



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS (NTS)
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ELECTRICAL

Valid To: March 31, 2020

Certificate Number: 0214.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility, electrical characteristic, and fiber optic tests:

Test:

Test Method(s)¹:

Emissions

Radiated (*up to 6 GHz*) &
Conducted
(*3m Semi Anechoic Chamber*)

Code of Federal Regulation (CFR) 47, FCC Part 15B (using ANSI C63.4:2014), FCC Part 18 (using MP5:1986); CISPR 22; CISPR 32; EN 55022; EN 55032; KN 32; AS/NZS CISPR 22; AS/NZS CISPR 32; CISPR 11; EN 55011; ICES-003; VCCI V-3 (*up to 6 GHz*)

Current Harmonics

EN 61000-3-2; IEC 61000-3-2

Voltage Fluctuations

EN 61000-3-3; IEC 61000-3-3

Immunity

Electrostatic Discharge (ESD)

EN 61000-4-2; IEC 61000-4-2

Radiated Immunity

EN 61000-4-3; IEC 61000-4-3

Electrical Fast Transient/Burst

EN 61000-4-4; IEC 61000-4-4

Surge Immunity

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

Conducted Immunity

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

Power Frequency Magnetic Field Immunity

EN 61000-4-8; IEC 61000-4-8

Voltage Dips, Short Interruptions and Line Voltage Variations

EN 61000-4-11; IEC 61000-4-11

Test:

Test Method(s)¹:

***Generic/Product Family Standards
and Industry Standards***

IEC/EN 61000-6-1; IEC/EN 61000-6-2;
CISPR 24; EN 55024; KN 24; KN 35;
IEC/EN 61326-1

Aerospace

RTCA/DO-160D-G Sections: 15, 16, 17, 18, 19, 20, 21, 22, 25;
Boeing D6-16050-5 Paragraphs: 7.1, 7.2, 8.1, 8.2, 8.3, 8.4;
Boeing 787B3-0147, Rev. C;
Boeing D6-16050-4;
Airbus ABD0100.1.8, Issue D

Military/Defense
(RS03 and RS103 testing up to 40
GHz and 200 V/m)

MIL-STD-461A-C/462 Methods CE01, CE02, CE03, CE04,
CE06, CE07, CS01, CS02, CS04, CS05, CS06, RE01, RE02,
RS01, RS03;
MIL-STD-461D/462D Methods CE101, CE102, CE106, CS101,
CS103, CS104, CS105, CS109, CS114, CS115, CS116, RE101,
RE102, RS101, RS103;
MIL-STD-461E Methods CE101, CE102, CE106, CS101,
CS103, CS104, CS105, CS109, CS114, CS115, CS116, RE101,
RE102, RS101, RS103;
MIL-STD-461F Methods CE101, CE102, CE106, CS101,
CS103, CS104, CS105, CS106, CS109, CS114, CS115, CS116,
RE101, RE102, RS101, RS103; RS105;
MIL-STD-461G CE101, CE102, CS101, CS114, CS115,
CS116, CS117, CS118, RE101, RE102, RE103, RS101, RS103;
MIL-STD-704A-F;
MIL-STD-1399 Sections: 070, 300A/B

Telecommunications

GR-1089-CORE; EN 300 386

***Electrical/Mechanical Tests for
Connectors***

Contact Resistance

EIA 364-06 B, C; MIL-STD-202 Method 307

DWV

EIA 364-20 C, D, E; MIL-STD-202 Method 301

Insulation Resistance

EIA 364-21 C, D, E; MIL-STD-202 Method 302

Shell Conductivity

EIA 364-83 A; EIA 364-83:1999

LLCR

EIA 364-23 B, C

Magnetic Permeability

EIA 364-54 A; EIA-54:1988

Contact Retention
(Center Contact Retention,
Conductor Retention)

EIA 364-29 B, C

Crimp Tensile Strength

EIA 364-08 B, C

Durability
(Contact Life)
(Connector Durability)

EIA 364-09 C, D

Test:

Test Method(s)¹:

Electrical/Mechanical Tests for Connectors (cont'd)

Fluid Immersion (Immersion) (Retention System Fluid Immersion)	EIA 364-10 C, D, E, F, G
Mating and Unmating Force	EIA 364-13 B, D, E

¹ When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories*. If a specifier/regulator imposes a different transition period, this will supersede the A2LA one year implementation period.

On the following types of equipment:

Telecommunication Equipment, Network Equipment, Industrial and Commercial Equipment, Electronic (Digital) Equipment, Aerospace

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.1²

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

² 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

NATIONAL TECHNICAL SYSTEMS (NTS)

Fullerton, CA

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 20th day of September 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 0214.02
Valid to March 31, 2020

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