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Project/Equipment		AMC FMC Carrier v4.0.2	
Document		Designer T.Przywozki	
		Drawn by *	
		Check by *	
		Last Mod. F. Switkowski	
		19.08.2021	
		File FPGA.SchDoc	
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		Size A3	
		Rev *	

Warsaw University of Technology

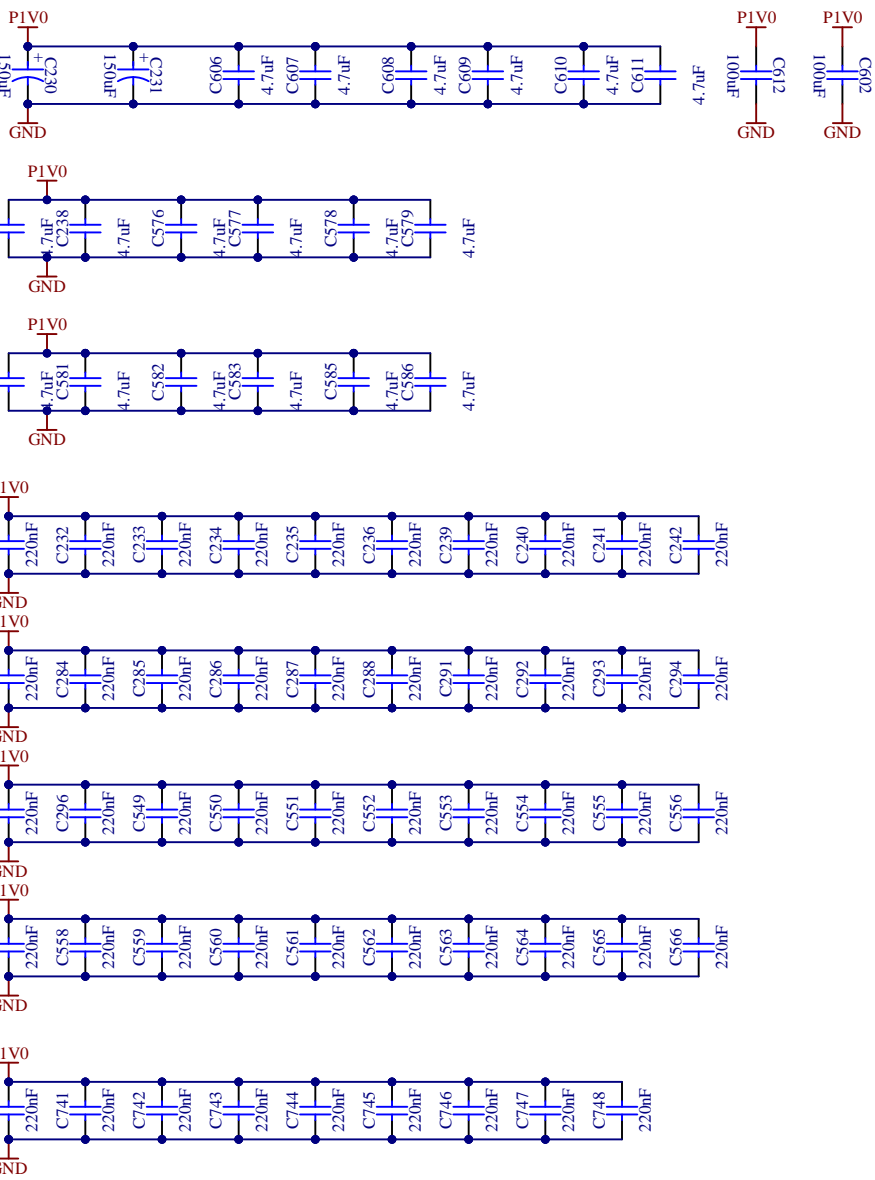
Nowowiejska 15/19 00-665 Warsaw

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Contact: t.przywozki@gmail.com

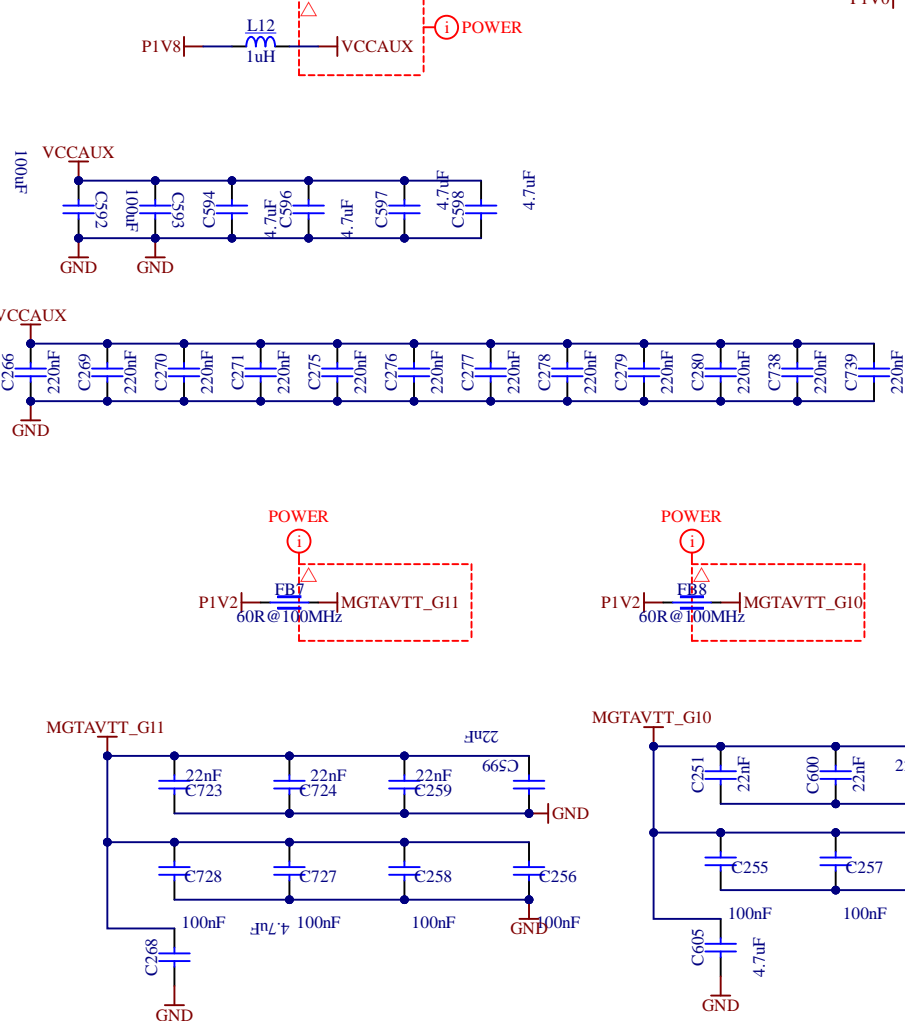
VCCINT

1x680uF, 2x100uF, 28x4.7uF
42x0.47uF on PG.34



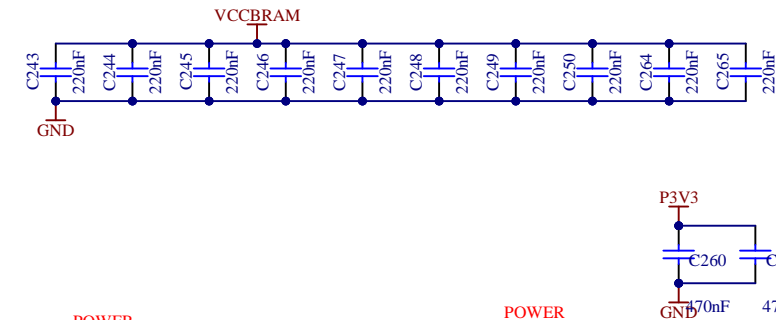
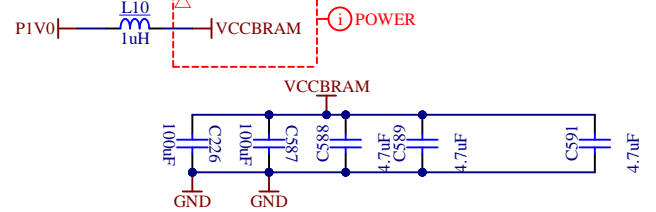
VCCAUX

3x47uF, 4x4.7uF, 7x0.47uF



VCCBRAM

2x100uF, 4x4.7uF, 8x0.47uF



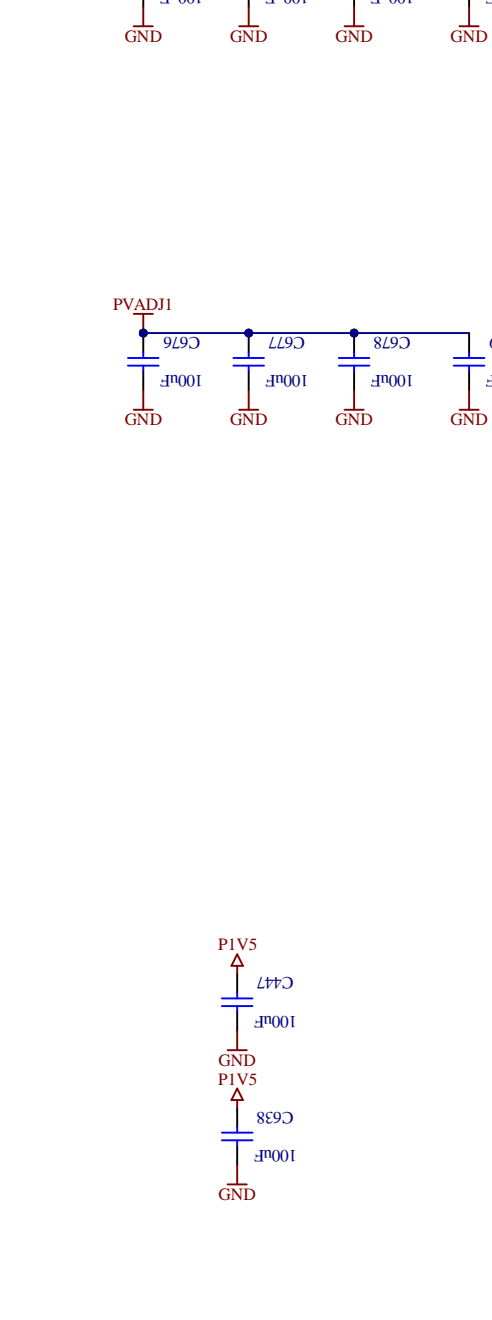
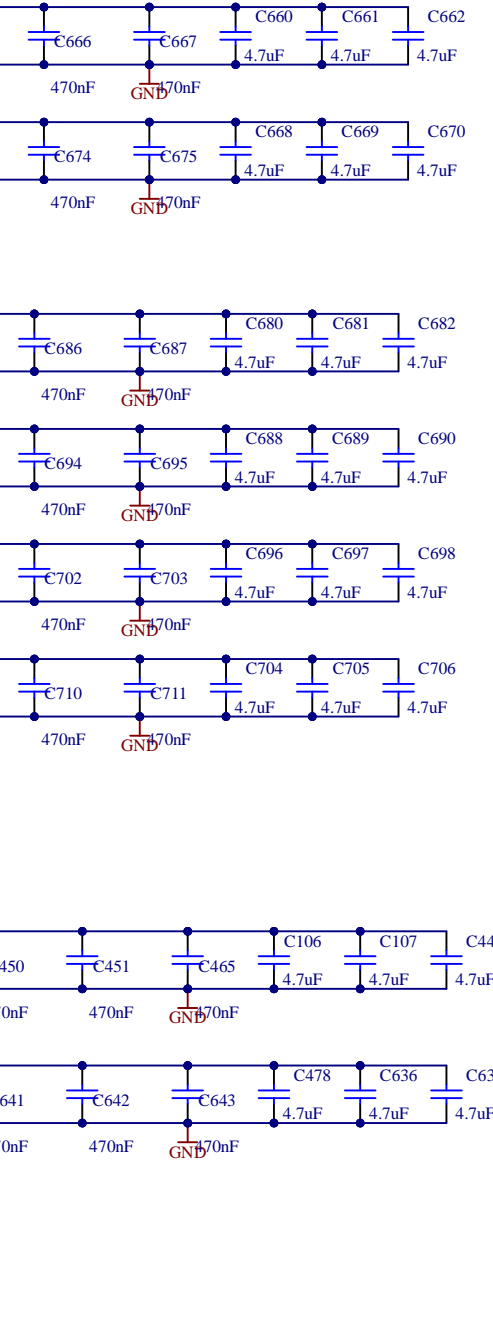
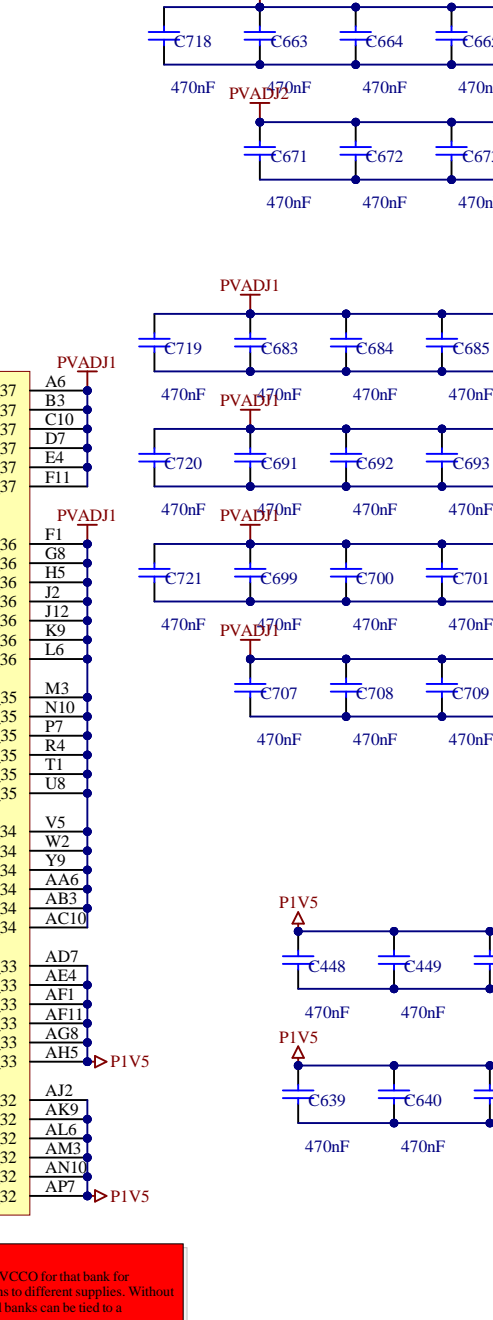
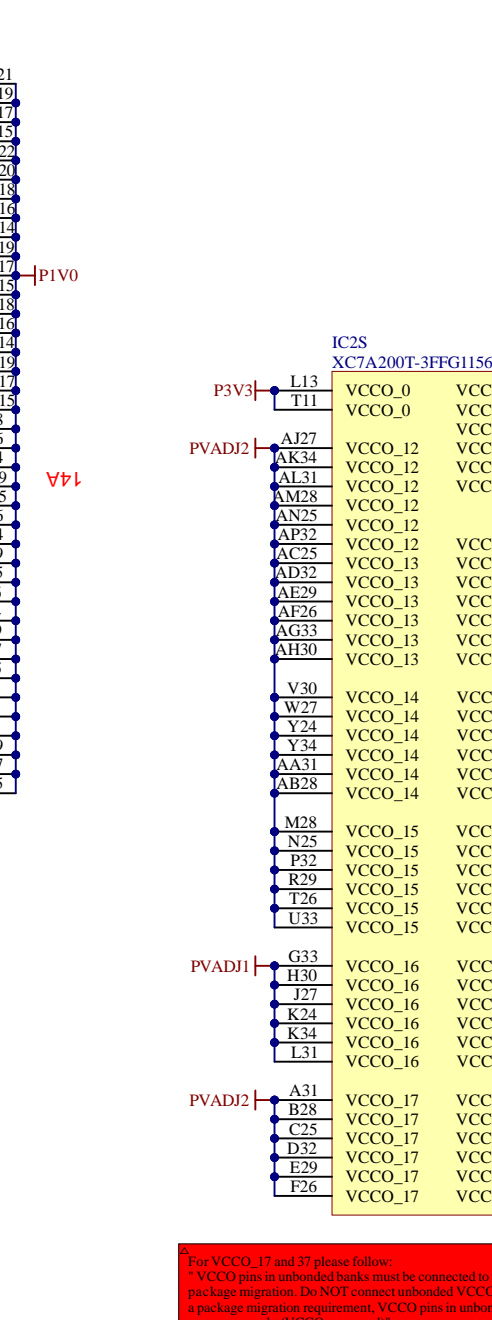
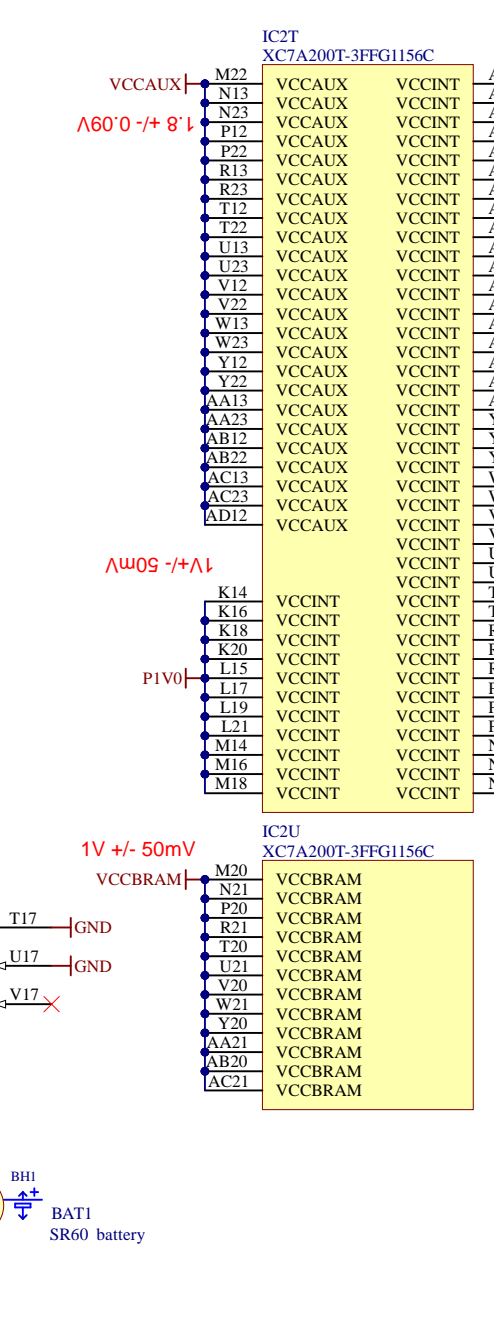
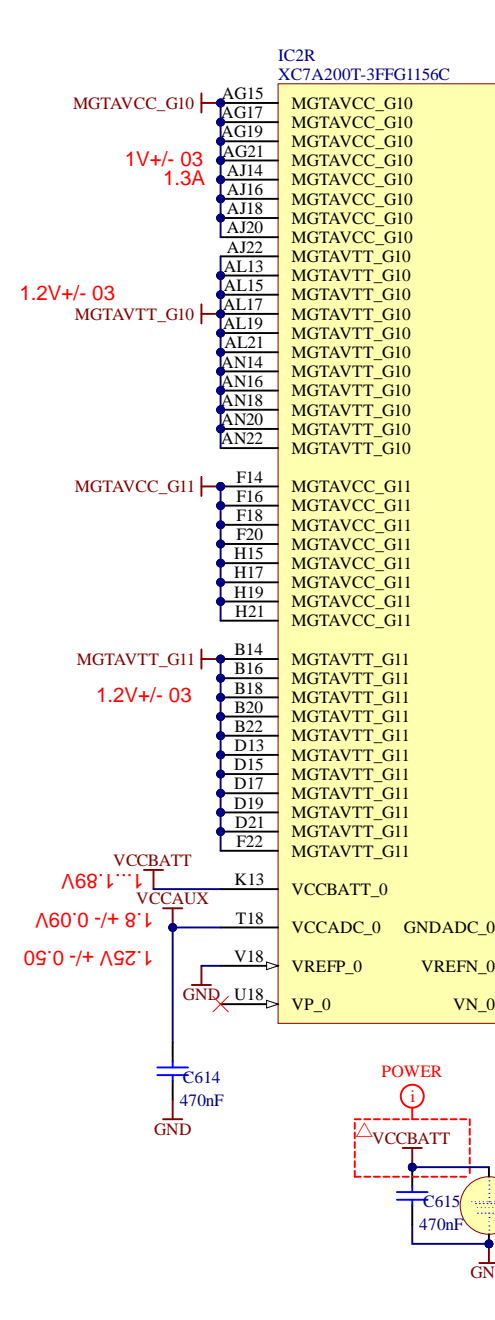
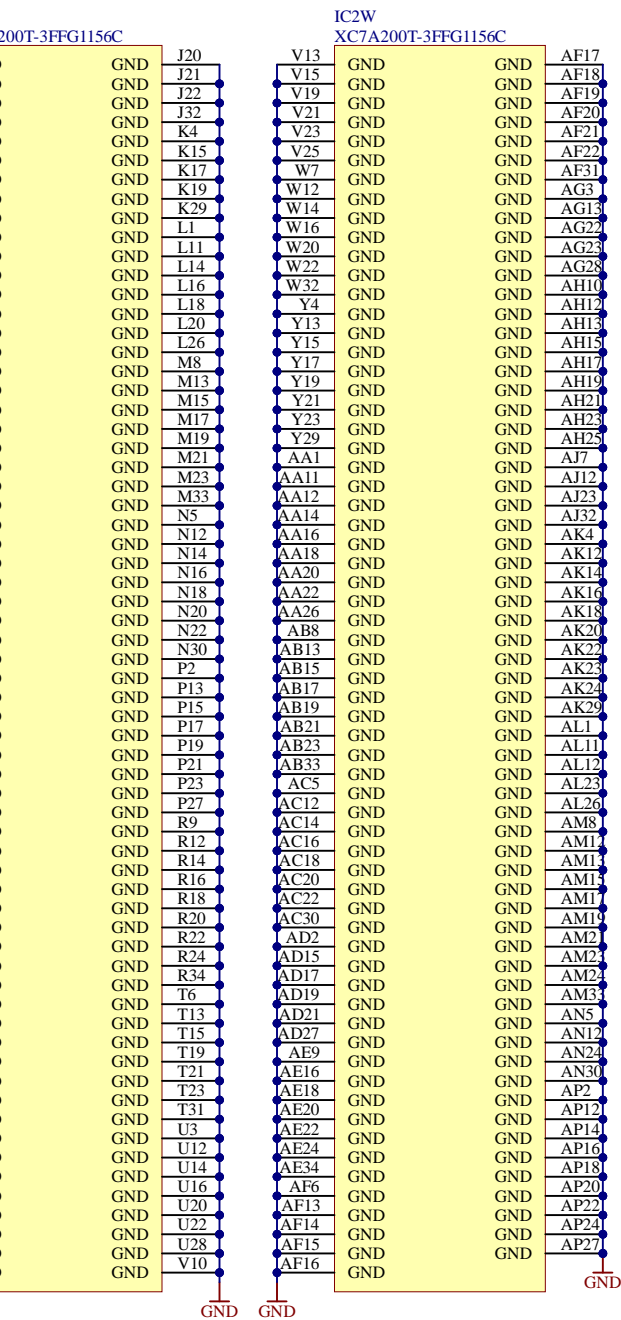
MGTAVCC	1V	2.3A		
MGTAVTT	1.2V	1.5A		
MGTVCCAUX	1.8V	0.5A		
VCCAUX	1.8V	1A		seq1
VCCAUX_IO	1.8/2V	0.1A		seq1
VCCBRAM	1V	1.8A		seq0
VCCINT	1V	6A		seq0
VCCO_1.2	1.2V	3.2A		seq2
VCCO_1.35	1.35V	0.9A		seq2
VCCO_1.5	1.5V	0.9A		seq2
VCCO_1.8	1.8V	0.9A		seq2
VCCO_2.5	2.5V	0.9A		seq2
VCCO_3.3	3.3V	0.9A		seq2

power-on sequence is VCCINT, VCCBRAM, VCCAUX, and VCCO voltage difference between VCCO and VCCAUX must not exceed 2.625V for longer than TVCCO2VCCAUX

power-on sequence to achieve minimum current draw for the GTP transceivers is VCCINT, VMGTAVCC, VMGTAVTT OR VMGTAVCC, VCCINT, VMGTAVTT. There is no recommended sequencing for VMGTVCCAUX. Both VMGTAVCC and VCCINT can be ramped simultaneously. The recommended power-off sequence is the reverse of the power-on sequence to achieve minimum current draw.

When VMGTAVTT is powered before VMGTAVCC and VMGTAVTT - VMGTAVCC > 150 mV and VMGTAVCC < 0.7V, the VMGTAVTT current draw can increase by 50 mA per transceiver during VMGTAVCC ramp up. The duration of the current draw can be up to 0.3 x TMGTAVCC (ramp time from GND to 90% of VMGTAVCC). The reverse is true for power-down.

• When VMGTAVTT is powered before VCCINT and VMGTAVTT - VCCINT > 150 mV and VCCINT < 0.7V, the VMGTAVTT current draw can increase by 50 mA per transceiver during VCCINT ramp up. The duration of the current draw can be up to 0.3 x TVCCINT (ramp time from GND to 90% of VCCINT). The reverse is true for power-down.

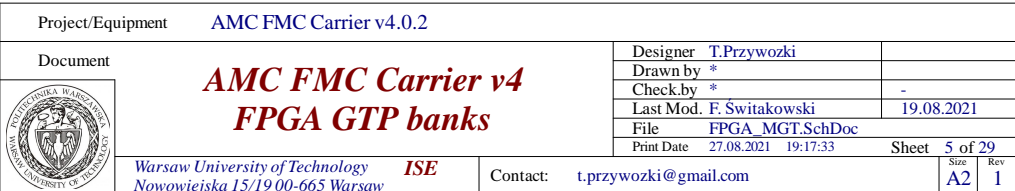


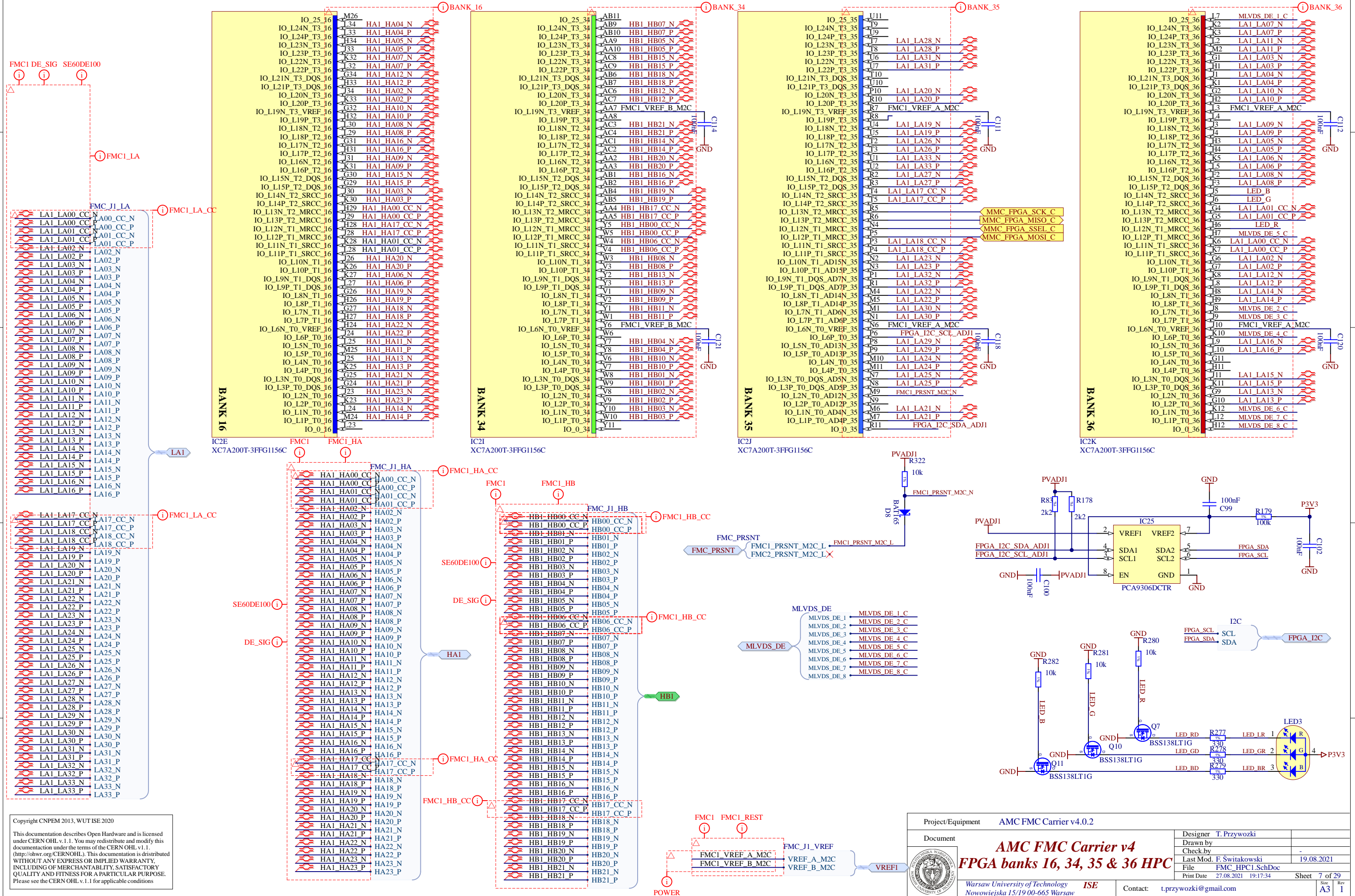
For VCCO_17 and 37 please follow:
- VCCO pins in unbonded banks must be connected to the VCCO for that bank for package migration. Do NOT connect unbonded VCCO pins to different supplies. Without package migration requirement, VCCO pins in unbonded banks can be tied to a common supply (VCCO or ground).
- No migration available (since there is no SDD) - recommend connecting to carry power rail and using as power decoupling placeholder for decaps. Remove banks C222 and C219

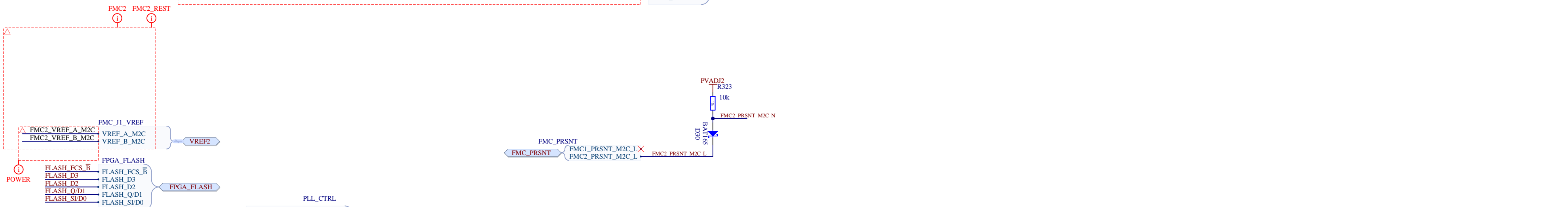
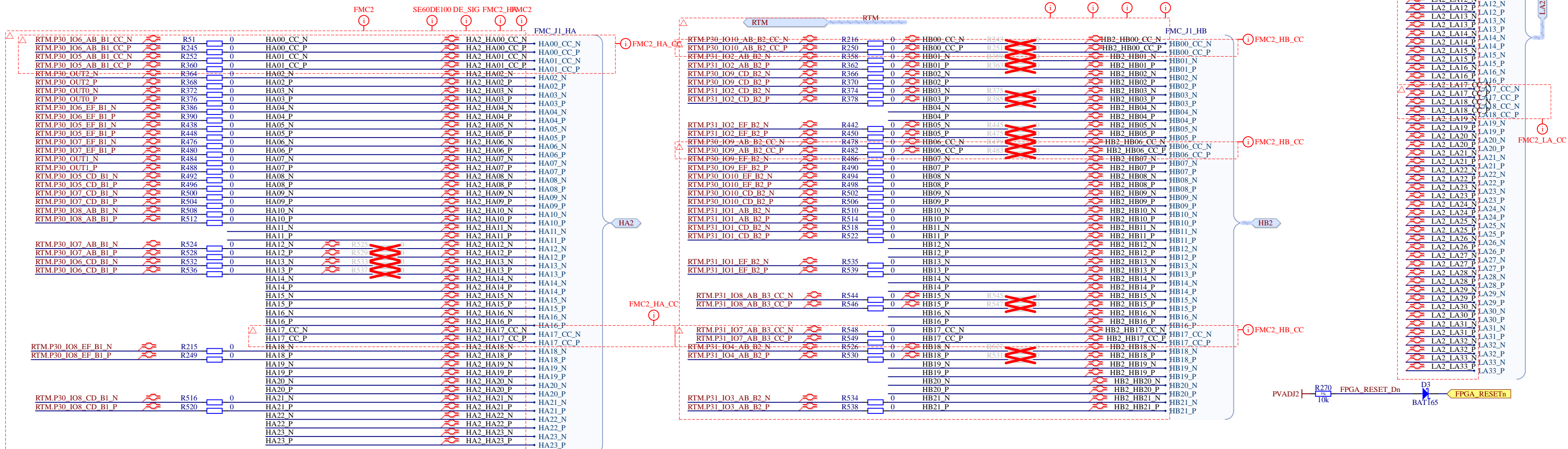
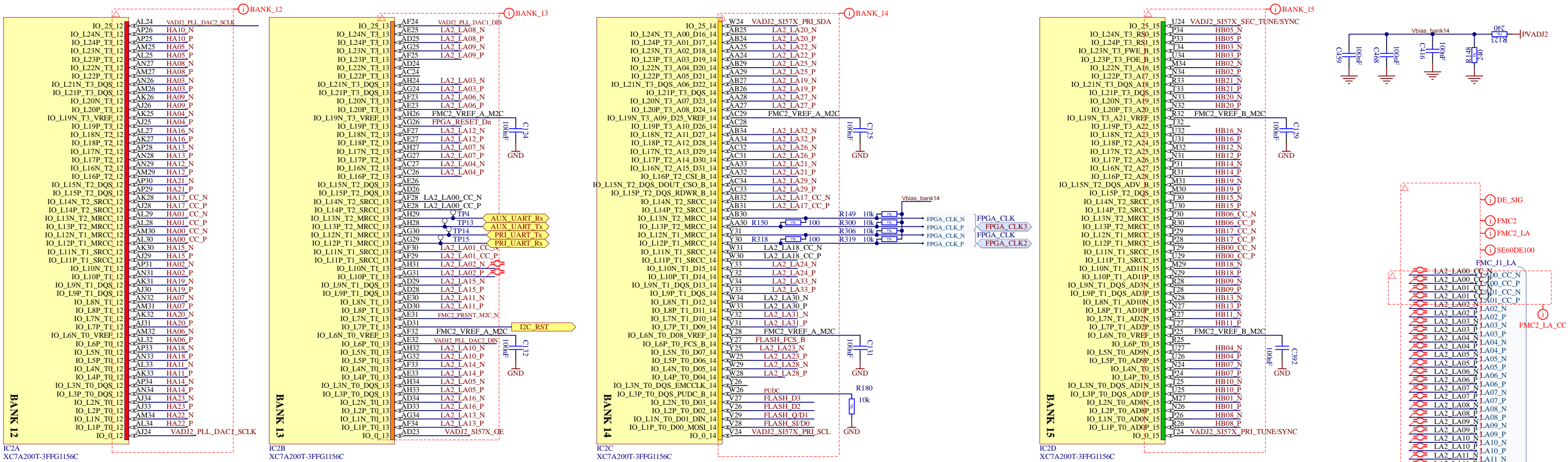
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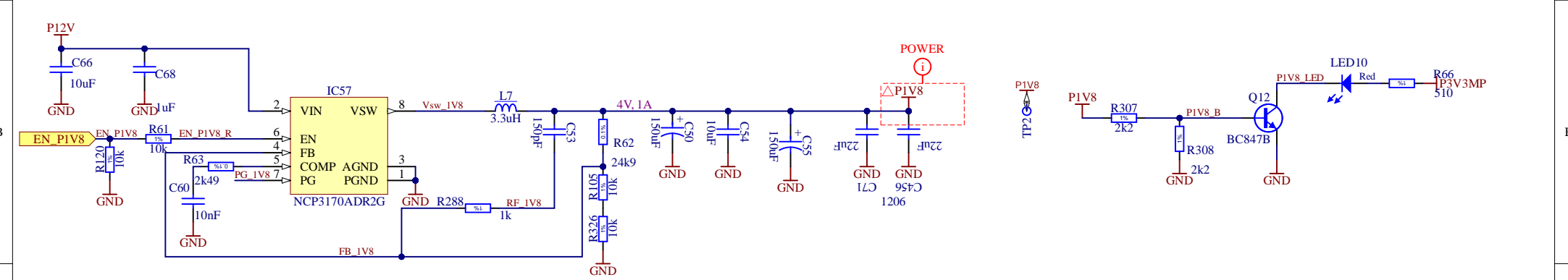
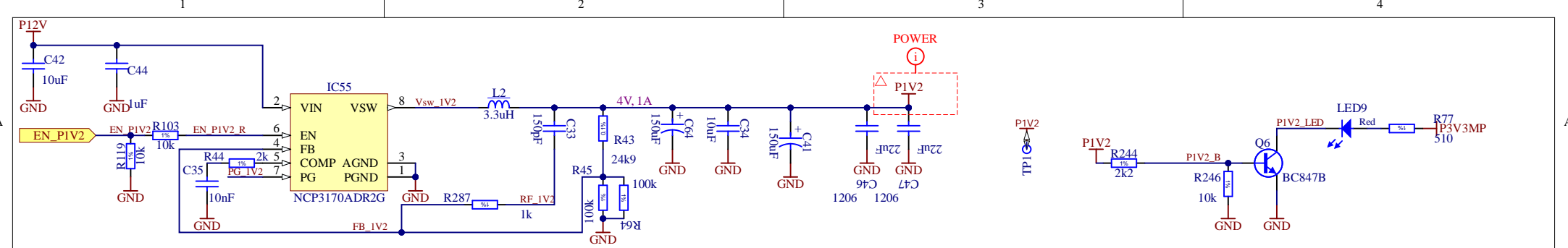
Project/Equipment	AMC_FMC_Carrier v4.0.2	Designer	T.Przywozki
Document		Drawn by	*
		Check by	*
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		File	FPGA_SUP.SchDoc
		Print Date	27.08.2021 19:17:32
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The diagram shows a circuit for a PSU_PG block. It includes two voltage sources, PG_IV8 and PG_IV2, which are crossed out with red X's. These sources are connected to a network of resistors R289 and R290, which are also crossed out with red X's. The circuit is configured such that the output of the PSU_PG block is connected to a node that is also connected to the output of the resistor network. The output is labeled PSU_PG.

Δ	VIN	Vout	Lout	R1	R2	Rf	Cf(pF)	Cc(nF)	Rc(k)	Cp(pF)	Resistance for Current Gain
12	0.8	1.8	24.9	NI	NI	NI	NI	NI	15	3.6	
12	1.0	2.5	24.9	100	1	150	15	0.825	NI	4	
12	1.1	2.5	24.9	66.5	1	150	10	2	NI	20	
12	1.2	2.5	24.9	49.9	1	150	10	2	NI	20	
12	1.5	3.6	24.9	28.7	1	150	10	2.49	NI	20	
12	1.8	3.6	24.9	20	1	150	10	2.49	NI	20	
12	2.5	4.7	24.9	11.8	1	150	8.2	3.74	NI	25	
12	3.3	4.7	24.9	7.87	1	150	6.8	4.99	NI	27	
12	5.0	7.2	24.9	4.75	1	150	3.9	10	NI	27	

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Project/Equipment AMC FMC Carrier v4.0.2

Document

Designer T. Przywozki

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Last Mod. F. Świtkowski

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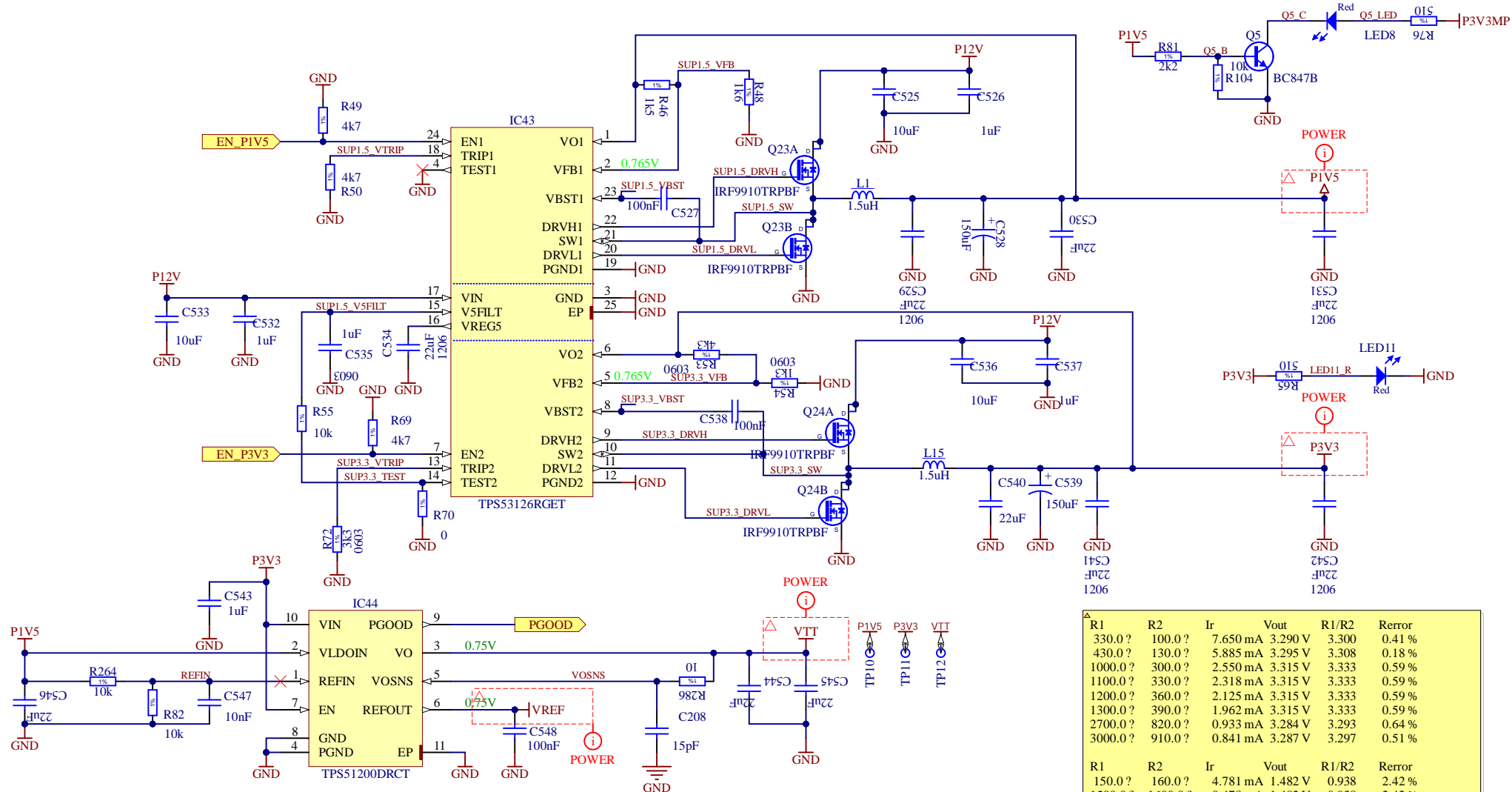
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AMC FMC Carrier v4 Power PIV2 & PIV8



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Project/Equipment AMC FMC Carrier v4.0.2

Document



AMC FMC Carrier v4 Power P1V5, P3V3 & VTT

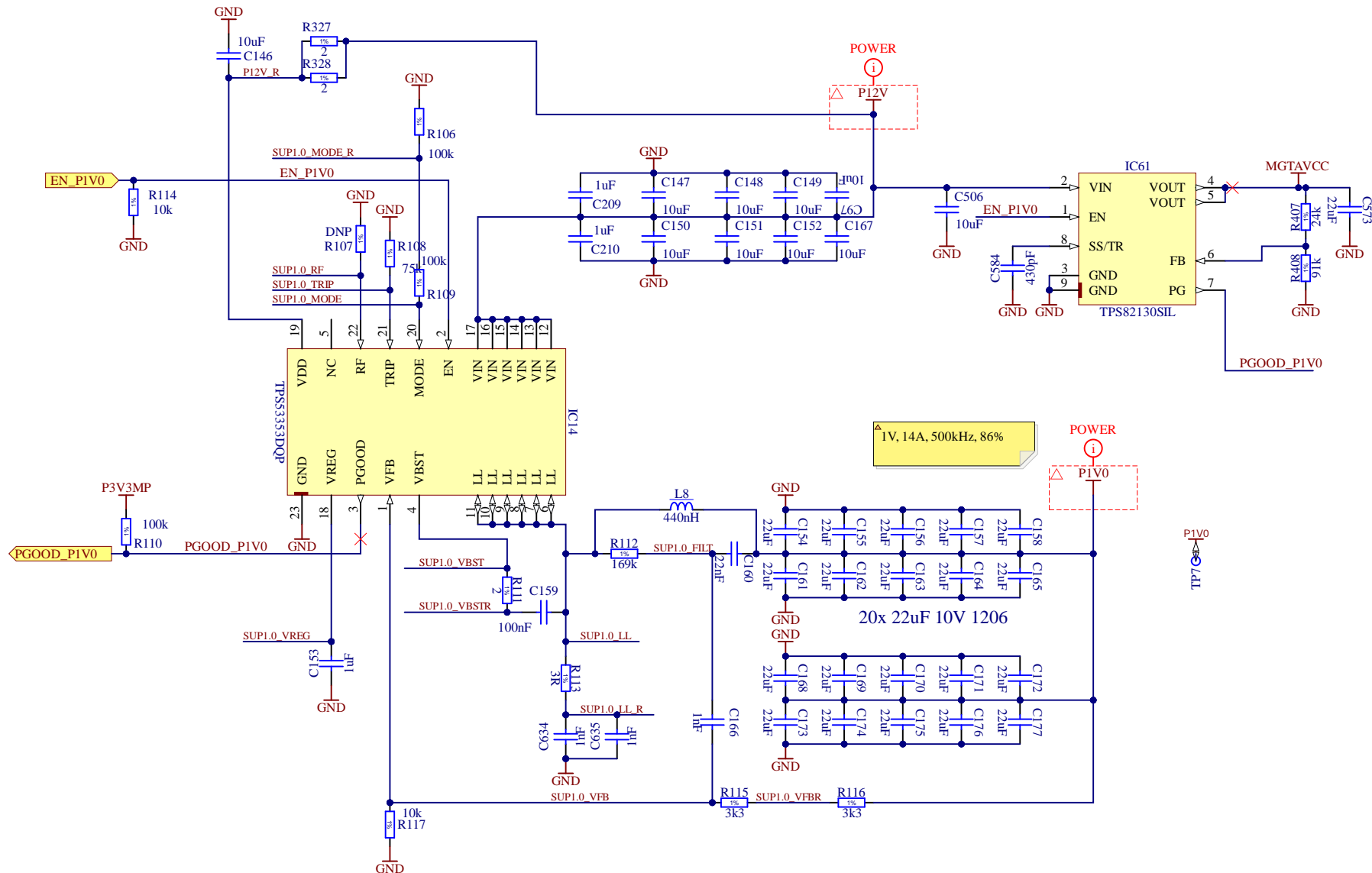
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Last Mod.	F. Świątkowski	19.08.2021
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Rev 1



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Project/Equipment **AMC FMC Carrier v4.0.2**

Document



AMC FMC Carrier v4
Power P1V0

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Designer	T. Przywozki
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Last Mod. F. Świtkowski	19.08.2021
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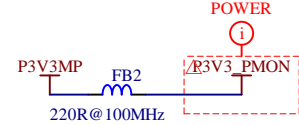
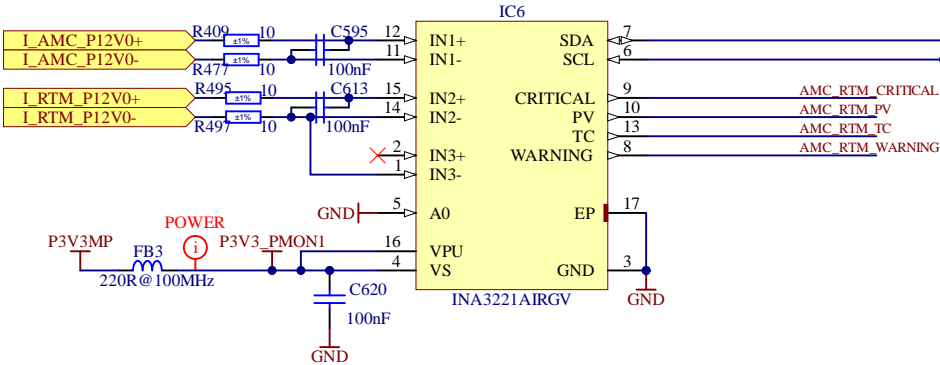
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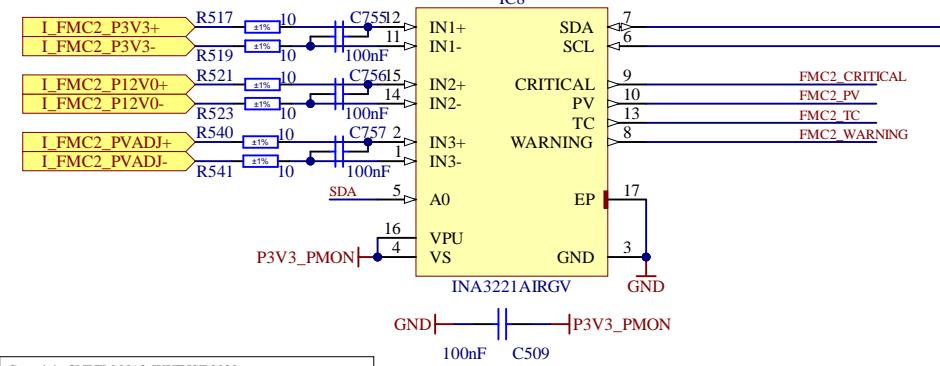
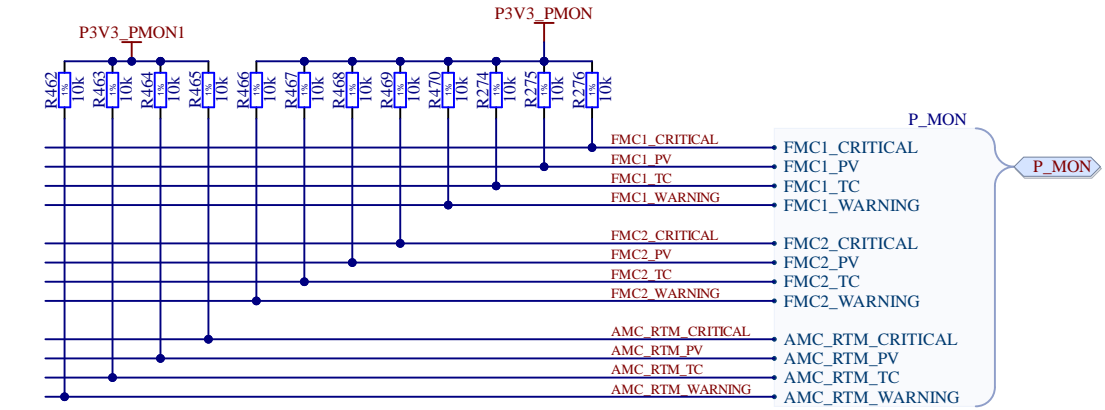
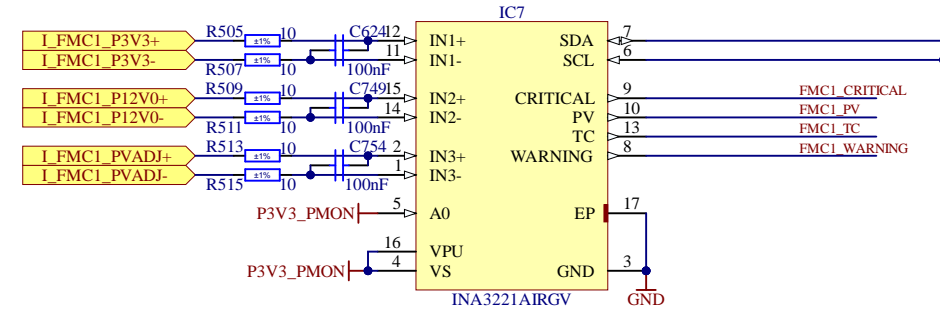
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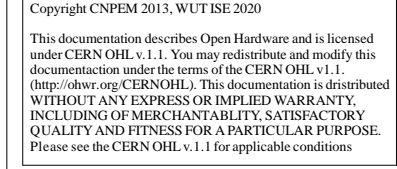
A1	SLAVE ADDRESS
GND	1000000
VS	1000001
SDA	1000010
SCL	1000011

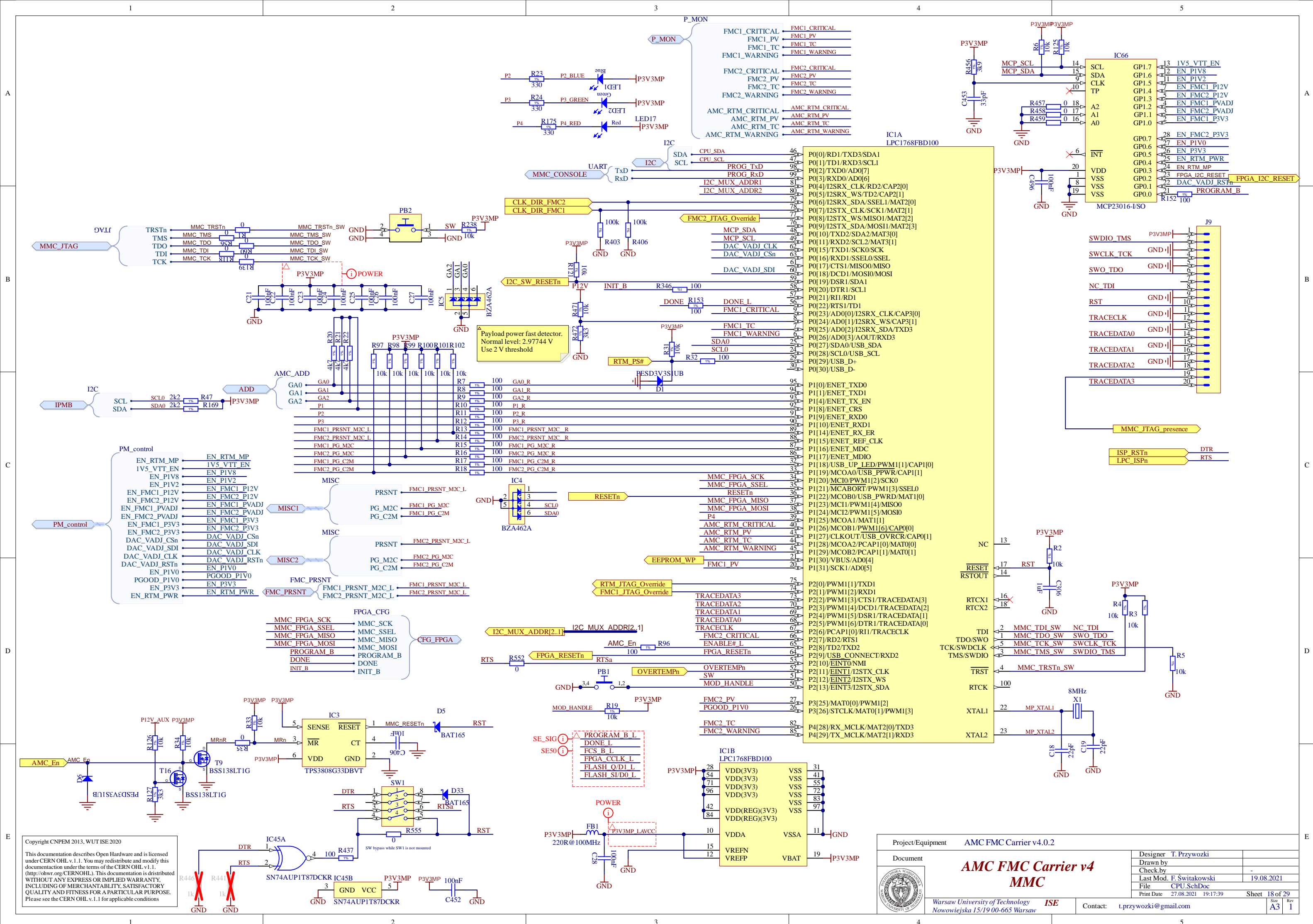


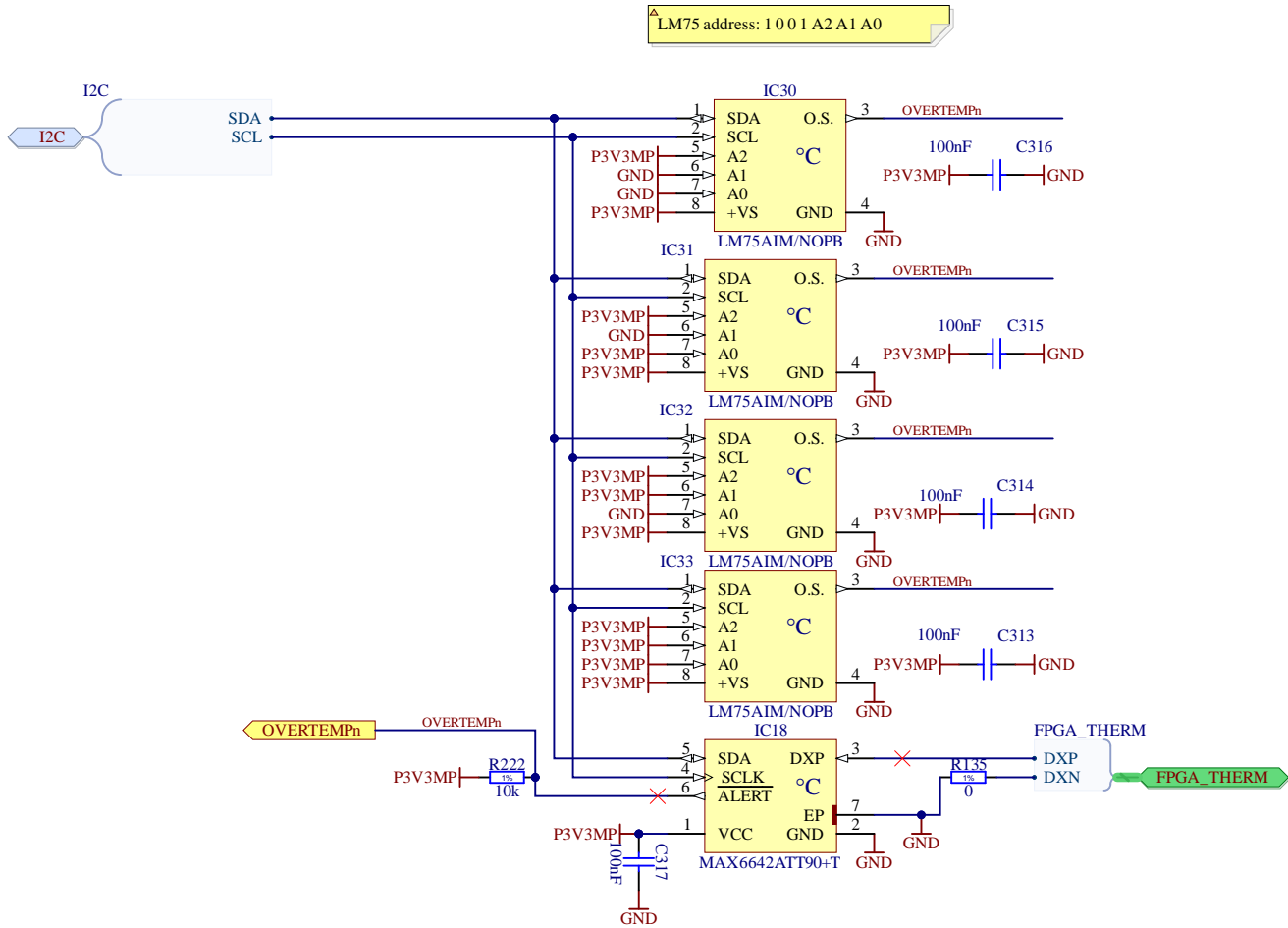
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Document	AMC FMC Carrier v4 Power Measurement	Check by	-	Last Mod.	F. Świtkowski
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		Contact:	t.przywozki@gmail.com	Rev	1








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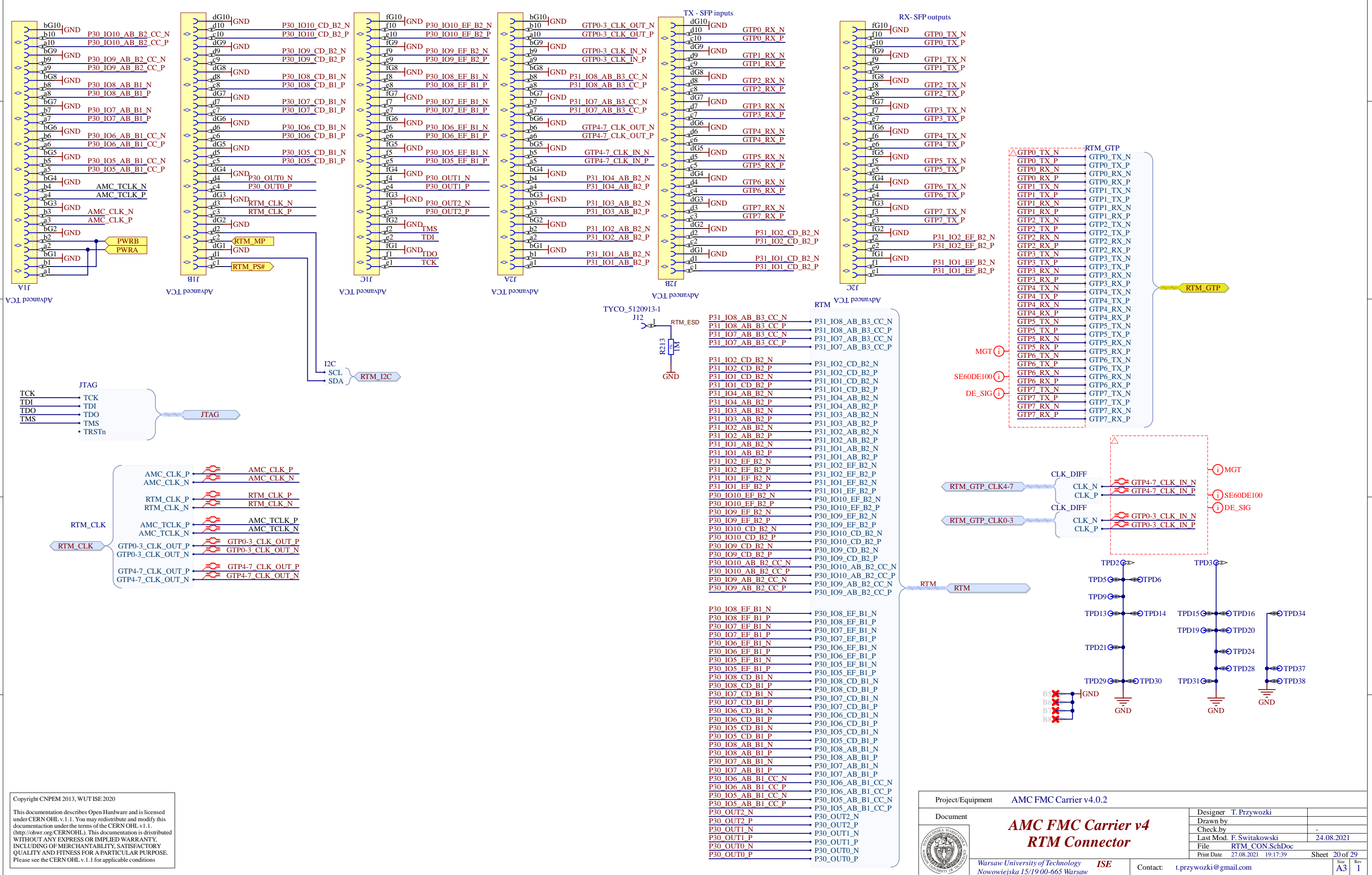
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Contact:	t.przywozki@gmail.com		Size	A4
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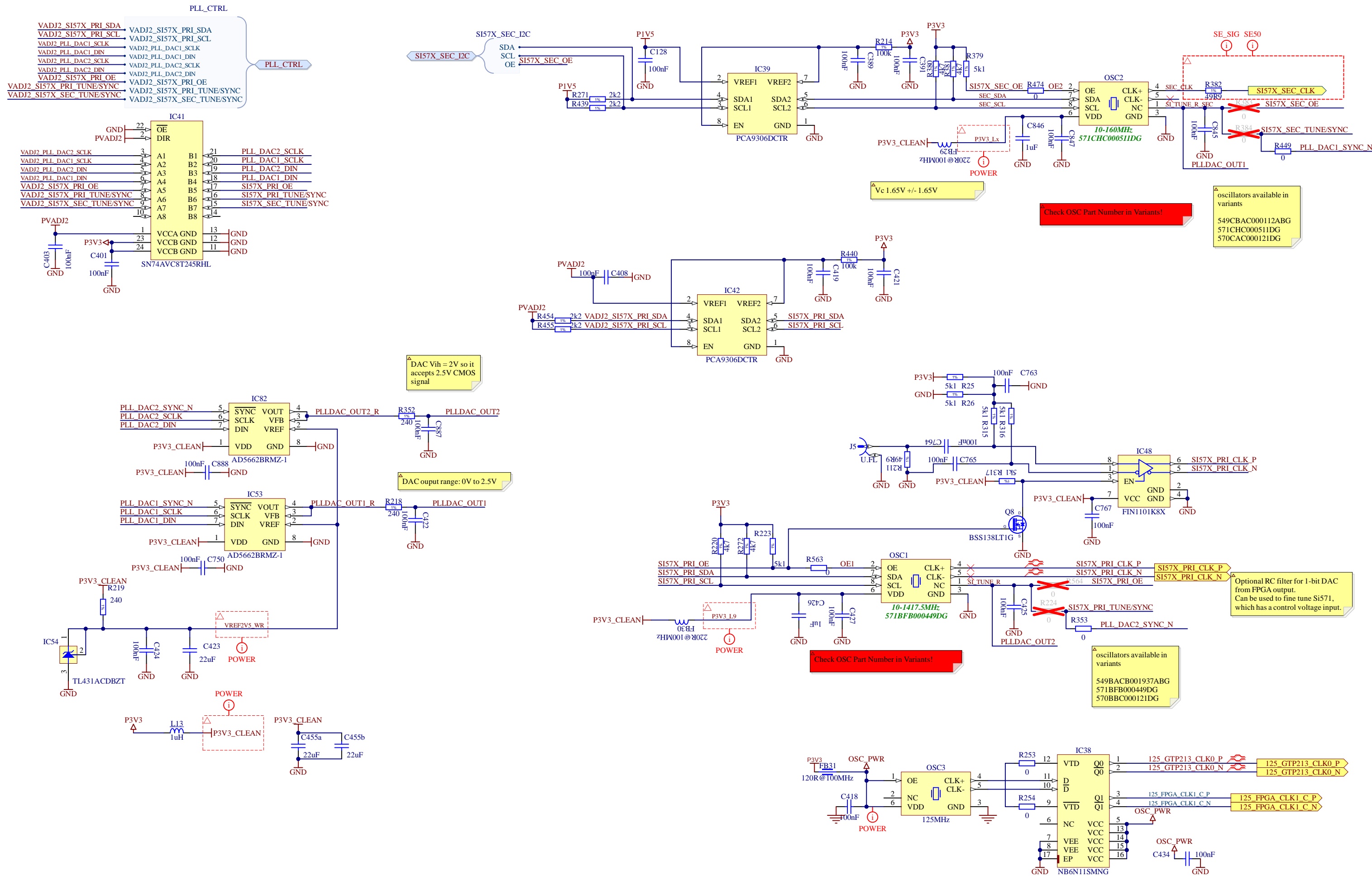


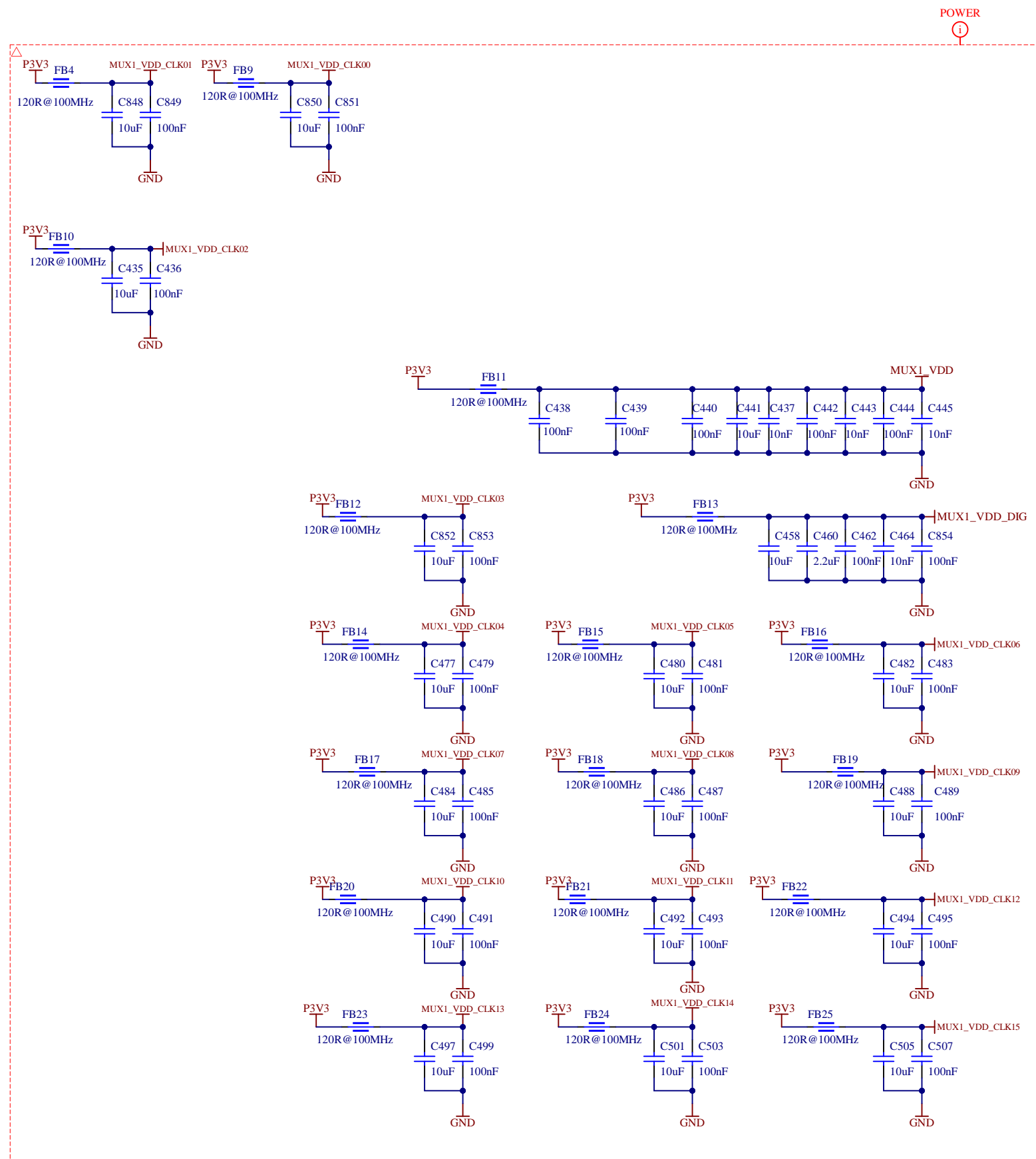
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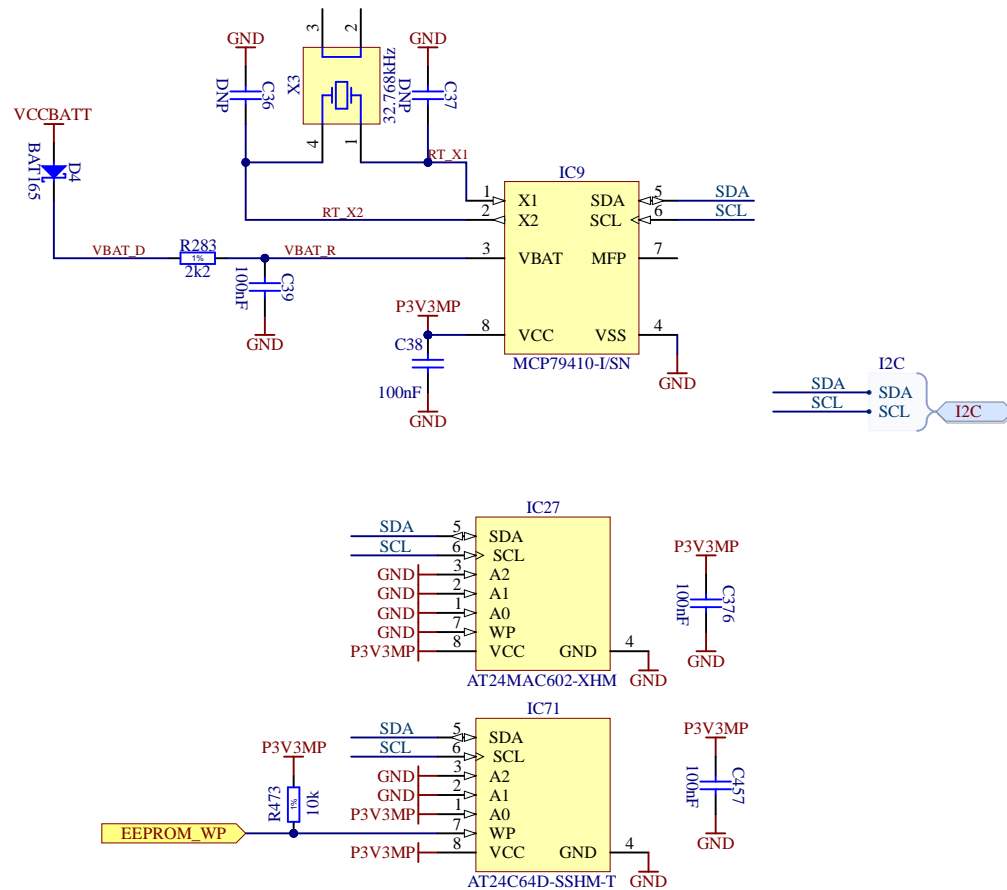
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Project/Equipment **AMC FMC Carrier v4.0.2**

Document





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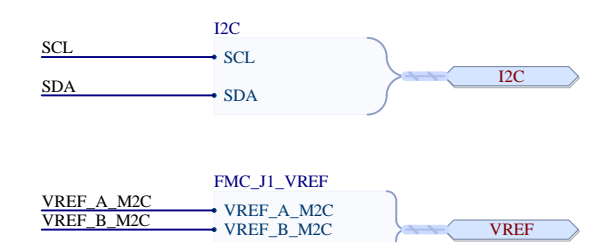
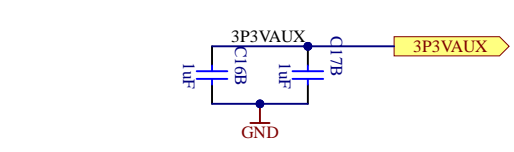
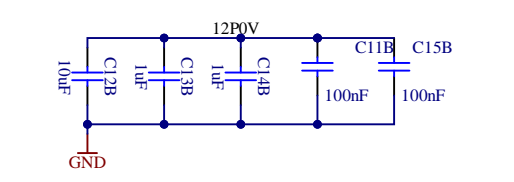
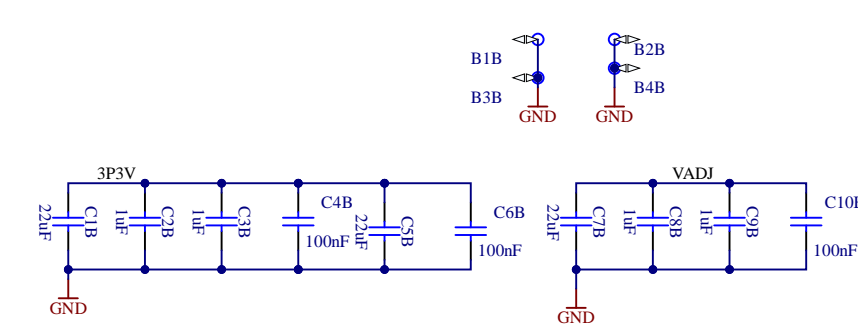
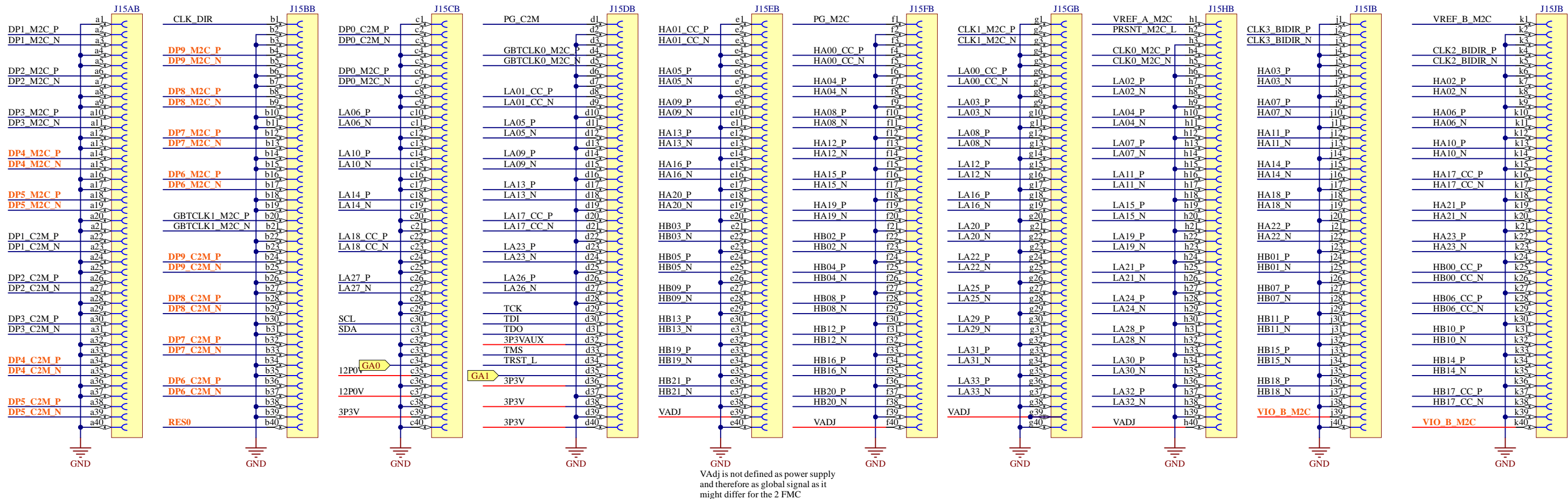
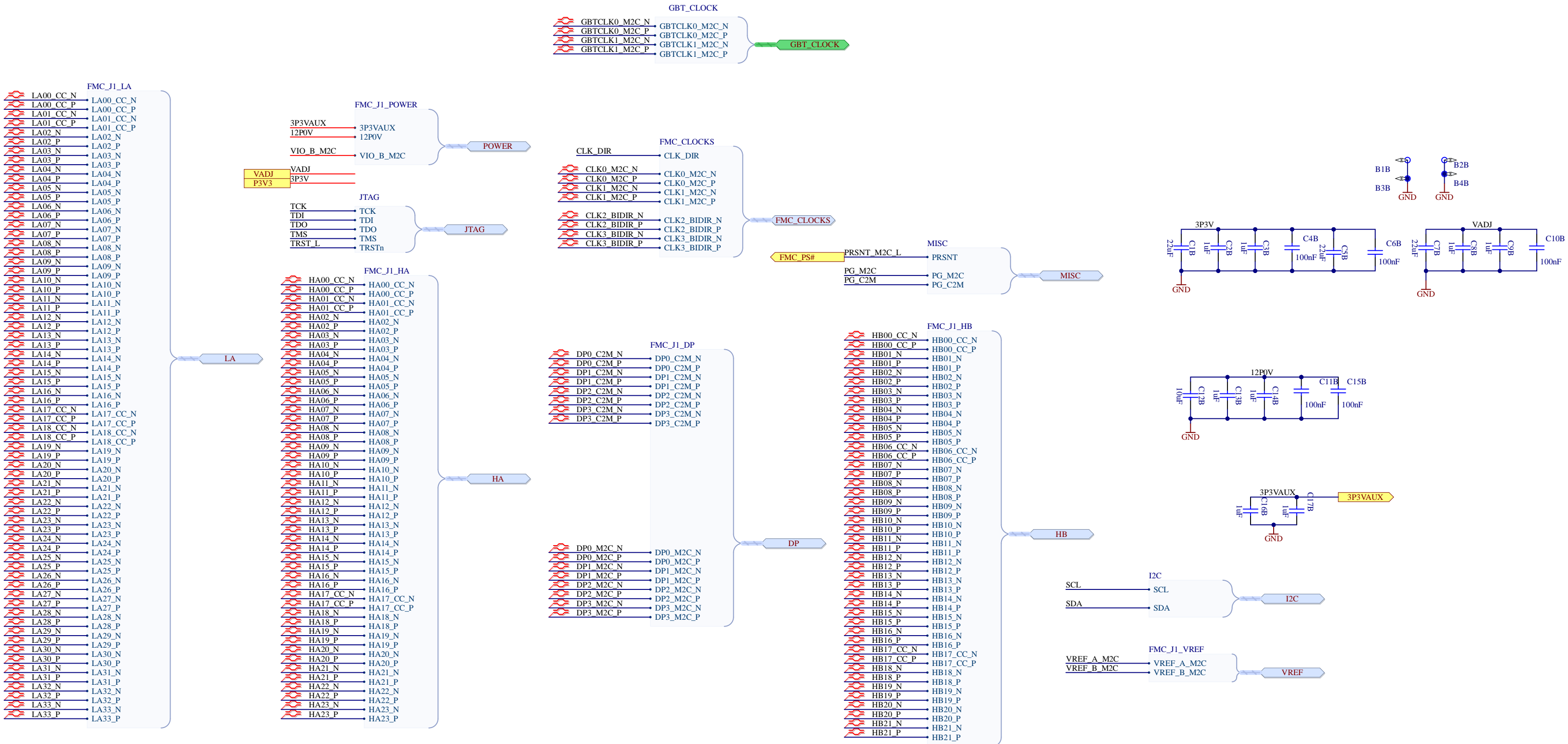
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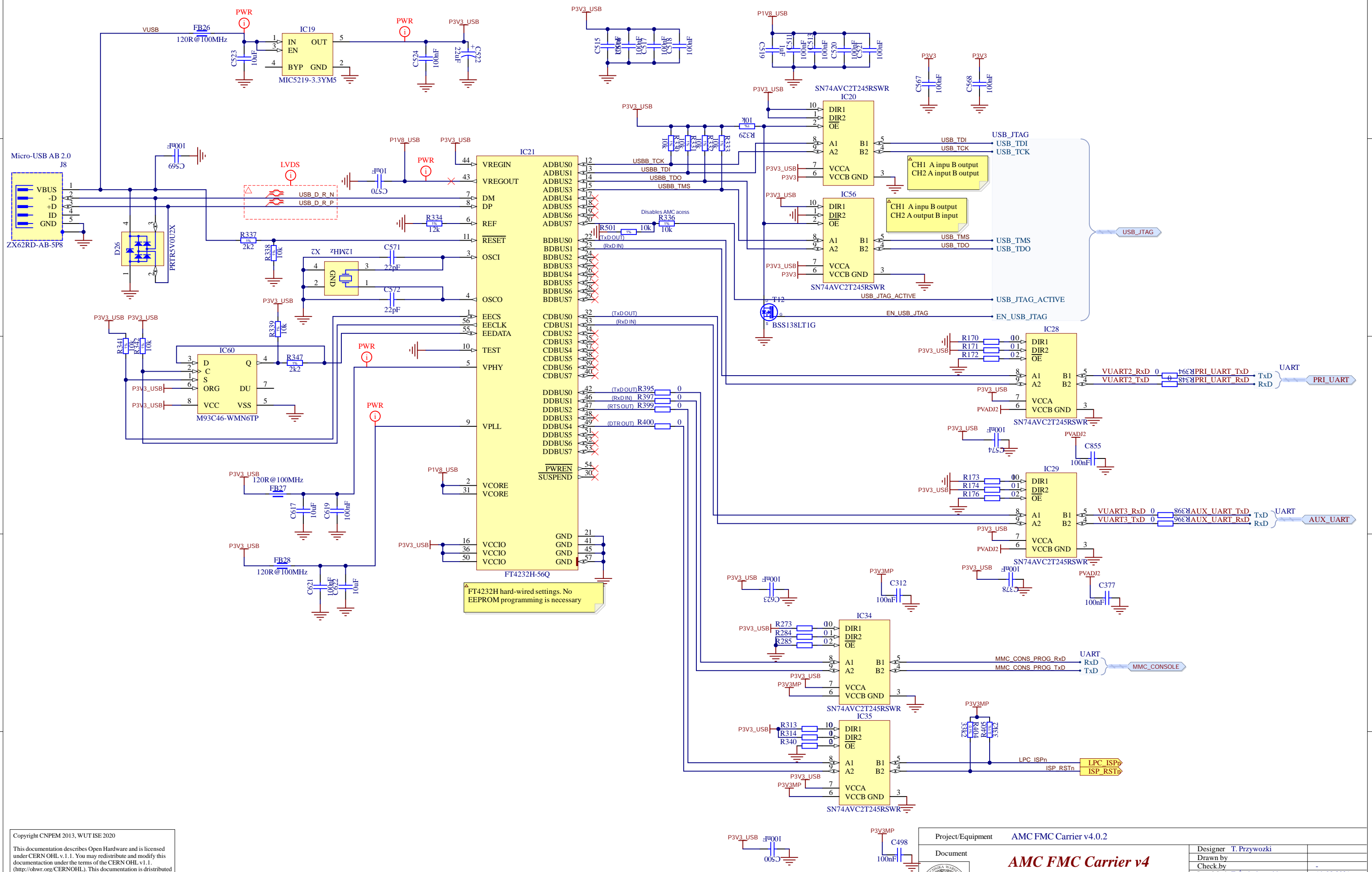
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