

## **Microfluidic photomask design using CAD software for application in lab-on-chip biomedical nano diagnostics**

### **Abstract**

Photomasks are used as stencil to print images on semiconductor material. This study represents design and specifications of photomask for microfluidic fabrication. For a precise pattern transfer, the photomask should meet with certain considerations such as critical dimension uniformity, resolution and alignment. This paper explains the design of microfluidics with three channels using AutoCAD software for lab-on-chip application. Total surface area of the device is 242.52mm<sup>2</sup> in which the width and length is 12.00mm and 20.21mm respectively. The device was designed in particular size to meet its behavior as a disposable chip and increases the economic value when it is fabricated.

### **Keywords**

AutoCAD; Biomedical; Critical dimension; Lab-on-chip; Microfluidic; Nano diagnostic; Photomask