



Accredited testing laboratory

DAR-Registration number:
TTI-P-166/98

Test report no.:
2-1601-02-04/99
SV550



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Enclosure

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- **General Information**

- **Notes**

The test results of this test report relate exclusively to the test item specified in subclause 1.5. 'CETECOM ICT Services GmbH' does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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Tester:

Date	Name	Signature
07.07.2000	Andrea Kirsch
07.07.2000	Karsten Gerald

Technical responsibility for area of testing:

Date	Name	Signature
07.07.2000	Karsten Gerald



• Test laboratory

CETECOM ICT Services GmbH
Untertürkheimer Straße 6 - 10, D-66117 Saarbrücken
P.O. Box 10 04 45 D-66004 Saarbrücken
Germany
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Accredited testing laboratory
DAR-Registration number: TTI-P-G 166/98

Test location, where different from 'CETECOM ICT Services GmbH':

Name : - not applicable -
Street : - not applicable -
Town : - not applicable -
Country : - not applicable -
Telephone and Telefax : - not applicable -

• Applicant's details

Name : Telit Mobile Terminals S.p.A
Department : R&D Measurement Group
Street : Viale Stazione di Prosecco 5/b
P.O. Box :
Town : 34010 Sgonico - Trieste
Country : Italy
Telephone and Telefax : +39 040 4192244 / +39 040 251257

Contact person's name : Mr. Tomaz Petaros
Telephone and Telefax : +39 040 4192244 / +39 040 251257

• Details of application

Date of receipt of order : 08.03.2000
Date of receipt of test item : 02.03.2000
Date(s) of test : 06.04. - 07.04.2000
File number : 2-1601/99
Laboratory reference number : 005b.00



- **Test item**

- **General description**

Type of test item : Dual Mode GSM/Globalstar user terminal, vehicle-mounted CarKit

Operating characteristics : Dual Mode 900/1600 MHz, QPSK, CDMA, data, voice

Identification : **SV550**

Serial number(s) : see following table

List of components:

No.	Equipment	Manufacturer	Type name (version, partnumber)	Serial number	Note no.	tested (Y/N)
1	Dual Mode GSM/Globalstar mobile user terminal	Telit	SAT550	Hardware Rev. 6.1, Software Ver. 6.9.2	449131440003491	yes
2	Cradle	Telit	3990200328	Hardware Rev. 0, Software Ver. 1.1	0001	yes
3	ODU	Telit	3990200285	Hardware Rev. 0, Software Ver. 9.03.0	0001	yes
4	Globalstar-Antenna	Telit	2000800320			yes
5	Handset	Telit	3990200322			yes
6	external microphone	PEIKER IT	MIC-94-002-01			yes
7	external loudspeaker	TELICOM	LSP-98-66m84-01			yes
8	Globalstar Tester	Anritsu	Globalstar User Terminal Tester MT8803G	MB05384	7)	no

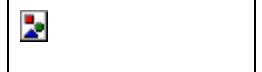
Note:

- 1) The item can optionally be equipped with this additional component.
- 2) The item can optionally be equipped with this component instead of no. xxx
- 3) Because of conceptional and mechanical equality the no. xxx was/were representatively tested.
- 4) This component corresponds with the no. xxx but it's not fully provided.
- 5) The item can be combined with this component. The test of this component is documented in test report no.xxxxx/xxxxx/xx.
- 6) This component was sufficiently taken into account, see test report no. xxxx/xxxx/xx.
- 7) This component is not part of the test item - it was representatively used to establish the operation and test modes.
- 8) This component is integrated repeatedly in the item because of redundancy - the redundant components were not tested because of equality to the primary parts.
- 9) This component is not relevant relating to the requirements of the test specification as well as baseband equipment - the EMC conformity (CE-Sign) and eventually the approval for connection to public telecommunication networks are only expected.

Antenna system(s):

Reflector Size (m)	Reflector shape	Concept	Manufacturer	Type	Transmit gain dBi (midband)	Receive gain dBi (midband)	Polarization
0.122 * 0.016	-/-	single substrate, microstrip antenna with radome	Telex	Ethyl CV90-70766-4	4.5	no spec.	LHCP

Technical descriptions and documents:



No.	Document(s)
1	SV550, Description of equipment and Manufacturer's Declarations
2	SAT550, Description of equipment and Manufacturer's Declarations
3	SAT550, TBR 41 Declarations (for network operator agreement)
4	Telit SV550 Car Kit, Technical Manual, Doc.no.: 1vv0300410, Rev. 0 (23. Feb. 2000)
5	Anritsu MT8803G, Globalstar User Terminal Tester, 300 kHz to 3 GHz, user's manual (second edition), Doc.no.: 12000-00001, Rev. B



Technical Data

Transmitter frequency range(s)	: 1610 - 1626.5 MHz		
Channel spacing	: 1.23 MHz		
Receiver frequency range(s)	: 2483.5 - 2500 MHz		
Transmitter power	max.	: 2 W	typical : 2 W
Radiated power (EIRP)	max.	: 7.5 dBW ¹⁾	typical : 7.5 dBW ¹⁾
Frequency stability	max.	: 10 ppm	measured values : <2.5 ppm
Kind of baseband signal	: data, voice		
Kind of modulation (s)	: QPSK		
Nominated bandwidth no. 2, 4, 6 and 37-46) ²⁾	: approx. 2 MHz, a _{max.} = 1 MHz, b _{max.} = 1 MHz (see plots)		
Data rate(s)	: 2400, 4800, 9600 bps		
Power supply	: 7.4 Vdc, max. 650 mA		
Kind of transmission acc. 'VO-Funk'	: G1D, G1E		

¹⁾ for an antenna with a maximum antenna gain of 4.5 dBi

²⁾ for operating conditions defined below

Additional information

The system "SV550" is a dual mode user terminal for mobile personal communication. It consists of the handheld "SAT550" and the CarKit (vehicle-mounted). The system includes two different transceivers: GSM 900 and Globalstar. The tests documented in this test report were only performed with the Globalstar-part. For performing the tests the antenna was prepared by the manufacturer with connectors at the Rx-/Tx-ports and a Globalstar Tester was necessary.

• Operating conditions

Operating condition 1: 1618.11MHz/channel R7 (=fm, 1610.73MHz/channel R1 =fu, 1625.49MHz/channel R13 =fo)
additional frequencies: 1615.65MHz/channel R5 =fm1, 1620.57MHz/channel R9 =fm2
approx. 2W, QPSK, 9.6kbps test pattern

Operating condition 2: carrier off

• Test standard(s)



1) FCC 47 CFR (01.10.1998), Part 2: Frequency allocations and radio treaty matters; general rules and regulations

 §2.106 731E Table of Frequency Allocations, EIRP emission density

2) FCC 47 CFR (01.10.1998), Part 25: Satellite communications

 §25.202(d) Frequency tolerance of Earth stations

 §25.202(f) Emission limitations

 §25.213(b) Protection of the radionavigation-satellite service

3) FCC 98-338 (23.12.1998), Appendix A, Part 10(c)



- **Technical test**
- **Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

The deviations as specified in subclause 2.5 and annex 3 were ascertained in the course of the tests performed.

This test report:

documents a first test

documents a repeat examination

documents a verification of documents

is only valid in association with test report no.: ----/----/--.

Single test results are listed under subclause 2.5 and annex 3 of this report.

The test item was not tested to connect it with the public telecommunication network.

Following representative(s) was/were present at the test: -/-

- **Test environment**

The environment conditions are documented specially for each test in 2.5.2 and annex 3.

- **Measurement and test setup, measurement uncertainties**

The measurement and test setup is in accordance to the specification and schematically shown in annex 1. The reference to each test is shown in 2.5.2 and annex 3. The measurement uncertainties are within the ranges, which are required in the test specifications. A closer inspection and precise consideration of the real measurement uncertainty and its documentation within this test report will be made only if any measured data is closer to the corresponding limit than the maximum uncertainty which is given in the specification. In this case special tests were performed by use of comparable methods and/or measuring equipment in order to prove the given test results are correct. The results of these additional tests will be reported only then if it is very critical to show that the limit is met or not.

- **Test equipment utilized**



See annex 2



- **Test results**
- **Test result overview**



in addition to test report no.:

Correspondance of the test item and its technical description:



in accordance to the technical description



not in accordance to the technical description

Performance test: Output power and spectrum of transmission:



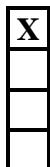
in accordance to the technical description



not in accordance to the technical description

FCC 47 CFR (01.10.1998)

Part 2: Frequency allocations and radio treaty matters; general rules and regulations
section 2.106 731E Table of Frequency Allocations, EIRP emission density



pass

fail

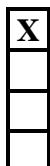
already tested (see test report no. xxx)

not applicable

FCC 47 CFR (01.10.1998)

Part 25: Satellite communications

section 25.202(d) Frequency tolerance of Earth stations



pass

fail

already tested (see test report no. xxx)

not applicable

FCC 47 CFR (01.10.1998)

Part 25: Satellite communications

section 25.202(f) Emission limitations



pass

fail

already tested (see test report no. xxx)

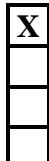
not applicable



FCC 47 CFR (01.10.1998)

Part 25: Satellite communications

section 25.213(b) Protection of the radionavigation-satellite service



pass

fail

already tested (see test report no. xxx)

not applicable

FCC 98-338 (23.12.1998), Appendix A, Part 10(c)

section 25.200(c) Interim equipment authorization, out-of-band emissions limitation



pass

fail

already tested (see test report no. xxx)

not applicable

- **Test documentation**

Contents:

- Correspondance of the test item and its technical description [X] -/-
- Function test [X] -/-
- Table of Frequency Allocations, EIRP emission density [X] FCC 47 CFR
§2.106 731E
- Frequency tolerance of Earth stations [X] FCC 47 CFR
§25.202(d)
- Emission limitations [X] FCC 47 CFR
§25.202(f)
- Protection of the radionavigation-satellite service [X] FCC 47 CFR
§25.213(b)
- Interim equipment authorization, out-of-band emissions limitation [X] FCC 98-338
(23.12.1998),



Part 10(c)

Appendix A,

§25.200(c)

FCC 47 CFR



Reference document:

FCC 47 CFR, 1st of October 1998S-PCN; MES, operating in the 1.6/2.4 GHz bands

Section:

-/- Correspondance of the test item and its technical description

Remark and establishing:

The test item and its technical description (see subclause 1.5.1) was compared by spot checking.

Result of test:**In accordance to the technical description [X]****No accordance to the technical description []**

Reference document:

FCC 47 CFR, 1st of October 1998S-PCN; MES, operating in the 1.6/2.4 GHz bands

Section:

-/- Function test and finding out the 'assigned bandwidth'

Environment conditions: see also plots given below

date	temperature in °C	rel. humidity in %	voltage in V			laboratory / test system
06.04.2000	22	60	13 dc			Laboratory 'RSC-Sat'

Test results: Power measurement by power meter

state	frequency (range) MHz	reading level dBm	data of correction attenuation / loss			power splitt. dB	result referred to output HPA			ant. gain dBi	EIRP dBW	remark
			direct dB	coupl. dB	cable dB		att. dB	(-30) dBW	(10 [^]) W			
mod	1618.11	7.0				20.0	6.0	33.0	3.0	2	4.5	7.5

cw = continious wave mod = modulated

Operating conditions of DUT:

see subclause 1.5.2: Operating condition 1 (deviations see table above)

Special quality of measurement:Test setup(s):

see annex 1, test setup 1.2hk and 1.2hgj



Test equipment:

see annex 2, subclause 1: C027, R001, R011, R013, U015, U023, HP 8491B

Data of correction:

see annex 4

Photo documentation:

see annex 5

Remark and establishing:

see annex 3, plot 1 - 9, too

Result of test:

In accordance to the technical description [X]

No accordance to the technical description []



Reference document:

FCC 47 CFR, 1st of October 1998S-PCN; MES, operating in the 1.6/2.4 GHz bandsSection: 2.106 731E Table of Frequency Allocations, EIRP emission density
Conducted measurements at the antenna port: within the band**Result of test:****see annex 3, plot 10 - 12**

Reference document:

FCC 47 CFR, 1st of October 1998S-PCN; MES, operating in the 1.6/2.4 GHz bandsSection: 25.202(d) Frequency tolerance of Earth stations
Conducted measurements at the antenna port: within the band
and evaluation by Anritsu Globalstar User Terminal Tester

Environment conditions:

date	temperature in °C	rel. humidity in %	voltage in V	laboratory / test system
06.04.2000	22	60	13 dc	Laboratory 'RSC-Sat'

Test results:

no.	frequency (range)	reading frequency	deviation	deviation	deviation	limit
	MHz	MHz ¹⁾	kHz ¹⁾	ppm ¹⁾	ppm ²⁾	ppm
1	1610.73 / channel R1	1610.7325	2.5	1.552	0.889	10
2	1618.11 / channel R7	1618.1088	-1.2	0.741	0.871	10
3	1625.49 / channel R13	1625.4932	3.2	1.969	0.999	10
4						
5						

1) Tests performed with Microwave Frequency Counter HP 5351B.

2) Tests performed with Anritsu MT 8803G Globalstar User Terminal Tester (see also screen dumps in annex 5).

Operating conditions of DUT:

see subclause 1.5.2: Operating condition 1

Special quality of measurement:Test setup(s):

see annex 1, test setup 1.2 hgj



Test equipment:

see annex 2, subclause 1: C027, R008, U015, U023, HP 8491B

Data of correction:

Photo documentation:

see annex 5

Remark and establishing:

Result of test:

pass [X]

fail []



Reference document: **FCC 47 CFR, 1st of October 1998**
S-PCN; MES, operating in the 1.6/2.4 GHz bands

Section: 25.202(f) Emission limitations
Conducted measurements at the antenna port: 9 kHz - 20 GHz

Result of test: **see annex 3, plot 16 - 41**

Reference document: **FCC 47 CFR, 1st of October 1998**
S-PCN; MES, operating in the 1.6/2.4 GHz bands

Section: 25.213(b) Protection of the radionavigation-satellite service
Conducted measurements at the antenna port: 1559 MHz - 1605 MHz

Result of test: **see annex 3, plot 13 - 15**

Reference document: **FCC 98-338, 23rd of October 1998**
S-PCN; MES, operating in the 1.6/2.4 GHz bands

Section: Appendix A, Part 10(c)

Reference document: **FCC 47 CFR, 1st of October 1998**
S-PCN; MES, operating in the 1.6/2.4 GHz bands

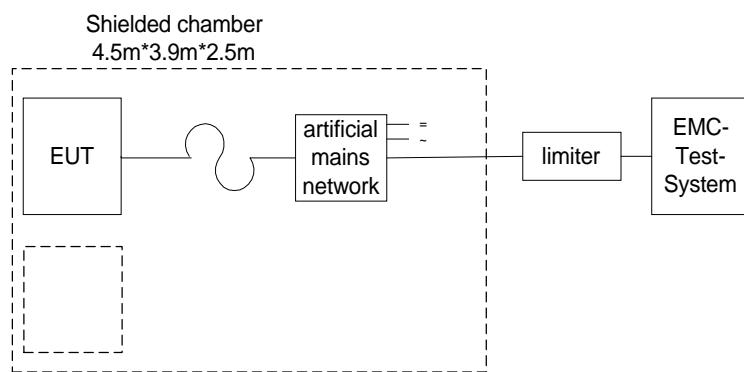
Section: 25.200(c) Interim equipment authorization, out-of-band emissions
Conducted measurements at the antenna port: 1559 MHz - 1605 MHz

Result of test: **see annex 3, plot 13 - 15**

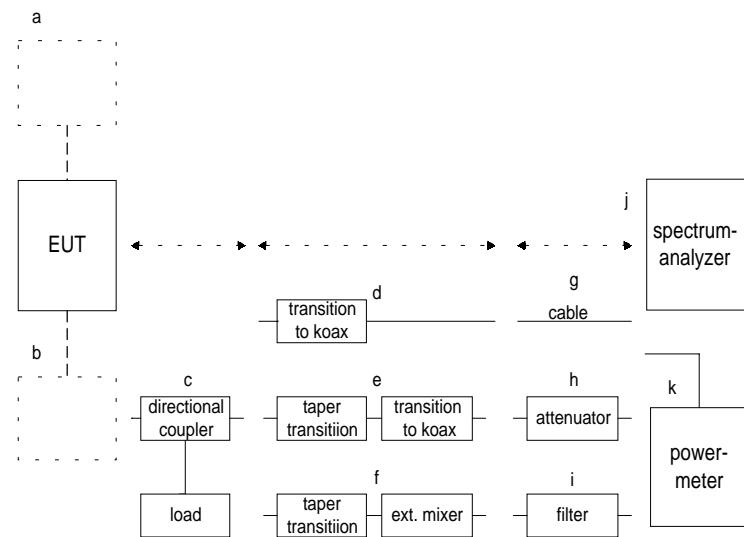


Annex 1: Measurement and test setups - schematic diagrams

1. Conducted measurements



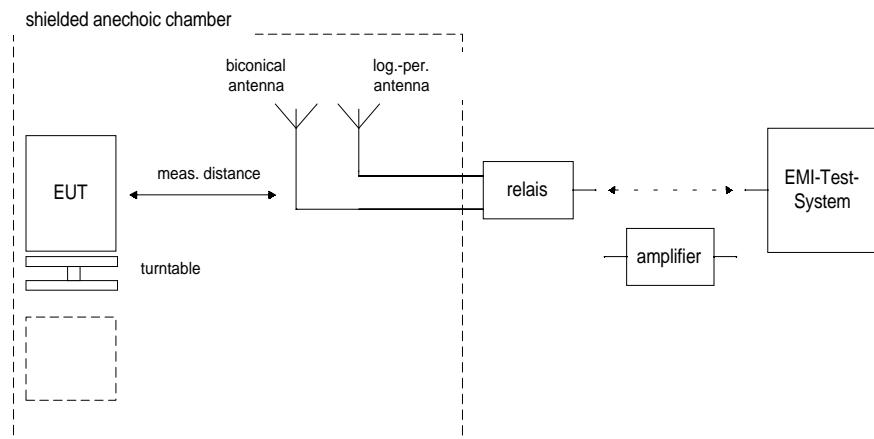
Setup 1.1



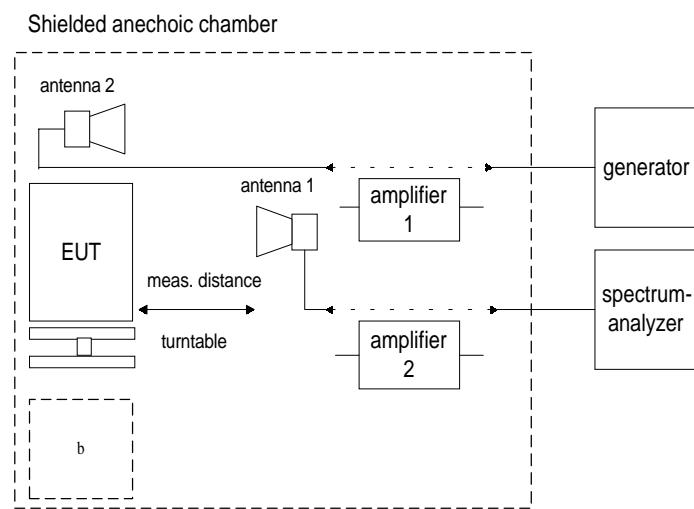
Setup 1.2 x...x



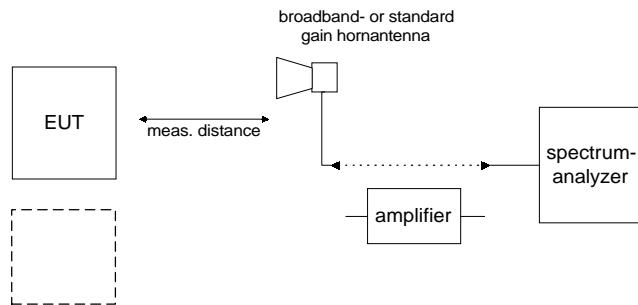
2. Radiation measurements



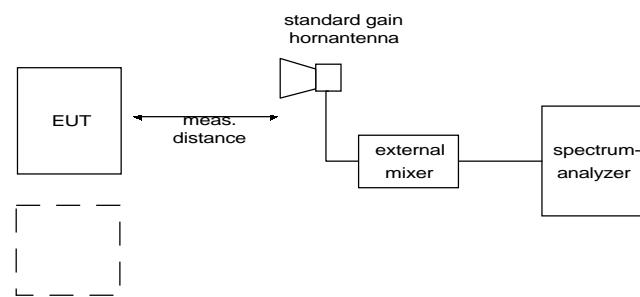
Setup 2.1



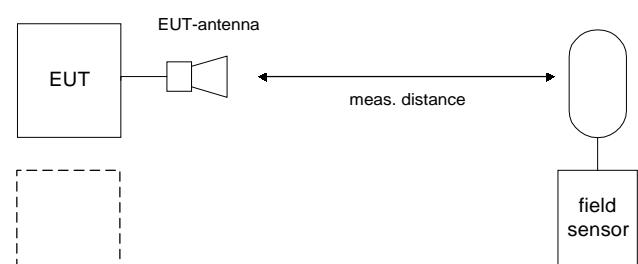
Setup 2.2



Setup 2.3



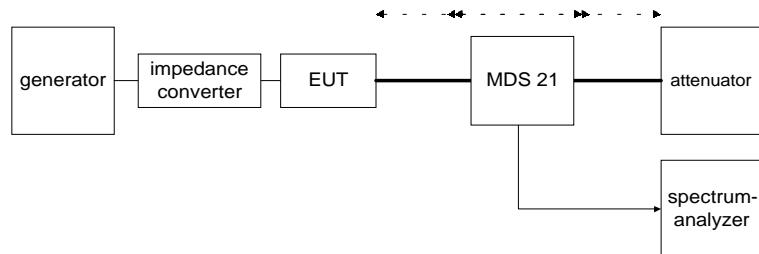
Setup 2.4



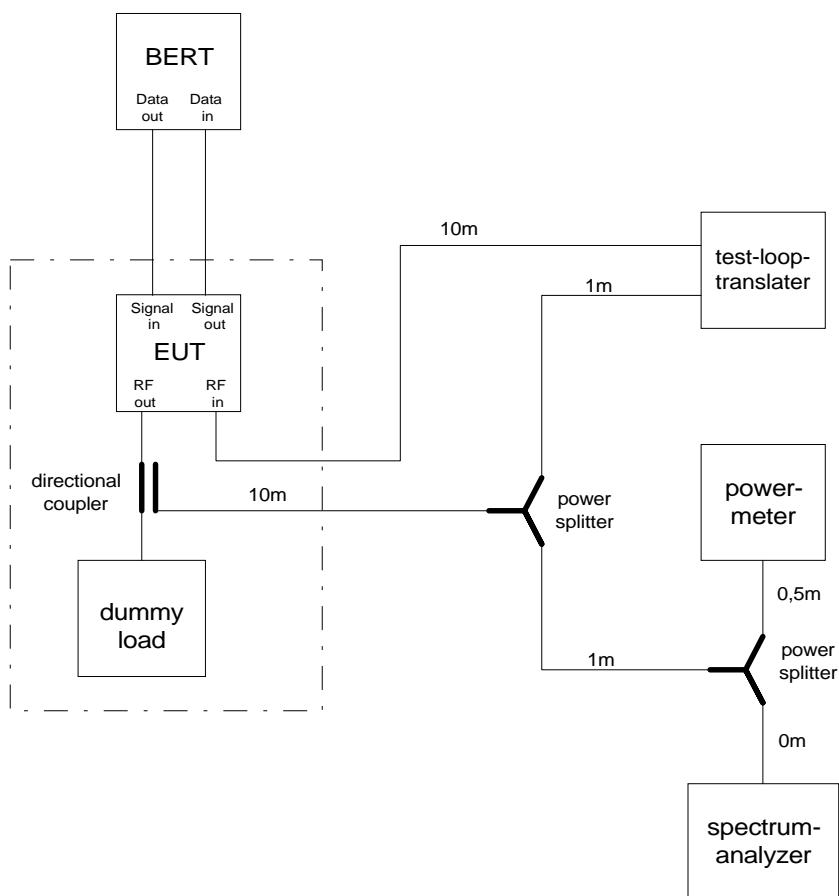
Setup 2.5



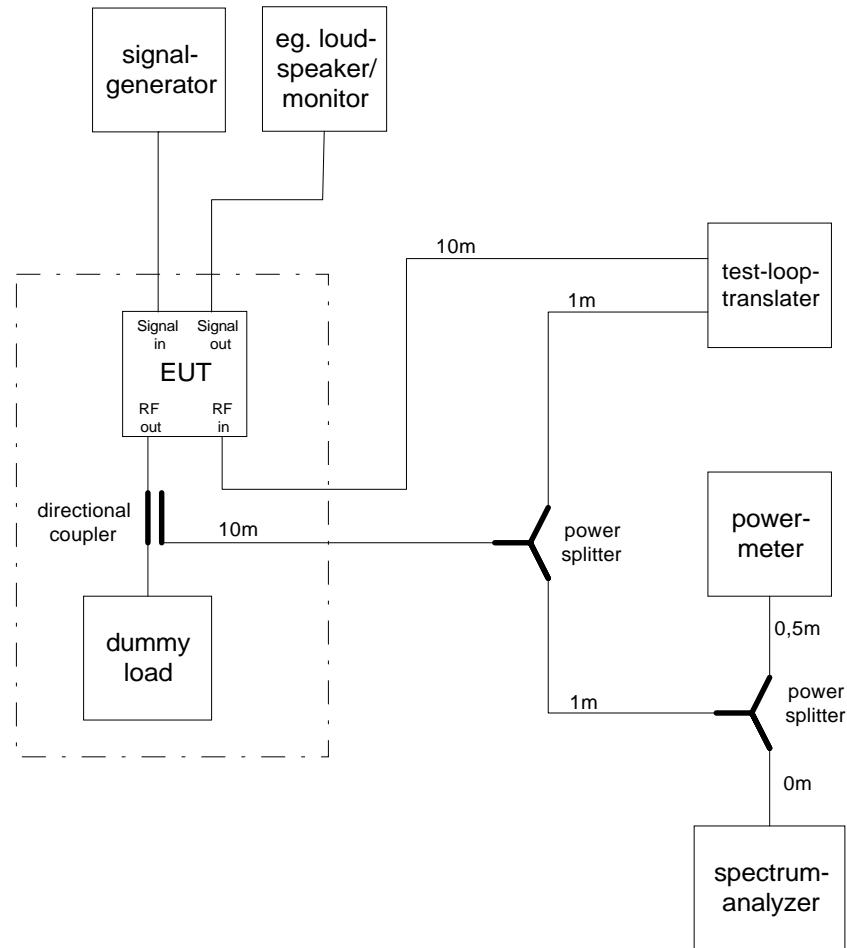
3. Immunity measurements



Setup 3.1



Setup 3.2



Setup 3.3



Annex 2: Measuring equipment used (statement of inventory)

1. Laboratory 'RSC-Sat'

Item No.	X Measuring-equipment	Manufacturer	Type	Serialnumber	Identnumber	#	Cal.-Verif.-cycle
C027	2.0 m 50 Ω / 2.4mm	Spectrum	37-2000-HM	*	300002291	1	12 Mon.
R001	Spectrum analyzer	Hewlett Packard	HP 8565E	3515A00283	300000916	1	12 Mon.
R008	Frequency counter	Hewlett Packard	5351B	2719U00174	300000893	1	12 Mon.
R011	Power Meter	Hewlett Packard	438A	2730U00683	300000852	1	12 Mon.
R013	Power-Sensor	Hewlett-Packard	8481A	2702A56276	300000891	1	12 Mon.
U015	Power splitter	Hewlett Packard	11667B	00621	300000937	1	12 Mon.
U019	Attenuator	Narda	375 BNM	43	300000315	1	12 Mon.
U023	Attenuator 10dB, k-con.	Inmet	40A-10dB	-/-		3	24 Mon.

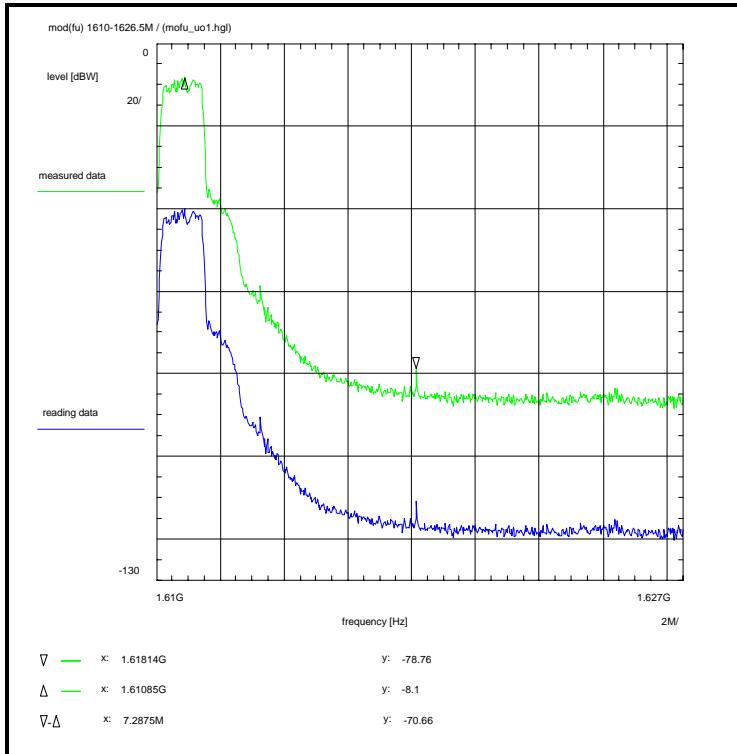


Annex 3: Measurement results

Annex 3 consists of 42 pages including this page.



Annex 3: Measurement result no. 1 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 16:31:59
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	30	kHz
Video-BW:	30	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.8	dBi
Test antenna	+ 0.0	dB
BW correction factor	+ 0.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 31.9	dB

Limit:
 no limits defined

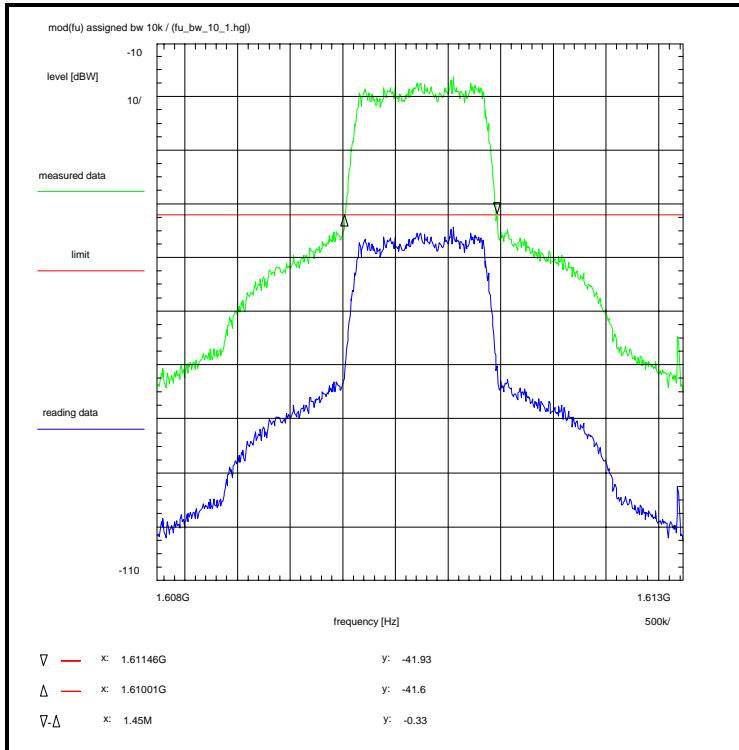
This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted as close to the lower edge of the operating frequency band.

<u>Subclause:</u>	-/-	Function test
		Modulated rf-carrier at the lower edge of the band (fu)
		Measurement within the band
<u>Test results:</u>		
see plot (an explizit table was not generated)		
<u>Operating condition of DUT:</u>		
operating condition 1, fu, see subclause 1.5.2		
<u>Test setup:</u>		
see annex 1: 1.2hgj		
<u>Test equipment:</u>		
see annex 2: C027, R001, U015, U023, HP 8491B		
<u>Data of correction:</u>		
see annex 4		
<u>Remark:</u>		
<u>Test result:</u> measurement for orientation		

Remarks:
 Test of general function of the EUT and measurement for orientation



Annex 3: Measurement result no. 2 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 16:44:33
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 23 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.60823	GHz
Stop frequency:	1.61323	GHz
Center frequency:	1.61073	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.8	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.9	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Subclause: /- Function test
 Modulated rf-carrier at the lower edge of the band (fu)
 Determination of the 'assigned bandwidth'

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

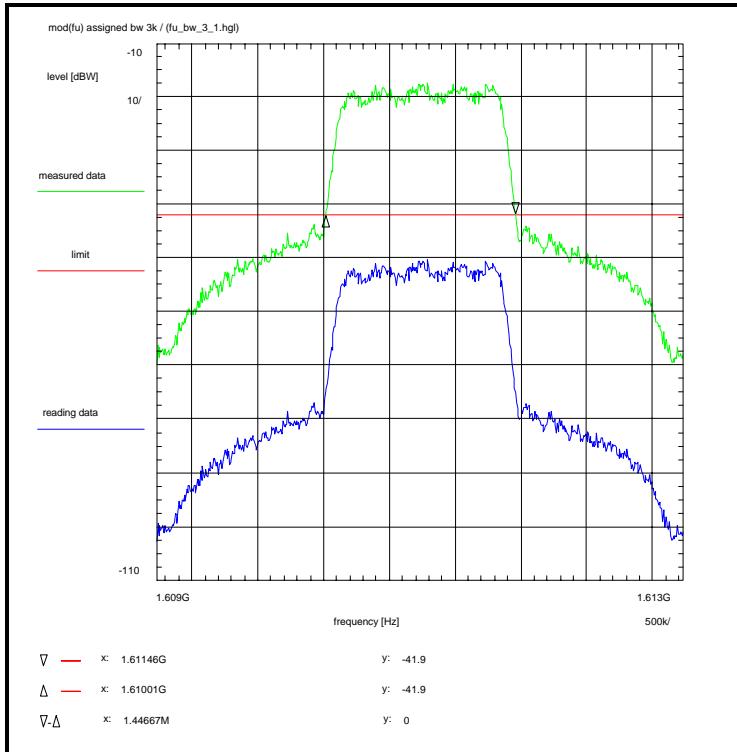
Test result: determination of the 'assigned bandwidth'

Remarks:

Determination of the 'assigned bandwidth' at fu:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 10 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 3 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 17:46:06
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 23 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.60873	GHz
Stop frequency:	1.61273	GHz
Center frequency:	1.61073	GHz
Frequency span:	4	MHz
Input attenuation:	10	dB
Resolution-BW:	3	kHz
Video-BW:	3	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.8	dBi
Test antenna	+ 0.0	dB
BW correction factor (3k -> 4k)	+ 1.2	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 33.1	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Subclause: /- Function test
 Modulated rf-carrier at the lower edge of the band (fu)
 Determination of the 'assigned bandwidth'

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

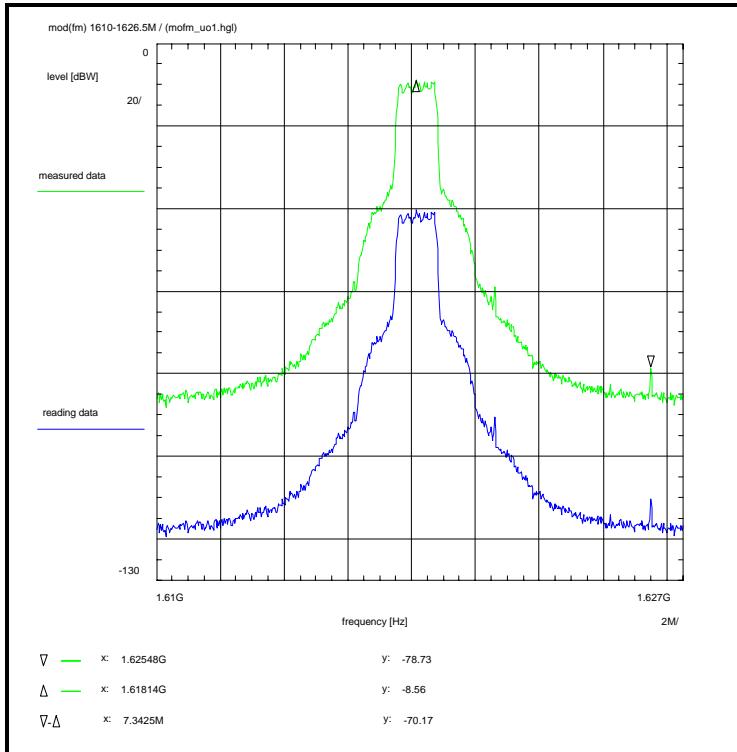
Test result: determination of the 'assigned bandwidth'

Remarks:

Determination of the 'assigned bandwidth' at fu:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 3 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 4 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 12:46:07
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	30	kHz
Video-BW:	30	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.5	dBi
Test antenna	+ 0.0	dB
BW correction factor	+ 0.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 31.6	dB

Limit:
 no limits defined

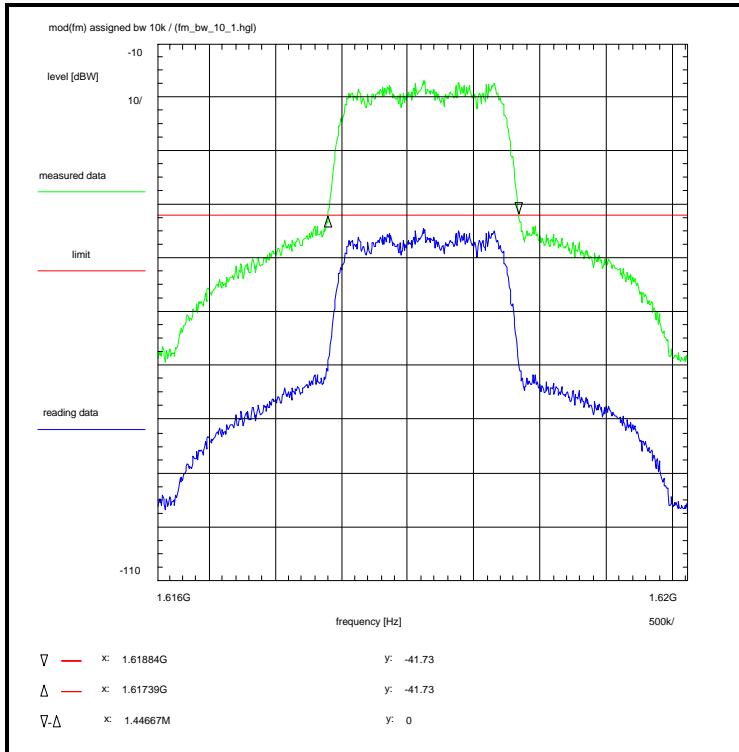
This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted in the middle of the band (EIRP).

<u>Subclause:</u>	-/-	Function test
		Modulated rf-carrier in the middle of the band (fm)
		Measurement within the band
<u>Test results:</u>		
see plot (an explicit table was not generated)		
<u>Operating condition of DUT:</u>		
operating condition 1, fm, see subclause 1.5.2		
<u>Test setup:</u>		
see annex 1: 1.2hgj		
<u>Test equipment:</u>		
see annex 2: C027, R001, U015, U023, HP 8491B		
<u>Data of correction:</u>		
see annex 4		
<u>Remark:</u>		
<u>Test result:</u> measurement for orientation		

Remarks:
 Test of general function of the EUT and measurement for orientation



Annex 3: Measurement result no. 5 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 13:19:36
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61611	GHz
Stop frequency:	1.62011	GHz
Center frequency:	1.61811	GHz
Frequency span:	4	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.5	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.6	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Subclause: /- Function test
 Modulated rf-carrier in the middle of the band (fm)
 Determination of the 'assigned bandwidth'

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

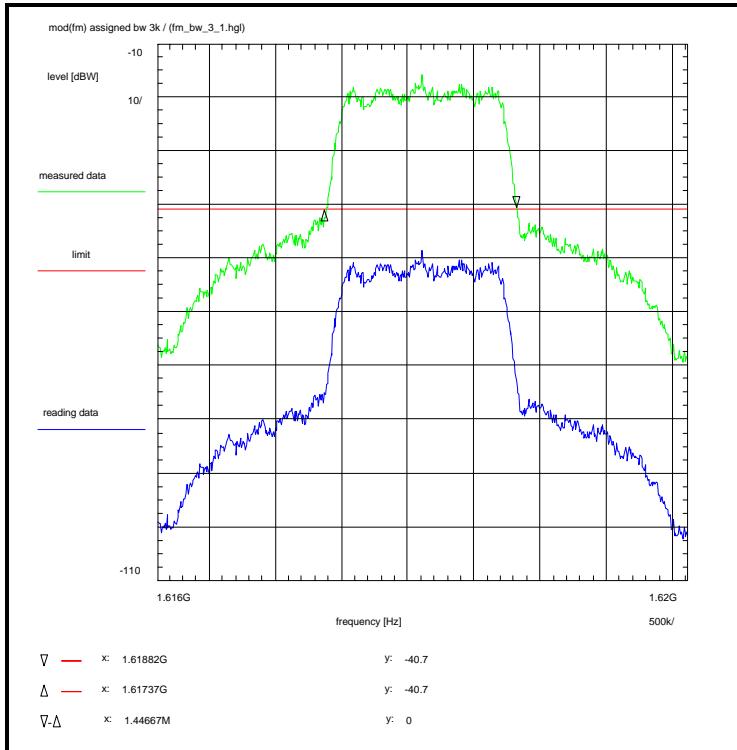
Test result: determination of the 'assigned bandwidth'

Remarks:

Determination of the 'assigned bandwidth' at fm:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 10 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 6 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 13:25:01
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61611	GHz
Stop frequency:	1.62011	GHz
Center frequency:	1.61811	GHz
Frequency span:	4	MHz
Input attenuation:	10	dB
Resolution-BW:	3	kHz
Video-BW:	3	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.5	dBi
Test antenna	+ 0.0	dB
BW correction factor (3k -> 4k)	+ 1.2	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 32.8	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Subclause: /- Function test
 Modulated rf-carrier in the middle of the band (fm)
 Determination of the 'assigned bandwidth'

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

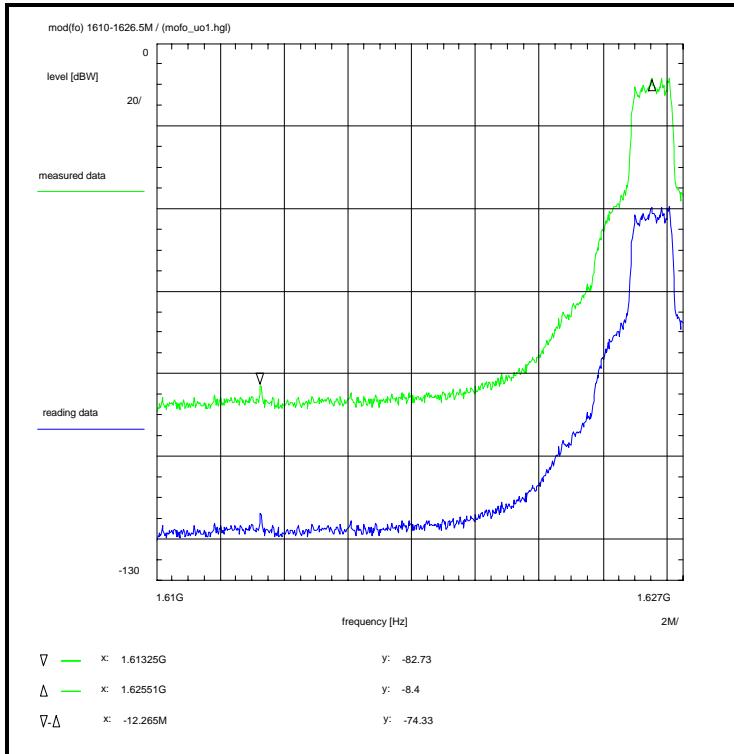
Test result: determination of the 'assigned bandwidth'

Remarks:

Determination of the 'assigned bandwidth' at fm:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 3 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 7 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 08:45:25
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	30	kHz
Video-BW:	30	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor	+ 0.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 31.1	dB

Limit:
 no limits defined

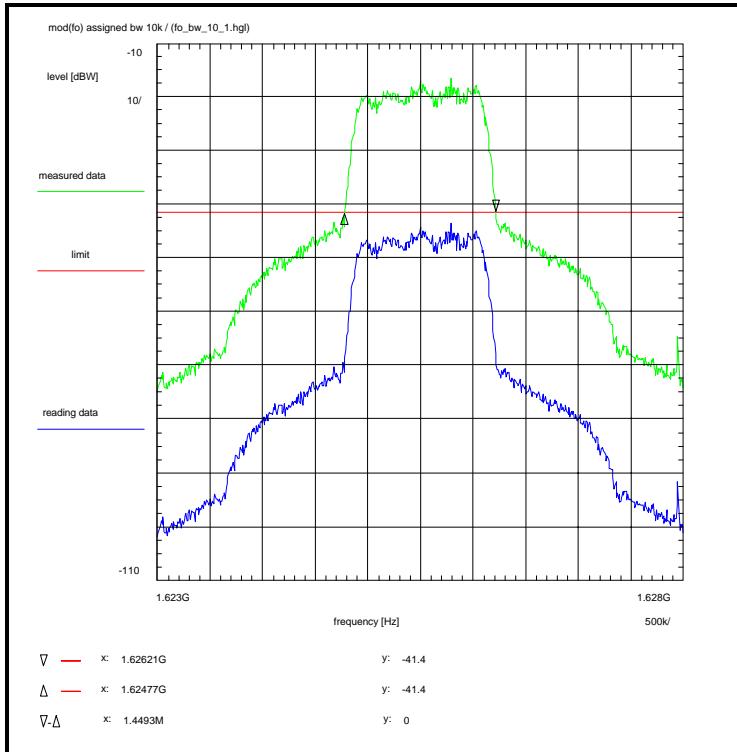
This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted as close to the upper edge of the operating frequency band.

<u>Subclause:</u>	-/-	Function test Modulated rf-carrier at the upper edge of the band (fo) Measurement within the band
<u>Test results:</u> see plot (an explicit table was not generated)		
<u>Operating condition of DUT:</u> operating condition 1, fo, see subclause 1.5.2		
<u>Test setup:</u> see annex 1: 1.2hgj		
<u>Test equipment:</u> see annex 2: C027, R001, U015, U023, HP 8491B		
<u>Data of correction:</u> see annex 4		
<u>Remark:</u>		
<u>Test result:</u> measurement for orientation		

Remarks:
 Test of general function of the EUT and measurement for orientation



Annex 3: Measurement result no. 8 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 08:50:12
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62299	GHz
Stop frequency:	1.62799	GHz
Center frequency:	1.62549	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.1	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Subclause: /- Function test
 Modulated rf-carrier at the upper edge of the band (fo)
 Determination of the 'assigned bandwidth'

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

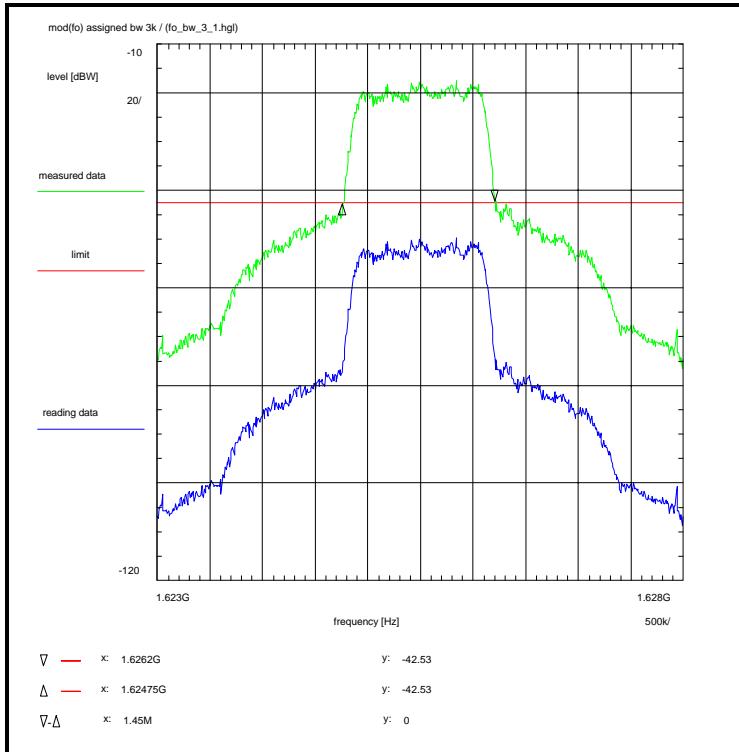
Test result: determination of the 'assigned bandwidth'

Remarks:

Determination of the 'assigned bandwidth' at fo:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 10 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 9 (41)



Information on the measurement:

Environment condition:

Date & Time: Fri 07/Apr/2000 08:56:38
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62299	GHz
Stop frequency:	1.62799	GHz
Center frequency:	1.62549	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	3	kHz
Video-BW:	3	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor (3k -> 4k)	+ 1.2	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 32.3	dB

Limit:

no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

<u>Subclause:</u>	-/-	Function test Modulated rf-carrier at the upper edge of the band (fo) Determination of the 'assigned bandwidth'
<u>Test results:</u> see plot (an explicit table was not generated)		
<u>Operating condition of DUT:</u> operating condition 1, fo, see subclause 1.5.2		
<u>Test setup:</u> see annex 1: 1.2hgj		
<u>Test equipment:</u> see annex 2: C027, R001, U015, U023, HP 8491B		
<u>Data of correction:</u> see annex 4		
<u>Remark:</u>		
<u>Test result:</u> determination of the 'assigned bandwidth'		

Information on the measurement:

Environment condition:

Date & Time: Fri 07/Apr/2000 08:56:38
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62299	GHz
Stop frequency:	1.62799	GHz
Center frequency:	1.62549	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	3	kHz
Video-BW:	3	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor (3k -> 4k)	+ 1.2	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 32.3	dB

Limit:

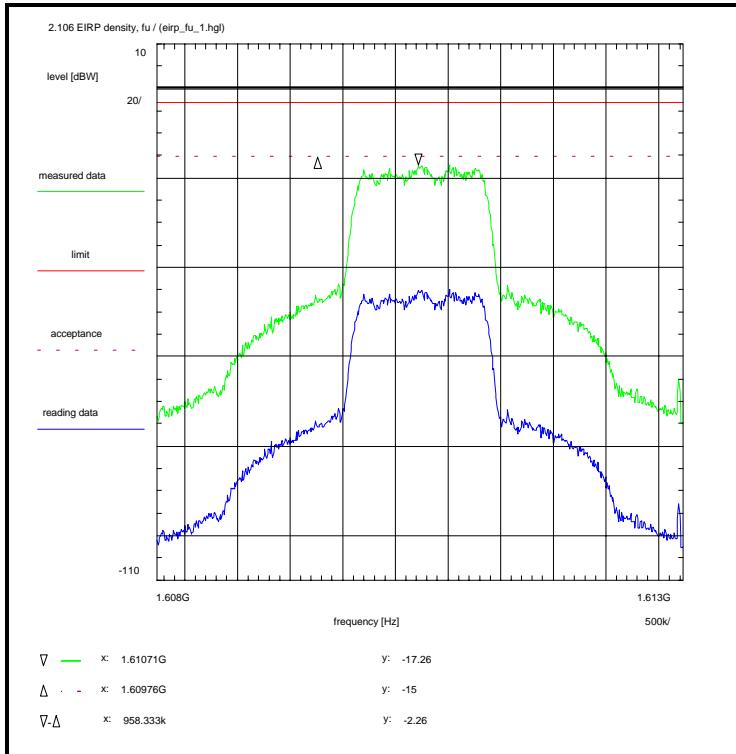
no limits defined
 The limit line in the plot of -25dBc/4kHz is useful for orientation and corresponds to the restriction for 'Emission limitations' (see 25.202 f).

Remarks:

Determination of the 'assigned bandwidth' at fo:
 The measured value is about 1450 kHz (delta marker)
 Measurement with 3 kHz resolution filter and noise averaging.



Annex 3: Measurement result no. 10 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 17:51:34
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 23 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.60823 GHz
 Stop frequency: 1.61323 GHz
 Center frequency: 1.61073 GHz
 Frequency span: 5 MHz
 Input attenuation: 10 dB
 Resolution-BW: 10 kHz
 Video-BW: 10 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.1 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 27.9 dB

Limit:

Limits acc. to 2.106: -3.0 dBW/4kHz
 (-15 dBW/4kHz)

Subclause: 2.106 EIRP density within the operational band
 Carrier-on state, modulated carrier at the lower edge of the band (f_u)
 Conducted measurement at the antenna-connector

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, f_u , see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

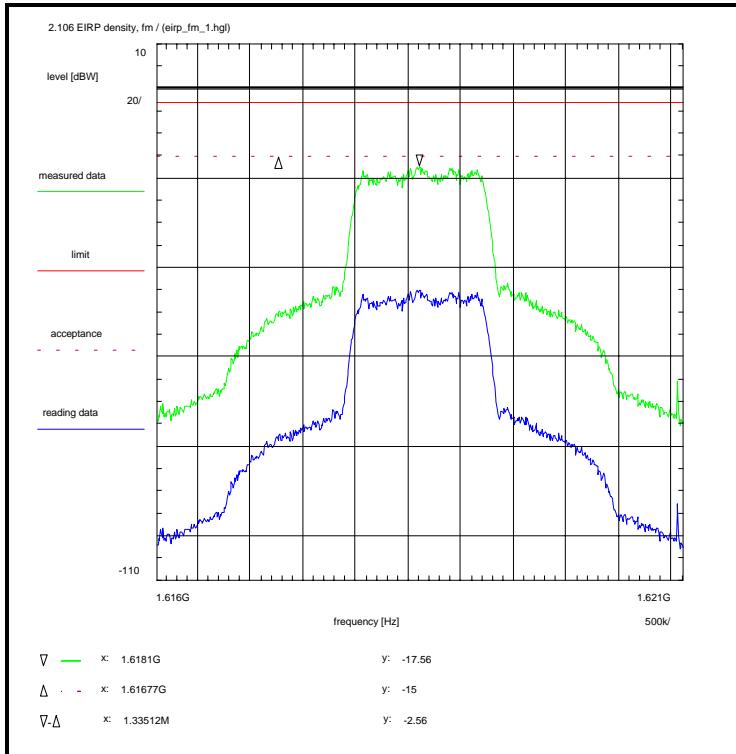
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (f_u)
 Measurement with 10 kHz resolution filter and noise averaging



Annex 3: Measurement result no. 11 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 13:34:05
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61561	GHz
Stop frequency:	1.62061	GHz
Center frequency:	1.61811	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.5	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.6	dB

Limit:

Limits acc. to 2.106: -3.0 dBW/4kHz
 (-15 dBW/4kHz)

Subclause: 2.106 EIRP density within the operational band
 Carrier-on state, modulated carrier in the middle of the band (fm)
 Conducted measurement at the antenna-connector

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

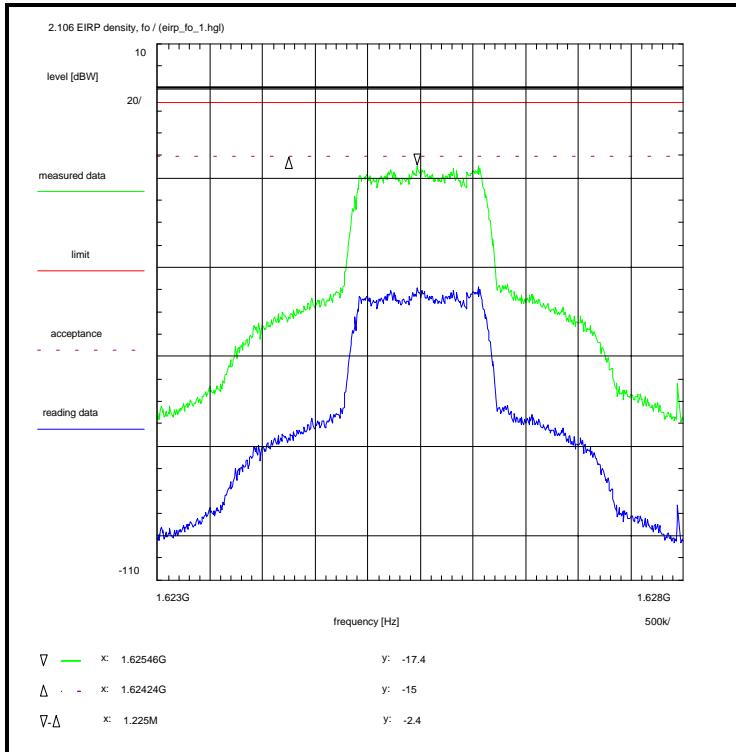
Test result: Test passed

Remarks:

Carrier-on state / Carrier in the middle of the band (fm)
 Measurement with 10 kHz resolution filter and noise averaging



Annex 3: Measurement result no. 12 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 08:59:37
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62299	GHz
Stop frequency:	1.62799	GHz
Center frequency:	1.62549	GHz
Frequency span:	5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.1	dB

Limit:

Limits acc. to 2.106: -3.0 dBW/4kHz
 (-15 dBW/4kHz)

Subclause: 2.106 EIRP density within the operational band
 Carrier-on state, modulated carrier at the upper edge of the band (f_0)
 Conducted measurement at the antenna-connector

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, f_0 , see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

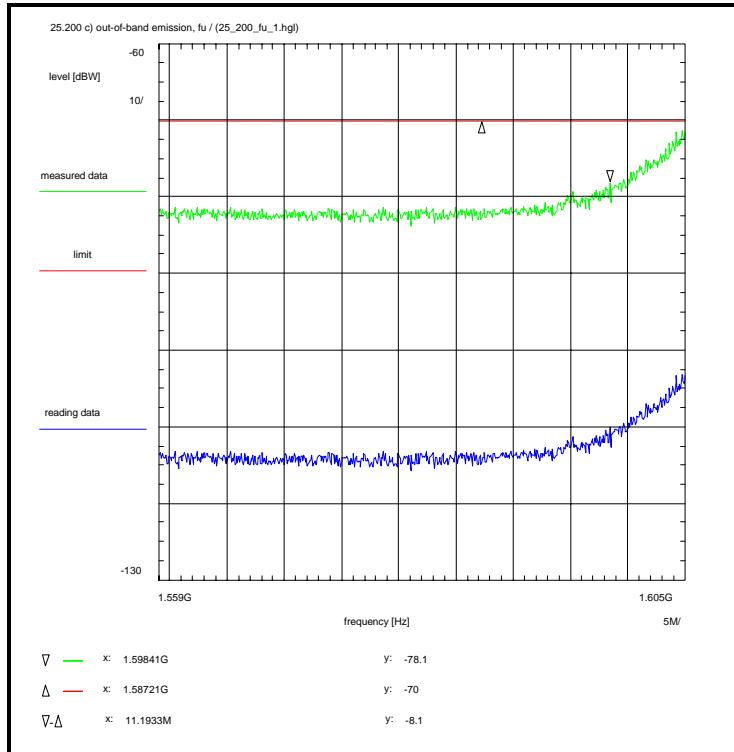
Test result: Test passed

Remarks:

Carrier-on state / Carrier at the upper edge of the band (f_0)
 Measurement with 10 kHz resolution filter and noise averaging



Annex 3: Measurement result no. 13 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 18:00:30
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 23 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.559 GHz
 Stop frequency: 1.605 GHz
 Center frequency: 1.582 GHz
 Frequency span: 46 MHz
 Input attenuation: 0 dB
 Resolution-BW: 1 MHz
 Video-BW: 1 MHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.1 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 31.9 dB

Limit:

Limit acc. to 25.200 c) and 25.213 b): -70.0 dBW/1MHz
 -80.0 dBW (for spurious only)

Subclause: 25.200 c) Interim equipment authorization, out-of-band limitation and
 25.213 b) Inter-Service coordination requirements for the 1.6/2.4 GHz MSS
 Protection of the radio-navigation-satellite service

Test results:

see plot (an explicit table was not generated)

Operating condition of DUT:

operating condition 1, f_u , see subclause 1.5.2

Test setup:

see annex 1: 1.2hgj

Test equipment:

see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:

see annex 4

Remark:

Test result: Test passed

Remarks:

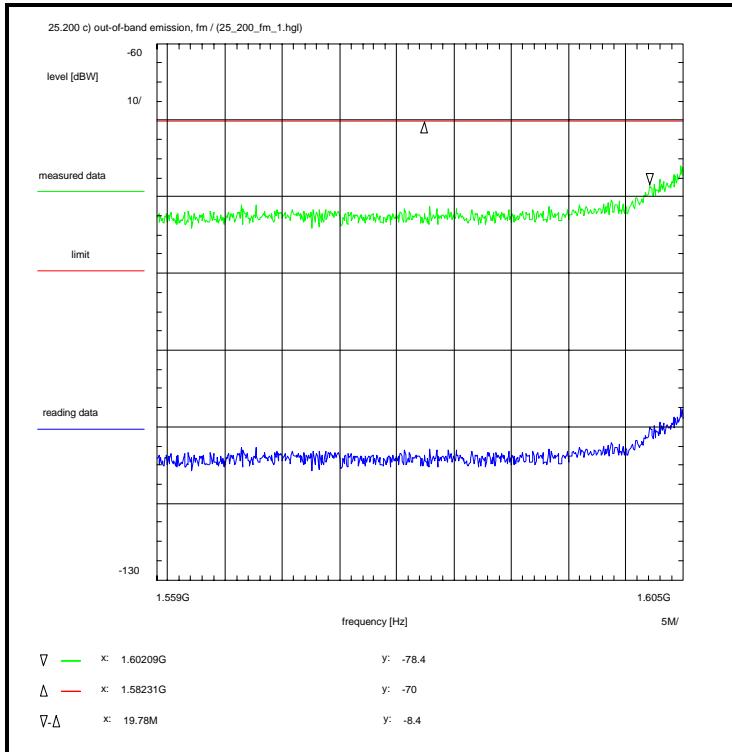
Carrier-on state / Carrier at the lower edge of the band (f_u)

For EIRP calculation:

worst-case = maximum antenna gain



Annex 3: Measurement result no. 14 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 13:36:18
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.559 GHz
 Stop frequency: 1.605 GHz
 Center frequency: 1.582 GHz
 Frequency span: 46 MHz
 Input attenuation: 0 dB
 Resolution-BW: 1 MHz
 Video-BW: 1 MHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.1 dB
DUT-Antenna (on-axis)	+ 4.5 dBi
Test antenna	+ 0.0 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 31.6 dB

Limit:

Limit acc. to 25.200 c) and 25.213 b): -70.0 dBW/1MHz
 -80.0 dBW (for spurious only)

Subclause: 25.200 c) Interim equipment authorization, out-of-band limitation and
 25.213 b) Inter-Service coordination requirements for the 1.6/2.4 GHz MSS
 Protection of the radio-navigation-satellite service

Test results:

see plot (an explicit table was not generated)

Operating condition of DUT:

operating condition 1, fm, see subclause 1.5.2

Test setup:

see annex 1: 1.2hgj

Test equipment:

see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:

see annex 4

Remark:

Test result: Test passed

Remarks:

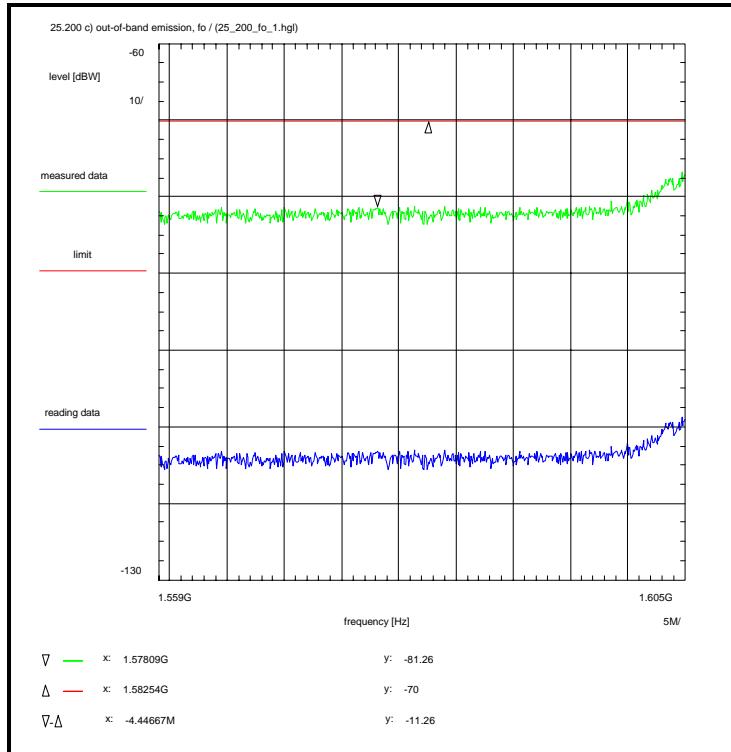
Carrier-on state / Carrier in the middle of the band (fm)

For EIRP calculation:

worst-case = maximum antenna gain



Annex 3: Measurement result no. 15 (41)



Information on the measurement:

Environment condition:

Date & Time: Fri 07/Apr/2000 09:01:24
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.559 GHz
 Stop frequency: 1.605 GHz
 Center frequency: 1.582 GHz
 Frequency span: 46 MHz
 Input attenuation: 0 dB
 Resolution-BW: 1 MHz
 Video-BW: 1 MHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.1 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 31.9 dB

Limit:

Limit acc. to 25.200 c) and 25.213 b): -70.0 dBW/1MHz
 -80.0 dBW (for spurious only)

Subclause: 25.200 c) Interim equipment authorization, out-of-band limitation and
 25.213 b) Inter-Service coordination requirements for the 1.6/2.4 GHz MSS
 Protection of the radio-navigation-satellite service

Test results:

see plot (an explicit table was not generated)

Operating condition of DUT:

operating condition 1, f_o , see subclause 1.5.2

Test setup:

see annex 1: 1.2hgj

Test equipment:

see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:

see annex 4

Remark:

Test result: Test passed

Remarks:

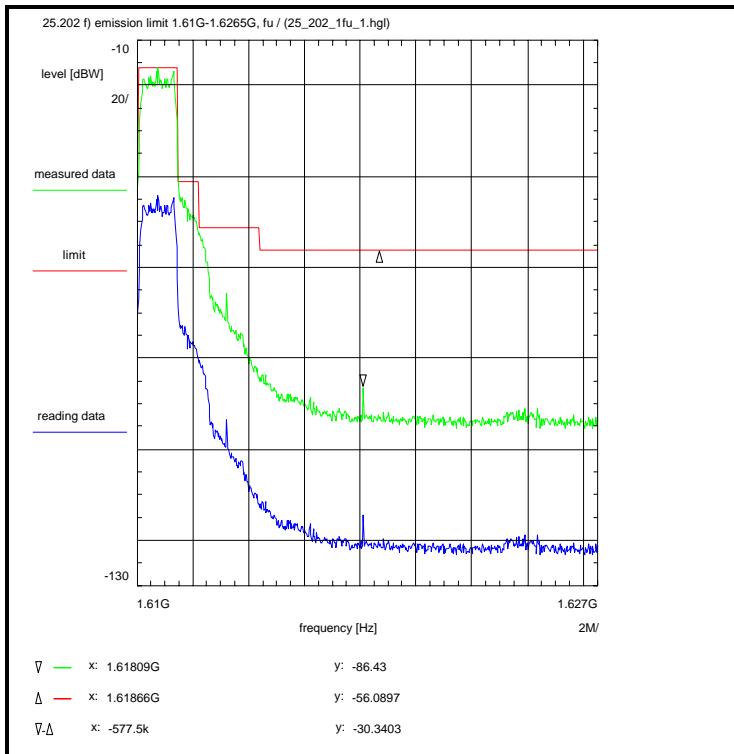
Carrier-on state / Carrier at the upper edge of the band (f_o)

For EIRP calculation:

worst-case = maximum antenna gain



Annex 3: Measurement result no. 16 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:05:58
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.1	dB
DUT-Antenna (on-axis)	+	4.8	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	27.9	dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

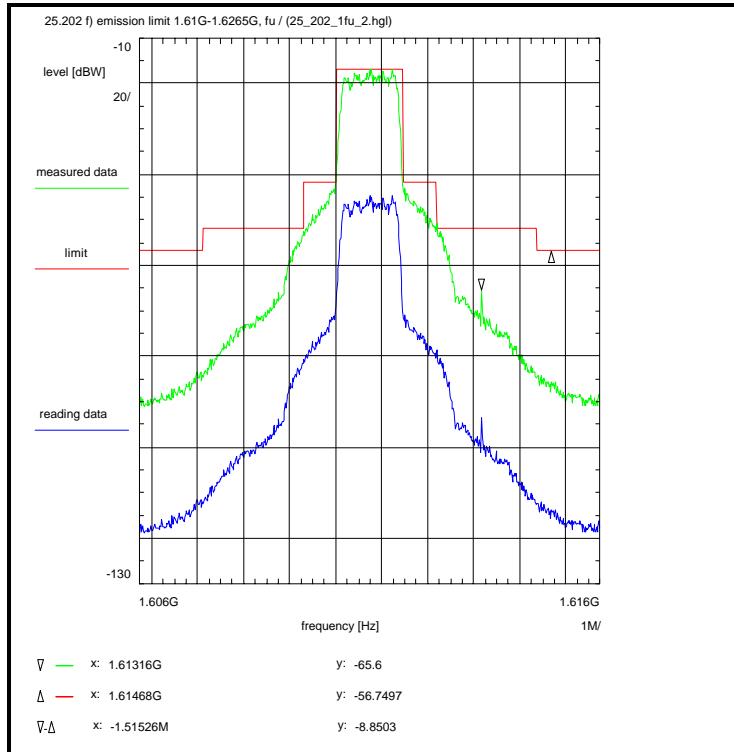
Test result: see next plot

Remarks:

Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 17 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:08:03
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.60573	GHz
Stop frequency:	1.61573	GHz
Center frequency:	1.61073	GHz
Frequency span:	10	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.1	dB
DUT-Antenna (on-axis)	+	4.8	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	27.9	dB

Limit:

<u>Limit acc. to 25.202 f):</u>	
50-100% of assigned bw:	-25dBc/4kHz
100-250% of assigned bw:	-35dBc/4kHz
> 250% of assigned bw:	-43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

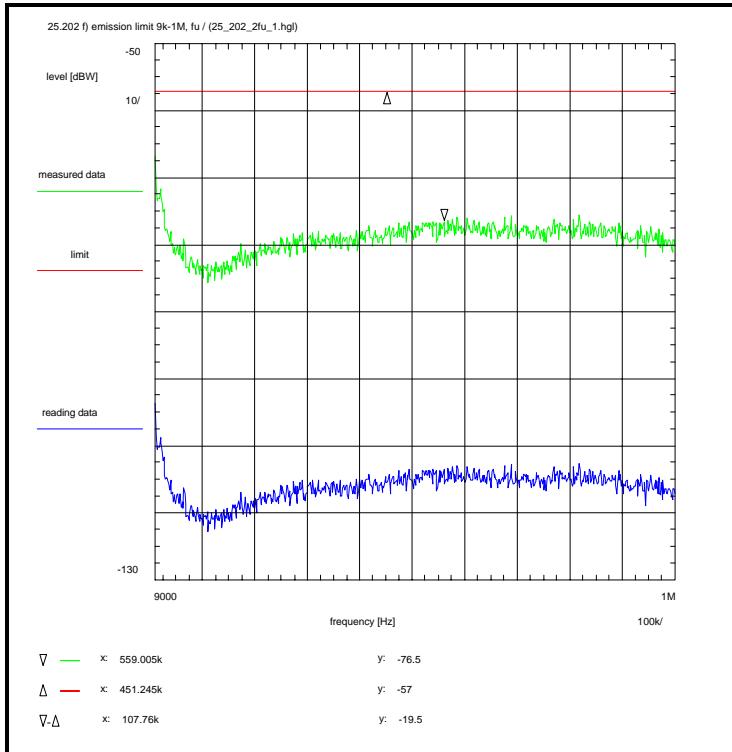
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 18 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:10:22
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:
 Start frequency: 9 kHz
 Stop frequency: 1 MHz
 Center frequency: 504.5 kHz
 Frequency span: 991 kHz
 Input attenuation: 10 dB
 Resolution-BW: 1 kHz
 Video-BW: 1 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:
 Directional coupler + 0.0 dB
 Coaxial cable (C027) + 0.2 dB
 DUT-Antenna (on-axis) + 4.8 dBi
 Test antenna + 0.0 dB
 BW correction factor (1k -> 4k) + 6.0 dB
 Atten. between HPA and feedhorn + 0.0 dB
 Attenuation (U023) + 10.0 dB
 Attenuation (HP8491B) + 10.0 dB
 Power splitter (U015) + 6.0 dB
 TOTAL CORRECTION: + 37.0 dB

Limit:
Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

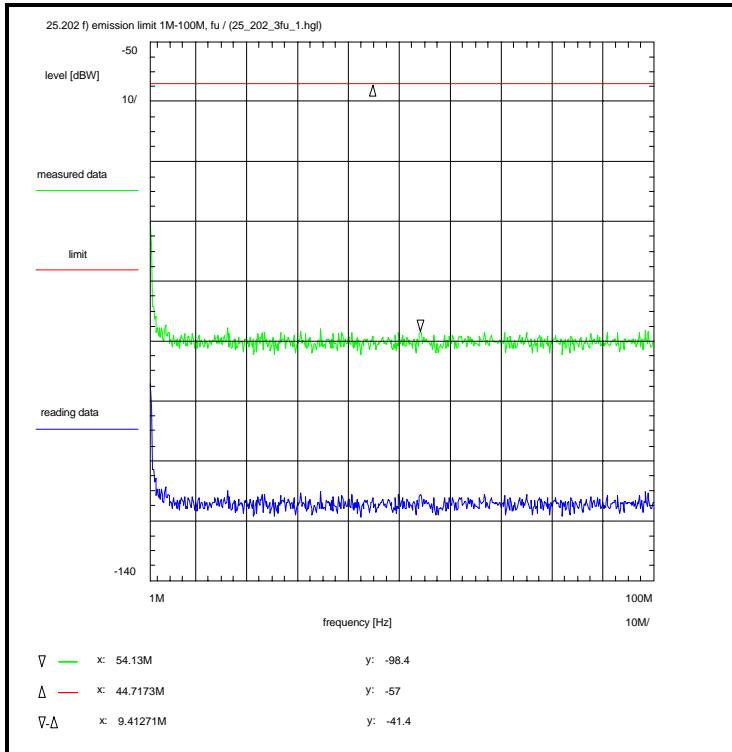
Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain

Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 19 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 18:12:45
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1 MHz
 Stop frequency: 100 MHz
 Center frequency: 50.5 MHz
 Frequency span: 99 MHz
 Input attenuation: 10 dB
 Resolution-BW: 10 kHz
 Video-BW: 10 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 0.3 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 27.1 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
 Emission limitations
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:

see plot (an explizit table was not generated)

Operating condition of DUT:

operating condition 1, fu, see subclause 1.5.2

Test setup:

see annex 1: 1.2hgj

Test equipment:

see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:

see annex 4

Remark:

Test result: Test passed

Remarks:

Carrier-on state / Carrier at the lower edge of the band (fu)

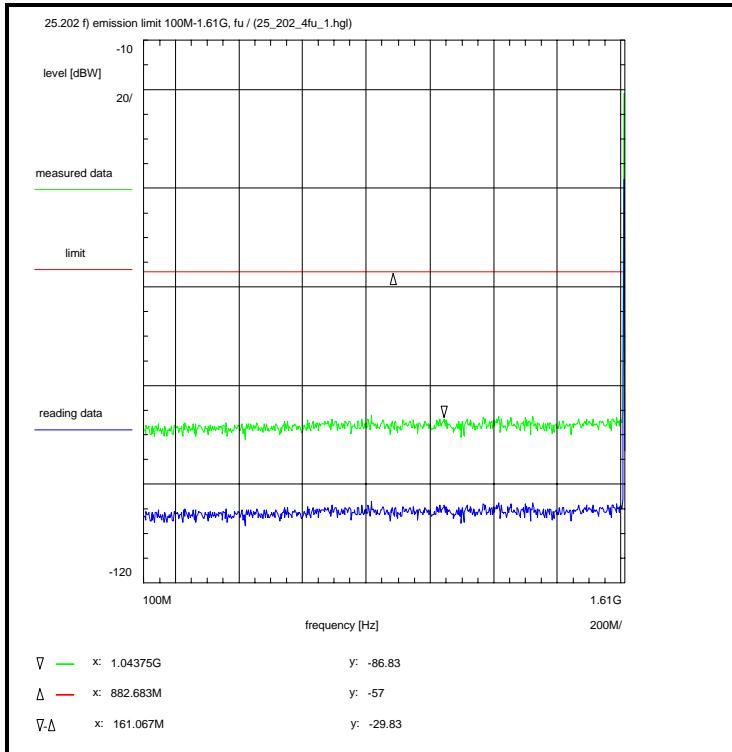
For EIRP calculation:

'worst-case' = maximum antenna gain

Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 20 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:14:55
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	100	MHz
Stop frequency:	1.61	GHz
Center frequency:	855	MHz
Frequency span:	1.51	GHz
Input attenuation:	20	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	0.7	dB
DUT-Antenna (on-axis)	+	4.8	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	17.5	dB

Limit:

Limit acc. to 25.202 f):	-25dBc/4kHz
50-100% of assigned bw:	-35dBc/4kHz
100-250% of assigned bw:	-43+10log(Pmax)dBc/4kHz
> 250% of assigned bw:	

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

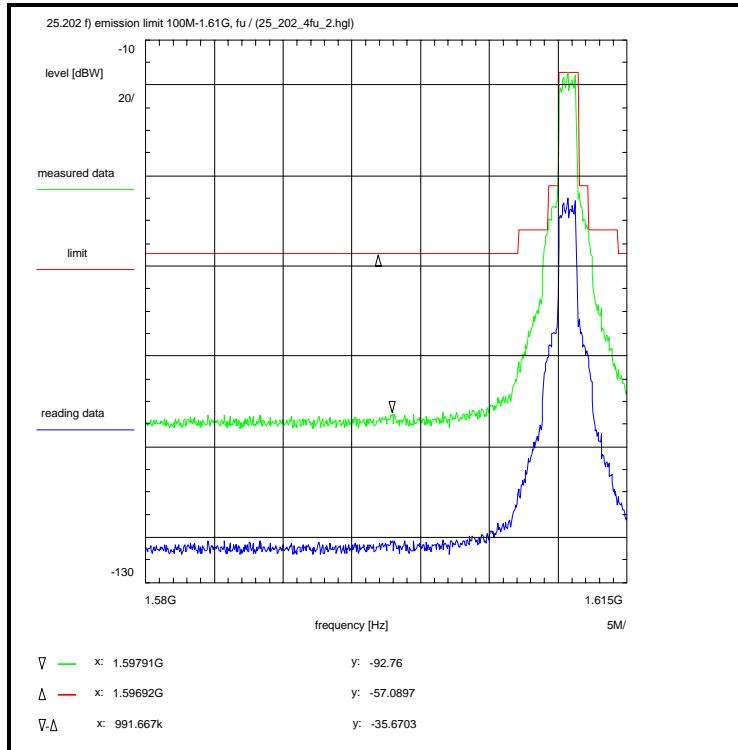
Remark:
 see next plot, too

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain
 Rather right the plot shows parts of the wanted signal.



Annex 3: Measurement result no. 21 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:21:04
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.58	GHz
Stop frequency:	1.615	GHz
Center frequency:	1.5975	GHz
Frequency span:	35	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.1	dB
DUT-Antenna (on-axis)	+	4.8	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	27.9	dB

Limit:

<u>Limit acc. to 25.202 f):</u>	
50-100% of assigned bw:	-25dBc/4kHz
100-250% of assigned bw:	-35dBc/4kHz
> 250% of assigned bw:	-43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

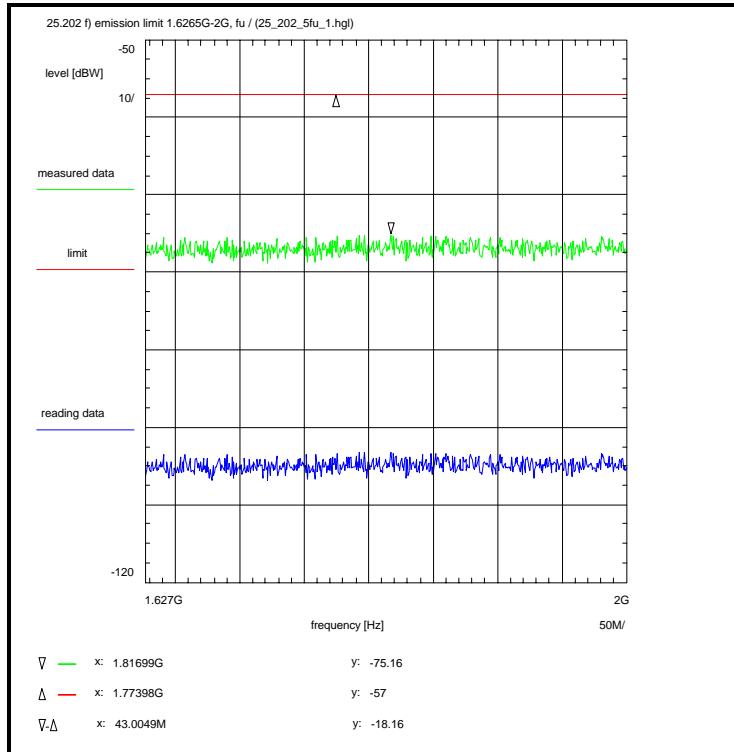
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 22 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 18:23:35
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.6265 GHz
 Stop frequency: 2 GHz
 Center frequency: 1.81325 GHz
 Frequency span: 373.5 MHz
 Input attenuation: 20 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.2 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 28.0 dB

Limit:

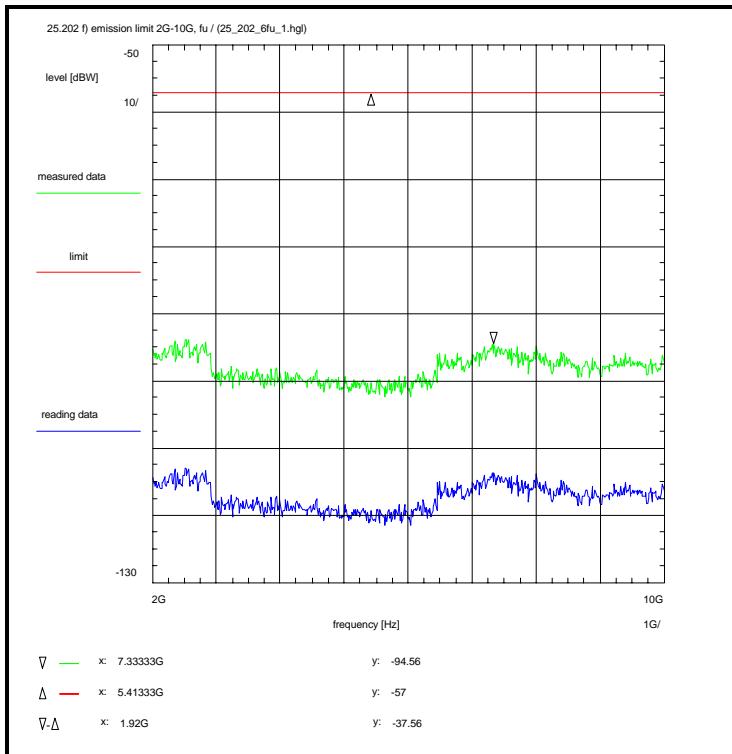
Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause:	25.202 f) Frequencies, frequency tolerance and emission limitations
	Emission limitations
	Modulated rf-carrier at the lower edge of the band (fu)
<u>Test results:</u>	see plot (an explizit table was not generated)
<u>Operating condition of DUT:</u>	operating condition 1, fu, see subclause 1.5.2
<u>Test setup:</u>	see annex 1: 1.2hgj
<u>Test equipment:</u>	see annex 2: C027, R001, U015, U023, HP 8491B
<u>Data of correction:</u>	see annex 4
<u>Remark:</u>	
<u>Test result:</u>	Test passed

<u>Remarks:</u>	Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:	
	'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 23 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:29:12
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:
 Start frequency: 2 GHz
 Stop frequency: 10 GHz
 Center frequency: 6 GHz
 Frequency span: 8 GHz
 Input attenuation: 10 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:
 Directional coupler + 0.0 dB
 Coaxial cable (C027) + 2.3 dB
 DUT-Antenna (on-axis) + 4.8 dBi
 Test antenna + 0.0 dB
 BW correction factor (100k -> 4k) - 14.0 dB
 Atten. between HPA and feedhorn + 0.0 dB
 Attenuation (U023) + 10.0 dB
 Attenuation (HP8491B) + 10.0 dB
 Power splitter (U015) + 6.0 dB
 TOTAL CORRECTION: + 19.1 dB

Limit:
Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

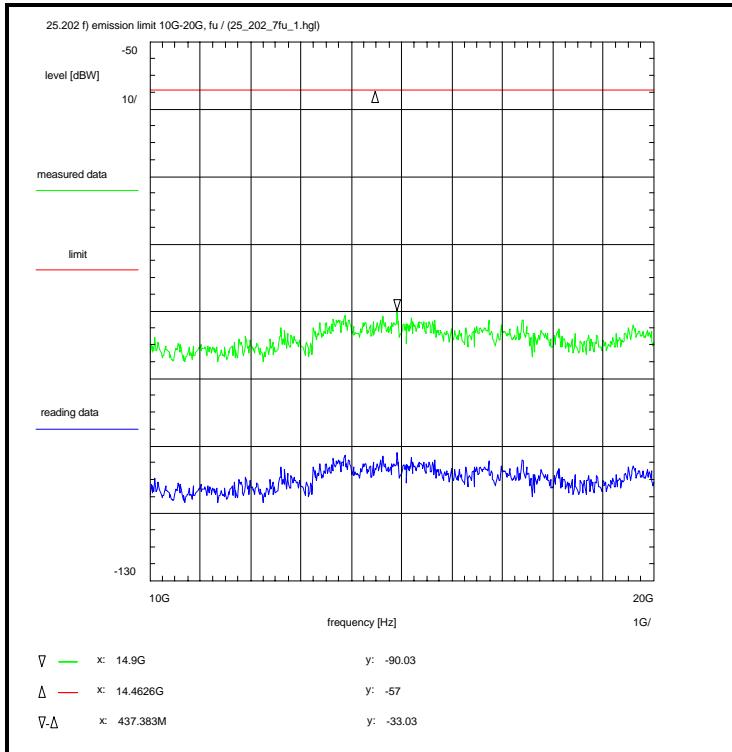
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 24 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 18:33:43
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	10 GHz
Stop frequency:	20 GHz
Center frequency:	15 GHz
Frequency span:	10 GHz
Input attenuation:	10 dB
Resolution-BW:	100 kHz
Video-BW:	100 kHz
Video-Average:	100 sweep(s) (>1)
Detector-Mode:	1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 3.7 dB
DUT-Antenna (on-axis)	+ 4.8 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.3 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 20.8 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the lower edge of the band (fu)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fu, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

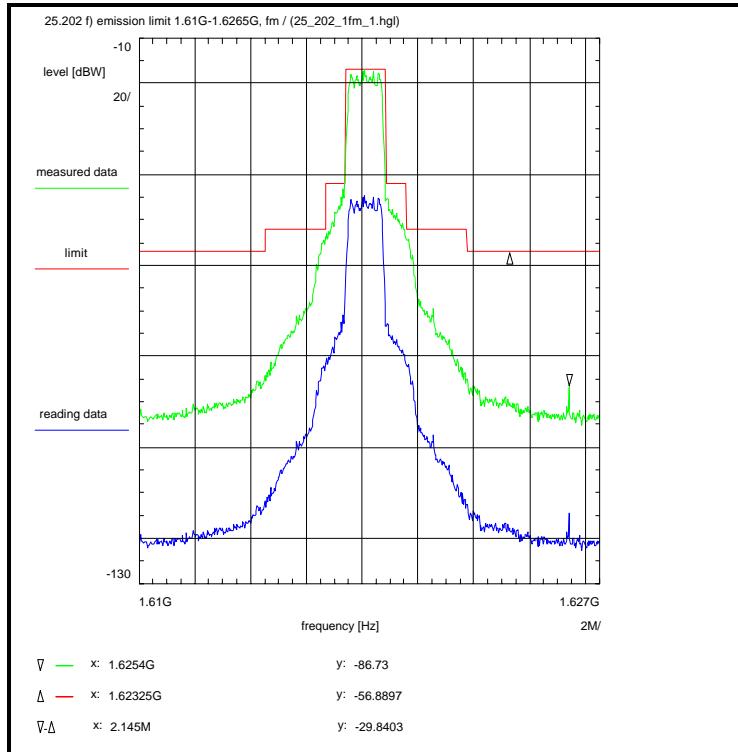
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the lower edge of the band (fu)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 25 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 13:50:03
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.5	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.6	dB

Limit:

<u>Limit acc. to 25.202 f):</u>	
50-100% of assigned bw:	-25dBc/4kHz
100-250% of assigned bw:	-35dBc/4kHz
> 250% of assigned bw:	-43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

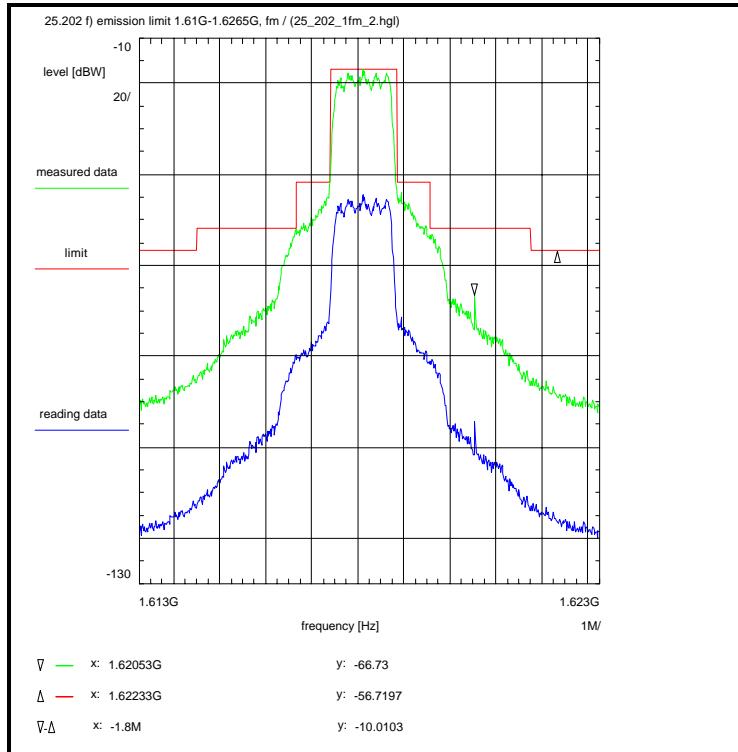
Remark:

Test result: see next plot

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 26 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 13:54:27
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61325	GHz
Stop frequency:	1.62325	GHz
Center frequency:	1.61825	GHz
Frequency span:	10	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.1	dB
DUT-Antenna (on-axis)	+	4.5	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	27.6	dB

Limit:

<u>Limit acc. to 25.202 f):</u>	
50-100% of assigned bw:	-25dBc/4kHz
100-250% of assigned bw:	-35dBc/4kHz
> 250% of assigned bw:	-43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

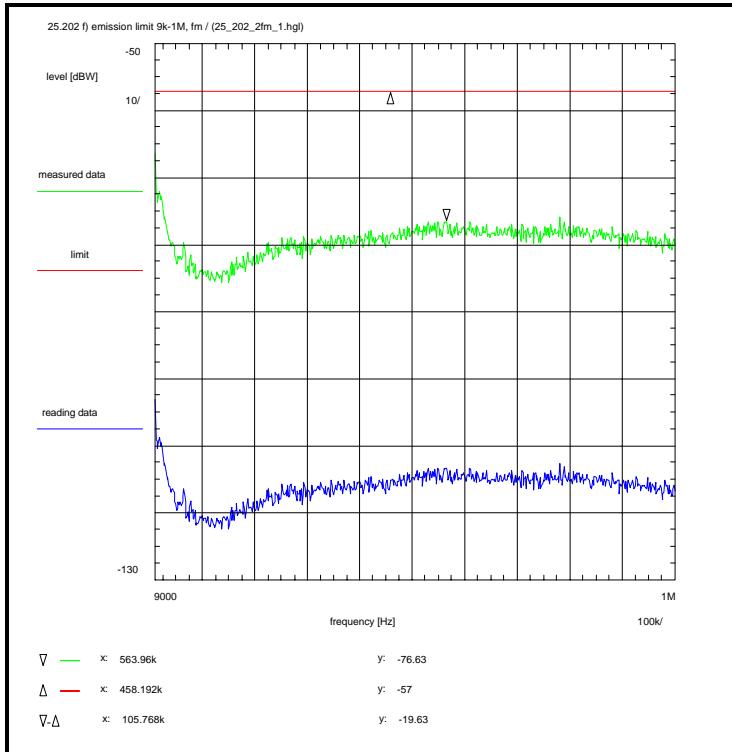
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 27 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 14:06:52
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:
 Start frequency: 9 kHz
 Stop frequency: 1 MHz
 Center frequency: 504.5 kHz
 Frequency span: 991 kHz
 Input attenuation: 10 dB
 Resolution-BW: 1 kHz
 Video-BW: 1 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:
 Directional coupler + 0.0 dB
 Coaxial cable (C027) + 0.2 dB
 DUT-Antenna (on-axis) + 4.5 dBi
 Test antenna + 0.0 dB
 BW correction factor (1k -> 4k) + 6.0 dB
 Atten. between HPA and feedhorn + 0.0 dB
 Attenuation (U023) + 10.0 dB
 Attenuation (HP8491B) + 10.0 dB
 Power splitter (U015) + 6.0 dB
 TOTAL CORRECTION: + 36.7 dB

Limit:
Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

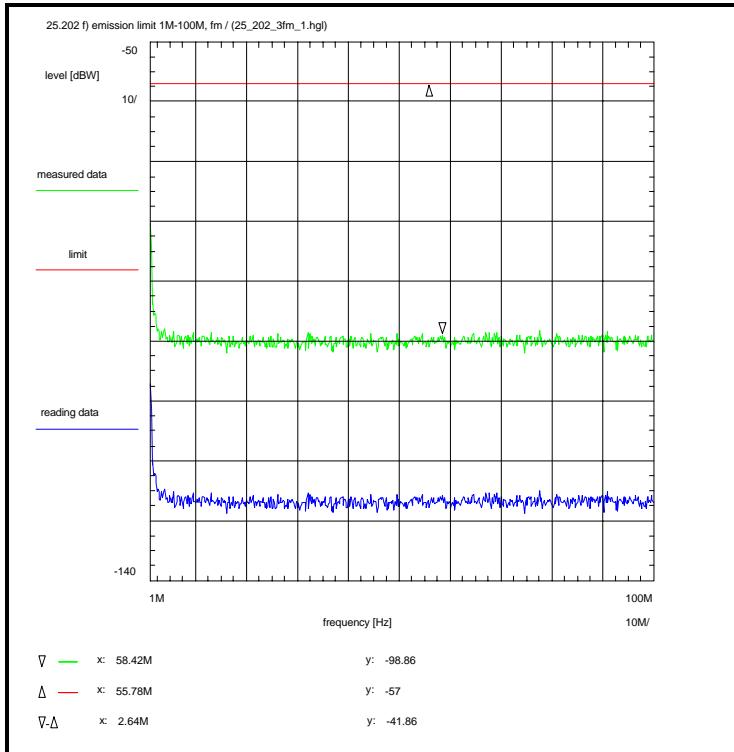
Test result: Test passed

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
 'worst-case' = maximum antenna gain

Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 28 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 14:12:39
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1 MHz
 Stop frequency: 100 MHz
 Center frequency: 50.5 MHz
 Frequency span: 99 MHz
 Input attenuation: 10 dB
 Resolution-BW: 10 kHz
 Video-BW: 10 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 0.3 dB
DUT-Antenna (on-axis)	+ 4.5 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 26.8 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
 Emission limitations
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

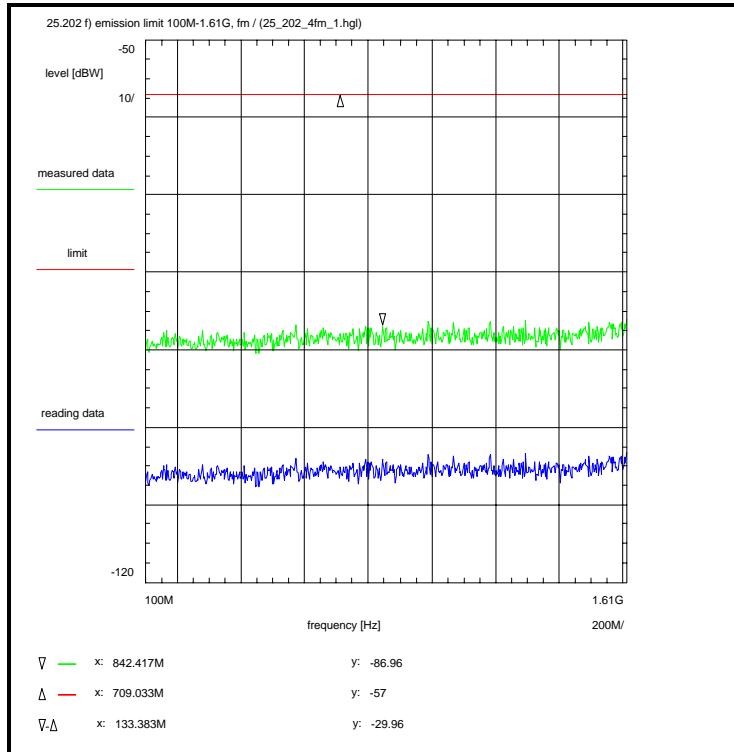
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
 For EIRP calculation:
 'worst-case' = maximum antenna gain
 Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 29 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 14:26:01
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	100	MHz
Stop frequency:	1.61	GHz
Center frequency:	855	MHz
Frequency span:	1.51	GHz
Input attenuation:	20	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	0.7	dB
DUT-Antenna (on-axis)	+	4.5	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	17.2	dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

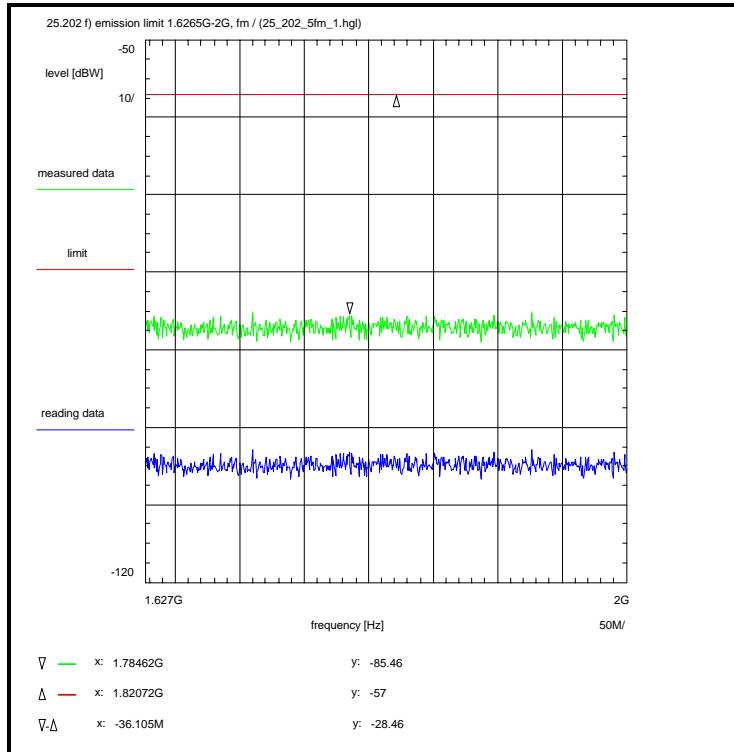
Test result: Test passed

Remarks:

Carrier-on state / Carrier in the middle of the band (fm)
 For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 30 (41)



Information on the measurement:

Environment condition:
 Date & Time: Thu 06/Apr/2000 14:28:29
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.6265	GHz
Stop frequency:	2	GHz
Center frequency:	1.81325	GHz
Frequency span:	373.5	MHz
Input attenuation:	20	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.2	dB
DUT-Antenna (on-axis)	+	4.5	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	17.7	dB

Limit:

Limit acc. to 25.202 f):	-25dBc/4kHz
50-100% of assigned bw:	-35dBc/4kHz
100-250% of assigned bw:	-43+10log(Pmax)dBc/4kHz
> 250% of assigned bw:	

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

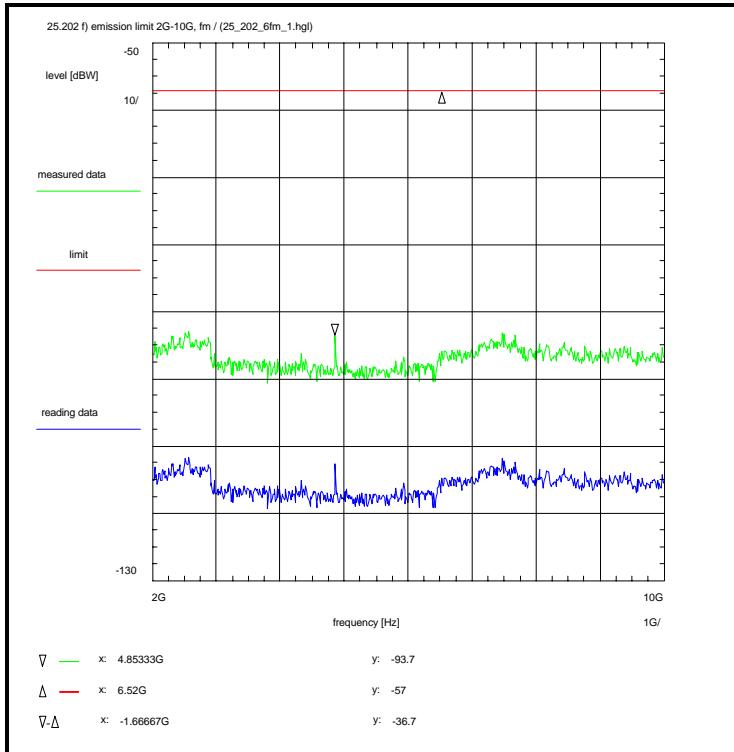
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 31 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 14:42:05
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 2 GHz
 Stop frequency: 10 GHz
 Center frequency: 6 GHz
 Frequency span: 8 GHz
 Input attenuation: 10 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 2.3 dB
DUT-Antenna (on-axis)	+ 4.5 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 18.8 dB

Limit:

Limit acc. to 25.202 f):

50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

Test result: Test passed

Remarks:

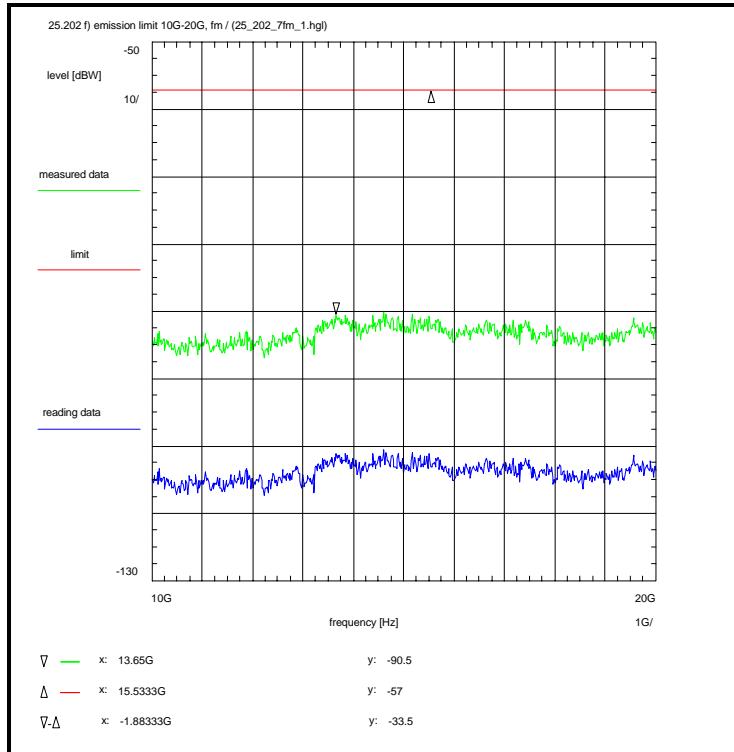
Carrier-on state / Carrier in the middle of the band (fm)

For EIRP calculation:

'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 32 (41)



Information on the measurement:

Environment condition:

Date & Time: Thu 06/Apr/2000 14:56:12
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 60 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	10 GHz
Stop frequency:	20 GHz
Center frequency:	15 GHz
Frequency span:	10 GHz
Input attenuation:	10 dB
Resolution-BW:	100 kHz
Video-BW:	100 kHz
Video-Average:	100 sweep(s) (>1)
Detector-Mode:	1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 3.7 dB
DUT-Antenna (on-axis)	+ 4.5 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.3 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 20.5 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
 Emission limitations
 Modulated rf-carrier in the middle of the band (fm)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fm, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

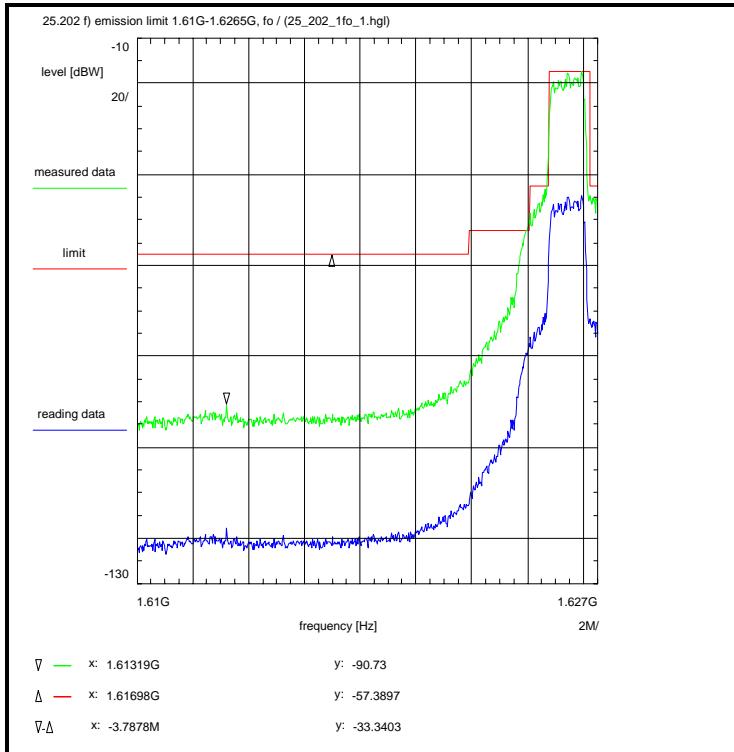
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier in the middle of the band (fm)
 For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 33 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:04:55
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.61	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.61825	GHz
Frequency span:	16.5	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0	dB
Coaxial cable (C027)	+ 1.1	dB
DUT-Antenna (on-axis)	+ 4.0	dBi
Test antenna	+ 0.0	dB
BW correction factor (10k -> 4k)	- 4.0	dB
Atten. between HPA and feedhorn	+ 0.0	dB
Attenuation (U023)	+ 10.0	dB
Attenuation (HP8491B)	+ 10.0	dB
Power splitter (U015)	+ 6.0	dB
TOTAL CORRECTION:	+ 27.1	dB

Limit:

Limit acc. to 25.202 f):	-25dBc/4kHz
50-100% of assigned bw:	-35dBc/4kHz
100-250% of assigned bw:	-43+10log(Pmax)dBc/4kHz
> 250% of assigned bw:	

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

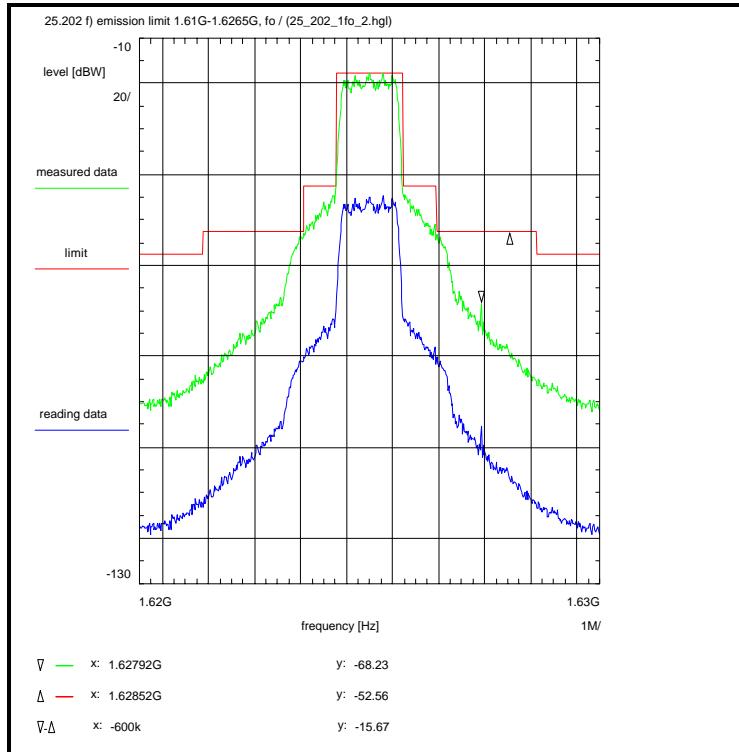
Remark:

Test result: see next plot

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 34 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:08:04
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62049	GHz
Stop frequency:	1.63049	GHz
Center frequency:	1.62549	GHz
Frequency span:	10	MHz
Input attenuation:	10	dB
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Video-Average:	100	sweep(s) (>1)
Detector-Mode:	1	Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C027)	+	1.1	dB
DUT-Antenna (on-axis)	+	4.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U023)	+	10.0	dB
Attenuation (HP8491B)	+	10.0	dB
Power splitter (U015)	+	6.0	dB
TOTAL CORRECTION:	+	27.1	dB

Limit:

Limit acc. to 25.202 f):	-25dBc/4kHz
50-100% of assigned bw:	-35dBc/4kHz
100-250% of assigned bw:	-43+10log(Pmax)dBc/4kHz
> 250% of assigned bw:	

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

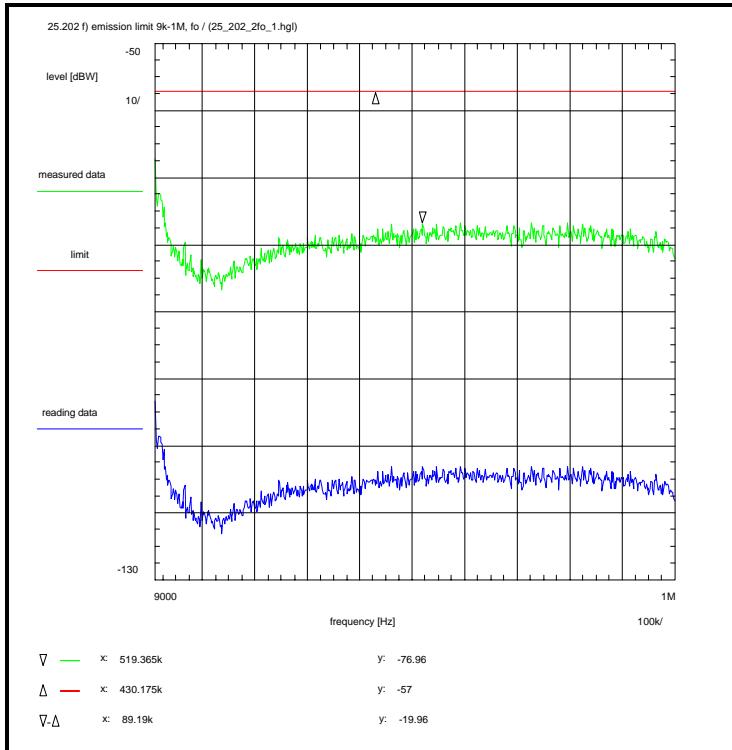
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 35 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:19:22
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 9 kHz
 Stop frequency: 1 MHz
 Center frequency: 504.5 kHz
 Frequency span: 991 kHz
 Input attenuation: 10 dB
 Resolution-BW: 1 kHz
 Video-BW: 1 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 0.2 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (1k -> 4k)	+ 6.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 36.2 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

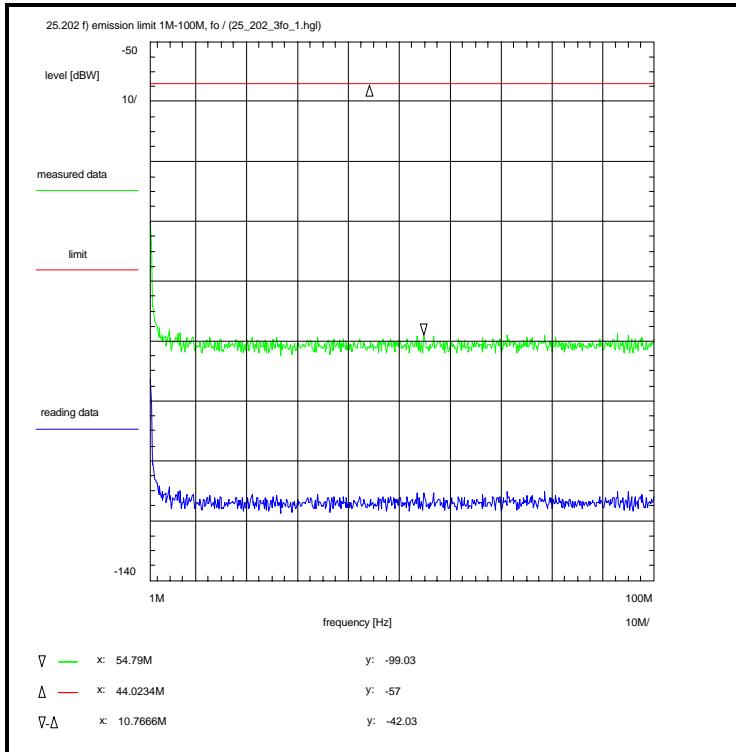
Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain

Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 36 (41)



Information on the measurement:

Environment condition:

Date & Time: Fri 07/Apr/2000 09:30:33
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1 MHz
 Stop frequency: 100 MHz
 Center frequency: 50.5 MHz
 Frequency span: 99 MHz
 Input attenuation: 10 dB
 Resolution-BW: 10 kHz
 Video-BW: 10 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 0.3 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 26.3 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
 Emission limitations
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

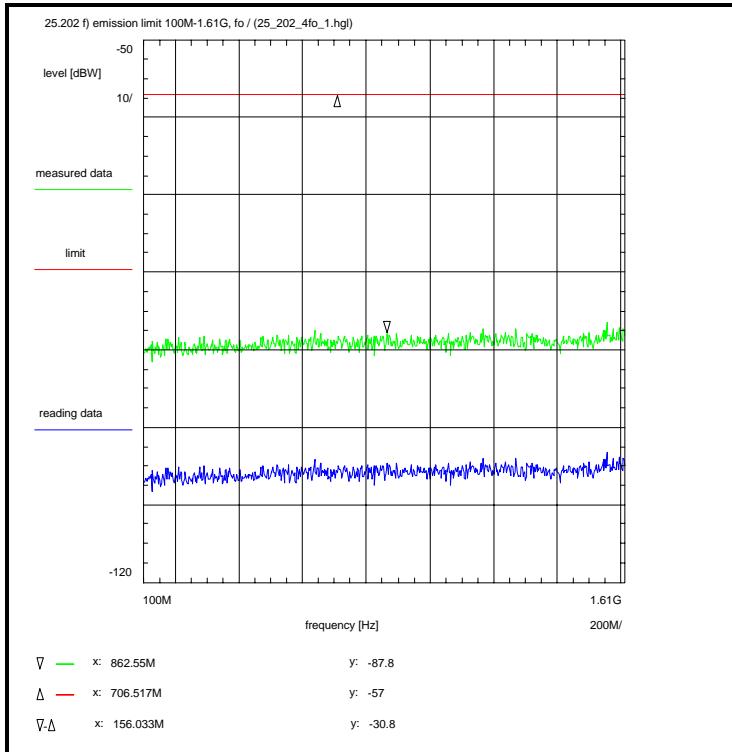
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
 For EIRP calculation:
 'worst-case' = maximum antenna gain
 Rather left the plot shows the zero-line of the spectrum analyzer.



Annex 3: Measurement result no. 37 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:32:16
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 100 MHz
 Stop frequency: 1.61 GHz
 Center frequency: 855 MHz
 Frequency span: 1.51 GHz
 Input attenuation: 20 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 0.7 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 16.7 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

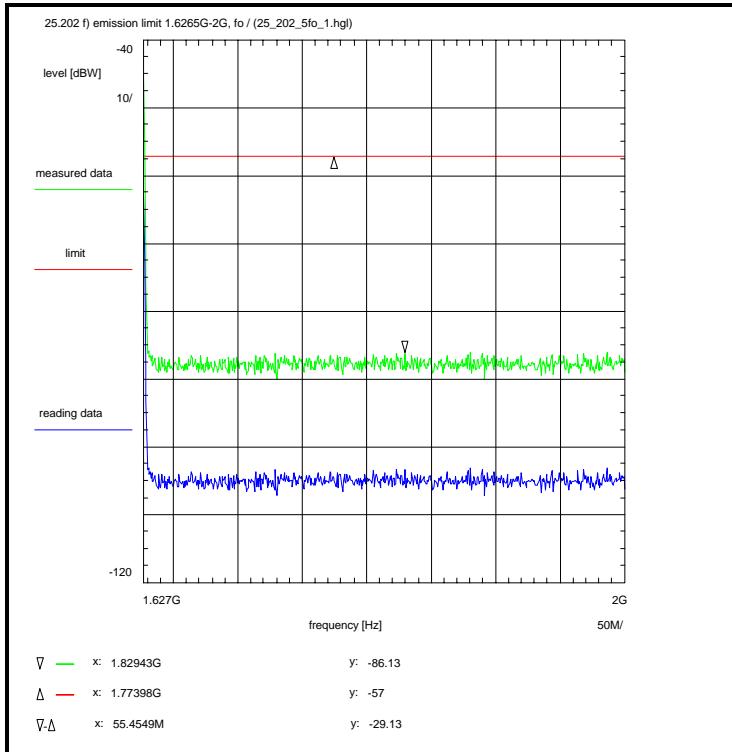
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 38 (41)



Information on the measurement:

Environment condition:

Date & Time: Fri 07/Apr/2000 09:34:54
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency: 1.6265 GHz
 Stop frequency: 2 GHz
 Center frequency: 1.81325 GHz
 Frequency span: 373.5 MHz
 Input attenuation: 20 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.2 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 17.2 dB

Limit:

Limit acc. to 25.202 f)
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

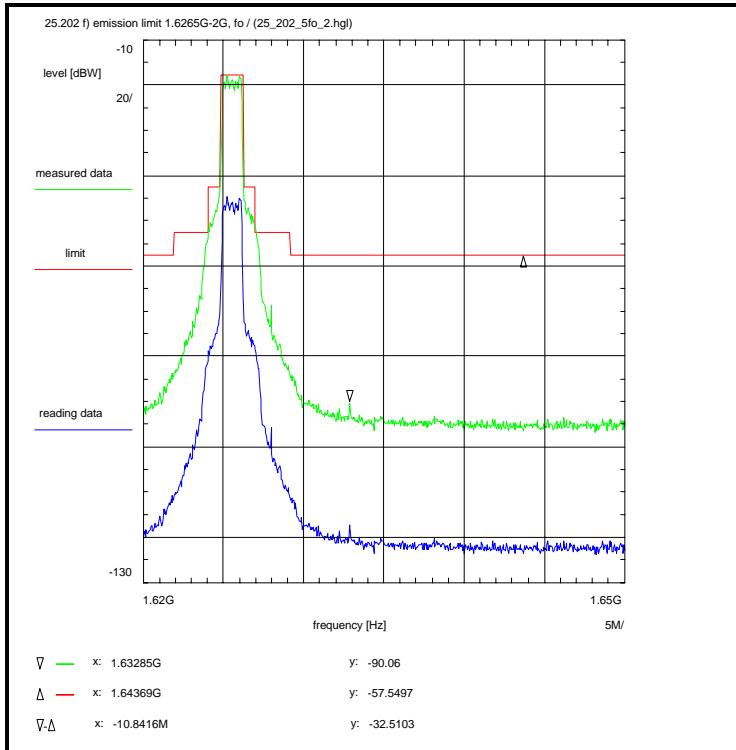
Remark:
 see next plot, too

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain
 Rather left the plot shows parts of the wanted signal.



Annex 3: Measurement result no. 39 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:41:49
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	1.62 GHz
Stop frequency:	1.65 GHz
Center frequency:	1.635 GHz
Frequency span:	30 MHz
Input attenuation:	10 dB
Resolution-BW:	10 kHz
Video-BW:	10 kHz
Video-Average:	100 sweep(s) (>1)
Detector-Mode:	1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 1.1 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.0 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 27.1 dB

Limit:

Limit acc. to 25.202 f):	-25dBc/4kHz
50-100% of assigned bw:	-35dBc/4kHz
100-250% of assigned bw:	-43+10log(Pmax)dBc/4kHz
> 250% of assigned bw:	

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

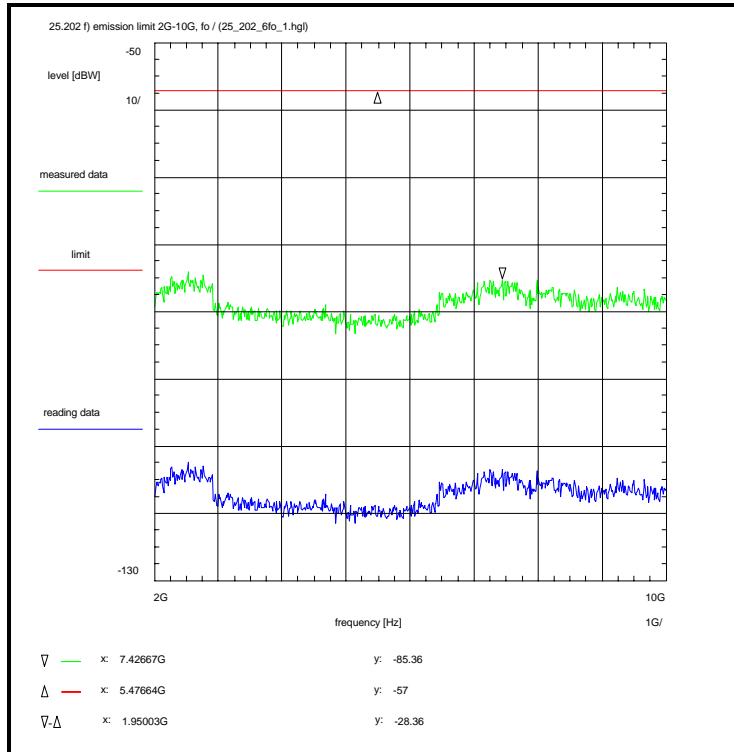
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 40 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:49:27
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:
 Start frequency: 2 GHz
 Stop frequency: 10 GHz
 Center frequency: 6 GHz
 Frequency span: 8 GHz
 Input attenuation: 10 dB
 Resolution-BW: 100 kHz
 Video-BW: 100 kHz
 Video-Average: 100 sweep(s) (>1)
 Detector-Mode: 1 Sample (VidAvg / VidBW<300Hz)

Correction:
 Directional coupler + 0.0 dB
 Coaxial cable (C027) + 2.3 dB
 DUT-Antenna (on-axis) + 4.0 dBi
 Test antenna + 0.0 dB
 BW correction factor (10k -> 4k) - 4.0 dB
 Atten. between HPA and feedhorn + 0.0 dB
 Attenuation (U023) + 10.0 dB
 Attenuation (HP8491B) + 10.0 dB
 Power splitter (U015) + 6.0 dB
 TOTAL CORRECTION: + 28.3 dB

Limit:
Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explizit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

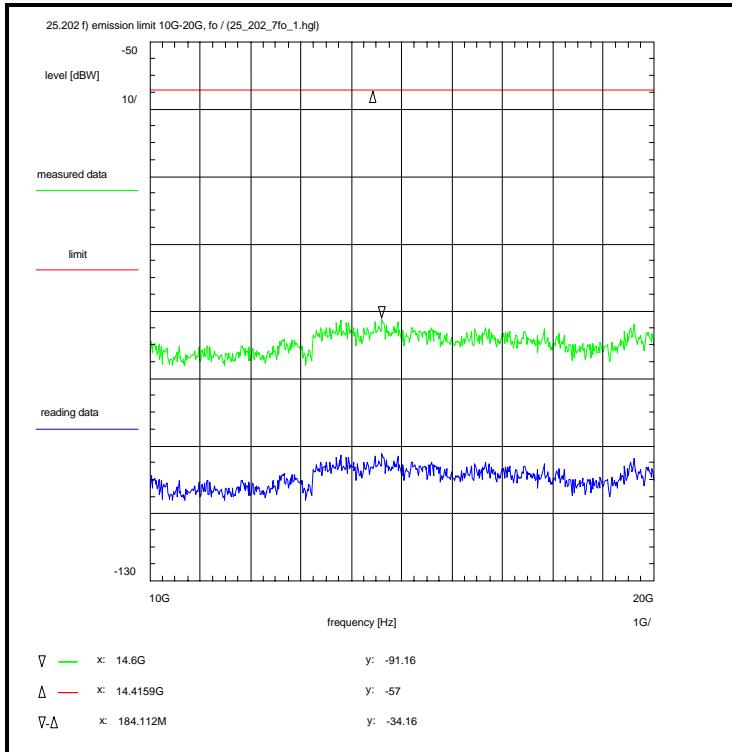
Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain



Annex 3: Measurement result no. 41 (41)



Information on the measurement:

Environment condition:
 Date & Time: Fri 07/Apr/2000 09:58:04
 Location: CETECOM ICT Services GmbH, Laboratory RSC-Sat
 Temperature: 22 °C
 Humidity: 55 %
 Voltage: 13 Vdc

Setup of measurement equipment:

Start frequency:	10 GHz
Stop frequency:	20 GHz
Center frequency:	15 GHz
Frequency span:	10 GHz
Input attenuation:	10 dB
Resolution-BW:	100 kHz
Video-BW:	100 kHz
Video-Average:	100 sweep(s) (>1)
Detector-Mode:	1 Sample (VidAvg / VidBW<300Hz)

Correction:

Directional coupler	+ 0.0 dB
Coaxial cable (C027)	+ 3.7 dB
DUT-Antenna (on-axis)	+ 4.0 dBi
Test antenna	+ 0.0 dB
BW correction factor (100k -> 4k)	- 14.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Attenuation (U023)	+ 10.3 dB
Attenuation (HP8491B)	+ 10.0 dB
Power splitter (U015)	+ 6.0 dB
TOTAL CORRECTION:	+ 20.0 dB

Limit:

Limit acc. to 25.202 f):
 50-100% of assigned bw: -25dBc/4kHz
 100-250% of assigned bw: -35dBc/4kHz
 > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz

Subclause: 25.202 f) Frequencies, frequency tolerance and emission limitations
Emission limitations:
 Modulated rf-carrier at the upper edge of the band (fo)

Test results:
 see plot (an explicit table was not generated)

Operating condition of DUT:
 operating condition 1, fo, see subclause 1.5.2

Test setup:
 see annex 1: 1.2hgj

Test equipment:
 see annex 2: C027, R001, U015, U023, HP 8491B

Data of correction:
 see annex 4

Remark:

Test result: Test passed

Remarks:
 Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
 'worst-case' = maximum antenna gain







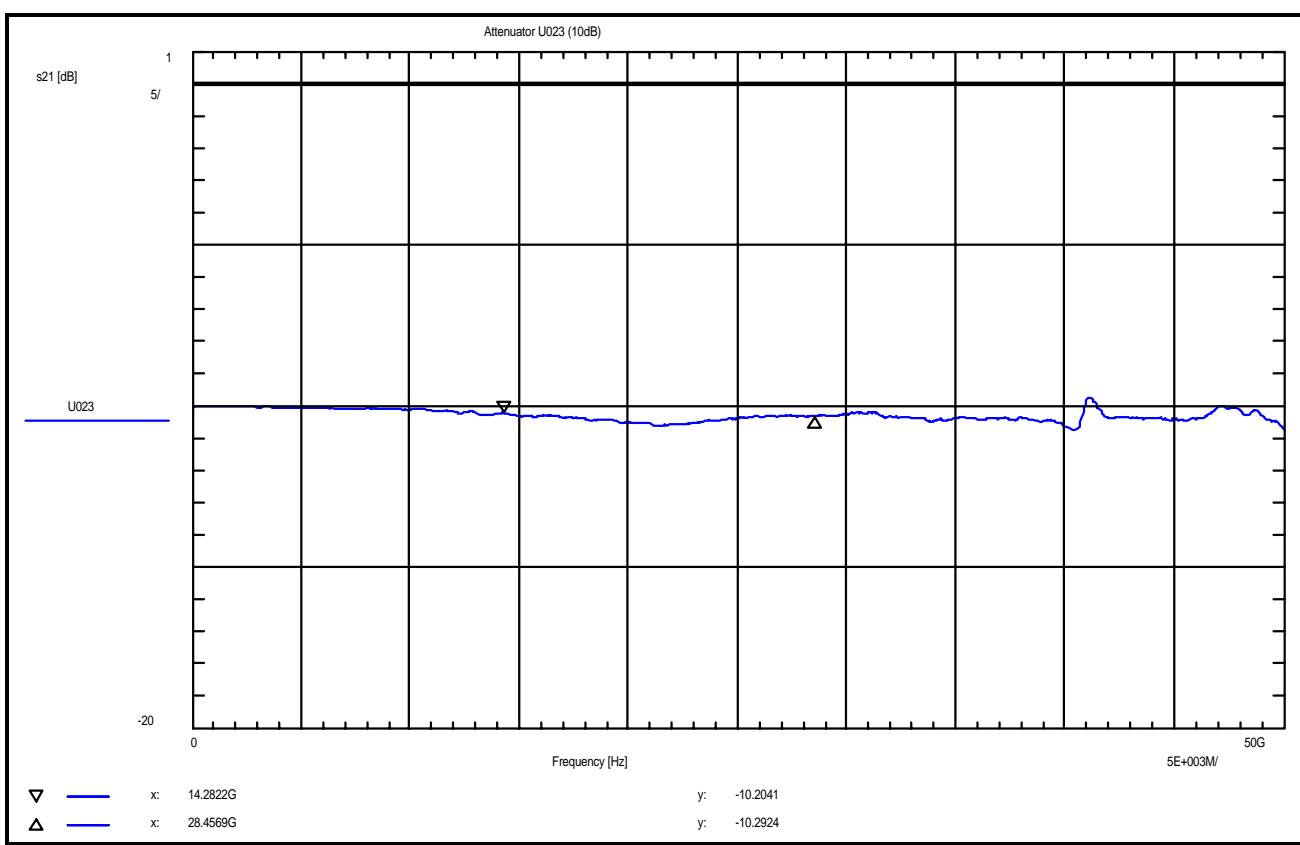
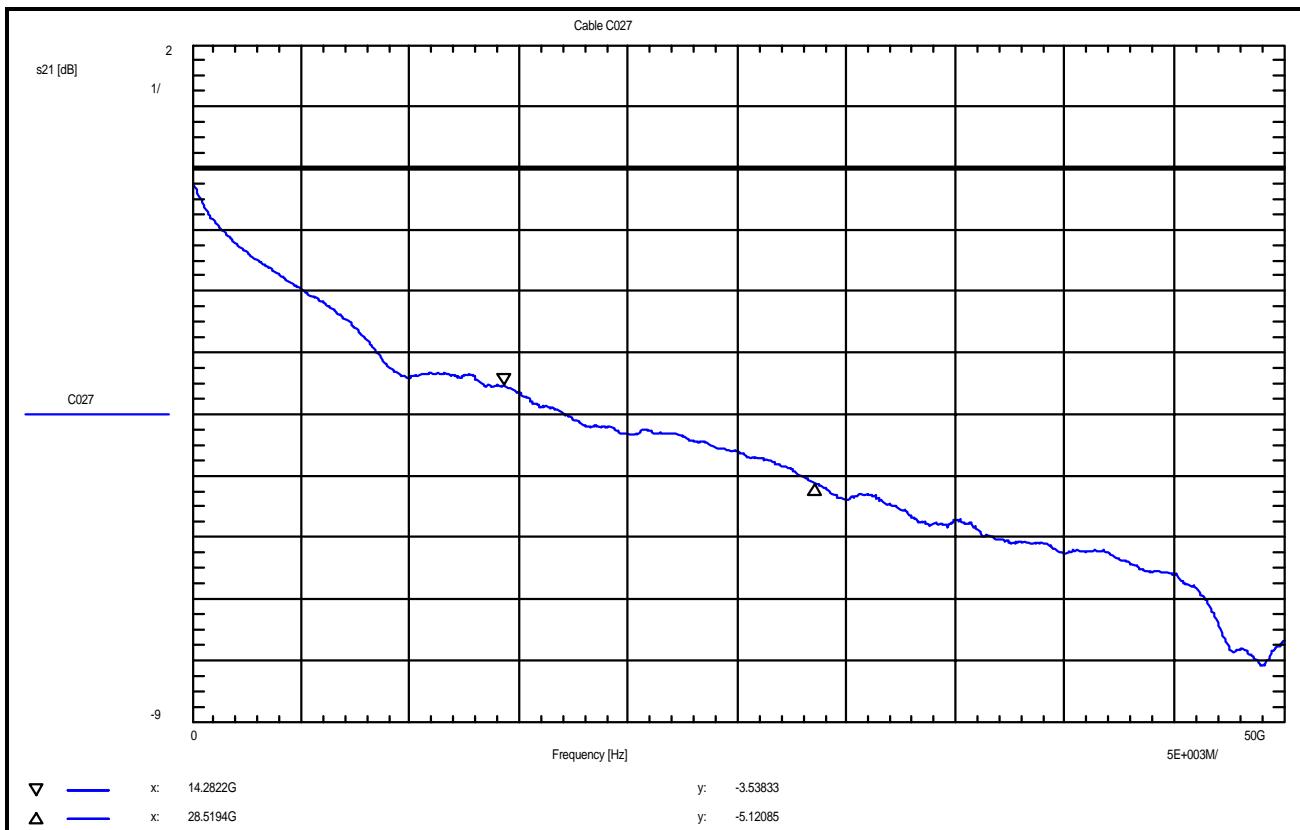
Annex 4: Data of correction

Annex 4 consists of 2 pages including this page.

no.	list of contents
1	Coaxial cable 'C027': Transmission data (NWA-measurement)
2	10dB-Attenuator k-connected 'U023': Transmission data (NWA-measurement)



Annex 4: Data of correction 1 - 2





Annex 5: Photographs

Annex 5 consists of 38 pages including this page.

no.:	list of contents
1	Test setup for conducted measurements in the test laboratory: spectrum analyzer, SV550, Frequency counter, Globalstar tester and power supply
2	see #1, SV550
3	see #1, ODU, Frequency counter, Globalstar Tester and power supply
4	Cradle with SAT550 Handheld
5	ODU prepared with antenna adaptor for conducted tests, attenuator and power splitter
6	ODU with RF- and DC-connector (A), Rx- and Tx-connectors (B, C)
7	antenna adaptor, attenuator and power splitter
8	type label of attenuator
9	see #8
10	Cradle with SAT550 Handheld
11	SAT550 Handheld, front side
12	SAT550 Handheld, rear side
13	see #15, battery removed
14	type label of SAT550 Handheld
15	typa label of battery
16	Cradle, front side
17	Cradle, left side
18	Cradle, right side



19	Cradle, rear side
20	Cradle, bottom side
21	ODU, top side
22	ODU, bottom side
23	type label of ODU
24	ODU, cover removed
25	ODU, cover removed, connection side
26	magnetic Globalstar antenna
27	external Handset
28	external loudspeaker
29	external microphone
30	antenna adaptor, prepared for conducted measurements with Rx- and Tx-connectors
31	Screen dump of Globalstar tester: setup for carrier at the lower edge of the band
32	see #31, Traffic Modulation Analysis
33	Screen dump of Globalstar tester: setup for carrier in the middle of the band
34	see #31, Traffic Modulation Analysis
35	Screen dump of Globalstar tester: setup for carrier at the upper edge of the band
36	see #31, Traffic Modulation Analysis