Frequency Stability

No.1-5965/23-02-02_MR1

November 28, 2023

Test Standard(s) Systems FCC - NI

This document is electronically signed and valid without handwritten signature.
Public keys for verification of the electronic signatures can be requested at the testing laboratory.

cn=Stephan Thiel, o=cetecom advanced GmbH, ou=THL-230601, email=Stephan.Thiel@cetecomadvanced.com, c=DE
2024.03.15 11:09:08 +01'00'

Authorized

Stephan Thiel
Testing Manager
Radio Labs

EUT Information

EUT DEFINITION

Manufacturer	Baumer
Type	R600V
Serial Number	700009971046
Setup Number	1.0
Version SW	NI
Version FW	NI
Version HW	NI
Comment 1	DUT1 - normal mode 5ms cyle time
Comment 2	
Temperature [°C] Min	-40
Temperature [°C] Nom	20
Temperature [°C] Max	70
Voltage [V] Min	9
Voltage [V] Nom	12
Voltage [V] Max	16

Frequency stability over temperature & voltage

References

TC start	27.11.2023 17:12:54
Ambit temp [°C] | humidity [rel%]	not enabled | not enabled
System version	4.7.1.4
Standard | Version	Systems FCC | NI
Method	
Description	Systems FCC Freq stability over temp/volt
Information	

Test Parameter

Switched Path	none
Temp Variation enabled | Voltage Variation enabled	Yes Yes
Additional Information	

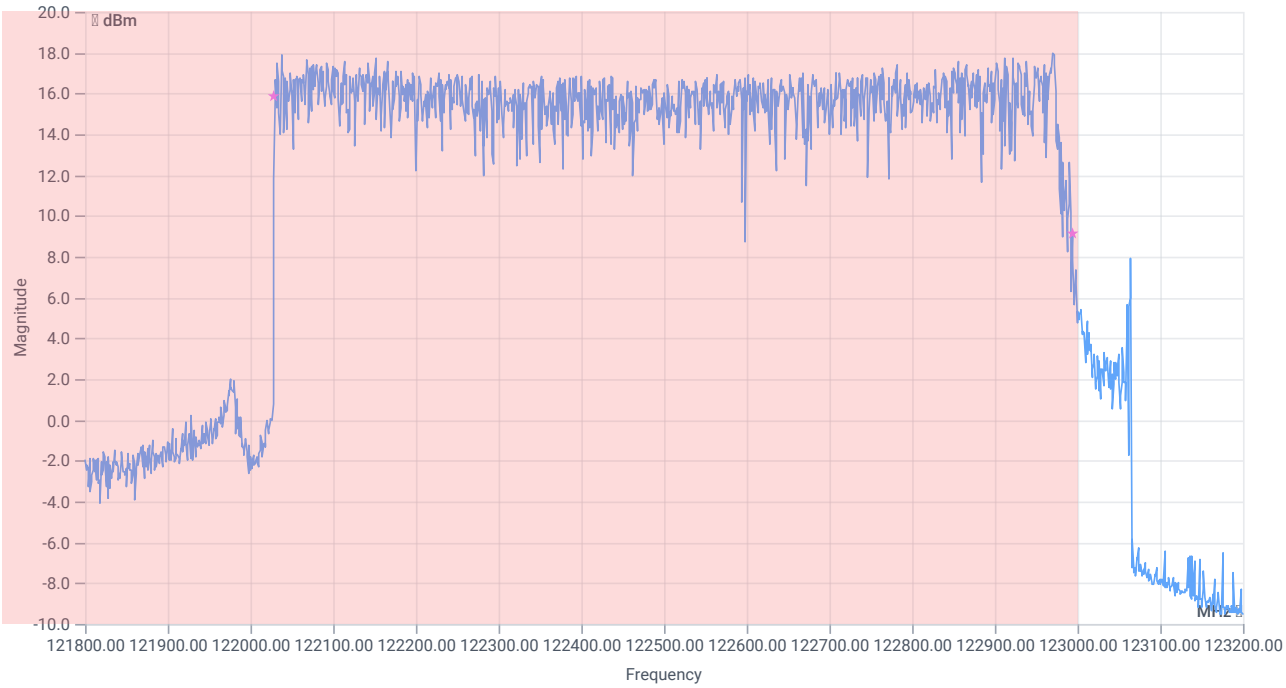
Equipment

Signal analyzer,Rohde&Schwarz,FSW-50,1331.5003K50/101332,5.20
Power supply,Agilent Technologies,N5767A,US14J1569P,B.00.06,REV:F
Climatic box,Voetsch,VT4002,58566046820010,NI

Test for Temperature[°C]: 20 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE



Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	964.155	MHz	INFO
T1 99%	116000	---	122028.8575	MHz	PASS
T2 99%	---	123000	122993.0126	MHz	PASS

Test for Temperature[°C]: 20 | Voltage [V]: 10.2

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

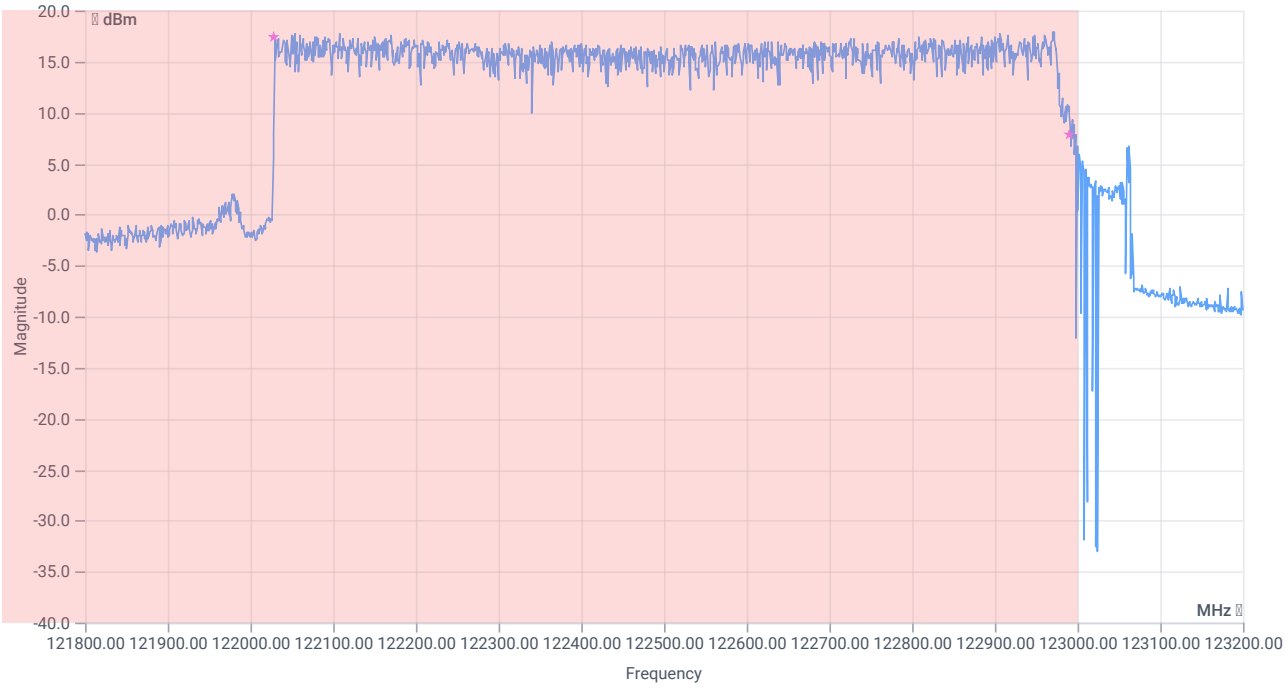
RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	968.053	MHz	INFO
T1 99%	116000	---	122028.6153	MHz	PASS
T2 99%	---	123000	122996.6685	MHz	PASS

Test for Temperature[°C]: 20 | Voltage [V]: 13.8

READ SA SETTINGS:

RefLevel [dBm]	RefLevelOffset [dB]	InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE



Frequency stability

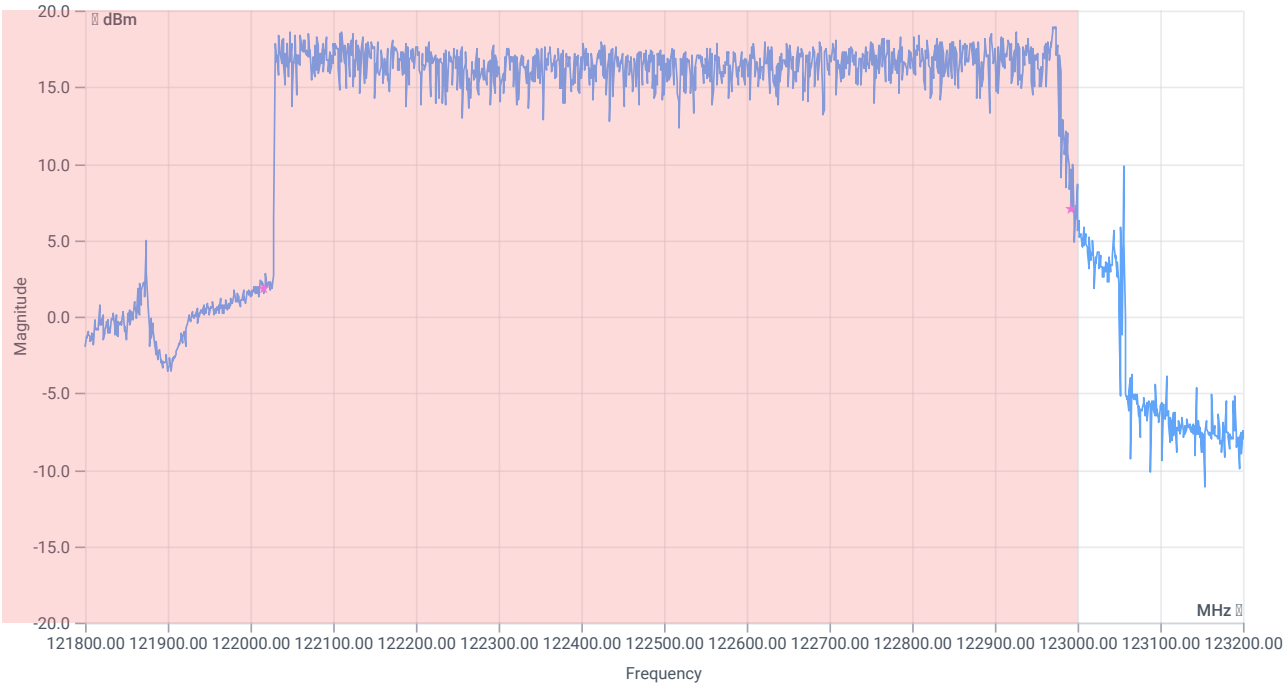
RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	961.432	MHz	INFO
T1 99%	116000	---	122028.9977	MHz	PASS
T2 99%	---	123000	122990.4295	MHz	PASS

Test for Temperature[°C]: -20 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm]	RefLevelOffset [dB]	InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE



Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	974.549	MHz	INFO
T1 99%	116000	---	122016.9818	MHz	PASS
T2 99%	---	123000	122991.5307	MHz	PASS

Test for Temperature[°C]: -10 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	975.119	MHz	INFO
T1 99%	116000	---	122018.9867	MHz	PASS
T2 99%	---	123000	122994.1061	MHz	PASS

Test for Temperature[°C]: 0 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	969.360	MHz	INFO
T1 99%	116000	---	122026.3306	MHz	PASS
T2 99%	---	123000	122995.6906	MHz	PASS

Test for Temperature[°C]: 10 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm]	RefLevelOffset [dB]	InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	965.706	MHz	INFO
T1 99%	116000	---	122028.2059	MHz	PASS
T2 99%	---	123000	122993.9120	MHz	PASS

Test for Temperature[°C]: 20 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

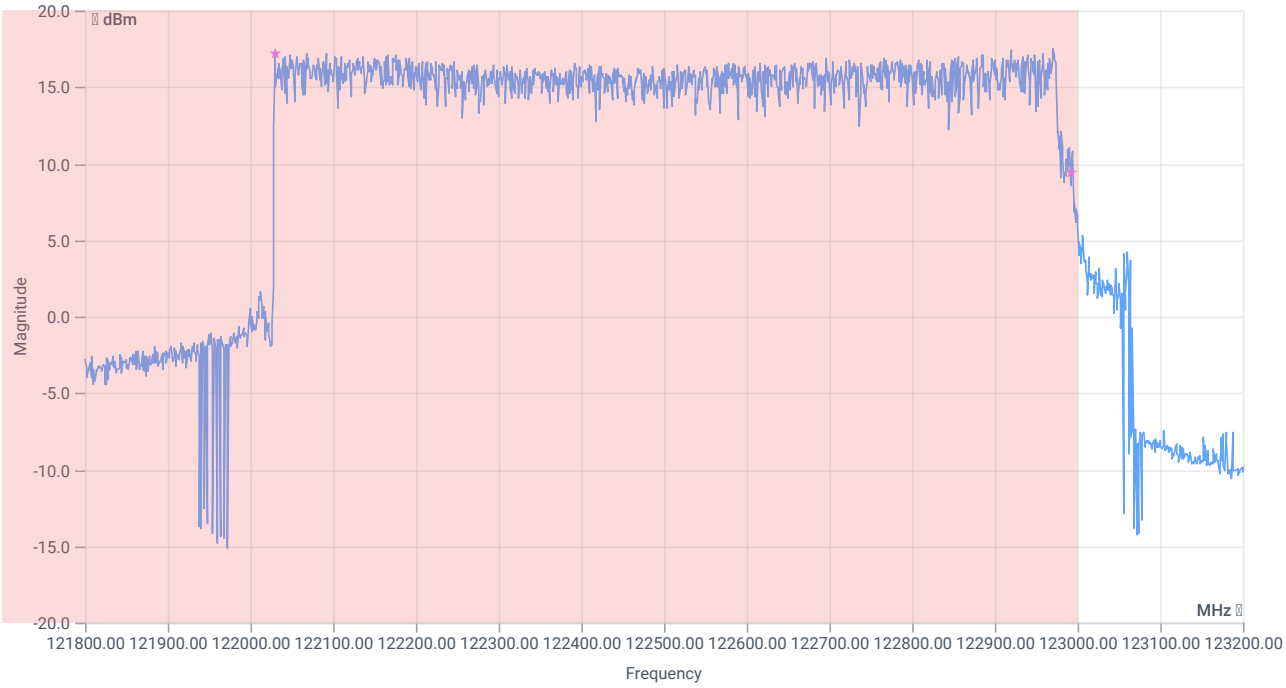
RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	963.948	MHz	INFO
T1 99%	116000	---	122028.9699	MHz	PASS
T2 99%	---	123000	122992.9181	MHz	PASS

Test for Temperature[°C]: 30 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE



Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	962.750	MHz	INFO
T1 99%	116000	---	122029.3061	MHz	PASS
T2 99%	---	123000	122992.0558	MHz	PASS

Test for Temperature[°C]: 40 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm] | RefLevelOffset [dB] | InpAtt [dB]	25.00 | 42.51 | 0
Start [MHz] | Stop [MHz]	121800.000 | 123200.000
RBW [MHz] | VBW [MHz]	1.000000 | 3.000000
Detector | TraceMode	POS | MAXH
Sweep: time [ms] | count | points per Section | type	7000 | 1 | 1401 | SWE

Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	958.580	MHz	INFO
T1 99%	116000	---	122030.3605	MHz	PASS
T2 99%	---	123000	122988.9407	MHz	PASS

Test for Temperature[°C]: 50 | Voltage [V]: 12

READ SA SETTINGS:

RefLevel [dBm]	RefLevelOffset [dB]	InpAtt [dB]	25.00	42.51	0
Start [MHz]	Stop [MHz]	121800.000	123200.000
RBW [MHz]	VBW [MHz]	1.000000	3.000000
Detector	TraceMode	POS	MAXH
Sweep: time [ms]	count	points per Section	type	7000	1	1401	SWE

Frequency stability

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	---	---	961.076	MHz	INFO
T1 99%	116000	---	122030.0040	MHz	PASS
T2 99%	---	123000	122991.0797	MHz	PASS

Verdict

PASS

- END OF DOCUMENT -