

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
25 November 2021 (25.11.2021)

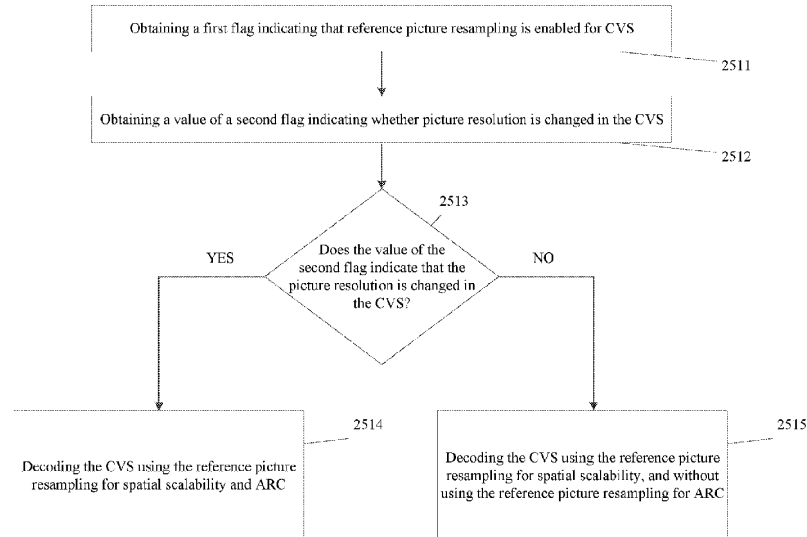


(10) International Publication Number
WO 2021/236257 A1

- (51) International Patent Classification:
H04N 19/105 (2014.01) *H04N 21/44* (2011.01)
- (21) International Application Number:
PCT/US2021/026800
- (22) International Filing Date:
12 April 2021 (12.04.2021)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
63/027,835 20 May 2020 (20.05.2020) US
63/035,647 05 June 2020 (05.06.2020) US
63/036,174 08 June 2020 (08.06.2020) US
63/036,342 08 June 2020 (08.06.2020) US
17/211,236 24 March 2021 (24.03.2021) US
- (71) Applicant: **TENCENT AMERICA LLC** [US/US]; 2747 Park Boulevard, Palo Alto, California 94306 (US).
- (72) Inventors: **CHOI, Byeongdoo**; c/o TENCENT AMERICA LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US). **WENGER, Stephan**; c/o TENCENT AMERICA LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US). **LIU, Shan**; c/o TENCENT AMERICA LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US).
- (74) Agent: **RABENA, John F.** et al.; SUGHRUE MION, PLLC, 2000 Pennsylvania Ave., N.W., Suite 900, Washington, District of Columbia 20006 (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, 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, JO, JP, KE, KG, KH, KN,

(54) Title: TECHNIQUES FOR SIGNALING COMBINATION OF REFERENCE PICTURE RESAMPLING AND SPATIAL SCALABILITY

FIG. 25A 2500A



(57) Abstract: A method, device, and non-transitory computer-readable medium for decoding an encoded video bitstream using at least one processor, including, obtaining from the encoded video bitstream a first flag indicating that reference picture resampling is enabled for coded video sequence (CVS); determining a value of a second flag indicating whether a picture resolution is changed in the CVS; based on the value of the second flag indicating that the picture resolution is changed in the CVS, decoding the CVS using the reference picture resampling for spatial scalability and adaptive resolution change (ARC); and based on the value of the second flag indicating that the picture resolution is not changed in the CVS, decoding the CVS using the reference picture resampling for the spatial scalability, and without using the reference picture resampling for the ARC.

[Continued on next page]

WO 2021/236257 A1

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))*