



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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ELECTRICAL (EMC)

Valid To: September 30, 2019

Certificate Number: 2900.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with A2LA's EPA ENERGY STAR® Accreditation Program<sup>2</sup> requirements), accreditation is granted to this laboratory at the location listed above, *as well as the two satellite laboratory locations listed below*, to perform the following Electromagnetic Compatibility, Product Safety and ENERGY STAR tests:

**Test Technology:**

**Test Method(s)<sup>3,4</sup>:**

Limits and Methods of Measurement for Conducted and Radiated Emissions of Information Technology Equipment

EN 55022;  
EN 55022:2010;  
EN 55032;  
EN 55032:2012;  
EN 55032:2015;  
CISPR 22;  
CISPR 22:2008;  
CISPR 32;  
CISPR 32:2015;  
AS/NZS CISPR 22:2009 + A1:2010;  
AS/NZS CISPR 32:2015;  
ICES-003 Issue 6:2016;  
CAN/CSA-CEI/IEC CISPR 22:2010;  
CFR 47 FCC Part 15, Subpart B (using ANSI C63.4:2014);  
ANSI C63.4:2009;  
J55022(H22)

Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurements

EN 55011;  
EN 55011:2009 + A2:2010;  
EN 55011:2016;  
CISPR 11;  
CISPR 11:2009 + A1:2010;  
CISPR 11:2015;  
AS/NZS CISPR 11:2011;  
ICES-001 Issue 4:2006;  
CAN/CSA-CEI/IECCISPR11-04

**Test Technology:**

Vehicles, Boats, and Internal Combustion Engine Driven Devices - Radio Disturbance Characteristics - Limits and Methods of Measurement for the Protection Of Receivers Except Those Installed in the Vehicle/Boat/Device Itself or in Adjacent Vehicles/Boats

Electromagnetic Compatibility - Requirements for Household Appliances, Electric Tools, and Similar Apparatus - Part 1: Emission

Electromagnetic Compatibility - Requirements for Household Appliances, Electric Tools, and Similar Apparatus - Part 2: Immunity - Product Family Standard

***Immunity***

Electrostatic Discharge (ESD) Immunity Test

Radiated, Radio Frequency, Electromagnetic Field Immunity Test

Electrical Fast Transient (EFT)/Burst Immunity Test

**Test Method(s)<sup>3,4:</sup>**

EN 55012;  
EN 55012:2007 + A1:2009;  
CISPR 12;  
CISPR 12:2007 + A1:2009;  
ICES-002 Issue 6:2013;  
CAN/CSA-CISPR12-10

EN 55014-1;  
EN 55014-1:2006 + A1:2009 + A2:2011;  
EN 55014-1:2017;  
CISPR 14-1;  
CISPR 14-1:2005 + A1:2008 + A2:2011;  
CISPR 14-1:2016;  
J55014-1 (H27);  
AS/NZS CISPR 14.1:2013

EN 55014-2;  
EN 55014-2:1997 + A1:2001 + A2:2008;  
EN 55014-2:2015;  
CISPR 14-2;  
CISPR 14-2:1997 + A1:2001 + A2:2008;  
CISPR 14-2:2015

EN 61000-4-2;  
EN 61000-4-2:1995 + A1:1998 + A2:2001;  
EN 61000-4-2:2009;  
IEC 61000-4-2;  
IEC 61000-4-2:1995 + A1:1998 + A2:2000;  
IEC 61000-4-2:2008;  
JIS C 61000-4-2:1999;  
JIS C 61000-4-2:2012

EN 61000-4-3;  
EN 61000-4-3:2006 + A1:2008 + A2:2010;  
EN 61000-4-3:2006 + A1:2008;  
EN 61000-4-3:2006;  
IEC 61000-4-3;  
IEC 61000-4-3:2006 + A1:2007 + A2:2010;  
IEC 61000-4-3:2006 + A1:2007;  
JIS C 61000-4-3:2005;  
JIS C 61000-4-3:2012

EN 61000-4-4;  
EN 61000-4-4:2012;  
EN 61000-4-4:2004 + A1:2010;  
EN 61000-4-4:2004;  
IEC 61000-4-4;  
EN 61000-4-4:2012;  
IEC 61000-4-4:2004 + A1:2010;  
IEC 61000-4-4:2004;  
IEC 61000-4-4:1995;  
JIS C 61000-4-4:2007

**Test Technology:**

**Test Method(s)<sup>3,4:</sup>**

***Immunity (cont.)***

Surge Immunity Test

EN 61000-4-5;  
EN 61000-4-5:2006;  
EN 61000-4-5:2014;  
IEC 61000-4-5;  
IEC 61000-4-5:2005;  
IEC 61000-4-5:2014;  
JIS C 61000-4-5:2009

Immunity to Conducted Disturbances, Induced by  
Radio-Frequency Fields

EN 61000-4-6;  
EN 61000-4-6:2014;  
EN 61000-4-6:2009;  
EN 61000-4-6:2007;  
IEC 61000-4-6;  
IEC 61000-4-6:2013;  
IEC 61000-4-6:2008;  
IEC 61000-4-6:2003 + A1:2004 + A2:2006;  
JIS C 61000-4-6:2006

Testing and Measurement Techniques - Power  
Frequency Magnetic Field Immunity Test

EN 61000-4-8;  
EN 61000-4-8:2010;  
IEC 61000-4-8;  
IEC 61000-4-8:2009;  
JIS C 61000-4-8:2003

Voltage Dips Short Interruptions and Voltage  
Variations Immunity Test

EN 61000-4-11;  
EN 61000-4-11:2004;  
IEC 61000-4-11;  
IEC 61000-4-11:2004;  
JIS C 61000-4-11:2008

Limits for Harmonic Current Emissions for  
Equipment with Rated Current up to and including  
16 A Per Phase

EN 61000-3-2;  
EN 61000-3-2:2014;  
EN 61000-3-2:2006 + A1:2009 + A2:2009;  
IEC 61000-3-2;  
IEC 61000-3-2:2014;  
IEC 61000-3-2:2005 + A1:2008 + A2:2009;  
JIS C 61000-3-2:2005;  
JIS C 61000-3-2:2011

Limits for Voltage Fluctuations and Flicker in Low-  
Voltage Supply for Equipment with Rated Current  
up to and including 16 A

EN 61000-3-3;  
EN 61000-3-3:2013;  
EN 61000-3-3:2008;  
IEC 61000-3-3;  
IEC 61000-3-3:2008;  
IEC 61000-3-3:2013

**Test Technology:****Test Method(s)<sup>3,4</sup>:*****Immunity (cont.)***

Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurements

EN 55024;  
EN 55024:2010;  
CISPR 24;  
CISPR 24:2010

Generic Emission Standard, Residential, Commercial and Light Industry

EN 61000-6-3;  
EN 61000-6-3:2007 + A1:2011;  
IEC 61000-6-3;  
IEC 61000-6-3:2006 + A1:2010

Generic Emission Standard, Industrial Environment

EN 61000-6-4;  
EN 61000-6-4:2007 + A1:2011;  
IEC 61000-6-4;  
IEC 61000-6-4:2006 + A1:2010

Generic Immunity Standard, Residential, Commercial and Light Industry

EN 61000-6-1;  
EN 61000-6-1:2007;  
EN 61000-6-1:2017;  
IEC 61000-6-1;  
IEC 61000-6-1:2005;  
IEC 61000-6-1:2016

Generic Immunity Standard, Industrial Environment

EN 61000-6-2;  
EN 61000-6-2:2005;  
EN 61000-6-2:2017;  
IEC 61000-6-2;  
IEC 61000-6-2:2005;  
IEC 61000-6-2:2016

Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Part 1: General Requirements

EN 61326-1;  
EN 61326-1:2013;  
IEC 61326-1;  
IEC 61326-1:2012;  
JIS C 1806-1;  
JIS C 1806-1:2010

Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Part 2-1: Particular Requirements - Test Configurations, Operational Conditions and Performance Criteria for Sensitive Test and Measurement Equipment for EMC Unprotected

EN 61326-2-1;  
EN 61326-2-1:2013;  
IEC 61326-2-1;  
IEC 61326-2-1:2012

Electrical Equipment for Measurement, Control and Laboratory Use EMC Requirements - Part 2-2: Particular Requirements - Test Configurations, Operational Conditions and Performance Criteria for Portable Test, Measuring and Monitoring Equipment Used in Low Voltage Distribution

EN 61326-2-2;  
EN 61326-2-2:2013;  
IEC 61326-2-2;  
IEC 61326-2-2:2012

**Test Technology:****Test Method(s)<sup>3,4</sup>:*****Immunity (cont.)***

Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Part 2-3: Particular Requirements - Test Configuration, Operational Conditions and Performance Criteria for Transducers with Integrated or Remote Signal Conditioning

EN 61326-2-3;  
EN 61326-2-3:2013;  
IEC 61326-2-3;  
IEC 61326-2-3:2012

Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Part 2-4: Particular Requirements - Test Configurations, Operational Conditions And Performance Criteria for Insulation Monitoring Devices

EN 61326-2-4;  
EN 61326-2-4:2013;  
IEC 61326-2-4;  
IEC 61326-2-4:2012

Electrical Equipment For Measurement, Control and Laboratory Use - EMC Requirements - Part 2-5: Particular Requirements - Test Configurations, Operational Conditions and Performance Criteria for Field Devices with Interfaces According to IEC

EN 61326-2-5;  
EN 61326-2-5:2013;  
IEC 61326-2-5;  
IEC 61326-2-5:2012

Medical Electrical Equipment - General Requirements for Safety- Collateral Standard; Electromagnetic Compatibility - Requirements and Tests

EN 60601-1-2;  
EN 60601-1-2:2007;  
EN 60601-1-2:2001 + A1:2006;  
IEC 60601-1-2;  
IEC 60601-1-2:2007;  
IEC 60601-1-2:2001 + A1:2004;  
JIS T 0601-1-2:2012

***Automotive (ESA) Tests***

Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of These Prescriptions

ECE Reg.10 (2012) Add. 9 Rev.4 + A1:2012 + A2:2013;  
ECE Reg.10 (2014) Rev. 5 + A1:2016

Electromagnetic Compatibility (EMC), Product Family Standard for Aftermarket Electronic Equipment in Vehicles

EN 50498;  
EN 50498 (2010)

RF Conducted Emissions  
Voltage Method

CISPR 25;  
CISPR 25 (2016) Section 6.3, I.2;  
CISPR 25 (2008) Section 6.2;  
CISPR 25 (2002) Section 6.2;  
FMC-1278 (CE420)

RF Conducted Emissions  
Current Method

CISPR 25;  
CISPR 25 (2016) Section 6.4, I.3;  
CISPR 25 (2008) Section 6.3;  
CISPR 25 (2002) Section 6.3;  
FMC-1278 (CE421)

**Test Technology:**

**Test Method(s)<sup>3,4:</sup>**

***Automotive (ESA) Tests (cont.)***

Radiated Emissions

CISPR 25;  
CISPR 25 (2016) Section 6.5, I.4;  
CISPR 25 (2008) Section 6.4;  
CISPR 25 (2002) Section 6.4;  
FMC-1278 (RE310)

Conducted Transient Emission (CTE)

ISO 7637-2;  
ISO 7637-2 (2011);  
ISO 7637-1 (2002) + A1 (2008);  
ISO 7637-2 (2004) + A1 (2008) Section 4.3;  
FMC-1278 (CE 410)

Conducted Transient Immunity

ISO 7637-2;  
ISO 7637-2 (2011);  
ISO 7637-2 (2004) + A1 (2008) Sections 4.4, 5.6.1 to 5.6.5;  
ISO 7637-3;  
ISO 7637-3 (2016);  
ISO 7637-3 (2007) Sections 3.4.2, 3.4.3, 3.4.4;  
ISO 16750-2;  
ISO 16750-2 (2006)

Electrostatic Discharge (ESD)

ISO 10605;  
ISO 10605 (2001);  
ISO 10605 (2008) (*except Annex F*);  
FMC-1278 (CI 280)

RF Immunity to Hand Portable Transmitters

ISO 11452-9;  
ISO 11452-9 (2012);  
FMC-1278 (RI 115)

Radiated Disturbance Immunity

ISO 11452-1;  
ISO 11452-1 (2015);  
ISO 11452-1 (2005);  
ISO 11452-2;  
ISO 11452-2 (2004);  
ISO 11452-3;  
ISO 11452-3 (2016);  
ISO 11452-3 (2001);  
FMC-1278 (RI 114)

Bulk Current Injection (BCI)

ISO 11452-1;  
ISO 11452-1 (2015);  
ISO 11452-1 (2005);  
ISO 11452-4;  
ISO 11452-4 (2011);  
ISO 11452-4 (2005);  
FMC-1278 (RI 112)

**Test Technology:**

***Automotive (ESA) Tests (cont.)***

Magnetic Field Immunity

**Test Method(s)<sup>3,4:</sup>**

ISO 11452-1;  
ISO 11452-1 (2015);  
ISO 11452-1 (2005);  
ISO 11452-8;  
ISO 11452-8 (2015) (Radiating Loop);  
ISO 11452-8 (2007) (Radiating Loop);  
FMC-1278 (RI140)

***Safety Tests***

Safety of Information Technology Equipment

IEC 60950:1991 + A1:1992 + A2:1993 + A3:1995 + A4:1996;  
IEC 60950:1999;  
EN 60950:2000;  
UL 60950:2000;  
CAN/CSA C22.2 No.60950  
(*Excluding cl.4.3.13*)

Information Technology Equipment - Safety –  
Part 1: General Requirements

IEC 60950-1:2001;  
IEC 60950-1:2005 + A1:2009 + A2:2013;  
EN 60950-1:2001 + A11;  
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+ A2:2013;  
UL 60950-1:2003;  
UL 60950-1:2007;  
UL 60950-1:2014;  
CAN/CSA C22.2 No.60950-1-03;  
CAN/CSA C22.2 No.60950-1-07 + A1:2011 + A2:2014;  
JIS C 6950-1:2012 + A1:2014  
(*Excluding cl.4.3.13.2*)

Audio/Video, Information and Communication  
Technology Equipment - Part 1: Safety  
Requirements

IEC 62368-1;  
IEC 62368-1:2014  
(*Excluding cl.10.5*)

Medical Electrical Equipment - Part 1: General  
Requirements for Safety

IEC 60601-1:1988 + A1:1991 + A2:1995;  
EN 60601-1:1990 + A1:1993 + A2:1995;  
UL 2601-1:1997;  
UL 60601-1:2003;  
CAN/CSA-C22.2 No. 601.1-M90;  
JIS T 0601-1:1999  
(*Excluding cl.29*)

Medical Electrical Equipment - Part 1: General  
Requirements for Basic Safety and Essential  
Performance

IEC 60601-1:2005 + A1:2012;  
EN 60601-1:2006 + A11:2011 + A1:2013 + A12:2014;  
CAN/CSA-C22.2 No. 60601-1-08;  
ANSI/AAMI ES60601 + A1:2005;  
JIS T 0601-1:2012 + A1:2014;  
JIS T 0601-1:2017  
(*Excluding cl.10.1*)

**Test Technology:**

**Test Method(s)<sup>3,4:</sup>**

***Safety Tests (cont.)***

Medical Electrical Equipment - Part 1-1: General Requirements for Safety - Collateral Standard: Safety Requirements for Medical Electrical Systems

IEC 60601-1-1:2000;  
EN 60601-1-1:2001;  
JIS T 0601-1-1:2005

Medical Electrical Equipment - Part 2-2: Particular Requirements for the Safety of High Frequency Surgical Equipment

IEC 60601-2-2:1998

Medical Electrical Equipment - Part 2-10: Particular Requirements for the Safety of Nerve and Muscle Stimulators

IEC 60601-2-10:1987 + A1:2001;  
EN 60601-2-10:2000 + A1:2001

Medical Electrical Equipment - Part 2-18: Particular Requirements for the Safety of Endoscopic Equipment

IEC 60601-2-18:1996 + A1:2000;  
EN 60601-2-18:1996 + A1:2000

Medical Electrical Equipment - Part 2-47: Particular Requirements for the Safety, Including Essential Performance, of Ambulatory Electro Cardio Graphic Systems

IEC 60601-2-47:2001;  
EN 60601-2-47:2001

Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

IEC 61010-1:2001;  
IEC 61010-1:2010;  
EN 61010-1:2001;  
EN 61010-1:2010;  
UL 61010-1:2004;  
UL 61010-1:2012;  
CAN/CSA-C22.2 No. 61010-1:2004;  
CAN/CSA-C22.2 No. 61010-1:2012;  
JIS C1010-1:2005;  
JIS C1010-1:2014  
(*Excluding cl.12.2.1*)

Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use- Part 2-030: Particular Requirements for Testing and Measuring Circuits

IEC 61010-2-030:2010;  
EN 61010-2-030:2010

Household and Similar Electrical Appliances - Safety - Part 1: General Requirements

IEC 60335-1:2001 + A1:2004 + A2:2006;  
IEC 60335-1:2010 + A1 :2013;  
EN 60335-1:2002 + A11:2004 + A1:2004 + A12:2006 + A2:2006 + A13:2008 + A14:2010 + A15:2011;  
EN 60335-1:2012 + A11:2014;  
UL 60335-1:2004;  
CAN/CSA E60335-1/4E:03;  
JIS C 9335-1:2003;  
JIS C 9335-1:2014  
(*Excluding cl.32*)

Household and Similar Electrical Appliances - Safety - Part 2-2: Particular Requirements for Vacuum Cleaners and Water-Suction Cleaning Appliances

IEC 60335-2-2:2002 + A1:2004 + A2:2006;  
EN 60335-2-2:2003 + A1:2004 + A2:2006 + A11:2010



**Test Technology:**

**Test Method(s)<sup>3,4:</sup>**

***Safety Tests (cont.)***

Household and Similar Electrical Appliances -  
Safety - Part 2-4: Particular Requirements for Spin  
Extractors

IEC 60335-2-4:2002 + A1:2004 + A2:2006;  
IEC 60335-2-4:2008;  
EN 60335-2-4 + A1:2004 + A2:2006;  
EN 60335-2-4:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-5: Particular Requirements for  
Dishwashers

IEC 60335-2-5:2002 + A1:2005 + A2:2008;  
EN 60335-2-5:2003 + A1:2005 + A2:2008 + A11:2009 +  
A12:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-7: Particular Requirements for  
Washing Machines

IEC 60335-2-7:2002 + A1:2004 + A2:2006;  
EN 60335-2-7:2003 + A1:2004 + A2:2006 + A11:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-9: Particular Requirements for Grills,  
Toasters and Similar Portable Cooking Appliances

IEC 60335-2-9:2002 + A1:2004 + A2:2006;  
IEC 60335-2-9:2008;  
EN 60335-2-9:2003 + A1:2004 + A2:2006 + A12:2007  
+A13:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-15: Particular Requirements for  
Appliances for Heating Liquids

IEC 60335-2-15:2002 + A1:2005 + A2:2008;  
IEC 60335-2-15:2012;  
EN 60335-2-15:2002 + A1:2005 + A2:2008 + A11:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-23: Particular Requirements for  
Appliances for Skin or Hair Care

IEC 60335-2-23:2003 + A1:2008 + A2:2012;  
EN 60335-2-23:2003 + A1:2008 + A11:2010 + A2:2015

Household and Similar Electrical Appliances -  
Safety - Part 2-24: Particular Requirements for  
Refrigerating Appliances, Ice-cream Appliances and  
Ice-Makers

IEC 60335-2-24:2002 + A1:2005 + A2:2007;  
IEC 60335-2-24:2010 + A1:2012;  
EN 60335-2-24:2003 + A11:2004 + A1:2005 + A2:2007 +  
A12:2009;  
EN 60335-2-24:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-25: Particular Requirements for  
Microwave Ovens, including Combination  
Microwave Ovens

IEC 60335-2-25:2002 +A1:2005+A2:2006;  
EN 60335-2-25:2002 + A1:2005 + A2:2006 + A11:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-27: Particular Requirements for  
Appliances for Skin Exposure to Ultraviolet and  
Infrared Radiation

IEC 60335-2-27:2002 + A1:2004 + A2:2007;  
EN 60335-2-27:2003 + A1:2008 + A2:2008;  
JIS C 9335-2-27:2005

Household and Similar Electrical Appliances -  
Safety - Part 2-28: Particular Requirements for  
Sewing Machines

IEC 60335-2-28:2002 + A1:2008;  
EN 60335-2-28:2003 + A1:2008

Household and Similar Electrical Appliances -  
Safety - Part 2-29: Particular Requirements for  
Battery Chargers

IEC 60335-2-29:2002 + A1:2004 + A2:2009;  
EN 60335-2-29:2004 + A2:2010

**Test Technology:**

***Safety Tests (cont.)***

Household and Similar Electrical Appliances -  
Safety - Part 2-31: Particular Requirements for  
Range Hoods and Other Cooking Fume Extractors

**Test Method(s)<sup>3,4:</sup>**

IEC 60335-2-31:2002 + A1:2006 + A2:2008;  
IEC 60335-2-31:2012;  
EN 60335-2-31:2003 + A1:2006 + A2:2009;  
EN 60335-2-31:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-32: Particular Requirements for  
Massage Appliances

IEC 60335-2-32:2002 + A1:2008 + A2:2013;  
EN 60335-2-32:2003 + A1:2008 + A2 :2015;  
JIS C 9335-2-32:2005

Household and Similar Electrical Appliances -  
Safety - Part 2-36: Particular Requirements for  
Commercial Electric Cooking Ranges, Ovens, Hobs  
and Hob Elements

IEC 60335-2-36:2002 + A1:2004 + A2:2008;  
EN 60335-2-36:2002 + A1:2004 + A2:2008 + A11:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-45: Particular Requirements for  
Portable Heating Tools and Similar Appliances

IEC 60335-2-45:2002 + A1:2008 + A2:2011;  
EN 60335-2-45:2002 + A1:2008 + A2:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-49: Particular requirements for  
Commercial Electric Hot Cupboards

IEC 60335-2-49:2002 + A1:2008;  
EN 60335-2-49:2003 + A1:2008 + A11:2012

Household and Similar Electrical Appliances -  
Safety - Part 2-54: Particular Requirements for  
Surface Cleaning Appliances for Household Use  
Employing Liquids or Steam

IEC 60335-2-54:2002 + A1:2004 + A2:2007;  
IEC 60335-2-54:2008 + A1:2015;  
EN 60335-2-54:2003 + A1:2004 + A11:2006 + A2:2007;  
EN 60335-2-54:2008 + A11:2012 + A1:2015

Household and Similar Electrical Appliances -  
Safety - Part 2-55: Particular Requirements for  
Electrical Appliances for use with Aquariums and  
Garden Ponds

IEC 60335-2-55:2002 + A1:2008;  
EN 60335-2-55:2003 + A1:2008

Household and Similar Electrical Appliances -  
Safety - Part 2-75: Particular Requirements for  
Commercial Dispensing Appliances and Vending  
Machines

IEC 60335-2-75:2002 + A1:2004 + A2:2008;  
IEC 60355-2-75:2012;  
EN 60335-2-75:2004 + A1:2005 + A11:2006 + A2:2008 +  
A12:2010

Household and Similar Electrical Appliances -  
Safety - Part 2-80: Particular Requirements for Fans

IEC 60335-2-80:2002 + A1:2004 + A2:2008;  
EN 60335-2-80:2003 + A1:2004 + A2:2009

Household and Similar Electrical Appliances -  
Safety - Part 2-82: Particular Requirements for  
Amusement Machines and Personal Service  
Machines

IEC 60335-2-82:2002 + A1:2008;  
EN 60335-2-82:2003 + A1:2008

**Test Technology:**

***Safety Tests (cont.)***

Household and Similar Electrical Appliances - Safety - Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor

Household and Similar Electrical Appliances - Safety - Part 2-98: Particular Requirements for Humidifiers

Audio, Video and Similar Electronic Apparatus - Safety Requirements

Degrees of Protection Provided by Enclosures (IP Code)

***Energy Efficiency Testing<sup>2</sup>***

External Power Supplies

**Test Method(s)<sup>3,4:</sup>**

IEC 60335-2-89:2010 + A1:2012 + A2:2015;  
EN 60335-2-89:2010 + A2:2016

IEC 60335-2-98:2002 + A1:2004 + A2:2008;  
EN 60335-2-98:2003 + A1:2005 + A2:2008

IEC 60065:1998;  
IEC 60065:2001 + A1:2005 + A2:2010;  
IEC 60065:2014;  
EN 60065:1998;  
EN 60065:2002 + A1:2006 + A11:2008 + A2:2010 + A12:2011;  
UL60065:2003;  
CAN/CSA C22.2 No.60065-03;  
JIS C6065:2013  
(Excluding cl.6.1)

IEC 60529:2001 + A2:2013;  
JIS C 0920:2003

Department of Energy 10 CFR Part 430 Energy Conservation Program: Energy Conservation Standards for External Power Supplies for § 430.32 Energy and water conservation standards, (w) External Power Supplies  
Test Method for Appendix Z to Subpart B of Part 430

CALIFORNIA ENERGY COMMISSION APPLIANCE EFFICIENCY REGULATIONS TITLE 20, SECTIONS 1601 THROUGH 1609  
(u) Power Supplies

Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies

DIRECTIVE 2009/125/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products

EN 50563:2011 +A1:2013  
External A.C. – D.C. and A.C. – A.C. Power Supplies – Determination of No-load Power and Average Efficiency of Active Modes

**Test Technology:**

***Energy Efficiency Testing<sup>2</sup> (cont.)***

External Power Supplies (cont.)

Battery Charging Systems

Imaging Equipment

Household Electrical Appliances

**Test Method(s)<sup>3,4:</sup>**

AS/NZS 4665.1:2005/Amdt 1/2009-02-27  
Performance of external power supplies  
Part 1: Test method and energy performance mark

AS/NZS 4665.2/Amdt 1/2009-02-27  
Performance of external power supplies  
Part 2: Minimum energy performance standard (MEPS)  
requirements

CAN/CSA-C381.1-17  
Energy performance of external ac-dc and ac-ac power supplies

Department of Energy 10 CFR Part 430 Energy Conservation  
Program: Energy Conservation Standards for Battery Chargers  
Standard for § 430.32 Energy and water conservation standards,  
(z) Battery chargers  
Test Method for Appendix Y to Subpart B of Part 430

CALIFORNIA ENERGY COMMISSION APPLIANCE  
EFFICIENCY REGULATIONS TITLE 20, SECTIONS 1601  
THROUGH 1609  
(w) Battery Charger Systems (Small Battery Charger Systems)

ENERGY STAR® Program Requirements Product Specification  
for Imaging Equipment  
Eligibility Criteria Version 2.0 Rev. Oct-2014  
Test Method for Determining Imaging Equipment Energy Use  
Rev. Sep-2014

COMMISSION REGULATION (EC) No 1275/2008 of 17  
December 2008 implementing Directive 2005/32/EC of the  
European Parliament and of the Council with regard to ecodesign  
requirements for standby and off mode electric power  
consumption of electrical and electronic household and office  
equipment

COMMISSION REGULATION (EU) No801/2013 of 22 August  
2013 amending Regulation (EC) No 1275/2008 with regard to  
ecodesign requirements for standby, off mode electric power  
consumption of electrical and electronic household and office  
equipment

DIRECTIVE 2009/125/EC OF THE EUROPEAN PARLIAMENT  
AND OF THE COUNCIL of 21 October 2009 establishing a  
framework for the setting of ecodesign requirements for energy-  
related products

IEC 62301 Ed 1.0: Household Electrical Appliances –  
Measurement of Standby Power;

IEC 62301 Ed 2.0: Household Electrical Appliances –  
Measurement of Standby Power;



**Test Technology:**

***Energy Efficiency Testing<sup>2</sup> (cont.)***  
Household Electrical Appliances (cont.)

**Test Method(s)<sup>3,4</sup>:**

EN 50564:2011 Electrical and electronic household and office equipment – Measurement of low power consumption

**Types of products, materials, and/or industry that the laboratory tests:**

Telecommunications Terminal Equipment (TTE), Radio Equipment, Network Equipment, Information Technology Equipment (ITE), Automotive Electronic Equipment; Maritime Navigation and Radiocommunication Equipment and Systems, Vehicles, Boats and Internal Combustion Engine Driven Devices, Medical Electrical Equipment, Motors, Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment, Household Appliances, Electric Tools, Low-voltage Switchgear and Controlgear, Programmable Controllers, Electrical Equipment for Measurement, Control and Laboratory Use

<sup>1</sup> This accreditation covers testing performed at the main laboratory listed above, and the satellite laboratories listed below.

<sup>2</sup> A2LA provides accreditation to the U.S. EPA's *Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program* by verifying an organization's compliance to A2LA document *R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program* and to the related test methods listed above

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR testing. Please verify this organization's recognition status at the EPA's website, located at [http://www.energystar.gov/index.cfm?c=partners.epa\\_recognized\\_laboratories](http://www.energystar.gov/index.cfm?c=partners.epa_recognized_laboratories)

<sup>3</sup>When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories are expected to be competent in the use of the current version within one year of the date of publication of the standard test method, per part C., Section 1 of A2LA *R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories*.

<sup>4</sup>The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities.

Cosmos Corporation EMC Lab 2  
519 Shimesasu, Watarai-cho  
Watarai-gun, Mie-ken 516-2119, JAPAN

**Test Technology:**

**Test Method(s) 4:**

Limits and Methods of Measurement for Conducted and Radiated Emissions of Information Technology Equipment

EN 55022;  
EN 55022:2010;  
EN 55032;  
EN 55032:2012;  
EN 55032:2015;  
CISPR 22;  
CISPR 22:2008;  
CISPR 55032;  
CISPR 55032:2015;  
AS/NZS CISPR 22:2009 + A1 2010;  
AS/NZS CISPR 32:2015;  
ICES-003 Issue 5:2012;  
CAN/CSA-CEI/IEC CISPR 22:2010;  
CFR 47 FCC Part 15, Subpart B (*up to 26.5 GHz*)  
(using ANSI C63.4-2014);  
ANSI C63.4-2009;  
J55022 (H22)

Generic Emission Standard, Residential, Commercial and Light Industry

EN 61000-6-3 (*CISPR 22, CISPR 14-1 only*);  
EN 61000-6-3:2007 + A1:2011  
(*CISPR 22, CISPR 14-1 only*);  
IEC 61000-6-3 (*CISPR 22, CISPR 14-1 only*);  
IEC 61000-6-3:2006 + A1:2010  
(*CISPR 22, CISPR 14-1 only*)

Generic Emission Standard, Industrial Environment

EN 61000-6-4 (*CISPR 22 only*);  
EN 61000-6-4:2007 + A1:2011 (*CISPR 22 only*);  
IEC 61000-6-4 (*CISPR 22 only*);  
IEC 61000-6-4:2006 + A1:2010 (*CISPR 22 only*)

Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Part 1: General Requirements

EN 61326-1 (*CISPR 22, CISPR 14-1 only*);  
EN 61326-1:2013 (*CISPR 22, CISPR 14-1 only*);  
IEC 61326-1 (*CISPR 22, CISPR 14-1 only*);  
IEC 61326-1:2012 (*CISPR 22, CISPR 14-1 only*);  
JIS C 1806-1 (*CISPR 22, CISPR 14-1 only*);  
JIS C 1806-1:2010 (*CISPR 22, CISPR 14-1 only*)

**Test Technology:**

Medical Electrical Equipment - General Requirements for Safety - Collateral Standard; Electromagnetic Compatibility - Requirements and Tests

Electromagnetic Compatibility - Requirements for Household Appliances, Electric tools, and Similar Apparatus - Part 1: Emission

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1<sup>5</sup>:

**Test Method(s) <sup>4</sup>:**

EN 60601-1-2 (*CISPR 22 only*);  
EN 60601-1-2:2007 (*CISPR 22 only*);  
EN 60601-1-2:2001 + A1:2006 (*CISPR 22 only*);  
IEC 60601-1-2 (*CISPR 22 only*);  
IEC 60601-1-2:2007 (*CISPR 22 only*);  
IEC 60601-1-2:2001 + A1:2004 (*CISPR 22 only*);  
JIS T 0601-1-2:2012 (*CISPR 22 only*)

EN 55014-1;  
EN 55014-1:2006 + A1:2009 + A2:2011;  
EN 55014-1:2017;  
CISPR 14-1;  
CISPR 14-1:2005 + A1:2008 + A2:2011;  
CISPR 14-1:2016;  
AS/NZS CISPR14.1:2013;  
J55014-1 (H27)

<b>Rule Subpart/Technology</b>	<b>Test Method</b>	<b>Maximum Frequency (MHz)</b>
Unintentional Radiators Part 15B	ANSI C63.4:2014	26500 MHz

<sup>5</sup>Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (<https://apps.fcc.gov/oetcf/eas/>) for a listing of FCC approved laboratories.





## *Accredited Laboratory*

A2LA has accredited

### **COSMOS CORPORATION**

*Matsusaka-shi, Japan*

for technical competence in the field of

### **Electrical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 19<sup>th</sup> day of October 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 2900.01  
Valid to September 30, 2019

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*