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#### GENERAL DESIGN NOTES

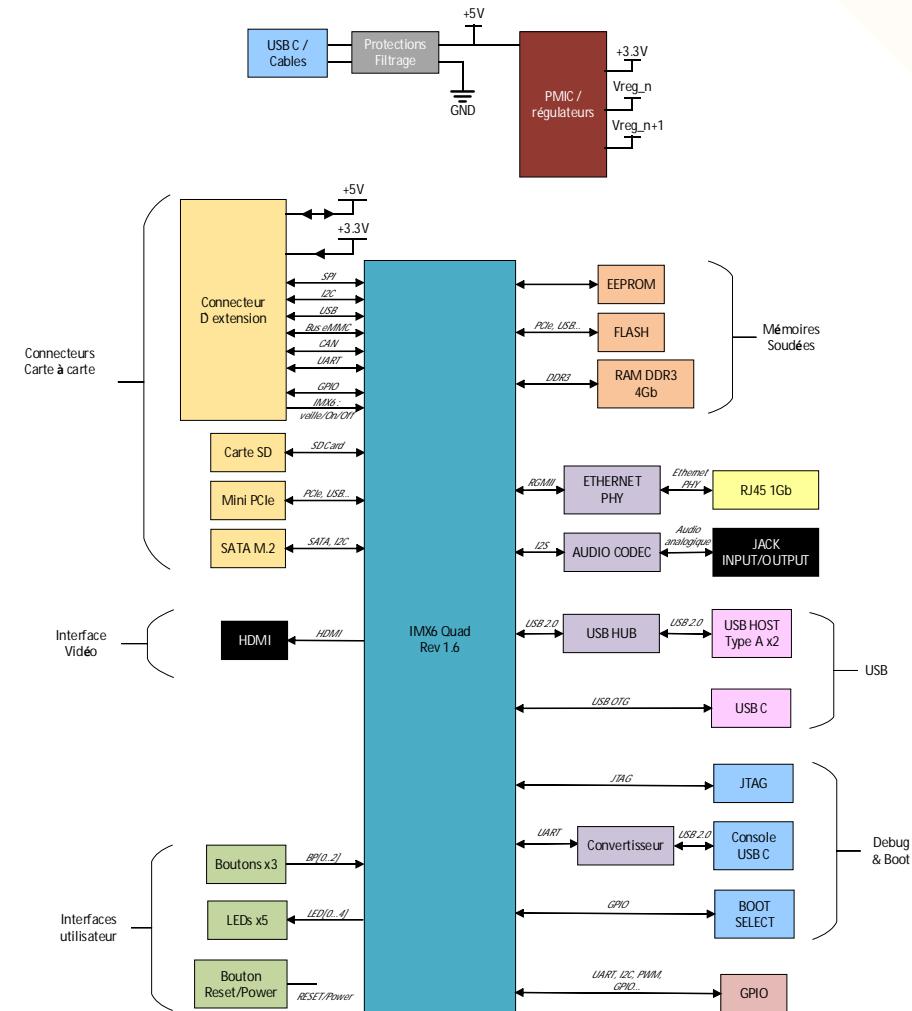
- Unless otherwise specified :  
All resistors are in ohms, 5%, 1/16W  
All capacitors are in  $\mu$ F, 20%, 50V  
All voltages are in DC
- Critical components that require tolerances tighter than listed in Note 1 are labeled with required tolerance on schematic.  
Non-critical component may be filled with tighter tolerance parts for BOM consolidation purposes, but may be changed to meet the general tolerances of Note 1 if desired.
- Interrupted lines coded with the same letter or letter combination are electrically connected.
- Special signal usage :  
# denotes an active low signal

#### Design Notes Legend :

Design note : Non-critical, informational design notes	Design note : Layout design notes (impedance, placement, ...)
Design note : Cautionary design notes	Design note : Debug design notes, provided by the manufacturer for exemple
Design note : Critical design notes	

# Bourgeon

# IMX6 DEV BOARD



REFERENCE DOCUMENTS			
DOCUMENT	DESCRIPTION	REFERENCE	DATE, REV

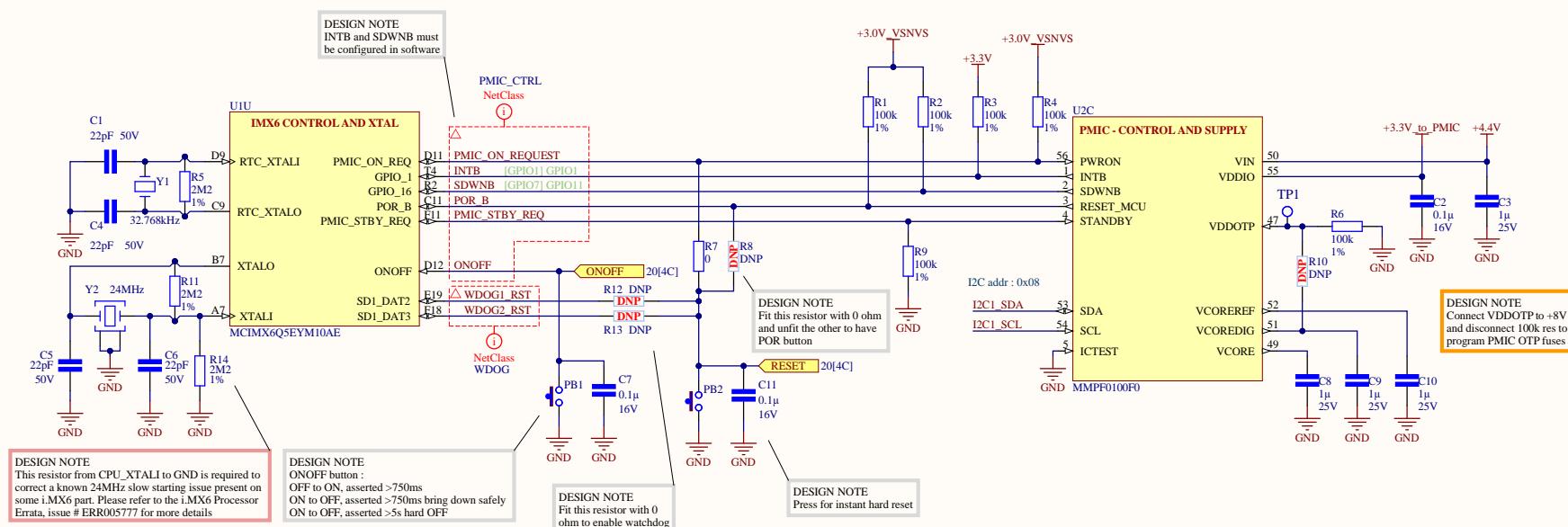
TO BE DONE / TO BE DEFINED (TBD)			
PAGE, ZONE	REFERENCE	DESCRIPTION	N°

REVISION HISTORY			
REV	PAGE / ZONE	DESCRIPTION	DATE
A	All	Original release	04/2022
B	All	More organised, first PCB batch	08/2022

APPROVAL	DATE	Cécile Janin	OPEN
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Approved by : Name	dd/mm/yy	DWG TITLE : IMX6 DEV BOARD	
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# IMX6 CTRL-I2C1



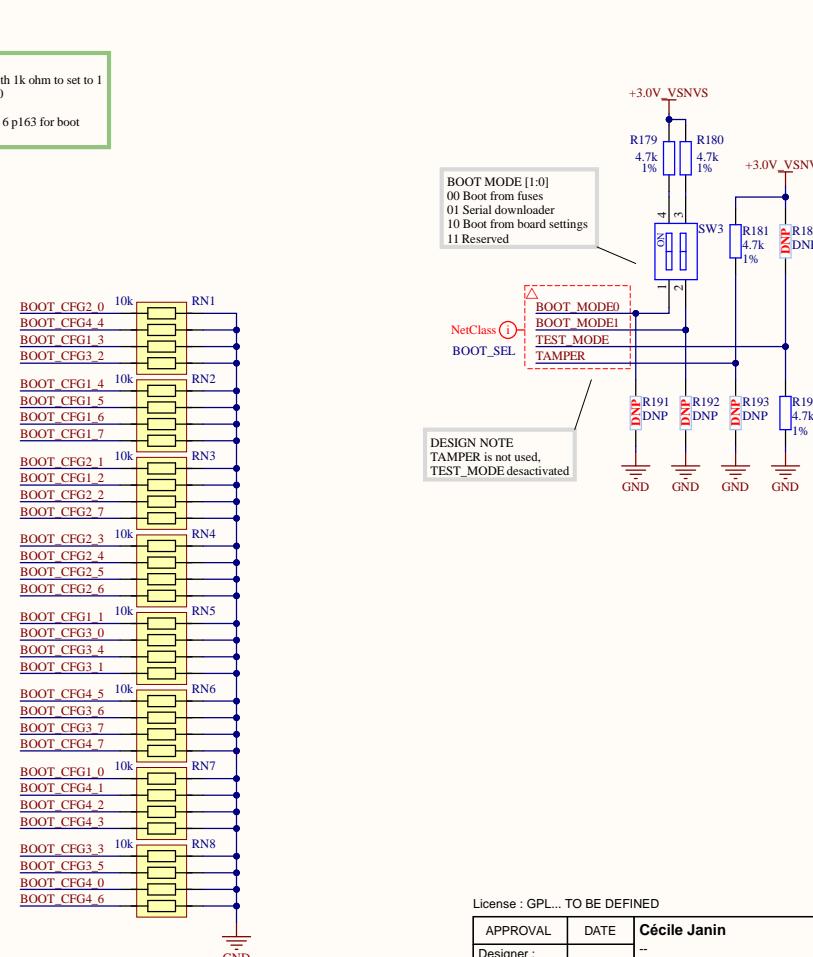
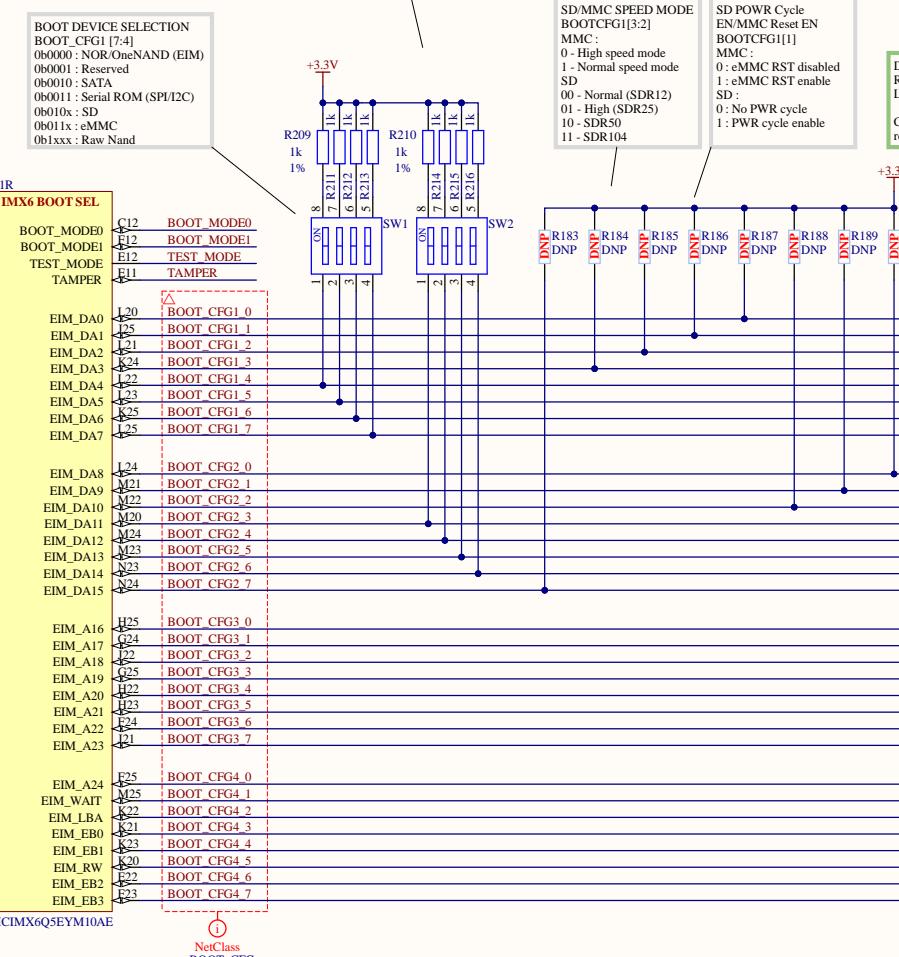
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# IMX6 BOOT

A

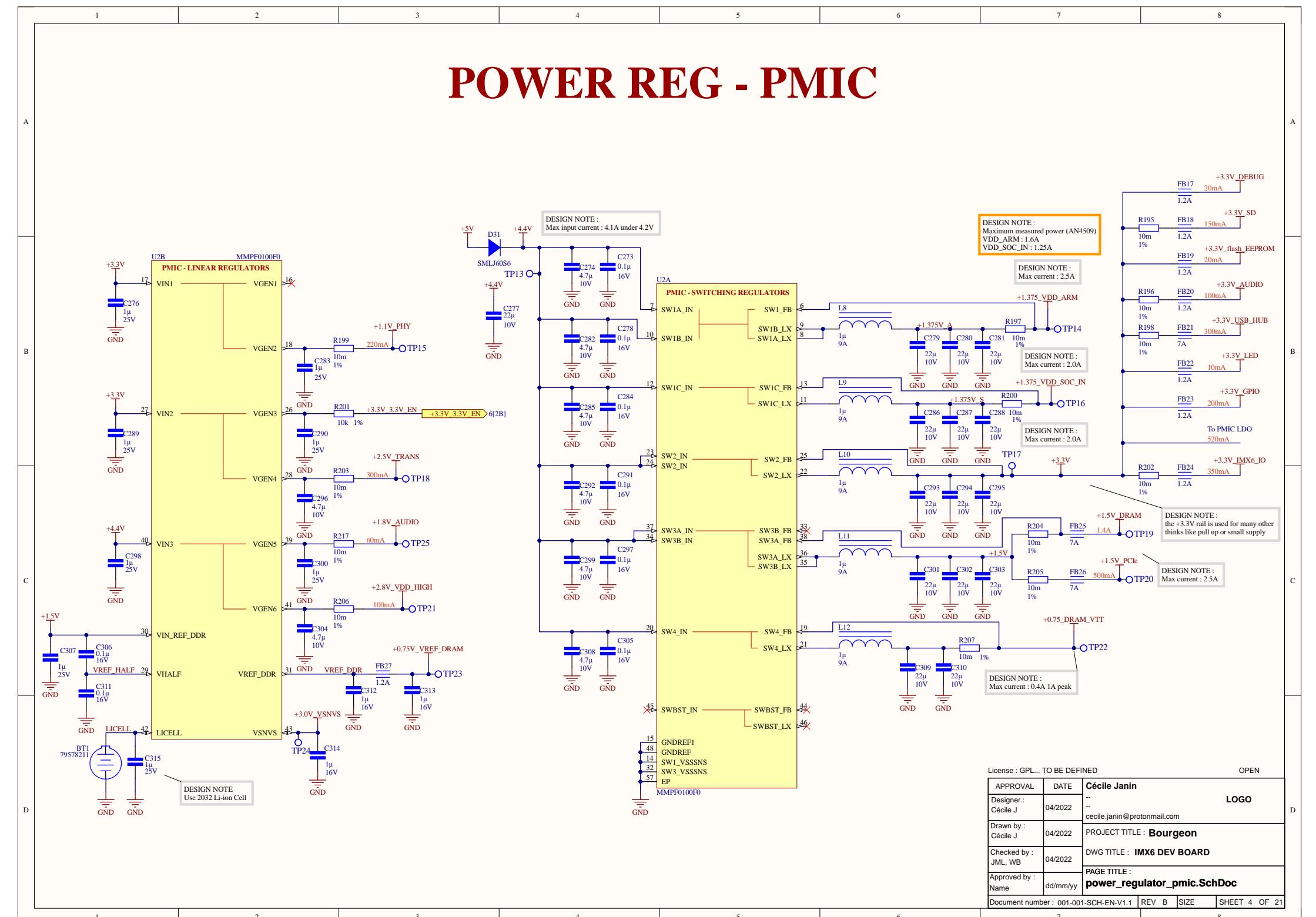
A

Boot Select Table							
8	7	6	5	4	3	2	1
BT_CFG1_7	BT_CFG1_6	BT_CFG1_5	BT_CFG1_4	BT_CFG2_6	BT_CFG2_5	BT_CFG2_4	BT_CFG2_3
011X = MMC/eMMC Boot				X0 = 1-bit X1 = 4-bit 10 = 8-bit		01 = SD 2 Boot 10 = SD 3 Boot 11 = SD 4 Boot	
010X = SD/eSD Boot				X0 = 1-bit X1 = 4-bit		01 = SD 2 Boot 10 = SD 3 Boot 11 = SD 4 Boot	
0010 = SATA Boot					X	X	0

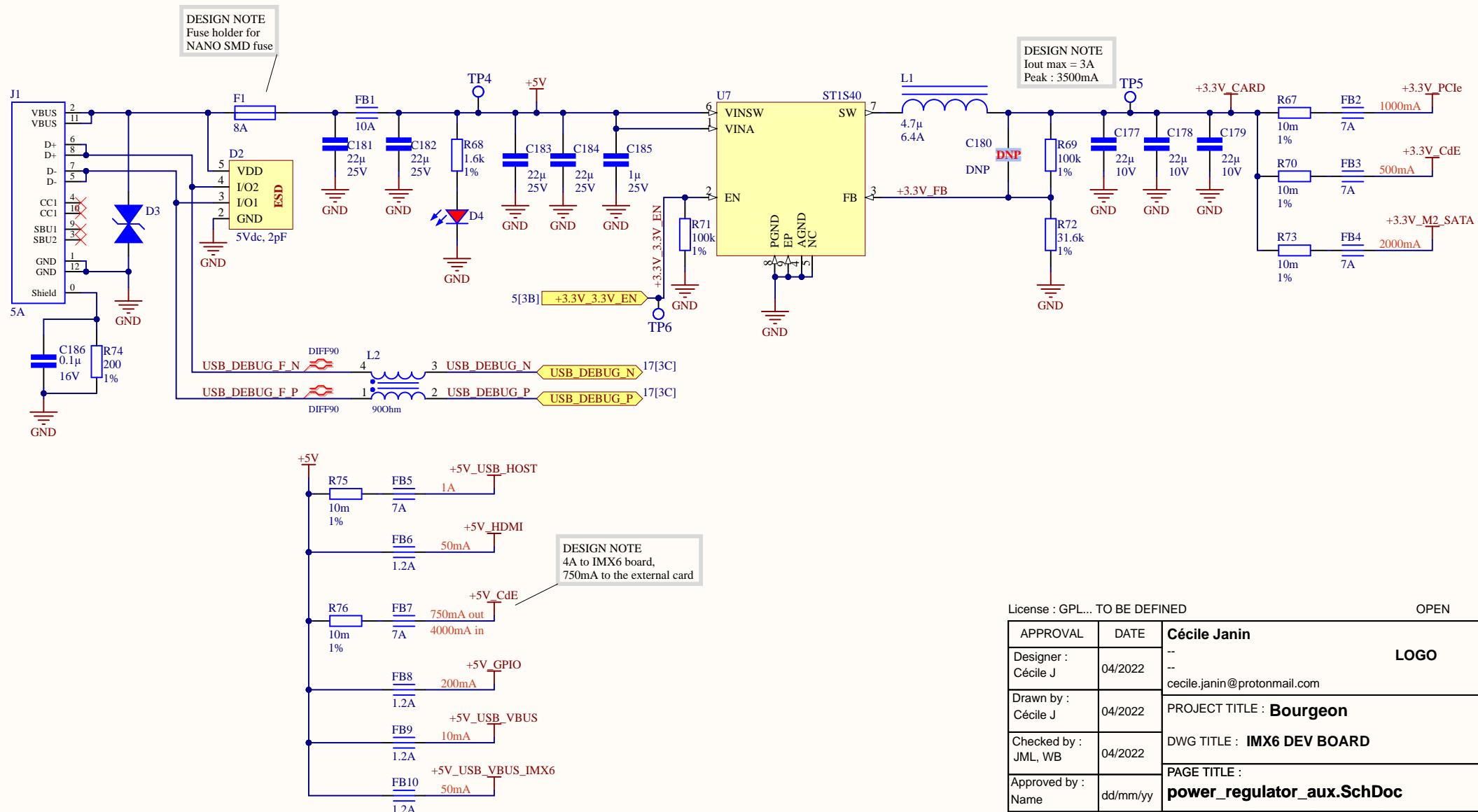


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			SHEET 3 OF 21

# POWER REG - PMIC



# POWER REG - AUX



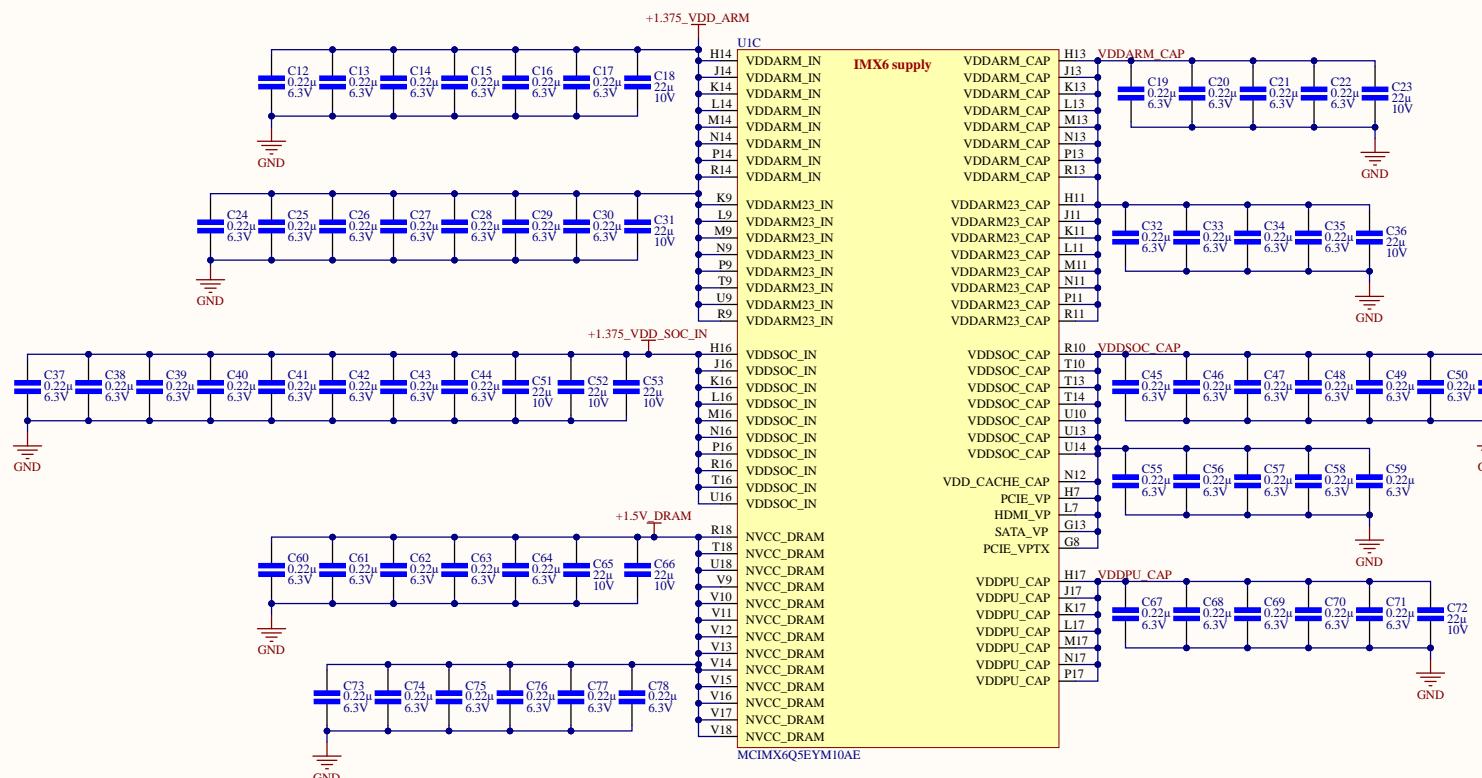
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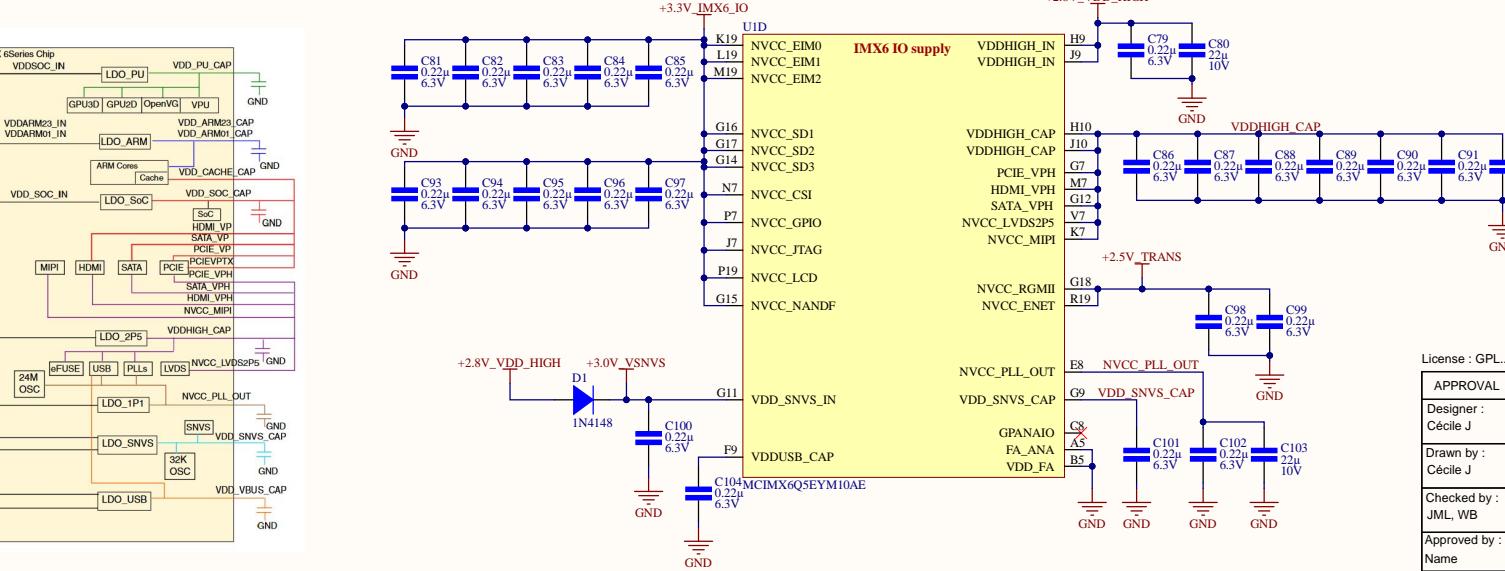
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# IMX6 POWER

A



UIE		
A4	GND	GND
A8	GND	GND
A13	GND	GND
A25	GND	GND
B4	GND	GND
C1	GND	GND
C4	GND	GND
C6	GND	GND
C10	GND	GND
D3	GND	GND
D6	GND	GND
D8	GND	GND
E5	GND	GND
E6	GND	GND
E7	GND	GND
F5	GND	GND
F6	GND	GND
F7	GND	GND
F8	GND	GND
G3	GND	GND
G10	GND	GND
G19	GND	GND
H8	GND	GND
H12	GND	GND
H15	GND	GND
H18	GND	GND
J2	GND	GND
J8	GND	GND
J12	GND	GND
J15	GND	GND
J18	GND	GND
K8	GND	GND
K10	GND	GND
K12	GND	GND
K15	GND	GND
K18	GND	GND
L2	GND	GND
L5	GND	GND
L8	GND	GND
L10	GND	GND
L12	GND	GND
L15	GND	GND
L18	GND	GND
M8	GND	GND
M10	GND	GND
M12	GND	GND
M15	GND	GND
M18	GND	GND
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N15	GND	GND
N18	GND	GND
P8	GND	GND
P10	GND	GND

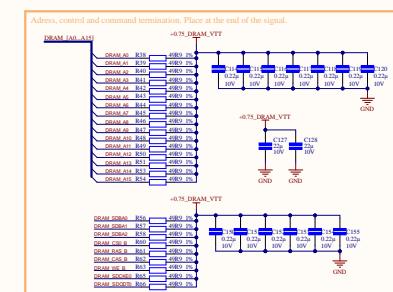
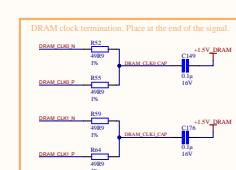
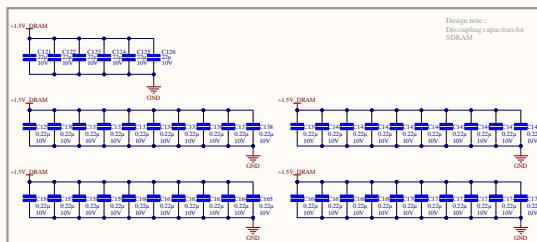
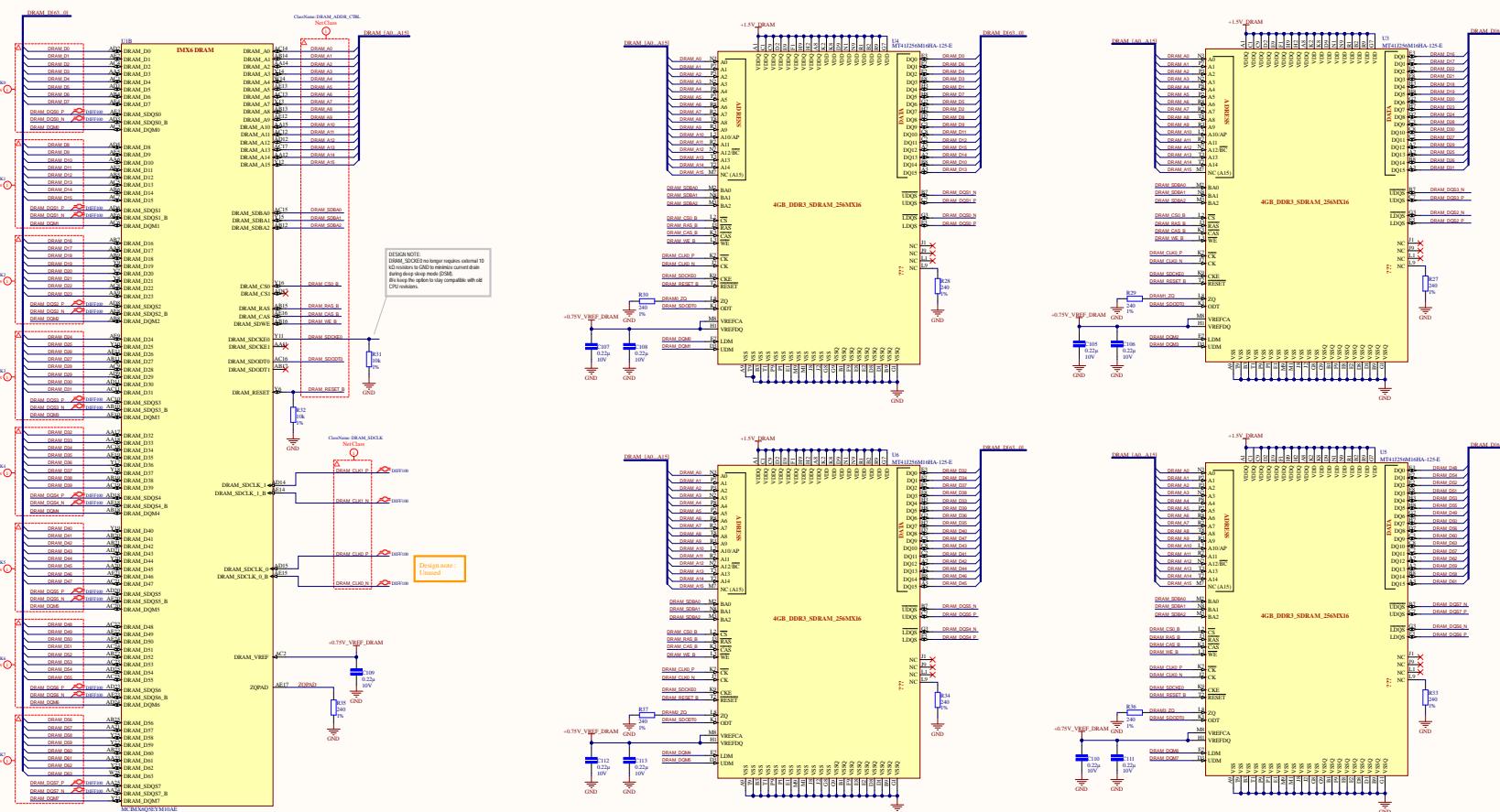


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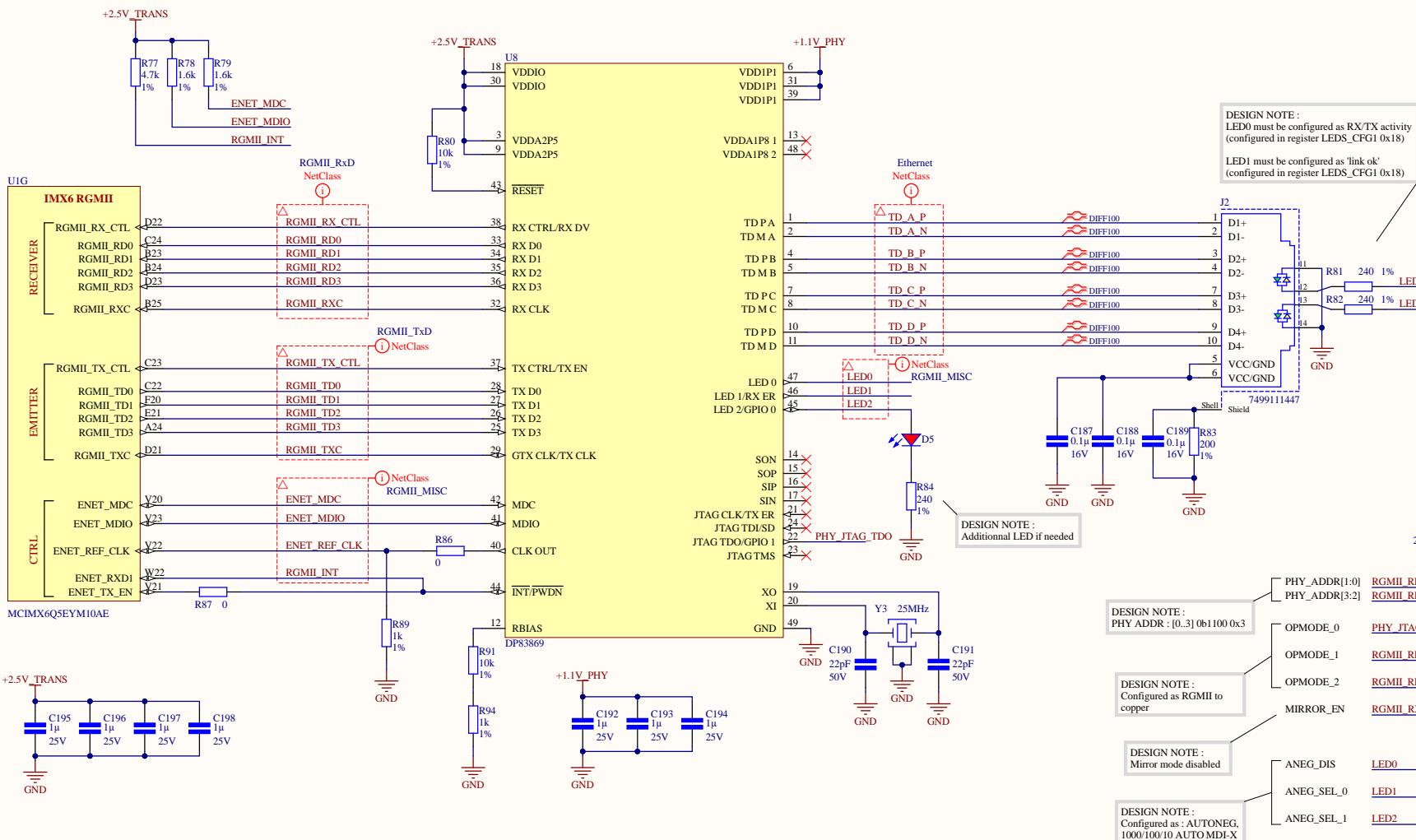
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# ETHERNET

## RGMII to Copper



9.8.1.3 Straps for RGMII/SGMII to Copper

Table 13. Copper Ethernet Strap Table					
PIN NAME	STRAP NAME	PIN #	DEFAULT	ANEG_DS	ANEGS_EL_1
LED_0	ANEG_DIS	47	0	0	0
				Auto-negotiation, 1000/100/10 advertisied, Auto MDI-X	
				0	1
				Auto-negotiation, 100/10 advertisied, Auto MDI-X	
				1	0
				Forced 100M, full duplex, MDI mode	
				1	1
				Forced 10M, full duplex, MDI-X	
				1	0
				Port Mirroring Disabled	
				0	1
				Port Mirroring Enabled	

9.5.1.1 Straps for PHY Address

Table 11. PHY Strap Table					
PIN NAME	STRAP NAME	PIN #	DEFAULT	PHY_ADD1	PHY_ADD0
RX_D0	PHY_ADD[1:0]	33	00	MODE 0	0 0
				MODE 1	0 1
				MODE 2	1 0
				MODE 3	1 1
				PHY_ADD3	PHY_ADD2
				MODE 0	0 0
				MODE 1	0 1
				MODE 2	1 0
				MODE 3	1 1

Table 12. Functional Mode Strap Table					
PIN NAME	STRAP NAME	PIN #	DEFAULT	OPMO <sub>DE_2</sub>	OPMO <sub>DE_1</sub>
JTAG_TDO/GPI	OPMODE_0	22	0	0 0	0 1
				0 1	0 0
				1 0	0 1
				1 0	1 0
				1 1	1 1
RX_D3	OPMODE_1	36	0	0 1	1 1
				1 0	0 0
				1 0	1 0
				1 1	0 0
RX_D2	OPMODE_2	35	0	0 1	1 1
				1 0	0 1
				1 0	1 0
				1 1	1 1

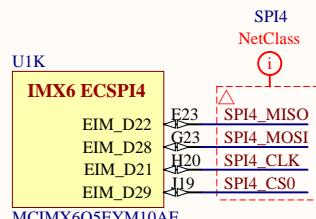
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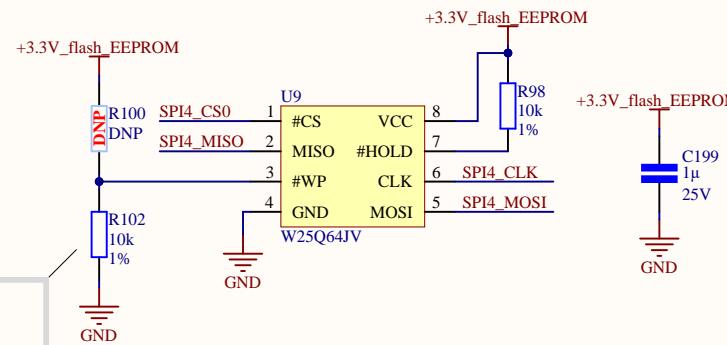
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# SD - FLASH - EEPROM

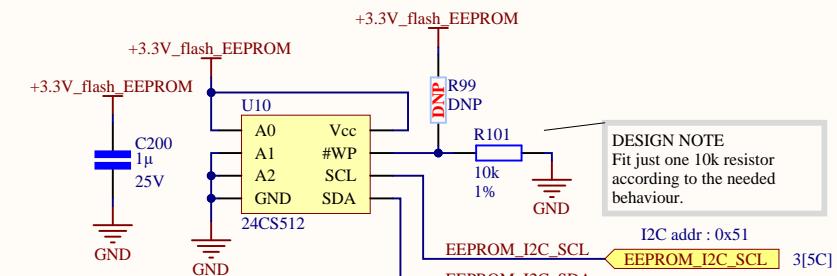
## FLASH NOR



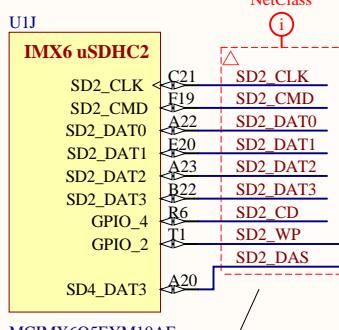
DESIGN NOTE  
Fit just one 10k resistor according to the needed behaviour.



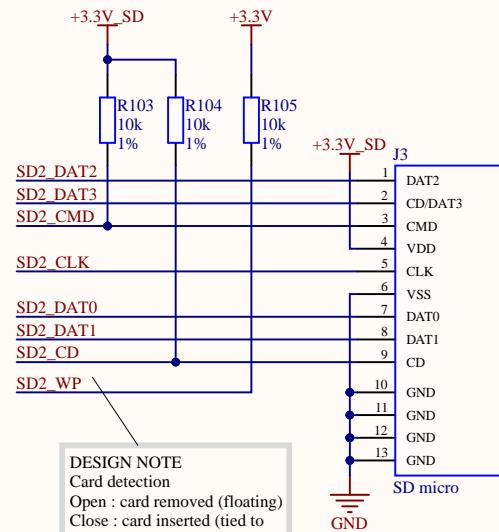
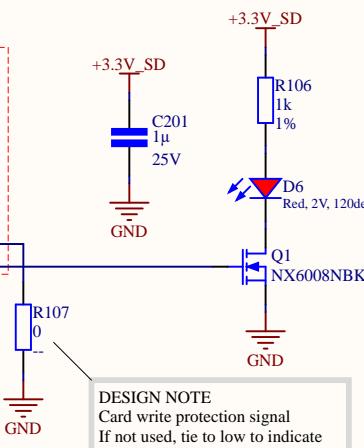
## EEPROM



## SD CARD



DESIGN NOTE  
Device Activity Signal.  
Must be software configured

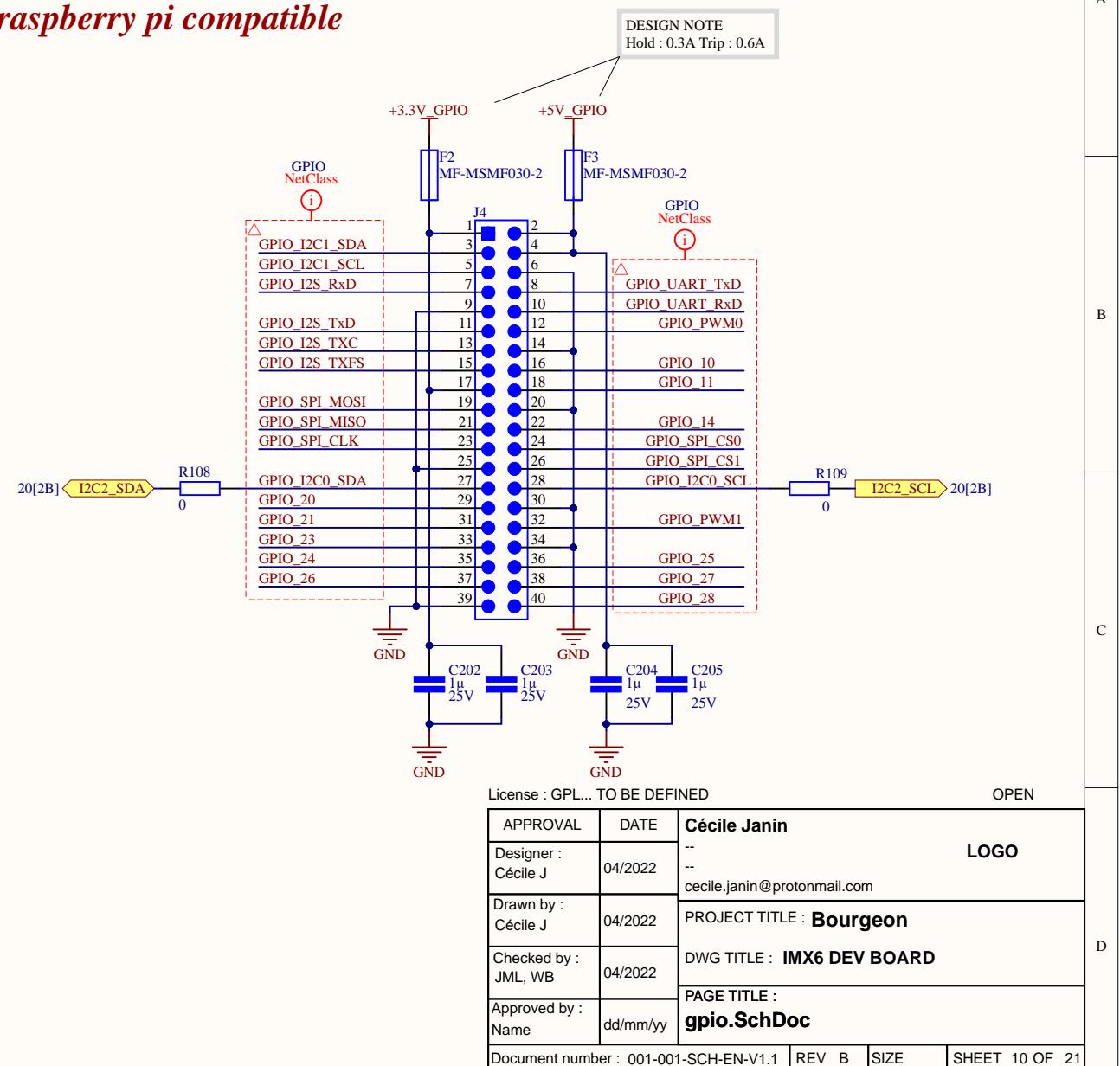
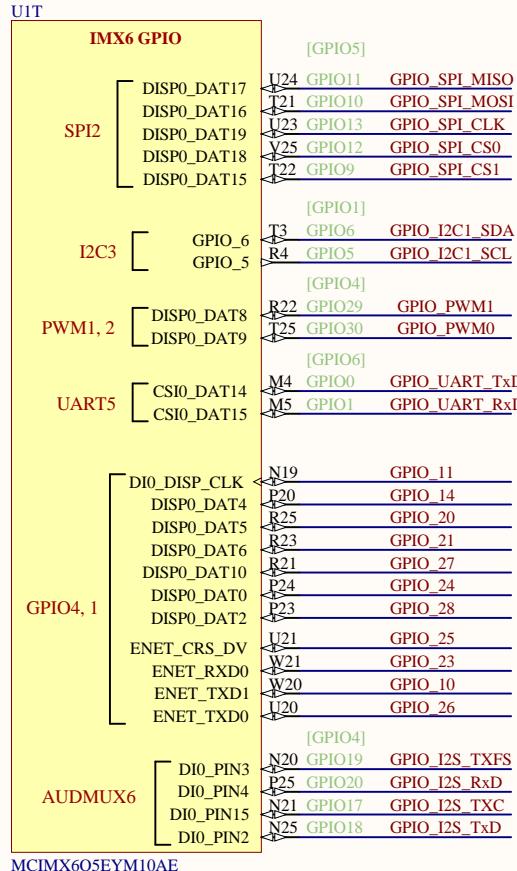


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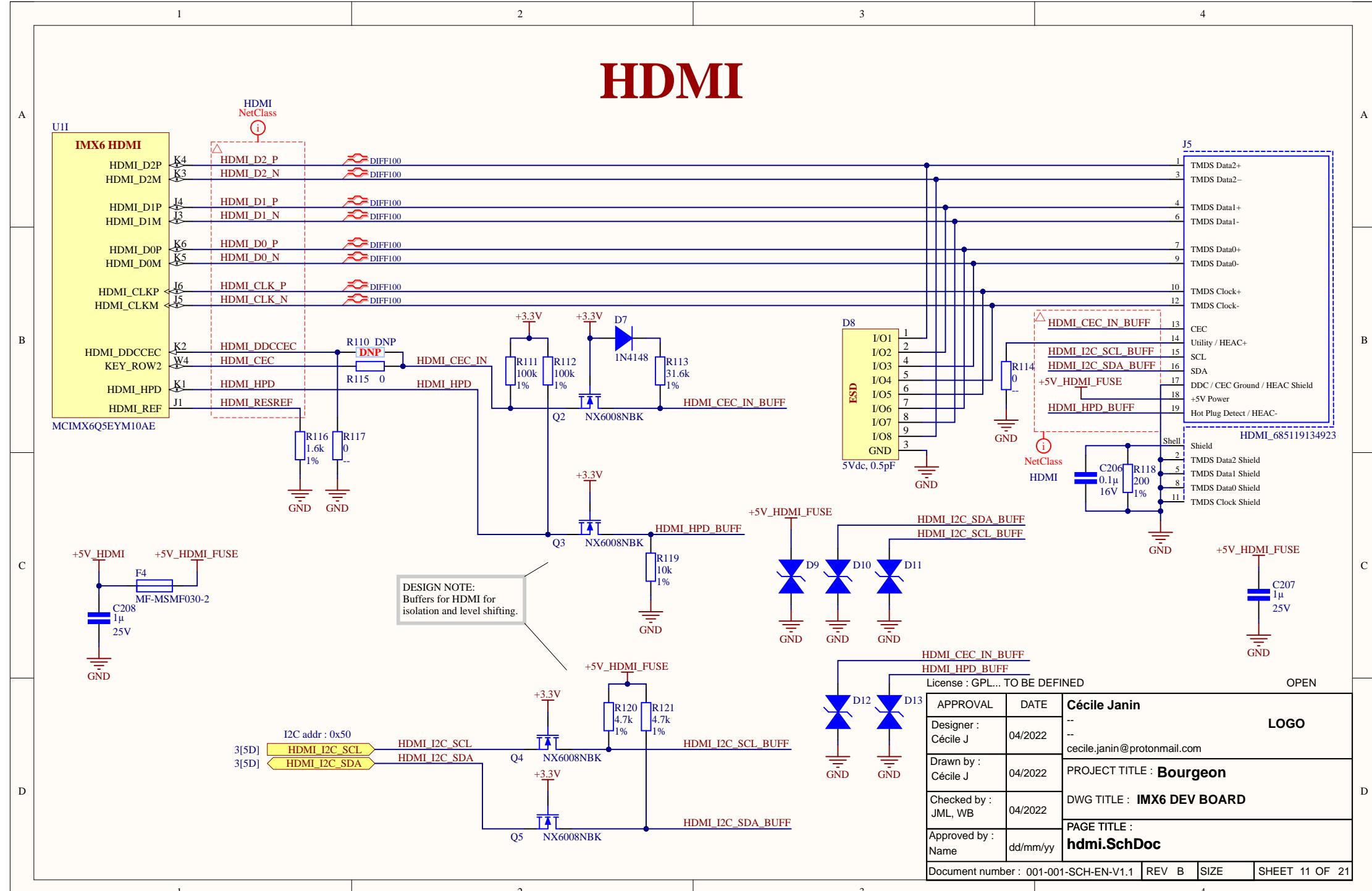
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# GPIO

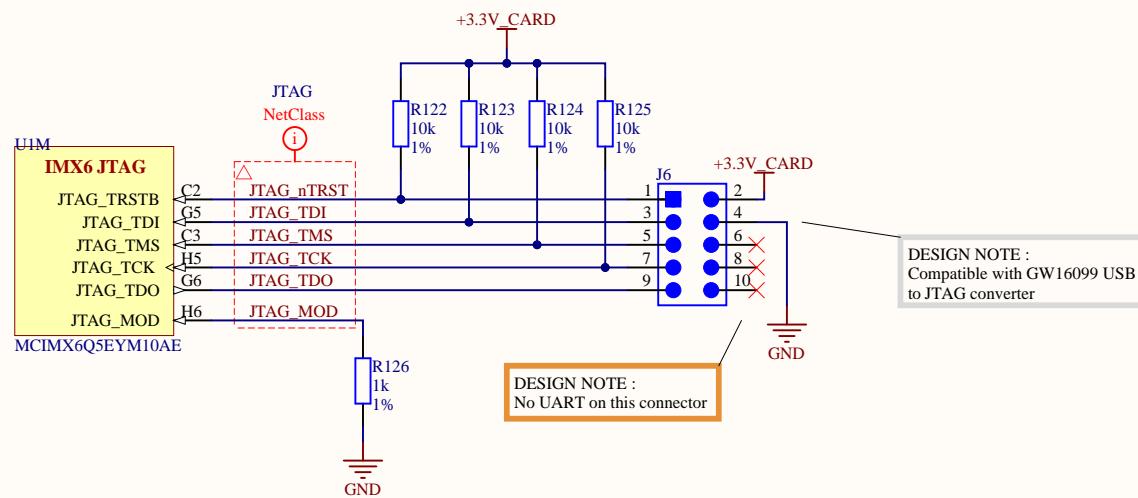
*raspberry pi compatible*



# HDMI



# JTAG

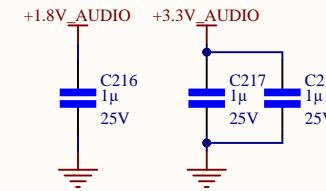
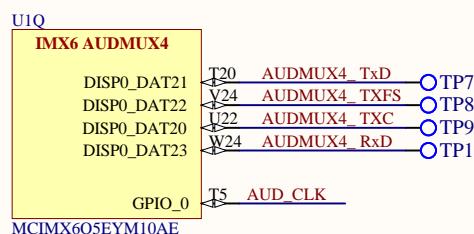
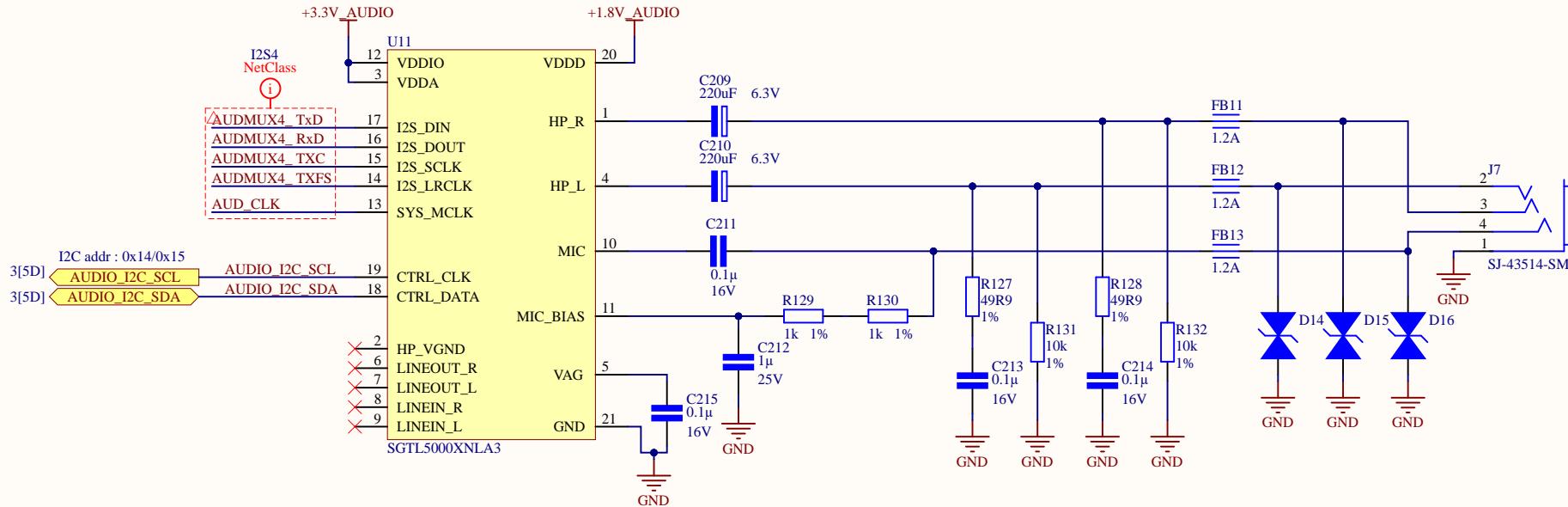


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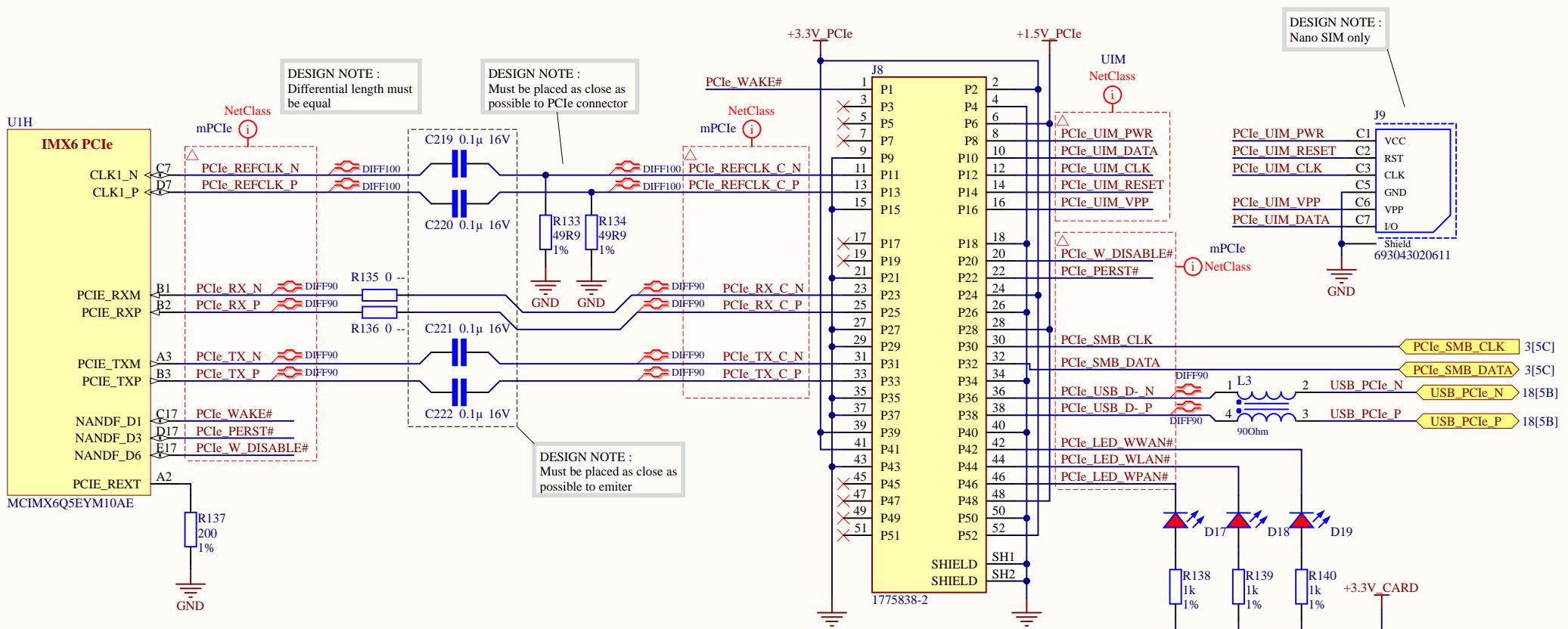
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# AUDIO CODEC



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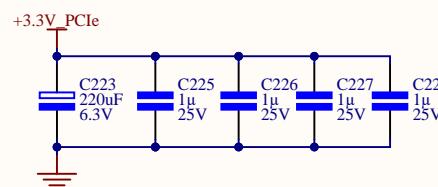
# Mini PCIe



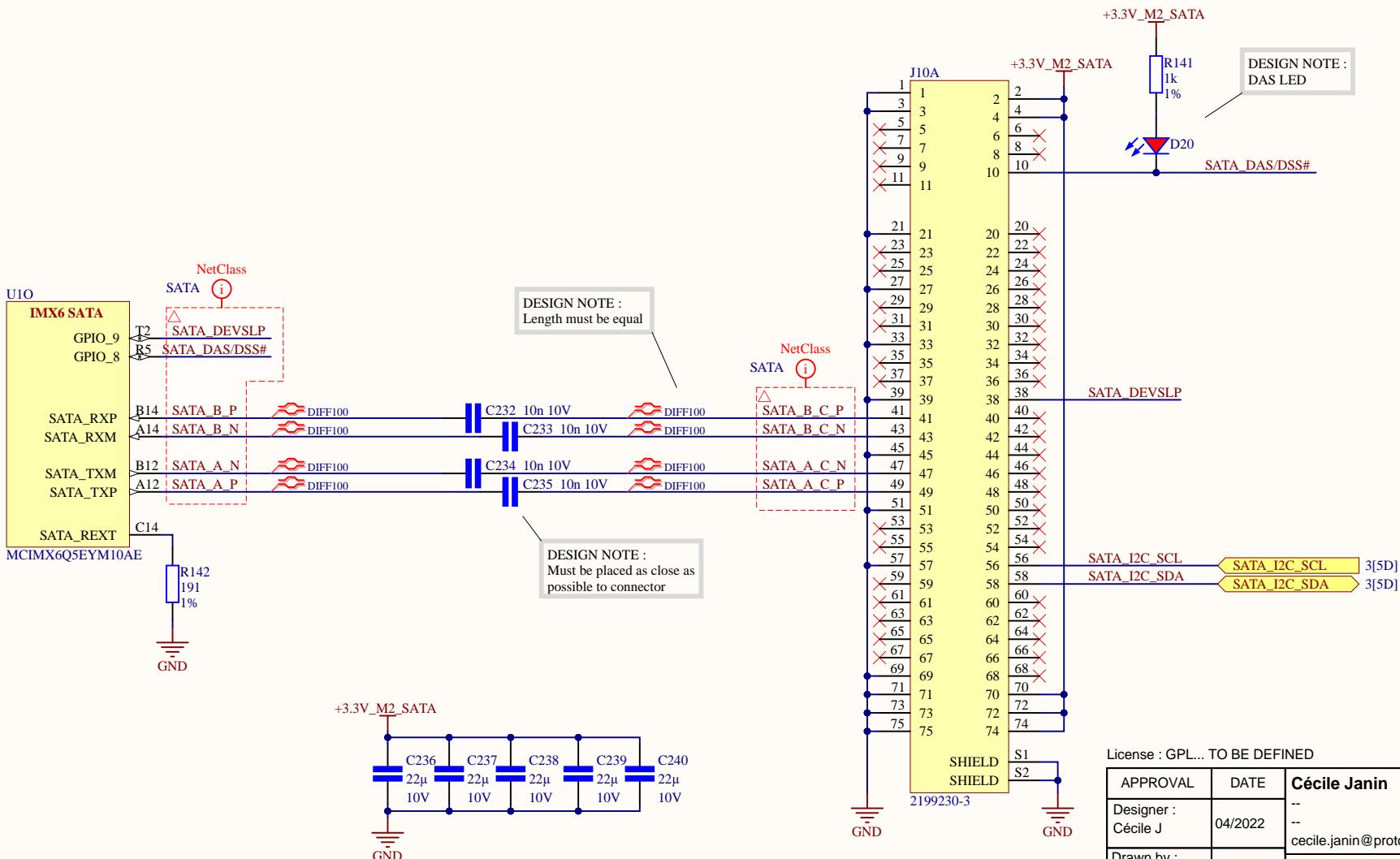
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# SATA M.2

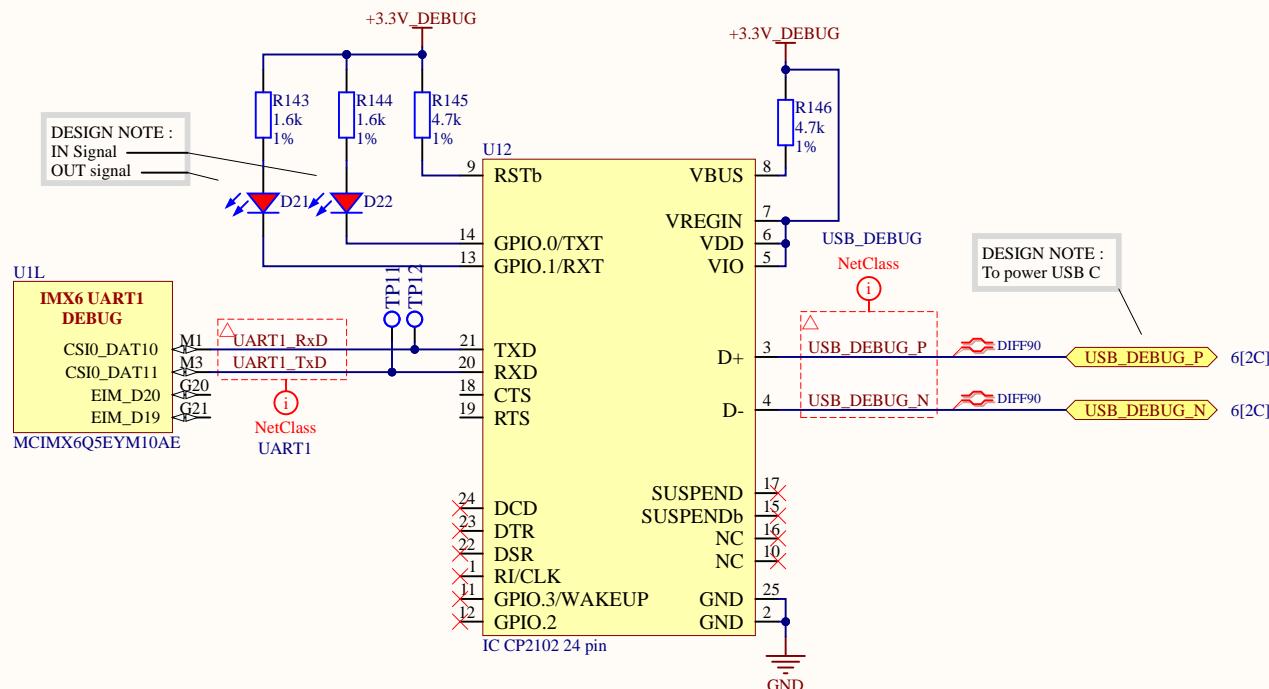


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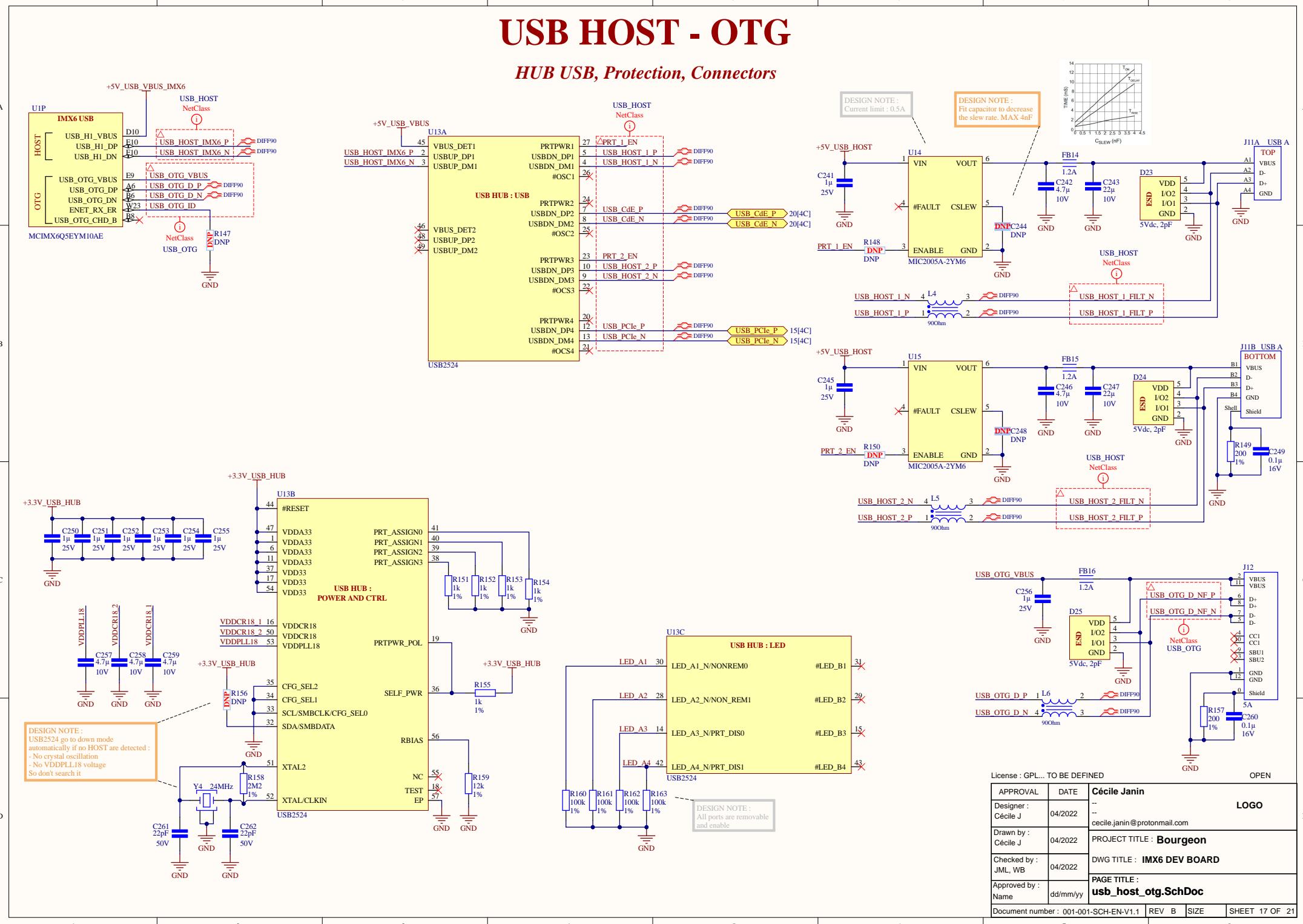
# UART - CONSOLE



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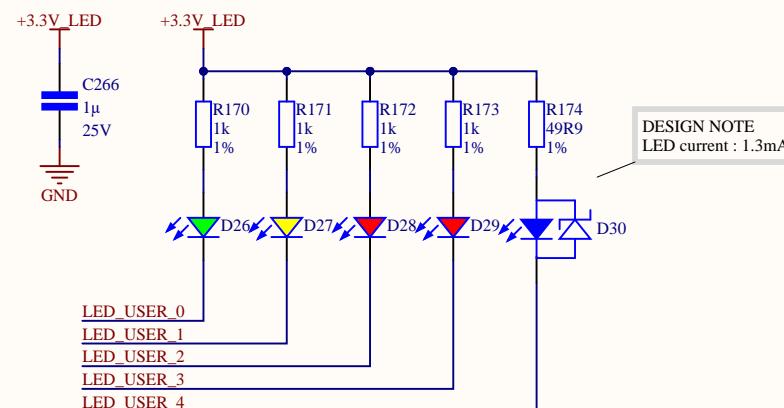
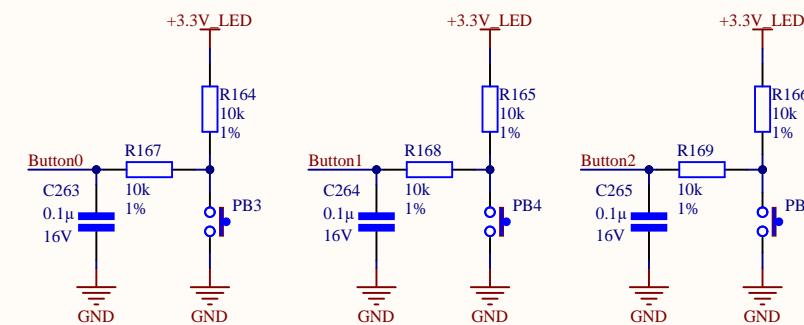
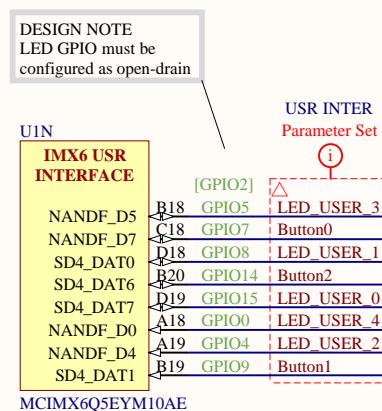
# USB HOST - OTG

## HUB USB, Protection, Connectors



# USER INTERFACE

## *LEDs, Buttons*

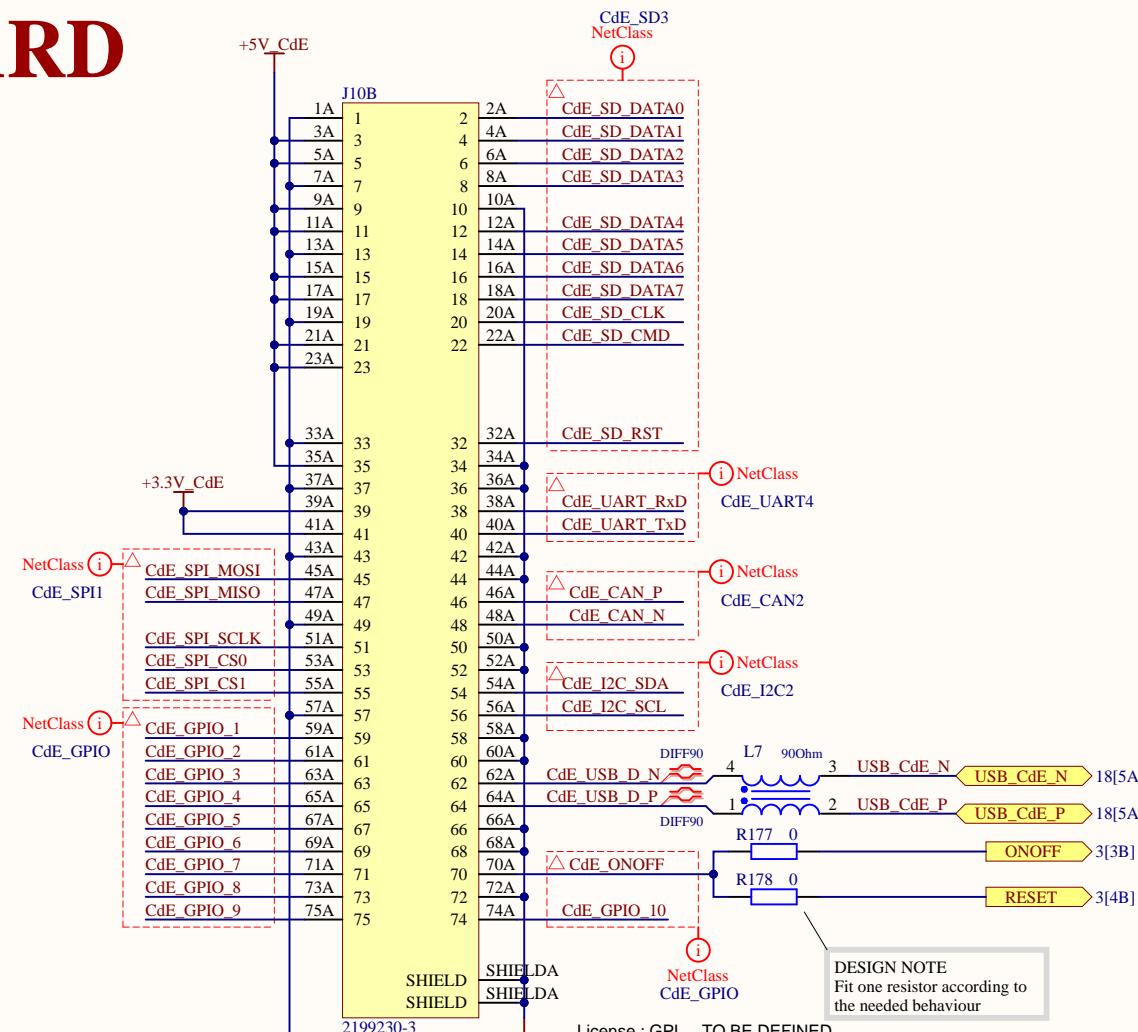
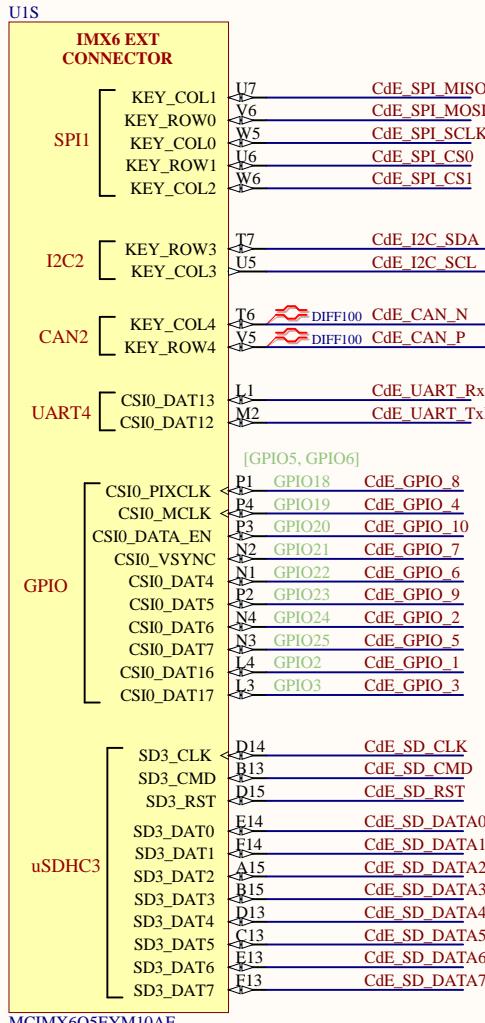


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# EXT CARD



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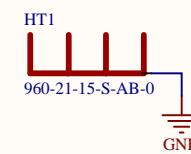
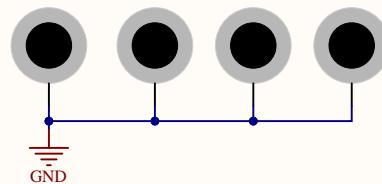
# MECHANICAL

A

A

B

B



C

C

**M3**  
Card number  
Marking number

**M4**  
IP marking  
marking IP

D

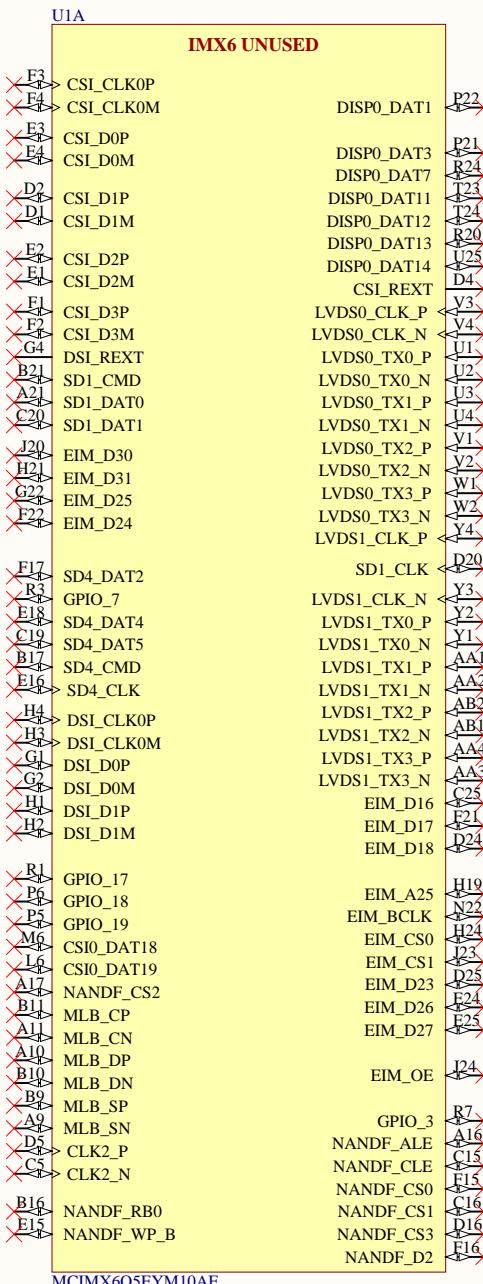
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# UNUSED



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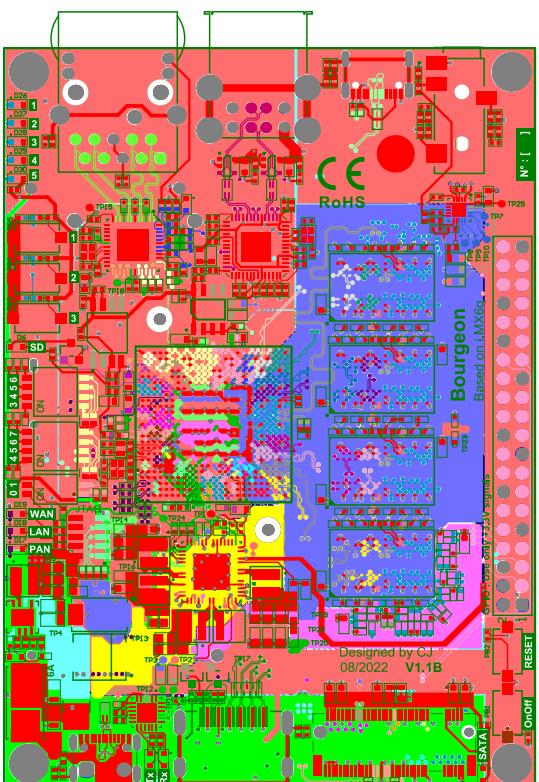
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Drawn by :	04/2022	PROJECT TITLE : <b>Bourgeon</b>	
Cécile J		DWG TITLE : <b>IMX6 DEV BOARD</b>	
Checked by :	04/2022	PAGE TITLE : <b>imx6_unused_pin.SchDoc</b>	
JML, WB		Approved by : Name dd/mm/yy	
Document number : 001-001-SCH-EN-V1.1   REV B   SIZE   SHEET 21 OF 21			

**REVISION HISTORY**

REV	ZONE	DESCRIPTION	DATE
A	All	Original release	05/2022
B	All	First batch	08/2022

A

A



B

B

Layer	Name	Material	Thickness	Constant	Board Layer Stack
	Top Overlay				
	Top Solder	Solder Resist	0,010mm	3.5	
1	Top Layer	CF-004	0,018mm		
	Dielectric 2	IS400	0,120mm	4.2	
2	GND 1	CF-004	0,018mm		
	Dielectric 6	IS400	0,200mm	4.2	
3	Inner 2	CF-004	0,018mm		
	Dielectric 8	IS400	0,120mm	4.2	
	Dielectric 4	IS400	0,120mm	4.2	
4	PMR 1	CF-004	0,018mm		
	Dielectric 1	IS400	0,200mm	3.9	
5	PMR 2	CF-004	0,018mm		
	Dielectric 5	IS400	0,120mm	4.2	
	Dielectric 9	IS400	0,120mm	4.2	
6	Inner 5	CF-004	0,018mm		
	Dielectric 7	IS400	0,200mm	4.2	
7	GND2	CF-004	0,018mm		
	Dielectric 3	IS400	0,120mm	4.2	
8	Bottom Layer	CF-004	0,018mm		
	Bottom Solder	Solder Resist	0,010mm	3.5	
	Bottom Overlay				

Total board thickness: 1,483mm

C

C

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OPEN

APPROVAL	DATE	Cécile Janin - - cecile.janin@protonmail.com		
Designer : Cécile J	05/2022	LOGO		
Drawn by : Cécile J	05/2022			
Checked by : JML, WB	05/2022	PROJECT TITLE : Bourgeon DWG TITLE : IMX6 DEV BOARD		
Approved by : Name	dd/mm/yy	PAGE TITLE : <b>PCB1.PcbDoc</b>		
Document number : 001-001-PCB-EN-V1.1		REV B	SCALE 1:1	SHEET 1 OF 1

D

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