

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
10 November 2022 (10.11.2022)



(10) International Publication Number
WO 2022/235193 A1

(51) International Patent Classification:

H04W 76/15 (2018.01) *H04W* 36/00 (2009.01)
H04W 76/27 (2018.01) *H04W* 52/02 (2009.01)
H04W 76/34 (2018.01)

(21) International Application Number:

PCT/SE2022/050437

(22) International Filing Date:

05 May 2022 (05.05.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/184,914 06 May 2021 (06.05.2021) US

(71) Applicant: **TELEFONAKTIEBOLAGET LM**
ERICSSON (PUBL) [SE/SE]; 164 83 Stockholm (SE).

(72) Inventors: **QIU, Liwei**; 1214, Näsbyvägen 2, 183 38 TÄBY (SE). **WAGER, Stefan**; Övergårdsvägen 41 D, 02360 Espoo (FI). **EKLÖF, Cecilia**; Skogsliden 21, 187 41 Täby (SE). **BERGQVIST, Jens**; Kärnmarkaregatan 32, 587 37 LINKÖPING (SE). **DA SILVA, Icaro Leonardo**; Bergshamra Allé 175, 170 77 SOLNA (SE).

(74) Agent: **AYOUB, Nabil**; Ericsson AB, Patent Unit Kista RAN 2, 164 80 Stockholm (SE).

(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, IQ, 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,

(54) Title: NETWORK NODES, COMMUNICATION SYSTEM AND METHODS FOR HANDLING SECONDARY CELL GROUP OPERATION MODE IN A WIRELESS COMMUNICATION NETWORK

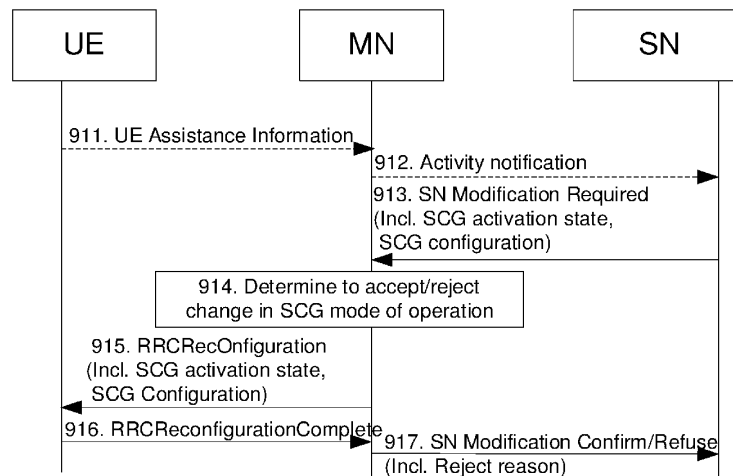


Fig. 9

(57) Abstract: A first network node and method therein for handling an operation mode change of a second network node for a communication device in a wireless communication network are disclosed. The communication device is configured with multi-radio dual connectivity (MR-DC) with the first network node having a first cell group and the second network node having a second cell group. The first network node receives (913) a request from the second network node for a change of operation mode and/or a change of configuration of the second network node and determines (914) whether to accept or reject the request for the change of the operation mode and/or a change of configuration. The first network node transmits (915) to the communication device a message including a reconfiguration or command to change the second cell group configuration and/or the operation mode of the second cell group, if it is

[Continued on next page]

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

determined that the change of operation mode of the second cell group and/or change of the second cell group configuration is accepted; or transmits (917) a response to the second network node with an indication indicating a rejection reason, if it is determined to reject the request for the change of the operation mode.