

Conducted test results

No.1-4299/22-02-02_Annex_MR

October 20, 2023

Test Standard(s) FCC 15.247

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Authorized

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Radio Labs

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FCC 15.247 # Maximum peak conducted output power ~ Generic 0G9 hopp

Test References

TC Start	21.06.2023 11:53:08
Ambit Temp [°C] Humidity [rel%]	0.0 0
System Version	4.0.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Maximum Peak Output Power Conducted FHSS
Add. Information	

Test Parameter

Technology to test	Generic 0G9 hopp
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 902.3
Frequency mid to test	True Freq [MHz] 908.5
Frequency high to test	True Freq [MHz] 914.9
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0
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

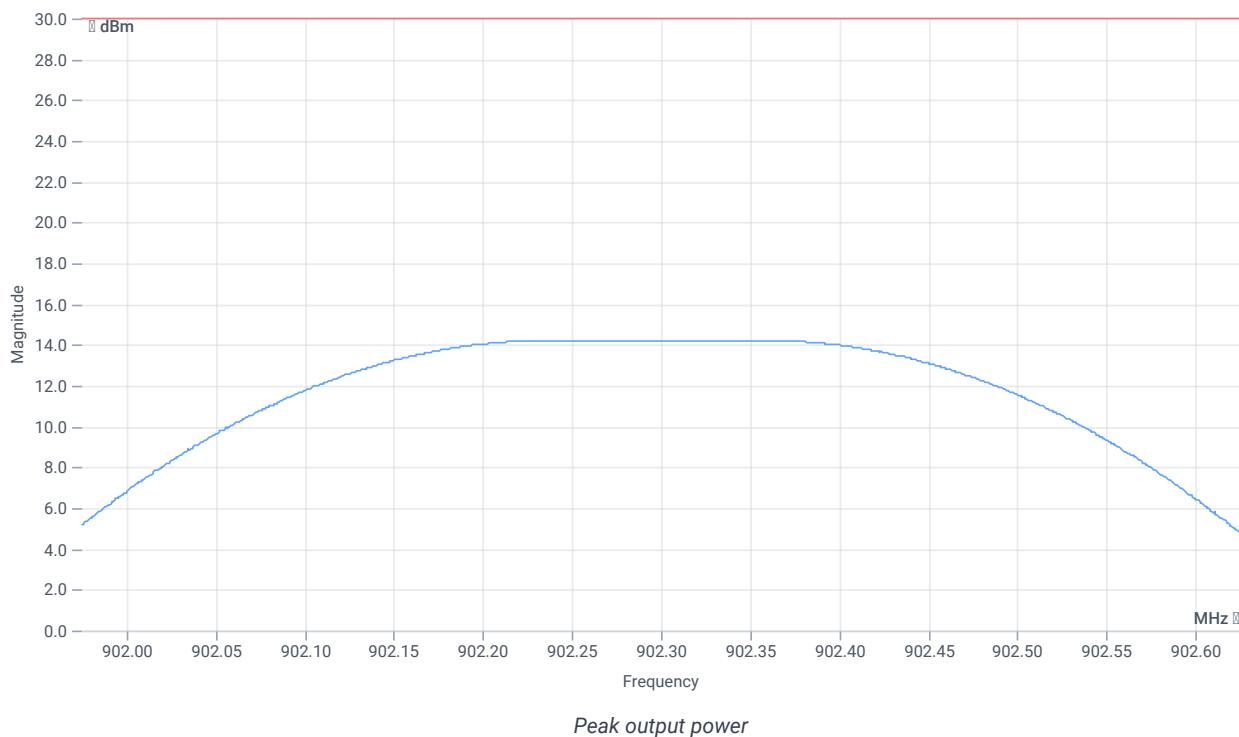
Test at TX 902.3 MHz

RESULT: Reference Power cond.

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.35	dBm	INFO
Ref. Frequency	---	---	902.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.35 8.45 30
Start [MHz] Stop [MHz]	901.975 902.625
RBW [MHz] VBW [MHz]	0.300000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 50 1001 SWE



RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak Power	---	30	14.22	dBm	PASS
Frequency at Peak	---	---	902.245	MHz	INFO

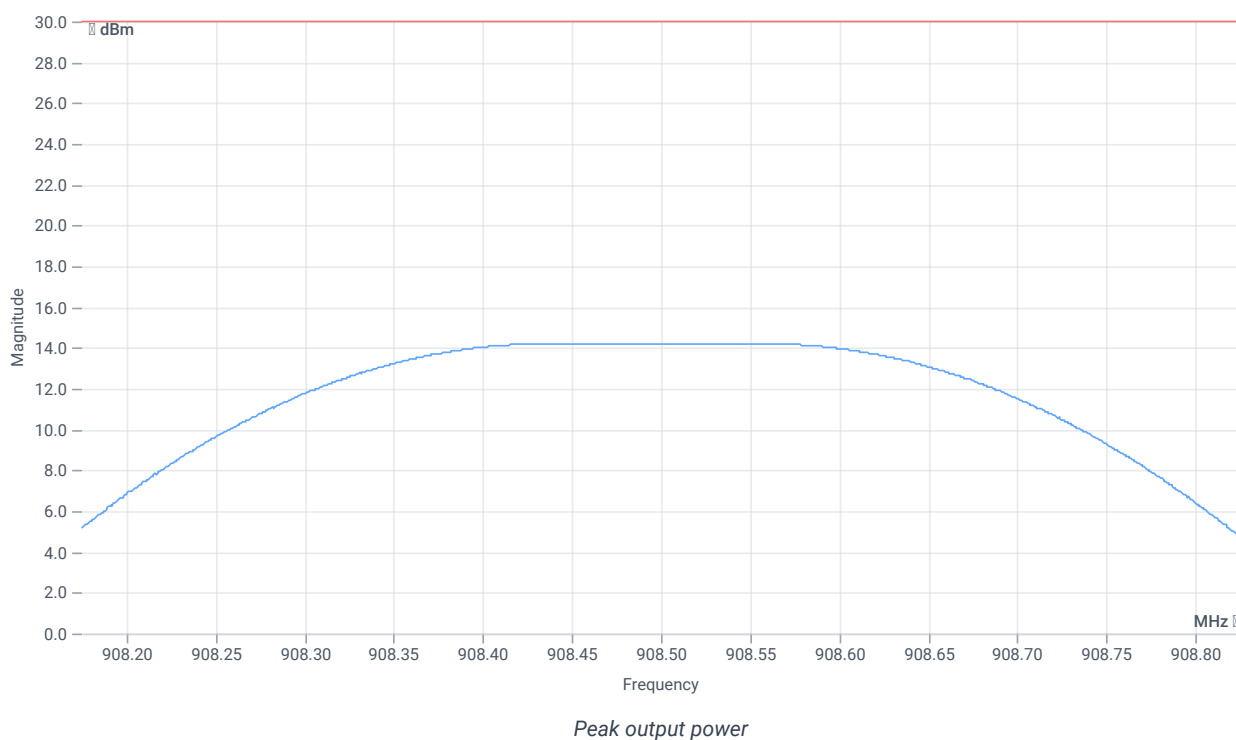
Test at TX 908.5 MHz

RESULT: Reference Power cond.

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.27	dBm	INFO
Ref. Frequency	---	---	908.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.27 8.46 30
Start [MHz] Stop [MHz]	908.175 908.825
RBW [MHz] VBW [MHz]	0.300000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 50 1001 SWE



RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak Power	---	30	14.21	dBm	PASS
Frequency at Peak	---	---	908.469	MHz	INFO

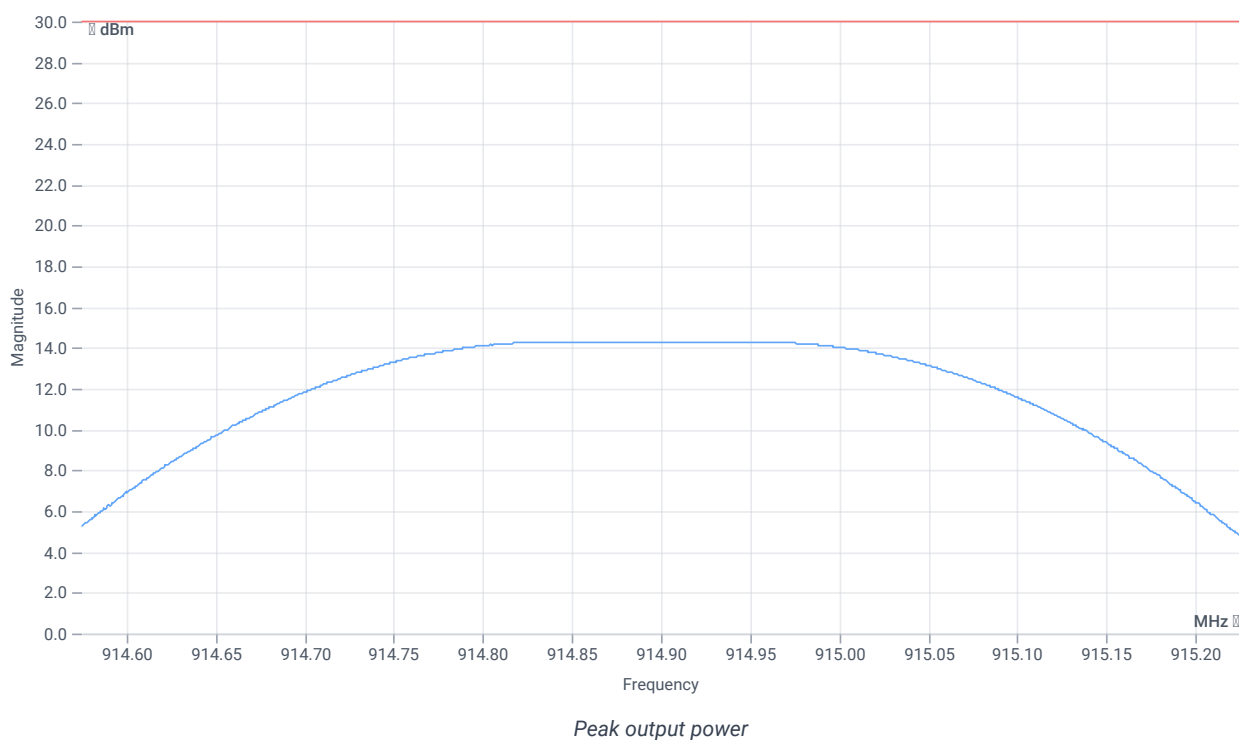
Test at TX 914.9 MHz

RESULT: Reference Power cond.

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.32	dBm	INFO
Ref. Frequency	---	---	914.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.32 8.47 30
Start [MHz] Stop [MHz]	914.575 915.225
RBW [MHz] VBW [MHz]	0.300000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 50 1001 SWE



RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak Power	---	30	14.28	dBm	PASS
Frequency at Peak	---	---	914.945	MHz	INFO

Verdict

FCC 15.247 # Bandwidths ~ Generic 0G9 hopp

Test References

TC Start	21.06.2023 13:20:56
Ambit Temp [°C] Humidity [rel%]	0.0 0
System Version	4.0.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 Bandwidths FHSS
Add. Information	

Test Parameter

Technology to test	Generic 0G9 hopp
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 902.3
Frequency mid to test	True Freq [MHz] 908.5
Frequency high to test	True Freq [MHz] 914.9
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0
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

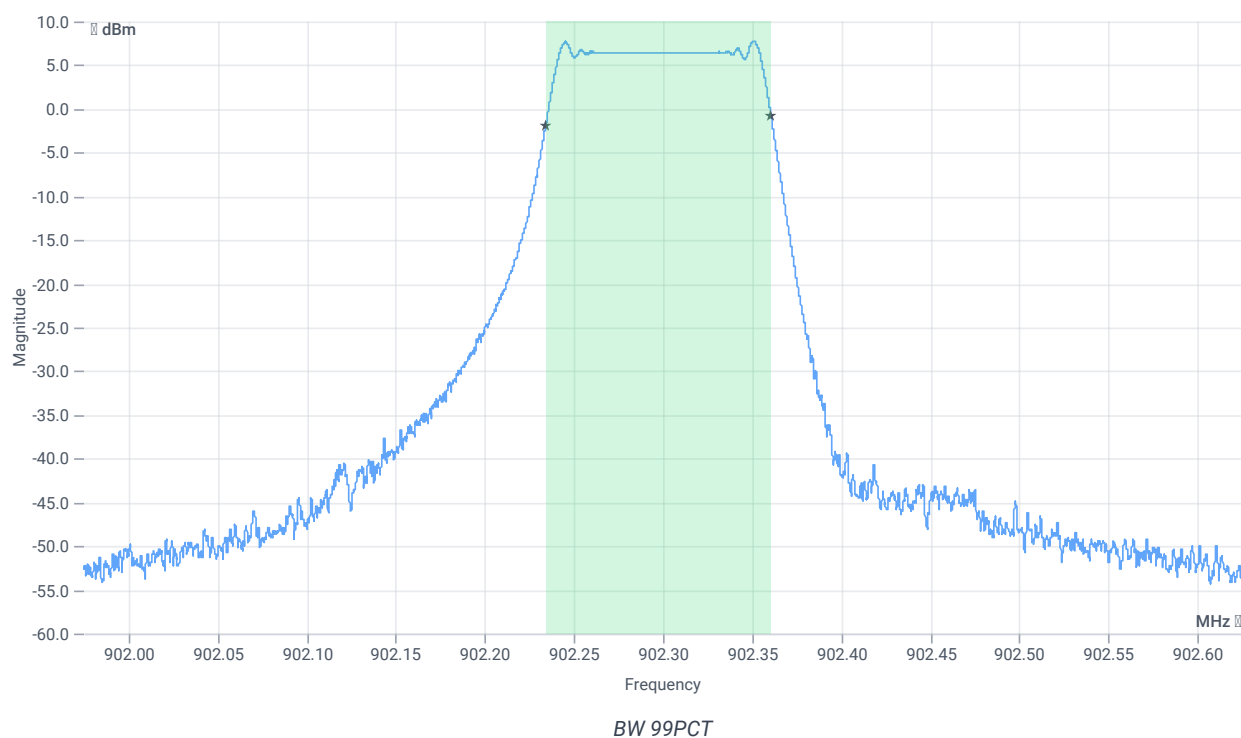
Test at TX 902.3 MHz

RESULT: Reference Power cond.

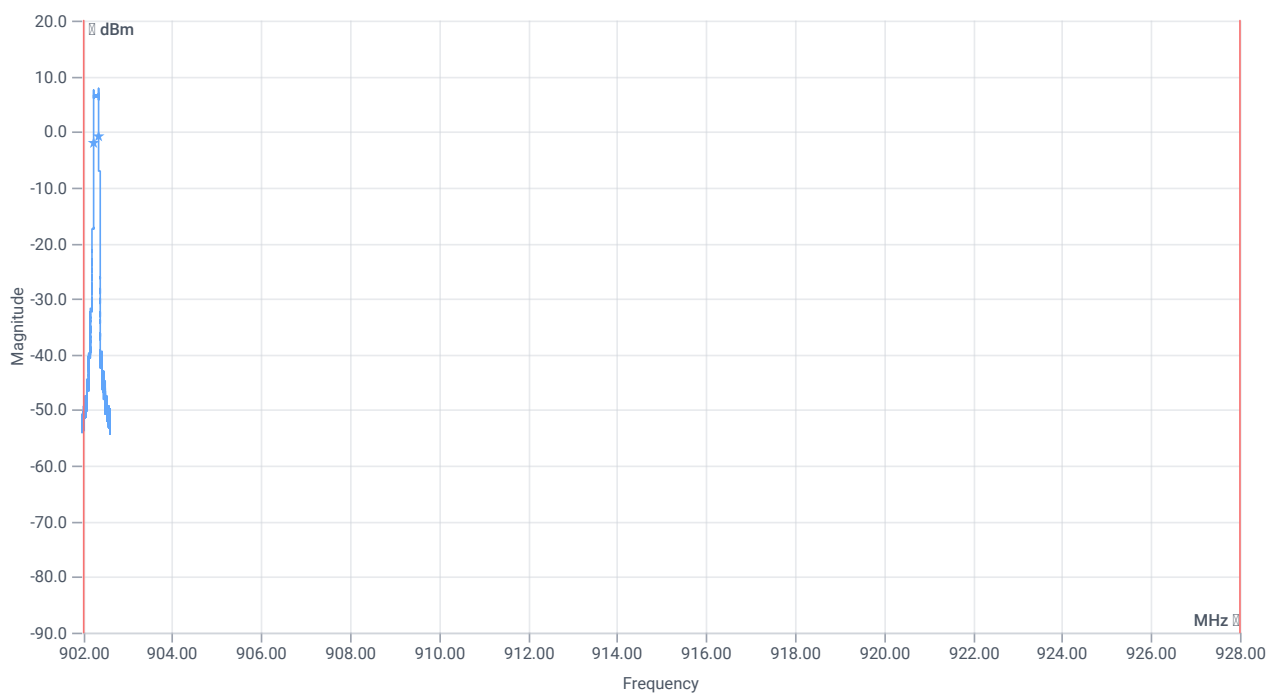
TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.37	dBm	INFO
Ref. Frequency	---	---	902.300	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.37 8.45 30
Start [MHz] Stop [MHz]	901.975 902.625
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



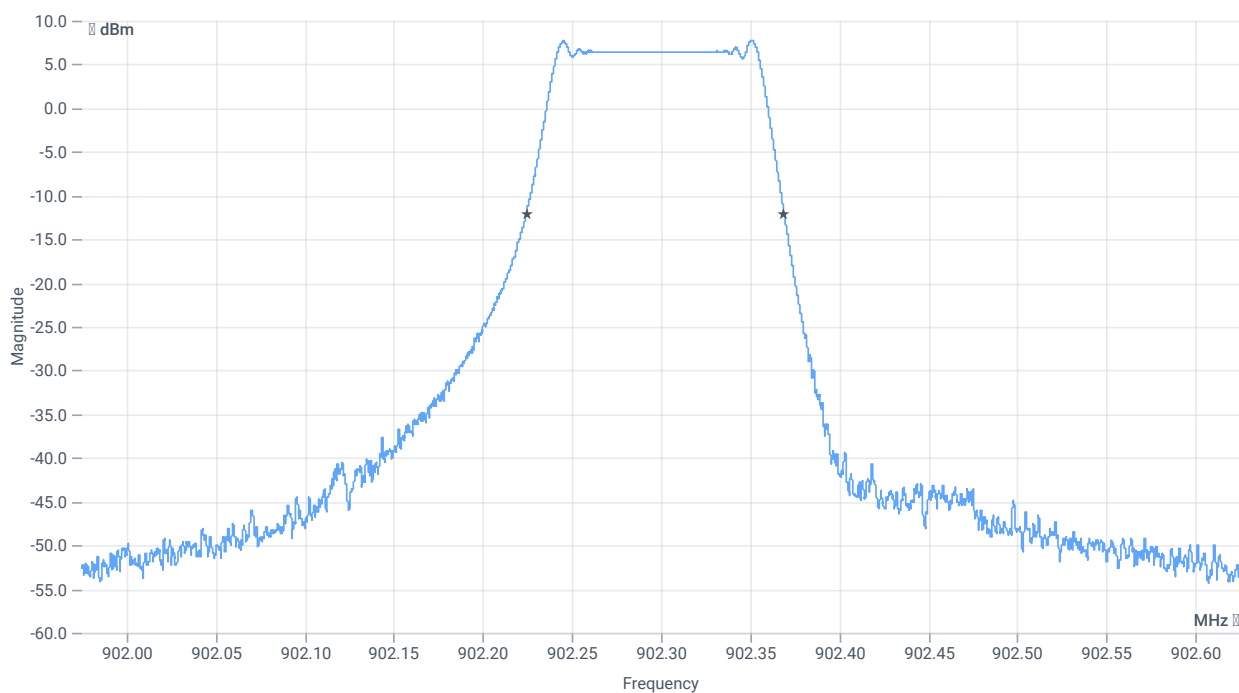
Plot: Bandwidth within Band



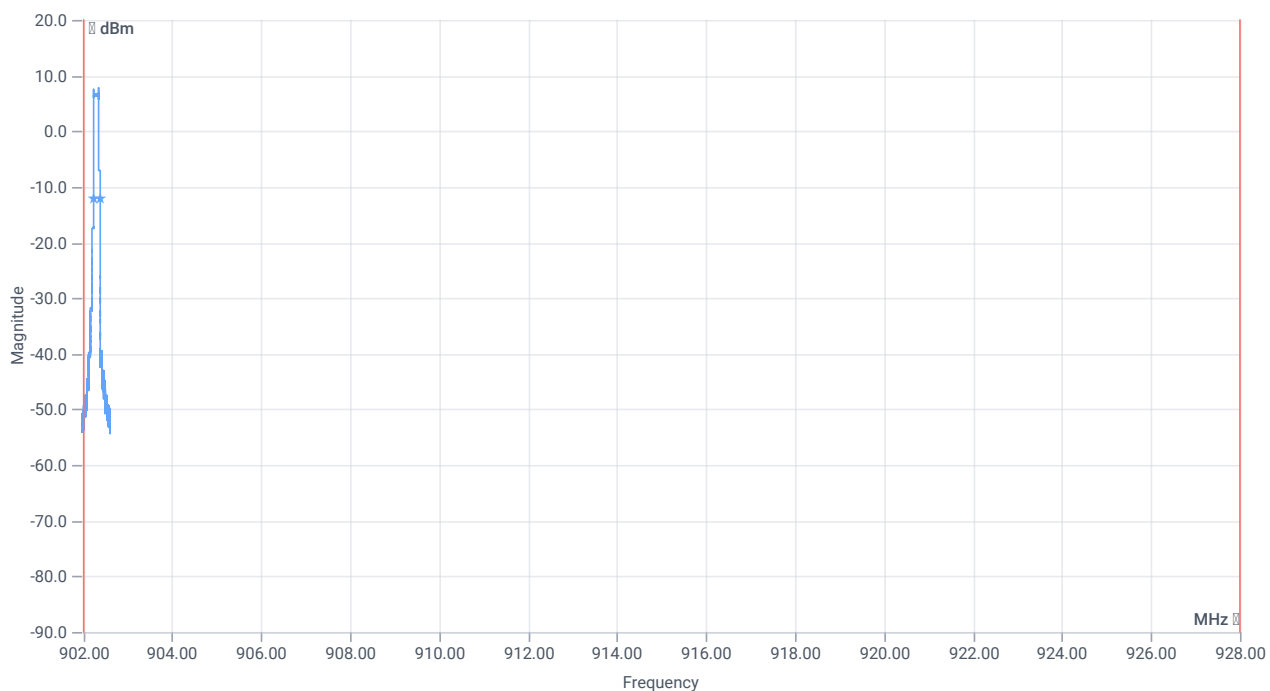
BW within Band 99PCT

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	126.542	kHz	INFO
T1 99%	902.000000	---	902.2341	MHz	PASS
T2 99%	---	928.000000	902.3606	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	1500	145	kHz	PASS
T1 20dB	902.000000	---	902.2244	MHz	PASS
T2 20dB	---	928.000000	902.3692	MHz	PASS

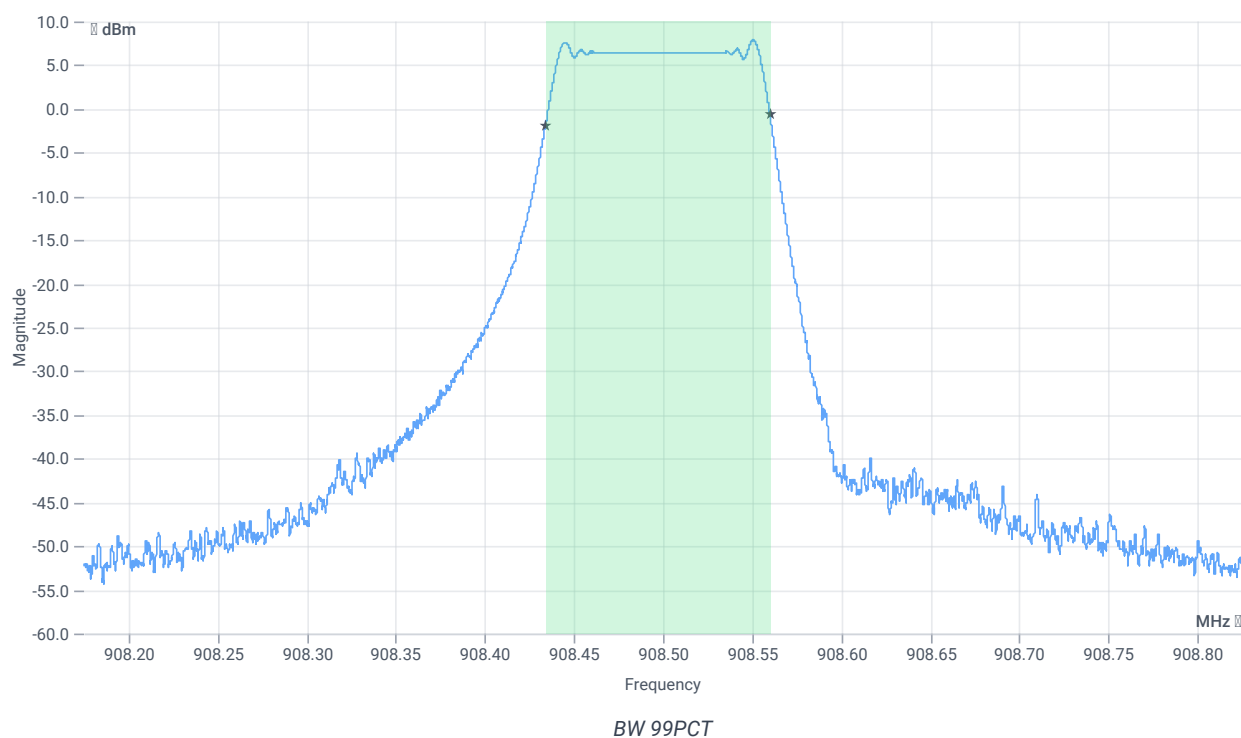
Test at TX 908.5 MHz

RESULT: Reference Power cond.

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.27	dBm	INFO
Ref. Frequency	---	---	908.500	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.27 8.46 30
Start [MHz] Stop [MHz]	908.175 908.825
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



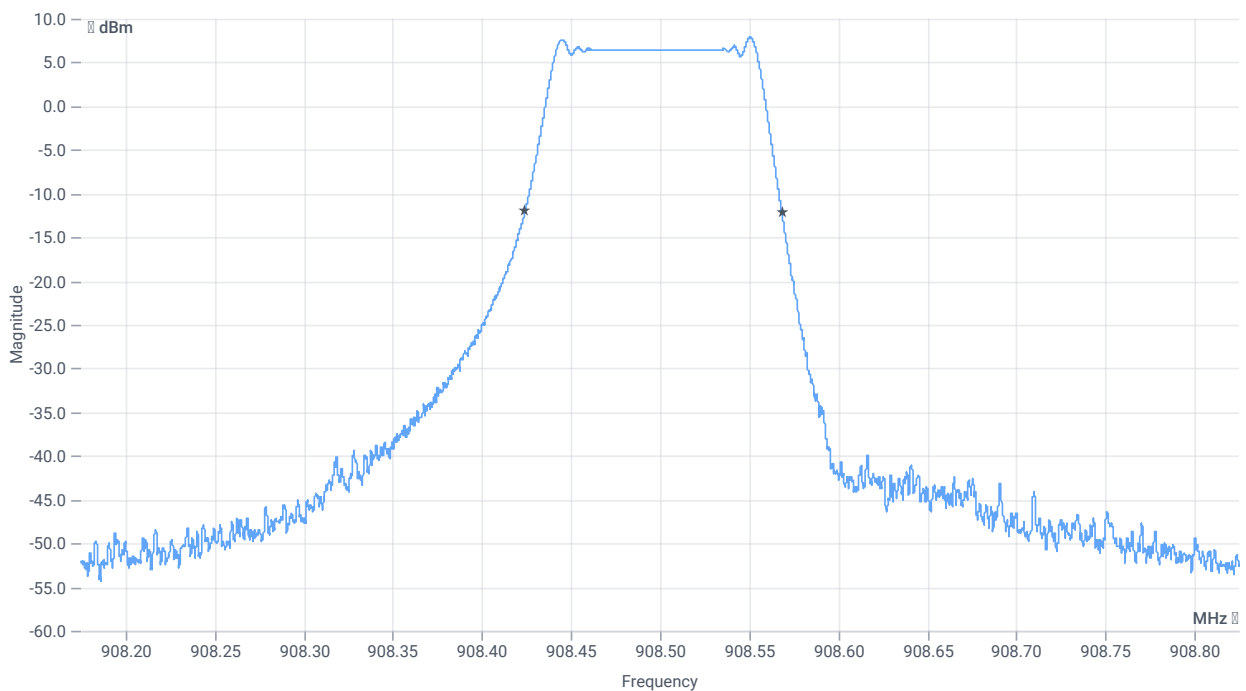
Plot: Bandwidth within Band



BW within Band 99PCT

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	126.022	kHz	INFO
T1 99%	902.000000	---	908.4340	MHz	PASS
T2 99%	---	928.000000	908.5600	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	1500	144	kHz	PASS
T1 20dB	902.000000	---	908.4241	MHz	PASS
T2 20dB	---	928.000000	908.5684	MHz	PASS

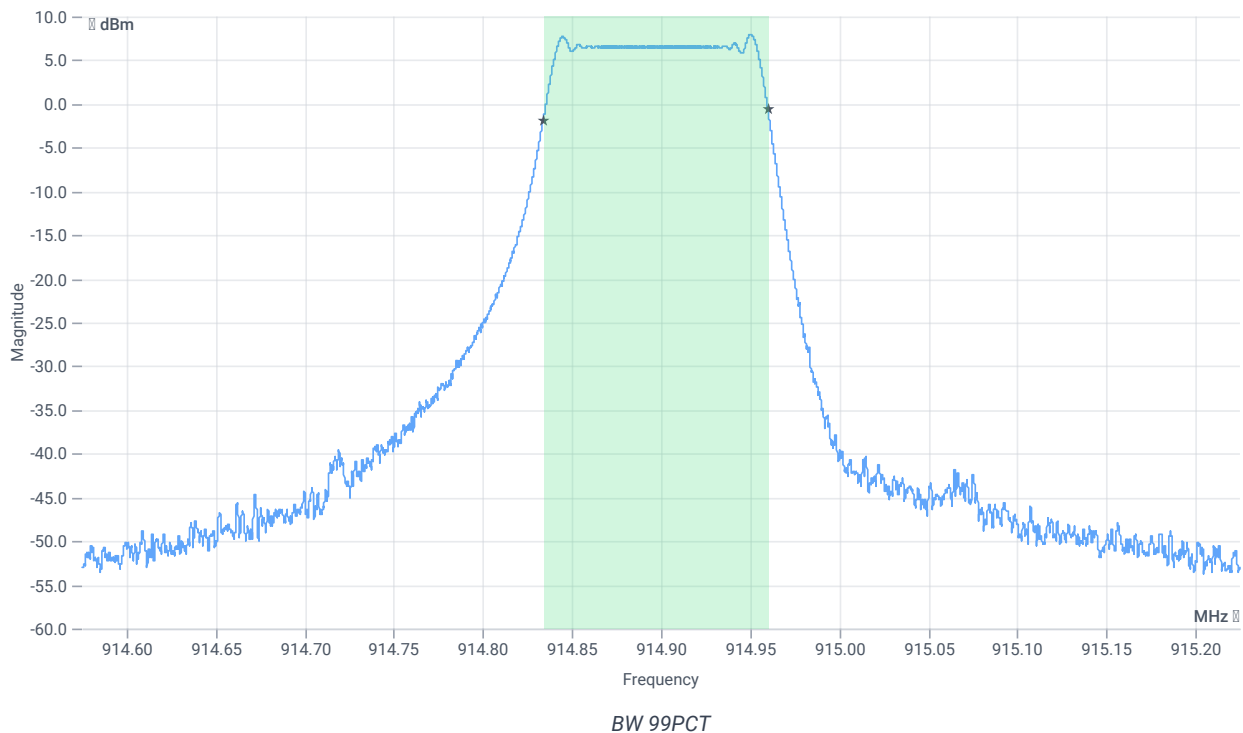
Test at TX 914.9 MHz

RESULT: Reference Power cond.

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.33	dBm	INFO
Ref. Frequency	---	---	914.900	MHz	INFO

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	19.33 8.47 30
Start [MHz] Stop [MHz]	914.575 915.225
RBW [MHz] VBW [MHz]	0.003000 0.010000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	50 200 10001 SWE



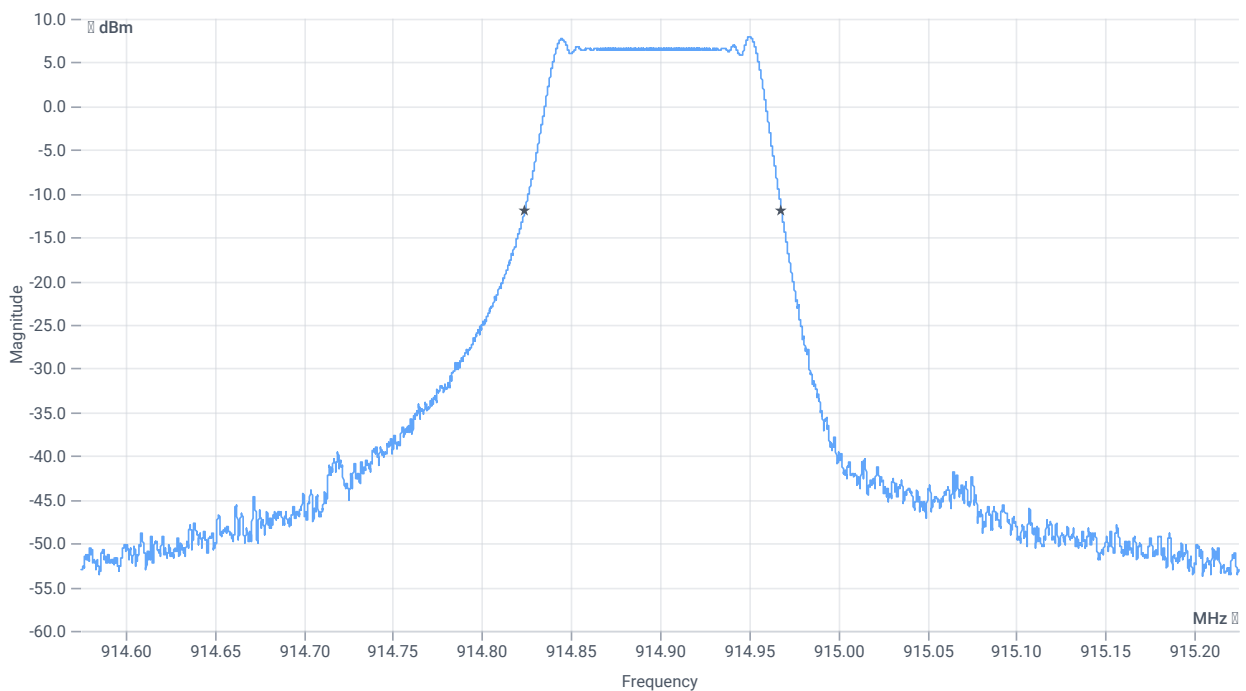
Plot: Bandwidth within Band



BW within Band 99PCT

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	126.152	kHz	INFO
T1 99%	902.000000	---	914.8338	MHz	PASS
T2 99%	---	928.000000	914.9600	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	---	1500	144	kHz	PASS
T1 20dB	902.000000	---	914.8241	MHz	PASS
T2 20dB	---	928.000000	914.9683	MHz	PASS

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ Generic 0G9 hopp

Test References

TC Start	21.06.2023 13:23:15
Ambit Temp [°C] Humidity [rel%]	0.0 0
System Version	4.0.3.0
Test Specification	FCC 15.247 -
Test Method	
TC Version	0.0.1
My Description	FCC 15.247 TX Emissions conducted FHSS
Add. Information	

Test Parameter

Technology to test	Generic 0G9 hopp
Antenna Port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True Freq [MHz] 902.3
Frequency mid to test	True Freq [MHz] 908.5
Frequency high to test	True Freq [MHz] 914.9
Auto Control enabled Power Supply Climatic Box	No No
Additional Path Loss [dB]	0
Switched Path	EUT - SignalingUnit - SpectrumAnalyzer

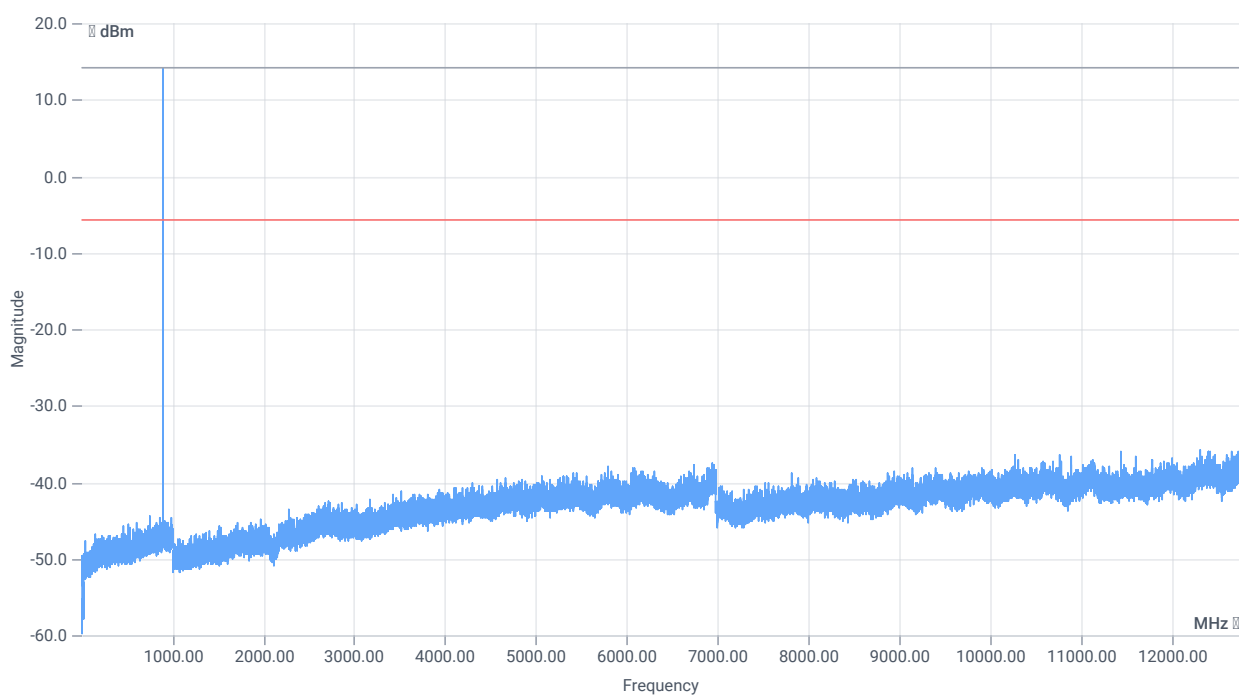
Test Equipment

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60
Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

Test at TX 902.3 MHz

RESULT: Reference Power cond.

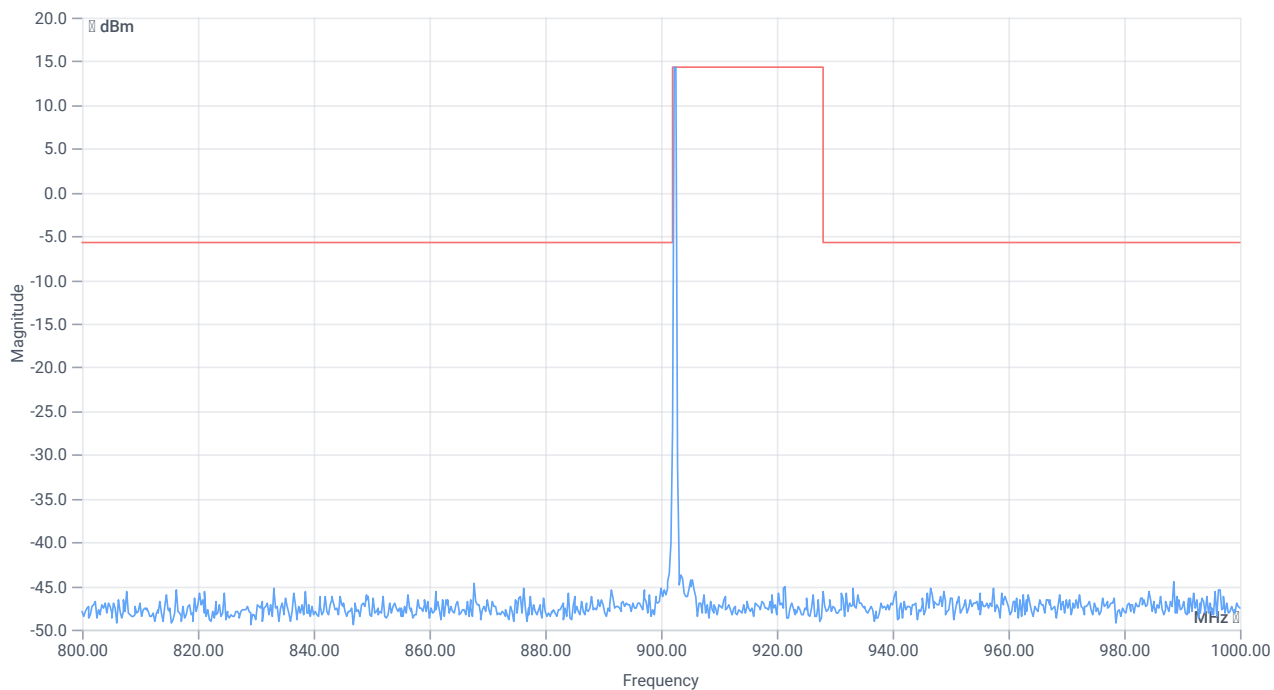
TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.34	dBm	INFO
Ref. Frequency	---	---	902.300	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.34 0 30
Start [MHz] Stop [MHz]	12505.000 12750.000
RBW [MHz] VBW [MHz]	0.100000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 20 2001 SWE



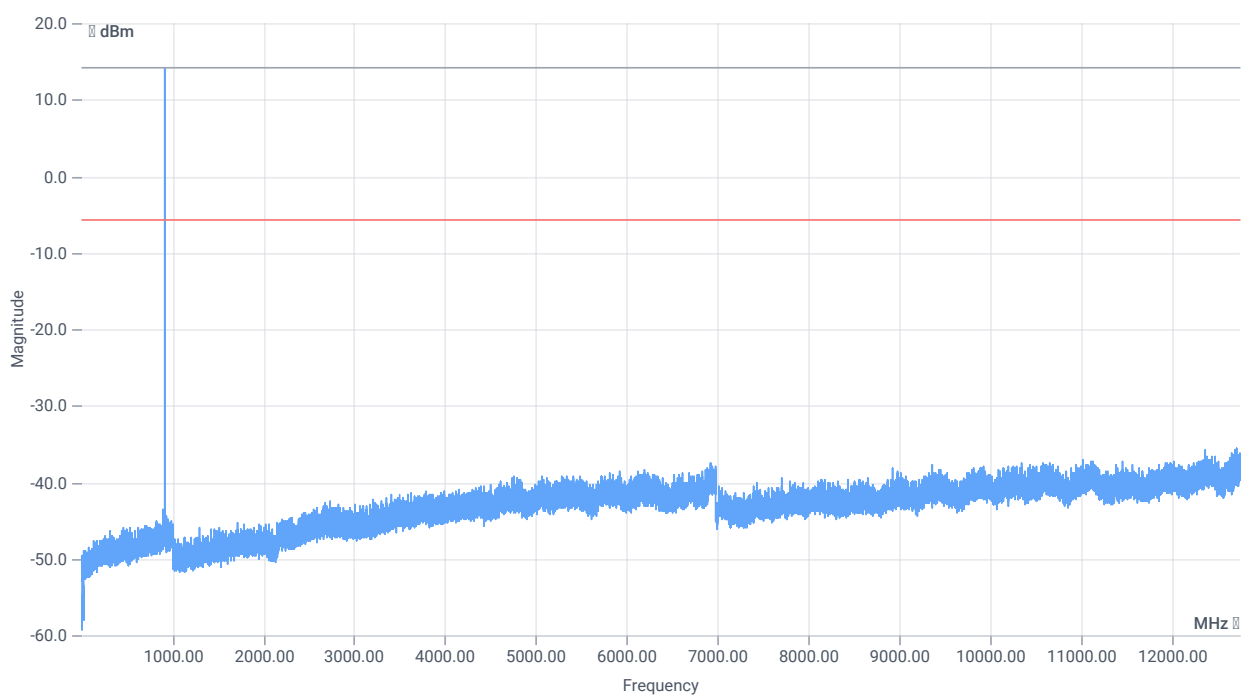
RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 902.25 MHz	---	---	14.23	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 12319.75 MHz	0	---	30.06	dB	INFO

Test at TX 908.5 MHz

RESULT: Reference Power cond.

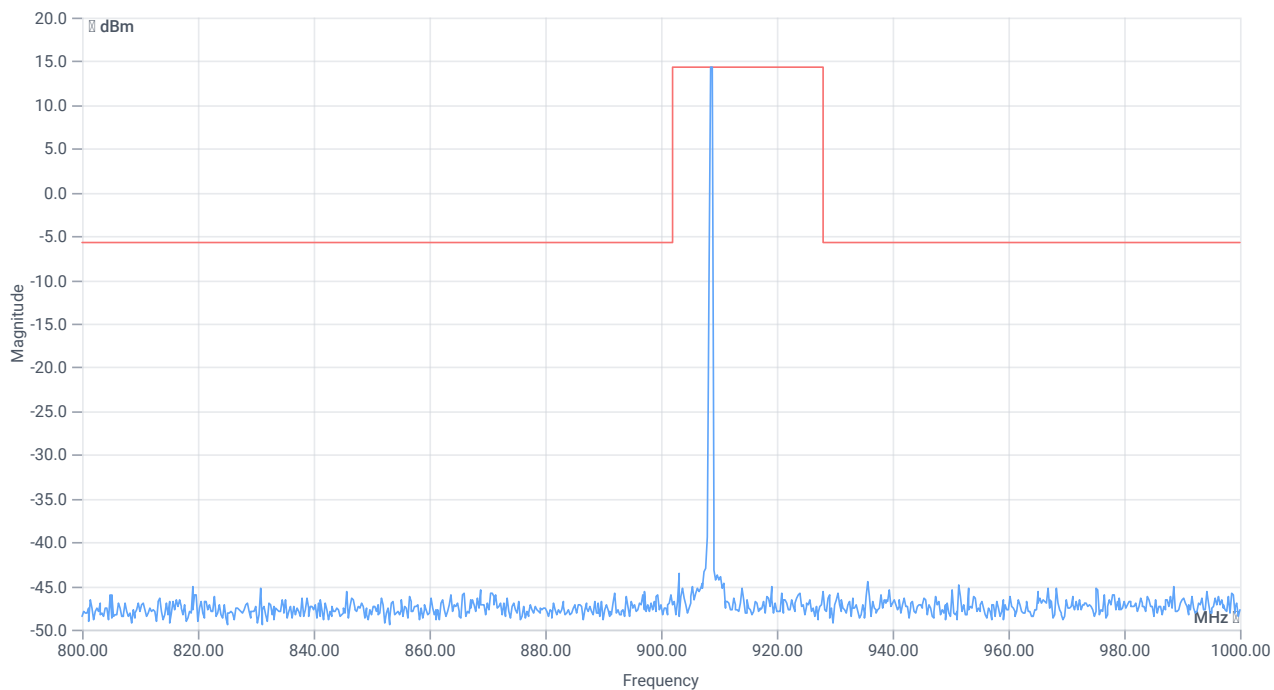
TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.26	dBm	INFO
Ref. Frequency	---	---	908.500	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.26 0 30
Start [MHz] Stop [MHz]	12505.000 12750.000
RBW [MHz] VBW [MHz]	0.100000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 20 2001 SWE



TX emissions band zoomed

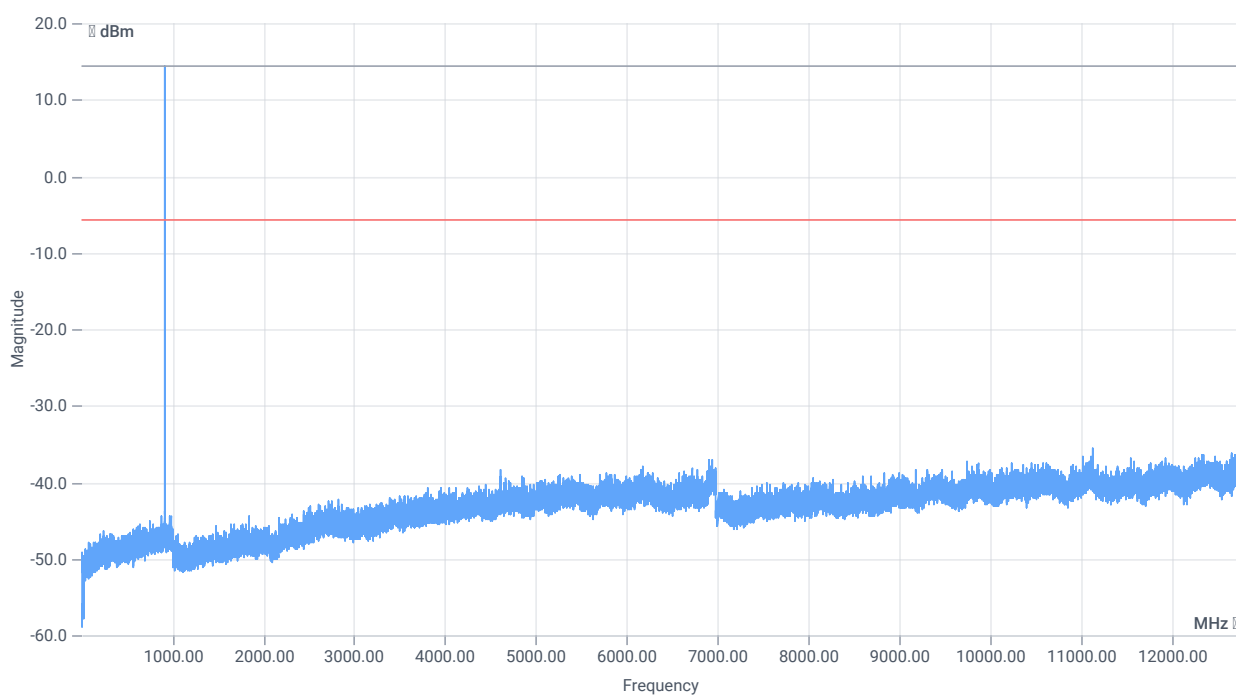
RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 908.50 MHz	---	---	14.23	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 12712.882 MHz	0	---	29.91	dB	INFO

Test at TX 914.9 MHz

RESULT: Reference Power cond.

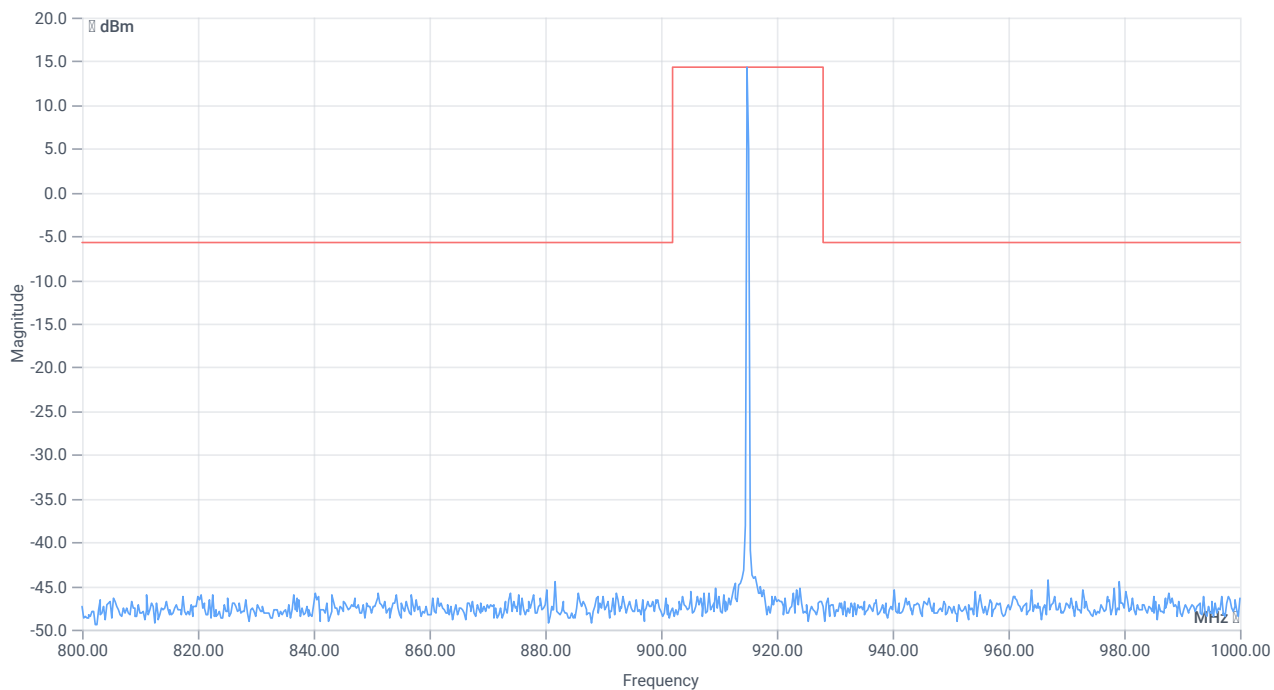
TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	---	---	14.32	dBm	INFO
Ref. Frequency	---	---	914.900	MHz	INFO



TX emissions

READ SA SETTINGS:

RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB]	14.32 0 30
Start [MHz] Stop [MHz]	12505.000 12750.000
RBW [MHz] VBW [MHz]	0.100000 1.000000
Detector TraceMode	POS MAXH
Sweep: Time [ms] Count Points per Section Type	200 20 2001 SWE



TX emissions band zoomed

RESULT

TEST DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 915.00 MHz	---	---	14.31	dBm	INFO
No peaks detected	---	---			PASS
Lowest margin to limit 5 MHz	0	---	-143.24	dB	INFO

Verdict

PASS

- END OF DOCUMENT -