A method and apparatus for measuring the settling time of frequency changes in a voltage controlled oscillator (VCO) are disclosed. A signal splitter is responsive to the VCO for splitting the output signal between first and second channels. A delay circuit in one of the channels introduces a delay and corresponding phase shift of one signal relative to the other, and a phase detector produces a phase signal proportional to the phase shift indicative of the settling time of the VCO. A control circuit coupled to the phase detector and the VCO produces a step voltage initiating signal for changing the VCO output frequency. A detector responsive to the initiating signal and the phase signal produces an output indicative of the settling time with respect to the control signal in the modulation domain.

12 Claims, 3 Drawing Sheets