

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
20 October 2022 (20.10.2022)



(10) International Publication Number
WO 2022/221829 A1

(51) International Patent Classification:

H04N 19/11 (2014.01) *H04N 19/61* (2014.01)
H04N 19/12 (2014.01) *H04N 19/70* (2014.01)
H04N 19/176 (2014.01)

(21) International Application Number:

PCT/US2022/071669

(22) International Filing Date:

12 April 2022 (12.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/173,884	12 April 2021 (12.04.2021)	US
63/223,377	19 July 2021 (19.07.2021)	US
17/658,803	11 April 2022 (11.04.2022)	US

(71) Applicant: **QUALCOMM INCORPORATED** [US/US];
ATTN: International IP Administration, 5775 Morehouse
Drive, San Diego, California 92121-1714 (US).

(72) Inventors: **RAY, Bappaditya**; 5775 Morehouse Drive,
San Diego, California 92121-1714 (US). **COBAN,
Muhammed Zeyd**; 5775 Morehouse Drive, San Diego,
California 92121-1714 (US). **KEROFSKY, Louis Joseph**;
5775 Morehouse Drive, San Diego, California 92121-1714
(US). **SEREGIN, Vadim**; 5775 Morehouse Drive, San
Diego, California 92121-1714 (US). **KARCZEWICZ,
Marta**; 5775 Morehouse Drive, San Diego, California
92121-1714 (US). **CAO, Keming**; 5775 Morehouse Drive,
San Diego, California 92121-1714 (US).

(74) Agent: **DAWLEY, Brian R.**; Shumaker & Sieffert, P.A.,
1625 Radio Drive, Suite 100, Woodbury, Minnesota 55125
(US).

(54) Title: INTRA-MODE DEPENDENT MULTIPLE TRANSFORM SELECTION FOR VIDEO CODING

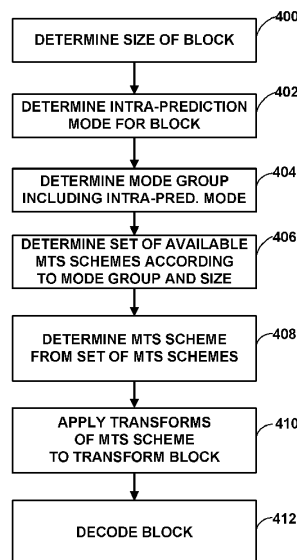


FIG. 11

(57) **Abstract:** An example device for decoding video data includes a memory configured to store video data; and one or more processors implemented in circuitry and configured to: determine a size of a current block of video data; determine an intra-prediction mode for the current block of video data; determine a mode group including the determined intra-prediction mode, the mode group being one of a plurality of mode groups, each including respective sets of intra-prediction modes; determine a set of available multiple transform selection (MTS) schemes for the current block according to the size and the intra-prediction mode for the current block; determine an MTS scheme from the set of available MTS schemes according to the determined mode group; apply transforms of the MTS scheme to a transform block of the current block to produce a residual block for the current block; and decode the current block using the residual block.

[Continued on next page]

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

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