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(54) **MULTIPLE WAVELENGTH SENSOR SUBSTRATE**

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Schmitt, Joseph M.; Zhou, Guan-Xiong; Miller, Justin, *Measurement of Blood Hematocrit by Dual-wavelength Near-IR Photoplethysmography*, published May 1992, Proc. SPIE vol. 1641, p. 150-161, Physiological Monitoring and Early Detection Diagnostic Methods, Thomas S. Mang; Ed. (SPIE homepage), in 12 pages.

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(57) **ABSTRACT**

(51) **Int. Cl.**  
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(58) **Field of Classification Search** ..... **600/310**,  
600/331, 333, 336

See application file for complete search history.

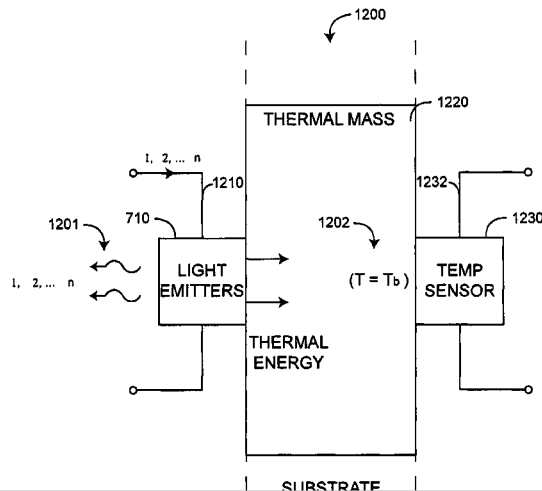
A physiological sensor has emitters configured to transmit optical radiation having multiple wavelengths in response to corresponding drive currents. A thermal mass is disposed proximate the emitters so as to stabilize a bulk temperature for the emitters. A temperature sensor is thermally coupled to the thermal mass. The temperature sensor provides a temperature sensor output responsive to the bulk temperature so that the wavelengths are determinable as a function of the drive currents and the bulk temperature.

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**30 Claims, 48 Drawing Sheets**



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