

SUMMARY:

Rev History

- 1. Base on V069-100 to Modify HDMI change to internal support
- 2. BGA-136 DDRIII
- 3. RT-8805 Two Phase PWM for NVVDD
- 4. MS-11 for FBVDD

Table of Contents:

- Page 1: TITLE
- Page 2: PCIe INTERFACE
- Page 3: FBA INTERFACE
- Page 4: FB A1
- Page 5: FBA DECOUPLING
- Page 6: FB A2
- Page 7: FBC INTERFACE
- Page 8: FB C1
- Page 9: FBC DECOUPLING
- Page 10: FB C2
- Page 11: MIOA/MIOB
- Page 12: DACC
- Page 13: DACA
- Page 14: DACB
- Page 15: VIDEO CAPTURE
- Page 16: TMDS LINK A & B
- Page 17: TMDS LINK C & D
- Page 18: 4-Pin Video-In/SPDIF IN
- Page 19: GPIO/ROM/HDCP ROM
- Page 20: Straps/Mechanical
- Page 21: Linear Power
- Page 22: NVVDD with 8805
- Page 23: FBVDD with MS-11 MS-V1

OA

- Page 3 Enable G23pin H\_PLLVDD 1V2 for G84 only
- Page 11 reserve G84 SLI circuit
- Page 12,13,14 reserve DAC\_Vref power for G84 DACA,B,C
- Page 16 reserve 1V8 for G84 IFPAB\_PLLVDD
- Page 17 reserve 1V8 for G84 IFPCD\_PLLVDD
- Page 18 reserve 1V2 for G84 PLLVDD and VID\_PLLVDD
- Page 20 reserve MIOB\_CTL3 new strap for G84 PCI\_DEVID\_4
- Page 20 reserve ROM\_SI pull-down resister required if MIOA VDDQ=2.5V for G84
- Page 21add 1V8 power for G84
- Page 22,23 Reserve MS-V1co-lay circuit

100

- Page 3 H\_PLLVDD 1V2 use 0ohm connect to PEX1V2
- Page 3 Reserve G84 Dual Rank(Stacked Die) circuit FBA\_CMD7----CS1 FBA\_CMD27---BA2
- Page 7 Reserve G84 Dual Rank(Stacked Die) circuit FBC\_CMD7----CS1 FBC\_CMD27---BA2
- Page 7 Reserve I2CS citcuit for G84
- Page 6,10 Enable FBAA2 and FBCC2 BA2 Pin this is for Stacked Die Function
- Page 13 Modify RGB circuit
- Page 15 Modify SAA7115 RESET circuit
- Page 18 Modify Spidf circuit
- Page 21 Modify Linear Power circuit
- Page 22 NVVDD PWM Change to RT-8805 Two Phase
- Page 22,23 Remove MS-V1co-lay circuit

110

- Page 3 Connect FBVDD for G84
- Page 18 Reerve other Spidf circuit
- Page 22 Co-lay small chock for NVVDD

120

- Remove all G73 co-lay circuit
- Page 18 Spidf circuit add 100K R for fix noise

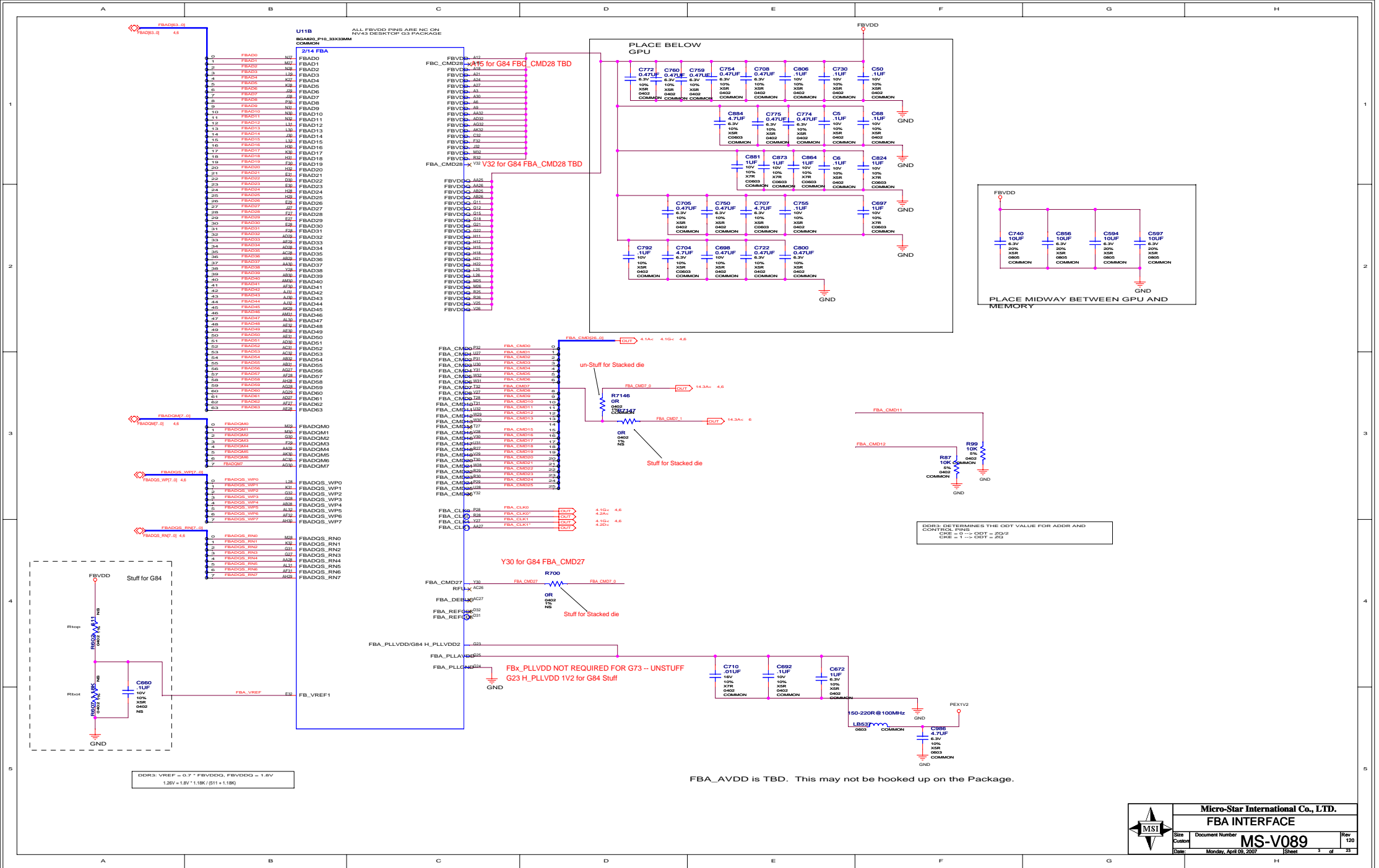
130

- Change HDMI Conn to DVI-I

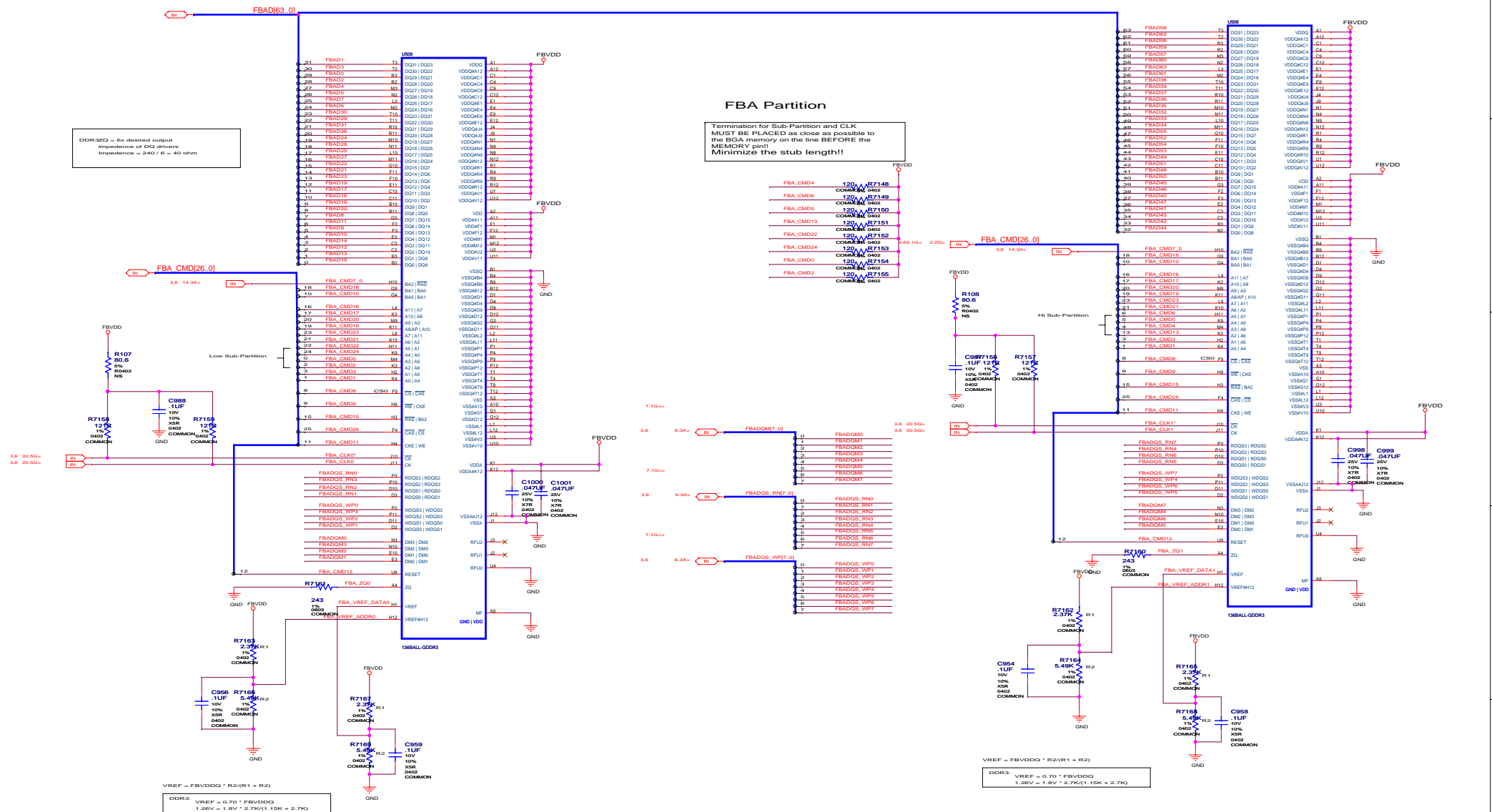
short duration contention possible  
 $3.3V \wedge 2/100 =$



Size	Document Number Custom	MS-V089	Rev 120
Date:	Tuesday, April 03, 2007	Sheet	2 of 23

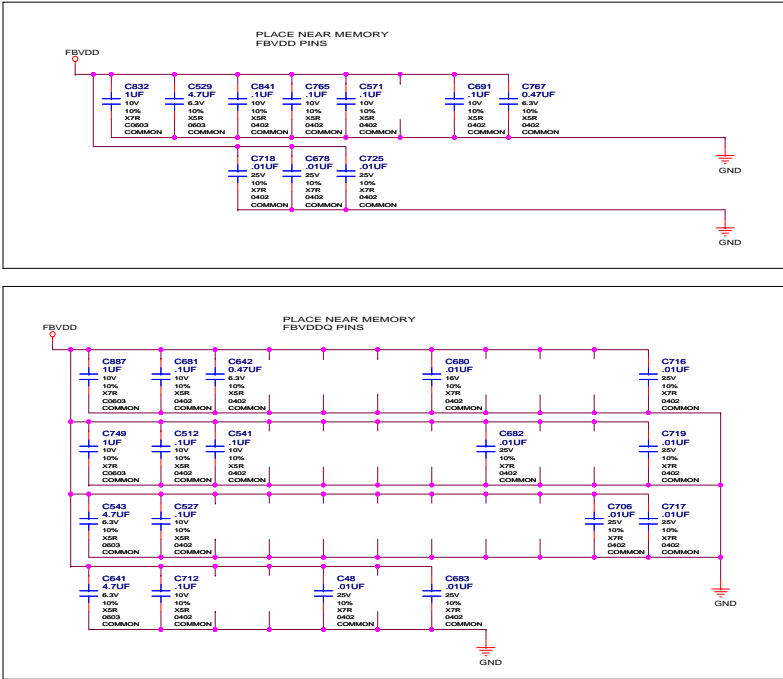


Framebuffer: Partition A  
16Mx32 BGA136 DDR3

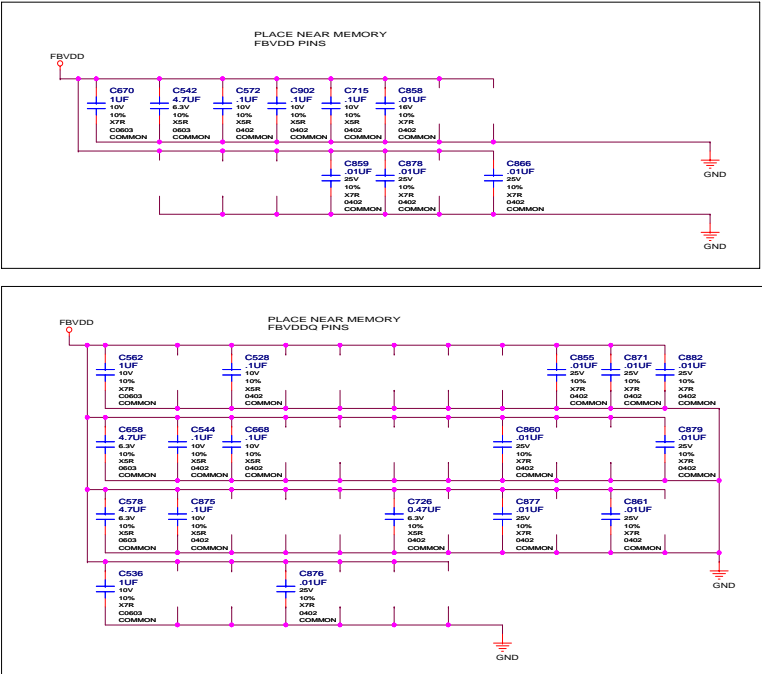


FRAME BUFFER: PARTITION A  
DECOUPLING

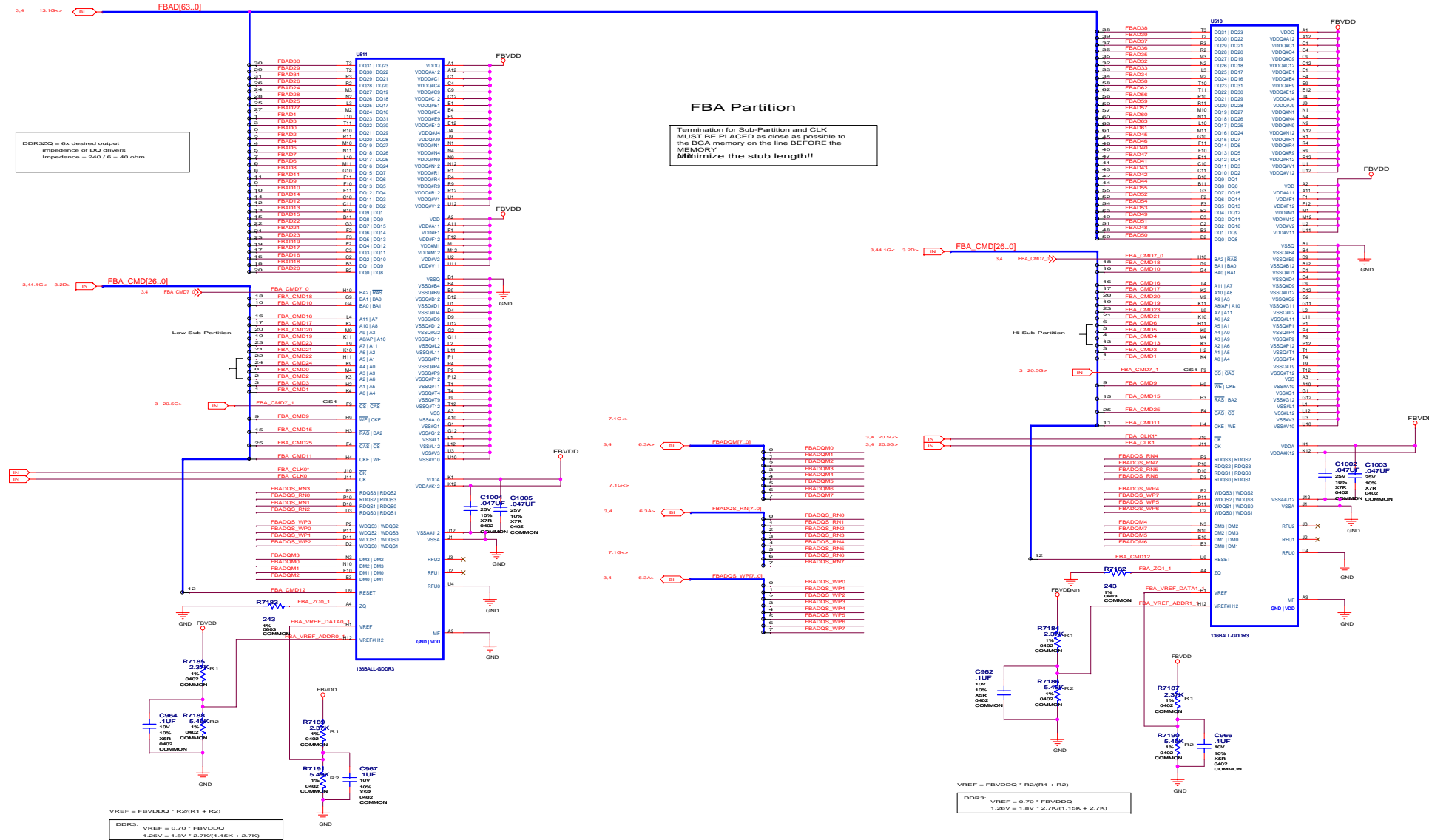
Decoupling for FBA 0..31



Decoupling for FBA 32..63

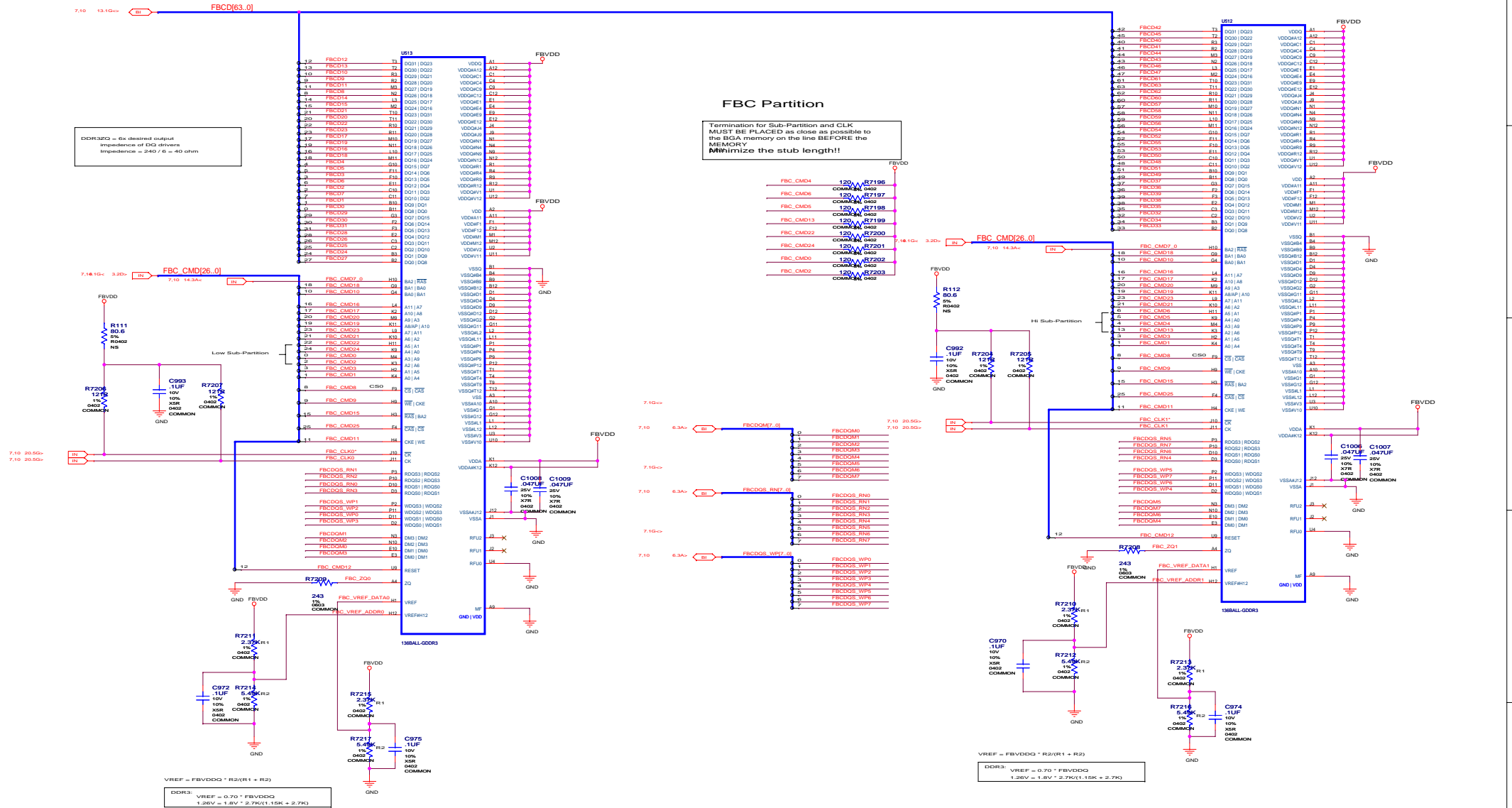


# FrameBuffer: Partition A 16Mx32 BGA136 DDR3





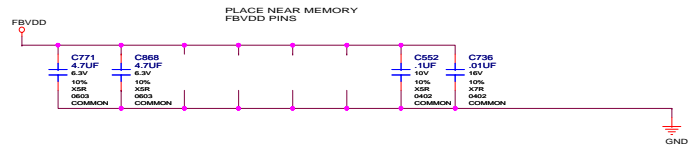
FRAMEBUFFER: PARTITION  
C 16Mx32 BGA136 DDR3



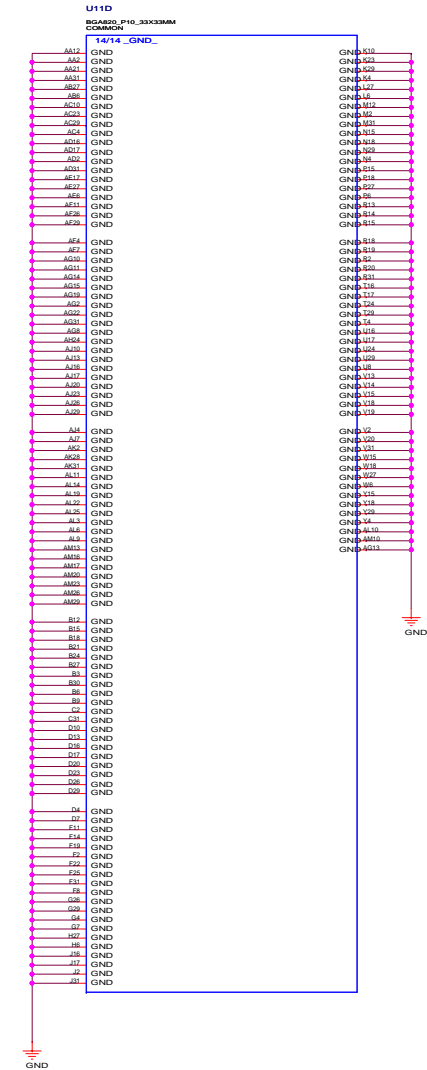
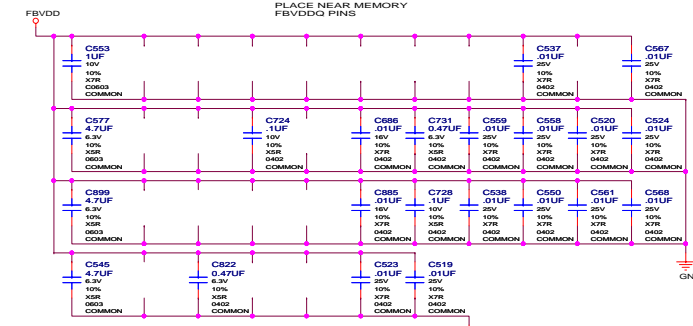
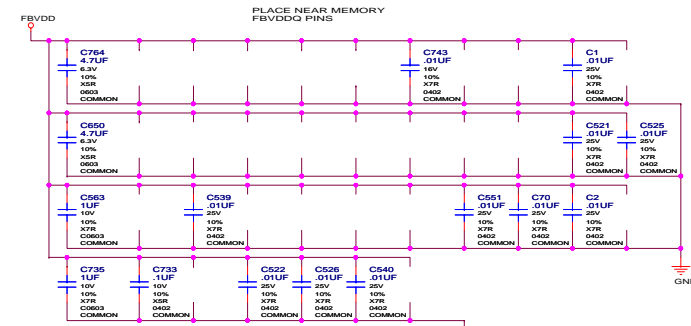
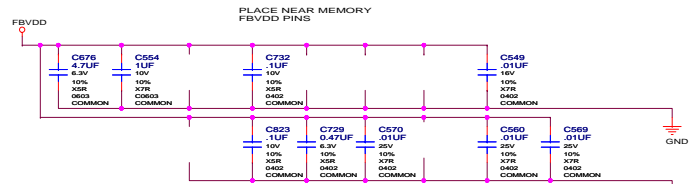


# FRAMEBUFFER: PARTITION C DECOUPLING

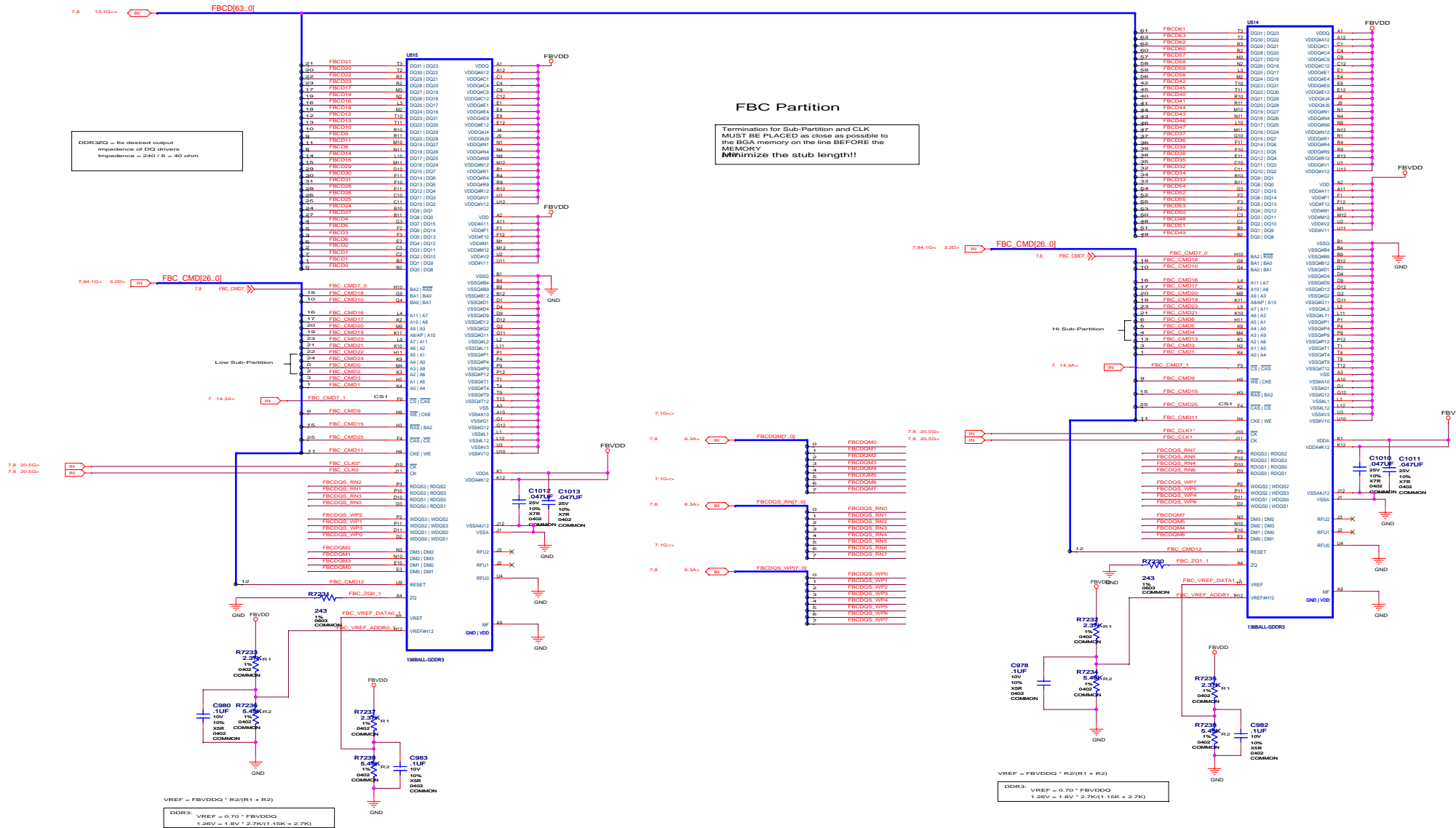
## Decoupling for FBC 0..31



## Decoupling for FBC 32..63



FRAMEBUFFER: PARTITION  
C 8Mx32 BGA136 DDR3



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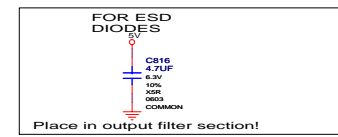
FB C2

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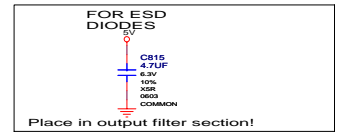
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DACA  
RGB-FILTER



DACA  
RGB-FILTER



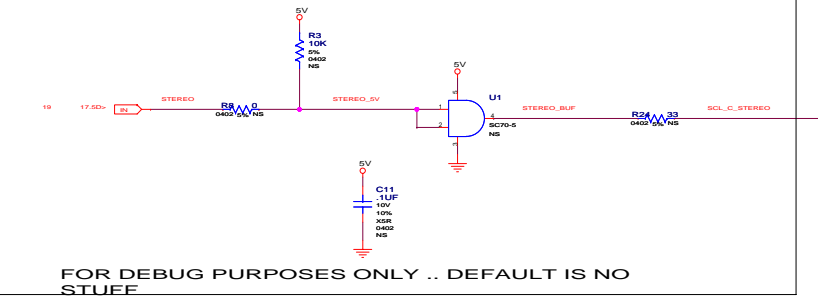
**FILTER  
NOTES:**

SD: USE  
L=1.8UH

HD: USE  
L=?



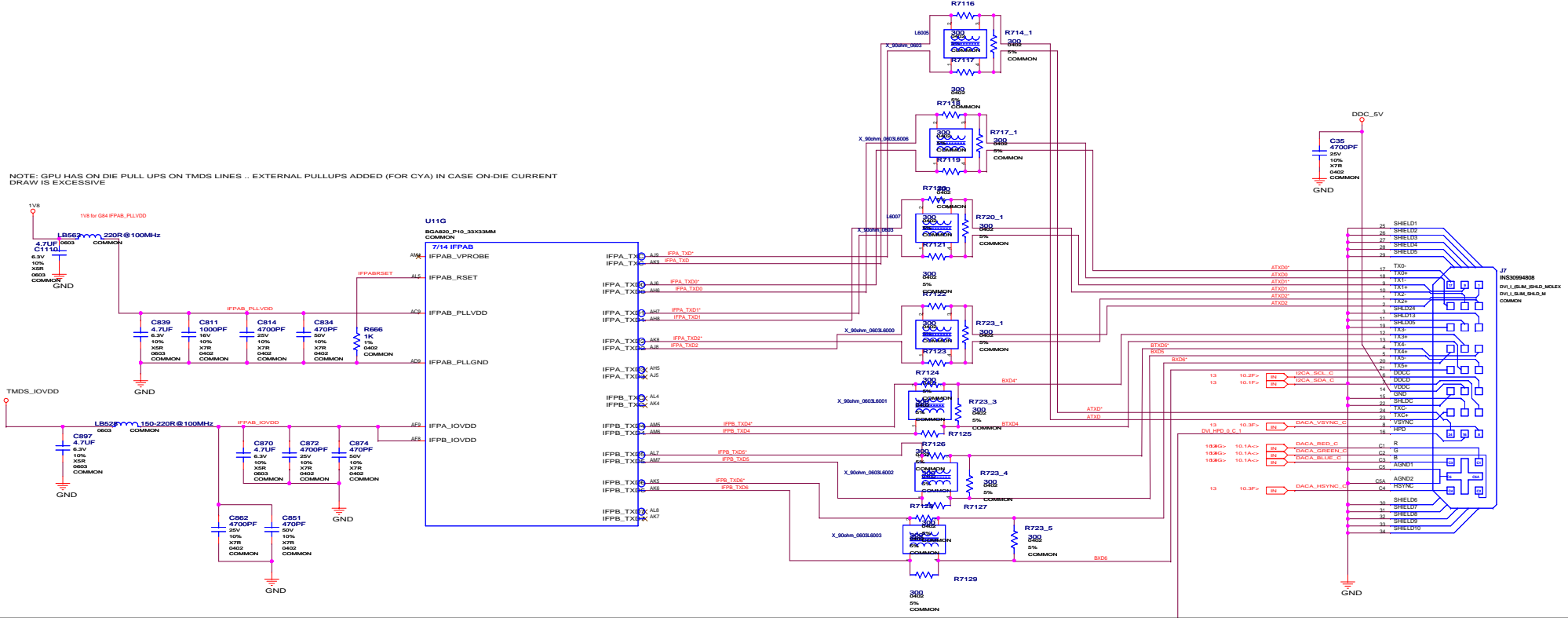
**Place close to MiniDIN connector!**



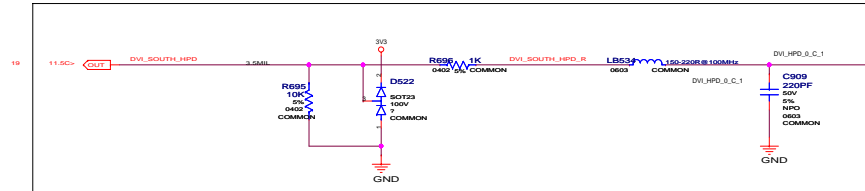


# INTERNAL TMDS .. LINK A & B

NOTE: GPU HAS ON DIE PULL UPS ON TMDS LINES .. EXTERNAL PULLUPS ADDED (FOR CYA) IN CASE ON-DIE CURRENT DRAW IS EXCESSIVE



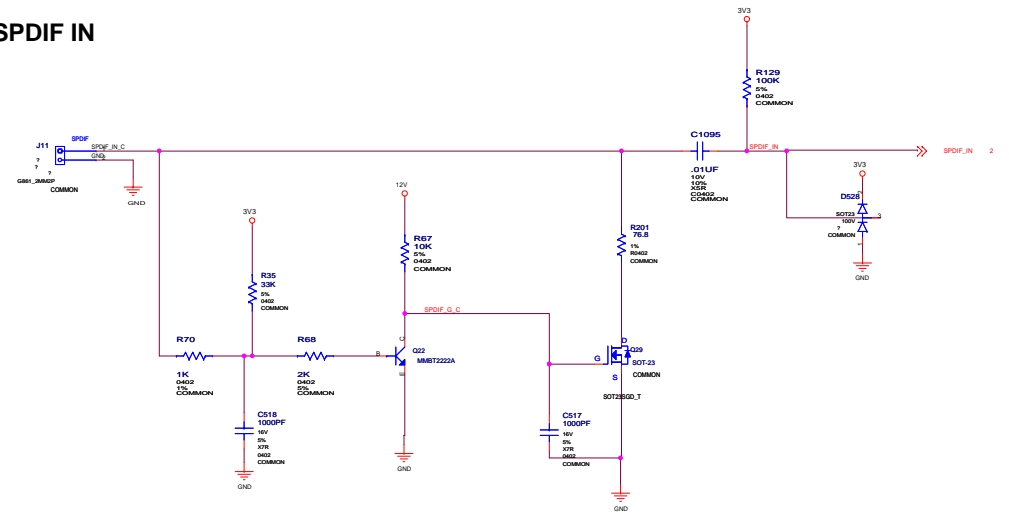
## Hotplug Detection



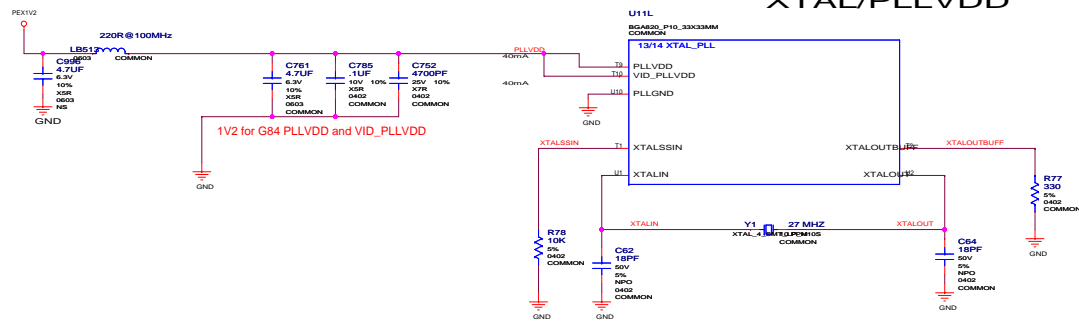




# SPDIF IN



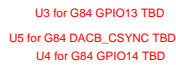
# XTAL/PLLVDD



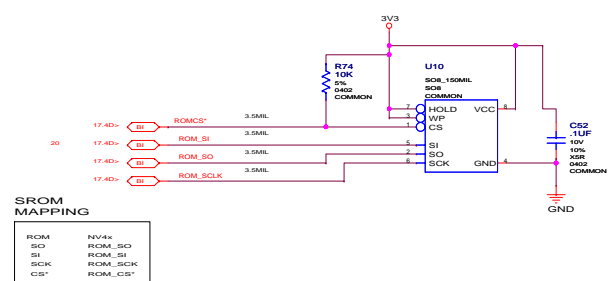


GPIO Assignment Table	
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GPIO		FUNCTION
0	IN	DVI MID HOTPLUG DET
1	IN	HDMI hotplug
2	IN	RESERVED
3	IN	RESERVED
4	IN	TUNER IRQ
5	OUT	NVDD VOLTAGE SELECT 0
6	OUT	NVDD VOLTAGE SELECT 1
7	OUT	TPI INTERRUPT ENABLE
8	IN	RESERVED
9	OUT	PWM FAN
10	IN	INT from Sil1930
11	IN	TVRSET
12	IN	uC PROGRAMMING CTRL.

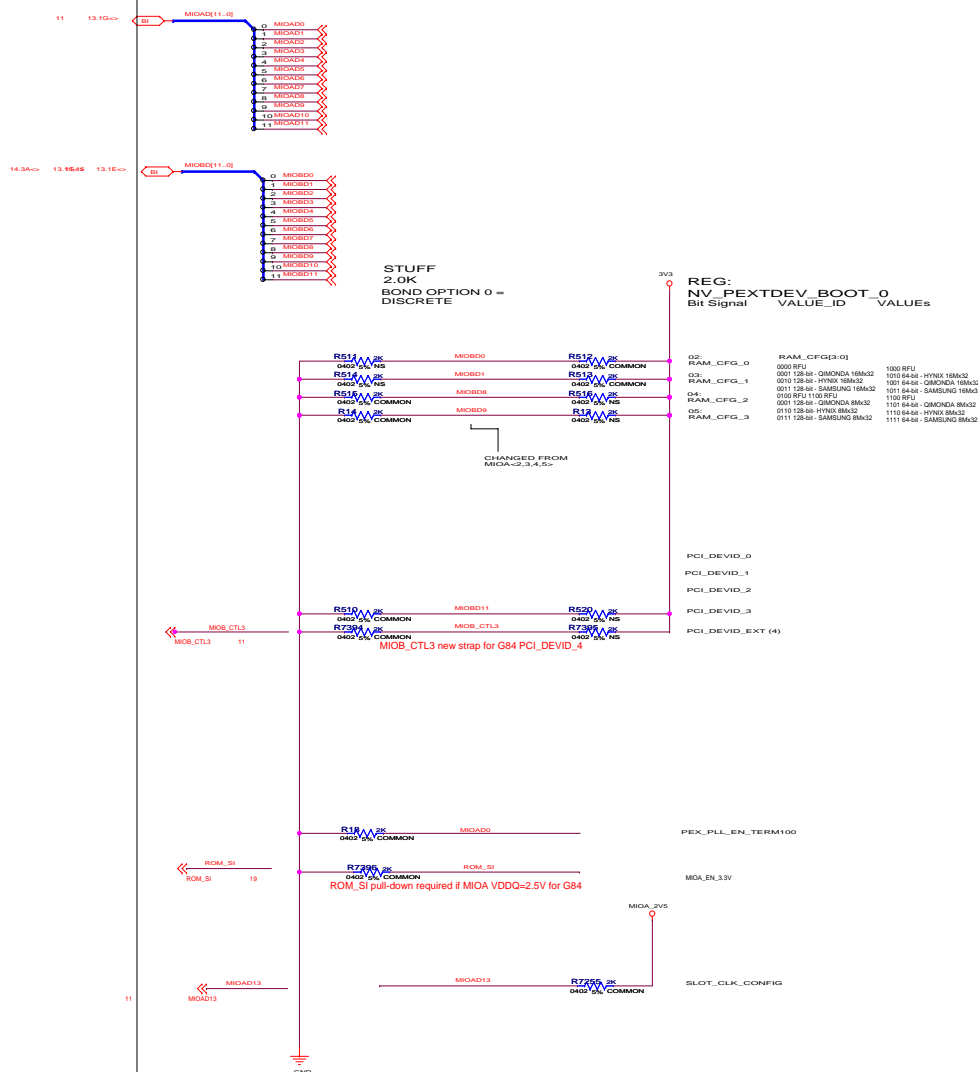


## BIOS (serial)



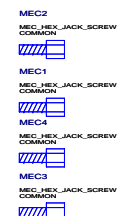
BIOS,  
Straps,  
Straps  
Misc

Assembly:  
BIOS

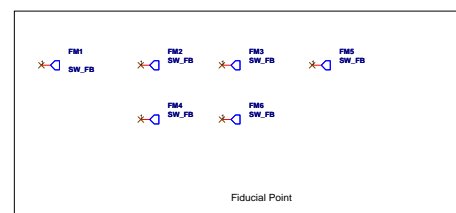
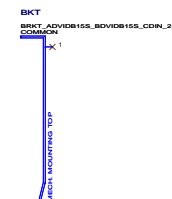


## Mechanical parts

NEED FANSINK SYMBOL  
FOR P216



155-00002-0000-000 SCREW PHIL PAN HD SS MACH 4-40  
3/16



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### Straps/Mechanical

Size	Document Number	Rev
Custom	<b>MS-V089</b>	10
Date:	Tuesday, April 10, 2007	Sheet 23 of 23

DDC5V

5V

DDC\_5V

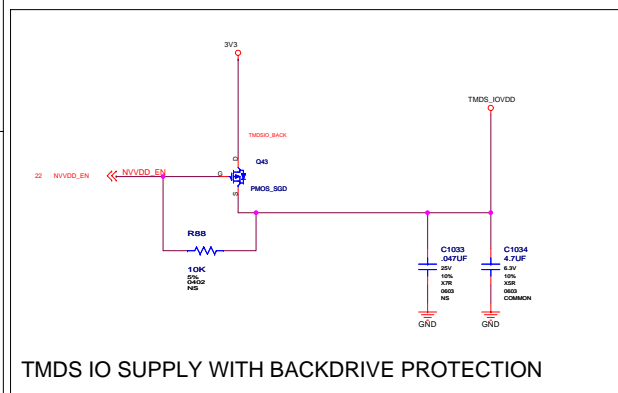
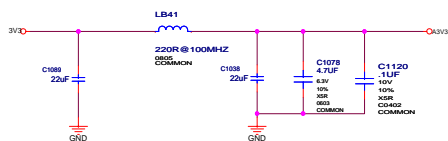
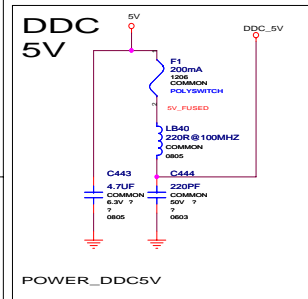
F1  
200mA  
COMMON  
POLY SWITCH  
5V\_FUSED

LB40  
220N @ 100MHZ  
COMMON  
0805

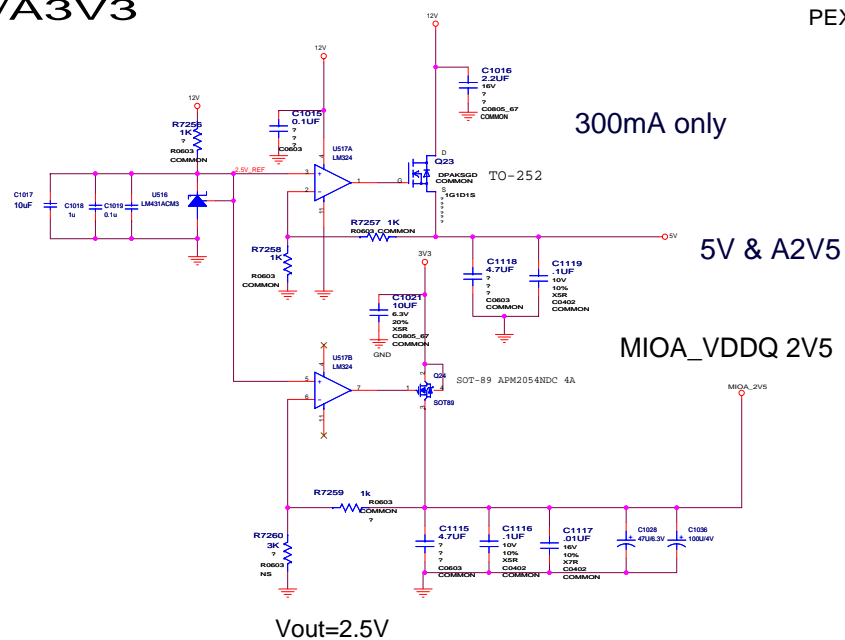
C443  
4.7UF  
COMMON  
5.3V ?  
0805

C444  
220PF  
COMMON  
50V ?  
0603

POWER\_DDC5V



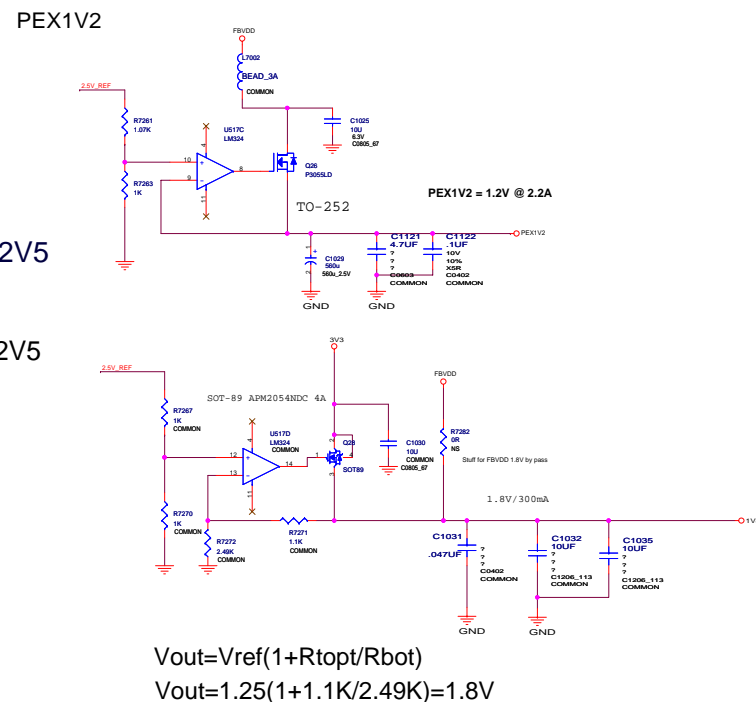
## TMDS IO SUPPLY WITH BACKDRIVE PROTECTION



300mA only

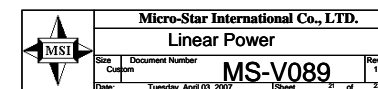
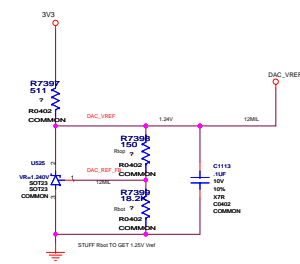
## 5V & A2V5

MIOA\_VDDQ 2V5

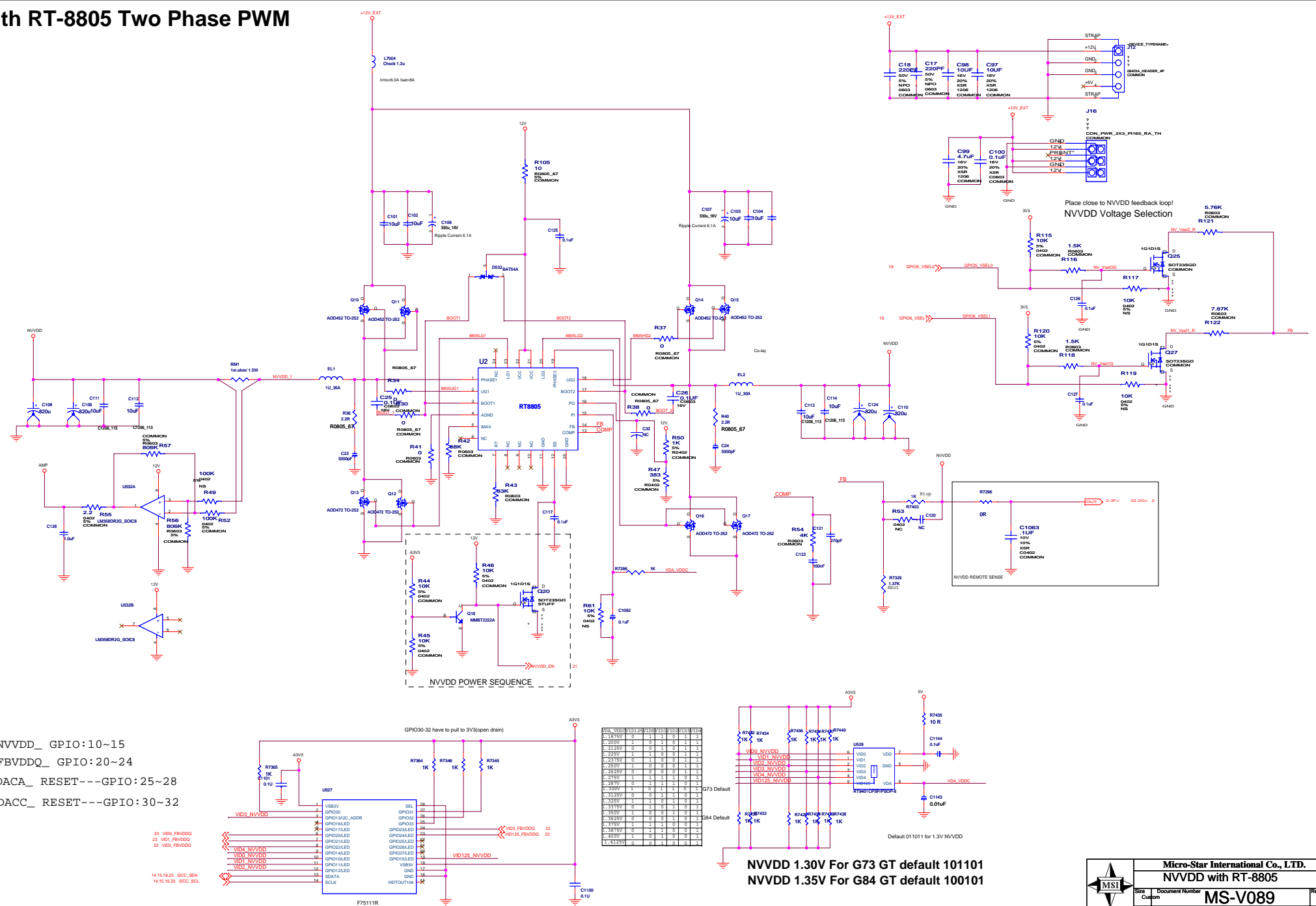
$$V_{out}=2.5V$$


PEX1V2

PEX1V2 = 1.2V @ 2.2A

$$V_{out} = V_{ref}(1 + R_{top}/R_{bot})$$
$$V_{out}=1.25(1+1.1K/2.49K)=1.8V$$


## NVVDD with RT-8805 Two Phase PWM



NVVDD 1.30V For G73 GT default 101101  
NVVDD 1.35V For G84 GT default 100101

## FBVDD with MS-11

