

PG413 A00

GP104 - 8GB GDDR5X, 256b, 256Mx32

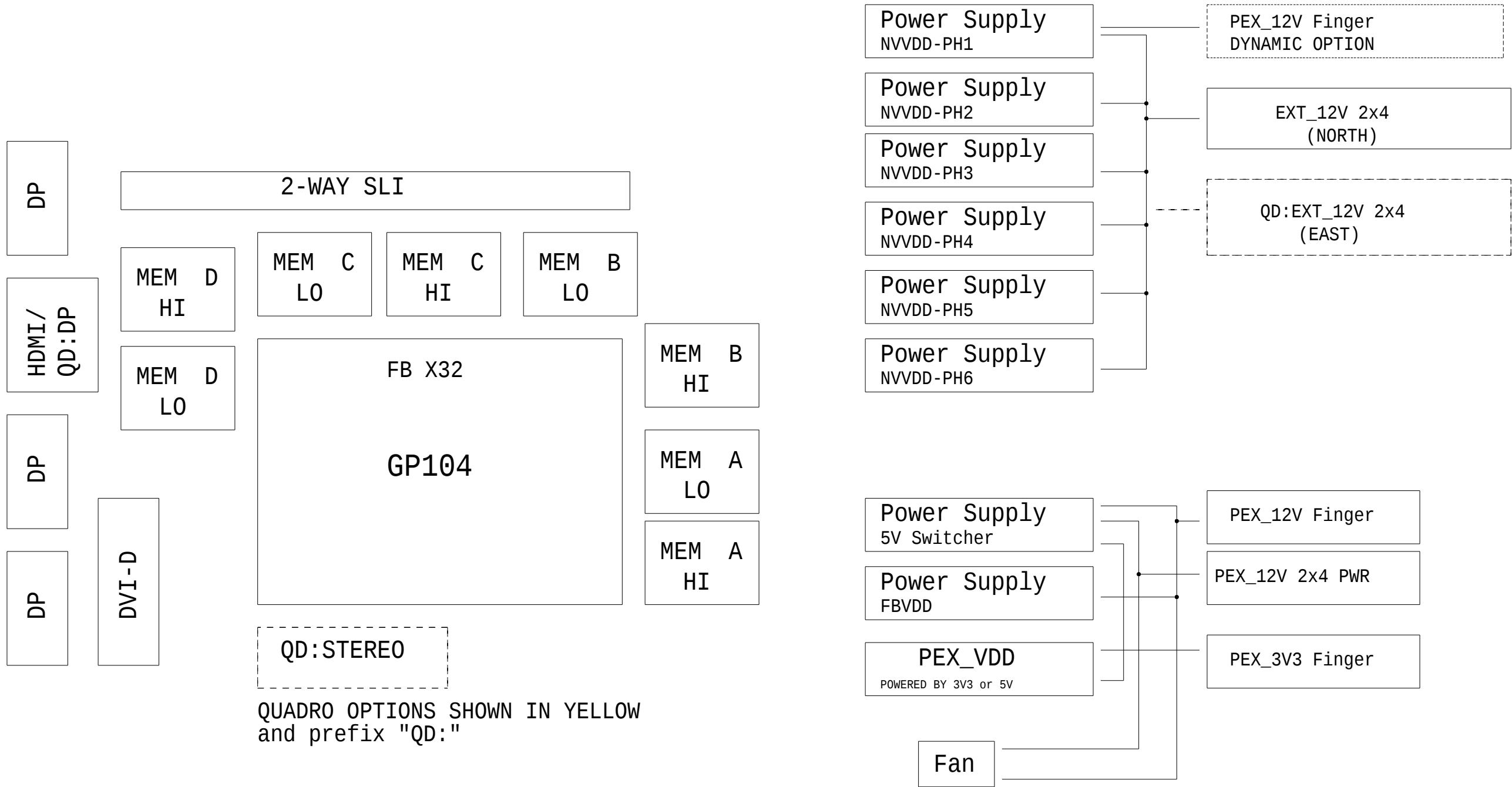
Tall DVI-D + DP + DP + DP/HDMI + DP

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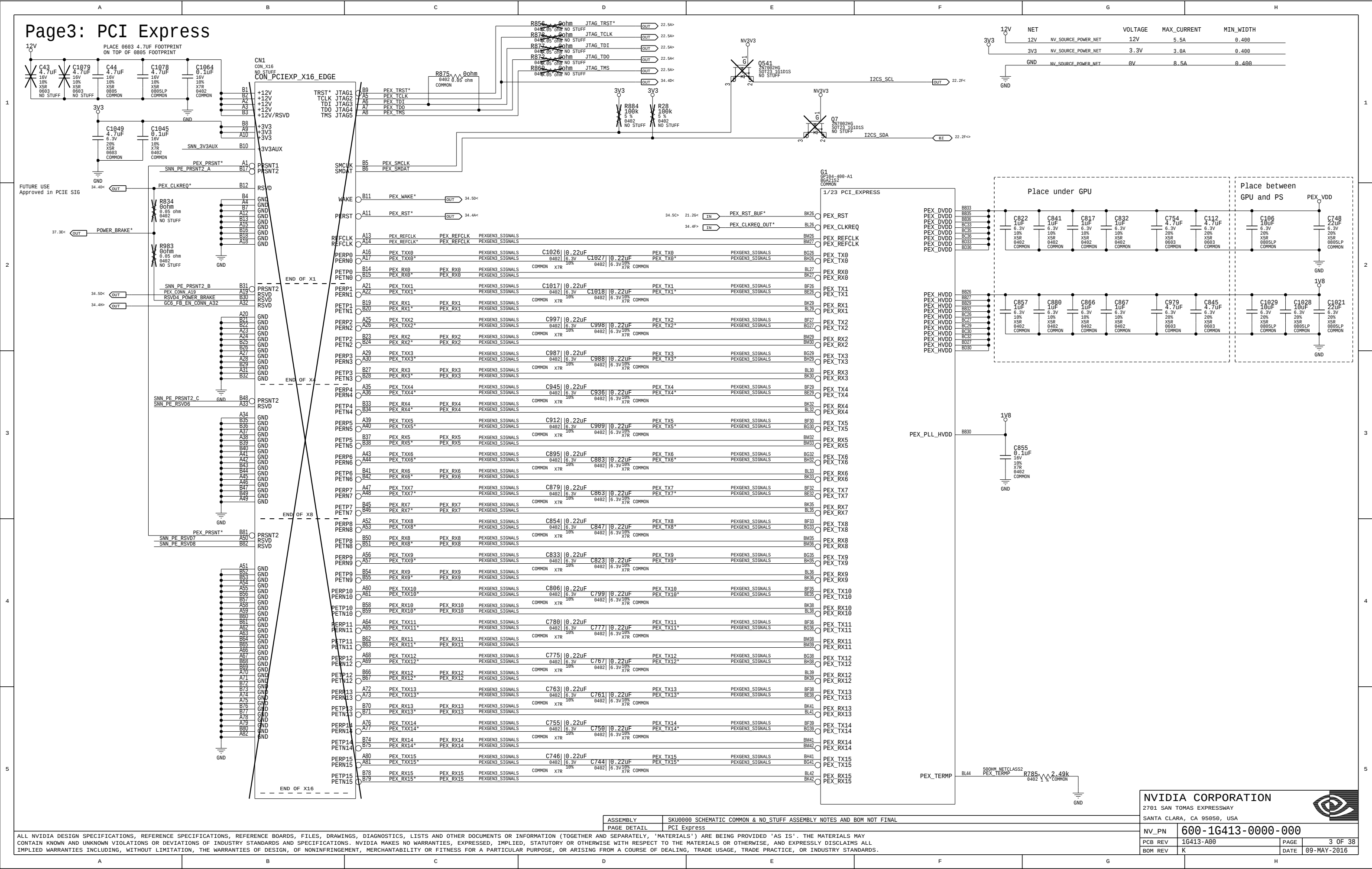
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Page3: PCI Express



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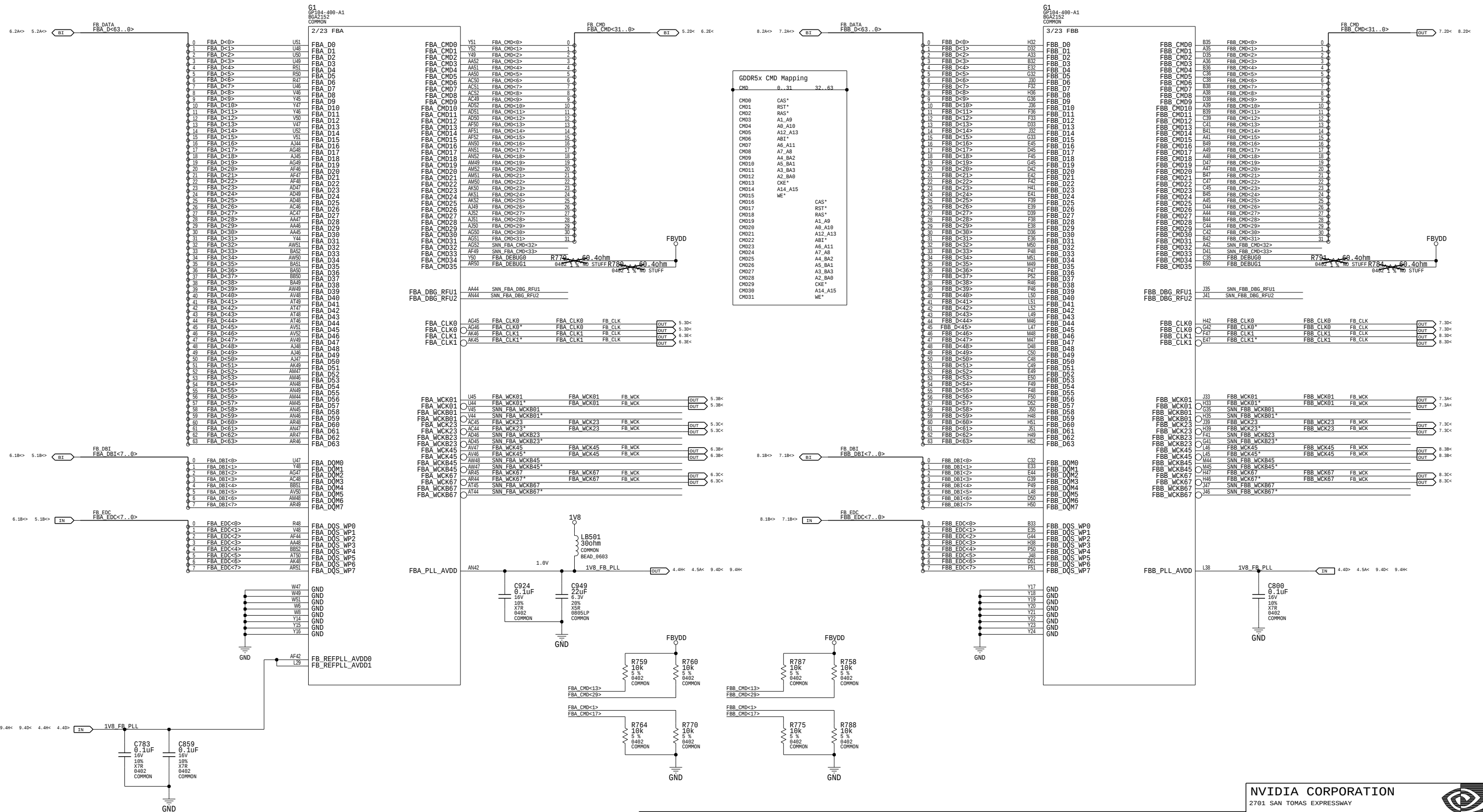
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Page4: MEMORY: GPU Partition A/B



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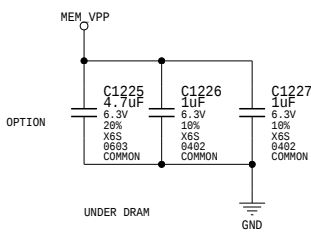
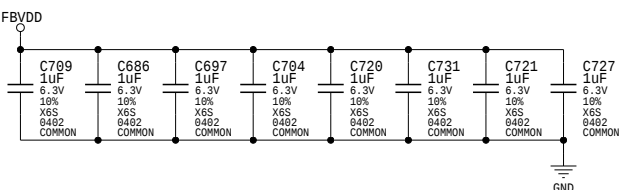
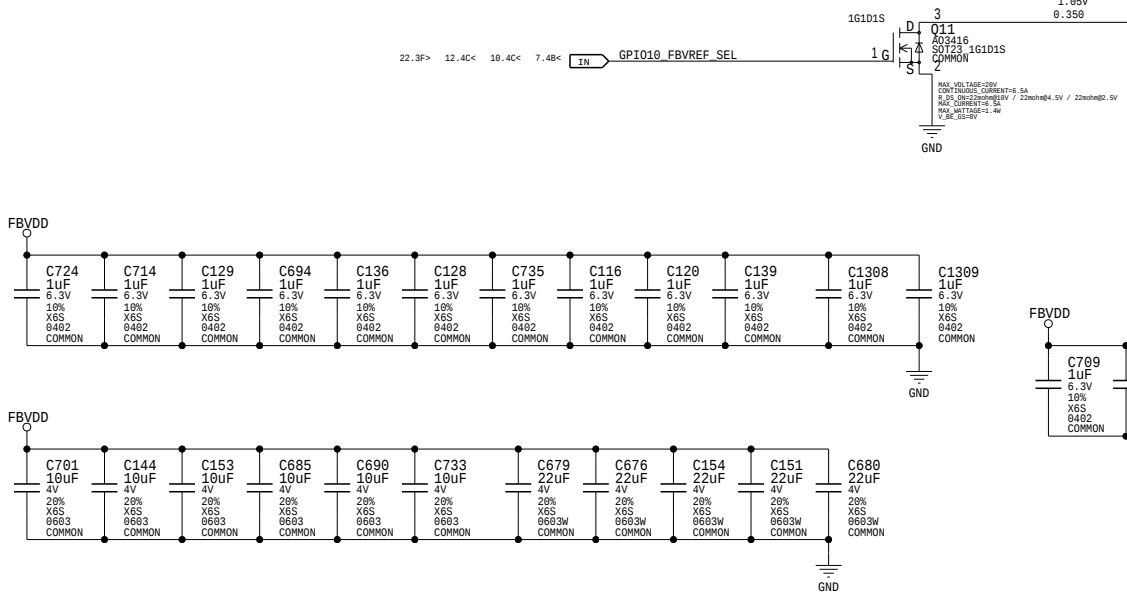
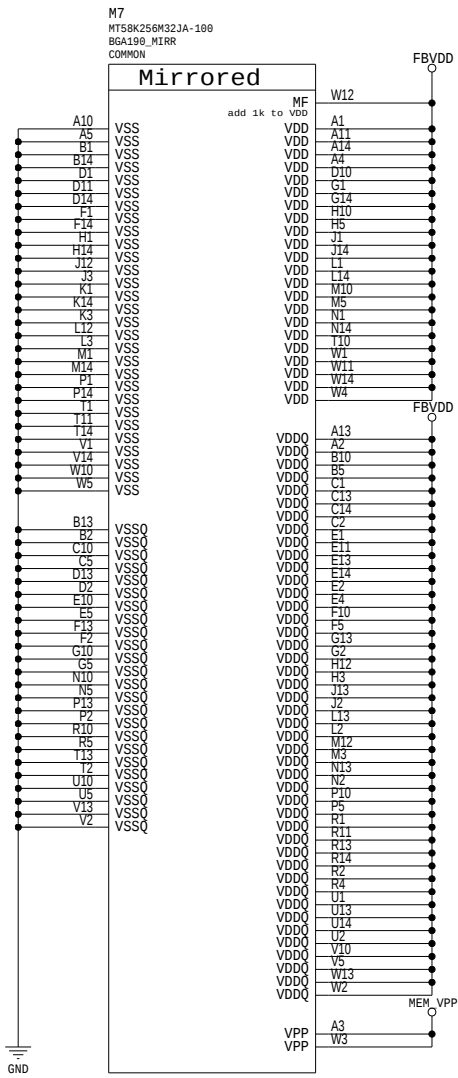
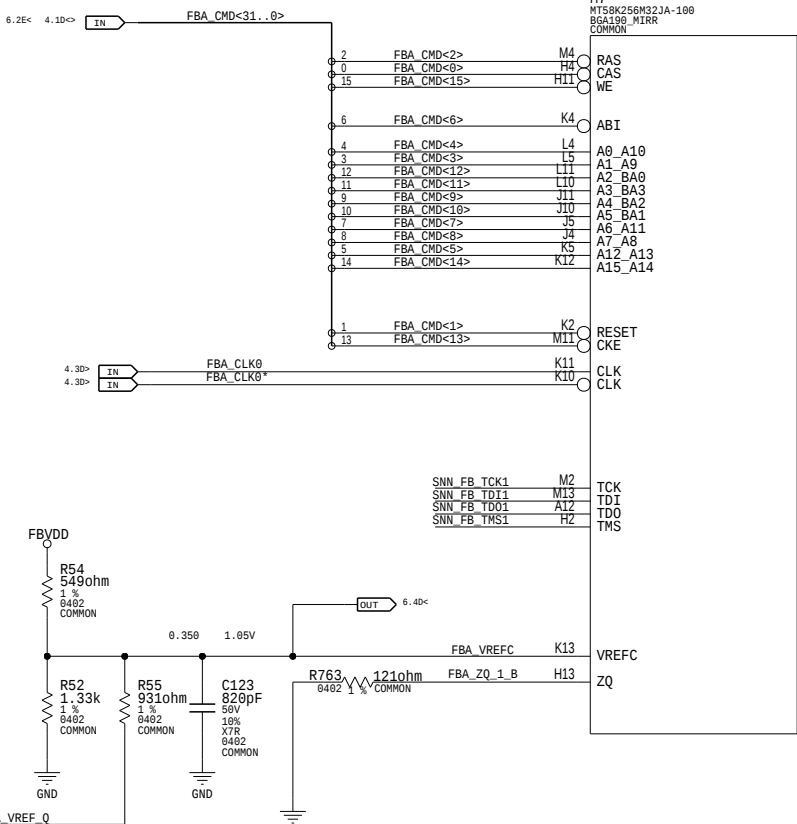
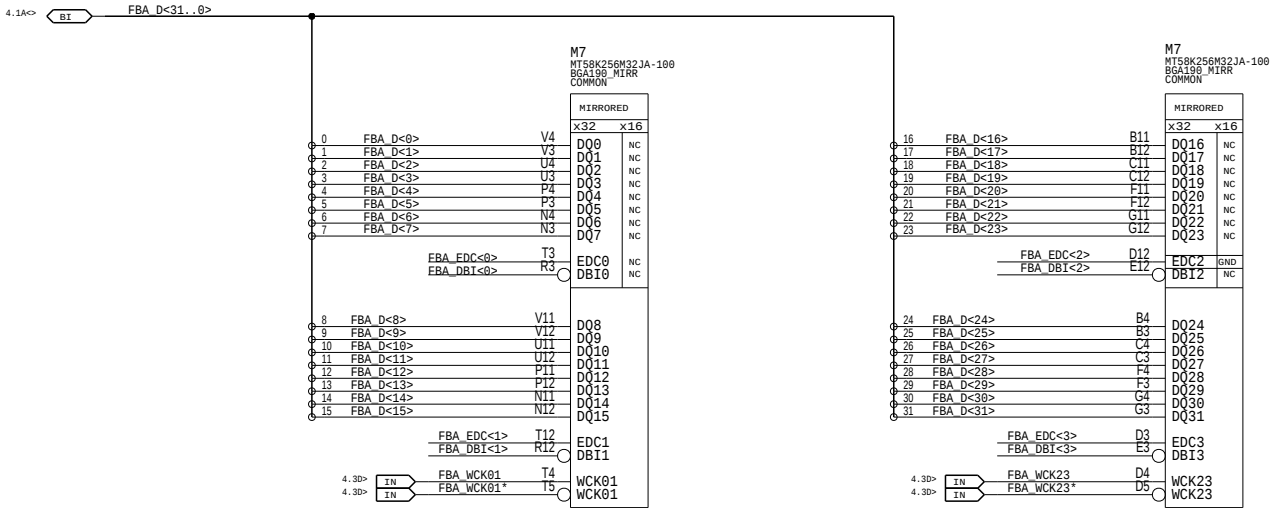
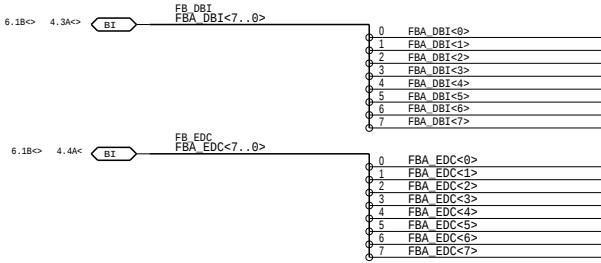
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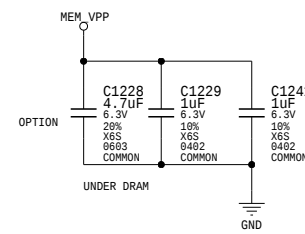
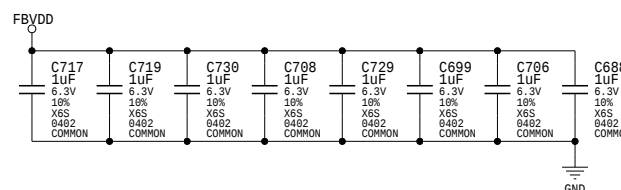
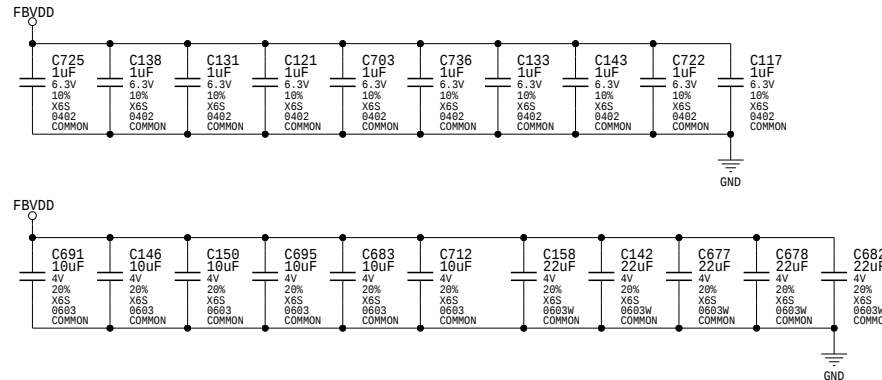
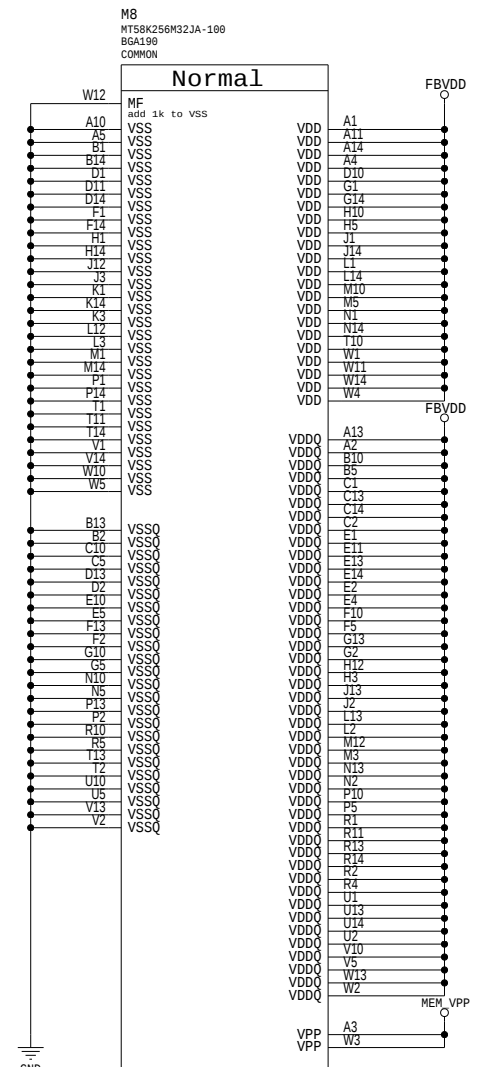
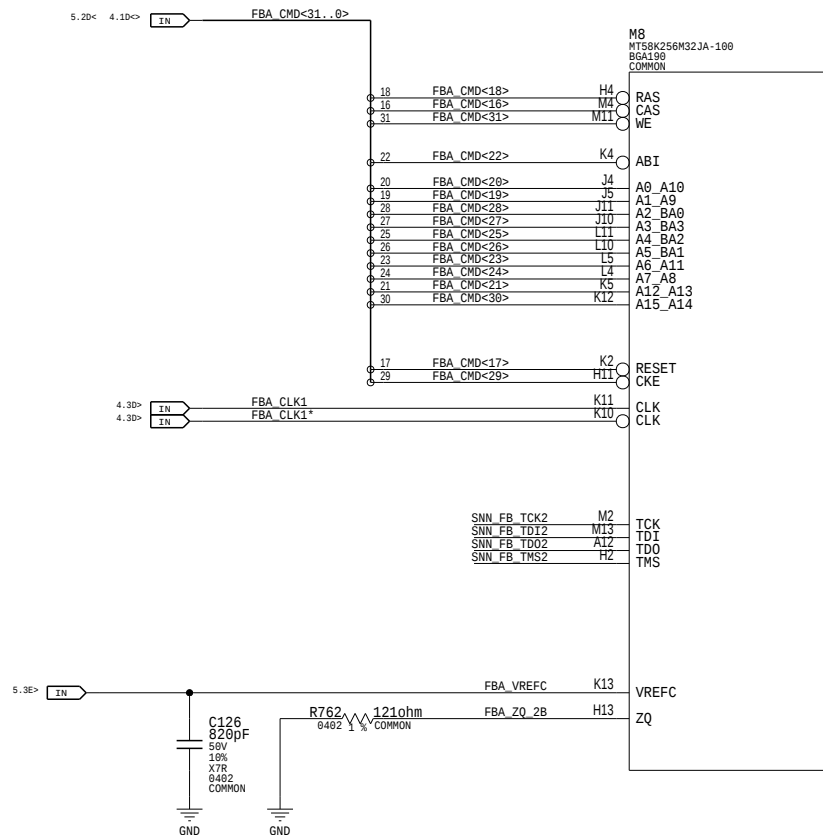
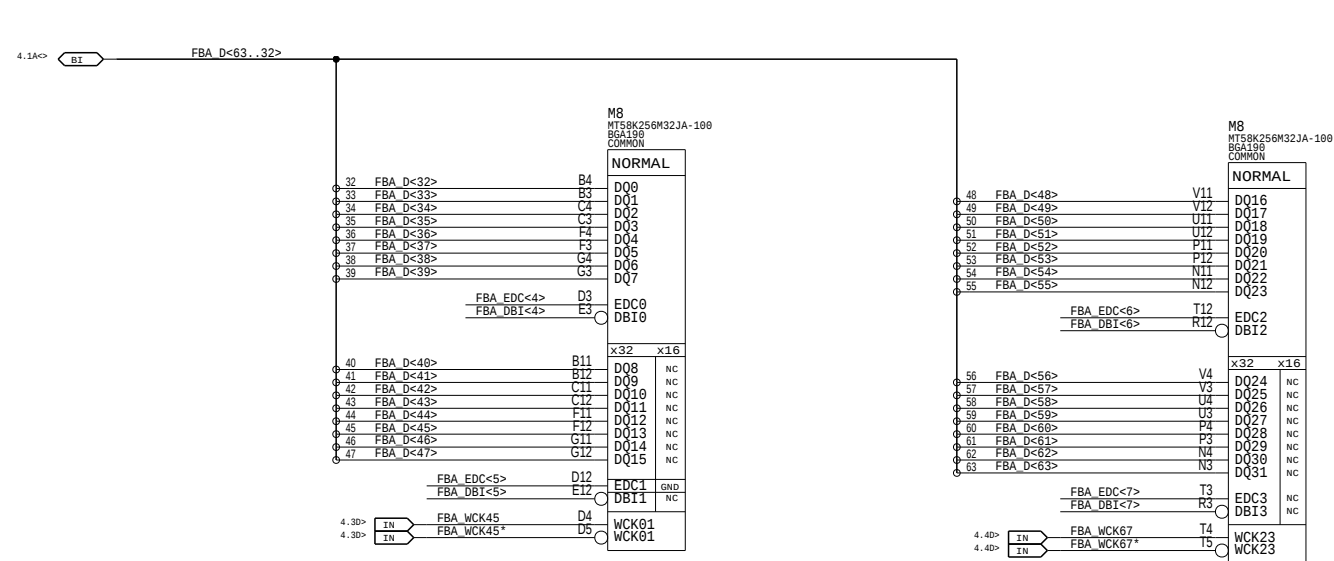
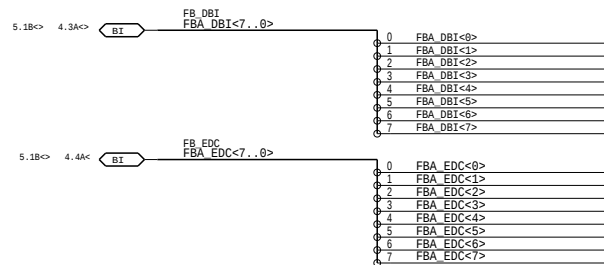
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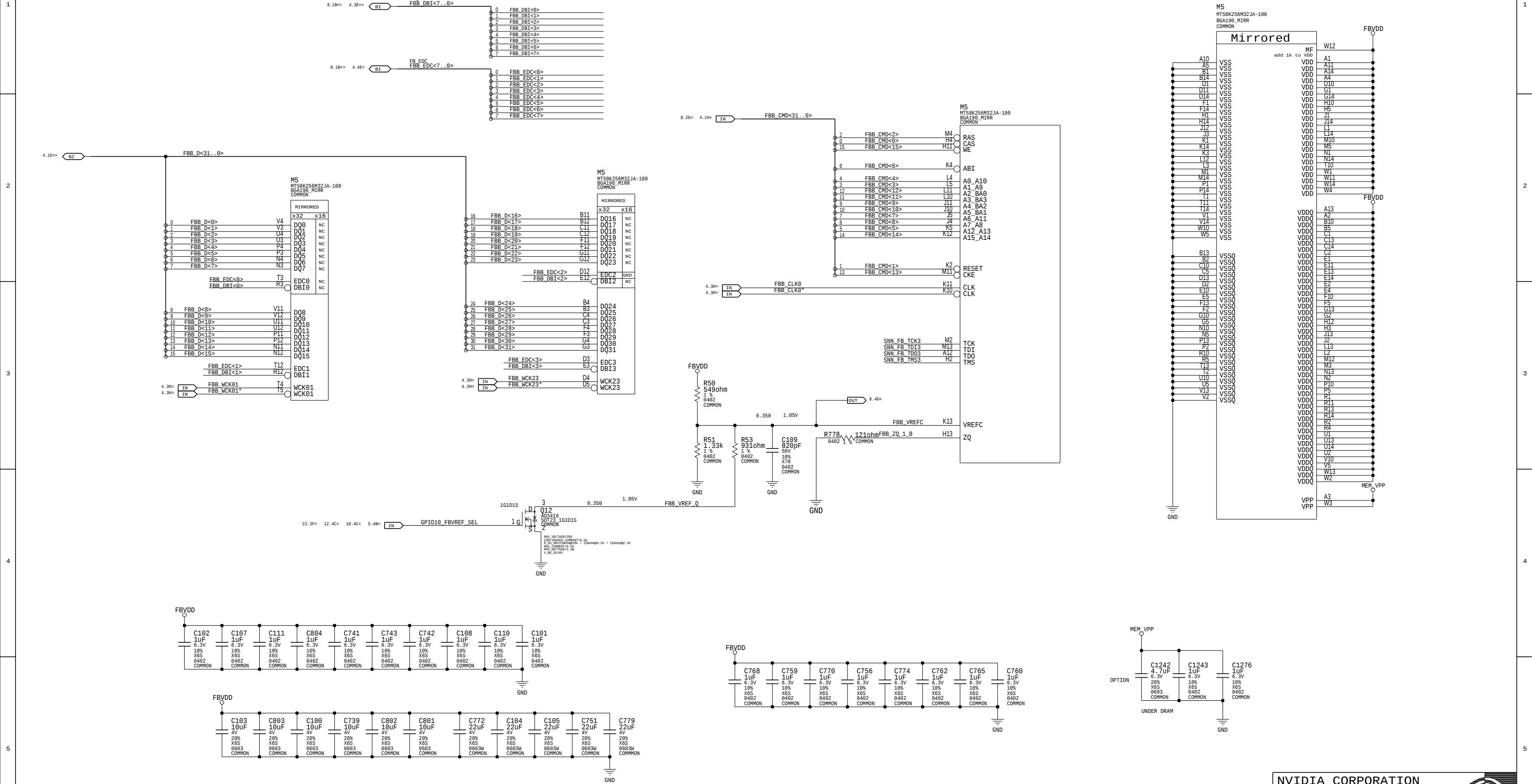
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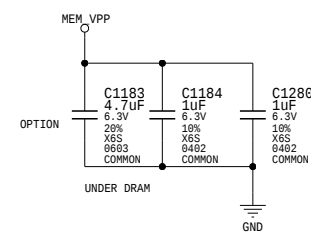
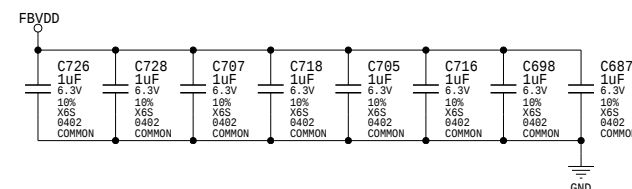
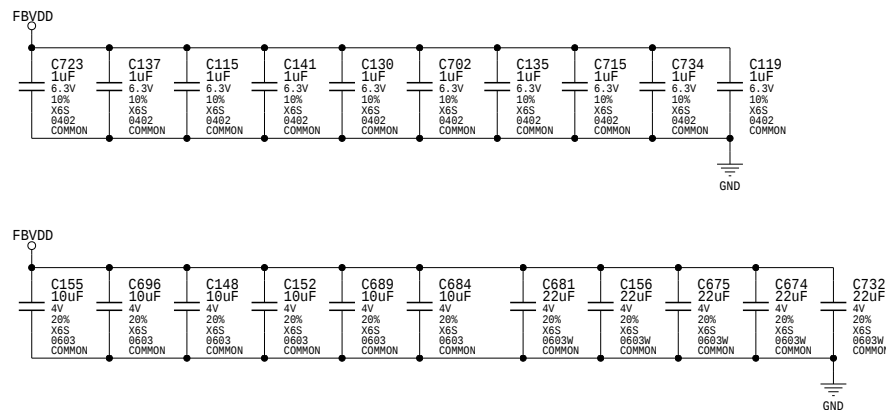
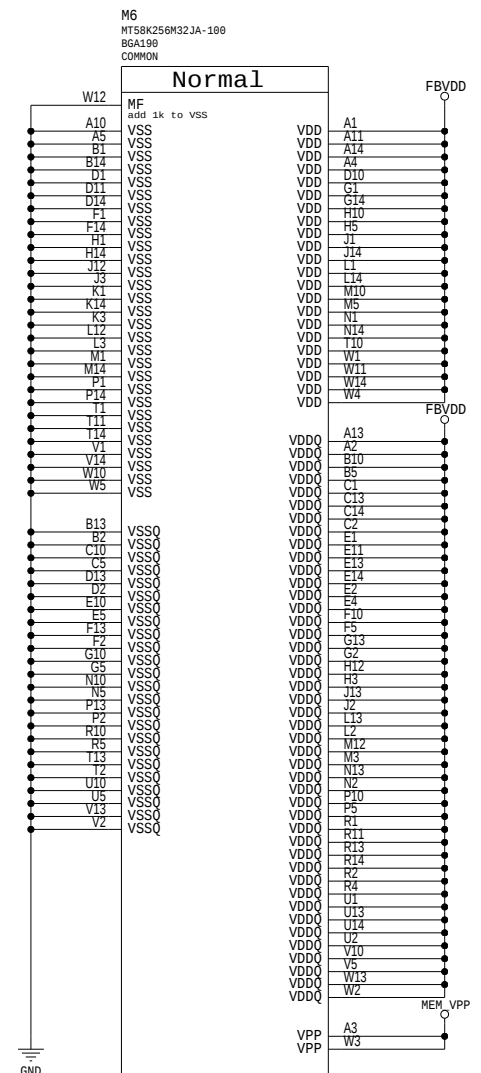
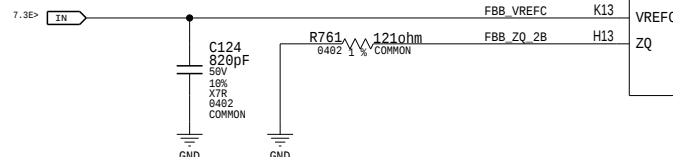
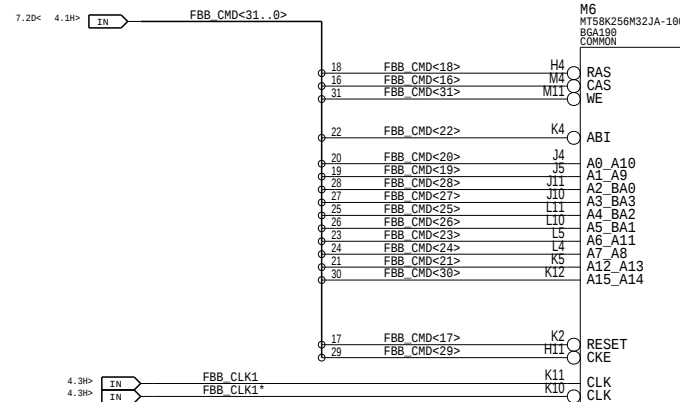
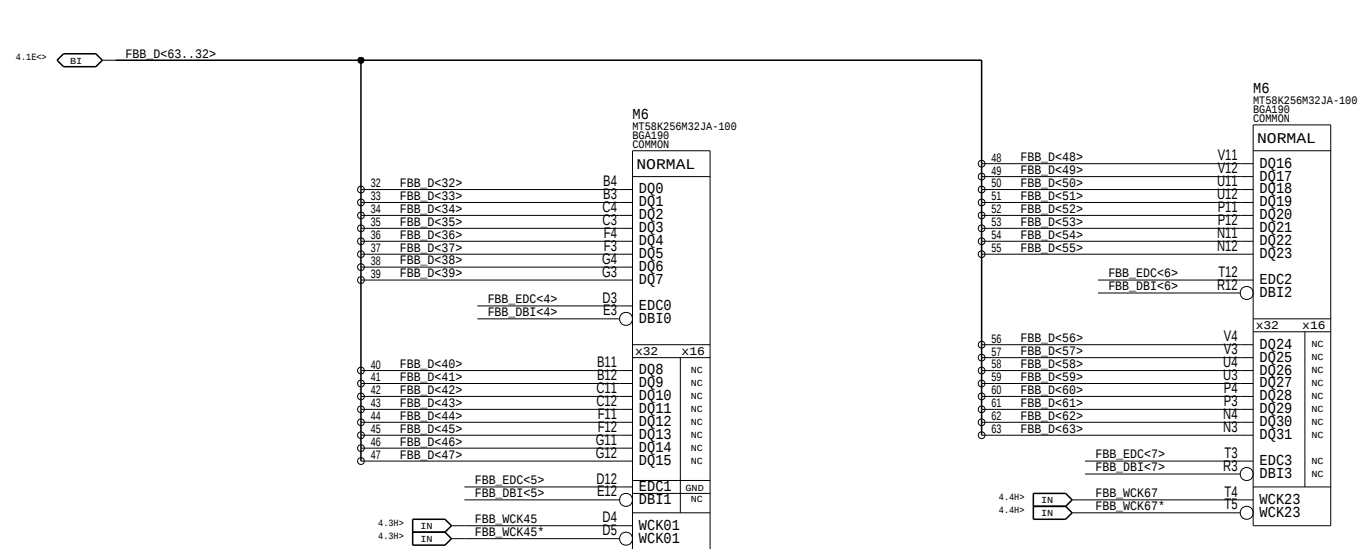
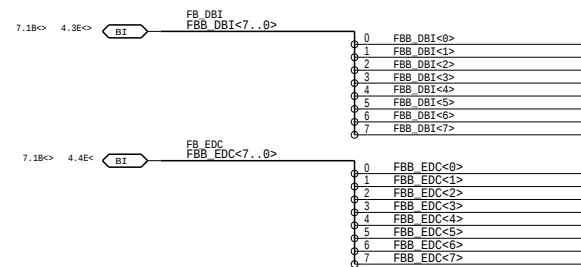


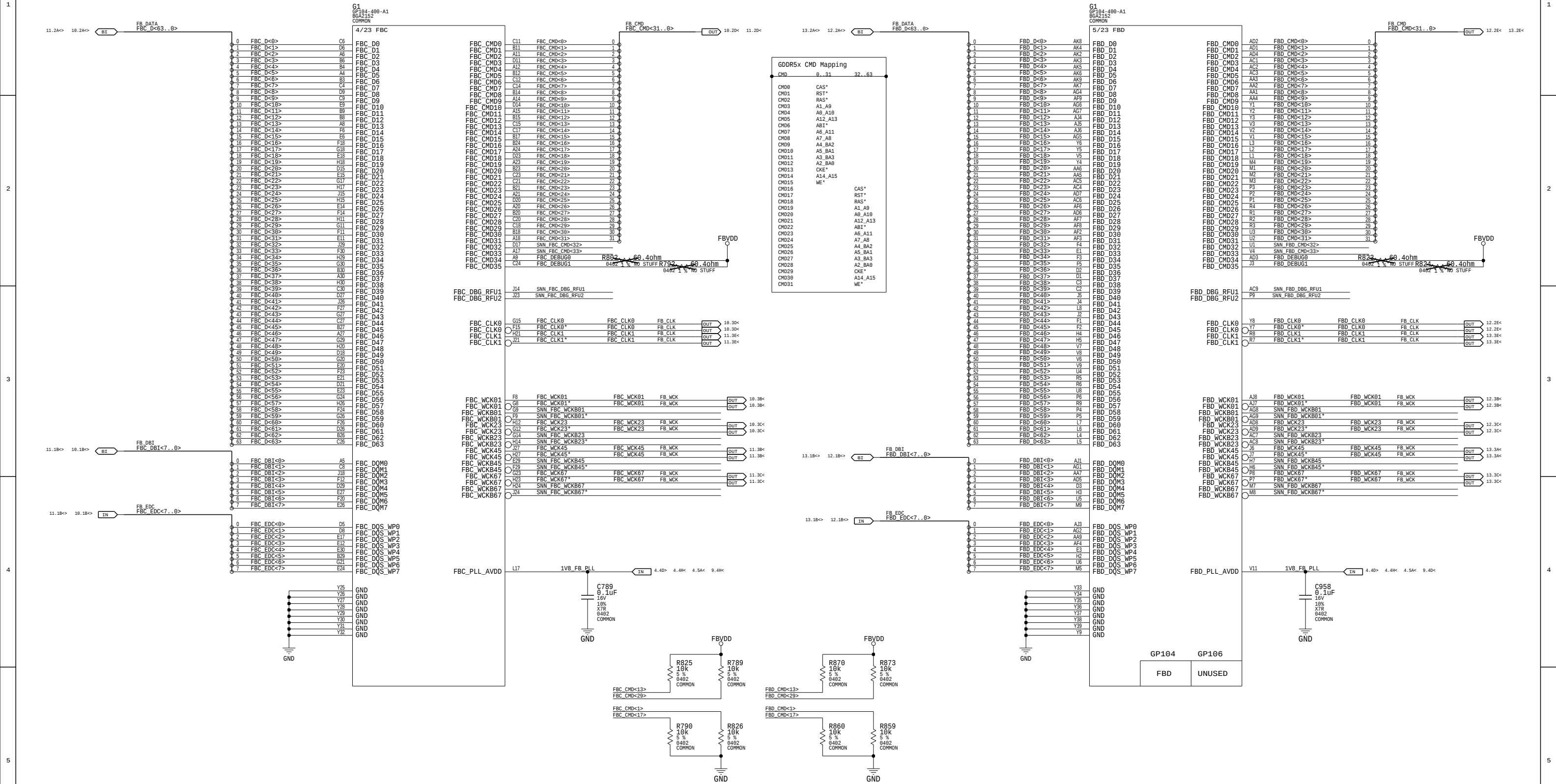
Page6: MEMORY: FBA Partition 63..32



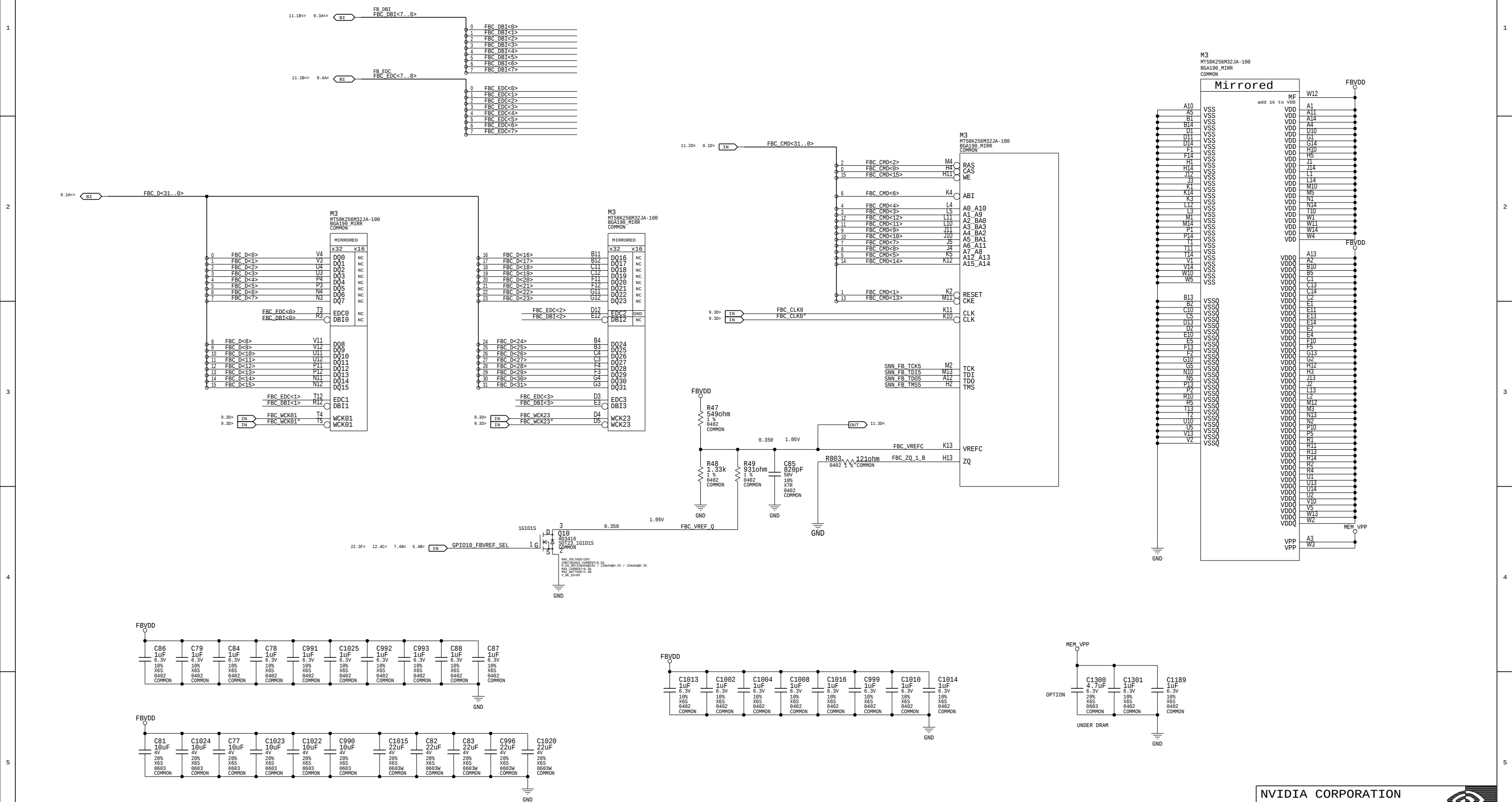


Page8: MEMORY: FBB Partition 63..32





Page10: MEMORY: FBC Partition 31..0



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Page11: MEMORY: FBC Partition 63..32

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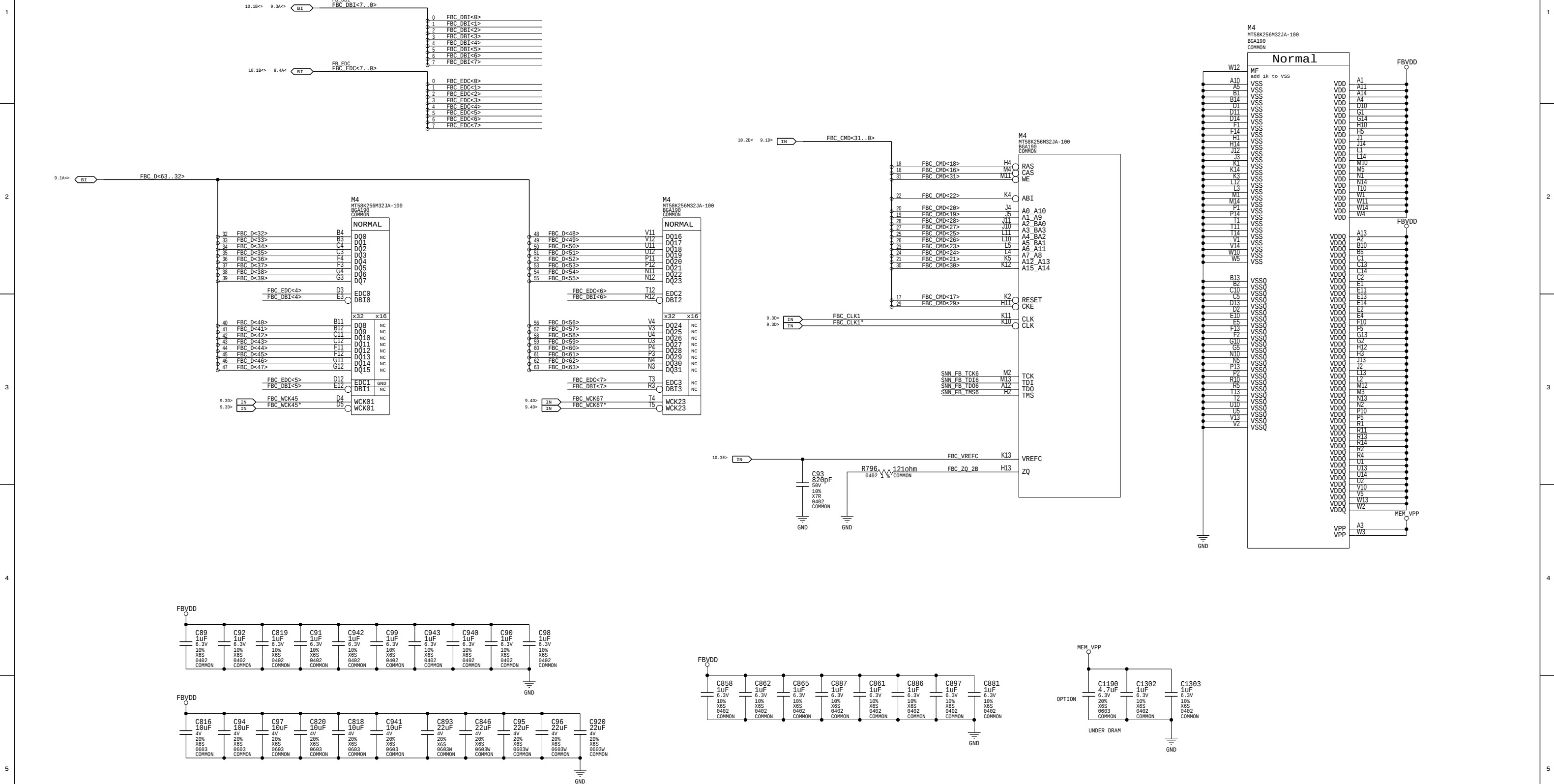
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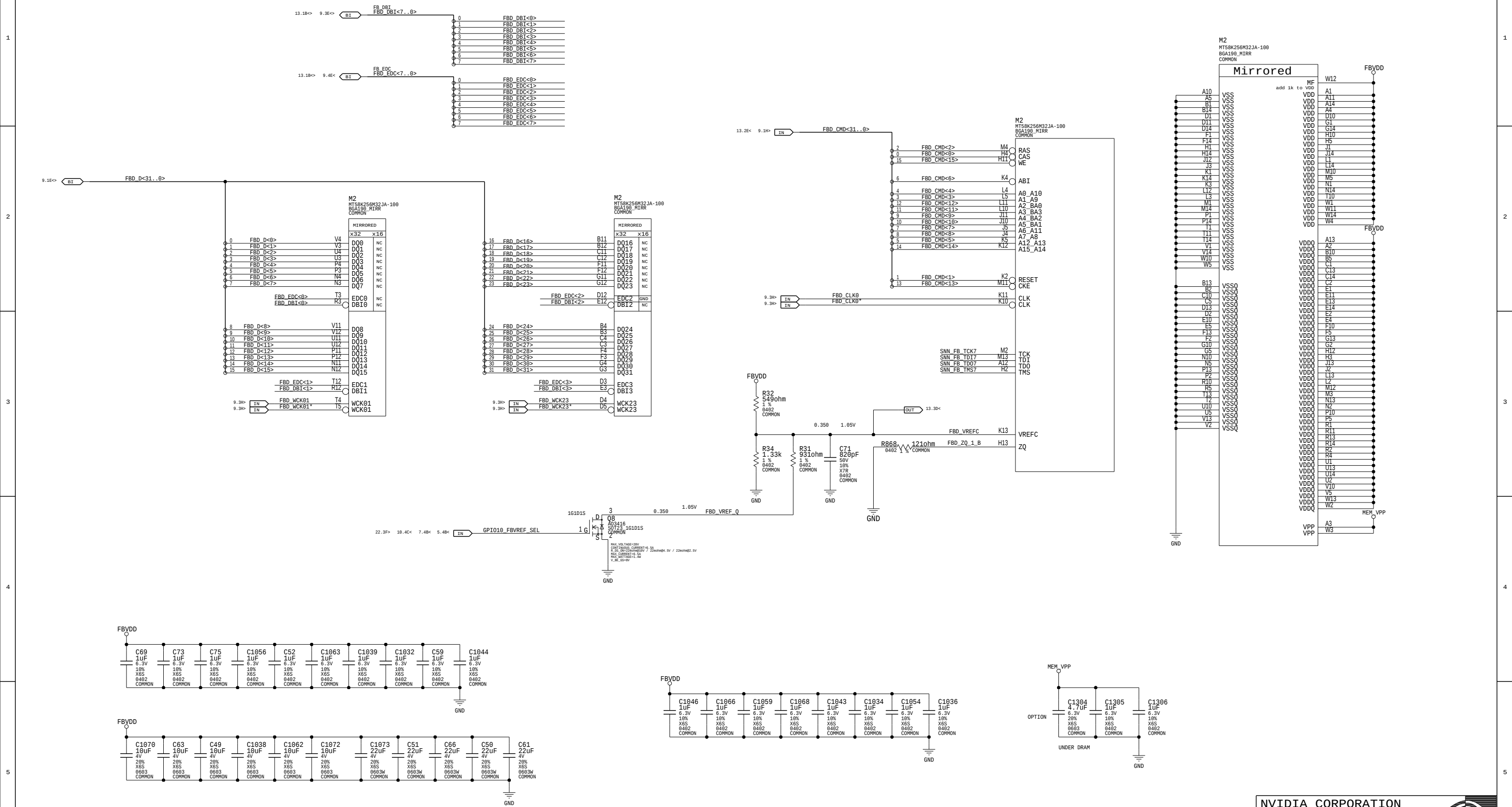
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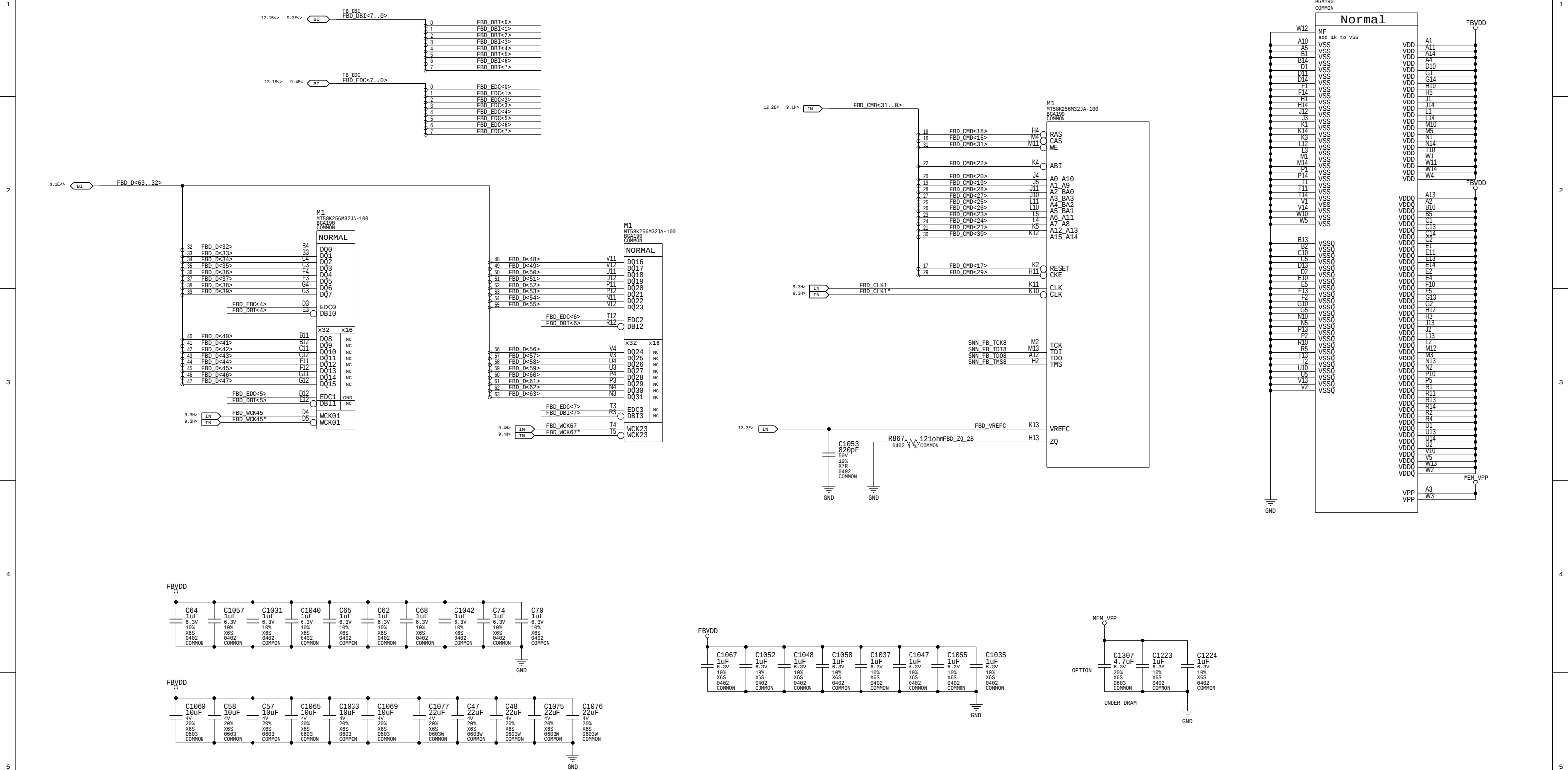
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Page12: MEMORY: FBD Partition 31..0

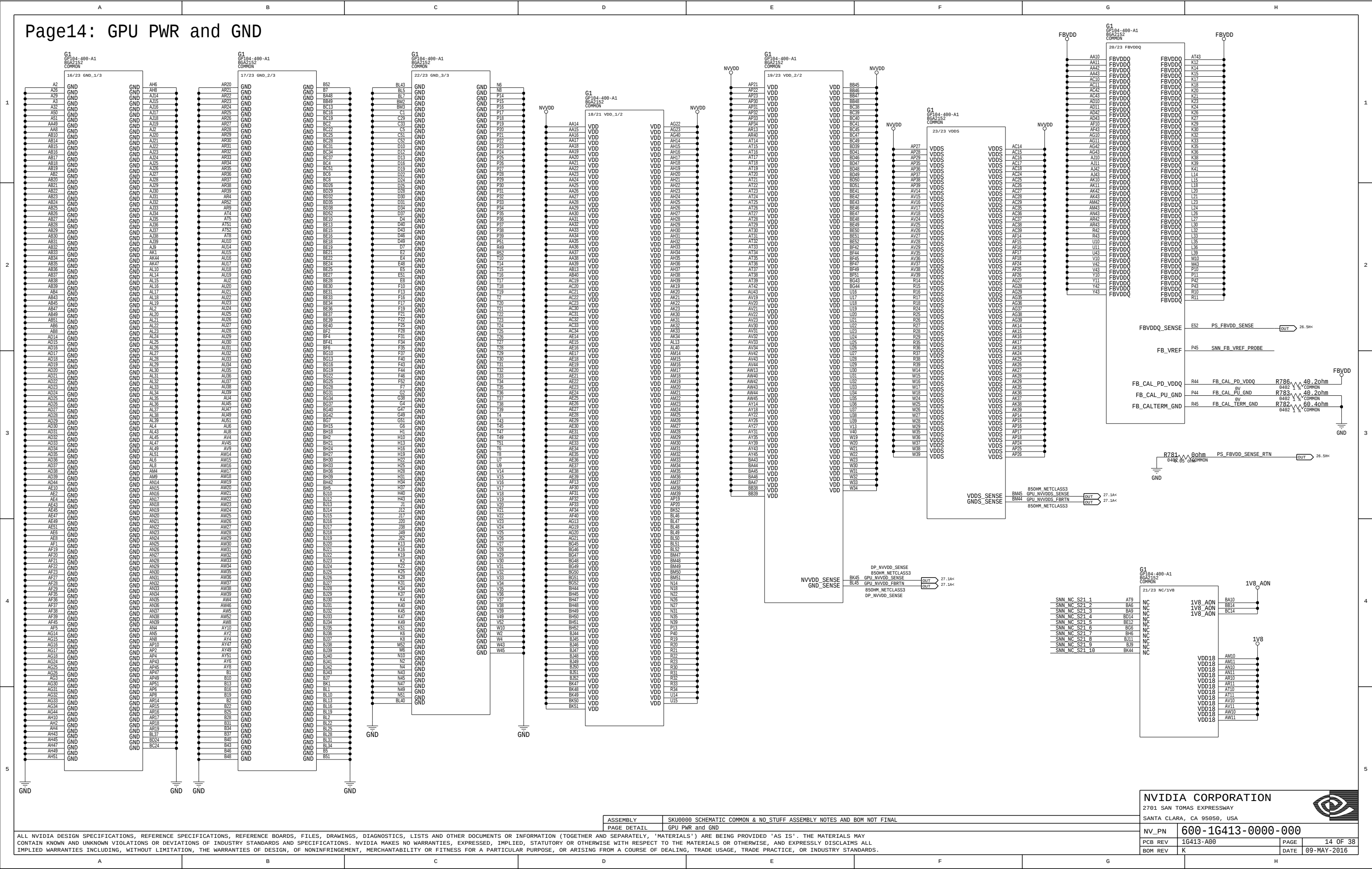


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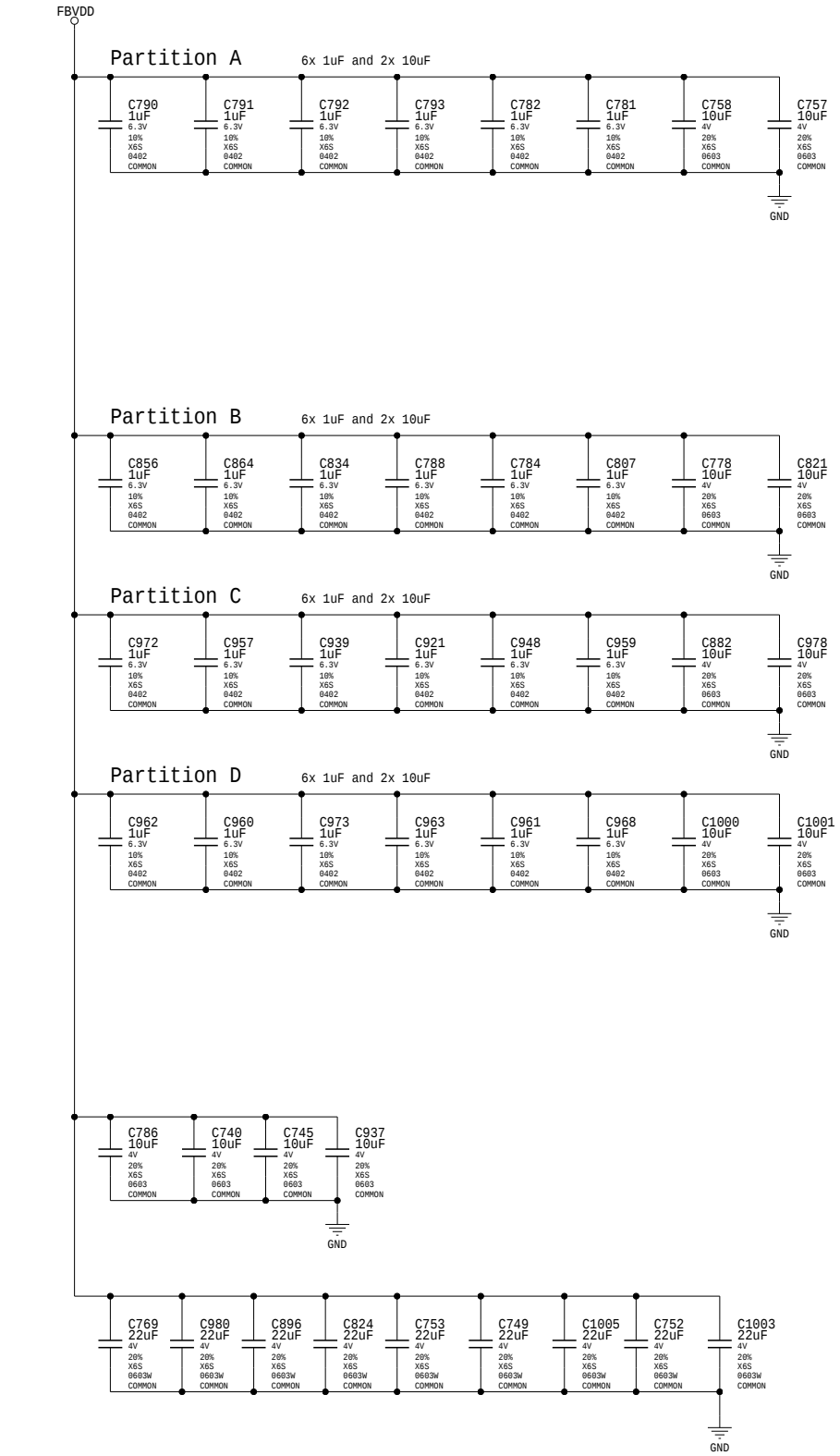


Page14: GPU PWR and GND

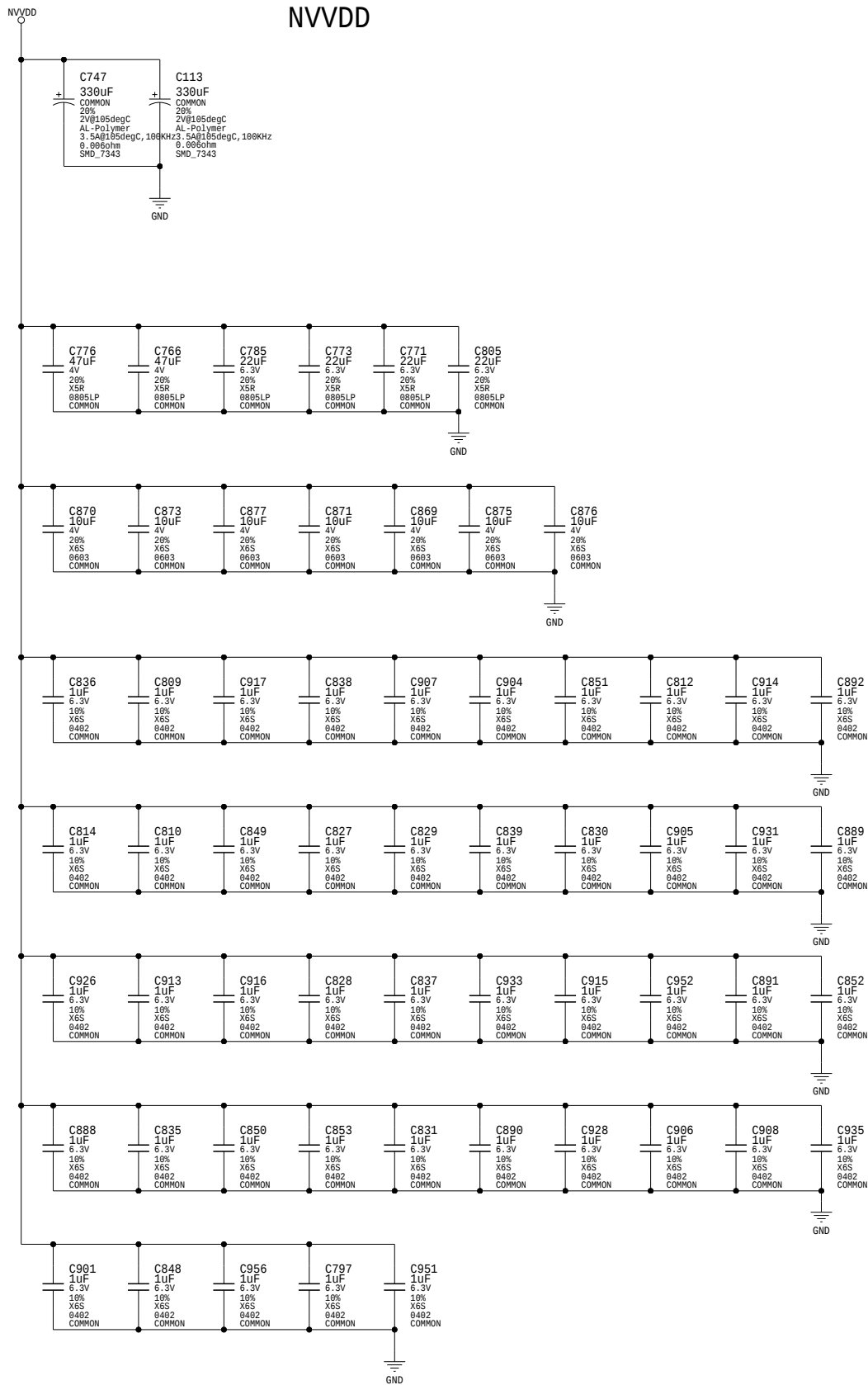


Page15: GPU Decoupling

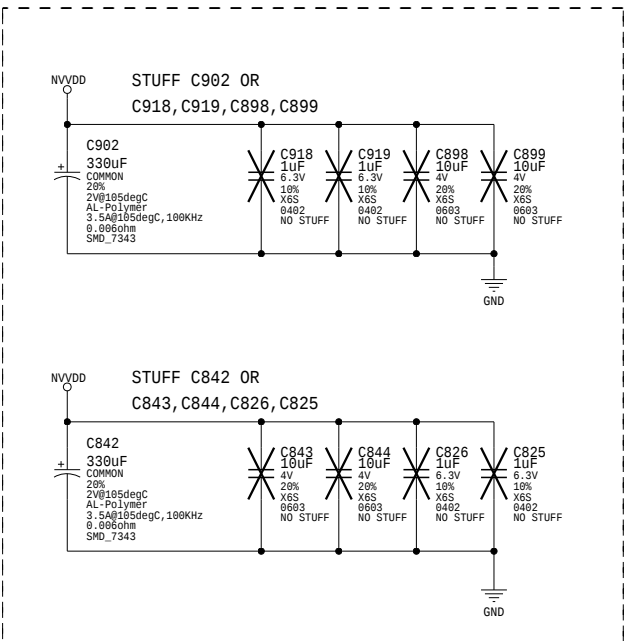
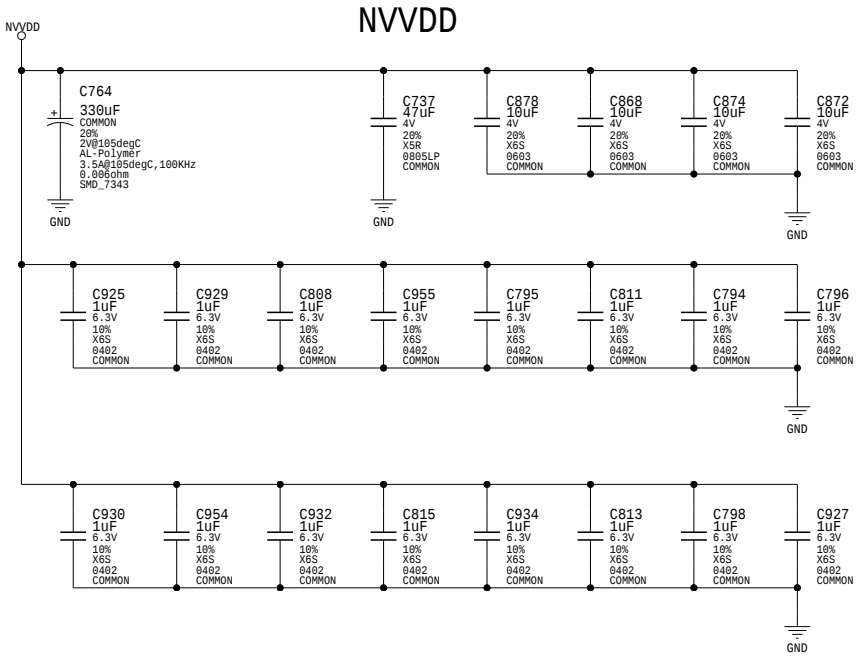
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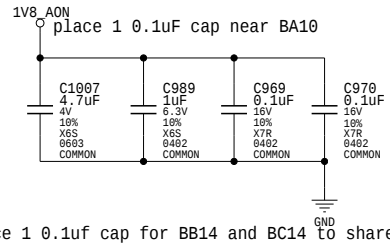
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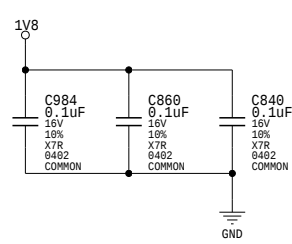
NVVDD



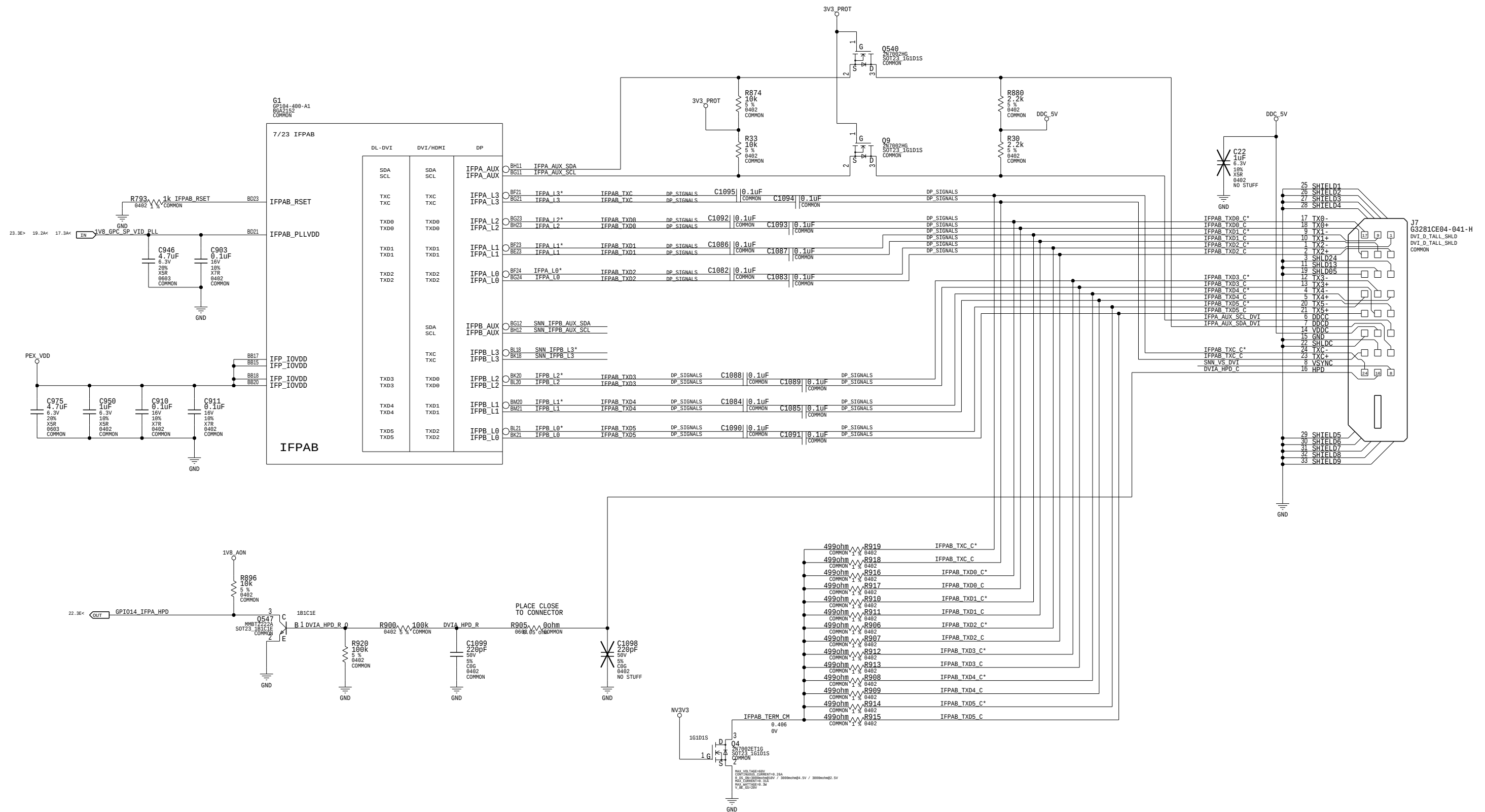
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VDD18



Page16: IFPAB DVI-D-DL



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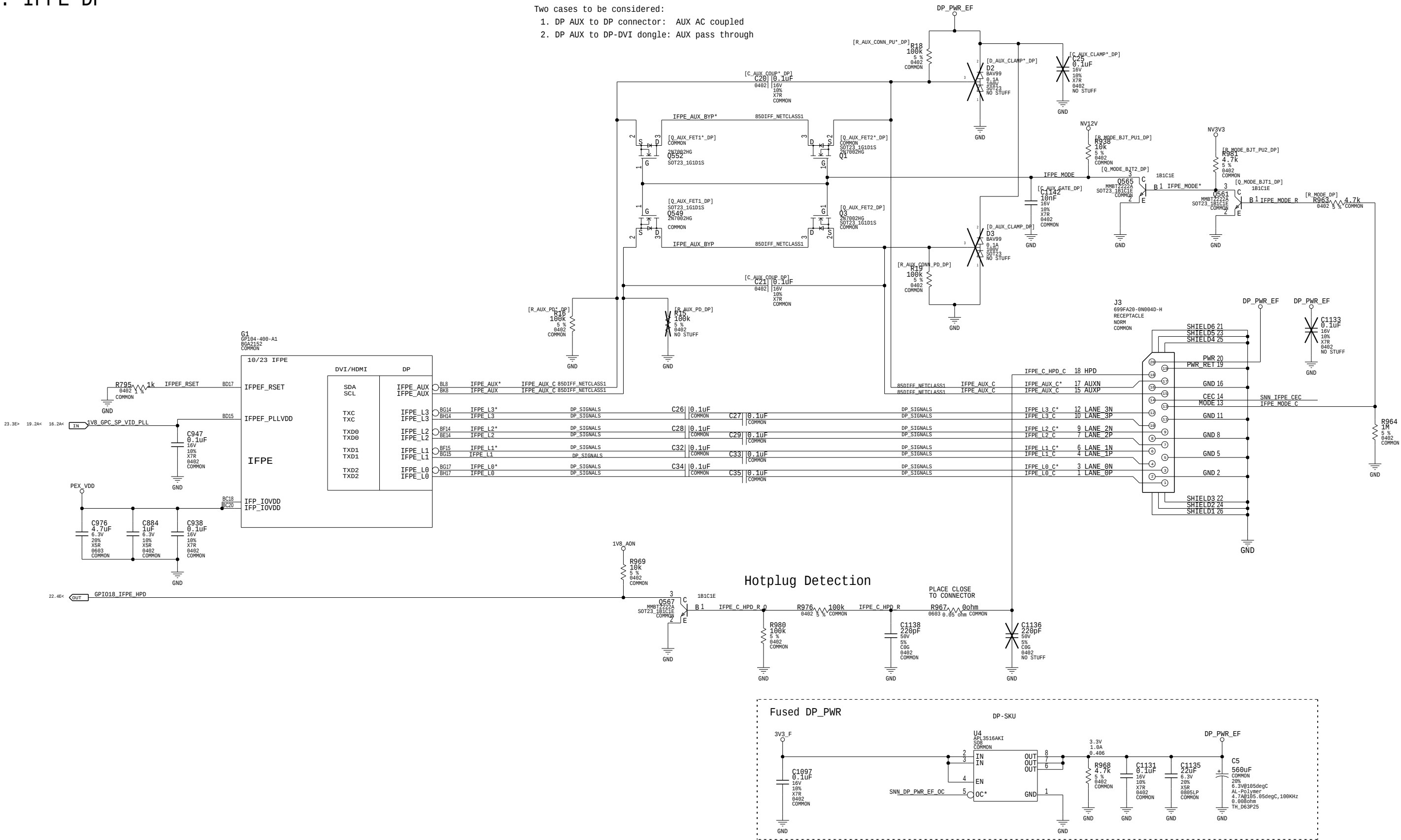
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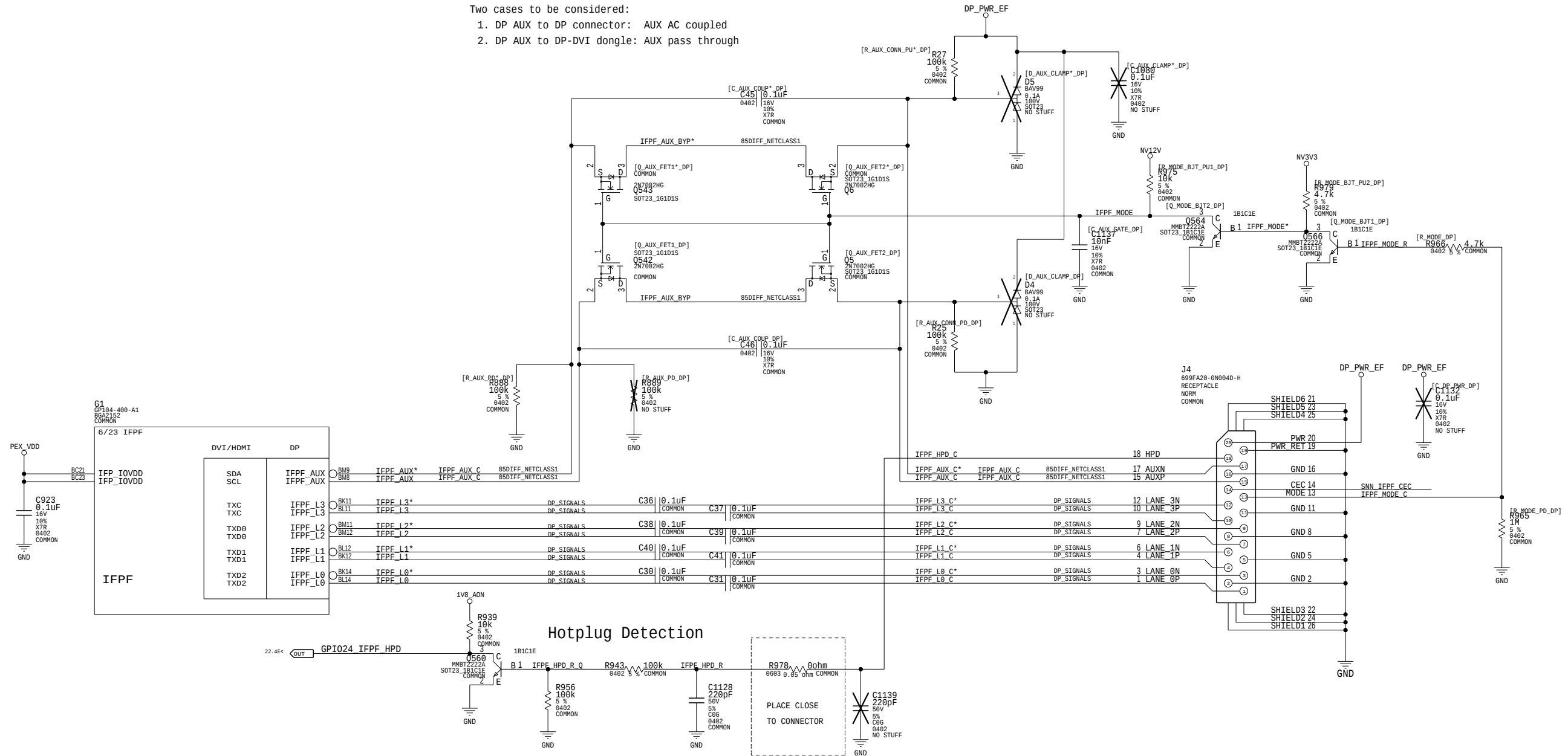
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- Two cases to be considered:
1. DP AUX to DP connector: AUX AC coupled
 2. DP AUX to DP-DVI dongle: AUX pass through



Two cases to be considered:

1. DP AUX to DP connector: AUX AC coupled
2. DP AUX to DP-DVI dongle: AUX pass through



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PAGE DETAIL	IFPEF DP

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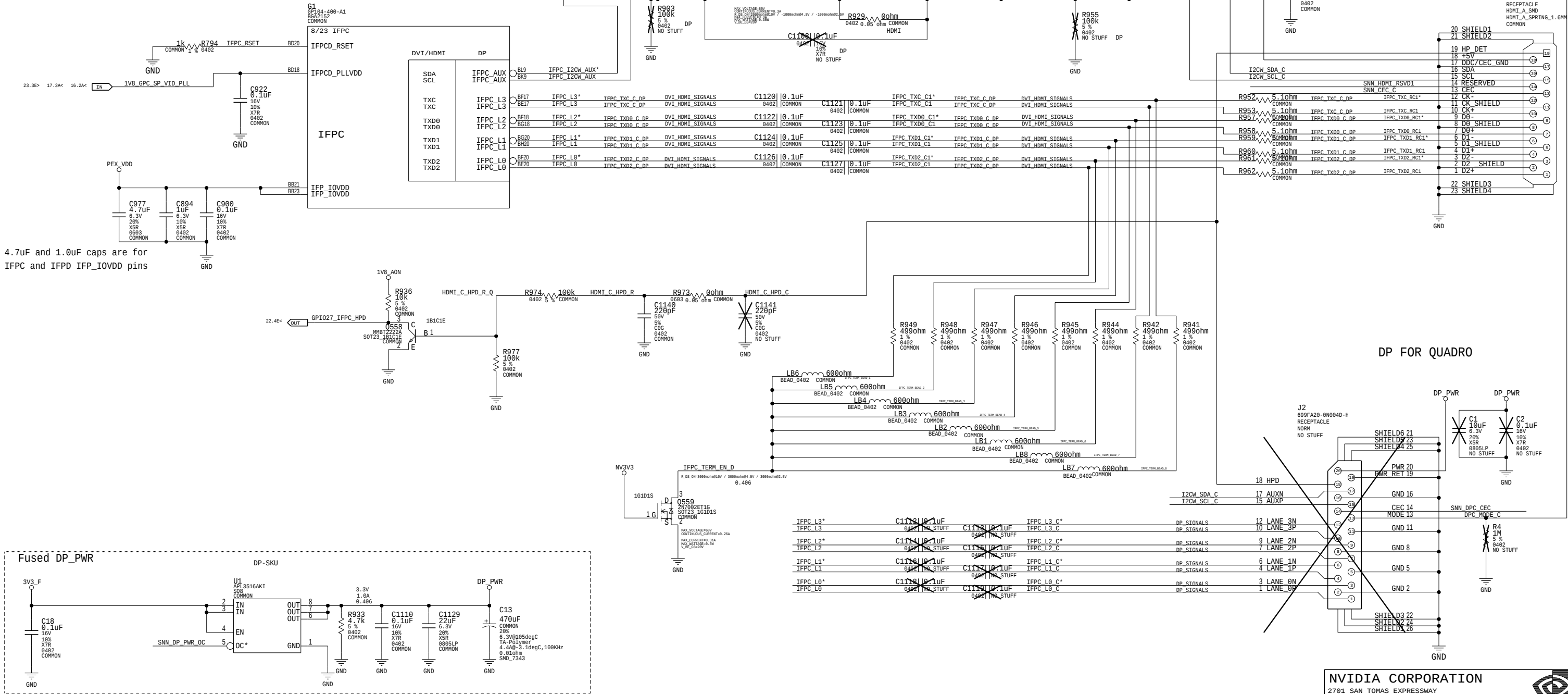
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* I2C to DDC level switching

FOR ESD DIODES

Place near ESD diodes

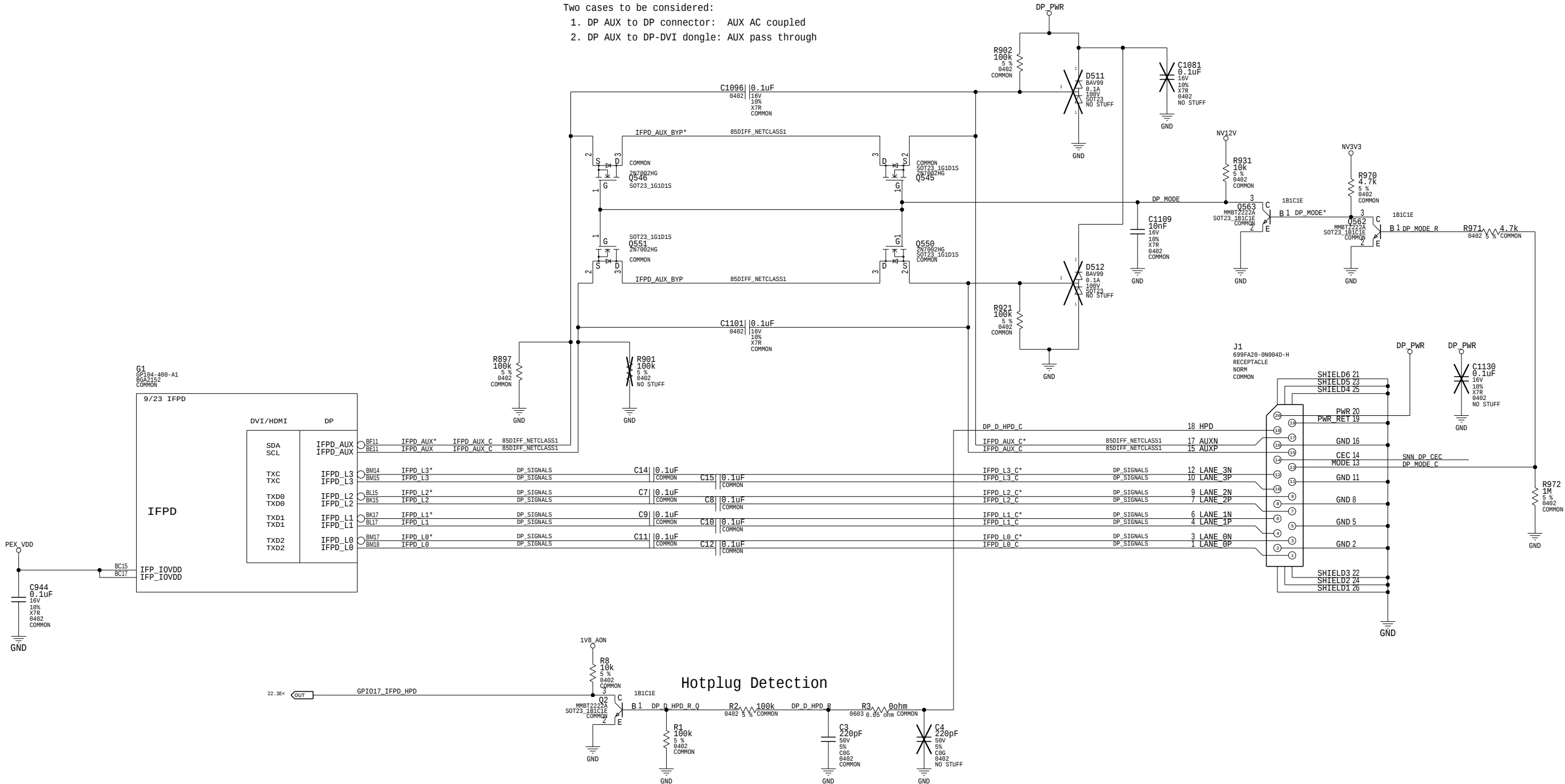
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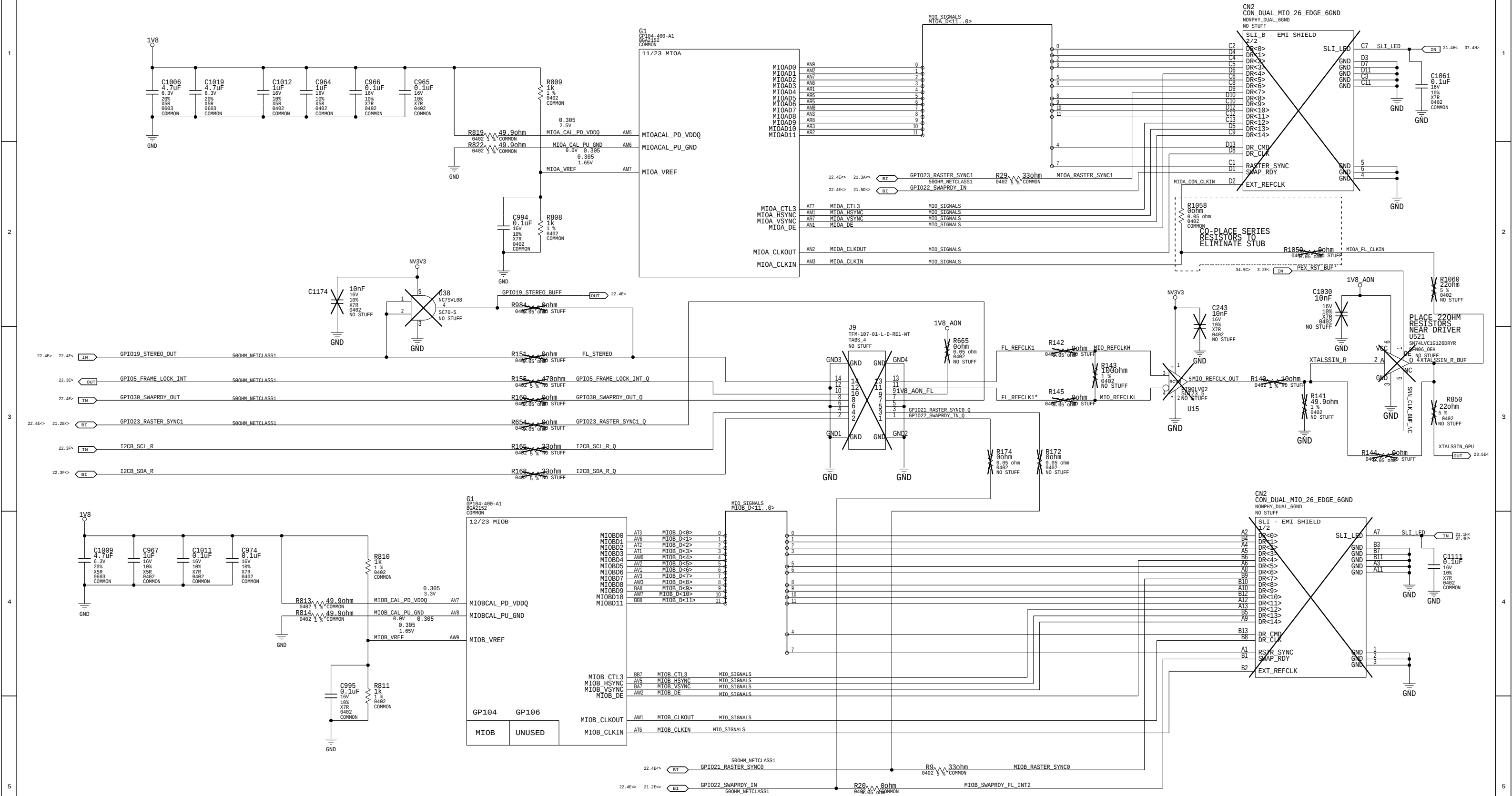
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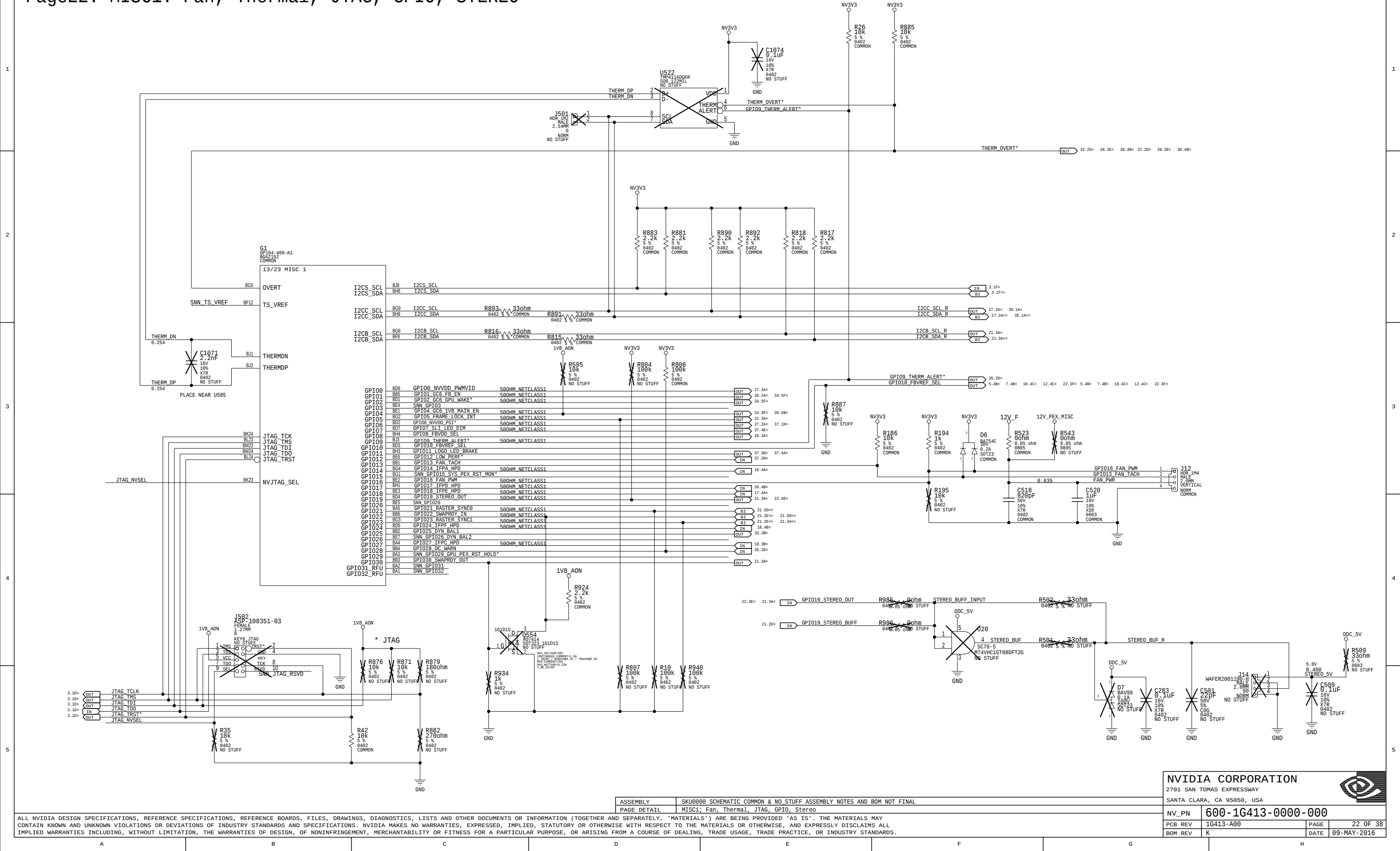
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- Two cases to be considered:
- 1. DP AUX to DP connector: AUX AC coupled
 - 2. DP AUX to DP-DVI dongle: AUX pass through



Page21: MIOA/B Interface and FRAME LOCK





Page23: MISC2: ROM, XTAL, Straps

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]
L	L	L	00000
L	H	L	00010
L	H	H	00011
H	H	L	00110
H	H	H	00111
ROM_SO	ROM_SI	ROM_SCLK	SOR_EXPOSED[3:0] 1:ENABLE 0:DISABLE
L	L	L	1111 DEFAULT SOR0/1/2/3 ENABLE
L	L	H	1110
L	H	L	1101
L	H	H	1100
H	L	L	1011
H	L	H	1010
H	H	L	1001
H	H	H	1000
L	L	M	0111
L	M	L	0110
L	M	H	0101
L	H	M	0100
H	L	M	0011
H	M	L	0010
H	M	H	0001
H	H	M	0000

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
H	L	L	0	1	0	0
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1 DEFAULT
L	L	L	0	0	0	0

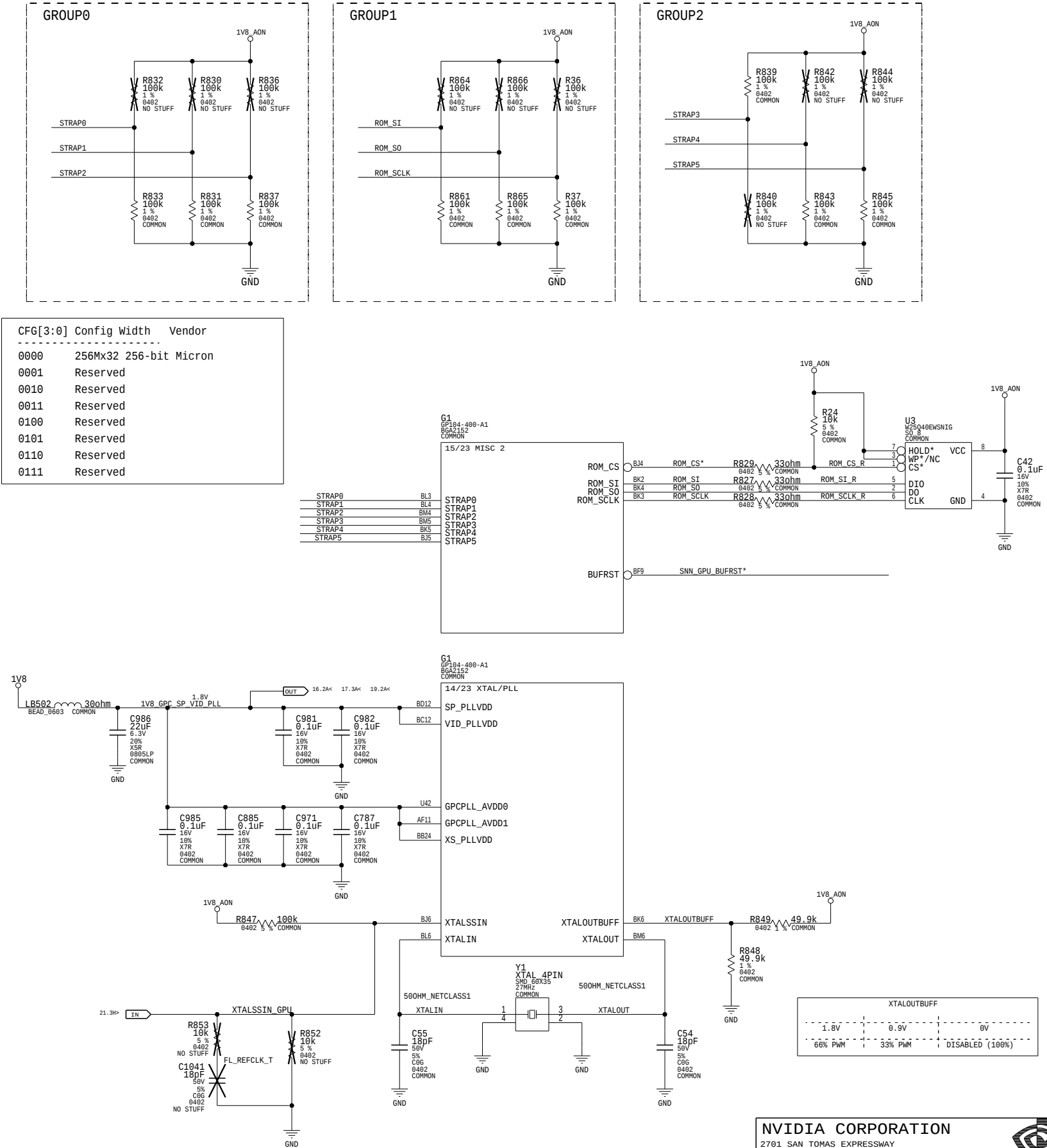
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M=Middle:Tied to 0.9V
L=Low :Tied to 0V

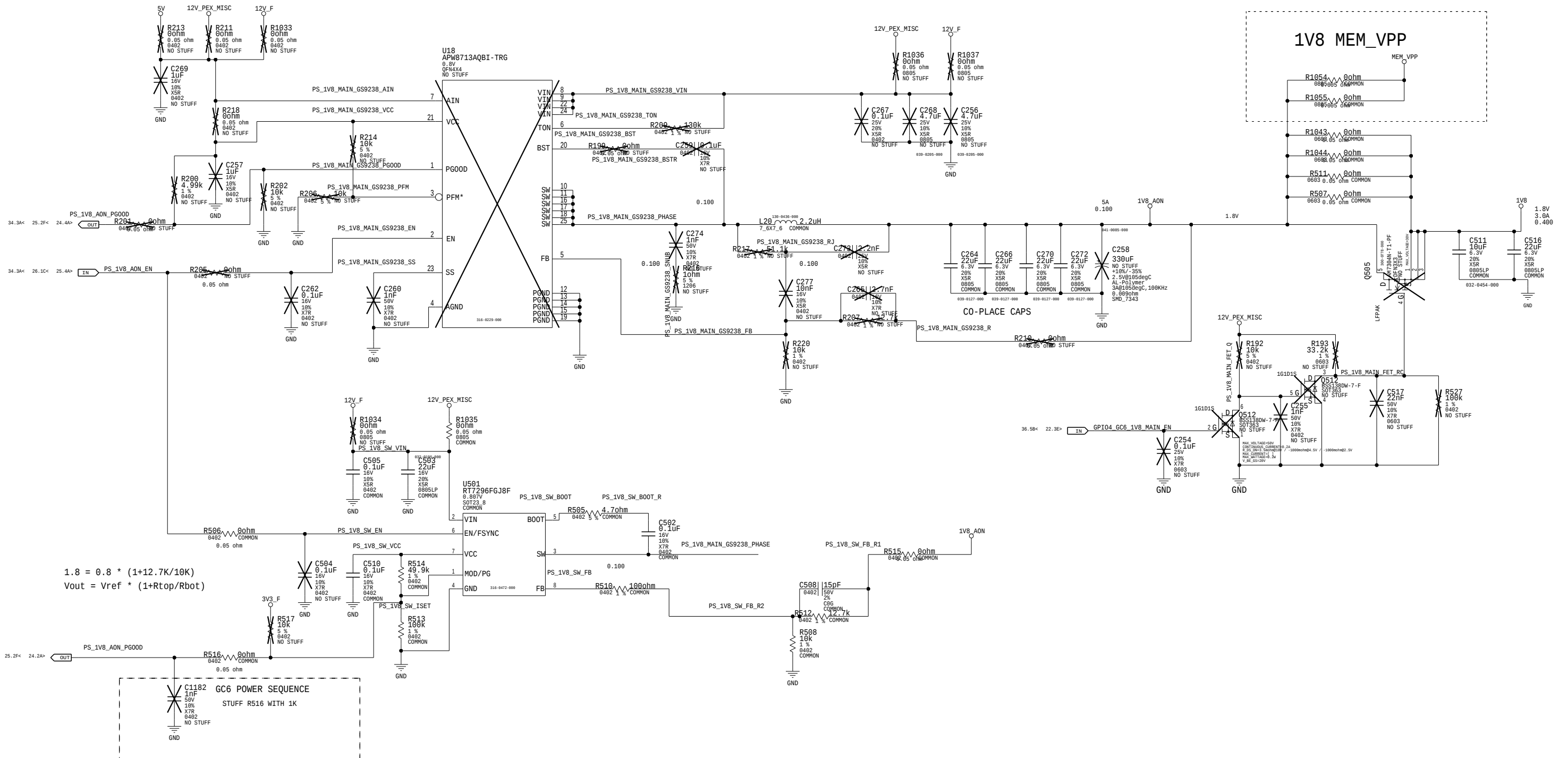
1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGNAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

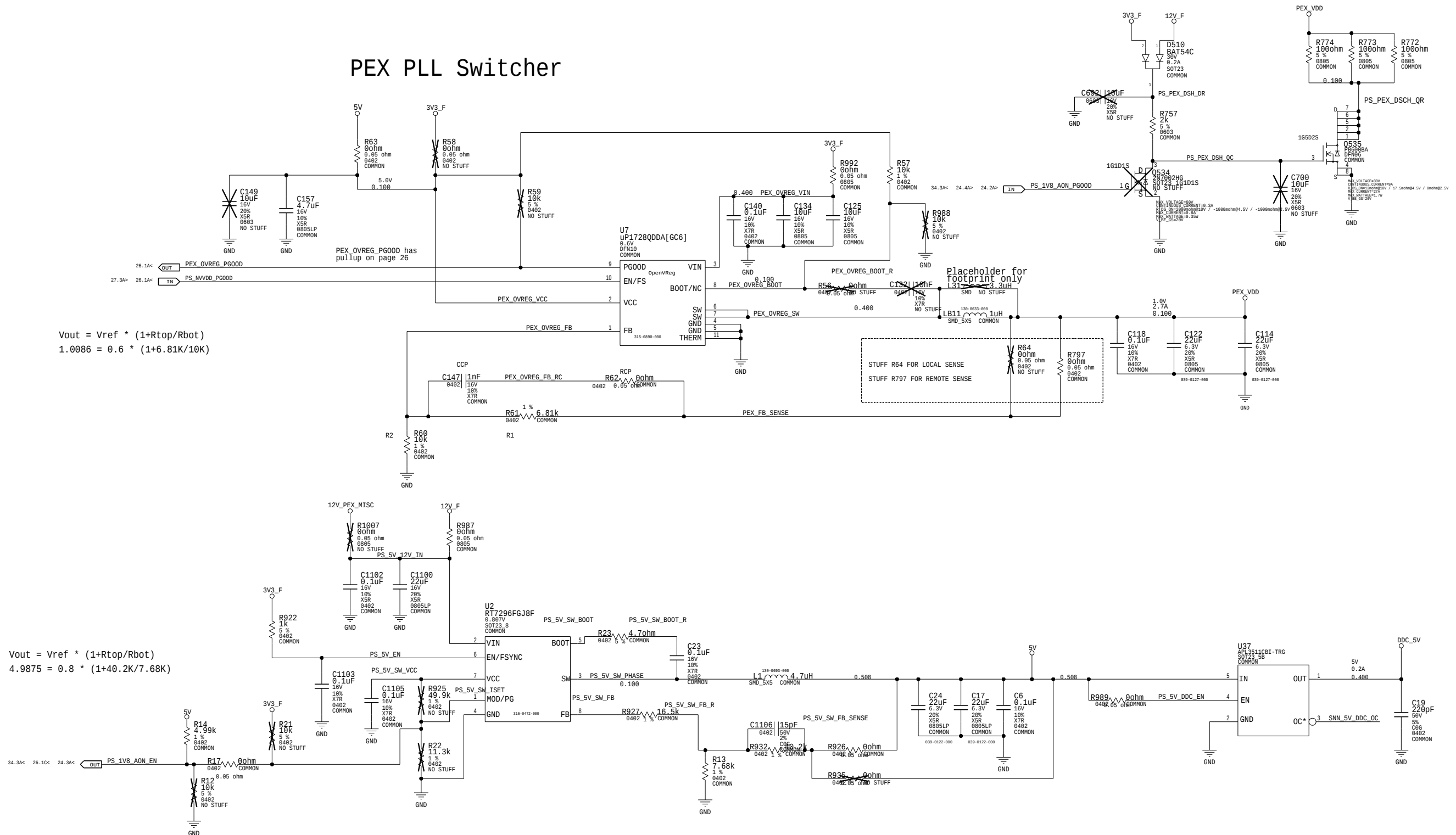




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PEX PLL Switcher

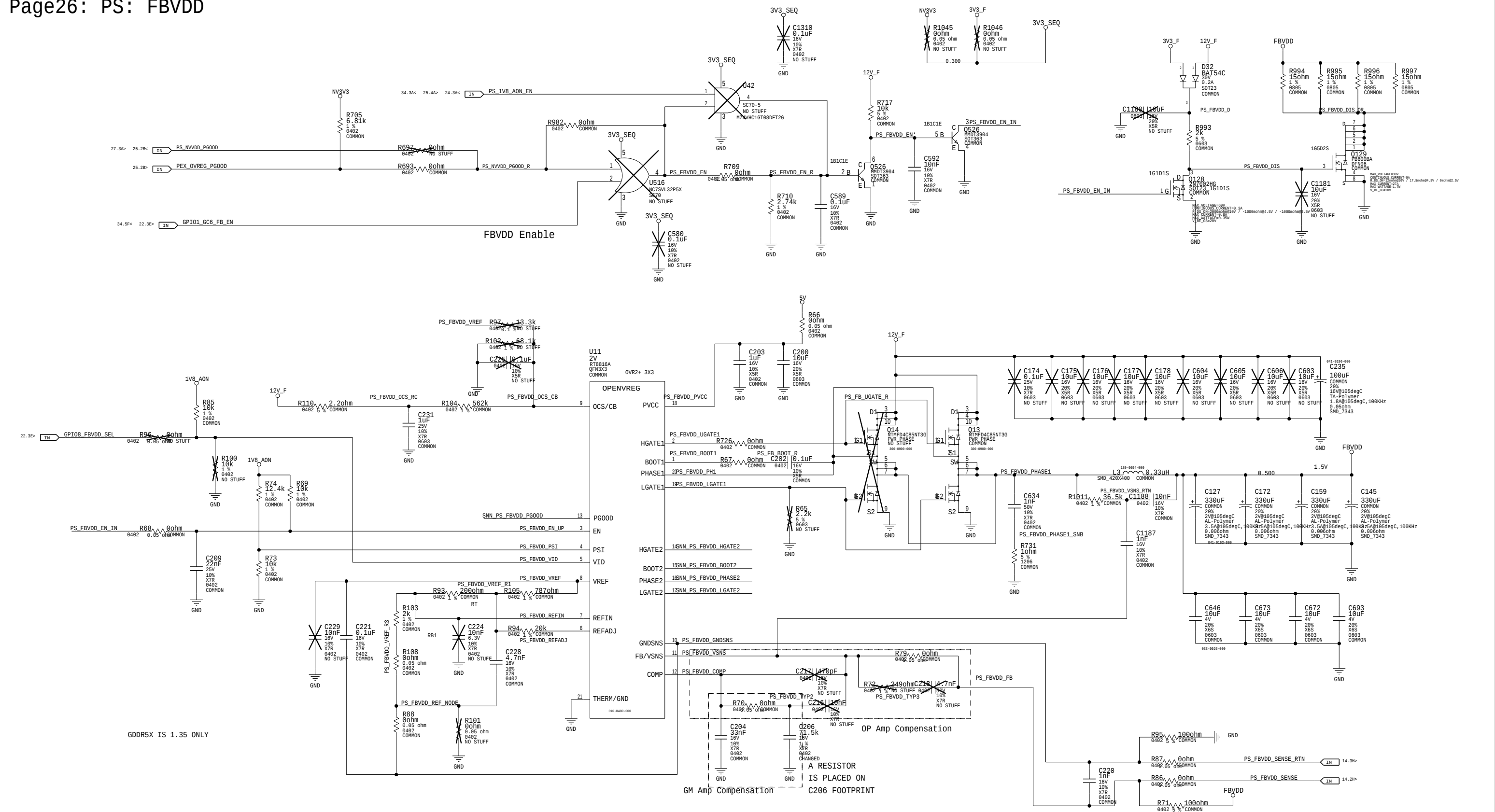


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PAGE DETAIL	PS: 5V, PEX VDD

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NV_PN PCB REV BOM REV	600-1G413-0000-000 1G413-A00 K	PAGE DATE	25 OF 38 09-MAY-2016

Page26: PS: FBVDD



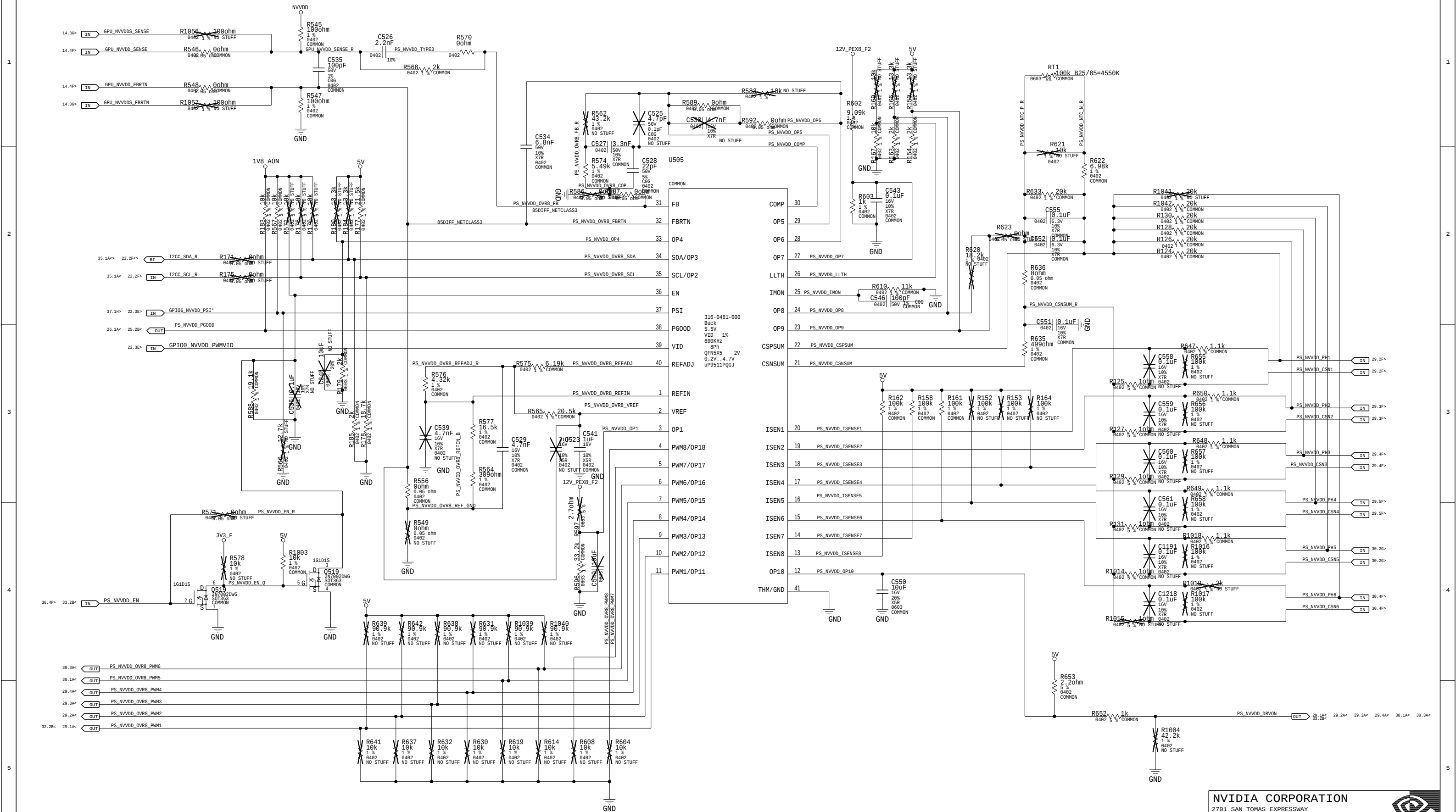
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PAGE DETAIL	PS: FBVDD

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Page27: PS: NVVDD_OVR8



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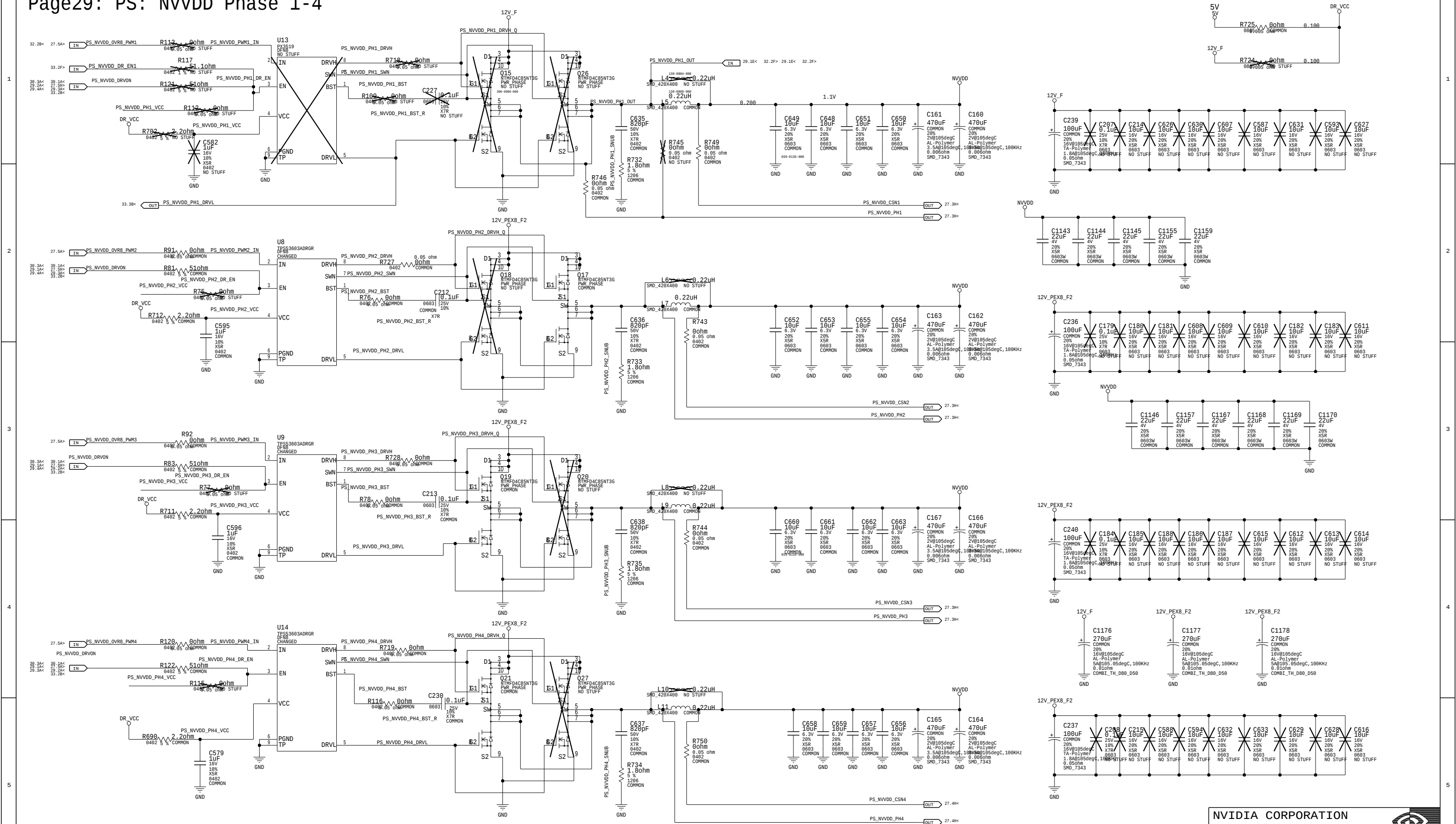
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Page29: PS: NVVDD Phase 1-4

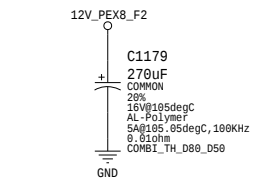
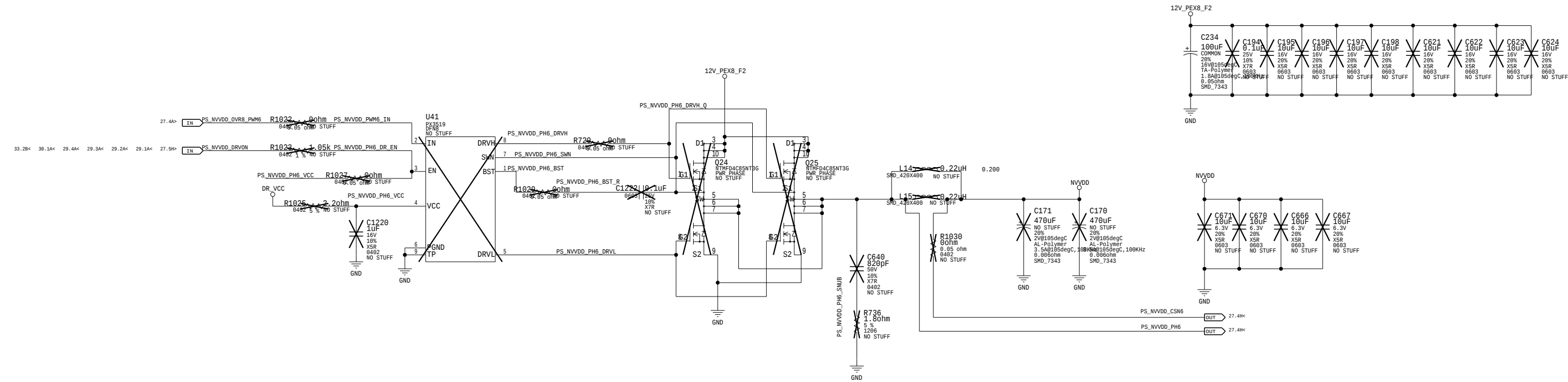
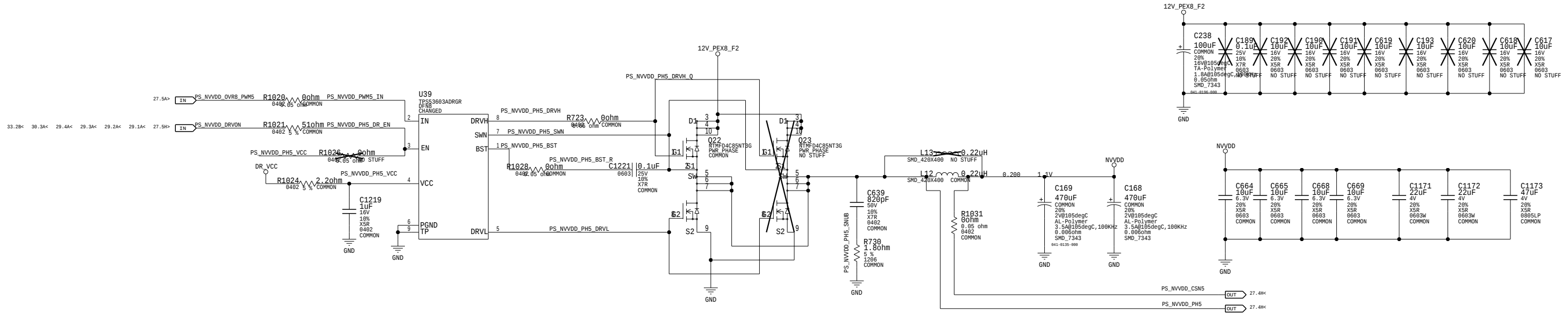


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PAGE DETAIL	PS: NVDD Phase 1-4

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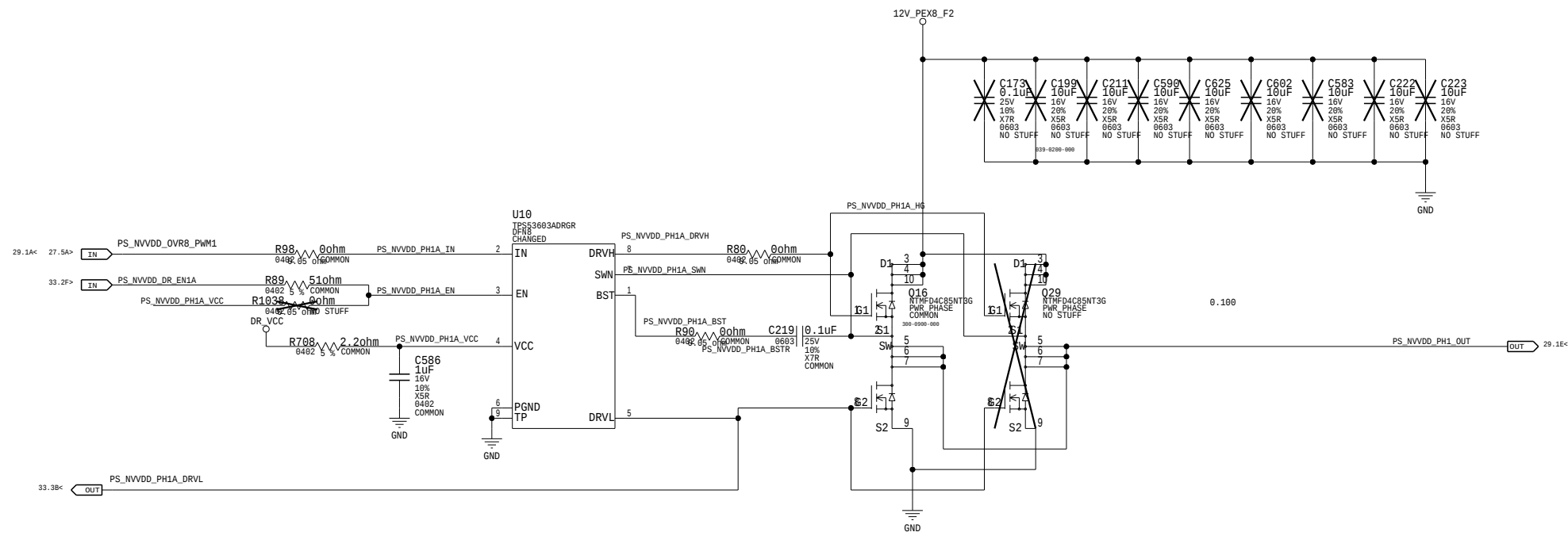
Page30: PS: NVVDD Phase 5 & 6



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Page32: PS: Dynamic Power Balance Phases



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PAGE DETAIL		PS: Dynamic Power Balance Phases	

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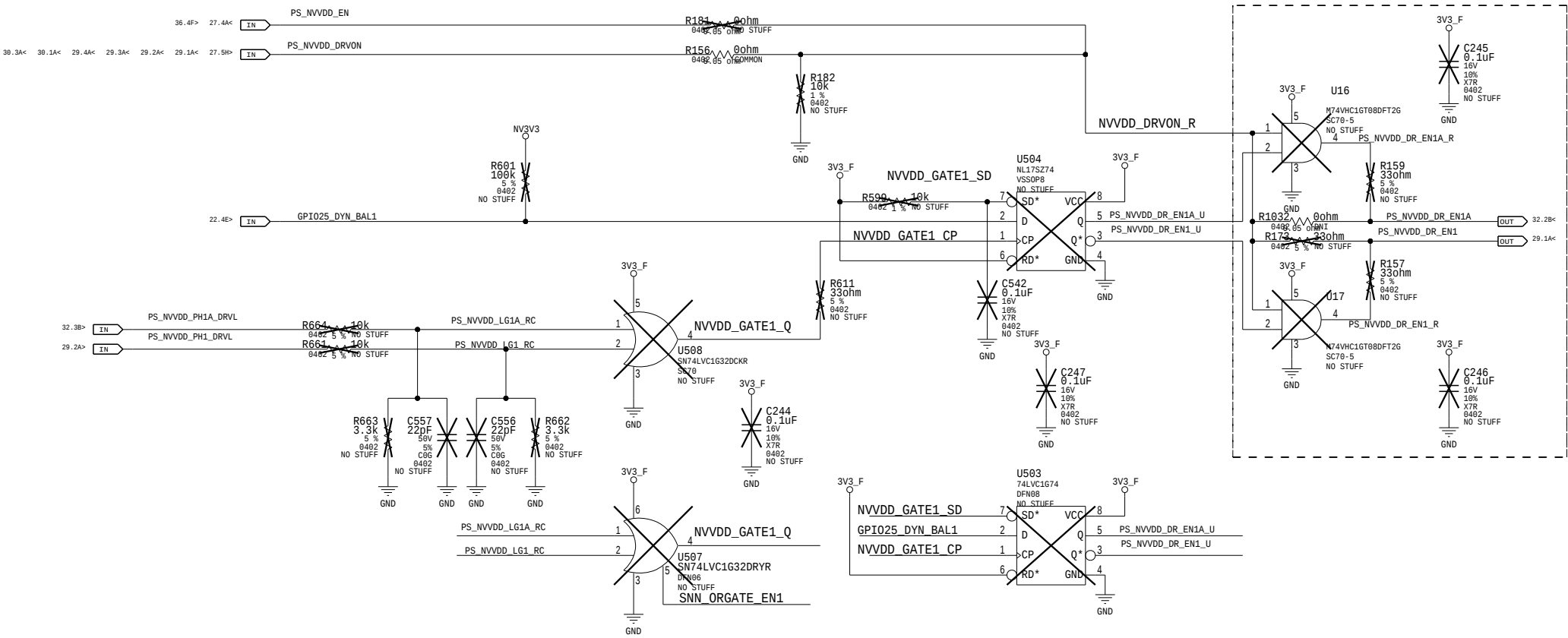
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DATE

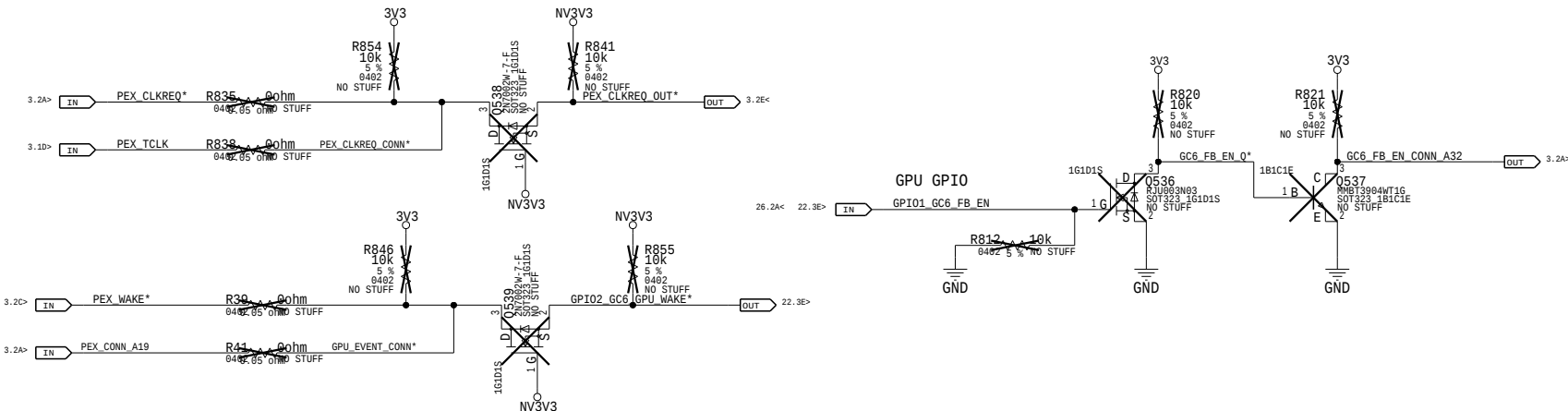
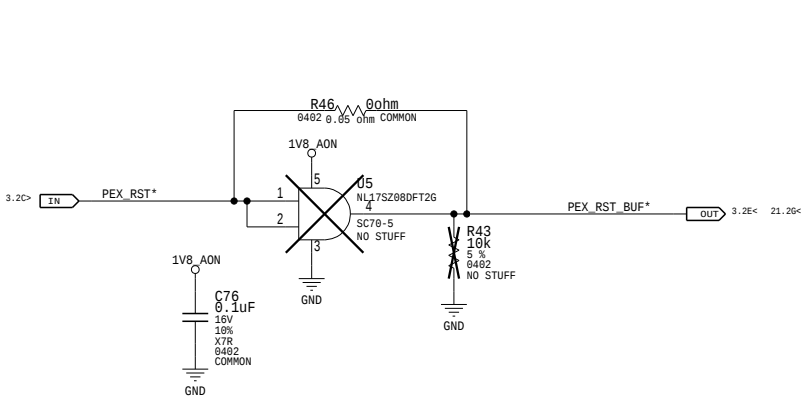
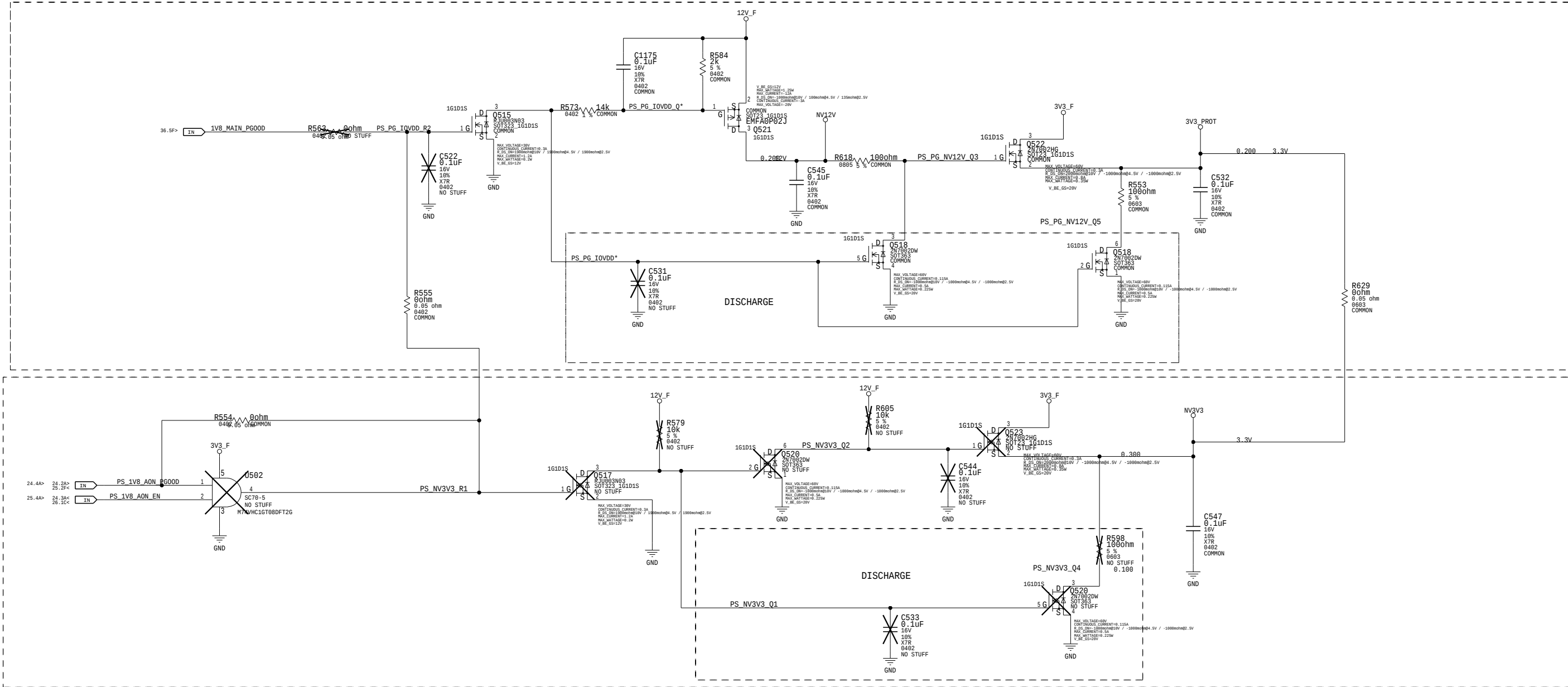
09-MAY-2016



Page33: PS: Dynamic Power Balance Logic



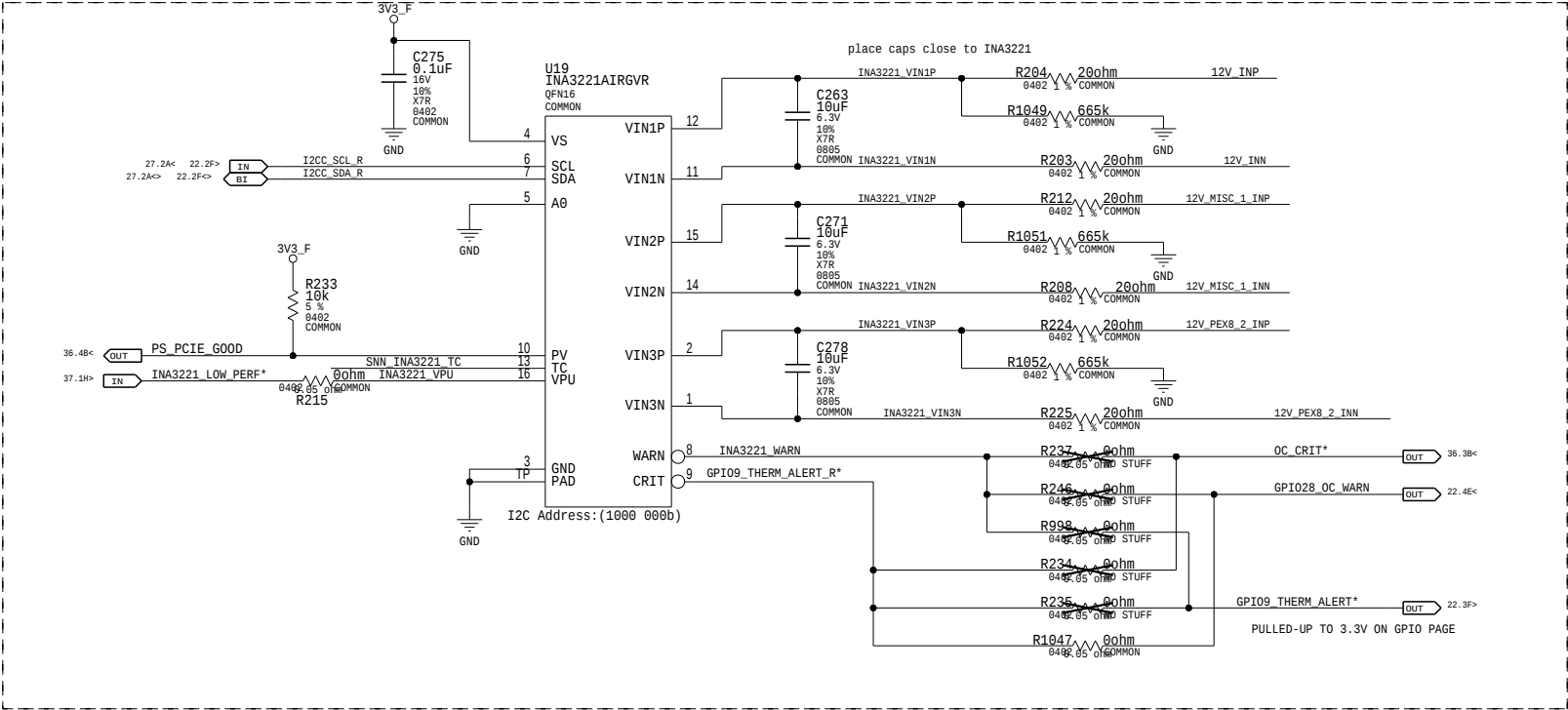
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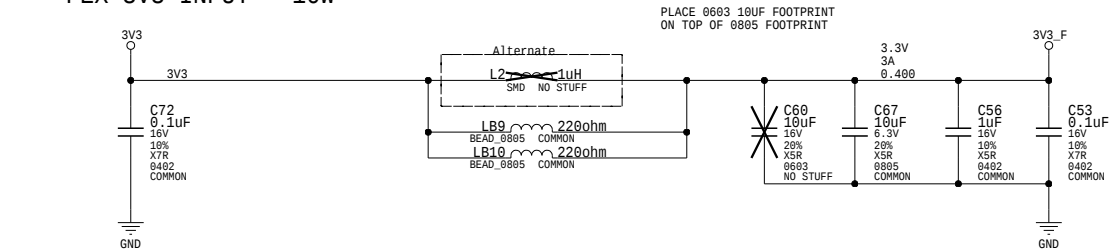
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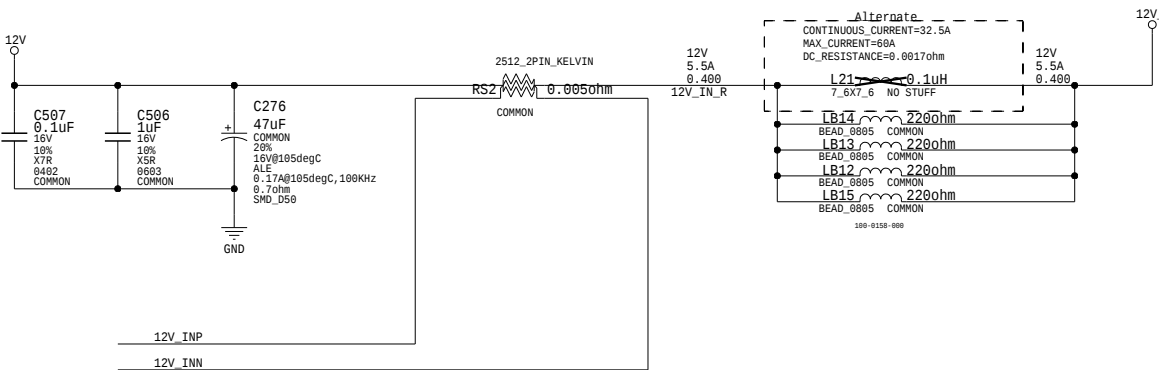
Page35: PS: Inputs, Filtering, and Monitoring



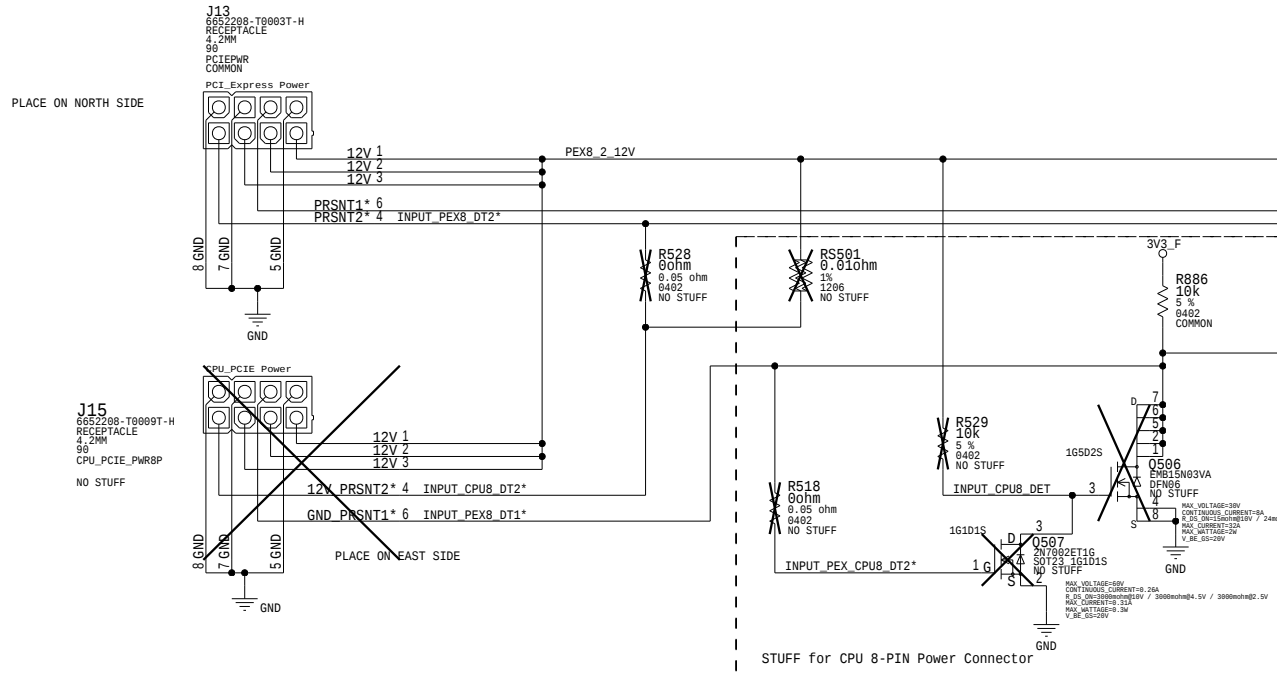
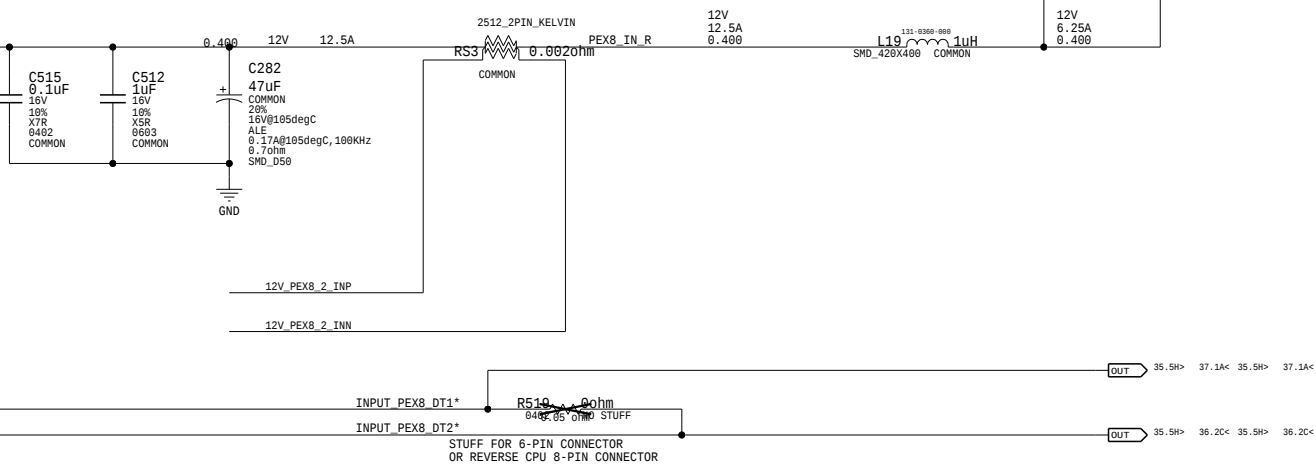
PEX 3V3 INPUT - 10W



PEX_12V INPUT - 66W



PEX8 INPUT 2 - 2x4 PCIE CON 150W



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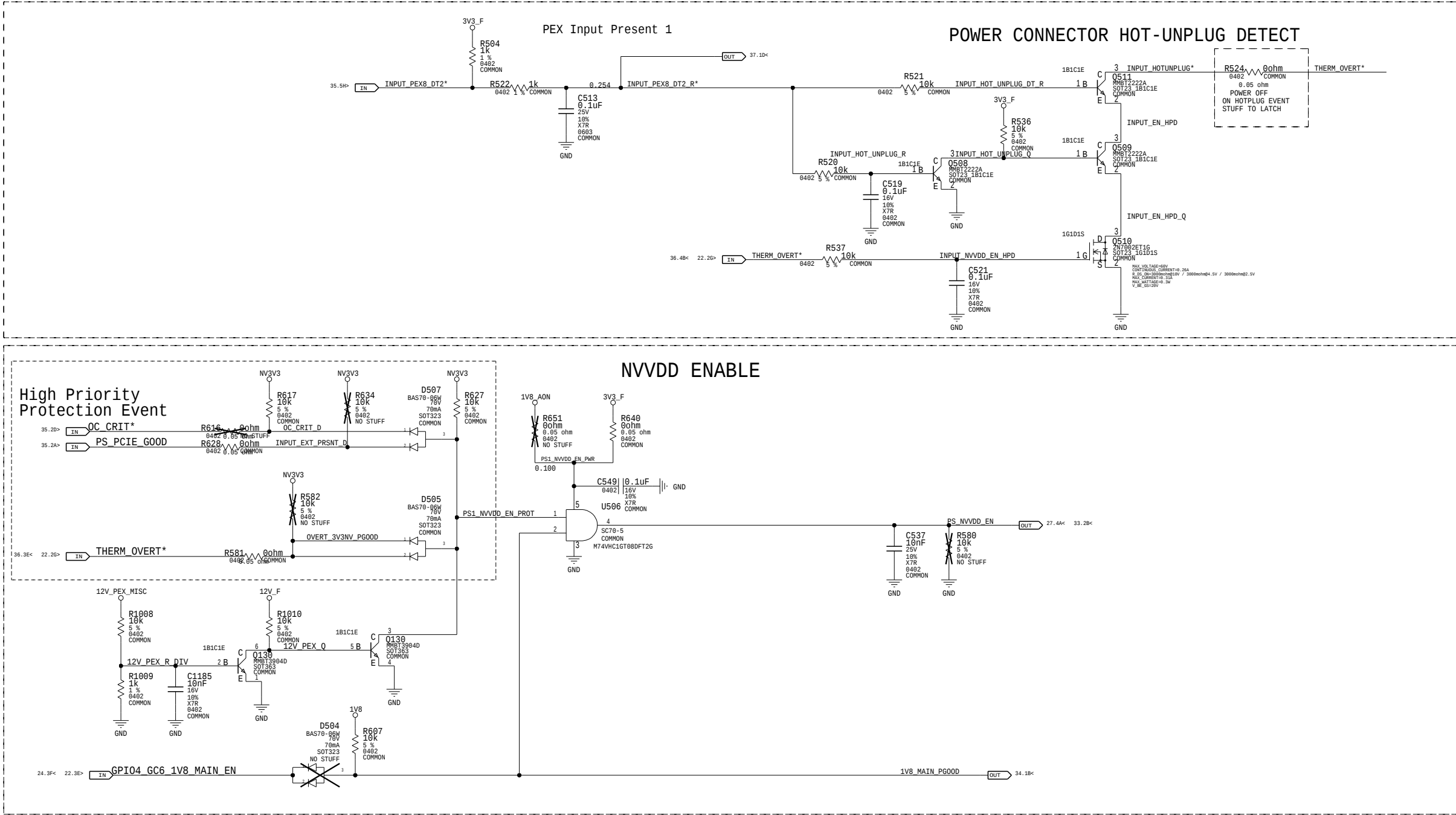
SANTA CLARA, CA 95050, USA



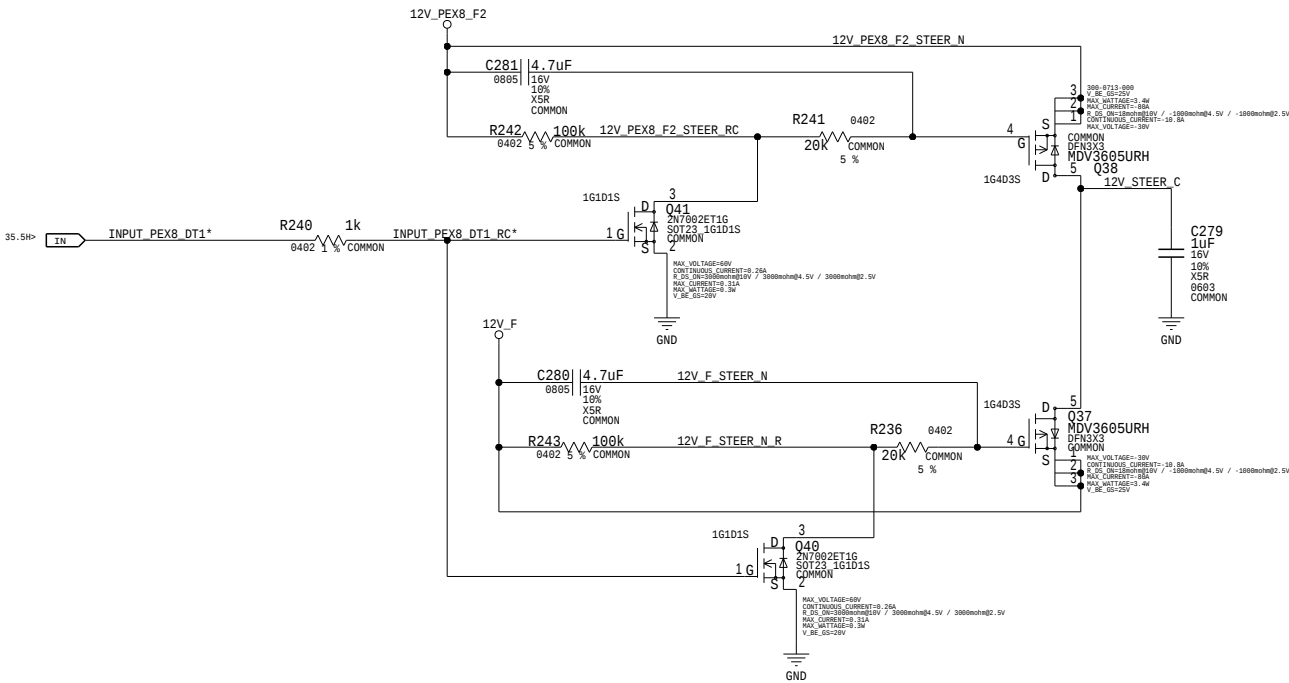
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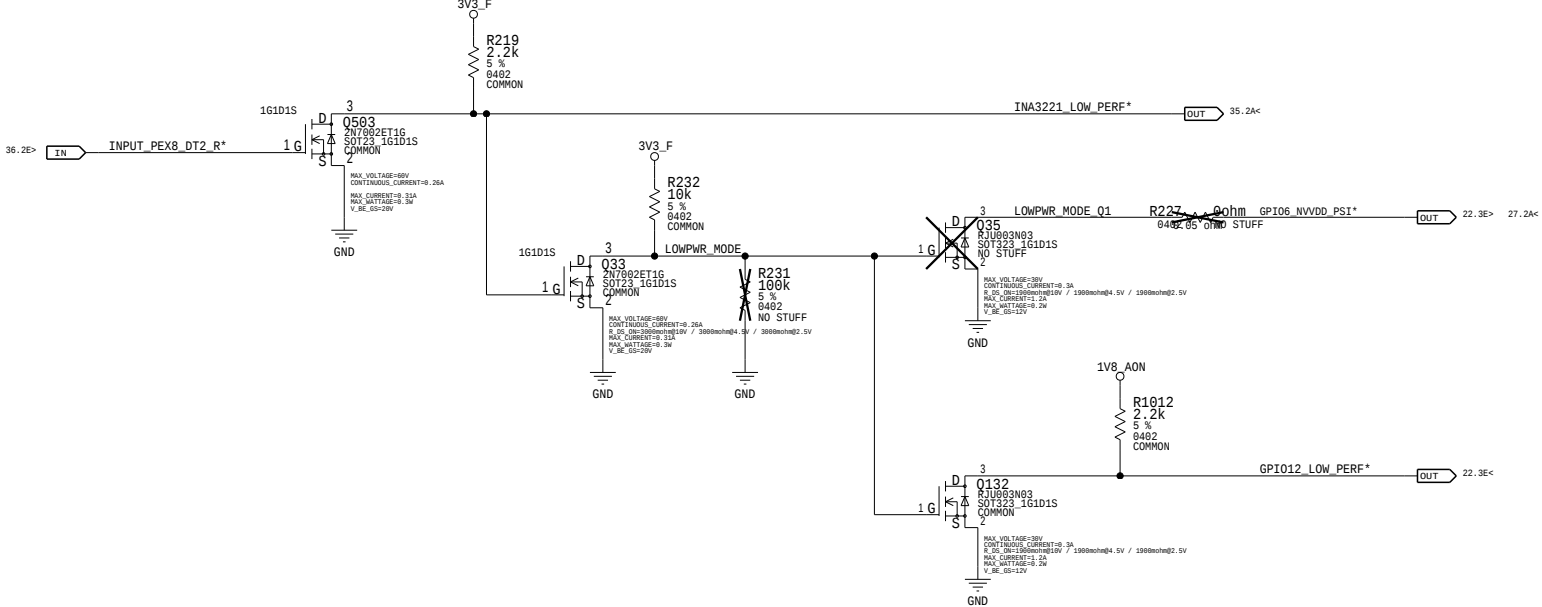
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PEX Input - 12V Current Steering FETs

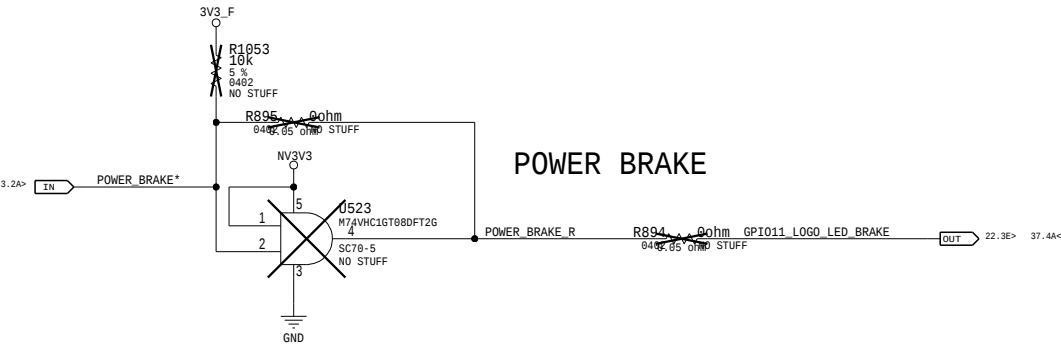


PEX Input - Power Level/PSI* Control



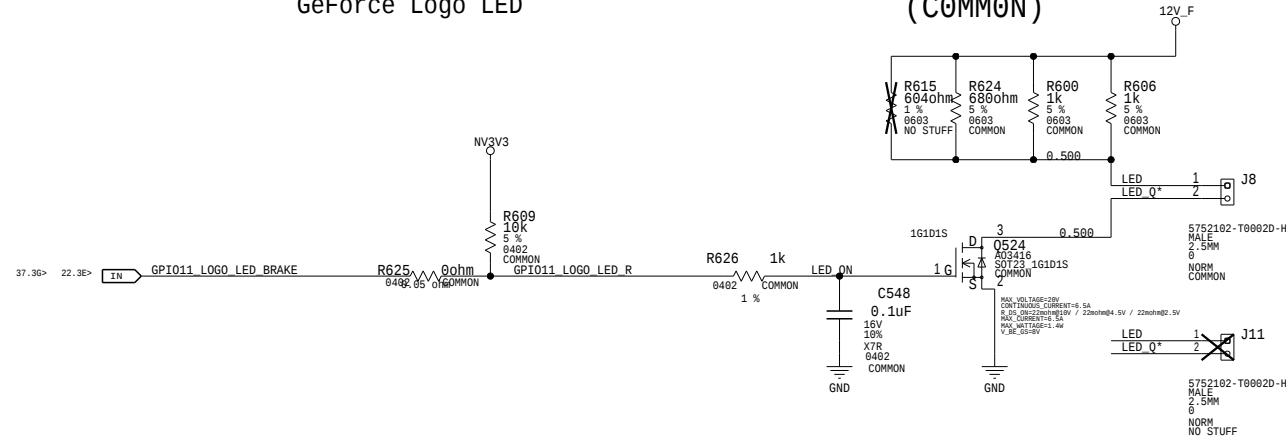
GPIO12_LOW_PERF*	GPU SPEED
0	Slow
1	Normal

POWER BRAKE

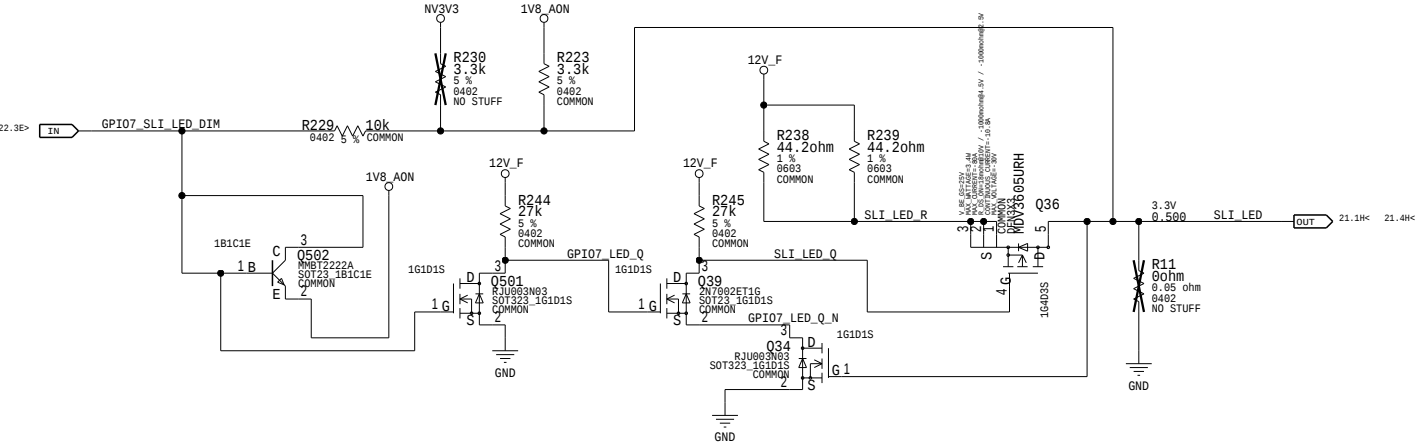


GeForce Logo LED

LED HEADER (COMMON)



SLI LED (GEFORCE ONLY)



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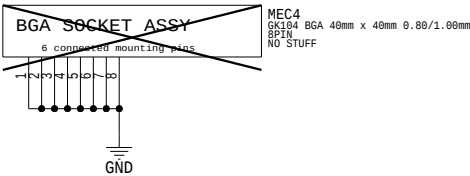
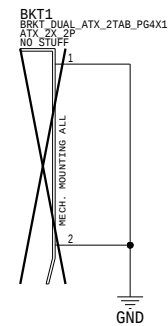
NV_PN 600-1G413-0000-000

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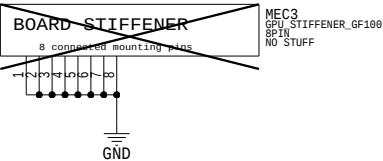
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PAGE DETAIL	PS: 12V Current Steering PSI Control and LED

Brackets:



GPU Stiffner



Mechanical Holes Symbol

