

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P117908PCT	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/US2017/054420</b>	International filing date ( <i>day/month/year</i> ) <b>29 September 2017 (29.09.2017)</b>	(Earliest) Priority Date ( <i>day/month/year</i> )
Applicant <b>INTEL CORPORATION</b>		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out 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))

b.  This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box No. II)

3.  **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

**A. CLASSIFICATION OF SUBJECT MATTER****G06F 1/32(2006.01)i, G08B 21/18(2006.01)i, G05B 23/02(2006.01)i, G05B 1/03(2006.01)i**

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)  
G06F 1/32; G06F 1/26; G06F 1/00; G06F 13/24; G08B 21/18; G05B 23/02; G05B 1/03Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Korean utility models and applications for utility models  
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
eKOMPASS(KIPO internal) & keywords: power monitoring circuitry, power control circuit, counter, warning threshold value, critical threshold value**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2016-0041608 A1 (APPLE INC.) 11 February 2016 See paragraphs [0054]-[0073]; and figures 4-8.	1-12, 15-25
Y		13-14
Y	US 2013-0159575 A1 (THOMAS M. GOODING et al.) 20 June 2013 See paragraph [0068]; and figure 5.	13-14
A	US 2013-0124885 A1 (JOHN D. DAVIS et al.) 16 May 2013 See paragraphs [0066]-[0087]; and figures 6-7.	1-25
A	US 2012-0159198 A1 (SAMUEL D. NAFFZIGER et al.) 21 June 2012 See paragraphs [0016]-[0020]; and figures 2-4.	1-25
A	US 2008-0168287 A1 (ROBERT WALTER BERRY et al.) 10 July 2008 See paragraphs [0015]-[0032]; and figures 1-2.	1-25

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

26 June 2018 (26.06.2018)

Date of mailing of the international search report

**26 June 2018 (26.06.2018)**

Name and mailing address of the ISA/KR

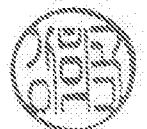
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2017/054420**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016-0041608 A1	11/02/2016	TW 201508480 A TW 1522801 B US 2014-0380072 A1 US 9195291 B2 US 9817469 B2 WO 2014-204572 A1	01/03/2015 21/02/2016 25/12/2014 24/11/2015 14/11/2017 24/12/2014
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US 2012-0159198 A1	21/06/2012	US 8756442 B2	17/06/2014
US 2008-0168287 A1	10/07/2008	CA 2667422 A1 CA 2667422 C CN 101578565 A CN 101578565 B JP 2010-515984 A JP 5437077 B2 KR 10-1159403 B1 KR 10-2009-0077952 A TW 200839497 A TW I399639 B US 7793125 B2 WO 2008-083906 A2 WO 2008-083906 A3	17/07/2008 29/03/2016 11/11/2009 23/05/2012 13/05/2010 12/03/2014 28/06/2012 16/07/2009 01/10/2008 21/06/2013 07/09/2010 17/07/2008 26/02/2009