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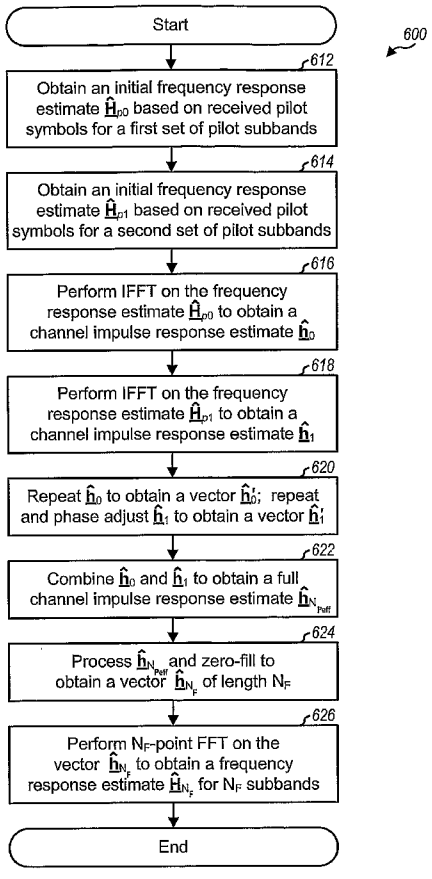
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(54) Title: PILOT TRANSMISSION AND CHANNEL ESTIMATION FOR AN OFDM SYSTEM WITH EXCESS DELAY SPREAD



(57) Abstract: Pilot transmission and channel estimation techniques for an OFDM system with excess delay spread are described. To mitigate the deleterious effects of excess delay spread, the number of pilot subbands is greater than the cyclic prefix length. This "oversampling" may be achieved by using more pilot subbands in each symbol period or different sets of pilot subbands in different symbol periods. In one channel estimation technique, first and second groups of received pilot symbols are obtained for first and second pilot subband sets, respectively, and used to derive first and second frequency response estimates, respectively. First and second impulse response estimates are derived based on the first and second frequency response estimates, respectively, and used to derive a third impulse response estimate having more taps than the number of pilot subbands in either set.

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