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Anechoic chamber registration No. 3463 (IC)
TCB ID: DE0001



Accredited by the
German Accreditation Council
DAR–Registration Number
TTI–P–G 081/94–D0



Independent ETSI
compliance test house



Test report No. : 2–3655–01–01/04
Applicant : R & D Electronics S.r.l.
Type : Motion Detector
Test standard : FCC Part 15

Table of contents

1.	General information	3
1.1.	Notes	3
1.2.	Testing laboratory	4
1.3.	Details of applicant	4
1.4.	Application details	4
1.5.	Test item (EUT)	5
1.6.	Technical data	5
1.6.1.	Operation conditions	5
1.6.2.	Equipment under test	5
1.7.	Test standards:.....	6
1.8.	Code of Federal Regulations (CFR 47).....	6
2.	Technical test	7
2.1.	Summary of test results.....	7
2.2.	Test environment.....	7
2.3.	Measurement and test set-up	7
2.4.	Test equipment utilized and test set-up	8
2.5.	Test results	12
3.	Plots, graphs and data sheets	16
4.	Photographs	42

1. General information

1.1. Notes

The test results of this test report relate exclusively to the test item specified in 1.5..

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.

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Tester :

29.06.2004

Date

Manfred Paschwitz

Name



Signature

Technical responsibility for area of testing :

29.06.2004

Date

Klaus Kammerinke

Name



Signature



1.2. Testing laboratory

CETECOM ICT Services GmbH

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66117 Saarbrücken

Germany

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Accredited testing laboratory

Accredited by : Regulierungsbehörde für Telekommunikation und Post (RegTP)

Listed by : Federal Communications Commission (FCC)
Industry Canada

Authority	Identification/Registration No.
RegTP	TTI-P-G 081/94-D0
FCC	90462
IC	3463

Testing location, if different from CETECOM ICT Services GmbH: (Not applicable)

Name : (Not applicable)

1.3. Details of applicant

Name : R & D Electronics S.r.l.
Street : Via Domenico Beccafumi, 61/65
Town : 00133 Roma
Country : Italy
Telephone : +39 (0) 06 200 83 68
Fax : +39 (0) 06 208 63 22

Contact person

Name : Mrs Cristina Ferre (Prima Ricerca & Sviluppo S.r.l.)
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e mail :

1.4. Application details

Date of receipt of application : 28.05.2004
Date of receipt of test item : 28.05.2004
Date of test : 28.06. - 29.06.2004

1.5. Test item (EUT)

Description of EUT : Field disturbance sensor
System designation : Motion detector/Intrusion detector for alarm equipment
Type designation : Akab-w, Akab-m
Manufacturer : R & D Electronics S.r.l.
Street : Via Domenico Beccafumi, 61/65
Town : 00133 Roma
Country : Italy

1.6. Technical data

Frequency range : 10.500 GHz ... 10.550 GHz
Operational frequency : 10.525 GHz
Field strength : 100 mV/m
Type of modulation : 40M0P0N
Pulse width : 35.917 µs
Pulse spacing : 320.00 µs
Pulse repetition frq. : 3.125 kHz
Microwave modules : TX / RX – Module with integral antenna
Normal DC power supply : +12.0 V
Extreme DC power supply : +8.4 V to +15.6 V

1.6.1. Operation conditions

Operation: : As soon as the equipment is powered up, TX and RX start operating
Purpose of operation : Motion detector/Intrusion detector for alarm equipment

1.6.2. Equipment under test

Model
Akab-w
Akab-m

Section 15.205
Restricted bands of operation.

2. Technical test

2.1. Summary of test results

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

☐ The deviations as specified in clause 2.5 were ascertained during tests

The test report :

☒ describes the first test

☐ describes an additional test

☐ is a verification of documents

☐ is only valid with the test report no.

2.2. Test environment

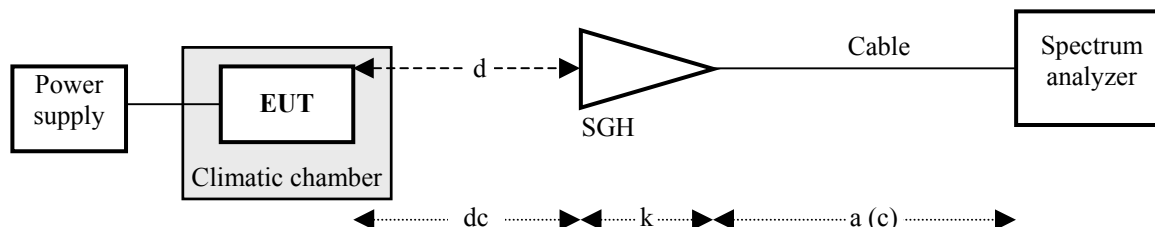
The environmental conditions are documented especially for each test.

2.3. Measurement and test set-up

The measurement and test set-up is defined in the technical specification .

Test parameter	Measurement uncertainty
Power supply	± 0.1 V
Temperature	± 0.2 °C
Frequency	± 0.01 ppm
Field strength	± 1.4 dB

2.4.2 Field strength and spurious radiation in the frequency range 4 GHz to 40 GHz



Frequency range [GHz]	Distance d [m]	Standard gain Horn ant. (SGH)	Antenna factor k [dB 1/m]	Distance corr. dc (3m/Xm) [dB]	Cable loss a [dB]
3.8 ... 6.0	1.0	narda 643	27.31	-9.54	1.5
5.3 ... 8.2	0.5	narda 642	30.06	-15.56	1.8
8.2 ... 12.4	0.5	narda 640	33.70	-15.56	2.0
12.4 ... 18.0	3.0	narda 639	33.97	n.a.	2.5
18.0 ... 27.0	3.0	narda 638	40.22	n.a.	3.0
24.125	3.0	narda 638	33.97	n.a.	2.9
27.0 ... 40.0	3.0	narda V637	44.00	n.a.	3.5

Calculation : Field strength = Analyser reading + Cable loss + Antenna factor + distance corr.

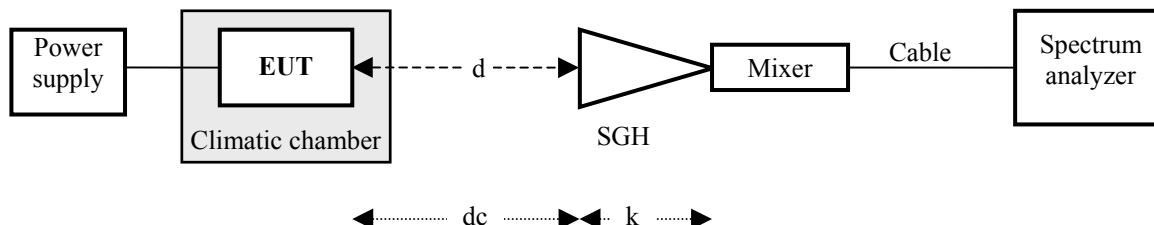
$$e = u + a + k + dc$$

Test equipment	Manufacturer	Type	CETECOM reference
Spectrum Analyser	HP	HP 8565E	300001665
SGH 3.8 ... 6.0 GHz	narda	643	300002447
SGH 5.3 ... 8.2 GHz	narda	642	300000767
SGH 8.2 ... 12.4 GHz	narda	640	300002213
SGH 12.4 ... 18.0 GHz	narda	639	300000786
SGH 18 ... 27 GHz	narda	638	300002442
SGH 27 ... 40 GHz	narda	V637	300000510
SGH 27 ... 40 GHz	Thomson	COR 27_40	300000797a
Power supply DC	HP	6032A	300002115
Power supply AC	Grundig	RT 5 A	300001263
RF-cable	HP	5061-5359	300002033
Power Supply	HP	6038A	300001174

Measurement uncertainty

Test parameter	Measurement uncertainty
Power supply	±0.1 V
Temperature	±0.2 °C
Frequency	±0.01 ppm
Field strength	±1.4 dB

2.4.3 Field strength and spurious radiation in the frequency range 33 GHz to 110 GHz



Frequency range [GHz]	Distance d [m]	Distance correction dc (3 m/Xm) [dB]	Antenna factor k [dB 1/m]
33.0 50.0	0.250	-21.58	39.10
50.0 75.0	0.125	-27.60	40.67

Calculation : Field strength = Analyser reading + Cable loss + Antenna factor + Distance correction

$e = u + a + k + dc$

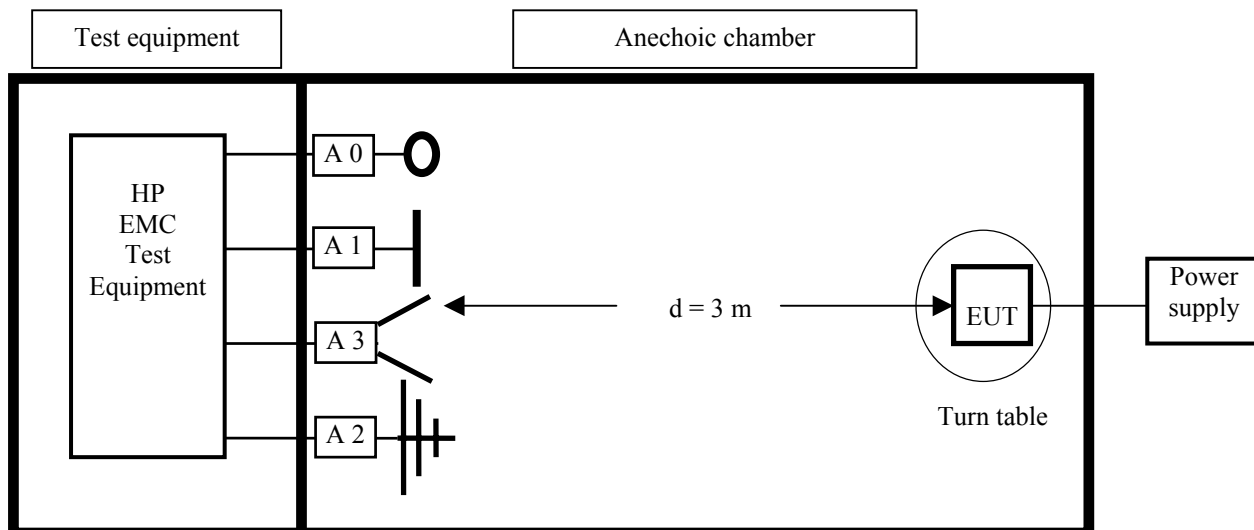
Test equipment	Manufacturer	Type	CETECOM reference
Spectrum Analyser	HP	HP 8565E	300001665
Power supply	HP	6032A	300002115
SGH 33 ... 50 GHz	Thomson	COR 33_50	300000812
Mixer 33 ... 50 GHz	HP	11970Q	300000781j
SGH 50 ... 75 GHz	Thomson	COR 50_75	300000789k
Mixer 50 ... 75 GHz	HP	11970V	300000871o
SGH 75 ... 110 GHz	Thomson	COR 75_110	300000789m
Mixer 75 ... 110 GHz	HP	11970W	300000871v
Power Supply	HP	6038A	300001174

Measurement uncertainty

Test parameter	Measurement uncertainty
Power supply	±0.1 VDC
Temperature	±0.2 °C
Frequency	±0.01 ppm
Field strength <50 GHz	±1.0 dB
Field strength >50 GHz	±3.0 dB

2.4.4 Field strength and spurious radiation in the frequency range 9 kHz to 4 GHz

Set-up for radiated measurements



Test equipment	Manufacturer	Type	Serial No.
Spectrum analyser	HP	HP 85660B	2478A05306
Analyser display	HP	HP 85662A	2816A16541
Quasi peak adapter	HP	HP 85650A	2811A01131
RF-preselector	HP	HP 85685A	2833A00768
Loop Antenna A 0	R&S	HFH 2-Z2	881 058/42
Biconical antenna A 1	Emco	3104	3758
Log.-per.-antenna A 2	Emco	3146	2304
Double ridge horn ant. A 3	Emco	3115	3007
Relay switch	R&S	RSU	375 339/002
High pass filter	FSY Microwave	HM 985955	001
Amplifier	Tron-Tech	P42-GA29	B2302
Power supply	HP	HP 6038A	2848A07027
RF-cable	HP	5061-5359	P36303

Measurement uncertainties

Performance	Measurement uncertainty
Input power (DC)	$\pm 0.1 \text{ V}$
Temperature	$\pm 0.2 \text{ }^{\circ}\text{C}$
Frequency	$\pm 0.01 \text{ ppm}$
Field strength	$\pm 1.4 \text{ dB}$

2.5. Test results

2.5.1 Test results overview

This test was performed :

☐ in addition to the test report no.

Verification of EUT :

☐ EUT is in accordance with the technical description

☐ EUT is not in accordance with the technical description

☒ The equipment is compliant to FCC Part 15

2.5.2 Summary of test set up

The EUT is positioned in a non-conductive test fixture and can be rotated and tilted in all angles and in all planes.

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 325 GHz in semi-anechoic chambers. 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 conform with specifications ANSI C63.2-1987 clause 15 and ANSI C63.4-1992 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 by EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups 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 analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-1992 clause 4.2.

2.5.3 Test results in details

EUT : Akab-m / Akab-w
 Ambient temperature : 23 °C
 Relative humidity : 55 %

TRANSMITTER PARAMETERS

SECTION 15.245

Microwave module : Akab-m

TEST CONDITIONS		TRANSMITTER FIELD STRENGTH			
EUT operating: TX on and RX on DC power supply		Frequency [GHz]	S.A. e [dBmV]	E [mV/m]	See plot no.:
T nom = 23.0°C	V nom = 12.0 V DC	10.525	56.7	683.9	1

Microwave module : Akab-w

TEST CONDITIONS		TRANSMITTER FIELD STRENGTH			
EUT operating: TX on and RX on DC power supply		Frequency [GHz]	S.A. e [dBmV]	E [mV/m]	See plot no.:
T nom = 23.0°C	V nom = 12.0 V DC	10.525	56.7	683.9	2

LIMITS:

SECTION 15.245

Section	Frequency range [GHz]	Measurement distance [m]	Field strength e [dBmV/m] @ 3 m	Field strength E [mV/m]
15.245	10.500 - 10.550	3.0	67.96	2500

Verdict : Field strength limits 15.245 are kept

EUT : Akab-m
 Ambient temperature : 23 °C
 Relative humidity : 55 %

TRANSMITTER PARAMETERS SPURIOUS FREQUENCIES RADIATED

SECTION 15.209

TRANSMITTER SPURIOUS FIELD STRENGTH				
Frequency range Frequency [GHz]	Spurious frequencies [GHz]	S A u [dBmV]	E [μV/m]	See plot no.:
0.009 to 30.000 MHz (h + v)	Noise	n.a.	<<Limit	3 / 4
0.030 to 4.000 (h + v)	Noise	n.a.	<<Limit	5 / 6 / 7 / 8
4.000 to 8.000 (h + v)	Noise	-25.6	35.9	9
8.000 to 10.500 (h + v)	Noise	-26.0	72.4	10
10.550 to 18.000 (h + v)	Noise	-23.8	101.2	11
18.000 to 27.000 (h + v)	21.045 (2 nd Harmonic)	15.3	21 135 (PK)	12
21.025 to 21.075 (v)	21.051 (2 nd Harmonic)	17.5	27 227 (PK)	13
21.025 to 21.075 (v)	21.051 (2 nd Harmonic)	-24.0	229.3 (AV)	14
27.000 to 40.000 (h + v)	31.590 (3 rd Harmonic)	5.2	13 646 (PK)	15
31.550 to 31.600 (h)	31.576 (3 rd Harmonic)	14.5	39 811 (PK)	16
31.550 to 31.600 (h)	31.576 (3 rd Harmonic)	-20.8	684.5 (AV)	17
33.000 - 50.000 (h + v)	Noise	-9.5	334.9	18
50.000 - 75.000 (h + v)	Noise	+1.9	1244.5	19

LIMITS:

SECTION 15.205 / 15.209

Frequency range (MHz)	Measurement distance [m]	Field strength E [μV/m]	Field strength e [dBμV/m] @ 3 m
0.009 – 0.490	300	2400/F(kHz)	88.5 ... 53.8
0.490 – 1.705	30	24000/F(kHz)	53.8 ... 43.0
1.705 – 30.0	30	30	49.5
30.0 – 88.0	3	100	40.0
88.0 – 216.0	3	150	43.5
216.0 – 960.0	3	200	46.0
> 960.0	3	500	54.0
> 17,700	3	7,500	77.5
Harmonics	3	25,000	87.9 = 27.9 dB(mV/m)

Verdict : Spurious limits are kept

EUT : Akab-w
 Ambient temperature : 23 °C
 Relative humidity : 55 %

TRANSMITTER PARAMETERS
 SPURIOUS FREQUENCIES RADIATED

SECTION 15.209

TRANSMITTER SPURIOUS FIELD STRENGTH				
Frequency range Frequency [GHz]	Spurious frequencies [GHz]	S A u [dBmV]	E [μV/m]	See plot no.:
10.525	TX	21.5	683.9 mV/m	2
18.000 to 27.000 (h + v)	21.060 (2 nd Harmonic)	12.7	15 668 (PK)	21
21.060 (v)	21.059 (2 nd Harmonic)	13.0	16.218 (PK)	22
26.000 to 40.000 (h + v)	31.590 (3 rd Harmonic)	8.3	19.489 (PK)	23
31.590 (v)	31.588 (3 rd Harmonic)	13.5	35.481 (PK)	24
> 40.0	Nothing found above noise level			

TRANSMITTER PARAMETERS
 SPURIOUS FREQUENCIES CONDUCTED

SECTION 15.207

TRANSMITTER SPURIOUS FIELD STRENGTH				
Frequency range Frequency [MHz]	Spurious frequencies [GHz]	S A u [dBμV] AV	S A u [dBμV] PK	See plot no.:
0.150 – 30.000 (h + v)	Noise	<Limit	<Limit	20

LIMITS:

SECTION 15.207

Frequency of emission (MHz)	Conducted limits [dBμV]	
	Quasi-peak (QP)	Average (AV)
0.150 – 0.500	66.0 – 56.0	56.0 – 46.0
0.500 – 5.000	56.0	46.0
5.000 – 30.000	60.0	50.0

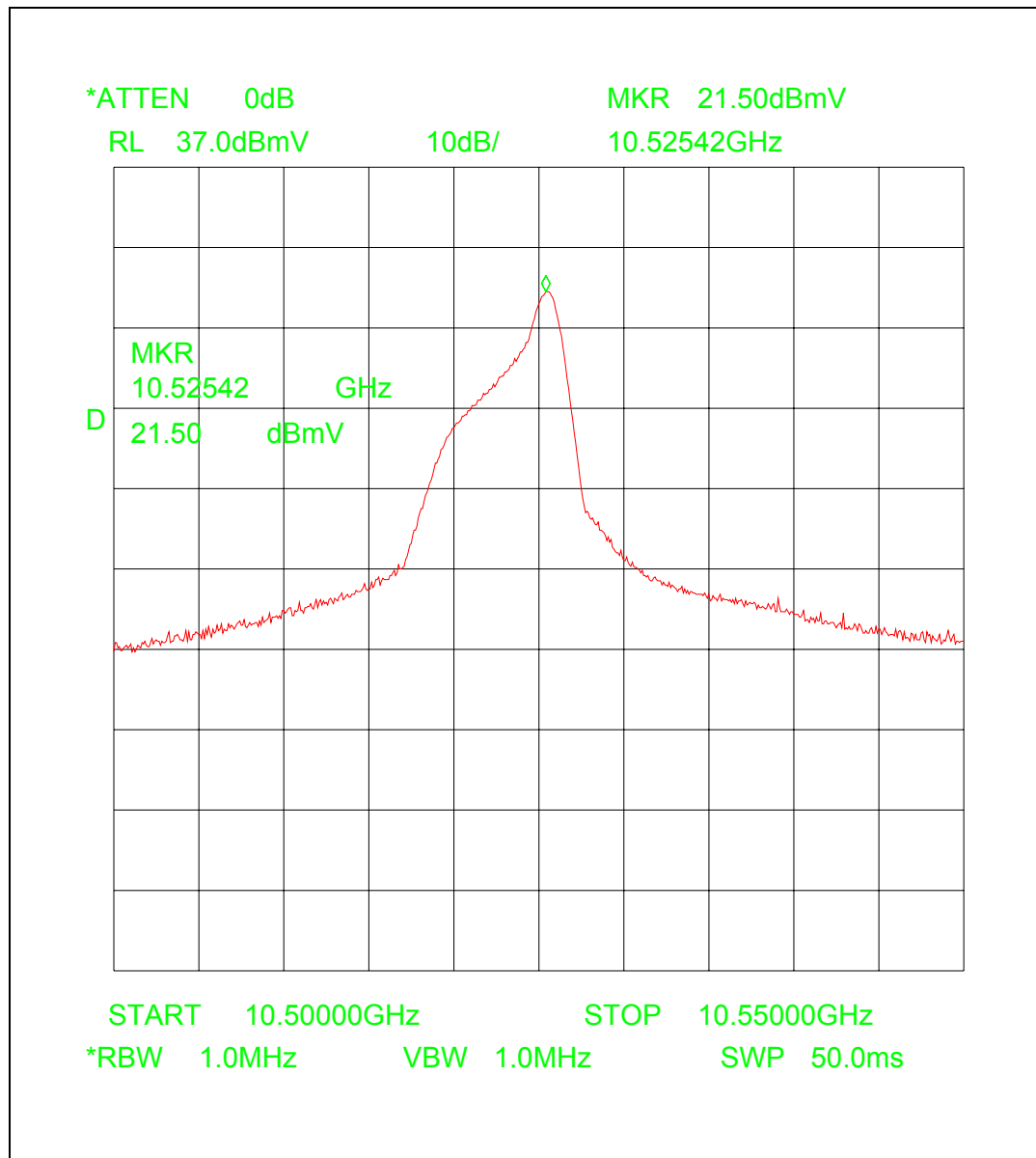
REFERENCE OF TEST EQUIPMENT USED : see test set-up on pages 8, 9 and 10

Verdict : Spurious limits are kept

3. Plots, graphs and data sheets

Plot 1

Akab-m



Measurement distance d = 3.0 m Test set-up see page 9

Calculation : Field strength = Analyser reading + Antenna factor + cable loss

$$e = 21.5 \text{ dB(mV)} + 33.7 \text{ dB(1/m)} + 1.5 \text{ dB}$$

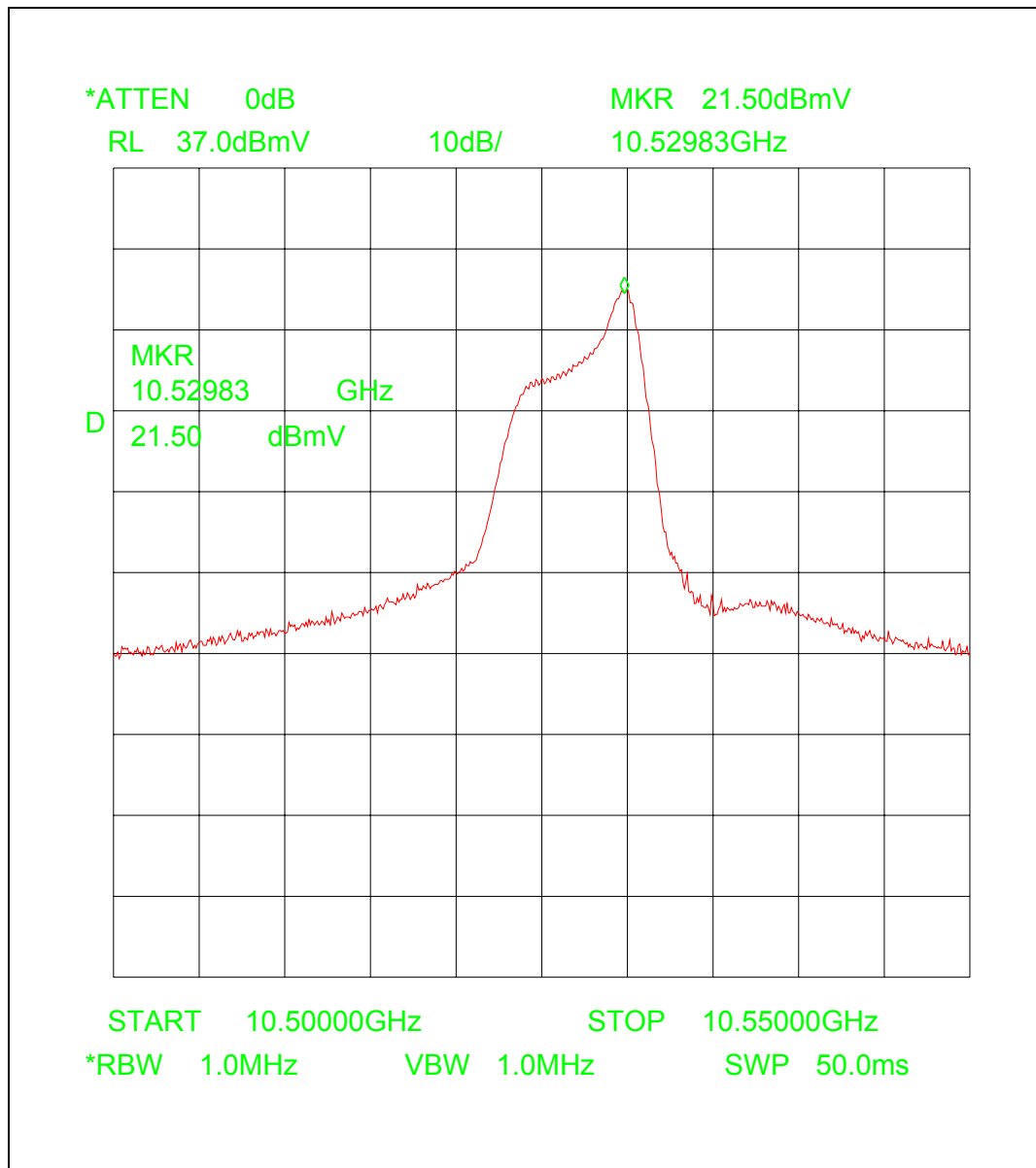
$$e = 56.7 \text{ dB(mV/m)}$$

$$E = 683.912 \text{ mV/m}$$

Limit: E = 2500 mV/m

Plot 2

Akab-w



Measurement distance d = 3.0 m Test set-up see page 9

Calculation : Field strength = Analyser reading + Antenna factor + cable loss

e = 21.5 dB(mV) + 33.7 dB(1/m) + 1.5 dB

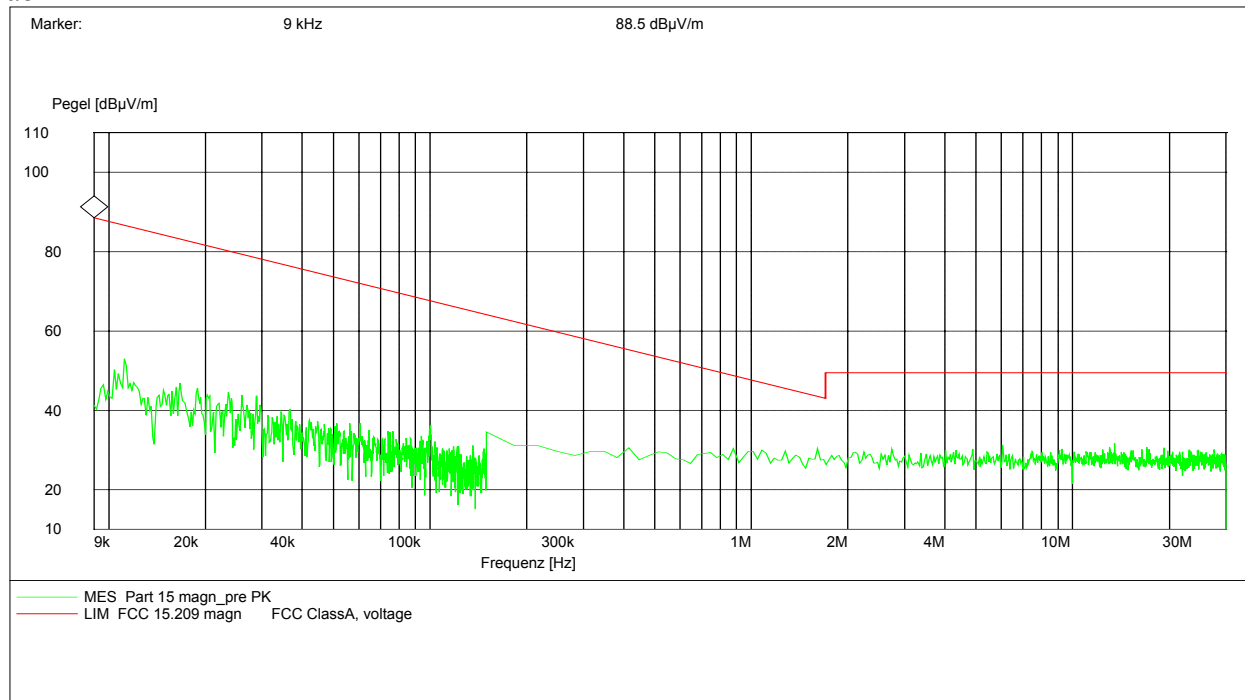
e = 56.7 dB(mV/m)

E = 683.912 mV/m

Limit: E = 2500 mV/m

Plot 3

Akab-m

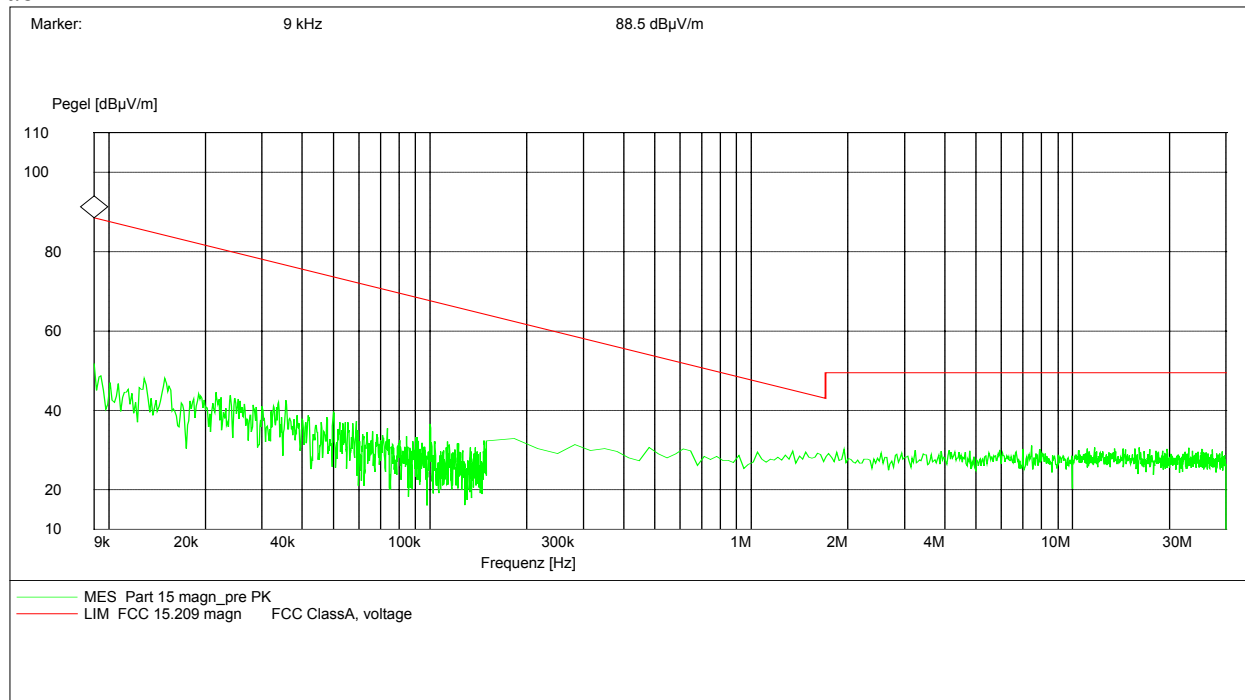


RX-Antenna: horizontal

Test set-up see page 11

Plot 4

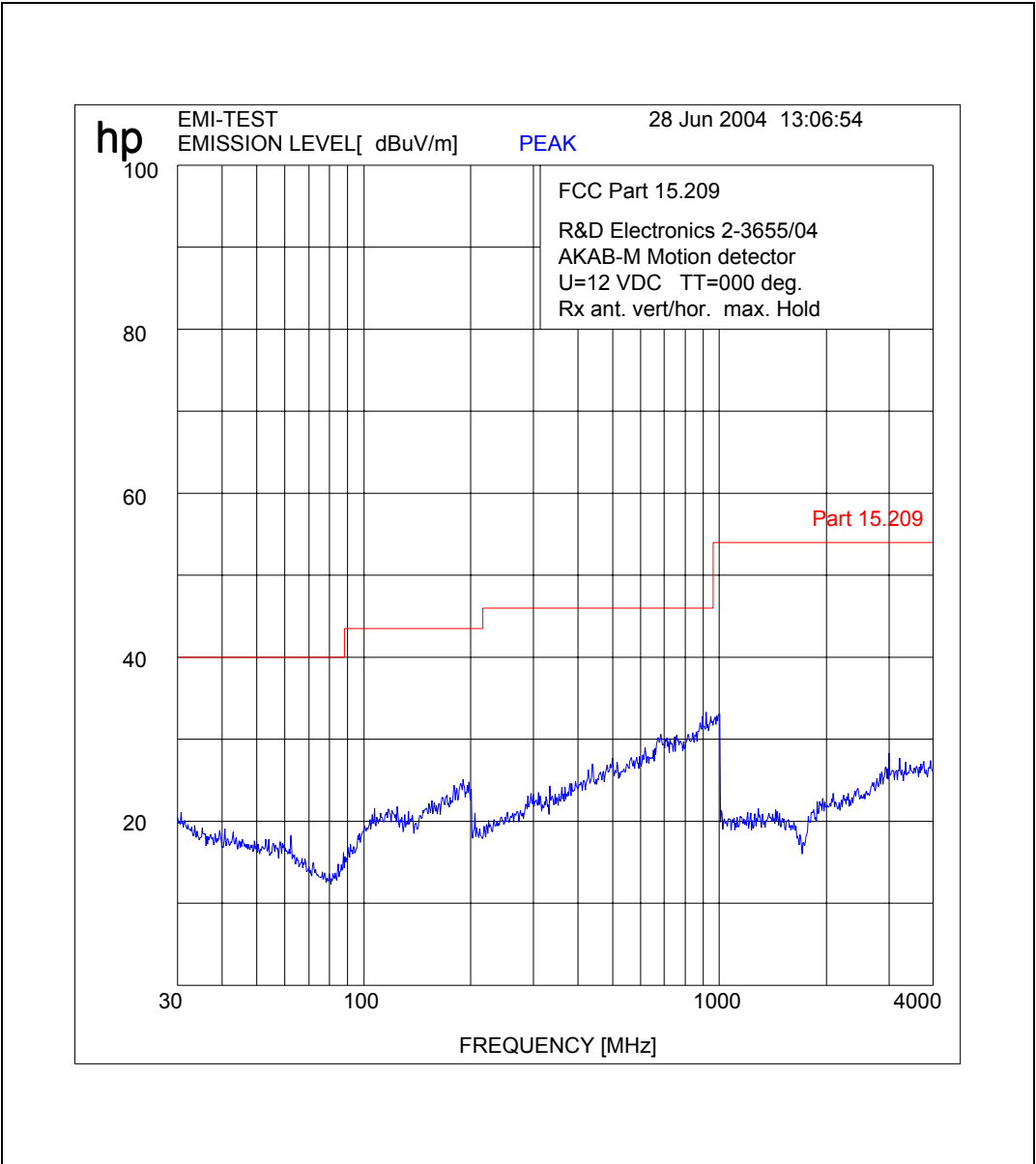
Akab-m



RX Antenna: vertical

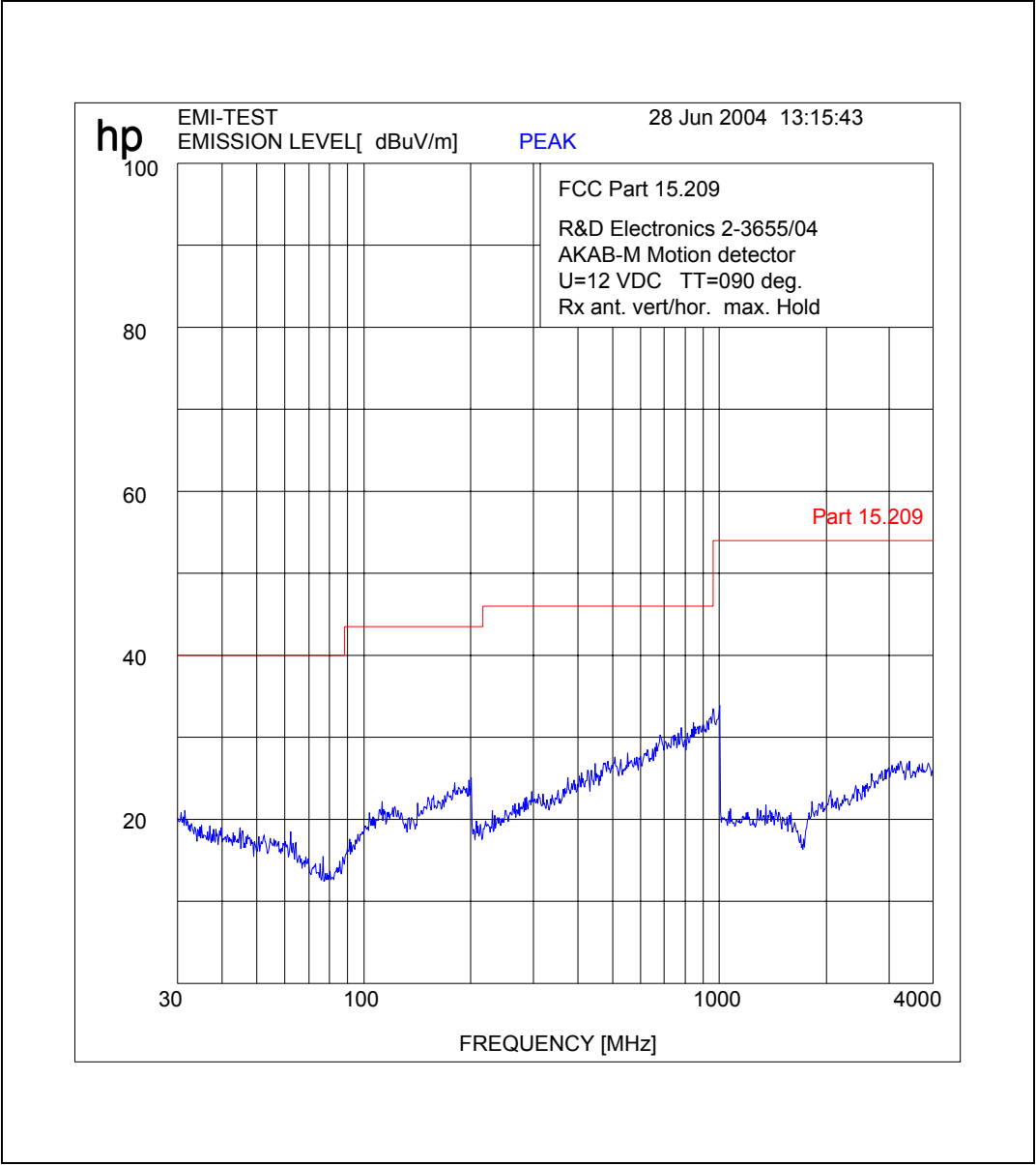
Test set-up see page 11

Plot 5



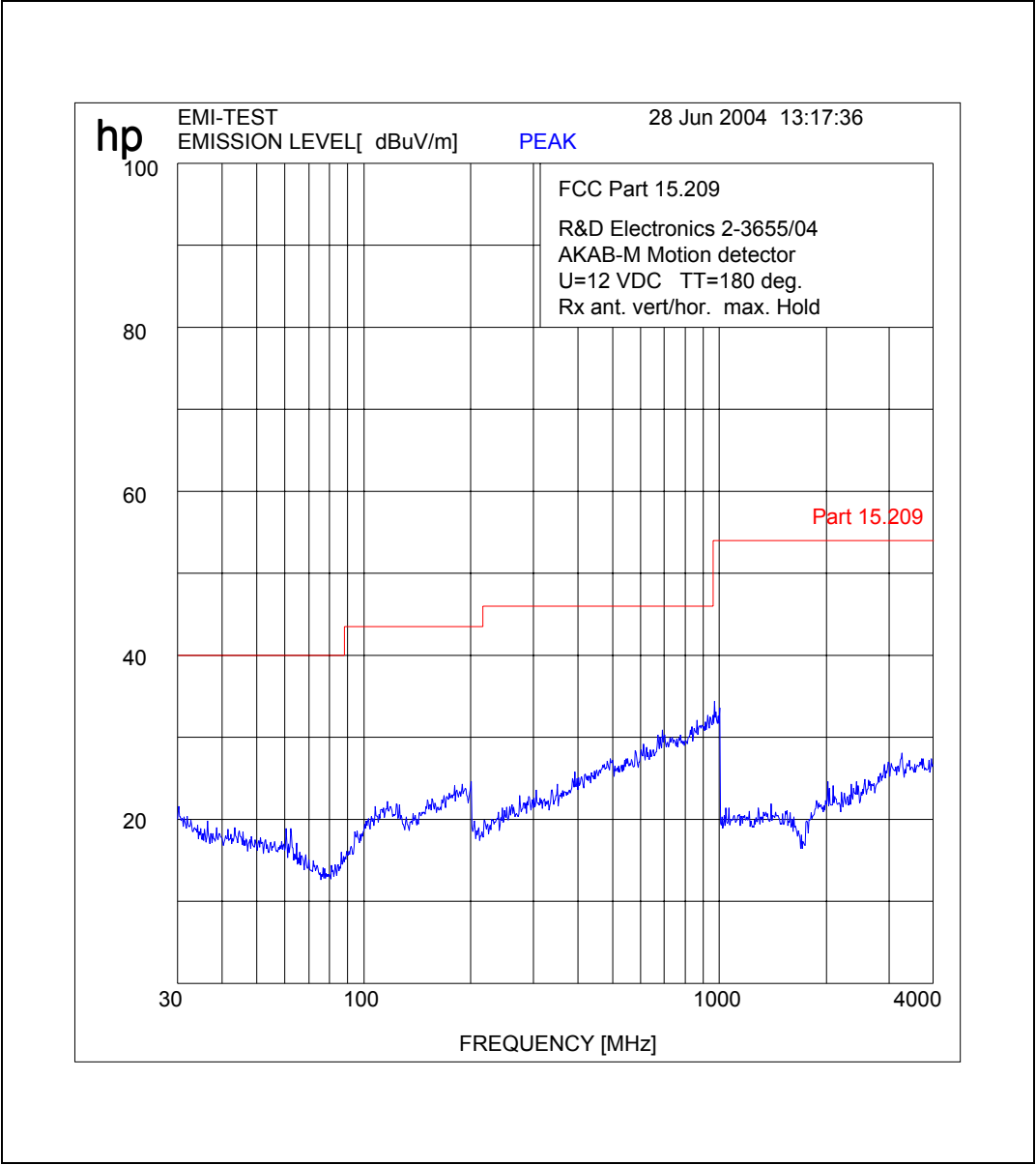
Test set-up see page 11

Plot 6



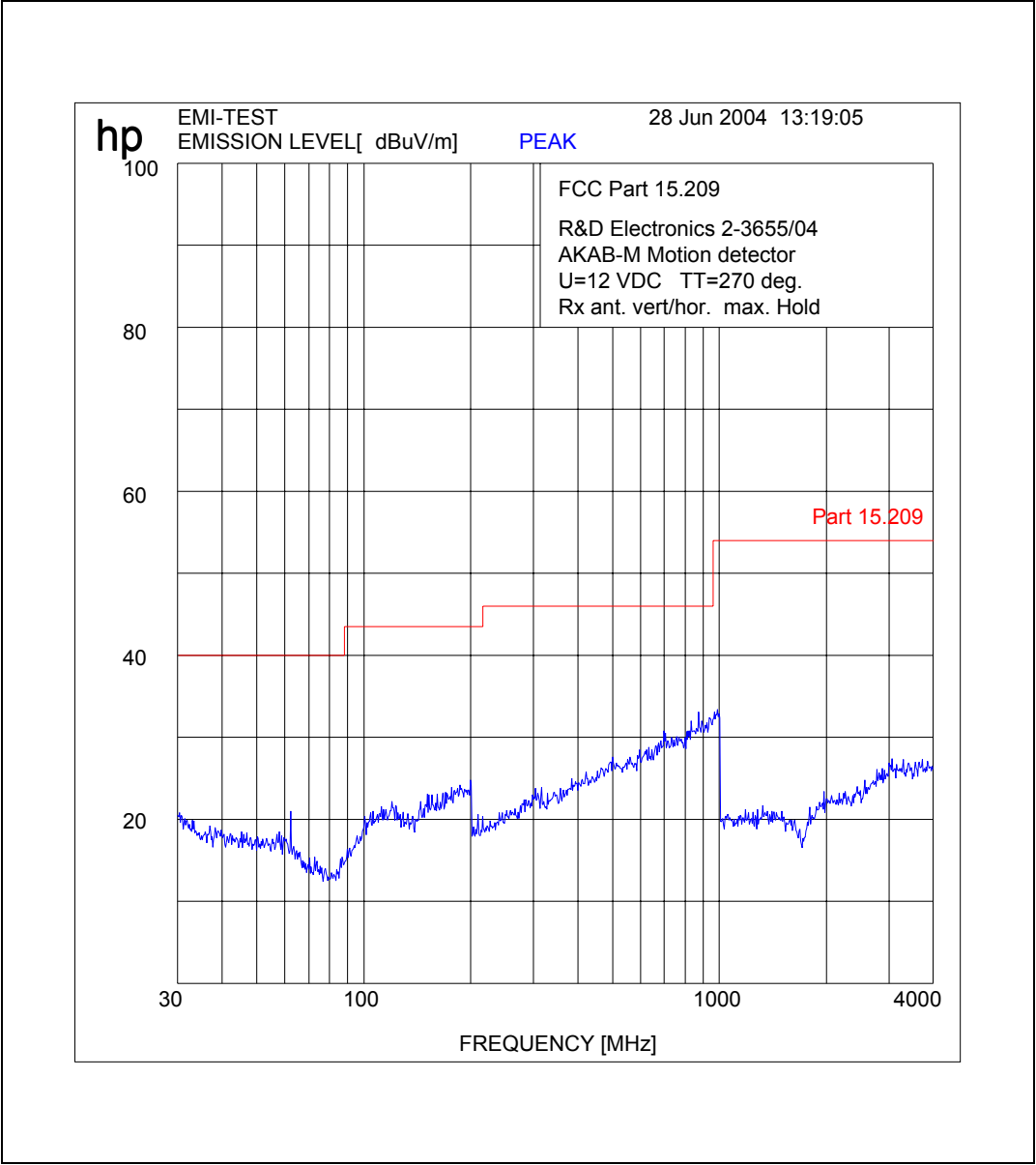
Test set-up see page 11

Plot 7



Test set-up see page 11

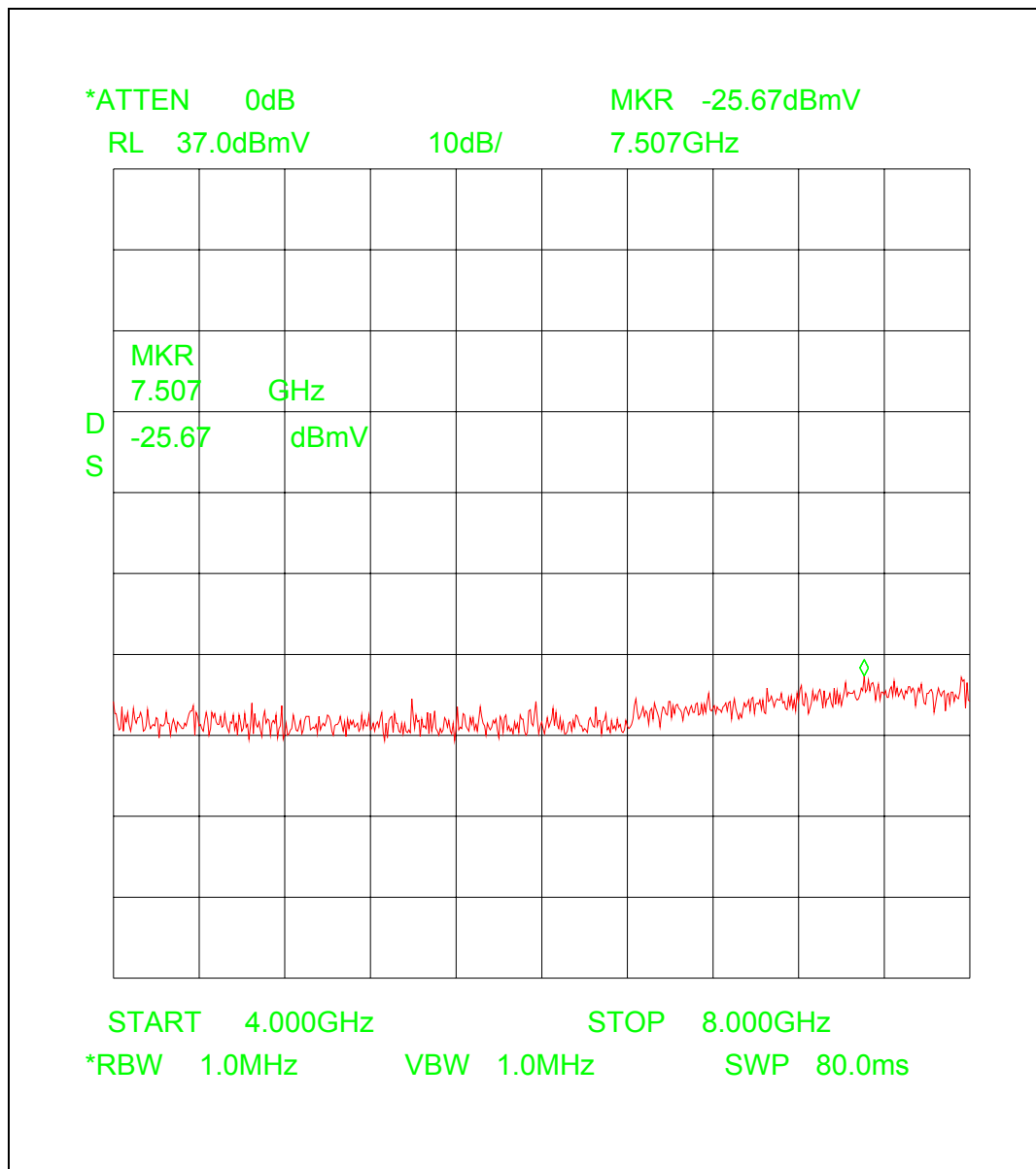
Plot 8



Test set-up see page 11

Plot 9

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier+ cable loss

e = -25.7 dBmV + 27.3 dB(1/m) + (-32.0 dB) + 1.5 dB

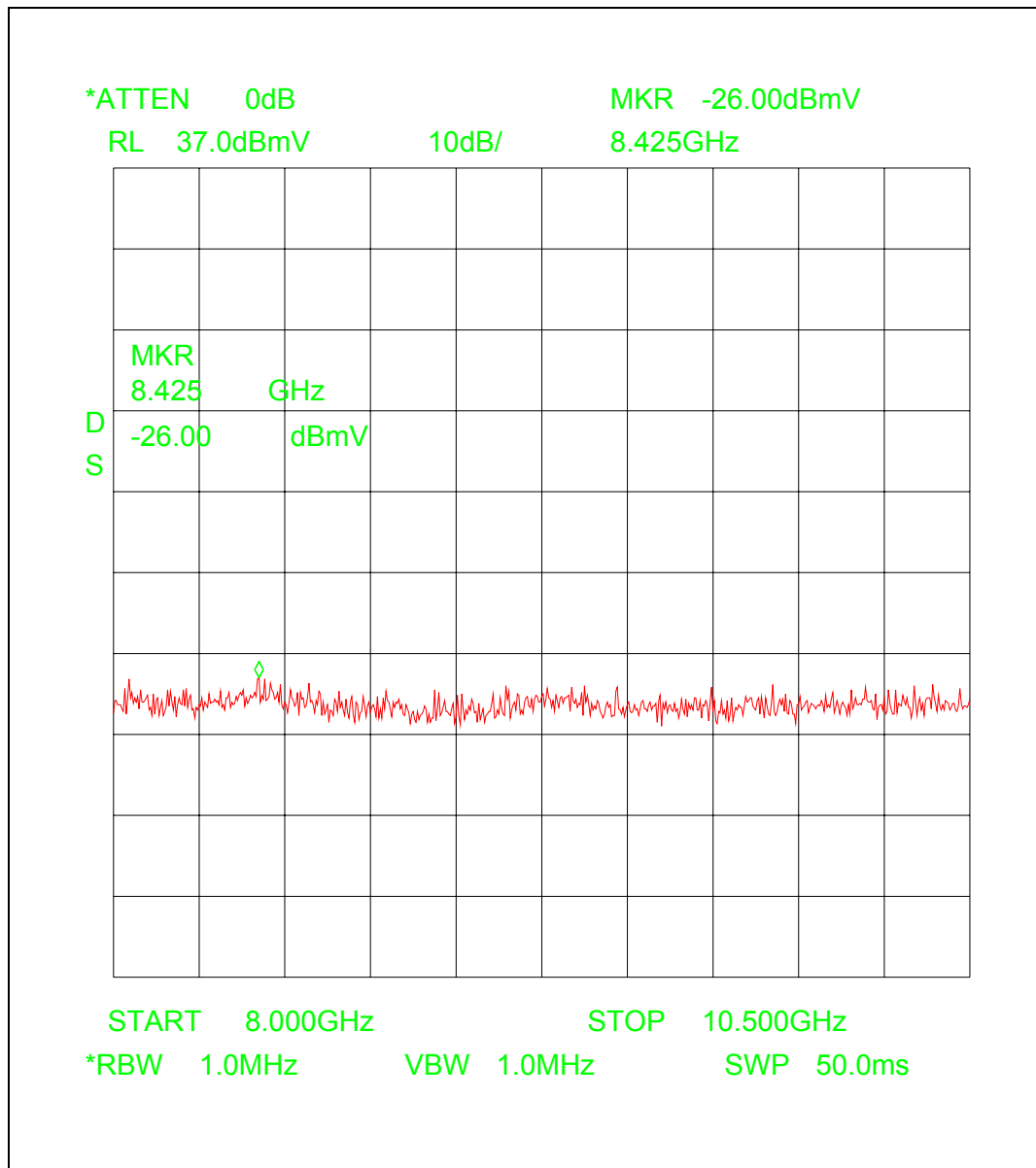
e = -28.8 dB(mV/m) = 31.1 dB(μV/m)

E = 35.892 μV/m (Noise

Limit E = 500.0 μV/m

Plot 10

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

e = -26.0 dBmV + 33.7 dB(1/m) + (-32.0 dB) + 1.5 dB

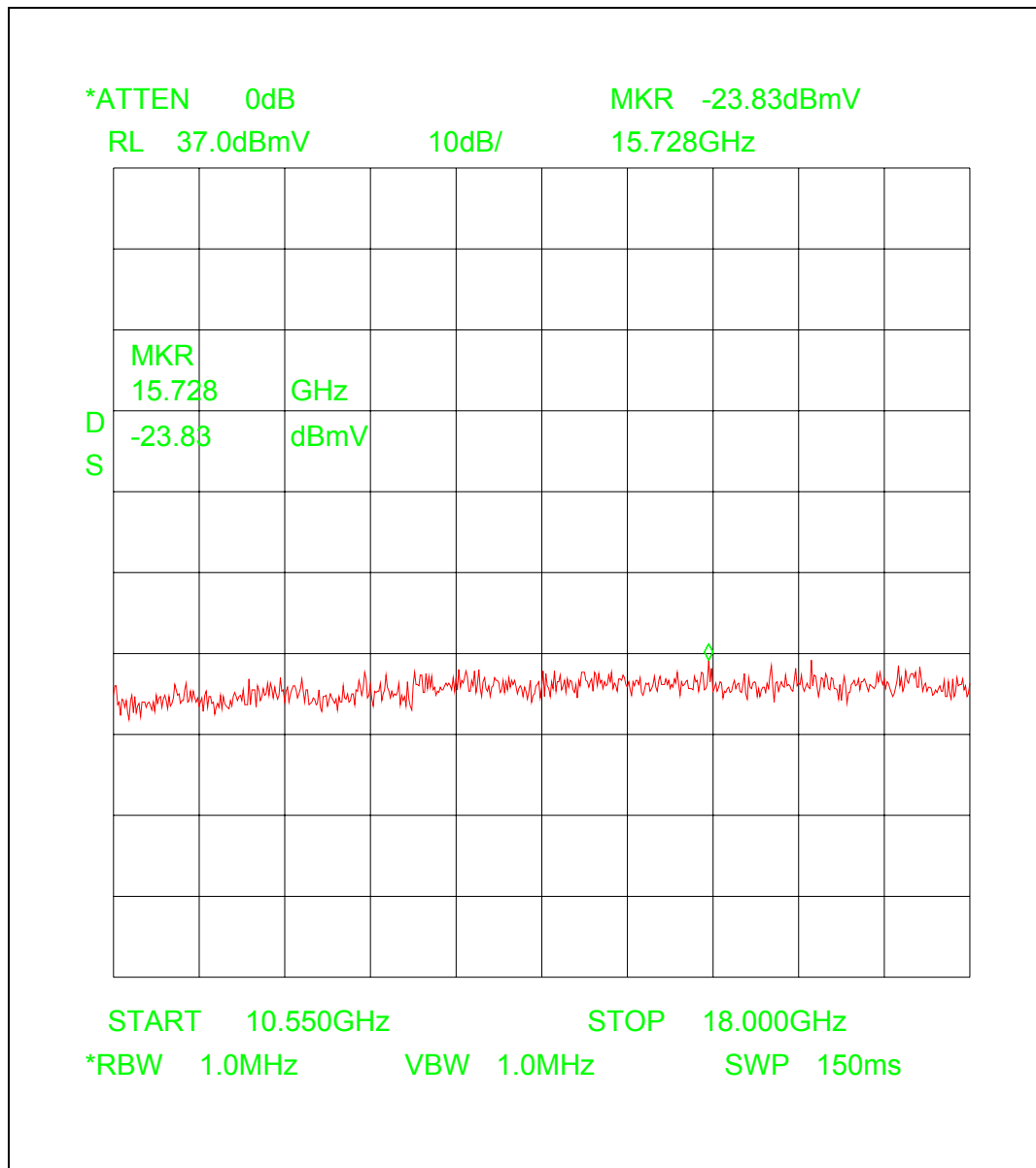
e = -22.8 dB(mV/m) = 37.2 dB(μV/m)

E = 72.444 μV/m (Noise)

Limit E = 500.0 μV/m

Plot 11

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

e = -23.8 dBmV + 33.9 dB(1/m) + (-32.0 dB) + 2.0 dB

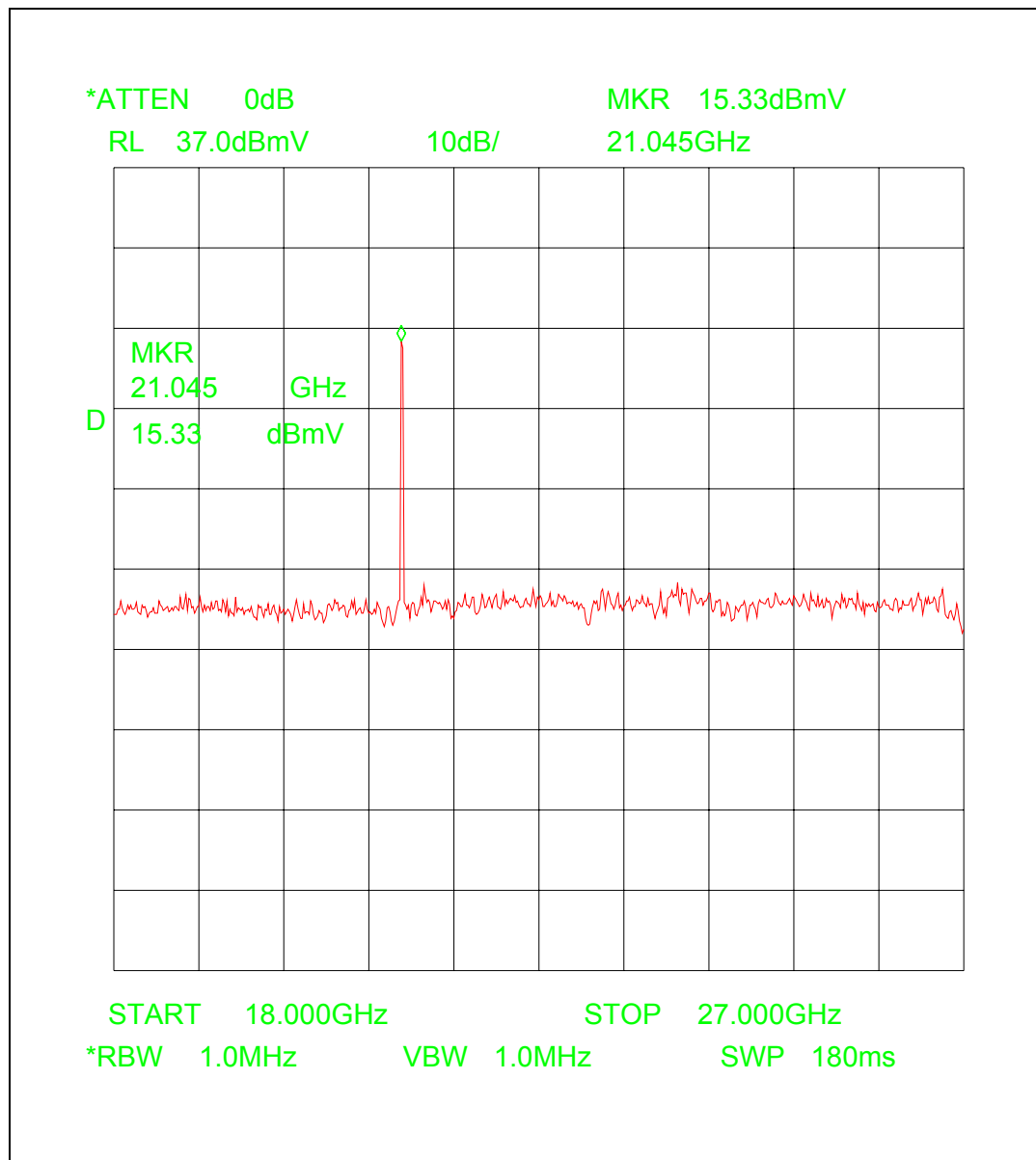
e = -19.9 dB(mV/m) = 40.1 dB(μV/m)

E = 101.158 μV/m (Noise)

Limit E = 500.0 μV/m

Plot 12

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

$$e = 15.3 \text{ dBmV} + 40.2 \text{ dB(1/m)} + (-32.0 \text{ dB}) + 3.0 \text{ dB}$$

$$e = 26.5 \text{ dB(mV/m)} \text{ 2}^{\text{nd}} \text{ Harmonic}$$

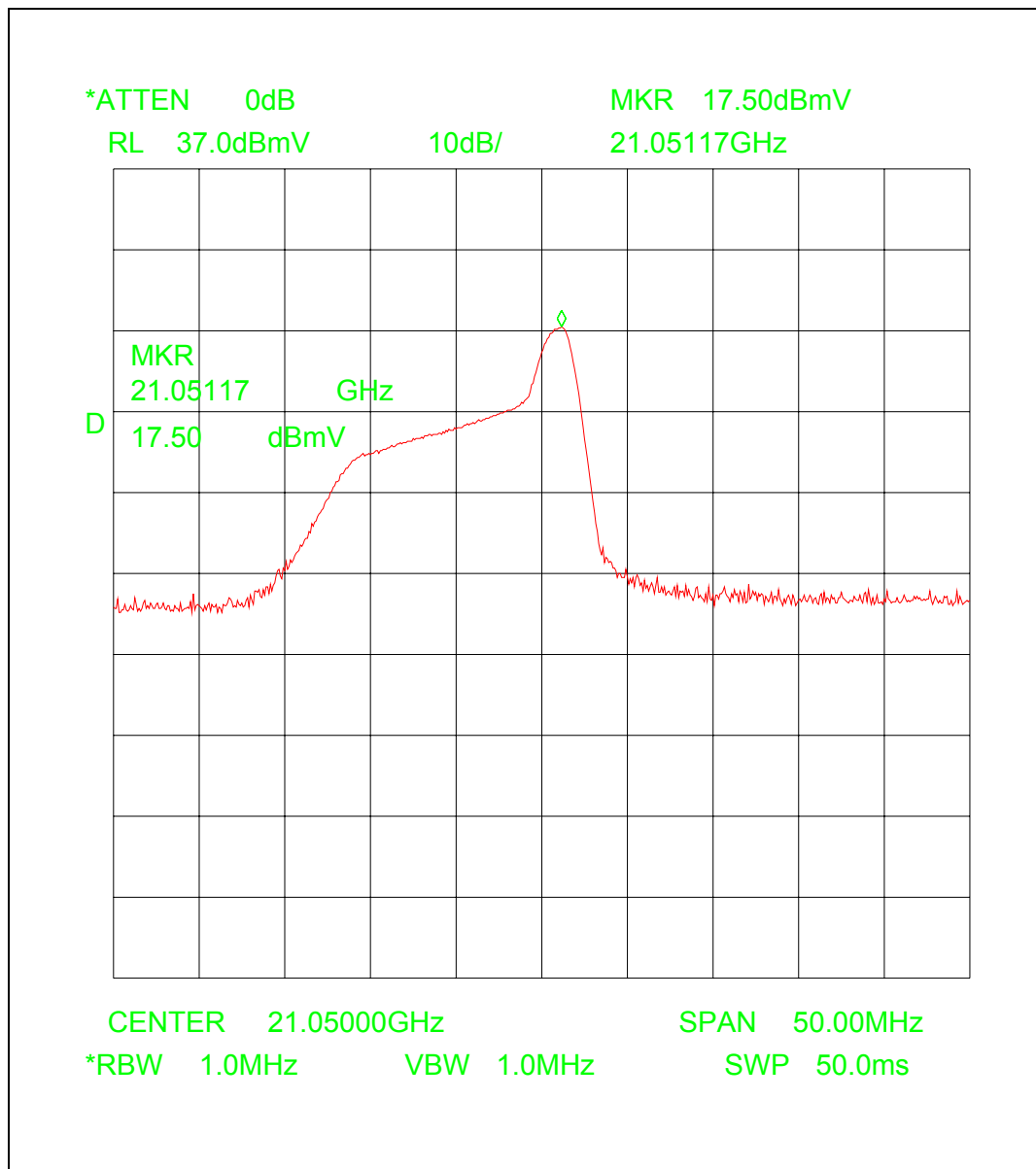
$$E = 21.135 \text{ mV/m (PEAK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 13

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

$$e = 17.5 \text{ dBmV} + 40.2 \text{ dB(1/m)} + (-32.0 \text{ dB}) + 3.0 \text{ dB}$$

$$e = 28.7 \text{ dB(mV/m)} \text{ 2}^{\text{nd}} \text{ Harmonic}$$

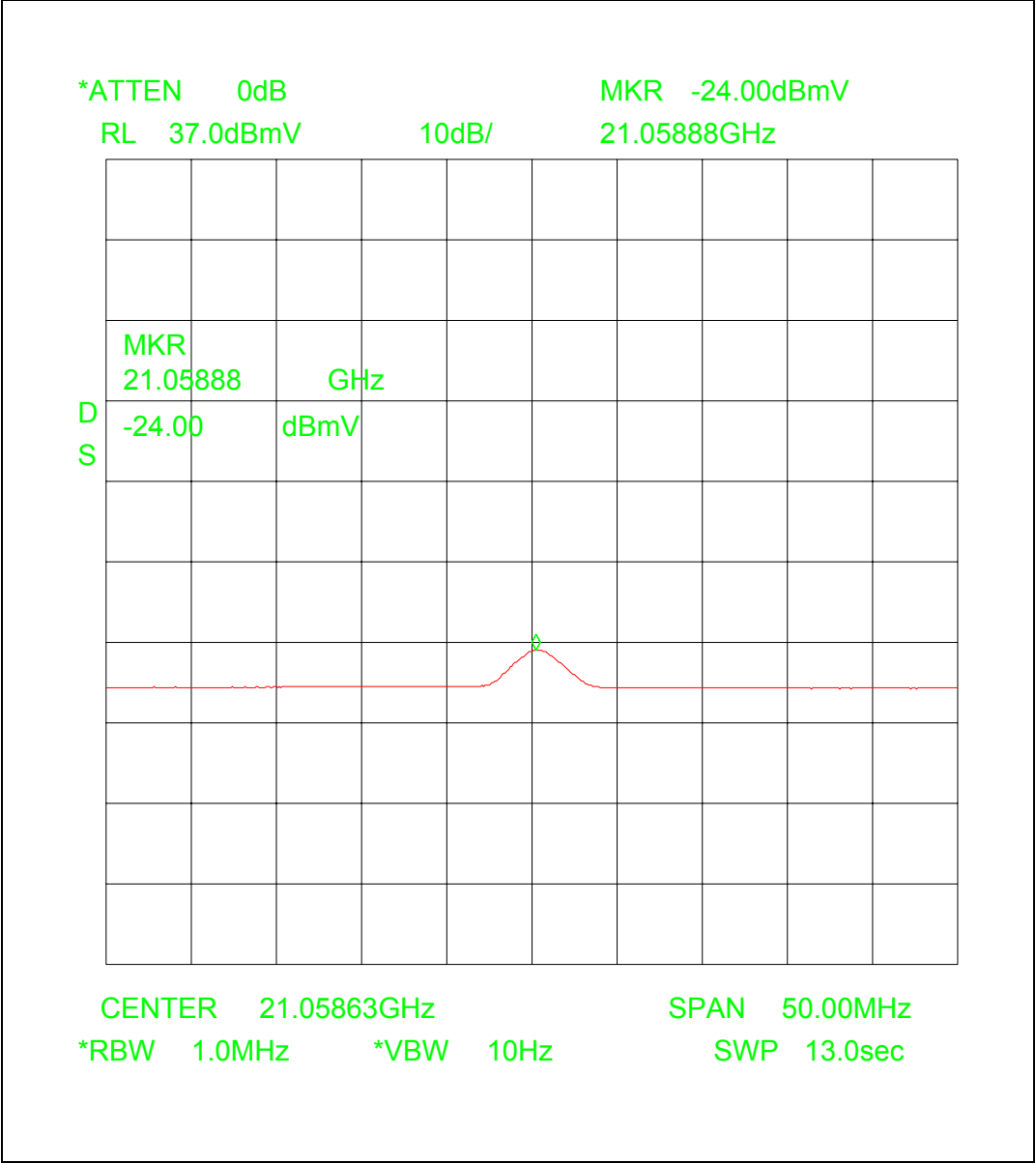
$$E = 27.227 \text{ mV/m (PK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 14

Akab-m



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

$$e = -24.0 \text{ dBmV} + 40.2 \text{ dB(1/m)} + (-32.0 \text{ dB}) + 3.0 \text{ dB}$$

$$e = -12.8 \text{ dB(mV/m)} \quad 2^{\text{nd}} \text{ Harmonic}$$

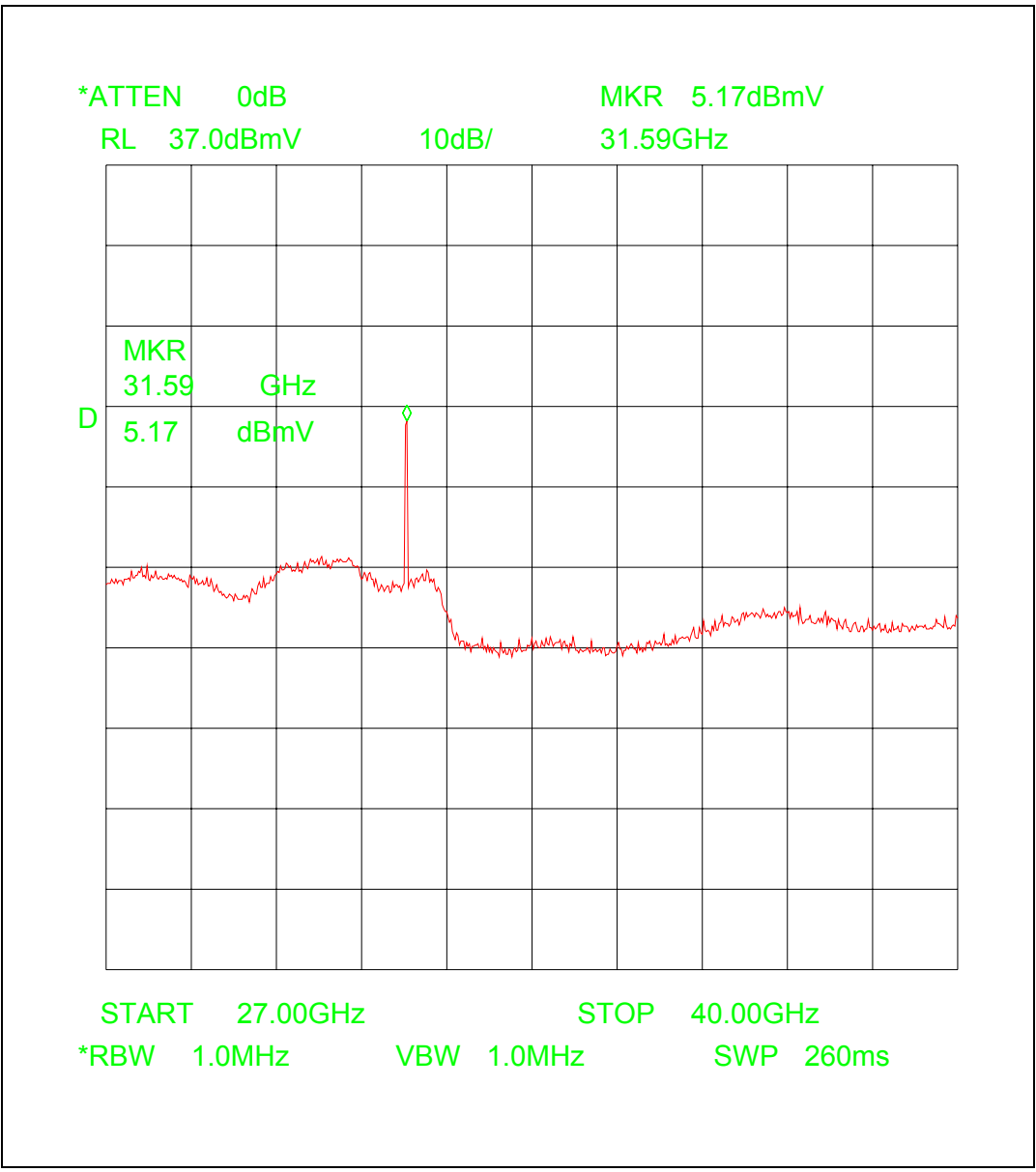
$$E = 0.229 \text{ mV/m (AV)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 15

Akab-m



Measurement distance d = 1.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + dist. corr. + cable loss

e = 5.2 dBmV + 44.0 dB(1/m) + (-20.5 dB) + (-9.5 dB) + 3.5 dB

e = 22.7 dB(mV/m) 3rd Harmonic

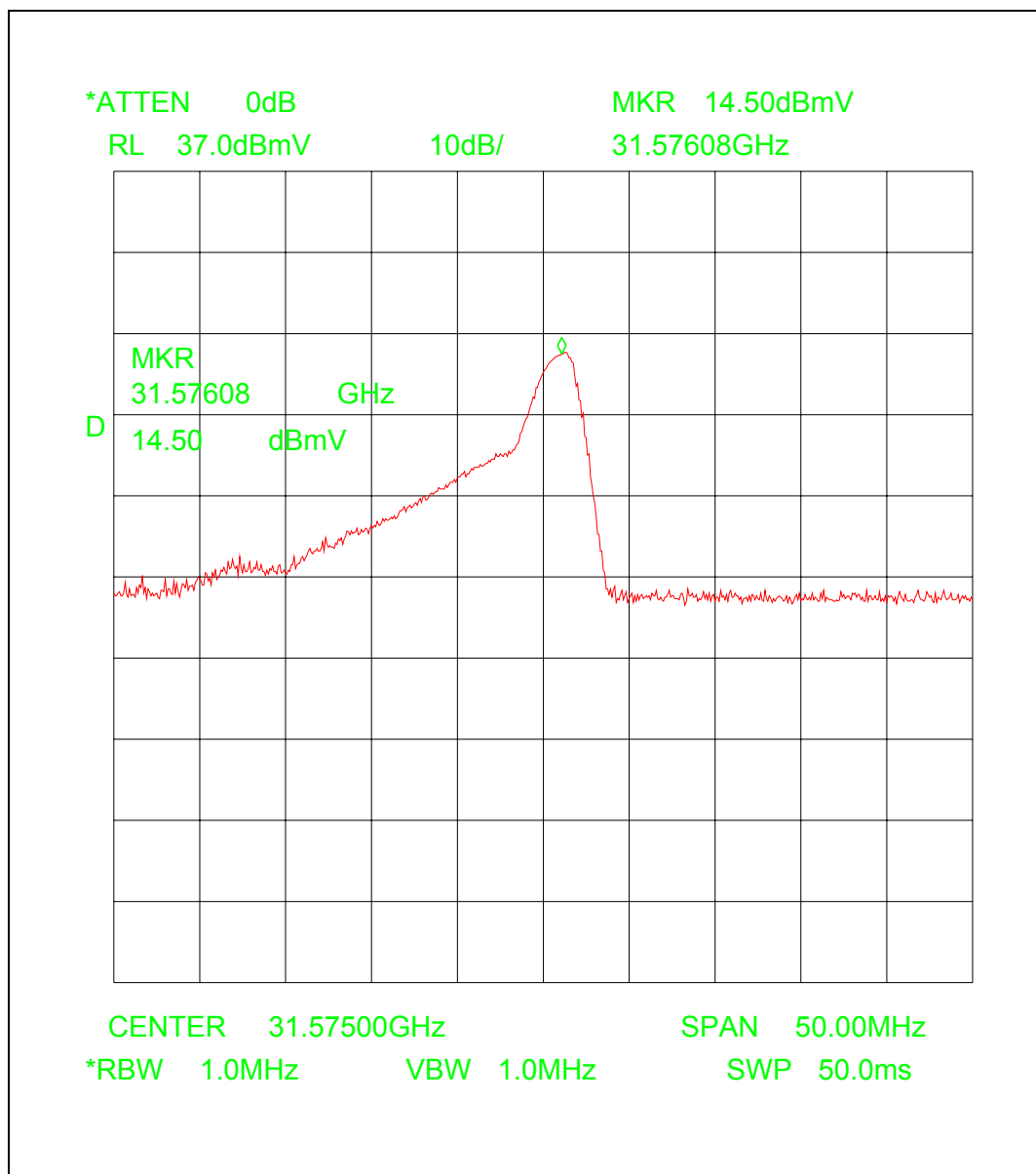
E = 13.646 mV/m (PK)

Limits E = 7.5 mV/m (AVERAGE)

E = 75 mV/m (PEAK)

Plot 16

Akab-m



Measurement distance d = 1.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + dist. corr. + cable loss

$$e = 14.5 \text{ dBmV} + 44.0 \text{ dB(1/m)} + (-20.5 \text{ dB}) + (-9.5 \text{ dB}) + 3.5 \text{ dB}$$

$$e = 32.0 \text{ dB(mV/m)} \text{ 3}^{\text{rd}} \text{ Harmonic}$$

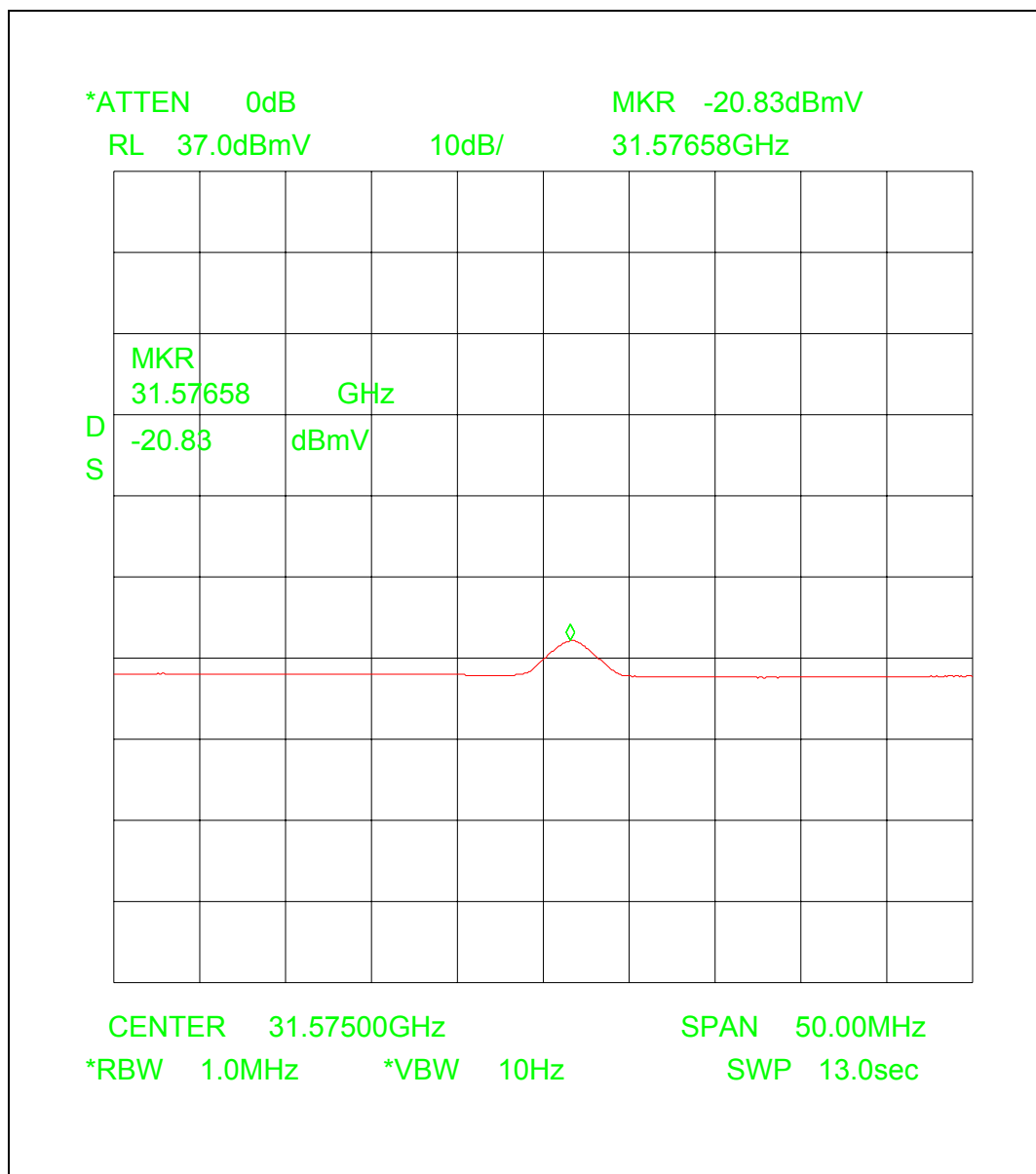
$$E = 39.811 \text{ mV/m (PK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 17

Akab-m



Measurement distance d = 1.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + dist. corr. + cable loss

$$e = -20.8 \text{ dBmV} + 44.0 \text{ dB(1/m)} + (-20.5 \text{ dB}) + (-9.5 \text{ dB}) + 3.5 \text{ dB}$$

$$e = -3.3 \text{ dB(mV/m)} \text{ } 3^{\text{rd}} \text{ Harmonic}$$

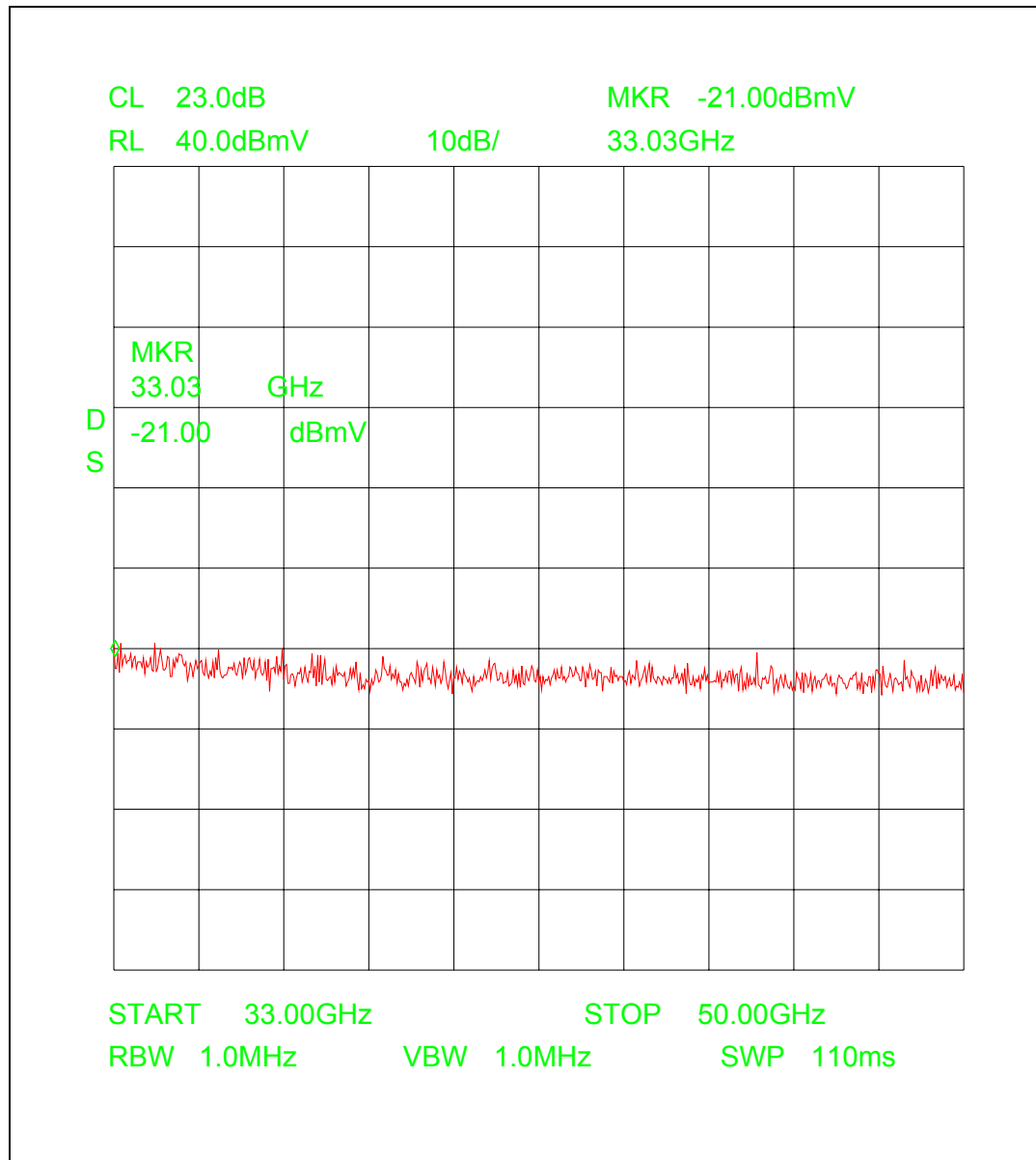
$$E = 0.684 \text{ mV/m (AV)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 18

Akab-m



Measurement distance $d = 0.125 \text{ m}$

Calculation : Field strength = Analyser reading + Antenna factor + distance correction

$$e = -21.0 \text{ dBmV} + 39.1 \text{ dB(1/m)} + (-27.60 \text{ dB})$$

$$e = -9.5 \text{ dB(mV/m)}$$

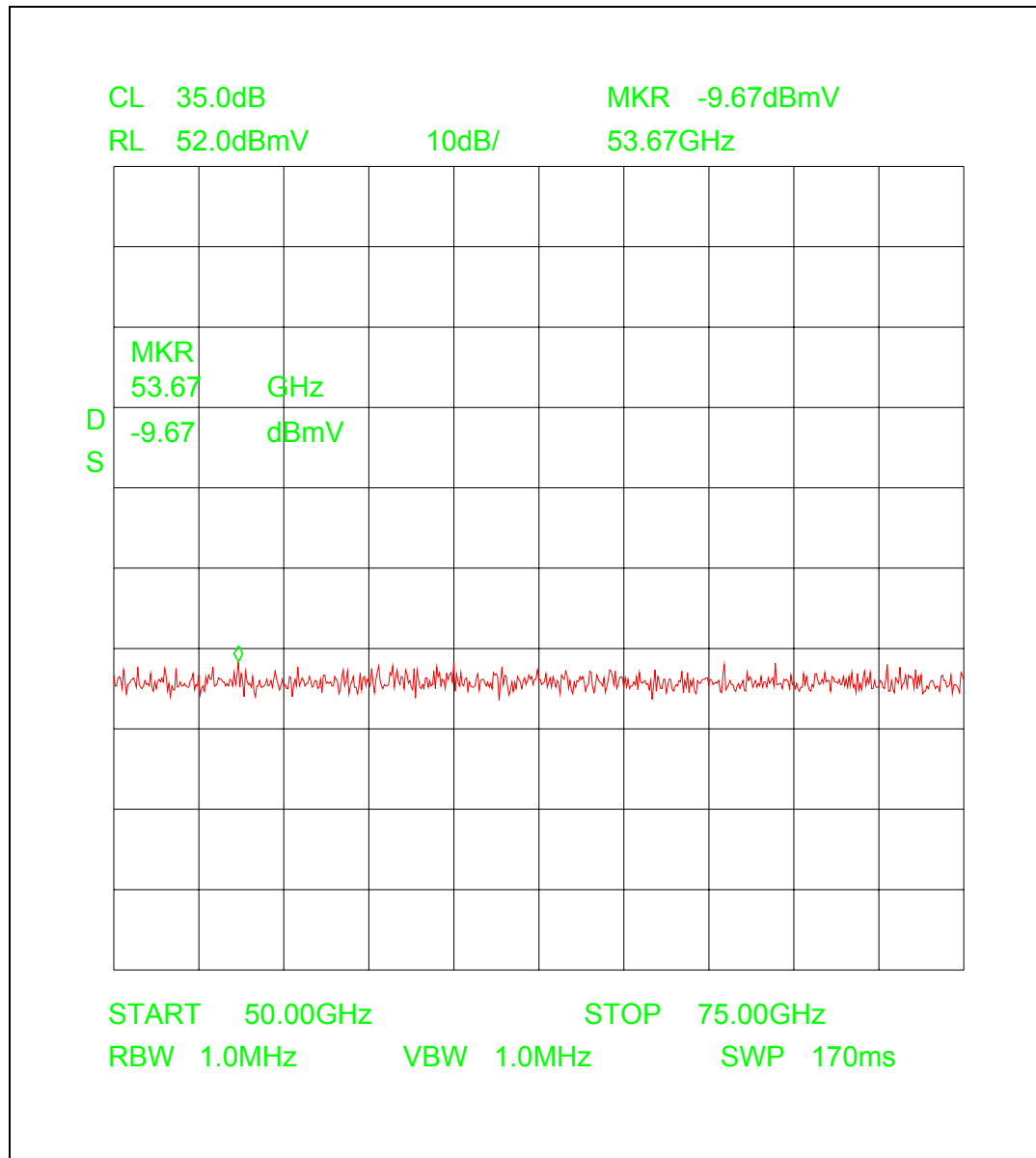
$$E = 0.334 \text{ mV/m}$$

$$E = 334.9 \text{ } \mu\text{V/m (Noise)}$$

Limit $E = 500.0 \text{ } \mu\text{V/m (AVERAGE)}$

Plot 19

Akab-m



Measurement distance $d = 0.125 \text{ m}$

Calculation : Field strength = Analyser reading + Antenna factor + distance correction

$$e = -9.67 \text{ dBmV} + 39.1 \text{ dB(1/m)} + (-27.60 \text{ dB})$$

$$e = 1.9 \text{ dB(mV/m)}$$

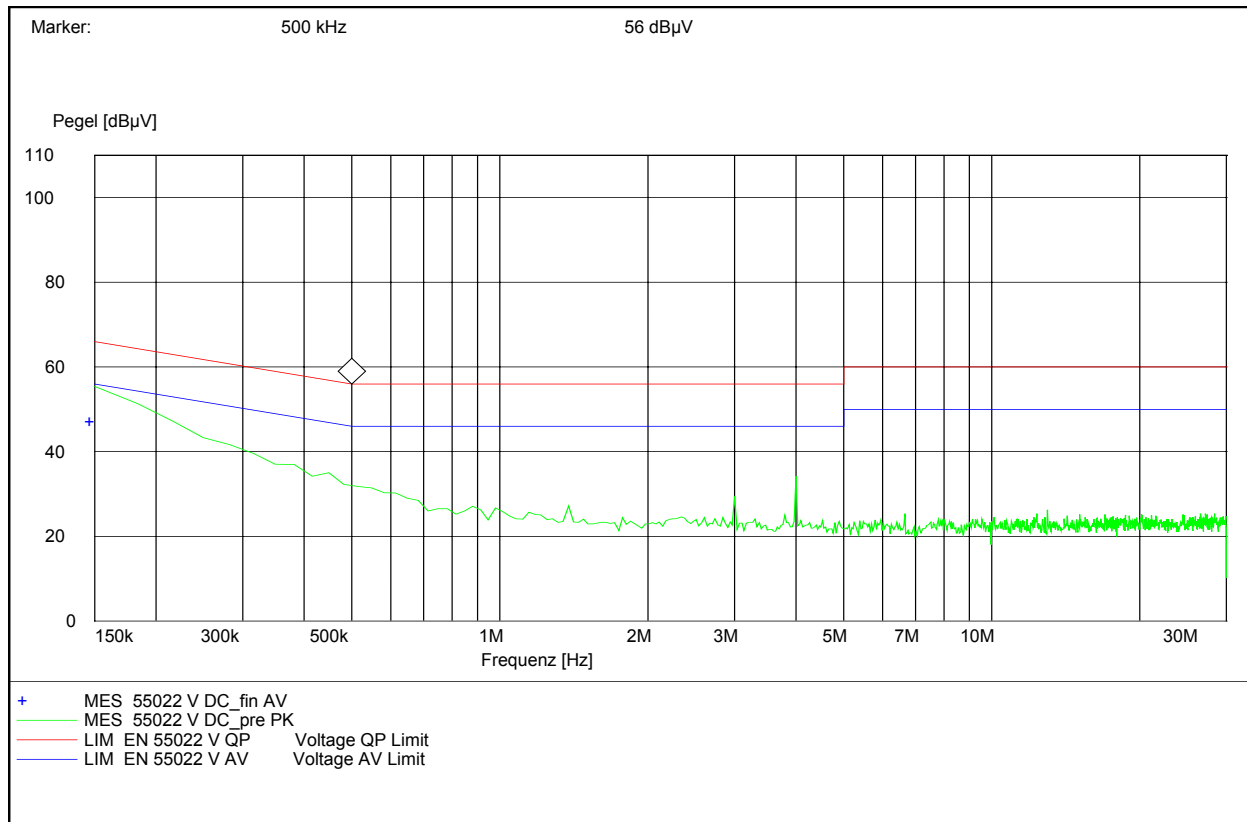
$$E = 1.244 \text{ mV/m}$$

$$E = 1244.5 \text{ } \mu\text{V/m (Noise)}$$

Limit $E = 7500.0 \text{ } \mu\text{V/m (AVERAGE)}$

Plot 20

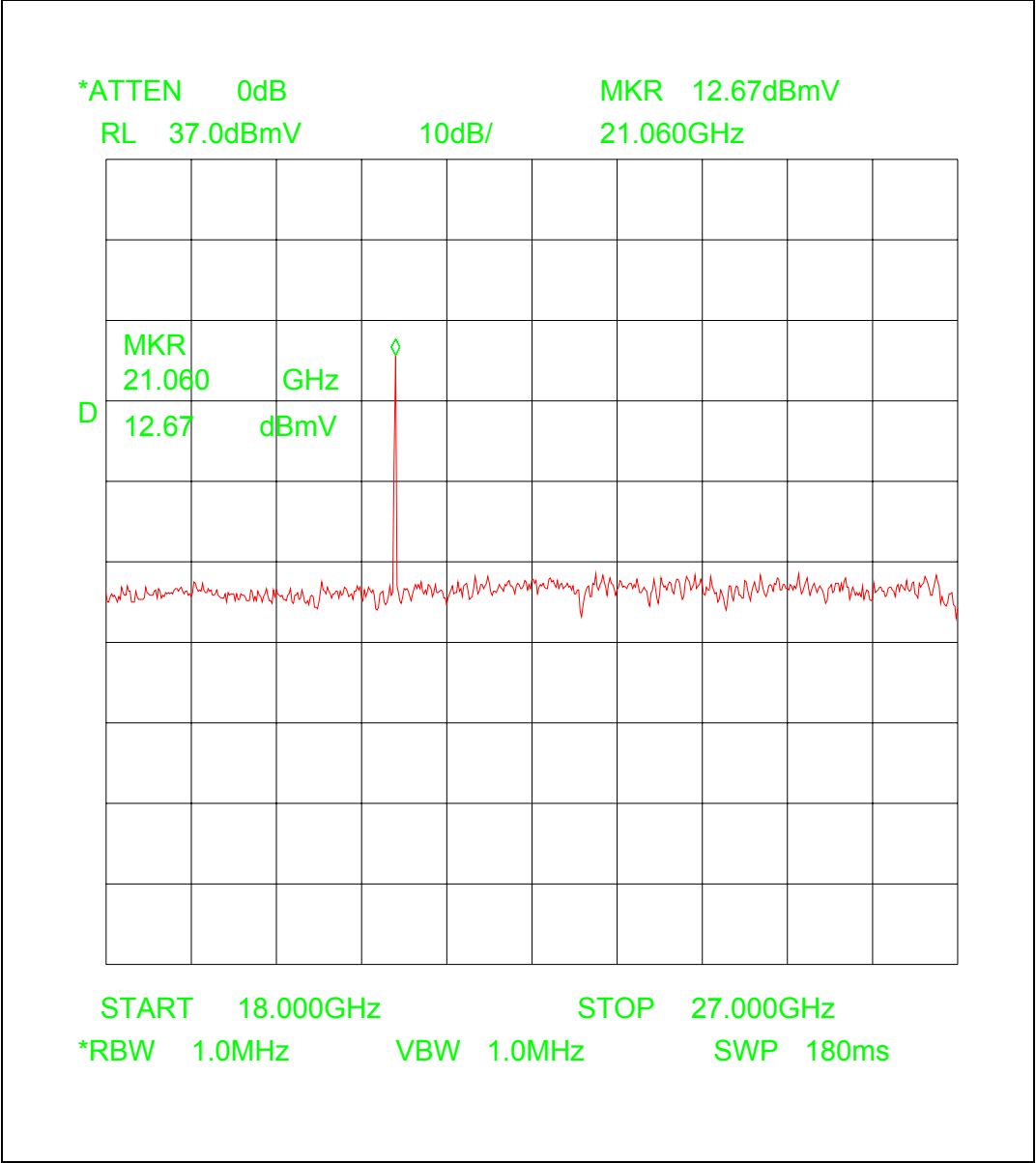
Akab-w



Measurement on L1 and L2

Plot 21

Akab-w



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

$$e = 12.7 \text{ dBmV} + 40.2 \text{ dB(1/m)} + (-32.0 \text{ dB}) + 3.0 \text{ dB}$$

$$e = 23.9 \text{ dB(mV/m)} \quad 2^{\text{nd}} \text{ Harmonic}$$

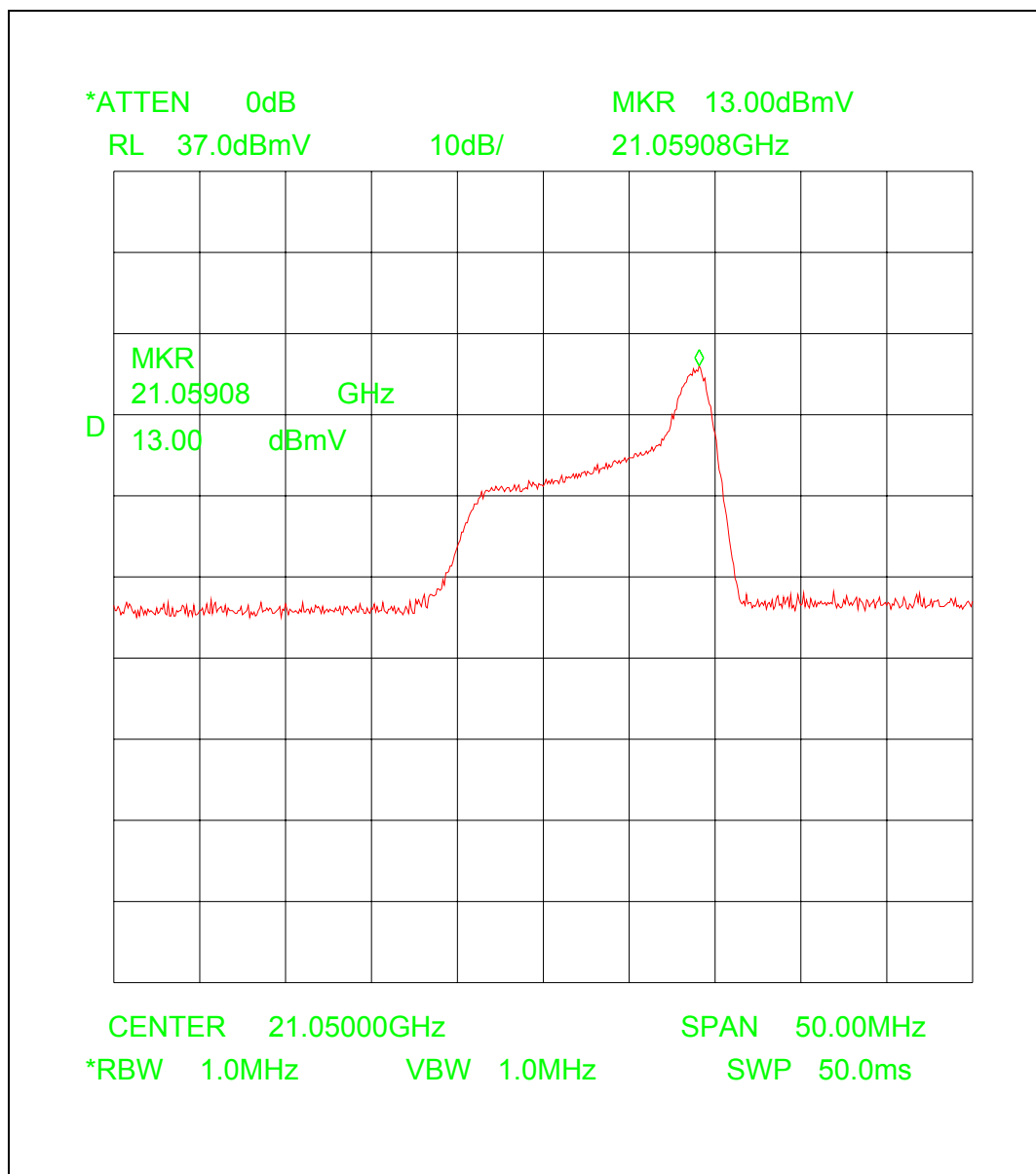
$$E = 15.668 \text{ mV/m (PEAK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 22

Akab-w



Measurement distance d = 3.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + cable loss

$$e = 13.0 \text{ dBmV} + 40.2 \text{ dB(1/m)} + (-32.0 \text{ dB}) + 3.0 \text{ dB}$$

$$e = 24.2 \text{ dB(mV/m)} \text{ } 2^{\text{nd}} \text{ Harmonic}$$

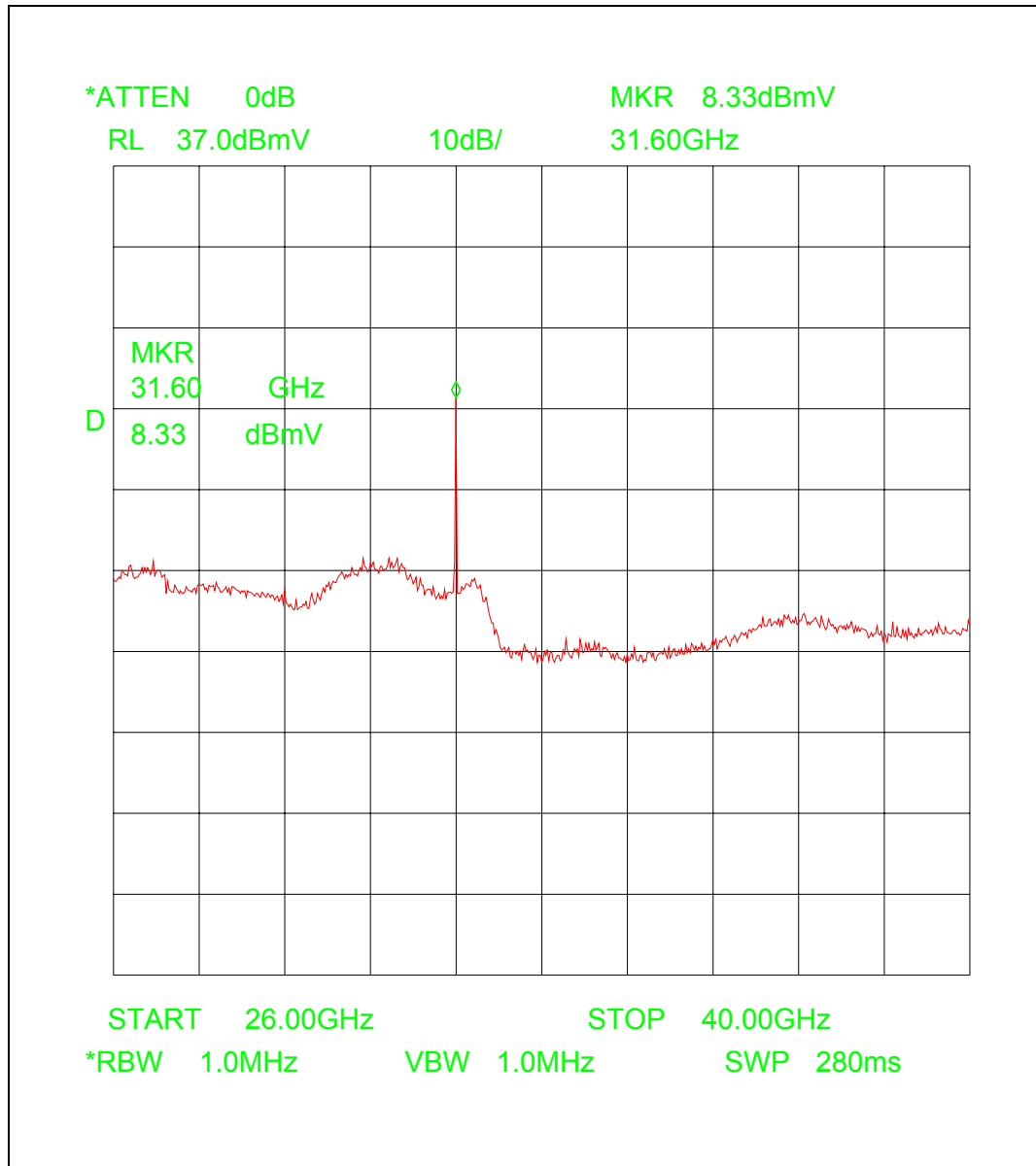
$$E = 16.218 \text{ mV/m (PEAK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 23

Akab-w



Measurement distance d = 1.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + dist. corr. + cable loss

$$e = 8.3 \text{ dBmV} + 44.0 \text{ dB(1/m)} + (-20.5 \text{ dB}) + (-9.5 \text{ dB}) + 3.5 \text{ dB}$$

$$e = 25.8 \text{ dB(mV/m)} \text{ 3}^{\text{rd}} \text{ Harmonic}$$

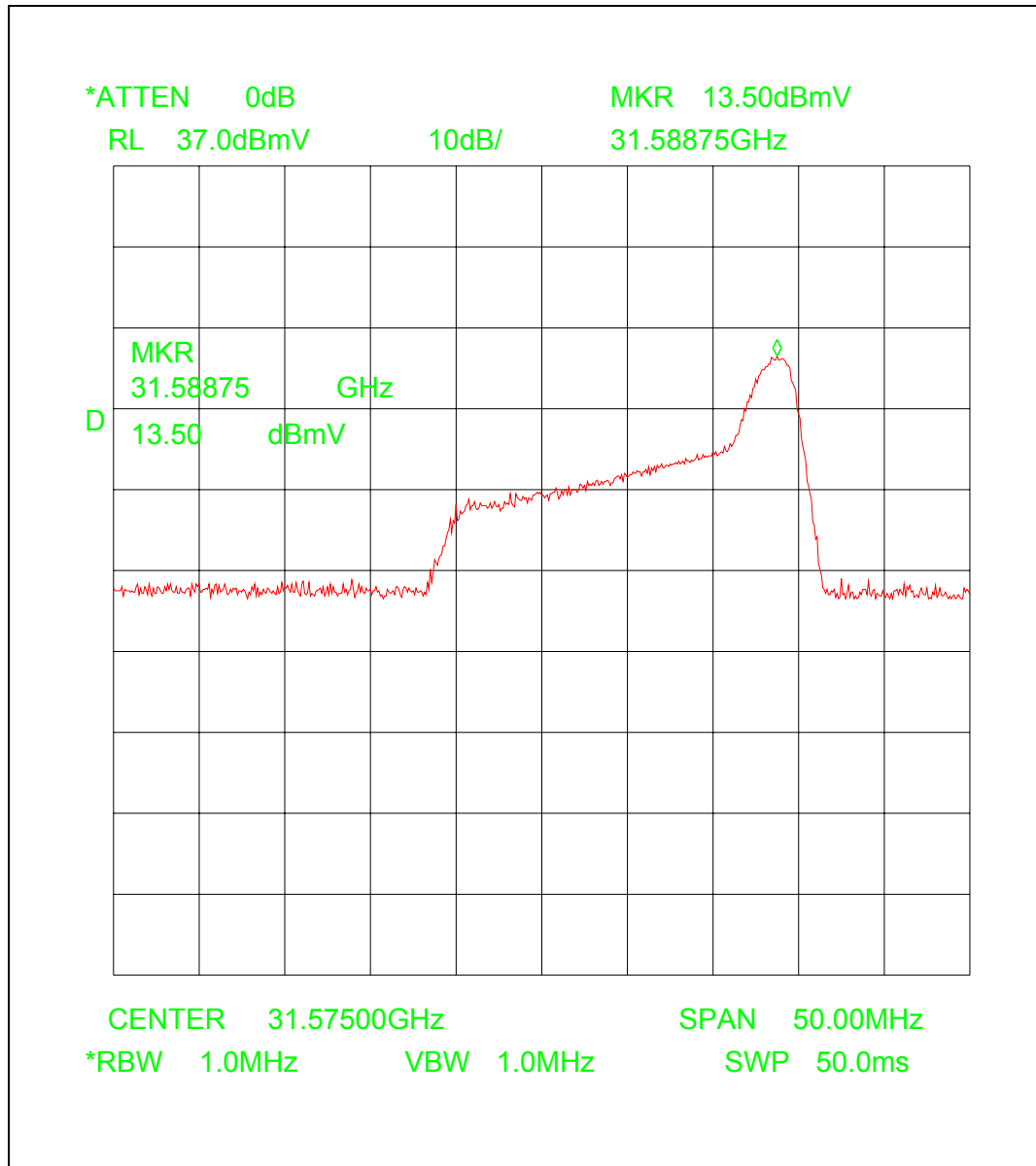
$$E = 19.489 \text{ mV/m (PK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 24

Akab-w



Measurement distance d = 1.0 m Test set-up see page 8

Calculation : Field strength = Analyser reading + Antenna factor + amplifier + dist. corr. + cable loss

$$e = 13.5 \text{ dBmV} + 44.0 \text{ dB(1/m)} + (-20.5 \text{ dB}) + (-9.5 \text{ dB}) + 3.5 \text{ dB}$$

$$e = 31.0 \text{ dB(mV/m)} \text{ 3}^{\text{rd}} \text{ Harmonic}$$

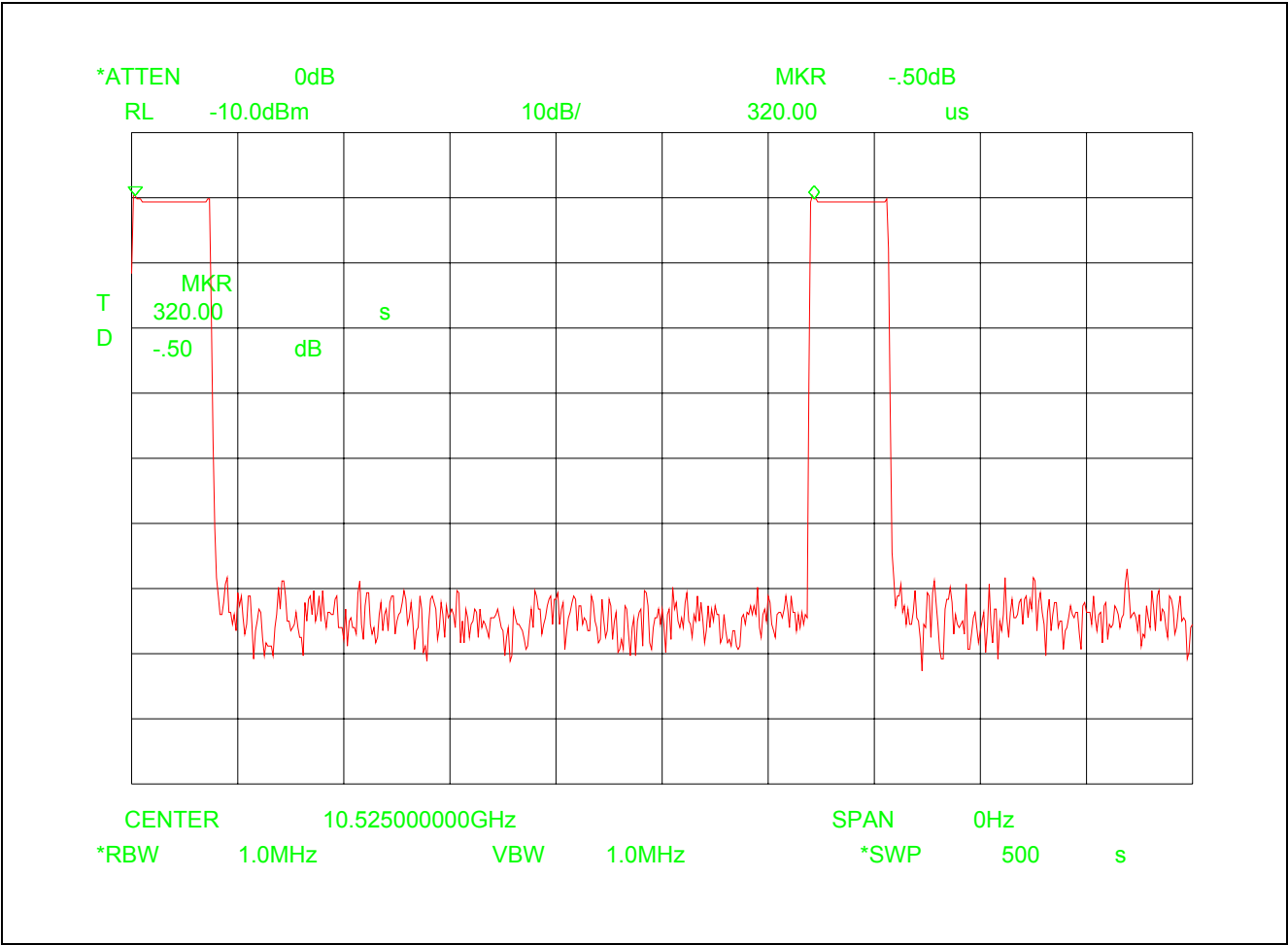
$$E = 35.481 \text{ mV/m (PK)}$$

Limits E = 7.5 mV/m (AVERAGE)

$$E = 75 \text{ mV/m (PEAK)}$$

Plot 25

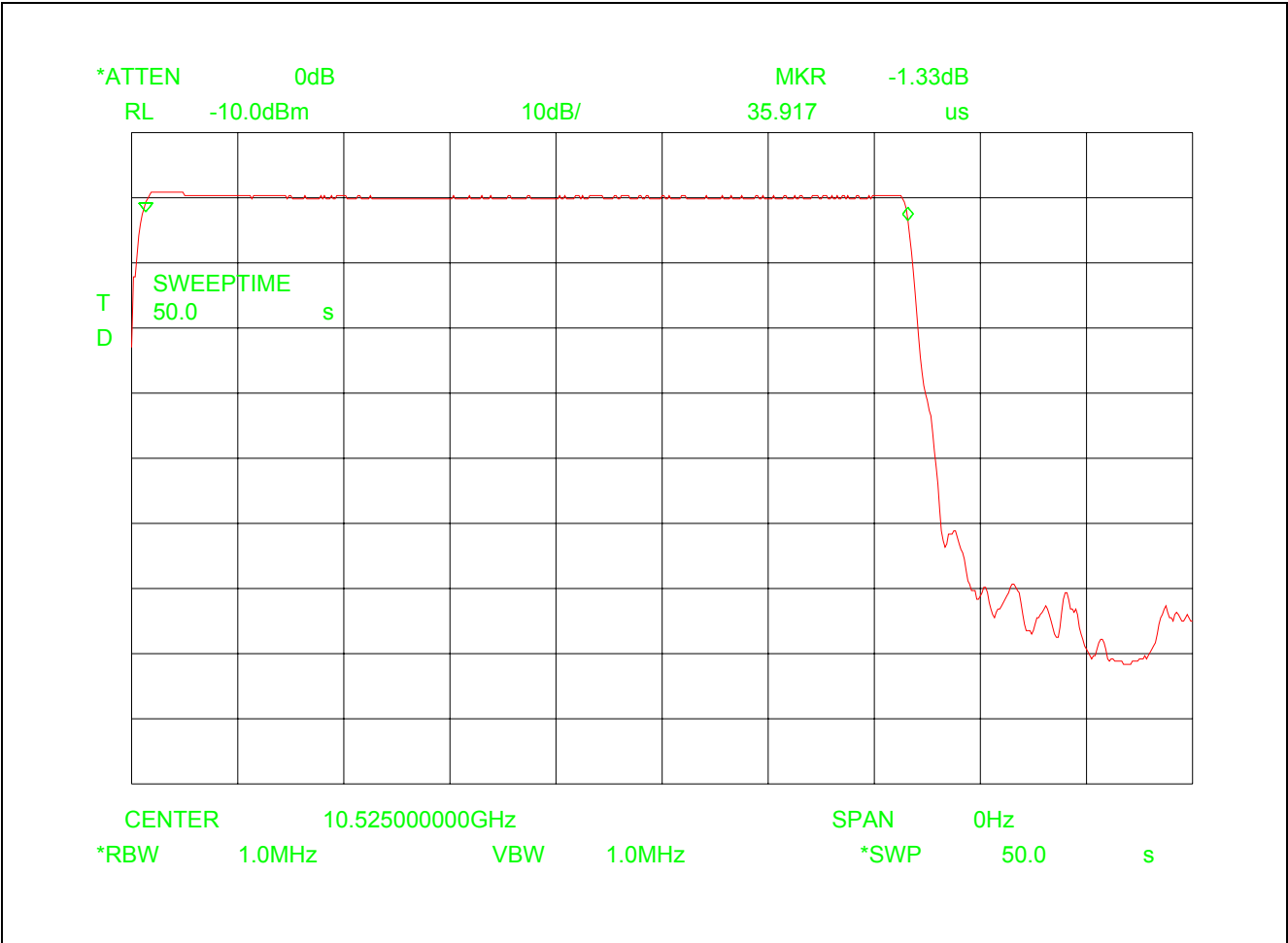
Akab-w



Pulse spacing: 320.00 μs

Plot 26

Akab-w



Pulse width: 35.917 μ s

4. Photographs







