

EXHIBIT 4

Test report # X961455ECB

41 pages



EMCC DR. RAŠEK • Moggast 72-74 • D-91320 Ebermannstadt • Germany



Consultants
 Technical Experts • Certification Institute
 Competent Body per EU Directive 89/336/EEC
 Accreditation BAPT # BPT-ZE-009/94-10
 Accredited Test Laboratories
 Radio Accredited BAPT # TTI-P-G 094/94-20
 EMC Accredited DATech # TTI-P-G 074/95-11
 Vehicle Test Acknowledgement # KBA-P 00026-96
 FCC Listing # 31040/SIT 1300F2

TÜV Pfalz Palatina S.r.l.
 Mr Alexander Höpfl
 Via Gavardini, 7
 I-25010 Ponte S. Marco (BS)

T: 00 39-30-96 36-6 19
 F: 00 39-30-96 36-4 13

Consulting • Planning • Research • Development
 Measuring • Expertises • Certification • Seminars

Your reference
 Order dated 1997-12-18

Our reference
 Ma/Kn/cl-X961455ECB

Date
 1998-03-02

Telephone: +49 - 91 94 - 90 16
 Telefax: +49 - 91 94 - 81 25
 E-mail: 106111.2702@compuserve.com
 Web site: http://www.emcc.de

Measurements on DELTA ELETTRONICA Transmitter, Type 7777, for Car Alarm System

TEST REPORT # EMCC X961455ECB, 1998-03-02

DELTA ELETTRONICA Transmitter, model 7777, was tested at EMCC Dr. Rašek Laboratories, Moggast, D-91320 Ebermannstadt, Germany, according to 47 cfr part 15.

All tests required by 47 cfr part 15 were passed.

EMCC DR. RAŠEK

tested:

Rainer Marckmann

checked:

Klaus Knörig

41 Pages
 # 3 of 3



Our reference

Ma/Kn/cl-X961455ECB

Date

1998-03-02

Page

Diese Informationen enthalten spezielles Fachwissen des Autors und unterliegen der dafür mit dem Empfänger dieser Informationen getroffenen Vereinbarung zur vertraulichen Behandlung spezieller Fachwissens. ABEI § 12 ist zu beachten. Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhaltes ist nicht gestattet, soweit nicht schriftlich genehmigt. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte für den Fall der Patenterteilung oder GM-Eintragung vorbehalten. Prüfergebnisse beziehen sich ausschließlich auf die Prüfgegenstände in der dokumentierten Konfiguration.

CONTENTS

1. Field Strength Limits
2. Radiated Emissions Test / Prescan
3. Radiated Emissions Test
4. Range of Modulation Bandwidth
5. Antenna Factors
6. List of Test Instruments

This document contains confidential information of the author and is subject to the provisions agreed with the recipient on the treatment of such documents. ABEI 1971, para. 12 shall be observed. Copying, as well as transference of this document to third parties, use and communication of its contents are prohibited without the written consent. Infringements of this agreement are liable to the payment of damages. All rights are reserved in the event of granting of patents or the registration of a utility model or design. Test results relate only to the items tested in the configuration as recorded.

2/41



Our reference

Date

Ma/Kn/cl-X961455ECB

1998-03-02

Diese Informationen enthalten spezielles Fachwissen des Autors und unterliegen der dafür mit dem Empfänger dieser Informationen getroffenen Vereinbarung zur vertraulichen Behandlung spezieller Fachwissens. ABEI § 12 ist zu beachten. Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhaltes ist nicht gestattet, soweit nicht schriftlich genehmigt. Zuwiderhandlungen verpflichten zu Schadensersatz. Alle Rechte für den Fall der Patenterteilung oder GM-Eintragung vorbehalten. Prüfergebnisse beziehen sich ausschließlich auf die Prüfgegenstände in der dokumentierten Konfiguration.

1. Field Strength Limits

1.1 Calculation of field strength limit of the fundamental frequency according to § 15.231:

$$\text{Limit} = \frac{433.92 - 260}{470 - 260} * (12500 - 3750) + 3750$$

$$\text{Limit} = 10996.6 \mu\text{V/m} = 80.825 \text{ dB}\mu\text{V/m}$$

1.2 Calculation of field strength limit of spurious emissions according to § 15.231:

$$\text{Limit} = \frac{433.92 - 260}{470 - 260} * (1250 - 375) + 375$$

$$\text{Limit} = 1099.6 \mu\text{V/m} = 60.825 \text{ dB}\mu\text{V/m}$$

1.3 The transmitter is manually operated and complies with the provisions of § 15.231 (a).
The transmitter is deactivated immediately after releasing the transmit key.

This document contains confidential information of the author and is subject to the provisions agreed with the recipient on the treatment of such documents. ABEI 1971, para. 12 shall be observed. Copying, as well as transfer of this document to third parties, use and communication of its contents are prohibited without the written consent. Infringements of this agreement are liable to the payment of damages. All rights are reserved in the event of granting of patents or the registration of a utility model or design. Test results relate only to the items tested in the configuration as recorded.

72
3/4/1

EMCC DR. RASEK

24. Jan 98 18:47

Ma

RADIATED INTERFERENCE TEST

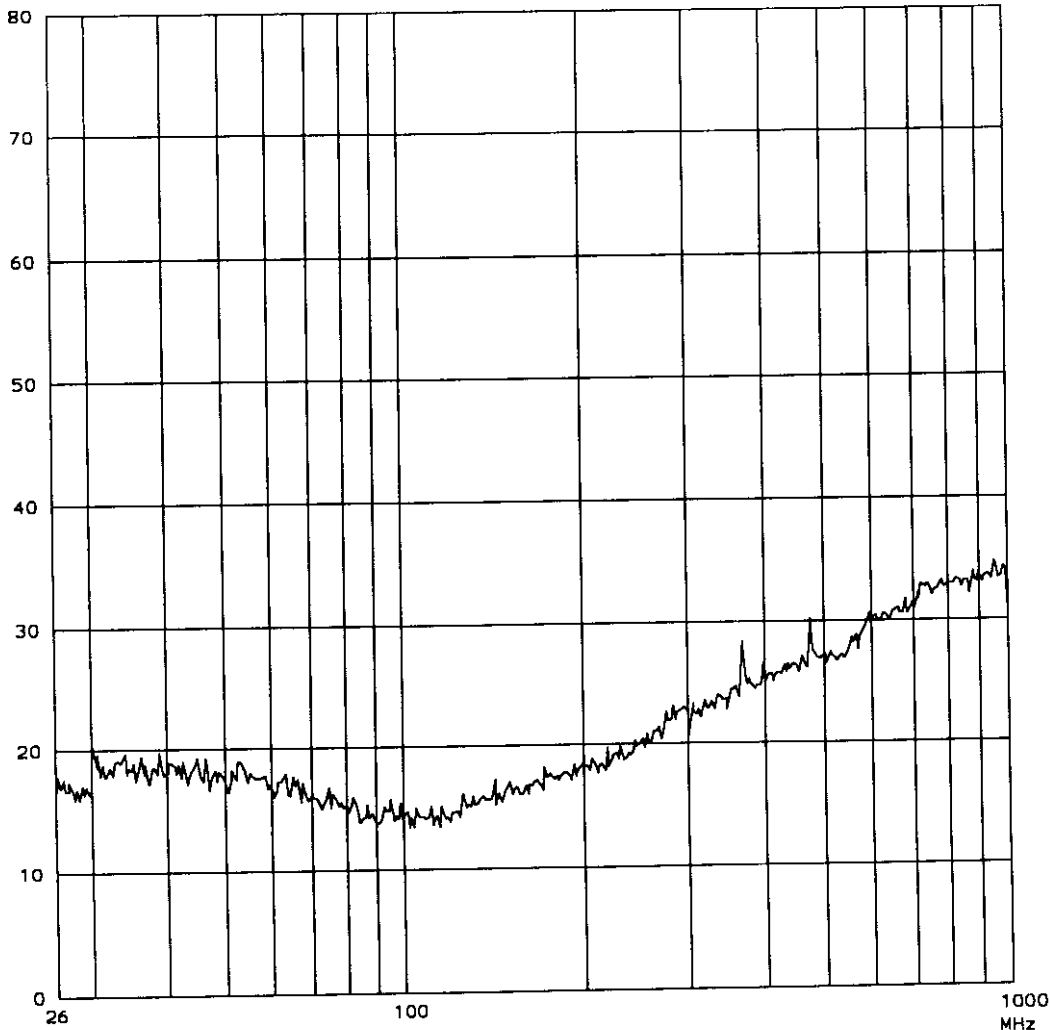
EUT: TX 7777
Manuf: DELTA ELETTRONICA
Op Cond: No key pressed (deactivated)
Operator: Ma
Test Spec: *CFR Part 15*
Comment: Anechoic chamber, 3m distance, biconilog. antenna
Vert. + horiz. polarization (Pre-Measurement)

Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
26M	30M	40k	120k	PK	1ms	AUTO	LN OFF	60dB
30M	300M	40k	120k	PK	1ms	AUTO	LN OFF	60dB
300M	1000M	40k	120k	PK	1ms	AUTO	LN OFF	60dB

Transducer	No.	Start	Stop	Name
	11	26M	1000M	3142_3m

dBuV/m

*Ma*

EMCC DR. RASEK

24. Jan 98 18:16

Ma

RADIATED INTERFERENCE TEST

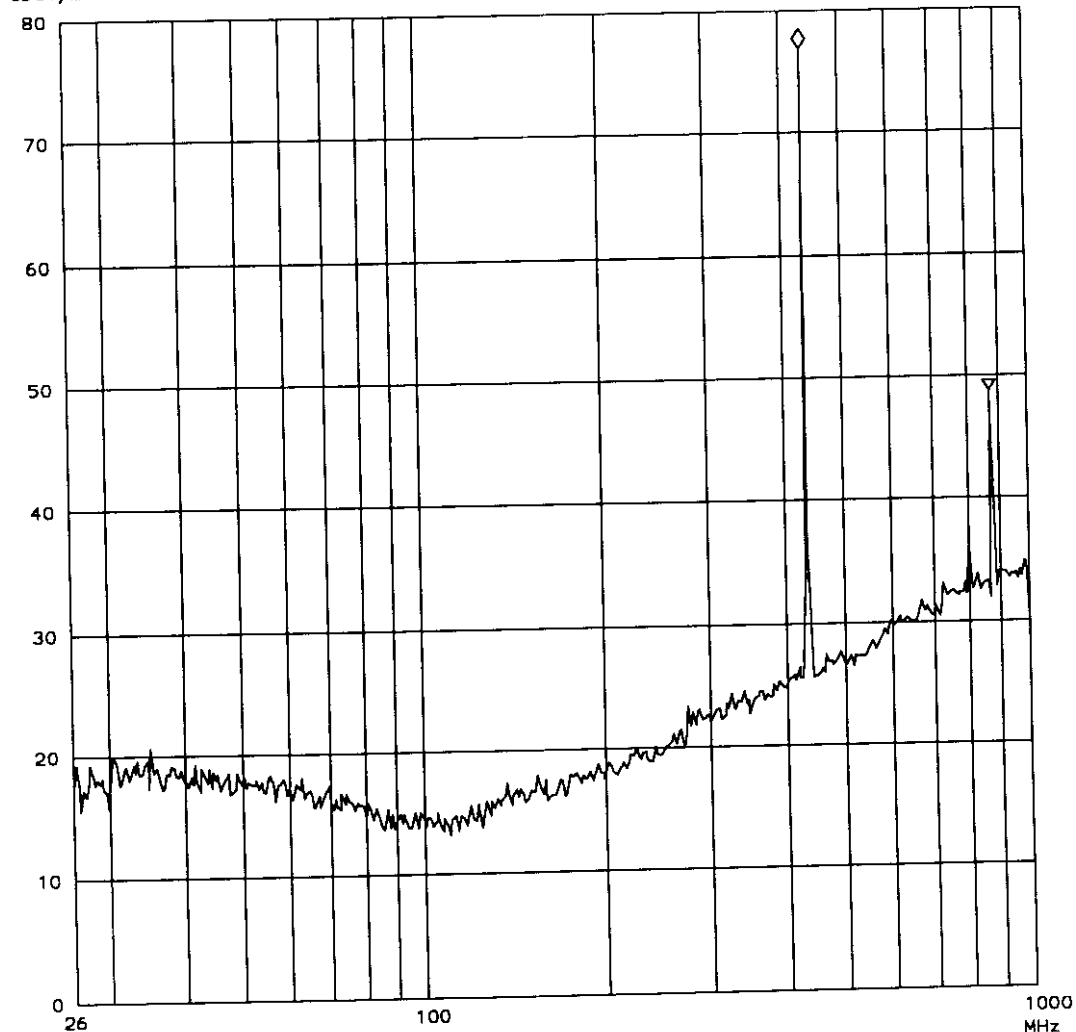
EUT: TX 7777
 Manuf: DELTA ELETTRONICA
 Op Cond: Transmit
 Operator: Ma
 Test Spec: *CFR Part 15*
 Comment: Anechoic chamber, 3m distance, biconilog. antenna
 Vert. + horiz. polarization (Pre-Measurement)

Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preampl	OpRge
26M	30M	40k	120k	PK	1ms	AUTO	LN OFF	60dB
30M	300M	40k	120k	PK	1ms	AUTO	LN OFF	60dB
300M	1000M	40k	120k	PK	1ms	AUTO	LN OFF	60dB

Transducer	No.	Start	Stop	Name
11	26M	1000M	3142_3m	

◇ Mkr : 433.8800 MHz 76.8 dBuV/m
 ▽ Delta: 433.8800 MHz -28.0 dB

*R*

Projekt#	X961455ECB	Date	Name
gemessen, tested:		98-01-25	Marckmann
geprüft, checked:		98-03-03	72

FCC §15.109 Class B

Antenna: EMCO 3143, 3m

Meßabstand, Test Distance: 3 m

Gerätetyp, Unit type:	Transmitter 7777
Ser.-Nr., S/N:	none
Betr.-Zustand, Oper. condition:	No key pressed (deactivated)
Hersteller, Manufacturer:	DELTA ELETTRONICA

[illegible]

Bemerkungen, Remarks:

☒ erfüllt, mit
☐ nicht erfüllt, not met

9/4/11

EMCC DR. RASEK

Moggast

D-91320 Ebermannstadt

Projekt#	X961455ECB	Date	Name
gemessen, tested:		98-01-25	Marckmann <i>Ma</i>
geprüft, checked:		98-03-03	<i>R</i>

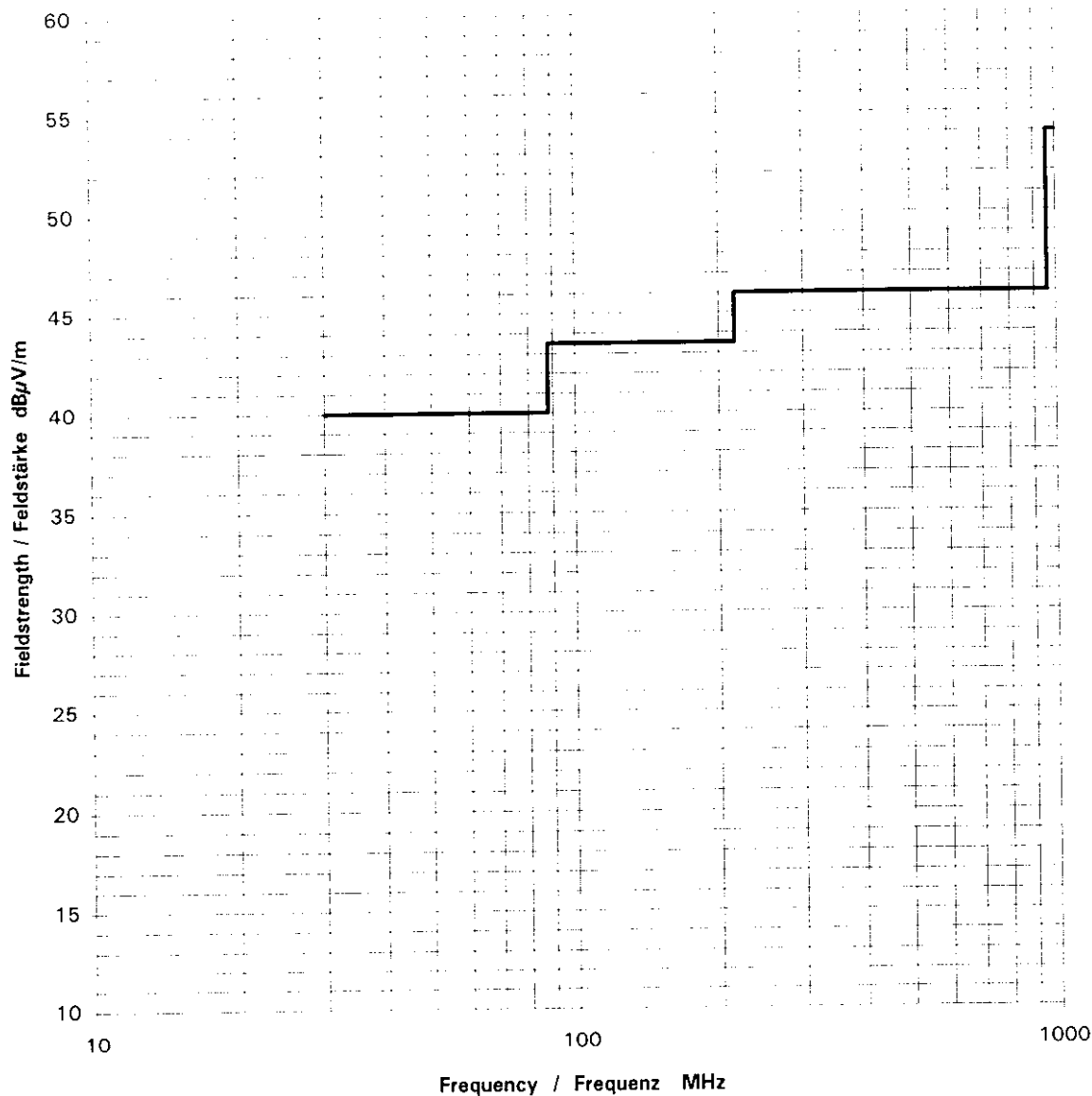
Field Intensity Test, Feldstärkemessung

FCC §15.109 Class B

Antenna: EMCO 3143, 3m

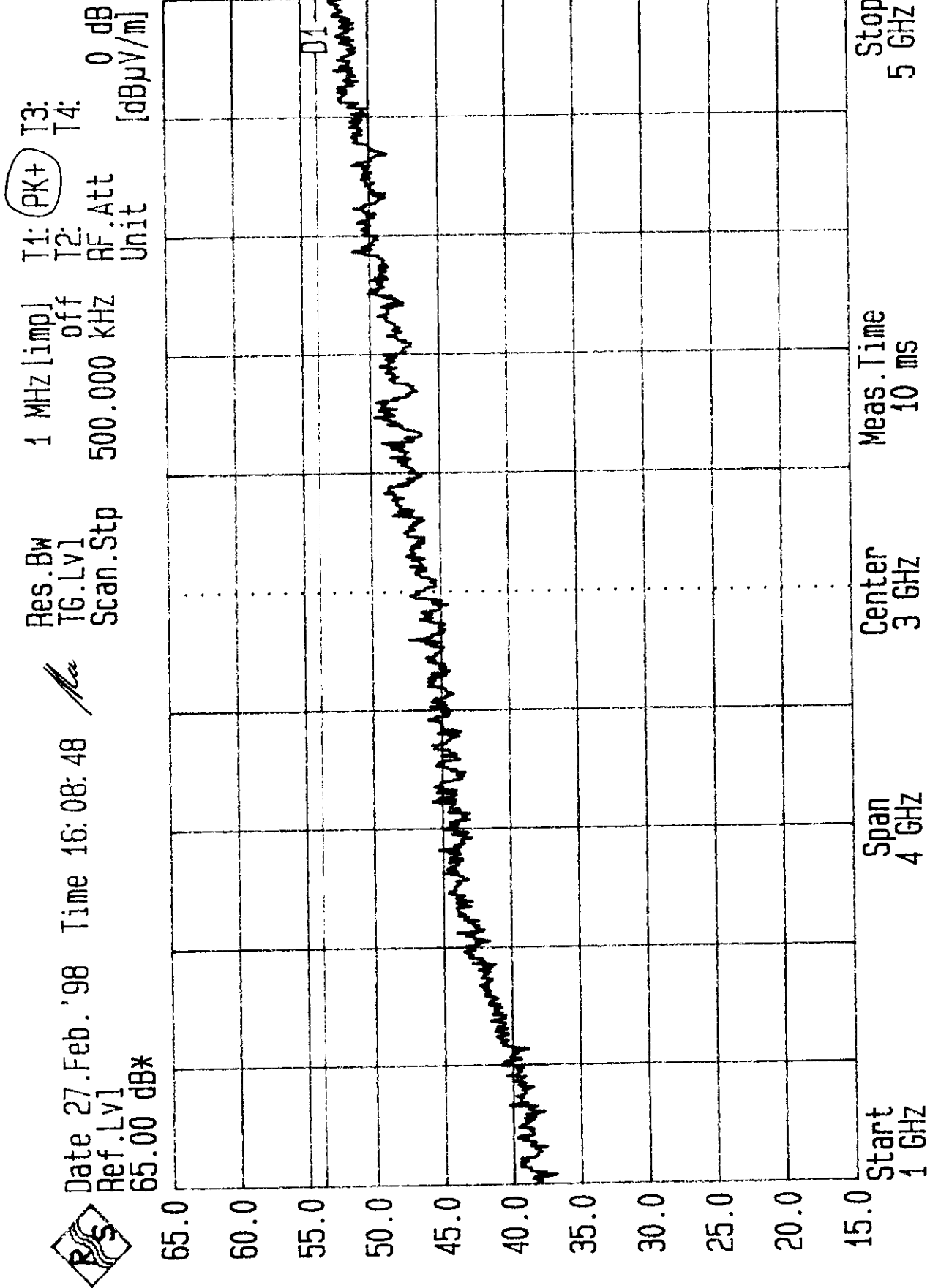
Meßabstand, Test Distance: 3 m

Gerätetyp, Unit type:	Transmitter 7777
Ser.-Nr., S/N:	none
Betr.-Zustand, Oper. condition:	No key pressed (deactivated)
Hersteller, Manufacturer:	DELTA ELETTRONICA



● Result, Meßergebnis — Limit, Grenzwert

10/41



TX off, no key pressed

☒ erfüllt, mit
☐ nicht erfüllt, nur mit

EMCC DR. RASEK

Moggast

D-91320 Ebermannstadt

Projekt#	X961455ECB	Date	Name
gemessen, tested:		98-01-25	Marckmann <i>Ma</i>
geprüft, checked:		98-03-03	RC

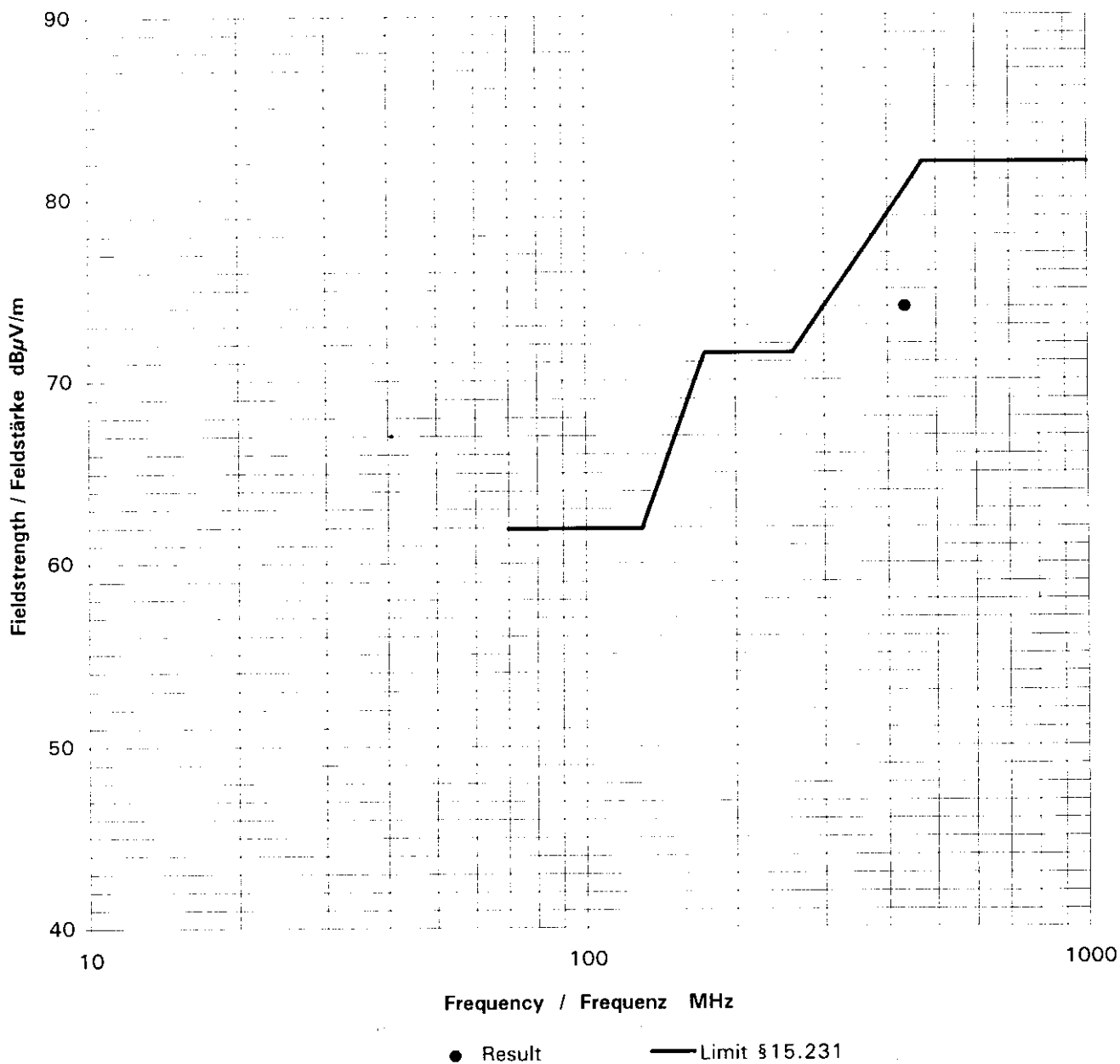
Field Intensity Test, Feldstärkemessung

FCC §15.231 fundamental frequency

Antenna: EMCO 3143, 3m

Meßabstand, Test Distance: 3 m

Gerätetyp, Unit type:	Transmitter 7777
Ser.-Nr., S/N:	none
Betr.-Zustand, Oper. condition:	Transmit mode
Hersteller, Manufacturer:	DELTA ELETTRONICA



EMCC DR. RASEK
Moggast
D-91320 Ebermannstadt

Projekt#	X961455ECB	Date	Name
gemessen, tested:		98-01-25	Marckmann <i>Ma</i>
geprüft, checked:		98-03-03	<i>TR</i>

Field Intensity Test, Feldstärkemessung

FCC §15.231 spurious emissions

Meßabstand, Test Distance:	3 m	Antennas:	EMCO 3143 EMCO 3115
----------------------------	-----	-----------	------------------------

Gerätetyp, Unit type:	Transmitter 7777
Ser.-Nr., S/N:	none
Betr.-Zustand, Oper. condition:	Transmit mode
Hersteller, Manufacturer:	DELTA ELETTRONICA

[illegible]

Bemerkungen, Remarks:

~~X~~ erfüllt, met

* measured at 1m distance
(signal not

EMCC DR. RASEK
Moggast
D-91320 Ebermannstadt

Projekt#	X961455ECB	Date	Name
gemessen, tested:		98-01-25	Marckmann <i>Ma</i>
geprüft, checked:		98-03-03	<i>RT</i>

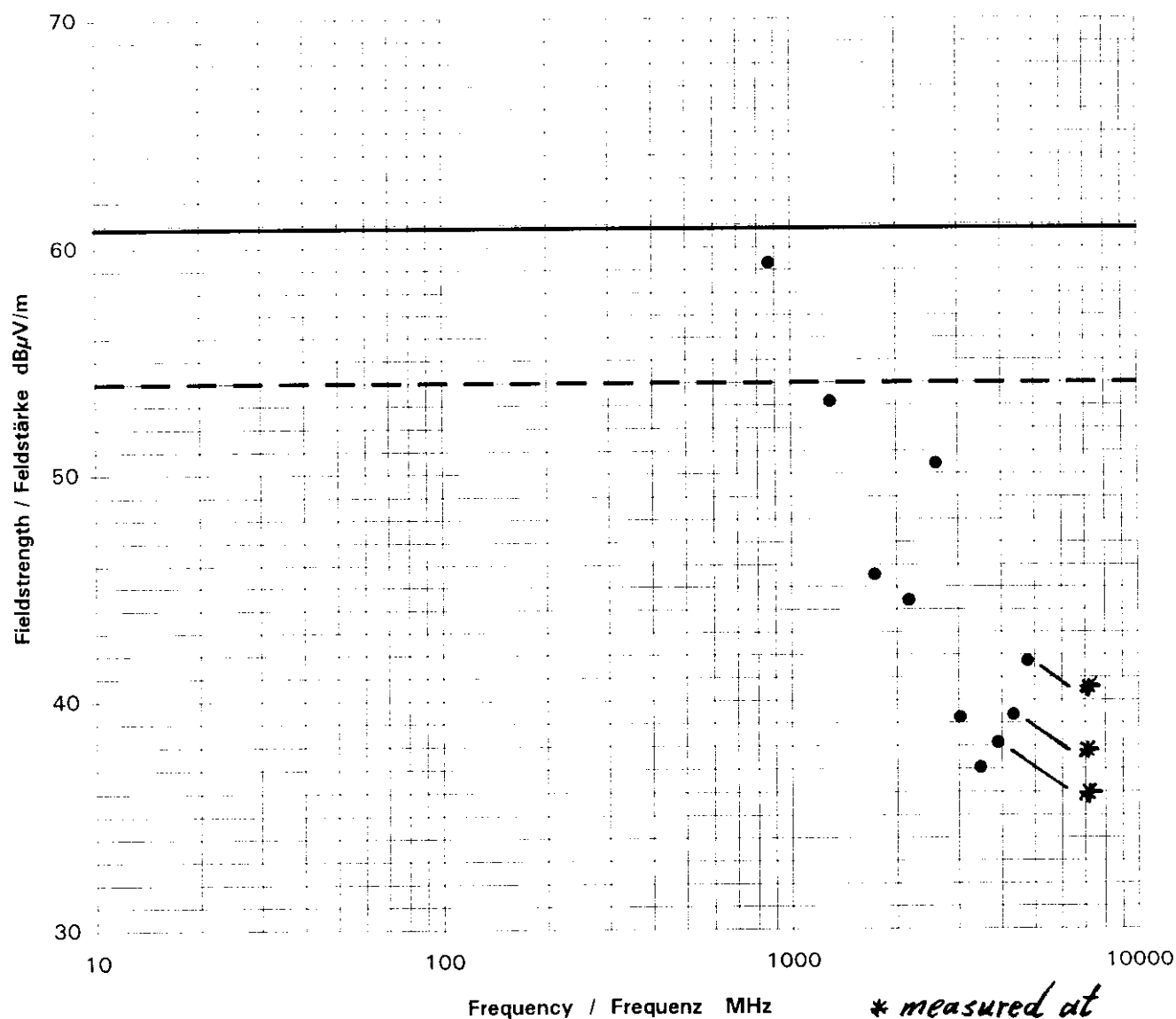
Field Intensity Test, Feldstärkemessung

FCC §15.231 spurious emissions

Antennas: EMCO 3143

Meßabstand, Test Distance: 3 m

Gerätetyp, Unit type:	Transmitter 7777
Ser.-Nr., S/N:	none
Betr.-Zustand, Oper. condition:	Transmit mode
Hersteller, Manufacturer:	DELTA ELETTRONICA



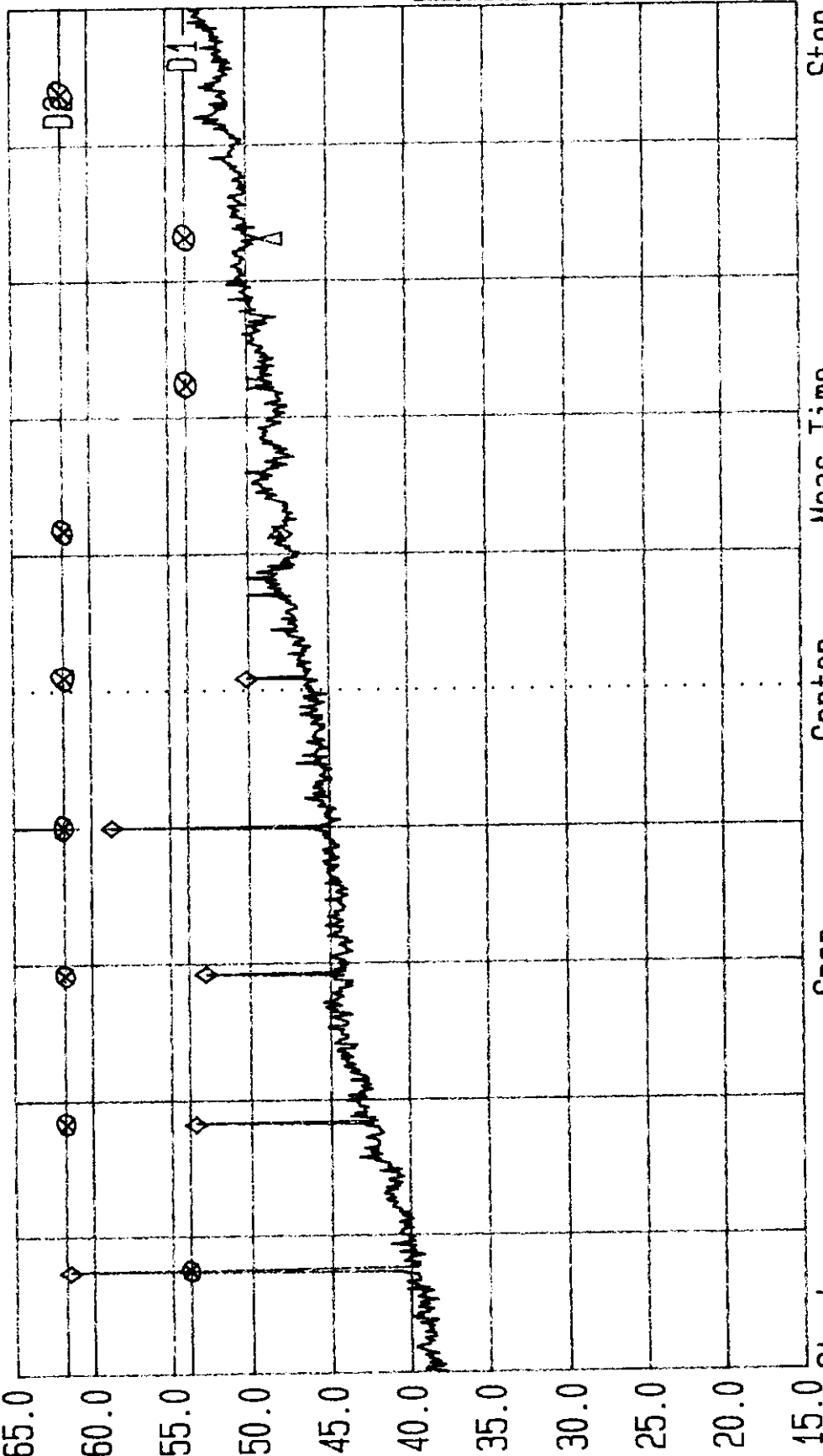
● Result — Limit §15.231 — — Limit restricted bands §15.205



Date 09.Feb.'98 Time 20:07:35
Ref.Lvl Delta 0.88 dB
65.00 dB* 428.8 MHz

Res.Bw 1 MHz [imp]
TG.Lvl off
Scan.Stp 500.000 kHz
Unit [dBuV/m]

T1: (PK+) T3:
T2: off T4:
RF.Att 0 dB



limit acc.
to § 15.231
60.8 dBuV/m

limit acc.
to § 15.209
54.0 dBuV/m

Ma/Kn/cl-X961455ECB

FCC ID: ...7777

1998-03-02

3.9

TT 2 PA 10

Start 1 GHz Stop 5 GHz
Center 3 GHz
Span 4 GHz
Meas.Time 10 ms

⊗ applicable average limit

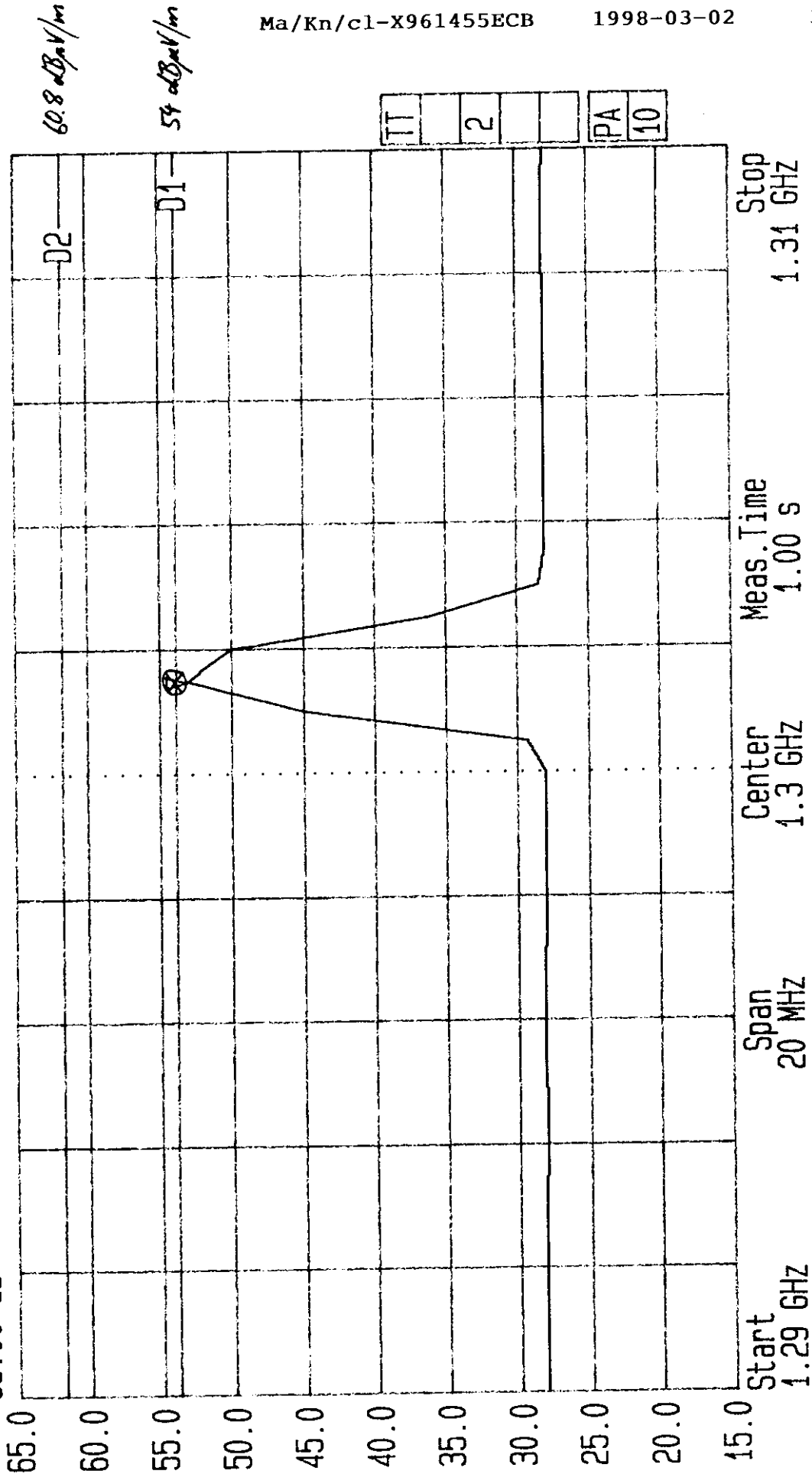
Transmitter 7777 activated
Distance between EUT and Antenna: 3 m



Date 09.Feb.'98 Time 20:59:19
 Ref.Lvl 65.00 dBx
 Marker 53.16 dBx
 1.30148 GHz

Res.BW 1 MHz [imp]
 TG.Lvl Off
 Scan.Stp 500.000 kHz

T1: (AVG)
 T2: 0 dB
 RF.Att Unit [dBuV/m]



Start 1.29 GHz Stop 1.31 GHz
 Center 1.3 GHz
 Span 20 MHz
 Meas.Time 1.00 s

⊗ appl. average limit

Transmitter 7777 activated
 Distance between EUT and Antenna: 3 m

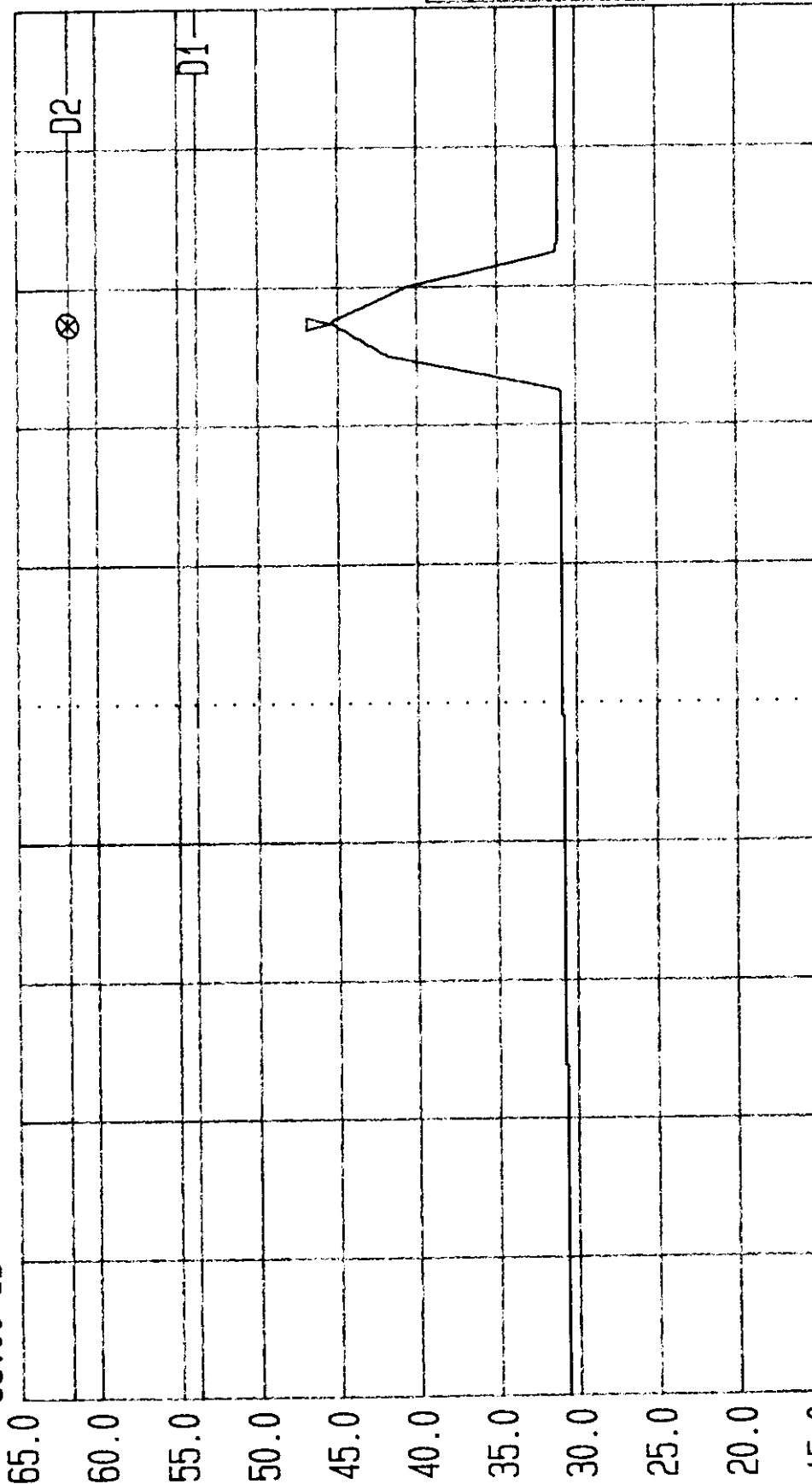
2



Date 09.Feb.'98 Time 21:08:50
 Ref.Lvl 65.00 dB* Marker 45.55 dB*
 1.73548 GHz

Res.Bw 1 MHz [imp]
 TG.Lvl Off
 Scan.Stp 500.000 kHz

T1: 0 dB
 T2: RF Att
 T3: Unit [dBμV/m]
 T4: 0 dB



60.8 dBμV/m

54 dBμV/m

TT 2 PA 10

Meas.Time 1.00 s Center 1.73 GHz Span 20 MHz Stop 1.74 GHz

Transmitter 7777 activated
 Distance between EUT and Antenna: 3 m

⊗ appl. average limit

18/44



Date 09.Feb.'98 Time 21:29:59

Ref.Lvl 65.00 dBx

Marker

44.40 dBx
2.16948 GHz

Res.Bw
TG.Lvl

Scan.Stp

1 MHz [imp]
Off

500.000 kHz

T1: (AVG)
T2:

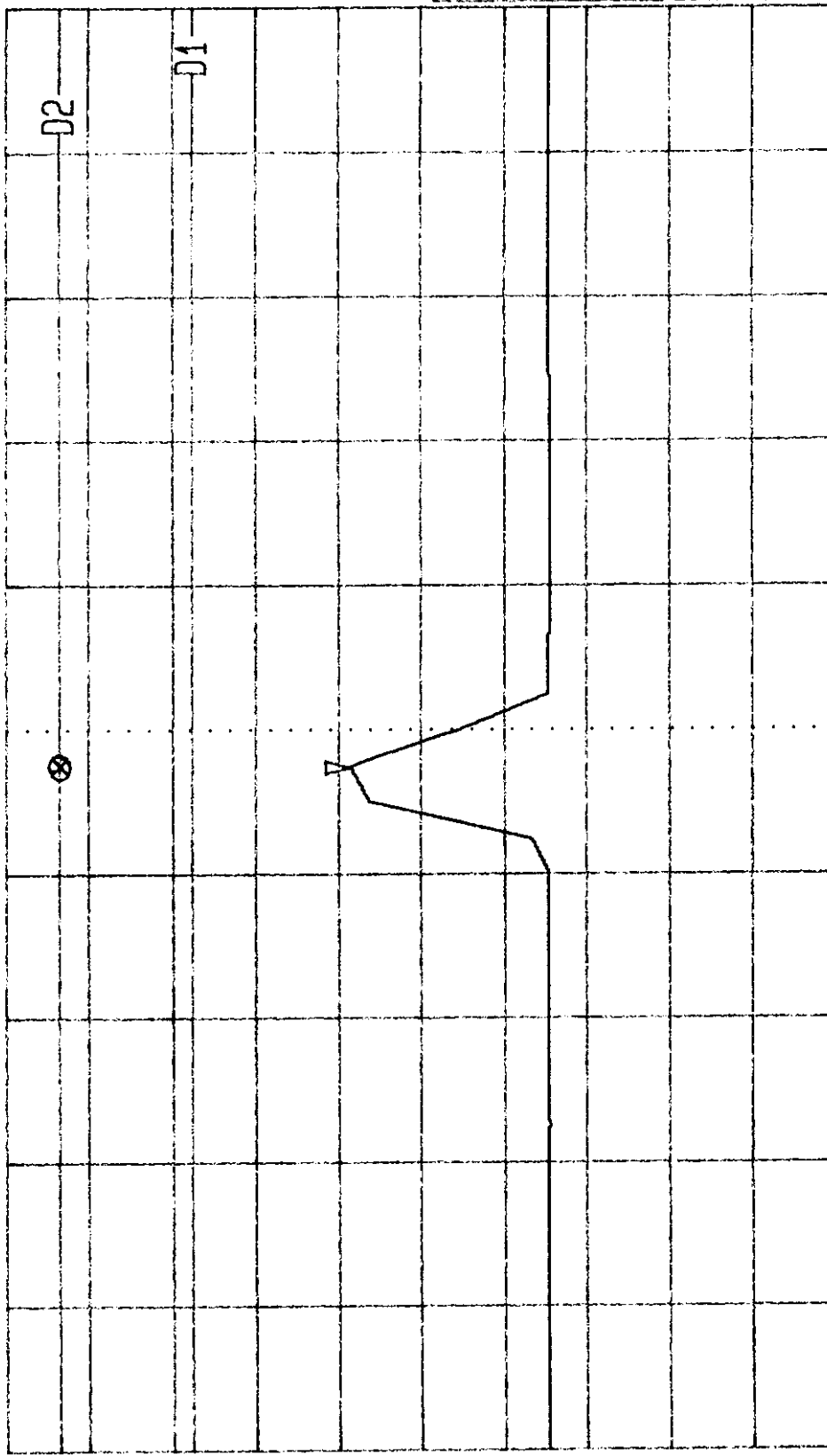
RF.Att

Unit [dBμV/m]

T3:

T4: 0 dB

65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0



Start 2.16 GHz
Span 20 MHz
Center 2.17 GHz
Meas.Time 1.00 s
Stop 2.18 GHz

TT
2
PA
10

Transmitter 7777 activated

Distance between EUT and Antenna: 3 m

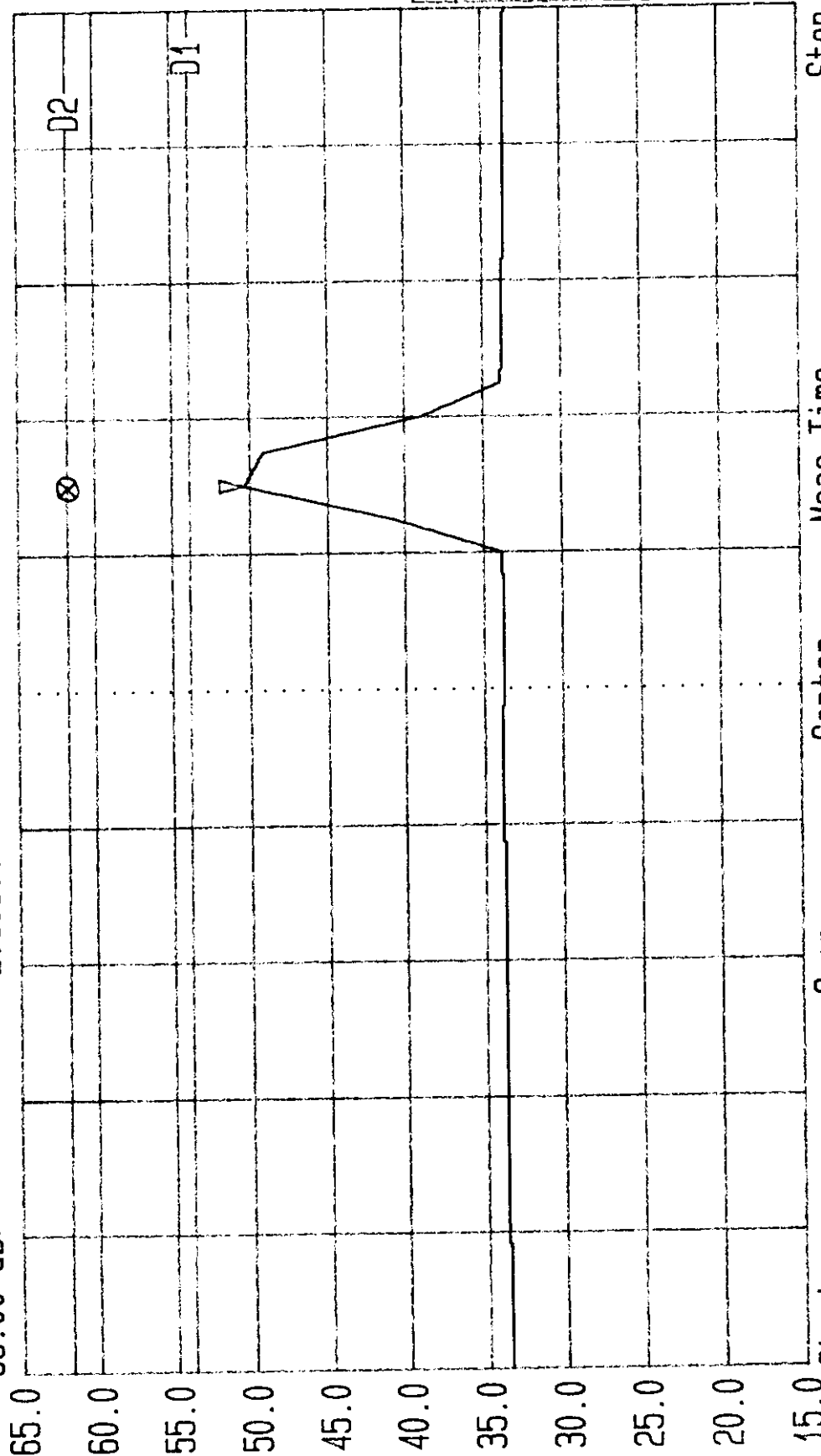
⊗ appl. average limit



Date 09.Feb.'98 Time 21:50:13
 Ref.Lvl 65.00 dB* Marker 50.44 dB*
 2.60300 GHz

Res.BW 1 MHz [imp]
 TG.Lvl Off
 Scan.Stp 500.000 kHz

T1: (AVG) T3: 0 dB
 T2: RF Att
 Unit [dBμV/m]



Start 2.59 GHz Stop 2.61 GHz
 Center 2.6 GHz
 Span 20 MHz
 Meas.Time 1.00 s

Transmitter 7777 activated

Distance between EUT and Antenna: 3 m

⊗ appl. average limit

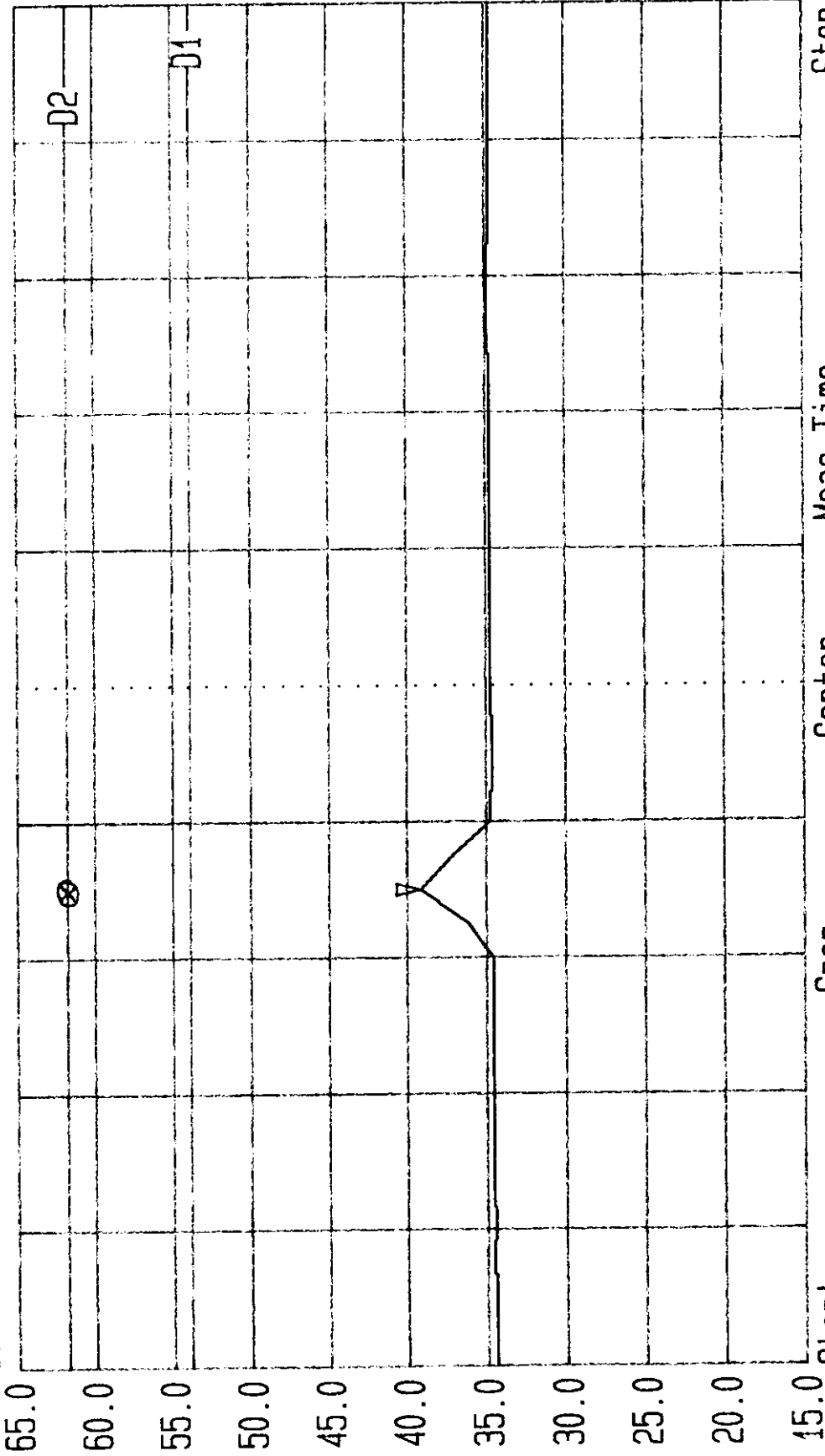
TT 2 PA 10

T1: (AVG) T3:
 T2: T4:
 RF Att 0 dB
 Unit [dBμV/m]

1 MHz [imp]
 off
 500.000 kHz

Res.BW
 TG.Lvl
 Scan.Stp

Date 09.Feb.'98 Time 22:00:47 *Ma*
 Ref.Lvl 65.00 dB*
 Marker 39.24 dB*
 3.03700 GHz



IT
 2
 PA
 10

Start 3.03 GHz Stop 3.05 GHz
 Center 3.04 GHz
 Span 20 MHz
 Meas.Time 1.00 s

⊗ appl. average limit

Transmitter 7777 activated

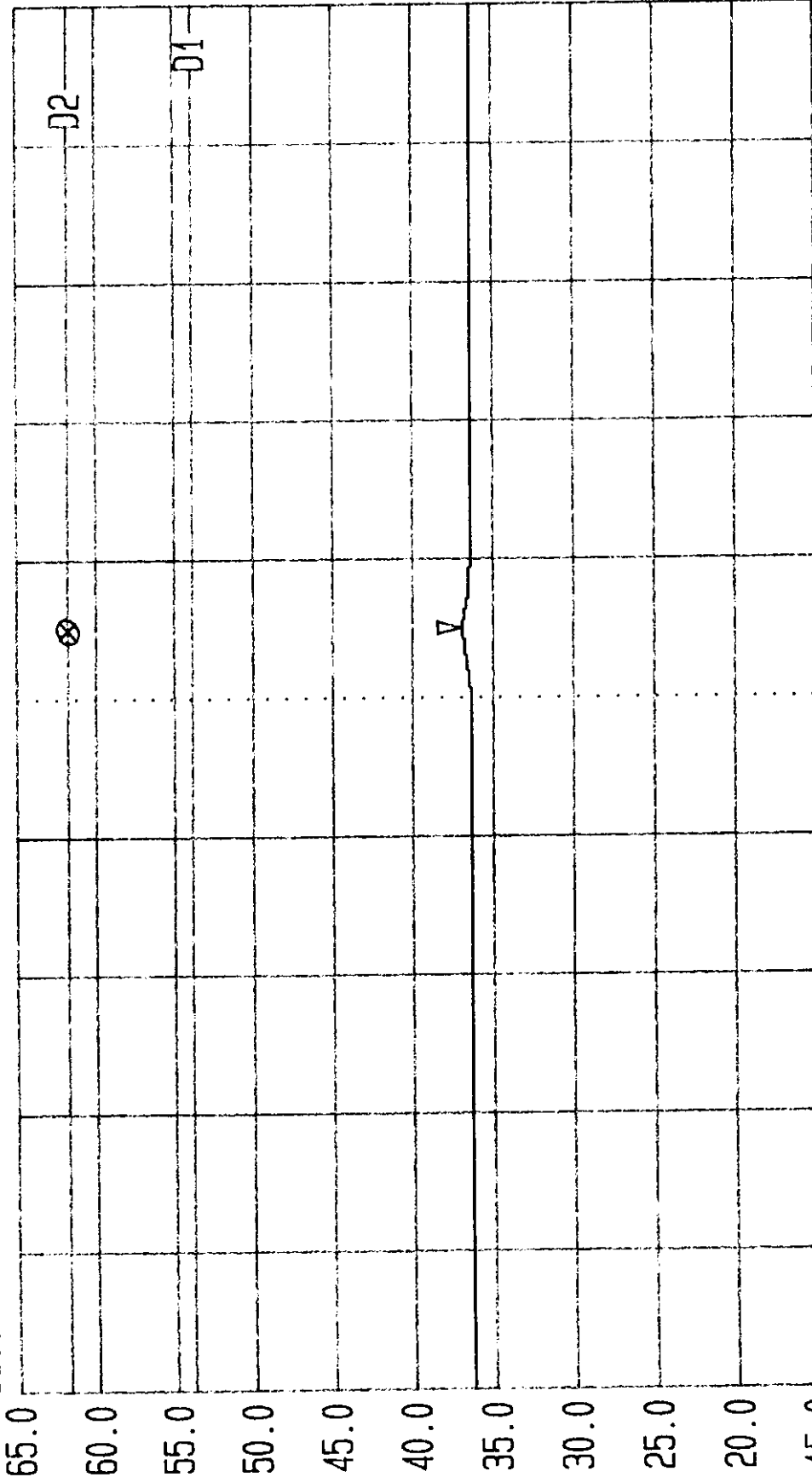
Distance between EUT and Antenna: 3 m



Date 09.Feb.'98 Time 22:17:52
 Ref.Lvl 65.00 dBx
 Marker 37.05 dBx
 3.47100 GHz

Res.Bw 1 MHz [imp]
 T6.Lvl Off
 Scan.Stp 500.000 kHz

T1: (AVG) T3:
 T2: RF.Att 0 dB
 Unit [dBμV/m]



Start 3.46 GHz Span 20 MHz Center 3.47 GHz Meas.Time 1.00 s Stop 3.48 GHz

Transmitter 7777 activated

Distance between EUT and Antenna: 3 m

⊗ appl. average limit

TT 2 PA 10



Date 09.Feb.'98 Time 23:04:54
 Ref.Lvl 65.00 dBx
 Marker 38.13 dBx
 3.90500 GHz

Res.Bw
 TG.Lvl
 Scan.Stp

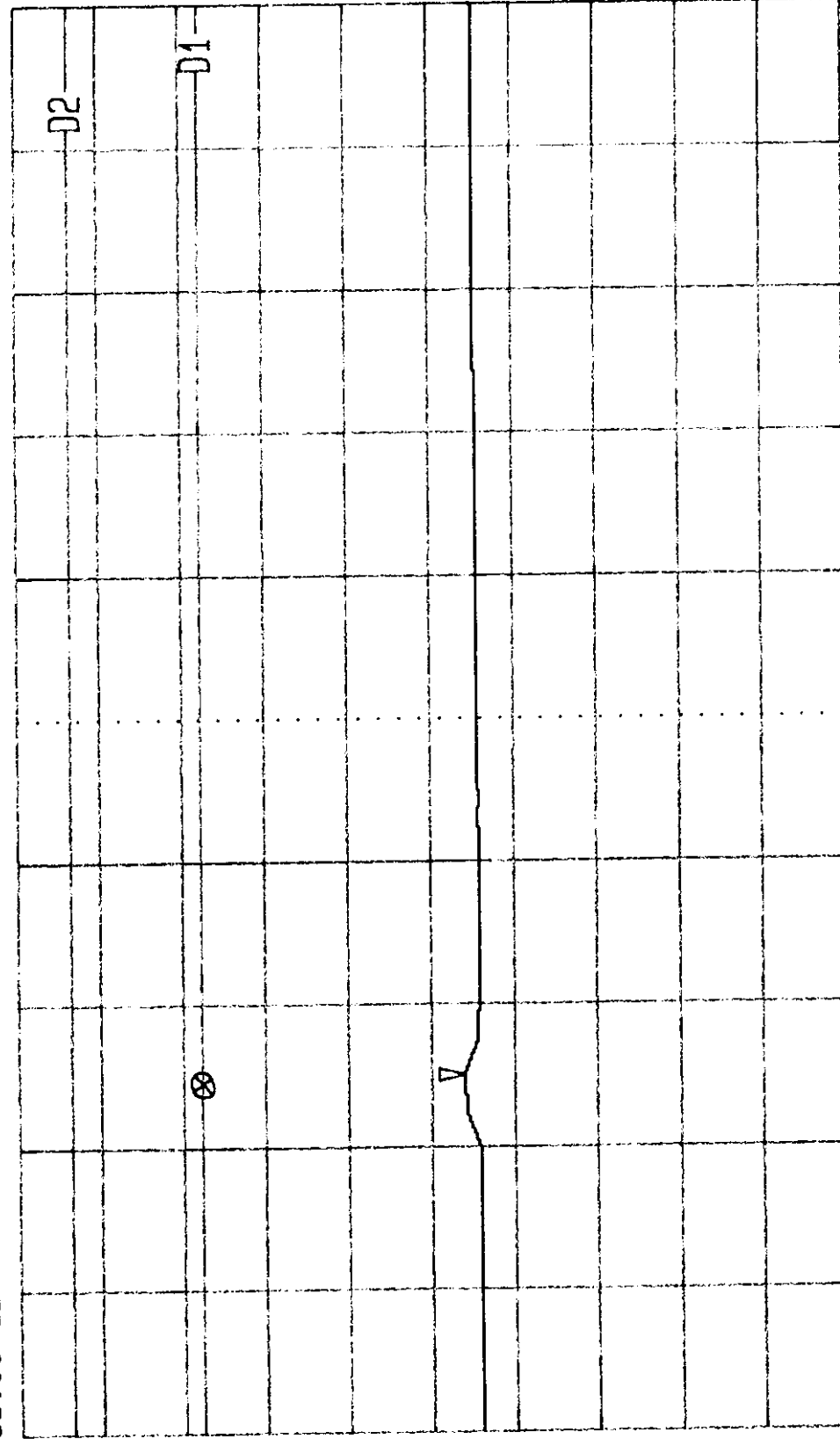
1 MHz [imp]
 Off
 500.000 kHz

T1: (AVG)
 T2:
 RF.Att
 Unit [dBμV/m]

T3:
 T4:

0 dB

65.0
 60.0
 55.0
 50.0
 45.0
 40.0
 35.0
 30.0
 25.0
 20.0
 15.0



60.8 dBμV/m

54 dBμV/m

TT
 2
 PA
 10

Start 3.9 GHz Stop 3.92 GHz
 Span 20 MHz Center 3.91 GHz Meas.Time 1.00 s

Transmitter 7777 activated
 Distance between EUT and Antenna: 1 m

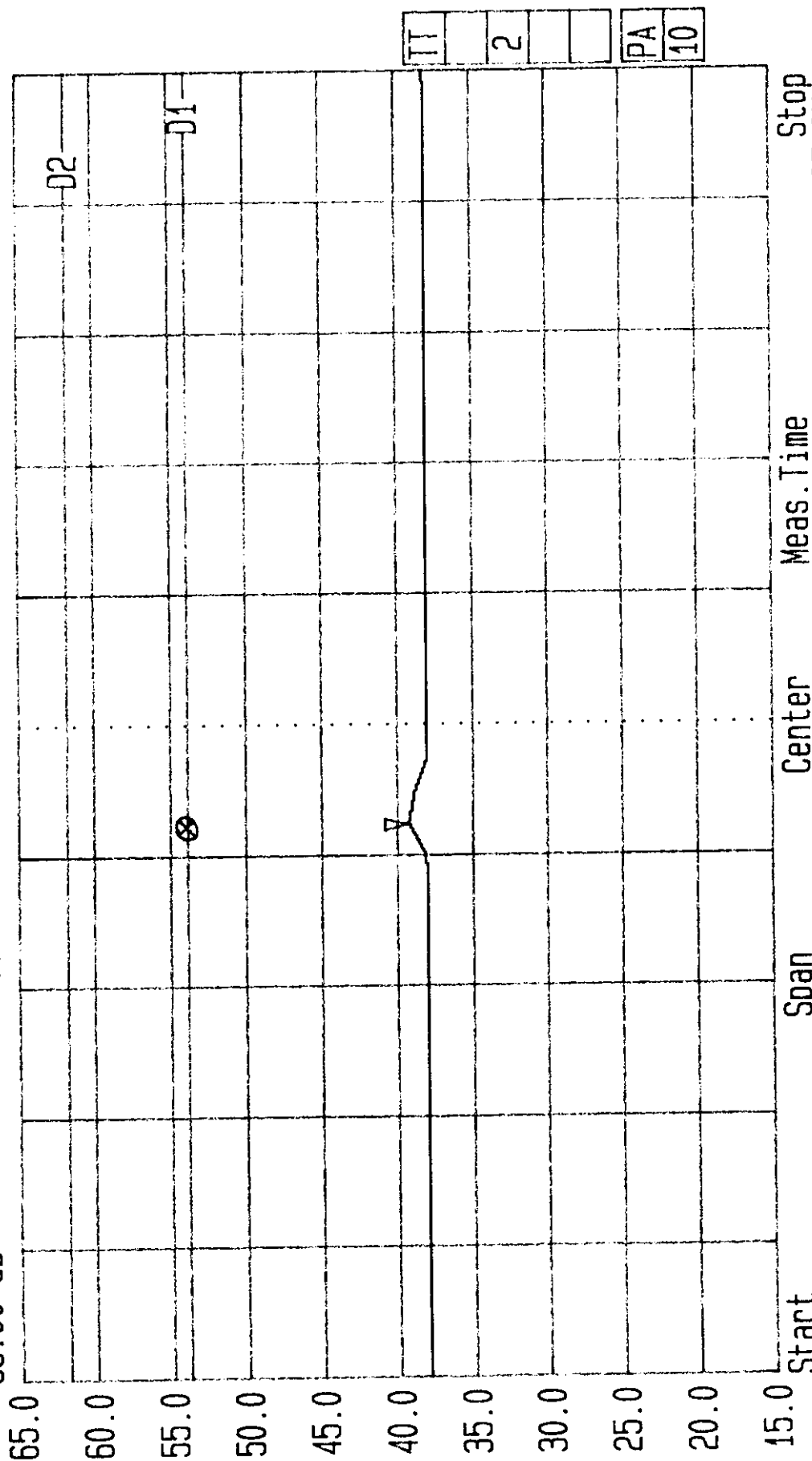
⊗ appl. average limit



Date 09.Feb.'98 Time 22:42:19
 Ref.Lvl 65.00 dB* Marker 39.34 dB*
 4.33848 GHz

Res.Bw 1 MHz [imp]
 TG.Lvl Off
 Scan.Stp 500.000 kHz

T1: (AVG) T3: 0 dB
 T2: RF.Att Unit [dBμV/m]



PA 10
 2

Transmitter 7777 activated
 Distance between EUT and Antenna: 1 m

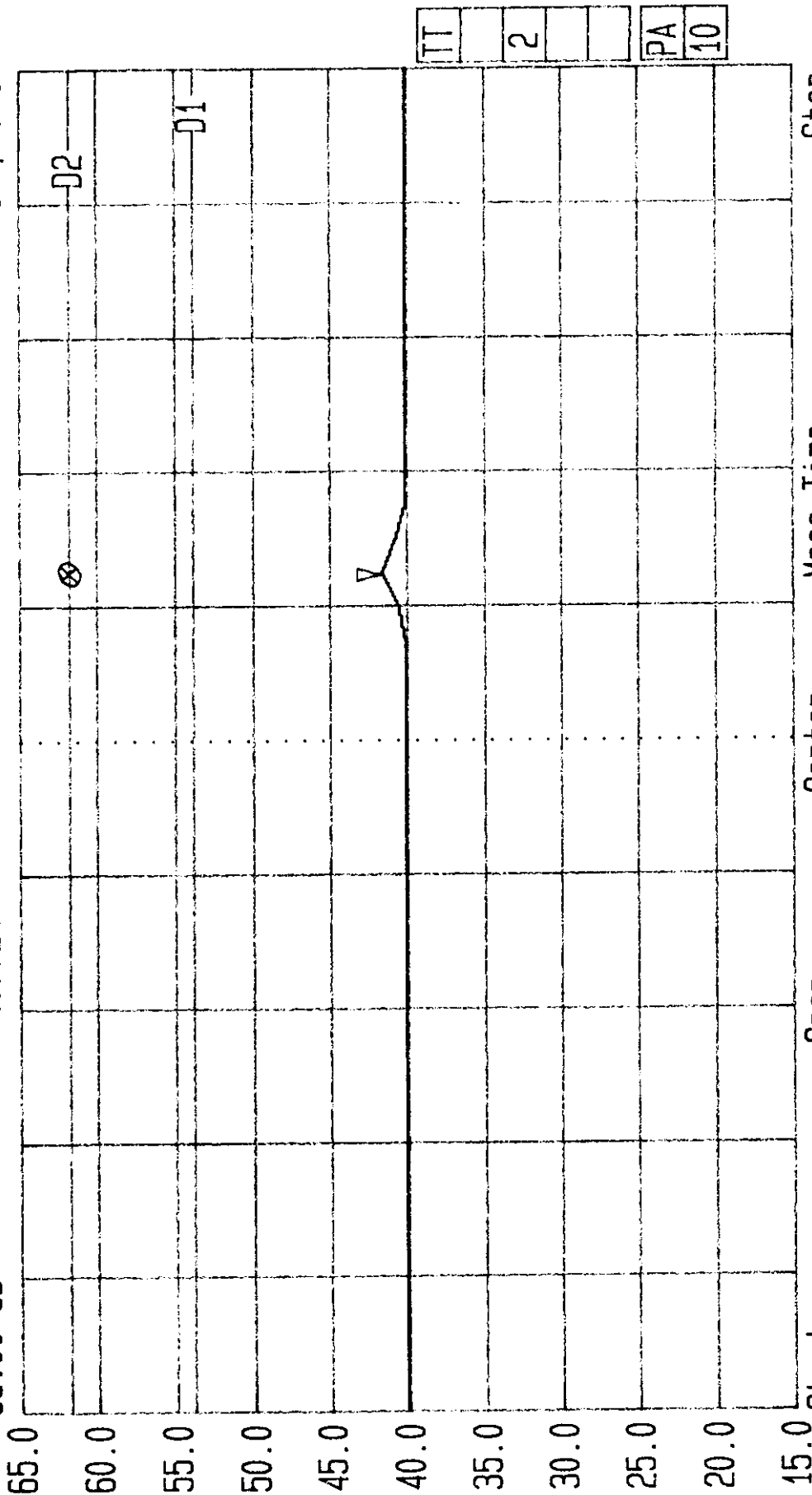
⊗ appl. average limit



Date 09.Feb.'98 Time 22:54:24
 Ref.Lvl 65.00 dB* Marker 41.71 dB*
 4.77248 GHz

Res.Bw 1 MHz [imp]
 TG.Lvl Off
 Scan.Stp 500.000 kHz

T1: (AVG) T3: 0 dB
 T2: RF Att
 Unit [dBμV/m]



⊗ appl. average limit

Ref.Lvl
-30.00 dBm

Marker
433.862 MHz

Res.Bw
120.9 kHz [3dB]

TG.Lvl
off

CF.Stp
500.000 kHz

Vid.Bw
300 kHz

RF.Att
10 dB

Unit
[dBm]

Date 27-Jan-'98 Time 11:36:38

Ref.Lvl
-30.00 dBm

Marker
433.862 MHz

Res.Bw
120.9 kHz [3dB]

TG.Lvl
off

CF.Stp
500.000 kHz

Vid.Bw
300 kHz

RF.Att
10 dB

Unit
[dBm]

Date 27-Jan-'98 Time 11:36:38

Ref.Lvl
-30.00 dBm

Marker
433.862 MHz

Res.Bw
120.9 kHz [3dB]

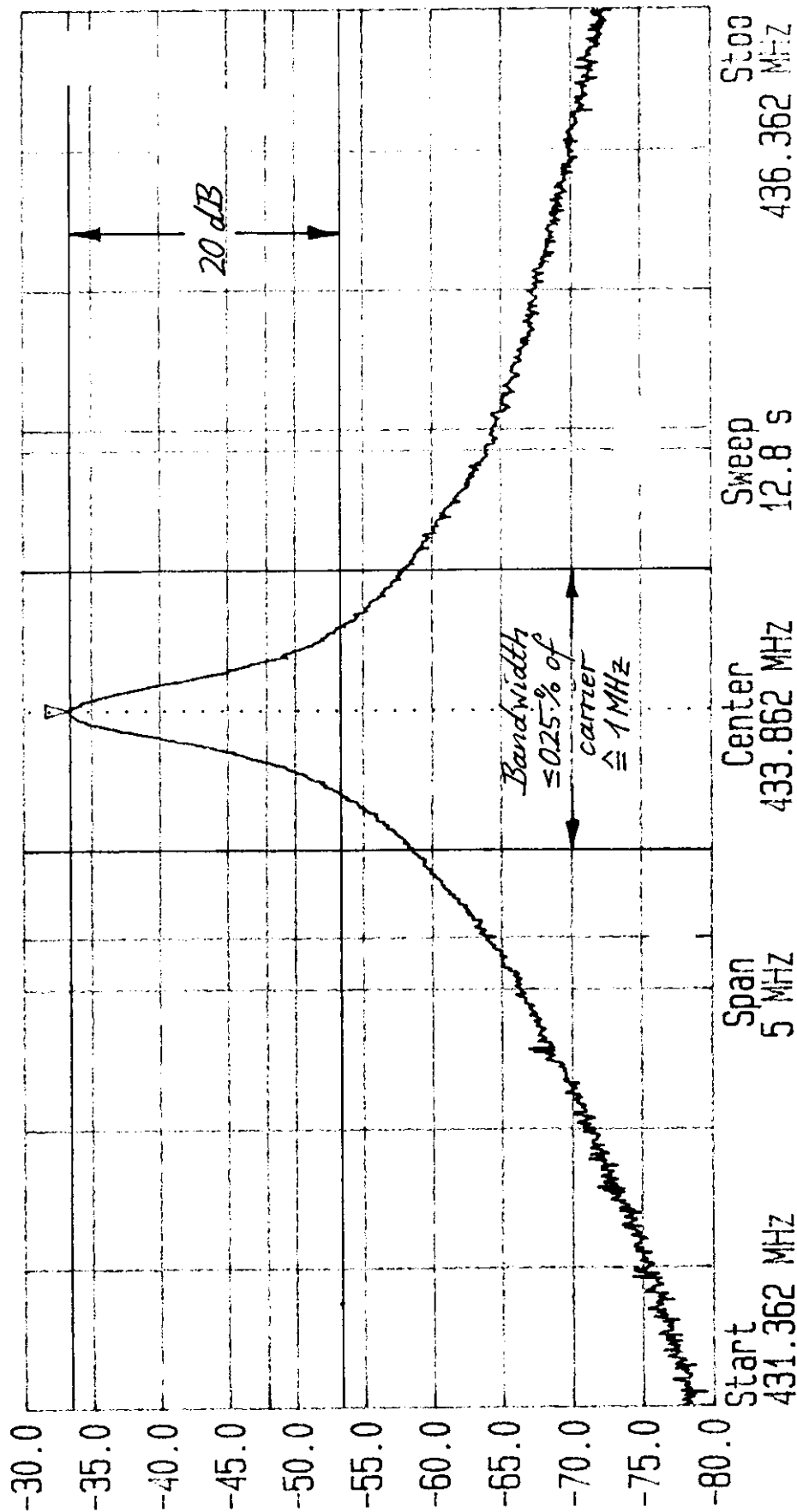
TG.Lvl
off

CF.Stp
500.000 kHz

Vid.Bw
300 kHz

RF.Att
10 dB

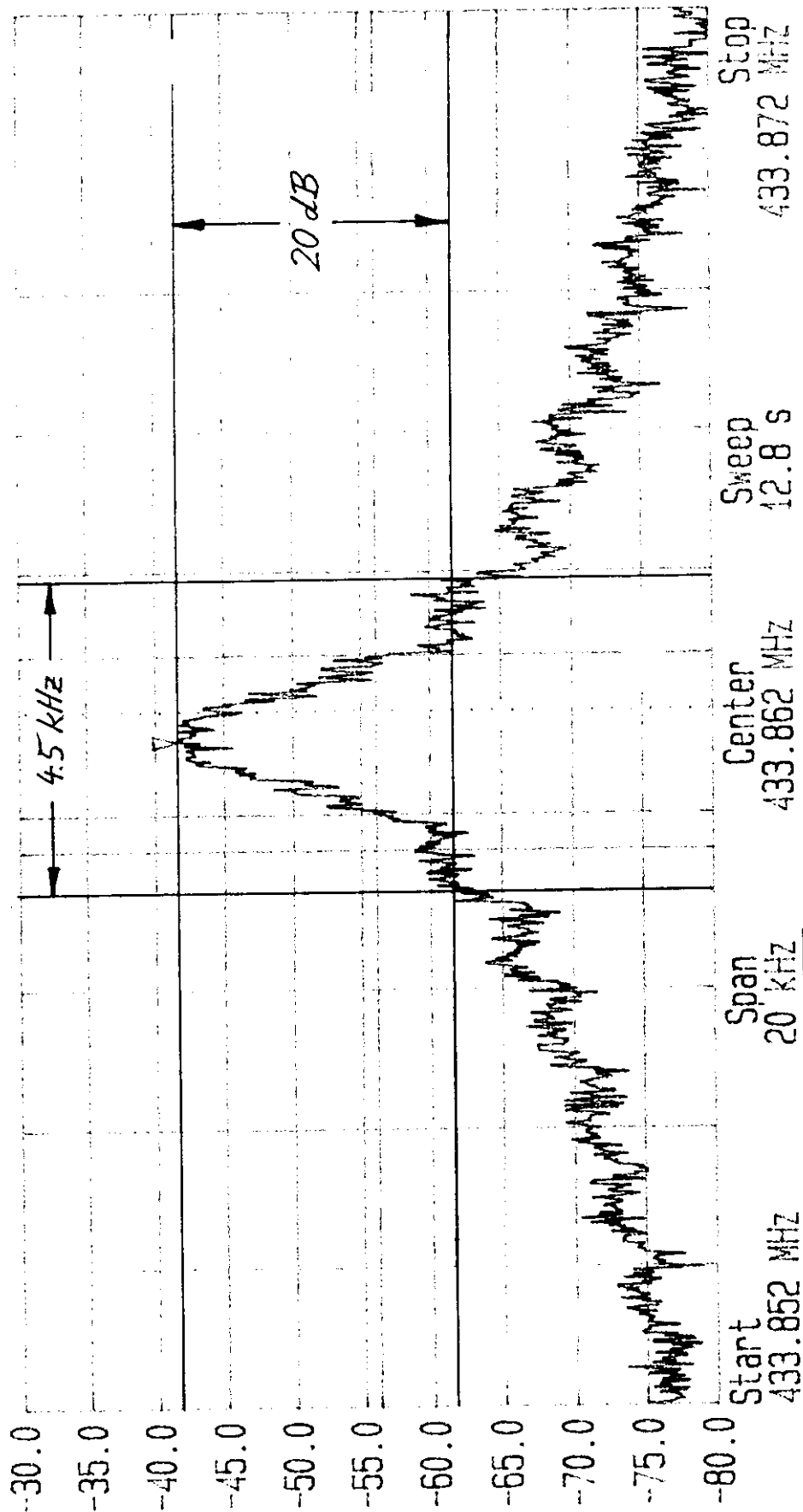
Unit
[dBm]



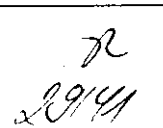
Transmitter 7777 activated
nom. voltage, 20°C

Res.BW 100.0 Hz (3dB)
 10 kHz
 2.000 kHz
 RF Att
 Unit

Ref.Lvl -30.00 dBm
 Marker 433.86157 MHz
 Date 27 Jan. '98 Time 11:05:19
 -41.51 dBm



Transmitter 7777 activated
 nom. voltage, 20°C

5. Antenna Factor		EMCO 3143	S/N 1269
Frequency MHz		Antenna Factor 3 m with cable attenuation (cable reel + 10 m coaxial line link) dB (1/m)	
26		13,3	
28		13,3	
30		13,2	
40		10,5	
50		7,4	
60		6,9	
70		8,5	
80		9,5	
90		9,1	
100		8,5	
110		8,3	
120		8,5	
130		9,5	
140		11,4	
150		11,8	
160		10,9	
170		10,7	
180		11	
190		11,4	
200		12	
225		12,9	
250		14,3	
275		15,7	
300		17,2	
325		17,6	
350		17,5	
375		17,8	
400		18,7	
425		19,1	
450		20,1	
475		20,7	
500		20,9	
525		22	
550		22,8	
575		22,9	
600		23,4	
625		23,8	
650		24,2	
675		24,4	
700		24,9	
725		24,9	
750		25,6	
775		25,9	
800		25,6	
825		26,3	
850		26,5	
875		27	
900		27,7	
925		27,5	
950		27,6	
975		28,2	
1000		28,8	
EMCC DR. RASEK Moggast 91320 Ebermannstadt			

GAIN AND ANTENNA FACTORS
EMCO MODEL 3115
DOUBLE RIDGED GUIDE ANTENNA

S/N 2073

1 METER CALIBRATION ($r = 1 \text{ m}$)

FREQUENCY (MHz)	NUMERIC GAIN G_i	POWER GAIN g_i	NUMERIC GAIN related to half-wave dipole $G_{D/2}$	POWER GAIN (dB) $g_{D/2}$	ANTENNA FACTOR (dB) $af=20 \cdot \log(9,76/\lambda \cdot G_i^{1/2})$
		$=10 \cdot \log G_i$	$=G_i : 1,64$	$=10 \cdot \log G_{D/2}$ $=g_i - 2,15 \text{ dB}$	
1000	4,189	6,22	2,55	4,07	24,0
1500	6,656	8,23	4,06	6,08	25,5
2000	7,049	8,48	4,30	6,33	27,8
2500	8,318	9,20	5,07	7,05	29,0
3000	7,929	8,99	4,83	6,84	30,8
4000	9,422	9,74	5,75	7,95	32,5
5000	10,497	10,21	6,40	8,06	34,0
6000	12,596	11,00	7,68	8,85	34,8
7000	12,365	10,92	7,54	8,77	36,2
8000	13,341	11,25	8,13	9,10	37,1
9000	15,008	11,76	9,15	9,61	37,6
10000	16,676	12,22	10,17	10,07	38,0
11000	14,571	11,63	8,88	9,49	39,4
12000	17,835	12,51	10,88	10,36	39,3
12400	29,209	14,66	17,81	12,51	37,5
13000	30,622	14,86	18,67	12,71	37,7
14000	29,391	14,68	17,92	12,53	38,5
15000	22,294	13,48	13,59	11,33	40,3
16000	37,688	15,76	22,98	13,61	38,6
17000	22,518	13,52	13,73	11,38	41,3
18000	30,017	14,77	18,30	12,63	40,6

SPECIFICATION COMPLIANCE TESTING FACTOR (1 METER SPACING) TO BE ADDED TO RECEIVER
METER READING IN dB μ V TO CONVERT TO FIELD INTENSITY IN dB μ V/m.

POWER REQUIREMENTS FOR FIELD STRENGTHS AT SPACING r

$$E = (30 \cdot G_i \cdot P)^{1/2} / r$$

$$r = 1 \text{ m}$$

$$E = (30 \cdot G_i \cdot P)^{1/2}$$

$$e = 14,8 + 10 \cdot \log G_i + 10 \cdot \log P$$

$$e = 14,8 \text{ dB} + g_i + p$$

$$g_i = 25 \text{ dB} \quad e = ca. p + 40$$

$$g_i = 20 \text{ dB} \quad e = ca. p + 35$$

$$g_i = 15 \text{ dB} \quad e = ca. p + 30$$

$$g_i = 10 \text{ dB} \quad e = ca. p + 25$$

$$r = 0,5477 \text{ m}$$

$$E = (100 \cdot G_i \cdot P)^{1/2}$$

$$e = 20 \text{ dB} + g_i + p$$

$$g_i = 25 \text{ dB} \quad e = p + 45$$

$$g_i = 20 \text{ dB} \quad e = p + 40$$

$$g_i = 15 \text{ dB} \quad e = p + 35$$

$$g_i = 10 \text{ dB} \quad e = p + 30$$

EMCC DR. RAŠEK

Moggast

D-91320 Ebermannstadt

70/41

LIST OF TEST INSTRUMENTS (LOTIN)

- I NARROW BAND GENERATORS 1-5, Sweepers, Oscillators & Power Oscillators, Multipliers
- II WIDE BAND INTERFERENCE GENERATORS, LEMP, NEMP, Pulse, HIRF
- III RECEIVERS 1-2, Audio Analyzing Systems
RECEIVERS 3, MEB-Receiver
RECEIVERS 4, Schwarzbeck, Ailtech, R & S Receivers
RECEIVERS 5-6, Mixers, Diplexers
RECEIVERS 7-8, Spectrum Analyzers
RECEIVERS 9, Radio Communication Analyzers
RECEIVERS 10, Radio & TV
RECEIVERS 11, Interference Monitors & Recorders
- IV ANTENNAS 1-9
ANTENNAS 10-11, Sniffers & Sensors
ANTENNAS 20, Tripods, Masts, Ground Planes
- V EMI/RFI TEST INSTRUMENTS 1, Probes, LISNs, C/D Networks
EMI/RFI TEST INSTRUMENTS 2, LISNs, ISDN, Feed Bridges
EMI/RFI TEST INSTRUMENTS 3, Infrastructure
EMI/RFI TEST INSTRUMENTS 4, Jigs, Dummies, Current Probes
EMI/RFI TEST INSTRUMENTS 5, Current Probes, Anechoic Material
EMI/RFI TEST INSTRUMENTS 6, Filters & Capacitors
- VI AMPLIFIERS, HEADPHONES, SPEAKERS
- VII GENERAL PURPOSE TEST INSTRUMENTS 1-3, Calibrators, Standards, Scopes, Multimeters, Probes, Meters
GENERAL PURPOSE TEST INSTRUMENTS 4, Gaussmeters, Frequency Meters, RLCG Meters, Power Analyzers
GENERAL PURPOSE TEST INSTRUMENTS 5, Other Meters & Testers
GENERAL PURPOSE TEST INSTRUMENTS 6, Temperature Testers, Resistors/LoadsLF
GENERAL PURPOSE TEST INSTRUMENTS 7-8, Power Supplies, Voltage Regulators, Transformers, Current Sources
GENERAL PURPOSE TEST INSTRUMENTS 9, Batteries, Chargers, Cameras and Projectors
GENERAL PURPOSE TEST INSTRUMENTS 10, Video Systems, Audio Systems, Electronic Cameras, Infrared Remote Controls
GENERAL PURPOSE TEST INSTRUMENTS 11, Extension Cables/Internat.PWR Adapters
- VIII SMALL PARTS 1, 50 Ohms Standard Adapters and Devices, BNC, TNC, SMA, K, 7/16
SMALL PARTS 2, 50 Ohm, N Devices
SMALL PARTS 3-4, Internorm 50 Ohm Adapters
SMALL PARTS 5, 75 Ohm Adapters, General Radio
SMALL PARTS 6, Standard Adapters and Devices, not 50 Ohms
SMALL PARTS 7, BNC-4mm Adapters
SMALL PARTS 8, Special Adapters
- IX RF TEST INSTRUMENTS 1, RF-Voltmeters, RF Impedance Meters,
RF TEST INSTRUMENTS 2, Power Meters, SWR Meters, Noise Figure Meters
RF TEST INSTRUMENTS 3, Frequency Meters, Counters, Frequency Standards
RF TEST INSTRUMENTS 4, 5 Filters
RF TEST INSTRUMENTS 6-9 Network Analyzers and General Radio Systems
RF TEST INSTRUMENTS 10-15 Terminations, Dummies, Coax Attenuators and Dividers
RF TEST INSTRUMENTS 16 Coax Detectors, Coax Directional Couplers, Isolators, Circulators
RF TEST INSTRUMENTS 19, Line Sections
- X RF CABLES 1-5, BNC Cables 50, 75 and 93 Ohms, N-,GR-,TNC-,C-,SMA,K, -2.4 mm-Cables
CABLES 6, Internorm Cables, Twinax Cables
CABLES 7, DATA Cables
- XI TOOLS & MACHINERY, TRANSIT CASES AND CONTAINERS 1-5
- XII WAVEGUIDE A-J, SURVEY: Adapters and Transitions, Attenuators, Directional Couplers,
Detectors, Terminations & Samplers, Stands, Isolators & Circulators
WAVEGUIDE 1, Components L, 2 Components S, 3 Components G
WAVEGUIDE 4, Components C, 5 Components J, 6-8 Components H
WAVEGUIDE 9,10, Components X, 11 Components M, 12-13 Components P
WAVEGUIDE 14, Components N, 15-16 Components K, 17-18 Components R
WAVEGUIDE 19,20, Components Millimeter
- XIII EDP, Computers & Peripherals, Software, Office Machines
- XIV SAFETY TESTERS

III-4a
RECEIVERS 4a

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
X EMI/RFI Test Receiver	Rohde&Schwarz	ESS	825132/015	III-4	5 Hz...1000 MHz/-48...+137 dBuV 100 V/120 V/220 V/240 VAC 47...420 Hz, 11...33 VDC	121 000B
EMI/RFI Test Receiver	Rohde&Schwarz	ESS	832808/004	III-4	as above	121 000B
EMI/RFI Test Receiver	Rohde&Schwarz	ESS	843513/012	III-4	as above	121 000B
X Analyzer Display Unit	Rohde&Schwarz	ESAI-D	833771/008	III-4	20Hz...26.5GHz, TG 100Hz...5GHz -38...137 dBuV	220 013 X
X Analyzer RF-Unit	Rohde&Schwarz	ESMI-RF	833827/002	III-4	20Hz...26.5GHz, TG 100Hz...5GHz -38...137 dBuV	
Tracking Generator	Rohde&Schwarz	ESMI-B1	832504/005	III-4	TG FOR ESMI 5...26GHz -75...0dBm	44 000
EMV Software f. EMI-Receiver ESMI	Uni Hannover	Version 3.05		III-4	EMI-Software, Emissions+Susceptibility, Support: SMX, SMG, NAP, URV 5, ESMI	5 000
Harmonic Mixer Add-On	Rohde&Schwarz	FS-Z30	1048.0020.02	III-4		3 480
Harmonic Mixer Add-On	Rohde&Schwarz	FS-Z40	1048.0420.02	III-4	26.5...40 GHz	5 120
Harmonic Mixer Add-On	Rohde&Schwarz	FS-Z60	1048.0620.02	III-4	40...60 GHz	7 080
Harmonic Mixer Add-On	Rohde&Schwarz	FS-Z75	1048.0720.02	III-4	50...75 GHz	8 020
Harmonic Mixer Add-On	Rohde&Schwarz	FS-Z110	1048.1110.02	III-4	75...110 GHz	8 750
IEC-Bus Interface GPIB PCII/II A	National Instruments	GPIB PCII/II A	AWSWB000W	III-4	IEEE 488.2,400 kbytes/sec,Driver Software DOS+WIN	1 140
IEC-Bus Interface GPIB PCII/II A	National Instruments	GPIB PCII/II A	6BBKRS	III-4	IEEE 488.2,400 kbytes/sec,Driver Software DOS+WIN	1 140
IEC-Bus Interface GPIB PCII/II A	National Instruments	GPIB PCII/II A	DD07EC	III-4	IEEE 488.2,400 kbytes/sec,Driver Software DOS+WIN	1 140
IEC-Bus Interface GPIB PCII/II A	National Instruments	GPIB PCII/II A	A047B3	III-4	IEEE 488.2,400 kbytes/sec,Driver Software DOS+WIN	1 140
IEC-Bus Interface GPIB PCII/II A	National Instruments	GPIB PCII/II A	A04A03	III-4	IEEE 488.2,400 kbytes/sec,Driver Software DOS+WIN	1 140
IEC-Bus Interface GPIB PCMCIA	National Instruments	GPIB PCMCIA	182361D	III-4	IEEE 488.2,400 kBytes/sec,Driver Software WIN NT+95	1 618

S = 670 163

III-4b
RECEIVERS 4b

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
VLF EMI/RFI Test Receiver	Schwarzbeck	LSME 1530A	1530266	III-3	10 kHz...150 kHz/10kg/48x20x22	13 731
Power Supply Cable	Schwarzbeck	Std.	001	III-3	Schuko/EURO	100
Battery Cable	Schwarzbeck	Std.	001	III-3	DIODE	100
Battery 3 Ah/24 V	Schwarzbeck	BG2	001	III-3	24 VDC/3A	1 640B
Charger	Schwarzbeck	LG2	001	III-3	110...230VAC/24VDC	760
EMI/RFI Test Receiver	Aiitech/Singer	NM17/27	0372-9053	III-4	10kHz...32MHz,-40...+120dBuV, m = 27 kg	B
	-Stoddart				Battery,Phono Jack 6mm/f	96 030
Power Supply Cable	Std.					20
Head Phones w. Cable 1.5 m	AVID/Singer-Std.	LT-730/10796-1	001	VI-2	1.5m, Phono 6mm/m,600ohm	320
EMI/RFI Test Receiver	Rohde&Schwarz	ESH 2	879342/042	III-4	9kHz...30MHz/-30...+137dBuV	46 373
Front+Back Cover	Rohde&Schwarz	ES	001	III-4	Black rubber	170
EMI/RFI Test Receiver	Rohde&Schwarz	ESV	880455/004	III-4	20MHz...1GHz/-8...+137dBuV	63 120
Battery Unit	Rohde&Schwarz	ESH 2	001	III-4	Battery Housing	240
Front+Back Cover	Rohde&Schwarz	ES	002	III-4	Black rubber	170
X EMI/RFI Test Receiver	Rohde&Schwarz	ESV	893271/006	III-4	20MHz...1GHz/-8...+137dBuV	63 120
Battery Unit	Rohde&Schwarz	ESH 2	002	III-4	Battery Housing	240
Front+Back Cover	Rohde&Schwarz	ES	003	III-4	Black rubber	170
EMI/RFI Test Receiver	Rohde&Schwarz	ESV	881117/047	III-4	20MHz...1GHz/-8...+137dBuV	63 120
Battery Unit	Rohde&Schwarz	ESH 2	003	III-4	Battery Housing	240
Front+Back Cover	Rohde&Schwarz	ES	004	III-4	Black rubber	170
EMI/RFI Test Receiver	Stoddart	NM-52A	67AF42	III-4	375 MHz...1 GHz	72 500
UHF Test Receiver	Rohde&Schwarz	USVU-BN1524 EF433/5/73		III-4	0.9 GHz...2.7 GHz	48 600
EMI/RFI Test Receiver	Singer	NM-65T	0199-06035	III-4	1 GHz...10 GHz	99 960B

S = 570 894

IV-1

ANTENNAS 1

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
High Power Magnetic Radiated Susceptibility Cuboid Coil	EMCC DR. RASEK	MAG 10-2	001	IV-1	2mx2m,n=10,15Hz...50kHz,H ₁ =4.2A/m	7 500
Isolation Transf./Current Source	EMCC RASEK	ITCS 630	0297	VII-7	Current Source for MAG 10-2, 0...230V/0...24V, 630VA, 50/60Hz, 9 kg	785
High Power Magnetic Radiated Susceptibility Cuboid Coil	EMCC DR. RASEK	MAG 1-1	3196	IV-1	1mx1m hor., 1mx1m vert., 50/60Hz, H=1kA/m, *EN 61000-4-8, VDE 0847	7 100
High Power Magnetic Radiated Susceptibility Rectangular Coil	EMCC DR. RASEK	MAG 1-2/2.6	1697	IV-1	2mx2.6m, n=1, H=400A/m*EN 61000-4-8, VDE 0847	3 800
High Power Magnetic Radiated Susceptibility Cuboid Coil	EMCC DR. RASEK	MAG 1-2	001	IV-1	2mx2m,n=1,10kHz...3MHz,2xNf,H ₁ =0.45A/m	5 500
Helmholtz Coil	EMCC DR. RASEK	MAG 20-0.7R	0195	IV-1	Blaxial,d=2x0.7m,n=2x20,4mm Connectors	920
Loop Antenna	EMCC DR. RASEK	MAG 12-0.1R,LA10/12	001	IV-1	d=10cm,n=12,BNCF,5MHz,24uH,red	100
Loop Antenna	EMCC DR. RASEK	MAG 10-0.1R	001	IV-1	d=10cm,n=10,BNCF,10MHz,10.4uH, H ₁ =98A/m,black	100
Loop Antenna	EMCC DR. RASEK	MAG 3-0.1R	001	IV-1	d=10cm,n=03,BNCF,50MHz,2uH, H ₁ =29.8A/m,gn-ye	100
Loop Antenna	EMCC DR. RASEK	MAG 2-0.1R,LA10/02	001	IV-1	d=10cm,n=02,BNCF,80MHz,1.8uH,copper	100
Loop Antenna	EMCC DR. RASEK	MAG 1-0.1R	001	IV-1	d=10cm,n=01,BNCF,100MHz,0.3uH, H ₁ =9.8A/m,red	100
Loop Antenna	EMCC DR. RASEK	MAG 2-0.01R,LA01/02	001	IV-1	d=1cm,n=02,BNCF,10cm	100
Loop Antenna	EMCC DR. RASEK	MAG 50-0.135R	001	IV-1	d=13.5cm, n=50, BNCF, H ₁ =360A/m	100
Loop Antenna	EMCC DR. RASEK	MAG 100-0.135R,848/4	001	IV-1	A=0.01m ² ,n=100,15Hz...100kHz, * VDE 0848/4	1 750
Loop Antenna	EMCC DR. RASEK	MAG 130-0.75Q	001	IV-1	a=0.75m, n=2x65, H ₁ =110 A/m for I=1 A f _{max} = 100 A, f _{max} = 30 kHz	2 350
Loop Antenna	EMCC DR. RASEK	MAG 9-0.133R	001	IV-1	d = 133 mm, n = 9, N-female * VG 95377, Part 13, Ident.No. 1332	520
Loop Antenna	EMCC DR. RASEK	MAG 36-0.133R	001	IV-1	d = 133 mm, n = 36, N-female * VG 95377, Part 13, Ident.No. 1331	520
Loop Antenna	EMCC DR. RASEK	MAG 20-0.120R	1194	IV-1	d=12cm, n=20, Nf, 30Hz...100kHz, 1.5qmm	530
Loop Antenna	EMCC DR. RASEK	MAG 51-0.04R	1194	IV-1	d=4cm, n=51, Nf, 30Hz...100kHz, shielded	450
HP-Loop Antenna	EMCC DR. RASEK	HPLA 001	001	IV-1	Amphenol 24-19 m	600
Loop Antenna	RCA	308 B/504	12 R	IV-1	27 cm,LF,24-19 m	1 800
Loop Antenna	RCA	308 B/573	12 O	IV-1	27 cm,LF,24-19 m	1 800
Loop Antenna	RCA	308 B/504	34 R	IV-1	27 cm,MF,24-19 m	1 800
Loop Antenna	RCA	308 B/573	34 O	IV-1	27 cm,MF,24-19 m	1 800
Loop Antenna	RCA	308 B/504	56 R	IV-1	27 cm,HF,24-19 m	1 800
Loop Antenna	RCA	308 B/573	56 O	IV-1	27 cm,HF,24-19 m	1 800
Loop Twinax-Adapter	EMCC DR. RASEK	LTAR001	001	IV-1	Amphenol 24-19 f,Amphenol 18-22 m, 5 m Berkenh.+Drebes	400
Loop-Coax Adapter Rod	EMCC DR. RASEK	LCAR001	002	IV-1	Amphenol 24-19 f,Nf, 32 cm	350
-Loop-Coax Adapter Rod	EMCC DR. RASEK	LCAR001	001	IV-1	Amphenol 24-19 f,Nf, 32 cm	350-
Loop-Coax Adapter Pad	EMCC DR. RASEK	LCA 001	001	IV-1	Amphenol 24-19 f,Nf, 10 cm	300
Twinax-N-Coax Pad	EMCC DR. RASEK	TNP 001	001	IV-1	Amphenol 18-22 f,Nm, 5 cm	200
Magnet Mount Antenna	Kathrein	K 51164	001	IV-1	BNC, 58...300 MHz, 138 cm	191
Magnet Mount Antenna	Kathrein	K 51172	001	IV-1	BNC, 143...174 MHz, 138 cm	191
Magnet Mount Antenna	Kathrein	K 711621	001	IV-1	BNC, 410...470 MHz, 18 cm	132
Magnet Mount Antenna	Kathrein	K 711661	001	IV-1	BNC, 790...960 MHz, 11 cm	132
Vehicle Antenna Adapter	EMCC	VDE0879	001	IV-1	for connection of car radio antenna to receiver (radio chassis)	200
Substitute Car Antenna	EMCC	IEC 315-1	001	IV-1	BNCm/BNCF	120
1 m ROD Antenna	EMCC DR. RASEK	1mRA/6	001	IV-1	Twinax/6mm	128
Rod-Antenna	Telefunken	MS 116 A	001	IV-1	1 m	120
Rod-Antenna	Telefunken	MS 117 A	001	IV-1	1 m	120
Rod-Antenna	Telefunken	MS 118 A	001	IV-1	1 m	120
Monopole	Gabel	76714	001	IV-1	1.1 m/6mm f	20
Monopole	Gabel	76714	002	IV-1	1.1 m/6mm f	20
Rod Antenna	EMCC DR. RASEK	TA 001	001	IV-1	BNC/50 ohms/0.5 m/90°	65
Rod Antenna	EMCC DR. RASEK	TA 001	002	IV-1	BNC/50 ohms/0.5 m/90°	65
Rod Antenna	EMCC DR. RASEK	RA 1/2	4796	IV-1	L-shape, 1mx2m, 4mm, 1...76 MHz, according to DEF Standard 59-41	520
Tuning Unit for Rod Antenna RA 1/2	EMCC DR. RASEK	TU 1/76	0297	IV-1	Nf, 45x45x15 cm	1 490
Antenna Counterpoise	EMCC DR. RASEK	ACP-12/RL-29	001	IV-1	Star/HF, Longwire 4 x	228
HP-Dipole Antenna	EMCC DR. RASEK	HPDA 001	001	IV-1	Amphenol 24-19 m/6mm	200
HP-Dipoles	EMCC DR. RASEK	HPD 10/33/55	001	IV-1	Alu-Rods, 6mm f,10/33/50cm	100
Telescopic Dipole Antenna	EMCC DR. RASEK	TDA	001	IV-1	240 ohms	100
Adapter 240/75	EMCC DR. RASEK	240/75	001	IV-1	240 ohms/75 ohms coax	100
Tripod Adapter	EMCC DR. RASEK	TDATA	001	IV-1		50
Triple Loop Antennas small	EMCC DR. RASEK	DRA	001	IV-1	d = 3.5 cm, 10 kHz...30 MHz, BNC, 5 W	2 000
Triple-Loop Antenna with Antenna Selector and Control Unit	Rohde&Schwarz	HM020	105053-002	IV-1	Three orthogonal Loops x,y,z, n=1, d=2m, BNCF, 9 kHz-30 MHz	13 320
	Rohde&Schwarz	4023.4550.02		IV-1	Coaxial Switch, 3 BNCm-cable-inputs, 1 N-output, controlled via RS232	
	Rohde&Schwarz	BG020	105921/001	IV-1	3 push-buttons for Antenna Selector-control via RS232	3 290

S = 68 447

34/41

EMCC DR. RASEK
MOGGAST D-91320 EBERMANNSTADT

Ma/Kn/c1-X961455ECB

1998-03-02

6.4

x LEFT: INSTRUMENTS USED (x RIGHT: for internal purposes only)

IV-5

ANTENNAS 5

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
E-Field Antenna	IFI	EFG 2	067	IV-5	10 kHz...220 MHz, 1 kW	12 950
500 W Termination	Bird Termaline	82 A	4065	IV-5	QC-Nf/50ohms,500 W,DC...3.5GHz	2 100
N-Cable N/50	Telemeter	RG 142B/U	002	IV-5	1.5 m/50 ohms/Nm/Nm	80
Quasi-Static-Field-Antenna	EMCC DR. RASEK	SFA 150	1194	IV-5	2 kV, Parallel Plate 1.5 m x 1.5 m * according to FDA-Standard	1 800
Parallel Stripline, 800 m	EMCC DR.RASEK	150	001	IV-5	2.70x0.60x0.80(m)Parallel Plate, 150 ohms, DIN	7 000
Coax Cable N/Spinner	EMCC/Kabelmetal	RG 213/U	001	IV-5	2.5m/Nm Spinner 6/16 m 90°,2 ferrites	200
Calibration Plate Antenna (w. R & S,URV 5-Z7)	EMCC DR.RASEK	CPA 01	001	IV-5	Aluminium Plate 480 x 310,10mm,152 pF	300
Stripline, 150mm	EMCC DR.RASEK	CAR DIN 40839 T.4	001	IV-5	50 ohms	6 800
Stripline, 300mm	EMCC DR.RASEK	MIL	001	IV-5	50 ohms	7 600
Stripline, 350 mm	EMCC DR. RASEK	EFA	001	IV-5	100 ohms/30 kV	5 300
TEM Cell	Deuta Meßtechnik		001	IV-5	DIN 40839-3, 400 MHz, 2 m x 1 m x 0.6 m EUT: h _{max} = 0.1 m	30 000
Wideband Dipole	Rohde&Schwarz	UHF-Z1	881914/33	IV-5	20...80 MHz, Nf	4 047
VHF Short Dipole CISPR	Schwarzbeck	VHAA 9110	001	IV-5	25...80MHz,5W,G=1.5/1.76dB/Nf,2 rods	1 646
Dipole Set in Case						
VHF/UHF Precision Tuned Dipoles	AH Systems	TDS-200/535-2	191	IV-5	25...1000 MHz, 4 baluns+ telescop. rod pairs, 20 W, 1.6:1	4 900
VHF/UHF Precision Tuned Dipoles	AH Systems	TDS-200/535-2	192	IV-5	25...1000 MHz, 4 baluns+ telescop. rod pairs, 20 W, 1.6:1	4 900
VHF Precision Test Dipole	Schwarzbeck	VHAP 10 dB	237	IV-5	30...300 MHz/10 dB/Nf, 2 x 2 telescop.rods	2 200
VHF Precision Test Dipole	Schwarzbeck	VHAP 10 dB	238	IV-5	30...300 MHz/10 dB/Nf, 2 x 2 telescop.rods	2 200
VHF Test Dipole RX	Schwarzbeck	VHA 9103	001	IV-5	30...300 MHz/Nf, 2x2 telescop.rods	1 095
VHF Test Dipole RX	Schwarzbeck	VHA 9103	002	IV-5	30...300 MHz/Nf, 2x2 telescop.rods	1 095
VHF Test Dipole,XT50(100)W	Schwarzbeck	VHBA 9123	001	IV-5	25...300 MHz/Nf,50(100)W	2 800
VHF Groundplane-Antenna	EMCC	GPA50	5197	IV-5	106...137 MHz, 156...162 MHz 450...470 MHz, Z=50ohms, with adjustable Dipoles, acc. to EN 60945	590
VHF Double-Cone Ant.	Eaton-Ailtech	94455-1	1081	IV-5	20...200 MHz/Nf, 400W	5 512
VHF Double-Cone Ant.,400W	Singer	94 455-1	001	IV-5	20...200 MHz/Nf, 400 W	8 401
VHF Double-Cone Ant.,bar	Schwarzbeck	BBA 9106	001	IV-5	25...300 MHz/Nf,with bar	570
VHF Double-Cone Ant.,bar	Schwarzbeck	BBA 9106	002	IV-5	25...300 MHz/Nf,with bar	570
VHF Double-Cone Ant.,bar	Schwarzbeck	BBA 9106	003	IV-5	25...300 MHz/Nf,with bar	570
Biconilog. Antenna	EMCO	3143	9409-1059	IV-5	26 MHz...1.05 GHz, Nf, 1 kW, w. Rod	6 700
Biconilog. Antenna	EMCO	3143	9604-1269	IV-5	26 MHz...1.05 GHz, Nf, 1 kW	5 360
Biconilog. Antenna	EMCO	3143	9608-1316	IV-5	26 MHz...1.05 GHz, Nf, 1 kW, with 30 m Cal.	5 360
Biconilog. Antenna	EMCO	3142	9601-1002	IV-5	30...2000 MHz, 1 kW, Nf	6 900
UHF Log.Per Antenna	MEB	LPA 1	001	IV-5	80 MHz...1 GHz, 50 ohms,7/16 f conn, 1kW	3 310
Case	MEB	GK 12	001	IV-5	Timber	677
Antenna Cable	MEB	LE 60	001	IV-5	10m,50 ohms, 7/16m, Nm	188
UHF Log.Per Antenna	MEB	LPA 1	002	IV-5	80 MHz...1 GHz, 50 ohms,7/16 f conn, 1kW	3 310
Case	MEB	GK 12	002	IV-5	Timber	677
Adapter 3/7-7/16f to Nm	MEB	50-mz1	001	VIII-3	3/7-7/16f to Nm	220
UHF Log.Per Ant.	Rohde&Schwarz	HL 023A1	577.8017	IV-5	80...1300 MHz,Nf	6 768
UHF-Log.Per Ant.,Receive	EMCO	3147	9104-1042	IV-5	200...5000MHz,Nf,80W	7 200
Tuned Dipole 0.3-1 GHz	Stoddart Aircr.	AI-255/URM-17	001	IV-5	300 MHz...1000 MHz/Nf, 3 pairs dipoles, fixture	4 200
UHF Precision Test Dipole	Schwarzbeck	UHAP 10 dB	000	IV-5	300...1000 MHz/10 dB/Nf	2 180
UHF Precision Test Dipole	Schwarzbeck	UHAP 10 dB	000	IV-5	300...1000 MHz/10 dB/Nf	2 180
UHF Double-Cone Ant.	MEB	DP3	001	IV-5	300MHz...1GHz,50ohms,7/16 f conn	1 500
UHF Test Dipole	Schwarzbeck	UHA 9105	001	IV-5	300MHz...1GHz/Nf,2x telescop. rods	1 249
UHF Test Dipole	Schwarzbeck/CAR	UHA 9105	002	IV-5	300MHz...1GHz/Nf,2x telescop. rods	1 249
UHF Log.Per Ant.,Transc.	Schwarzbeck	UHALP 9107	242	IV-5	300MHz...1GHz,Nf,Transceive 50 W	1 749
UHF Log.Per Ant.,Transc.	Schwarzbeck	UHALP 9107	411	IV-5	300MHz...1GHz,Nf,Transceive 50 W	1 749
UHF Log.Per Ant.,Transc.	Schwarzbeck/CAR	UHALP 9107	539	IV-5	300MHz...1GHz,Nf,Transceive 50 W	1 749
UHF-Log.Per Ant.,Receiver	Schwarzbeck	UHALP 9107	930	IV-5	300MHz...1GHz,Nf,Receive only,0.5W	1 749
MHz-Ruler (Scale)	Eaton-Ailtech	DM105AT3004317	001	IV-5	400 MHz...1 GHz	300
MHz-Ruler (Measuring Tape)	Eaton-Ailtech	DM105 AT1/AT2	001	IV-5	28 MHz...400 MHz	520

S = 170 237

3574

IV-7

ANTENNAS 7 > 1 GHz, HORN ANTENNAS

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
Double Ridged Guide Ant.	ELECTRO METRICS	RGA-30	2485	IV-7	200MHz...2GHz,500W,Nr/50ohms, 3.5...9dB	10 860
Con.Log. Spir. Antenna	EMCO	3103	2181	IV-6	0.1...1 GHz, 50 ohms, SWR 2.5, 150 W	6 217
Con.Log. Spir. Antenna	EMCO	3102	8912-2778	IV-6	1.0...10GHz, 50 ohms, SWR 2.0, 50 W	3 879
Standard Gain Horn Ant.	SciA/TU	12-0.4	86	IV-7	0.35...0.53GHz,500W,15.5dB, WR770/CPR770	22 500
Waveg /Coax Adapter	SciA/TU	11-0.4	67	XII-1A	0.35...0.53GHz,WR 770/CPR 770/Nr	3 820
Microwave Horn	ARA/Poe	MWH-4010/A	1002	IV-7	0.4...1 GHz, 1kW, 12...15 dB/m, 10.3...15.3 dBi	8 300
Waveguide/Coax Adapter	ARA/Poe			IV-7	0.4...1 GHz, Cf	1 700
Standard Gain Horn Ant.	SciA/LR	12-0.9	63	IV-7	0.95...1.15GHz,500W,13.7dB, WR770/CPR770	8 500
Double Ridged Guide Ant.	EMCO	3115	2111	IV-7	1GHz...18GHz,250W,Nr/50ohms,6...15dB	8 833
Double Ridged Guide Ant.	EMCO	3115	2073	IV-7	1GHz...18GHz,250W,Nr/50ohms,6...15dB	8 833
Double Ridged Horn Ant.	EMCO	3116	2018	IV-7	18...40GHz,50W,KF	3 400
Double Ridged Horn Ant.	EMCO	3116	2052	IV-7	18...40GHz,50W,KF	3 400
Standard Gain Horn Ant.	FXR/LR	L638A	141	IV-7	1.12...1.70GHz,500W,15.5dB,UG418B/U	8 500
Standard Gain Horn Ant.	SciA/LR	12-1.7/SGH 1.7	001	IV-7	1.70...2.60GHz,500W,15.5dB,UG-437B/U	8 500
Standard Gain Horn Ant.	Narda	V 644	001	IV-7	2.6...3.95GHz,Sband,UG-584/U/16.5dB	2 720
Standard Gain Horn Ant.	SciA/LR	12-2.6/SGH 2.6	001	IV-7	2.60...3.95GHz,500W,18dB,UG-584/U	3 750
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-3	3.95...5.85GHz,25dB/UG-149A/U	1 793
Horn Antenna	FXR	H 638 A	50828	IV-7	3.95...5.85GHz,18dB/UG-149A/U/WR-187	2 300
Standard Gain Horn Ant.	SciA/TU	12-3.9	549	IV-7	3.95...5.85GHz,500W,18dB,UG-407/U	2 750
Horn Antenna	Stoddart	91890-1	001	IV-7	4.3...7.3 GHz/6-9.2dB/Nr	3 880
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-5	5.85...8.20GHz,25dB/UG-344/U	1 586
Horn Antenna	Sperry/Microline	56G1(equ. NARDA)	34	XII-5	5.85...8.2 GHz/17dB/UG-344/U	2 300
Horn Antenna	Demornay Bon.DBH	520-20	001	IV-7	7.05...10GHz,20dB/UG51	1 750
Horn Antenna	Demornay Bon.DBH	520-20	002	IV-7	7.05...10GHz,20dB/UG51	1 750
Horn Antenna	Stoddart	91891-1	001	IV-7	7.3...10GHz/7.8...10.5dB/Nr	3 880
Horn Antenna	Alitech	91891-1	14385	IV-7	7.3...10GHz/7.8...10.5dB/Nr	3 880
Horn Antenna	SciAt	12-7.0	103		7...10 GHz,UG51	3 000
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-7	7.05...10GHz/25dB/UG-51/U	1 346
Horn Antenna	Military	AT/67/AP		IV-7		300
Horn Antenna	FXR	X 638 A,	8612	IV-7	8.2...12.4GHz,22dB/9.2GHz-WR90,UG-39/U	2300
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-10	8.2...12.4GHz, 25dB,UG-39/U	1 086
Horn Antenna	FXR	X 638 A		IV-7	8.2...12.4GHz,22dB/9.2GHz-WR90,UG-39/U	-
Horn Antenna	Military	AT/68/UP B-50713	2865	IV-7	8.5...9.6GHz,10dB,Nr	700
Horn Antenna	Military	AT/68/UP P-320-B-4	2866	IV-7	8.5...9.6GHz,10dB,Nr	700
Horn Antenna	Military	AT/68/UF CS660159	2867	IV-7	8.5...9.6GHz,10dB,Nr	700
Horn Antenna	Military	AT/68/UF B-320 B-4	2868	IV-7	8.5...9.6GHz,10dB,Nr	700
M-Band Horn	Polarad	AN/PRR-6(XE.1) Band 5 # 19	XII-11		10...15GHz,WR-75,MIL-F-3922-70A-004	2 250
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-11	10...15GHz, 25dB,UBR-120	1 346
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-13	12.4...18GHz, 25dB,UG-419/U	1 277
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-14	14.5...22GHz, 25dB,UBR-180	1 277
Standard Gain Horn Ant.	Mid Century	MC 20/31B	1362/86	XII-16	18...26.5GHz,20dB,WG20/R220/ WR42/UG-595/U	1 076
Standard Gain Horn Ant.	Mid Century	MC 20/31B	1362/86	XII-16	18...26.5GHz,20dB,WG20/R220/ WR42/UG-595/U	1 076
Standard Gain Horn Ant.	Electroforms/Tho		001	XII-16	18...26.5GHz,25dB,WG20/R220/ WR42/UG-595/U	1 241

S = 159 956

EMCC DR. RASEK
MOGGAST D-91320 EBERMANNSTADT

Ma/Kn/c1-X961455ECB

1998-03-02

6.6

x LEFT: INSTRUMENTS USED (x RIGHT: for internal purposes only)

IV-20

ANTENNAS 20, Tripods, Antenna Masts, Ground Planes

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
Antenna Rotator	Jebsee Kingrot	4 E 6200	2109122	IV-20	220VAC/68W/18VAC/360+5°,70s	150
Antenna Mast	Schwarzbeck	AM 9104	001	IV-20	4.5 m, OUTDOOR	2 895
Antenna Cable	F&G/Schwarzbeck	RG213/U/AK9513	001	IV-20	10 m,Nm/Nm,3dB/1GHz	132
Tripod Mast	Rohde&Schwarz	HFU-Z	891191/011	IV-20	1...5 m, OUTDOOR	13 435
Tripod	Rohde&Schwarz	HFU-Z	100.1114.02	IV-20		4 175
Antenna Mast	MEB	ATR 2	001	IV-20	5 m, OUTDOOR	2 884
Mast Fixture	Schwarzbeck	AM9104M	001	IV-20	Phenol grey	290
Motor Winde	MEB	FE3/FE2	001	IV-20		7 323
Antenna Mast	MEB	ATR 2	002	IV-20	5 m, OUTDOOR	2 884
Mast Fixture	Schwarzbeck	AM9104M	002	IV-20	Phenol grey	290
Motor Winde	MEB	FE3/FE2	002	IV-20		7 323
Antenna Mast	EMCO	2071-2	9408-1834	IV-20	7 m, INDOOR	24 860
Univ. Antenna Adapter	EMCO	102268	001	IV-20		1 080
Cable Reel	EMCO	103451	001	IV-20		3 400
Controller	EMCO	2090	-	IV-20		6 650
Hand Held Controller	EMCO	104081	9408-1834	IV-20		900
Duplex Fiber Optic Cable	EMCO	705320-10M	001	IV-20	10 m	517
Duplex Fiber Optic Cable	EMCO	705320-10M	002	IV-20	10 m	517
Tripod-Sensor-Support	HOLADAY/POE		001	IV-11	Dielectric, 46 cm	320
Tripod	Combinova		300/1	IV-20	Dielectric	300
Tripod	Combinova		10/1	IV-20	Dielectric	300
Tripod	MEB	ST 11	001	IV-20	Timber,adjustable,M12mm	500
Tripod Transit Bag	MEB	ST 11	001	IV-20	Black Plastic	100
Tripod	MEB	ST 11	008	IV-20	Timber,adjustable,M12mm	500G
Tripod Transit Bag	MEB	ST 11	008	IV-20	Black Plastic	100
Tripod	MEB	ST 11	09087	IV-20	Timber,adjustable,M12mm	500
Tripod Transit Bag	MEB	ST 11	09087	IV-20	Black Plastic	100
Antenna Mast Fixture/Adapter	Schwarzbeck	AMF 001	001	IV-20	22 mm 0/M12,Alu	151
Antenna Mast Fixture/Adapter	Schwarzbeck	AMF 001	002	IV-20	22 mm 0/M12,Alu	151
Antenna Mast Fixture/Adapter	Schwarzbeck	AMF 001	003	IV-20	22 mm 0/M12,Alu	151
Antenna Mast Fixture/Adapter	EMCC DR. RASEK	001	001	IV-20	22 mm 0/M12,Plastic	180
Antenna Mast Fixture/Adapter	EMCC DR. RASEK	002	001	IV-20	22 mm 0/M12,Plastic	180
Tripod	EMCC DR. RASEK	TTr 001	001	IV-20	Timber,adjustable	367
Tripod	Singer	91 933-2	001	IV-20	Timber,adjustable, M12	2 376
Tripod Adapter	Singer	91 932-2	001	IV-20	Aluminium, M12	1 292
Tripod	Eaton-Ailtech	91 933-2	002	IV-20		2 295
Tripod Adapter	Eaton-Ailtech	91932-2	002	IV-20	0°...360°	1 292
Tripod Bag	Eaton-Ailtech	92 049-1	002	IV-20		577
Tripod	Eaton-Ailtech	91 933-2	003	IV-20		2 295
Tripod Adapter	Eaton-Ailtech	91932-2	003	IV-3	0°...360°	1 292
Tripod Bag	Eaton-Ailtech	92 049-1	003	IV-20		577
Tripod	EMCC DR. RASEK		001	IV-20	Yellow Plast,adjustable,M12mm	400
Antenna support for horn antennas	EMCC DR. RASEK		2396	IV-20	Height adjustment 0.68...1.05m	2 500
Antenna Mast	Eaton-Ailtech	90920-2	001	IV-20	1 m	797
Mast Clamp	Eaton-Ailtech		001	IV-20	Mast Clamp for Antenna	250
Mast Clamp	Eaton-Ailtech		002	IV-20	Mast Clamp for Antenna	250
Mast Clamp	Eaton-Ailtech		003	IV-20	Mast Clamp for Antenna	250
Ground Plane	EMCC DR. RASEK	DO-160	001	IV-20	Copper, 510cmx100cm,t=0,6mm	580
Ground Plane	EMCC DR. RASEK	Std	001	IV-20	Copper, 255cmx80cm,t=0.6mm	260
Ground Plane	EMCC DR. RASEK	MIL	003	IV-20	Copper,100cm x 250 cm, t=0.6mm	280
Ground Plane	EMCC DR. RASEK	FMA 11	002	IV-20	120cmx60cm, mesh	30
Ground Plane	EMCC DR. RASEK	FMA 11	001	IV-20	60cm x 60cm	22
Ground Plane	Eaton-Ailtech	92199-3	B2089-116	IV-20	30 x 30 cm	1 310

S = 101 950

EMCC DR. RASEK

MOGGAST D-91320 EBERMANNSTADT

x LEFT: INSTRUMENTS USED (x RIGHT: for internal purposes only)

V-3

EMI/RFI TEST INSTRUMENTS 3

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
Open Area Test Site # 1a				V-3	20 m x 10 m, protected	0
Open Area Test Site # 1b				V-3	30 m x 15 m, protected	0
Open Area Test Site # 2				V-3	40 m x 6 m, free field	0
Open Area Test Site # 3				V-3	120 m x 80 m, free field	0
Open Area Test Site # 4				V-3	40 m diameter, protected, FCC listed	0
Shielded Room # 1	EMCC DR. RASEK		Room #005	V-3	5.8 m x 3.0 m (39 T)	0
Shielded Cabinet # 2	EMCC DR. RASEK		Room #001	V-3	4.0 m x 3.5 m (53 T)	0
Shielded Room # 3	EMCC DR. RASEK		Room #002	V-3	4.0 m x 4.2 m (9 T)	0
Shielded Room # 4	EMCC DR. RASEK		Room #004	V-3	6.5 m x 4.2 m (10 T)	0
Shielded Room # 5a/5b	SIEMENS MATSHUSHITA		Room #008	V-3	12.65 m x 10.81 m x 3.02 m (+ 5.00 m x 2.80 m) (284 T)	0
Shielded Room # 6/1	EMCC DR. RASEK		SR 1	V-3	70m ² x 3.5m, Door 1.20m x 2.05m (98 T)	0
Shielded Room # 7/2	EMCC DR. RASEK		SR 2	V-3	130m ² x 3.5m, Door 3.55m x 2.83m (241 T)	0
Shielded Room # 8/3	EMCC DR. RASEK		SR 3	V-3	130m ² x 3.5m, Door 1.80m x 2.05m (184 T)	0
Shielded Cabinet # 8/3-1	SIEMENS	B8310	001	V-3	3.5m x 3.5m x 2.1m Door 0.87m x 1.99m (45T)	0
Shielded Cabinet # 8/3-2	SIEMENS	B8320	002	V-3	3.5m x 2.4m x 2.4m, Door 0.94m x 2.28m (42T)	0
Shielded Room # 9/4	EMCC DR. RASEK		SR 4	V-3	70m ² x 3.5m Door 1.2m x 2.05m (98 T)	0
Anechoic Room	Frankonia		001	V-5	9380 x 7000 x 3750 mm ³ , Turntable: 1 t/m ² , d = 2 m, Absorber: 90 cm / Ferrit-Absorber	242 000
Shielded Test Box	EMCC/ZARGES	SBX0011	001	V-3	439016S, Alu, 60 x 40 x 70cm, 8kg, Vent, Filter 220 VAC/10A, B84299-K21, 3xNf/Nf	3 150
Shielded Test Box	EMCC/ZARGES	SBX0011	002	V-3	439016S, Alu, 60 x 40 x 70cm, 8kg, Vent, Filter 220 VAC/10A, B84299-K21, 3xNf/Nf, 3xBNC, 50ohms, 3xBNC, 75ohms	3 150
Shielded Test Box	EMCC/ZARGES	SBX0011	003	V-3	Alu, 750x545x390	2 500
Shielded Test Box	EMCC/ZARGES	SBX0011	004	V-3	Alu, 550x350x375 Filter 230VAC/16A	2 300
Shielded Test Box	RITTAL	AE1010	001	V-3	Steel, 600x600x210mm	3 200
Shielded Test Box	RITTAL	AE1010	001	V-3	Stainless Steel, 600x600x210mm	3 200
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 001	001	V-3	420x420, SR2, SR6/1	1 600
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 001	002	V-3	420x420, SR2, SR6/1	1 600
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 002a	001	V-3	440x440/100x100, 420x420, SR2, SR6/1	200
Test Panel	EMCC DR. RASEK	SATA 002b	001	V-3	460x460/155x155, 420x420/180x180 SR2, SR6/1, SR7/2	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 003	001	V-3	440x440/160x160, 420x420, SR2, SR6/1	200
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 004	001	V-3	440x440/320x320, 420x420+345x345, SR2, SR6/1	200
Shield Attenuation Test Box	EMCC DR. RASEK	SATA 005	001	V-3	740x740x1500	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 006	001	V-3	800x800/400x400, 420x420, Test Box	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 006a	001	V-3	1060x1060/500x500, 420x420, SR2	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 006b	001	V-3	500x500/310x310, 420x420+330x330, SR6/1, SR2	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 006c	001	V-3	500x500/310x310, 330x330, SR6/1, SR2	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 007	002	V-3	800x800/322x322, 345x345, Test Box	
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 008	001	V-3	800x800, 770x770, Test Box	4 250
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 009	001	V-3	3 mm, 1060x1060, SR2	800
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 010	001	V-3	1060x1060/3 mm/3x Nf/Nf, 1030x1030, SR2	1 000
Shield Attenuation Test Array	EMCC DR. RASEK	SATA 011	001	V-3	2048x1060/25 mm, SR6/1	1 460
0.4-t-Turntable East, rem. contr.	EMCC DR. RASEK	TTR	001	V-3	H = 6, diameter = 120 (8T)	0
4-t-Turntable East, rem. contr.	EMCC DR. RASEK	TTR	001	V-3	H = 2, diameter = 300 (44T)	0
5-t-Turntable South, rem. contr.	EMCC DR. RASEK	TTR	002	V-3	H = 2, diameter = 400 (64T)	0
Turntable 0.4t	EMCC/Moll	TT	001	V-3	H = 6, diameter = 78 (1T)	0
Turntable 0.4t	EMCC/Moll	TT	001	V-3	H = 6, diameter = 94 (1T)	0
Turntable 0.4t	EMCC/Moll	TT	002	V-3	H = 6, diameter = 94 (1T)	0
Turntable on rollers, 0.4t	EMCC/Moll	TT	003	V-3	H = 57, diameter = 80 (2T)	0
0.1-t-Turntable rem. contr.	EMCC DR. RASEK	TT	005	V-3	H = 80, diameter = 94 (10T)	0
Gas Exhaust Pipe	Nedermann	NE-060677	001	V-3	2x10 m, 0.69 kg/m, max. 170°C, synthetic, DN 75 with funnel for exhaust pipe (2T)	0
Gas Exhaust Pipe	Witzenmann	Si 360 S	001	V-3	1x2 m, DN 70, steel, max. 400°C	0
Gas Exhaust Vacuum Set	Nedermann	N24	001	V-3	Ventilator 400V/0.75kW, 2400m ³ /h, with Funnel and pipe (4T)	0
Ground Plane	EMCC DR. RASEK	Std	001	V-3	Copper, 255cmx80cm, t=0.6mm	260
Ground Plane	EMCC DR. RASEK	FMA 11	002	V-3	120cmx60cm, mesh	30
Ground Plane	EMCC DR. RASEK	FMA 11	001	V-3	60cm x 60cm	22
Ground Plane	EMCC DR. RASEK	MIL	003	V-3	Copper, 100cm x 250 cm, t=0.6mm	280
Ground Plane	Eaton-Aitech	92199-3	B2089-116	IV-2B	30 x 30 cm	1 310

S = 272 712

21/41

EMCC DR. RASEK

MOGGAST D-91320 EBERMANNSTADT

x LEFT: INSTRUMENTS USED (x RIGHT: for internal purposes only)

V-5

EMI/RFI TEST INSTRUMENTS 5

Current Probes, Anechoic Material

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
Current Probe/ Waveform Transformer	EMCC DR. RASEK	SG DO-WT 001	001	V-4	Single Turn Primary, 0.5mm/12.5...20mm Cu-strip, 2x4 Ferrites, BNCf	1 305
Current Probe/ Waveform Transformer	EMCC DR. RASEK	SG DO-WT 002	001	V-4	Single Turn Primary, 0.5mm/12.5...20mm Cu-strip, 2x3 Ferrites, BNCf	979
Current Probe/ Waveform Transformer	EMCC DR. RASEK	SG DO-WT 003	001	V-4	Single Turn Primary, 0.5mm/12.5...20mm Cu-strip, 6 Ferrites, BNCf	228
Current Inject. Probe	Chase	CIP 36A	1084-0689	V-4	il=7dB/(10...)12...440(...500)MHz/200W/ N/43mm	5 020
Current Inject. Probe	Chase	CIP 37A	1061-0408	V-4	il=6dB/(6...)7...360(...450)MHz/200W/ N/43mm	4 390
Calibration Jig	Chase	PCJ 9201	1029-1188	V-4	for CIP 36A/37A	3 390
Calibration Jig	EMCC	CJ 001	001	V-4	2 x Nf, 17x14x12cm	987
Calibr. Jig/ Filter Test Box	Schwarzbeck	VDE 50 ohms	001	V-4	0...1GHz/2x10dB/50ohms, 46x16x16 cm	1 510
Current Inject. Probe	FCC	F-130-1A	39	V-5	3.5MHz...525MHz, Input Forward Power Rating 400 W	3 000
Current Inject. Probe	FCC	F-130-1A	40	V-5	3.5MHz...525MHz, Input Forward Power Rating 400 W	3 000
Current Inject. Probe	FCC	F-130-1A	41	V-5	3.5MHz...525MHz, Input Forward Power Rating 400 W	3 000
Current Inject. Probe	FCC	F-140	65	V-5	0.5MHz...1000MHz, Input Forward Power Rating 100 W	3 000
Current Inject. Probe	FCC	F-140	66	V-5	0.5MHz...1000MHz, Input Forward Power Rating 100 W	3 000
Current Inject. Probe	FCC	F-140-HV	01	V-5	0.5MHz...1000MHz, Input Forward Power Rating 100 W, HN-Connector	3 500
Current Inject. Probe	FCC	F-130-2	08	V-5	0.5MHz...400MHz, Maximum Input Power Rating 500 W of 30 min. for F-140, F-140-HV	6 080 1 700
Calibration Jig	FCC	FCC-BCICF-1-HN	01	V-5		
EM Injection Clamp	Luethi	EM 101	9434146	V-5	0.15...1000 MHz, Nf	7 620
EM Injection Clamp	Schwarzbeck	EM 101	35305	V-5	0.15...1000 MHz, Nf	6 885
Decoupling Clamp	Luethi	FTC 101	4188	V-5	0.15...1000 MHz	1 815
Decoupling Clamp	Schwarzbeck	FTC 101	4370	V-5	0.15...1000 MHz	2 230
Decoupling Clamp	Schwarzbeck	FTC 101	4424	V-5	0.15...1000 MHz	2 453
Decoupling Clamp	Schwarzbeck	FTC 101	4433	V-5	0.15...1000 MHz	2 453
Absorbing Clamp	Luethi	MDS 21 fixed	831111	V-5	30 MHz...1 GHz, 17 dB	2 474
Coax Cable 50 N/BNC	Berkenh&Drebes	M17/84-RG 223	001	X-6	5 m/Nm/BNCm/50 ohms	75
Absorbing Clamp	Luethi	MDS 21 clamp	841240	V-5	30 MHz...1 GHz, 17 dB	4 702
Absorbing Clamp	Schwarzbeck	MDS 21 clamp	2777	V-5	30 MHz...1 GHz, 17 dB	5 220
Slideway for	EMCC DR. RASEK	SW 001	0794	V-5	5.2 m/120 x 60, wood, driven by tooth belt	500
Absorbing Clamp						
Slideway for	EMCC DR. RASEK	SW001	1197	V-5	5.8m/120x60, wood, driven by tooth belt	900
Absorbing Clamp						
Coax Cable 50 N/BN	Berkenh&Drebes	M17/84-R 22	002	X-6	5 m/Nm/BNCm/50 ohms	75
RF Ferrite Abs. Filter	Luethi	Fg 33 x 15	001	V-5	30 MHz...1 GHz	777
Anechoic Wall	EMCC DR. RASEK/GRACE	VHP 26	001	V-5	3m x 2m, 30dB/300MHz (17T)	0
Anechoic Wall	EMCC DR. RASEK/GRACE	VHP 26	002	V-5	3m x 2m, 30dB/300MHz (17T)	0
Anechoic Wall	EMCC DR. RASEK/GRACE	VHP 26	003	V-5	3m x 2m, 30dB/300MHz (17T)	0
Ferrite RF Floor Absorber	Kabelwerk Eupen	CUNICO 20201012133	7053996	V-5	16.2 qm, 180 plates, 30...3000 MHz	0
Anechoic Room	Frankonia		001	V-5	9380 x 7000 x 3750 mm ³ , Turntable: 1 t/m ² , d = 2 m Absorber: 90 cm / Ferrit-Absorber, DM 242 000	0

S = 82 268

VII-8a
GENERAL PURPOSE TEST INSTRUMENTS 8a
Power Supplies DC, AC/DC

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
Rectifier	EMCC	DCPSRS 01	001	VII-8	5...120 VDC/15ADC	2 870
DC Power Supply	Eltronix	EA 4003	001	VII-8	0...30 VDC/2.5...4 ADC	289
DC Power Supply	Eltronix	EA 7030-200	X87060402	VII-8	0...30 VDC/0...20ADC	2 420
DC Power Supply	Voltcraft	TNG 35	001	VII-8	0...30 VDC/0...2.5 A	190
DC Power Supply	Voltcraft	TNG 245	230595-1	VII-8	2 x 0...40 VDC; 2 x 0.02...2.5 ADC, 230 VAC/240 W; 7.5 kg	362
DC Power Supply	Voltcraft	TNG 245	230595-2	VII-8	2 x 0...40 VDC; 2 x 0.02...2.5 ADC, 230 VAC/240 W; 7.5 kg	362
DC Power Supply	HGL	PP6791201G	20120766	VII-8	6/7.5/9/12 VDC, 1 A	88
DC Power Supply	RFT	3218	1398	VII-8	220VAC/50 Hz, 0.05...75 VDC, 4A	348
DC Power Supply	S.A.F	T 560 V	82916	VII-8	220VAC/12.24.36.48VDC/10A,38kg	600
DC Power Supply	Sadowski	FU 178/6	14341	I-4	36VDC,750W	4 800
Static Inverter	Sadowski	FU 178/6	14341	I-4	36VDC,115V/230VAC 50Hz/60Hz/750W SCHUKO/CEE	5 800
DC Power Supply	EMCC	EIB 1	001	VII-8	0...350VDC/3A	4 500
DC Power Supply	RFT	SG032	93051	VII-8	380VAC/0...32VDC/60A,0...65VDC/30A	9 950
DC Power Supply	RFT	SG065	940045	VII-8	380VAC/0...65VDC/30A,0...110VDC/16A	8 980
DC Power Supply	RFT	SG280	940012	VII-8	380VAC/0...280VDC/6A,0...500VDC/4A	9 950
DC Power Supply	SSW	G232L-D30/350W	643/21103-D	VII-8	380 VAC/21A...30VDC/350A,465 kg input CEKON 32Am/output CEKON 63Af	23 510
DC Power Supply with Isolation Transformer	EMCC/SBA	SG 650	1595	VII-8	DC 240V...680V/25A in Case IP23,CEKON 32A	9 100
X Programmable Power Source	R&S	NGPE40	451292/0529	VII-8	0...40V, 0...40A, 800W, IEC 625	8 440 X
Power Cable	R&S		192.0332.41	VII-8		25
W/Option IEC	R&S	PAT-B1	1007.1150.02	VII-8	Bus driver IEC 625/IEEE 488	1 950
AC/DC Power Supply	Eltronix	EA 3050	001	VII-8	0...30VACDC/5A, 0...300VADC/0.5A 14.8kg, 37x12.5x17.5 cm	853
AC/DC Power Supply	Hewl-Pack	712 B	066	VII-8	115VAC/450W,500VDC/200mA,6.3VAC/10A	6 820
AC/DC-Univers.Xfr Sup.	RFT	UHS 401	120651	VII-8	220V/120...240V/1A/AC;1...17V/5A,DC;1...15V/4A	187
Variable Auto Xfr.	EMCC/Philips	AT 220/4	2495	VII-7	0...230 VAC/DC, 4 A	1 200
Variable Auto Xfr.	EMCC	AT 220/40	2996	VII-7	0...230VAC,40A,50/60Hz CEE,motor driven	8 900

S = 112 494

VII-10

GENERAL PURPOSE TEST INSTRUMENTS 10, Video Systems, Audio Systems, Electronic Cameras, Infrared Remote Controls

Instrument	Manufacturer	Type	Serial #	Data	Specifications	Costs/DM
<u>Video System</u>						
Camcorder	Sony	CCD-TR810E	1000003	VII-10	Hi 8,PAL,2lx,4,1-61,5mm,7,2V/4,2W,940g, 104x109x202mm	1 950
Shielded Video Monitoring System with Fiberoptic	Fiber options/EMCC	MS 02	3096	VII-10	* Shielded Box with AV to fiberoptic converter * Power supply 230 VAC/12 VDC * Box with fiberoptic to AV converter	8 200
Colour TV	Sanyo	CEP3014D	27013258	VII-10	230 V/50 Hz, 36 cm, remote control	500
Video System	Hyundai	HO-14		VII-10		
CCTV Camera	Hyundai	CO-2200		VII-10	16mm-Standart Objective C-Mount with internal microphone 17,1cm x 11cm x 6cm; 0,66kg 220VAC,50Hz,50W; 22cm x 22cm x 23cm, 8,2kg 4 Channel Video/Audio switch	
Monitor 9" b/w	Hyundai	CO-942M	00612656	VII-10	flexible Audio Input 18m;with modular cable Connectors (60"-System)	
Camera Fixture		CO-2110		VII-10	5m;with modular cable Connectors (60"-System)	
Intercommunication System		CO-2201		VII-10		
Cable		CO-1060		VII-10	Cynch connectors , modular cable 2m	1120
Adapter Cable				VII-10		
<u>Audio System</u>						
Fiber Optic Intercom. System	EMCC	ICS 01	001	VII-10	2x5m Fiber Optic Link, 220V/12VDC	450
Public exchange	Auerswald/EMCC	ETS 2006	2995	VII-10	230 VAC/50 Hz/20 W, Public line: 2 x analog, IWW, MFV Private line: 6 x analog Terminals, 2 lines with filter 3,4 kHz, IWW,MFV,Fax-Modem Switch,RS-232C,Interface, 19"-Case, 5 kg	1 200
Telephone	Conrad Electronic	Design Telefon 2000	001	VII-10	IWW,MFV,volume controls, optical bell	50
Telephone	Conrad Electronic	Design Telefon 2000	002	VII-10	IWW,MFV,volume controls, optical bell	50
CCD Digital Camera Nr. 1	Apple	Quick Take 150	TL6030ES4NW	VII-9	640x480, 24 Bit, 1 MB	
AC-Adapter	Apple	M56527(APS-46E)	008281	VII-9	AC 100-240 V, DC 7,5 V, 3 A	
Quick-Take	Apple	Version 1.5 WIN		VII-9	Software	
PhotoNow!	PictureWorks Techn.	Version 1.5 WIN		VII-9	TWAIN-Driver for quick Take 150	1 485
CCD Digital Camera Nr. 2	Apple	Quick Take 150	TL6030EU4NW	VII-9	640x480, 24 Bit, 1 MB	
AC-Adapter	Apple	M56527(APS-46E)	011883	VII-9	AC 100-240 V, DC 7,5 V, 3 A	
Quick-Take	Apple	Version 1.5 WIN		VII-9	Software	
PhotoNow!	PictureWorks Techn.	Version 1.5 WIN		VII-9	TWAIN-Driver for quick Take 150	1 485
CCD Digital Camera Nr. 3	Apple	Quick Take 150	TL5362754NW	VII-9	640x480, 24 Bit, 1 MB	
AC-Adapter	Apple	M56527(APS-46E)	043335	VII-9	AC 100-240 V, DC 7,5 V, 3 A	
Quick-Take	Apple	Version 1.5 WIN		VII-9	Software	
PhotoNow!	PictureWorks Techn.	Version 1.5 WIN		VII-9	TWAIN-Driver for quick Take 150	1 485
CCD Digital Camera Nr. 4	Kodak	DC 120	EKB71500860	VII-9	1280x960, 24 Bit, 2 MB	
Compact Flash Memory Card	Kodak	SP SDCFB-10-144		VII-9	10 MB, ATA True DIE, PC Card Adapter Typ II	
Photo Enhancer 3.2				VII-9	Software	
Twain Acquire Modul for Windows	Kodak			VII-9	Software	
Picture Transfer Software	Kodak			VII-9	Software	
AC-Adapter	Kodak	820 9827		VII-9	AC 220-240 V	2 354
<u>Remote Control Devices</u>						
Infra Red Remote Control	Volltronic	3104	001	VII-10	9 V, XMTR	100
Infra Red Remote Control	Volltronic	3104	002	VII-10	9 V, XMTR	100
Infra Red Remote Control	Volltronic	3110	001	VII-10	220 V/10A/50 Hz, RCVR	50
Infra Red Remote Control	Volltronic/EMCC	3110	002	VII-10	220 V/10A/50 Hz/EMCC,RCVR	190
Pneumatic Switch	EMCC	PS 1	4197	VII-10	Double throw Switch, 230 V-/16 A	210

S = 20 979

41/41