



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CASCADE ENGINEERING SERVICES, INCORPORATED  
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MECHANICAL

Valid To: November 30, 2017

Certificate Number: 3521.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on: Automotive, Aerospace, Medical, Military and Electrical, Electronic and Mechanical components, assemblies and packaging:

| <u>Test Type/Equipment Capabilities</u>   | <u>Test Method</u>   |
|---|--|
| Temperature Testing <sup>1</sup><br><br>Temperature range:<br>(-65 to +150) °C                | IEC 60068-2-1;<br>IEC 60068-2-2;<br>IEC 60068-2-78;<br>MIL-STD 810E/F/G Sec. 502;<br>MIL-STD 883G/H, Sec. 1011;<br>RTCA DO-160 D, E, F, G Sec. 4.0   |
| Thermal Shock/ Temperature Cycling <sup>1</sup><br><br>Temperature range:<br>(-65 to +150) °C | IEC 60068-2-14;<br>MIL-STD 202G Sec. 107;<br>MIL-STD 810E/F/G Sec. 501, 503, 520;<br>MIL-STD 883G/H, Sec. 1010;<br>RTCA DO-160 D, E, F, G Sec. 5.0   |
| Temperature Humidity Testing  | IEC 60068-2-30;<br>IEC 60068-2-38;<br>IEC 60068-2-78;<br>IEC 60068-3-4;<br>MIL-STD 810E/F/G Sec. 507;<br>MIL-STD 202G Sec. 103, 106;<br>MIL-STD 883G/H Sec. 1004;<br>RTCA DO-160 D, E, F, G Sec. 6.0 |

| <u>Test Type/Equipment Capabilities</u>   | <u>Test Method</u>   |
|---|--|
| Shock and Vibration Testing using Electro Dynamic Shaker <sup>1</sup><br>Random:<br>Frequency Range: 10 Hz to 3,000 Hz<br>Shock: 45g's<br>Sine:<br>Frequency Range: 10 Hz to 3,000 Hz | IEC 60068-2-6;<br>IEC 60068-2-27;<br>IEC 60068-2-47;<br>IEC 60068-2-59;<br>IEC 60068-2-64;<br>MIL-STD 810E/F/G Sec. 514.5, 516, 519.5;<br>MIL-STD 883G/H Sec. 2002, 2005, 2007;<br>MIL-STD 202G Sec. 201, 204, 213, 214;<br>RTCA DO-160 D, E, F, G Sec. 7.0, 8.0 |
| Salt Fog Chamber Testing  | IEC 60068-2-11;<br>MIL-STD 202G Sec. 101;<br>MIL-STD 810E/F/G Sec. 509;<br>MIL-STD 883G/H Sec. 1009;<br>RTCA DO-160 D, E, F, G Sec. 14.0   |
| Constant Acceleration Testing <sup>1</sup><br>Up to 20 G Forces<br><br>Crash Safety Testing   | IEC 60068-2-7;<br>MIL-STD 810E/F/G Sec. 513;<br>MIL-STD 202G method 212A<br><br>RTCA DO-160 D, E, F, G Sec. 7.0  |
| Altitude Testing <sup>1</sup><br>(-1,500 to 100,000) Feet<br>Temperature -65 C to +150 C  | RTCA DO-160, D, E, F, G Sec. 4.0   |
| Rapid Decompression   | RTCA DO-160, D, E, F, G Sec. 4.0   |

<sup>1</sup>Including Customer Specifications directly related to the test technologies and within the equipment capabilities/parameters listed above



## *Accredited Laboratory*

A2LA has accredited

# **CASCADE ENGINEERING SERVICES, INCORPORATED**

*Redmond, WA*

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 3<sup>rd</sup> day of November, 2015.

A handwritten signature in black ink, reading "Peter Abney".

President & CEO  
For the Accreditation Council  
Certificate Number 3521.01  
Valid to November 30, 2017