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(54) **APPARATUS AND METHOD FOR TRANSMITTING/RECEIVING AN UPLINK PILOT SIGNAL IN A COMMUNICATION SYSTEM USING AN ORTHOGONAL FREQUENCY DIVISION MULTIPLE ACCESS SCHEME**

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(57) **ABSTRACT**

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An apparatus and method for transmitting a reference signal in an Orthogonal Frequency Division Multiple Access (OFDMA) communication system in which a total frequency band is divided into a plurality of subcarrier bands. A time division multiplexer performs time division multiplexing such that the reference signal is transmitted for a first duration in a predetermined number of subcarrier bands from among the plurality of the subcarrier bands, and a signal other than the reference signal is transmitted for a second duration other than the first duration. A transmitter transmits the time-division multiplexed subcarrier band signals.

(52) **U.S. Cl.** **370/344**; 370/345; 370/329

(58) **Field of Classification Search** 250/591; 370/344

See application file for complete search history.

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4 Claims, 13 Drawing Sheets

