

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>Accredited to ISO/IEC 17025:2005</p>	<p align="center">Kiwa Blackwood Compliance Laboratories a trading division of Kiwa Ltd</p> <p align="center">Issue No: 012 Issue date: 13 February 2014</p> <table border="1"> <tr> <td data-bbox="403 479 842 739"> <p>Unit 8 Woodfieldside Business Park Pontllanfraith Blackwood Gwent NP12 2DG</p> </td><td data-bbox="842 479 1477 739"> <p>Contact: Mrs G Baker Tel: +44 (0)1495 229219 Fax: +44 (0)1495 228331 E-Mail: ginnie.baker@kiwa.co.uk Website: www.kiwa.co.uk</p> </td></tr> </table>	<p>Unit 8 Woodfieldside Business Park Pontllanfraith Blackwood Gwent NP12 2DG</p>	<p>Contact: Mrs G Baker Tel: +44 (0)1495 229219 Fax: +44 (0)1495 228331 E-Mail: ginnie.baker@kiwa.co.uk Website: www.kiwa.co.uk</p>
<p>Unit 8 Woodfieldside Business Park Pontllanfraith Blackwood Gwent NP12 2DG</p>	<p>Contact: Mrs G Baker Tel: +44 (0)1495 229219 Fax: +44 (0)1495 228331 E-Mail: ginnie.baker@kiwa.co.uk Website: www.kiwa.co.uk</p>		
<p align="center">Testing performed at the above address only</p>			

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>IT Equipment Telecommunication Equipment Domestic, Commercial and Industrial Equipment Medical Equipment Similar Electrical Equipment</p>	<p>1 <u>EMC Testing</u></p> <p>1.1 Conducted Emissions 150 kHz to 30 MHz</p>	<p>EN 55011:1998 + A1:1999 + A2:2002 EN 55013:2001 + A1:2003 excluding TVs and VCRs EN 55014-1:2000 + A1:2001 + A2:2002 EN 55014-1:2006 CISPR 14-1:2005 + A1:2008 EN 55014-1:2006 + A1:2009 EN 55022:1994 + A1:1995 + A2:1997 EN 55022:1998 + A1:2000 + A2:2003 EN 55022 :2006 + A1 :2007</p>
	<p>1.2 Discontinuous Conducted Emissions</p>	<p>EN 55014-1:2000 + A1:2001 + A2:2002 EN 55014-1:2006 CISPR 14-1:2005 + A1:2008 EN 55014-1:2006 + A1:2009</p>



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As listed on Page 1	1 <u>EMC Testing</u> (cont'd)	
	1.3 Radiated Emissions Electric Field: 30 MHz to 1 GHz	EN 55011:1998 + A1:1999 + A2 :2002 EN 55013:2001 + A1:2003 EN 55014-1:2000 + A1:2001 + A2:2002 EN 55014-1:2006 CISPR 14-1:2005 + A1:2008 EN 55014-1:2006 + A1:2009 EN 55022:1994 + A1:1995 + A2:1997 EN 55022:1998 + A1:2000 + A2:2003 EN 55022 :2006 + A1:2007 up to 1GHz
	1.4 Magnetic field emissions 10 kHz to 400 kHz	EN 50366:2003 + A1:2006 EN 62233:2008 Time Domain Evaluation Method
	1.5 Disturbance Power (Absorption Clamp) 30 MHz to 1 GHz	EN 55013:2001 + A1:2003 EN 55014-1:2000 + A1:2001 + A2:2002 EN 55014-1:2006 CISPR 14-1:2005 + A1:2008 EN 55014-1:2006 + A1:2009
	1.6 Electrostatic Discharge Up to 25 kV	EN 61000-4-2:1995 IEC 1000-4-2:1995 EN 61000-4-2:1995 + A1:1998 + A2:2001 IEC 61000-4-2:1995 + A1:1998 + A2:2000 EN 61000-4-2:2009 IEC 61000-4-2:2008



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	1.7 Radiated E-Field Immunity 80 MHz to 2.7 GHz 20V/m	EN 61000-4-3:1996 IEC 61000-4-3:1995 EN 61000-4-3:2002 + A1:2002 IEC 61000-4-3:2002 + A1:2002 EN 61000-4-3:2006 IEC 61000-4-3:2006 EN 61000-4-3:2006 + A1:2008 EN 61000-4-3:2006 + A1:2008 + A2:2010 IEC 61000-4-3:2006 + A1:2007 IEC 61000-4-3:2006 + A1:2007 + A2:2010
	1.8 Mains Harmonics	EN 61000-3-2:2000 EN 61000-3-2:2006 IEC 61000-3-2:2005
	1.9 Fast Burst Transients Up to 4 kV	EN 61000-4-4:1995 EN 61000-4-4:1995 + A1:2001 + A2:2001 IEC 61000-4-4:1995 EN 61000-4-4:2004 IEC 61000-4-4:2004
	1.10 Surge Immunity Up to 4 kV	EN 61000-4-5:1995 IEC 61000-4-5:1995 EN 61000-4-5:1995 + A1:2001 IEC 61000-4-5:1995 + A1:2000 EN 61000-4-5:2006 IEC 61000-4-5:2005
	1.11 Voltage Flicker	EN 61000-3-3:1995 + A1:2001 + A2:2005 IEC 61000-3-3: 1994 + A1:2001 + A2:2005 EN 61000-3-3:2008 IEC 61000-3-3:2008



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	1.12 Conducted RF Immunity 150 kHz to 230 MHz 20V rms	EN 61000-4-6:1996 IEC 1000-4-6:1996 EN 61000-4-6:1996 + A1:2001 IEC 61000-4-6:1996 + A1:2000 EN 61000-4-6:2007 EN 61000-4-6:2007 + Corr Aug 2007 IEC 61000-4-6:2003 + A1:2004 + A2:2006 EN 61000-4-6:2009 IEC 61000-4-6:2008
	1.13 Magnetic Immunity 30A/m	EN 61000-4-8:1993 IEC 61000-4-8:1993 EN 61000-4-8:1993 + A1:2001 IEC 61000-4-8:1993 + A1:2000
	1.14 Voltage Dips and Interrupts	EN 61000-4-11:1994 IEC 61000-4-11:1994 EN 61000-4-11:1994 + A1:2001 EN 61000-4-11:2004 IEC 61000-4-11:2004
As listed on Page 1	2 <u>Commercial EMC Testing</u> Generic and Project Specific Standards These standards are accredited to the extent that they call up the basic standards as detailed in Section 1 above	EN 61000-6-1:2001 EN 61000-6-1:2007 IEC 61000-6-1:2005 EN 61000-6-2:2001 EN 61000-6-2:2005 IEC 61000-6-2:2005 EN 61000-6-3:2001 EN 61000-6-3:2007 IEC 61000-6-3:2006 EN 61000-6-4:2001 EN 61000-6-4:2007 IEC 61000-6-4:2006 EN 50130-4:1995 + A1:1998 + A2:2003 EN 55014-2:1997 + A1:2001 CISPR 14-2:1997 + A1:2001 + A2:2008 EN 55014-2:1997 + A1:2001 + A2:2008



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As listed on Page 1	2 <u>Commercial EMC Testing</u> (cont'd)	EN 55024:1998 + A1:2001 + A2:2003 EN 55103-1:1996 EN 55103-2:1996 EN 60601-1-2:2001 EN 60601-1-2:2007 (excluding lighting equipment used in medical applications) EN 61800-3:1996 + A11:2000 EN 61326:1997 + A1:1998 + A2:2001 + A3:2003 CISPR 11:2003 CISPR 13: 2001 + A1 2003 CISPR 14:1993 CISPR 14-1:2002 CISPR 14-1:2005 CISPR 14-2: 1997 + A12001 CISPR 22:2003 CISPR 22:2005 + A1:2005 + A2:2006 Internal Method TP 0023, Rev A
	<u>Facilities:</u> Anechoic Chamber: 8m x 5m x 5 m Access Door: 2 m x 2 m Open Area Test Site: 3 m and 10 m 1.25 m Turntable - Maximum Weight 455 Kg Power Supplies: 415V 3-phase 50 Hz, 32A/phase	



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Household and similar electrical appliances General requirements	3 <u>Electrical Product Testing</u> Limitations Impulse voltage 6kV maximum	BS EN 60335-1: 2002, Amds 1 to 4, Corrigs 1 to 3 EN 60335-1:2002, Amds A1, A2, A11 and A12 EN 60335-1:2002, Amds A1, A2, A11, A12, A13 EN 60335-1:2002 Amds A1, A2, A11, A12, A13, A14 and A15 EN 60335-1:2012 Excluding: Clause 15.1, IP testing > IPX0 Clause 22.1 IP testing > IP4X Clause 22.32, Oxygen bomb test Clauses 22.46, Software Clause 29.2, Tracking test Annex N, Tracking test Annex R, Software
Shavers and Hair Clippers	Electrical Safety	BS EN 60335-2-8:2003, Amd 1, EN 60335-2-8:2003, Amd A1 EN 60335-2-8:2003, Amds A1, A2
Deep fat fryer, electric frying pans and similar appliances	Electrical safety	BS EN 60335-2-13:2003, Amd 1, Corrig 1 EN 60335-2-13:2003, Amd A1 EN 60335-2-13:2003, Amds A1, A2 IEC 60335-2-13:2002, Amd 1 EN 60335-2-13:2010 IEC 60335-2-13:2009
Appliances for Skin or Hair Care	Electrical Safety	BS EN 60335-2-23:2003, Corrig 1 EN 60335-2-23:2003 EN 60335-2-23:2003, Amd A1, Amd A11 IEC 60335-2-23:2003 IEC 60335-2-23:2003 Amd A1



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Clocks	3 <u>Electrical Product Testing</u> (cont'd) Electrical safety	BS EN 60335-2-26:2003 EN 60335-2-26:2003 EN 60335-2-26:2003, Amd A1 IEC 60335-2-26:2002 IEC 60335-2-26:2002, Amd A1 Excluding: Clause 21 Mechanical Strength
Sewing machines	Electrical safety	BS EN 60335-2-28:2003 EN 60335-2-28:2003 EN 60335-2-28:2003, Amd A1 IEC 60335-2-28:2002
Battery Chargers	Electrical Safety	BS EN 60335-2-29:2004, Amd 1 and Corrig 1 EN 60335-2-29:2004 EN 60335-2-29:2004 Amd A2 IEC 60335-2-29:2002, Amd A1 Excluding: Clause 21.102, Vibration test
Room heaters	Electrical Safety	EN 60335-2-30:2009 IEC 60335-2-30:2009 EN 60335-2-30:2009 Amd A11 Excluding: Clause 15.1 - IP testing clause 15.2 - Rinsing test of floor lying room heaters Clause 22.105 - Require 1litre syringe or water flow meter clause 22.110 - paint micron meter (for heaters under church benches)
Heat exchangers and thermoelectric coolers (non-refrigerant type) only	Electrical Safety	EN 60335-2-40:2003 + A1:2006 + A2:2009+A11:2004 + A12:2005 EN 60335-2-40:2003+ A1:2006 + A2:2009+ A11:2004 + A12:2005 +A13:2012



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Oral Hygiene Appliances	3 <u>Electrical Product Testing</u> (cont'd) Electrical Safety	BS EN 60335-2-52:2003 EN 60335-2-52:2003 EN 60335-2-52:2003 Amd A1 IEC 60335-2-52:2002 IEC 60335-2-52:2002 Amd A1
Insect Killers	Electrical Safety	BS EN 60335-2-59:2003 EN 60335-2-59:2003 EN 60335-2-59:2003 Amd A1 EN 60335-2-59:2003 Amds A1, A2 IEC 60335-2-59:2002 Amd A1 IEC 60335-2-59:2002 Amds A1, A2 Excluding: Clause, 31 Salt mist test Clause 32, UV test
Fixed immersion heaters	Electrical safety	BS EN 60335-2-73:2003, Amd A1 EN 60335-2-73:2003, Amd A1 EN 60335-2-73:2003, Amd A1, A2 IEC 60335-2-73:2002, Amd A1 EN 60335-2-73:2002, Amd A1, A2
Commercial Dispensing appliances and Vending Machines	Electrical Safety	BS EN 60335-2-75:2004, Amds 1 and 2 EN 60335-2-75:2004, Amds A1 and A11 EN 60335-2-75:2004 Amds, A1, A2, A11 EN60335-2-75 Amds A1, A2, A11, A12 Excluding: Clause 15.1.1, splash test
Fans	Electrical Safety	BS EN 60335-2-80:2003, Amd 1 EN 60335-2-80:2003, Amd A1 EN 60335-2-80:2003 Amd A1 and A2 IEC 60335-2-80:2002, Amd A1 IEC 60335-2-80:2002 Amd A1 and A2



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Amusement and Personal Services Machines	3 <u>Electrical Product Testing</u> (cont'd) Electrical Safety	BS EN 60335-2-82:2003 EN 60335-2-82:2003 EN 60335-2-82:2003 Amd A1 IEC 60335-2-82:2002 IEC 60335-2-82:2002 Amd A1 Excluding: Clause, 31 Salt mist test
Fabric steamers	Electrical safety	BS EN 60335-2-85:2003 EN 60335-2-85:2003 EN 60335-2-85:2003 Amd A1 IEC 60335-2-85:2002 IEC 60335-2-85:2002 Amd A1
Humidifiers	Electrical safety	BS EN 60335-2-98:2003, Amd 1 EN 60335-2-98:2003, Amd A1 EN 60335-2-98:2003 Amds A1 and A2 IEC 60335-2-98:2002, Amd 1 IEC 60335-2-98:2002 Amds A1 and A2
Gas, oil and solid-fuel burning appliances having electrical connections	Electrical safety	BS EN EN 60335-2-102:2006 EN 60335-2-102:2006+A1:2010 Excluding: 8.101
	END	