



- (51) **International Patent Classification:**
H04L 1/00 (2006.01)
- (21) **International Application Number:**
PCT/EP2012/071531
- (22) **International Filing Date:**
31 October 2012 (31.10.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/557,509 9 November 2011 (09.11.2011) US
- (71) **Applicant:** TELEFONAKTIEBOLAGET L M ERICSSON (publ) [SE/SE]; SE-164 83 Stockholm (SE).
- (72) **Inventor:** JÖNGREN, George; Kronogårdsvägen 44, SE-174 62 Sundbyberg (SE).
- (74) **Agent:** BOU FAICAL, Roger; Ericsson AB, Patent Unit Kista RAN1, SE-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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,

KR, KZ, LA, LC, LK, LR, LS, LT, 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, 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, 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, ML, MR, NE, SN, TD, TG).

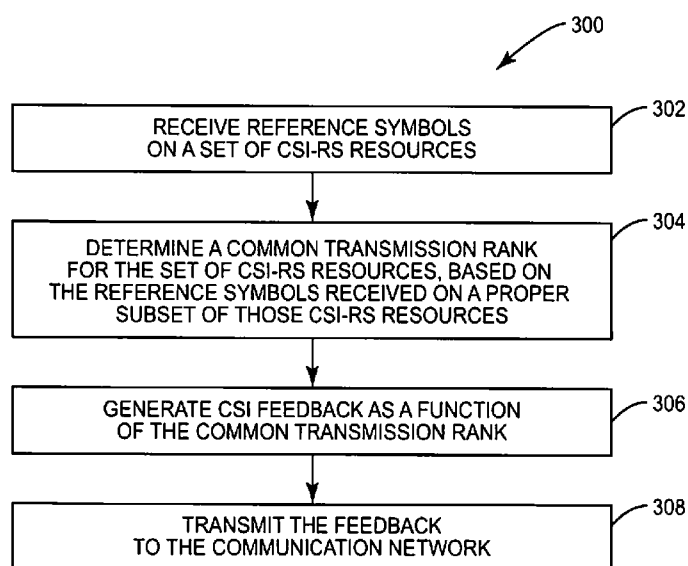
Declarations under Rule 4.17:

- 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))

(54) **Title:** CSI REPORTING FOR A SET OF CSI-RS RESOURCES

**FIG. 11**

(57) **Abstract:** A method implemented by a wireless terminal of reporting channel state information to a wireless communication network is disclosed. The wireless terminal receives reference symbols on a set of channel state information reference symbol (CSI-RS) resources, and determines a common transmission rank for the set of CSI-RS resources, based on the reference symbols received on a subset of those CSI-RS resources. The terminal then generates CSI feedback as a function of the common transmission rank, and transmits the CSI feedback to the communication network. The CSI feedback may include the common transmission rank itself, or may include different transmission ranks for different CSI-RS resources each determined as a function of the common transmission rank. A complementary method in which a network node uses such a CSI feedback to perform rank adaptation for the set of CSI-RS resources is also disclosed.