US 20230232464A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0232464 A1

AGIWAL et al. (43) Pub. Date: Jul. 20, 2023

(54) METHOD AND APPARATUS FOR PERFORMING RANDOM ACCESS PROCEDURE

(71) Applicant: **Samsung Electronics Co., Ltd.**, Suwon-si (KR)

(72) Inventors: **Anil AGIWAL**, Suwon-si (KR); **Saidhiraj AMURU**, Bangalore (IN)

(21) Appl. No.: **18/190,583**

(22) Filed: **Mar. 27, 2023**

Related U.S. Application Data

(63) Continuation of application No. 16/047,787, filed on Jul. 27, 2018, now Pat. No. 11,647,544.

(30) **Foreign Application Priority Data**

Jul. 27, 2017 (IN) 201711026769

Publication Classification

(51) **Int. Cl.**

H04W 74/08	(2006.01)
H04W 56/00	(2006.01)
H04B 7/06	(2006.01)
H04W 24/10	(2006.01)
H04W 76/27	(2006.01)
H04W 36/08	(2006.01)
H04L 5/00	(2006.01)

(52) **U.S. Cl.**

CPC ***H04W 74/0833*** (2013.01); ***H04W 56/001*** (2013.01); ***H04B 7/0626*** (2013.01); ***H04W 24/10*** (2013.01); ***H04W 76/27*** (2018.02); ***H04W 36/08*** (2013.01); ***H04L 5/0048*** (2013.01); *H04B 7/0617* (2013.01); *H04W 36/0077* (2013.01)

(57) **ABSTRACT**

A communication method and system for converging a fifth generation (5G) communication system for supporting higher data rates beyond a fourth generation (4G) system with a technology for internet of things (IoT) are provided. The communication method and system includes intelligent services based on the 5G communication technology and the IoT-related technology, such as smart home, smart building, smart city, smart car, connected car, health care, digital education, smart retail, security and safety services. A method by a terminal for transmitting a random access (RA) preamble is provided. The method includes receiving configuration information on RA resources associated with synchronization signal (SS) blocks from a base station, receiving one or more SS blocks from the base station, determining whether there is at least one suitable SS block for which contention free RA resources are configured amongst the one or more SS blocks based on the configuration information, selecting a suitable SS block for which contention free RA resources are configured if there is at least one suitable SS block for which contention free RA resources are configured amongst the one or more SS blocks, selecting a first RA preamble corresponding to the selected suitable SS block, and transmitting the first RA preamble to the base station.