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[54] **PEER-PEER FREQUENCY HOPPING SPREAD SPECTRUM WIRELESS SYSTEM**

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[58] **Field of Search** **370/522, 524, 370/280, 330; 375/202, 200**

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[57] **ABSTRACT**

A peer-peer frequency hopping spread spectrum wireless system allows the implementation of full duplex voice/data communications in a single hop peer-peer wireless system. The system uses frequency hopping spread spectrum technique. The frequency band is divided into signalling and message channels. The signalling channels use TDMA with a media access control(MAC) protocol developed for the wireless terminals to access the signalling channels. Once a wireless terminal accesses a time slot on a signalling channel, the corresponding hopping pattern on the message channel is assigned. The message channels use frequency hopping. The hopping patterns of the message channel are chosen such that there is no co-channel interference and minimum adjacent channel interference in the system. Either analog or digital modulation schemes can be used. Synchronization of a transmitter-receiver pair (user-pair) and among user-pairs are achieved through the use of the signalling channels.

13 Claims, 13 Drawing Sheets

