



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY CHICAGO – MT. PROSPECT

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ELECTRICAL

Valid to: May 31, 2028

Certificate Number: 0214.39

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

| <u>Test Technology:</u>                                                                                | <u>Test Method(s) <sup>1</sup>:</u>                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Emissions</b>                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Conducted and Radiated<br>(5m semi-anechoic chamber, up to 18 GHz)                                     | 47 CFR FCC Part 15B (using ANSI C63.4:2014);<br>47 CFR FCC Part 18 (using MP-5:1986);<br>ANSI C63.4:2014; ICES-003:2020;<br>VCCI V-3 (up to 6GHz);<br>EN 55011; CISPR 11; AS CISPR 11; KS C 9811;<br>CISPR 11:2015 +A1:2016 +A2:2019;<br>EN 55022; CISPR 22; AS/NZS CISPR 22;<br>EN 55032 (excluding Annex H);<br>CISPR 32 (excluding Annex H);<br>AS/NZS CISPR 32 (excluding Annex H);<br>KS C 9832 (excluding Annex H) |
| Current Harmonics                                                                                      | EN/IEC 61000-3-2; AS/NZS 61000.3.2                                                                                                                                                                                                                                                                                                                                                                                       |
| Voltage Fluctuations                                                                                   | EN/IEC 61000-3-3; AS/NZS 61000.3.3                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Immunity</b>                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Electrostatic Discharge (ESD)                                                                          | EN/IEC 61000-4-2; AS/NZS 61000.4.2; KS C 9610-4-2;<br>IEC 61000-4-2:2008                                                                                                                                                                                                                                                                                                                                                 |
| Radiated Immunity<br>(26- 80 MHz up to 10 V/m,<br>80-1000 MHz up to 20 V/m,<br>1 - 6 GHz up to 10 V/m) | EN/IEC 61000-4-3; AS/NZS 61000.4.3; KS C 9610-4-3                                                                                                                                                                                                                                                                                                                                                                        |
| Electrical Fast Transient/Burst<br>(EFT)                                                               | EN/IEC 61000-4-4; AS/NZS 61000.4.4; KS C 9610-4-4;<br>IEC 61000-4-4:2012                                                                                                                                                                                                                                                                                                                                                 |

| <b><u>Test Technology:</u></b>          | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                  |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surge Immunity                          | EN/IEC 61000-4-5; AS/NZS 61000.4.5; KS C 9610-4-5;<br>IEC 61000-4-5:2014 +A1:2017                                                                                                                                                                           |
| Conducted Immunity                      | EN/IEC 61000-4-6; AS/NZS 61000.4.6; KS C 9610-4-6;<br>IEC 61000-4-6:2013                                                                                                                                                                                    |
| Power Frequency Magnetic Field Immunity | EN/IEC 61000-4-8 (excluding short duration mode);<br>AS/NZS 61000.4.8 (excluding short duration mode);<br>KS C 9610-4-8 (excluding short duration mode);<br>IEC 61000-4-8:2009 (excluding short duration mode)                                              |
| Voltage Dips/Interrupts and Variations  | EN/IEC 61000-4-11; AS/NZS 61000.4.11; KS C 9610-4-11;<br>IEC 61000-4-11:2004 +A1:2017                                                                                                                                                                       |
| <b>MIL-STD / RTCA/DO</b>                |                                                                                                                                                                                                                                                             |
| Conducted Emissions                     | MIL-STD-461C; MIL-STD-462C;<br>MIL-STD-461E, F, and G (CE101, CE102, CE106);<br>MIL-STD-462D (CE101, CE102, CE106);<br>MIL-STD-462 (CE01, CE03, CE07);<br>RTCA/DO-160 C, D, E, F, and G, Section 21                                                         |
| Radiated Emissions                      | MIL-STD-461C; MIL-STD-462C;<br>MIL-STD-461 (RE101, RE102, RE103);<br>MIL-STD-462D (RE101, RE102, RE103);<br>MIL-STD-462 (RE01, RE02);<br>RTCA/DO-160 C, D, E, F, and G, Sections 15 and 21                                                                  |
| Electrostatic Discharge (ESD)           | RTCA/DO-160 C, D, E, F, and G, Section 25;<br>MIL-STD-1686C;<br>MIL-STD-461G (CS118)                                                                                                                                                                        |
| Radiated Immunity                       | MIL-STD-461E, F, and G (RS101, RS103, RS105);<br>MIL-STD-462D (RS101, RS103);<br>MIL-STD-462 (RS01, RS02, RS03);<br>MIL-STD-461C; MIL-STD-462C;<br>RTCA/DO-160 C, D, E, F, and G, Section 20                                                                |
| Conducted Immunity                      | MIL-STD-461E, F, and G (CS103, CS104, CS105, CS109, CS114, CS115, CS116);<br>MIL-STD-461C; MIL-STD-462C;<br>MIL-STD-462D (CS103, CS104, CS105, CS109, CS114, CS115, CS116);<br>MIL-STD-462 (CS01, CS02, CS06);<br>RTCA/DO-160 C, D, E, F, and G, Section 20 |
| Power Frequency Magnetic Field          | MIL-STD-461D, E, F, G, (RS101); MIL-STD-462 (RS01);<br>MIL-STD-461C; MIL-STD-462C;<br>RTCA/DO-160 C, D, E, F, G, Section 15                                                                                                                                 |

| <b><u>Test Technology:</u></b>                                                                                                                                                 | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Input                                                                                                                                                                    | MIL-STD-704A, B, C, D, E, and F;<br>RTCA/DO-160 C, D, E, F, and G, Section 16                                                                                              |
| <b>Automotive EMC</b>                                                                                                                                                          |                                                                                                                                                                            |
| Conducted and Radiated Emissions                                                                                                                                               | EN 55012; CISPR 12; AS/NZS CISPR 12;<br>CISPR 25 for RE (2016, 2021) Section 6.5;<br>CISPR 25 for CE (2016, 2021) Sections 6.3 and 6.4;<br>EN 55025 (sections 6.3 and 6.4) |
| Conducted Transient Immunity along supply lines                                                                                                                                | ISO 7637-2                                                                                                                                                                 |
| Conducted Transient Immunity via lines other than supply lines                                                                                                                 | ISO 7637-3                                                                                                                                                                 |
| ESD                                                                                                                                                                            | ISO 10605; ISO 10605:2008                                                                                                                                                  |
| Immunity of vehicles to electromagnetic disturbances from Off-vehicle radiation sources (Absorber-Lined Shielded Enclosure – Antenna Method) (10 kHz to 18 GHz, up to 100 V/m) | ISO 11451-2                                                                                                                                                                |
| Immunity of vehicles to electromagnetic disturbances from on-board transmitters                                                                                                | ISO 11451-3                                                                                                                                                                |
| Immunity of components to electromagnetic disturbances Absorber-Lined Shielded Enclosure (ALSE) (Metallic Bench Only, 80 MHz to 18 GHz, up to 200 V/m)                         | ISO 11452-2                                                                                                                                                                |
| Bulk Current Injection (BCI)                                                                                                                                                   | ISO 11452-4                                                                                                                                                                |
| Immunity of components to electromagnetic disturbances Stripline Method (10 kHz to 400 MHz, up to 200 V/m)                                                                     | ISO 11452-5                                                                                                                                                                |
| Immunity to Magnetic Field                                                                                                                                                     | ISO 11452-8 (Radiating Loop Method)                                                                                                                                        |
| Immunity to Automotive Electrical Loads                                                                                                                                        | ISO 16750-2                                                                                                                                                                |

| <b><u>Test Technology:</u></b>                                                                         | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Generic and Product Family Standards</b>                                                            | EN/IEC 61000-6-1; AS/NZS 61000.6.1;<br>EN/IEC 61000-6-2; AS/NZS 61000.6.2;<br>EN/IEC 61000-6-3; AS/NZS 61000.6.3;<br>EN/IEC 61000-6-4; AS/NZS 61000.6.4;<br>CISPR 24; EN 55024; AS/NZS CISPR 24; KS C 9824;<br>CISPR 35 (excluding Annex A-H);<br>EN 55035 (excluding Annex A-H); AS/NZS CISPR 35;<br>KS C 9835 (excluding Annex A-H);<br>BS EN/IEC 60601-1-2 (proximity magnetic fields frequency range 30 kHz – 13.56 MHz);<br>IEC 60601-1-2:2020 (proximity magnetic fields frequency range 30 kHz – 13.56 MHz);<br>EN/IEC 60947-1; EN/IEC 60439-1;<br>EN/IEC 61326-1; EN/IEC 61326-2;<br>EN 50130-4; EN 50131-1; EN 61800-3;<br>IEC 61800-3 (up to 75A, 1000V); ISO 7637-1; ISO 11451-1;<br>ISO 11452-1; ISO 13766:2006 Ed 2.0;<br>ISO 14982 (excluding ISO 11452-3); ISO 16750-1; EN 12895:2015;<br>IEC 60945; ECE R10 |
| <b>Insulation Resistance</b><br>(1 k $\Omega$ to 10 T $\Omega$ )                                       | MIL-STD-202, Method 302;<br>ASTM D257                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>High Voltage/Dielectric Withstanding Voltage</b><br>(Up to 50 kV AC & 60 KV DC)                     | ASTM D149 Types 1, 3, & 4;<br>MIL-STD-202, Method 301                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Contact Resistance, Low Level Contact Resistance (LLCR)</b><br>(100 $\mu\Omega$ to 200 k $\Omega$ ) | MIL-STD-202, Method 303, 304, 307;<br>MIL-DTL 83513G, Method 3.5.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**On the following product types:**

Aerospace, Defense, Telecommunications, Electrical, Electronics, Automotive, and Commercial.

<sup>1</sup> When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per Annex A, Part C of A2LA R101 - *General Requirements: Accreditation of Conformity Assessment Bodies*.

| Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1: |                    |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------|
| <b>Rule Subpart/Technology</b>                                                                                                                            | <b>Test Method</b> | <b>Maximum Frequency (MHz)</b> |
| <u>Unintentional Radiators</u>                                                                                                                            |                    |                                |
| Part 15B                                                                                                                                                  | ANSI C63.4:2014    | 18000                          |

Testing Activities Performed in Support of FCC 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) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------|
|                                                                                                                                                                                                                                                    |                          |                         |
| <u>Industrial, Scientific, and Medical Equipment</u>                                                                                                                                                                                               |                          |                         |
| Part 18                                                                                                                                                                                                                                            | FCC MP-5 (February 1986) | 18000                   |
| Note: Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website ( <a href="https://apps.fcc.gov/oetcf/eas/">https://apps.fcc.gov/oetcf/eas/</a> ) 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 24<sup>th</sup> day of August 2026.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 0214.39  
Valid to May 31, 2028

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