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Islam

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(54) **SHORT-WAVE INFRARED SUPER-CONTINUUM LASERS FOR DETECTING COUNTERFEIT OR ILLICIT DRUGS AND PHARMACEUTICAL PROCESS CONTROL**

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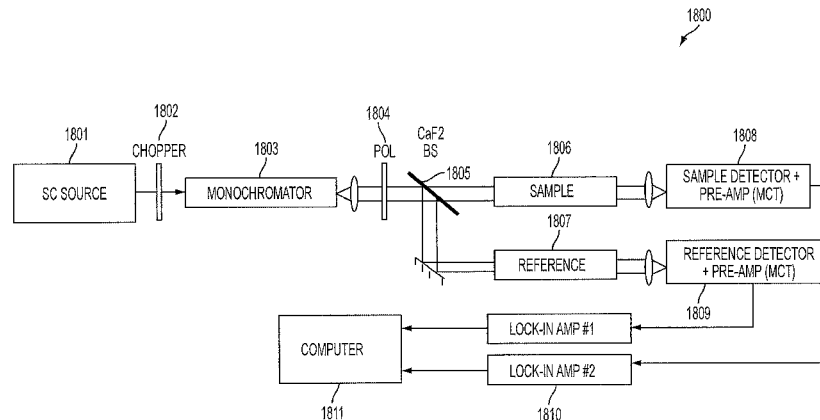
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(57) **ABSTRACT**

A measurement system includes a wearable measurement device for measuring one or more physiological parameters, including a light source comprising a plurality of light emitting diodes (LEDs) configured to generate an output optical beam with a near-infrared wavelength between 700 nanometers and 2500 nanometers. The light source is configured to increase signal-to-noise ratio by increasing a light intensity and pulse rate of the LEDs. The system includes a plurality of lenses configured to receive the output optical beam and to deliver an analysis output beam to a sample. The wearable measurement device includes a receiver configured to process the analysis output beam reflected or transmitted from the sample and to generate an output signal

(Continued)



that may be transmitted to a remote device configured to process the received output status to generate processed data and to store the processed data.

18 Claims, 26 Drawing Sheets

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(58) **Field of Classification Search**

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