

ABSTRACT

A universal chip batch-bonding apparatus and method. The apparatus comprises a material pick-and-place area and a transfer work area. The material pick-and-place area comprises a blue tape pick-and-place area (110) for providing a chip (113) and a substrate pick-and-place area (120) for placing a substrate (123), the blue tape pick-and-place area (110) and the substrate pick-and-place area (120) being separately arranged at two ends of the transfer work area. The transfer work area sequentially comprises a chip pickup and separation area (210), a chip alignment and fine-tuning area (220), and a chip batch-bonding area (230) in a direction running from the blue tape pick-and-place area (110) to the substrate pick-and-place area (120). A chip carrier transfer apparatus (300) is provided in the transfer work area, and the chip carrier transfer apparatus (300) passes through the transfer work area and is used to move and supply materials among the chip pickup and separation area (210), the chip alignment and fine-tuning area (220), and the chip batch-bonding area (230). By means of a compatible design, the apparatus is suitable for both die-up and die-down attachment modes, expanding the application scope of the apparatus. In addition, the modular design can be configured according to requirements, increasing market potential.