

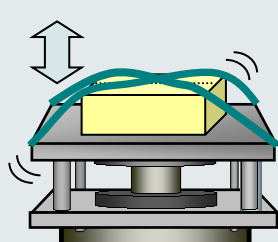
-Package drop, shock and vibration testing- Vibration and shock testing of mobile devices, electronic devices and transport packaging

Digital oscillographic recorders are useful for vibration and shock testing for mobile and electronic device and their packaging.

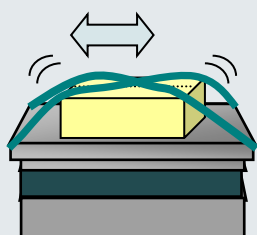
- Mobile devices are designed to be minimally affected from shocks and vibrations from drops. These test are performed during design verification and productization.
- Packaging is made smaller and lighter to cut costs in transport and to respond to environmental concerns. Vibration tests and packaging drop tests are carried out to ensure thorough consideration of product failure prevention measures even in small and lightweight packaging.
- Piezoelectric type sensors for miniaturization and strain gauge type sensors for free-fall acceleration and microvibration measurements are required for their respective purposes.

Vibration and shock measurement waveform image

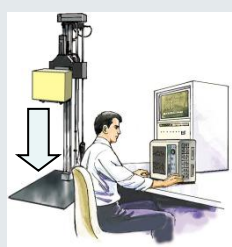
Vibration and shock measurement block diagram



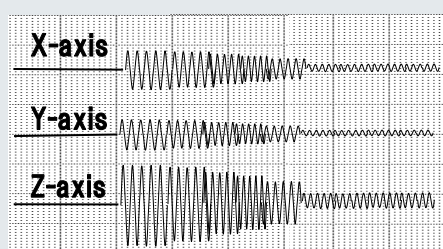
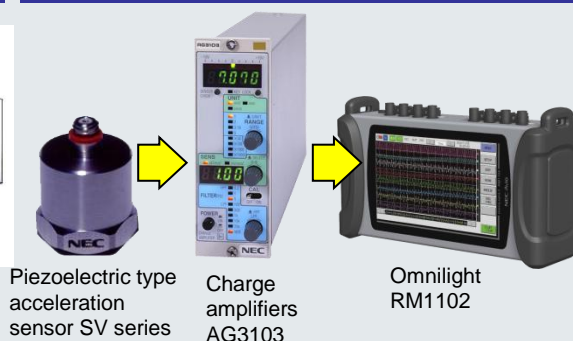
Vertical vibration test



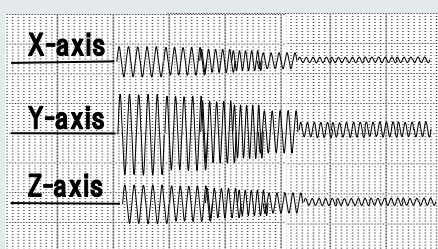
Horizontal vibration test



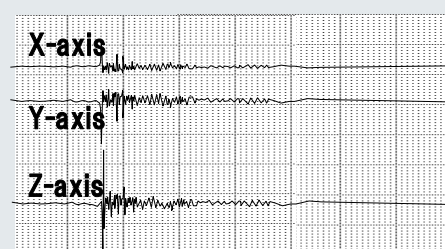
Shock drop test



3-axis vertical vibration waveform measurement image



3-axis horizontal vibration waveform measurement image



3-axis shock waveform measurement image



Why impact testing is necessary for electronic equipment

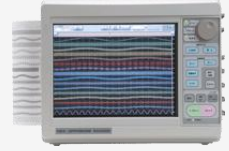
The continuing miniaturization of mobile electronic devices, increasing number of connection points due to high performance requirements and joint miniaturization are negatively affecting reliability. The increased likelihood of a device suffering a shock from dropped during use also increases the necessity of design that mitigates drop shocks. A mobile device board level drop impact test method is defined by JEDEC JESD22-B111. Surface mount devices such as CSP, TSOP, QFN, BGA, LGA used in portable devices are mounted as daisy-chained circuits in test boards. 1500 G, 0.5 ms sine half wave, 30 times or until failure of 80% of the samples. 1 μ s instantaneous interruptions can be detected.

Digital Oscilloscope Recorder

RA2000A Series Omniace III

Did you know?

The RA2300A/RA2800A can simultaneously measure vibration and impacts in addition to voltage, current, control timing, stress, pressure directly from sensors.



A&D prepares "strain gauge" and "piezoelectric" vibration/shock sensors to allow for selection of measurement systems to that suit the purpose of measurement.

