



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS – HUNTSVILLE

7800 Highway 20 West

Huntsville, AL 35806

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ELECTRICAL (EMC)

Valid To: December 31, 2019

Certificate Number: 0214.40

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above to perform the following Electrical and Electromagnetic Compatibility (EMC) tests:

<u>Test Type</u>	<u>Test Method¹</u>	<u>Description</u>
Conducted Emissions	RTCA/DO-160C, D, E, F, G	Sec. 21.3, Conducted Emissions, 15 kHz to 30 MHz, Power Leads
	MIL-STD-461E, F, G	CE101, 30 Hz to 10 kHz, Power Leads
	MIL-STD-461E, F, G	CE102, 10 kHz to 10 MHz, Power Leads
	MIL-STD-461E, F, G	CE106, 10 kHz to 40 GHz, Antenna Terminal
Conducted Immunity	EN 61000-4-6	Conducted Susceptibility, Common Mode Cable Injection, 150 kHz to 80 MHz
	EN 61000-4-12	EMC. Testing and Measurement Techniques. Oscillatory Wave Immunity Test
	EN 61000-4-16	EMC. Testing and Measurement Techniques. Test for Immunity to Conducted, Common Mode Disturbances in the Frequency Range 0 Hz to 150 kHz
	MIL-STD-461E, F, G	CS101, 30 Hz to 150 kHz, Power Leads
	MIL-STD-461E, F, G	CS103, 15 kHz to 10 GHz, Antenna Port, Intermodulation
	MIL-STD-461E, F, G	CS104, 30 Hz to 20 GHz, Antenna Port, Rejection of Undesired Signals
	MIL-STD-461E, F, G	CS105, 30 Hz to 20 GHz, Antenna Port, Cross-Modulation
	MIL-STD-461F	CS106
	MIL-STD-461D, E, F, G	CS109, Structure Current, 60 Hz to 100 kHz
	MIL-STD-461D, E, F, G	CS114, Bulk Current Injection, 10 kHz to 400 MHz
	MIL-STD-461D, E, F, G	CS115, Bulk Cable Injection, Impulse Excitation
	MIL-STD-461D, E, F, G	CS116, Damped Sinusoidal Transients, Cables and Power Leads, 10 kHz to 100 MHz
	RTCA/DO-160C, D, E, F, G	Sec. 17, Voltage Spikes, Power Leads

<u>Test</u>	<u>Method¹</u>	<u>Description</u>
Conducted Immunity (cont.)	RTCA/DO-160C, D, E, F, G RTCA/DO-160C, D, E, F, G	Sec. 20, Para. 20.4, Bulk Current Injection, 10 kHz to 400 MHz Sec.18, 10 Hz to 150 kHz, Power Leads
Electrical Fast Transient	EN 61000-4-4	Conducted Susceptibility, Electrical Fast Transients/Burst, Signal and Powerlines and Cables
Electrostatic Discharge	EN 61000-4-2 RTCA/DO-160E, F, G MIL-STD-461G	Electrostatic Discharge Susceptibility Electrostatic Discharge CS118 Personnel Borne Electrostatic Discharge
Magnetic Field	EN 61000-4-10 EN 61000-4-8 EN 61000-4-9 MIL-STD 1399 RTCA/DO-160C, D, E, F, G	Testing and Measurement Techniques. Damped Oscillatory Magnetic Field Immunity Test Testing and Measurement Techniques. Section 18: Power Frequency Magnetic Field Immunity Test Testing and Measurement Techniques. Section 9: Pulse Magnetic Field Immunity Test DC Magnetic Field, Sec. 070 Part 1 Interface Standard for Shipboard Systems Section 300A/B Electric Power, AC Sec. 15, Equipment DC Magnetization Field
Radiated Emissions	MIL-STD-461E, F, G MIL-STD-461E, F, G MIL-STD-461E, F, G RTCA/DO-160C, D, E, F, G	RE101, 30 Hz to 100 kHz, Magnetic Field RE102, 10 kHz to 18 GHz, Electric Field RE103, Antenna Spurious and Harmonic Outputs, 10 kHz to 40 GHz Radiated Emissions, Sec. 21, Para. 21.4, 15 kHz to 1.215 GHz, Electric Field
Radiated Immunity	EN 61000-4-3 MIL-STD-461E, F, G MIL-STD-461E, F, G MIL-STD-461E, F RTCA/DO-160C, D, E, F, G RTCA/DO-160C, D, E, F, G	Radiated Susceptibility, 80 MHz to 1 GHz, Electric Field RS101, 30 Hz to 100 kHz, Magnetic Field RS103, 14 kHz to 40 GHz, Electric Field RS105 Sec. 19, Magnetic and Electric Fields, Spikes and Audio Frequencies Sec. 20, Para. 20.5, 30 MHz to 18 GHz, Electric Field
Surge	EN 61000-4-5 RTCA/DO-160C, D, E, F, G	Testing and Measurement Techniques Section 5: Surge Immunity Test Sec. 16 Normal and Abnormal Powerline Over and Undervoltage, Surge, and Interruptions
Voltage Dips Interruption	EN 61000-4-11	Testing and Measurement Techniques Section 11: Voltage Dips, Short Interruptions and Voltage Variations Immunity Test

¹ When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is expected 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*.





Accredited Laboratory

A2LA has accredited

NATIONAL TECHNICAL SYSTEMS - HUNTSVILLE

Huntsville, AL

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 21st day of February 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 0214.40
Valid to December 31, 2019

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