

# Single-ended chaotic Colpitts oscillator with active load

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A novel version of a single-ended microwave chaotic Colpitts oscillator is proposed. It contains two bipolar junction transistors with the one of them used as an active load which is connected as a diode, in the collector of the basic bipolar transistor. The Chaotic Colpitts oscillator with active load, compared with the classical circuit, gives different oscillator dynamics with more intense chaotic behaviour due to the high small-signal impedance and small DC voltage drop that it has. Simulations performed for two cases: the classical single-ended Chaotic Colpitts Oscillator and the novel single-ended Chaotic Colpitts Oscillator with Active Load. Results showed that the highest fundamental frequency of chaotic behaviour are about 1.4 GHz for classical chaotic oscillator and 1.67 GHz for the novel chaotic oscillator.