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- (71) **Applicant: QUALCOMM INCORPORATED** [US/US];
ATTN: International IP Administration, 5775 Morehouse
Drive, San Diego, California 92121-1714 (US).
- (72) **Inventors: CHUANG, Hsiao-Chiang;** 5775 Morehouse
Drive, San Diego, California 92121-1714 (US). **CHEN,
Jianle;** 10756 Corte De Tiburon, San Diego, California
92130 (US). **CHEN, Yi-Wen;** 5775 Morehouse Drive,
San Diego, California 92121-1714 (US). **LI, Xiang;** 10574
Gaylemont Lane, San Diego, California 92130 (US). **KAR-
CZEWICZ, Marta;** 5775 Morehouse Drive, San Diego,
- California 92121-1714 (US). **CHIEN, Wei-Jung;** 5775
Morehouse Drive, San Diego, California 92121-1714 (US).
- (74) **Agent: JOSEPH, Jeffrey R.;** Shumaker & Sieffert, P.A.,
1625 Radio Drive, Suite 100, Woodbury, Minnesota 55125
(US).
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(54) **Title:** INTER PREDICTION REFINEMENT BASED ON BI-DIRECTIONAL OPTICAL FLOW (BIO)

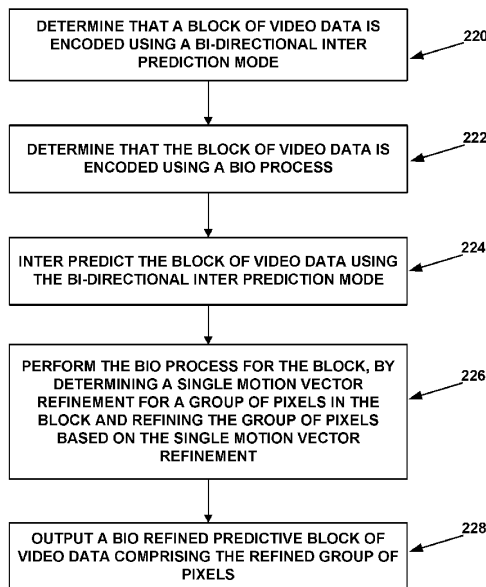


FIG. 21

(57) **Abstract:** A video decoder can be configured to determine that a block of video data is encoded using a bi-directional inter prediction mode; determine that the block of video data is encoded using a bi-directional optical flow (BIO) process; inter predict the block of video data according to the bi-directional inter prediction mode; perform the BIO process for the block, wherein performing the BIO process for the block comprises determining a single motion vector refinement for a group of pixels in the block, wherein the group of pixels comprises at least two pixels; refine the group of pixels based on the single motion vector refinement; and output a BIO refined predictive block of video data comprising the refined group of pixels.

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