GLOSSARY

FREQUENCY TUNING CHARACTERISTIC:
The relationship between tuning voltage and output frequency; i.e., the entire Frequency versus Tuning Voltage curve as shown in figures 2A-M.

MODULATION SENSITIVITY (K_V):
The ratio of output frequency change to a change in tuning voltage, in MHz/Volt; i.e., the slope of the characteristic tuning curve at any point, as shown in figures 2A-M.

HARMONIC SPURIOUS:
The nominal level of harmonically-related signals relative to the fundamental amplitude power level.

FREQUENCY PUSHING:
The change in output frequency corresponding to ± 1 Volt variation of the nominal Supply Voltage.

FREQUENCY PULLING:
The change in output frequency due to output load impedance mismatch. Pulling is measured in MHz p-p (or ± (P-P)/2 MHz)

with respect to a 12dB return loss, equivalent to a 1.75:1 VSWR.

PHASE NOISE OR FM NOISE:
The unwanted frequency or noise energy which modulates the fundamental output frequency (carrier), thereby determining the overall noise floor characteristic of the VCO's output. More specifically defined, it is the single sideband power level relative to the level of the carrier, measured at specific offset frequencies from the carrier, in a 1 Hz bandwidth. Phase noise performance is generally considered a "Figure of Merit" in qualifying a VCO's spectral purity.

RESIDUAL FM DEVIATION:
Another way of defining phase noise, it is the equivalent frequency deviation of the carrier that would produce the same phase noise level at a given offset from the carrier. Residual FM Deviation is expressed as a frequency deviation in Hz RMS.

TUNING PORT BANDWIDTH:
The modulation frequency, as applied to the tuning voltage port, which decreases to 0.707 (-3dB) of its DC value, as measured from a modulating source

impedance of 50Ω. This is also known as the modulation bandwidth.

MODING:
The inability to maintain a one-to-one correspondence between the VCO's tuning voltage and the output frequency, i.e., an inconsistent or ill-behaved frequency tuning characteristic.

SUBHARMONIC PUMPING:
Undesirable high gain within the VCO at subharmonic frequencies, which results in the subharmonic being generated at the output.

DROPOUT:
VCO produces no output frequency, typically seen at elevated operating temperatures and/or low-end tuning voltages.

PARASITIC OSCILLATION:
Uncontrolled oscillations at output due to parasitic affects that were unacounted for within the internal structure of the VCO.