SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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MECHANICAL

Valid To: September 30, 2018 Certificate Number: 2471.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Aerospace, Railway, Automotive, Photonic, Consumer, Medical and Material products:

Test:	Test Method(s):	
Vibration	MIL-STD-883	Method 2005 TC: A, B, Method 2007 TC: A, Method 2026 TC: A to F;
	MIL-STD-810	Method 514;
	MIL-STD-202	Method 201, Method 204 TC: A, B, C, D, F, G, Method 214 TC: A to F;
	IEC 60068-2-6;	
	IEC 60068-2-64;	
	IEC 60255-21-1;	
	IEC 61373;	
	RTCA/DO-160;	
	JEDEC	JESD22-B103;
	GMW 3172	Section 9.3.1, Section 9.3.2, Section 10.2;
	GMW 15310	Section 4.3.8;

Test:	Test Method(s):	
Vibration *(cont.)*	GMW 16288	Section 3.2.1.2.3;
	Chrysler CS-11982	Section 4.2.3;
	Chrysler PF-12184	Section 3.1;
	Chrysler PF-90135	Section 9.6;
	ISO 16750-3	Section 4.1;
	SAE J1455;	
	ANSI C136.31;	
	Telcordia GR-1221;	
	CSA C22.2 No.137	Vibration only
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	
	UL 844	Vibration only
Mechanical Shock	MIL-STD-883	Method 2002 TC: A, B;
	MIL-STD-810	Section 516;
	MIL-STD-202	Section 213 TC: A to K;
	IEC 60068-2-27;	
	IEC 60255-21-2;	
	IEC 61373;	
	RTCA/DO-160;	
	JEDEC	JESD22-B104 A to H;
	GMW 3172	Section 9.3.3, Section 9.3.4, Section 9.3.5;
	Chrysler CS-11982	Section 4.2.4, Section 4.2.5;
	ISO 16750-3	Section 4.2;

Test:	**Test Method(s):**	
Mechanical Shock *(cont.)*	SAE J1455;	
	Telcordia GR-1221;	
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	
Temperature Steady State	MIL-STD-810	Method 501, Method 502;
	IEC 60068-2-1;	
	IEC 60068-2-2;	
	RTCA/DO-160;	
	JEDEC	JESD22-A101, JESD22-A103, JESD22-A119;
	GMW 3172	Section 9.4.1;
	GMW 15310	Section 4.3.4;
	GMW 15725	Section 4.4, Section 4.5;
	GMW 16288	Section 3.2.1.1.3, Section 3.2.1.1.4;
	Chrysler CS-11982	Section 4.1.1, Section 4.1.2;
	Chrysler PF-12184	Section 3.4, Section 3.5;
	ISO 16750-4	Section 5.1;
	SAE J1455;	
	Telcordia GR-1221	Section 6.2.4, Section 6.2.6;
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	

Test:	Test Method(s):	
Temperature Variation	MIL-STD-883	Method 1010;
	MIL-STD-810	Method 503;
	MIL-STD-202	Method 107;
	IEC 60068-2-14	Tests Na, Nb;
	RTCA/DO-160;	
	JEDEC	JESD22-A104, JESD22-A105;
	GMW 3172	Section 9.4.2, Section 9.4.3;
	GM 6139M	Section 3.9;
	Chrysler PF-12032	Section 7.5;
	Chrysler PF-12184	Section 3.3;
	Chrysler PF-90135	Section 9.5;
	ISO 16750-4	Section 5.3;
	SAE J1455;	
	Telcordia GR-1221	Section 6.2.3, Section 6.2.7;
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	
Humidity	MIL-STD-810	Method 507;
	MIL-STD-202	Method 103;
	IEC 60068-2-3;	
	IEC 60068-2-30;	
	IEC 60068-2-38;	
	IEC 60068-2-56;	
	IEC 60068-2-78;	

Test:	Test Method(s):	
Humidity *(cont.)*	SAE J1455;	
	RTCA/DO-160;	
	Telcordia GR-1221	Section 6.2.5, Section 6.2.8;
	GMW 3172	Section 9.4.5, Section 9.4.6;
	GMW 15725	Section 4.3;
	GM 6139M	Section 3.1;
	Chrysler CS-11982	Section 4.1.6, Section 4.1.7;
	Chrysler PF-12184	Section 3.6;
	ISO 16750-4	Section 5.6, Section 5.7;
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	
Salt Fog / Salt Spray	MIL-STD-883	Method 1009;
	MIL-STD-810	Method 509;
	MIL-STD-202	Method 101;
	IEC 60068-2-11;	
	IEC 60068-2-52;	
	RTCA/DO-160;	
	GMW 3172	Section 9.4.7;
	ISO 16750-4	Section 5.5;
	ISO 9227 (NSS)	Section 5.2;
	SAE J1455;	
	ASTM B117	

Test:	Test Method(s):	
Degrees of Protection Provided by Enclosures	IEC 60529	IPX1 to IPX8, IP1X to IP6X
Drop / Free Fall	IEC 60068-2-31;	
	GMW 15310	Section 4.3.7;
	GMW 16288	Section 3.2.1.1.7;
	Chrysler CS-11982	Section 4.2.6 ;
	Chrysler PF-11710	Section 4.2;
	ISO 16750-3	Section 4.3
Impact	IEC 60068-2-75	Test Ehb (Spring Hammer), Test Ehc (Vertical);
	GMW 15725	Section 4.6;
	Chrysler PF-11710	Section 4.3
Fluid Compatibility / Resistance	RTCA/DO-160	Hydraulic Fluids / Lubricating Oils De-Icing Fluid / Fire Extinguishants, Fuels, Insecticides;
	GMW 15725	Section 4.7;
	GM 6139M	Section 5.1;
	Chrysler PF-11710	Section 3.2
Vacuum / Altitude / Overpressure / Rapid Decompression	RTCA/DO-160;	
	GMW 16288	Section 3.2.1.1.8;
	Chrysler PF-12032	Section 5.2;
	SAE J1455;	
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	

Test:	**Test Method(s):**	
Air & Fluid Pressure / Creep	RTCA/DO-160;	
	GMW 15310	Section 4.3.1, Section 4.3.5, Section 4.3.6, Section 4.3.9;
	GMW 16288	Section 3.2.1.1.2, Section 3.2.1.1.6, Section 3.2.1.2.1, Section 3.2.1.2.2;
	Chrysler PF-12032	Section 5.3, Section 5.4, Section 7.3, Section 7.4;
	Chrysler PF-12184	Section 4.3.1, Section 4.3.2, Section 4.3.3
	Chrysler PF-90135	Section 7.1, Section 7.3, Section 9.3, Section 9.4 (limited capability)
Boil Over	Chrysler PF-90135	Section 7.4
Cover Retention	Chrysler PF-11710	Sections 5.3, 5.4, 5.5
Wear Resistance	GM 6139M	Section 3.12
Water Immersion	GM 6139M	Section 3.2
Over Flow Tube Pull Off	Chrysler PF-12032	Section 5.6
	Chrysler PF-90135	Section 7.5
Cap Effort	Chrysler PF-12184	Section 4.3.4
Cap Removal and Install Torque	GMW 15310	Section 4.3.2
	Chrysler PF-90135	Section 6.1.2
Grommet Retainer Side Loading	Chrysler PF-11710	Section 5.1

Test:	**Test Method(s):**	
Multiple Cover Removal	Chrysler PF-11710	Section 5.6
Cover Installation	Chrysler PF-11710	Section 5.7
Neutral Salt Spray & Air Blow Off	GM 6139M	Section 3.3
Tape Adhesion	GM 6139M	Section 3.10;
	ASTM D3359	
Coating Evaluation	ISO 4628-2;	
	ISO 4628-8;	
	ISO 4628-10	
Performance verification	GMW 3172	Section 6.1, Section 6.2, Section 6.3, Section 6.4;
Insulation Test	EN 50155 IEC 60571	Section 12.2.9 Section 12.2.10

Accredited Laboratory

A2LA has accredited

NATIONAL TECHNICAL SYSTEMS CANADA INC.

Chambly, Quebec, Canada

for technical competence in the field of

Mechanical 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 8 January 2009*).

Presented this 12th day of October 2016.

President and CEO
For the Accreditation Council
Certificate Number 2471.01
Valid to September 30, 2018
Revised April 13, 2018

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