

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 March 2006 (02.03.2006)

PCT

(10) International Publication Number
WO 2006/023677 A3

- (51) International Patent Classification:
G06F 1/32 (2006.01) **G06F 1/04** (2006.01)
- (21) International Application Number:
PCT/US2005/029457
- (22) International Filing Date: 17 August 2005 (17.08.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10/920,825 17 August 2004 (17.08.2004) US
- (71) Applicant (for all designated States except US): **QUALCOMM INCORPORATED** [US/US]; 5775 Morehouse Drive, San Diego, CA 92121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **CHOE, Vyungchon** [KR/US]; 7433 Arroyo Grande Road, San Diego, CA 92129 (US). **PATEL, Jagrut, Viliskumar** [IN/US]; 5050 La Jolla Boulevard, #3H, San Diego, CA 92109 (US). **PRABHAKARAN, Rajeev** [IN/US]; 11659 Tree Hollow Lane, San Diego, CA 92128 (US).
- (74) Agents: **MOSKOWITZ, Larry, J.** et al.; 5775 Morehouse Drive, San Diego, CA 92121 (US).

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

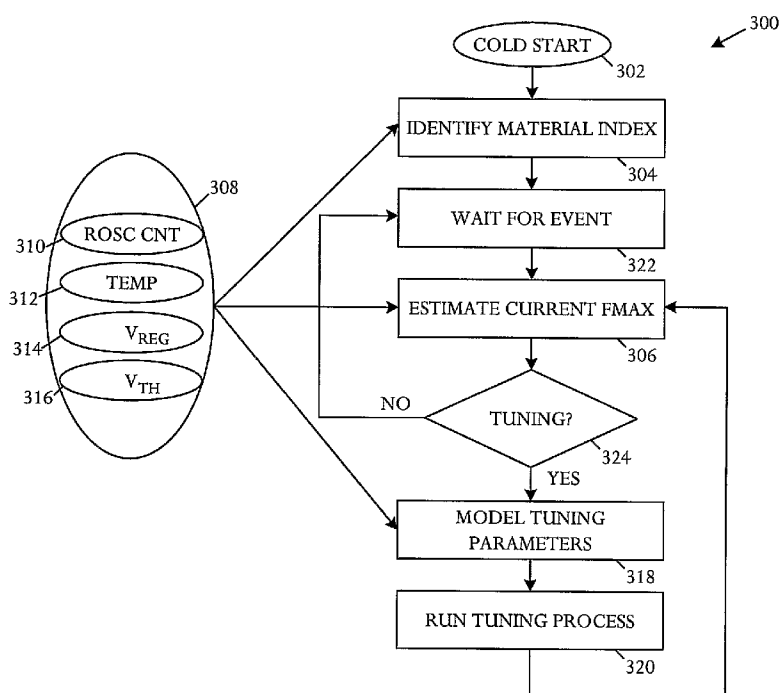
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: VOLTAGE SCALING USING MATERIAL-BASED REFERENCE MODEL



(57) Abstract: An electronic circuit including an oscillator and having known physical device characteristics is operated by supplying a core voltage to the electronic circuit from a cold start, measuring output frequency of the oscillator during the cold start, and determining a material index from the output frequency based on the physical device characteristics.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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

27 April 2006