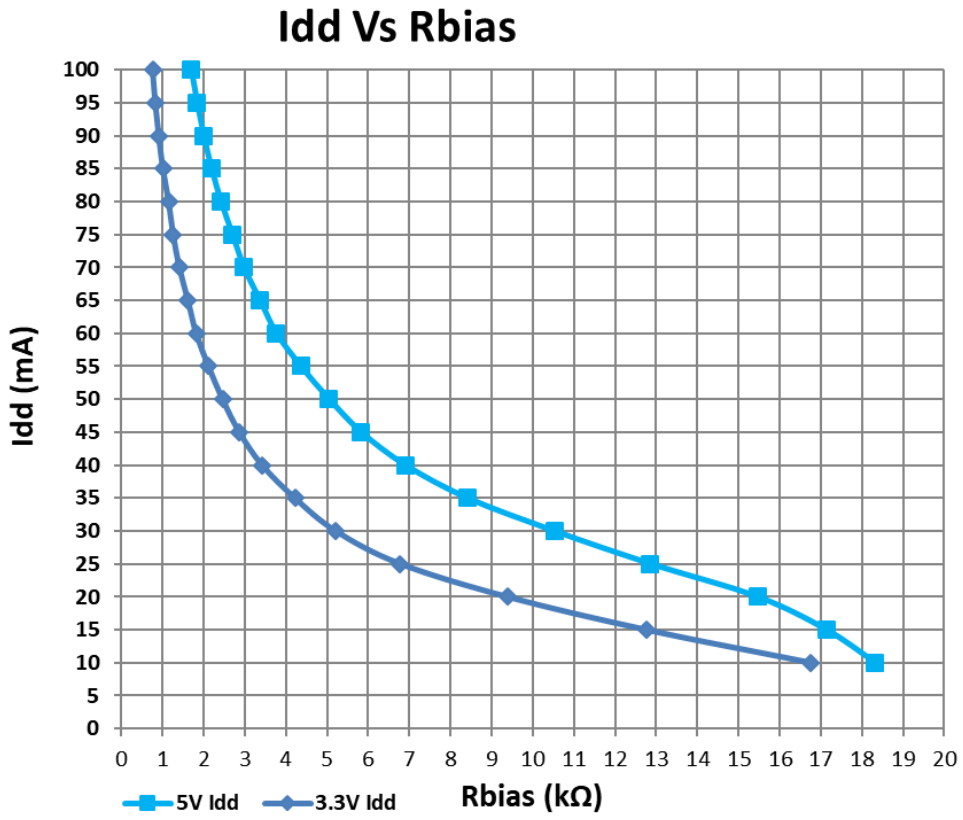
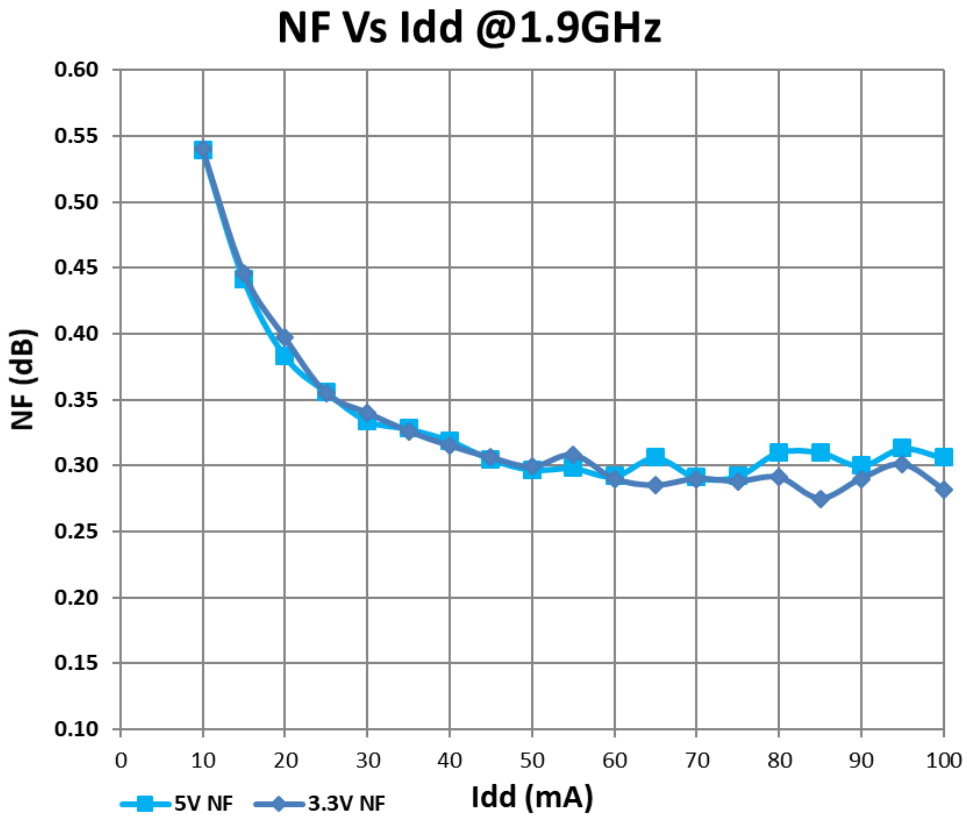
QPL9547 LNA Performance vs Bias

Idd Vs Rbias (R4), NF Vs Idd

Vdd=3.3V & 5V, freq=1.9GHz



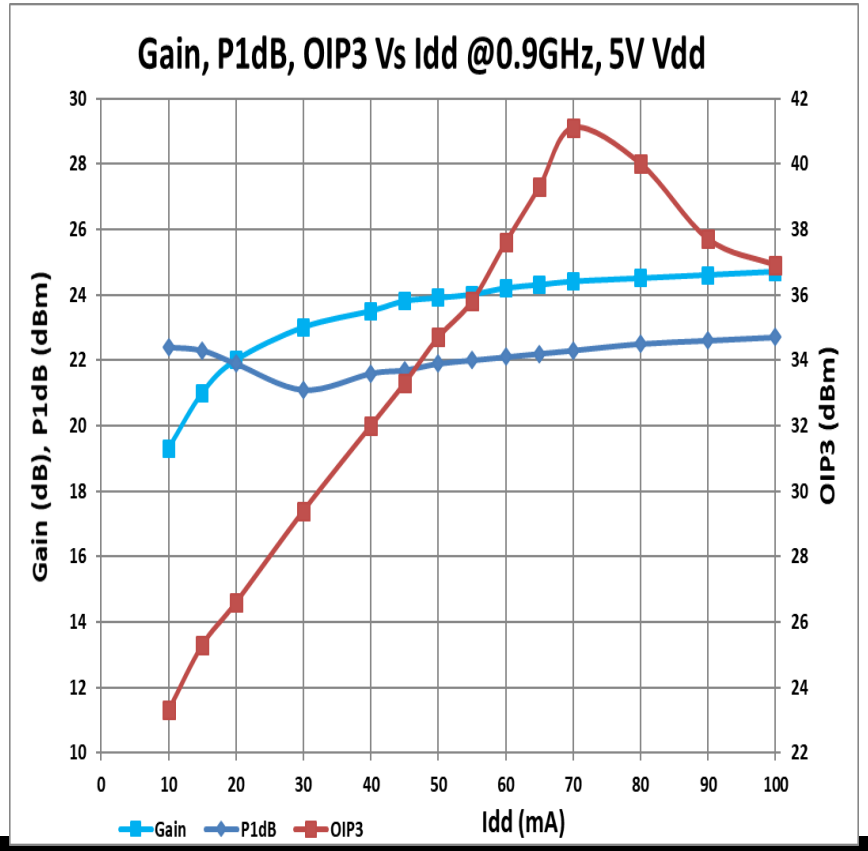


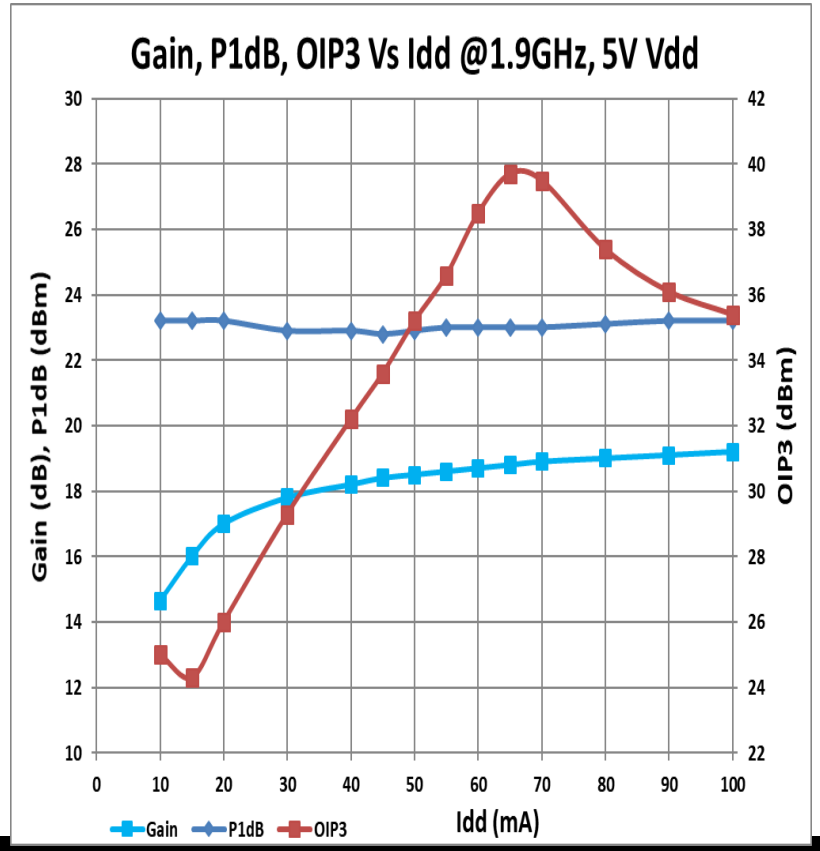
- NF optimal bias Idd>50mA for both 3.3V and 5V Vdd, eventually NF will go up after 100mA.
  - 10~15% Imax bias is the optimum bias range for NFmin. 50mA represent 11% of QPL9547 Imax (480mA).

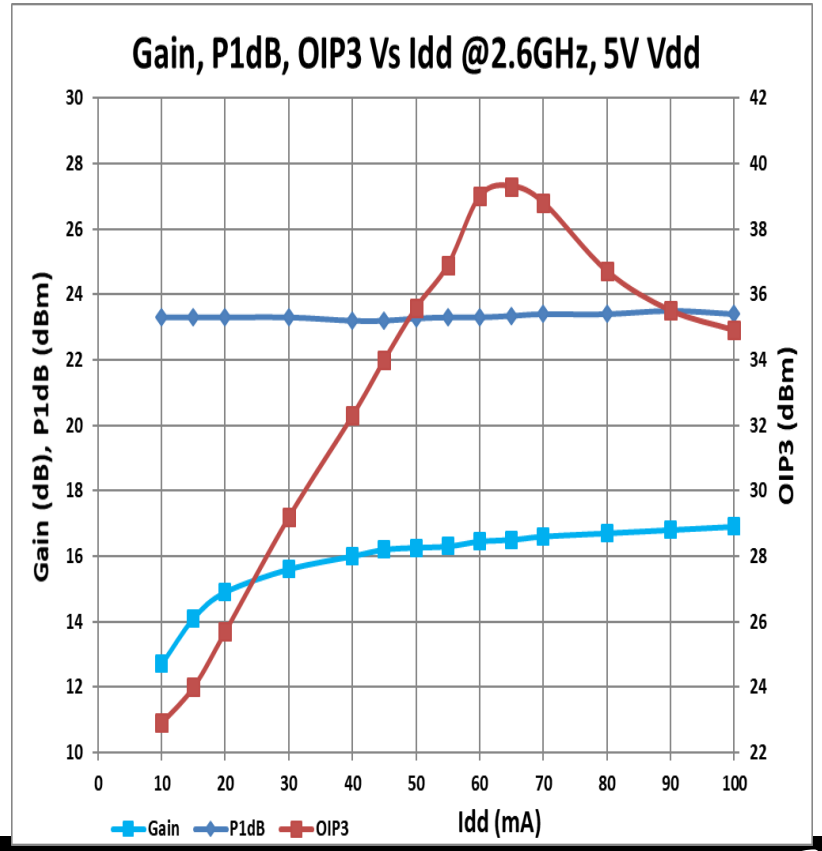
Gain, P1dB, OIP3 Vs Idd

Vdd=5V, freq=0.9, 1.9, 2.6GHz

- OIP3 optimal bias Idd=60~70mA for 5V Vdd. OIP3 is linear to Idd when Idd<50mA. OIP3>35dBm for Idd>50mA. Gain, P1dB relatively is flat with Idd.



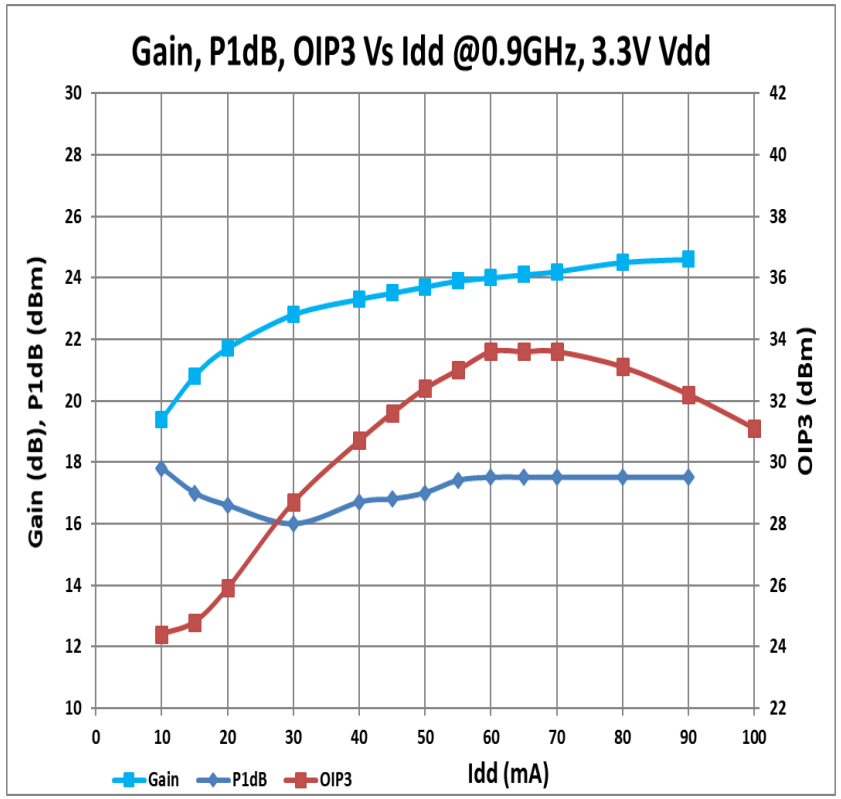


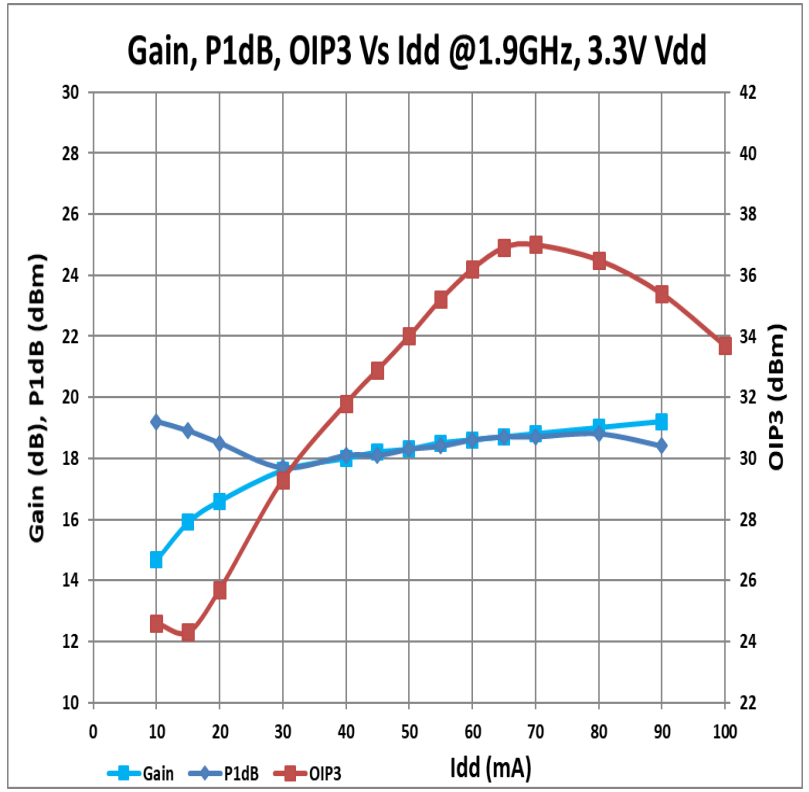


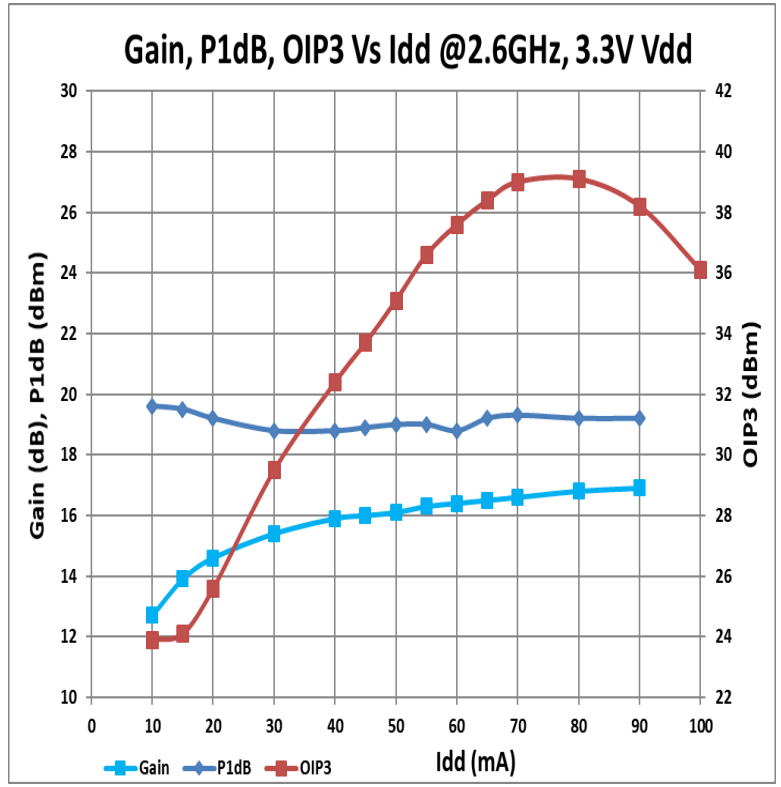
Gain, P1dB, OIP3 Vs Idd

Vdd=3.3V, freq=0.9, 1.9, 2.6GHz

- Optimal bias for OIP3 Idd~70mA for 3.3V.







Thank You