

PG401 A02

4GB GDDR5, 256b, 128Mx32

Tall DVI-I + DP + DP + DP/HDMI + DP

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NV_PN

600-1G401-BASE-QS1

PCB REV

PG401-A02

BOM REV

A

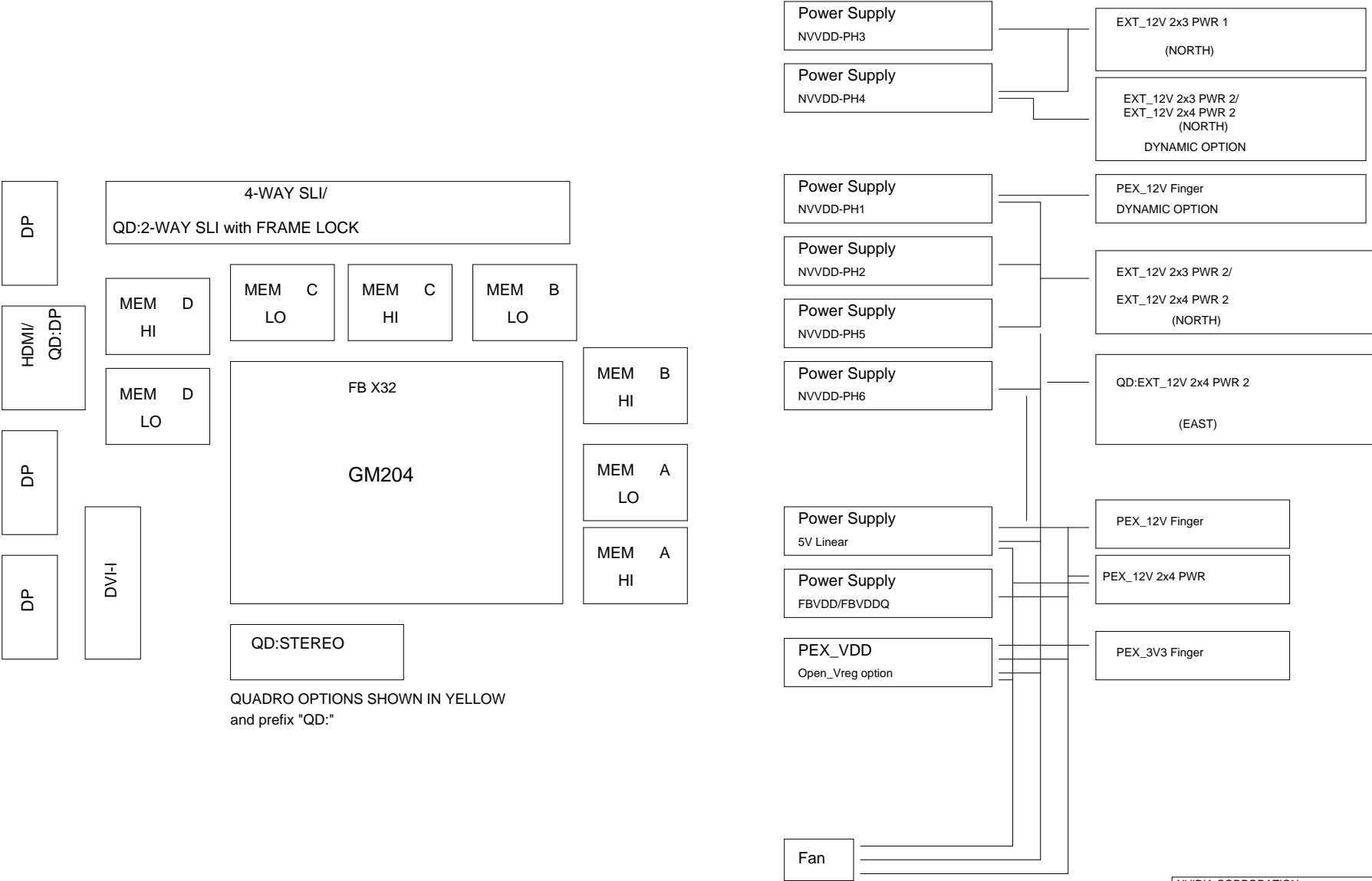
PAGE

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DATE

04-AUG-2014





QUADRO OPTIONS SHOWN IN YELLOW
and prefix "QD:"

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ASSEMBLY	BASIC LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	Block Diagram


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BDM REV	A		

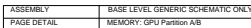


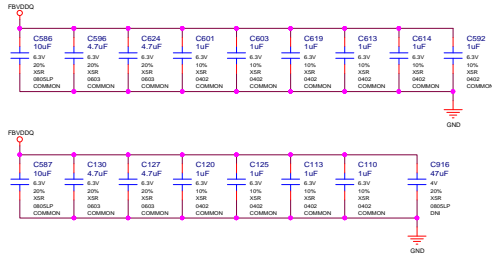
Page3: PCI Express




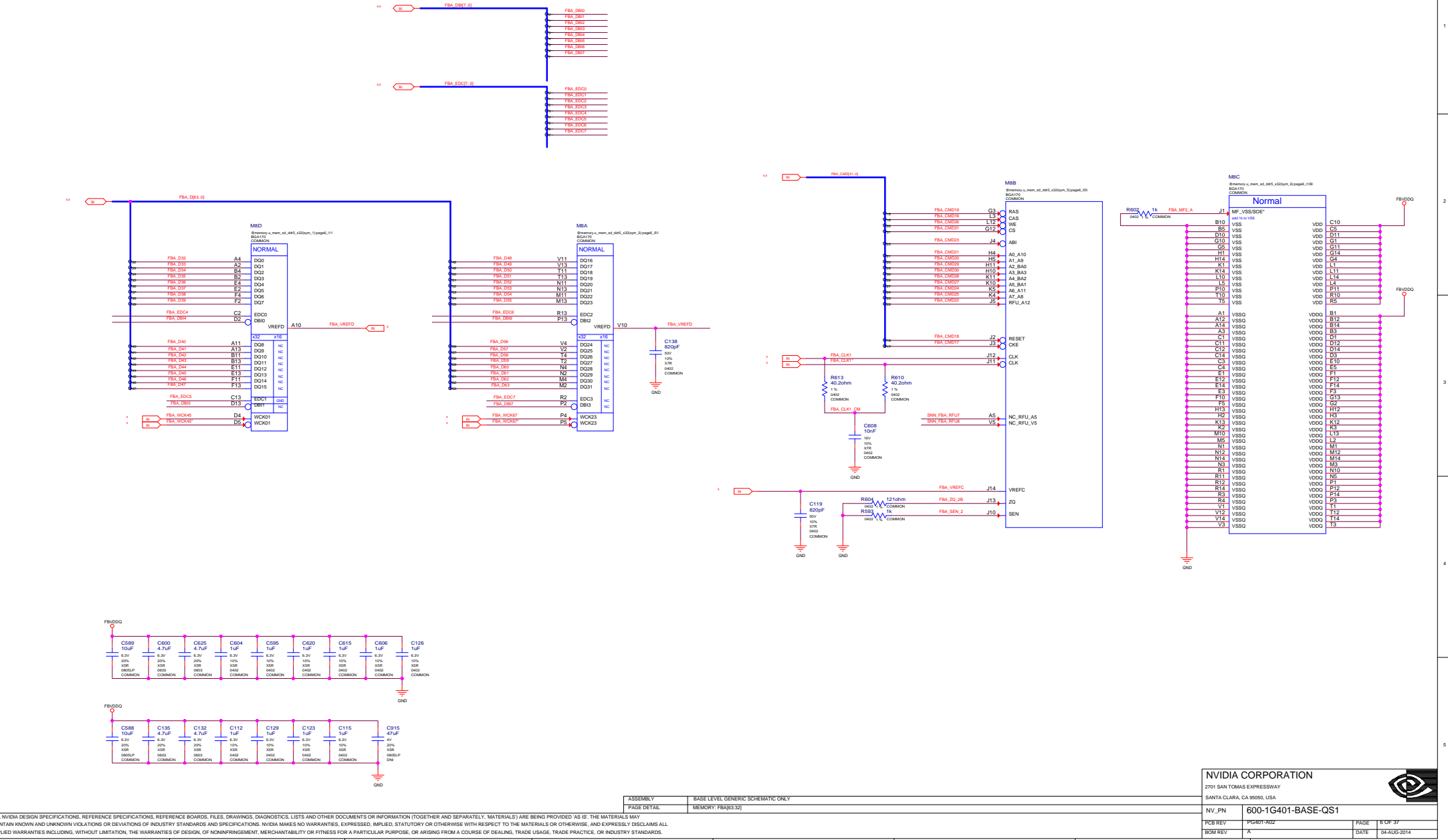
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PCI Express

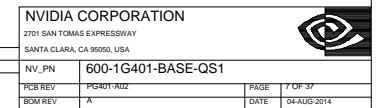
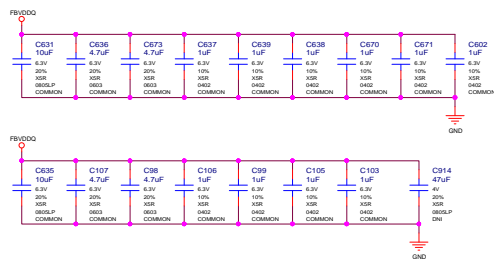
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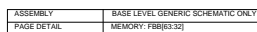
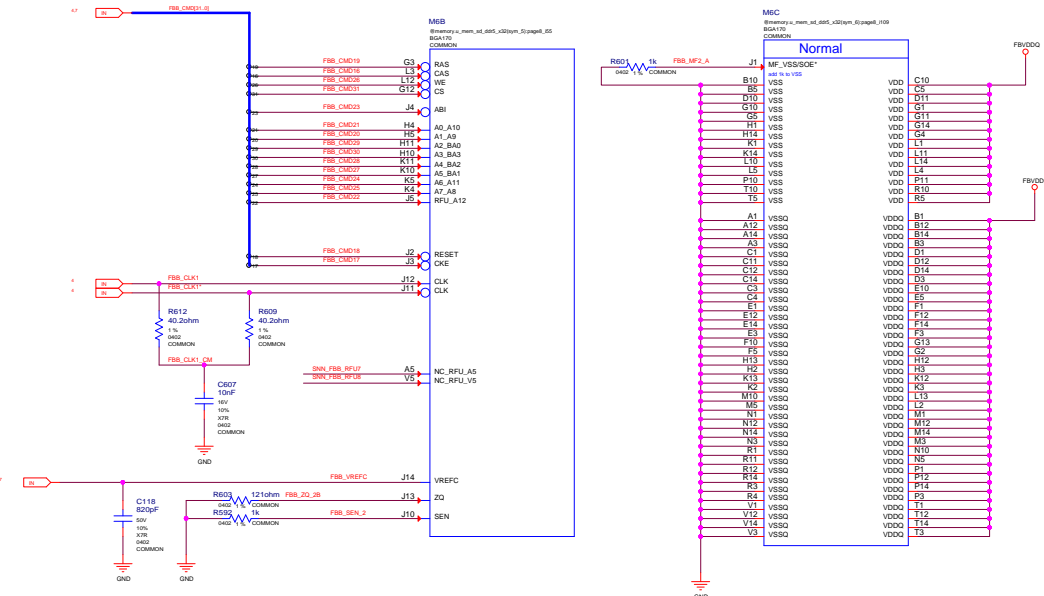




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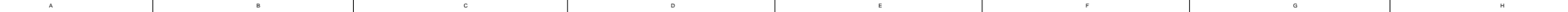
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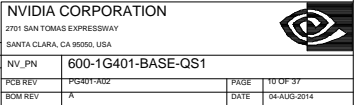
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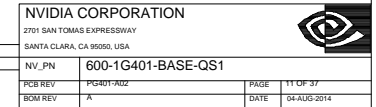
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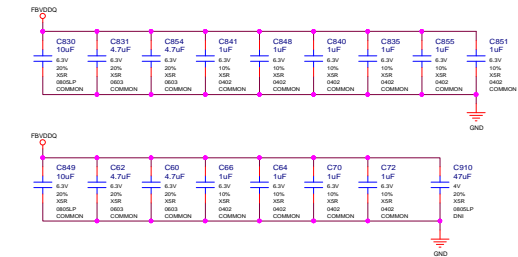
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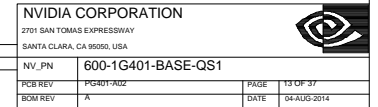


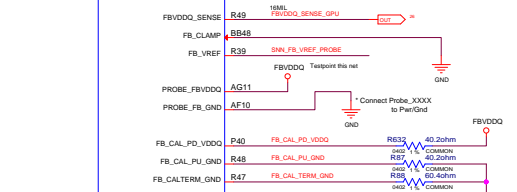
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MEMORY: FBD(31:0)



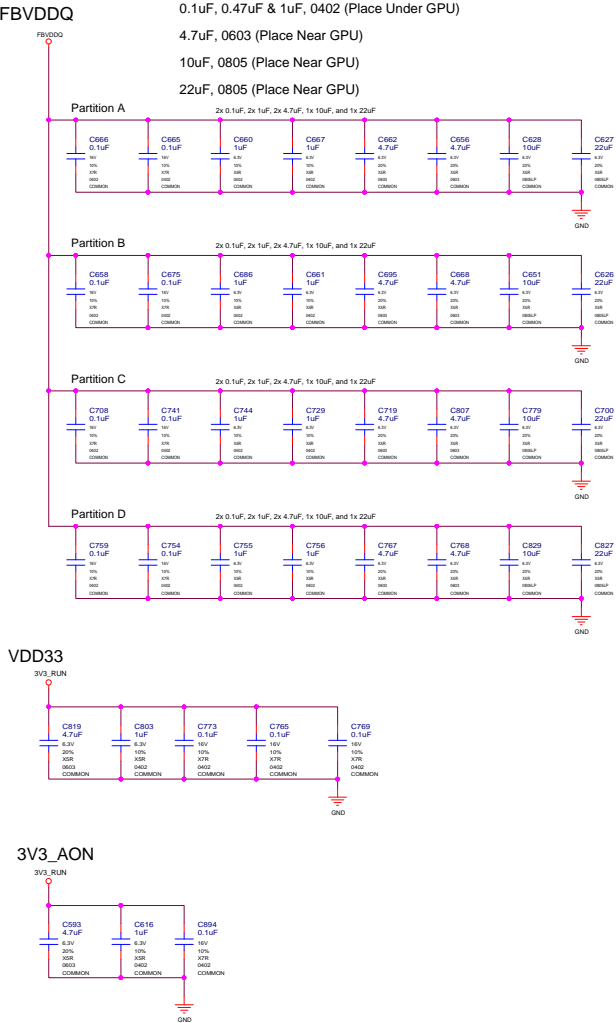
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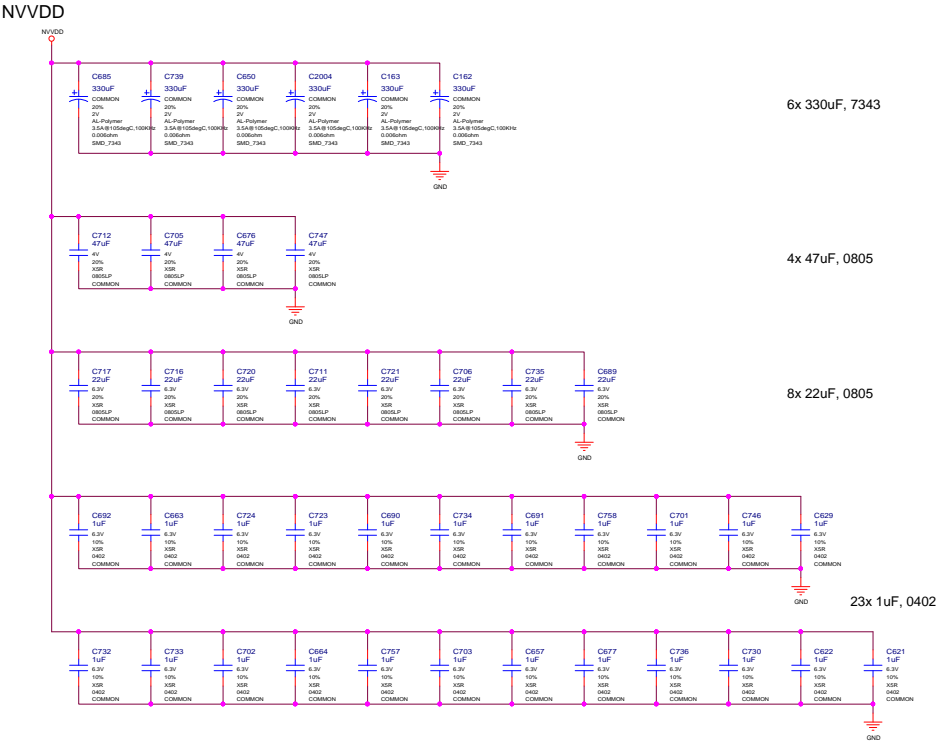




Based on GB2-X GDDR5 FBVDDQ Decap Guideline



NVVDD Decoupling caps. Place under GPU.

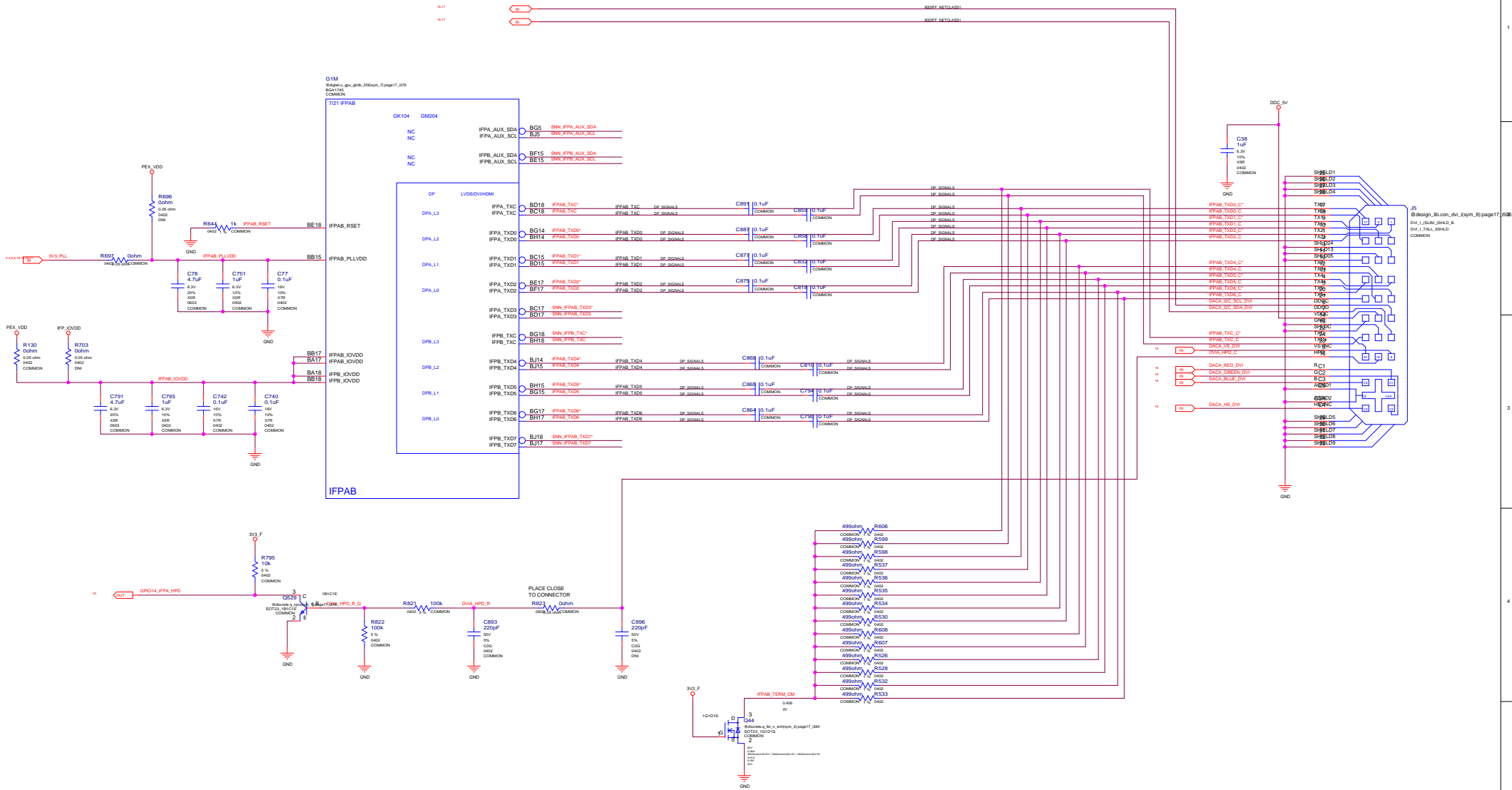


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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	IFPAB DVI-I-DL

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PCB REV

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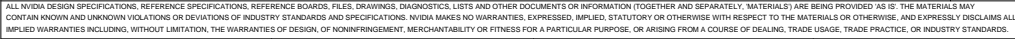
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DATE

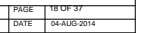
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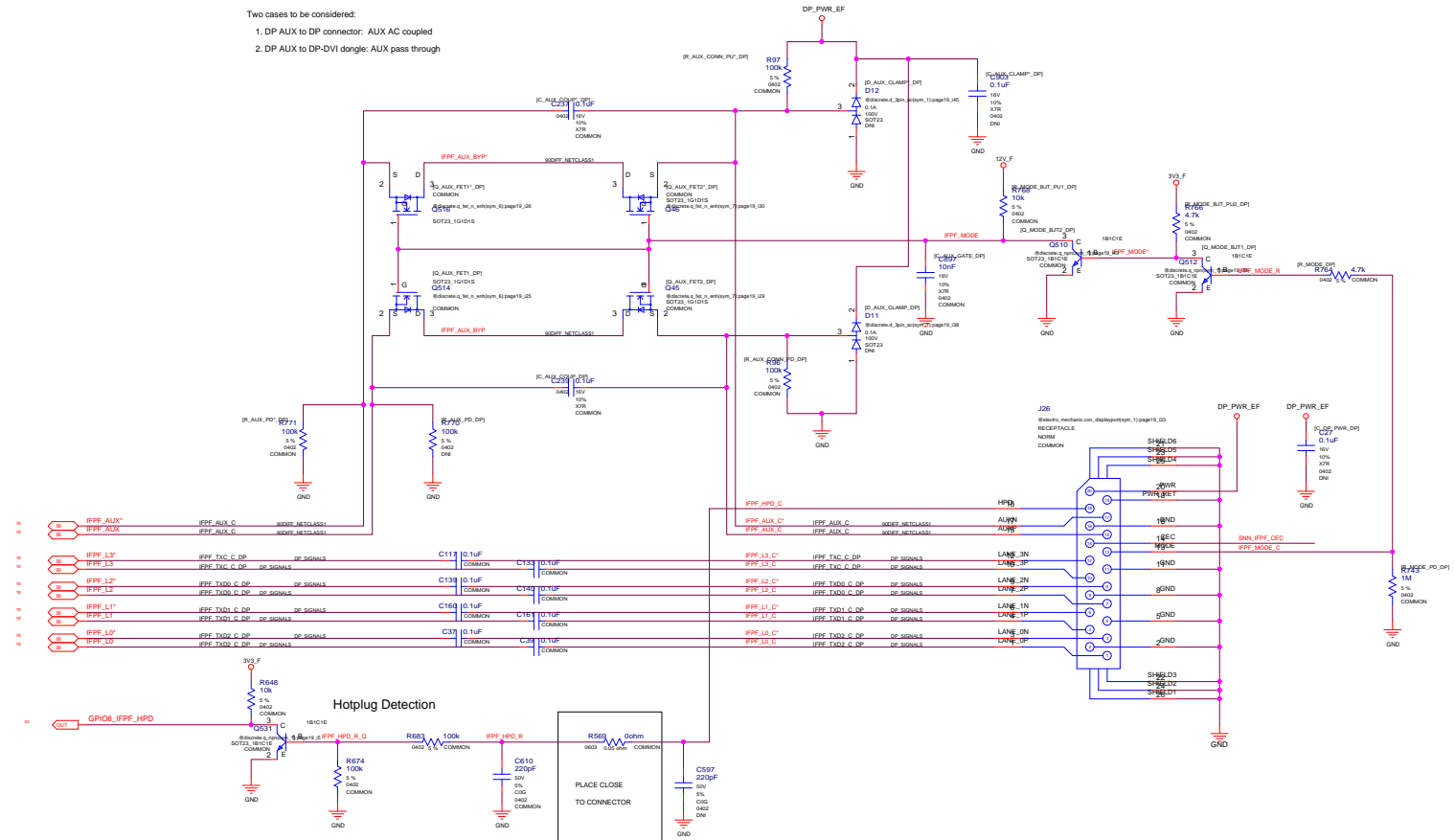


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Two cases to be considered:

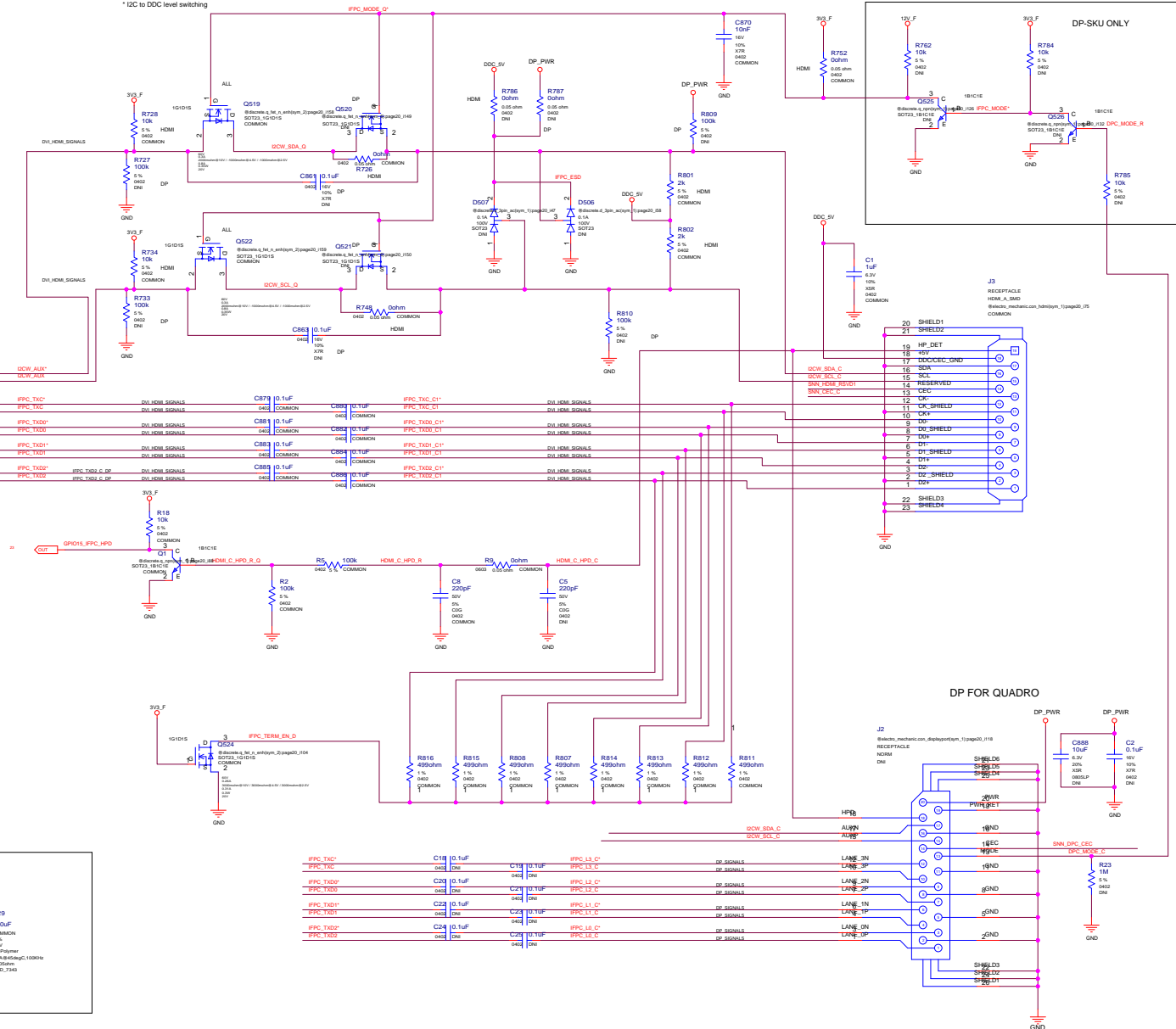
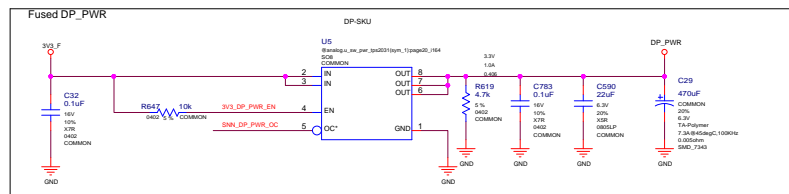
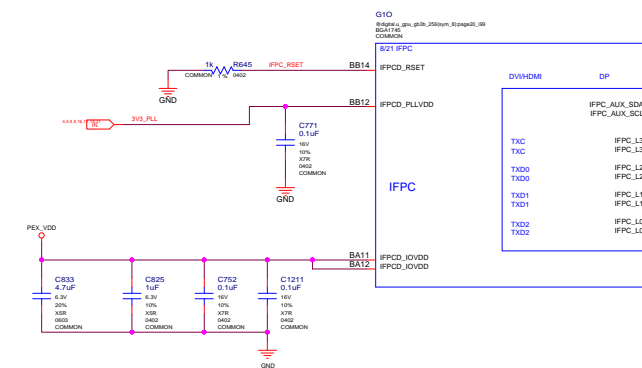
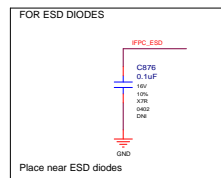
1. DP AUX to DP connector: AUX AC coupled
2. DP AUX to DP-DVI dongle: AUX pass through



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	IFPF DP

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PAGE DETAIL	IFPC HDMI/DP

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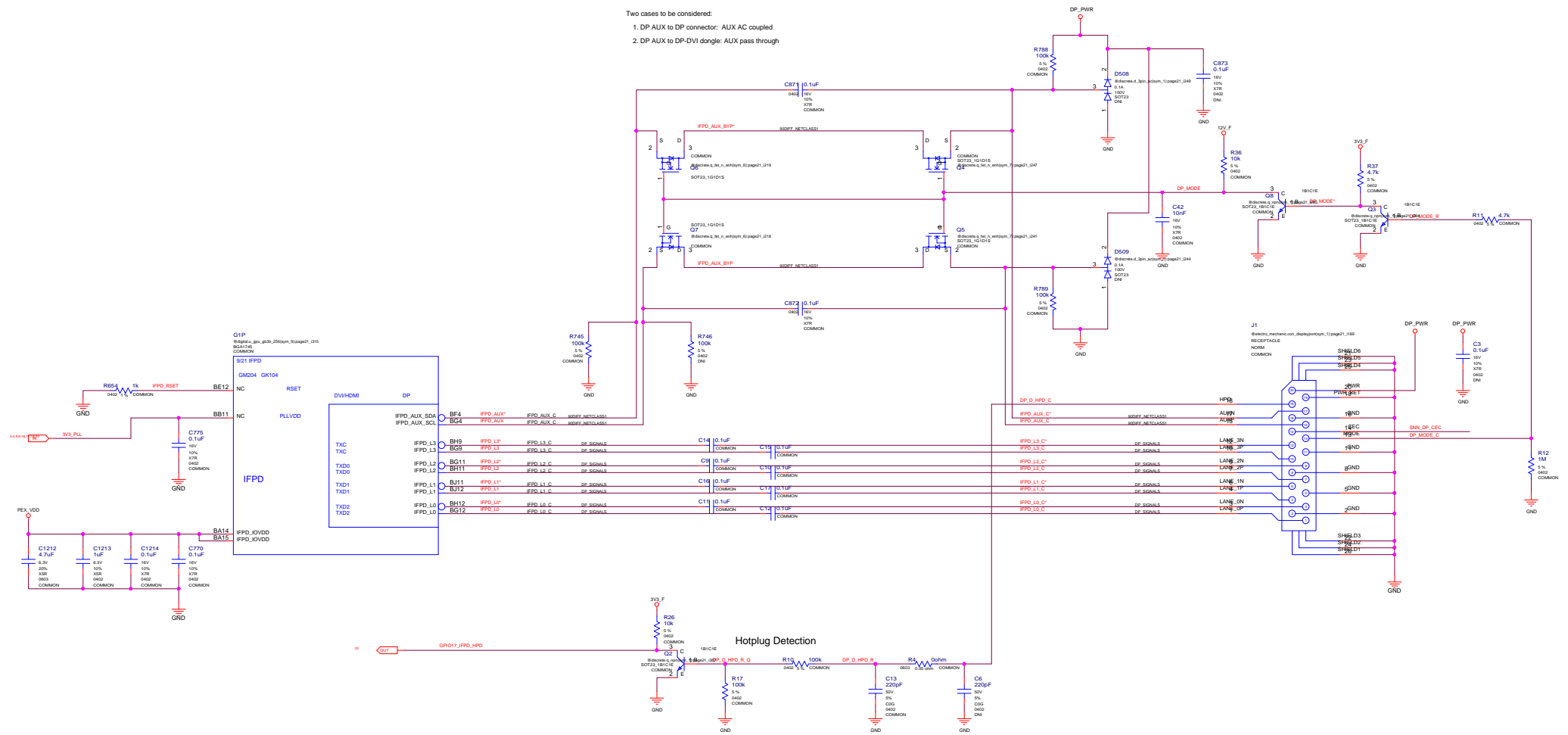


NV_PN	600-1G401-BASE-QS1
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Two cases to be considered:

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



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	IFPD DP

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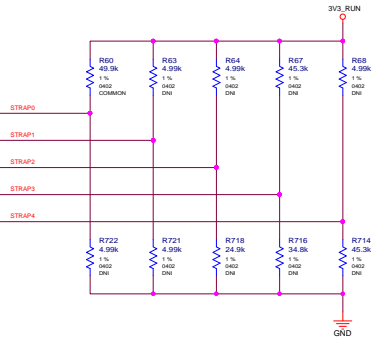
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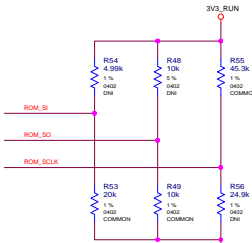
BOM REV	A	DATE	04-AUG-2014
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KEPLER				MAXWELL			
STRAP0	USER_BIT [3:0]*	0000*	5K PD*	GC6	SEE TABLE BELOW		
STRAP1	3GIO_PADCFG_LUT_ADR*	0000*	5K PD Deselect*				
STRAP2	PCI_DEVID [3:0]*	0100 - (0x1184)*	25K PD - 425 GP1*†				
STRAP3	SOR_EXPOSED [3:0]*	1111*	45K PU*				
STRAP4	DP_PLL_VDD_33V*	1*	FOR 3_3V*				
	PEX_MAX_SPEED*	1*	FOR GEN2/3*				
	PEX_SPD_CHANGE_GEN3*	1*	ENABLED*				
	*						
ROM_SI	RAMCFG[0]*	1*		RAMCFG[0]*	1*		
	RAMCFG[1]*	1*	0111 for 64Mx32 256-bit SAMSUNG SAMSUNG for SKI-D primary memory	RAMCFG[1]*	1*	20K PD*	
	RAMCFG[2]*	1*	45K PD*	RAMCFG[2]*	0*		
	RAMCFG[3]*	0*		RAMCFG[3]*	0*		
ROM_SO	VGA_DEVICE*	1*		VGA_DEVICE*	1*		
	SMB_ALT_ADDR*	0*	30K PD*	SMB_ALT_ADDR*	0*	10K PD*	
	FB[0]_APERTURE_SIZE*	1*	For 128MB*	PCIE_CFG*	0*		
	FB[1]_APERTURE_SIZE*	0*	For 128MB*	DEVID_SEL*	0*		
ROM_SCLK	PEX_PLL_EN_TERM100*	0*	DISABLED*	SOR0_EXPOSED*	1*		
	PCI_DEVID_EXT[5]*	0*	For 0x1184*	SOR1_EXPOSED*	1*	45K PU*	
	SUB_VENDOR*	1*	Dedicated BIOS*	SOR2_EXPOSED*	1*		
	PCI_DEVID_EXT[4]*	0*	For 0x1184*	SOR3_EXPOSED*	1*		

MULTI_STRAP_REF0_GND	
BINARY PRODUCTION	NC
BINARY BRINGUP	NC
MULTI-LEVEL	40.2K 1% TO GND



MAXWELL		
STRAP0	3.3V	1.85V
STRAP1	1.85V	0V
STRAP2	0V	0V
STRAP3	0V	0V
STRAP4	0V	0V



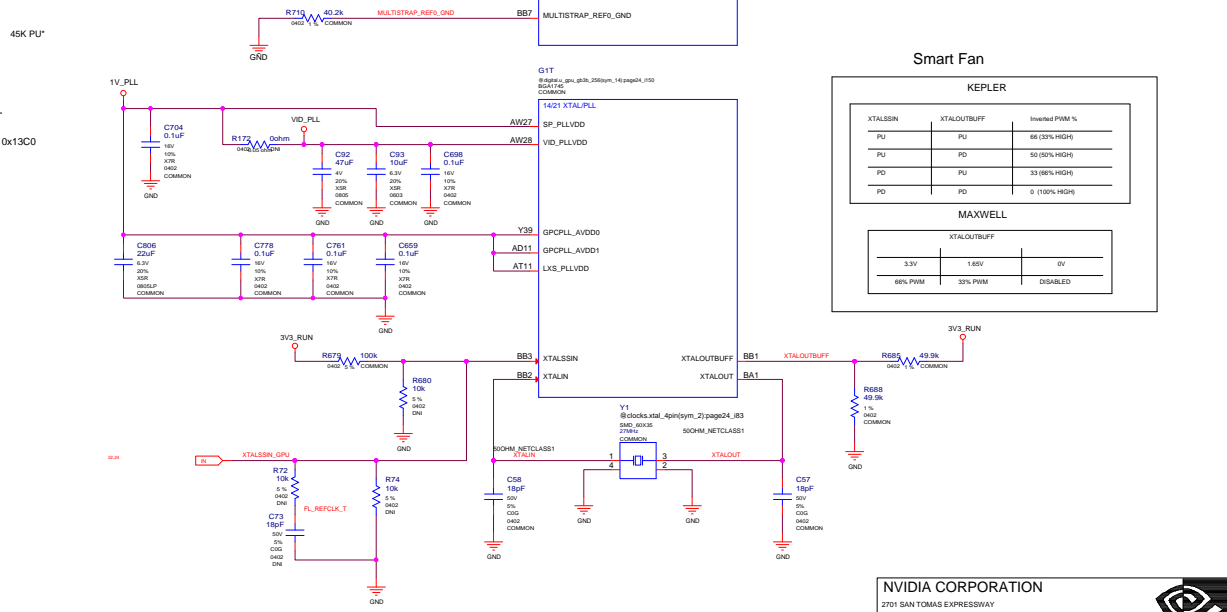
GND	3V3
5K	0000
10k	0001
15k	0010
20k	0011
25k	0100
30k	0101
35k	0110
45k	0111

KEPLER

CFG[3:0] Config	Width	Vendor
0000	Reserved	
0001	32Mx32 256-bit Elpida	
0010	32Mx32 256-bit Hynix	
0011	32Mx32 256-bit Samsung	
0100	Reserved	
0101	64Mx32 256-bit Elpida	
0110	64Mx32 256-bit Hynix	
0111	64Mx32 256-bit Samsung	
1000	Reserved	
1001	32Mx32 192-bit Elpida	
1010	32Mx32 192-bit Hynix	
1011	32Mx32 192-bit Samsung	
1100	Reserved	
1101	64Mx32 192-bit Elpida	
1110	64Mx32 192-bit Hynix	
1111	64Mx32 192-bit Samsung	

MAXWELL

CFG[3:0] Config	Width	Vendor
0000	Reserved	
0001	128Mx32 256-bit Elpida	
0010	128Mx32 256-bit Hynix	
0011	128Mx32 256-bit Samsung	
0100	Reserved	
0101	64Mx32 256-bit Elpida	
0110	64Mx32 256-bit Hynix	
0111	64Mx32 256-bit Samsung	



Smart Fan

KEPLER		
XTALSSIN	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	1.85V	0V
66% PWM	33% PWM	DISABLED

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


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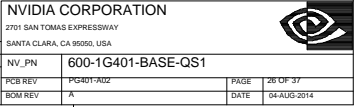


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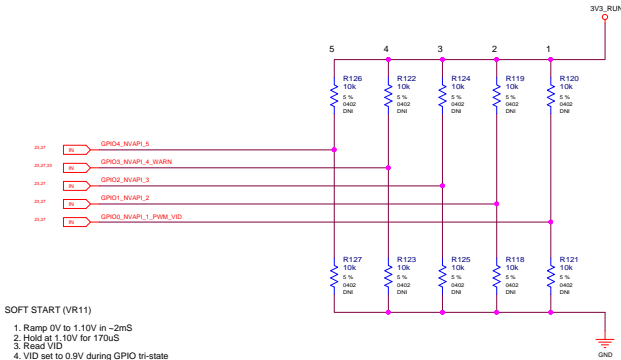
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: FBVDDQ

VID Table

GPIO4 VID_5	GPIO3 VID_4	GPIO2 VID_3	GPIO1 VID_2	GPIO0 VID_1	VOUT
0	0	0	0	0	1.2125V
0	0	0	0	1	1.2000V
0	0	0	1	0	1.1875V
0	0	0	1	1	1.1750V
0	0	1	0	0	1.1625V
0	0	1	0	1	1.1500V
0	0	1	1	0	1.1375V
0	0	1	1	1	1.1250V
0	1	0	0	0	1.1125V
0	1	0	0	1	1.1000V
0	1	0	1	0	1.0875V
0	1	0	1	1	1.0750V
0	1	1	0	0	1.0625V
0	1	1	0	1	1.0500V
0	1	1	1	0	1.0375V
0	1	1	1	1	1.0250V
1	0	0	0	0	1.0125V
1	0	0	0	1	1.0000V
1	0	0	1	0	0.9875V
1	0	0	1	1	0.9750V
1	0	1	0	0	0.9625V
1	0	1	0	1	0.9500V
1	0	1	1	0	0.9375V
1	0	1	1	1	0.9250V
1	1	0	0	0	0.9125V
1	1	0	0	1	0.9000V
1	1	0	1	0	0.8875V
1	1	0	1	1	0.8750V
1	1	1	0	0	0.8625V
1	1	1	0	1	0.8500V
1	1	1	1	0	0.8375V
1	1	1	1	1	0.8250V

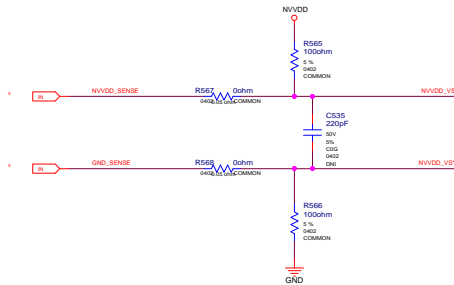
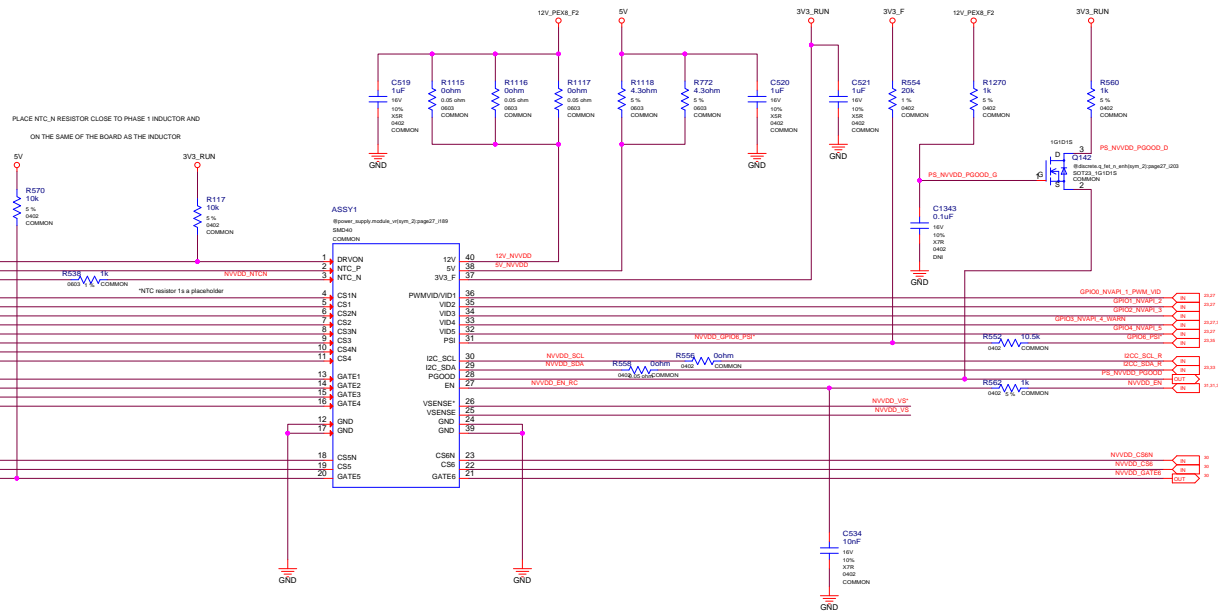


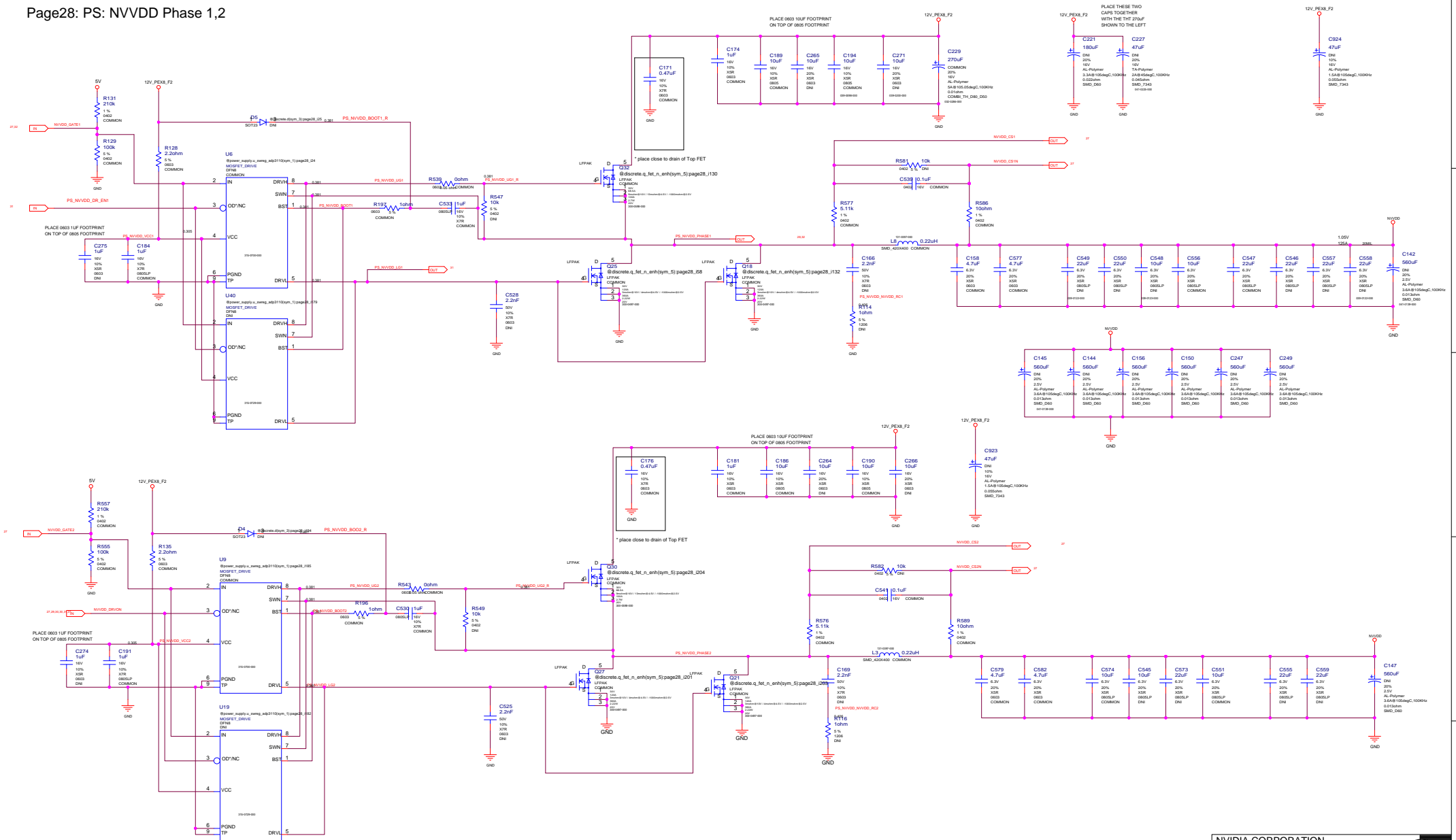
SOFT START (VR11)

1. Ramp 0V to 1.10V in ~2mS
2. Hold at 1.10V for 170uS
3. Read VID
4. VID set to 0.9V during GPIO tri-state
VID[5:1]=11000 to set 0.9125V

P-STATE VOLTAGES

1. P0 at 1.05V to 1.15V (depending on VB)
2. P8/P12 at 0.80V





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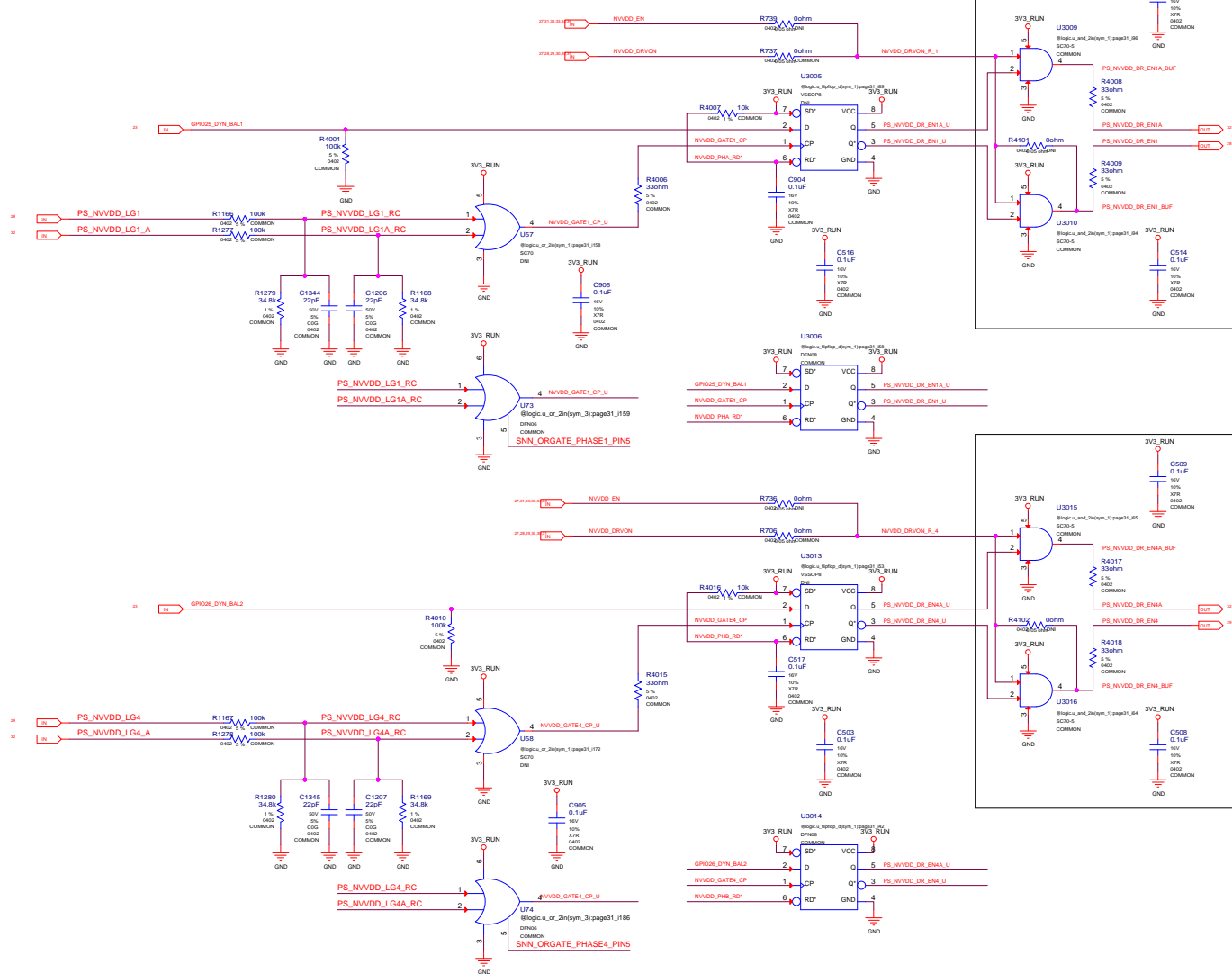


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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: Dynamic Power Balance Logic

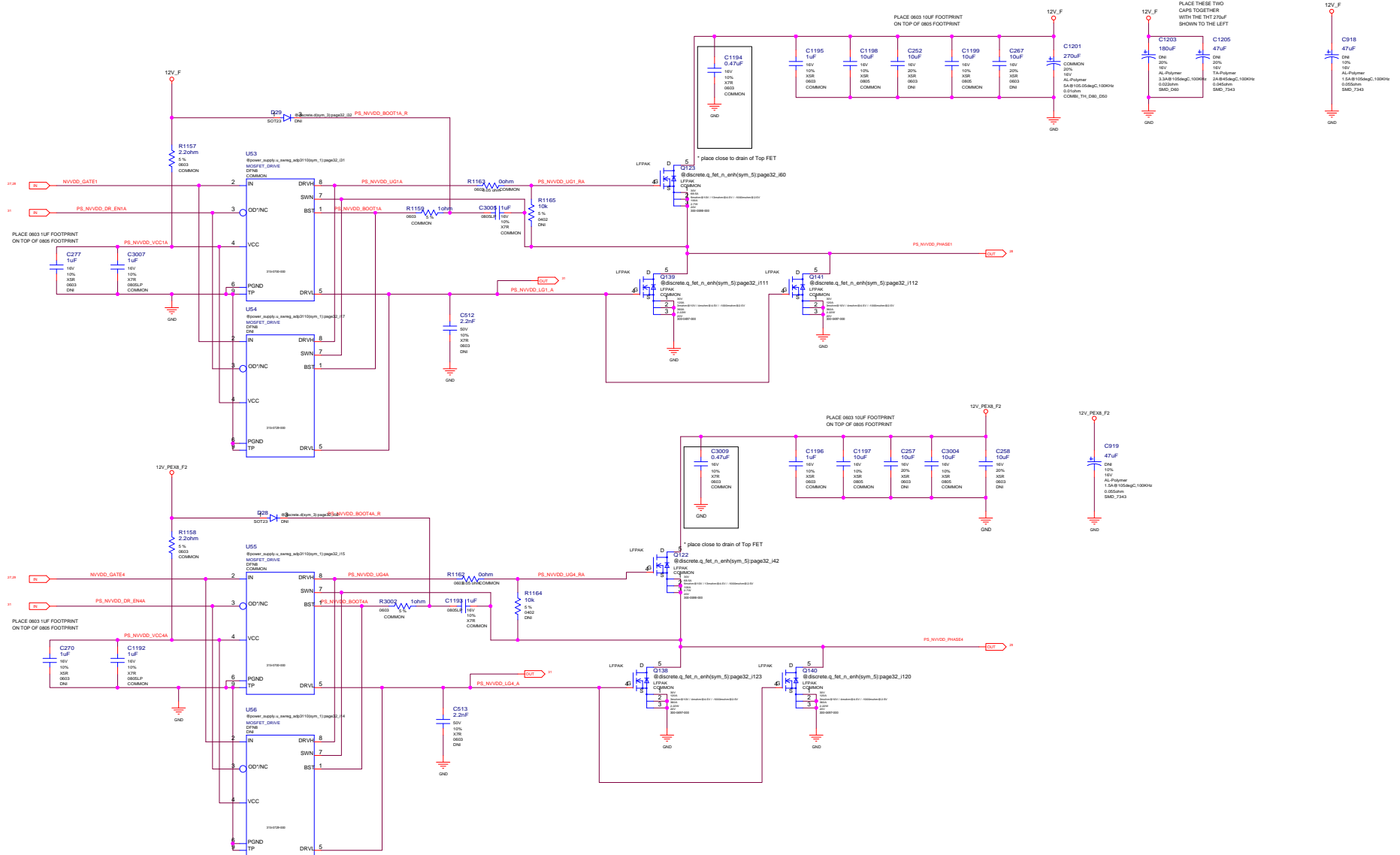
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: Dynamic Power Balance Phases

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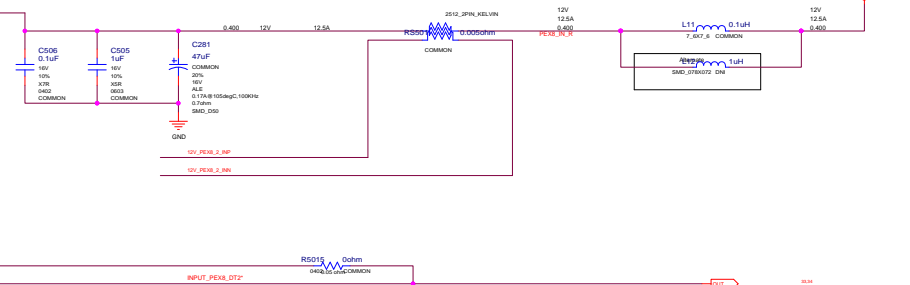
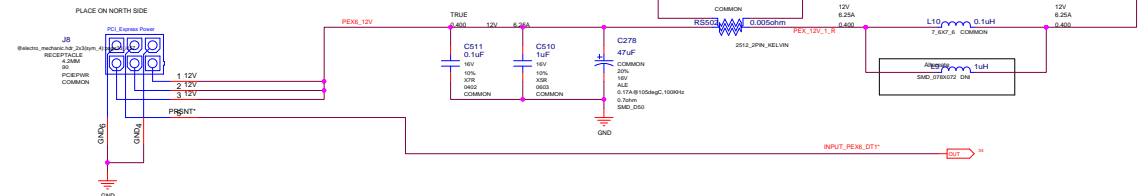
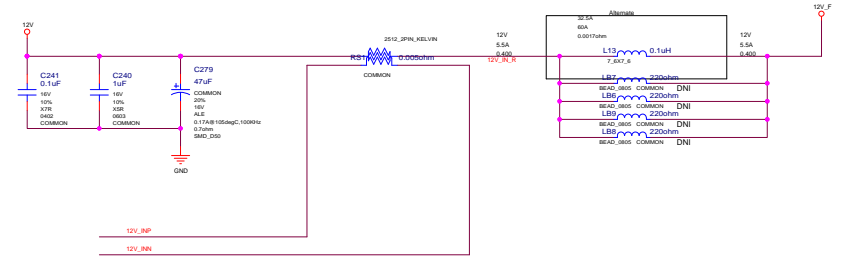
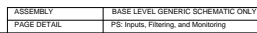
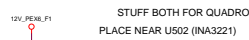
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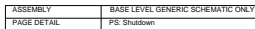
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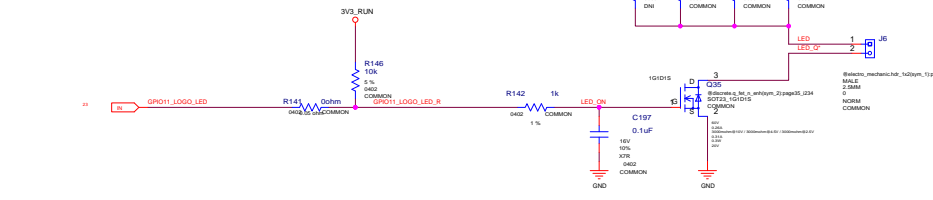
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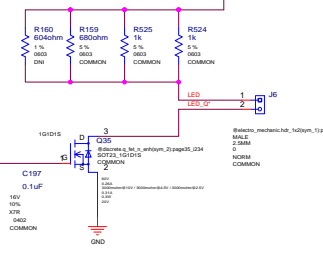
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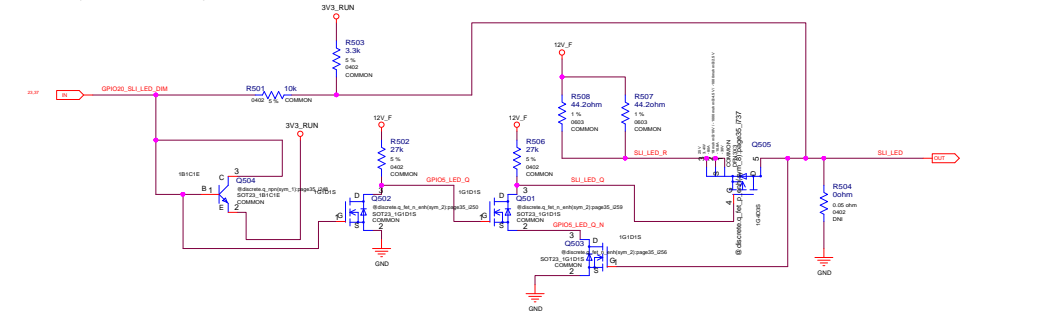
GeForce Logo LED



LED HEADER
(COMMON)

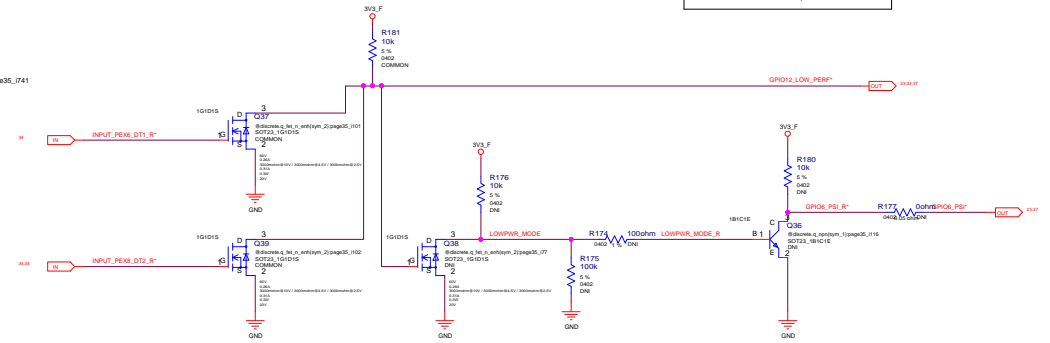


SLI LED (GEFORCE ONLY)

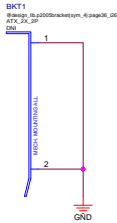


GPI012_LOW_PERF*	GPU SPEED
0	Slow
1	Normal

PEX Input - Power Level/PSI* Control



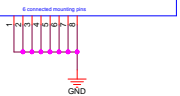
Brackets:



Bracket Screw

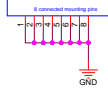


BGA SOCKET ASSY

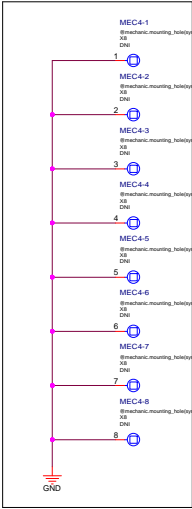
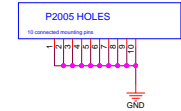


GPU Stiffner

BOARD STIFFENER



Mechanical Holes Symbol



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