RSA Test System

Challenge

A medical device manufacturer needed an automated proof-of-concept system to test reusable sensor assemblies (RSA) and transmitted signals from a unique miniature biosensor.

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 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.
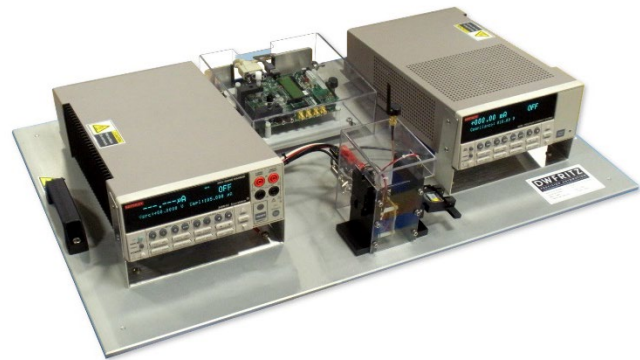
The values received by the smartboard are passed back to the computer and compared with the known input values to determine if the DUT has passed or failed the test.

Result

The test system 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).

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.