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Suh et al.

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(54) **SYSTEM AND METHOD FOR ACQUIRING CELL IN A FREQUENCY OVERLAY COMMUNICATION SYSTEM**

(58) **Field of Classification Search** 370/206, 370/208, 209, 320, 342, 481, 335; 455/422.1
See application file for complete search history.

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(57) **ABSTRACT**

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A system for performing cell acquisition in a frequency overlay communication system having a first frequency band and a second frequency band including the first frequency band. A base station (BS) generates a reference signal used for identifying a cell using a specific sequence in a predetermined frequency band, and transmits the reference signal. A mobile station (MS) receives the reference signal to determine whether the BS uses the first frequency band or the second frequency band, determines a reference signal having a maximum correlation value through correlation calculation with at least one predefined sequence, and detects a BS identifier (ID) corresponding to the determined reference signal.

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H04J 11/00 (2006.01)
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(52) **U.S. Cl.** 370/335; 370/342; 370/481; 370/206; 370/208; 370/209; 455/422.1

28 Claims, 10 Drawing Sheets

