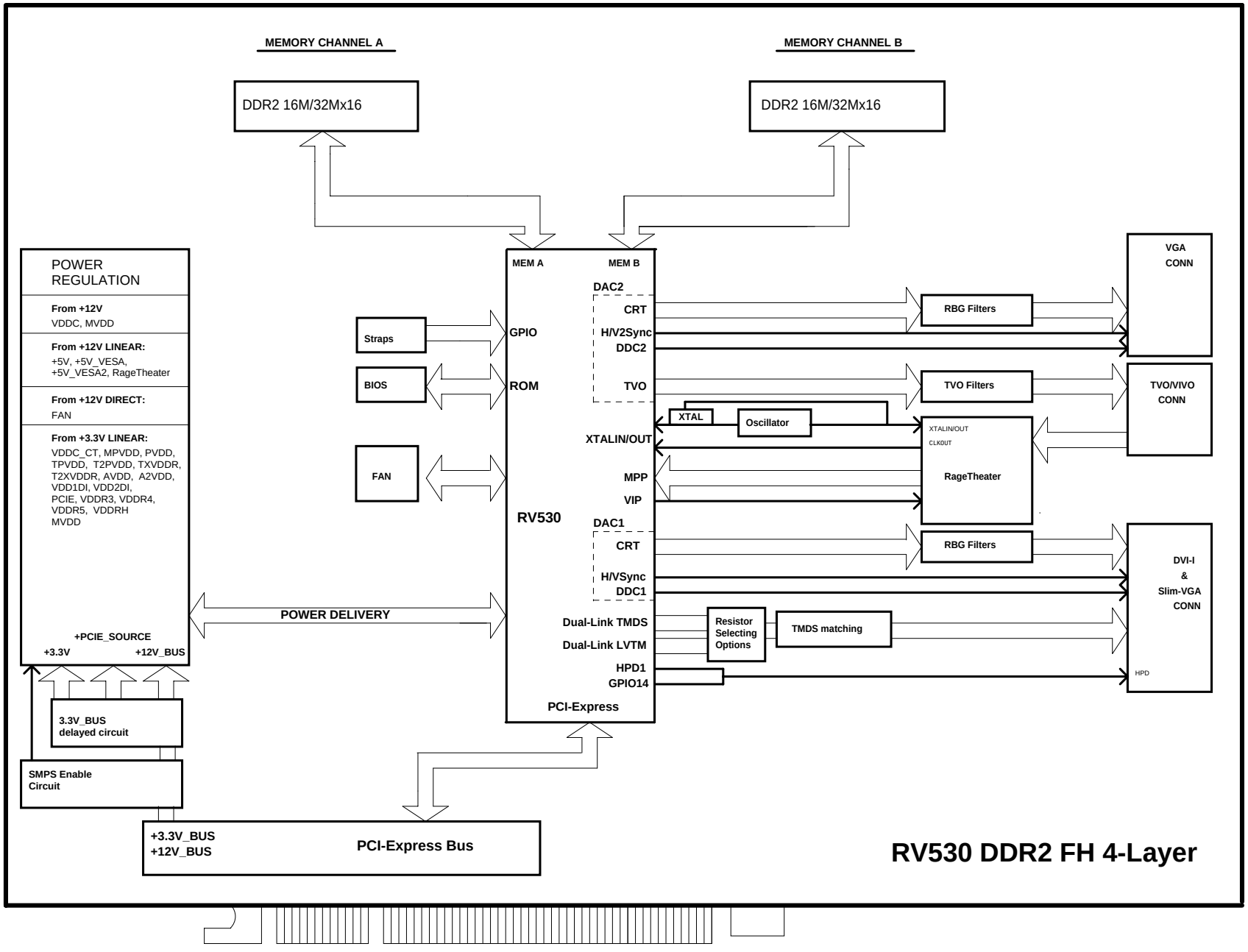

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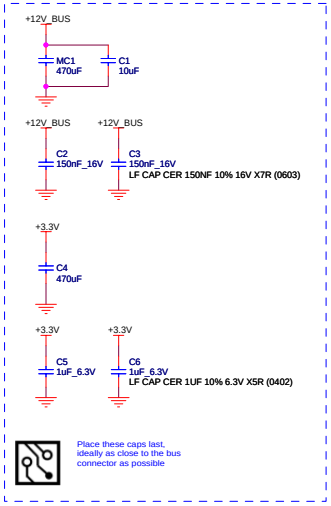
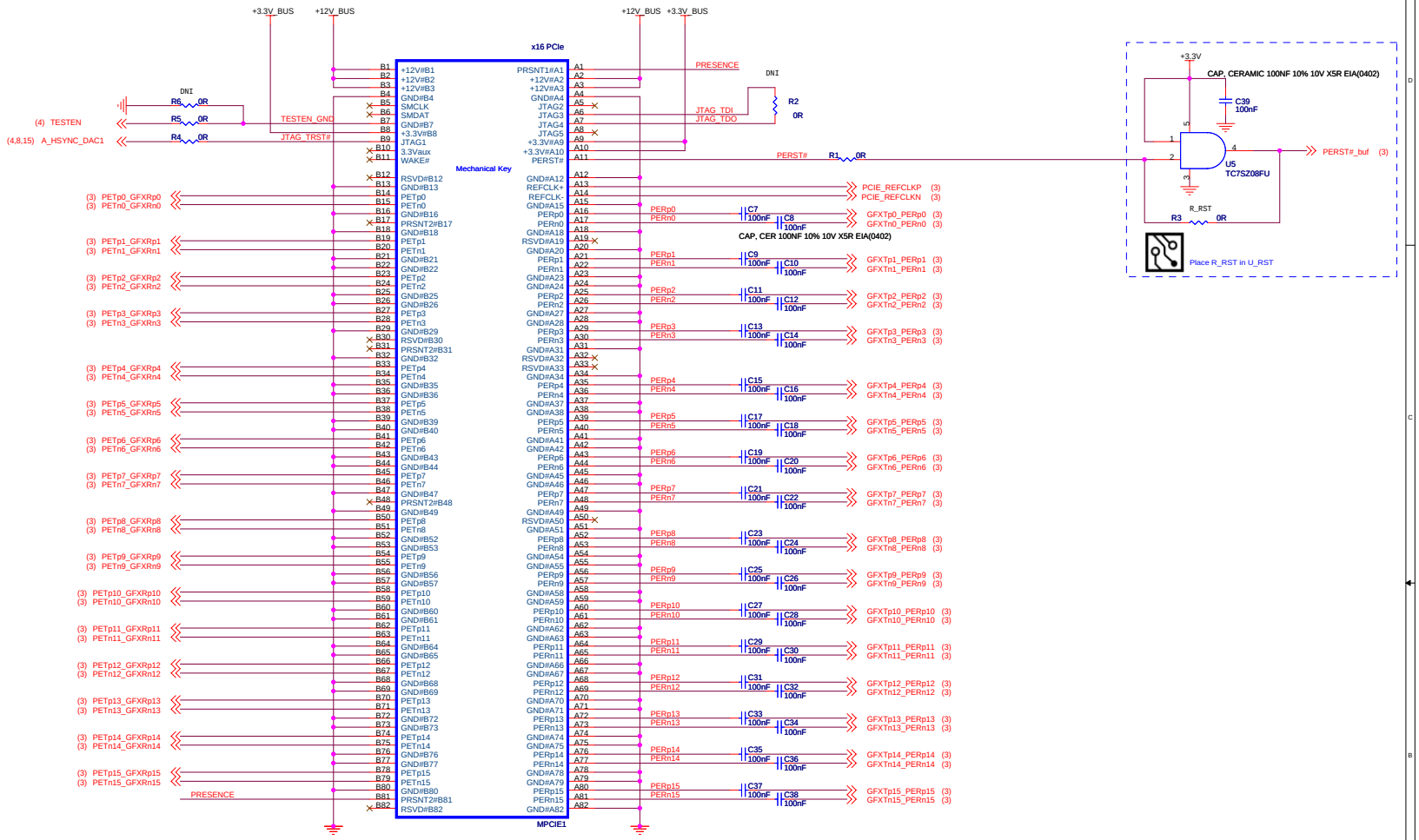
PCI-EXPRESS EDGE CONNECTOR





Power Sequence Circuit to ensure SMPS_EN is released after +12V_BUS and +3.3V_BUS are both in regulation.
Pull-up may or may not be required on SMPS_EN signal depending on SMPS design.

Node 1 When +12V ramps above min Vbe, SMPS_EN will be helt low

Node 2 When +3.3V gets close to regulation, one of the two conditions of releasing SMPS_EN is active

Target ~ 900mV when +3.3 at min regulation (worse case)

Typical trigger when +3.3V ramps above 2.2V (650mV)

Node 3 When +12V gets close to regulation, one of the two conditions of releasing SMPS_EN is active

Target ~ 1.25V when +12 at min regulation (worse case)

Typical trigger when +12V ramps above 10V (1.1V)

SYMBOL LEGEND

DNI	DO NOT INSTALL
#	ACTIVE LOW
	DIGITAL GROUND
	ANALOG GROUND

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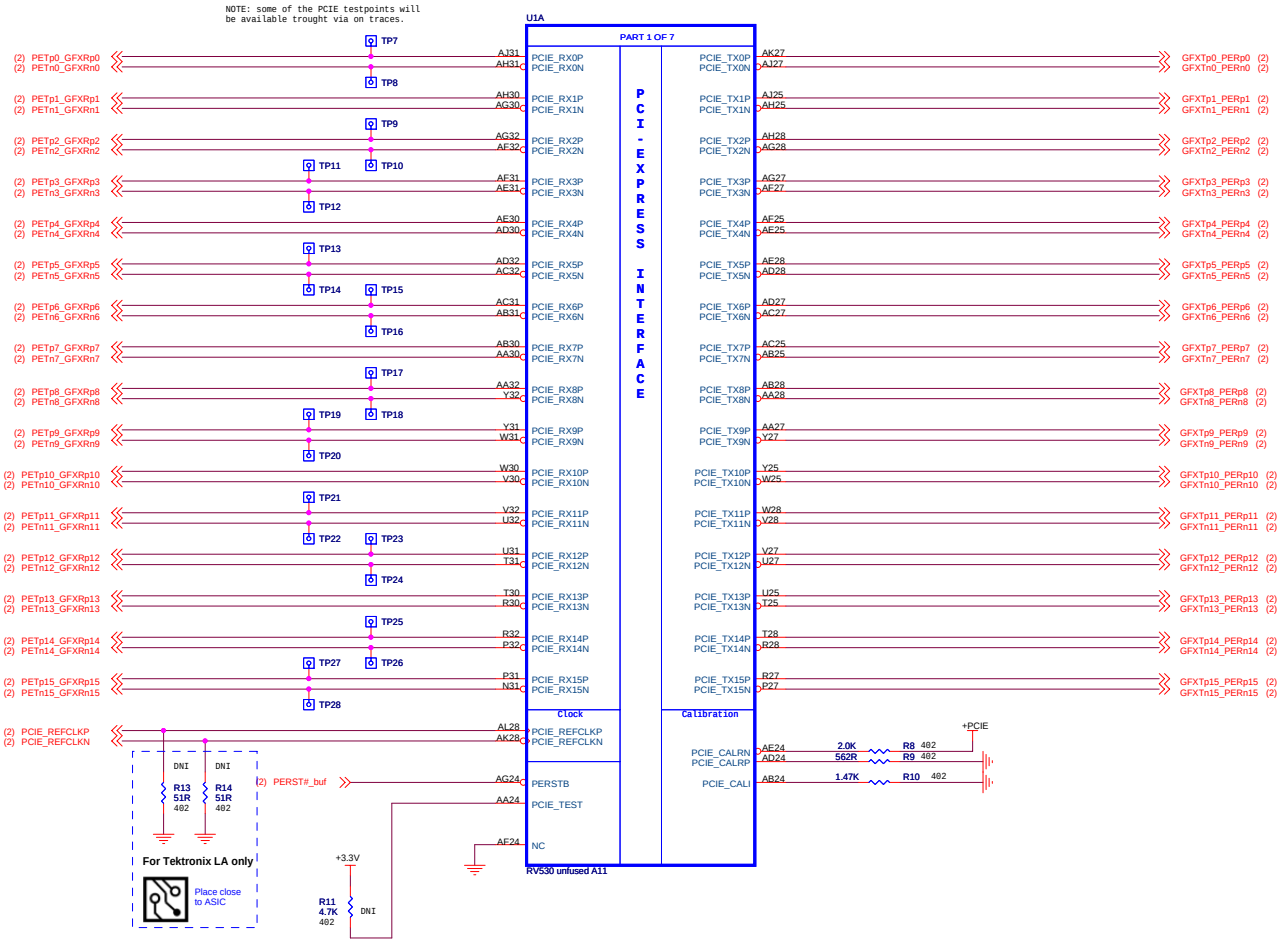

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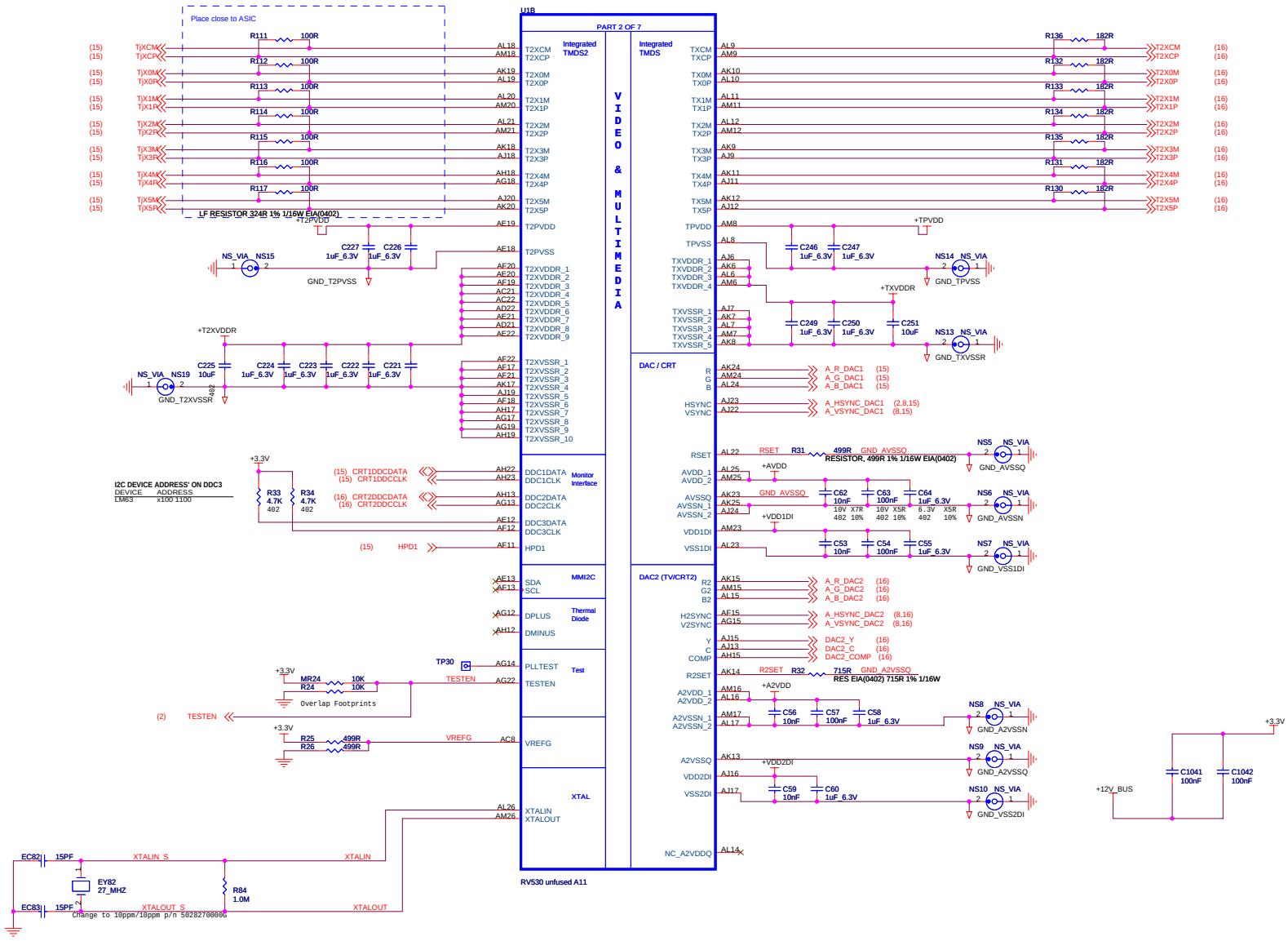
U1B
PART 2 OF 7
VIDEO & MULTIMEDIA
Integrated TMDS2
Integrated TMDS
Place close to ASIC
LF RESISTOR 324R 1% 1/16W EIA(0402)
I2C DEVICE ADDRESS' ON DDC3
DEVICE ADDRESS
LM63 x100 1100
Monitor Interface
MMI2C
Thermal Diode
Test
XTAL
DAC / CRT
DAC2 (TV/CRT2)
RESISTOR, 499R 1% 1/16W EIA(0402)
RES EIA(0402) 715R 1% 1/16W
Overlap Footprints
Change to 10ppm/10ppm p/n 5028270000G
RV530 unfused A11
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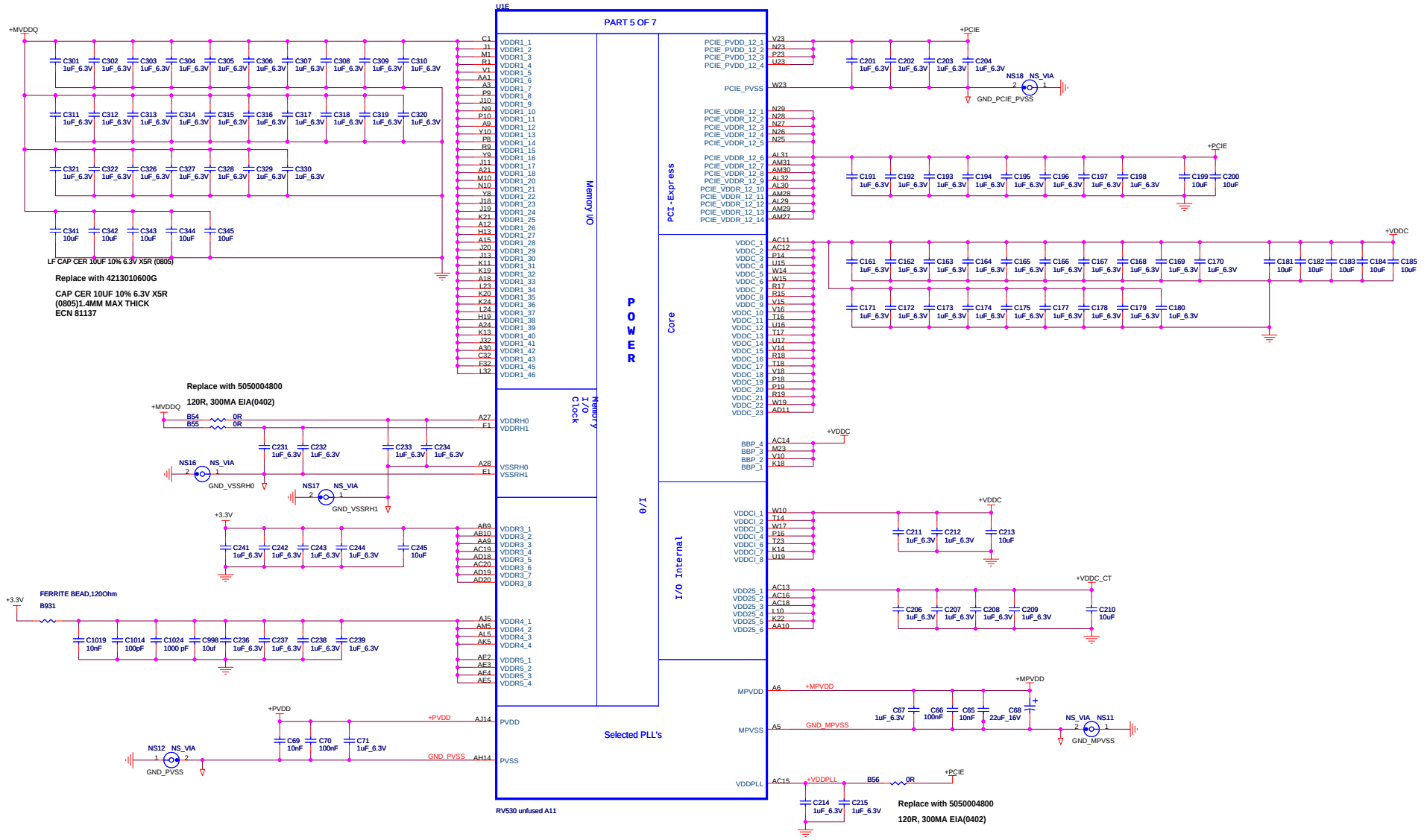
U1E
PART 5 OF 7
POWER
Memory I/O
PCI-Express
Core
I/O Internal
Memory I/O Clock
I/O
Selected PLL's
+MVDDQ
+PCIE
+VDDC
+3.3V
+VDDC_CT
+MPVDD
+PVDD
+VDDPLL
GND_PCIE_PVSS
GND_VSSRH0
GND_VSSRH1
GND_MPVSS
GND_PVSS
LF CAP CER 10UF 10% 6.3V X5R (0805)
Replace with 4213010600G
CAP CER 10UF 10% 6.3V X5R
(0805)1.4MM MAX THICK
ECN 81137
Replace with 5050004800
120R, 300MA EIA(0402)
FERRITE BEAD,120Ohm
B931
RV530 unfused A11
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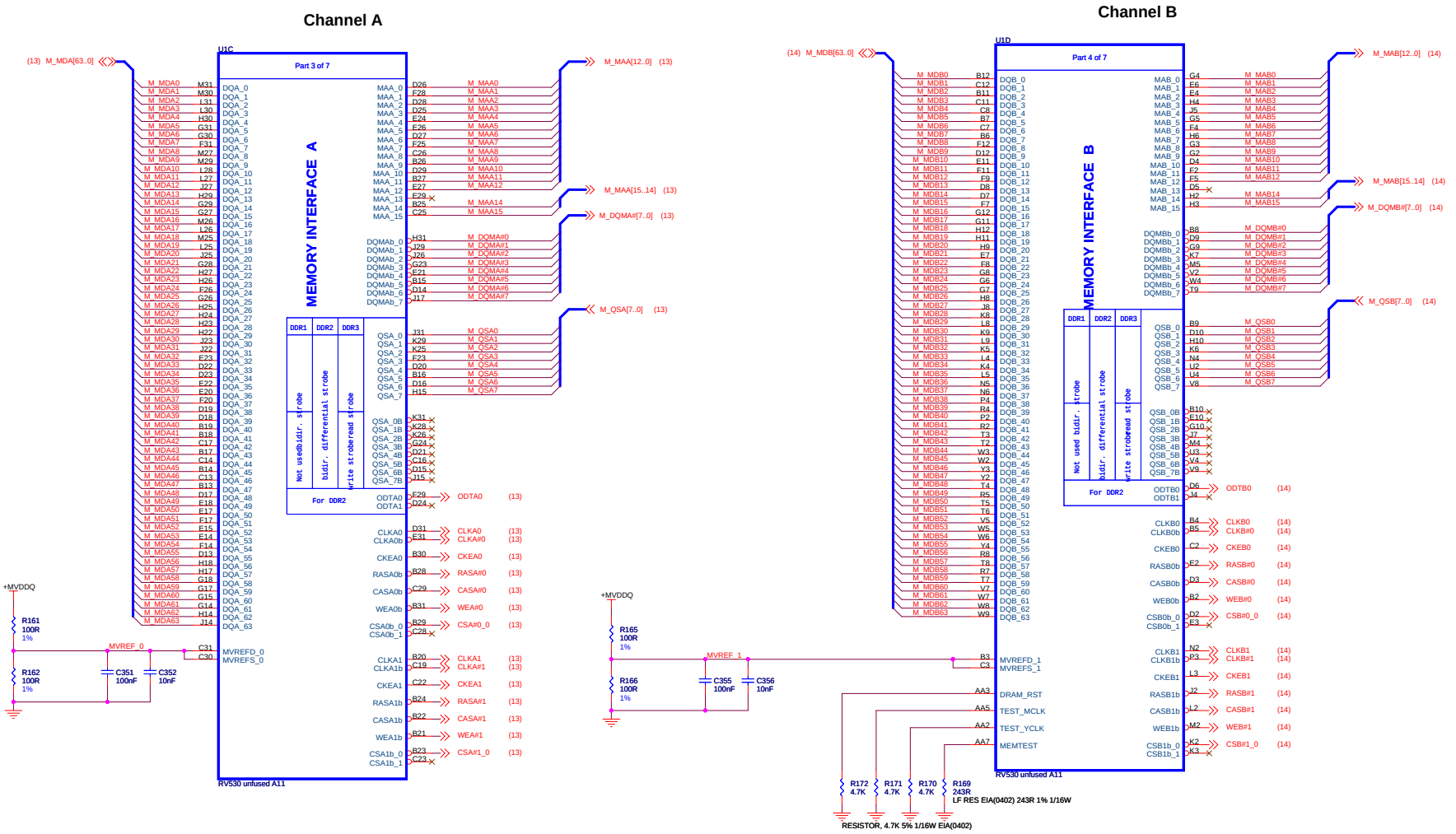
RV530 MEMORY CHANNELS A and B



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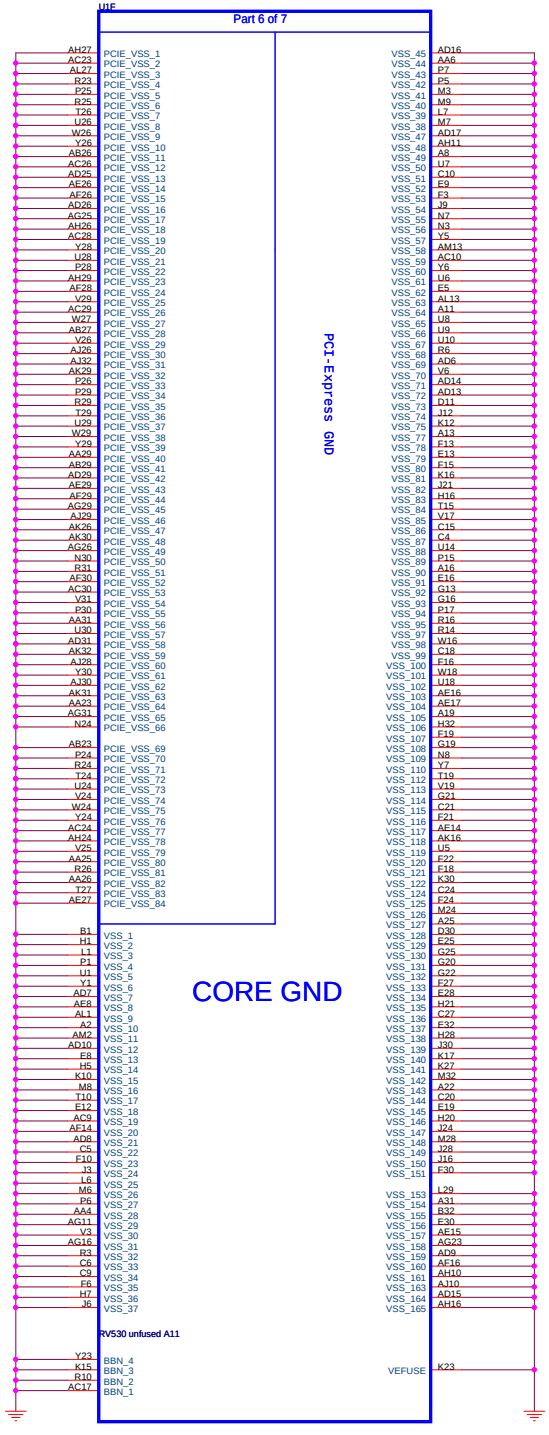

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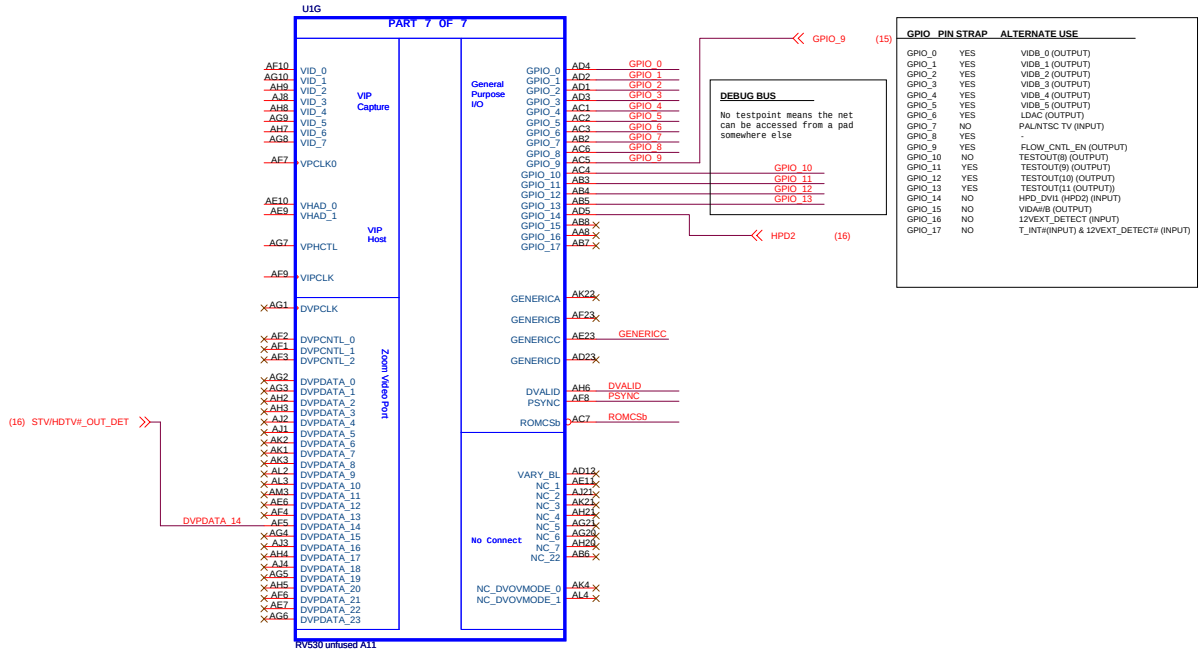
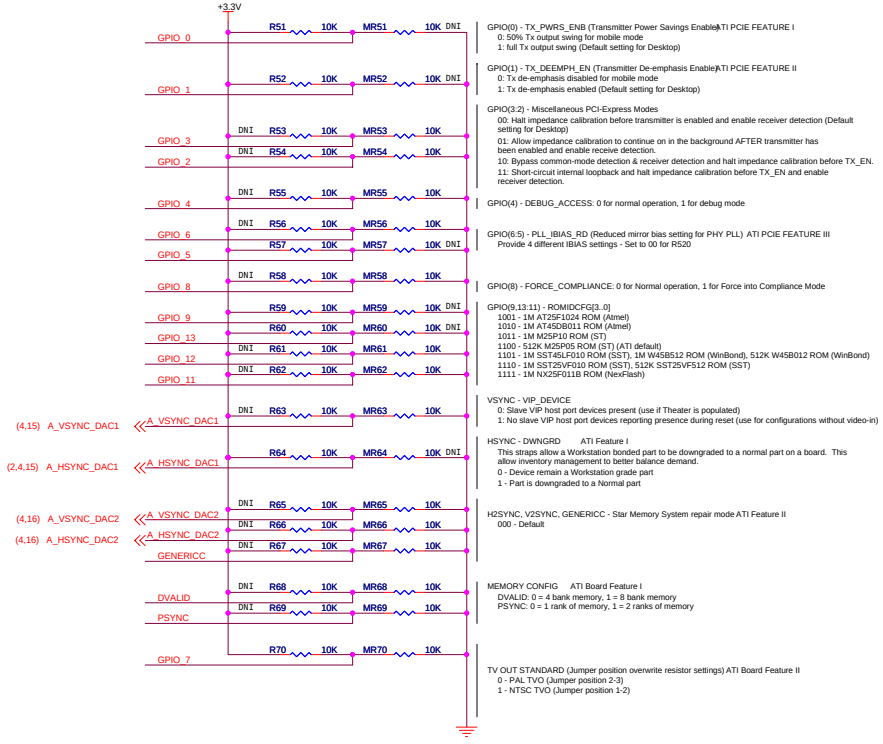
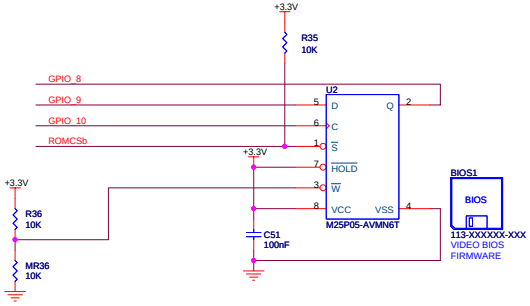


PIN BASED STRAPS





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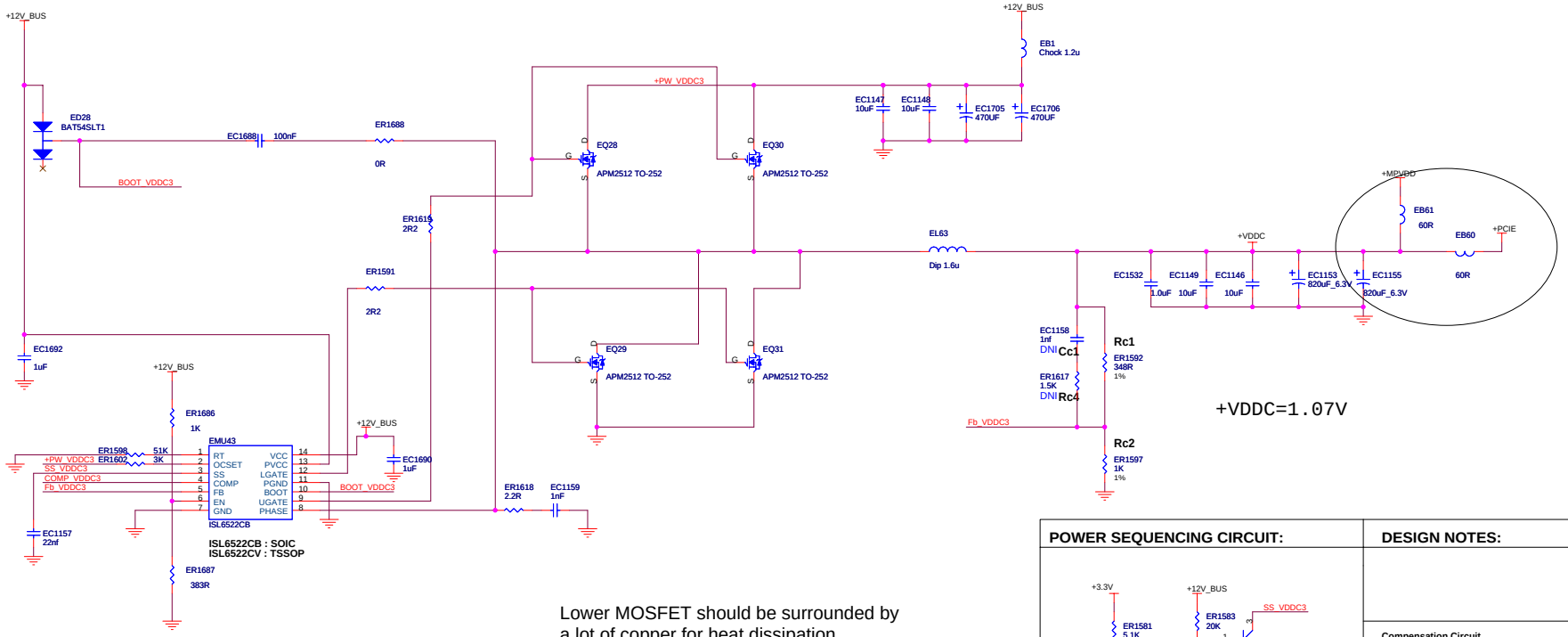
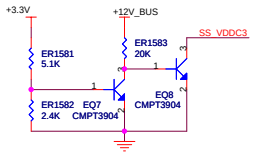
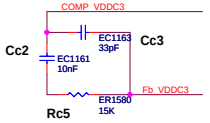
CORE REGULATOR VDDC



Lower MOSFET should be surrounded by
a lot of copper for heat dissipation

POWER SEQUENCING CIRCUIT:	DESIGN NOTES:
	Compensation Circuit 
FOR ALTERNATE #1 Remove R374, R375, R371, C168 and U32 Install R370, R112, R954, R305-R308, C160 C159 and MU32	**FOR ALTERNATE #2** Change C157 for 10 uF and C121 for 1 uF Replace C764 by 0 Ohm resistor Replace R314 with a bead Remove R954, R370, R305-R308, C159, R112, C160 and MU32 Install R374, R375, R371, C168 and U32 **Compensation circuit** Rc1 = 10K, Rc2 = 8.06K R313 = 93.1K, C171 = 3.9 nF, C170 = 10 pF

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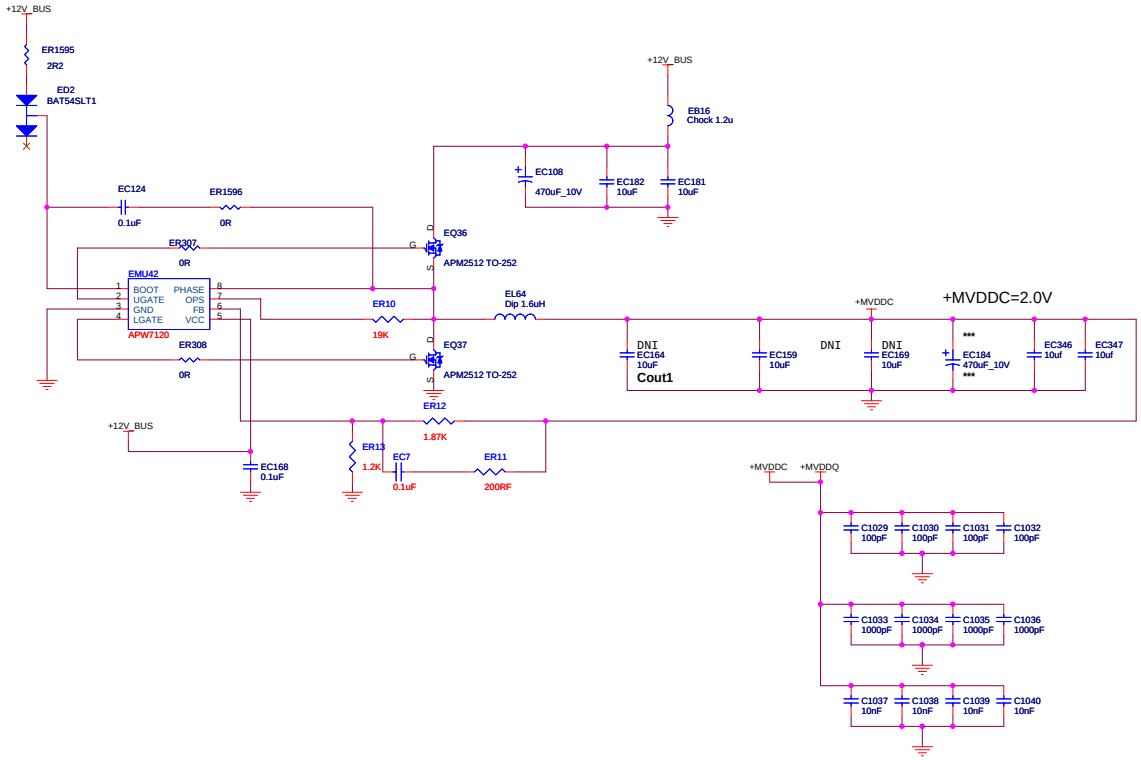

MSI	Micro-Star International Co., LTD.	
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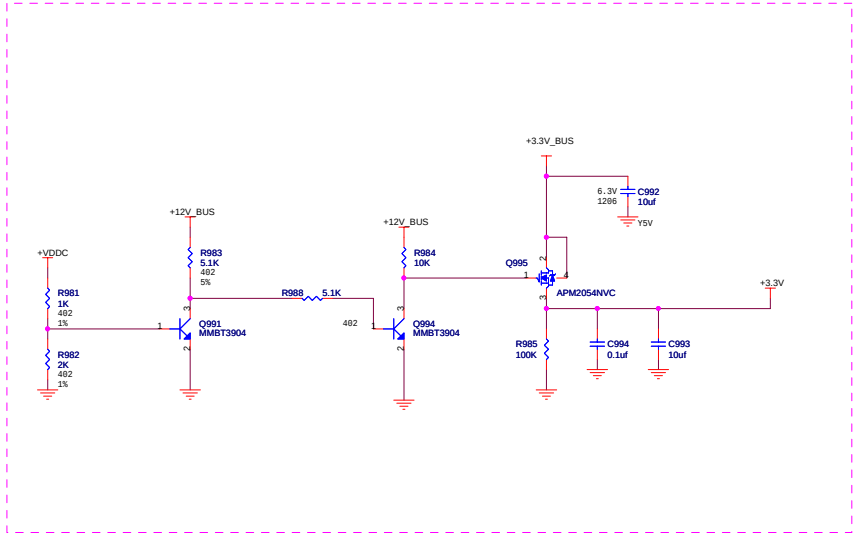

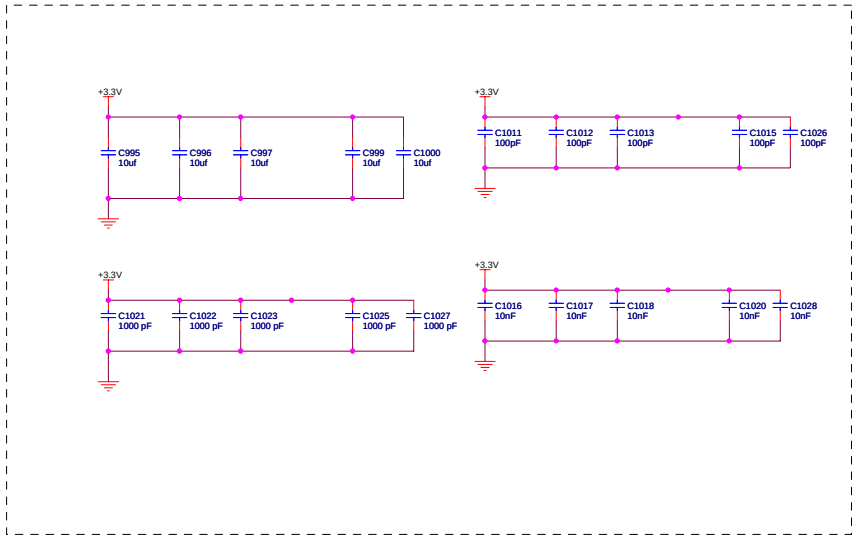

MSI	Micro-Star International Co., LTD.	
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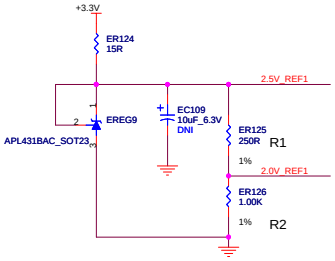

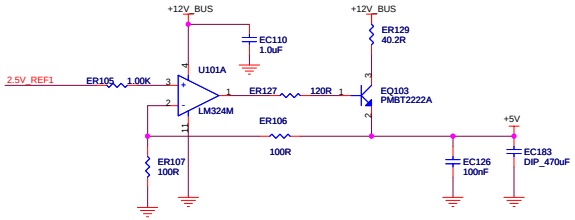

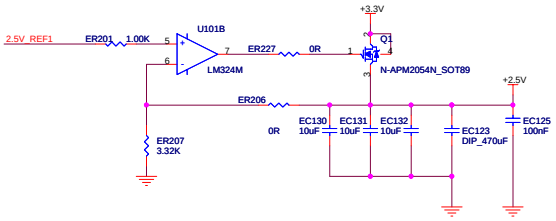

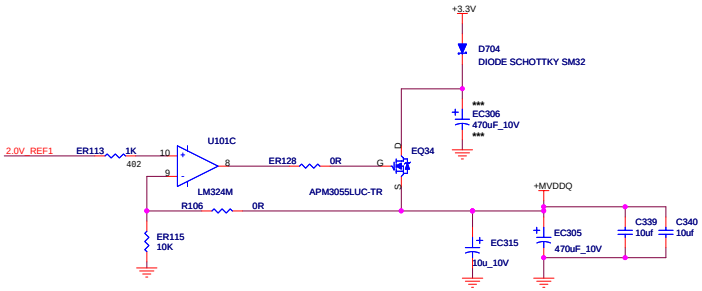

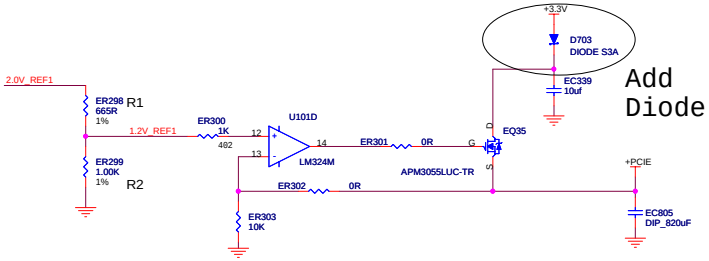

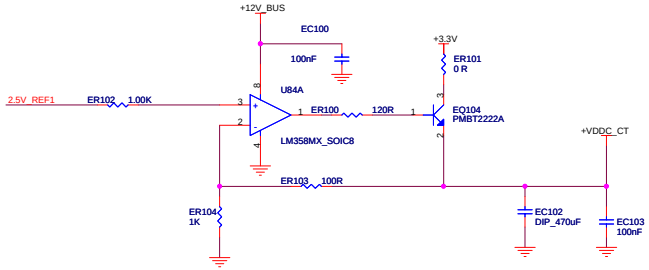

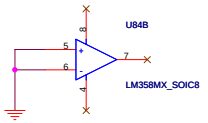

Replace with 5050004800
120R, 300MA EIA(0402)

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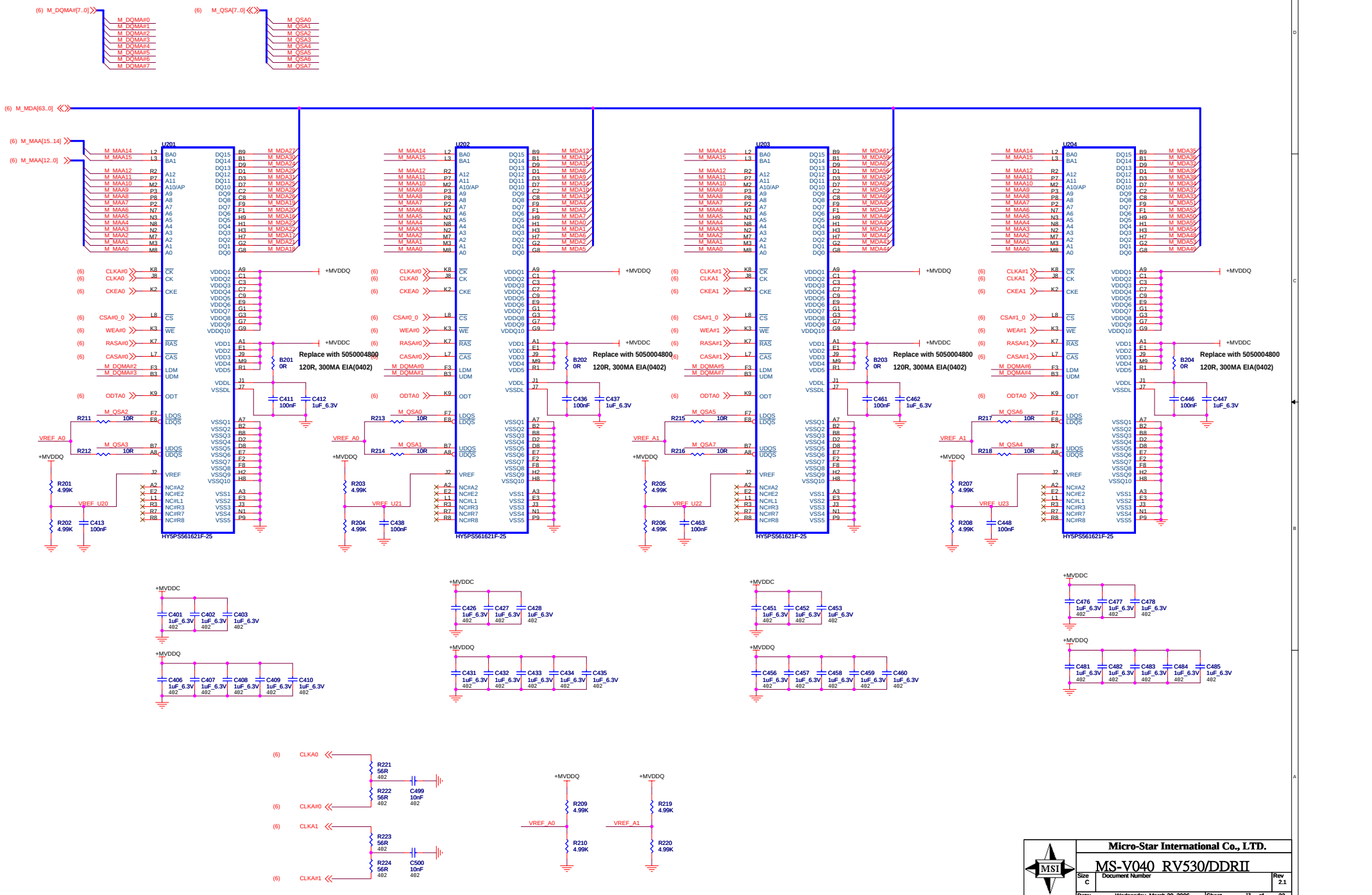
CHANNEL A: RANK 0 128MB DDR2



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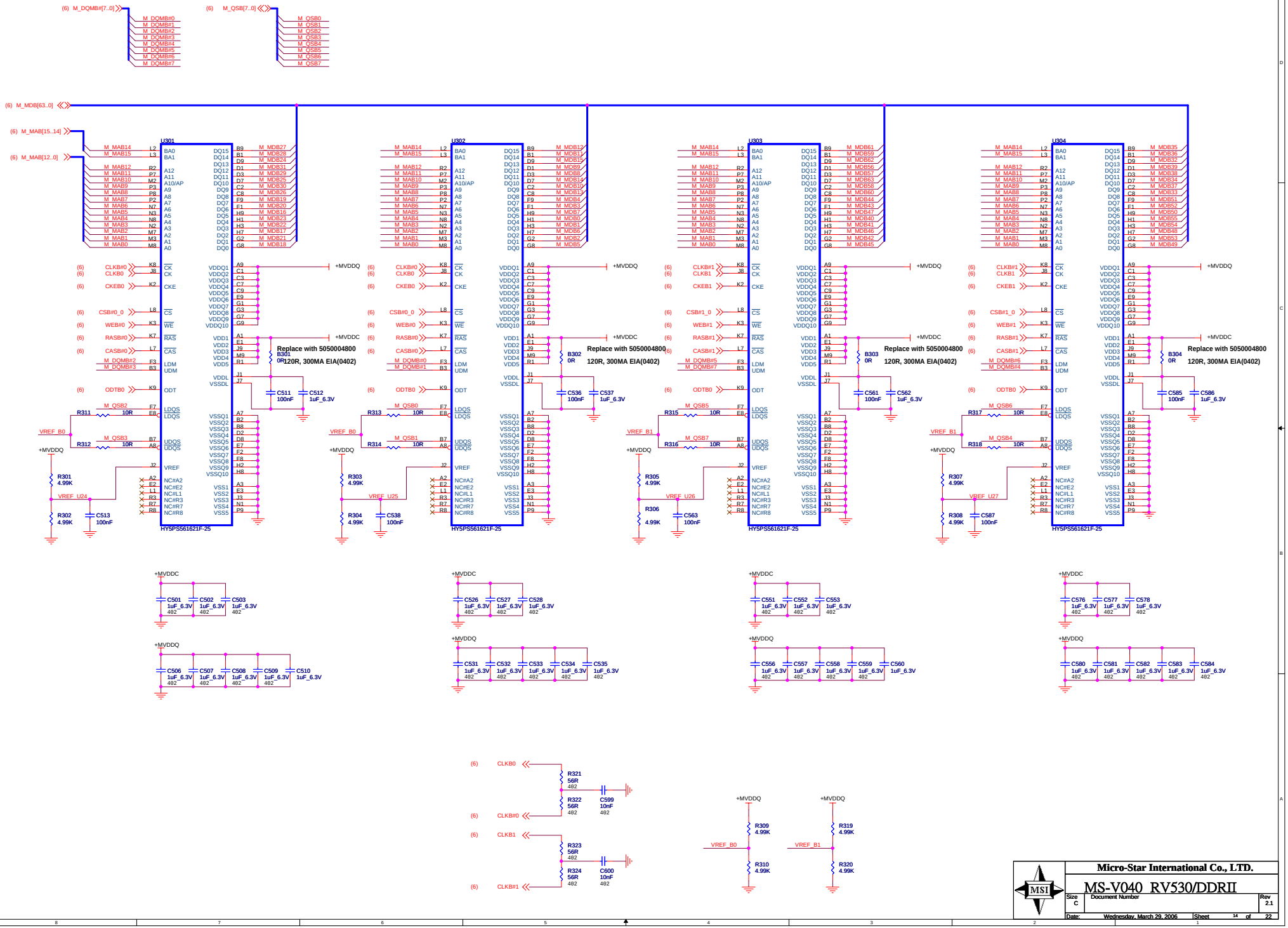
CHANNEL B: RANK 0 128MB DDR2



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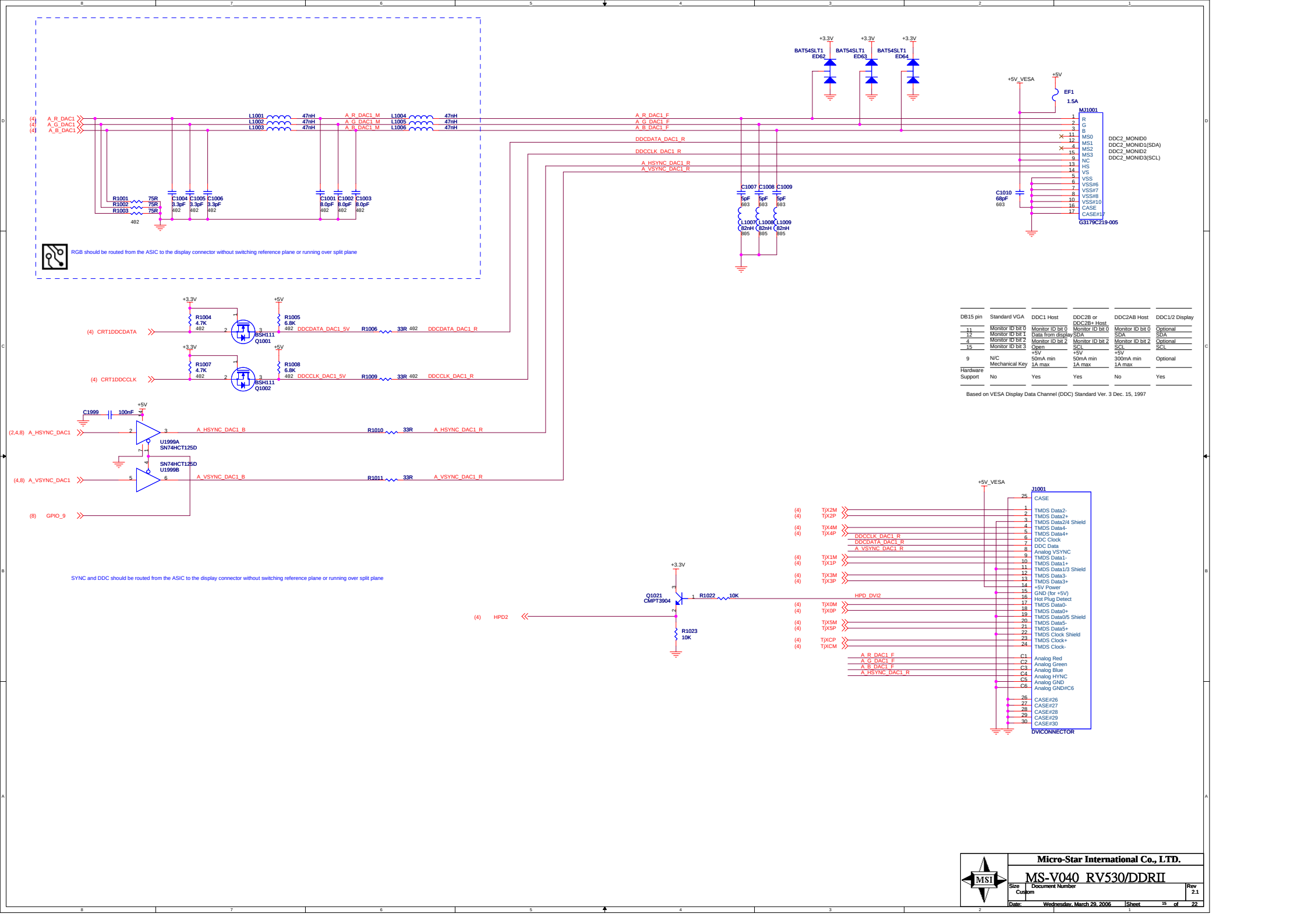

DB15 pin	Standard VGA	DDC1 Host	DDC2B or DDC2B+ Host	DDC2AB Host	DDC1/2 Display
11	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Monitor ID bit 0	Optional
12	Monitor ID bit 1	Data from display	SDA	SDA	SDA
4	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Monitor ID bit 2	Optional
15	Monitor ID bit 3	Open	SCL	SCL	SCL
		+5V	+5V	+5V	
9	N/C	50mA min	50mA min	300mA min	Optional
Hardware Support	Mechanical Key	1A max	1A max	1A max	
	No	Yes	Yes	No	Yes

Based on VESA Display Data Channel (DDC) Standard Ver. 3 Dec. 15, 1997

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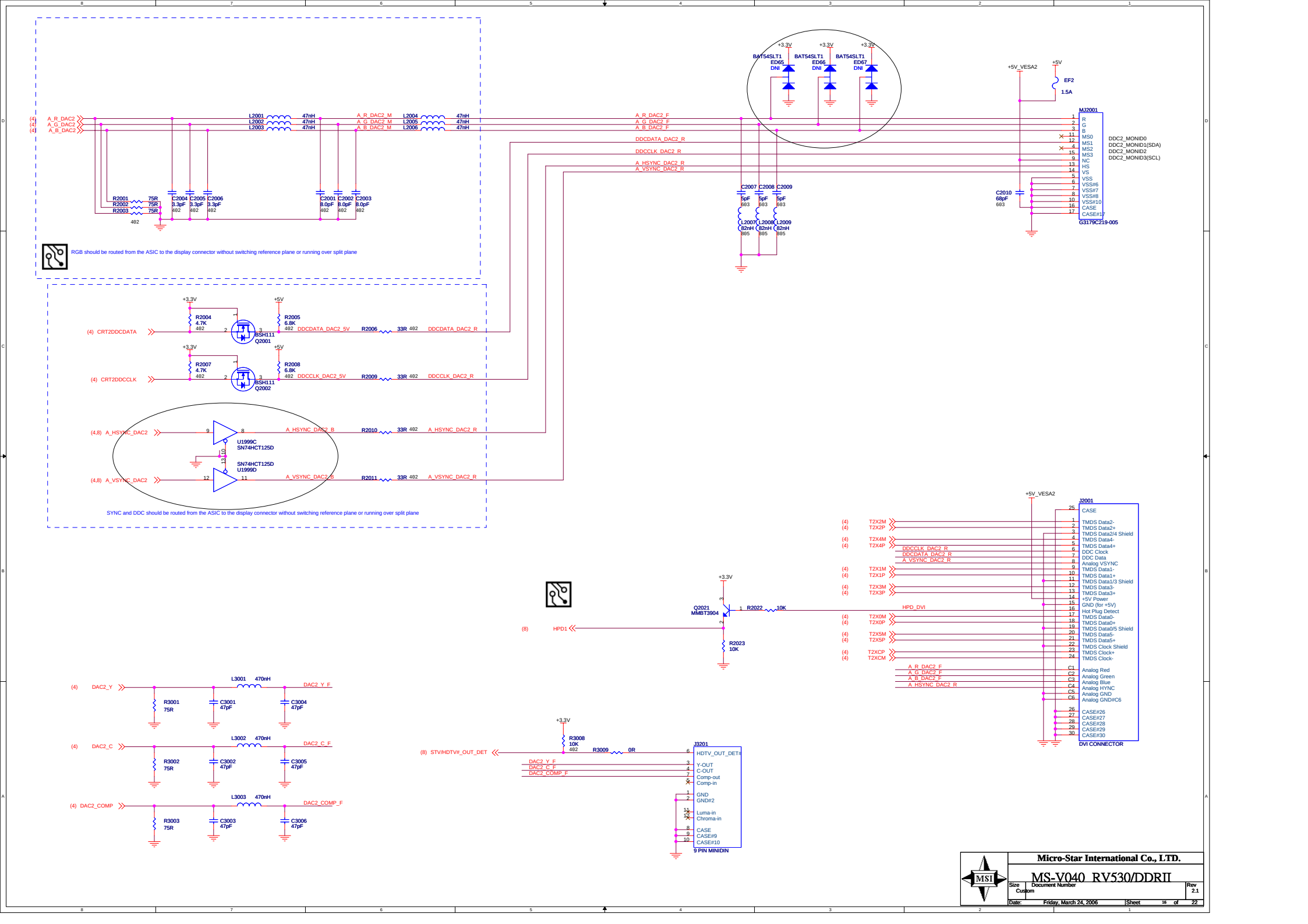
A_R_DAC2
A_G_DAC2
A_B_DAC2
L2001 L2002 L2003 47nH
A_R_DAC2_M
A_G_DAC2_M
A_B_DAC2_M
L2004 L2005 L2006 47nH
R2001 R2002 R2003 75R
C2004 C2005 C2006 3.3pF
C2001 C2002 C2003 8.0pF
402
RGB should be routed from the ASIC to the display connector without switching reference plane or running over split plane
A_R_DAC2_F
A_G_DAC2_F
A_B_DAC2_F
DDCDATA_DAC2_R
DDCCLK_DAC2_R
A_HSYNC_DAC2_R
A_VSYNC_DAC2_R
BAT54SLT1 ED65 DNI
BAT54SLT1 ED66 DNI
BAT54SLT1 ED67 DNI
+3.3V
+5V_VESA2
+5V
EF2
1.5A
C2007 C2008 C2009 5pF
L2007 L2008 L2009 82nH
C2010 68pF
MJ2001
R
G
B
MS0
MS1
MS2
MS3
NC
HS
VS
VSS
VSS#6
VSS#7
VSS#8
VSS#10
CASE
CASE#17
G3179C219-005
DDC2_MONID0
DDC2_MONID1(SDA)
DDC2_MONID2
DDC2_MONID3(SCL)
(4) CRT2DDCDATA
(4) CRT2DDCCLK
R2004 4.7K
R2005 6.8K
R2007 4.7K
R2008 6.8K
BSH111 Q2001
BSH111 Q2002
DDCDATA_DAC2_5V
DDCCLK_DAC2_5V
R2006 33R
R2009 33R
(4,8) A_HSYNC_DAC2
(4,8) A_VSYNC_DAC2
U1999C SN74HCT125D
SN74HCT125D U1999D
A_HSYNC_DAC2_B
A_VSYNC_DAC2_B
R2010 33R
R2011 33R
SYNC and DDC should be routed from the ASIC to the display connector without switching reference plane or running over split plane
J2001
CASE
TMDS Data2-
TMDS Data2+
TMDS Data2/4 Shield
TMDS Data4-
TMDS Data4+
DDC Clock
DDC Data
Analog VSYNC
TMDS Data1-
TMDS Data1+
TMDS Data1/3 Shield
TMDS Data3-
TMDS Data3+
+5V Power
GND (for +5V)
Hot Plug Detect
TMDS Data0-
TMDS Data0+
TMDS Data0/5 Shield
TMDS Data5-
TMDS Data5+
TMDS Clock Shield
TMDS Clock+
TMDS Clock-
Analog Red
Analog Green
Analog Blue
Analog HYNC
Analog GND
Analog GND#C6
CASE#26
CASE#27
CASE#28
CASE#29
CASE#30
DVI CONNECTOR
T2X2M T2X2P
T2X4M T2X4P
T2X1M T2X1P
T2X3M T2X3P
T2X0M T2X0P
T2X5M T2X5P
T2XCP T2XCM
Q2021 MMBT3904
R2022 10K
R2023 10K
HPD_DVI
(8) HPD1
(4) DAC2_Y
(4) DAC2_C
(4) DAC2_COMP
L3001 L3002 L3003 470nH
R3001 R3002 R3003 75R
C3001 C3002 C3003 47pF
C3004 C3005 C3006 47pF
DAC2_Y_F
DAC2_C_F
DAC2_COMP_F
(8) STV/HDTV#_OUT_DET
R3008 10K
R3009 0R
J3201
HDTV_OUT_DET#
Y-OUT
C-OUT
Comp-out
Comp-in
GND
GND#2
Luma-in
Chroma-in
CASE
CASE#9
CASE#10
9 PIN MINIDIN
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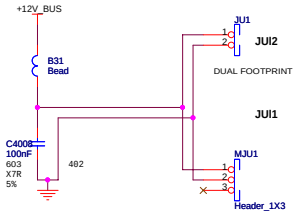

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DVI/VGA SCREWS

SCREW1
SCREW
JACKSCREW
ASSY
7020000800

SCREW2
SCREW
JACKSCREW
ASSY
7020000800

SCREW3
SCREW
JACKSCREW
ASSY
7020000800

SCREW4
SCREW
JACKSCREW
ASSY
7020000800

BKT

MT1
MT_Hole_0.136_in.
DNI

FM1
SW_FB

FM5
SW_FB

FM2
SW_FB

FM6
SW_FB

FM3
SW_FB

FM4
SW_FB

PCB

H2
LOW PROFILE HS

+MVDDQ

J1
X_PIN1*2

J3
X_PIN1*2

J2
X_PIN1*2

J4
X_PIN1*2

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