

Tack Pin Insertion System



Challenge

A consumer electronics manufacturer needed an automated proof-of-concept system to test two different fastening methods as well as different product attributes.

Solution

The Device Under Test (DUT) is manually inserted into a type-specific pocket on the tool, with connectivity established via spring-loaded pogo pins on the tool. DUT power is provided by current and voltage sources on the tool. Signal testing is via a chipcon board carried on the tool.

An operator manually loads either a completed reusable sensor assembly (RSA) or a reusable sensor assembly - printed circuit assembly (RSA PCA) into a custom-designed nest. The testing sequence is initiated via interaction with the custom software running on an external laptop computer. The test program triggers a series of applied electrical currents, which the RSA or RSA PCA convert to radio signals that are transmitted to the integrated smartboard.



The values received by the smartboard are passed back to the laptop computer and compared with the known input values and the device is determined to either pass or fail the test.

The RSA Test System (IRT) provides a compact, manual station suitable for low-volume testing of both prototype printed circuit assemblies as well as completed, encapsulated devices (with battery and antenna).

Result

The complete assembly enables automated encapsulation of 600 lead frame assemblies per hour.

About DWFRITZ Automation

Established in 1973, DWFRITZ Automation designs, builds, and supports engineer-to-order automation systems and high-speed, non-contact metrology platforms, as well as provides world-class build-to-print manufacturing capabilities to clients.

