C116-B, NV31/NV34, 2M/4M/8M/DDR, 64MB, VIDEO OUT, VGA

Page Overview

HISTORY:

0B

A. Change R534 from 2.43K_1% to 2.55K_1% (R11-2551T13-Y01), R533 change from 1.05K_1% to 1.18K_1% (R11-1181T13-Y01) to get FBVDDQ=2.528V.
B. Add R591 (2.2 ohm_0603_5%) and C409 (2200p_0603) to reduce VRM noise on L1 pin1.
200. SHORT ALL MEMORY DAMPING RESISTOR AND CHANGE COLOR TO RED.
210. ADD FBAA12 TO SUPPORT 16M*16 MEMORY

1 change all 0402 footprint to 0603.

2.Page 2
a.removeC62,C590,C574,C566,C615,C628,C642,C631,C626,C648,C647,C645,C624,R609,R625
b.add 2 MOSFET for U200 daul-lay

3.Page 3
remove C603,C609,C618,C611,C612,C610,C604,C592,
R768,R770,R772,R774

4.Page 4,5
a.removeC1112,C238,C241,C1115,C250,C1113,
C1114,C228,C230,C1120,C1119,C247,C245,C244,
C1121,C232,C1122
b.removeC1100,C247,C277,C1101,C1102,C286,C264,
C1104,C1106,C280,C281,C299,C1107,C1108,
C269,C270
c.remove memory data all damping(15ohm).
d.Move bypass capacitors(C1161,C1162,C1163,C1164)of memory clock to
close GPU(PAGE3).

5.Page 6
remove U13(BIOS(ALTERNATIVE)),TEMP Sensor
6.Page 7
change Y3 package to DIP

7.Page 8
remove R695,R694,R693,R7,R1,C788,C797,C819,
C806,C787,C796,C805,C818,C786,
C795,C817,C804,L510,L509,L508

8. Page 10
a.remove S_OUT1,AV_OUT1,C789,C809,C790,
C810,C791,C812,L519,L520,L521
b.add 9pin-mini-din

9. Page 11
a.remove ISL6529
b.add mosfet and OP(LM358) for NVVDD,FBVDD,FBVDDQ
c.change C41,C39 to DIP package

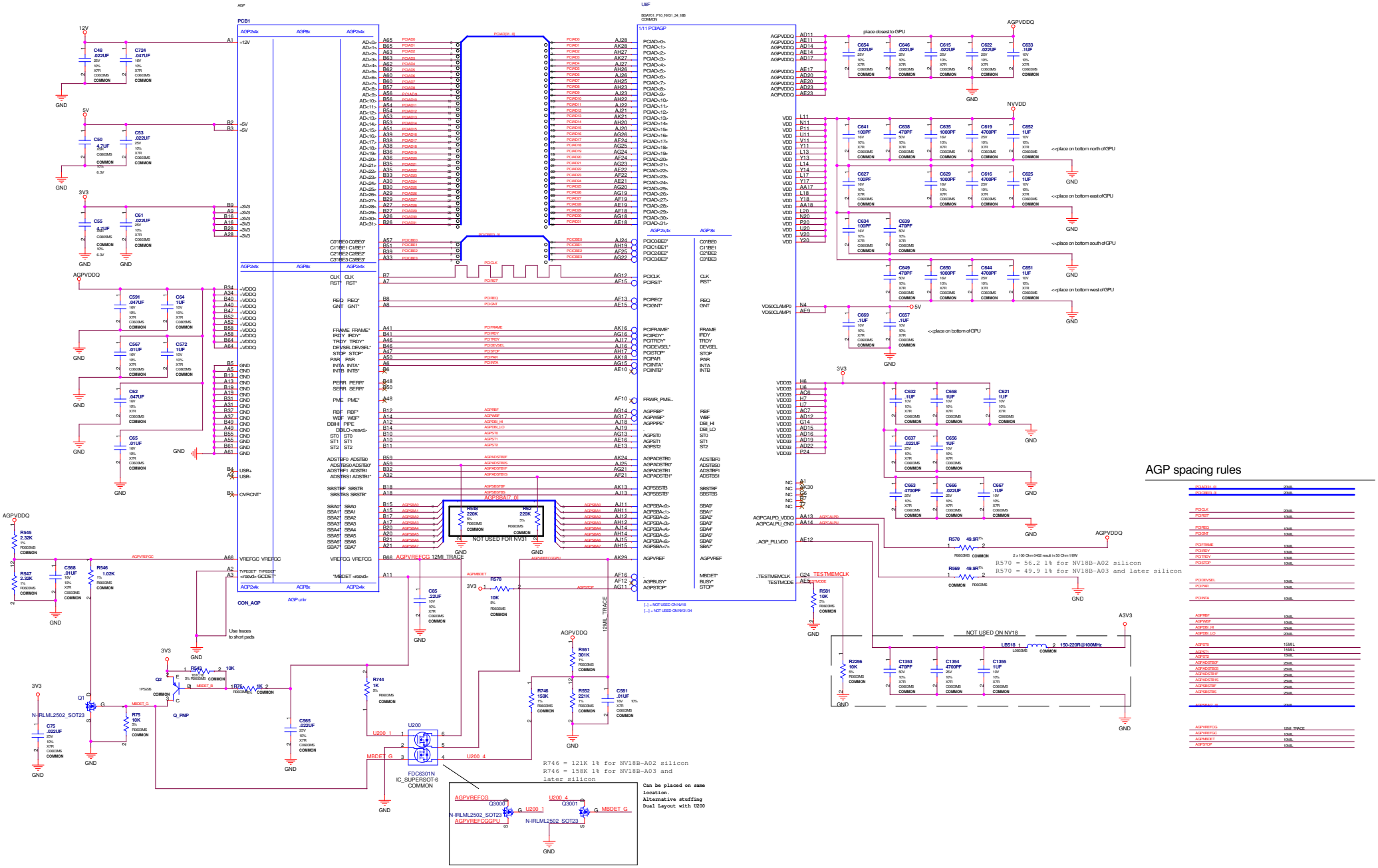
0728

change data[48:63) sequence
ddr suport 16*16M

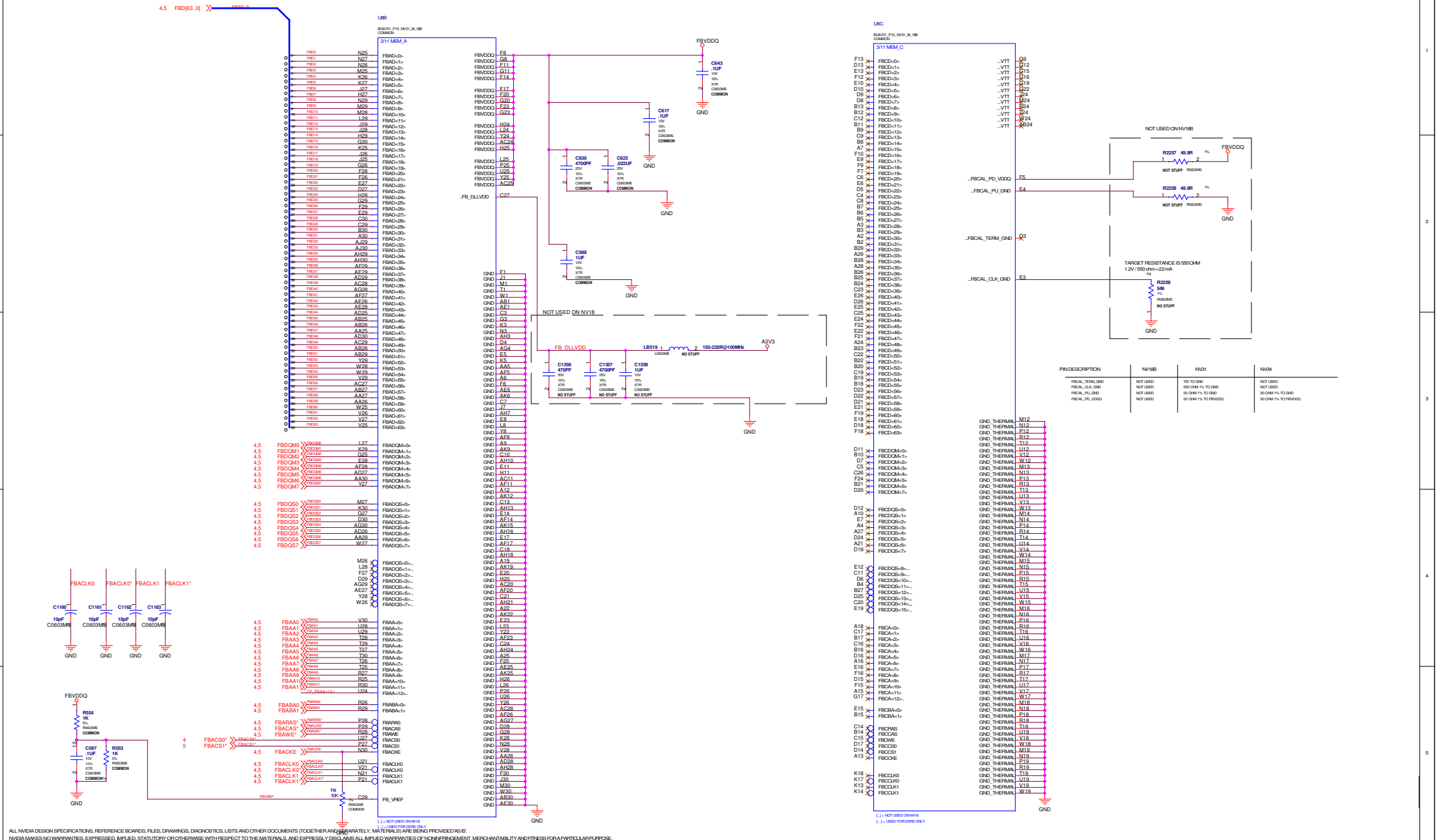
0728

SUPORT NV18B

NV18 AGP SECTION AND AGP CONNECTOR

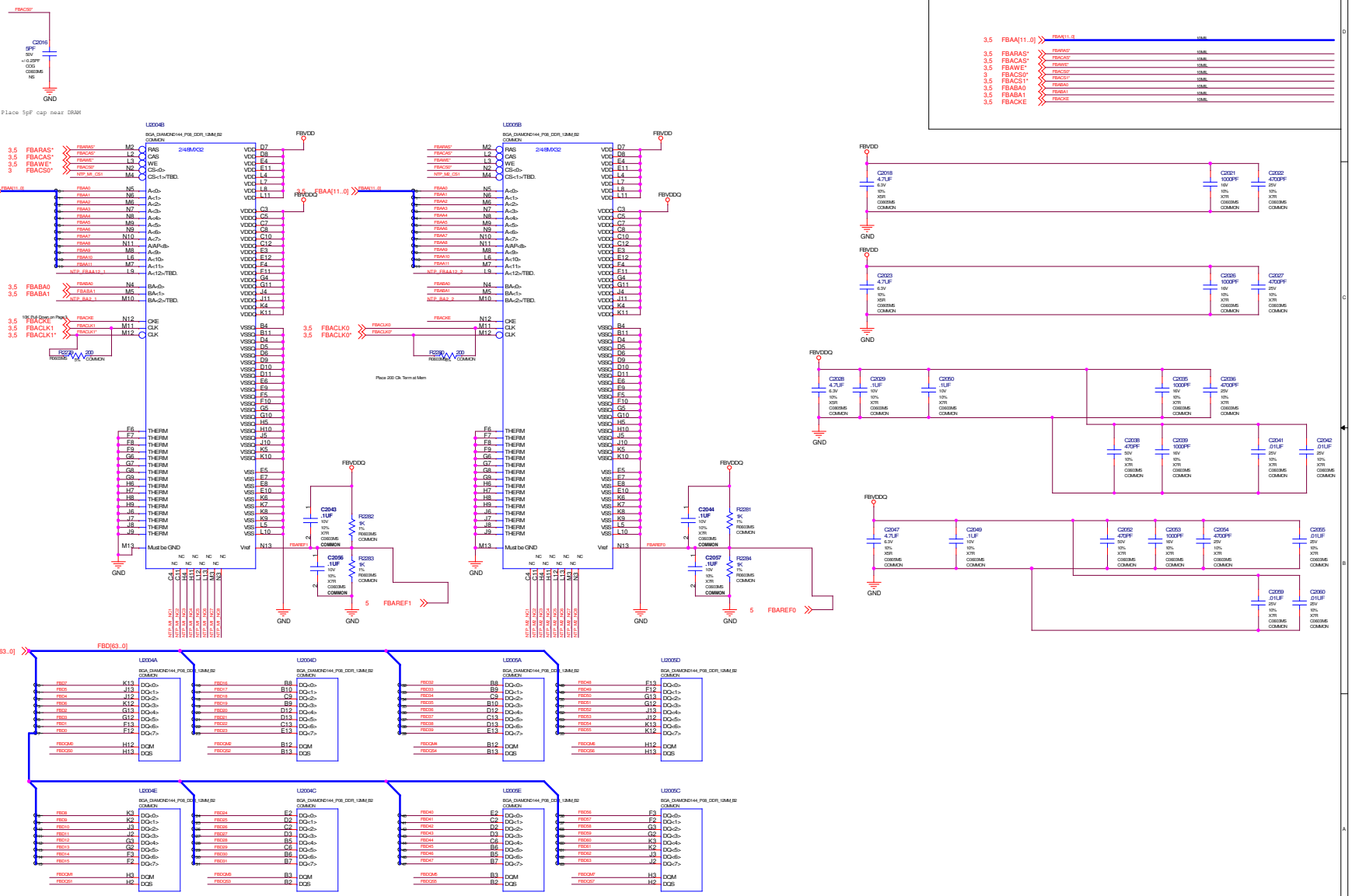


NV18 FRAMEBUFFER INTERFACE AND DECOUPLING



Partition A: Top Side Memory

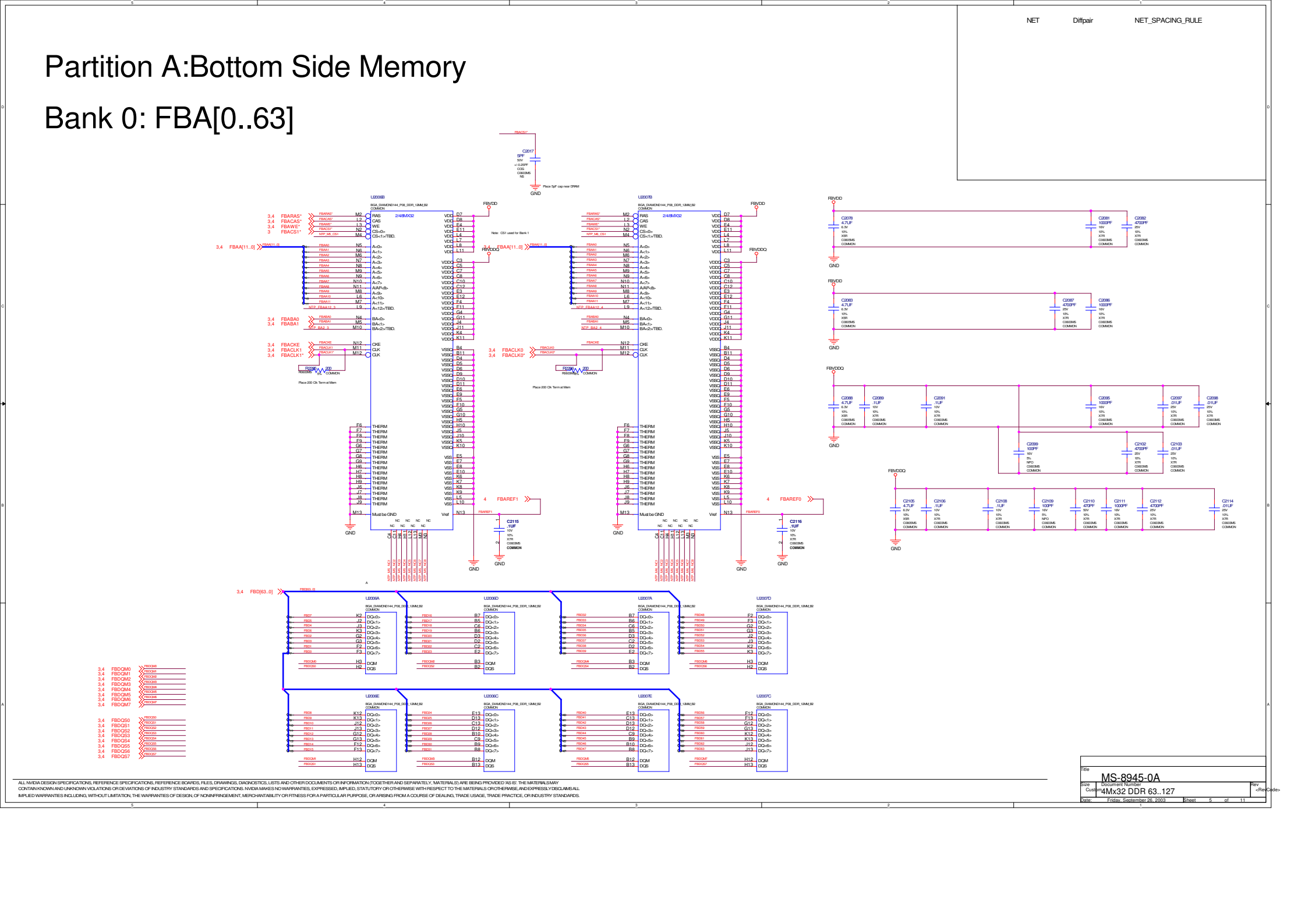
Bank 0: FBA[0..63]



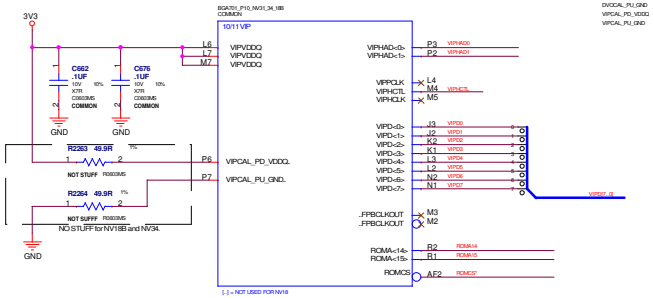
Title	MS-8945-0A
Size	Custom
Document Number	4MX32 DDR 0..63
Rev	<RevCode>
Date:	Friday, September 26, 2003
Sheet	4 of 11

Partition A:Bottom Side Memory

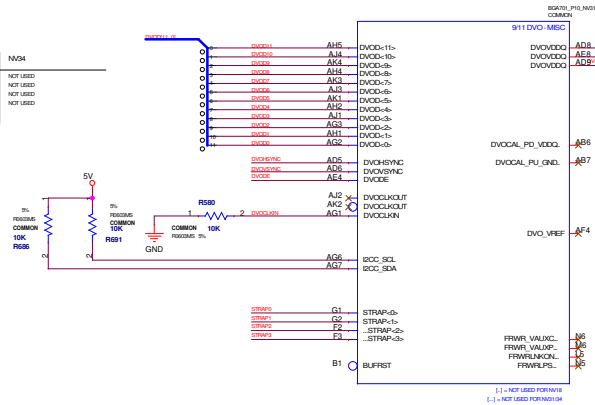
Bank 0: FBA[0..63]

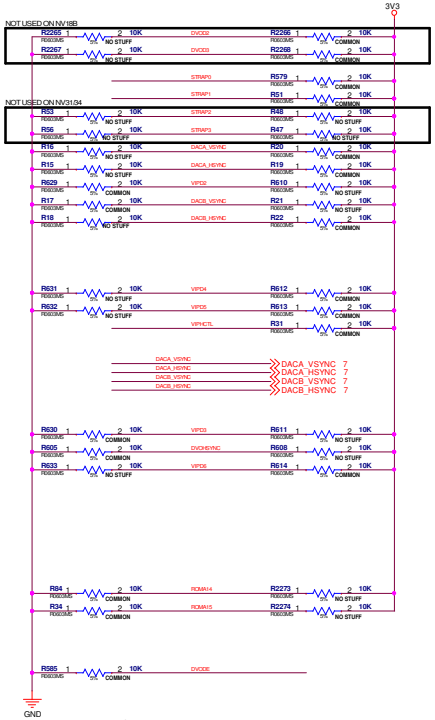


NV18 STRAPPING, BIOS, FAN CONNECTOR



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

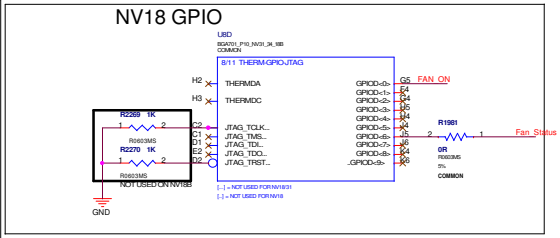




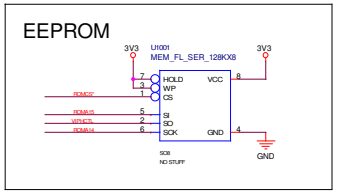
STRAPPING OPTIONS

Bit	Signal	VALUE_ID	VALUEs	
00: PCI_AD_SWAP		PCI_AD	0 REVERSED 1 NORMAL	
01: SUB_VENDOR		SUB_VENDOR	0 NO_BIOS 1 read from BIOS	
02: RAM_CFG_0		RAMCFG[3:0]	0000 2Bk32 SDR 0001 4Bk16 SDR 0010 RFU 0011 RFU 0100 RFU 0101 4Bk32 DDR 0110 8Bk16 SDR 0111 2Bk32 DDR	1000 2Bk32 DDR 1001 2Bk32 DDR 1010 4Bk16 DDR 1011 8Bk16 DDR 1100 Bk32 DDR 1101 4Bk32 DDR 1110 RFU 1111 4Bk32 DDR
03: RAM_CFG_1				
04: RAM_CFG_2				
05: RAM_CFG_3				
06: CRYSTAL_0		CRYSTAL[1:0]	00 13.500 Mhz 01 14.318/18 Mhz	10 27.000 Mhz 11 unknown
07: TV_MODE_0		TVMODE[1:0]	00 SECAM 01 NTSC 10 PAL 11 CRT	
08: TV_MODE_1				
09: AGPIntrBx				
10: AGP_SBA		AGP_SBA	0 SBA enabled 1 SBA disabled	
11: AGP_FASTWR				
12: PCI_DEVID_0		PCI_DEVID[3:0]	0000 0x0180 ... 1111 0x018F	
13: PCI_DEVID_1				
14: BUS_TYPE		BUS_TYPE[0]	0 PCI 1 AGP	
15: ITP_IFACE				
16: USER_0				
17: USER_1				
18: USER_2				
19: USER_3				
20: PCI_DEVID_2				
21: PCI_DEVID_3				
22: CRYSTAL_1				
23: FB_0				
24: FB_1				
25: BR				
26: BR_128M				
27: BR_AGP				
28: BR_IO				
29: ROM_TYPE_0		ROM_TYPE[1:0]	00 Parallel 01 Serial_AT25F	
30: ROM_TYPE_1			10 Serial_SST45xF 11 RFU	
01: 1394_EN_0		1394[0]	0 disabled 1 enabled	

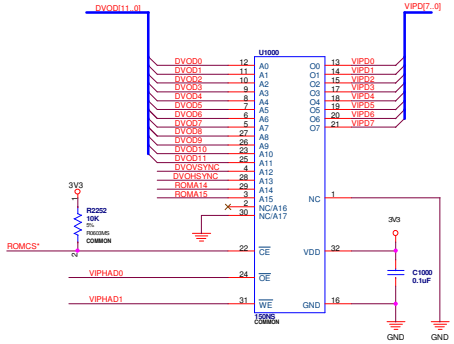
NV18 GPIO



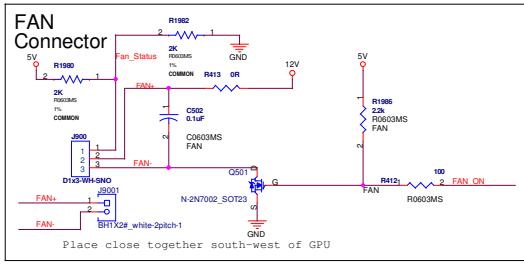
EEPROM



U1000 AND U1001 IS DUALAY.



FAN Connector



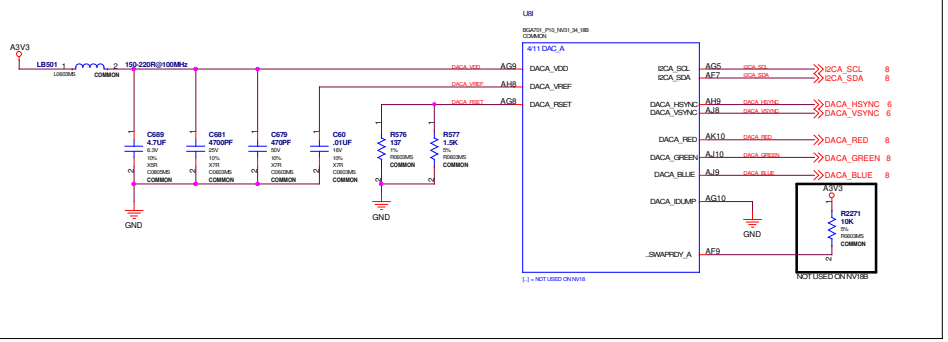
VOLTAGE

NET	Diffpair	NET_SPACING_RULE
DVOD11..0]		10MIL
DVOCKE		10MIL
DVOHSYNC		10MIL
DVOVSYNC		10MIL

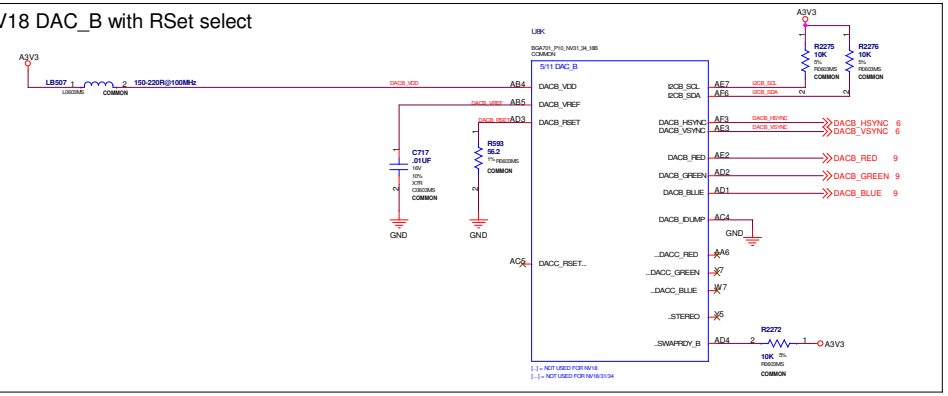
PLEASE DUALLAY THE PULL-UP
RESISTER AND PULL-DOWN RESISTER.

NV18 DAC_A, DAC_B, PLL, SYNC AMPL

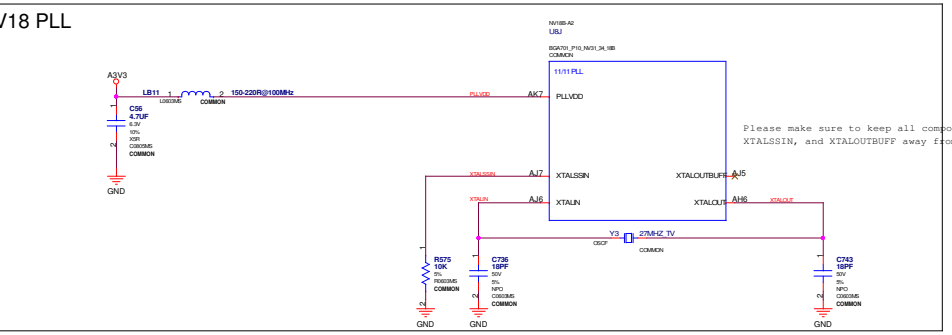
NV18 DAC_A



NV18 DAC_B with RSet select

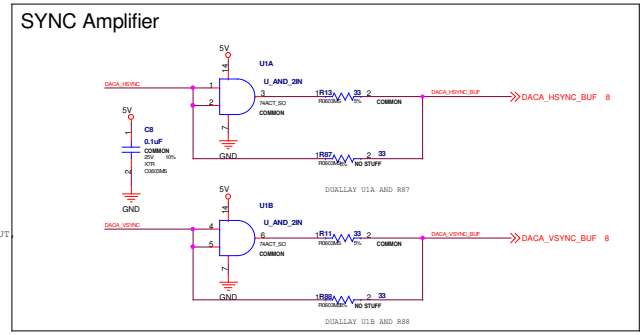


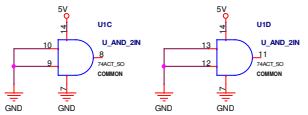
NV18 PLL



Please make sure to keep all components and nets related to pins XTALIN, XTALOUT, XTALSSIN, and XTALOUTBUFF away from everything else (place all on TOP).

SYNC Amplifier



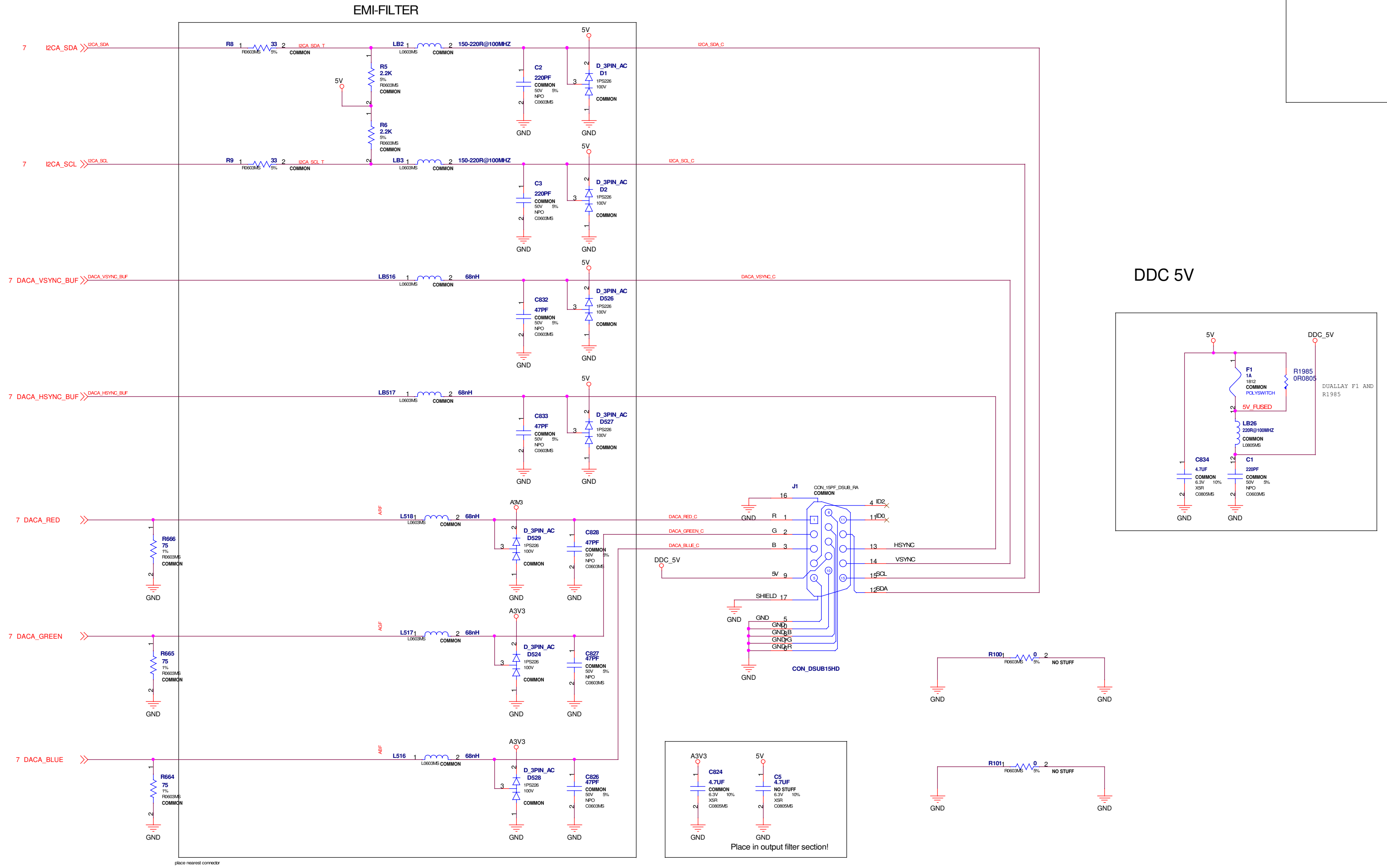


NET	NET_PHYSICAL_TYPE	VOLTAGE
DACA_VDD	10MIL_TRACE	3.3V
DACA_VREF	5MIL_TRACE	
DACA_RSET	5MIL_TRACE	
DACB_VDD	10MIL_TRACE	3.3V
DACB_VREF	5MIL_TRACE	
DACB_RSET	5MIL_TRACE	
PLLVDD	10MIL_TRACE	3.3V

NET	IMPEDANCE	NET_SPACING_RULE
8 DACA_RED	DACA_RED 37.5 OHM	20MIL_GR3_30MIL
8 DACA_GREEN	DACA_GREEN 37.5 OHM	20MIL_GR3_30MIL
8 DACA_BLUE	DACA_BLUE 37.5 OHM	20MIL_GR3_30MIL
9 DACB_RED	DACB_RED 37.5 OHM	20MIL_GR3_30MIL
9 DACB_GREEN	DACB_GREEN 37.5 OHM	20MIL_GR3_30MIL
9 DACB_BLUE	DACB_BLUE 37.5 OHM	20MIL_GR3_30MIL

DACB output

NET	IMPEDANCE	NET_SPACING_RULE
ARF	37.5 OHM	20MIL_G2G_30MIL
AGF	37.5 OHM	20MIL_G2G_30MIL
ABF	37.5 OHM	20MIL_G2G_30MIL
DACA_RED_C	10MIL_TRACE	20MIL_G2G_30MIL
DACA_GREEN_C	10MIL_TRACE	20MIL_G2G_30MIL
DACA_BLUE_C	10MIL_TRACE	20MIL_G2G_30MIL



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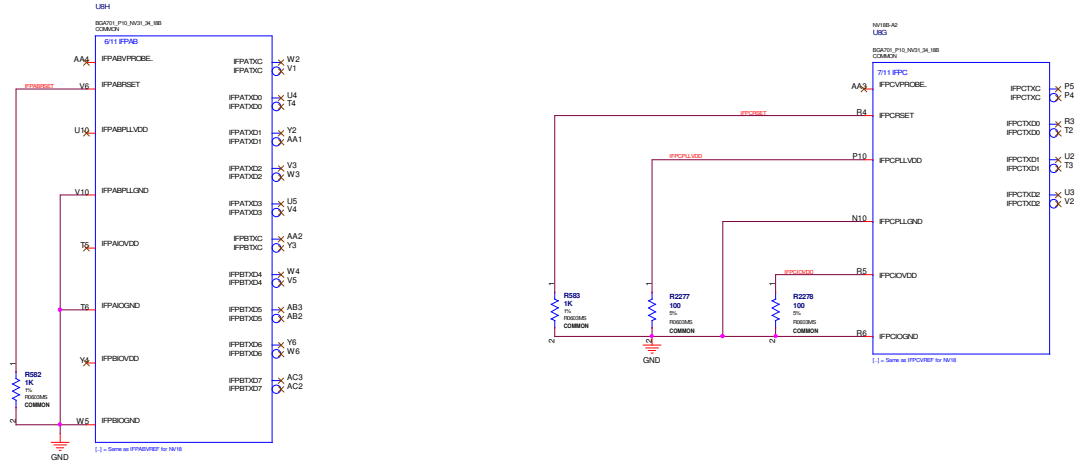
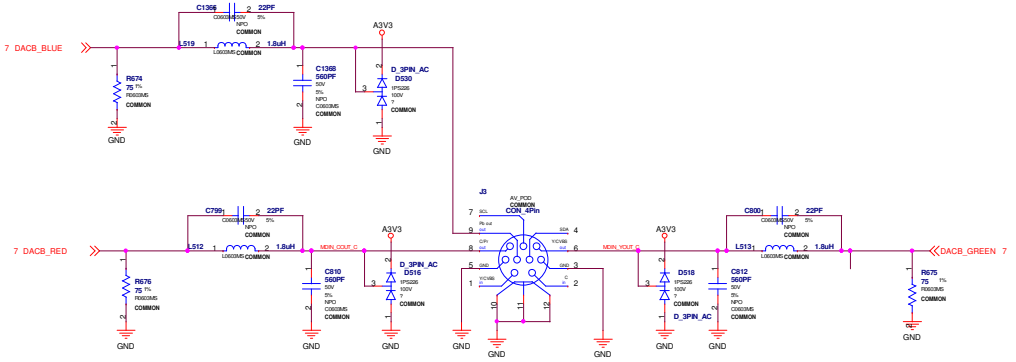
INTERNAL TMDS POWER AND DECOUPLING

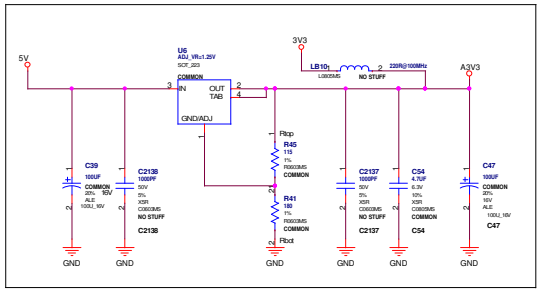


VIDEO OUT CONNECTOR

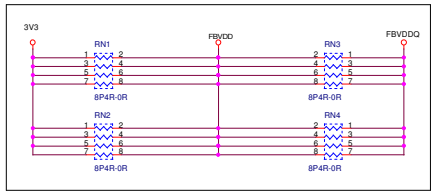


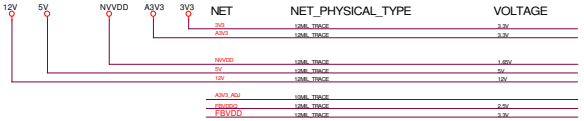
POWER SUPPLY

ANALOG 3V3



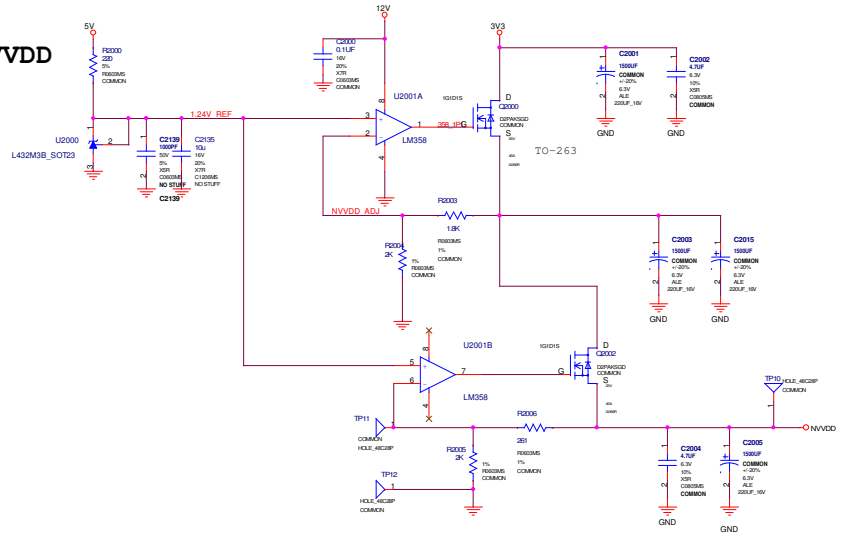
FBVDD 3.3V NO STUFF





For SAMSUNG DDR FBVDD=FBVDDQ=2..8
HYNIX DDR FBVDD=2.5V on 200MHz

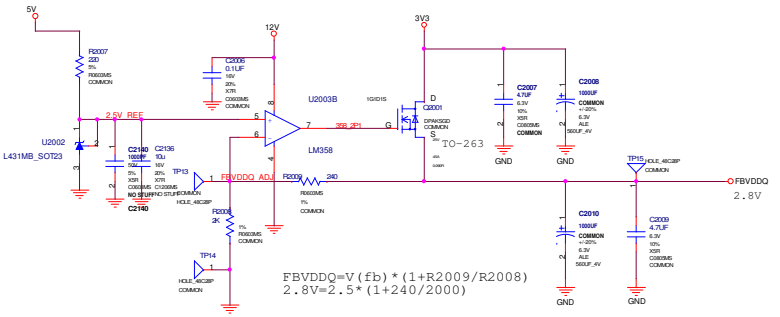
NVVDD



NVVDD=Vref*(1+Rtop/Rbot)

1.4=1.24*(1+261/2000)

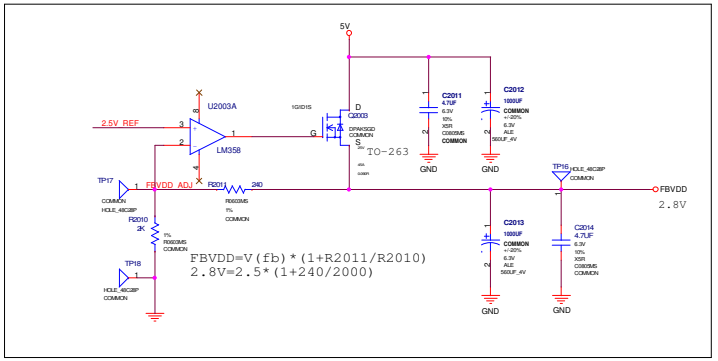
FBVDDQ



FBVDDQ=V(fb)*(1+R2009/R2008)

2.8V=2.5*(1+240/2000)

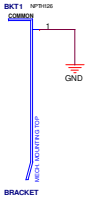
FBVDD

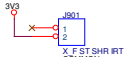


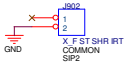
FBVDD=V(fb)*(1+R2011/R2010)

2.8V=2.5*(1+240/2000)

MECHANICS







E22-8935010-C22

Mech, VGA Card, Bracket, SPCC/2,V,D-S,V122, FOR MS-8935/8936

Bracket Same as MS-8847