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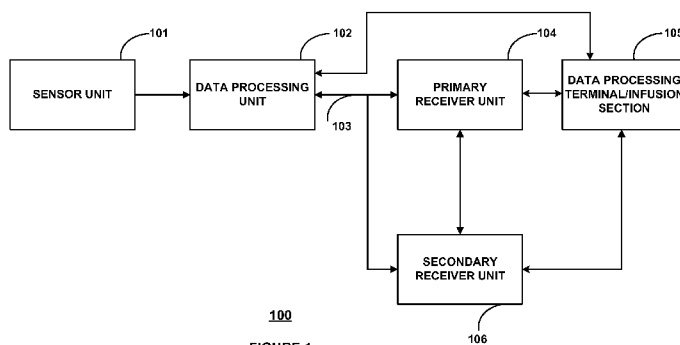


FIGURE 1

(57) Abstract: Methods and devices to detect analyte in body fluid are provided. Embodiments include positioning an analyte sensor in fluid contact with an analyte, detecting an attenuation in a signal from an analyte sensor after positioning during a predetermined time period, categorizing the detected attenuation in the analyte sensor signal based, at least in part, on one or more characteristics of the signal, performing signal processing to generate a reportable data associated with the detected analyte sensor signal during the predetermined time period, managing if and when to request additional reference signal measurements, and managing if and when to temporarily not display results.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 09/38698

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - A61B 5/05 (2009.01)
 USPC - 600/561
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) - A61B 5/05 (2009.01)
 USPC - 600/561

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 USPC - 600/561, 152, 345; 73/861.04, 861.14, 864.74; 702/100

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Databases: USPTO PubWEST(PGPB,USPT,EPAB,JPAB); Google(Scholar)
 Search terms: sensor, detector, monitor, glucose, sugar, attenuate, calibrate, reference, standard, sensitivity, daily, hourly, report, output, threshold

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/0016381 A1 (KAMATH et al.) 18 January 2007 (18.01.2007), para [0172]-[0176], [0216], [0437]-[0483], [0506]-[0509], [0522], [0581]-[0582]	1-15, 27-42
A	US 2007/0038053 A1 (BERNER et al.) 15 February 2007 (15.02.2007), para [0101]-[0114], [0144]-[0168]	1-15, 27-42
A	US 6,885,883 B2 (PARRIS et al.) 26 April 2005 (26.04.2005), col 2 ln 25-52	1-15, 27-42

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 18 August 2009 (18.08.2009)	Date of mailing of the international search report 31 AUG 2009
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/38698

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

- 1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

- 2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

- 3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
---see extra sheet---

- 1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
- 2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
- 3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
- 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-15 and 27-42

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/US 09/38698

Box No. III: Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I: Claims 1-15 and 27-42: drawn to a method, a corresponding apparatus, and a corresponding storage device with a processor readable code having including instructions for carrying out the following method: positioning an analyte sensor in fluid contact with an analyte; detecting an attenuation in a signal from the analyte sensor; categorizing the detected attenuation signal; and performing signal processing to generate a reportable data.

Group II: Claims 16-20: drawn to a method, comprising: monitoring for a signal level below a predetermined threshold associated with analyte level from an analyte sensor during a predefined time period; and reporting analyte level associated with the analyte sensor when the signal level monitored is not detected during the predefined time period.

Group III: Claims 21-26: drawn to a method of initializing a glucose sensor, the method comprising: inserting at least a portion of a glucose sensor beneath a skin surface of an individual; analyzing glucose-related signal; and reporting glucose related information to the individual.

The inventions listed as Groups I - III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Groups II and III do not require the specific method of detecting an attenuation signal from an analyte sensor, categorizing the attenuation signal, and processing the signals to generate reportable data, as required by Group I.

Groups I and III do not require the specific method of analyte level monitoring for a level above or below the analyte threshold level, as required by Group II.

Groups I and II do not require the method glucose level analysis by placing a glucose sensor beneath the skin surface of an individual, as required by Group III.

Groups I to III therefore lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.