PG210 B00

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

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NV_PN	600-1G210-BASE-SCH		
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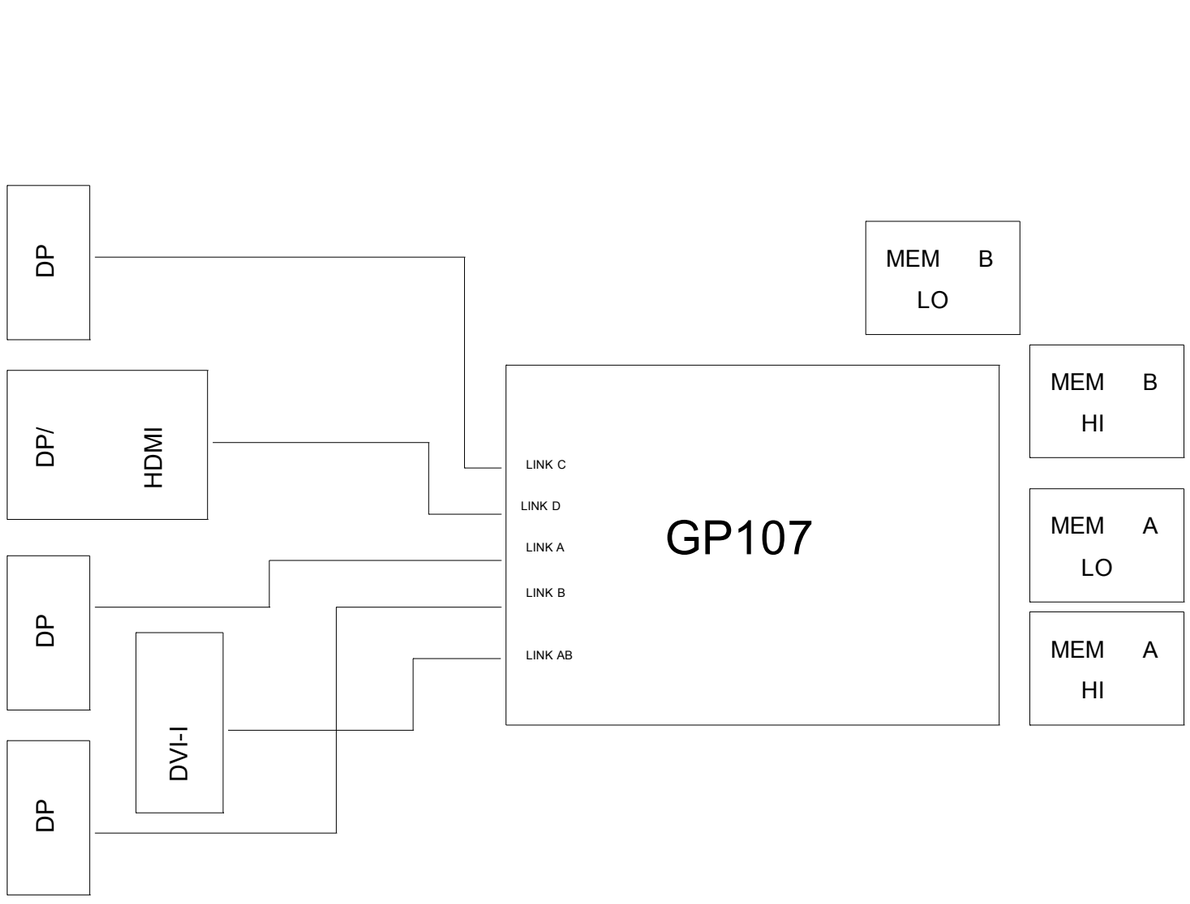
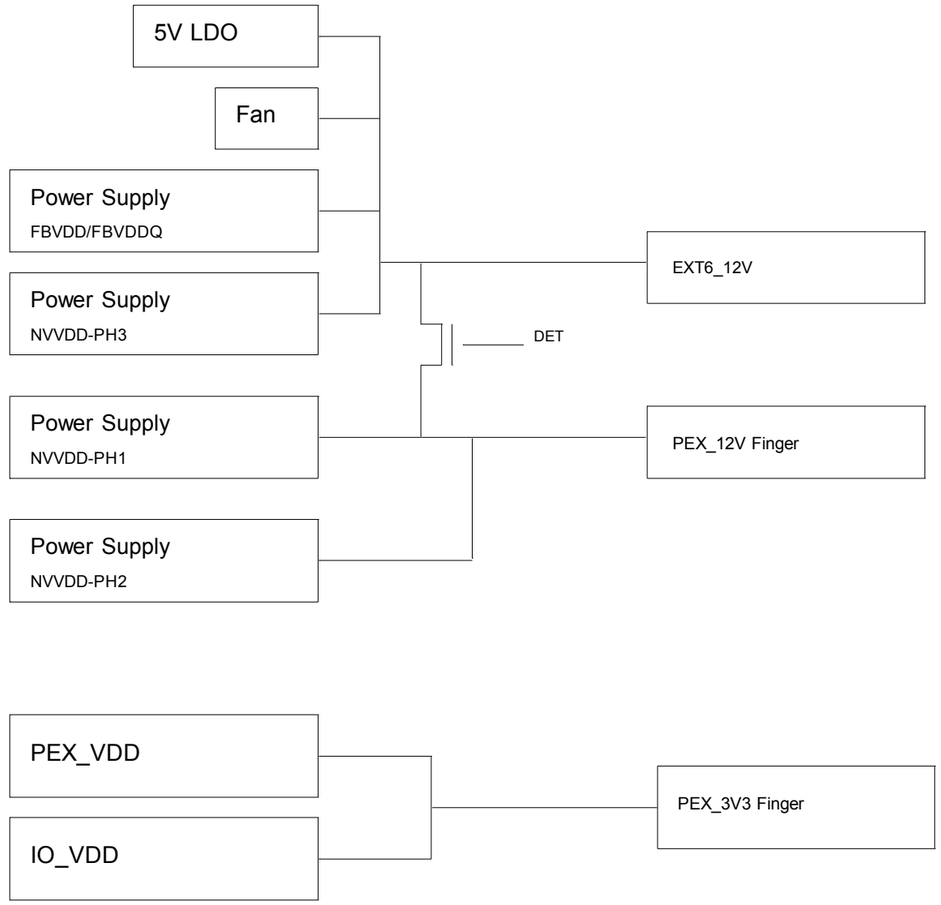
Block Diagram





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PAGE DETAIL	Block Diagram

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PCI Express

CN1
CON_X16
SKT-PCIE
INS16912181

12V
3V3
GND
1V8
PEX_VDD

C794 10uF 16V 10% X5R 0805 COMMON
C792 0.1uF 16V 10% X7R 0402 COMMON
C107 4.7uF 6.3V 20% X6S 0603 COMMON
C106 0.1uF 16V 10% X7R 0402 COMMON
C765 0.1uF 16V 10% X7R 0402 COMMON

SNN_3V3AUX
PEX_PRSNT*
PEX_SMCLK
PEX_SMDAT
R1078 0ohm 0402 0.05 0mW COMMON
R55 100k 5% 0402 NO STUFF
R56 100k 5% 0402 NO STUFF

115-1448-000
115-0014-000
U504
SC70-5
COMMON
SN74LVC1G08DCKR_TI OR NL17SZ08DFT2G_ON
R672 0ohm 0402 0.05 0mW NO STUFF

G1A
dgx(gh94-u_gpu_gb4c_128)(sym_1) page3_r1175
BGA908
COMMON
1/17 PCI_EXPRESS

NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
12V	12V	5.5A	0.400
3V3	3.3V	3.0A	0.400
GND	0V	8.5A	0.400

PS_PEXVDD_FB
R531 0ohm 0402 0.05 0mW COMMON
Place under GPU to close PEX_DVDD balls

Place under GPU
Near to balls
Place near GPU
Place midway GPU <-> VR

C664 1uF 6.3V 10% X6S 0402 COMMON
C649 1uF 6.3V 10% X6S 0402 COMMON
C641 1uF 6.3V 10% X6S 0402 COMMON
C638 1uF 6.3V 10% X6S 0402 COMMON
C150 4.7uF 6.3V 20% X6S 0603 COMMON
C151 4.7uF 6.3V 20% X6S 0603 COMMON
C598 22uF 6.3V 20% X6S 0805 COMMON
C599 22uF 6.3V 20% X6S 0805 COMMON
C623 1uF 6.3V 10% X6S 0402 COMMON
C689 1uF 6.3V 10% X6S 0402 COMMON
C676 1uF 6.3V 10% X6S 0402 COMMON
C675 1uF 6.3V 10% X6S 0402 COMMON
C145 4.7uF 6.3V 20% X6S 0603 COMMON
C146 4.7uF 6.3V 20% X6S 0603 COMMON
C610 22uF 6.3V 20% X6S 0805 COMMON
C611 22uF 6.3V 20% X6S 0805 COMMON
C612 22uF 6.3V 20% X6S 0805 COMMON

PS_1V8_FB
R536 0ohm 0402 0.05 0mW COMMON
Place under GPU to close 1V8 balls

C690 0.1uF 16V 10% X7R 0402 COMMON

PEX_TERMP
AP29 50OHM_NETCLASS1
R529 2.49k 0402 1% COMMON

END OF X1
END OF X4
END OF X8
END OF X16

PEX_RST*	A11	PERST				AJ12	PEX_RST
					SNN_PEX_CLKREQ*	AK12	PEX_CLKREQ
PEX_REFCLK	A13	REFCLK			PEX_REFCLK	AL13	PEX_REFCLK
PEX_REFCLK*	A14	REFCLK			PEX_REFCLK	AK13	PEX_REFCLK
PEX_TX0	A16	PERP0	C754 0.22uF 0402 COMMON	PEX_TX0	PEX_TX0	AK14	PEX_TX0
PEX_TX0*	A17	PERN0	C750 0.22uF 0402 COMMON	PEX_TX0*	PEX_TX0	AJ14	PEX_TX0
PEX_RX0	B14	PETP0			PEX_RX0	AN12	PEX_RX0
PEX_RX0*	B15	PETN0			PEX_RX0	AM12	PEX_RX0
PEX_TX1	A21	PERP1	C744 0.22uF 0402 COMMON	PEX_TX1	PEX_TX1	AH14	PEX_TX1
PEX_TX1*	A22	PERN1	C740 0.22uF 0402 COMMON	PEX_TX1*	PEX_TX1	AG14	PEX_TX1
PEX_RX1	B19	PETP1			PEX_RX1	AN14	PEX_RX1
PEX_RX1*	B20	PETN1			PEX_RX1	AM14	PEX_RX1
PEX_TX2	A25	PERP2	C732 0.22uF 0402 COMMON	PEX_TX2	PEX_TX2	AK15	PEX_TX2
PEX_TX2*	A26	PERN2	C727 0.22uF 0402 COMMON	PEX_TX2*	PEX_TX2	AJ15	PEX_TX2
PEX_RX2	B23	PETP2			PEX_RX2	AP14	PEX_RX2
PEX_RX2*	B24	PETN2			PEX_RX2	AP15	PEX_RX2
PEX_TX3	A29	PERP3	C717 0.22uF 0402 COMMON	PEX_TX3	PEX_TX3	AL16	PEX_TX3
PEX_TX3*	A30	PERN3	C713 0.22uF 0402 COMMON	PEX_TX3*	PEX_TX3	AK16	PEX_TX3
PEX_RX3	B27	PETP3			PEX_RX3	AN15	PEX_RX3
PEX_RX3*	B28	PETN3			PEX_RX3	AM15	PEX_RX3
PEX_TX4	A35	PERP4	C698 0.22uF 0402 COMMON	PEX_TX4	PEX_TX4	AK17	PEX_TX4
PEX_TX4*	A36	PERN4	C693 0.22uF 0402 COMMON	PEX_TX4*	PEX_TX4	AJ17	PEX_TX4
PEX_RX4	B33	PETP4			PEX_RX4	AN17	PEX_RX4
PEX_RX4*	B34	PETN4			PEX_RX4	AM17	PEX_RX4
PEX_TX5	A39	PERP5	C684 0.22uF 0402 COMMON	PEX_TX5	PEX_TX5	AH17	PEX_TX5
PEX_TX5*	A40	PERN5	C678 0.22uF 0402 COMMON	PEX_TX5*	PEX_TX5	AG17	PEX_TX5
PEX_RX5	B37	PETP5			PEX_RX5	AP17	PEX_RX5
PEX_RX5*	B38	PETN5			PEX_RX5	AP18	PEX_RX5
PEX_TX6	A43	PERP6	C671 0.22uF 0402 COMMON	PEX_TX6	PEX_TX6	AK18	PEX_TX6
PEX_TX6*	A44	PERN6	C665 0.22uF 0402 COMMON	PEX_TX6*	PEX_TX6	AJ18	PEX_TX6
PEX_RX6	B41	PETP6			PEX_RX6	AN18	PEX_RX6
PEX_RX6*	B42	PETN6			PEX_RX6	AM18	PEX_RX6
PEX_TX7	A47	PERP7	C658 0.22uF 0402 COMMON	PEX_TX7	PEX_TX7	AL19	PEX_TX7
PEX_TX7*	A48	PERN7	C650 0.22uF 0402 COMMON	PEX_TX7*	PEX_TX7	AK19	PEX_TX7
PEX_RX7	B45	PETP7			PEX_RX7	AN20	PEX_RX7
PEX_RX7*	B46	PETN7			PEX_RX7	AM20	PEX_RX7
PEX_TX8	A52	PERP8	C640 0.22uF 0402 COMMON	PEX_TX8	PEX_TX8	AK20	PEX_TX8
PEX_TX8*	A53	PERN8	C637 0.22uF 0402 COMMON	PEX_TX8*	PEX_TX8	AJ20	PEX_TX8
PEX_RX8	B50	PETP8			PEX_RX8	AP20	PEX_RX8
PEX_RX8*	B51	PETN8			PEX_RX8	AP21	PEX_RX8
PEX_TX9	A56	PERP9	C618 0.22uF 0402 COMMON	PEX_TX9	PEX_TX9	AH20	PEX_TX9
PEX_TX9*	A57	PERN9	C616 0.22uF 0402 COMMON	PEX_TX9*	PEX_TX9	AG20	PEX_TX9
PEX_RX9	B54	PETP9			PEX_RX9	AN21	PEX_RX9
PEX_RX9*	B55	PETN9			PEX_RX9	AM21	PEX_RX9
PEX_TX10	A60	PERP10	C614 0.22uF 0402 COMMON	PEX_TX10	PEX_TX10	AK21	PEX_TX10
PEX_TX10*	A61	PERN10	C613 0.22uF 0402 COMMON	PEX_TX10*	PEX_TX10	AJ21	PEX_TX10
PEX_RX10	B58	PETP10			PEX_RX10	AN23	PEX_RX10
PEX_RX10*	B59	PETN10			PEX_RX10	AM23	PEX_RX10
PEX_TX11	A64	PERP11	C608 0.22uF 0402 COMMON	PEX_TX11	PEX_TX11	AL22	PEX_TX11
PEX_TX11*	A65	PERN11	C603 0.22uF 0402 COMMON	PEX_TX11*	PEX_TX11	AK22	PEX_TX11
PEX_RX11	B62	PETP11			PEX_RX11	AP23	PEX_RX11
PEX_RX11*	B63	PETN11			PEX_RX11	AP24	PEX_RX11
PEX_TX12	A68	PERP12	C597 0.22uF 0402 COMMON	PEX_TX12	PEX_TX12	AK23	PEX_TX12
PEX_TX12*	A69	PERN12	C595 0.22uF 0402 COMMON	PEX_TX12*	PEX_TX12	AJ23	PEX_TX12
PEX_RX12	B66	PETP12			PEX_RX12	AN24	PEX_RX12
PEX_RX12*	B67	PETN12			PEX_RX12	AM24	PEX_RX12
PEX_TX13	A72	PERP13	C593 0.22uF 0402 COMMON	PEX_TX13	PEX_TX13	AH23	PEX_TX13
PEX_TX13*	A73	PERN13	C592 0.22uF 0402 COMMON	PEX_TX13*	PEX_TX13	AG23	PEX_TX13
PEX_RX13	B70	PETP13			PEX_RX13	AN26	PEX_RX13
PEX_RX13*	B71	PETN13			PEX_RX13	AM26	PEX_RX13
PEX_TX14	A76	PERP14	C587 0.22uF 0402 COMMON	PEX_TX14	PEX_TX14	AK24	PEX_TX14
PEX_TX14*	A77	PERN14	C582 0.22uF 0402 COMMON	PEX_TX14*	PEX_TX14	AJ24	PEX_TX14
PEX_RX14	B74	PETP14			PEX_RX14	AP26	PEX_RX14
PEX_RX14*	B75	PETN14			PEX_RX14	AP27	PEX_RX14
PEX_TX15	A80	PERP15	C579 0.22uF 0402 COMMON	PEX_TX15	PEX_TX15	AL25	PEX_TX15
PEX_TX15*	A81	PERN15	C578 0.22uF 0402 COMMON	PEX_TX15*	PEX_TX15	AK25	PEX_TX15
PEX_RX15	B78	PETP15			PEX_RX15	AN27	PEX_RX15
PEX_RX15*	B79	PETN15			PEX_RX15	AM27	PEX_RX15

PEX_PLL_HVDD	AH12
PEX_DVDD	AG19, AG21, AG22, AG24, AH21, AH25
PEX_HVDD	AG13, AG15, AG16, AG18, AG25, AH15, AH18, AH26, AH27, AJ27, AK27, AL27, AM28, AN28

B1	+12V
B2	+12V
A2	+12V
A3	+12V
B3	+12V/RSVD
B8	+3V3
A9	+3V3
A10	+3V3
B10	+3V3AUX
A1	PRSNT1
B17	PRSNT2
B12	RSVD
B4, A4, B7, A12, B13, A15, B16, B18, A18	GND
B31	PRSNT2
A19	RSVD
B30	RSVD
A32	RSVD
A20, B21, B22, A23, A24, B25, B26, A27, A28, B29, A31, B32	GND
B48	PRSNT2
A33	RSVD
A34, B35, B36, A37, A38, B39, B40, A41, A42, B43, B44, A45, A46, B47, B49, A49	GND
B81	PRSNT2
A50	RSVD
B82	RSVD
A51, B52, B53, A54, A55, B56, B57, A58, A59, B60, B61, A62, A63, B64, B65, A66, A67, B68, B69, A70, A71, B72, B73, A74, A75, B76, B77, A78, A79, B80, A82	GND
TRST* JTAG1	B9
TCLK JTAG2	A5
TDI JTAG3	A6
TDO JTAG4	A7
TMS JTAG5	A8
SMCLK	B5
SMDAT	B6
WAKE	B11

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PAGE DETAIL	PCI Express

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NV_PN	600-1G210-BASE-SCH		
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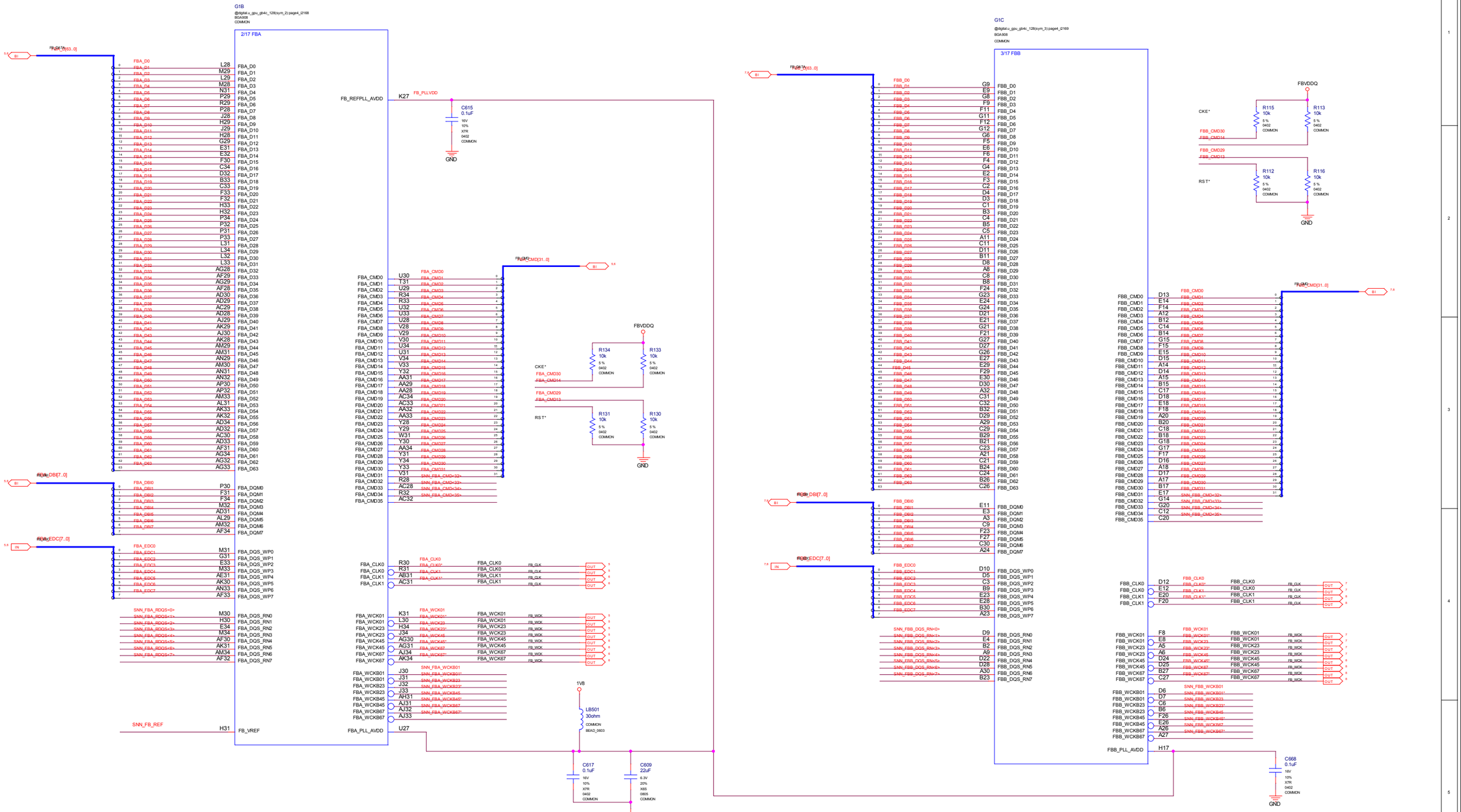
MEMORY: GPU Partition A/B



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: GPU Partition A/B

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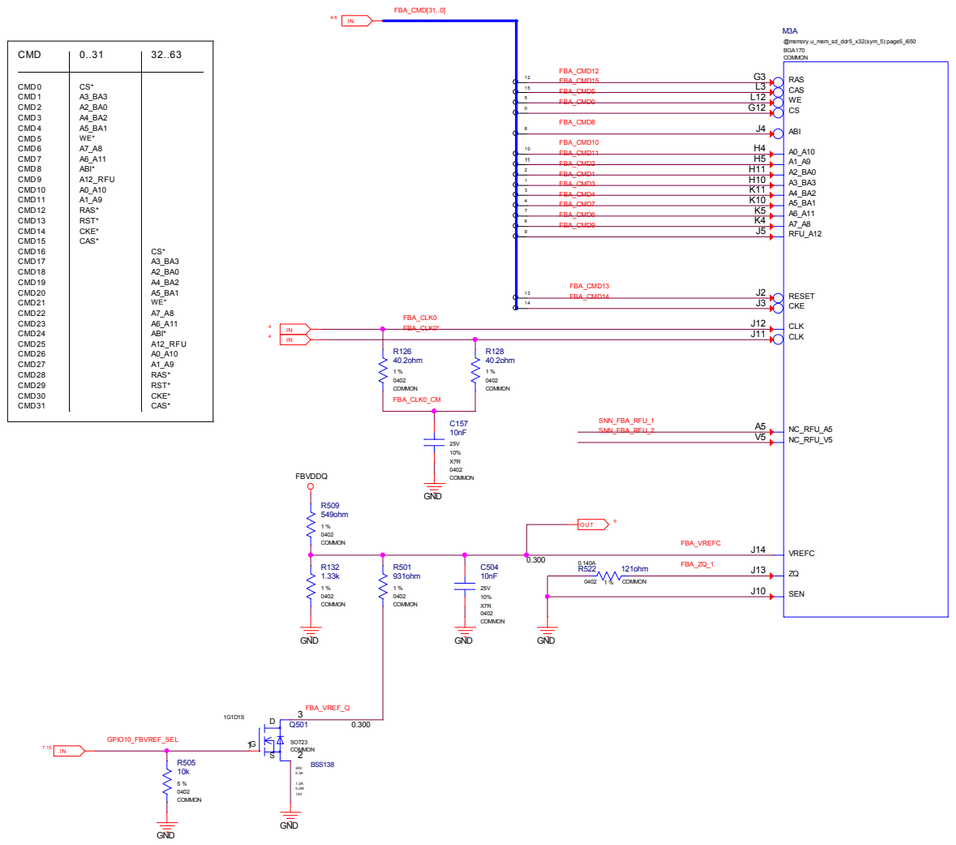
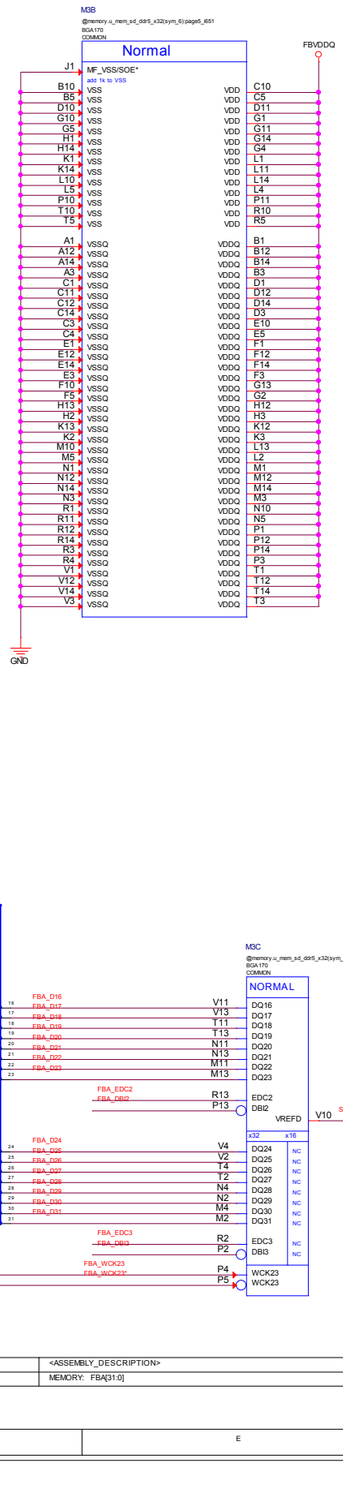
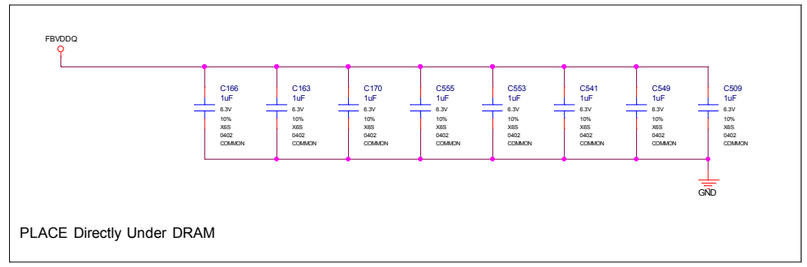
MEMORY: FBA Partition 31..0

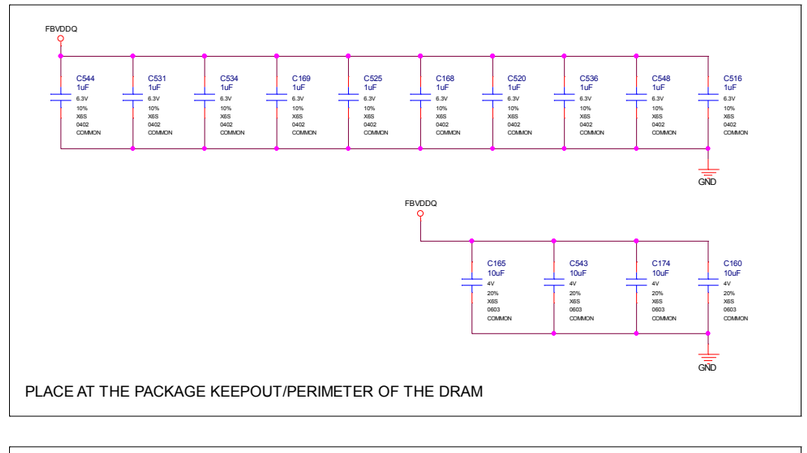
CMD	0..31	32..63
CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	ABI*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		ABI*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



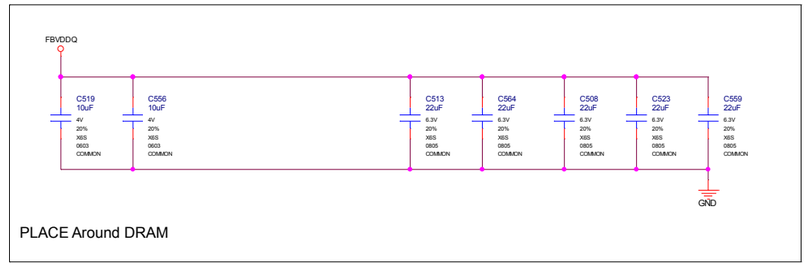




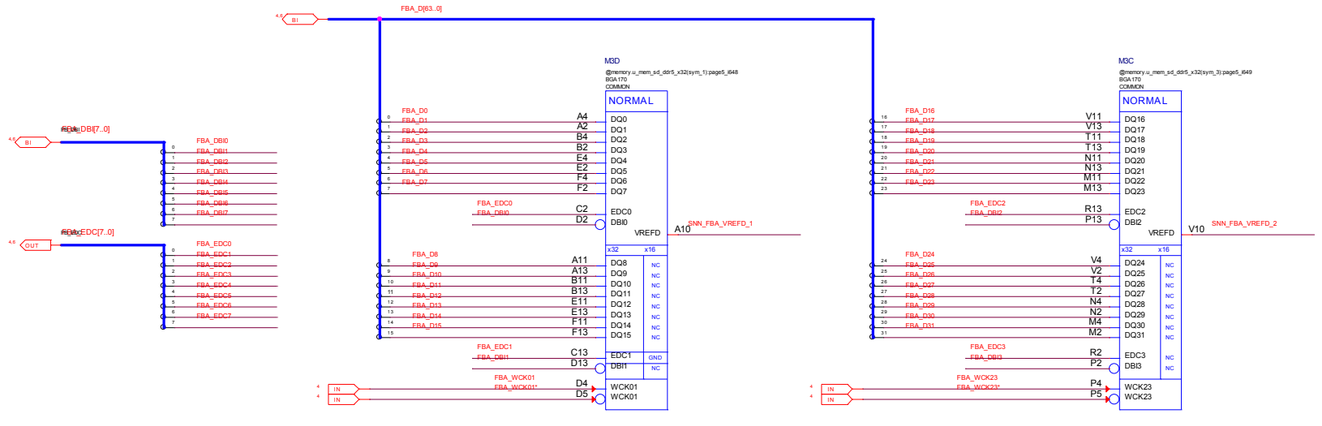
PLACE Directly Under DRAM



PLACE AT THE PACKAGE KEEPOUT/PERIMETER OF THE DRAM



PLACE Around DRAM



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBA[31:0]

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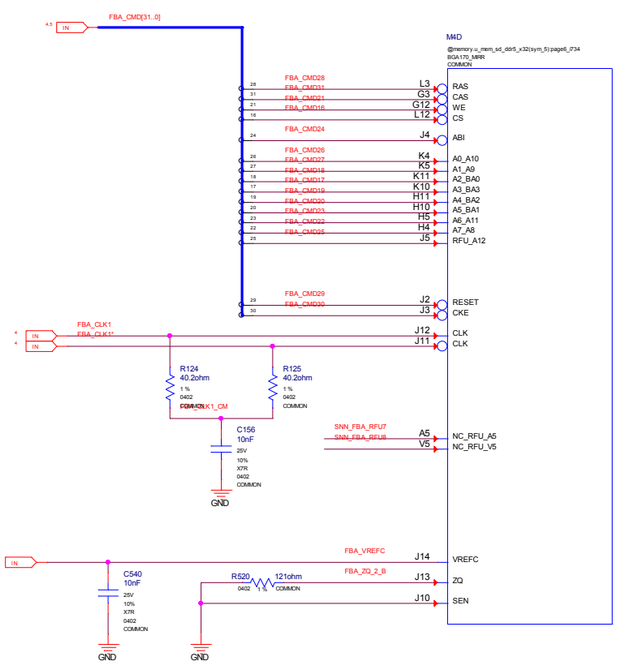
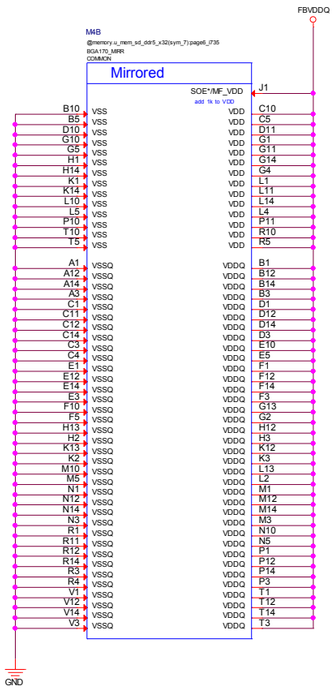
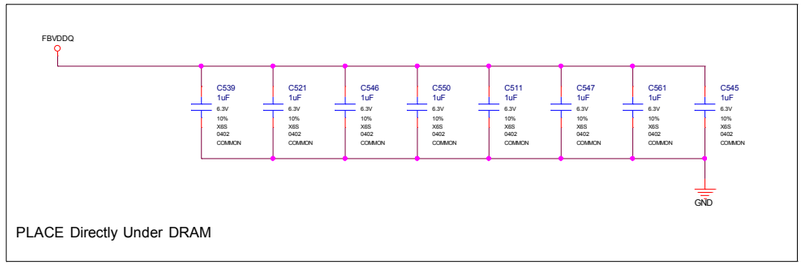
MEMORY: FBA Partition 63..32

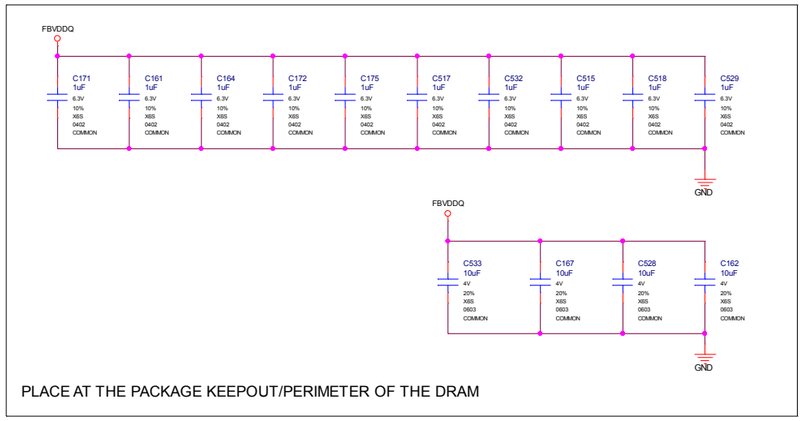
CMD	0..31	32..63
CMD 0	CS*	
CMD 1	A3_BA3	
CMD 2	A2_BA0	
CMD 3	A4_BA2	
CMD 4	A5_BA1	
CMD 5	WE*	
CMD 6	A7_A8	
CMD 7	A6_A11	
CMD 8	ABI*	
CMD 9	A12_RFU	
CMD 10	A0_A10	
CMD 11	A1_A9	
CMD 12	RAS*	
CMD 13	RST*	
CMD 14	CKE*	
CMD 15	CAS*	
CMD 16		CS*
CMD 17		A3_BA3
CMD 18		A2_BA0
CMD 19		A4_BA2
CMD 20		A5_BA1
CMD 21		WE*
CMD 22		A7_A8
CMD 23		A6_A11
CMD 24		ABI*
CMD 25		A12_RFU
CMD 26		A0_A10
CMD 27		A1_A9
CMD 28		RAS*
CMD 29		RST*
CMD 30		CKE*
CMD 31		CAS*



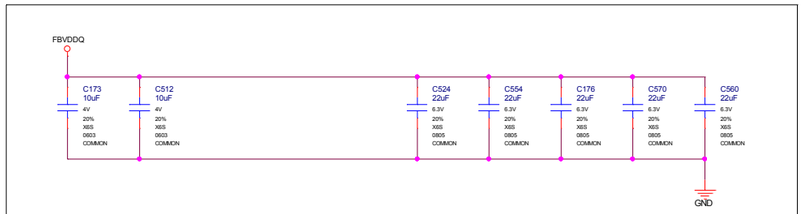




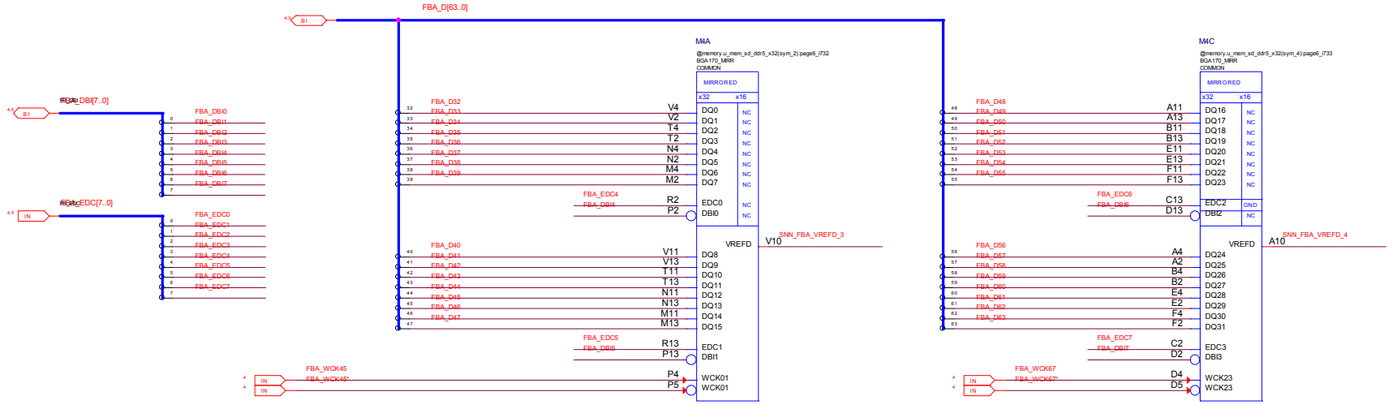
PLACE Directly Under DRAM



PLACE AT THE PACKAGE KEEPOUT/PERIMETER OF THE DRAM



PLACE Around DRAM



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBA[63:32]

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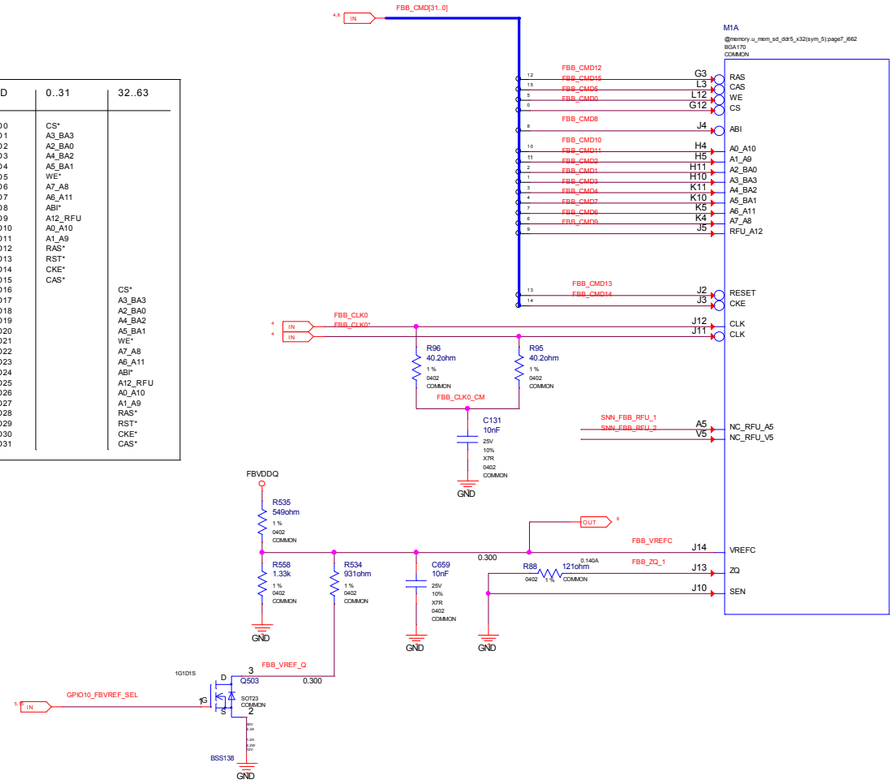
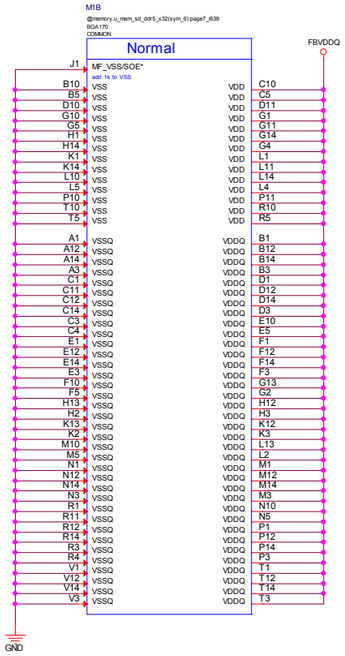
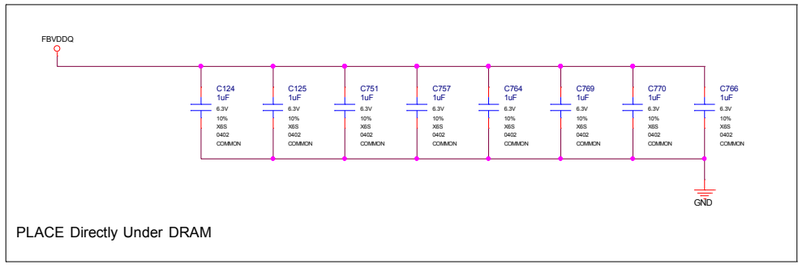
MEMORY: FBB Partition 31..0

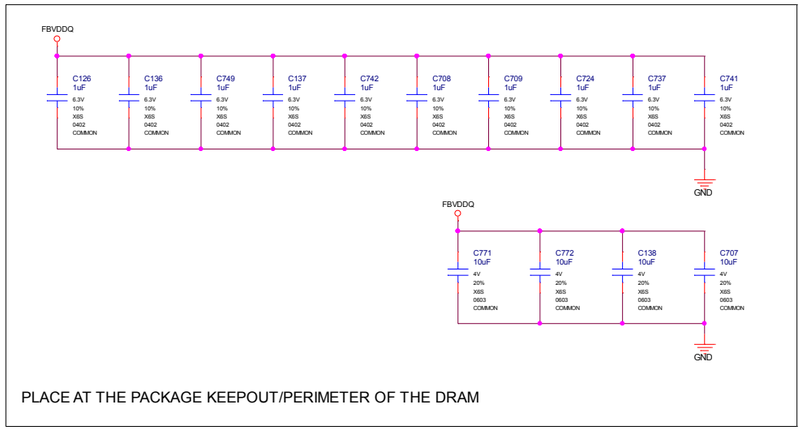
CMD	0..31	32..63
CMD0	CS*	
CMD 1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	ABI*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		ABI*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



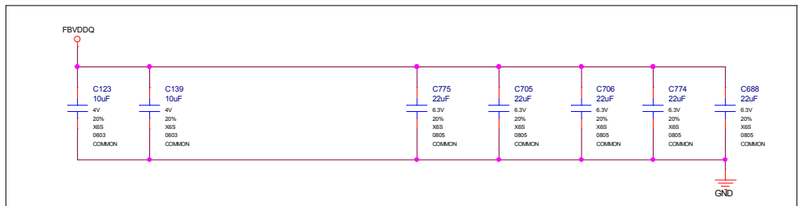




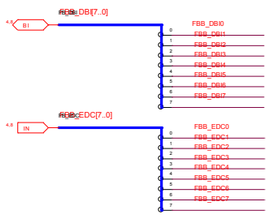
PLACE Directly Under DRAM

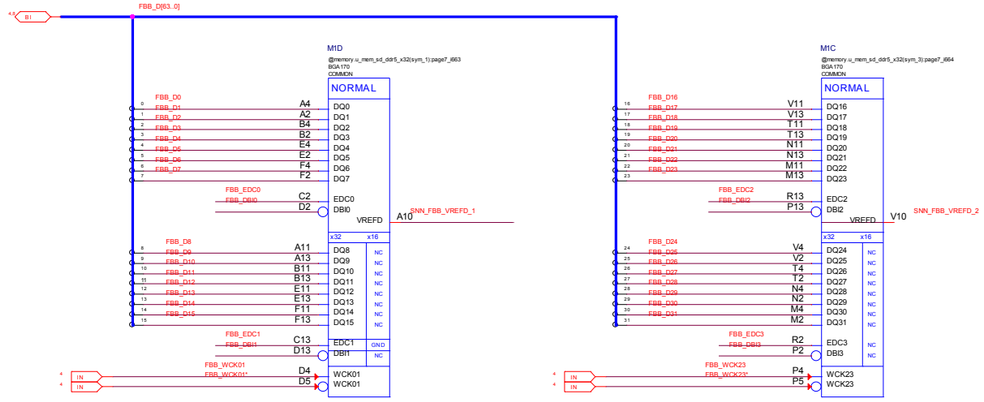


PLACE AT THE PACKAGE KEEPOUT/PERIMETER OF THE DRAM



PLACE Around DRAM





ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBB[31:0]

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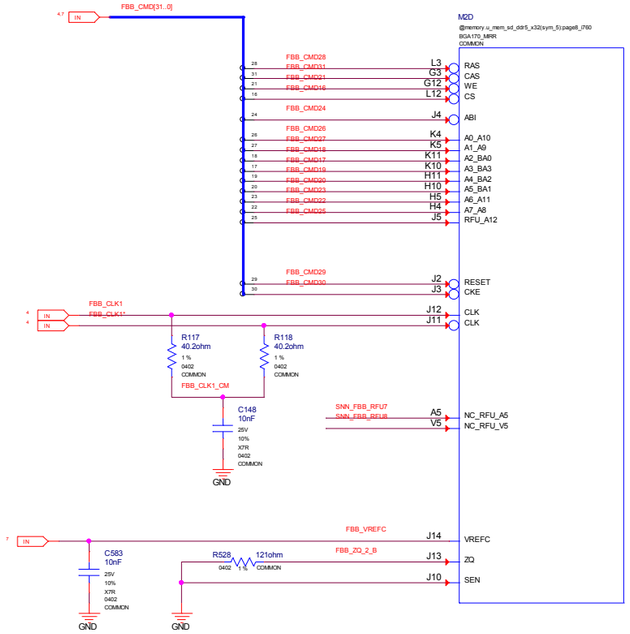
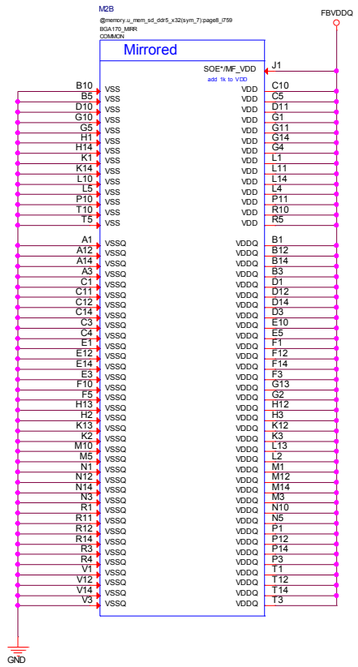
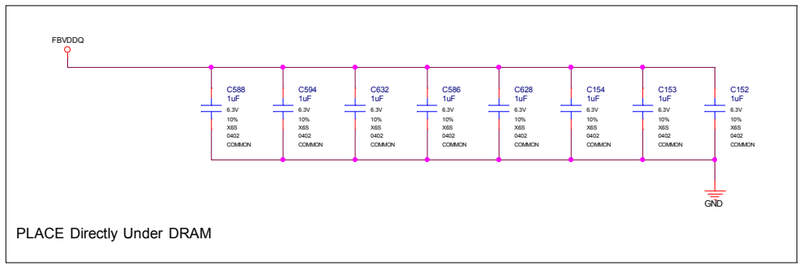
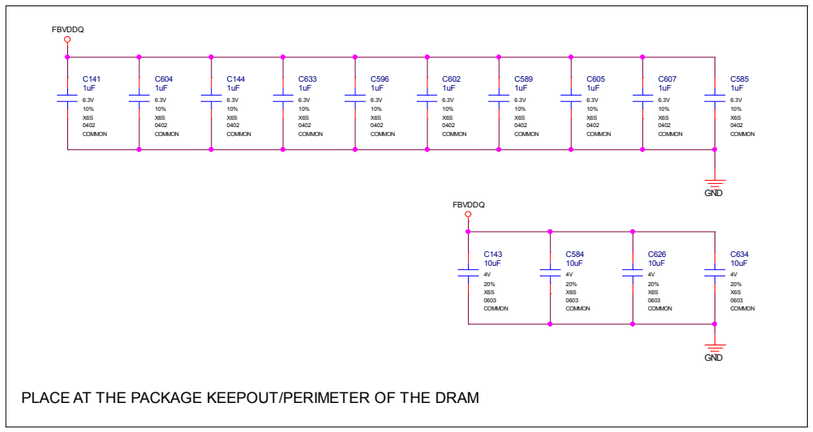
MEMORY: FBB Partition 63..32

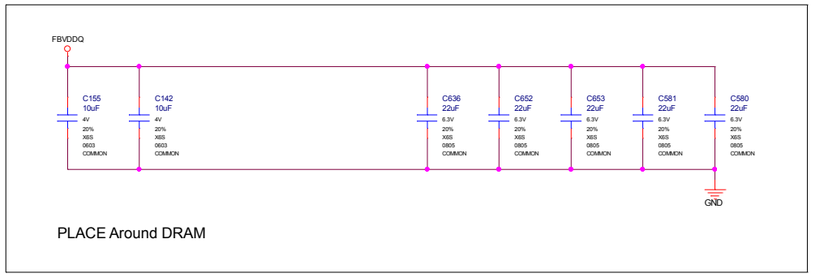
CMD	0..31	32..63
CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	ABI*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		ABI*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*











ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBB[63:32]

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GPU FBVDDQ & 1V8 Decoupling

PLACE UNDER GPU

Partition A

FBVDDQ

C622 1uF 6.3V 10% X6S 0402 COMMON
C677 1uF 6.3V 10% X6S 0402 COMMON
C627 1uF 6.3V 10% X6S 0402 COMMON
C639 1uF 6.3V 10% X6S 0402 COMMON
C669 1uF 6.3V 10% X6S 0402 COMMON
C621 1uF 6.3V 10% X6S 0402 COMMON

C692 10uF 4V 20% X6S 0603 COMMON
C686 10uF 4V 20% X6S 0603 COMMON

GND

Partition B

C630 1uF 6.3V 10% X6S 0402 COMMON
C694 1uF 6.3V 10% X6S 0402 COMMON
C681 1uF 6.3V 10% X6S 0402 COMMON
C629 1uF 6.3V 10% X6S 0402 COMMON
C662 1uF 6.3V 10% X6S 0402 COMMON
C631 1uF 6.3V 10% X6S 0402 COMMON

C624 10uF 4V 20% X6S 0603 COMMON
C625 10uF 4V 20% X6S 0603 COMMON

GND

C648 10uF 4V 20% X6S 0603 COMMON
C657 10uF 4V 20% X6S 0603 COMMON
C619 22uF 6.3V 20% X6S 0805 COMMON
C734 22uF 6.3V 20% X6S 0805 COMMON
C606 22uF 6.3V 20% X6S 0805 COMMON
C590 22uF 6.3V 20% X6S 0805 COMMON
C591 22uF 6.3V 20% X6S 0805 COMMON

GND

PLACE CLOSE TO GPU

G1E
@digital:u_gpu_gb4c_128(sym_14):page9_i186
BGA908
COMMON

14/17 FBVDDQ

AA27 AA30 AB27 AB33 AC27 AD27 AE27 AF27 AG27 B13 B16 B19 E13 E16 E19 H10 H11 H12 H13 H14 H15 H16 H18 H19 H20 H21 H22 H23 H24 H8 H9 L27 M27 N27 P27 R27 T27 T30 T33 V27 W27 W30 W33 Y27 — FBVDDQ

FBVDDQ

R97 0ohm 0.05 ohm 0402 NO STUFF

For Debug

Place it between GPU and Memory

FBVDDQ_SENSE F1 — FBVDDQ_SENSE — R98 0ohm 0402 0.05 ohm COMMON — PS_FBVDDQ_SENSE — OUT (to 25)

PROBE_FB_GND F2 — SNN_PROBE_FB_GND

FB_CAL_PD_VDDQ J27 — FB_CAL_PD_VDD — R532 40.2ohm 0402 1 % COMMON — FBVDDQ

FB_CAL_PU_GND H27 — FB_CAL_PU_GND — R530 40.2ohm 0402 1 % COMMON

FB_CALTERM_GND H25 — FB_CAL_TERM_GND — R533 50.4ohm 0402 1 % COMMON

GND

G1G
@digital:u_gpu_gb4c_128(sym_15):page9_i187
BGA908
COMMON

15/17 GND_1/2

A2 A33 AA13 AA15 AA17 AA18 AA20 AA22 AB12 AB14 AB16 AB19 AB2 AB21 AB23 AB28 AB30 AB32 AB5 AB7 AC13 AC15 AC17 AC18 AC20 AC22 AE2 AE28 AE30 AE32 AE33 AE5 AE7 AH10 AH13 AH16 AH19 AH2 AH22 AH24 AH28 AH29 AH30 AH32 AH33 AH5 AH7 AJ7 AK10 AK7 AL12 AL14 AL15 AL17 AL18 AL2 AL20 AL21 AL23 AL24 AL26 AL28 AL30 AL32 AL33 AL5 AM13 AM16 AM19 AM22 — GND

GND

AM25 AN1 AN10 AN13 AN16 AN19 AN22 AN25 AN30 AN34 AN4 AN7 AP2 AP33 B1 B10 B22 B25 B28 B31 B34 B4 B7 C10 C13 C19 C22 C25 C28 C7 D2 D31 D33 E10 E22 E25 E5 E7 F28 F7 G10 G13 G16 G19 G2 G22 G25 G28 G3 G30 G32 G33 G5 G7 K2 K28 K30 K32 K33 K5 K7 M13 M15 M17 M18 M20 M22 N12 N14 N16 — GND

GND

G1D
@digital:u_gpu_gb4c_128(sym_16):page9_i188
BGA908
COMMON

16/17 GND_2/2

N19 N2 N21 N23 N28 N30 N32 N33 N6 N7 P13 P15 P17 P18 P20 P22 R12 R14 R16 R15 R21 R23 T13 T15 T17 T18 T2 T20 T22 AG11 — GND

GND

T28 T32 T5 T7 U12 U14 U16 U19 U21 U23 V12 V14 V16 V19 V21 V23 W13 W15 W17 W18 W20 W22 W28 Y12 Y14 Y16 Y19 Y21 Y23 AH11 — GND

GND_OPT C16 — GND_OPT W32

Optional GND GNDs (2)
NC for 4-Lyr cards

GND

G1F
@digital:u_gpu_gb4c_128(sym_17):page9_i189
BGA908
COMMON

17/17 VDD18/AON

1V8_AON J8 — 1V8_AON K8

VDD18 L8 — VDD18 M8

1V8

C720 0.1uF 16V 10% X7R 0402 COMMON
C719 0.1uF 16V 10% X7R 0402 COMMON
C773 1uF 6.3V 10% X6S 0402 COMMON
C758 4.7uF 6.3V 20% X6S 0603 COMMON

GND

1V8

C711 0.1uF 16V 10% X7R 0402 COMMON
C710 0.1uF 16V 10% X7R 0402 COMMON
C703 1uF 6.3V 10% X6S 0402 COMMON
C768 4.7uF 6.3V 20% X6S 0603 COMMON

GND

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

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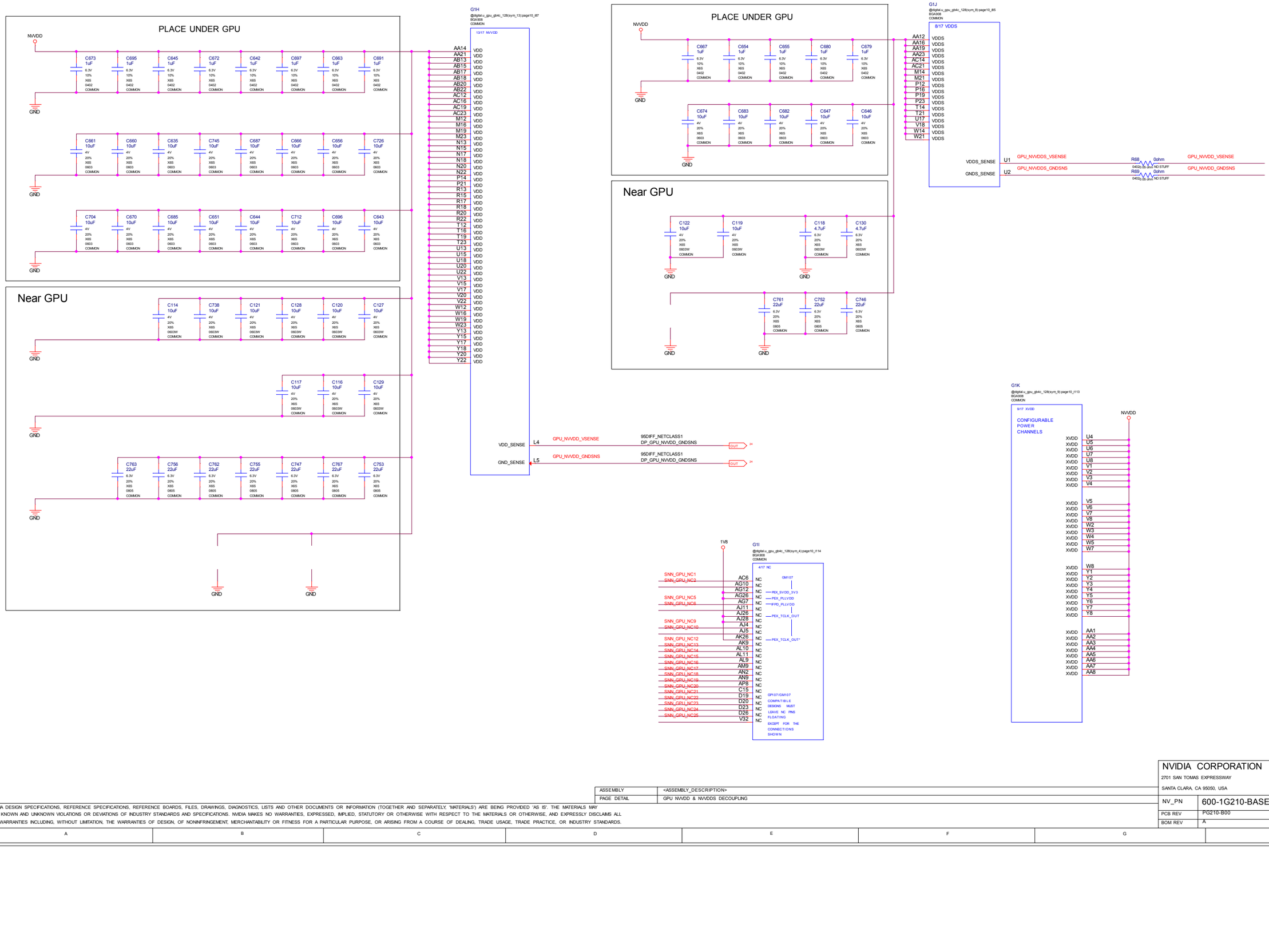
GPU NVVDD & NVVDDS Decoupling



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	GPU NVVDD & NVVDDS DECOUPLING

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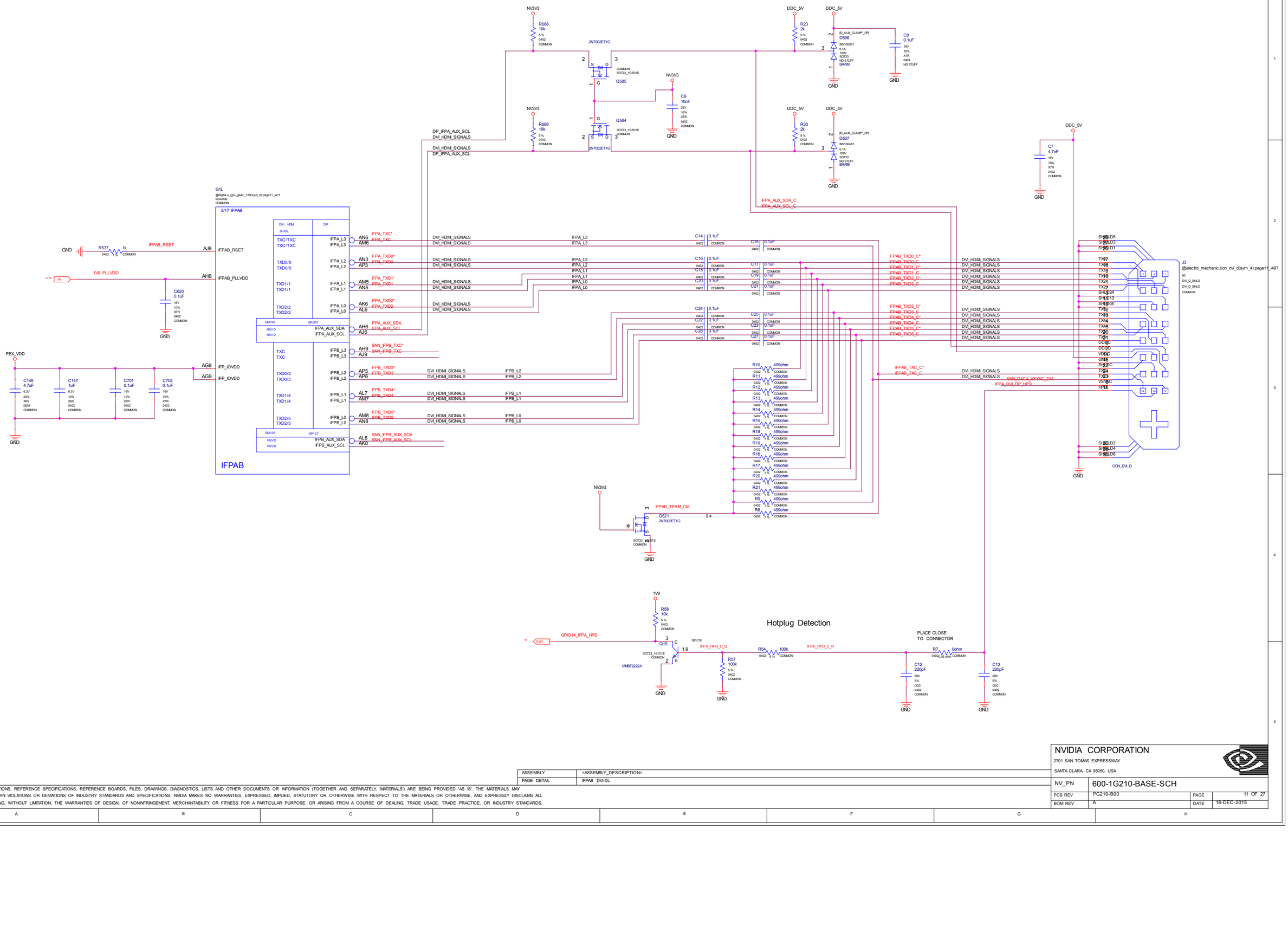
IFPAB DVI-DL



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPAB DVI-DL

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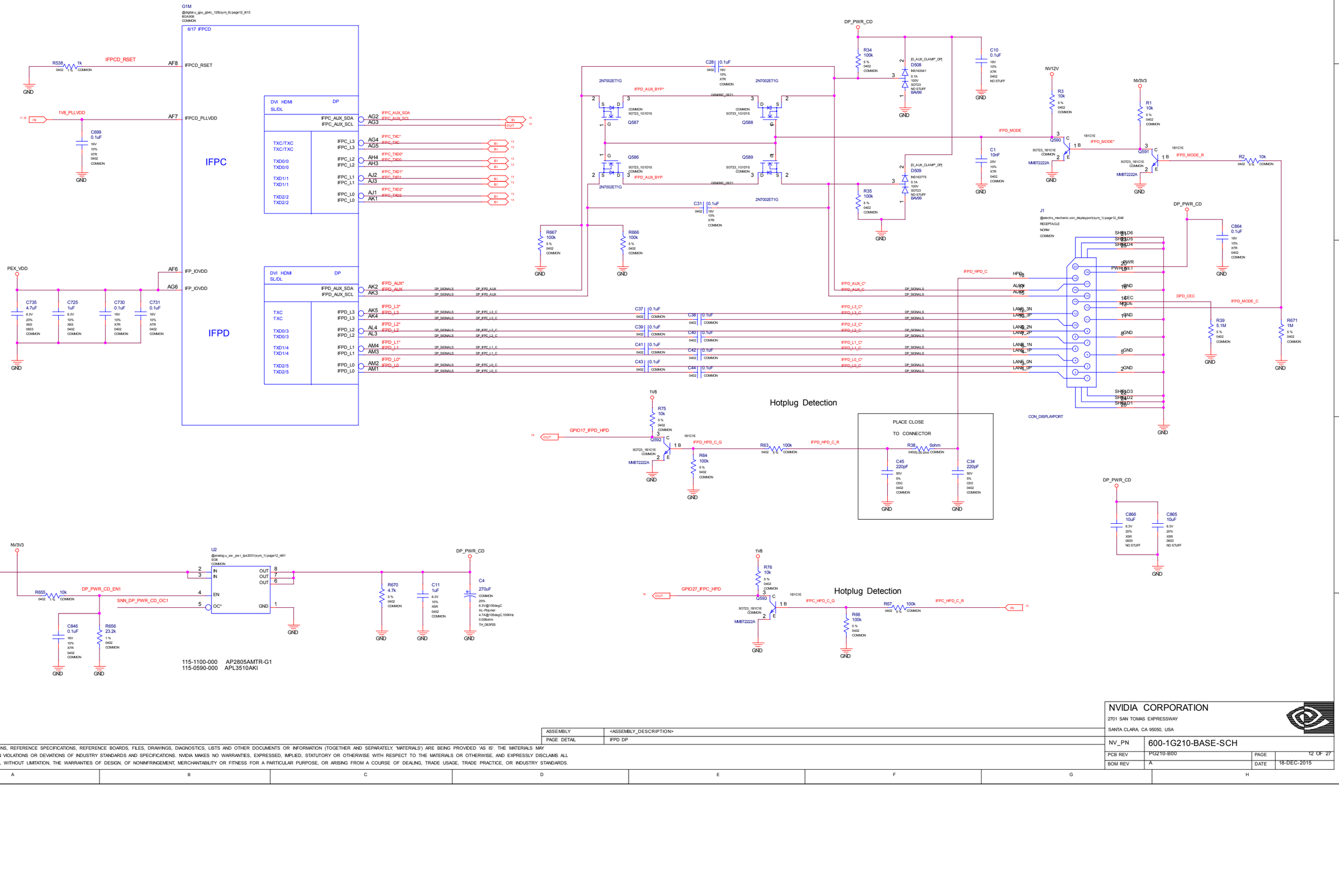
IFPD DP



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPD DP

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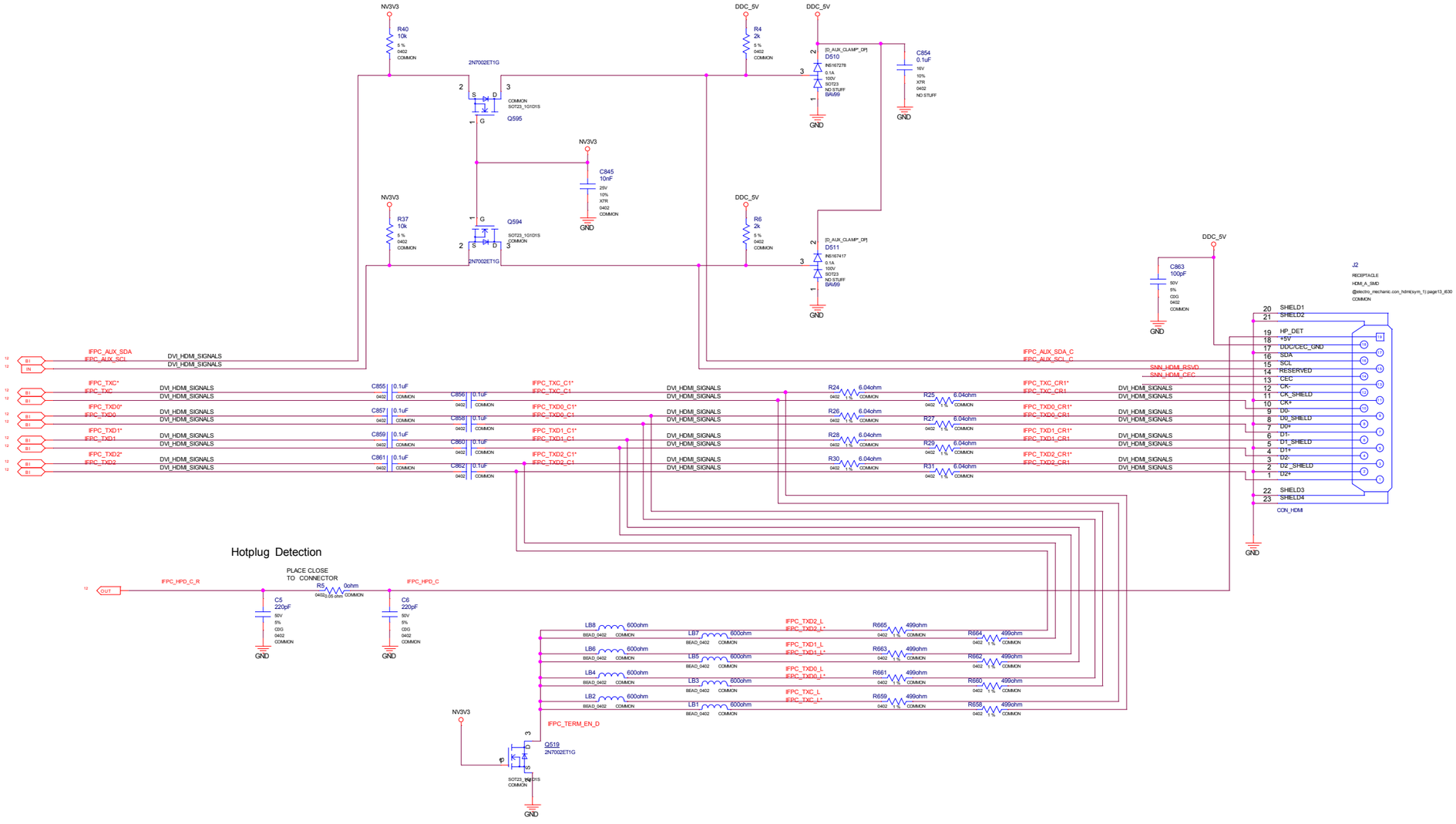
IFPC HDMI



Hotplug Detection

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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPC HDMI

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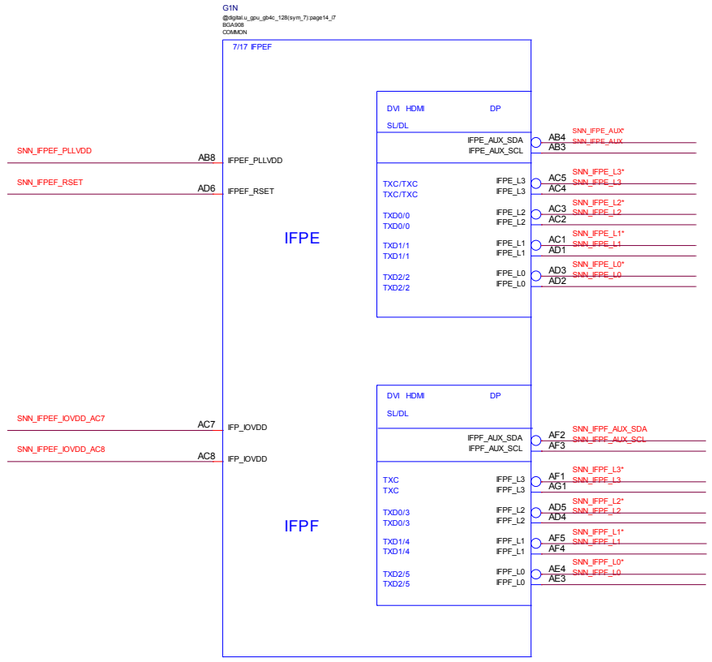
IFPEF UNUSED



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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPEF UNUSED

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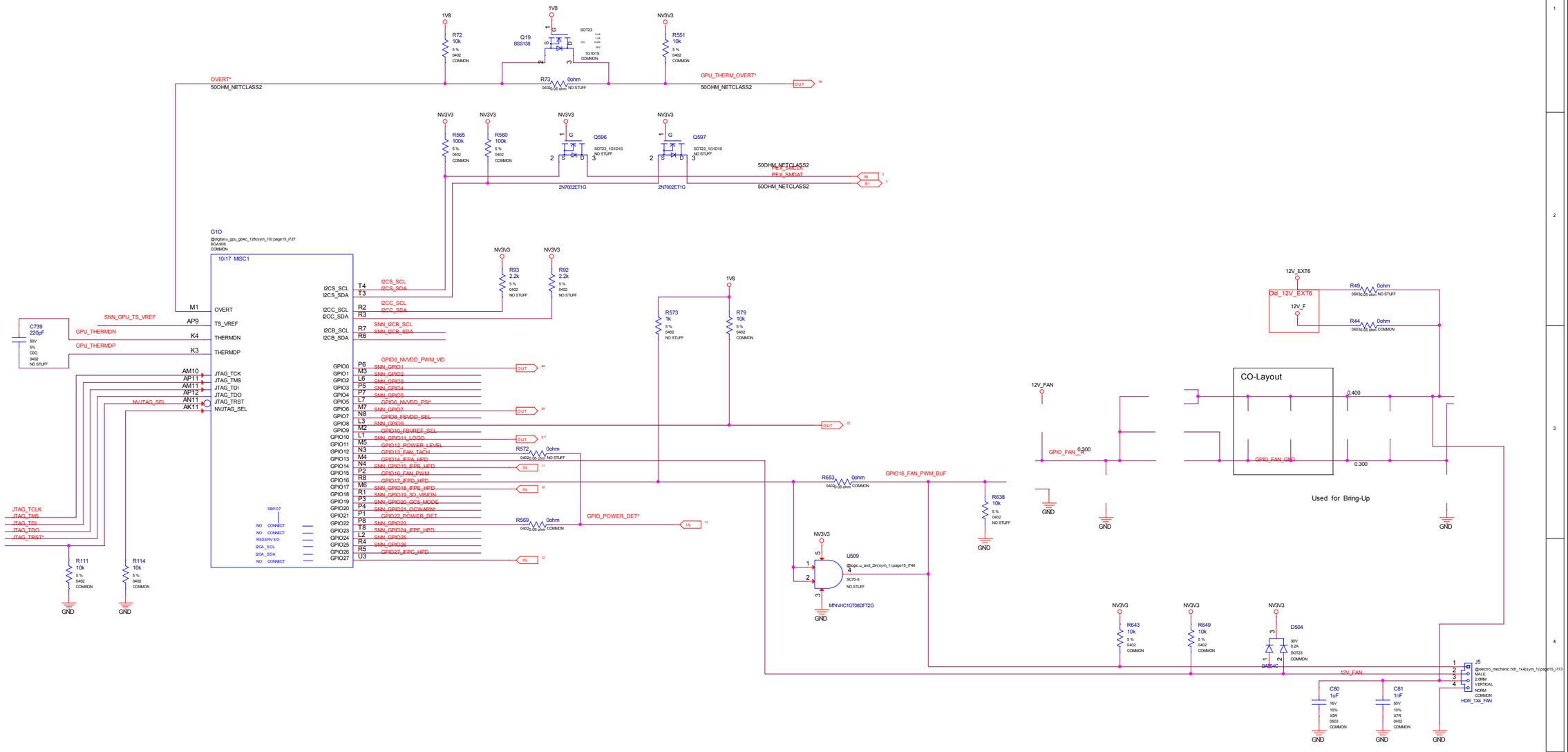
MISC1: GPIO, Fan, Thermal, JTAG

PADS FOR DEBUGGING



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MISC1: Fan, Thermal, JTAG, GPIO

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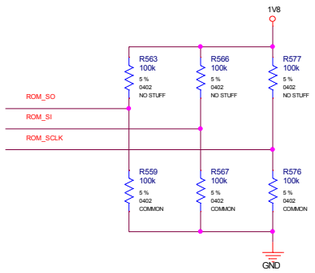
MISC2: ROM, XTAL, Straps

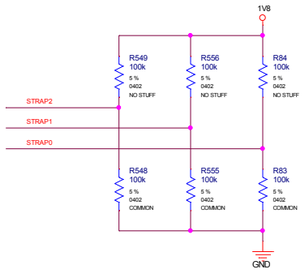
ROM_SO	ROM_SI	ROM_SCLK	SOR_EXPOSED[3:0]	1:ENABLE 0:DISABLE
L	L	L	1111	Default
L	L	H	1110	
L	H	L	1101	
L	H	H	1100	
H	L	L	1011	
H	L	H	1010	
H	H	L	1001	
H	H	H	1000	
L	L	M	0111	
L	M	L	0110	
L	M	H	0101	
L	H	M	0100	
H	L	M	0011	
H	M	L	0010	
H	M	H	0001	
H	H	M	0000	

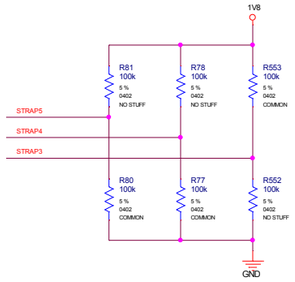
STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
L	L	L	0000	Samsung B-Die 8Gb 256Mx32
L	L	H	0001	Micron F-Die 8Gb 256Mx32
L	H	L	0010	Hynix M-Die 8Gb 256Mx32
L	H	H	0011	
H	H	L	0110	Hynix A-Die 4Gb 128Mx32
H	H	H	0111	Samsung E-Die 4Gb 128Mx32
L	L	M	1000	Micron B-Die 4Gb 128Mx32
L	M	L	1001	

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



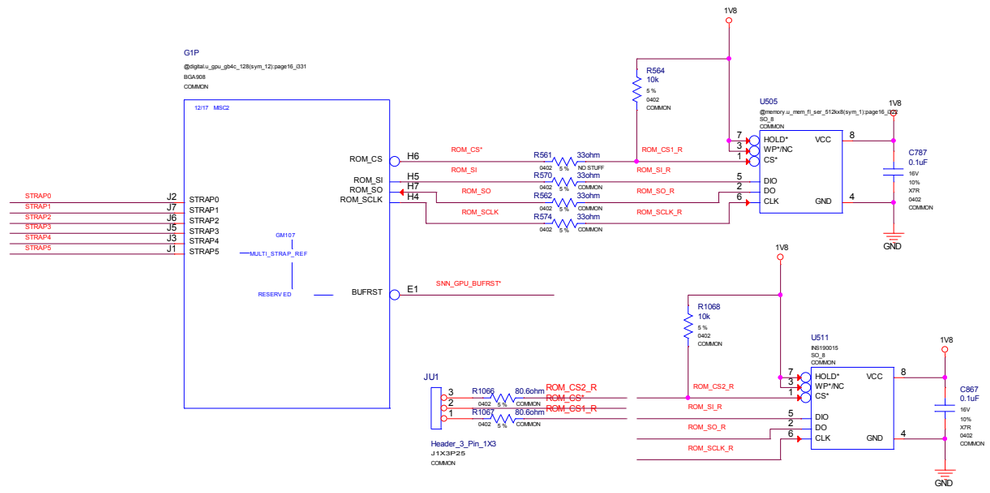


1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGNAL

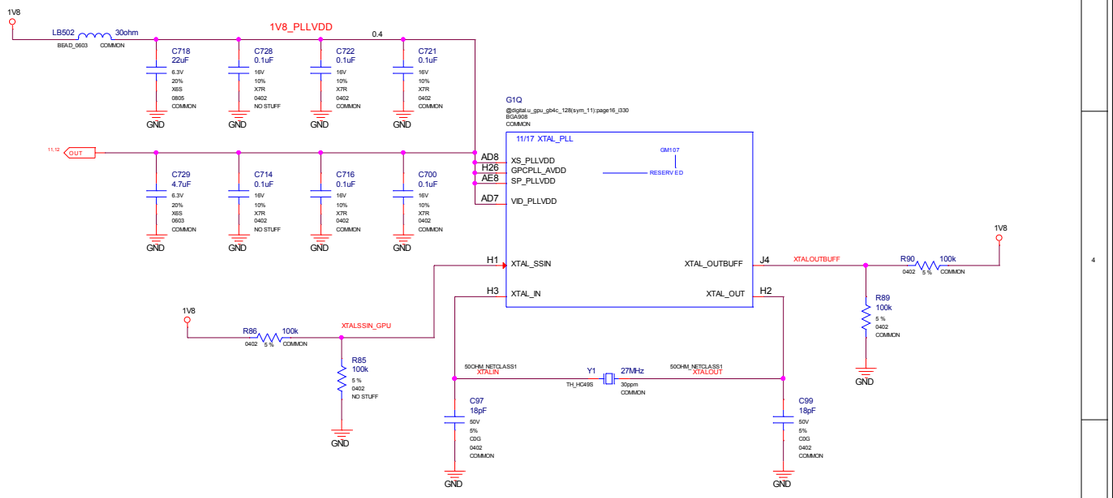
1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

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



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MISC2: ROM, XTAL, Straps

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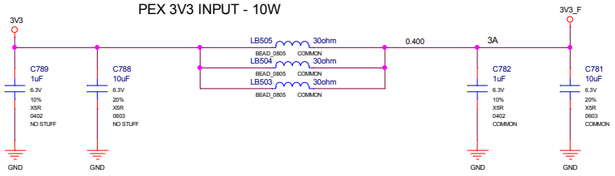
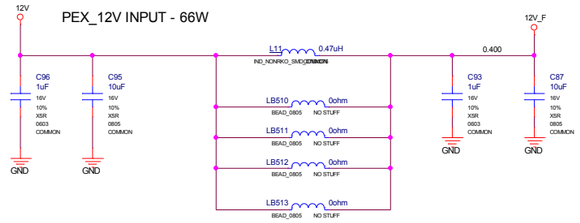
Power Inputs and Filtering

PEX 3V3 INPUT - 10W

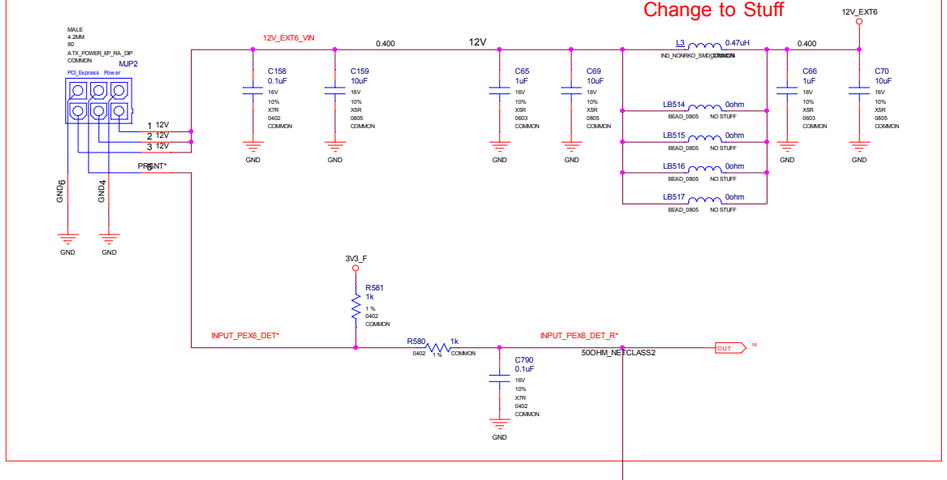


PEX_12V INPUT - 66W

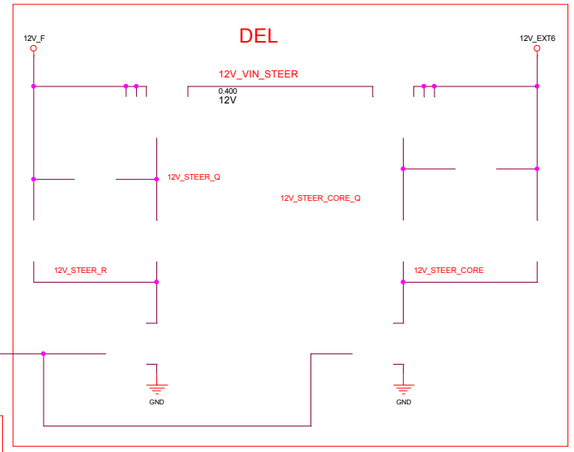


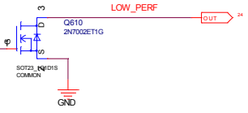
Change to NO Stuff

Change to Stuff



DEL





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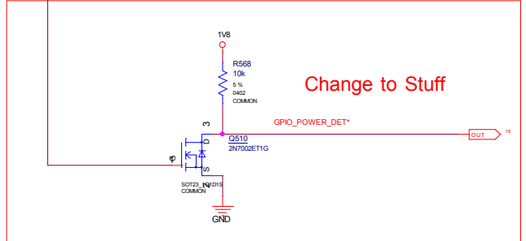

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	Power Inputs and Filtering

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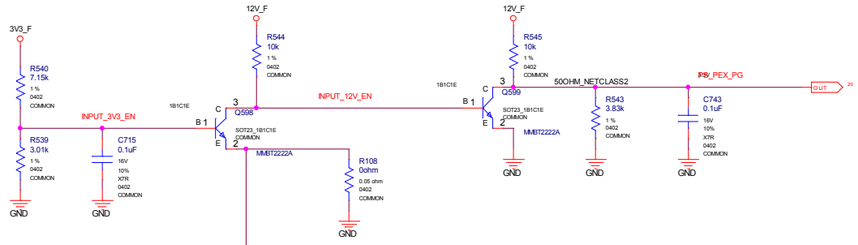
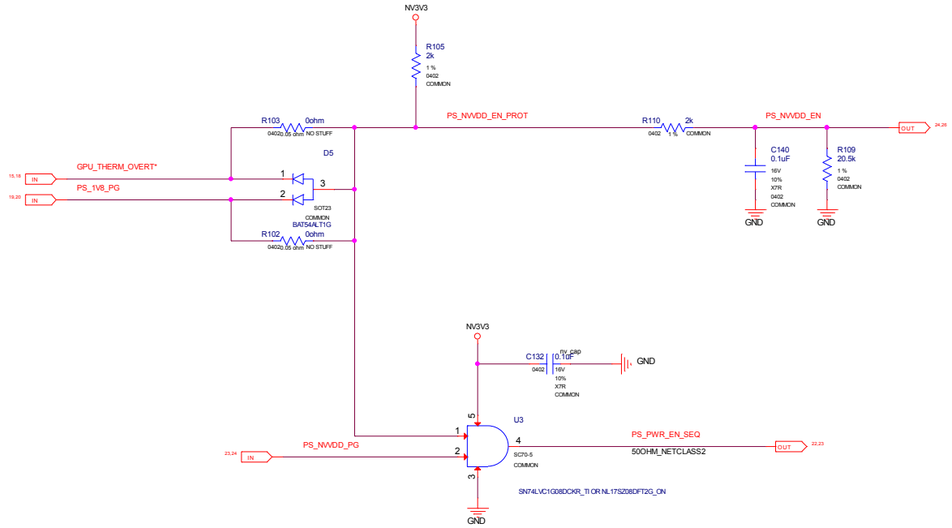
Power sequence





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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	Power Sequence

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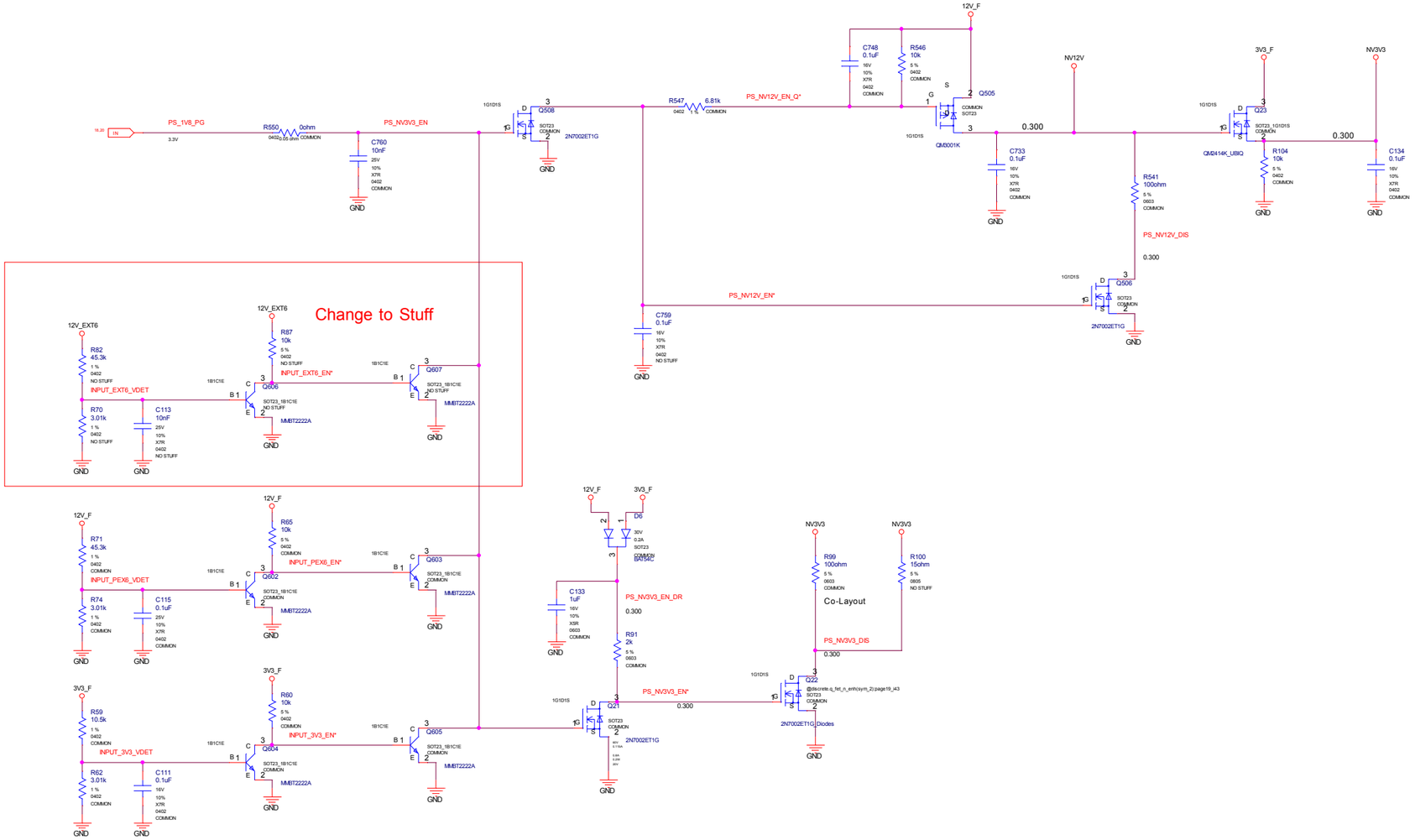
PS: NV3V3 & NV12V



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: NV3V3 & NV12V

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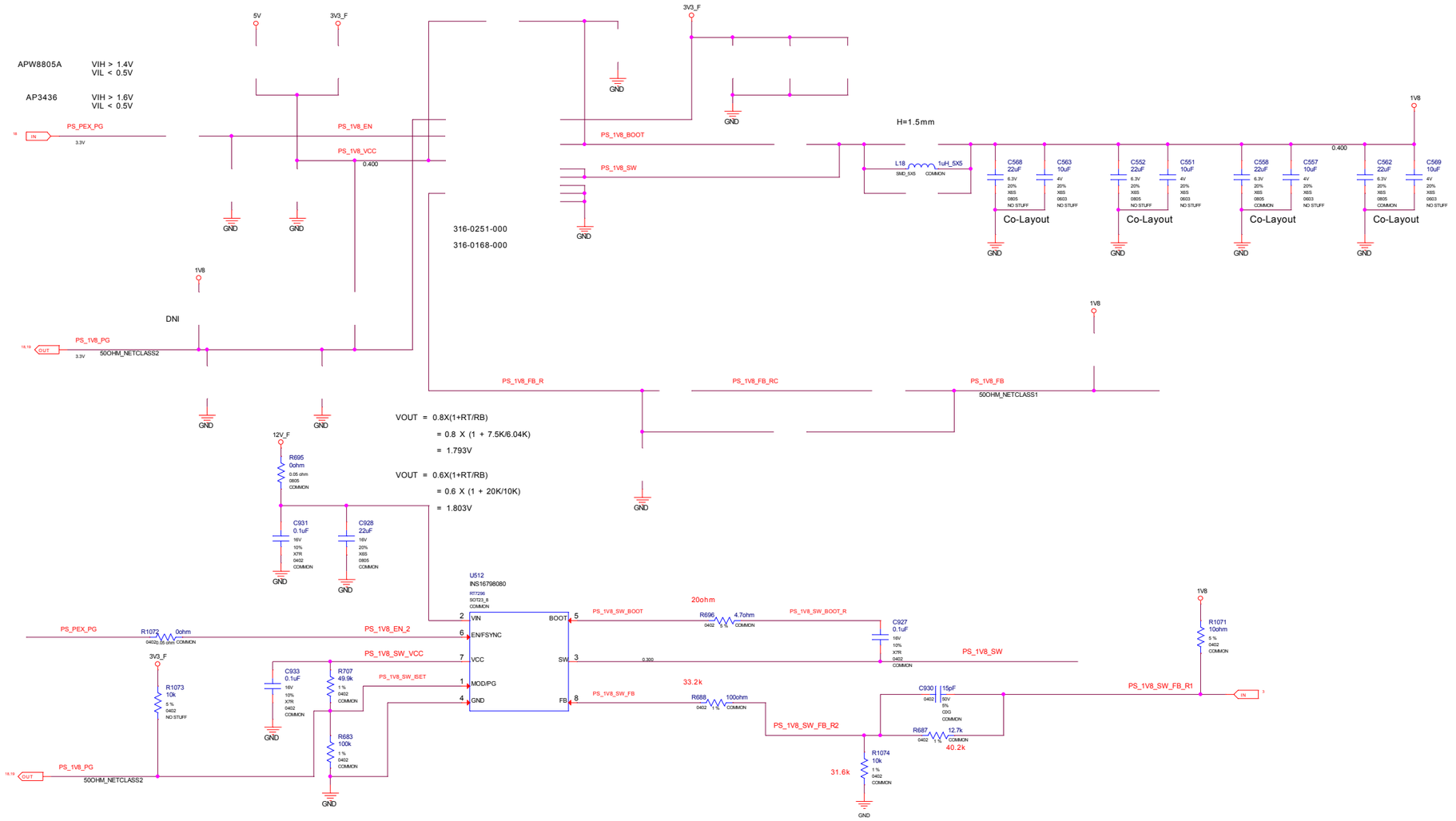
PS I: 1V8



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PAGE DETAIL	PSI: 1V8

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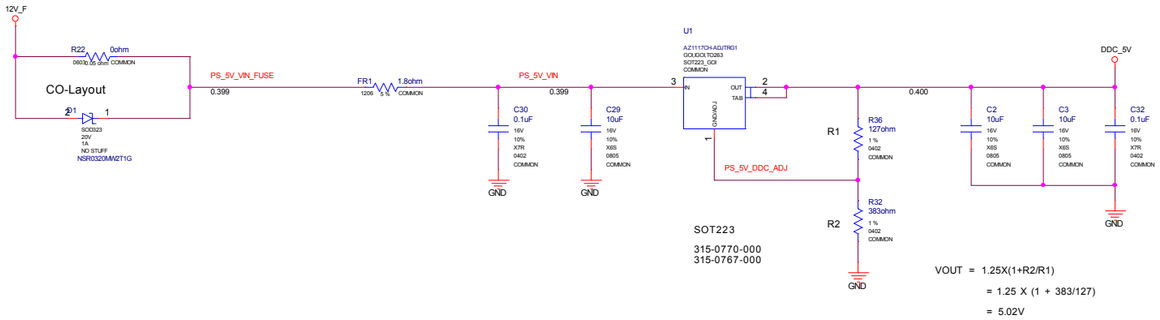
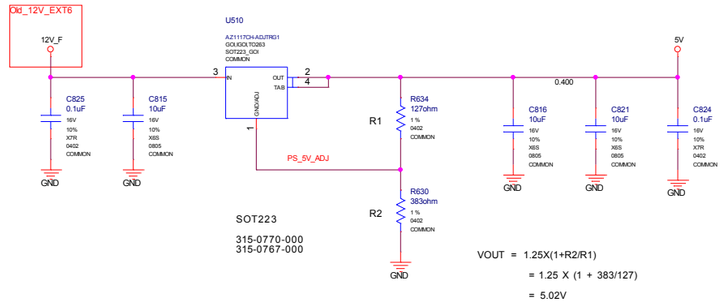
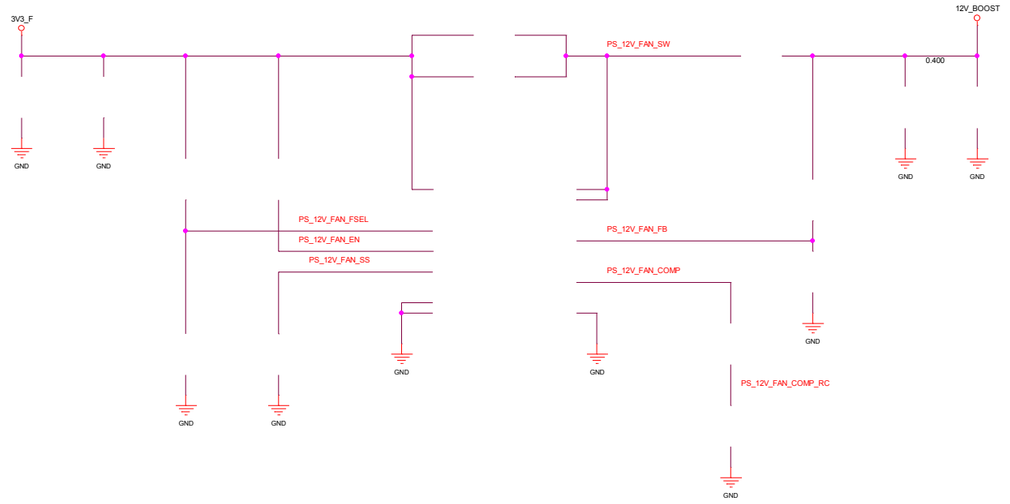
PSII:5V & 12V_FAN







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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PSII: 5V & 12V_FAN

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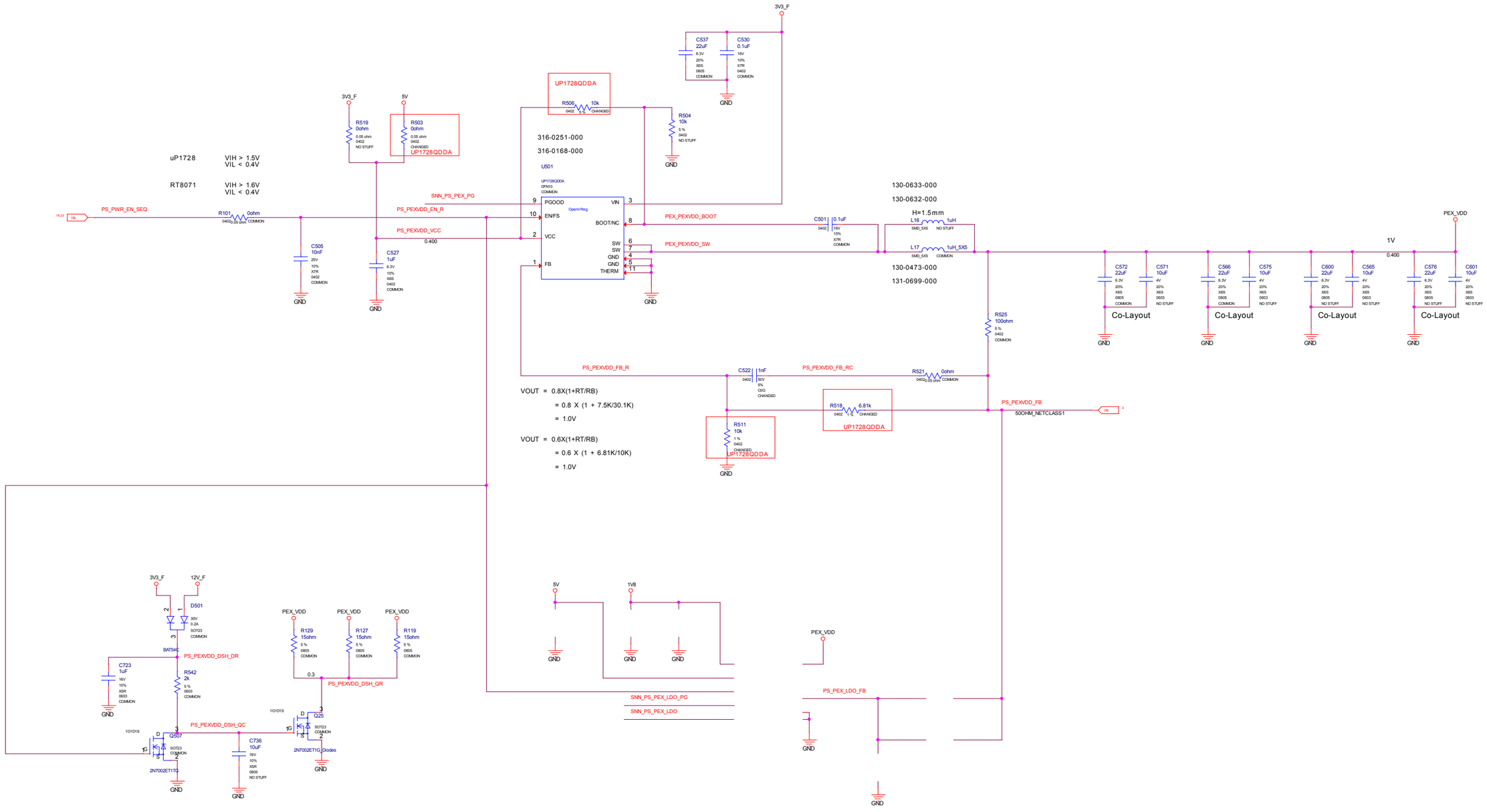
PS III: PEXVDD



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS III: PEXVDD

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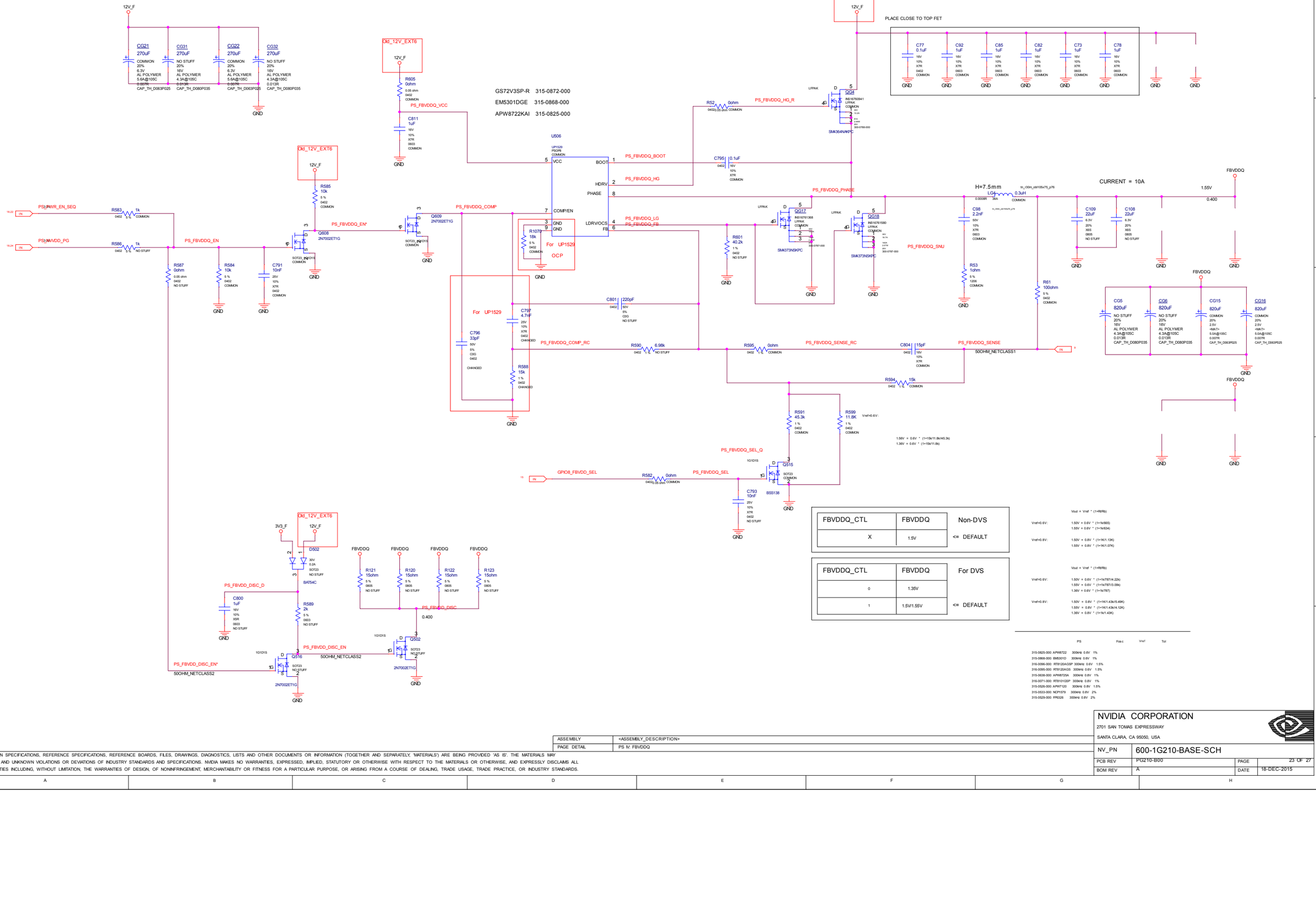
PS IV: FBVDDQ



FBVDDQ_CTL	FBVDDQ	
X	1.5V	Non-DVS <= DEFAULT

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

PS	Fosc	Vref	Tol
315-0825-000: APW8722	300kHz	0.6V	1%
315-0868-000: EM5301D	300kHz	0.6V	1%
316-0096-000: RT8120AGSP	300kHz	0.6V	1.5%
316-0095-000: RT8120AGS	300kHz	0.6V	1.5%
315-0638-000: APW8725A	300kHz	0.8V	1%
316-0071-000: RT8101GSP	300kHz	0.8V	1%
315-0526-000: APW7120	300kHz	0.8V	1.5%
315-0533-000: NCP1579	300kHz	0.8V	2%
315-0529-000: FP6326	300kHz	0.8V	2%

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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS IV: FBVDDQ

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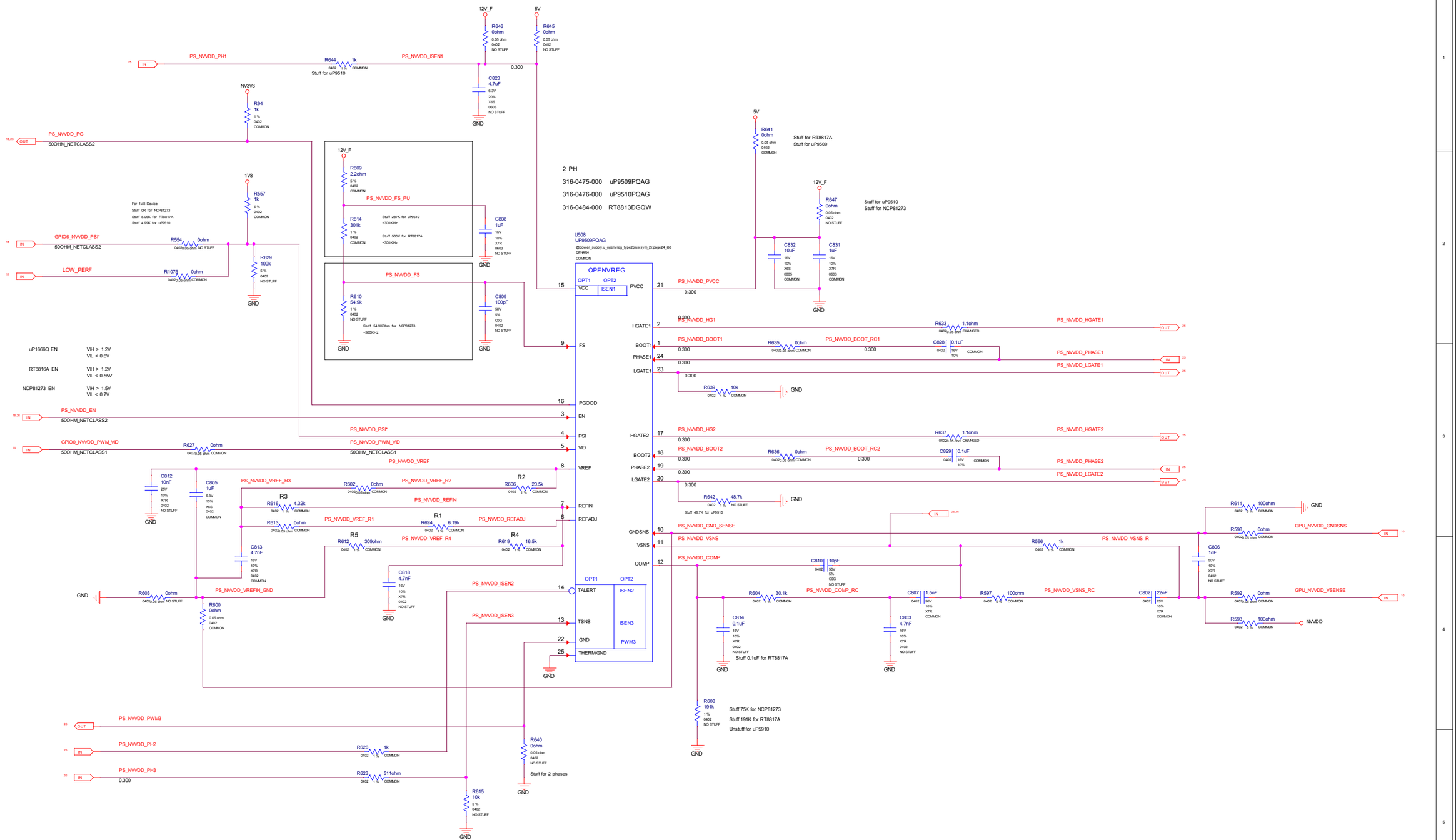
PS V: NVVDD OVR2+1



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS V: NVVDD OVR2+1

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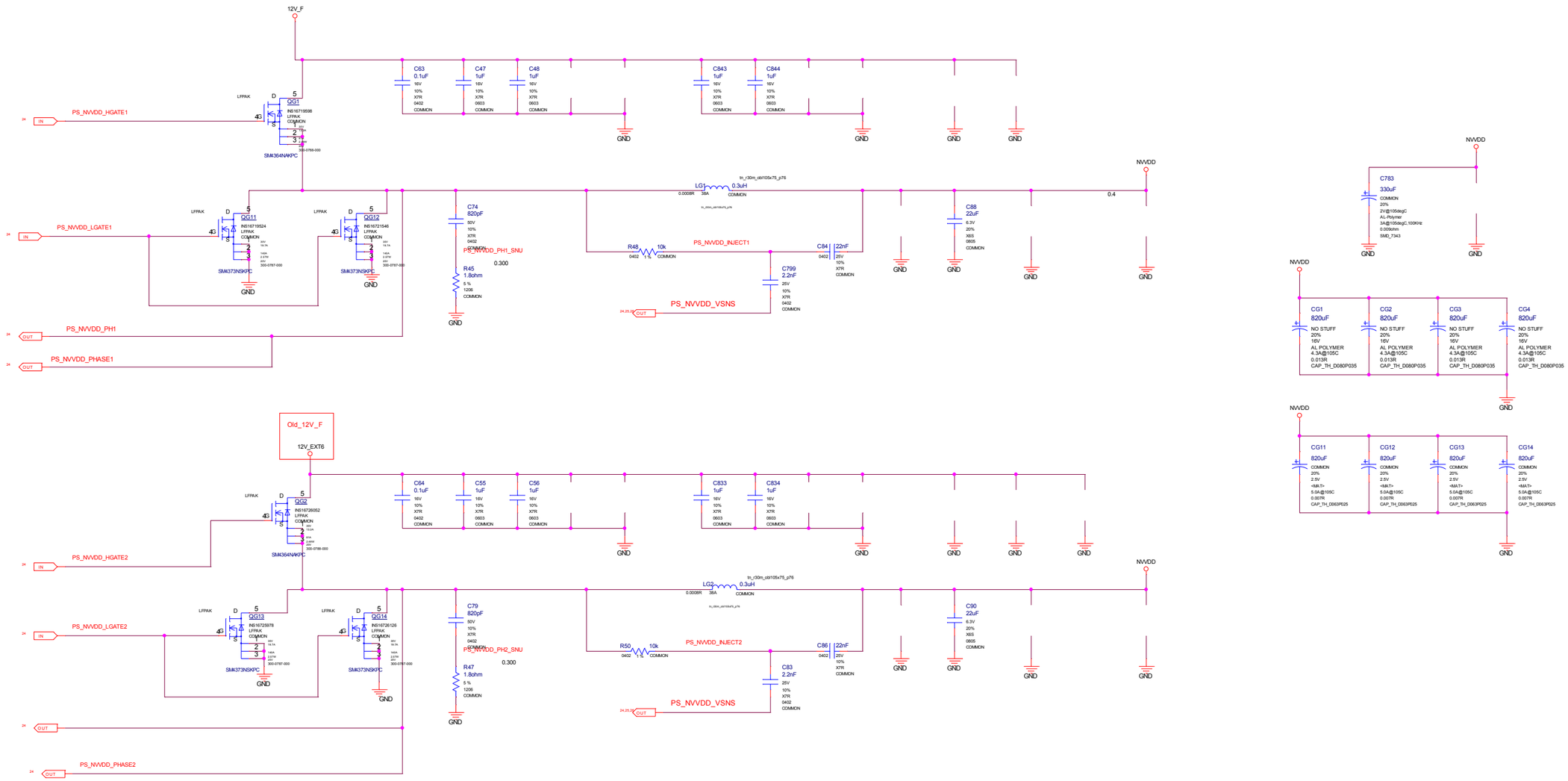
PS V: NVVDD Phase 1,2



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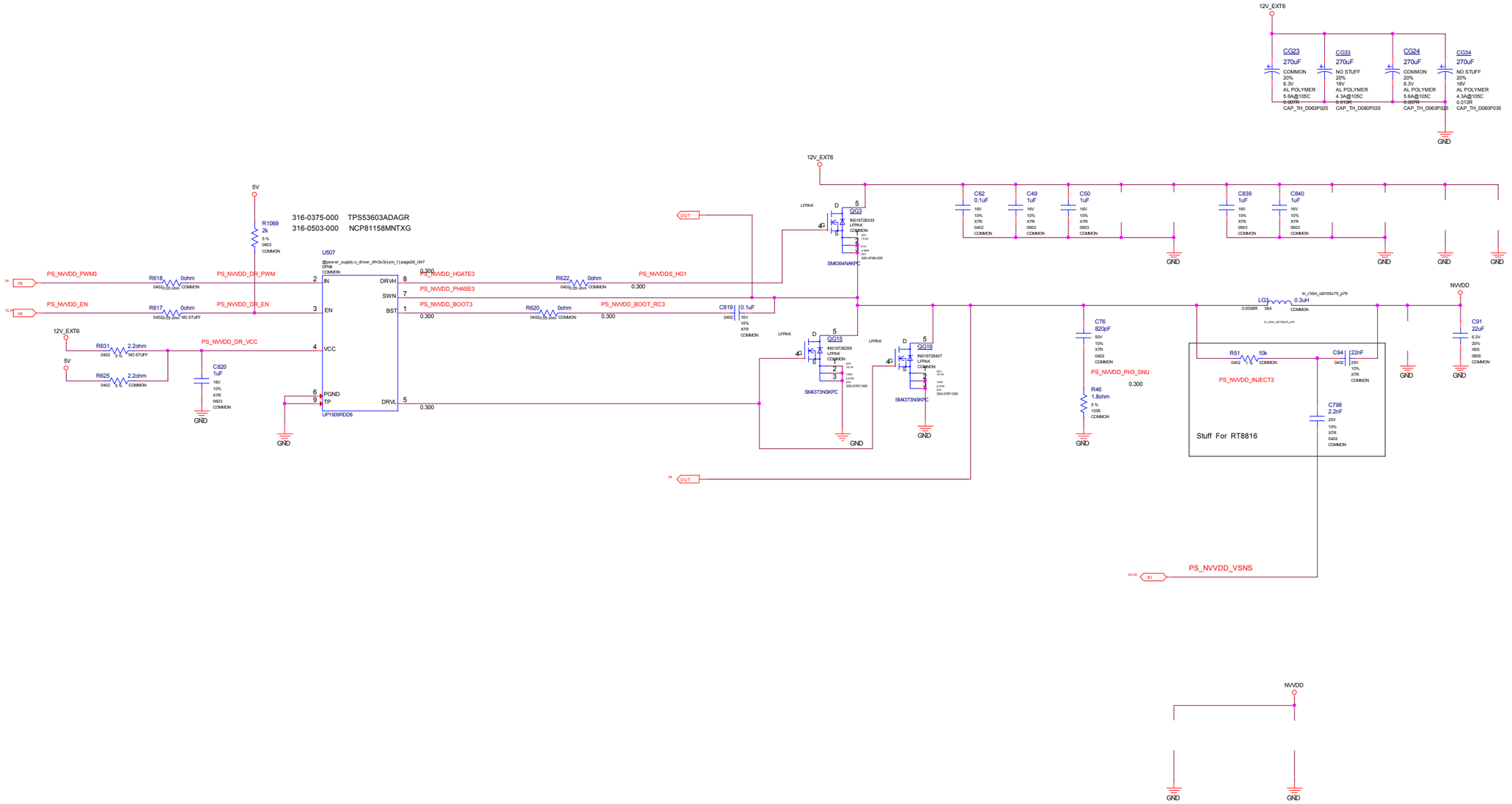
PS V: NVVDD Phase 3

316-0375-000 TPS53603ADAGR
316-0503-000 NCP81158MNTXG



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Mechanical: Bracket/Thermal Solution

Brackets:

GPU Stiffener:

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MECH: Bracket/Thermal

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