SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DENVER-LONGMONT
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ELECTRICAL

Valid To: February 28, 2026 Certificate Number: 214.43

In recognition of the successful completion of the A2LA evaluation process, is granted to this laboratory to perform the following Electromagnetic Compatibility/Interference (EMC/EMI), Lightning, Transient, and Surge tests:

Test Technology	**Test Methods**[1]
Emissions	
Radiated and Conducted (10 meter semi-anechoic chamber)	CFR 47 FCC, Part 15B (using ANSI C63.4:2014); CFR 47 FCC, Part 18 (using MP-5:1986); CISPR 11; EN 55011; AS CISPR 11; KS C 9811; CISPR 32 (*excluding Annex H*); EN 55032 (*excluding Annex H*); AS/NZS CISPR 32 (*excluding Annex H*); KS C 9832 (*excluding Annex H*); VCCI-CISPR 32:2016 (*excluding Annex H*); CISPR 14-1 (*excluding disturbance power and click measurements*); EN 55014-1(*excluding disturbance power and click measurements*); AS/NZS CISPR 14-1 (*excluding disturbance power and click measurements*); KS C 9814-1(*excluding disturbance power and click measurements*); CNS 13438; TCVN 7189; QCVN 118:2018/BTTTT; ICES-003
Harmonics	IEC 61000-3-2; EN 61000-3-2; IEC 61000-3-12; EN 61000-3-12
Flicker	IEC 61000-3-3; EN 61000-3-3
Immunity	
Electrostatic Discharge (ESD)	IEC 61000-4-2; EN 61000-4-2; KS C 9610-4-2
Radiated Immunity	IEC 61000-4-3; EN 61000-4-3; KS C 9610-4-3
Electrical Fast Transient/Burst	IEC 61000-4-4; EN 61000-4-4; KS C 9610-4-4

Test Technology	**Test Methods**[1]
Surge	IEC 61000-4-5; EN 61000-4-5; KS C 9610-4-5; IEEE C62.41.1 (2002); IEEE C62.41.2 (2002); IEEE C62.45 (2002)
Conducted Immunity	IEC 61000-4-6; EN 61000-4-6; KS C 9610-4-6
Magnetic Field Immunity	IEC 61000-4-8 (*excluding short duration mode*); EN 61000-4-8 (*excluding short duration mode*); KS C 9610-4-8 (*excluding short duration mode*); IEC 61000-4-39 (*Medical Devices only*) EN 61000-4-39 (*Medical Devices only*)
Voltage Dips, Short Interruptions, and Voltage Variations	IEC 61000-4-11; EN 61000-4-11; KS C 9610-4-11
Generic/Product Family Standards and Industry Standards	IEC 61000-6-1; EN 61000-6-1; KS C 9610-6-1; IEC 61000-6-2; EN 61000-6-2; KS C 9610-6-2; IEC 61000-6-3; EN 61000-6-3; KS C 9610-6-3; IEC 61000-6-4; EN 61000-6-4; KN 61000-6-4; KS C 9610-6-4; IEC 60601-1-2; EN 60601-1-2; KS C IEC 60601-1-2; EN 61326-1; CISPR 24; EN 55024; KS C 9824 CISPR 35 (excluding Annex A-H); EN 55035 (excluding Annex A-H); KS C 9835 (excluding Annex A-H); CISPR 14-2; EN 55014-2; KS C 9814-2; ISO 7176-21
Automotive	
Automotive Radiated Emissions	CISPR 25 (2008, 2016, 2021); CISPR 25
Radiated Immunity – ALSE (200 MHz - 6 GHz [100 V/m]) (1.2 GHz - 3.2 GHz [100V/m])	ISO 11452-2; ISO 11452-2 (2019) Road Vehicles — Component Test: Methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 2: Absorber-lined Shielded Enclosure
Radiated Immunity – BCI (10 kHz – 400 MHz)	ISO 11452-4; ISO 11452-4 (2020) Road Vehicles – Component Test: Methods for electrical disturbances from narrowband radiated electromagnetic energy
Stripline (10 kHz - 400 MHz)	ISO 11452-5; ISO 11452-5 (2002) Road Vehicles – Component Test: Methods for electrical disturbances from narrowband radiated electromagnetic energy
Radiated Loop Method (DC - 150 kHz)	ISO 11452-8; ISO 11452-8 (2015) Road Vehicles – Component Test: Methods for electrical disturbances from narrowband radiated electromagnetic energy

Test Technology	Test Methods[1]
Military/Defense	MIL-STD-461E, F, G Method CE1013 (30 Hz to 10 kHz); MIL-STD-461E, F, G Method CE1023 (10 kHz to 10 MHz); MIL-STD-461E, F, G Method CE1063 (10 kHz to 40 GHz); MIL-STD-461E, F, G Method CS1013 (30 Hz to 150 kHz); MIL-STD-461E, F, G Method CS1063; MIL-STD-461E, F, G Method CS1143 (10 kHz to 200 MHz); MIL-STD-461E, F, G Method CS1153; MIL-STD-461E, F, G Method CS1163 (10 kHz to 100 MHz); MIL-STD-461E, F, G Method RE1013 (30 Hz to 100 kHz); MIL-STD-461E, F, G Method RE102 (10 kHz to 18 GHz); MIL-STD-461E, F, G Method RE103 (10 kHz to 40 GHz); MIL-STD-461E, F, G Method RS1013 (30 Hz to 100 kHz); MIL-STD-461E, F, G Method RS103 (2 MHz to 40 GHz); MIL-STD-7043 D, E, F; MIL-HDBK-704-8 Method LDC1013; MIL-HDBK-704-8 Method LDC1023; MIL-HDBK-704-8 Method LDC1033; MIL-HDBK-704-8 Method LDC1043; MIL-HDBK-704-8 Method LDC1053; MIL-HDBK-704-8 Method LDC2013; MIL-HDBK-704-8 Method LDC3013; MIL-HDBK-704-8 Method LDC3023; MIL-HDBK-704-8 Method LDC4013; MIL-HDBK-704-8 Method LDC5013; MIL-HDBK-704-8 MethodLDC6013; MIL-HDBK-704-8 Method LDC6023
Aerospace	RTCA DO-160G Section 15; RTCA DO-160G Section 16[2]; RTCA DO-160G Section 17[2]; RTCA DO-160G Section 18[2]; RTCA DO-160G Section 19[2]; RTCA DO-160G Section 20; RTCA DO-160G Section 21; RTCA DO-160G Section 25[2]

On the following types of products:

Telecommunication Equipment, Network Equipment, Industrial and Commercial Equipment, Electronic (Digital) Equipment, Medical, Aerospace, Military. Information Technology Equipment, Multimedia Equipment, Scientific Equipment

[1] 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.

[2] This laboratory performs field testing activities for the noted tests.

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[3]:

Rule Subpart/Technology	**Test Method**	**Maximum Frequency (MHz)**
Unintentional Radiators		
Part 15B	ANSI C63.4:2014	40000
Industrial, Scientific, and Medical Equipment		
Part 18	FCC MP-5 (February 1986)	40000

[3]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 DENVER-LONGMONT

Longmont, CO

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 28th day of March 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 214.43
Valid to February 28, 2026

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