

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0214035 A1 NILSSON et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) **DETERMINATION OF UPLINK MIMO** TRANSMISSION STATE FOR A UE

(71) Applicant: Telefonaktiebolaget LM Ericsson

(pub), Stockholm (SE)

Inventors: Andreas NILSSON, Göteborg (SE);

Eleftherios KARIPIDIS, Stockholm (SE); Simon JÄRMYR, Skarpnäck

(73) Assignee: Telefonaktiebolaget LM Ericsson

(pub), Stockholm (SE)

18/288,488 (21) Appl. No.:

(22) PCT Filed: Apr. 28, 2021

(86) PCT No.: PCT/EP2021/061078

§ 371 (c)(1),

(2) Date: Oct. 26, 2023

Publication Classification

(51) Int. Cl.

H04B 7/0404 (2006.01)H04B 7/0413 (2006.01)H04B 7/06 (2006.01)

(52)U.S. Cl.

> H04B 7/0404 (2013.01); H04B 7/0413 CPC (2013.01); H04B 7/06 (2013.01)

(57) **ABSTRACT**

There is provided mechanisms for determining a UL MIMO transmission state for a UE. A method is performed by a network node. The method comprises obtaining interference affecting network information for the UE. The method comprises signalling an indication of the UL MIMO transmission state towards the UE. The UL MIMO transmission state reflects a rank value. The rank value is a function of the interference affecting network information.

