

## ENVIRONMENTAL LIFE TEST SERVICES

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SMART Microsystems' environmental life testing identifies reliability issues early in your product development. Our contract testing laboratory works directly with you to provide testing solutions that help ensure product quality and reliability. As part of your turn-key product solution, reliability study, or on an as-needed basis for overflow/bandwidth, SMART Microsystems can solve your issues before they become a problem in the field. For additional information you can visit our website, or you can call or send us an email to discuss your environmental life testing needs.

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### HAST

- Unsaturated or saturated humidity control
  - Multi-mode system (wet bulb/dry bulb) controls humidity at steady state and during ramps
  - Programmable controller with temperature, humidity, and count-down display
  - 12 Specimen power terminals, allows power-up of specimens
  - Two feed-through ports
  - Meets specification EIA/JEDEC Test Method A110 & 102C
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### THERMAL SHOCK

- High temperature exposure: 60°C to 200°C
  - Low temperature exposure: -65°C to 0°C
  - Temperature stability:  $\pm 0.5^\circ\text{C}$
  - Feed-through port
  - Meets specifications Mil-Std 883 1010.7/1010.8, IEC 61300-2-47, JEDEC JESD47E, JESD22-A104
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### THERMAL/HUMIDITY CYCLING & STEADY-STATE

- Temperature range:  $-35^\circ\text{C}$  to  $180^\circ\text{C}$
  - Temperature stability:  $\pm 0.3^\circ\text{C}$  (up to  $100^\circ\text{C}$ )
  - Heating rate:  $5.2^\circ\text{C}/\text{min}$
  - Cooling rate:  $3.5^\circ\text{C}/\text{min}$
  - Humidity range: 10% to 98% RH
  - Humidity stability:  $\pm 2.5\%$  RH
  - Feed-through port
  - Meets specifications JESD22-A100C, JESD22-A101C, IPC/JEDEC J-STD-020D.1
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(continued)



*Espec HAST Chamber*



*Espec Thermal Shock Chamber*



*Espec 85/85 Chamber*

## ENVIRONMENTAL LIFE TEST SERVICES CONTINUED

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### ACCELERATED UV DURABILITY

- 30x irradiation over conventional weatherometers
  - Acceleration factors up to 110x (material dependent)
  - Irradiation: 1500W/m<sup>2</sup>
  - Light wavelength: 295-450nm
  - Light uniformity: 90%
  - Temperature control: 50°C to 85°C during irradiation; 35°C to 75°C during dark; 30°C during dew
  - Humidity control: 40% to 70% RH during irradiation; 50% to 90% RH during dark; 97% to 100% RH during dew
  - Black panel temperature stability:  $\pm 3^{\circ}\text{C}$
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### VIBRATION TABLE

Vibration table test limits:

- Sine Force - 40 lbf Peak
- Random Force - 28 lbf rms
- Shock Force - 150 lbf peak
- Acceleration
  - 75g Driven
  - 150g Resonant
  - 300g Shock Pulse
- Frequency - up to 6.5 kHz



*EYE Lighting SUV-W161 Super UV Tester*



*Vibration Table*