P419-A00: MXM-I, G86M, 256/128MB, 64-bit
32M16 or 16M16(4 pcs) DDR2
LVDS,DVI_A,TV_OUT,VGA, HDMI/HDCP

Table of Contents

SKU	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10419-0000-000	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU001	600-10419-0001-000	G86M ?/? 256MB(64bit) DDR2 16Mx16 84FBGA, LVDS + DVI_A/DVI_B + TV_OUT + VGA
2	SKU002	600-10419-0002-000	G86M ?/? 128MB(64bit) DDR2 16Mx16 84FBGA, LVDS + DVI_A/DVI_B + TV_OUT + VGA
3	SKU003	600-10419-0003-000	G86M ?/? 256MB(64bit) DDR2 16Mx16 84FBGA, LVDS + DVI_A/DVI_B + TV_OUT + VGA
4	SKU004	600-10419-0004-000	G86M ?/? 128MB(64bit) DDR2 16Mx16 84FBGA, LVDS + DVI_A/DVI_B + TV_OUT + VGA
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	PAGE OVERVIEW

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10419-0001-000		
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NAME	Joe Kwon	DATE	05-JUL-2006

PAGE 2) PCI-EXPRESS

CN1
CON_MXM_X16_EDGE
(NPHY,NONPHY)-X16(_SLI)
NONPHY-X16
COMMON

1/2 PCI-Express, Power

3V3RUN (1.5A)
1V8RUN (3.5A)
PWR_SRC (4A)
2V5RUN (0.5A)
5VRUN (0.5A)

GND: 17, 20, 41, 44, 47, 50, 53, 56, 59, 62, 65, 68, 71, 74, 77, 80, 83, 86, 89, 92, 95, 98, 101, 104, 107, 110, 113, 116, 119, 122, 125, 128, 131, 138, 142, 146, 150, 154, 158, 164, 176, 182, 188, 194, 199, 200, 205, 206, 211, 212, 218, 223, 229, 235, 236, 241

CLK_REQ 137
PEX_RST 139
PEX_REFCLK 135
PEX_REFCLK 133

PEX_RX0	129	PEX_TX0_C	PEX_TX0_C	1	100DIFF	C592 .1UF 0402 10V 10% X5R COMMON	C588 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX0	PEX_TX0	AD5
PEX_RX0	127	PEX_TX0_C*	PEX_TX0_C	1	100DIFF			100DIFF	1	PEX_TX0	PEX_TX0*	AD6
PEX_TX0	132				100DIFF				1	PEX_RX0	PEX_RX0	AF1
PEX_TX0	130				100DIFF				1	PEX_RX0	PEX_RX0*	AG2
PEX_RX1	123	PEX_TX1_C	PEX_TX1_C	1	100DIFF	C584 .1UF 0402 10V 10% X5R COMMON	C580 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX1	PEX_TX1	AE6
PEX_RX1	121	PEX_TX1_C*	PEX_TX1_C	1	100DIFF			100DIFF	1	PEX_TX1	PEX_TX1*	AE7
PEX_TX1	126				100DIFF				1	PEX_RX1	PEX_RX1	AG3
PEX_TX1	124				100DIFF				1	PEX_RX1	PEX_RX1*	AG4
PEX_RX2	117	PEX_TX2_C	PEX_TX2_C	1	100DIFF	C577 .1UF 0402 10V 10% X5R COMMON	C572 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX2	PEX_TX2	AD7
PEX_RX2	115	PEX_TX2_C*	PEX_TX2_C	1	100DIFF			100DIFF	1	PEX_TX2	PEX_TX2*	AC7
PEX_TX2	120				100DIFF				1	PEX_RX2	PEX_RX2	AF4
PEX_TX2	118				100DIFF				1	PEX_RX2	PEX_RX2*	AF5
PEX_RX3	111	PEX_TX3_C	PEX_TX3_C	1	100DIFF	C571 .1UF 0402 10V 10% X5R COMMON	C569 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX3	PEX_TX3	AE9
PEX_RX3	109	PEX_TX3_C*	PEX_TX3_C	1	100DIFF			100DIFF	1	PEX_TX3	PEX_TX3*	AE10
PEX_TX3	114				100DIFF				1	PEX_RX3	PEX_RX3	AG6
PEX_TX3	112				100DIFF				1	PEX_RX3	PEX_RX3*	AG7
PEX_RX4	105	PEX_TX4_C	PEX_TX4_C	1	100DIFF	C566 .1UF 0402 10V 10% X5R COMMON	C562 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX4	PEX_TX4	AD10
PEX_RX4	103	PEX_TX4_C*	PEX_TX4_C	1	100DIFF			100DIFF	1	PEX_TX4	PEX_TX4*	AC10
PEX_TX4	108				100DIFF				1	PEX_RX4	PEX_RX4	AF7
PEX_TX4	106				100DIFF				1	PEX_RX4	PEX_RX4*	AF8
PEX_RX5	99	PEX_TX5_C	PEX_TX5_C	1	100DIFF	C561 .1UF 0402 10V 10% X5R COMMON	C560 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX5	PEX_TX5	AE12
PEX_RX5	97	PEX_TX5_C*	PEX_TX5_C	1	100DIFF			100DIFF	1	PEX_TX5	PEX_TX5*	AE13
PEX_TX5	102				100DIFF				1	PEX_RX5	PEX_RX5	AG9
PEX_TX5	100				100DIFF				1	PEX_RX5	PEX_RX5*	AG10
PEX_RX6	93	PEX_TX6_C	PEX_TX6_C	1	100DIFF	C559 .1UF 0402 10V 10% X5R COMMON	C558 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX6	PEX_TX6	AD13
PEX_RX6	91	PEX_TX6_C*	PEX_TX6_C	1	100DIFF			100DIFF	1	PEX_TX6	PEX_TX6*	AC13
PEX_TX6	96				100DIFF				1	PEX_RX6	PEX_RX6	AF10
PEX_TX6	94				100DIFF				1	PEX_RX6	PEX_RX6*	AF11
PEX_RX7	87	PEX_TX7_C	PEX_TX7_C	1	100DIFF	C557 .1UF 0402 10V 10% X5R COMMON	C554 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX7	PEX_TX7	AC15
PEX_RX7	85	PEX_TX7_C*	PEX_TX7_C	1	100DIFF			100DIFF	1	PEX_TX7	PEX_TX7*	AD15
PEX_TX7	90				100DIFF				1	PEX_RX7	PEX_RX7	AG12
PEX_TX7	88				100DIFF				1	PEX_RX7	PEX_RX7*	AG13
PEX_RX8	81	PEX_TX8_C	PEX_TX8_C	1	100DIFF	C553 .1UF 0402 10V 10% X5R COMMON	C552 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX8	PEX_TX8	AE15
PEX_RX8	79	PEX_TX8_C*	PEX_TX8_C	1	100DIFF			100DIFF	1	PEX_TX8	PEX_TX8*	AE16
PEX_TX8	84				100DIFF				1	PEX_RX8	PEX_RX8	AG15
PEX_TX8	82				100DIFF				1	PEX_RX8	PEX_RX8*	AG16
PEX_RX9	75	PEX_TX9_C	PEX_TX9_C	1	100DIFF	C551 .1UF 0402 10V 10% X5R COMMON	C549 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX9	PEX_TX9	AC18
PEX_RX9	73	PEX_TX9_C*	PEX_TX9_C	1	100DIFF			100DIFF	1	PEX_TX9	PEX_TX9*	AD18
PEX_TX9	78				100DIFF				1	PEX_RX9	PEX_RX9	AF16
PEX_TX9	76				100DIFF				1	PEX_RX9	PEX_RX9*	AF17
PEX_RX10	69	PEX_TX10_C	PEX_TX10_C	1	100DIFF	C548 .1UF 0402 10V 10% X5R COMMON	C547 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX10	PEX_TX10	AE18
PEX_RX10	67	PEX_TX10_C*	PEX_TX10_C	1	100DIFF			100DIFF	1	PEX_TX10	PEX_TX10*	AE19
PEX_TX10	72				100DIFF				1	PEX_RX10	PEX_RX10	AG18
PEX_TX10	70				100DIFF				1	PEX_RX10	PEX_RX10*	AG19
PEX_RX11	63	PEX_TX11_C	PEX_TX11_C	1	100DIFF	C546 .1UF 0402 10V 10% X5R COMMON	C545 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX11	PEX_TX11	AC21
PEX_RX11	61	PEX_TX11_C*	PEX_TX11_C	1	100DIFF			100DIFF	1	PEX_TX11	PEX_TX11*	AD21
PEX_TX11	66				100DIFF				1	PEX_RX11	PEX_RX11	AF19
PEX_TX11	64				100DIFF				1	PEX_RX11	PEX_RX11*	AF20
PEX_RX12	57	PEX_TX12_C	PEX_TX12_C	1	100DIFF	C544 .1UF 0402 10V 10% X5R COMMON	C543 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX12	PEX_TX12	AE21
PEX_RX12	55	PEX_TX12_C*	PEX_TX12_C	1	100DIFF			100DIFF	1	PEX_TX12	PEX_TX12*	AE22
PEX_TX12	60				100DIFF				1	PEX_RX12	PEX_RX12	AG21
PEX_TX12	58				100DIFF				1	PEX_RX12	PEX_RX12*	AG22
PEX_RX13	51	PEX_TX13_C	PEX_TX13_C	1	100DIFF	C542 .1UF 0402 10V 10% X5R COMMON	C540 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX13	PEX_TX13	AD22
PEX_RX13	49	PEX_TX13_C*	PEX_TX13_C	1	100DIFF			100DIFF	1	PEX_TX13	PEX_TX13*	AD23
PEX_TX13	54				100DIFF				1	PEX_RX13	PEX_RX13	AF22
PEX_TX13	52				100DIFF				1	PEX_RX13	PEX_RX13*	AF23
PEX_RX14	45	PEX_TX14_C	PEX_TX14_C	1	100DIFF	C538 .1UF 0402 10V 10% X5R COMMON	C537 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX14	PEX_TX14	AF25
PEX_RX14	43	PEX_TX14_C*	PEX_TX14_C	1	100DIFF			100DIFF	1	PEX_TX14	PEX_TX14*	AE25
PEX_TX14	48				100DIFF				1	PEX_RX14	PEX_RX14	AG24
PEX_TX14	46				100DIFF				1	PEX_RX14	PEX_RX14*	AG25
PEX_RX15	39	PEX_TX15_C	PEX_TX15_C	1	100DIFF	C536 .1UF 0402 10V 10% X5R COMMON	C531 .1UF 0402 10V 10% X5R COMMON	100DIFF	1	PEX_TX15	PEX_TX15	AE24
PEX_RX15	37	PEX_TX15_C*	PEX_TX15_C	1	100DIFF			100DIFF	1	PEX_TX15	PEX_TX15*	AD24
PEX_TX15	42				100DIFF				1	PEX_RX15	PEX_RX15	AG26
PEX_TX15	40				100DIFF				1	PEX_RX15	PEX_RX15*	AF27

PEX_RST 139 — R35 200 0402 COMMON — PEX_RST AC6

PRSNT1 134
PRSNT2 38 — R43 0 0402 5% COMMON — PRSNT2_C — GND

G1
G86_TEST
BGA533
COMMON

1/12 PCI_EXPRESS

PEX_TSTCLK_OUT	PEX_TSTCLK	AF13
PEX_TSTCLK_OUT	PEX_TSTCLK*	AF14
PEX_REFCLK	PEX_RCLK	REFCLK AE3
PEX_REFCLK	PEX_RCLK	REFCLK* AE4
PEX_TX0	PEX_TX0	AD5
PEX_TX0	PEX_TX0*	AD6
PEX_RX0	PEX_RX0	AF1
PEX_RX0	PEX_RX0*	AG2
PEX_TX1	PEX_TX1	AE6
PEX_TX1	PEX_TX1*	AE7
PEX_RX1	PEX_RX1	AG3
PEX_RX1	PEX_RX1*	AG4
PEX_TX2	PEX_TX2	AD7
PEX_TX2	PEX_TX2*	AC7
PEX_RX2	PEX_RX2	AF4
PEX_RX2	PEX_RX2*	AF5
PEX_TX3	PEX_TX3	AE9
PEX_TX3	PEX_TX3*	AE10
PEX_RX3	PEX_RX3	AG6
PEX_RX3	PEX_RX3*	AG7
PEX_TX4	PEX_TX4	AD10
PEX_TX4	PEX_TX4*	AC10
PEX_RX4	PEX_RX4	AF7
PEX_RX4	PEX_RX4*	AF8
PEX_TX5	PEX_TX5	AE12
PEX_TX5	PEX_TX5*	AE13
PEX_RX5	PEX_RX5	AG9
PEX_RX5	PEX_RX5*	AG10
PEX_TX6	PEX_TX6	AD13
PEX_TX6	PEX_TX6*	AC13
PEX_RX6	PEX_RX6	AF10
PEX_RX6	PEX_RX6*	AF11
PEX_TX7	PEX_TX7	AC15
PEX_TX7	PEX_TX7*	AD15
PEX_RX7	PEX_RX7	AG12
PEX_RX7	PEX_RX7*	AG13
PEX_TX8	PEX_TX8	AE15
PEX_TX8	PEX_TX8*	AE16
PEX_RX8	PEX_RX8	AG15
PEX_RX8	PEX_RX8*	AG16
PEX_TX9	PEX_TX9	AC18
PEX_TX9	PEX_TX9*	AD18
PEX_RX9	PEX_RX9	AF16
PEX_RX9	PEX_RX9*	AF17
PEX_TX10	PEX_TX10	AE18
PEX_TX10	PEX_TX10*	AE19
PEX_RX10	PEX_RX10	AG18
PEX_RX10	PEX_RX10*	AG19
PEX_TX11	PEX_TX11	AC21
PEX_TX11	PEX_TX11*	AD21
PEX_RX11	PEX_RX11	AF19
PEX_RX11	PEX_RX11*	AF20
PEX_TX12	PEX_TX12	AE21
PEX_TX12	PEX_TX12*	AE22
PEX_RX12	PEX_RX12	AG21
PEX_RX12	PEX_RX12*	AG22
PEX_TX13	PEX_TX13	AD22
PEX_TX13	PEX_TX13*	AD23
PEX_RX13	PEX_RX13	AF22
PEX_RX13	PEX_RX13*	AF23
PEX_TX14	PEX_TX14	AF25
PEX_TX14	PEX_TX14*	AE25
PEX_RX14	PEX_RX14	AG24
PEX_RX14	PEX_RX14*	AG25
PEX_TX15	PEX_TX15	AE24
PEX_TX15	PEX_TX15*	AD24
PEX_RX15	PEX_RX15	AG26
PEX_RX15	PEX_RX15*	AF27

PEX_IOVDD: AB10, AB11, AB14, AB15, W17, W18, AB20, AB21

PEX_IOVDDQ: AA4, AB5, AB6, AB7, AB8, AB9, AC9, AC11, AB12, AC12, AB13, AB16, AC16, AB17, AC17, AB18, AB19, AC19, AC20

VDD: J9, M9, R9, T9, J10, J11, M11, N11, R11, T11, L12, M12, T12, U12, L13, M13, T13, U13, W13, M14, T14, L15, M15, T15, U15, W15, L16, M16, T16, U16, W16, M17, N17, R17, T17

VDD_LP: W9, W10, W11, W12

VDD33: J12, F13, J13, F14, J15, J16

NVVDD: N9

PEX_PLLAVDD: Y6
PEX_PLLDVDD: AA5 — PEX_PLL_DVDD
PEX_PLLGND: AA6

G72	G86
NV_PLLAVDD	VDD

PLACE UNDER GPU

PEX1V2: C607 .1UF 16V 10% X7R 0402 COMMON; C595 .1UF 16V 10% X7R 0402 COMMON; C604 1UF 6.3V 10% X5R 0402 COMMON; C591 1UF 6.3V 10% X5R 0402 COMMON; C556 4.7UF 6.3V 10% X5R 0603 COMMON; C633 4.7UF 6.3V 10% X5R 0603 COMMON

PEX1V2: C582 .1UF 10V 10% X5R 0402 COMMON; C585 .1UF 16V 10% X7R 0402 COMMON; C596 1UF 6.3V 10% X5R 0402 COMMON; C573 1UF 6.3V 10% X5R 0402 COMMON; C565 4.7UF 6.3V 10% X5R 0603 COMMON; C37 10UF 6.3V 20% X5R 0805 COMMON

NVVDD: C602 .1UF 6.3V 10% X7R 0402 COMMON; C600 .1UF 6.3V 10% X7R 0402 COMMON; C593 .1UF 6.3V 10% X7R 0402 COMMON; C576 1UF 6.3V 10% X7R 0603 COMMON; C567 .1UF 6.3V 10% X7R 0402 COMMON; C575 .1UF 16V 10% X7R 0402 COMMON; C597 .1UF 6.3V 10% X7R 0402 COMMON; C568 1UF 6.3V 10% X7R 0603 COMMON; C608 .1UF 6.3V 10% X7R 0402 COMMON; C594 .1UF 16V 10% X7R 0402 COMMON; C570 .1UF 6.3V 10% X7R 0402 COMMON; C603 1UF 6.3V 10% X7R 0603 COMMON; C578 .1UF 16V 10% X7R 0402 COMMON; C601 .1UF 6.3V 10% X7R 0402 COMMON; GND

3V3RUN
C586 .1UF 6.3V 10% X7R 0402 COMMON; C587 .1UF 6.3V 10% X7R 0402 COMMON; C611 1UF 6.3V 10% X5R 0402 COMMON; GND

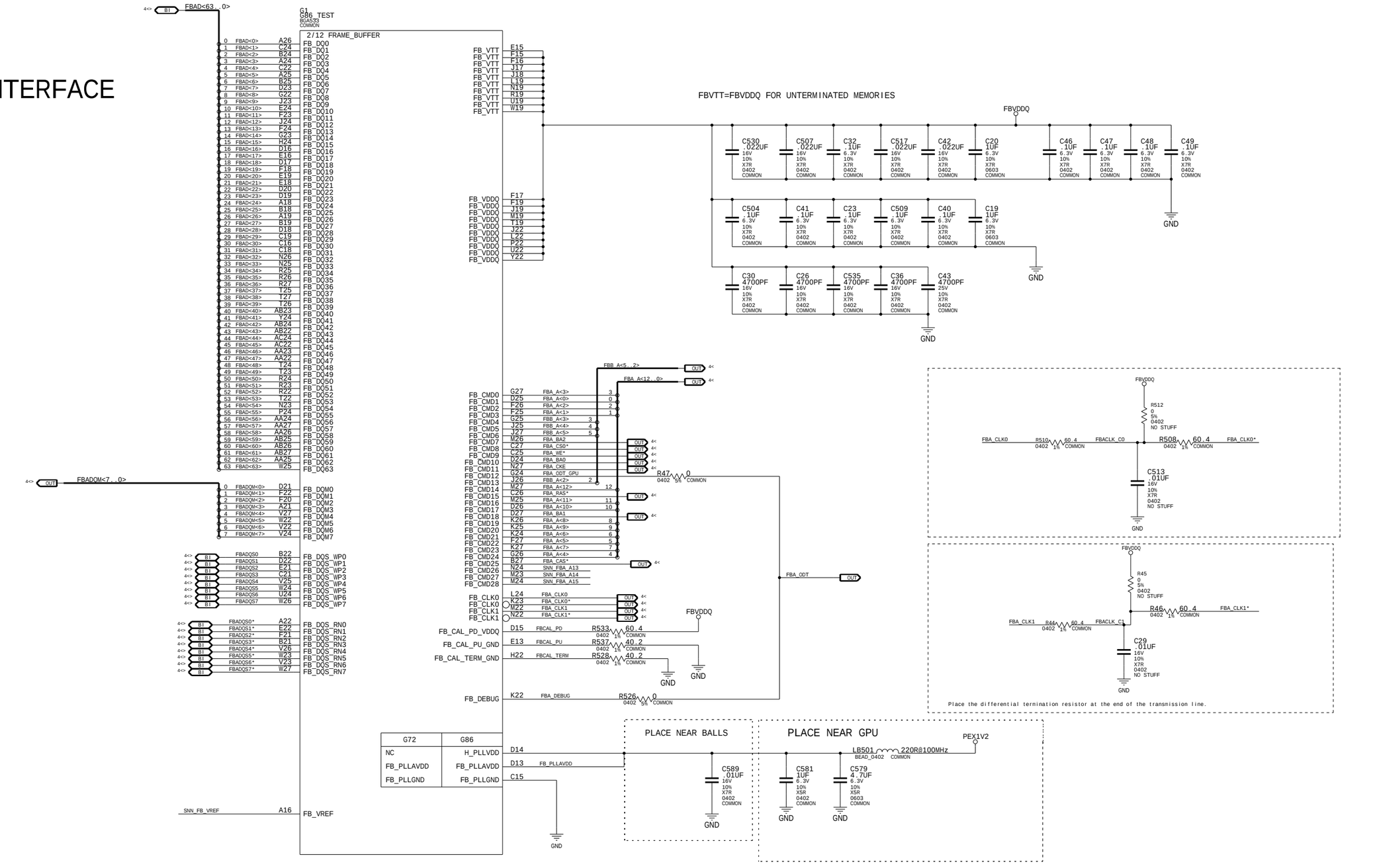
PEX1V2
LB506 10nH 0603 COMMON
C599 4700PF 25V 10% X7R 0402 COMMON; C605 .01UF 16V 10% X7R 0402 COMMON; C635 1UF 6.3V 10% X5R 0402 COMMON; C640 1UF 6.3V 10% X5R 0402 COMMON; C645 1UF 6.3V 10% X5R 0402 COMMON; C643 4.7UF 6.3V 10% X5R 0603 COMMON; GND

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	PCI EXPRESS INTERFACE

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10419-0001-000		
ID	p419	PAGE	2 OF 16
NAME	Joe Kwon	DATE	05-JUL-2006

PAGE 3) FBA INTERFACE



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ASSEMBLY	
PAGE DETAIL	GPU MEMORY INTERFACE

NV_PN	600-10419-0001-000		
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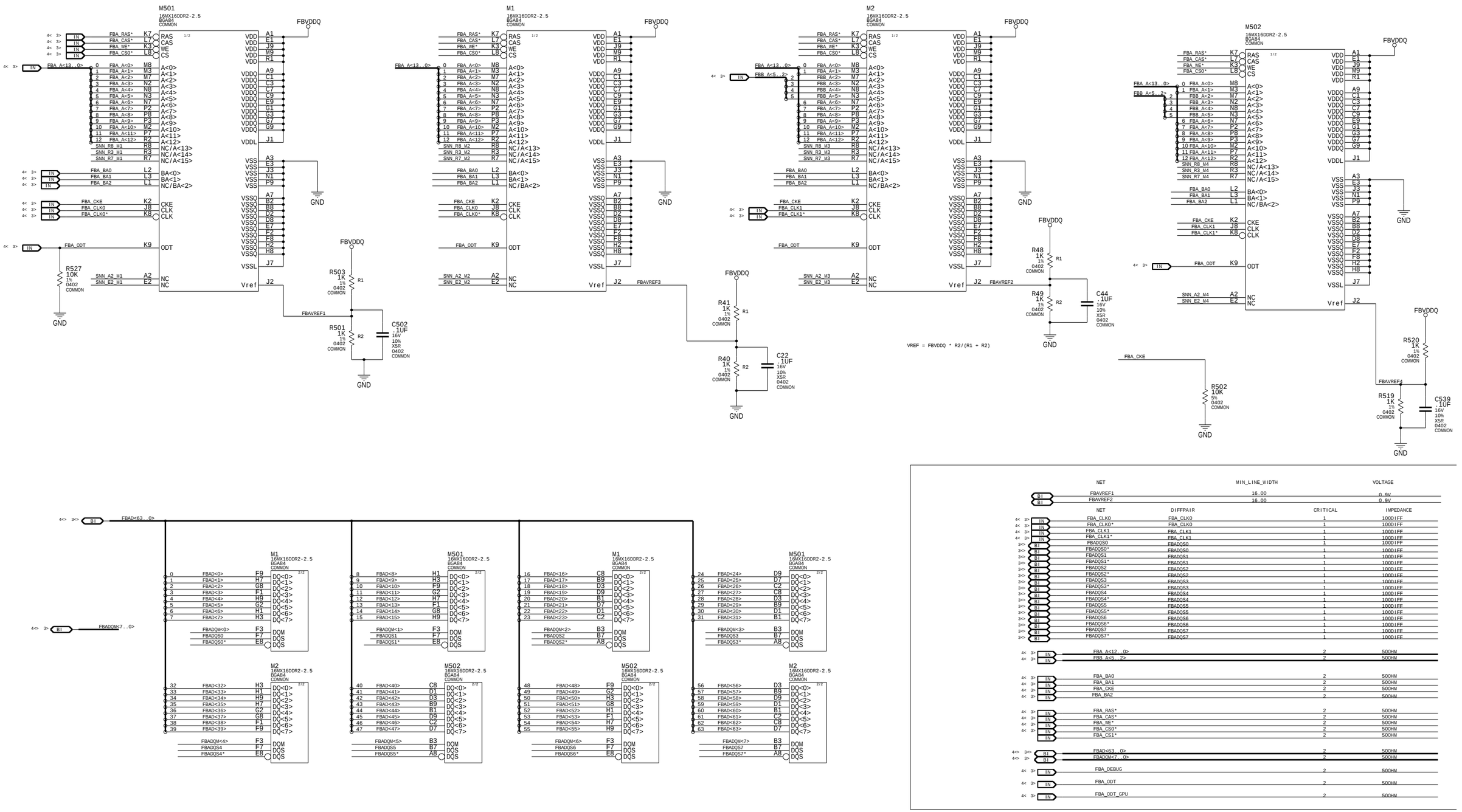
NAME	Joe Kwon	DATE	05-JUL-2006

PAGE 4) MEMORY PARTITION A



NET	MIN_LINE_WIDTH	VOLTAGE
FBAVREF1	16.00	0.9V
FBAVREF2	16.00	0.9V

NET	DIFFPAIR	CRITICAL	IMPEDANCE
FBA_CLK0	FBA_CLK0	1	100DIFF
FBA_CLK0*	FBA_CLK0	1	100DIFF
FBA_CLK1	FBA_CLK1	1	100DIFF
FBA_CLK1*	FBA_CLK1	1	100DIFF
FBADQS0	FBADQS0	1	100DIFF
FBADQS0*	FBADQS0	1	100DIFF
FBADQS1	FBADQS1	1	100DIFF
FBADQS1*	FBADQS1	1	100DIFF
FBADQS2	FBADQS2	1	100DIFF
FBADQS2*	FBADQS2	1	100DIFF
FBADQS3	FBADQS3	1	100DIFF
FBADQS3*	FBADQS3	1	100DIFF
FBADQS4	FBADQS4	1	100DIFF
FBADQS4*	FBADQS4	1	100DIFF
FBADQS5	FBADQS5	1	100DIFF
FBADQS5*	FBADQS5	1	100DIFF
FBADQS6	FBADQS6	1	100DIFF
FBADQS6*	FBADQS6	1	100DIFF
FBADQS7	FBADQS7	1	100DIFF
FBADQS7*	FBADQS7	1	100DIFF
FBA_A<12..0>		2	50OHM
FBB_A<5..2>		2	50OHM
FBA_BA0		2	50OHM
FBA_BA1		2	50OHM
FBA_CKE		2	50OHM
FBA_BA2		2	50OHM
FBA_RAS*		2	50OHM
FBA_CAS*		2	50OHM
FBA_WE*		2	50OHM
FBA_CS0*		2	50OHM
FBA_CS1*		2	50OHM
FBAD<63..0>		2	50OHM
FBADQM<7..0>		2	50OHM
FBA_DEBUG		2	50OHM
FBA_ODT		2	50OHM
FBA_ODT_GPU		2	50OHM

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FRAME BUFFER PARTITION A

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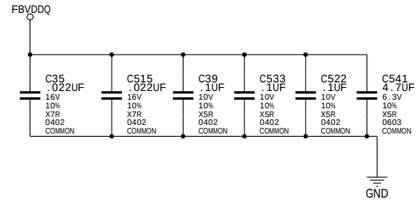
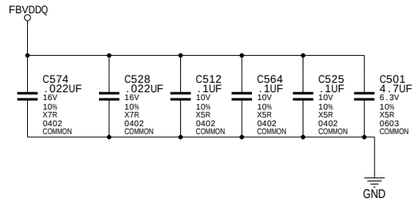
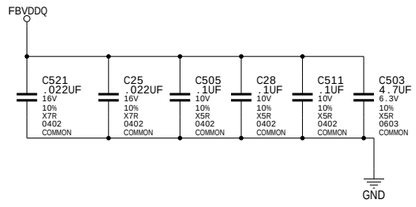
PAGE 5) Memory Decoupling Caps







ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MEMORY DECOUPLING CAPS

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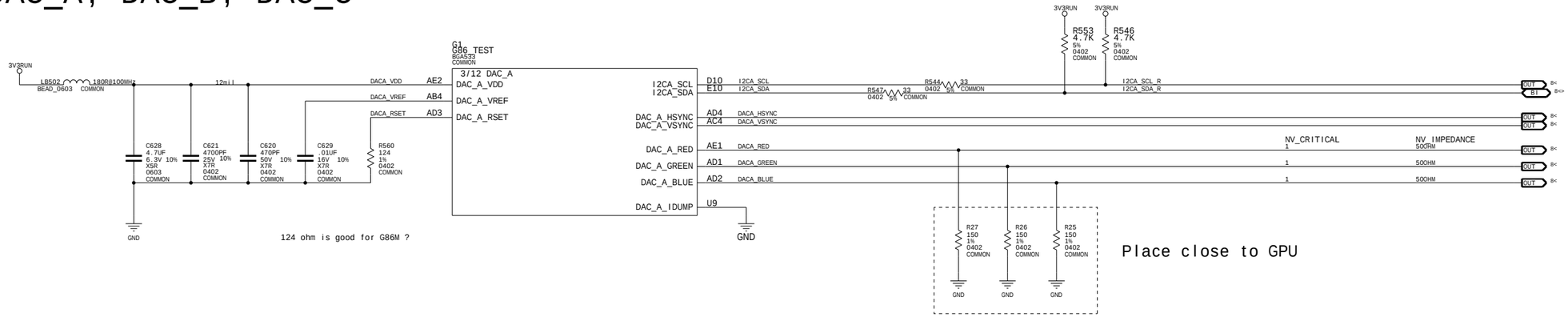
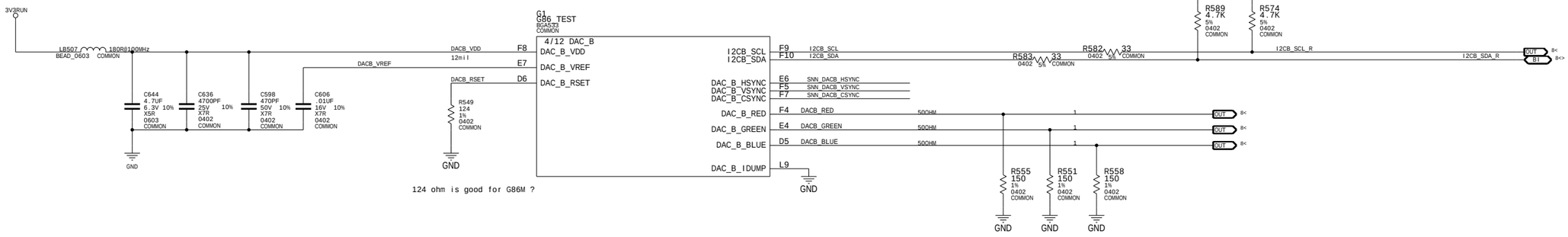
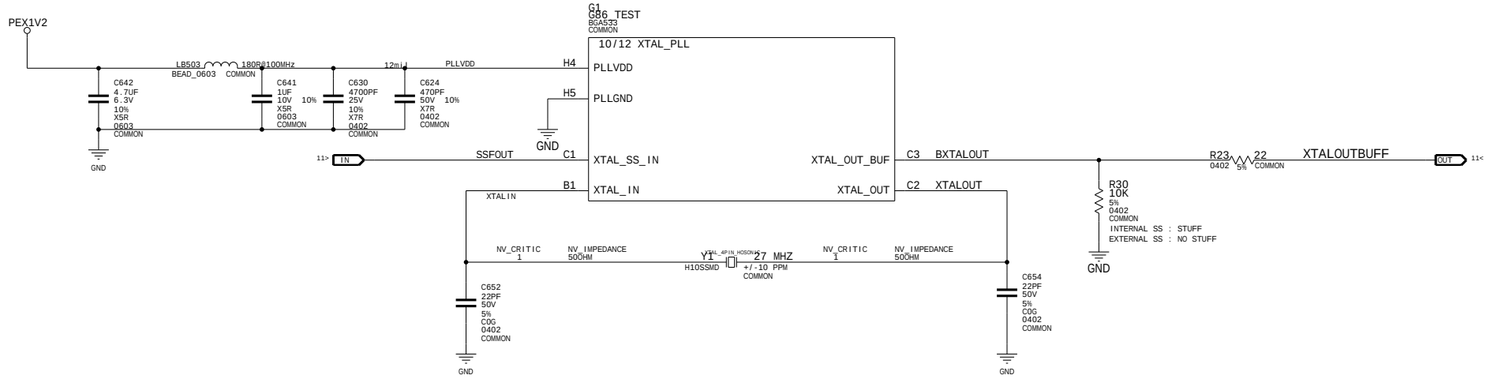
PAGE 6) DAC_A, DAC_B, DAC_C







ASSEMBLY	
PAGE DETAIL	DAC A/B

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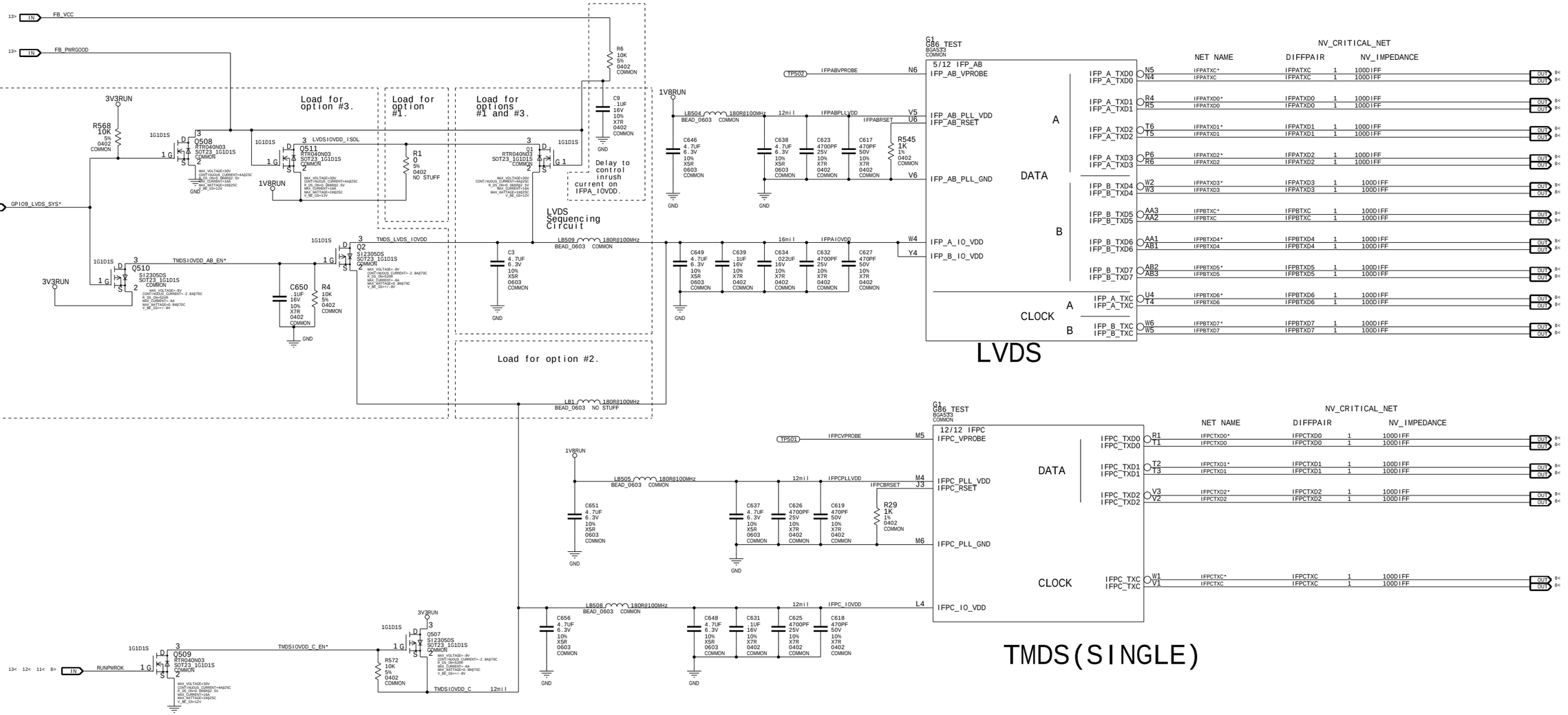
PAGE 7)LVDS / TMDS Interface

Loading options for IFPAB outputs

Option #1) IFPAB outputs to LVDS only.
Option #2) IFPAB outputs to DVI-C only.
Option #3) Controlled with GPIO9, IFPAB dynamically outputs to LVDS or DVI-C.



LVDS

TMDS(SINGLE)

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	LVDS(LINK A/B), TMDS(LINK C/D)

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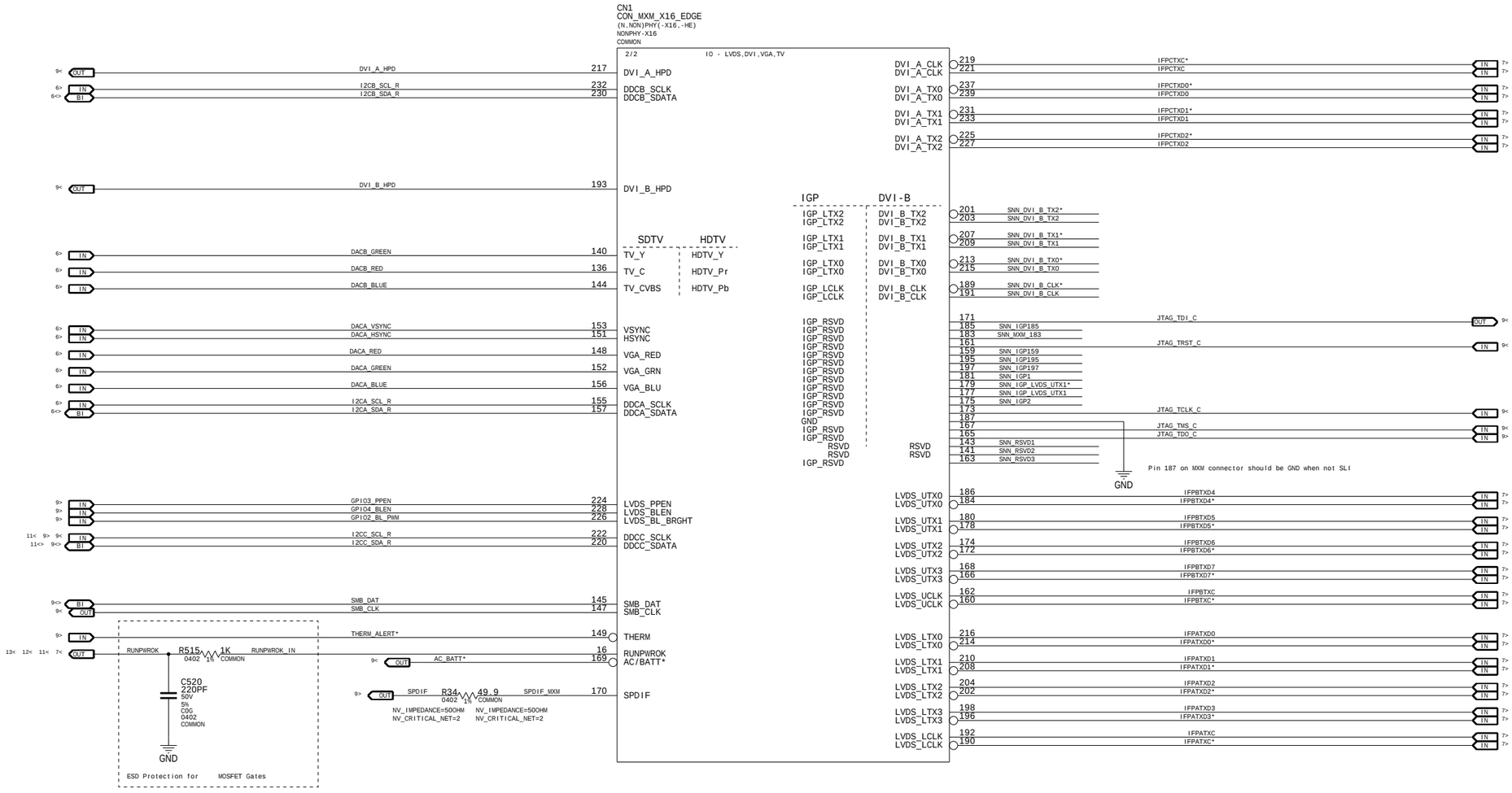
PAGE 8) MXM CONNECTOR



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MXM CONNECTOR

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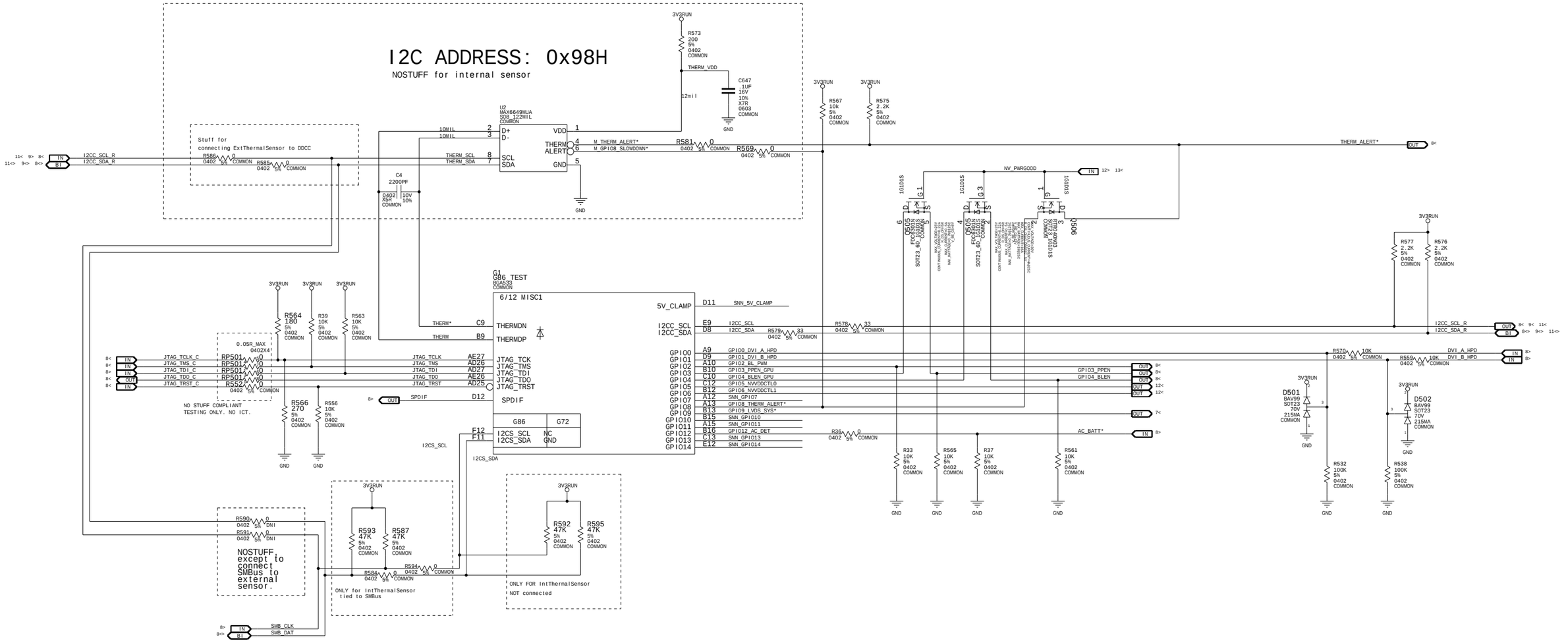
PAGE 9) GPIO, JTAG, TEMP SENSOR, SPDIF



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	GPIO, JTAG, TEMP SENSOR, SPDIF

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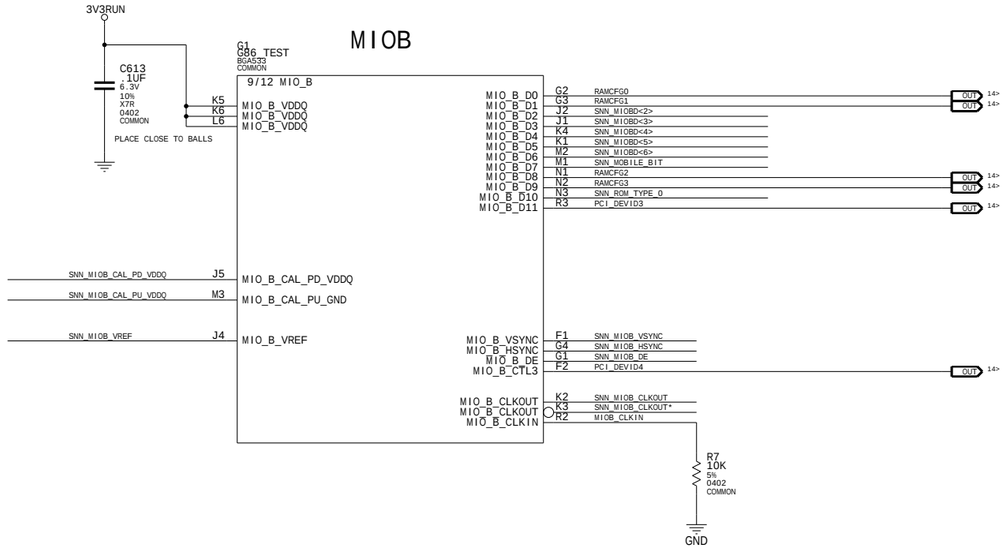
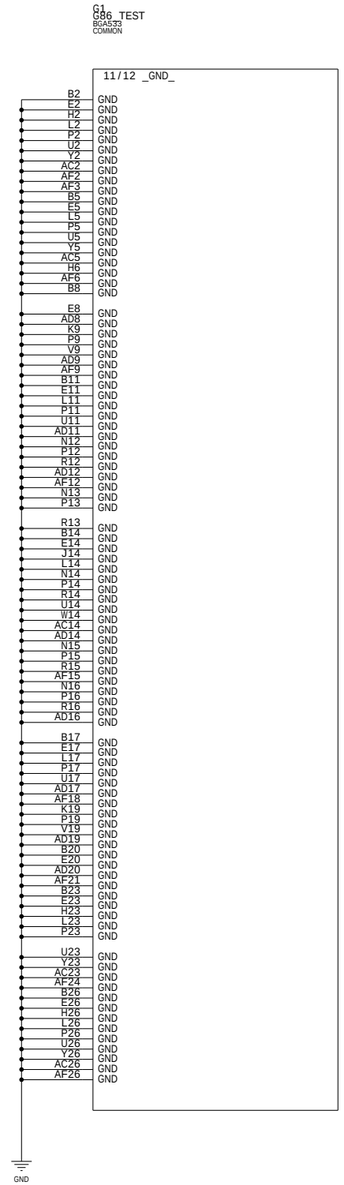
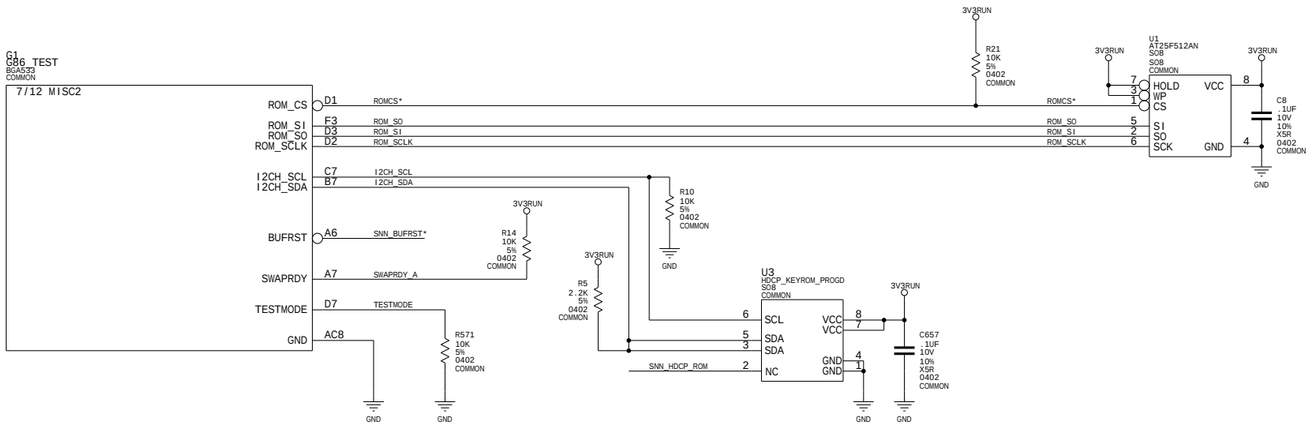
PAGE 10) MIOB, VBIOS, HDCP BIOS

MIOB







ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MIOB, VBIOS, HDCP ROM

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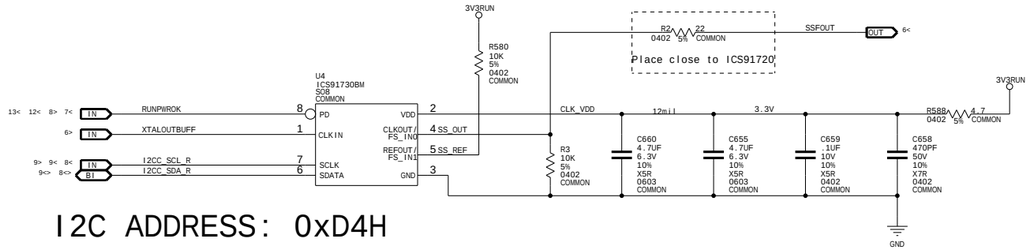
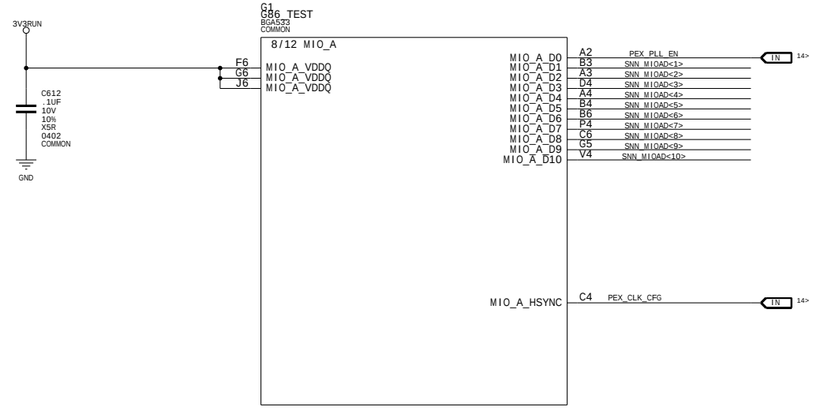
PAGE 11) SPREAD SPECTRUM, MIOA



I2C ADDRESS: 0xD4H

MIOA



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	SPREAD SPECTURM, MIOA

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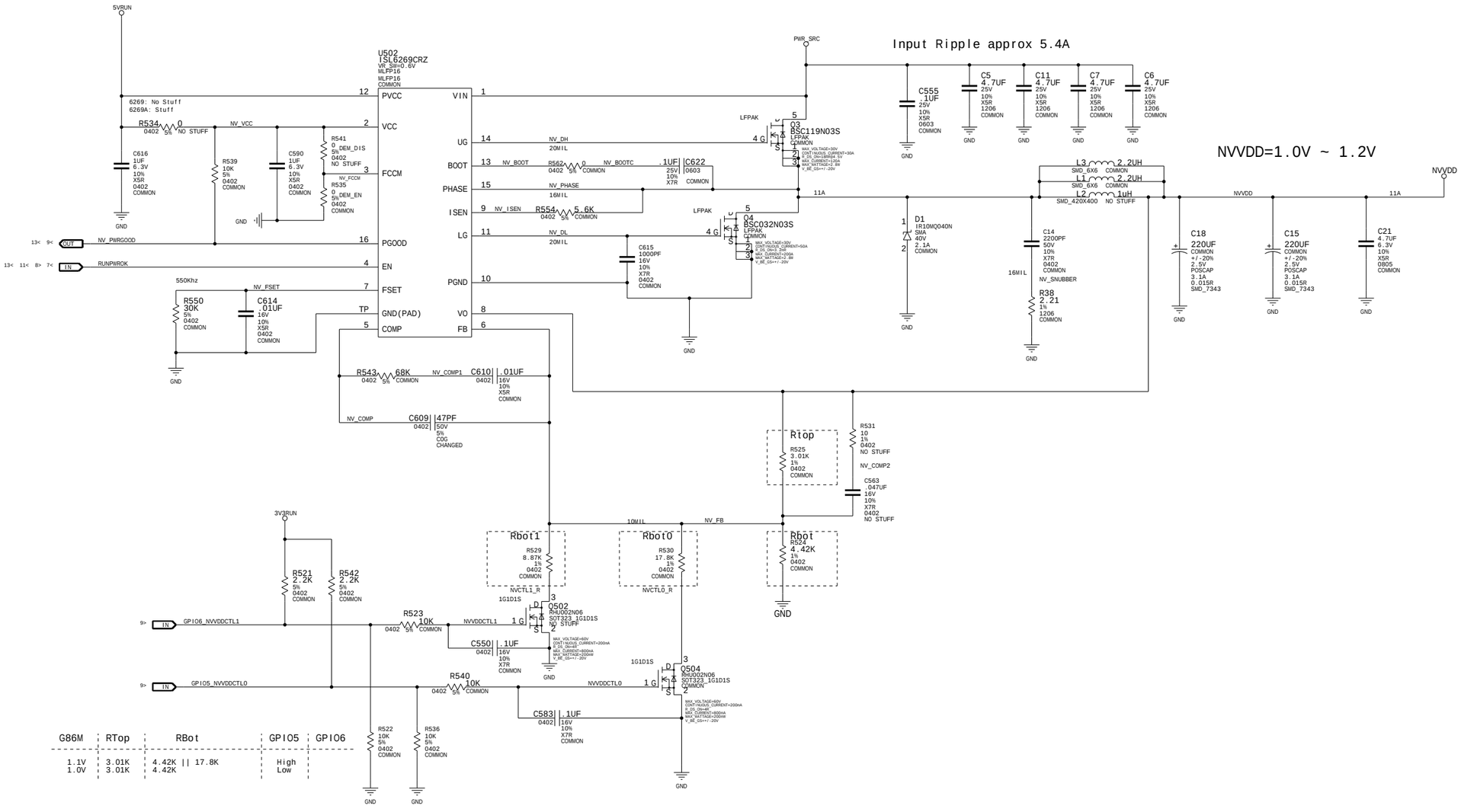
PAGE 12: NVVDD

VOLTAGE NODE PROPERTIES

	VOLTAGE	SOURCE POWER NET	MIN LINE WIDTH	MAX CURRENT	
3V3RUN	3.3V	TRUE	12.00	1.5A	3V3RUN
1V8RUN	1.8V	TRUE	16.00	3.5A	1V8RUN
2V5RUN	2.5V	TRUE	12.00	0.5A	2V5RUN
5VRUN	5.0V	TRUE	12.00	0.5A	5VRUN
PWR_SRC	22V	TRUE	30.00	4A	PWR_SRC
NVVDD	1.2V		16.00	11A	NVVDD
PEX1V2	1.2V		12.00	2A	PEX1V2
FBVDDQ	1.8V		12.00	6A	FBVDDQ

12.00 GND GND



G86M	RTop	RBot	GPIO5	GPIO6
1.1V	3.01K	4.42K || 17.8K	High	
1.0V	3.01K	4.42K	Low	

1.Vout = ((Rt +Rb)/Rb) x 0.6

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	NVVDD POWER SUPPLY

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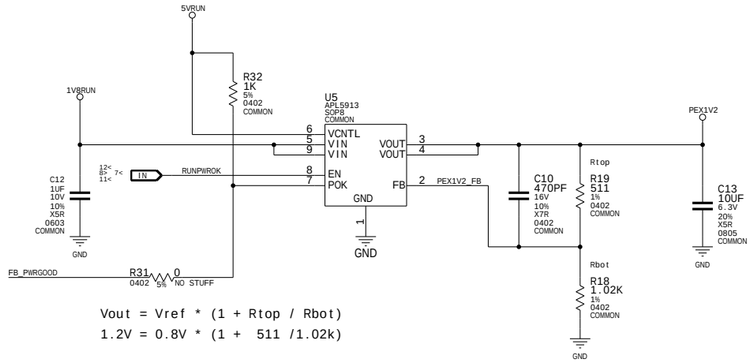
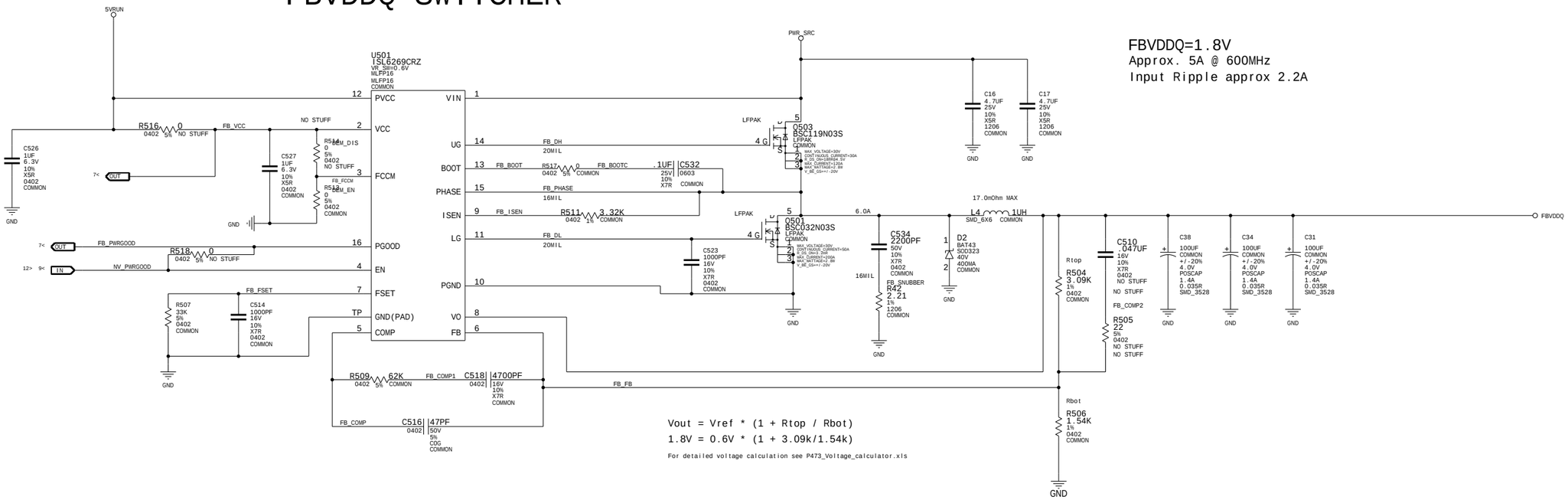
PAGE 13) FBVDD, PEX1V2



PEX1V2 LINEAR SUPPLY

FBVDDQ SWITCHER



FBVDDQ=1.8V
Approx. 5A @ 600MHz
Input Ripple approx 2.2A

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FBVDDQ POWER SUPPLY

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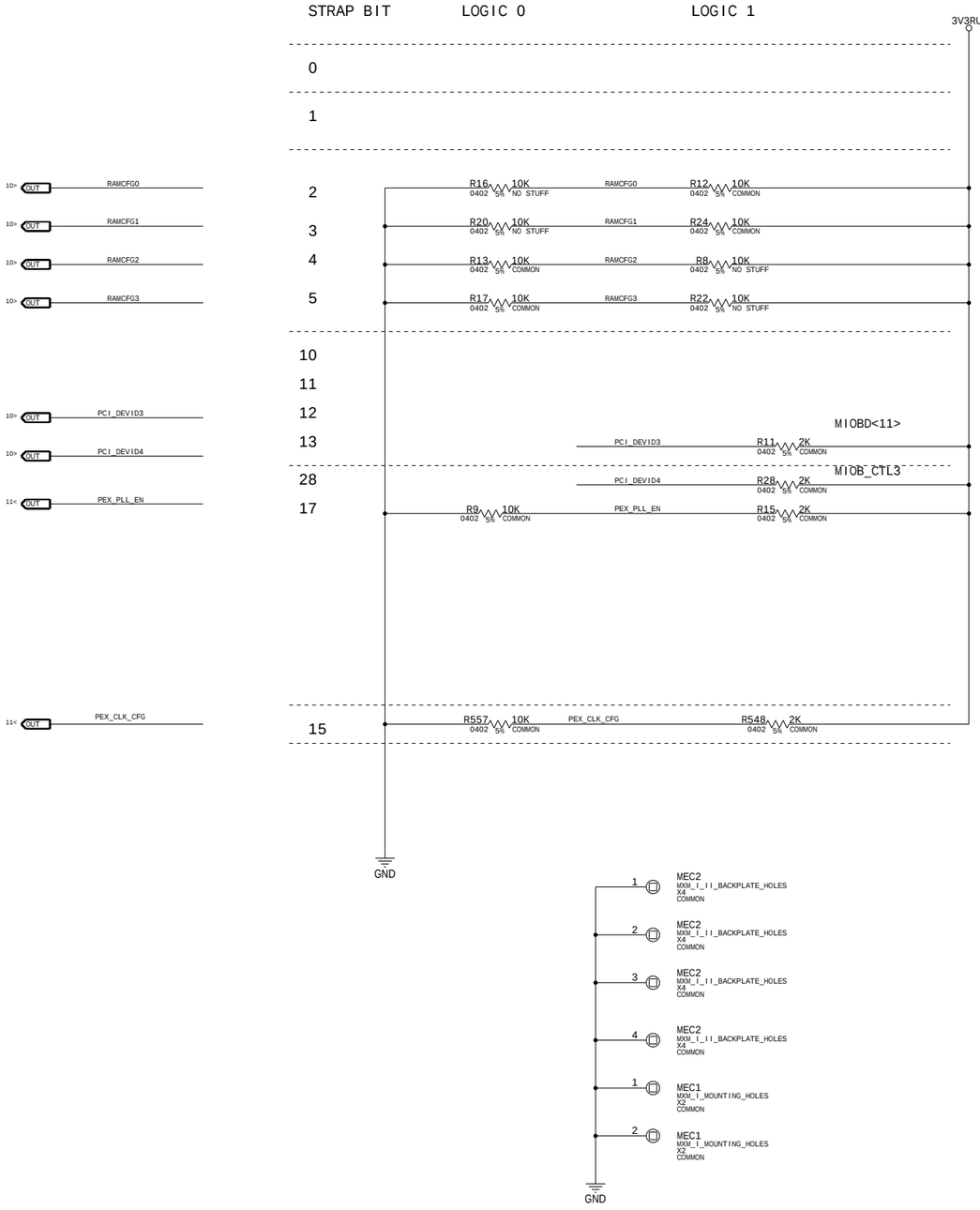
PAGE 14) STRAPS



REG: NV_STRAP_0

PCI_AD_SWAP	0: REVERSED 1: NORMAL DEFAULT
SUB_VENDOR	0: SYSTEM BIOS 1: ADAPTER BIOS DEFAULT
RAM_CFG_0 RAM_CFG_1 RAM_CFG_2 RAM_CFG_3	RAM_CFG[3:0] Config Definitions 0000 16Mx16 DDR2 Elpida 0001 16Mx16 DDR2 Samsung 0010 16Mx16 DDR2 Infineon 0011 16Mx16 DDR2 Hynix 0100 Reserved 0101 32Mx16 DDR2 Samsung 0110 32Mx16 DDR2 Infineon 0111 32Mx16 DDR2 Hynix
PCI_DEVID_0	
PCI_DEVID_1	
PCI_DEVID_2	
PCI_DEVID_3	
PCI_DEVID_4(USED FOR G9X)	
PEX_PLL_EN_TERM100	

REG: NV_STRAP_1

SLOT_CLOCK_CFG	

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	STRAPS

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Title: Basenet Report
Design: p419
Date: Jul 21 11:21:19 2006

Base nets and synonyms for
p419_lib.P419(@p419_lib.p419(sch_1))

Base Signal	Location([Zone][dir])
AC_BATT*	8.4B> 9.3F<
BXTALOUT	6.4D
CLK_VDD	11.2C
DACA_BLUE	6.2H> 8.3A<
DACA_GREEN	6.1H> 8.3A<
DACA_HSYNC	6.1H> 8.3A<
DACA_RED	6.1H> 8.3A<
DACA_RSET	6.1C
DACA_VDD	6.1C
DACA_VREF	6.1C
DACA_VSYNC	6.1H> 8.3A<
DACB_BLUE	6.3F> 8.3A<
DACB_GREEN	6.3F> 8.2A<
DACB_RED	6.3F> 8.3A<
DACB_RSET	6.3C
DACB_VDD	6.3C
DACB_VREF	6.3C
DVI_A_HPD	8.2A> 9.3H<
DVI_B_HPD	8.2A> 9.3H<
FBACLK0	3.3G
FBACLK0*	3.3H
FBACLK1	3.4G
FBACLK1*	3.4H
FBACLK_C0	3.3G
FBACLK_C1	3.4G
FBAD<0>	3.1C 4.4B
FBAD<63..0>	3.1B<> 4.4A<> 4.5F<>
FBAD<1>	3.1C 4.4B
FBAD<2>	3.1C 4.4B
FBAD<3>	3.1C 4.4B
FBAD<4>	3.1C 4.4B
FBAD<5>	3.1C 4.4B
FBAD<6>	3.1C 4.4B
FBAD<7>	3.1C 4.4B
FBAD<8>	3.1C 4.4C
FBAD<9>	3.1C 4.4C
FBAD<10>	3.1C 4.4C
FBAD<11>	3.1C 4.4C
FBAD<12>	3.1C 4.4C
FBAD<13>	3.1C 4.4C
FBAD<14>	3.1C 4.4C
FBAD<15>	3.1C 4.4C
FBAD<16>	3.1C 4.4D
FBAD<17>	3.1C 4.4D
FBAD<18>	3.1C 4.4D
FBAD<19>	3.2C 4.4D
FBAD<20>	3.2C 4.4D
FBAD<21>	3.2C 4.4D
FBAD<22>	3.2C 4.4D
FBAD<23>	3.2C 4.4D
FBAD<24>	3.2C 4.4D
FBAD<25>	3.2C 4.4D
FBAD<26>	3.2C 4.4D
FBAD<27>	3.2C 4.4D
FBAD<28>	3.2C 4.4D
FBAD<29>	3.2C 4.4D
FBAD<30>	3.2C 4.4D
FBAD<31>	3.2C 4.4D
FBAD<32>	3.2C 4.4B
FBAD<33>	3.2C 4.4B
FBAD<34>	3.2C 4.4B
FBAD<35>	3.2C 4.5B
FBAD<36>	3.2C 4.5B
FBAD<37>	3.2C 4.5B
FBAD<38>	3.2C 4.5B
FBAD<39>	3.2C 4.5B
FBAD<40>	3.2C 4.4C
FBAD<41>	3.2C 4.4C
FBAD<42>	3.2C 4.4C
FBAD<43>	3.2C 4.5C
FBAD<44>	3.2C 4.5C
FBAD<45>	3.2C 4.5C
FBAD<46>	3.2C 4.5C
FBAD<47>	3.2C 4.5C
FBAD<48>	3.2C 4.4D
FBAD<49>	3.3C 4.4D
FBAD<50>	3.3C 4.4D
FBAD<51>	3.3C 4.5D
FBAD<52>	3.3C 4.5D
FBAD<53>	3.3C 4.5D
FBAD<54>	3.3C 4.5D
FBAD<55>	3.3C 4.5D
FBAD<56>	3.3C 4.4D
FBAD<57>	3.3C 4.4D
FBAD<58>	3.3C 4.4D
FBAD<59>	3.3C 4.5D
FBAD<60>	3.3C 4.5D
FBAD<61>	3.3C 4.5D
FBAD<62>	3.3C 4.5D
FBAD<63>	3.3C 4.5D
FBADQM<0>	3.3C 4.4B
FBADQM<7..0>	3.3B> 4.4A<> 4.5F<>
FBADQM<1>	3.3C 4.4C
FBADQM<2>	3.3C 4.4D
FBADQM<3>	3.3C 4.4D
FBADQM<4>	3.3C 4.5B
FBADQM<5>	3.3C 4.5C
FBADQM<6>	3.3C 4.5D
FBADQM<7>	3.3C 4.5D
FBADQS0	3.3C<> 4.4B 4.4F<>
FBADQS0*	3.4C<> 4.4B 4.4F<>
FBADQS1	3.3C<> 4.4C 4.4F<>
FBADQS1*	3.4C<> 4.4C 4.4F<>
FBADQS2	3.4C<> 4.4D 4.4F<>
FBADQS2*	3.4C<> 4.4D 4.4F<>
FBADQS3	3.4C<> 4.4D 4.4F<>
FBADQS3*	3.4C<> 4.4D 4.4F<>
FBADQS4	3.4C<> 4.4F<> 4.5B
FBADQS4*	3.4C<> 4.4F<> 4.5B
FBADQS5	3.4C<> 4.4F<> 4.5C
FBADQS5*	3.4C<> 4.4F<> 4.5C
FBADQS6	3.4C<> 4.4F<> 4.5D
FBADQS6*	3.4C<> 4.4F<> 4.5D
FBADQS7	3.4C<> 4.4F<> 4.5D
FBADQS7*	3.4C<> 4.4F<> 4.5D
FBAVREF1	4.2B 4.3F<>
FBAVREF2	4.2F 4.3F<>
FBAVREF3	4.2D
FBAVREF4	4.3H
FBA_A<0>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<12..0>	3.3E> 4.4F< 4.1A< 4.1C 4.1E 4.1G
FBA_A<13..0>	4.1A< 4.1C 4.1E 4.1G
FBA_A<1>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<2>	3.3D 4.1A 4.1C
FBA_A<3>	3.3D 4.1A 4.1C
FBA_A<4>	3.3D 4.1A 4.1C
FBA_A<5>	3.3D 4.1A 4.1C
FBA_A<6>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<7>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<8>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<9>	3.3D 4.1A 4.1C 4.1E 4.1G
FBA_A<10>	3.3D 4.1A 4.1C 4.1E 4.2G
FBA_A<11>	3.3D 4.1A 4.1C 4.1E 4.2G
FBA_A<12>	3.3D 4.1A 4.1C 4.1E 4.2G
FBA_BA0	3.3E> 4.2A< 4.2C 4.2E 4.2G 4.4F<
FBA_BA1	3.3E> 4.2A< 4.2C 4.2E 4.2G 4.4F<
FBA_BA2	3.3E> 4.2A< 4.2C 4.2E 4.2G 4.4F<
FBA_CAS*	3.3E> 4.1A< 4.1C 4.1E 4.1G 4.5F<
FBA_CKE	3.3E> 4.2A< 4.2C 4.2E 4.2G 4.3G 4.4F<
FBA_CLK0	3.4E> 4.2A< 4.2C 4.4F<
FBA_CLK0*	3.4E> 4.2A< 4.2C 4.4F<
FBA_CLK1	3.4E> 4.2E< 4.2G 4.4F<
FBA_CLK1*	3.4E> 4.2E< 4.2G 4.4F<
FBA_CS0*	3.3E> 4.1A< 4.1C 4.1E 4.1G 4.5F<
FBA_CS1*	4.5F<
FBA_DEBUG	3.4D
FBA_ODT	3.3E> 4.2A< 4.2C 4.2E 4.2G< 4.5F<
FBA_RAS*	3.3E> 4.1A< 4.1C 4.1E 4.1G 4.5F<
FBA_WE*	3.3E> 4.1A< 4.1C 4.1E 4.1G 4.5F<
FBB_A<2>	3.3D 4.1E 4.1G
FBB_A<5..2>	3.3E> 4.1E< 4.1G 4.4F<
FBB_A<3>	3.3D 4.1E 4.1G
FBB_A<4>	3.3D 4.1E 4.1G
FBB_A<5>	3.3D 4.1E 4.1G
FBCAL_PD	3.4D
FBCAL_PU	3.4D
FBCAL_TERM	3.4D
FB_BOOT	13.4C
FB_BOOTC	13.4D
FB_COMP	13.5C
FB_COMP1	13.4C
FB_COMP2	13.4F
FB_DH	13.3D
FB_DL	13.4D
FB_FB	13.4D
FB_FCCM	13.4C
FB_FSET	13.4B
FB_ISEN	13.4C
FB_PHASE	13.4D
FB_PLLAVDD	3.4D
FB_PWRGOOD	7.2A< 13.4A>
FB_SNUBBER	13.4E
FB_VCC	7.1A< 13.4B>
GPIO0_DVI_A_HPD	9.3D
GPIO1_DVI_B_HPD	9.3D
GPIO2_BL_PWM	8.4A< 9.3F>
GPIO3_PPEN	8.3A< 9.3F>
GPIO3_PPEN_GPU	9.3D
GPIO4_BLEN	8.3A< 9.3F>
GPIO4_BLEN_GPU	9.3D
GPIO5_NVVDDCTL0	9.3F> 12.4A<
GPIO6_NVVDDCTL1	9.3F> 12.4A<
GPIO8_THERM_ALERT*	9.3D
GPIO9_LVDS_SYS*	7.2A< 9.3F>
GPIO12_AC_DET	9.3D
I2CA_SCL	6.1D
I2CA_SCL_R	6.1H> 8.3A<
I2CA_SDA	6.1D
I2CA_SDA_R	6.1H<> 8.3A<>
I2CB_SCL	6.3D
I2CB_SCL_R	6.3H> 8.2A<
I2CB_SDA	6.3D
I2CB_SDA_R	6.3H<> 8.2A<>
I2CC_SCL	9.3D
I2CC_SCL_R	8.4A< 9.2A< 9.3H> 11.2B<
I2CC_SDA	9.3D
I2CC_SDA_R	8.4A<> 9.2A<> 9.3H<> 11.2B<>
I2CH_SCL	10.4C
I2CH_SDA	10.4C
I2CS_SCL	9.4C
I2CS_SDA	9.4C
IFPABPLLVDD	7.2E
IFPABRSET	7.2E
IFPABVPROBE	7.2E
IFPAIOVDD	7.2E
IFPATXC	7.2H> 8.4G<
IFPATXC*	7.2H> 8.4G<
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IFPCPLLVDD	7.4E
IFPCTXC	7.4H> 8.2G<
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IFPCTXD1*	7.4H> 8.2G<
IFPCTXD2	7.4H> 8.2G<
IFPCTXD2*	7.4H> 8.2G<
IFPCVPROBE	7.3E
IFPC_IOVDD	7.4E
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JTAG_TCLK_C	8.3G< 9.3A<
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JTAG_TDI_C	8.3G> 9.3A<
JTAG_TDO	9.3C
JTAG_TDO_C	8.3G< 9.3A>
JTAG_TMS	9.3C
JTAG_TMS_C	8.3G< 9.3A<
JTAG_TRST	9.3C
JTAG_TRST_C	8.3G< 9.3A<
LVDSIOVDD_ISOL	7.2B
MIOB_CLKIN	10.2C
M_GPIO8_SLOWDOWN*	9.2D
M_THERM_ALERT*	9.2D
NVCTL0_R	12.4C
NVCTL1_R	12.4C
NVVDD	2.4F 12.2F
NVVDDCTL0	12.4C
NVVDDCTL1	12.4C
NV_BOOT	12.2C
NV_BOOTC	12.2C
NV_COMP	12.3B
NV_COMP1	12.3B
NV_COMP2	12.3D
NV_DH	12.2C
NV_DL	12.2C
NV_FB	12.4D
NV_FCCM	12.2B
NV_FSET	12.3B
NV_ISEN	12.2C
NV_PHASE	12.2C
NV_PWRGOOD	9.2F< 12.2A> 13.4A<
NV_SNUBBER	12.3E
NV_VCC	12.2B
PCI_DEVID3	10.1D> 14.2A> 14.2C
PCI_DEVID4	10.2D> 14.2A> 14.3C
PEX1V2_FB	13.2C
PEX_CLK_CFG	11.4E< 14.3A> 14.3C
PEX_PLL_DVDD	2.4G
PEX_PLL_EN	11.3E< 14.3A> 14.3C
PEX_RST	2.2D
PEX_RX0	2.2E
PEX_RX0*	2.2E
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PEX_RX1*	2.2E
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PEX_TSTCLK	2.2E
PEX_TSTCLK*	2.2E
PEX_TX0	2.2E
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PEX_TX0_C	2.2C
PEX_TX0_C*	2.2C
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PEX_TX14_C	2.5C
PEX_TX14_C*	2.5C
PEX_TX15	2.5E
PEX_TX15*	2.5E
PEX_TX15_C	2.5C
PEX_TX15_C*	2.5C
PLLVDD	6.4C
PRSNT2_C	2.5B
RAMCFG0	10.1D> 14.1C 14.2A>
RAMCFG1	10.1D> 14.2A> 14.2C
RAMCFG2	10.1D> 14.2A> 14.2C
RAMCFG3	10.1D> 14.2A> 14.2C
REFCLK	2.2E
REFCLK*	2.2E
ROMCS*	10.3C 10.3E
ROM_SCLK	10.4C 10.4E
ROM_SI	10.4C 10.4E
ROM_SO	10.4C 10.4E
RUNPWROK	7.5A< 8.4A> 11.2B< 12.3A< 13.2B<
RUNPWROK_IN	8.4B
SMB_CLK	8.4A> 9.4B<
SMB_DAT	8.4A<> 9.4B<>
SNN_5V_CLAMP	9.3D
SNN_A2_M1	4.2A
SNN_A2_M2	4.2C
SNN_A2_M3	4.2E
SNN_A2_M4	4.2G
SNN_BUFRST*	10.4C
SNN_DACB_CSYNC	6.3D
SNN_DACB_HSYNC	6.3D
SNN_DACB_VSYNC	6.3D
SNN_DVI_B_CLK	8.3E
SNN_DVI_B_CLK*	8.3E
SNN_DVI_B_TX0	8.2E
SNN_DVI_B_TX0*	8.2E
SNN_DVI_B_TX1	8.2E
SNN_DVI_B_TX1*	8.2E
SNN_DVI_B_TX2	8.2E
SNN_DVI_B_TX2*	8.2E
SNN_E2_M1	4.2A
SNN_E2_M2	4.2C
SNN_E2_M3	4.2E
SNN_E2_M4	4.2G
SNN_FBA_A13	3.3D
SNN_FBA_A14	3.4D
SNN_FBA_A15	3.4D
SNN_FB_VREF	3.5C
SNN_GPIO7	9.3D
SNN_GPIO10	9.3D
SNN_GPIO11	9.3D
SNN_GPIO13	9.3D
SNN_GPIO14	9.4D
SNN_HDCP_ROM	10.4D
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SNN_IGP185	8.3E
SNN_IGP195	8.3E
SNN_IGP197	8.3E
SNN_IGP_LVDS_UTX1	8.3E
SNN_IGP_LVDS_UTX1*	8.3E
SNN_MIOAD<1>	11.3E
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SNN_MIOB_CAL_PD_VD DQ	10.2A
SNN_MIOB_CAL_PU_VD DQ	10.2A
SNN_MIOB_CLKOUT	10.2C
SNN_MIOB_CLKOUT*	10.2C
SNN_MIOB_DE	10.2C
SNN_MIOB_HSYNC	10.2C
SNN_MIOB_VREF	10.2A
SNN_MIOB_VSYNC	10.2C
SNN_MOBILE_BIT	10.1C
SNN_MXM_183	8.3E
SNN_POK	13.2B
SNN_R3_M1	4.2A
SNN_R3_M2	4.2C
SNN_R3_M3	4.2E
SNN_R3_M4	4.2G
SNN_R7_M1	4.2A
SNN_R7_M2	4.2C
SNN_R7_M3	4.2E
SNN_R7_M4	4.2G
SNN_R8_M1	4.2A
SNN_R8_M2	4.2C
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SNN_R8_M4	4.2G
SNN_ROM_TYPE_0	10.1C
SNN_RSVD1	8.3E
SNN_RSVD2	8.3E
SNN_RSVD3	8.3E
SPDIF	8.4B> 9.3B>
SPDIF_MXM	8.4C
SSFOUT	6.4C< 11.2D>
SS_OUT	11.2C
SS_REF	11.2C
SWAPRDY_A	10.4C
TESTMODE	10.4C
THERM	9.3C
THERM*	9.3C
THERM_ALERT*	8.4A< 9.2H>
THERM_SCL	9.2C
THERM_SDA	9.2C
THERM_VDD	9.2D
TMDSIOVDD_C	7.5C
TMDSIOVDD_C_EN*	7.4B
TMDS_LVDS_IOVDD	7.2C
XTALIN	6.4C
XTALOUT	6.4D
XTALOUTBUFF	6.4F> 11.2B<

ASSEMBLY	BASE LEVEL GENERIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
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