



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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I. ELECTRICAL

Valid to: March 31, 2019

Certificate Number: 0591.06

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's EPA ENERGY STAR® Accreditation Program¹ requirements), accreditation is granted to this laboratory to perform the following tests EMC, Telecom, Environmental Simulation and Safety tests:

Test Technology:

Test Method(s)^{2,3:}

EMC

Radiated and Conducted Emissions
(up to 40 GHz)

47 CFR, FCC Part 15 B (using ANSI C63.4:2014) and
47 CFR, FCC Part 18 (using MP-5:1986);
Industry Canada ICES-001; ICES-003;

EN 55032; CISPR 32; AS/NZS CISPR 32; KN 32
EN 55022; CISPR 22; AS/NZS CISPR 22; KN 22;
CISPR 11; EN 55011; KN 11;

EN 55014-1 (excluding measurements for clicks); KN 14-1;
VCCI V-3 (up to 6 GHz); VCCI V-4; VCCI-CISPR 32;
ASMI CNS 13763-1;
AS/NZS 1044 (Appliances only);
IMDA TS EMC;
CNS 13438 (up to 6 GHz);
TCVN 7189 (2009)

Harmonics and Flicker

IEC/EN 61000-3-2; IEC/EN 61000-3-3

Immunity

EN/IEC 61000-4-2; KN 61000-4-2;
EN/IEC 61000-4-3; KN 61000-4-3;
EN/IEC 61000-4-4; KN 61000-4-4;
EN/IEC 61000-4-5; KN 61000-4-5;
EN/IEC 61000-4-6; KN 61000-4-6;
EN/IEC 61000-4-8; KN 61000-4-8;
EN/IEC 61000-4-11; KN 61000-4-11

Test Technology:

Family Product or
Industry Specific
Specifications

Test Method(s) ^{2,3}:

IEC/EN/KN 61000-6-1; IEC/EN/KN 61000-6-2;
IEC/EN/KN 61000-6-3; IEC/EN/KN 61000-6-4;

ETSI 300 132-2; ETSI EN 300 386;
Telcordia GR-1089;

IEC/EN/KN 60601-1-2; IEC/EN 61850-3;
IEC/EN/KN 60601-2-2, -3, -18, -20, -21, -22, -24, -25, -26,
-27, -30, -32, -34, -35, -38, -39, -40, -41, -46;

IEC/EN 61326-1; IEC/EN 61326-2-1;
IEC/EN 61326-2-2; IEC/EN 61326-2-3;
IEC/EN 61326-2-4; IEC/EN 61326-2-5;

IEC/EN 55103-1; IEC/EN 55103-2; IEC/EN 55103-3;
IEC/EN 55103-4; EN 50130-4;
IEC/EN 50491-1; IEC/EN 50491-2; IEC/EN 50491-3;
IEC/EN 50121-1; IEC/EN 50121-2; IEC/EN 50121-3-1;
IEC/EN 50121-3-2; IEC/EN 50121-4; IEC/EN 50121-5;

EN 55024; CISPR 24;

KN 13; KN 19; KN 20; KN 24; KN 35;

EN/KN 60945; EN 61131-2;
IMDA TS EMC, Issue 1, Rev. 1 (Mar. 2000);

ISO 7637-1; ISO 7637-2

Intentional Radiators
(Using ANSI
C63.4:2014,
ANSI C63.10:2013 up to
40 GHz; excluding HAC
and SAR unless
otherwise noted)

47 CFR, FCC Parts 2 and 11;
47 CFR, FCC Parts 15 B, C, E, F, G;
47 CFR, FCC Part 18 (using MP-5:1986);

RSS-GEN; RSS-210; RSS-220; RSS-247; RSS-310;

ETSI EN 300 220-2; ETSI EN 300 330-2; ETSI EN 300 440-2;
ETSI EN 300 328; ETSI EN 301 893;
ETSI EN 302 195-1; ETSI EN 302 195-2; ETSI EN 302 208;
ETSI EN 302 291-1; ETSI EN 302 291-2

ETSI EN 301 489 Series -1 through -35;
ETSI EN 301 489 Series -50, -51



Intentional Radiators
(cont.)

Technical Requirements for Telecommunications Terminal Equipment (RRA Public Notification 2015-24), Conformity Assessment Procedure for Telecommunications Terminal Equipment (RRA Announce 2015-104), Standard Test Procedure on the Technical Requirements for Telecommunications Terminal Equipment (RRA Public Notification 2012-17), Regulations on Radio Equipment (MSIP Public Notification 2015-89), Unlicensed Radio Equipment Established Without Notice (MSIP Public Notification 2015-91), Technical Requirements for the Human Protection against Electromagnetic Waves (MSIP Public Notification 2015-18), Technical Requirements for Measurement and Test Procedure of Specific Absorption Rate (SAR) (RRA Public Notification 2015-23), Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2014-2), Conformity Assessment Procedure of Radio Equipment (RRA Announce 2015-81); KS X 3123; Regulations on Radio Equipment (Enforcement Decree of MSIT NO. 1, Jul 26, 2017); Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2017-10, Sep 1, 2017); Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2017-7, Aug 24, 2017); Technical Requirements for Measurement and Test Procedure of Specific Absorption Rate (RRA Public Notification 2017-8, Aug 28, 2017); Technical Requirements of the Other Service Radio Equipment for Simple radio station, Space station and Earth station (RRA Public Notification 2017-8, Aug 28, 2017); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2017-7, Aug 4, 2017); Equipment to be subject of Test Procedure for Electromagnetic Field Strength and Specific Absorption Rate (MSIT Public Notification 2017-7, Aug 24, 2017); KN 301 489-1; KN 301 489-2; KN 301 489-3; KN 301 489-4; KN 301 489-5; KN 301 489-6; KN 301 489-7; KN 301 489-8; KN 301 489-9; KN 301 489-10; KN 301 489-11; KN 301 489-12; KN 301 489-13; KN 301 489-14; KN 301 489-15; KN 301 489-16; KN 301 489-17; KN 301 489-18; KN 301 489-19; KN 301 489-20; KN 301 489-21; KN 301 489-22; KN 301 489-23; KN 301 489-24; KN 301 489-25; KN 301 489-26; KN 301 489-27; KN 301 489-28; KN 301 489-29; KN 301 489-30; KN 301 489-31; KN 301 489-32;

AS/NZS 4268;

B1: Specified Radio Equipment specified in Article 38-2-2, Paragraph 1, item 1 of the Radio Law;

B2: Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law;

B3: Specified Radio Equipment Specified in Article 38-2-2, Paragraph 1, Item 3 of the Radio Law;

LP0002



Test Technology:

Product Safety⁴

Test Method(s)^{2,3:}

CSA C22.2 No. 205; CSA C22.2 No. 301; 16 CFR 1505;
IEC/EN 60950-1⁴ (*except as noted in table 1*); UL 60950-1;
CSA C22.2 No. 60950-1; UL/CSA/IEC/EN 60950-22;

IEC/EN 61010-1⁴ (*except as noted in table 2*); UL 61010-1;
CSA C22.2 No. 61010-1;
IEC/EN/UL 61010-2-010; CSA C22.2 No. 61010-2-010;
IEC/EN/UL 61010-2-032; CSA C22.2 No. 61010-2-032;
IEC/EN/UL 61010-2-051; CSA C22.2 No. 61010-2-051;
IEC/EN/UL 61010-2-061; CSA C22.2 No. 61010-2-061;
IEC/EN/UL 61010-2-081; CSA C22.2 No. 61010-2-081;
IEC/EN/UL 61010-2-101; CSA C22.2 No. 61010-2-101

IEC/EN 60601-1⁴ (*except as noted in table 3*);
ANSI/AAMI ES60601-1; CSA C22.2 No. 60601-1;

IEC/EN/UL 60601-1-1; CSA C22.2 No. 60601-1-1;
IEC/EN/UL 60601-1-4; CSA C22.2 No. 60601-1-4;
IEC/EN/UL 60601-1-6; CSA C22.2 No. 60601-1-6;
IEC/EN/UL 60601-1-8; CSA C22.2 No. 60601-1-8;
IEC/EN/UL 60601-1-11; CSA C22.2 No. 60601-1-11;
IEC/EN/UL 60601-2-2; CSA C22.2 No. 60601-2-2;
IEC/EN/UL 60601-2-3; CSA C22.2 No. 60601-2-3;
IEC/EN/UL 60601-2-4; CSA C22.2 No. 60601-2-4;
IEC/EN/UL 60601-2-10; CSA C22.2 No. 60601-2-10;
IEC/EN/UL 60601-2-18; CSA C22.2 No. 60601-2-18;
IEC/EN/UL 60601-2-22; CSA C22.2 No. 60601-2-22;
IEC/EN/UL 60601-2-23; CSA C22.2 No. 60601-2-23;
IEC/EN/UL 60601-2-25; CSA C22.2 No. 60601-2-25;
IEC/EN/UL 60601-2-26; CSA C22.2 No. 60601-2-26;
IEC/EN/UL 60601-2-27; CSA C22.2 No. 60601-2-27;
IEC/EN/UL 60601-2-34; CSA C22.2 No. 60601-2-34;
IEC/EN/UL 60601-2-35; CSA C22.2 No. 60601-2-35;
IEC/EN/UL 60601-2-36; CSA C22.2 No. 60601-2-36;
IEC/EN/UL 60601-2-38; CSA C22.2 No. 60601-2-38;
IEC/EN/UL 60601-2-40; CSA C22.2 No. 60601-2-40;
IEC/EN/UL 60601-2-49; CSA C22.2 No. 60601-2-49;
IEC/EN/UL 60601-2-52; CSA C22.2 No. 60601-2-52;
IEC/EN/UL 60601-2-57; CSA C22.2 No. 60601-2-57;

UL/CSA/EN/IEC 62368-1; ULC 60839-11-1



EPA ENERGY STAR®
Testing / Energy Efficiency
Computers

ENERGY STAR® Program Requirements Product
Specification for Computers; Eligibility Criteria Version 6.1
Rev. March-2016;

EPRI Generalized Test Protocol for Calculating the Energy
Efficiency of Internal AC-DC and DC-DC Power Supplies (for
products that have internal, multi-output, or single output with
integral cooling power supplies)

Data Center Storage

ENERGY STAR® Program Requirements for Data Center
Storage; Eligibility Criteria Version 1.0 Rev. March-2014;
SNIA Emerald Power Efficiency Measurement
Specification v2.0.2

Enterprise Servers

ENERGY STAR® Program Requirements Product
Specification for Computer Servers Eligibility Criteria
Version 2.1;

Test Method: ENERGY STAR Test Method for Computer
Servers (Rev. April-2016);

SERT: SERT™ Tool V1.1.1 released Jan 29, 2016;

EPRI Generalized Test Protocol for Calculating the Energy
Efficiency of Internal AC-DC and DC-DC Power Supplies.

www.efficientpowersupplies.org

Large Network Equipment

ENERGY STAR Product Specification for Large Network
Equipment Version 1.0;

ENERGY STAR Test Method for Large Network Equipment
(December 2015)

Household Electrical
Appliances: Measurement of
Standby Power

IEC 62301; EN 50564

External AC-DC and AC-AC
power supplies – Determination
of no-load power and average
efficiency of active modes

EN 50563

Test Method for Calculating the
Energy Efficiency of Single-
Voltage External AC-DC
and AC-AC Power Supplies

CSA C381.1-08

Imaging Equipment,
Internal Power Supplies

EPRI Generalized Test Protocol for Calculating the
Energy Efficiency of Internal Ac-Dc and Dc-Dc Power
Supplies at www.efficientpowersupplies.org

Verizon NEBSTM Compliance:
Energy Efficiency
Requirements for
Telecommunications
Equipment

VZ.TPR.9205 Issue 5, October 2011

Energy Efficiency for
Telecommunication Equipment:
Methodology for Measurement
and Reporting – General
Requirements

ATIS-0600015.2013



EPA ENERGY STAR®

Testing / Energy Efficiency

Energy Efficiency for Telecommunications Equipment: Methodology for Measurement and Reporting – Server Requirements ATIS-0600015.01.2014

Energy Efficiency for Telecommunications Equipment: Methodology for Measurement & Reporting – Transport Requirements ATIS-0600015.02.2016

Energy Efficiency for Telecommunications Equipment: Methodology for Measurement & Reporting – Router and Ethernet Switch Products ATIS-0600015.03.2013

Energy Efficiency for Telecommunications Equipment: Methodology for Measurement and Reporting DC Power Plant – Rectifier Requirements ATIS-0600015.04.2010

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:

Rule Subpart/Technology	Test Method	Maximum Frequency
Unintentional Radiators Part 15B	ANSI C63.4:2014	40000 MHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	40000 MHz
Intentional Radiators Part 15C	ANSI C63.10:2013	40000 MHz
U-NIII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000 MHz
UWB Intentional Radiators Part 15F	ANSI C63.10:2013	40000 MHz
BPL Intentional Radiators Part 15G	ANSI C63.10:2013	40000 MHz



⁴ Exclusion Tables:

Table #1: Clauses excluded from IEC/EN 60950-1

Standard	Clause	Test
60950-1		
	2.10.4	Comparative tracking index measurements
	2.10.5.4	Partial discharge test (on semiconductors)
	2.10.8.4	Abrasion resistance test
	3.2.5.1	Flexing test of AC power supply cords
	4.2.8	CRT tests
	4.3.12	Flammable liquid measurement
	4.3.13.2	Ionizing radiation
	4.3.13.3	Tests after UV exposure on material
	4.3.13.4	Human exposure to UV radiation
	4.3.13.5	Laser radiation
	4.6.2	Hot flaming oil
	Annex AA	Mandrel test

Table #2: Clauses excluded from IEC/EN 61010-1

Standard	Clause	Test
61010-1		
	6.7.1.2	Test equipment for tracking index
	10.5.3	Insulating materials
	11.6	Specially protected equipment (IP rated)
	2.2.1	Ionizing radiation
	12.3	UV Radiation
	12.4	Microwave Radiation
	12.6	Laser sources
	13.3	High vacuum devices
	14.9	Transient over voltage



Table #3: Clauses excluded from IEC/EN 60601-1

Standard	Clause	Test
60601-1		
	8.5.5.1	Defibrillation protection
	8.5.5.2	Energy reduction test
	8.8.4.2	Resistance to environmental stress
	8.9.1.7	Material groups classification
	9.5.2	Cathode ray tubes
	9.6.3	Hand-transmitted vibration
	10.1	X-radiation
	10.4	Lasers and light emitting diodes (LEDs)
	11.2	Fire prevention
	11.3	Constructional requirements for fire enclosures
	11.6.5	Ingress of water or particulate matter
	15.4.2	Temperature and overload control devices
	15.4.3.4	Lithium batteries
	15.4.7.3	Entry of liquids
	G	Protection against hazards of ignition of flammable anaesthetic mixtures
	G.4.3	Prevention of electrostatic charges
	L	Insulated winding wires for use without interleaved insulation

II. MECHANICAL

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests Explosive Atmosphere tests:

<u>Test Technology:</u>	<u>Test Method(s)²:</u>
Explosive Atmosphere	
	UL/CSA/EN/IEC 60079-0:2011 (Excluding Group I and Group II Small Component Ignition Test, Surface Resistance Test at 30 %RH, Verification of Ratings of Ventilating Fans, IP5X, IP6X, Resistance to Light, Resistance to Group I Chemical Agents – Electrical Equipment, Alternative Qualification of Elastomeric Sealing O-rings)
	UL/CSA/EN/IEC 60079-1:2014
	UL/CSA/EN/IEC 60079-2:2014
	UL/CSA/EN/IEC 60079-5:2007
	UL/CSA/EN/IEC 60079-6:2015
	UL/CSA/EN/IEC 60079-7:2015
	UL/CSA/EN/IEC 60079-11:2011
	UL/CSA/EN/IEC 60079-14:2013
	UL/CSA/EN/IEC 60079-15:2010 (Excluding Tests for Enclosed Break Devices/Non Incendive Components, Test for Screw Lampholders, Test for Starter Holders for Luminaires, Tests for Electronic Starts for Tubular Fluorescent Lamps/Ingitors for High Pressure Sodium or Metal Halide Lamps, Ignition Tests for Large or High Voltage Machines, Mechanical Shock Test for Batteries)
	UL/CSA/EN/IEC 60079-18:2014
	UL/CSA/EN/IEC 60079-26:2014 (ia and ma only)
	UL/CSA/EN/IEC 60079-28:2015 (op pr only by assessment)
	UL/CSA/EN/IEC 60079-31:2013
	UL/CSA/EN/IEC 80079-36:2016
	UL/CSA/EN/IEC 80079-37:2016

On the following product types: Electrical Apparatus for Explosive Gas and Dust Atmospheres



¹ 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 by using the EPA's searchable database, located at http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form

² When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories*. If a specifier/regulator imposes a different transition period, this will supersede the A2LA one year implementation period.

³ *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.*

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Accredited Laboratory

A2LA has accredited

MET LABORATORIES, INC.

Austin, TX

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 27th day of June 2017.

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President and CEO
For the Accreditation Council
Certificate Number 0591.06
Valid to March 31, 2019

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