



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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ELECTRICAL (EMC)

Valid To: September 30, 2020

Certificate Number: 0214.48

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Consumer, Laboratory, Medical, Railway, Automotive, Aerospace, & Photonic products:

Test(s):

Test Method(s):

EMISSIONS

Conducted and Radiated
Emissions

47 CFR FCC Part 15, subpart B (using ANSI C63.4-2014)²;
47 CFR FCC Part 18, (using OET MP-5)²;
CISPR 11²; EN 55011²; KN 11;
CISPR 12¹; EN 55012¹;
CISPR 14-1²; EN 55014-1²;
CISPR 15²; EN 55015²; KN 15;
CISPR 16-2-1; EN 55016-2-1;
CISPR 16-2-3; EN 55016-2-3;
CISPR 22²; EN 55022²; KN 22; AS-NZS CISPR22²;
CISPR 25; EN 55025;
CISPR 32²; EN 55032²;
ICES-001²; ICES-002¹; ICES-003²; ICES-005²

Harmonic Emissions

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

Voltage Fluctuations and
Flicker

EN 61000-3-3; IEC 61000-3-3; AS/NZS 61000-3-3

IMMUNITY

ESD

EN 61000-4-2¹; IEC 61000-4-2¹; KN 61000-4-2; ANSI C37.90.3

Radiated Immunity

EN 61000-4-3¹; IEC 61000-4-3¹; KN 61000-4-3; ANSI C37.90.2

EFT / Burst

EN 61000-4-4; IEC 61000-4-4; KN 61000-4-4; ANSI C37.90.1

Surge

EN 61000-4-5; IEC 61000-4-5; KN 61000-4-5

Conducted Immunity

EN 61000-4-6; IEC 61000-4-6; KN 61000-4-6

Test(s):

Test Method(s):

IMMUNITY (cont'd)

Power Frequency Magnetic Field	EN 61000-4-8; IEC 61000-4-8; KN 61000-4-8
Pulse Magnetic Field	EN 61000-4-9; IEC 61000-4-9; KN 61000-4-9
Damped Oscillated Magnetic Field	EN 61000-4-10; IEC 61000-4-10
Voltage Dips, Short Interruptions and Voltage Variations	EN 61000-4-11; IEC 61000-4-11; KN 61000-4-11
Harmonics and Interharmonics	EN 61000-4-13; IEC 61000-4-13
Conducted Common Mode Disturbances in the Frequency (<i>Range 0 Hz-150 kHz</i>)	EN 61000-4-16; IEC 61000-4-16
Ripple On and DC Input Power Port	EN 61000-4-17; IEC 61000-4-17
Damped Oscillatory Wave	EN 61000-4-18; IEC 61000-4-18; EN 61000-4-12; IEC 61000-4-12; EN 60255-22-1; ANSI C37.90.1
Variation of Power Frequency	EN 61000-4-28; IEC 61000-4-28
Voltage Dips / Short Interrupts	EN 61000-4-29; IEC 61000-4-29
Impulse Voltage Withstand Dielectric (AC or DC) Insulation Resistance Protective Bonding	IEC 60255-5; EN 60255-5; IEC 60255-27; EN 60255-27
Assessment of Lighting Equipment Related to Human Exposure to Electromagnetic Fields	IEC 62493; EN 62493

GENERIC STANDARDS

Immunity for Residential, Commercial and Light-Industrial Environments	EN 61000-6-1; IEC 61000-6-1; KN 61000-6-1; AS/NZS 61000-6-1
Immunity for Industrial Environments	EN 61000-6-2; IEC 61000-6-2; KN 61000-6-2; AS/NZS 61000-6-2

Test(s):

Test Method(s):

GENERIC STANDARDS

(cont'd)

Emission for Industrial
Environments

EN 61000-6-4; IEC 61000-6-4; KN 61000-6-4; AS/NZS 61000-6-4

PRODUCT STANDARDS

Railway Equipment

IEC 62236-3-2; EN 50121-3-2;
IEC 60571; EN 50155

Household Appliances,
Electric Tools and Similar
Apparatus

CISPR 14-1; EN 55014-1; CISPR 14-2; EN 55014-2

Information Technology
Equipment

CISPR 24; EN 55024; KN24

Multimedia Equipment

CISPR 35; EN 55035; KN 35

General Requirements for
Home and Building Electronic
Systems (HBES) and Building
Automation and Control
Systems (BACS)

EN 50491-5-1; EN 50491-5-2; EN 50491-5-3

Medical Equipment

EN 60601-1-2; IEC 60601-1-2; KN 60601-1-2

Laboratory Equipment

IEC 61326-1; EN 61326-1

Lighting

IEC 61547; EN 61547

Power Substation Equipment

IEC 61850-3; IEEE 1613; IEEE 1613.1; IEC 61000-6-5;
IEC 60255-26; SN-62.1008-1 (Hydro-Quebec)

Airborne Equipment

RTCA-DO160: Section 15 (Magnetic Effect), Section 16 (Power
Input), Section 17 (Voltage Spike), Section 18 (Audio Frequency
Conducted Susceptibility – Power Inputs), Section 19 (Induced
Signal Susceptibility) Paragraphs 19.3.1, 19.3.2, 19.3.3, 19.3.4 only,
Section 20.4 (Conducted Susceptibility),
Section 20.5 (Radiated Susceptibility) Categories S & T only,
Section 21.4 (Conducted RF Emissions), Section 21.5 (Radiated RF
Emissions), Section 25 (Electrostatic Discharge)

Road Vehicles Equipment

ISO 10605¹; ISO 11452-2; ISO 11452-4

Lifts, Escalators and Moving
Walks Equipment

EN 12015; EN 12016

Road Traffic Signal Systems

EN 50293

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 (MHz)
Unintentional Radiators Part 15B	ANSI C63.4:2014	18000 MHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	18000 MHz

¹ This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these tests. On-site test service is available for these standards.

² This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for conducted emissions only. On-site test service is available for these standards.





Accredited Laboratory

A2LA has accredited

NATIONAL TECHNICAL SYSTEMS CANADA INC.

Boucherville, Canada

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 April 2017).



Presented this 30th day of October 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 0214.48
Valid to September 30, 2020

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