



Prüfbericht / Test report

nach den Anforderungen der/according to the requirements of
ISO/IEC 17025:2005

Elektromagnetische Verträglichkeit
Electromagnetic compatibility



**TESTED
IN GERMANY**

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Prüfbericht Nr./
Test report no.: **09/07-0079**

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Auftraggeber:
Order from:
Aaronn Electronic GmbH
(Name/Name)
Zeppelinstrasse 4
(Strasse/Street)
82178 Puchheim
(PLZ, Ort/Location)
Deutschland
(Land/Country)
Prüfobjekt:
Set under test:
SBC CORE2DUO 1,86GHZ, 250GB HDD, 2GB RAM
(Bezeichnung/Model name)
Single Board Computer für NEC Public Displays
(Produkt/Product)
-/-
(Serien-Nummer/Serial no.)
fixed
(Art der Einrichtung, z.B. stationär, portabel, mobil/type of equipment, e.g. fixed station, portable, mobile)
Hersteller:
Manufacturer:
-/-
(Name/Name)
(Strasse - PLZ, Ort/Street - Location)
(Land/Country)

Eingangsdatum Prüfobjekt: <i>Date of receipt of test sample:</i>	21.07.2009
Zuständiger Laborleiter: <i>Responsible head of laboratory:</i>	G. Raithel Dipl.-Ing. (FH)

Die Kalibrierung der bei pkm eingesetzten Geräte und Messmittel erfolgt durch ein externes DKD-Kalibrierlabor. Die Kalibrierunterlagen können bei pkm abgerufen werden.

The test equipments used at pkm are calibrated by an external DKD-calibration laboratory. Calibration documents are available upon request.

Die auszugsweise Vervielfältigung dieses Prüfberichtes bedarf der schriftlichen Genehmigung des Prüflaboratoriums.

To duplicate parts of this test report needs the written confirmation of the test laboratory.

Die Prüfergebnisse beziehen sich ausschließlich auf das o. g. Prüfobjekt.

The test results are based only on the above mentioned test sample.

Dieser Prüfbericht enthält keine sicherheitsbezogenen EMV-Anforderungen.

This test report includes no safety relevant EMC requirements.

Durchgeführte Messungen <i>Performed measurements</i>	Norm / Standard	Ergebnis <i>Test result</i>		Kennzeichnung Nr. <i>Marking report no.</i>
		ok	not ok	
Emission:				
Interference voltage	EN55022:2006+A1:2007	X		IT 1/2
Interference radiation	EN55022:2006+A1:2007	X		IT 5/6
Harmonics	EN61000-3-2:2006	X		N 1
Voltage fluctuations	EN61000-3-3:1995+A1:2001+A2:2005	X		N 2
Immunity:				
Electrostatic discharge (ESD)	EN55024:1998+A1:2001+A2:2003 EN61000-4-2:1995+A1:1998+A2:2001	X		I 1
Electrical fast transient (Burst)	EN55024:1998+A1:2001+A2:2003 IEC61000-4-4:1995	X		I 2
Immunity to radiated fields	EN55024:1998+A1:2001+A2:2003 EN61000-4-3:1996	X		I 3
Surge	EN55024:1998+A1:2001+A2:2003 IEC61000-4-5:1995	X		I 4
Conducted radio frequency	EN55024:1998+A1:2001+A2:2003 IEC61000-4-6:1996	X		I 5
Voltage dips and interruptions	EN55024:1998+A1:2001+A2:2003 IEC61000-4-11:1994	X		N 3

Umgebungstemperatur/ Ambient temperature: 22°C
 Relative Luftfeuchte/ Relative humidity: 45-60%

Endergebnis/Final result: ☒ o.k. ☐ not o.k.

Zuständiger Laborleiter:
 Responsible head of laboratory:

 **pkml electronic GmbH**
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 84160 Frontenhausen
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29.07.2009

G. Raithel Dipl.-Ing. (FH)
 (Name/Name)

(Unterschrift/Signature)

(Datum/Date)

Beschreibung des Prüfgegenstandes und der Messbedingungen/Prüfplan

Description of the equipment under test and test conditions/Test plan

Power:		No own power supply, powered by display
Cables:		Standard cables for LAN, DVI, USB, Control in/out, Jackplug in/out, Clamps, BNC, VGA, RCA, S-Video and E-SATA.
Approx. Size (l x w x h):		(290 x 160 x 50)mm
Test conditions:		During emission- and immunity-tests the Single Board Computer was operated with a NEC-Display P401. A test program was running to fill the screen with 'H'-pattern with a resolution of 1920 x 1080 pixel, letter size Arial 10, screen refresh rate 60Hz. With this setting the Single Board Computer has been investigated to detect the max. emission and minimum immunity levels.
Performance criteria for immunity tests:		A (No degradation of performance during test) for Immunity to radiated fields (I-3) and Conducted radio frequency (I-5) according EN55024:1998+A1:2001+A2:2003 B (Temporary loss or degradation of function which is selfrecoverable) for ESD (I-1), Burst (I-2), Surge (I-4) and N-3 (for 0.5 cycle) according EN55024:1998+A1:2001+A2:2003. C (Loss of function or change of mode which is selfrecoverable or can be restored by the user) for N-3 (for 25 and 250 cycles) according EN55024:1998+A1:2001+A2:2003.
Test procedures - Emission:		
Interference voltage	IT 1/2	Test procedure according to class B of EN55022:2006+A1:2007
Interference radiation	IT 5/6	Test procedure according to class B of EN55022:2006+A1:2007. The measurements had been performed on a distance of 3m and an inverse proportionality factor of 10dB has been used to normalize the measurement data to the specified distance of 10m acc. to EN55022:2006+A1:2007 (10.3.1).
Harmonics	N 1	Test procedure according to EN61000-3-2:2006
Voltage fluctuations	N 2	Test procedure according to EN61000-3-3:1995+A1:2001+A2:2005
Test procedures - Immunity:		
Electrostatic discharge (ESD)	I 1	EN55024:1998+A1:2001+A2:2003 EN61000-4-2:1995+A1:1998+A2:2001
Electrical fast transient (Burst)	I 2	EN55024:1998+A1:2001+A2:2003 IEC61000-4-4:1995
Immunity to radiated fields	I 3	EN55024:1998+A1:2001+A2:2003 EN61000-4-3:1996
Surge	I 4	EN55024:1998+A1:2001+A2:2003 IEC61000-4-5:1995
Conducted radio frequency	I 5	EN55024:1998+A1:2001+A2:2003 IEC61000-4-6:1996
Voltage dips and interruptions	N 3	EN55024:1998+A1:2001+A2:2003 IEC61000-4-11:1994

Liste der verwendeten Prüfmittel / List of used test equipment

Messplatz/ Test place	Beschreibung/ Kind of equipment	Typ/ Type	Hersteller/ Manufacturer	pkm-Identnr./ pkm-ident no.
Störspannung - Störstrom Kabine 1 <i>Interference voltage – Interference current Cabin 1</i> 9kHz - 30MHz	Computer	PC486DX33	Amstrad	10813
	Software	pkm U5/6, V1.01.03	pkm	
	EMI test receiver	ESHS-30	Rohde & Schwarz	10571
	Netznachbildung/ Line impedance stabilisation network	ESH2-Z5	Rohde & Schwarz	10139
	Schirmkabine/ Shielded room	1 GHz Typ B83102	Siemens	10111
	Tastkopf/High Impedance probe	5KW	pkm	10239
	HF-Stromzange/RF current probe	ESH2-Z1	Rohde & Schwarz	11077
	T-Network	ESH3-Z4	Rohde & Schwarz	10228
	T-Network	ESH3-Z4	Rohde & Schwarz	10229
	4-Wire T-Network	EZ-10	Rohde & Schwarz	10002
	Tastkopf	5kOhm	Fiedler	11008
Feldstärke, abgestrahlte Leistung 30MHz - 1000MHz <i>Fieldstrength, radiated power</i> 30MHz - 1000MHz	Computer	Excel Plus	HDD	10299
	Software	pkm IT 5/6, V1.03.04	pkm	
	EMI test receiver	ESVS-30	Rohde & Schwarz	10572
	EMI test antenna	CBL6111	Chase	10022
	Antenna mast system	AM9104	Schwarzbeck	10099
	AC linefilter	FV2-10-D	Timonta	10755
	Drehtisch/ Turntable	DT 310	Deisel	10774
Störleistung auf Leitungen <i>Interference power on cables</i>	Computer	AT486DX	Magix	10298
	Software	pkm IT7, V1.01.01	pkm	
	EMI test receiver	ESVS-30	Rohde & Schwarz	10732
	Absorberzange/ Absorber clamp	MDS 21	Lüthi	10116
	Termination box	Termination Box 01	pkm	10561
	Labornetzgerät	EA-3021S	Elektro-Automatik	10092
Störleistung an der Antennenbuchse Labor 3 <i>Interference power at antenna socket Lab 3</i>	Computer	386SX82300C	IBM / Hewlett Packard	10036
	Software	pkm U4-TV/VTR, V1.01.01	pkm	
	TV-RF-Messsender/ TV- test transmitter	VTG700	Grundig	11066
	Spectrum analyzer	HP8562B	Hewlett Packard	10208
	50/75 Ohm converter	ZM57	Texscan	11118
	Leistungsteiler/ Power divider	50 Ohm-6dB	Suhner	10421
Störleistung an der Antennenbuchse Labor 6 Störleistung/Störstrahlung LNB Labor 6 <i>Interference power at antenna socket Lab 6</i> Interference power/radiation LNB Lab 6	Computer	PC486DX33	Amstrad	10042
	Software	pkm U1/U4 LNB, V1.01.01 pkm U4_013_02 V1.01.02	pkm	
	Spectrum Analyzer	FSMS 26	Rohde & Schwarz	10481
	Spectrum-Analyzer Display	FSMS 26	Rohde & Schwarz	10482
	Antenna	1524-20	FMI	10015
	Antenna	1724-20	FMI	10016
	Antenna	2024-25	FMI	10017



Messplatz/ Test place	Beschreibung/ Kind of equipment	Typ/ Type	Hersteller/ Manufacturer	pkm-Identnr./ pkm-ident no.
Störleistung an der Antennenbuchse Labor 6 Störleistung/Störstrahlung LNB Labor 6 (Fortsetzung) Interference power at antenna socket Lab 6 Interference power/radiation LNB Lab 6 (cont.)	Converter	ZM-57 50/75 Ohm	Texscan	10051
	BIAS Network	11590B	hp	10567
	Spectrum Analyzer	8562A	hp	10207
	Spectrum Analyzer	8562B	hp	10208
	Spectrum Analyzer	HP 3588 A	hp	10209
	Power Divider	4901.02.A	Suhner	11083
	DC-Block	1100.02.A	Suhner	11084
	Power Divider	4901.02.A	Suhner	11083
	DC-Block	1100.02.A	Suhner	11084
ESD	ESD generator	NSG 435	Schaffner	10069
	Vertical coupling plate	Vertical coupling plate	pkm	10592
	Horizontal coupling plate	Horizontal coupling plate	pkm	11022
Burst	Burst generator	NSG 2025	Schaffner	10734
	Coupling clamp	CDN 125	Schaffner	10309
Netzrückwirkung, Flicker (Messhalle 2) Harmonics, Flicker (Test-chamber 2)	Computer	FY-V3	NXT	11359
	Software	dpa.control, Version 5.0.0.0	emtest	
	Power Analyzer	DPA 500	emtest	11343
	AC power source	4500L	California Instruments	10424
Netzrückwirkung, Flicker (Labor 6) Harmonics, Flicker (Lab 6)	Computer	FY-V3	NXT	11359
	Software	dpa.control, Version 5.0.0.0	emtest	
	Power Analyzer	DPA 500	emtest	11343
	EMC test rack	Typ EMV E 5000/PAS/Kfz	Spitzenberger + Spies	11323
Störfestigkeit gegen gestrahlte Felder Immunity against radiated fields	Computer	PC Opal P166 Desktop	REC	10849
	Software	pkm I3, V1.01.08	pkm	
	Antenna	RGA 50/60	Electro Metric	10273
	Ferritzange	FTC 40X15 E	Schwarzbeck / Lüthi	11073
	Ferritzange	FTC 40X15 E	Schwarzbeck / Lüthi	11074
	Signal generator	SMT03	Rohde & Schwarz	10975
	Signal generator	SME03	Rohde & Schwarz	10201
	RF amplifier	HVU 500	Rohde & Schwarz	10245
	RF amplifier	250A250	Rohde & Schwarz	10824
	RF amplifier	BLWA 1550-200	Bonn	10872
	RF amplifier	30S1G3	Amplifier Research	10979
	Audio analyzer	UPD	Rohde & Schwarz	10283
	Antenna	VHAEL9132	Schwarzbeck	10271
	Antenna	AT1000	Amplifier Research	10272
	Antenna	AT4002A	Amplifier Research	10978
	IR sensor	Sensor 1	pkm	10364
	Microphone	AM60	Mikrotech	10392
	Radio comm. tester	CMT	Rohde & Schwarz	10434
	Camera	UC-100	Canon	10714
	Power supply DC triple output	E3631A	Hewlett Packard	10649
	Schirmkabine/ Shielded room	Messkabine 10GHz	Siemens	10113

Messplatz/ Test place	Beschreibung/ Kind of equipment	Typ/ Type	Hersteller/ Manufacturer	pkm-Identnr./ pkm-ident no.
Störfestigkeit gegen eingespeiste Ströme <i>Immunity against injected currents</i>	Computer	MH 7088S	Packard Bell	10874
	Software	pkm I5, V2.01.03 pkm C2, V2.01.01	pkm	
	Signalgenerator	SML03	Rohde & Schwarz	11079
	Millivolt meter	URV5	Rohde & Schwarz	10416
	Durchgangskopf/ Insertion unit	URV5-Z4	Rohde & Schwarz	10322
	Verstärker/ RF amplifier	Alpha 75A250	Amplifier Research	10954
	Dämpfungsglied/ Attenuator 10dB	RBU100	Rohde & Schwarz	10277
	Einkop.-Netzwerk/ Coupling unit	CDN 801-6 M1/M2	Schaffner	10311
	Einkop.-Netzwerk/ Coupling unit	CDN 801-6M3	Schaffner	10591
	Coupling Network	CDN 801-6S4	Schaffner	10312
	Coupling Netzwerk Drehstrom	CDN 801-6/M4-5	pkm	10741
	Coupling Netzwerk Kabelschirm	R-100	pkm	10742
	EM injection clamp 10kHz - 1000MHz	F-203 I	Fischer Custom Communication Inc	10244
	RF current probe	RDL 10	Schwarzbeck	10864
	Schirmkabine/ Shielded room	10GHz Typ B83102	Siemens	10110
Spannungsunterbrechungen, Spannungseinbrüche (Messhalle 2) <i>Voltage dips and interruptions (Test-chamber 2)</i>	Computer	MM7088S	Packard Bell	10760
	Software	pkm N3-I6, V1.03.01	pkm	
	Power Analyzer	DPA 500	EM Test	11343
	AC power source	4500L	California Instruments	10424
	Switch module	Switch Module	California Instruments	10492
Stoßspannungen <i>Surge</i>	Computer	FSC DT SCENIC E300	Telecom	11317
	Software	emtest Surge, iec.control, Version 5.0.2.0	emtest	
	Surge generator	UCS 500N4-VCS mit Tsurge 4	EM Test	11350
	Koppelnetzwerk/ Coupling unit	CDN115	Schaffner	10371
	10 Ohm Widerstand/ Resistor	10Ohm Resistor	pkm	10870
	40Ohm Resistor	INA110-40	Schaffner	10370
Antennen-Eingangsstörfestigkeit Video <i>Antenna input resistance Video</i>	Computer	386SX82300C	IBM / Hewlett Packard	10036
	Software	pkm S1-TV/VTR, V1.01.01	pkm	
	TV-Mess-Sender / TV-test transmitter	SFL-T	Rohde & Schwarz	11195
	TV-RF-Messsender / TV-test transmitter	VTG700	Grundig	11066
	Spectrum analyzer	HP8562B	Hewlett Packard	10208
	50/75 Ohm converter	ZM57	Texscan	11118
	Filterschaltfeld/ Filter matrix	Filterschaltfeld/ Filter-matrix	Rohde & Schwarz	10079
	Signal generator	SMG	Rohde & Schwarz	10199
	Signal generator	SMH	Rohde & Schwarz	10211
	Signal generator	SMH	Rohde & Schwarz	10189
	Relais Matrix/ Relay matrix	PSU	Rohde & Schwarz	10456
	RF step attenuator	DPSP	Rohde & Schwarz	10215
	RF step attenuator	DPSP	Rohde & Schwarz	10216
	Leistungsteiler/ Power divider	50 Ohm-6dB	Suhner	10421
	Audio Analyzer	UPL	Rohde & Schwarz	11109

Messplatz/ Test place	Beschreibung/ Kind of equipment	Typ/ Type	Hersteller/ Manufacturer	pkm-Identnr./ pkm-ident no.
Einströmungs-Störfestigkeit Antennen-Eingangsstörfestigkeit Audio Labor 4 Flow-in resistance Antenna input resistance Audio Lab 4	Computer	Power Mate V4100	NEC	11002
	Software	S12-pkm V2.01.01	pkm	
	Broadband amplifier	AR15A250	Amplifier Research	10010
	Relais Matrix/ Relay matrix	PSU	Rohde & Schwarz	10179
	Millivolt meter	URV-5	Rohde & Schwarz	10121
	Insertion Unit	URV5-Z2	Rohde & Schwarz	10066
	Audio analyzer	UPA	Rohde & Schwarz	10026
	Coupling Unit	Coupling Unit "SR" 22kOhm	Fiedler	11138
	Couple Unit Voltage AC	CUV AC	pkm	10918
	Coupling Network	Coupling Network "LC"	Fiedler	11140
	Coupling Network	Coupling Network "LC"	Fiedler	11141
	Coupling Network	Coupling Network "AC"	Fiedler	11142
	Coupling Network	Coupling Network "MC"	Fiedler	11143
	Pattern generator	PM5518TX	Philips	10157
	Signal generator	SMG	Rohde & Schwarz	10197
	Signal generator	SMX	Rohde & Schwarz	11096
	RF step attenuator	DPSP	Rohde & Schwarz	10485
Einstrahlungs-Störfestigkeit Radiation resistance	Computer	466D	NEC	11009
	Software	pkm S3 Video, V1.01.05 pkm S3 Audio, V1.01.02,	pkm	
	Pattern generator	PM5518TX	Philips	10070
	Signal generator	SMH	Rohde & Schwarz	10194
	Signal generator	SMX	Rohde & Schwarz	10192
	Broadband amplifier	75A250	Amplifier Research	10556
	Millivolt meter	URV-5	Rohde & Schwarz	10122
	Audio analyzer	UPA	Rohde & Schwarz	10025
	10dB attenuator 100W	RBU100	Rohde & Schwarz	10278
	Fiber optic module	9835-21.A	Suhner	10097 + 10514
	Strip line acc. EN55020	Jacky	pkm	10220
	Termination box	Termination Box 02	pkm	10562
	Labornetzgerät	EA-3003	Elektro-Automatik	10092
Schirmdämpfung Screening immunity	Computer	PC Opal P166 Desktop	REC	10845
	Software	pkm S4, V2.01.04	pkm	
	Signal generator	SME 03	Rohde & Schwarz	10471
	Test receiver	ESVS	Rohde & Schwarz	10506
	50/75 Ohm converter	ZM-57	Texscan	10307
	75 Ohm test cable	75 Ohm cable	Suhner	11301
	Absorberzange/ Absorber clamp	MDS 21	Schwarzbeck	11153
	Absorberzange/ Absorber clamp	MDS 21	Schwarzbeck	10116
	Absorberzange/ Absorber clamp	MDS 22	Schwarzbeck	10942
	Spectrum analyzer	FSP	Rohde & Schwarz	11043

Messplatz/ Test place	Beschreibung/ Kind of equipment	Typ/ Type	Hersteller/ Manufacturer	pkm-Identnr./ pkm-ident no.
Störfestigkeit gegen netzfrequente Magnetfelder <i>Immunity against power frequency magnetic field</i>	Computer	MM7088S	Packard Bell	10760
	Software	pkm N3-I6, V1.03.01	pkm	
	Magnetantenne/ Magnet antenna	MAGANT01	pkm	10386
	AC power source	4500L	California Instruments	10424
Magnetische Störfeldstärke Messhalle 1 <i>Magnetic interference radiation</i> Test-chamber 1	Computer	PC486DX33	Amstrad	10813
	Software	pkm U5/6, V1.01.03	pkm	
	EMI test receiver	ESHS-30	Rohde & Schwarz	10571
	Loop antenna	6502	EMCO	10546
Magnetische Störfeldstärke Messhalle 2 <i>Magnetic interference radiation</i> Test-chamber 2	Computer	PC Opal P166 Desktop	REC	10849
	Software	pkm IT 3/4, V2.01.01	pkm	
	Test receiver	ESHS-30	Rohde & Schwarz	10731
	Control unit	BG020	Rohde & Schwarz	10304
	Loop antenna	HM020	Rohde & Schwarz	10063
Störfestigkeit gegen transiente Störungen KFZ-Direktive Spannungsunterbrechungen, Spannungseinbrüche (Labor 6) <i>Immunity to transient disturbance acc. CAR-directive Voltage dips and interruptions (Lab 6)</i>	EMC test rack Software/Firmware	KFZ-Software ISO 7637, Version 1.33; Firmware SyCore V2.01.074; HILO Car-Tester V2.5/CAR-SYS4; SPSPHE-EMC testprogram V2.4	Spitzenberger + Spies	11323
	EMC test rack	Typ EMV E 5000/PAS/Kfz	Spitzenberger + Spies	11323
Störspannung KFZ-Direktive <i>Interference voltage acc. CAR-directive</i>	EMC test rack Software/Firmware	KFZ-Software ISO 7637, Version 1.33; Firmware SyCore V2.01.074; HILO Car-Tester V2.5/CAR-SYS4	Spitzenberger + Spies	11323
	EMC test rack	Typ EMV E 5000/PAS/Kfz	Spitzenberger + Spies	11323
Elektromagnetische Felder <i>Electromagnetic fields (EMF)</i>	Strahlungs-Expositions- Tester mit Magnetfeldsonde 100qcm	ELT-400	NARDA	11228
Feldstärke, abgestrahlte Leistung <i>Fieldstrength, radiated power 1GHz- 26.5GHz</i>	Spectrum Analyzer	8562A	hp	10207
	Spectrum Analyzer	FSMS 26	Rohde & Schwarz	10481
	Spectrum-Analyzer Display	FSMS 26	Rohde & Schwarz	10482
	Antenna	RGA 50/60	Electro Metric	10273
	Antenna	2024-25	FMI	10017
	Band Reject Filter	BRF-2450-150- 7-N (0441)	Telemeter	11243
	Broadband-Preamplifier 1-18 GHz	BBV9718	Schwarzbeck	11231

Die Kalibrierung der bei pkm eingesetzten Geräte und Messmittel erfolgt durch ein externes DKD-Kalibrierlabor. Die Kalibrierunterlagen können bei pkm abgerufen werden.
 The pkm test equipment is calibrated by an external DKD-calibration laboratory. Calibration documents are available upon request.

Messunsicherheit/Measurement uncertainty nach/according CISPR 16-4-2 first edition 2003-11

Messgröße Measurement	berechnete Messunsicherheit calculated uncertainty U_{lab}	Vorgegebene CISPR Messunsicherheit nach CISPR 16-4-2 first edition 2003-11, Tabelle 1 Specified CISPR uncertainty according CISPR 16-4-2 first edition 2003-11, table 1 U_{CISPR}
Störspannung/Interf. voltage 9kHz - 150kHz	2.1dB	4.0dB
Störspannung/Interf. voltage 150kHz - 30MHz	2.4dB	3.6dB
Feldstärke/Fieldstrength 30MHz - 1000MHz Semi anechoic chamber	4.2dB	5.2dB
Feldstärke/Fieldstrength 30MHz - 1000MHz Open area test site	3.6dB	5.2dB
Störleistung auf Leitungen/ Interf. power on cables 30MHz - 1000MHz	2.8dB	4.5dB

The horizontal and vertical site attenuation for the semi anechoic chamber is within the tolerance of +/-4dB according to CISPR16-1 series.

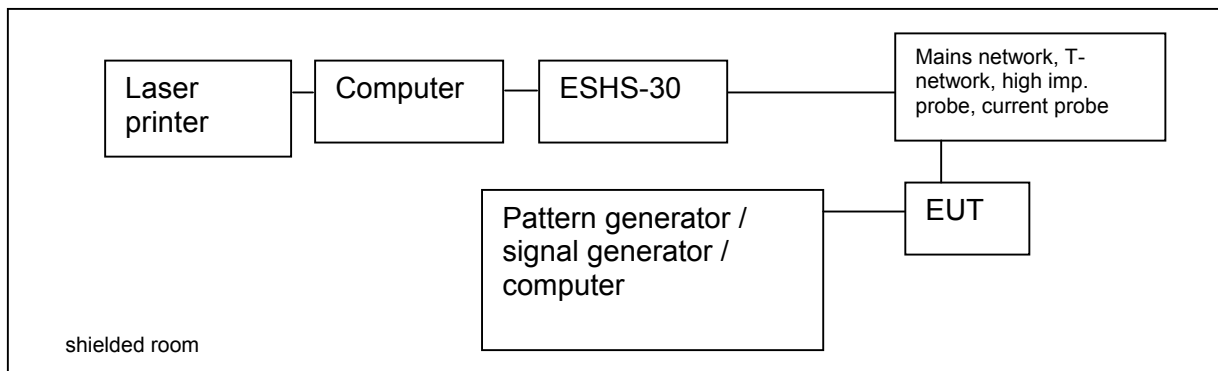
The uncertainty of the measurement equipment fulfils the requirements of CISPR16-4-2, first edition, 2003-11, table 1.

Zusätzliche Messunsicherheitsangaben/additional measurement uncertainty

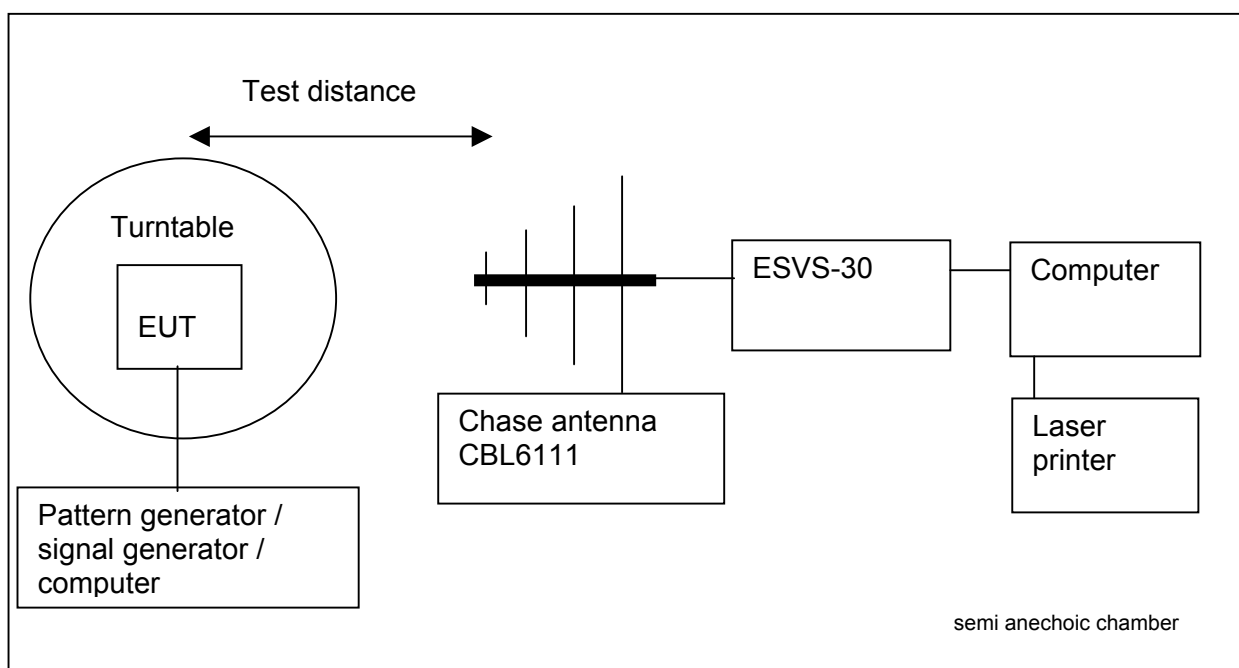
Messgröße Measurement	Messunsicherheit Uncertainty	Messgröße Measurement	Messunsicherheit Uncertainty
Feldstärke/Fieldstrength 1GHz - 18GHz	3.1dB	Störspannung/ Interference voltage acc. CAR-Directive 2004/104/EC	1.2dB
Magnetische Feldstärke/ Magn. fieldstrength 9kHz - 30MHz	3.4dB	Temperatur/Temperature	0.58°C
Störleistung an der Antennenbuchse/ Interference power at antenna socket	2.1dB	Feuchtigkeit/Humidity	0.58% rel.
Audio Pegel/ Audio level	1.9dB	Druck/ Pressure	3.1%
Schirmdämpfung/ Screening immunity	3.9dB		

Prüfaufbauten/Test setup

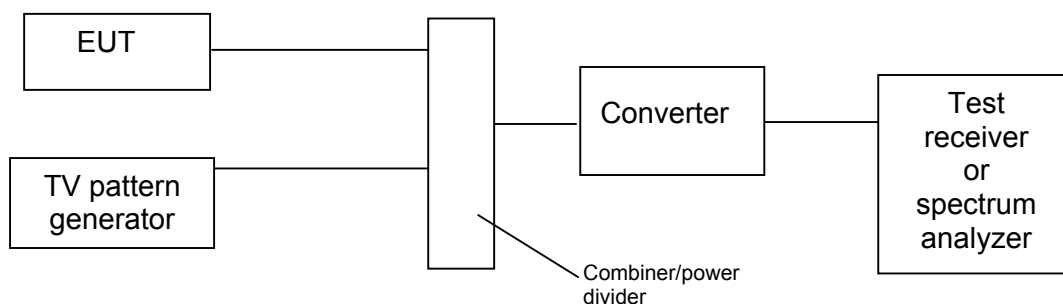
Setup conducted emission (IT 1/2, U 5/6, ISM 1/2)



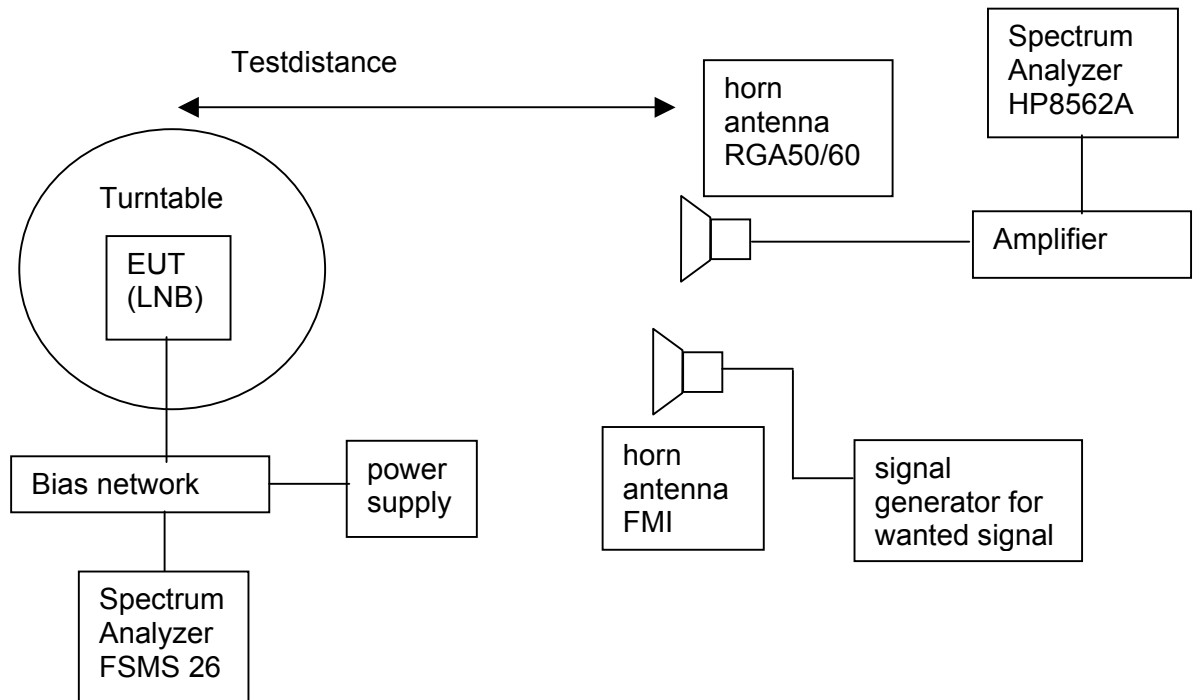
Setup radiated emission (IT 5/6, U 1, ISM 5/6)



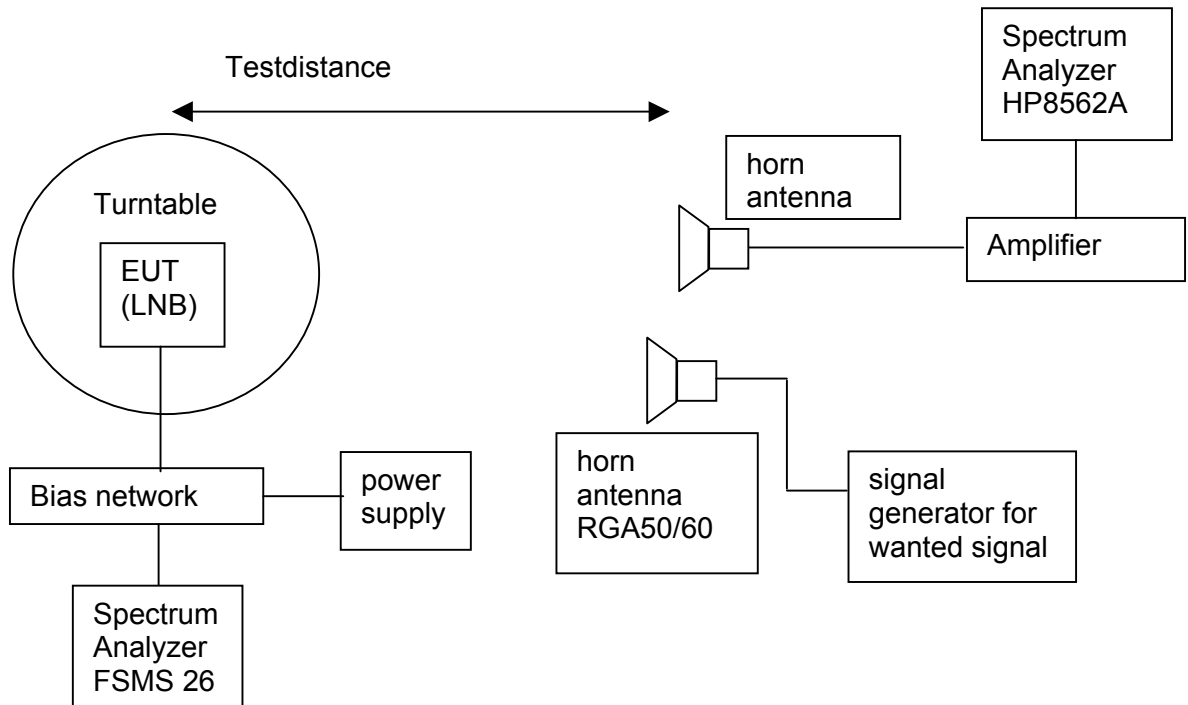
Setup interference power at antenna terminal (U 4)



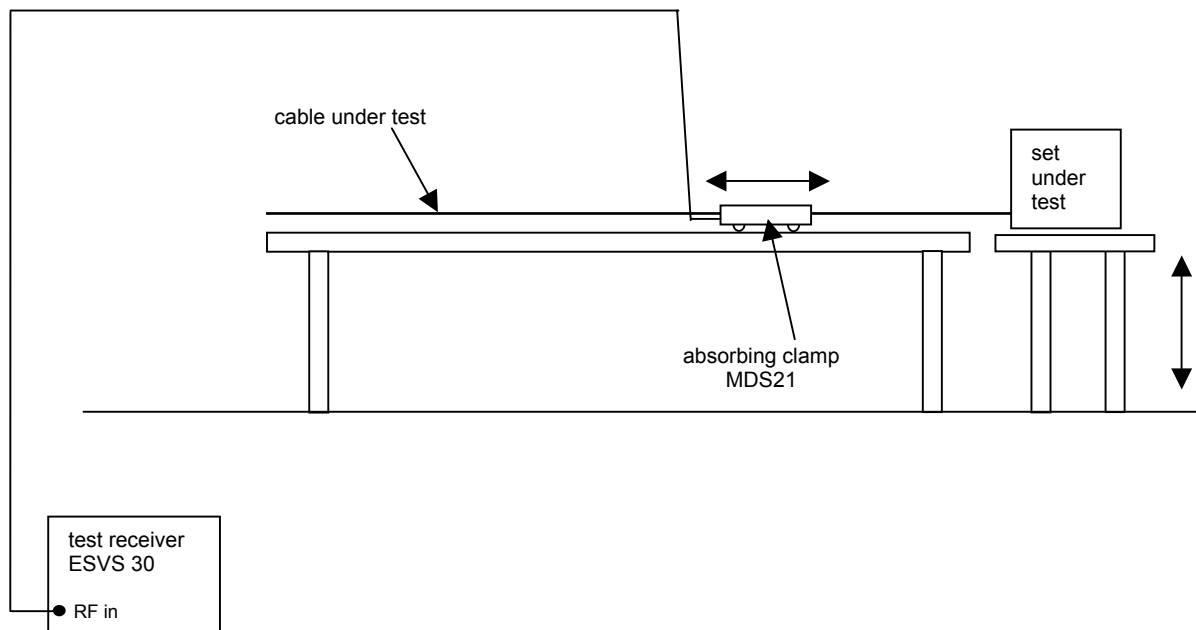
Setup radiated emission (U1) for LNB



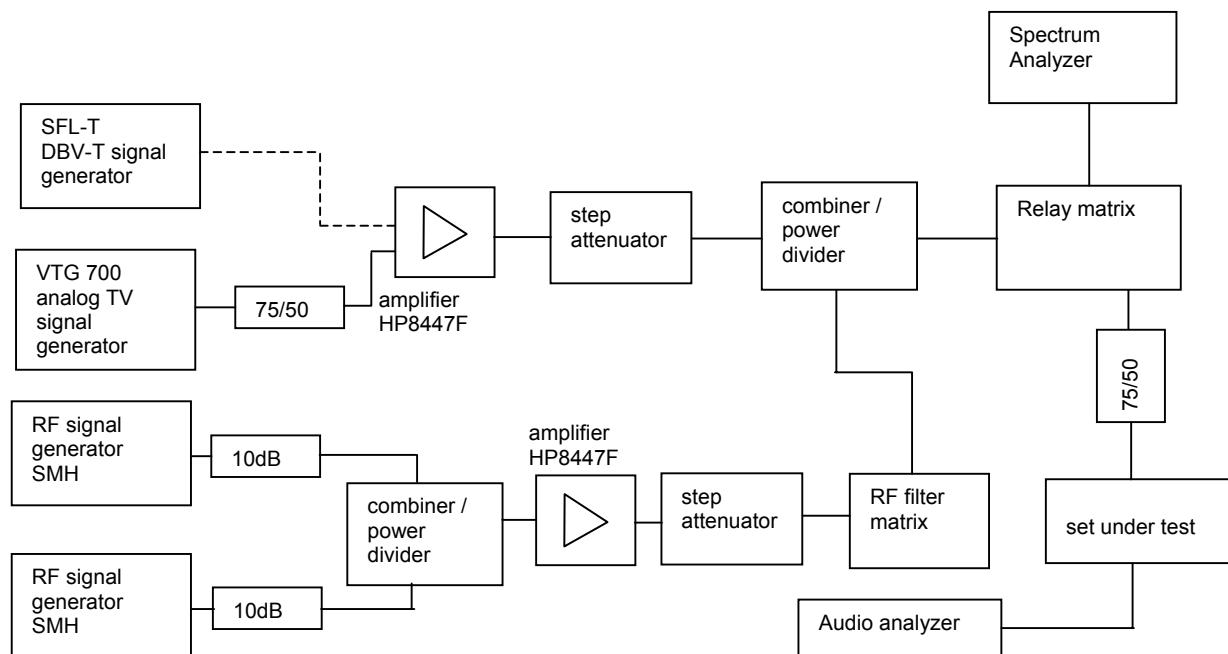
Setup interference power at antenna terminal (U4) for LNB



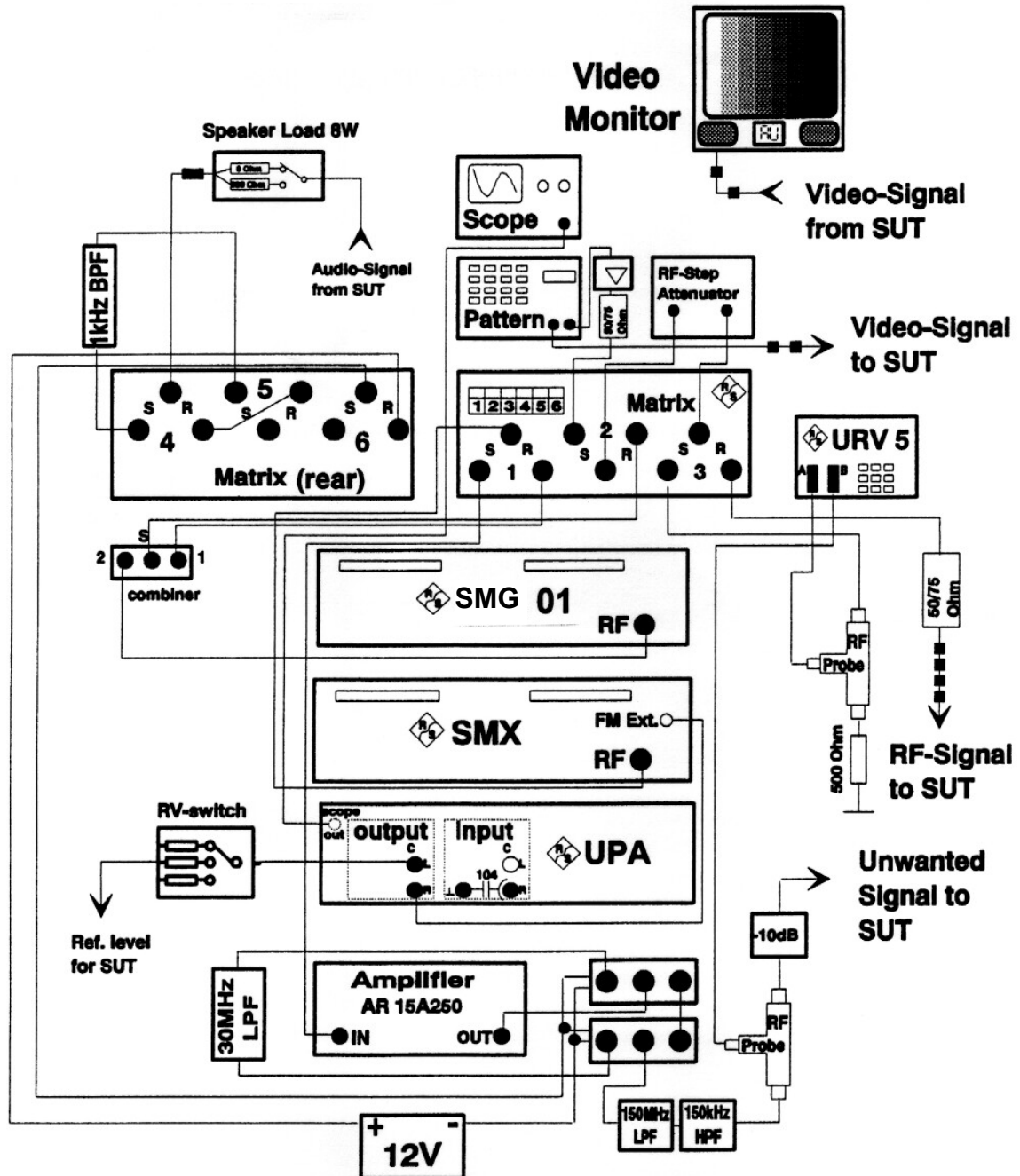
Setup interference power on cables (IT 7)



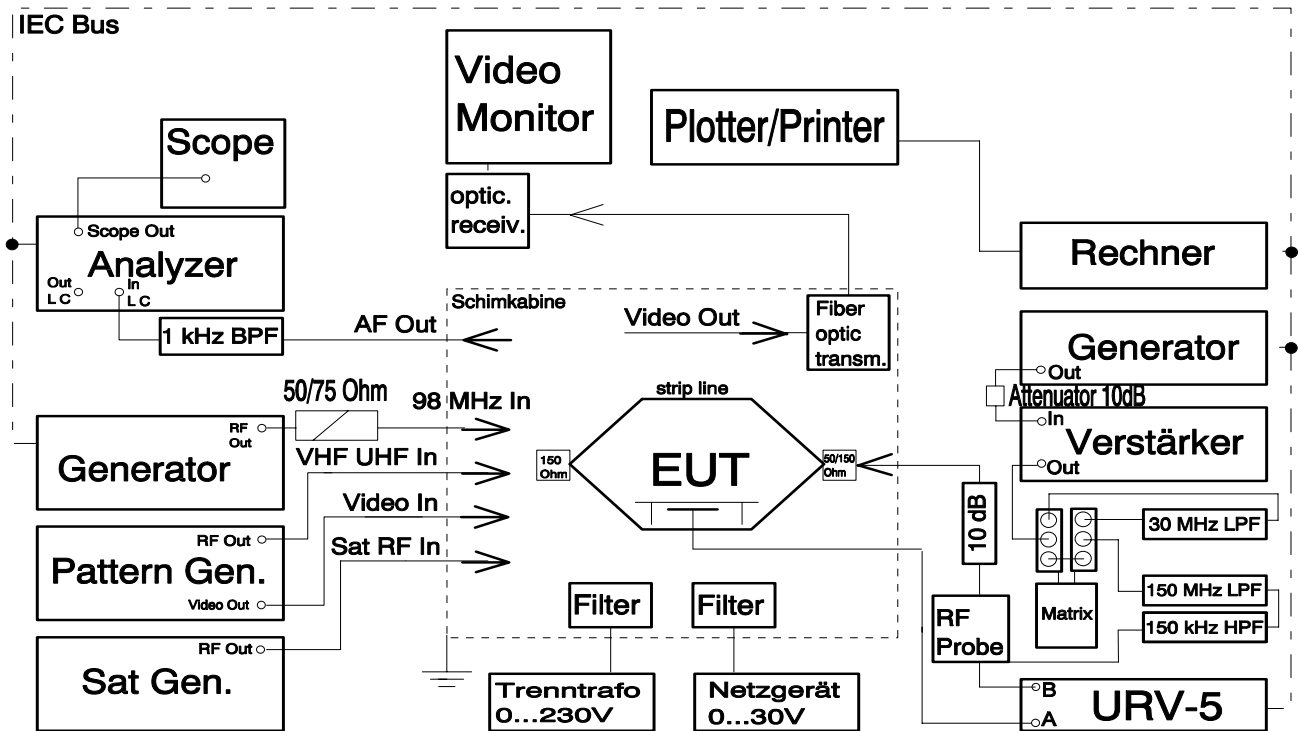
Setup antenna input resistance videoproducts (S 1)



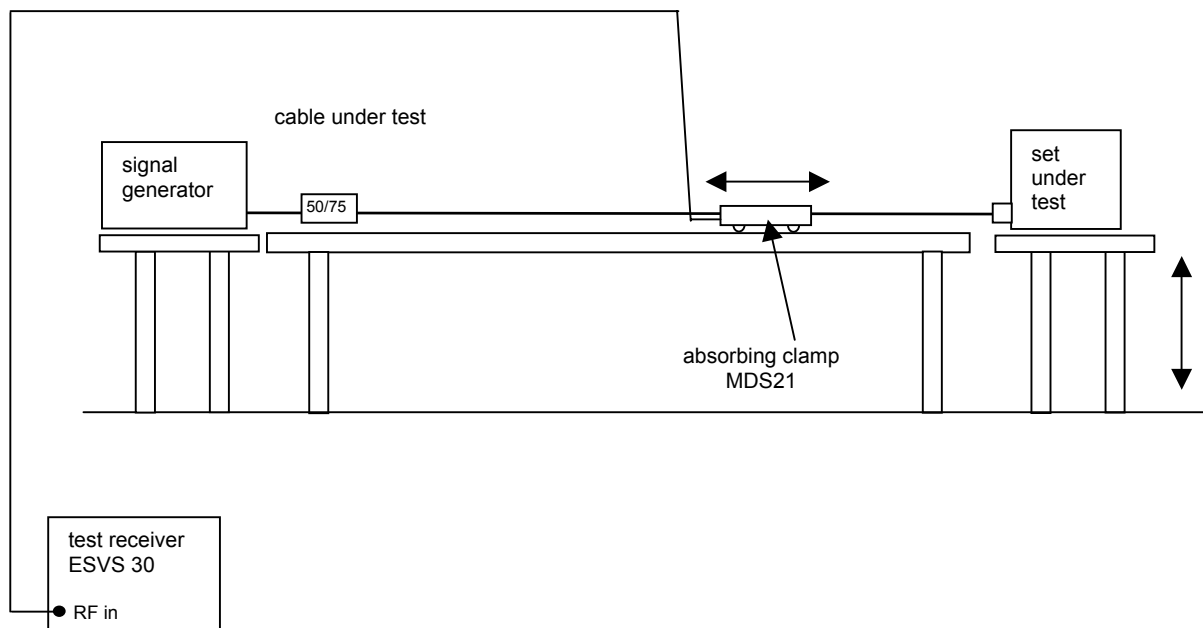
Setup antenna input resistance audioproducts (S 1) and audio-/videoproducts (S 2)



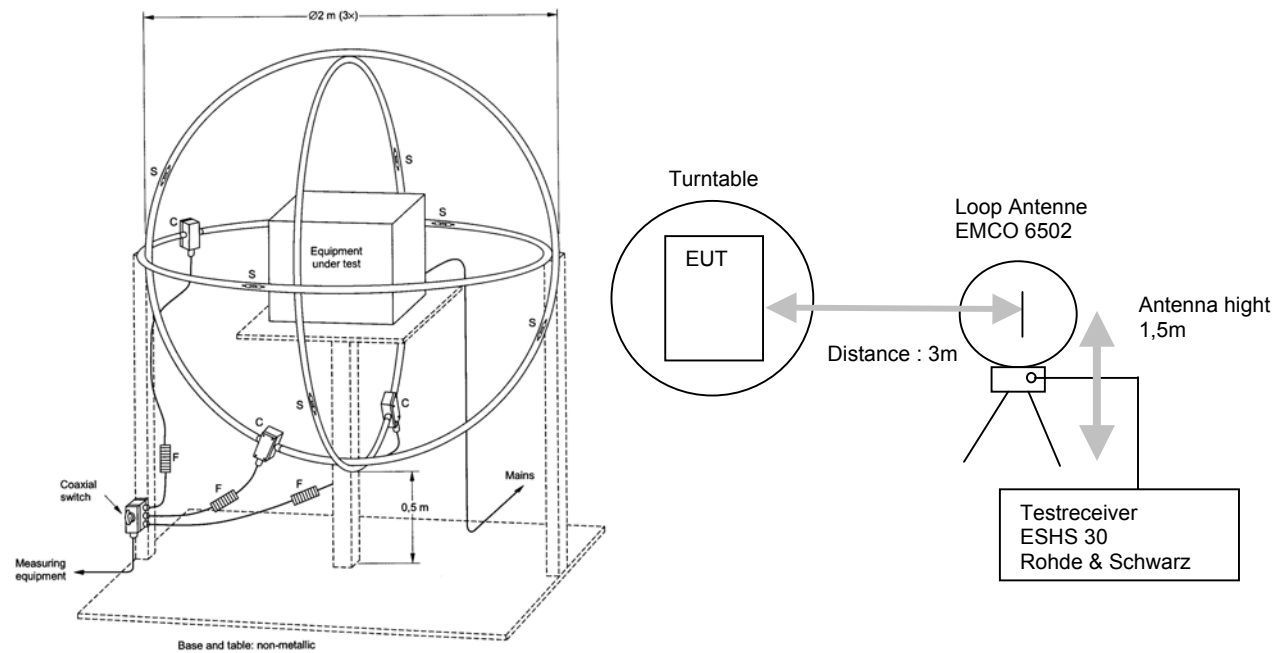
Setup radiation resistance (S 3)



Setup screening immunity (S4)



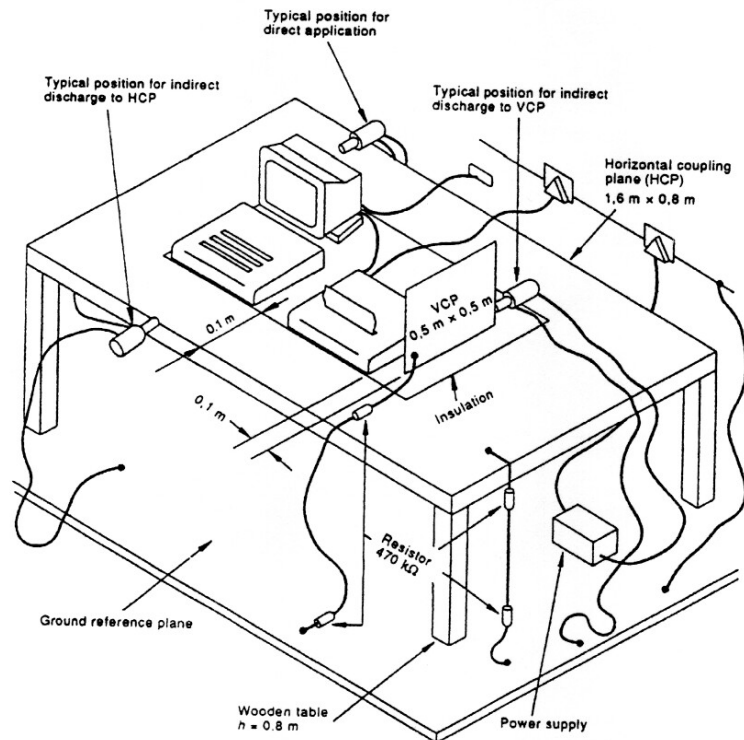
Setup magnetic emission (IT 3/4, ISM 3/4)



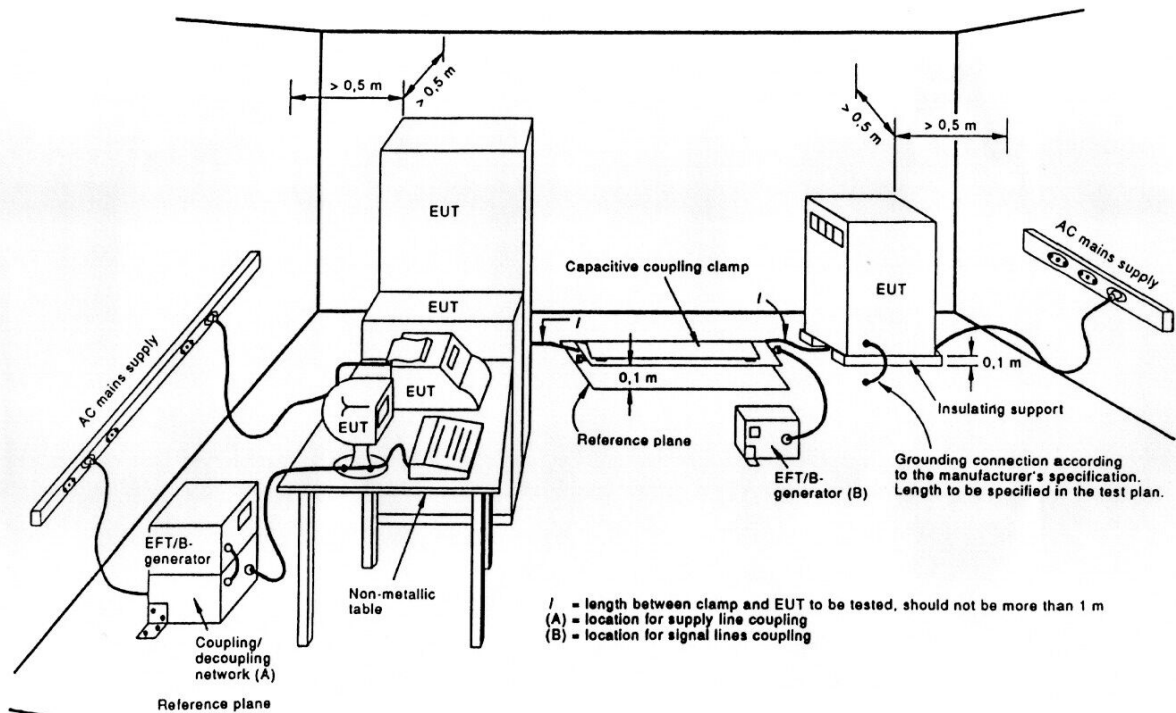
Setup according CISPR 16-1-4, Annex C

Setup with loop antenna

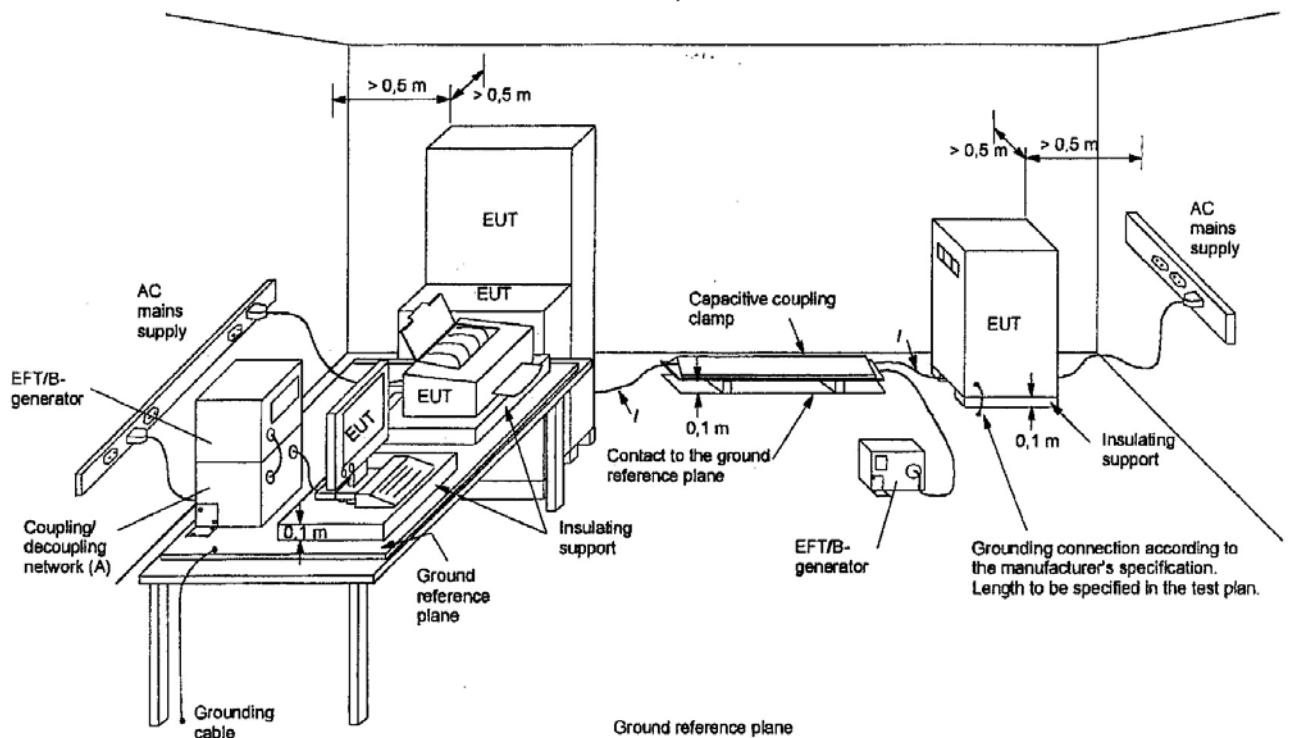
Setup ESD (I 1)



Setup BURST (I 2)

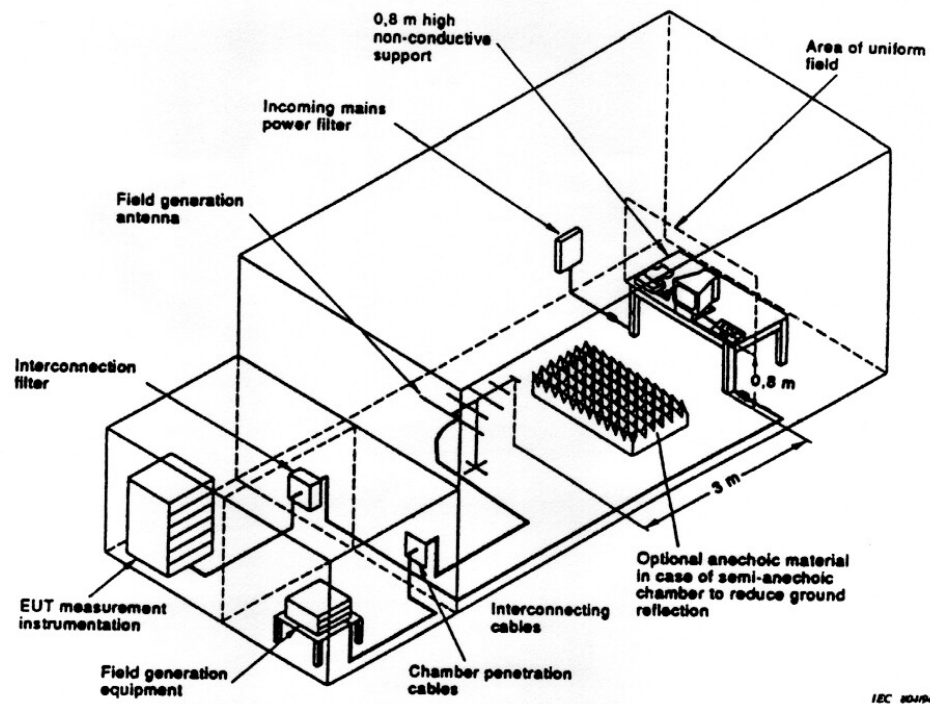


Test set up according IEC61000-4-4:1995

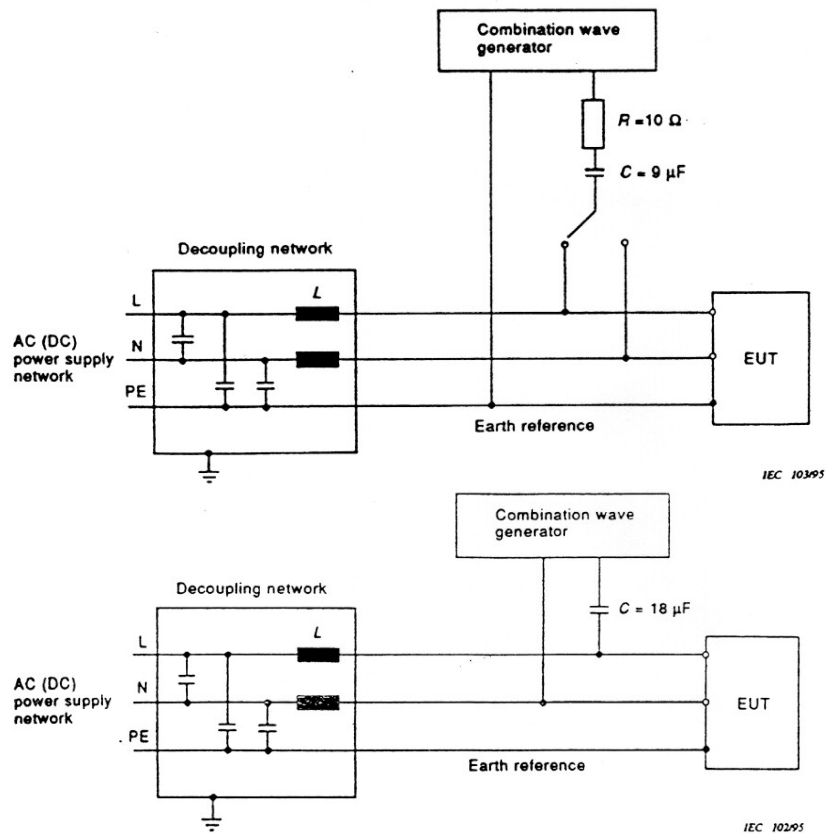


Test set up according IEC61000-4-4:2004

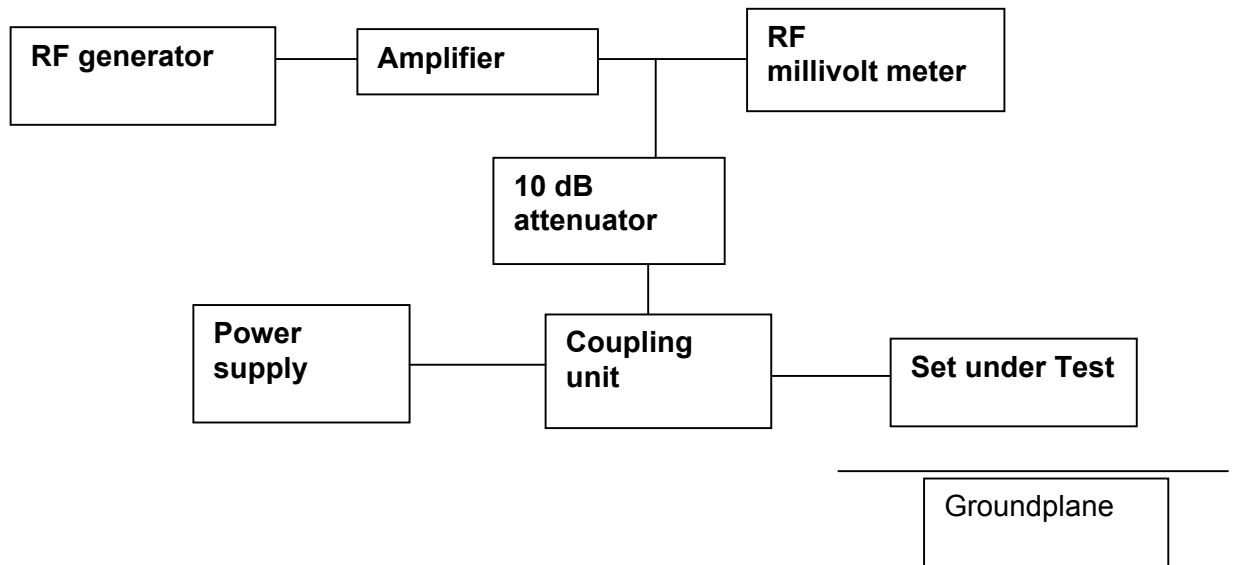
Setup immunity against radiated fields (I 3)



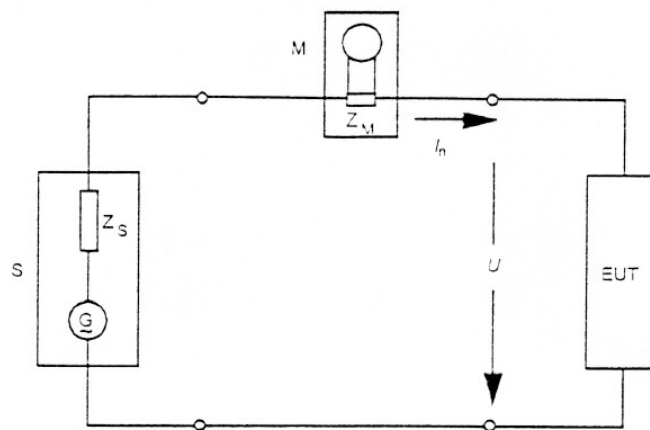
Setup SURGE (I 4)



Setup conducted radio frequency (I 5)



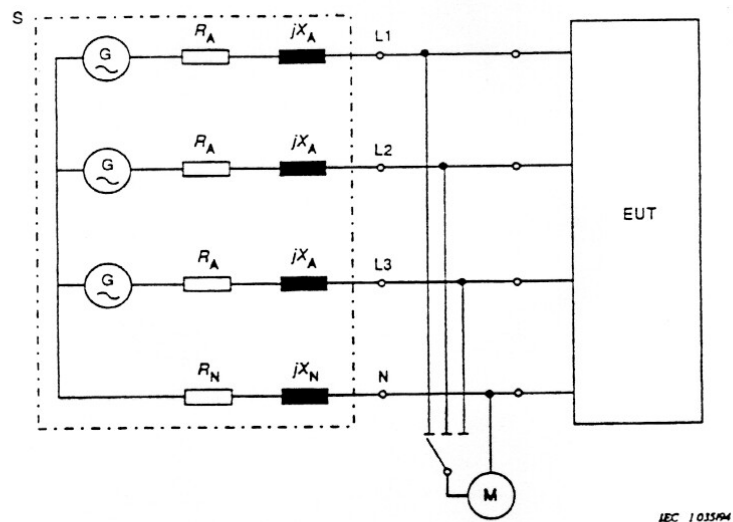
Setup harmonics (N 1)



IEC 1779/2000

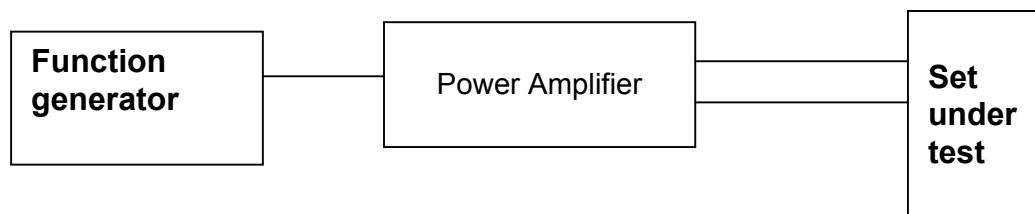
S	power supply source	Z_M	input impedance of measurement equipment
M	measurement equipment	Z_S	internal impedance of the supply source
EUT	equipment under test	I_n	harmonic component of order n of the line current
U	test voltage	G	open-loop voltage of the supply source

Setup flicker (N 2)

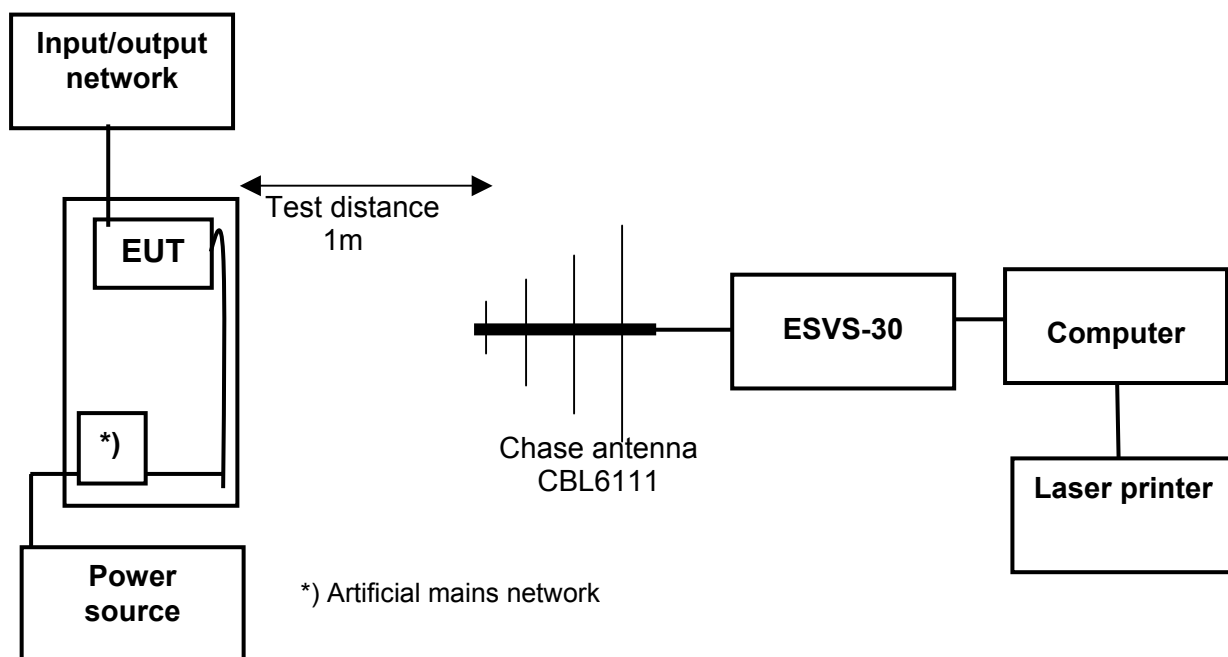


EUT equipment under test
 M measuring equipment
 S supply source consisting of the supply voltage generator G and reference impedance Z with the elements:
 $R_A = 0,24 \, \Omega$; $jX_A = 0,15 \, \Omega$ at 50 Hz;
 $R_N = 0,16 \, \Omega$; $jX_N = 0,10 \, \Omega$ at 50 Hz.
 The elements include the actual generator impedance.
 When the source impedance is not well defined, see 6.2.
 G voltage source in accordance with 6.3.

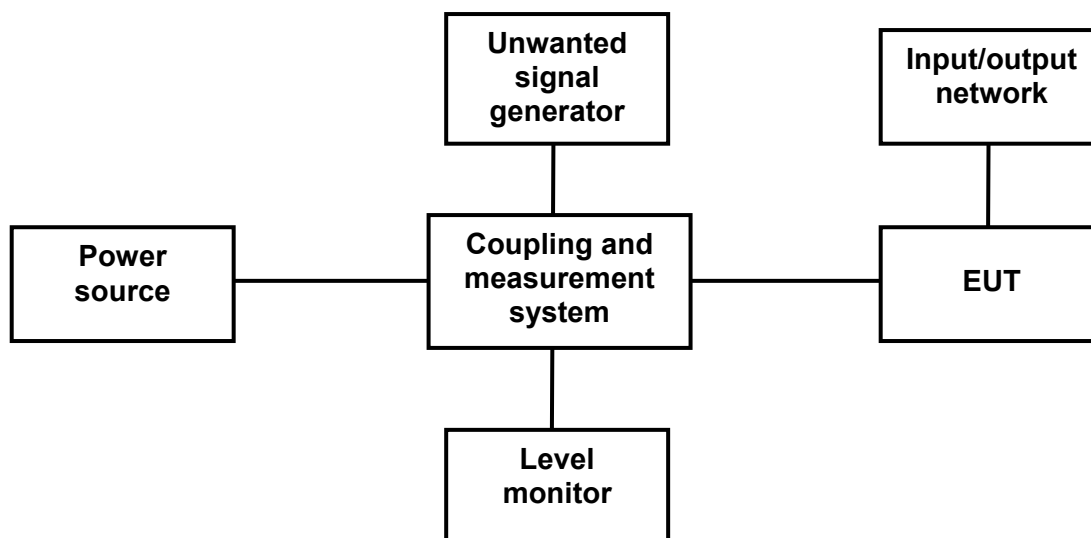
Setup voltage dips and interruptions (N 3)



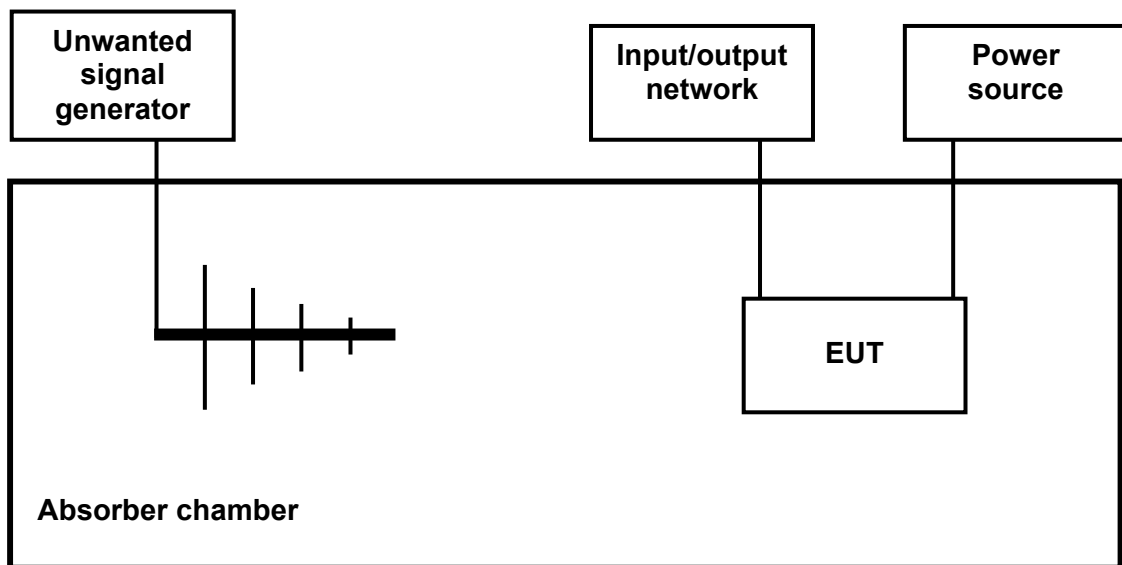
Setup interference radiation (CN 1)



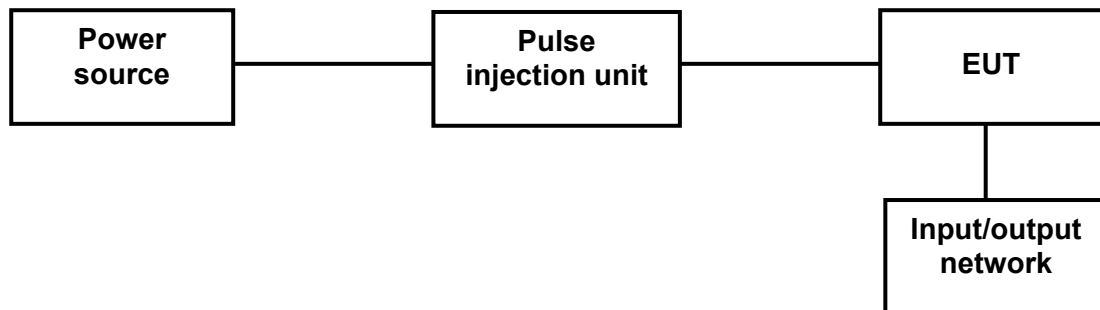
Setup immunity to injected current (CN 2)



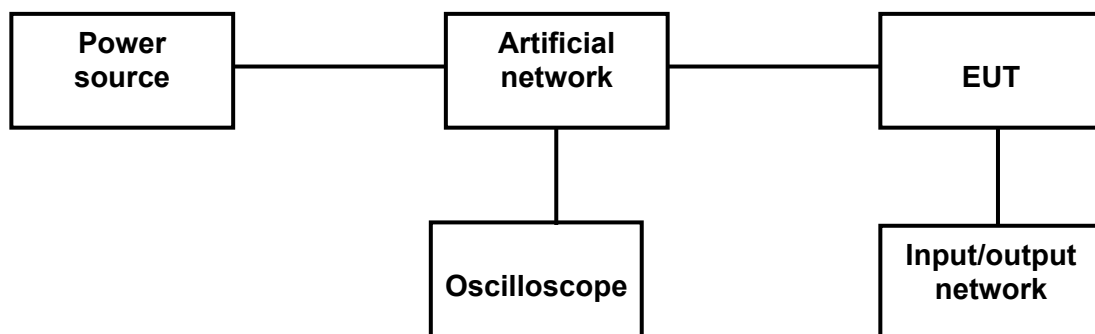
Setup immunity to radiated field (CN 3)



Setup immunity to transient disturbance (CN 4)



Setup interference voltage (CN 5)





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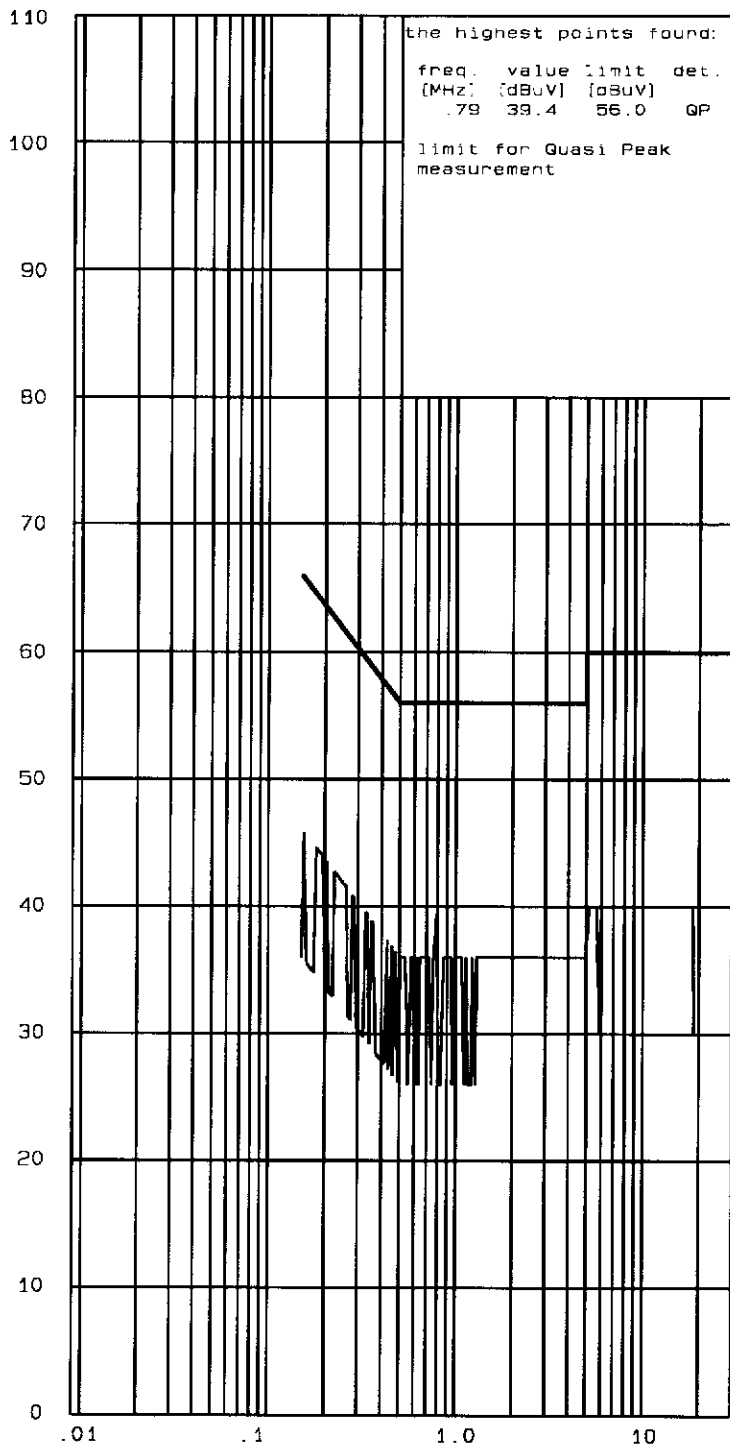
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IT 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. EN55022 CLASS B

Cabin 1



Model: SBC CORE2DUO 1.86GHz

Spl./Ser.No.: 01/--

Client: AARONN ELECTRONIC GMBH

Product: Computer

pkm-No.: 09/07-0079

Date: 27 Jul 2009

Test equipment:

Rohde & Schwarz ESHS 30

Rohde & Schwarz ESH 2-Z5

Connected sets:

NEC-Display P401

Input Voltage 230V/AC

Operating mode:

Screen filled with H-Pattern

Resolution: 1920x1080 Pixel

Arial 10/Screen ref.: 60Hz

Tested on L1

RFI suppression parts:

250GB HDD / 2GB RAM

* two dB safety margin for
type approval necessary

Operator: Bl

Result:

PKM

electronic GmbH
Frontenhausen



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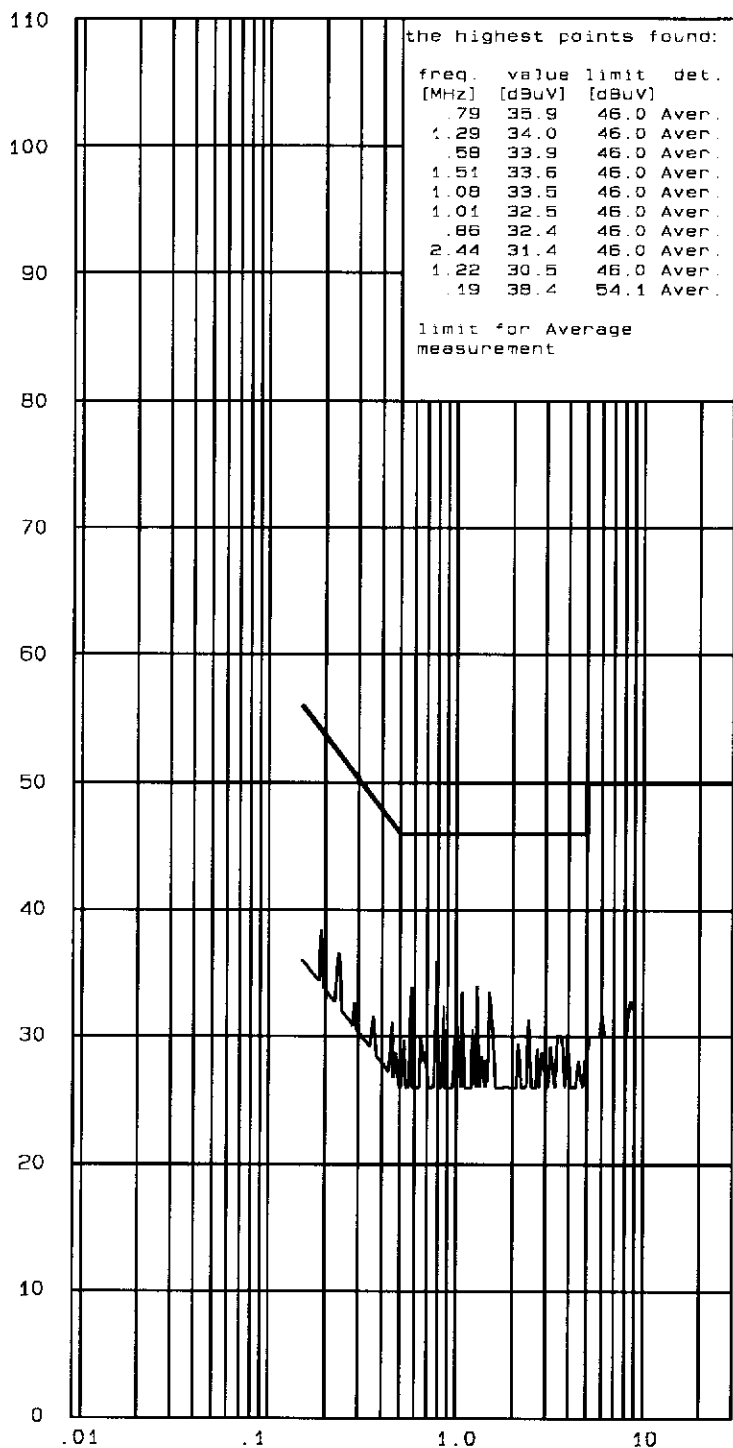
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IT 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. EN55022 CLASS B

Cabin 1



Model: SBC CORE2DUO 1.86GHz

Spl./Ser.No.: 01/--

Client: AARONN ELECTRONIC GMBH

Product: Computer

pkm-No.: 09/07-0079

Date: 27 Jul 2009

Test equipment:

Rohde & Schwarz ESHS 30

Rohde & Schwarz ESH 2-Z5

Connected sets:

NEC-Display P401

Input Voltage 230V/AC

Operating mode:

Screen filled with H-Pattern

Resolution: 1920x1080 Pixel

Arial 10/Screen ref.c.: 60Hz

Tested on L1

RFI suppression parts:

250GB HDD / 2GB RAM

* two dB safety margin for
type approval necessary

Operator: B1

Result: 0.4

PKM

electronic GmbH
Frontenhausen

30 f [MHz]



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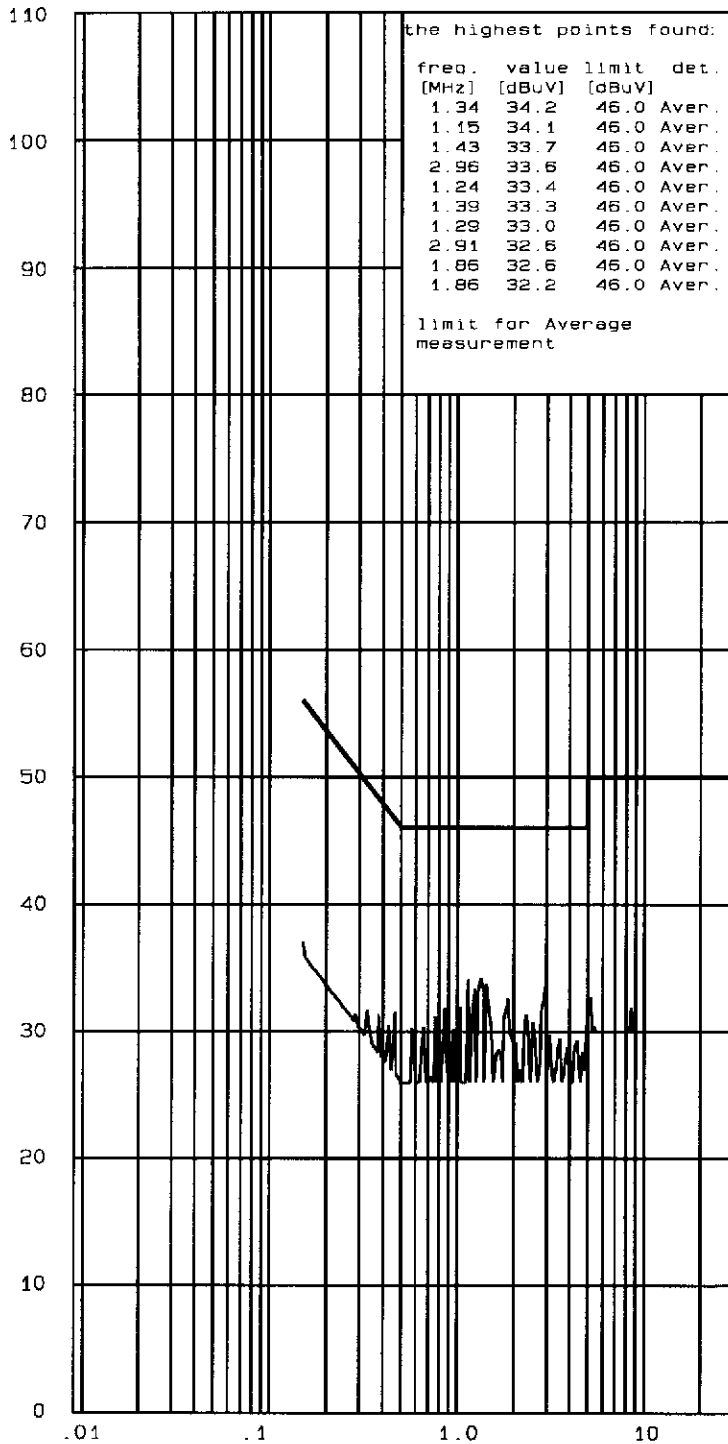
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IT 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. EN55022 CLASS B

Cabin 1



Model: SBC CORE2DUO 1.86GHz

Spl./Ser.No.: 01/--

Client: AARONN ELECTRONIC GMBH

Product: Computer

pkm-No.: 09/07-0079

Date: 27 Jul 2009

Test equipment:

Rohde & Schwarz ESHS 30

Rohde & Schwarz ESH 2-Z5

Connected sets:

NEC-Display P401

Input Voltage 230V/AC

Operating mode:

Screen filled with H-Pattern

Resolution: 1920x1080 Pixel

Arial 10/Screen ref.c.: 60Hz

Tested on N

RFI suppression parts:

250GB HDD / 2GB RAM

* two dB safety margin for
type approval necessary

Operator: B1

Result:

0.6

PKM

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Frontenhausen

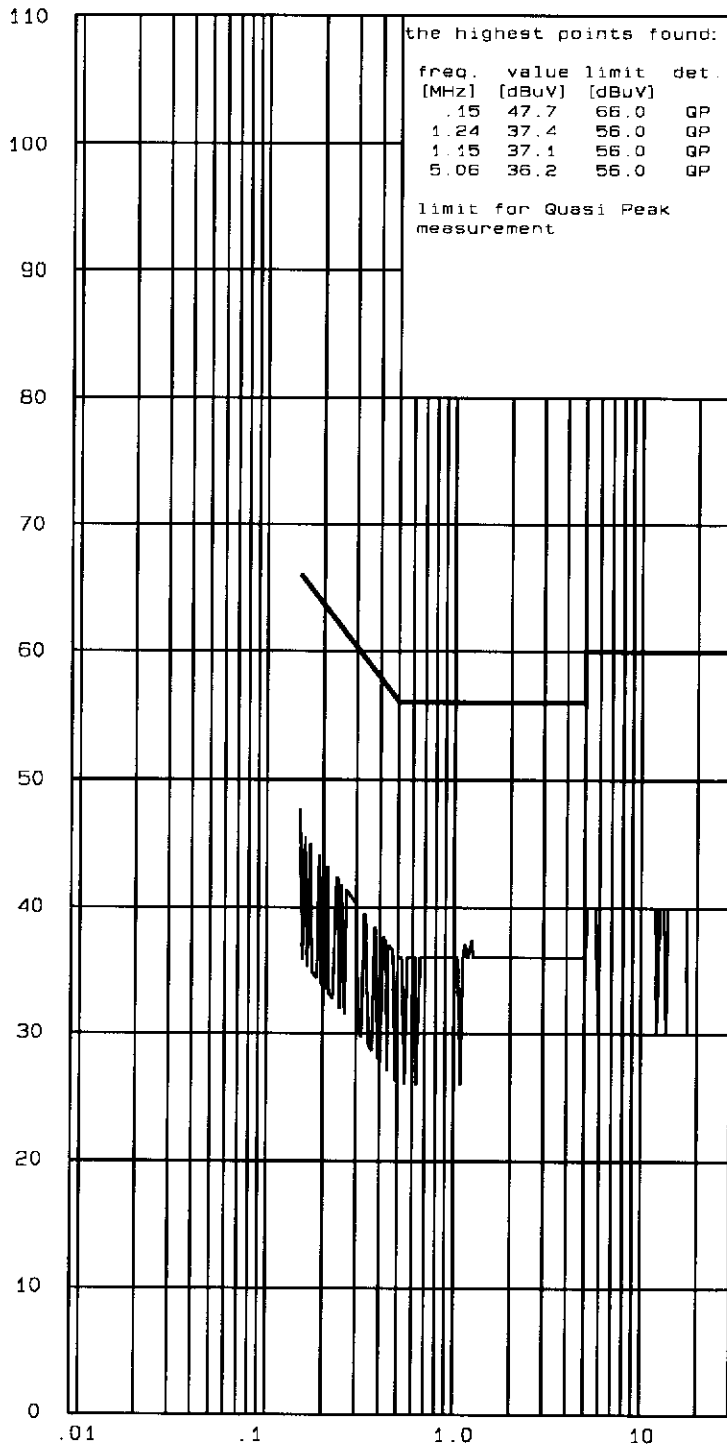


IT 1 / 2

Interference Voltage 150 KHz - 30 MHz

acc. EN55022 CLASS B

Cabin 1



Model: SBC CORE2DUO 1.86GHz

Spl./Ser.No.: 01/--

Client: AARDNN ELECTRONIC GMBH

Product: Computer

pkm-No.: 09/07-0079

Date: 27 Jul 2009

Test equipment:

Rohde & Schwarz ESHS 30

Rohde & Schwarz ESH 2-Z5

Connected sets:

NEC-Display P401

Input Voltage 230V/AC

Operating mode:

Screen filled with H-Pattern

Resolution: 1920x1080 Pixel

Arial 10/Screen ref.r.: 60Hz

Tested on N

RFI suppression parts:

250GB HDD / 2GB RAM

* two dB safety margin for
type approval necessary

Operator: B1

Result:

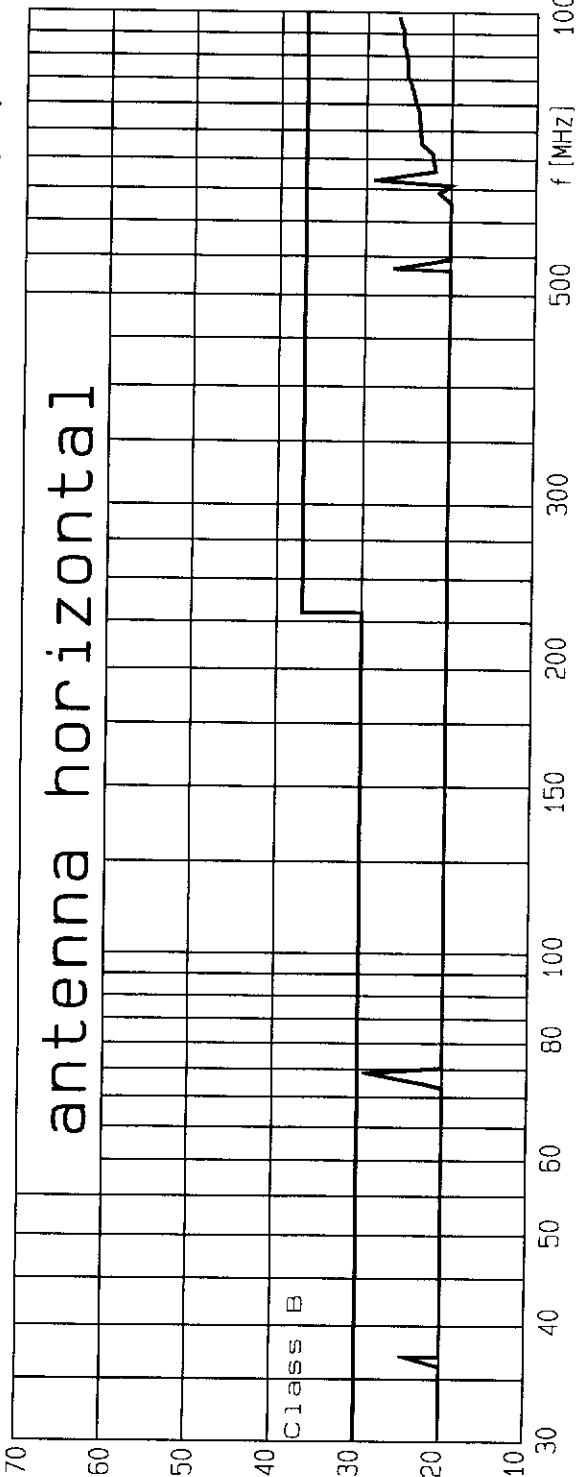
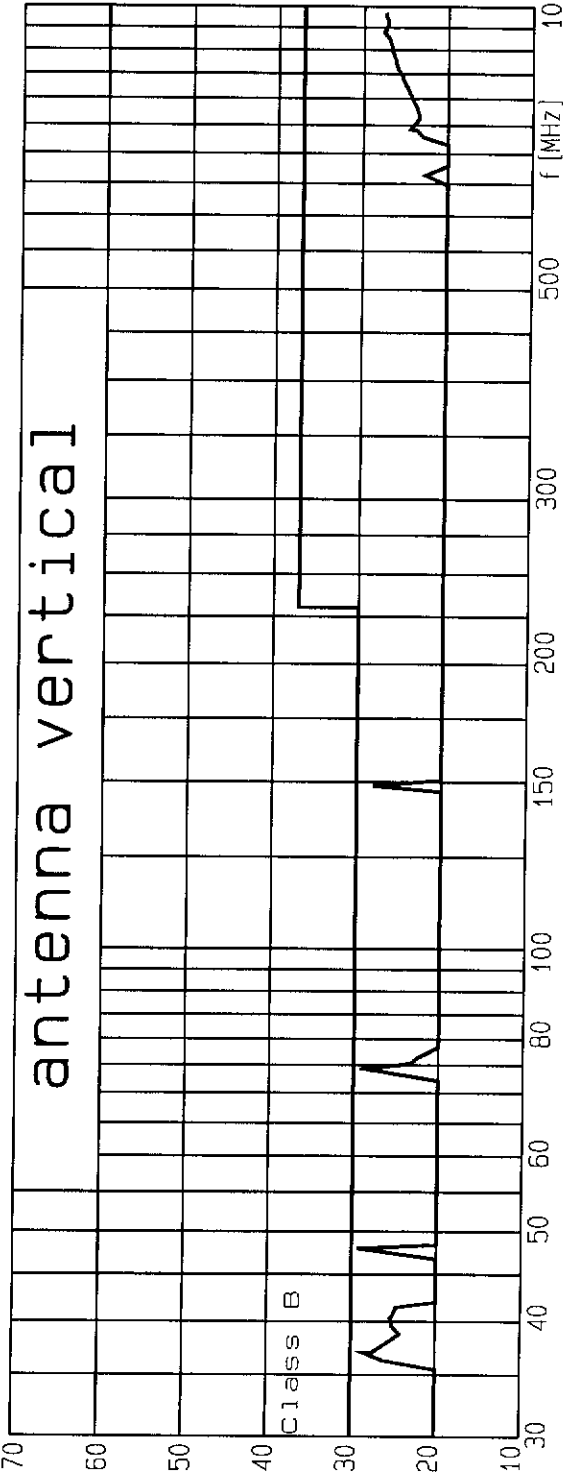
PKM

electronic GmbH
Frontenhausen

Interference Radiation 30 MHz - 1000 MHz
acc. EN55022 CLASS B

Model/System: SRC CORE2000 1.86GHz
pkm/Ser. No: 01/--
Manuf./Imp.: AARONN ELECTR. GMBH
Date: 24 Jul 2009
Set under Test: COMPUTER

dBuV/m



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Test equipment:
Rohde & Schwarz ESVS
CHASE CBL 6111

Connected sets:
ALL CABLES
NEC-DISPLAY P401
INPUT VOLTAGE 230V/AC

Operating mode:
SCREEN FILLED WITH H-PATTERN
RESOLUTION: 1920x1080 PIXEL
ARIAL 10
SCREEN REFRESH RATE: 60Hz

test distance 3m, value ref.: 10m
RFI suppression parts:
250GB HDD / 2GB RAM

09/07-0079

Operator: BL
Result: **oh**

the highest points found:

freq. [MHz]	tested [dBuV/m]	limit [dBuV/m]	pol. h/v
47.96	29.3	30	v
74.24	28.7	30	v
36.96	28.5	30	v
148.52	28.1	30	v
37.04	27.4	30	v
74.24	26.9	30	h
37	24.1	30	h
72.24	21.9	30	h
654.24	28.9	37	h

* - IF ANY MEANS: EMISSION NOT COUNTED
FOR JUDGEMENT



electronic GmbH
Frontenhausen

Date: 24 Jul 2009
Model/System: SBC CORE2DUO 1.86GHz
Client: AARONN ELECTR. GMBH
pkm/Ser.No.: 01/--
Set under test: COMPUTER
pkm Ref.No.: 09/07-0079

OPERATION MODE:
SCREEN FILLED WITH H-PATTERN
RESOLUTION: 1920x1080 PIXEL
ARIAL 10
SCREEN REFRESH RATE: 60Hz

12 HOR. FRQ.: 37 MHz	LEV.: 24.1 dBuV/m	Lim.: 30 dBuV/m
51 HOR. FRQ.: 72.24 MHz	LEV.: 21.9 dBuV/m	Lim.: 30 dBuV/m
52 HOR. FRQ.: 74.24 MHz	LEV.: 28.9 dBuV/m	Lim.: 30 dBuV/m
177 HOR. FRQ.: 664.24 MHz	LEV.: 28.9 dBuV/m	Lim.: 37 dBuV/m
11 VER. FRQ.: 36.28 MHz	LEV.: 26.3 dBuV/m	Lim.: 30 dBuV/m
12 VER. FRQ.: 36.96 MHz	LEV.: 28.5 dBuV/m	Lim.: 30 dBuV/m
13 VER. FRQ.: 37.04 MHz	LEV.: 27.4 dBuV/m	Lim.: 30 dBuV/m
14 VER. FRQ.: 38.28 MHz	LEV.: 25.1 dBuV/m	Lim.: 30 dBuV/m
15 VER. FRQ.: 38.76 MHz	LEV.: 24.3 dBuV/m	Lim.: 30 dBuV/m
16 VER. FRQ.: 39.56 MHz	LEV.: 25.2 dBuV/m	Lim.: 30 dBuV/m
17 VER. FRQ.: 40.32 MHz	LEV.: 25.4 dBuV/m	Lim.: 30 dBuV/m
18 VER. FRQ.: 40.48 MHz	LEV.: 25.2 dBuV/m	Lim.: 30 dBuV/m
19 VER. FRQ.: 41.44 MHz	LEV.: 24.7 dBuV/m	Lim.: 30 dBuV/m
27 VER. FRQ.: 47.96 MHz	LEV.: 29.3 dBuV/m	Lim.: 30 dBuV/m
51 VER. FRQ.: 72.24 MHz	LEV.: 20.6 dBuV/m	Lim.: 30 dBuV/m
52 VER. FRQ.: 74.24 MHz	LEV.: 28.7 dBuV/m	Lim.: 30 dBuV/m
53 VER. FRQ.: 75.24 MHz	LEV.: 23.2 dBuV/m	Lim.: 30 dBuV/m
54 VER. FRQ.: 76.28 MHz	LEV.: 22.5 dBuV/m	Lim.: 30 dBuV/m
92 VER. FRQ.: 148.52 MHz	LEV.: 28.1 dBuV/m	Lim.: 30 dBuV/m
196 VER. FRQ.: 925.96 MHz	LEV.: 27.07 dBuV/m	Lim.: 37 dBuV/m
197 VER. FRQ.: 937.8 MHz	LEV.: 27.64 dBuV/m	Lim.: 37 dBuV/m
198 VER. FRQ.: 956.4 MHz	LEV.: 27.13 dBuV/m	Lim.: 37 dBuV/m
199 VER. FRQ.: 969.32 MHz	LEV.: 27.28 dBuV/m	Lim.: 37 dBuV/m
200 VER. FRQ.: 985 MHz	LEV.: 27.48 dBuV/m	Lim.: 37 dBuV/m



electronic GmbH

IT 5/6 (Interference radiation)
EN 55022
(1GHz - 6GHz)

Model/System	SBC CORE2DUO 1,86GHz;250GB HDD; 2GB RAM		
pkm / Ser. No.:	01/--		
pkm-Ident. No.:	09/07-0079		
Client:	AARONN ELECTRONIC GMBH		
Date:	24.07.2009		
Product:	Computer		
Operator:	BI		
Operating Mode:	PC-Mode		
Result:	Class A	☒ o.k.	☐ not o.k.
	Class B	☒ o.k.	☐ not o.k.

Test Equipment:
Analyzer FSMS 26
Antenna: RGA 50/60
Preamplifier BBV 9718

Remark: Screen filled with H-Pattern; Resolution:1920x1080 Pixel; Arial 10
Screen refresh rate:60Hz; All cables connected; Input Voltage 230V/AC

[illegible]

No further significant emission found.



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electronic GmbH

N1 Harmonics

acc. EN 61000-3-2:2006
(New Standard)

Model/System:	SBC CORE2DUO 1,86GHZ, 250GB HDD, 2GB RAM		
Spl./Ser.No.:	01 / --		
pkM-Ident.No.:	09/07-0079		
Client:	AARONN ELECTRONIC GMBH		
Date:	28.07.2009		
Product:	Computer		
Operator:	Be		
Remark:	Screen filled with H-pattern / 1920x1080		
Result:	☒ o.k.	☐ not o.k.	☐ INFO

Note: According to EN61000-3-2:2006 the manufacturer shall specify the power of the apparatus. This value shall be used for establishing limits. The specified power shall be within +/-10% of the measured power.

Test location:	☐ Lab. 2	☐ Lab. 6	☒ Messh. 2
Measured Power consumption:	215 W		
Rated Power:	-/- W		
Supply Voltage:	230,0 V / 50Hz		
EUT CLASS / Period:	D / Long cycle		

Harmonics 2..40:	Harmonic(s) > 150%	Order (n):	none
[exception odd 21..39]	Harmonic(s) with average > 100%	Order (n):	none
Odd harmonics 21..39:	Harmonic(s) > 150%	Order (n):	none
[All Partial Odd Harmonics below partial limits]	Harmonic(s) with average > 150%	Order (n):	none

Average harmonic current results					Maximum harmonic current results				
Hn	I _{eff} [A]	% of Limit	Limit [A]	Result	Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	952.020E-3				1	956.469E-3			
2	1.678E-3			PASS	2	2.167E-3			PASS
3	264.757E-3	36.335	728.657E-3	PASS	3	265.721E-3	24.311	1.093	PASS
4	2.632E-3			PASS	4	2.956E-3			PASS
5	74.499E-3	18.296	407.190E-3	PASS	5	74.785E-3	12.244	610.786E-3	PASS
6	864.574E-6			PASS	6	1.003E-3			PASS
7	38.550E-3	17.988	214.311E-3	PASS	7	38.805E-3	12.071	321.466E-3	PASS
8	866.960E-6			PASS	8	1.008E-3			PASS
9	22.938E-3	21.406	107.155E-3	PASS	9	23.077E-3	14.358	160.733E-3	PASS
10	827.681E-6			PASS	10	930.786E-6			PASS
11	30.167E-3	40.218	75.009E-3	PASS	11	30.314E-3	26.942	112.513E-3	PASS
12	790.415E-6			PASS	12	875.958E-6			PASS
13	15.583E-3	24.549	63.479E-3	PASS	13	15.731E-3	16.521	95.218E-3	PASS
14	890.784E-6			PASS	14	1.051E-3			PASS
15	7.213E-3	13.117	54.992E-3	PASS	15	7.335E-3	8.892	82.488E-3	PASS
16	839.724E-6			PASS	16	941.003E-6			PASS
17	11.565E-3	23.826	48.541E-3	PASS	17	11.694E-3	16.060	72.812E-3	PASS
18	937.531E-6			PASS	18	1.026E-3			PASS
19	10.738E-3	24.730	43.419E-3	PASS	19	10.943E-3	16.802	65.129E-3	PASS
20	853.912E-6			PASS	20	1.023E-3			PASS
21	4.070E-3	6.907	58.925E-3	PASS	21	4.241E-3	7.197	58.925E-3	PASS
22	1.660E-3			PASS	22	1.787E-3			PASS
23	6.662E-3	12.380	53.813E-3	PASS	23	6.953E-3	12.920	53.813E-3	PASS
24	856.079E-6			PASS	24	959.124E-6			PASS
25	7.110E-3	14.363	49.506E-3	PASS	25	7.347E-3	14.841	49.506E-3	PASS
26	1.463E-3			PASS	26	1.556E-3			PASS
27	3.929E-3	8.571	45.841E-3	PASS	27	4.073E-3	8.885	45.841E-3	PASS
28	897.546E-6			PASS	28	1.052E-3			PASS
29	3.526E-3	8.260	42.691E-3	PASS	29	3.628E-3	8.499	42.691E-3	PASS
30	1.277E-3			PASS	30	1.391E-3			PASS
31	5.302E-3	13.279	39.926E-3	PASS	31	5.462E-3	13.681	39.926E-3	PASS
32	1.212E-3			PASS	32	1.325E-3			PASS
33	5.171E-3	13.794	37.483E-3	PASS	33	5.337E-3	14.238	37.483E-3	PASS
34	1.082E-3			PASS	34	1.252E-3			PASS
35	2.616E-3	7.399	35.361E-3	PASS	35	2.728E-3	7.716	35.361E-3	PASS
36	893.475E-6			PASS	36	1.009E-3			PASS
37	3.631E-3	10.851	33.465E-3	PASS	37	3.816E-3	11.403	33.465E-3	PASS
38	825.475E-6			PASS	38	937.454E-6			PASS
39	4.401E-3	13.872	31.729E-3	PASS	39	4.588E-3	14.460	31.729E-3	PASS
40	1.635E-3			PASS	40	1.775E-3			PASS



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electronic GmbH

N2 Flicker

acc. EN 61000-3-3:1995

+A1:2001+A2:2005

Manual switching test

Model/System:	SBC CORE2DUO 1,86GHZ, 250GB HDD, 2GB RAM
Spl./Ser.No.:	01 / --
pkm-Ident.No.:	09/07-0079
Client:	AARONN ELECTRONIC GMBH
Date:	28.07.2009
Product:	Computer
Operator:	Be
Remark:	
Result:	☒ o.k. ☐ not o.k. ☐ INFO
Test location	☐ Lab. 2 ☐ Lab. 6 ☒ Messh. 2

Testequipment:

DPA 500 / Power Analyzer
EMV E 5000 / AC Power Source
4500L / AC Power Source

Supply Voltage:	230,0 V / 50Hz
------------------------	-----------------------

Arithmetical average value

	EUT values	Limit	Result
dmax [%]	0.905	6.00	PASS

Detail dmax data

Dmax measurements	EUT values	Limit	Result
1	0.967	6.00	PASS
2	0.954	6.00	PASS
3	0.944	6.00	PASS
4	0.980	6.00	PASS
5	0.974	6.00	PASS
6	0.948	6.00	PASS
7	0.794	6.00	PASS
8	0.974	6.00	PASS
9	1.000 Max	6.00	PASS
10	0.901	6.00	PASS
11	0.863	6.00	PASS
12	0.772 Min	6.00	PASS
13	0.979	6.00	PASS
14	0.898	6.00	PASS
15	0.907	6.00	PASS
16	0.816	6.00	PASS
17	0.835	6.00	PASS
18	0.891	6.00	PASS
19	0.964	6.00	PASS
20	0.947	6.00	PASS
21	0.828	6.00	PASS
22	0.872	6.00	PASS
23	0.891	6.00	PASS
24	0.780	6.00	PASS



I 1

ESD (Electrostatic Discharge)

acc. EN 55024

Model: SBC CORE2DUO 1,86GHz, 250 GB HDD, 2GB RAM
Spl/Ser. #: 01/--
Client: AARONN ELECTRONIC GMBH
Date: 28.07.09
Set u. Test: Computer
pkM-No.: 09/07-0079
Operator: An
Testresult: o.k.

Test-equipment:

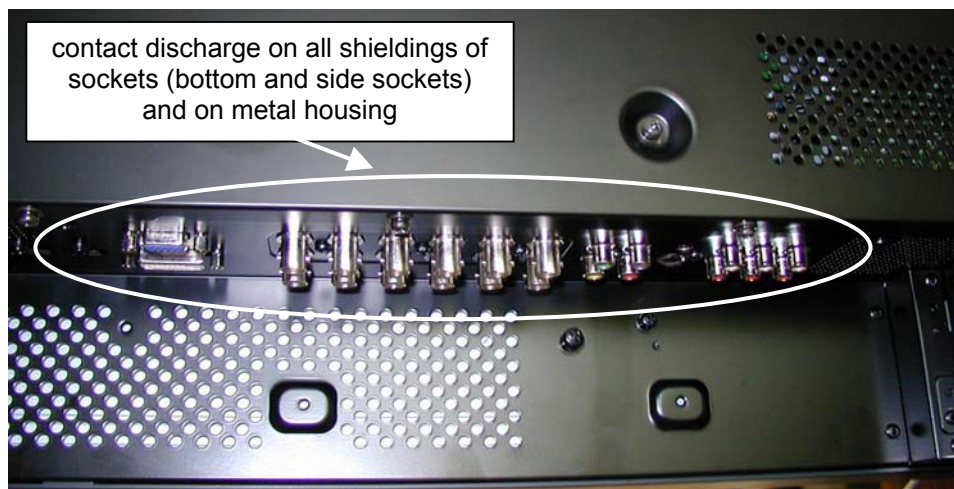
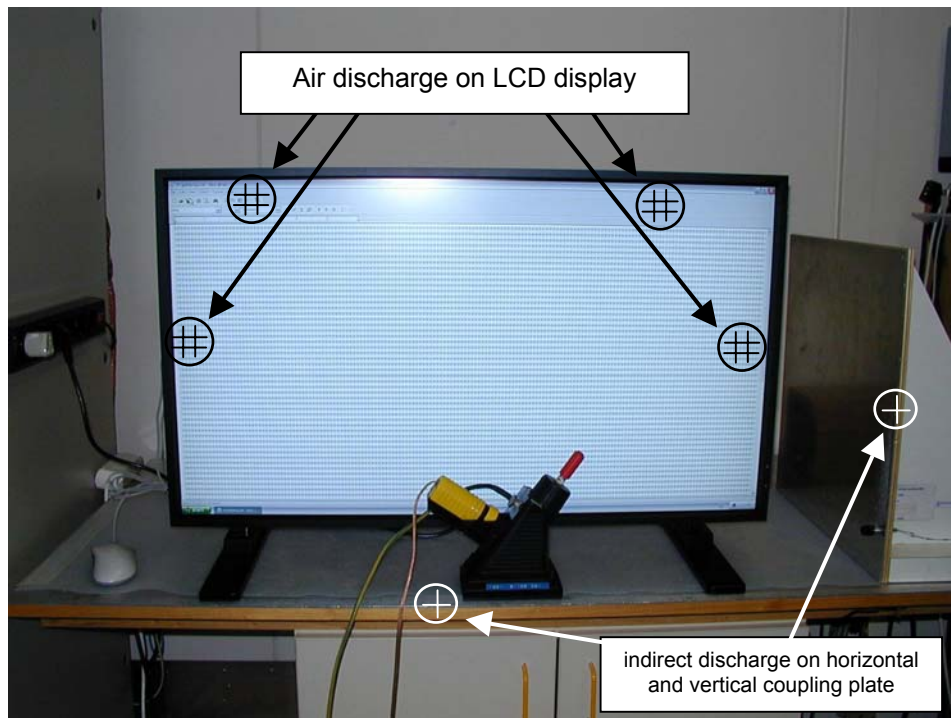
ESD Test-Generator: Schaffner Typ NSG 435

Testpoint :	Discharge Voltage [kV]	Contact	Air	pos.	neg.	Performance level
Operation mode: Screen filled with H-pattern - resolution 1920 x 1080 Pixel						
Cabinet plastic parts: LCD panel each 10 discharges per point / voltage / polarity	2 / 4 / 8		x	x	x	V1
Indirect discharge vert. / horiz. each 50 discharges per point / voltage / polarity (vertical all four sides)	2 / 4	x		x	x	V1
Cabinet metal parts each 50 discharges per point / voltage / polarity	2 / 4	x		x	x	V1
Points of discharge please find on photo documentation "Discharge points for ESD-test"						
no air discharges on remote control found						

- V1: No loss of performance or function
- V2: Temporary loss of function or performance which is selfrecoverable
- V3: Temporary loss of function or performance which requires operator intervention or system reset
- V4: Loss of function which is not recoverable due to damage of equipment (components)
- NA: Not applicable

ambient temperature [°C]	21
relative humidity [%]	57
barom. pressure [mbar]	975
table top	X
floor-standing	

Discharge points for ESD-test



⊕	= Air discharge points
+	= Contact discharge points



I 2

Burst (Electrical Fast Transient)

acc. EN 55024

Model: SBC CORE2DUO 1,86GHz, 250 GB HDD, 2GB RAM
 Spl/Ser. #: 01/--
 Client: AARONN ELECTRONIC GMBH
 Date: 28.07.09
 Set u. Test: Computer
 pkm-No.: 09/07-0079
 Operator: An
 Testresult: o.k.

Test-equipment:

Burst Generator: Schaffner NSG2025
 Capacitive Coupling Clamp: Schaffner CDN125

Testpoint:	Unloaded Voltage (kV)	pos.	neg.	Performance level
Operation mode: Screen filled with H-pattern - resolution 1920 x 1080 Pixel				
AC	1.0	x	x	V1
LAN computer	0.5	x	x	V1
DVI computer	0.5	x	x	V1
USB1 computer	0.5	x	x	V1
USB2 computer	0.5	x	x	V1
LAN display	0.5	x	x	V1
Control IN	0.5	x	x	V1
Control OUT	0.5	x	x	V1

- V1: No loss of performance or function
 V2: Temporary loss of function or performance which is selfrecoverable
 V3: Temporary loss of function or performance which requires operator intervention or system reset
 V4: Loss of function which is not recoverable due to damage of equipment (components)
 NA: Not applicable

Burst duration [ms]	15ms
Spike frequency [kHz]	5kHz
ambient temperature [°C]	21
relative humidity [%]	57
barom. pressure [mbar]	975



I 2

Burst (Electrical Fast Transient)

acc. EN 55024

Model: SBC CORE2DUO 1,86GHz, 250 GB HDD, 2GB RAM
Spl/Ser. #: 01/--
Client: AARONN ELECTRONIC GMBH
Date: 28.07.09
Set u. Test: Computer
pkml-No.: 09/07-0079
Operator: An
Testresult: o.k.

Test-equipment:

Burst Generator: Schaffner NSG2025
Capacitive Coupling Clamp: Schaffner CDN125

Testpoint:	Unloaded Voltage (kV)	pos.	neg.	Performance level
Operation mode: Screen filled with H-pattern - resolution 1920 x 1080 Pixel				
Jackplug IN / Jackplug OUT	0.5	x	x	V1
Jackplug OUT / Jackplug bottom	0.5	x	x	V1
Clamps	0.5	x	x	V1
BNC1 - BNC12	0.5	x	x	V1
VGA	0.5	x	x	V1
RCA sockets	0.5	x	x	V1
S-Video	0.5	x	x	V1
E-SATA	0.5	x	x	V1

- V1: No loss of performance or function
V2: Temporary loss of function or performance which is selfrecoverable
V3: Temporary loss of function or performance which requires operator intervention or system reset
V4: Loss of function which is not recoverable due to damage of equipment (components)
NA: Not applicable

Burst duration [ms]	15ms
Spike frequency [kHz]	5kHz
ambient temperature [°C]	21
relative humidity [%]	57
barom. pressure [mbar]	975

RADIATED RF-FIELD IMMUNITY

I 3

acc.EN 55024

PERFORMANCE CRITERIA: A

POL.: HORIZONTAL. TEST-DISTANCE: 3m

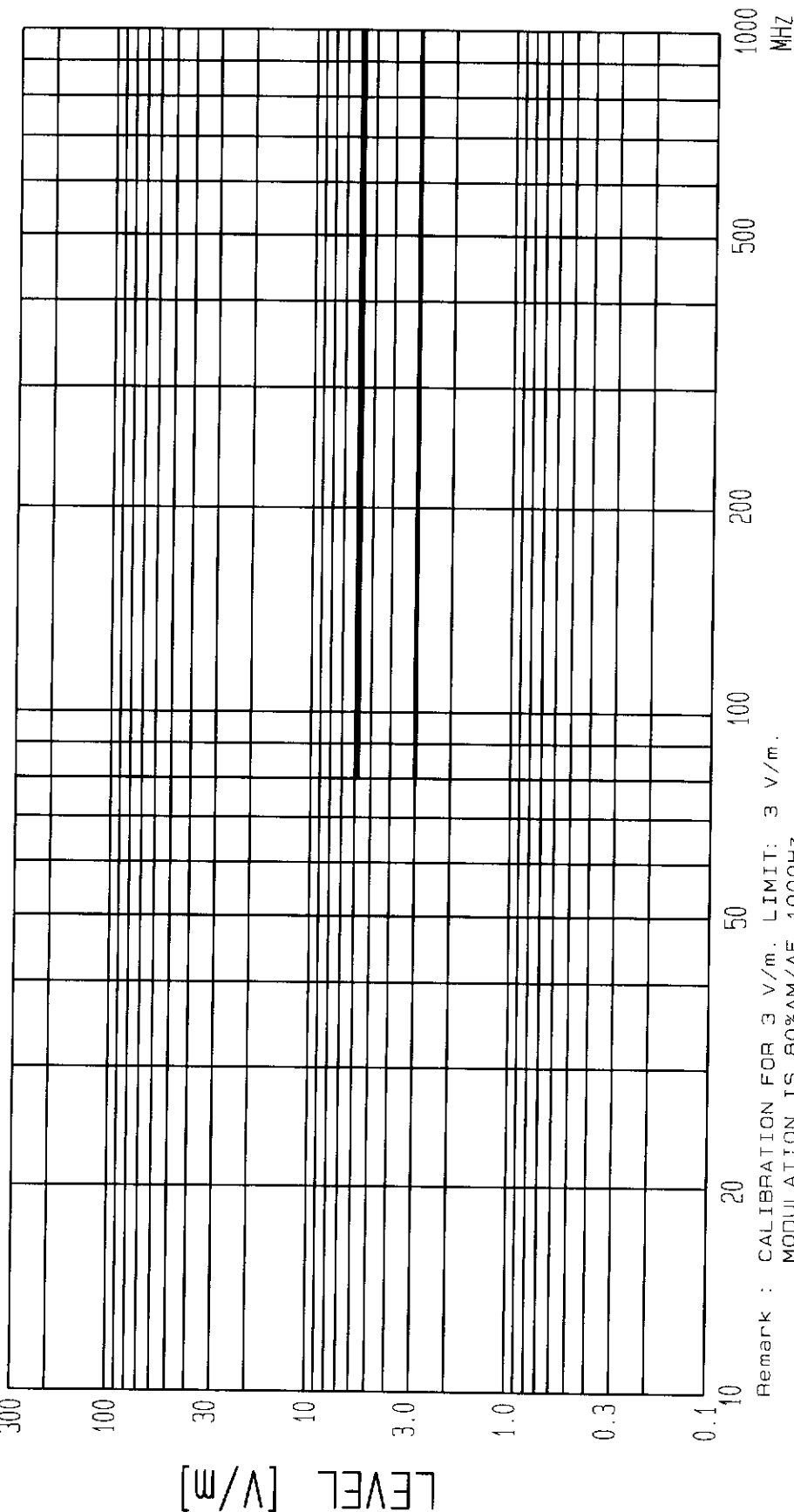
Date: 28 Jul 2009
Model: SBC CORE2DUO
Set u. Test: Computer
Man./Imp.: AARONN ELECTR.
pkm/Ser#: 01 / --
pkm Ref.-No.: 09/07-0079
Operator: Be
Result: 6.4



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Remark : CALIBRATION FOR 3 V/m. LIMIT: 3 V/m.
MODULATION IS 80%AM/AF 1000Hz.

MODE/TESTCONDITION : operate - Screen filled with H-pattern / 1920x1080

RADIATED RF-FIELD IMMUNITY

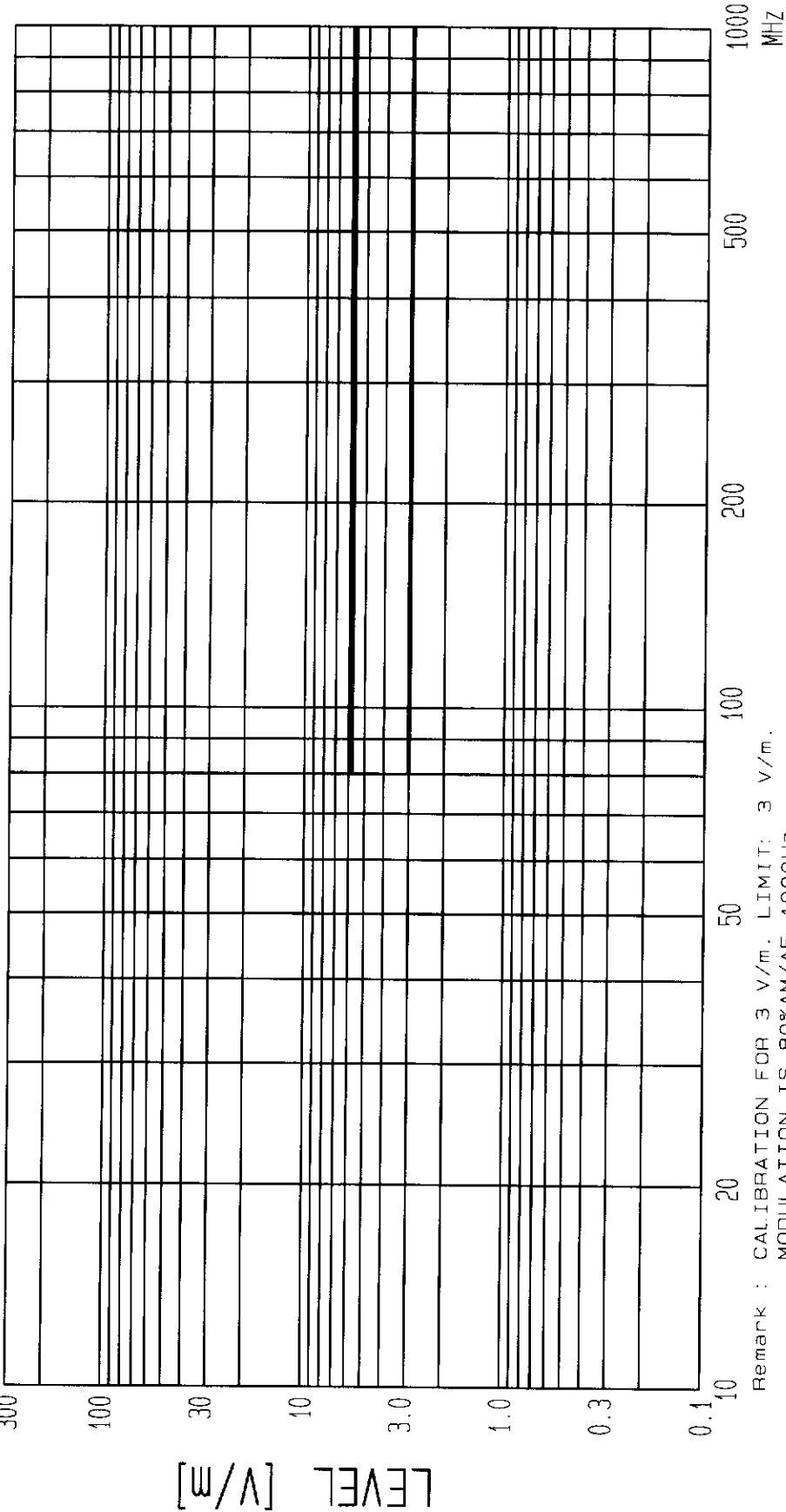
acc. EN 55024

PERFORMANCE CRITERIA: A

I 3

Date: 28 Jul 2009
Model: SBC CORE2DUO ...
Set u. Test: Computer
Man./Imp.: AARONN ELECTR.
pkm/Ser#: 01 / --
pkm Ref.-No.: 09/07-0079
Operator: Be
Result: ... 0.4

POL.: VERTICAL, TEST-DISTANCE IS 3m



Remark : CALIBRATION FOR 3 V/m. LIMIT: 3 V/m.
MODULATION IS 80%AM/AF 1000Hz.



I 4

Surge

acc. EN 55024

Model: SBC CORE2DUO 1,86GHZ, 250GB HDD, 2GB RAM
 Spl/Ser. #: 01/--
 Client: AARONN ELECTRONIC GMBH
 Date: 28.07.09
 Set u. Test: Computer
 pkml-No.: 09/07-0079
 Operator: An
 Testresult: o.k.

Test-equipment:
 Surge Generator:
 EM Test UCS 500 N4

Testpoint:	Unloaded Voltage (kV)	pos.	neg.	Performance level
Operation mode: Screen filled with H-pattern - resolution 1920 x 1080 Pixel				
L - N	0.5 / 1.0	x	x	V1
L - PE	0.5 / 1.0 / 2.0	x	x	V1
N - PE	0.5 / 1.0 / 2.0	x	x	V1

- V1: No loss of performance or function
- V2: Temporary loss of function or performance
which is selfrecoverable
- V3: Temporary loss of function or performance
which requires operator intervention or
system reset
- V4: Loss of function which is not recoverable
due to damage of equipment (components)
- NA: Not applicable

waveform [µs] 1,2/50 (8/20)

ambient temperature [°C] 21

relative humidity [%] 57

barom. pressure [mbar] 975

I 5 Conducted Radio Frequency

acc.EN55024

LAN computer

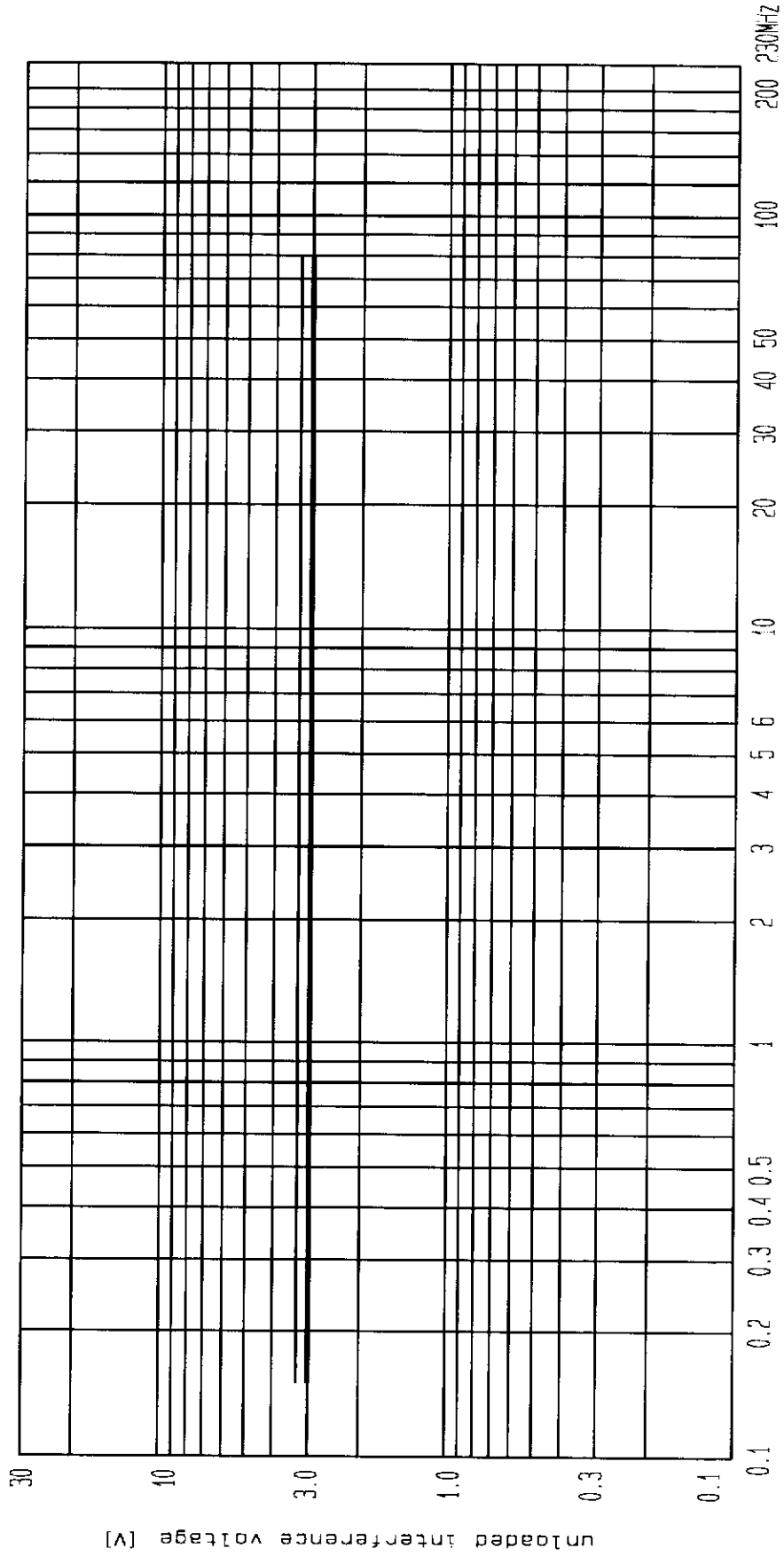
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

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DVI computer

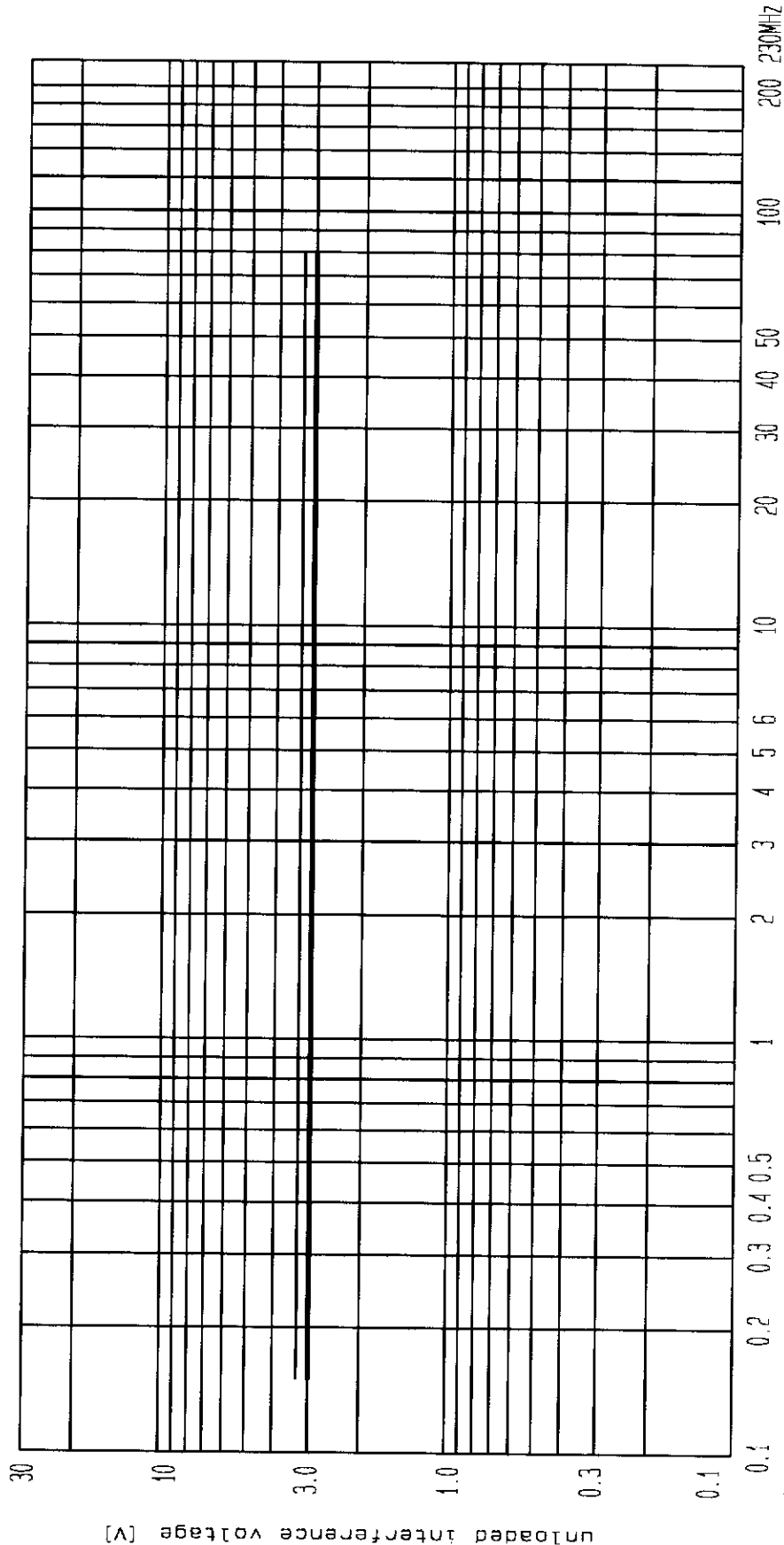
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/---
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION: screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

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USB1 computer

used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.86GHZ

Set u. Test: Computer

Man./Imp.: AARONN ELECTRONIC GMBH

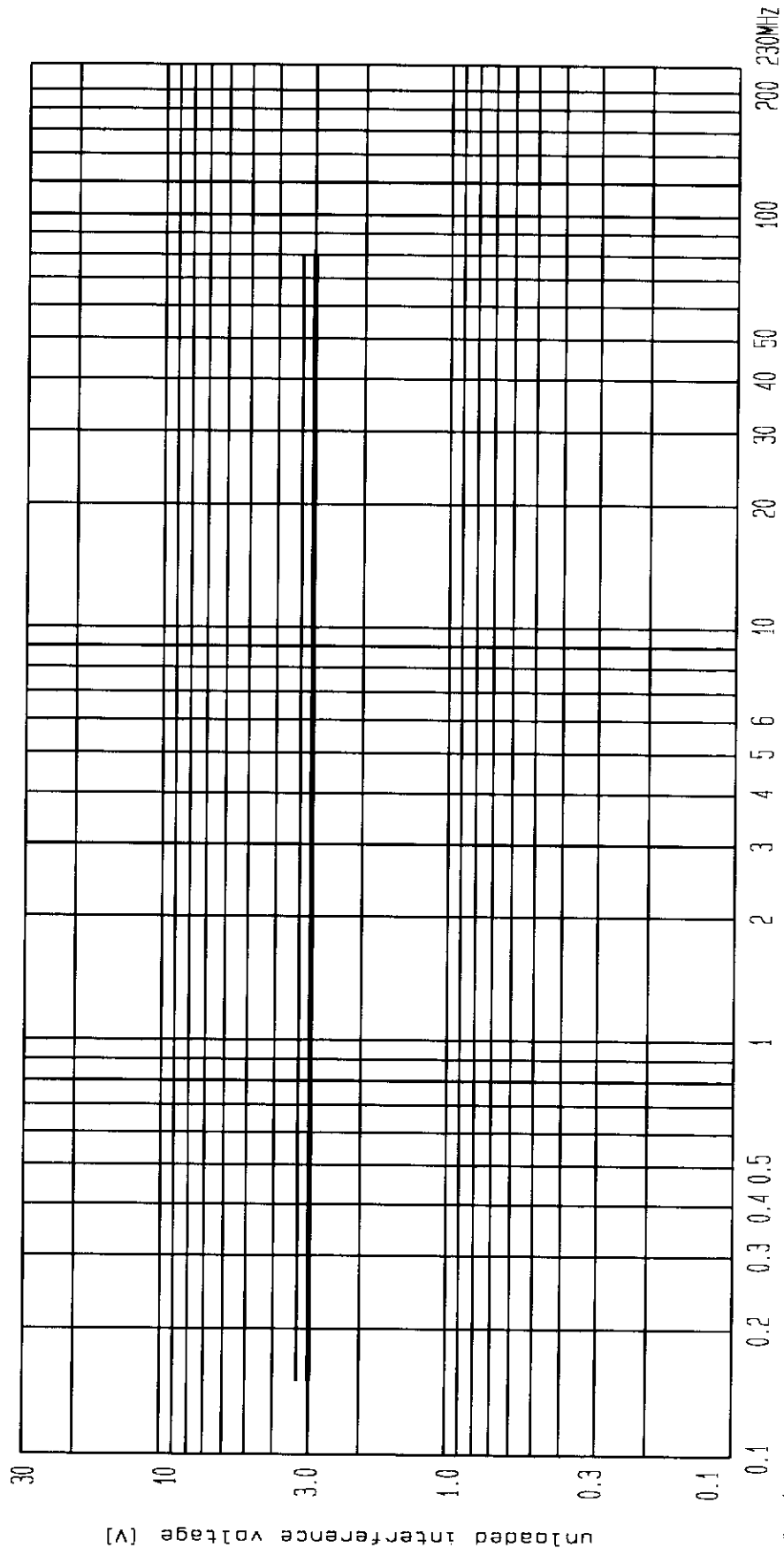
pkm/Ser#: 01/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:

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MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

pkm electronic GmbH
Ohmstr. 1
D-84160 Frontenhausen

I 5 Conducted Radio Frequency

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USB2 computer

used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESLARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.86GHZ

Set u. Test: Computer

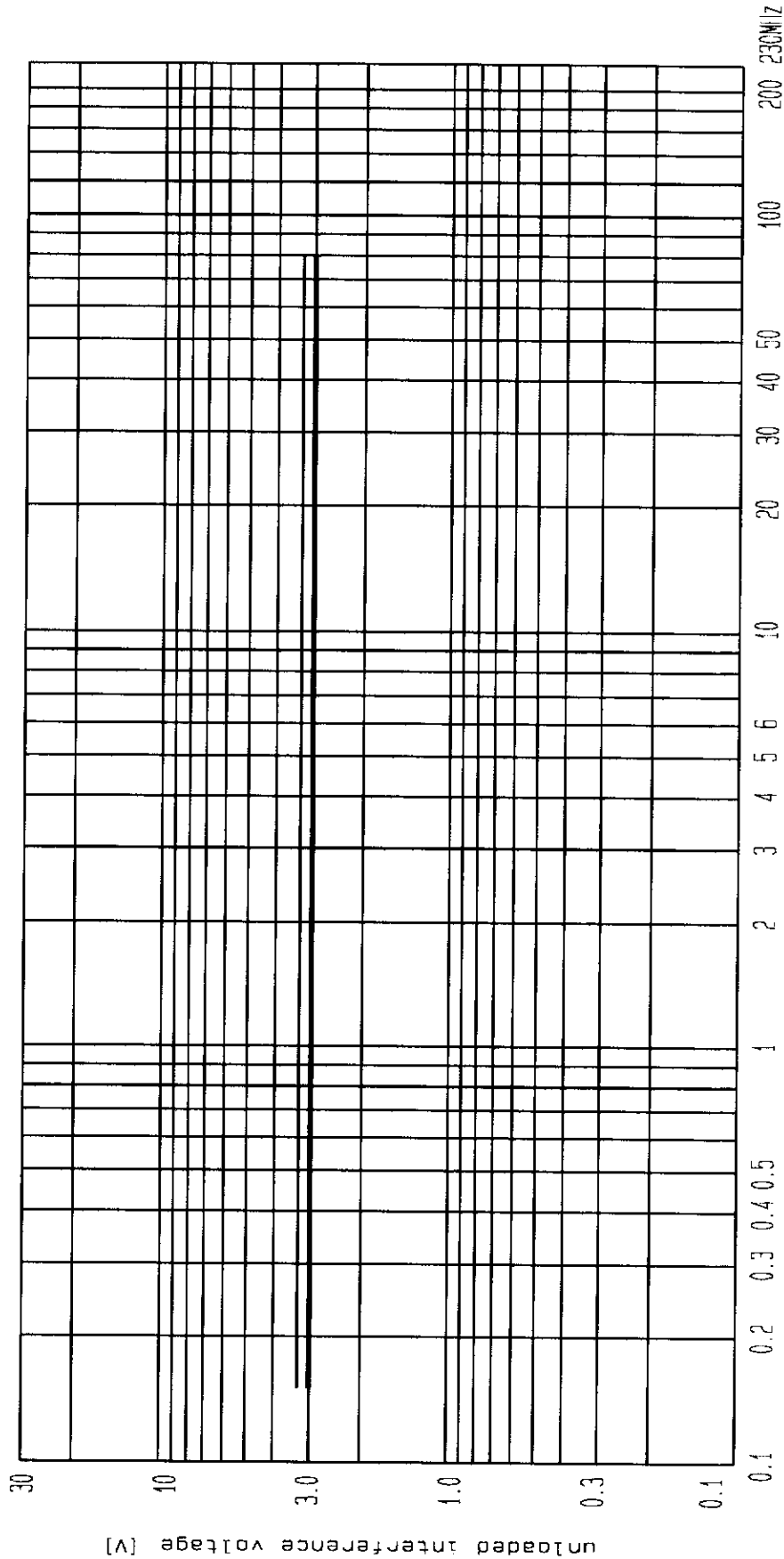
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 01/---

pkm Ref. No.: 09/07-0079

Operator: ED

Result:



MODE/TESTCONDITION: screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

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USB3 computer

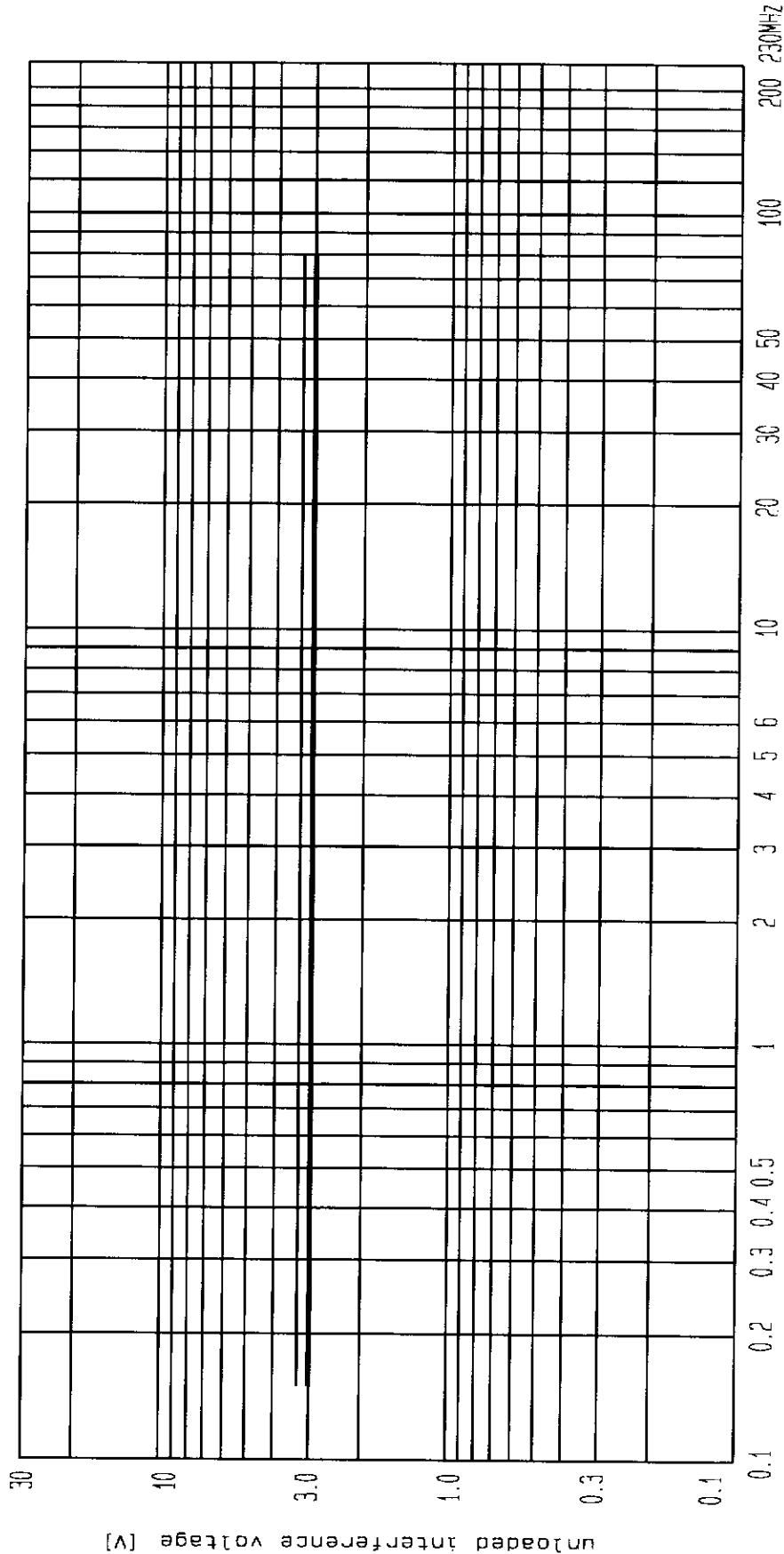
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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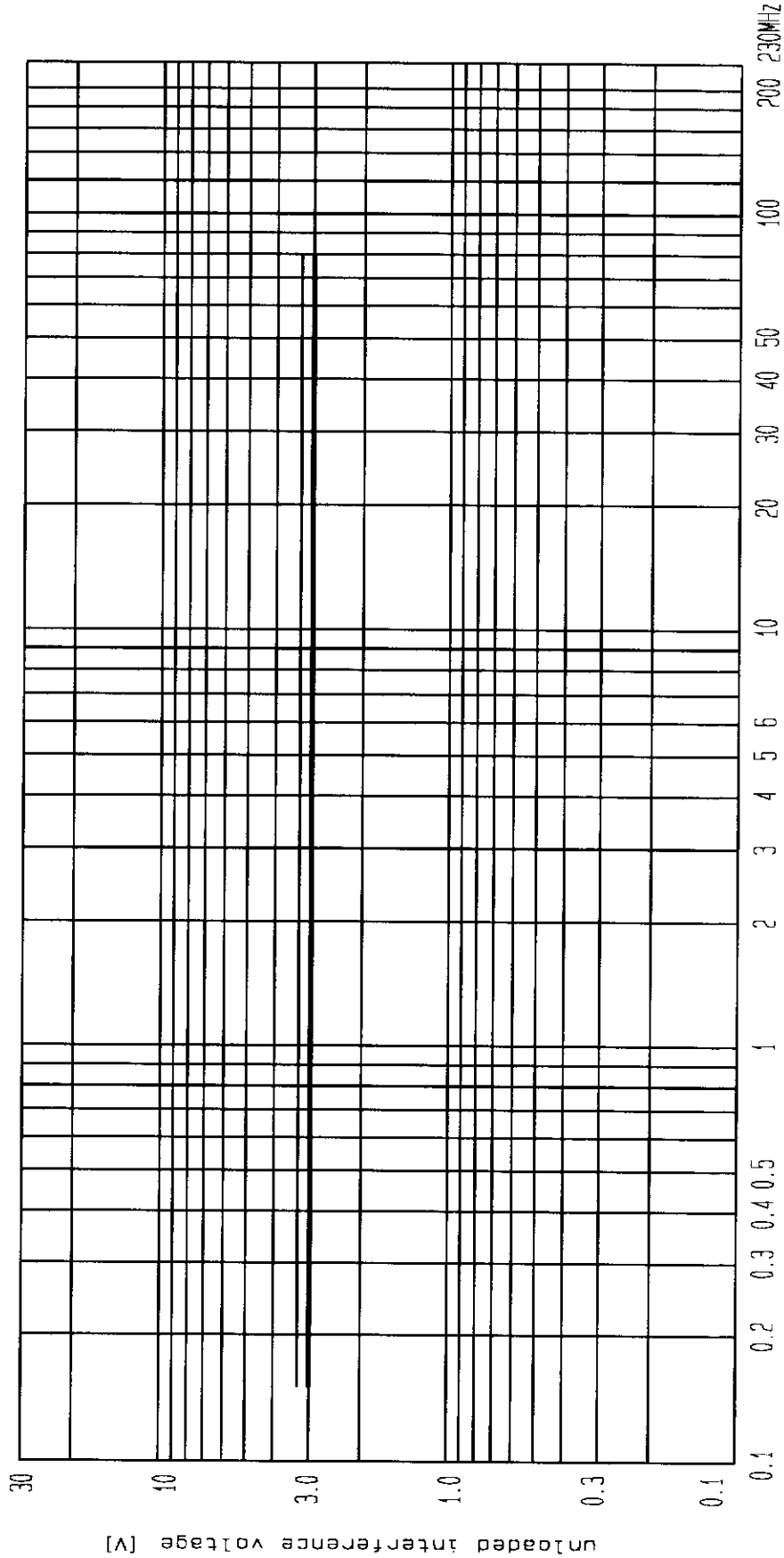
I 5 Conducted Radio Frequency

acc.EN55024

AC

used coupling unit: CDN 801-6 M3
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: EP
Result:



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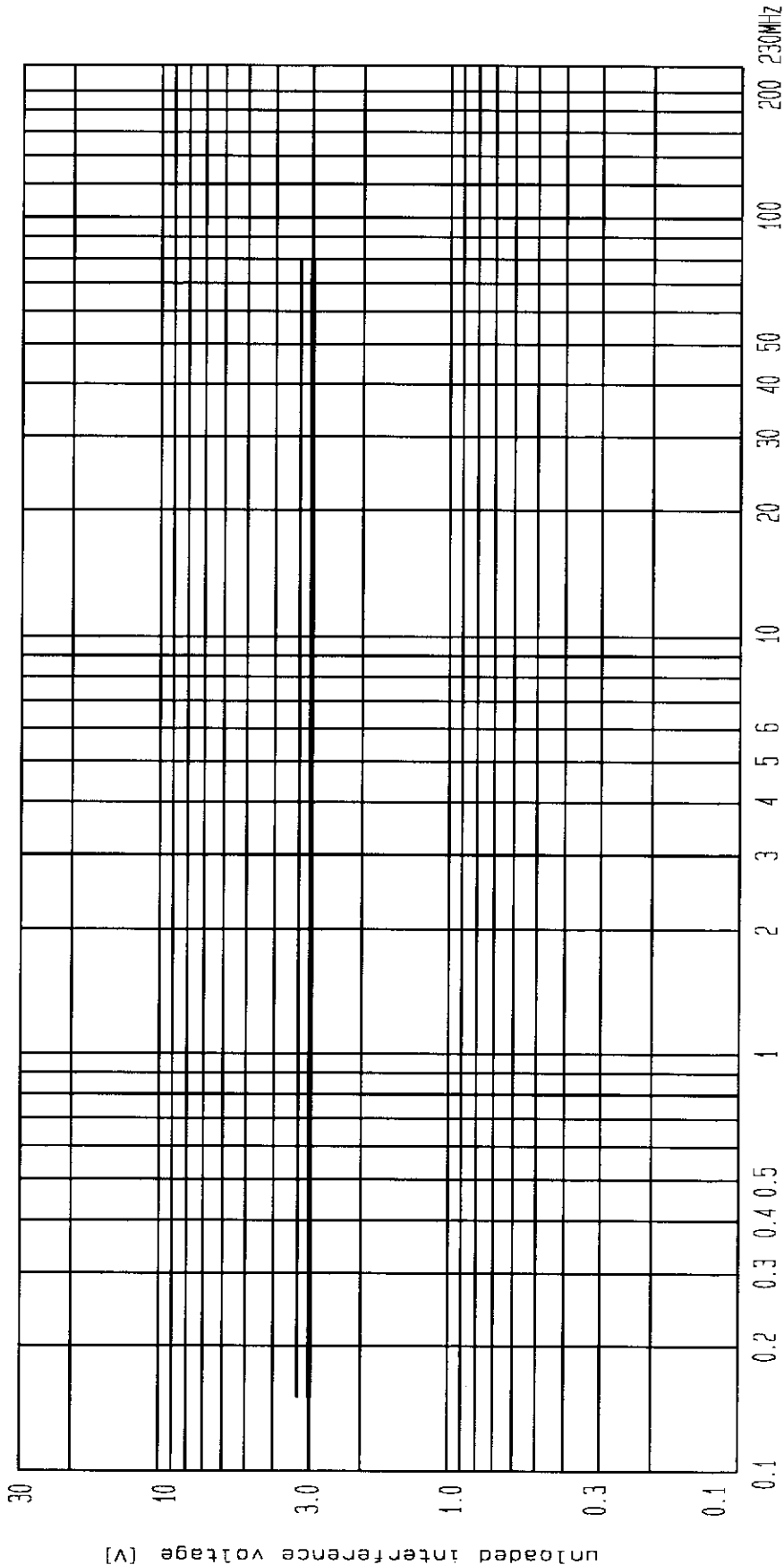
I 5 Conducted Radio Frequency

acc.EN55024

LAN display

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

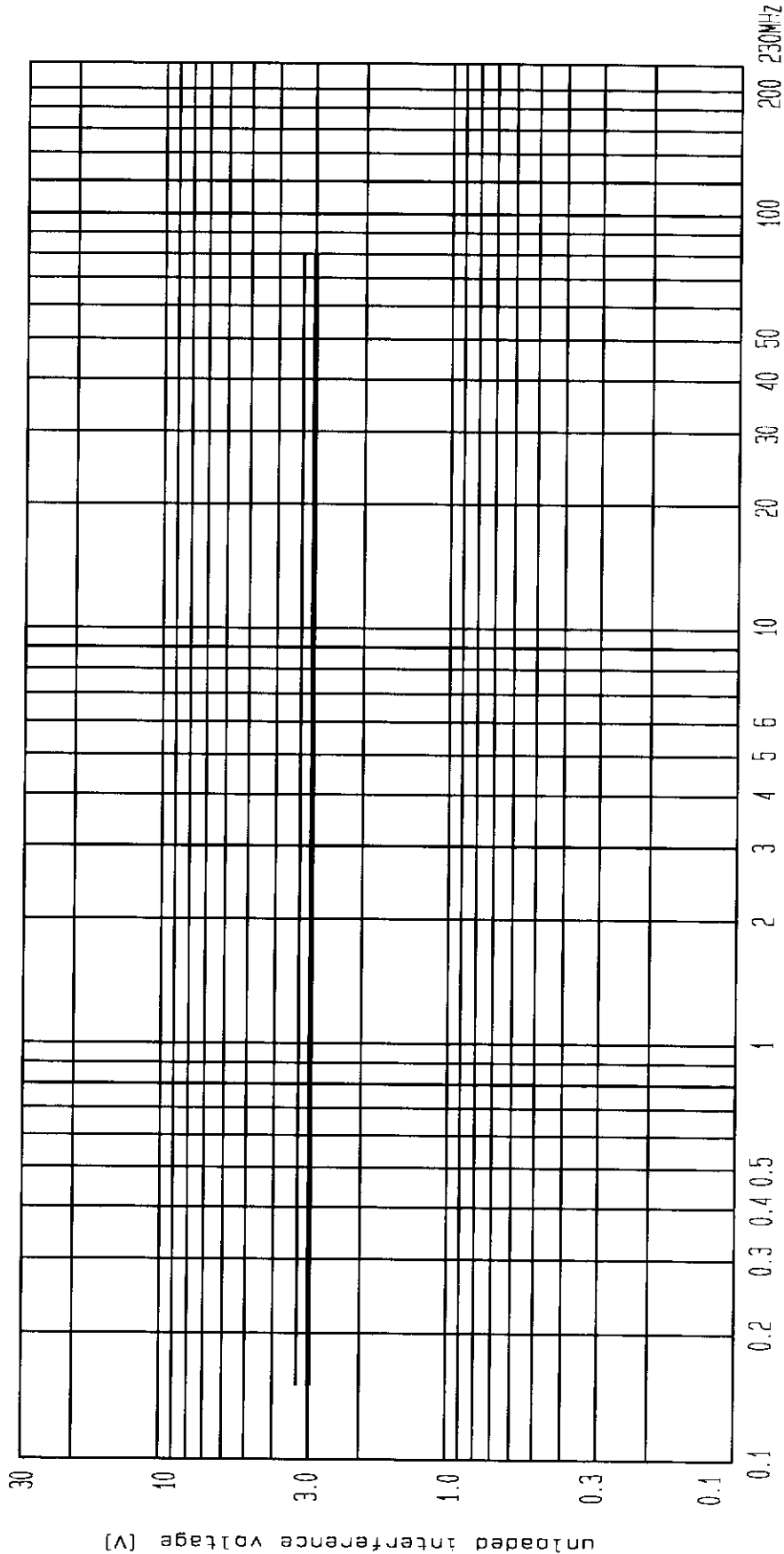
I 5 Conducted Radio Frequency

acc.EN55024

CONTROL IN

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHz
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/---
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

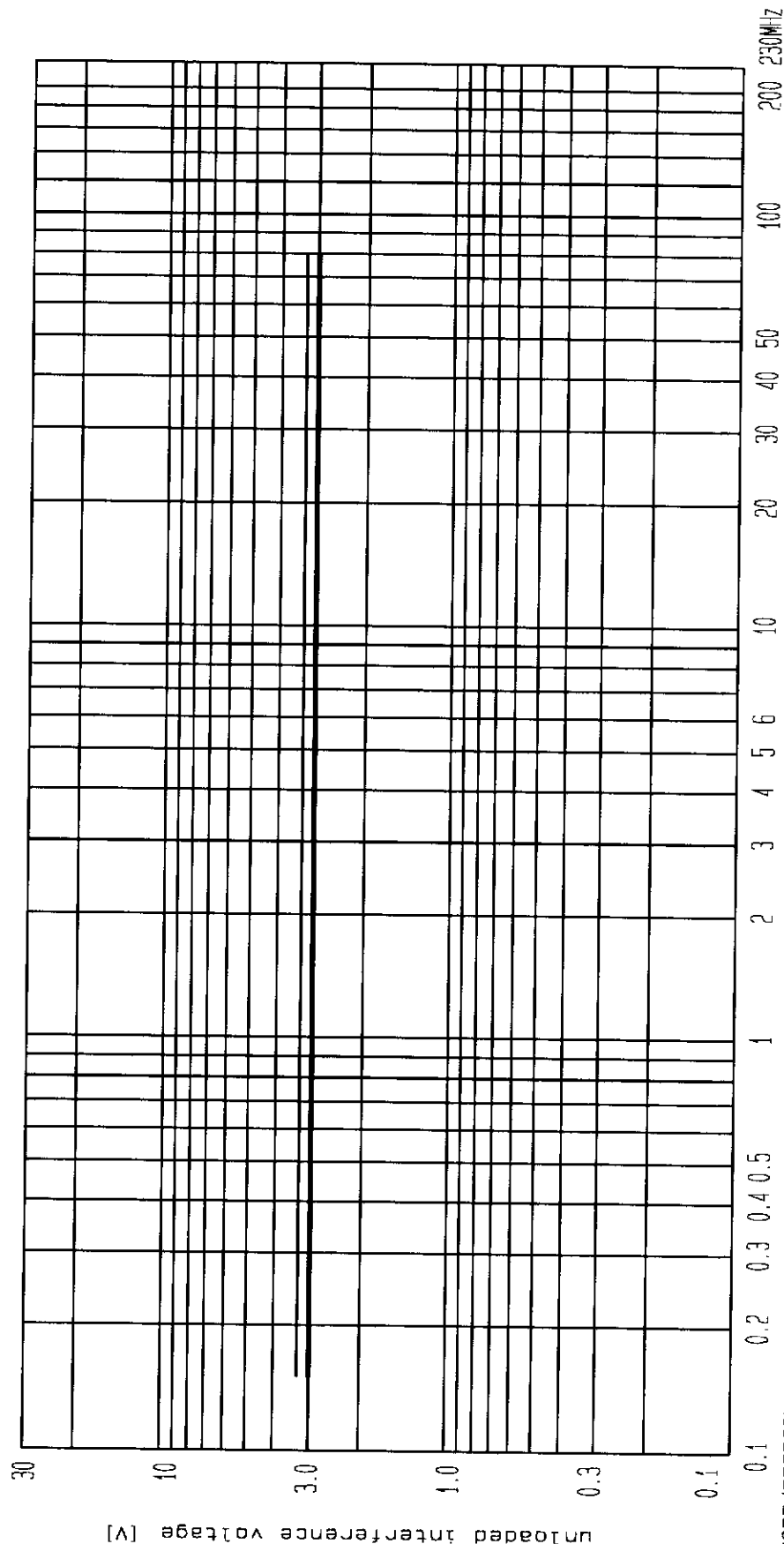
I 5 Conducted Radio Frequency

acc.EN55024

CONTROL OUT

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, /5A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHz
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



I 5 Conducted Radio Frequency

acc.EN55024

JACKPLUG IN

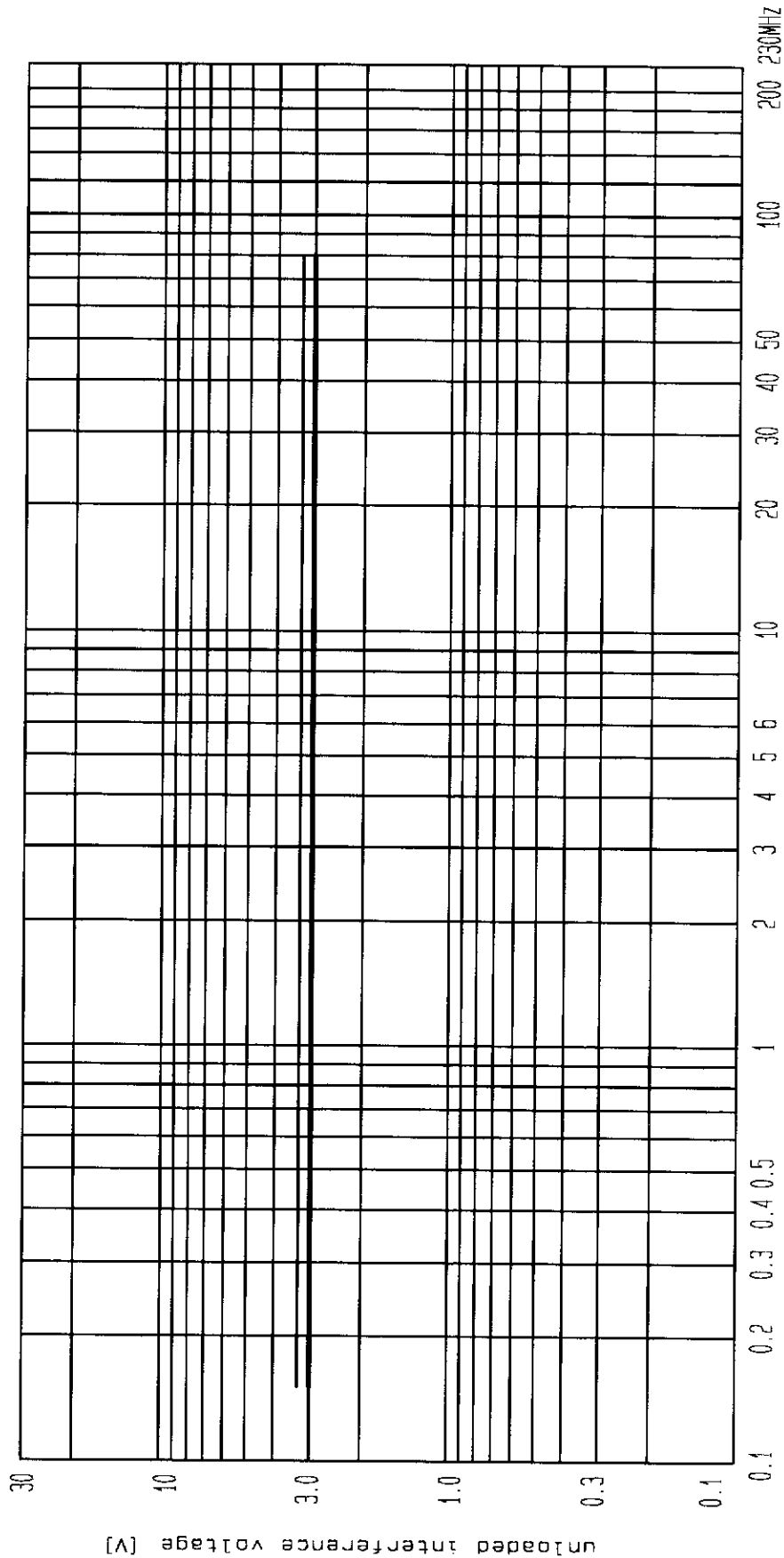
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result: *07*



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc.EN55024

JACKPLUG OUT

used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, /5A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.866GHZ

Set u. Test: Computer

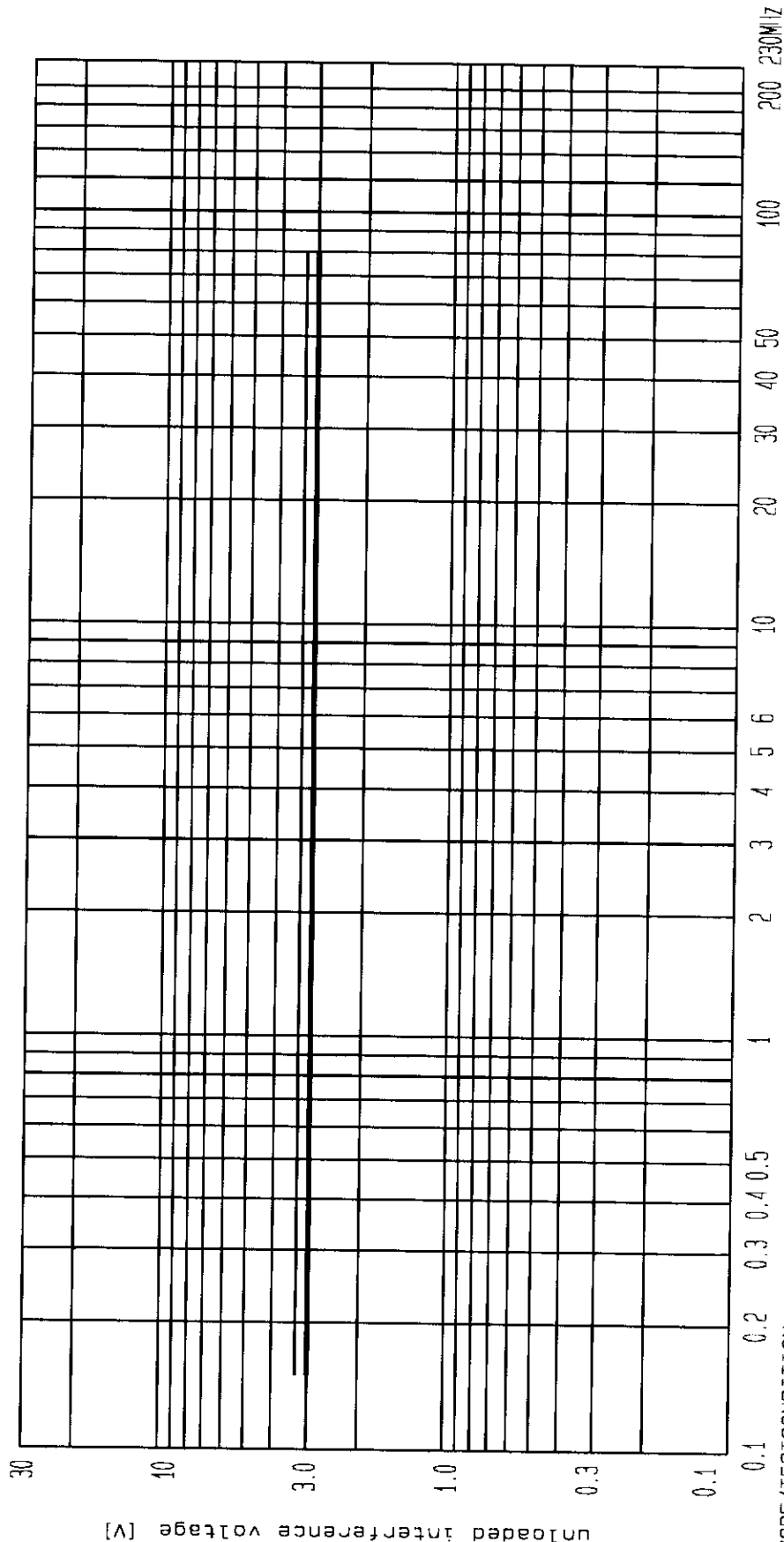
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 01/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:



I 5 Conducted Radio Frequency

acc.EN55024

CLAMPS

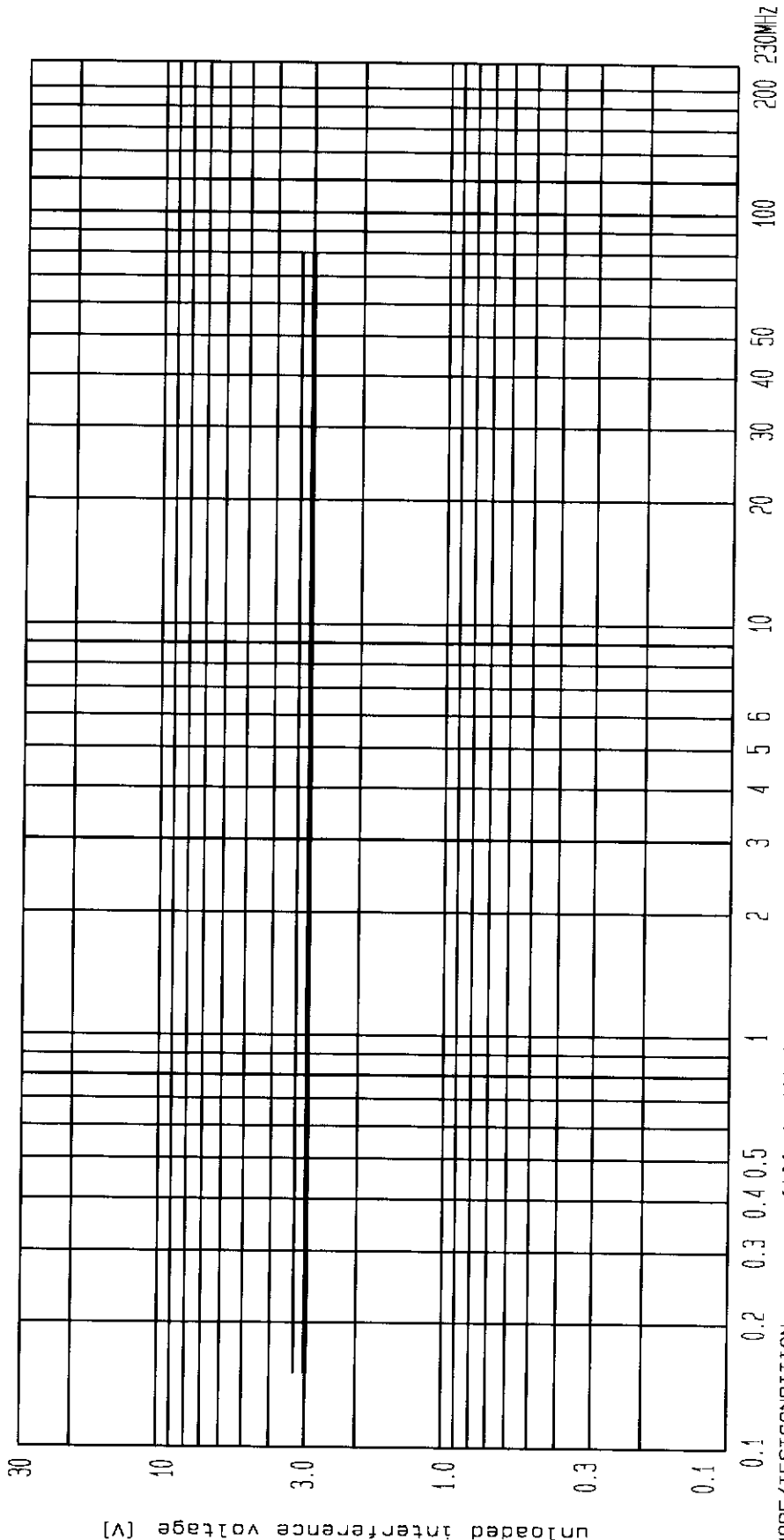
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.866GHZ
Set u. Test: Computer
Man./Imp.: AAPCEN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result: ...
27



MODE/TESTCONDITION: screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

pkm electronic GmbH
Ohmstr. 1
D-84160 Frontenhausen

I 5 Conducted Radio Frequency

acc.EN55024

BNC1

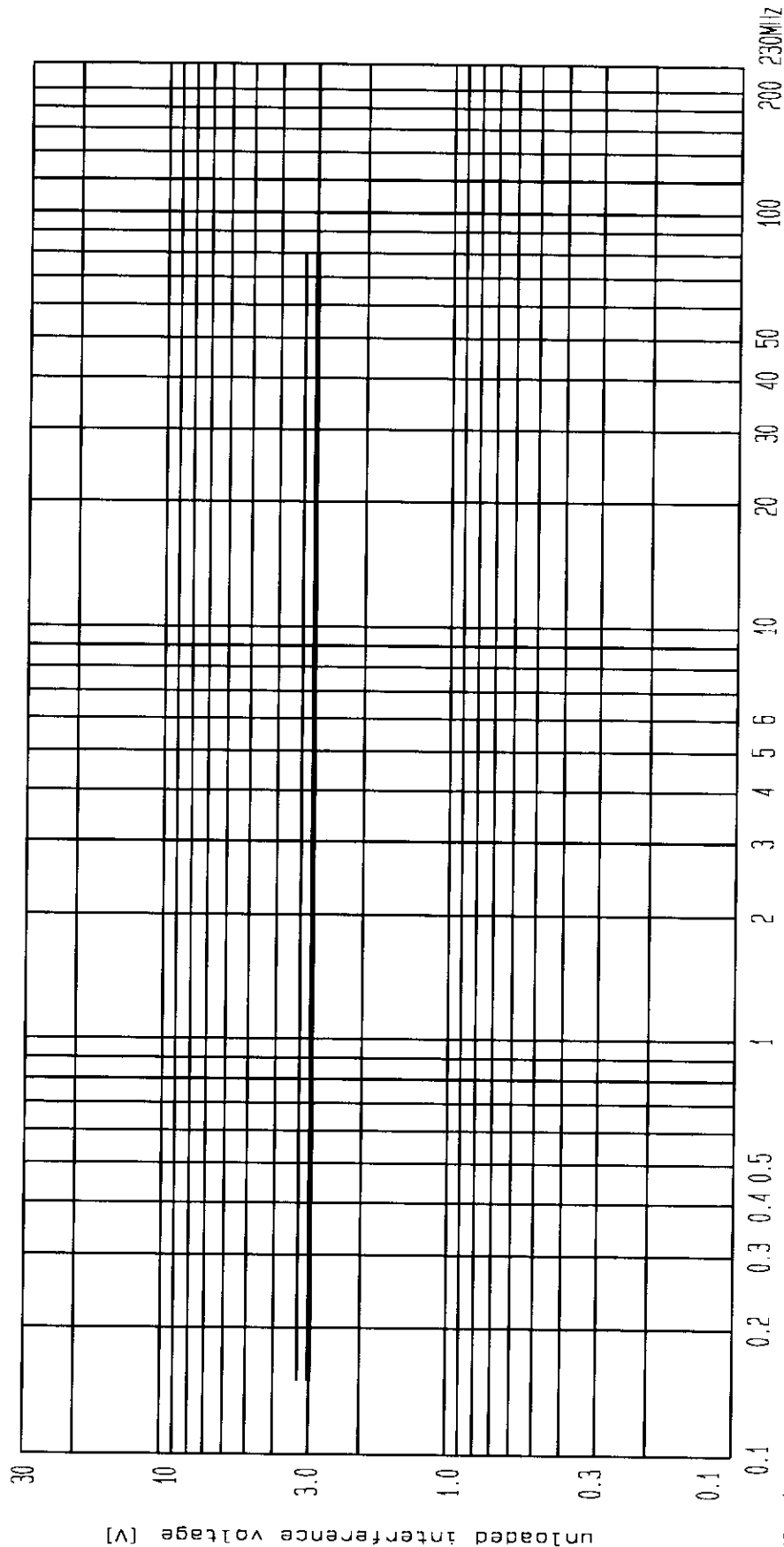
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.866GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM



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acc.EN55024

BNC2

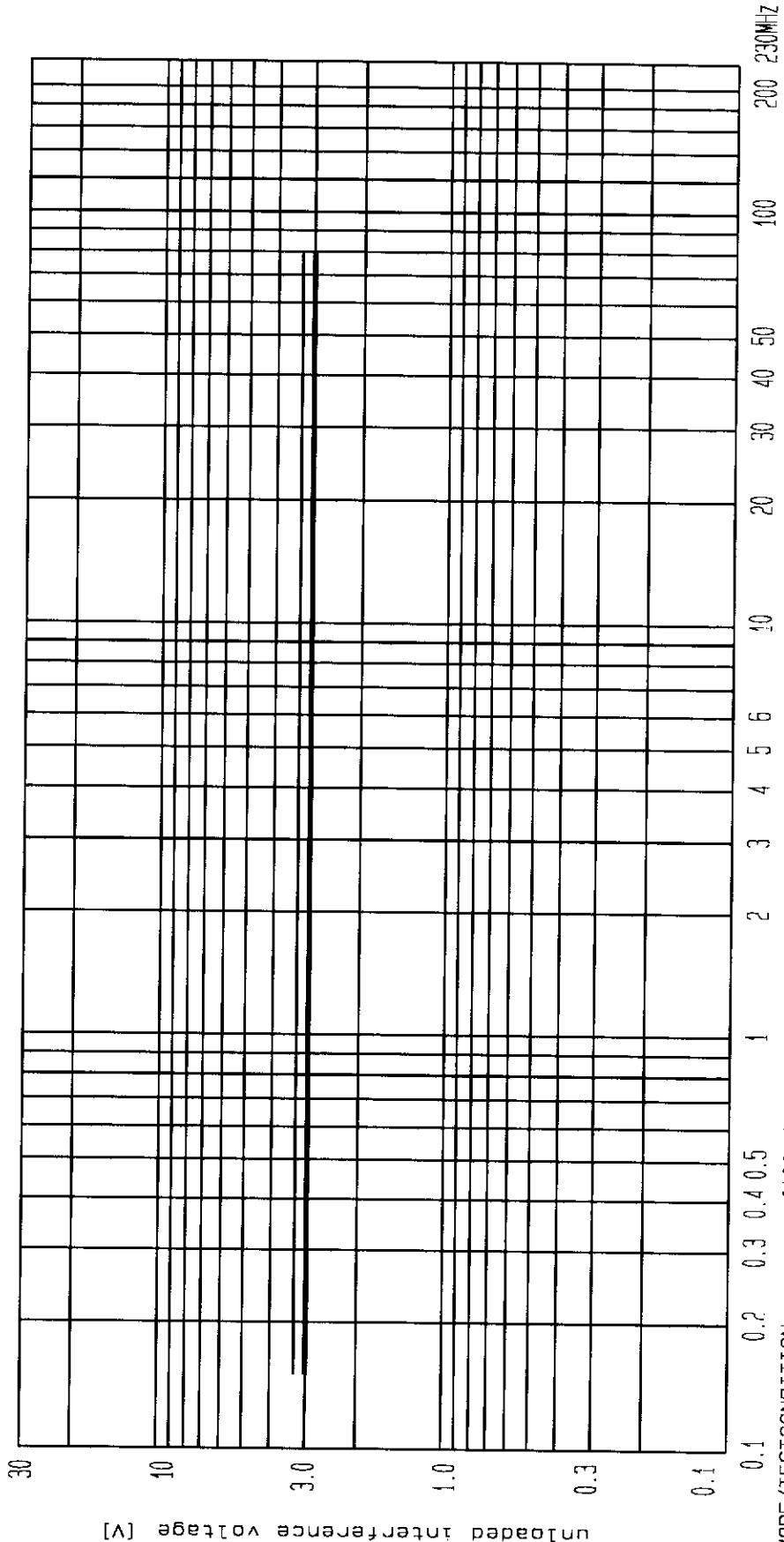
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ER
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

acc.EN55024

BNC3

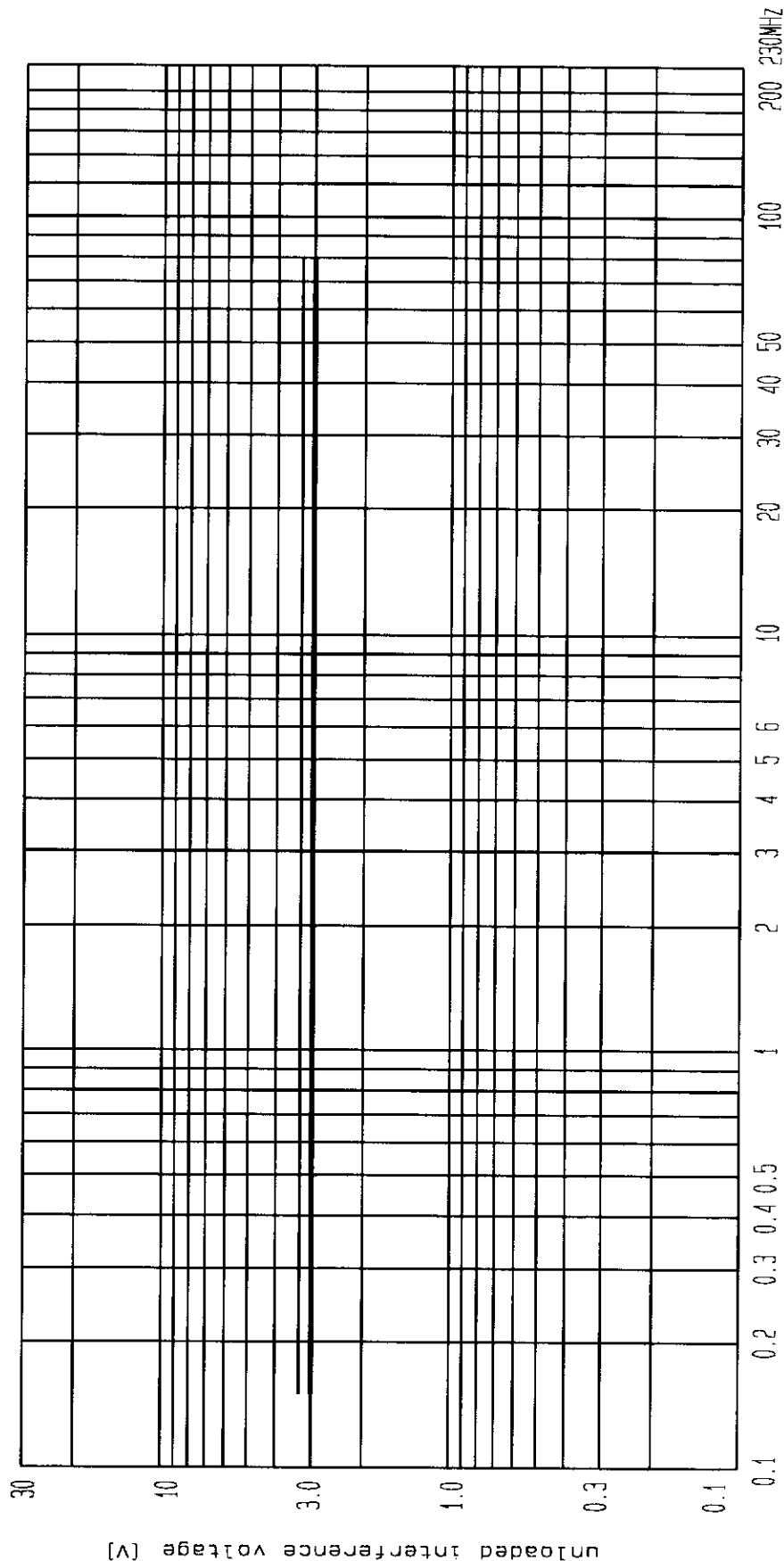
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set U.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

acc.EN55024

BNC4

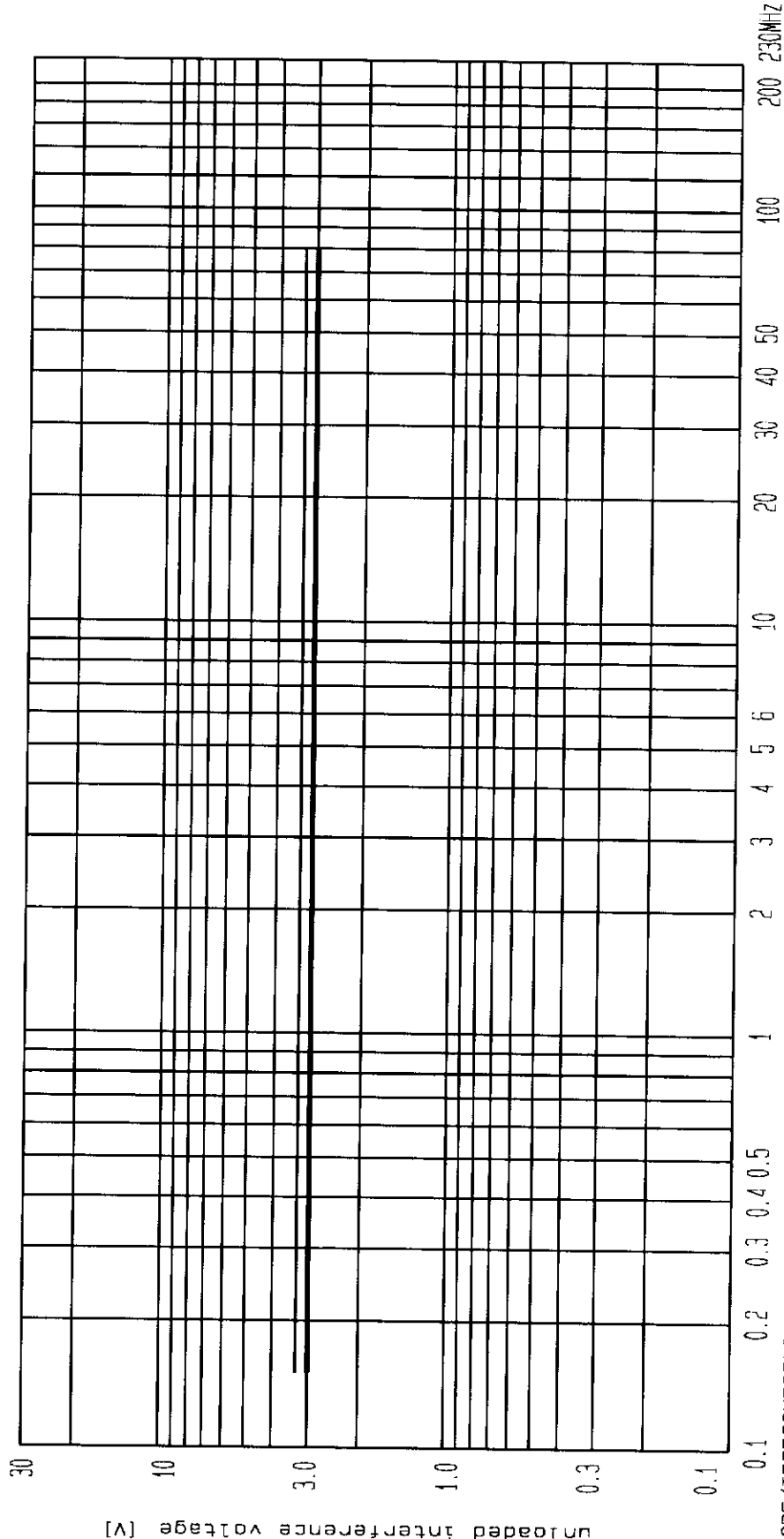
used coupling unit: EN-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc. EN55024

BNC5

used coupling unit: EW-Clamp

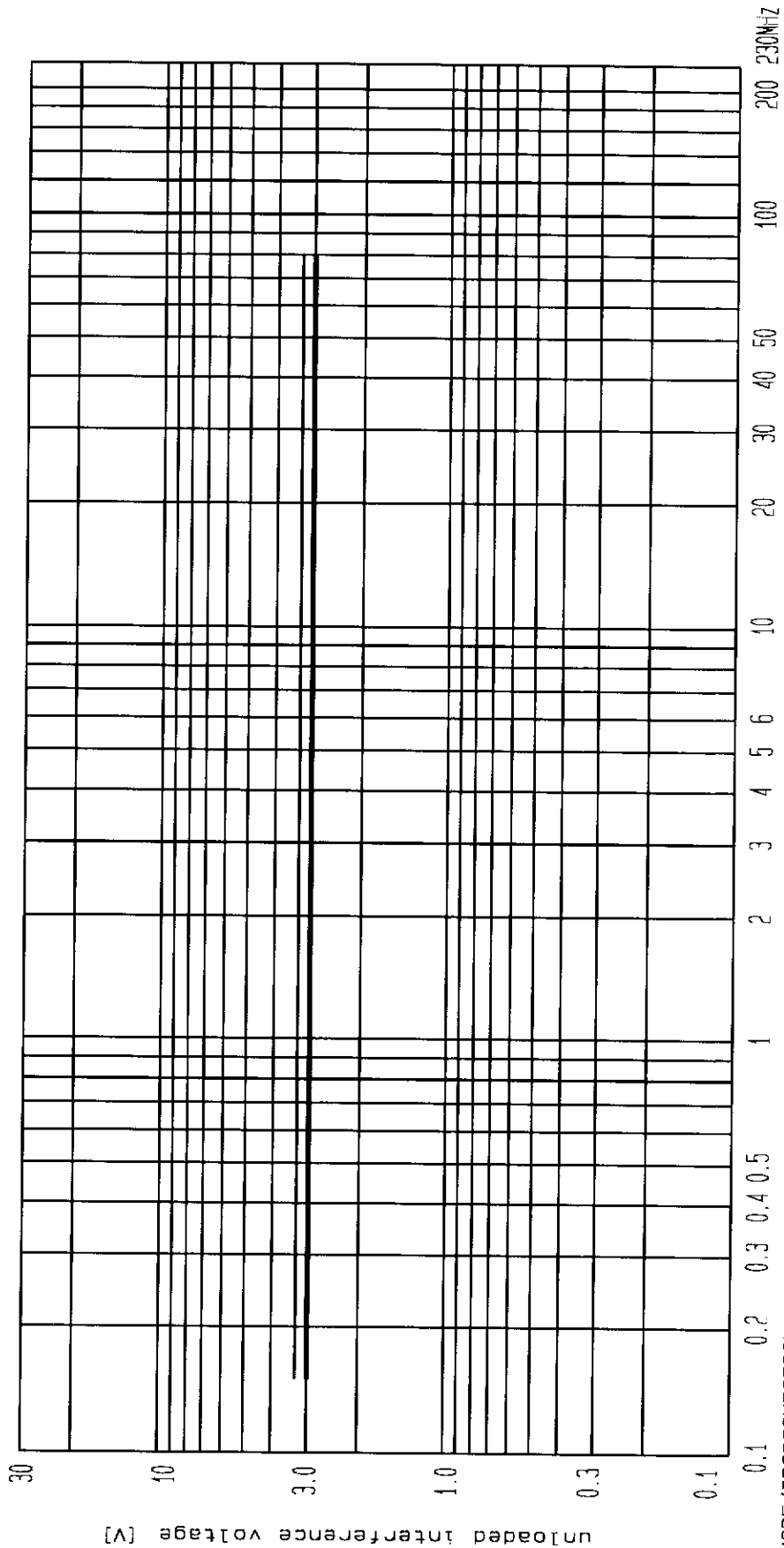
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:

ED



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc.EN55024

BNC6

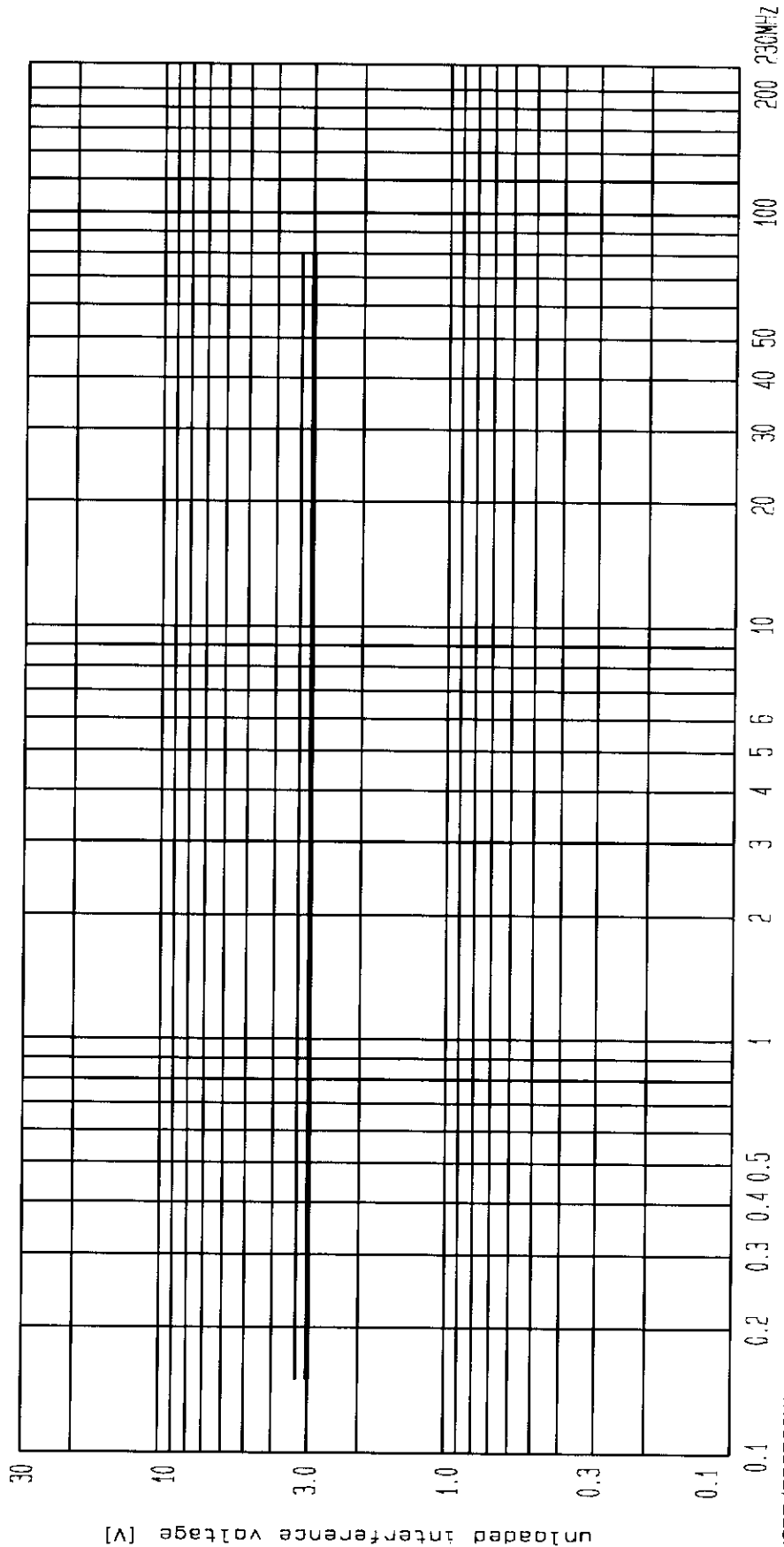
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/---
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM



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09/07-0079

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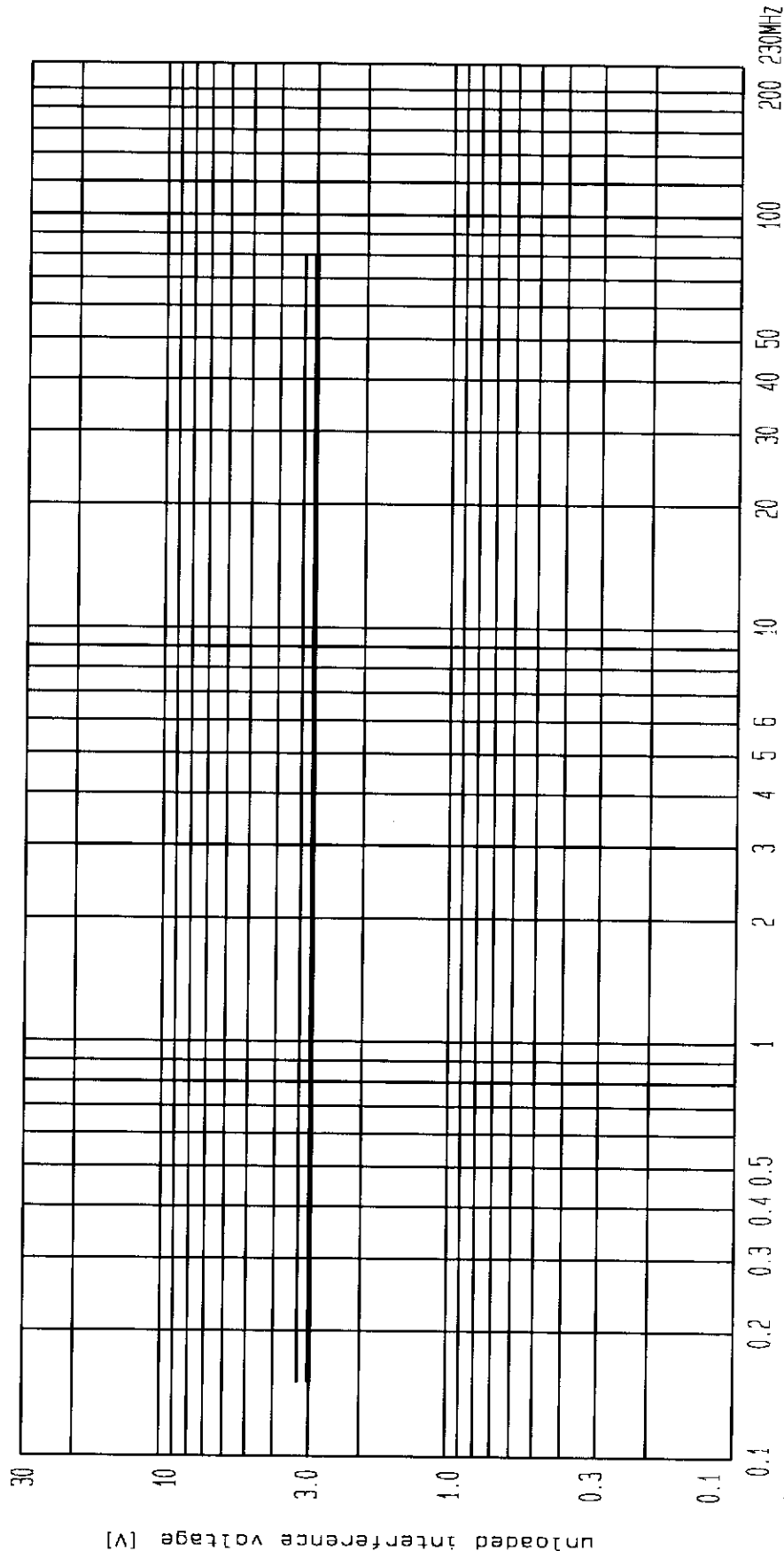
I 5 Conducted Radio Frequency

acc.EN55024

BNC7

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result: ...

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM



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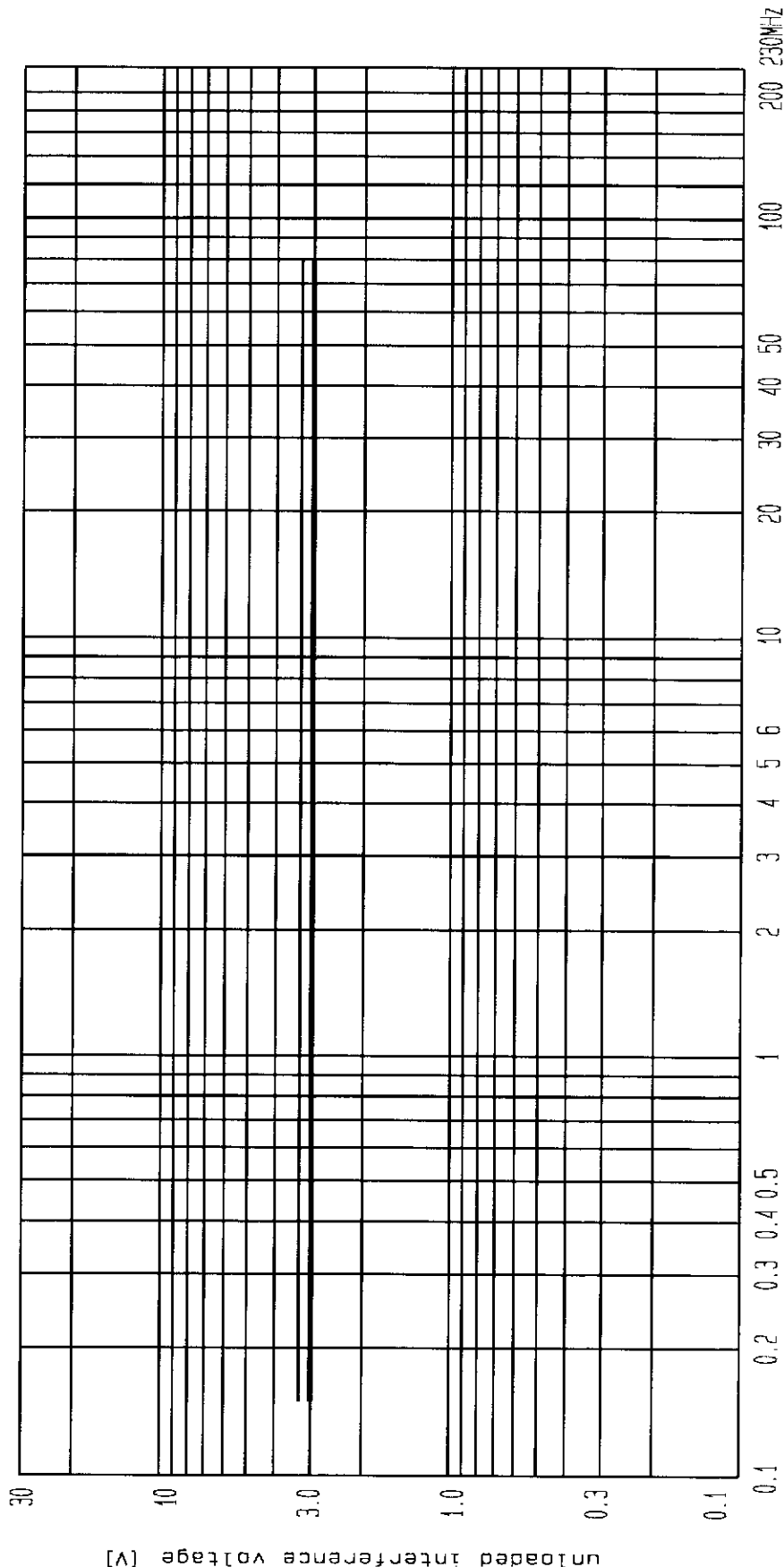
I 5 Conducted Radio Frequency

acc.EN55024

BNC8

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc.EN55024

BNC9

used coupling unit: EM-Clamp

Modulation: 60% AM, 1kHz Mod. frequency, limit 3 V

used Testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.86GHZ

Set u. Test: Computer

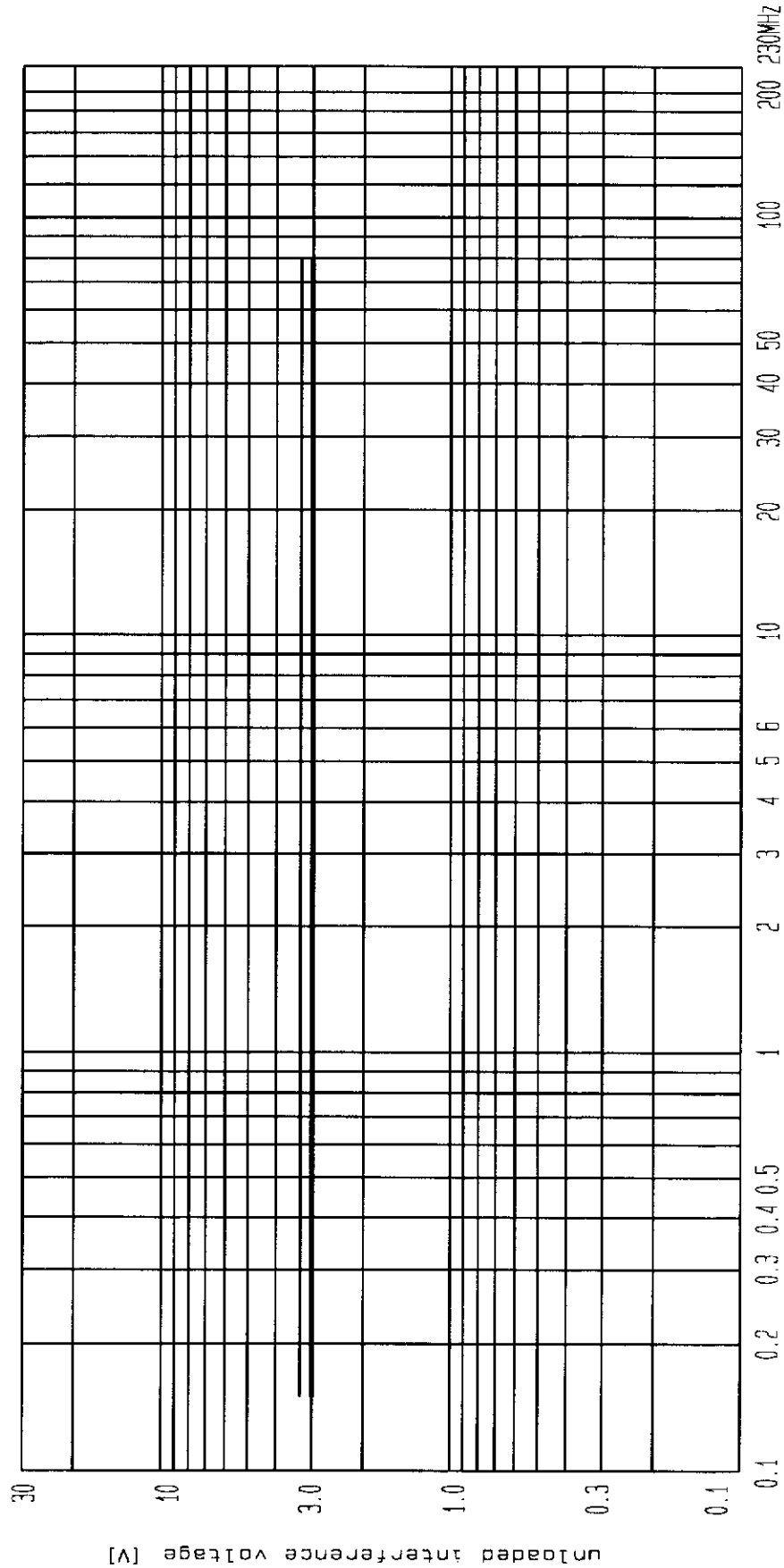
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 01/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:



MODE/TESTCONDITION: screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

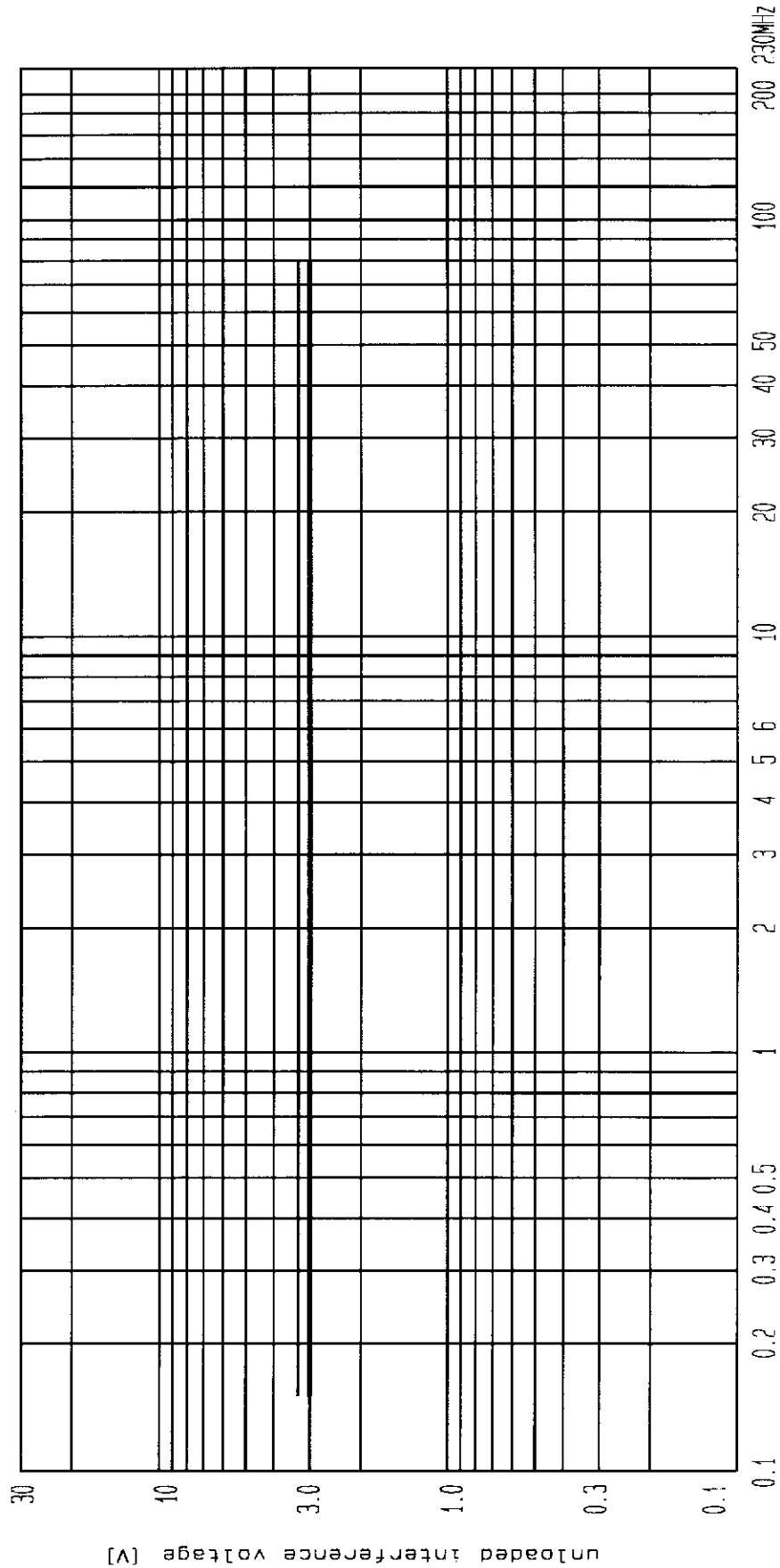
I 5 Conducted Radio Frequency

acc. EN55024

BNC10

used coupling unit: EN-Clamp
Modulation: 80% AM, 1kHz Mod., frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set U.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED *ED*
Result:



MODE/TESTCONDITION: screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc. EN55024

BNC11

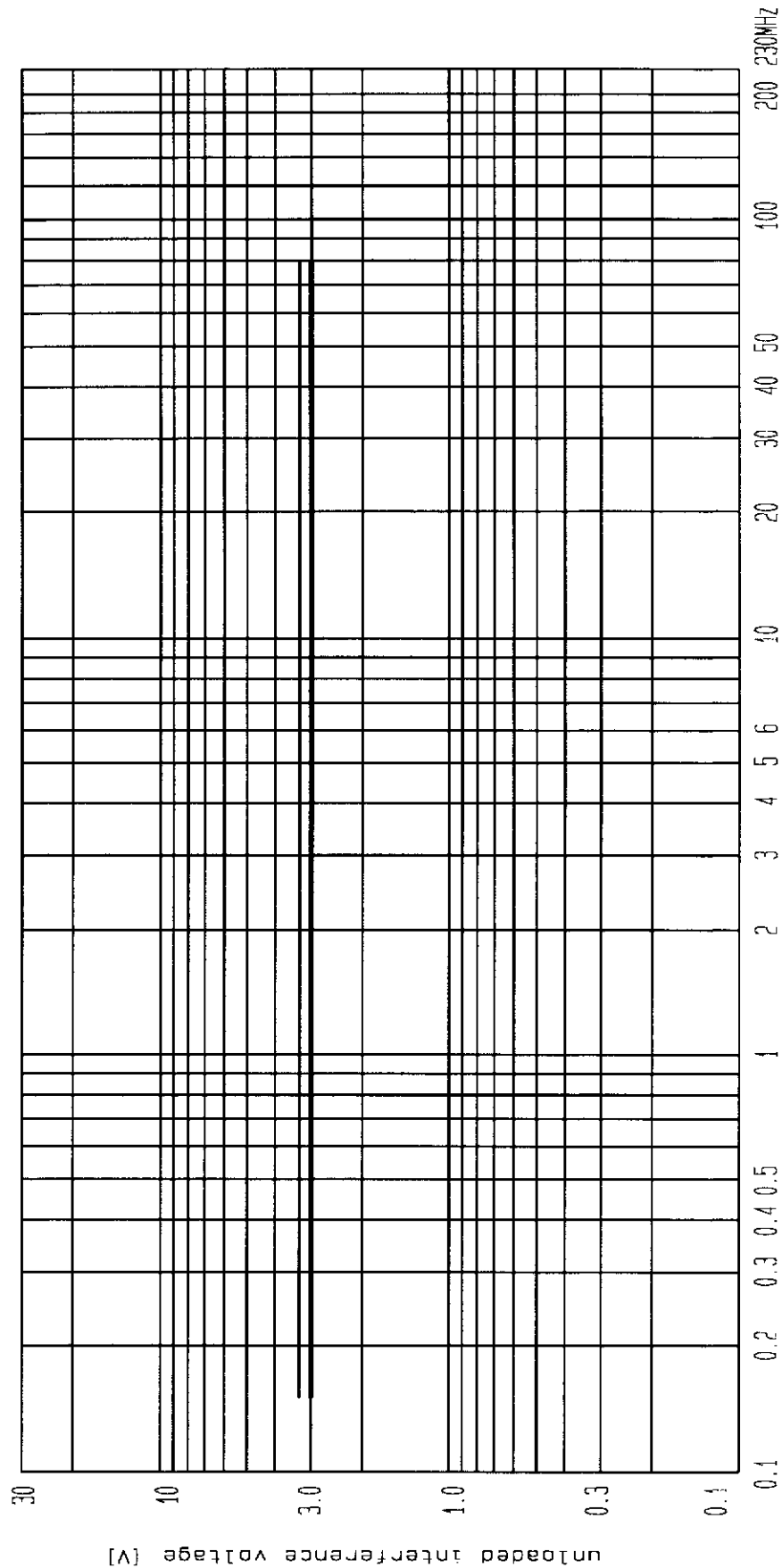
used coupling unit: EW-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used test equipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



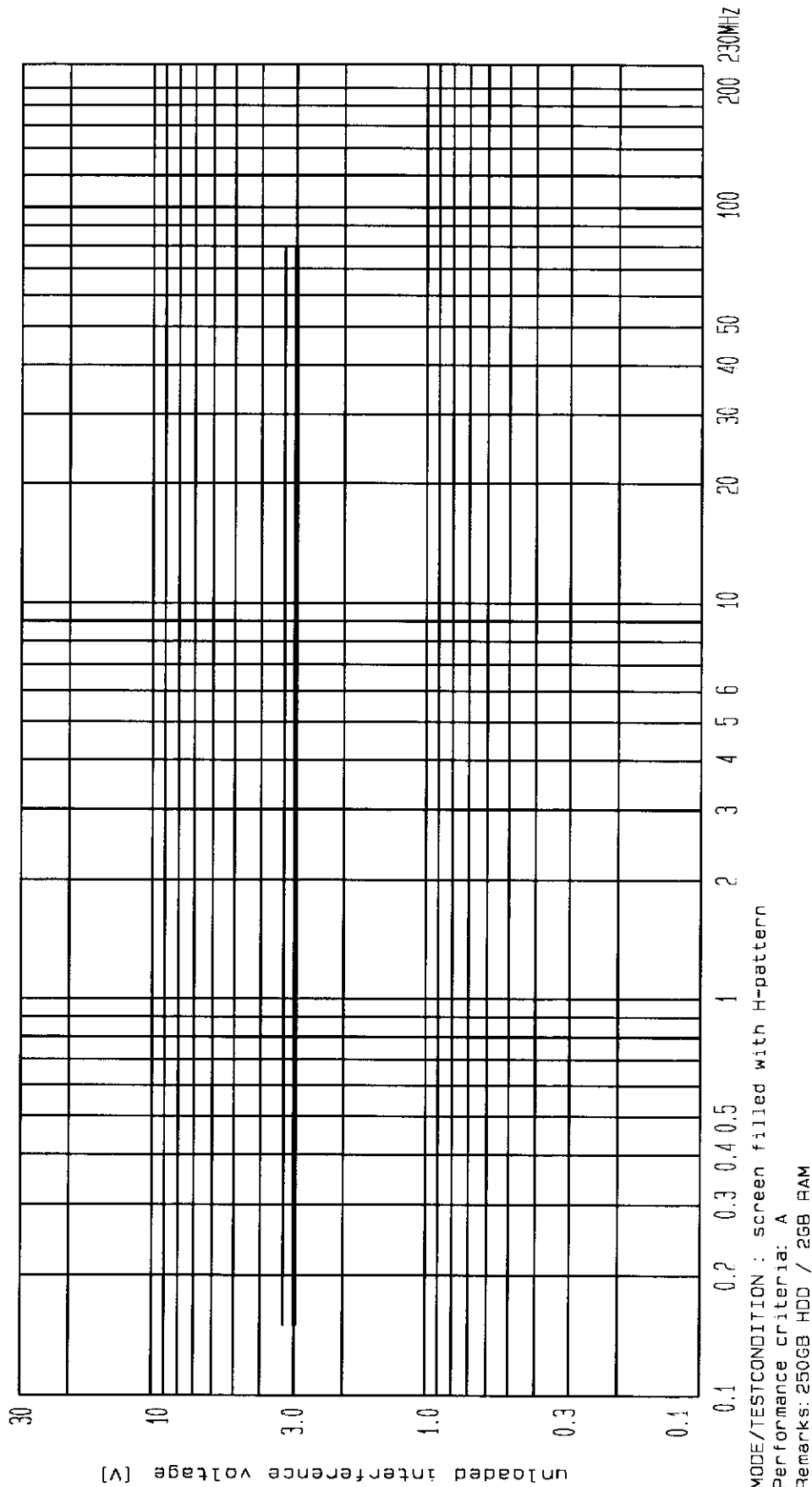
I 5 Conducted Radio Frequency

acc. EN55024

BNC12

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH



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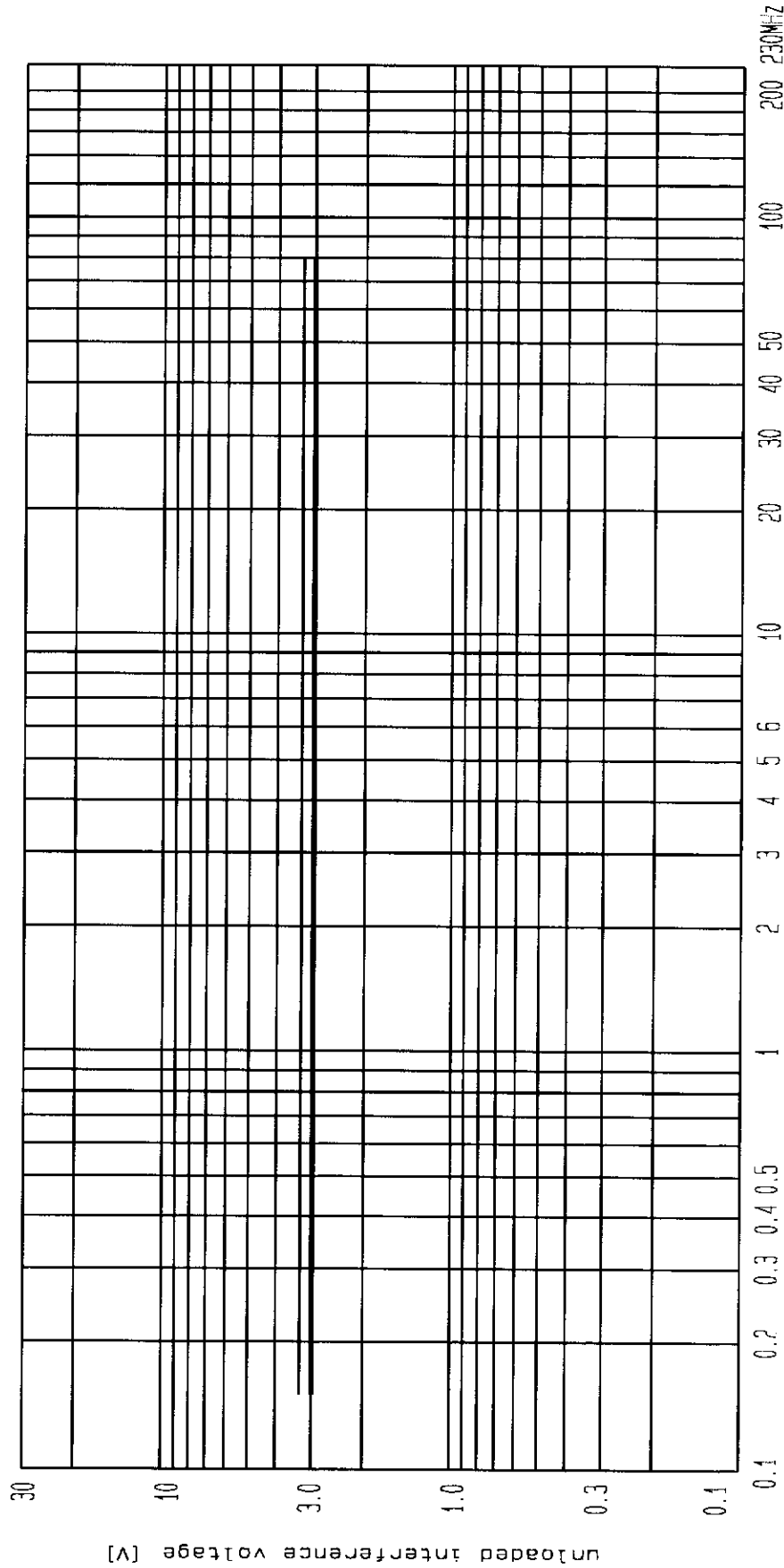
I 5 Conducted Radio Frequency

acc.EN55024

VGA

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

pkm electronic GmbH
Ohmstr. 1
D-84160 Frontenhausen

I 5 Conducted Radio Frequency

acc.EN55024

DVI display

used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.866HZ

Set u. Test: Computer

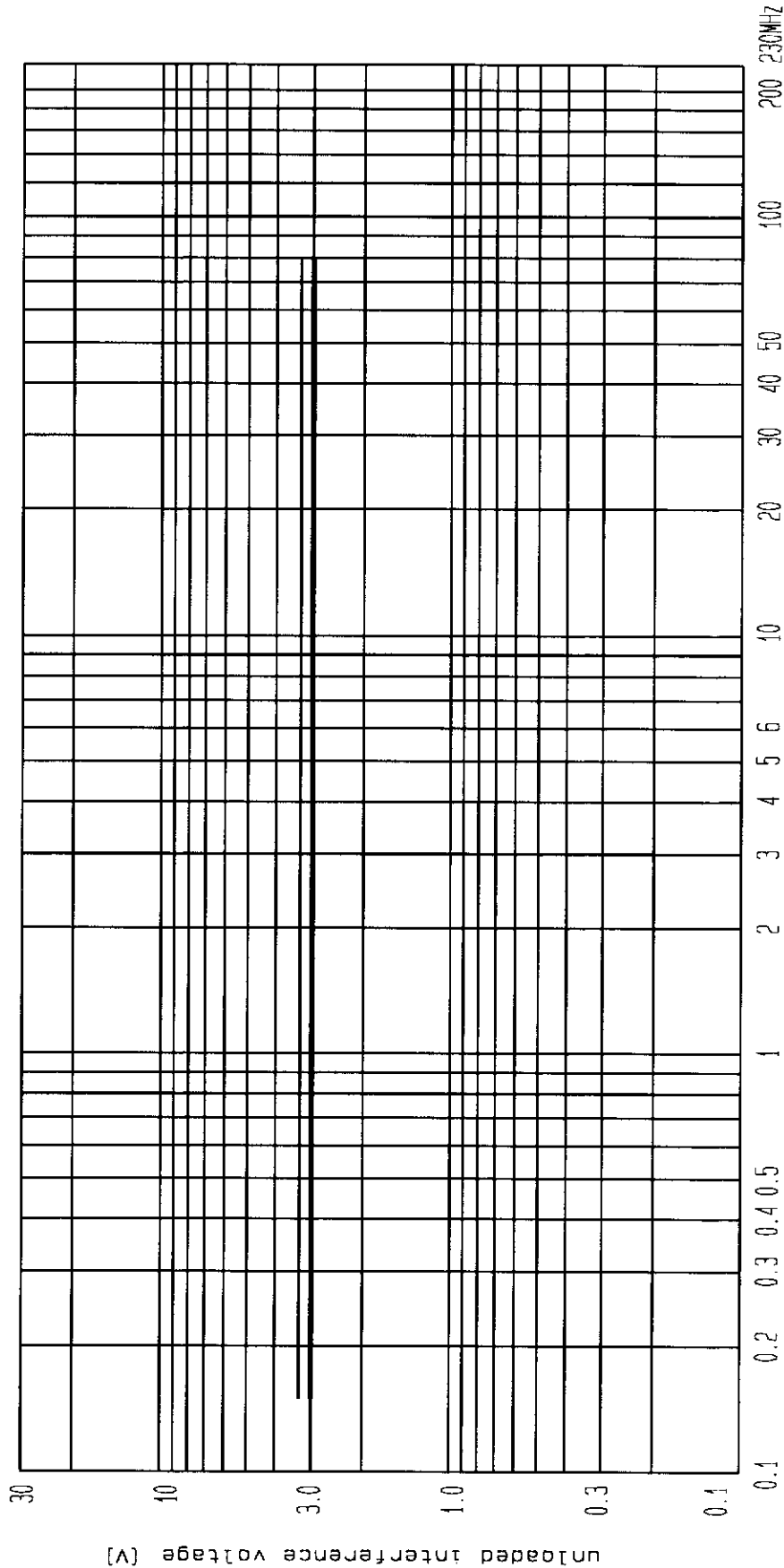
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 01/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:



MODE/TESTCONDITION: screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM



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I 5 Conducted Radio Frequency

acc.EN55024

RCA green/blue/red

used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.86GHZ

Set u.Test: Computer

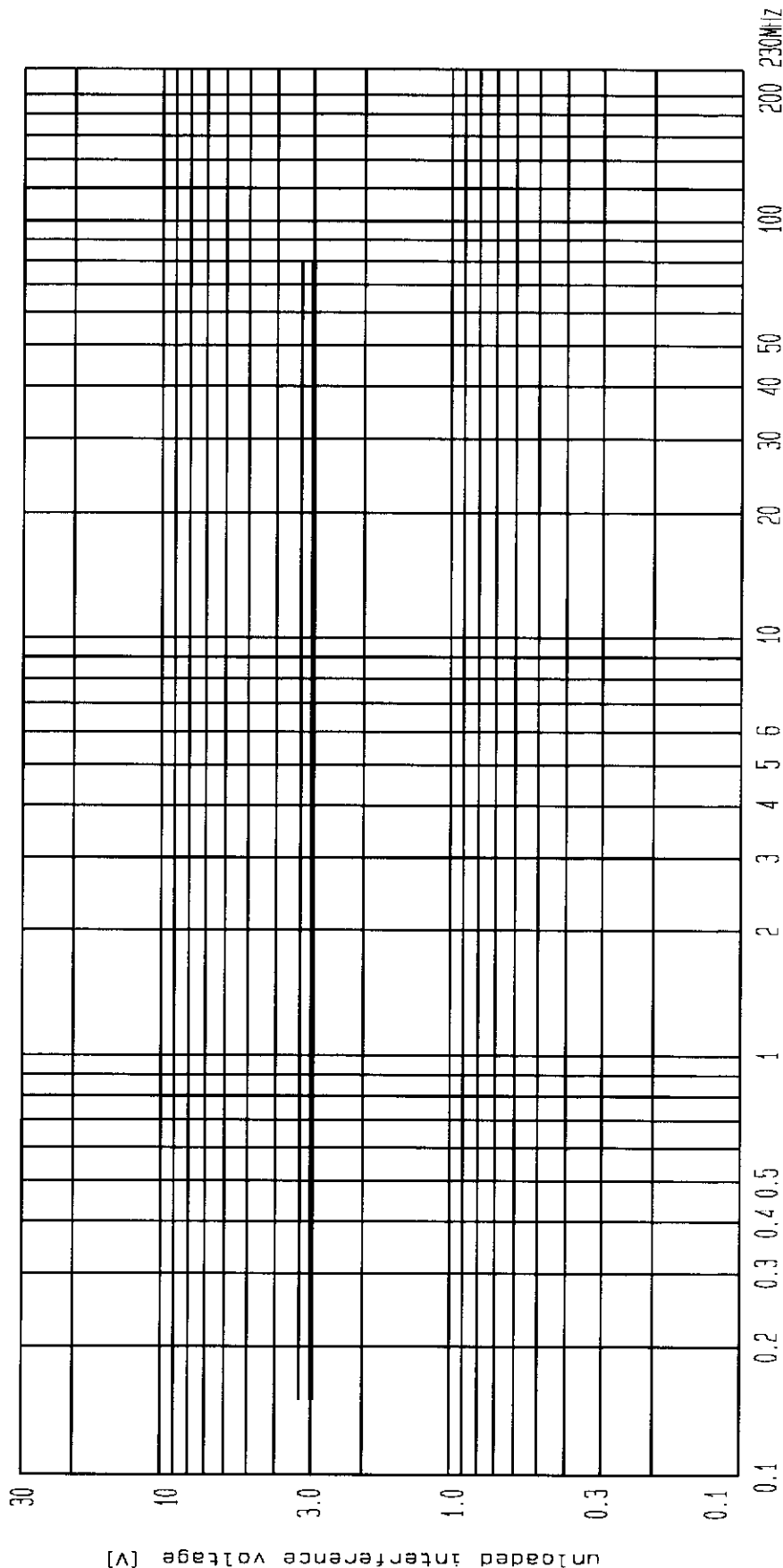
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 01/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

Remarks: 250GB HDD / 2GB RAM

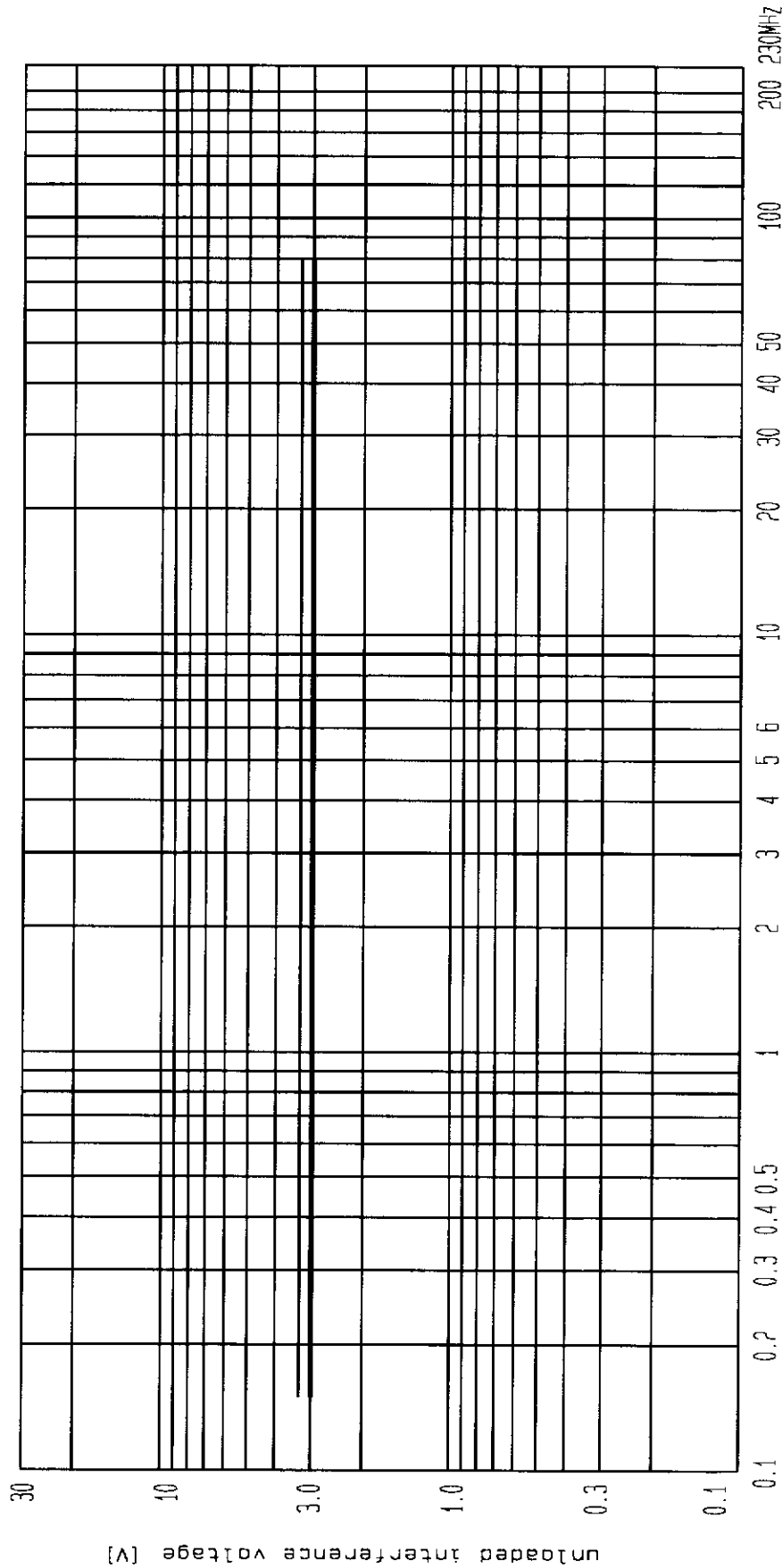
I 5 Conducted Radio Frequency

acc.EN55024

RCA yellow

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHz
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

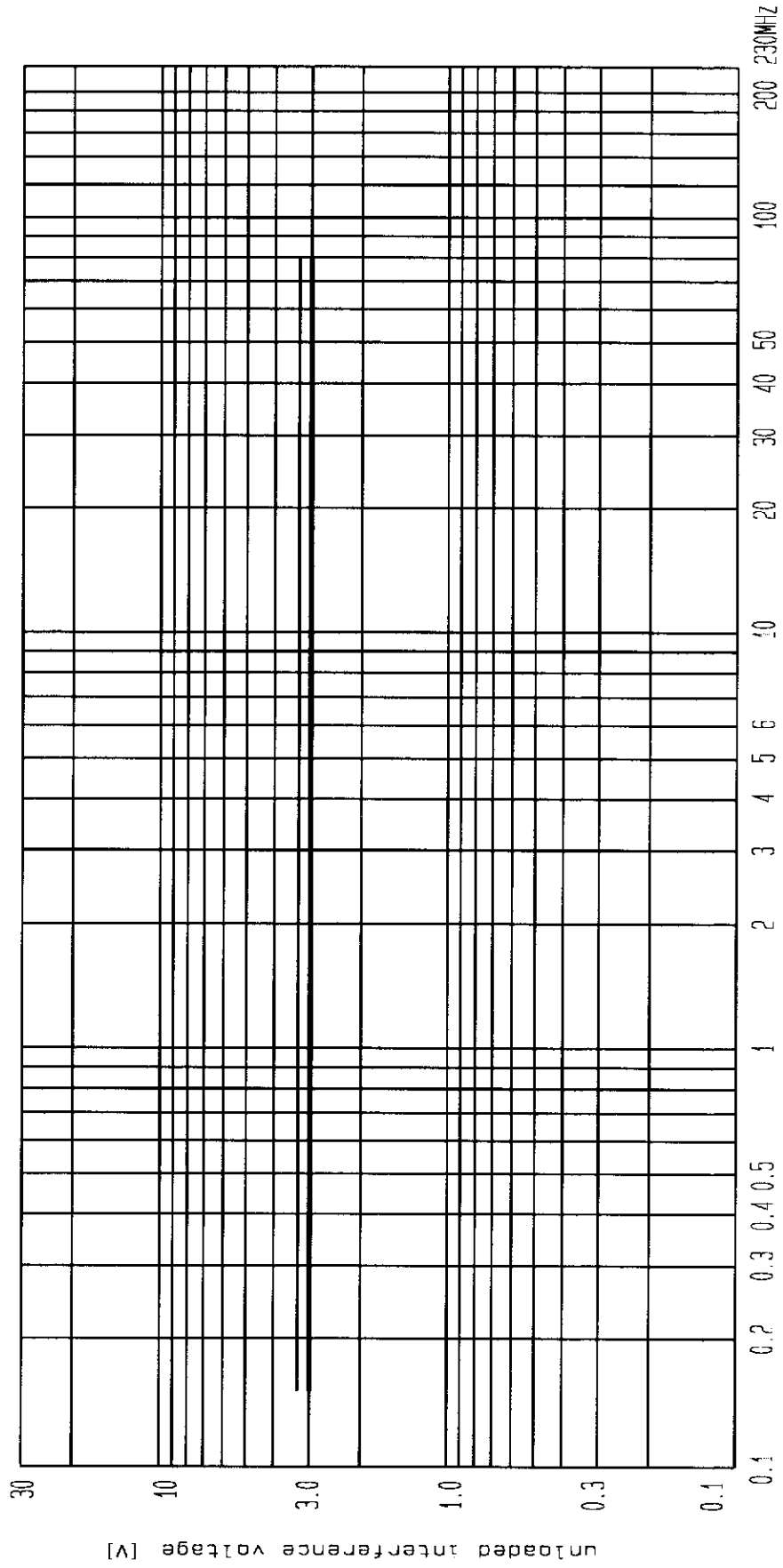
I 5 Conducted Radio Frequency

acc.EN55024

RCA white/red 1

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM



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pkm electronic GmbH
Ohmstr. 1
D-84160 Frontenhausen

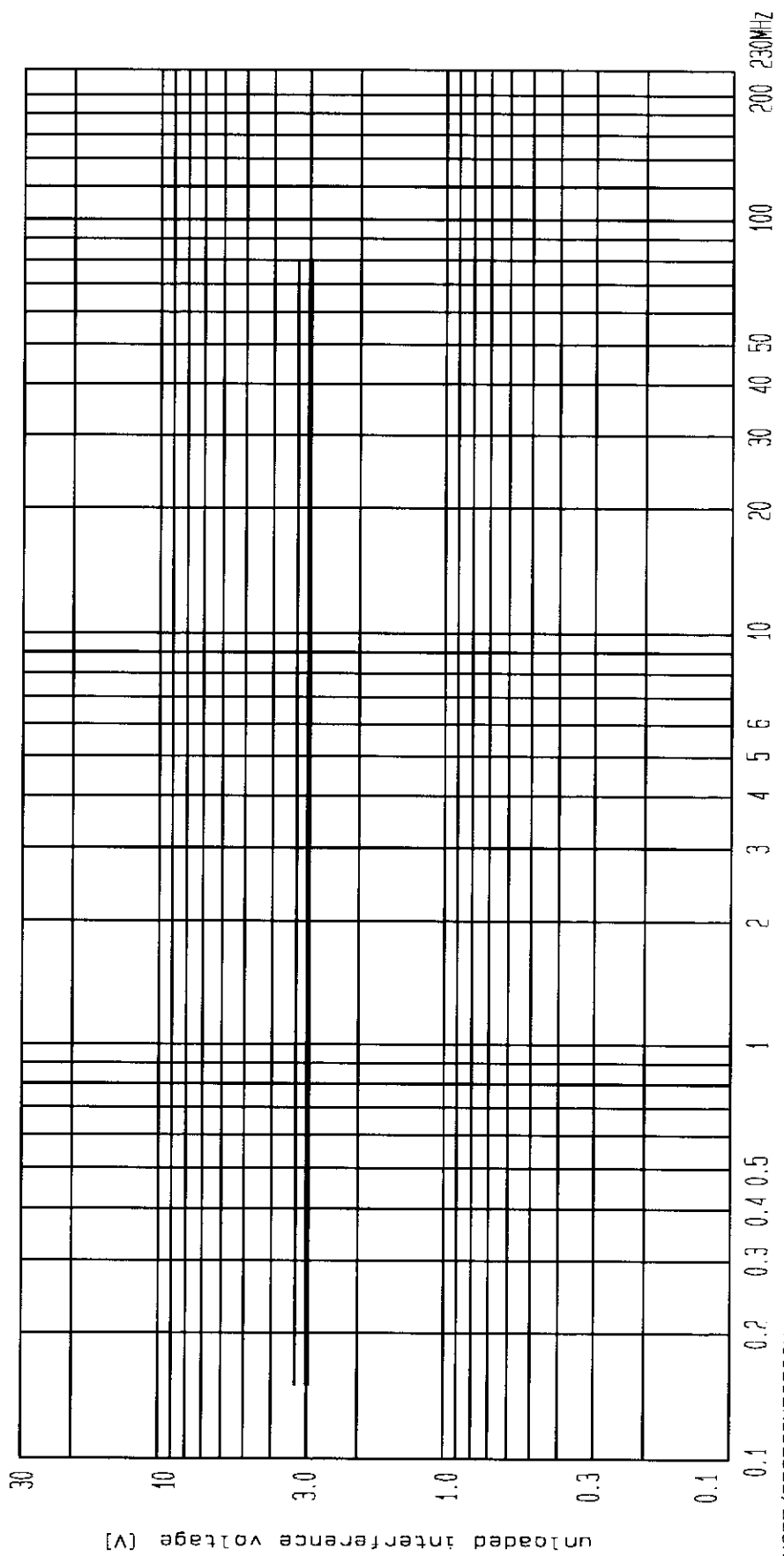
I 5 Conducted Radio Frequency

acc.EN55024

RCA white/red 2

used coupling unit: EM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc.EN55024

RCA white/red 3

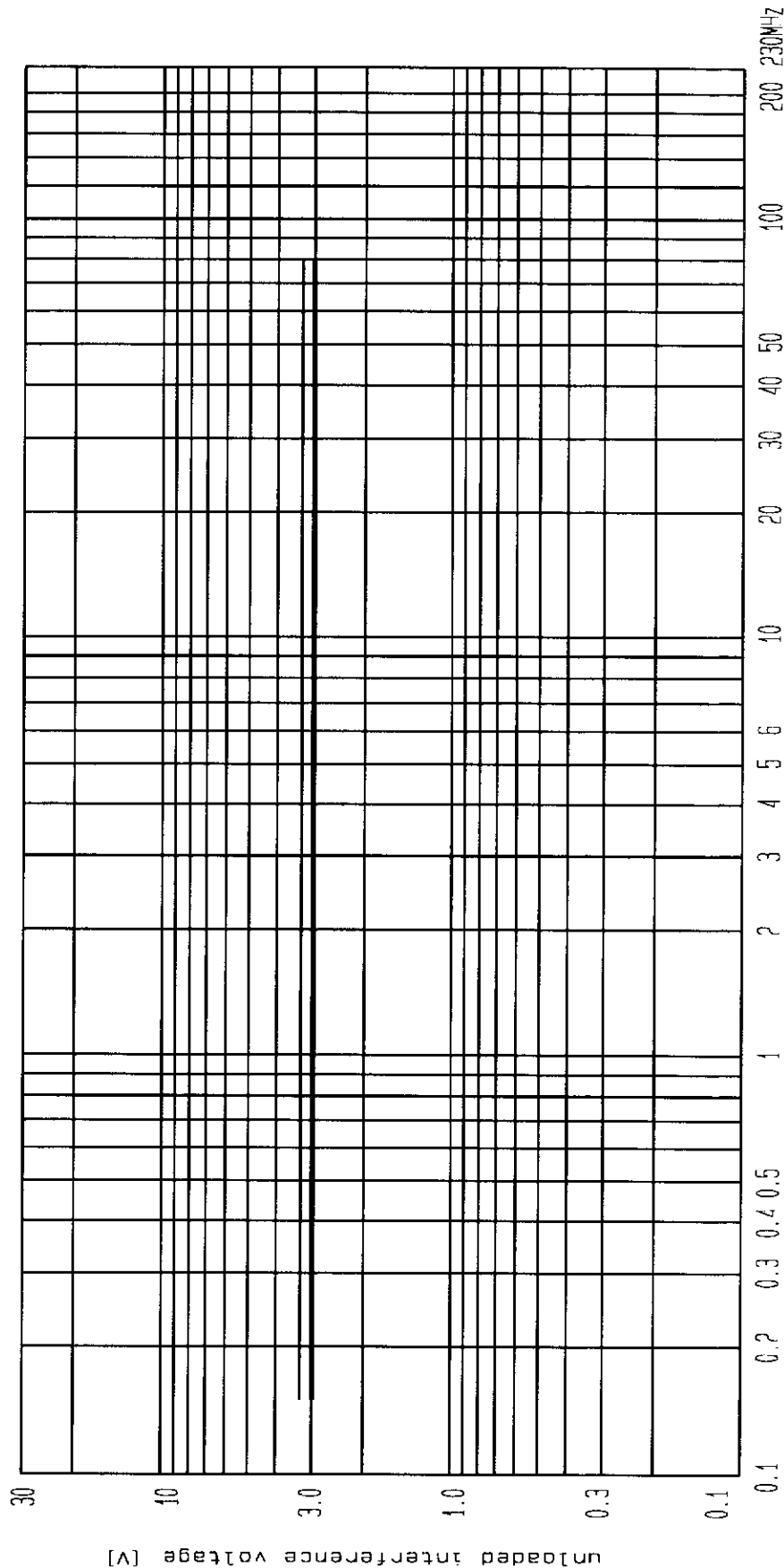
used coupling unit: EM-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPL II IER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/---
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern

Performance criteria: A

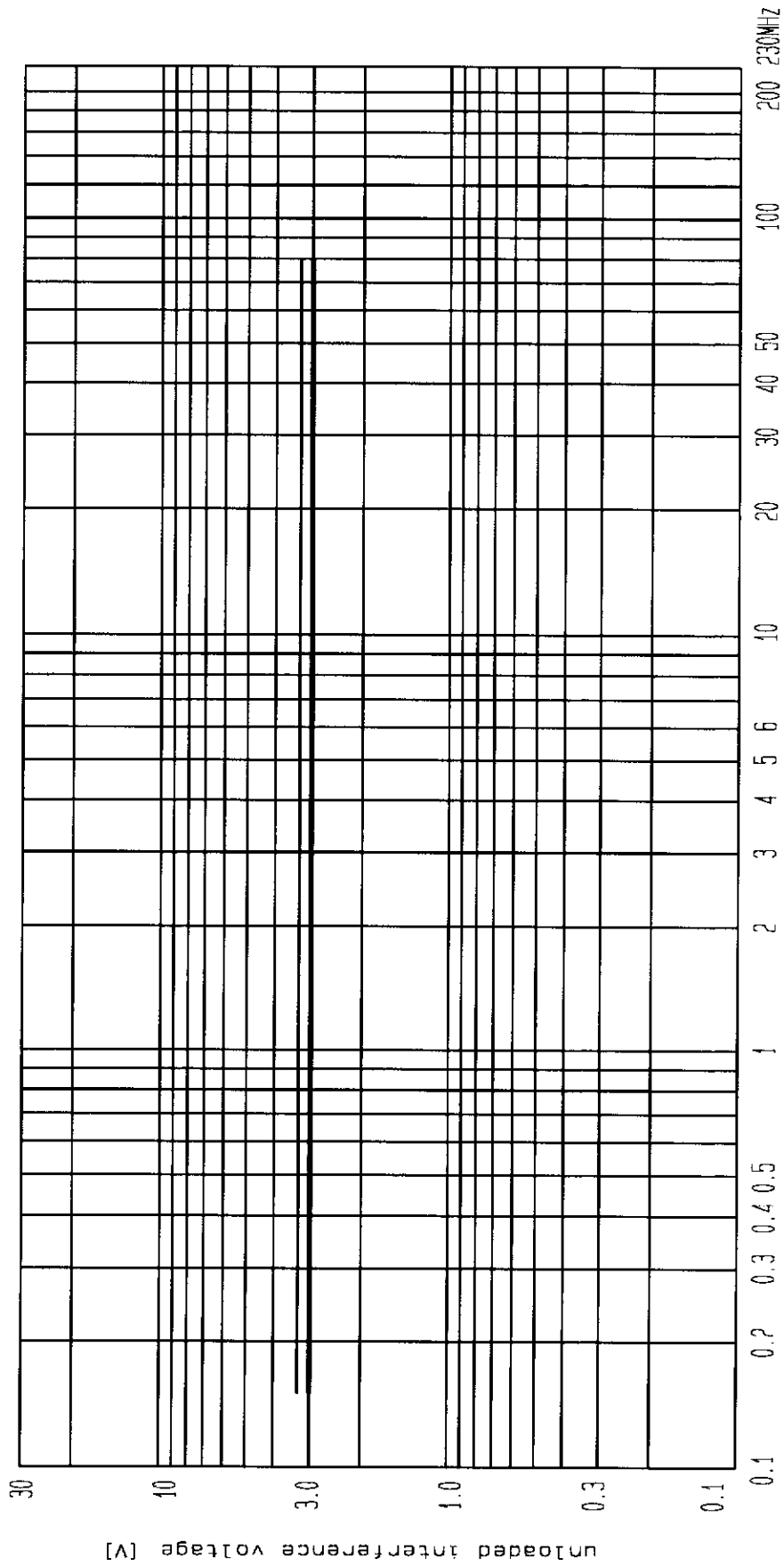
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency acc.EN55024

S-VIDEO

used coupling unit: FM-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u. Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION : screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

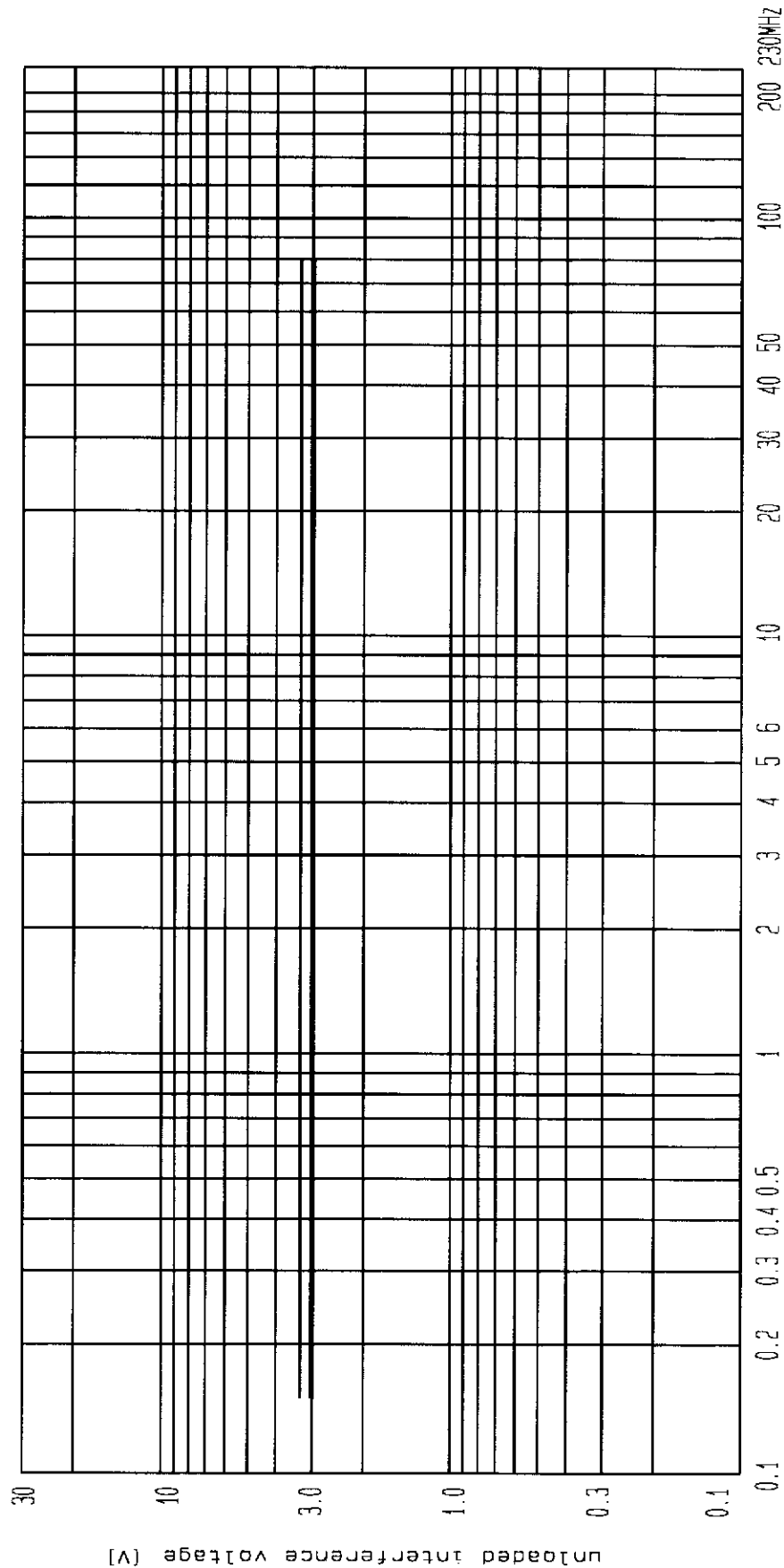
I 5 Conducted Radio Frequency

acc.EN55024

JACKPLUG BOTTOM SIDE

used coupling unit: EW-Clamp
Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V
used testequipment: SML03 Rohde & Schwarz
URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09
Model: SBC CORE2DUO 1.86GHZ
Set u.Test: Computer
Man./Imp.: AARONN ELECTRONIC GMBH
pkm/Ser#: 01/--
pkm Ref. No.: 09/07-0079
Operator: ED
Result:



MODE/TESTCONDITION: screen filled with H-pattern
Performance criteria: A
Remarks: 250GB HDD / 2GB RAM

I 5 Conducted Radio Frequency

acc.EN55024

E-SATA

used coupling unit: EN-Clamp

Modulation: 80% AM, 1kHz Mod. frequency, limit 3 V

used testequipment: SML03 Rohde & Schwarz

URV5/URV5-Z4 Rohde & Schwarz, 75A250 AMPLIFIER RESEARCH

Date: 27 Jul 09

Model: SBC CORE2DUO 1.866HZ

Set u.Test: Computer

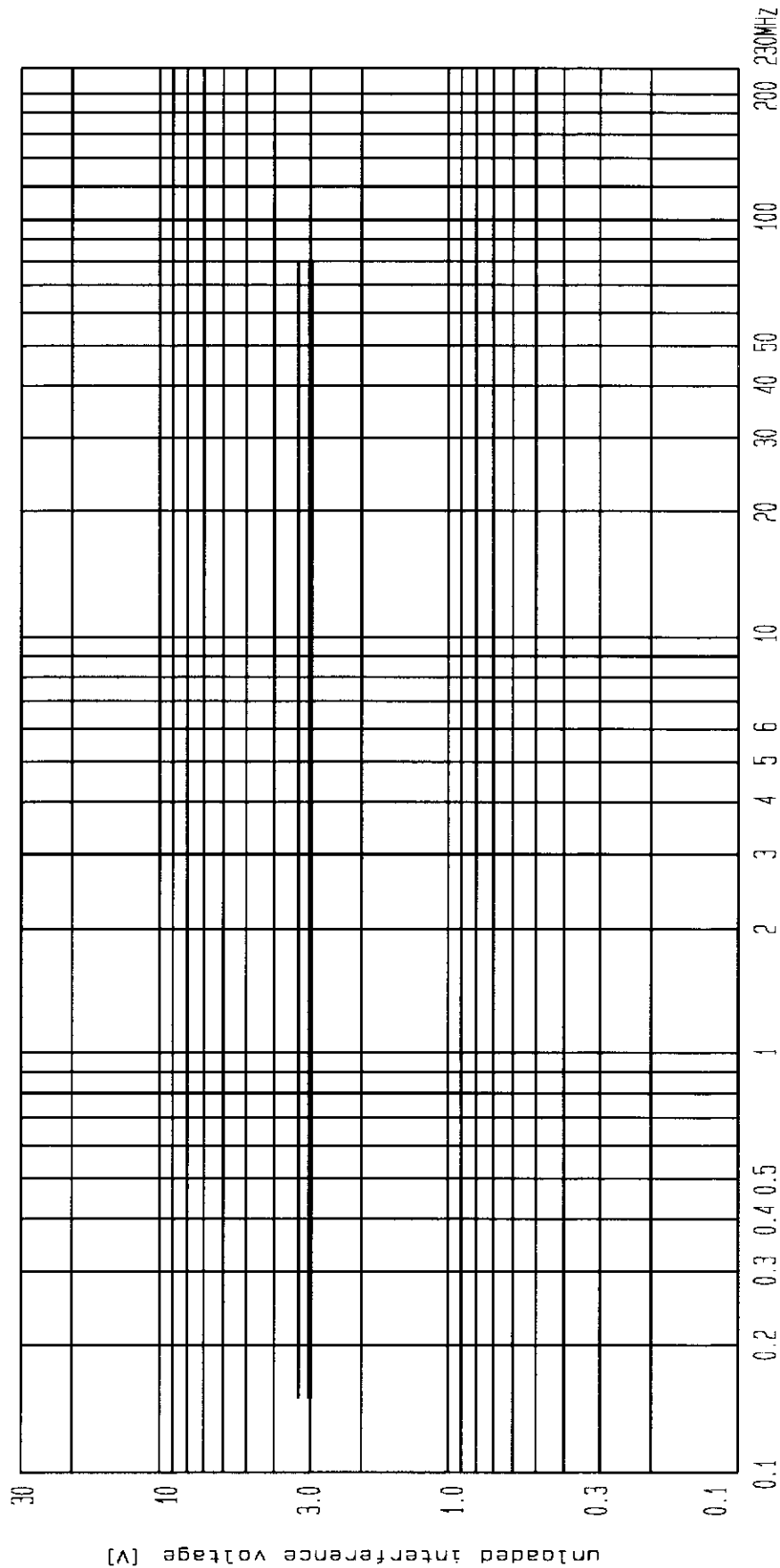
Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser#: 04/--

pkm Ref. No.: 09/07-0079

Operator: ED

Result:





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pkm electronic GmbH
Ohmstrasse 1
84160 Frontenhausen

Testrack 1

Voltage dips and interruptions

N3

acc. EN55024

Model: SBC CORE2DUO 1.86GHZ. 250GB HDD. 2GB RAM

Set u. Test: Computer

Man./Imp.: AARONN ELECTRONIC GMBH

pkm/Ser.: 01 / --

Operator: Be

Date: 28.07.2009

Remark: operate - Screen filled with H-pattern / 1920x1080

09/07-0079

Enviroment Condition	Voltage in % of UN	Time (in periods of rated frequency	Result:
Dips	0	0.5 (pos)	o.k.
Dips	0	0.5 (neg)	o.k.
Interruptions	0	250	o.k.
Dips	70	25	o.k.

Final Result: o.k.

Used testequipment: AC POWER SOURCE 4500L
Switch Module

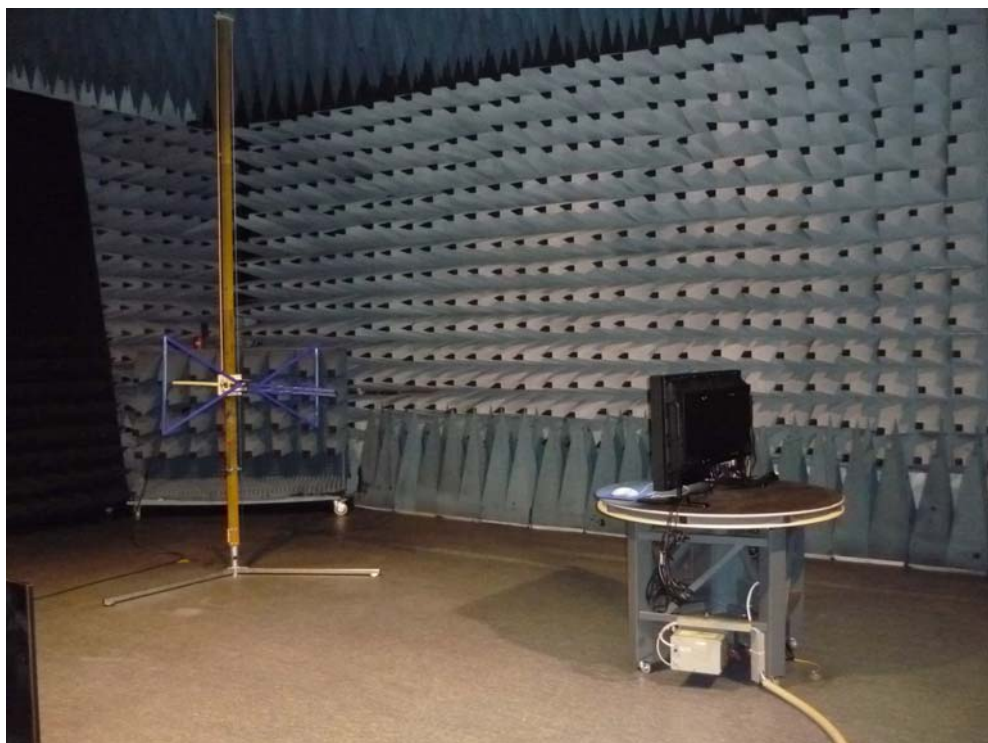
California Instruments
California Instruments

Photos of test setup

Interference voltage (IT 1/2)



Interference radiation (IT 5/6)



Harmonics, Voltage fluctuations, Voltage dips and interruptions (N 1, N 2, N 3)



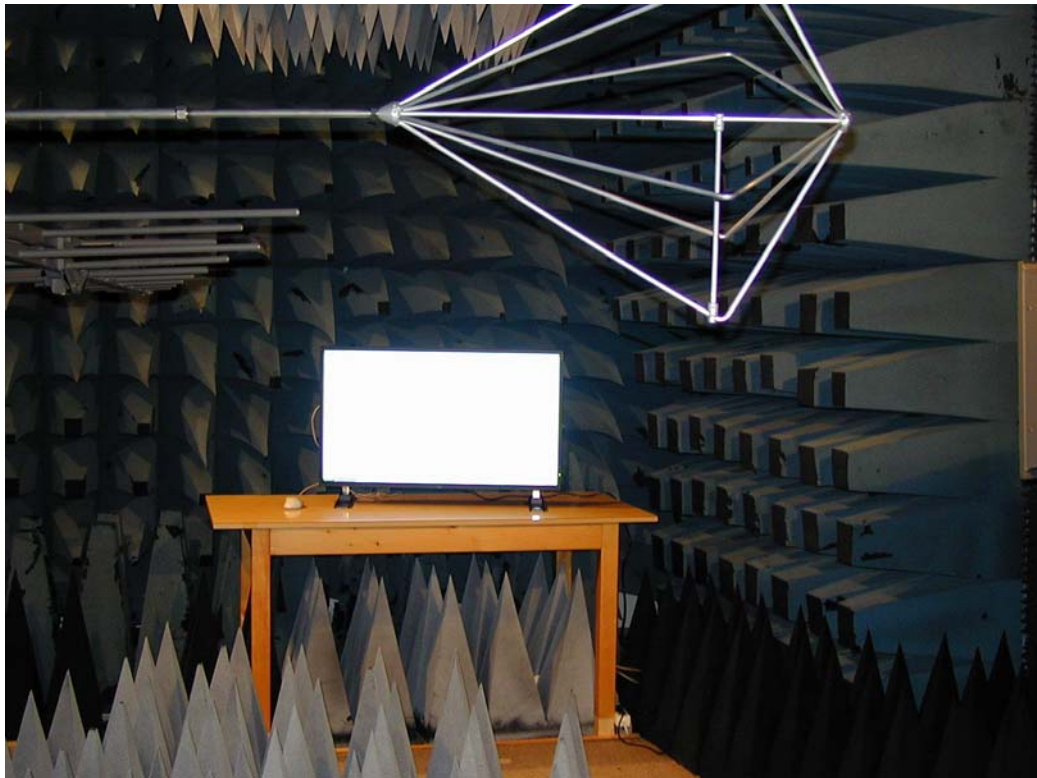
Electrostatic discharge (I 1 ESD)



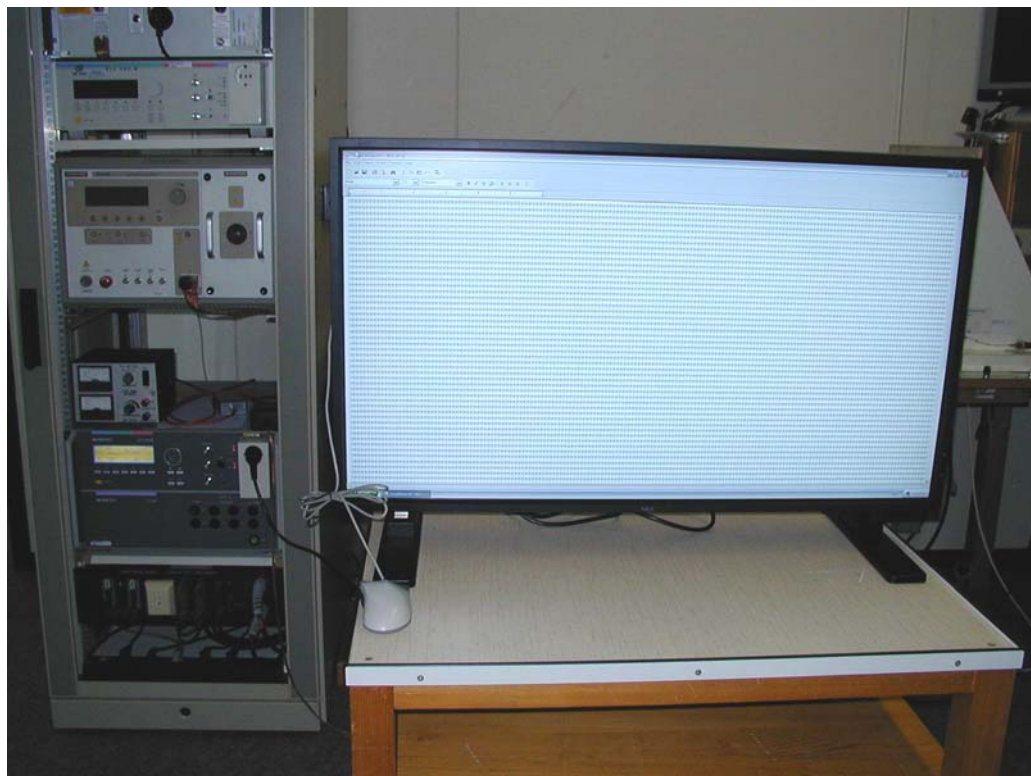
Electrical fast transient (I 2 Burst)



Immunity to radiated fields (I 3)



Surge (I 4)



Conducted radio frequency (I 5)



Photos of sample





End of test report