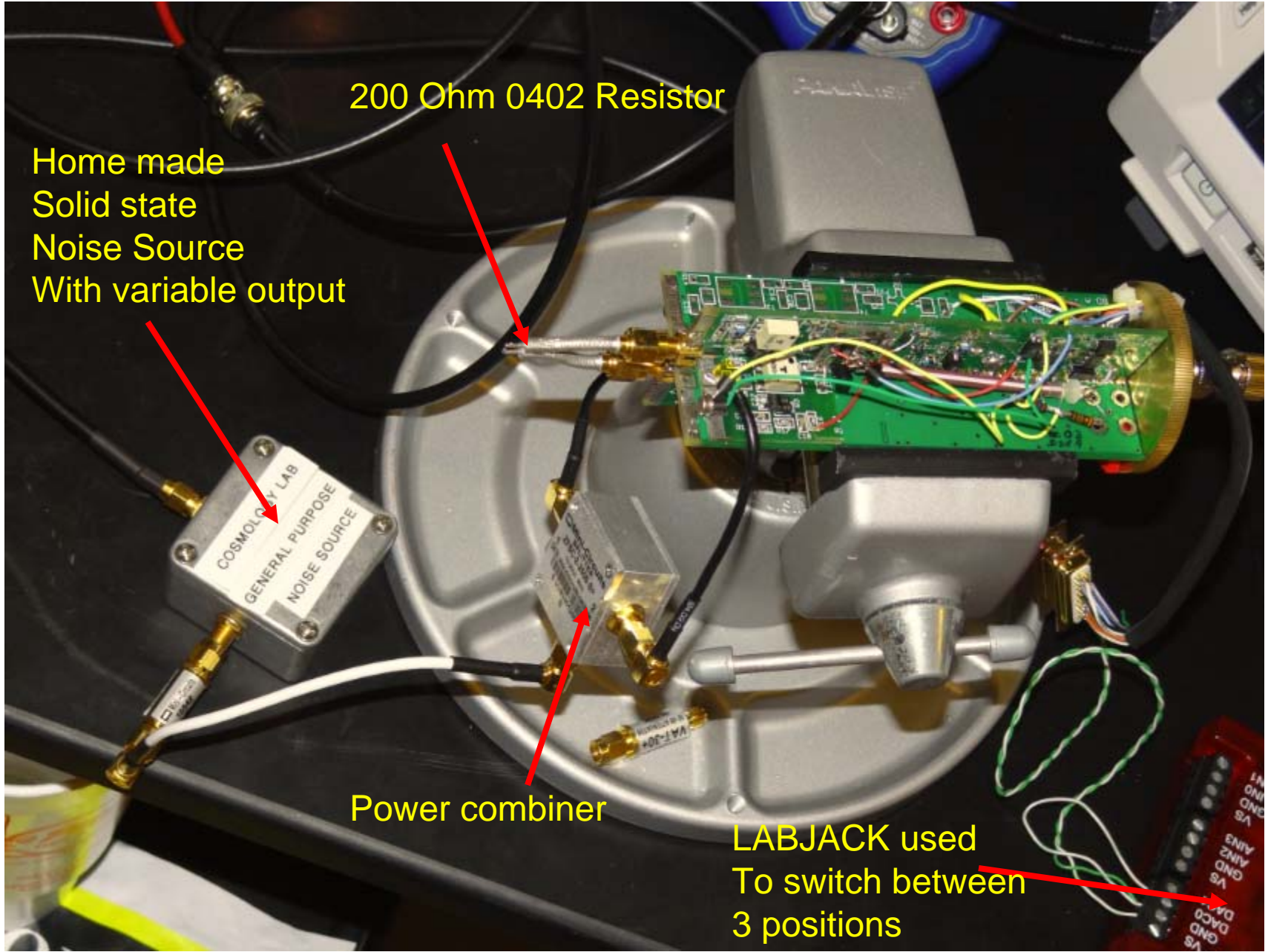


# DARE BALUN EXTERNAL NOISE CAL

HAMDI MANI

03/07/2013



200 Ohm 0402 Resistor

Home made  
Solid state  
Noise Source  
With variable output

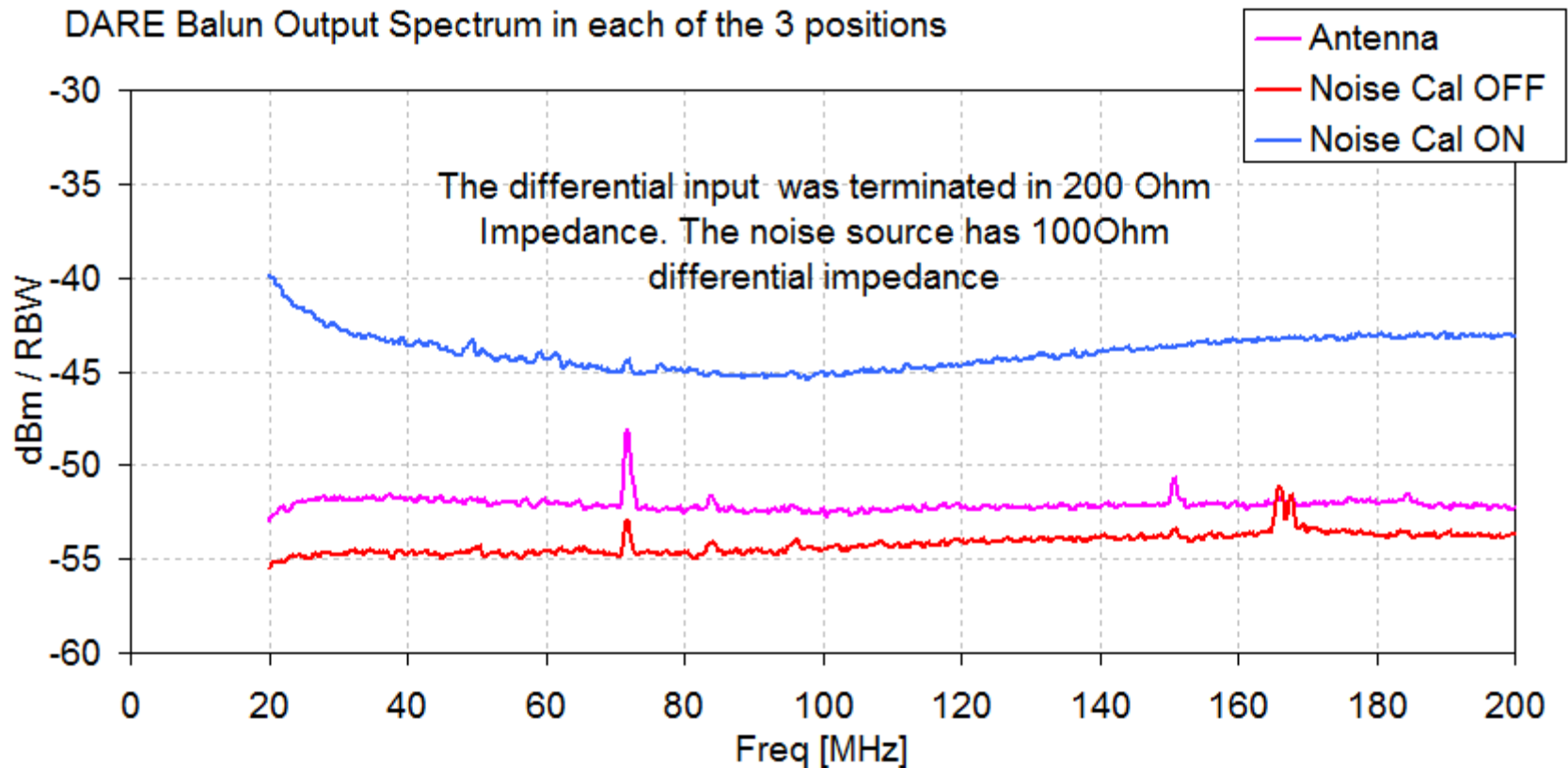
COSMOLOGY LAB  
GENERAL PURPOSE  
NOISE SOURCE

Power combiner

LABJACK used  
To switch between  
3 positions

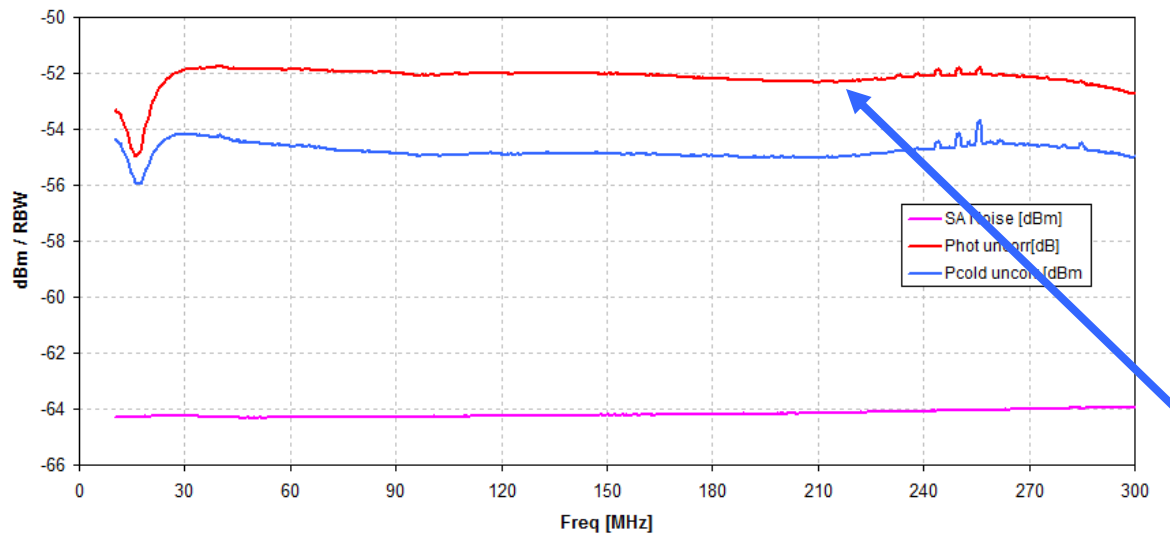
VS  
GND  
DAC0  
DATA  
VS  
GND  
AIN2  
AIN3  
VS  
GND  
AIN1

Output power with 200 Ohm input impedance is higher because gain of the amplifier is higher with 200 than 100 Ohm as seen on the next slide

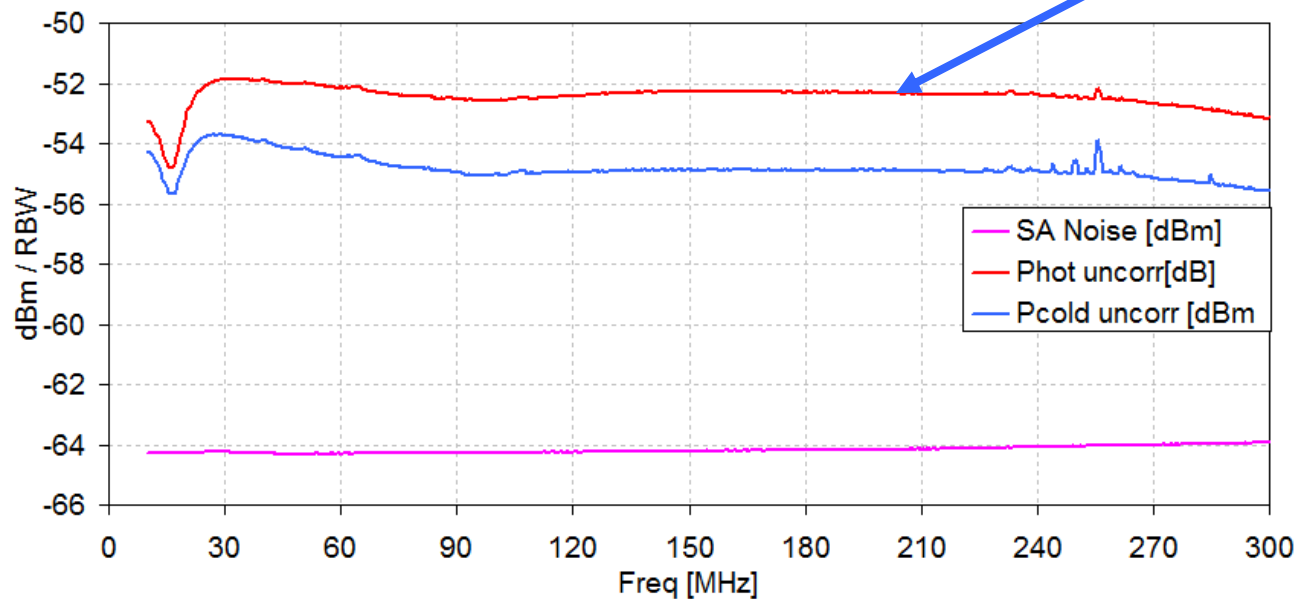


It is possible to design a noise source with any output impedance and match it to the input of the LNA over a wide freq range.

DARE Balun Y-Factor Measurement with 100Ohm Load



DARE Balun Y-Factor Measurement with 200Ohm Load



Gain of the Balun is a Function of its input Impedance. Higher Gain At 100 Ohm