

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 May 2020 (07.05.2020)



(10) International Publication Number
WO 2020/092330 A3

- (51) **International Patent Classification:**
H04L 1/00 (2006.01) *H04L 1/18* (2006.01)
- (21) **International Application Number:**
PCT/US2019/058510
- (22) **International Filing Date:**
29 October 2019 (29.10.2019)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
62/755,309 02 November 2018 (02.11.2018) US
16/665,337 28 October 2019 (28.10.2019) US
- (71) **Applicant: QUALCOMM INCORPORATED** [US/US];
ATTN: International IP Administration, 5775 Morehouse
Drive, San Diego, California 92121-1714 (US).
- (72) **Inventors: SENGUPTA, Ayan;** 5775 Morehouse Drive,
San Diego, California 92121-1714 (US). **RICO AL-**
VARINO, Alberto; 5775 Morehouse Drive, San Diego,
California 92121-1714 (US). **LIU, Le;** 5775 Morehouse
Drive, San Diego, California 92121-1714 (US).
- (74) **Agent: KARREN, J. Scott;** Holland & Hart LLP, P.O. Box
11583, Salt Lake City, Utah 84147 (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, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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:** MULTI-TRANSPORT BLOCK SCHEDULING WITH JOINT CODING AND DECODING OF CONTROL INFORMATION FIELDS

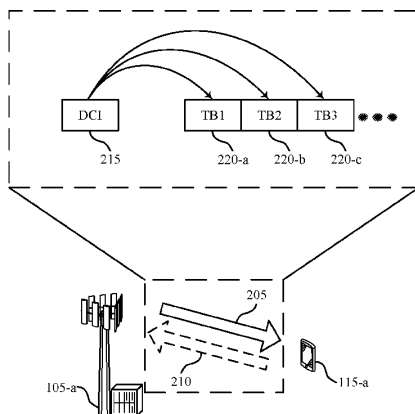


FIG. 2

(57) **Abstract:** Methods, systems, and devices for wireless communications are described. A user equipment (UE) may receive a downlink control information (DCI) block including DCI for a set of transport blocks scheduled for the UE, the DCI including a set of fields. The UE may decode the DCI block to obtain the DCI for the set of transport blocks, where at least two fields of the downlink control information are jointly decoded according to an encoding scheme, and where each possible output of the encoding scheme corresponds to a jointly valid combination of the at least two fields. The UE may receive the set of transport blocks from a base station based on the DCI.

WO 2020/092330 A3

[Continued on next page]

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))*

(88) Date of publication of the international search report:

18 June 2020 (18.06.2020)