US 20240214055A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0214055 A1**

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

(54) **IN-BUILDING RADIO UNIT APPLIED TO OPEN LAN WITH FREQUENCY RESOURCE DISTRIBUTION PATH FOR FRONT-END UNIT, SYSTEM INCLUDING SAME, AND CONTROL METHOD FOR SAME**

(71) Applicant: **TJ INNOVATION CO., LTD.**, Bucheon-si (KR)

(72) Inventors: **Gwang-Jae JANG**, Bucheon-si (KR); **Yu Jin LIM**, Bucheon-si (KR); **Sung Hoon YOON**, Bucheon-si (KR); **Duck Young PARK**, Bucheon-si (KR); **Jin Sil PARK**, Bucheon-si (KR)

(21) Appl. No.: **17/910,416**

(22) PCT Filed: **Mar. 2, 2022**

(86) PCT No.: **PCT/KR2022/002900**

§ 371 (c)(1),
(2) Date: **Sep. 9, 2022**

(30) **Foreign Application Priority Data**

Feb. 28, 2022 (KR) 10-2022-0025897

Publication Classification

(51) **Int. Cl.**
H04B 7/155 (2006.01)
H04B 7/0413 (2006.01)
H04B 7/06 (2006.01)

(52) **U.S. Cl.**
CPC ***H04B 7/15528*** (2013.01); ***H04B 7/0413*** (2013.01); ***H04B 7/0617*** (2013.01); ***H04B 7/0626*** (2013.01)

(57) **ABSTRACT**

Disclosed herein is an in-building radio unit applied to an open LAN having an open base station structure. The in-building radio unit is configured to match a beam ID and a front-end unit based on beamforming information received from a base station; and communicatively connect a terminal and the base station via the matched front-end unit, the terminal and the base station being connected to the matched front-end unit.