
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 (Rules 12.3(a) and 23.1 (b)).
2. 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 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of

the entire international application

claims Nos. 14, 15

because:

the said international application, or the said claims Nos. relate to the following subject matter which does not require an international search (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

no international search report has been established for the whole application or for said claims Nos. 14, 15

a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

furnish a sequence listing in the form of an Annex C/ST.25 text file, and such listing was not available to the International Searching Authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.

furnish a sequence listing on paper or in the form of an image file complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.

pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rule 13ter.1(a) or (b).

See Supplemental Box for further details

Box No. IV Lack of unity of invention

1. In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has, within the applicable time limit:
- paid additional fees
 - paid additional fees under protest and, where applicable, the protest fee
 - paid additional fees under protest but the applicable protest fee was not paid
 - not paid additional fees
2. This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- complied with
 - not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- all parts.
 - the parts relating to claims Nos. 1-13

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>11, 12</u>
	No: Claims	<u>1-10, 13</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-13</u>
Industrial applicability (IA)	Yes: Claims	<u>1-13</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item IV

Lack of unity of invention

1 This Authority considers that the application does not meet the requirements of unity of invention and that there are 2 inventions covered by the claims:

Set 1: claims 1-13;

Set 2: claims 14-15.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

1.1 The prior art has been identified as US2016007934 A1 (D1) and discloses:

A sleep monitoring system (para. [0110]) comprising: a wearable electronic device (abstract) to be worn by a user, the wearable electronic device comprising: a set of one or more motion sensors (para. [0111]) to generate motion data that represent motion of the wearable electronic device over a first time window, and a set of one or more optical sensors (para. [0111]) to generate cardiopulmonary pulse-related data detected by the wearable electronic device over the first time window; a set of one or more processors (para. [0178]) configured to receive data from the set of motion sensors and the set of one or more optical sensors; and a non-transitory, machine-readable storage medium (implicit) operatively coupled to the set of one or more processors and having stored therein instructions that, when executed, cause the set of one or more processors to: extract a movement feature from the motion data covering the first time window (para. [0116]); extract a pulse data feature from the cardiopulmonary pulse-related data covering the first time window (para. [0116]); and use the movement feature and the pulse data feature to cause a classifier to label a time period associated with the first time window with an identifier indicating a first sleep stage selected from a plurality of sleep stages (para. [0127]).

1.2 The subject-matter of claim 1 is therefore not new.

Claims 2-13, which depend on claim 1, are either anticipated by D1 or relate to trivial features and were therefore grouped to the first set of claims, which does not show any special technical feature.

1.3 With regard to claim 14, D1 does not disclose a system which generates a first graphical user interface component that indicates a relative percentile breakdown of total time spent in each of the sleep stages for the first sleep session.

This feature can be considered as a special technical feature within the meaning of Rule 13.2 PCT and the corresponding problem can be construed as how to conveniently display sleep stages data.

Claim 15 depends on claim 14 and was grouped to the second set of claims.

- 1.4 No similar nor corresponding (i.e. solving a same technical problem) special technical features can be identified between the two set of claims. Therefore, no relationship involving a single general inventive concept can be established between the said groups of inventions.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1 US 2016/007934 A1 (ARNOLD JACOB ANTONY [US] ET AL) 14 January 2016 (2016-01-14)
- D2 WO 2015/119726 A2 (INTEL CORP [US]) 13 August 2015 (2015-08-13)

2 Independent claims

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT in view of D1 (see feature analysis under section 1.1 of the present opinion)

- 2.2 For the sake of completeness, it is pointed out that document D2 (see para. [0004], [0042] and [0054]) independently anticipates (Article 33(1) and (2) PCT) the subject-matter of claim 1.

3 Dependent claims

- 3.1 The subject-matter of the following dependent claims also lacks novelty (Article 33(1) and 33(2) PCT):

claims 2, 4, 9: see D1, para. [0127];

claims 3, 5, 6: see D1, para. [0111] and para. [0065];

claim 7: see D1, para. [0070];

claim 8: see D1, para. [0128];

claim 10: see D2, para. [0060];

claim 13: see D1, para. [0088], e.g. when using Naïve Bayes.

- 3.2 The subject-matter of claims 11-12 relates to common methods which would be obvious in view of D1, para. [0141], and which does not therefore involve an inventive step (Article 33(3) PCT).