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(54) Title: APPARATUS AND METHOD FOR GENERATING PSEUDORANDOM QUANTITIES BASED UPON RADIO CHANNEL CHARACTERISTICS

(57) Abstract

Characteristics of the radio channel are used to establish pseudorandom sequences for use in communicating information. These characteristics are the short-term reciprocity and rapid spatial decorrelation of phase of the radio channel. Due to the reciprocal nature of these radio channel characteristics, the transceivers which are communicating via the radio channel will generally both determine the same sequence. Although the determined sequences are not always sufficiently random for use in pseudorandom functions, a randomness tester can be provided to discard those sequences which are not sufficiently random. Exemplary pseudorandom communication functions include the selection of a spreading sequence in CDMA systems and the selection of a hopping sequence in a TDMA or CDMA system.

