



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

KEYSTONE COMPLIANCE
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ELECTRICAL (EMC)

Valid To: August 31, 2020

Certificate Number: 3293.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on telecommunications terminal equipment (TTE), network equipment, information technology equipment (ITE), medical electrical equipment, aerospace components, military equipment, nuclear equipment and commercial and automotive components:

Test:

Test Method:

Emissions

Radiated and Conducted
(up to 40 GHz)

FCC CFR 47 Part 15B (using ANSI C63.4:2014), Part 15C;
FCC CFR 47 Part 18 (using MP-5:1986);
ANSI C63.4:2003;
EN 55011; EN 55022;
ICES-001; ICES-003;
CNS 13438 (up to 6GHz);
VCCI V-3 (up to 6 GHz);
MIL-STD-461D-G, Methods RE101, RE102, CE101, CE102;
CISPR 32; EN 55032; KN 35;
TCVN 7189:2009

Current Harmonics

IEC/KN/EN 61000-3-2

Voltage Fluctuations & Flicker

IEC/KN/EN 61000-3-3

Conducted Emissions

RTCA/DO-160F-G, Section 21

150 kHz to 30 MHz (Power Lines)
150 kHz to 100 MHz (Interconnecting Cables)

Radiated Emissions

RTCA/DO-160F-G, Section 21

150 kHz to 6 GHz

Generic or Product Specific Standards

ETSI EN 301 489-1 V2.1.1 (2016-11)

Test:

Test Method:

Immunity

ESD	IEC/EN/KN 61000-4-2
Radiated, Radio-frequency, Electromagnetic Field Immunity Test	IEC/EN/KN 61000-4-3
Electrical Fast Transient/Burst Immunity Test	IEC/EN/KN 61000-4-4
Surge Immunity Test	IEC/EN/KN 61000-4-5
Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields	IEC/EN/KN 61000-4-6
Power Frequency Magnetic Field Immunity Test	IEC/EN/KN 61000-4-8
Pulse Magnetic Field Immunity Test	IEC/EN 61000-4-9
Damped Oscillatory Magnetic Field Immunity Test	IEC/EN 61000-4-10
Voltage Dips, Short Interruptions and Voltage Variations Immunity Test	IEC/EN/KN 61000-4-11
Ring Wave Immunity Test	IEC/EN/KN 61000-4-12
Harmonics and Inter-Harmonics Including Mains Signaling at A.C. Power Port, Low Frequency Immunity Tests	IEC/EN 61000-4-13
Test for Immunity to Conducted, Common Mode Disturbances in the Frequency Range 0 Hz to 150 kHz	IEC/EN 61000-4-16; IEC 61000-4-18; IEC 60255-27
Radiated Susceptibility	MIL-STD-461D-G, Methods RS101, RS103
Conducted Susceptibility	MIL-STD-461D-G, Methods CS101, CS106, CS114, CS115, CS116, CS104, CS105, CS109; MIL-STD-461D-G, Method CS117
Magnetic Effect	RTCA/DO-160F-G, Section 15
Power Input	RTCA/DO-160F-G, Section 16
Voltage Spike	RTCA/DO-160F-G, Section 17



Test:

Test Method:

Immunity (cont.)

ESD	MIL-STD-461G, Method CS118
Induced Susceptibility	RTCA/DO-160F-G, Section 19
RF Conducted Susceptibility, <i>10 kHz to 400 MHz</i>	RTCA/DO-160F-G, Section 20
RF Radiated Susceptibility <i>100 MHz to 18 GHz up to 200 V/m (rms)</i>	RTCA/DO-160F-G, Section 20
Electrostatic Discharge (ESD) <i>15 kV</i>	RTCA/DO-160F-G, Section 25
Lightning	RTCA/DO-160F-G, Section 22
Generic or Product Specific Standards	ETSI EN 301 489-17 V3.1.1 (2016-11)

Product Safety

Dielectric Field Strength	MPD-7011F
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Product Family Standards

Medical Equipment	IEC/EN 60601-1-2 (<i>excluding Risk Assessment</i>); KN 60601-1-2 (<i>excluding Risk Assessment</i>)
Laboratory Equipment	IEC/EN 61326-1
Information Technology Equipment	IEC/EN 55024; KN 24
Railway Equipment	IEC/EN 50121-4
Radio Equipment and Services	EN/KN 301-489-01
Radio Equipment and Services: Broadband Data Transmission Systems	EN/KN 301-489-17

US NRC EMC Tests

Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety- Related Instrumentation and Control Systems	US NRC Regulatory Guide 1.180, Revision 1
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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.1¹:

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

¹Accreditation 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

KEYSTONE COMPLIANCE

New Castle, PA

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 8th day of May 2018.

A handwritten signature in blue ink.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3293.01
Valid to August 31, 2020
Revised May 21, 2020

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