



Voltage Controlled Oscillator Terms

TECHNICAL TERMS

Voltage Controlled Oscillator (Vco) :

This is an oscillator designed so the output frequency is changed by applying a voltage to its control port, which changes the capacitance of a varactor diode in the oscillator's tank circuit.

Frequency Tuning Range: ($F_c \pm \frac{1}{2}Bw$)

A range of frequencies for a given voltage change. It is usually called the VCO's tuning bandwidth.

Frequency Tuning Voltage: (V1 to V2)

The voltage potential needed to tune a VCO's Frequency to its full tuning bandwidth.

Frequency Tuning Linearity: (Ratio or MHz / V)

This is the amount of frequency deviation from a best-fit straight line for frequency vs. tuning voltage.

Frequency Tuning Sensitivity: (MHz / V)

This is the slope of the tuning characteristic and is expressed as frequency change per unit voltage change.

Frequency Pulling: (\pm MHz into 12dB return loss@ all Phases)

This is the maximum range of the frequencies associated with a change in the output load.

Frequency Pushing: (\pm MHz / V)

This is the slope of power supply voltage change vs. frequency change.

Output power: (dBm @ 50 Ω)

This is the amount of power that is delivered to a load.

Output power Flatness: (dBm @ 50 Ω)

This is the flatness of the output power that is delivered to a load, over the tuning bandwidth and over the operating temperature.

Harmonic Content or Suppression: (-dBc).

Harmonics levels are measured relative to the fundamental signal referenced to the carrier.

Spurious Content or Suppression: (-dBc).

Spurious frequencies are unwanted and non-harmonically related signals present at the oscillator output
Referenced to the carrier.

Temperature Drift or Stability: (KHz / C° or ppm).

This is the slope of the frequency change vs. operating temperature change.

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