(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 September 2009 (17.09.2009)

PCT

(10) International Publication Number
WO 2009/114288 A1

(51) International Patent Classification:
G11C 7/22 (2006.01) *G11C 8/16* (2006.01)

(21) International Application Number:
PCT/US2009/035371

(22) International Filing Date:
27 February 2009 (27.02.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/047,593 13 March 2008 (13.03.2008) US

(71) Applicant *(for all designated States except US)*: **QUALCOMM Incorporated** [US/US]; Attn: International IP Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **JUNG, Changho** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US). **ZHONG, Cheng** [CN/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).

(74) Agent: **TALPALATSKY, Sam**; 5775 Morehouse Drive, San Diego, California 92121 (US).

(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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, 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))*

Published:

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

WO 2009/114288 A1

(54) **Title**: ADDRESS MULTIPLEXING IN PSEUDO-DUAL PORT MEMORY

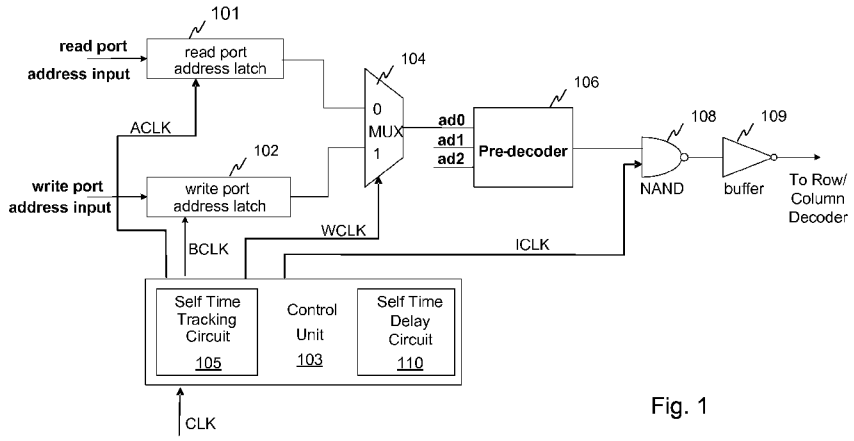


Fig. 1

(57) **Abstract**: A pseudo-dual port memory address multiplexing system includes a control circuit (103) operative to identify a read request and a write request to be accomplished during a single clock cycle. A self time tracking circuit (105) monitors a read operation and generates a switching signal (WCLK) when the read operation is determined to be complete. A multiplexer (104) is responsive to the switching signal for selectively providing a read address and a write address to a memory address unit at the proper time.