C116-B, NV18B/NV31/NV34, 8MX16DDR, 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

8998-0A base on 8936 modify description.

1.Add page 9,Switch DACB and TV-out connector function.
2.Add page 10,DACB interface.
3.Add page 11,DVI interface.
4.Add TMDS power in page 12.
5.Page 8,D-Sub change to 2x7 pin hander.

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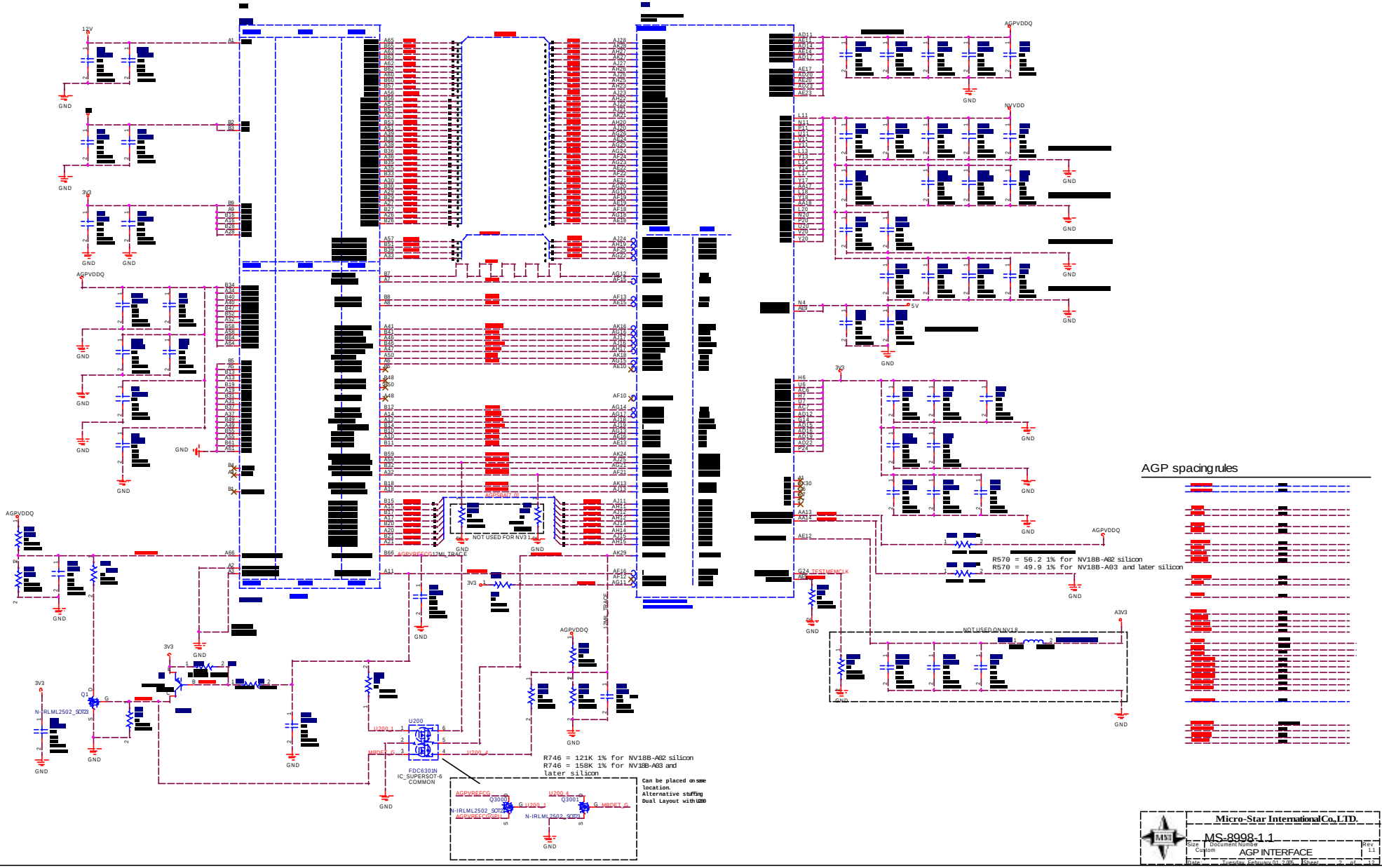
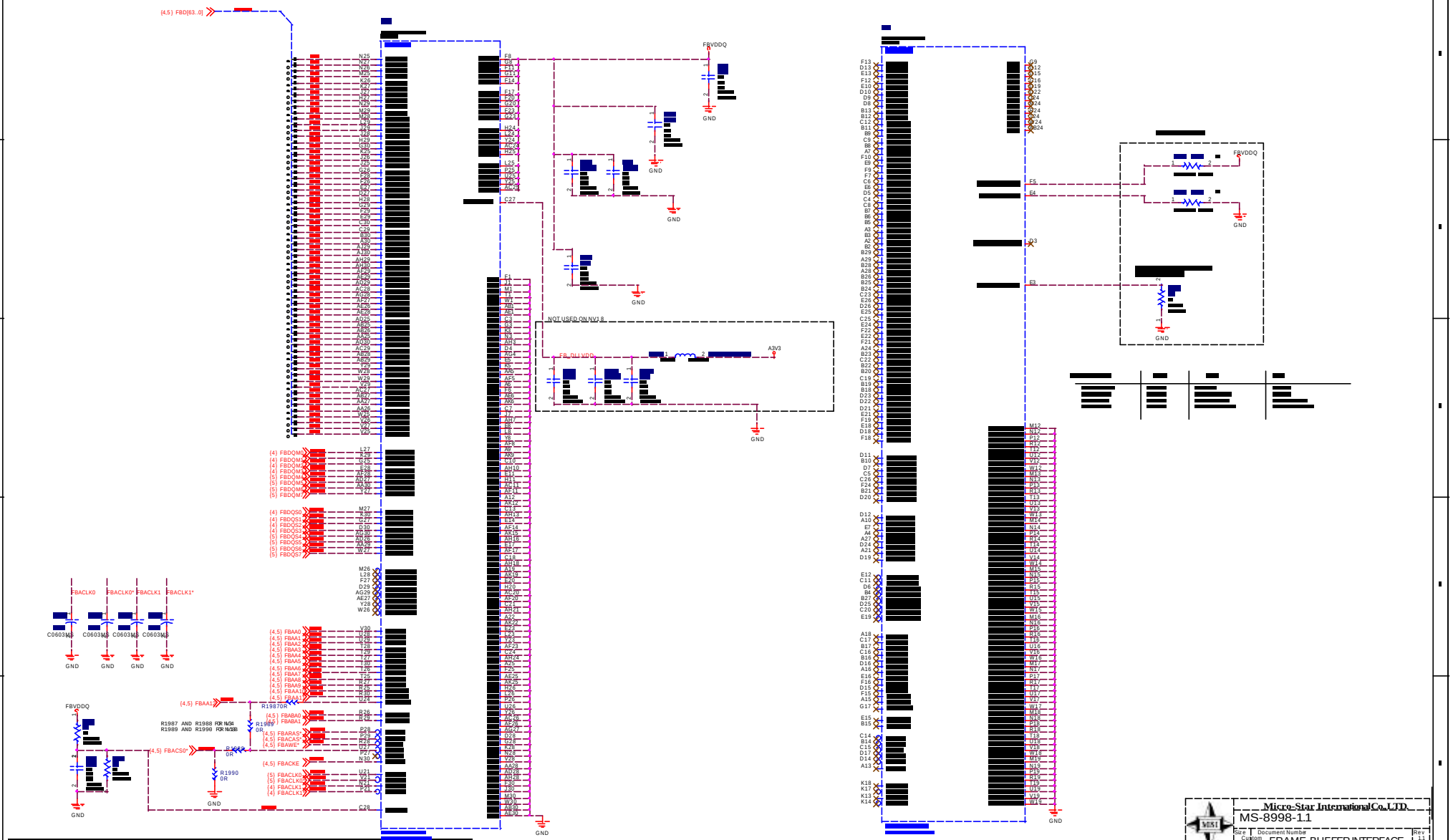
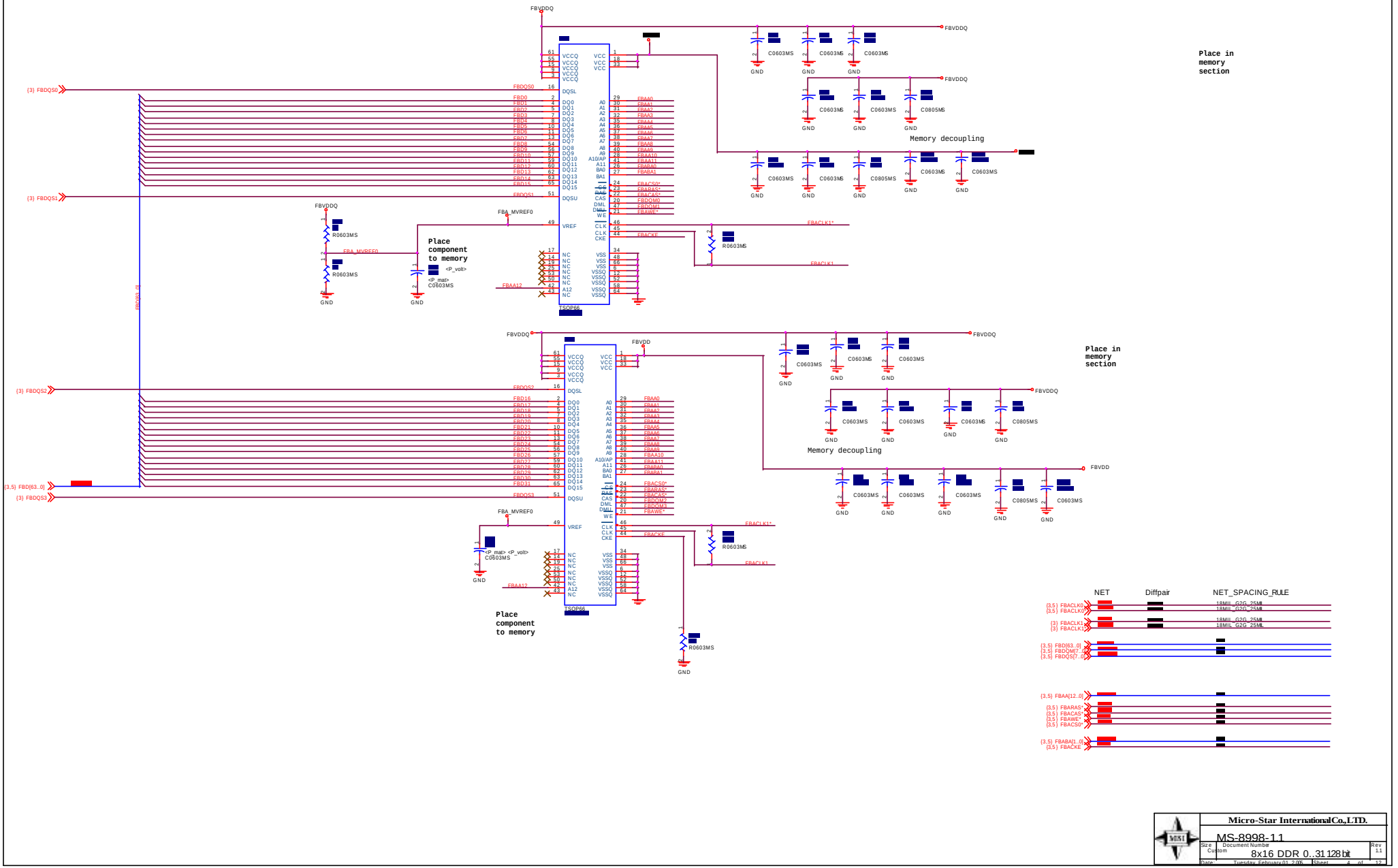
NV18 AGP SECTION AND AGP CONNECTOR



NV18 FRAMEBUFFER INTERFACE AND DECOUPLING




Place in memory section
Memory decoupling
Place component to memory
Place in memory section
Memory decoupling
Place component to memory
NET
Diffpair
NET_SPACING_RULE
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MS-8998-1.1
8x16 DDR 0..31 128bit
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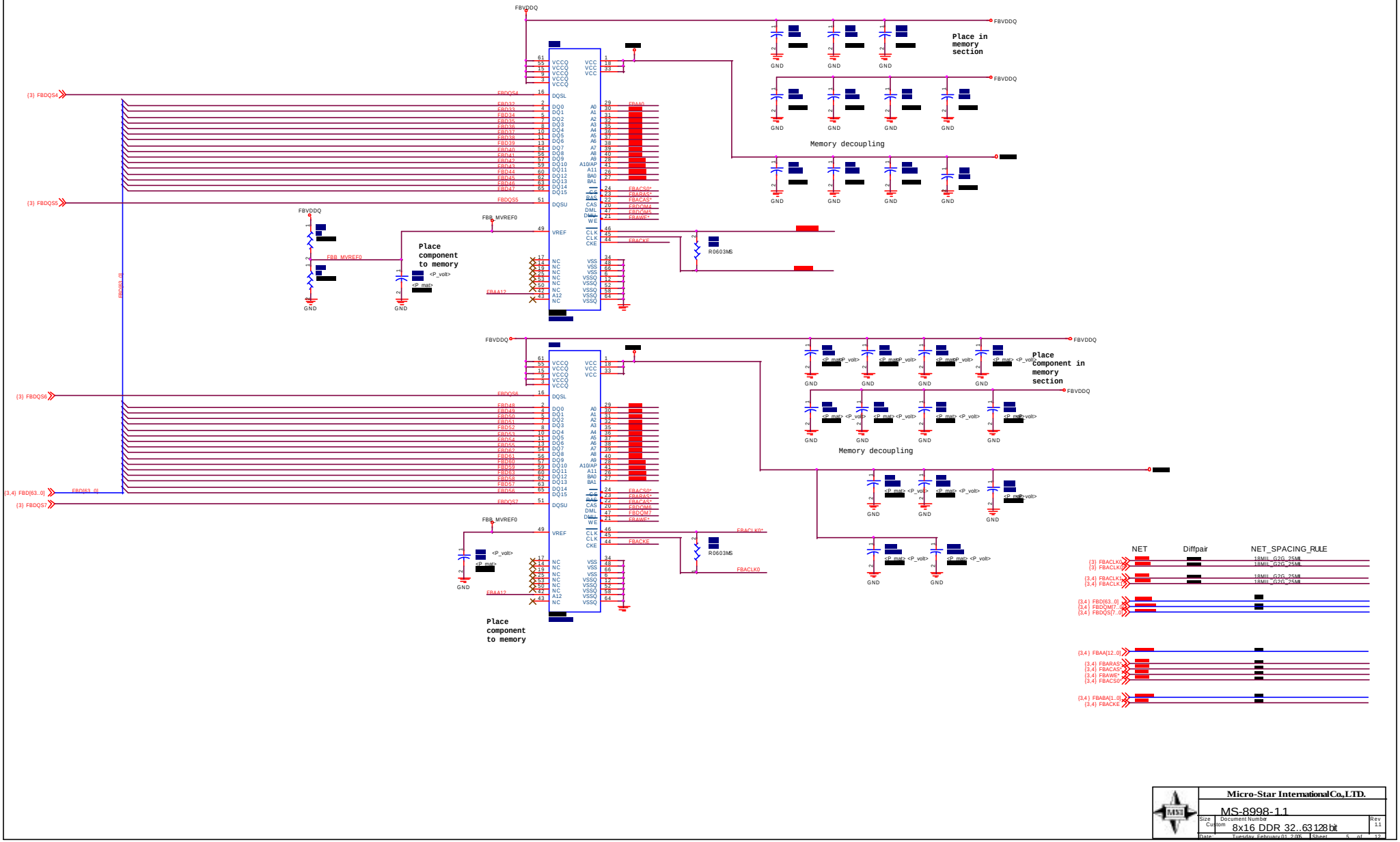
FBVDDQ
Place in memory section
Memory decoupling
Place component to memory
FBB_MVREF0
R0603MS
Place component in memory section
Memory decoupling
Place component to memory
NET
Diffpair
NET_SPACING_RULE
Micro-Star International Co., LTD.
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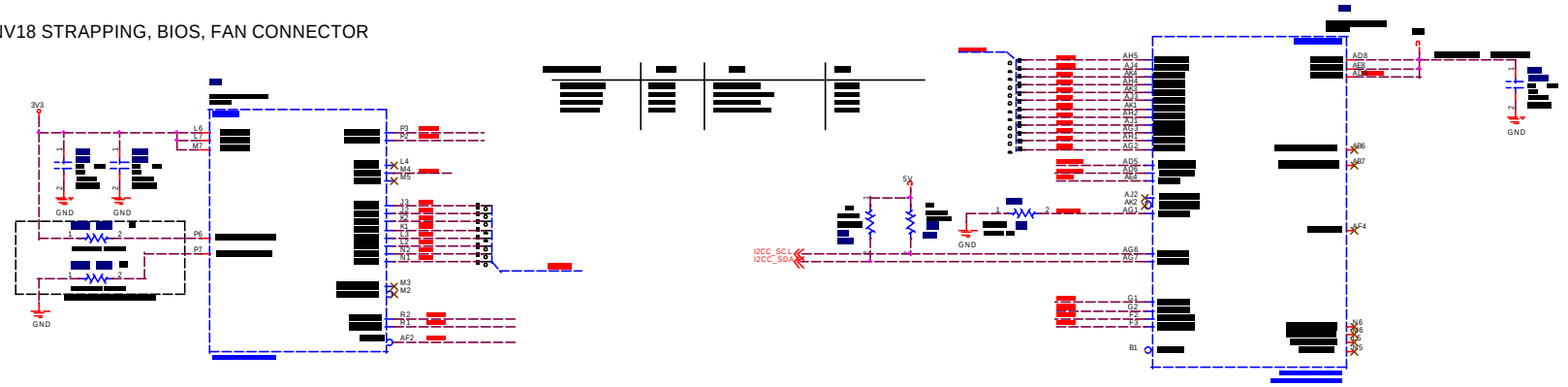
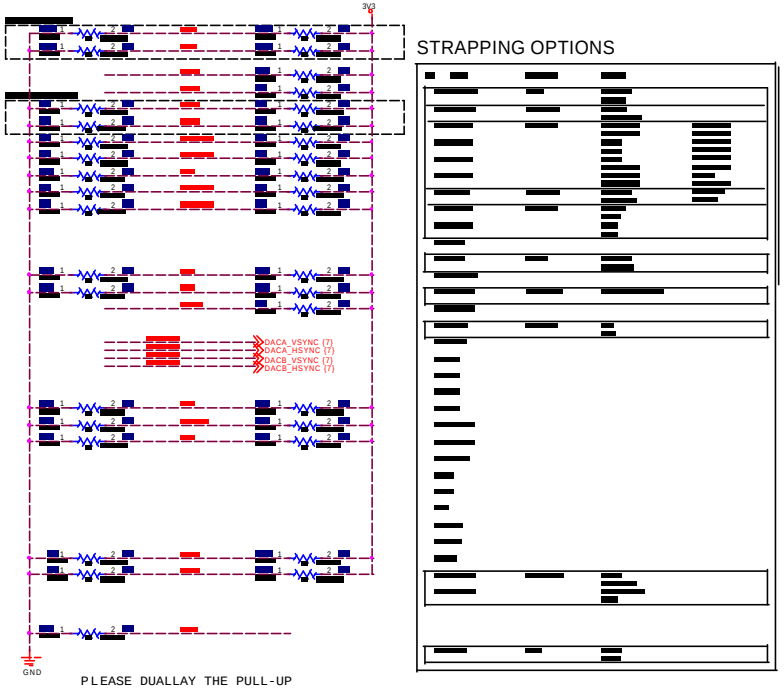
8x16 DDR 32..63 128bit

NV18 STRAPPING, BIOS, FAN CONNECTOR

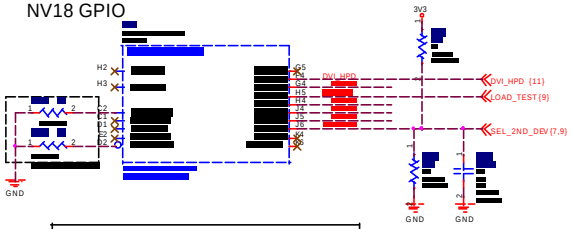


STRAPPING OPTIONS

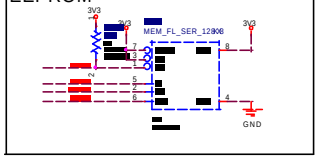


PLEASE DUALLAY THE PULL-UP
RESISTER AND PULL-DOWN RESISTER.

NV18 GPIO



EEPROM



U1000 AND U1001 IS DUALAY.

VOLTAGE

NET	Diffpair	NET_SPACING_RULE

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NV18B STRAPPING BIOS

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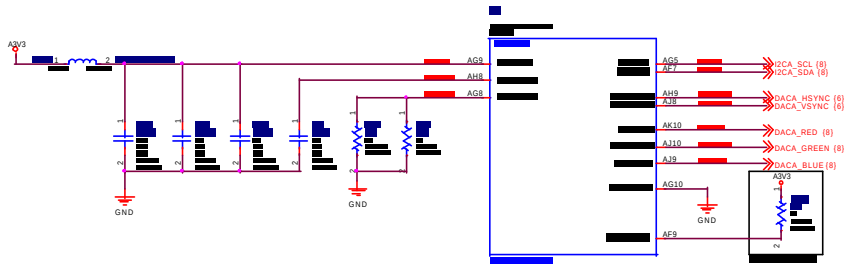
NV18 DAC_A, DAC_B, PLL, SYNC AMPL

NET NET_PHYSICAL_TYPE VOLTAGE

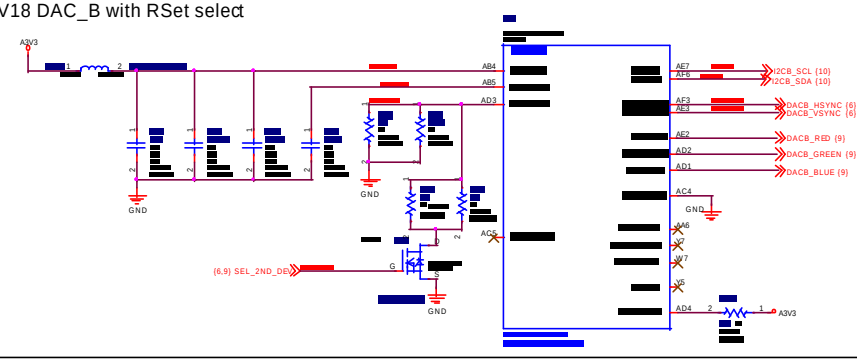
NET IMPEDANCE NET_SPACING_RULE

(8) DACA_RED 37.5 OHM
(8) DACA_GREEN 37.5 OHM
(8) DACA_BLUE 37.5 OHM
(9) DACB_RED 37.5 OHM
(9) DACB_GREEN 37.5 OHM
(9) DACB_BLUE 37.5 OHM

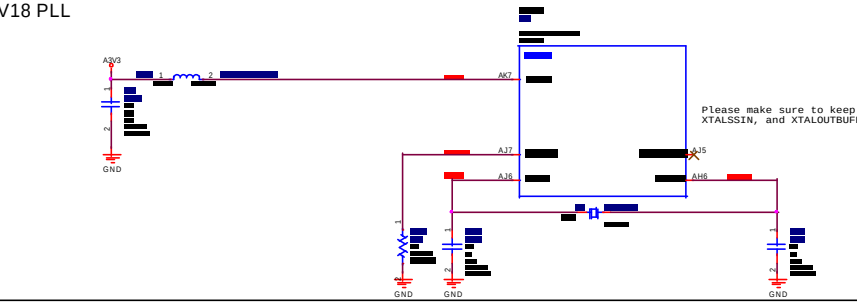
NV18 DAC_A



NV18 DAC_B with RSet select

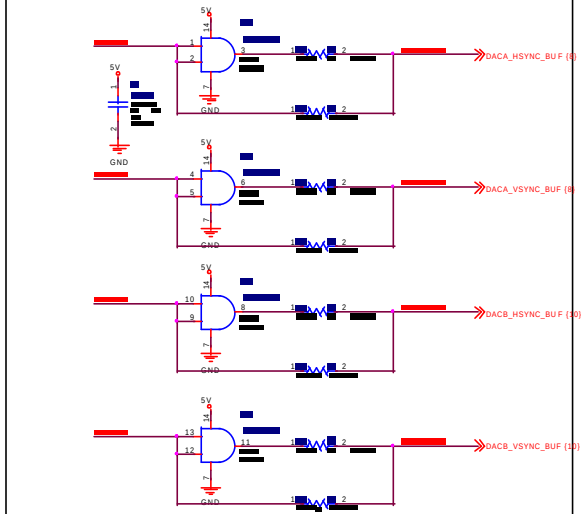


NV18 PLL



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



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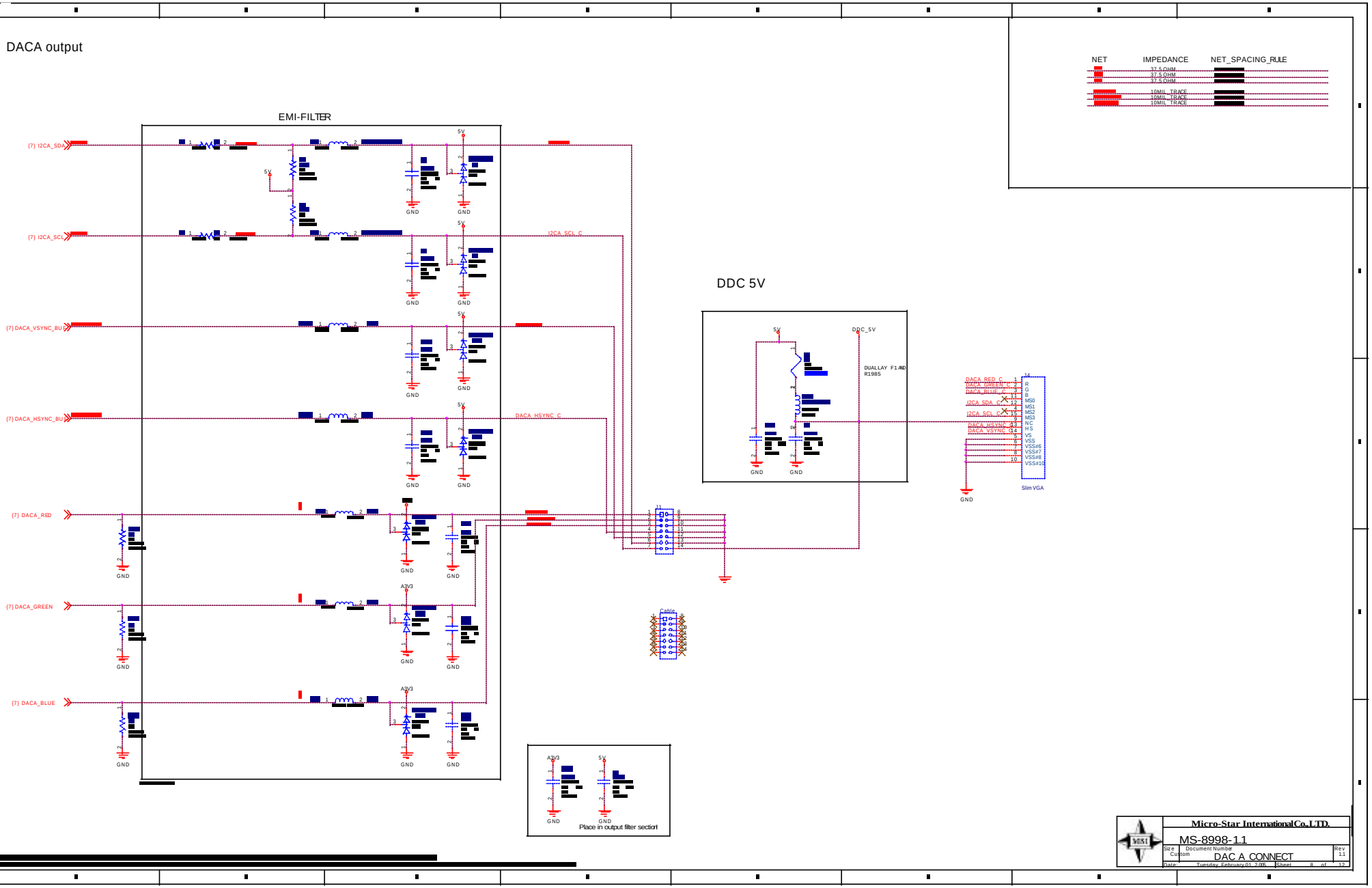
DACA output


NET
IMPEDANCE
NET_SPACING_RULE
37.5 OHM
37.5 OHM
37.5 OHM
10MIL_TRACE
10MIL_TRACE
10MIL_TRACE
EMI-FILTER
{7} I2CA_SDA
{7} I2CA_SCL
{7} DACA_VSYNC_BU
{7} DACA_HSYNC_BU
{7} DACA_RED
{7} DACA_GREEN
{7} DACA_BLUE
I2CA_SCL_C
DACA_HSYNC_C
DDC 5V
DDC_5V
DUALLAY FIAD
R1985
DACA_RED_C
DACA_GREEN_C
DACA_BLUE_C
I2CA_SDA_C
I2CA_SCL_C
DACA_HSYNC_C
DACA_VSYNC_C
R
G
B
MS0
MS1
MS2
MS3
NC
H.S
VS
VSS
VSS#6
VSS#7
VSS#8
VSS#10
Slim VGA
Cable
A3V3
5V
GND
Place in output filter section
Micro-Star International Co. LTD.
MS-8998-1.1
DAC A CONNECT
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Custom
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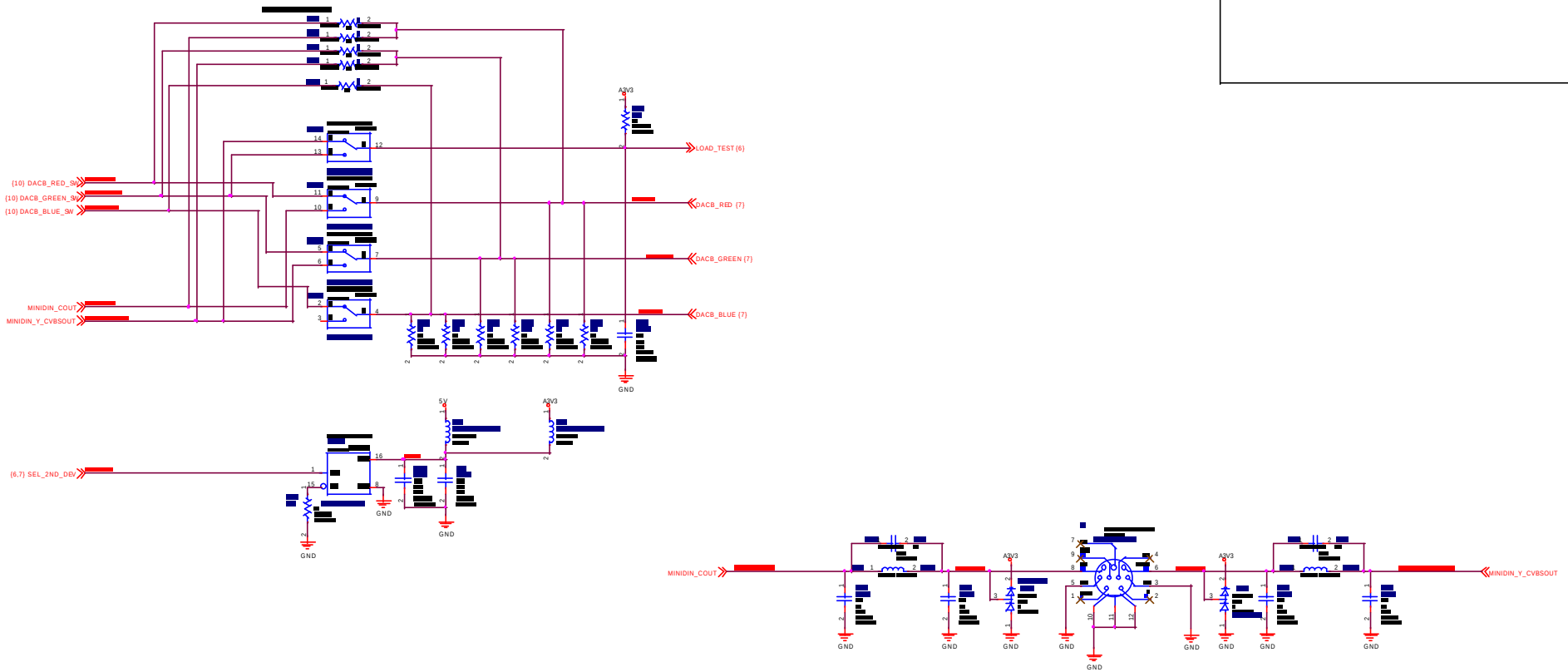
DACB SWITCH BETWEEN VGA OUT AND TV OUT

NET	IMPEDANCE	NET_SPACING_RULE
(10) DACB_RED_SW	37.5 OHM	
(10) DACB_GREEN_SW	37.5 OHM	
(10) DACB_BLUE_SW	37.5 OHM	
MINIDIN_COUT	37.5 OHM	
MINIDIN_Y_CVBSOUT	37.5 OHM	
MINIDIN_PBOUT	37.5 OHM	



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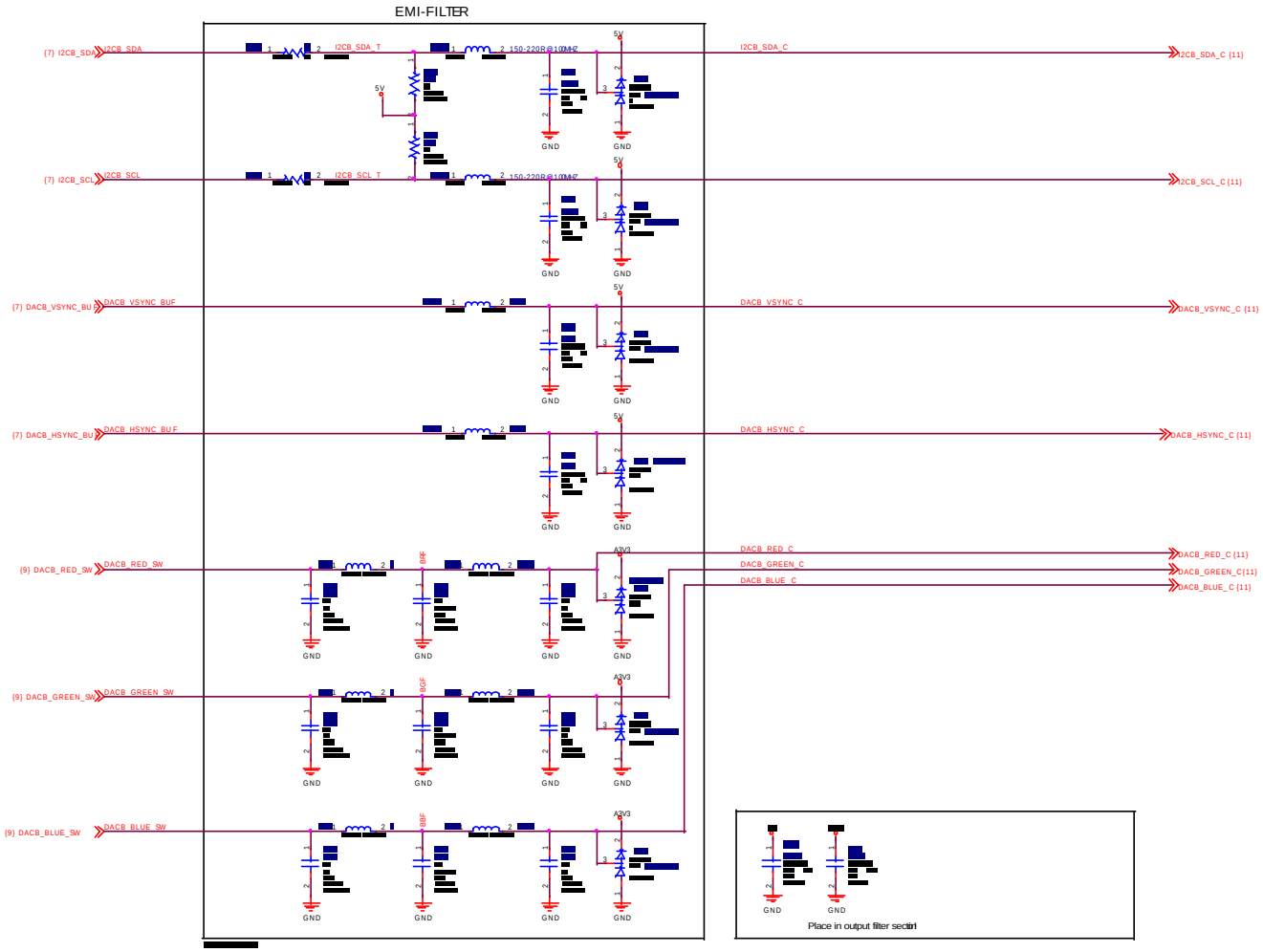
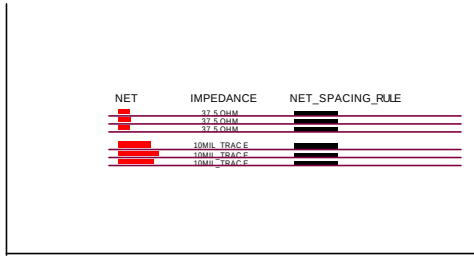
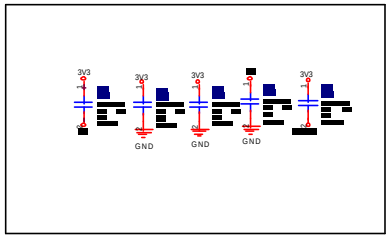
DACB output







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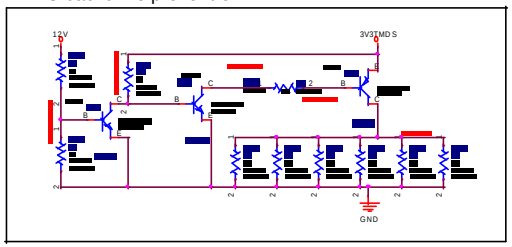
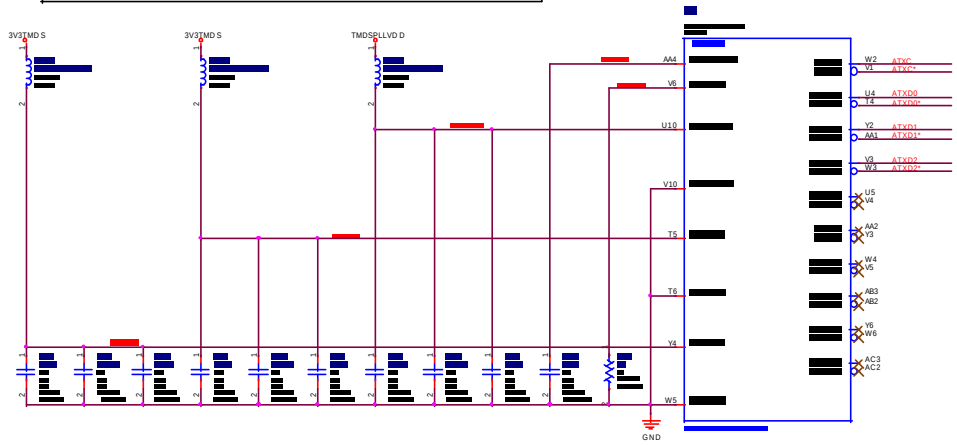
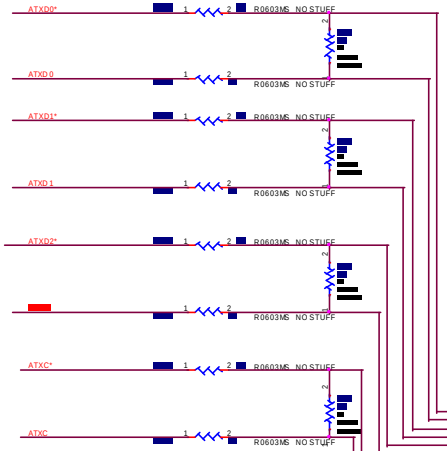
INTERNAL TMDS POWER AND DECOUPLING

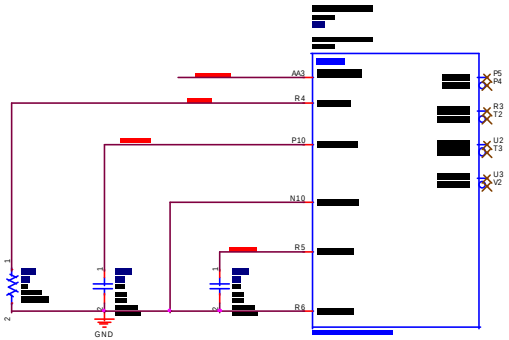
TMDS backdrive prevention

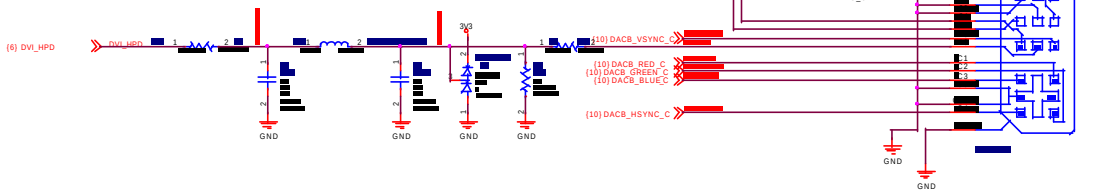


NET	NET_PHYSICAL_TYPE	VOLTAGE









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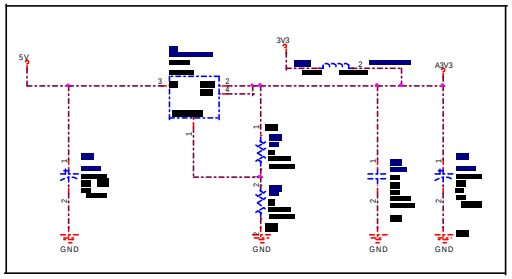
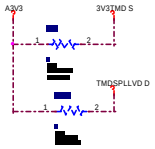
POWER SUPPLY

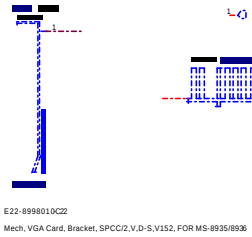
ANALOG 3V3



TMDS 3V3 Supply
TMDS PLL Supply



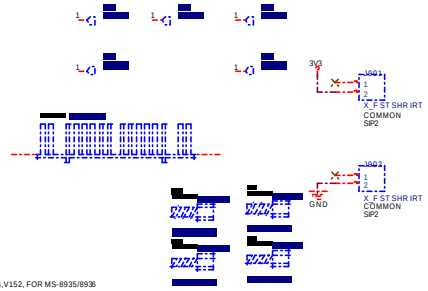
MECHANICS

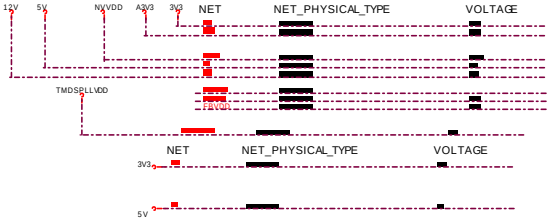


E22-8998010C22

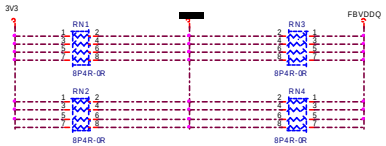
Mech, VGA Card, Bracket, SPCC/2,V,D-S,V152, FOR MS-8935/8936

Bracket Same as MS-8847

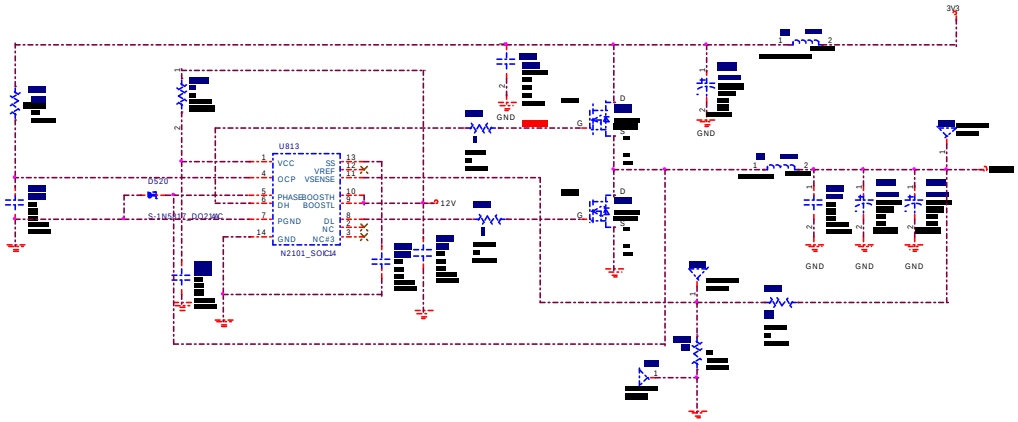




FBVDD 3.3V



NVVDD

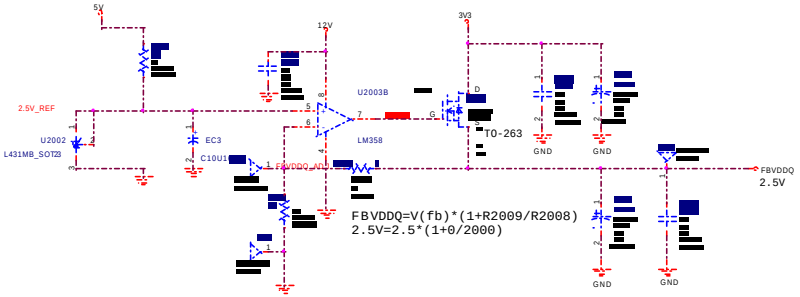


NVVDD=Vref*(1+Rtop/Rbot)

1.4=1.265*(1+215/2000)

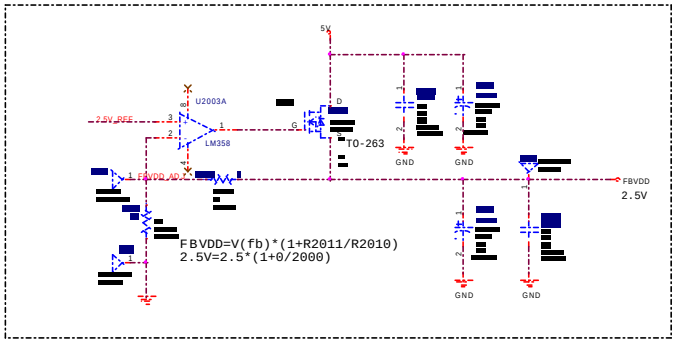
For SAMSUNG DDR FBVDD=FBVDDQ=2.6
HYNIX DDR FBVDD=3V3=3.3V

FBVDDQ



FBVDDQ=V(fb)*(1+R2009/R2008)
2.5V=2.5*(1+0/2000)

FBVDD



FBVDD=V(fb)*(1+R2011/R2010)
2.5V=2.5*(1+0/2000)

NO STUFF

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