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(54) Title: APPARATUS FOR DETECTING ANALYTES

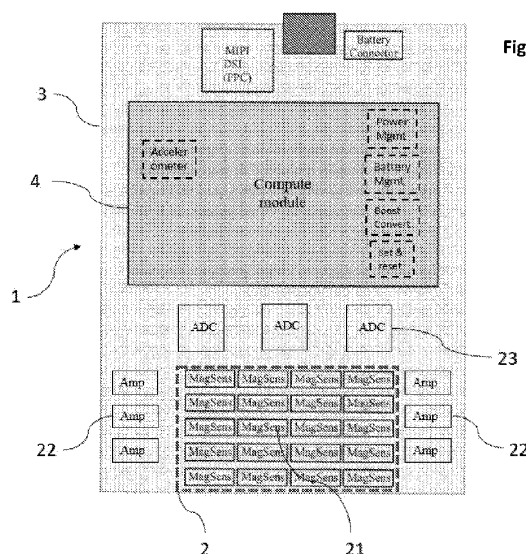


Figure 1

(57) **Abstract:** Described is an apparatus comprising magnetisable particles adapted for binding to an analyte, the apparatus comprising a sensing zone comprising least an array of magnetic field sensors, a sample introduction device configured to introduce the sample to the sensing zone, optionally a field generator (optimised for magnetic and/or electric field generation) if the magnetisable particles do not have an aligned dipole moment, a controller connected to receive signals from the array of magnetic and/or electric field, the controller configured to determine an amount of analyte in the sample based on the signals received from the array of magnetic and/or electric field sensors, and an additional feature selected from one or more of a set and reset module or capability for performing a set/reset of the magnetic sensors, a data transmission layer, that is configured to shield the signals being transmitted from the one or more magnetic sensors, a plurality of magnetic field transmission zones corresponding to an area below each magnetic sensor, and a printed

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circuit board comprising one or more vias connecting to the magnetic field sensors.