



Environmental Testing Capabilities Data Sheet



Facilities

Jupiter Avionics' Kelowna B.C. Canada facility is equipped with state of the art equipment for avionics environmental testing. Test equipment supports testing to RTCA DO-160 requirements for sections 4-9,15-19 and 25.

Personnel

Our experienced test technologists can work closely with you, providing timely and effective assistance throughout the qualification process; including development of test fixtures and harnesses. We have access to Transport Canada Designated Airworthiness Representatives (DAR) for witnessing your testing for certification purposes.

Pre-Certification Testing

To ensure that formal certification testing will pass the first time, thus saving time and money, pre-certification testing should be performed first. These un-witnessed, informal tests can confirm that your equipment and test documentation is ready for the formal, witnessed tests or be used for engineering evaluation of prototype equipment. Pre-certification tests reduce the risk of going over budget and schedule.

Certification Testing

We can assist in the performance and preparation for TSO, STC, safety-of-flight and evaluation testing. This includes test planning and the writing of test procedures and reports. Call to discuss your testing requirements.



Specifications

Equipment

Our Capabilities include:

Temperature: DO-160 Section 4.5 and 5
Temp Range: -70 to +180 °C
Temp Change: ± 5 °C/min
Chamber Dim (DxHxW): 10.5 x 11.5 x 15 in
Access Port Diameter: 6 in



Altitude, Decompression: DO-160 Section 4.6
Altitude: 100,000 ft max
Temp Range: -70 to +170 °C
Temp Change: ± 2 °C/min
Chamber Dim (DxHxW): 20.5 x 19 x 20.5 in
Access Port Diameter: 3 in (Two each)



Overpressure: DO-160 Section 4.6.3
Pressure: -15,000 ft,
Chamber Dim (IDxH) 12 x 7 in
Access Port Diameter: none



Humidity: DO-160 Section 6
Humidity: 20 to 98 %RH
Temp Range: -50 to +100 °C
Temp Change: ± 2 °C/min
Interior Dimensions: 19 x 14 x 23 in
Access Port Diameter: 3.7 in



Mechanical Shaker: DO-160 Section 7 and 8
Sine Force: 660 lbf peak max
Random Force: 660 lbf rms max
Shock Force: 1320 lbf peak max
Freq Range: 3 to 3000 Hz
Displacement: 1.5 in max
Velocity: 59 in/s max
Acceleration: 35 g max
Armature Mass: 18.7 lbs



Power Input (DC), Audio Frequency Conducted Susceptibility: DO-160 Section 16 and 18
Operating Conditions (DC): -100 to +100 Vdc at 4 Adc
Abnormal Surge Voltage (DC): -100 to +100 Vdc at 4 Adc for 100 and 1000 ms
Audio Frequency Conducted Susceptibility: 0.004 to 4.0 Vpp over 0.01-150 kHz

Induced Signal Susceptibility: DO-160 Section 19
Magnetic Field: 20 A at 400 Hz, 30 A•m at 400 Hz to 0.8 A•m at 15 kHz
Electric Field: 1800 V•m over 380 to 420 Hz
Spikes: ≥ 600 Vpp with period 0.2 to 10 μ s duration 50 to 1000 us



Voltage Spike: DO-160 Section 17
Waveform: 600 Vp for 10 us



Electrostatic Discharge: DO-160 Section 25
Output Voltage: $\pm 15,000$ Vp