

(51) International Patent Classification:
H04N 7/26 (2006.01) *H04N 7/36* (2006.01)

[PL/US]; 5775 Morehouse Drive, San Diego, CA 92121 (US).

(21) International Application Number:
PCT/US2009/040260(74) Agent: **THIEL, Steven, R.**; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, CA 92121 (US).(22) International Filing Date:
10 April 2009 (10.04.2009)

(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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/044,023 10 April 2008 (10.04.2008) US
61/044,240 11 April 2008 (11.04.2008) US
61/057,373 30 May 2008 (30.05.2008) US
12/420,256 8 April 2009 (08.04.2009) US(71) Applicant (for all designated States except US): **QUALCOMM INCORPORATED** [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, CA 92121 (US).

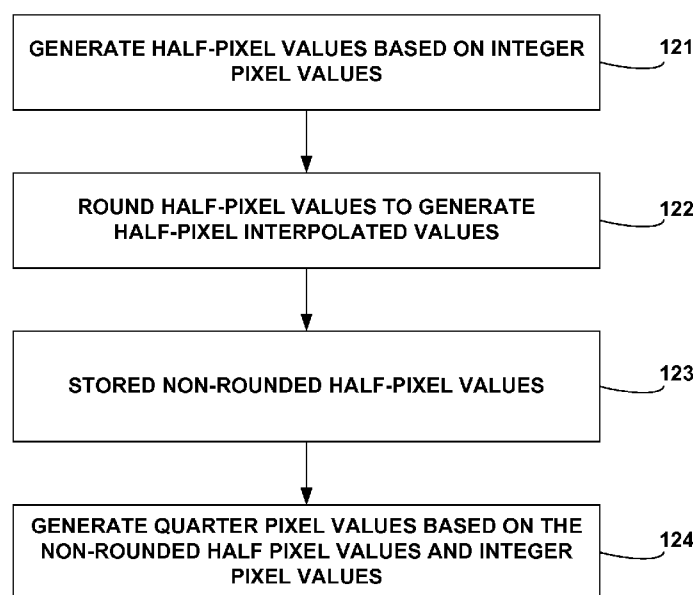
(72) Inventors; and

(75) Inventors/Applicants (for US only): **YE, Yan** [CN/US]; 5775 Morehouse Drive, San Diego, CA 92121 (US). **CHEN, Peisong** [CN/US]; 5775 Morehouse Drive, San Diego, CA 92121 (US). **KARCZEWICZ, Marta**

(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).

[Continued on next page]

(54) Title: ADVANCED INTERPOLATION TECHNIQUES FOR MOTION COMPENSATION IN VIDEO CODING

**FIG. 7**

(57) Abstract: This disclosure describes various interpolation techniques performed by an encoder and a decoder during the motion compensation process of video coding. In one example, an encoder interpolates pixel values of reference video data based on a plurality of different pre defined interpolation filters. In this example, the decoder receives a syntax element that identifies an interpolation filter, and interpolates pixel values of reference video data based on the interpolation filter identified by the syntax element. In another example, a method of interpolating predictive video data includes generating half-pixel values based on integer pixel values, rounding the half-pixel values to generate half-pixel interpolated values, storing the half-pixel values as non-rounded versions of the half-pixel values, and generating quarter-pixel values based on the non-rounded versions of the half-pixel values and the integer pixel values.

**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))*