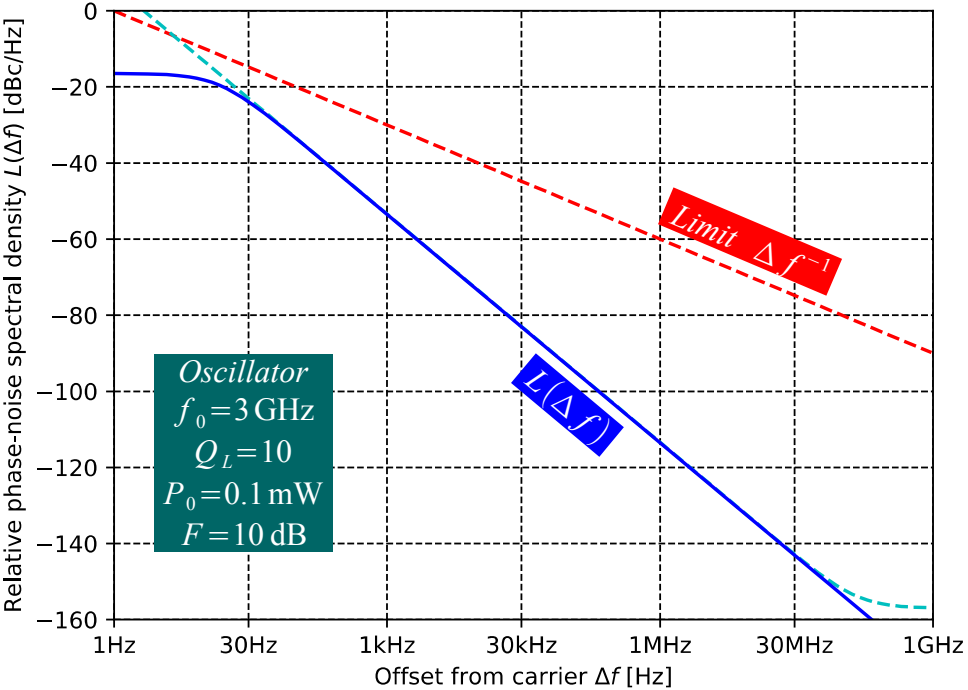
Relative phase-noise spectral density $L(\Delta f)$ [dBc/Hz]
0
−20
−40
−60
−80
−100
−120
−140
−160
1Hz
30Hz
1kHz
30kHz
1MHz
30MHz
1GHz
Offset from carrier Δf [Hz]
Limit Δf^{-1}
$L(\Delta f)$
Oscillator
$f_0 = 3$ GHz
$Q_L = 10$
$P_0 = 0.1$ mW
$F = 10$ dB