Incoming Results

Designation:	**Network Analyzer**
Type:	**ZNB40-2Port**
Material No.:	**1311.6010K72**
Serial No.:	**101544**
Certificate No.:	**606113 D-K-15195-01-00 2021-08**
Referring to Test Documentation:	**1311.6010.01-PB-10.03**

State	Pages
FAIL	6, 7, 9, 11
UGB	7, 9, 11

Test Department:	**3MES2**
Name:	**see certificate**
Date:	**2021-08-03**

Incoming Results

The following abbreviations may be used in this document

{a}	No measurement uncertainty stated because the errors always add together. So it is sure that a measurement result evaluated as "PASS" is pass.
{b}	The measurement uncertainty depends on the measurement result. The stated measurement uncertainty is valid for the close area around the specification. Measurement results outside the close area have a higher measurement uncertainty but are within the specification.
{c}	Functional test, therefore no measurement uncertainty is stated.
{d}	Typical value, refer to performance test.
{e}	The measurement uncertainty is taken into account when setting the measuring system.
{f}	Verification of specified requirements. Technical operation that consist of the determination of one or more characteristics to a specified procedure.
DL or DT	Data Limit for symmetrical tolerance limits
DLL	Datasheet Lower Limit
DUL	Datasheet Upper Limit
MU	Symmetrical Measurement Uncertainty
MLL or MLV	Measurement Uncertainty Lower Value
MUL or MUV	Measurement Uncertainty Upper Value
Nom.	Nominal Value
Dev.	Deviation
Act.	Actual Value
UGB	Uncertainty Guard Band: Measuring uncertainty violates the data (spec.) limit.
UGB1	A compliance statement may be possible where a confidence level of less than 95 % is acceptable.
UGB2	A non-compliance statement may be possible where a confidence level of less than 95 % is acceptable.
DU	Datasheet Uncertainty

Explanation of charts

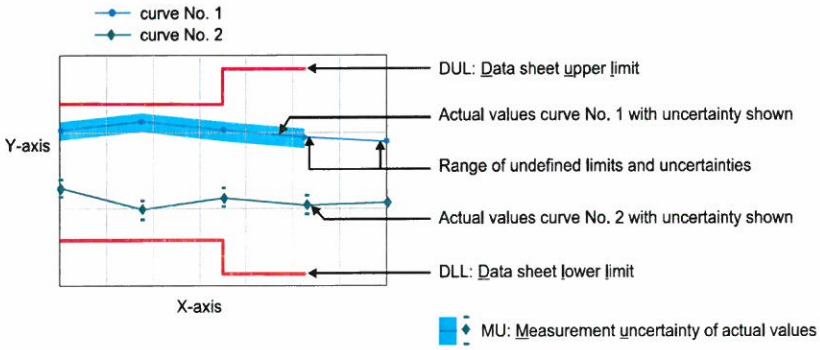


Table of contents

Software used for measurement			
Item	**Type**	**Version**	**Remark**
7010.9063.00_.G5LIM	Limit File	2019-12-04 12:15	
Suite	Setup	V12.16	Test Management Software G5
Test Program (7010.9063.00_)	Component	V04.96	

1. Connector gauge

Connector	Port	DLL	DUL	Actual	MU
2.92 mm (male)	1	-40 µm	0 µm	-2 µm	1 µm
2.92 mm (male)	2	-40 µm	0 µm	-4 µm	1 µm

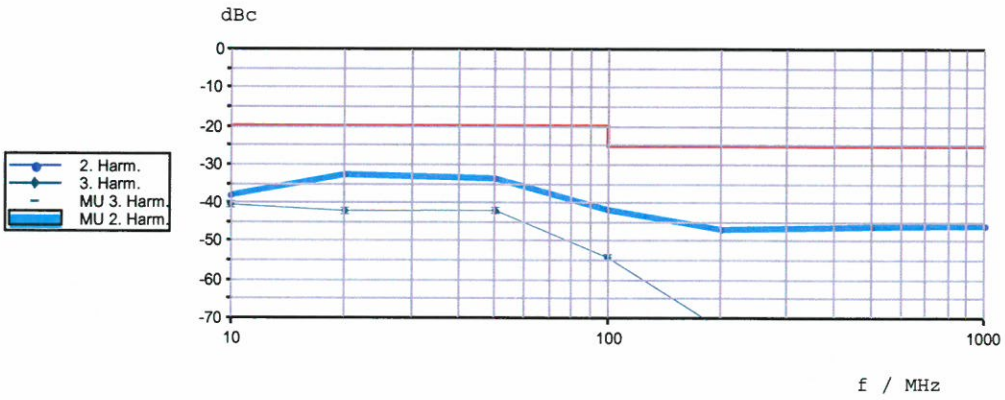
2. Static frequency accuracy

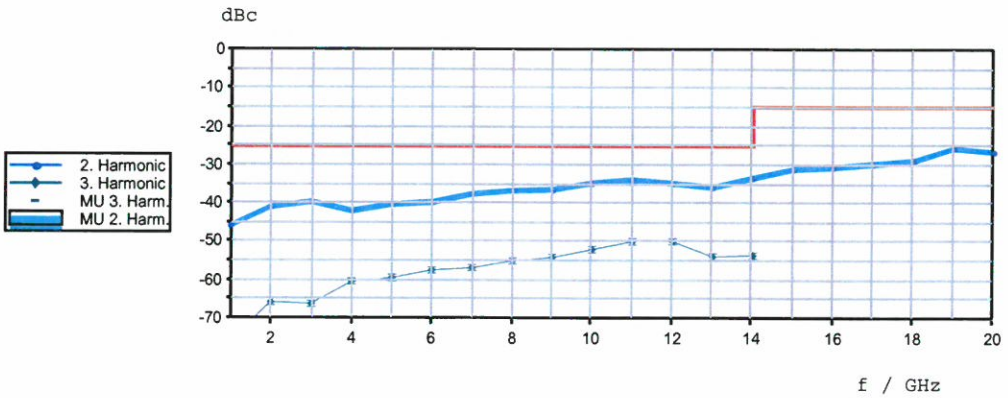
Frequency	Max. Deviation	Actual Deviation	MU
1 GHz	+/- 500 Hz	-394 Hz	1 Hz

3. Output harmonics

3.1 Harmonics PORT1

Source power level = 0 dBm, measurement uncertainty: {b}

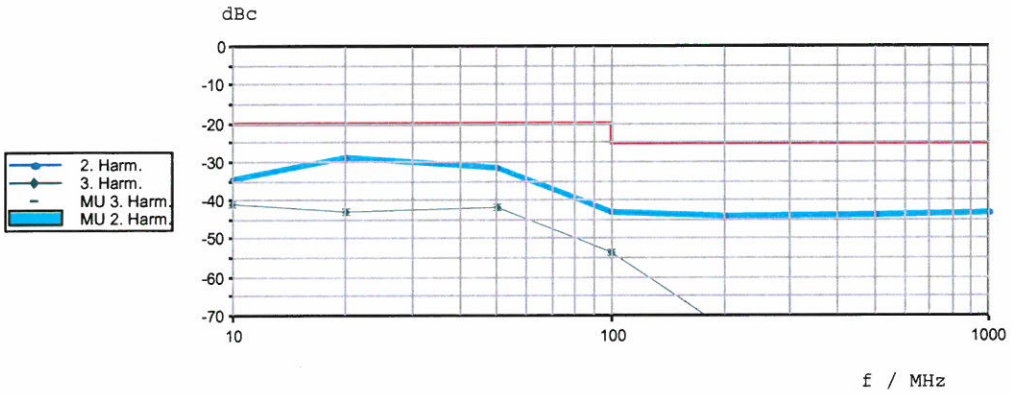


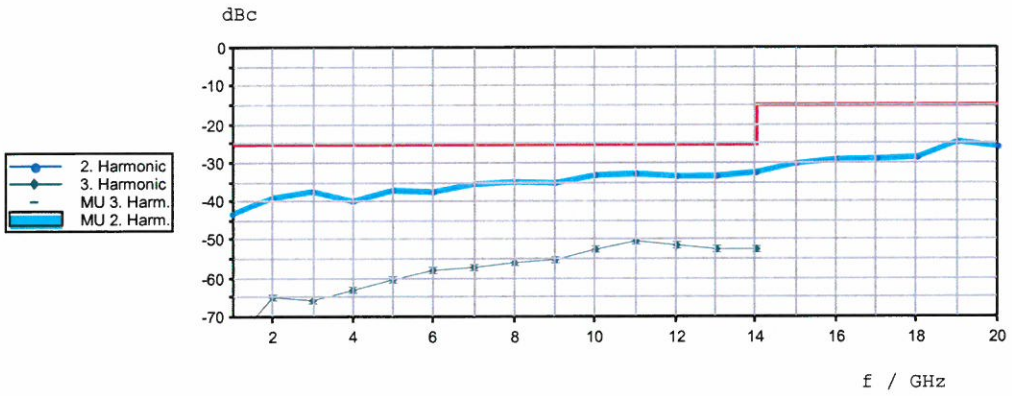


Incoming Results

3.2 Harmonics PORT2

Source power level = 0 dBm, measurement uncertainty: {b}



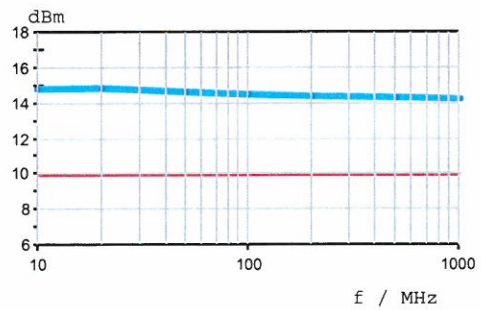


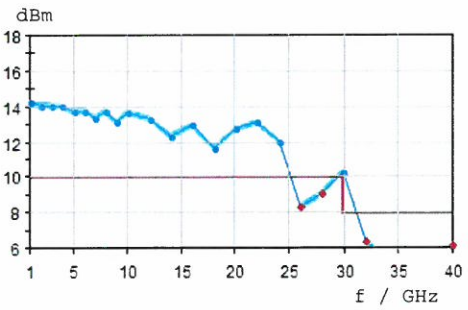
4. Maximum output power

4.1 Maximum output power PORT1

Power setting: +15 dBm

FAIL(7)

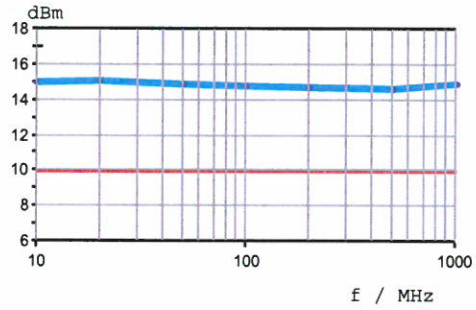


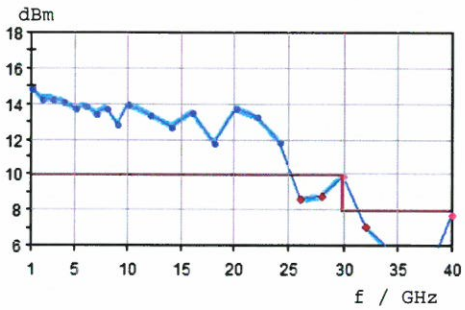


4.2 Maximum output power PORT2

Power setting: +15 dBm

FAIL(6)
UGB2(2)



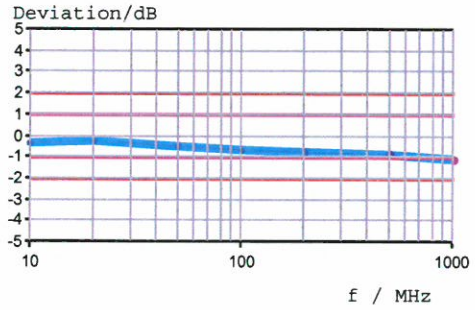


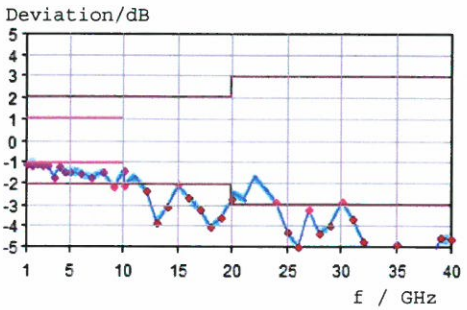
5. Accuracy of output power

5.1 Accuracy of output power PORT1

Source power = -10 dBm

FAIL(22)
UGB2(4)
UGB1(2)

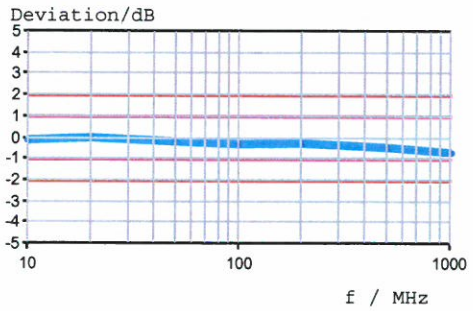


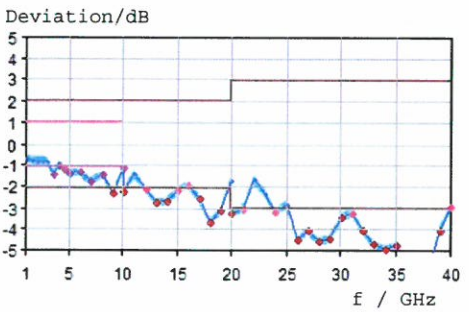


5.2 Accuracy of output power PORT2

Source power = -10 dBm

FAIL(21)
UGB2(4)
UGB1(3)



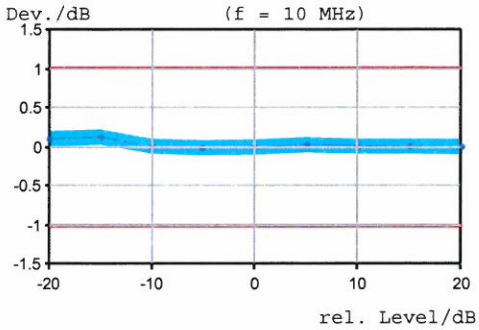


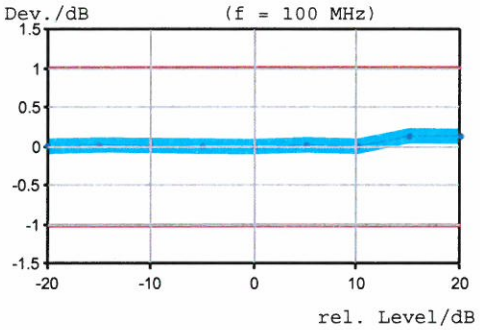
Incoming Results

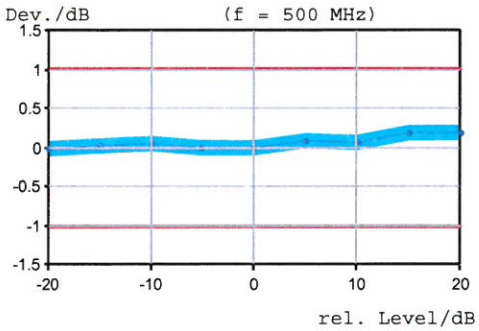
6. Output level linearity

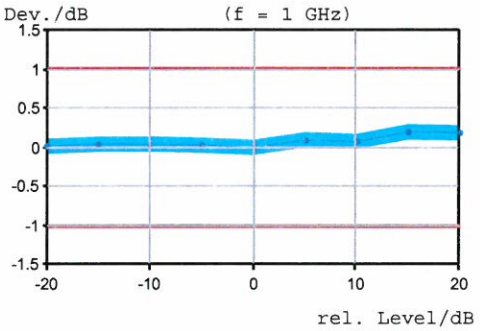
6.1 Output level linearity PORT1

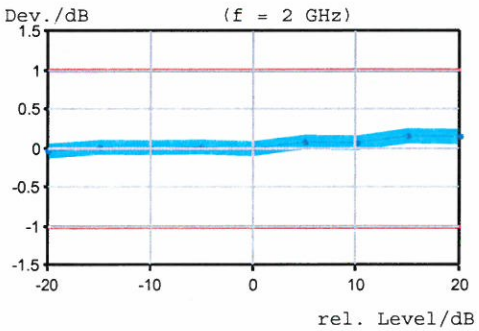
Reference level = -10 dBm

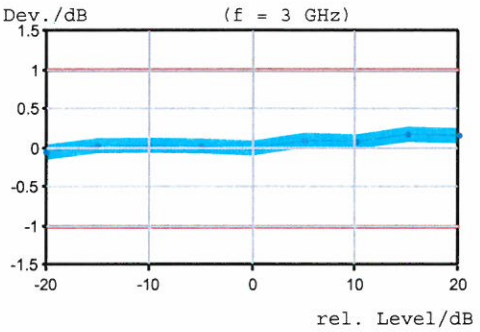


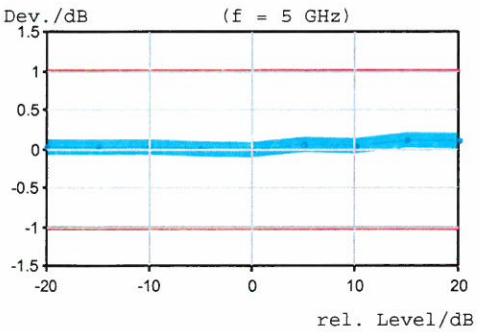


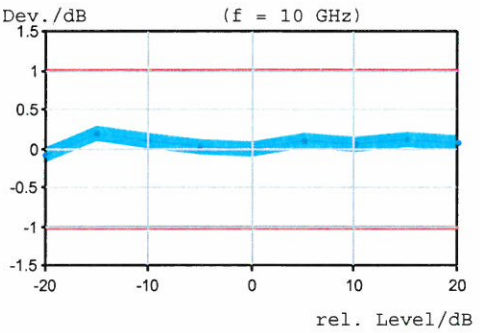


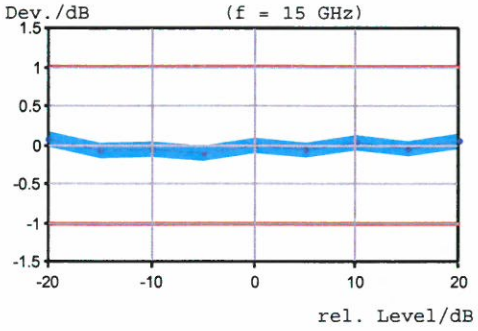


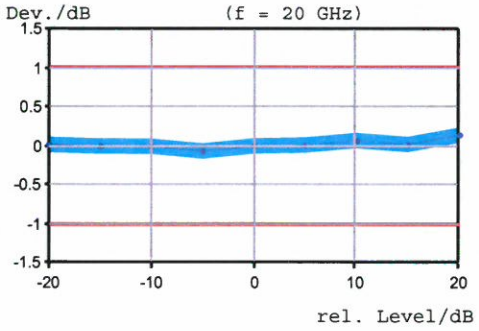


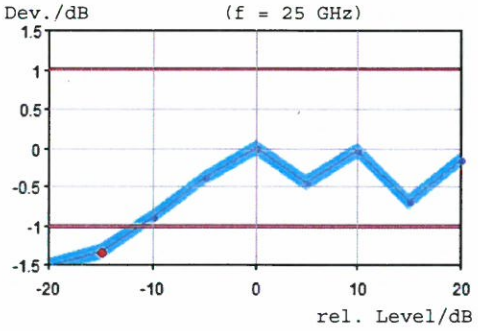


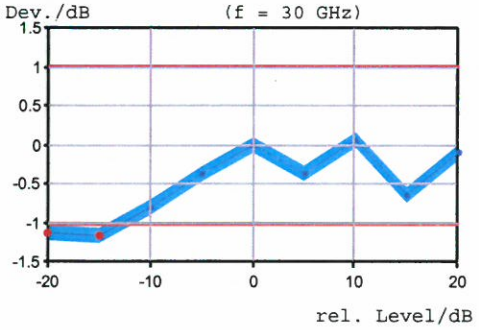




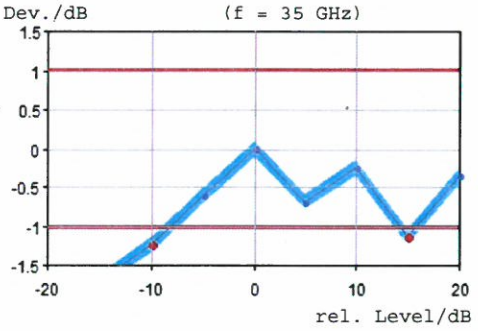


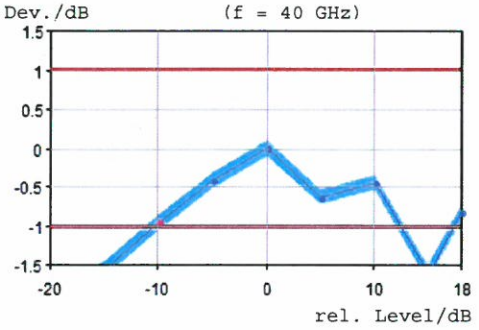






FAIL(4)



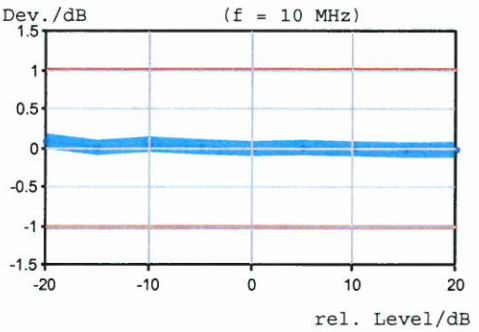


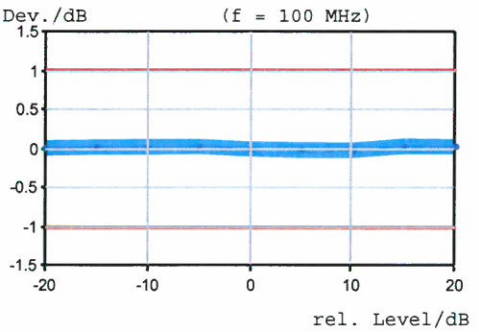
FAIL(7)

UGB1(1)

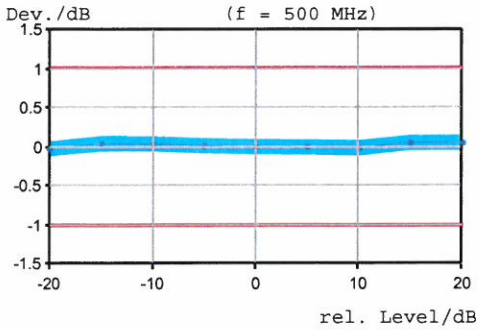
6.2 Output level linearity PORT2

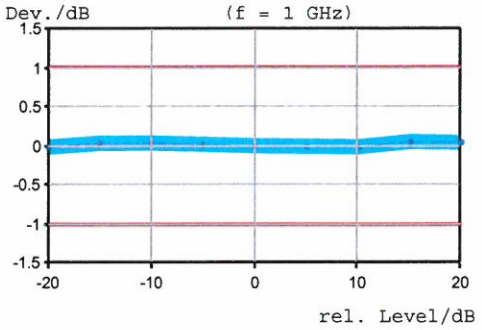
Reference level = -10 dBm

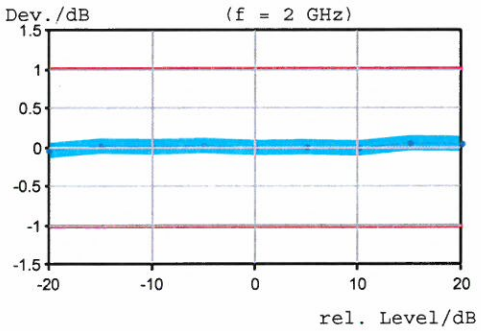


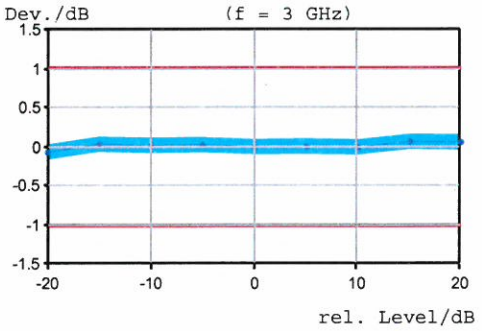


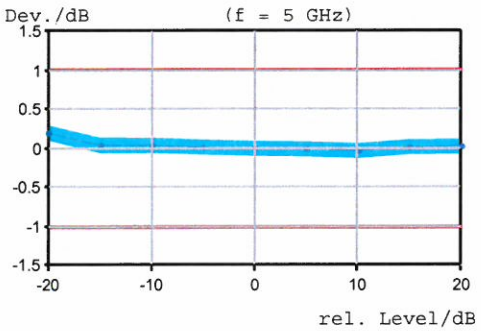
Incoming Results

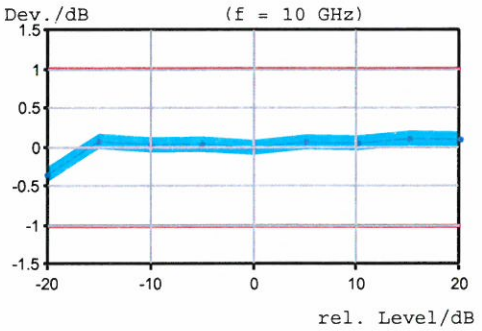


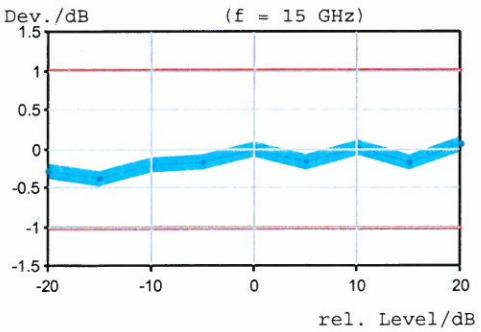


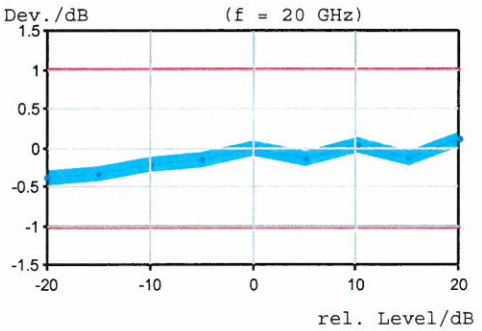


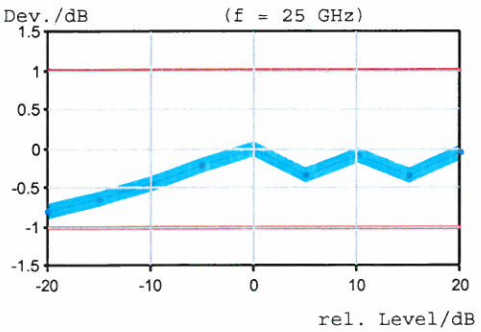


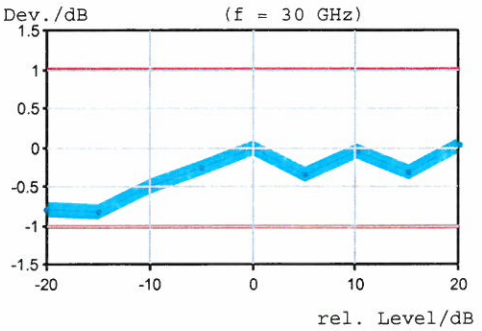




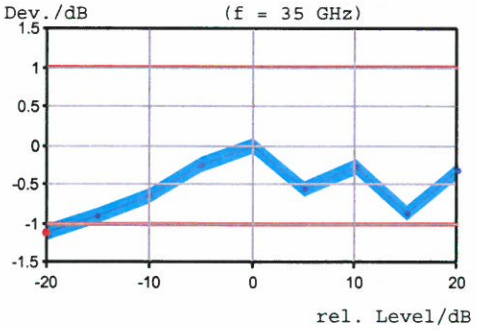


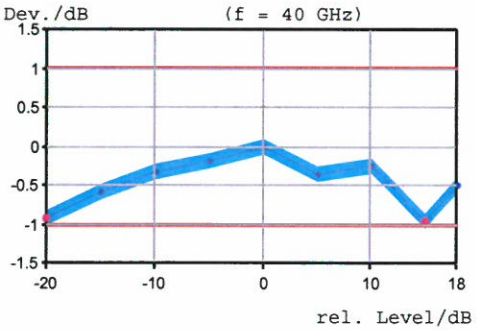






Incoming Results





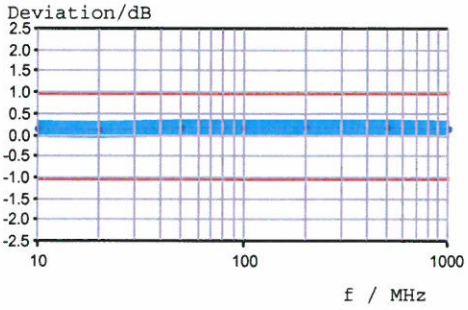
FAIL(1)

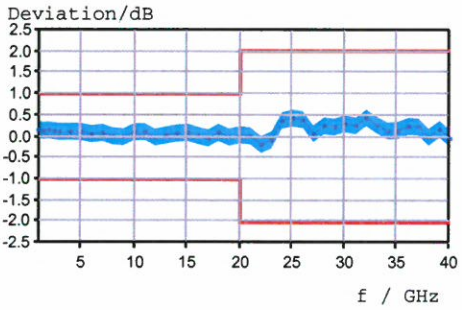
UGB1(2)

7. Input power measurement accuracy

7.1 Input power measurement accuracy PORT1

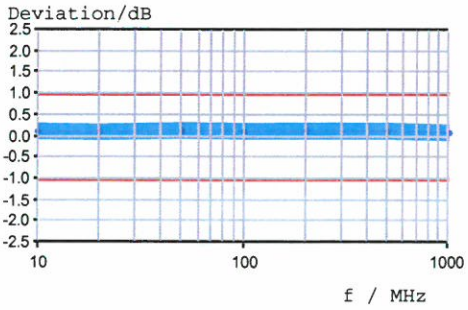
Test level = -10 dBm

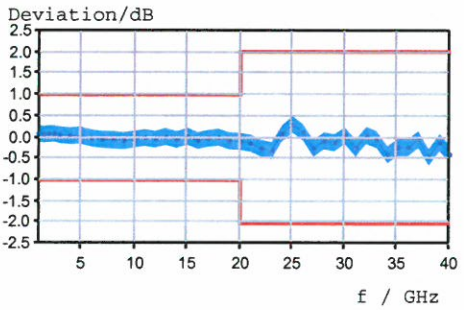




7.2 Input power measurement accuracy PORT2

Test level = -10 dBm

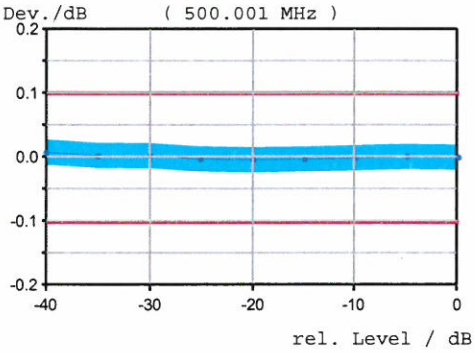




8. Input power linearity (low level)

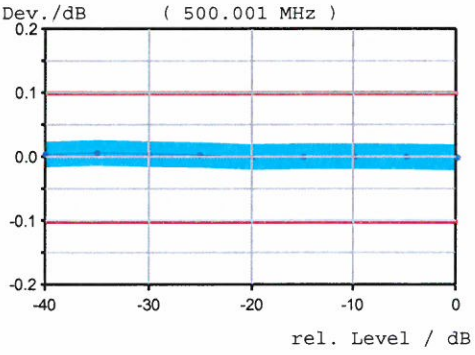
8.1 Input power linearity (low level) PORT1

Refered to a nominal input power level of -10 dBm



8.2 Input power linearity (low level) PORT2

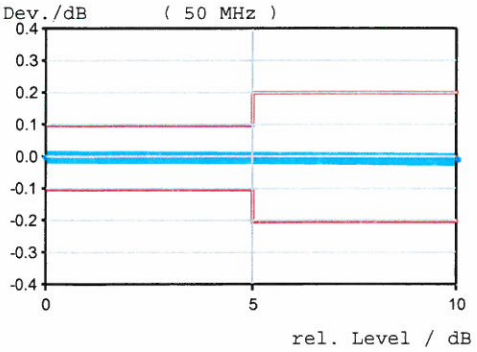
Refered to a nominal input power level of -10 dBm

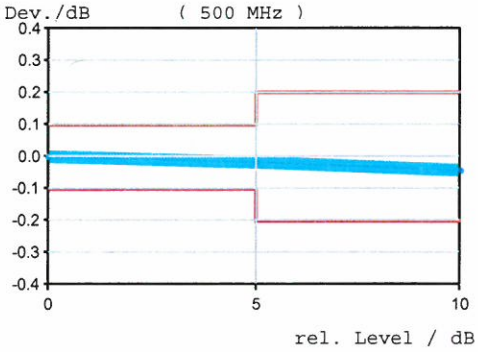


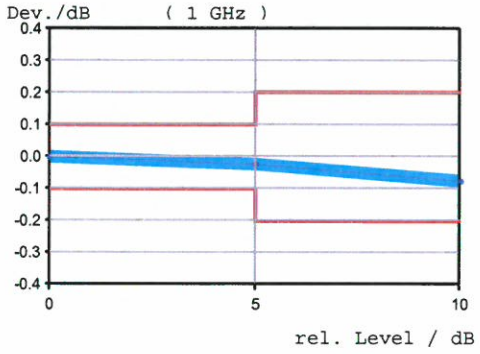
9. Input power linearity (high level)

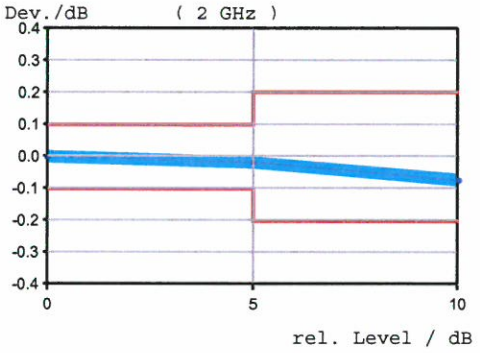
9.1 Input power linearity PORT1 (high level)

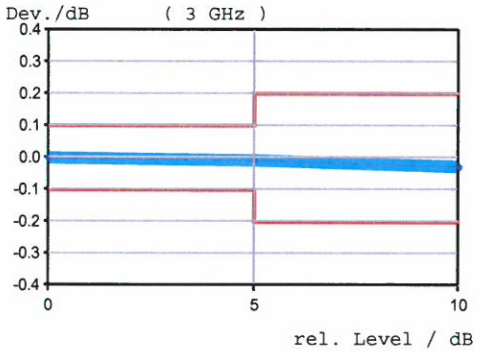
Refered to a nominal input power level of -10 dBm

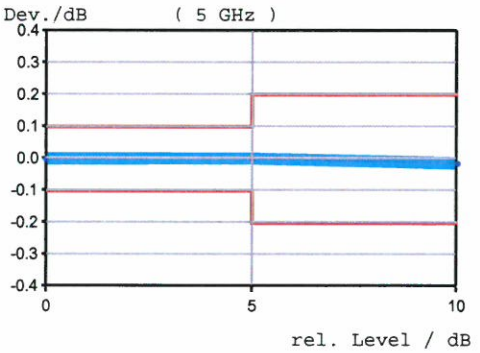


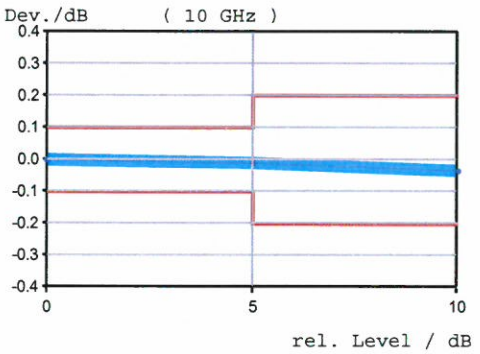


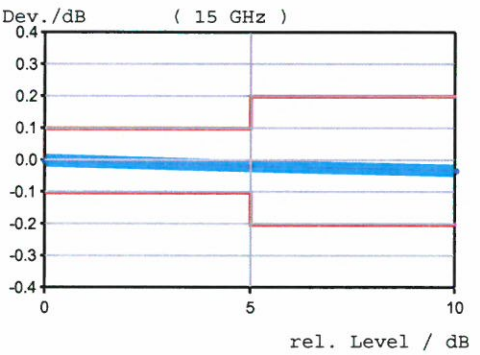


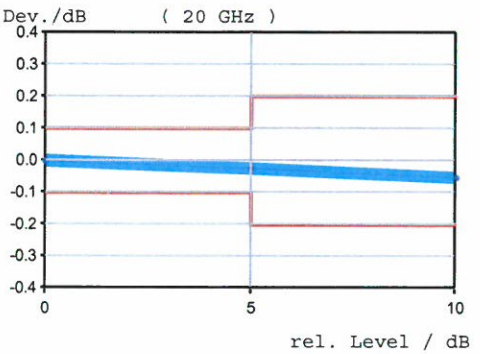


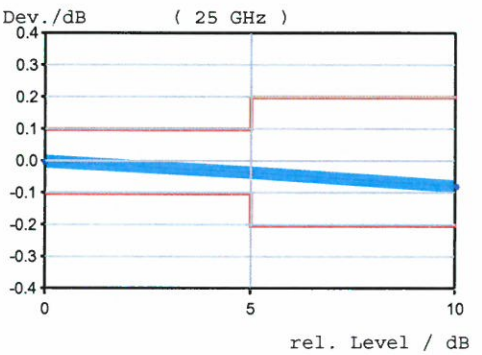




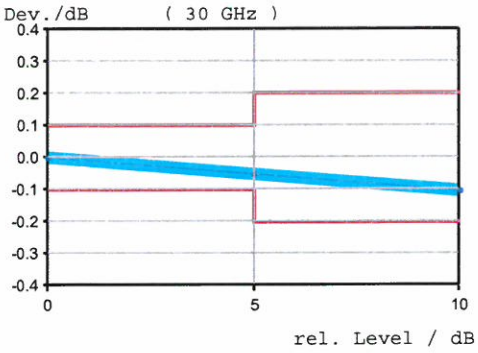


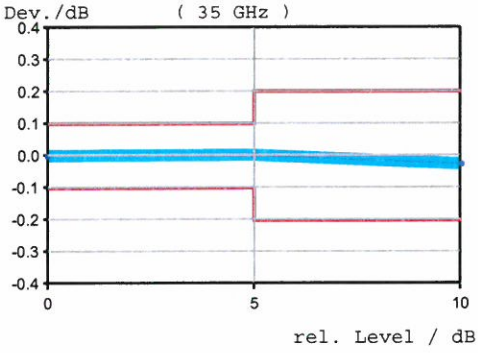


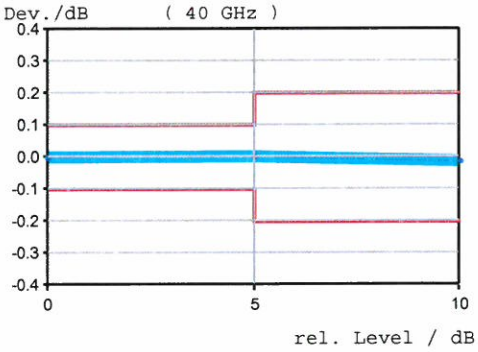




Incoming Results

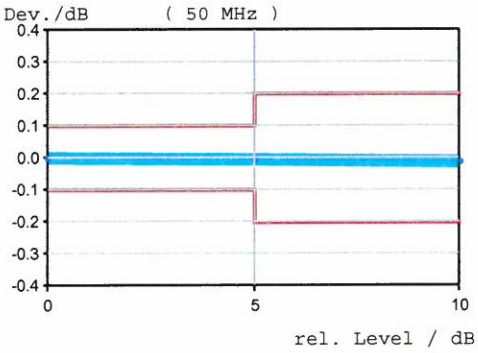


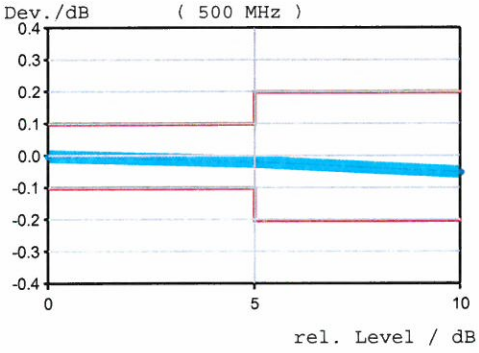


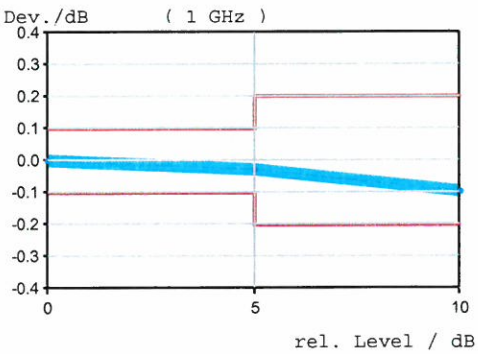


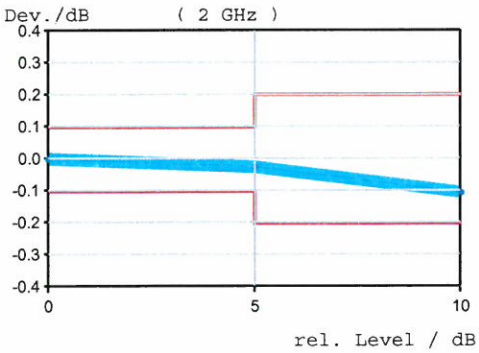
9.2 Input power linearity PORT2 (high level)

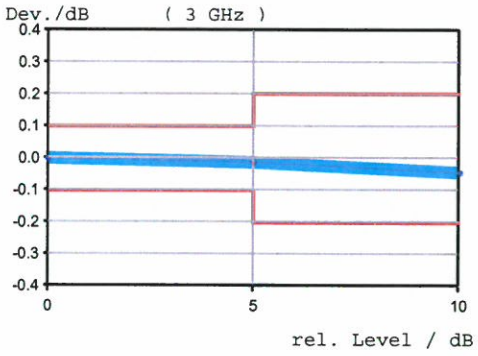
Refered to a nominal input power level of -10 dBm

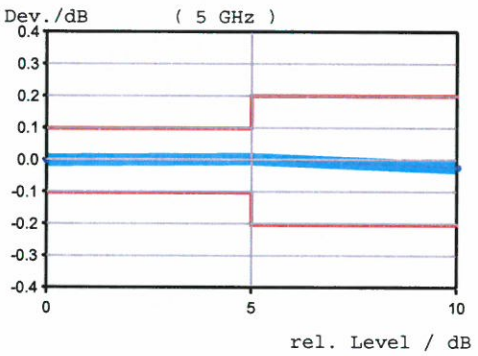


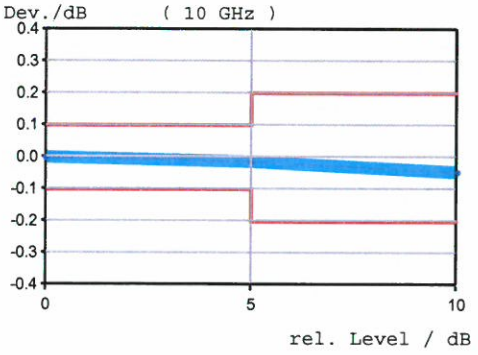


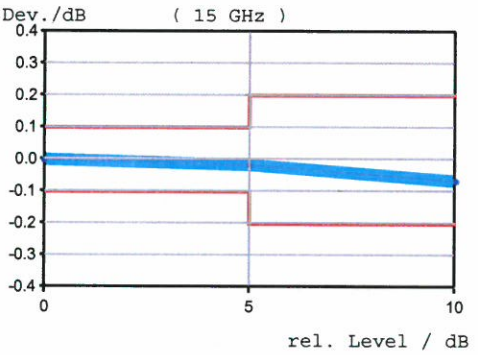


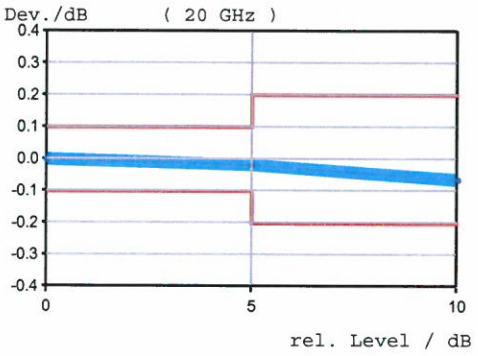


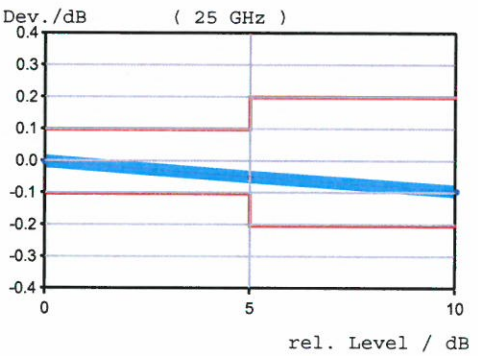


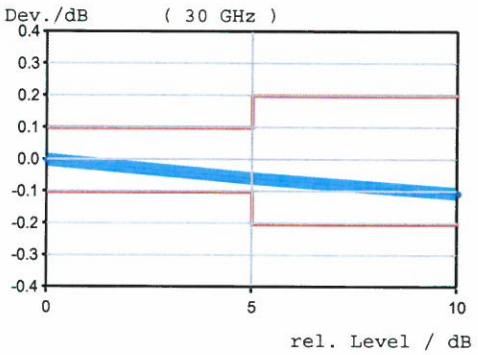


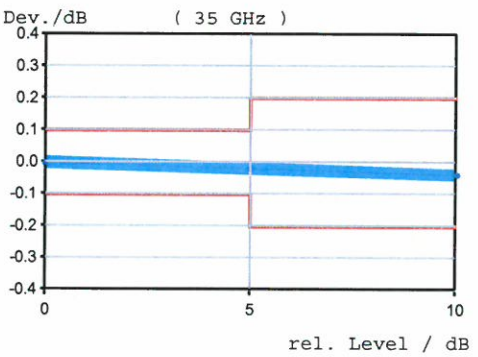




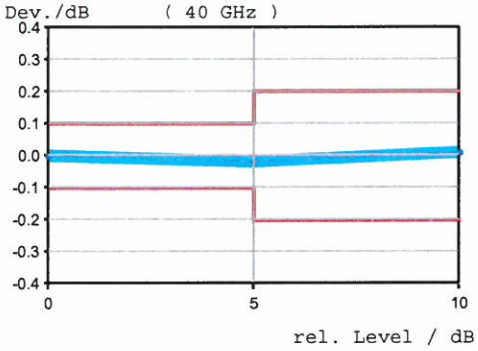








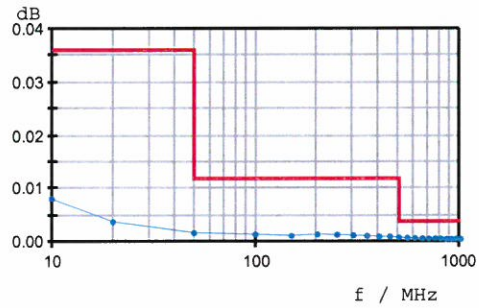
Incoming Results

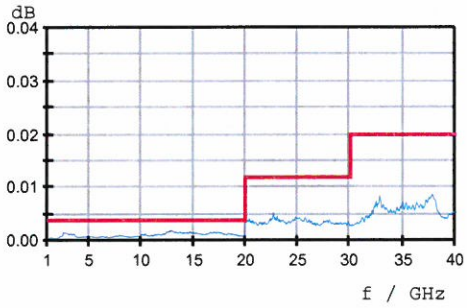


10. Trace noise magnitude

10.1 Trace noise magnitude PORT1

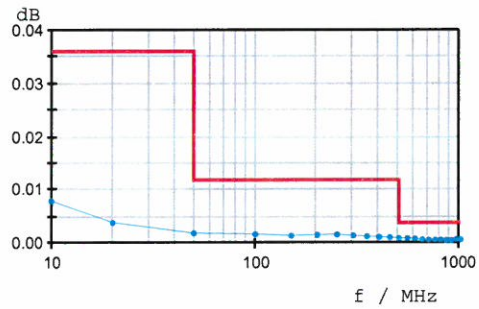
Measurement: S11 total reflection RMS StdDev, CW mode, source power = 0 dBm, points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}

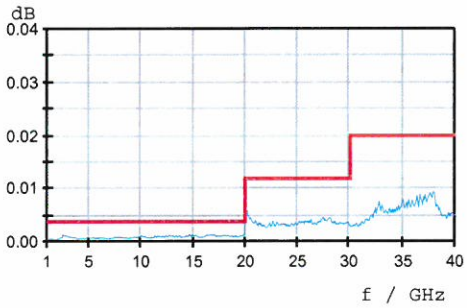




10.2 Trace noise magnitude PORT2

Measurement: S22 total reflection RMS StdDev, CW mode, source power = 0 dBm, points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}

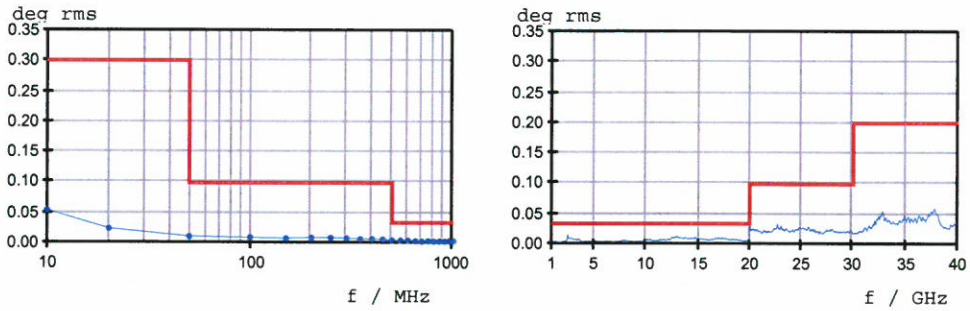




11. Trace noise phase

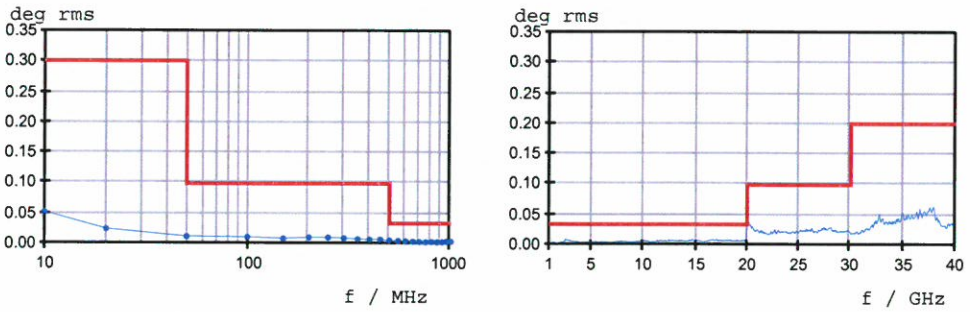
11.1 Trace noise phase PORT1

Measurement: S11 total reflection RMS StdDev, CW mode, source power = 0 dBm,
points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}



11.2 Trace noise phase PORT2

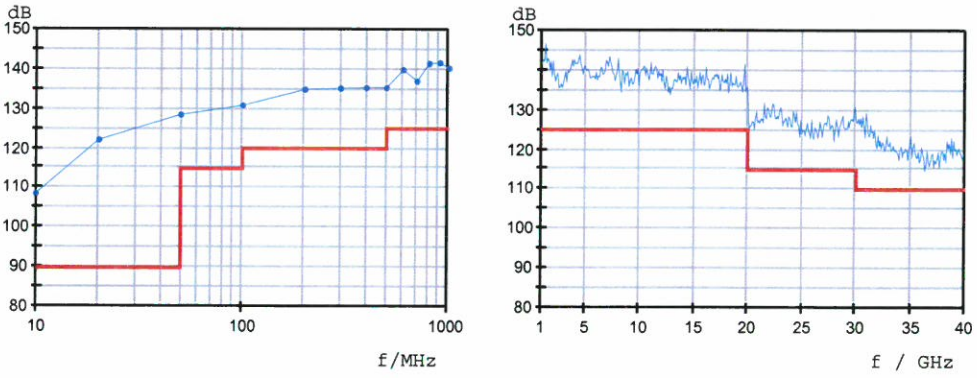
Measurement: S22 total reflection RMS StdDev, CW mode, source power = 0 dBm,
points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}



12. Dynamic range

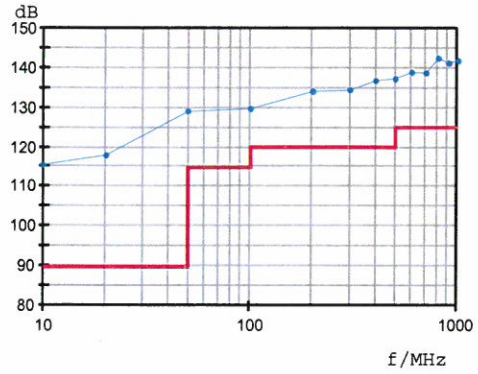
12.1 Dynamic range S21

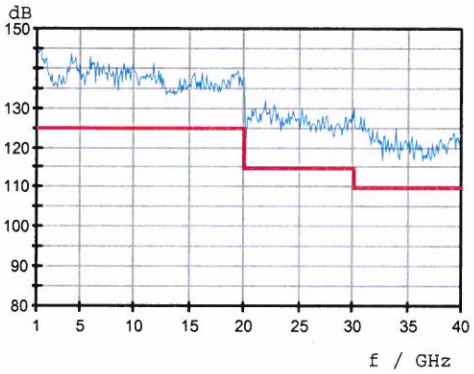
Measurement: S21, source power: 20 dBm, all ports are terminated by SHORTs, MU: {a}



12.2 Dynamic range S12

Measurement: S12, source power: 20 dBm, all ports are terminated by SHORTs, MU: {a}





13. Rear connectors and signals

13.1 Reference output

DLL	DUL	Actual	MU
+5 dBm	+13 dBm	7.7 dBm	0.3 dB

14. BIAS - functional test

DC input voltage = 10 V

Test point	Max. deviation	Actual	MU
Input (BNC) 1	+/-0.1 V	0.00 V	0.01 V
Output Port 1	+/-0.1 V	0.00 V	0.01 V
Input (BNC) 2	+/-0.1 V	0.00 V	0.01 V
Output Port 2	+/-0.1 V	0.00 V	0.01 V