

# ELECTRONIC DEVICES

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In today's fast moving and ever-evolving consumer electronics market, competition forces OEMs to constantly push the boundaries of innovation to deliver smaller, thinner, and lighter products, without sacrificing quality or safety. Being able to measure various parameters that simulate user operations, such as the force required to press a button or how much a phone can bend before the screen cracks, is critical in understanding the user-experience, strength, and durability of many consumer electronic products.

As the leading global supplier of mechanical testing systems, Instron offers a wide variety of solutions for tension, compression, flexure, peel, torsion, and fatigue testing to give our customers the means of understanding how and when their products fail, so they can make better products.



Bend Testing of Devices



Compression and Puncture  
Testing of Batteries



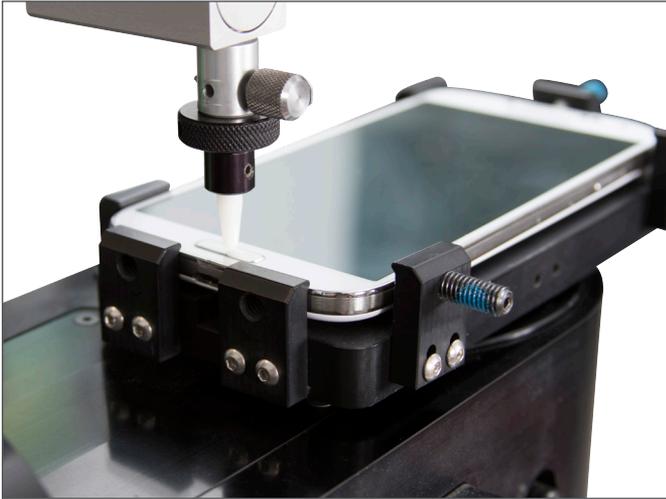
Tension Testing of  
Cables and Wires



Headphones  
Compression Testing

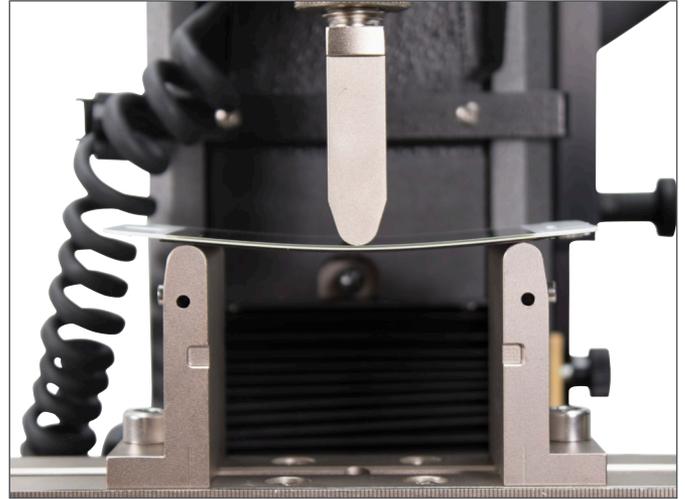
# COMMON APPLICATIONS

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## Button Testing

Buttons and switches are how most electronics are operated, making it vitally important to test the functionality of these components as the risk of defect could be high. Measuring the tactility, or the “feel” of a button, is mainly accomplished through compression tests to understand key parameters, such as the force required to engage the electrical signal.



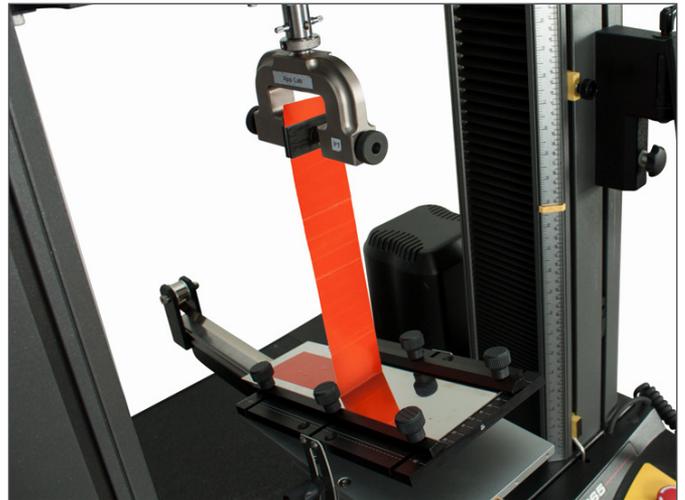
## Bend Testing

Screens and display panels are integral parts of electronic devices and OEMs are quickly adopting new technologies to enhance the visual experience. As the designs of these components change to become thinner and lighter, 3-point and 4-point bend testing is critical to understanding the strength of screens and display panels to identify potential product defects.



## Multi-Point Compression Testing

On average, billions of touch points are engaged by a user operating a touch capable display panel on a typical hand-held device. Force applied from touch can impact how a device responds, making it critically important to perform multi-point compression testing to understand the effect of force applied at various locations of the display panel.



## Peel Testing

Many of today’s most advanced display panels are created using multiple layers of glass or PET substrates that are bonded together with thin adhesive films. Important for both R&D and quality control purposes, peel tests help ensure that the adhesive bonds between each layer do not fail within their guaranteed specifications.

# RECOMMENDED SYSTEMS

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## Single Column

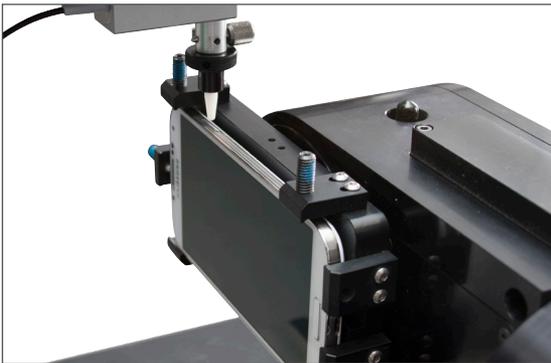
The 5900 series single column systems are suitable for conducting bend tests on screens and displays, compression tests on buttons, and peel tests. Various fixtures and probes are available, including:

- 3-point and 4-point flexure fixtures
- 90 degree, 180 degree, T-peel, and floating roller peel fixtures
- Probes of different designs and materials for compression testing on buttons



## Single Column XY Stage

The XY stage on the single column is ideal for button testing and multi-point compression testing. For button testing, the XY stage allows users to test multiple points on a single button and multiple button samples in a single run. In addition, the XY stage also offers the ability to automate multi-point compression testing on different sized display panels.



## Hybrid XY Stage

In addition to the standard XY stage (CP118156), Instron's hybrid single axis rotary stage adds an additional level of capability that allows testing on buttons at various locations on an electronic device. This gives the user the flexibility to test all the buttons in multiple degrees of freedom and generate results in a single test run.



## ElectroPuls™

The ElectroPuls fatigue testing systems provide the capability to run high speed cyclic/fatigue testing of electronic devices. Fatigue testing is critical to understand the reliability of components, such as buttons, display panels, and finished goods under accelerated conditions. These components are generally required to be tested for several million cycles and undergo failure analysis.

# SOFTWARE & SUPPORT

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## Bluehill® Universal and Instron Connect

Designed from the ground up for touch, Instron's static testing software, Bluehill Universal, is easy-to-use, increases testing efficiency, and contains modular features that enable users to run the most complex of tests.

With ISO 9001 accreditation, our goal is to provide the best ownership experience by delivering the highest quality products, expert support, and world-class service. Instron Connect provides users with a powerful communication platform via a secure connection between the Instron system at your facility and Instron's global technical support engineers. With Instron Connect, users receive faster remote technical support, reduce risk with schedule verification and preventive maintenance reminders, and are effortlessly able to keep up to date with the latest software features.

Visit our website to learn more about the different electronics sectors we support: [go.instron.com/electronics](http://go.instron.com/electronics)



Button Testing of Electronic Panels



Bend Testing of Cables and Wires



Insertion and Extraction Testing on Devices



Bend Testing of Display Panels

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