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(54) **TRANPOSED DELAY LINE OSCILLATOR
AND METHOD**

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ABSTRACT

A transposed delay line oscillator including a mode selection filter and a transposed delay line is provided. An output of the transposed delay line is coupled to an input of the mode selection filter to establish an oscillator loop. Based on the transposed delay line output, the mode selection filter generates a mode selection signal including an isolated oscillatory mode, in a Radio Frequency (RF) band. The transposed delay line receives the mode selection signal for transposition to an intermediate frequency of an intermediate frequency (IF) delay line. The IF delay line includes a delay filter and a phase noise suppression loop configured to suppress de-correlated transposition phase noise resulting from a delay of the delay filter. Suppression of phase noise in the IF delay line enables cancellation of transposition phase noise when transposing the IF delay line output to the RF band.

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