

## PATENT COOPERATION TREATY

From the:  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
  
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Singapore

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY (PCT Rule 66)

Date of mailing  
(day/month/year) 20 August 2012

Applicant's or agent's file reference

**REPLY DUE** within **TWO MONTHS**  
from the above date of mailing

International application No.

**PCT/SG2012/XXXXXX**

International filing date (day/month/year)

05 January 2012

Priority date (day/month/year)

20 January 2011

International Patent Classification (IPC) or both national classification and IPC

**A61B 5/00 (2006.01)**

Applicant

XYZ COMPANY et. al.

1.  The written opinion established by the International Searching Authority:  
 is  is not  
considered to be a written opinion of the International Preliminary Examining Authority.
2. This **Second** opinion contains indications relating to the following items:
- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.
- When?** See the **Reply Due** date indicated above. However, the Australian Patent Office will not establish the Report before the earlier of (i) a response being filed, or (ii) one month before the **Final Date** by which the international preliminary examination report must be established. The Report will take into account any response (including amendments) filed before the Report is established. **If no response is filed by 1 month before the Final Date**, the international preliminary examination report will be established on the basis of this opinion.  
Applicants wishing to have the benefit of a further opinion (if needed) before the report is established should ensure that a response is filed at least **3 months before the Final Date** by which the international preliminary examination report must be established.
- How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3.  
For the form and the language of the amendments, see Rules 55.3 and 66.8.
- Also** For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4*bis*.  
For an informal communication with the examiner, see Rule 66.6  
For an additional opportunity to submit amendments, see Rule 66.4.
- If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.
4. The **FINAL DATE** by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is:

**Name and mailing address of the IPEA**

AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
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**Authorised Officer**

Patents Examiner  
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**Box No. I      Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
- The international application in the language in which it was filed:
- A translation of the international application into , which is the language of a translation furnished for the purposes of :
- international search (under Rules 12.3(a) and 23.1 (b)).
- publication of the international application (under Rule 12.4(a)).
- international preliminary examination (Rules 55.2(a) and/or 55.3(a) and (b)).
2. With regard to the **elements** of the international application, this opinion has been established on the basis of (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."):
- the international application as originally filed/furnished
- the description:      pages 1-45 , as originally filed/furnished  
    pages , received by this Authority on      with the letter of  
    pages , received by this Authority on      with the letter of
- the claims:      Nos. , as originally filed/furnished  
    Nos. , as amended (together with any statement) under Article 19,  
    Nos. 1-20 , received by this Authority on 13 July 2012 with the letter of 13 July 2012  
    Nos. , received by this Authority on      with the letter of
- the drawings:      pages 1/36 - 36/36 , as originally filed/furnished  
    pages , received by this Authority on      with the letter of  
    pages , received by this Authority on      with the letter of
- a sequence listing - see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (specify):
4.  This opinion has been established as if (some of) the amendments listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)).
- the description, pages
- the claims, Nos.
- the drawings, sheets/figs
- the sequence listing (specify):
5.  This opinion has been established:
- taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 66.1(d-bis)).
- without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 66.4bis).
6.  Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this opinion (Rule 45 bis.8(b) and (c)).

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**Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 6	<b>YES</b>
	Claims 1-5, 7-20	<b>NO</b>
Inventive step (IS)	Claims NONE	<b>YES</b>
	Claims 1-20	<b>NO</b>
Industrial applicability (IA)	Claims 1-20	<b>YES</b>
	Claims NONE	<b>NO</b>

**2. CITATIONS AND EXPLANATIONS:****CITATIONS**

D1: US 2010/0305418 A1 (DELIWALA) 02 December 2010

D2: US 2005/0228244 A1 (BANET) 13 October 2005

**NOVELTY (N)**

**Claims 1–5 and 7–20** are considered to lack novelty in view of **D1** for similar reasons to those outlined in the first written opinion. Regarding the present amendments, the examiner appreciates that a coupling member being configured for physically coupling in a cableless configuration to a personal mobile processing device excludes a wireless means of communication. However, the examiner contends that **D1** discloses a physically coupled coupling member in a cableless configuration, wherein said coupling member is arranged to transmit the detected signal to a personal mobile processing device for deriving from the detected signal, saturation of peripheral oxygen (SpO<sub>2</sub>) information of the user.

Therefore the subject matter of these claims is not new and does not meet the requirements of Article 33(2) of the PCT with regard to novelty.

The examiner has considered the applicant's amendments and considers that the submissions are not persuasive. In particular, **D1** discloses a coupling member (position sensitive detector 24, Figure 7) configured for physically coupling in a cableless configuration to a personal mobile processing device. The position sensitive detector is physically coupled to red and infra-red LED light sources and to electronics that transmit the detected signals to a personal mobile processing device for deriving from the detected signal, saturation of peripheral oxygen (SpO<sub>2</sub>) information of the user (see Figure 5 and paragraphs [0018], [0041] & [0043]). Moreover, the communication is cableless in the sense that, in the words of the applicant's response:

*'... "physically coupling in a cableless configuration" involves physical attachment of some kind without the use of wire or cables extending therefrom (see page 10 lines 33–34 of the specification).'*

The applicant's submissions further assert that:

*'D1 does not disclose that the processing of the detected signal to derive SpO<sub>2</sub> levels is carried out in a separate personal mobile processing device as required by the presently amended claims.'*

However, the examiner construes the scope of the claims as written to include a personal mobile processing device that incorporates a reflectance-based optical measurement device *in a single device*. The present claims are not restricted to a measurement device that is *separate to or separable from an external* personal mobile processing device.

In addition, the applicants state that:

*'D1 is silent on its device being "holderless" in the manner required by the present claims.'*

The examiner respectfully disagrees. The device of **D1** is holderless as defined on page 11 of the present application, that is, provided without a holder, clip or cuff. Paragraphs [0005] & [0007] of **D1** teach away from the use of 'a mechanical device, such as Form PCT/IPEA/408 (Box V) (January 2015)

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a clip' for placing a measurement device of the type in the present invention close to a surface portion of a user for measurement and detection purposes, stating that affixing a light source or detector to the object (a surface portion of a user) requires additional maintenance which is to be avoided.

**Claim 6** meets the criteria set forth in PCT Article 33(2) for novelty. The prior art published before the priority date does not disclose a reflectance-based optical measurement device wherein the cableless configuration comprises a coupling means of the coupling member in a form of a universal serial bus (USB) or a 30-pin port.

Therefore the subject matter of **claim 6** is new and meets the requirements of Article 33(2) of the PCT with regard to novelty.

**INVENTIVE STEP (IS)**

1. Given the novelty objection, **claims 1–5 and 7–20** do not involve an inventive step.

**Claim 6** does not involve an inventive step in light of **D1** because physically coupling a coupling member in a cableless configuration, wherein said cableless configuration comprises a universal serial bus (USB) or a 30-pin port, is a mere obvious alternative to the wireless configuration disclosed in **D1** (paragraph [0043]). Moreover, paragraph [0041] discloses an input/output interface (760 in Figure 5), which is one of the applicant's embodiments of a physical, cableless connection. The person skilled in the art would be well-equipped to use a USB or 30-pin port as such an interface.

2. **Claims 1–3, 5–13 and 15–20** lack an inventive step in light of **D2**, the disclosure of which was outlined in the first written opinion. Therefore the subject matter of these claims is obvious in light of **D2** and does not meet the requirements of Article 33(3) with regard to inventive step.

The examiner has considered the applicant's submissions and amendments, but is not persuaded that the amended claim set involves an inventive step. In particular, the examiner contends that **D2** discloses a coupling member for *physically* coupling to a personal mobile processing device (see paragraphs [0019] & [0021] and mini-USB ports 2 and 3 in Figure 1). The examiner agrees that the PC and PDA/cell-phone connectors given by reference numerals 10 and 15 in Figure 2, respectively, are not cableless; the cables connect the monitoring device to a personal mobile processing device. Again, the examiner notes that the present claims are not restricted to a measurement device that is *separate to or separable from an external* personal mobile processing device; nonetheless, the device disclosed in **D2** is separate to an external mobile processing device, as seen in Figures 1 and 2.

The examiner disagrees with the applicant's statement that the device of **D2** is not capable of physically coupling in a *cableless* configuration to a portable mobile device. Input port 2 of **D2** is a mini-USB port (paragraph [0019]) which connects via a standard USB input terminal to a PC or via a serial connection to a PDA/cell phone (Figure 2). Clearly, Figure 2 shows a cable between the different connection means; however, cableless mini-USB to USB adapters and cableless mini-USB to serial converters were readily available in electronics catalogues at the priority date of the claims, and would have been well known to the skilled addressee. The examiner considers that the cableless configuration of claim 1 is a mere obvious alternative to the cabled configuration of **D2**.

The examiner agrees with the applicant's statement that, in **D2**:

*'the processing of SpO<sub>2</sub> information is done and shown on the device itself,'*

rather than first transmitting the detected signal to the personal mobile processing device via the coupling member and then deriving SpO<sub>2</sub> information from the detected signal on the mobile processing device. However, processing the detected signal on a mobile device instead of within the reflectance-based optical measurement device is a mere matter of design choice. The applicant's argument that processing the detected signal separately from the measurement device permits a relatively small-sized device that is not processor intensive is not persuasive. Microprocessors capable of complete and complex processing were common general knowledge to the non-inventive person skilled in the art at the priority date of the claims.

The examiner contends that the sustained inventive step argument is substantiated herein, while refraining from the application of hindsight. Further arguments and amendments which would distinguish the claims from the prior art of record are welcomed.

Therefore **claims 1–20** do not involve an inventive step and do not comply with the requirements of Article 33(3) of the PCT.

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**INDUSTRIAL APPLICABILITY (IA)**

The invention defined in the claims is considered to meet the requirements of Industrial Applicability under Article 33(4) of the PCT because it can be made by, or used in, industry.