US 20240214112A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0214112 A1

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

(54) METHOD FOR RETRANSMISSION OF BROADCAST SIGNAL USING MULTI-ANTENNA SIGNAL BASED ON CHANNEL BONDING AND APPARATUS FOR THE SAME

(71) Applicant: **ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE**, Daejeon (KR)

(72) Inventors: **Jae-Hyun SEO**, Daejeon (KR); **Hoi-Yoon JUNG**, Sejong-si (KR); **Sung-Ik PARK**, Daejeon (KR); **Bo-Mi LIM**, Daejeon (KR); **Dong-Joon CHOI**, Daejeon (KR); **Nam-Ho HUR**, Sejong-si (KR)

(21) Appl. No.: **18/540,654**

(22) Filed: **Dec. 14, 2023**

(30) **Foreign Application Priority Data**

Dec. 23, 2022 (KR) 10-2022-0183397

Publication Classification

(51) **Int. Cl.**
H04L 1/00 (2006.01)
H04L 5/00 (2006.01)

(52) **U.S. Cl.**
CPC ***H04L 1/0041*** (2013.01); ***H04L 1/0071*** (2013.01); ***H04L 5/0053*** (2013.01); *H04L 2001/0093* (2013.01)

(57) **ABSTRACT**

Disclosed herein are a method for processing a retransmission broadcast signal using multi-antenna signals based on channel bonding and an apparatus for the same. The apparatus includes a stream multiplexing (muxing) unit for generating a single piece of input data from signals received from two or more reception channels, an input formatting unit for converting the input data into a Physical Layer Pipe (PLP), a stream partitioning unit for segmenting the physical layer pipe into pieces of data to be respectively transmitted over two or more transmission channels, and two or more retransmission-signal-processing units for retransmitting the pieces of data to the respective transmission channels corresponding thereto through multiple transmission antennas.