

PG301 A02

Comanche 192b GDDR5, <150W, 2-way SLI
Tall DVI-I + DP + DP + DP/HDMI + DP

- 1)DELETE
- 2)CHANGE IO
- 3)ADD ESD
- 4)CHANGE POWE

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NV_PN

600-1G301-BASE-200

PCB REV

PG301-A02

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BOM REV

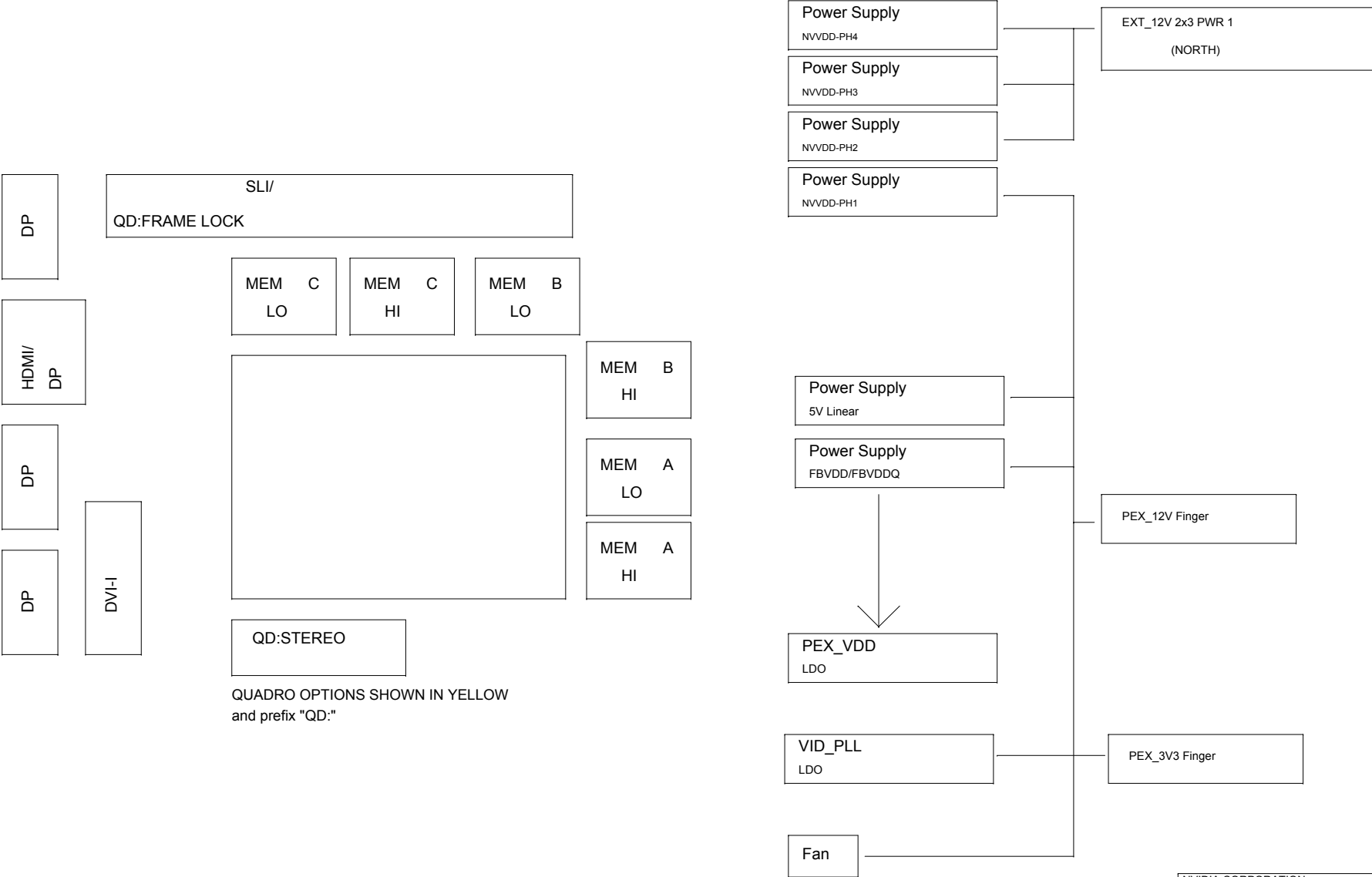
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09-OCT-2014



Block Diagram



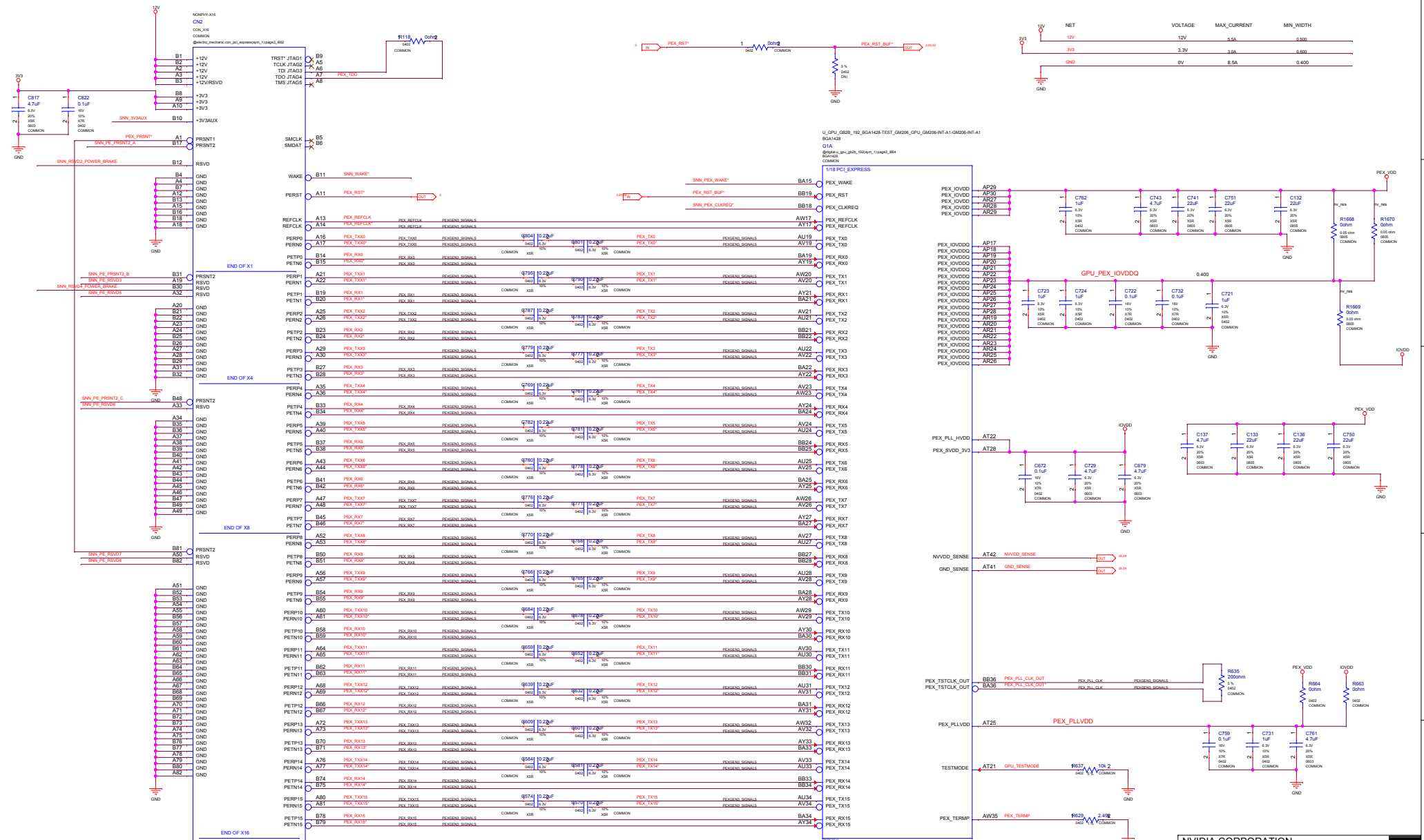
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PCI Express



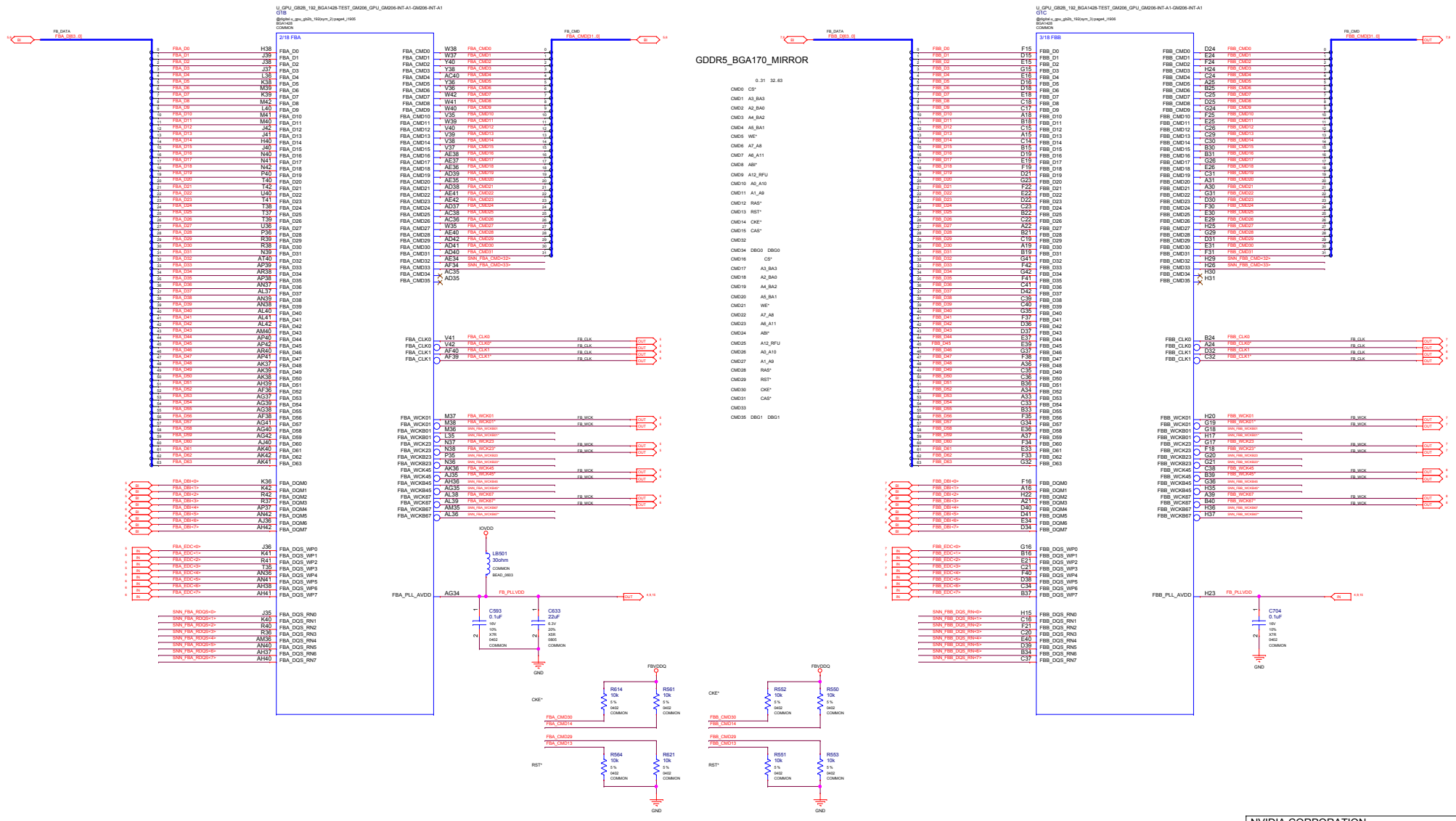
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MEMORY: GPU Partition A/B

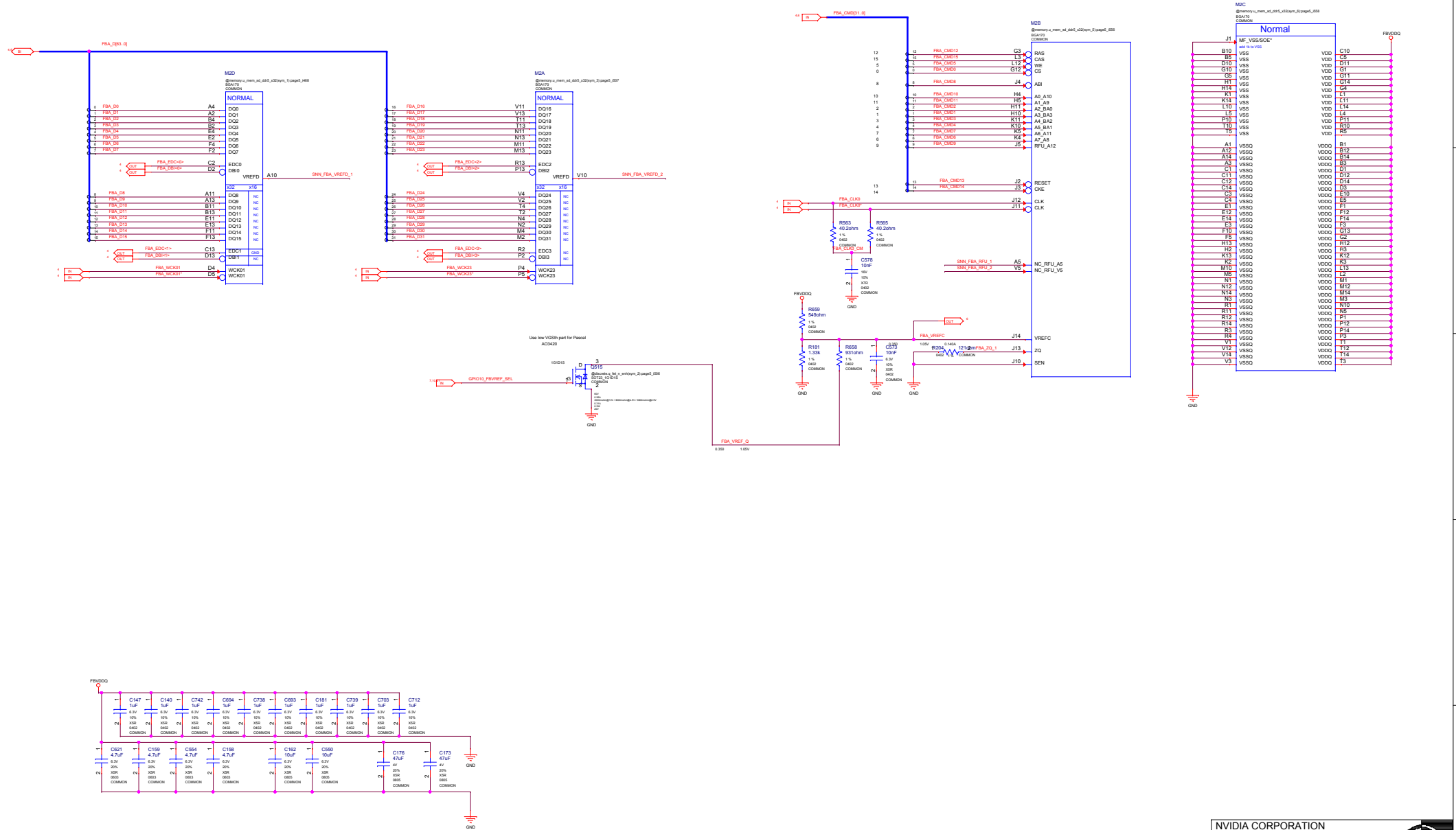


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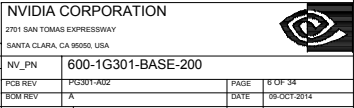
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MEMORY: FBA Partition 31..0

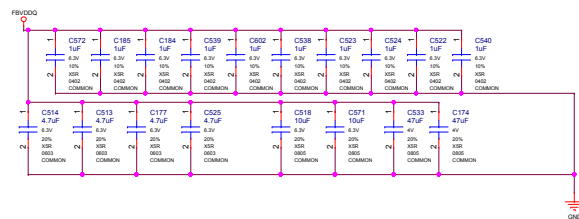
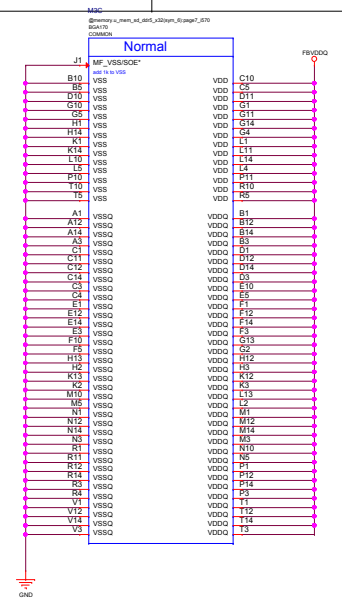
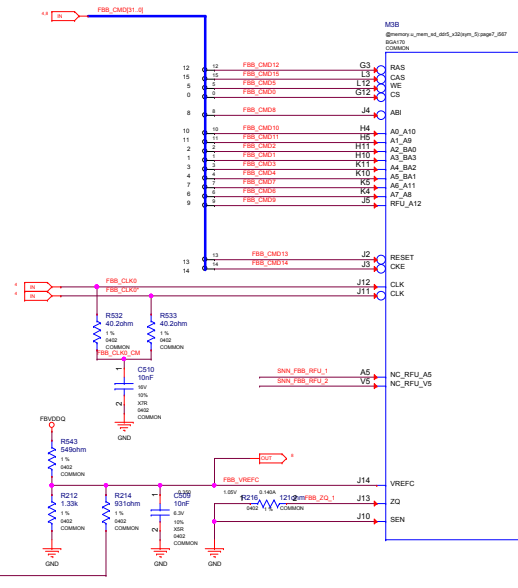
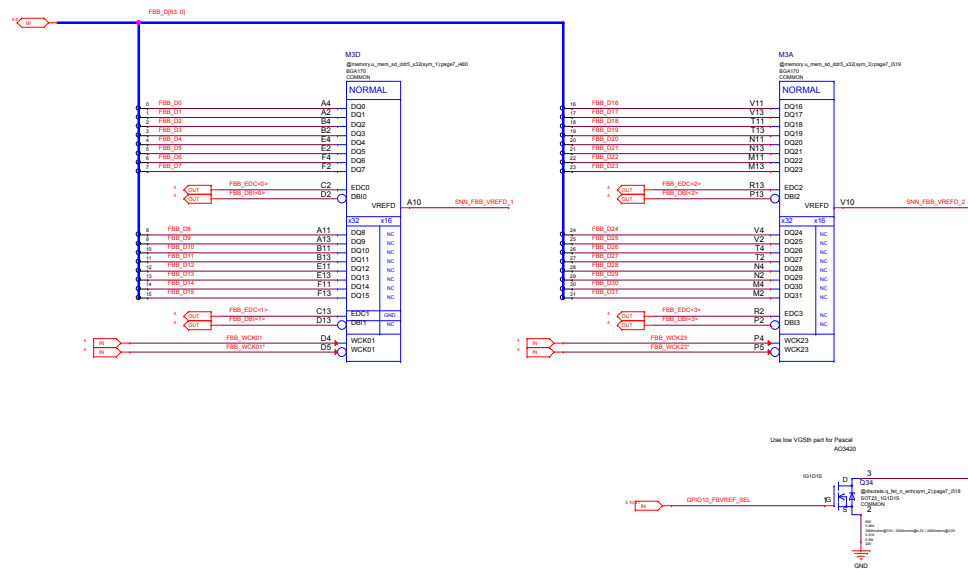


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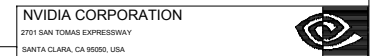


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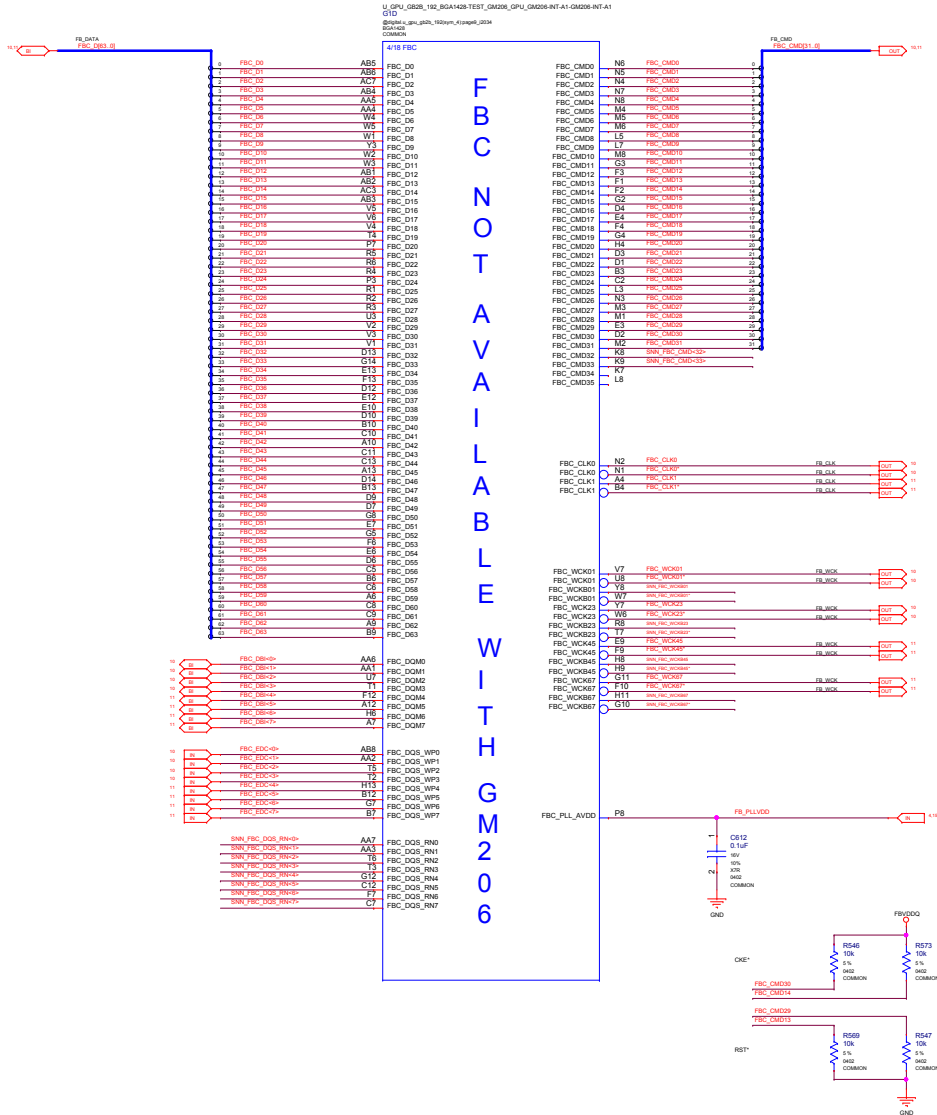




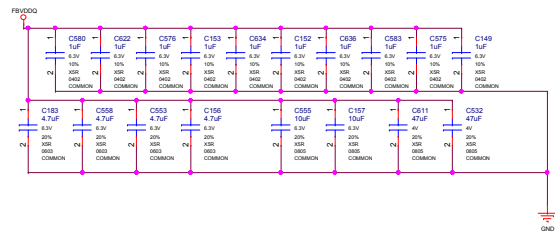
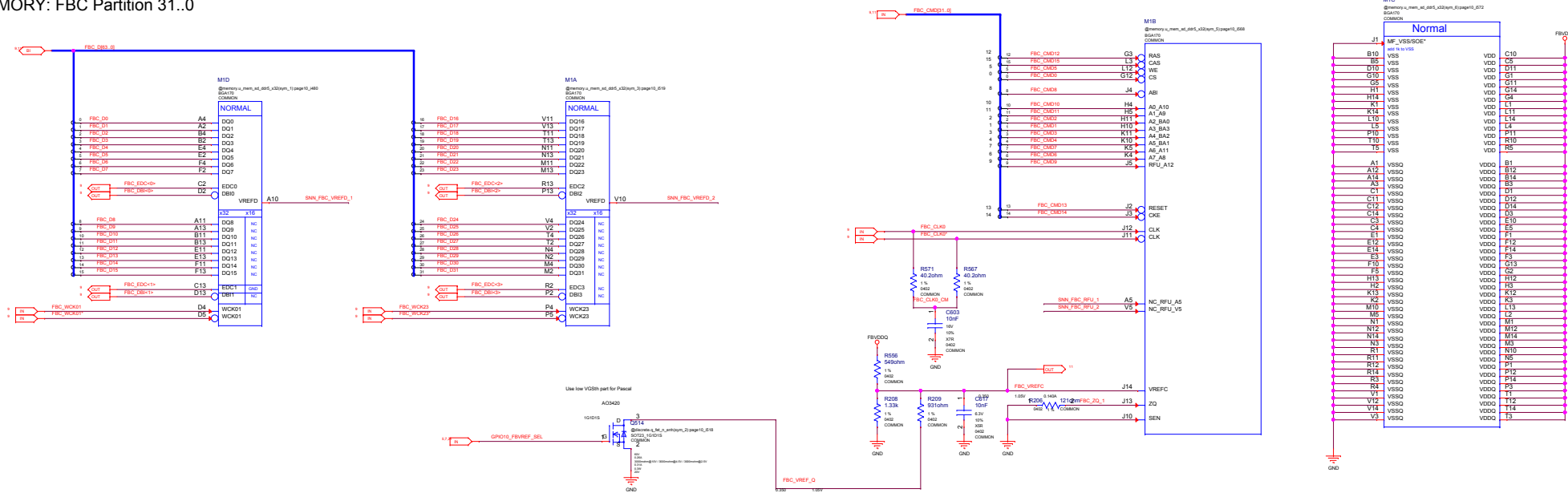
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MEMORY: GPU Partition C/D



MEMORY: FBC Partition 31..0



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BCM REV A

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GPU PWR and GND

U: GPU_GB2B_192_BGA1428-TEST_QM206_GPU_QM206-INT-A1-QM206-INT-A1

G11

BGA1428

COMMON



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G11

BGA1428

COMMON



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BGA1428

COMMON



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BGA1428

COMMON

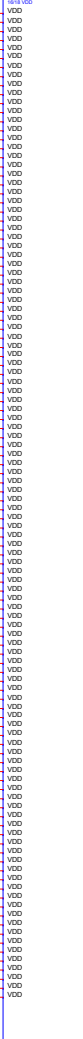


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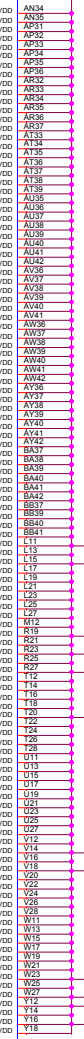


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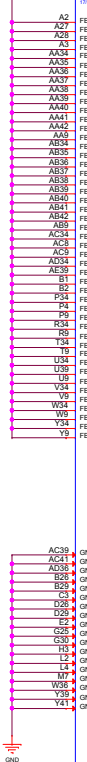


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G11

BGA1428

COMMON



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BGA1428

COMMON



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BGA1428

COMMON



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G11

BGA1428

COMMON



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G11

BGA1428

COMMON



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PCBR REV PG301A02

ICM REV A

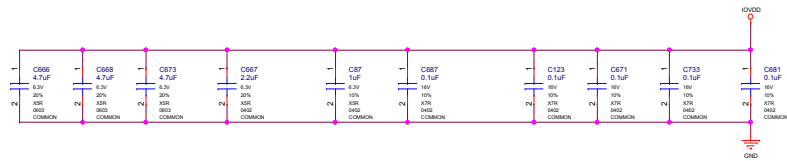
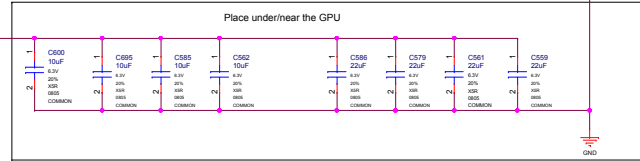
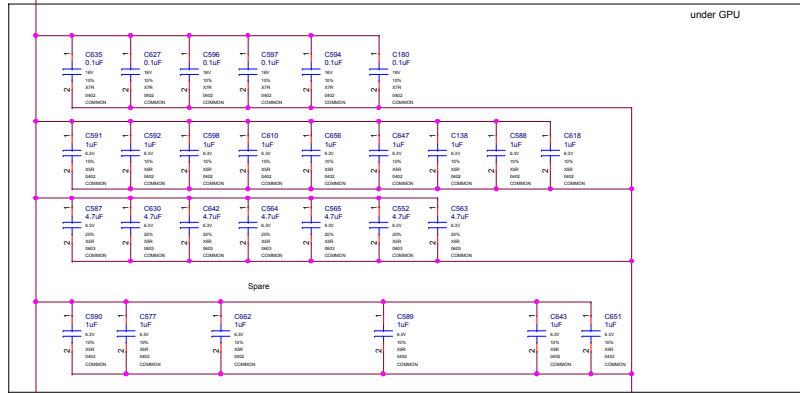
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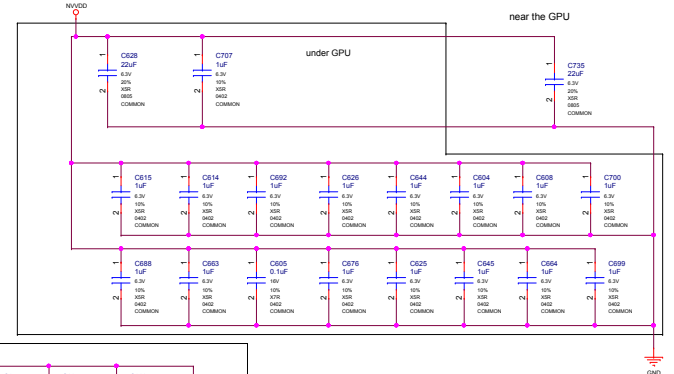
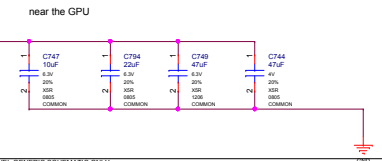
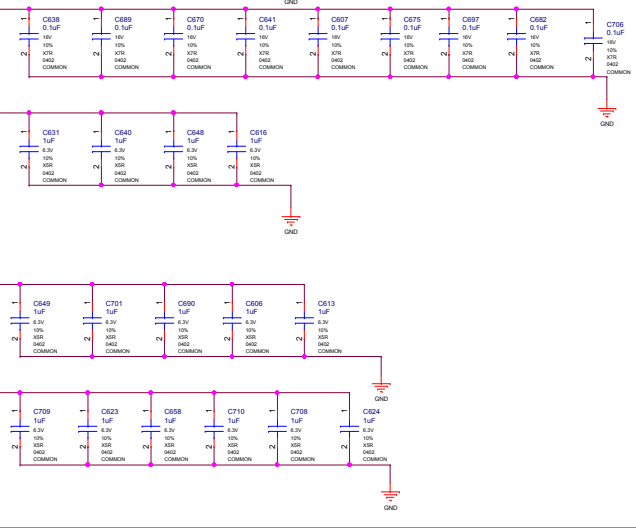
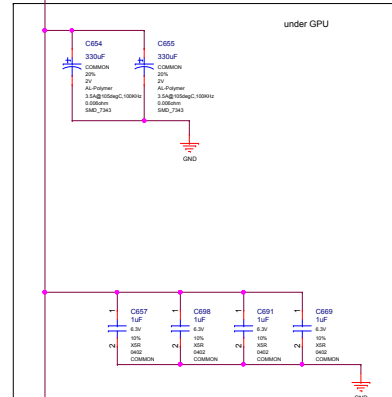
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GPU Decoupling

FBVDDQ



NVVD

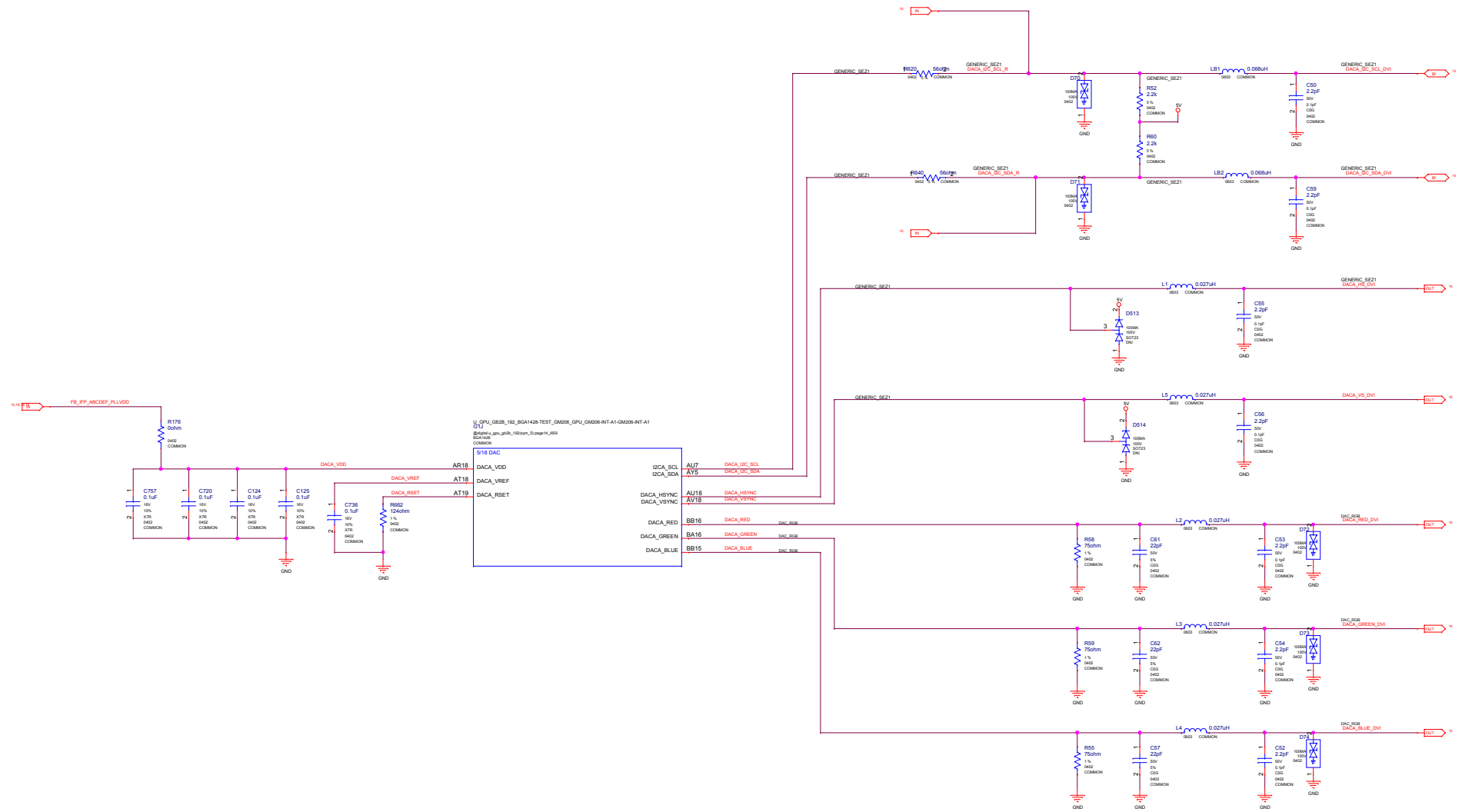


NVVD	Under GPU	90uF + 1x 330uF	Near GPU
	SVVD	32uF	22uF
	Combined (Maxwell)	122uF + 1x 330uF	110uF

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DACA Interface



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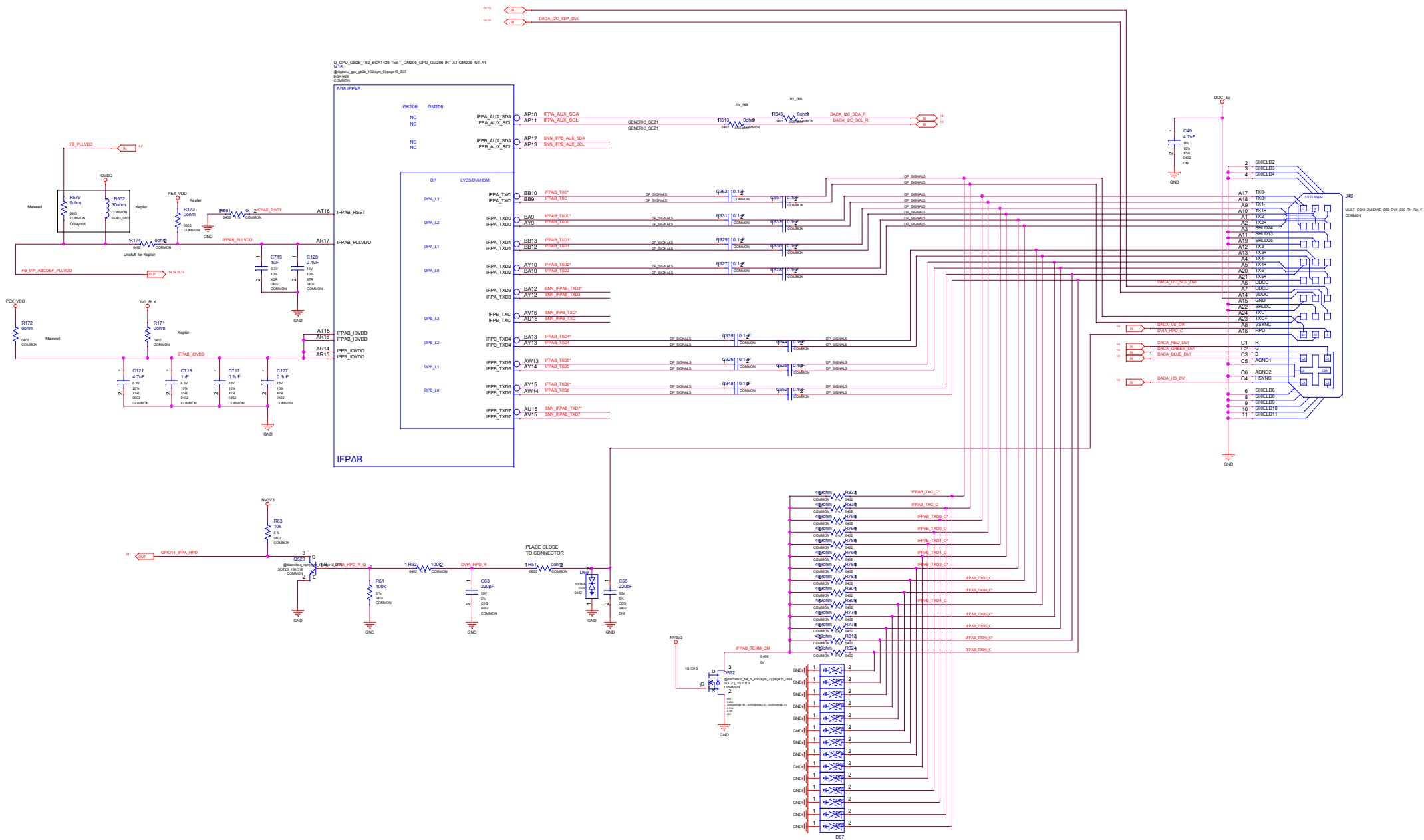


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A

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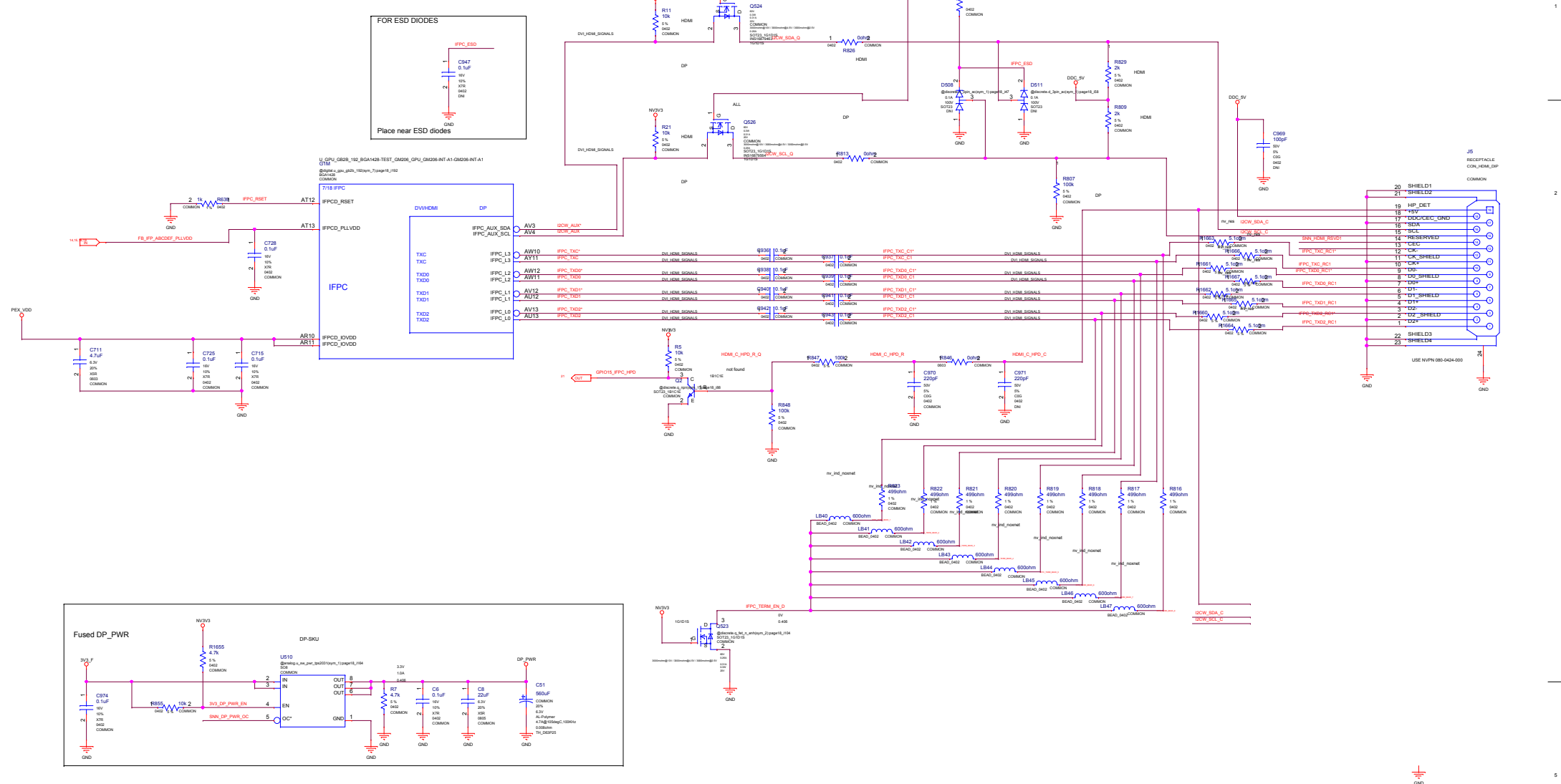
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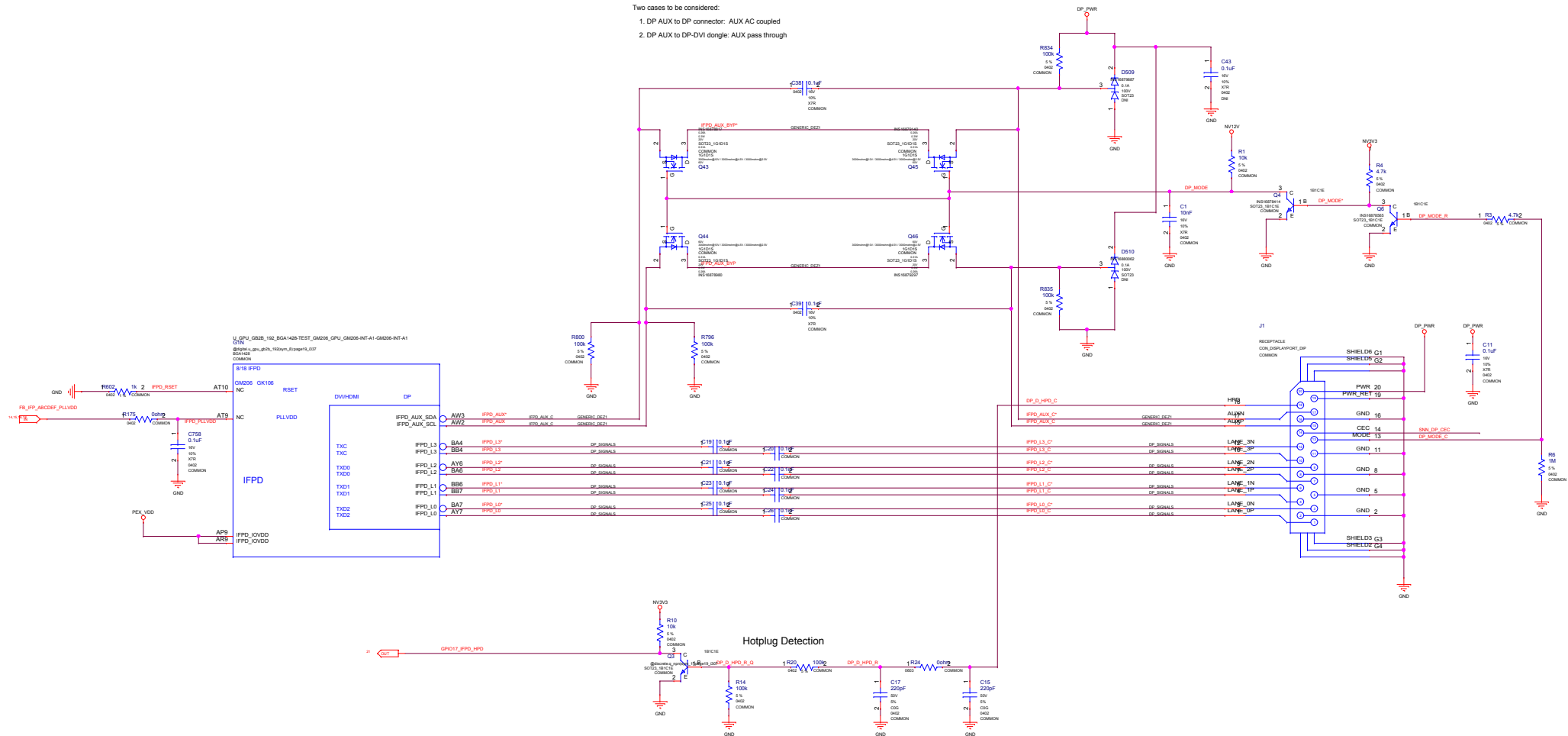


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Two cases to be considered:

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



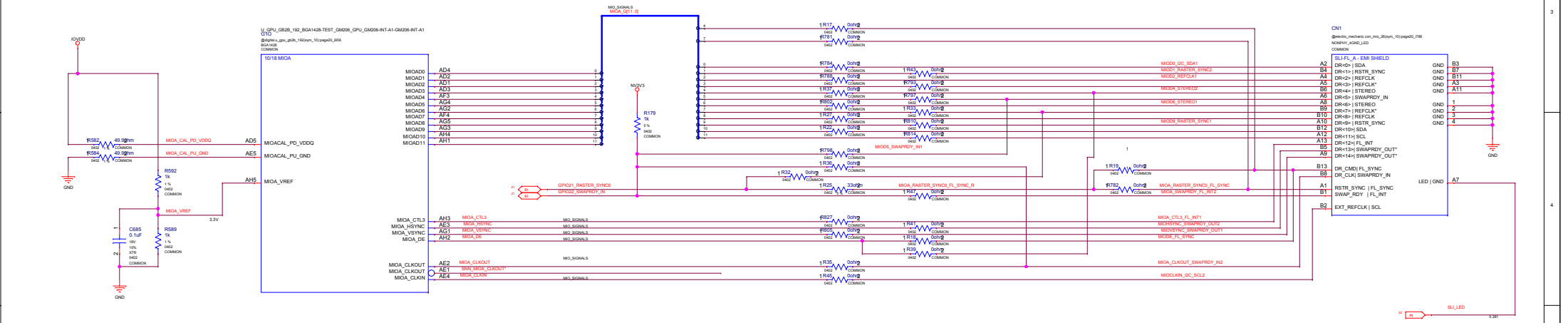
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MIOA/SLI Interface



NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
MIOA_VREF	3.3V	0.305	0.305
MIOA_CAL_PD_VDDQ	2.5V	0.305	0.305
MIOA_CAL_PD_GND	0.0V	0.305	0.305

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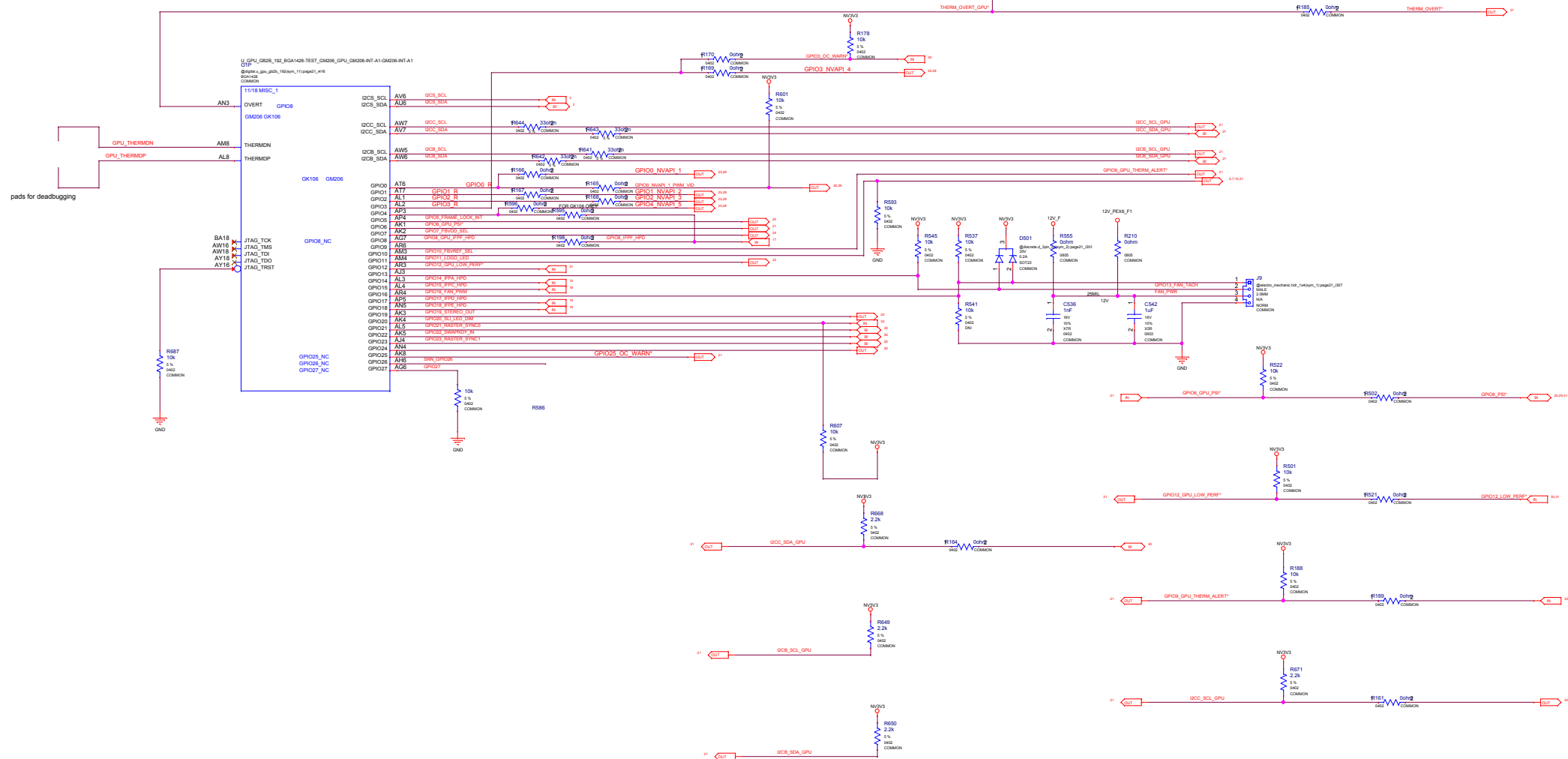
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MISC1: Fan, Thermal, JTAG, GPIO



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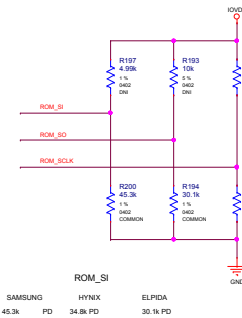
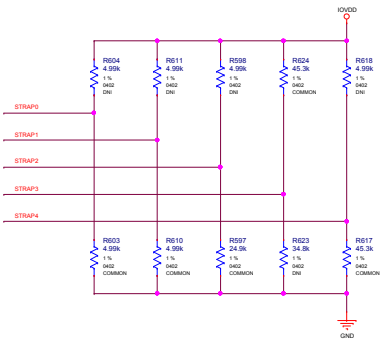
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MISC2: ROM, XTAL, Straps

	KEPLER	MAXWELL
STRAP0	USER_BIT [3:0]*	
STRAP1	3GIO_PADCFG_LUT_ADR*	
STRAP2	PCI_DEVID [3:0]*	
STRAP3	SOR_EXPOSED [3:0]*	
STRAP4	DP_PLL_VDD_33V*	
	PEX_MAX_SPEED*	
	PEX_SPD_CHANGE_GEN3*	
	*	
ROM_Si	RAMCFG[0]*	RAMCFG[0]*
	RAMCFG[1]*	RAMCFG[1]*
	RAMCFG[2]*	RAMCFG[2]*
	RAMCFG[3]*	RAMCFG[3]*
ROM_SO	VGA_DEVICE*	VGA_DEVICE*
	SMB_ALT_ADDR*	SMB_ALT_ADDR*
	FB[0]_APERTURE_SIZE*	PCIE_CFG*
	FB[1]_APERTURE_SIZE*	DEVID_SEL*
	PEX_PLL_EN_TERM100*	SOR0_EXPOSED*
ROM_SCLK	PCI_DEVID_EXT[5]*	SOR1_EXPOSED*
	SUB_VENDOR*	SOR2_EXPOSED*
	PCI_DEVID_EXT[4]*	SOR3_EXPOSED*

MULTI_STRAP_REF0_GND	
BINARY PRODUCTION	NC
BINARY BRINGUP	NC
MULTI-LEVEL	60.3k 1% TO GND

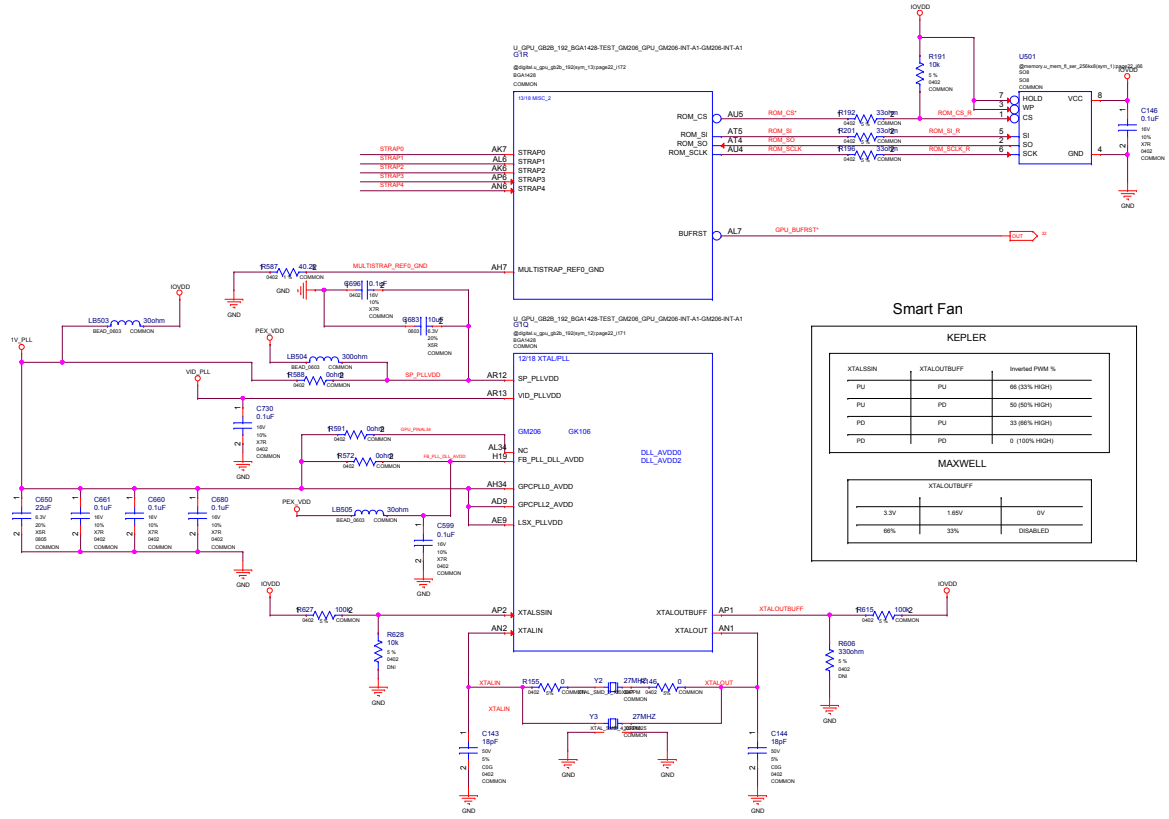
MAXWELL		
3.3V	1.65V	0V
GPU ISLAND ENABLED	GPU DEBUG MODE	GPU ISLAND DISABLED



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MISC2: ROM, XTAL, Straps

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	GND	3V3
5k	0000	1000
10k	0001	1001
15k	0010	1010
20k	0011	1011
25k	0100	1100
30k	0101	1101
35k	0110	1110
45k	0111	1111



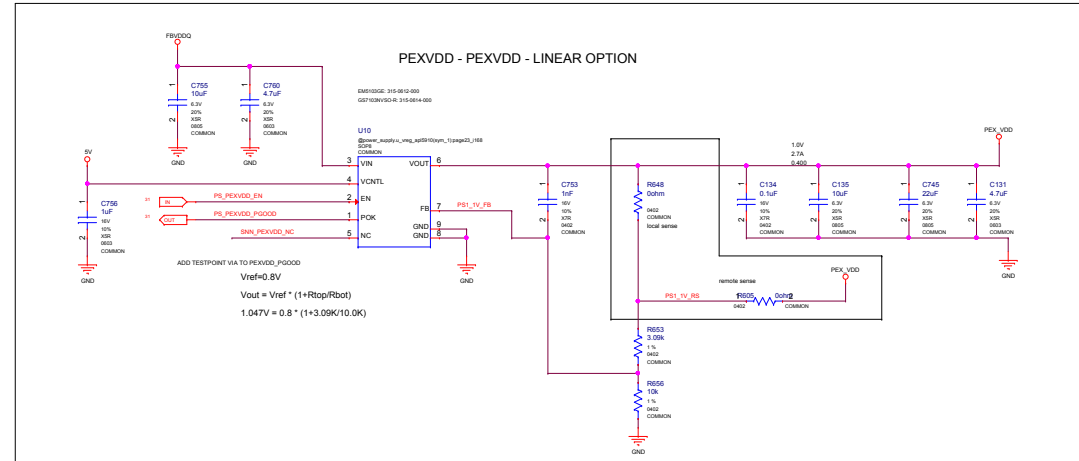
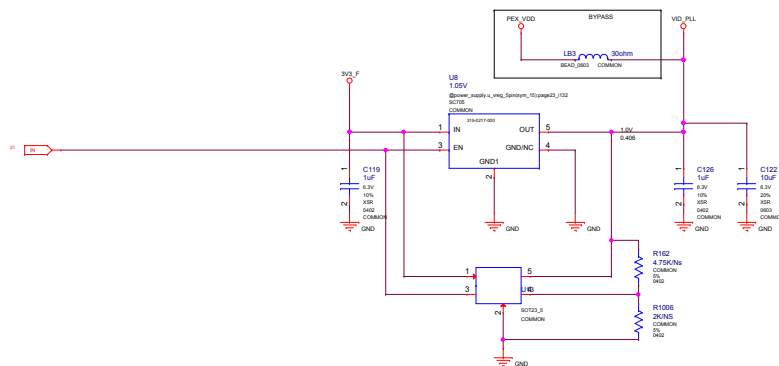
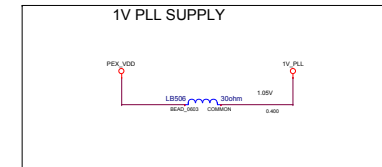
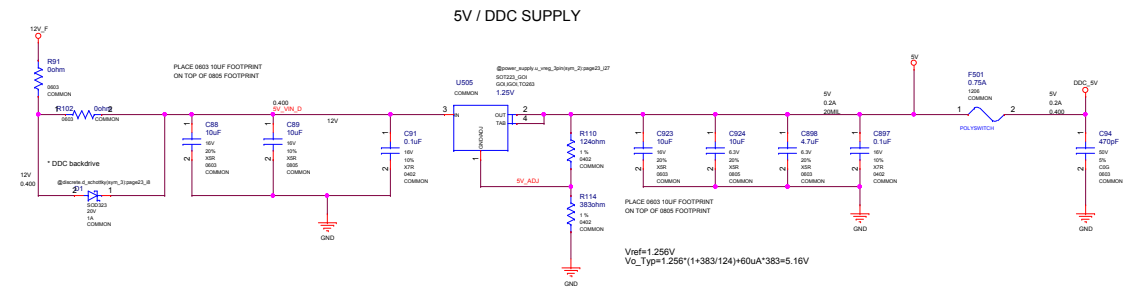
Smart Fan		
KEPLER		
XTALSSN	XTALOUTBUFF	Inverted PWM %
PU	PU	66 (33% HIGH)
PD	PD	50 (50% HIGH)
PD	PU	33 (66% HIGH)
PD	PD	0 (100% HIGH)
MAXWELL		
XTALOUTBUFF		
3.3V	1.65V	0V
66%	33%	DISABLED

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NV_PN	600-1G301-BASE-200
PCB REV	PG301A02
ICOM REV	A
DATE	06-OCT-2014



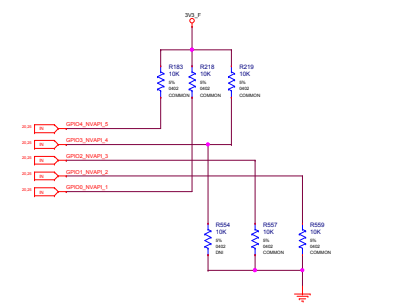
PS: 5V, PEX_VDD



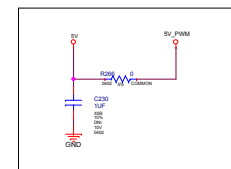
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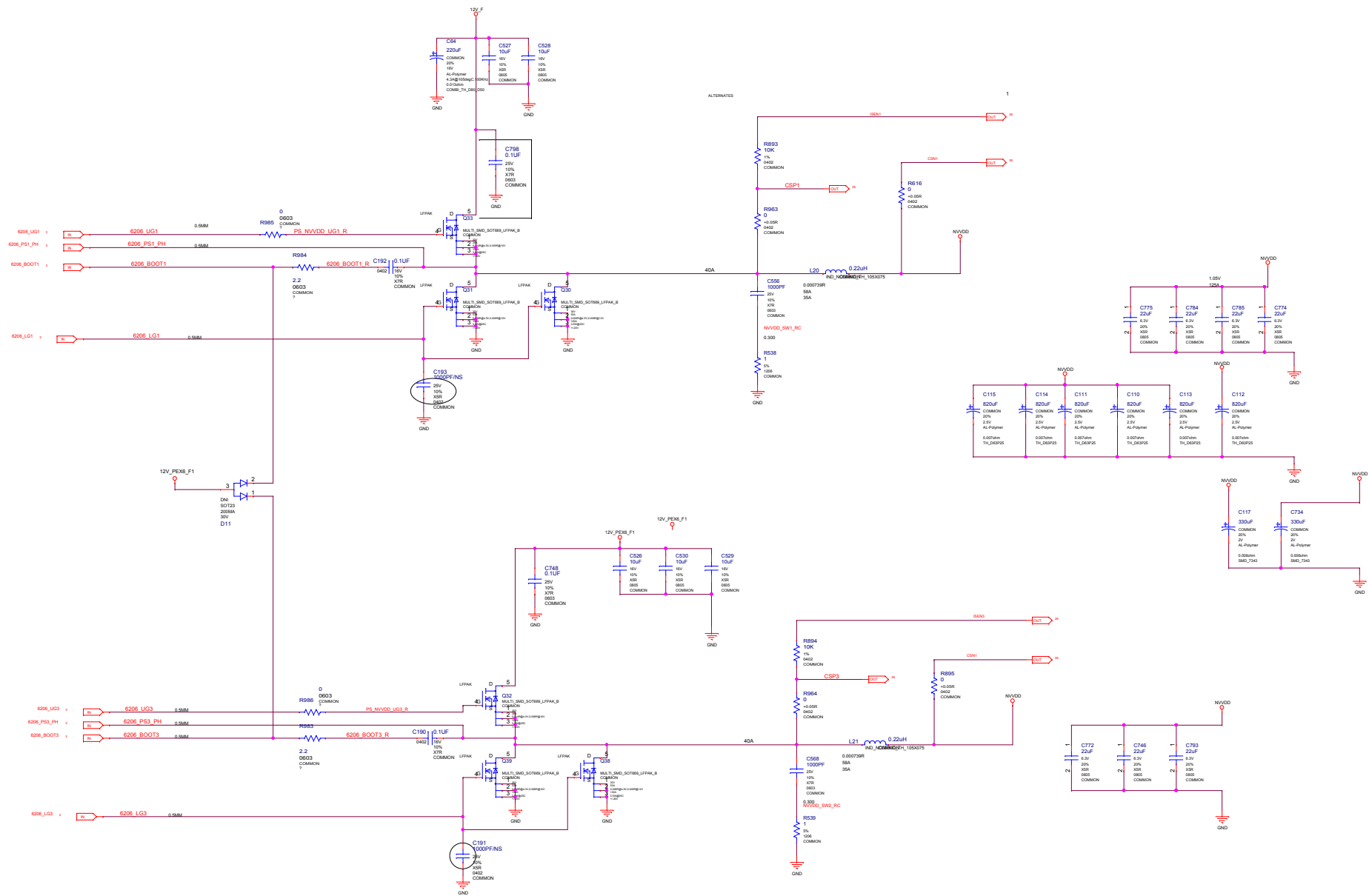
NV_PN	600-1G301-BASE-200		
PCB REV	PG301-A02	PAGE	23 OF 34
BOM REV	A	DATE	09-OCT-2014

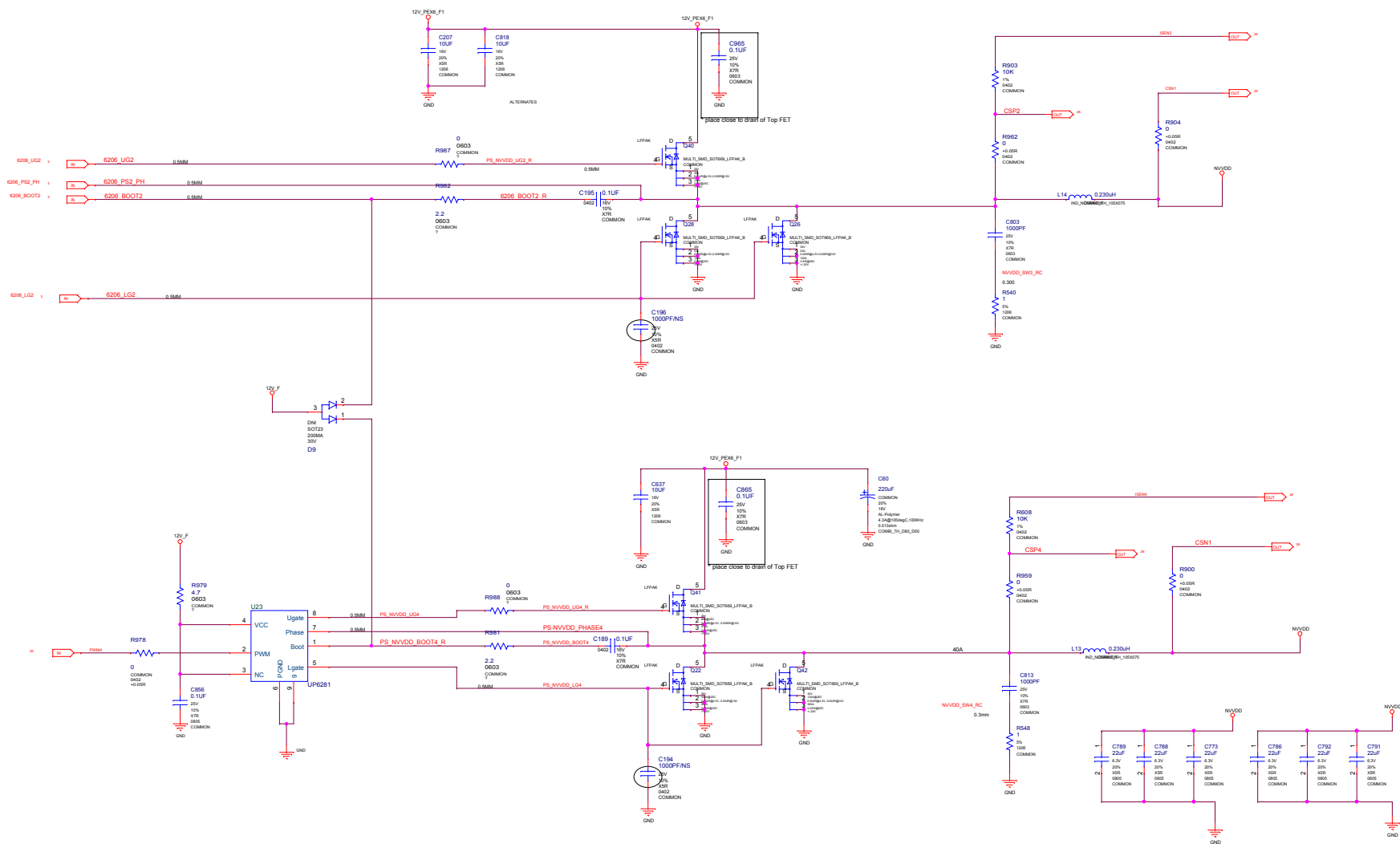
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ID control circuit







ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	(RESERVED)



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PS: NVVDD OVR2+1 POWER




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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: NVVDD OVR2+1 option

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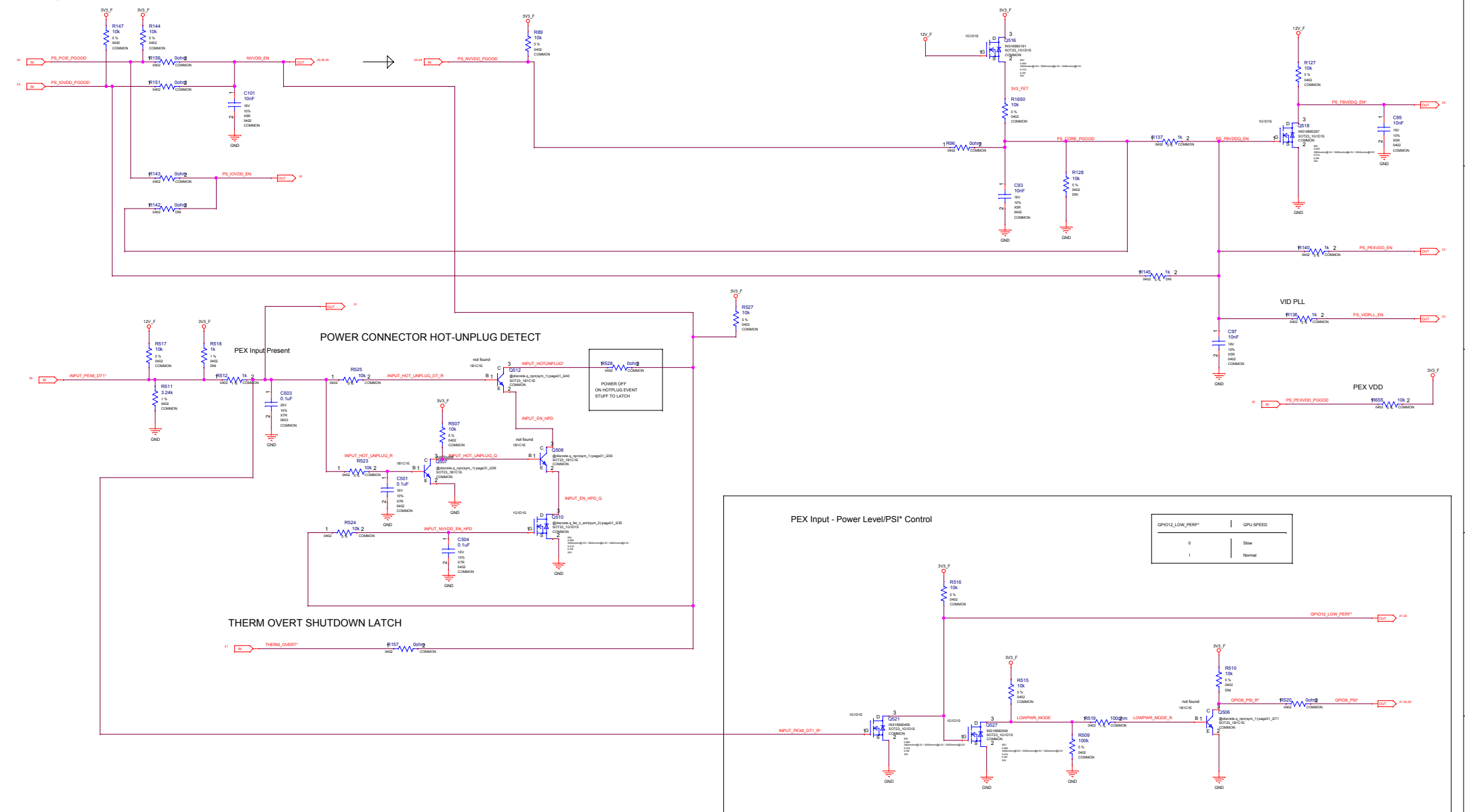
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PS: Sequence and Shutdown



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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: Sequence and Shutdown

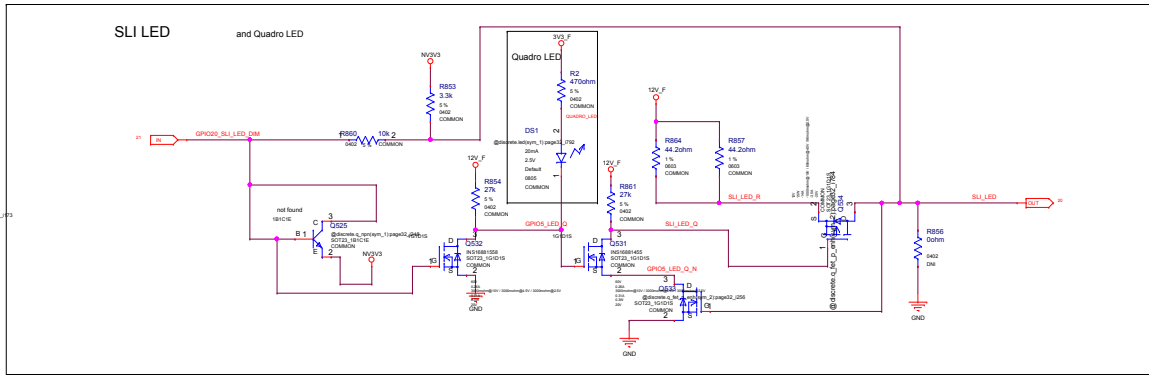
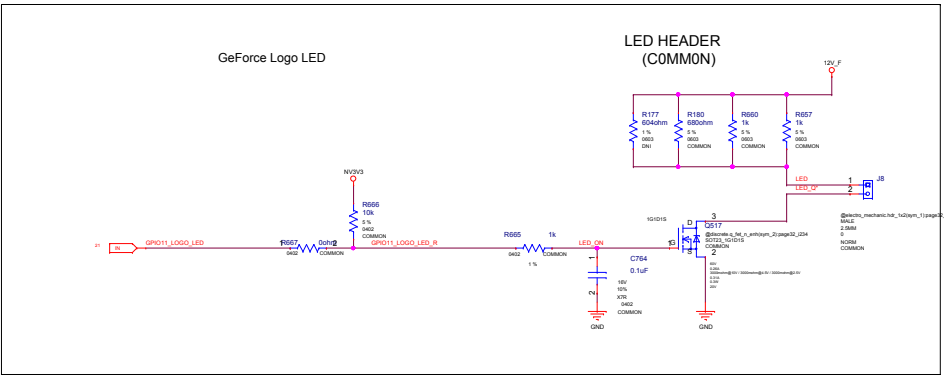
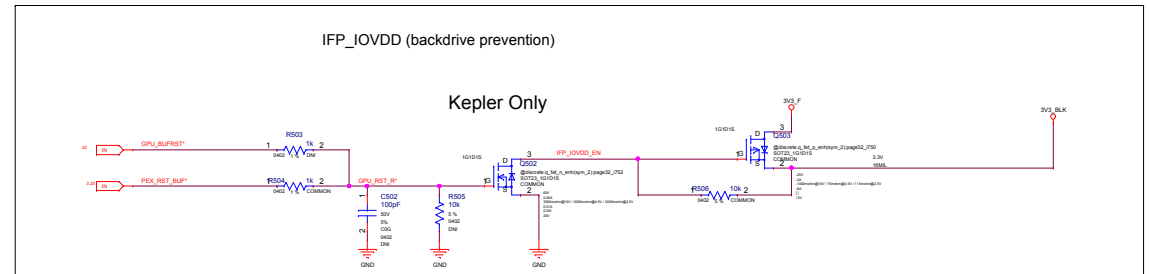
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PCB REV	PG301-A02
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BOM REV	A
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LEDs



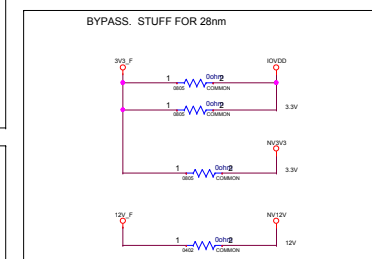
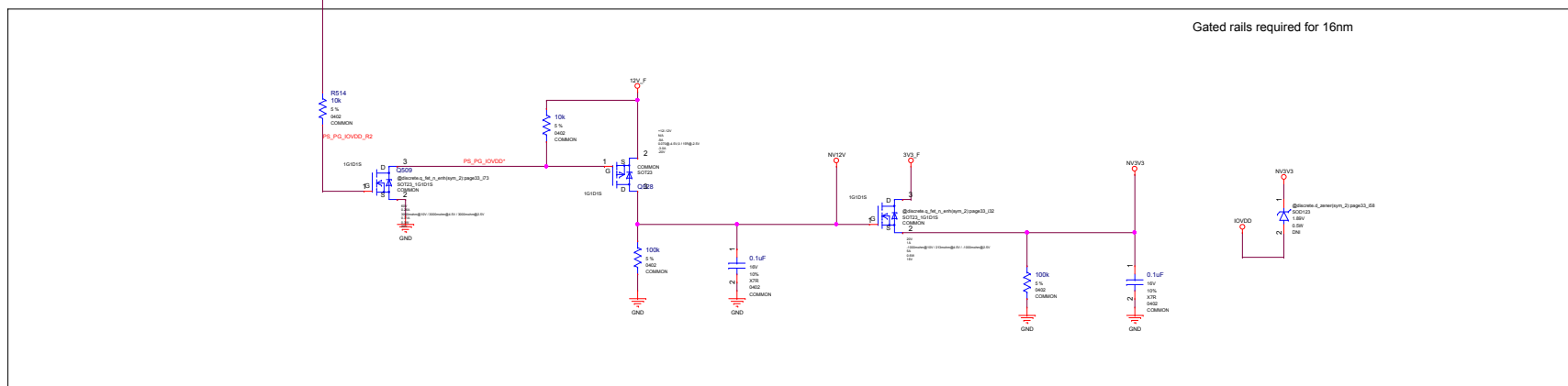
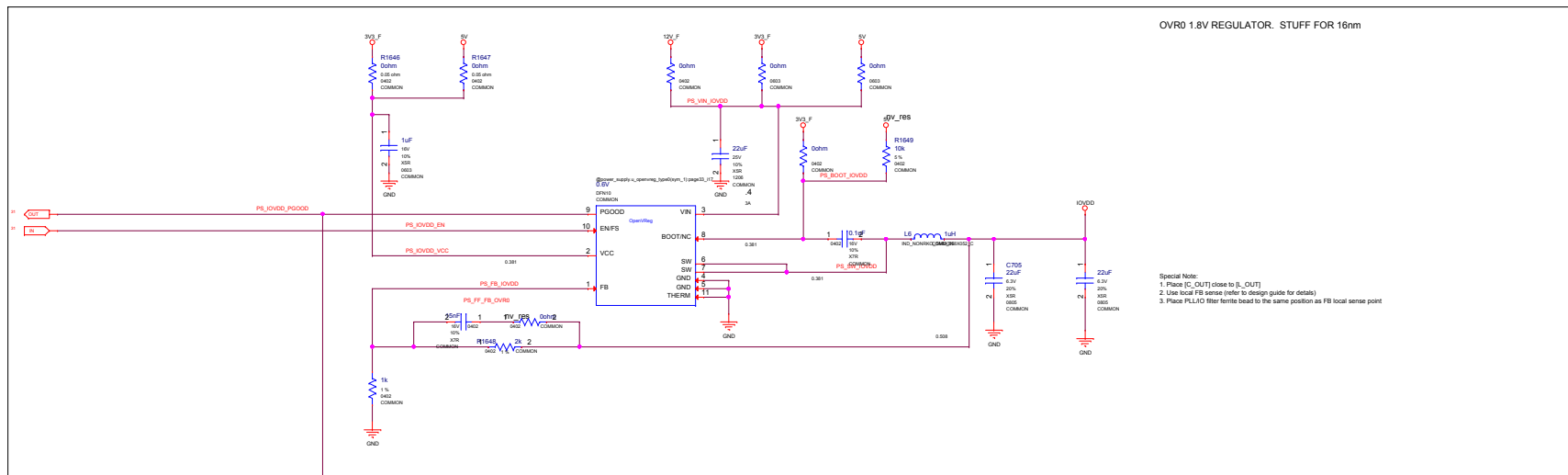
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	LEDs

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FET HS



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