

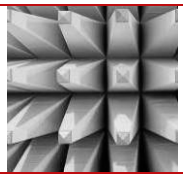

CETECOM™
CETECOM ICT Services
consulting - testing - certification

TEST REPORT

Test report no.: 1-3171-01-02/11

DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH
Untertuerkheimer Strasse 6 - 10
66117 Saarbruecken / Germany
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Accredited test laboratory:
The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025
DAkkS registration number: D-PL-12076-01-01

Area of Testing: Radio/Satellite Communications

Applicant

SAM Electronics GmbH

Behringstrasse 120
D-22763 Hamburg / Germany

Contact: Mr. Karl-Christian Ehrke
e-mail: karl-christian.ehrke@sam-electronics.de
Phone: +49 40 8825 2868

Manufacturer

SAM Electronics GmbH

Behringstrasse 120
D-22763 Hamburg / Germany

Test standard/s

47 CFR Part 80	Title 47 of the Code of Federal Regulations; Chapter I Part 80 - Stations in the maritime services

For further applied test standards please refer to section 4 of this test report.

Test item

Kind of test item:	Shipborne radar - X-Band transceiver
Model name:	NG3050 12.5 kW
FCC ID:	QO7NG3050X12-5KW
Frequency band:	9.3 - 9.5 GHz
Power supply:	115 / 230 V AC
Temperature range:	-25 °C to +55 °C

Test performed:

M. Walla

2011-09-23 Meheza Walla

Test report authorised:

Geraldy Karsten

2011-09-23 Karsten Geraldy

Cetecom ICT Services Accredited Test Laboratory Untertürkheimer Str. 6-10 D-66117 Saarbrücken

1 Table of contents

2 General information

2.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM ICT Services GmbH.

2.2 Application details

Date of receipt of order:	2011-05-17
Date of receipt of test item:	2011-07-12
Start of test:	2011-07-13
End of test:	2011-07-20
Person(s) present during the test:	Mr. Hans-Juergen Bruns and Mr. Kai Hanisch

2.3 Test environment

Temperature:	T_{nom}	+22 °C during room temperature tests
	T_{min}	-30 °C during low temperature test
	T_{max}	+50 °C during high temperature test
Relative humidity content:		45 %
Air pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	115 / 230 V AC

2.4 Test laboratories sub-contracted

None

3 Test item (EUT)

3.1 General Description

Kind of test item:	Shipborne radar - X-Band transceiver
Type identification:	NG3050 12.5 kW
S/N serial number:	302 / 30063
HW Status:	7/11
SW Status:	Version 1.0
Frequency band:	9.3 - 9.5 GHz
Tx output power:	12.5 kW (nominal peak power)
Type of modulation:	sequence of unmodulated pulses
Number of channels:	-/-
Emission designator	91M0P0N
Power supply:	115 / 230 V AC (140 VA)
Temperature range:	-25 °C to +55 °C

3.2 List of components

NG3050 12.5 kW Shipborne radar - X-Band transceiver equipped with:
- JRC MSF1425A (12.5 kW magnetron)

3.3 Operating conditions

Operating condition 1: Mode 8: 1000ns, 431Hz, 12NM (long pulse)
Operating condition 2: Mode 7: 500ns, 862Hz, 6NM (medium3 pulse)
Operating condition 3: Mode 6: 300ns, 862Hz, 3NM (medium2 pulse)
Operating condition 4: Mode 5: 150ns, 862Hz, 1.5NM (medium1 pulse)
Operating condition 5: Mode 4: 80ns, 862Hz, 0.75NM (short pulse)

3.4 Additional information

-/-

4 Test standard/s

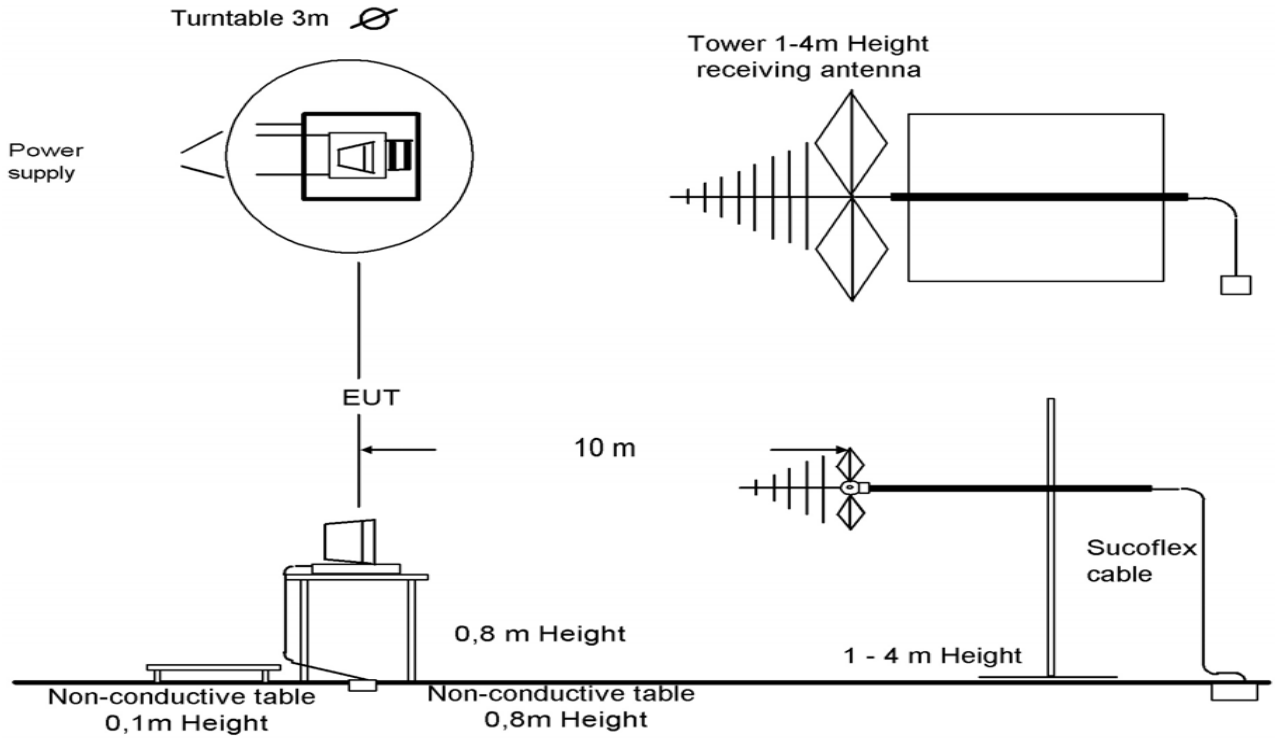
Test standard	Date	Test standard description
47 CFR Part 80	2010-10	Title 47 of the Code of Federal Regulations; Chapter I Part 80 - Stations in the maritime services

5 Measurement and test setup, measurement uncertainties

5.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 12 GHz in a semi-anechoic chamber. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analyzers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-2003 clause 4.2.
Antennas are conform with ANSI C63.2-1996 item 15.

Setup 1: Radiated measurements (semi-anechoic chamber)



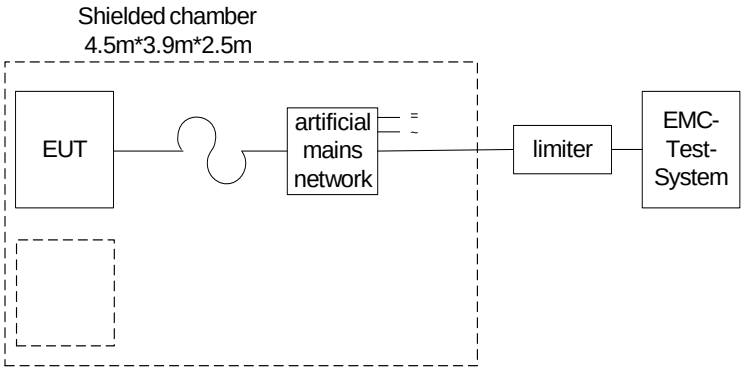
9 kHz - 30 MHz:	active loop antenna
30 MHz – 1 GHz:	tri-log antenna
> 1 GHz:	horn antenna

5.2 Conducted measurements

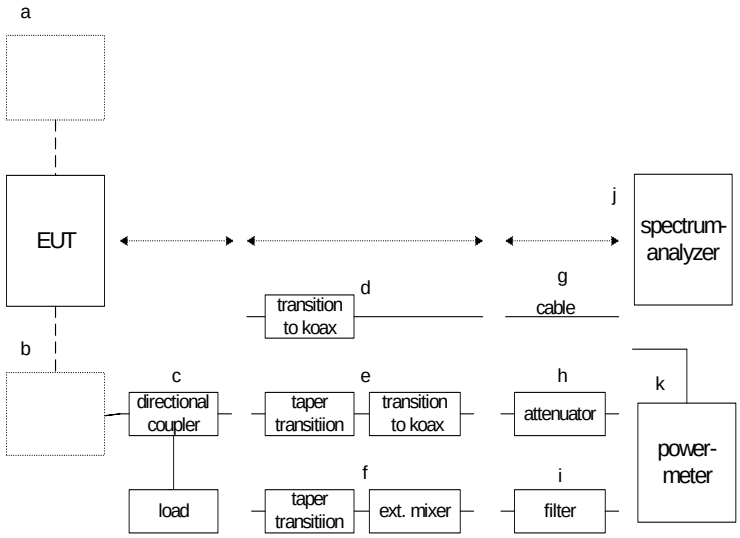
The EUT´s RF signal is coupled out via directional coupler and additional attenuators if needed. The signal is fed to the spectrum analyzer. The specific losses for signal path are first checked within a calibration. The measurement readings on the spectrum analyzer are corrected by the specific test setup loss. The directional coupler, dummy load, attenuators, cables and spectrum analyzer are impedance matched on 50 Ohm.

Test setup:
Following diagrams show possible test setups. They can be considered as applicable in general. Depending on the tests performed and/or depending on the EUT configuration (e.g. amount of different components, setup, ...) the real test setup may vary from the diagrams shown below.

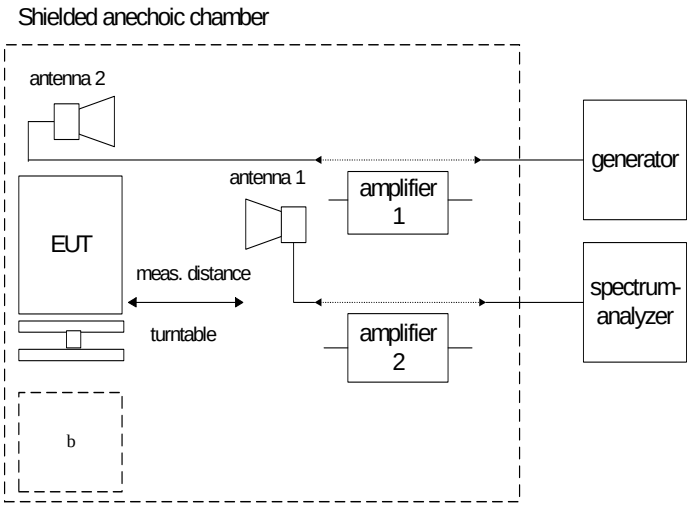
Setup 2: AC Conducted measurements



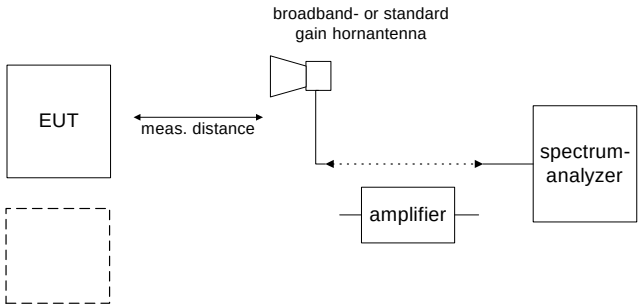
Setup 3: RF Conducted measurements



Setup 4: Radiation measurements 1 GHz - 12 GHz (anechoic chamber)



Setup 5: Radiation measurements above 12 GHz (test laboratory)



Measurement uncertainties:

Measurement uncertainties: Potential error sources/effects for setup no. 3 / RF conducted emissions:
- mismatch HF Cable - RF Input of Analyzer
- mismatch Waveguide Adaptor - HF Cable
- mismatch Waveguide Adaptor - Directional Coupler
- mismatch Pedestal Flange - Directional Coupler
- Spectrum Analyzer frequency response
- Spectrum Analyzer IF gain uncertainty
- HF-Cable frequency response calibration uncertainty
- HF-Cable frequency response data conversion uncertainty
- Directional Coupler frequency response calibration uncertainty
- Directional Coupler frequency response data conversion uncertainty
- Attenuator frequency response calibration uncertainty
- Attenuator frequency response data conversion uncertainty

Our total uncertainty for above listed factors (conducted measurements) with a 95% confidence level (according to UKAS, ETSI) is ≤ ±1.5dB.

6 Test results

6.1 Summary

☒	**No deviations from the technical specifications were ascertained**
☐	There were deviations from the technical specifications ascertained

The present test report:

☒	**describes the first test**
☐	describes an additional test
☐	is a verification of documents
☐	is only valid with the test report no.:

TC identifier	Description	Verdict	Date	Remark
RF-Testing	FCC 47 CFR Part 80	PASS	2011-09-23	-/-

Test Specification Clause	Test Case	Pass	Fail	N/A	N/P	Results
§ 2.1046 / § 80.215	Measurements required: RF power output Transmitter power	X				pk: 70.8 dBm avg: 37.2 dBm
§ 2.1047 / § 80.213	Measurements required: Modulation characteristics Modulation requirements	X				complies
§ 2.1049 / § 80.109	Measurements required: Occupied bandwidth Bandwidths	X				complies
§2.1051 / § 80.211	Measurements required: Spurious emissions at antenna terminals Emission limitations (RF spectrum mask)	X				max. 91 MHz
§2.1051 / § 80.211	Measurements required: Spurious emissions at antenna terminals Emission limitations (conducted emissions)	X				complies
§ 2.1053 / § 80.211	Measurements required: Field strength of spurious radiation Emission limits (radiated emissions, Tx-Mode)	X				complies
§ 2.1053 / § 2.109/209	Measurements required: Field strength of spurious radiation Emission limits (radiated emissions, Stand-by)	X				complies
§ 2.1055 / § 80.209	Measurements required: Frequency stability Transmitter frequency tolerance	X				

N/A: Not Applicable
N/P: Not Performed

6.2 Overview

I. Transmitter characteristics / output power

Description / Limit:

§ 80.215
(a) Transmitter power shown on the radio station authorization is the maximum power the licensee is authorized to use. Power is expressed in the following terms:
(3) For PON and F3N emission: Mean power.

Limit: no limitations

Test setup: no. 3

Measurement results:

Mode	T_{pulse} [ns]	T_{rise} [ns]	T_{fall} [ns]	PRF [Hz]	$P_{out\ peak}$ [dBm]	$P_{out\ mean}$ [dBm]
short pulse	73.7	31.9	39.4	860	70.0	28.0
med1 pulse	154.1	25.2	34.9	860	70.3	31.5
med2 pulse	299.0	23.8	44.6	860	70.6	34.7
med3 pulse	519.0	21.8	43.0	860	70.7	37.2
long pulse	1025	24.5	228.6	430	70.8	37.2

Note:
$P_{out\ mean}$ is calculated based on $P_{out\ peak}$ and duty cycle of transmitter.
see also Annex B, plots 1 - 10

Result: **The measurement is passed.**

II. Modulation requirements

Description / Limit:

§ 80.213
(a) Transmitters must meet the following modulation requirements:
(g) Radar stations operating in the bands above 2.4 GHz may use any type of modulation consistent with the bandwidth requirements in § 80.209(b).

§ 80.209
(b) When pulse modulation is used in land and ship radar stations operating in the bands above 2.4 GHz the frequency at which maximum emission occurs must be within the authorized bandwidth and must not be closer than 1.5/T MHz to the upper and lower limits of the authorized bandwidth where ‘‘T’’ is the pulse duration in microseconds.

Test setup: no. 3

Measurement results:

see page 17, VII Transmitter frequency tolerance

Result: **The measurement is passed.**

III. Occupied bandwidth

Description / Limit:

§ 2.1049
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

Limit: no limitations

Test setup: no. 3

Measurement results:

Mode	necessary bandwidth [MHz]	B_{-40} dB bandwidth [MHz]	occupied bandwidth [MHz]	see following plots
short pulse	36.9	182	91	10, 15
med1 pulse	28.7	147	89	9, 14
med2 pulse	21.2	122	82	8, 13
med3 pulse	16.8	106	67	7, 12
long pulse	11.3	105	12	6, 11

Note:
Necessary bandwidth and B_{-40} dB bandwidth are given in ITU-R SM.1541-3, Annex 8 - OoB domain emission limits for primary radar systems.
These values are given for information only.

Result: **The measurement is passed.**

IV. Emission limits (RF spectrum mask)

Description / Limit:

§ 80.212
The emissions must be attenuated according to the following schedule:
(f) The mean power when using emissions other than those in paragraphs (a), (b), (c) and (d) of this section:
(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 dB;
(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and
(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10log10 (mean power in watts) dB.

Test setup: no. 3

Measurement results:

Mode	see following plots
short pulse	20
med1 pulse	19
med2 pulse	18
med3 pulse	17
long pulse	16

Result: **The measurement is passed.**

V. Emissions limits (conducted emissions)

Description / Limit:

§ 80.212
The emissions must be attenuated according to the following schedule:
(f) The mean power when using emissions other than those in paragraphs (a), (b), (c) and (d) of this section:
(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 dB;
(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and
(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10log10 (mean power in watts) dB.

Test setup: no. 3

Measurement results:

Conducted Spurious Emissions [dBm]								
short pulse			medium2 pulse			long pulse		
F [GHz]	Detector	Level [dBm]	F [GHz]	Detector	Level [dBm]	F [GHz]	Detector	Level [dBm]
8.067	peak	-26.9	8.05	peak	-27.4	8.053	peak	-27.9
13.04	peak	-35.4	11.85	peak	-37.5	13.05	peak	-36.4
18.76	peak	-40.3	18.76	peak	-34.6	18.76	peak	-27.0
28.14	peak	-46.0	28.14	peak	-38.5	28.14	peak	-34.0
37.53	peak	-38.0	37.50	peak	-34.4	37.53	peak	-29.0
Measurement uncertainty			± 1.5 dB					

n.f. = nothing found

Note:
see also Annex A, plots 21 - 44

Result: **The measurement is passed.**

VI. Emissions limits (radiated emissions, Tx-Mode)

Description / Limit:

§ 80.212
The emissions must be attenuated according to the following schedule:
(f) The mean power when using emissions other than those in paragraphs (a), (b), (c) and (d) of this section:
(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 dB;
(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and
(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10log10 (mean power in watts) dB.

Test setup: no. 1, 4 and 5

Measurement results:

Radiated Spurious Emissions [dBm]								
short pulse			medium2 pulse			long pulse		
F [GHz]	Detector	Level [dBm]	F [GHz]	Detector	Level [dBm]	F [GHz]	Detector	Level [dBm]
0.133	peak	-49.9						
0.412	peak	-41.2	0.412	peak	-40.2	0.412	peak	-44.8
1.76	peak	-36.5	1.88	peak	-35.6	1.76	peak	-37.4
3.78	peak	-35.5	1.93	peak	-40.8	3.84	peak	-37.0
11.8	peak	-39.6	11.8	peak	-41.9	11.8	peak	-42.4
18.8	peak	-27.2	18.8	peak	-23.2	18.8	peak	-20.6
21.7	peak	-54.5	21.8	peak	-44.0	21.8	peak	-52.0
28.1	peak	-30.1	28.1	peak	-21.6	28.1	peak	-15.0
37.5	peak	-26.8	37.5	peak	-18.3	37.5	peak	-22.5
Measurement uncertainty			± 3 dB					

n.f. = nothing found
v / h = vertical / horizontal

Note:
see also Annex A, plots 45 - 68

Result: **The measurement is passed.**

VII. Transmitter frequency tolerance

Description / Limit:

§ 80.209
(b) When pulse modulation is used in land and ship radar stations operating in the bands above 2.4 GHz the frequency at which maximum emission occurs must be within the authorized bandwidth and must not be closer than 1.5/T MHz to the upper and lower limits of the authorized bandwidth where ‘‘T’’ is the pulse duration in microseconds.

Mode	T_{pulse} [ns]	1.5/T [MHz]	f_{min} [GHz]	f_{max} [GHz]
short pulse	73.7	20.4	9.3454	9.4046
med1 pulse	154.1	9.73	9.3347	9.4153
med2 pulse	299.0	5.02	9.3300	9.4200
med3 pulse	519.0	2.89	9.3279	9.4221
long pulse	1025	1.46	9.3265	9.4235

Note:
f_{min} and f_{max} are based on a centre frequency of 9.375 GHz and an authorized bandwidth of 100 MHz.

Test setup: no. 3

Measurement results:

Temperature [°C]	Power supply [V_{AC}]	measured frequency [GHz]
-30.0	115	9.386070
-20.0	115	9.383750
-10.0	115	9.382120
0.0	115	9.380400
+10.0	115	9.378720
+20.0	103	9.378720
+20.0	127	9.378720
+20.0	115	9.377140
+30.0	115	9.375450
+40.0	115	9.373730
+50.0	115	9.372150

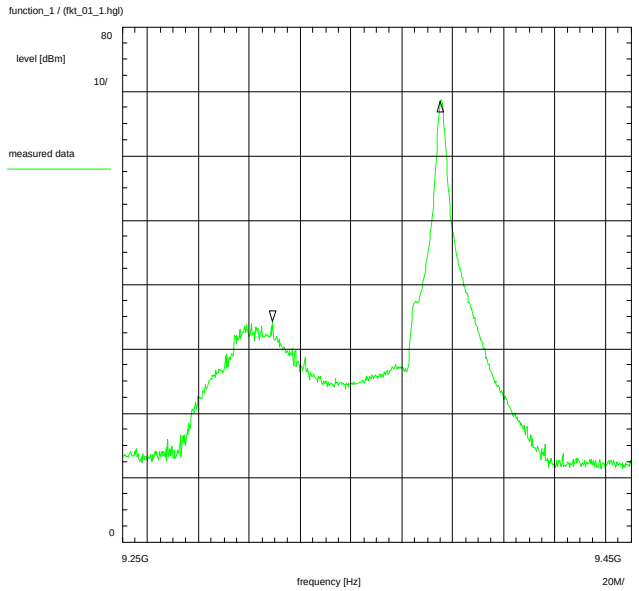
lowest measured frequency:	9.372150 GHz
highest measured frequency:	9.386070 GHz
maximum deviation:	-6.57 MHz (-701 ppm)
(based on normal temp.)	+7.35 MHz (+784 ppm)

Result: **The measurement is passed.**

Annex A: Measurement results, part 1

Annex A consists of 76 pages including this page.

Plot No. 1 (68)



Subclause: -/- Function test, frequency and power
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 10:59:37	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

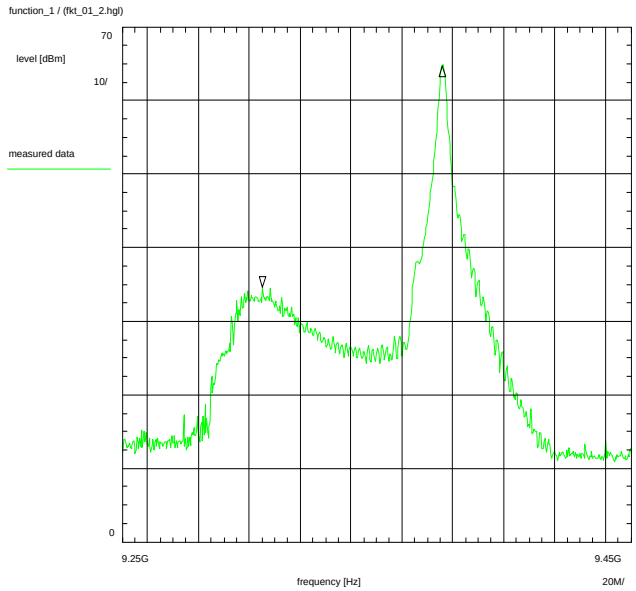
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
no limits defined

This test serves to verify the general function of the EUT and to orientate regarding to the spurious emissions which are expected within the band, furthermore for comparison of the measured power with the rated value.

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

Plot No. 2 (68)



Subclause: -/- Function test, frequency and power
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 2, see section 1.5.2
medium 3 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:00:29	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

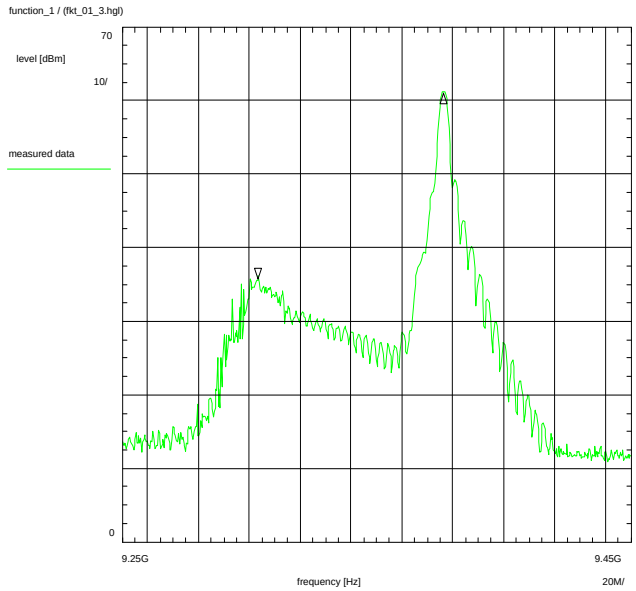
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
no limits defined

This test serves to verify the general function of the EUT and to orientate regarding to the spurious emissions which are expected within the band, furthermore for comparison of the measured power with the rated value.

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

Plot No. 3 (68)



Subclause: -/- Function test, frequency and power
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
medium 2 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

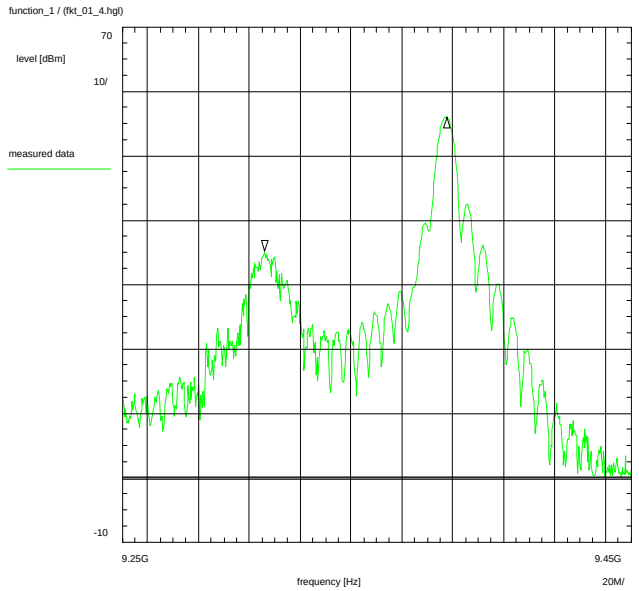
Environment condition:			
Date & Time:	Wed 13/Jul/2011 11:01:27		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	65	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	9.25	GHz	
Stop frequency:	9.45	GHz	
Center frequency:	9.35	GHz	
Frequency span:	200	MHz	
Input attenuation:	30	dB	
Resolution-BW:	1	MHz	
Video-BW:	1	MHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
no limits defined

This test serves to verify the general function of the EUT and to orientate regarding to the spurious emissions which are expected within the band, furthermore for comparison of the measured power with the rated value.

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

Plot No. 4 (68)



Subclause: -/- Function test, frequency and power
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 4, see section 1.5.2
medium 1 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:03:19	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	20	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

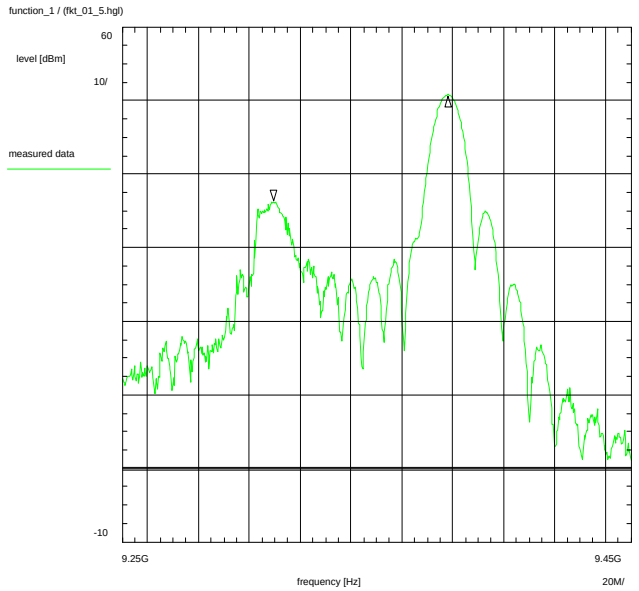
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
no limits defined

This test serves to verify the general function of the EUT and to orientate regarding to the spurious emissions which are expected within the band, furthermore for comparison of the measured power with the rated value.

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

Plot No. 5 (68)



Subclause: -/- Function test, frequency and power
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:04:09	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	20	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

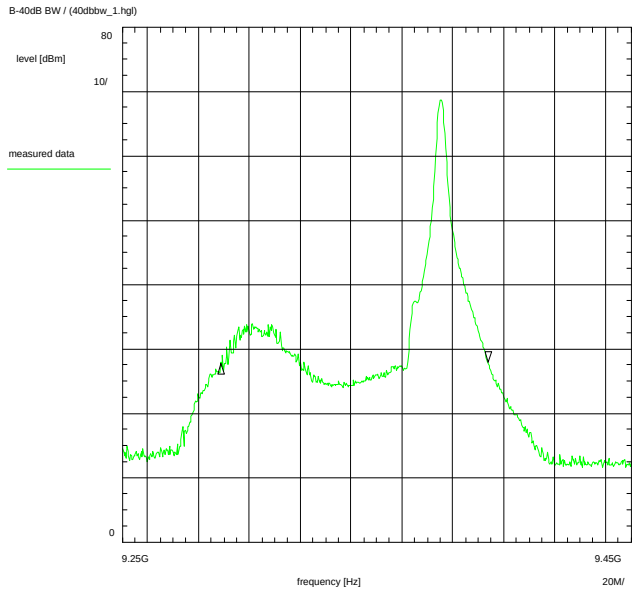
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
no limits defined

This test serves to verify the general function of the EUT and to orientate regarding to the spurious emissions which are expected within the band, furthermore for comparison of the measured power with the rated value.

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

Plot No. 6 (68)



Subclause: -/- Verification of the B-40 dB bandwidth
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:08:12	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

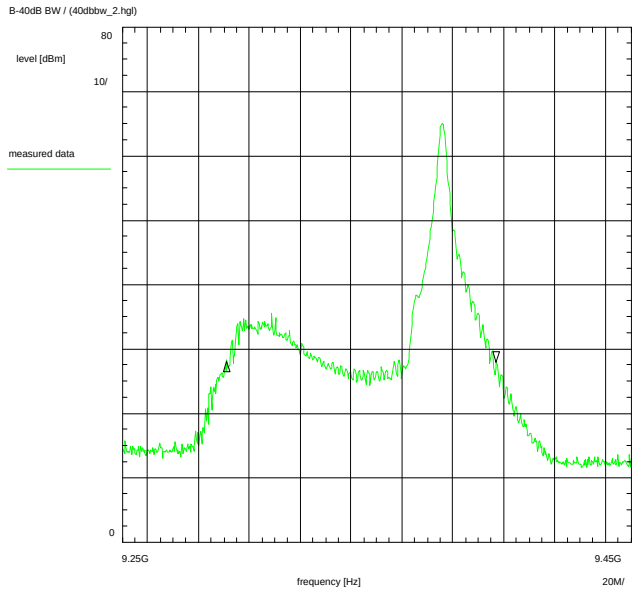
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
For non-FM pulse radar systems the B-40 dB bandwidth can be calculated according to following formula:
B-40 = 7.6 / sqrt(tp * tr) or 64 / tp where
tp = pulse duration in [s], tr = rise time in [s]
(see also ITU R-SM.1541)

Remarks:
Verification of the B-40 dB bandwidth:
The calculated value is about 48 MHz.
The measured value is about 105 MHz (delta marker).

Plot No. 7 (68)



Subclause: -/- Verification of the B-40 dB bandwidth
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 2, see section 1.5.2
medium 3 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:10:42	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

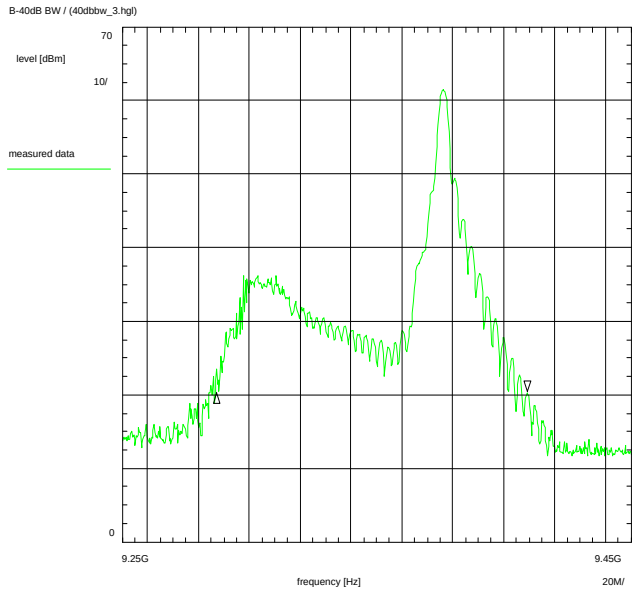
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
For non-FM pulse radar systems the B-40 dB bandwidth can be calculated according to following formula:
B-40 = 7.6 / sqrt(tp * tr) or 64 / tp where
tp = pulse duration in [s], tr = rise time in [s]
(see also ITU R-SM.1541)

Remarks:
Verification of the B-40 dB bandwidth:
The calculated value is about 71.4 MHz.
The measured value is about 106 MHz (delta marker).

Plot No. 8 (68)



Subclause: -/- Verification of the B-40 dB bandwidth
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
medium 2 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:13:24	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

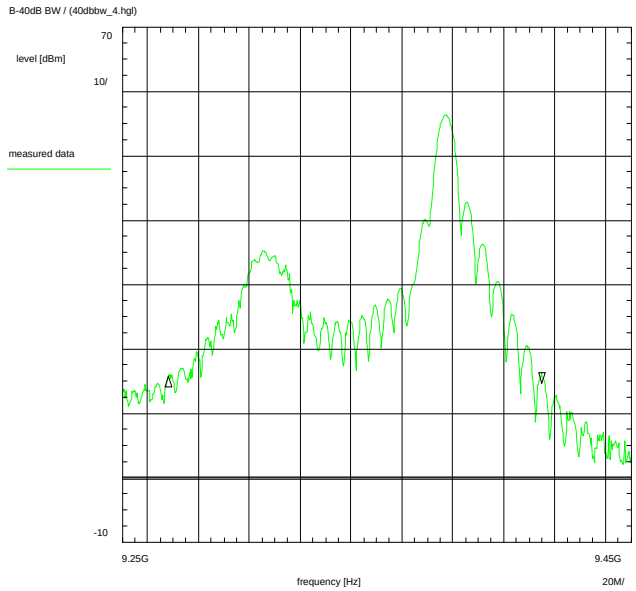
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
For non-FM pulse radar systems the B-40 dB bandwidth can be calculated according to following formula:
B-40 = 7.6 / sqrt(tp * tr) or 64 / tp where
tp = pulse duration in [s], tr = rise time in [s]
(see also ITU R-SM.1541)

Remarks:
Verification of the B-40 dB bandwidth:
The calculated value is about 90.1 MHz.
The measured value is about 122 MHz (delta marker).

Plot No. 9 (68)



Subclause: -/- Verification of the B-40 dB bandwidth
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 4, see section 1.5.2
medium 1 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:16:33	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	20	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

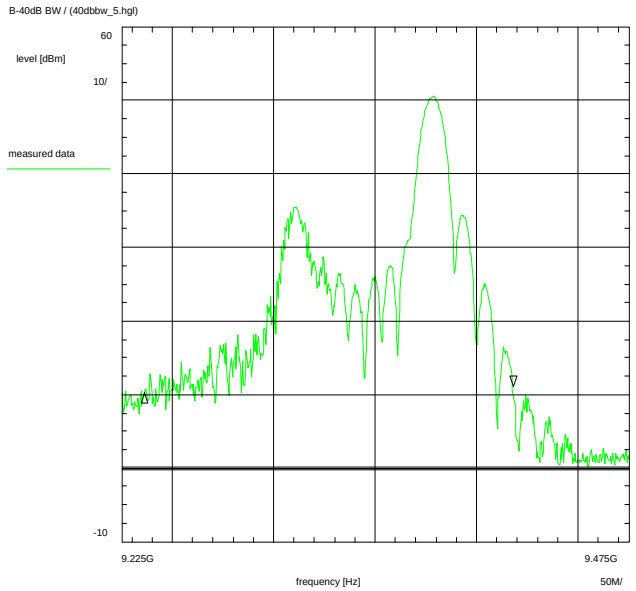
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
For non-FM pulse radar systems the B-40 dB bandwidth can be calculated according to following formula:
B-40 = 7.6 / sqrt(tp * tr) or 64 / tp where
tp = pulse duration in [s], tr = rise time in [s]
(see also ITU R-SM.1541)

Remarks:
Verification of the B-40 dB bandwidth:
The calculated value is about 122 MHz.
The measured value is about 147 MHz (delta marker).

Plot No. 10 (68)



Subclause: -/- Verification of the B-40 dB bandwidth
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

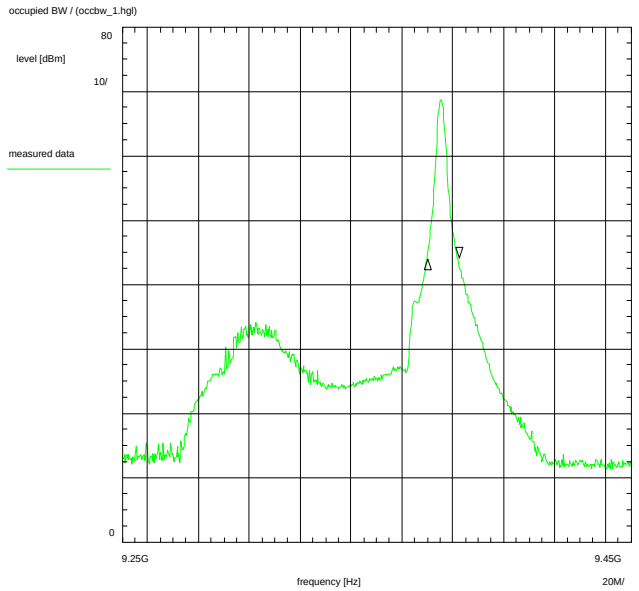
Information on the measurement:

Environment condition:			
Date & Time:	Wed 13/Jul/2011 11:22:54		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	65	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	9.225	GHz	
Stop frequency:	9.475	GHz	
Center frequency:	9.35	GHz	
Frequency span:	250	MHz	
Input attenuation:	20	dB	
Resolution-BW:	1	MHz	
Video-BW:	1	MHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
For non-FM pulse radar systems the B-40 dB bandwidth can be calculated according to following formula:
B-40 = 7.6 / sqrt(tp * tr) or 64 / tp where
tp = pulse duration in [s], tr = rise time in [s]
(see also ITU R-SM.1541)

Remarks:
Verification of the B-40 dB bandwidth:
The calculated value is about 156.7 MHz.
The measured value is about 182 MHz (delta marker).

Plot No. 11 (68)



Subclause: -/- Verification of the occupied bandwidth (99% bandwidth)
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:32:42	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

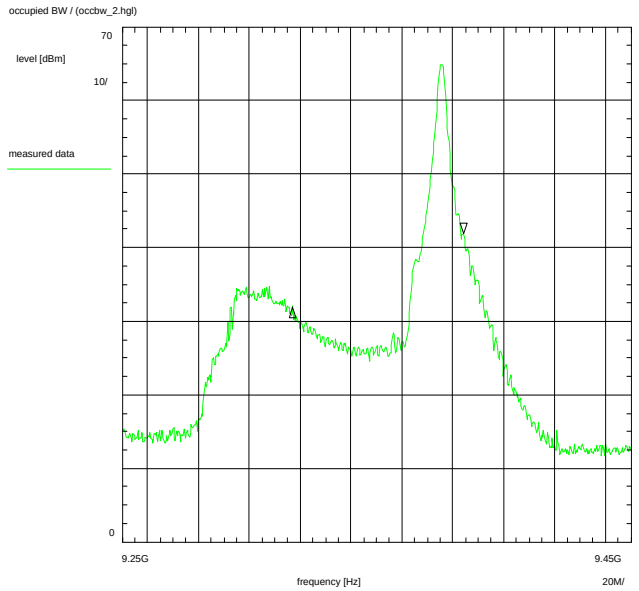
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
The occupied bandwidth is defined as the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the emitted power. This is also known as the 99% emission bandwidth.

Remarks:
The measured value is about 12 MHz (delta marker).

Plot No. 12 (68)



Subclause: -/- Verification of the occupied bandwidth (99% bandwidth)
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 2, see section 1.5.2
medium 3 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:40:18	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

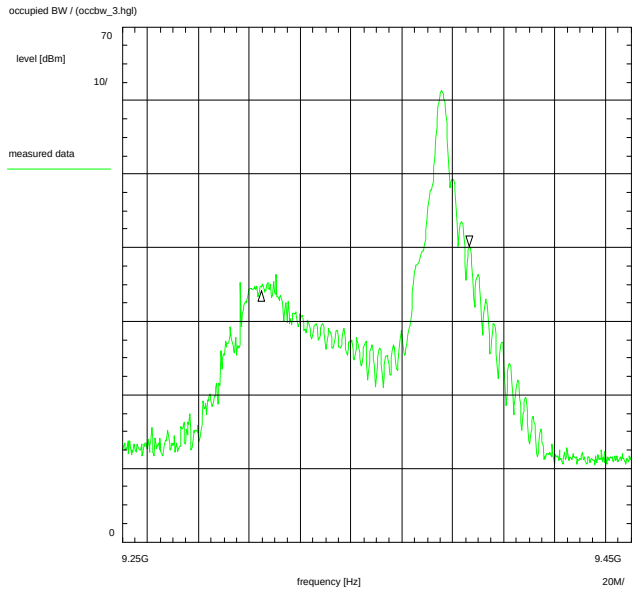
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
The occupied bandwidth is defined as the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the emitted power. This is also known as the 99% emission bandwidth.

Remarks:
The measured value is about 67 MHz (delta marker).

Plot No. 13 (68)



Subclause: -/- Verification of the occupied bandwidth (99% bandwidth)
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
medium 2 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 11:58:25	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

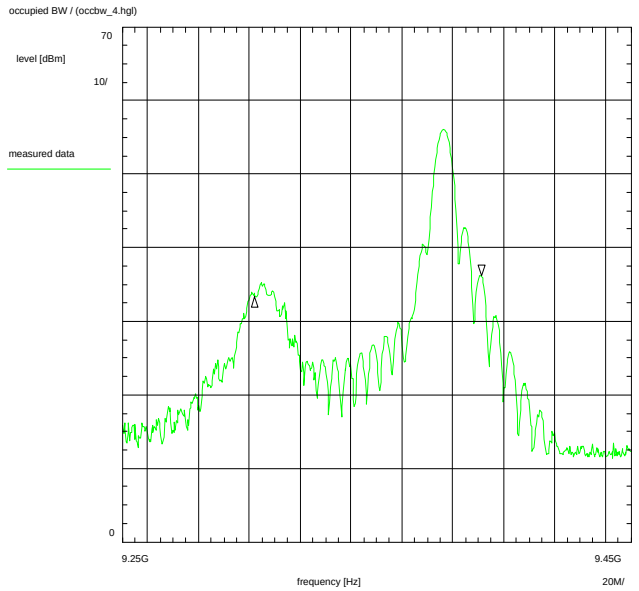
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
The occupied bandwidth is defined as the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the emitted power. This is also known as the 99% emission bandwidth.

Remarks:
The measured value is about 82 MHz (delta marker).

Plot No. 14 (68)



Subclause: -/- Verification of the occupied bandwidth (99% bandwidth)
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 4, see section 1.5.2
medium 1 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

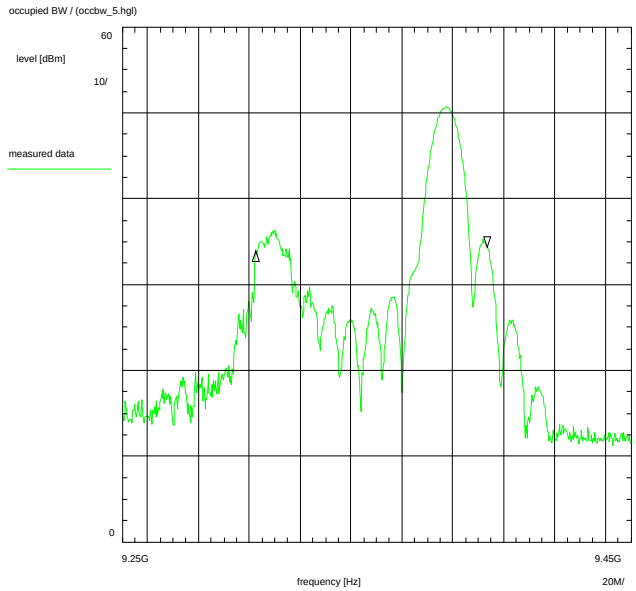
Information on the measurement:

Environment condition:			
Date & Time:	Wed 13/Jul/2011 12:01:21		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	65	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	9.25	GHz	
Stop frequency:	9.45	GHz	
Center frequency:	9.35	GHz	
Frequency span:	200	MHz	
Input attenuation:	30	dB	
Resolution-BW:	1	MHz	
Video-BW:	1	MHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
The occupied bandwidth is defined as the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the emitted power. This is also known as the 99% emission bandwidth.

Remarks:
The measured value is about 89 MHz (delta marker).

Plot No. 15 (68)



Subclause: -/- Verification of the occupied bandwidth (99% bandwidth)
Short pulse / medium pulse / long pulse
Measurement within the allocated band: 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: measurement for orientation

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 12:03:19	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.25	GHz
Stop frequency:	9.45	GHz
Center frequency:	9.35	GHz
Frequency span:	200	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

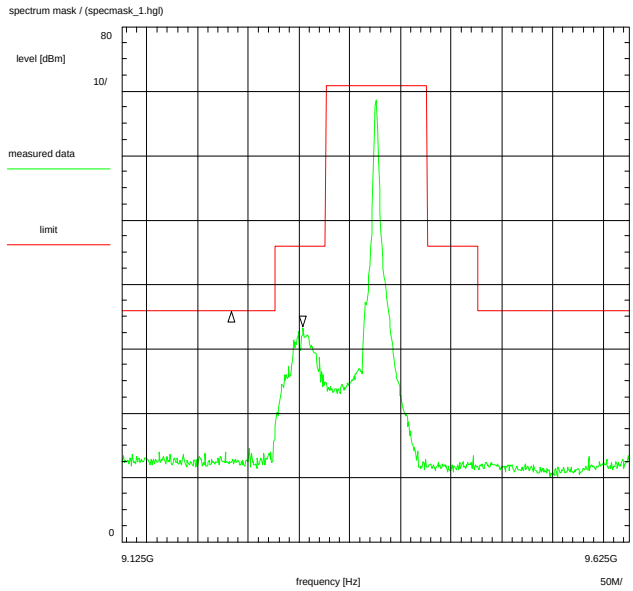
Correction (average):

Directional coupler (W240)	+	43.6	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.7	dB

Limit:
The occupied bandwidth is defined as the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the emitted power. This is also known as the 99% emission bandwidth.

Remarks:
The measured value is about 91 MHz (delta marker).

Plot No. 16 (68)



Subclause: 80.211(f) Spectrum Mask
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:30:59	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.125	GHz
Stop frequency:	9.625	GHz
Center frequency:	9.375	GHz
Frequency span:	500	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

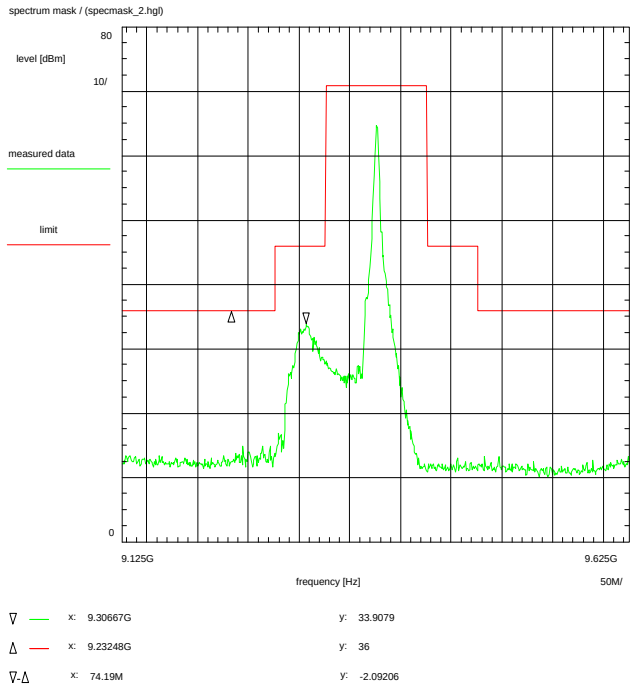
Correction (average):

Directional coupler (W240)	+	43.7	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.8	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:

Plot No. 17 (68)



Subclause: 80.211(f) Spectrum Mask
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 2, see section 1.5.2
med3 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:31:45	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.125	GHz
Stop frequency:	9.625	GHz
Center frequency:	9.375	GHz
Frequency span:	500	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

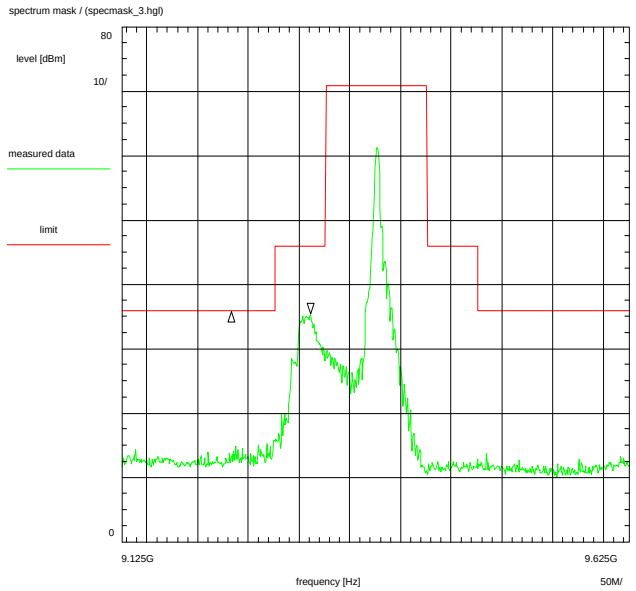
Correction (average):

Directional coupler (W240)	+	43.7	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.8	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:

Plot No. 18 (68)



Subclause: 80.211(f) Spectrum Mask
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:32:45	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.125	GHz
Stop frequency:	9.625	GHz
Center frequency:	9.375	GHz
Frequency span:	500	MHz
Input attenuation:	30	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

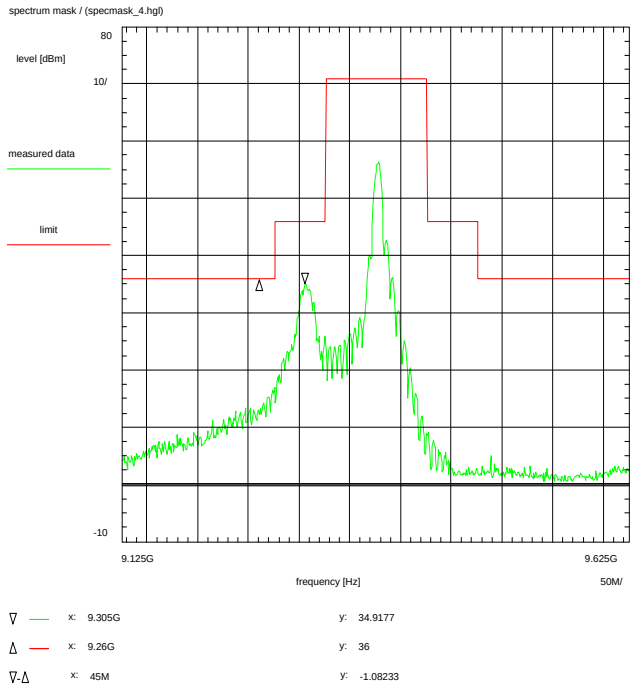
Correction (average):

Directional coupler (W240)	+	43.7	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.8	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:

Plot No. 19 (68)



Subclause: 80.211(f) Spectrum Mask
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 4, see section 1.5.2
med1 pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:34:02	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.125	GHz
Stop frequency:	9.625	GHz
Center frequency:	9.375	GHz
Frequency span:	500	MHz
Input attenuation:	20	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

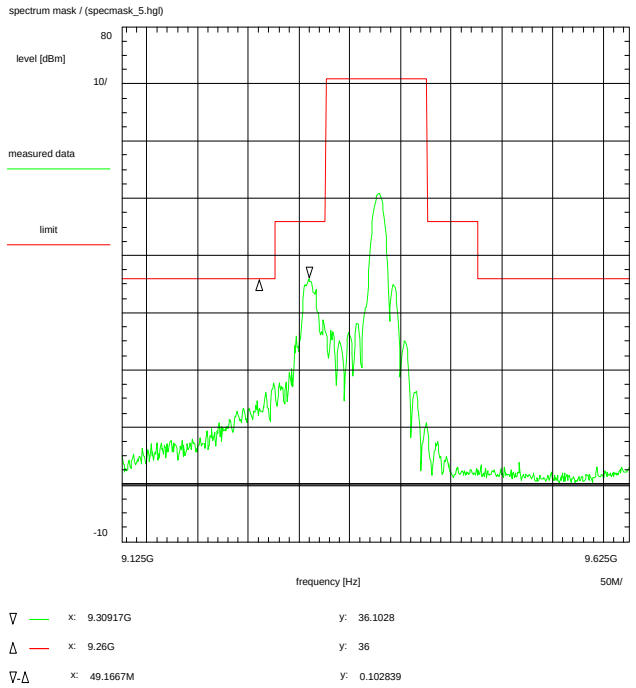
Correction (average):

Directional coupler (W240)	+	43.7	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.8	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:

Plot No. 20 (68)



Subclause: 80.211(f) Spectrum Mask
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdhgj

Test equipment:
see annex 2: C217, R001, U214, W240, W242

Data of correction:
see annex 4

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:34:50	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.125	GHz
Stop frequency:	9.625	GHz
Center frequency:	9.375	GHz
Frequency span:	500	MHz
Input attenuation:	20	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

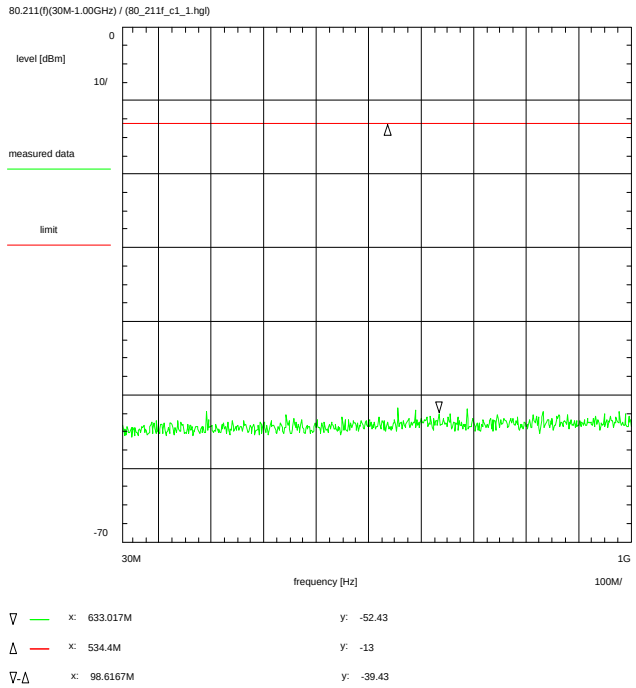
Correction (average):

Directional coupler (W240)	+	43.7	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U214)	+	9.4	dB
TOTAL CORRECTION:	+	54.8	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:

Plot No. 21 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 30 MHz - 1.0 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:38:16	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	30	MHz
Stop frequency:	1	GHz
Center frequency:	515	MHz
Frequency span:	970	MHz
Input attenuation:	10	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

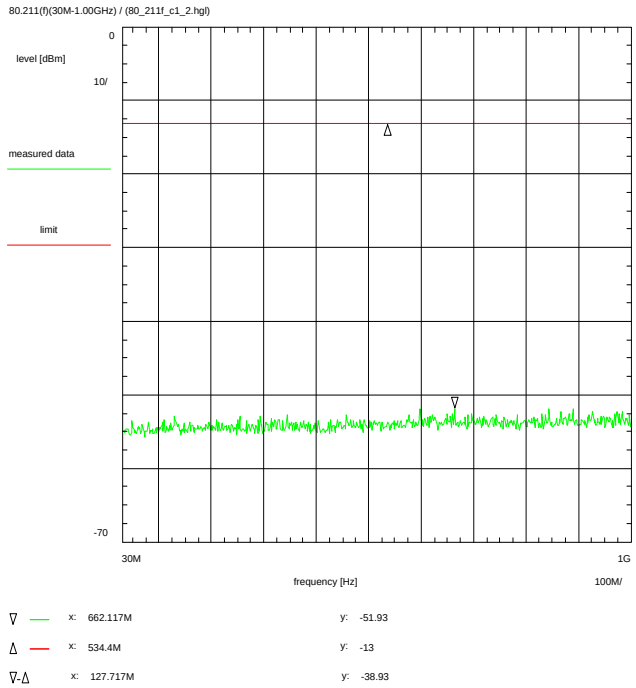
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	0.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.0	dB
TOTAL CORRECTION:	+	20.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 22 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 30 MHz - 1.0 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:38:54	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	30	MHz
Stop frequency:	1	GHz
Center frequency:	515	MHz
Frequency span:	970	MHz
Input attenuation:	10	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

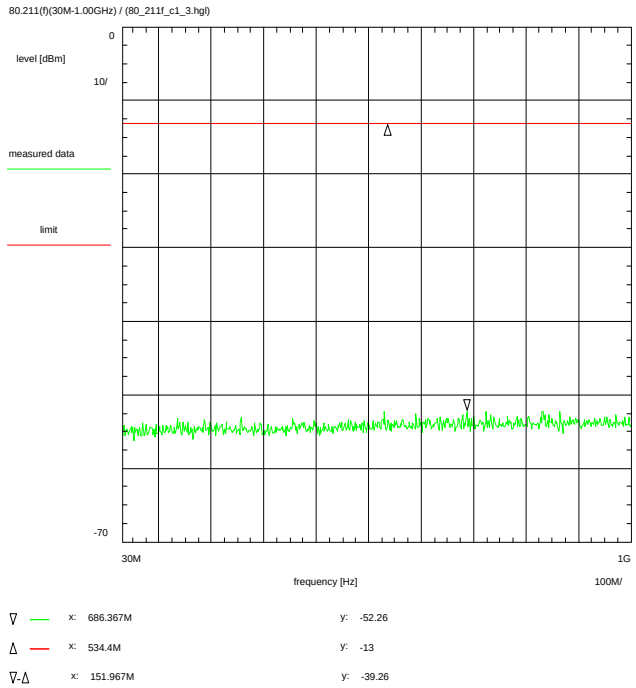
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	0.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.0	dB
TOTAL CORRECTION:	+	20.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 23 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 30 MHz - 1.0 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:39:22	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	30	MHz
Stop frequency:	1	GHz
Center frequency:	515	MHz
Frequency span:	970	MHz
Input attenuation:	10	dB
Resolution-BW:	100	kHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

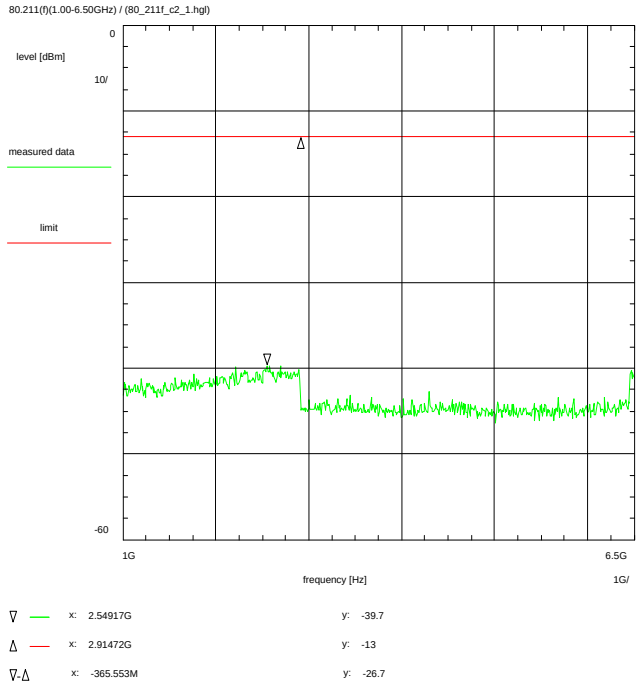
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	0.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.0	dB
TOTAL CORRECTION:	+	20.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 24 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 1.0 - 6.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:41:29	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	1	GHz
Stop frequency:	6.5	GHz
Center frequency:	3.75	GHz
Frequency span:	5.5	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

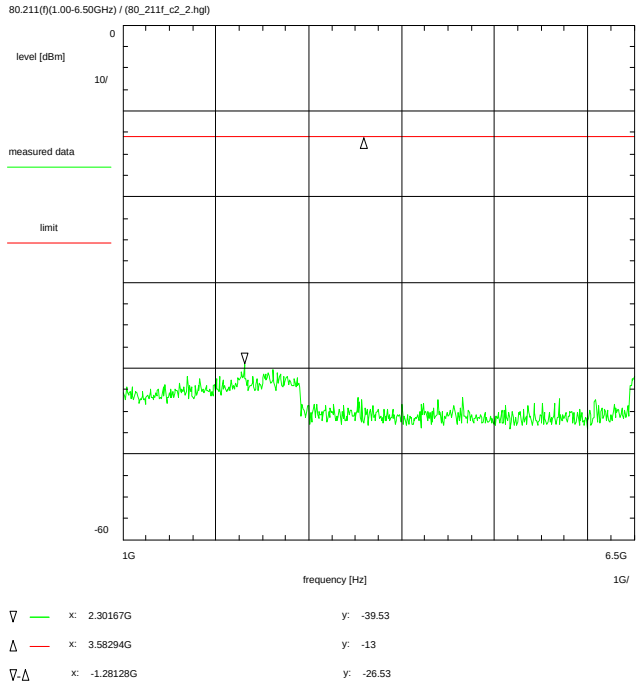
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.3	dB
TOTAL CORRECTION:	+	21.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 25 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 1.0 - 6.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

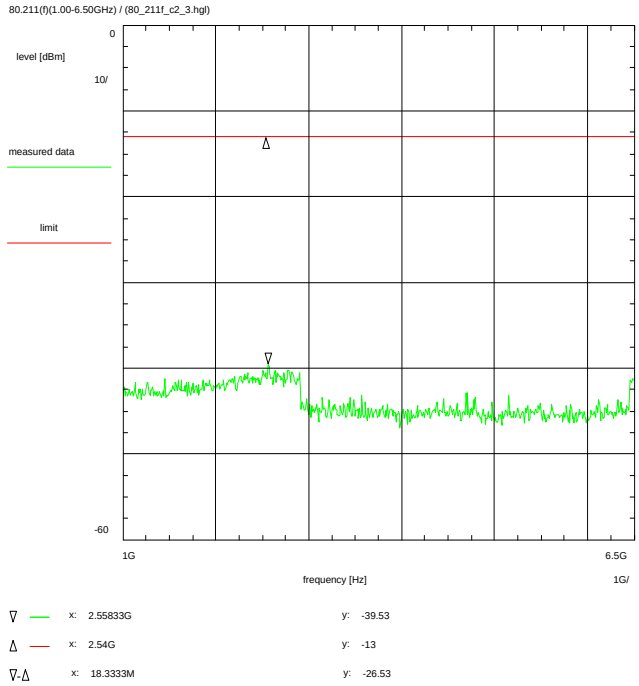
Information on the measurement:

Environment condition:			
Date & Time:	Wed 13/Jul/2011 13:41:53		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	65	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	1	GHz	
Stop frequency:	6.5	GHz	
Center frequency:	3.75	GHz	
Frequency span:	5.5	GHz	
Input attenuation:	10	dB	
Resolution-BW:	1	MHz	
Video-BW:	1	MHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.3	dB
TOTAL CORRECTION:	+	21.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 26 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 1.0 - 6.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:42:29	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	1	GHz
Stop frequency:	6.5	GHz
Center frequency:	3.75	GHz
Frequency span:	5.5	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

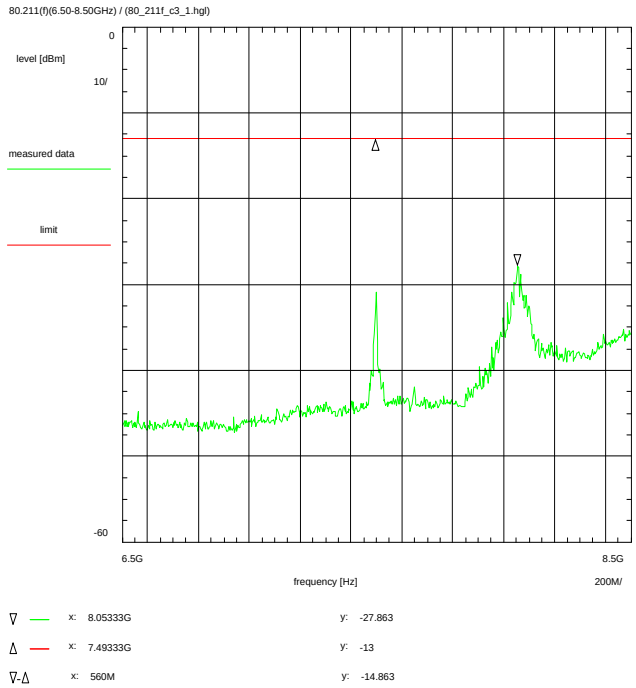
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	0.3	dB
TOTAL CORRECTION:	+	21.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 27 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 6.5 - 8.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:45:03	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	6.5	GHz
Stop frequency:	8.5	GHz
Center frequency:	7.5	GHz
Frequency span:	2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

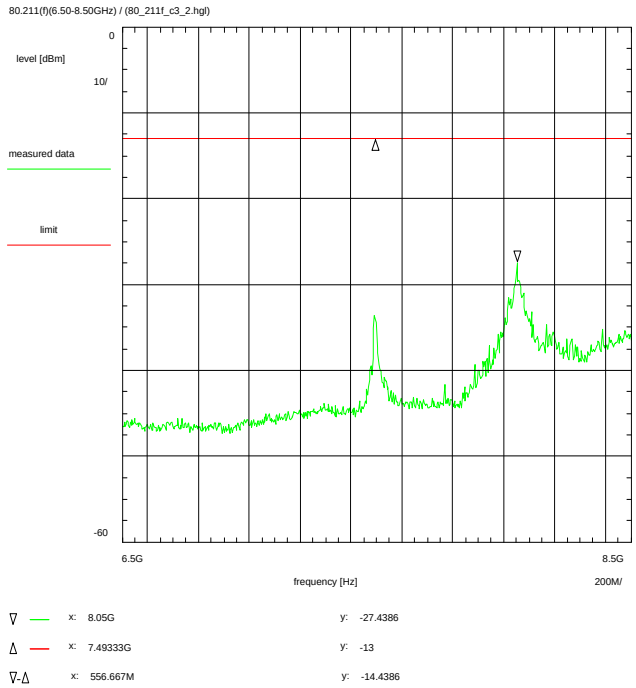
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.6	dB
TOTAL CORRECTION:	+	24.1	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 28 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 6.5 - 8.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:45:51	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	6.5	GHz
Stop frequency:	8.5	GHz
Center frequency:	7.5	GHz
Frequency span:	2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

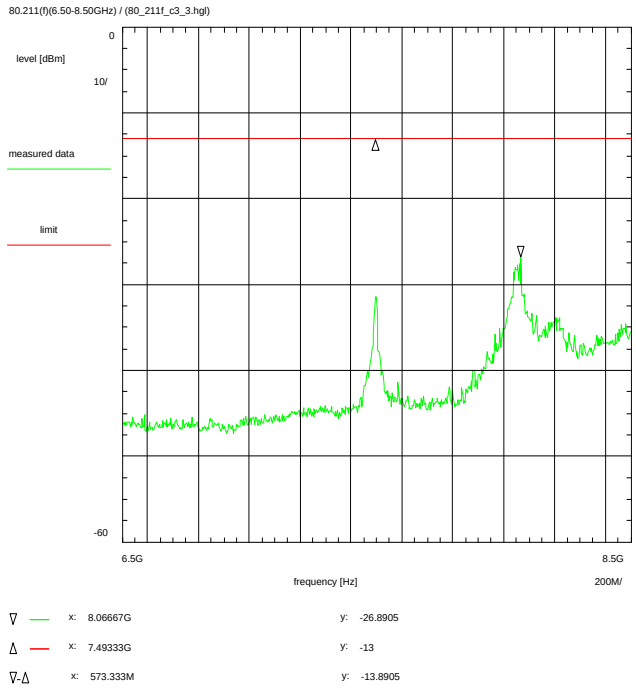
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.6	dB
TOTAL CORRECTION:	+	24.1	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 29 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 6.5 - 8.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:46:50	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	6.5	GHz
Stop frequency:	8.5	GHz
Center frequency:	7.5	GHz
Frequency span:	2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

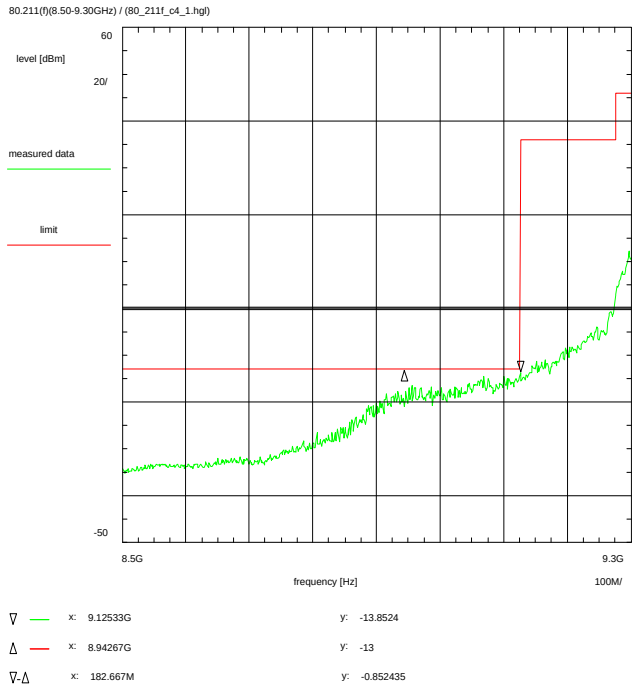
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	1.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.6	dB
TOTAL CORRECTION:	+	24.1	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 30 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 8.5 - 9.3 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:49:25	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	8.5	GHz
Stop frequency:	9.3	GHz
Center frequency:	8.9	GHz
Frequency span:	800	MHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

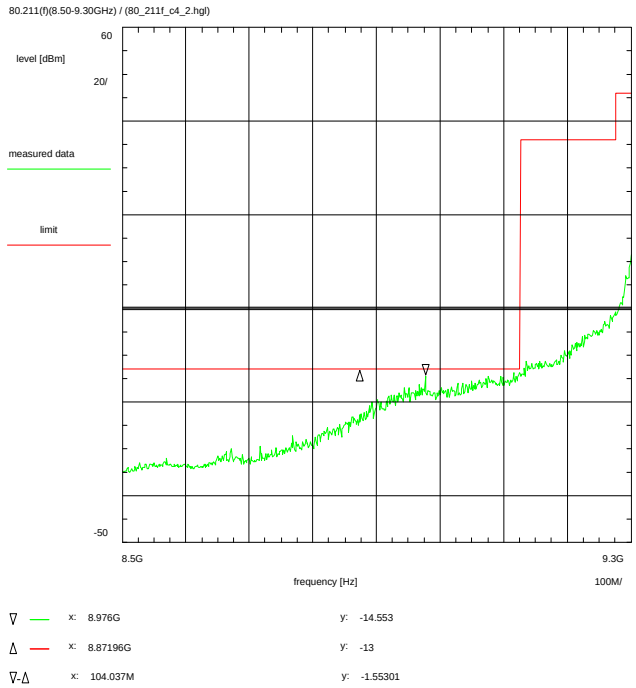
Correction (average):

Directional coupler (W241)	+	21.3	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	19.6	dB
TOTAL CORRECTION:	+	42.6	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 31 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 8.5 - 9.3 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

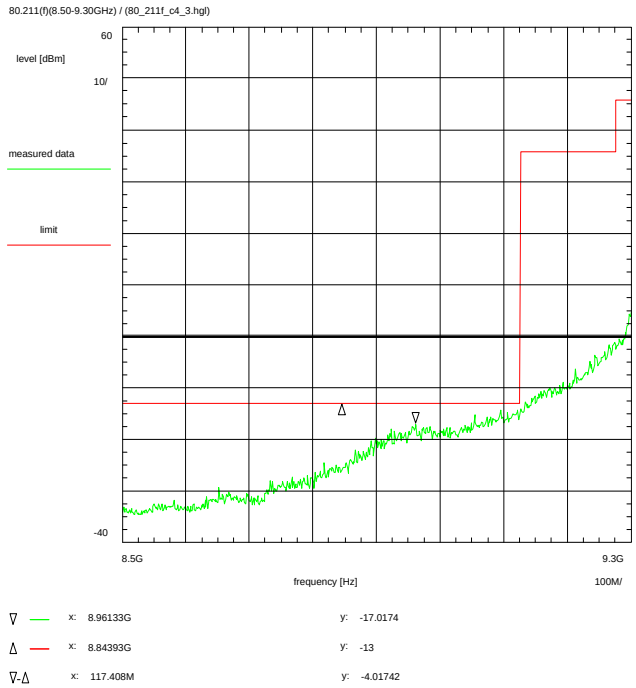
Information on the measurement:

Environment condition:			
Date & Time:	Wed 13/Jul/2011 13:51:00		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	65	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	8.5	GHz	
Stop frequency:	9.3	GHz	
Center frequency:	8.9	GHz	
Frequency span:	800	MHz	
Input attenuation:	10	dB	
Resolution-BW:	1	MHz	
Video-BW:	100	kHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler (W241)	+	21.3	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	19.6	dB
TOTAL CORRECTION:	+	42.6	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 32 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 8.5 - 9.3 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:52:01	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	8.5	GHz
Stop frequency:	9.3	GHz
Center frequency:	8.9	GHz
Frequency span:	800	MHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

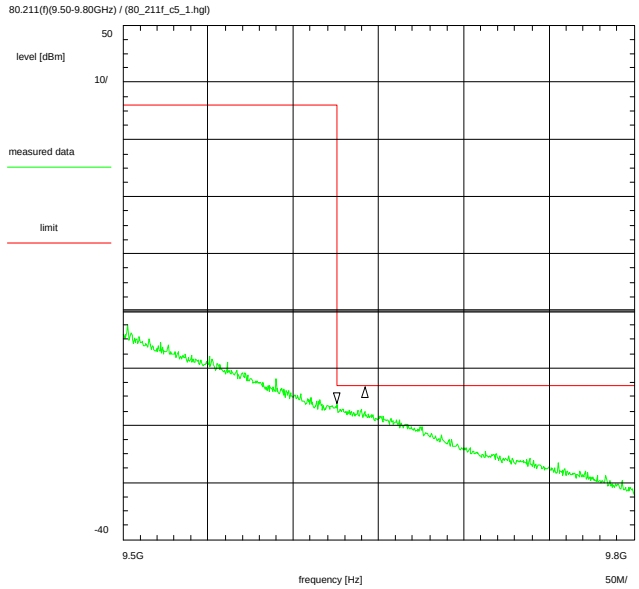
Correction (average):

Directional coupler (W241)	+	21.3	dB
Coaxial cable (C217)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	19.6	dB
TOTAL CORRECTION:	+	42.6	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 33 (68)



Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:54:28	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.5	GHz
Stop frequency:	9.8	GHz
Center frequency:	9.65	GHz
Frequency span:	300	MHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

Directional coupler (W241)	+	21.1	dB
Coaxial cable (C217)	+	1.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	27.0	dB
TOTAL CORRECTION:	+	49.9	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.5 - 9.8 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

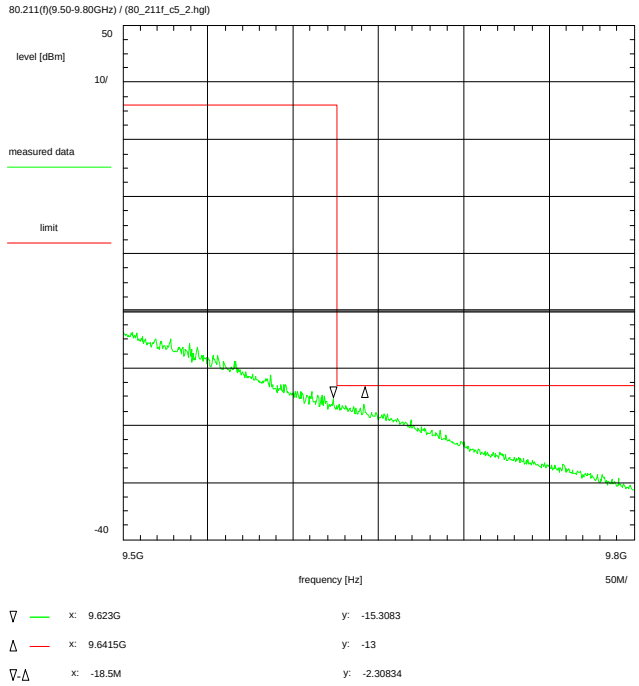
Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Plot No. 34 (68)



Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:55:35	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.5	GHz
Stop frequency:	9.8	GHz
Center frequency:	9.65	GHz
Frequency span:	300	MHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

Directional coupler (W241)	+	21.1	dB
Coaxial cable (C217)	+	1.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	27.0	dB
TOTAL CORRECTION:	+	49.9	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.5 - 9.8 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

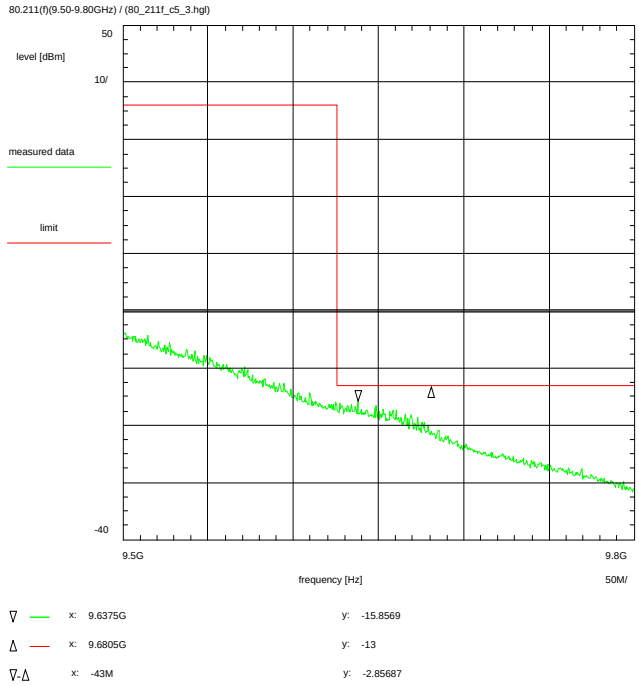
Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Plot No. 35 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.5 - 9.8 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:56:29	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.5	GHz
Stop frequency:	9.8	GHz
Center frequency:	9.65	GHz
Frequency span:	300	MHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

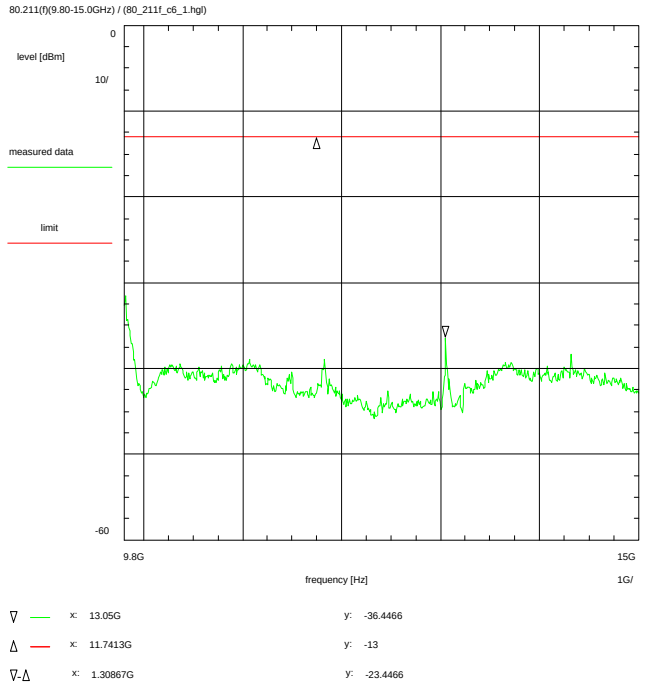
Correction (average):

Directional coupler (W241)	+	21.1	dB
Coaxial cable (C217)	+	1.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	27.0	dB
TOTAL CORRECTION:	+	49.9	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 36 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.8 - 15.0 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 13:58:27	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.8	GHz
Stop frequency:	15	GHz
Center frequency:	12.4	GHz
Frequency span:	5.2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

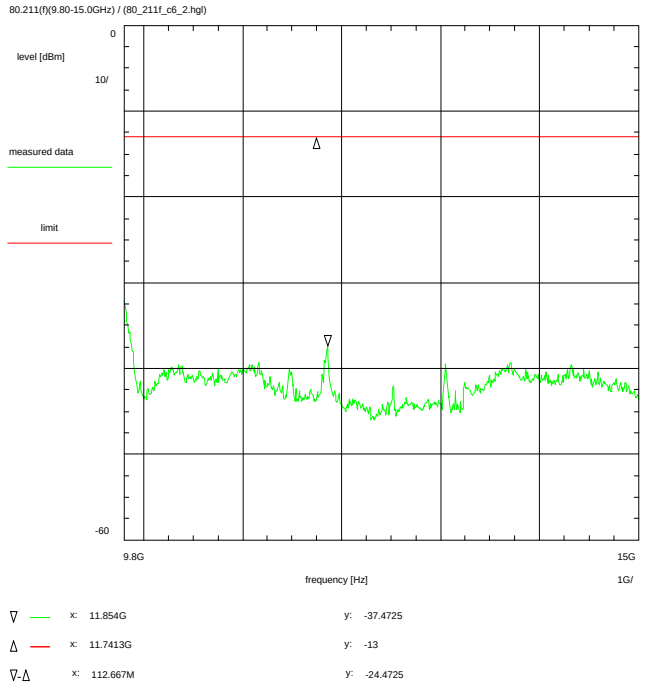
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.7	dB
TOTAL CORRECTION:	+	24.7	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 37 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.8 - 15.0 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 14:00:06	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.8	GHz
Stop frequency:	15	GHz
Center frequency:	12.4	GHz
Frequency span:	5.2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

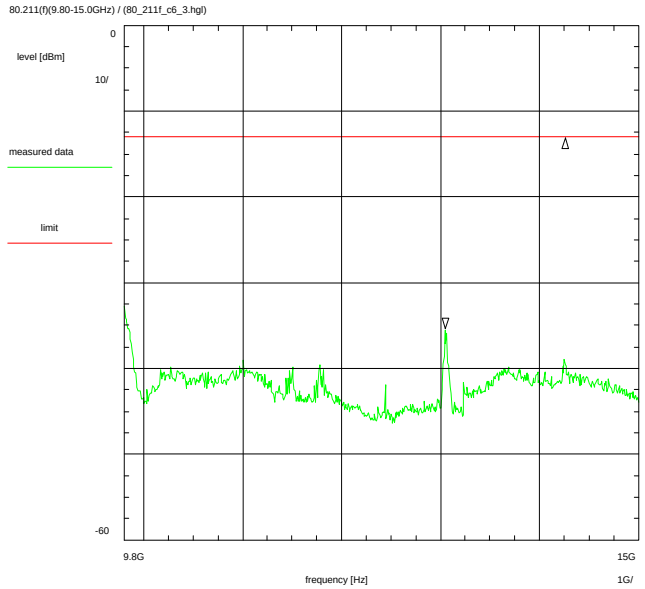
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.7	dB
TOTAL CORRECTION:	+	24.7	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 38 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 9.8 - 15.0 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cdigj

Test equipment:
see annex 2: C217, R001, U231, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 14:00:39	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	9.8	GHz
Stop frequency:	15	GHz
Center frequency:	12.4	GHz
Frequency span:	5.2	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

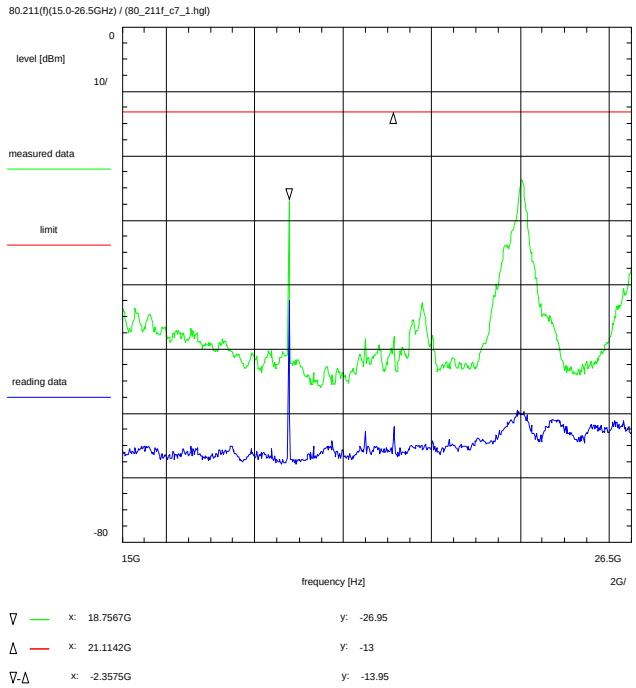
Correction (average):

Directional coupler (W241)	+	20.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U231)	+	2.7	dB
TOTAL CORRECTION:	+	24.7	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100-->N and Stub Tuner.

Plot No. 39 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 26.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 14:04:41	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	26.5	GHz
Center frequency:	20.75	GHz
Frequency span:	11.5	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

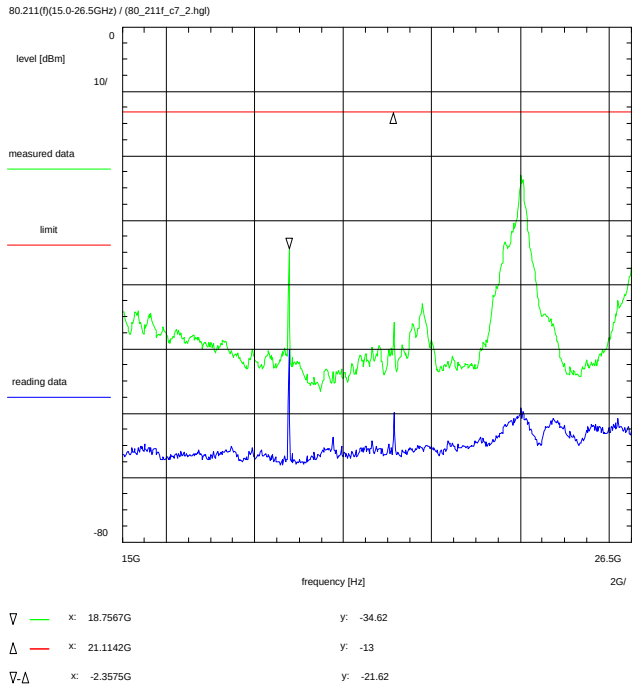
Directional coupler (W241)	+	13.8	dB
Coaxial cable (C217)	+	2.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	16.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R180

marker shows 2nd harmonic of wanted signal

Plot No. 40 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 26.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 14:05:50	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	26.5	GHz
Center frequency:	20.75	GHz
Frequency span:	11.5	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

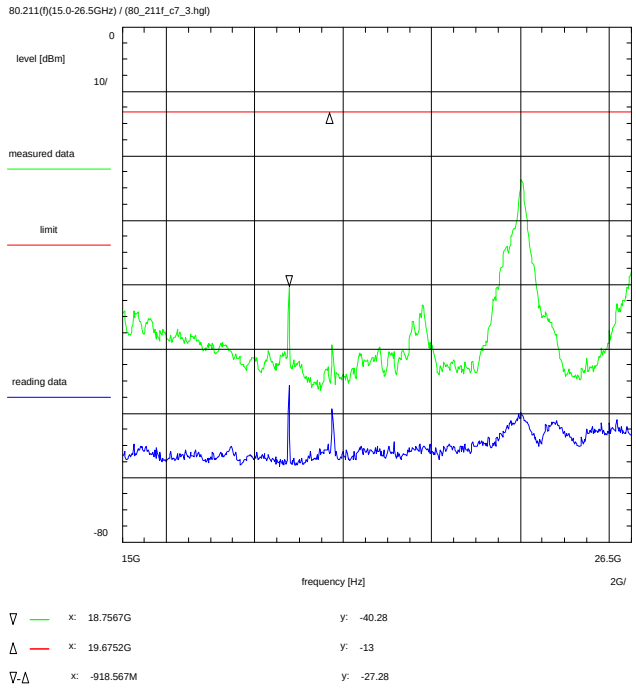
Directional coupler (W241)	+	13.8	dB
Coaxial cable (C217)	+	2.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	16.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R180

marker shows 2nd harmonic of wanted signal

Plot No. 41 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 26.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Wed 13/Jul/2011 14:07:58	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	65	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	26.5	GHz
Center frequency:	20.75	GHz
Frequency span:	11.5	GHz
Input attenuation:	10	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

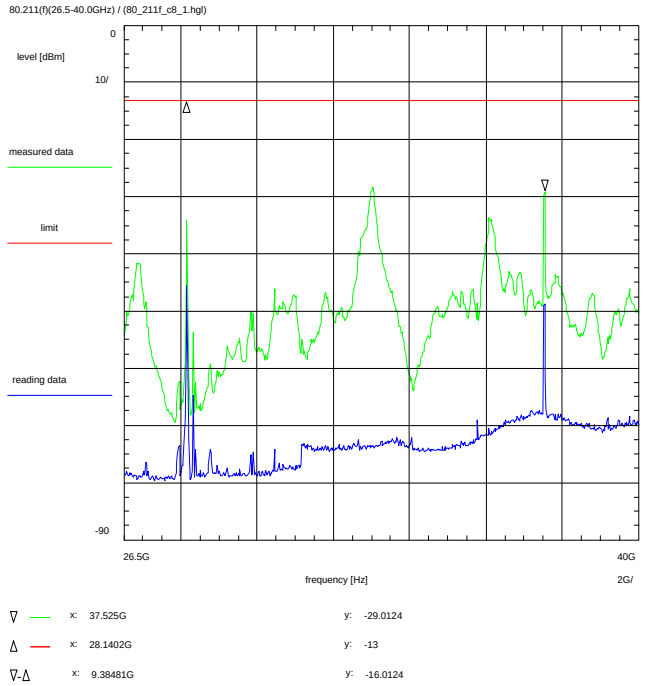
Directional coupler (W241)	+	13.8	dB
Coaxial cable (C217)	+	2.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	16.4	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R180

marker shows 2nd harmonic of wanted signal

Plot No. 42 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:03:41	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

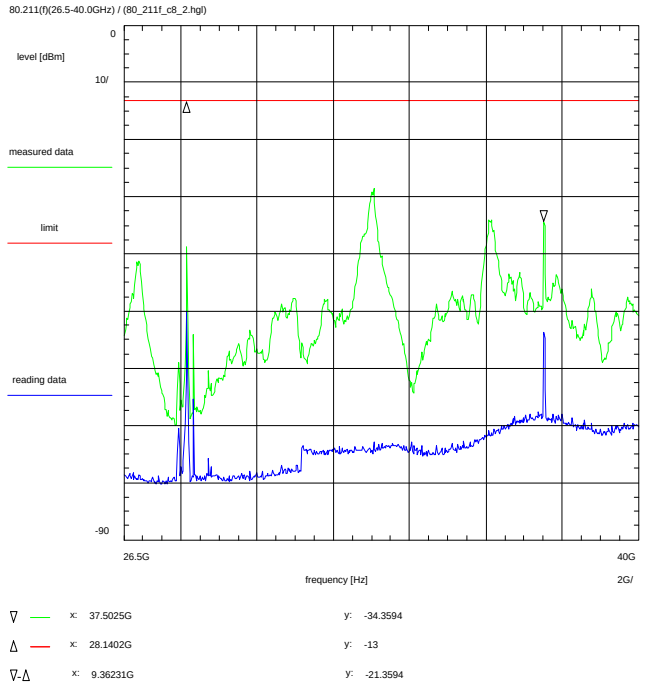
Directional coupler (W241)	+	18.9	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	22.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R320

Markers show 3rd and 4th harmonic.

Plot No. 43 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:05:22	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

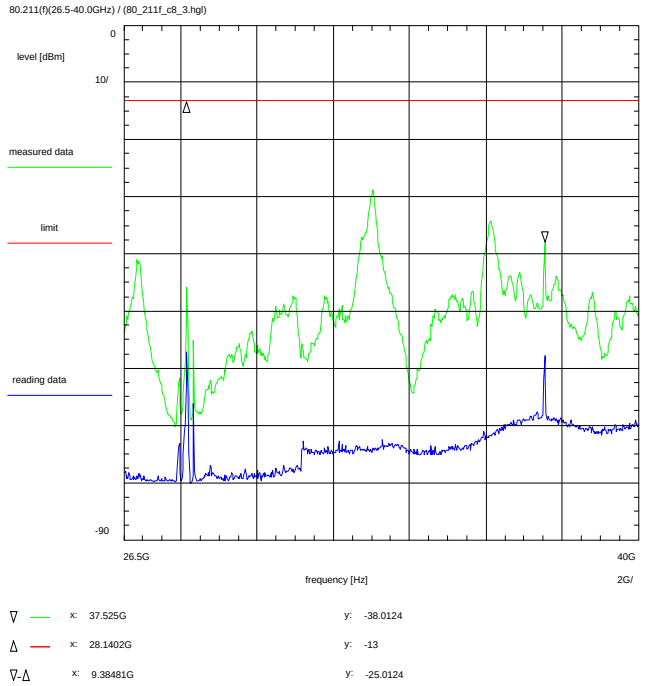
Directional coupler (W241)	+	18.9	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	22.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R320

Markers show 3rd and 4th harmonic.

Plot No. 44 (68)



Subclause: 80.211(f) Conducted Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 1.2cegj

Test equipment:
see annex 2: C217, R001, W022, W241, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:06:22	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

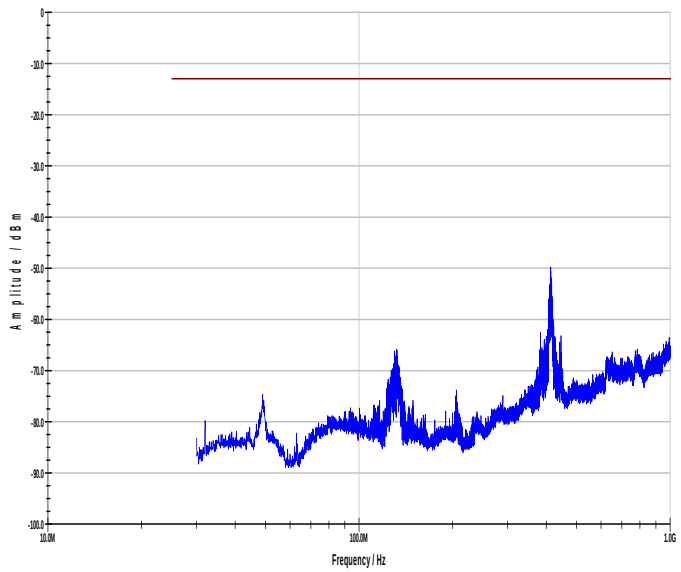
Directional coupler (W241)	+	18.9	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation	+	0.0	dB
TOTAL CORRECTION:	+	22.3	dB

Limit:
Limit acc. to FCC 47 CFR §80.211(f)

Remarks:
Max-Hold Mode
Test setup with taper transitions R100/R320

Markers show 3rd and 4th harmonic.

Plot No. 45 (68)



-/-

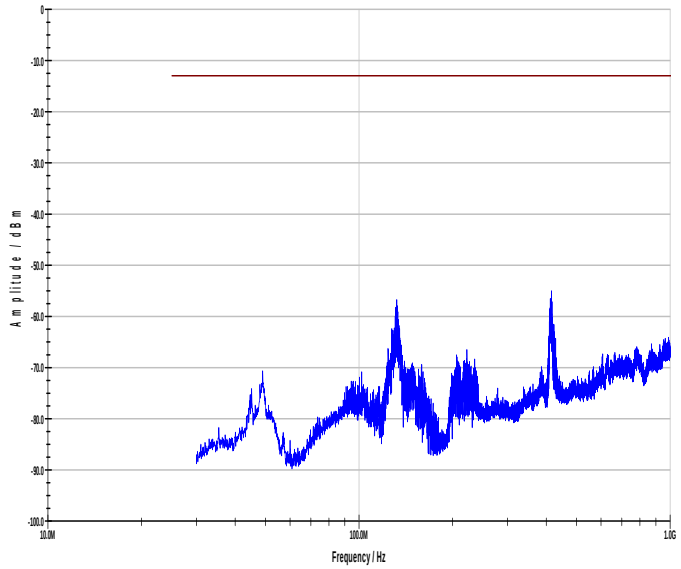
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
412.6 MHz	-41.2 dBm	-13 dBm

Plot No. 46 (68)



-/-

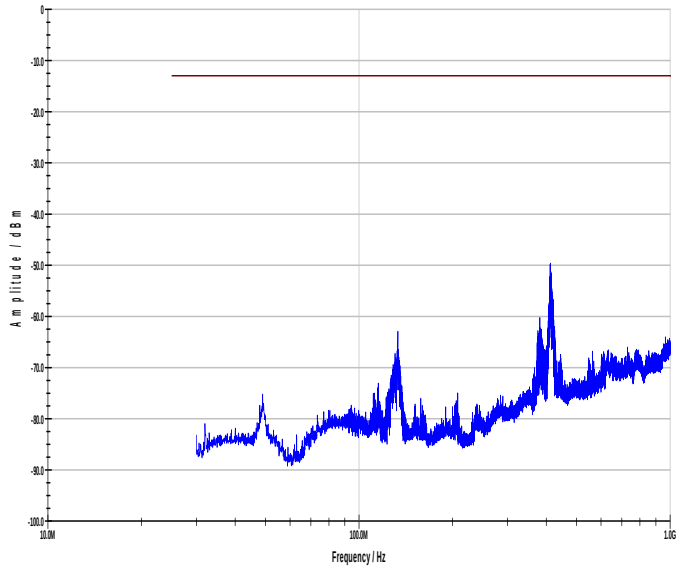
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
133 MHz	-49.9 dBm	-13 dBm
412.4 MHz	-48.4 dBm	-13 dBm

Plot No. 47 (68)



-/-

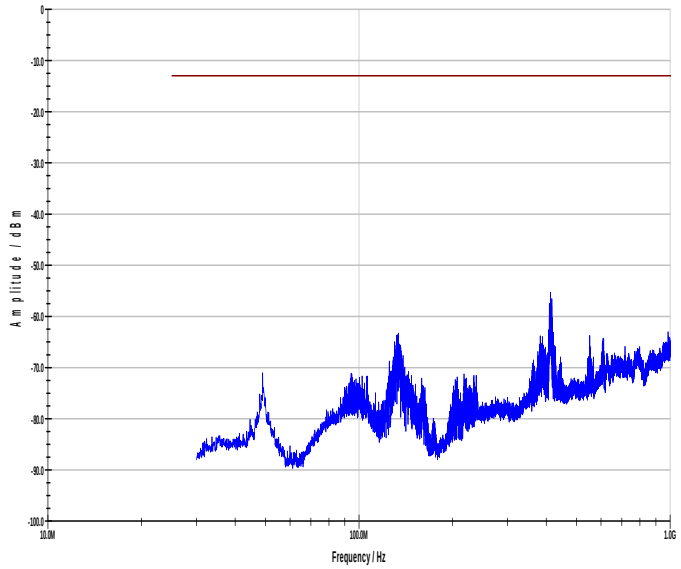
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
412.2 MHz	-40.2 dBm	-13 dBm

Plot No. 48 (68)



-/-

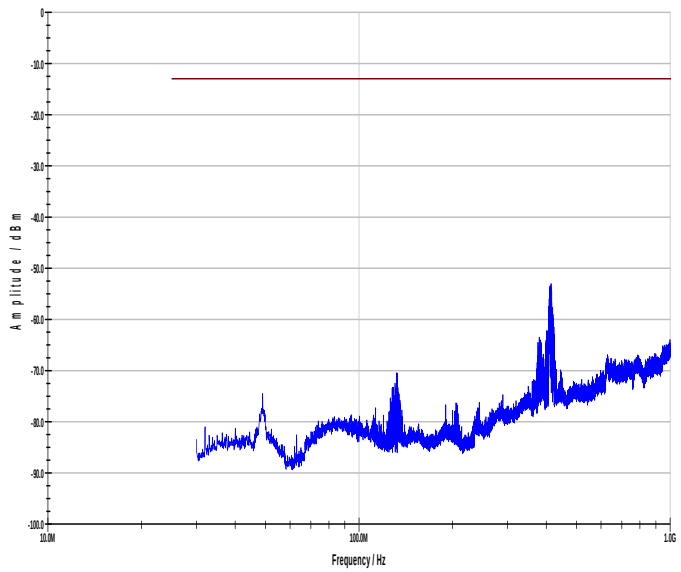
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
413.25 MHz	-46.3 dBm	-13 dBm

Plot No. 49 (68)



-/-

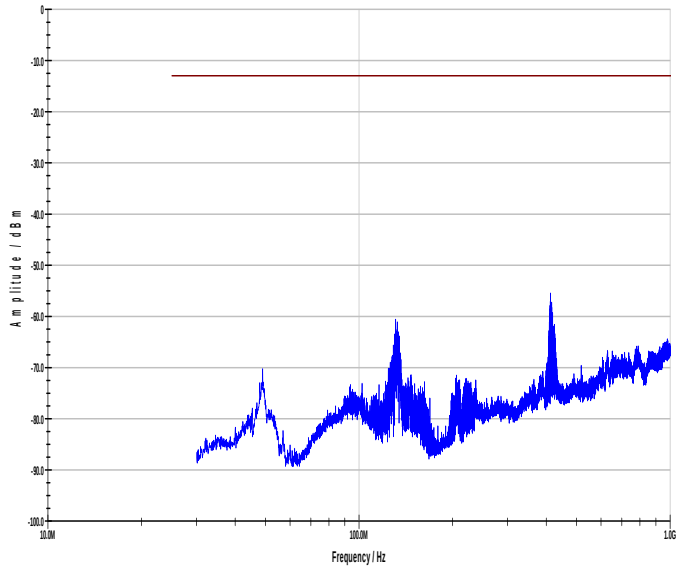
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
412.6 MHz	-44.8 dBm	-13 dBm

Plot No. 50 (68)



-/-

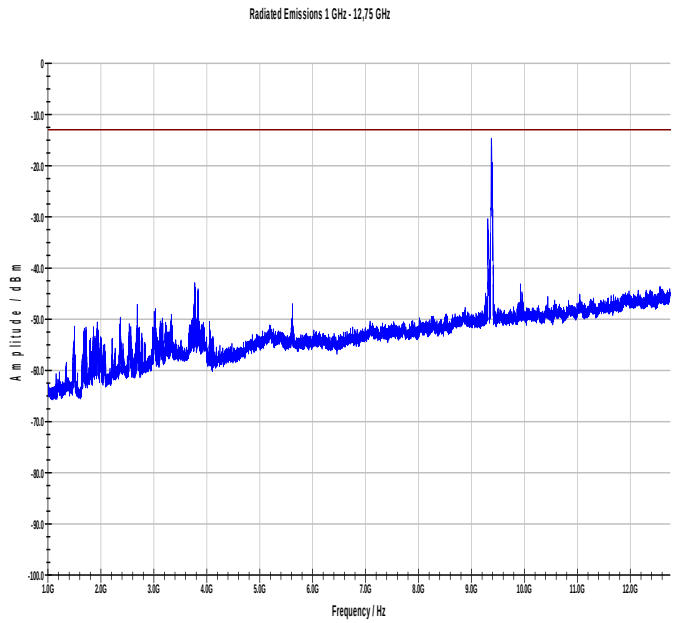
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
414.25 MHz	-48.8 dBm	-13 dBm

Plot No. 51 (68)



-/-

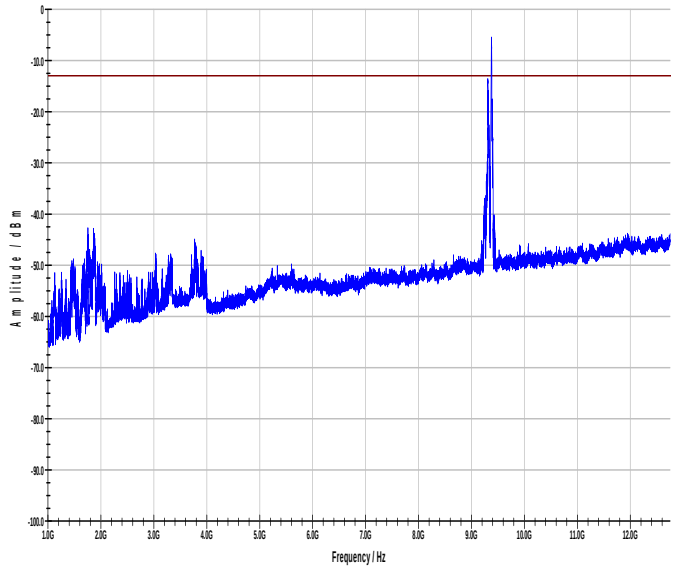
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
3.78 GHz	-35.5 dBm	-13 dBm

Plot No. 52 (68)



-/-

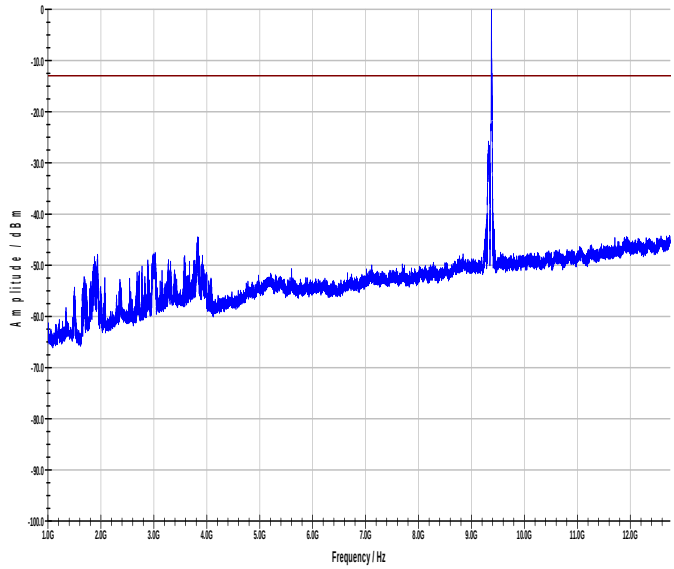
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
1.76 GHz	-36.5 dBm	-13 dBm
3.79 GHz	-37.9 dBm	-13 dBm

Plot No. 53 (68)



-/-

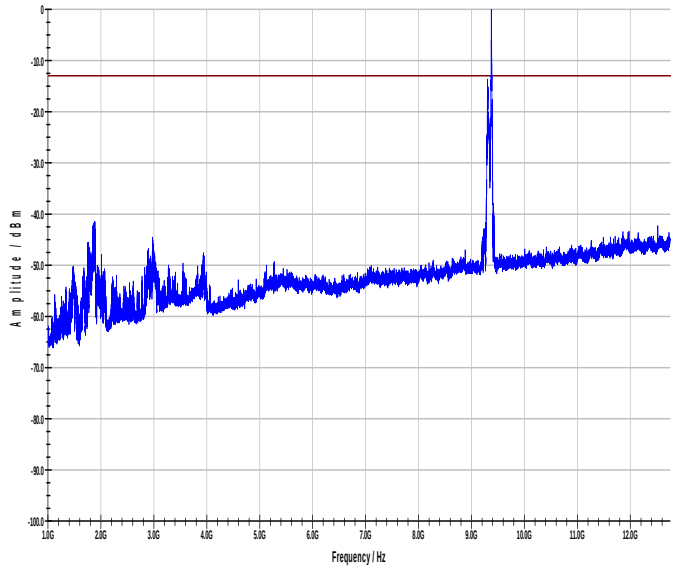
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
1.93 GHz	-40.8 dBm	-13 dBm

Plot No. 54 (68)



-/-

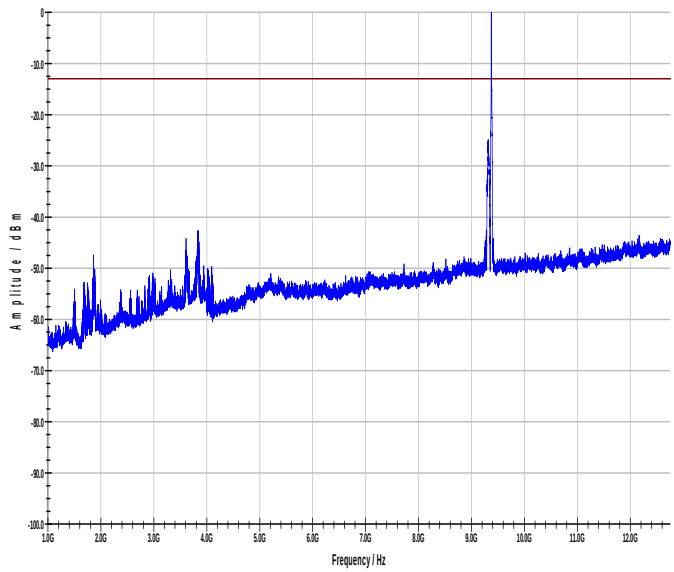
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
1.88 GHz	-35.6 dBm	-13 dBm

Plot No. 55 (68)



-/-

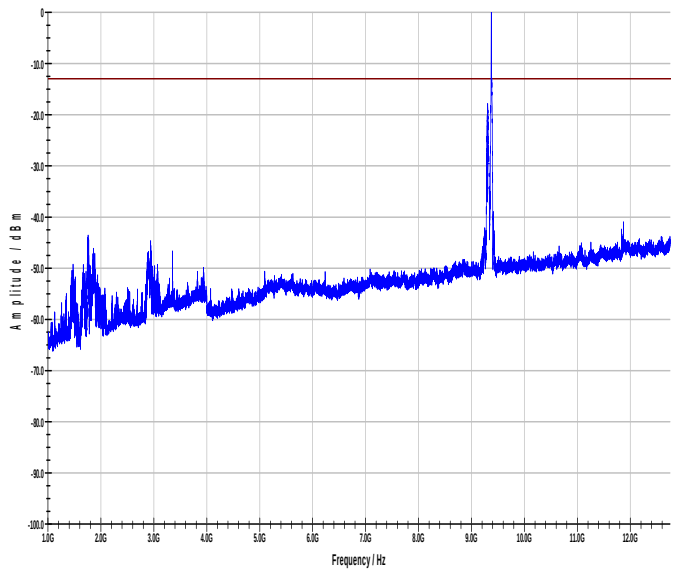
Information on the measurement:

Turn table position: 170--
Antenna Polarization: horizontal

Re-measurement:

Freq	Peak	Limit
3.84 GHz	-37.0 dBm	-13 dBm

Plot No. 56 (68)



-/-

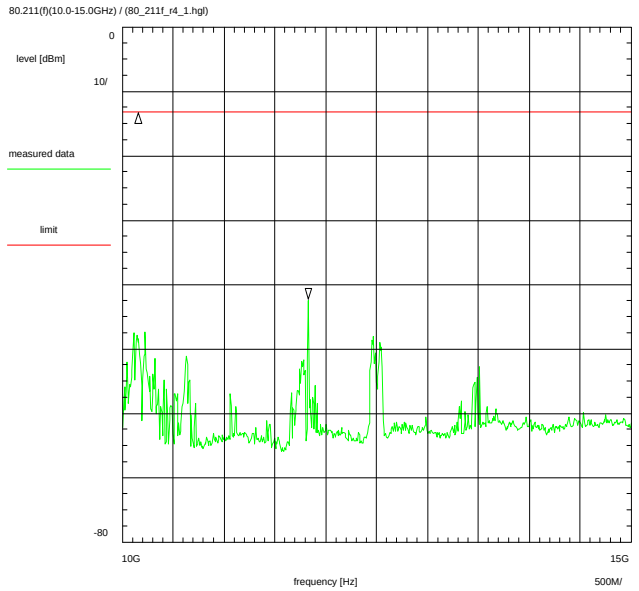
Information on the measurement:

Turn table position: 170--
Antenna Polarization: vertical

Re-measurement:

Freq	Peak	Limit
1.76 GMHz	-37.4 dBm	-13 dBm

Plot No. 57 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 10.0 - 15.0 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A012, A014, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:14:54	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	10	GHz
Stop frequency:	15	GHz
Center frequency:	12.5	GHz
Frequency span:	5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

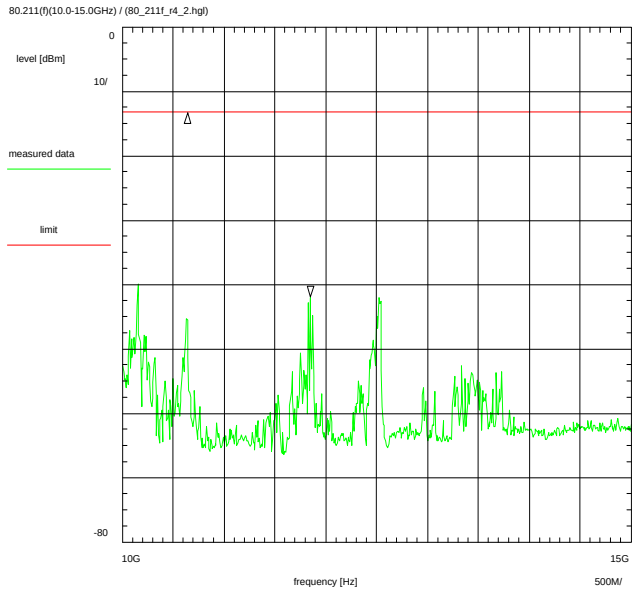
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A014)	-	19.7	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (12.50GHz, 1m)	+	54.4	dB
Amplifier (11b)	-	35.4	dB
TOTAL CORRECTION:	+	1.3	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 58 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 10.0 - 15.0 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A012, A014, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:16:13	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	10	GHz
Stop frequency:	15	GHz
Center frequency:	12.5	GHz
Frequency span:	5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

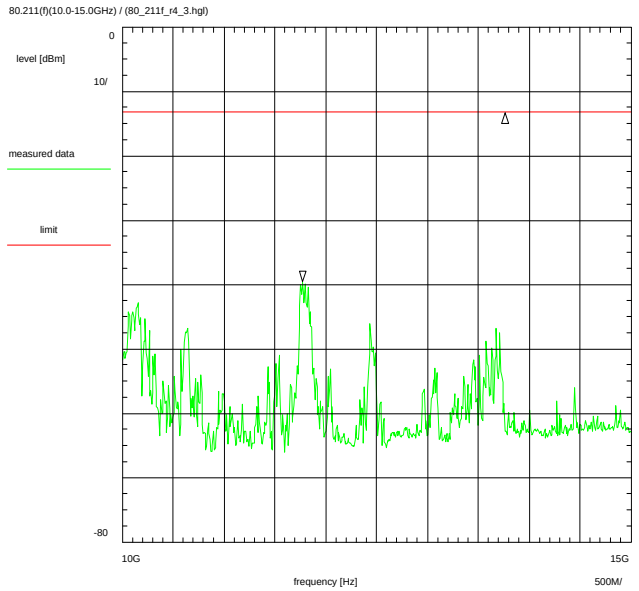
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A014)	-	19.7	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (12.50GHz, 1m)	+	54.4	dB
Amplifier (11b)	-	35.4	dB
TOTAL CORRECTION:	+	1.3	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 59 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 10.0 - 15.0 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A012, A014, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

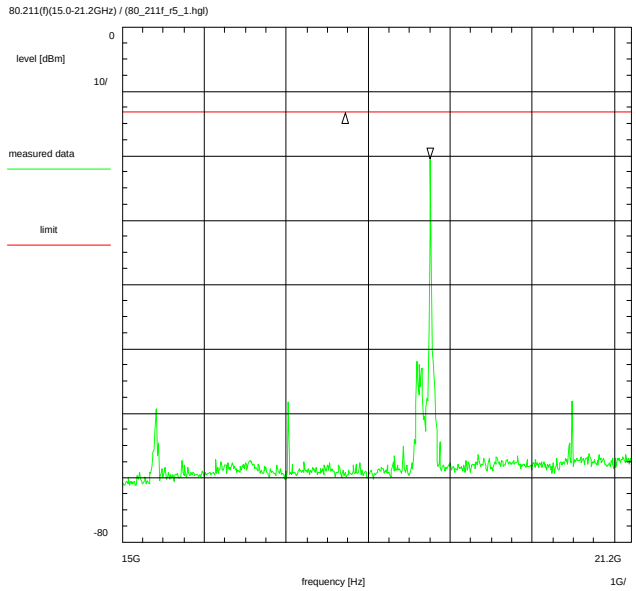
Information on the measurement:

Environment condition:			
Date & Time:	Thu 14/Jul/2011 14:17:07		
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat		
Temperature:	24	°C	
Humidity:	50	%	
Voltage:	234	Vac	
Setup of measurement equipment:			
Start frequency:	10	GHz	
Stop frequency:	15	GHz	
Center frequency:	12.5	GHz	
Frequency span:	5	GHz	
Input attenuation:	0	dB	
Resolution-BW:	1	MHz	
Video-BW:	1	MHz	
Video-Average:	1	sweep(s) (>1)	
Detector-Mode:	2	Pos Peak (Maximum-Hold)	
Correction (average):			
Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A014)	-	19.7	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (12.50GHz, 1m)	+	54.4	dB
Amplifier (11b)	-	35.4	dB
TOTAL CORRECTION:	+	1.3	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 60 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 21.2 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A016, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:27:25	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	21.2	GHz
Center frequency:	18.1	GHz
Frequency span:	6.2	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

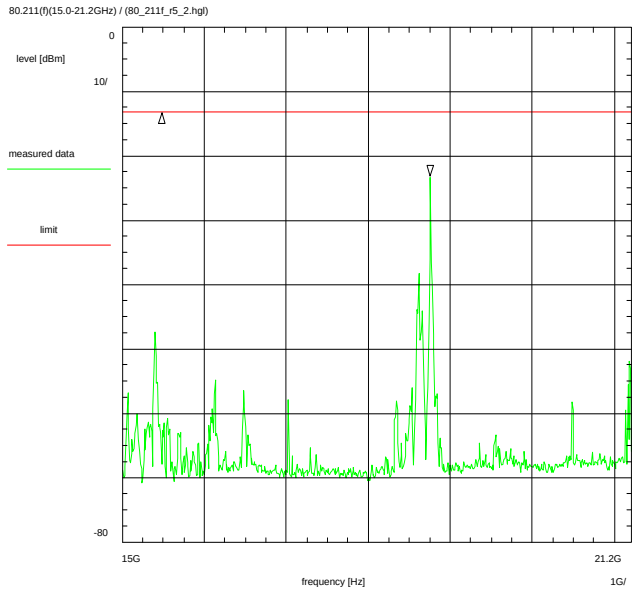
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A016)	-	19.9	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (18.10GHz, 0.3m)	+	47.1	dB
Amplifier (11b)	-	32.7	dB
TOTAL CORRECTION:	-	-3.0	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 61 (68)



Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:28:13	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	21.2	GHz
Center frequency:	18.1	GHz
Frequency span:	6.2	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A016)	-	19.9	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (18.10GHz, 0.3m)	+	47.1	dB
Amplifier (11b)	-	32.7	dB
TOTAL CORRECTION:	-	-3.0	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 21.2 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 2.3

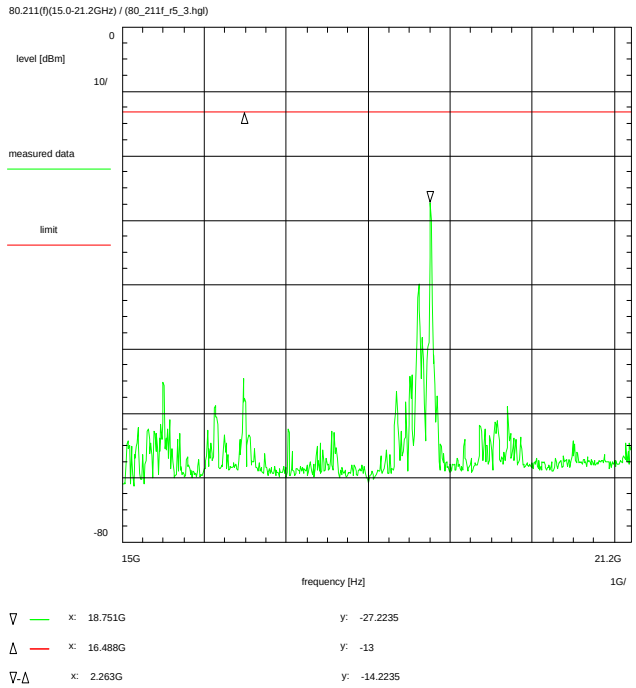
Test equipment:
see annex 2: 11b, A016, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Plot No. 62 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 15.0 - 21.2 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A016, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:28:52	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	15	GHz
Stop frequency:	21.2	GHz
Center frequency:	18.1	GHz
Frequency span:	6.2	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

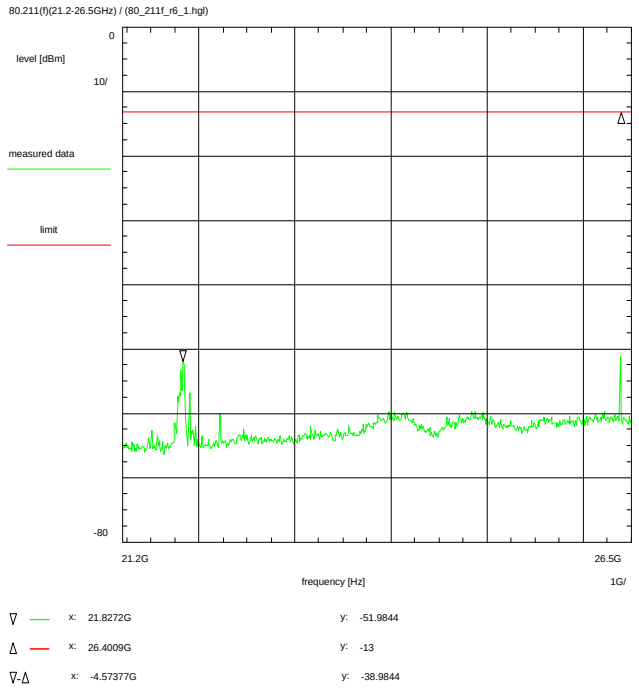
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A016)	-	19.9	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (18.10GHz, 0.3m)	+	47.1	dB
Amplifier (11b)	-	32.7	dB
TOTAL CORRECTION:	-	-3.0	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 63 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 21.2 - 26.5 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A019, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:31:44	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	21.2	GHz
Stop frequency:	26.5	GHz
Center frequency:	23.85	GHz
Frequency span:	5.3	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

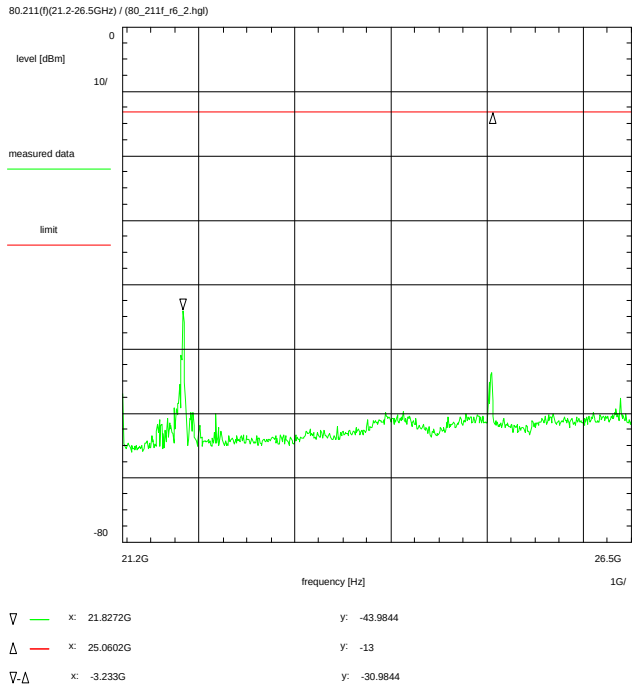
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A019)	-	19.8	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (23.85GHz, 0.3m)	+	49.5	dB
Amplifier (11b)	-	31.3	dB
TOTAL CORRECTION:	+	1.2	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 64 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 21.2 - 26.5 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A019, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:32:33	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	21.2	GHz
Stop frequency:	26.5	GHz
Center frequency:	23.85	GHz
Frequency span:	5.3	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

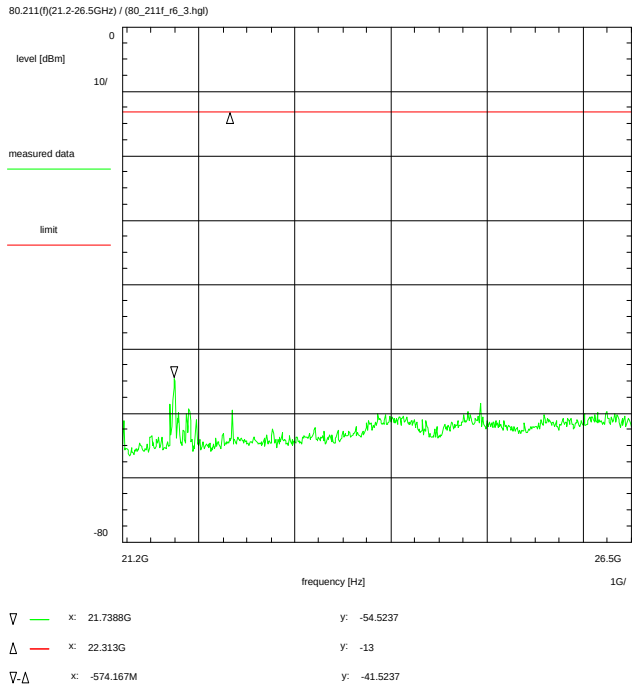
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A019)	-	19.8	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (23.85GHz, 0.3m)	+	49.5	dB
Amplifier (11b)	-	31.3	dB
TOTAL CORRECTION:	+	1.2	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 65 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 21.2 - 26.5 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: 11b, A019, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:33:09	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	21.2	GHz
Stop frequency:	26.5	GHz
Center frequency:	23.85	GHz
Frequency span:	5.3	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

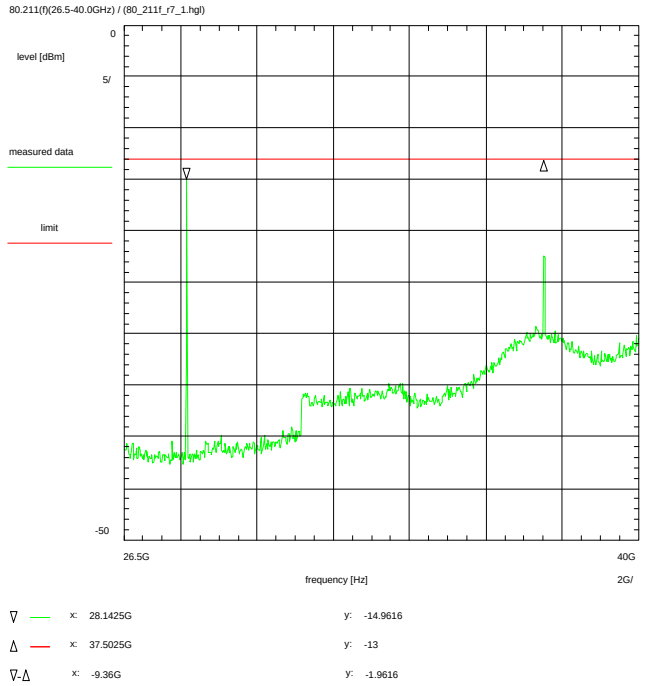
Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	2.8	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A019)	-	19.8	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (23.85GHz, 0.3m)	+	49.5	dB
Amplifier (11b)	-	31.3	dB
TOTAL CORRECTION:	+	1.2	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Plot No. 66 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 1, see section 1.5.2
long pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: A021, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:36:59	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

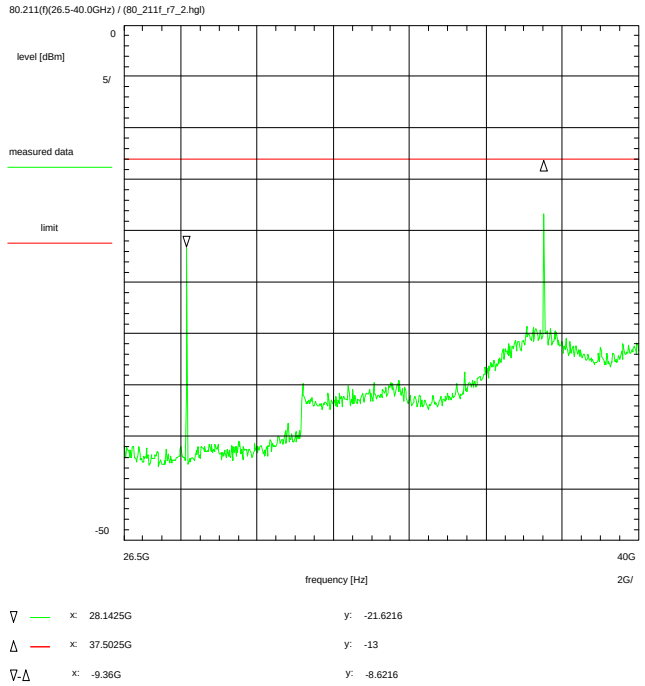
Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A021)	-	19.6	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (33.25GHz, 0.2m)	+	48.9	dB
TOTAL CORRECTION:	+	32.7	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Markers show 3rd and 4th harmonic coming out of the cable feed through.

Plot No. 67 (68)



Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 3, see section 1.5.2
med2 pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: A021, C217, R001, W242

Data of correction:
see annex 5

Remark:

Test result: Test passed

Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:37:55	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

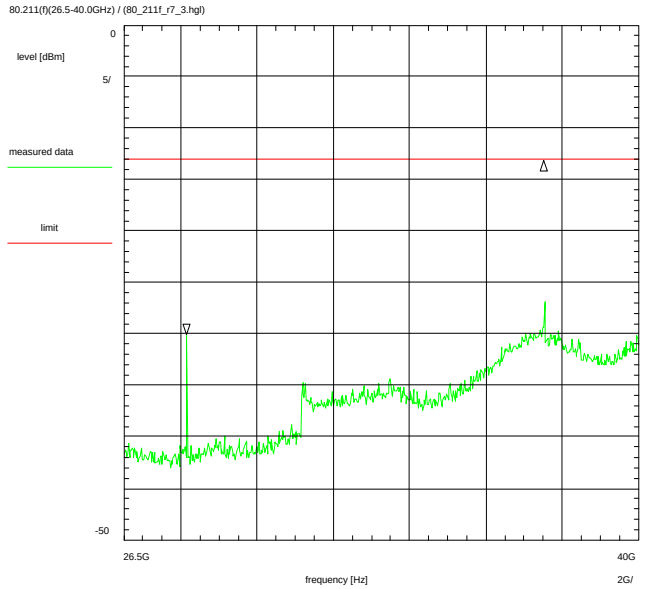
Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A021)	-	19.6	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (33.25GHz, 0.2m)	+	48.9	dB
TOTAL CORRECTION:	+	32.7	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Markers show 3rd and 4th harmonic coming out of the cable feed through.

Plot No. 68 (68)



Information on the measurement:

Environment condition:

Date & Time:	Thu 14/Jul/2011 14:38:55	
Location:	CETECOM ICT Services GmbH, Laboratory RSC-Sat	
Temperature:	24	°C
Humidity:	50	%
Voltage:	234	Vac

Setup of measurement equipment:

Start frequency:	26.5	GHz
Stop frequency:	40	GHz
Center frequency:	33.25	GHz
Frequency span:	13.5	GHz
Input attenuation:	0	dB
Resolution-BW:	1	MHz
Video-BW:	1	MHz
Video-Average:	1	sweep(s) (>1)
Detector-Mode:	2	Pos Peak (Maximum-Hold)

Correction (average):

Directional coupler	+	0.0	dB
Coaxial cable (C217)	+	3.4	dB
DUT-Antenna	+	0.0	dBi
Test antenna (A021)	-	19.6	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (33.25GHz, 0.2m)	+	48.9	dB
TOTAL CORRECTION:	+	32.7	dB

Limit:
Limit acc. to 80.211(f): -13 dBm

Remarks:
Max-Hold Mode

Markers show 3rd and 4th harmonic coming out of the cable feed through.

Subclause: 80.211(f) Radiated Spurious Emissions
Pulsed rf-carrier in frequency range 9.3 - 9.5 GHz
Examination of the frequency range 26.5 - 40.0 GHz

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

Operating condition of DUT:
operating condition 5, see section 1.5.2
short pulse

Test setup:
see annex 1: 2.3

Test equipment:
see annex 2: A021, C217, R001, W242

Data of correction:
see annex 5

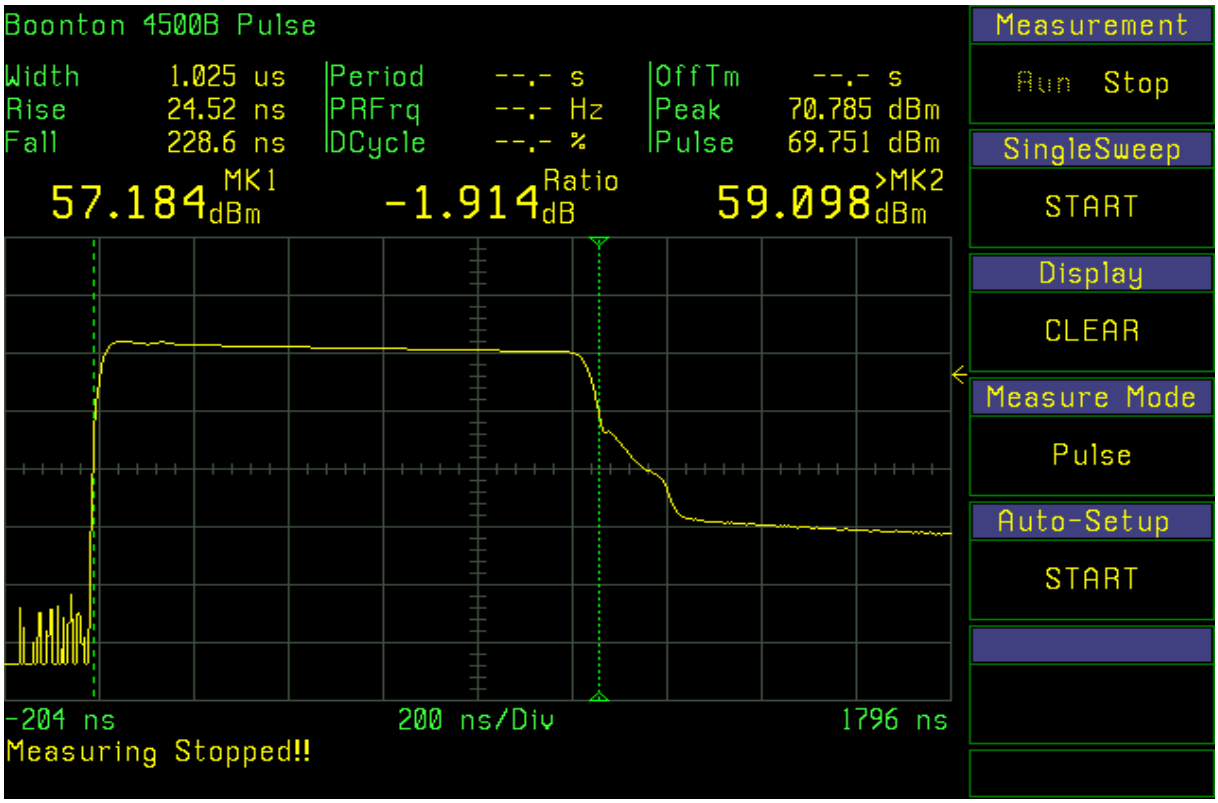
Remark:

Test result: Test passed

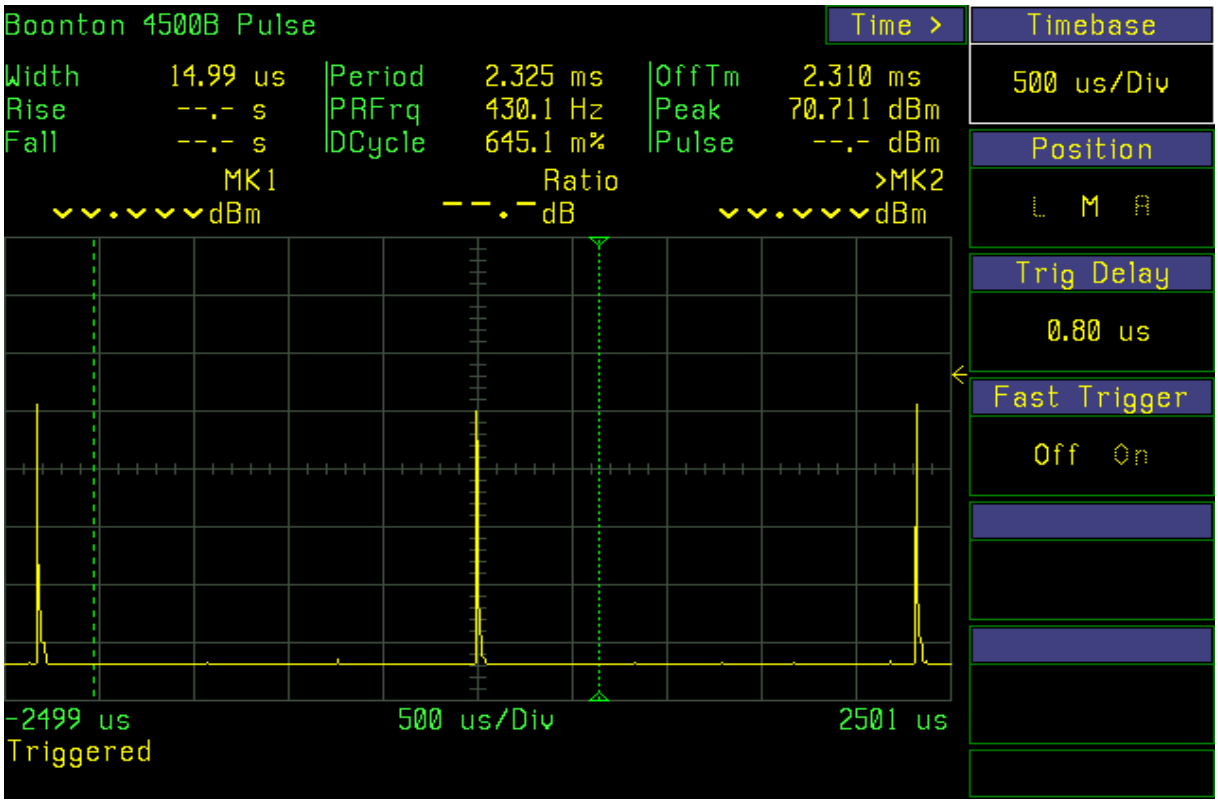
Annex B: Measurement results, part 2

Annex B consists of 6 pages including this page.

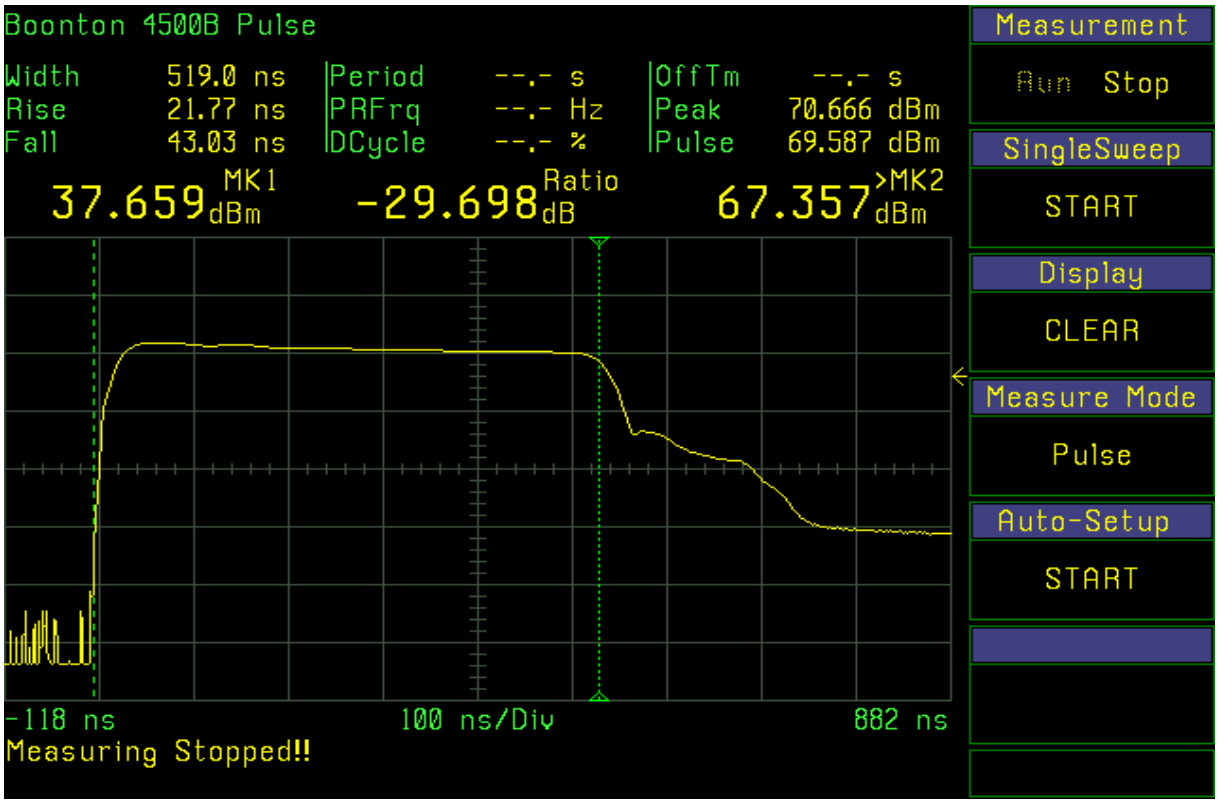
Plot No. 1 (10): long pulse



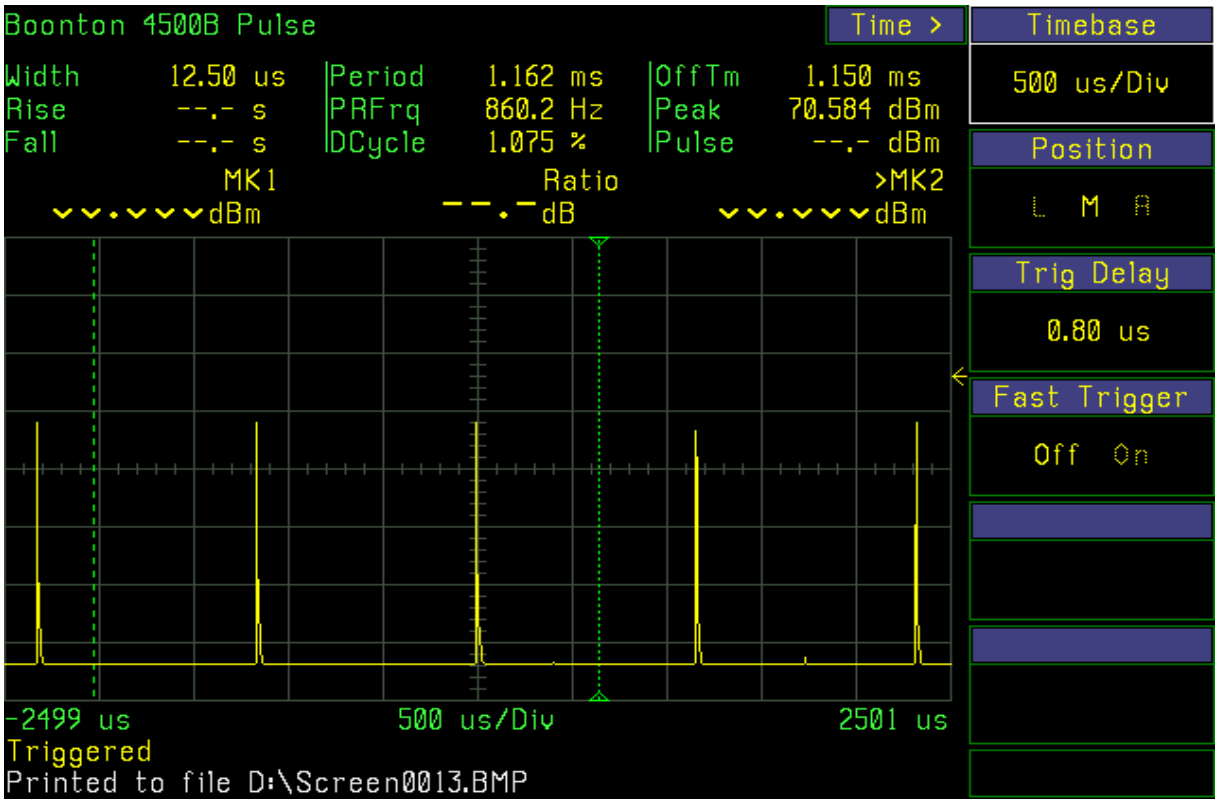
Plot No. 2 (10): long pulse



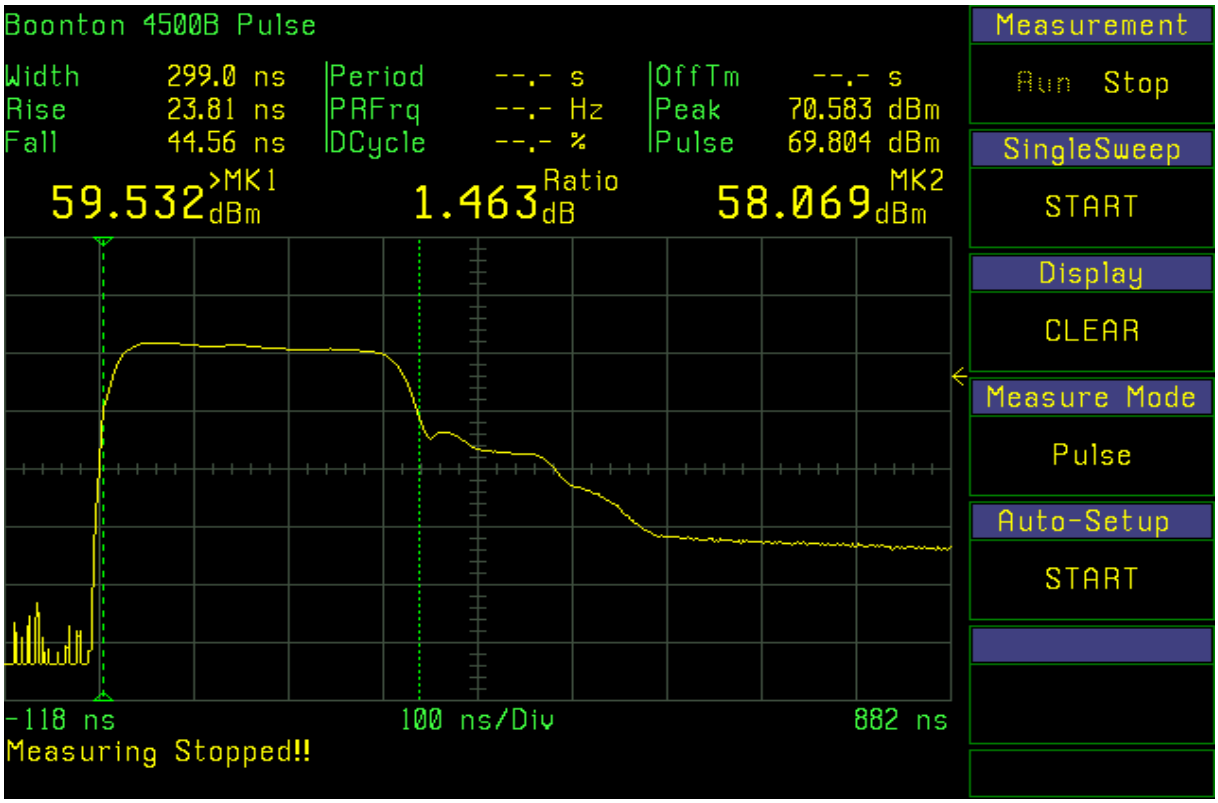
Plot No. 3 (10): medium3 pulse



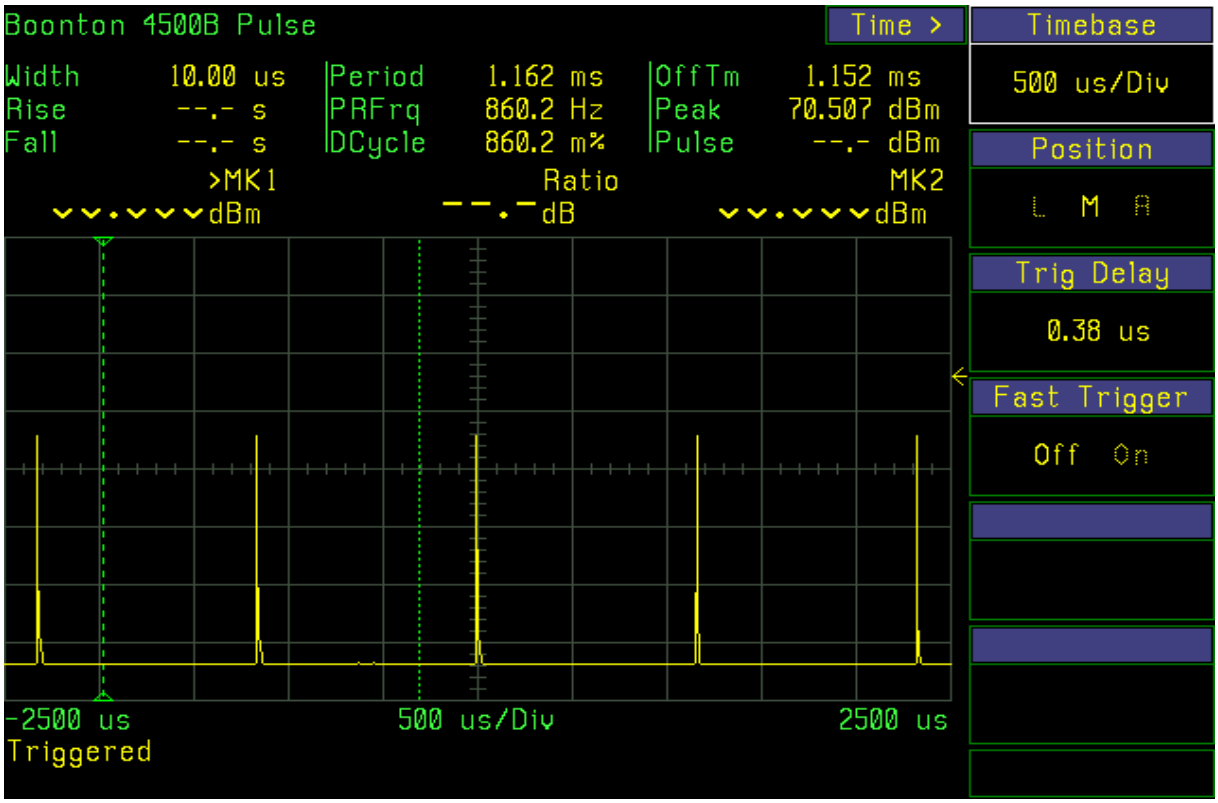
Plot No. 4 (10): medium3 pulse



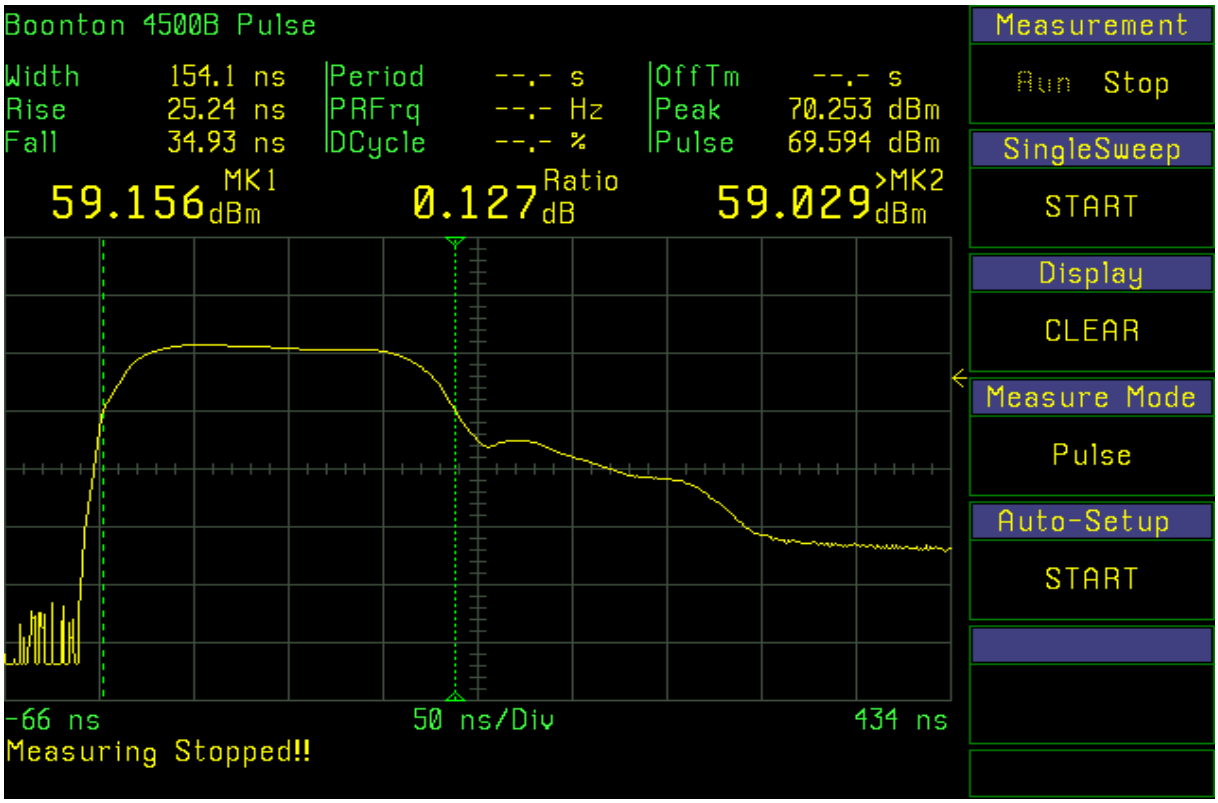
Plot No. 5 (10): medium2 pulse



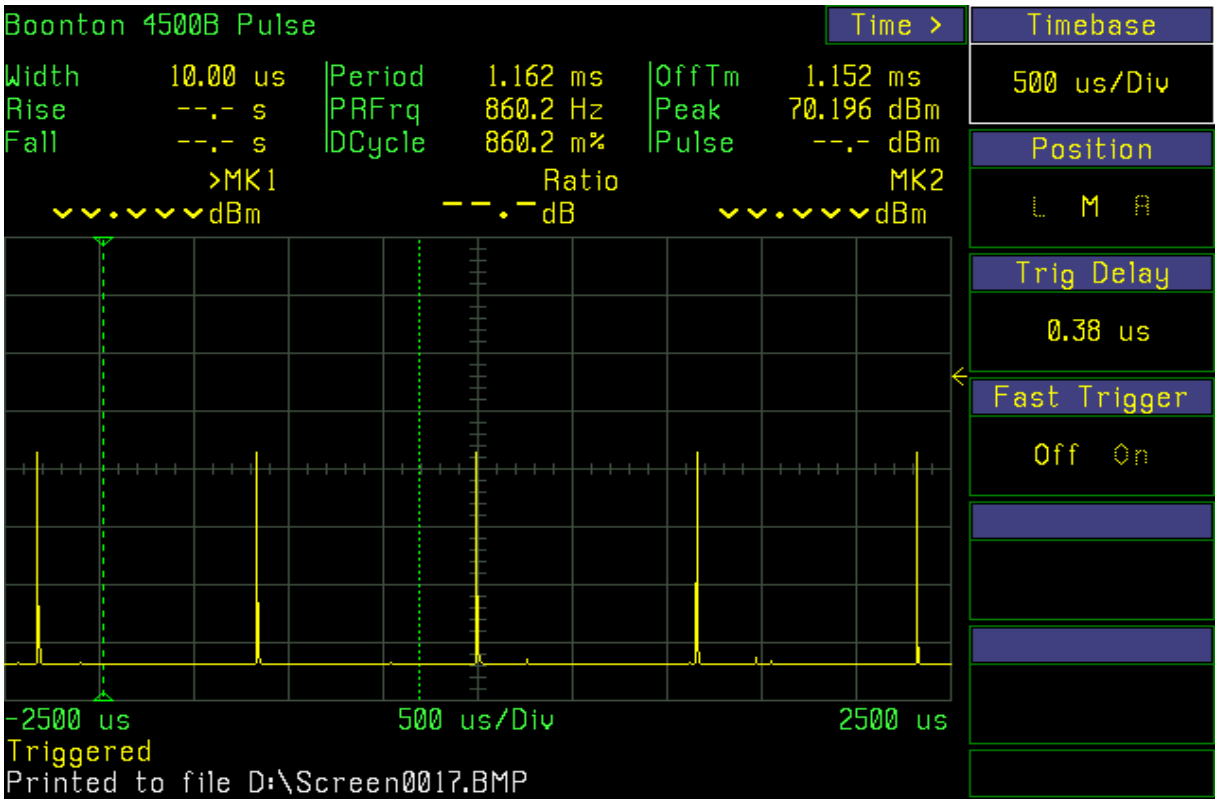
Plot No. 6 (10): medium2 pulse



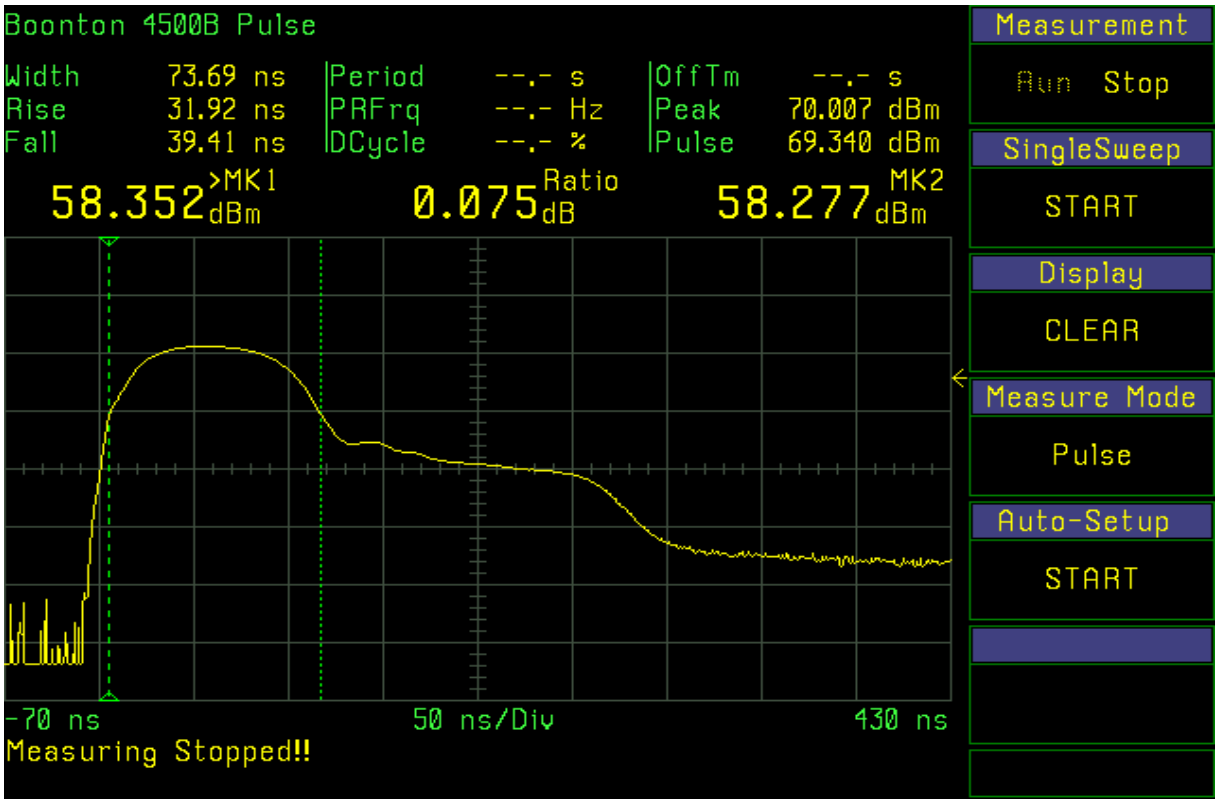
Plot No. 7 (10): medium1 pulse



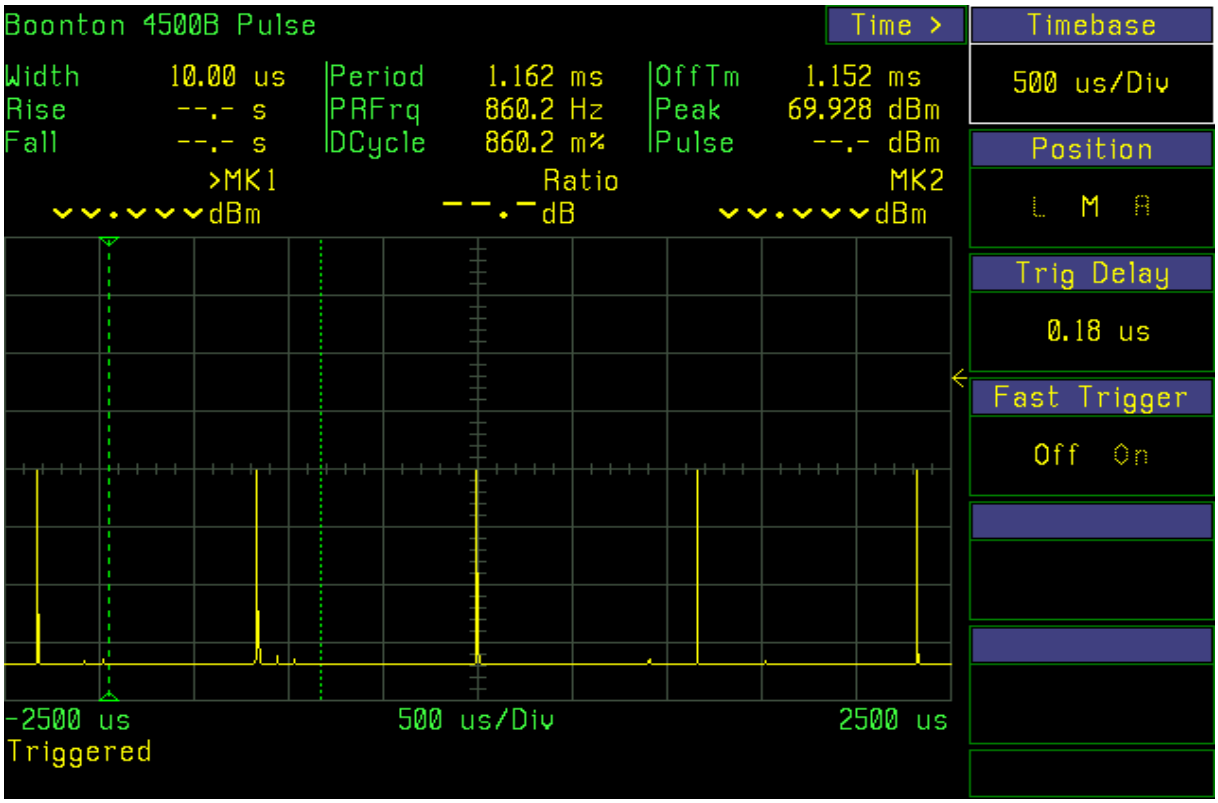
Plot No. 8 (10): medium1 pulse



Plot No. 9 (10): short pulse



Plot No. 10 (10): short pulse



Annex C: Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	n.a.	Isolating Transformer	RT5A	Grundig	8041	300001626	g		
2	n.a.	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2818A03450	300001040	Ve	08.01.2009	08.01.2012
3	n.a.	Coaxial Attenuator 30dB/500W	8325	Bird	1530	300001595	ev		
4	n.a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vlKl!	11.05.2011	11.05.2013
5	n.a.	Active Loop Antenna	6502	EMCO	2210	300001015	ne		
6	n.a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996		23.03.2009	
7	C030	HF-Cable 3 m	SUCOFLEX 101 PEA PC 2,4 M/M	Huber & Suhner		300002578	ev		
8	CR 87	Waveguide to SMA Coax Adaptor 23 GHz	20093-SF10	Flann	621	300001611	ev		
9	3	Synthesized Sweeper 10 MHz to 40 GHz	83640A	HP Meßtechnik	3119A00458	300002266	k	13.01.2011	13.01.2013
10	8	DC Power Supply, 60V, 10A	6038A	HP Meßtechnik	2933A08295	300001519	Ve	07.01.2009	07.01.2012
11	11b	Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	419	300002268	ev	10.03.2011	
12	230	Stub Tuner		HP Meßtechnik		300001663	ev		
13	231	Stub Tuner (double)	N300A	Microlab/Fxr		300002042	ev		
14	240	Directional Coupler RPS90	90-2-N-F-40-SP-SP-C	CMT	900687-002	300001598	ev		
15	217	HF-Cable	KPS1533-590-KPS	Insulated Wire		300002290	ev		
16	Spec. A. 2_2e	System rack for EMI measurement solution	85900	HP I.V.	*	300000222	ne		
17	A012	Std. Gain Horn Antenna 6.58-10.0 GHz	1524-20	Flann	49	300001951	ne		
18	A014	Std. Gain Horn Antenna 9.84-15.0 GHz	1724-20	Flann	89	300001957	ne		
19	A016	Std. Gain Horn Antenna 14.5-22.0 GHz	1924-20	Flann	33	300001963	ne		
20	A019	Std. Gain Horn Antenna 17.6-26.7 GHz	2024-20	Flann	156	300001968	ne		
21	A021	Std. Gain Horn Antenna 26.4-40.1 GHz	2224-20	Flann	233	300001973	ne		
22	A037	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3089	300000307	Ve	19.11.2010	19.11.2012
23	R001	Spectrum Analyzer 9kHz-50GHz portable spectrum analyzer	8565E	HP Meßtechnik	3515A00283	300000916	Ve	06.01.2011	06.01.2013
24	R011	Dual-channel power meter with GPIB	438A	HP Meßtechnik	2730U00683	300000852	vlKl!	13.01.2011	13.01.2013
25	R014	High Power Sensor + Attenuator 30 dB	8481B	HP Meßtechnik	2702A04550	300000888	Ve	10.09.2010	10.09.2012
26	R013	Power Sensor, 10 MHz to 18 GHz, -30 to +20 dBm	8481A	HP Meßtechnik	2702A56276	300000891	g		
27	R017	Power Sensor, 50 MHz to 26.5 GHz, -30 to +20 dBm	8485A	HP Meßtechnik	2703A05006	300000882	g		
28	R015	Power Sensor, 10 MHz to 18 GHz, -10 to +35 dBm	8481H	HP Meßtechnik	2703A10130	300000884	Ve	09.09.2010	09.09.2012
29	U005	High Power Attenuator 30 dB, DC to 18 GHz	9498A	HP Meßtechnik	2702A04550	300002403	ev		
30	W007	Directional Coupler 10 dB 9.84-15.0 GHz	17132-10	Flann	523	300002154	ev		

31	W010	Directional Coupler 40 dB 9.84-15.0 GHz	17132-40	Flann	63	300002159	ev		
32	W015	Directional Coupler 30dB 5.38-8.18 GHz	14131-30	Flann	24	300002168	ev		
33	W017	Dummy Load	HPT 137-13A	CMT	940917-001	300002054	ne		
34	W018	Dummy Load	HPT75-120	CMT	921726-001	300002138	ne		
35	W019	Dummy Load	HPT75-120	CMT	921726-002	300002139	ne		
36	W022	Waveguide Taper-transitions	veschiedene	Flann		300001615	ev		
37	n.a.	Broadband Waveguide to N Type Coax Adaptor 2.6-3.95 GHz	10093-NF10	Flann	110, 115	300002174	ev		
38	n.a.	Waveguide Component divers				300002177	ev		
39	W052	Broadband Waveguide to Coax N Type Adaptor 9.84-15.0GHz	17093-NF10	Flann	867,1406,869,868	300002006	ev		
40	W053 -057	Waveguide to SMA Coax Adaptor 9.84-15.0 GHz	17093-SF40	Flann	991,932,9XX	300002007	ev		
41	W058 -62	Waveguide to SMA Coax Adaptor	19093-SF40	Flann	689,210,440,340,209	300002008	ev		
42	W063 -64	Waveguide to K Type Coax Adaptor 21.2-23.6 GHz	20094-KF	Flann	85, 84	300002009	ev		
43	W037	Waveguide to K Type Coax Adaptor 26.4-40.1 GHz	22093-KF20	Flann	551	300002010	ne		
44	n.a.	Waveguide flexible C-Band	MTPS137	Microtec		300002058	ev		
45	A014	Std. Gain Horn Antenna 9.84-15.00 GHz	1724-20	Flann	111	300002463	ne		
46	D014	Dummy Load 250 kW	Model 320B	Narda		300002371	ne		
47	Ü009	Stub Tuner	904N	Narda		300000773	ev		
48	W011	Waveguide Directional Coupler, 26.5 to 40 GHz, 20 dB	R752D 20dB	HP Meßtechnik	0049, 0052, 0074	300002348	ne		
49	241	Waveguide Directional Couplerr, 8.2 to 12.4 GHz, 20 dB	X752D	HP	1829A21784	300000484	ev		
50	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2010	06.01.2012
51	n.a.	Relais Matrix	3488A	HP Meßtechnik	2719A15013	300001156	ne		
52	n.a.	Relais Matrix	PSU	R&S	890167/024	300001168	ne		
53	n.a.	Isolating Transformer	RT5A	Grundig	9242	300001263	ne		
54	n.a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
55	n.a.	High Power Load	11.215.005	Mirad Microwave	17	300001749	ne		
56	W70	Directional Coupler	18131-40	Flann	66	300001621	ev		
57	W036	Waveguide to N Type Coax Adaptor 5.38-8.18 GHz	14093-NF10	Flann	1637	300002126	ev		
58	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
59	50	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580	ne		
60	n.a.	software	SPS_PHE 1.4f	Spitzberger & Spieß	B5979	300000210	ne		
61	n.a.	Switch / Control Unit	3488A	HP	2605e08770	300001443	ne		
62	n.a.	Highpass filter	5HC2600/12750-1.5-KK			300000104	ne		
63	n.a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
64	214	Attenuator (N-connector)	10 dB / 10 W	Spinner	745379	400000047	ev		
65	n.a.	Amplifier	FLNA-28B	Farran	FTL 1067B	300002843	ne		
66	n.a.	Waveguide flexible k-Band 26,5-40GHz	QFT22PVZ402-402/M1000	Quasar	40580-3	300002850	ev		
67	n.a.	Waveguide flexible ku-Band	QFT17PVZ402-402/M1000	Quasar	40580-1	300002828	ev		
68	n.a.	Waveguide flexible ka-Band 18GHz	QFT18PVZ402-402/M1000	Quasar	40580-2	300002829	ev		
69	n.a.	Band Reject filter	WRCG1855/1910-1835/1925-40/8SS	Wainwright	7	300003350	ev		
70	n.a.	Band Reject filter	WRCG2400/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
71	n.a.	EMI Test Receiver	ESCI 1166.5950.03	R&S	100083	300003312	k	05.01.2011	05.01.2013
72	n.a.	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	14.07.2011	14.07.2013
73	n.a.	TILE-Software Emission	Quantum Change, Modell TILE-ICS/FULL	EMCO	none	300003451	ne		
74	n.a.	Highpass Filter	WHKX2.9/18G-12SS	Wainwright	1	300003492	ev		

75	n.a.	Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379	ev		
76	n.a.	Highpass Filter	WHK1.1/15G-10SS	Wainwright	3	300003255	ev		
77	n.a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
78	n.a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
79	n.a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
80	n.a.	Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789	ne		
81	n.a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	01.04.2010	01.04.2012
82	n.a.	PSA Spectrum Analyzer 3 Hz - 26.5 GHz	E4440A	Agilent Technologies	MY48250080	300003812	k	08.09.2010	08.09.2012
83	n.a.	MXG Microwave Analog Signal Generator	N5183A	Agilent Technologies	MY47420220	300003813	k	13.09.2010	13.09.2012
84	n.a.	RF Filter Section 9kHz - 1GHz	N9039A	Agilent Technologies	MY48260003	300003825	vlKI!	08.09.2010	08.09.2012
85	n.a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vlKI!	17.12.2008	17.12.2011
86	n.a.	RF Peak Power Analyzer+ PPA Sensor	4500B + 58318	Boonton Electronics	12331 + 6276	300003871	k	10.01.2011	10.01.2012
87	n.a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	10.01.2011	10.01.2013

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlkI!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

Annex D: Photographs of the test setup

Photo No. 1: radiated spurious emissions up to 12 GHz

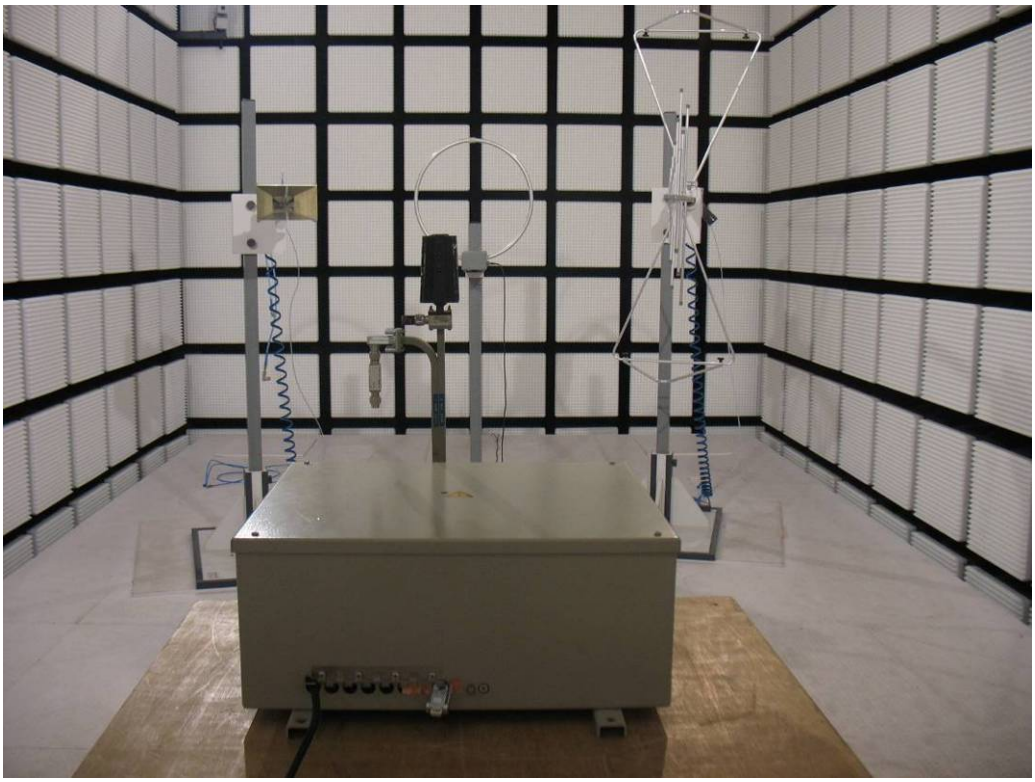


Photo No. 2: radiated spurious emissions up to 12 GHz

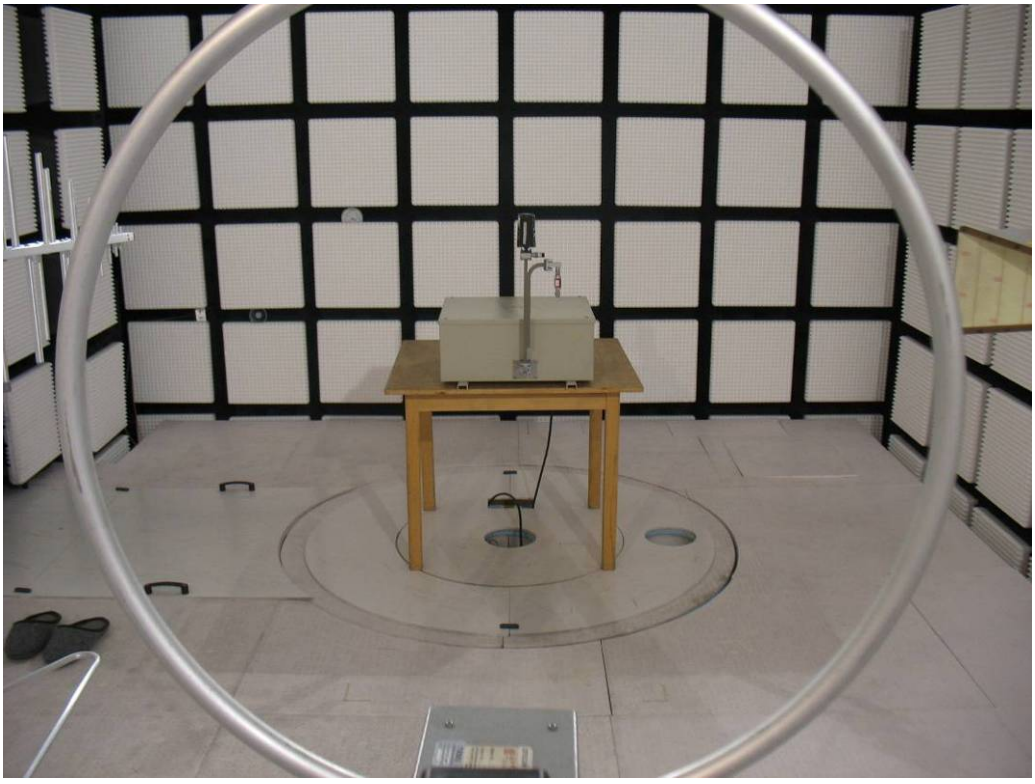


Photo No. 3: conducted measurements, spurious emissions (with stub tuner)

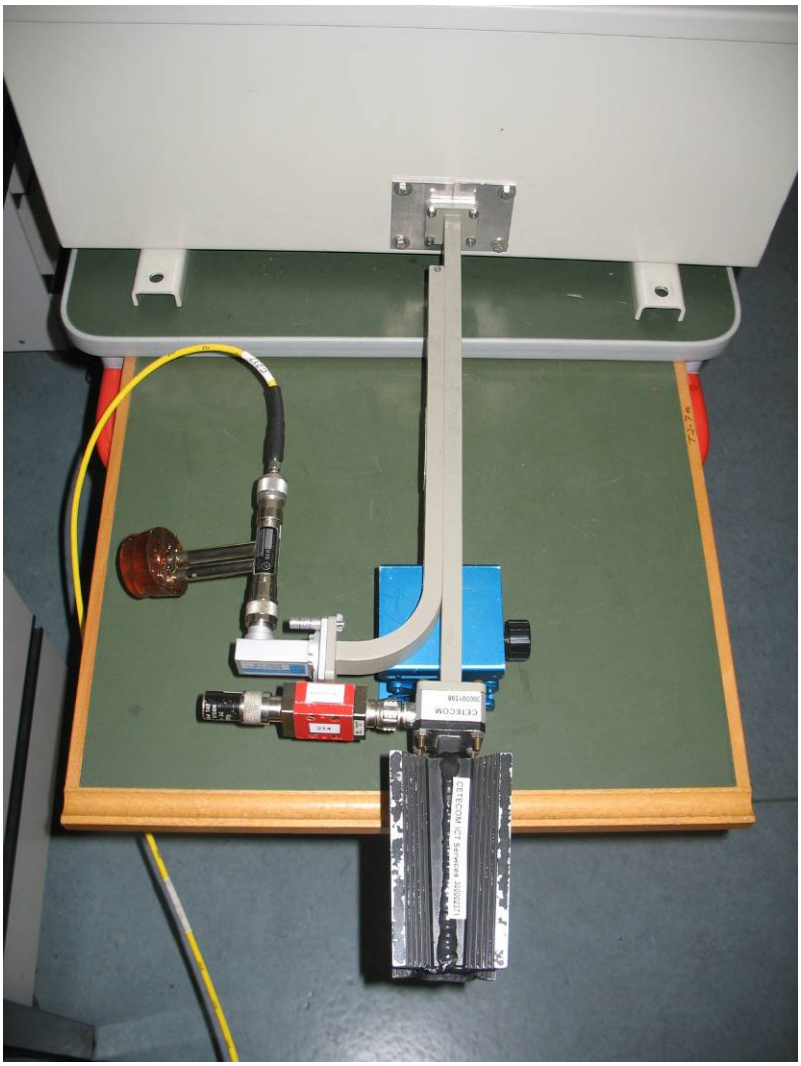


Photo No. 4: conducted measurements, spurious emissions > 15 GHz

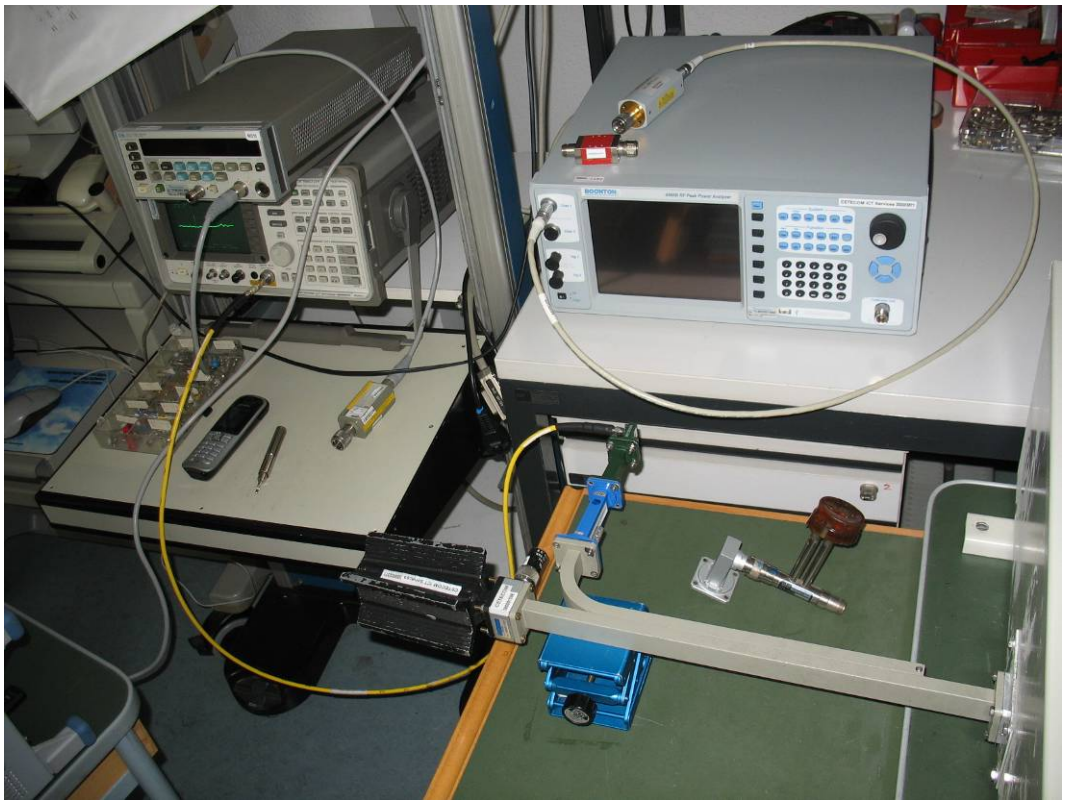
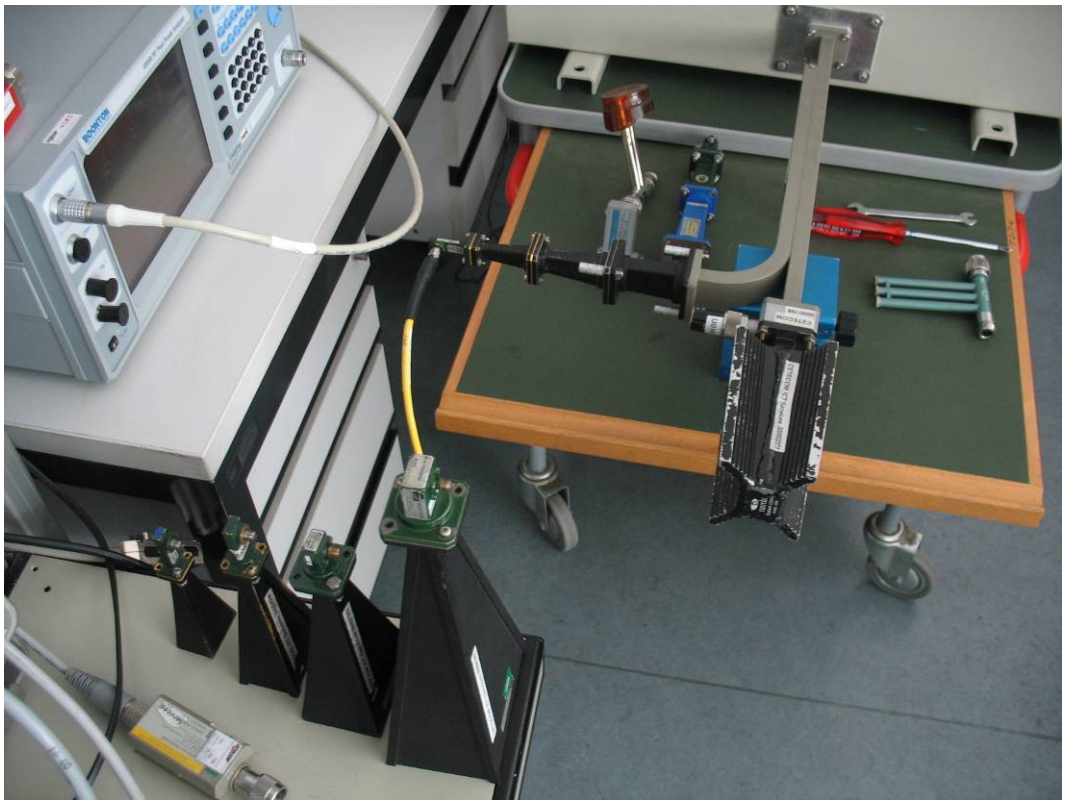


Photo No. 5: conducted measurements, spurious emissions up to 40 GHz



Annex E: External photographs of the EUT

Photo No. 1:

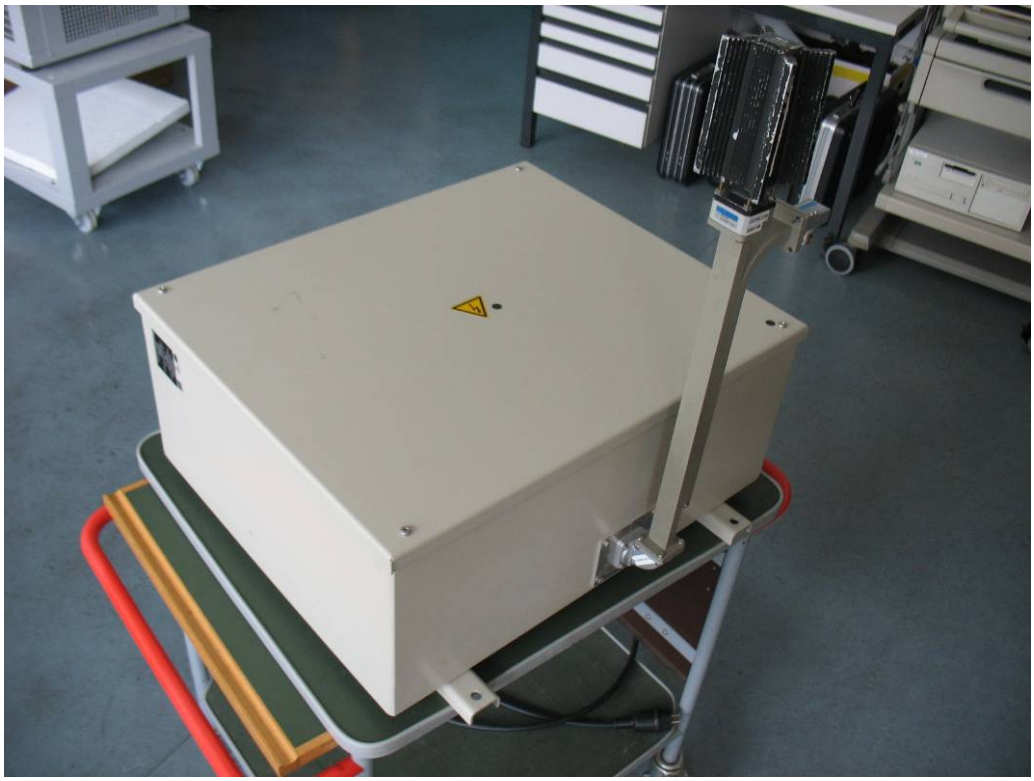


Photo No. 2:

Photo No. 3: type label

Annex F: Internal photographs of the EUT

Photo No. 1: cover removed

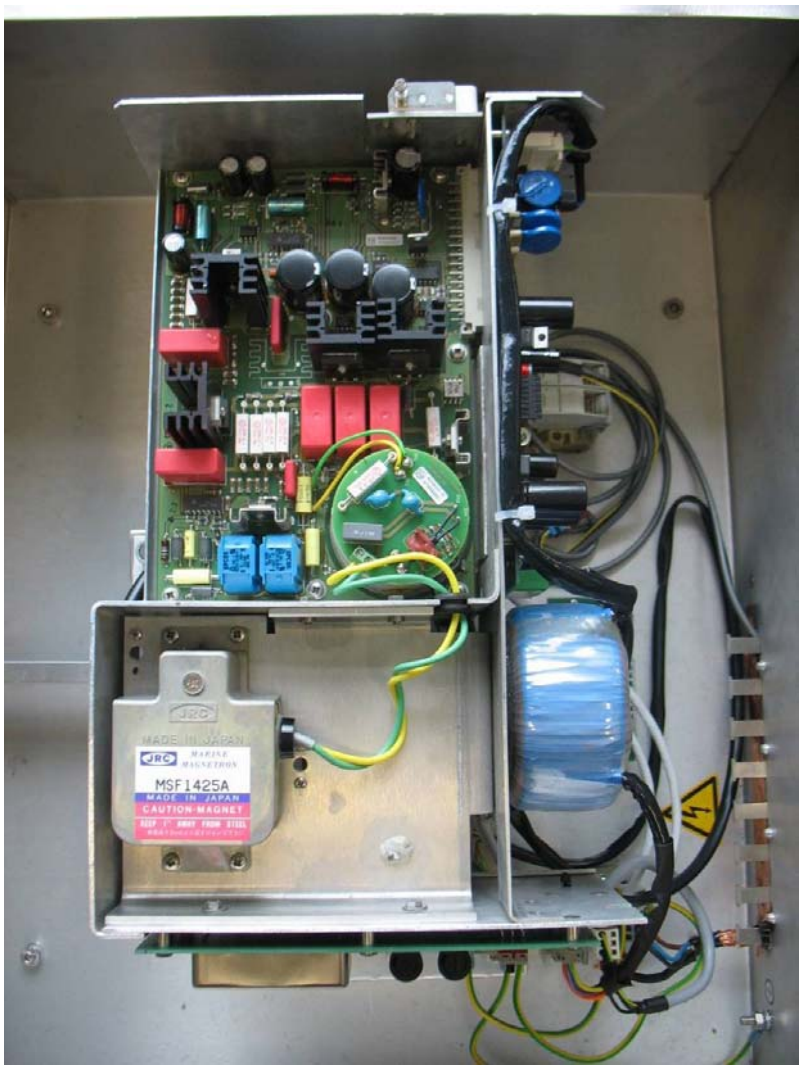


Photo No. 2: 12.5 kW Magnetron

Photo No. 3: AC in, fuses and AC filter

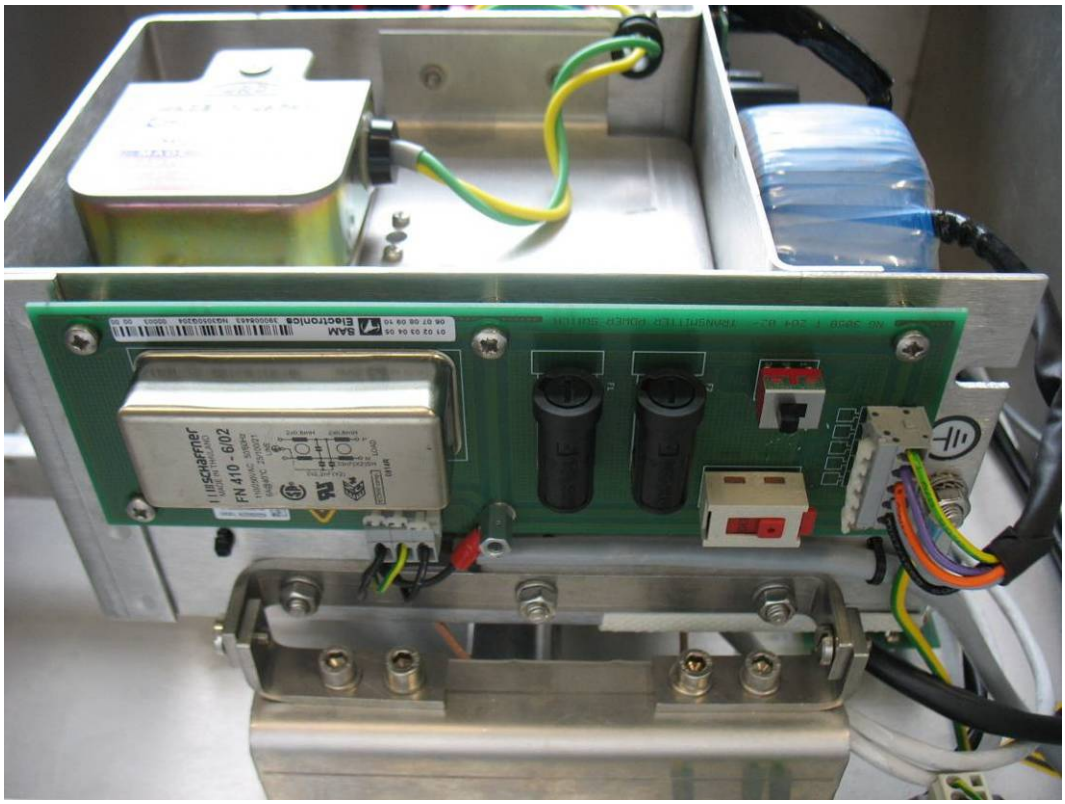


Photo No. 4: type label

Photo No. 5: type label

Photo No. 6: PSU

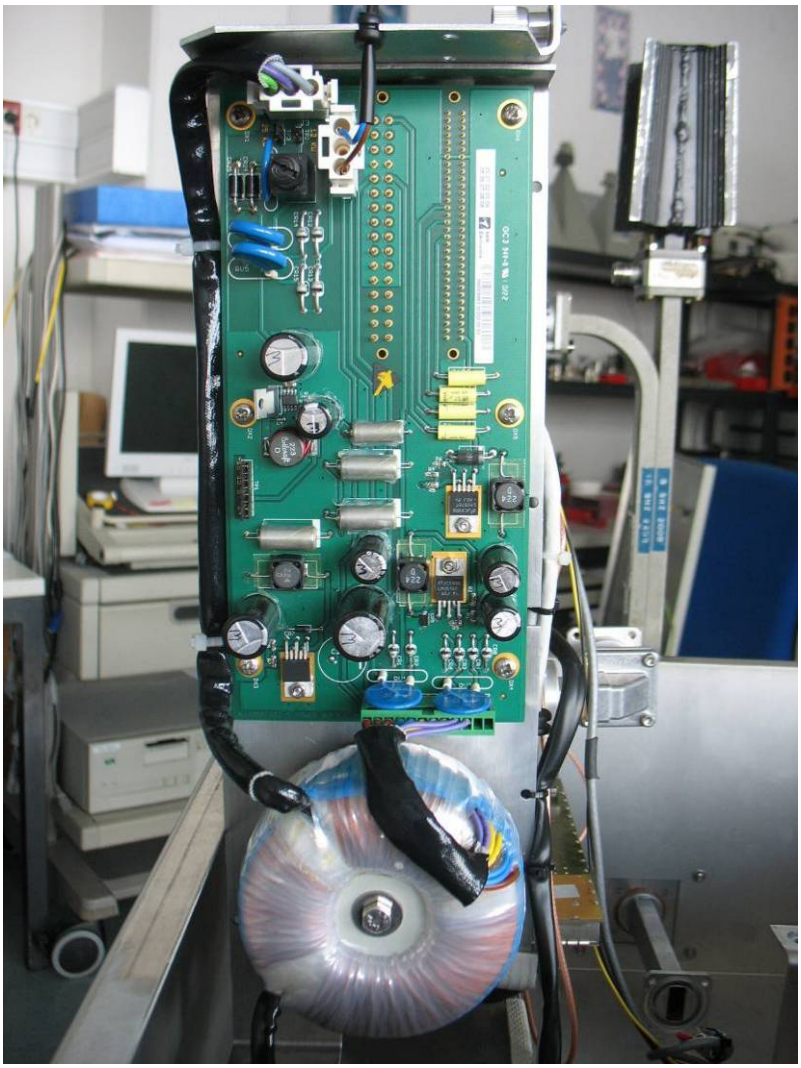


Photo No. 7: PSU board

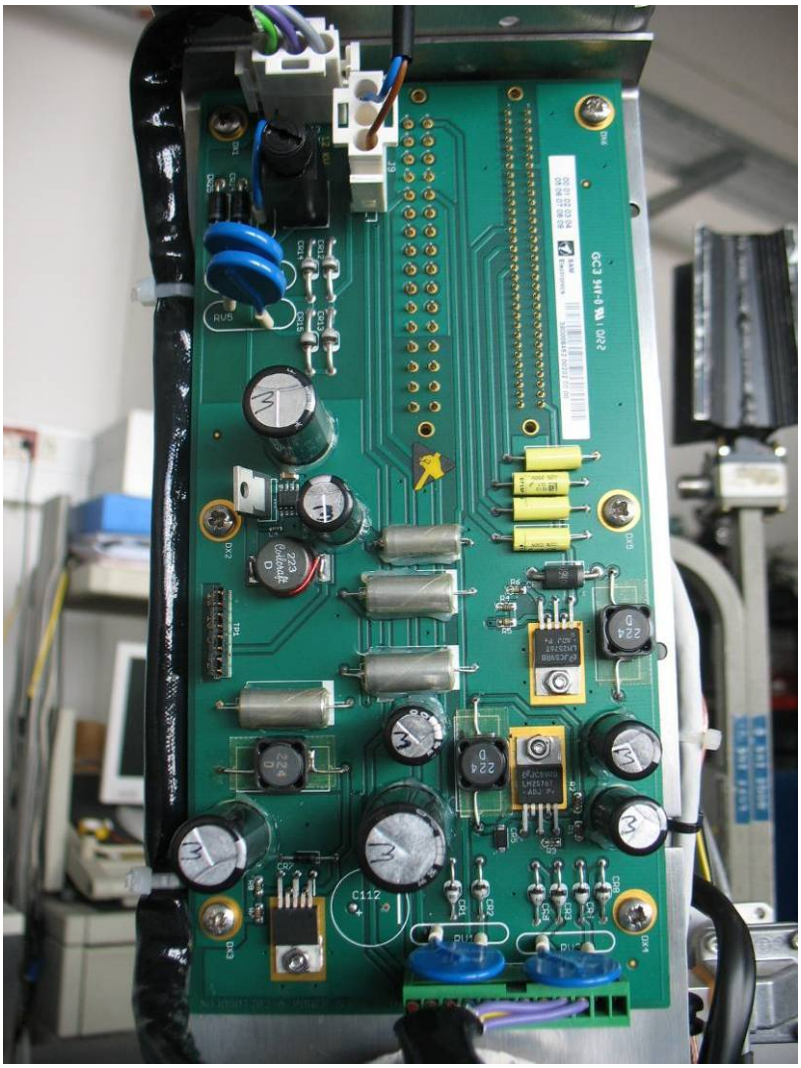


Photo No. 8: PSU, type label

Photo No. 9: IP RADAR Controller (IPRC), circulator and receiver

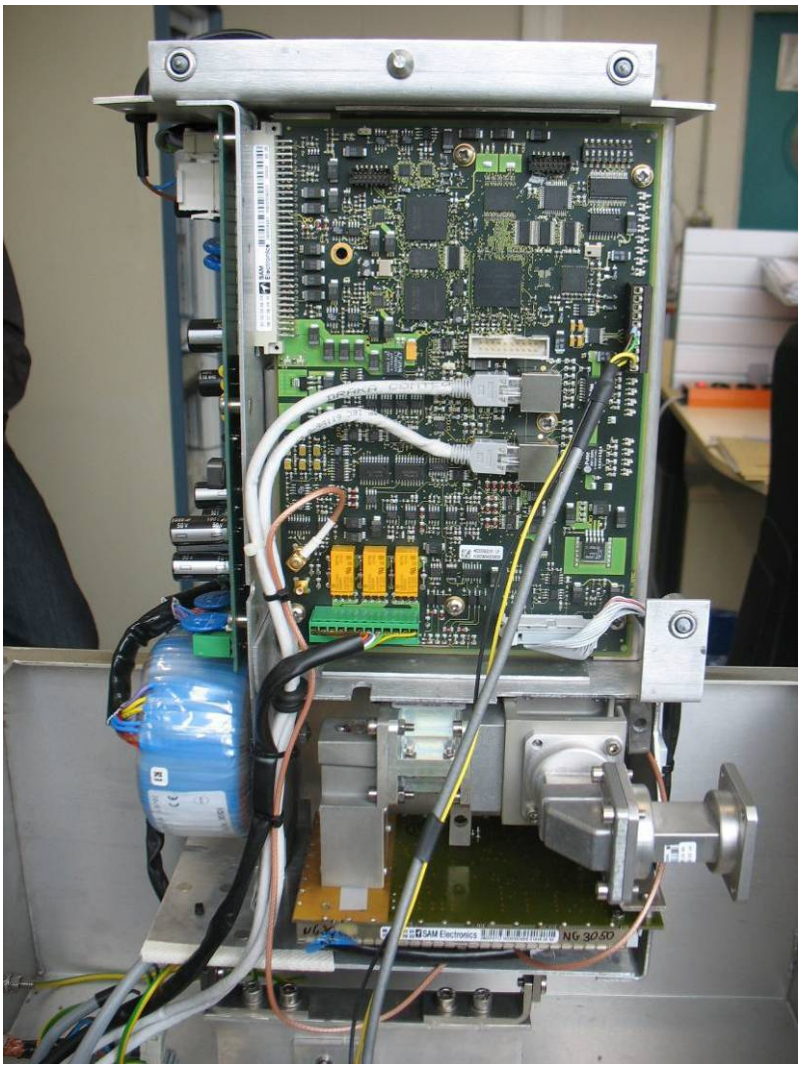


Photo No. 10: IP RADAR Controller (IPRC)

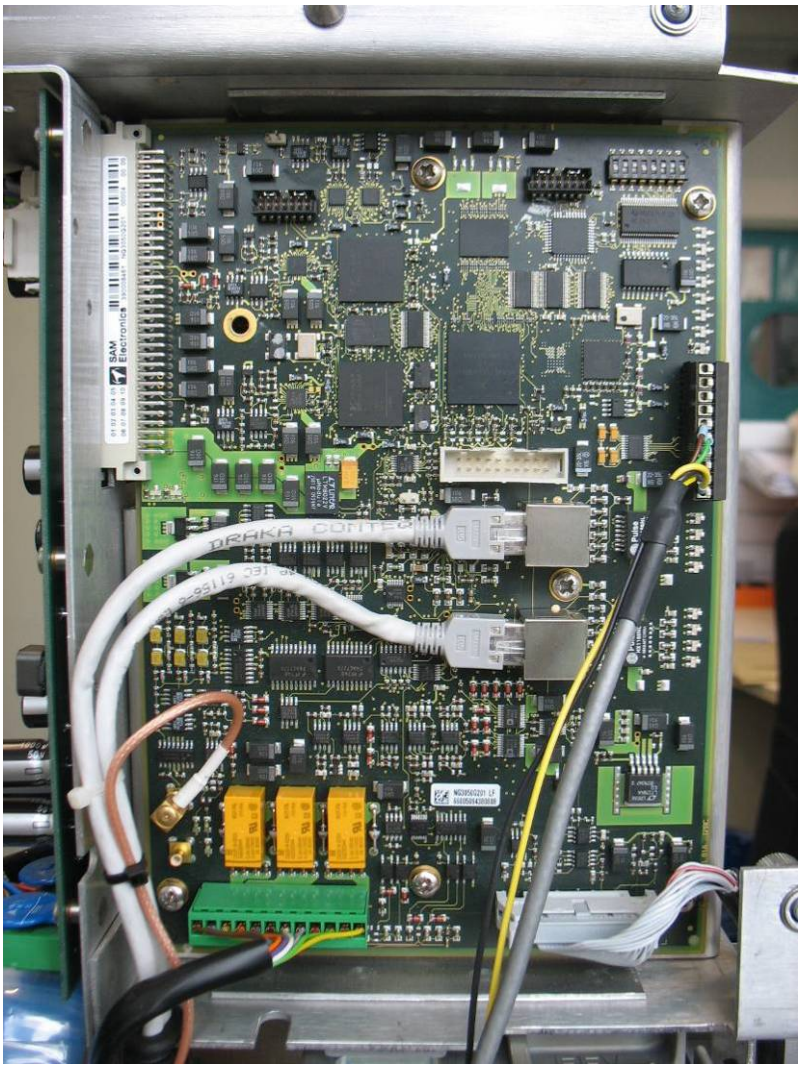


Photo No. 11: IP RADAR Controller (IPRC), type label

Photo No. 12: circulator, limiter, low noise receiver front end and receiver

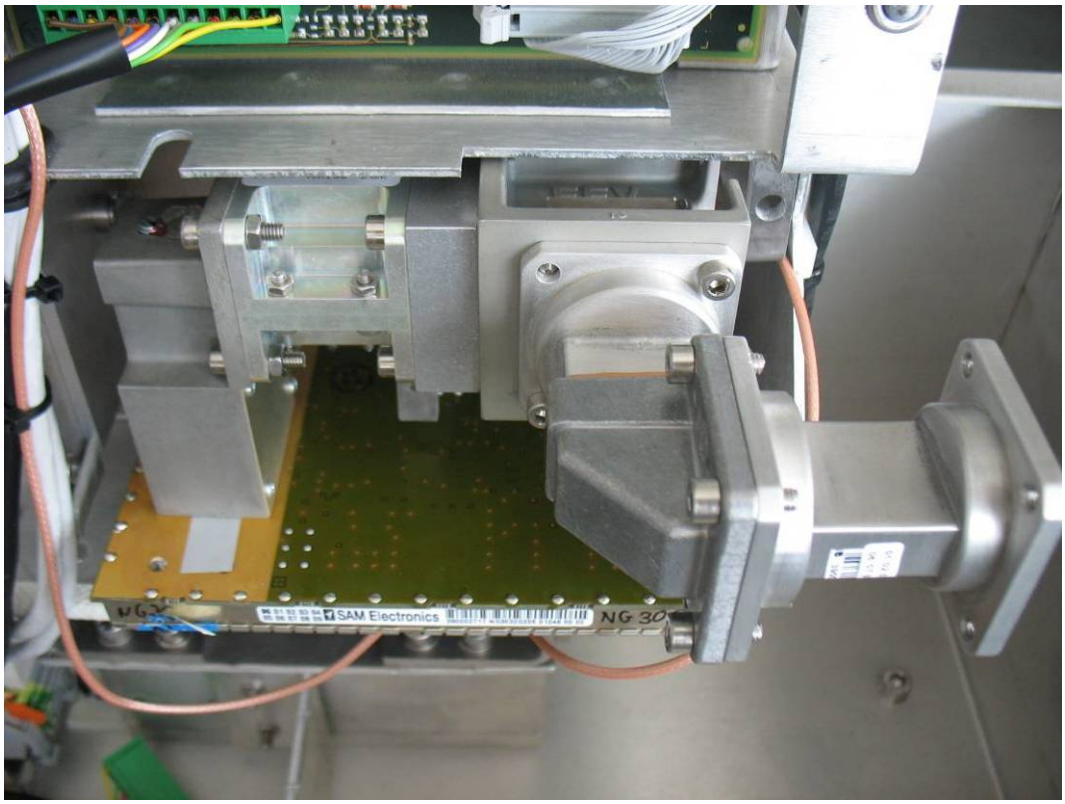


Photo No. 13: receiver, type label

Photo No. 14: pulse modulator

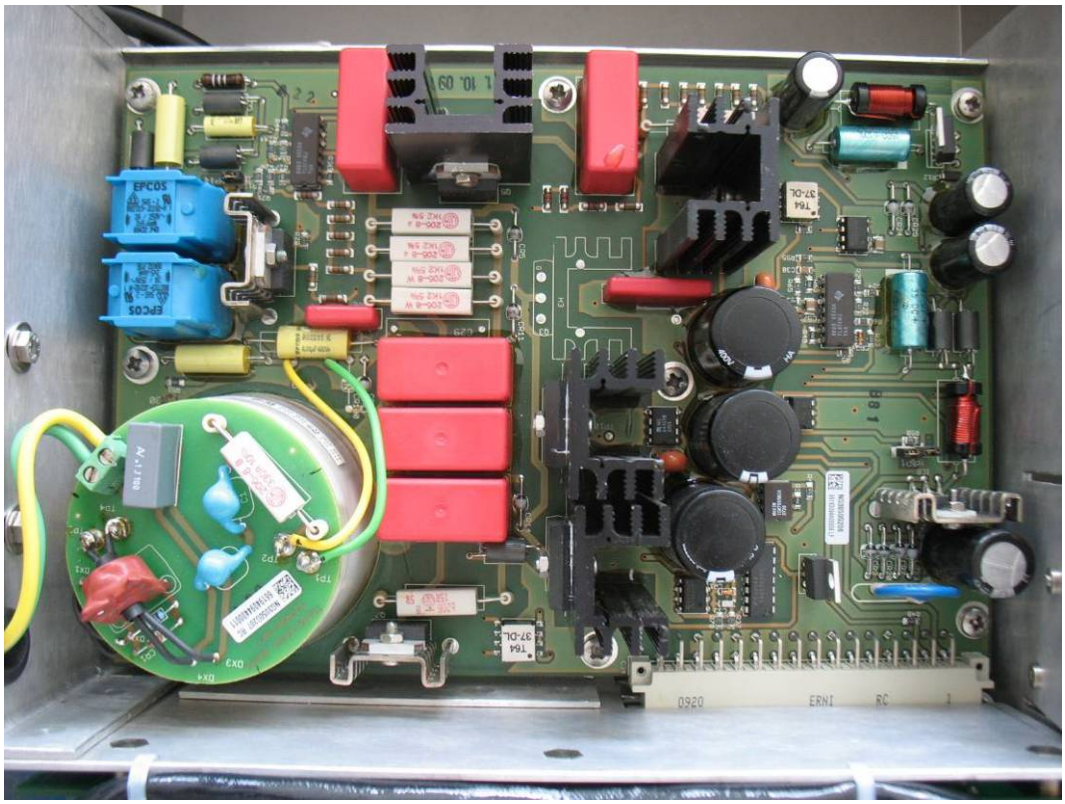


Photo No. 15: pulse modulator, type label

Photo No. 16: HV transformer

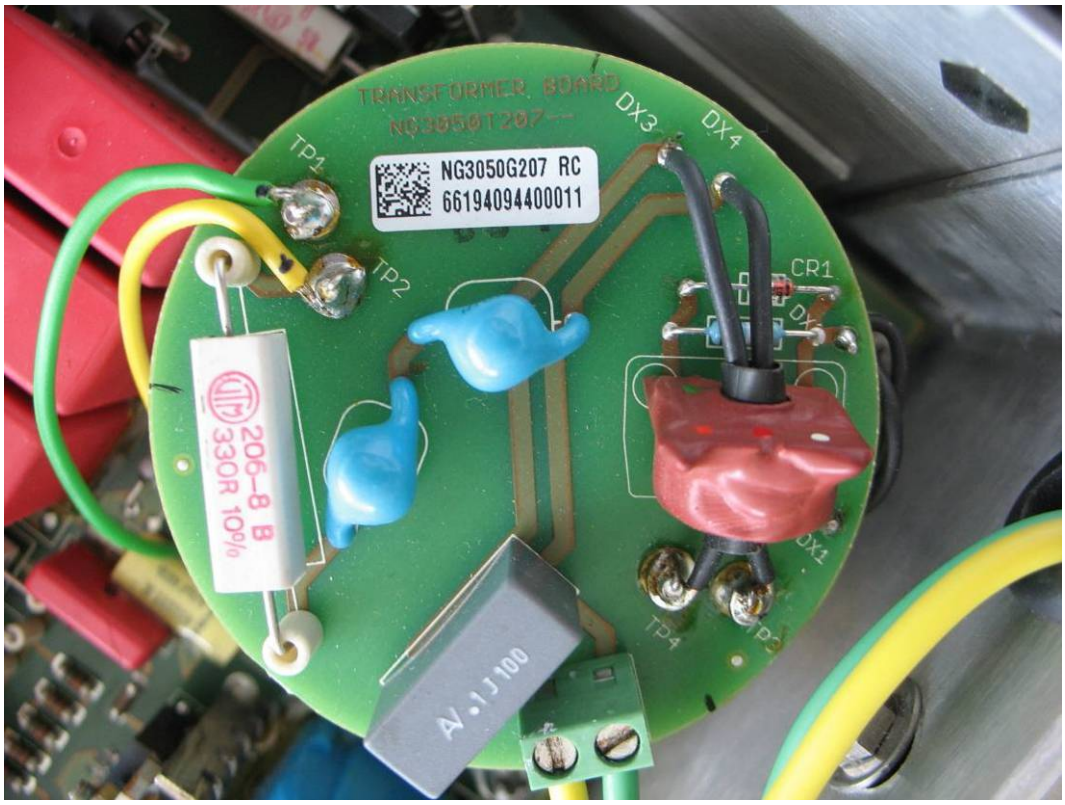
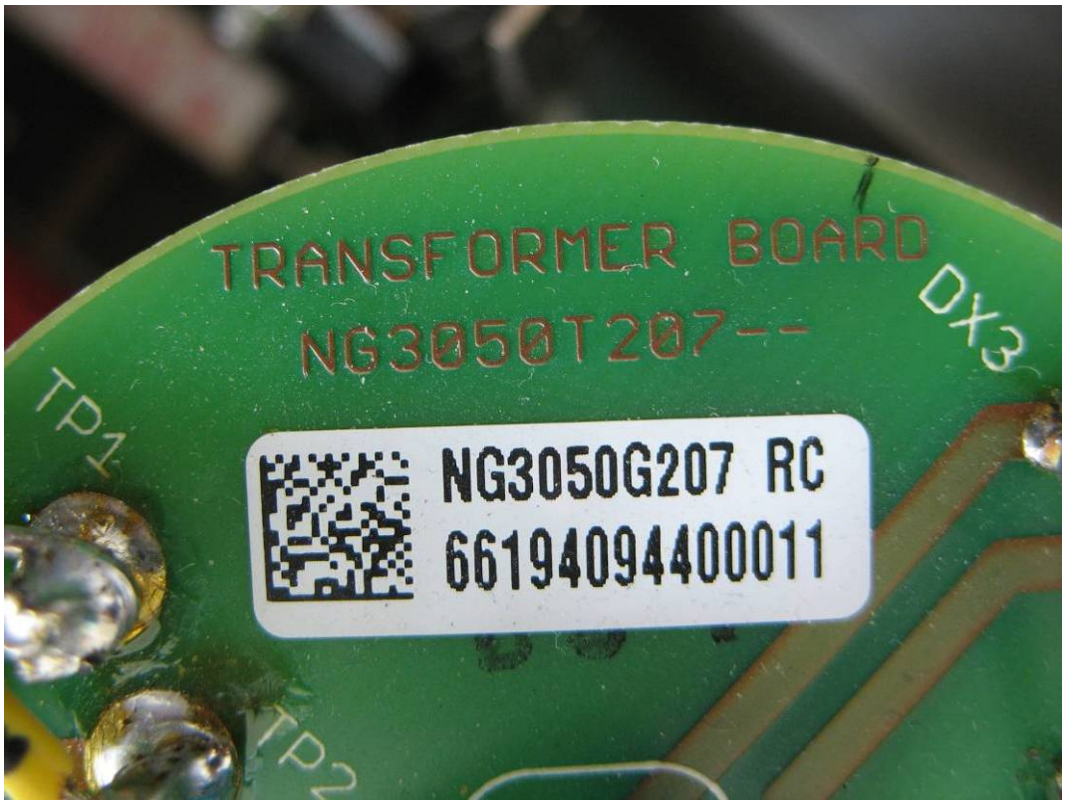


Photo No. 17: HV transformer, type label



Annex G: Document history

Version	Applied changes	Date of release
1	Initial release, DRAFT	2011-08-31
2	corrections based on clients comments	2011-09-23

Annex H: Further information

Glossary

DUT - Device under Test
EMC - Electromagnetic Compatibility
EUT - Equipment under Test
FCC - Federal Communication Commission
FCC ID - Company Identifier at FCC
HW - Hardware
IC - Industry Canada
Inv. No. - Inventory number
N/A - not applicable
S/N - Serial Number
SW - Software