

PG210 B00

GP107 128b GDDR5, 75W , PCB 5.7"
DVI-D_DL (DP + DP) + HDMI (DP) + DP

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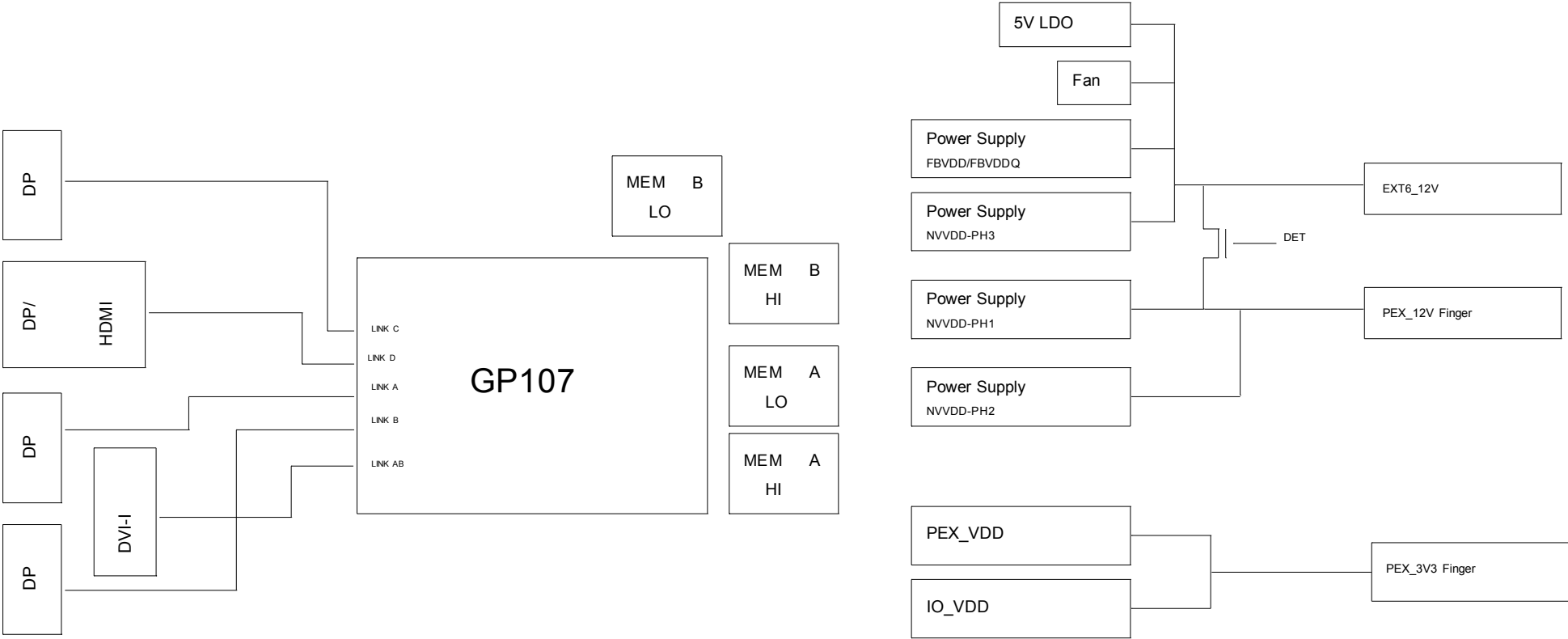
2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA



NV_PN	600-1G210-BASE-SCH		
PCB REV	PG210-B00	PRG#	1 OF 27
BOM REV	A	DATE	05-mon-year

Block Diagram

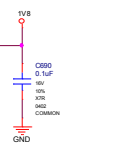
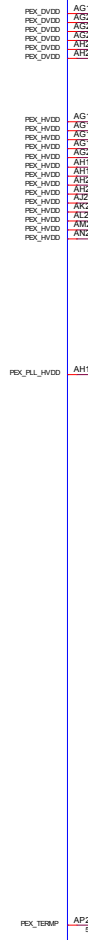
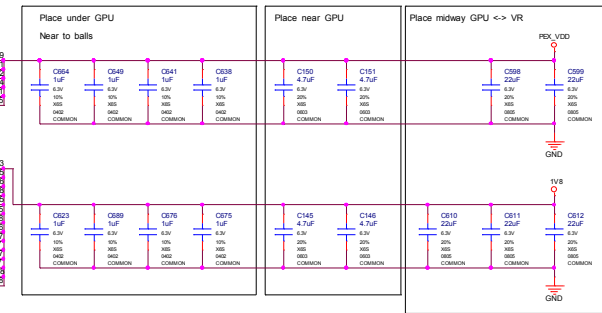
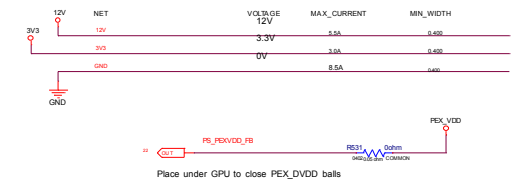
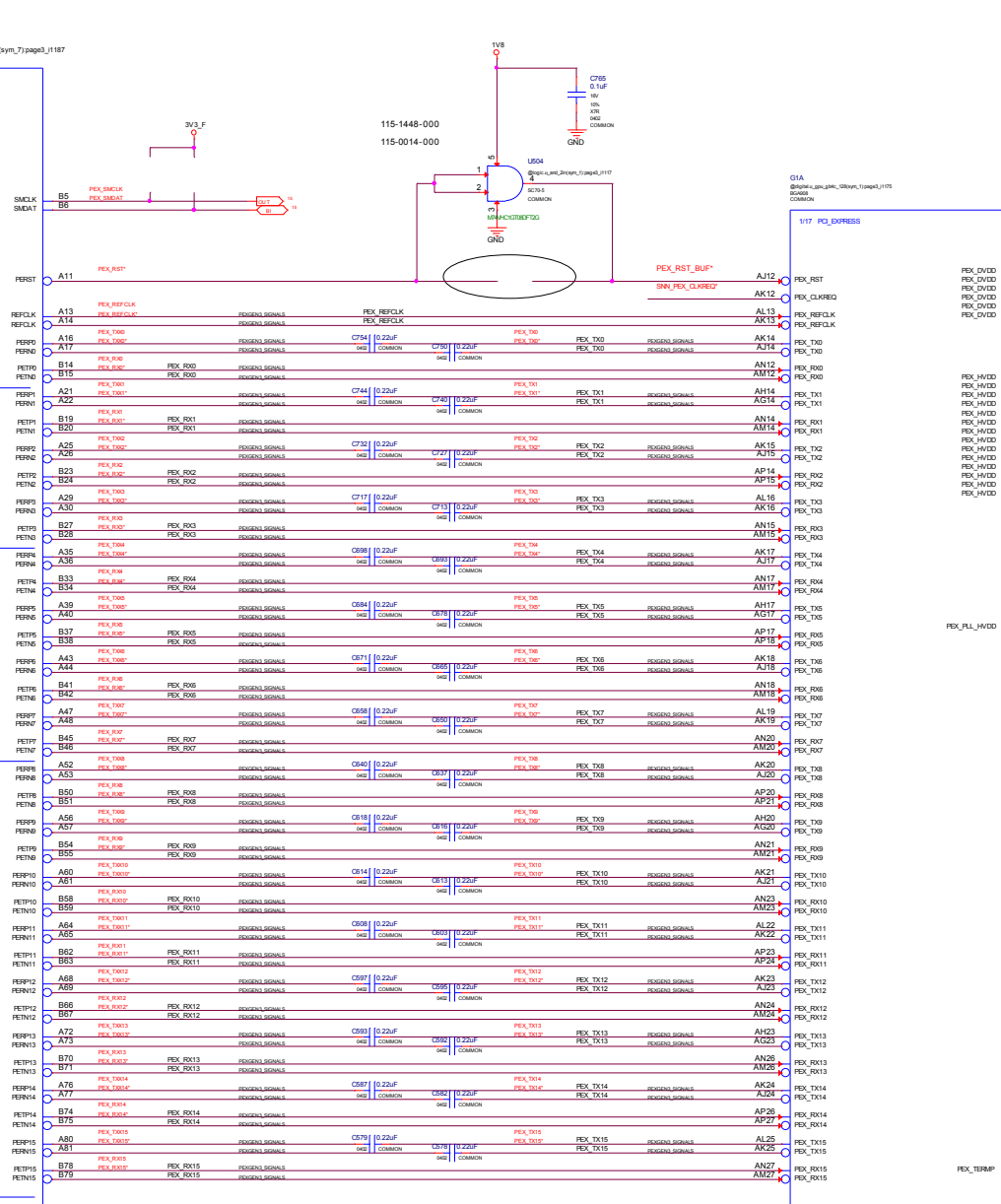
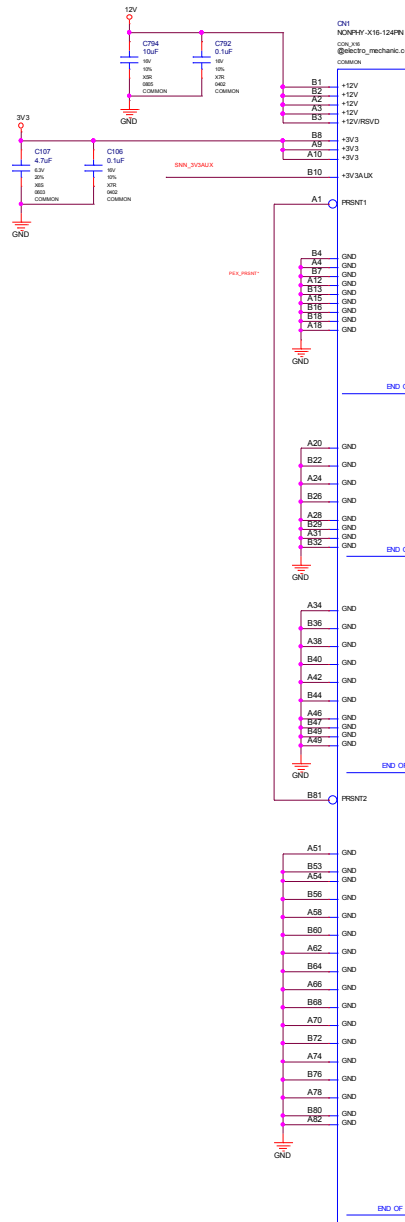



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ASSEMBLY	<ASSEMBLY DESCRIPTION>
FIGURE DETAIL	Block Diagram

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NV_PN	600-1G210-BASE-SCH		
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PCI Express



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NV_PN 600-1G210-BASE-SCH			
PCB REV	PC210-B00	PRGE	3 OF 27
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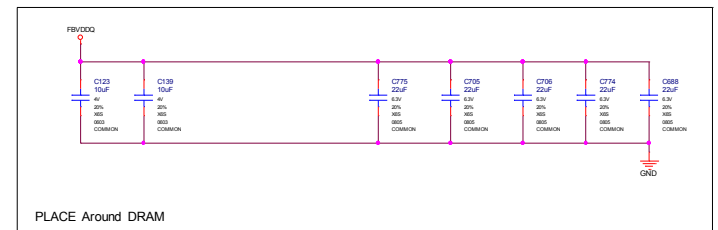
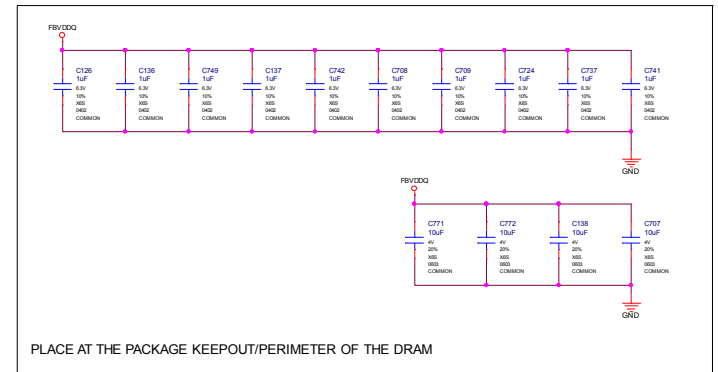
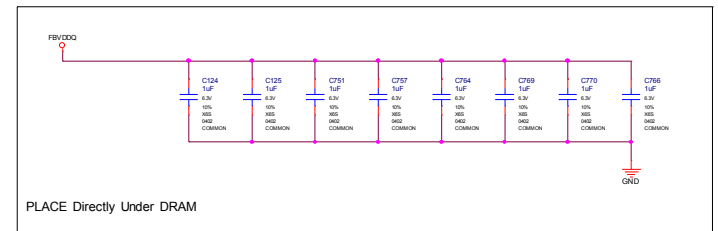
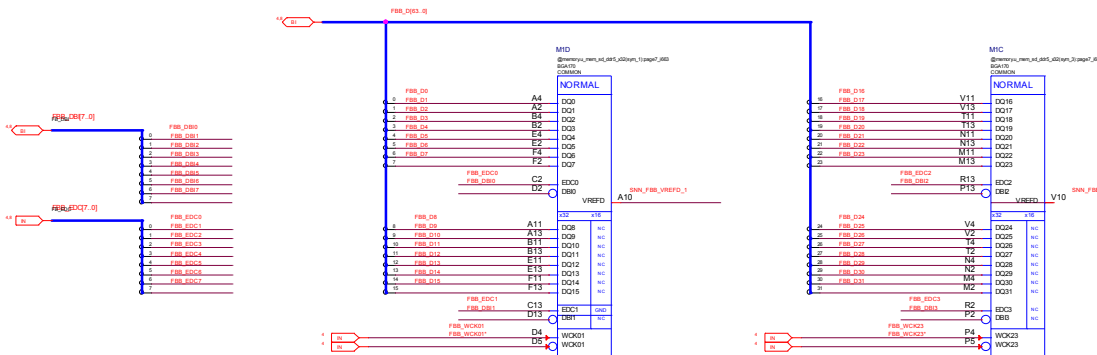
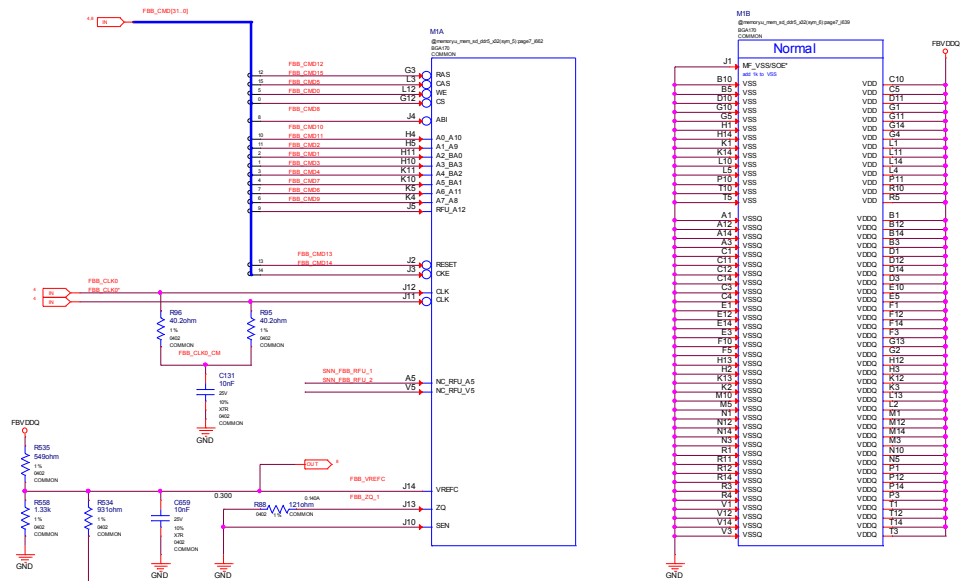


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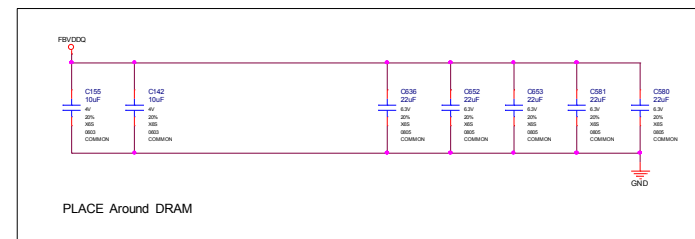
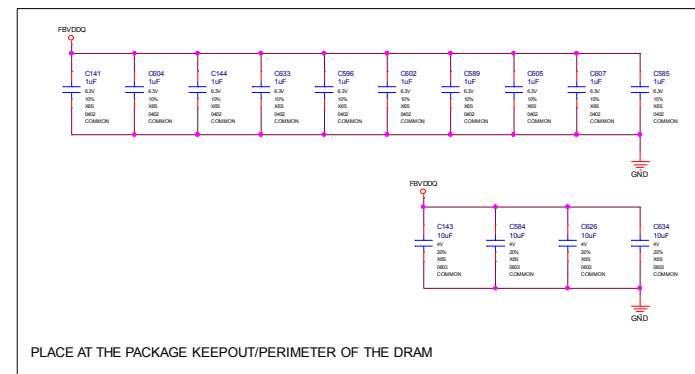
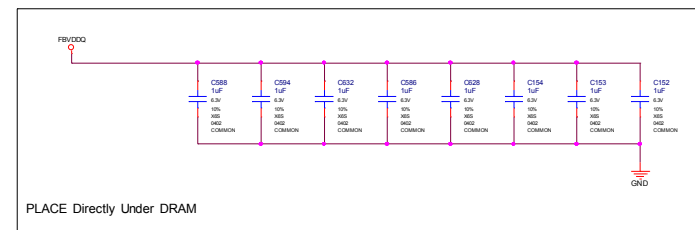
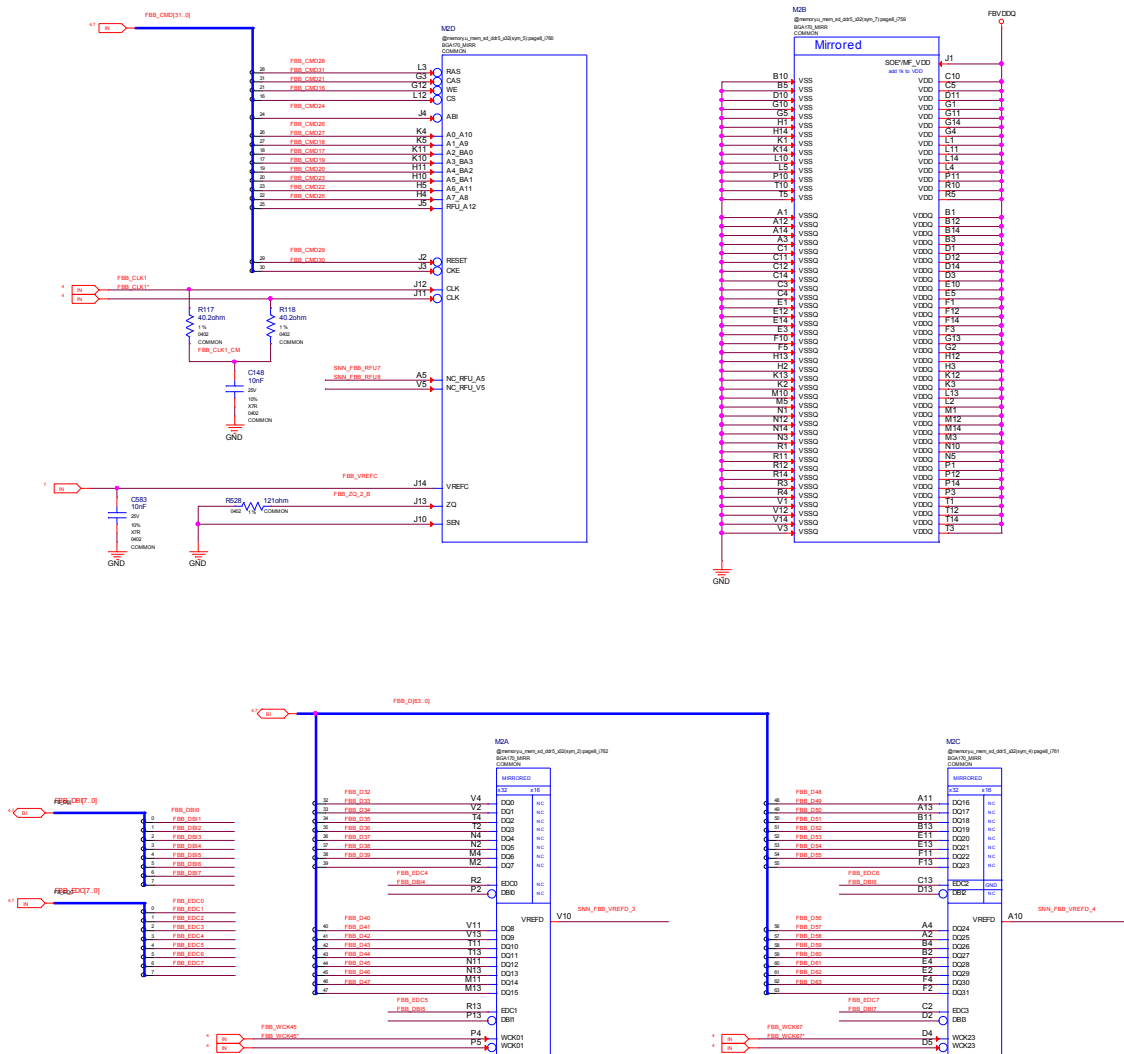
MEMORY: FBB Partition 31..0

CMD	0..31	32..63
CMD0	CS*	
CMD1	A3..BA3	
CMD2	A2..BA2	
CMD3	A4..BA2	
CMD4	A5..BA1	
CMD5	WE*	
CMD6	A7..A8	
CMD7	A6..A11	
CMD8	ABP	
CMD9	A12..RFU	
CMD10	A0..A10	
CMD11	A1..A3	
CMD12	RA5*	
CMD13	RS1*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3..BA3
CMD18		A2..BA2
CMD19		A4..BA2
CMD20		A5..BA1
CMD21		WE*
CMD22		A7..A8
CMD23		A6..A11
CMD24		ABP
CMD25		A12..RFU
CMD26		A0..A10
CMD27		A1..A3
CMD28		RA5*
CMD29		RS1*
CMD30		CKE*
CMD31		CAS*

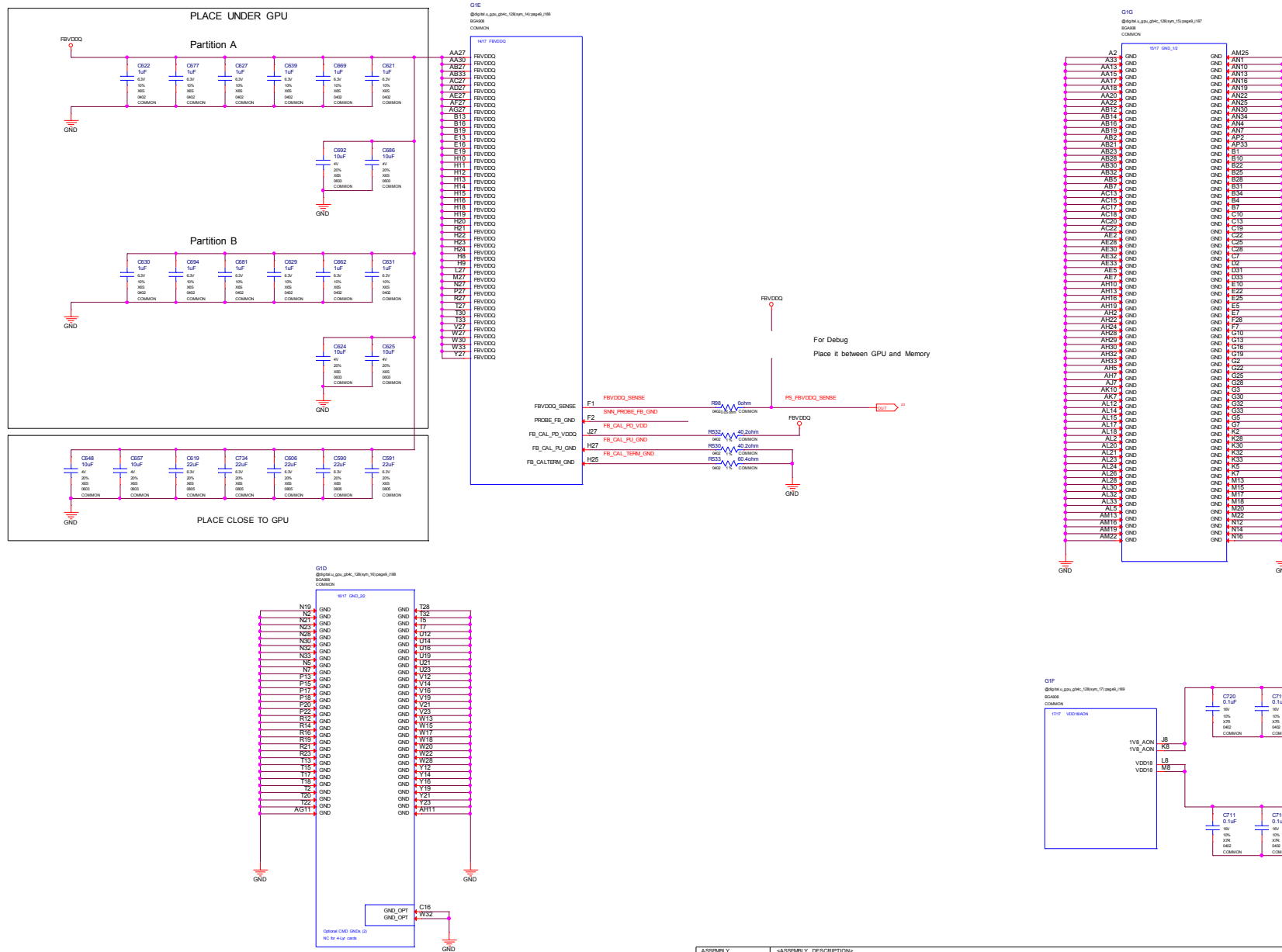


MEMORY: FBB Partition 63..32

CMD	0.31	32..63
CMD0	CS*	
CMD1	A3..BA3	
CMD2	A2..BA2	
CMD3	A4..BA4	
CMD4	A5..BA1	
CMD5	WE*	
CMD6	A7..A8	
CMD7	AE..A11	
CMD8	AB*	
CMD9	A12..RFU	
CMD10	A0..A10	
CMD11	A1..A9	
CMD12	RA3*	
CMD13	RS1*	
CMD14	OK*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3..BA3
CMD18		A2..BA2
CMD19		A4..BA2
CMD20		A5..BA1
CMD21		WE*
CMD22		A7..A8
CMD23		AE..A11
CMD24		AB*
CMD25		A12..RFU
CMD26		RA10*
CMD27		A1..A9
CMD28		RS1*
CMD29		OK*
CMD30		CAS*
CMD31		



GPU FBVDDQ & 1V8 Decoupling



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	GPU FBVDDQ & 1V8 Decouplin

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NV_PN	600-1G210-BASE-SCH
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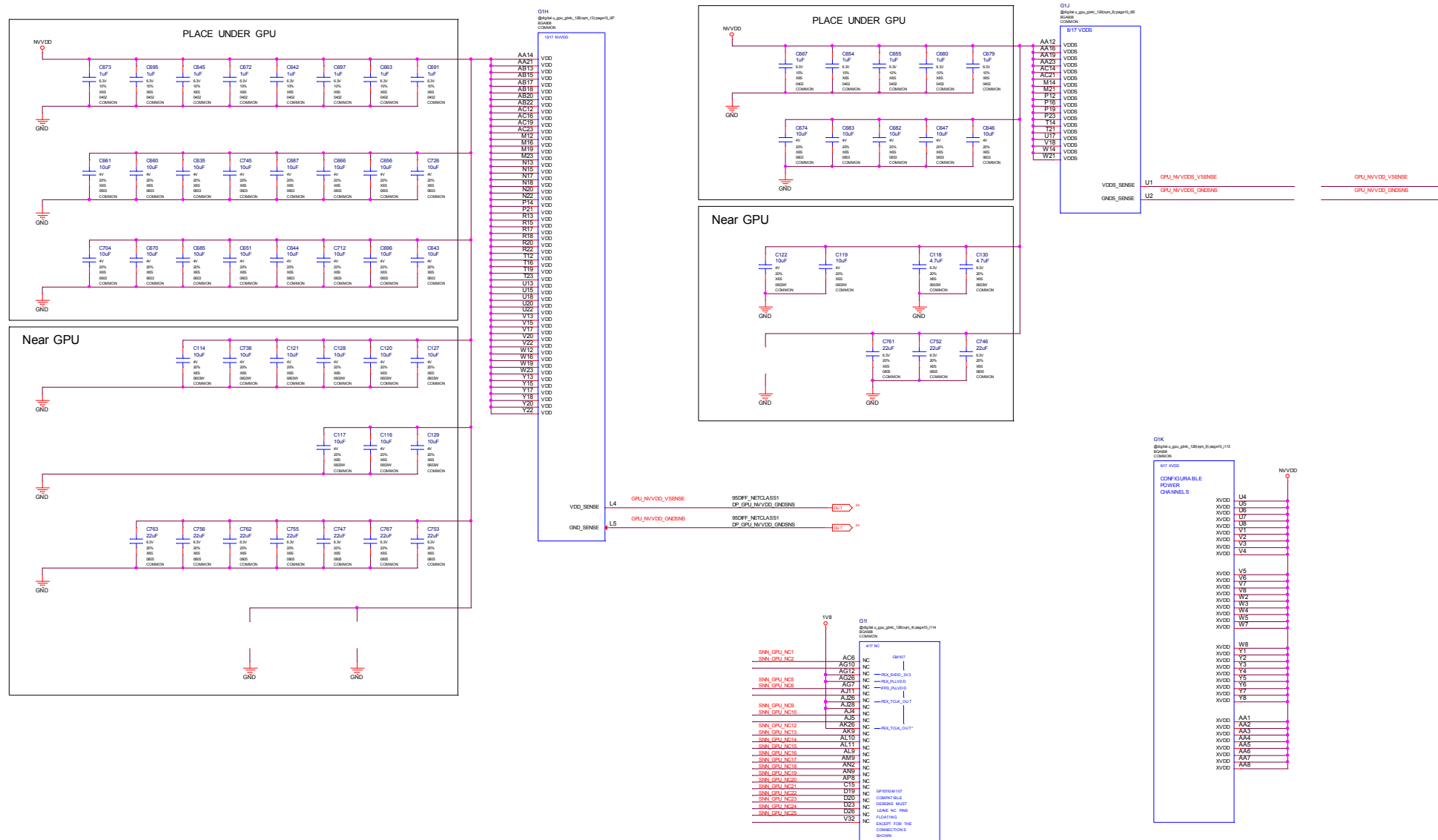
PCB REV	PC210-R00
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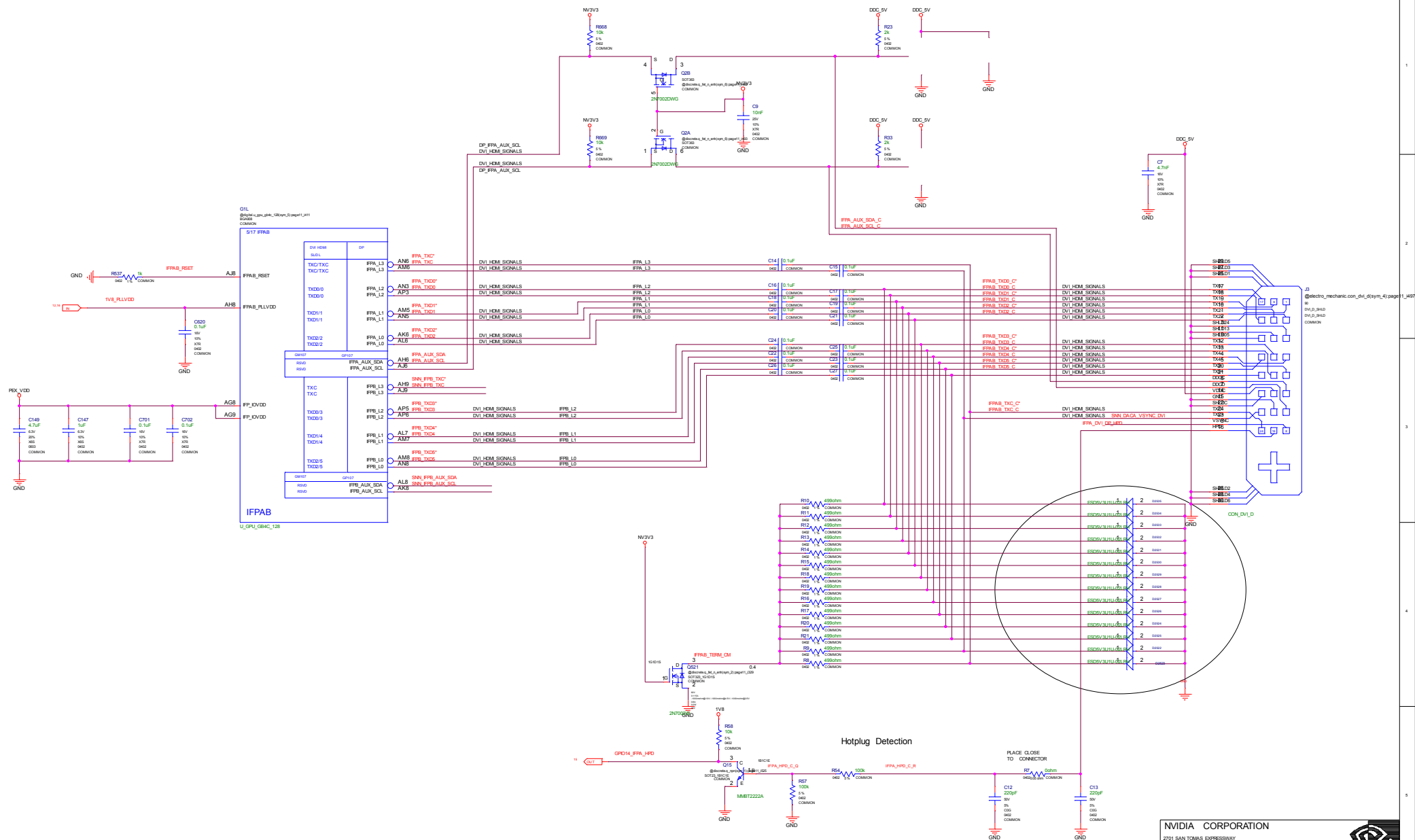
GPU NVVDD & NVVDDS Decoupling




NV_PN	600-1G210-BASE-SCH		
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IFPAB DVI-DL



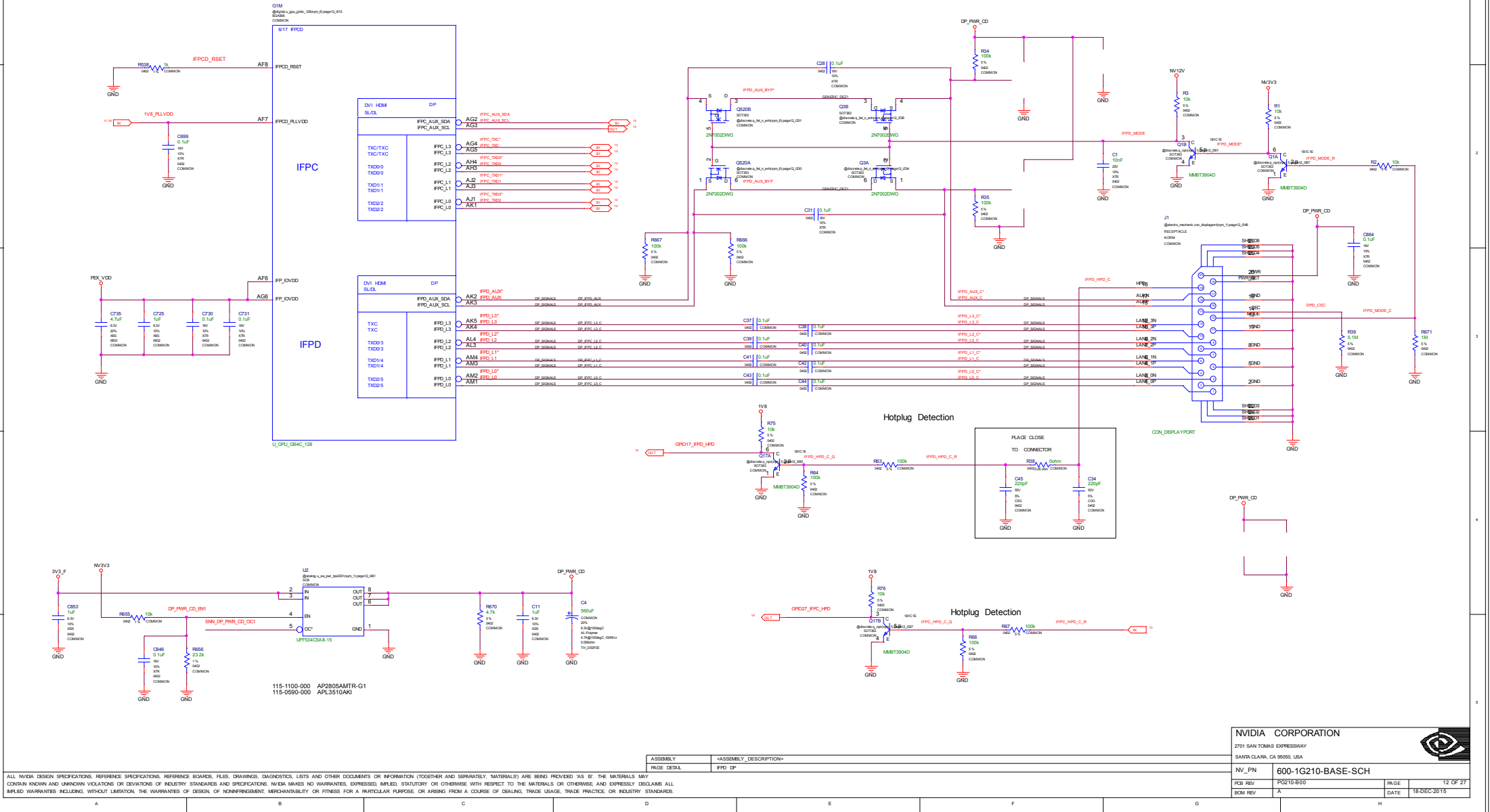
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BY STANDARDS		BOM REV	A	DATE 18-DEC-2015

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NV_PN	600-1G210-BASE-SCH		
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IFPD DP



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NV_PN

600-1G210-BASE-SCH

PCB REV

PCB210-800

PRG

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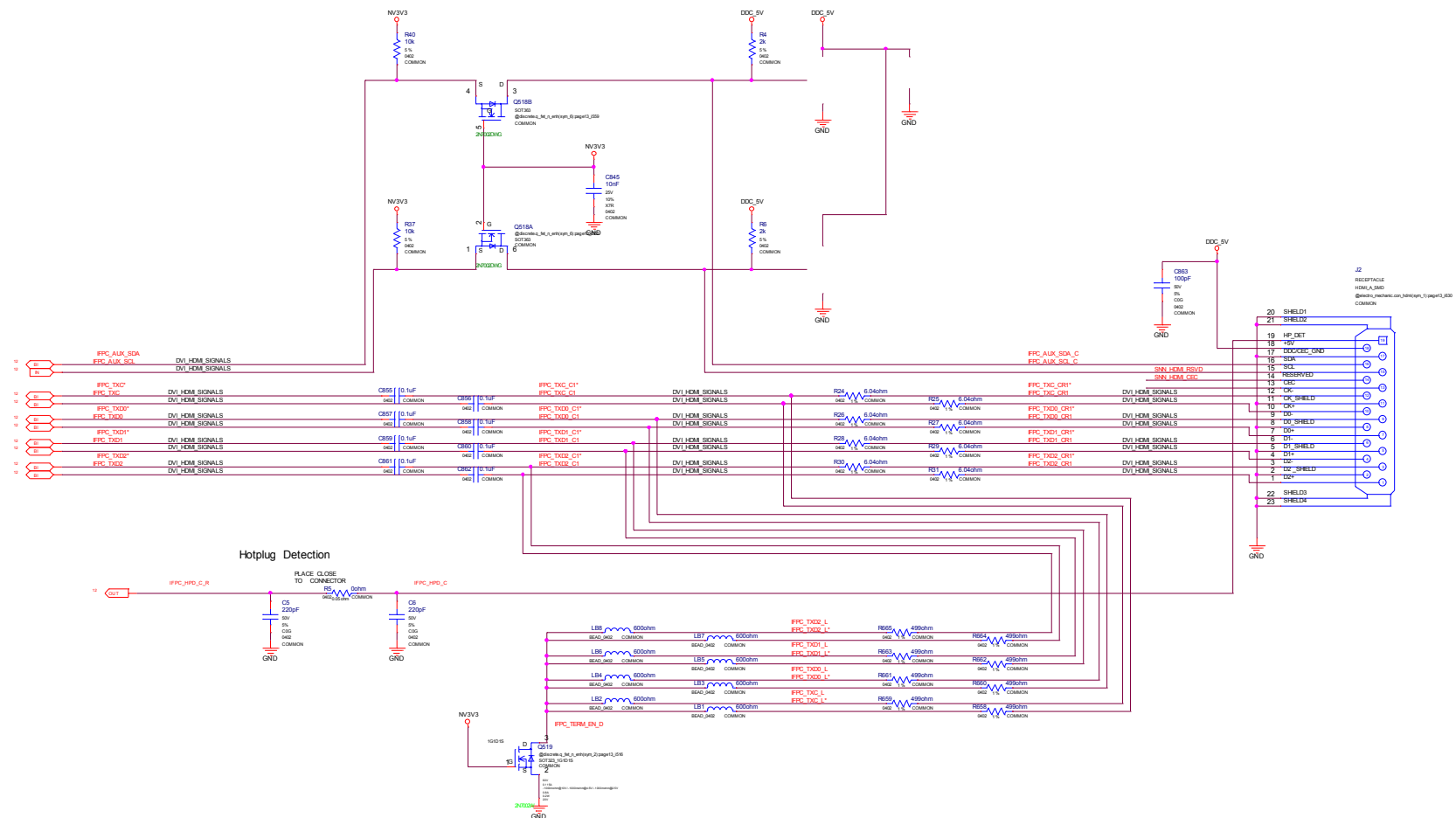
COM REV

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DATE

18-DEC-2015

IFPC HDMI



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PAGE DETAIL	IFPC HOM

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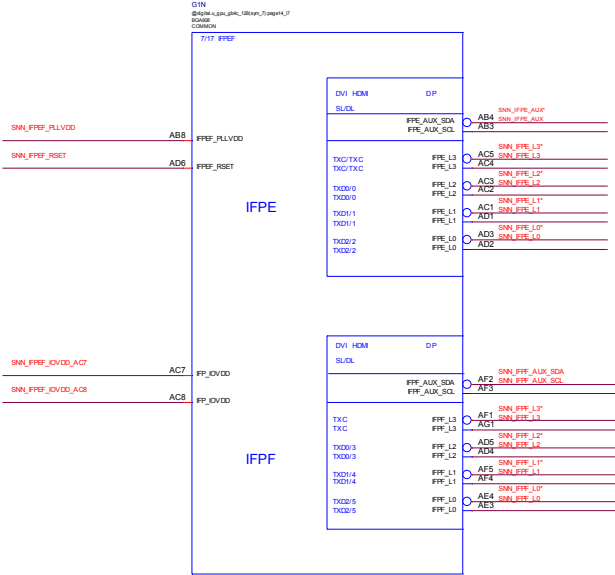


NV_PN	600-1G210-BASE-SCH
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PCB REV	PG210-B00	PAGE	13 OF 27
BOM REV	A	DATE	18-DEC-2015

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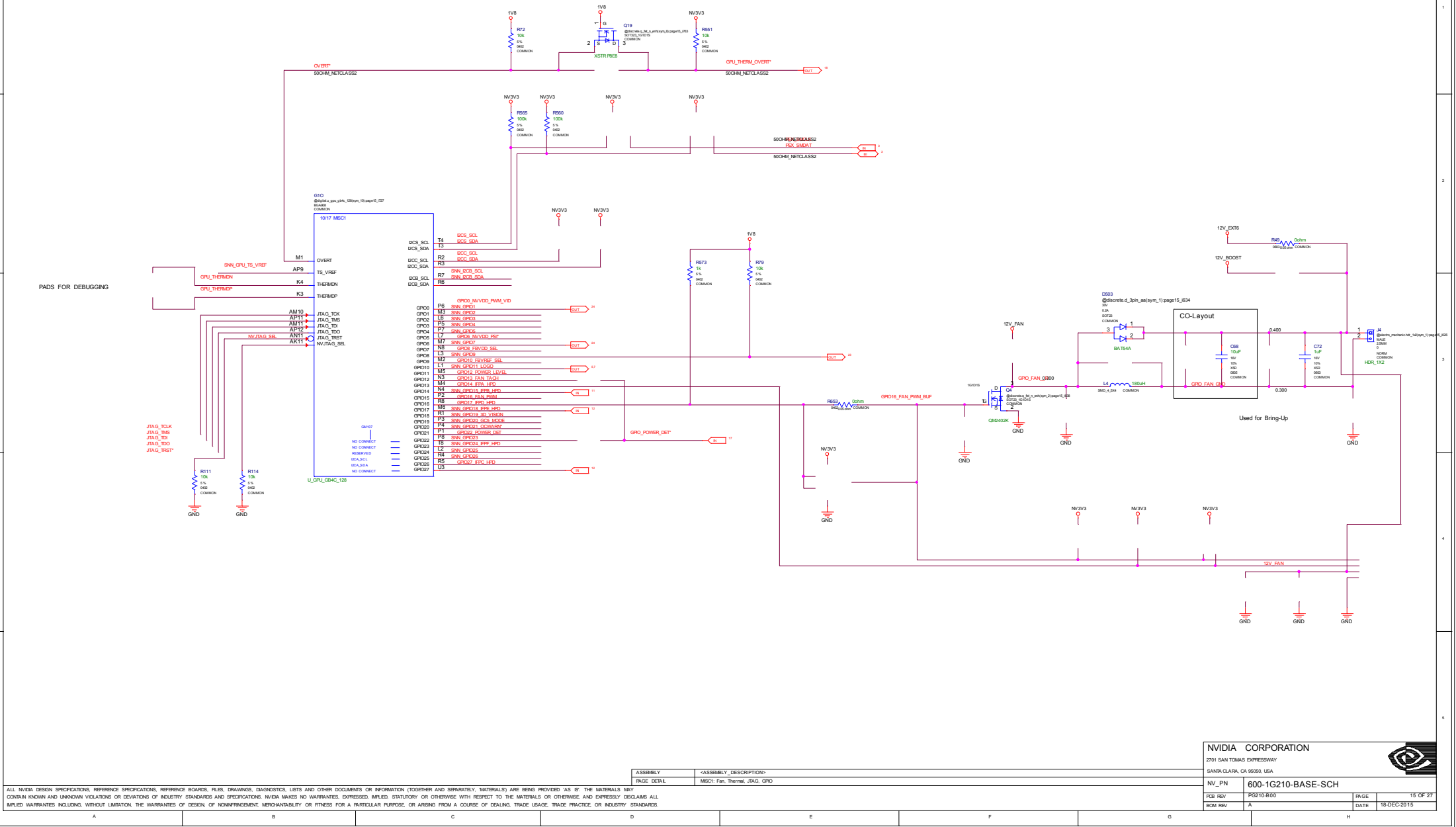
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NV_PN	600-1G210-BASE-SCH		
PCB REV	PG210-800	PRGE	14 OF 27
ROM REV	A	DATE	18-DEC-2015

MISC1: GPIO, Fan, Thermal, JTAG

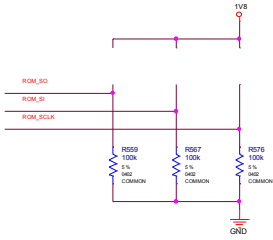


MISC2: ROM, XTAL, Straps

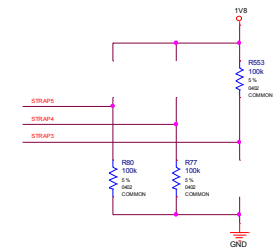
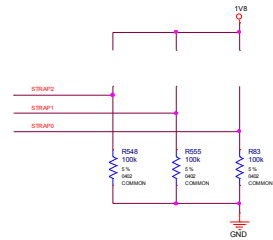
ROM_SO	ROM_SI	ROM_SCLK	SOR_EXPOSED[3:0]	1:ENABLE 0:DISABLE
L	L	L	1111	Default
L	L	H	1110	
L	H	L	1101	
L	H	H	1100	
H	L	L	1011	
H	L	H	1010	
H	H	L	1001	
H	H	H	1000	
L	L	M	0111	
L	M	L	0110	
L	M	H	0101	
L	H	M	0100	
H	L	M	0011	
H	M	L	0010	
H	M	H	0001	
H	H	M	0000	

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]
L	L	L	0000 Samsung B-Die 8Gb 256Mx32
L	L	H	0001 Micron F-Die 8Gb 256Mx32
L	H	L	0010 Hynix M-Die 8Gb 256Mx32
L	H	H	0011 Hynix A-Die 4Gb 128Mx32
H	H	L	0110 Samsung E-Die 4Gb 128Mx32
L	L	M	1000 Micron B-Die 4Gb 128Mx32
L	M	L	1001

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



H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

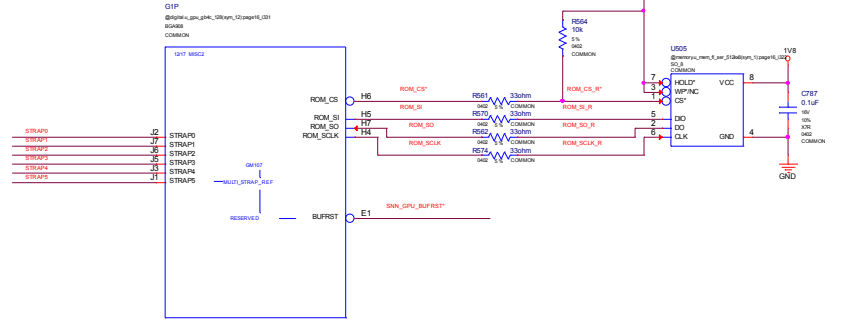


1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL

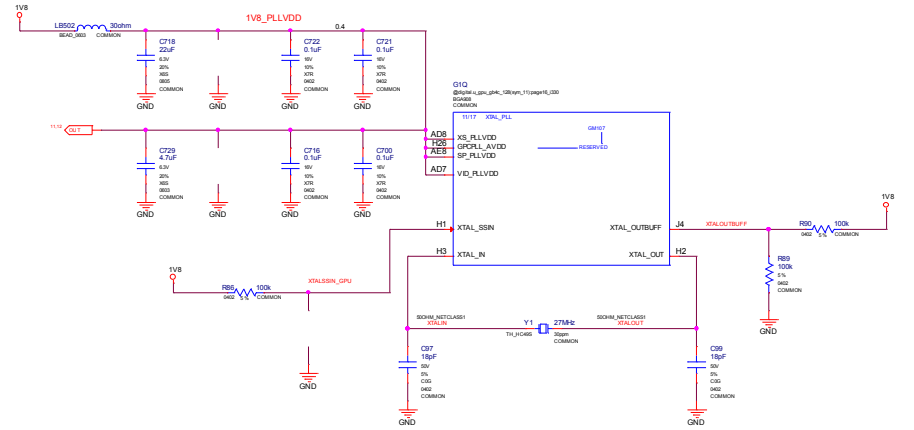
1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

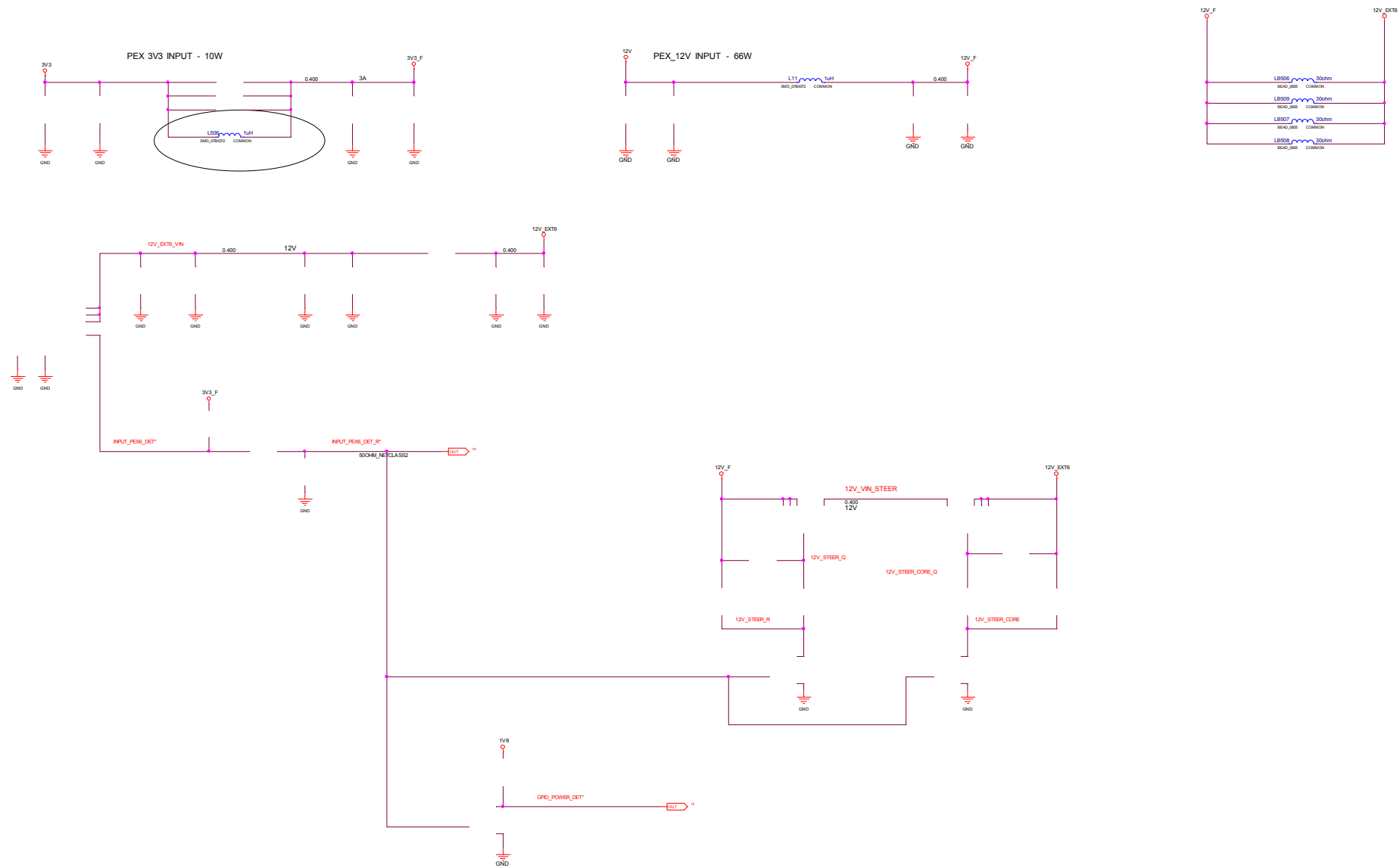


Smart Fan

XTALOUTBUFF	Volatge	SmartFan PWM	GPIO/PWM at the FAN
Low	0V	GPIO Disabled	100%
Middle	0.9V	66% PWM	33% PWM (Typical)
High	1.8V	33% PWM	66% PWM



Power Inputs and Filtering



ASSEMBLY		SANTA CLARA, CA 95050, USA	
PCBE_DESC1		600-1G210-BASE-SCH	
PCBE_DESC2		PCBE_DESC2	
PCBE_DESC3		PCBE_DESC3	
PCBE_DESC4		PCBE_DESC4	
PCBE_DESC5		PCBE_DESC5	
PCBE_DESC6		PCBE_DESC6	
PCBE_DESC7		PCBE_DESC7	
PCBE_DESC8		PCBE_DESC8	
PCBE_DESC9		PCBE_DESC9	
PCBE_DESC10		PCBE_DESC10	
PCBE_DESC11		PCBE_DESC11	
PCBE_DESC12		PCBE_DESC12	
PCBE_DESC13		PCBE_DESC13	
PCBE_DESC14		PCBE_DESC14	
PCBE_DESC15		PCBE_DESC15	
PCBE_DESC16		PCBE_DESC16	
PCBE_DESC17		PCBE_DESC17	
PCBE_DESC18		PCBE_DESC18	
PCBE_DESC19		PCBE_DESC19	
PCBE_DESC20		PCBE_DESC20	
PCBE_DESC21		PCBE_DESC21	
PCBE_DESC22		PCBE_DESC22	
PCBE_DESC23		PCBE_DESC23	
PCBE_DESC24		PCBE_DESC24	
PCBE_DESC25		PCBE_DESC25	
PCBE_DESC26		PCBE_DESC26	
PCBE_DESC27		PCBE_DESC27	
PCBE_DESC28		PCBE_DESC28	
PCBE_DESC29		PCBE_DESC29	
PCBE_DESC30		PCBE_DESC30	
PCBE_DESC31		PCBE_DESC31	
PCBE_DESC32		PCBE_DESC32	
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PCBE_DESC34		PCBE_DESC34	
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PCBE_DESC40		PCBE_DESC40	
PCBE_DESC41		PCBE_DESC41	
PCBE_DESC42		PCBE_DESC42	
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PCBE_DESC64		PCBE_DESC64	
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PCBE_DESC66		PCBE_DESC66	
PCBE_DESC67		PCBE_DESC67	
PCBE_DESC68		PCBE_DESC68	
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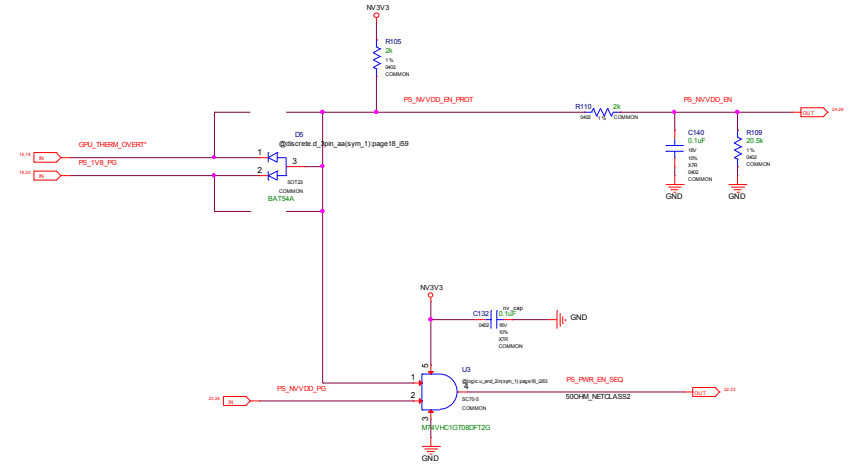
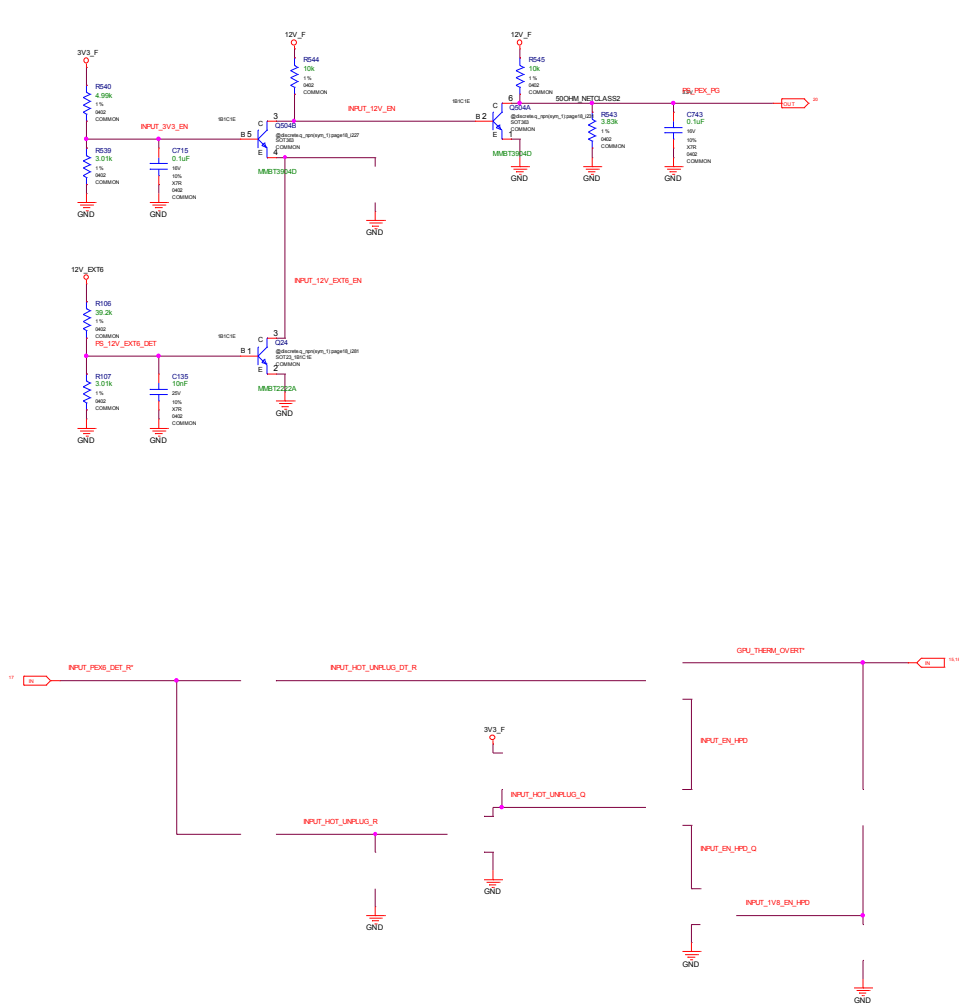
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Power sequence



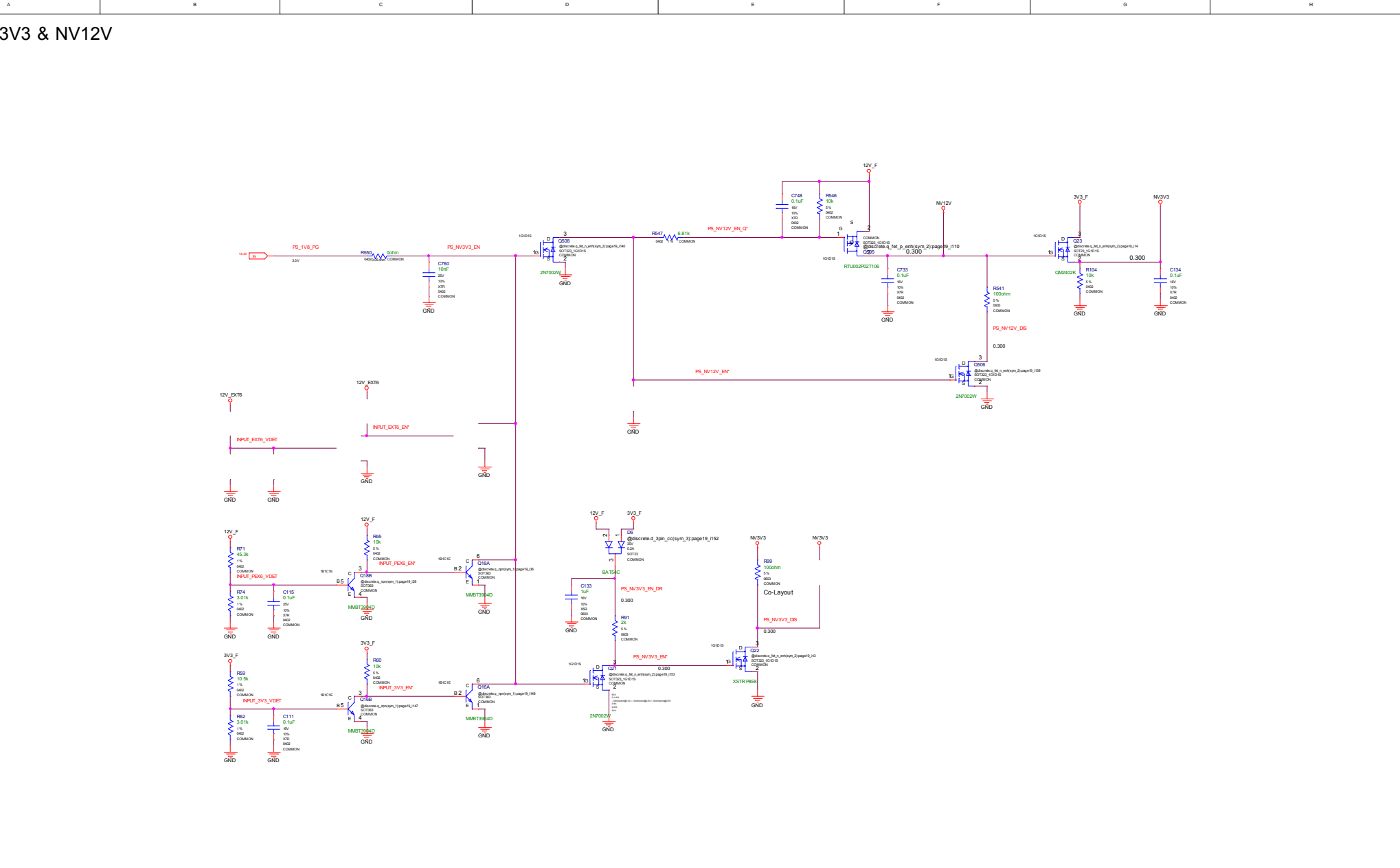
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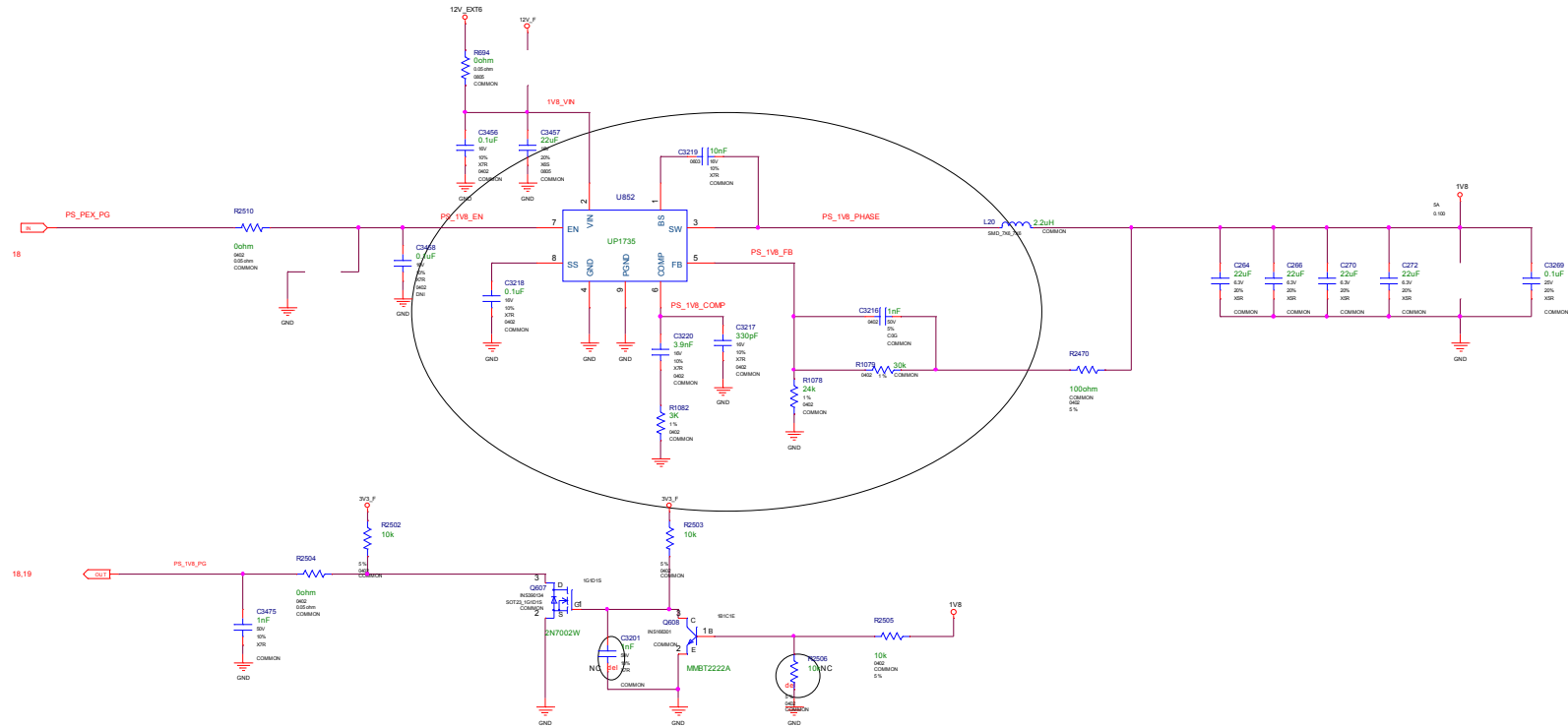
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PAGE DETAIL	PSI: 1VB

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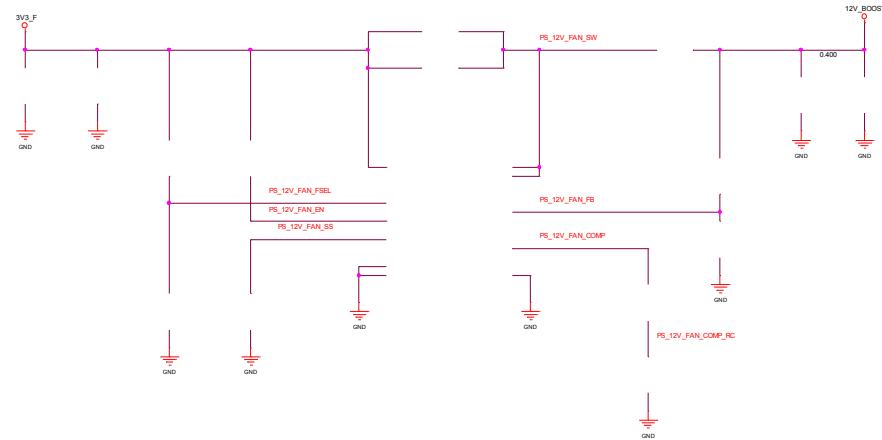
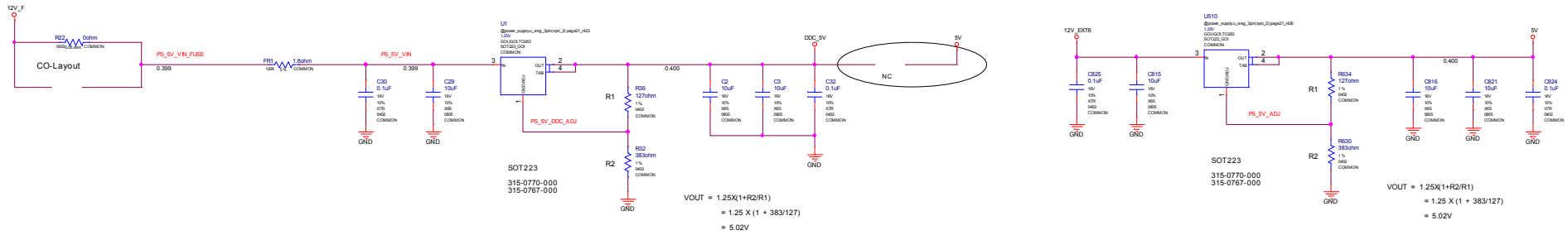


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PSII:5V & 12V_FAN



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PCB REV	PG210-B00
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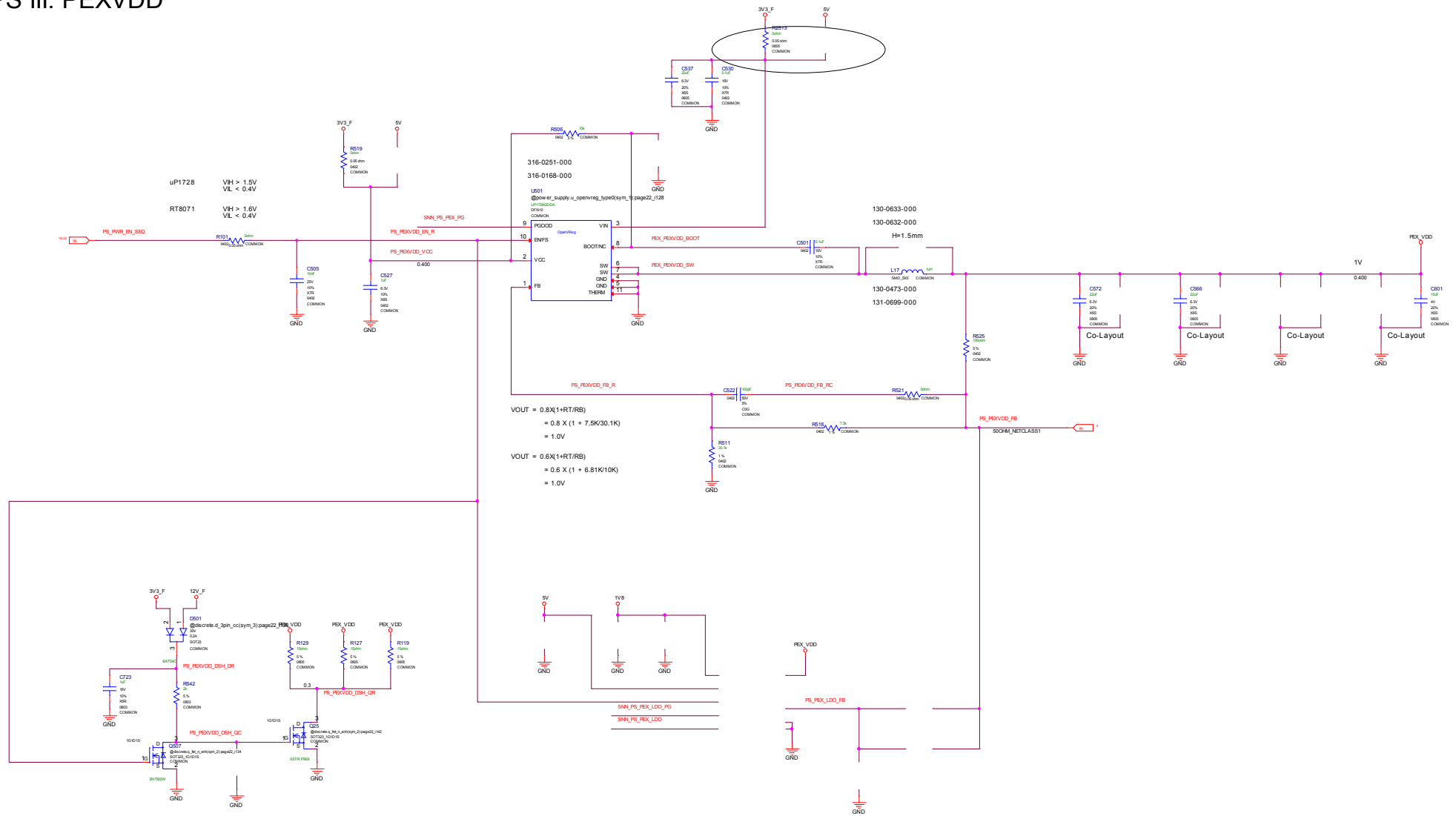
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PS III: PEXVDD

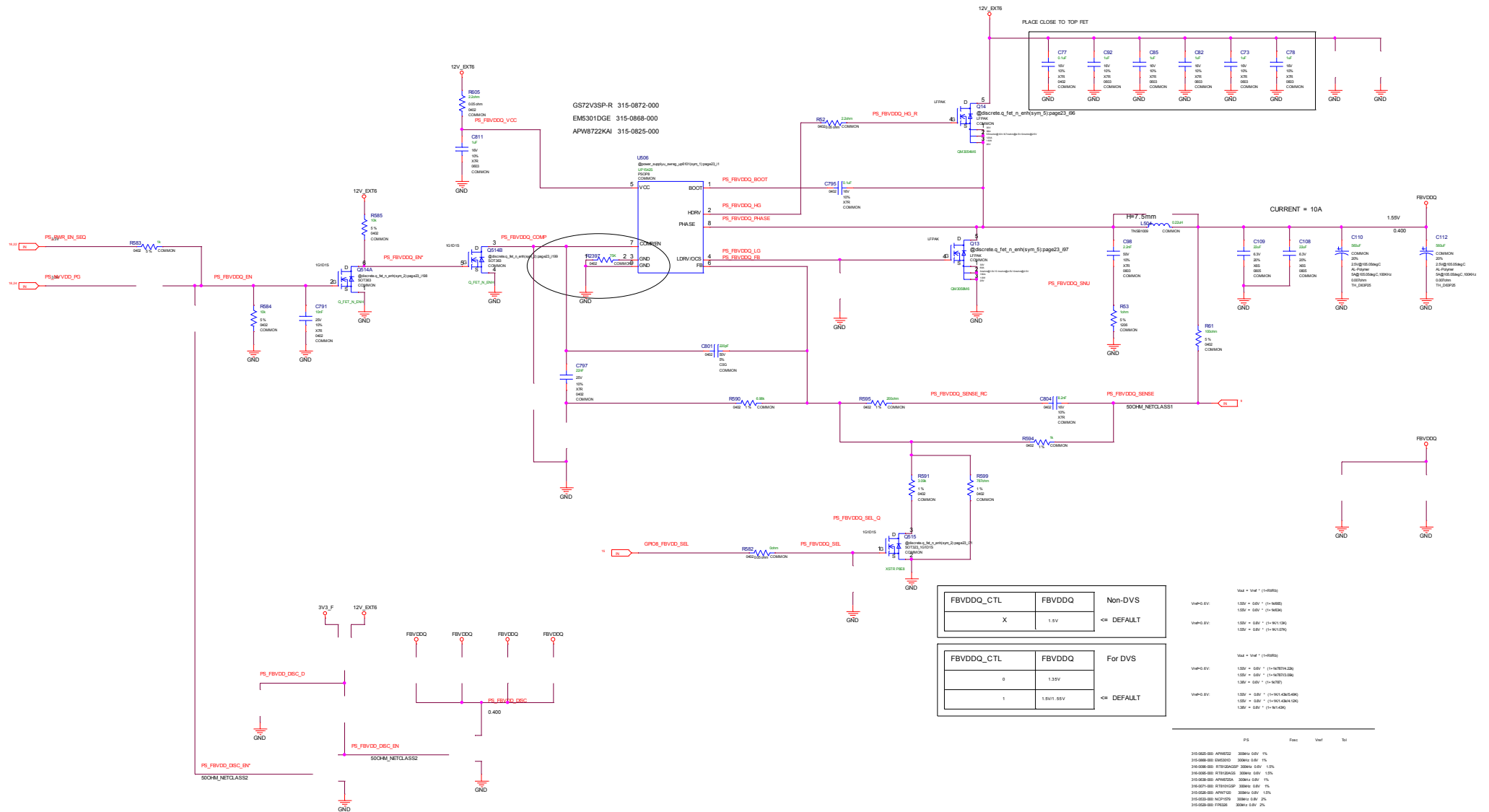


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NV_PN PG2-1G210-BASE-SCH				
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PS IV: FBVDDQ




FBVDDQ_CTL	FBVDDQ	Non-DVS
X	1.5V	≪ DEFAULT

FBVDDQ_CTL	FBVDDQ	For DVS
0	1.35V	
1	1.5V/1.55V	≪ DEFAULT

	$\text{Vout} = \text{Vin} \cdot \left(\frac{R1+R2}{R1} \right)$
Vin=0.5V	$1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$ $1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$
Vin=0.5V	$1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$ $1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$
	$\text{Vout} = \text{Vin} \cdot \left(\frac{R1+R2}{R1} \right)$
Vin=0.5V	$1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$ $1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$
Vin=0.5V	$1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$ $1.05V = 0.5V \cdot \left(\frac{1+R2/R1}{1} \right)$

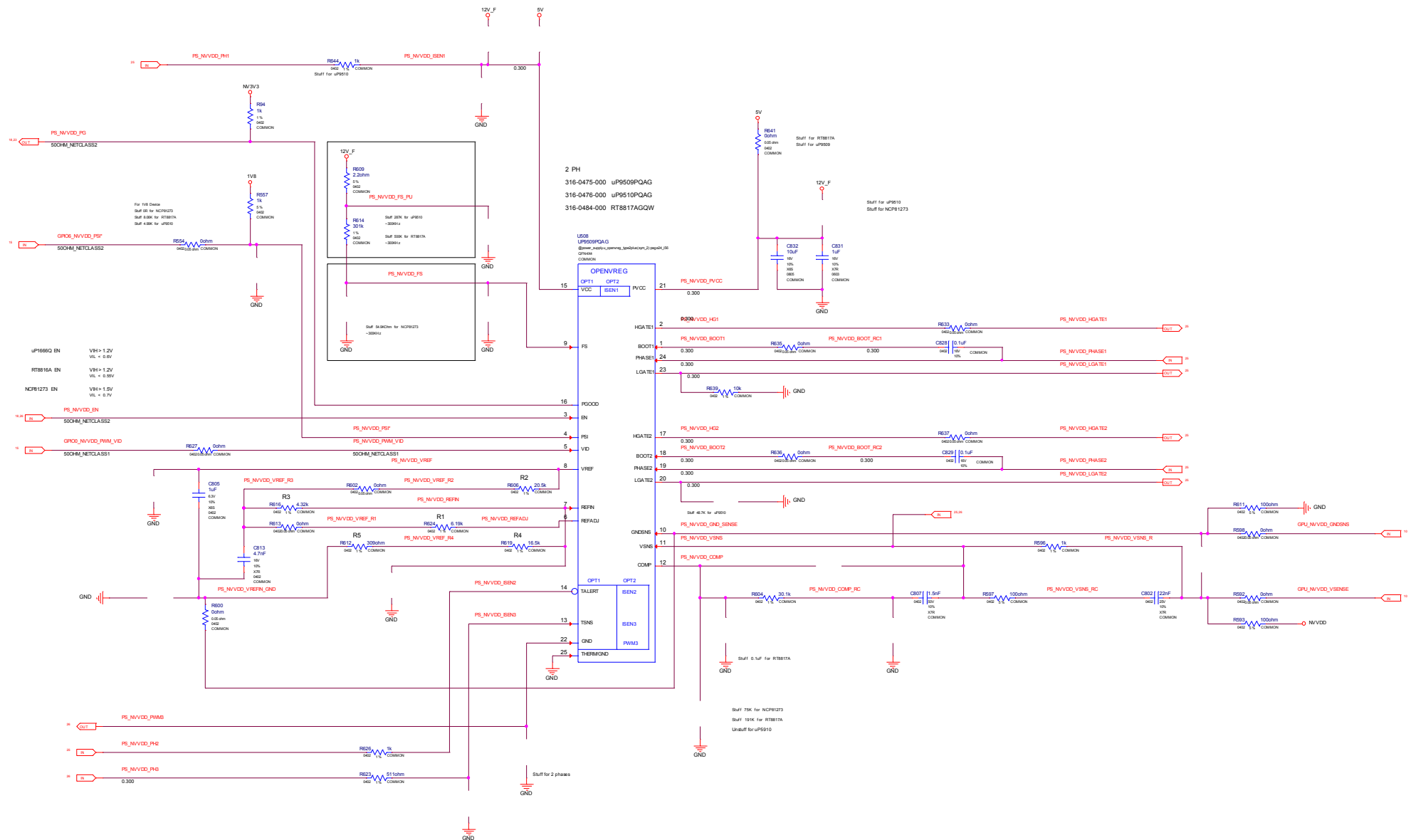
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PAGE DETAIL	PS IV: FBVDDQ

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PS V: NVVDD OVR2+1



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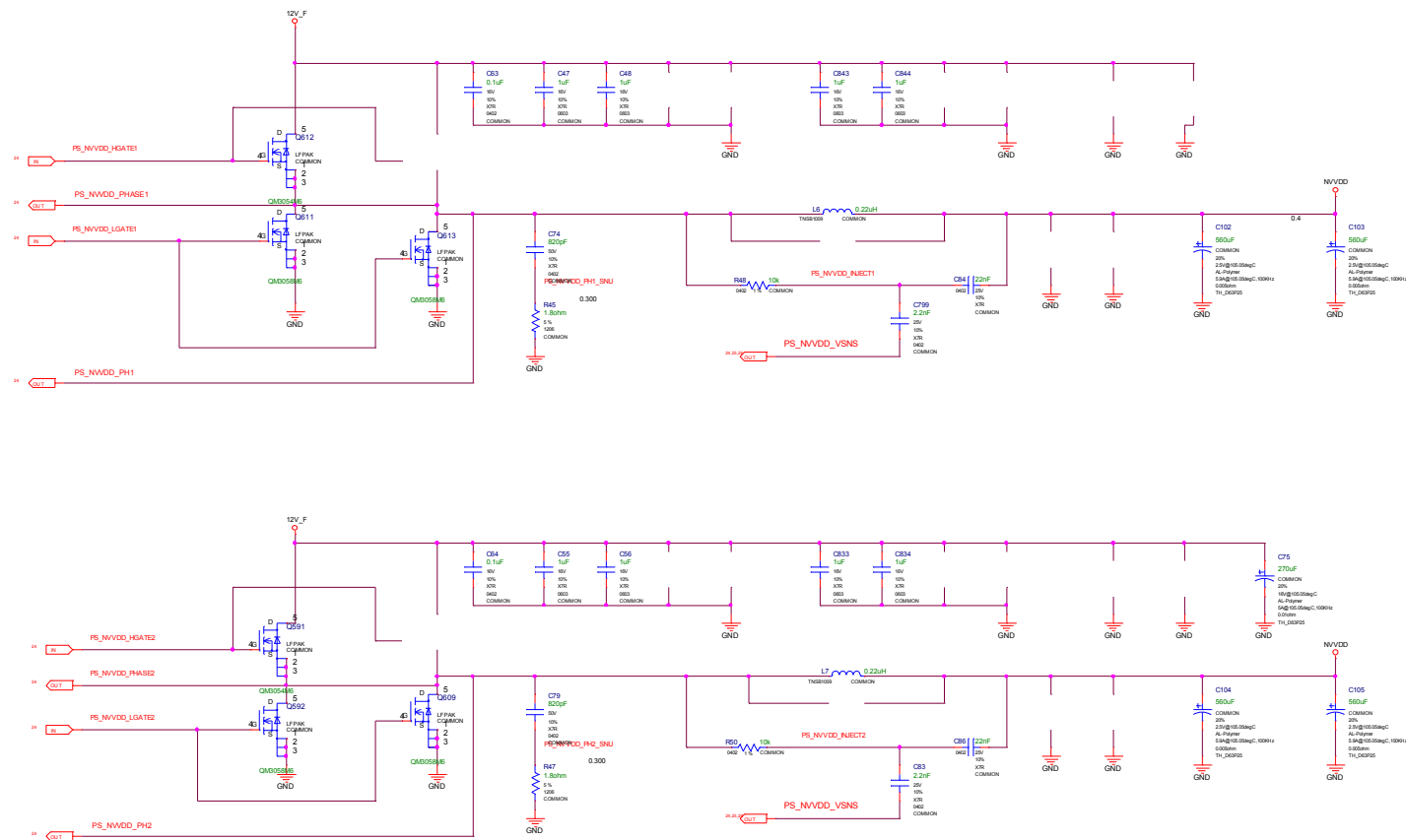
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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS V: NVDD_OVR2+1

PS V: NVVDD Phase 1,2



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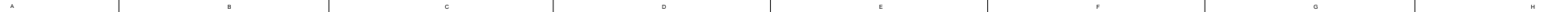
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PCB REV	PG210-BU
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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS V: N/VDD Phase 3



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Mechanical: Bracket/Thermal Solution


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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PCB DETAIL	MICH BracketThermal

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