

Measurement Results

1-1049/20-01-03_log1_conducted

[Test logging](#)

This addendum is electronically signed and valid without handwritten signature.
For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Document authorized:



cn=Michael Dorongovski, o=CTC
advanced GmbH, ou=RCE-210407,
email=Michael.Dorongovski@ctcad
vanced.com, c=DE
2021.04.21 22:37:21 +02'00'

Michael Dorongovski
Lab Manager
Radio Communications

Table of Content

EUT 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 1 Msps	7
3. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps	10
4. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps	13
5. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps	15
6. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps	17
7. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps	19
8. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps	21
9. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps	23
10. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps	25
11. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps	28
12. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps	31
13. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps	34
14. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps	36
15. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps	38
16. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 Msps	40
17. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 Msps	42
18. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 Msps	44

EUT Summary

EUT DEFINITION	
Manufacturer	SBO Hearing A/S
Type	Aurora miniRITE 312 T Rc
Kind	Hearing aid amplifier module
Serial Number Setup Number	-/- 1.0
Version SW FW HW	SW rel. SR725_reL_2.1_17.0_b1 2.0 Enovia 171201 Rev. 7
Comment 1 2	
Temperature [°C] Min Nom Max	0 20 40
Voltage [V] Min Nom Max @Current Max [A]	3.3 3.7 4.2 @1

EUT 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	None HCI 1 2400 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	25.01.2021 14:01:38
Ambit Temp [°C] Humidity [rel%]	23.9 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC 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	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

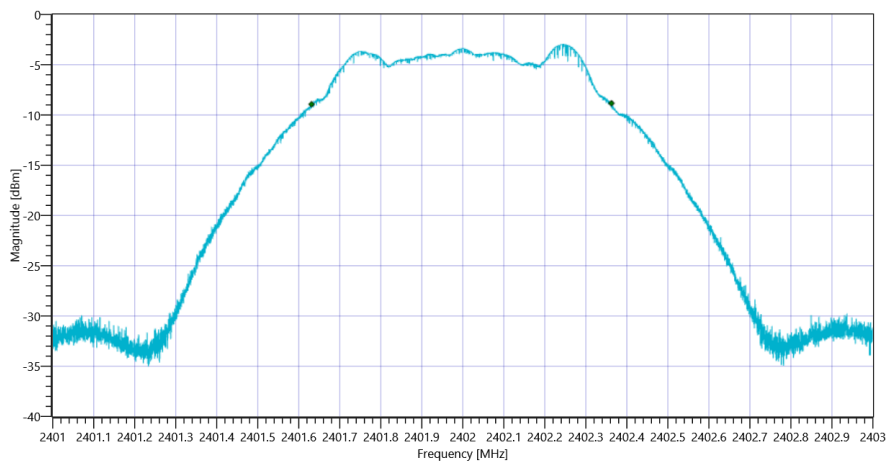
Test at TX 2402 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.03 11.01 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)	---	---	731	kHz	INFO

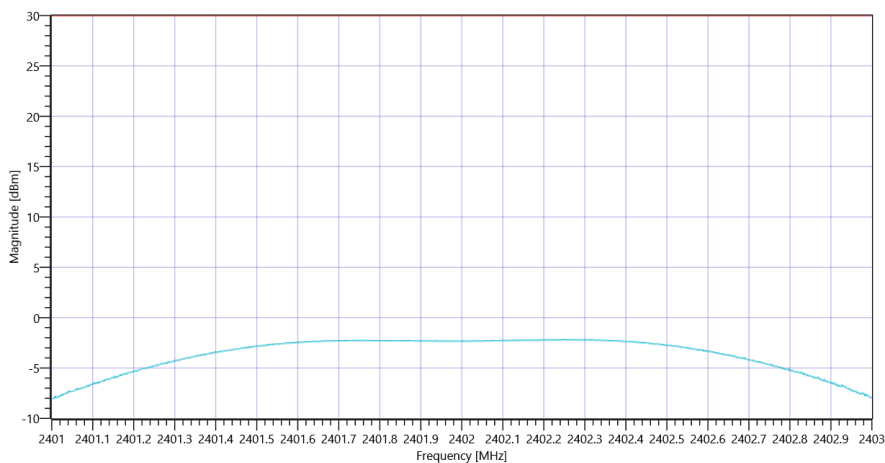


READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	8.03 11.01 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	-2.19	dBm	PASS
Peak Power	---	1000	0.603949	mW	PASS
Frequency at Peak	---	---	2402.27	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_25012021_140232.png

TEST FINISHED	
General Verdict	PASS

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

Test References	
TC Start	25.01.2021 14:30:05
Ambit Temp [°C] Humidity [rel%]	24.0 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

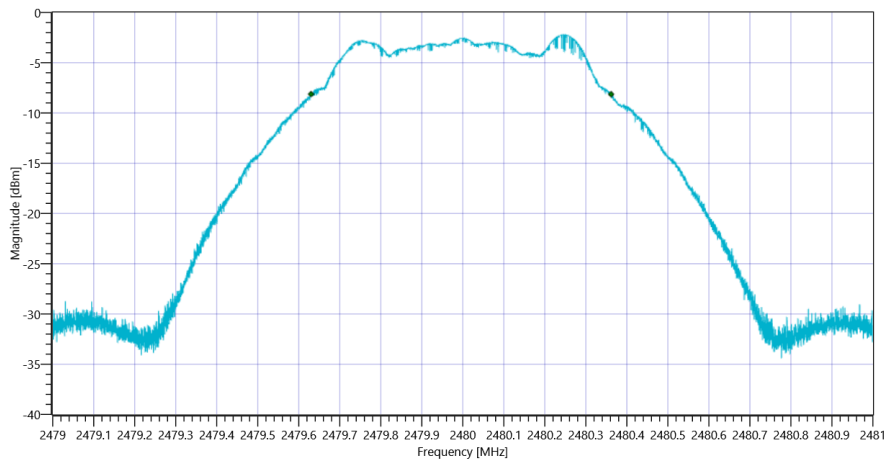
Test at TX 2480 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.86 11.16 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)	---	---	732	kHz	INFO



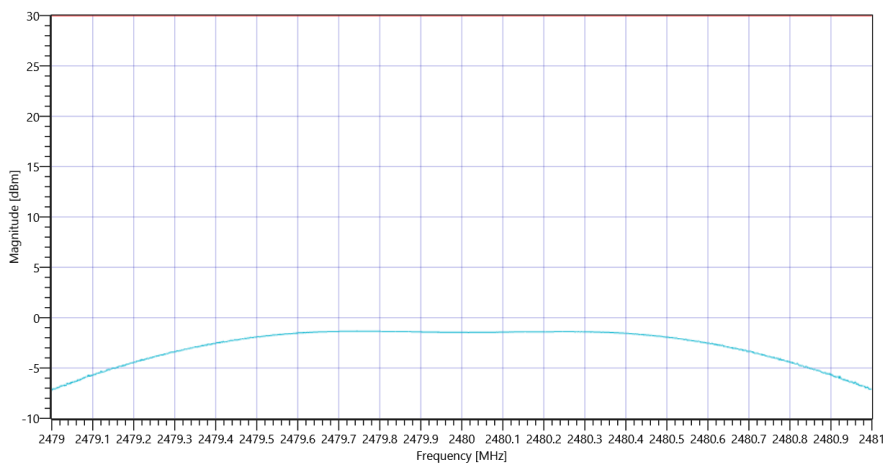
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW_25012021_143038.png

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	8.86 11.16 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	-1.34	dBm	PASS
Peak Power	---	1000	0.734514	mW	PASS
Frequency at Peak	---	---	2479.744	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_25012021_143059.png

TEST FINISHED	
General Verdict	PASS

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

Test References	
TC Start	25.01.2021 15:26:35
Ambit Temp [°C] Humidity [rel%]	23.1 26
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth
TC 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

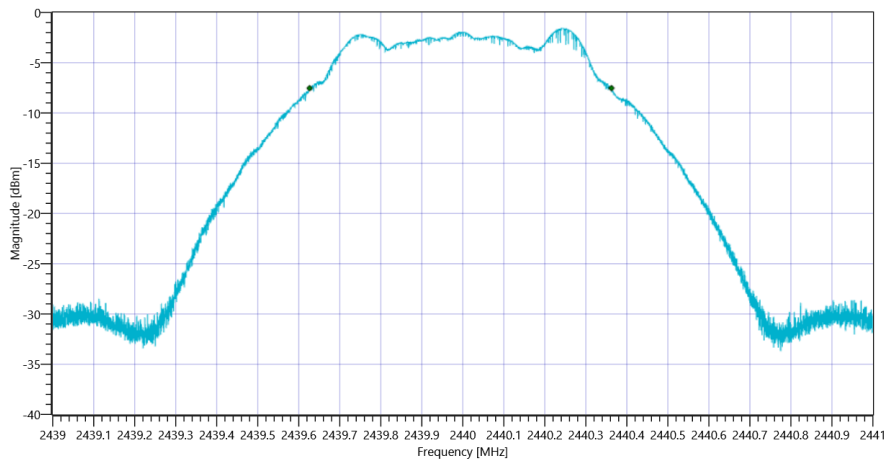
Test at TX 2440 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	4.48 11.09 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)	---	---	736	kHz	INFO



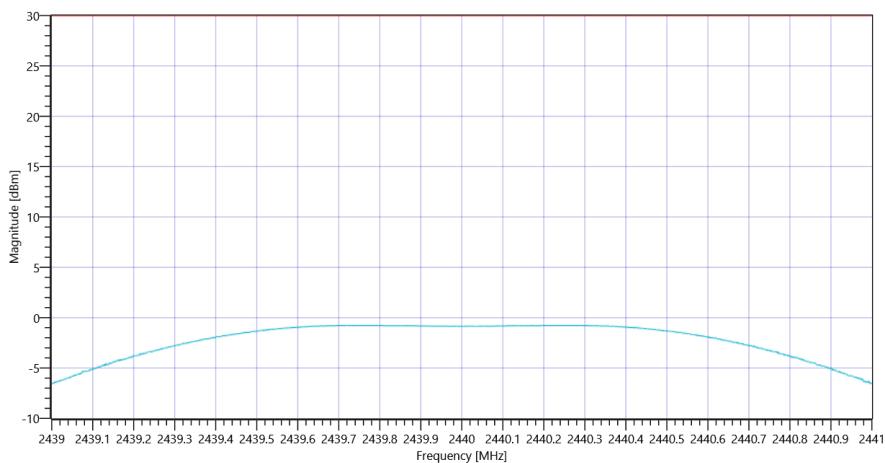
Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW_25012021_152708.png

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	9.48 11.09 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	-0.77	dBm	PASS
Peak Power	---	1000	0.837529	mW	PASS
Frequency at Peak	---	---	2440.27	MHz	INFO



Plot_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps_25012021_152729.png

TEST FINISHED	
General Verdict	PASS

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

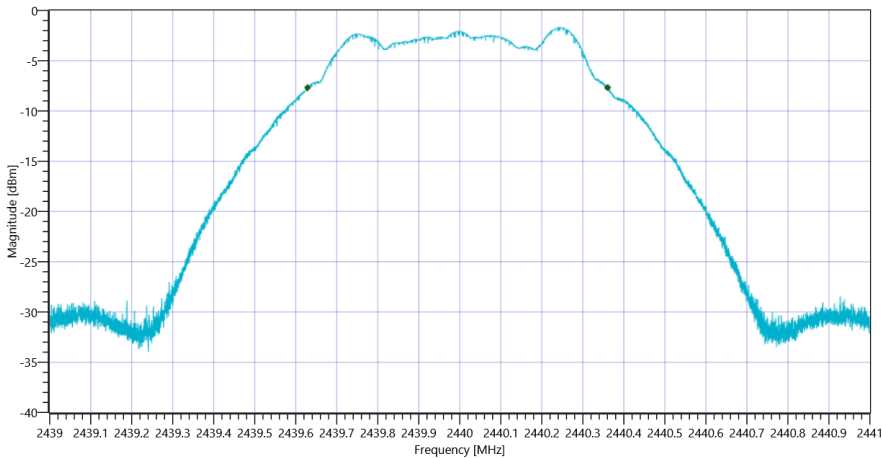
Test References	
TC Start	25.01.2021 10:39:58
Ambit Temp [°C] Humidity [rel%]	23.4 24
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2440 MHz

READ SA SETTINGS:		
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	4.33 11.09 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	---	732	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps_25012021_104030.png

TEST FINISHED	
General Verdict	PASS

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

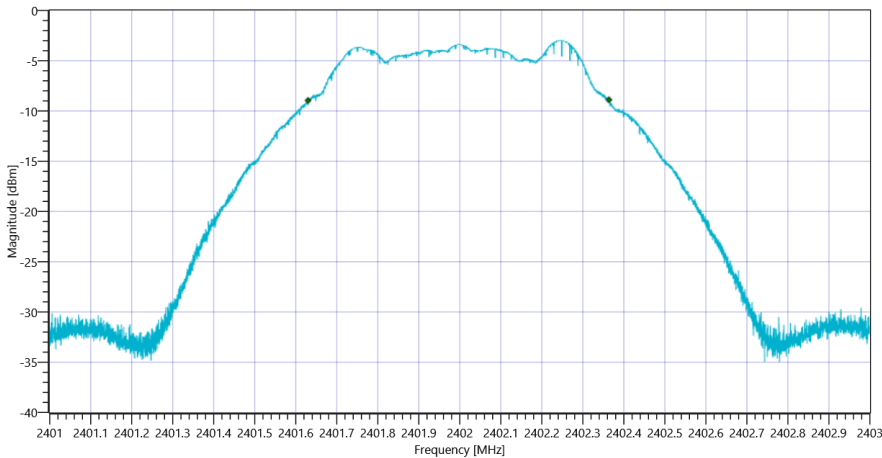
Test References	
TC Start	25.01.2021 14:02:37
Ambit Temp [°C] Humidity [rel%]	23.9 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.07 11.01 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	---	734	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps_25012021_140309.png

TEST FINISHED	
General Verdict	PASS

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

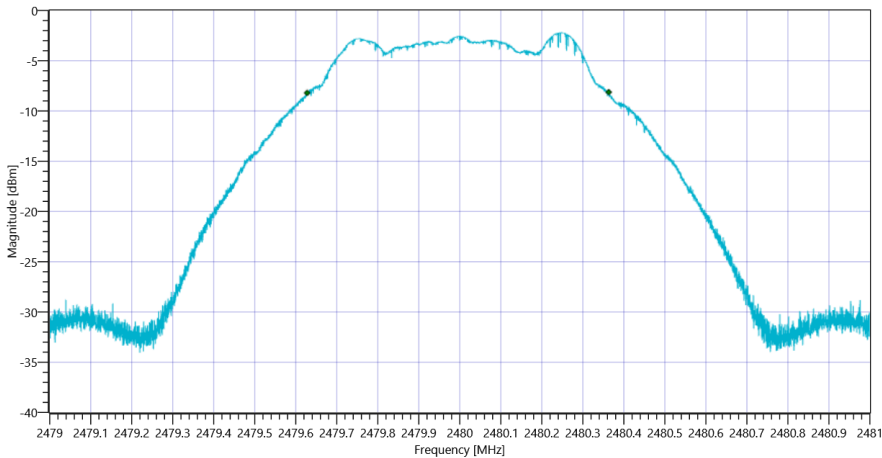
Test References	
TC Start	25.01.2021 14:31:04
Ambit Temp [°C] Humidity [rel%]	24.0 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	99
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2480 MHz

READ SA SETTINGS:		
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.77 11.16 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	---	735	kHz	PASS



Plot_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps_25012021_143137.png

TEST FINISHED	
General Verdict	PASS

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

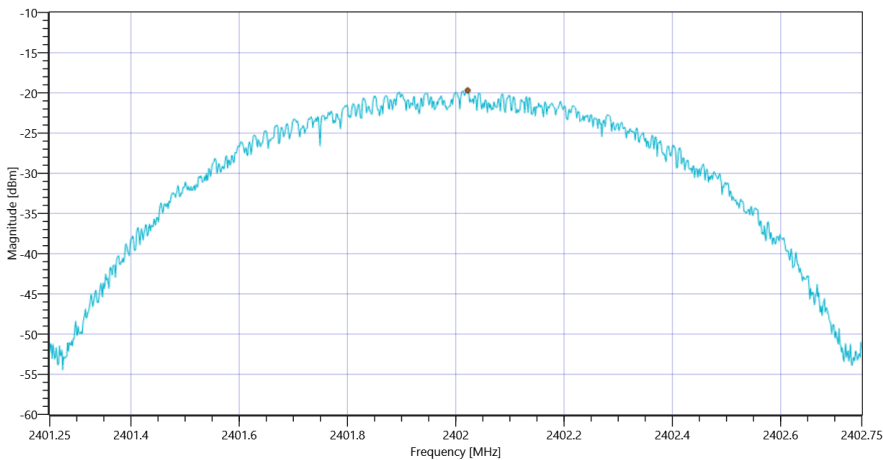
Test References	
TC Start	25.01.2021 14:03:14
Ambit Temp [°C] Humidity [rel%]	23.9 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 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	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

READ SA SETTINGS:					
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]			3.03 11.01 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	-19.69	dBm/3KHz	PASS



TEST FINISHED	
General Verdict	PASS

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

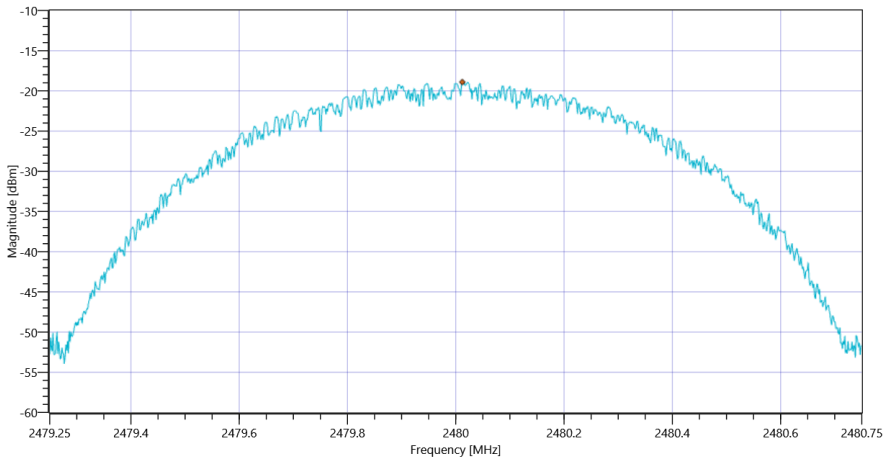
Test References	
TC Start	25.01.2021 14:31:42
Ambit Temp [°C] Humidity [rel%]	24.0 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2480 MHz

READ SA SETTINGS:		
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.84 11.16 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	-18.9	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps_25012021_143224.png

TEST FINISHED	
General Verdict	PASS

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

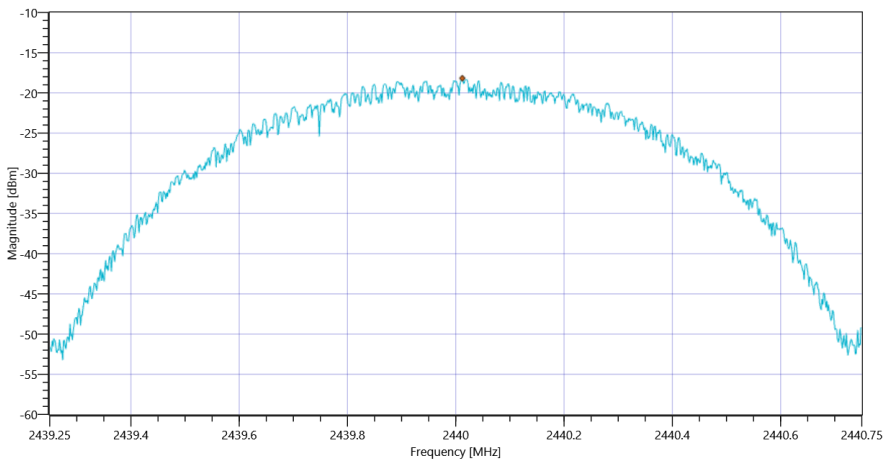
Test References	
TC Start	25.01.2021 15:28:12
Ambit Temp [°C] Humidity [rel%]	23.1 26
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
TC Version	0.0.1
My Description	FCC 15.247 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	4.48 11.09 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	-18.18	dBm/3KHz	PASS



Plot_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps_25012021_152855.png

TEST FINISHED	
General Verdict	PASS

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

Test References	
TC Start	25.01.2021 14:04:01
Ambit Temp [°C] Humidity [rel%]	23.8 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	
TC 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	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

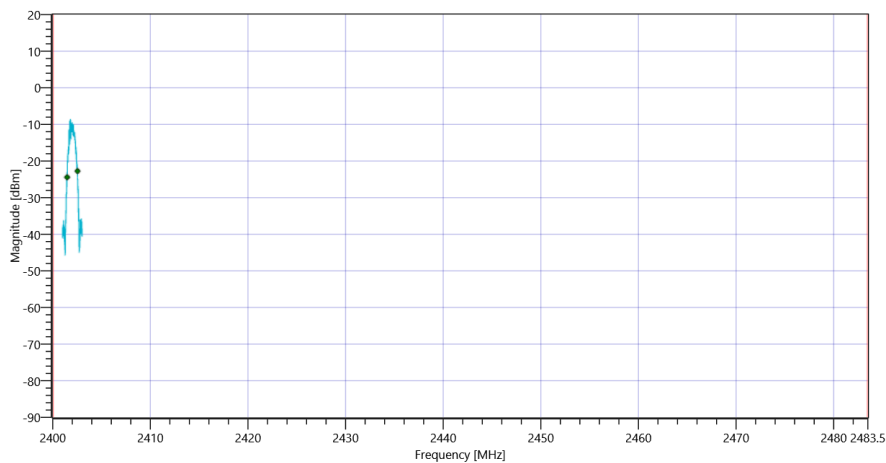
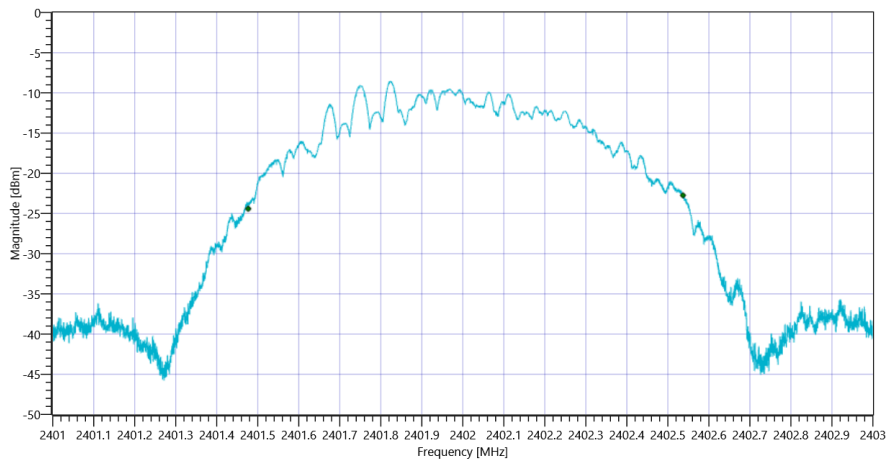
Test at TX 2402 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.06 11.01 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

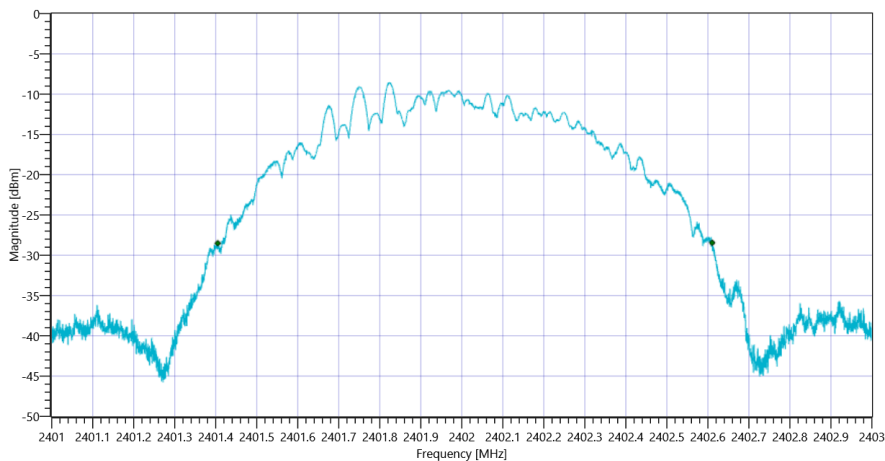
RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1060	kHz	INFO
T1 99%	2400.000000	---	2401.4767	MHz	PASS
T2 99%	---	2483.500000	2402.5367	MHz	PASS

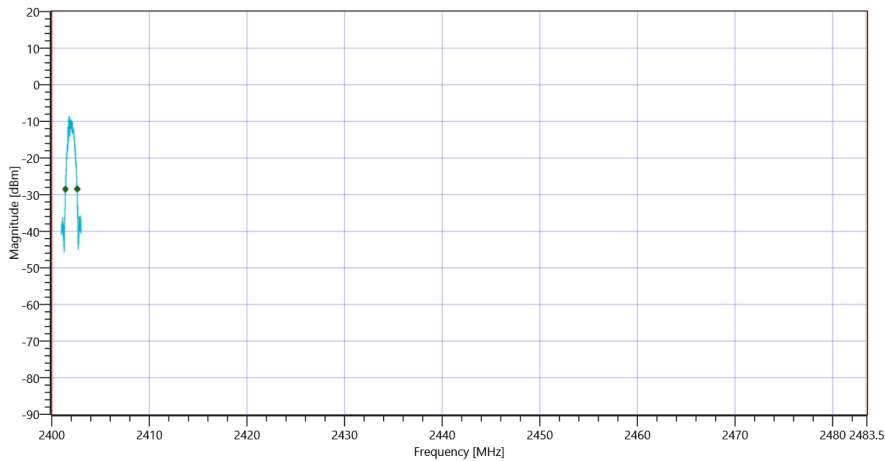


RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1206	kHz	INFO
T1 20dB	2400.000000	---	2401.4048	MHz	PASS
T2 20dB	---	2483.500000	2402.6104	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB_25012021_140456.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_25012021_140508.png

TEST FINISHED	
General Verdict	PASS

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

Test References	
TC Start	25.01.2021 14:32:29
Ambit Temp [°C] Humidity [rel%]	24.0 25
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	
TC 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

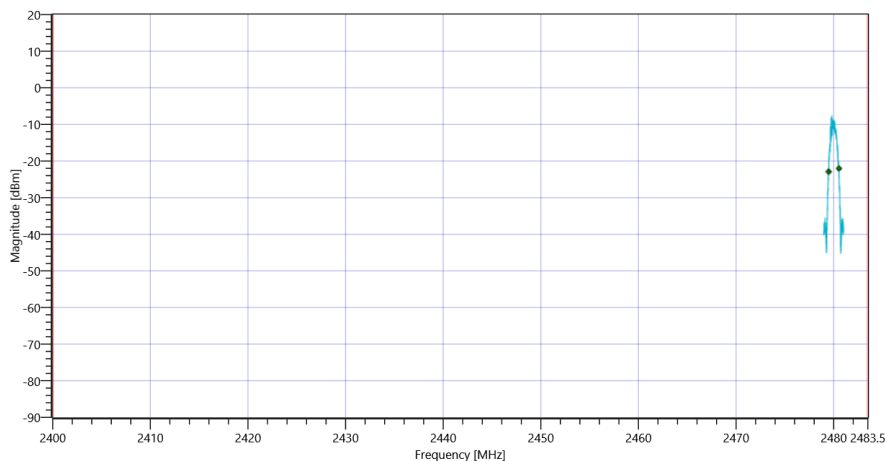
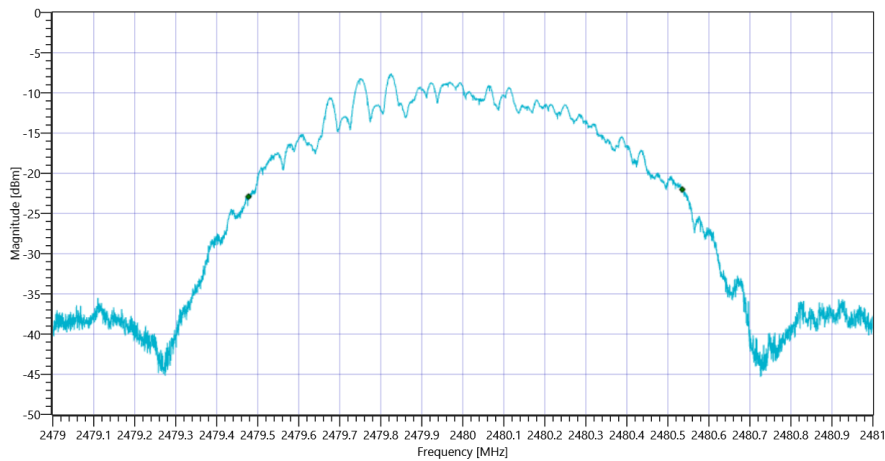
Test at TX 2480 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.80 11.16 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

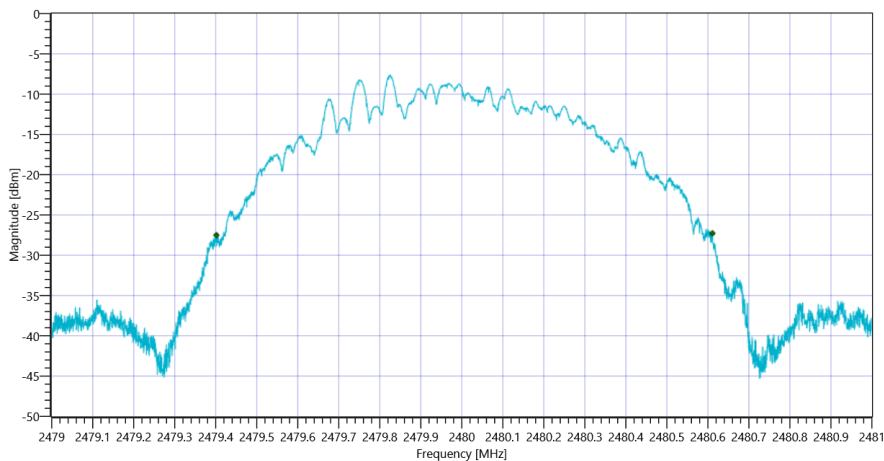
RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1058	kHz	INFO
T1 99%	2400.000000	---	2479.4773	MHz	PASS
T2 99%	---	2483.500000	2480.5351	MHz	PASS

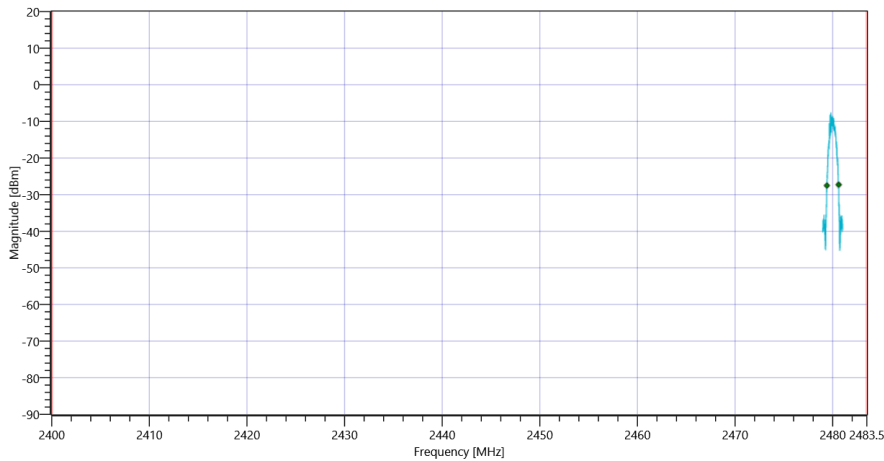


RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1210	kHz	INFO
T1 20dB	2400.000000	---	2479.4014	MHz	PASS
T2 20dB	---	2483.500000	2480.6110	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB_25012021_143324.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_25012021_143335.png

TEST FINISHED	
General Verdict	PASS

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

Test References	
TC Start	25.01.2021 15:29:00
Ambit Temp [°C] Humidity [rel%]	23.1 26
System Version	1.9.9.4
Test Specification	FCC Part 15.247
Test Method	
TC 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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

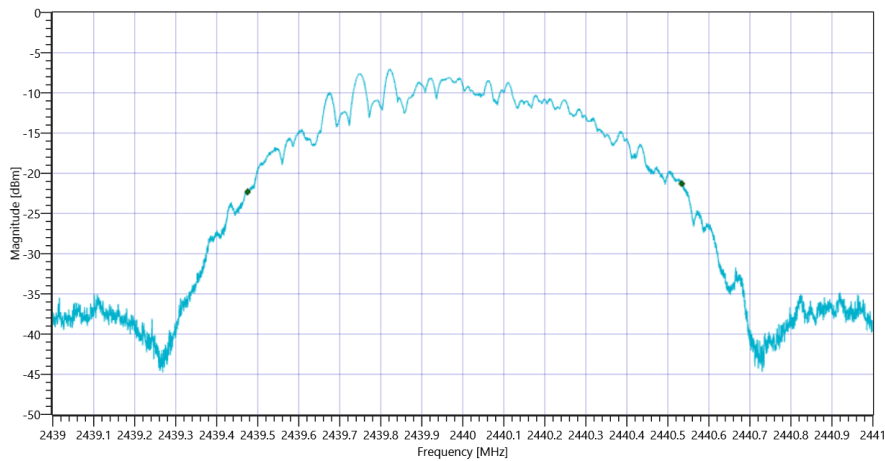
Test at TX 2440 MHz

READ SA SETTINGS:

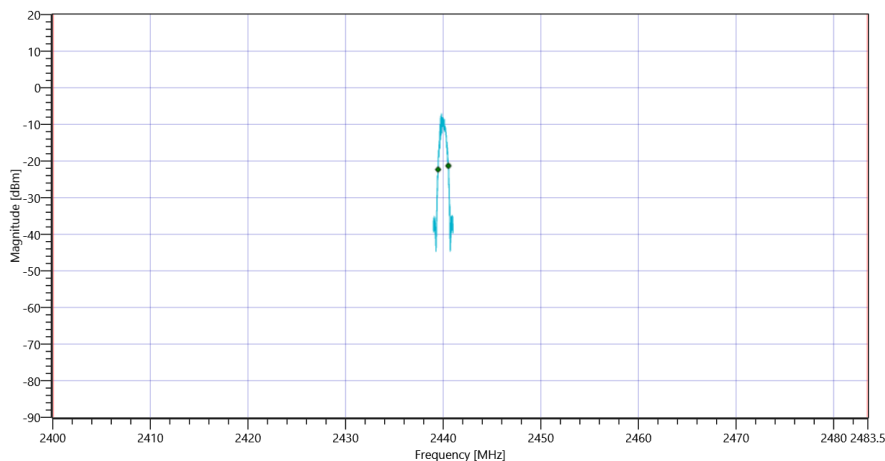
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	4.45 11.09 10
Start [MHz] Stop [MHz]	2439.000 2441.000
RBW [MHz] VBW [MHz]	0.020000 0.100000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	---	---	1058	kHz	INFO
T1 99%	2400.000000	---	2439.4753	MHz	PASS
T2 99%	---	2483.500000	2440.5337	MHz	PASS



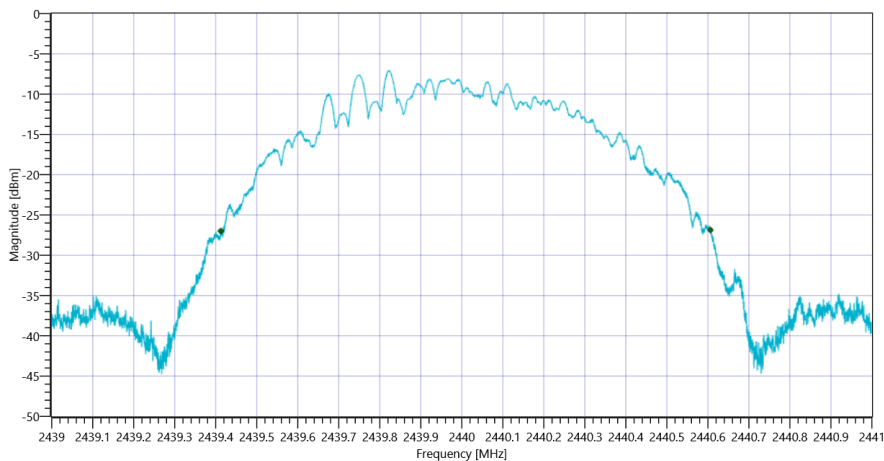
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 99PCT_25012021_152934.png



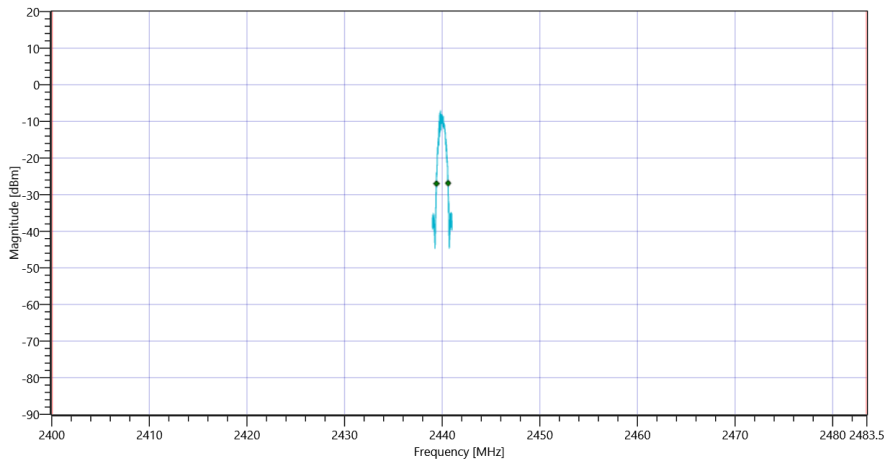
Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_25012021_152945.png

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	---	---	1194	kHz	INFO
T1 20dB	2400.000000	---	2439.4122	MHz	PASS
T2 20dB	---	2483.500000	2440.6062	MHz	PASS



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB_25012021_152955.png



Plot_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps_25012021_153006.png

TEST FINISHED	
General Verdict	PASS

13. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps

Test References	
TC Start	25.01.2021 14:05:13
Ambit Temp [°C] Humidity [rel%]	23.9 25
System Version	1.9.9.4
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.
TC Version	0.0.1
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	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

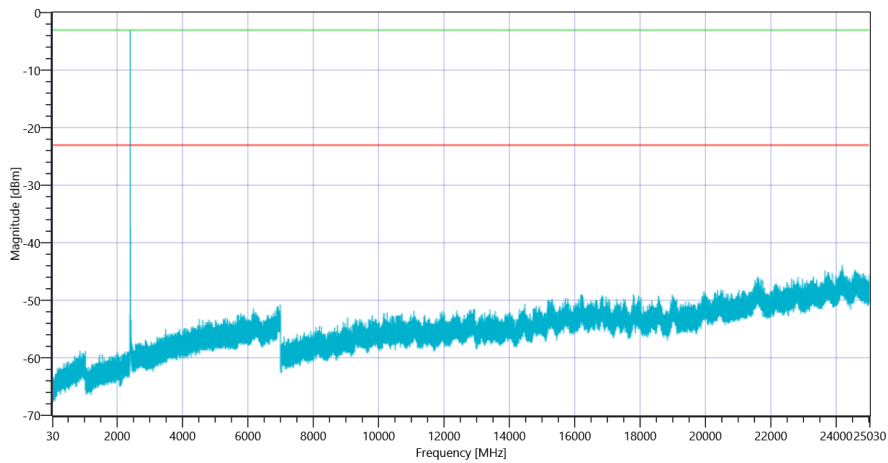
Test at TX 2402 MHz

READ SA SETTINGS:

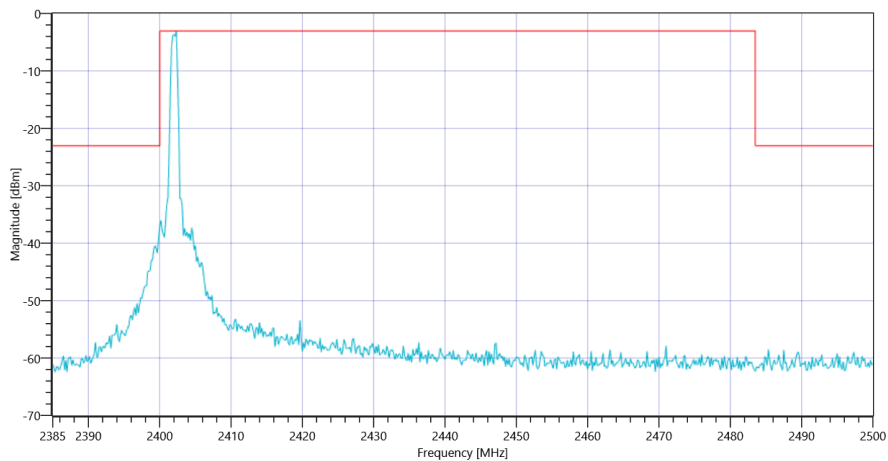
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-1.98 0 15
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2402.33 MHz	---	---	-3.04	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-135.42	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402_25012021_141153.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402_25012021_141201.png

TEST FINISHED

General Verdict

PASS

14. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps

Test References	
TC Start	25.01.2021 14:33:41
Ambit Temp [°C] Humidity [rel%]	24.0 25
System Version	1.9.9.4
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.
TC Version	0.0.1
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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

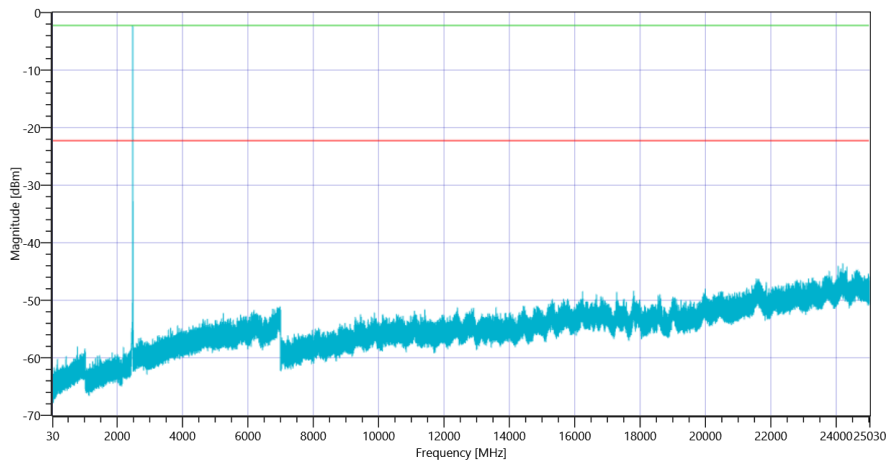
Test at TX 2480 MHz

READ SA SETTINGS:

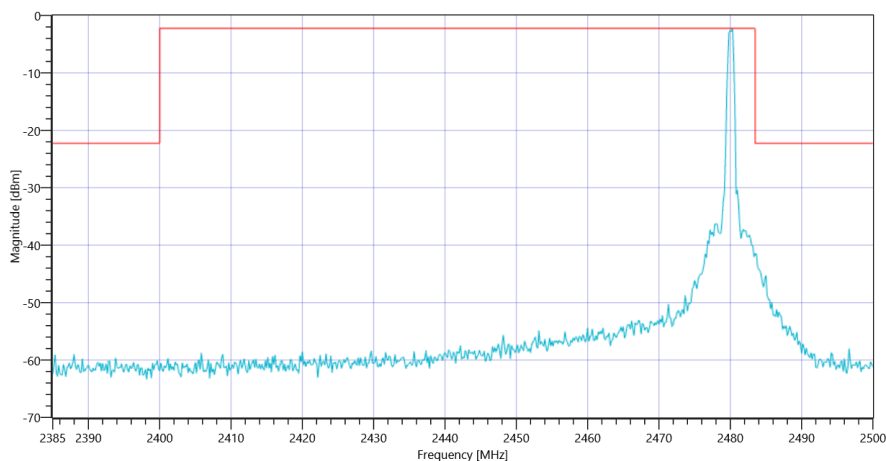
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-1.19 0 15
Start [MHz] Stop [MHz]	24530.000 25030.000
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	500 8 3001 SWE

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2480.33 MHz	---	---	-2.26	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 2483.667 MHz	0	---	19.34	dB	INFO



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480_25012021_144022.png



Plot_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2480_25012021_144029.png

TEST FINISHED

General Verdict

PASS

15. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps

Test References	
TC Start	25.01.2021 15:30:12
Ambit Temp [°C] Humidity [rel%]	23.1 26
System Version	1.9.9.4
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.
TC Version	0.0.1
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	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

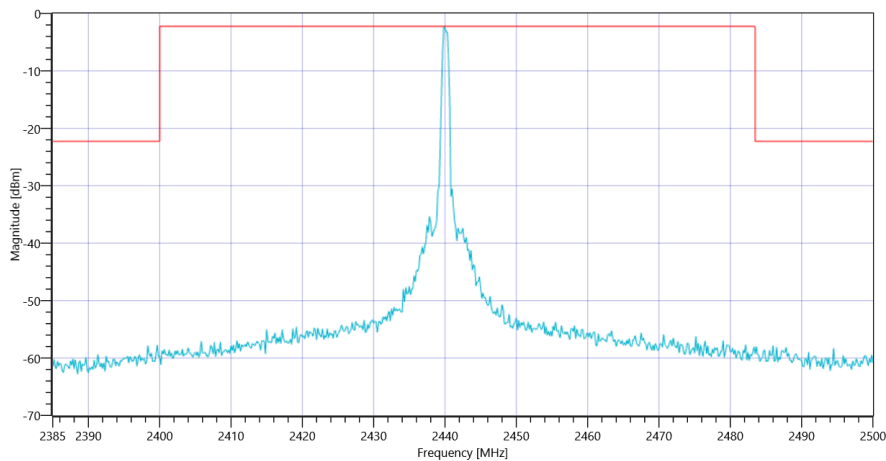
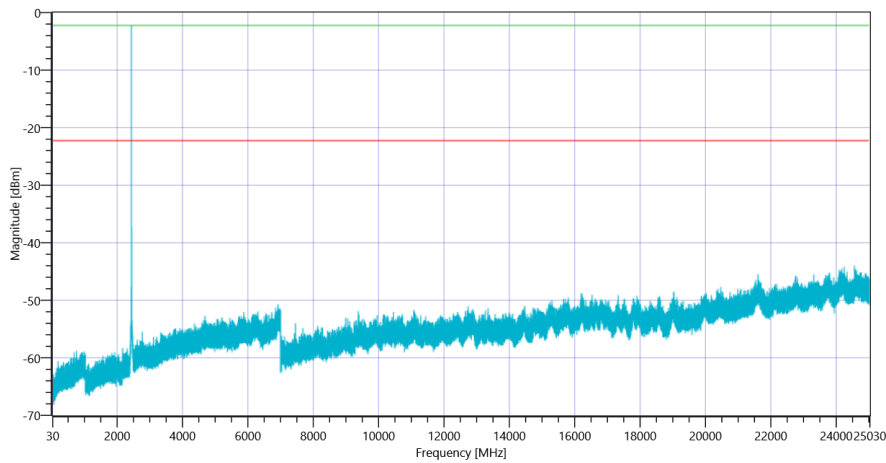
Test at TX 2440 MHz

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-0.56 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 @ 2439.83 MHz	---	---	-2.25	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24555.833 MHz	0	---	21.76	dB	INFO



TEST FINISHED

General Verdict

PASS

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

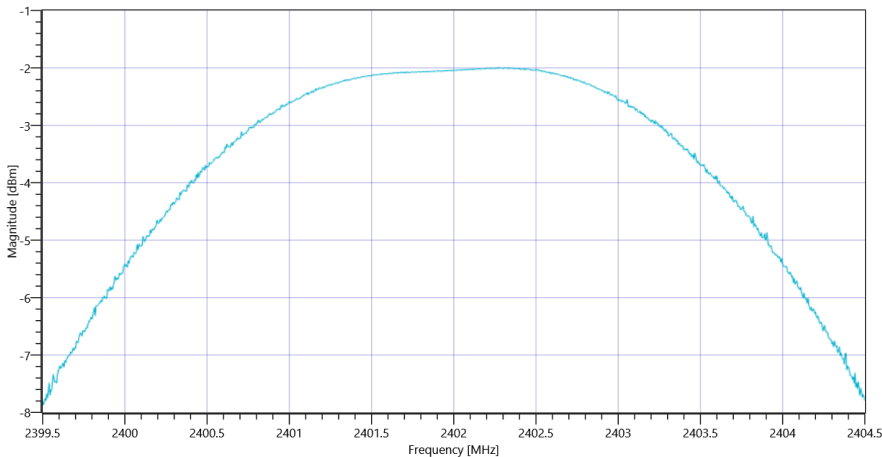
Test References	
TC Start	25.01.2021 15:55:34
Ambit Temp [°C] Humidity [rel%]	23.3 25
System Version	1.9.9.4
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	max
Frequency low to test	True Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2402 MHz

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	8.21 11.01 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	---	---	-2	dBm	Info
Peak Power	---	---	0.630957	mW	Info
Frequency at Peak	---	---	2402.315	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps_25012021_155605.png

TEST FINISHED	
General Verdict	PASS

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

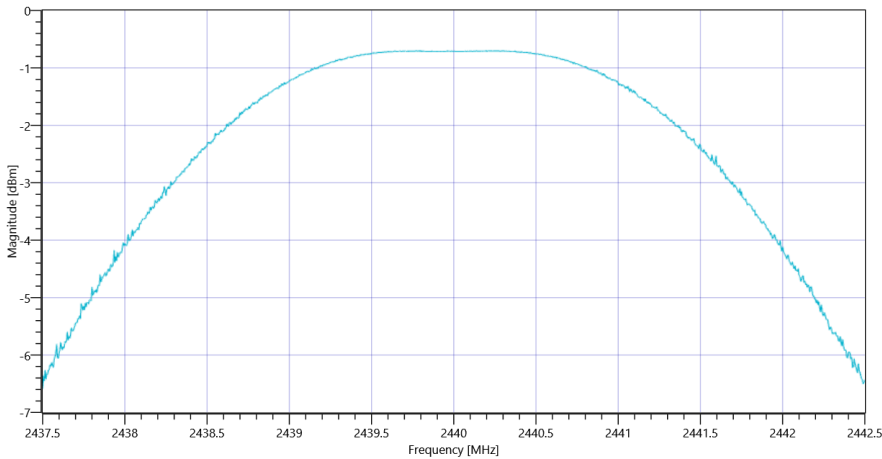
Test References	
TC Start	25.01.2021 16:02:10
Ambit Temp [°C] Humidity [rel%]	23.3 26
System Version	1.9.9.4
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	max
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	True Freq [MHz] 2440
Frequency high to test	False Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2440 MHz

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	9.48 11.09 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	---	---	-0.7	dBm	Info
Peak Power	---	---	0.851138	mW	Info
Frequency at Peak	---	---	2439.97	MHz	Info



Plot_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps_25012021_160242.png

TEST FINISHED	
General Verdict	PASS

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

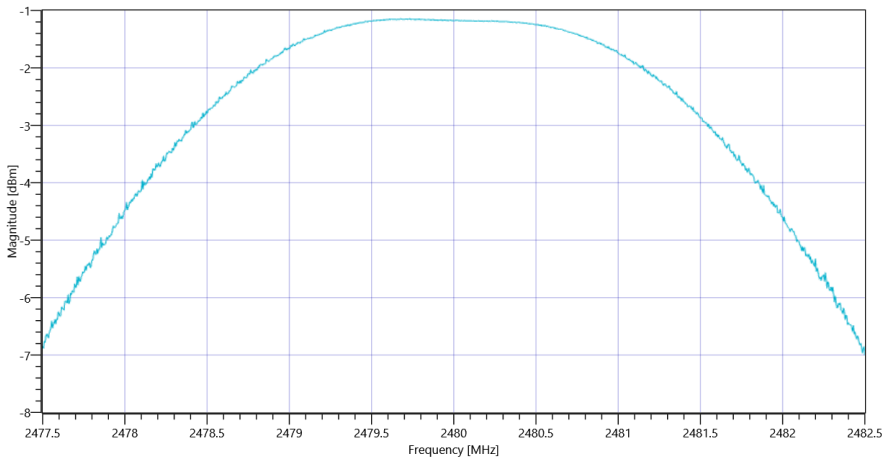
Test References	
TC Start	25.01.2021 16:18:48
Ambit Temp [°C] Humidity [rel%]	23.2 26
System Version	1.9.9.4
Test Specification	None
Test Method	
TC Version	0.0.1
My Description	Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps
Add. Information	

Test Parameter	
Technology to test	BT LE 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	max
Frequency low to test	False Freq [MHz] 2402
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2480
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.8
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer
Devices in use	SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test at TX 2480 MHz

READ SA SETTINGS:	
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	8.92 11.16 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	---	---	-1.14	dBm	Info
Peak Power	---	---	0.76913	mW	Info
Frequency at Peak	---	---	2479.735	MHz	Info



TEST FINISHED	
General Verdict	PASS

- END OF DOCUMENT -