EXHIBIT 7

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Gan et al.

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(54) **APPROACH FOR MANAGING THE USE OF COMMUNICATIONS CHANNELS BASED ON PERFORMANCE**

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H04W 4/00   (2009.01)
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USPC **370/329**; 375/132
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See application file for complete search history.

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(57) **ABSTRACT**

An approach for selecting sets of communications channels involves determining the performance of communications channels. A set of channels is selected based on the results of performance testing and specified criteria. The participant generates data that identifies the selected set of channels and provides that data to other participants of the communications network. The participants communicate over the set of channels, such as by using a frequency hopping protocol. When a specified time expires or monitoring of the performance of the channel set identifies poor performance of the set of channels, the participant selects another set of channels for use in communications based on additional performance testing. By selecting channels based on the initial performance testing and performance monitoring, the communications network adaptively avoids channels with poor performance.

15 Claims, 11 Drawing Sheets
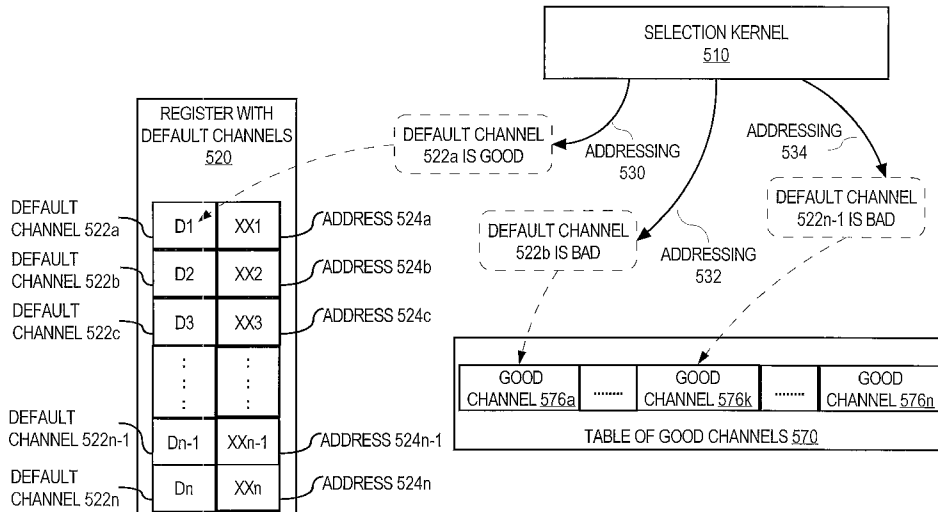
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