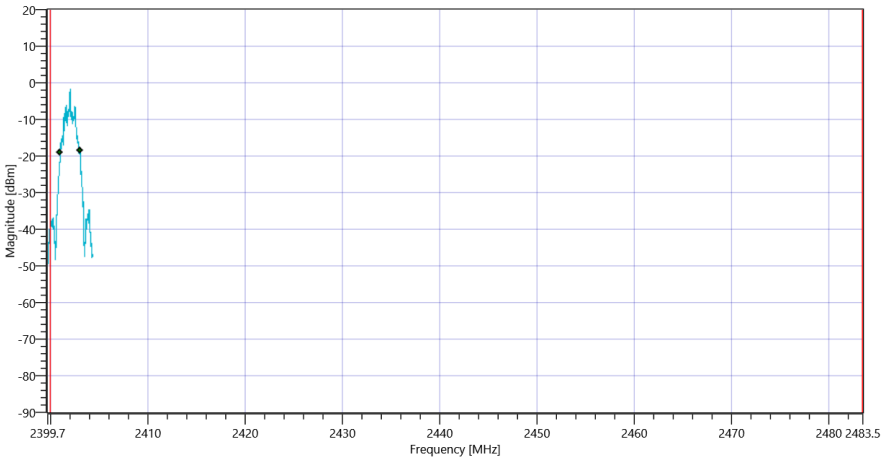
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	4.10
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2399.700
Freq. Stop [MHz]	2404.300
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2.054	MHz	Information
T1	2400.000000	---	2400.9890	MHz	PASS
T2	---	2483.500000	2403.0432	MHz	PASS

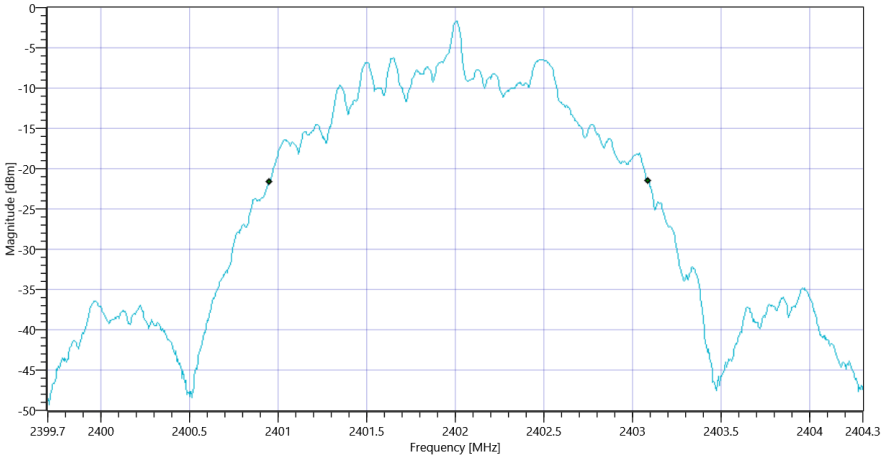


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 99PCT_29102018_135051.png

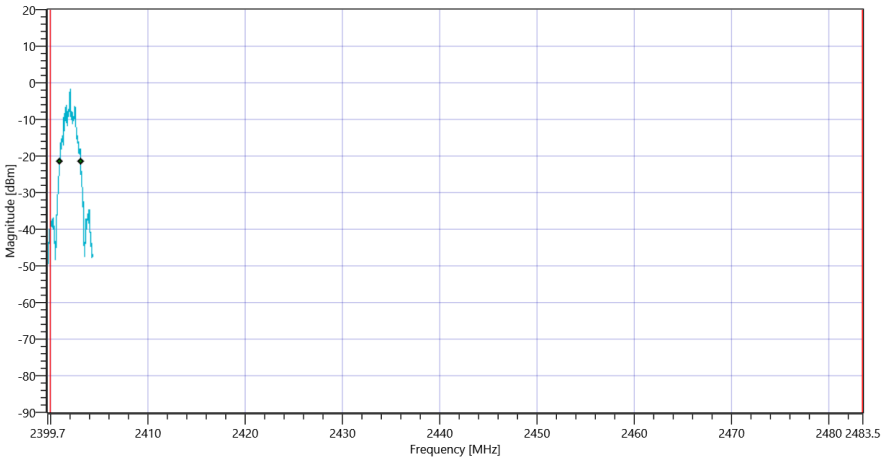


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135054.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2.139	MHz	Information
T1 20dB	2400.000000	---	2400.9512	MHz	PASS
T2 20dB	---	2483.500000	2403.0902	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 20dB_29102018_135058.png



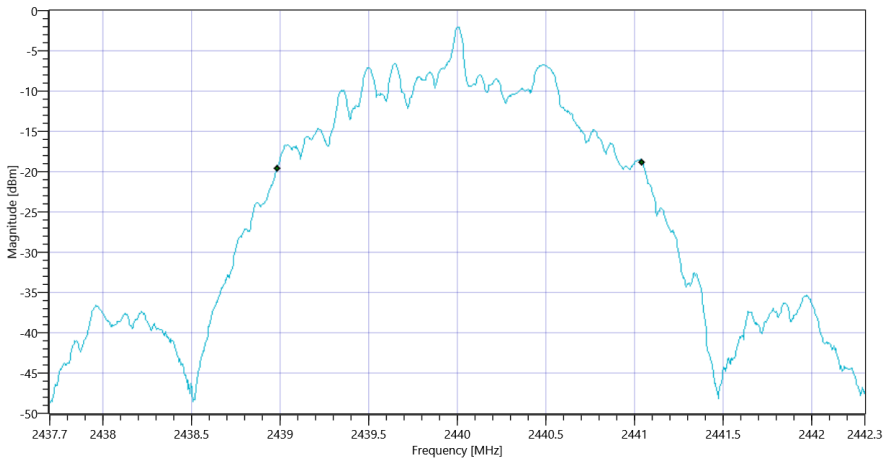
Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135100.png

Test at TX 2440 MHz

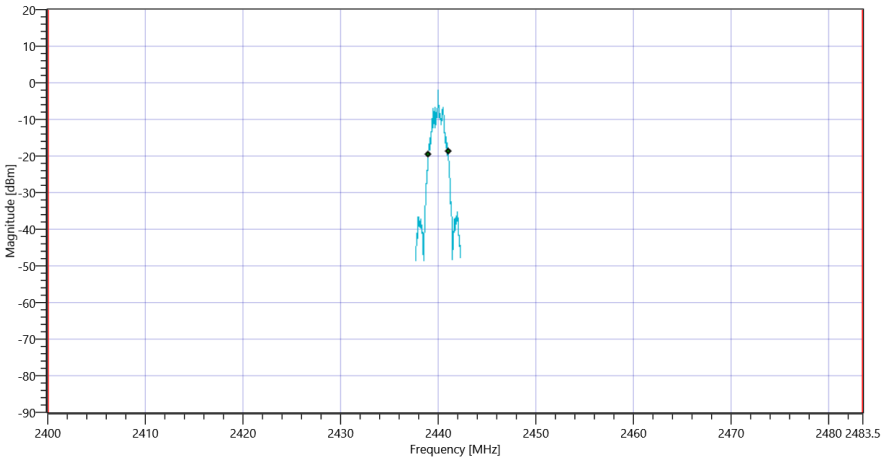
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.77
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	10
Freq. Start [MHz]	2437.700
Freq. Stop [MHz]	2442.300
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2.059	MHz	Information
T1	2400.000000	---	2438.9844	MHz	PASS
T2	---	2483.500000	2441.0432	MHz	PASS

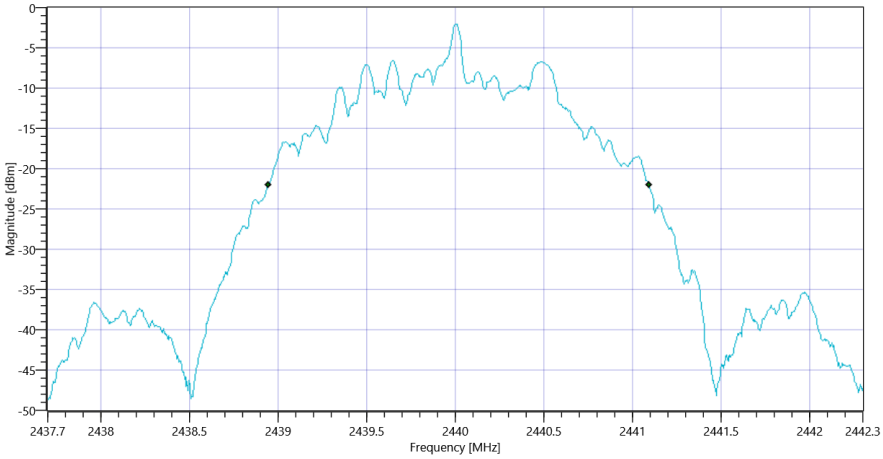


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 99PCT_29102018_135142.png

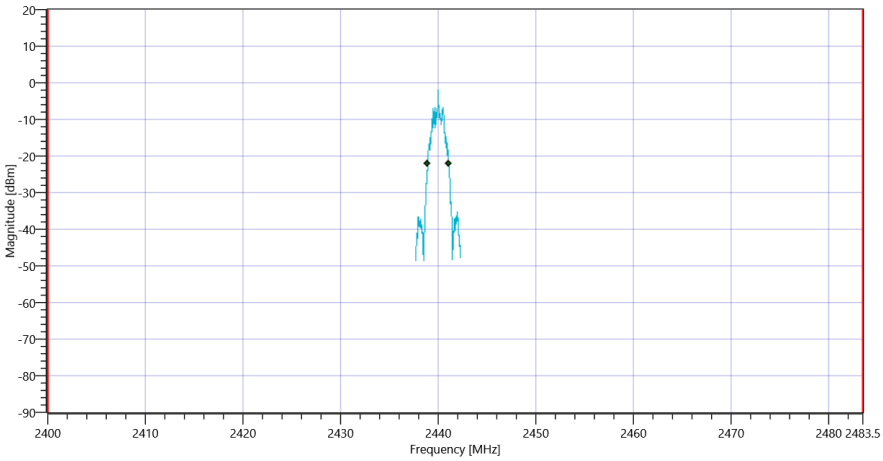


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135145.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2.148	MHz	Information
T1 20dB	2400.000000	---	2438.9466	MHz	PASS
T2 20dB	---	2483.500000	2441.0948	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 20dB_29102018_135148.png



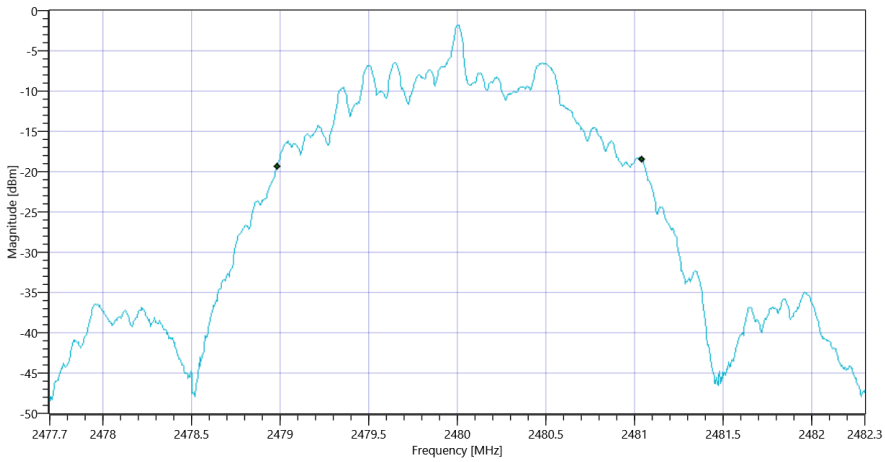
Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135151.png

Test at TX 2480 MHz

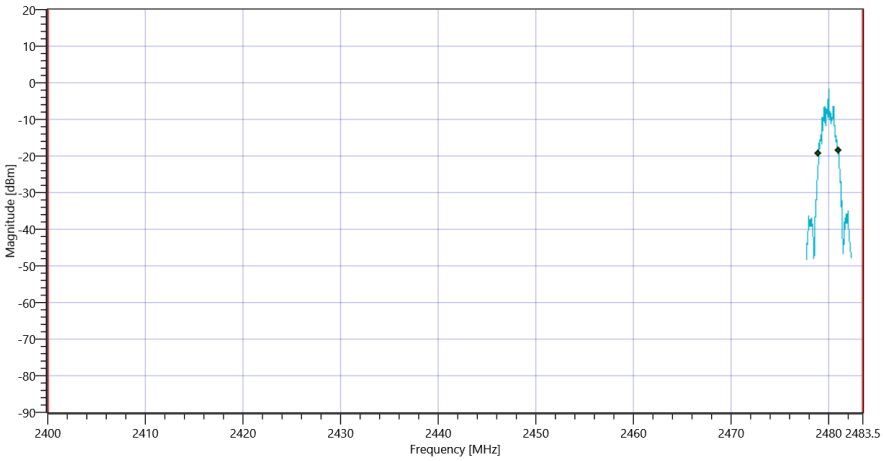
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	4.03
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2477.700
Freq. Stop [MHz]	2482.300
Resolution BW. [MHz]	0.050000
Video BW. [MHz]	0.200000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	2.059	MHz	Information
T1	2400.000000	---	2478.9844	MHz	PASS
T2	---	2483.500000	2481.0432	MHz	PASS

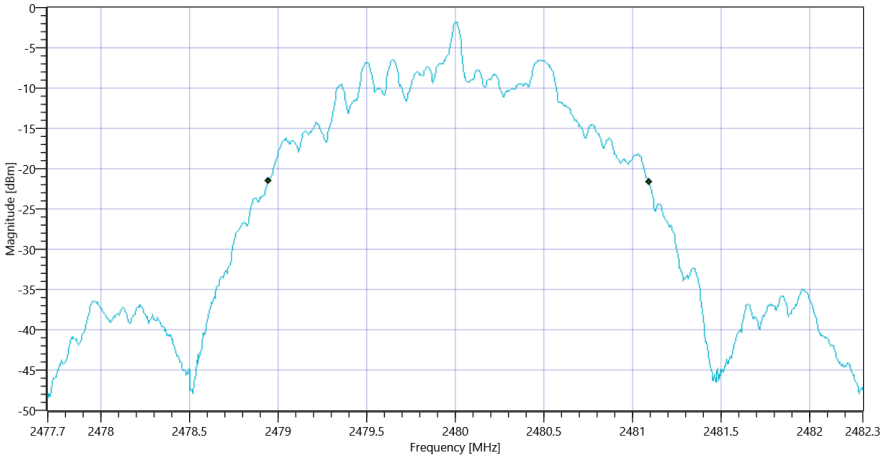


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 99PCT_29102018_135233.png

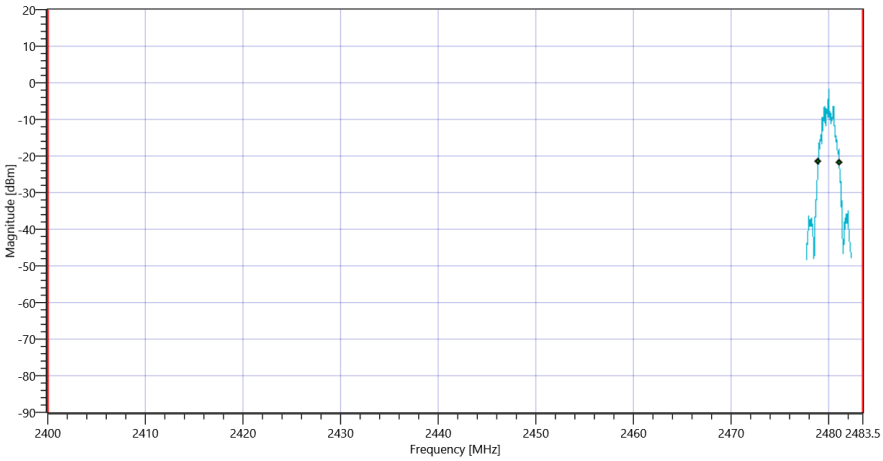


Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135236.png

RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	2.148	MHz	Information
T1 20dB	2400.000000	---	2478.9466	MHz	PASS
T2 20dB	---	2483.500000	2481.0948	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps 20dB_29102018_135240.png



Plot_FCC Part 15.247 Bandwidth 99PCT - 20dB BT LE 2 Msps_29102018_135243.png

TEST FINISHED		
General Verdict	29.10.2018 13:52:43 / RT: 148 s	PASS

9. FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps

Test References	
TC Start	29.10.2018 13:52:45
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	
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 Msps
Add. Information	

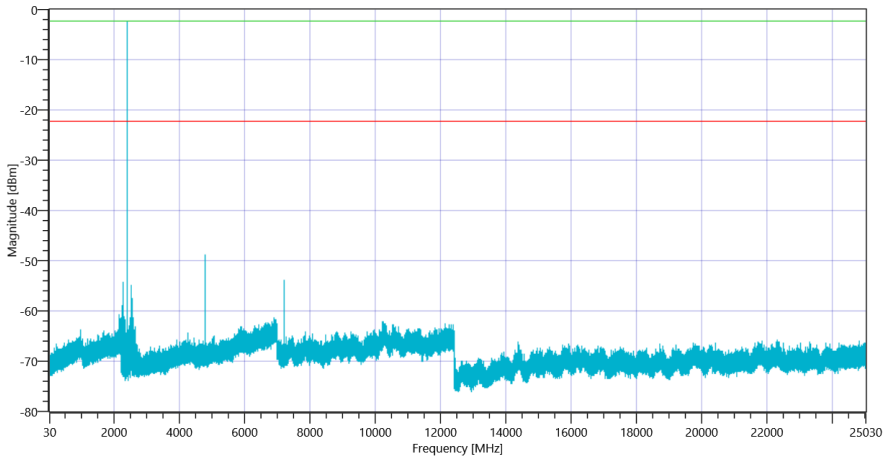
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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

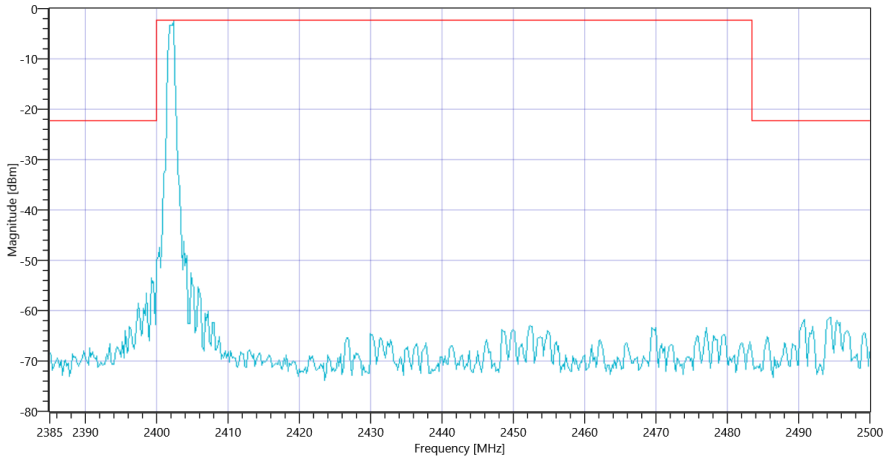
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	4.08
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2402.40 MHz	---	---	-2.29	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2402_29102018_135839.png



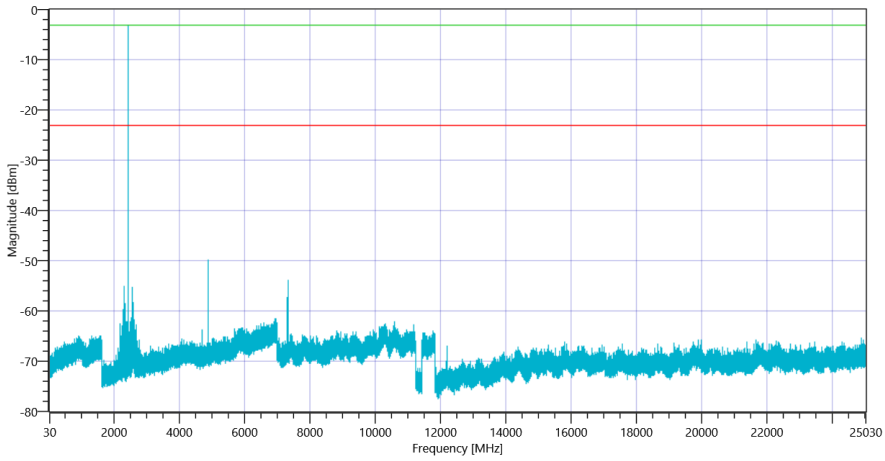
Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2402_29102018_135841.png

Test at TX 2440 MHz

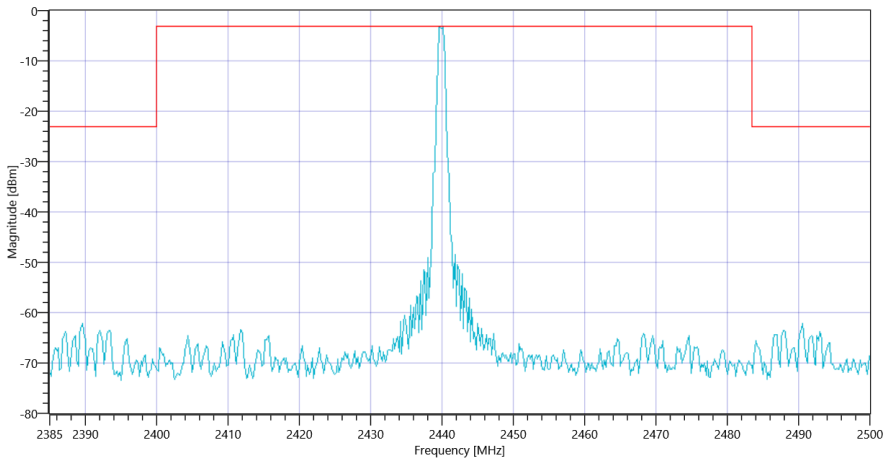
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.65
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2439.60 MHz	---	---	-3.08	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2440_29102018_140441.png



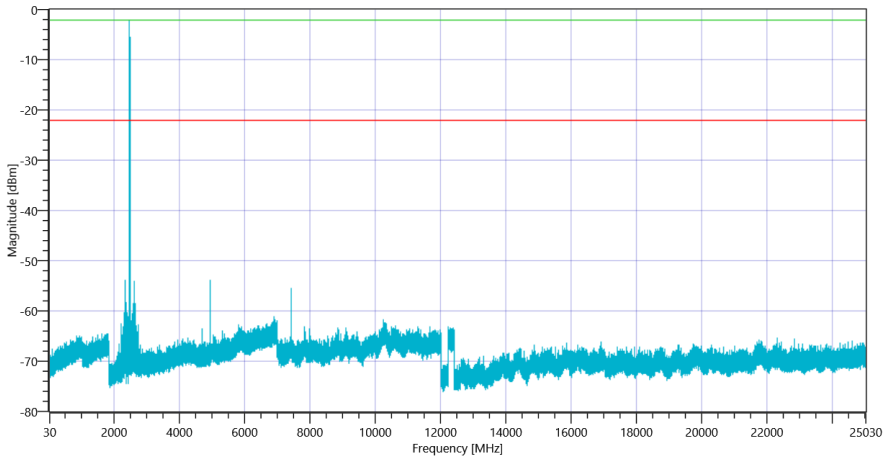
Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2440_29102018_140444.png

Test at TX 2480 MHz

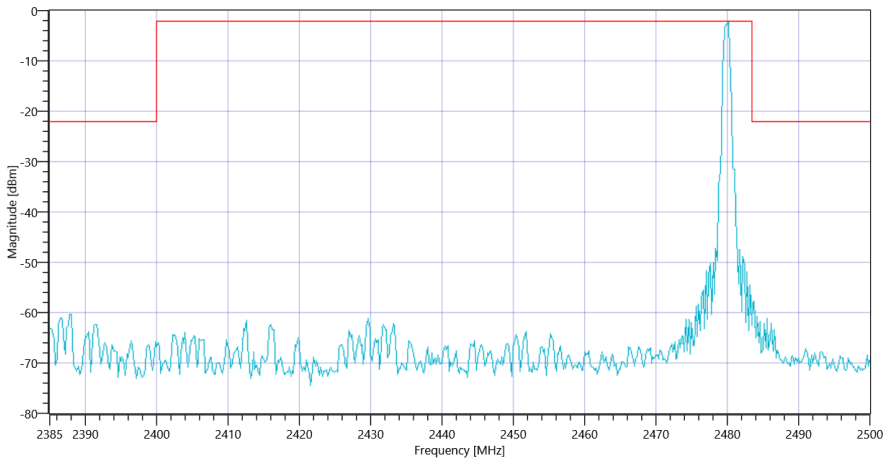
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.87
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.20 MHz	---	---	-2.17	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2480_29102018_141043.png



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 1 Msps 2480_29102018_141046.png

TEST FINISHED

General Verdict	29.10.2018 14:10:47 / RT: 1082 s	PASS

10. FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps

Test References	
TC Start	29.10.2018 14:10:49
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	
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 2 Msps
Add. Information	

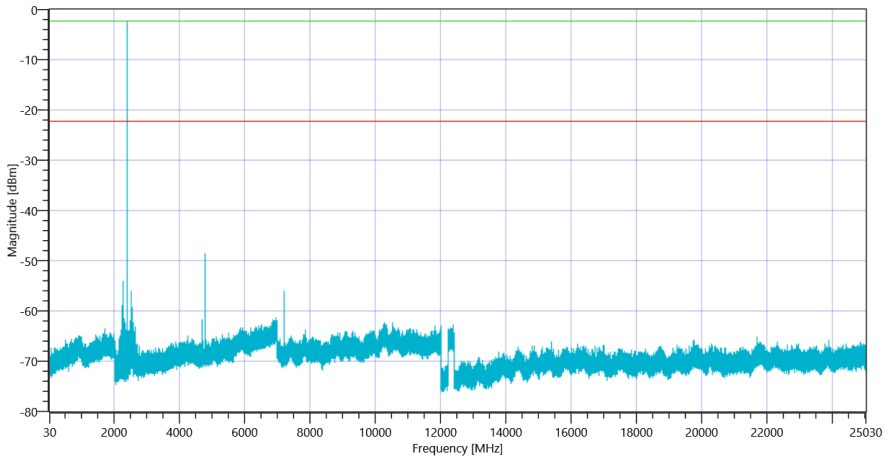
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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

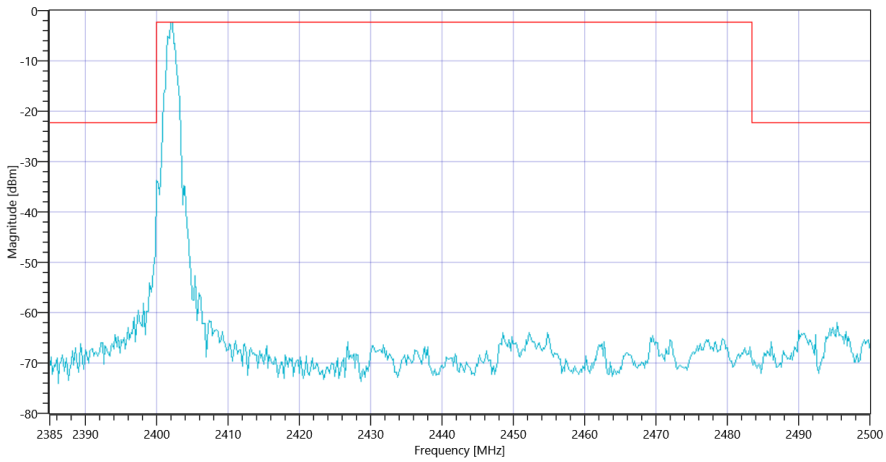
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.94
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2402.00 MHz	---	---	-2.30	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2402_29102018_141643.png



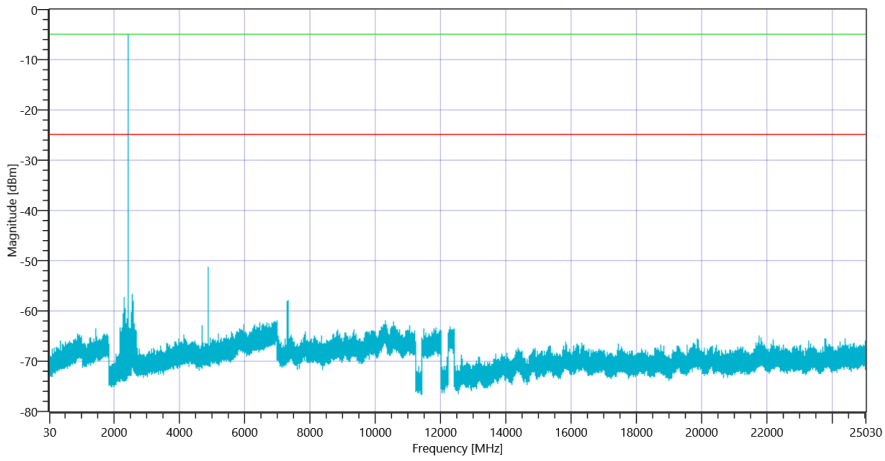
Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2402_29102018_141645.png

Test at TX 2440 MHz

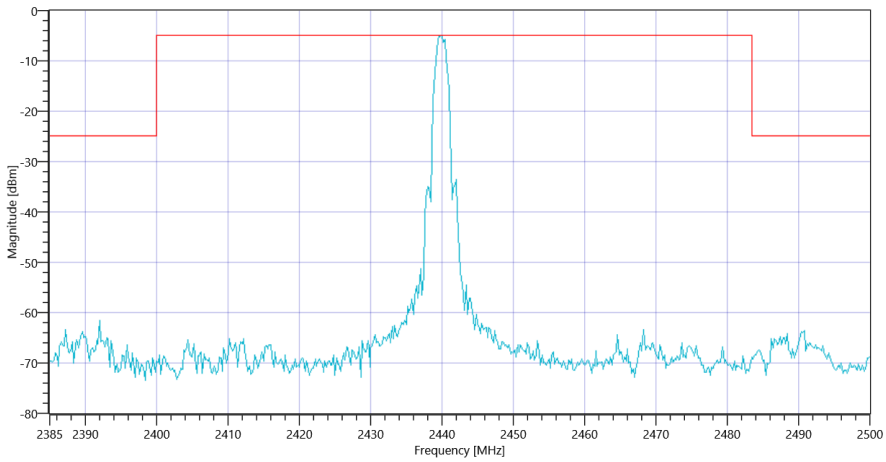
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.71
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2440.00 MHz	---	---	-4.87	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2440_29102018_142245.png



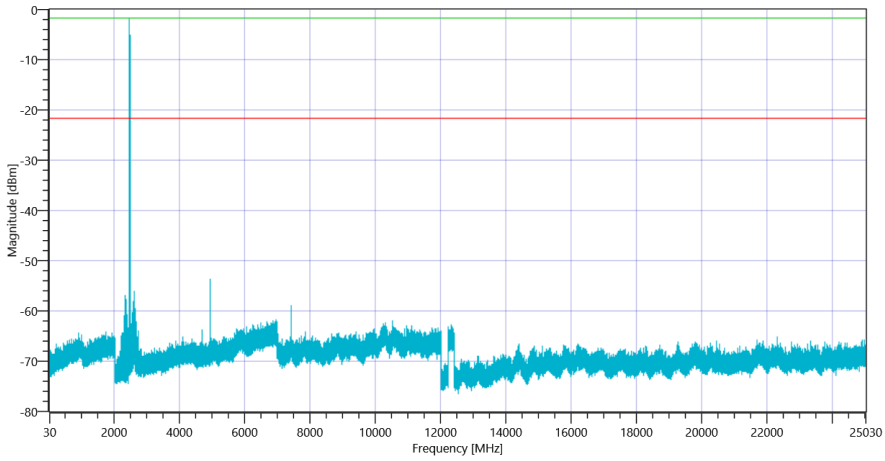
Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2440_29102018_142247.png

Test at TX 2480 MHz

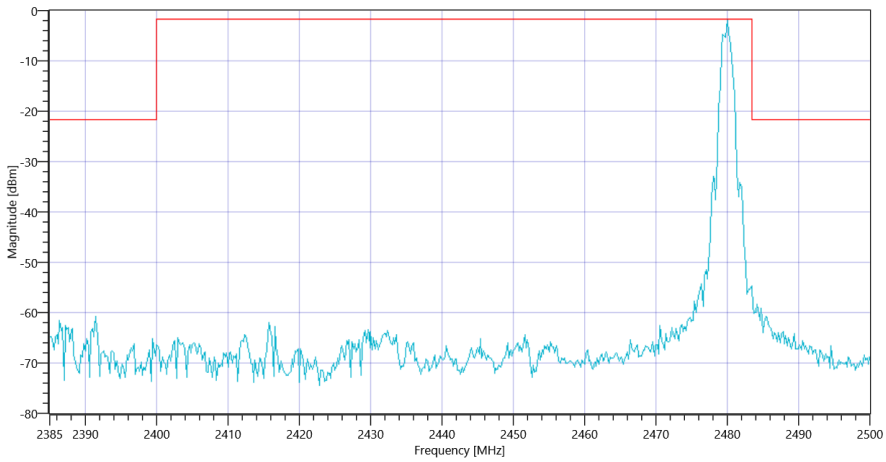
RESULT: DTM Connection check					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Connection result	---	---	---	--	PASS

READ SA SETTINGS:	
Ref. Level [dBm]	3.95
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.300000
Detector	POS
Sweep Time [ms]	500
Sweep Points/Section	1001
Sweep Count	3
Sweep Mode	MAXH
Used Sweep Type	SWE

RESULT: TC_VM_FCC15247_TX_Emissions_Conducted_V01					
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.00 MHz	---	---	-1.72	dBm	Information
No peaks detected	---	---			PASS



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2480_29102018_142848.png



Plot_FCC Part 15.247 TX Spurious Conduced BT LE 2 Msps 2480_29102018_142850.png

TEST FINISHED

General Verdict	29.10.2018 14:28:51 / RT: 1082 s	PASS

11. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 1 Msps

Test References	
TC Start	29.10.2018 14:28:53
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - 13.3.3 EUT transmissions with max hold
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	

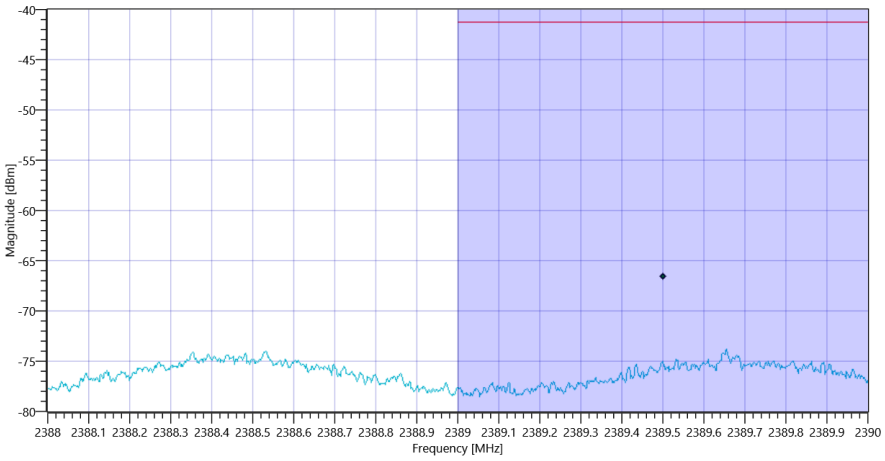
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.01
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2388.000
Freq. Stop [MHz]	2390.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.002000
Detector	POS
Sweep Time [ms]	8
Sweep Points/Section	1001
Sweep Count	300
Sweep Mode	MAXH
Used Sweep Type	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	-66.57	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-66.57	dBm	PASS



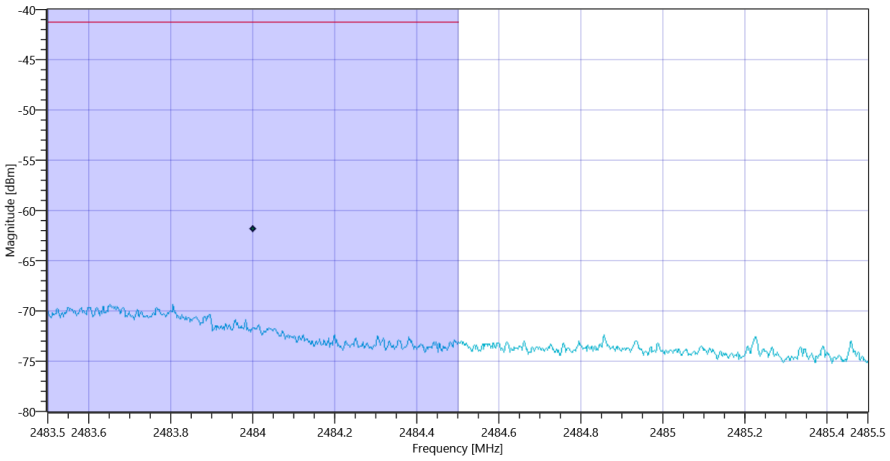
Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 1 Msps_29102018_142922.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.96
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2483.500
Freq. Stop [MHz]	2485.500
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.002000
Detector	POS
Sweep Time [ms]	8
Sweep Points/Section	1001
Sweep Count	300
Sweep Mode	MAXH
Used Sweep Type	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	-61.86	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-61.86	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 1 Msps_29102018_142955.png

TEST FINISHED		
General Verdict	29.10.2018 14:29:55 / RT: 62 s	PASS

12. FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 2 Msps

Test References	
TC Start	29.10.2018 14:29:57
System Version	1.0.0.10
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V04 - 13.3.3 EUT transmissions with max hold
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 2 Msps
Add. Information	

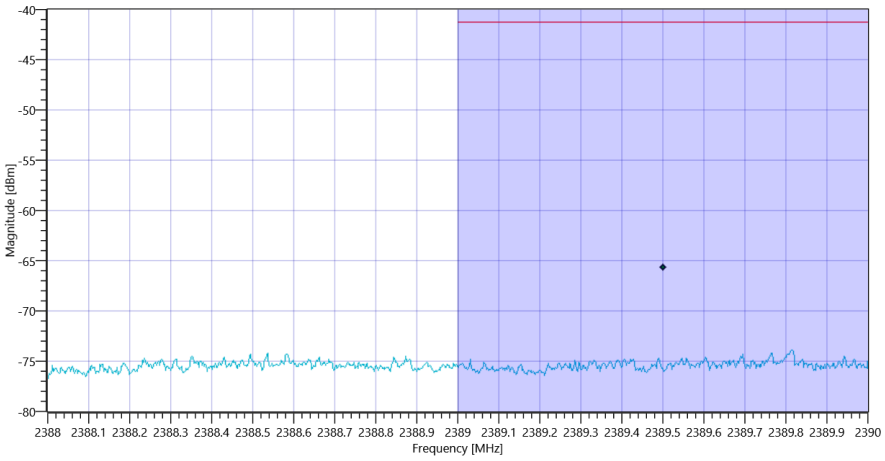
Test Parameter	
Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	False | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	4.00
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	10
Freq. Start [MHz]	2388.000
Freq. Stop [MHz]	2390.000
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.002000
Detector	POS
Sweep Time [ms]	8
Sweep Points/Section	1001
Sweep Count	300
Sweep Mode	MAXH
Used Sweep Type	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	-65.68	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-65.68	dBm	PASS



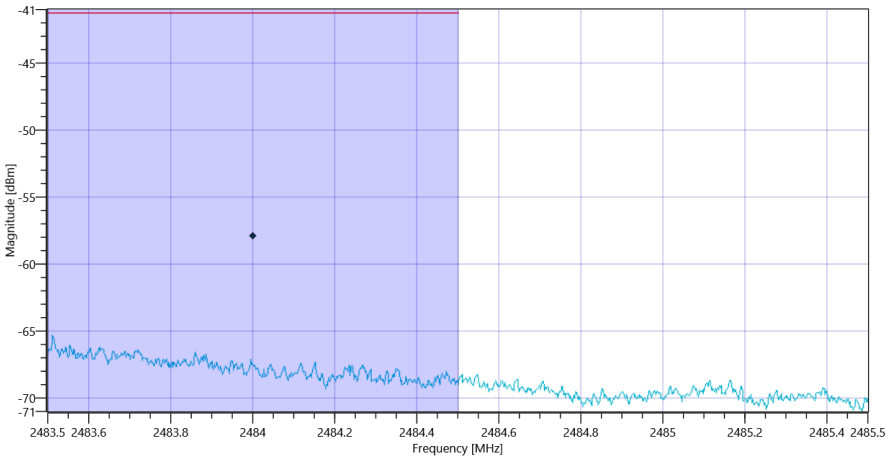
Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 2 Msps_29102018_143026.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	3.97
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	10
Freq. Start [MHz]	2483.500
Freq. Stop [MHz]	2485.500
Resolution BW. [MHz]	0.100000
Video BW. [MHz]	0.002000
Detector	POS
Sweep Time [ms]	8
Sweep Points/Section	1001
Sweep Count	300
Sweep Mode	MAXH
Used Sweep Type	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	-57.94	dBm	Information
Band Power incl. Antenna Gain	---	-41.23	-57.94	dBm	PASS



Plot_FCC Part 15.247 Restricted Band Edge Conducted Peak DTS BT LE 2 Msps_29102018_143059.png

TEST FINISHED		
General Verdict	29.10.2018 14:30:59 / RT: 62 s	PASS

13. Common2G4 Peak Output Power conducted 3MHz_3MHz BT LE 1 Msps

Test References	
TC Start	30.10.2018 09:30:00
System Version	1.0.0.10
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	

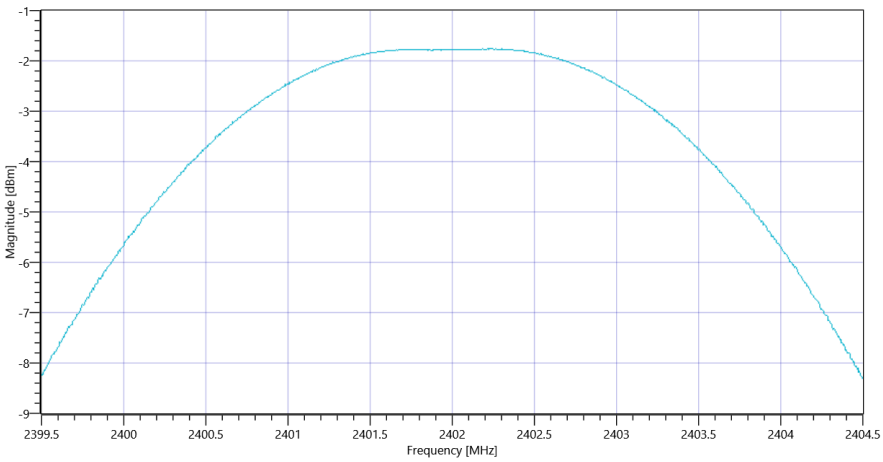
Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	mid
Voltage	mid
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Pattern	PRBS9
Switched Path	IUT - SignalingUnit - SpectrumAnalyzer
Devices 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:	
Ref. Level [dBm]	8.47
Ref. Lev. offs [dB]	9.79
Input Attenuation [dB]	15
Freq. Start [MHz]	2399.500
Freq. Stop [MHz]	2404.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.76	dBm	Information
Peak Power	---	1000	0.666807	mW	Information
Frequency at Peak	---	---	2402.215	MHz	Information



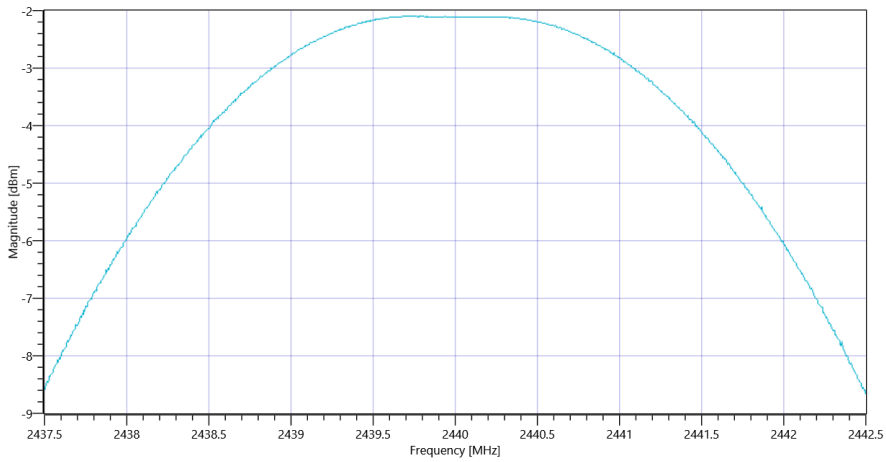
Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz BT LE 1 Msps_30102018_093039.png

Test at TX 2440 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	8.25
Ref. Lev. offs [dB]	9.9
Input Attenuation [dB]	15
Freq. Start [MHz]	2437.500
Freq. Stop [MHz]	2442.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-2.09	dBm	Information
Peak Power	---	1000	0.618016	mW	Information
Frequency at Peak	---	---	2439.735	MHz	Information



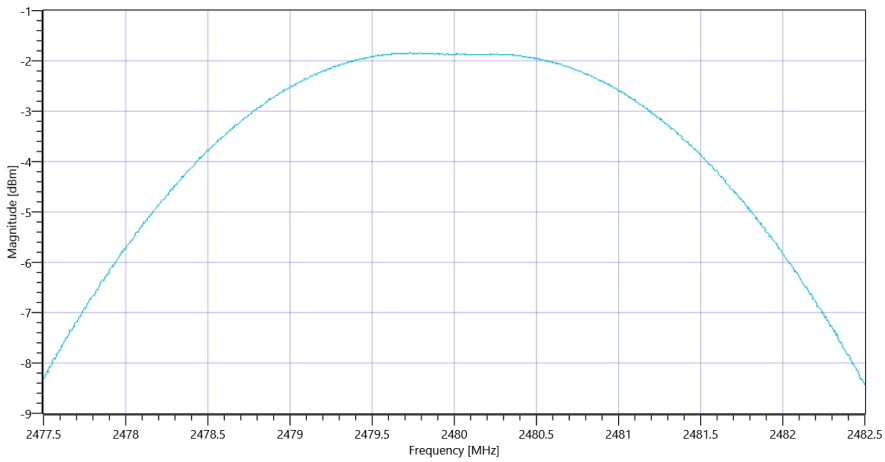
Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz BT LE 1 Msps_30102018_093119.png

Test at TX 2480 MHz

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

READ SA SETTINGS:	
Ref. Level [dBm]	8.33
Ref. Lev. offs [dB]	9.96
Input Attenuation [dB]	15
Freq. Start [MHz]	2477.500
Freq. Stop [MHz]	2482.500
Resolution BW. [MHz]	3.000000
Video BW. [MHz]	3.000000
Detector	POS
Sweep Time [ms]	1000
Sweep Points/Section	1001
Sweep Count	10
Sweep Mode	MAXH
Used Sweep Type	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	-1.84	dBm	Information
Peak Power	---	1000	0.654636	mW	Information
Frequency at Peak	---	---	2479.735	MHz	Information



Plot_Common2G4 Peak Output Power conducted 3MHz_3MHz BT LE 1 Msps_30102018_093200.png

TEST FINISHED		
General Verdict	30.10.2018 09:32:00 / RT: 120 s	PASS

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