ABSTRACT

Flow cells systems and corresponding methods are provided. The flow cells systems may include a socket comprising a base portion, a plurality of electrical contacts and a cover portion that includes a first port. The flow cells systems may also include a flow cell device secured within an enclosure of the socket. The flow cell device may comprise a frameless light detection device comprising a base wafer portion, a plurality of dielectric layers, a reaction structure, a plurality of light guides, a plurality of light sensors, and device circuitry electrically coupled to the light sensors. The flow cell device may also comprise a lid forming a flow channel over the reaction structure that includes a second port in communication with the flow channel and the first port of the socket. The device circuity of the light detection device may be electrically coupled to the electrical contacts of the socket.

[FIG. 1]