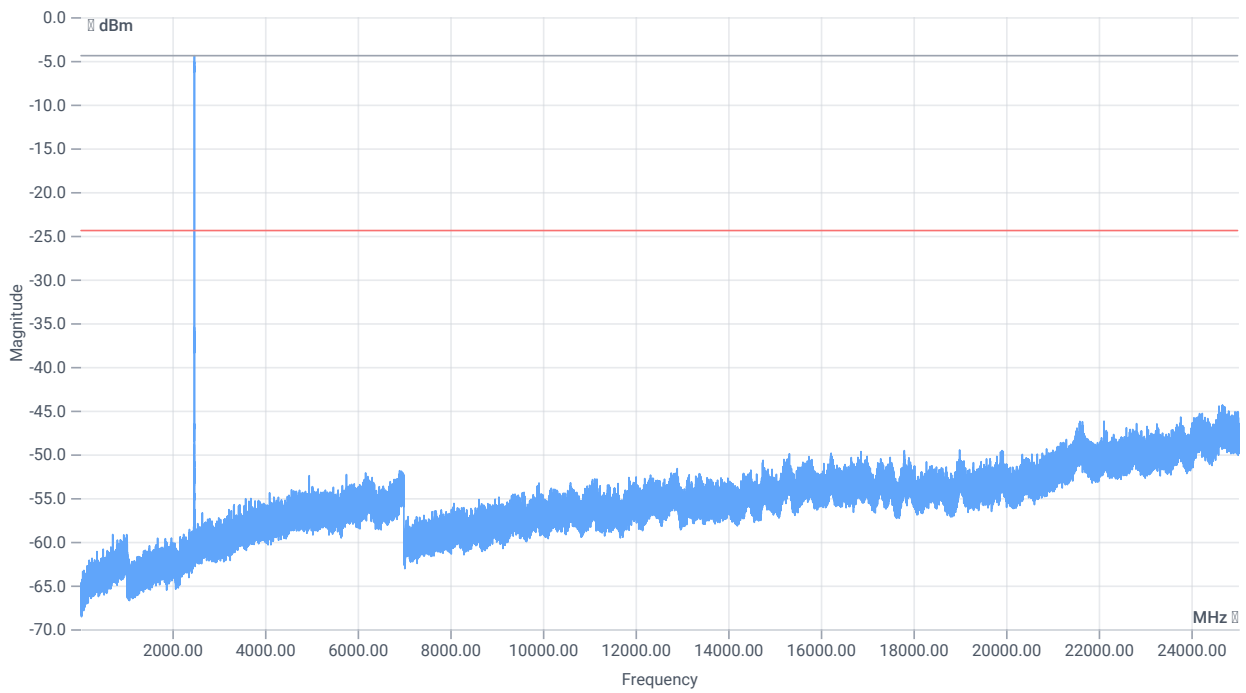


Test at TX 2478 MHz

RESULT: Reference Power cond.

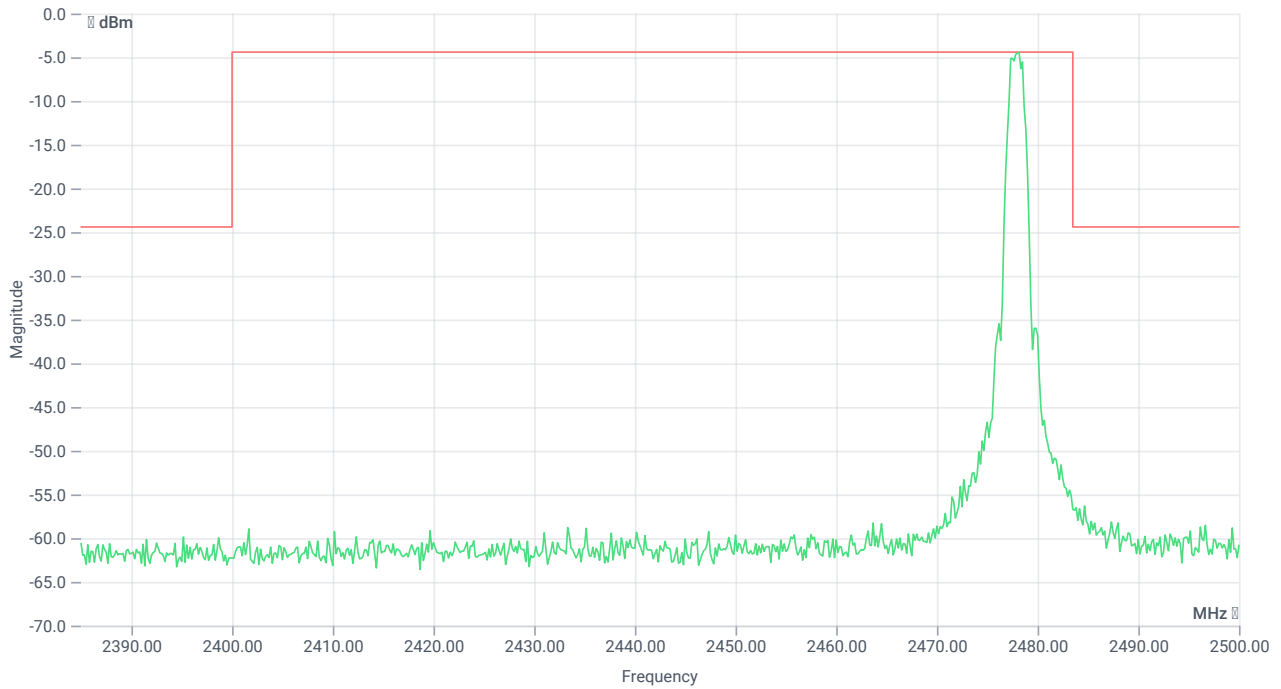
Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	-1.21	dBm	INFO
Ref. Frequency	--	--	2478.300	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	-1.21 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	200 25 3001 SWE



TX emissions band zoomed

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Reference @ 2478.17 MHz	--	--	-4.41	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24675.667 MHz	0	--	19.96	dB	INFO

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

Test References

TC Start	24.01.2023 13:09:04
Ambit Temp [°C] Humidity [rel%]	25.8 24
System Version	3.3.4.3
Test Specification	FCC 15.247, ISED RSS247 -
Test Method	
TC Version	0.0.2
My Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps
Add. Information	

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	True TXpayload 255 RXpayload 255
Longrange S8 supported	True TXpayload 255 RXpayload 255
Longrange S2 supported	True 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

Test Parameter

Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2404
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2478
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

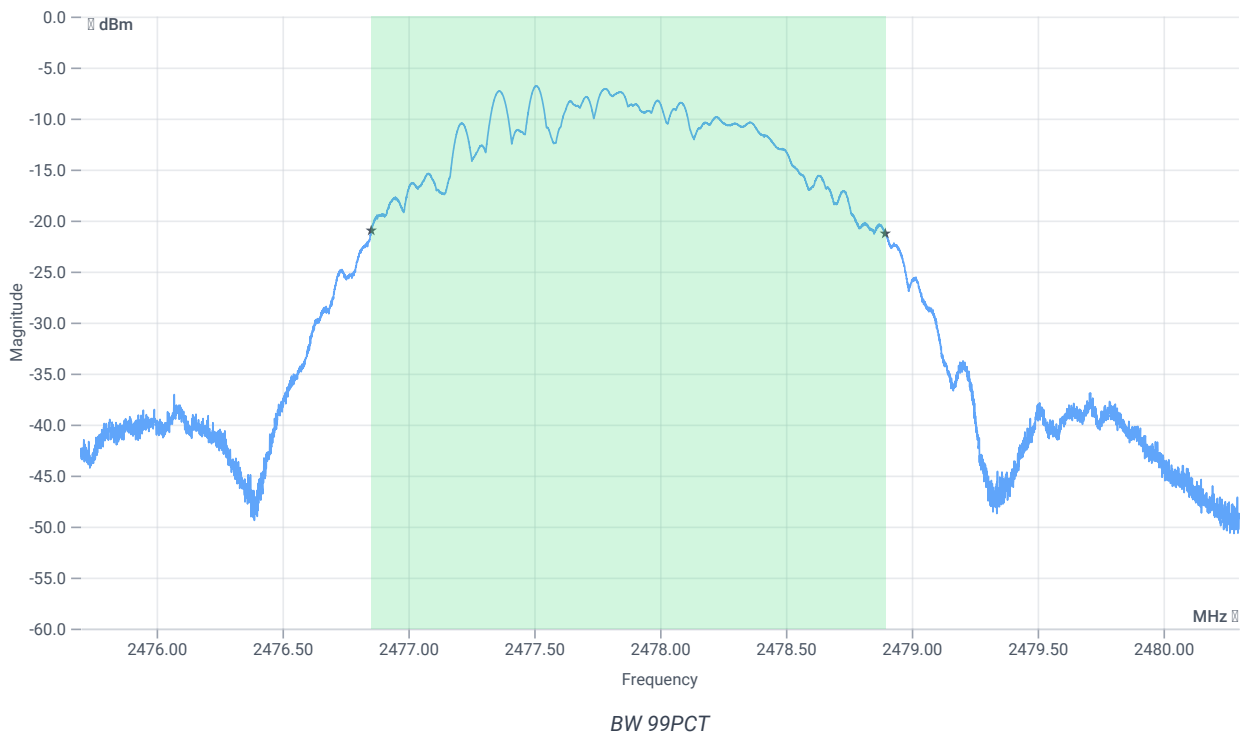
Test at TX 2478 MHz

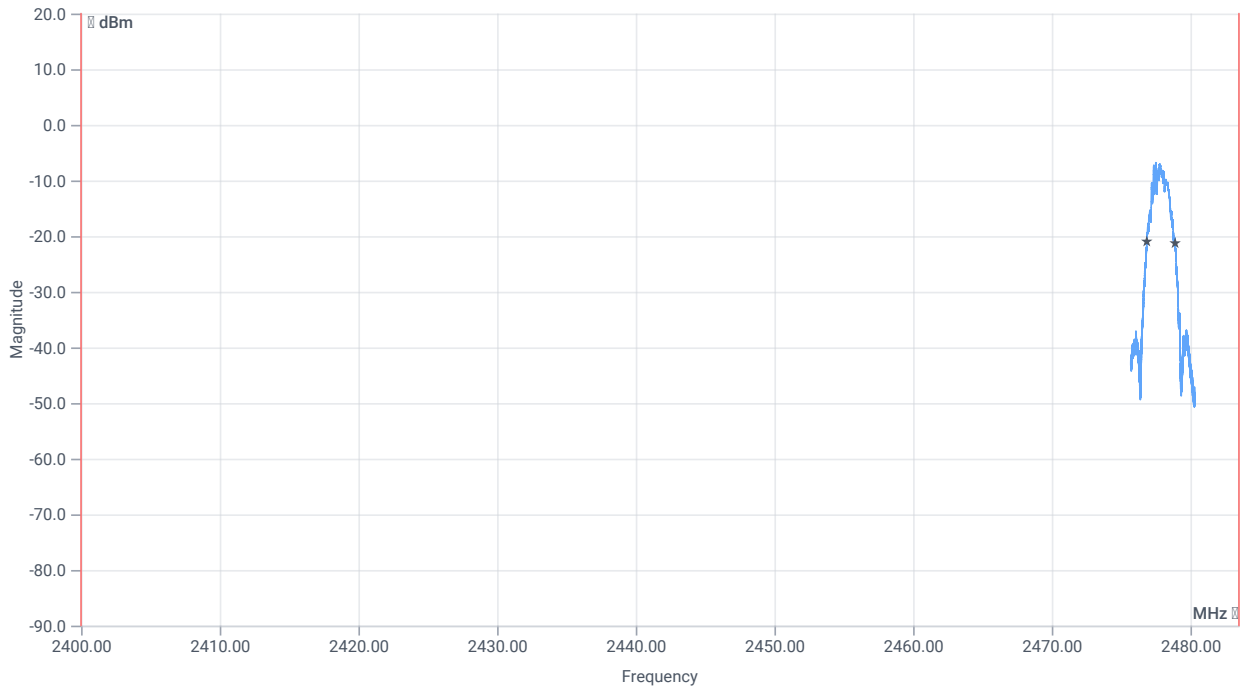
RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	-1.17	dBm	INFO
Ref. Frequency	--	--	2478.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.83 11.2 10
Start [MHz] Stop [MHz]	2475.700 2480.300
RBW [MHz] VBW [MHz]	0.050000 0.200000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

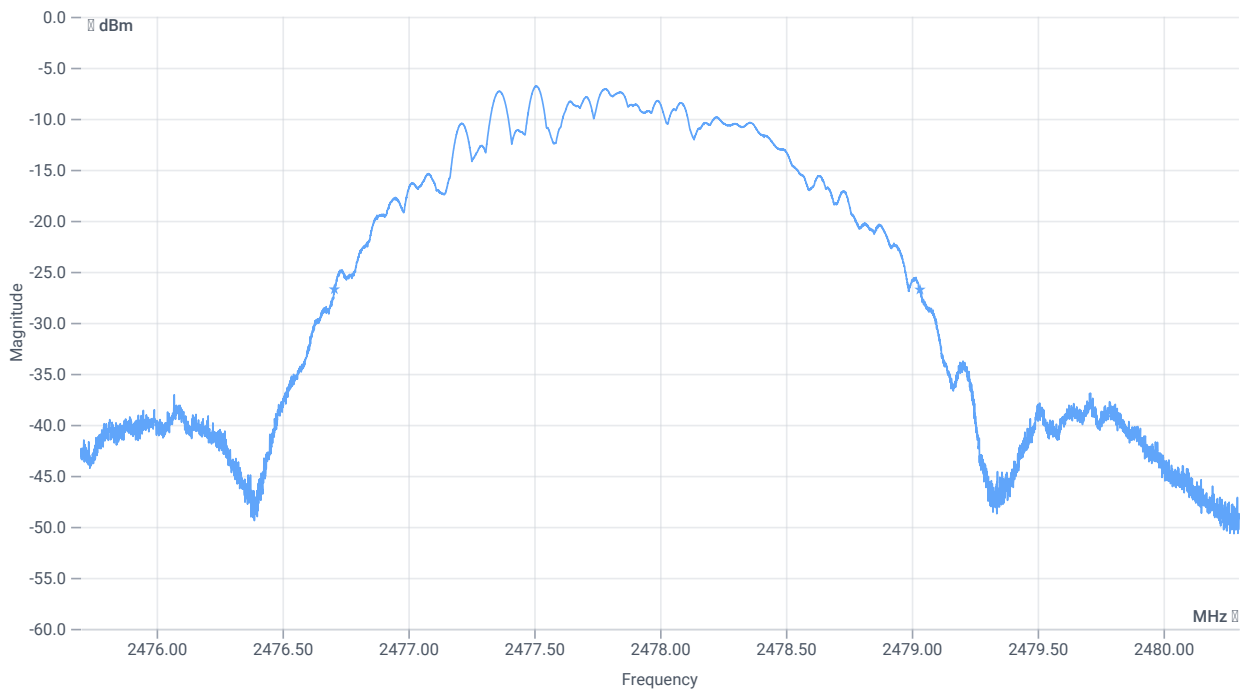




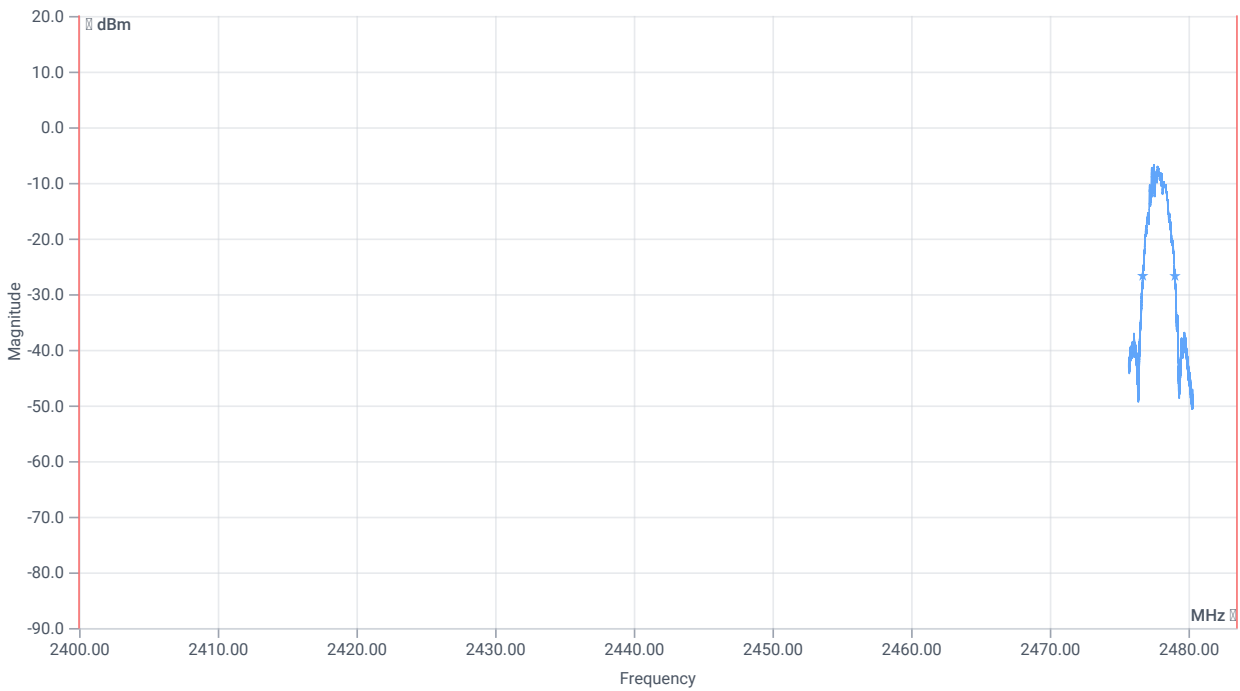
BW within Band 99PCT

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 99%	--	--	2042.000	kHz	INFO
T1 99%	2400.000000	--	2476.8529	MHz	PASS
T2 99%	--	2483.500000	2478.8951	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Bandwidth 20dB	--	--	2326	kHz	INFO
T1 20DB	2400.000000	--	2476.7065	MHz	PASS
T2 20dB	--	2483.500000	2479.0327	MHz	PASS

Verdict

PASS

FCC 15.247 # Peak power spectral density DTS ~ BT LE 2 Msps

Test References

TC Start	24.01.2023 13:08:24
Ambit Temp [°C] Humidity [rel%]	25.8 24
System Version	3.3.4.3
Test Specification	FCC 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 2 Msps
Add. Information	

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	True TXpayload 255 RXpayload 255
Longrange S8 supported	True TXpayload 255 RXpayload 255
Longrange S2 supported	True 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

Test Parameter

Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2404
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2478
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

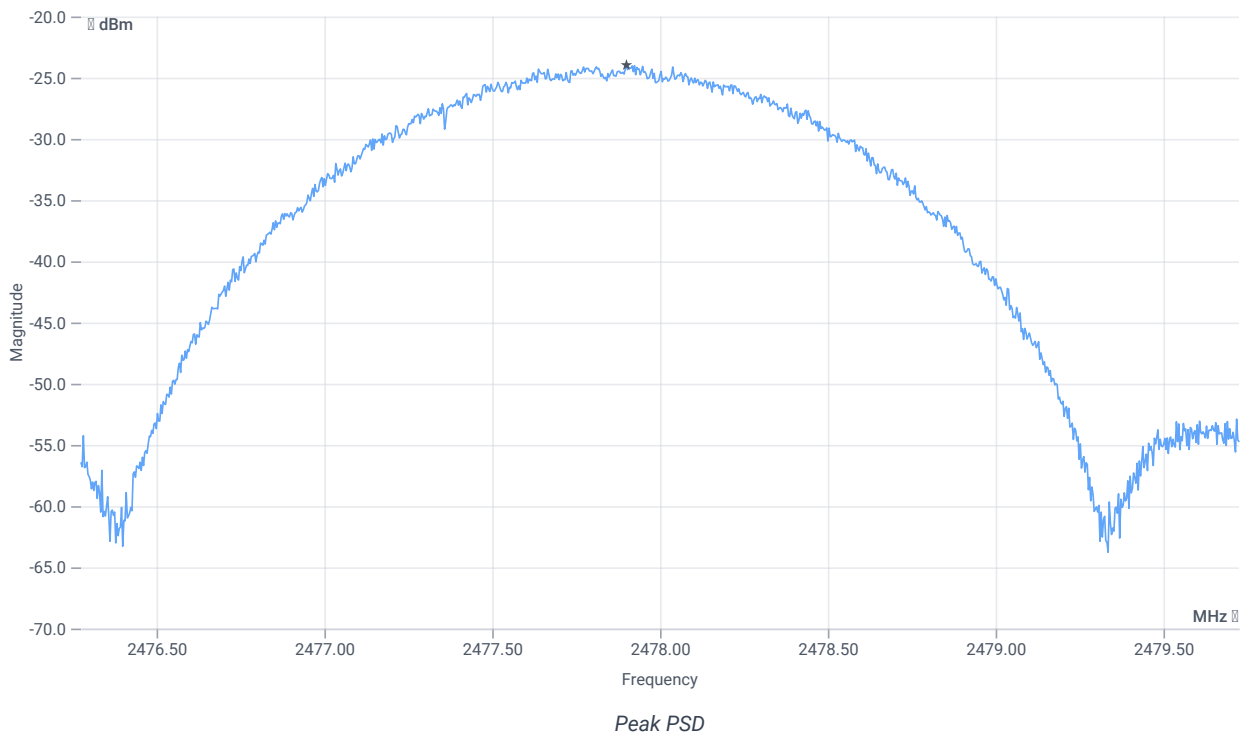
Test at TX 2478 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	-1.17	dBm	INFO
Ref. Frequency	--	--	2478.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.83 11.2 10
Start [MHz] Stop [MHz]	2476.275 2479.725
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	-23.97	dBm/3KHz	PASS

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 2 Msp

Test References

TC Start	24.01.2023 13:07:54
Ambit Temp [°C] Humidity [rel%]	25.8 24
System Version	3.3.4.3
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msp
Add. Information	

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	True TXpayload 255 RXpayload 255
Longrange S8 supported	True TXpayload 255 RXpayload 255
Longrange S2 supported	True 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

Test Parameter

Technology to test	BT LE 2 Msp
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2404
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2478
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Test Equipment

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

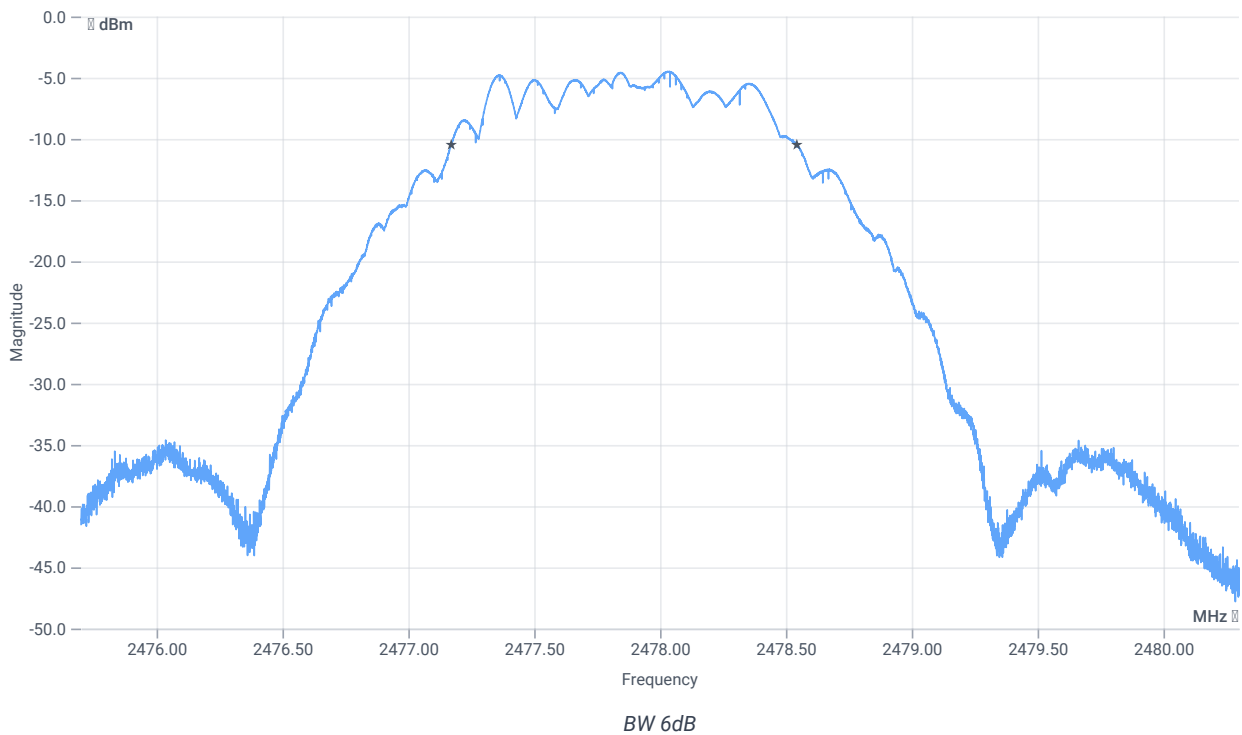
Test at TX 2478 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	-1.27	dBm	INFO
Ref. Frequency	--	--	2478.400	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.73 11.2 10
Start [MHz] Stop [MHz]	2475.700 2480.300
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	--	1373	kHz	PASS

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

Test References

TC Start	24.01.2023 13:07:11
Ambit Temp [°C] Humidity [rel%]	25.8 24
System Version	3.3.4.3
Test Specification	FCC 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 2 Msps
Add. Information	

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	True TXpayload 255 RXpayload 255
Longrange S8 supported	True TXpayload 255 RXpayload 255
Longrange S2 supported	True 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

Test Parameter

Technology to test	BT LE 2 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False Freq [MHz] 2404
Frequency mid to test	False Freq [MHz] 2440
Frequency high to test	True Freq [MHz] 2478
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0.5
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

Test at TX 2478 MHz

RESULT: Reference Power cond.

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Ref. Power 1MHz/1MHz cond.	--	--	-1.21	dBm	INFO
Ref. Frequency	--	--	2478.400	MHz	INFO

READ SA SETTINGS:

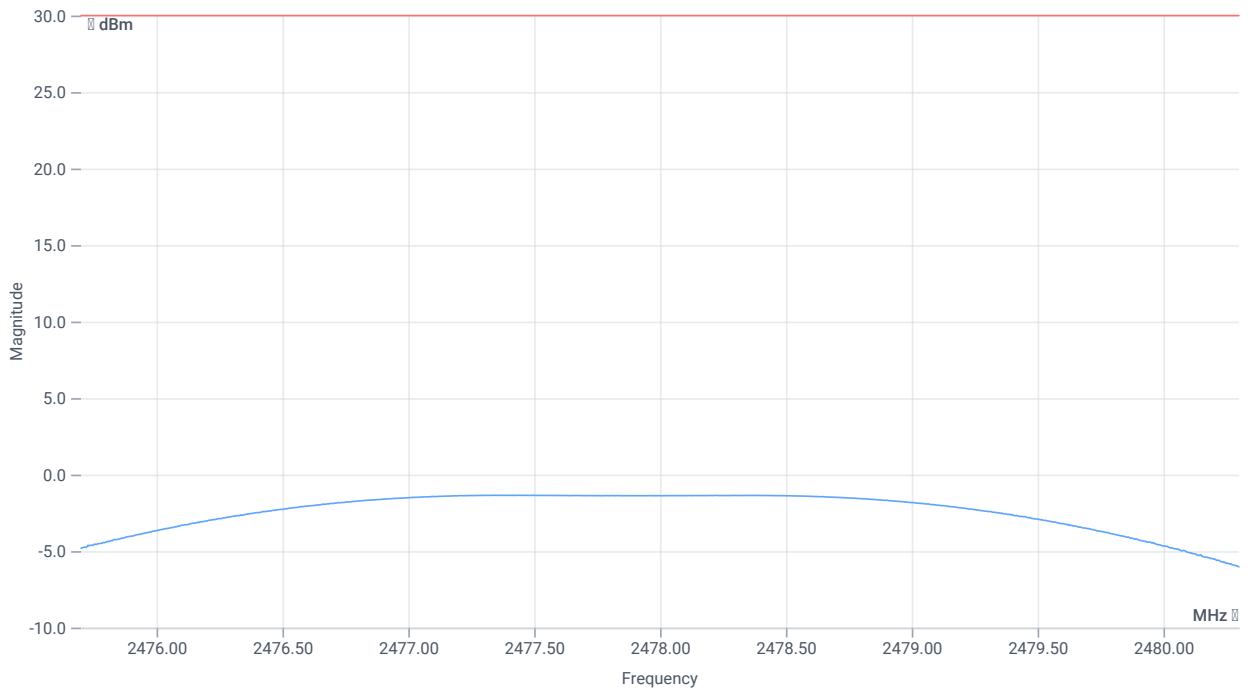
RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	3.79 11.2 10
Start [MHz] Stop [MHz]	2475.700 2480.300
RBW [MHz] VBW [MHz]	0.100000 0.300000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE

DTS Bandwidth

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
DTS Bandwidth (6dB)	--	--	1375	kHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	8.79 11.2 15
Start [MHz] Stop [MHz]	2475.700 2480.300
RBW [MHz] VBW [MHz]	3.000000 10.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 1001 SWE



Peak output power

RESULT

Test Description	Lower Limit	Upper Limit	Measured	Unit	Verdict
Peak Power	--	30.00	-1.35	dBm	PASS
Peak Power	--	1000	0.732825	mW	PASS
Frequency at Peak	--	--	2477.343	MHz	INFO

Verdict

PASS

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