



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY CHICAGO – MT. PROSPECT

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ELECTRICAL

Valid to: May 31, 2026

Certificate Number: 214.39

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electrical tests on Industrial Drives, Tractor Components, Automotive System and Subsystems, Consumer Electronics, Electrical Power/Distribution Equipment:

Tests:

Emissions

Radiated
(5m semi-anechoic chamber)

Test Method(s):

47 CFR FCC Part 15B (using ANSI C63.4-2014);
47 CFR FCC Part 18 (using MP-5:1986);
EN 55011; CISPR 11; AS/NZS CISPR 11;
EN 55012; CISPR 12; AS/NZS CISPR 12;
EN 55032 (*excluding Annex H*);
CISPR 32 (*excluding Annex H*);
AS/NZS CISPR 32 (*excluding Annex H*);
CISPR 25 (*Section 6.5*);
EN/IEC 61000-6-3; EN/IEC 61000-6-4;
MIL-STD-461 E, F, G (RE101, RE102, RE103);
MIL-STD-462 D (RE101, RE102, RE103);
RTCA/DO-160, E, F, G, Sections 15 and 21

Conducted

47 CFR FCC Part 15B (using ANSI C63.4:2014);
47 CFR FCC Part 18 (using MP-5:1986);
EN 55011; CISPR 11; AS/NZS CISPR 11;
EN 55012; CISPR 12; AS/NZS CISPR 12;
EN 55032; CISPR 32; AS/NZS CISPR 32;
EN/IEC 61000-6-3; EN/IEC 61000-6-4;
MIL-STD-461E, F, G (CE101, CE102, CE106);
MIL-STD-462D (CE101, CE102, CE106);
RTCA/DO-160-E, F, G, Section 21;
CISPR 25 (*Sections 6.3 and 6.4*);

Current Harmonics

EN/IEC 61000-3-2; AS/NZS 61000.3.2

Voltage Fluctuations

EN/IEC 61000-3-3; AS/NZS 61000.3.3

Immunity

Electrostatic Discharge (ESD)

EN/IEC 61000-4-2; KS C 9610-4-2; AS/NZS 61000.4.2;
RTCA/DO-160, E, F, G (Section 25);
MIL-STD-461G (CS118); ISO 10605

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Tests:**Test Method(s):**

Radiated Immunity
(80 MHz to 2.7 GHz)

EN/IEC 61000-4-3; AS/NZS 61000.4.3;
MIL-STD-461E, F, G (RS101, RS103, RS105);
MIL-STD-462D (RS101, RS103);
RTCA/DO-160, E, F, G (Section 20.5);
ISO 11452-2; ISO 11452-3; ISO 11451-2; ISO 11451-3

Electrical Fast Transient/Burst

EN/IEC 61000-4-4;
AS/NZS 61000.4.4;

Transient via lines other than
supply lines

ISO 7637-3

Surge Immunity

EN/IEC 61000-4-5; KS C 9610-4-5; AS/NZS 61000.4.5

Automotive (Load Dump)

ISO 16750-2 (Load Dump)

Conducted Immunity

EN/IEC 61000-4-6;
AS/NZS 61000.4.6;
MIL-STD-461 E, F, G
(CS103, CS104, CS105, CS109, CS114, CS115, CS116);
MIL-STD-462 D
(CS103, CS104, CS105, CS109, CS114, CS115, CS116);
RTCA/DO-160, E, F, G (Section 20);
ISO 11452-4; ISO 11451-4;

Power Frequency Magnetic
Field Immunity

EN/IEC 61000-4-8 (*excluding short duration mode*);
AS/NZS 61000.4.8 (*excluding short duration mode*);
ISO 11452-8 (*Radiating Loop Method*);

Voltage Dips, Short
Interruptions,
and Line Voltage Variations

EN/IEC 61000-4-11

Power Input

RTCA/DO-160 E, F, G (Section 16);
MIL-STD-704, D, E, F;
ISO 16750-2

Generic and Product Family
Standards

EN/IEC 61000-6-1; AS/NZS 61000.6.1;
EN/IEC 61000-6-2; AS/NZS 61000.6.2;
CISPR 14-2; EN 55014-2; AS/NZS CISPR 14-2;
CISPR 24; EN 55024; AS/NZS CISPR 24;
EN/IEC 60601-1-2;
EN/IEC 60947-1; EN/IEC 60439-1;
EN/IEC 61326-1; EN/IEC 61326-2;
EN 50130-4; EN 50131-1; EN 61800-3;
IEC 61800-3 (*up to 75A, 1000V*); EN 14982;
ISO 14982
(*using component methods except ISO 7637 and ISO 11452-3*);
ISO 13766:2006 Ed 2.0; EN 12895:2015; IEC 60945; ECE R10

Insulation Resistance
(1 kΩ to 10 TΩ)

MIL-STD-202, Method 302;
ASTM D257

Tests:

***High Voltage/Dielectric
Withstanding Voltage***
(Up to 50 kV AC & 60 KV DC)

***Contact Resistance, Low Level
Contact Resistance (LLCR)***
(100 $\mu\Omega$ to 200 k Ω)

Test Method(s):

ASTM D149 Types 1, 3, & 4;
MIL-STD-202, Method 301

MIL-STD-202, Method 303, 304, 307;
MIL-DTL 83513G, Method 3.5.6

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1¹:

Rule Subpart/Technology:	Test Method:	Maximum Frequency (MHz):
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	10000
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5:1986	10000

¹ 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

ELEMENT MATERIALS TECHNOLOGY CHICAGO – MT. PROSPECT

Mount Prospect, IL

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 24th day of July 2024.

A blue ink signature of Mr. Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 214.39
Valid to May 31, 2026

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