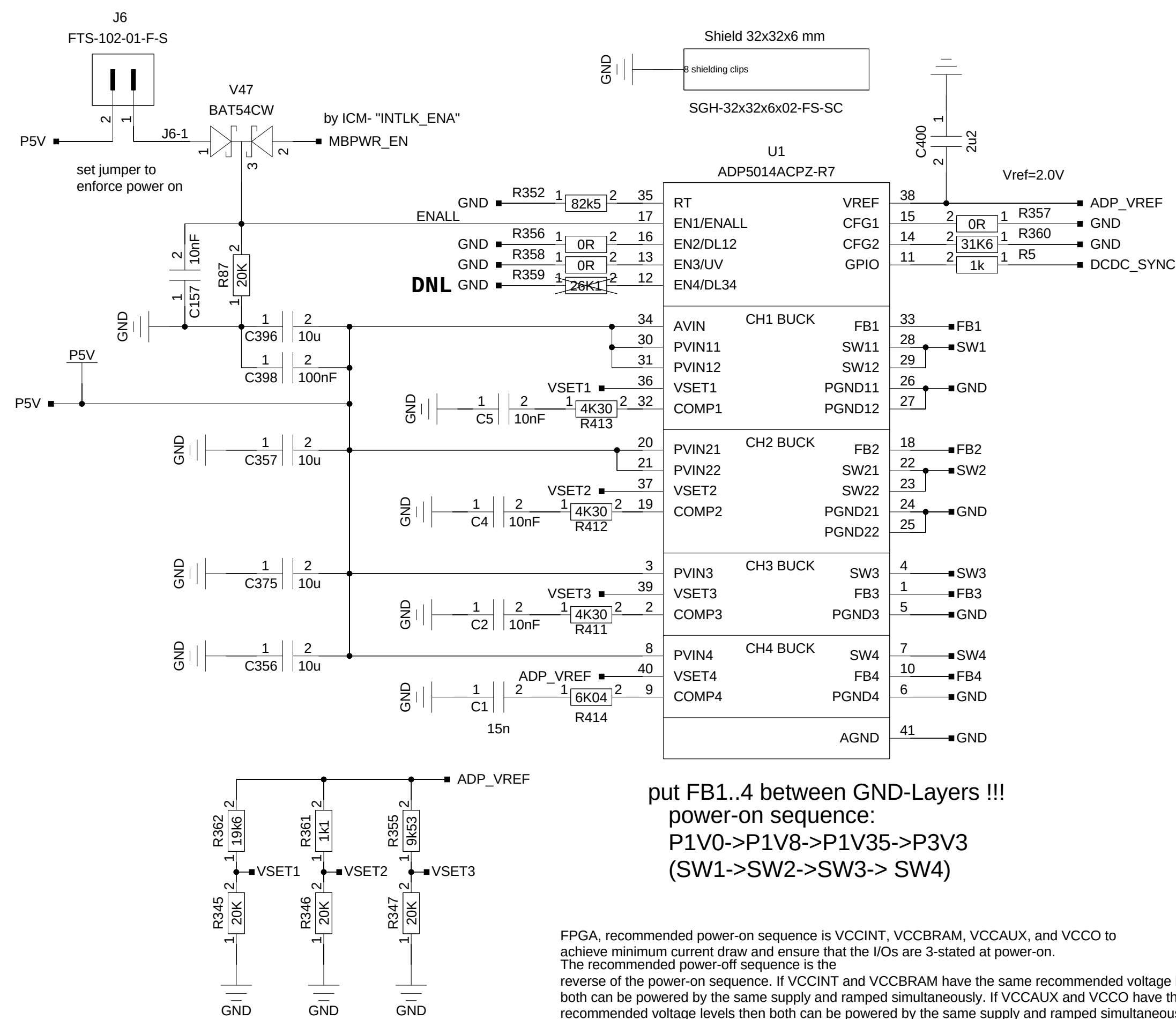
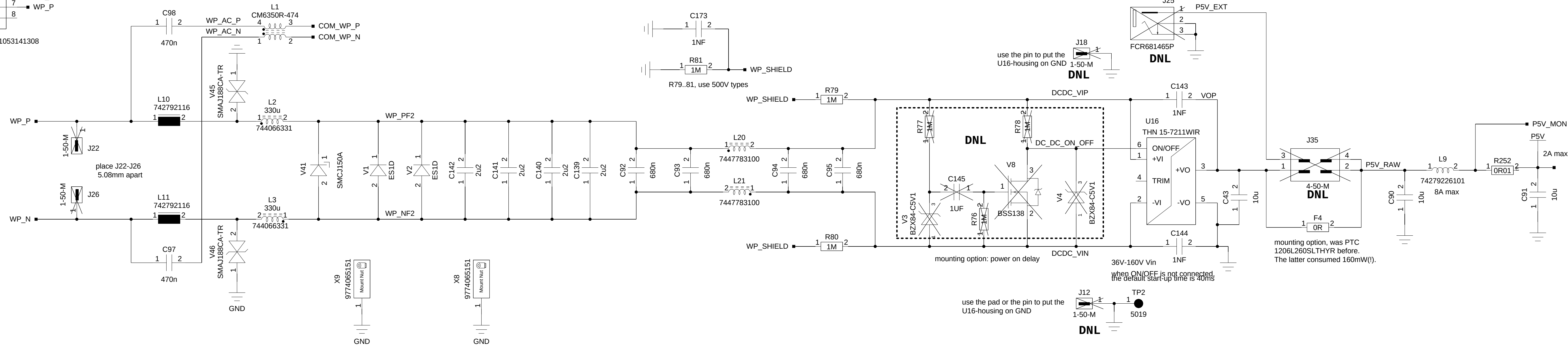
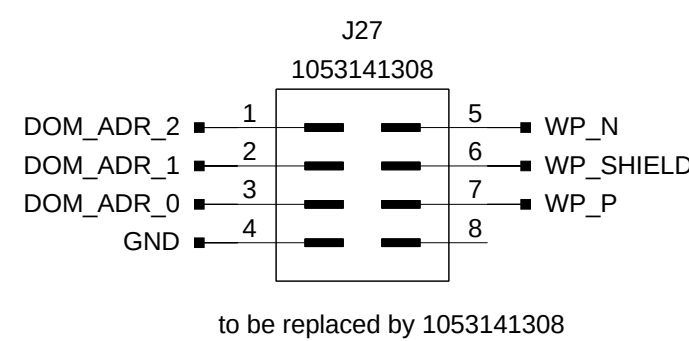
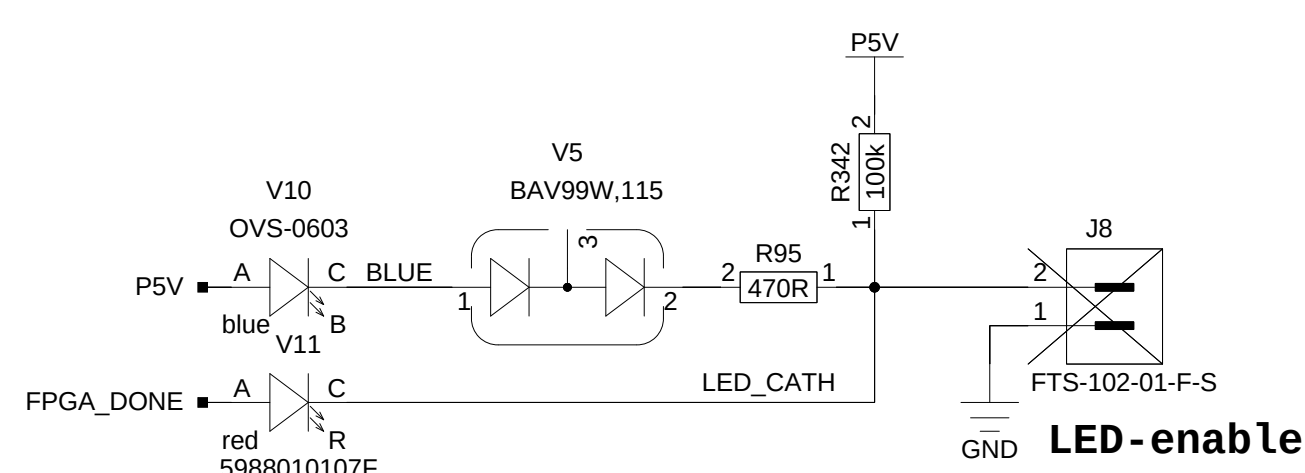
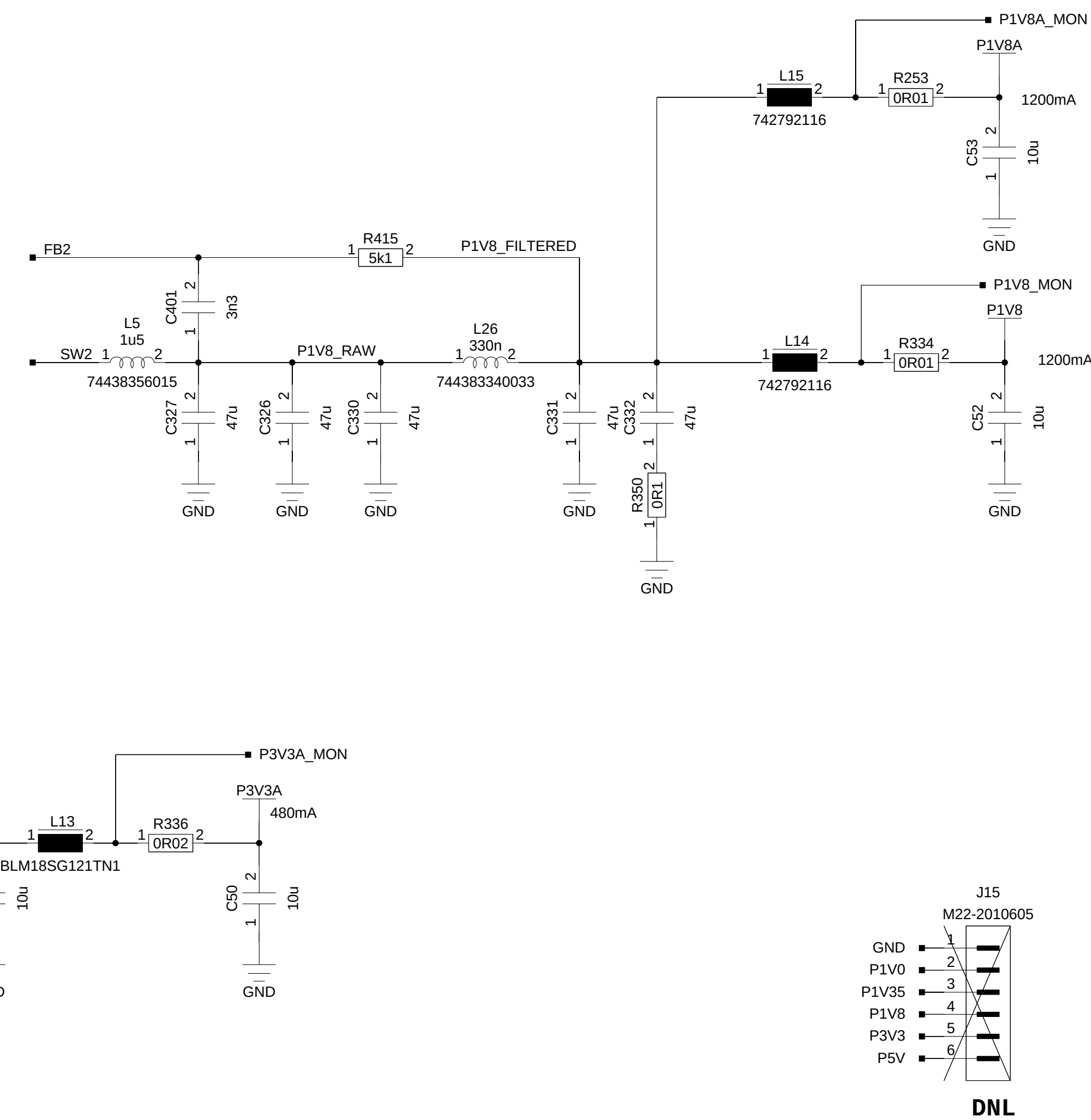
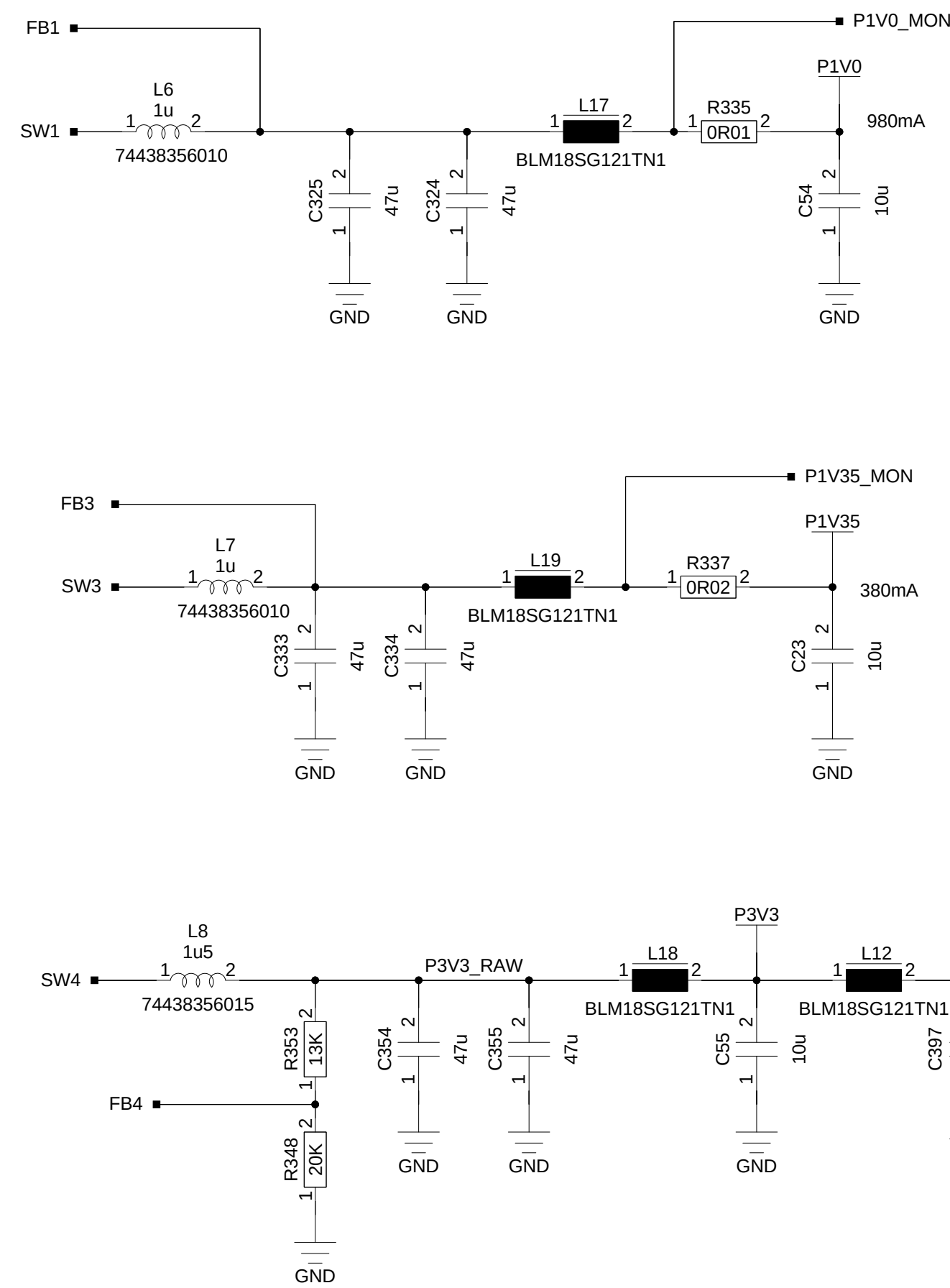




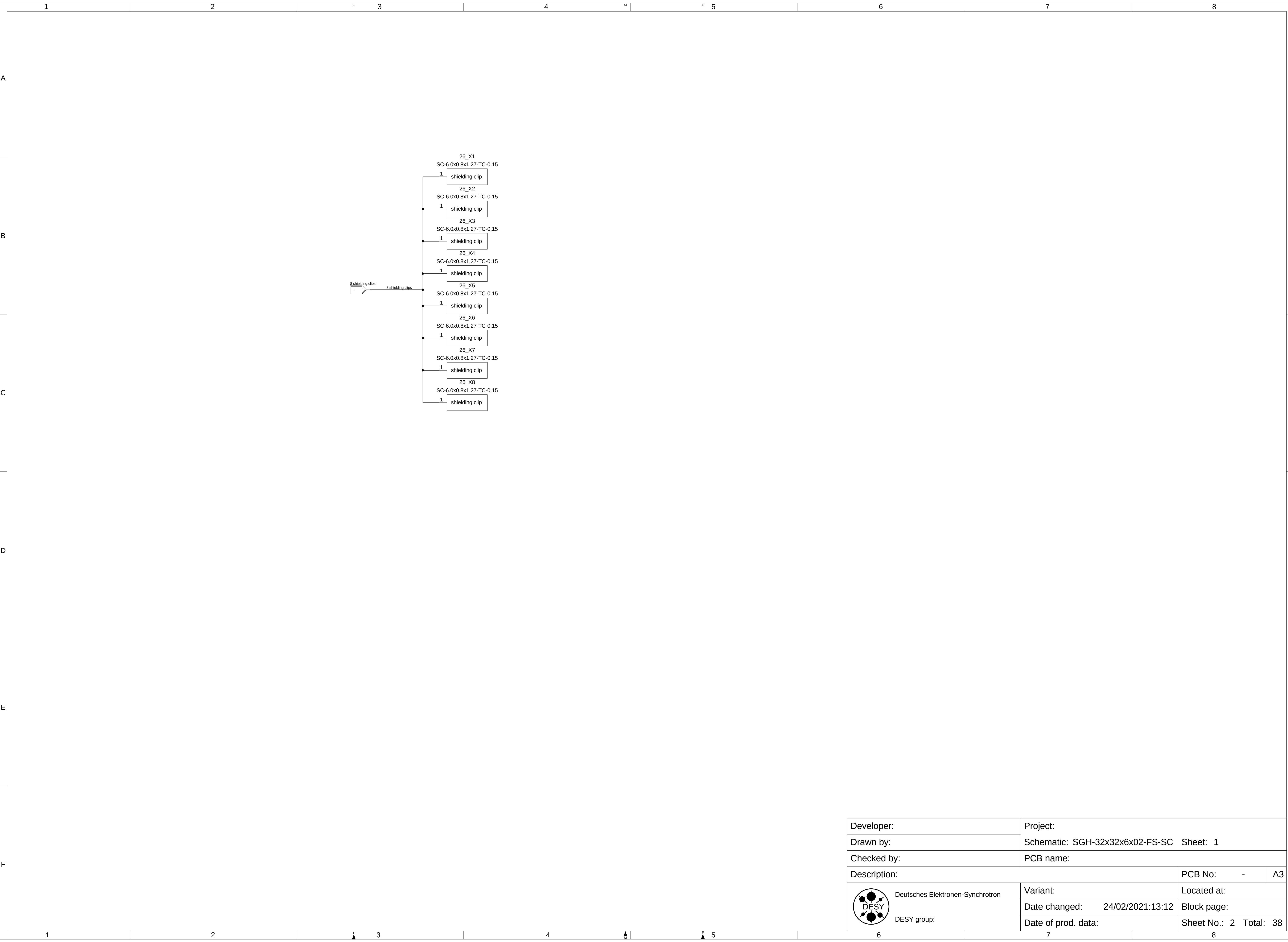
put FB1..4 between GND-Layers !!!
power-on sequence:
P1V0->P1V8->P1V35->P3V3
(SW1->SW2->SW3-> SW4)

FPGA, recommended power-on sequence is VCCINT, VCCBRAM, VCCAUX, and VCCO to achieve minimum current draw and ensure that the I/Os are 3-stated at power-on. The recommended power-off sequence is the reverse of the power-on sequence. If VCCINT and VCCBRAM have the same recommended voltage levels then both can be powered by the same supply and ramped simultaneously. If VCCAUX and VCCO have the same recommended voltage levels then both can be powered by the same supply and ramped simultaneously

Ramp time from GND to 90% min 0.2 ms max. 50 ms



Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade		
Drawn by:	Karl-Heinz Sulanke	Schematic:	mDOM_mb_2	Sheet:	1_psupply
Checked by:		PCB name:	mDOM_mb_2		
Description:	mDOM mainboard Rev.2			PCB No:	9446– 01
					A3
 Deutsches Elektronen-Synchrotron DESY group:	Variant:		Located at:		
	Date changed: 02/11/2021:15:53		Block page:		
	Date of prod. data:		Sheet No.: 1 Total: 38		

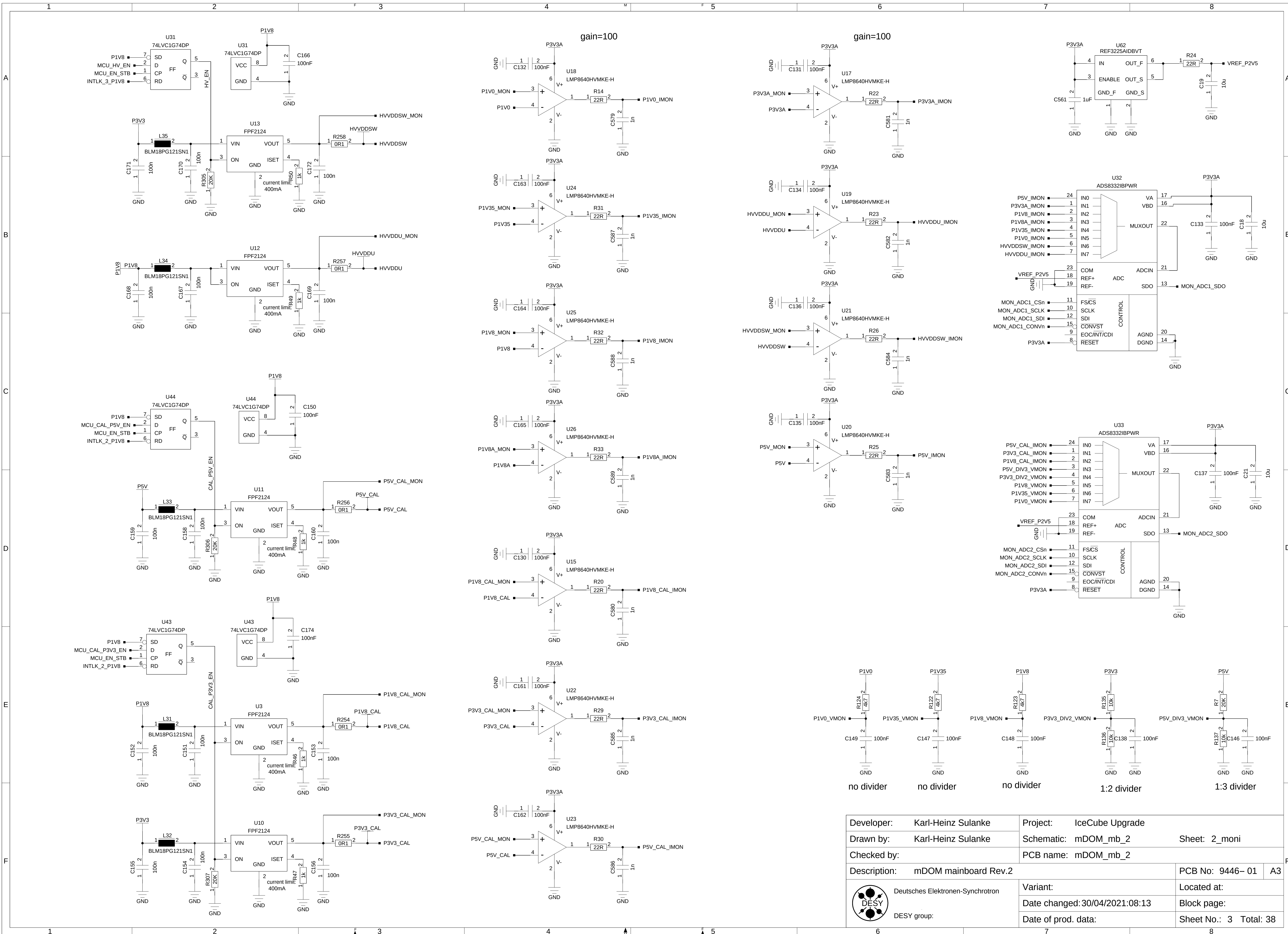


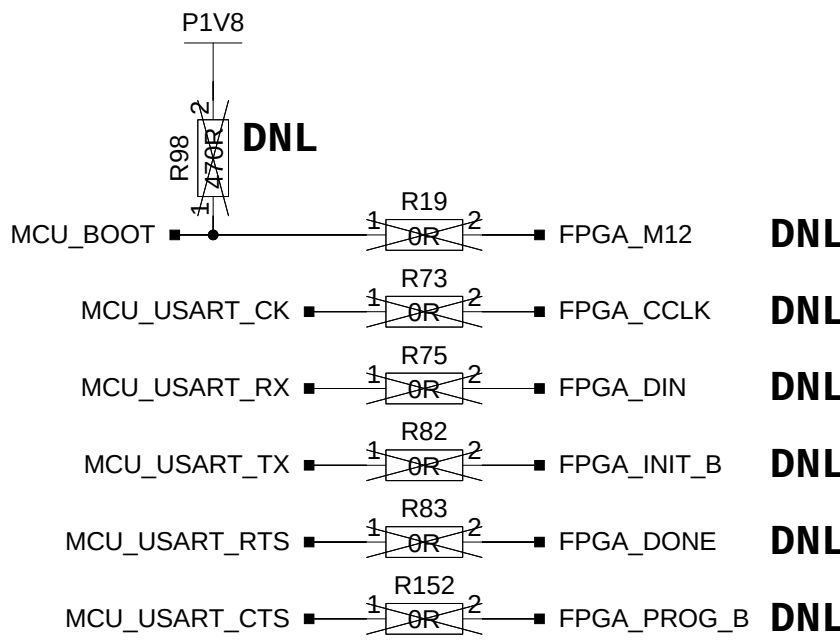
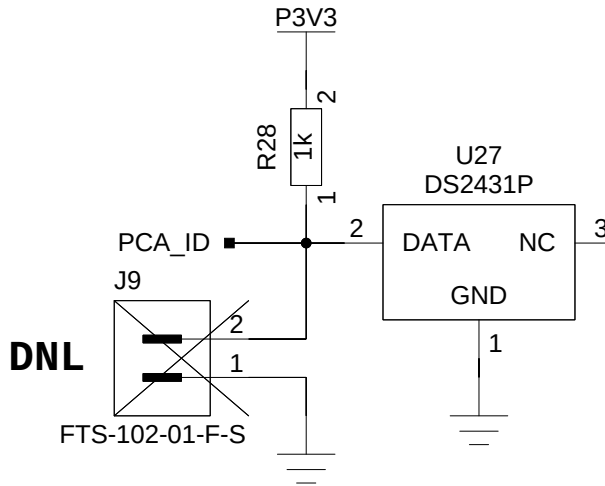
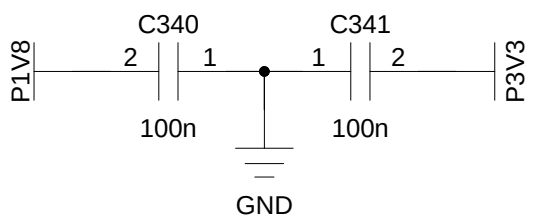
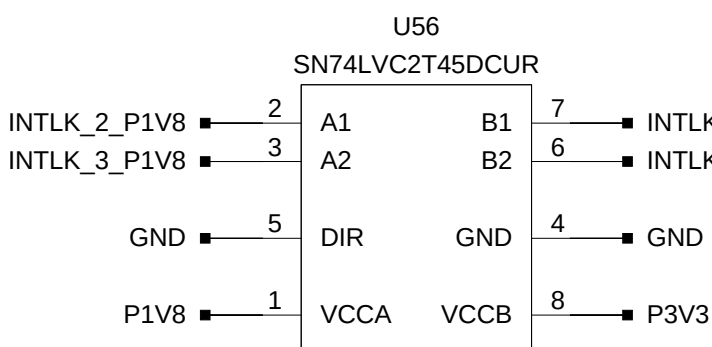
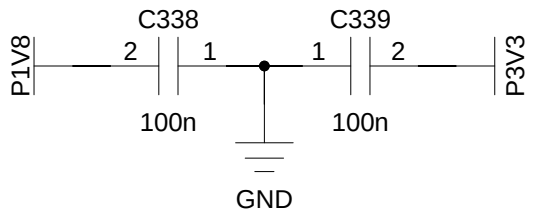
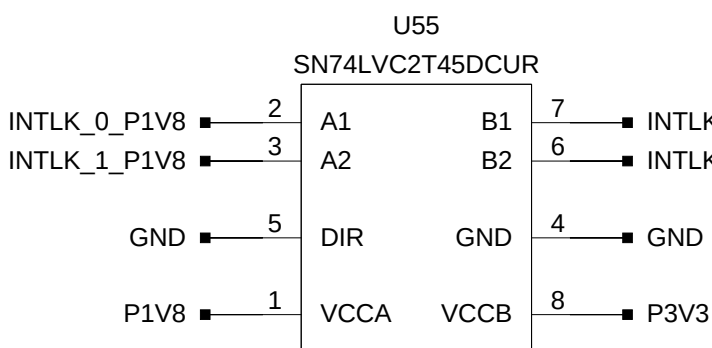
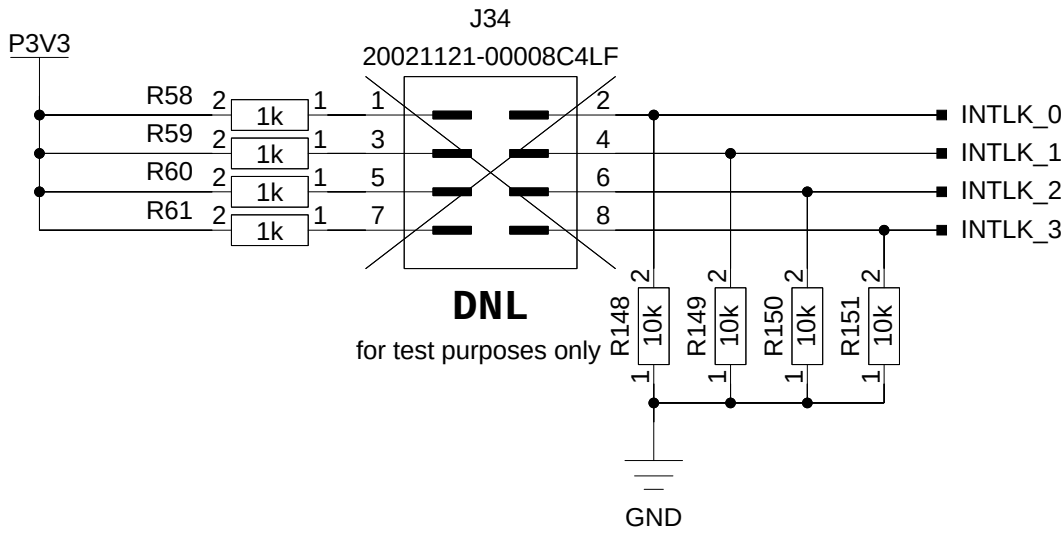
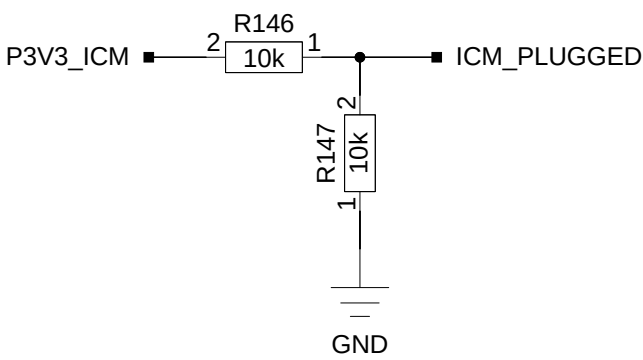
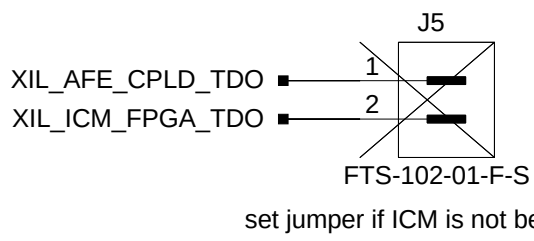
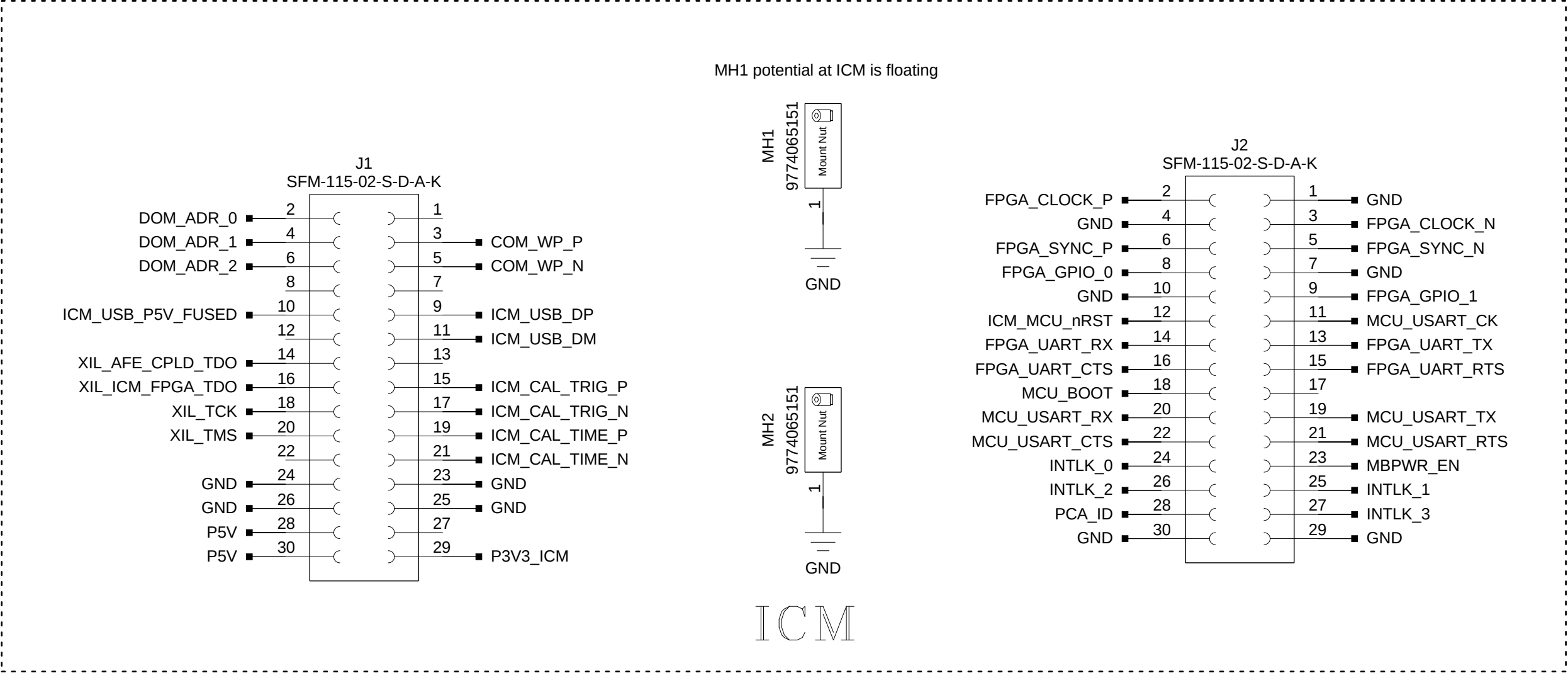
►M

►M

►M

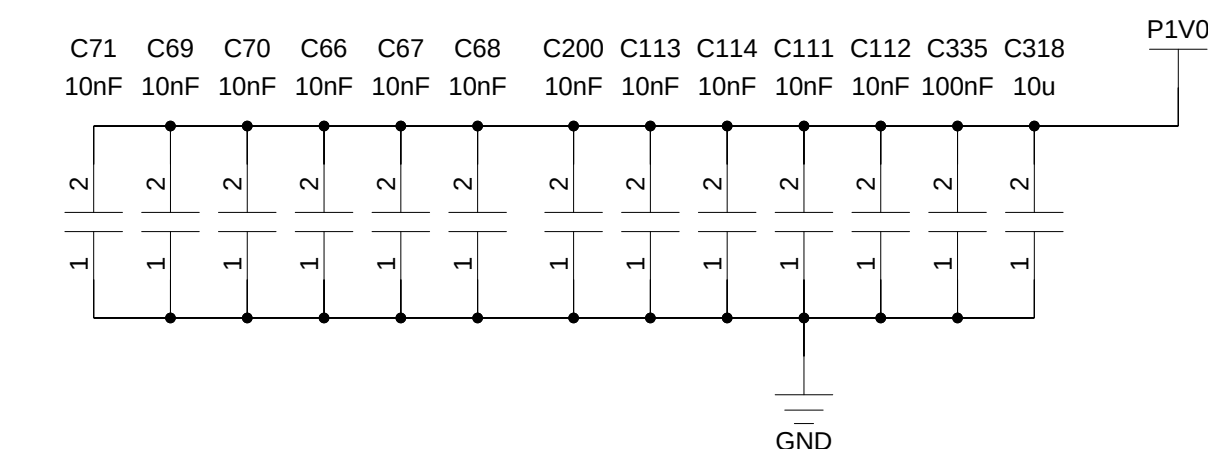
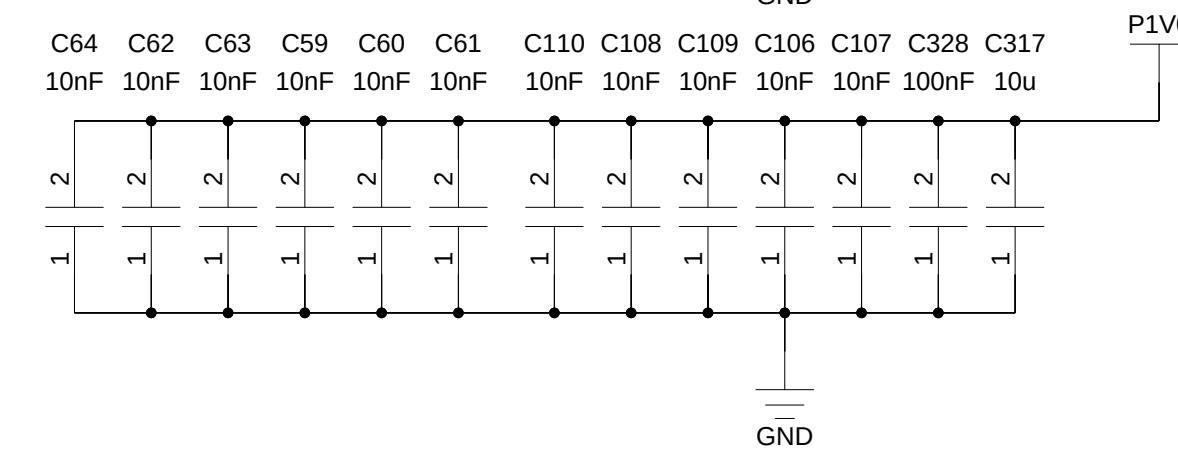
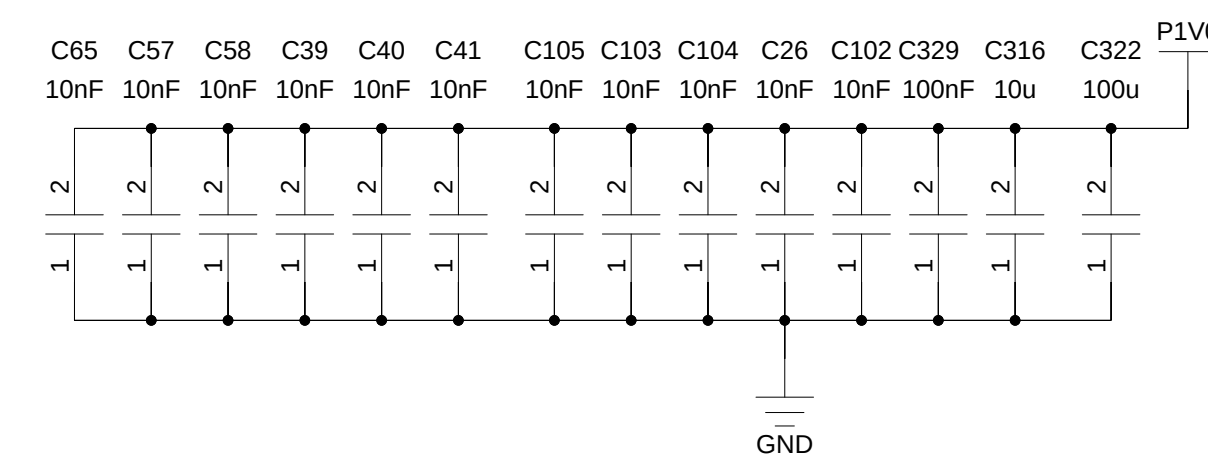
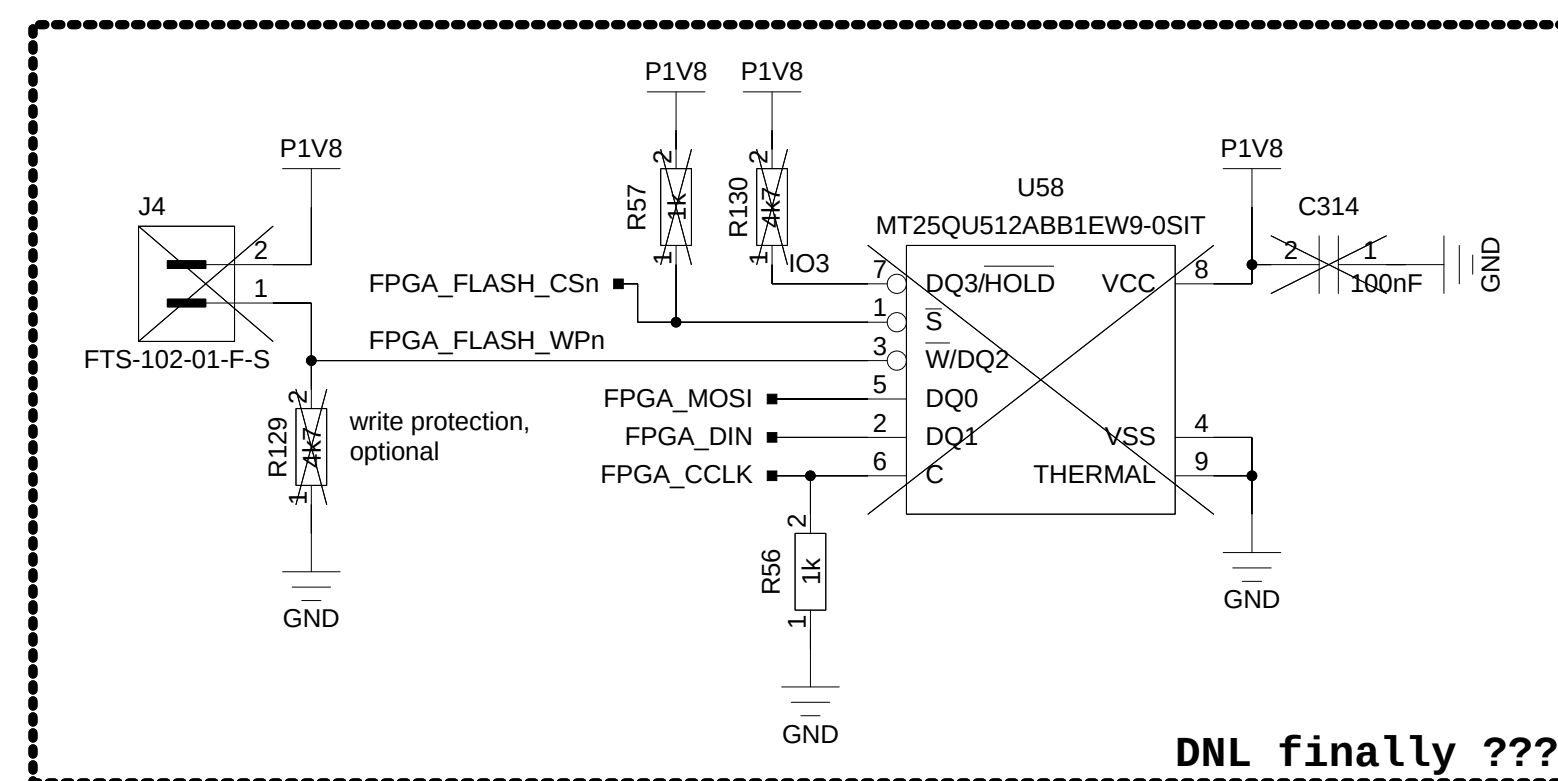
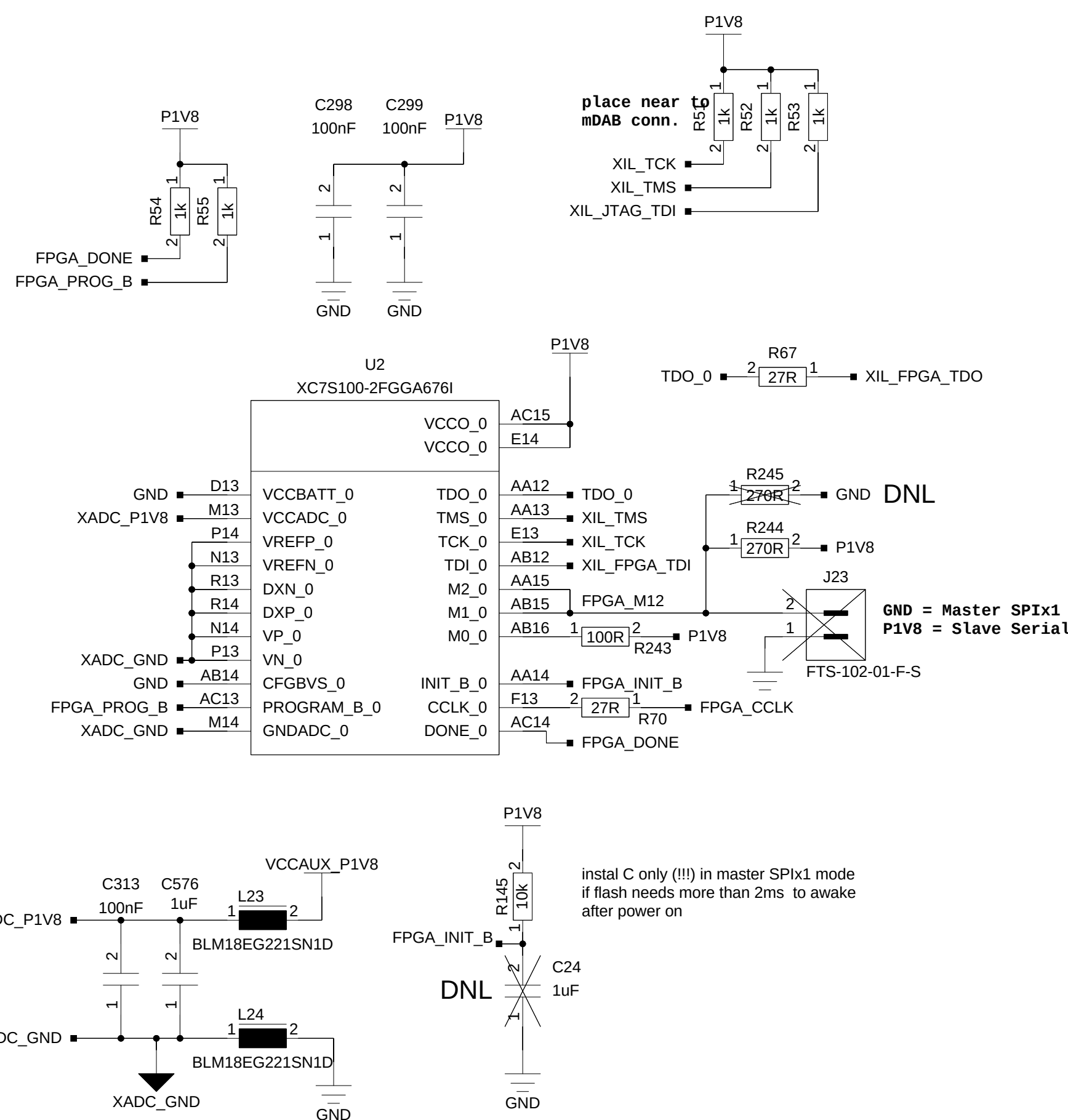
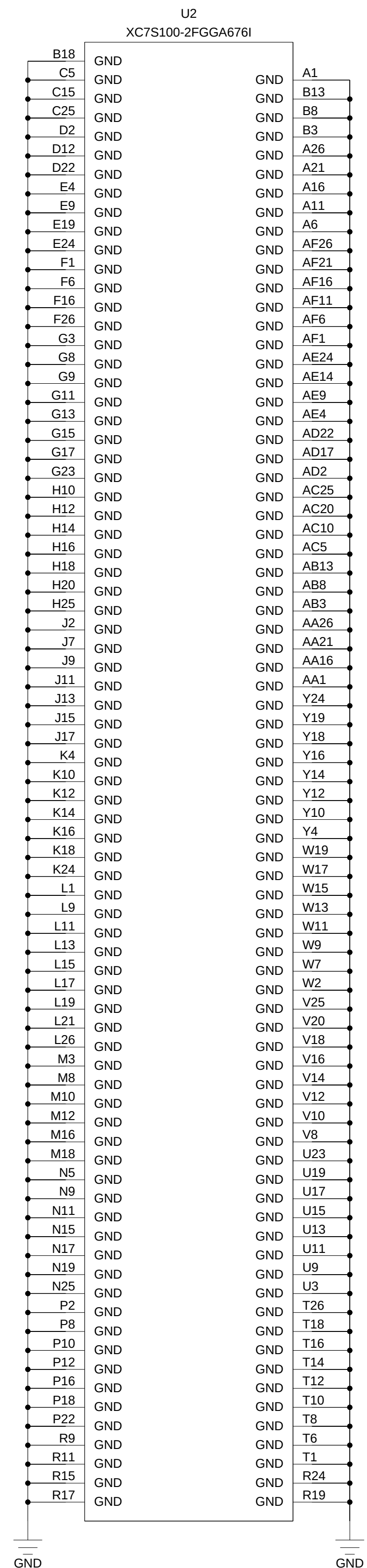
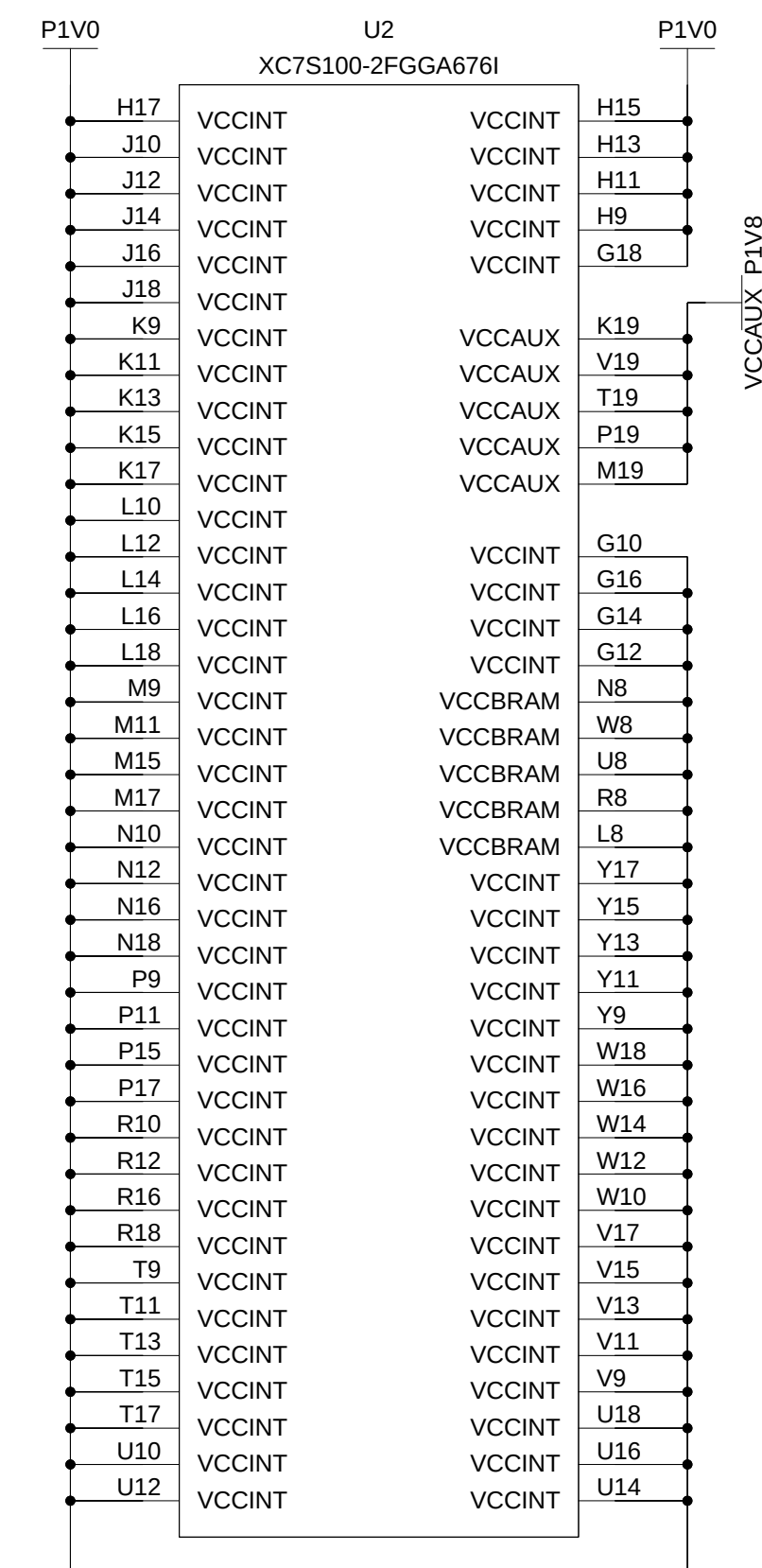
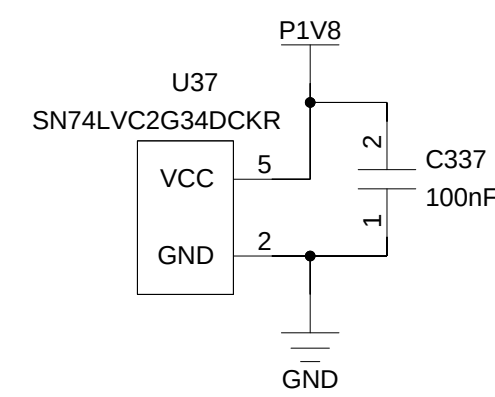
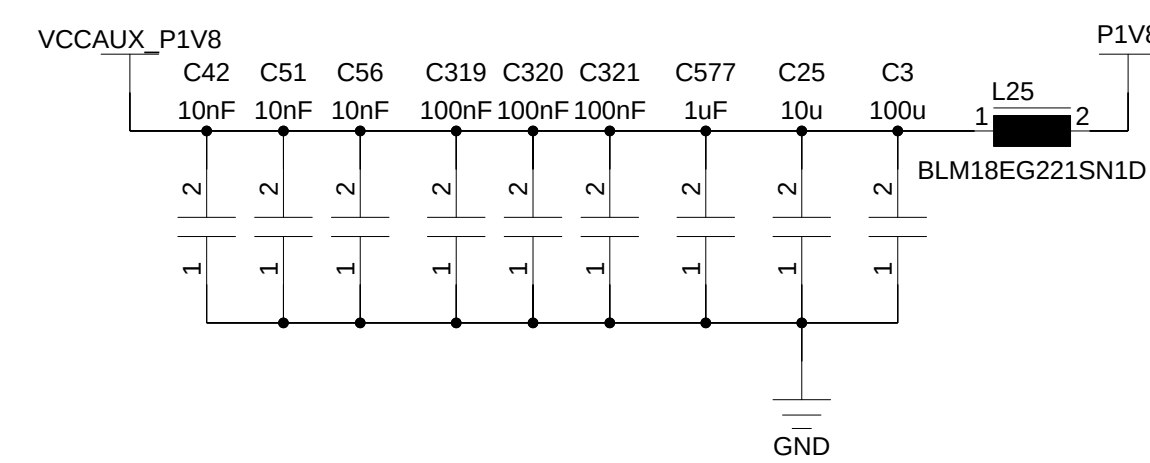
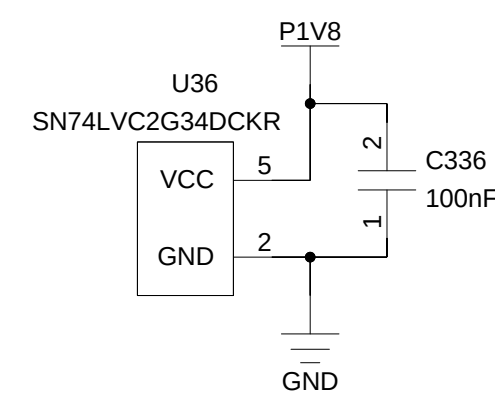
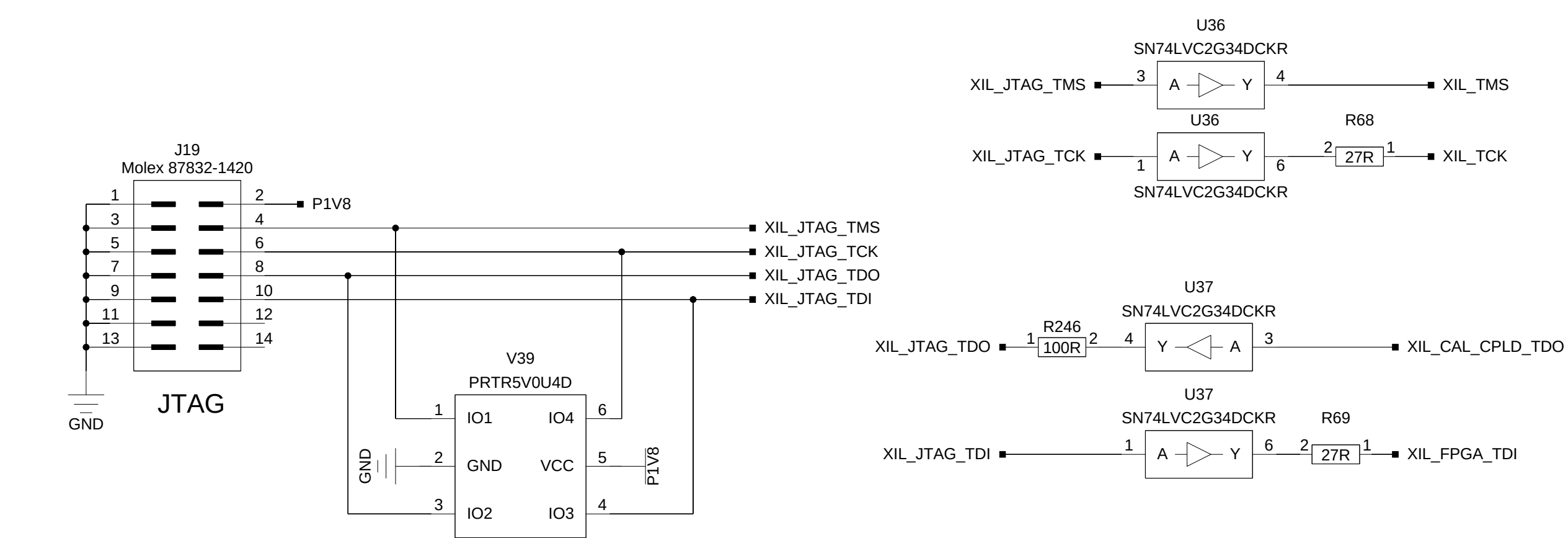
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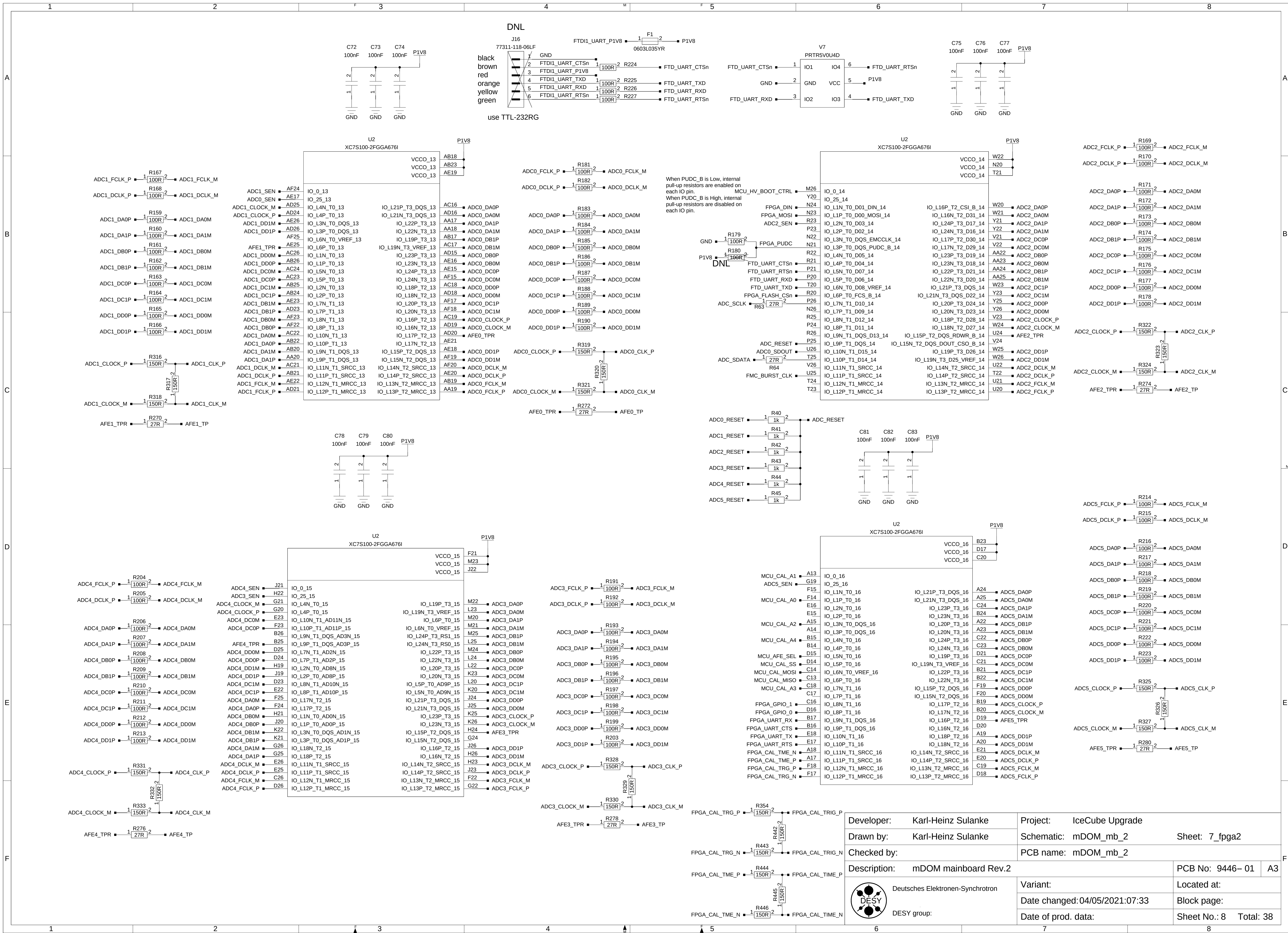


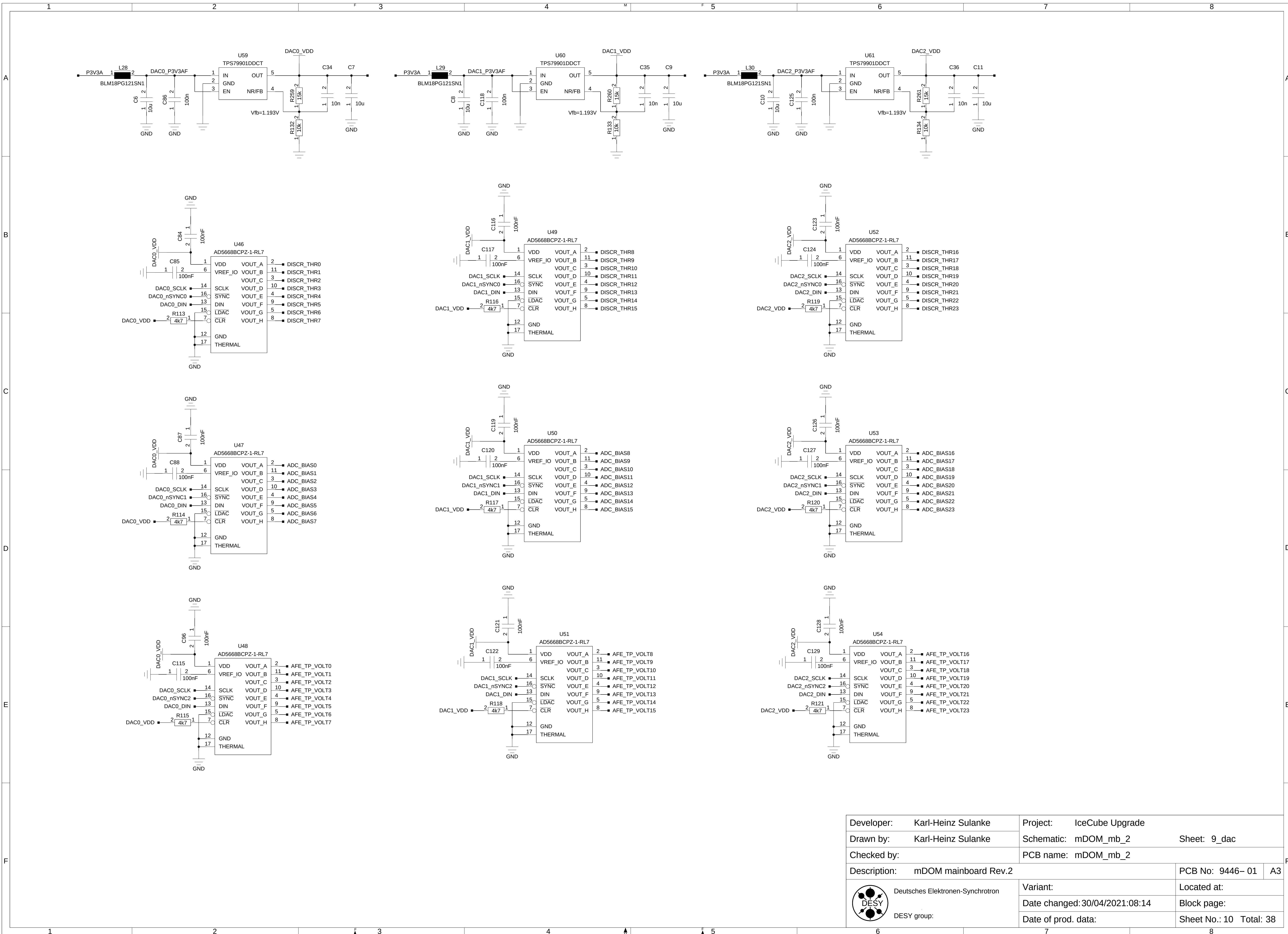
mount OR jumpers in MCU-less version,
when ICM is config. master

Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade		
Drawn by:	Karl-Heinz Sulanke	Schematic:	mDOM_mb_2	Sheet:	3_icm
Checked by:		PCB name:	mDOM_mb_2		
Description:	mDOM mainboard Rev.2			PCB No:	9446- 01
 Deutsches Elektronen-Synchrotron DESY group:	Variant:			Located at:	
	Date changed: 03/05/2021:15:52			Block page:	
	Date of prod. data:			Sheet No.: 4 Total: 38	

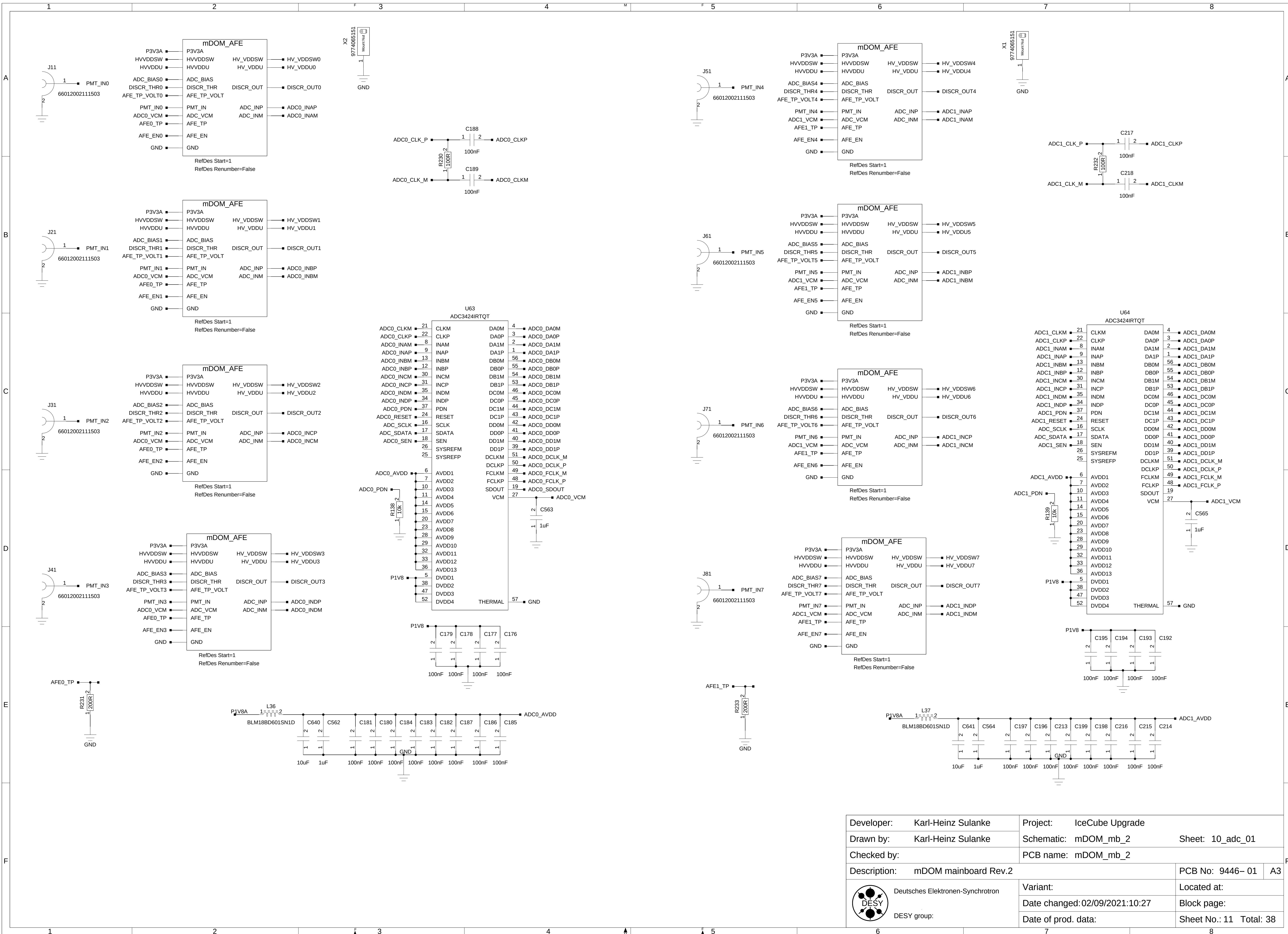


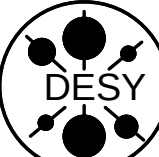
Developer: Karl-Heinz Sulanke		Project: IceCube Upgrade	
Drawn by: Karl-Heinz Sulanke		Schematic: mDOM_mb_2	Sheet: 6_fpga1
Checked by:		PCB name: mDOM_mb_2	
Description: mDOM mainboard Rev.2		PCB No: 9446- 01	A3
 Deutsches Elektronen-Synchrotron DESY group:	Variant:		Located at:
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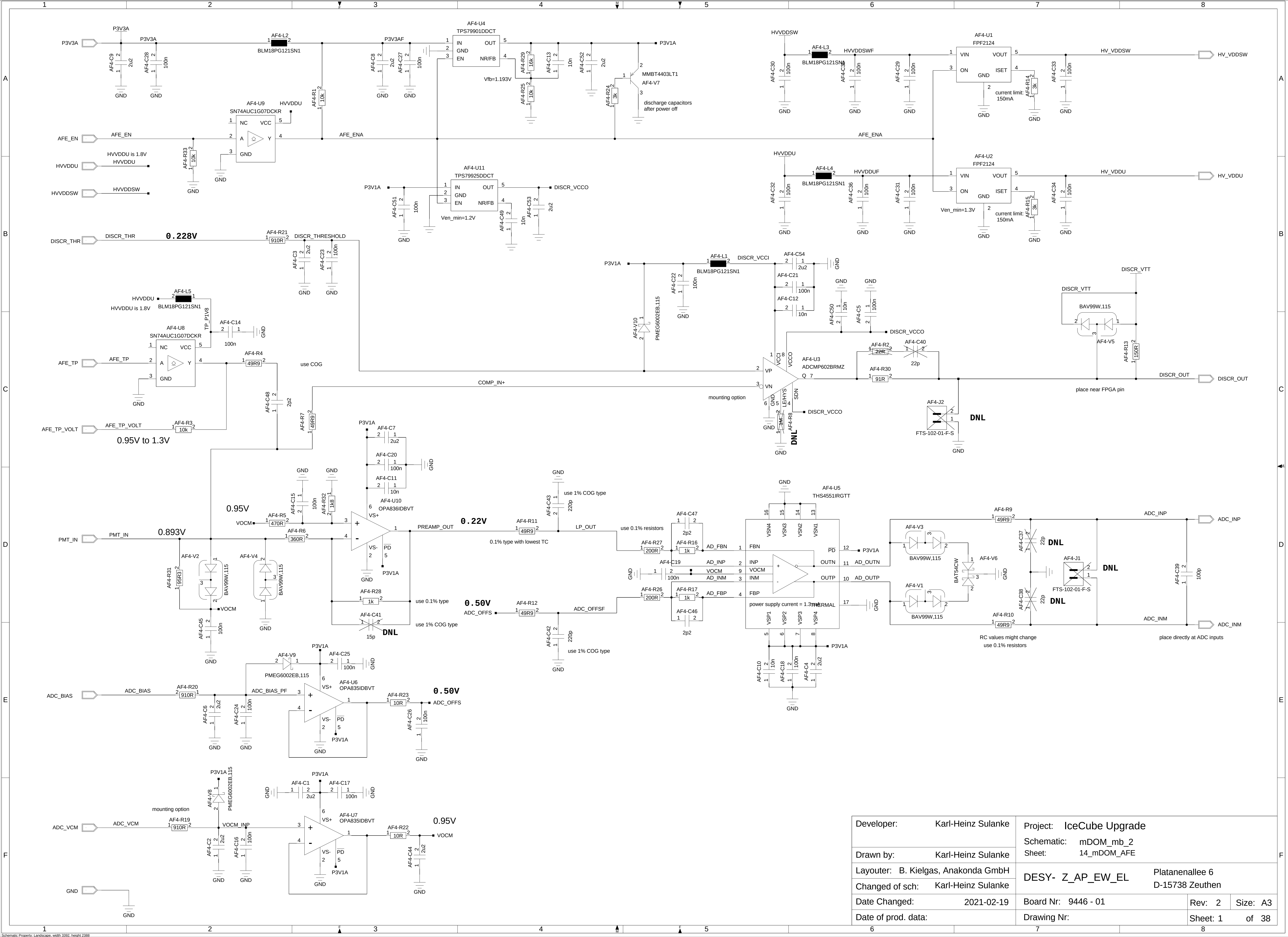




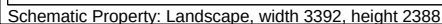
Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade		
Drawn by:	Karl-Heinz Sulanke	Schematic:	mDOM_mb_2	Sheet:	9_dac
Checked by:		PCB name:	mDOM_mb_2		
Description:	mDOM mainboard Rev.2			PCB No: 9446– 01	A3
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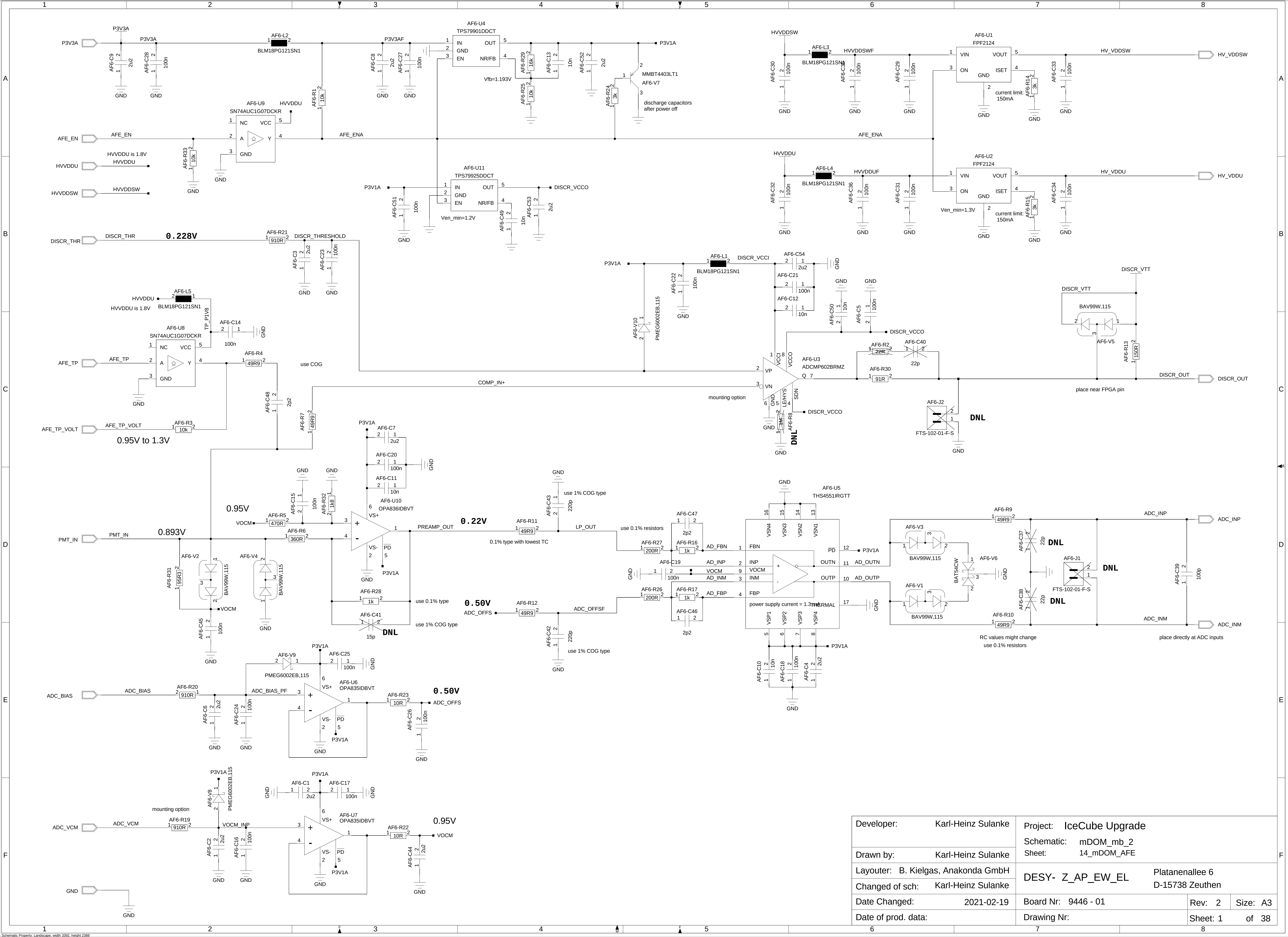


Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade		
Drawn by:	Karl-Heinz Sulanke	Schematic:	mDOM_mb_2	Sheet:	10_adc_01
Checked by:		PCB name:	mDOM_mb_2		
Description:	mDOM mainboard Rev.2			PCB No: 9446– 01	A3
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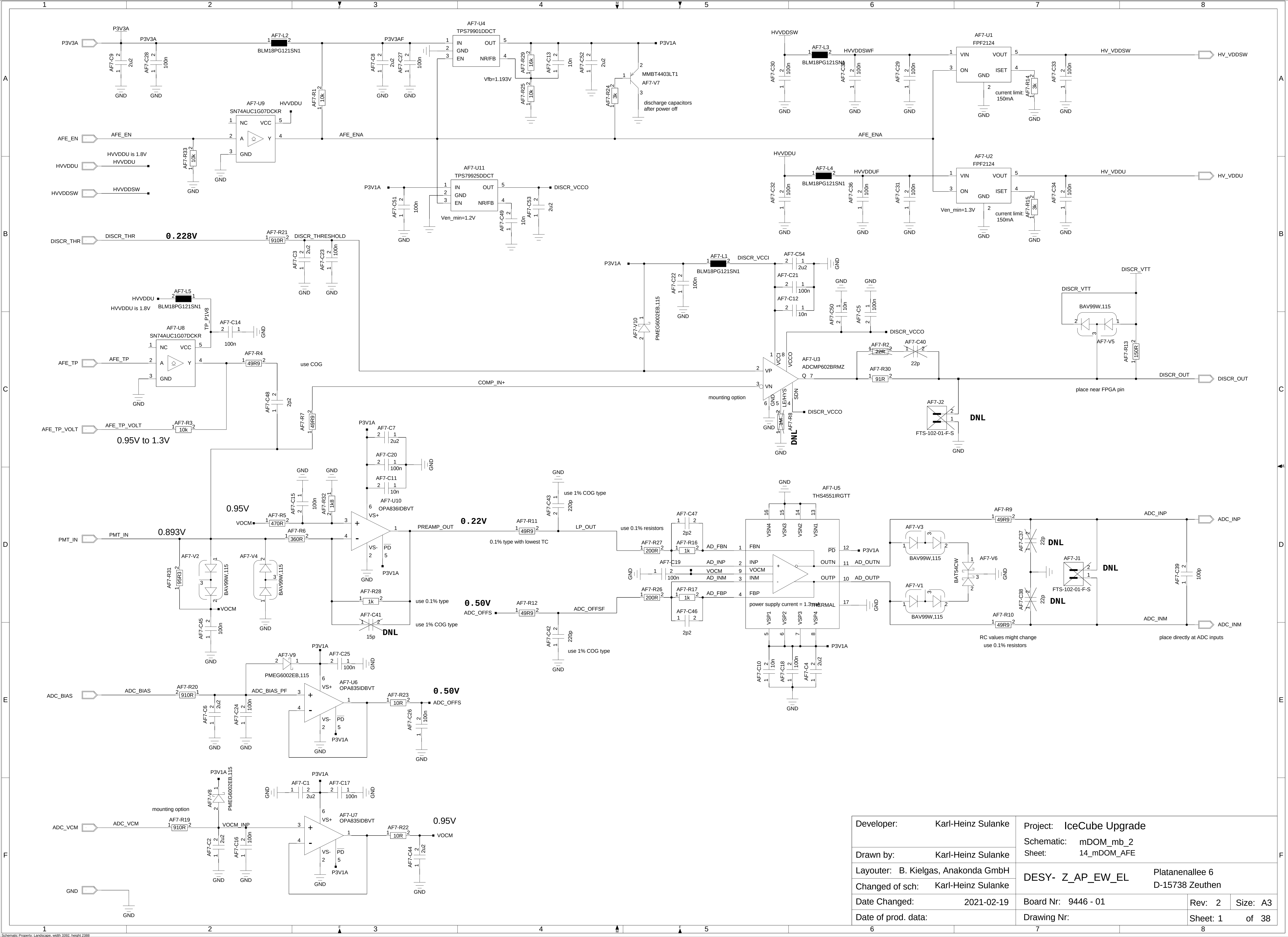


Developer:	Karl-Heinz Sulanke	Project: IceCube Upgrade			
		Schematic: mDOM_mb_2			
Drawn by:	Karl-Heinz Sulanke	Sheet: 14_mDOM_AFE			
Layouter:	B. Kielgas, Anakonda GmbH	Platanenallee 6			
Changed of sch:	Karl-Heinz Sulanke	DESY- Z_AP_EW_EL D-15738 Zeuthen			
Date Changed:	2021-02-19	Board Nr: 9446 - 01		Rev: 2	Size: A3
Date of prod. data:		Drawing Nr:		Sheet: 1	of 38

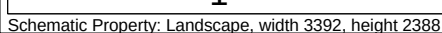


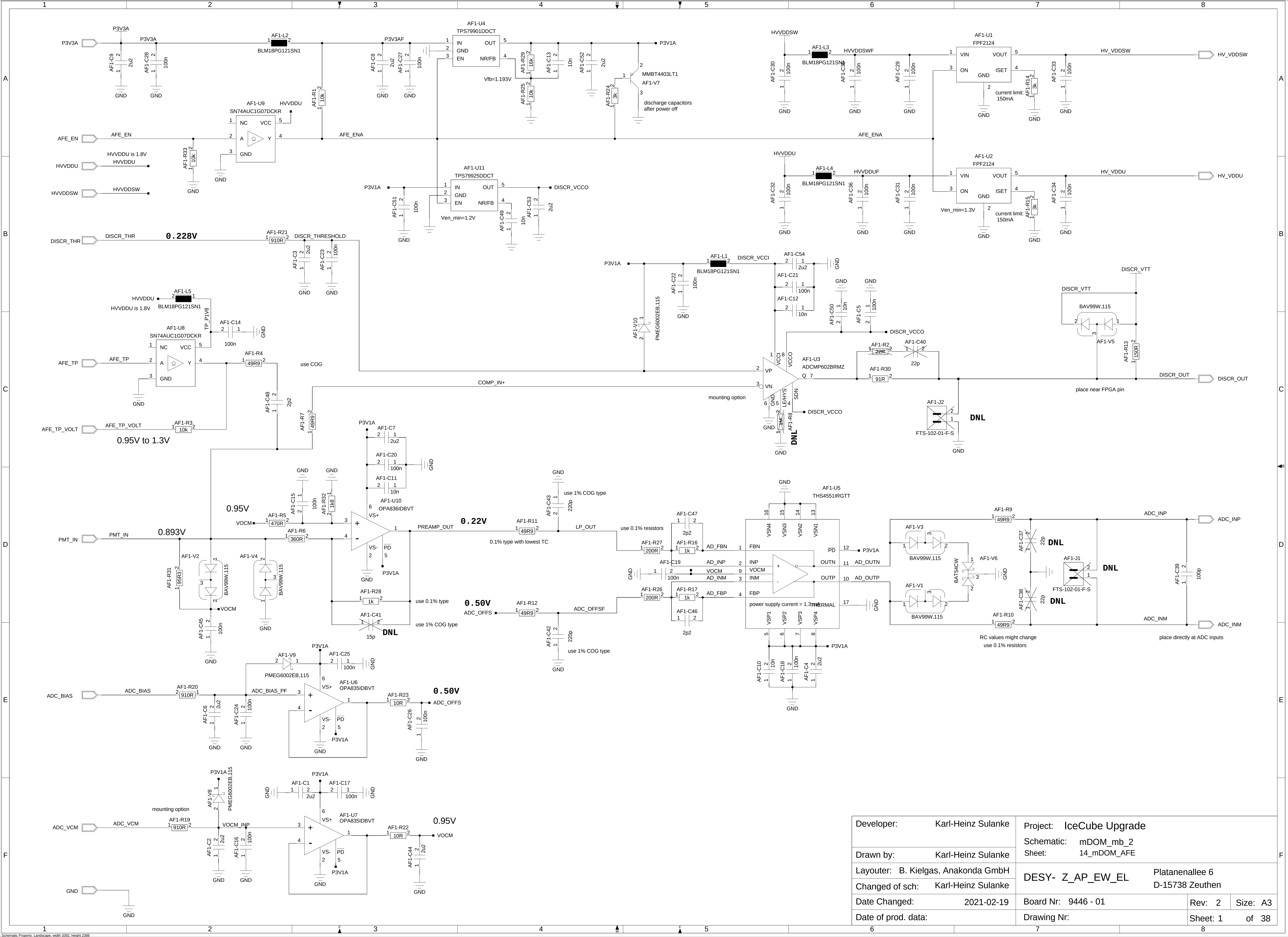


Developer:	Karl-Heinz Sulanke	Project: IceCube Upgrade					
		Schematic: mDOM_mb_2					
Drawn by:	Karl-Heinz Sulanke	Sheet: 14_mDOM_AFE					
Layouter:	B. Kielgas, Anakonda GmbH	Platanenallee 6					
Changed of sch:	Karl-Heinz Sulanke	D-15738 Zeuthen					
Date Changed:	2021-02-19	Board Nr:	9446 - 01	Rev:	2	Size:	A3
Date of prod. data:		Drawing Nr:		Sheet:	1	of	38

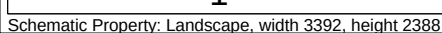


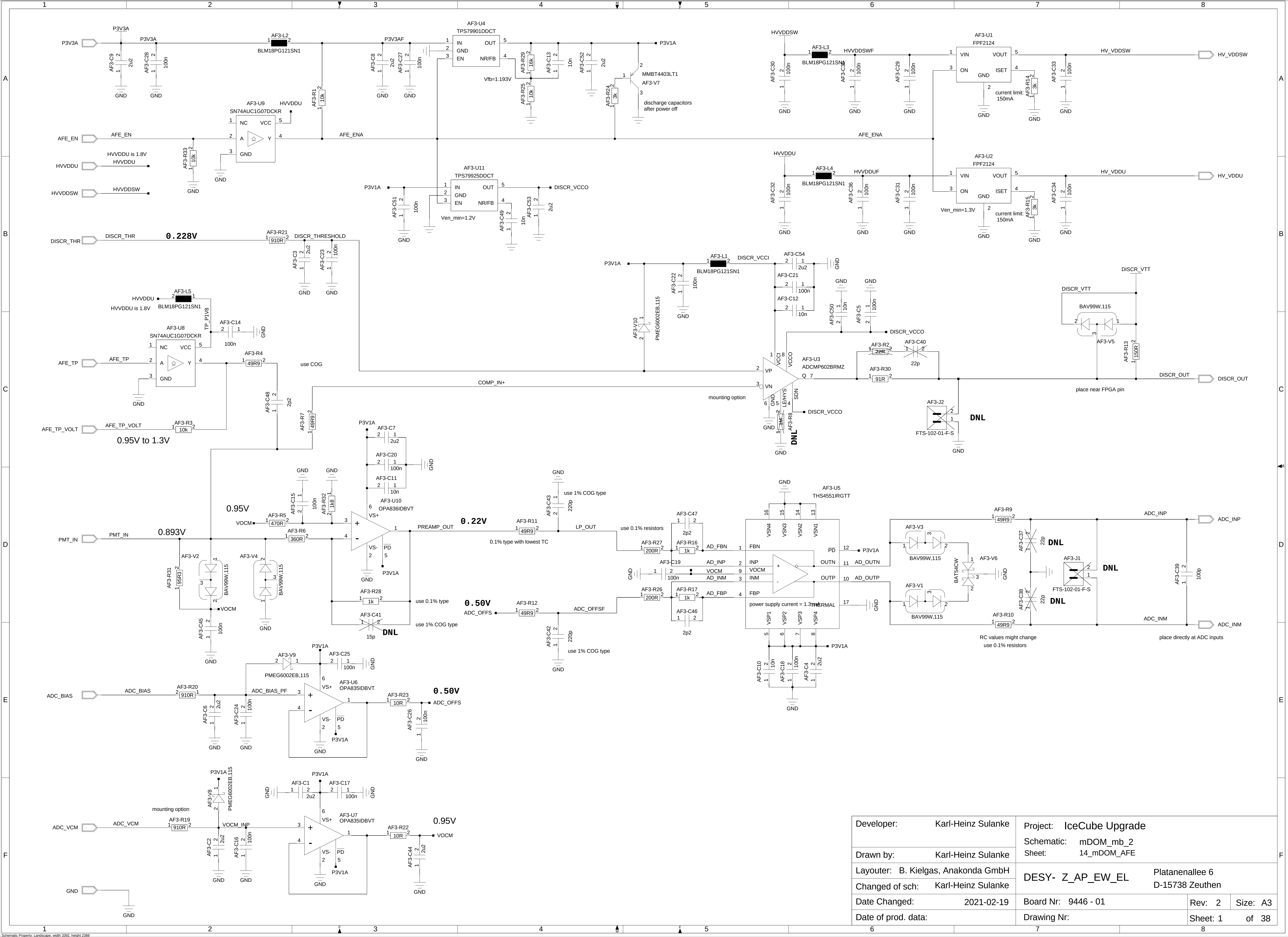
Developer:	Karl-Heinz Sulanke	Project: IceCube Upgrade			
		Schematic: mDOM_mb_2			
Drawn by:	Karl-Heinz Sulanke	Sheet: 14_mDOM_AFE			
Layouter:	B. Kielgas, Anakonda GmbH	Platanenallee 6			
Changed of sch:	Karl-Heinz Sulanke	DESY- Z_AP_EW_EL D-15738 Zeuthen			
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Date of prod. data:		Drawing Nr:		Sheet: 1	of 38



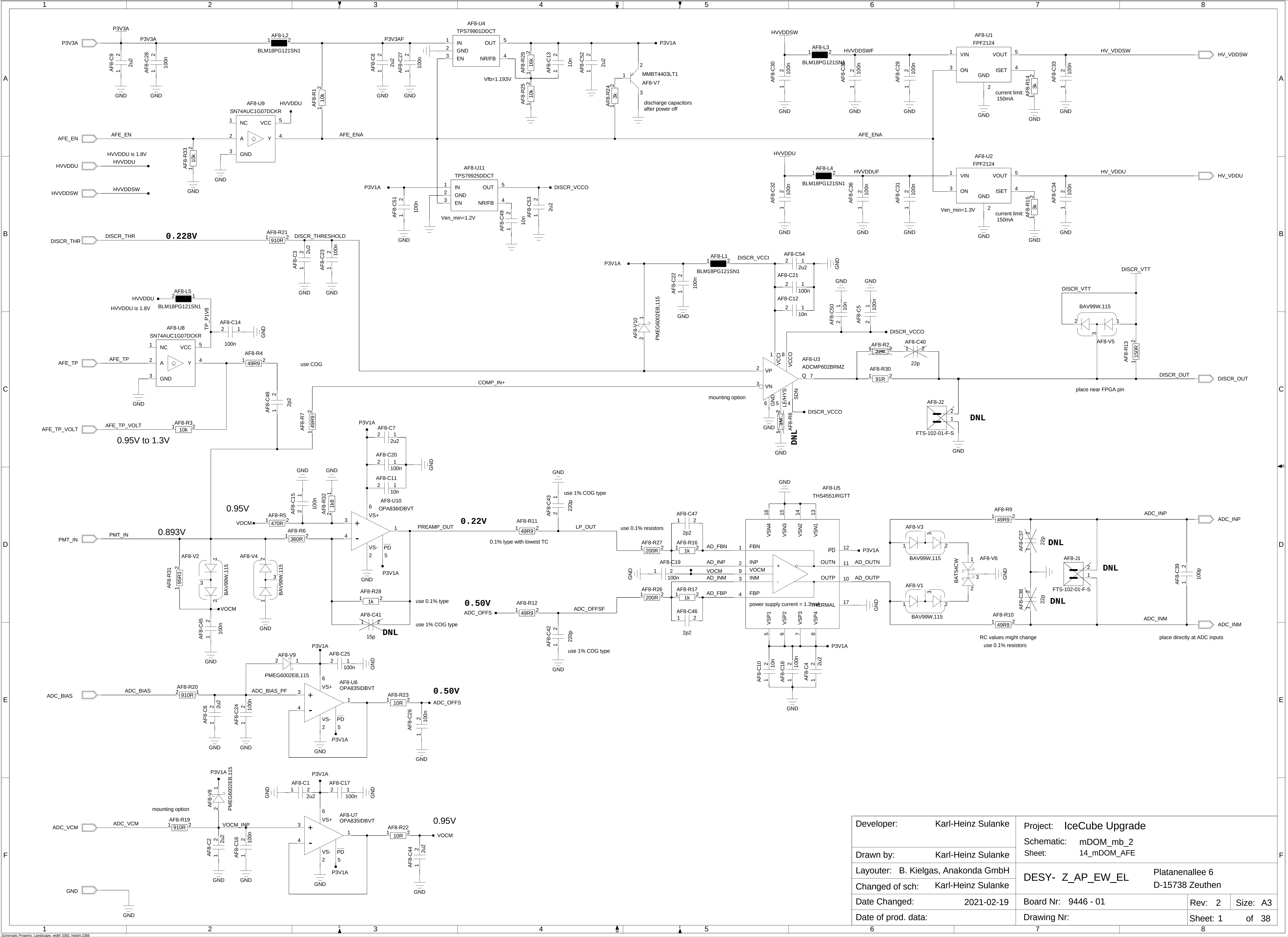


Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade		
Drawn by:	Karl-Heinz Sulanke	Schematic:	mDOM_mb_2		
Layouter:	B. Kielgas, Anakonda GmbH	Sheet:	14_mDOM_AFE		
Changed of sch:	Karl-Heinz Sulanke	DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen		
Date Changed:	2021-02-19	Board Nr:	9446 - 01	Rev:	2
Date of prod. data:		Drawing Nr:		Size:	A3
				Sheet:	1 of 38

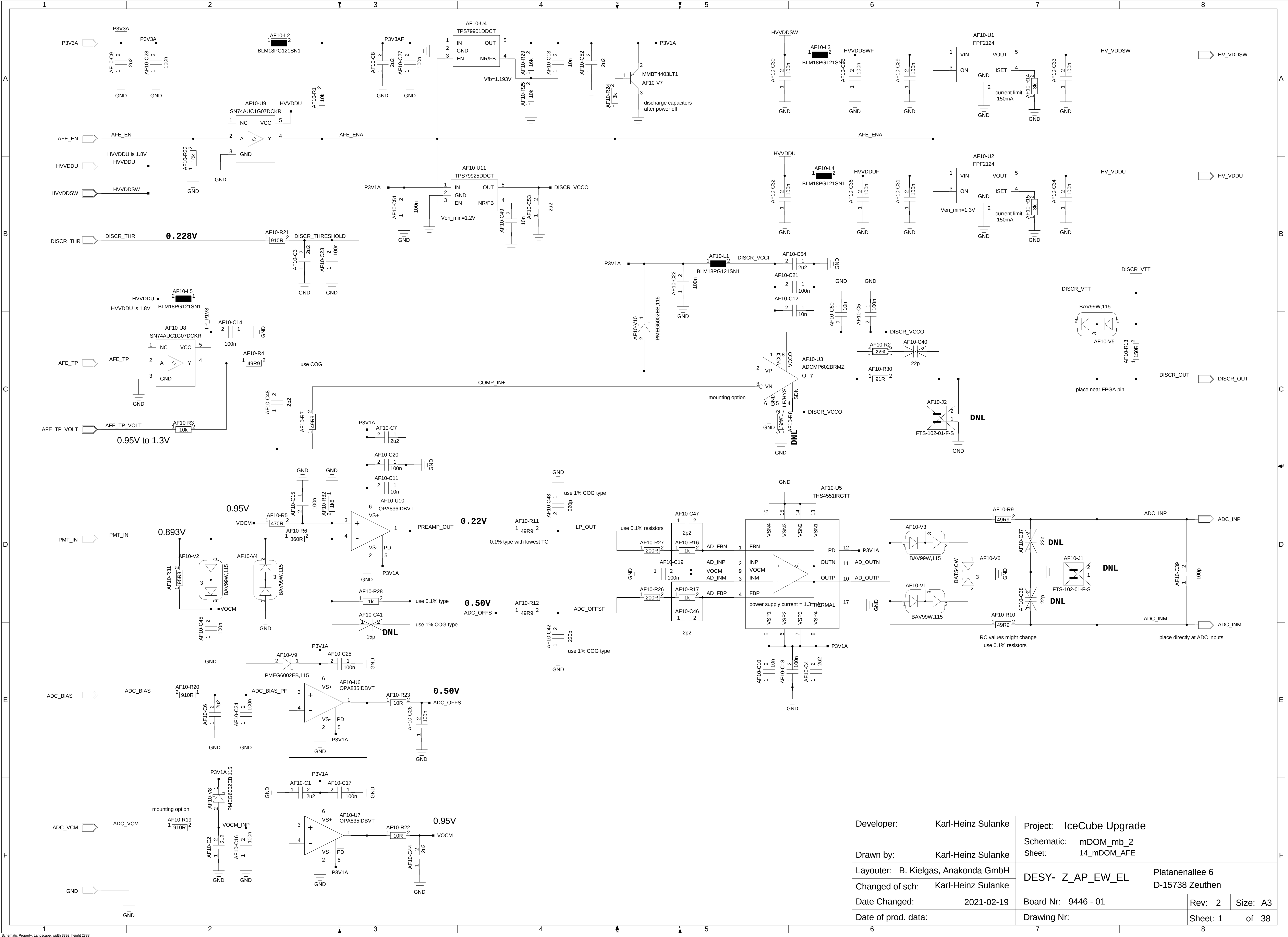


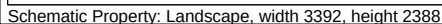


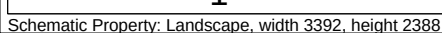
Developer:	Karl-Heinz Sulanke	Project: IceCube Upgrade			
		Schematic: mDOM_mb_2			
Drawn by:	Karl-Heinz Sulanke	Sheet: 14_mDOM_AFE			
Layouter:	B. Kielgas, Anakonda GmbH	Platanenallee 6			
Changed of sch:	Karl-Heinz Sulanke	DESY- Z_AP_EW_EL D-15738 Zeuthen			
Date Changed:	2021-02-19	Board Nr: 9446 - 01		Rev: 2	Size: A3
Date of prod. data:		Drawing Nr:		Sheet: 1	of 38

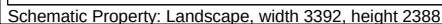


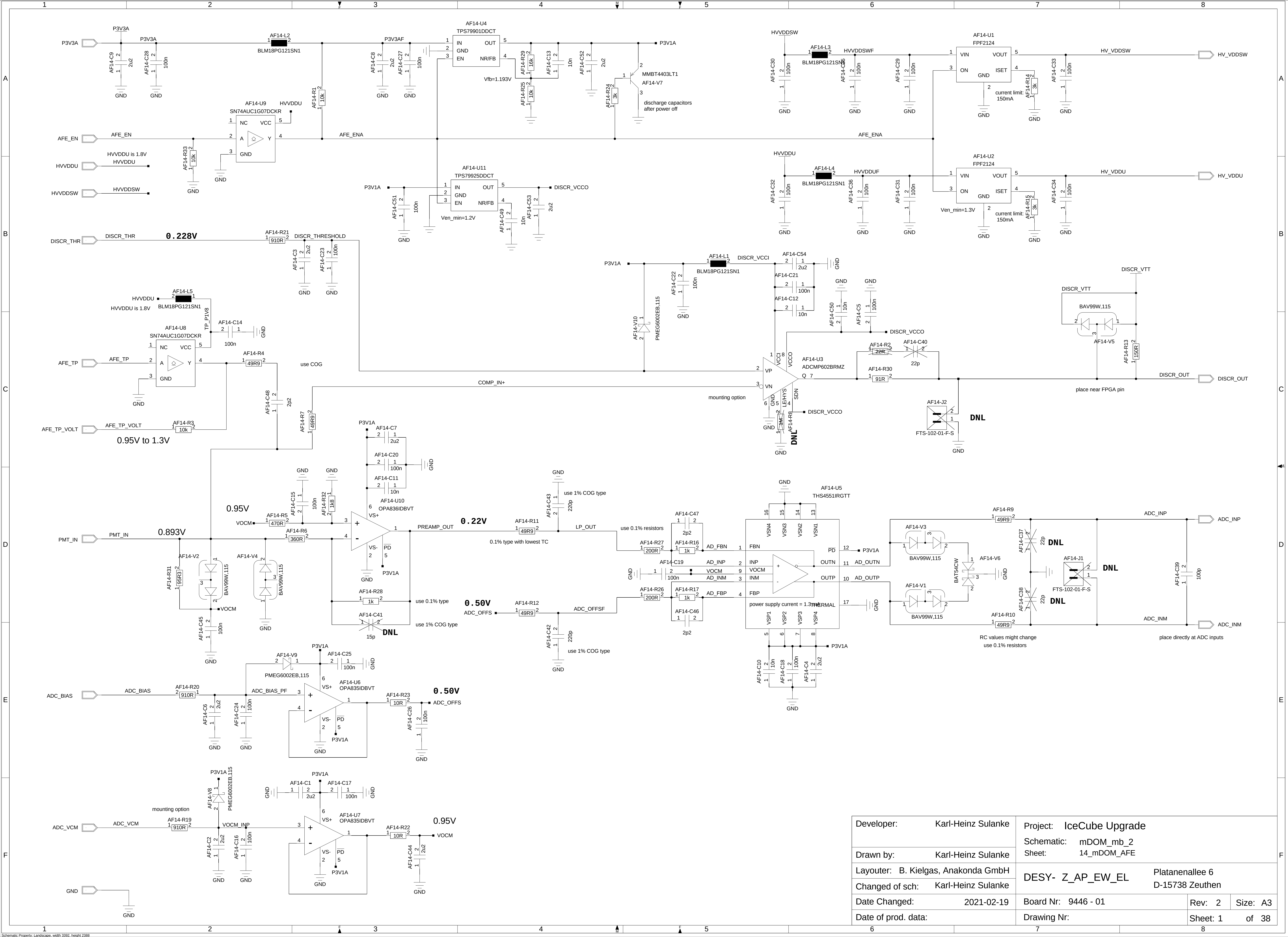
Developer:	Karl-Heinz Sulanke	Project:	IceCube Upgrade			
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Layouter:	B. Kielgas, Anakonda GmbH	Sheet:	14_mDOM_AFE			
Changed of sch:	Karl-Heinz Sulanke	DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen			
Date Changed:	2021-02-19	Board Nr:	9446 - 01	Rev:	2	Size: A3
Date of prod. data:		Drawing Nr:		Sheet:	1	of 38

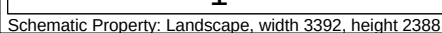


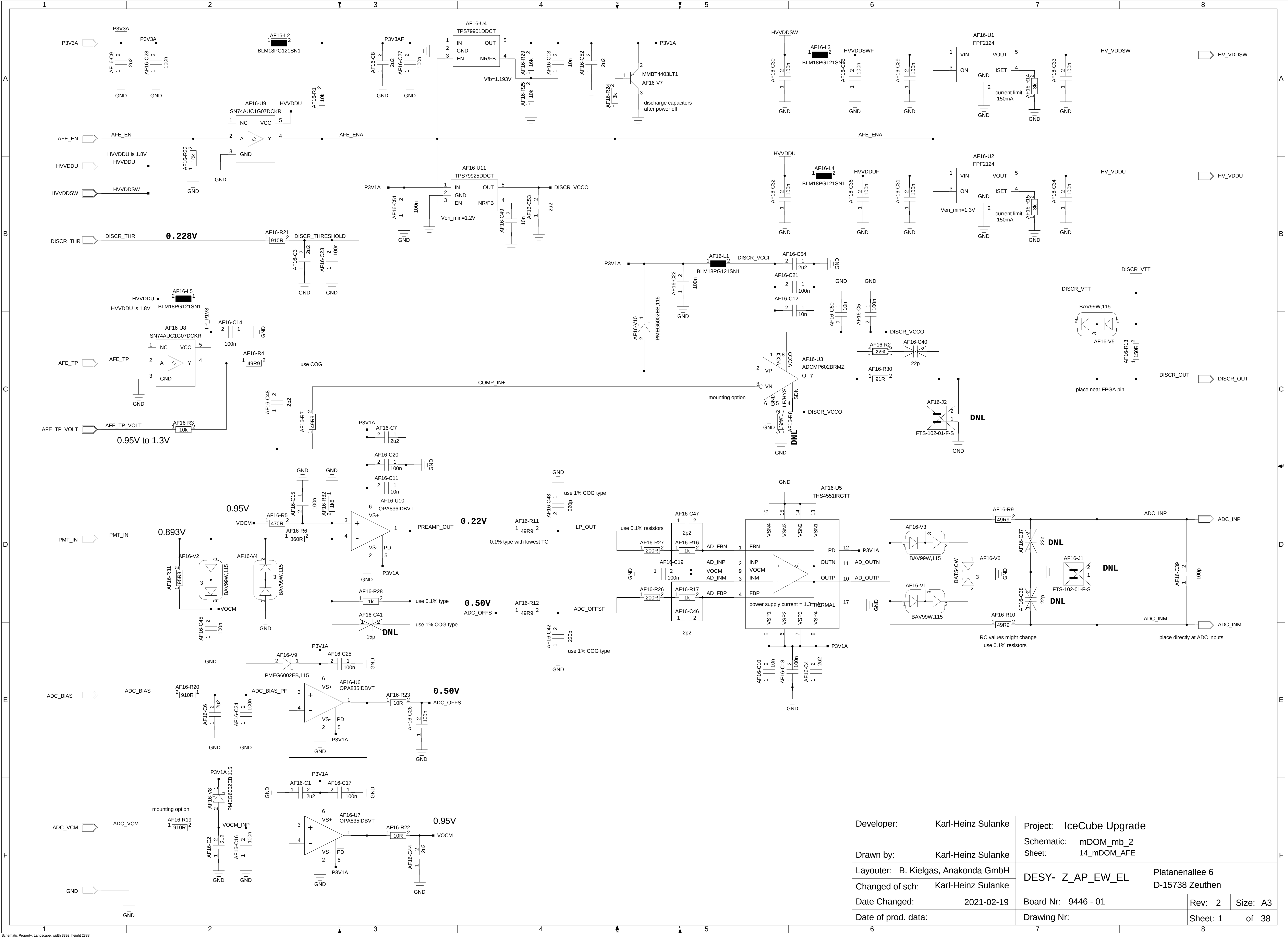




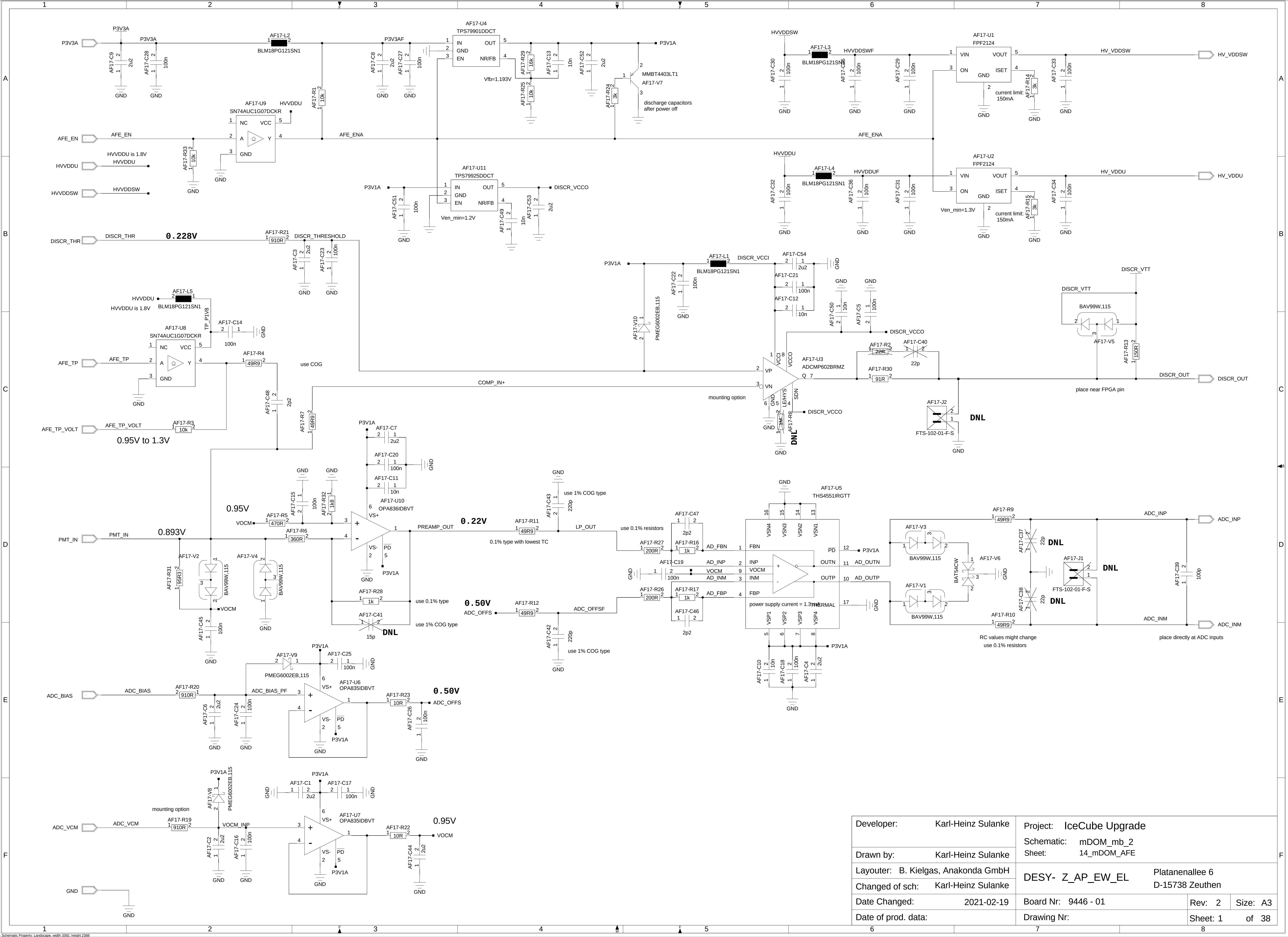




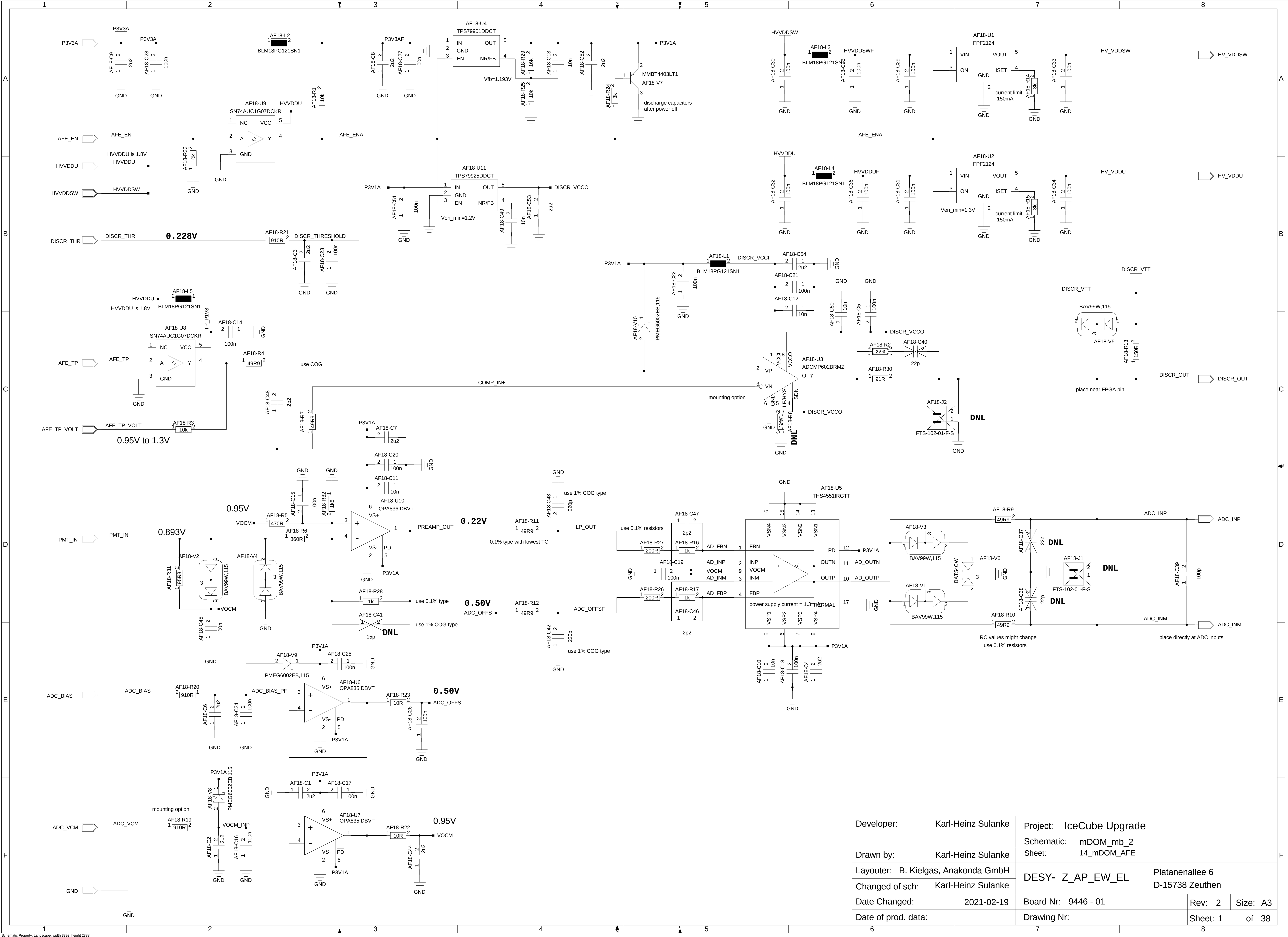




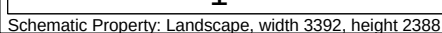
Developer:	Karl-Heinz Sulanke		Project: IceCube Upgrade	
Drawn by:	Karl-Heinz Sulanke		Schematic:	mDOM_mb_2
Layouter:	B. Kielgas, Anakonda GmbH		Sheet:	14_mDOM_AFE
Changed of sch:	Karl-Heinz Sulanke		DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen
Date Changed:	2021-02-19		Board Nr:	9446 - 01
Date of prod. data:			Drawing Nr:	Rev: 2 Sheet: 1 of 38

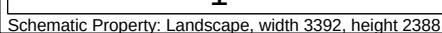


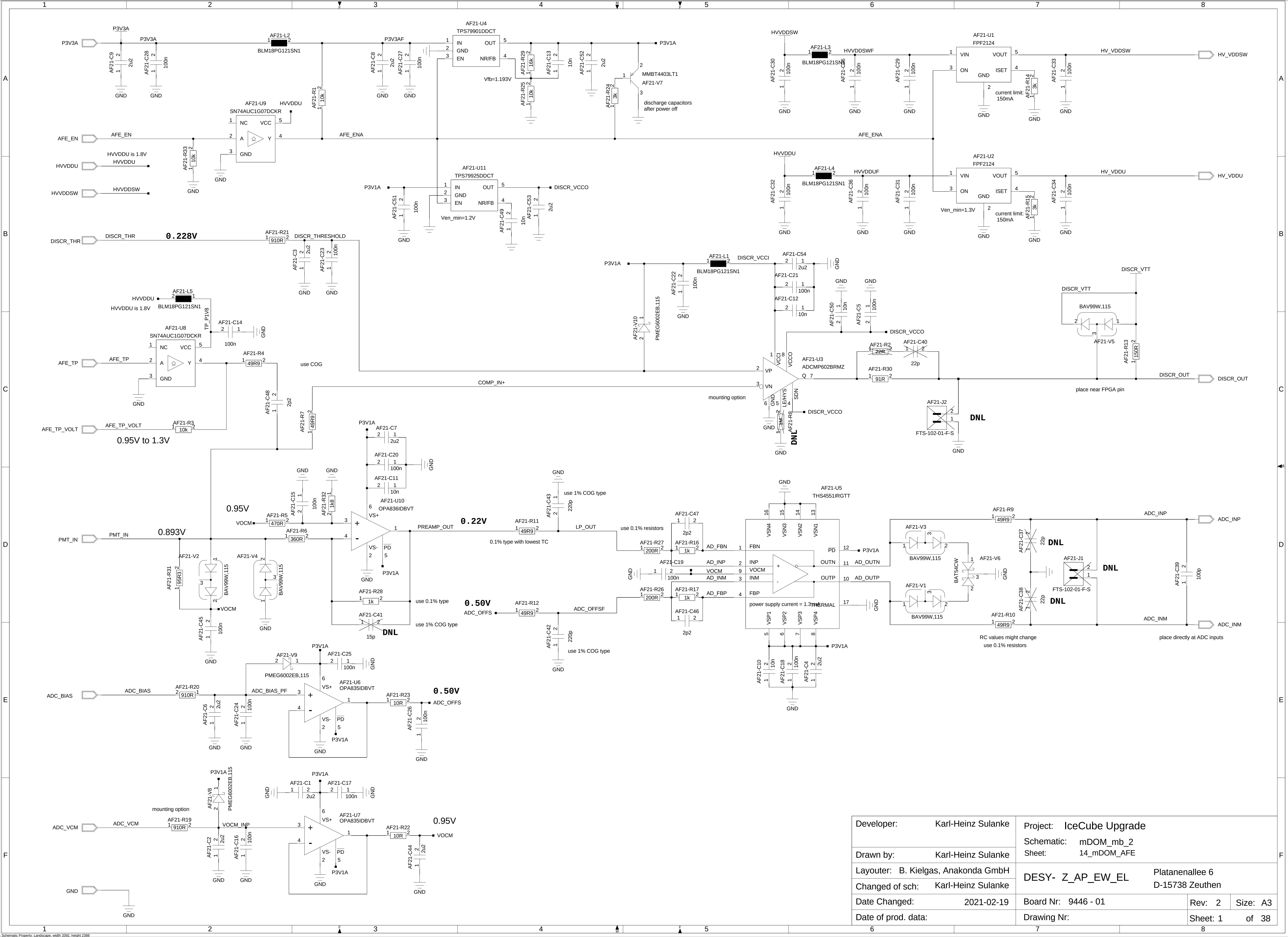
Developer:	Karl-Heinz Sulanke		Project: IceCube Upgrade	
Drawn by:	Karl-Heinz Sulanke		Schematic:	mDOM_mb_2
Layouter:	B. Kielgas, Anakonda GmbH		Sheet:	14_mDOM_AFE
Changed of sch:	Karl-Heinz Sulanke		DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen
Date Changed:	2021-02-19		Board Nr:	9446 - 01
Date of prod. data:			Drawing Nr:	Rev: 2 Sheet: 1 of 38



Developer:	Karl-Heinz Sulanke		Project: IceCube Upgrade	
Drawn by:	Karl-Heinz Sulanke		Schematic:	mDOM_mb_2
Layouter:	B. Kielgas, Anakonda GmbH		Sheet:	14_mDOM_AFE
Changed of sch:	Karl-Heinz Sulanke		DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen
Date Changed:	2021-02-19		Board Nr:	9446 - 01
Date of prod. data:			Drawing Nr:	Rev: 2 Sheet: 1 of 38







Developer:	Karl-Heinz Sulanke		Project: IceCube Upgrade	
Drawn by:	Karl-Heinz Sulanke		Schematic:	mDOM_mb_2
Layouter:	B. Kielgas, Anakonda GmbH		Sheet:	14_mDOM_AFE
Changed of sch:	Karl-Heinz Sulanke		DESY- Z_AP_EW_EL	Platanenallee 6 D-15738 Zeuthen
Date Changed:	2021-02-19		Board Nr:	9446 - 01
Date of prod. data:			Drawing Nr:	Rev: 2 Sheet: 1
				Size: A3 of 38

