Does:

Test & Services

Constant Acceleration

This test determines the effects of types of structural and/or mechanical weaknesses that may not have been detected in vibration tests. Uses vary from determining the mechanical limits of the package of the device, internal metallization, die or substrate attachment and other elements of the device

Frequency Aging

To demonstrate the quality and reliability of devices that are subjected to specific conditions over a given period of time. Data is collected at specified intervals (ex: every 72 hours). Test duration can be up to 30 days and may exceed that when required by the customer.

Mechanical Shock

Mechanical Shock testing of the devices Y1 axis determines the suitability of the devices for use in electronic equipment which may be subjected to moderately severe shocks as a result of suddenly applied forces or abrupt changes in motion produced by rough handling, transportation, or field operation.

Powered Burn-In

Powered burn-in testing screens for and eliminates marginal devices, those with inherent defects or defects resulting from manufacturing weaknesses which cause time and stress dependent failures.

Seal Testing

In order to determine the effectiveness (hermeticity) of the seal on the device, both gross (Fluorocarbon liquid) and fine leak (Grade 5 helium tracer gas) testing is performed. Seal tests are performed in accordance with MIL-STD-883, method 1014, conditions C and D.

Sine Vibration

Swept Sine Vibration testing determines the effect of high frequency vibration on component parts in the frequency range of 10 to 2000 Hz as may be encountered in aircraft, missiles and tanks, etc

Solderability and Resistance to Soldering Heat

This test performed in accordance with MIL-STD-202, Method 208 and resistance to solder heat per MIL-STD-202, Method 210, Test Condition C.

Stabilization Bake

The purpose of stabilization bake is to determine the effect on the device storage at elevated temperatures without electrical stress applied. Devices are placed into the Blue-M, Model CG-041-P-B-HP Environmental Chamber and subjected to 24 hours of dwell time at +150OC per MIL-STD-883, method 1008, Condition C.

Temperature Cycling/ Thermal Shock

This test proves the resistance of a device to extreme high and low temperatures. Tests are compliant to MIL-STD-202, method 107. Typical tests can be 1000 cycles of temperature shock for a total of 100 hours with a low temperature of -65 C and a high of +150C

Visual & Mechanical Examination

After the Pre-Cap inspection, the devices are visually and mechanically inspected per MIL-STD-1285, method 1 for marking in accordance with MIL-PRF-55310. Microscope examination is performed per MIL-STD-883, Method 2017 and 2032. Magnification levels are from 10X to 60X.

Tests, Standards, and Equipment List

Test	Test Standard	Equipment
Vibration- High Frequency	MIL-STD-202, Method 204 Cond- D, F & G	Ling Dynamic Systems- Model LDS V824
Vibration– Random	MIL-STD-202, Method 217A, Cond- J	
	MIL-STD-883, Method 2026, Cond 1 & 2: A1	
Vibration- Variable Frequency	MIL-STD-883, Method 2007.3, Cond A	
Mechanical Shock	MIL-STD-202, Method 213, Cond- A, J, & K	Avex- Model SM-110 MP
	MIL-STD-883, Method 2002.5, Cond A & B	
Particle Impact Noise Testinng (PIND)	MIL-STD-202, Method 217A	Spectral Dynamics, Inc- Model 4501A
	MIL-STD-883, Method 2020.9, Cond A & B	
Constant Acceleration	MIL-STD-202, Method 212A, Cond A & C	Unico Centerfuge, Model DS-C 030-MH
	MIL-STD-883, Method 2001.3, Cond A	
Humidity (Steady State)	MIL-STD-202, Method 103B, Cond- D	ESPEC- Model BTL-433
Moisture Resistance	MIL-STD-202, Method 106G	ESPEC- Model BTL-433
	MIL-STD-883, Method 1004.7	
Barometric Pressure (Altitude)	MIL-STD-202, Method 105C, Cond- A	Varian Mini-Task- Model AG 81
	MIL-STD-883, ,Method 1001, Cond- A	
Die Shear Strength	MIL-STD-883, Method 2019.9	DAGE- Model 4000
Bond Strength	MIL-STD-883, Method 2011.9, Cond D & F	
Bond Pull (Non- Destructive)	MIL-STD-883, Method 2023.7	
Thermal Shock	MIL-STD-202, Method 107G, Cond- A, & F	Blue M Thermal Shock Oven, Model WAP109-D with full data capture
	MIL-STD-883, Method 1011.9, Cond A & B	
Thermal Cycling	MIL-STD-883, Method 1010.8, Cond- A	Blue M Thermal Shock Oven, Model WAP109-D with full data capture
Insulation Resistance	MIL-STD-883, Method 1003	
Dielectric Withstanding Voltage	MIL-STD-202, Method 301	
Hermeticity- Fine Leak	MIL-STD-883, Method 1014.14, Cond A	Varian Leak Detector, Model 959-50
Hermeticity- Gross Leak	MIL-STD-883, Method 1014.14, Cond C	Intertest Bubble Detector, Model 1014CBL
Solderability	MIL-STD-202, Method 208	Shining Sun Enterprise Inc, Model SAS-2280
Resistance to Soldering Heat	MIL-STD-202, Method 210, Cond C	
High Temperature Storage	MIL-STD-883, Method 1008, Cond C	Blue M, Model C-0041-P-B-HP Environmental Chamber
Burn In (Active & Static)	Customer Specified	Blue M, Model C-0041-P-B-HP Environmental Chamber
Visual/Mechanical Examination	MIL-STD-883, Methods 2014, 2017, 2032- SJTD-001E/ES.	Leica EZ4 HD 35x Microscope

Additional test capabilities with external partners also available; Internal Vapor Analysis (RGA), Material Outgassing, Surface Analysis, X-Ray, SEM, XRF, Salt Spray, Acceleration and many others available as required.

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