

AN INTELLIGENT SOLDERING CARTRIDGE FOR AUTOMATIC SOLDERING CONNECTION VALIDATION

Abstract

5 An intelligent soldering cartridge that includes: a housing; a solder tip; a heater for heating the solder tip; a storage device for storing information about characteristics of the cartridge; a processor for retrieving the information about characteristics of the cartridge, monitoring the power level delivered to the solder tip to detect liquidus occurrence at a solder joint, determining a thickness of an intermetallic compound (IMC) of the solder joint using
10 some of the retrieved information, determining whether the thickness of the IMC is within a predetermined range, and generating an indication signal indicating that a reliable solder joint connection is formed when the thickness of the IMC is within the predetermined range; and an interface for transmitting the indication signal.

15 Figure 8.