Measurements Results

No.1-5716/23-01-05_Annex_MR

Test logging

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2023.04.06 16:18:47 +02'00'

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Radio Labs

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FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

Test References

TC Start	01.03.2023 09:52:48
Ambit Temp [°C] | Humidity [rel%]	25.7 | 19
System Version	3.5.0.3
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 1 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	False | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

Test at TX 2402 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.65	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO

READ SA SETTINGS:

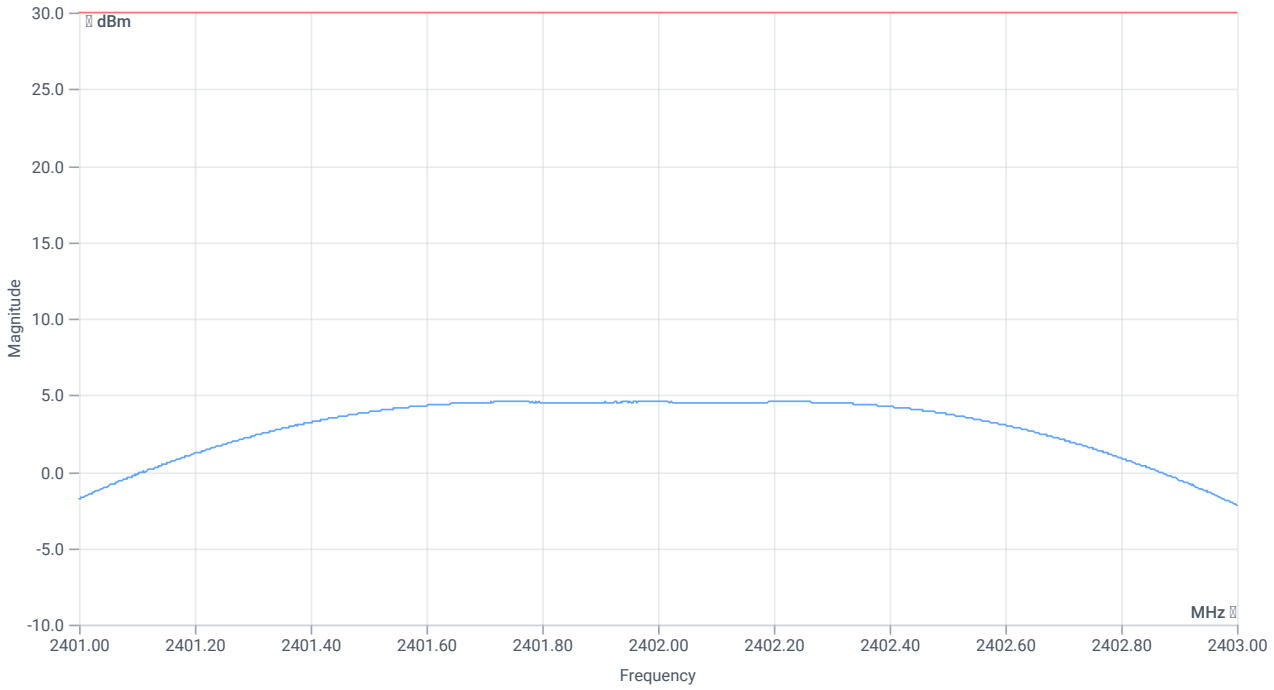
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.65 | 11.29 | 15
Start [MHz] | Stop [MHz]	2401.000 | 2403.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

DTS Bandwidth

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	---	---	647	kHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.65 | 11.29 | 20
Start [MHz] | Stop [MHz]	2401.000 | 2403.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
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	4.56	dBm	PASS
Peak Power	---	1000	2.857591	mW	PASS
Frequency at Peak	---	---	2402.246	MHz	INFO

Test at TX 2440 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.23	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO

READ SA SETTINGS:

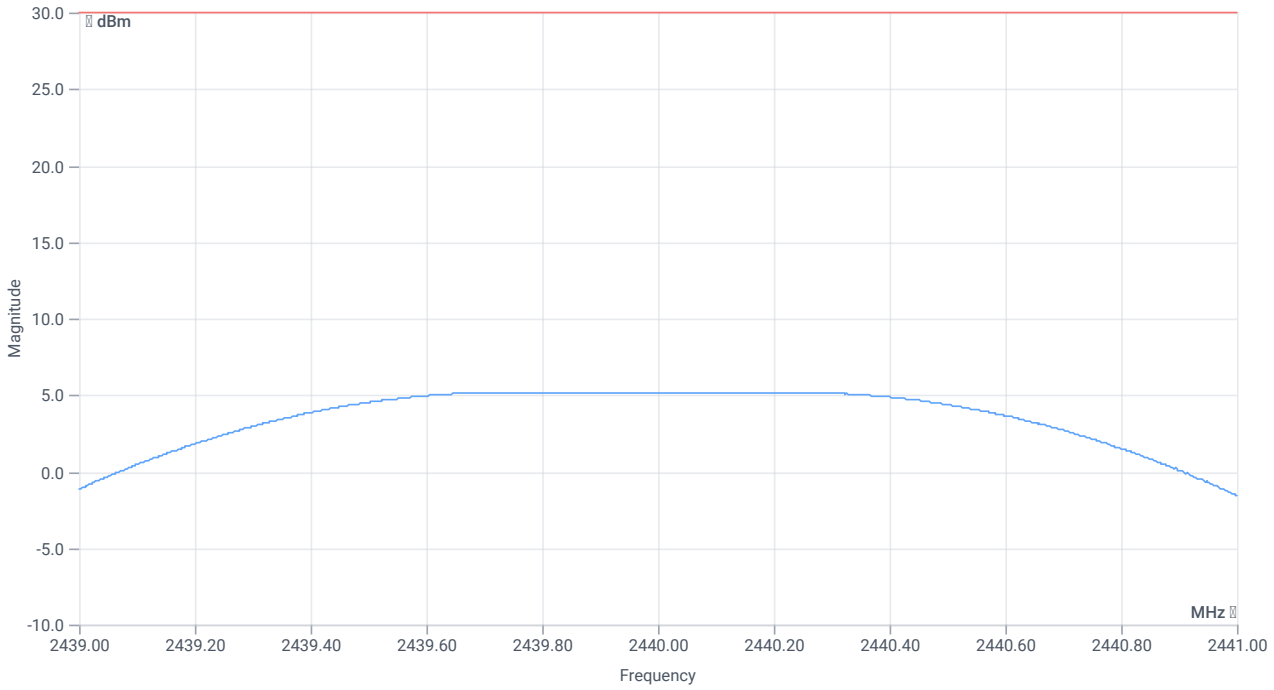
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	10.23 | 11.36 | 15
Start [MHz] | Stop [MHz]	2439.000 | 2441.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

DTS Bandwidth

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	---	---	647	kHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	15.23 | 11.36 | 20
Start [MHz] | Stop [MHz]	2439.000 | 2441.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
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	5.18	dBm	PASS
Peak Power	---	1000	3.296097	mW	PASS
Frequency at Peak	---	---	2439.748	MHz	INFO

Test at TX 2480 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.81	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO

READ SA SETTINGS:

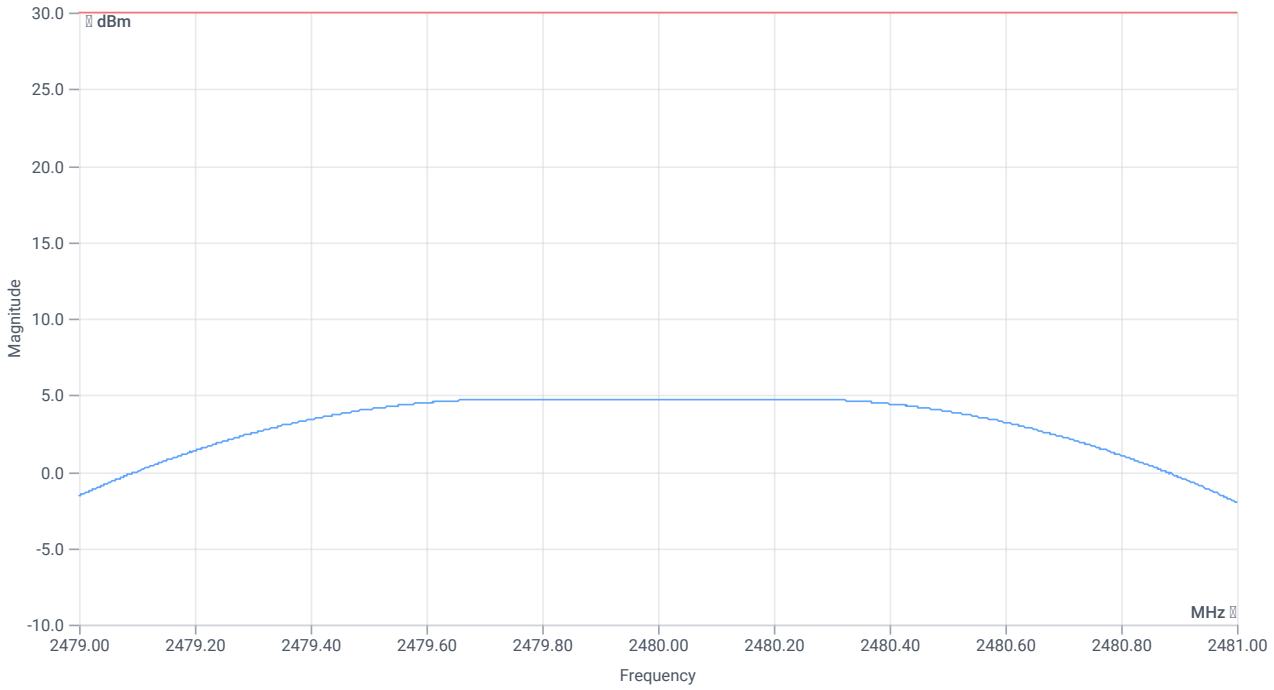
RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.81 | 11.41 | 15
Start [MHz] | Stop [MHz]	2479.000 | 2481.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE

DTS Bandwidth

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	---	---	646	kHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.81 | 11.41 | 20
Start [MHz] | Stop [MHz]	2479.000 | 2481.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
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	4.75	dBm	PASS
Peak Power	---	1000	2.985383	mW	PASS
Frequency at Peak	---	---	2480.234	MHz	INFO

Verdict
PASS

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

Test References

TC Start	01.03.2023 09:54:45
Ambit Temp [°C] | Humidity [rel%]	25.7 | 20
System Version	3.5.0.3
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidth 6dB DTS - BT LE 1 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	False | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

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

Test Equipment

Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

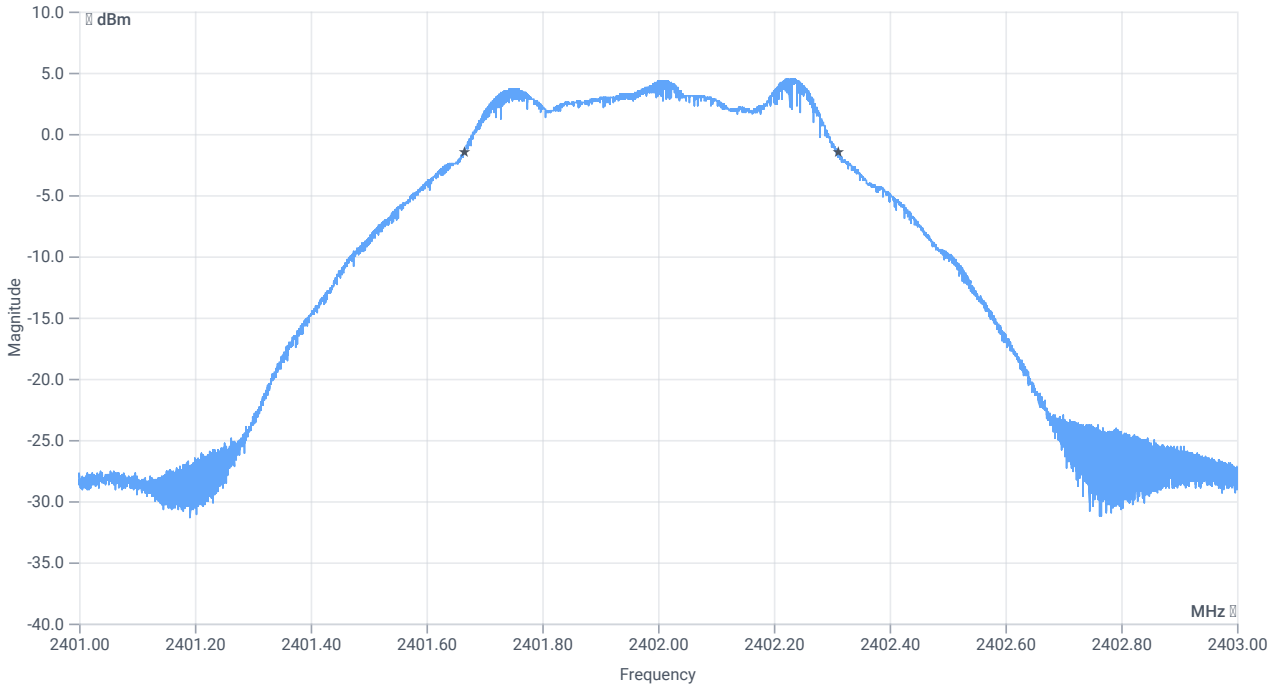
Test at TX 2402 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.66	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.66 | 11.29 | 15
Start [MHz] | Stop [MHz]	2401.000 | 2403.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	500	---	647	kHz	PASS

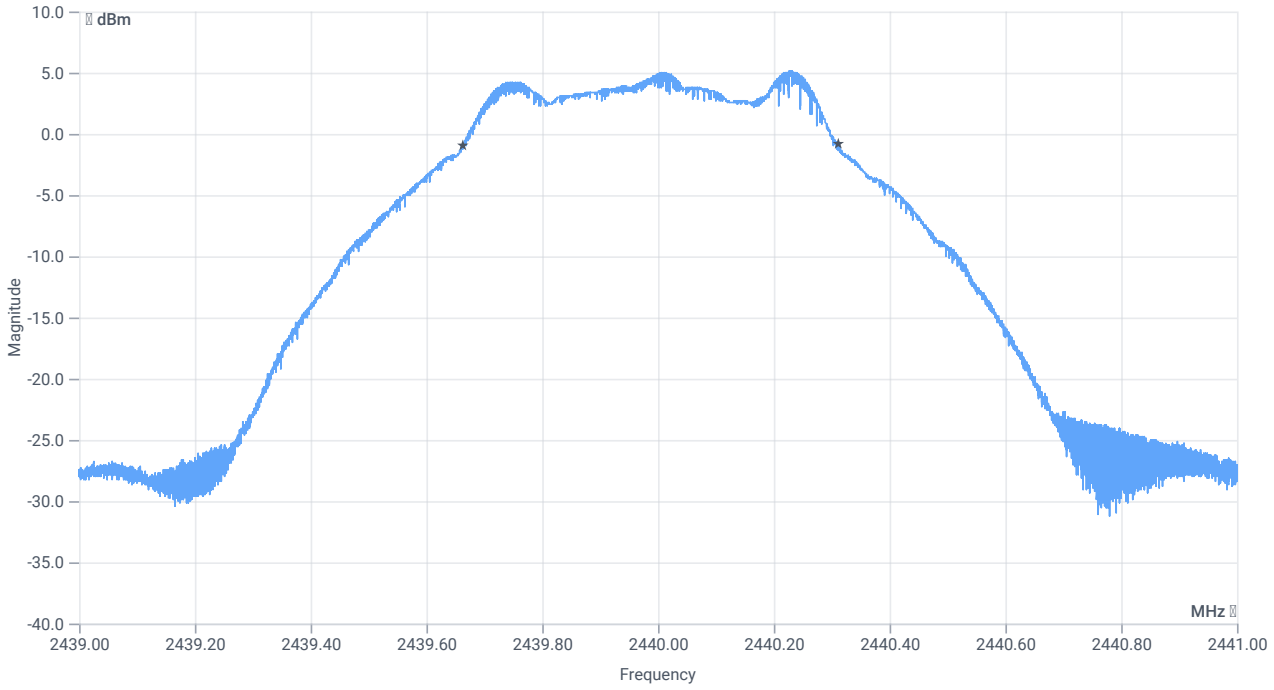
Test at TX 2440 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.23	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	10.23 | 11.36 | 15
Start [MHz] | Stop [MHz]	2439.000 | 2441.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	500	---	647	kHz	PASS

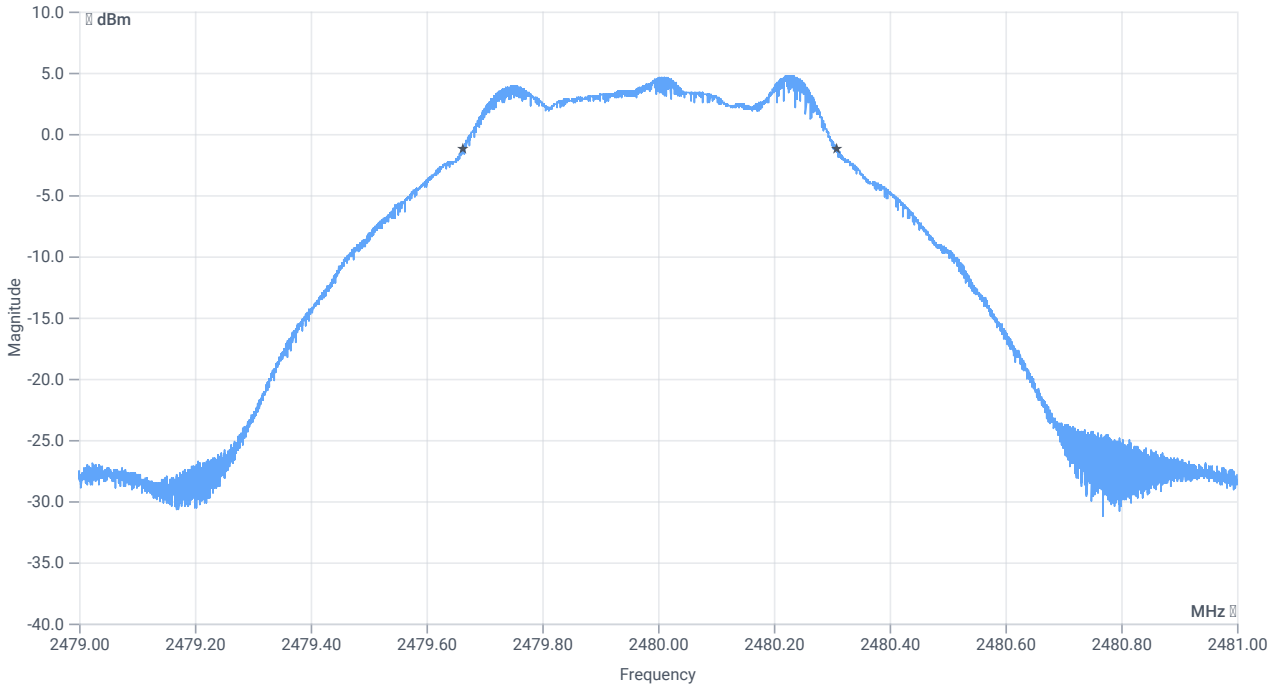
Test at TX 2480 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.82	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.82 | 11.41 | 15
Start [MHz] | Stop [MHz]	2479.000 | 2481.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	50 | 200 | 10001 | SWE



BW 6dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
DTS Bandwidth (6dB)	500	---	646	kHz	PASS

Verdict
PASS

FCC 15.247 # Peak power spectral density DTS ~ BT LE 1 Msps

Test References

TC Start	01.03.2023 09:56:04
Ambit Temp [°C] | Humidity [rel%]	25.7 | 19
System Version	3.5.0.3
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 1 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	False | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

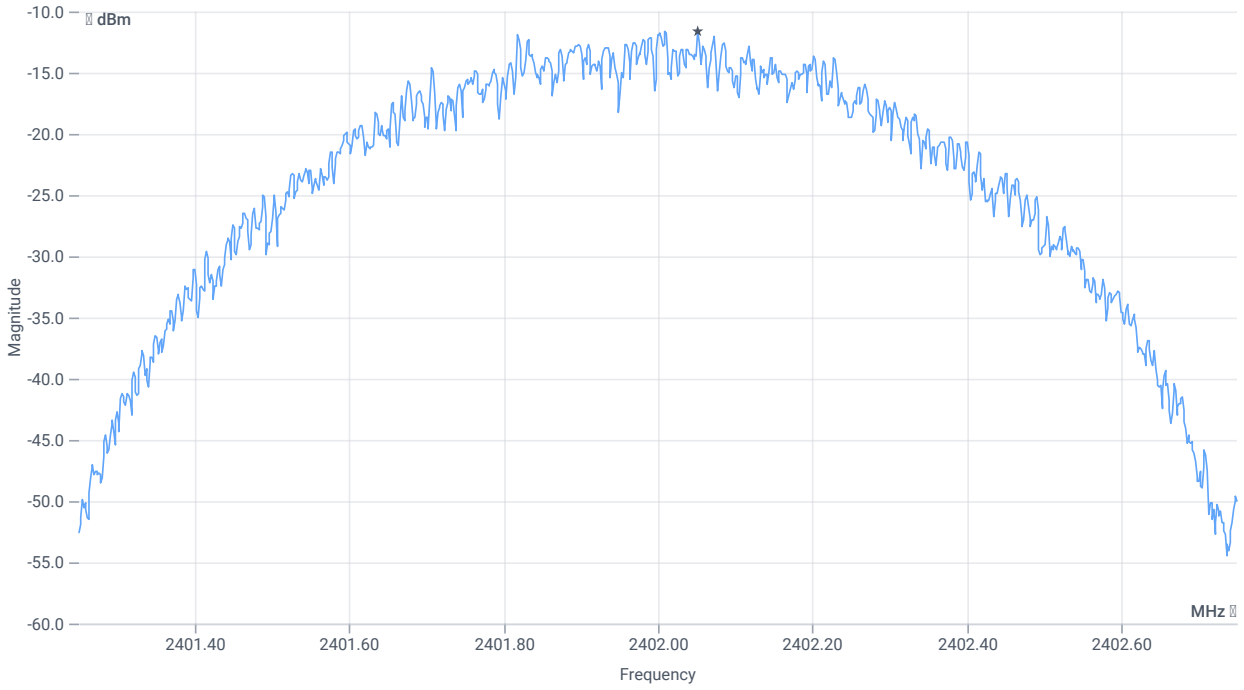
Test at TX 2402 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.66	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.66 | 11.29 | 15
Start [MHz] | Stop [MHz]	2401.250 | 2402.750
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE



Peak PSD

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Max Peak power Density	---	8	-11.57	dBm/3KHz	PASS

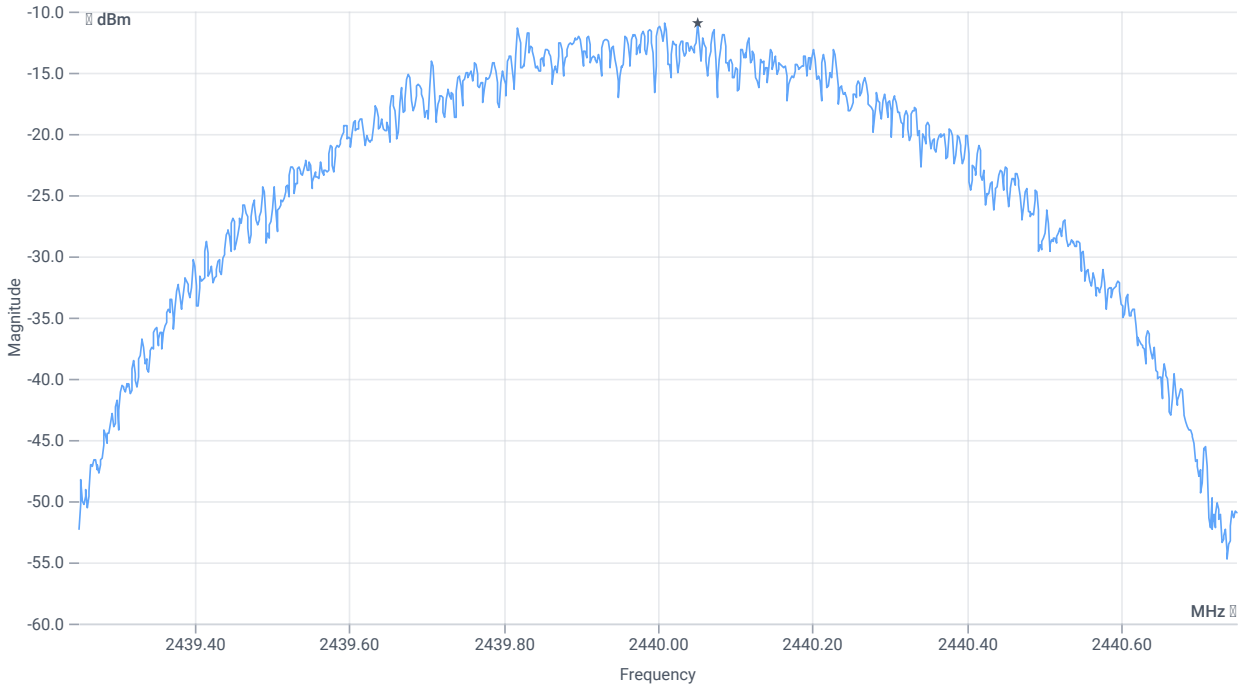
Test at TX 2440 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.26	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	10.26 | 11.36 | 15
Start [MHz] | Stop [MHz]	2439.250 | 2440.750
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE



Peak PSD

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Max Peak power Density	---	8	-10.93	dBm/3KHz	PASS

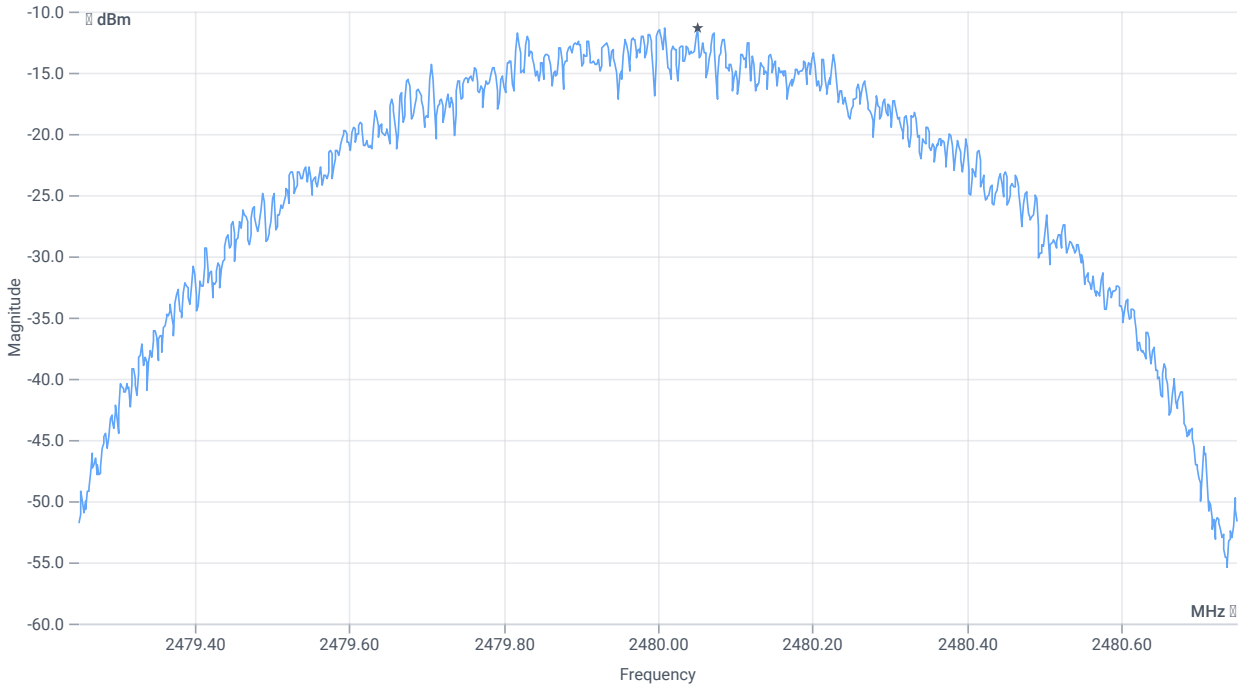
Test at TX 2480 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.85	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.85 | 11.41 | 15
Start [MHz] | Stop [MHz]	2479.250 | 2480.750
RBW [MHz] | VBW [MHz]	0.003000 | 0.010000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 20 | 1001 | SWE



Peak PSD

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Max Peak power Density	---	8	-11.3	dBm/3KHz	PASS

Verdict
PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

Test References

TC Start	01.03.2023 09:57:51
Ambit Temp [°C] | Humidity [rel%]	25.8 | 19
System Version	3.5.0.3
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 1 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	False | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

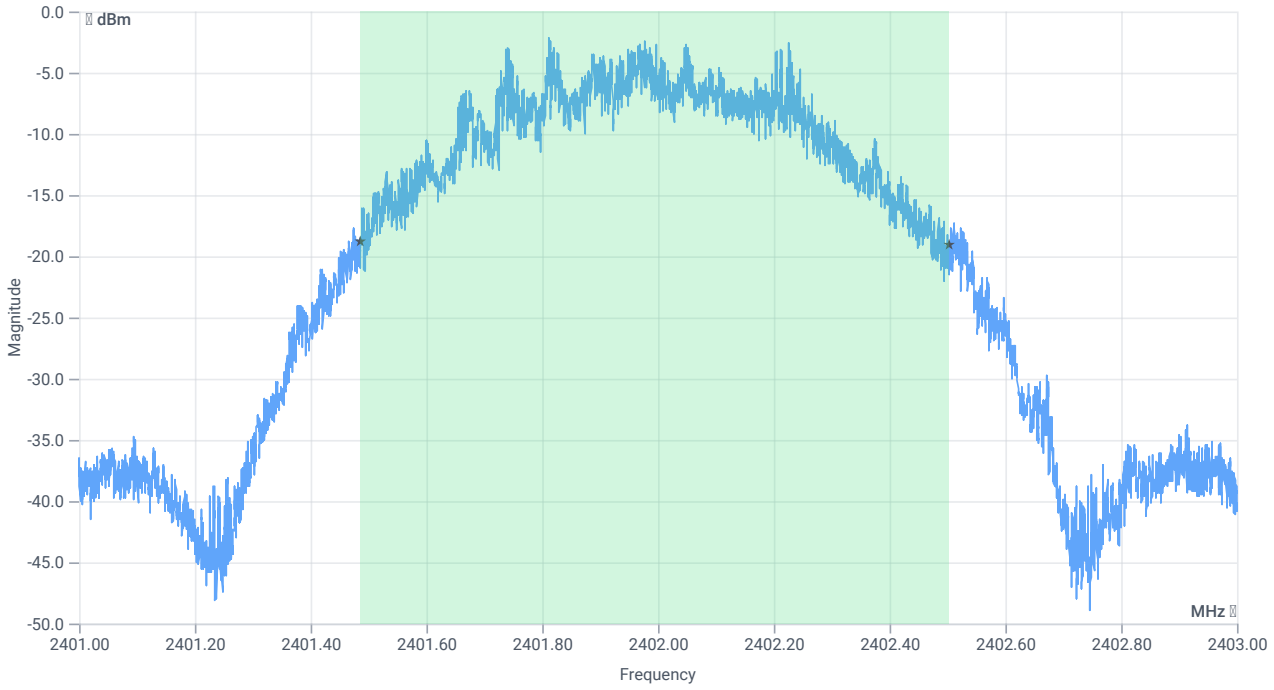
Test at TX 2402 MHz

RESULT: Reference Power cond.

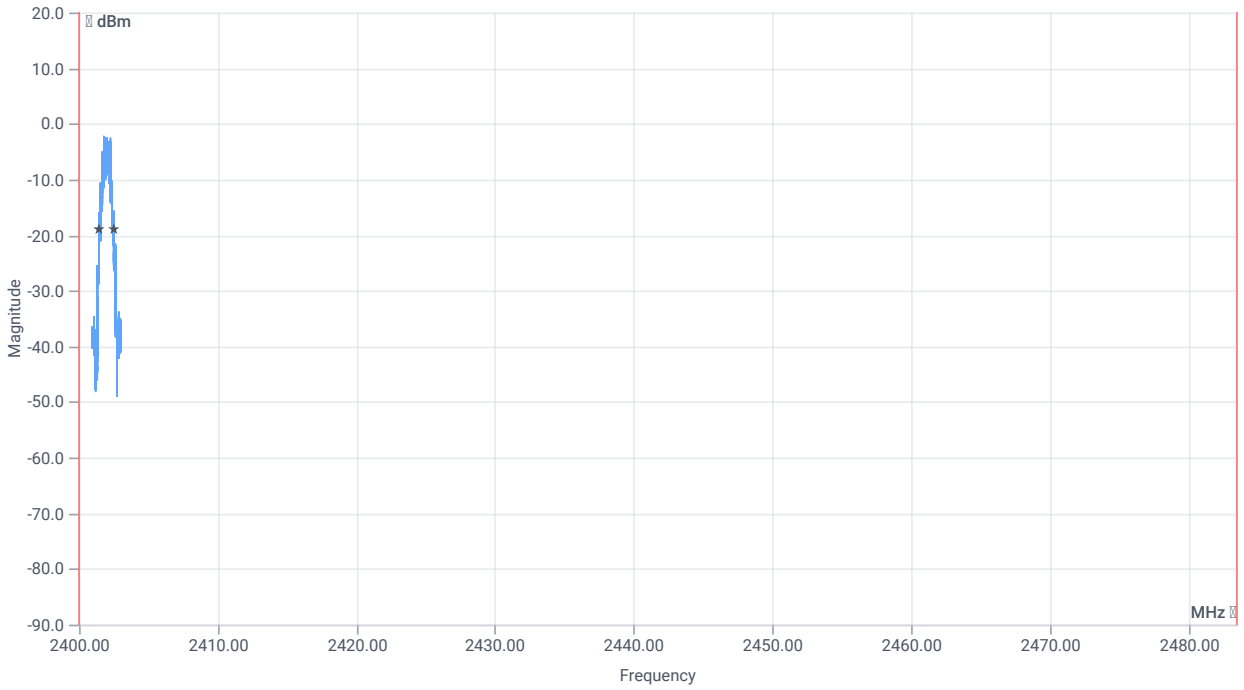
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.66	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.66 | 11.29 | 15
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



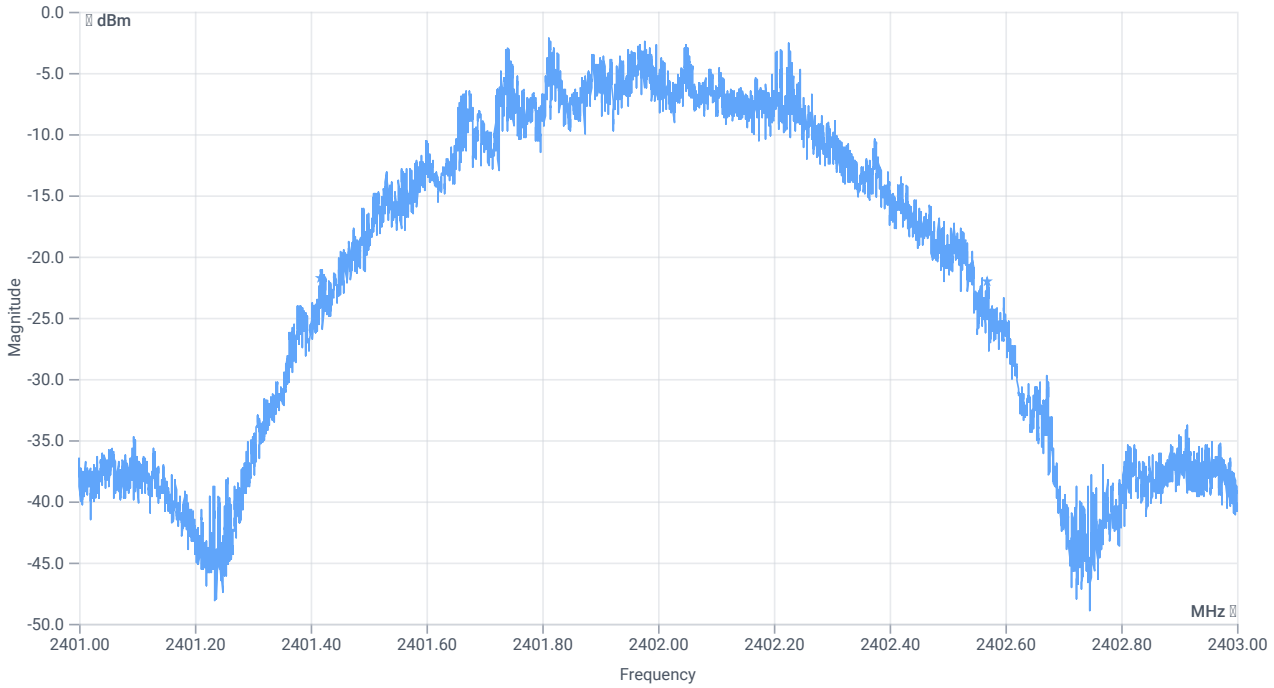
BW 99PCT



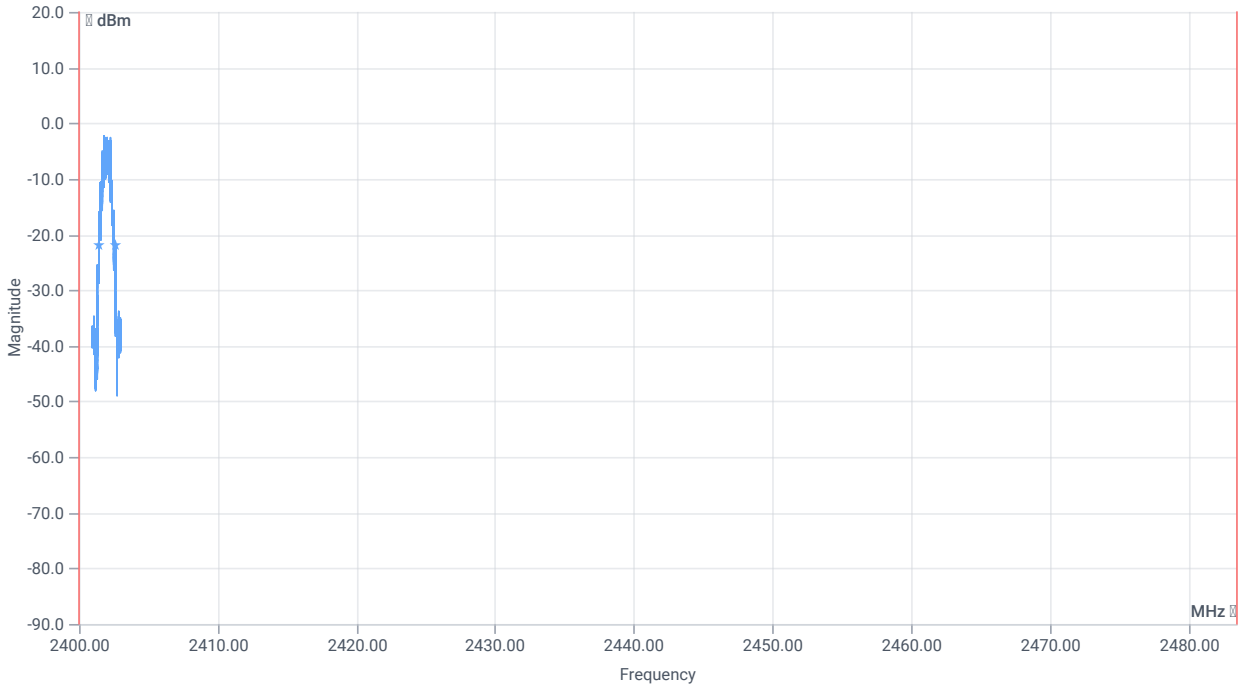
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	1016.000	kHz	INFO
T1 99%	2400.000000	---	2401.4863	MHz	PASS
T2 99%	---	2483.500000	2402.5025	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 20dB	---	---	1153	kHz	INFO
T1 20DB	2400.000000	---	2401.4166	MHz	PASS
T2 20dB	---	2483.500000	2402.5698	MHz	PASS

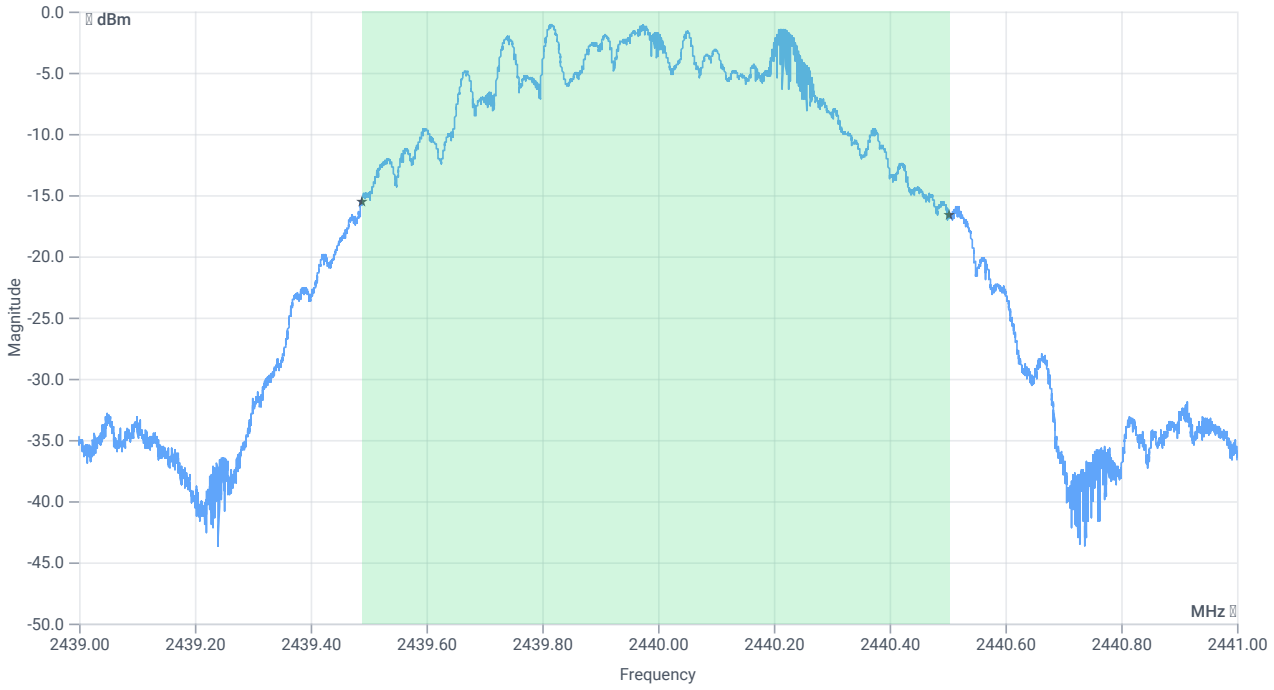
Test at TX 2440 MHz

RESULT: Reference Power cond.

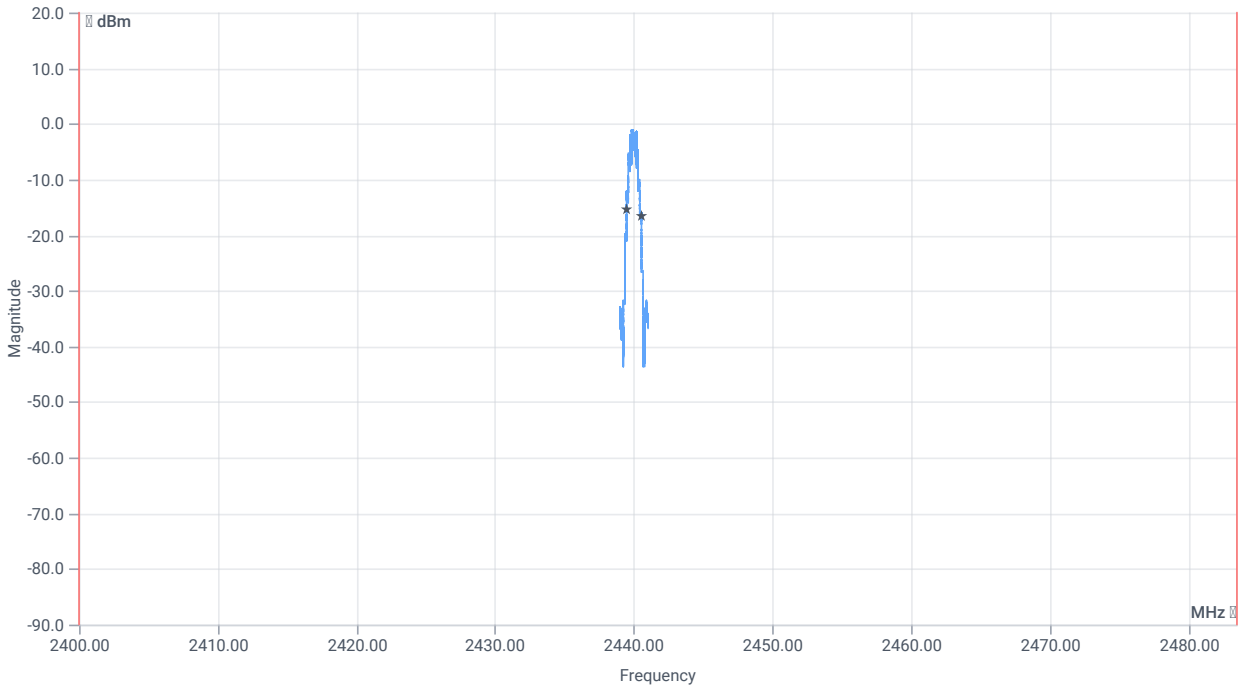
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.26	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	10.26 | 11.36 | 15
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



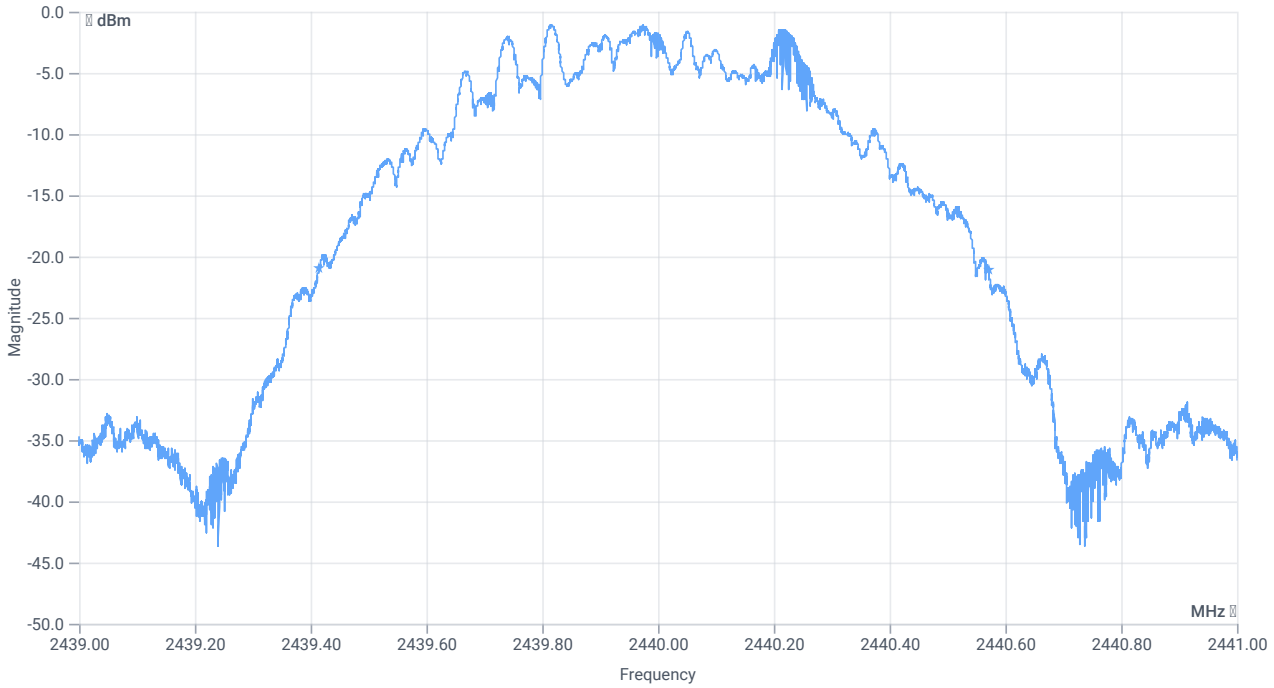
BW 99PCT



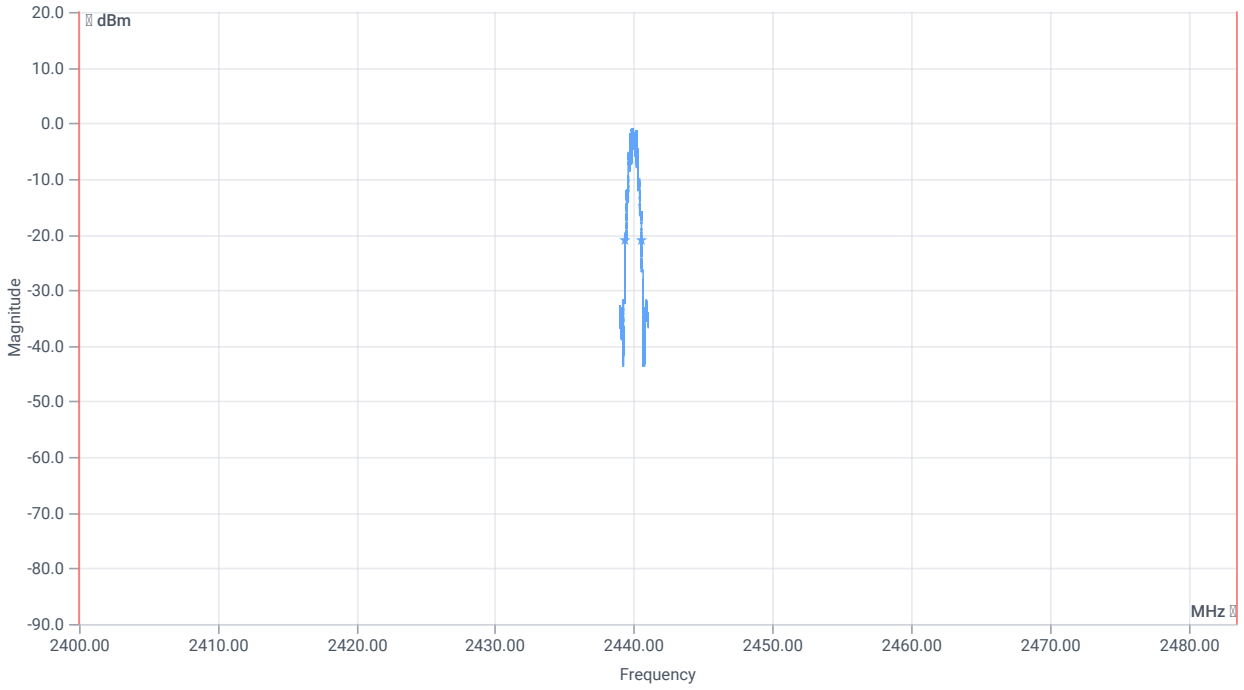
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	1015.000	kHz	INFO
T1 99%	2400.000000	---	2439.4879	MHz	PASS
T2 99%	---	2483.500000	2440.5027	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 20dB	---	---	1156	kHz	INFO
T1 20DB	2400.000000	---	2439.4142	MHz	PASS
T2 20dB	---	2483.500000	2440.5700	MHz	PASS

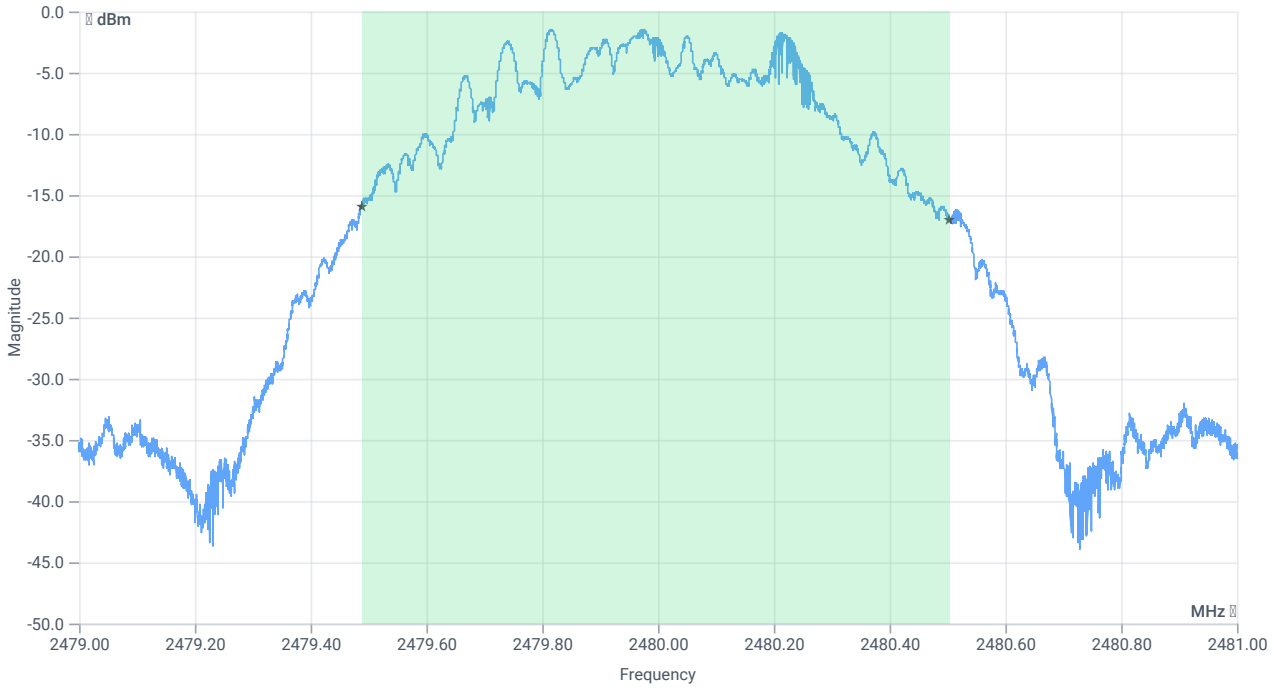
Test at TX 2480 MHz

RESULT: Reference Power cond.

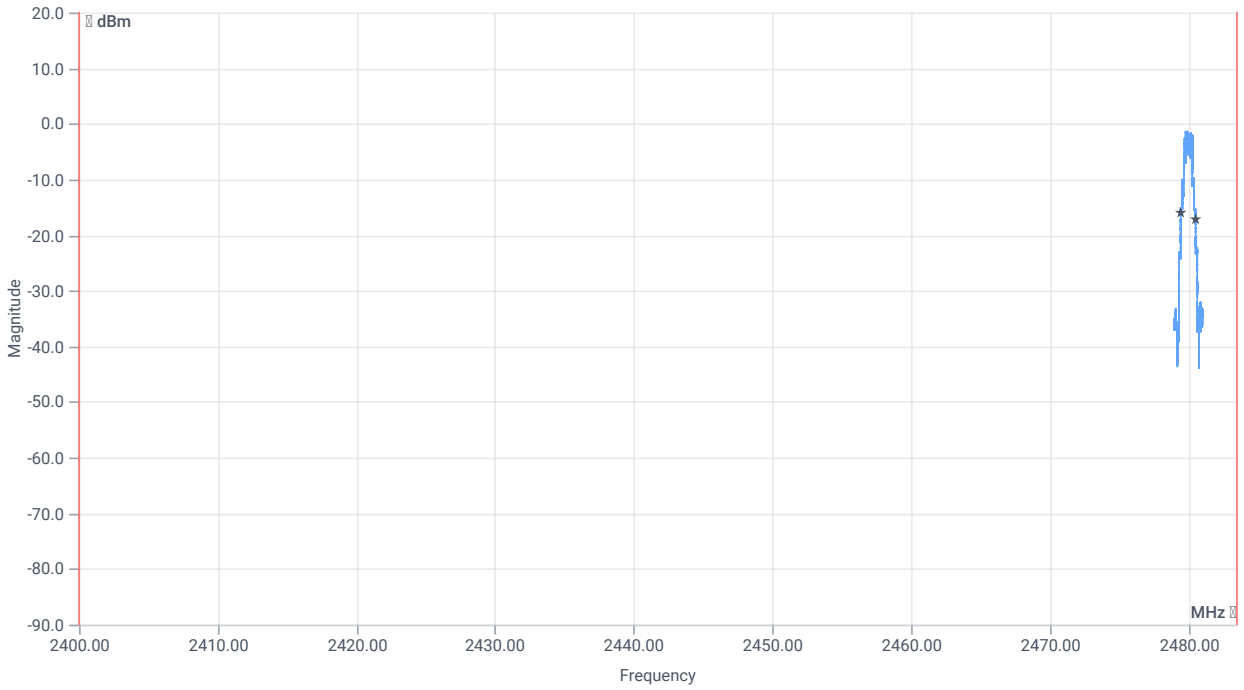
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.83	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	9.83 | 11.41 | 15
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



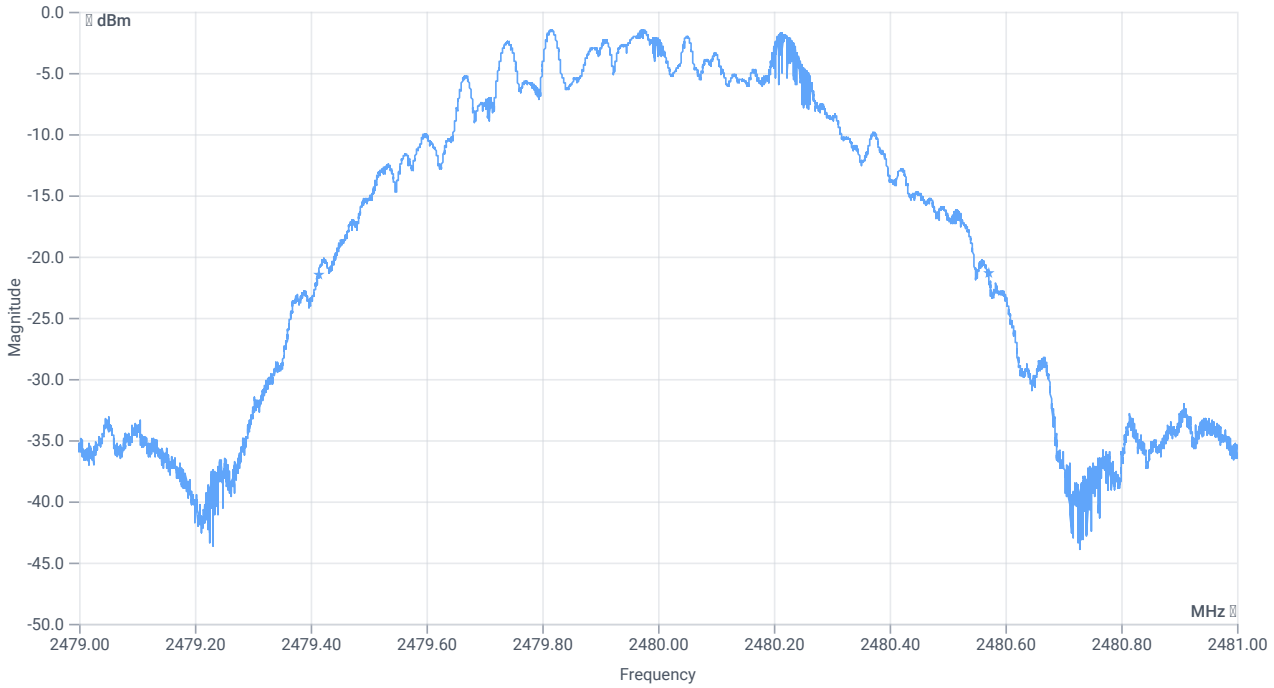
BW 99PCT



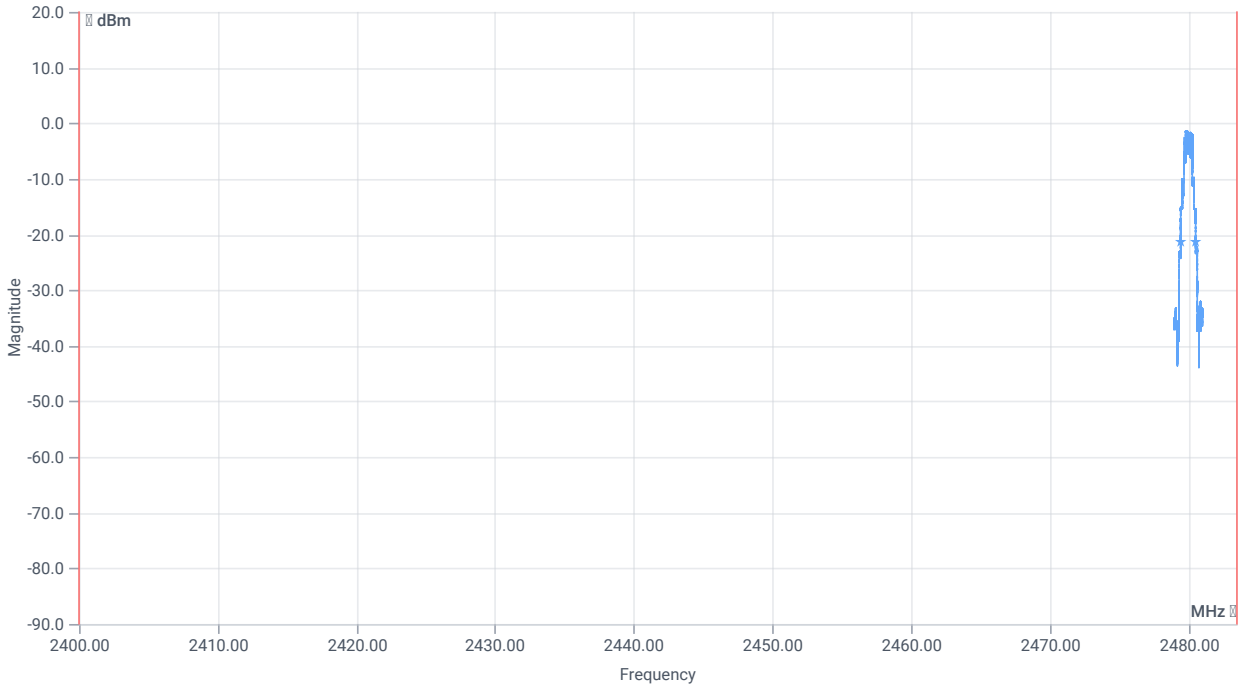
BW within Band 99PCT

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 99%	---	---	1016.000	kHz	INFO
T1 99%	2400.000000	---	2479.4875	MHz	PASS
T2 99%	---	2483.500000	2480.5033	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Bandwidth 20dB	---	---	1158	kHz	INFO
T1 20DB	2400.000000	---	2479.4130	MHz	PASS
T2 20dB	---	2483.500000	2480.5706	MHz	PASS

Verdict
PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

Test References

TC Start	01.03.2023 09:59:28
Ambit Temp [°C] | Humidity [rel%]	25.9 | 19
System Version	3.5.0.3
Test Specification	FCC 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	

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	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

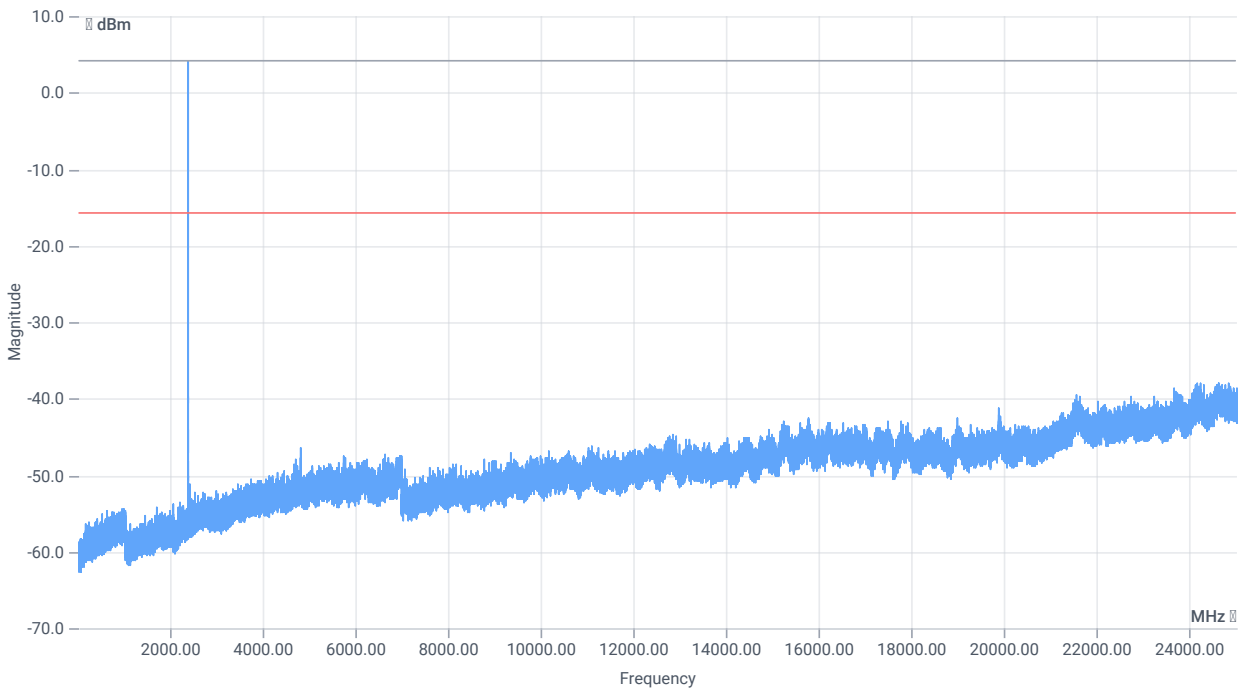
Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60
Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

Test at TX 2402 MHz

RESULT: Reference Power cond.

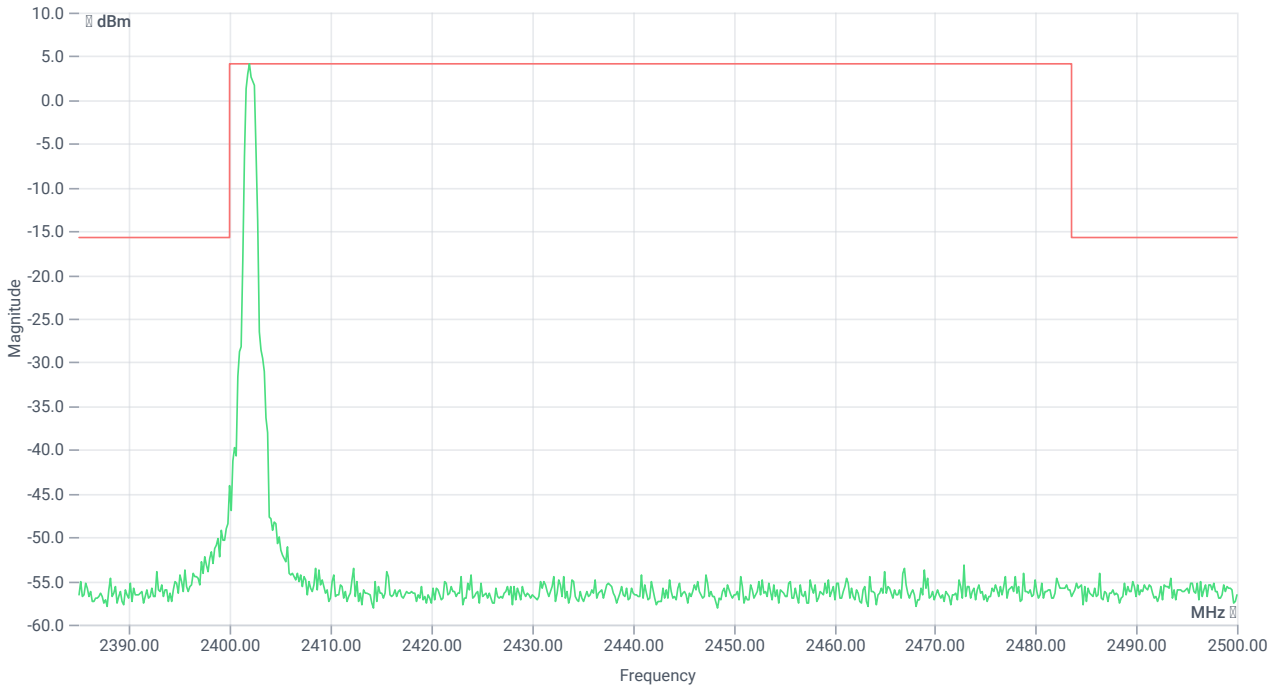
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.67	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	4.67 | 0 | 20
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

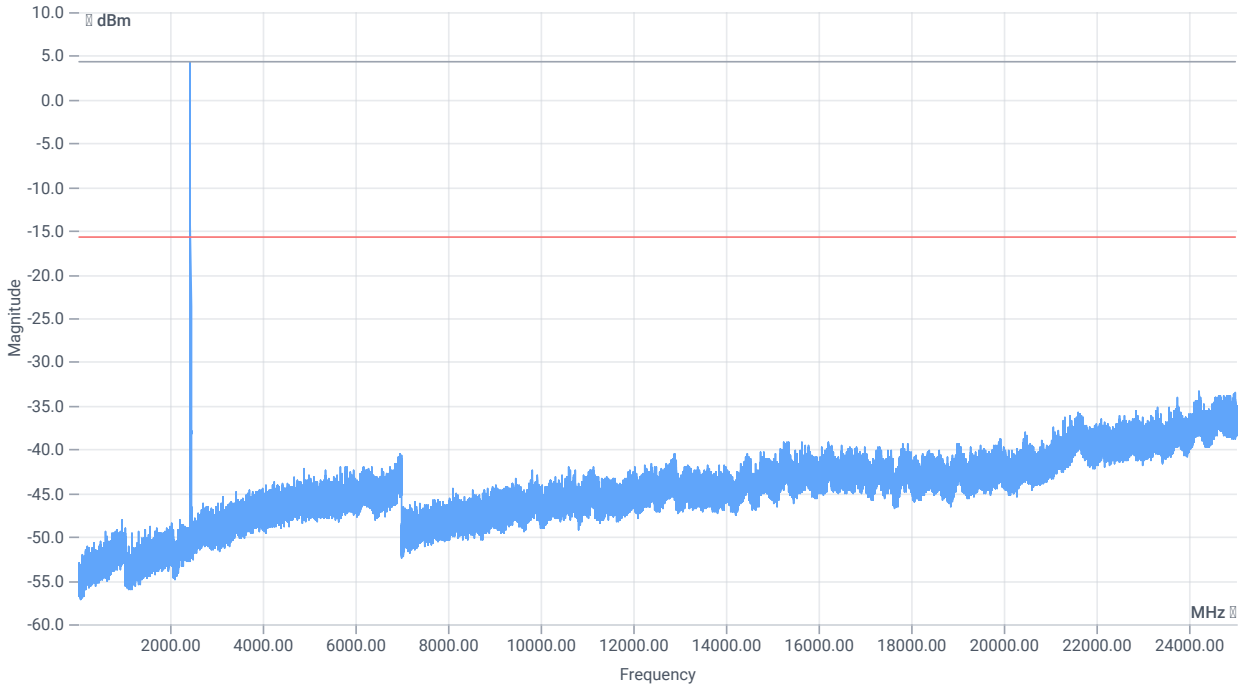
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Reference @ 2402.00 MHz	---	---	4.21	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 30 MHz	0	---	-139.51	dB	INFO

Test at TX 2440 MHz

RESULT: Reference Power cond.

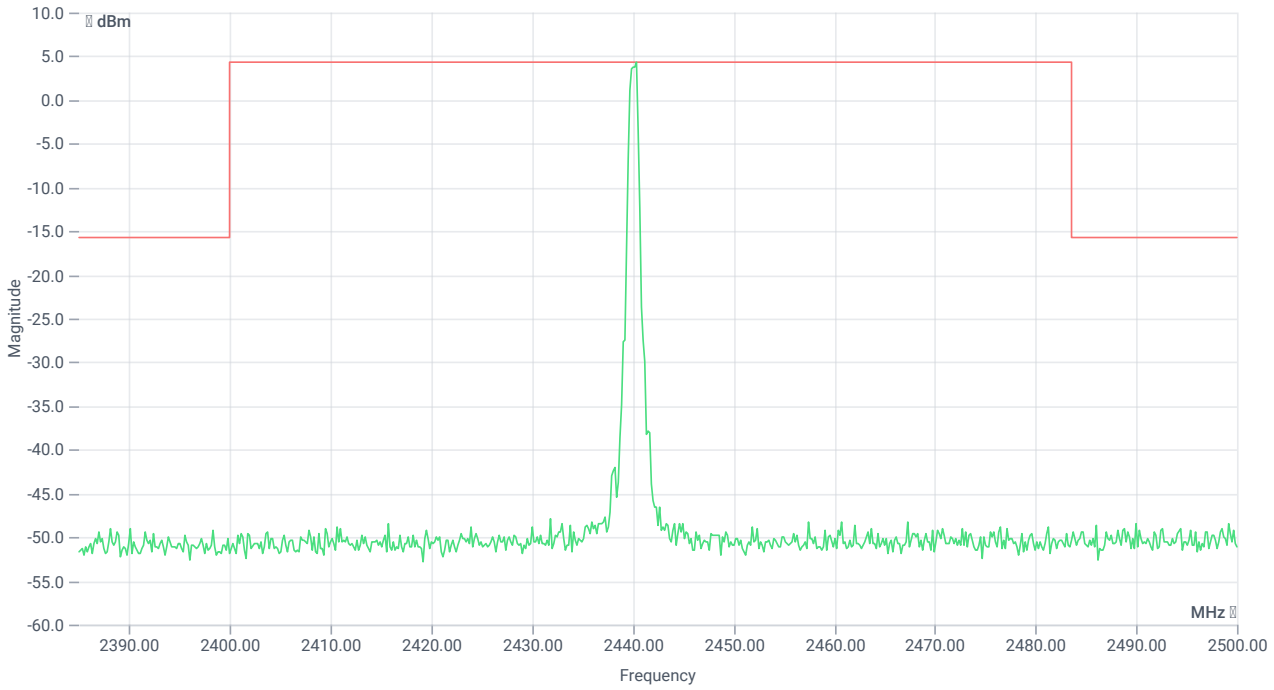
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.26	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	5.26 | 0 | 25
Start [MHz] | Stop [MHz]	24530.000 | 25030.000
RBW [MHz] | VBW [MHz]	0.100000 | 0.300000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	200 | 25 | 3001 | SWE



TX emissions band zoomed

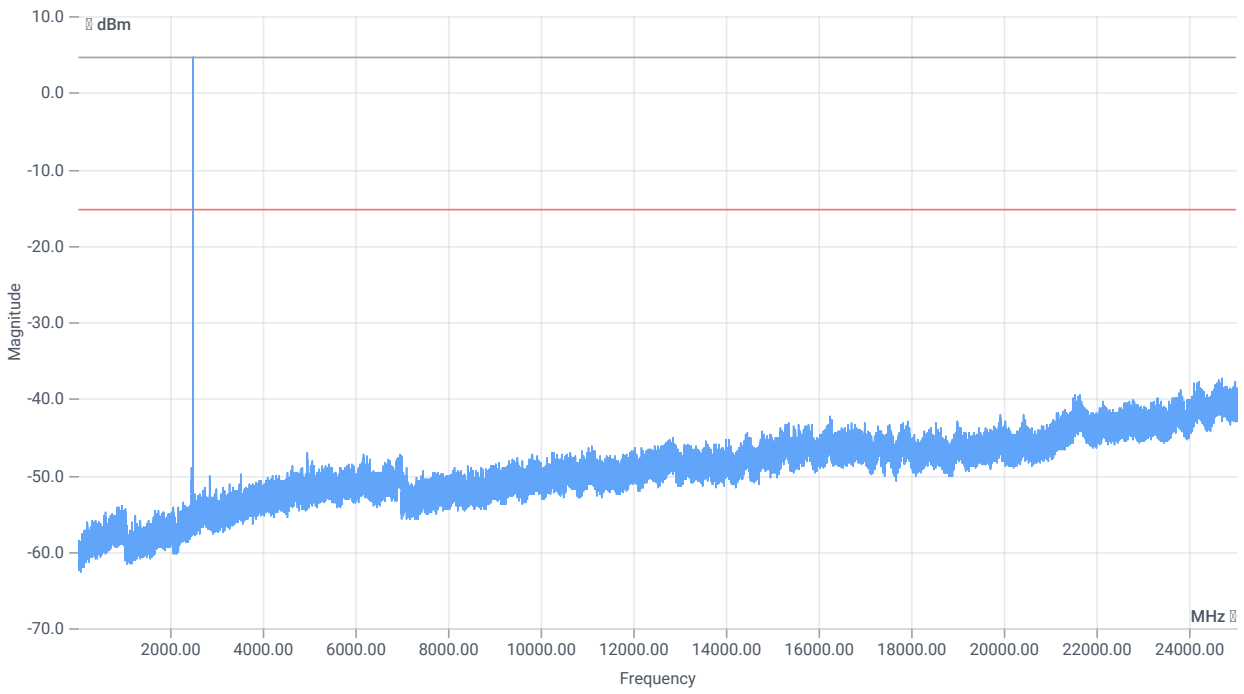
RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Reference @ 2440.33 MHz	---	---	4.33	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24226.167 MHz	0	---	17.72	dB	INFO

Test at TX 2480 MHz

RESULT: Reference Power cond.

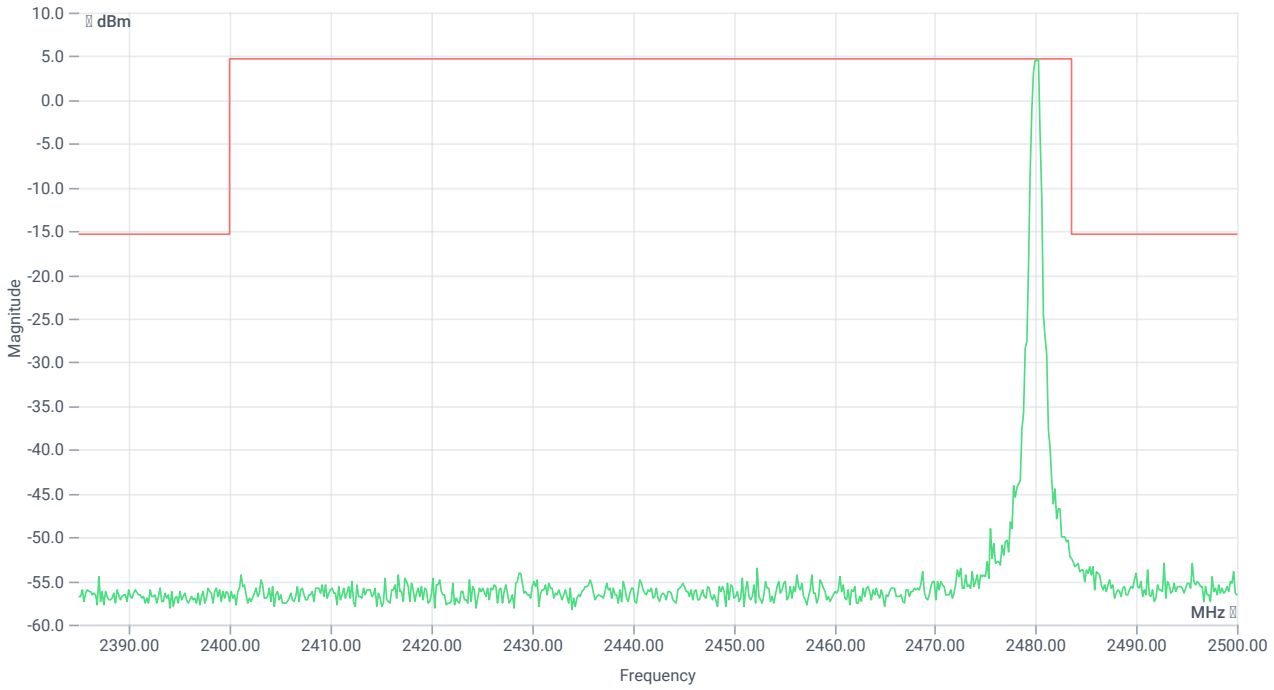
Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.85	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	4.85 | 0 | 20
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 @ 2480.33 MHz	---	---	4.63	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 24696.5 MHz	0	---	21.88	dB	INFO

Verdict
PASS

Common 2G4 # Peak output power 3MHz/3MHz ~ BT LE 1 Msps

Test References

TC Start	01.03.2023 09:29:57
Ambit Temp [°C] | Humidity [rel%]	25.1 | 20
System Version	3.5.0.3
Test Specification	Common 2G4 - none
Test Method	
TC Version	0.0.1
My Description	Peak OP 3MHz/3MHz - BT LE 1 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	False | TXpayload 255 | RXpayload 255
Longrange S8 supported	False | TXpayload 255 | RXpayload 255
Longrange S2 supported	False | TXpayload 255 | RXpayload 255
Signaling Settings	USB_RS232 | HCI | 37 | 115200 | 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 1 Msps
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True | Freq [MHz] 2402
Frequency mid to test	True | Freq [MHz] 2440
Frequency high to test	True | Freq [MHz] 2480
Auto Control enabled Power Supply | Climatic Box	No | No
Additional Path Loss [dB]	0.7
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

Test Equipment

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

Test Equipment

Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.62
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

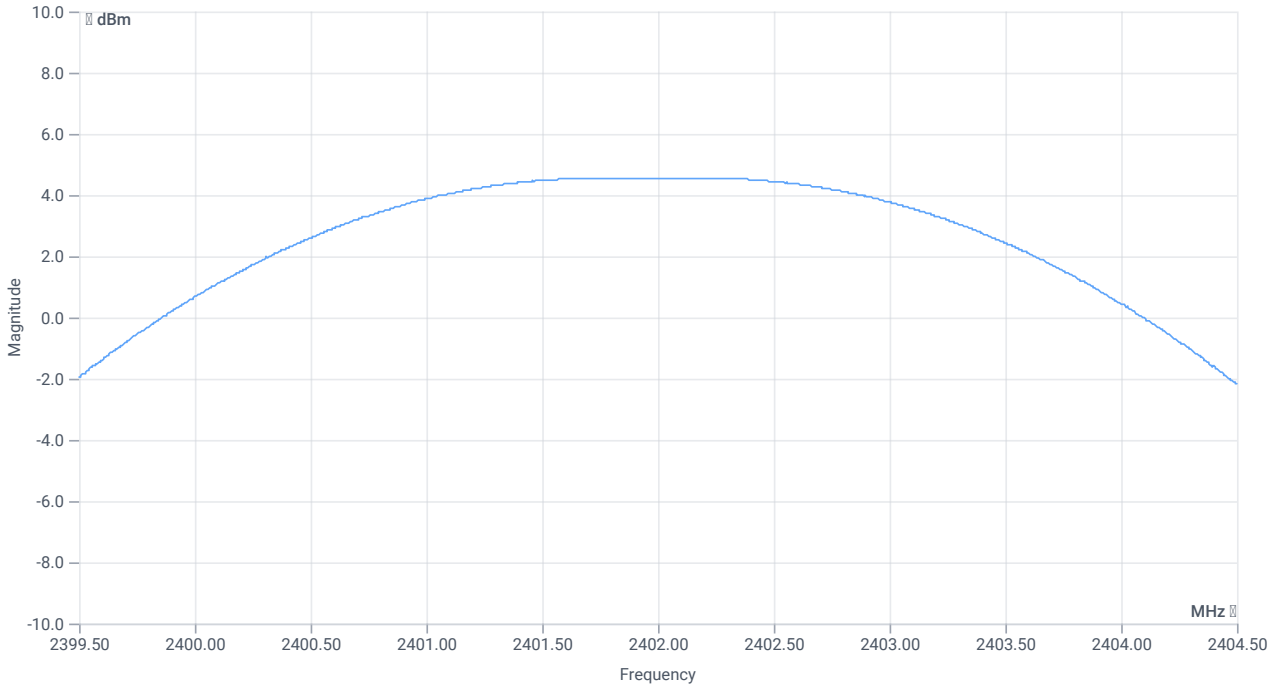
Test at TX 2402 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.62	dBm	INFO
Ref. Frequency	---	---	2402.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.62 | 11.29 | 20
Start [MHz] | Stop [MHz]	2399.500 | 2404.500
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE



Peak output power

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Peak Power	---	---	4.56	dBm	INFO
Peak Power	---	---	2.857591	mW	INFO
Frequency at Peak	---	---	2401.88	MHz	INFO

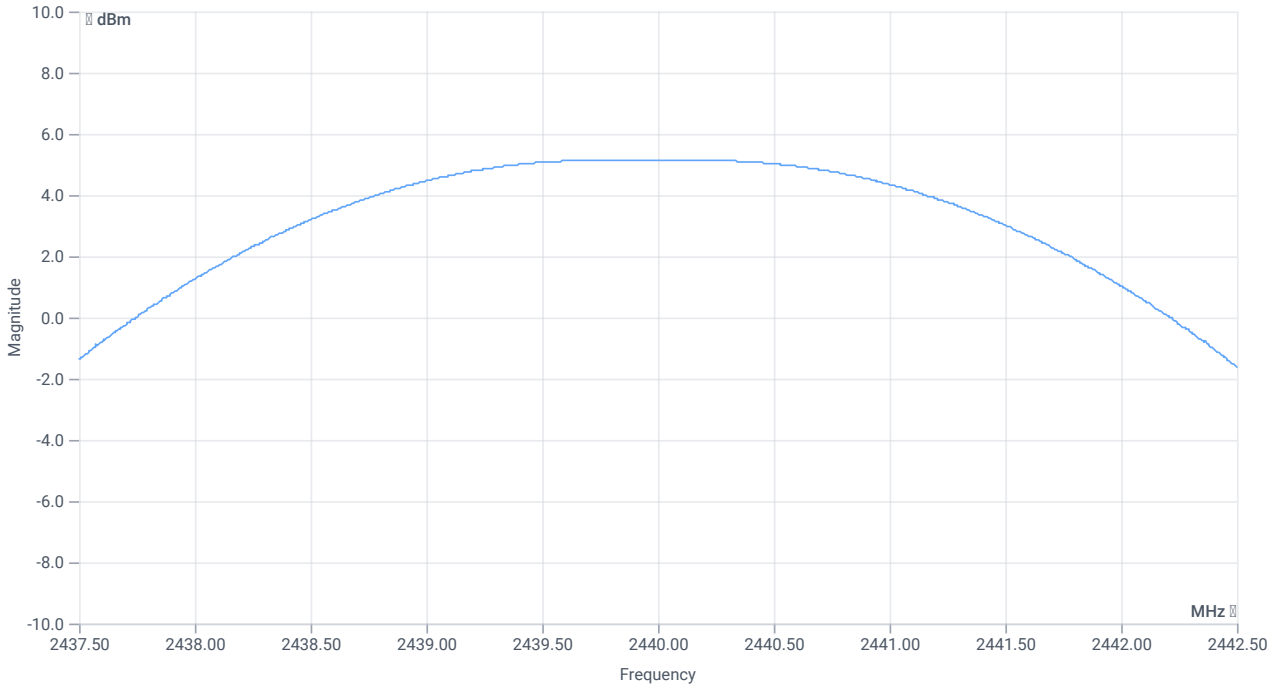
Test at TX 2440 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	5.19	dBm	INFO
Ref. Frequency	---	---	2440.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	15.19 | 11.36 | 20
Start [MHz] | Stop [MHz]	2437.500 | 2442.500
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE



Peak output power

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Peak Power	---	---	5.14	dBm	INFO
Peak Power	---	---	3.265878	mW	INFO
Frequency at Peak	---	---	2439.89	MHz	INFO

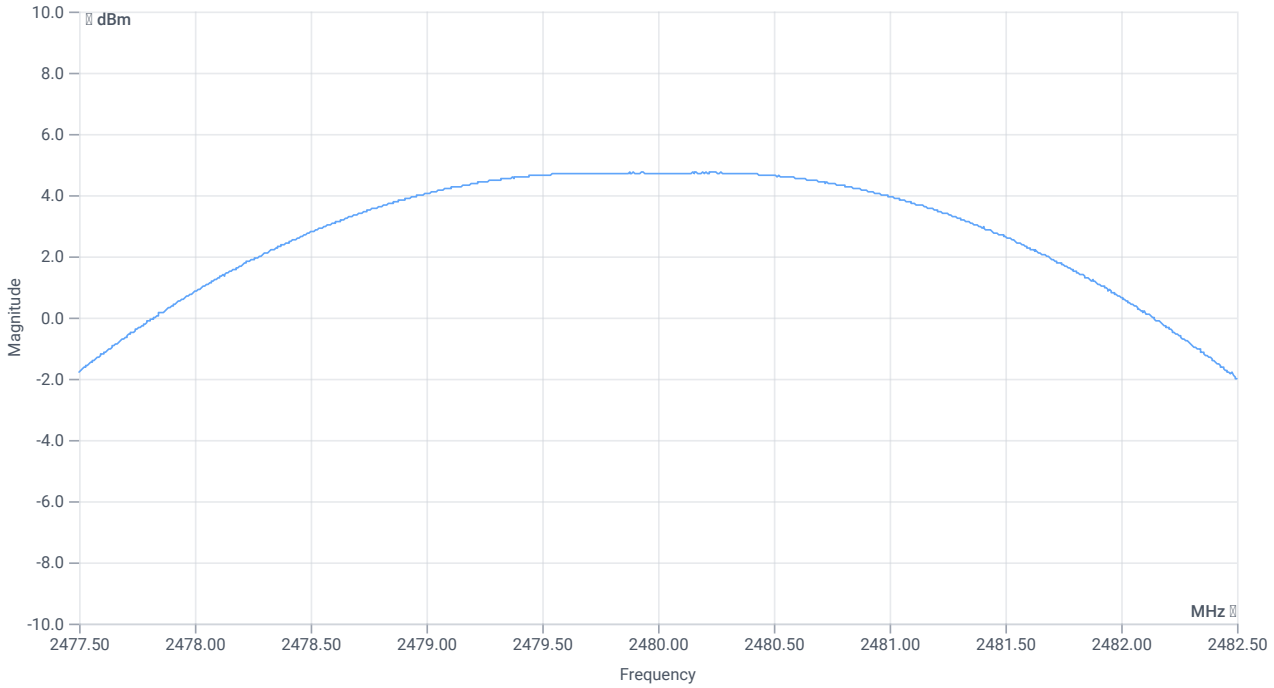
Test at TX 2480 MHz

RESULT: Reference Power cond.

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Ref. Power 1MHz/1MHz cond.	---	---	4.78	dBm	INFO
Ref. Frequency	---	---	2480.200	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	14.78 | 11.41 | 20
Start [MHz] | Stop [MHz]	2477.500 | 2482.500
RBW [MHz] | VBW [MHz]	3.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: Time [ms] | Count | Points per Section | Type	1000 | 10 | 1001 | SWE



Peak output power

RESULT

Test Description	*Lower Limit*	*Upper Limit*	*Measured*	*Unit*	*Verdict*
Peak Power	---	---	4.74	dBm	INFO
Peak Power	---	---	2.978516	mW	INFO
Frequency at Peak	---	---	2480.205	MHz	INFO

Verdict
PASS

- END OF DOCUMENT -