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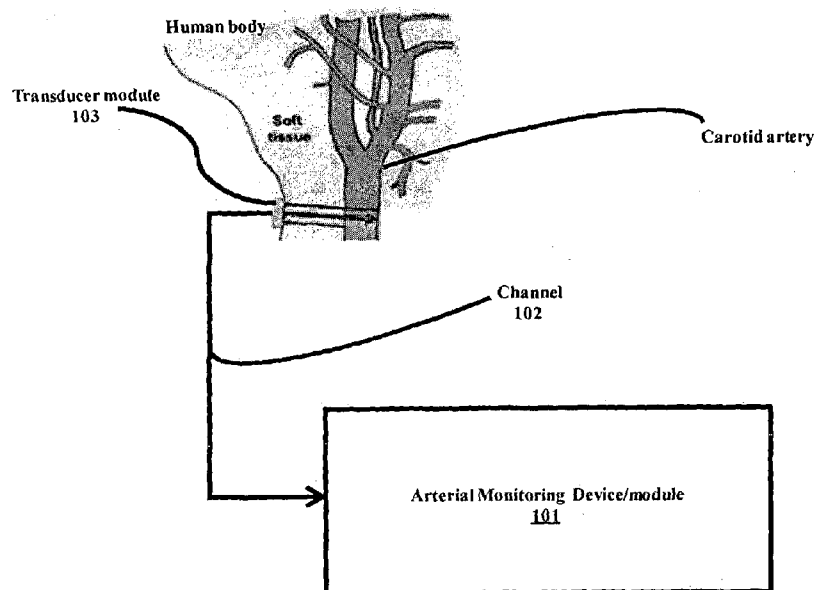
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[Continued on next page]

(54) Title: AUTOMATED EVALUATION OF ARTERIAL STIFFNESS FOR A NON-INVASIVE SCREENING



(57) Abstract: This invention relates to medical monitoring and analysis, and more particularly to automated evaluation of arterial stiffness for non-invasive cardiovascular screening. The system tracks and measures motion of carotid artery in the human body using ultrasound based mechanism. Once position of the carotid artery is detected, a wall motion correlation check mechanism is used to measure motion of the artery wall echoes from one frame to another and to ensure that the artery wall motion only is continuously tracked and measured for cardiovascular screening. Further, using values of certain parameters measured during the ultrasound tracking, arterial compliance is measured. Further, from the arterial compliance parameter, arterial stiffness and other associated heart diseases are identified.



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<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) IPC(8): A61B 5/02, 04, 021, 029, 0215 (2014.01) USPC: 600/486, 492, 500, 508, 526, 587</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google/Google Scholar; ProQuest; Pubmed/Medline: arterial, artery, stiffness, rigidity, compliance, measure, determine, evaluate, diastolic, carotid, pulse, pressure, value, figure, calculation, number, distension, contractability, echo, ultrasonic, ultrasound, vascular</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 2007/0004982 A1 (MARWICK, TH et al.) January 4, 2007; figures 1-3; paragraphs [0051]-[0052], [0055]-[0057], [0064], [0070])</td> <td>1-16</td> </tr> <tr> <td>X</td> <td>US 6238349 B1 (HICKEY, DD) May 29, 2001; column 3, lines 40-44; column 17, lines 59-64; column 18, lines 54-60; column 20, lines 13-32; column 21, lines 41-44; 61-67</td> <td>1</td> </tr> <tr> <td>A</td> <td>US 2007/0016083 A1 (HASEGAWA, M) January 18, 2007; figure 1; paragraphs [0005], [0007], [0011]</td> <td>1-8</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2007/0004982 A1 (MARWICK, TH et al.) January 4, 2007; figures 1-3; paragraphs [0051]-[0052], [0055]-[0057], [0064], [0070])	1-16	X	US 6238349 B1 (HICKEY, DD) May 29, 2001; column 3, lines 40-44; column 17, lines 59-64; column 18, lines 54-60; column 20, lines 13-32; column 21, lines 41-44; 61-67	1	A	US 2007/0016083 A1 (HASEGAWA, M) January 18, 2007; figure 1; paragraphs [0005], [0007], [0011]	1-8
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<p>Name and mailing address of the ISA/US</p> <p>Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer:</p> <p>Shane Thomas</p> <p>PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>												