
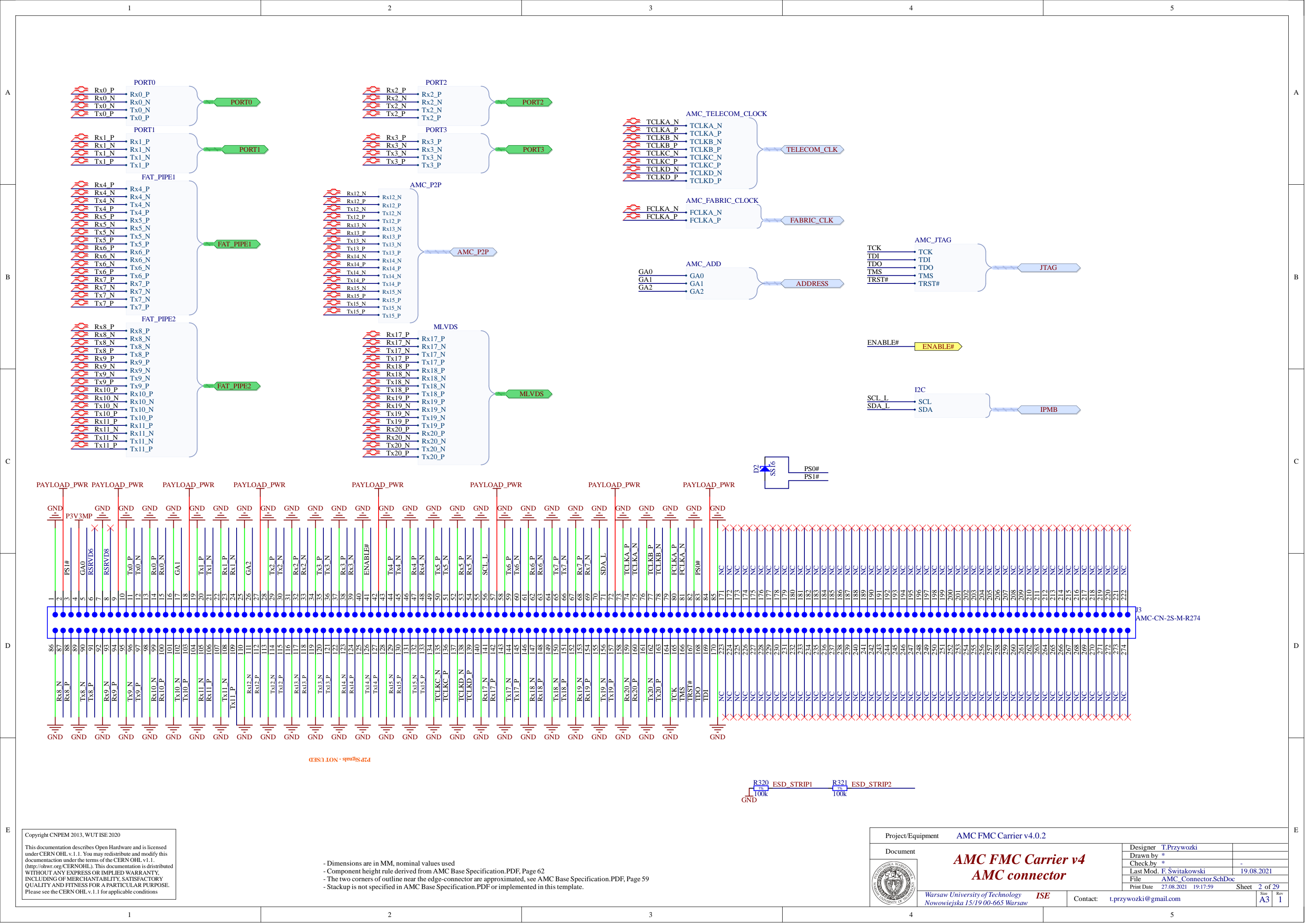
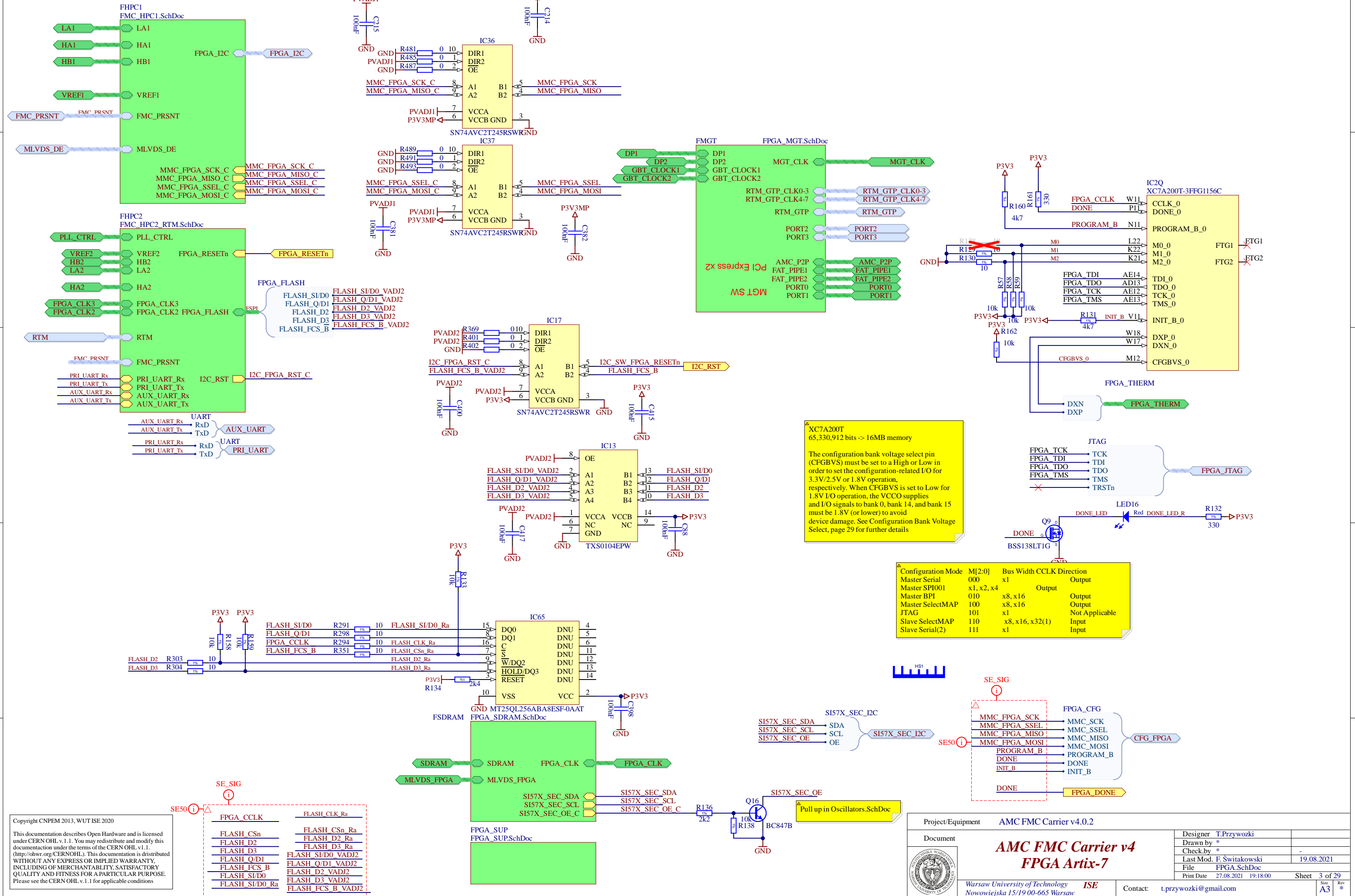


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Project/Equipment		AMC_FMC_Carrier v4.0.2						
	Document	<div>AMC FMC Carrier v4</div> <div>Top</div>						
	Designer			T.Przywozki				
	Drawn by			*				
	Check.by			*				
	Last Mod.			F. Switakowski				
	File			AMC_FMC_Carrier.SchDoc				
	Print Date			27.08.2021 19:17:59				
Warsaw University of Technology Nowowiejska 15/19 00-665 Warsaw		ISE	Contact:	t.przywozki@gmail.com	Size	A3	Rev	1





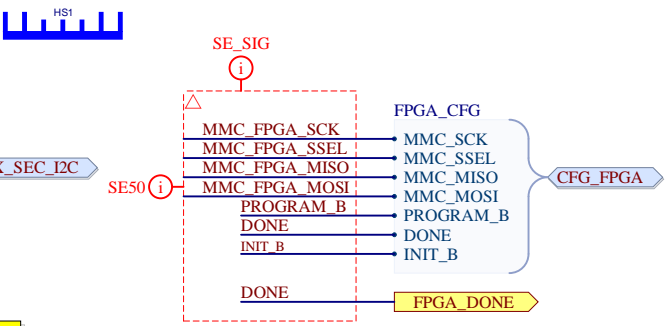
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Configuration Mode	M[2:0]	Bus Width	CCLK Direction
Master Serial	000	x1	Output
Master SPI001	x1, x2, x4		Output
Master BPI	010	x8, x16	Output
Master SelectMAP	100	x8, x16	Output
JTAG	101	x1	Not Applicable
Slave SelectMAP	110	x8, x16, x32(1)	Input
Slave Serial(2)	111	x1	Input

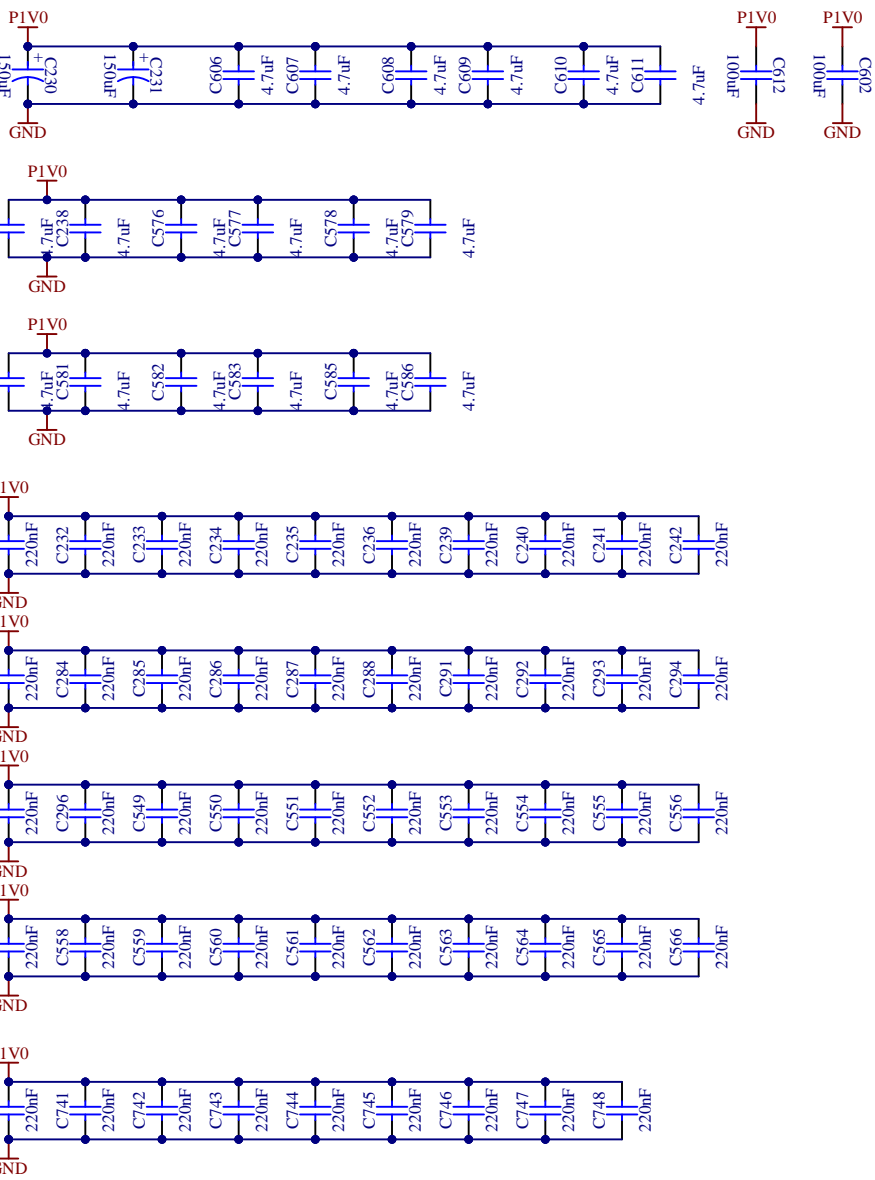
XC7A200T
65,330,912 bits > 16MB memory

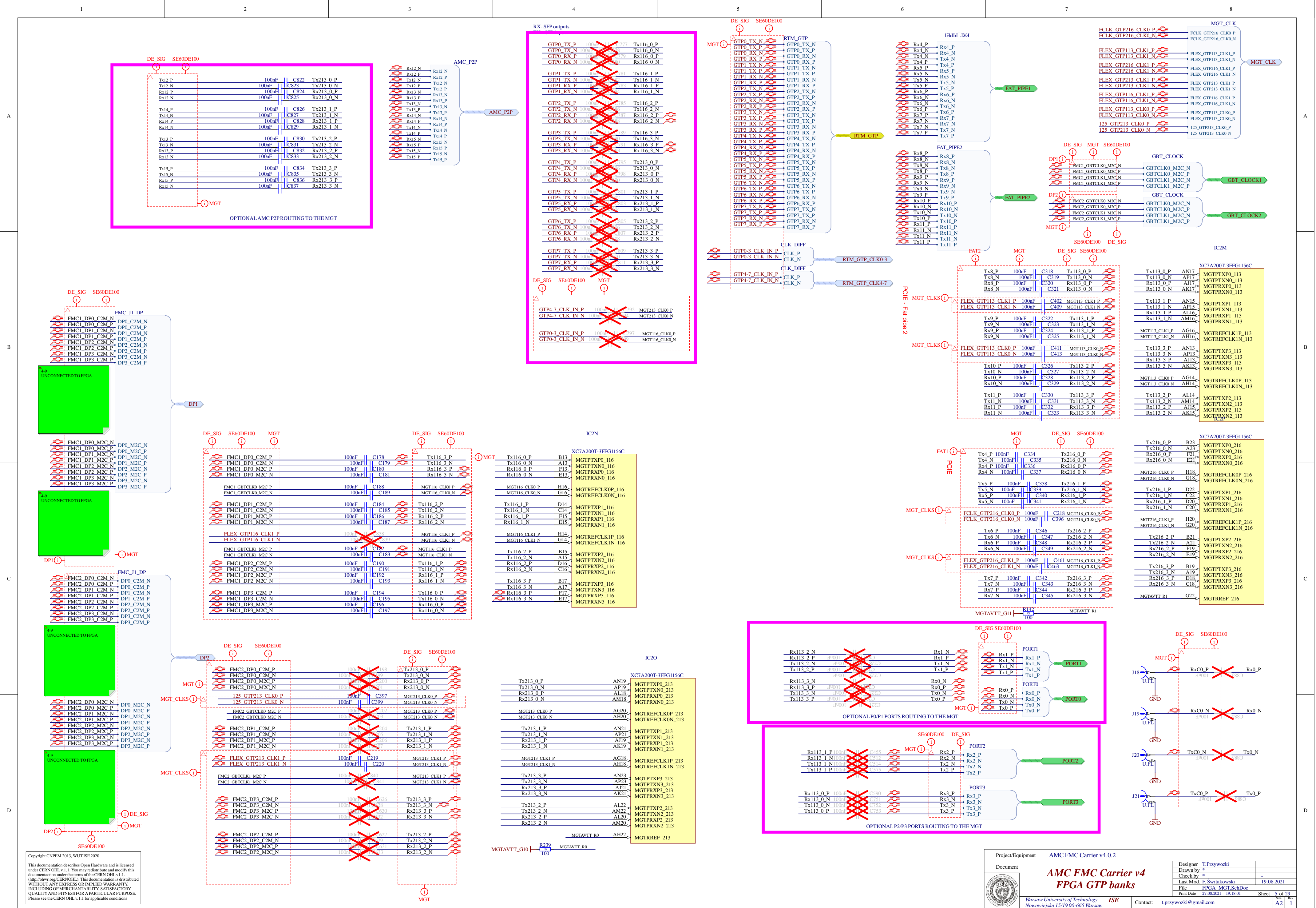
The configuration bank voltage select pin (CFGVBVS) must be set to a High or Low in order to set the configuration-related I/O for 3.3V/2.5V or 1.8V operation, respectively. When CFGVBVS is set to Low for 1.8V I/O operation, the VCCO supplies and I/O signals to bank 0, bank 14, and bank 15 must be 1.8V (or lower) to avoid device damage. See Configuration Bank Voltage Select, page 29 for further details

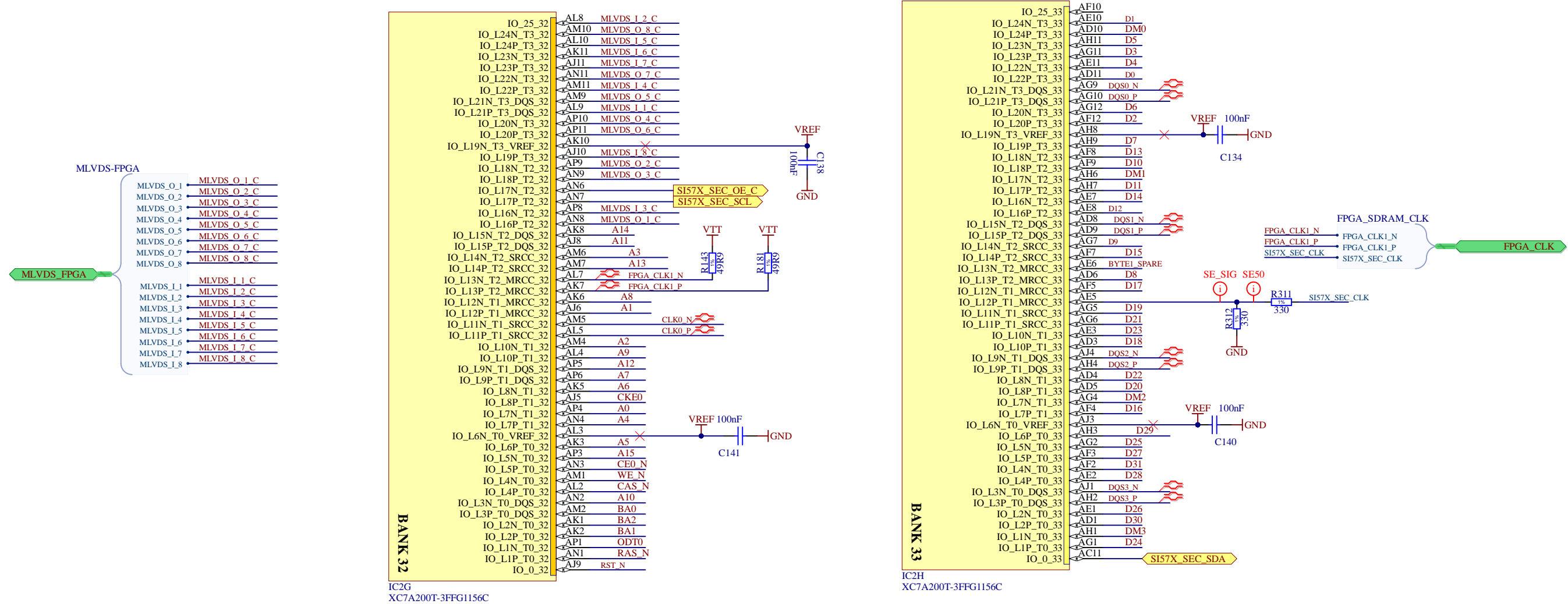


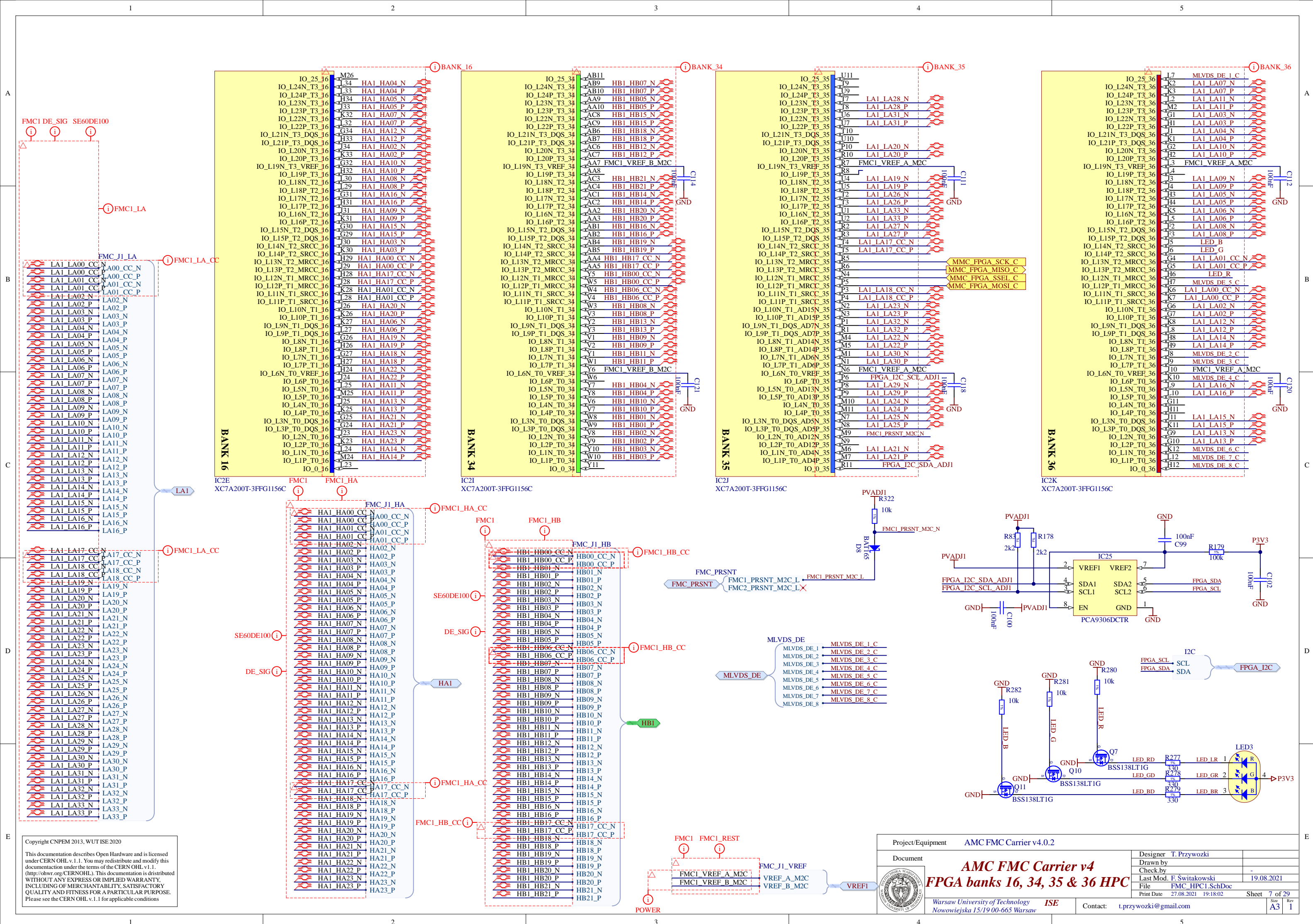
VCCINT

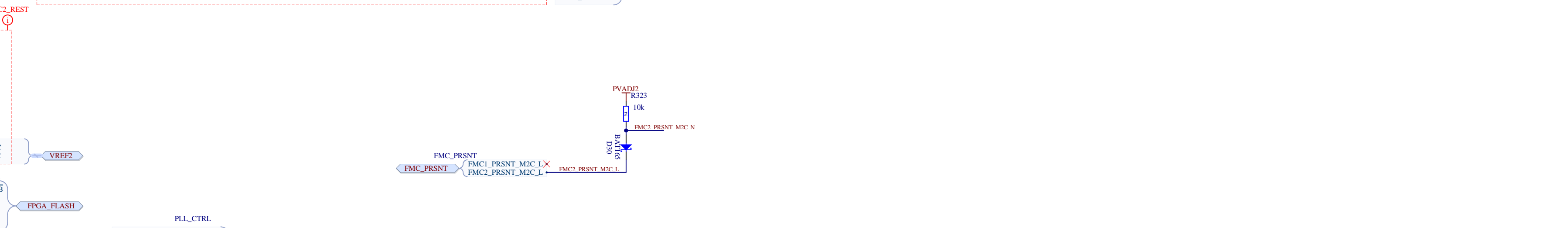
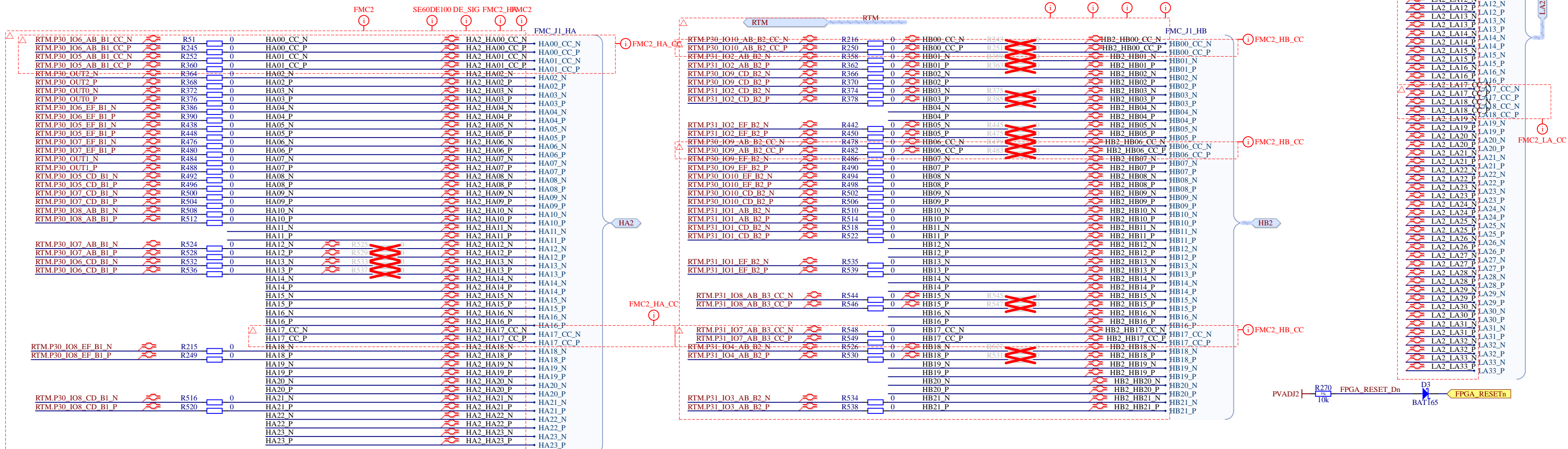
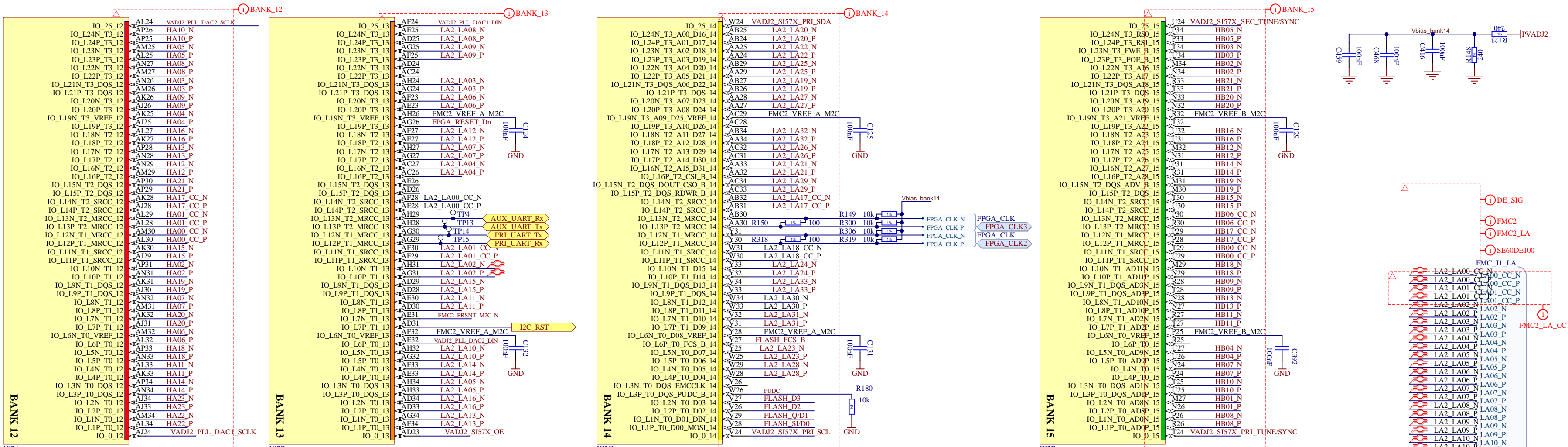
1x680uF, 2x100uF, 28x4.7uF
42x0.47uF on PG.34

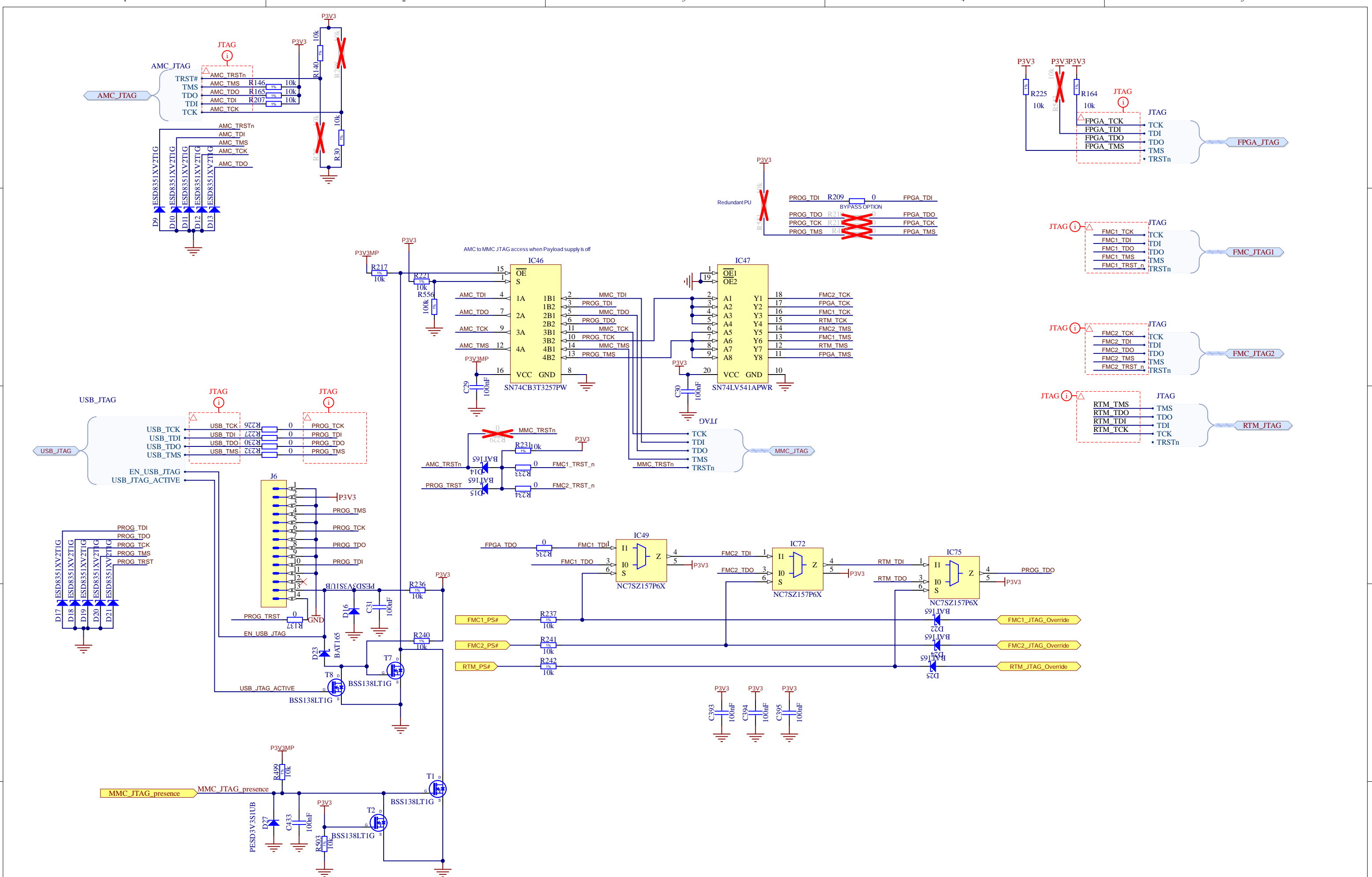


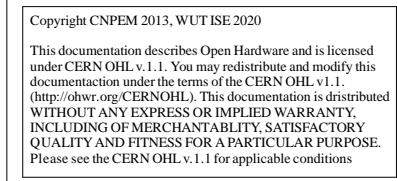


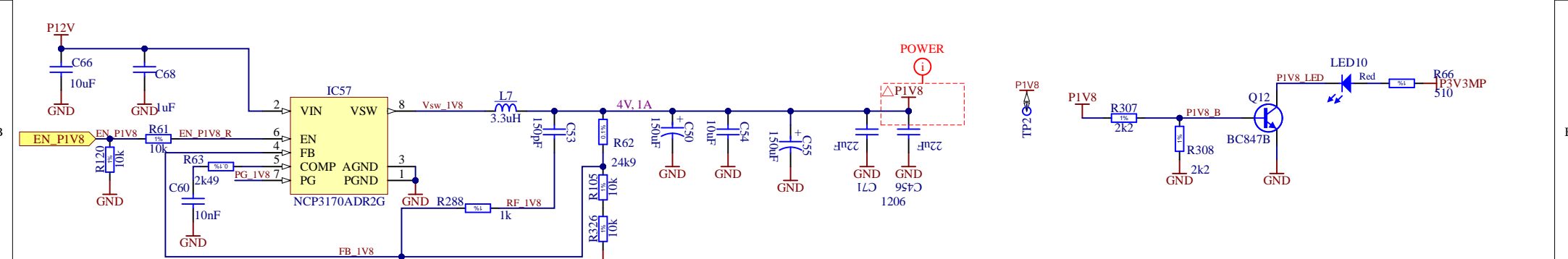
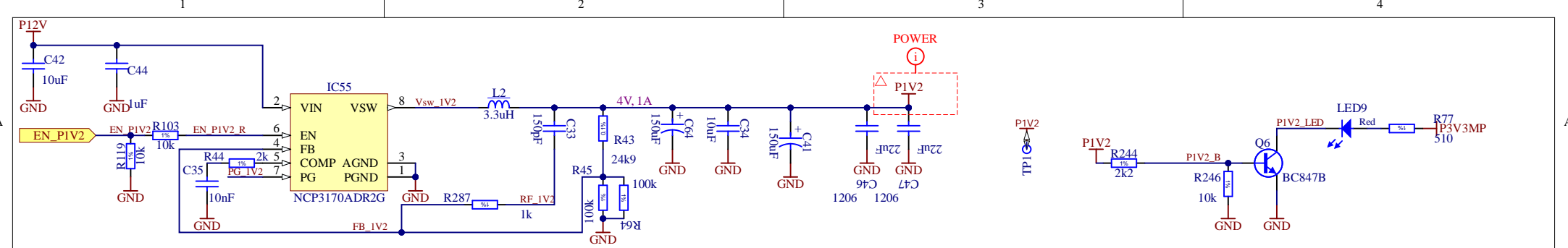












GND

PSU_PG

PSU_PG

PG_1V8 R289 1% 0

PG_1V2 R290 1% 0

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	

D

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Project/Equipment

AMC FMC Carrier v4.0.2

Document

AMC FMC Carrier v4
Power PIV2 & PIV8

Designer

T. Przywozki

Drawn by

XX/XX/XXXX

Check by

-

Last Mod.

F. Świtkowski

19.08.2021

File

SUP_1.2_1.8.SchDoc

Print Date

27.08.2021 19:18:04

Sheet

11 of 29

Contact:

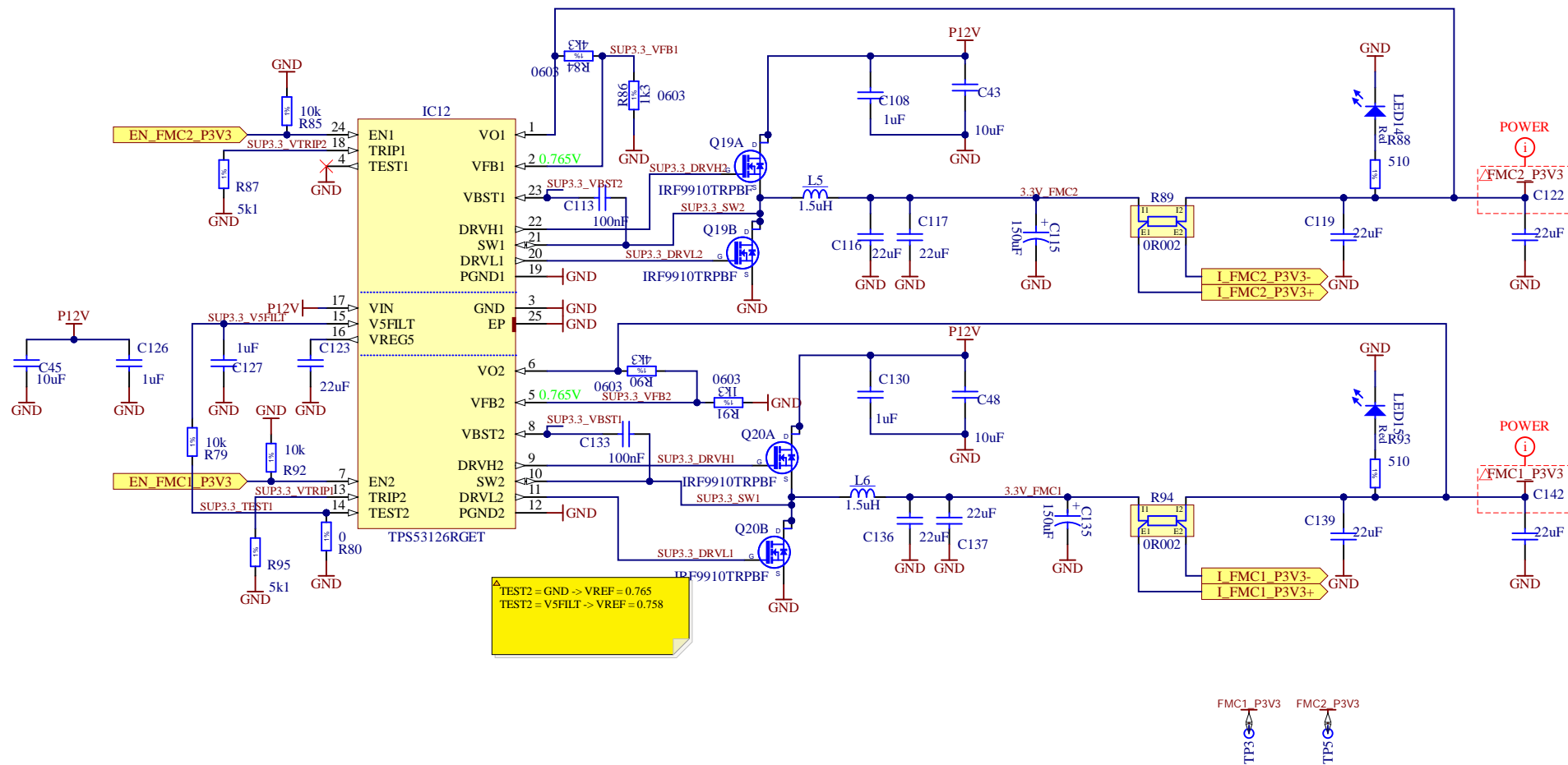
t.przywozki@gmail.com

Size

A4

Rev

1



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Project/Equipment AMC FMC Carrier v4.0.2

Document



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Nowowiejska 15/19 00-665 Warsaw

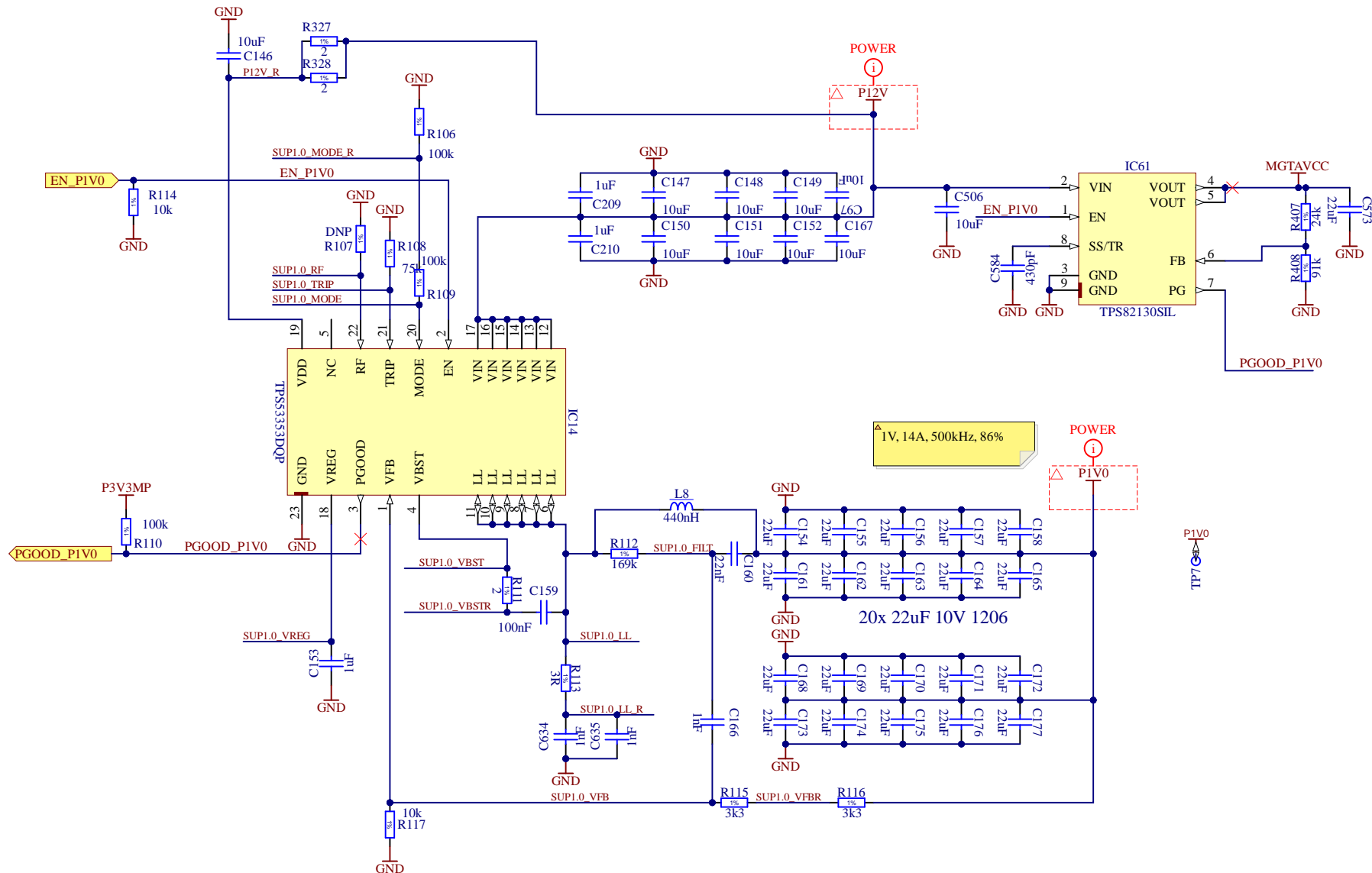
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AMC FMC Carrier v4 Power FMCs P3V3

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Drawn by		
Check by		
Last Mod.	F. Świątkowski	19.08.2021
File	SUP_3.3_FMC.SchDoc	
Print Date	27.08.2021 19:18:04	Sheet 12 of 29

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Size	A4
Rev	1



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

Document



AMC FMC Carrier v4
Power P1V0

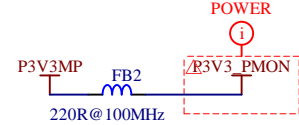
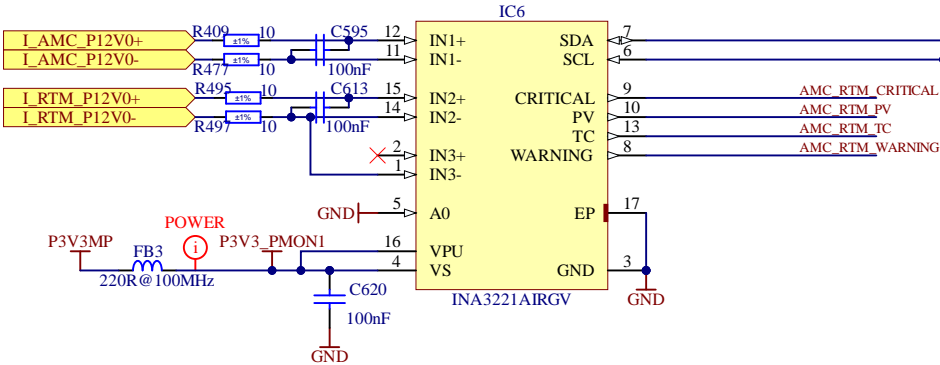
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Drawn by		XX/XX/XXXX
Check by		-
Last Mod.	F. Świtakowski	19.08.2021
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Print Date	27.08.2021 19:18:04	Sheet 14 of 29

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Nowowiejska 15/19 00-665 Warsaw

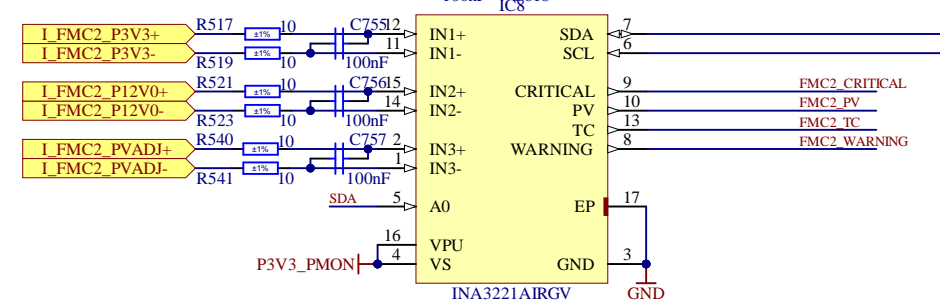
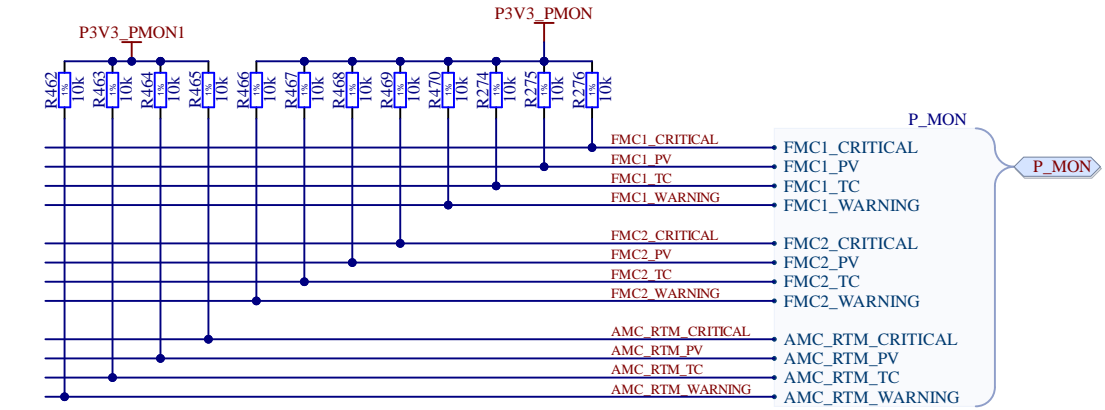
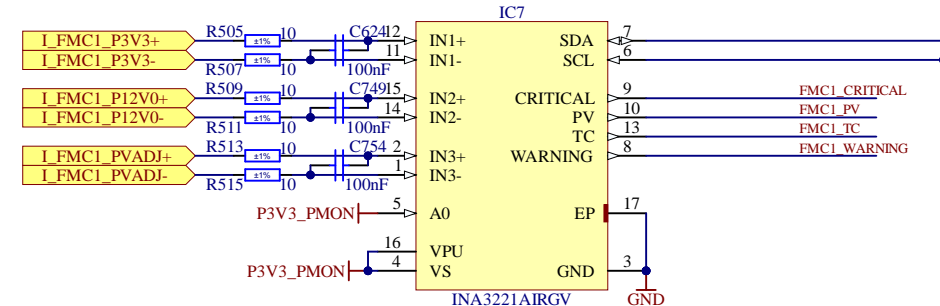
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Contact: t.przywozki@gmail.com

Size	Rev
A4	1



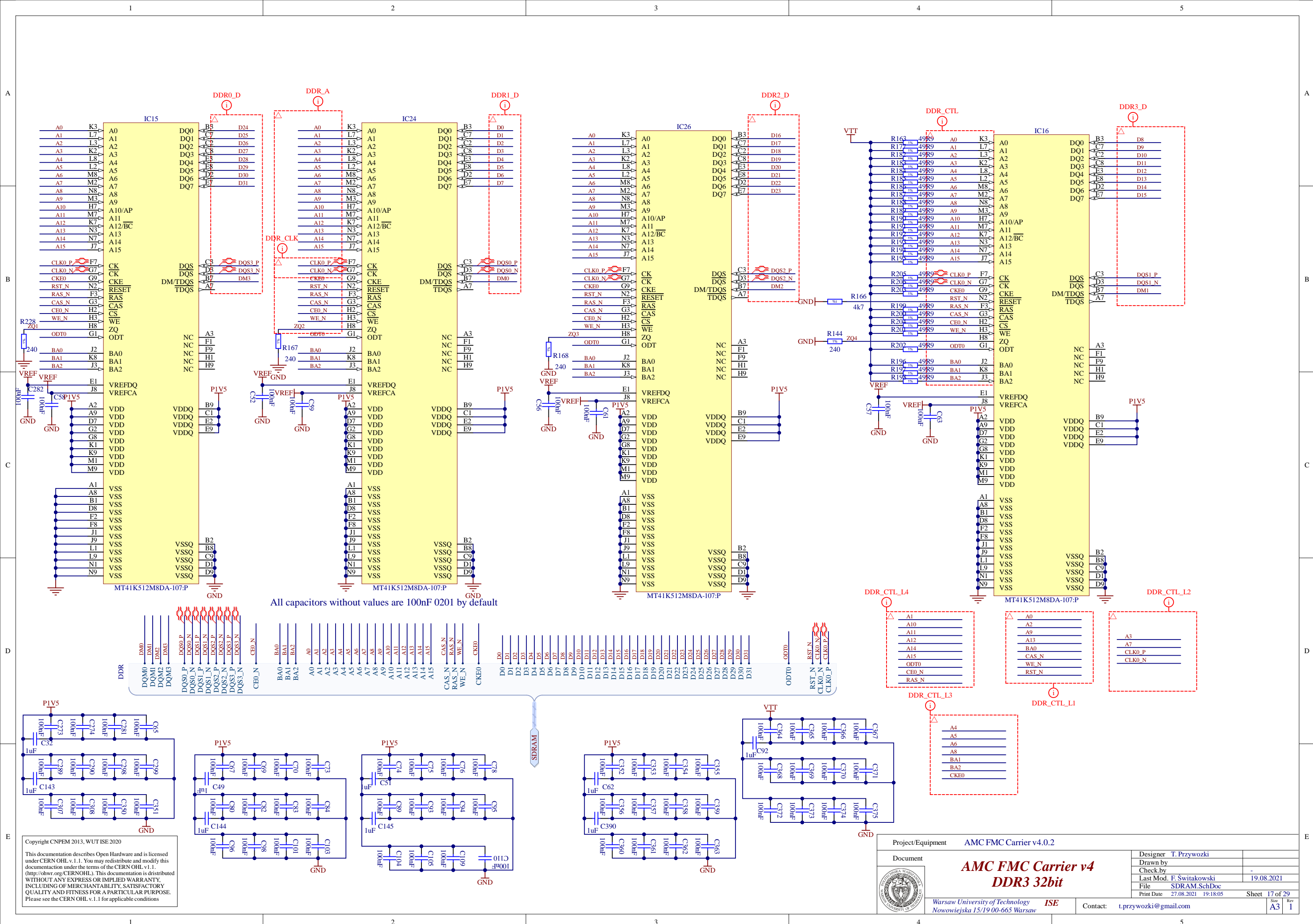
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GND	1000000
VS	1000001
SDA	1000010
SCL	1000011

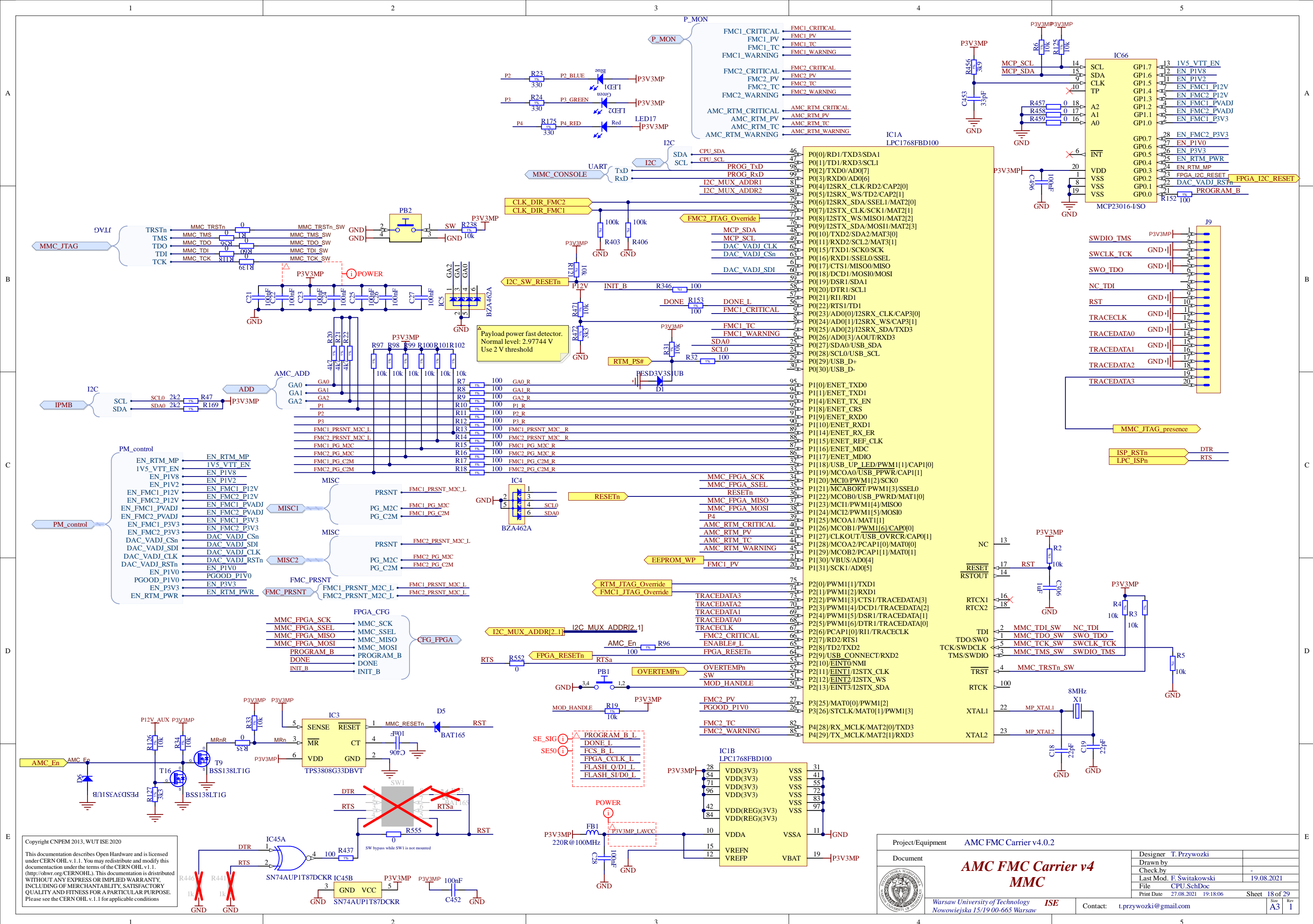


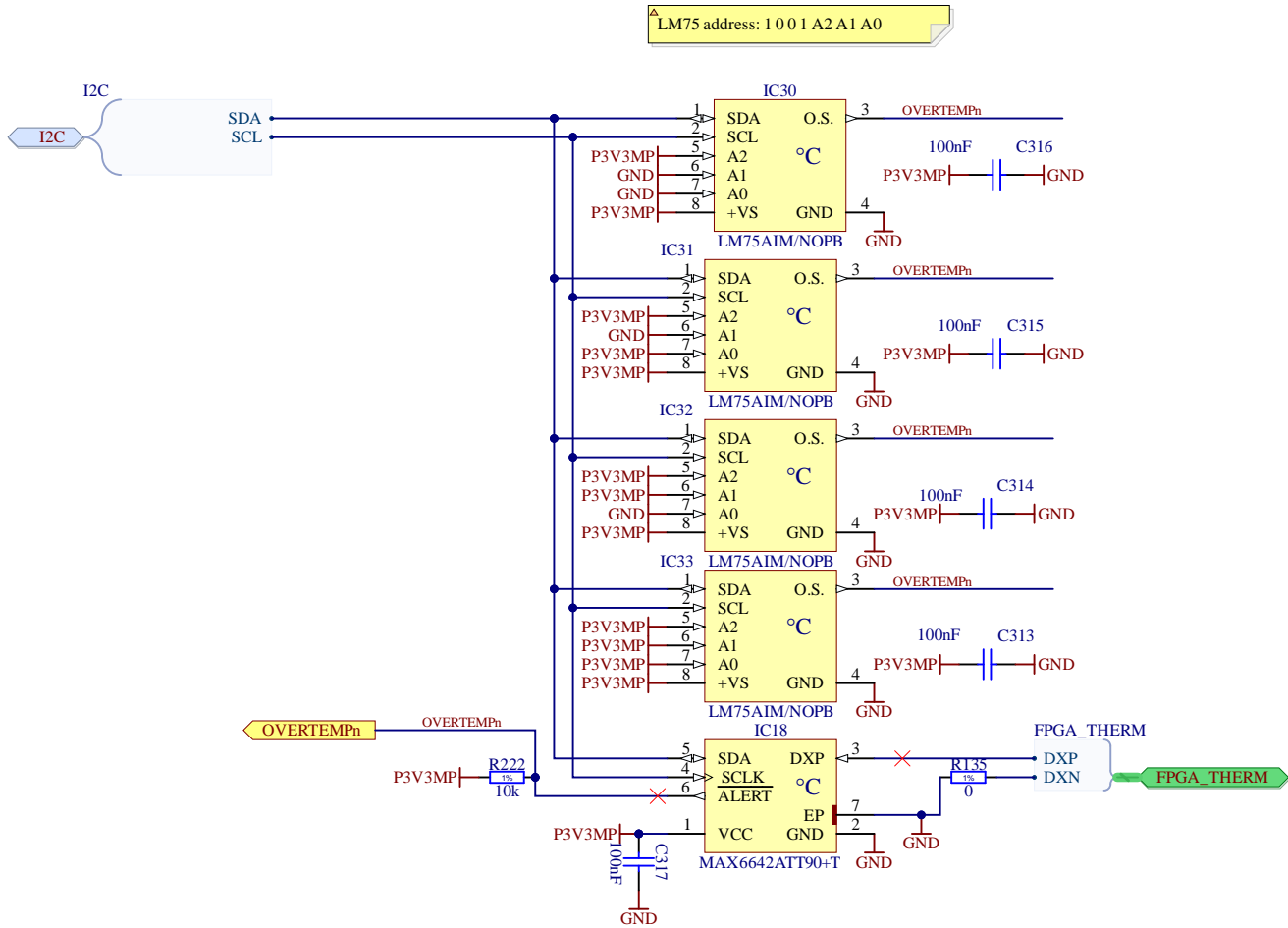
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Project/Equipment		AMC FMC Carrier v4.0.2	
Document		Designer T. Przywozki	
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		Last Mod. F. Świtkowski	19.08.2021
		File UI_mon.SchDoc	
		Print Date 27.08.2021 19:18:05	Sheet 16 of 29
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		Rev	1




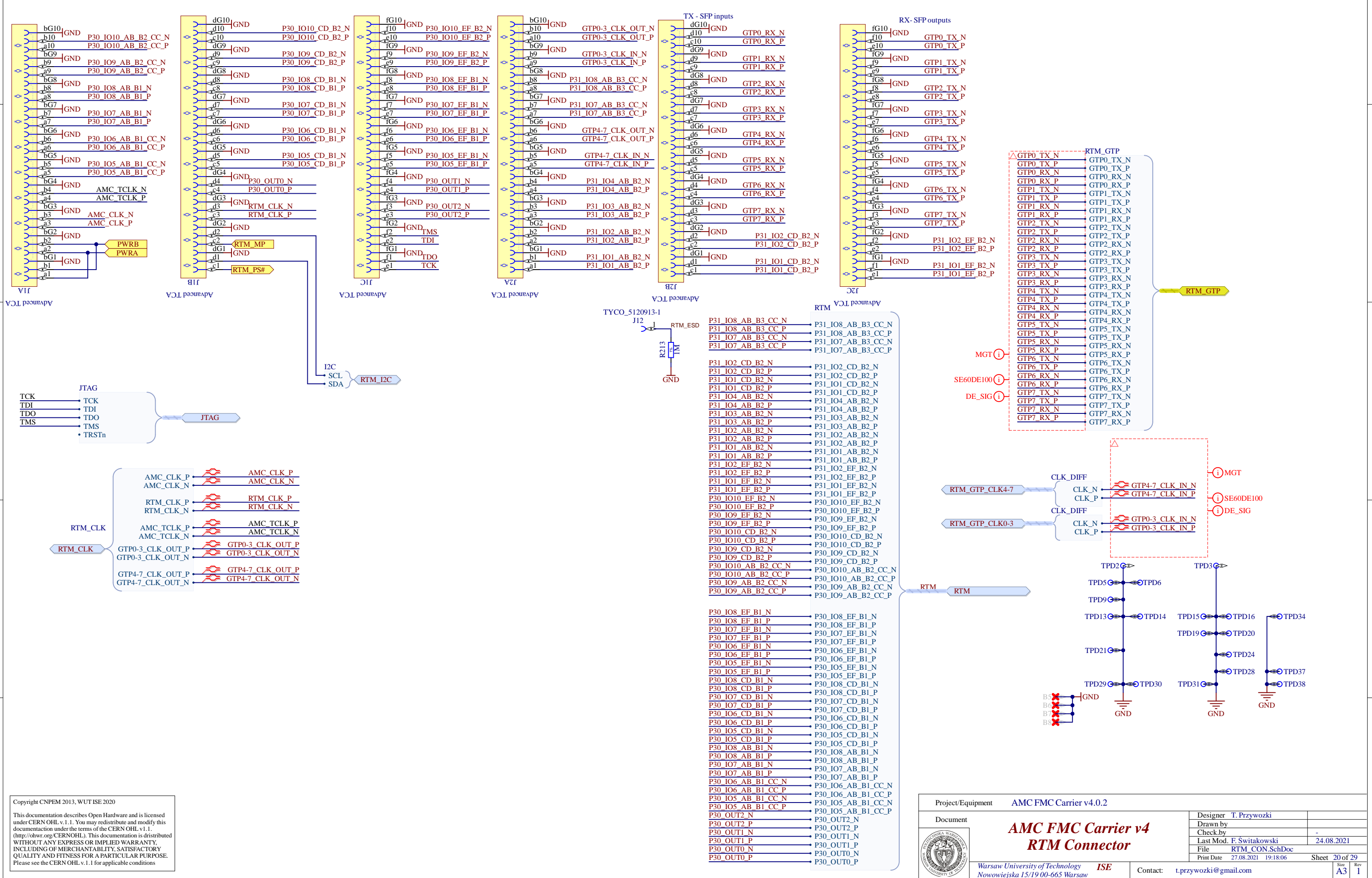




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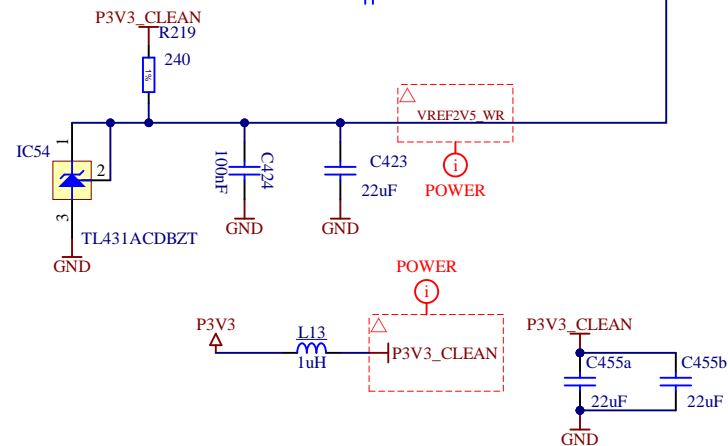
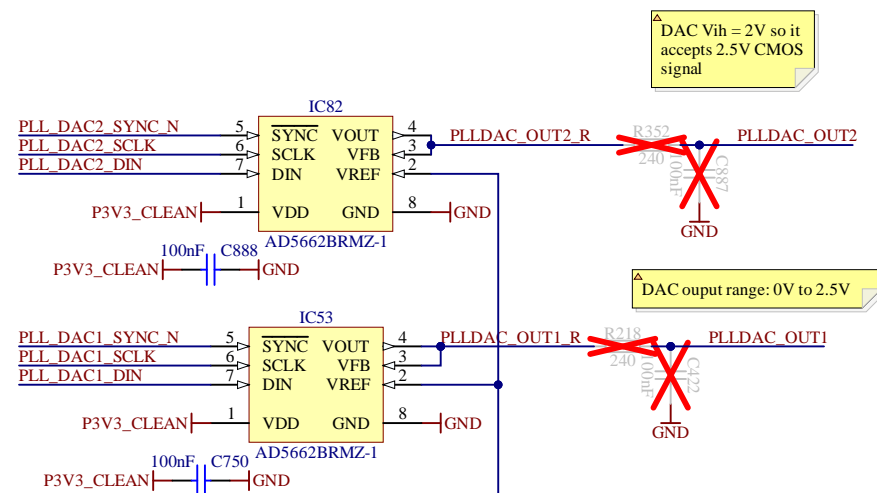
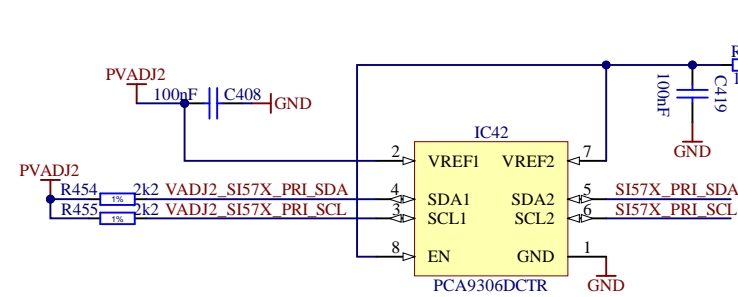
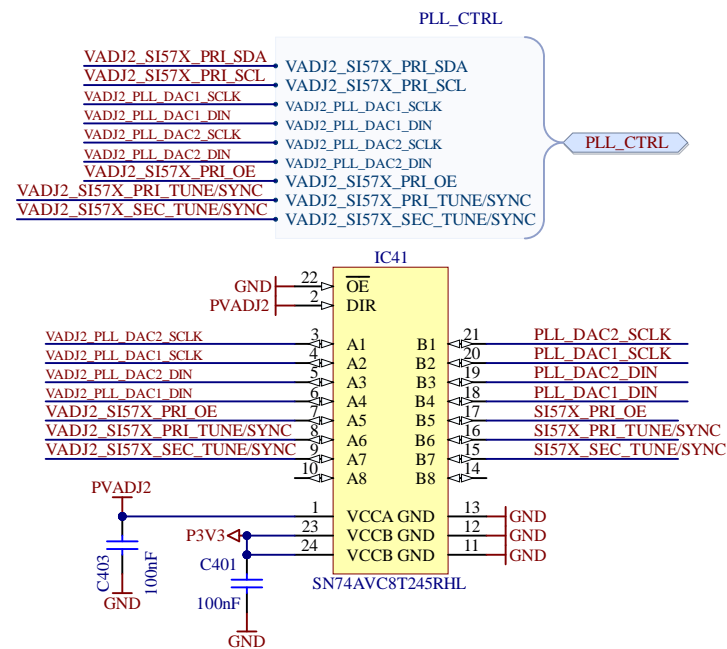
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		Last Mod. F. Świtkowski	19.08.2021
		File Thermometers.SchDoc	
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Warsaw University of Technology Nowowiejska 15/19 00-665 Warsaw		Contact: t.przywozki@gmail.com	Size A4 Rev 1

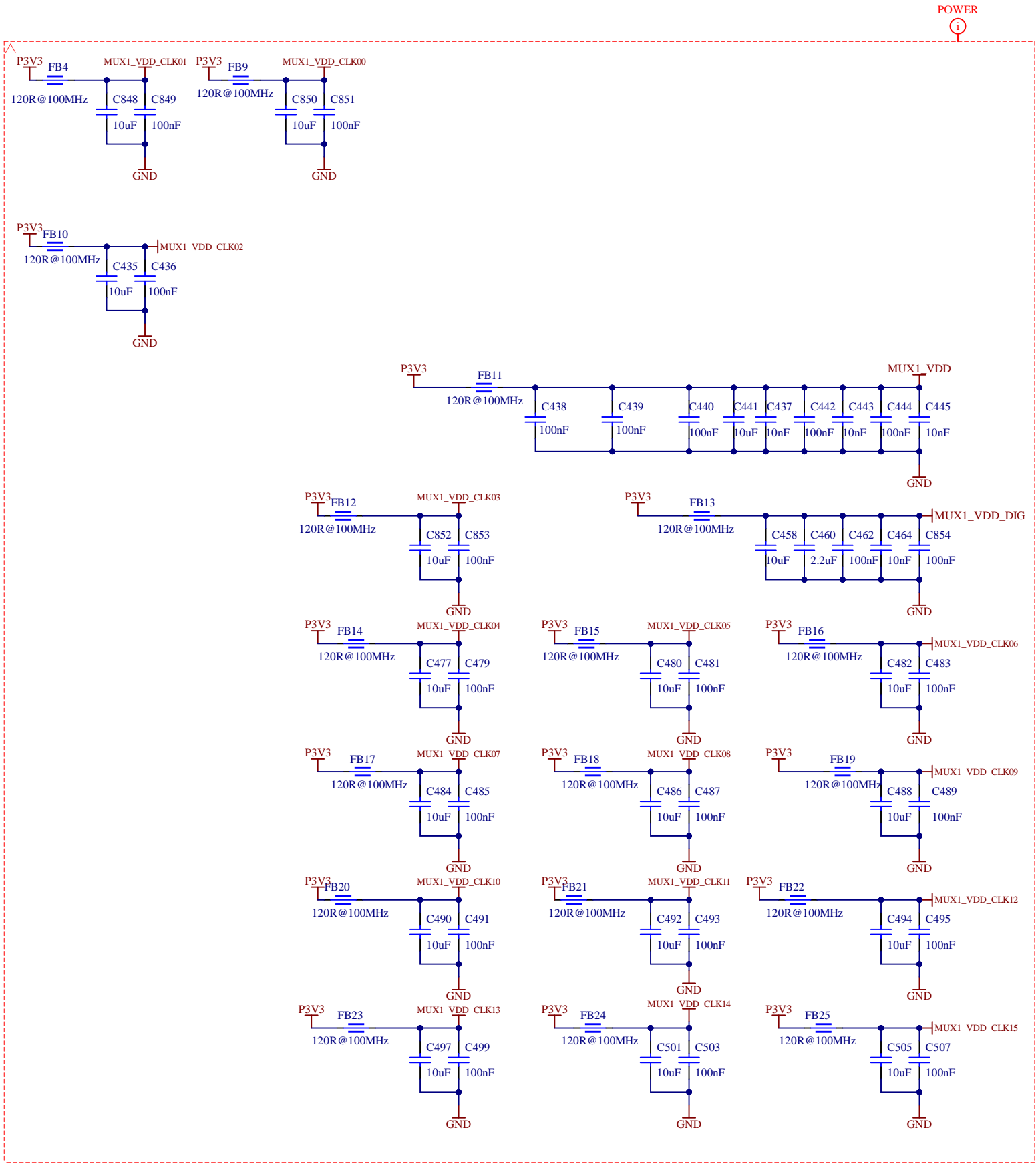


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Project/Equipment		AMC FMC Carrier v4.0.2	
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		Last Mod. F.Świtakowski	24.08.2021
		File RTM_CON.SchDoc	
Warsaw University of Technology ISE		Contact: t.przywozki@gmail.com	
Nowowiejska 15/19 00-665 Warsaw		Print Date 27.08.2021 19:18:06	Sheet 20 of 29
		Size A3	Rev 1

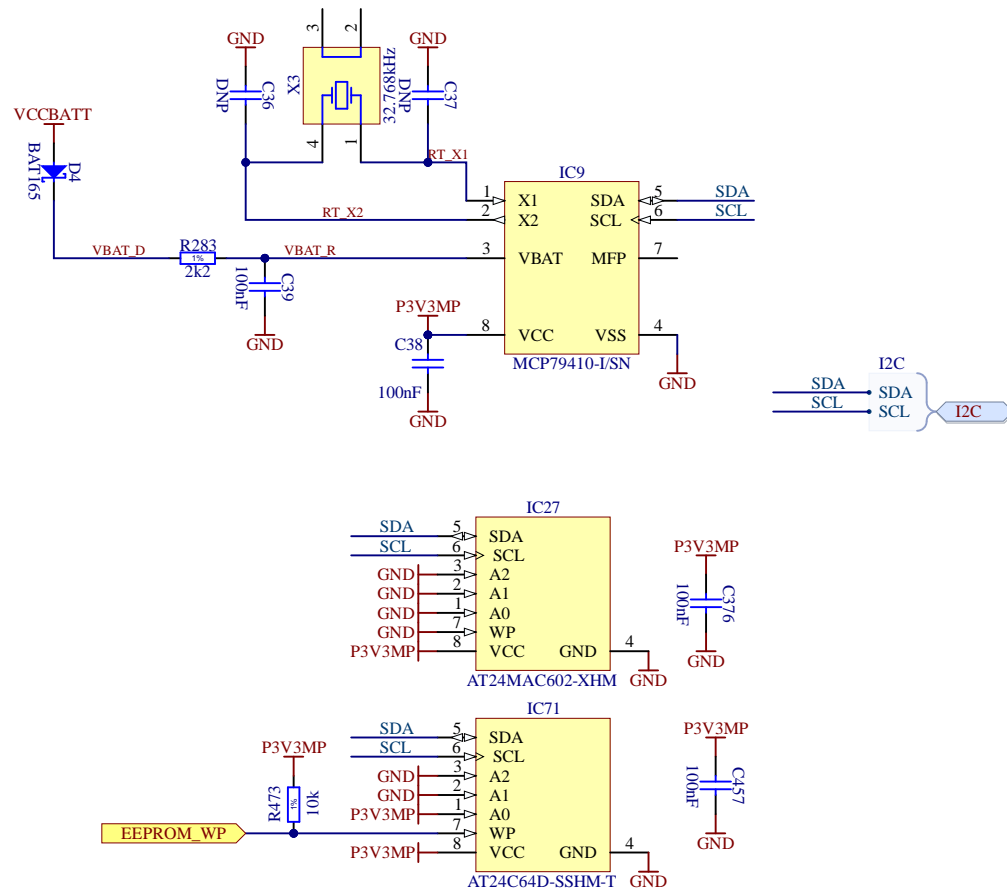




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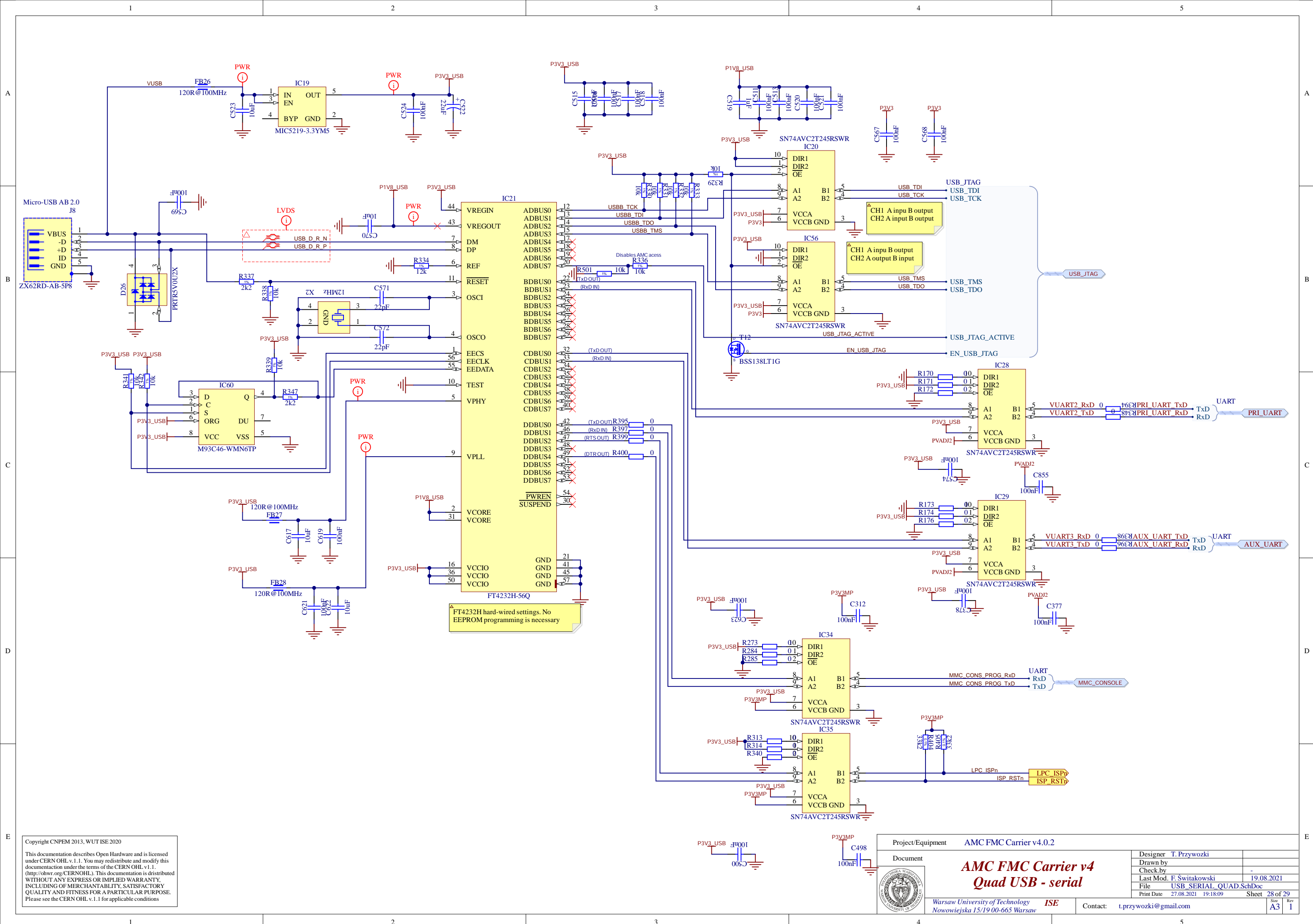
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				Rev	1

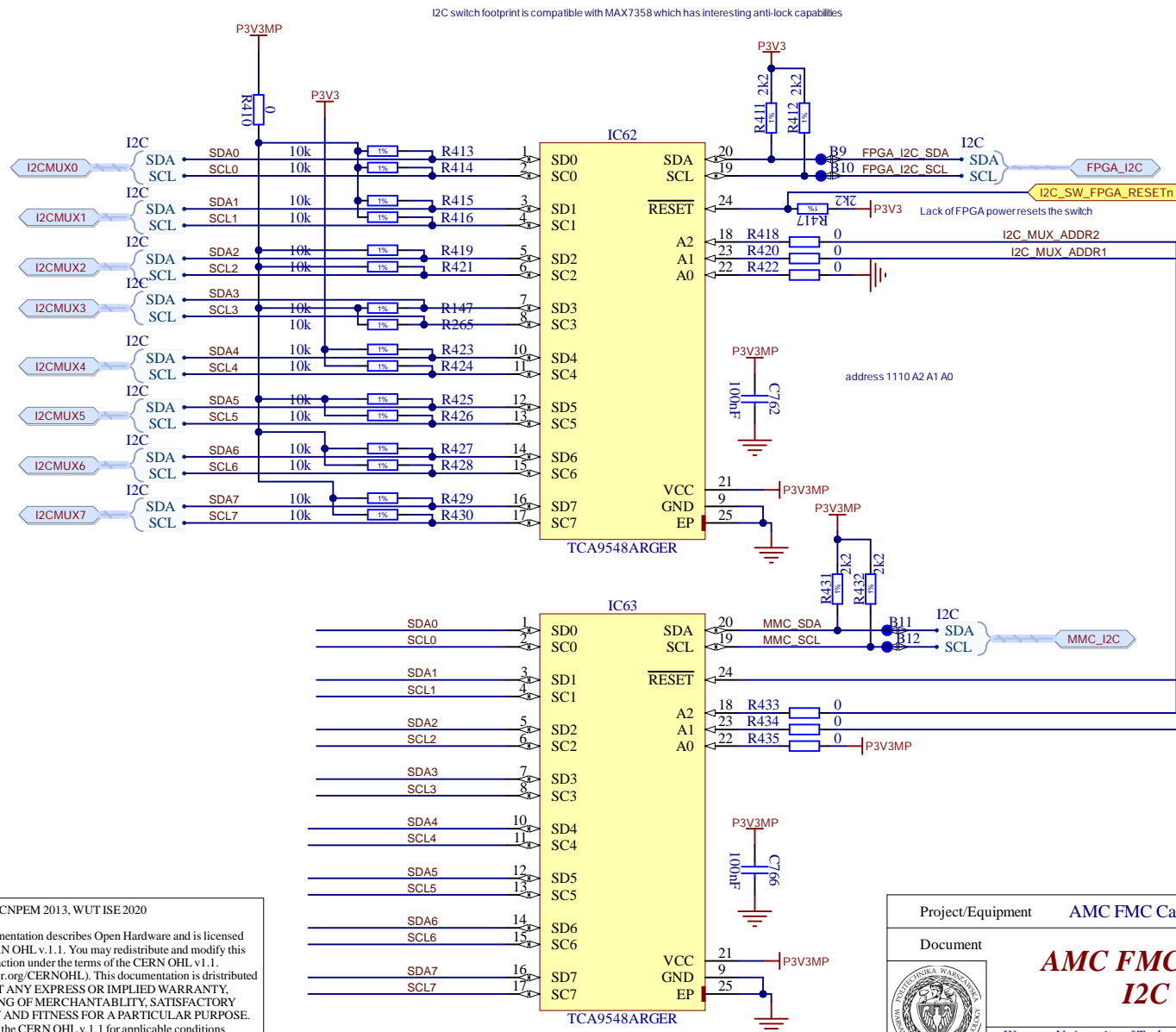


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Project/Equipment		AMC FMC Carrier v4.0.2						
	Document	<div>AMC FMC Carrier v4</div> <div>RTCE & EEPROM</div>						
	Designer			T. Przywozki				
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	Check by			-				
	Last Mod.			F. Switakowski	19.08.2021			
	File			RTCE.SchDoc				
	Print Date			27.08.2021 19:18:08				
	Sheet			26 of 29				
Warsaw University of Technology Nowowiejska 15/19 00-665 Warsaw		ISE	Contact:	t.przywozki@gmail.com	Size	A4	Rev	1





I2C device address map

The resources are available from TCA9548s SW: MMC I2C1, addr 1110 A2 A1 0 FPGA I2C and MMC I2C2, addr 1110 A2 A1 1 where A2=P2[28], A1=P2[29] default addr is 0x70 and 0x71

MUX Port 0	MAX6642 0x48
Temp sensors	LM75: 0x4C LM75: 0x4D LM75: 0x4E LM75: 0x4F
MUX Port 1	RTC EEPROM: 0x57
RTCE	SRAM/RTCC reg: 0x6F EEPROM 2k: 0x50 EUI-ID: 0x59 EEPROM 64k: 0x51
MUX Port 2	
MUX Port 3	INA3221AIRGV: 0x40
Power	INA3221AIRGV: 0x41 INA3221AIRGV: 0x42
MUX Port 4	8V54816ANLG: 0x5B
Clock switch	
MUX Port 5	RTM devices
MUX Port 6	EEPROM 0x52
FMC2	
MUX Port 7	EEPROM 0x50
FMC1	

mux address 1110 A2 A1 0 from FPGA side 0x7x
mux address 1110 A2 A1 1 from CPU side 0x7x

I2C_MUX_ADDR[2..1] I2C_MUX_ADDR[2..1]

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Project/Equipment AMC FMC Carrier v4

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Nowowiejska 15/19 00-665 Warsaw

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AMC FMC Carrier v4.0.2

I2C switches

Designer	T. Przywozki	
Drawn by		
Check by		
Last Mod.	F. Świtkowski	24.08.2021
File	I2C_MUX.SchDoc	
Print Date	27.08.2021 19:18:09	Sheet 29 of 29

Contact: t.przywozki@gmail.com

Size A4 Rev 1