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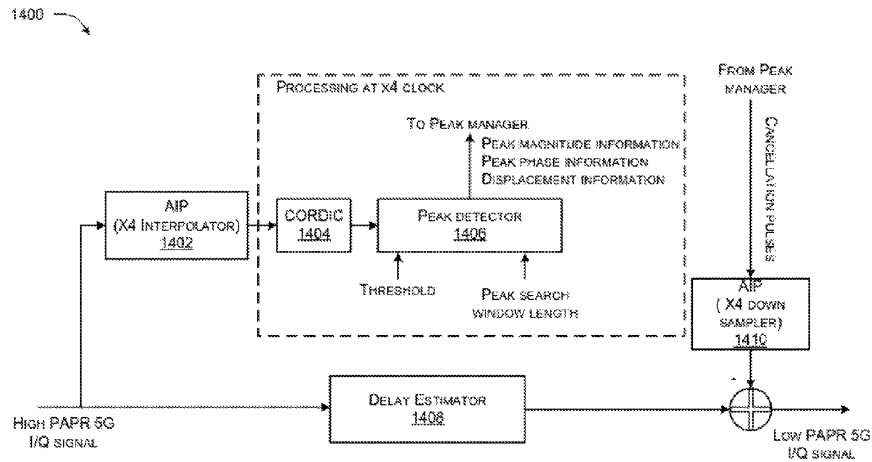


FIG. 14

(57) Abstract: The present disclosure provides a system and a method for crest factor reduction (CFR) with a restricted peak regrowth. The system receives a complex signal from a physical layer (PHY) of a base station equipped with orthogonal frequency division multiplexing (OFDM). The system uses a coordinate rotation digital computer (CORDIC) to convert the complex signal into a polar form. Further, the system utilizes an advanced interpolation processing (AIP) technique to minimize the peak regrowth that can happen in an x4 (digital up- conversion (DUC) in the later stage of a downlink chain. Hence, a teething problem of peak growth due to DUC process is restricted to a limited regrowth in the proposed CFR design. Further, the CFR design can operate multiple multiple-input multiple-output (MIMO) channels by multiplexing in time domain which further reduces resource utilization.

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WO 2023/218414 A1

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