

P561: G98, DDR2 MEMORY 32MX16/16Mx16/64MX16

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REV HISTORY

History 10			
96/09/27	page 08	add AV_OUT	
	page 13	change Q1, Q2 to TO252	
	page 14	add FBVDDQ-linear block, change U2 footprint	
	page 07	change J4 footprint	
96/09/28	page 12	add J7 (co-lay J6)	
	page 13	add R572 for RT9259A, R570 footprint	change to 0805,
		change L11, C11, C12, C31 footprint	
	page 14	remove PWM block	
96/10/01		add D20, D21, C211, C212, C213, C214	
	page 14	add R210, R211	
	page 09	add R75~R88, R63~R69, L15~L21 for DVI (EMI_solution)	
	page 12	add FAN Control Function	
96/10/02	page 09	and netname (Between common Choke and DVI connector)	
96/10/03	page 12	cnage Y501 (4 pin to 2 pin)	
96/10/05	page 12	add L30, remove L10	
96/10/12	baseon PCB:2.0 CIRCUIT DSN	CAHNGE to PCB :1.0	
96/10/12	ONLY CHANGE	page 13 remove PWM solution, ADD linear solutin	
		remove C301~~C308 (EMI solution for FBVDDQ)	
96/10/17	page 11	add CABLE and PCB	
96/10/18	page 14	add C301~~C308 (EMI solution for FBVDDQ)	
History 20			
96/10/03	page 14	remove FBVDDQ-LINNEAR block, add FBVDDQ-PWM function	
		change L15 footprint as CHK4417C_3R3S01,	change C35 footprint
	page 12	cahnge Y501 (4pin to 2 pin)	
	page 11	add FM1~~ FM6 for Fiducial Point	
96/10/05		add U301~~U306 for EMI	
	page 13	add C309 for EMI	
	page 14	add C301~~C308, C310~~C312 for EMI	
	page 13	add L30	
96/10/10	page 13	remove L10	
96/10/11	page 11	add cable	
96/10/17			

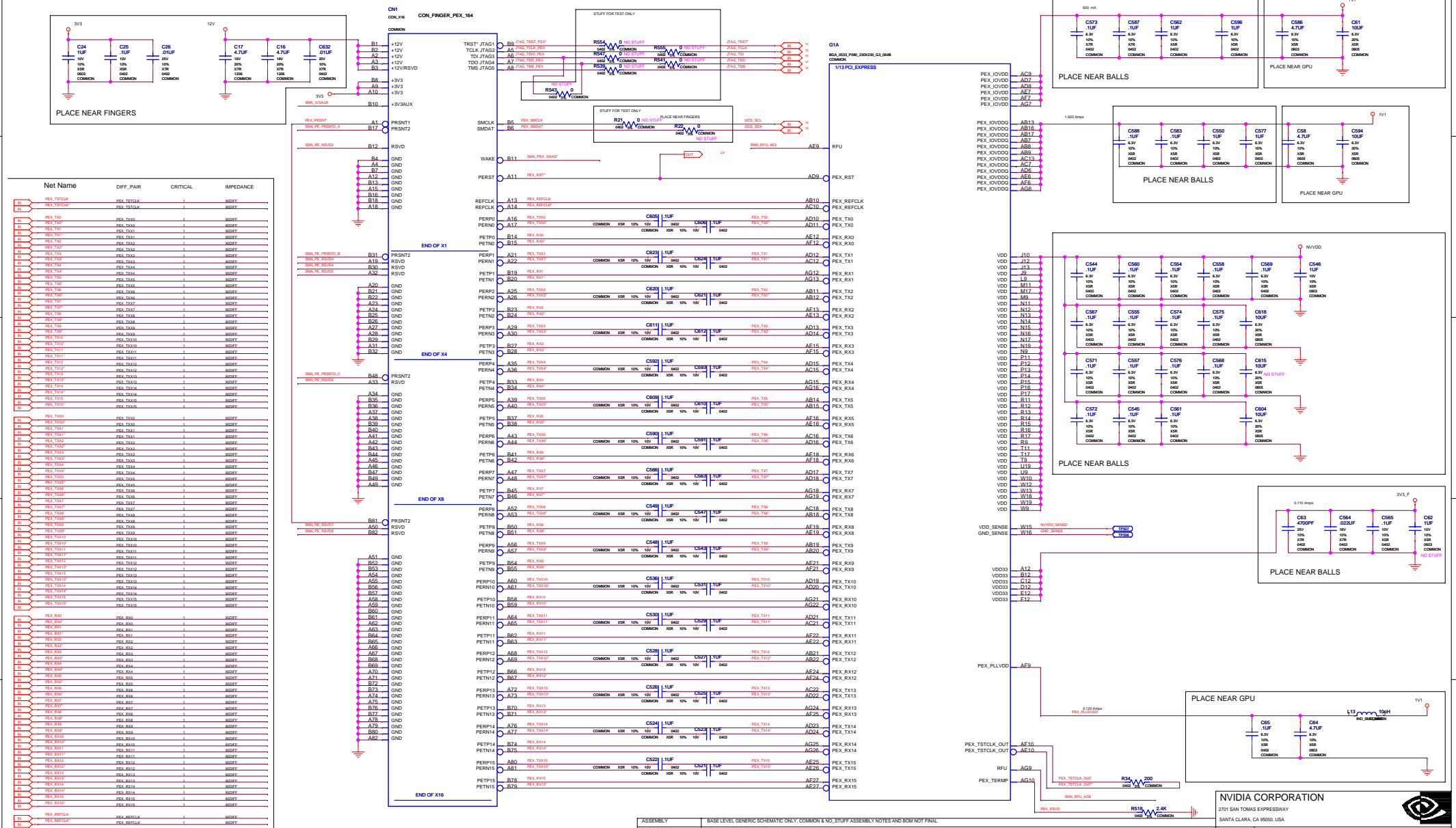
REV	VARIANT	WVFN	ASSEMBLY
0	BASE	600-10561-xxxx-100	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0000	600-10561-0000-100	P561: G98-300, 64 BIT DDR2 16Mx16 MEMORY, VGA+DVI+Hdout
2	SKU0001	600-10561-0001-100	P561: G98-300, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+Hdout
3	SKU0987	600-10561-0987-100	P561: G98-300, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+HdOUT
4	SKU0987	600-10561-0987-200	P561: G98-300, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+HdOUT
5	SKU0001	600-10561-0001-200	P561: G98-300, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+HdOUT
6	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
7	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	P561 Overview

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PCI Express Interface



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PAGE DETAIL	PCI EXPRESS INTERFACE

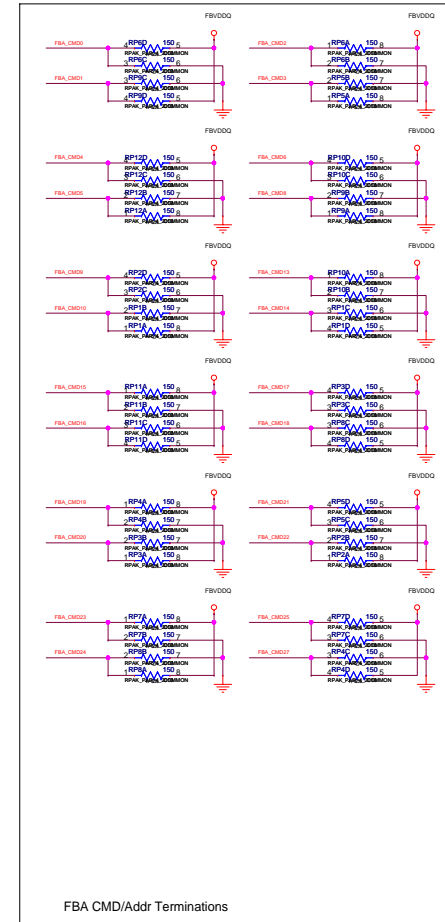
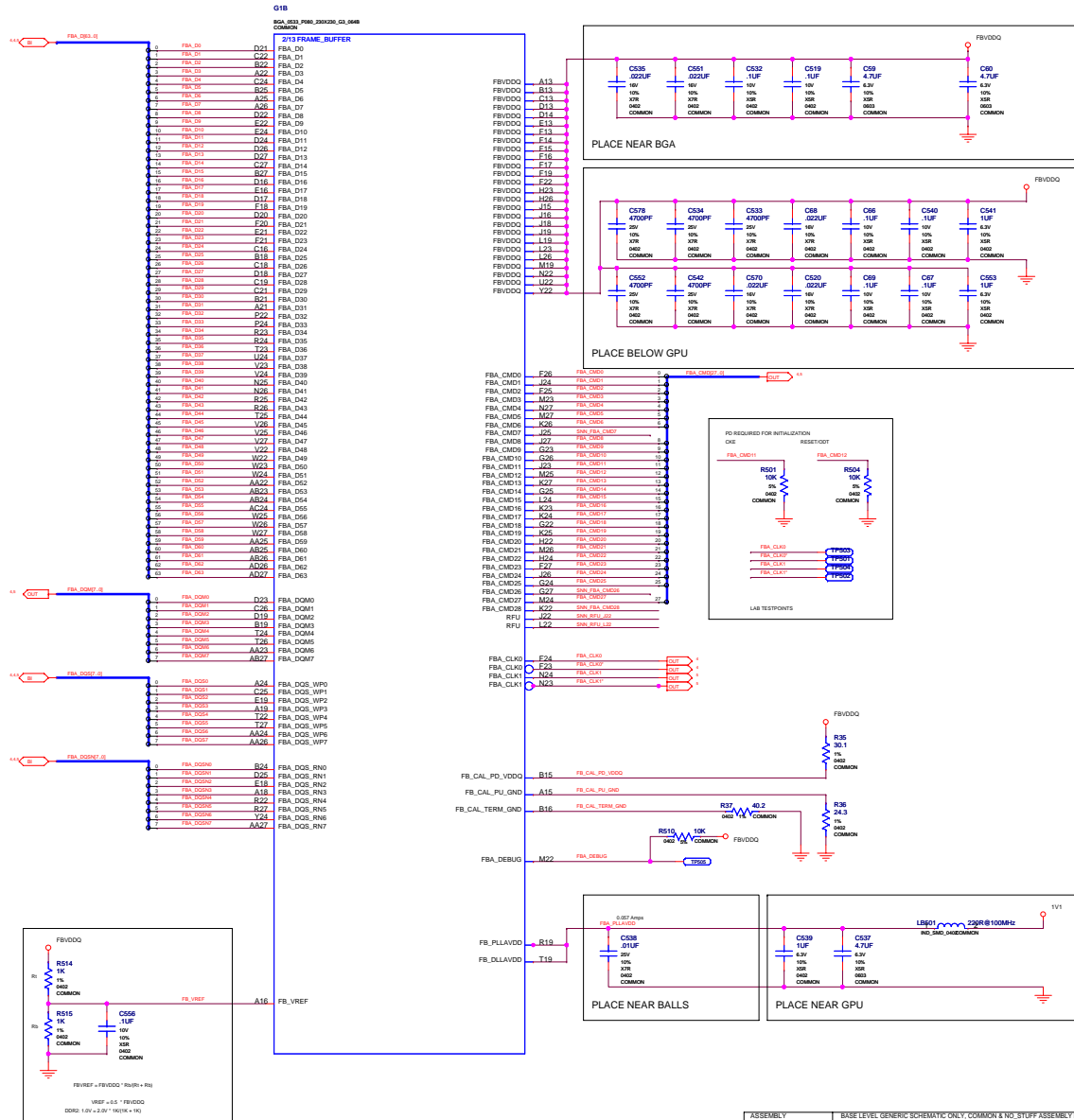
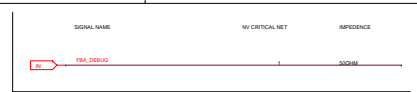
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Frame Buffer Interface



FBA CMD/Addr Terminations

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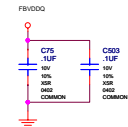
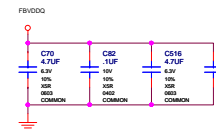
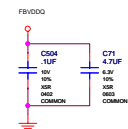
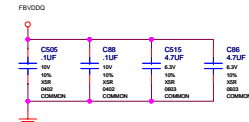
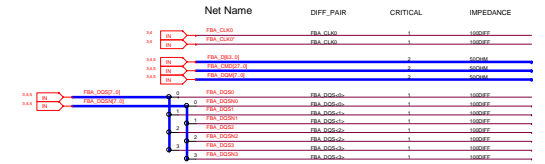
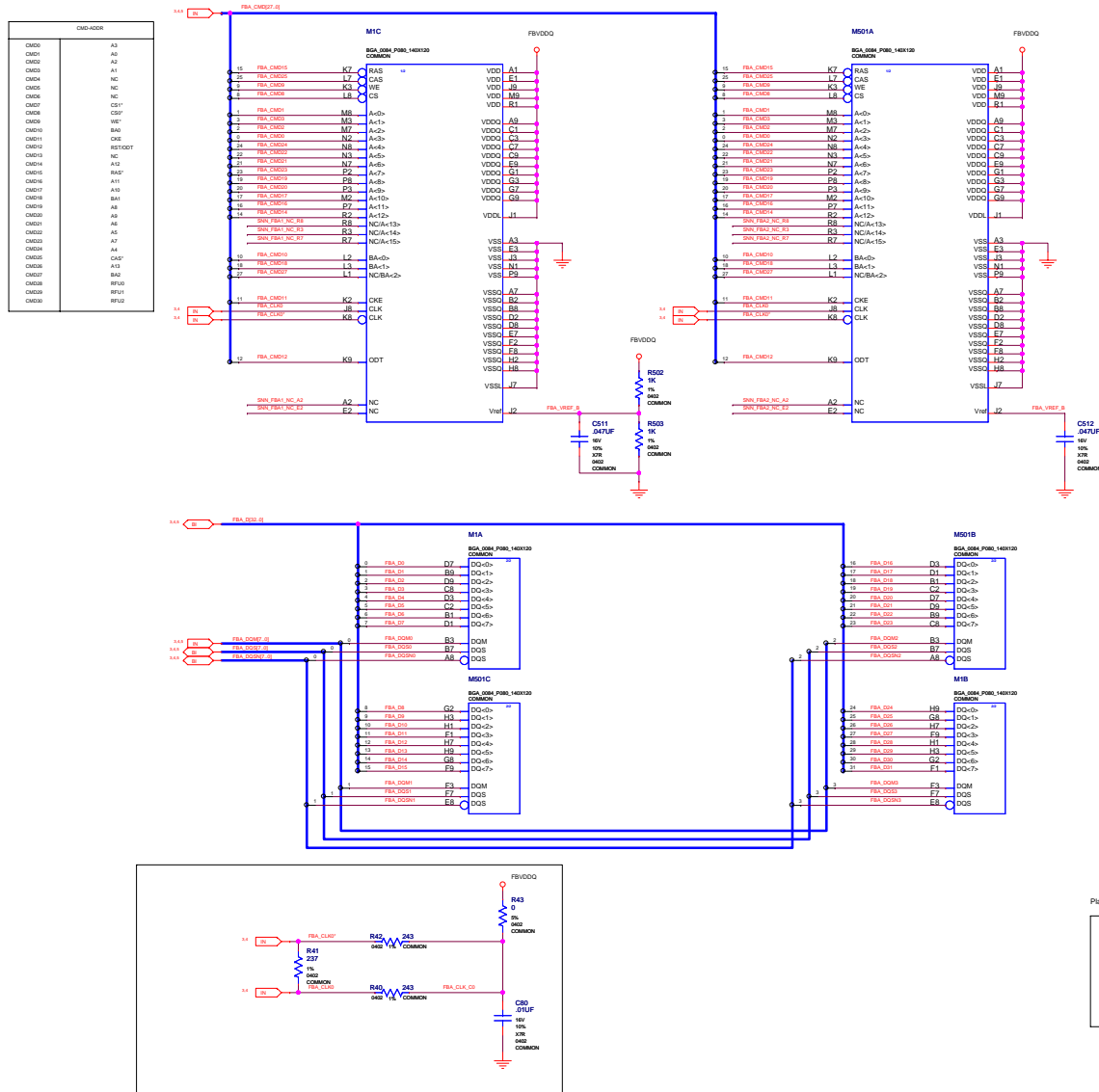
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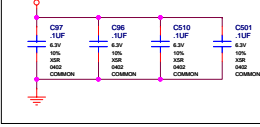
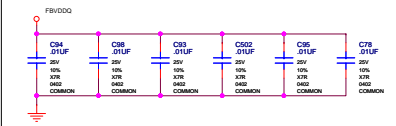
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PAGE DETAIL	Frame Buffer Interface

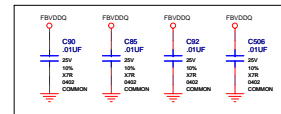
Memory 1st Bank 0..31



X-cap for CMD



Place these caps next to plane transitions



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PAGE DETAIL	Memory 1st Bank 0.31

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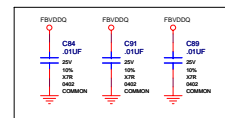
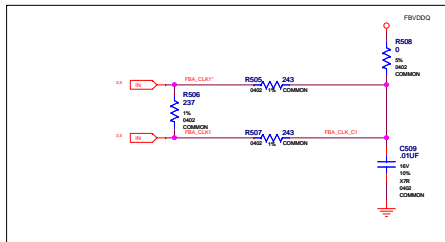
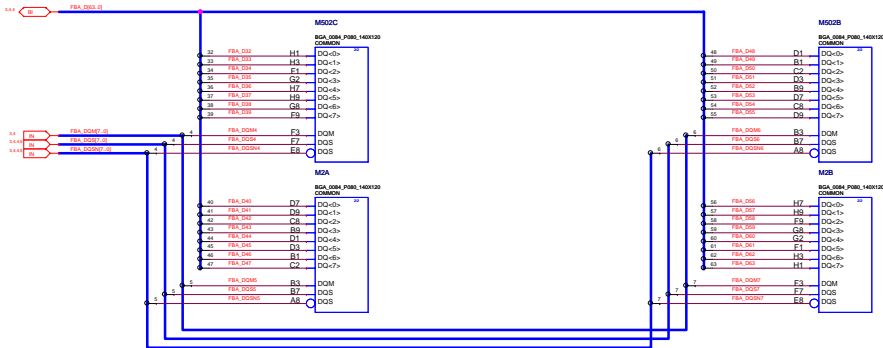
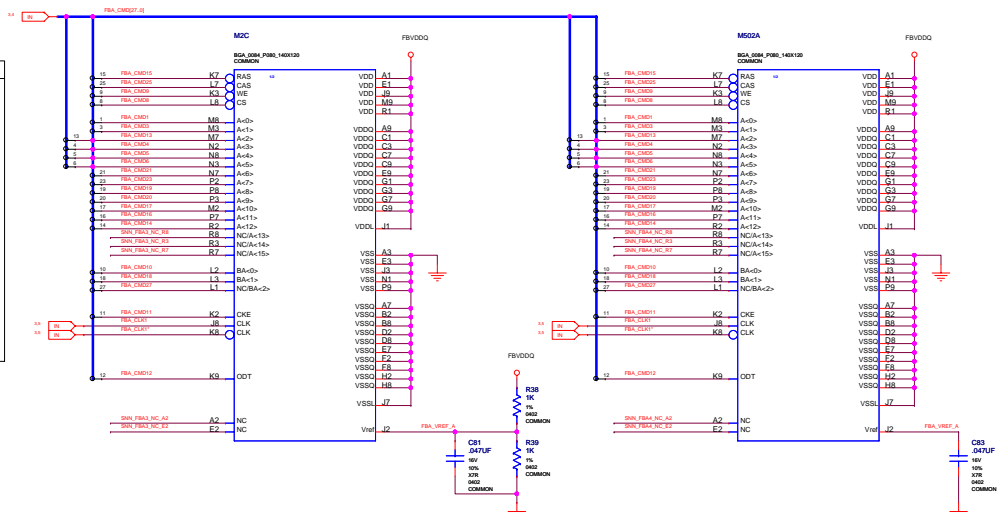
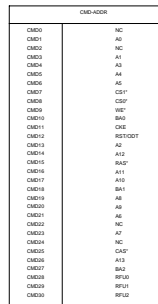
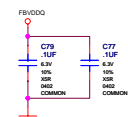
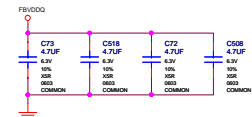
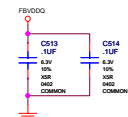
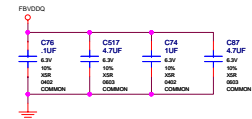
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Memory 1st Bank 32..63

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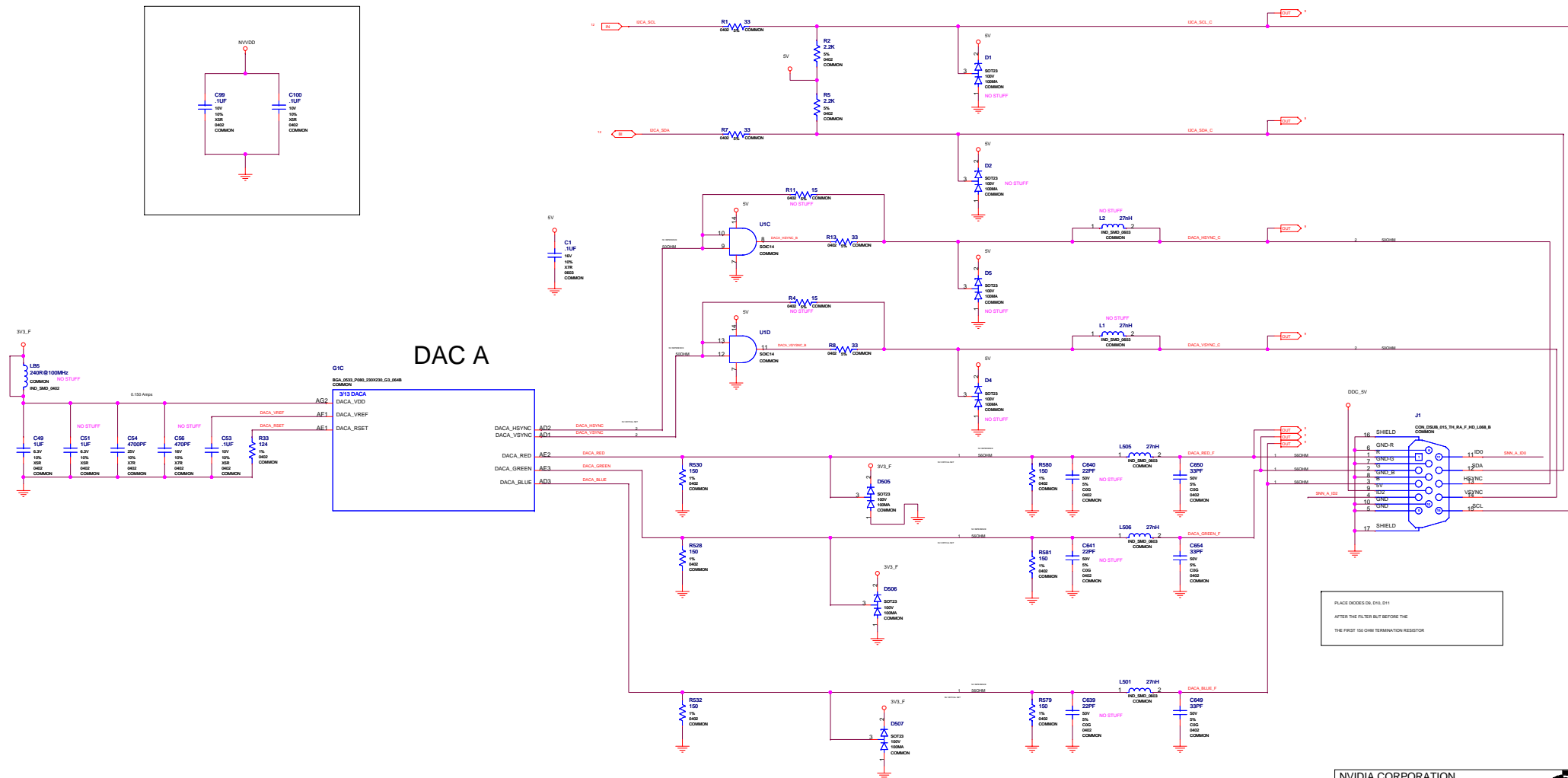
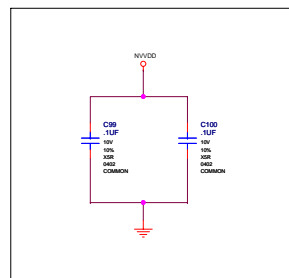
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DACA, Slim DB15 Connector



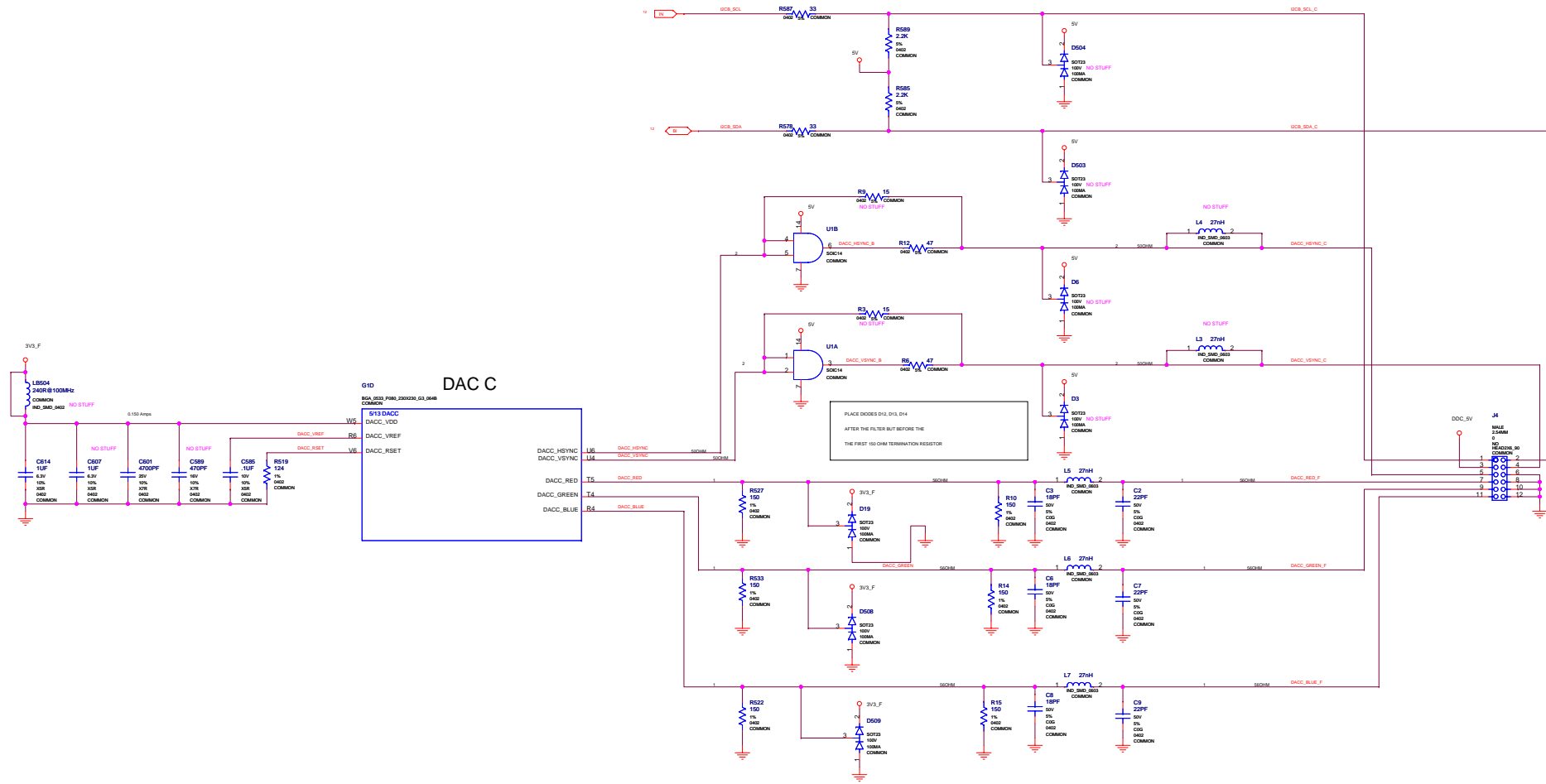
PLACE DIODES D9, D10, D11
AFTER THE FILTER BUT BEFORE THE
THE FIRST 150 OHM TERMINATION RESISTOR

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DAC C,2x6 Header



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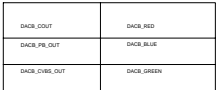



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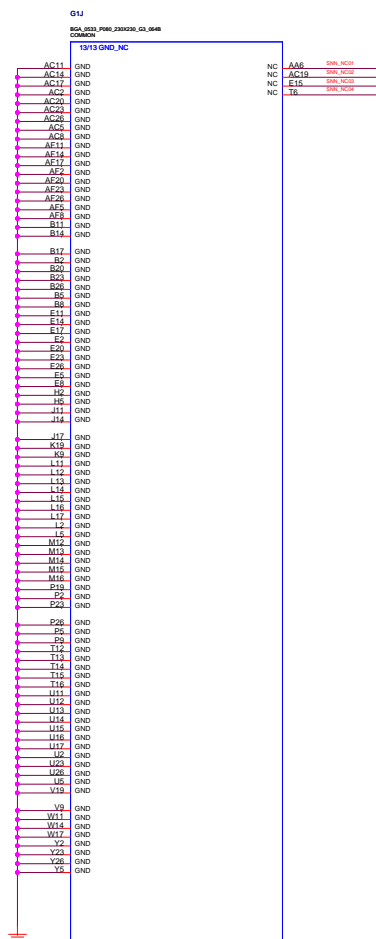
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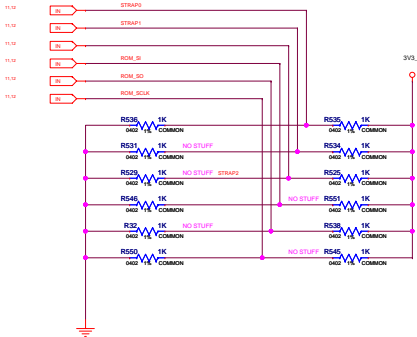


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Straps, Mechanical Parts

MULTI LEVEL STRAPS



Each strap pin represents a 4 bit value
Pullup or Pulldown configures the MSB
Resistor Value determines the 3 LSBs
Resistor range is R'n
where n is 0-9 and R is 5K ohm.

Resistor Value	MultiLevel	Tied to VCC	Tied to Ground
3 Kohna	Y	1000	0000
4 Kohna	Y	1001	0001
12 Kohna	Y	1010	0010
24 Kohna	Y	1011	0011
48 Kohna	Y	1100	0100
96 Kohna	Y	1101	0101
192 Kohna	Y	1110	0110
384 Kohna	Y	1111	0111
7 Kohna"	N	Dona	Dona

MULTILEVEL MODE	
STRAP_CAL_PUL_GND0 (R512) = 40K STRAP_CAL_PUL_GND1 (R513) = 40K	
SIGNAL	FUNCTION
STRAP0	USERREQ_0
STRAP1	3G0_PANDCF2_LUT_ADDR0_0
STRAP2	3G0_PANDCF2_LUT_ADDR1_0
ROM_SCLK	POL_DEVREQ_0
ROM_SI	POL_DEVREQ_EXT_SUB_VENDOR_SLOT_CSA_CFS_PEX_PUL_EN_TERM100
ROM_SO	RANKCFG0_0
	KOLK_J77_TYMOESP_0

BRINGUP BINARY MODE	
STRAP_CAL_PUL_GND0 (R512) = NO STUFF STRAP_CAL_PUL_GND1 (R513) = NO STUFF	
SIGNAL	FUNCTION
STRAP0	3G0_PANDCF2_LUT_ADDR0
STRAP1	3G0_PANDCF2_LUT_ADDR1
STRAP2	3G0_PANDCF2_LUT_ADDR2
ROM_SCLK	3G0_PANDCF2_LUT_ADDR3
ROM_SI	SUB_VENDOR
ROM_SO	KOLK_J77

PRODUCTION BINARY MODE	
STRAP_CAL_PUL_GND0 (R512) = NO STUFF STRAP_CAL_PUL_GND1 (R513) = 40K	
SIGNAL	FUNCTION
STRAP0	RANKCFG0
STRAP1	RANKCFG1
STRAP2	RANKCFG2
ROM_SCLK	POL_DEVREQ
ROM_SI	POL_DEVREQ_EXT
ROM_SO	KOLK_J77

STRAP SETTINGS FOR HYNIX 32Mx16 DDR2 500MHz (MULTI LEVEL) R511= 40K, R512=40K

3V3_F	GND	PNOSIGNAL	FUNCTION
5K	5K	STRAP0	USERREQ_0
5K	5K	STRAP1	3G0_PANDCF2_LUT_ADDR0_0
25K	25K	STRAP2	POL_DEVREQ_0
25K	25K	ROM_SCLK	POL_DEVREQ_EXT_SUB_VENDOR_SLOT_CSA_CFS_PEX_PUL_EN_TERM100
40K	40K	ROM_SI	RANKCFG0_0
		ROM_SO	KOLK_J77_TYMOESP_0

STRAP SETTINGS FOR HYNIX 32Mx16 DDR2 500MHz (BRINGUP BINARY) R511= NO STUFF, R512=NO STUFF

3V3_F	GND	PNOSIGNAL	FUNCTION
5K	5K	STRAP0	3G0_PANDCF2_LUT_ADDR0
5K	5K	STRAP1	3G0_PANDCF2_LUT_ADDR1
5K	5K	STRAP2	3G0_PANDCF2_LUT_ADDR2
5K	5K	ROM_SCLK	3G0_PANDCF2_LUT_ADDR3
		ROM_SI	SUB_VENDOR
		ROM_SO	KOLK_J77

STRAP SETTINGS FOR HYNIX 32Mx16 DDR2 500MHz (PRODUCTION BINARY) R511= 40K, R512= NO STUFF

3V3_F	GND	PNOSIGNAL	FUNCTION
5K	5K	STRAP0	RANKCFG0
5K	5K	STRAP1	RANKCFG1
5K	5K	STRAP2	RANKCFG2
5K	5K	ROM_SCLK	POL_DEVREQ
		ROM_SI	POL_DEVREQ_EXT
		ROM_SO	KOLK_J77

MEC2

MEC2 CPU TMO3-1P_T_AL_1_V1

COMMON

COOLING SOLUTION

No connected mounting pins

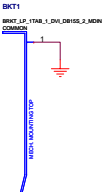
MEC1

MEC1 CPU TMO3-1P_T_AL_1_V1

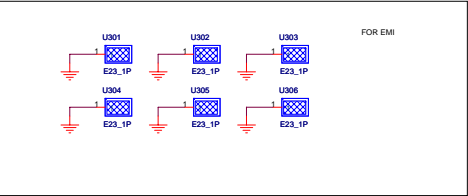
COMMON

COOLING SOLUTION

No connected mounting pins

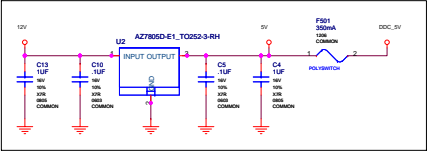


- CABLE
- MEC CABLE
- MEC CABLE
- MEC7
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- MEC5
- MEC5
- MEC6
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- MEC3
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- MEC4
- MEC4

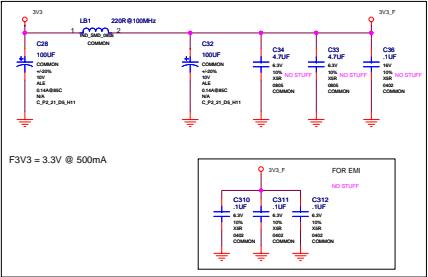


Power Supply II: 5V, DDC5V, F3V3, FBVDDQ

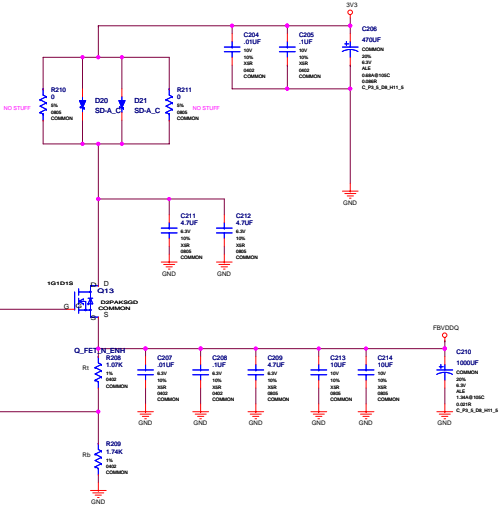
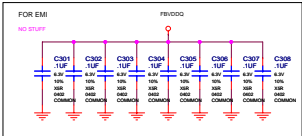
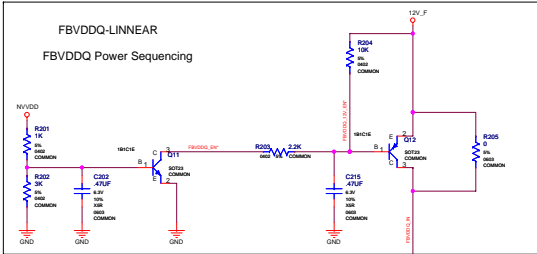
5V, DDC5V




F3V3



Net Name	MIN_LINE_WIDTH	CURRENT	VOLTAGE
5V	128uL	0.5A	5V
DDC5V	128uL	0.5A	5V
5V3_F	128uL	1A	3.3V
F3V3	128uL	0.5A	3.3V
FBVDDQ	384uL	5A	2.0V



FBVDDQ = 2.0V @ 2.6A

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-10561-xxxx-100 D		
ID		PAGE	
NAME	<ENGINEER>	DATE	31-AUG-2007

A		B		C		D		E		F		G		H	
Title: Crd Part Revision: 001 Date: Aug 15 13859 2007		C34 (4.4F) C35 (4.4E) C36 (4.5G) C37 (4.3F) C38 (4.4G) C39 (8.2B) C100 (8.2B) C103 (14.4F) C104 (14.3G) C105 (14.4G) C3 (7.4E) C107 (12.5A) C5 (14.1B) C6 (7.4E) C7 (7.4F) C8 (7.5E) C9 (7.5F) C10 (14.1A) C11 (13.2G) C12 (13.2E) C13 (14.1A) C14 (13.2E) C15 (13.2E) C16 (3.1B) C17 (2.1B) C20 (13.3F) C22 (12.2G) C23 (13.4A) C24 (2.1A) C25 (2.1A) C26 (2.1A) C27 (13.4G) C28 (14.2A) C29 (13.2F) C30 (13.3B) C31 (13.3F) C32 (14.2A) C33 (14.2B) C34 (14.2B) C35 (14.2B) C36 (14.2B) C37 (13.2F) C38 (13.2G) C39 (14.2G) C42 (12.4A) C43 (13.2G) C44 (13.2G) C45 (13.2B) C46 (8.4A) C47 (8.3A) C48 (8.3B) C49 (8.4A) C50 (8.3B) C51 (8.4A) C52 (8.3B) C53 (8.4B) C54 (8.4A) C55 (8.3C) C56 (8.4A) C57 (8.3C) C58 (12.2F) C59 (3.1G) C60 (3.1E) C61 (2.1B) C62 (2.4E) C63 (2.4E) C64 (2.5E) C65 (2.5G) C66 (3.2G) C67 (3.2E) C68 (3.2G) C69 (3.2G) C70 (8.3F) C71 (4.2G) C72 (3.3G) C73 (8.3F) C74 (3.3G) C75 (4.3F) C76 (8.2F) C77 (3.3G) C78 (14.4E) C79 (8.3F) C80 (4.3G) C81 (8.3G) C82 (4.3G) C83 (8.3E) C84 (8.5E) C85 (4.5E) C86 (4.3G) C87 (8.2G) C88 (4.2G) C89 (8.5E) C90 (4.5E) C91 (8.5E) C92 (4.5E) C93 (4.4G)		C34 (4.4F) C35 (4.4E) C36 (4.5G) C37 (4.3F) C38 (4.4G) C39 (8.2B) C100 (8.2B) C103 (14.4F) C104 (14.3G) C105 (14.4G) C3 (7.4E) C107 (12.5A) C5 (14.1B) C6 (7.4E) C7 (7.4F) C8 (7.5E) C9 (7.5F) C10 (14.1A) C11 (13.2G) C12 (13.2E) C13 (14.1A) C14 (13.2E) C15 (13.2E) C16 (3.1B) C17 (2.1B) C20 (13.3F) C22 (12.2G) C23 (13.4A) C24 (2.1A) C25 (2.1A) C26 (2.1A) C27 (13.4G) C28 (14.2A) C29 (13.2F) C30 (13.3B) C31 (13.3F) C32 (14.2A) C33 (14.2B) C34 (14.2B) C35 (14.2B) C36 (14.2B) C37 (13.2F) C38 (13.2G) C39 (14.2G) C42 (12.4A) C43 (13.2G) C44 (13.2G) C45 (13.2B) C46 (8.4A) C47 (8.3A) C48 (8.3B) C49 (8.4A) C50 (8.3B) C51 (8.4A) C52 (8.3B) C53 (8.4B) C54 (8.4A) C55 (8.3C) C56 (8.4A) C57 (8.3C) C58 (12.2F) C59 (3.1G) C60 (3.1E) C61 (2.1B) C62 (2.4E) C63 (2.4E) C64 (2.5E) C65 (2.5G) C66 (3.2G) C67 (3.2E) C68 (3.2G) C69 (3.2G) C70 (8.3F) C71 (4.2G) C72 (3.3G) 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L503 (8.4E) L504 (8.3E) L505 (8.4F) L506 (8.4F) L81 (14.2A) L82 (13.2G) L83 (13.2G) L84 (8.3B) L85 (8.3A) L901 (13.3E) L902 (8.3A) L903 (12.4C) L904 (7.3A) L905 (8.2B) L906 (8.3F) L907 (8.3F) M1 (4.4D 4.2B) 4.3C) M2 (3.4D 3.2B) 8.4C) M501 (4.3D 4.2D) 4.4C) M502 (3.3D 3.2D) 3.3C) MEC1 (11.2H) MEC2 (11.2G) MEC3 (11.3H) MEC4 (11.3H) MEC5 (11.3H) MEC6 (11.3H) MEC7 (11.2H) D516 (13.3E) D517 (14.3E) D518 (7.4G) D519 (7.4G) D520 (13.4E) D521 (8.4F) D522 (8.4F) D523 (8.4F) D524 (8.4F) D525 (8.4F) D526 (8.4F) D527 (8.4F) D528 (8.4F) D529 (8.4F) D530 (8.4F) D531 (8.4F) D532 (8.4F) D533 (8.4F) D534 (8.4F) D535 (8.4F) D536 (8.4F) D537 (8.4F) D538 (8.4F) D539 (8.4F) D540 (8.4F) D541 (8.4F) D542 (8.4F) D543 (8.4F) D544 (8.4F) D545 (8.4F) D546 (8.4F) D547 (8.4F) D548 (8.4F) D549 (8.4F) D550 (8.4F) D551 (8.4F)		R19 (13.4A) R212 (13.4A) R21 (2.1G) R22 (2.1G) R23 (13.4G) R24 (13.4A) R25 (13.4A) R26 (12.4A) R27 (12.4B) R28 (3.4A) R29 (10.2B 10.2C) R30 (8.4B) R31 (12.2C) R32 (11.2A) R33 (8.4B) R34 (2.5G) R35 (3.4D) R36 (3.4G) R37 (14.4G) R38 (8.3C) R39 (8.3C) R40 (8.5B) R41 (8.5B) R42 (8.5B) R43 (4.5C) R44 (14.3F) R45 (13.4F) R46 (14.4E) R47 (14.4E) R48 (14.4C) R49 (13.4B) R50 (12.3C) R51 (12.3C) R501 (3.3G) R502 (8.3C) R503 (8.3C) R504 (3.3E) R505 (8.5B) R506 (8.5B) R507 (8.5B) R508 (8.5C) R509 (12.3E) R510 (2.4G) R511 (13.3C) R512 (12.3C) R513 (12.3F) R514 (2.4A) R515 (3.4A) R516 (12.5C) R517 (8.3B) R518 (2.5G) R519 (7.4B) R520 (8.4D) R521 (8.4D) R522 (7.5G) R523 (8.4C) R524 (8.2C) R525 (11.2B) R526 (10.4C) R527 (2.4D) R528 (8.4D) R529 (11.2A) R530 (8.4D) R531 (11.2A) R532 (8.5D) R533 (7.4D) R534 (11.2B) R535 (14.3B) R536 (11.2A) R537 (12.3G) R538 (11.2B) R539 (3.1G) R540 (12.1B) R541 (2.1G) R542 (12.1B) R543 (2.1G) R544 (12.1B) R545 (11.2B) R546 (11.2A) R547 (2.1G) R548 (12.4G) R549 (12.3G) R550 (11.2A) R551 (11.2B) R552 (13.4A) R553 (12.2B) R554 (2.1G) R555 (2.1G) R556 (12.3A) R557 (12.4B) R558 (13.4F) R559 (13.4E) R560 (13.4E) R561 (13.4D) R562 (13.4C) R570 (13.3E)		R571 (13.3E) 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