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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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[Continued on next page]

(54) **Title:** CLOCK TURN-ON STRATEGY FOR POWER MANAGEMENT

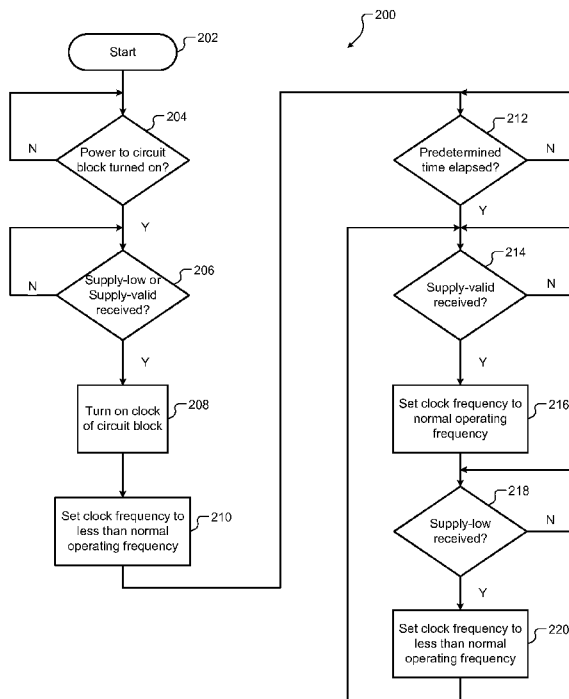
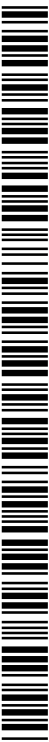


FIG. 2

(57) **Abstract:** A system includes a voltage sensing module and a frequency adjustment module. The voltage sensing module is configured to sense a supply voltage of a circuit block, generate a first control signal when the supply voltage is less than or equal to a first voltage, and generate a second control signal when the supply voltage is within a predetermined range of a second voltage. The frequency adjustment module is configured to set a frequency of a clock signal supplied to the circuit block to less than a normal operating frequency of the circuit block when the supply voltage is initially supplied to the circuit block after a power on reset operation and the first control signal or the second control signal is received.





SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments (Rule 48.2(h))*

**Published:**

— *with international search report (Art. 21(3))*

**(88) Date of publication of the international search report:**

9 September 2011

# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/US2010/056509</b>
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. G06F1/30 G06F1/08  
 ADD.

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**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**EPO-Internal**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 118 315 A (GUEDJ MARC [FR]) 12 September 2000 (2000-09-12) column 1, line 11 - line 19 column 6, line 49 - column 7, line 16; figure 4	1-3,8-10
A	----- US 2005/212571 A1 (OM RANJAN [IN] ET AL) 29 September 2005 (2005-09-29) abstract	1-3,8-10
A	----- EP 1 608 067 A2 (FUJITSU LTD [JP]) 21 December 2005 (2005-12-21) paragraph [0010] - paragraph [0011]	1-3,8-10
A	----- US 2005/022042 A1 (TAM SIMO M [US] ET AL TAM SIMON M [US] ET AL) 27 January 2005 (2005-01-27) claims 1,2 ----- -/--	1-3,8-10

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 document 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.
- "&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

15 March 2011

12/07/2011

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2010/056509

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/110545 A1 (MAHRLA PETER [DE]) 26 May 2005 (2005-05-26) abstract -----	1-3,8-10

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2010/056509

## 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 additional 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 an 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.:

1-3, 8-10

### 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.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3, 8-10

Sensing of a voltage of a circuit, and setting a clock frequency low after power on reset and when either a first or second control signal is received, solving a problem of alternative use of sensing control signals to ensure data-reliability during power on reset, and (claims 2 and 9) further details relevant to power on reset handling and (claims 3 and 10) some trivial details.

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2. claims: 4-7, 11-14

Sensing of a voltage of a circuit, and setting a clock frequency low, resp. back to normal when a first, resp. second control signal is received, solving a problem of alternative use of sensing control signals to ensure data-reliability during voltage fluctuations, using hysteresis, and (claims 4 and 11:) details of power on reset handling.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2010/056509

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6118315	A	12-09-2000	NONE
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US 2005212571	A1	29-09-2005	NONE
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EP 1608067	A2	21-12-2005	CN 1713526 A 28-12-2005
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