The Oscillator Specification Sheet

Carrier Frequency

Generally specified in Hertz (Hz).

Carrier Power

Generally specified in dBm for low-power oscillators, Watts for high-power oscillators.

Typical values for “small-signal” oscillators are 5 to 20 dBm (hey, the same values as for mixer LO drive power—what a coincidence!).

Stability

Specified in ppm over the temperature range of the device (e.g., −25°C to 85°C).

Phase Noise

Specified in dBc/Hz at some specific frequency from the carrier.

e.g., -80 dBc/Hz at 1 kHz from f₀
Frequency Pushing

Expressed in units of $Hz/V$ or $Hz/mV$. Can be either a positive or a negative number.

Frequency Pulling

Specified as the maximum frequency shift from nominal frequency $\omega_0$, due to some worst-case load (expressed in VSWR, return loss, etc.).

Harmonics and Spurs

Specified as the power of the largest spurious and/or harmonic signal, typically in terms dBc (e.g., $<-50$ dBc).

Noise

This is the thermal noise (as opposed to phase noise) at the output of the oscillator. It is specified in terms of its spectral power density, assumed to be constant value in Watts/Hz.