The Mixer Specification Sheet

RF Bandwidth (Hz)

LO Bandwidth (Hz)

IF Bandwidth (Hz)

A mixer, like all other devices, can effectively operate only within a finite **bandwidth** (e.g., 2-5 GHz or 300-400 MHz).

RF Port Impedance (Γ, return loss, VSWR)

LO Port Impedance (Γ, return loss, VSWR)

IF Port Impedance (Γ, return loss, VSWR)

Generally, the input impedance of all mixer ports is **poor**. This is particularly true of the LO port. Often, the port impedance is specified in terms of **VSWR**.

Conversion Loss (dB)

Typically 4 to 8 dB.

1 dB Compression Point (dBm)

Typically 0 to 15 dBm.

3rd Order Intercept (dBm)

Typically 10 to 20 dB **greater** than the 1 dB Compression Point.

LO Isolation (dB)

RF Isolation (dB)

Isolation refers to the amount of LO or RF signal that directly "leaks" into the IF. In other words, isolation is a measure of the **first order** terms that appear in the IF output.

For example, if the LO input signal is at 13 dBm, and it appears in the IF output at –15 dBm, then we say that there is 13 – (-15) =28 dB of Local Oscillator **Isolation**.

Typically, isolation values range from 15 to 40 dB, depending on the mixer **design**.