

Straubing, 07 July 2003

TEST - REPORT

No. 50104-30309
(Revision 1)

for

H-2000

Wireless Headphone System

Applicant: Amphony Corporation

Test Specification: FCC Code of Federal Regulations,
CFR 47, Part 15,
Sections 15.209 and 15.249

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

Test item (EUT)	
Type designation	H-2000
Serial number(s):	0001
Type of equipment:	Wireless Headphone System
Parts/accessories:	AC Adapter
FCC-ID:	
Technical data	
Frequency range	2400.0 to 2483.5 MHz
Operational frequencies	N/A
Type of modulation	FM
Pulse frequency	N/A
Pulse width	N/A
Antenna	Integrated
Power supply	AC 230 V via external AC Adapter
Applicant: (full address)	Amphony Corporation 1006 S. Raven Road Shorewood, IL 60431, USA
Contract identification:	Verbal Order
Contact person:	Mr. Jens Kurrat
Manufacturer:	Applicant
Application details	
Receipt of EUT:	
Date of test:	
Note:	
Responsible for testing:	Johann Roidt
Responsible for test report:	Johann Roidt

2. Identification of Test Laboratory

DETAILS OF THE TEST LABORATORY	
COMPANY NAME:	Senton GmbH EMI/EMC Test Center
ADDRESS:	Aeussere Fruehlingsstrasse 45 D-94315 Straubing Germany
LABORATORY ACCREDITATION:	DAR-Registration No. TTI-P-G 062/94-40
FCC TEST SITE REGISTRATION NUMBER	90926
INDUSTRY CANADA TEST SITE REGISTRATION	IC 3050
NAME FOR CONTACT PURPOSES:	Mr. Johann Roidt
TELEPHONE: (+49) (0)9421 5522-0	FAX: (+49) (0)9421 5522-99

PERSONNEL INVOLVED IN THIS TEST REPORT	
TECHNICAL DIRECTOR:	 Mr. Johann Roidt
RESPONSIBLE FOR TESTING:	Mr. Johann Roidt
RESPONSIBLE FOR TEST REPORT:	Mr. Johann Roidt

SUMMARY OF TEST RESULTS
The tested sample complies with the requirements set forth in the Code of Regulations CFR 47, Part 15, Sections 15.209 and 15.249

3. Operation Mode of EUT

Transmission of 1 kHz Audio Signal

4. Configuration

Configuration of the EUT
Not applicable

Cables connected to the EUT
Not applicable

Peripheral devices connected to the EUT
Not applicable

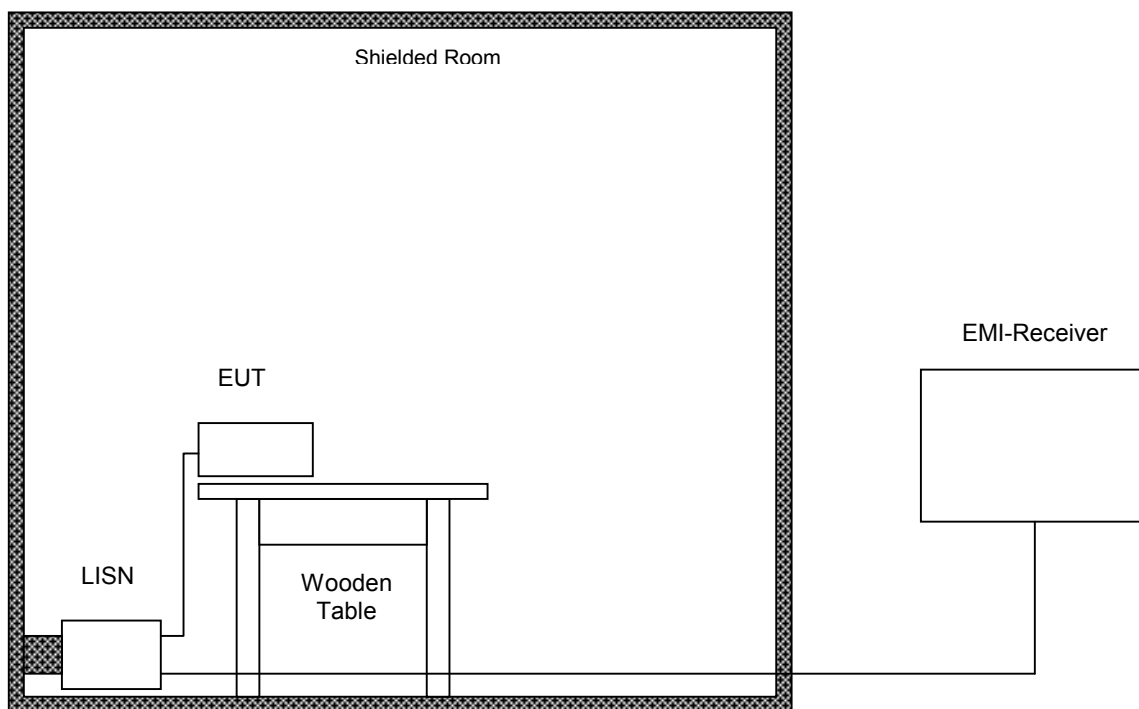
5. Measuring Methods

5.1. Conducted powerline emissions

Rules and Specifications:	Sections 15.107 & 15.207
Guide :	CISPR 22

Measurement Procedure:

In general conducted emission tests in the frequency range 0.15 – 30 MHz are required to be performed with quasi-peak and average detector. To simplify testing the following procedure is used: First the whole spectrum of emission caused by equipment under test (EUT) is recorded with detector set to peak. After that all emission levels having less margin than 20 dB to or exceeding the appropriate limit (in general average limit is 10 dB lower than quasi-peak limit) are retested with detector set to quasi-peak. If average limit is kept no additional scan with average detector is necessary. In cases of emission levels between quasi-peak and average limit an additional scan with detector set to average has to be recorded.



Test instruments used:

No.	Type	Model	Serial Number	Manufacturer
01	EMI Receiver	ESHS 10	860043/016	Rohde & Schwarz
02	LISN	ESH3-Z5	862770/021	Rohde & Schwarz
03	LISN	ESH-3-Z5	830952/025	Rohde & Schwarz
04	Shielded Room No. 4	---	3FD-100 544	Euroshield

5.2. Field Strength of Emissions Measurements in fully-anechoic Room

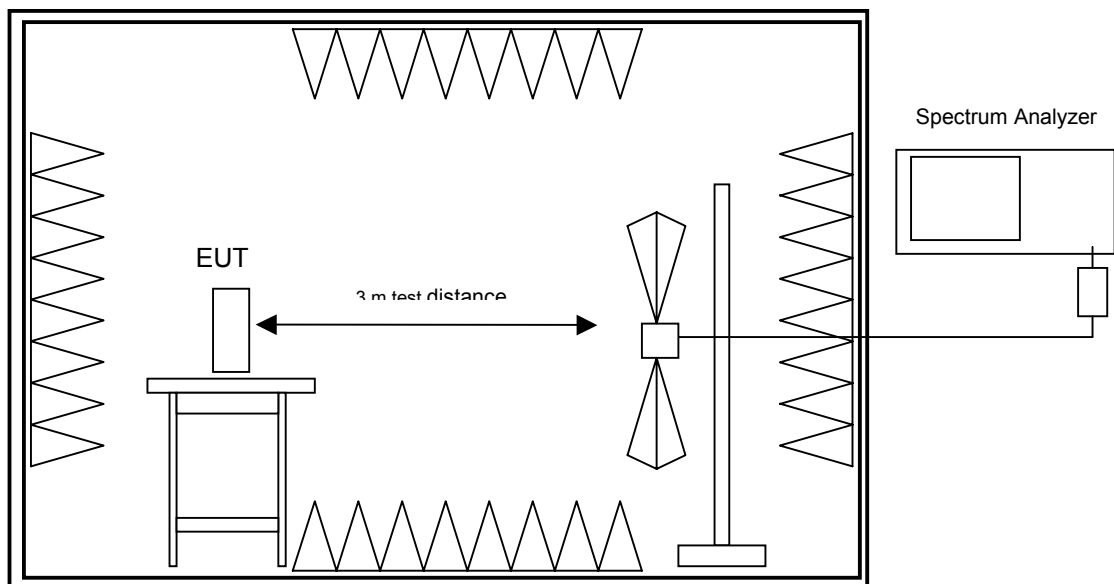
Rules and Specifications:	Sections 15.109, 15.209, 15.249
Guide :	ANSI C63.4 1997

Measurement Procedure:

Radiated emissions are measured over the frequency range from 30 MHz to the 10th harmonic of the maximum frequency of the EUT for transmitters and to the 5th harmonic for receivers.

Measurements were made in both the horizontal and vertical planes of polarization in a fully anechoic room using a spectrum analyzer with the detector function set to peak and resolution bandwidth set to 100 kHz for emissions below 1 GHz and to 1MHz for emissions above 1 GHz. All tests were performed at a test-distance of 3 meters except for testing above 18 GHz where the test distance is 1 meter or less (for details see appropriate test records).

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. For final testing below 1 GHz an open-area test-site is used. During the tests the EUT is rotated all around to find the maximum levels of emissions. The cables and equipment were placed and moved within the range of position likely to find their maximum emissions.



Fully anechoic chamber

Test instruments used:

No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
113	Preamplifier	CPA9231A	3393	Schaffner
141	Biconical antenna	HK 116	829708/006	Rohde & Schwarz
143	Log. periodic antenna	3147	9112-1054	EMCO
145	Horn antenna	3115	9508-4553	EMCO
146	Horn antenna set	3160-03/-09	9112-1003	EMCO
114	Preamplifier 1-8 GHz	AFS3-00100800-32-LN	847743	Miteq
115	Preamplifier 8-18 GHz	ACO/180-3530	32641	CTT
003	Fully anechoic room	No. 2	1452	Albatross Projects

5.3. Radiated Emission Measurement at Open Area Test Site

Rules and Specifications:	Sections 15.109, 15.209, 15.249
Guide :	ANSI C63.4 1997

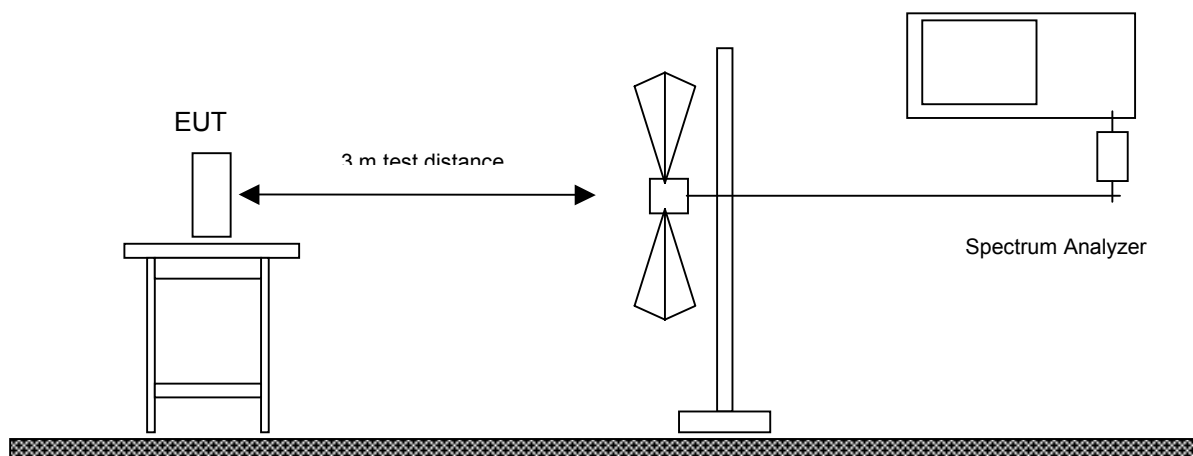
Measurement Procedure:

Radiated emissions in the frequency range 30 MHz to 1 GHz are measured at open area test site. Measurement bandwidth of the test receiver is set to 120 kHz with quasi peak detector function selected. 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.

EUT is rotated all around and receiving antenna is raised and lowered to find the maximum levels of emission. The cables and equipment are placed and moved within the range of position likely to find their maximum emissions.

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

If required preamplifiers are used for the whole frequency range. Special care is taken to avoid overload in transmit mode (using appropriate attenuators and filters if necessary).



Test instruments used:

No.	Type	Model	Serial Number	Manufacturer
01	EMI Receiver	ESVP	881414/009	Rohde & Schwarz
141	Biconical antenna	HK 116	829708/006	Rohde & Schwarz
143	Log. periodic antenna	3147	9112-1054	EMCO
145	Horn antenna	3115	9508-4553	EMCO
146	Horn antenna set	3160-03/-09	9112-1003	EMCO
114	Preamplifier 1-8 GHz	AFS3-00100800-32-LN	847743	Miteq
115	Preamplifier 8-18 GHz	ACO/180-3530	32641	CTT
003	Open Field Test Site	No. 1	N/A	Senton

6. Photographs Taken During Testing

Test setup for conducted power line emission measurement



**Test setup for radiated emission measurement
(fully anechoic room)**



**Test setup for radiated emission measurement
(open area test site)**



7. List of Measurements

FCC Part 15			
Section(s):	Test	Page(s)	Result
15.205 15.207 15.249 (a) 15.249 (d) 15.209			
	Restricted Bands		Pass
	AC Powerline Emissions	15	Pass
	Field Strength of Emissions (Fundamental & Harmonics)	16	Pass
	Radiated Spurious Emissions	17	Pass
	Receiver Radiated Spurious Emissions	18	Pass

Conducted Powerline Emission Measurement

Rules and Specifications:	15.107, 15.207		
Guide:	CISPR 22		
Limit:	Frequency of Emission (MHz)	Conducted Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5 0.5 – 5 5 - 30	66 to 56 56 60	56 to 46 46 50

Test Site:	Radio Lab.
Distance:	Conducted Measurement
Date of Test:	

Frequency (MHz)	Detector	Analyzer Reading (dBμV)	Correction Factor (dB)	Final Value (dBμV)	Limit (dBμV)	Margin (dB)
0.245	Q.P.	34.6	0	34.6	61.90	27.30
0.345	Q.P.	34.8	0	34.8	59.10	24.30
0.425	Q.P.	35.4	0	35.4	57.30	21.90
0.435	Q.P.	35.2	0	35.2	57.20	22.00
0.65	Q.P.	30.2	0	30.2	56.00	25.80
0.755	Q.P.	32.1	0	32.1	56.00	23.90
23.96	Q.P.	43.9	0	43.9	60.00	16.10

*** = No emissions above noise floor detected

Sample calculation of Final values:

$$\text{Final Value (dB}\mu\text{V)} = \text{Analyzer Reading (dB}\mu\text{V)} + \text{Correction Factor (dB)}$$

Test Results:	Pass	
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Field Strength of Emissions

Rules and Specifications:	15.209, 15.249 (a) Radiated Emission Limits		
Guide:	ANSI C63.4		
Limit:	The field strength of emissions from intentional radiators operated in these frequency band shall comply with the following:		
	Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
	902-928 MHz	50	500
	2400-2483.5 MHz	50	500
	5725-5875 MHz	50	500
	24-24.25 GHz	250	2500

Tested Frequency:	
Test Site:	Open Area Test Site (< 1 GHz), Fully anechoic chamber (> 1 GHz)
Distance:	3 Meter

Frequency (MHz)	Detector	Antenna Polarization	Analyzer Reading (dBμV)	Correction Factor (dB/m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2448.590	Pk	Ver	47.94	35.6	83.54	94.00	10.5
4904.000	Av	Ver	10.4	39.08	49.48	54.00	4.5
7359.000	Pk	Ver	5.7	43.4	49.1	54.00	4.9

*** = All emissions showed more than 20 dB margin to the limit

Sample calculation of erp values:

Field Strength (dBμV/m) = Analyzer Reading (dBμV) + Correction Factor (dB/m)

Test Results:	Pass
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Spurious Radiation Measurement

Rules and Specifications:	15.209, 15.249 (d) Radiated Emission Limits	
Guide:	ANSI C63.4	
Limit:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated at least 50 dB below the level of the fundamental or to the general radiated emission limits below, whichever is the lesser attenuation	
	Frequency of Emission (MHz)	Field Strength (microvolts/meter)
	30 - 88	100
	88 - 216	150
	216 - 960	200
	Above 960	500

Tested Frequency:	N/A
Test Site:	Open Area Test Site (< 1 GHz), Fully anechoic chamber (> 1 GHz)
Distance:	3 Meter

Frequency (MHz)	Detector	Antenna Polarization	Analyzer Reading (dBμV)	Correction Factor (dB/m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
135.300	QP	Ver	21.00	13.64	34.64	43.50	8.9
491.800	QP	Ver	17.00	19.51	36.51	46.00	9.5
504.400	QP	Ver	17.50	19.67	37.17	46.00	8.8

*** = All emissions showed more than 20 dB margin to the limit

Sample calculation of erp values:

$$\text{Field Strength (dBμV/m)} = \text{Analyzer Reading (dBμV)} + \text{Correction Factor (dB/m)}$$

Test Results:	Pass
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Receiver Spurious Radiation Measurement

Rules and Specifications:	15.209	
Guide:	ANSI C63.4	
Limit:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated at least 50 dB below the level of the fundamental or to the general radiated emission limits below, whichever is the lesser attenuation	
	Frequency of Emission (MHz)	Field Strength (microvolts/meter)
	30 - 88	100
	88 - 216	150
	216 - 960	200
	Above 960	500

Tested Frequency:	N/A
Test Site:	Open Area Test Site (< 1 GHz), Fully anechoic chamber (> 1 GHz)
Distance:	3 Meter

Frequency (MHz)	Detector	Antenna Polarization	Analyzer Reading (dBμV)	Correction Factor (dB/m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30M-25GHz	Pk	Hor/Ver	***				

*** = All emissions showed more than 20 dB margin to the limit

Sample calculation of erp values:

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{Analyzer Reading (dB}\mu\text{V)} + \text{Correction Factor (dB/m)}$$

Test Results:	Pass
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8. Referenced Regulations

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

☒	CFR 47 Part 2	Code of Federal Regulations Part 2 (Frequency Allocations And Radio Treaty Matters, General Rules And Regulations) of the Federal Communication Commission (FCC)	October 1, 2001
☐	CFR 47 Part 15 Subpart A	Code of Federal Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)	March 13, 2003
☒	CFR 47 Part 15 Subpart B	Code of Federal Regulations Part 15 (Radio Frequency Devices), Subpart B (Unintentional Radiators) of the Federal Communication Commission (FCC)	March 13, 2003
☒	CFR 47 Part 15 Subpart C	Code of Federal Regulations Part 15 (Radio Frequency Devices), Subpart C (Intentional Radiators) of the Federal Communication Commission (FCC)	March 13, 2003
☒	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 5 for Low Power Licence-Exempt	November 2001
☐	TIA/EIA-603	Radiocommunication Devices of Industry Canada Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	February 1993
☐	TIA/EIA-603-1	Addendum to TIA/EIA-603	March 4, 1998

Charts taken during testing

Radiated Emission Test 30 MHz - 300 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 3 metres
Horizontal Polarization**

Date of test:
07/03/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:
Peak

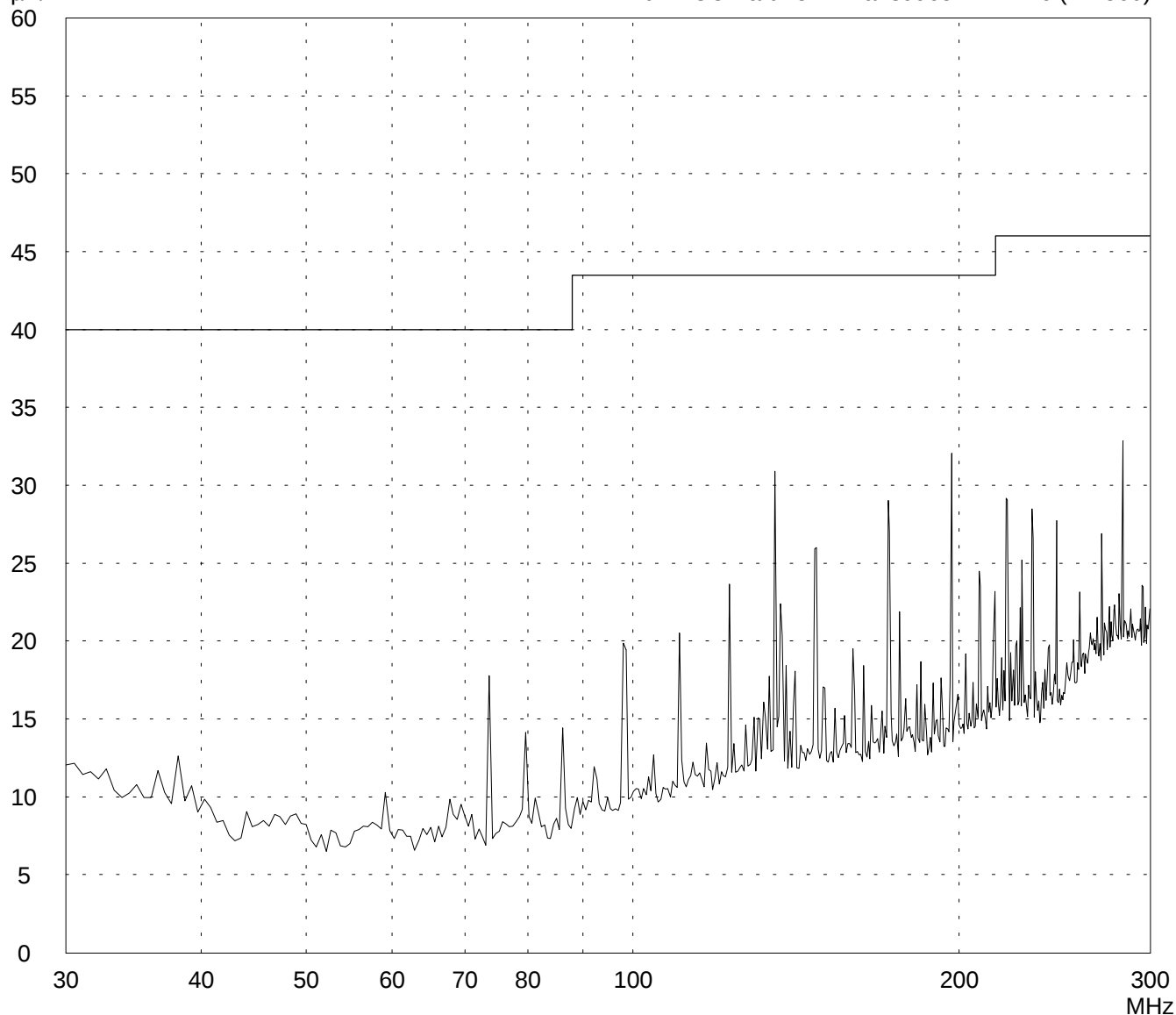
List of values:

10 dB Margin

50 Subranges

dB μ V/m

Limit1: FCC Part 15 Transducer: HK 116 (A-1560)



Result:
Prescan

Project file:

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Radiated Emission Test 30 MHz - 300 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test:
07/03/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:
Peak

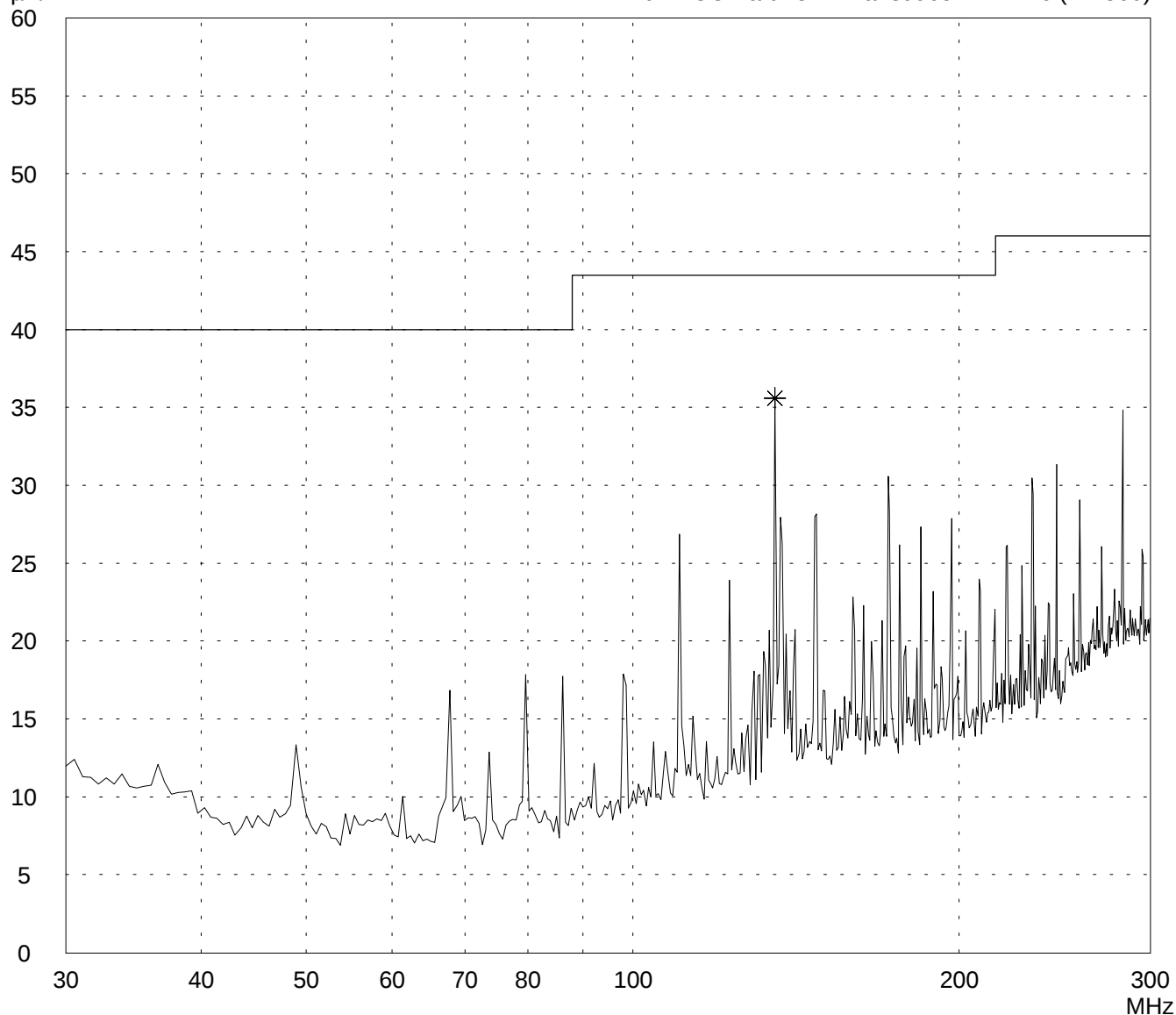
List of values:

10 dB Margin

50 Subranges

$\text{dB}\mu\text{V/m}$

Limit1: FCC Part 15 Transducer: HK 116 (A-1560)



Result:
Prescan

Project file:
50104-30309-1

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Radiated Emission Test 300 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 3 metres
Horizontal Polarization**

Date of test:
07/03/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:
Peak

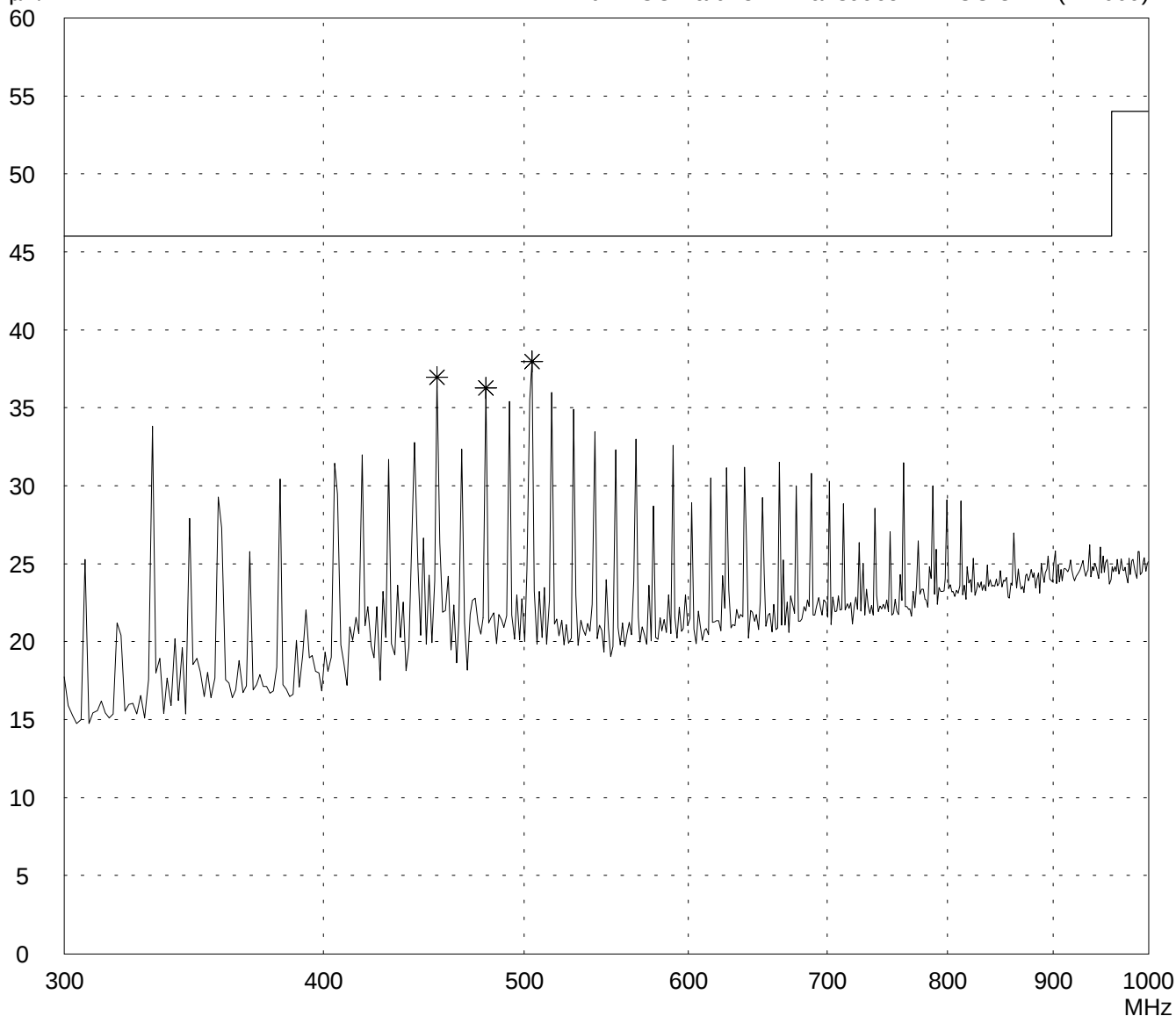
List of values:

10 dB Margin

50 Subranges

dB μ V/m

Limit1: FCC Part 15 Transducer: EMCO 3147 (A-1009)



Result:
Prescan

Project file:

50104-30309-1

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Radiated Emission Test 300 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:

H2000

Serial no.:

sample 2

Applicant:

Amphony Deutschland GmbH

Test site:

Fully anechoic room, cabin no. 2

Tested on:

Test distance 3 metres
Vertical Polarization

Date of test:

07/03/2003

Operator:

M. Steindl

Test performed:

automatically

File name:

default.emi

Comment:

- AC 230 V power supply (DC 9 V)

- working continuously

- supplying 500 mV on analog Audio Input

- Video and Audio cables attached

Detector:

Peak

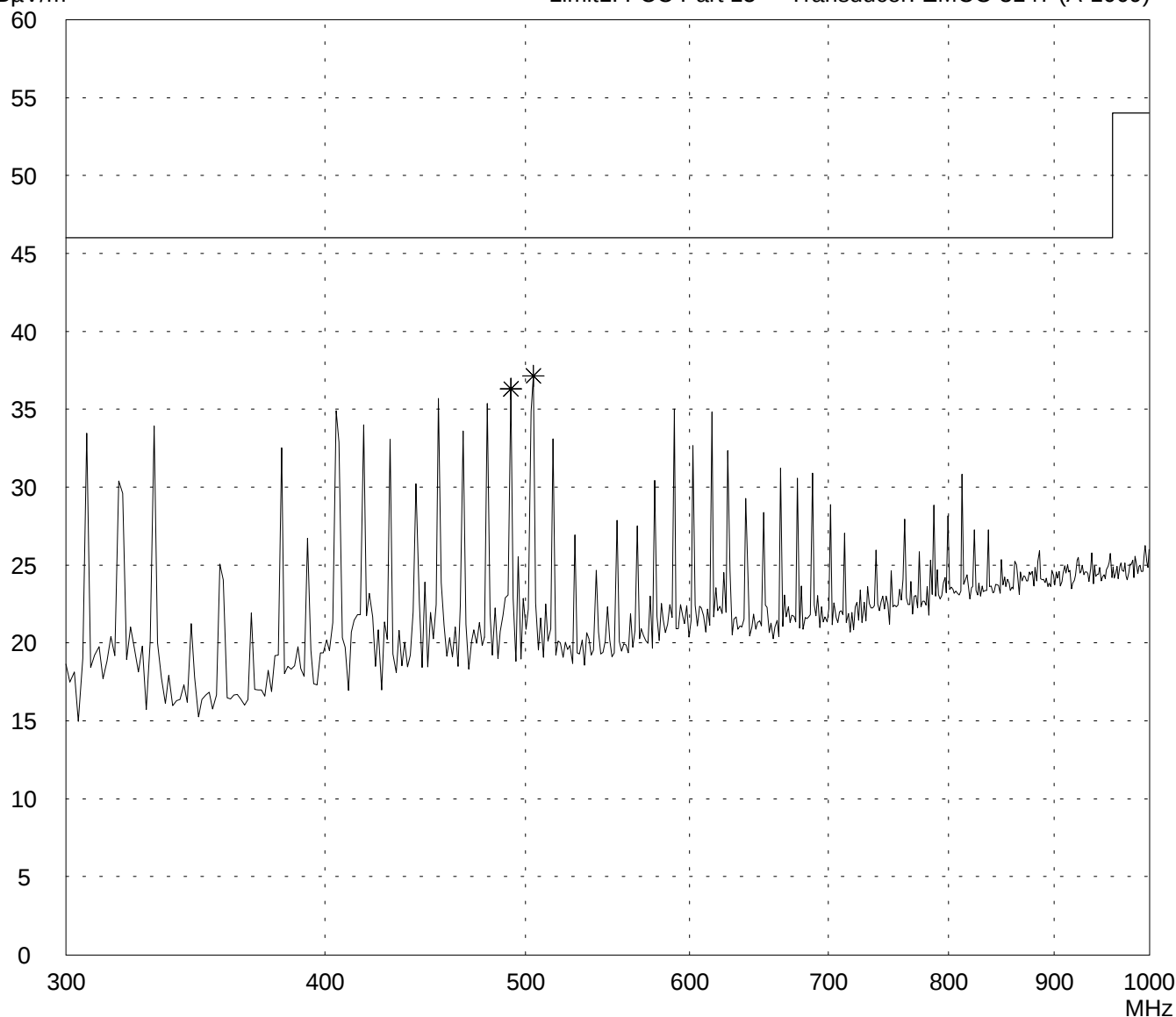
List of values:

10 dB Margin

50 Subranges

dB μ V/m

Limit1: FCC Part 15 Transducer: EMCO 3147 (A-1009)



Result:

Prescan

Project file:

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Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 3 metres
Horizontal Polarization**

Date of test:
07/03/2003

Operator:
M. Steindl

Test performed:
automatically

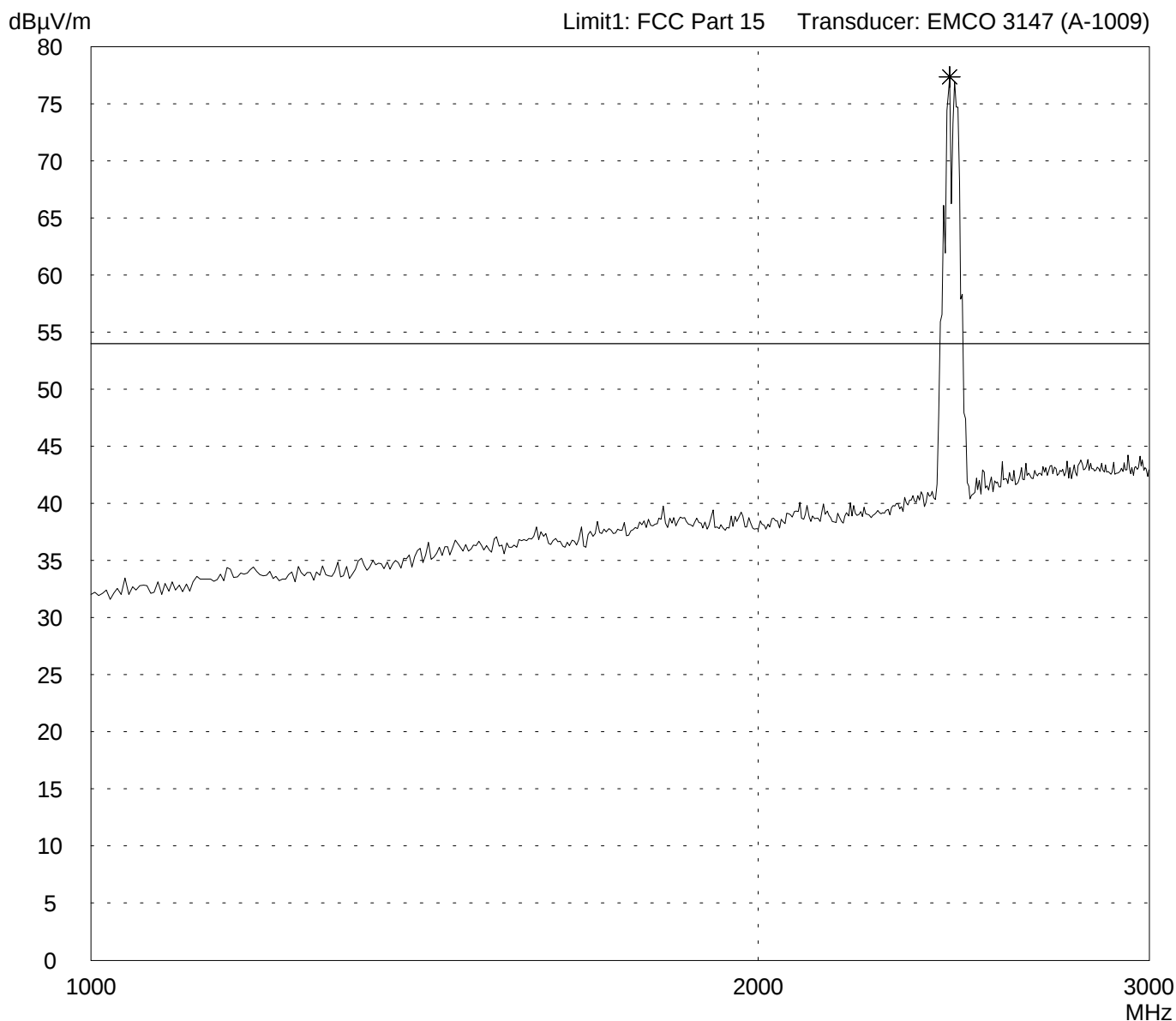
File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
50104-30309-1

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Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 3 metres
Vertical Polarization**

Date of test:
07/03/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

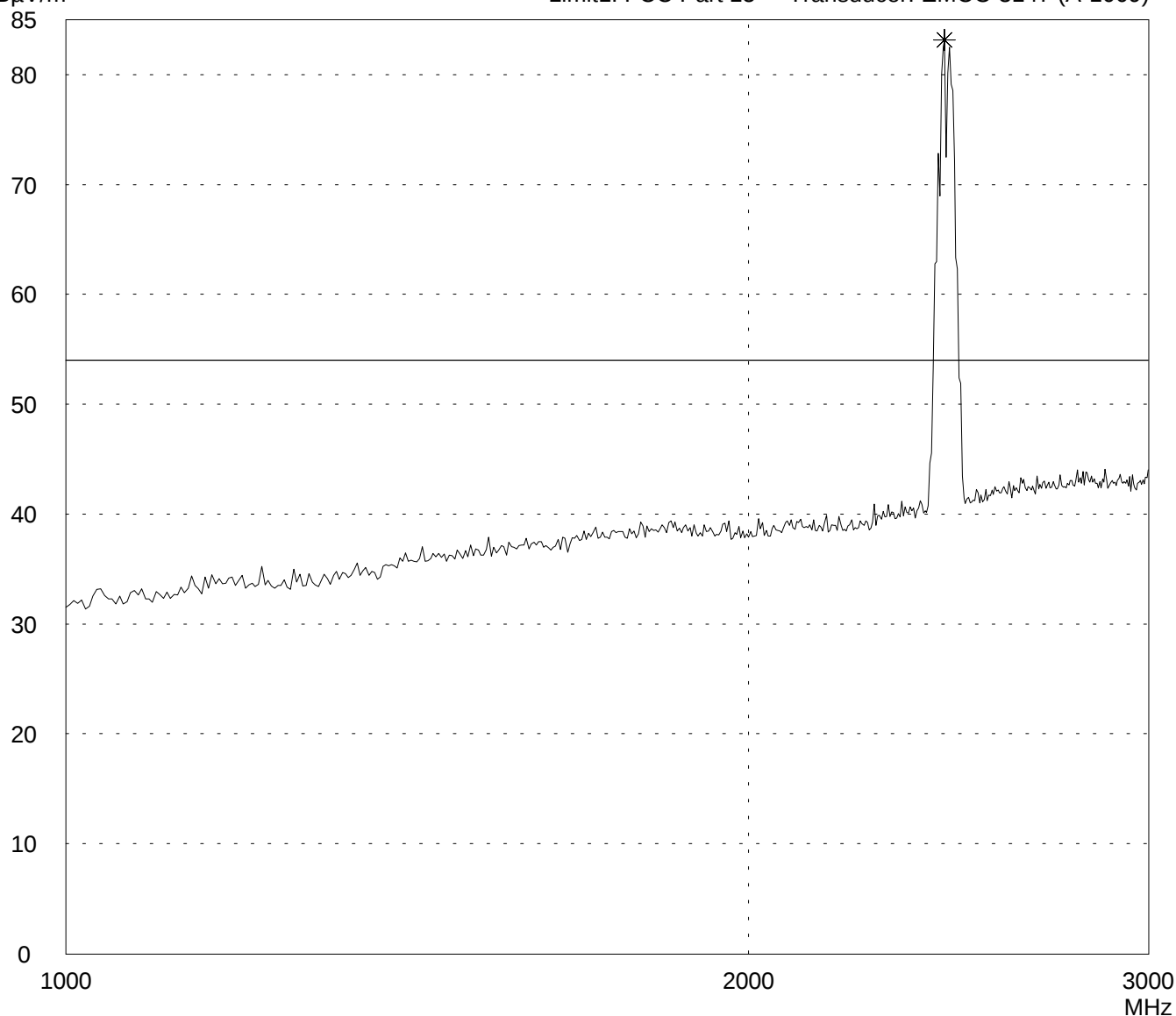
- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:
Peak

List of values:
Selected by hand

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3147 (A-1009)



Result:
Limit kept

Project file:
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Radiated Emission Test 3 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 1 metre
Horizontal Polarization**

Date of test:
07/04/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

Detector:
Peak

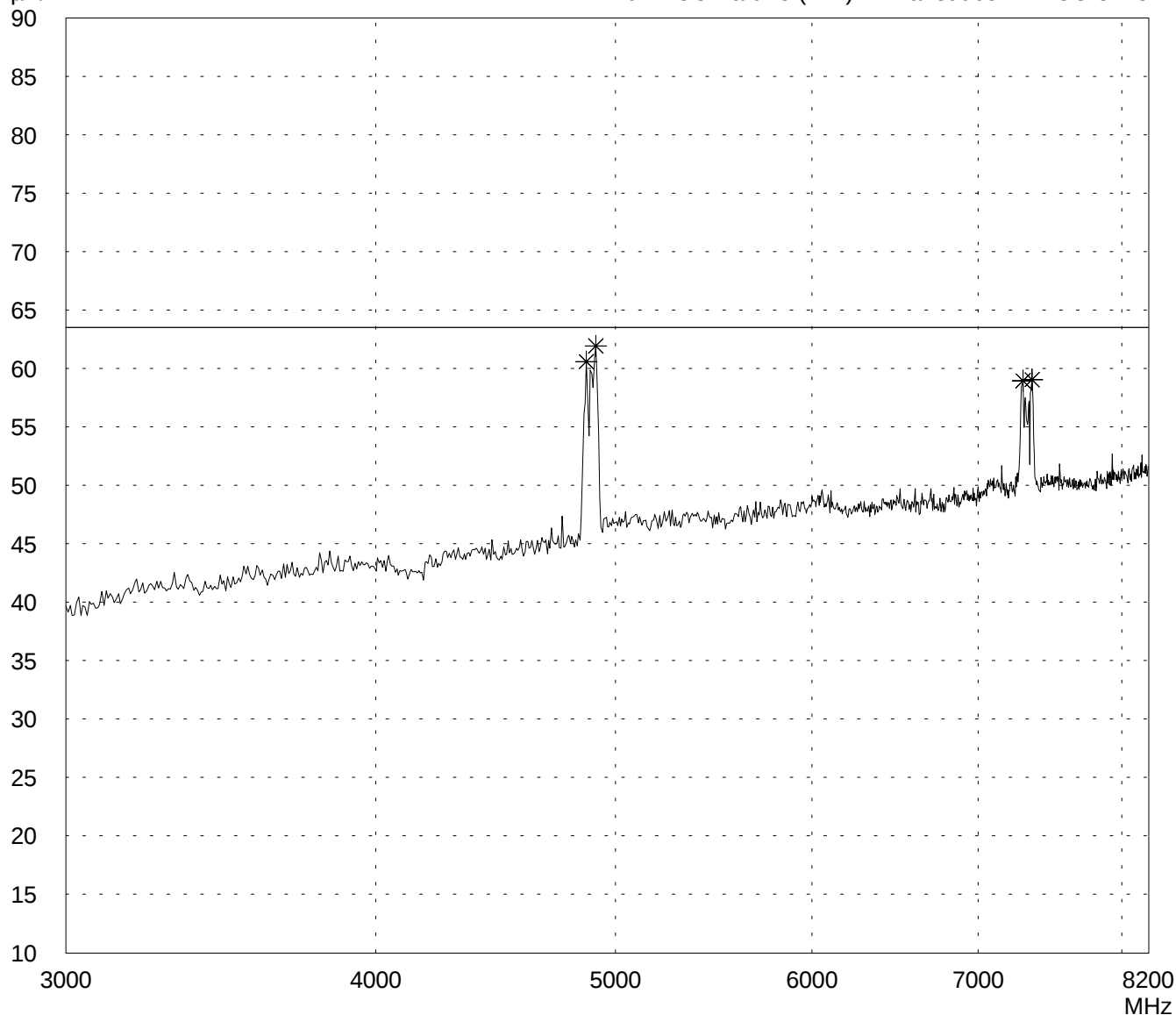
List of values:

Selected by hand

dB μ V/m

Limit1: FCC Part 15 (1 m)

Transducer: EMCO 3115



Result:
Limit kept

Project file:
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Radiated Emission Test 3 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 1 metre
Vertical Polarization**

Date of test:
07/04/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

Detector:
Peak

List of values:

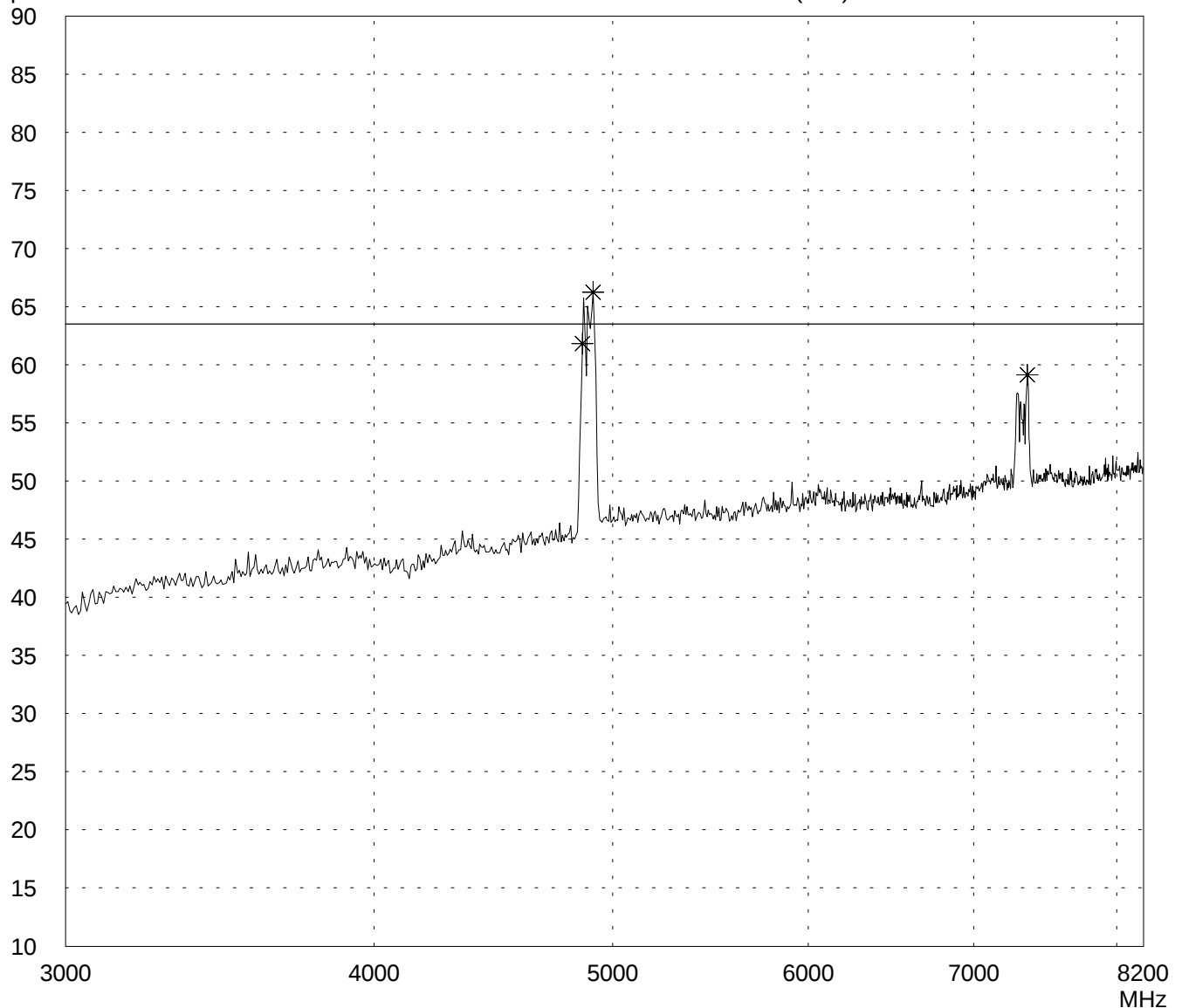
10 dB Margin

50 Subranges

dB μ V/m

Limit1: FCC Part 15 (1 m)

Transducer: EMCO 3115



Result:
Prescan

Project file:

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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 1 meter
Vertical Polarization**

Date of test:
07/04/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

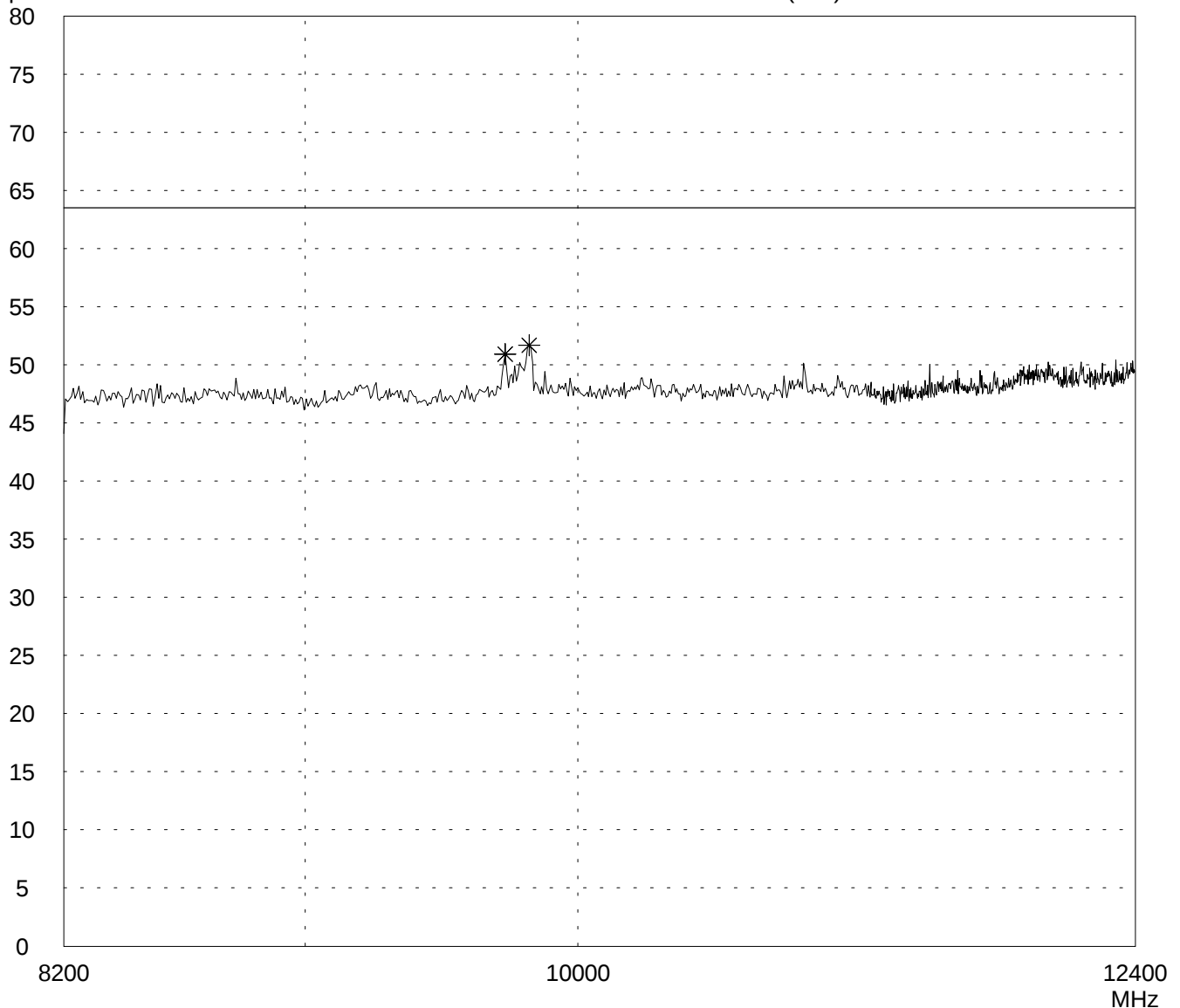
Detector:
Peak

List of values:

Selected by hand

dB μ V/m

Limit1: FCC Part 15 (1 m) Transducer: EMCO 3160



Result:
Limit kept

Project file:
50104-30309-1

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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
**Test distance 1 meter
Horizontal Polarization**

Date of test:
07/04/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:

- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

Detector:
Peak

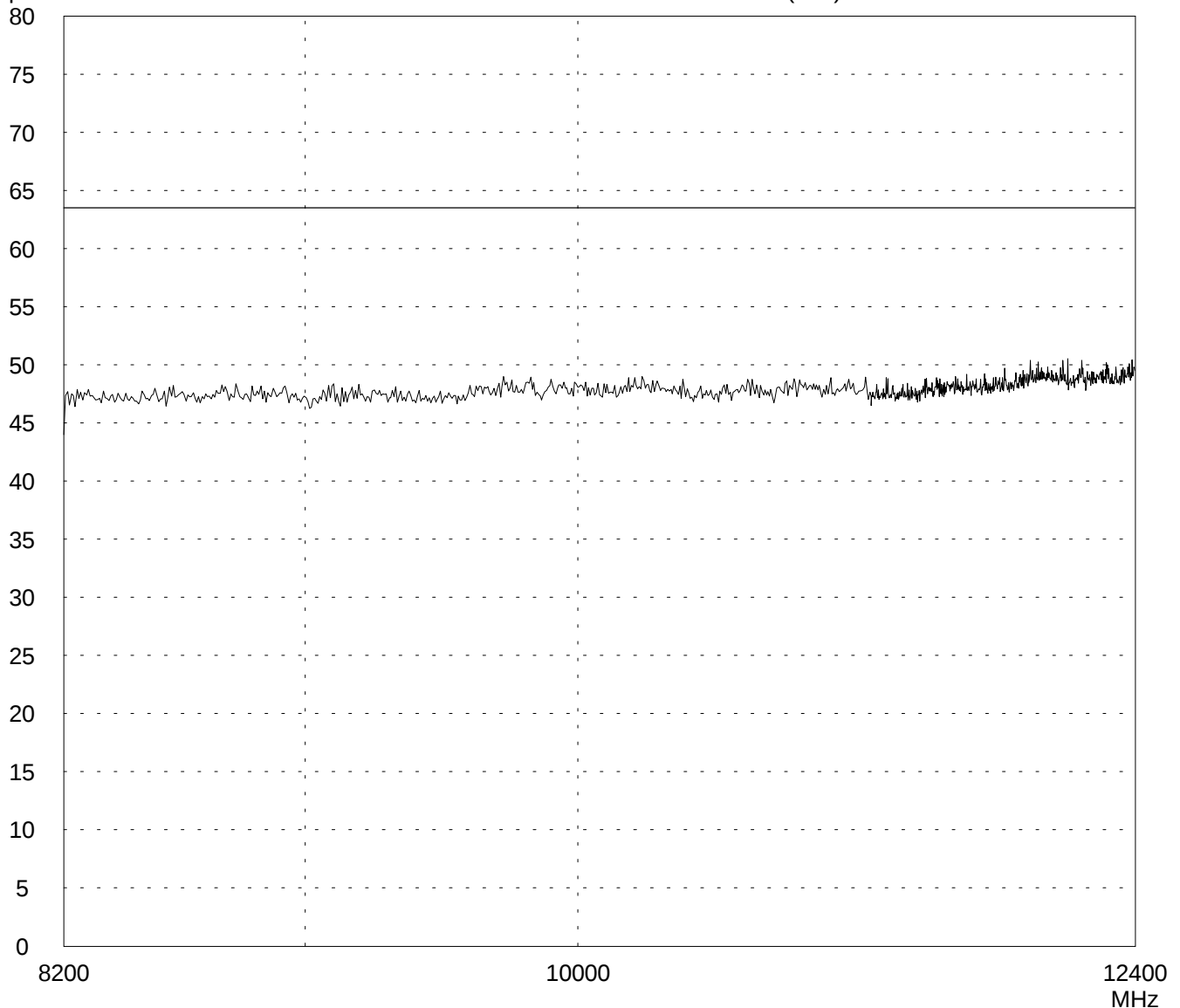
List of values:

10 dB Margin

50 Subranges

dB μ V/m

Limit1: FCC Part 15 (1 m) Transducer: EMCO 3160



Result:
Limit kept

Project file:

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Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 1 meter
Horizontal Polarization

Date of test: 07/04/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

Comment:

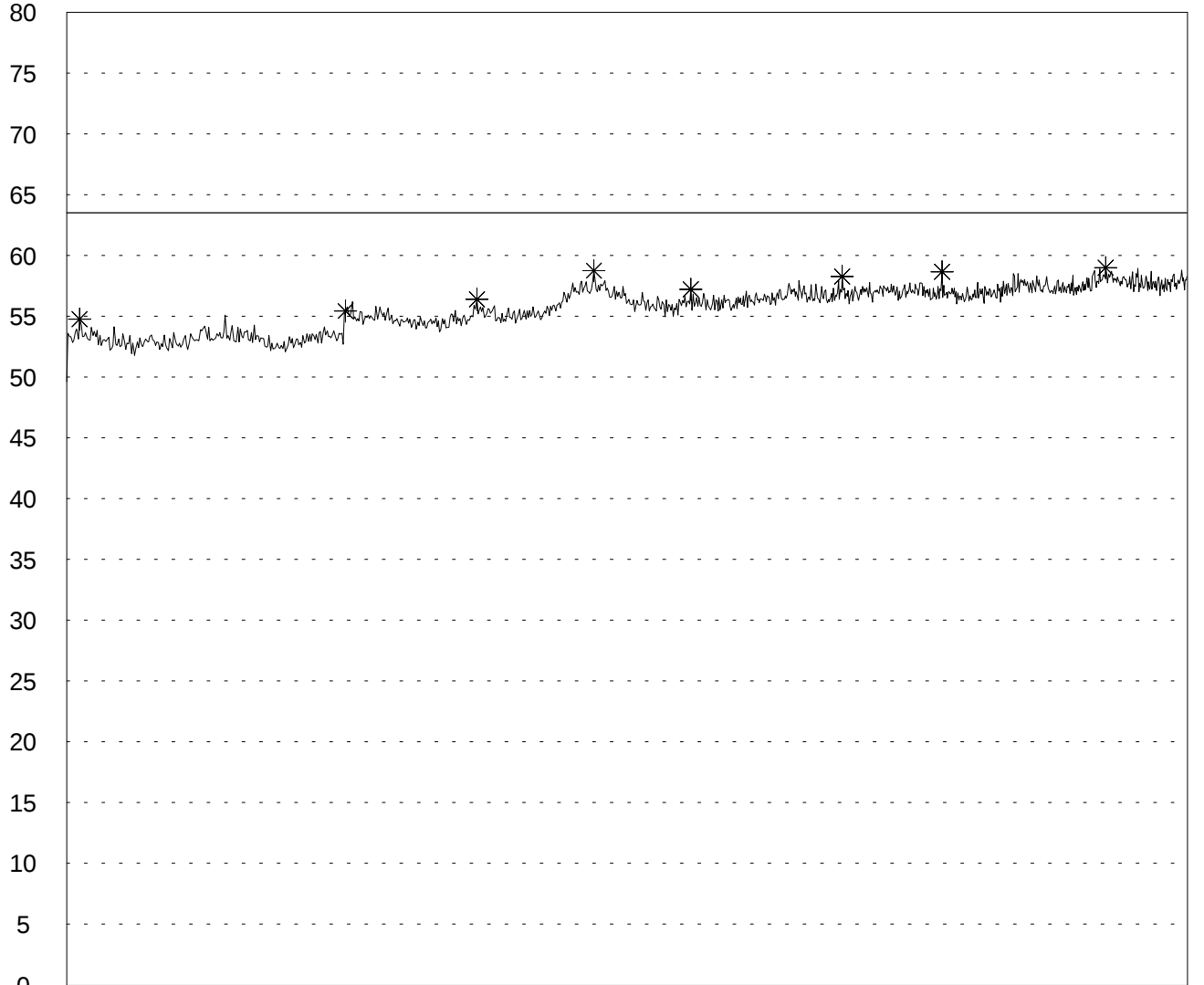
- AC 230 V power supply (DC 9 V)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

Detector:
Peak

List of values:
10 dB Margin 8 Subranges

dBμV/m
80

Limit1: FCC Part 15 (1 m) Transducer: EMCO 3160



12400

18000
MHz

Result:
Limit kept

Project file:
50104-30309-1

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Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 1 meter
Vertical Polarization

Date of test: 07/04/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

Comment:

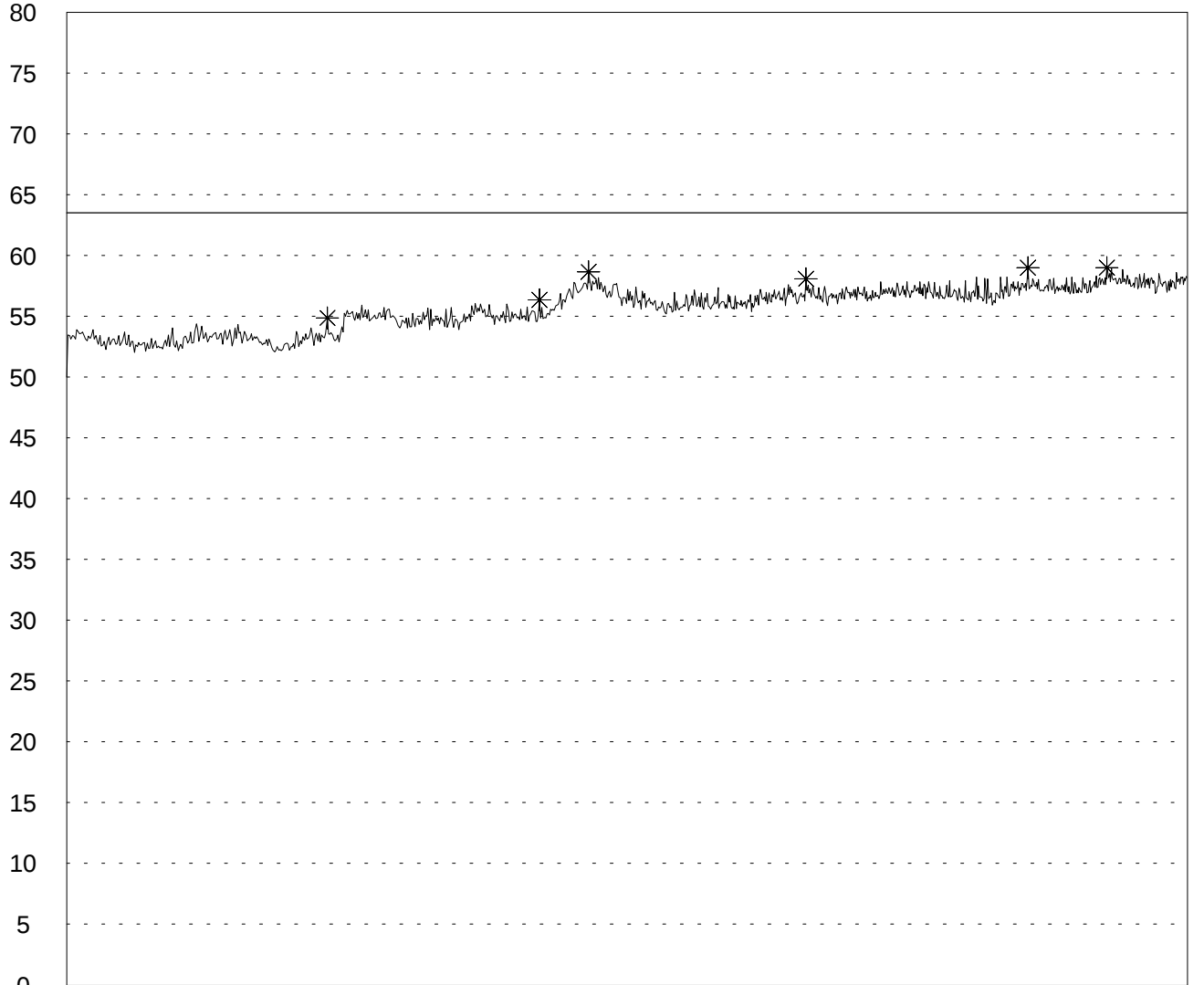
- AC 230 V power supply (DC 9 V)
- working continously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached
- note: with high pass filter WHK/3M/13G-10SS

Detector:
Peak

List of values:
Selected by hand

dB μ V/m
80

Limit1: FCC Part 15 (1 m) Transducer: EMCO 3160



12400

18000
MHz

Result:
Limit kept

Project file:
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Radiated Emission Test acc. FCC Part 15

Model:
H2000 Transmitter

Serial No.:
test sample 02

Applicant:
Amphony Deutschland GmbH

Mode:
- 9V DC power supply

- cables attached
- working continuously
- supplying 500mV @ 1kHz

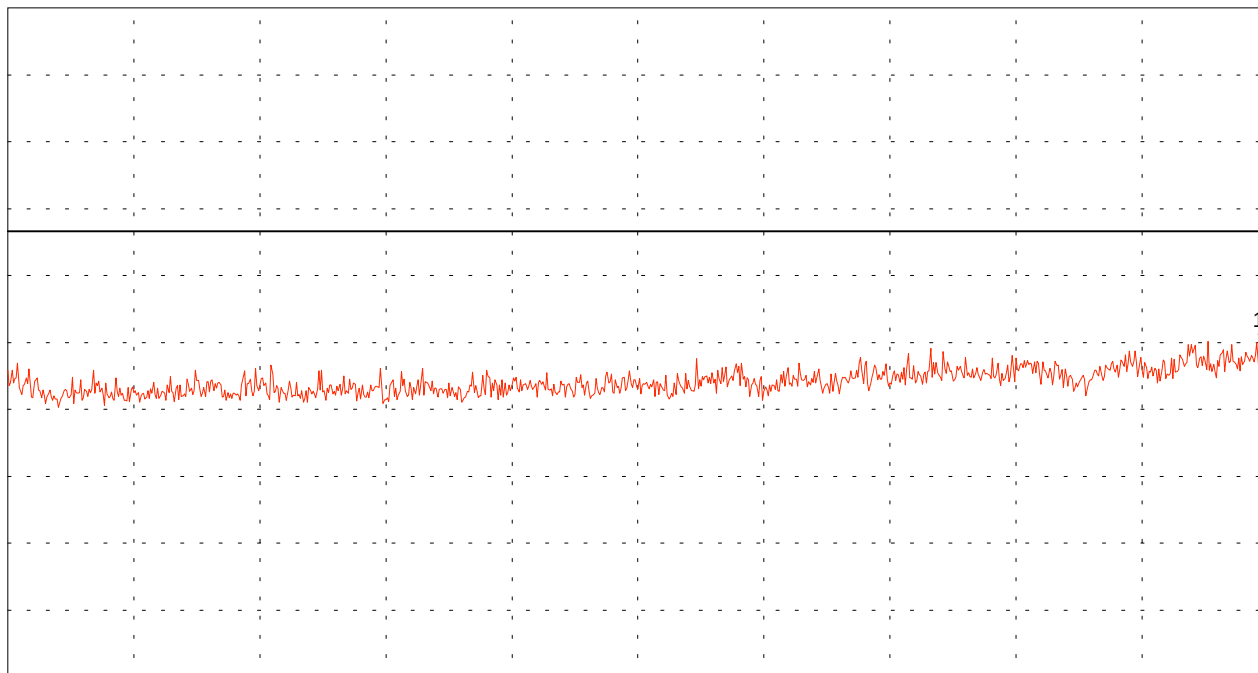
- horizontal polarisation

Test distance: 0.5 meters

Ref.Level 84.7 dB μ V/m
5 dB/Div.

ATT 0 dB

Ref. Offset 42.8 dB



Start 18.000 GHz
RBW 1 MHz

VBW 1 MHz

Stop 25.000 GHz
SWP 40 ms

Multi Marker List

No.	Frequency (GHz)	Amplitude (dB μ V/m)
1	24.992222	60.29

Tested by:
M. Steindl

Date:
07/07/2003

Project-No.:
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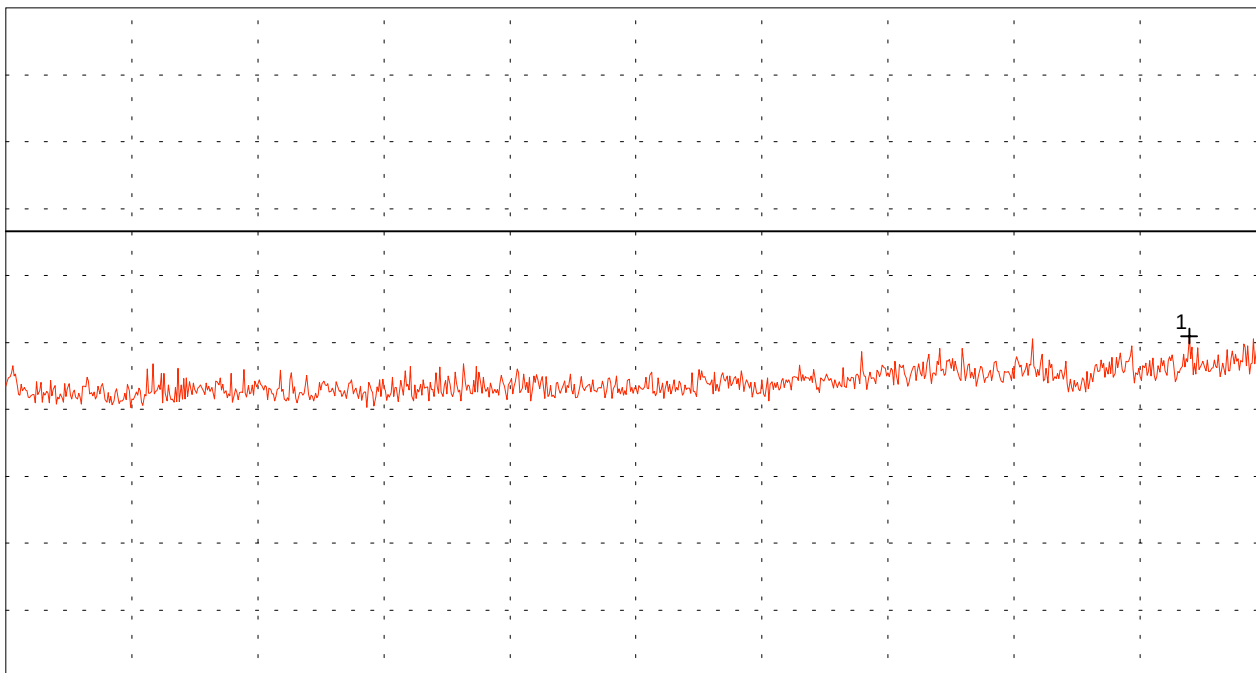
Radiated Emission Test acc. FCC Part 15

Model: H2000 Transmitter	Mode: - 9V DC power supply - cables attached - working continuously - supplying 500mV @ 1kHz - vertical polarisation
Serial No.: test sample 02	Test distance: 0.5 meters
Applicant: Amphony Deutschland GmbH	

Ref.Level 84.7 dB μ V/m
5 dB/Div.

ATT 0 dB

Ref. Offset 42.8 dB



Start 18.000 GHz
RBW 1 MHz

VBW 1 MHz

Stop 25.000 GHz
SWP 40 ms

Multi Marker List		
No. 1	24.572222 GHz	60.18 dB μ V/m

Tested by: M. Steindl	Project-No.: 50104-30309-1
Date: 07/07/2003	Page of pages

Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test:
05/16/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:
- 1.5 V battery supply

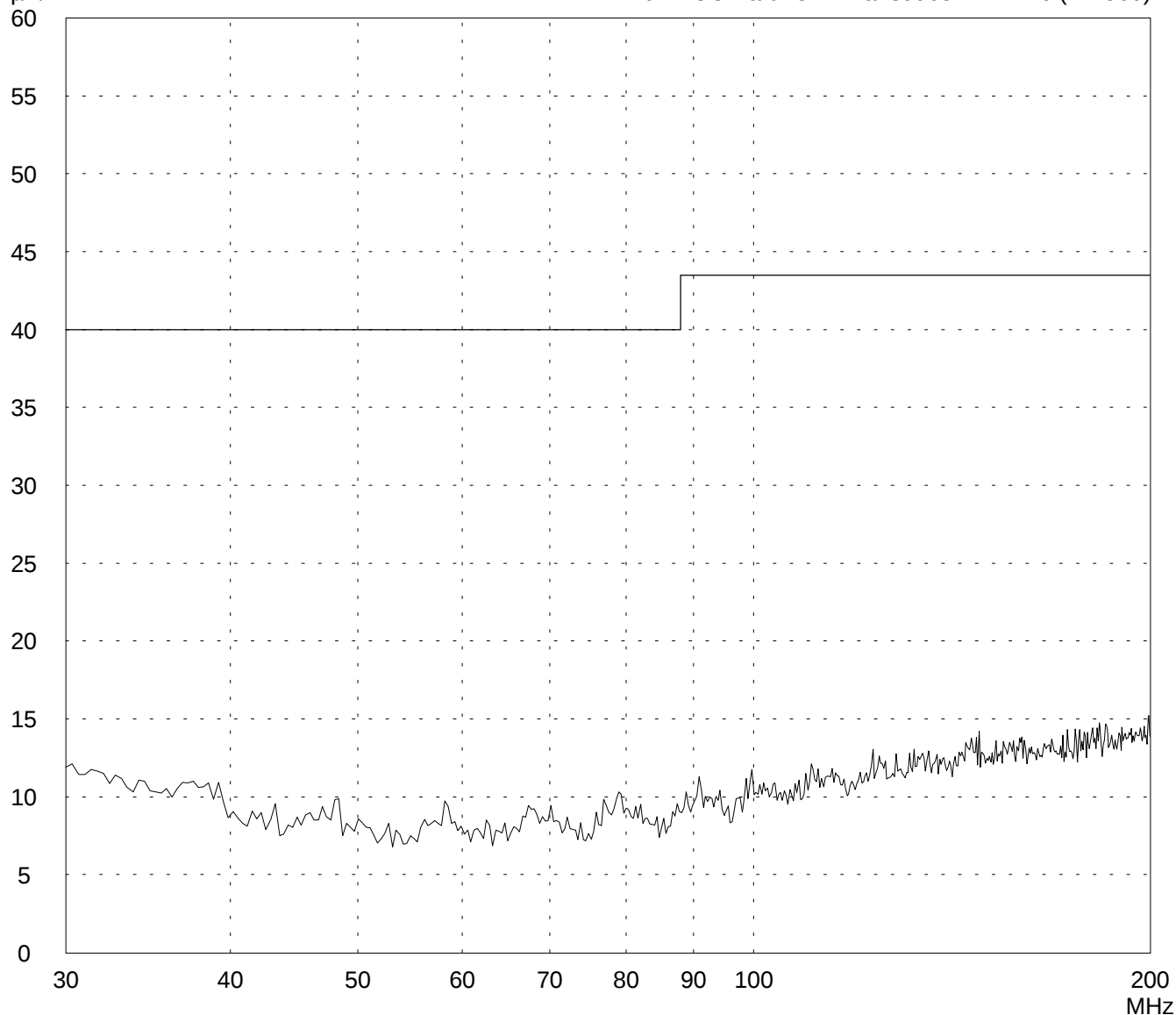
- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dB μ V/m

Limit1: FCC Part 15 Transducer: HK 116 (A-1560)



Result:
Prescan

Project file:
50104-30309-2

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Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/16/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

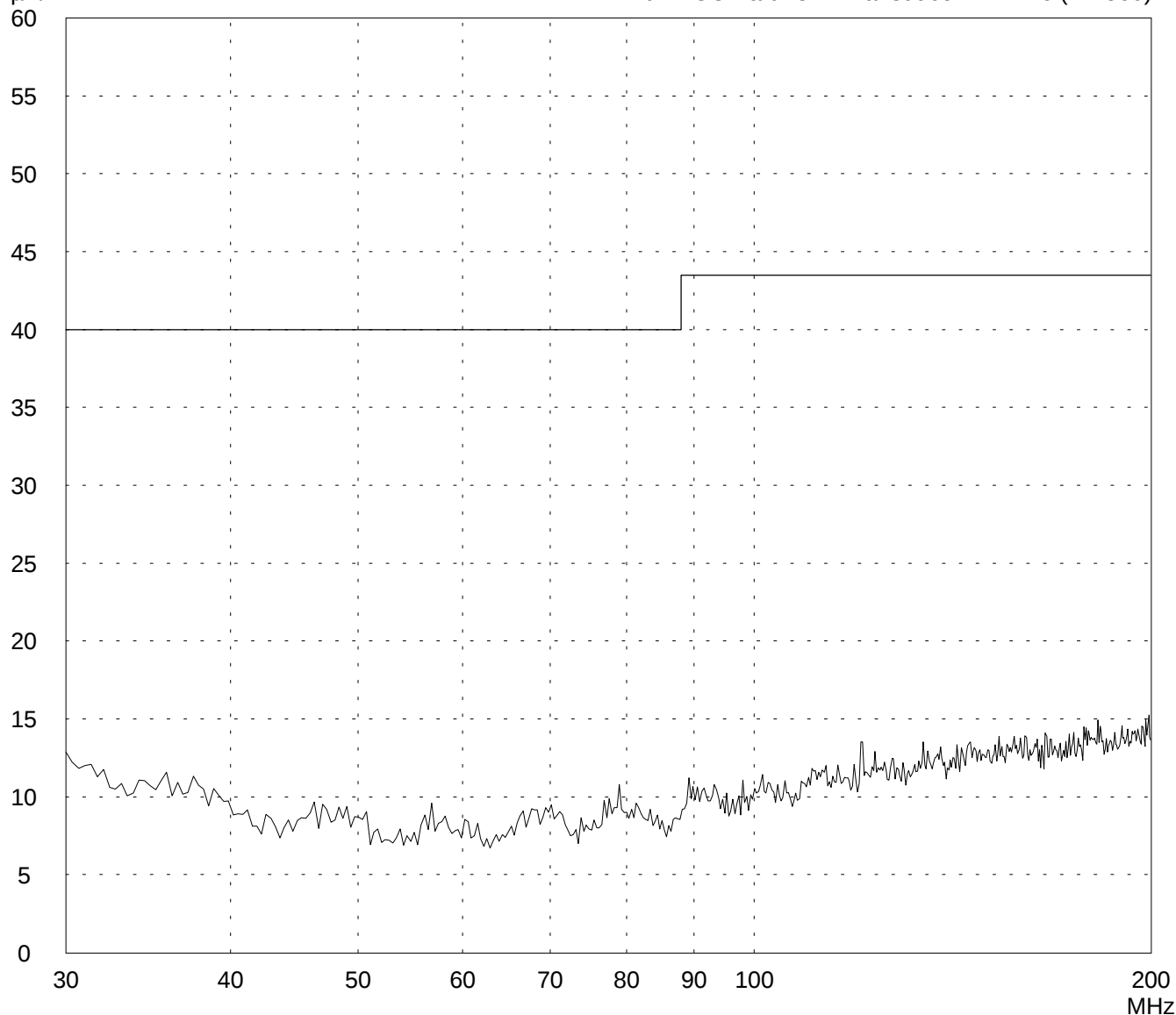
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dBµV/m

Limit1: FCC Part 15 Transducer: HK 116 (A-1560)



Result:
Prescan

Project file:
50104-30309-2

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Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test:
05/16/2003

Operator:
M. Steindl

Test performed:
automatically

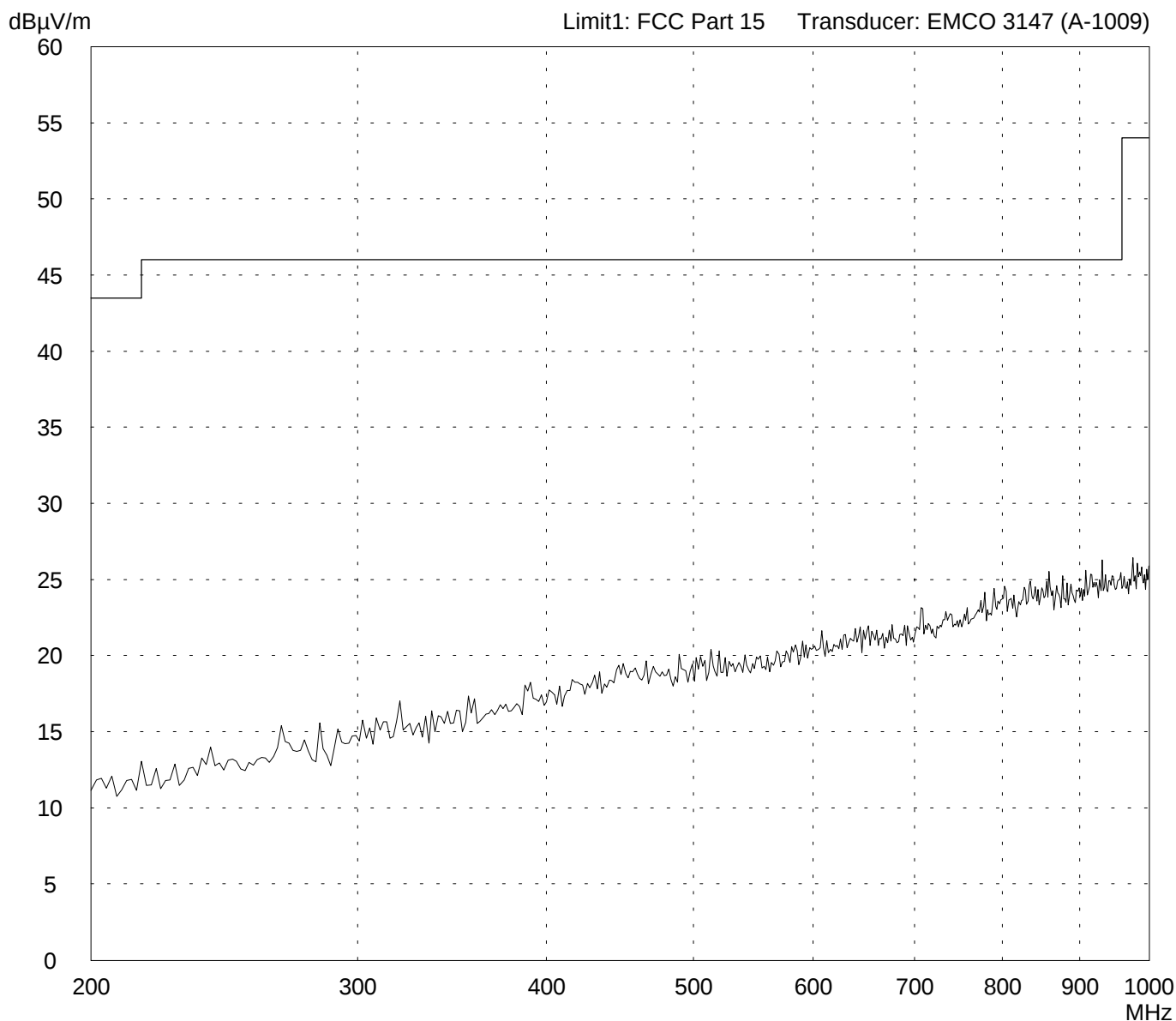
File name:
default.emi

Comment:
- 1.5 V battery supply

- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
50104-30309-2

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Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/16/2003 Operator: M. Steindl

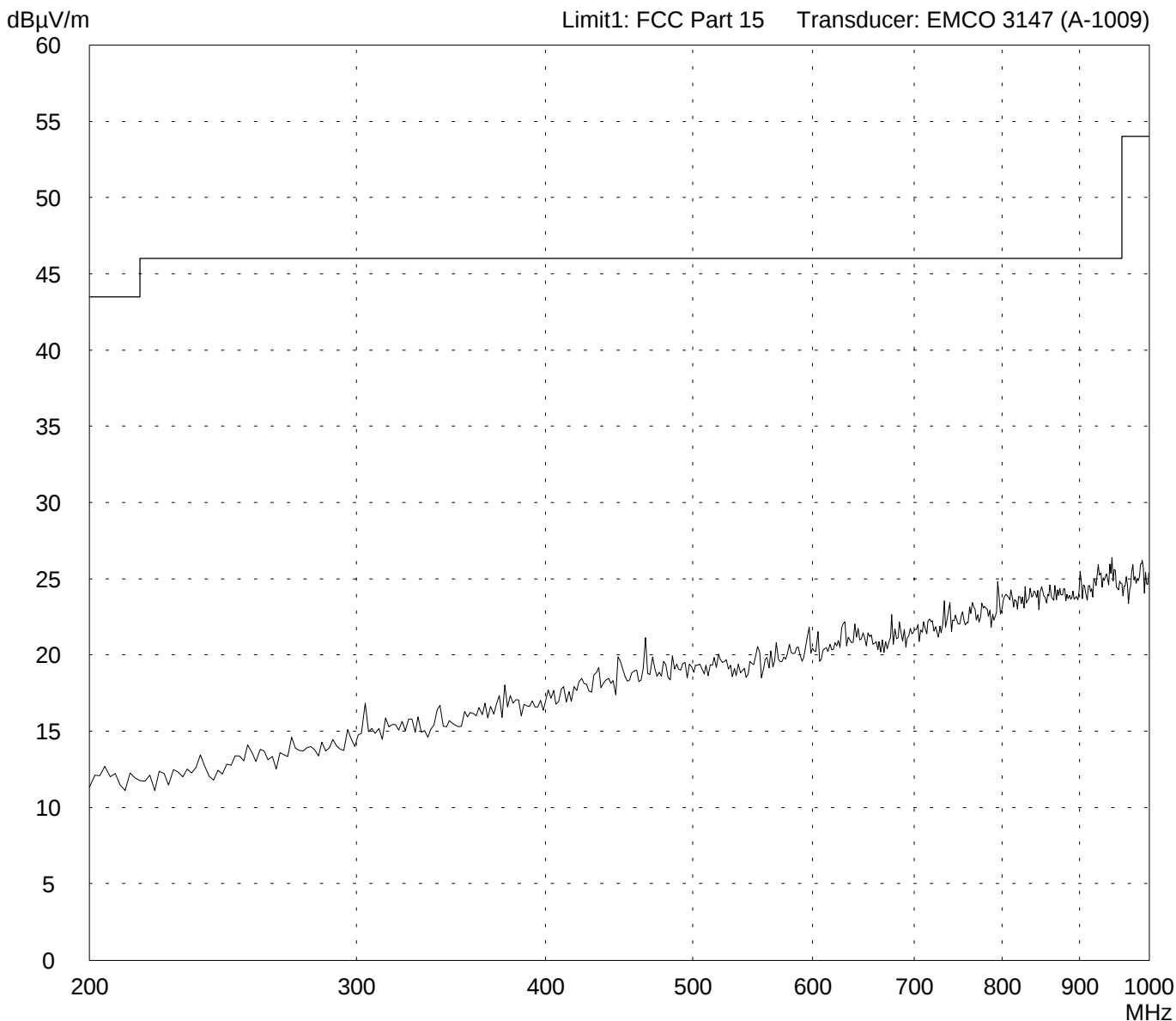
Test performed: automatically File name: default.emi

Comment:
- 1.5 V battery supply

- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges



Result:
Prescan

Project file:
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Radiated Emission Test 1 GHz - 3.95 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test:
05/22/2003

Operator:
M. Steindl

Test performed:
automatically

File name:
default.emi

Comment:
- 1.5 V battery supply

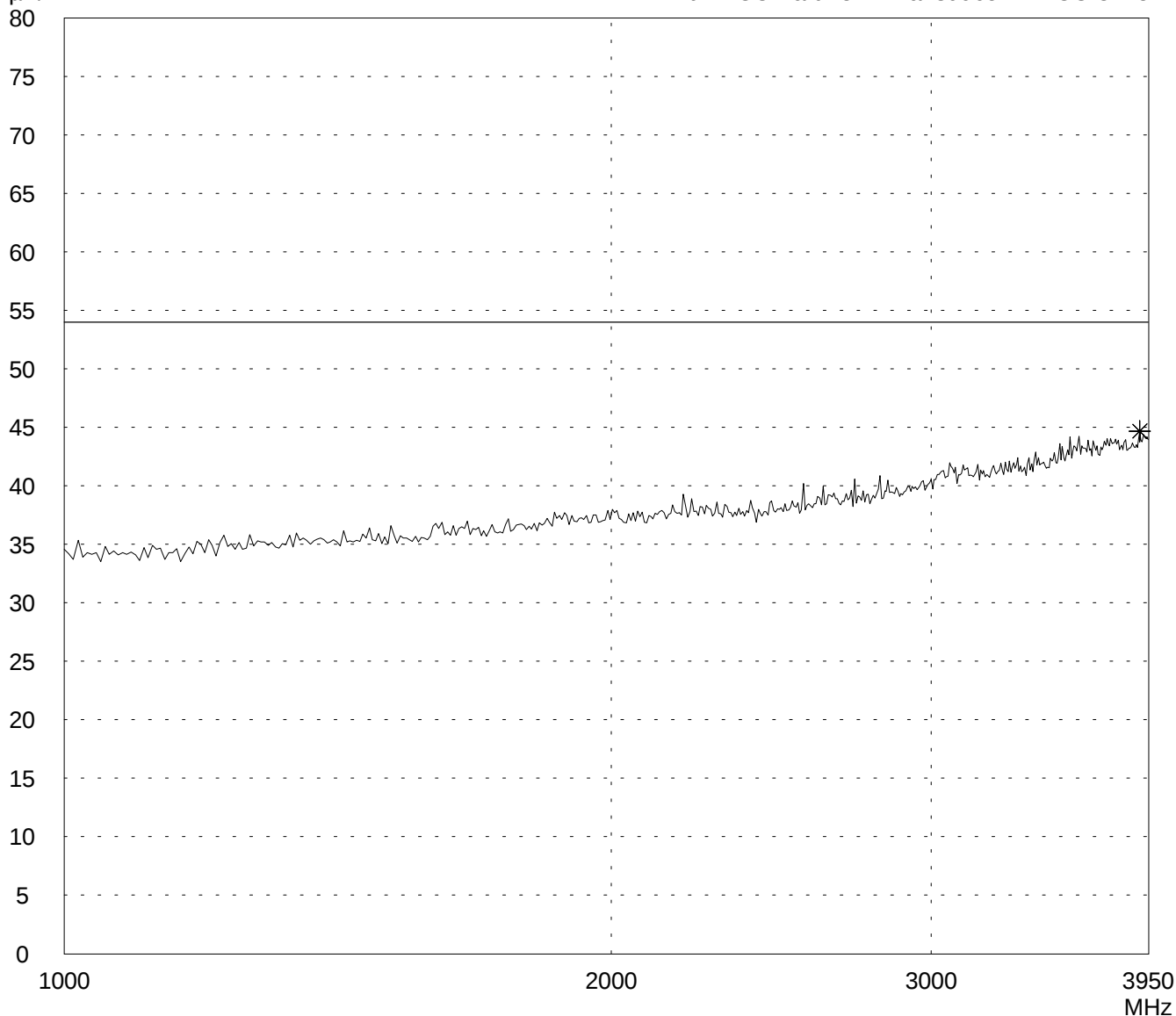
- working continuously

Detector:
Peak

List of values:
Selected by hand

$\text{dB}\mu\text{V/m}$

Limit1: FCC Part 15 Transducer: EMCO 3115



Result:
Limit kept

Project file:
50104-30309-2

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Radiated Emission Test 1 GHz - 3.95 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

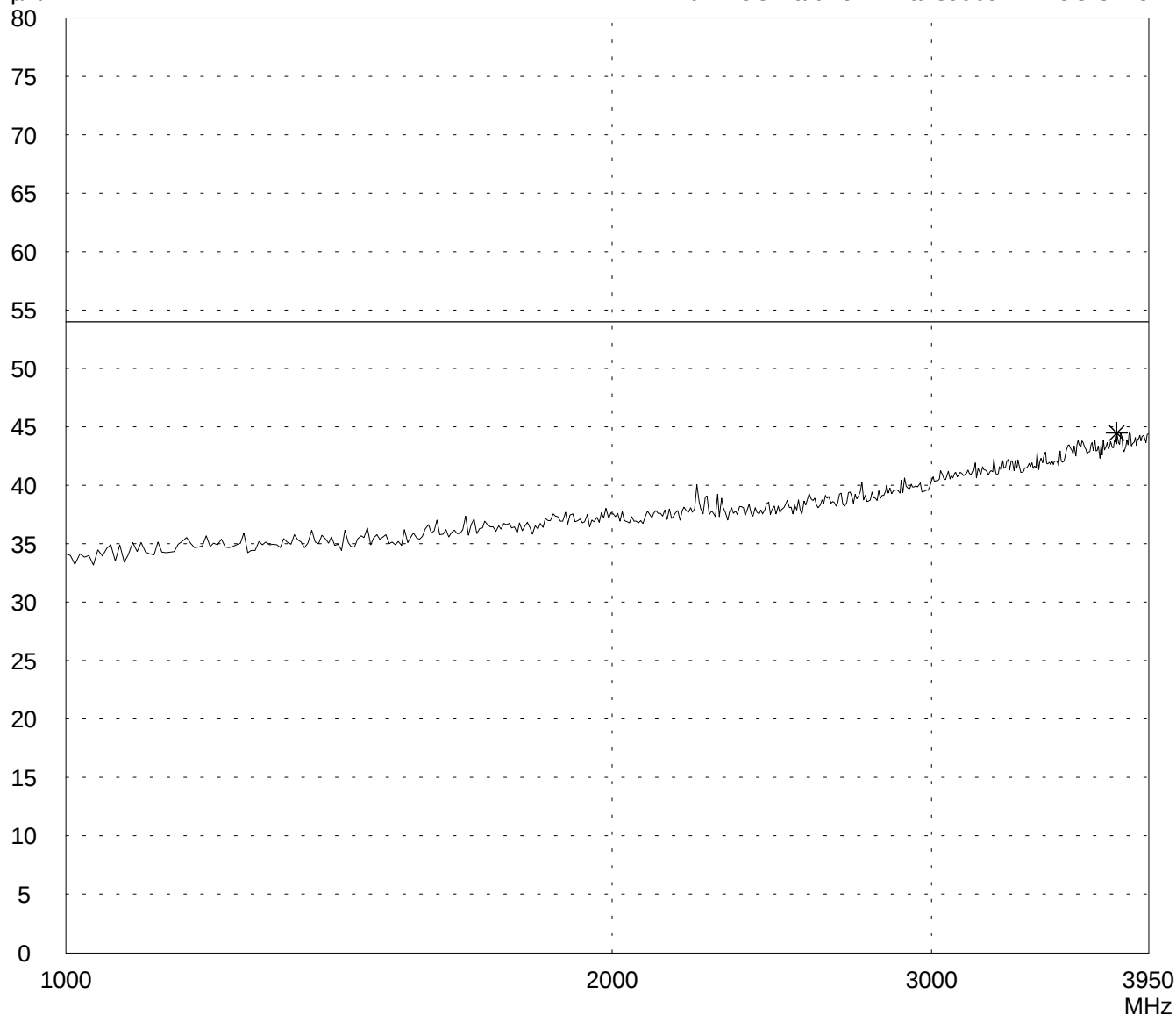
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
Selected by hand

$\text{dB}\mu\text{V/m}$

Limit1: FCC Part 15 Transducer: EMCO 3115



Result:
Limit kept

Project file:
50104-30309-2

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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

Comment:
- 1.5 V battery supply

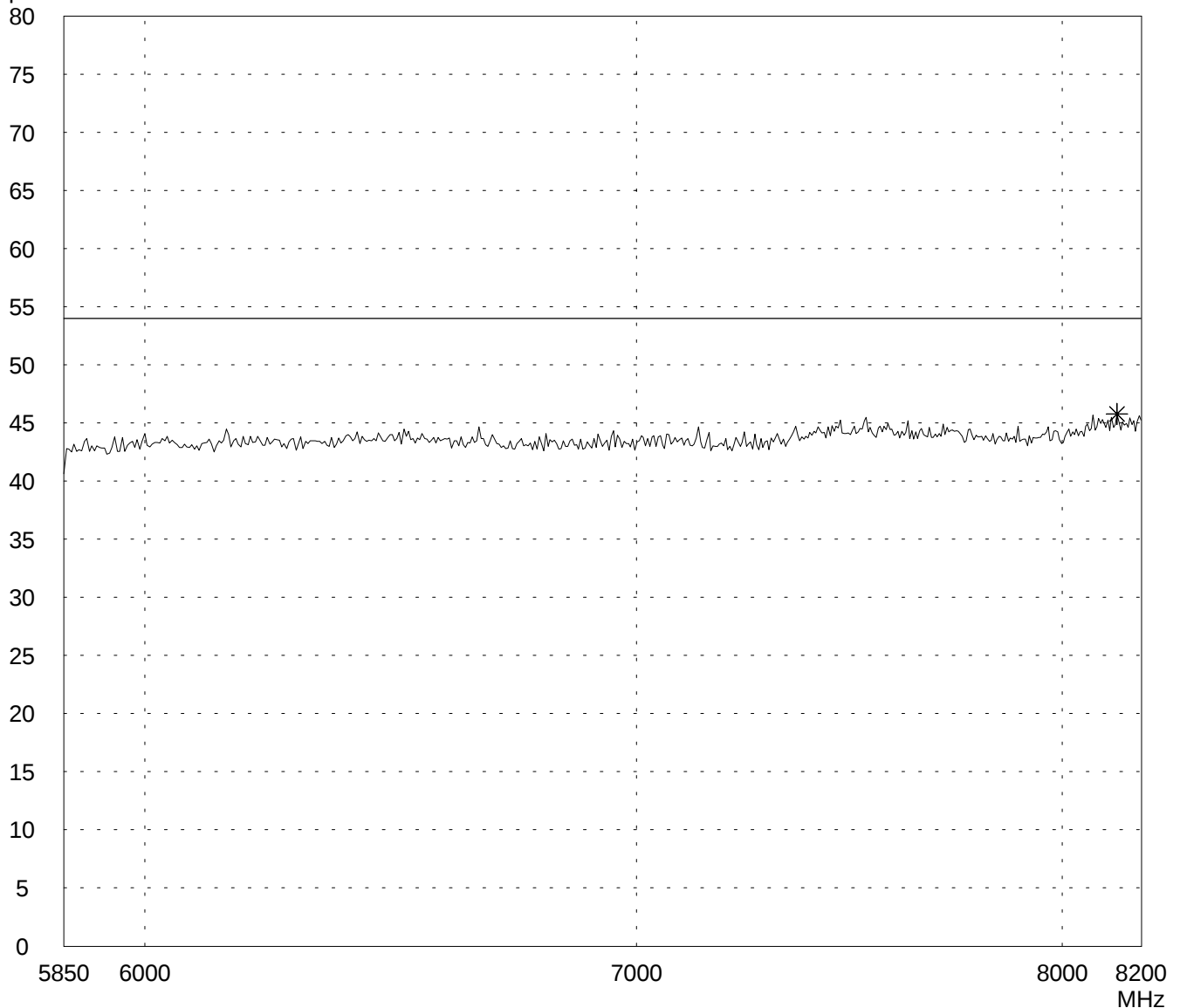
- working continuously

Detector:
Peak

List of values:
Selected by hand

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
50104-30309-2

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Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

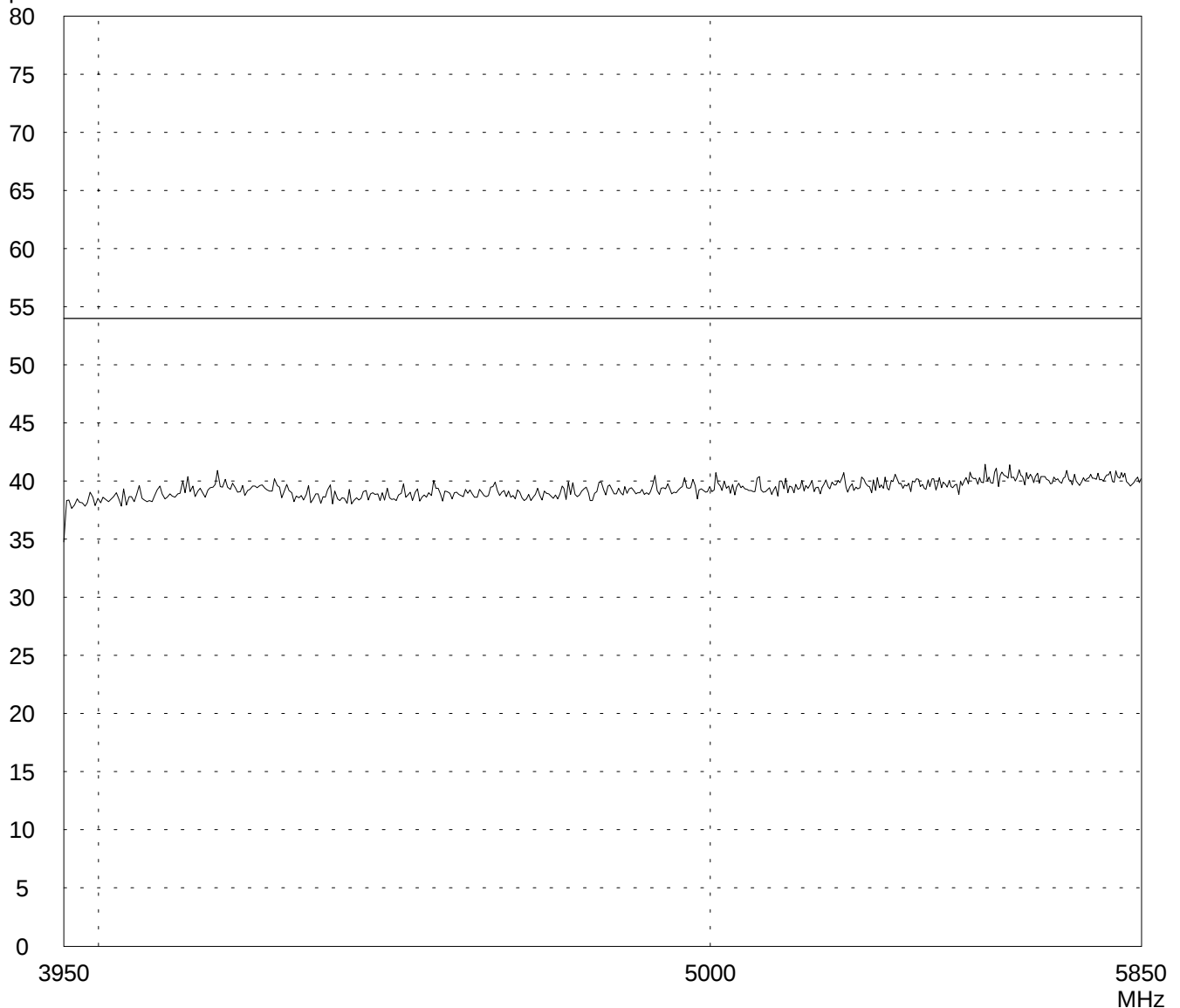
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
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Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

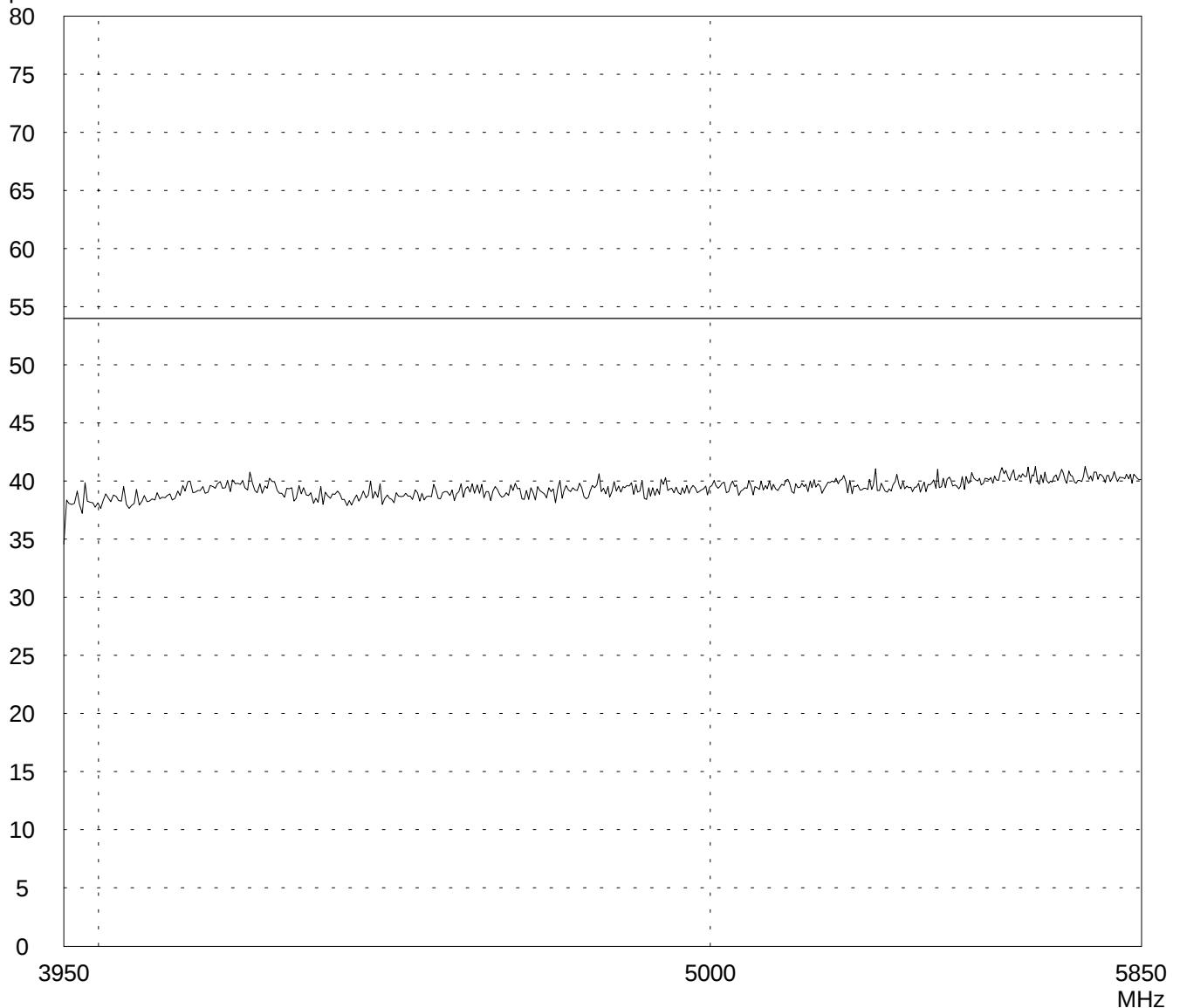
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
10 dB Margin 50 Subranges

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

Comment:
- 1.5 V battery supply

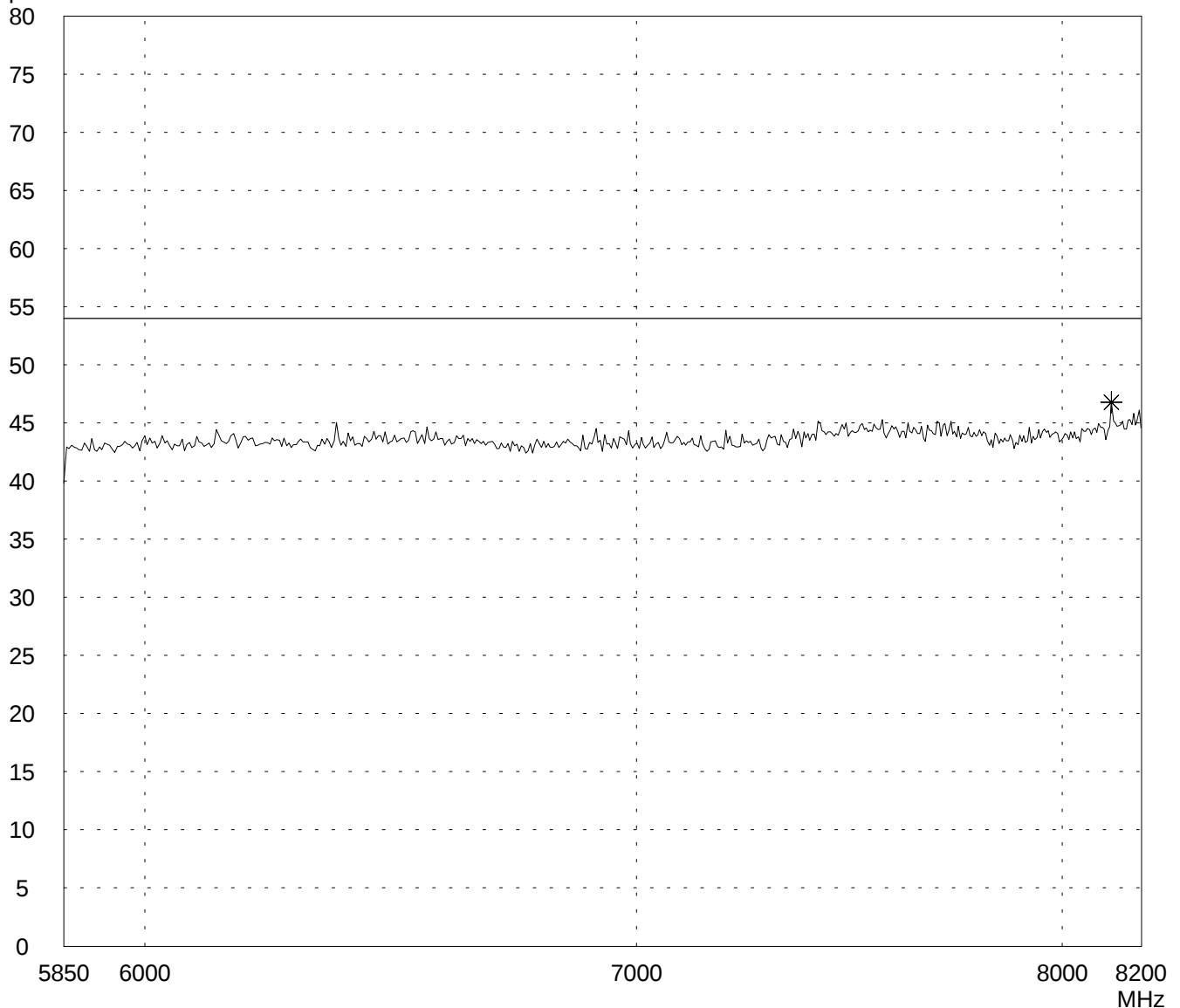
- working continuously

Detector:
Peak

List of values:
Selected by hand

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Horizontal Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

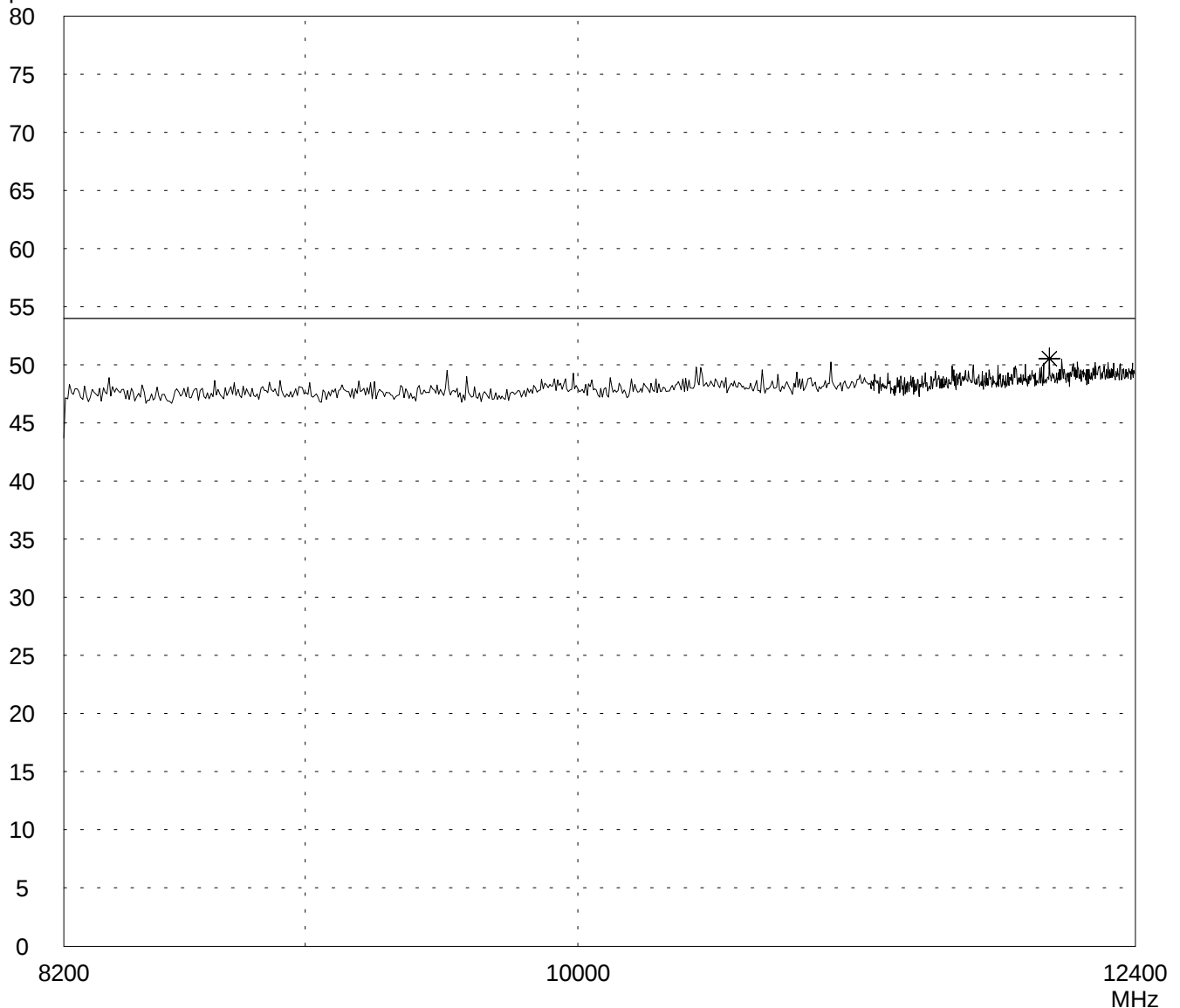
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
Selected by hand

dBμV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model:
H2000 Receiver (Headphones)

Serial no.:
test sample 1

Applicant:
Amphony Deutschland GmbH

Test site:
Fully anechoic room, cabin no. 2

Tested on:
Test distance 3 metres
Vertical Polarization

Date of test: 05/22/2003 Operator: M. Steindl

Test performed: automatically File name: default.emi

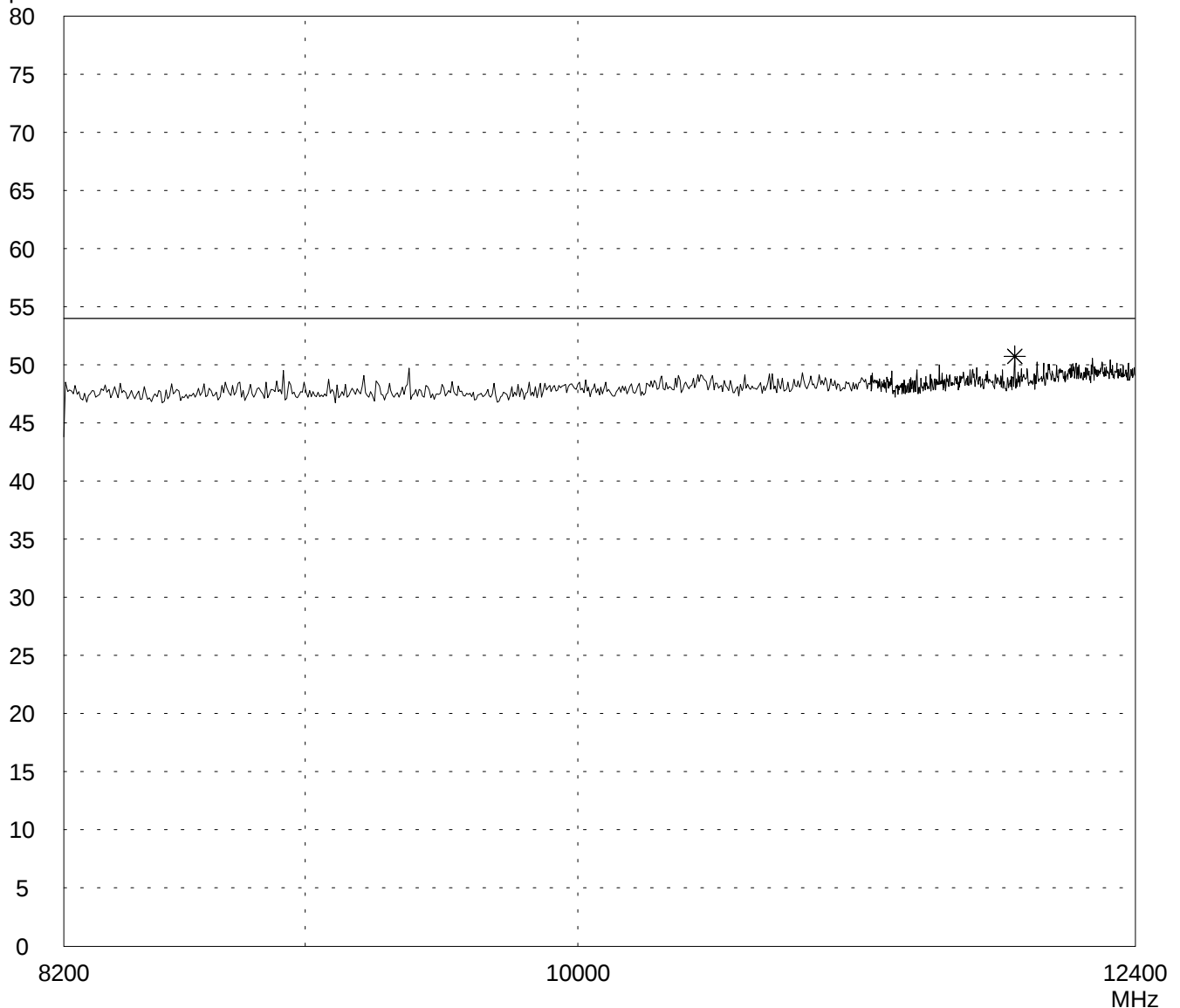
Comment:
- 1.5 V battery supply
- working continuously

Detector:
Peak

List of values:
Selected by hand

dBµV/m

Limit1: FCC Part 15 Transducer: EMCO 3160



Result:
Limit kept

Project file:
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Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Shielded room, cabin no. 2

Tested on:
Linecord
Phase L1

Date of test:
07/07/2003

Operator:
M. Steindl

Test performed:
automatically

File name:

Mode:

- AC 115 V power supply (9 V DC)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:

Peak / Final Results: QP

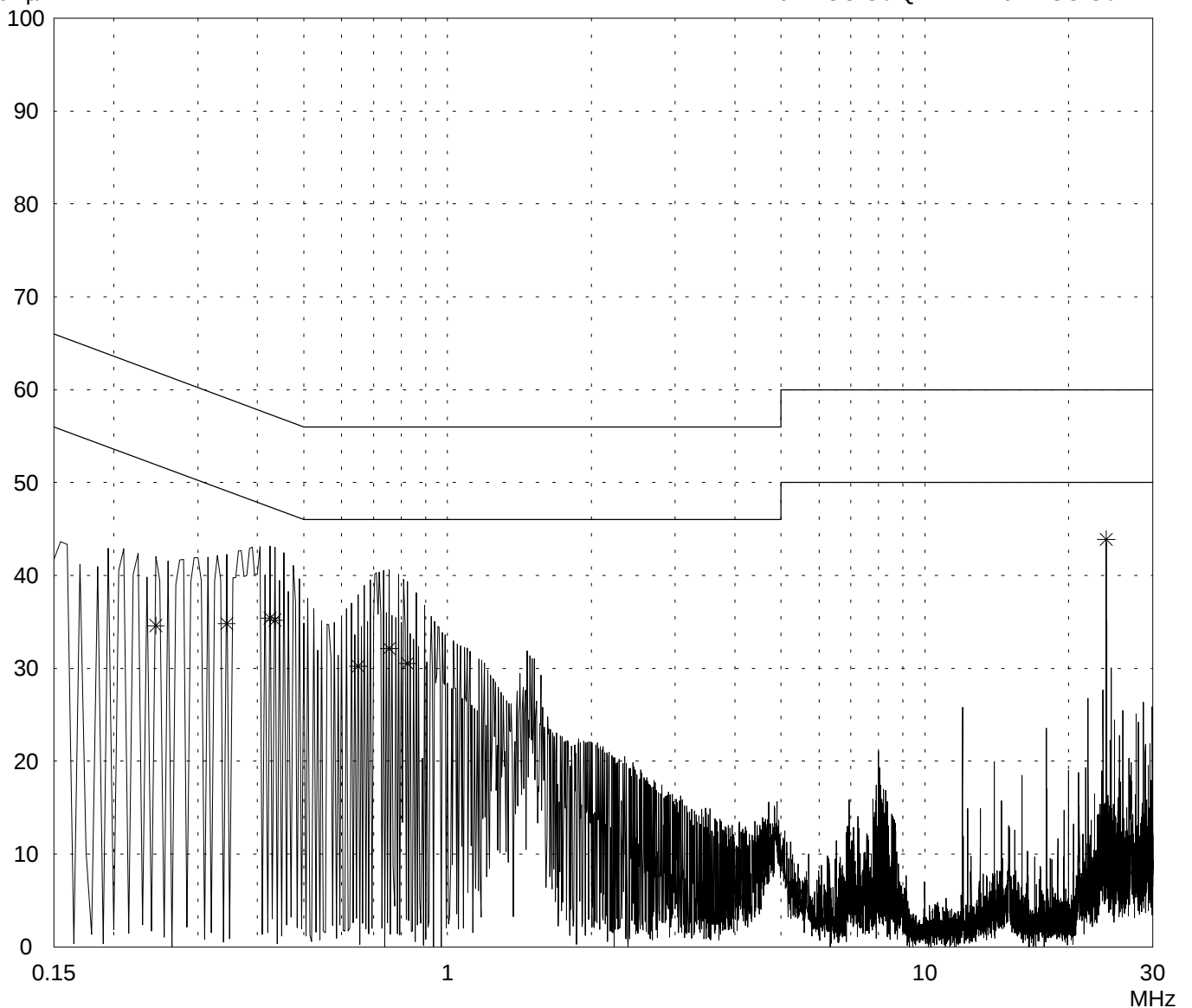
Final results:

20 dB Margin

25 Subranges

dB μ V

Limit1: FCC C / QP Limit2: FCC C / AV



Result:
Limit kept

Project file:
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Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:
H2000

Serial no.:
sample 2

Applicant:
Amphony Deutschland GmbH

Test site:
Shielded room, cabin no. 2

Tested on:
Linecord
Phase N

Date of test:
07/07/2003

Operator:
M. Steindl

Test performed:
automatically

File name:

Mode:

- AC 115 V power supply (9 V DC)
- working continuously
- supplying 500 mV on analog Audio Input
- Video and Audio cables attached

Detector:

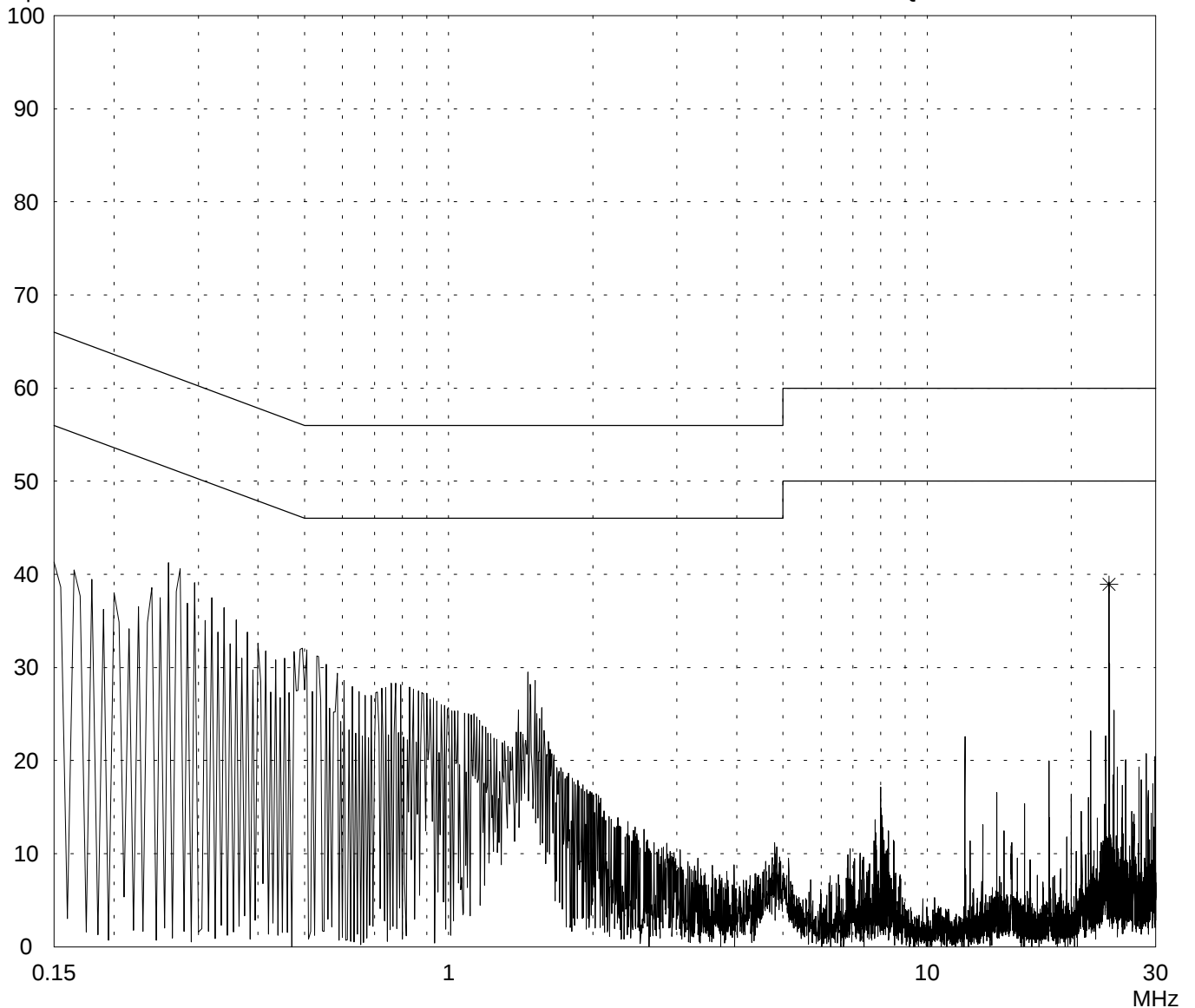
Peak / Final Results: QP

Final results:

Selected by hand

dB μ V

Limit1: FCC C / QP Limit2: FCC C / AV



Result:
Limit kept

Project file:
50104-30309-1

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