

P2030


GK106, 2GB GDDR5, 192b mixed mode x16, x32  
Stacked DVI-I/DVI-D + HDMI/DP + DP

ADD ESD  
ADD 270UF  
TO M-SERIAL  
CHANGE TO 6PCS MEM

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# PCI Express



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ASSEMBLY  
PAGE DETAIL

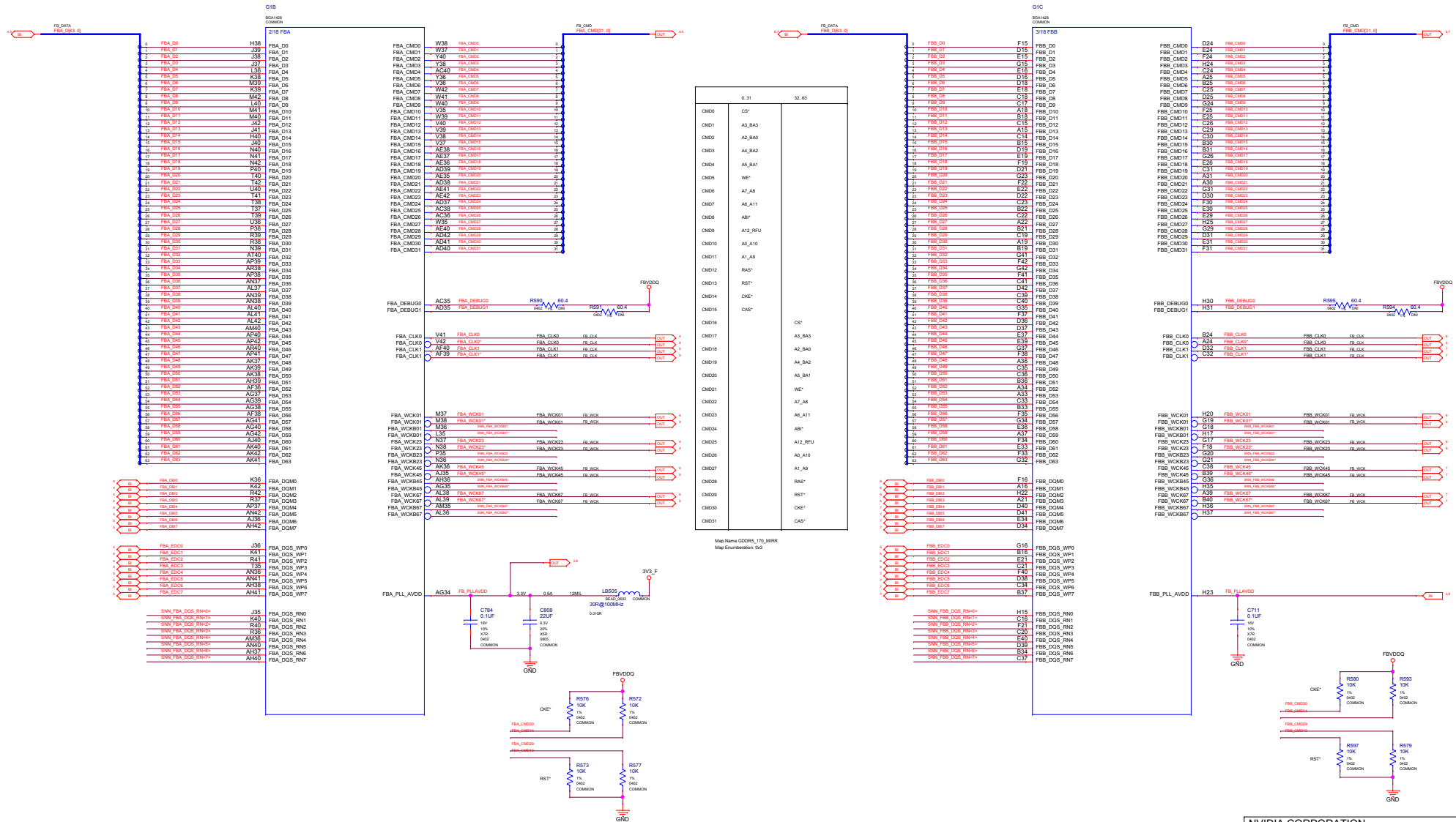
BASE LEVEL GENERIC SCHEMATIC ONLY  
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MEMORY: GPU Partition A/B



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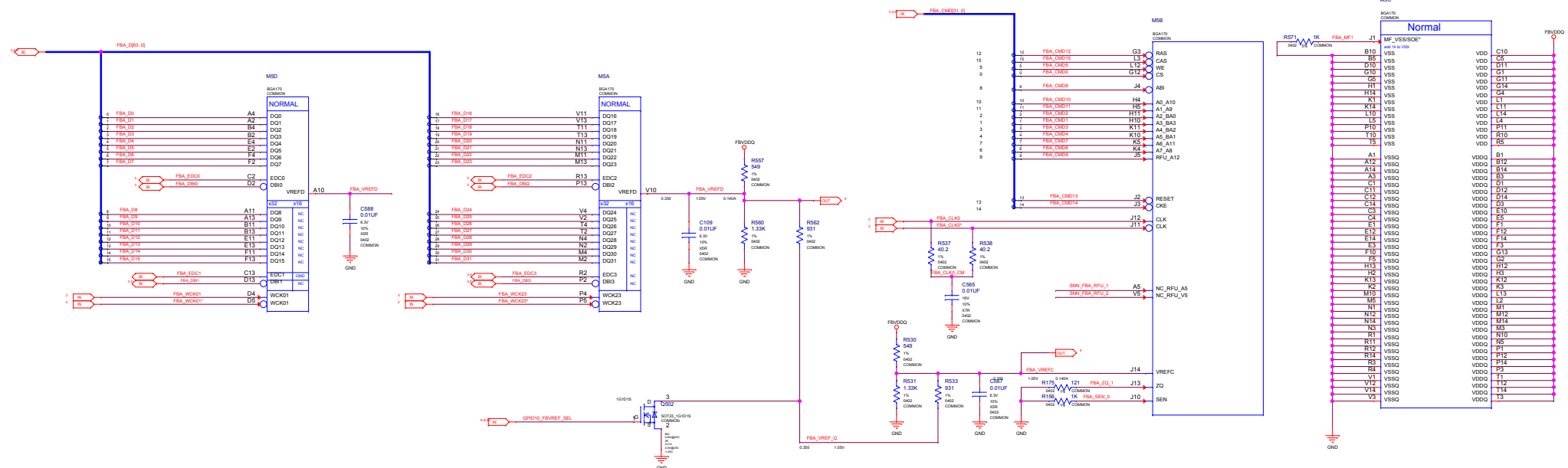
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[illegible]

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MEMORY: FBA Partition 31..0



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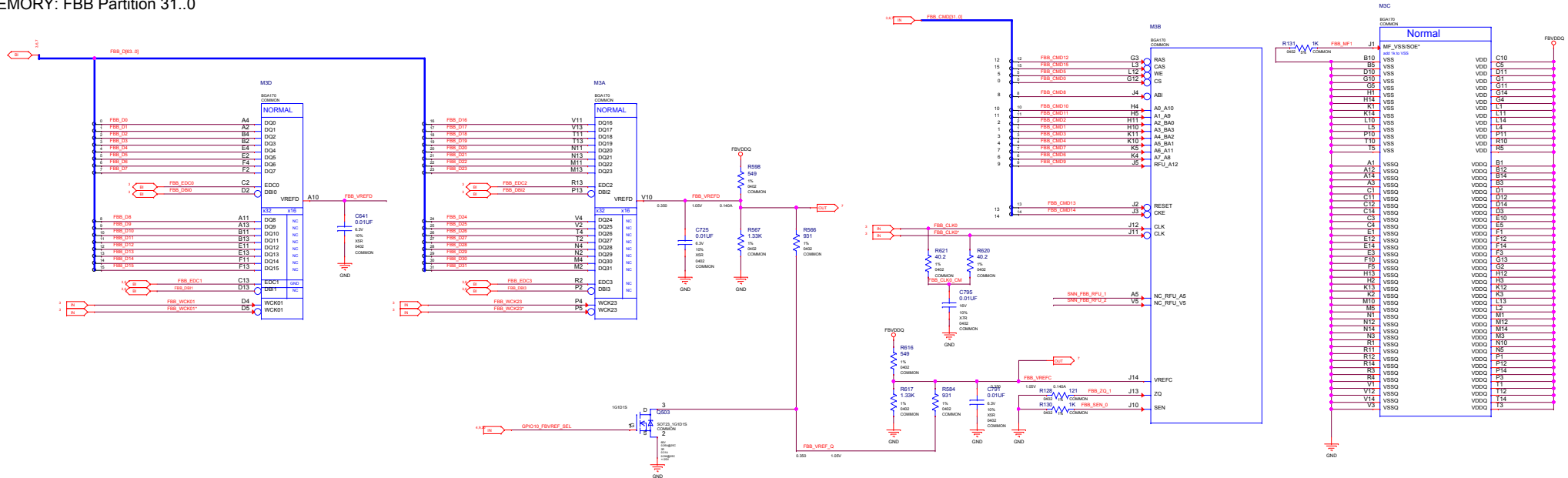
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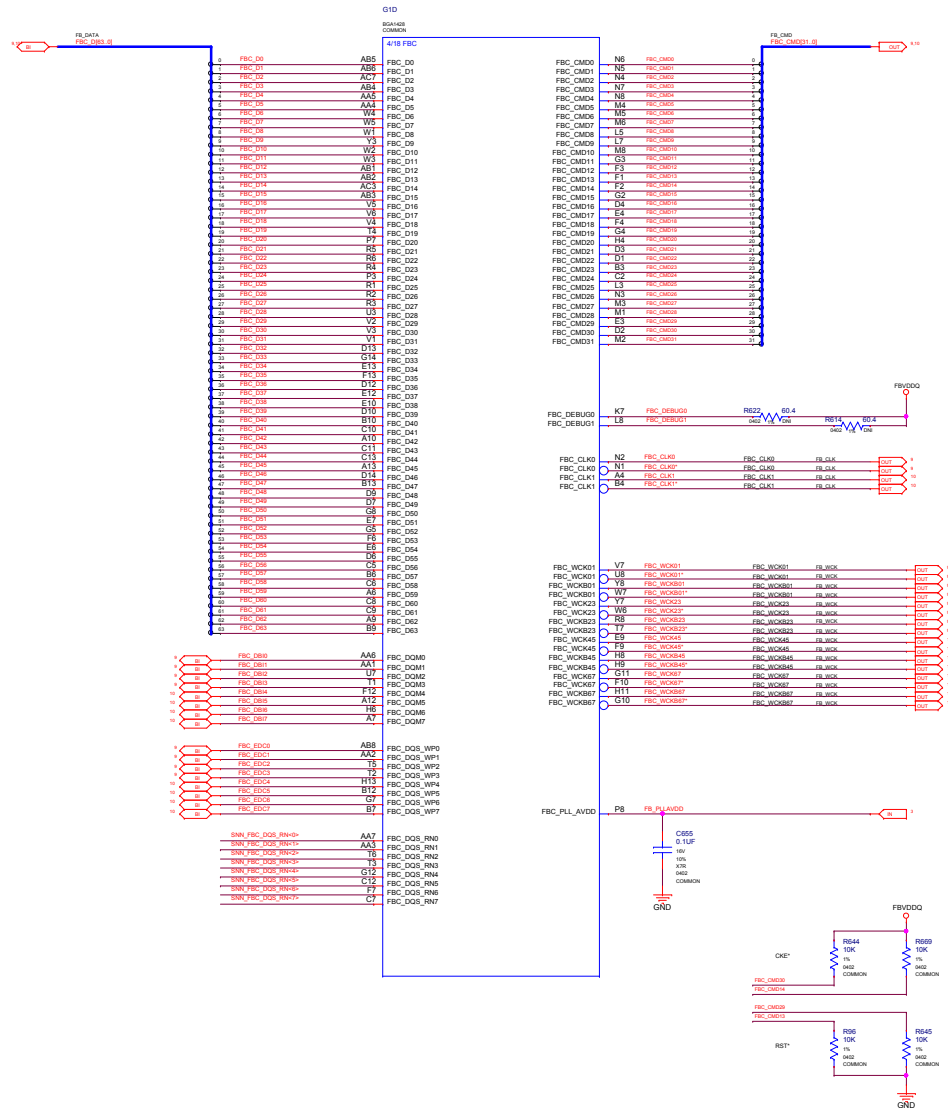
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MEMORY: FBA[63.32]

# MEMORY: FBB Partition 31..0



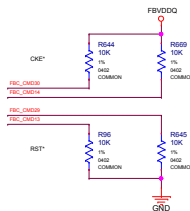
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MEMORY: GPU Partition C



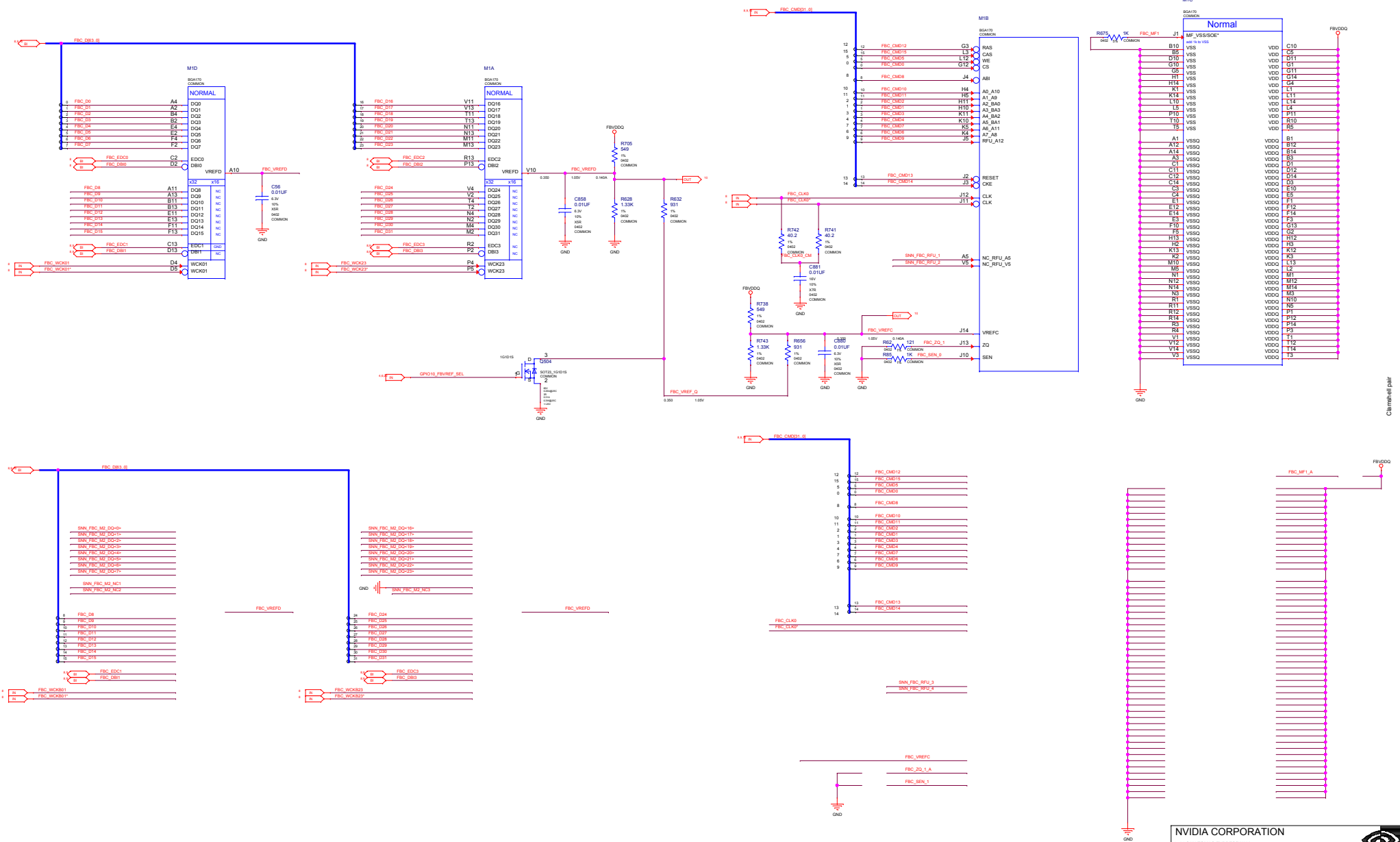
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CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	AB*	
CMD9	A12_RPU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RA5*	
CMD13	RS7*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		C5*
CMD17		A7_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		AB*
CMD25		A12_RPU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RA5*
CMD29		RS7*
CMD30		CKE*
CMD31		CAS*

Map Name GDDRS\_170\_MRF  
Map Enumeration: 0x3





MEMORY: FBC Partition 31..0



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PAGE DETAIL	MEMORY: FBC[31:0]

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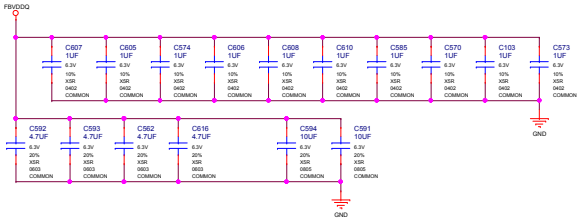
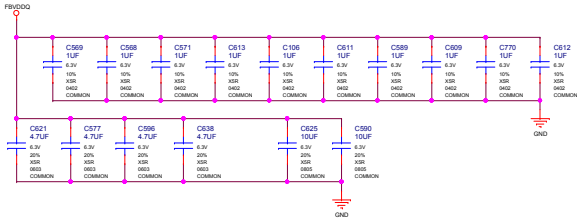
A schematic diagram showing a horizontal line with several vertical tick marks. A horizontal line segment is labeled 'H' below it.

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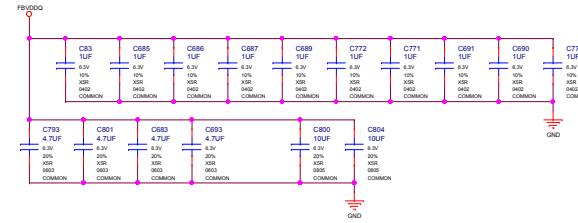
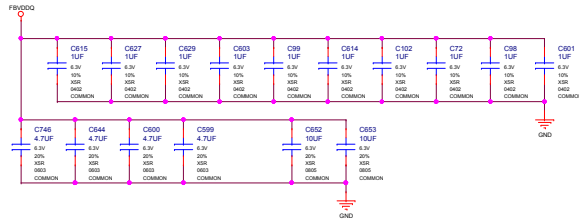


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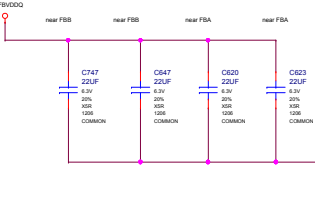
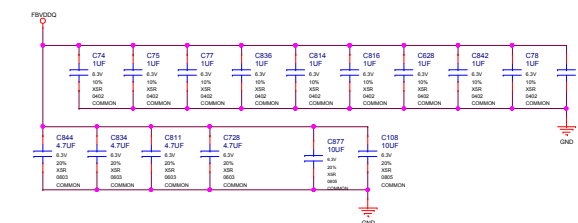
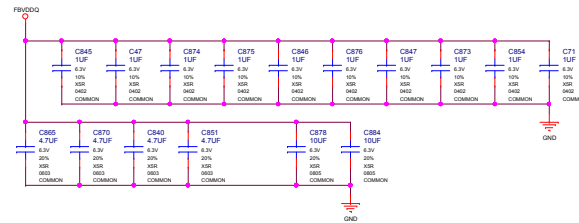
FBA



FBB



FBC



## GPU PWR and GND

G1E

G1F

G1G

G1H

G1I

G1J

G1K

G1L

G1M

G1N

G1O

G1P

G1Q

G1R

G1S

G1T

G1U

G1V

G1W

G1X

G1Y

G1Z

G2A

G2B

G2C

G2D

G2E

G2F

G2G

G2H

G2I

G2J

G2K

G2L

G2M

G2N

G2O

G2P

G2Q

G2R

G2S

G2T

G2U

G2V

G2W

G2X

G2Y

G2Z

G3A

G3B

G3C

G3D

G3E

G3F

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G14Z

G15A

G15B

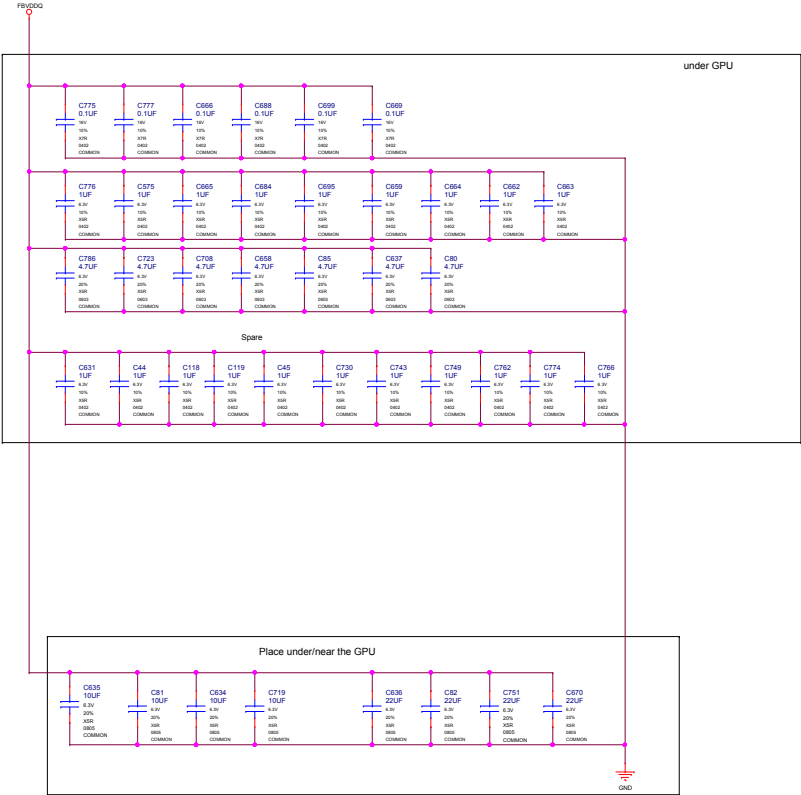
G15C

G15D

G1

GPU Decoupling

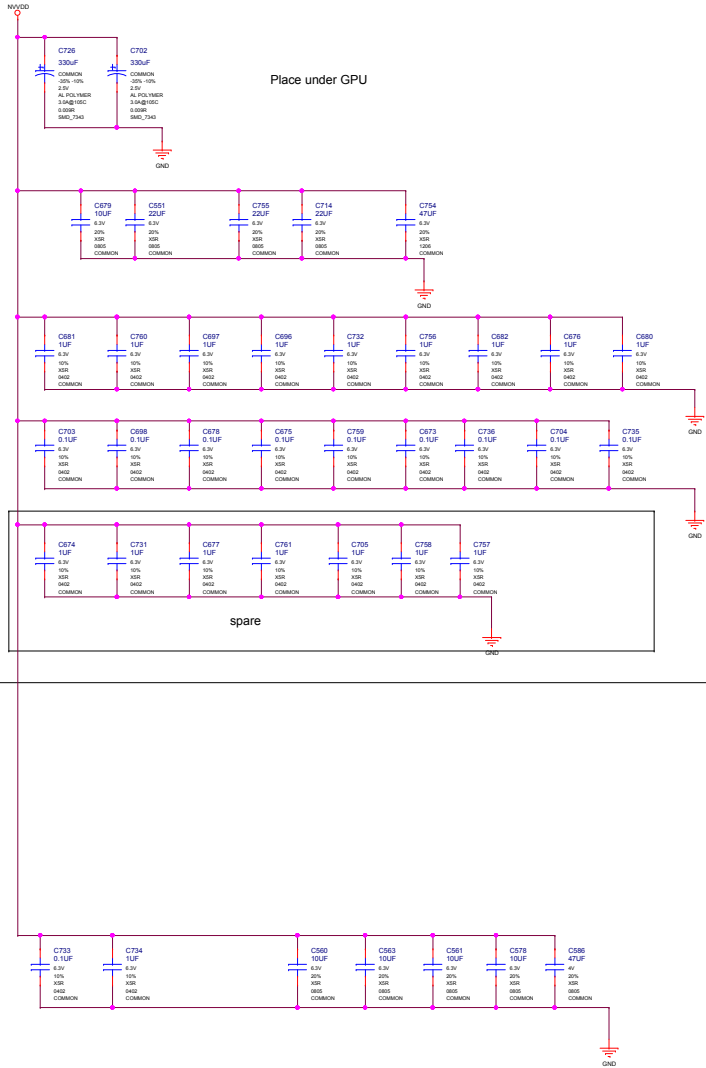
FBVDDQ



NVVD

Place under GPU

spare



	guidelines	actual
Under GPU	2x 330uF 9mOhm	1x 330uF 9mOhm
	1x 47uF 1206	1x 22uF 1206
	2x 22uF 805	4x 22uF 805
	2x 10uF 805	5x 10uF 402
	5x 0.1uF 402	5x 0.1uF 402
spare sites (not stuffed)		1x 75u3
near GPU		2x 22uF
near GPU	1x 47uF 1206	2x 22uF
	2x 22uF 805	2x 10uF 805
	2x 10uF 805	2x 10uF 805
	1x 1uF 402	1x 0.1uF 402

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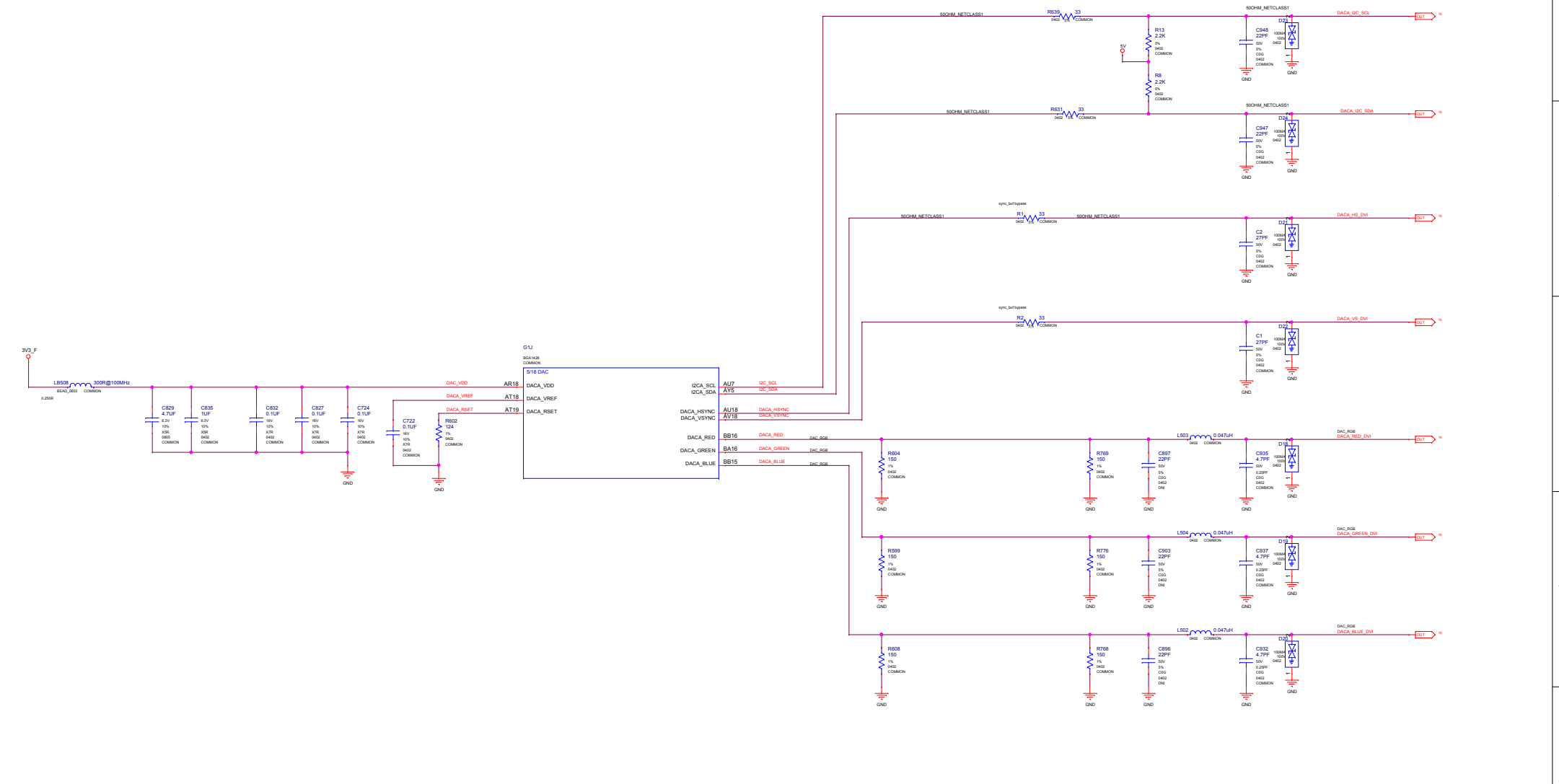
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ASSEMBLY

GPU Decoupling

BASE LEVEL GENERIC SCHEMATIC ONLY


DACA Interface



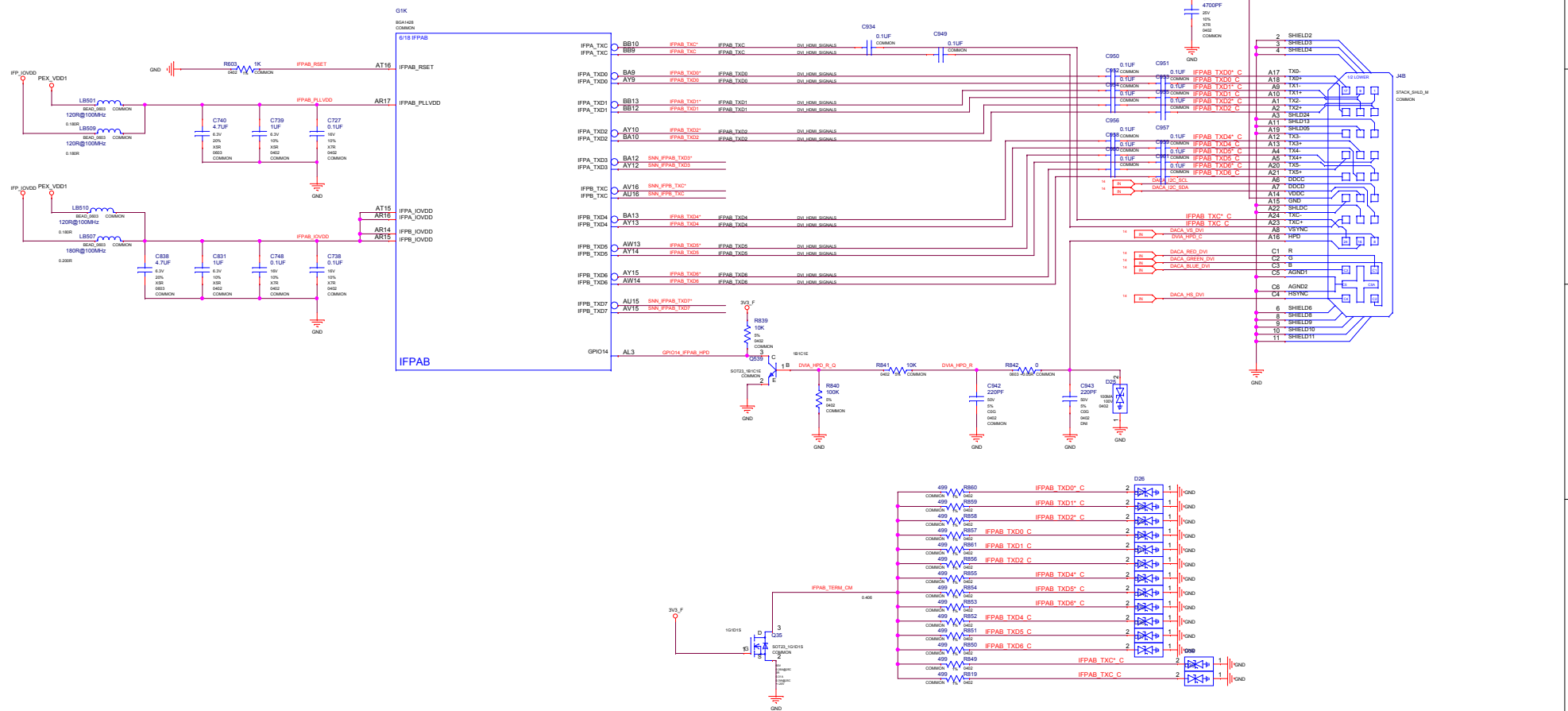
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DACA_VDD	3.3V	0.22A	100µm

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## IFPAB DVI-I-DL



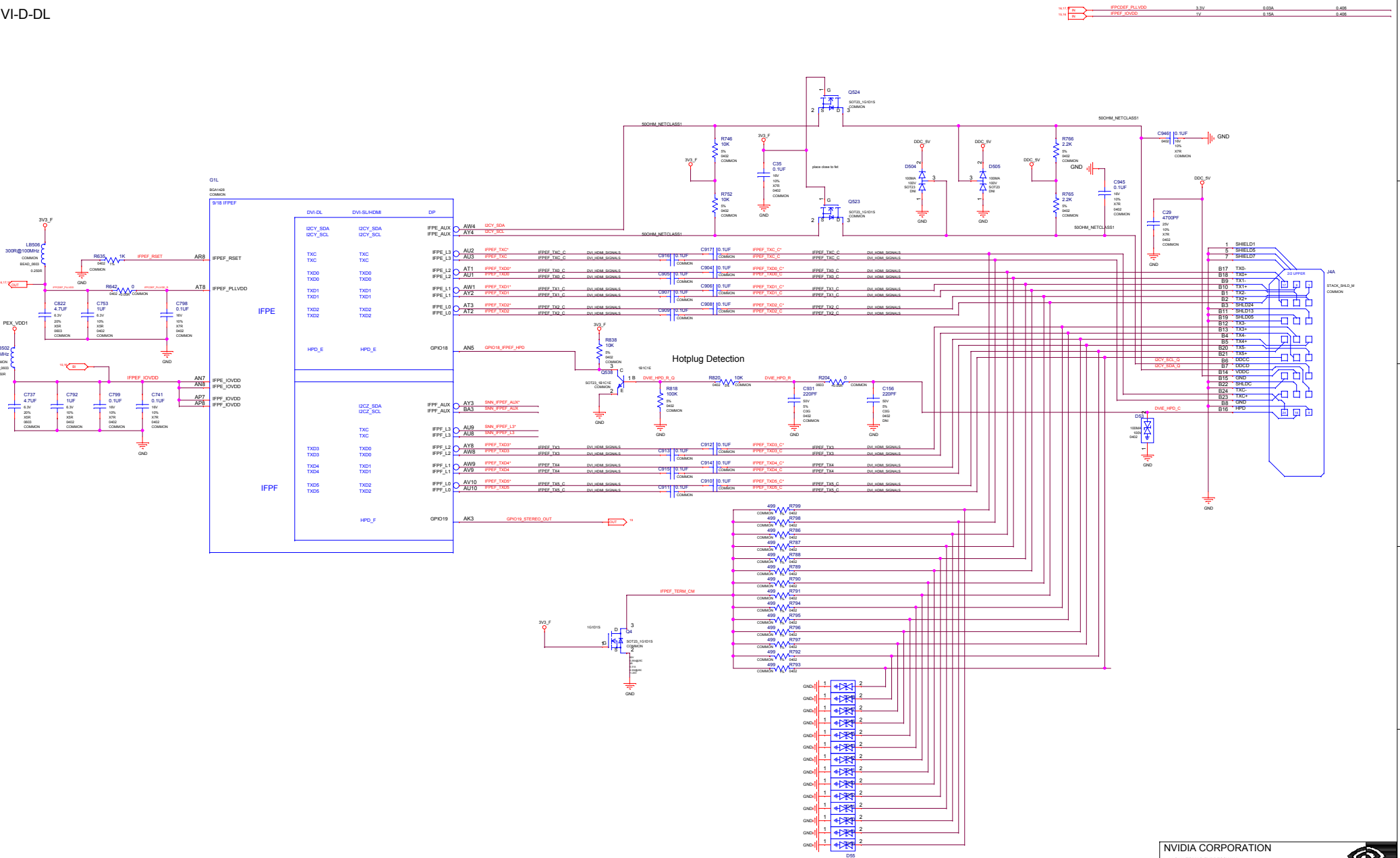
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## IFPEF DVI-D-DL



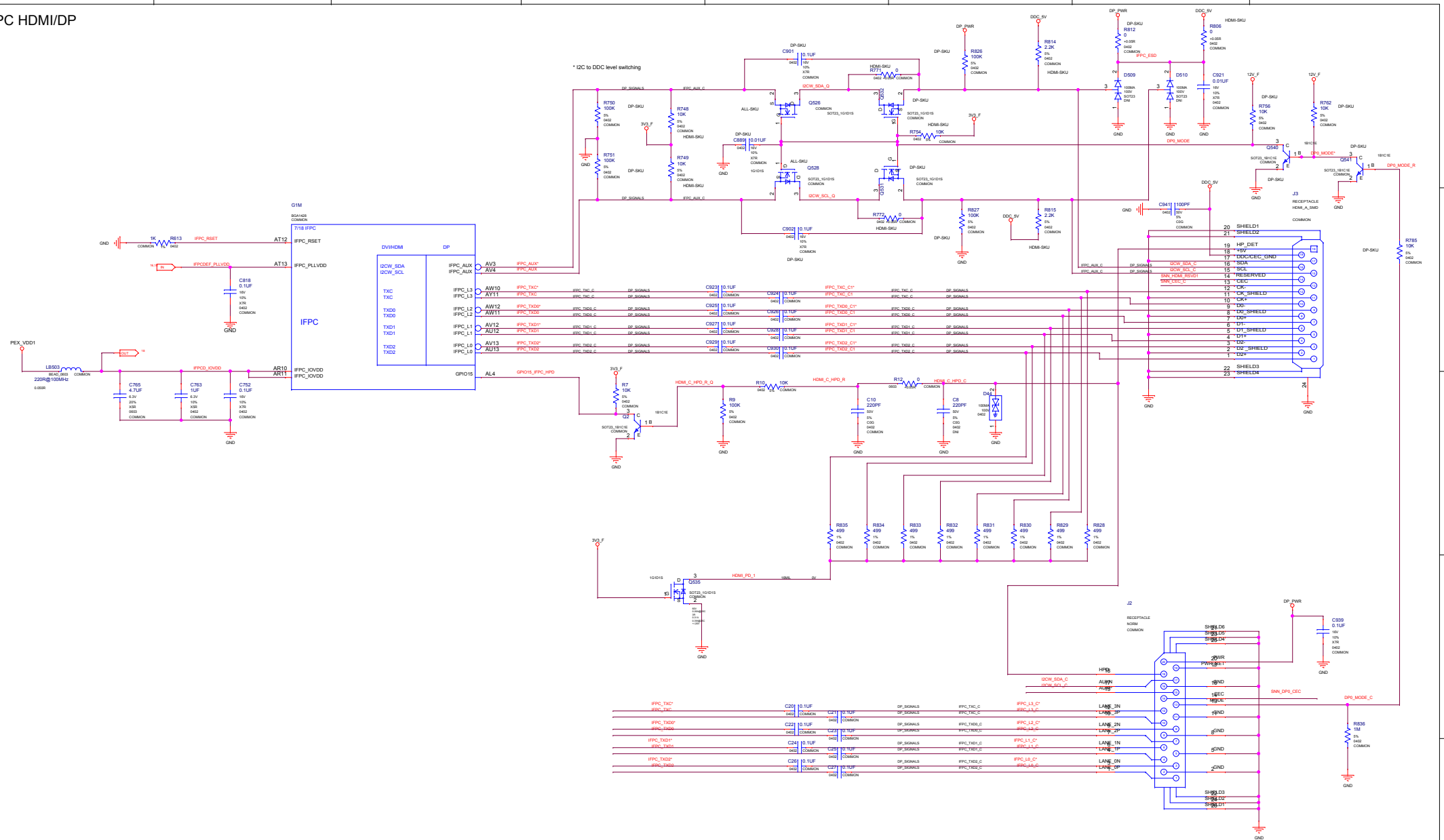
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## IFPC HDMI/DP



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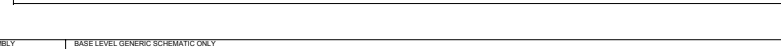
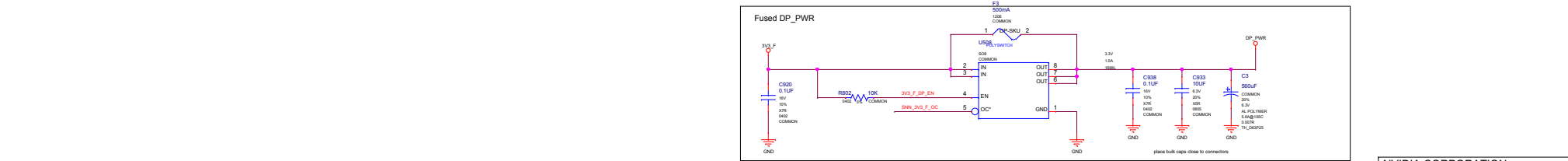


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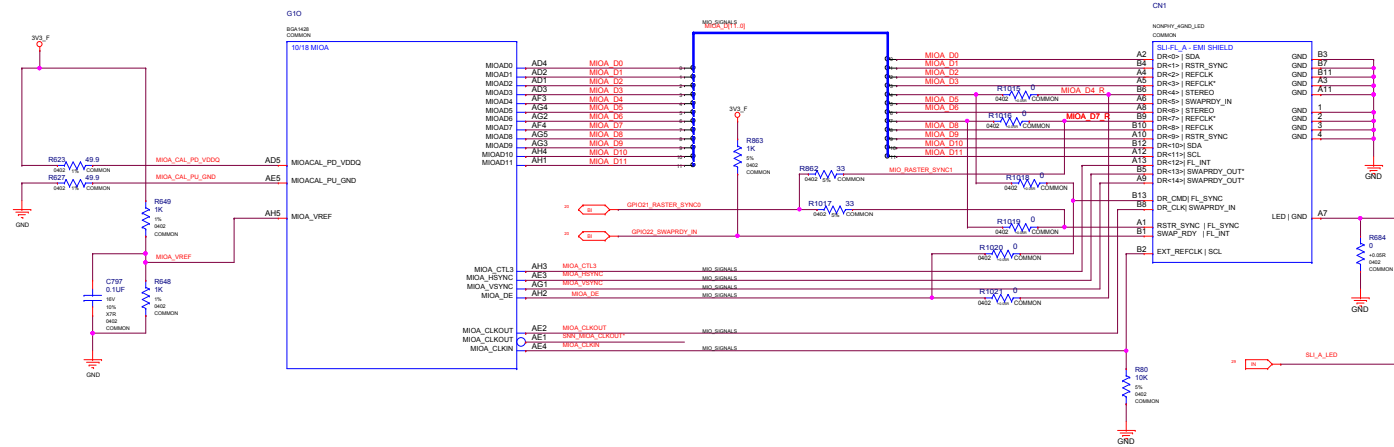
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## MIOA/SLI Interface



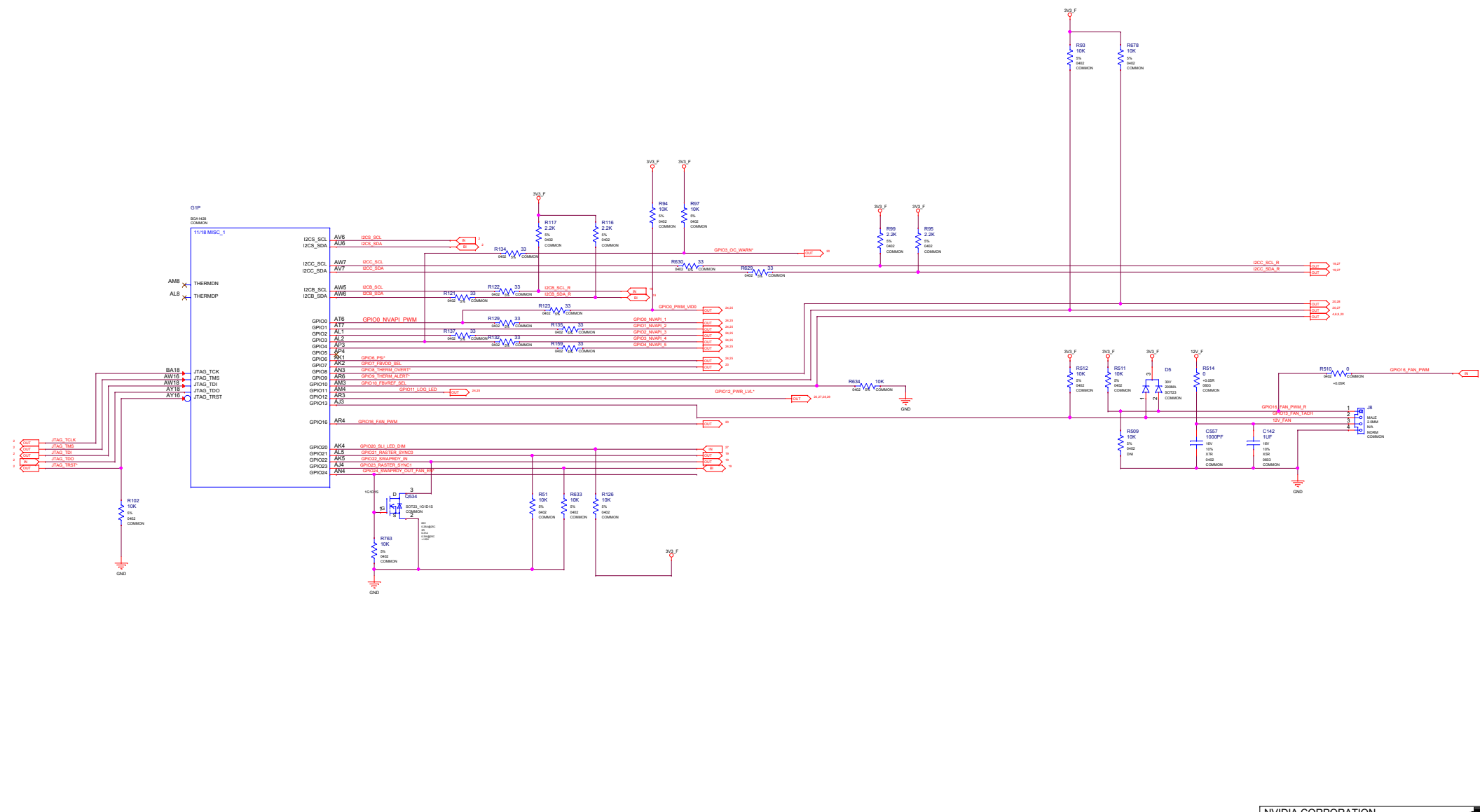
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IN	MIOA_CAL_PD_VDDQ	2.5V	0.305
IN	MIOA_CAL_PU_GND	0.0V	0.305

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MIOA/SLVStereo Hdr Interface

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MISC1: Fan, Thermal, JTAG, GPIO



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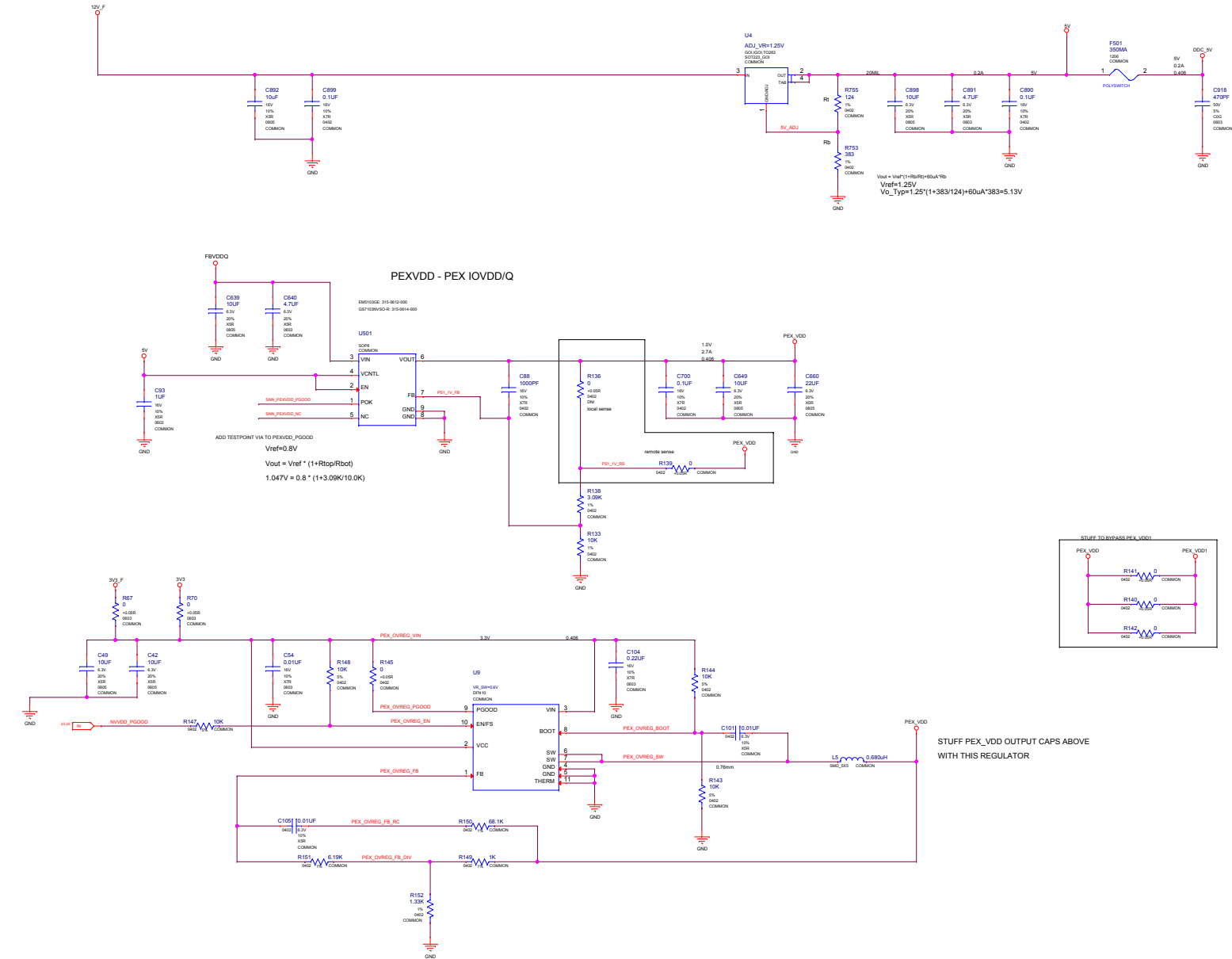
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MISC1: Fan, Thermal, JTAG, GPIO

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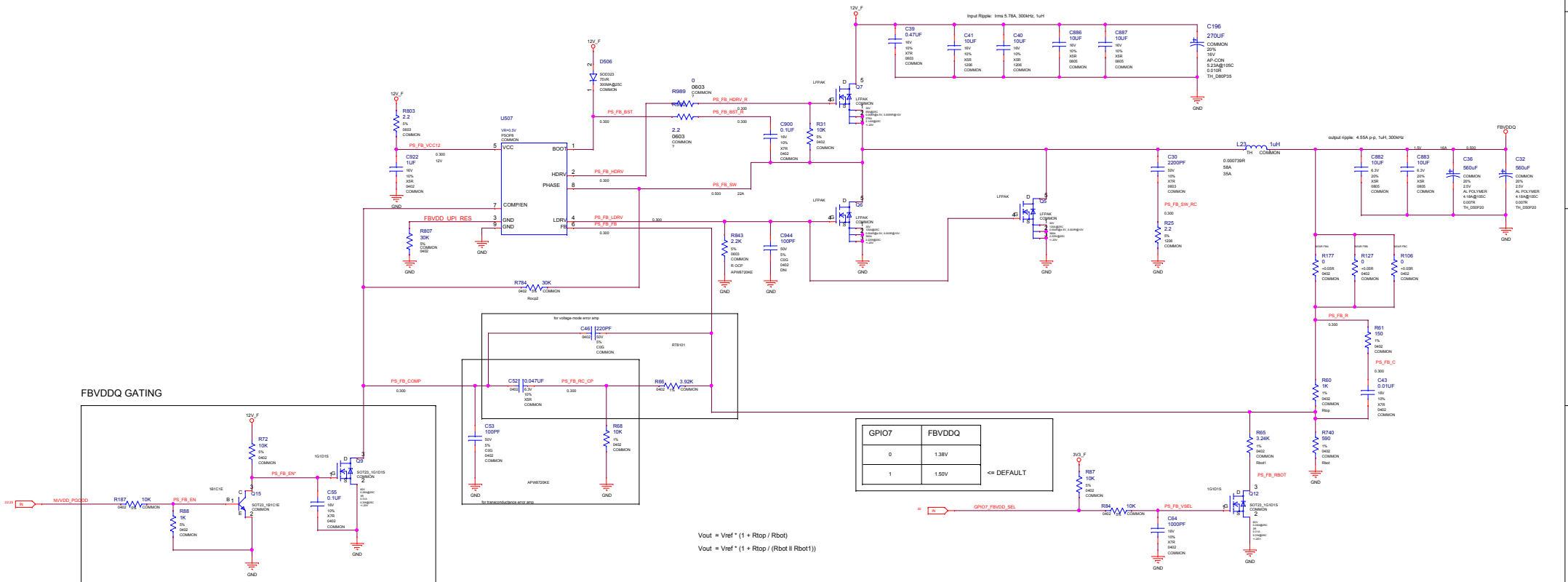
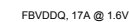


PS: 5V, PEX\_VDD



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## PS: FBVDDQ



GPI07	FBVDDQ
0	1.38V
1	1.50V

<= DEFAULT

$$V_{out} = V_{ref} * (1 + R_{top} / R_{bot})$$

$$V_{out} = V_{ref} * (1 + R_{top} / (R_{bot} || R_{bot1}))$$

	Vref	Vref accuracy	Fosc	GPIO?	
APW8720KE	0.5V	1%	300kHz	0	$V_{out} = .5 / (1 + 1.78k / 1k) = 1.35V$
				1	$V_{out} = .5 / (1 + 1.78k / (1k / 7.87k))$
RT8101GSP	0.8V	1%	300kHz	0	$V_{out} = .8 / (1 + 1.7k / 1.37k) = 1.384$
				1	$V_{out} = .8 / (1 + 1k / (1.37k / 5.58k))$

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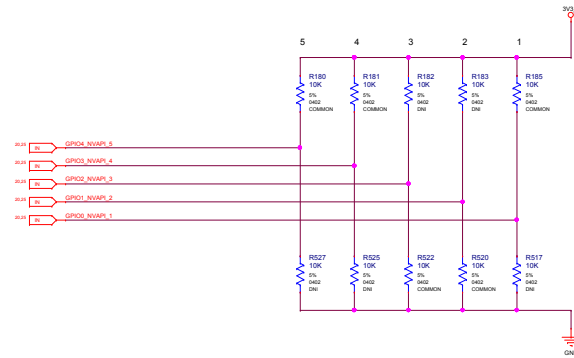
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## PS: NVVDD Controller, VID and PSI

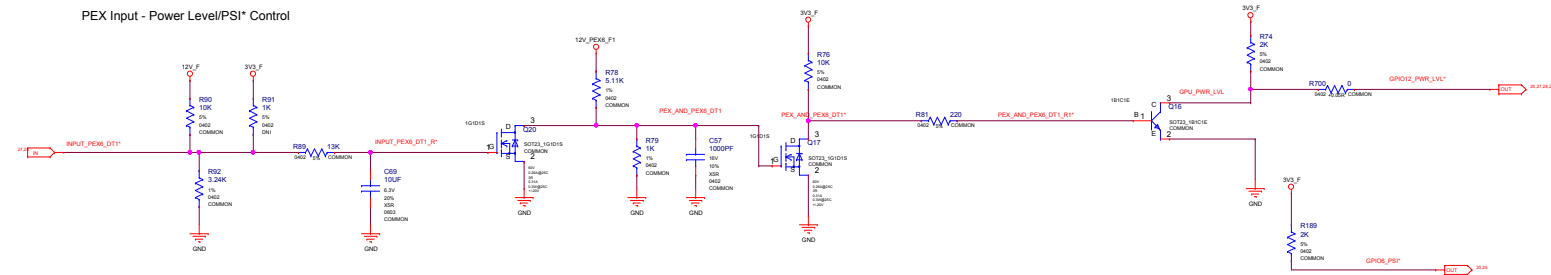
## VID Table

GPI04	GPI03	GPI02	GPI01	GPI00	VOUT
vid_5	vid_4	vid_3	vid_2	vid_1	
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



GPIO12_PWR_LVL	GPU SPEED
0	Slow
1	Normal

### PEX Input - Power Level/PSI\* Control



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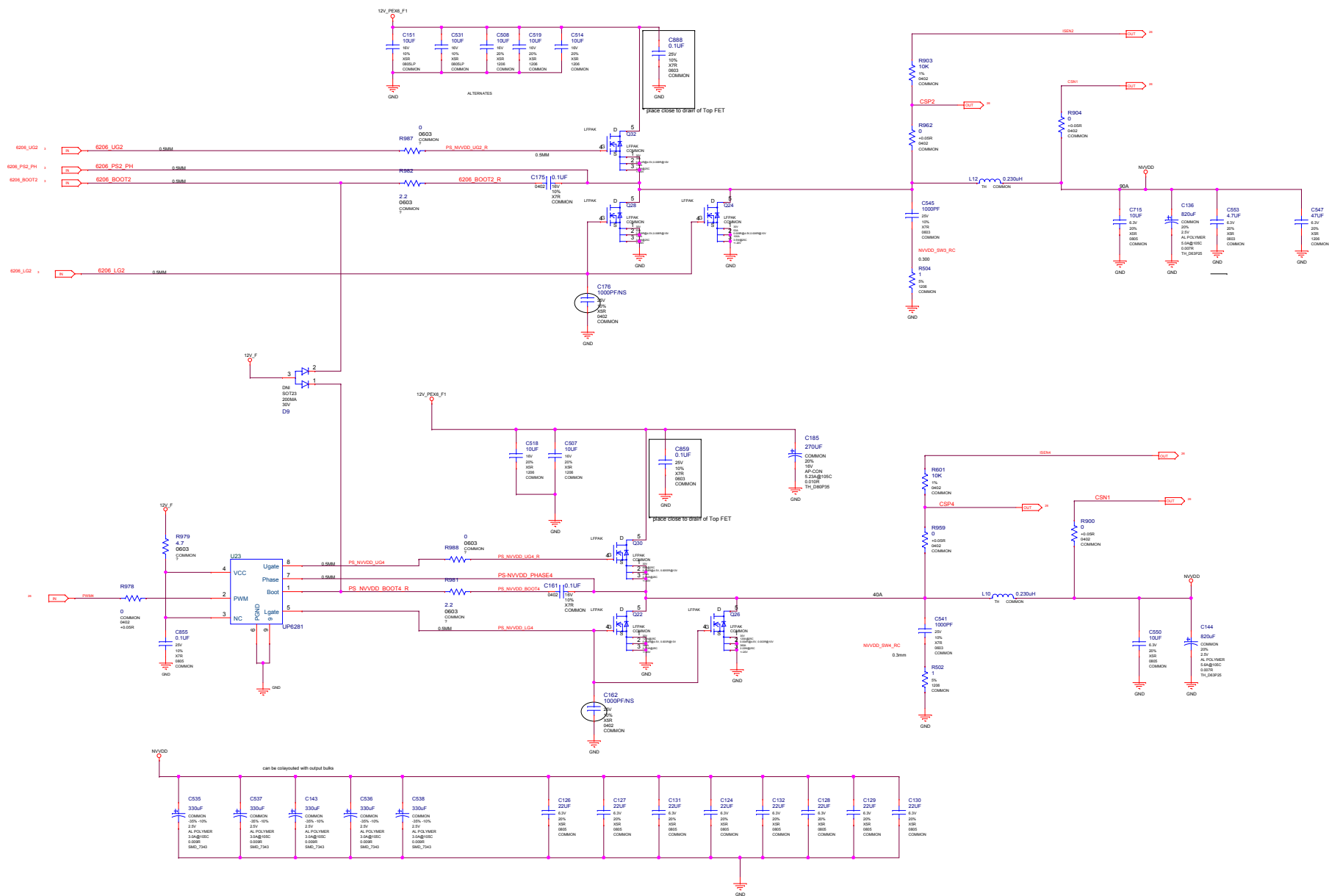


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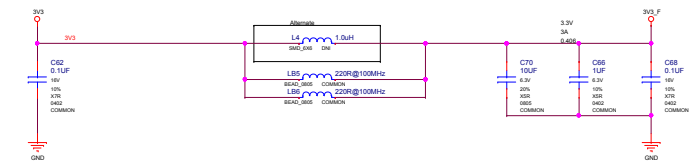
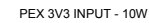
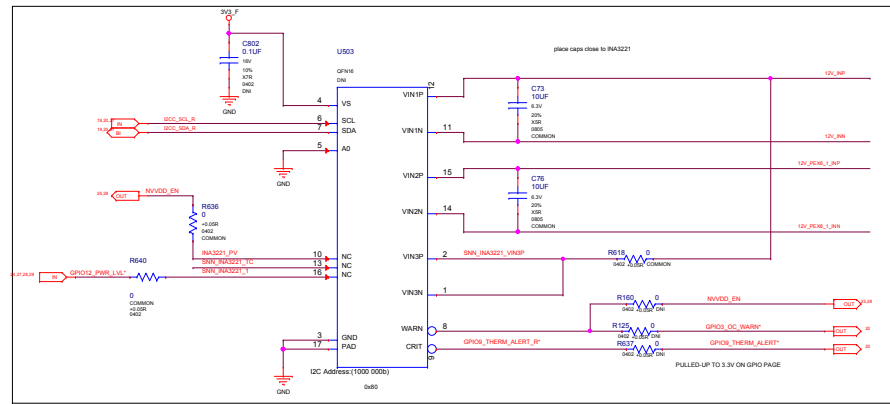
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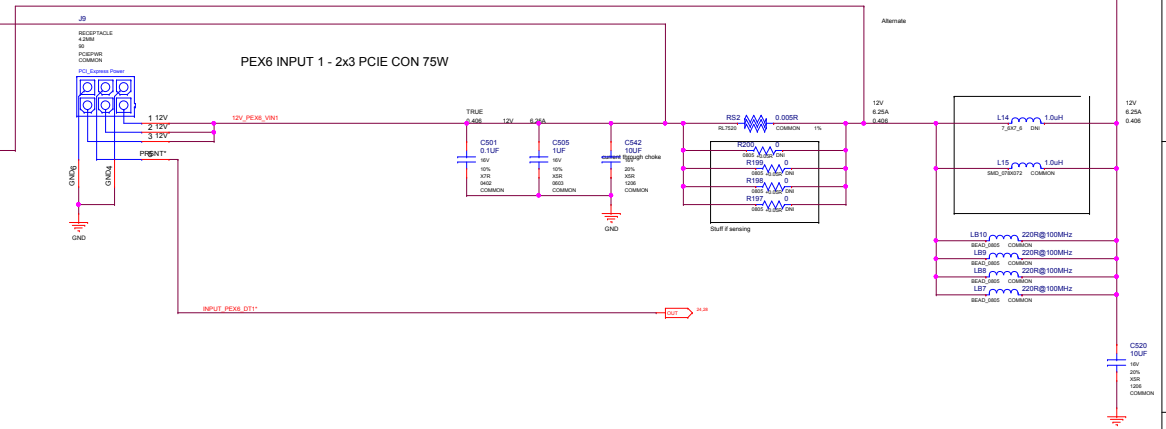
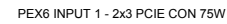
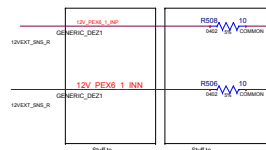
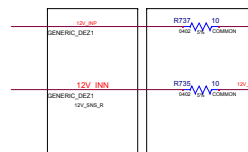
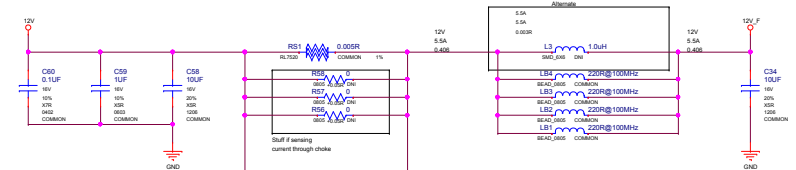




## PS: Inputs, Filtering, and Monitoring



PEX\_12V INPUT - 66W



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PAGE DETAIL	PS: Inputs, Filtering, and Monitoring

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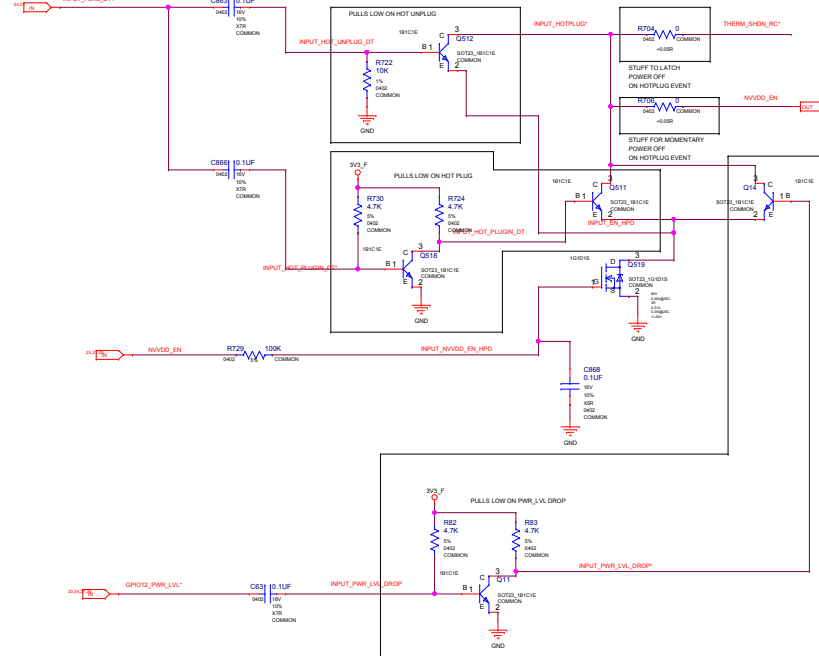
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## PS: Shutdown

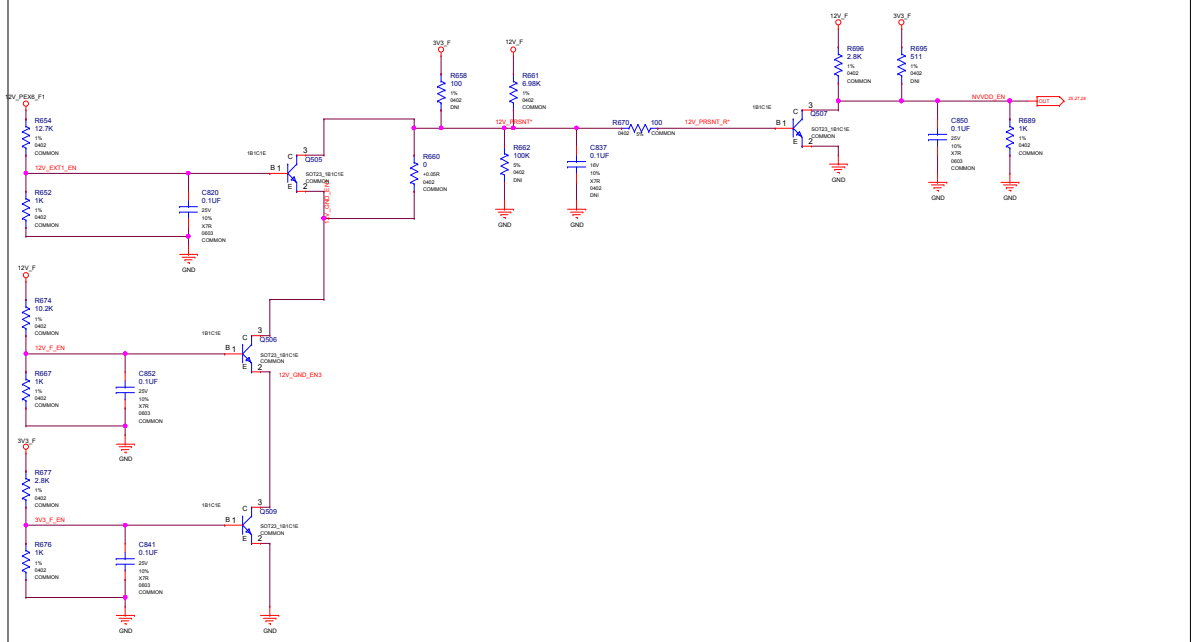
### THERM OVERT SHUTDOWN LATCH

### IFP\_IOVDD (backdrive prevention)

### POWER CONNECTOR HPD



### PEX Input - NVDD Power Sequence



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

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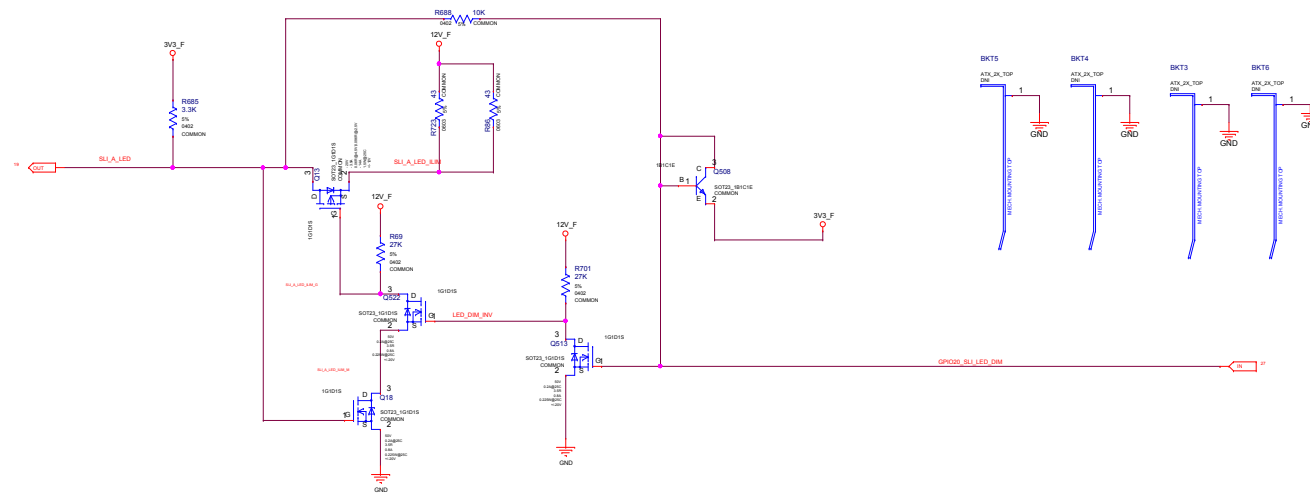
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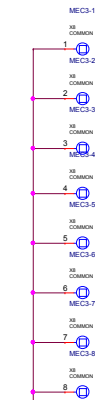
PS: Board LED



Bracket:



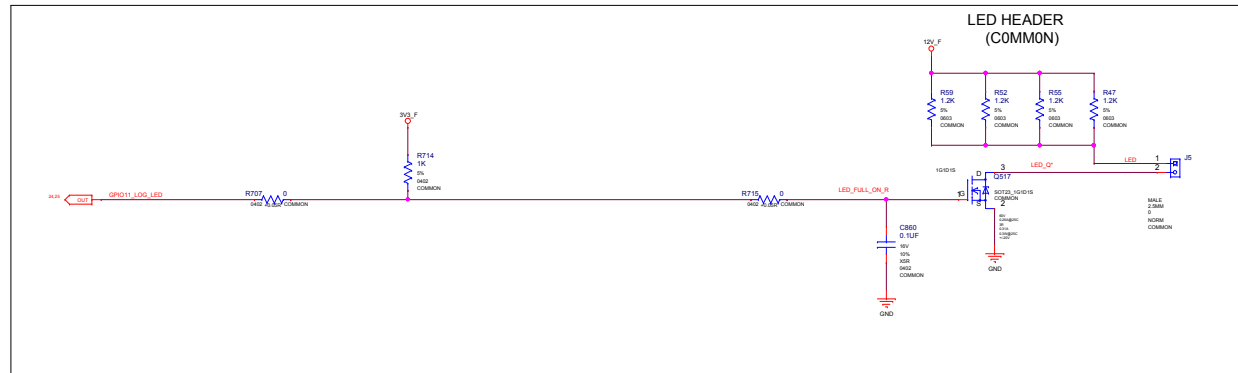
### Mechanical Holes Symbol



Bracket Screw



GeForce Logo LED



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PAGE DETAIL	PS: Board LED; Lighted SLI LED

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