PCI-EXPRESS EDGE CONNECTOR

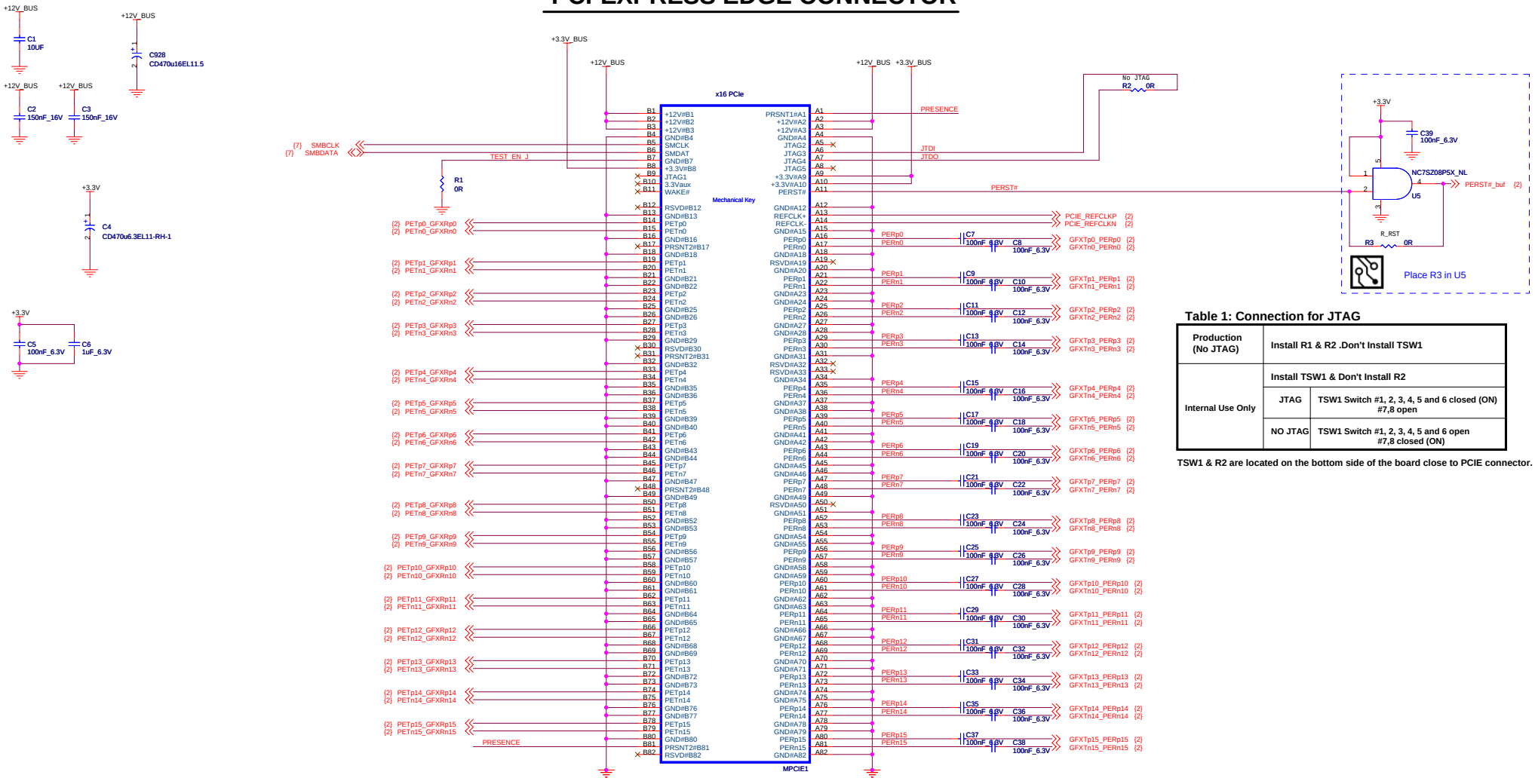

Table 1: Connection for JTAG

Production (No JTAG)	**Install R1 & R2 .Don't Install TSW1**	
Internal Use Only	**Install TSW1 & Don't Install R2**	
	JTAG	**TSW1 Switch #1, 2, 3, 4, 5 and 6 closed (ON) #7,8 open**
	NO JTAG	**TSW1 Switch #1, 2, 3, 4, 5 and 6 open #7,8 closed (ON)**

TSW1 & R2 are located on the bottom side of the board close to PCIE connector.

SYMBOL LEGEND

DNI	DO NOT INSTALL
#	ACTIVE LOW
	DIGITAL GROUND
	ANALOG GROUND
BUO	BRING UP ONLY

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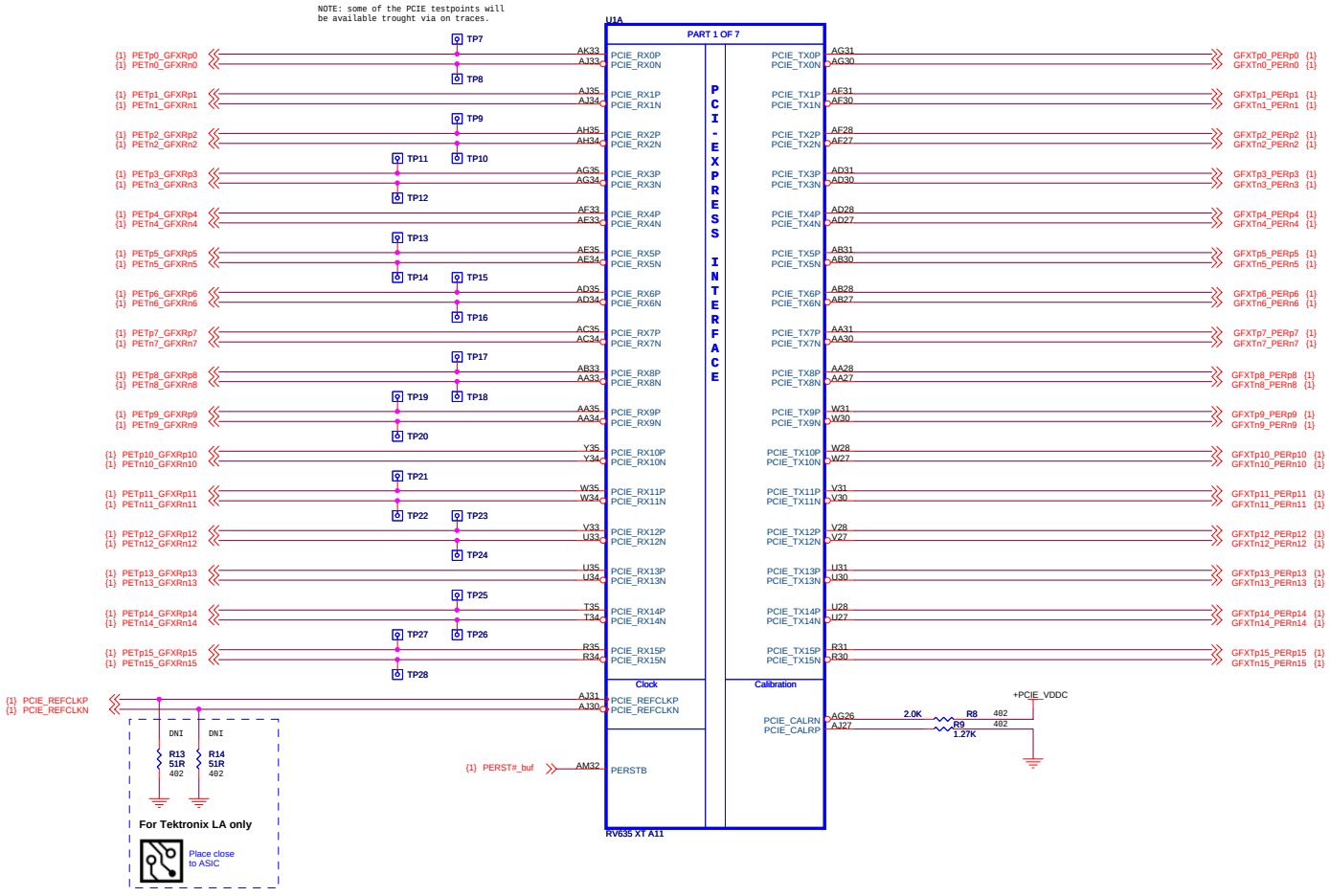
Date: Thursday, March 06, 2008 Rev 0

Sheet 1 of 21

Title RV635 DDR2 - PCI-E Edge Connector

Doc No. 105-B381xx-00A



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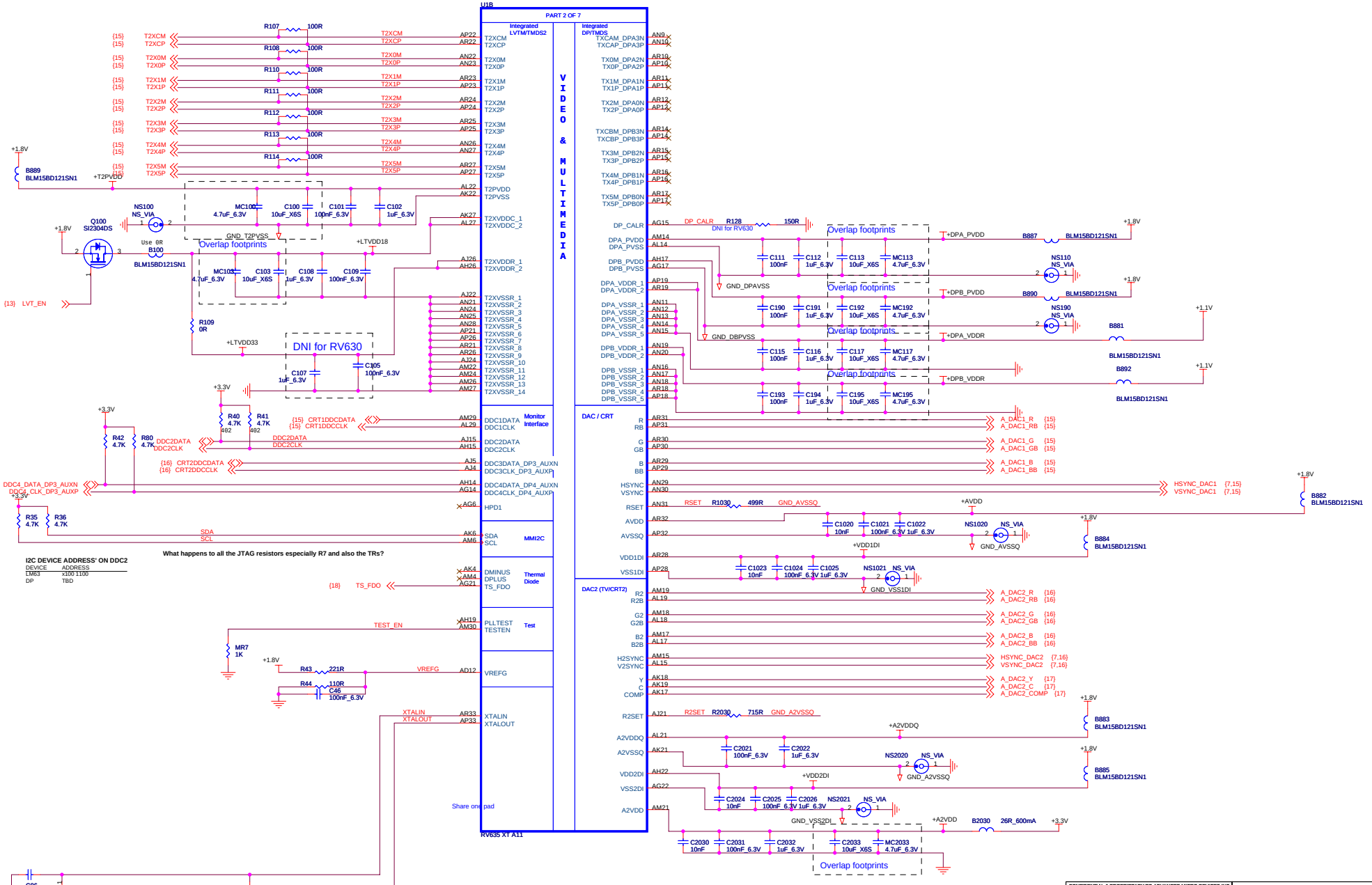
Date: Thursday, March 06, 2008 Rev 0

Sheet 2 of 21

Title RV635 DDR2 - ASIC PCIE_Interface

Doc No. 105-B381xx-00A

Recommended caps:
(see BOM for qualified values/vendors)
10uF , X6S, 0805, 6.3V, 1.4MM MAX THICK
1uF, X6S, 0402, 6.3V
100nF, X7R, 0402
10nF , X7R, 0402



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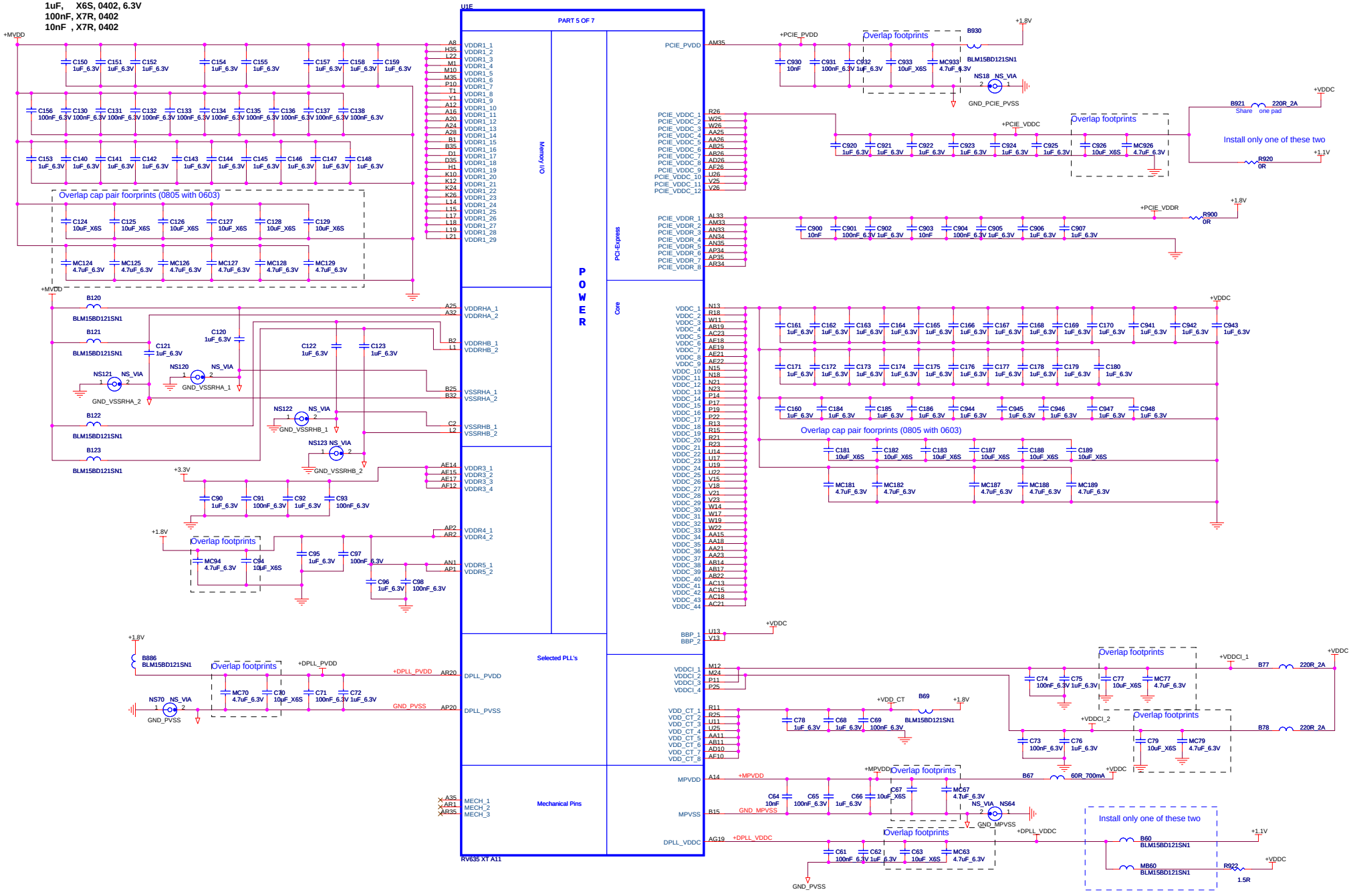
Date:	Thursday, March 06, 2008
Rev	0
Sheet	3 of 21
Title	RV635 DDR2 - ASIC MAIN
Doc No.	105-B381xx-00A

Recommended caps:
(see BOM for qualified values/vendors)
10uF , X6S, 0805, 6.3V, 1.4MM MAX THICK
1uF, X6S, 0402, 6.3V
100nF, X7R, 0402
10nF , X7R, 0402



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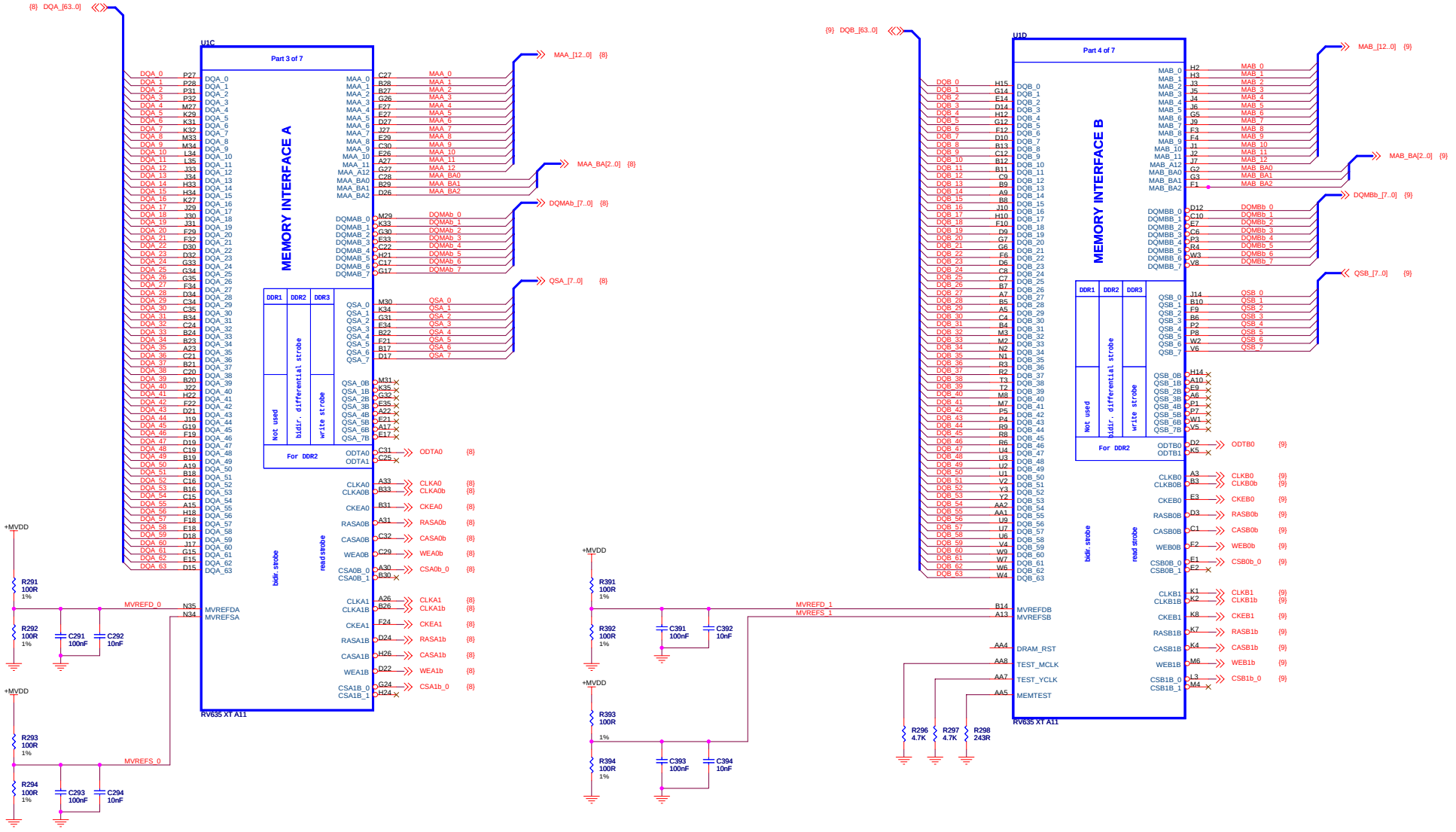
Date:	Thursday, March 06, 2008
Rev	0
Sheet	4 of 21
Title	RV635 DDR2 - ASIC Power
Doc No.	105-B381xx-00A



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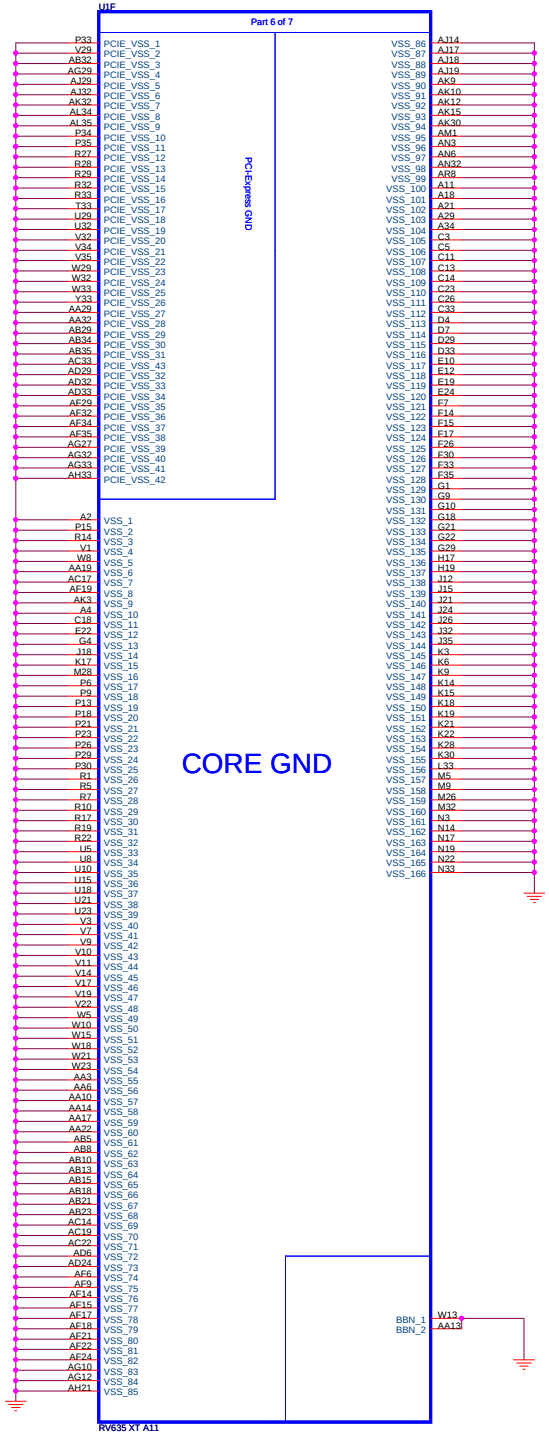
Date:	Thursday, March 06, 2008
Rev	0
Sheet	5 of 21
Title	RV635 DDR2 - ASIC Memory Interface (Channel A & B)
Doc No.	105-B381xx-00A



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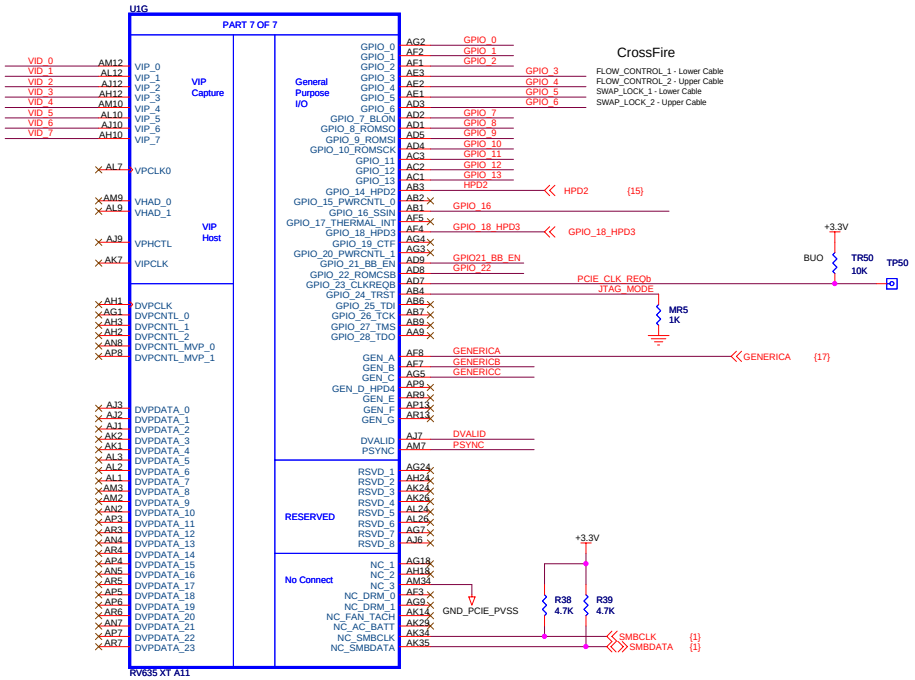
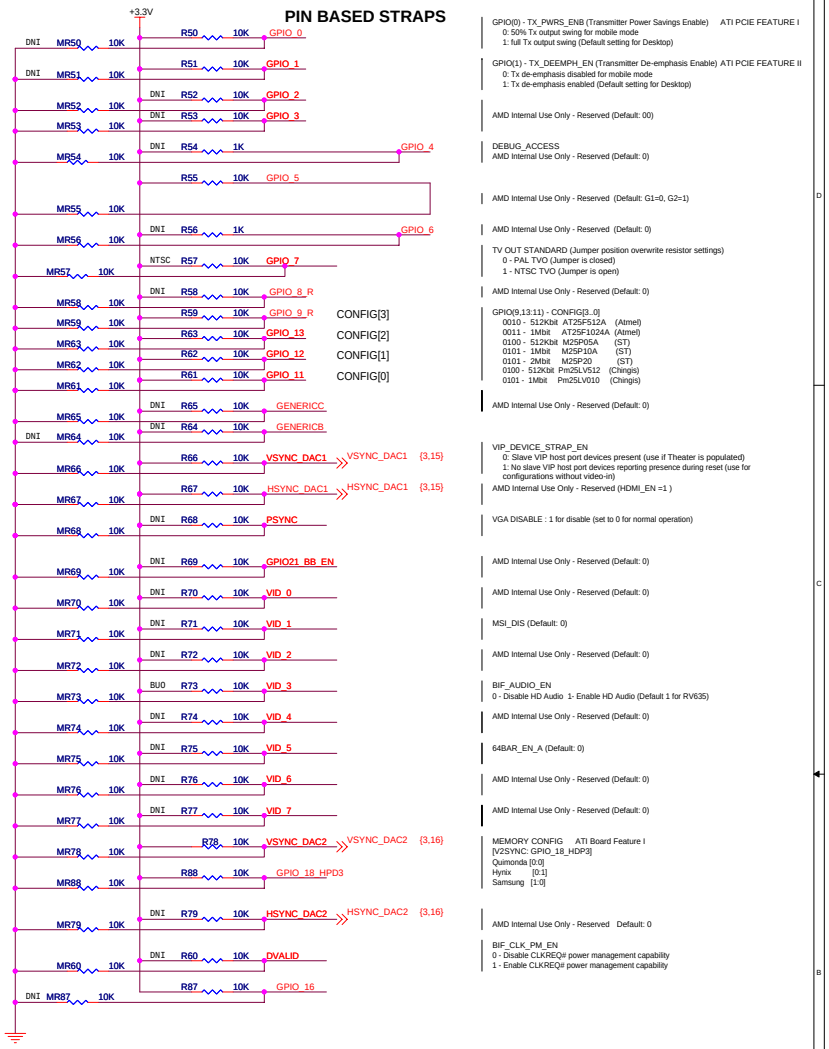
Date: Thursday, March 06, 2008 Rev 0

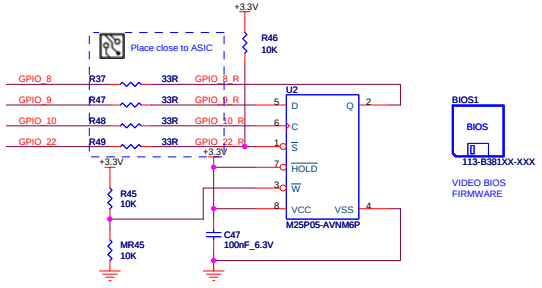
Sheet 6 of 21

Title RV635 DDR2 - ASIC Grounds

Doc No. 105-B381xx-00A







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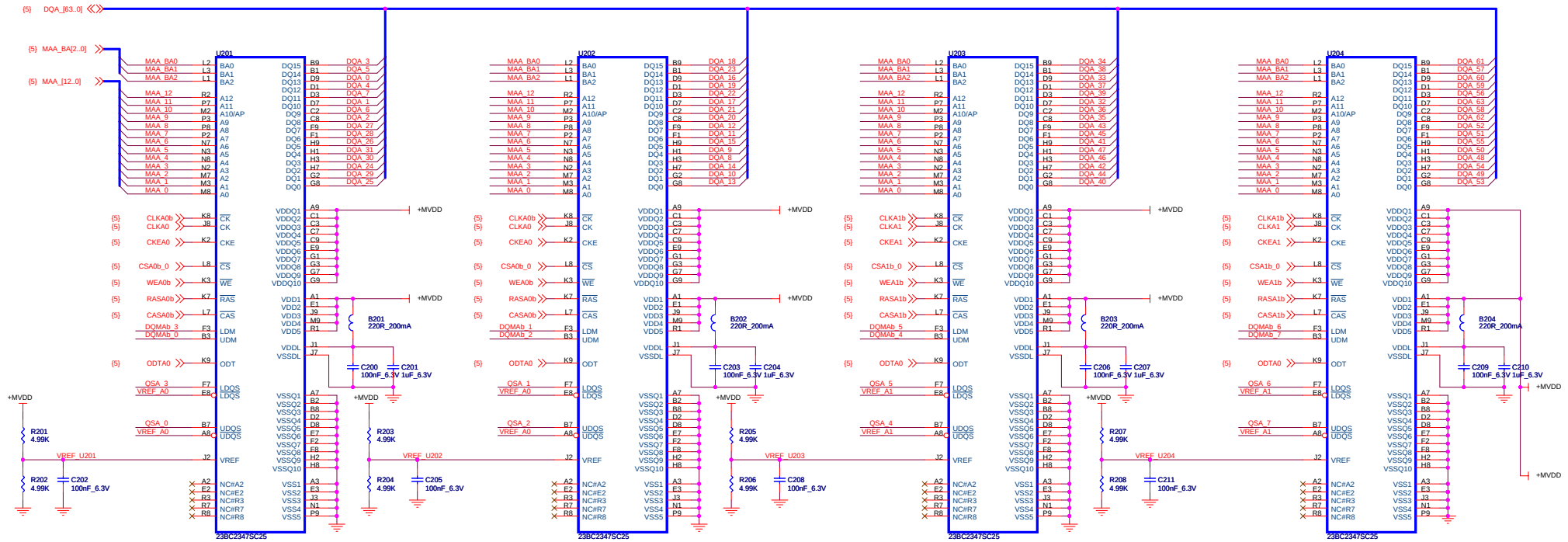
Date: Thursday, March 06, 2008 Rev 0

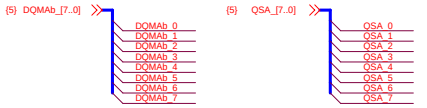
Sheet 7 of 21

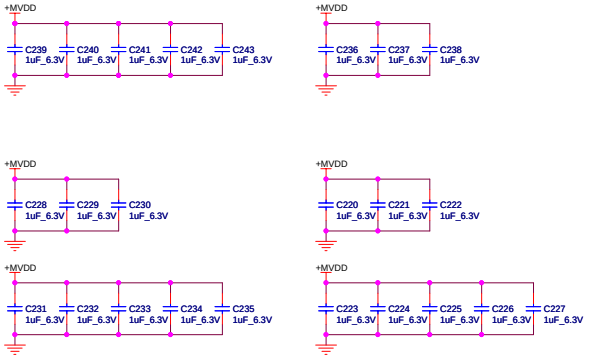
Title RV635 DDR2 - ASIC DVO & GPIOs

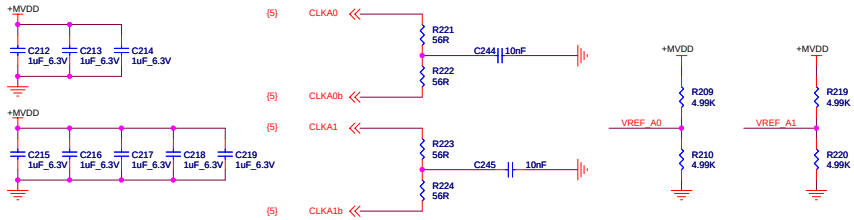
Doc No. 105-B381xx-00A

CHANNEL A: 128MB/256MB DDR2









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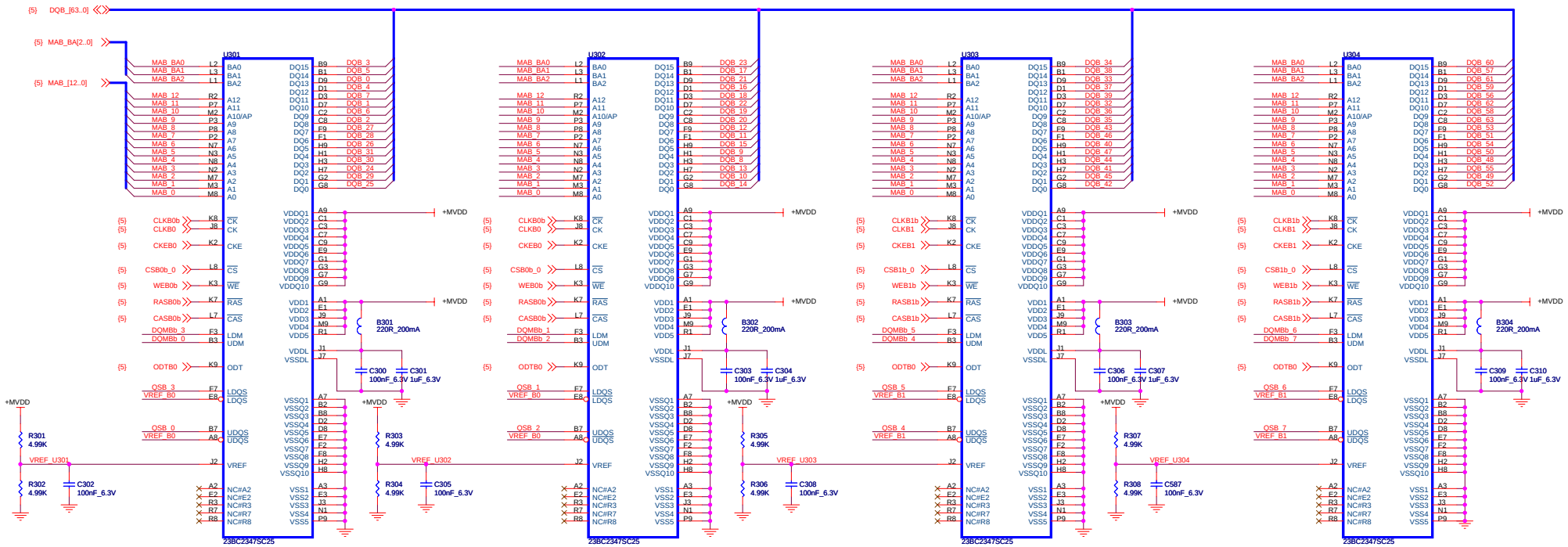
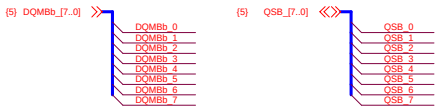
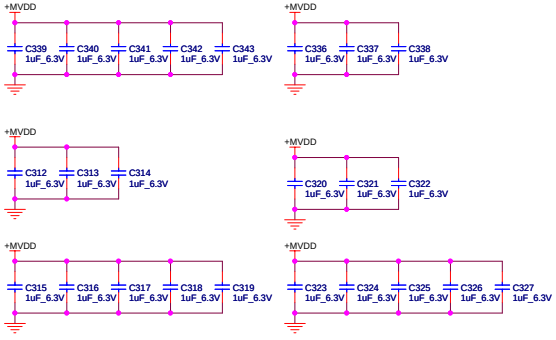
Markham, Ontario

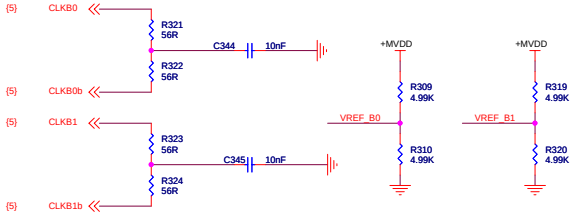
Date:	Thursday, March 06, 2008
Rev	0
Sheet	8 of 21
Title	RV635 DDR2 - MEM CH A
Doc No.	105-B381xx-00A

CHANNEL B: 128MB/256MB DDR2









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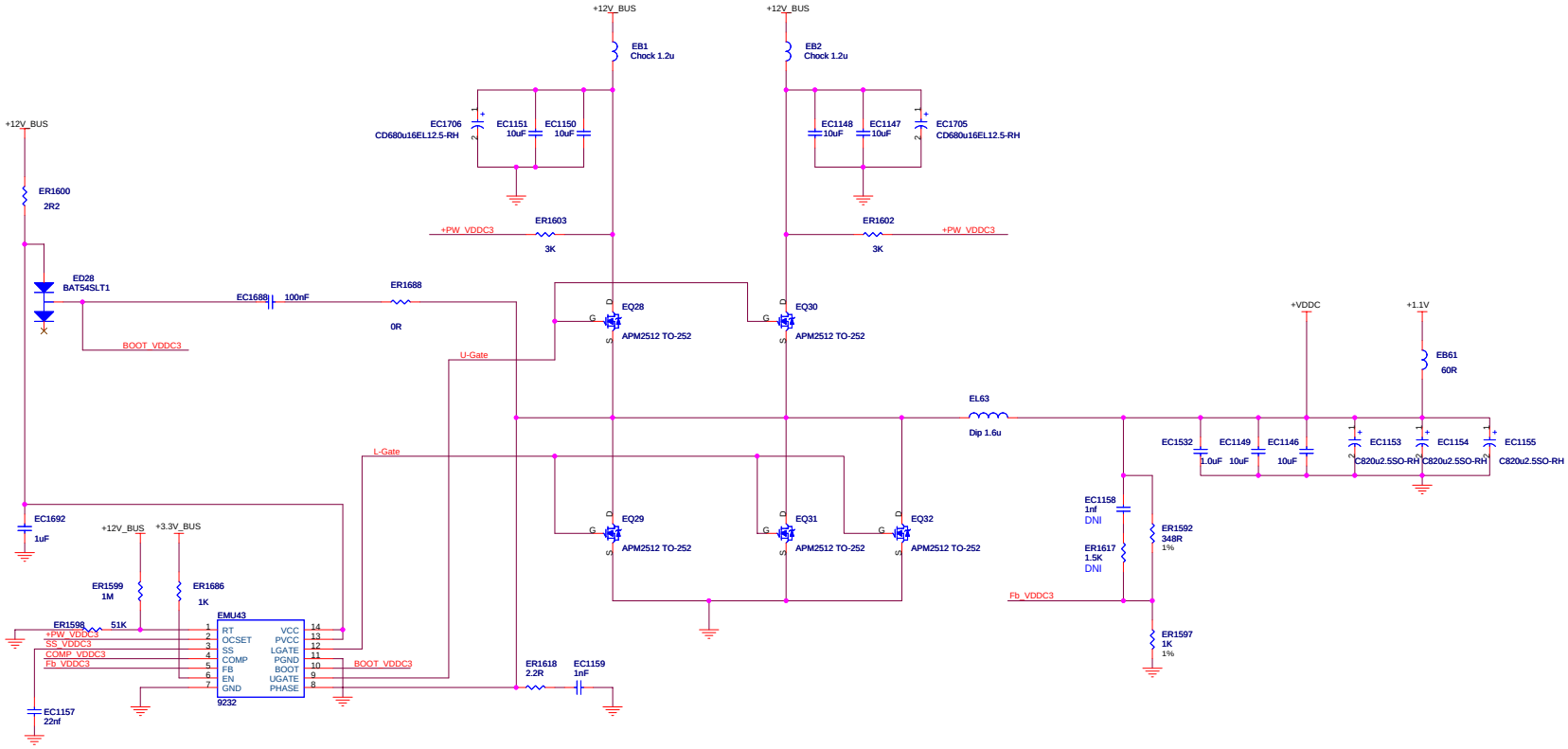
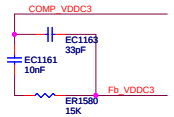
Date:	Thursday, March 06, 2008
Rev	0
Sheet	9 of 21
Title	RV635 DDR2 - MEM CH B
Doc No.	105-B381xx-00A

CORE REGULATOR VDDC



+VDDC=0.8*(1+(ER1592 / ER1597))

Compensation Circuit



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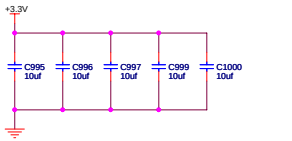
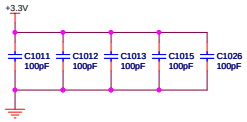
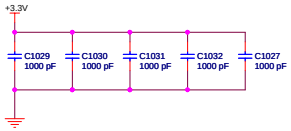
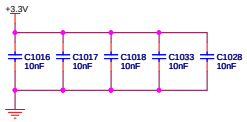
Date:	Thursday, March 06, 2008
Rev	0
Sheet	10 of 21
Title	RV635 DDR2 - VDDC SMPS 01
Doc No.	105-B381xx-00A









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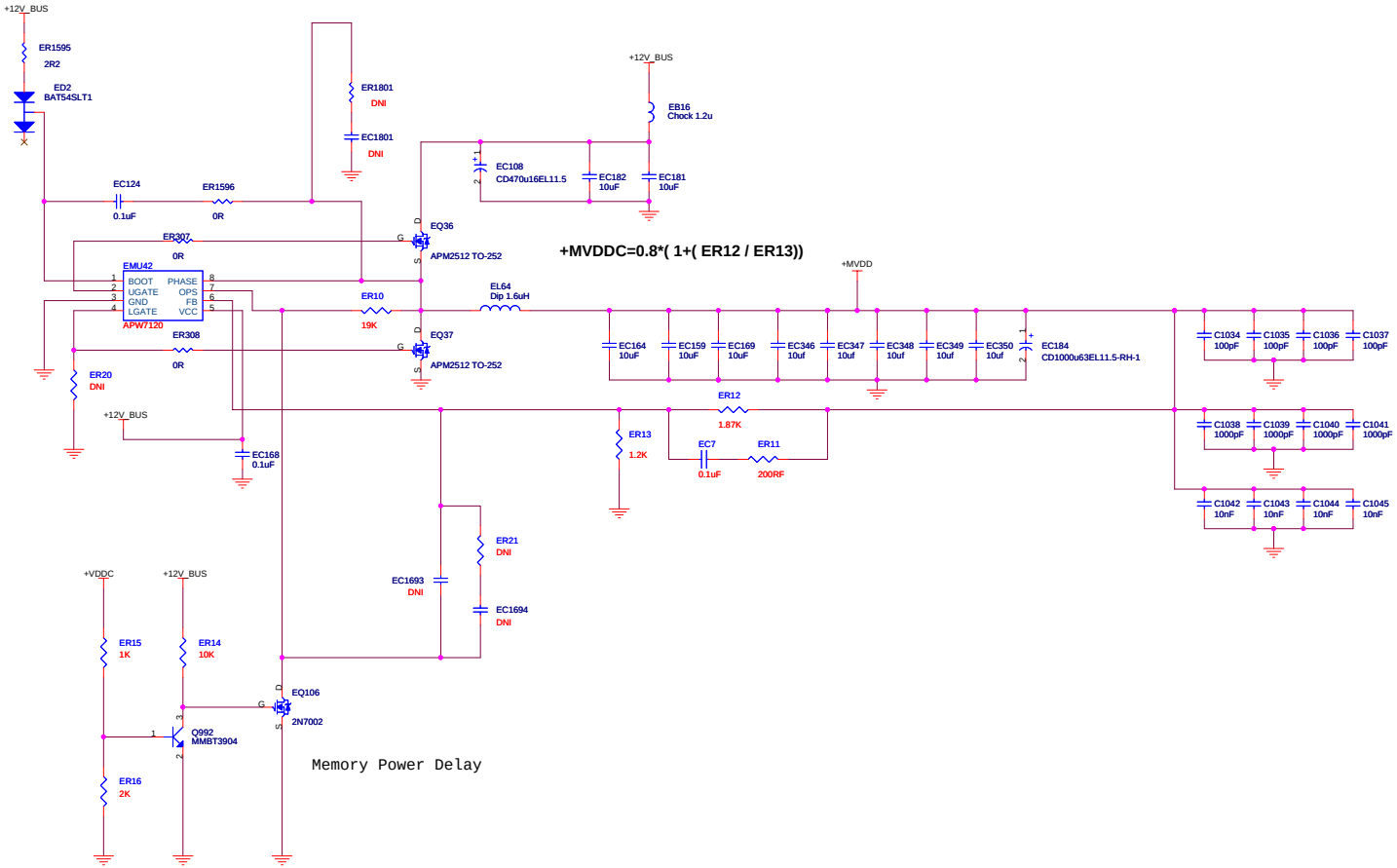
Date: Thursday, March 06, 2008

Rev 0

Sheet 11 of 21

Title RV635 DDR2 - VDDC SMPS 02

Doc No. 105-B381xx-00A



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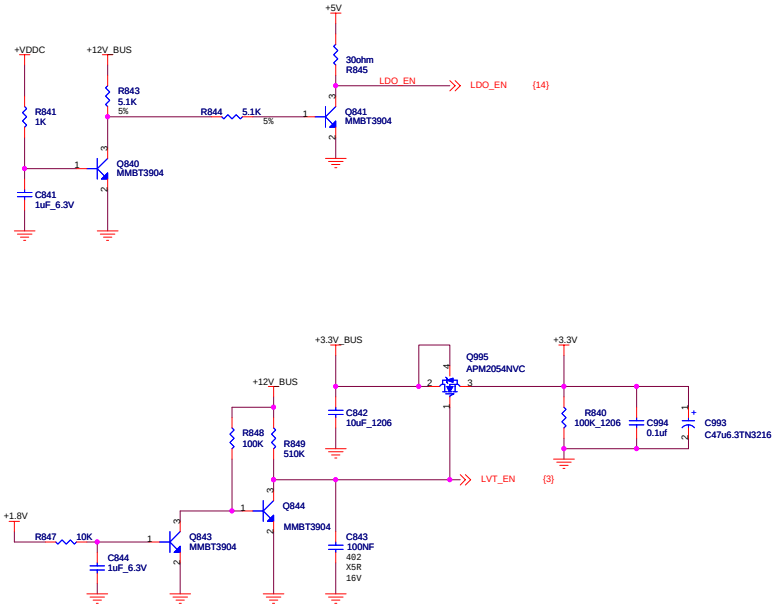
Date:	Thursday, March 06, 2008
Rev	0
Sheet	12 of 21
Title	RV635 DDR2 - MVDD SMPS 01
Doc No.	105-B381xx-00A

Power up Sequencing



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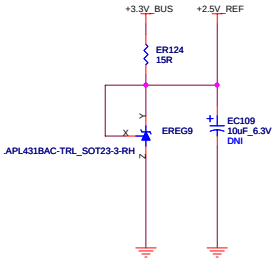
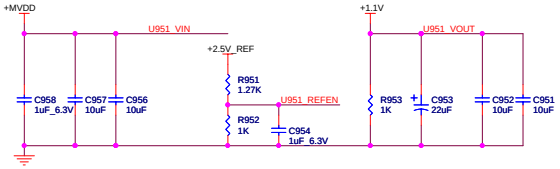
Date: Thursday, March 06, 2008 | Rev 0

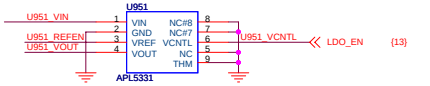
Sheet 13 of 21

Title RV635 DDR2 - Power Management | Doc No. 105-B381xx-00A

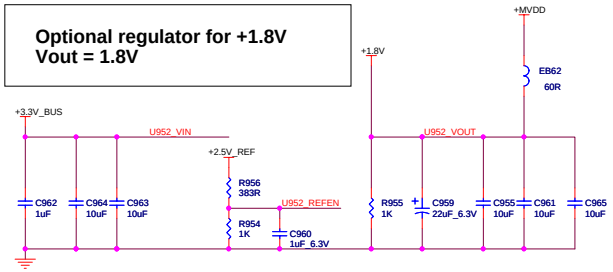


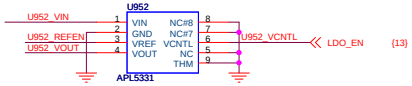
Optional regulator for +1.1V
Vout = 1.1V

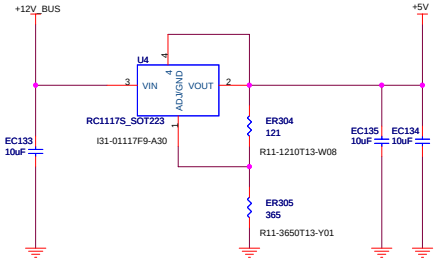




Optional regulator for +1.8V
Vout = 1.8V







Vout=1.25V* [1+(ER305/ER304)]

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Date: Thursday, March 06, 2008 Rev 0

Sheet 14 of 21

Title RV635 DDR2 - Linear Regulators

Doc No. 105-B381xx-00A

See BOM for qualified filters

{3} A_DAC1_R — R1001 75R — C1004 8.0pF — L1001 47nH — A_R_DAC1_M — C1001 12pF_50V — L1004 36NH

{3} A_DAC1_RB — R1027 37.4R

{3} A_DAC1_G — R1002 75R — C1005 8.0pF — L1002 47nH — A_G_DAC1_M — C1002 12pF_50V — L1005 36NH

{3} A_DAC1_GB — R1028 37.4R

{3} A_DAC1_B — R1003 75R — C1006 8.0pF — L1003 47nH — A_B_DAC1_M — C1003 12pF_50V — L1006 36NH

{3} A_DAC1_BB — R1029 37.4R

Pseudo differential RGB should be routed from the ASIC to the display connector without switching reference plane or running over split plane.

+3.3V — BAT54SLT1 ED62 — BAT54SLT1 ED63 — BAT54SLT1 ED64

A_R_DAC1_F
A_G_DAC1_F
A_B_DAC1_F
DDCDATA_DAC1_R
DDCCLK_DAC1_R
HSYNC_DAC1_R
VSYNC_DAC1_R

+5V — ED71 BAT54SLT1 — ED70 BAT54SLT1 — ED69 BAT54SLT1 — ED68 BAT54SLT1

+5V — EF1 1.5A — +5V_VESA

MJ1001
1 R
2 G
3 B
11 MS0
12 MS1
4 MS2
15 MS3
9 NC
13 HS
14 VS
5 VSS
6 VSS#6
7 VSS#7
8 VSS#8
10 VSS#10
16 CASE
17 CASE#17
G3179C219-005

DDC2_MONID0
DDC2_MONID1(SDA)
DDC2_MONID2
DDC2_MONID3(SCL)

C1010 104pF

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
9	N/C	+5V	+5V	+5V	+5V
	Mechanical Key	50mA min	50mA min	300mA min	Optional
		1A max	1A max	1A max	
Hardware Support	No	Yes	Yes	No	Yes

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

+3.3V — R1004 10K — +5V — R1005 2.2K — {3} CRT1DDCDATA — Q1001 BSH111 — DDCDATA_DAC1_5V — R1006 33R — DDCDATA_DAC1_R

+3.3V — R1007 10K — +5V — R1008 2.2K — {3} CRT1DDCCLK — Q1002 BSH111 — DDCCLK_DAC1_5V — R1009 33R — DDCCLK_DAC1_R

+5V — C1999 100nF_6.3V

{3,7} HSYNC_DAC1 — U1999A SN74HCT125D — HSYNC_DAC1_B — R1010 10R — HSYNC_DAC1_R

{3,7} VSYNC_DAC1 — U1999B SN74HCT125D — VSYNC_DAC1_B — R1011 10R — VSYNC_DAC1_R

SYNC and DDC should be routed from the ASIC to the display connector without switching reference plane or running over split plane

R103 100R — T2X3P_R — T2X3M_R

REG1122 RCLAMP0524P
{3} T2X3M — R1018 0R
{3} T2X3P — R1019 0R
{3} T2X4M — R1014 0R
{3} T2X4P — R1015 0R

R104 100R

+5V_VESA

R102 100R — T2X2M_R — T2X2P_R — T2X4M_R — T2X4P_R

DDCCLK_DAC1_R
DDCDATA_DAC1_R
VSYNC_DAC1_R

T2X2M_R

REG1123 RCLAMP0524P
{3} T2X1M — R1016 0R
{3} T2X1P — R1017 0R
{3} T2X2M — R1012 0R
{3} T2X2P — R1013 0R

T2X2P_R

R101 100R — T2X1M_R — T2X1P_R — T2X3M_R — T2X3P_R

+3.3V — Q1021 MMBT3904 — R1022 10K — HPD_DVI2 — {7} HPD2 — R1023 10K

R105 100R — T2X0M_R — T2X0P_R — T2X5M_R — T2X5P_R — T2XCP_R — T2XCM_R

REG1124 RCLAMP0524P
{3} T2X5M — R1024 0R
{3} T2X5P — R1025 0R

R106 100R — A_R_DAC1_F — A_G_DAC1_F — A_B_DAC1_F — HSYNC_DAC1_R

R100 100R — T2X0M_R — T2X0P_R

REG1125 RCLAMP0524P
{3} T2X0P — R1021 0R
{3} T2X0M — R1020 0R
{3} T2XCP — R1026 0R
{3} T2XCM — R1031 0R

J1001
25 CASE
1 TMDS Data2-
2 TMDS Data2+
3 TMDS Data2/4 Shield
4 TMDS Data4-
5 TMDS Data4+
6 DDC Clock
7 DDC Data
8 Analog VSYNC
9 TMDS Data1-
10 TMDS Data1+
11 TMDS Data1/3 Shield
12 TMDS Data3-
13 TMDS Data3+
14 +5V Power
15 GND (for +5V)
16 Hot Plug Detect
17 TMDS Data0-
18 TMDS Data0+
19 TMDS Data0/5 Shield
20 TMDS Data5-
21 TMDS Data5+
22 TMDS Clock Shield
23 TMDS Clock+
24 TMDS Clock-
C1 Analog Red
C2 Analog Green
C3 Analog Blue
C4 Analog HYNC
C5 Analog GND
C6 Analog GND#C6
26 CASE#26
27 CASE#27
28 CASE#28
29 CASE#29
30 CASE#30
DVI_CONNECTOR

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Markham, Ontario

Date: Thursday, March 06, 2008 — Rev 0

Sheet 15 of 21

Title: RV635 DDR2 - DAC1&TMDS2

Doc No. 105-B381xx-00A

See BOM for qualified filters

{3} A_DAC2_R
{3} A_DAC2_RB
R2001 75R 402
C2004 8.0pF 402
L2001 47nH
A_R_DAC2_M
C2001 402 12pF_50V
L2004 36NH
R2027 37.4R

{3} A_DAC2_G
{3} A_DAC2_GB
R2002 75R 402
C2005 8.0pF 402
L2002 47nH
A_G_DAC2_M
C2002 402 12pF_50V
L2005 36NH
R2028 37.4R

{3} A_DAC2_B
{3} A_DAC2_BB
R2003 75R 402
C2006 8.0pF 402
L2003 47nH
A_B_DAC2_M
C2003 402 12pF_50V
L2006 36NH
R2029 37.4R

Pseudo differential 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
HSYNC_DAC2_R
VSYNC_DAC2_R

+3.3V
BAT54SLT1 ED67
BAT54SLT1 ED66
BAT54SLT1 ED65
+5V_VESA

+5V
ED75 BAT54SLT1
ED74 BAT54SLT1
ED73 BAT54SLT1
ED72 BAT54SLT1

MJ2001
1 R
2 G
3 B
11 MS0
12 MS1
4 MS2
15 MS3
9 NC
13 HS
14 VS
5 VSS
6 VSS#6
7 VSS#7
8 VSS#8
10 VSS#10
16 CASE
17 CASE#17
Connector_DB15_Female_VGA_Blue

DNI for RV635
{3} CRT2DDCDATA
R2004 24.3K
R2005 2.2K 402 DDCDATA_DAC2_5V
R2006 33R 402 DDCDATA_DAC2_R
Q2001 BSH111
R2012 0ohm

{3} CRT2DDCCLK
R2007 24.3K
R2008 2.2K 402 DDCCLK_DAC2_5V
R2009 33R 402 DDCCLK_DAC2_R
Q2002 BSH111
R2013 0ohm

{3,7} HSYNC_DAC2
HSYNC_DAC2_B
R2010 10R 402 HSYNC_DAC2_R
U1999C SN74HCT125D

{3,7} VSYNC_DAC2
VSYNC_DAC2_B
R2011 10R 402 VSYNC_DAC2_R
U1999D SN74HCT125D

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
9	N/C Mechanical Key	+5V 50mA min 1A max	+5V 50mA min 1A max	+5V 300mA min 1A max	Optional
Hardware Support	No	Yes	Yes	No	Yes

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

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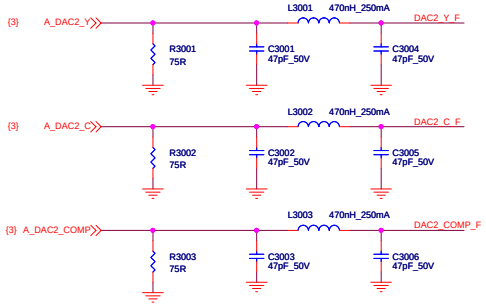
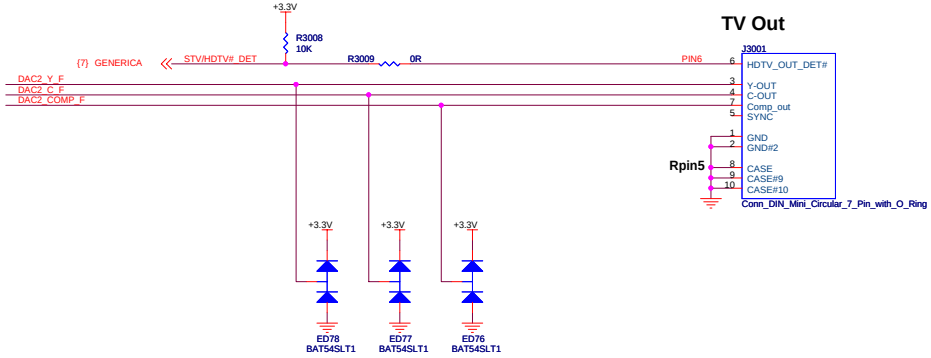
Date: Thursday, March 06, 2008
Rev 0
Sheet 16 of 21
Title RV635 DDR2 - DAC2/TMDS1
Doc No. 105-B381xx-00A





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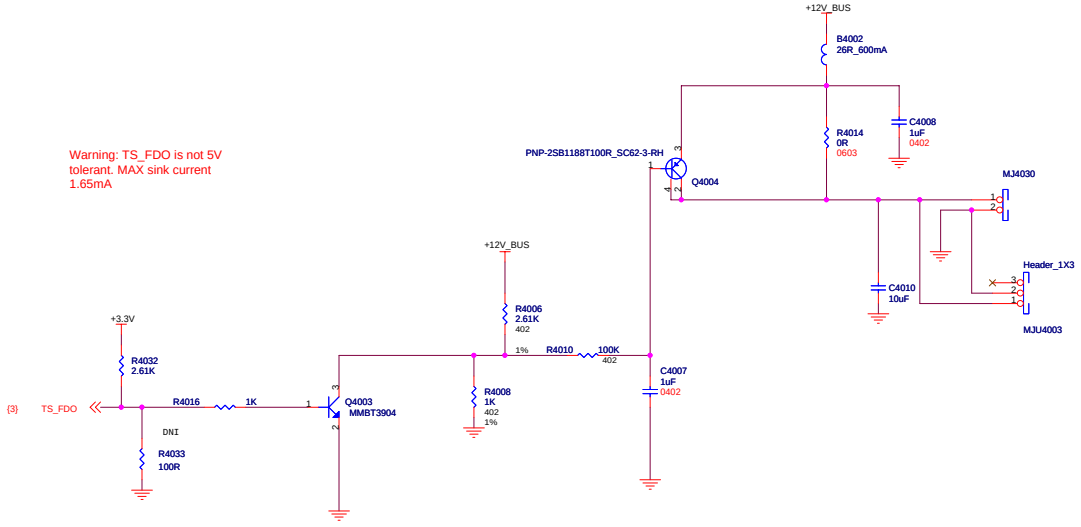
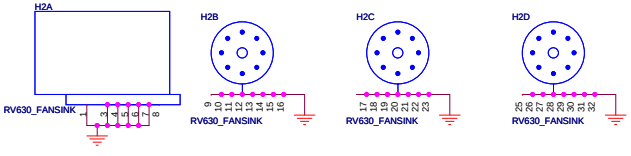
Date: Thursday, March 06, 2008 Rev 0

Sheet 17 of 21

Title RV635 DDR2 - TVO

Doc No. 105-B381xx-00A





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Date: Thursday, March 06, 2008 Rev 0

Sheet 18 of 21

Title RV635 DDR2 - Thermal Management

Doc No. 105-B381xx-00A

DVI/DVI SCREWS with top tab

ASSY-SCREW1
SCREW
JACKPOST, HEX, 3/16 AF, 4-40 INT/EXT
<3rd part field>

ASSY-SCREW2
SCREW
JACKPOST, HEX, 3/16 AF, 4-40 INT/EXT
<3rd part field>

ASSY-SCREW3
SCREW
JACKPOST, HEX, 3/16 AF, 4-40 INT/EXT
<3rd part field>

ASSY-SCREW4
SCREW
JACKPOST, HEX, 3/16 AF, 4-40 INT/EXT
<3rd part field>

ASSY1
ANTISTATIC BAG
6_X_11

BKT1
BRACKET
8020046100G

Need New Bracket

ASSY-SCREW5
SCREW
SCREW, PAN HD, PHILLIPS, 4-40 X 3/16L

DNI

SK1
SOCKET_880

RV635 Socket

PCB1
PCB
109-GN982-00A

MT1
MT_Hole_0.136_in.

FM1 SW_FB
FM2 SW_FB
FM3 SW_FB
FM4 SW_FB
FM5 SW_FB
FM6 SW_FB

U512
E23_1P

J5
X_PIN1*2

J4
X_PIN1*2

J10
X_PIN1*2

J3
impedence

J2
impedence

J1
impedence

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Date: Thursday, March 06, 2008
Rev 0
Sheet 19 of 21

Title RV635 DDR2 - Mechanical
Doc No. 105-B381xx-00A

<Variant Name>

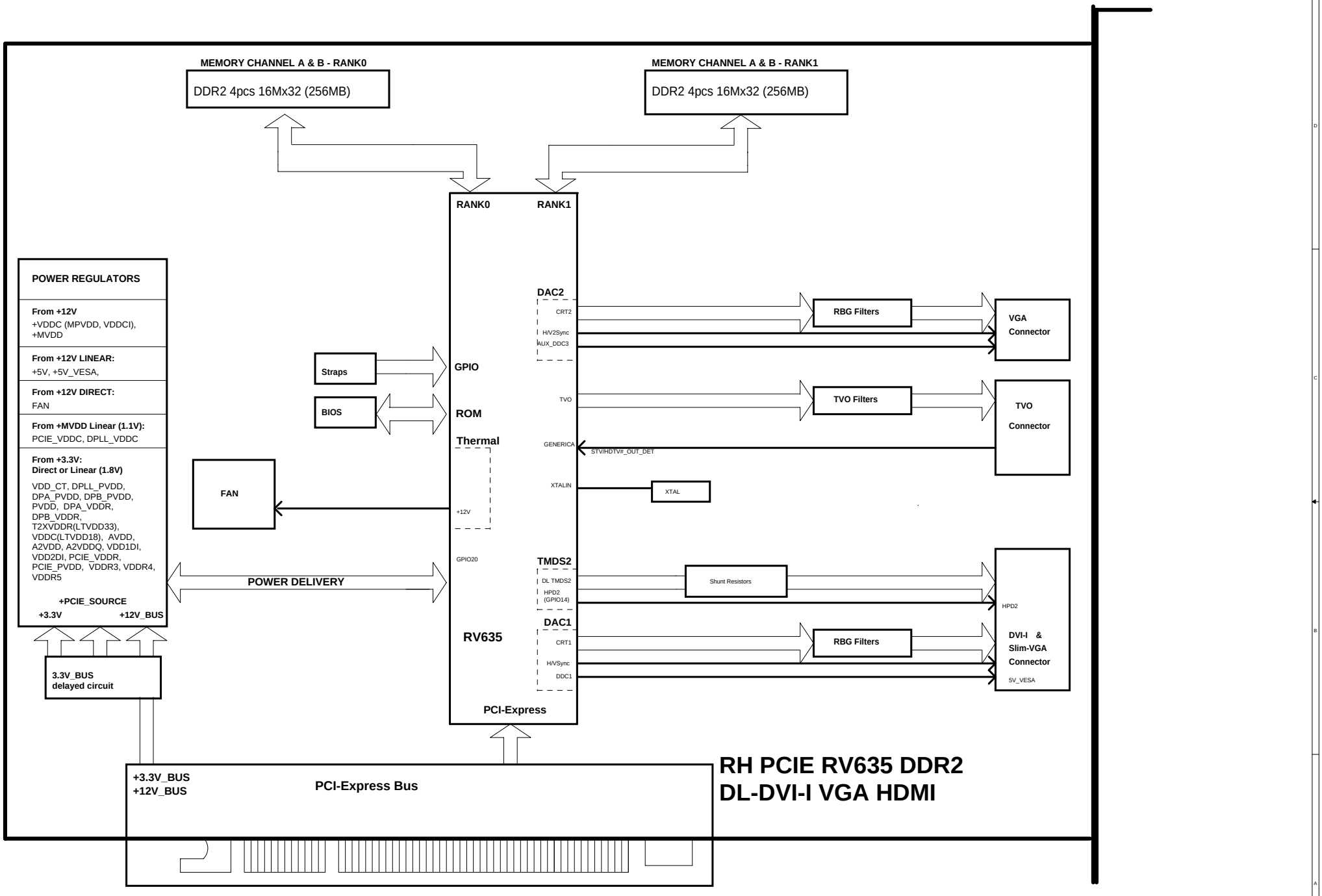
Title	Schematic No.	Date:
RH PCIE RV635 2x256MB DDR2 DUAL DL-DVI-I DL-DVI-I VO FH	105-B381xx-00A	Thursday, March 06, 2008

REVISION HISTORY

NOTE: **This schematic represents the PCB, it does not represent any specific SKU.**
For Stuffing options (component values, DNI , ? please consult the product specific BOM.
Please contact AMD representative to obtain latest BOM closest to the application desired.

Rev 0

Sch Rev	PCB Rev	Date	REVISION DESCRIPTION
0	00A	??/??/07	Initial design for RV635 GDDR3



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Date:	Thursday, March 06, 2008
Rev	0
Sheet	21 of 21
Title	RV635 DDR2 - BLOCK DIAGRAM
Doc No.	105-B381xx-00A