

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

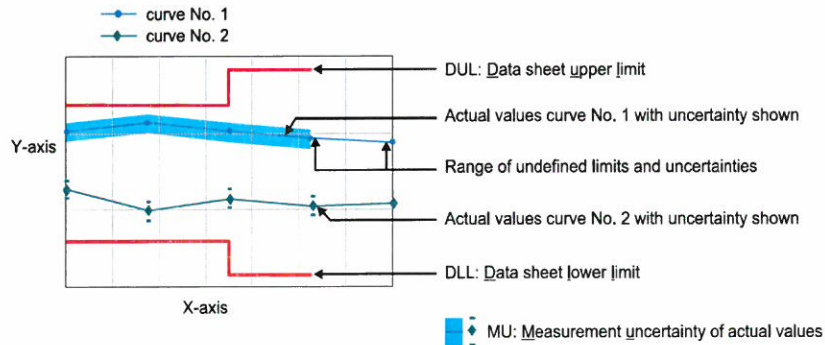


The following abbreviations may be used in this document

- {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



Incoming Results

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Software used for measurement			
Item	Type	Version	Remark
7010.9063.00_.G5LIM	Limit File	2019-12-04 12:15	Test Management Software G5
Suite	Setup	V12.16	
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

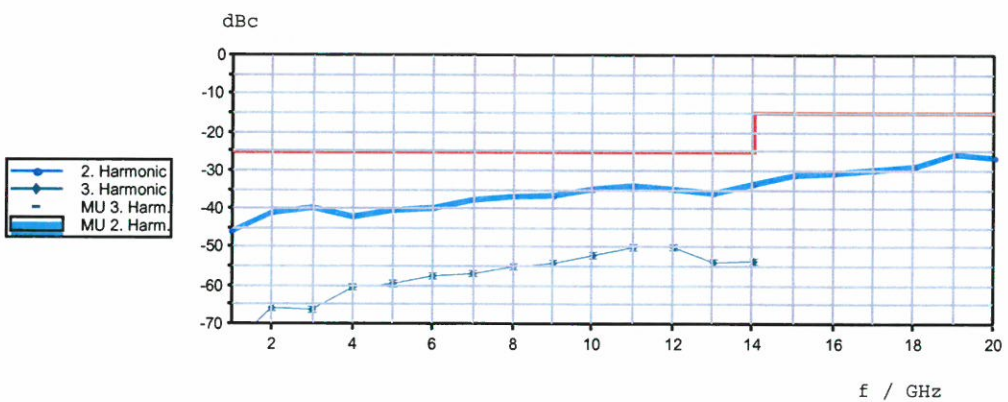
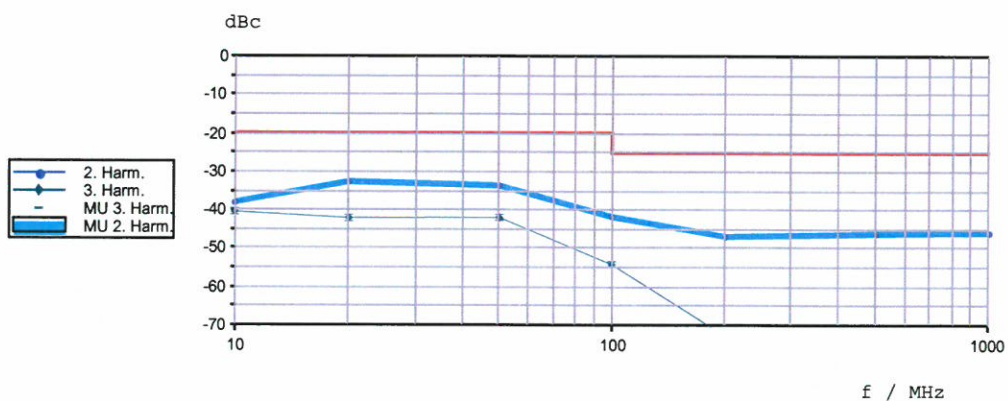
2. Static frequency accuracy

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

3. Output harmonics

3.1 Harmonics PORT1

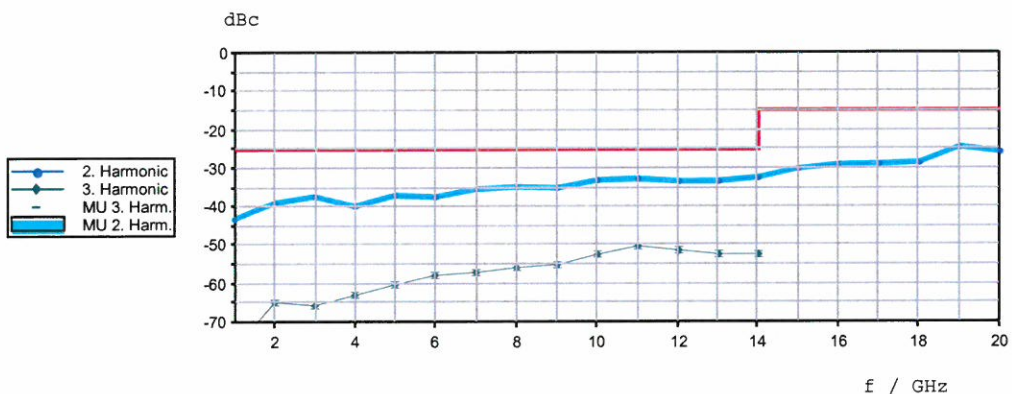
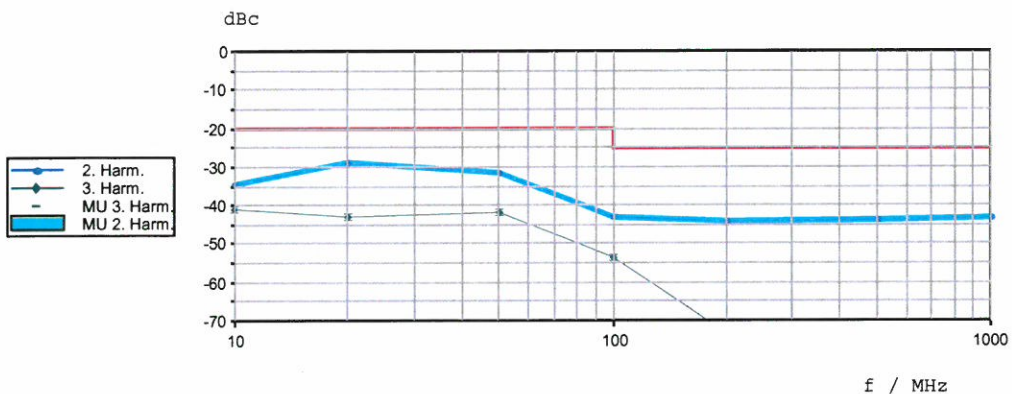
Source power level = 0 dBm, measurement uncertainty: {b}



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3.2 Harmonics PORT2

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

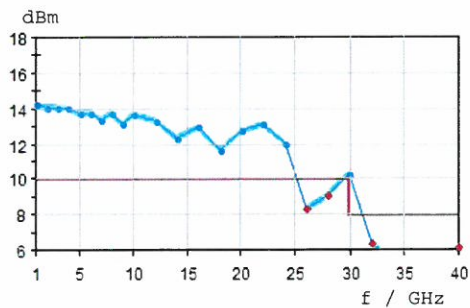
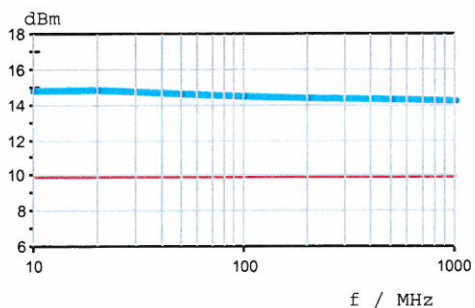


4. Maximum output power

4.1 Maximum output power PORT1

Power setting: +15 dBm

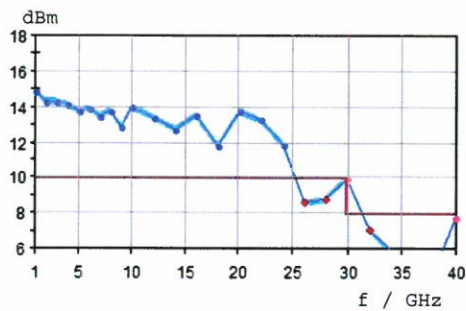
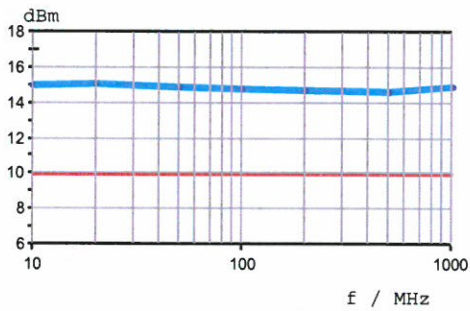
FAIL (7)



Incoming Results

4.2 Maximum output power PORT2

Power setting: +15 dBm

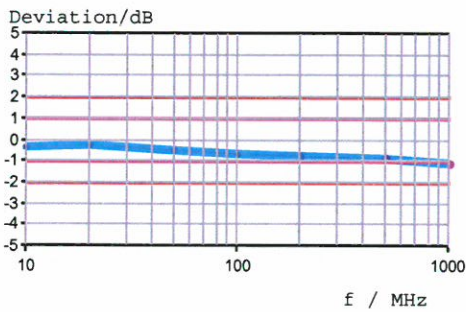


FAIL (6)
UGB2 (2)

5. Accuracy of output power

5.1 Accuracy of output power PORT1

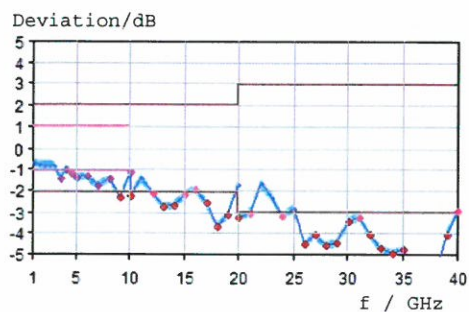
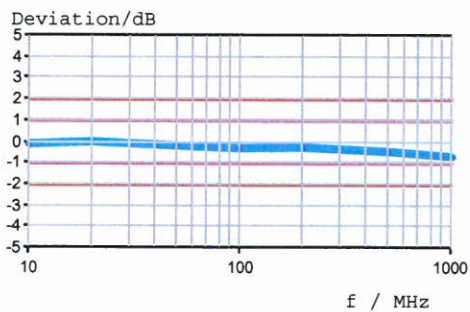
Source power = -10 dBm



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

5.2 Accuracy of output power PORT2

Source power = -10 dBm



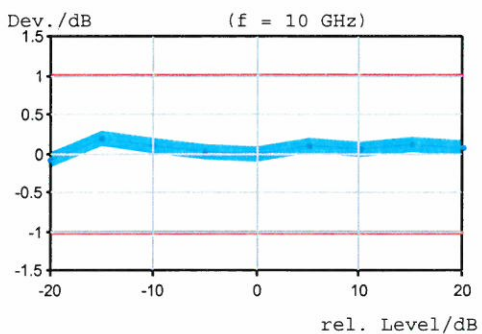
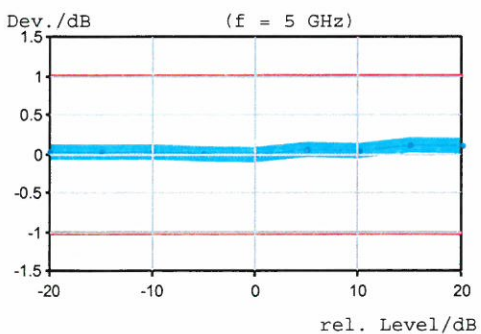
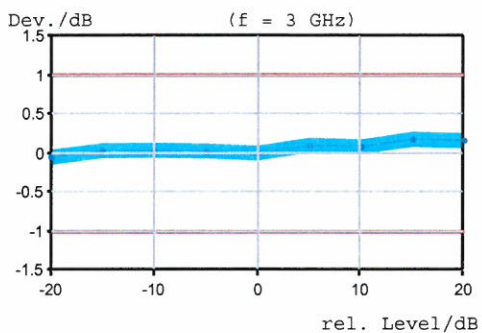
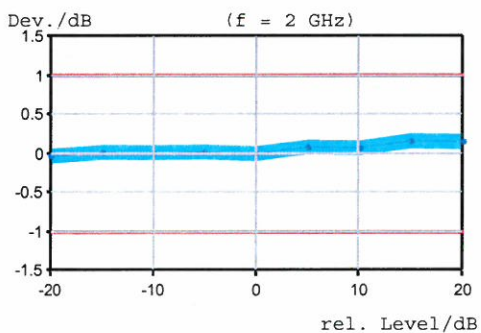
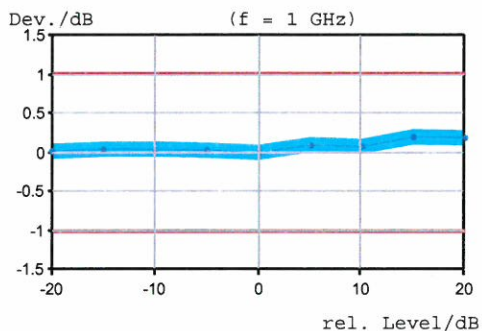
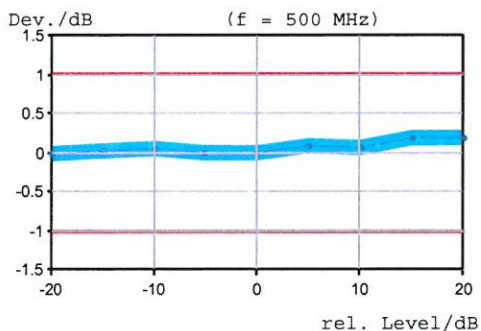
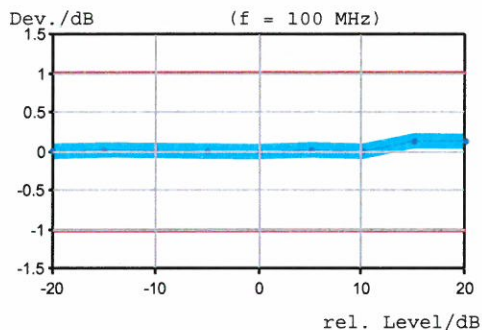
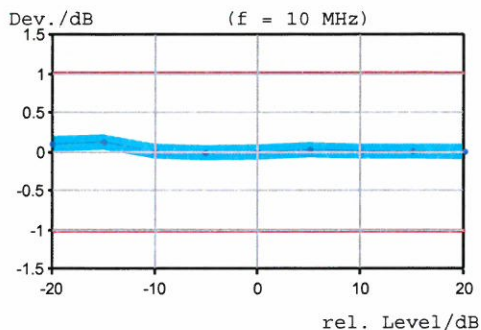
FAIL (21)
UGB2 (4)
UGB1 (3)

Incoming Results

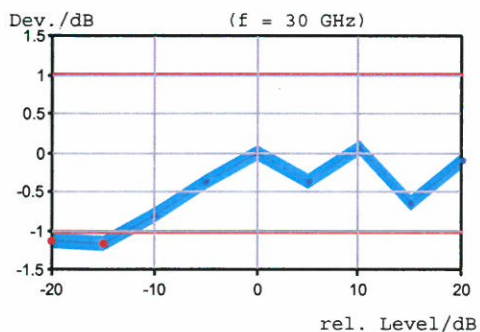
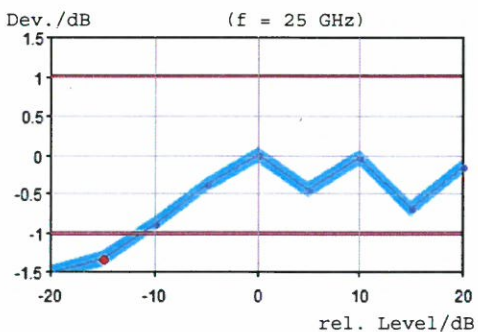
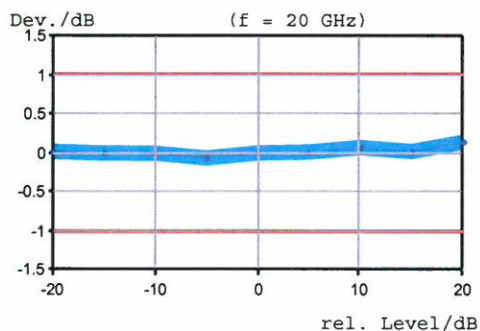
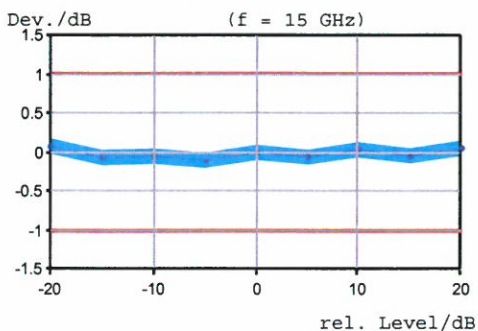
6. Output level linearity

6.1 Output level linearity PORT1

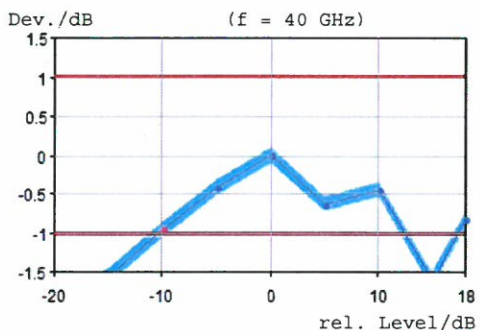
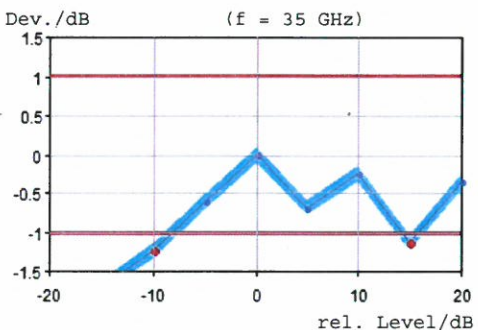
Reference level = -10 dBm



Incoming Results



FAIL(4)



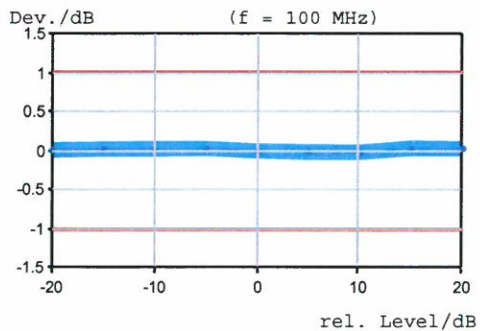
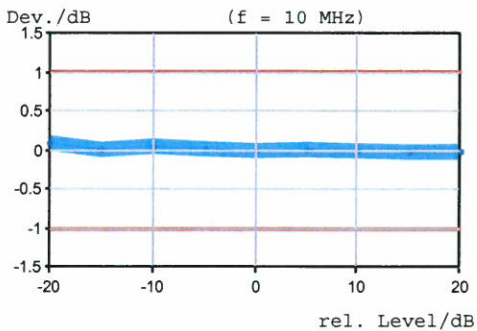
FAIL(7)

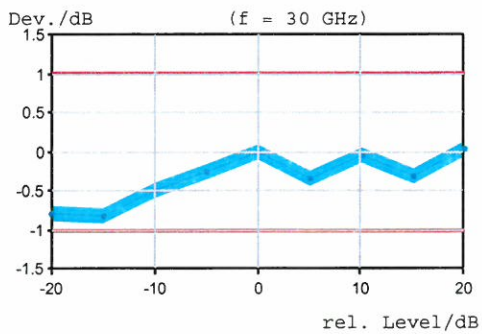
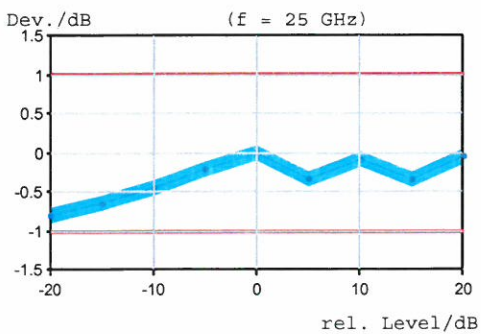
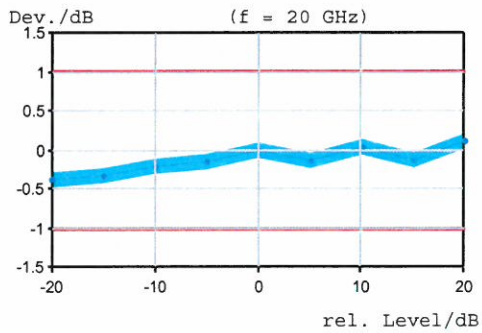
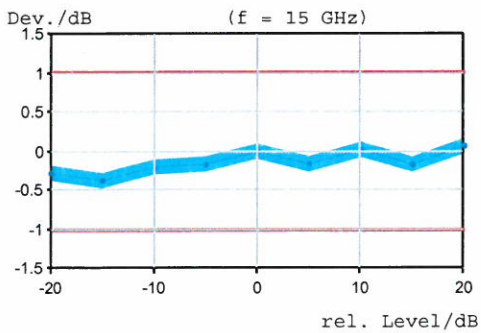
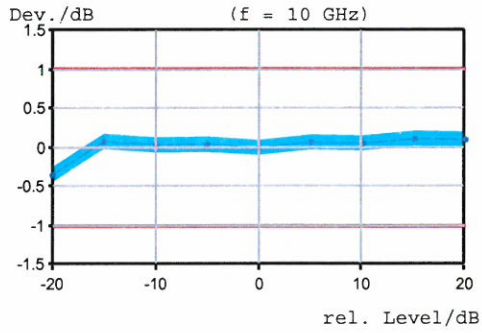
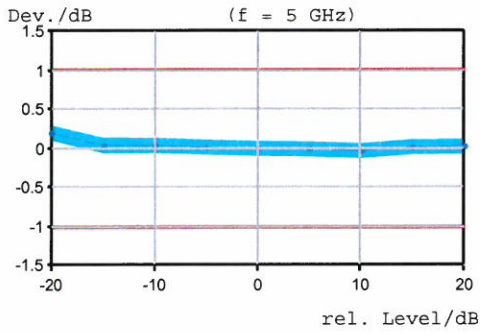
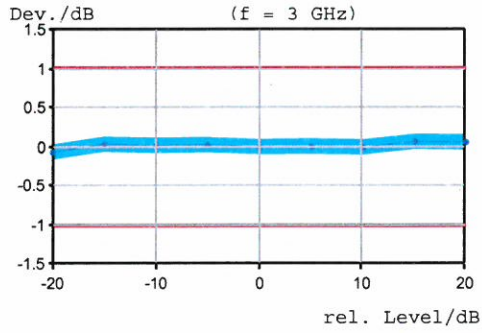
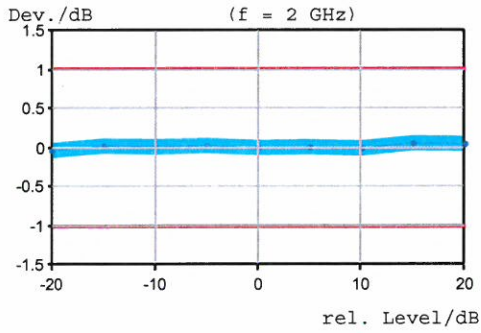
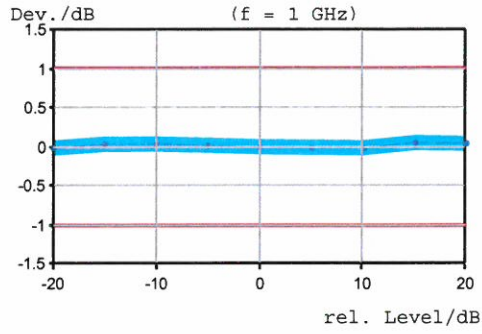
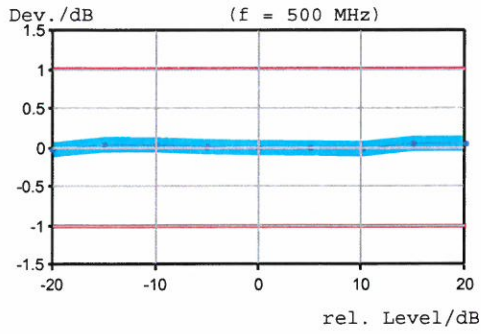
UGB1(1)

Incoming Results

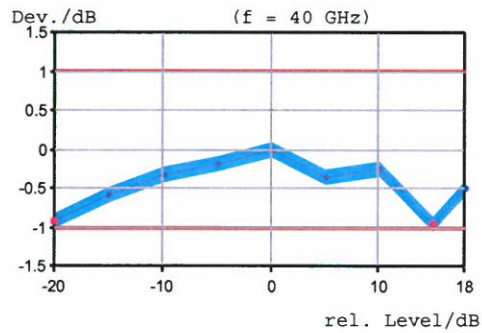
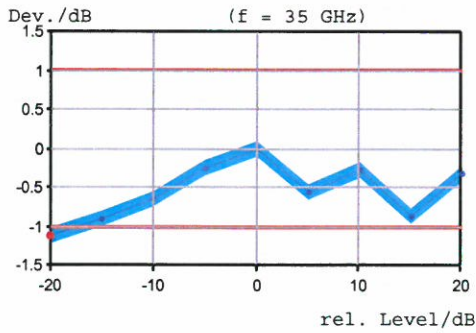
6.2 Output level linearity PORT2

Reference level = -10 dBm





Incoming Results

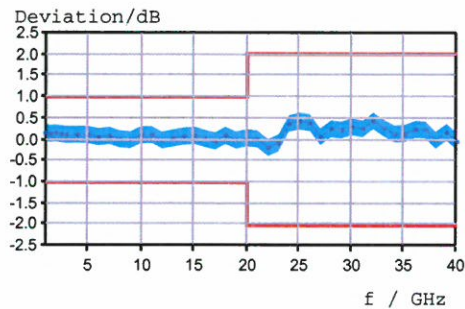
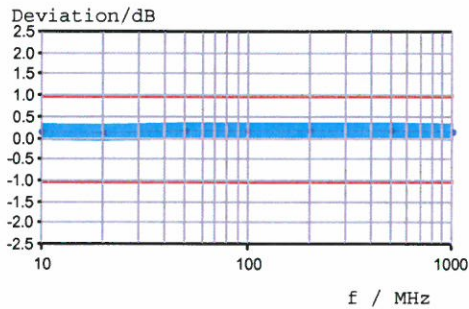


FAIL (1)
UGB1 (2)

7. Input power measurement accuracy

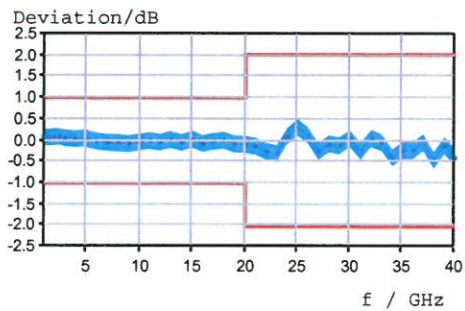
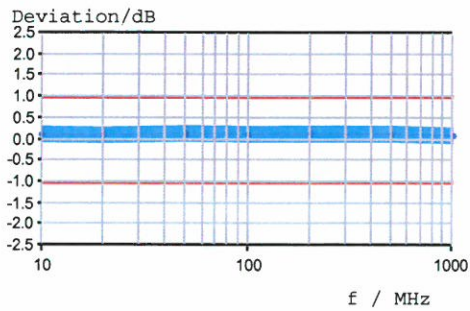
7.1 Input power measurement accuracy PORT1

Test level = -10 dBm



7.2 Input power measurement accuracy PORT2

Test level = -10 dBm

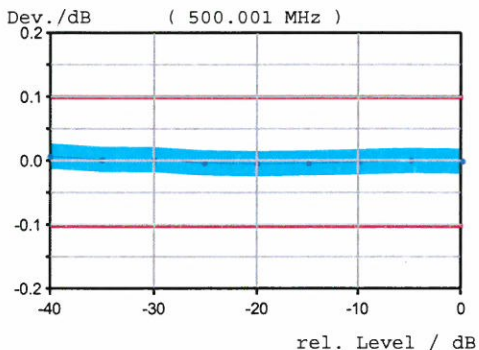


Incoming Results

8. Input power linearity (low level)

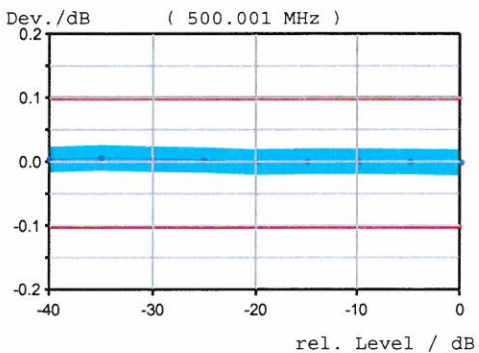
8.1 Input power linearity (low level) PORT1

Referred to a nominal input power level of -10 dBm



8.2 Input power linearity (low level) PORT2

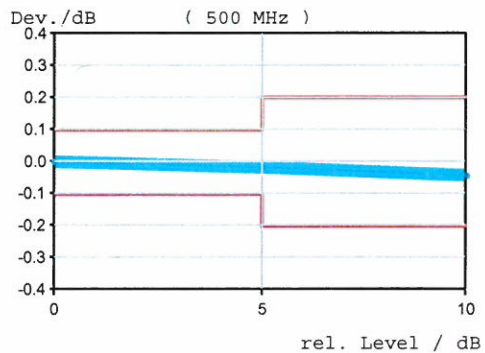
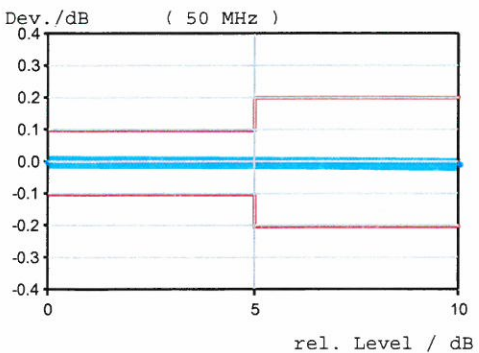
Referred to a nominal input power level of -10 dBm

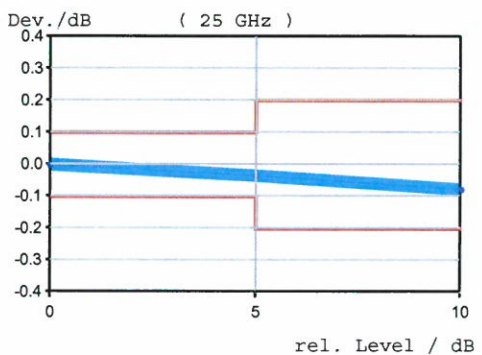
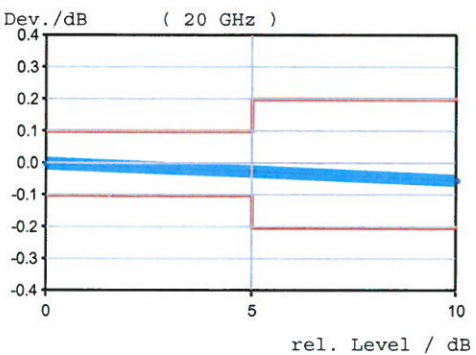
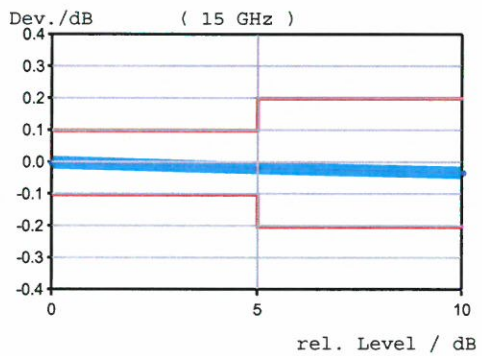
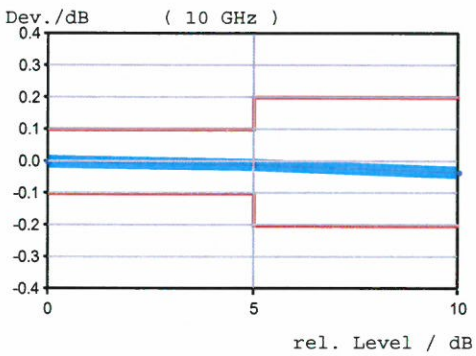
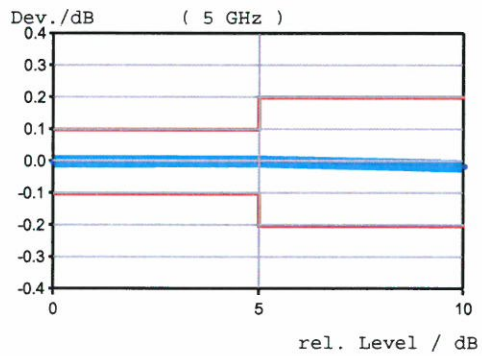
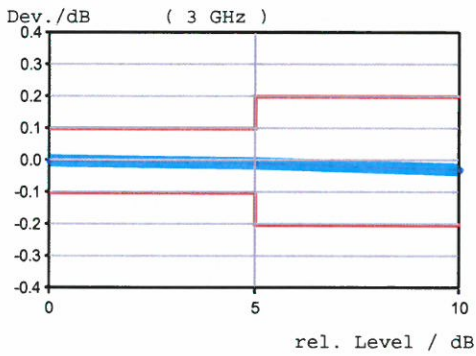
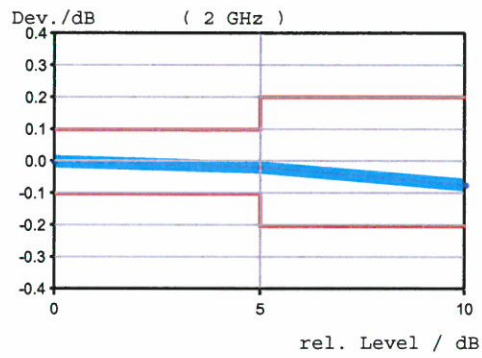
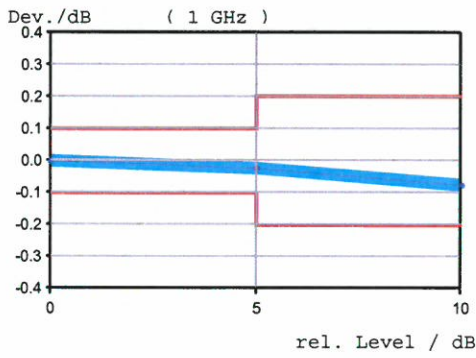


9. Input power linearity (high level)

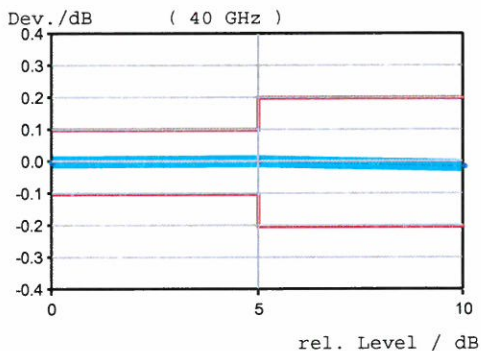
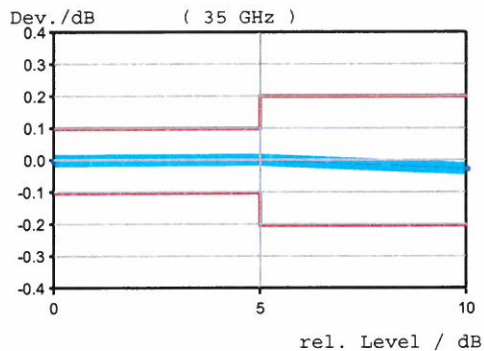
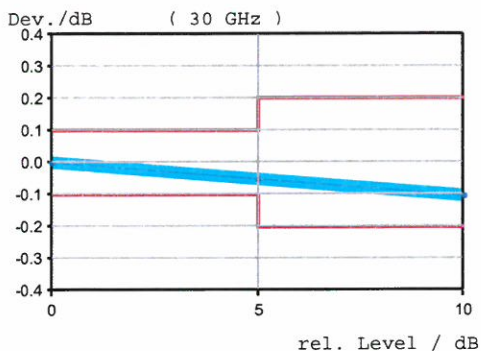
9.1 Input power linearity PORT1 (high level)

Referred to a nominal input power level of -10 dBm



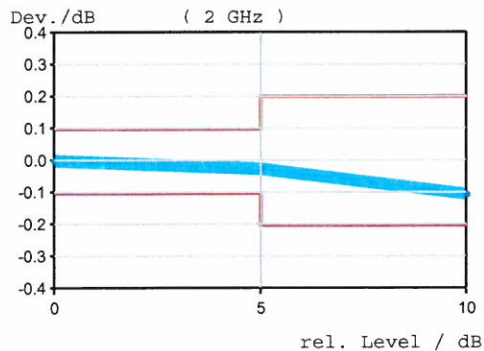
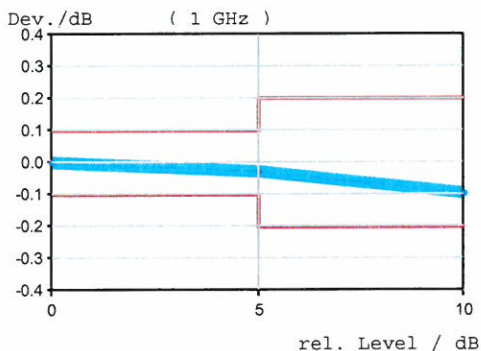
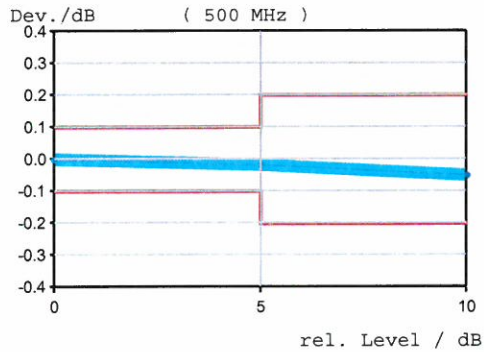
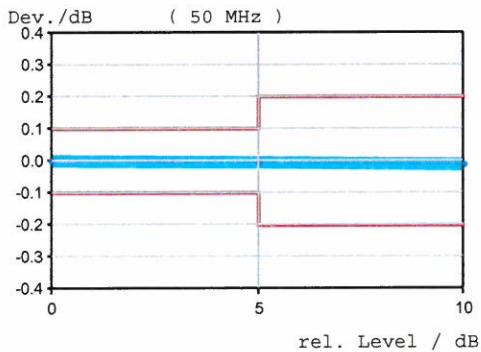


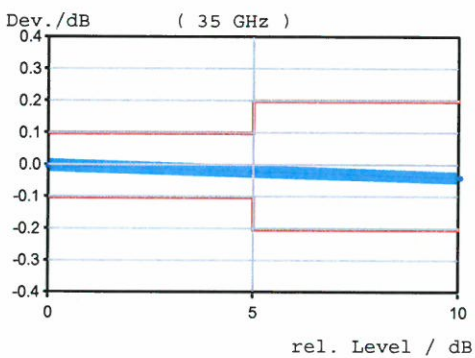
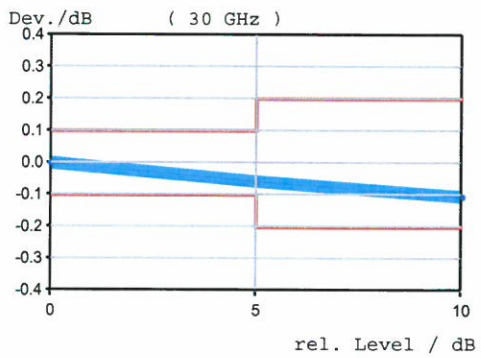
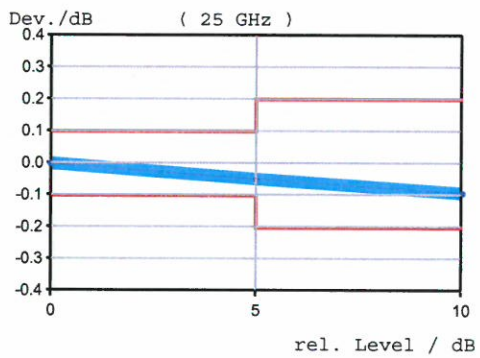
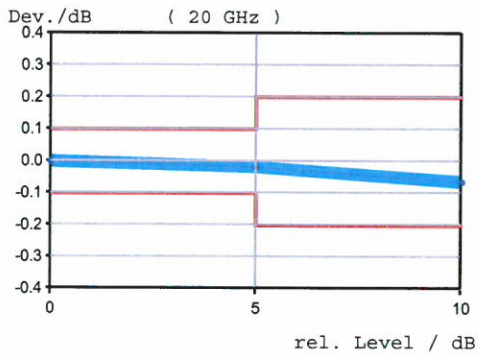
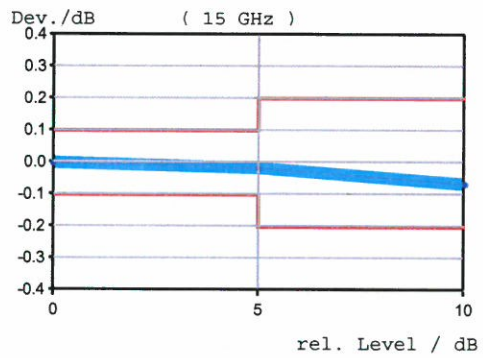
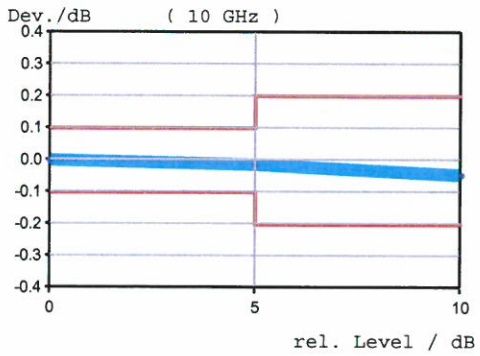
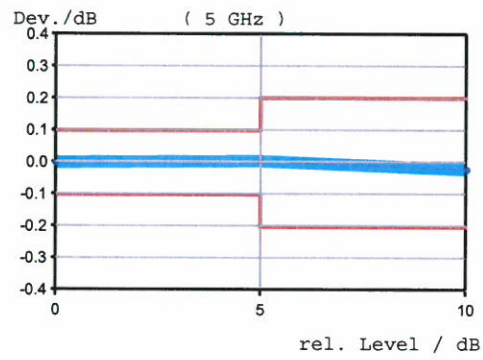
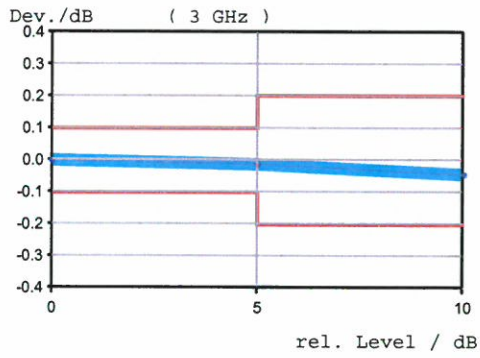
Incoming Results

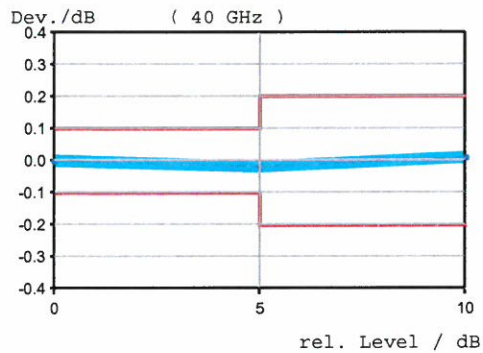


9.2 Input power linearity PORT2 (high level)

Referred to a nominal input power level of -10 dBm



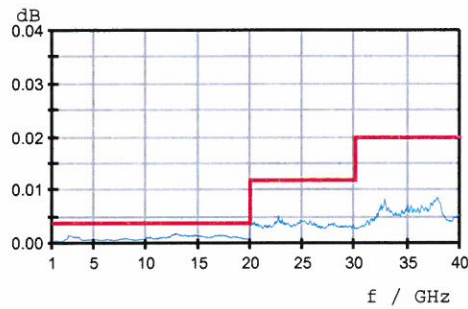
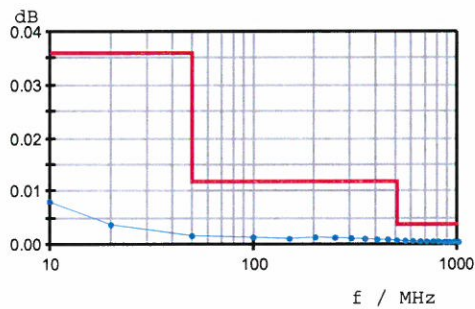




10. Trace noise magnitude

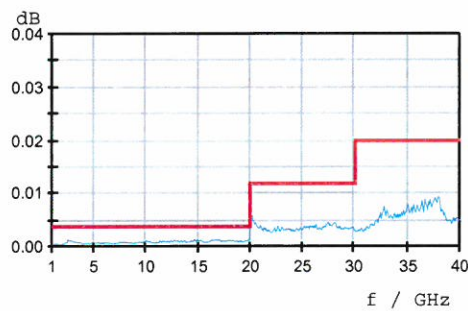
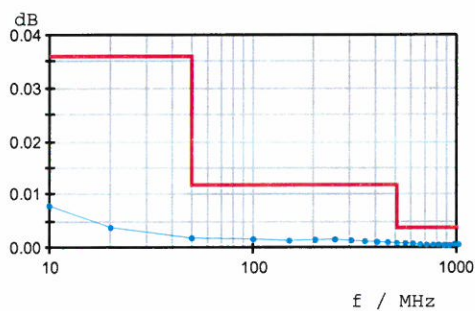
10.1 Trace noise magnitude PORT1

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

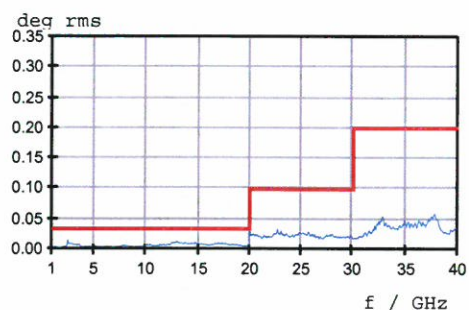
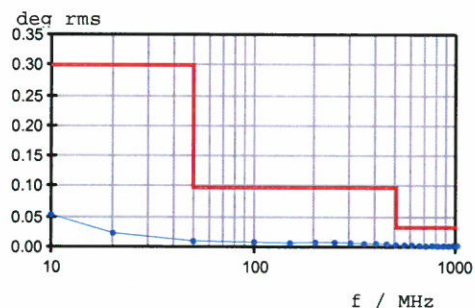
Measurement: S22 total reflection RMS StdDev, CW mode, source power = 0 dBm, points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}



11. Trace noise phase

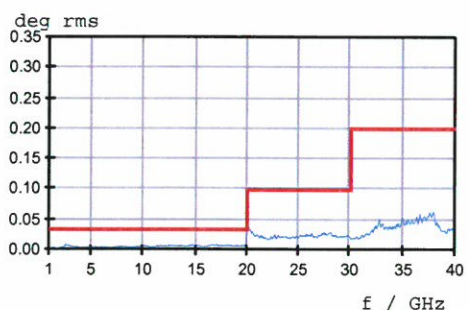
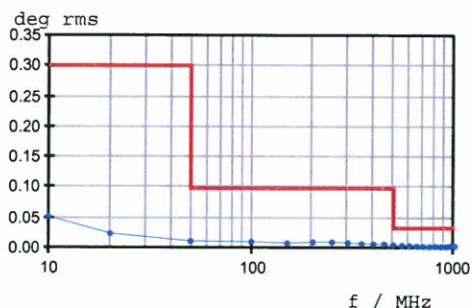
11.1 Trace noise phase PORT1

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

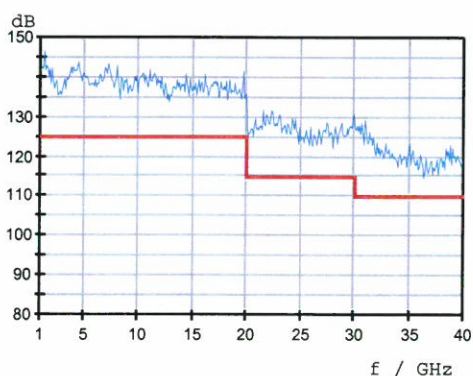
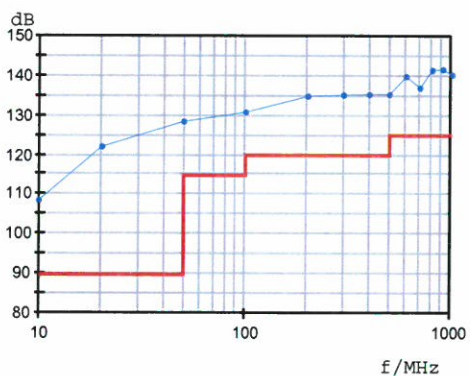
Measurement: S22 total reflection RMS StdDev, CW mode, source power = 0 dBm, points = 201, BW = 1 kHz (f < 100 kHz), BW = 10 kHz (f >= 100kHz), MU: {c}



12. Dynamic range

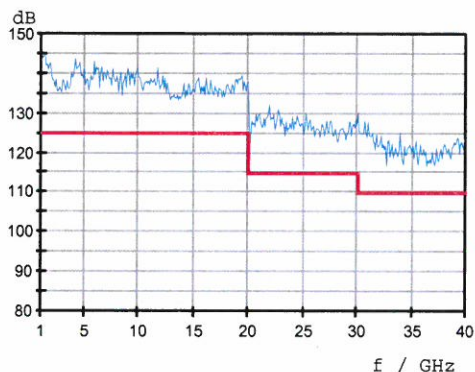
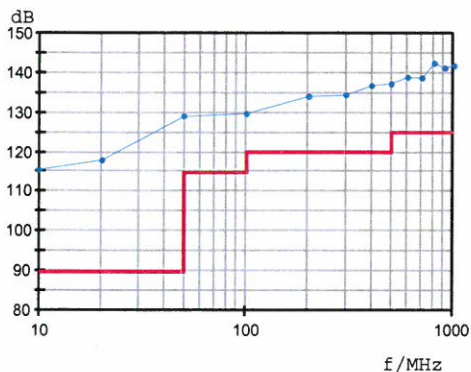
12.1 Dynamic range S21

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

