18P118, NV18B-GL, 4M/8MX16DDR, 64/32MB - 64BIT, VIDEO OUT (INT), LFH, VGA (THIN)

Page Overview

XXX: HISTORY:

000

A REPORT TO BOARD 180-10118-0000-A00

B
PAGE 2: CHANGE C589,C576,C584,C597 FROM 10% X7R TO 5% NPO PER AGILE RECOMMENDATION.
PAGE 6: CHANGE C617,C610 FROM 20% X5R TO 10% X7R PER AGILE RECOMMENDATION.
PAGE 7: UPDATE NOTES.
PAGE 11: CHANGE C661 FROM 20% X7R TO 10% X7R PER AGILE RECOMMENDATION.
CHANGE C653 FROM 5% 25V TO 10% 50V PER AGILE RECOMMENDATION.
REMOVE D508 & D509 FROM A3V3 RAIL. THEY ARE NOT NEED FOR BACK DRIVE CIRCUIT.

C REPORT TO BOARD 180-10118-0000-A00
PAGE 7: CHANGE MEMORY AND TV MODE TO INTERNAL STRAPPING. NOTE: IT IS ONLY A NOTE.
CORRECT THE DEV ID FOR DESKTOP SKU..
PAGE 9: ADJUST THE RGB LEVEL CLOSE TO 700MV. R621 WAS 'NO STUFF' --> 1.0K, R622 WAS 'NO STUFF' --> 698, L506,L507,L505 WAS 68NH --> 0 OHM, C686,C687,C685 WAS 4.7PF --> 'NO STUFF',. L513,L514,L512 WAS 68NH --> 82NH, R550 WAS 130 --> 124.
ADJUST THE XTAL LOADING CAP FROM 18PF TO 22PF FOR VGA SKU TO REDUCE THE TV BURST FREQ OFSET.
ADJUST THE SYNC CIRCUIT TO GET BETTER RISE & FALL TIME. R13,R9 WAS 0 OHM --> 15 OHM, C7,C2 WAS 47PF --> 27PF.
PAGE 10: ADJUST THE RGB LEVEL CLOSE TO 700MV. R623 WAS 'NO STUFF' --> 2.43K, R618 WAS 'NO STUFF' --> 1.0K, L503,L502,L504 WAS 68NH --> 0 OHM, C683,C682,C684 WAS 4.7PF --> 'NO STUFF',. L510,L509,L511 WAS 68NH --> 82NH, R28 WAS 124 --> 121.
ADJUST THE SYNC CIRCUIT TO GET BETTER RISE & FALL TIME. R11,R14 WAS 0 OHM --> 15 OHM, C690,C5 WAS 47PF --> 27PF.

D REPORT TO BOARD 180-10118-0000-A00
PAGE 9: ADD BACK THE SYNC BUFFER AS REQUESTED BY OPS GROUP TO SUPPORT DIFFERENT MEMORY. C7,C2 WAS 27PF --> 47PF.
PAGE 10: ADD BACK THE SYNC BUFFER AS REQUESTED BY OPS GROUP TO SUPPORT DIFFERENT MEMORY. C5,C690 WAS 27PF --> 47PF, R22 WAS 33 --> 30.1 OHM.

PCI DevID Chart

602-10118-0000-XXX = 0X181 = 0001 = NV18B-A3 = VGA & TV OUT
602-10118-0001-XXX = 0X181 = 0001 = NV18B-A3 = VGA
602-50118-0000-XXX = 0X18A = 1010 = NV18B-L-A3 = LFH
NV18 = 0x18?

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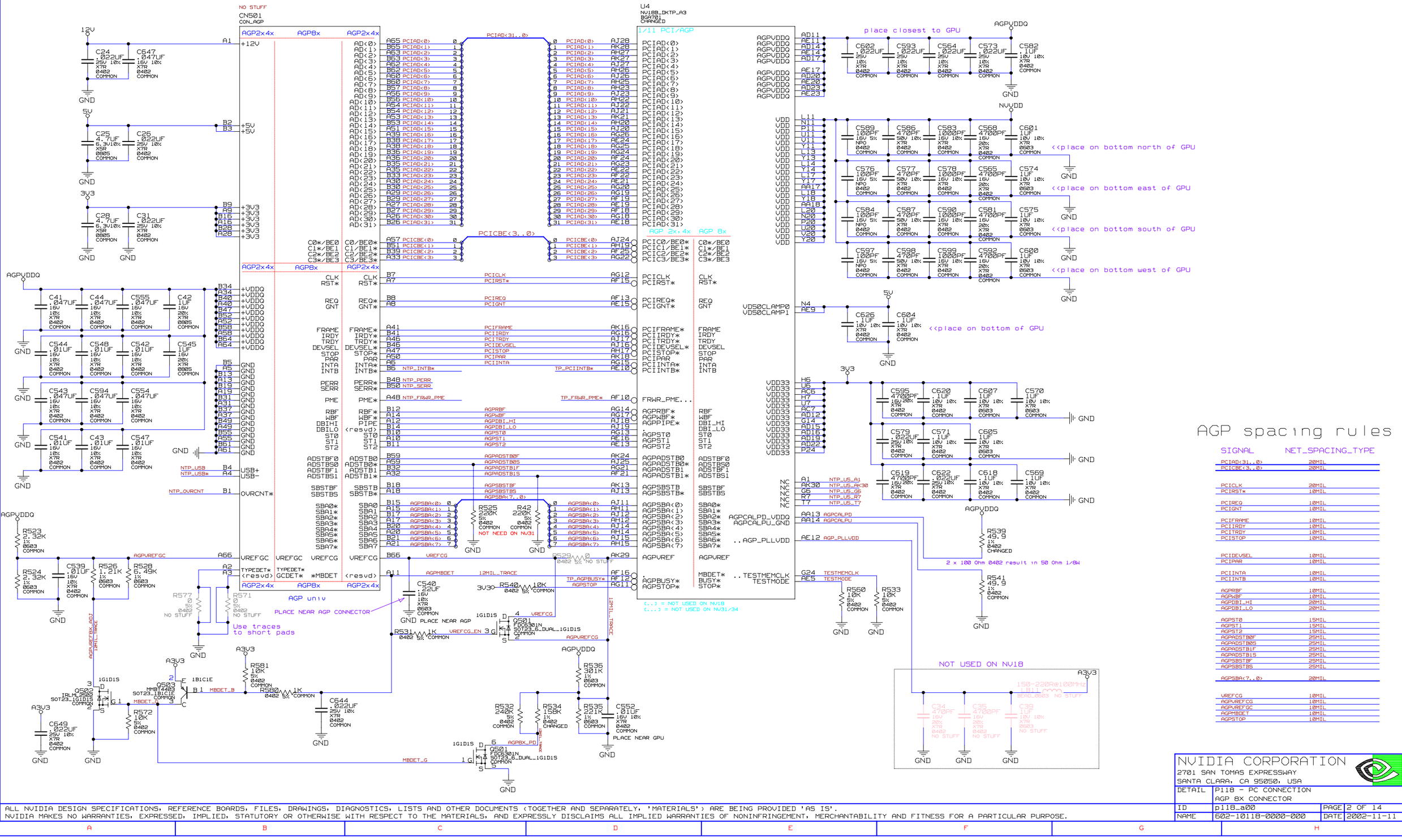
DETAIL	P118 OVERVIEW		
ID	p118_a00	PAGE	1 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11



AGP spacing rules

SIGNAL	NET_SPACING_TYPE
PCIAD<31..0>	20MIL
PCICBE<3..0>	20MIL
PCICLK	20MIL
PCIRST*	10MIL
PCIREQ	10MIL
PCIGNT	10MIL
PCIFRAME	10MIL
PCIIRDY	10MIL
PCITRDY	10MIL
PCISTOP	10MIL
PCIDEVSEL	10MIL
PCIPAR	10MIL
PCIINTA	10MIL
PCIINTB	10MIL
AGPRBF	10MIL
AGPWBF	10MIL
AGPDBI_HI	20MIL
AGPDBI_LO	20MIL
AGPST0	15MIL
AGPST1	15MIL
AGPST2	15MIL
AGPADSTB0F	25MIL
AGPADSTB0S	25MIL
AGPADSTB1F	25MIL
AGPADSTB1S	25MIL
AGPSBSTBF	25MIL
AGPSBSTBS	25MIL
AGPSBA<7..0>	20MIL
VREFCG	10MIL
AGPVREFCG	10MIL
AGPVREFGC	10MIL
AGPMBDET	10MIL
AGPSTOP	10MIL

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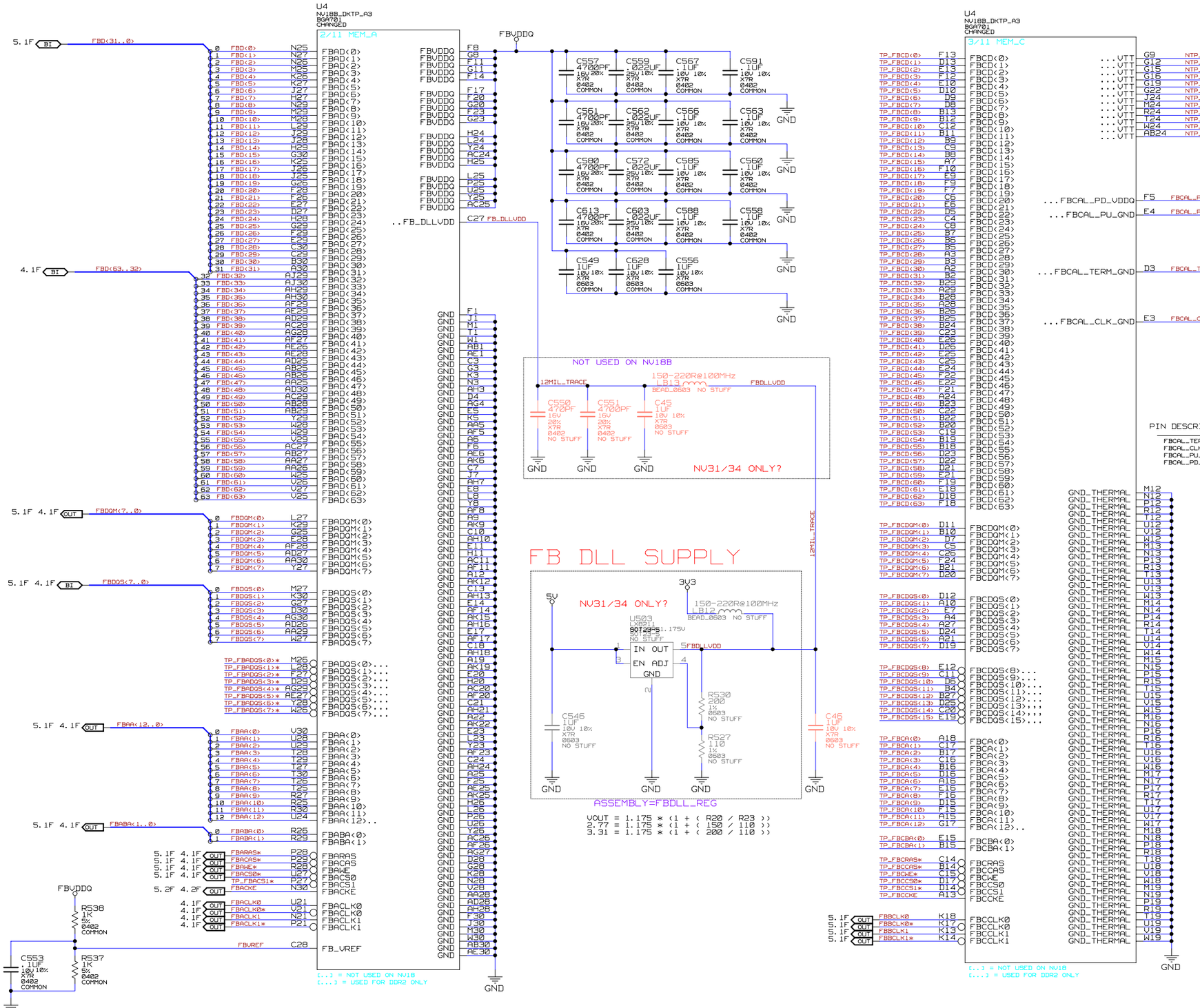
DETAIL	P118 - PC CONNECTION AGP 8X CONNECTOR		
ID	p118_a00	PAGE	2 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11



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DETAIL	P118 - MEMORY BUS NV18 MEM INTERFACE		
ID	p118_a00	PAGE	3 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

MEMORY 1ST BANK 32..63
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

NET Name	Diffpair	NET_SPACING_RULE
3.5B IN FBACLK0	FBACLK0	18MIL_G2G_25MIL
3.5B IN FBACLK0*	FBACLK0	18MIL_G2G_25MIL
3.5B IN FBACLK1	FBACLK1	18MIL_G2G_25MIL
3.5B IN FBACLK1*	FBACLK1	18MIL_G2G_25MIL
3.2B IN FBD<63..32>		10MIL
3.3B IN FBDQM<7..4>		10MIL
3.3B IN FBDQS<7..4>		20MIL
MFBD<63..32>		10MIL
MFBDQM<7..4>		10MIL
MFBDQS<7..4>		20MIL
5.1F 3.4B IN FBAA<12..0>		10MIL
5.1F 3.5B IN FBARAS*		10MIL
5.1F 3.5B IN FBACAS*		10MIL
5.1F 3.5B IN FBAWE*		10MIL
5.1F 3.5B IN FBACS0*		10MIL
5.1F 3.5B IN FBABA<1..0>		10MIL
5.2F 3.5B IN FBACKE		10MIL

FBVDDQ
R61 120 5% 0402 NO STUFF
R57 120 5% 0402 NO STUFF
FBACLK0
R59 68 0603 5% COMMON
FBACLK0*

FBVDDQ
R508 120 5% 0402 NO STUFF
R511 120 5% 0402 NO STUFF
FBACLK1
R510 68 0603 5% COMMON
FBACLK1*

FBD<63..32>
RP8A 15 0402X4 5% COMMON
RP8B 15 0402X4 5% COMMON
RP4A 15 0402X4 5% COMMON
RP4B 15 0402X4 5% COMMON
RP504A 15 0402 5% COMMON
RP504B 15 0402X4 5% COMMON
R520 15 0402 5% COMMON
RP508A 15 0402X4 5% COMMON
RP508B 15 0402X4 5% COMMON
RP503A 15 0402X4 5% COMMON
RP2A 15 0402X4 5% COMMON
RP2B 15 0402X4 5% COMMON
RP6A 15 0402X4 5% COMMON
RP6B 15 0402X4 5% COMMON
R46 15 0402 5% COMMON
R522 15 0402 5% COMMON
RP506A 15 0402X4 5% COMMON
RP506B 15 0402X4 5% COMMON
RP502A 15 0402X4 5% COMMON
RP502B 15 0402X4 5% COMMON
RP502A 15 0402X4 5% COMMON
RP502B 15 0402X4 5% COMMON

U6 8MX16DDR-5 TSOP66 COMMON
U502 8MX16DDR-5 TSOP66 COMMON
FBAA<12..0>
FBARAS* FBACAS* FBAWE* FBACS0*
FBABA<0> FBABA<1>
FBACKE FBACLK0 FBACLK0*
FBACLK1 FBACLK1*
FBVDD FBVDDQ GND
R504 10K 5% 0402 COMMON
R49 1K 5% 0402 COMMON
R54 1K 5% 0402 COMMON
C73 .047UF 16V 10% X7R 0402 COMMON
C512 .047UF 16V 10% X7R 0402 COMMON
MVREFA0
NTP_MEM1_NC1 NTP_MEM1_NC2 NTP_MEM1_NC3 NTP_MEM1_NC4 NTP_MEM1_NC5 NTP_MEM1_NC7 NTP_MEM1_NC8
NTP_MEM1_NC9 NTP_MEM1_NC10 NTP_MEM1_NC11 NTP_MEM1_NC12 NTP_MEM1_NC14 NTP_MEM1_NC15 NTP_MEM1_NC16
FBAA<12>

MFBD<63..32>
U6 8MX16DDR-5 TSOP66 COMMON
U502 8MX16DDR-5 TSOP66 COMMON
DQ<0> DQ<1> DQ<2> DQ<3> DQ<4> DQ<5> DQ<6> DQ<7>
DQM DQS

FBDQM<4> R63 15 0402 5% COMMON
FBDQM<5> R516 15 0402 5% COMMON
FBDQM<6> R55 15 0402 5% COMMON
FBDQM<7> R505 15 0402 5% COMMON
FBDQS<4> R52 15 0402 5% COMMON
FBDQS<5> R518 15 0402 5% COMMON
FBDQS<6> R48 15 0402 5% COMMON
FBDQS<7> R513 15 0402 5% COMMON

FBVDD
C84 .022UF 25V 10% X7R 0402 COMMON
C78 4700PF 16V 20% X7R 0402 COMMON
C51 .022UF 25V 10% X7R 0402 COMMON
C77 4700PF 16V 20% X7R 0402 COMMON
C52 .022UF 25V 10% X7R 0402 COMMON
C83 4700PF 16V 20% X7R 0402 COMMON
C50 4.7UF 6.3V 10% X5R 0805 COMMON
GND

FBVDDQ
C56 220PF 25V 5% NPO 0402 COMMON
C63 220PF 25V 5% NPO 0402 COMMON
C59 220PF 25V 5% NPO 0402 COMMON
C71 220PF 25V 5% NPO 0402 COMMON
C57 220PF 25V 5% NPO 0402 COMMON
C85 47UF 20% 6.3V POLY SMD_D76R
C60 .047UF 16V 10% X7R 0402 COMMON
C55 4700PF 16V 20% X7R 0402 COMMON
C72 4700PF 16V 20% X7R 0402 COMMON
C54 4700PF 16V 20% X7R 0402 COMMON
C58 .047UF 16V 10% X7R 0402 COMMON
C80 4.7UF 6.3V 10% X5R 0805 COMMON
GND

FBVDD
C536 .022UF 25V 10% X7R 0402 COMMON
C508 4700PF 16V 20% X7R 0402 COMMON
C535 .022UF 25V 10% X7R 0402 COMMON
C507 4700PF 16V 20% X7R 0402 COMMON
C503 .022UF 25V 10% X7R 0402 COMMON
C504 4700PF 16V 20% X7R 0402 COMMON
C538 4.7UF 6.3V 10% X5R 0805 COMMON
GND

FBVDDQ
C520 220PF 25V 5% NPO 0402 COMMON
C527 220PF 25V 5% NPO 0402 COMMON
C528 220PF 25V 5% NPO 0402 COMMON
C521 220PF 25V 5% NPO 0402 COMMON
C524 220PF 25V 5% NPO 0402 COMMON
C519 .047UF 16V 10% X7R 0402 COMMON
C514 4700PF 16V 20% X7R 0402 COMMON
C532 4700PF 16V 20% X7R 0402 COMMON
C513 4700PF 16V 20% X7R 0402 COMMON
C529 .047UF 16V 10% X7R 0402 COMMON
C506 4.7UF 6.3V 10% X5R 0805 COMMON
GND

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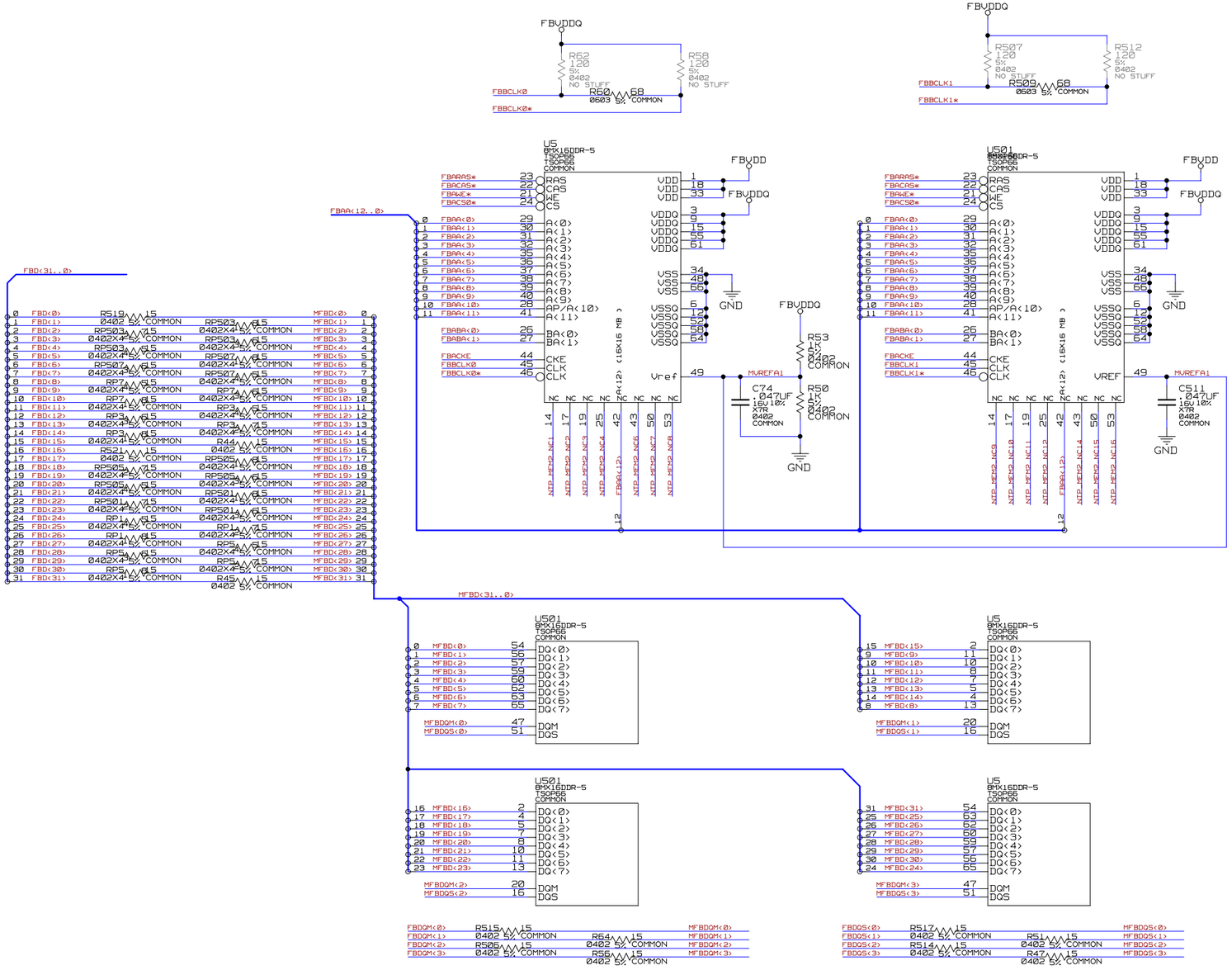
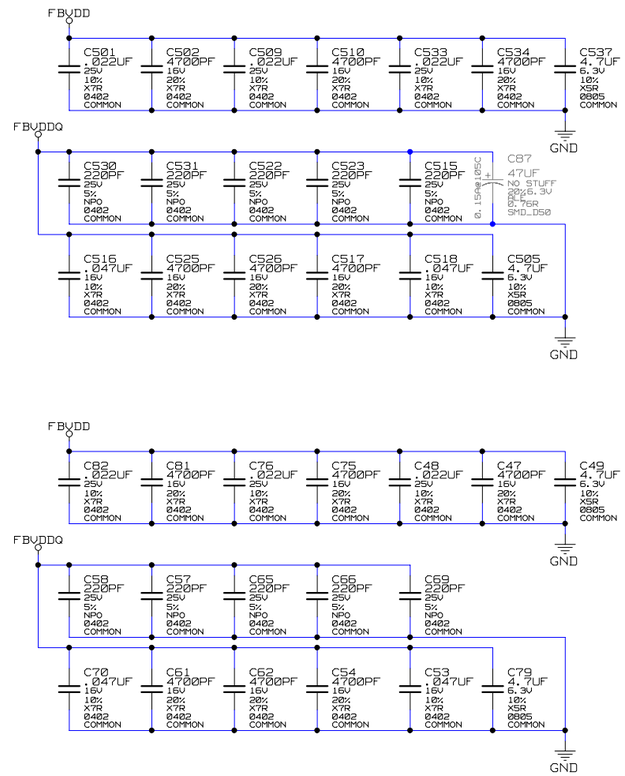
DETAIL	P118 - MEMORY MEM BANK A (0..31)		
ID	p118_a00	PAGE	4 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

MEMORY 1ST BANK 0..31
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY



NET Name | Diffpair | NET_SPACING_RULE

3.5E	IN	FBBCLK0	FBBCLK0	18MIL_G2G_25MIL
3.5E	IN	FBBCLK0*	FBBCLK0	18MIL_G2G_25MIL
3.5E	IN	FBBCLK1	FBBCLK1	18MIL_G2G_25MIL
3.5E	IN	FBBCLK1*	FBBCLK1	18MIL_G2G_25MIL
3.1B	IN	FBD<31..0>		10MIL
3.3B	IN	FBDQM<3..0>		10MIL
3.3B	IN	FBDQS<3..0>		20MIL
		MFBD<31..0>		10MIL
		MFBDQM<3..0>		10MIL
		MFBDQS<3..0>		20MIL
4.1F 3.4B	IN	FBAA<12..0>		
4.1F 3.5B	IN	FBARAS*		
4.1F 3.5B	IN	FBACAS*		
4.1F 3.5B	IN	FBAWE*		
4.1F 3.5B	IN	FBACS0*		
4.1F 3.5B	IN	FBABA<1..0>		
4.2F 3.5B	IN	FBACKE		



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DETAIL	P118 - MEMORY MEM BANK B (32..63)		
ID	p118_a00	PAGE	5 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

NET	Diffpair	NET_SPACING_RULE
THERM	THERM	20MIL_G2G_30MIL
THERM*	THERM	20MIL_G2G_30MIL

PIN DESCRIPTION	NV18B	NV31	NV34
DVOCAL_PD_VDDQ	NOT USED	50 OHM 1% TO GND	NOT USED
DVOCAL_PU_GND	NOT USED	55 OHM 1% TO DVOVDDQ	NOT USED
VIPCAL_PD_VDDQ	NOT USED	50 OHM 1% TO GND	NOT USED
VIPCAL_PU_GND	NOT USED	50 OHM 1% TO VIPVDDQ	NOT USED

U4
NV18B_DKTP_A3
BGA701
CHANGED

10/11 VIP

3V3
GND
C617 .1UF 10V 10% X7R 0402 COMMON
C610 .1UF 10V 10% X7R 0402 COMMON
R39 49.9 0402 1% *NO STUFF VIPCAL_PD_VDDQ P6
R40 49.9 0402 1% *NO STUFF VIPCAL_PU_GND P7

VIPVDDQ L6, L7, M7
VIPCAL_PD_VDDQ.. P6
VIPCAL_PU_GND.. P7

VIPHAD<0> P3 TP_VIPHAD<0>
VIPHAD<1> P2 TP_VIPHAD<1>
VIPPCLK L4 TP_VIPPCLK
VIPHCTL M4
VIPHCLK M5 TP_VIPHCLK
VIPD<0> J3 TP_VIP<0>
VIPD<1> J2 TP_VIP<1>
VIPD<2> K2 VIP<2>
VIPD<3> K1 VIP<3>
VIPD<4> L3 VIP<4>
VIPD<5> L2 VIP<5>
VIPD<6> N2 VIP<6>
VIPD<7> N1 TP_VIP<7>
..FPBCLKOUT M3 TP_FPBCLKOUT
..FPBCLKOUT M2 TP_FPBCLKOUT*
ROMA<14> R2 ROMA<14>
ROMA<15> R1 ROMA<15>
ROMCS AF2 ROMCS*

VIPHCTL IN 6.3D 7.2A 6.3D 7.2A
VIP<6..2> IN 7.2A
ROMA<15..14> BI 7.3A

(..) = NOT USED FOR NV18

SROM SIGNAL (PERSPECTIVE OF SROM):

ROMCS*	ROM CHIP SELECT (INPUT)
ROMA<14>	ROM CLOCK (INPUT)
ROMA<15>	ROM SERIAL INPUT (INPUT)
VIPHCTL	ROM SERIAL OUTPUT (OUTPUT)

BIOS

A3V3
U508
AT25F1024_NV18
SO8
SO8_SST
COMMON
HOLD VCC
WP
CS
SI
SO
SCK GND
C565 .1UF 10V 10% X7R 0402 COMMON
MAIN

ASSEMBLY = BIOS

A3V3
R612 10K 5% 0402 COMMON
U507
45LF010_NV18
SO8_SST
SO8_SST
NO STUFF
RESET VCC
WP
CE
SI
SO
SCK GND
ALTERNATE

NV18 GPIO

U4
NV18B_DKTP_A3
BGA701
CHANGED

8/11 THERM-GPIO-JTAG

J501 HDR_1MM 2MM 2.54MM NORM NO STUFF
THERM H2
THERM* H3
THERMDA
THERMDC
JTAG_TCLK C2
TP_JTAG_TMS C1
TP_JTAG_TDI D1
TP_JTAG_TDO E2
JTAG_TRST* D2
JTAG_TCLK...
JTAG_TMS...
JTAG_TDI...
JTAG_TDO...
JTAG_TRST...
GPIOD<0> G5 TP_GPIO0
GPIOD<1> F4 LFH_HOTPLUG
GPIOD<2> G4 TP_GPIO2
GPIOD<3> H5 TP_GPIO3
GPIOD<4> H4 TP_GPIO4
GPIOD<5> J4 TP_GPIO5
GPIOD<6> J5 TP_GPIO6
GPIOD<7> J6 TP_GPIO7
GPIOD<8> K4 TP_GPIO8
..GPIOD<9> K5 TP_GPIO9

GPIOD<0> IN 8.3G

R545 1K 5% 0402 COMMON
R36 1K 5% 0402 COMMON
GND GND

(...) = NOT USED FOR NV18/31
(..) = NOT USED FOR NV18

10mil spacing with 10 mil thick traces

MEC1 HEATSINK_73X49 GND COMMON

U4
NV18B_DKTP_A3
BGA701
CHANGED

9/11 DVO - MISC

TP_DVOD<11> AH5 DVOD<11>
TP_DVOD<10> AJ4 DVOD<10>
TP_DVOD<9> AK4 DVOD<9>
TP_DVOD<8> AH4 DVOD<8>
TP_DVOD<7> AK3 DVOD<7>
TP_DVOD<6> AJ3 DVOD<6>
TP_DVOD<5> AK1 DVOD<5>
TP_DVOD<4> AH2 DVOD<4>
DVOD<3> AJ1 DVOD<3>
DVOD<2> AG3 DVOD<2>
TP_DVOD<1> AH1 DVOD<1>
TP_DVOD<0> AG2 DVOD<0>

7.1A IN DVOD<3..2>

DVOHSYNC AD5 DVOHSYNC
TP_DVOVSYNC AD6 DVOVSYNC
DVODE AE4 DVODE
TP_DVOCLKOUT AJ2 DVOCLKOUT
TP_DVOCLKOUT* AK2
TP_DVOCLKIN AG1 DVOCLKIN

7.3A IN DVOHSYNC
7.4A IN DVODE

A3V3
R559 2.2K 5% 0402 NO STUFF
R573 2.2K 5% 0402 NO STUFF
R574 10K 5% 0402 COMMON
GND

I2CC_SCL AG5
I2CC_SDA AG7

STRAP<0> G1
STRAP<1> G2
STRAP<2> F2
STRAP<3> F3
BUFRST B1
TP_BUFRST*

7.1A IN STRAP<3..0>

DVOVDDQ AD8, AE8, AD9
DVOCAL_PD_VDDQ.. AB6 DVOCAL_PD_VDDQ
DVOCAL_PU_GND.. AB7 DVOCAL_PU_GND
DVO_VREF AF4 DVOVREF
FRWR_VAUXC... N6
FRWR_VAUXP... M6
FRWRLNKON... L5 TP_FRWR_LNKON
FRWRLPS... N5 TP_FRWR_LPS

3V3
R545 49.9 1% 0402 NO STUFF
R544 49.9 1% 0402 NO STUFF
C612 .1UF 10V 10% X7R 0402 COMMON
C611 4700PF 25V 10% X7R 0402 COMMON
R558 1K 5% 0402 COMMON
R556 1K 5% 0402 COMMON
C640 .1UF 10V 10% X7R 0402 COMMON
12MIL TRACE
GND

NVDD
C621 470PF 50V 10% X7R 0402 COMMON
C616 470PF 50V 10% X7R 0402 COMMON
C615 470PF 50V 10% X7R 0402 COMMON

(..) = NOT USED FOR NV18
(...) = NOT USED FOR NV31/34

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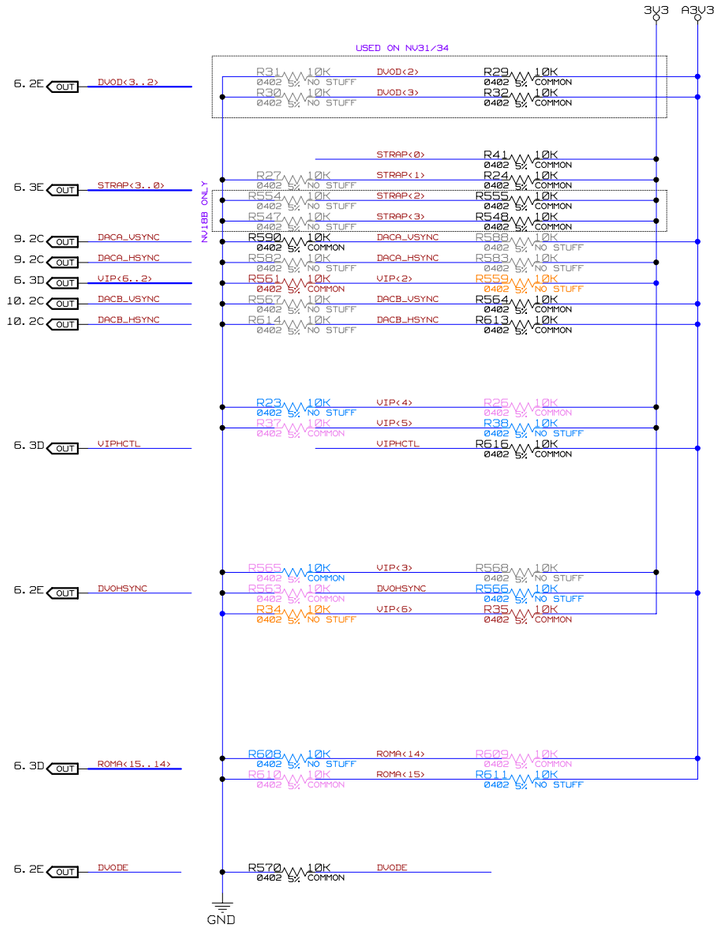
DETAIL	P118 - MISC NV18 BIOS, PLL, & GPIO		
ID	p118_a00	PAGE	6 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

AND MASK
1 -> HARDWARE STRAP
0 -> BIOS STRAP

OR MASK
1 -> DESIRED=1 ANDMASK=0



02: RAM_CFG_0
03: RAM_CFG_1

SKU#	LFH 50118			TVOUT 10118		
BOOT_0_STRAP_0	DESIRED	AND MASK	OR MASK	DESIRED	AND MASK	OR MASK
00: PCI_AD_SWAP	1	1	0	1	1	0
01: SUB_VENDOR	1	1	0	1	1	0
02: RAM_CFG_0	1	1	0	1	1	0
03: RAM_CFG_1	1	1	0	1	1	0
04: RAM_CFG_2	0	1	0	0	1	0
05: RAM_CFG_3	1	1	0	1	1	0
06: CRYSTAL_0	1	1	0	0	1	0
07: TV_MODE_0	1	1	0	1	1	0
08: TV_MODE_1	1	1	0	0	1	0
09: AGP4x/8x	0	0	0	0	0	0
10: AGP_SBA	0	0	0	0	0	0
11: AGP_FASTWR	0	0	0	0	0	0
12: PCI_DEVID_0	0	1	0	1	1	0
13: PCI_DEVID_1	1	1	0	0	1	0
14: BUS_TYPE	1	1	0	1	1	0
15: FP_IFACE	1	0	1	1	0	1
16: USER_0	0	0	0	0	0	0
17: USER_1	0	0	0	0	0	0
18: USER_2	0	0	0	0	0	0
19: USER_3	0	0	0	0	0	0
20: PCI_DEVID_2	0	1	0	0	1	0
21: PCI_DEVID_3	1	1	0	0	1	0
22: CRYSTAL_1	0	1	0	1	1	0
23: FB_0	0	0	0	0	0	0
24: FB_1	0	0	0	0	0	0
25: BR	0	0	0	0	0	0
26: BR_128M	0	0	0	0	0	0
27: BR_AGP	0	0	0	0	0	0
28: BR_IO	0	0	0	0	0	0
29: ROM_TYPE_0	1	1	0	1	1	0
30: ROM_TYPE_1	0	1	0	0	1	0
31: STRAP_0_OVERWRITE	0	0	0	0	0	0
BOOT_3_STRAP_1						
0: 1394	0	1	0	0	1	0
1: 1394_PHY	0	0	0	0	0	0
2: 1394_PHY_PWRCLASS[0]	0	0	0	0	0	0
3: 1394_PHY_PWRCLASS[1]	0	0	0	0	0	0
4: VGA_DEVICE	1	0	1	1	0	1
5: MEM_LSB_SWAP	0	0	0	0	0	0
6: BR_LAST_DEV	0	0	0	0	0	0
7: BR_BAR1_BCASTONLY	0	0	0	0	0	0
31: STRAP_1_OVERWRITE	0	0	0	0	0	0

PCI_AD_SWAP[0]	0 - REVERESED 1 - NORMAL (DESIRED)
SUB_VENDOR[0]	0 - NO_BIOS 1 - READ FROM BIOS (DESIRED)
RAM_CFG[3:0]	X011- 8MX16 DDR SDRAM, DQS PER 8 BIT, DLL-ON, LOW DRIVE STRENGTH
CRYSTAL[1:0]	00 - 13.5 MHz 01 - 14.31818 MHZ (LFH SKU) 10 - 27.000 MHZ (TVOUT/VGA SKU) 11 - UNKNOWN
TVMODE[1:0]	00 - SECAM 01 - NTSC 10 - PAL 11 - CRT (DESIRED)
AGP_SBA[0]	0 - ENABLED (DESIRED) 1 - DISABLED
AGP_FASTWR[0]	0 - ENABLED (DESIRED) 1 - DISABLED
PCI_DEVID[3:0]	1010 - NV18 = 0X18A (LFH) (DESIRED) 0001 - NV18 = 0X181 (VGA / TV OUT)
AGP4X/8X[0]	0 - ENABLED (DESIRED) 1 - DISABLED
BUS_TYPE[0]	0 - PCI 1 - AGP (DESIRED)
FP_IFACE[0]	0 - 24 BIT 1 - 12 BIT DDR (DESIRED)
USER[3:0]	0000 - PC (DESIRED)
FB[1:0]	00 - 64MEG (DESIRED) 01 - 128MEG 10 - 256MEG 11 - 512MEG
ROM_TYPE[1:0]	00 - PARALLEL (NOT SUPPORTED) 01 - SERIAL AT25F (DESIRED) 10 - SERIAL SST45VF 11 - RFU
BR_xxxxx	0 - DISABLED (UNUSEED, BITS 25, 26, 27, 28)
STRAP_OVERWITE	0 - DISABLED (DESIRED) 1 - ENABLED
1394	0 - ENABLED DVO / DISABLE 1394 (DESIRED) 1 - DISABLE DVO / ENABLED 1394

(DESIRED) ONLY APPLICABLE FOR SKU#0

NV Register Description	NV Address	BIOS Address	DATA, 50118	DATA, 10118
BOOT_0_STRAP_0	0x00101000		0X2020E1EF	0X2040D0AF
BOOT_1_STRAP_0_ANDMASK	0x00101004	0x58	0X607071C3	0X607071C3
BOOT_2_STRAP_0_ORMASK	0x00101008	0x5C	0X0000802C	0X0000802C
BOOT_3_STRAP_1	0x00101100C		0x00000010	0x00000010
BOOT_4_STRAP_1_ANDMASK	0x00101010	0x60	0x00000001	0x00000001
BOOT_5_STRAP_1_ORMASK	0x00101014	0x64	0x00000010	0x00000010

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2701 SAN TOMAS EXPRESSWAY
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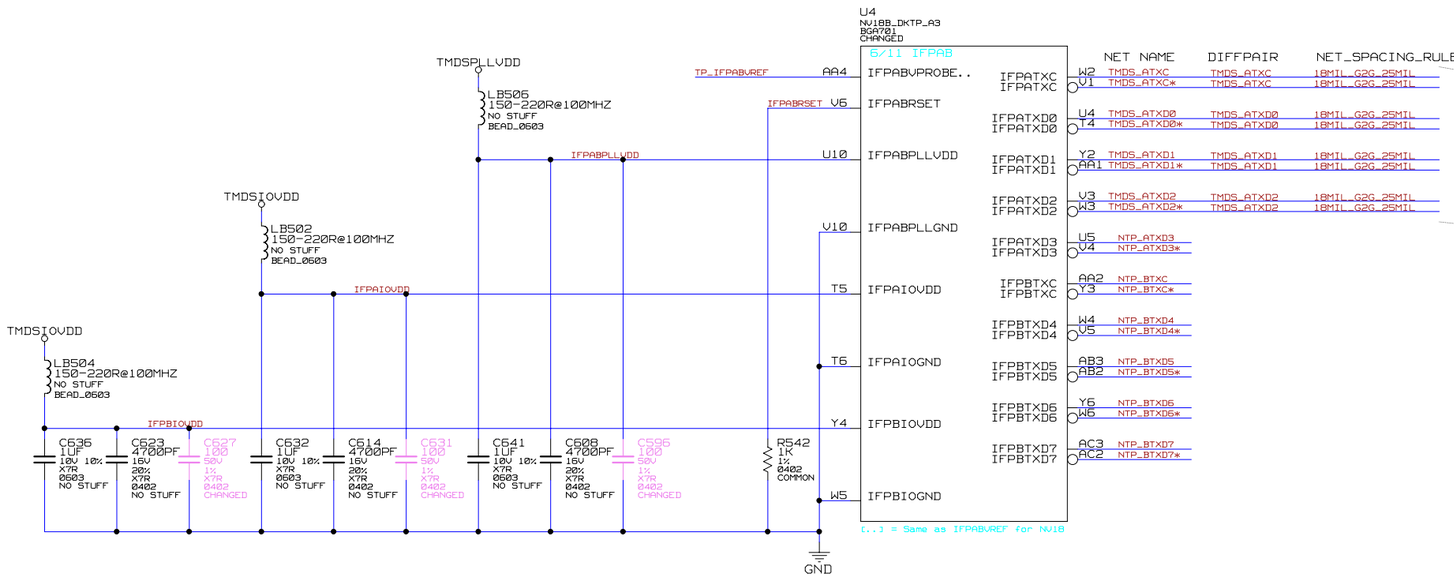
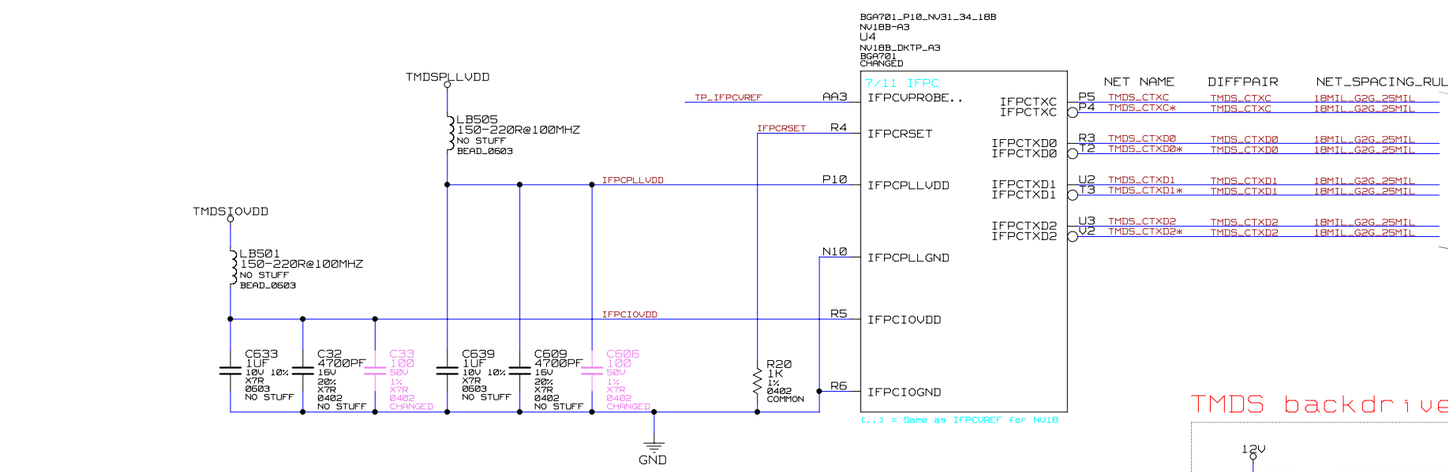
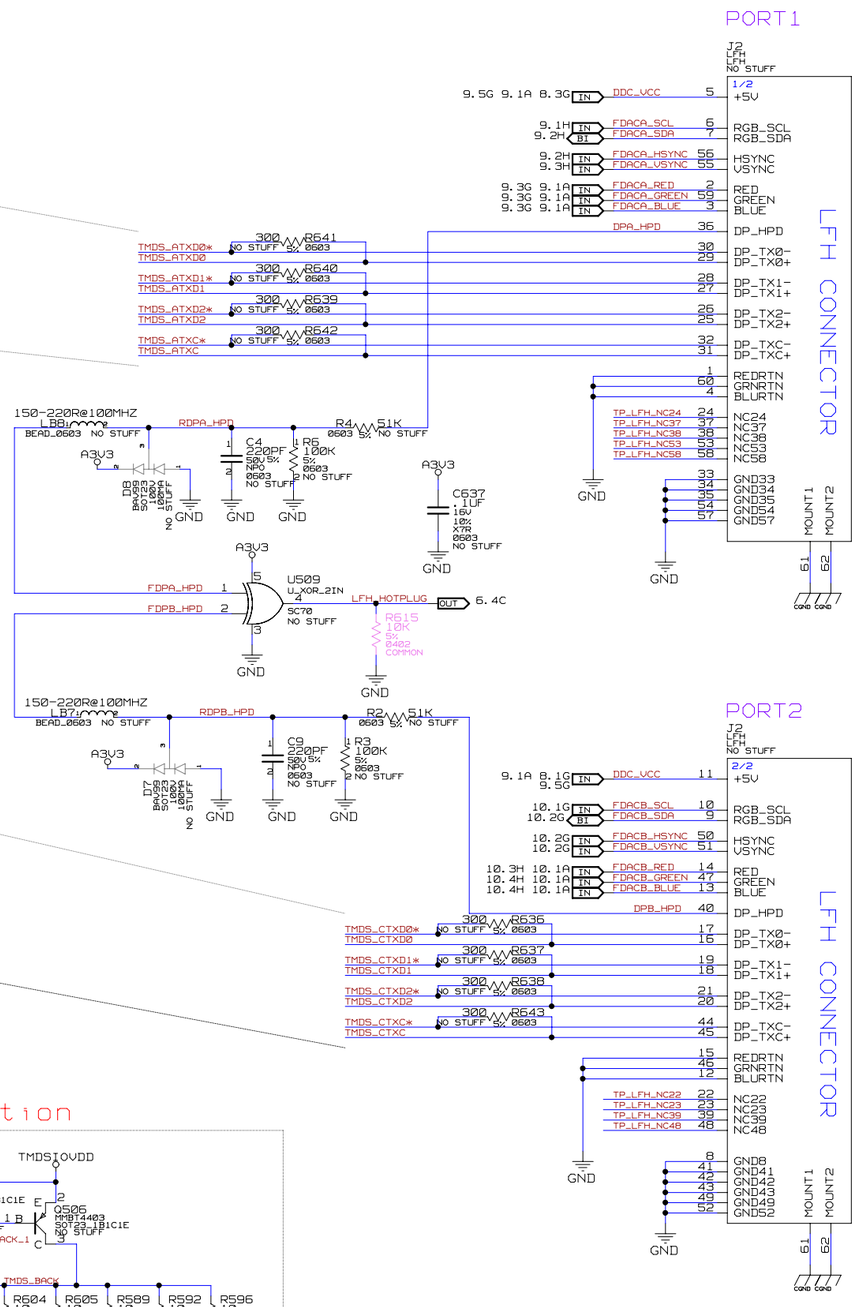
DETAIL	P118 - STRAP BOARD STRAP DEFINITION		
ID	p118_a00	PAGE	7 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

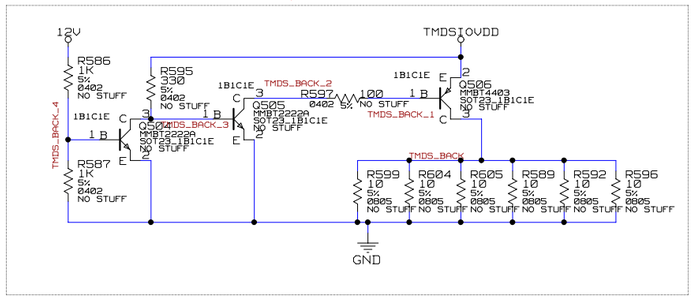
NET	NET_PHYSICAL_TYPE	VOLTAGE
IFPABPLLVDD	12MIL_TRACE	3.3V
IFPAIOVDD	12MIL_TRACE	3.3V
IFPBIOVDD	12MIL_TRACE	3.3V
IFPABVREF	12MIL_TRACE	3.3V
IFPCPLLVDD	12MIL_TRACE	3.3V
IFPCIOVDD	12MIL_TRACE	3.3V
IFPCVREF	12MIL_TRACE	3.3V
TMDS_BACK	12MIL_TRACE	3.3V







TMDS backdrive prevention



ASSEMBLY=TMDS_BACKDRIVE

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
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DETAIL	P118 - INTERNAL TMDS LFH CONNECTION		
ID	p118_a00	PAGE	8 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

NET	NET_PHYSICAL_TYPE	VOLTAGE	NET_SPACING_TYPE
DDC_VCC	12MIL_TRACE	5V	

NET	NET_PHYSICAL_TYPE	IMPEDANCE_RULE	NET_SPACING_TYPE
DACA_RED		37.5	20MIL
DACA_GREEN		37.5	20MIL
DACA_BLUE		37.5	20MIL
FDACA_RED	10MIL_TRACE		20MIL
FDACA_GREEN	10MIL_TRACE		20MIL
FDACA_BLUE	10MIL_TRACE		20MIL
		CHANGE TO 37.5 OHM	
DACA_LR	10MIL_TRACE		20MIL
DACA_LG	10MIL_TRACE		20MIL
DACA_LB	10MIL_TRACE		20MIL

8.3G 8.1G 9.5G IN DDC_VCC

9.3G 8.1G OUT FDACA_RED

9.3G 8.1G OUT FDACA_GREEN

9.3G 8.1G OUT FDACA_BLUE

R557 33 0402 5% COMMON RI2CA_SCL

R553 33 0402 5% COMMON RI2CA_SDA

R12 2.2K 5% 0402 COMMON

R10 2.2K 5% 0402 COMMON

150-220R@100MHZ

LB6 BEAD_0603 COMMON FDACA_SCL

LB4 BEAD_0603 COMMON FDACA_SDA

LB3 68NH 0603 COMMON FDACA_HSYNC

LB5 68NH 0603 COMMON FDACA_VSYNC

D5 BAV99 SOT23 100V 100MA NO STUFF

D4 BAV99 SOT23 100V 100MA NO STUFF

D3 BAV99 SOT23 100V 100MA NO STUFF

D5 BAV99 SOT23 100V 100MA NO STUFF

C3 22PF 50V 5% NPO 0603 COMMON

C8 22PF 50V 5% NPO 0603 COMMON

C7 47PF 50V 5% NPO 0603 COMMON

C2 47PF 50V 5% NPO 0603 COMMON

OUT 8.1G

BI 8.1G

C11 .1UF 10V 10% X7R 0402 COMMON

U2 74ACT08 B 74ACT_SO COMMON

U2 74ACT08 A 74ACT_SO COMMON

9.2C 7.2A9.2C 7.2A OUT DACA_HSYNC

9.2C 7.2A9.2C 7.2A OUT DACA_VSYNC

R13 15 0402 5% NO STUFF

R9 15 0402 5% NO STUFF

R15 33 0402 5% COMMON BUF_DACA_HS

R8 33 0402 5% COMMON BUF_DACA_VS

U4 NV18B_DKTP_A3 BGA701 CHANGED

4/11 DAC_A

DACA_VDD	AG9		
DACA_VREF	AH8		
DACA_RSET	AG8		
I2CA_SCL	AG5	I2CA_SCL	
I2CA_SDA	AF7	I2CA_SDA	
DACA_HSYNC	AH9	DACA_HSYNC	
DACA_VSYNC	AJ8	DACA_VSYNC	
DACA_RED	AK10	DACA_RED	
DACA_GREEN	AJ10	DACA_GREEN	
DACA_BLUE	AJ9	DACA_BLUE	
DACA_IDUMP	AG10		
..SWAPRDY_A	AF9	SWAPRDY_A	

37.5 OHM TRACE TILL 75R RESISTORS

R552 10K 0402 5% COMMON

(..) = NOT USED ON NV18

A3V3 LB503 150-220R@100MHz BEAD_0805 COMMON 12MIL_TRACE

C629 1UF 10V 10% X7R 0603 COMMON

C625 4700PF 16V 20% X7R 0402 COMMON

C624 470PF 50V 10% X7R 0402 COMMON

C40 .01UF 16V 10% X7R 0402 COMMON

R550 124 1% 0603 COMMON

R621 1K 1% 0402 COMMON

R528 75 1% 0402 COMMON

D506 BAV99 SOT23 100V 100MA NO STUFF

L506 0 0603 CHANGED

C675 10PF 50V 5% NPO 0603 COMMON

C685 4.7PF 50V +/-0.25PF COG 0603 NO STUFF

C695 10PF 50V 5% NPO 0603 COMMON

L513 82NH 0603 COMMON

DACA_LR

DACA_RED

DACA_GREEN

DACA_BLUE

FDACA_RED

FDACA_GREEN

FDACA_BLUE

DDC_VCC

TP_RGB_NC4

J1 CON_DSUB15HD VGA_SLIM COMMON

16 SHIELD

6 GND-R

7 GND-G

8 GND_B

3 B

5 5V

4 ID2

10 GND

5 GND

17 SHIELD

ID0 11

SDA 12

HSYNC 13

VSYNC 14

SCL 15

TP_RGB_NC11

R646 0 0603,05R COMMON

R645 0 0603,05R COMMON

R622 698 1% 0402 COMMON

R629 75 1% 0402 COMMON

D507 BAV99 SOT23 100V 100MA NO STUFF

L507 0 0603 CHANGED

C676 10PF 50V 5% NPO 0603 COMMON

C687 4.7PF 50V +/-0.25PF COG 0603 NO STUFF

C696 10PF 50V 5% NPO 0603 COMMON

L514 82NH 0603 COMMON

R620 2.2K 5% 0402 NO STUFF

R627 75 1% 0402 COMMON

D505 BAV99 SOT23 100V 100MA NO STUFF

L505 0 0603 CHANGED

C674 10PF 50V 5% NPO 0603 COMMON

C685 4.7PF 50V +/-0.25PF COG 0603 NO STUFF

C694 10PF 50V 5% NPO 0603 COMMON

L512 82NH 0603 COMMON

BGA701_P10_NV31_34_18B

NV18B-A3

U4

NV18B_DKTP_A3

BGA701

CHANGED

11/11 PLL

LB10 150-220R@100MHz BEAD_0805 COMMON 12MIL_TRACE

C30 1UF 10V 10% X7R 0603 COMMON

C36 1UF 10V 10% X7R 0603 COMMON

C37 4700PF 16V 20% X7R 0402 COMMON

C38 470PF 50V 10% X7R 0402 COMMON

PLLVDD	AK7		
XTALSSIN	AJ7	XTALOUTBUFF	AJ5 TP_XTALOUTBUFF
XTALIN	AJ6	XTALOUT	AH6 XTALOUT

SPACING 20MIL PHYSICAL 12MIL Y1 XTAL 27MHZ_TV HC49SMD 18PPM COMMON PHYSICAL 12MIL SPACING 20MIL

R549 10K 5% 0402 COMMON

C650 22PF 50V 5% NPO 0402 COMMON

C658 22PF 50V 5% NPO 0402 COMMON

NEED TO VERIFY LOADING CAPS, 22PF USED ON P112

F1 1A 1812 COMMON POLYSWITCH

L1 150-220R@100MHz BEAD_0805 COMMON

C14 220PF 50V 5% NPO 0603 COMMON

DDC_VCC OUT 8.1G 8.3G 9.1A 9.5G 8.1G 8.3G 9.1A 9.5G

C1 4.7UF 6.3V 10% X5R 0805 COMMON

C12 4.7UF 6.3V 10% X5R 0805 COMMON

PLACE IN OUTPUT FILTER SECTION!

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DETAIL	P118 - EXTERNAL IO DAC A - VGA CONNECTION		
ID	p118_a00	PAGE	9 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

NET	NET_PHYSICAL_TYPE	IMPEDANCE_RULE	NET_SPACING_TYPE
10.3H 8.3G IN FDACB_RED	10MIL_TRACE	::37.5	20MIL
10.4H 8.3G IN FDACB_GREEN	10MIL_TRACE	::37.5	20MIL
10.4H 8.4G IN FDACB_BLUE	10MIL_TRACE	::37.5	20MIL
DACB_LR	10MIL_TRACE		20MIL
DACB_LG	10MIL_TRACE		20MIL
DACB_LB	10MIL_TRACE		20MIL
DACB_RED			20MIL
DACB_GREEN			20MIL
DACB_BLUE			20MIL
TV_YOUT			20MIL
TV_COUT			20MIL
CVBS_YOUT			20MIL
COUT			20MIL

R130 VALUE WILL CHANGE DEPENDING ON LFH OR TV-OUT

R-SET VALUE

VGA MODE	TV MODE
118 OHM	56.2 OHM

37.5 OHM TRACE TILL 75R RESISTORS

MAKE SURE STUB IS AS SHORT AS POSSIBLE!!!!

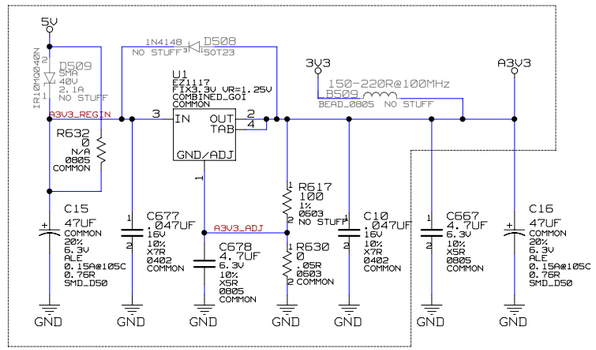
ASSEMBLY=TVOUT

PLACE IN OUTPUT FILTER SECTION!

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

DETAIL	P118 - EXTERNAL IO DAC B / TV OUT		
ID	p118_a00	PAGE	10 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

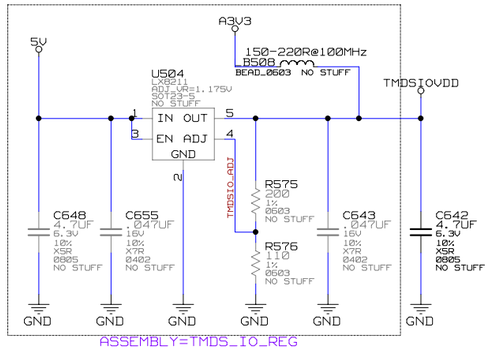
ANALOG 3V3



ASSEMBLY=A3V3_REG

VOUT = VREF ‹1 + ‹ RBOT / RTOP ›› + ‹IADJ X RBOT›
3.28 = 1.25 ‹1 + ‹ 162 / 100 ›› + ‹55uA x 162›
DEFAULT CONFIGURATION IS 3.3V FIXED, NO VOUT FORMULA NEEDED

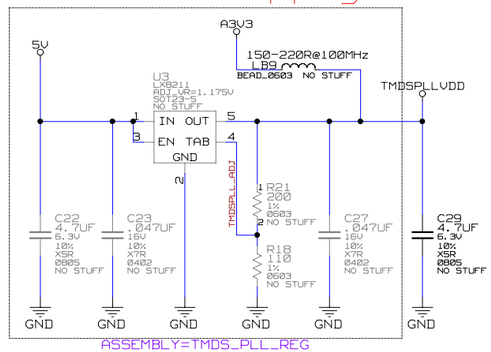
TMDS IO SUPPLY



ASSEMBLY=TMDS_IO_REG

VOUT = 1.175 * ‹1 + ‹ RTOP / RBOT ››
2.77 = 1.175 * ‹1 + ‹ 150 / 110 ››
3.31 = 1.175 * ‹1 + ‹ 200 / 110 ››

TMDS PLL Supply

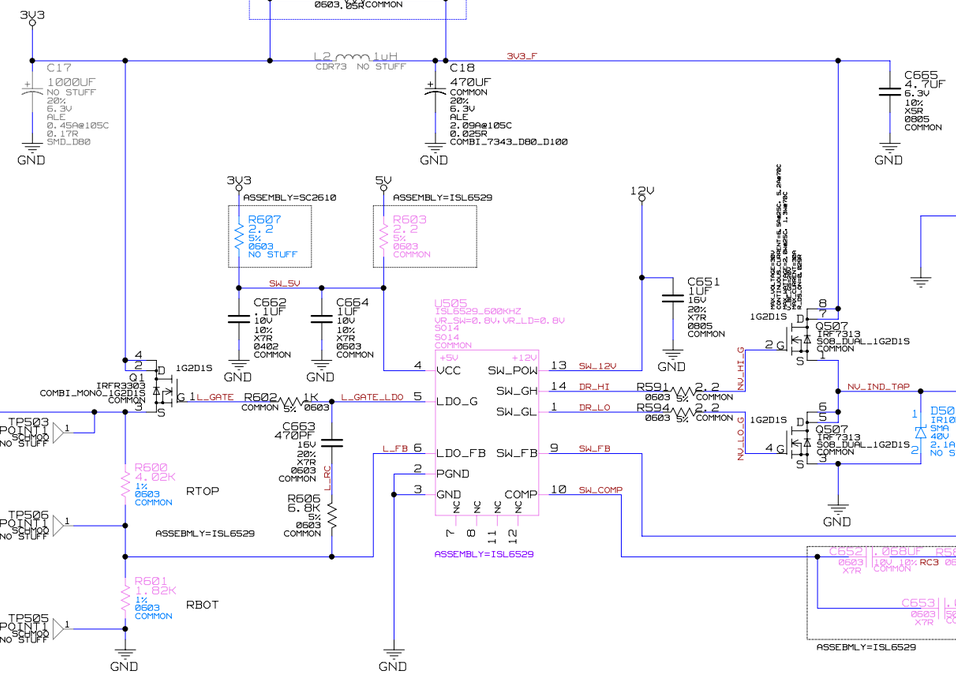


ASSEMBLY=TMDS_PLL_REG

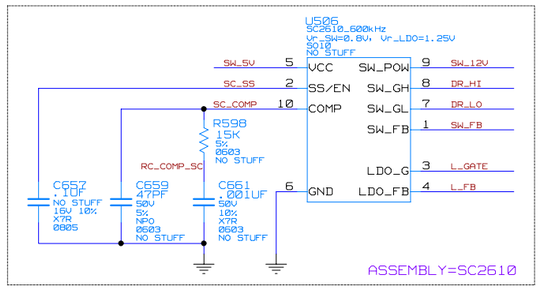
VOUT = 1.175 * ‹1 + ‹ RTOP / RBOT ››
2.77 = 1.175 * ‹1 + ‹ 150 / 110 ››
3.31 = 1.175 * ‹1 + ‹ 200 / 110 ››

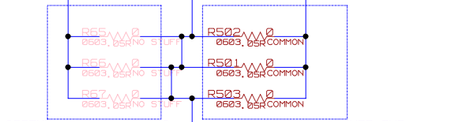
NET	NET_PHYSICAL_TYPE	VOLTAGE
3V3	12MIL_TRACE	3.3V
A3V3	12MIL_TRACE	3.3V
FBVDDQ	12MIL_TRACE	2.5V
FBVDD	12MIL_TRACE	2.5V
NUVDD	12MIL_TRACE	1.65V
5V	12MIL_TRACE	5V
12V	12MIL_TRACE	12V
GND	12MIL_TRACE	0V
A3V3_REGIN	12MIL_TRACE	3.3V
A3V3_ADJ	10MIL_TRACE	
TMDSPLLVDD	12MIL_TRACE	3.3V
TMDSPLL_ADJ	10MIL_TRACE	
TMDSIOVDD	12MIL_TRACE	3.3V
TMDSIO_ADJ	10MIL_TRACE	
3V3_F	12MIL_TRACE	3.3V
SW_12V	10MIL_TRACE	12V
SW_5V	10MIL_TRACE	5V
DR_HI	10MIL_TRACE	
DR_LO	10MIL_TRACE	
NV_HT_G	10MIL_TRACE	
NV_LO_G	10MIL_TRACE	
NV_IND_TAP	12MIL_TRACE	1.65V
SW_FB	10MIL_TRACE	
SW_COMP	10MIL_TRACE	
RC_COMP_SC	10MIL_TRACE	
RC3	10MIL_TRACE	
RC1	10MIL_TRACE	
RC2	10MIL_TRACE	
RC4	10MIL_TRACE	
L_GATE_LDO	10MIL_TRACE	
L_GATE	10MIL_TRACE	
L_RC	10MIL_TRACE	
L_FB	10MIL_TRACE	

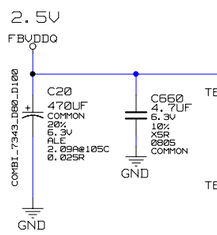
ASSEMBLY=L2BYPASS
USED TO BYPASS L2 FOR COST
R17 0 0603,.05R COMMON
R16 0 0603,.05R COMMON



ALTERNATIVE TO ISL6529







FBVDD = VREF * ‹1+ ‹RTOP / RBOT ››
ISL6529 2.567V = 0.8V * ‹1+ ‹4.02k / 1.82k››
SC2610 2.563V = 1.25V * ‹1+ ‹ 105 / 100 ››

ISL6529 and SC2610 uses same VREF 0.8V on PWM ‹switcher›
RBOT = ‹ ‹RTOP X 0.8› / ‹VOUT - 0.8››
VOUT = 0.8 * ‹1 + ‹RTOP / RBOT››
1.65 = 0.8 * ‹1 + ‹1k / 1K››

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DETAIL	P118 POWER SUPPLIES		
ID	p118_a00	PAGE	11 OF 14
NAME	602-10118-0000-000	DATE	2002-11-11

*** Signal Cross-Reference for the entire design ***

DACA_HSYNC	7.2A 9.2C
DACA_VSYNC	7.2A 9.2C
DACB_HSYNC	7.2A 10.2C
DACB_VSYNC	7.2A 10.2C
DDC_VCC	8.1G 8.3G 9.1A 9.5G
DVOD<2>	6.2E 7.1A
DVOD<3..2>	6.2E 7.1A
DVOD<3>	6.2E 7.1A
DVODE	6.2E 7.4A
DVOHSYNC	6.2E 7.3A
FBAA<0>	3.4B 4.1F 5.1F
FBAA<12..0>	3.4B 4.1F 5.1F
FBAA<1>	3.4B 4.1F 5.1F
FBAA<2>	3.4B 4.1F 5.1F
FBAA<3>	3.4B 4.1F 5.1F
FBAA<4>	3.4B 4.1F 5.1F
FBAA<5>	3.4B 4.1F 5.1F
FBAA<6>	3.4B 4.1F 5.1F
FBAA<7>	3.4B 4.1F 5.1F
FBAA<8>	3.4B 4.1F 5.1F
FBAA<9>	3.4B 4.1F 5.1F
FBAA<10>	3.4B 4.1F 5.1F
FBAA<11>	3.4B 4.1F 5.1F
FBAA<12>	3.4B 4.1F 5.1F
FBABA<0>	3.5B 4.1F 5.1F
FBABA<1..0>	3.5B 4.1F 5.1F
FBABA<1>	3.5B 4.1F 5.1F
FBACAS*	3.5B 4.1F 5.1F
FBACKE	3.5B 4.2F 5.2F
FBACLK0	3.5B 4.1F
FBACLK0*	3.5B 4.1F
FBACLK1	3.5B 4.1F
FBACLK1*	3.5B 4.1F
FBACS0*	3.5B 4.1F 5.1F
FBARAS*	3.5B 4.1F 5.1F
FBAWE*	3.5B 4.1F 5.1F
FBBCLK0	3.5E 5.1F
FBBCLK0*	3.5E 5.1F
FBBCLK1	3.5E 5.1F
FBBCLK1*	3.5E 5.1F
FBD<0>	3.1B 5.1F
FBD<31..0>	3.1B 5.1F
FBD<1>	3.1B 5.1F
FBD<2>	3.1B 5.1F
FBD<3>	3.1B 5.1F
FBD<4>	3.1B 5.1F
FBD<5>	3.1B 5.1F
FBD<6>	3.1B 5.1F
FBD<7>	3.1B 5.1F
FBD<8>	3.1B 5.1F
FBD<9>	3.1B 5.1F
FBD<10>	3.1B 5.1F
FBD<11>	3.1B 5.1F
FBD<12>	3.1B 5.1F
FBD<13>	3.1B 5.1F
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FBD<17>	3.1B 5.1F
FBD<18>	3.1B 5.1F
FBD<19>	3.1B 5.1F
FBD<20>	3.1B 5.1F
FBD<21>	3.1B 5.1F
FBD<22>	3.1B 5.1F
FBD<23>	3.1B 5.1F
FBD<24>	3.1B 5.1F
FBD<25>	3.1B 5.1F
FBD<26>	3.1B 5.1F
FBD<27>	3.1B 5.1F
FBD<28>	3.1B 5.1F
FBD<29>	3.1B 5.1F
FBD<30>	3.1B 5.1F
FBD<31>	3.1B 5.1F
FBD<32>	3.2B 4.1F
FBD<63..32>	3.2B 4.1F
FBD<33>	3.2B 4.1F
FBD<34>	3.2B 4.1F
FBD<35>	3.2B 4.1F
FBD<36>	3.2B 4.1F
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FBD<38>	3.2B 4.1F
FBD<39>	3.2B 4.1F
FBD<40>	3.2B 4.1F
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FBD<43>	3.2B 4.1F
FBD<44>	3.2B 4.1F
FBD<45>	3.2B 4.1F
FBD<46>	3.2B 4.1F
FBD<47>	3.2B 4.1F
FBD<48>	3.2B 4.1F
FBD<49>	3.2B 4.1F
FBD<50>	3.2B 4.1F
FBD<51>	3.2B 4.1F
FBD<52>	3.2B 4.1F
FBD<53>	3.2B 4.1F
FBD<54>	3.2B 4.1F
FBD<55>	3.2B 4.1F
FBD<56>	3.2B 4.1F
FBD<57>	3.2B 4.1F
FBD<58>	3.2B 4.1F
FBD<59>	3.2B 4.1F
FBD<60>	3.2B 4.1F
FBD<61>	3.2B 4.1F
FBD<62>	3.2B 4.1F
FBD<63>	3.2B 4.1F
FBDQM<0>	3.3B 5.1F
FBDQM<3..0>	3.3B 5.1F
FBDQM<7..0>	3.3B 4.1F 5.1F
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FBDQM<7..4>	3.3B 4.1F
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FBDQM<6>	3.3B 4.1F
FBDQM<7>	3.3B 4.1F
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FBDQS<3..0>	3.3B 5.1F
FBDQS<7..0>	3.3B 4.1F 5.1F
FBDQS<1>	3.3B 5.1F
FBDQS<2>	3.3B 5.1F
FBDQS<3>	3.3B 5.1F
FBDQS<4>	3.3B 4.1F
FBDQS<7..4>	3.3B 4.1F
FBDQS<5>	3.3B 4.1F
FBDQS<6>	3.3B 4.1F
FBDQS<7>	3.3B 4.1F
FDACA_BLUE	8.1G 9.1A 9.3G
FDACA_GREEN	8.1G 9.1A 9.3G
FDACA_HSYNC	8.1G 9.2H
FDACA_RED	8.1G 9.1A 9.3G
FDACA_SCL	8.1G 9.1H
FDACA_SDA	8.1G 9.2H
FDACA_VSYNC	8.1G 9.3H
FDACB_BLUE	8.4G 10.1A 10.4H
FDACB_GREEN	8.3G 10.1A 10.4H
FDACB_HSYNC	8.3G 10.2G
FDACB_RED	8.3G 10.1A 10.3H
FDACB_SCL	8.3G 10.1G
FDACB_SDA	8.3G 10.2G
FDACB_VSYNC	8.3G 10.2G
LFH_HOTPLUG	6.4C 8.3G
ROMA<14>	6.3D 7.3A
ROMA<15..14>	6.3D 7.3A
ROMA<15>	6.3D 7.3A
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STRAP<3..0>	6.3E 7.1A
STRAP<1>	6.3E 7.1A
STRAP<2>	6.3E 7.1A
STRAP<3>	6.3E 7.1A
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VIP<3>	6.3D 7.2A
VIP<4>	6.3D 7.2A
VIP<5>	6.3D 7.2A
VIP<6>	6.3D 7.2A
VIPHCTL	6.3D 7.2A

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*** Part Cross-Reference for the entire design ***

C1	C	9.4G
C2	C	9.3F
C3	C	9.1F
C4	C	8.2F
C5	C	10.3F
C6	C	10.2F
C7	C	9.2F
C8	C	9.2F
C9	C	8.3G
C10	C	11.2B
C11	C	9.2D
C12	C	9.4H
C13	C	10.5F
C14	C	9.5F
C15	C_POL	11.2A
C16	C_POL	11.2B
C17	C_POL	11.3C
C18	C_POL	11.3D
C19	C_POL	11.4H
C20	C_POL	11.4B
C21	C_POL	11.4H
C22	C	11.2E
C23	C	11.2E
C24	C	2.1A
C25	C	2.2A
C26	C	2.2A
C27	C	11.2F
C28	C	2.2A
C29	C	11.2F
C30	C	9.4A
C31	C	2.2A
C32	C	8.4B
C33	C	8.4B
C34	C	2.5F
C35	C	2.5F
C36	C	9.4A
C37	C	9.4B
C38	C	9.4B
C39	C	2.5F
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C51	C	4.2F
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C70	C	5.4F
C71	C	4.2G
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C74	C	5.3D
C75	C	5.3G
C76	C	5.3G
C77	C	4.2G
C78	C	4.2F
C79	C	5.4G
C80	C	4.3G
C81	C	5.3F
C82	C	5.3F
C83	C	4.2G
C84	C	4.2F
C85	C_POL	11.4A
C86	C_POL	4.2G
C87	C_POL	5.2G
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C517	C	5.3G
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C520	C	4.4F
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C526	C	5.3G
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C528	C	4.4F
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C533	C	5.2G
C534	C	5.2G
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C590	C	2.2F
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C628	C	3.2D
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C638	C	10.3A
C639	C	8.4B
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C641	C	8.2B
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C643	C	11.2D
C644	C	2.5B
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C657	C	11.3F
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C675	C	9.3E
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C678	C	11.2A
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C685	C	9.4F
C686	C	9.3F
C687	C	9.4F
C688	C	10.4D
C689	C	10.4D
C690	C	10.2F
C691	C	10.4G
C692	C	10.3G
C693	C	10.4G
C694	C	9.4F
C695	C	9.3F
C696	C	9.4F
CN501	CON_AGP	2.1B
D1	D_3PIN_AC	10.3E
D2	D_3PIN_AC	10.2E
D3	D_3PIN_AC	9.2E
D4	D_3PIN_AC	9.2E
D5	D_3PIN_AC	9.3E
D6	D_3PIN_AC	9.1E
D7	D_3PIN_AC	8.3F
D8	D_3PIN_AC	8.2F
D501	D_SCHOTTKY	11.4E
D502	D_3PIN_AC	10.4F
D503	D_3PIN_AC	10.3F
D504	D_3PIN_AC	10.4F
D505	D_3PIN_AC	9.4E
D506	D_3PIN_AC	9.3E
D507	D_3PIN_AC	9.4E
D508	D	11.1A
D509	D_SCHOTTKY	11.1A
D510	D_3PIN_AC	10.4D
D511	D_3PIN_AC	10.4D
D512	D_3PIN_AC	10.2E
D513	D_3PIN_AC	10.1E
F1	F_POLYSW	9.5E
J1	CON_DSUB15HD	9.3G
J2	CON_LFH	8.1H 8.3H
J3	CON_MINIDIN_4	10.5D
J501	HDR_1X2	6.4A
L1	L	9.5F
L2	L	11.3C
L3	L	11.4F
L501	L	10.4E
L502	L	10.4F
L503	L	10.3F
L504	L	10.4F
L505	L	9.4E
L506	L	9.3E
L507	L	9.4E
L508	L	10.4D
L509	L	10.4G
L510	L	10.3G
L511	L	10.4G
L512	L	9.4F
L513	L	9.3F
L514	L	9.4F
LB1	L	10.2F
LB2	L	10.1F
LB3	L	9.2F
LB4	L	9.2F
LB5	L	9.2F
LB6	L	9.1F
LB7	L	8.3F
LB8	L	8.2F
LB9	L	11.1F
LB10	L	9.4A
LB11	L	2.5F
LB12	L	3.3E
LB13	L	3.2E
LB501	L	8.4A
LB502	L	8.2A
LB503	L	9.3A
LB504	L	8.2A
LB505	L	8.3B
LB506	L	8.1B
LB507	L	10.3A
LB508	L	11.1D
LB509	L	11.1B
LB510	L	10.2F
LB511	L	10.1F
MEC1	HEATSINK	6.5B
Q1	Q_FET_N_ENH	11.4C
Q501	Q_FET_N_ENH	2.4C 2.5C
Q502	Q_FET_N_ENH	2.5A
Q503	Q_PNP	2.5B
Q504	Q_NPN	8.5E
Q505	Q_NPN	8.5E
Q506	Q_PNP	8.5F
Q507	Q_FET_N_ENH	11.4E
R1	R	10.5D
R2	R	8.3G

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R3	R	8.3G
R4	R	8.2G
R5	R	10.2E
R6	R	8.2G
R7	R	10.1E
R8	R	9.3D
R9	R	9.2D
R10	R	9.1E
R11	R	10.2E
R12	R	9.1E
R13	R	9.2D
R14	R	10.2E
R15	R	9.2D
R16	R	11.3C
R17	R	11.2C
R18	R	11.2F
R19	R	3.2H
R20	R	8.4C
R21	R	11.1F
R22	R	10.3E
R23	R	7.2B
R24	R	7.1B
R25	R	3.2G
R26	R	7.2B
R27	R	7.1B
R28	R	10.3B
R29	R	7.1B
R30	R	7.1B
R31	R	7.1B
R32	R	7.1B
R33	R	10.1D
R34	R	7.3B
R35	R	7.3B
R36	R	6.5A
R37	R	7.2B
R38	R	7.2B
R39	R	6.3A
R40	R	6.3A
R41	R	7.1B
R42	R	2.4D
R43	R	4.2B
R44	R	5.3B
R45	R	5.3B
R46	R	4.3B
R47	R	5.5E
R48	R	4.5E
R49	R	4.2D
R50	R	5.3D
R51	R	5.5E
R52	R	4.5E
R53	R	5.2D
R54	R	4.3D
R55	R	4.5C
R56	R	5.5C
R57	R	4.1C
R58	R	5.1C
R59	R	4.1C
R60	R	5.1C
R61	R	4.1C
R62	R	5.1C
R63	R	4.5C
R64	R	5.5C
R65	R	11.3A
R66	R	11.3A
R67	R	11.3A
R501	R	11.3A
R502	R	11.3A
R503	R	11.3A
R504	R	4.3C
R505	R	4.5C
R506	R	5.5C
R507	R	5.1E
R508	R	4.1E
R509	R	5.1E
R510	R	4.1E
R511	R	4.1E
R512	R	5.1E
R513	R	4.5E
R514	R	5.5D
R515	R	5.5C
R516	R	4.5C
R517	R	5.5D
R518	R	4.5E
R519	R	5.2A
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R523	R	2.4A
R524	R	2.4A
R525	R	2.4C
R526	R	2.4A

R527	R	3.4E
R528	R	2.4A
R529	R	2.4D
R530	R	3.4E
R531	R	2.4C
R532	R	2.5C
R533	R	2.4F
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R535	R	2.5D
R536	R	2.5D
R537	R	3.5B
R538	R	3.5B
R539	R	2.4F
R540	R	2.4C
R541	R	2.4F
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R543	R	3.1H
R544	R	6.2G
R545	R	6.5A
R546	R	6.2G
R547	R	7.2B
R548	R	7.2B
R549	R	9.5B
R550	R	9.3B
R551	R	10.4C
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R554	R	7.1B
R555	R	7.1B
R556	R	6.3H
R557	R	9.1D
R558	R	6.2H
R559	R	7.2B
R560	R	2.4E
R561	R	7.2B
R562	R	11.4F
R563	R	7.3B
R564	R	7.2B
R565	R	7.3B
R566	R	7.3B
R567	R	7.2B
R568	R	7.3B
R569	R	6.3E
R570	R	7.4B
R571	R	2.4B
R572	R	2.5A
R573	R	6.3E
R574	R	6.3E
R575	R	11.1D
R576	R	11.2D
R577	R	2.4B
R578	R	11.4F
R579	R	11.4F
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R581	R	2.5B
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R583	R	7.2B
R584	R	11.4E
R585	R	11.4F
R586	R	8.4E
R587	R	8.5E
R588	R	7.2B
R589	R	8.5F
R590	R	7.2B
R591	R	11.4E
R592	R	8.5F
R593	R	11.4F
R594	R	11.4E
R595	R	8.4E
R596	R	8.5F
R597	R	8.5E
R598	R	11.3F
R599	R	8.5F
R600	R	11.4C
R601	R	11.4C
R602	R	11.4C
R603	R	11.3D
R604	R	8.5F
R605	R	8.5F
R606	R	11.4C
R607	R	11.3C
R608	R	7.3B
R609	R	7.3B
R610	R	7.3B
R611	R	7.3B
R612	R	6.4D
R613	R	7.2B
R614	R	7.2B
R615	R	8.3G
R616	R	7.2B
R617	R	11.2B

R618	R	10.4E
R619	R	10.4E
R620	R	9.4D
R621	R	9.3D
R622	R	9.4D
R623	R	10.3E
R624	R	10.4F
R625	R	10.3F
R626	R	10.4F
R627	R	9.4E
R628	R	9.3E
R629	R	9.4E
R630	R	11.2B
R631	R	10.1D
R632	R	11.1A
R633	R	10.1E
R634	R	10.3D
R635	R	10.3D
R636	R	8.4G
R637	R	8.4G
R638	R	8.4G
R639	R	8.2G
R640	R	8.1G
R641	R	8.1G
R642	R	8.2G
R643	R	8.4G
R644	R	10.5D
R645	R	9.4H
R646	R	9.3H
RP1	R_PAK	5.3A 5.3B
RP2	R_PAK	4.3A 4.3A 4.3B
RP3	R_PAK	5.3A 5.3B 5.3B
RP4	R_PAK	4.2A 4.2A 4.2B 4.2B
RP5	R_PAK	5.3A 5.3B 5.3B
RP6	R_PAK	4.3A 4.3A 4.3B 4.3B
RP7	R_PAK	5.2A 5.3A 5.3B
RP8	R_PAK	4.2A 4.2B
RP501	R_PAK	5.3A 5.3B
RP502	R_PAK	4.3A 4.3B
RP503	R_PAK	5.2A 5.2B
RP504	R_PAK	4.2A 4.3A 4.3A 4.3B
RP505	R_PAK	5.3A 5.3B
RP506	R_PAK	4.3A 4.3A 4.3B 4.3B
RP507	R_PAK	5.2A 5.2B
RP508	R_PAK	4.3A 4.3B
TP501	TESTPOINT	11.4F
TP502	TESTPOINT	11.4F
TP503	TESTPOINT	11.4C
TP504	TESTPOINT	11.5F
TP505	TESTPOINT	11.5C
TP506	TESTPOINT	11.4C
U1	U_VREG_3PIN	11.1A
U2	U_AND_2IN	9.2D 9.3D 10.2D 10.3D
U3	U_VREG_5PIN	11.1E
U4	U_GPU_DDR2M64X2_V1	2.1D 3.1C 3.1F 6.2B 6.2G 6.4B 8.1C 8.3C 9.3B 9.4B 10.3B
U5	U_MEM_SD_DDR_4_8MX16	5.2C 5.3E 5.4E
U6	U_MEM_SD_DDR_4_8MX16	4.2C 4.3C 4.4C
U501	U_MEM_SD_DDR_4_8MX16	5.2E 5.3C 5.4C
U502	U_MEM_SD_DDR_4_8MX16	4.2E 4.3E 4.4E
U503	U_VREG_5PIN	3.4D
U504	U_VREG_5PIN	11.1C
U505	U_SWREG_ISL6529	11.4D
U506	U_SWREG_SC2610	11.3G
U507	U_MEM_FL_SER_128KX8	6.4D
U508	U_MEM_FL_SER_128KX8	6.4D
U509	U_XOR_2IN	8.3G
Y1	XTAL	9.5C

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DETAIL	DRAWING DETAIL CONTINUED...		
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