

Straubing, October 9, 2000

TEST - REPORT

No. 50831-00509-3

for

TLG RS232

Inductive TAG system

Applicant: Hermos Informatik GmbH

Purpose of testing: To show compliance with

FCC Code of Federal Regulations,
Part 15 Subpart C, Section §15.205

FCC Code of Federal Regulations,
Part 15 Subpart C, Section §15.209

Note:

The test data of this report relate only to the individual item which has been tested. This report shall not be reproduced except in full extent without the written approval of the testing laboratory.

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1. Administrative Data

Equipment Under Test (EUT): TLG RS232

Serial number(s): 0001

Type of equipment: Inductive TAG system

Parts/accessories: Part 1: Transceiver unit
Part 2: TAG (passive)

FCC-ID: N5GTSG

Applicant:
(full address) Hermos Informatik GmbH
Gartenstraße 19
D-95490 Mistelgau

Contract identification: ---

Contact person: Mr. Düngfelder

Manufacturer: Hermos Informatik GmbH

Receipt of EUT: August 21, 2000

Date of test: September 2000

Note: ---

Responsible for testing: Thomas Eberl

Responsible for test report: Thomas Eberl (cj)

2. Identification of Test Laboratory

Test Laboratory: (full address):	Senton GmbH EMI/EMC Test Center Aeussere Fruehlingstrasse 45 D-94315 Straubing Germany
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Contact person:	Mr. Johann Roidt	
Communication:	Telephone	(+49) 0 94 21 / 55 22-0
	Fax	(+49) 0 94 21 / 55 22-99
	eMail:	Office@senton.de

FCC registration number:	90926
Industry Canada file number:	IC 3050

3. Summary of Test Results

The tested sample complies with the requirements set forth in the

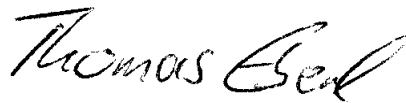
**Code of Regulations Part 15 Subpart C, Section §15.205 of the Federal
Communication Commission (FCC).**

The tested sample complies with the requirements set forth in the

**Code of Regulations Part 15 Subpart C, Section §15.209 of the Federal
Communication Commission (FCC)**



Johann Roidt
Technical Manager



Thomas Eberl
Test Engineer

4. Operation Mode of EUT

FCC test setup
Reading TAG continuously

5. Configuration of EUT and Peripheral Devices

Configuration of cables of EUT

Configuration of peripheral devices connected to EUT

PC: Fujitsu Lite Line
Model 5033 #TUTS 980 18460

6. Measuring Methods

6.1. Radiated Emission 09 kHz - 30 MHz (FCC §15.205.a,b, §15.209, §15.231.b / RSS-210 Sections 6.1.1.b, 6.3)

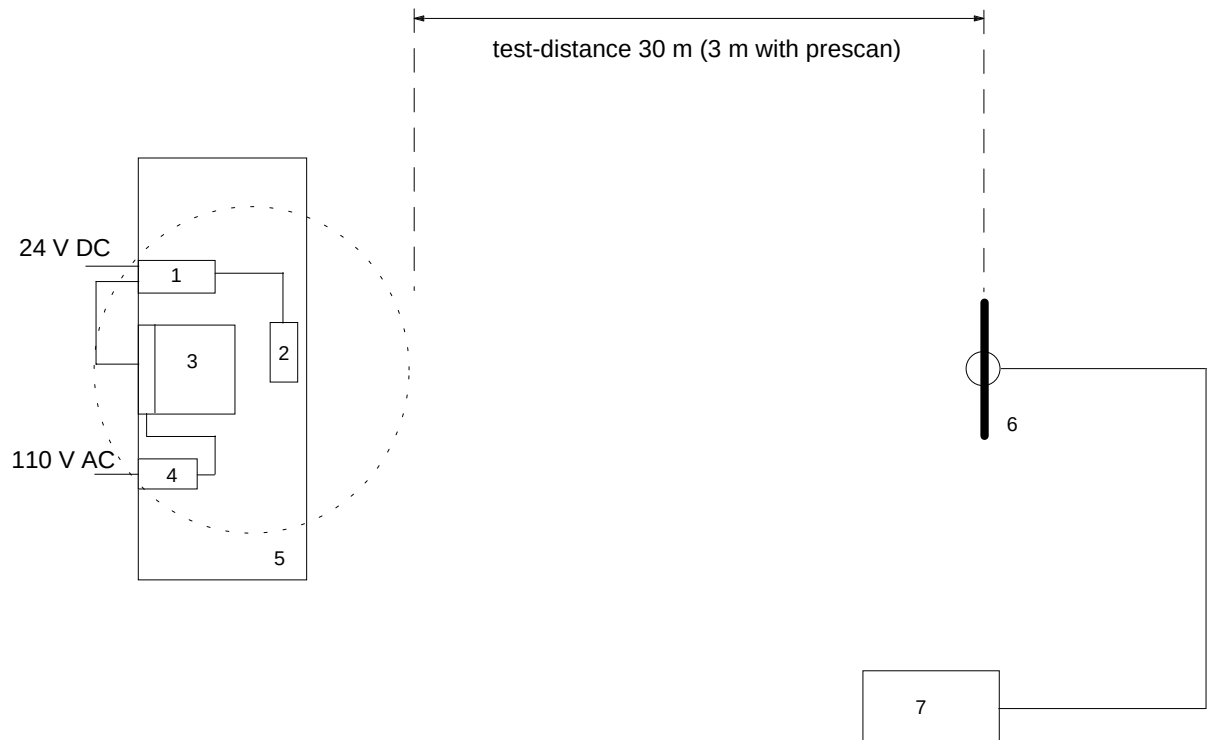
Radiated emissions were measured over the frequency range from 9 kHz to 30 MHz. The bandwidth of the EMI-receiver was set to 200 Hz below 150 kHz and to 10 kHz above 150 kHz. According to section §15.209 (d) final measurements were performed with the detector set to CISPR quasi-peak except for the frequency bands 9 - 90 kHz and 110 - 490 kHz where average detector is employed.

The test setup was made in accordance with ANSI C63.4-1992.

Preliminary scans were taken in a shielded room with a test-distance of 3 meters and detector-function of EMI-receiver set to peak to determine the radiated EMI-profile of the EUT. EUT was rotated all around and cables and equipment were placed and moved within the range of positions likely to find their maximum emissions. Final test was performed using an open-area test-site with a test-distance of 30 meters. In cases the regulation requires testing at 300 meters distance the results will be extrapolated by using either an inverse linear distance extrapolation factor of 40 dB/decade or the extrapolation factor will be determined by making a second measurement at 10 meters distance. The provisions of §15.31 (d) and §15.31 (f) apply.

Test equipment used (see equipment list for details):

03, 37, 60, 64, 66,



- 1 EUT
- 2 Antenna (EUT)
- 3 Lap Top PC

- 4 Power supply - Lap Top PC
- 5 Wooden table
- 6 Measurement antenna
- 7 Test receiver

6.2. Radiated Emission 30 MHz - 1 GHz (FCC §15.205.a,b, §15.209, §15.231.b / RSS-210 Sections 6.1.1.b, 6.3)

Radiated emissions are measured over the frequency range from 30 MHz to 1 GHz. The bandwidth of the EMI-receiver is set to 120 kHz and the detector-function is set to CISPR quasi-peak.

The test setup is made in accordance with ANSI C63.4-1992.

Measurements are made in both the horizontal and vertical planes of polarization.

Preliminary scans are taken in a semi-anechoic room using a spectrum analyzer with the detector function set to peak. Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

All tests are performed at a test-distance of 3 meters.

For final testing an open-area test-site is used. During the tests the EUT is rotated all around and the receiving-antenna is raised and lowered from 1 meter to 4 meters to find the maximum levels of emissions. The cables and equipment is placed and moved within the range of position likely to find their maximum emissions.

See figure 2 for the measurement setup.

Test equipment used (see equipment list for details):

01, 02, 05, 12, 38, 39, 40, 41, 58, 61, 64, 66

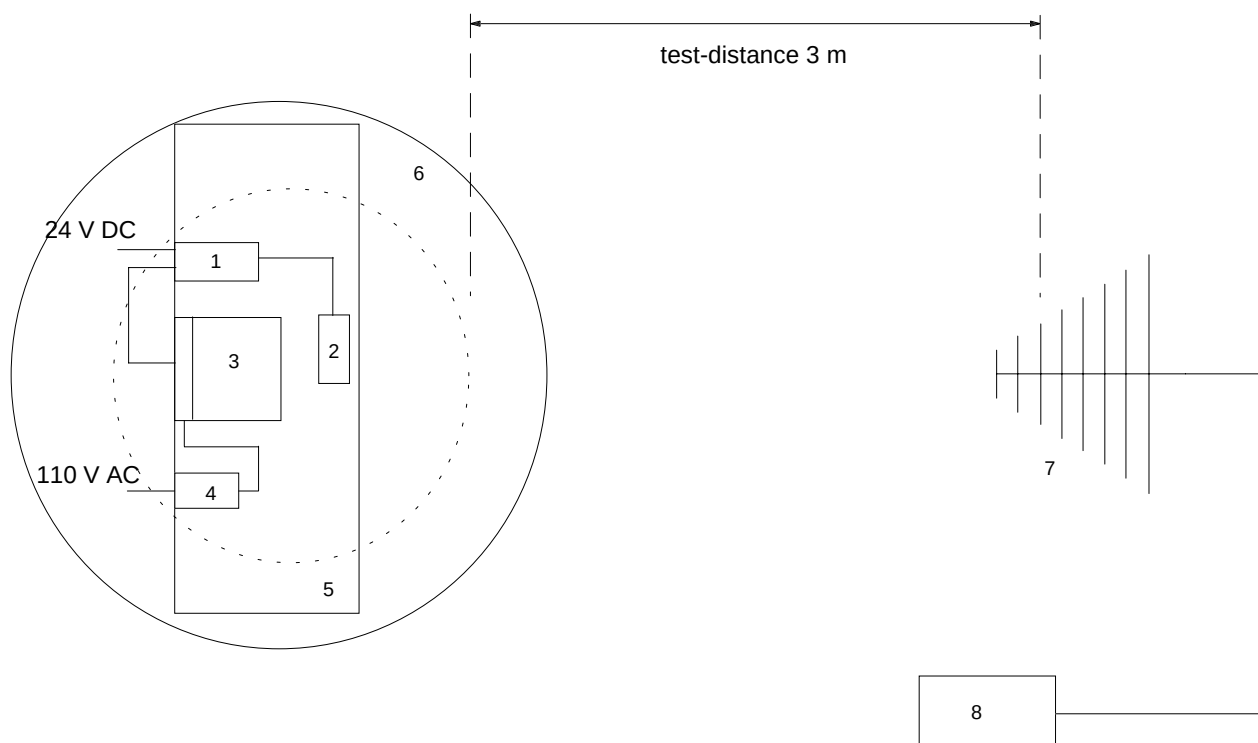


Figure 2: Measurement setup for radiated emission test below 1 GHz

- | | | | |
|---|---------------|---|---------------------------|
| 1 | EUT) | 4 | Power supply - Lap Top PC |
| 2 | Antenna (EUT) | 5 | Wooden table |
| 3 | Lap Top PC | 6 | Turn table |
| | | 7 | Measurement antenna |
| | | 8 | Test receiver |

7. Equipment List

To facilitate reference to test equipment used for related tests, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory.

No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	R 3271	05050023	Advantest
02	EMI Test Receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
03	Test Receiver	ESH 3	880112/032	Rohde & Schwarz
04	Test Receiver	ESHS 10	860043/016	Rohde & Schwarz
05	Test Receiver	ESV	881414/009	Rohde & Schwarz
06	Test Receiver	ESVP	881120/024	Rohde & Schwarz
07	Audio Analyzer	UPA	862954	Rohde & Schwarz
08	Power Meter	NRVS	836856/015	Rohde & Schwarz
09	Power Sensor	NRV-Z52	837901/030	Rohde & Schwarz
10	Power Sensor	NRV-Z4	863828/015	Rohde & Schwarz
11	Preamplifier	ESV-Z3	860907/004	Rohde & Schwarz
12	Preamplifier	R14601		Advantest
13	Preamplifier	ACX/080-3030	32640	CTT
14	Preamplifier	ACO/180-3530	32641	CTT
15	Signal Generator	SMS	872166/039	Rohde & Schwarz
16	Signal Generator	HP 8673 D	2930A00966	Hewlett Packard
17	Waveform Generator	HP 33120 A	US34005375	Hewlett Packard
18	Attenuator 20 dB	4776-20	9503	Narda
19	Attenuator 10 dB	4776-10	9412	Narda
20	Pulse Limiter	ESH 3-Z2	1144	Rohde & Schwarz
21	Pulse Limiter	11947 A	3107A00566	Hewlett Packard
22	V-Network	ESH 3-Z5	862770/018	Rohde & Schwarz
23	V-Network	ESH 3-Z5	894785/005	Rohde & Schwarz
24	V-Network	ESH 3-Z5	830952/025	Rohde & Schwarz
25	V-Network	ESH 3-Z6	830722/010	Rohde & Schwarz
26	V-Network	NSLK 8127	8127152	Schwarzbeck
27	V-Network	NNLA 8119	8119148	Schwarzbeck
28	V-Network	SE 01	01	Senton
29	T-Network	ESH 3-Z4	890602/011	Rohde & Schwarz
30	T-Network	ESH 3-Z4	890602/012	Rohde & Schwarz
31	High Impedance Probe	TK 9416	01	Schwarzbeck
32	High Impedance Probe	TK 9416	02	Schwarzbeck
33	Current Probe	ESH 2-Z1	863366/18	Rohde & Schwarz
34	Current Probe	ESV-Z1	862553/3	Rohde & Schwarz

No.	Type	Model	Serial Number	Manufacturer
35	Absorbing Clamp	MDS 21	80911	Lüthi
36	Absorbing Clamp	MDS 21	79690	Lüthi
37	Loop Antenna	HFH2-Z2	882964/1	Rohde & Schwarz
38	Biconical Antenna	HK 116	842204/001	Rohde & Schwarz
39	Biconical Antenna	HK 116	836239/02	Rohde & Schwarz
40	Log. Periodic Antenna	HL 223	841516/023	Rohde & Schwarz
41	Log. Periodic Antenna	HL 223	834408/12	Rohde & Schwarz
42	Horn Antenna	3115	9508-4553	Emco
43	Horn Antenna	3160-03	9112-1003	Emco
44	Horn Antenna	3160-04	9112-1001	Emco
45	Horn Antenna	3160-05	9112-1001	Emco
46	Horn Antenna	3160-06	9112-1001	Emco
47	Horn Antenna	3160-07	9112-1008	Emco
48	Horn Antenna	3160-08	9112-1002	Emco
49	Horn Antenna	3160-09	9403-1025	Emco
50	Digital multimeter	199	463386	Keithley
51	DC Power Supply	NGSM 32/10	203	Rohde & Schwarz
52	DC Power Supply	NGB	2455	Rohde & Schwarz
53	DC Power Supply	NGA	386	Rohde & Schwarz
54	Temperature Test Chamber	HT4010	07065550	Heraeus
55	Cable	RG214	1309	Senton
56	Cable	200CM_001	1357	Rosenberger
57	Cable	150CM_001	1479	Rosenberger
58	Cable Set EG1	RG214	1189 - 1191	Senton
59	Cable Set Cabine 1	RG214		Senton
60	Cable Set Cabine 2	RG214		Senton
61	Cable Set Cabine 3	RG214		Senton
62	Shielded Room	No. 1	1451	Senton
63	Shielded Room	No. 2	1452	Senton
64	Semi-anechoic Chamber	No. 3	1453	Siemens
65	Shielded Room	No. 4	1454	Euroshield
66	Open Area Test Site	EG 1		Senton
67	Test fixture			Senton

8. Photographs Taken During Testing

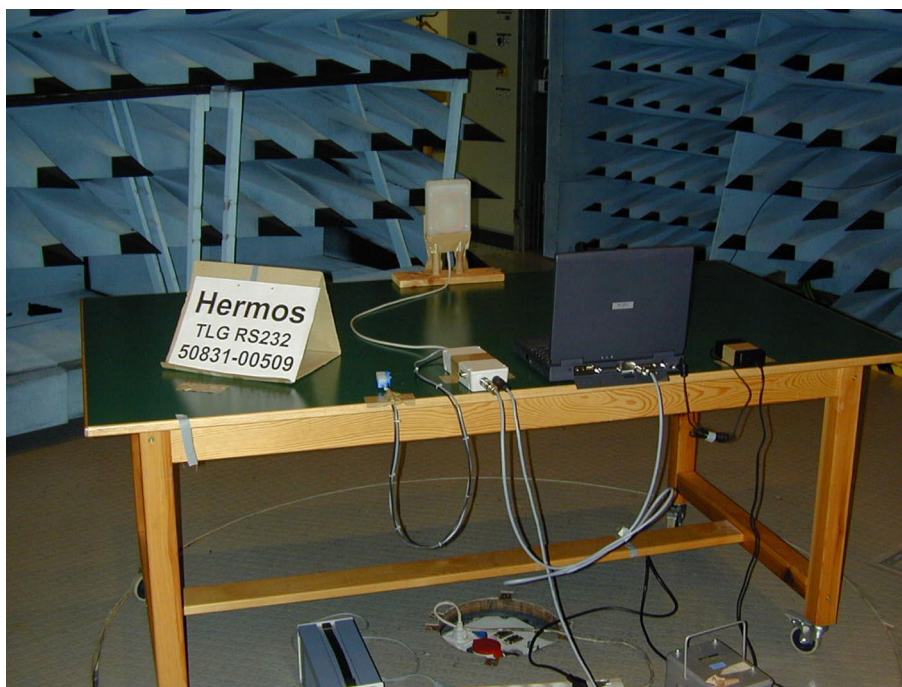
Photos No. 8.1 - 8.2

Test setup for radiated emission test 9 kHz - 30 MHz



Photos No. 8.3 - 8.4

**Test setup for radiated emission pre-test 30 MHz - 1 GHz
(semi anechoic room)**



Photos No. 8.5

**Test setup for radiated emission pre-test 30 MHz - 1 GHz
(semi anechoic room) - continued**



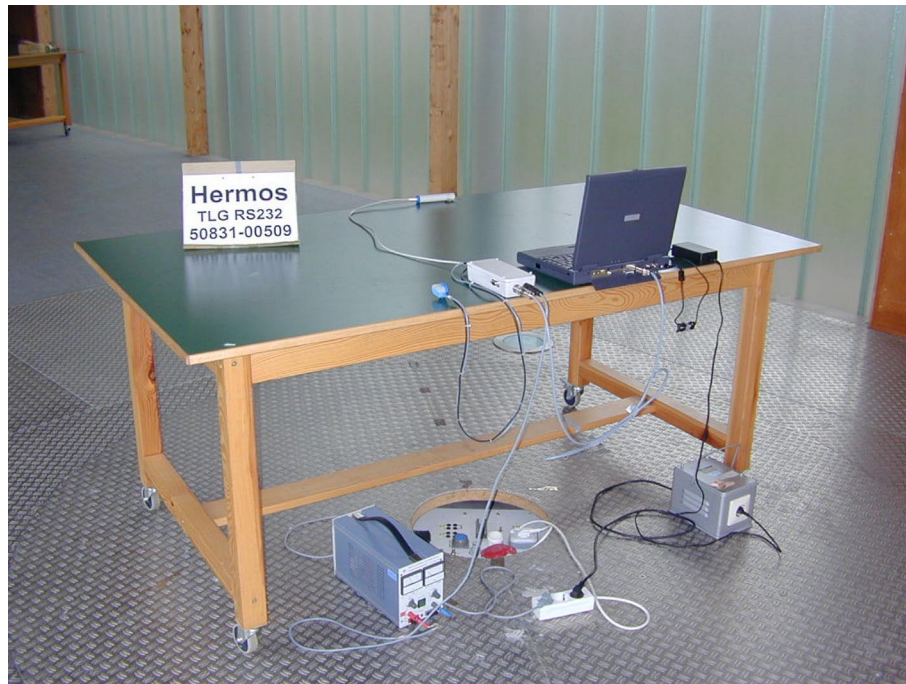
Photos No. 8.6 - 8.7

**Test setup for radiated emission final test 30 MHz - 1 GHz
(open area test site)**



Photos No. 8.8

**Test setup for radiated emission final test 30 MHz - 1 GHz
(open area test site) - continued**



9. List of Measurements

9.1. List of Measurements According To FCC Part 15 Subpart C

FCC Part 15 Subpart C			
Section(s):	Test	Page(s)	Result
	Transmit mode (TX):		
§15.231.c	Bandwidth of emission		Not Applicable
§15.207	Conducted emission test 450 kHz - 30 MHz		Not Applicable
§15.231.b §15.209 §15.205.a,b	Radiated emission test 9 kHz - 30 MHz	25-27	Passed (acc. to §15.33)
§15.231.b §15.209 §15.205.a,b	Radiated emission test 30 MHz - 1 GHz	28-46	Passed
§15.231.b §15.209 §15.205.a,b	Radiated emission test 1 GHz - 5 GHz		Not Applicable

10. Referenced Regulations

All tests were performed with reference to the following regulations and standards:

☐	FCC Part 15 Subpart A	Code of Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)	October 20, 1997
☐	FCC Part 15 Subpart B	Code of Regulations Part 15 (Radio Frequency Devices), Subpart B (Unintentional Radiators) of the Federal Communication Commission (FCC)	October 20, 1997
☒	FCC Part 15 Subpart C	Code of Regulations Part 15 (Radio Frequency Devices), Subpart C (Intentional Radiators) of the Federal Communication Commission (FCC)	October 20, 1997
☒	ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz - 40 GHz	October, 1992
☐	RSS-210	Radio Standards Specification RSS-210 Issue 2 for Low Power Licence-Exempt Radiocommunication Devices of Industry Canada	February 24, 1996

11. Test Results

**Radiated Emission Test 9 kHz - 30 MHz
according to FCC Part 15 Subpart C, §15.209**

Model: TLG RS232
 Type: Inductive TAG system
 Serial No.:
 Applicant: Hermos Informatik GmbH
 Test-site: Open area test-site
 Test distances: 10 meters and 30 meters
 Date of test: 04/09/2000
 Operator: T. Eberl

Mode: Reading TAG continuously

with Frame antenna

Frequency [MHz]	Detector	Measuring Bandwidth [kHz]	Received Voltage		Correction [dB]	Fieldstrength			Limit [dBμV/m]
			10 m [dBμV]	30 m [dBμV]		10 m [dBμV/m]	30 m [dBμV/m]	300 m [dBμV/m]	
0.134	QP	0.2	61.0	37.0	20.0	81.0	57.0	6.7	25.0
0.134	AV	0.2	50.0	25.0	20.0	70.0	45.0	-7.4	25.0

with Rod1 antenna (Stick antenna)

Frequency [MHz]	Detector	Measuring Bandwidth [kHz]	Received Voltage		Correction [dB]	Fieldstrength			Limit [dBμV/m]
			10 m [dBμV]	30 m [dBμV]		10 m [dBμV/m]	30 m [dBμV/m]	300 m [dBμV/m]	
0.134	QP	0.2	60.0	36.0	20.0	80.0	56.0	5.7	25.0
0.134	AV	0.2	49.0	25.0	20.0	69.0	45.0	-5.3	25.0

Note 1: Limit for selected test distance is calculated according to §15.31(f)(2) with inverse linear distance squared extrapolation factor of 40 dB/decade

Note 2: Frequencies are selected according to prescan in shielded room with test distance 3 meters

Radiated Emission Test 9 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Shielded room, cabin no. 1

Tested on:
Test distance 3 metres

Date of test:
09/04/2000

Operator:
T. Eberl

Test performed:
automatically

File name:

Mode:

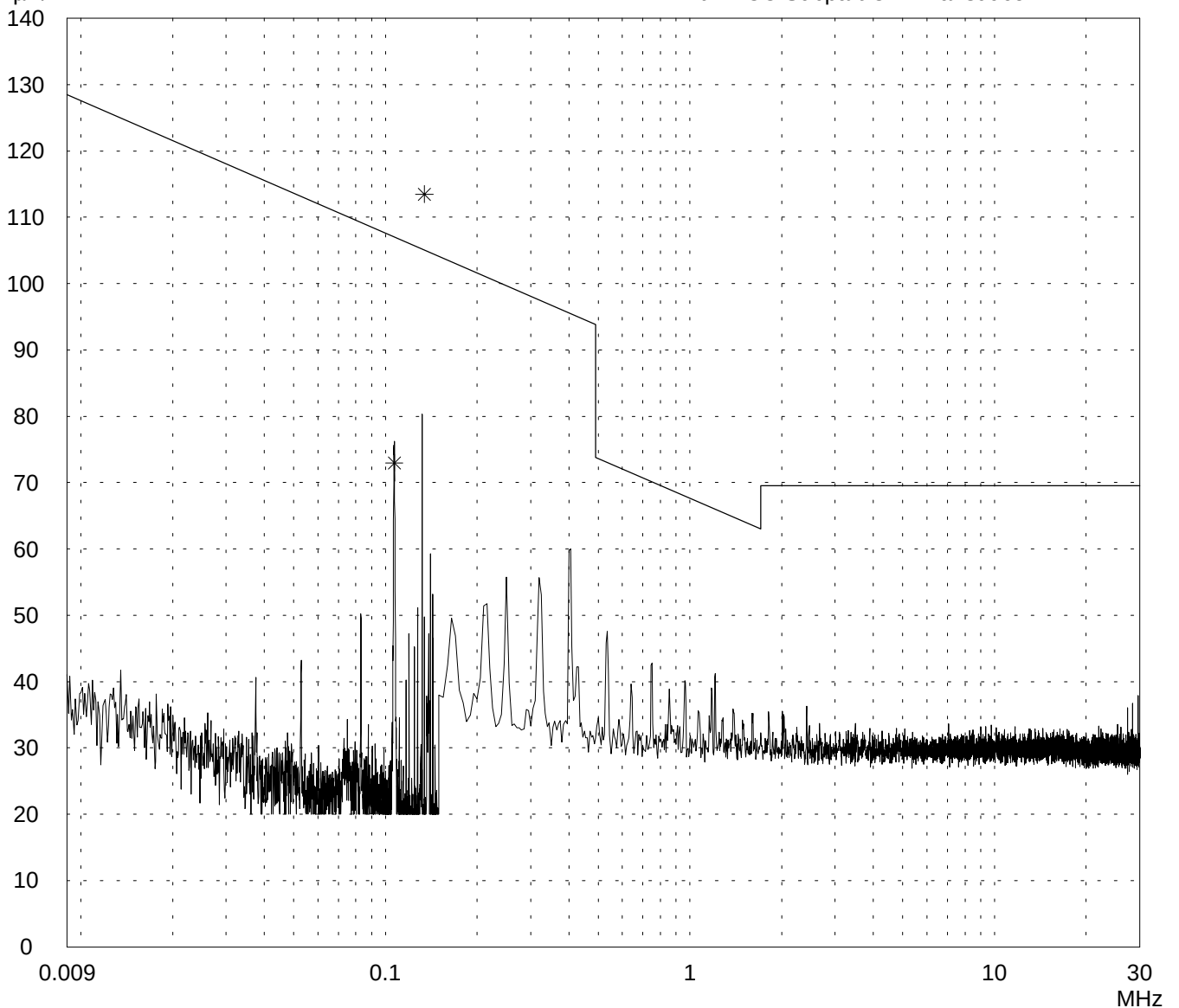
- FCC test setup
- Reading TAG continuously
- Frame antenna connected

Detector:
Peak / Final Results: QP

Final results:
Selected by hand

dB μ V/m

Limit1: FCC Subpart C Transducer: HFH2-Z2



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 9 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Shielded room, cabin no. 1

Tested on:
Test distance 3 metres

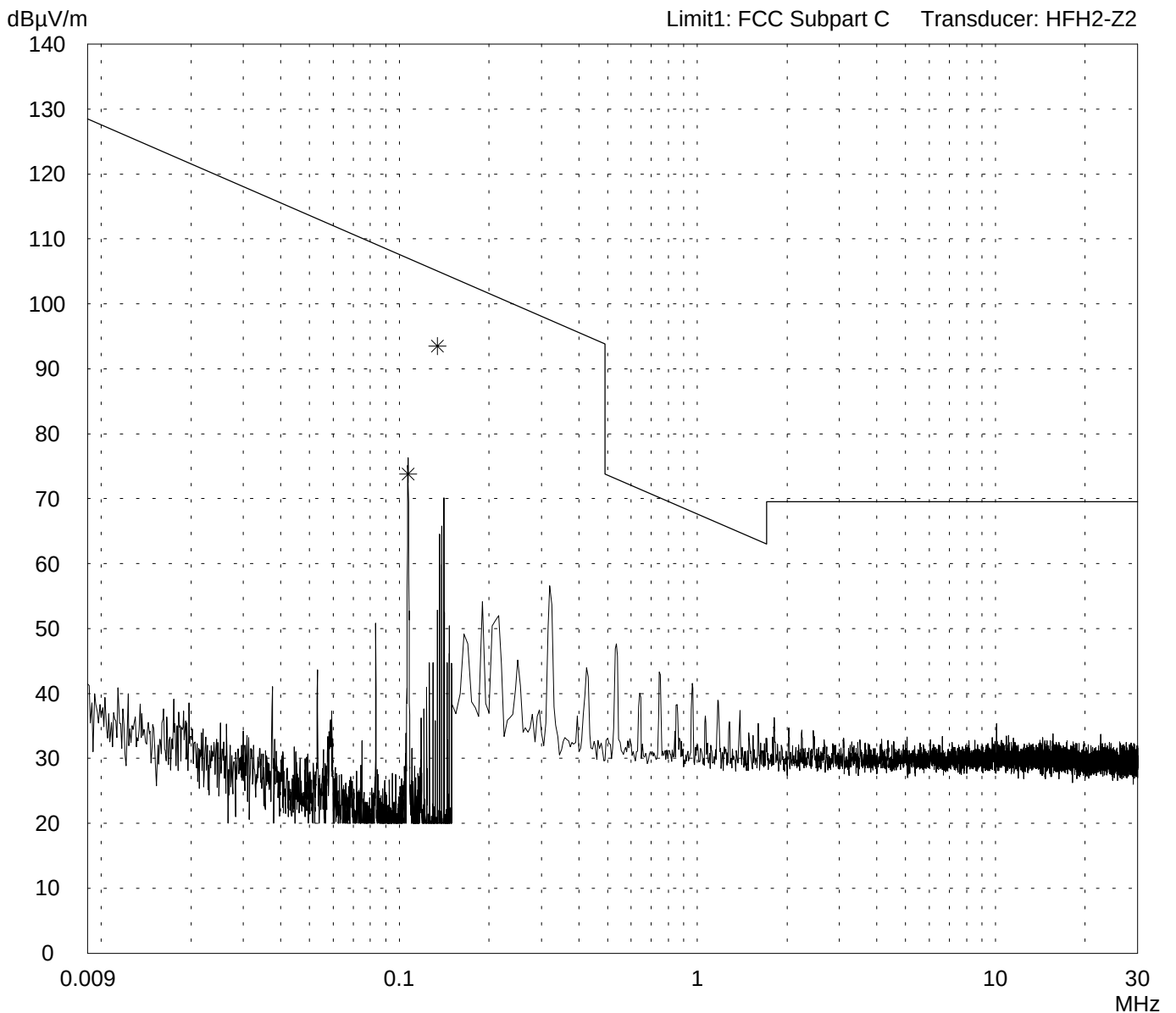
Date of test: 09/04/2000
Operator: T. Eberl

Test performed: automatically
File name:

Mode:
- FCC test setup
- Reading TAG continuously
- Rod antenna connected

Detector:
Peak / Final Results: QP

Final results:
Selected by hand



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 30 MHz - 300 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

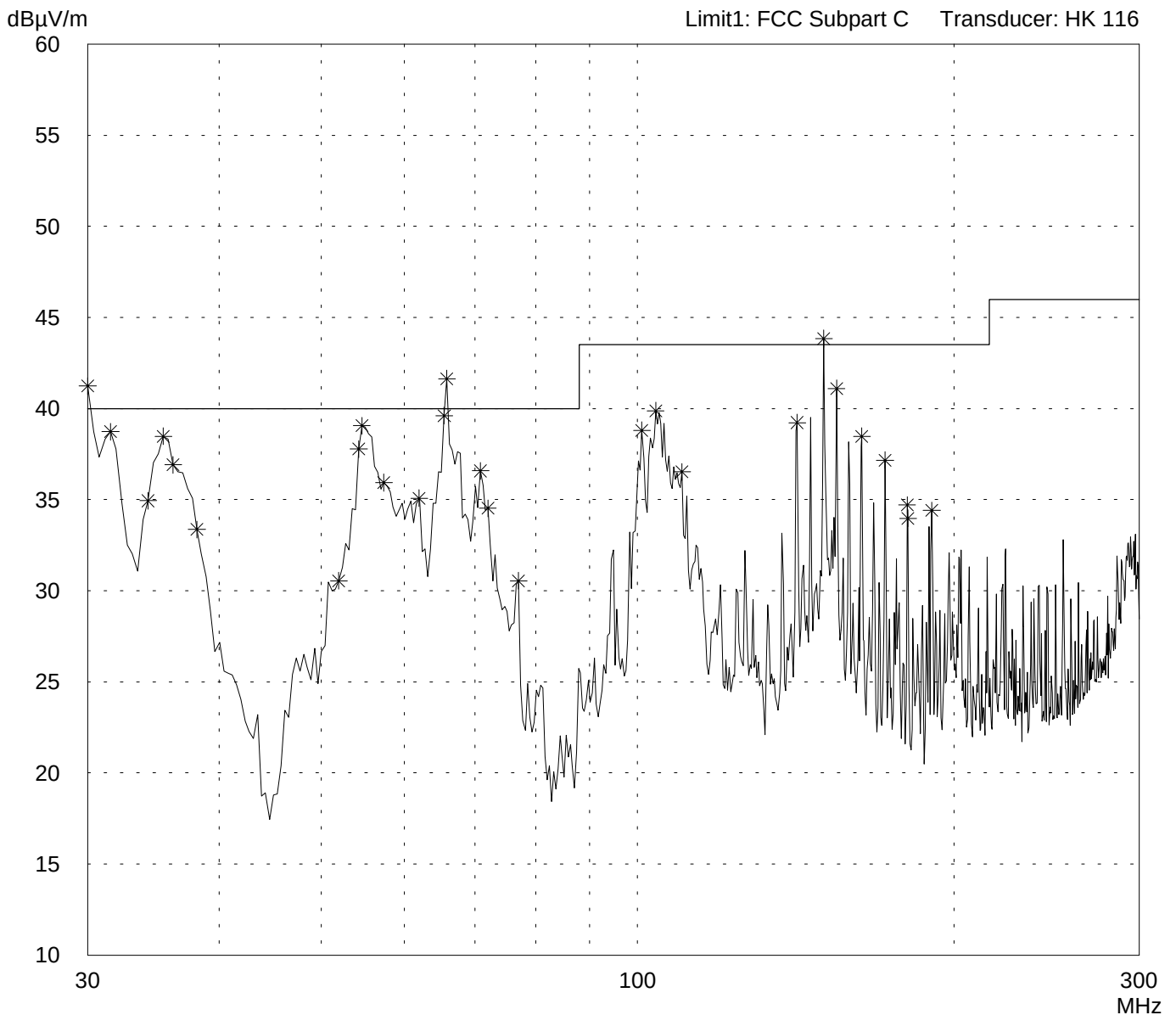
Mode:
- FCC test setup

- reading TAG continuously

- Frame antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 300 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

Mode:
- FCC test setup

- reading TAG continuously

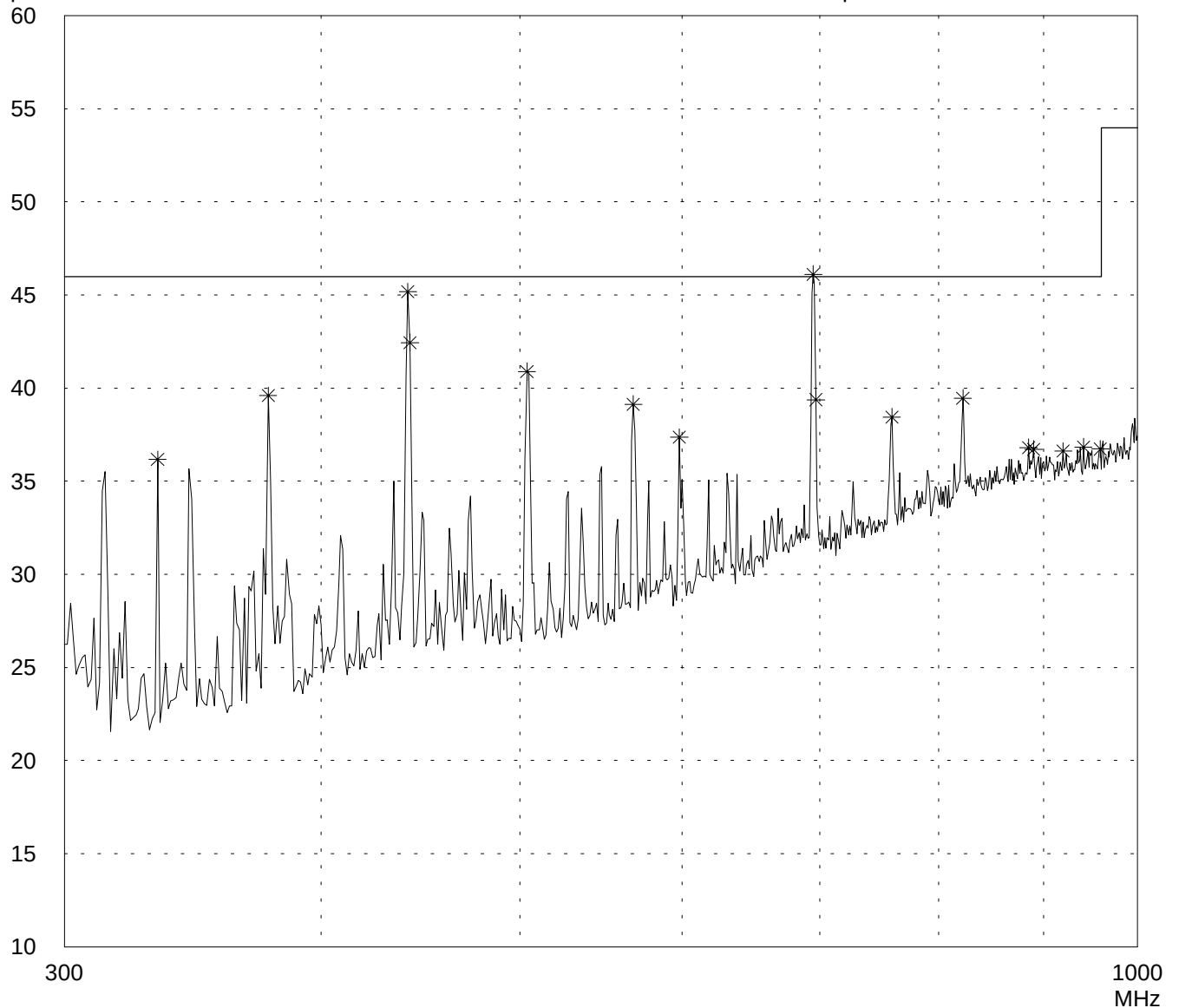
- Frame antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dB μ V/m

Limit1: FCC Subpart C Transducer: HL 223



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 30 MHz - 300 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

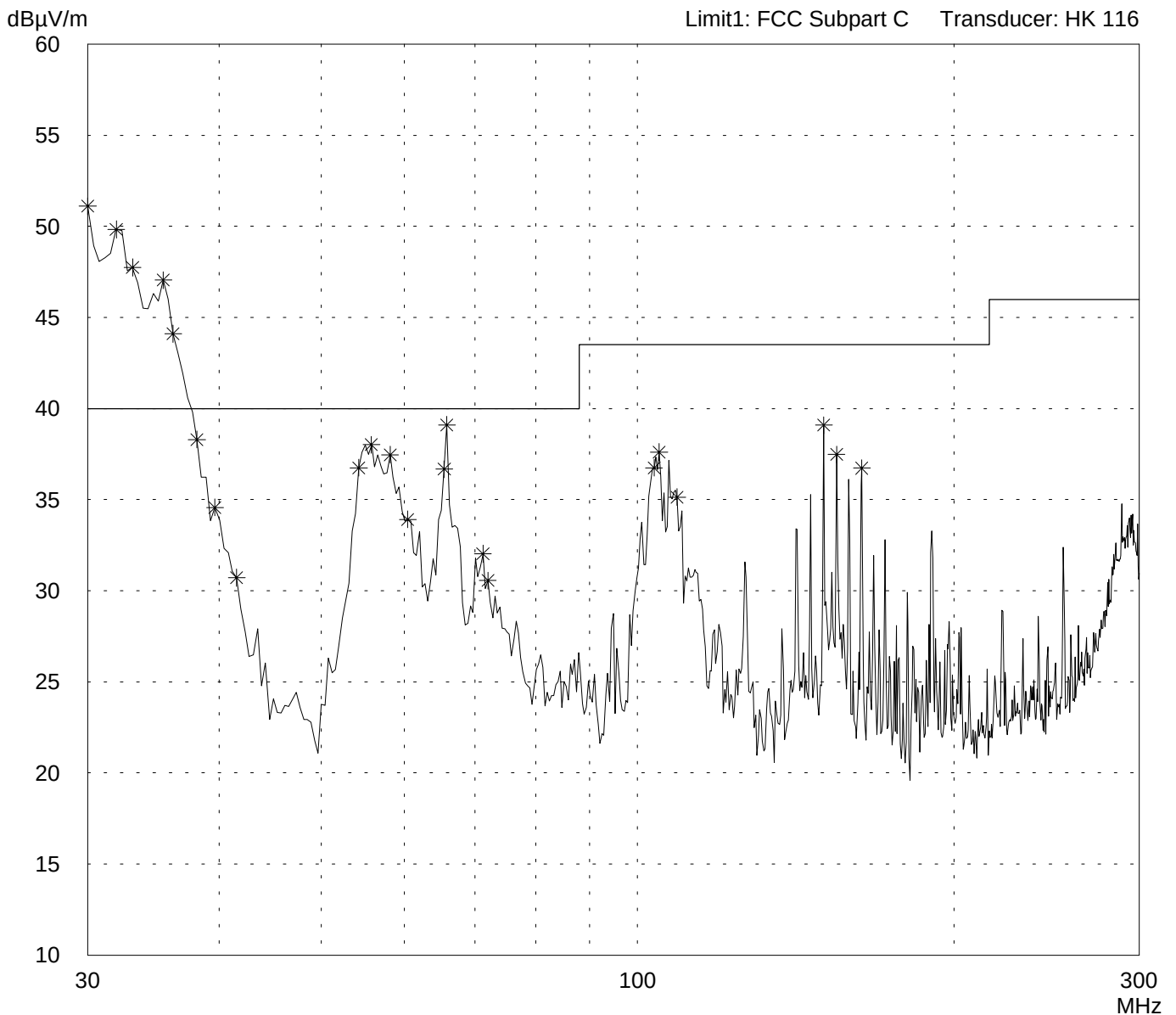
Mode:
- FCC test setup

- reading TAG continuously

- Frame antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 300 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

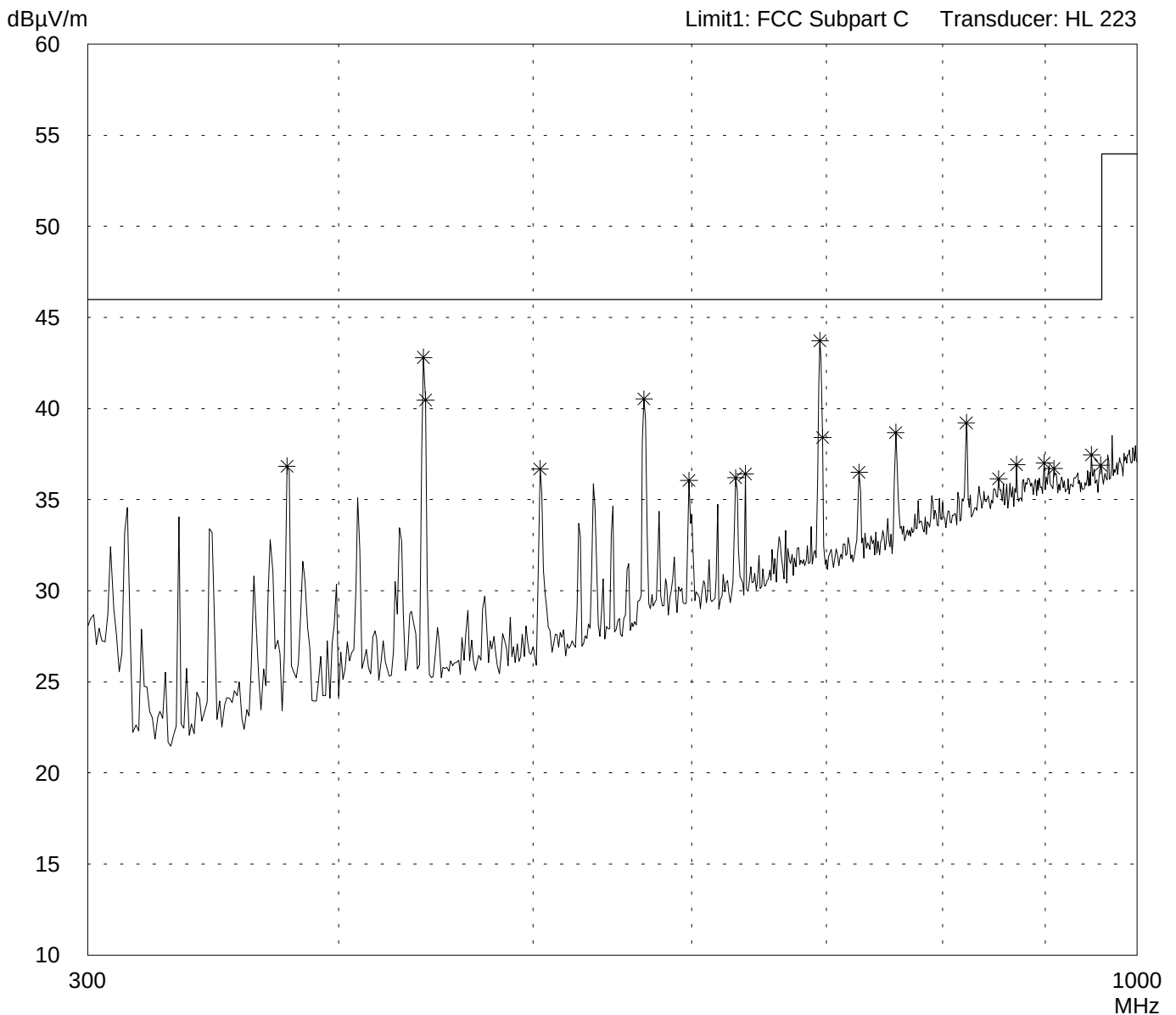
Mode:
- FCC test setup

- reading TAG continuously

- Frame antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
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Radiated Emission Test 30 MHz - 300 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

Mode:
- FCC test setup

- reading TAG continuously

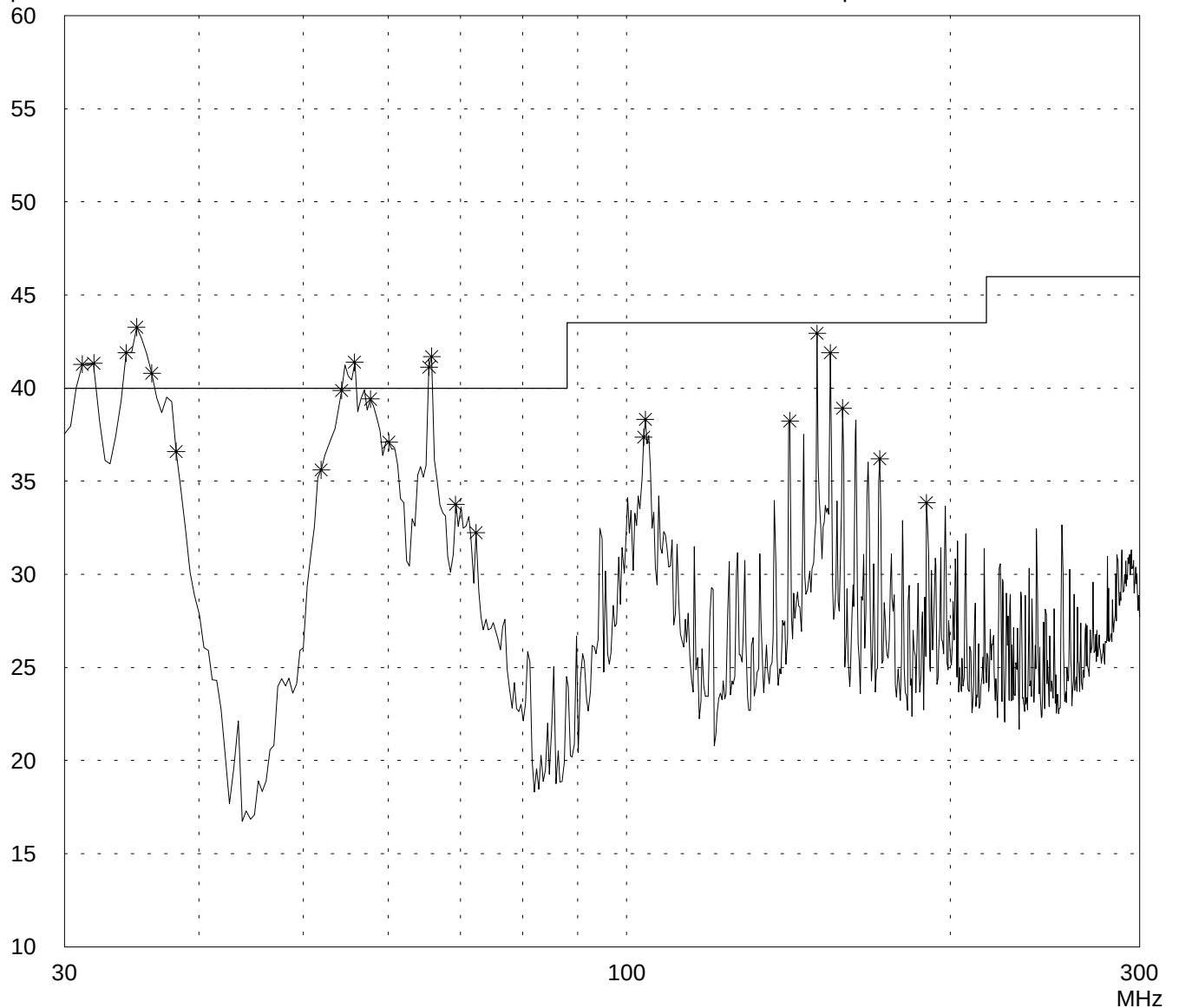
- Rod antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dB μ V/m

Limit1: FCC Subpart C Transducer: HK 116



Result:
Prescan

Project file:
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Radiated Emission Test 300 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

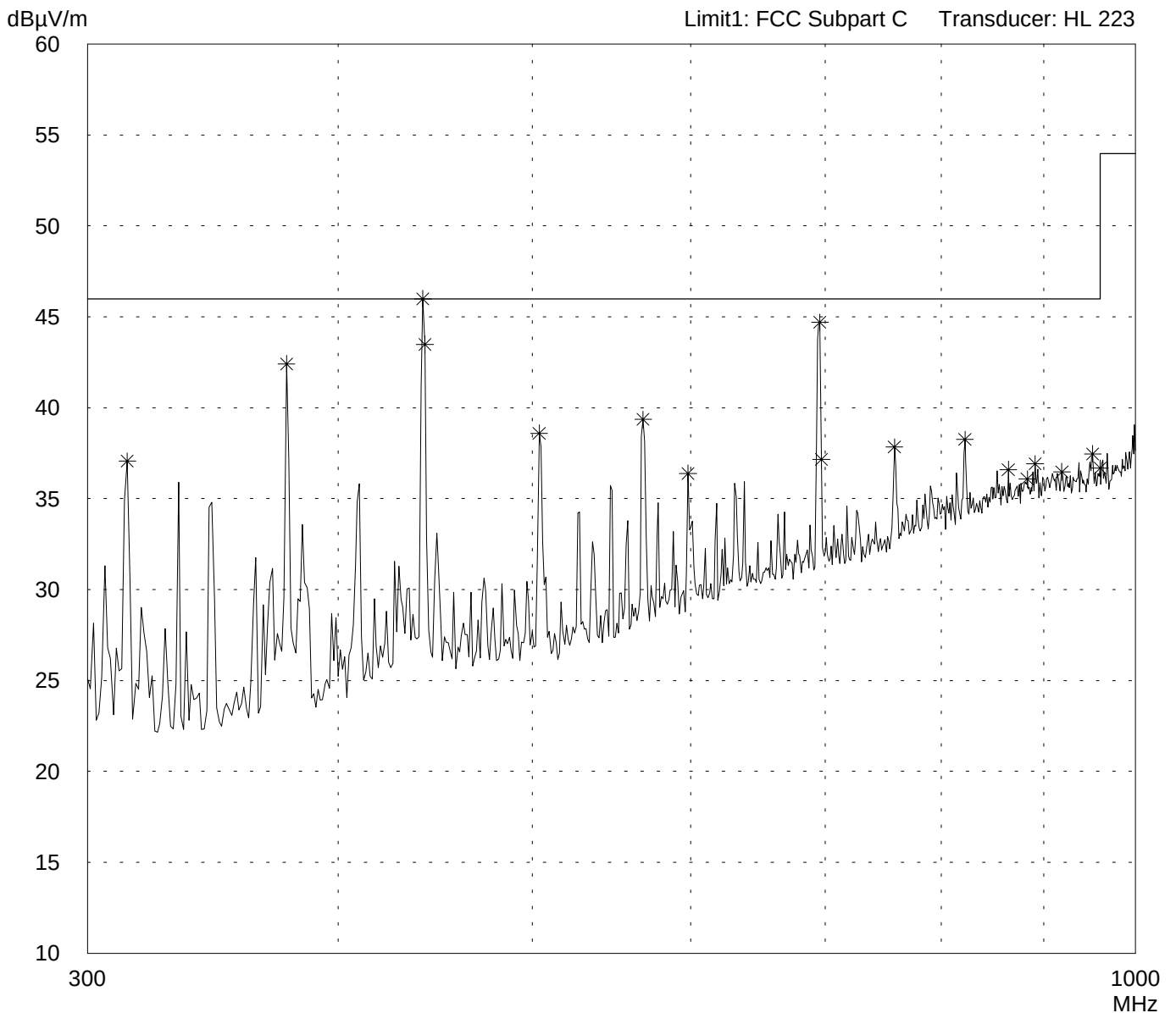
Mode:
- FCC test setup

- reading TAG continuously

- Rod antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
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Radiated Emission Test 30 MHz - 300 MHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

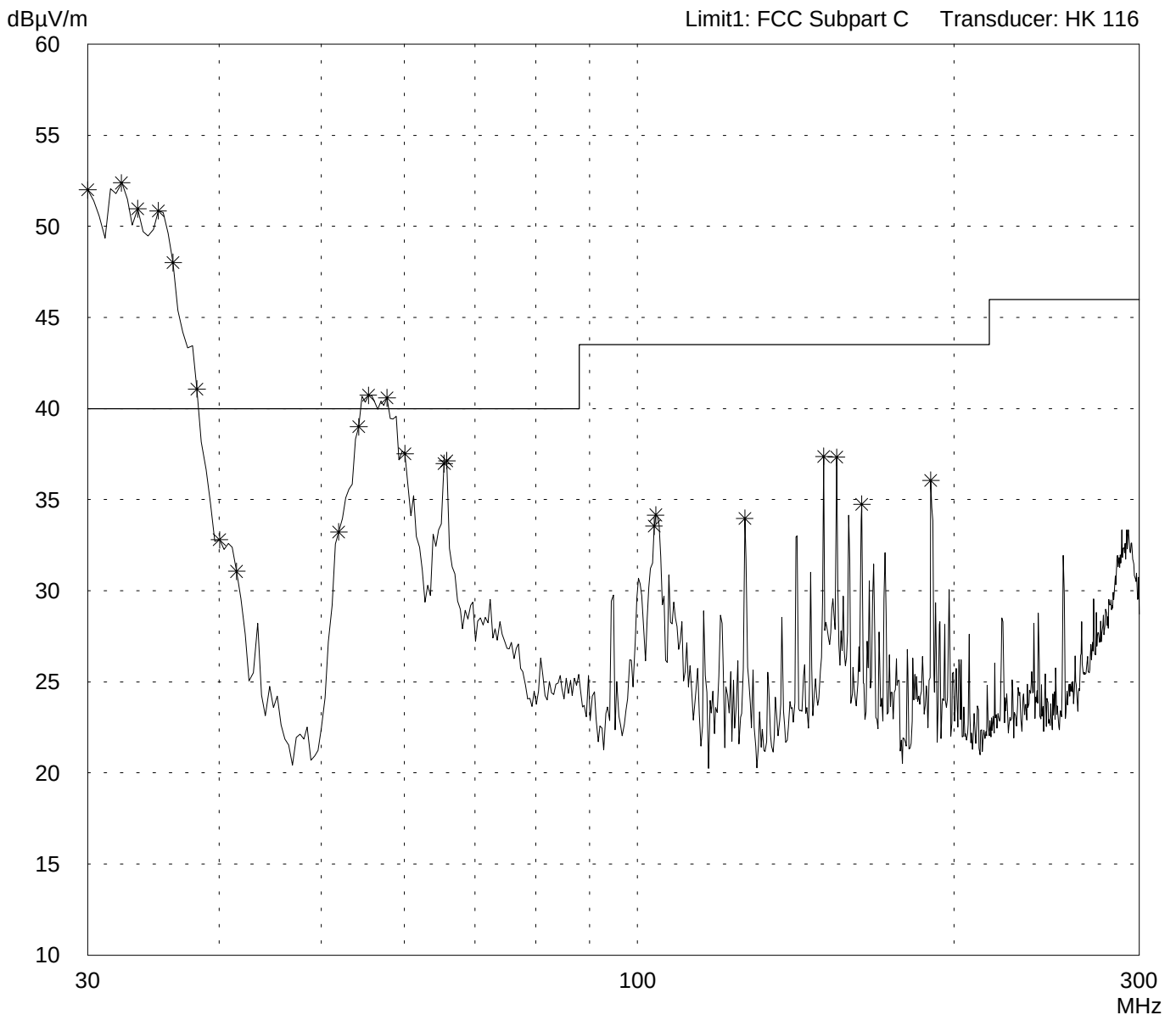
Mode:
- FCC test setup

- reading TAG continuously

- Rod antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 300 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Semi anechoic room, cabin no. 3

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/31/2000 Operator: T. Eberl

Test performed: automatically File name:

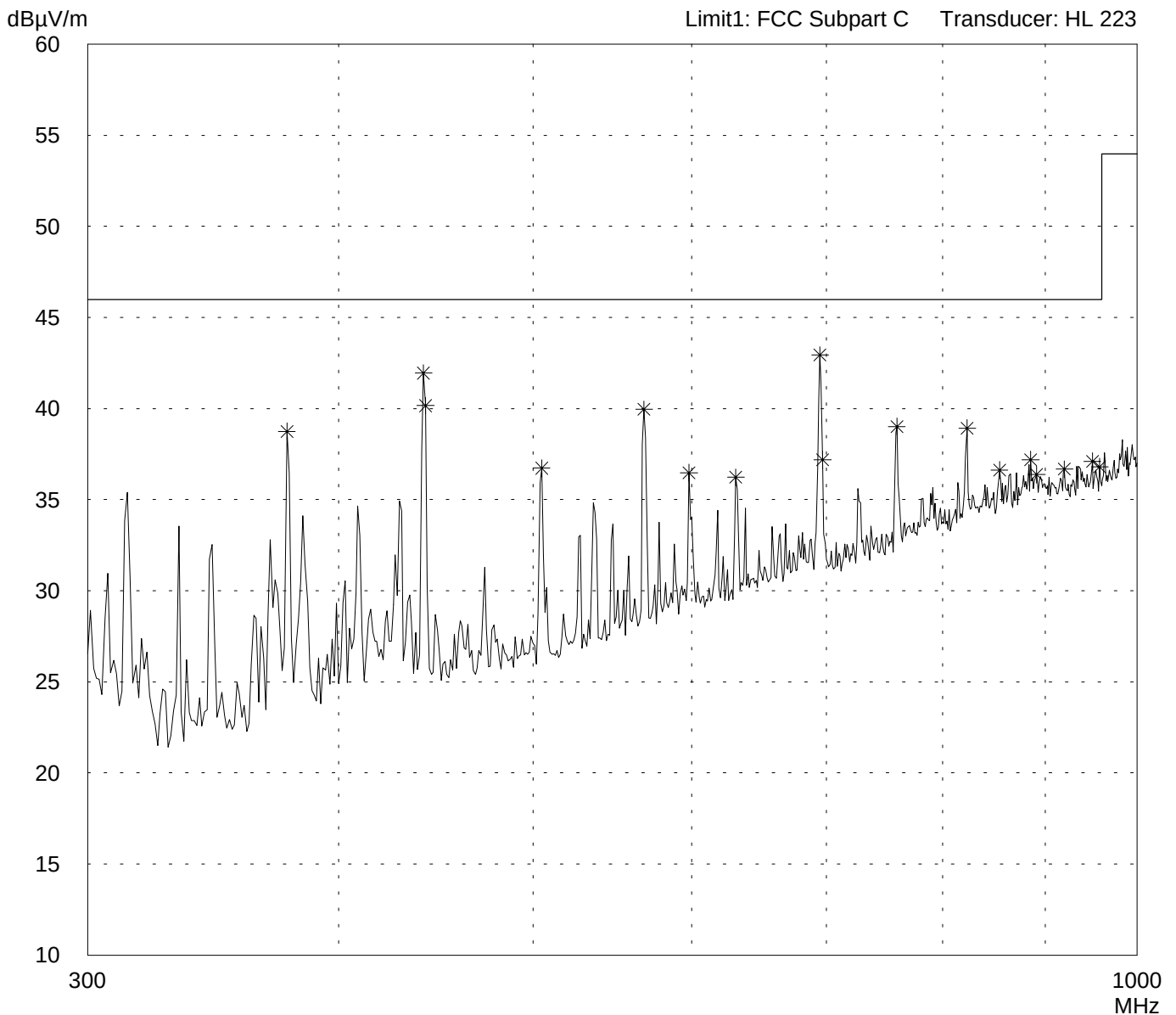
Mode:
- FCC test setup

- reading TAG continuously

- Rod antenna connected

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
50831-00509-3

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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test:
09/04/2000

Operator:
T. Eberl

Test performed:
by hand

File name:

Mode:

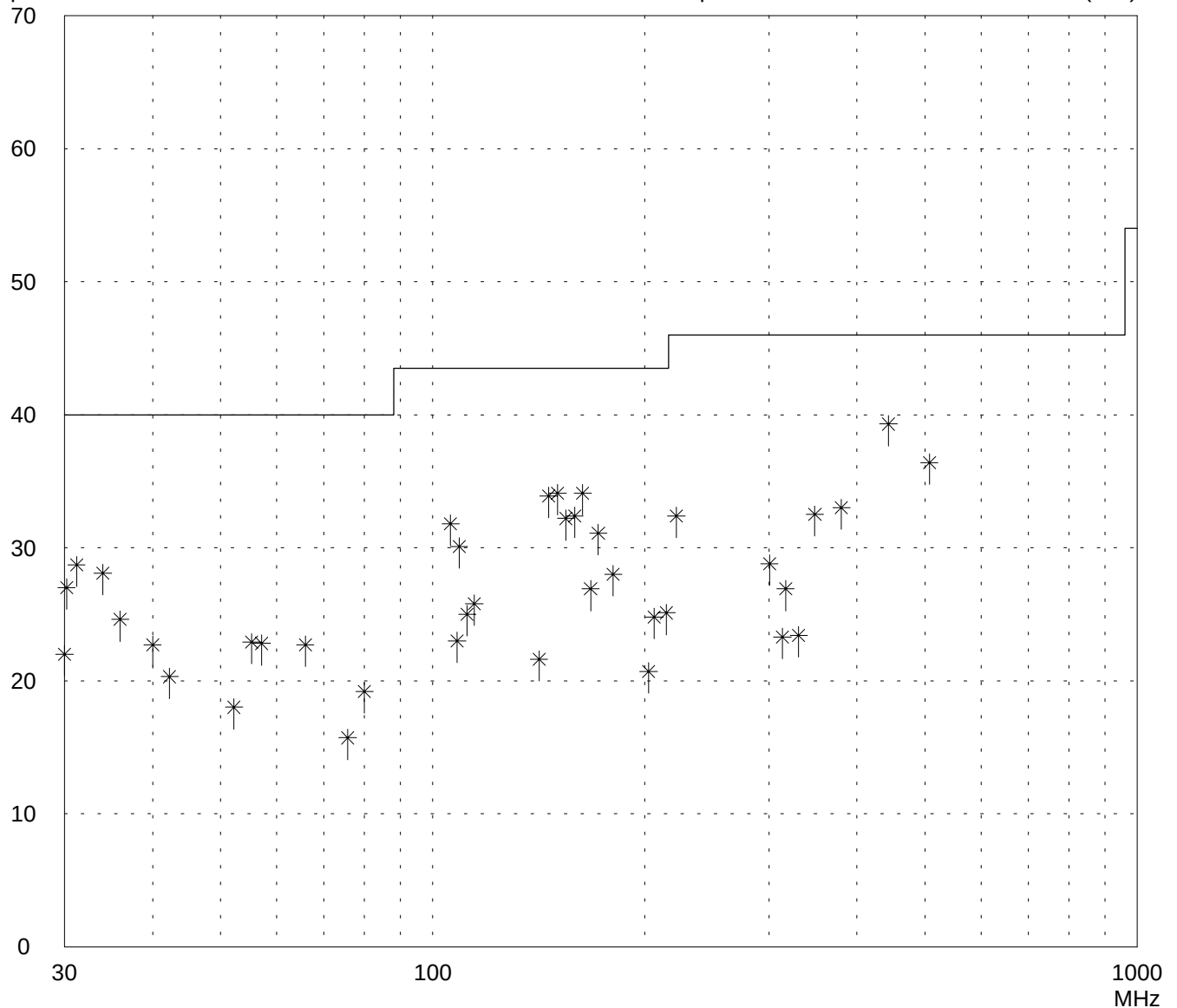
- FCC test setup
- Reading TAG continuously
- Frame antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand

dB μ V/m

Limit1: FCC Subpart C Transducer: HK116 / HL223 (3 m)



Result:
Limit kept

Project file:
50831-00509-3

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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:

TLG RS232

Serial no.:

--

Applicant:

Hermos Informatik GmbH

Test site:

Open area test-site I

Tested on:

Test distance 3 meters
Horizontal Polarization

Date of test:

09/04/2000

Operator:

T. Eberl

Test performed:

by hand

File name:

Mode:

- FCC test setup

- Reading TAG continuously

- Frame antenna connected

Detector:

Quasi-Peak

List of values:

Selected by hand

<i>Frequency MHz</i>	<i>Reading dBμV</i>	<i>Correction factor dB</i>	<i>Value dBμV/m</i>	<i>Limit dBμV/m</i>	<i>Limit exceeded</i>
30.00	7.0	15.0	22.0	40.0	
30.20	12.0	15.0	27.0	40.0	
31.20	14.0	14.7	28.7	40.0	
34.00	14.0	14.1	28.1	40.0	
36.00	11.0	13.6	24.6	40.0	
40.00	10.0	12.7	22.7	40.0	
42.30	8.0	12.3	20.3	40.0	
52.20	7.0	11.0	18.0	40.0	
55.30	12.0	10.9	22.9	40.0	
57.16	12.0	10.8	22.8	40.0	
65.90	12.0	10.7	22.7	40.0	
75.70	5.0	10.7	15.7	40.0	
80.00	8.5	10.7	19.2	40.0	
106.00	19.0	12.8	31.8	43.5	
108.20	10.0	13.0	23.0	43.5	
109.00	17.0	13.1	30.1	43.5	
111.90	11.5	13.5	25.0	43.5	
114.50	12.0	13.8	25.8	43.5	
141.50	6.0	15.6	21.6	43.5	
146.00	18.0	15.9	33.9	43.5	
150.30	18.0	16.1	34.1	43.5	
154.60	16.0	16.2	32.2	43.5	
158.90	16.0	16.4	32.4	43.5	
163.20	17.5	16.6	34.1	43.5	
167.50	10.0	16.9	26.9	43.5	
171.80	14.0	17.1	31.1	43.5	
180.30	10.5	17.5	28.0	43.5	
202.40	2.0	18.7	20.7	43.5	
206.14	6.0	18.8	24.8	43.5	
214.70	6.0	19.1	25.1	43.5	
221.70	13.0	19.4	32.4	46.0	
300.60	10.0	18.8	28.8	46.0	
313.50	4.0	19.3	23.3	46.0	
316.80	7.5	19.4	26.9	46.0	
330.60	3.5	19.9	23.4	46.0	
348.60	12.0	20.5	32.5	46.0	

Result:

Limit kept

Project file:

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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model: TLG RS232	Mode: - FCC test setup - Reading TAG continuously - Frame antenna connected
Serial no.: --	
Applicant: Hermos Informatik GmbH	
Test site: Open area test-site I	
Tested on: Test distance 3 meters Horizontal Polarization	
Date of test: 09/04/2000 Operator: T. Eberl	
Test performed: by hand File name:	

Detector: Quasi-Peak	List of values: Selected by hand
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[illegible]

Result: Limit kept	Project file: 50831-00509-3	Page 38 of 46 Pages
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/25/2000 Operator: T. Eberl

Test performed: by hand File name:

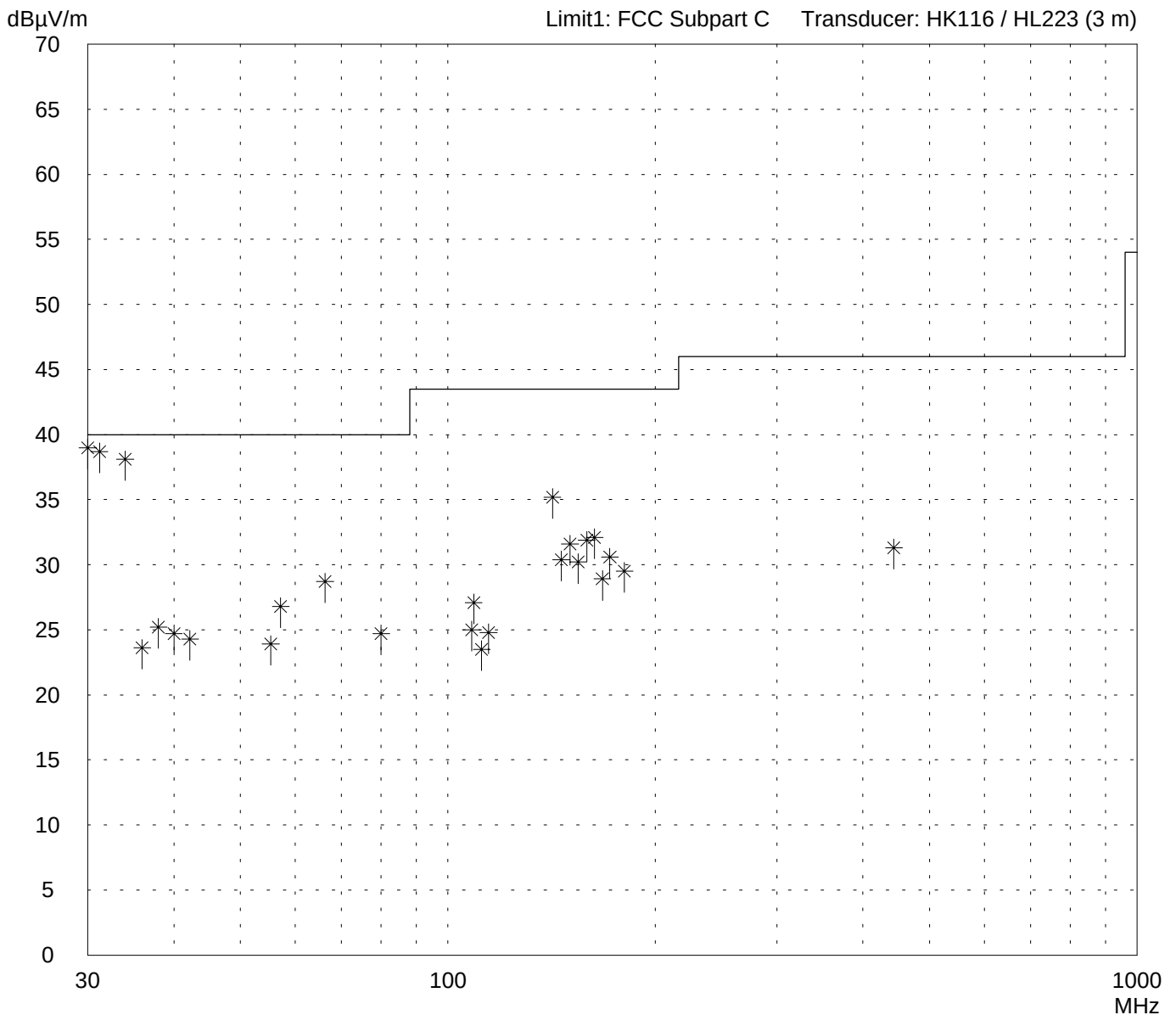
Mode:
- FCC test setup

- Reading TAG continuously

- Frame antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
50831-00509-3

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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 08/25/2000 Operator: T. Eberl

Test performed: by hand File name:

Mode:
- FCC test setup

- Reading TAG continuously

- Frame antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand

<i>Frequency MHz</i>	<i>Reading dBμV</i>	<i>Correction factor dB</i>	<i>Value dBμV/m</i>	<i>Limit dBμV/m</i>	<i>Limit exceeded</i>
30.00	24.0	15.0	39.0	40.0	
31.20	24.0	14.7	38.7	40.0	
34.00	24.0	14.1	38.1	40.0	
36.00	10.0	13.6	23.6	40.0	
38.00	12.0	13.2	25.2	40.0	
40.00	12.0	12.7	24.7	40.0	
42.23	12.0	12.3	24.3	40.0	
55.30	13.0	10.9	23.9	40.0	
57.17	16.0	10.8	26.8	40.0	
66.30	18.0	10.7	28.7	40.0	
80.00	14.0	10.7	24.7	40.0	
108.20	12.0	13.0	25.0	43.5	
109.00	14.0	13.1	27.1	43.5	
111.90	10.0	13.5	23.5	43.5	
114.50	11.0	13.8	24.8	43.5	
141.75	19.6	15.6	35.2	43.5	
146.00	14.5	15.9	30.4	43.5	
150.30	15.5	16.1	31.6	43.5	
154.60	14.0	16.2	30.2	43.5	
158.90	15.5	16.4	31.9	43.5	
163.20	15.5	16.6	32.1	43.5	
167.50	12.0	16.9	28.9	43.5	
171.80	13.5	17.1	30.6	43.5	
180.39	12.0	17.5	29.5	43.5	
443.48	8.0	23.3	31.3	46.0	

Result:
Limit kept

Project file:
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Horizontal Polarization

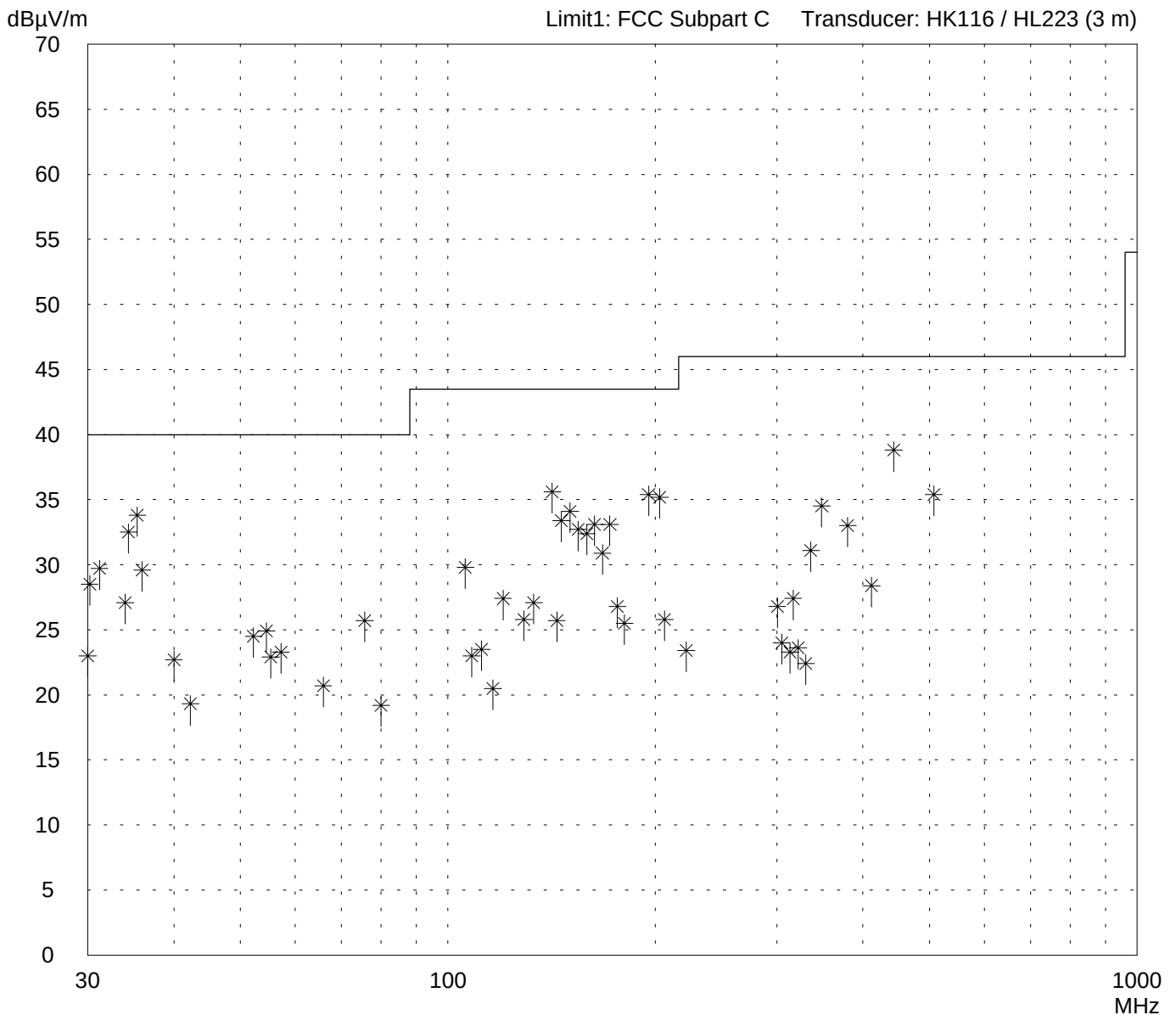
Date of test: 09/04/2000 Operator: T. Eberl

Test performed: by hand File name:

Mode:
- FCC test setup
- Reading TAG continuously
- Rod antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Horizontal Polarization

Date of test: 09/04/2000
Operator: T. Eberl

Test performed: by hand
File name:

Mode:
- FCC test setup

- Reading TAG continuously

- Rod antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand

Frequency MHz	Reading dBμV	Correction factor dB	Value dBμV/m	Limit dBμV/m	Limit exceeded
30.0	8.0	15.0	23.0	40.0	
30.2	13.5	15.0	28.5	40.0	
31.2	15.0	14.7	29.7	40.0	
34.0	13.0	14.1	27.1	40.0	
34.4	18.5	14.0	32.5	40.0	
35.4	20.0	13.8	33.8	40.0	
36.0	16.0	13.6	29.6	40.0	
40.0	10.0	12.7	22.7	40.0	
42.3	7.0	12.3	19.3	40.0	
52.2	13.5	11.0	24.5	40.0	
54.5	14.0	10.9	24.9	40.0	
55.3	12.0	10.9	22.9	40.0	
57.2	12.5	10.8	23.3	40.0	
65.9	10.0	10.7	20.7	40.0	
75.7	15.0	10.7	25.7	40.0	
80.0	8.5	10.7	19.2	40.0	
106.0	17.0	12.8	29.8	43.5	
108.2	10.0	13.0	23.0	43.5	
111.9	10.0	13.5	23.5	43.5	
116.2	6.5	14.0	20.5	43.5	
120.2	13.0	14.4	27.4	43.5	
128.8	11.0	14.8	25.8	43.5	
133.2	12.0	15.1	27.1	43.5	
141.7	20.0	15.6	35.6	43.5	
143.8	10.0	15.7	25.7	43.5	
146.0	17.5	15.9	33.4	43.5	
150.3	18.0	16.1	34.1	43.5	
154.6	16.5	16.2	32.7	43.5	
158.9	16.0	16.4	32.4	43.5	
163.2	16.5	16.6	33.1	43.5	
167.5	14.0	16.9	30.9	43.5	
171.8	16.0	17.1	33.1	43.5	
176.1	9.5	17.3	26.8	43.5	
180.3	8.0	17.5	25.5	43.5	
195.4	17.0	18.4	35.4	43.5	
202.8	16.5	18.7	35.2	43.5	

Result:
Limit kept

Project file:
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model: TLG RS232	Mode: - FCC test setup - Reading TAG continuously - Rod antenna connected
Serial no.: --	
Applicant: Hermos Informatik GmbH	
Test site: Open area test-site I	
Tested on: Test distance 3 meters Horizontal Polarization	
Date of test: 09/04/2000 Operator: T. Eberl	
Test performed: by hand File name:	

Detector: Quasi-Peak	List of values: Selected by hand
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[illegible]

Result: Limit kept	Project file: 50831-00509-3	Page 43 of 46 Pages
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Vertical Polarization

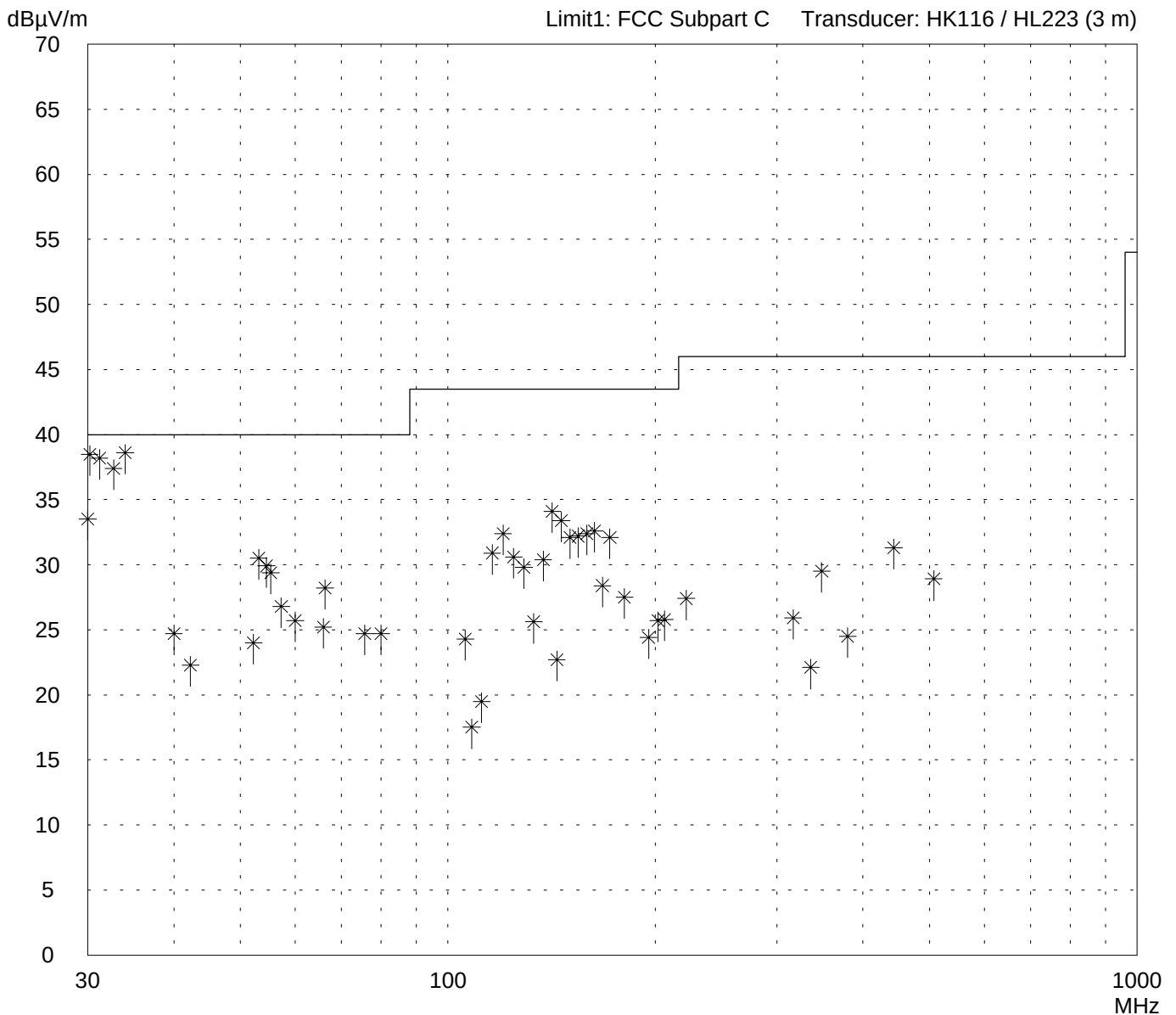
Date of test: 09/04/2000
Operator: T. Eberl

Test performed: by hand
File name:

Mode:
- FCC test setup
- Reading TAG continuously
- Rod antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
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Radiated Emission Test 30 MHz - 1 GHz according to FCC Part 15 Subpart C

Model:
TLG RS232

Serial no.:
--

Applicant:
Hermos Informatik GmbH

Test site:
Open area test-site I

Tested on:
Test distance 3 meters
Vertical Polarization

Date of test: 09/04/2000
Operator: T. Eberl

Test performed: by hand
File name:

Mode:
- FCC test setup

- Reading TAG continuously

- Rod antenna connected

Detector:
Quasi-Peak

List of values:
Selected by hand

Frequency MHz	Reading dBμV	Correction factor dB	Value dBμV/m	Limit dBμV/m	Limit exceeded
30.0	18.5	15.0	33.5	40.0	
30.2	23.5	15.0	38.5	40.0	
31.2	23.5	14.7	38.2	40.0	
32.7	23.0	14.4	37.4	40.0	
34.0	24.5	14.1	38.6	40.0	
40.0	12.0	12.7	24.7	40.0	
42.3	10.0	12.3	22.3	40.0	
52.2	13.0	11.0	24.0	40.0	
53.1	19.5	11.0	30.5	40.0	
54.5	19.0	10.9	29.9	40.0	
55.3	18.5	10.9	29.4	40.0	
57.3	16.0	10.8	26.8	40.0	
60.0	15.0	10.7	25.7	40.0	
65.9	14.5	10.7	25.2	40.0	
66.3	17.5	10.7	28.2	40.0	
75.7	14.0	10.7	24.7	40.0	
80.0	14.0	10.7	24.7	40.0	
106.0	11.5	12.8	24.3	43.5	
108.2	4.5	13.0	17.5	43.5	
111.9	6.0	13.5	19.5	43.5	
115.9	17.0	13.9	30.9	43.5	
120.2	18.0	14.4	32.4	43.5	
124.5	16.0	14.6	30.6	43.5	
128.8	15.0	14.8	29.8	43.5	
133.2	10.5	15.1	25.6	43.5	
137.4	15.0	15.4	30.4	43.5	
141.7	18.5	15.6	34.1	43.5	
143.8	7.0	15.7	22.7	43.5	
146.0	17.5	15.9	33.4	43.5	
150.3	16.0	16.1	32.1	43.5	
154.6	16.0	16.2	32.2	43.5	
158.9	16.0	16.4	32.4	43.5	
163.2	16.0	16.6	32.6	43.5	
167.5	11.5	16.9	28.4	43.5	
171.8	15.0	17.1	32.1	43.5	
180.3	10.0	17.5	27.5	43.5	

Result:
Limit kept

Project file:
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Radiated Emission Test 30 MHz - 1 GHz
according to FCC Part 15 Subpart C

Model: TLG RS232	Mode: - FCC test setup - Reading TAG continuously - Rod antenna connected
Serial no.: --	
Applicant: Hermos Informatik GmbH	
Test site: Open area test-site I	
Tested on: Test distance 3 meters Vertical Polarization	
Date of test: 09/04/2000 Operator: T. Eberl	
Test performed: by hand File name:	

Detector: Quasi-Peak	List of values: Selected by hand
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<i>Frequency MHz</i>	<i>Reading dBμV</i>	<i>Correction factor dB</i>	<i>Value dBμV/m</i>	<i>Limit dBμV/m</i>	<i>Limit exceeded</i>
195.4	6.0	18.4	24.4	43.5	
201.9	7.0	18.7	25.7	43.5	
206.1	7.0	18.8	25.8	43.5	
221.7	8.0	19.4	27.4	46.0	
316.8	6.5	19.4	25.9	46.0	
336.0	2.0	20.1	22.1	46.0	
348.6	9.0	20.5	29.5	46.0	
380.2	3.0	21.5	24.5	46.0	
443.4	8.0	23.3	31.3	46.0	
506.8	4.0	24.9	28.9	46.0	

Result: Limit kept	Project file: 50831-00509-3	Page 46 of 46 Pages
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