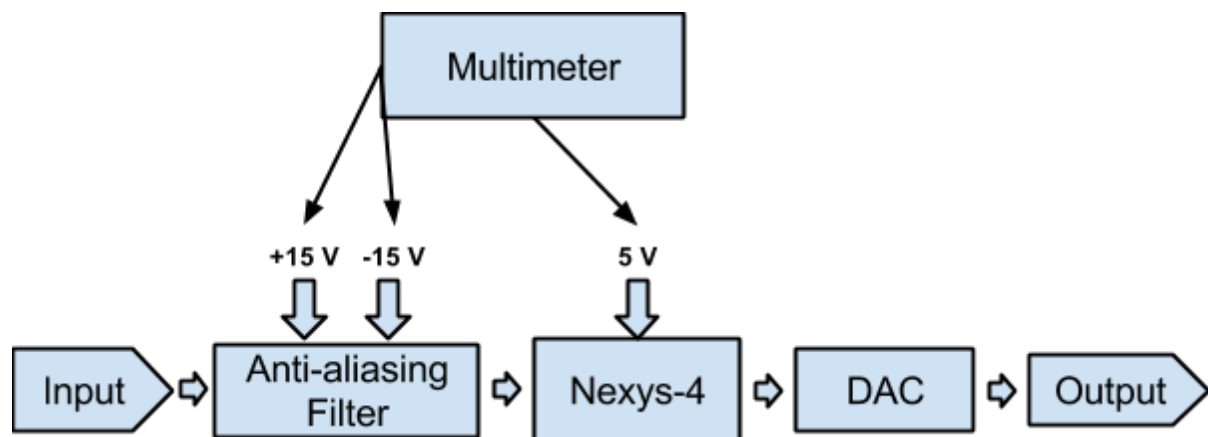**Test protocol**

Power measurements

Description: The power drawn by the board is estimated by measuring the current drawn at the Nexys-4 board's power sources, 5 V and 15 V. Using the multimeter while running the application on the board and measuring each node gave us our estimated power dissipation.

Equipment:

- Nexys 4 board with implemented design
- 15V power supply
- 5V power supply
- Multimeter

Setup:

We used the operating setup of the device to get trustworthy results. Thus the audio input was connected to the anti-aliasing filter merged with the board and the output port was connected to the DAC. Measurements were then collected while playing a song through the device.

Results:

Each node was measured and added together to achieve a probable power dissipation. The results of these measurements can be observed in figure 1.

	Voltage (V)	Current (mA)	Power (W)
Nexys 4 board and DAC	5	360.0	1.80
Analog input filter (positive node)	+15	2.6	0.04
Analog input filter (negative node)	-15	-11.7	0.18
Total (Board+DAC+input filter)			2.01

According to these results, our board has an operating power of 2W.