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(54) **Title**: METHOD AND APPARATUS FOR CHANNEL ESTIMATION AND DETECTION IN MIMO SYSTEM

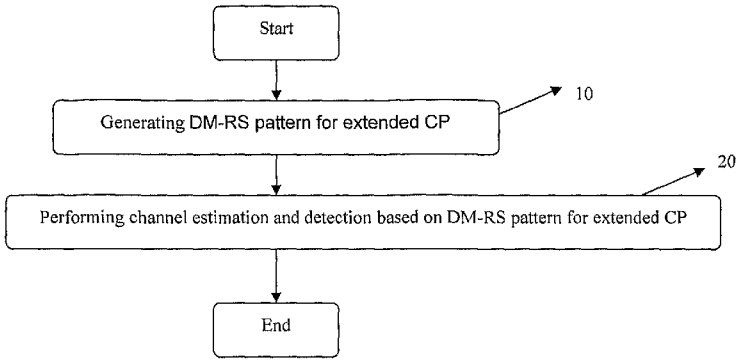

Figure 5

(57) **Abstract**: The prevent invention provides a method for performing channel estimation and detection in a Multiple-Input-Multiple-Output (MIMO) system, including: generating a demodulation reference signal, DM-RS, pattern for an extended cyclic prefix (CP); and estimating and detecting channel performance based on the generated DM-RS signal pattern. The DM-RS pattern supports from rank 1 to rank 8 patterns for 8 layer transmission. A transmitter, a receiver and a system thereof are also provided. The solution of the present invention improves channel estimation accuracy, saves channel estimation implementation and implementation complexity at terminals.

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