Test Report EMC

Deutscher Akkreditierungs Rat
DAT-P-156/94-03

Test Laboratory:

VDE Prüf- und Zertifizierungsinstitut

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Accredited Test Laboratory
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Equipment under Test:

Applicant:	Monti Werkzeuge GmbH; Steinbruchweg 2b, 53227 Bonn
Manufacturer:	Monti Werkzeuge GmbH; Steinbruchweg 2b, 53227 Bonn
File number:	5007885-2660-0001/85389
EUT:	Grinder, polisher and disc type sander
Brand/model:	MBX 3200
EUT received:	2007-08-28

Information concerning the Test report:

Report number:	Testreport-FG43-3-85389.doc
Contact:	Mr. Werner Fukatsch

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Applied standards:

German Standard (DIN EN)	European Standard	IEC/CISPR-Standard
DIN EN 55014-1:2003-09	EN 55014-1: 2000 + A1: 2001 + A2: 2002	IEC/ CISPR 14-1: 2000 + A1: 2001 + A2: 2002
DIN EN 55014-2:2002-08	EN 55014-2:1997 + A1:2001	CISPR 14-2:1997 + A1:2001
DIN EN 61000-3-2:2006-10	EN 61000-3-2:2006	IEC 61000-3-2:2005
DIN EN 61000-3-3:2006-06	EN 61000-3-3:1995 + A1:2001 + A2:2005	IEC 61000-3-3:1994 + A1:2001 + A2:2005

Remarks to the Standards:	Device of Category I according to DIN EN 55014-2

Result:	**Fail**

Date of issue:	2007-08-28	
Tested by:	Fries, Stefan	Stefan Fries
Reviewed:	Fukatsch, Werner	W. Fukatsch

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This Test report contains only the results of a single investigation carried out on the product submitted. It is not a generally valid judgement by the VDE Testing and Certification Institute regarding the properties of similar products taken from current production. It does not apply to all VDE specifications applicable to the Tested products. It does not entitle the applicant to use the VDE certification mark and the mark "GS = geprüfte Sicherheit (approved safety)".

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1 Description of the sample (EUT)

Type of EUT:	Grinder, polisher and disc type sander
Model:	MBX 3200
Serial number:	03460

Technical data:

Rated voltage:	230 V	Protection class:	II
Rated current:	2 A	Switching load resistive:	---
Rated power consumption:	550 W	Switching load inductive:	Motor
Rated frequency:	50 Hz		
Number of phases:	1		

Mains voltage during the test (If not otherwise specified):

Nominal voltage:	230 Volt	Nominal frequency:	50 Hz

Power input and load terminals AC or DC

No.	Description
1	Mains cord (L1, N, Pe)

Additional terminals for signal- control and data-terminals, ancillary devices

No.	Description of the Terminal	Specified length	Shield type
1	None	---	---

Operating modes of the sample:

No.	Description
1	Continuous operation at full speed.

Operating modes used for testing:

No.	Operating mode	Reason
1	Continuous operation at full speed.	Disturbance voltage Interference power Harmonics
2	Power on, 24 times at full speed	Flicker

Support equipment for the EUT (Simulators):

Device	Description
None	---

General remarks:
None

Disturbance sources

No.	Description	Manufacturer	Type designation	Remarks
1	Collector motor	---	---	---

EMC-measures for the suppression of emissions

No.	Location	Description	Specification	Manufacturer	Type designation
1	---	---	---	---	---

Description of shield- and contacting measures for EMC

No.	Description of the measure
1	None

Further measures

Description
None

2 Applied basic standards

German Standard (DIN EN)	European Standard	IEC/CISPR-Standard
None	None	None

3 Summary of emission test results

3.1 Summary of emission tests in the frequency range 148.5 kHz - 300 MHz

Test		Frequency range	Page	Remark	Result
1.	Terminal disturbance voltage Power input terminal AC/DC Continuous	148.5 kHz - 30 MHz	6	---	**Fail**
2.	Terminal disturbance voltage other terminals Continuous	148.5 kHz - 30 MHz	---	---	**Not applicable**
3.	Terminal disturbance voltage Discontinuous, clicks	148.5 kHz - 30 MHz	9	---	**Not applicable**
4.	Disturbance power Power input Terminal AC/DC Continuous Discontinuous(Not applicable)	30 MHz - 300 MHz	10	---	**Pass**
5.	Disturbance power Other terminals Continuous Discontinuous(Not applicable)	30 MHz - 300 MHz	---	---	**Not applicable**

3.2 Summary of emission tests in the frequency range DC - 2 kHz (Flicker and Harmonics)

Test		Frequency range	Page	Remarks	Result
1.	AC mains harmonics	DC - 2 kHz	14	Class: **B**	**Pass**
2.	Voltage fluctuations and flicker	50 Hz	17	---	**Pass**

3.3 Summary of immunity tests

Device according to category I of product standard EN 55014-2.

Due to the construction of EUT the requirements of the applied standard are deemed to be fulfilled.

Result:	**Pass**

4 Test and measuring results

4.1 Measurement of RF disturbance voltage (148.5 kHz - 30 MHz)

4.1.1 Continuous RF disturbances

General information about the test:

Tested by:	Fries, Stefan
Test date:	2007-08-28

Instruments:			
Inventory number	Description	Manufacturer	Type
F43 01 Disturbance Voltage			
1060497	DIGITAL-MULTIMETER	FLUKE	187
1800049	FUNKSTOERMESSEMPFAENGER	R&S	ESHS30
1820016	NETZNACHBILDUNG	R&S	ESH2-Z5

Information concerning the test:

Test set-up:	The EUT was located on a wooden table. The distance to the reference ground plane was 0.4 meters
Operating modes used:	The operating mode No. 1 according to "Description of the EUT" was used for this test.
Mains voltage determined at 160 kHz [V]:	253 (Range: 207-253)
Position of the artificial hand:	There is no default hand position given in the user manual. The position of the artificial hand has been selected according the rules given in clause 5.2.2.2 of the standard. See Photo in the Annex.

Result:	**Fail**

Protocol:	See next pages.

Test results:
Terminal disturbance voltage measurement on mains line

VDE Testing and Certification Institute 28. Aug 07 11:08

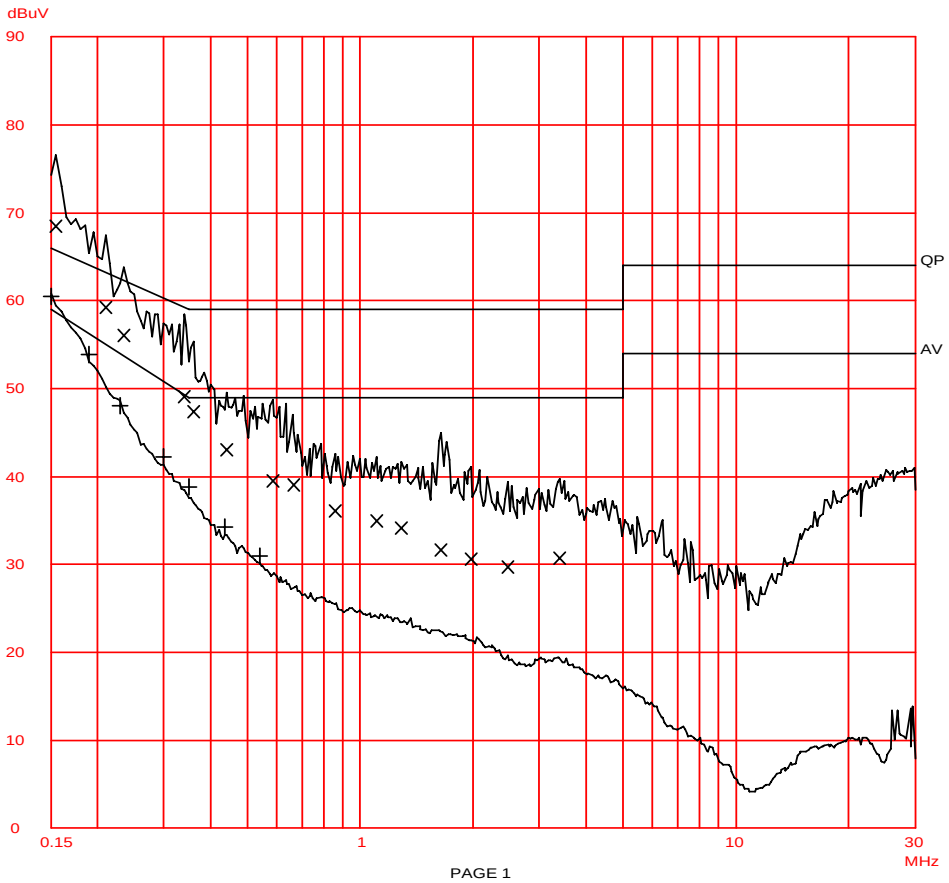
Terminal disturbance voltage, mains line

EUT:	Grinder, polisher and disc type sander
Manuf:	Monti Werkzeuge GmbH
Op Cond:	Cont. operation, 253 V
Operator:	S. Fries, shielded room 1
Test Spec:	DIN EN 55014-1, motor < 700 w
Comment:	Type:MBX 3200
	File:5007885-2660-0001/85389

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	30M	5k	10k	PK+AV	50ms	AUTO	LN OFF	30dB

Final Measurement: x QP / + AV
Meas Time: 2 s
Subranges: 25
Acc Margin: 20dB



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VDE Testing and Certification Institute 28. Aug 07 11:08

Terminal disturbance voltage, mains line

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Manuf: Monti Werkzeuge GmbH
Op Cond: Cont. operation, 253 V
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Test Spec: DIN EN 55014-1, motor < 700 w
Comment: Type:MBX 3200
File:5007885-2660-0001/85389

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	30M	5k	10k	PK+AV	50ms	AUTO	LN OFF	30dB

Final Measurement Results:

Indicated Phase/PE shows Configuration of max. Emission

Frequency MHz	QP Level dBuV	QP Limit dBuV	-	Phase -	PE
0.15500	68.5*	65.7	N	gnd	
0.21000	59.2	63.2	N	gnd	
0.23500	56.1	62.3	N	gnd	
0.34000	49.1	59.3	N	gnd	
0.36000	47.3	59.0	N	gnd	
0.44000	43.0	59.0	N	gnd	
0.58500	39.5	59.0	N	gnd	
0.66500	39.1	59.0	N	gnd	
0.86000	36.1	59.0	N	gnd	
1.10500	35.0	59.0	N	gnd	
1.28500	34.1	59.0	N	gnd	
1.64000	31.6	59.0	N	gnd	
1.97000	30.6	59.0	N	gnd	
2.47500	29.7	59.0	N	gnd	
3.40500	30.7	59.0	N	gnd	

Frequency MHz	AV Level dBuV	AV Limit dBuV	-	Phase -	PE
0.15000	60.5*	59.0	N	gnd	
0.19000	53.8	56.3	N	gnd	
0.23000	48.1	54.0	N	gnd	
0.30000	42.2	50.8	N	gnd	
0.35000	38.8	49.0	N	gnd	
0.43500	34.2	49.0	N	gnd	
0.54000	30.9	49.0	N	gnd	

* limit exceeded

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4.1.2 Discontinuous RF disturbances (clicks)

General information about the test:

Tested by:	Citera, Giuseppe
Test date:	2007-05-30

Instruments:			
Inventory number	Description	Manufacturer	Type
---	---	---	---
---	---	---	---

Information concerning the test:

Test set-up:	---
Operating modes:	---
Mains voltage determined at 160 kHz [V]:	---

Result:	**Not applicable**

Protocol:	**The measurement is not applicable according to section 4.2.3.1 “single switching events” of the standard.**

4.2 Measurement of the RF interference power (30 MHz - 300 MHz)

4.2.1 Continuous disturbances

General information about the test:

Tested by:	Fries, Stefan
Test date:	2007-08-28

Instruments:			
Inventory number	Description	Manufacturer	Type
F43 16 Disturbance Power			
1060329	DIGITAL-MULTIMETER	FLUKE	8022A
1800006	MESSEMPFAENGER	R&S	ESVP
1850056	ABSORBTIONS-MESSWANDLERZANGE	SCHWARZBECK	MDS21

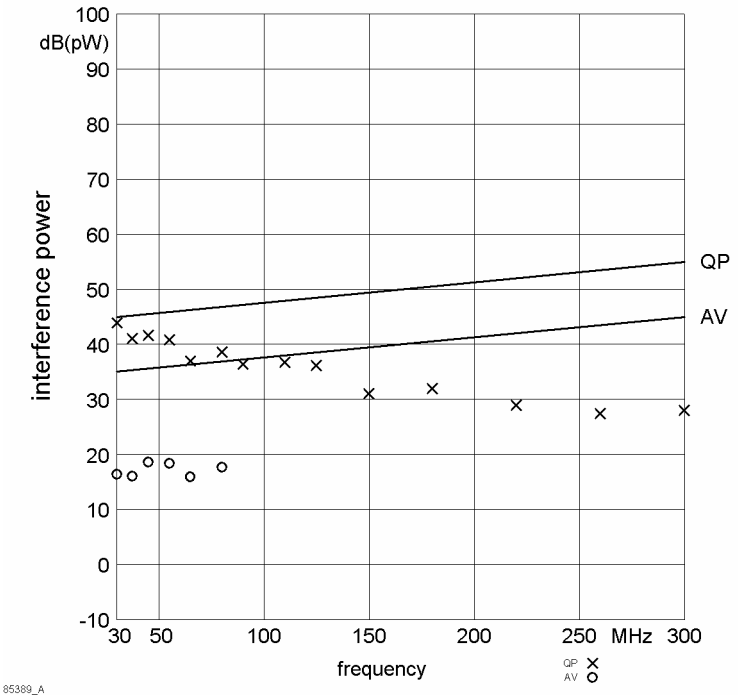
Information concerning the test:

Test set-up:	The EUT was located on a wooden table. The distance to all metal parts was 0.4 m in minimum.
Operating modes:	The operating mode No. 1 according to "Description of the EUT" was used for this test.
At 50 MHz determined mains voltage [V]:	253 (Range 207-253)

Result:	**Pass**

Protocol:	See next pages.

Test results:
Terminal interference power measurement on mains line



Terminal interference power

Average

Measurement of interference power:

Fre-quency	Reading	QP or AV	Position	Correction Clamp	Measured Value	Limit	Margin	Result	Comments / Remarks
MHz	dB(µV)		m	dB	dB(pW)	dB(pW)	dB		
30	12,5	MW		3,9	16,4	35	18,6	PASS	
37,5	13	MW		3	16	35,28	19,28	PASS	
45	16,5	MW		2,1	18,6	35,56	16,96	PASS	
55	17	MW		1,3	18,3	35,93	17,63	PASS	
65	15	MW		0,95	15,95	36,3	20,35	PASS	
80	17	MW		0,6	17,6	36,85	19,25	PASS	

Quasi-peak

Measurement of interference power:

Fre-quency	Reading	QP or AV	Position	Correction Clamp	Measured Value	Limit	Margin	Result	Comments / Remarks
MHz	dB(µV)		m	dB	dB(pW)	dB(pW)	dB		
30	40	QP		3,9	43,9	45	1,1	PASS	
37,5	38	QP		3	41	45,28	4,28	PASS	
45	39,5	QP		2,1	41,6	45,56	3,96	PASS	
55	39,5	QP		1,3	40,8	45,93	5,13	PASS	

Measurement of interference power:

Fre-quency	Reading	QP or AV	Position	Correction Clamp	Measured Value	Limit	Margin	Result	Comments / Remarks
MHz	dB(µV)		m	dB	dB(pW)	dB(pW)	dB		
65	36	QP		0,95	36,95	46,3	9,35	PASS	
80	38	QP		0,6	38,6	46,85	8,25	PASS	
90	36	QP		0,4	36,4	47,22	10,82	PASS	
110	36,5	QP		0,25	36,75	47,96	11,21	PASS	
125	36	QP		0,18	36,17	48,52	12,34	PASS	
150	31	QP		0,05	31,05	49,44	18,39	PASS	
180	32	QP		0	32	50,56	18,56	PASS	
220	29	QP		-0,1	28,9	52,04	23,14	PASS	
260	27,5	QP		-0,1	27,4	53,52	26,12	PASS	
300	28	QP		0	28	55	27	PASS	

Measurement values sorted by margin.

Measurement of interference power:

Fre-quency	Reading	QP or AV	Position	Correction Clamp	Measured Value	Limit	Margin	Result	Comments / Remarks
MHz	dB(µV)		m	dB	dB(pW)	dB(pW)	dB		
30	40	QP		3,9	43,9	45	1,1	PASS	
45	39,5	QP		2,1	41,6	45,56	3,96	PASS	
37,5	38	QP		3	41	45,28	4,28	PASS	
55	39,5	QP		1,3	40,8	45,93	5,13	PASS	
80	38	QP		0,6	38,6	46,85	8,25	PASS	
65	36	QP		0,95	36,95	46,3	9,35	PASS	

4.2.2 Discontinuous disturbances (clicks)

Result:	**Pass**

Protocol:	**No limits are specified in the frequency range of 30 MHz to 300 MHz. The measurement was not carried out.**

4.3 AC mains harmonics, voltage fluctuations and flicker

4.3.1 AC mains harmonics

General information about the test:

Tested by:	Citera, Giuseppe
Test date:	2007-05-30

Instruments:			
Inventory number	Description	Manufacturer	Type
F43 14 Harmonics, flicker (3 ph)			
1100055	DIGITAL-OSZILLOSKOP	TEKTRONIX	TDS3012
5110195	NETZNACHBILDUNG	SPS	32A
5110336	ANALYSE-REFERENZ-SYSTEM	SPITZENBERGER	ARS 16/3

Information concerning the test:

Test set-up:	The EUT was located on a wooden table.
Operating modes:	The operating mode No. 1 according to "Description of the EUT" was used for this test.
Mains voltage [V]:	230 V

EUT class according to the standard:	B
Observation period:	The device behaviour is "short cycle <= 2.5 min.". The observation period selected was 2.5 min.
Control principle:	The EUT has no control circuit for the AC input current according to section 6.1 of the standard.

Test result control principle:	The device uses **no controls** for the input current on the mains input. The limits according to the classification in EN 61000-3-2, picture 2 are applicable

Result:	**Pass**

Protocol:	See next pages.

Name:	G. Citera	Power:	550 W
Department:	FG43	Operating modes:	Continuous operation
Company:	VDE-Institute	Comment1:	at full speed.
Test report no:	5007885-2660-0001/85389	Comment2:	---
Device:	Grinder, polisher	Comment3:	---
Specimen:	230 V~, 50 Hz	Comment4:	---
Manufacturer:	Monti GmbH	Date:	30.05.2007
Type:	MBX 3200	Test date:	30.05.2007

Maximum RMS current and corresponding values in timewindow 4:

Voltage:	230.38 Vrms		THD=0.00 %	THV=0.007 V	POHV=0.002 V	PWHD=0.01 %
Current:	0.936 Arms		THD=5.18 %	THC=0.049 A	POHC=0.010 A	PWHD=9.50 %
Power:	215.4 W	P1=215.4 W	215.7 VA			
Powerfactor:	0.999	CosPhi1: 1.000				

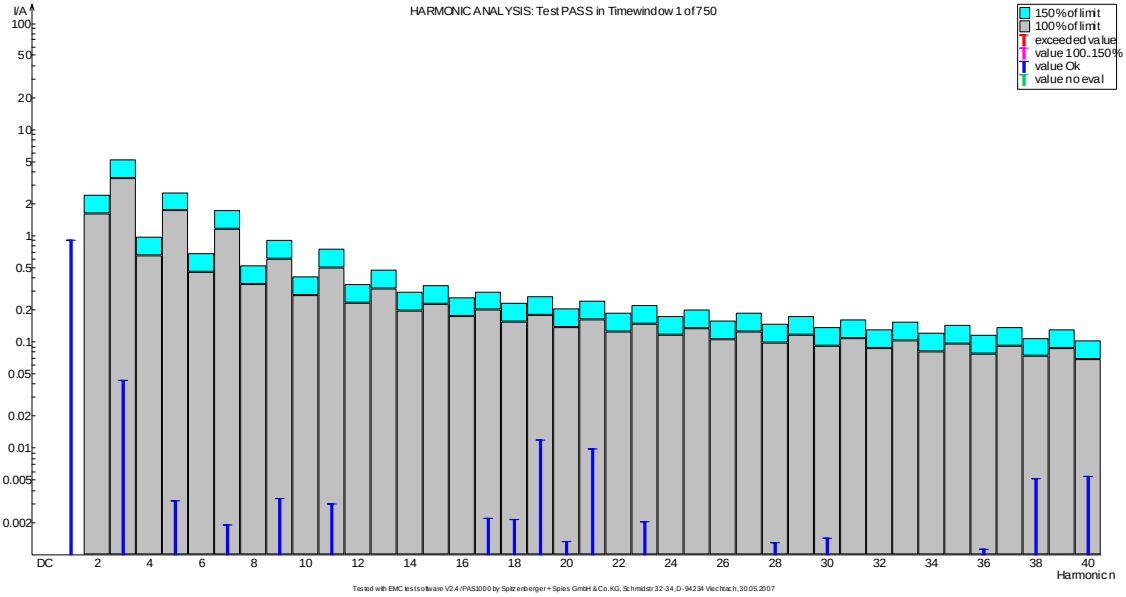
Testconditions: EN 61000-3-2:2000+A2, f=50 Hz, Phase=L1, Range=4.00 A
Time window cycles=10/12 (200ms), Grouping of harmonics=on

HARMONIC ANALYSIS: Test PASS
Tobs = entire measurement; POHC: avg=0.01 A, limits=0.38 A

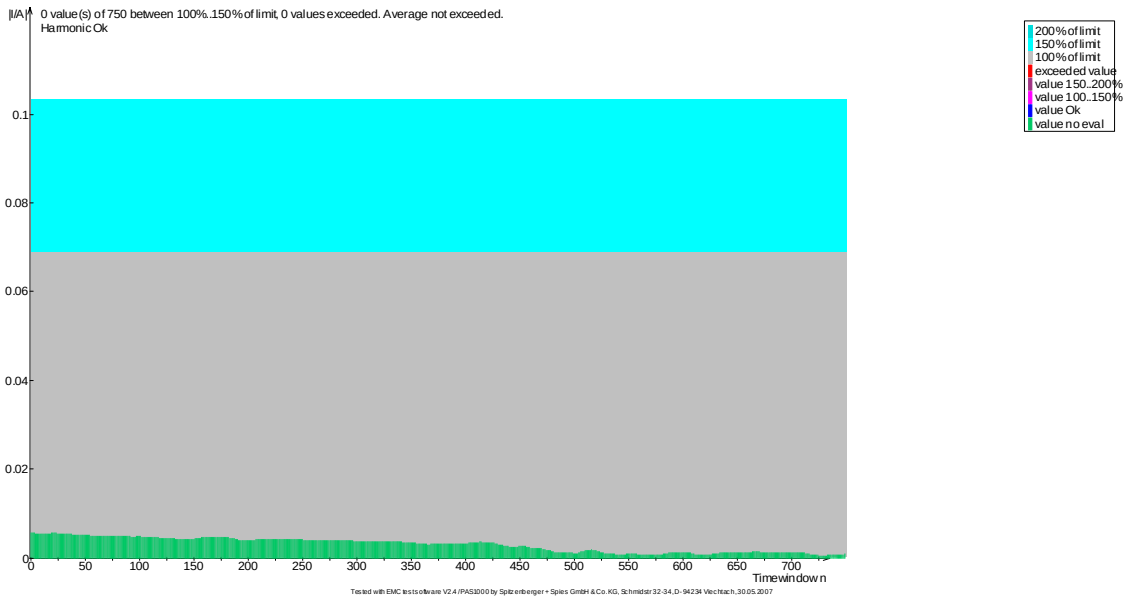
Ha	Entire measurement (2.5 min = 750 time windows)							Worst 2.5 min		Average		PASS	FAIL
	Maximum	Window	EN61000-3-2 Class B	Margin in MaxWin	100 to 150%	150 to 200%	Ex-ceeded	100 to 150%	Ex-ceeded	Value	Ex-ceeded		
DC	0.0022 A	541	-.- - - -	- - - .-	0	0	0	n.e.	n.e.	0.0009 A	0	X	
1	0.9351 A	4	-.- - - -	- - - .-	0	0	0	n.e.	n.e.	0.9186 A	0	X	
2	0.0012 A	395	1.6200 A	-99.9 %	0	0	0	n.e.	n.e.	0.0007 A	0	X	
3	0.0447 A	2	3.4500 A	-98.7 %	0	0	0	n.e.	n.e.	0.0427 A	0	X	
4	0.0009 A	685	0.6450 A	-99.9 %	0	0	0	n.e.	n.e.	0.0006 A	0	X	
5	0.0034 A	374	1.7100 A	-99.8 %	0	0	0	n.e.	n.e.	0.0032 A	0	X	
6	0.0008 A	692	0.4500 A	-99.8 %	0	0	0	n.e.	n.e.	0.0005 A	0	X	
7	0.0022 A	685	1.1550 A	-99.8 %	0	0	0	n.e.	n.e.	0.0020 A	0	X	
8	0.0012 A	404	0.3450 A	-99.6 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
9	0.0077 A	659	0.6000 A	-98.7 %	0	0	0	n.e.	n.e.	0.0050 A	0	X	
10	0.0011 A	465	0.2760 A	-99.6 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
11	0.0079 A	441	0.4950 A	-98.4 %	0	0	0	n.e.	n.e.	0.0054 A	0	X	
12	0.0010 A	701	0.2300 A	-99.6 %	0	0	0	n.e.	n.e.	0.0006 A	0	X	
13	0.0011 A	402	0.3150 A	-99.6 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
14	0.0009 A	689	0.1971 A	-99.6 %	0	0	0	n.e.	n.e.	0.0006 A	0	X	
15	0.0011 A	689	0.2250 A	-99.5 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
16	0.0012 A	413	0.1725 A	-99.3 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
17	0.0029 A	582	0.1985 A	-98.6 %	0	0	0	n.e.	n.e.	0.0024 A	0	X	
18	0.0033 A	26	0.1533 A	-97.8 %	0	0	0	n.e.	n.e.	0.0017 A	0	X	
19	0.0134 A	546	0.1776 A	-92.5 %	0	0	0	n.e.	n.e.	0.0118 A	0	X	
20	0.0019 A	25	0.1380 A	-98.6 %	0	0	0	n.e.	n.e.	0.0009 A	0	X	
21	0.0119 A	550	0.1607 A	-92.6 %	0	0	0	n.e.	n.e.	0.0098 A	0	X	
22	0.0016 A	312	0.1255 A	-98.7 %	0	0	0	n.e.	n.e.	0.0011 A	0	X	
23	0.0026 A	746	0.1467 A	-98.2 %	0	0	0	n.e.	n.e.	0.0021 A	0	X	
24	0.0006 A	698	0.1150 A	-99.5 %	0	0	0	n.e.	n.e.	0.0004 A	0	X	
25	0.0007 A	333	0.1350 A	-99.5 %	0	0	0	n.e.	n.e.	0.0005 A	0	X	
26	0.0008 A	1	0.1062 A	-99.3 %	0	0	0	n.e.	n.e.	0.0004 A	0	X	
27	0.0012 A	667	0.1250 A	-99.1 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
28	0.0013 A	1	0.0986 A	-98.7 %	0	0	0	n.e.	n.e.	0.0005 A	0	X	
29	0.0019 A	316	0.1164 A	-98.3 %	0	0	0	n.e.	n.e.	0.0011 A	0	X	
30	0.0014 A	1	0.0920 A	-98.4 %	0	0	0	n.e.	n.e.	0.0005 A	0	X	
31	0.0021 A	296	0.1089 A	-98.0 %	0	0	0	n.e.	n.e.	0.0010 A	0	X	
32	0.0006 A	1	0.0862 A	-99.3 %	0	0	0	n.e.	n.e.	0.0004 A	0	X	
33	0.0007 A	292	0.1023 A	-99.3 %	0	0	0	n.e.	n.e.	0.0005 A	0	X	
34	0.0005 A	681	0.0812 A	-99.4 %	0	0	0	n.e.	n.e.	0.0003 A	0	X	
35	0.0005 A	684	0.0964 A	-99.5 %	0	0	0	n.e.	n.e.	0.0004 A	0	X	
36	0.0012 A	146	0.0767 A	-98.4 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
37	0.0013 A	713	0.0912 A	-98.6 %	0	0	0	n.e.	n.e.	0.0008 A	0	X	
38	0.0052 A	1	0.0726 A	-92.8 %	0	0	0	n.e.	n.e.	0.0027 A	0	X	
39	0.0053 A	744	0.0865 A	-93.8 %	0	0	0	n.e.	n.e.	0.0032 A	0	X	
40	0.0055 A	1	0.0690 A	-92.0 %	0	0	0	n.e.	n.e.	0.0029 A	0	X	

Tested with EMC testsoftware V2.4 / PAS1000 by Spitzenberger + Spies GmbH & Co. KG, Schmidstr. 32-34, D-94234 Viechtach, 30.05.2007

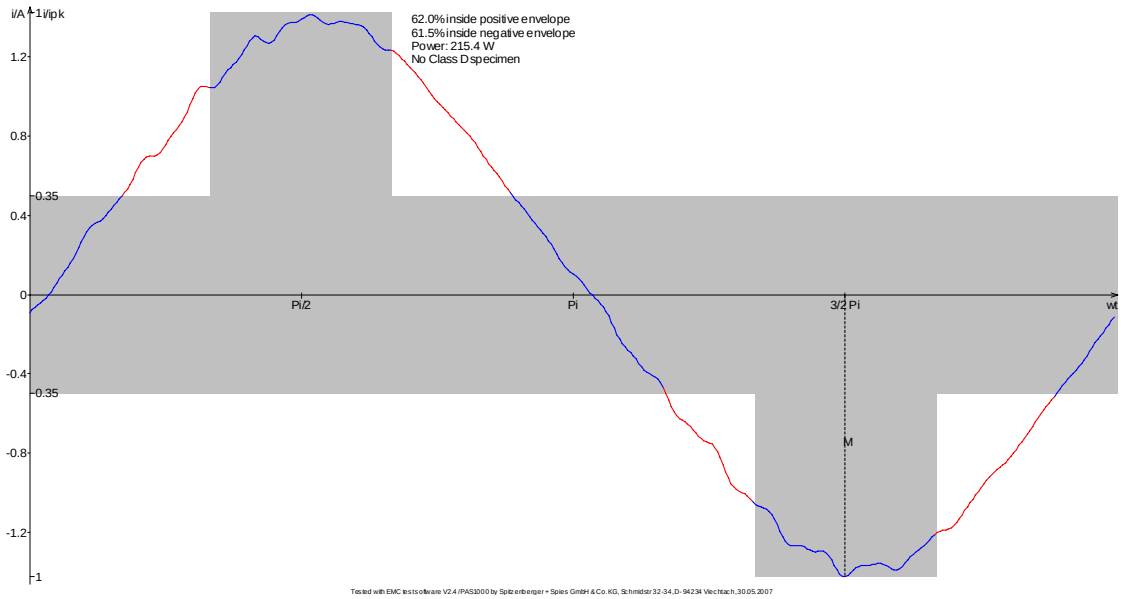
Spectrum Timewindow 1 of 750 - EN61000-3-2 Class B



Harmonic 40 of 40 - EN61000-3-2 Class B



Class D Check Timewindow 1 of 750



4.3.2 Voltage fluctuations and flicker

General information about the test:

Tested by:	Citera, Giuseppe
Test date:	2007-05-30

Instruments:			
Inventory number	Description	Manufacturer	Type
F43 14 Harmonics, flicker (3 ph)			
1100055	DIGITAL-OSZILLOSKOP	TEKTRONIX	TDS3012
5110195	NETZNACHBILDUNG	SPS	32A
5110336	ANALYSE-REFERENZ-SYSTEM	SPITZENBERGER	ARS 16/3

Information concerning the test:

Test set-up:	The EUT was located on a wooden table.
Operating modes:	The operating mode No. 2 according to "Description of the EUT" was used for this test.
Mains voltage [V]:	230 V

Result:	**Pass**

Protocol:	See next page.

Name:	G. Citera	Power:	550 W
Department:	FG43	Operating modes:	Power on , 24 times
Company:	VDE-Institute	Comment1:	at full speed.
Test report no:	5007885-2660-0001/85389	Comment2:	---
Device:	Grinder, polisher	Comment3:	---
Specimen:	230 V~, 50 Hz	Comment4:	---
Manufacturer:	Monti GmbH	Date:	30.05.2007
Type:	MBX 3200	Test date:	30.05.2007

Testconditions: EN 61000-3-3:1995+A1+A2 / 230 V / 50 Hz / Phase L1 / Obs 24 x 1 min / z

FLICKER: Test PASS!

Time	Pmax	Pst	Sliding Plt	d(t)>3.30% [s]	dmax [%]	dc [%]	PASS	FAIL
10:47:24	9.649	0.6340	-.----	0.000	2.376	0.183	X	
10:48:24	10.320	0.6550	-.----	0.000	2.153	0.193	X	
10:49:24	10.350	0.6550	-.----	0.000	2.374	0.185	X	
10:50:24	10.320	0.6550	-.----	0.000	2.330	0.187	X	
10:51:24	10.150	0.6490	-.----	0.000	2.382	0.186	X	
10:52:24	10.070	0.6470	-.----	0.000	2.417	0.181	X	
10:53:24	10.320	0.6540	-.----	0.000	2.365	0.184	X	
10:54:24	10.170	0.6500	-.----	0.000	2.439	0.187	X	
10:55:24	10.250	0.6520	-.----	0.000	2.039	0.190	X	
10:56:24	10.450	0.6560	-.----	0.000	2.063	0.191	X	
10:57:24	10.020	0.6450	-.----	0.000	2.298	0.189	X	
10:58:24	10.270	0.6530	0.6505	0.000	1.935	0.189	X	
10:59:24	9.932	0.6450	0.6514	0.000	2.436	0.188	X	
11:00:24	10.270	0.6540	0.6513	0.000	2.334	0.194	X	
11:01:24	10.070	0.6470	0.6506	0.000	2.378	0.191	X	
11:02:24	10.330	0.6550	0.6506	0.000	1.925	0.190	X	
11:03:24	9.760	0.6360	0.6495	0.000	2.413	0.190	X	
11:04:24	10.410	0.6550	0.6502	0.000	2.261	0.189	X	
11:05:24	10.260	0.6530	0.6501	0.000	2.211	0.189	X	
11:06:24	10.410	0.6560	0.6506	0.000	2.004	0.192	X	
11:07:24	10.510	0.6580	0.6511	0.000	2.030	0.192	X	
11:08:24	10.470	0.6580	0.6513	0.000	2.283	0.193	X	
11:09:24	10.120	0.6470	0.6515	0.000	2.427	0.192	X	
11:10:24	10.290	0.6520	0.6514	0.000	2.228	0.186	X	
Limits:		1.000	0.650	0.500	7.000	3.300		
Plt: 0.650932								
Evaluated: dc, dmax average (2.261 %), d(t)								

FLICKER: Source test PASS!

Time	Pmax	Pst	Sliding Plt	d(t)>3.30% [s]	dmax [%]	dc [%]	PASS	FAIL
10:47:24	0.007	0.0590	-.----	0.000	0.065	-.---	X	
10:48:24	0.007	0.0600	-.----	0.000	0.065	-.---	X	
10:49:24	0.007	0.0610	-.----	0.000	0.076	-.---	X	
10:50:24	0.007	0.0600	-.----	0.000	0.079	-.---	X	
10:51:24	0.007	0.0610	-.----	0.000	0.089	-.---	X	
10:52:24	0.007	0.0610	-.----	0.000	0.089	-.---	X	
10:53:24	0.007	0.0600	-.----	0.000	0.089	-.---	X	
10:54:24	0.007	0.0610	-.----	0.000	0.098	-.---	X	
10:55:24	0.006	0.0570	-.----	0.000	0.098	-.---	X	
10:56:24	0.007	0.0600	-.----	0.000	0.098	-.---	X	
10:57:24	0.007	0.0580	-.----	0.000	0.098	-.---	X	
10:58:24	0.007	0.0600	-.----	0.000	0.098	-.---	X	
10:59:24	0.007	0.0590	-.----	0.000	0.100	-.---	X	
11:00:24	0.007	0.0600	-.----	0.000	0.102	-.---	X	
11:01:24	0.007	0.0590	-.----	0.000	0.102	-.---	X	
11:02:24	0.007	0.0580	-.----	0.000	0.102	-.---	X	
11:03:24	0.007	0.0590	-.----	0.000	0.107	-.---	X	
11:04:24	0.007	0.0590	-.----	0.000	0.107	-.---	X	
11:05:24	0.007	0.0600	-.----	0.000	0.107	-.---	X	
11:06:24	0.007	0.0590	-.----	0.000	0.107	-.---	X	
11:07:24	0.007	0.0600	-.----	0.000	0.107	-.---	X	
11:08:24	0.007	0.0600	-.----	0.000	0.107	-.---	X	
11:09:24	0.007	0.0600	-.----	0.000	0.108	-.---	X	
11:10:24	0.008	0.0630	-.----	0.000	0.116	-.---	X	
Plt: 0.059774								
Evaluated: PST <= 0.4 dmax < 20% dmax1								

Tested with EMC test software V2.4 / PAS1000 by Spitzenberger + Spies GmbH & Co. KG, Schmidstr 32-34, D-94234 Viechtach, 30.05.2007

5 Appendix

5.1 Photos

Figure 1: EUT

Figure 2: Type label

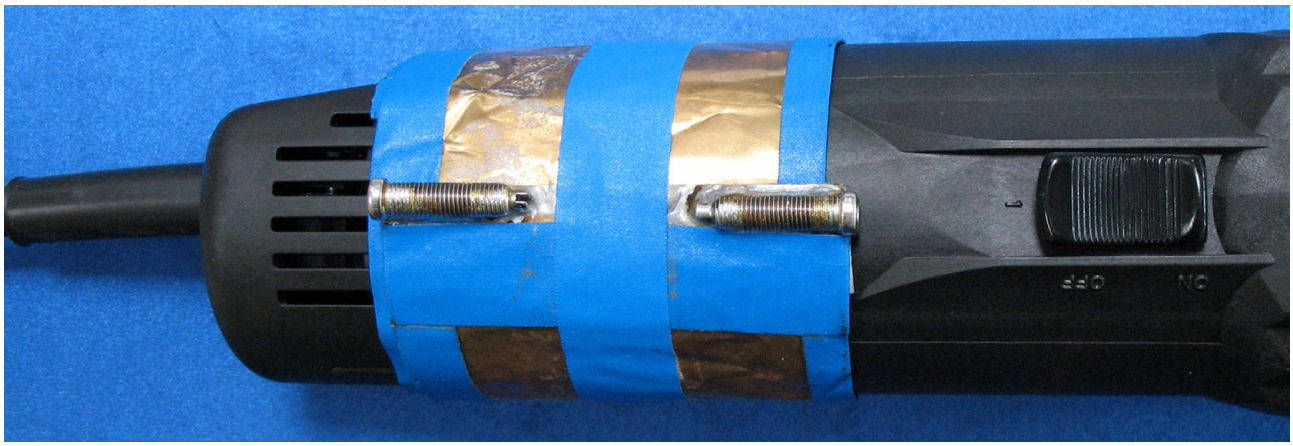


Figure 3: Position of artificial hand