

Bump height at low temperature analysis

Abstract

The effects of chemical bath time in response to the bump height in electroless nickel immersion gold (ENIG) process was investigated. This paper presents the correlation between electroless process time, immersion gold process time and the bump height. A certain bump height need to be achieved in order to create acceptable solder bumps for reflow process. The study was done using a full factorial design of experiment (DOE). The DOE matrix is made of two levels with two factors. Analysis was done by plotting the main effects plot for each factor. The results suggest that higher process time increases the plating rate where the temperature fixed at 70°C. Electroless nickel time has more influence to the bump height compared to immersion gold time.

Keywords

Bump height; Controllable parameters; DOE; ENIG