(54) **EDGE COMBINING SUB-HARMONIC N-PATH FILTER**

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(57) **ABSTRACT**

A filter includes a plurality of filtering paths. The plurality of filtering paths is driven by a corresponding plurality of local oscillator (LO) signals associated with an LO frequency. Each of the LO signals has a phase of a plurality of phases. Each filtering path of the plurality of filtering paths includes a plurality of signal generation branches. The plurality of signal generation branches is configured to receive a harmonic LO signal based on a fraction of the LO frequency, and generate an LO signal of the corresponding plurality of LO signals associated with the LO frequency using the harmonic LO signal.