



(51) International Patent Classification:
G06K 9/36 (2006.01) **H04B 1/66** (2006.01)

(21) International Application Number:
PCT/US2020/019918

(22) International Filing Date:
26 February 2020 (26.02.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/811,358 27 February 2019 (27.02.2019) US
62/816,753 11 March 2019 (11.03.2019) US
62/850,973 21 May 2019 (21.05.2019) US

(71) Applicant: **FUTUREWEI TECHNOLOGIES, INC.**
[US/US]; 5700 Tennyson Parkway, Suite 600, Plano, Texas
75024 (US).

(72) Inventors: **WANG, Ye-Kui**; 6264 Sunrose Crest Way, San
Diego, California 92130 (US). **HENDRY, Fnu**; 8584 Fox-
croft Place, San Diego, California 92129 (US). **CHEN,
Jianle**; 10756 Corte De Tiburon, San Diego, California
92130 (US).

(74) Agent: **DIETRICH, William H.** et al.; CONLEY ROSE,
P.C., 5601 Granite Parkway, Suite 500, Plano, Texas 75024
(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, 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).

(54) Title: ADAPTATION PARAMETER SET TYPES IN VIDEO CODING

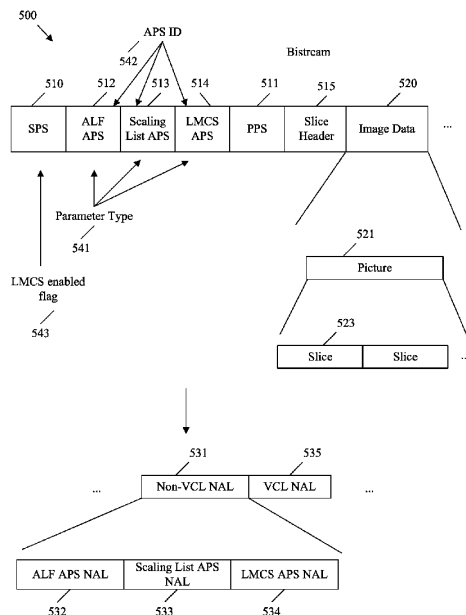


FIG. 5

(57) Abstract: A video coding mechanism is disclosed. The mechanism includes receiving a bitstream comprising a first adaptation parameter set (APS) network abstraction layer (NAL) unit including an adaptive loop filter (ALF) type, a second APS NAL unit including a scaling list type, a third APS NAL unit including a luma mapping with chroma scaling (LMCS) type, and a slice. The mechanism further includes obtaining ALF parameters from the first APS NAL unit, obtaining scaling list parameters from the second APS NAL unit, and LMCS parameters from the third APS NAL unit. The mechanism further includes decoding the slice using the ALF parameters, the scaling list parameters, and the LMCS parameter. The mechanism further includes forwarding the slice for display as part of a decoded video sequence.

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))*