Abstracts

A New Lock Indicator Circuit for Microwave and Millimeter-Wave Phase Locked Loops (Short Papers)

J.B. Sau. "A New Lock Indicator Circuit for Microwave and Millimeter-Wave Phase Locked Loops (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.9 (Sep. 1988 [T-MTT]): 1362-1366.

A new circuit useful as a lock detector in microwave PLL systems has been developed. This circuit avoids the quadrature phase detector or coherent amplitude detector commonly used as a lock indicator in PLL's, thereby reducing the microwave circuitry and components. It is based on the properties of the phase error signal coming from the phase detector; a frequency-voltage conversion is performed on it in a low-frequency (secondary) PLL, the input to which is the output of the phase detector in the main (microwave) PLL. The secondary VCO control signal gives, after a comparison, a logic level related to the lock condition in the main (microwave) PLL.

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