(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 July 2011 (07.07.2011)

PCT

(10) International Publication Number
WO 2011/082341 A1

(51) International Patent Classification:
A61B 5/02 (2006.01)

(21) International Application Number:
PCT/US2010/062564

(22) International Filing Date:
30 December 2010 (30.12.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

12/650,370	30 December 2009 (30.12.2009)	US
12/650,392	30 December 2009 (30.12.2009)	US
12/650,354	30 December 2009 (30.12.2009)	US
12/650,374	30 December 2009 (30.12.2009)	US
12/650,383	30 December 2009 (30.12.2009)	US
12/650,389	30 December 2009 (30.12.2009)	US

(71) Applicant *(for all designated States except US)*: **SOTERA WIRELESS, INC.** [US/US]; 9444 Waples Street, Suite 280, San Diego, CA 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **BANET, Matt** [US/US]; 2125 Awihi Place, Kihei, HI (US). **DHILLON, Marshal** [US/US]; 10402 Camino San Thomas, San Diego, CA 92127 (US). **McCOMBIE, Devin** [US/US]; 4030 Moratalla Terrace, San Diego, CA 92130 (US).

(74) Agents: **WHITTAKER, Michael A.** et al.; Biotechnology Law Group, 12707 High Bluff Drive, Suite 200, San Diego, CA 92130 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: BODY-WORN SYSTEM FOR MEASURING CONTINUOUS NON-INVASIVE BLOOD PRESSURE (CNIBP)

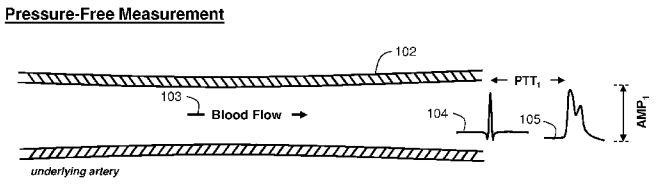


Fig. 1A

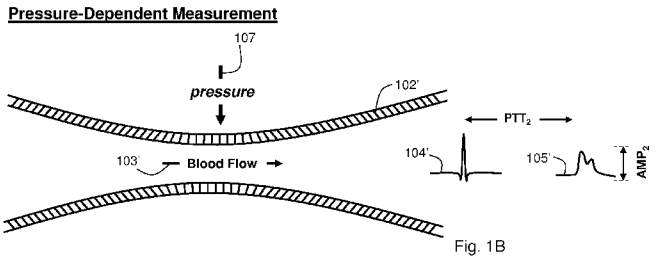


Fig. 1B

(57) **Abstract**: The present invention provides a technique for continuous measurement of blood pressure based on pulse transit time and which does not require any external calibration. This technique, referred to herein as the 'Composite Method', is carried out with a body- worn monitor that measures blood pressure and other vital signs, and wirelessly transmits them to a remote monitor. A network of body- worn sensors, typically placed on the patient's right arm and chest, connect to the body- worn monitor and measure time- dependent ECG, PPG, accelerometer, and pressure waveforms. The disposable sensors can include a cuff that features an inflatable bladder coupled to a pressure sensor, three or more electrical sensors (e.g. electrodes), three or more accelerometer s, a temperature sensor, and an optical sensor (e.g., a light source and photodiode) attached to the patient's thumb.

WO 2011/082341 A1