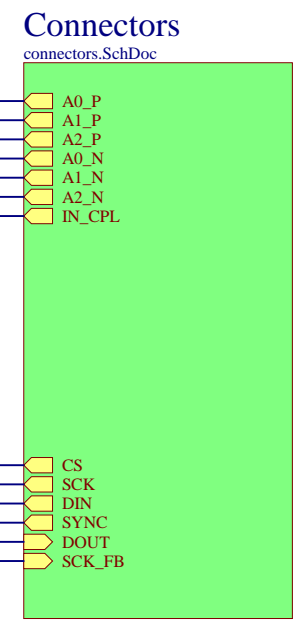
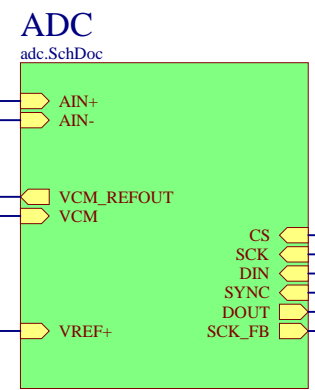
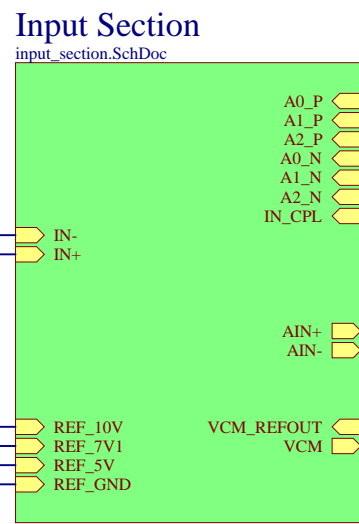
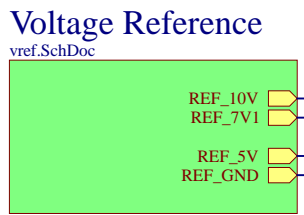
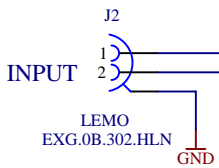


GND connected to chassis capacitively
see EDA-04062-V1-1



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Project/Equipment		HPM7177 ADC Mezzanine	
Document		HPM7177 Top-level schematic	
TE/EPC 	Designer	N. Beev	
	Drawn by	N. Beev	04-04-2019
	Check by	JMW	30-04-2020
	Last Mod.	N. Beev	14/05/2020
File		top.SchDoc	
Print Date		25/05/2020 14:26:55	Sheet 1 of 5
European Organization for Nuclear Research CH-1211 Genève 23 - Switzerland		EDA-04061-V2-0	
	Size	A4	Rev -

EMI filters

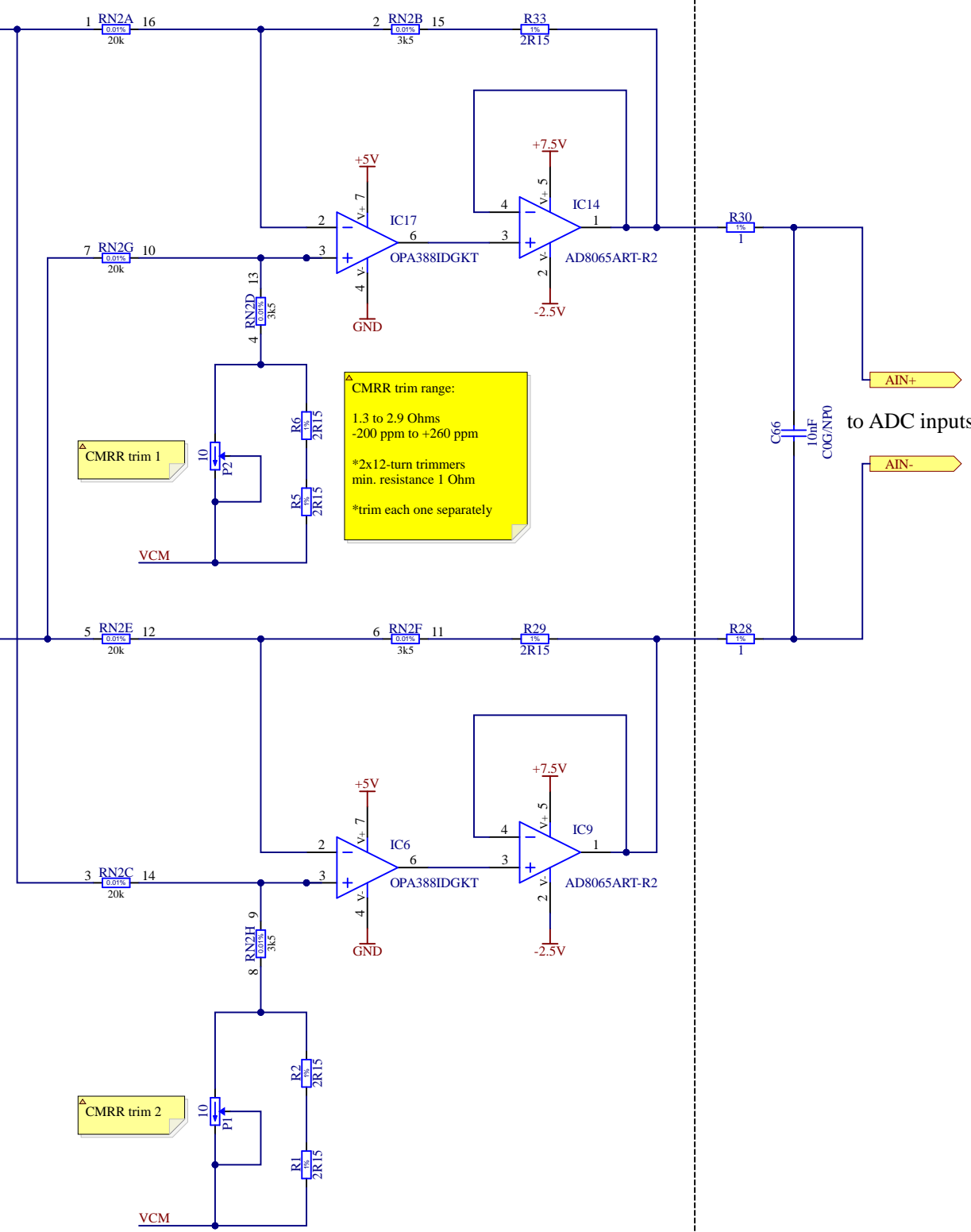
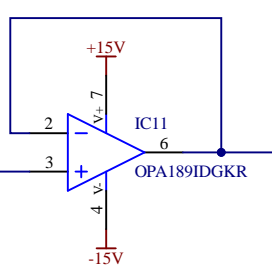
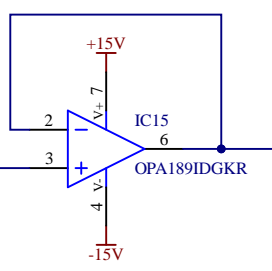
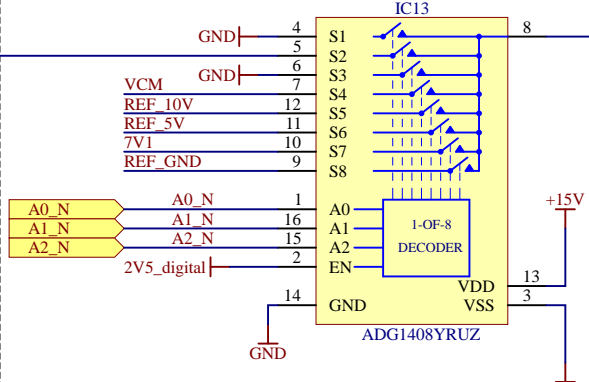
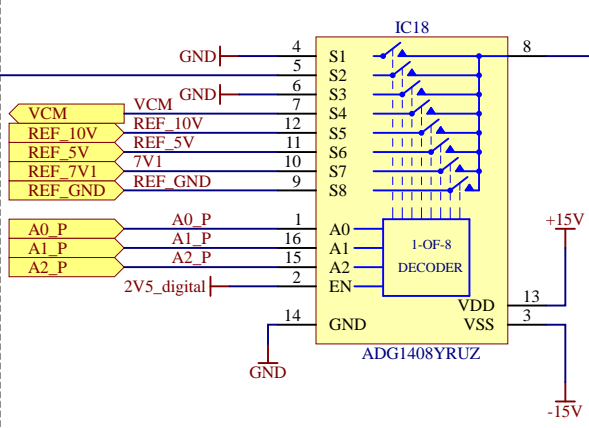
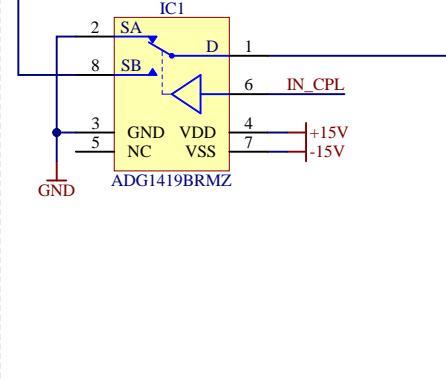
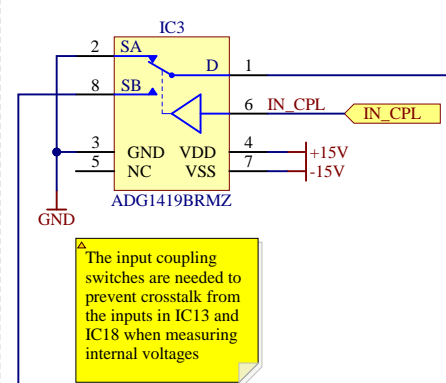
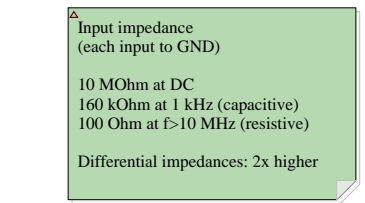
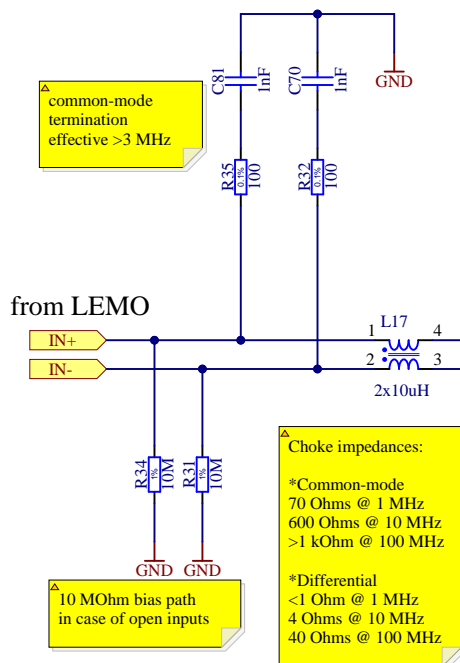
Inputs Coupling

Input Multiplexers

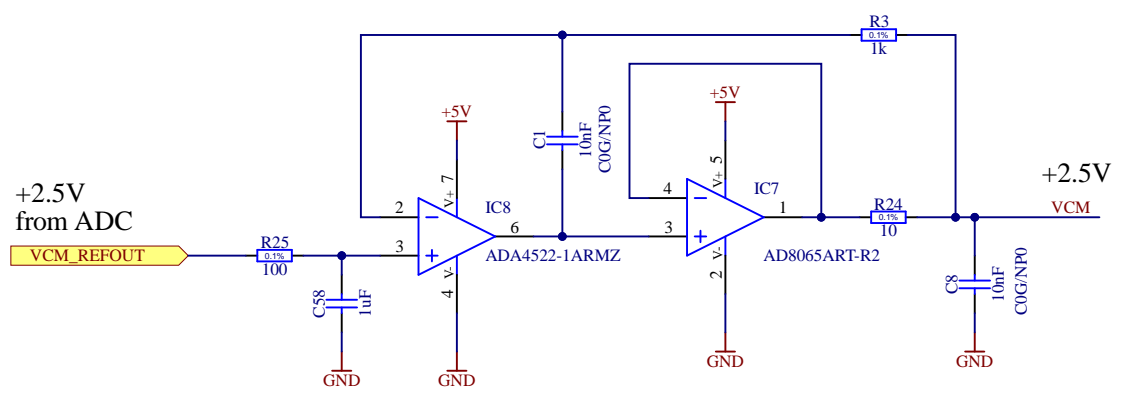
Buffers

Fully Differential Stage G=0.35, Vocm = 2.5V

ADC input filter



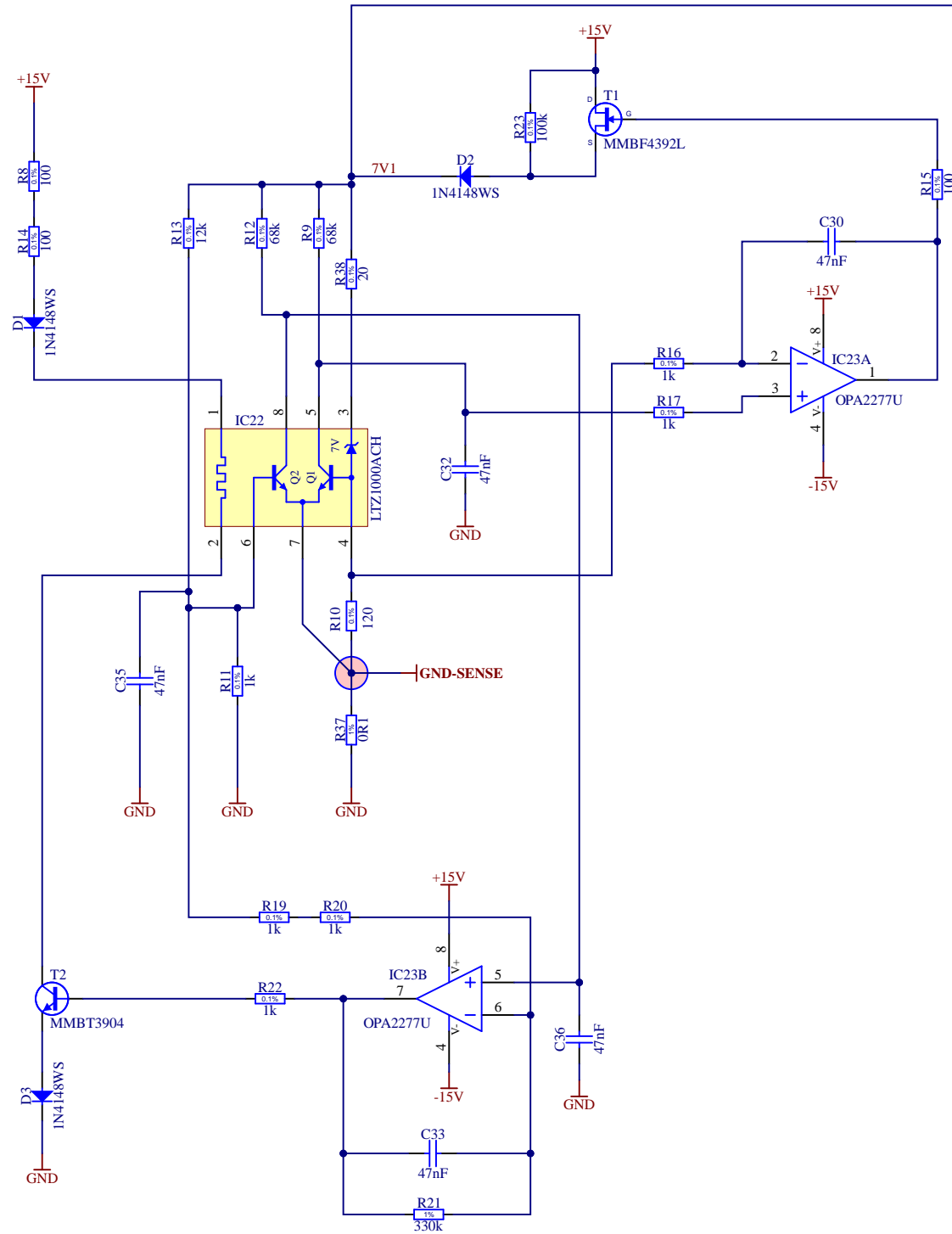
Common-mode bias: +2.5V from ADC internal Vref



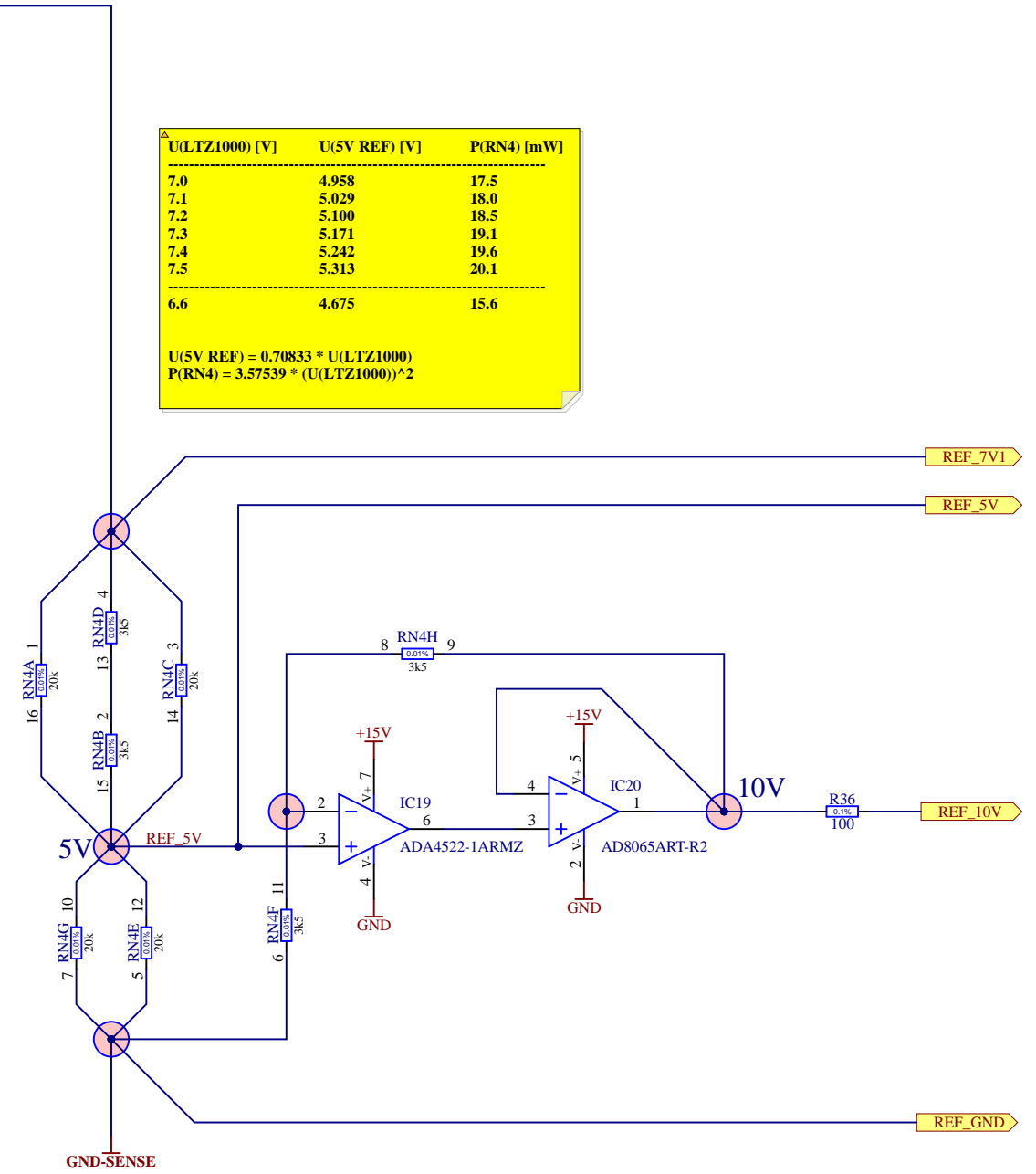
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Project/Equipment	HPM7177 ADC Mezzanine		
Document	HPM7177 Input Section		
Designer	N. Beev	Drawn by	N. Beev
Check by	JMW	Last Mod.	N. Beev
File	input_section.SchDoc	Print Date	25/05/2020 14:26:55
Sheet	2 of 5	Size	A3
Rev	-	EDA-04061-V2-0	

LTZ1000A Circuit



7.1/5V Divider and G=2 Amplifier



U(LTZ1000) [V]	U(5V REF) [V]	P(RN4) [mW]
7.0	4.958	17.5
7.1	5.029	18.0
7.2	5.100	18.5
7.3	5.171	19.1
7.4	5.242	19.6
7.5	5.313	20.1

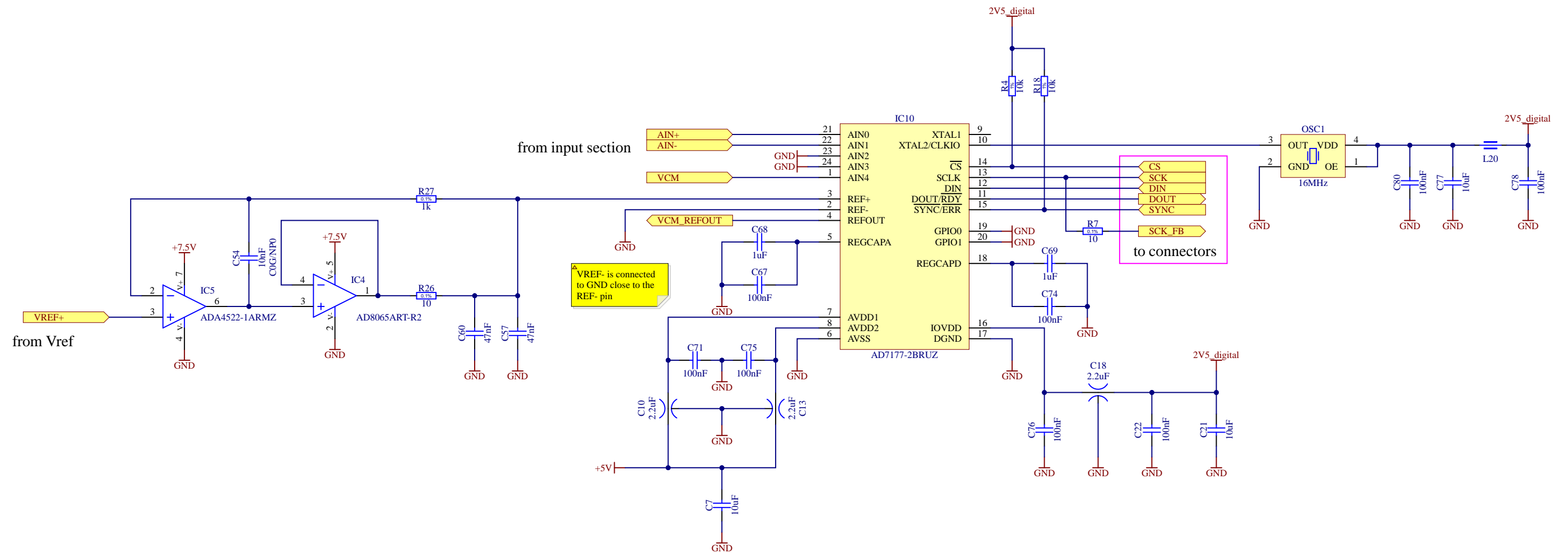
6.6	4.675	15.6

$U(5V\ REF) = 0.70833 * U(LTZ1000)$
 $P(RN4) = 3.57539 * (U(LTZ1000))^2$

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Project/Equipment	HPM7177 ADC Mezzanine		
Document	HPM7177 <i>Voltage Reference</i>		
Designer	N. Beev	Drawn by	N. Beev
Check by	JMW	30-04-2020	04-04-2019
Last Mod.	N. Beev	25/05/2020	30-04-2020
File	ref.SchDoc	Print Date	25/05/2020 14:26:56
Sheet	3 of 5	Size	A3
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AD7177-2 ADC circuit

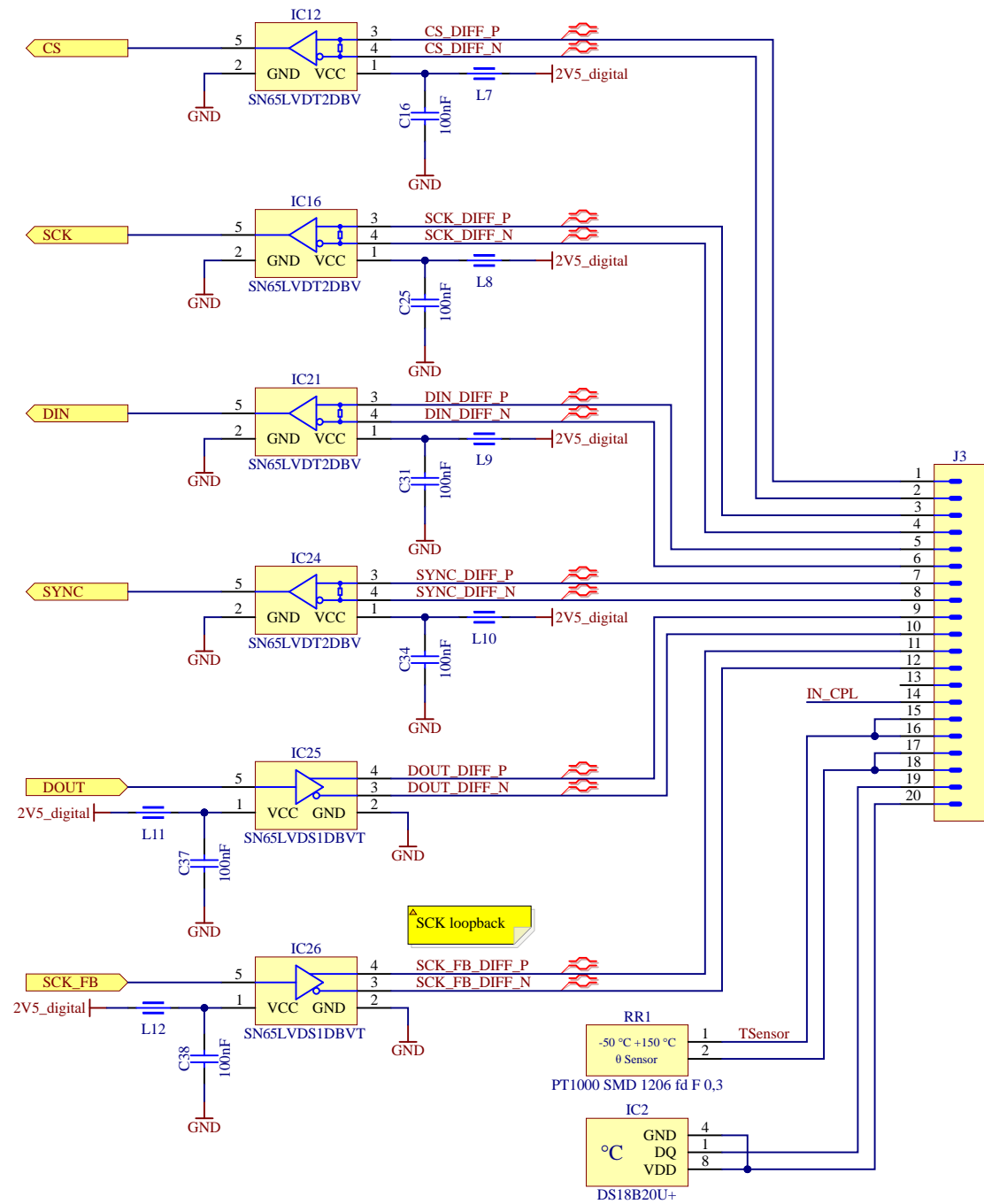


VREF- is connected to GND close to the REF- pin

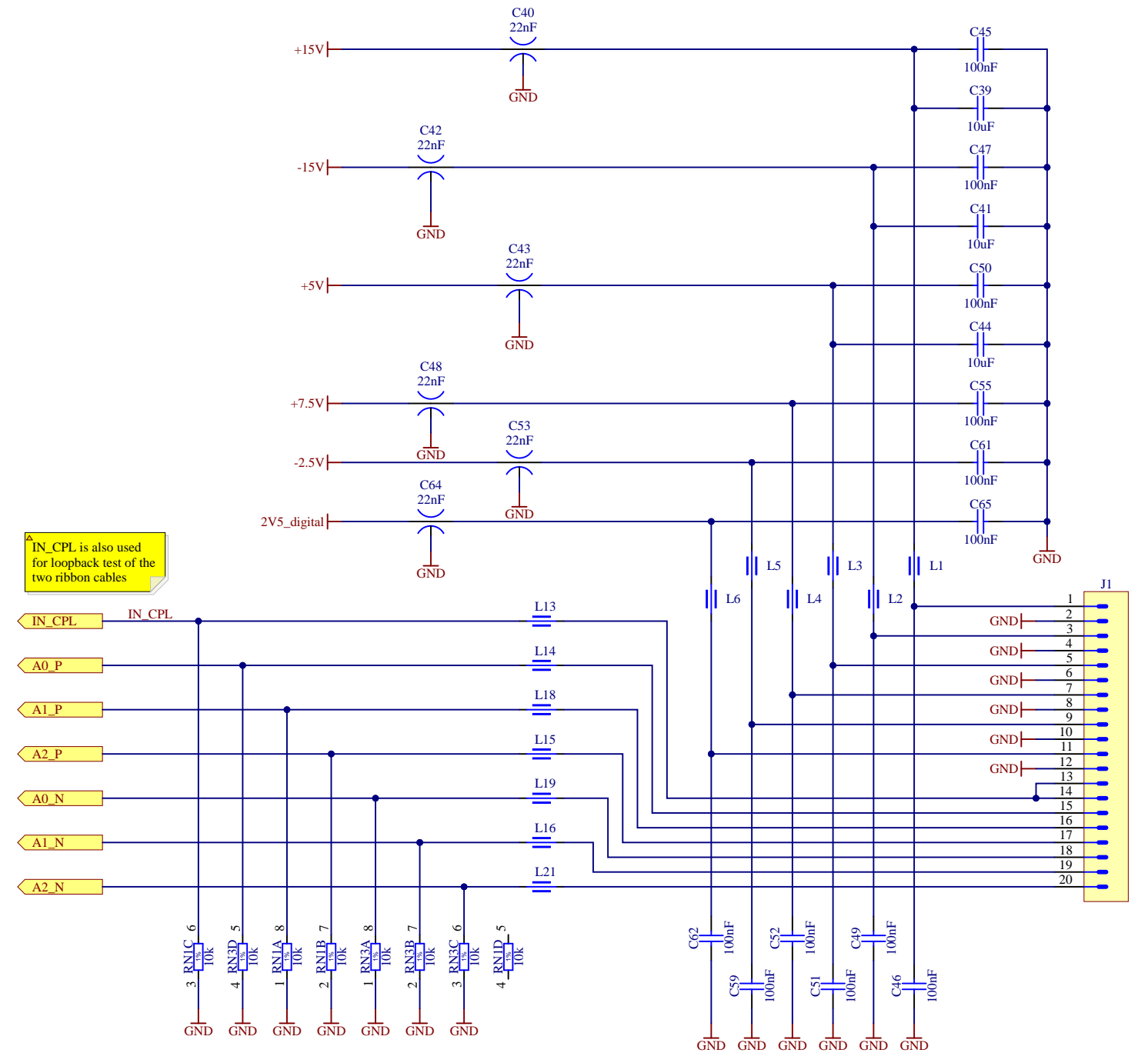
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Project/Equipment	HPM7177 ADC Mezzanine	
Document	HPM7177 ADC - AD7177-2	
Designer	N. Beev	
Drawn by	N. Beev	04-04-2019
Check by	JMW	30-04-2020
Last Mod.	N. Beev	25/05/2020
File	adc.SchDoc	
Print Date	25/05/2020 14:26:56	Sheet 4 of 5
European Organization for Nuclear Research CH-1211 Genève 23 - Switzerland		EDA-04061-V2-0

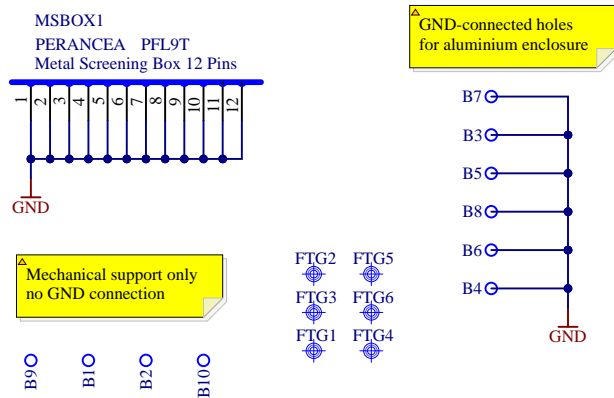
ADC interface, PT1000 temperature sensor and ID chip



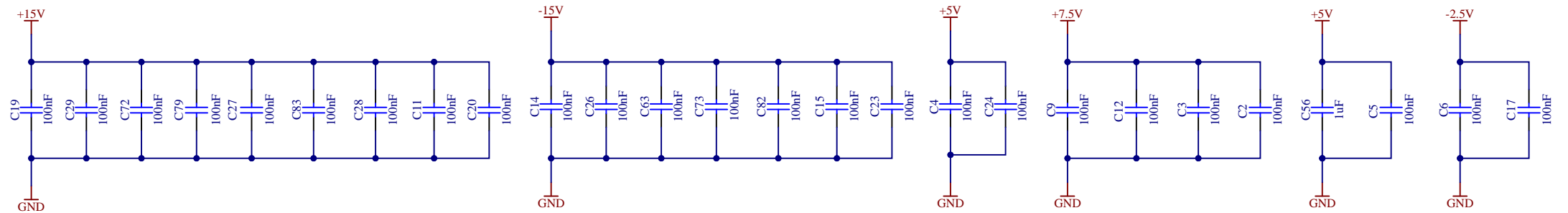
Supply voltages, decoupling, and MUX control lines



Shielding can, mounting holes



Decoupling capacitors



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Project/Equipment		HPM7177 ADC Mezzanine	
Document		HPM7177 <i>Connectors and decoupling</i>	
Designer	N. Beev	Drawn by	N. Beev
Check by	JMW	Last Mod.	N. Beev
File	connectors.SchDoc	Print Date	25/05/2020 14:26:56
Sheet	5 of 5	Size	A3
EDA-04061-V2-0		European Organization for Nuclear Research CH-1211 Genève 23 - Switzerland	