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(54) **Title:** NON-INVASIVE MEDICAL DEVICE EFFICIENCY AND FAULT DETECTION SYSTEMS AND METHODS OF USE

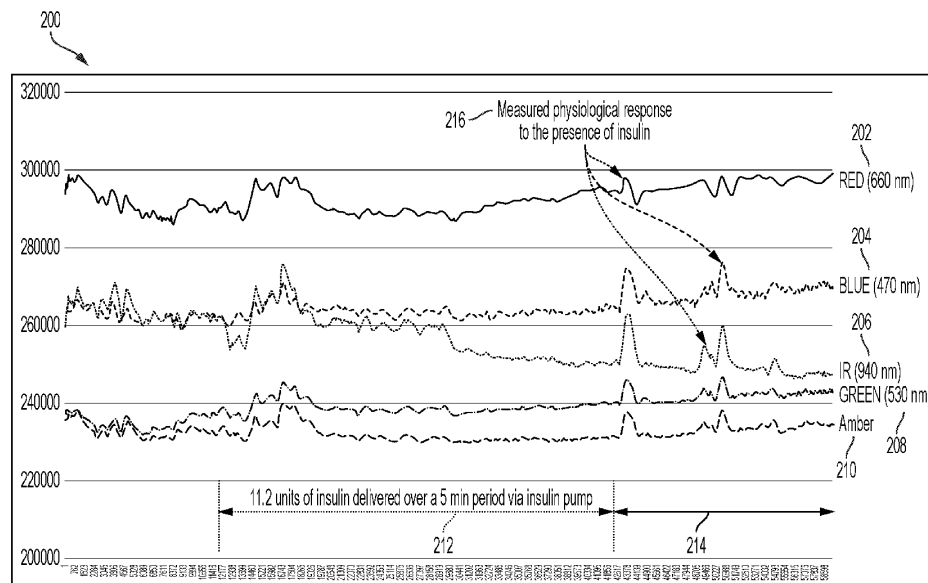


FIG. 2

(57) **Abstract:** Medical device efficiency detection methods and systems including a photoplethysmography (PPG) sensor device, a processor, a memory, and machine readable instructions that may cause the system to receive a notification at the PPG device from the medical device upon delivery of the therapy treatment, use the PPG device to search for a signal response of the user based on the notification within a period of time to generate a response signal indicative of therapy treatment delivery, and transmit an alert when the response signal is not generated in the period of time indicative of a failure to detect sufficient therapy treatment delivery. The instructions may cause the system to transmit an alert when signal measurements from the PPG device of an infusion site are not within a sufficient signal range to indicate the infusion site is insufficient for delivery of the therapy treatment by the medical device.

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
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