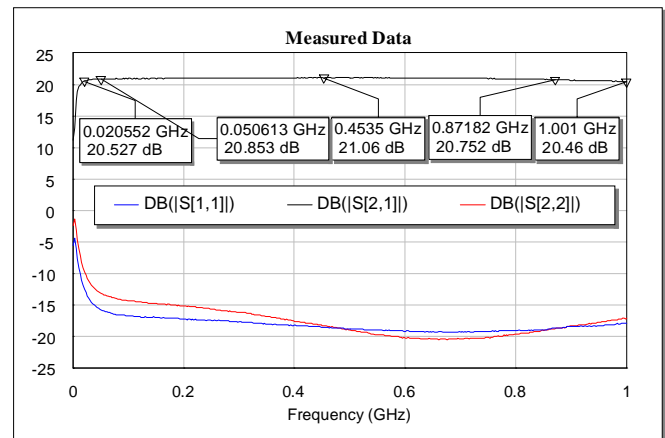
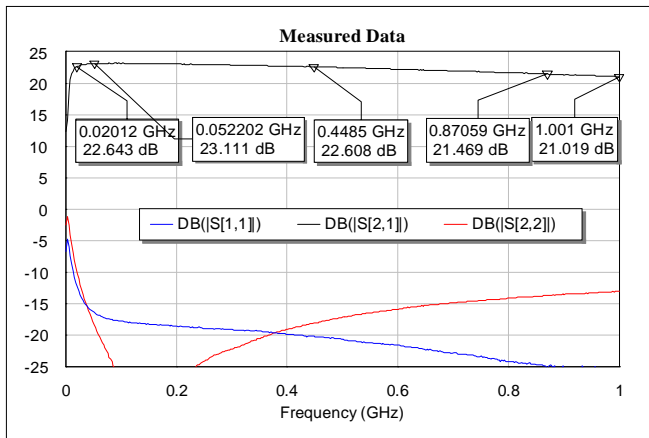
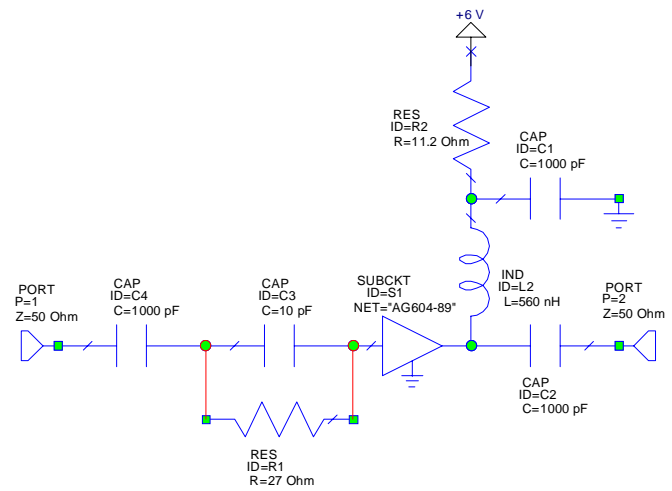
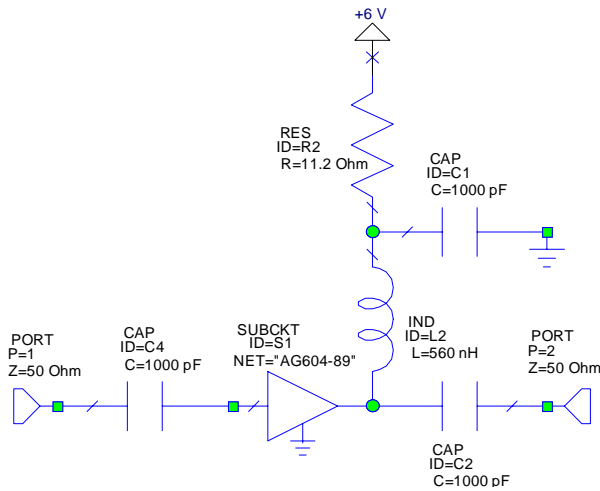




The AG604-89 can be used for CATV driver amplifier applications from 20 – 1000 MHz in both 50 Ω or 75 Ω systems for single-ended or push-pull applications. This application note focuses on a **50 Ω single-ended application**. In the examples shown below, a +6 V supply voltage is used. A larger supply voltage can also be used. The only modification would be to change the value for R2 to be $R2 = (Vs - 5.16)/.075$.

The AG604-89 does not require any matching for operation between 20 – 1000 MHz. To achieve broadband performance, a wirewound 560 nH or larger inductive RF choke is recommended. Data measured in an evaluation board is shown below.

To achieve improved gain flatness and return loss performance, a simple parallel R-C equalization network can be inserted at the input of the amplifier. The gain flatness from 20 – 1000 MHz can be improved from ± 0.9 dB to ± 0.2 dB.



In both examples shown above, a 560 nH inductive RF choke was used. To decrease the gain rolloff and degraded return loss performances at lower frequencies below 40 MHz, a larger inductance value is recommended. This is due to the fact that the impedance the RF choke presents to the circuit is only 70 Ω ($Z = j\omega L$) at 20 MHz.