Input resistance seen by the filter: 151Ohm

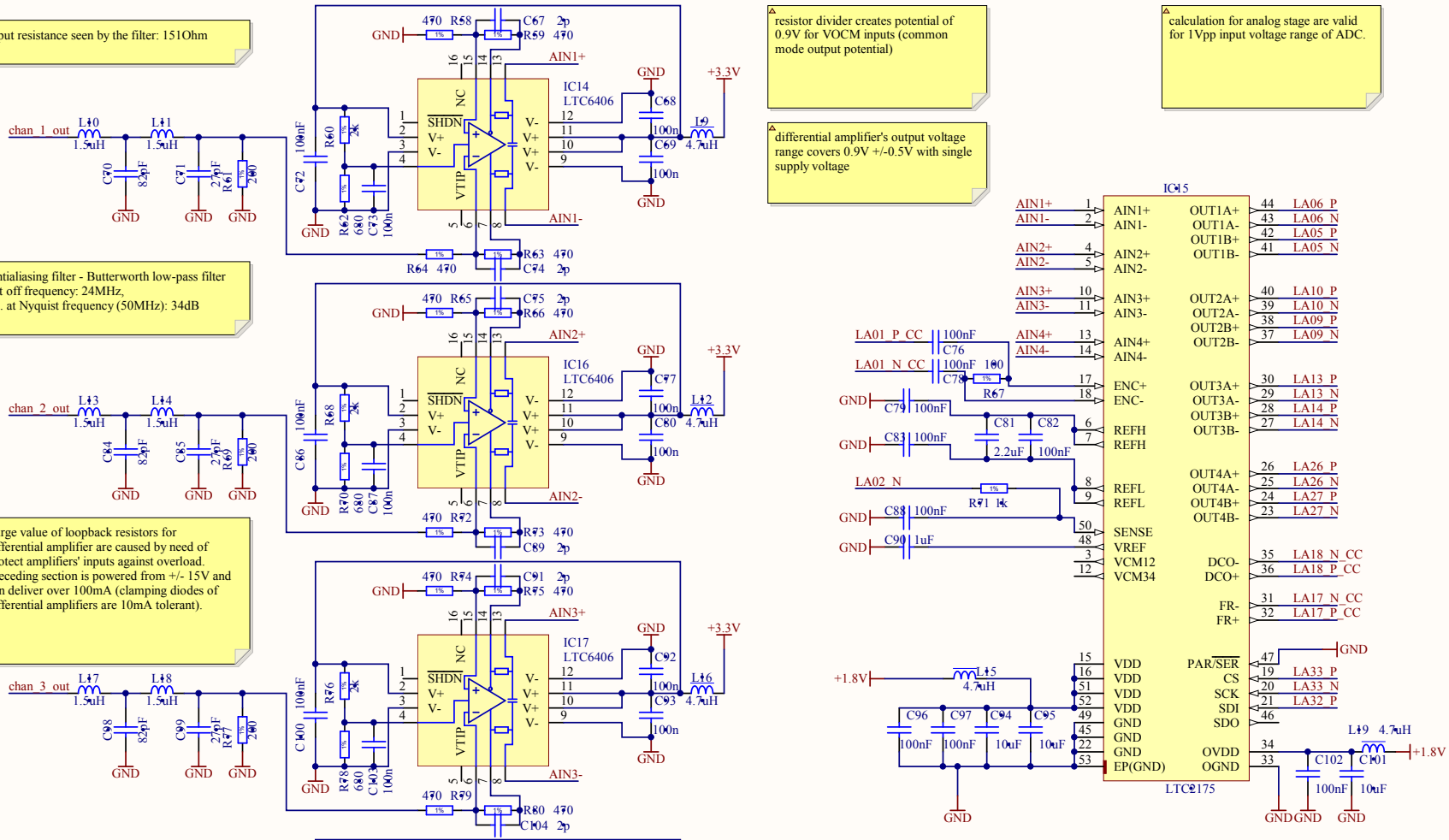
Antialiasing filter - Butterworth low-pass filter
cut off frequency: 24MHz,
att. at Nyquist frequency (50MHz): 34dB

Large value of loopback resistors for differential amplifier are caused by need of protect amplifiers' inputs against overload. Preceding section is powered from +/- 15V and can deliver over 100mA (clamping diodes of differential amplifiers are 10mA tolerant).

resistor divider creates potential of 0.9V for VOCM inputs (common mode output potential)

differential amplifier's output voltage range covers 0.9V +/-0.5V with single supply voltage

calculation for analog stage are valid for 1Vpp input voltage range of ADC.



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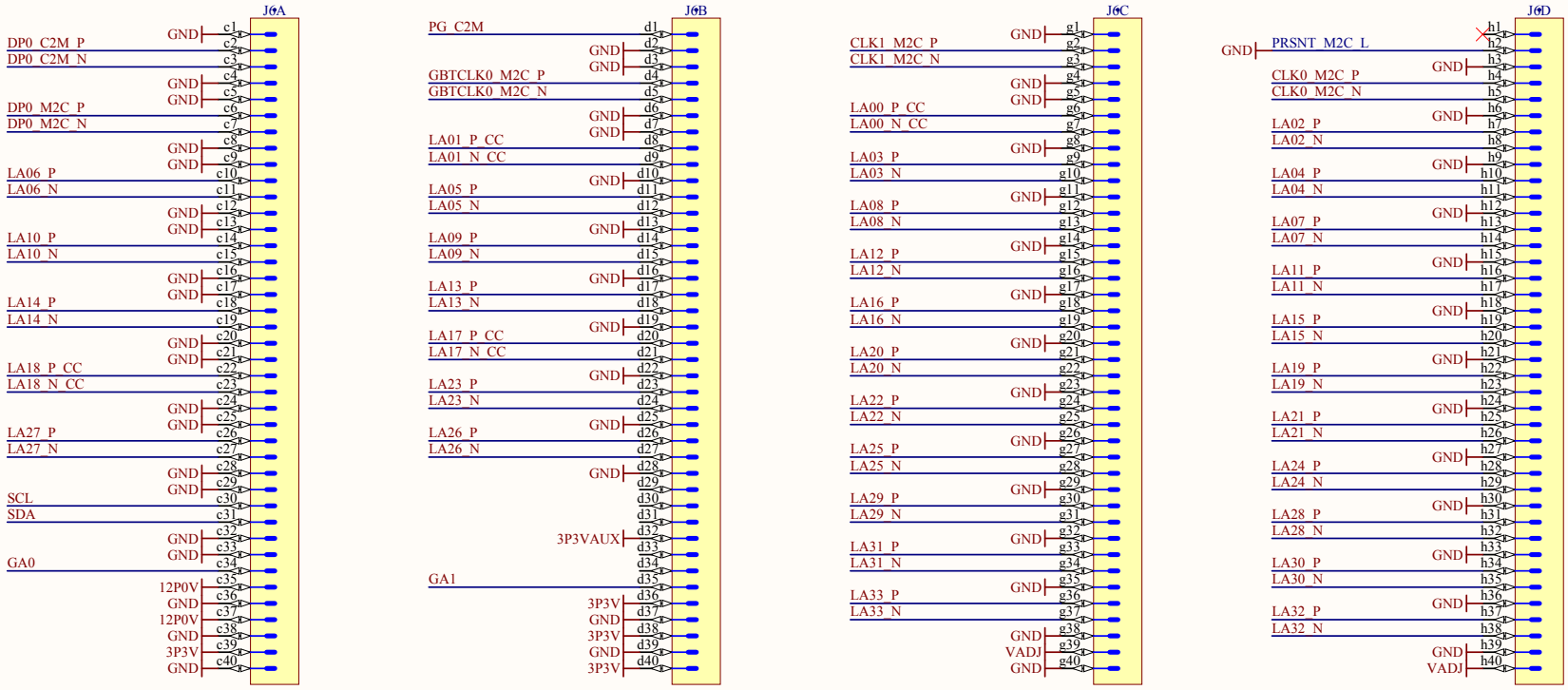

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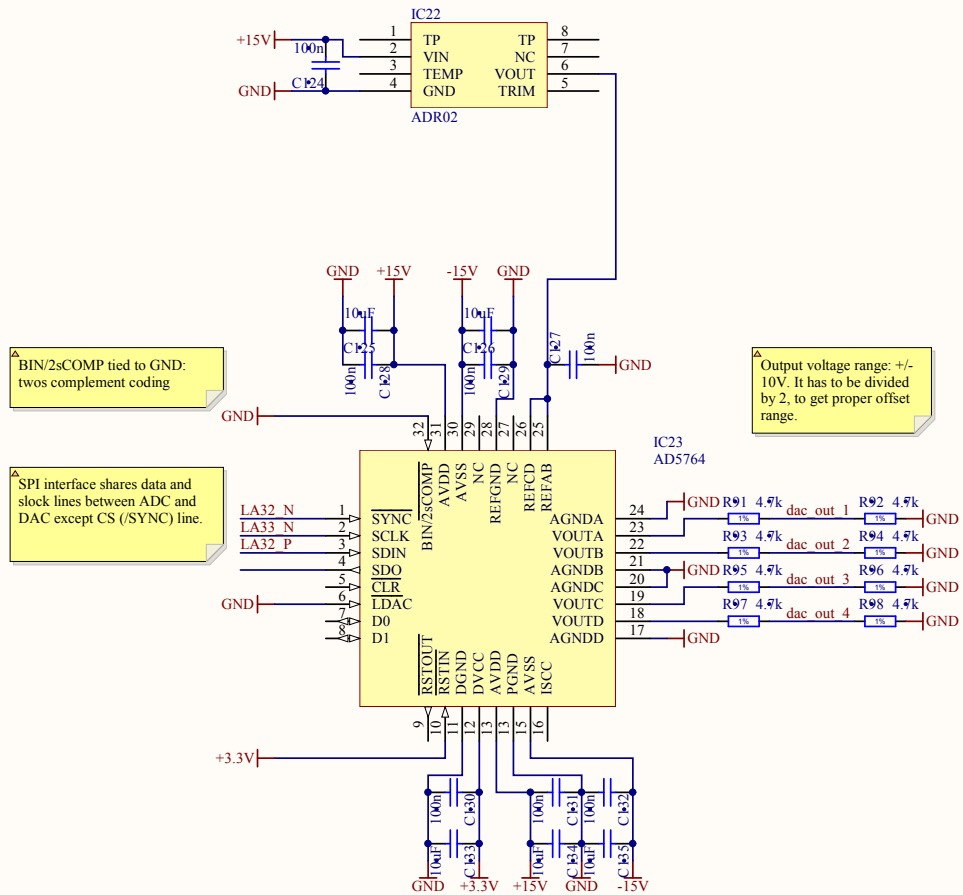

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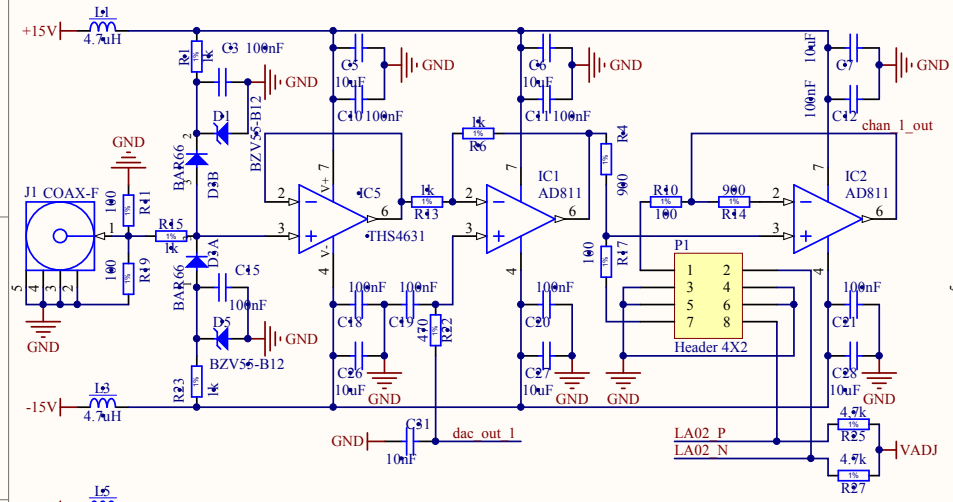

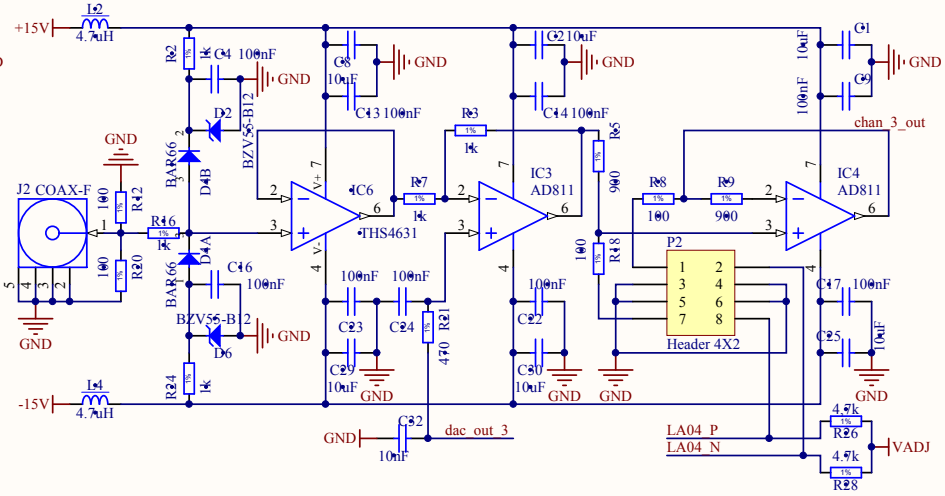

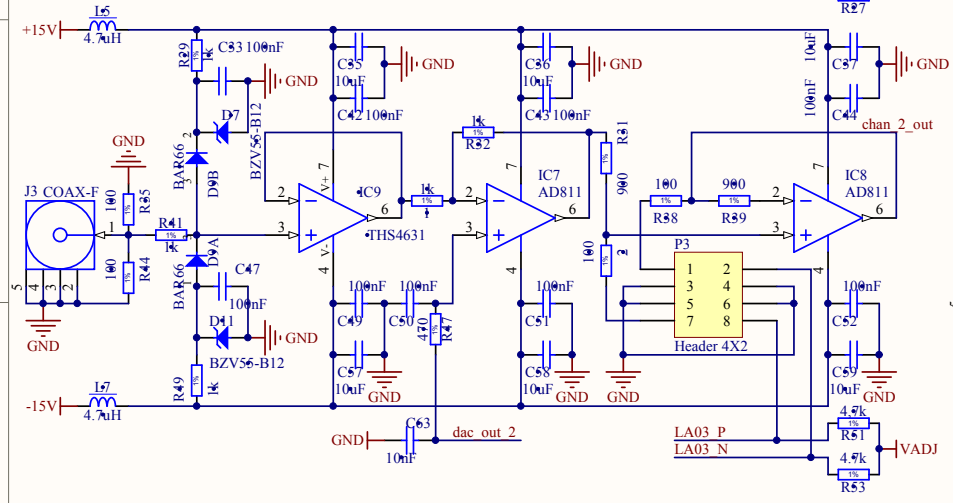

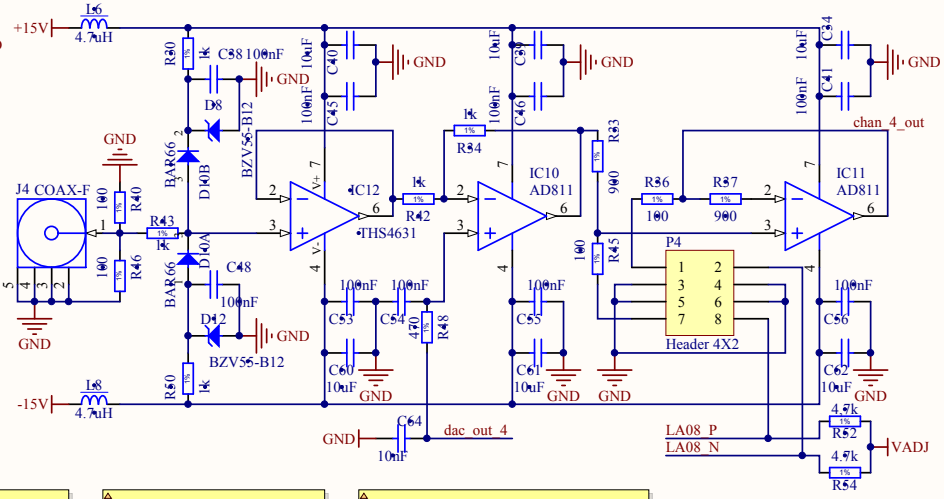

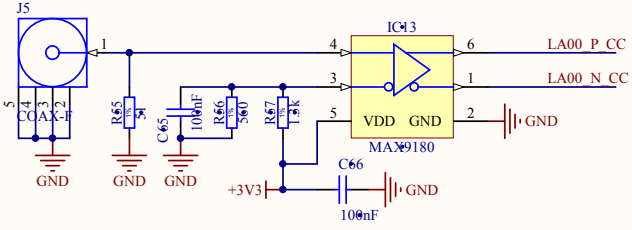

2x4 header:
User is changing the gain by setting jumper position. Second jumper allows mainboard to determine jumper position and therefore the gain.

2 x 100 OHm resistors: 0.5W, 1206 - max. constant input voltage - 7.07V.

There is a problem with power (and value) of resistor for protecting clamping diodes at the inputs. Chosing high value and bypassing resistors by capacitors may cause phase problems (but its is commonly use in oscilloscopes).

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Input stage
Input buffers, PGAs, trigger buffer

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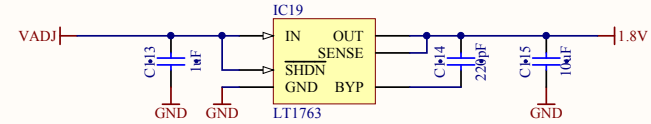
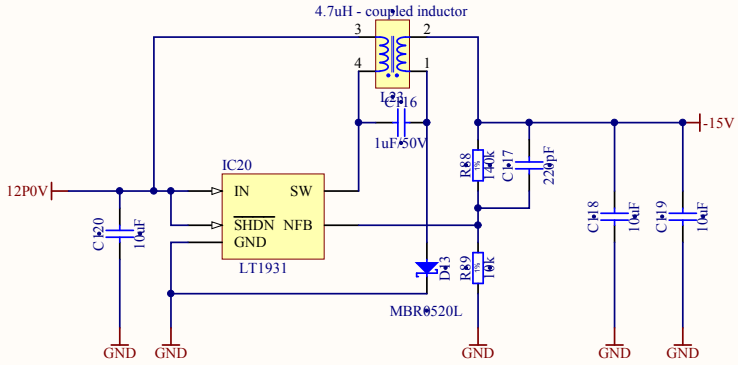
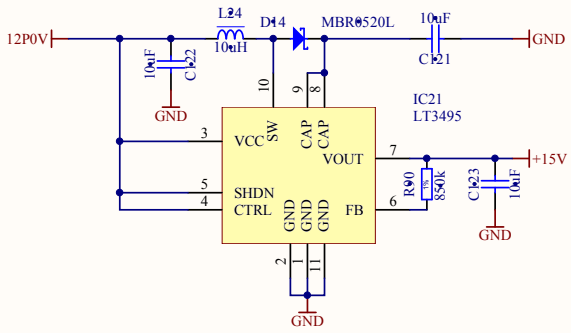


VADJ has to be set to 2.5V. Linear regulator makes 1.8V potential for supply the ADC.

With VADJ of 2.5V there is also no problem of level matching for DAC (logic one >= 2V). Otherwise level converter is needed.



CUK inverting DC/DC converter. According the datasheet - output ripple: 1mV.



standard low noise boost converter. According to the datasheet, output ripple approx. 10mV

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