



Design Note

From: DEMI R & D Dept.
DN#: 024
Date: FEB, 28, 2011
Re: Coax Bias for LLNA's

PREFACE: This document will show how to install a "DC Bias through the coax" option on all of the new LLNA's 50 through 432 MHz.

CIRCUIT MODIFICATION: A circuit modification is not required. A DC choke is installed from the RF output connector to the DC feed-thru to supply the DC bias. The connections are made internally as shown in the picture. Be sure to keep the molded choke as close to the board without touching or shorting the DC leads to ground. The DC feed-thru acts as a de-coupling capacitor at the RF frequencies.

TESTING: Testing is simple. It either works as before or it doesn't! If you installed the choke correctly, there will be little if any reduction in gain and it will not affect the noise figure of the LNA in any way unless instability was introduced. Be sure to keep the choke lead that is connected to the RF output connector as short as possible and to insulate the opposite lead. Be sure that the choke and lead are as close to the circuit board as possible. The LNA will now be able to be bias booth through the coax and the Feed through. BUT—please note the with coax bias, the external part of the feed-thru will be DC hot. It will need some sort of insulation to ensure that it will not cause a DC short.

