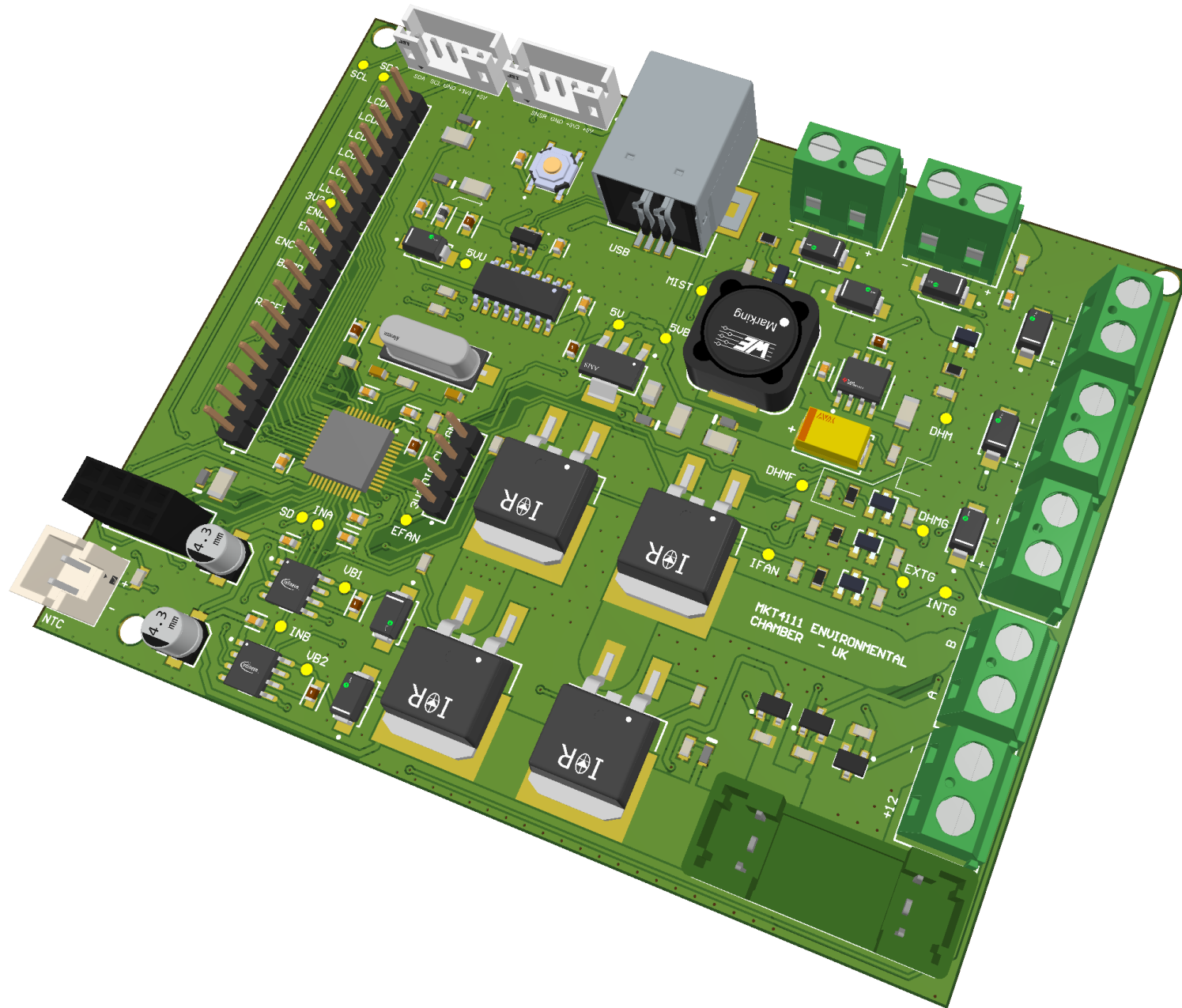
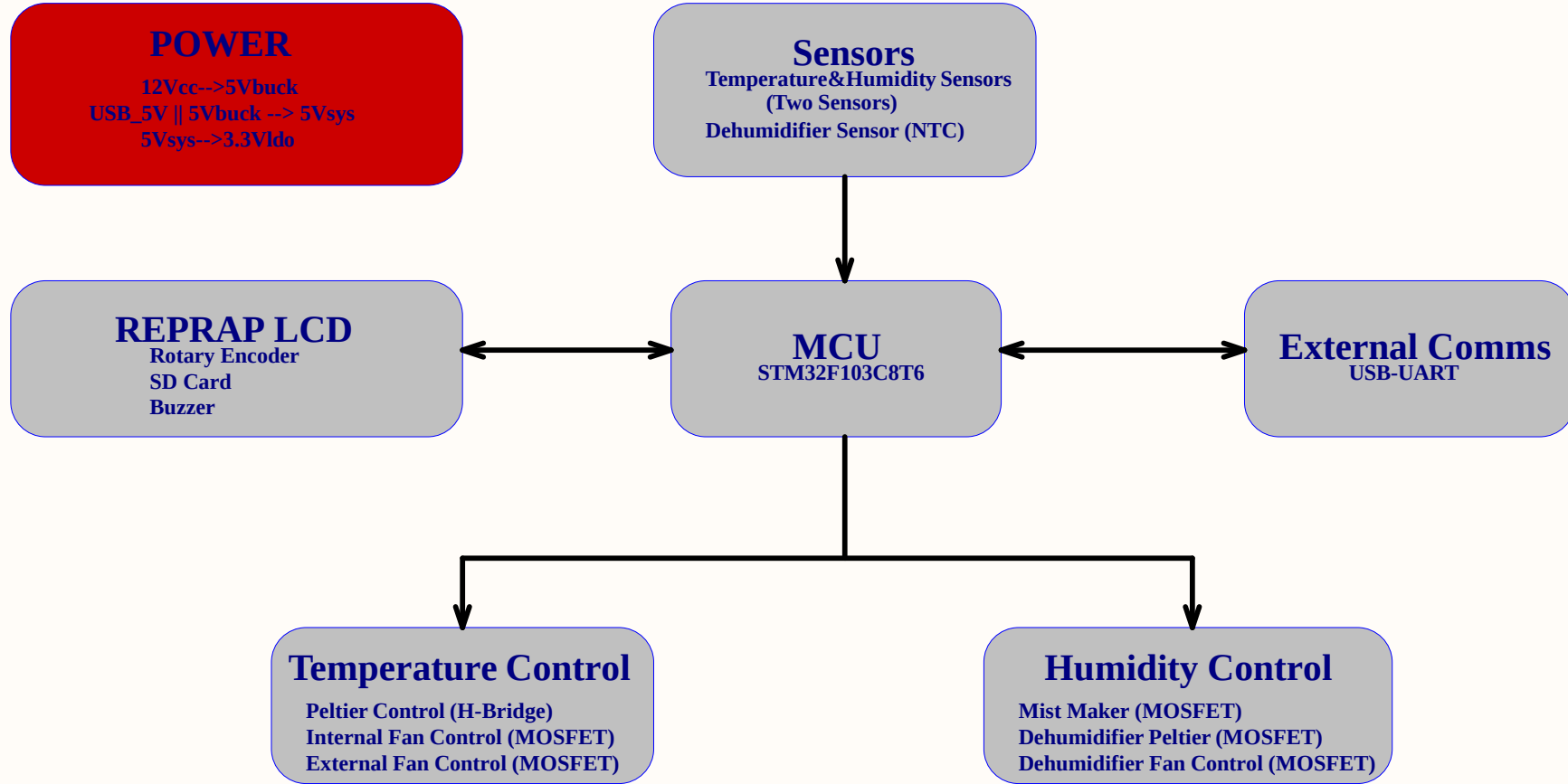


Environmental Chamber PCB



[1] Environmental Chamber Block Diagram

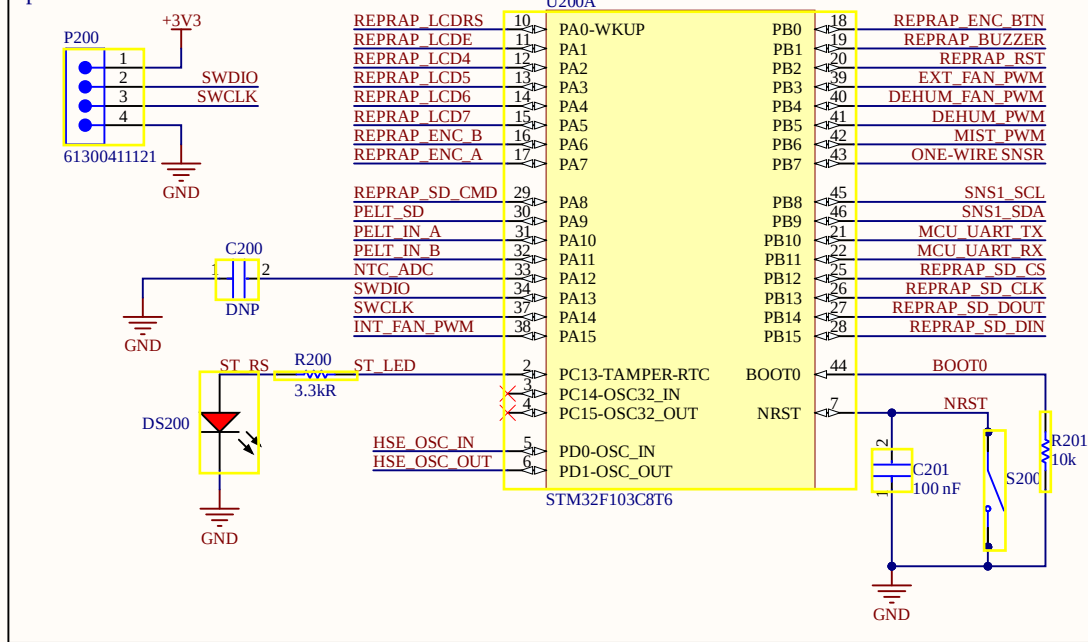


Project Title		Environmental-Chamberv2.PrjPcb		
Drawn By		Sheet Name		
Uğur KELEŞ		EC-Block-Diagram.SchDoc		
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[2] Microcontroller

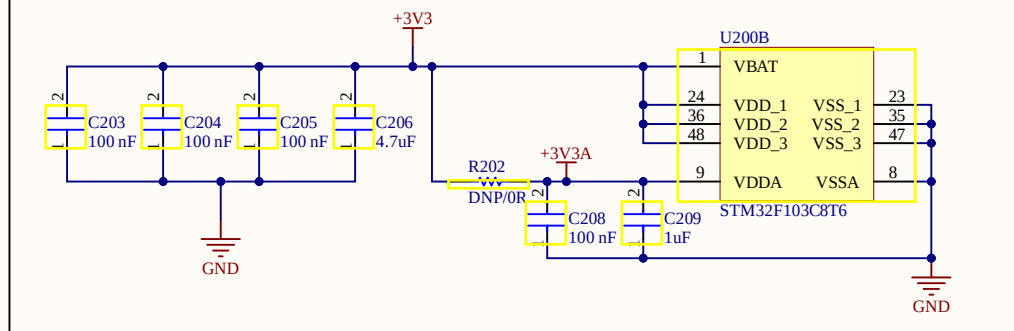
MCU and ST-Link

*pinout and st-link



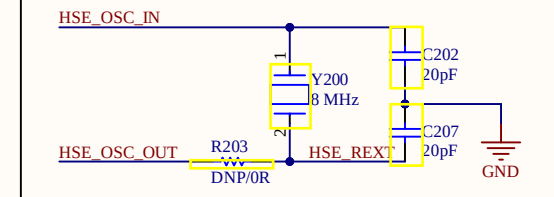
Decoupling Capacitors

*100nF each VDD + 4u7 and 100nF + 1u VDDA



Crystal Circuitry

*8MHz MCU clock

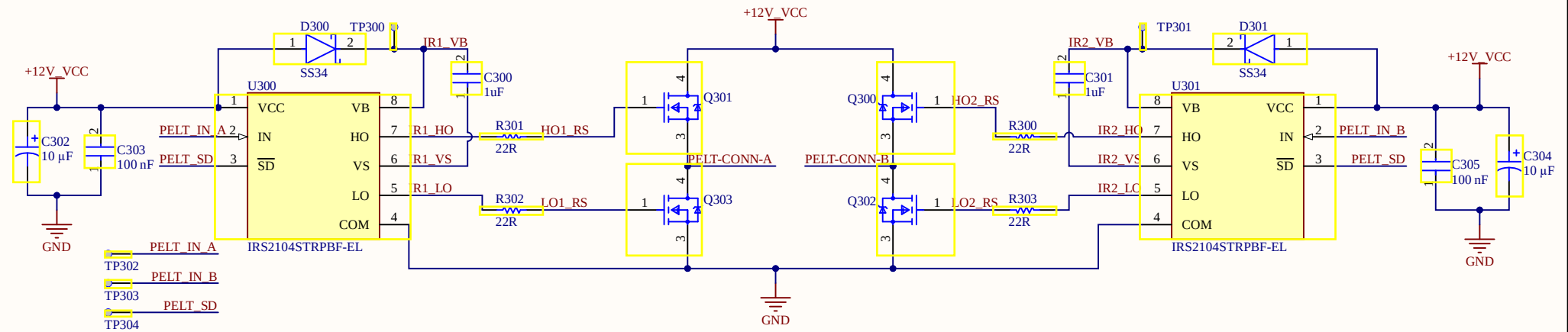


Project Title		Environmental-Chamberv2.PrjPcb		
Drawn By		Sheet Name		
Uğur KELEŞ		Microcontroller.SchDoc		
Date	26.05.2025	Sheet	2 / 7	Sheet Size A4

[3] Temperature Control and Fans

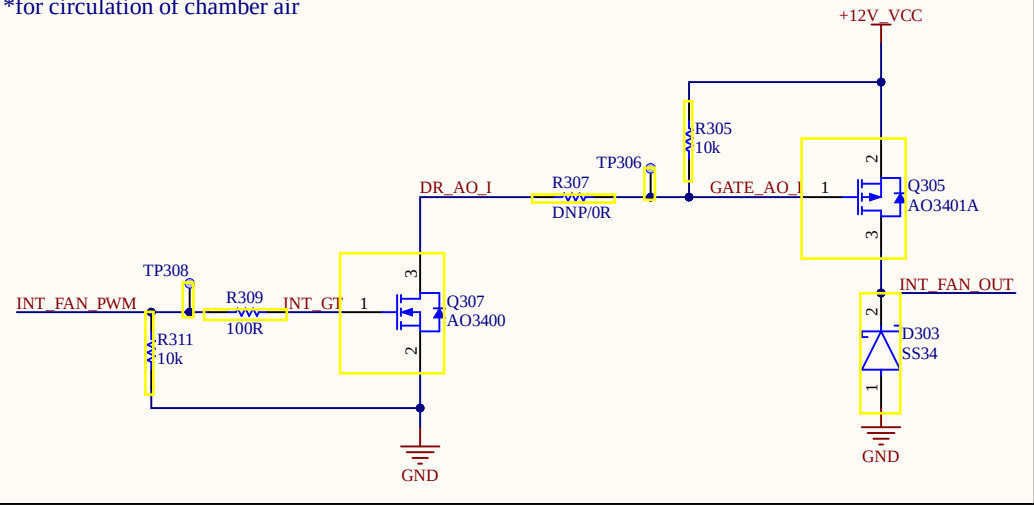
Peltier H-Bridge Control

*heating and cooling of the chamber



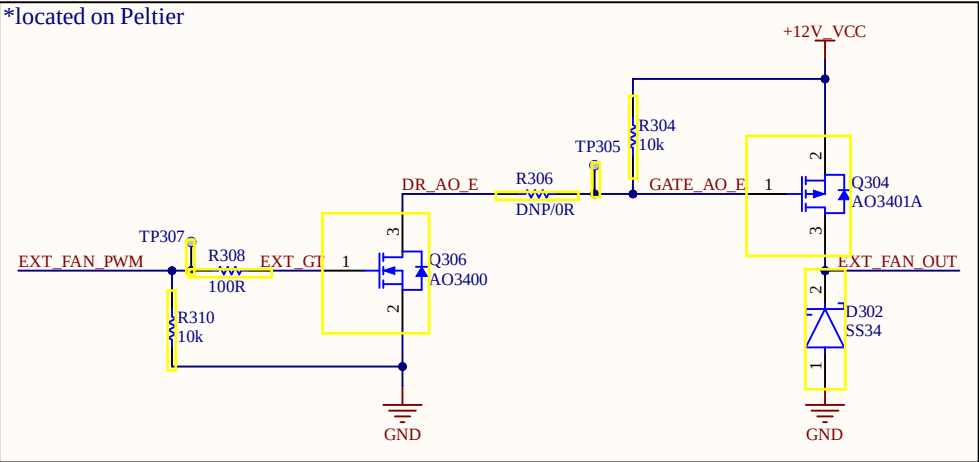
Internal Fans Control

*for circulation of chamber air



External Fan Control

*located on Peltier

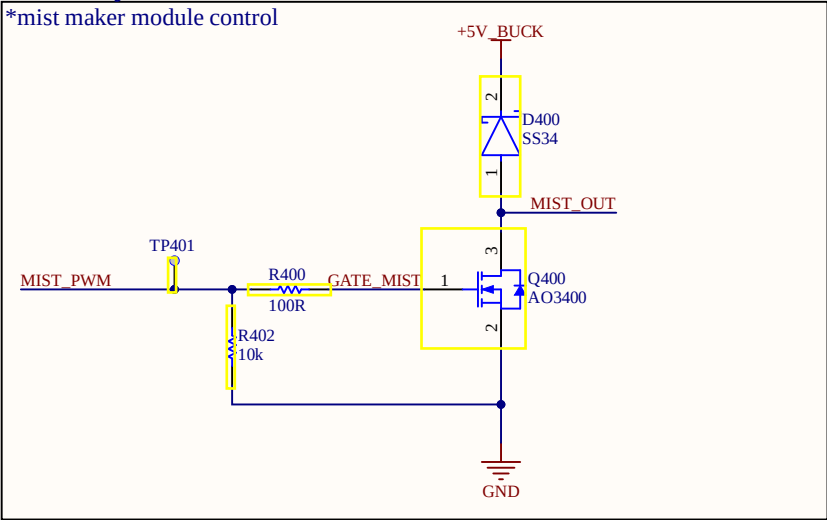


Project Title		Environmental-Chamberv2.PrjPcb		
Drawn By		Sheet Name		
Uğur KELEŞ		Temp-Control-Fans.SchDoc		
Date	28.05.2025	Sheet	3 / 7	Sheet Size
				A4

[4] Humidity Control

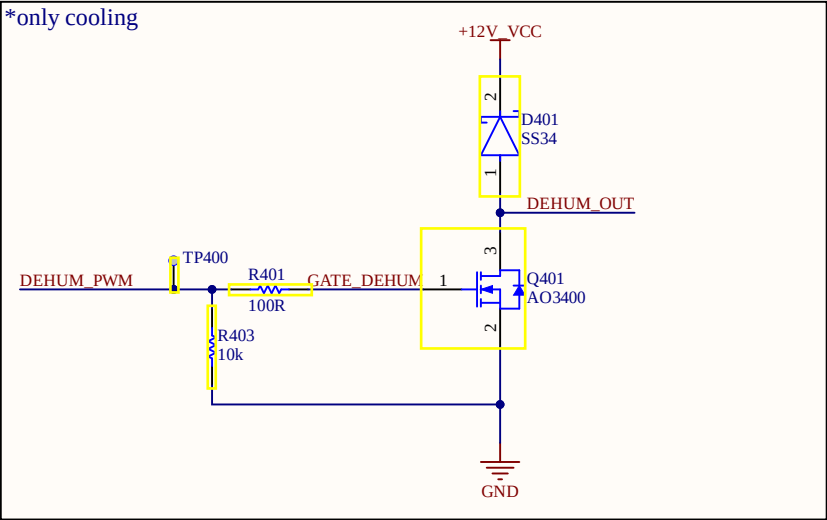
Humidity Control

*mist maker module control



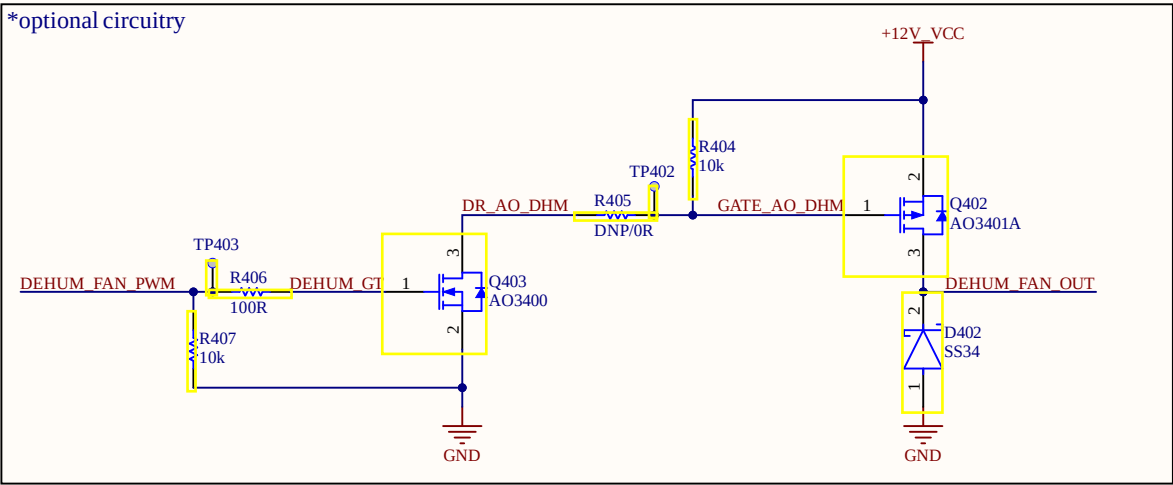
Dehumidifier Peltier

*only cooling



Dehumidifier Fan Control

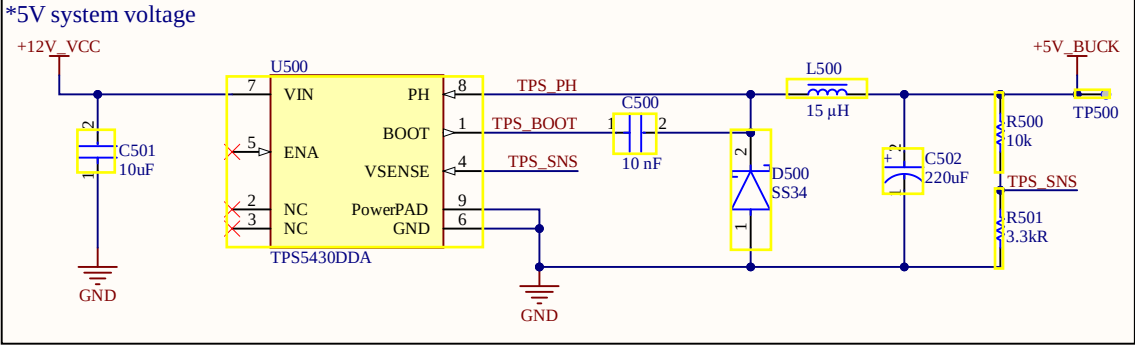
*optional circuitry



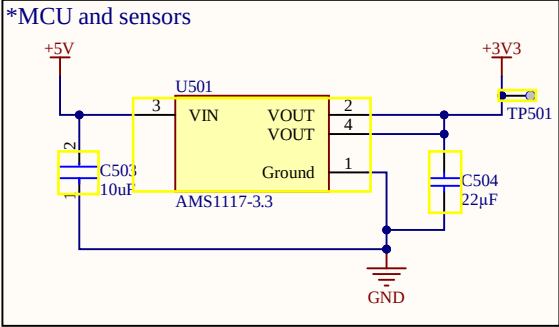
Project Title		Environmental-Chamberv2.PrjPcb			
Drawn By		Sheet Name			
Uğur KELEŞ		Humidity-Control.SchDoc			
Date	26.05.2025	Sheet	4 / 7	Sheet Size	A4

[5] Power Circuitries

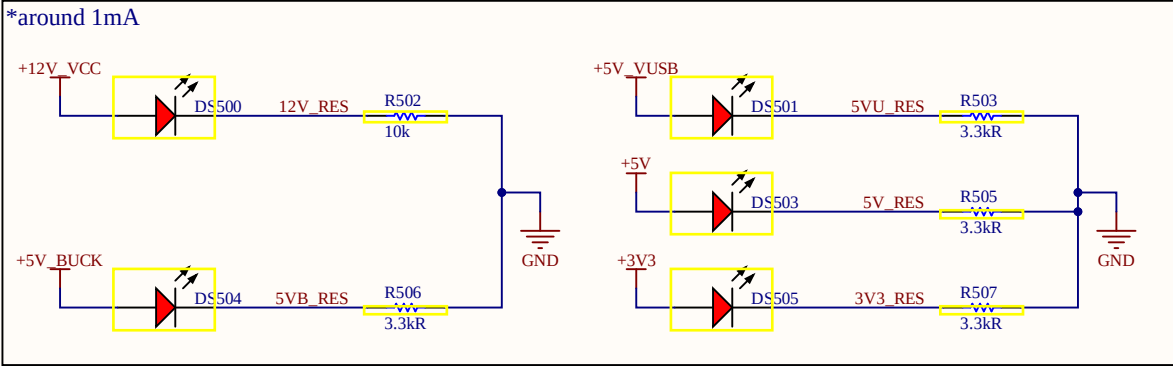
5V Buck Converter



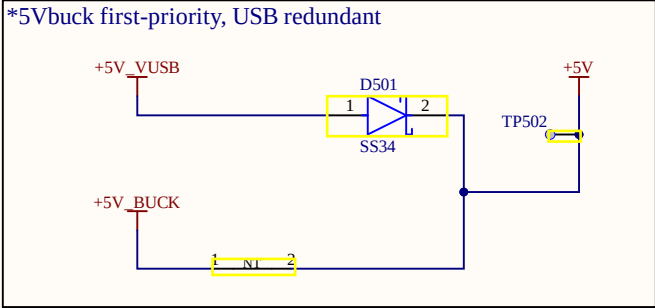
3V3 LDO



Power Rail LEDs



Power Selector

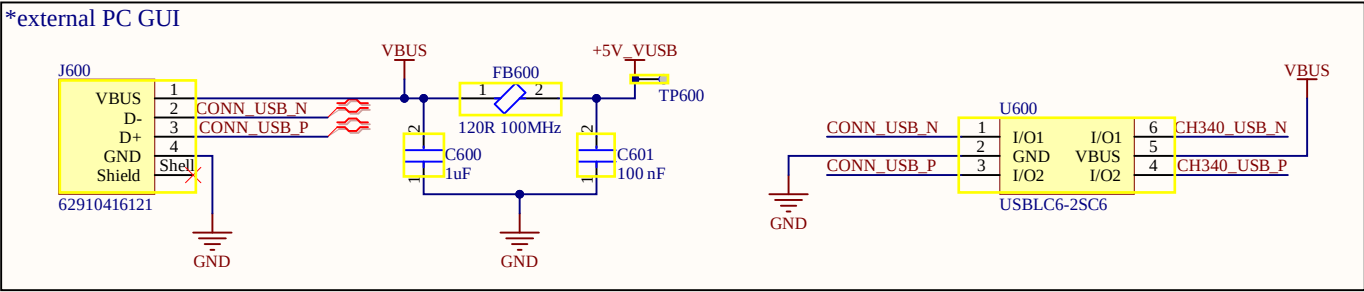


Project Title		Environmental-Chamberv2.PrjPcb		
Drawn By		Sheet Name		
Uğur KELEŞ		Power.SchDoc		
Date	1.06.2025	Sheet	5 / 7	Sheet Size A4

[6] USB and USB-UART Bridge

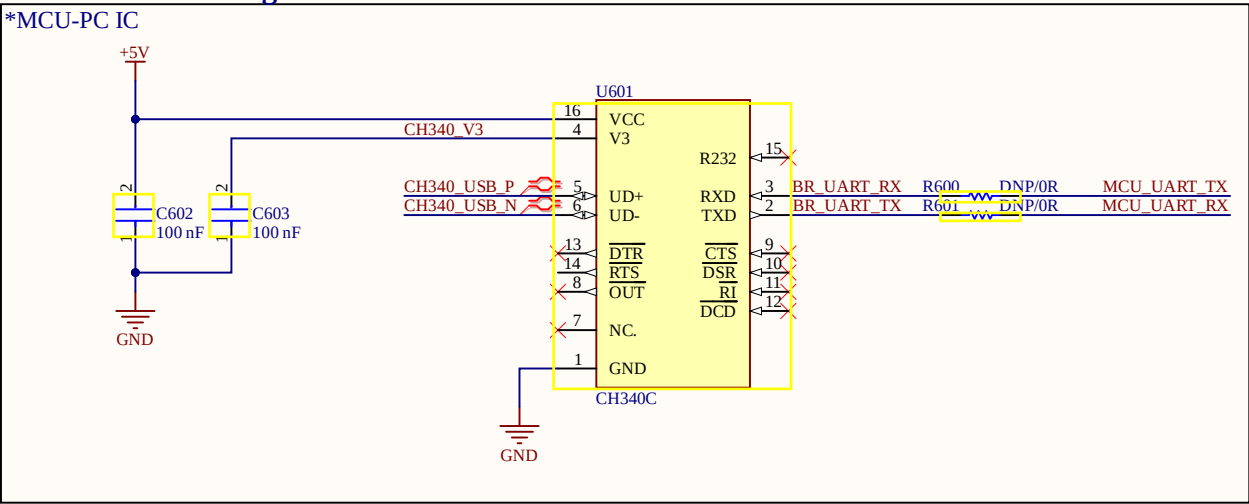
USB and ESD

*external PC GUI



USB-to-UART Bridge

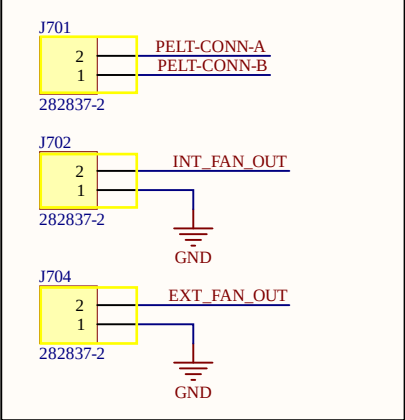
*MCU-PC IC



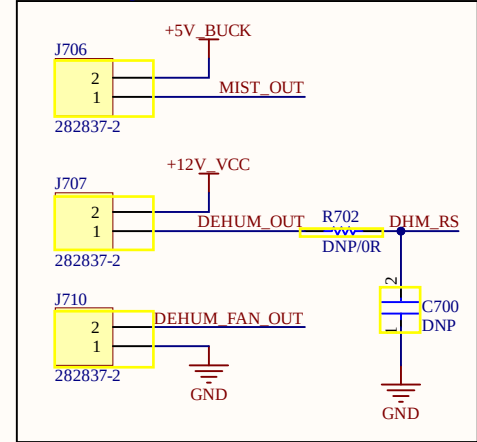
Project Title		Environmental-Chamberv2.PrjPcb		
Drawn By		Sheet Name		
Uğur KELEŞ		USB-UART.SchDoc		
Date	26.05.2025	Sheet	6 / 7	Sheet Size A4

[7] Connectors

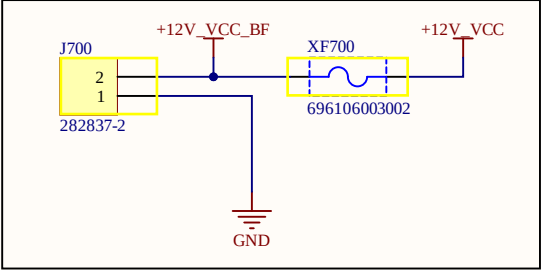
Temperature Conns



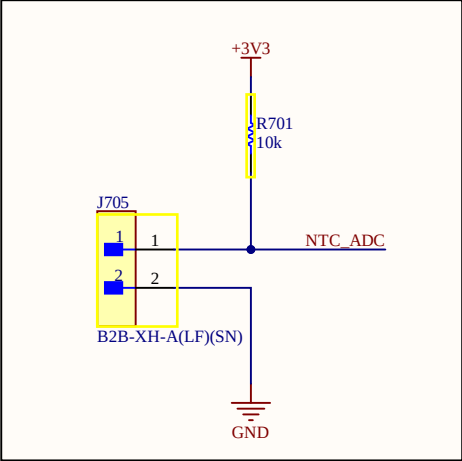
Humidity Conns



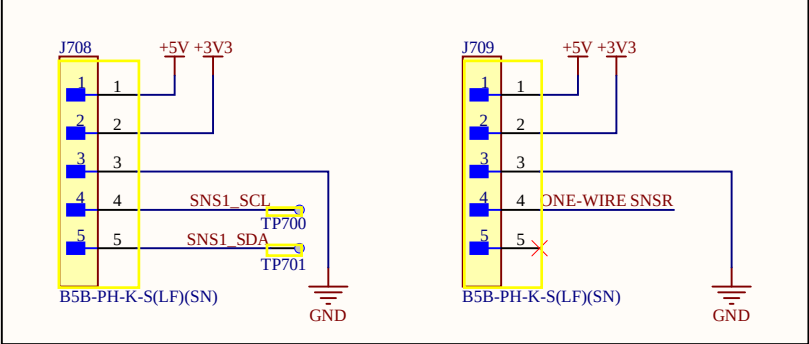
SMPS Power



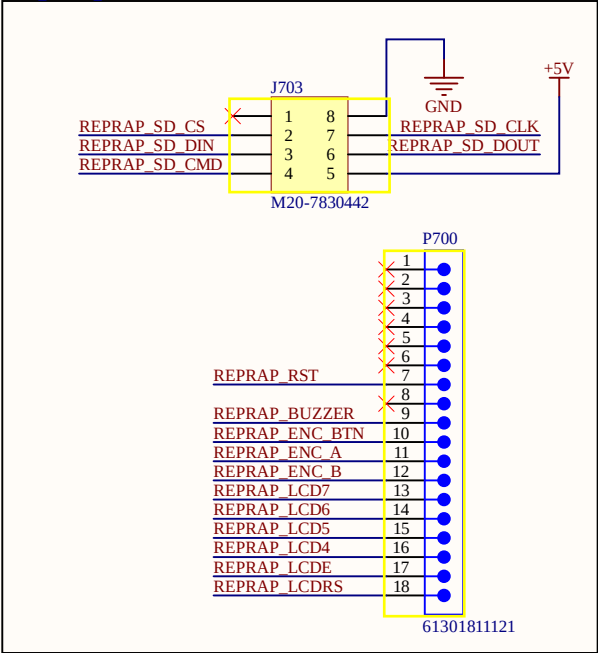
NTC Sensor Conns



Temp&Hum Sensor Conns



RepRap LCD Conns



Project Title		Environmental-Chamberv2.PrjPcb	
Drawn By		Sheet Name	
Uğur KELEŞ		Conns.SchDoc	
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		Sheet Size	A4