

DIAGNOSTIC KIT WITH A MEMORY STORING TEST STRIP CALIBRATION CODES AND RELATED METHODS

ABSTRACT OF THE DISCLOSURE

A diagnostic kit for measuring a characteristic of a fluid sample includes a test strip (e.g., a disposable blood glucose test strip) and device (e.g., a hand-held meter) for measuring a property (e.g., an optical or electrochemical property) of the test strip. The device also calculates, based on the measured property of the test strip, a characteristic (e.g., blood glucose concentration or INR) of a fluid sample applied to the test strip. Stored in a memory of the device are test strip calibration codes that represent geometric regions (e.g., polygonal or hexagonal geometric regions) of a multi-dimensional calibration parameter space. The test strip calibration codes and geometric regions are distributed across the multi-dimensional calibration parameter space such that a quantization error of assigning one of test strip calibration codes to the test strip is optimally reduced. Also, a method for optimally associating test strip calibration codes to calibration parameters for use in such a diagnostic kit that includes first optimally distributing a plurality of test strip calibration codes and geometric regions represented thereby across a multi-dimensional calibration parameter space. The distribution is conducted such that a quantization error of assigning one of the test strip calibration codes to the test strip of the diagnostic kit is optimally reduced. The method also includes storing the distributed test strip calibration codes in a memory of the diagnostic kit.

Figure 1