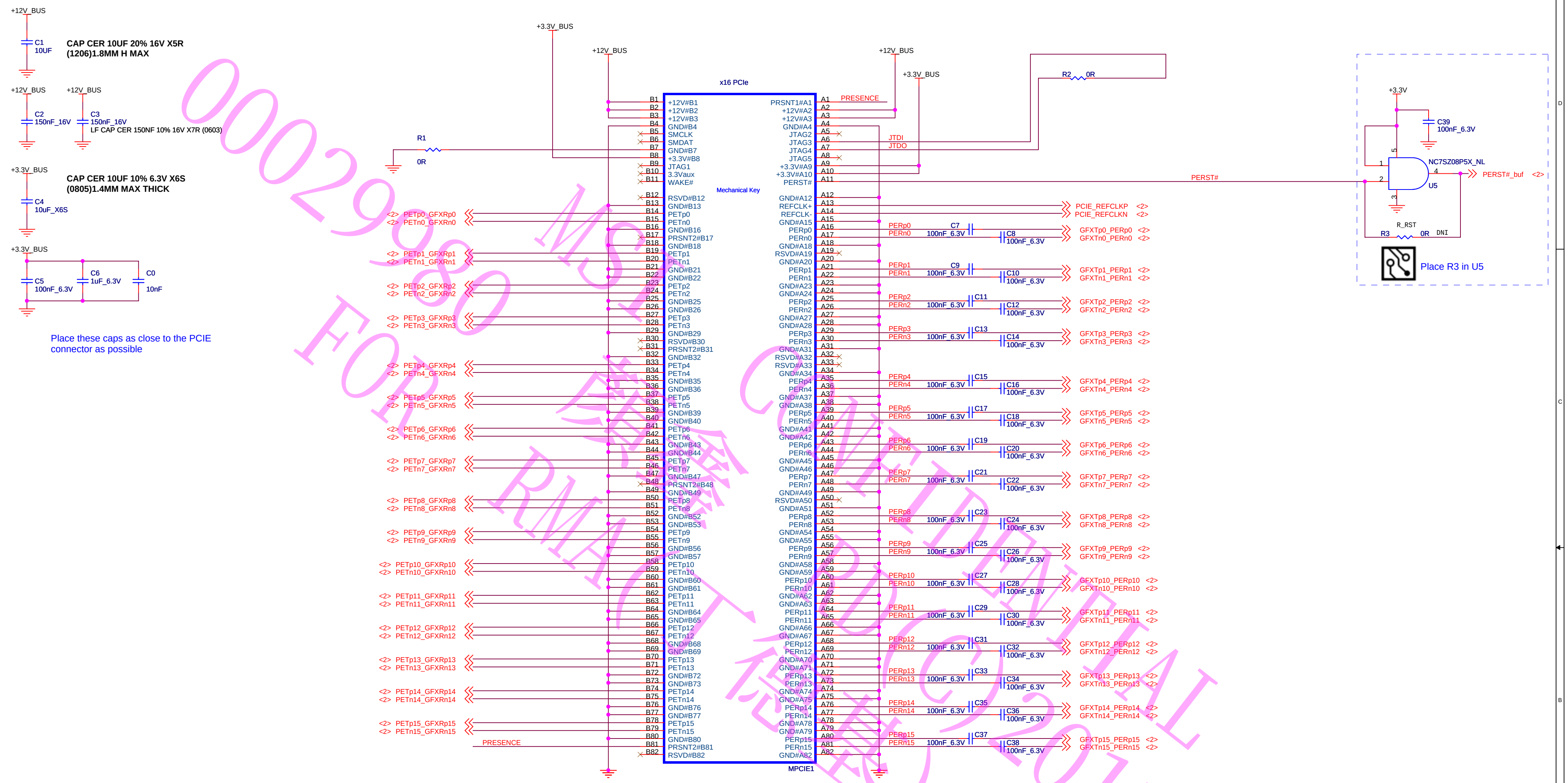
PCI-EXPRESS EDGE CONNECTOR



SYMBOL LEGEND	
DNI	DO NOT INSTALL
#	ACTIVE LOW
(symbol)	DIGITAL GROUND
(symbol)	ANALOG GROUND
BUO	BRING UP ONLY

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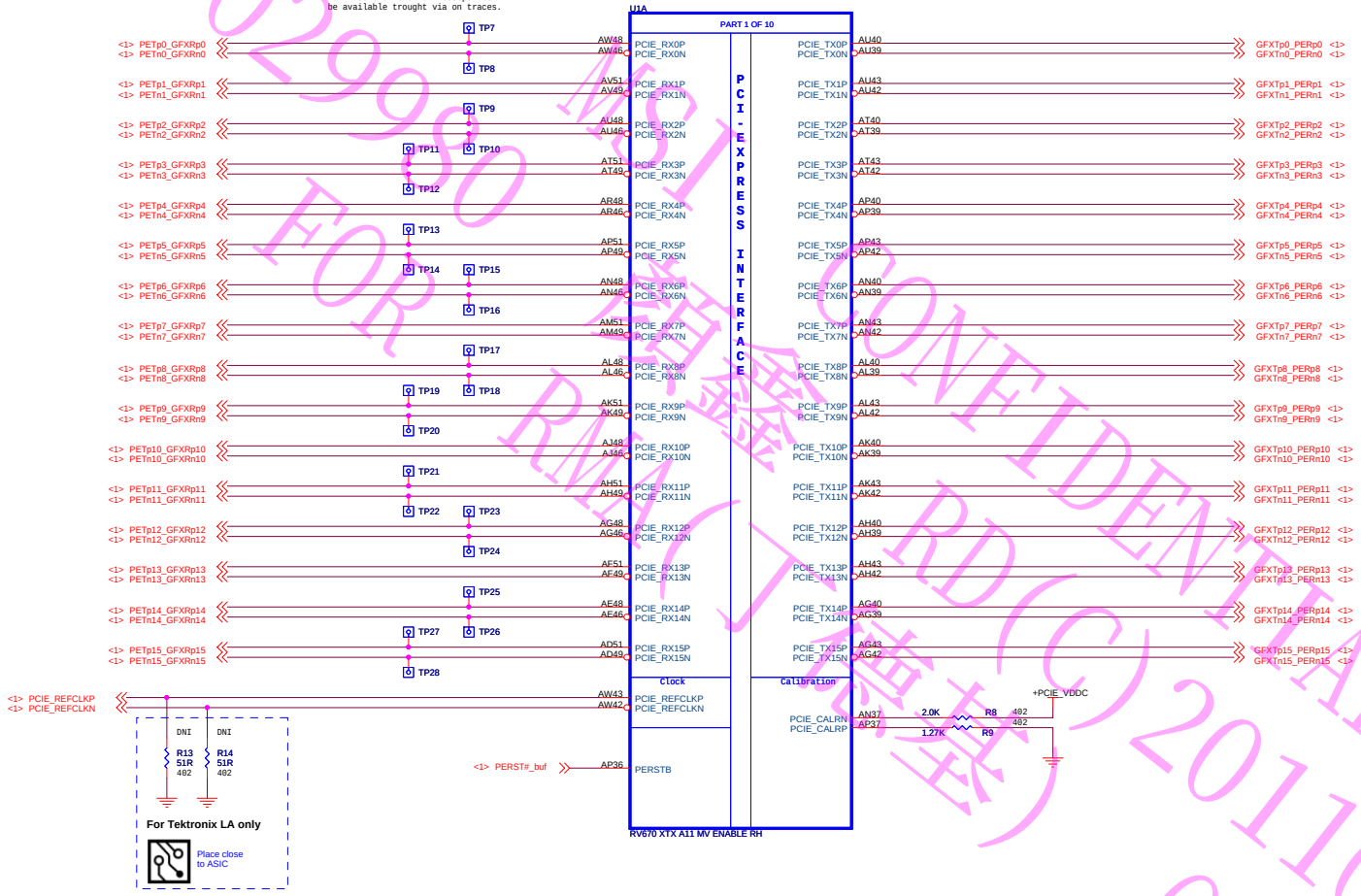
Date:	Wednesday, March 19, 2008
Rev	1
Sheet	1 of 23
Title	RH RV670 - PCI-E Edge Connector
Doc No.	105-B340xx-00B



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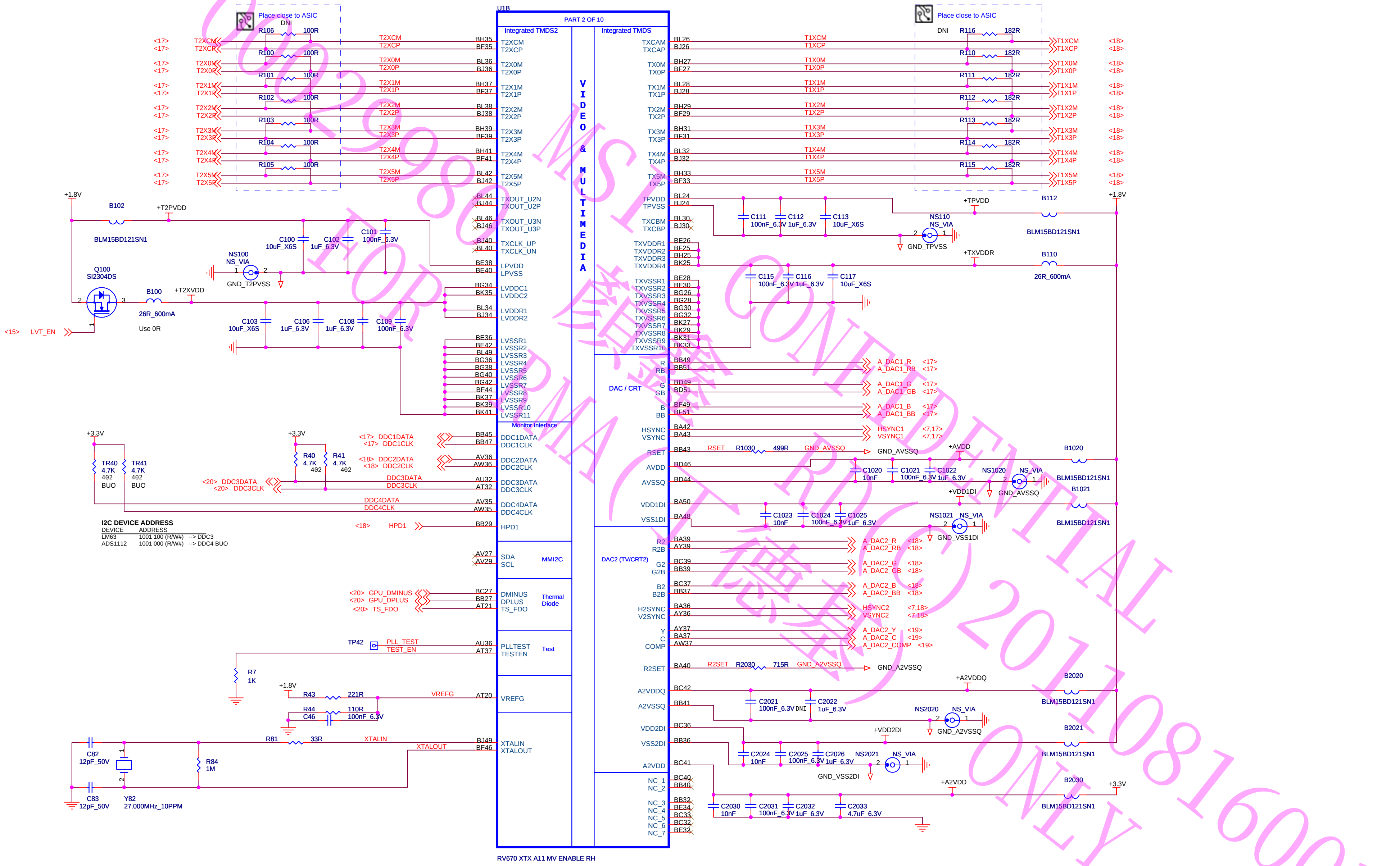
Date:	Wednesday, March 19, 2008
Rev	1
Sheet	2 of 23
Title	RH RV670 - ASIC PCIE_Interface
Doc No.	105-B340xx-00B

Recommended caps:
(see BOM for qualified values/vendors)
10uF , X6S, 0805, 6.3V, 1.4MM MAX THICK
4.7uF , X6S/X5R, 0603, 6.3V/4V
1uF, X6S, 0402, 6.3V
100nF, X7R, 0402
10nF , X7R, 0402



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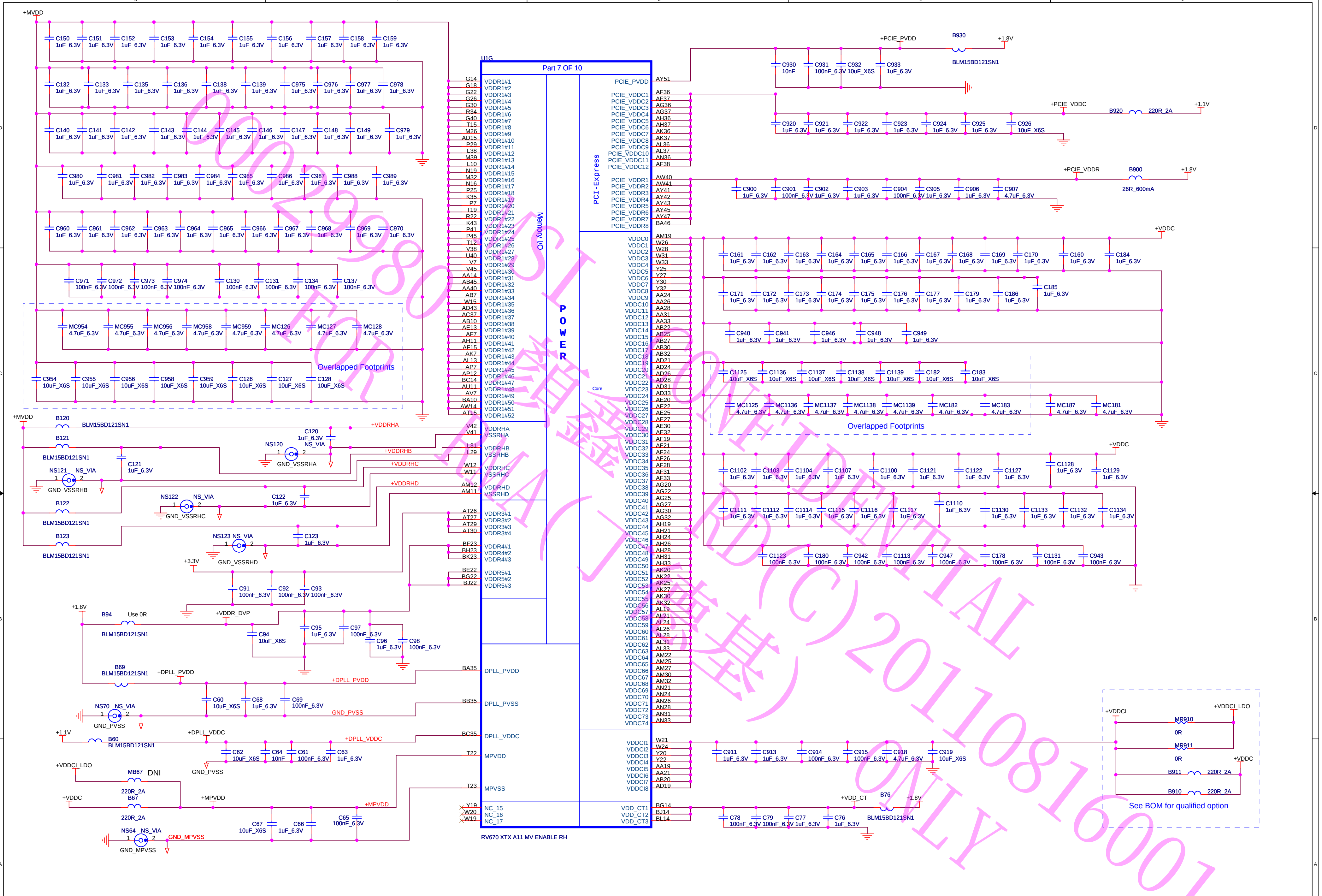
Date: Wednesday, March 26, 2008		Rev 1	
Sheet 3 of 23			
Title RH RV670 - ASIC MAIN		Doc No. 105-B340xx-00B	



Recommended caps:
(see BOM for qualified values/vendors)
10uF , X6S, 0805, 6.3V, 1.4MM MAX THICK
4.7uF , X6S/X5R, 0603, 6.3V/4V
1uF, X6S, 0402, 6.3V
100nF, X7R, 0402
10nF , X7R, 0402

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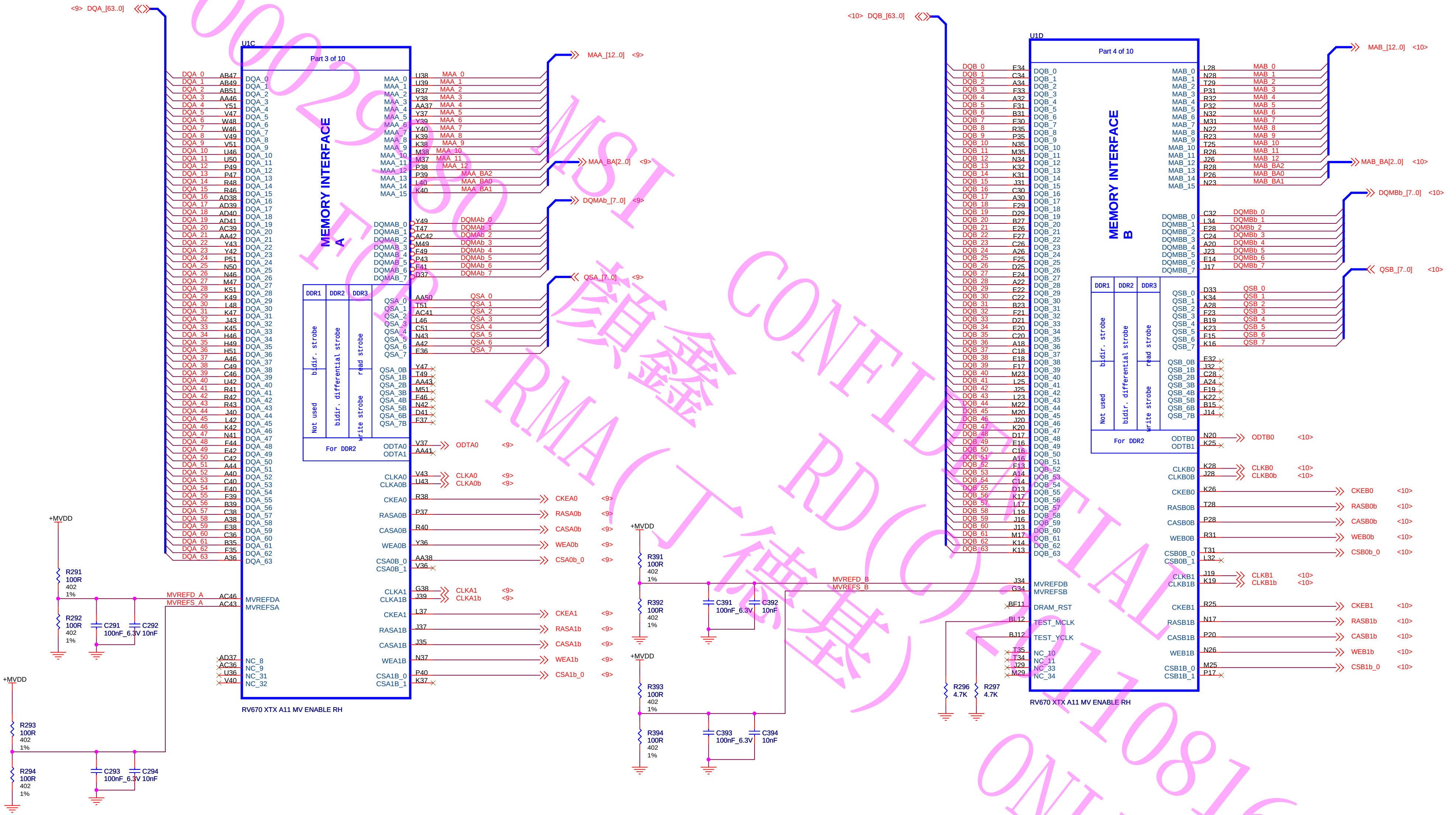
Date: Thursday, March 13, 2008 | Rev 1
Sheet 4 of 23
Title RH RV670 - ASIC Power | Doc No. 105-B340xx-00B



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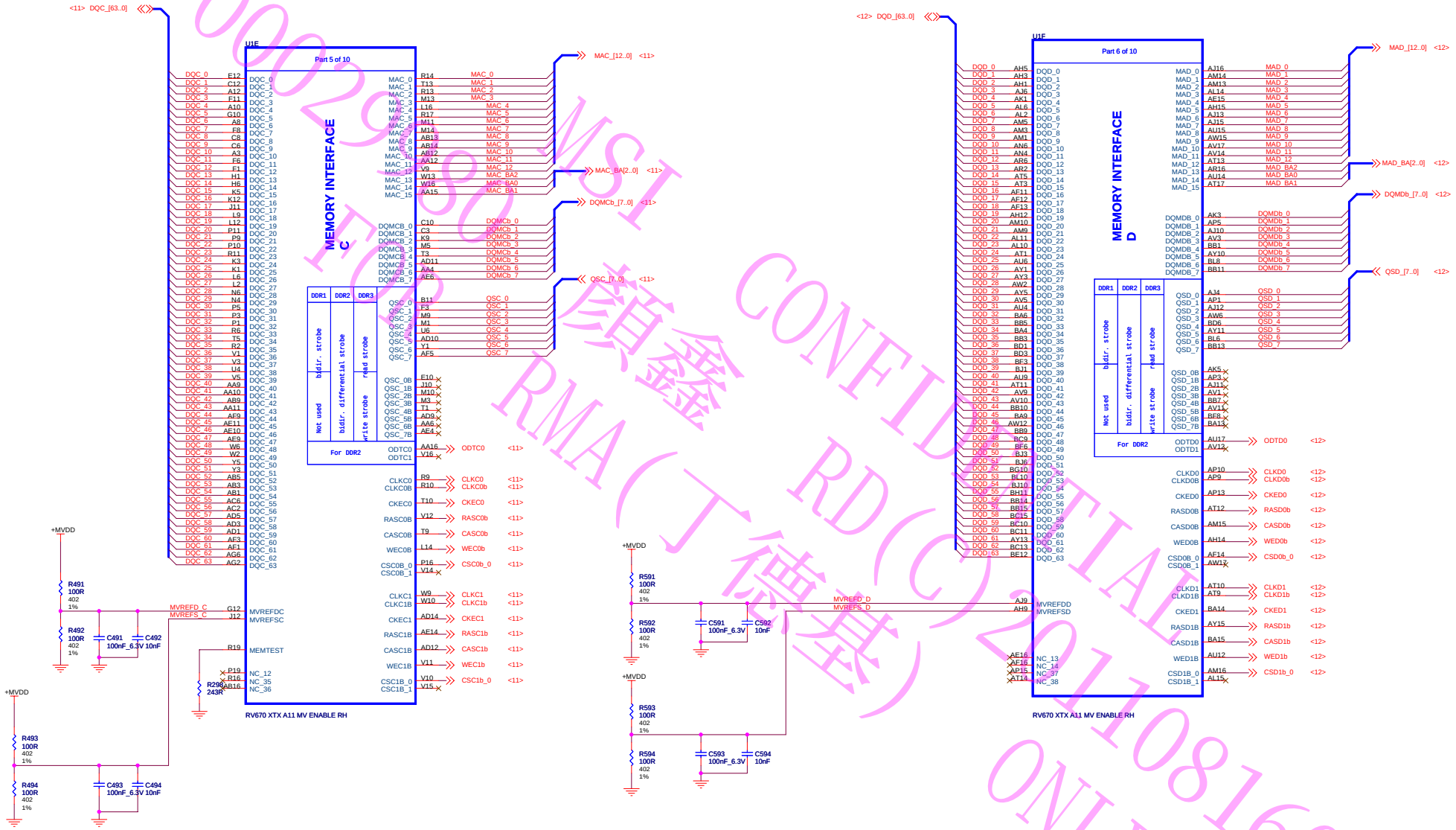
Date: Friday, March 28, 2008 | Rev 1

Title: RH RV670 - ASIC Memory Interface (Channel A & B)

Doc No. 105-B340xx-00B



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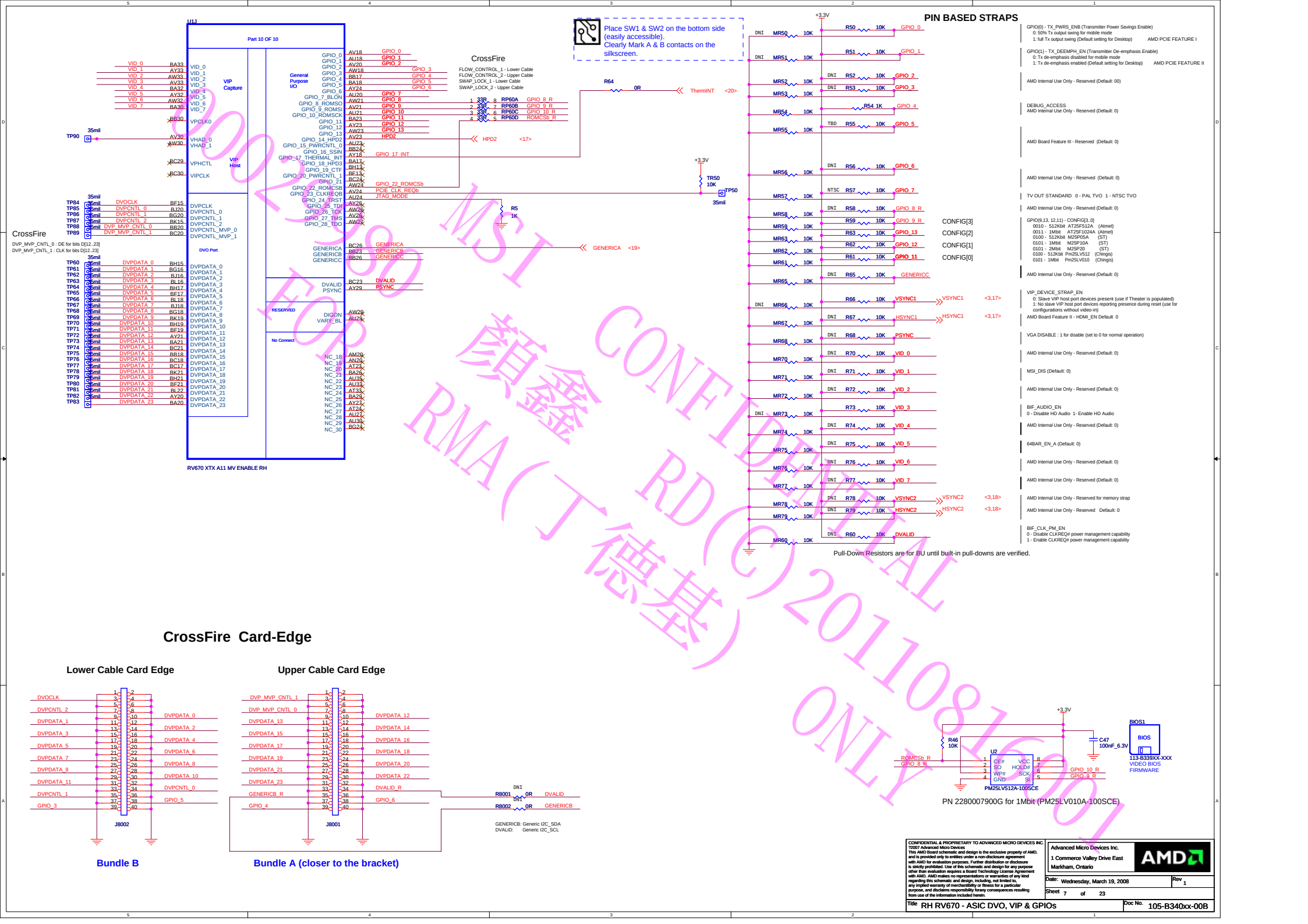
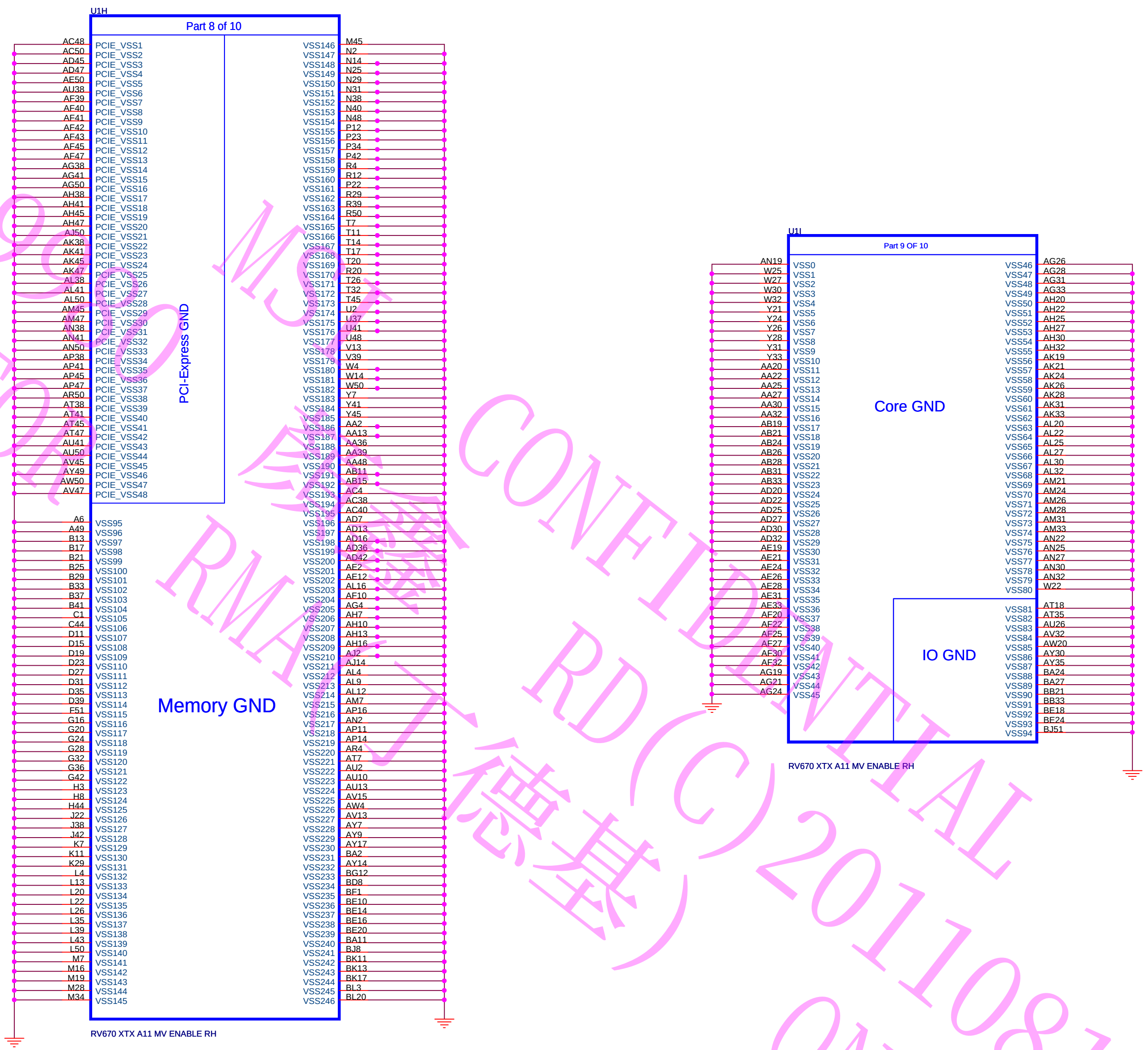
Date:	Friday, March 28, 2008
Rev	1
Sheet	6 of 23
Title	RH RV670 - ASIC Memory Interface (Channel C & D)
Doc No.	105-B340xx-00B


PIN BASED STRAPS
Place SW1 & SW2 on the bottom side (easily accessible).
Clearly Mark A & B contacts on the silkscreen.
CrossFire
RV670 XTX A11 MV ENABLE RH
Pull-Down Resistors are for BU until built-in pull-downs are verified.
CrossFire Card-Edge
Lower Cable Card Edge
Upper Cable Card Edge
Bundle B
Bundle A (closer to the bracket)
PN 2280007900G for 1Mbit (PM25LV010A-100SCE)
CONFIDENTIAL
RD(C)20110816001
ONLY
FOR
RMA(丁德基)
MSI 微鑫



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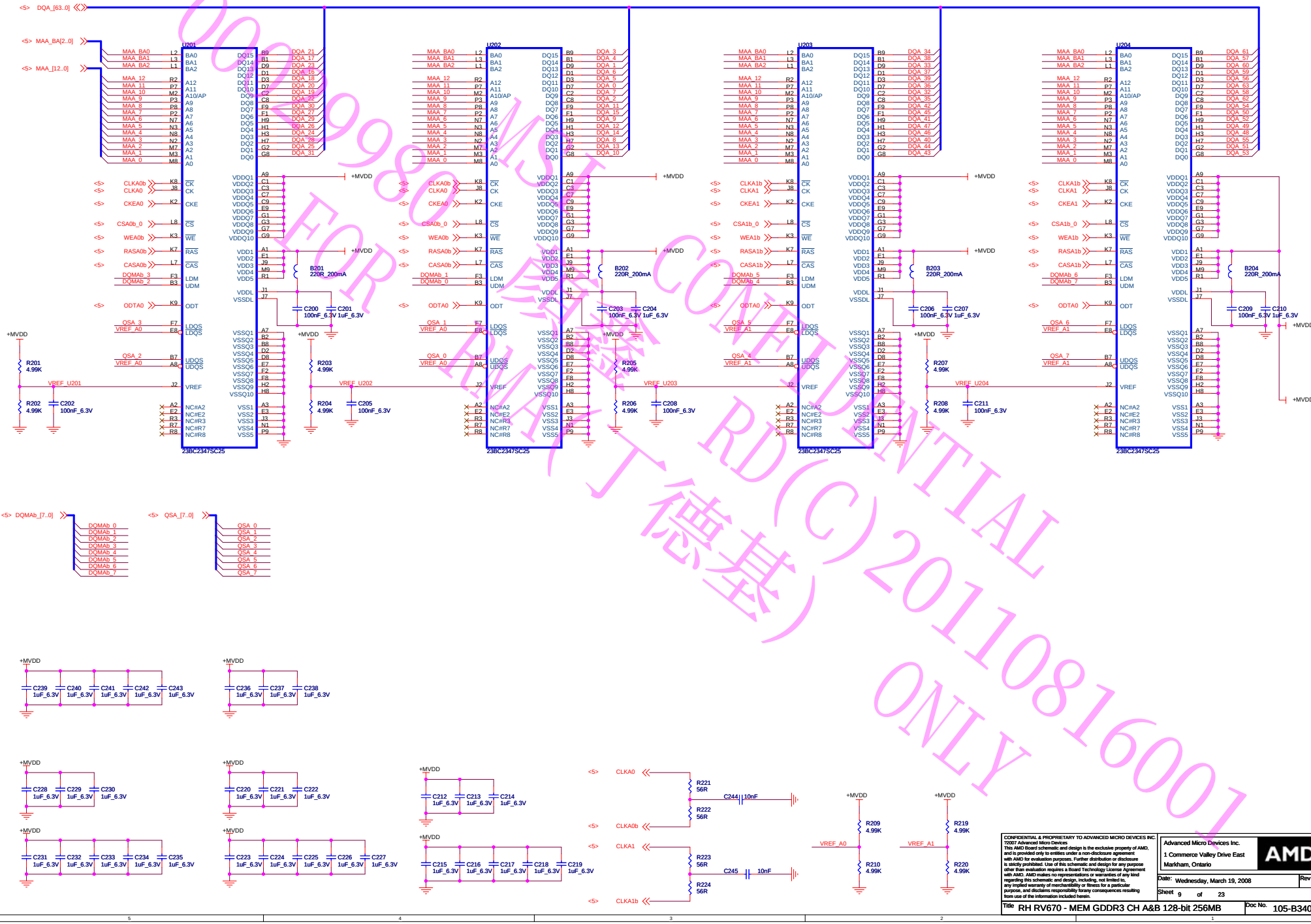
Date: Thursday, March 13, 2008 | Rev 1

Title: RH RV670 - ASIC Grounds

Doc No. 105-B340xx-00B

CHANNEL A: 128MB/256MB DDR2



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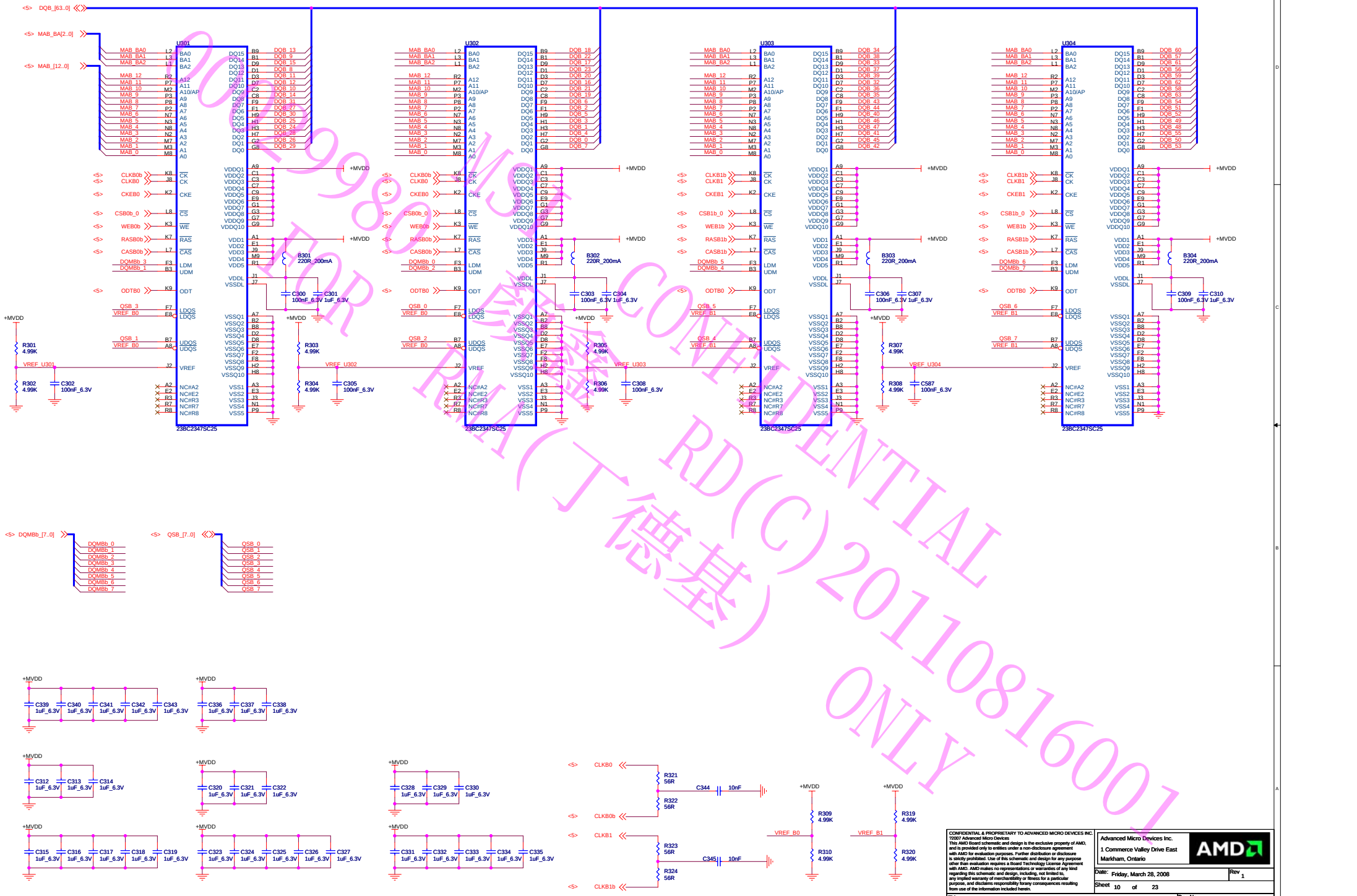
Date:	Wednesday, March 19, 2008
Rev	1
Sheet	9 of 23
Title	RH RV670 - MEM GDDR3 CH A&B 128-bit 256MB
Doc No.	105-B340xx-00B

CHANNEL B: 128MB/256MB DDR2



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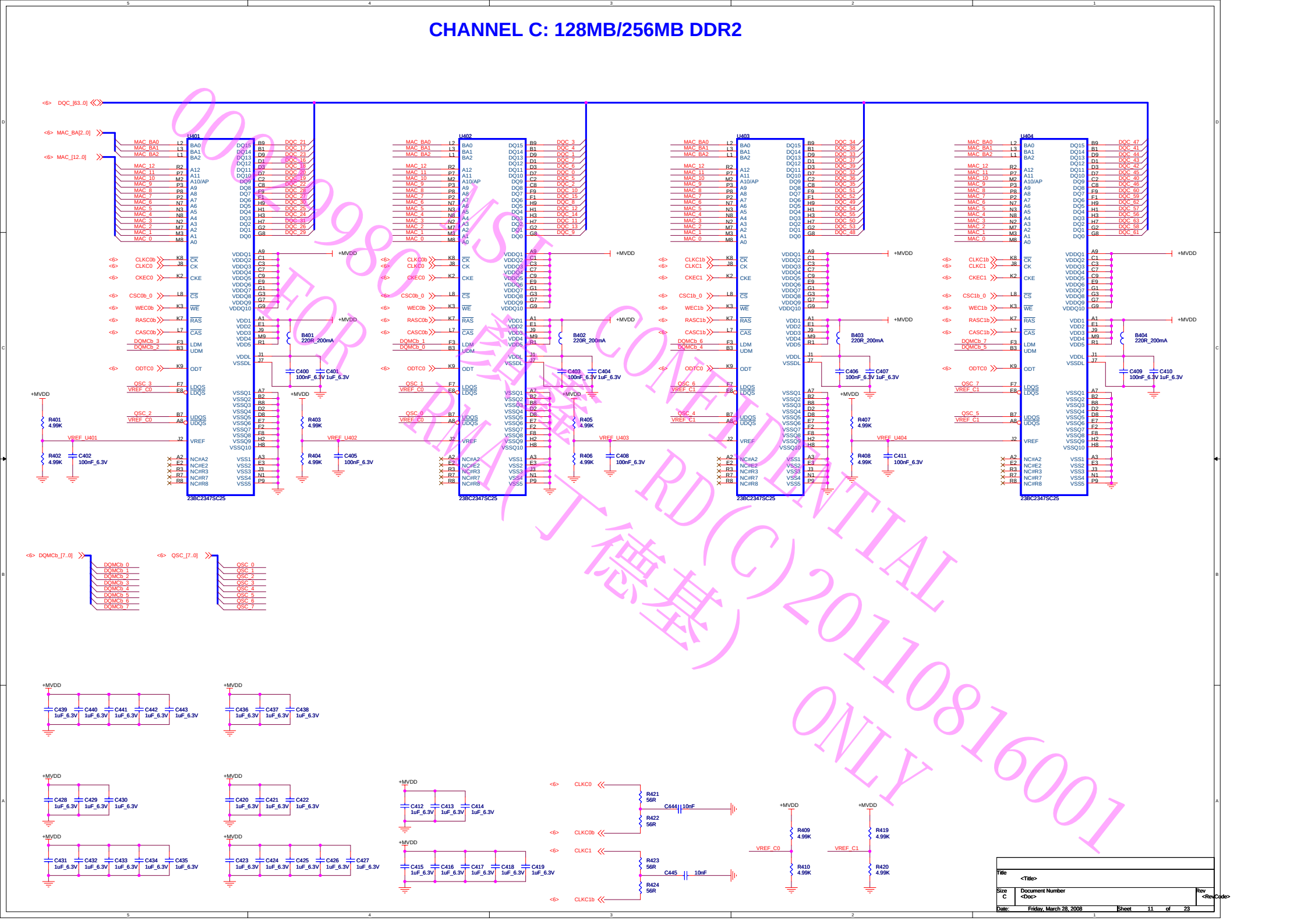
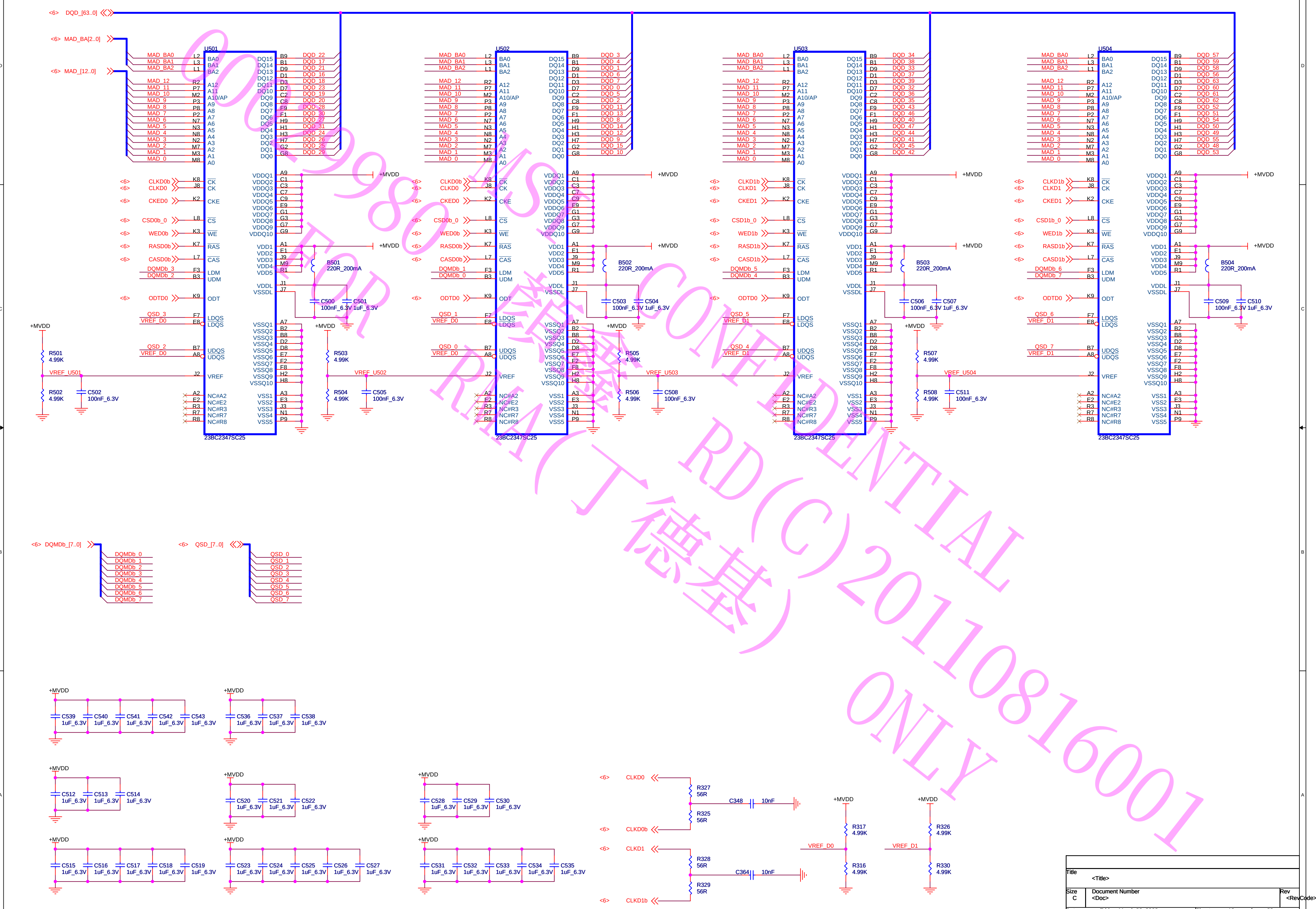
Date:	Friday, March 28, 2008
Rev	1
Sheet	10 of 23
Title	RH RV670 - MEM GDDR3 CH C&D 128-bit 256MB
Doc No.	105-B340xx-00B

CHANNEL C: 128MB/256MB DDR2



Title	<Title>	
Size C	Document Number <Doc>	Rev <RevCode>
Date: Friday, March 28, 2008	Sheet 11 of 23	

CHANNEL D: 128MB/256MB DDR2



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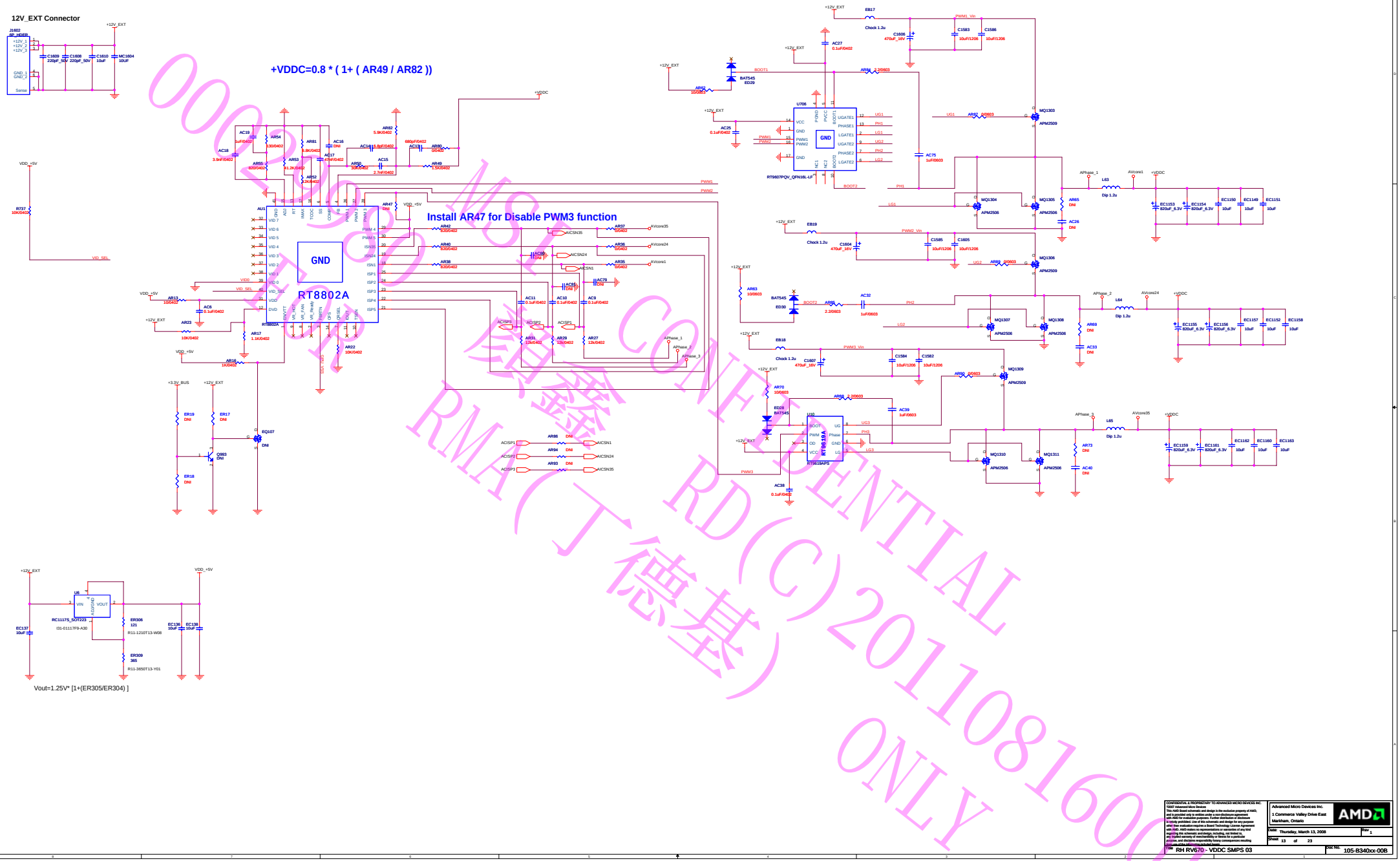
Size C	Document Number <Doc>	Rev <RevCode>
Date: Friday, March 28, 2008	Sheet 12 of 23	



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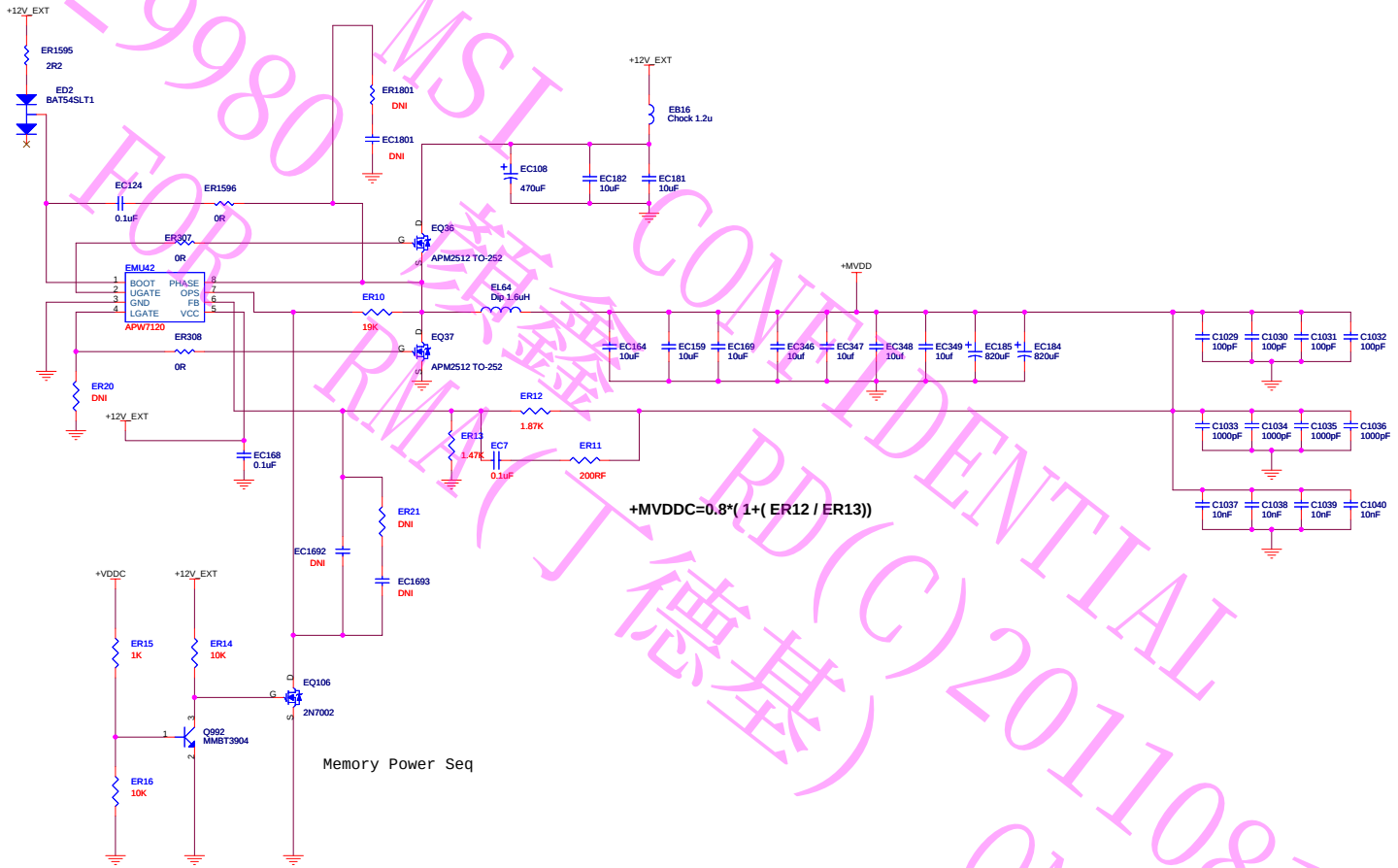
Date: Thursday, March 13, 2008 | Rev: 1
Sheet: 13 of 23
Title: RH RV670 – VDDC SMPS 03
Doc No.: 105-B340xx-008



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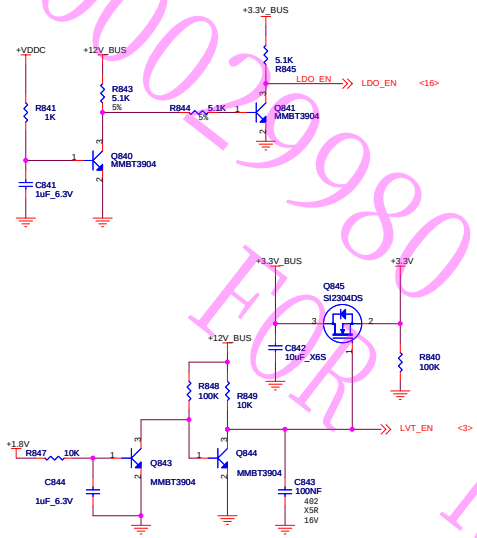
Date:	Thursday, May 22, 2008
Rev	1
Sheet	14 of 23
Title	RH RV670 - MVDD SMPS 02
Doc No.	105-B340xx-00B

Power up Sequencing



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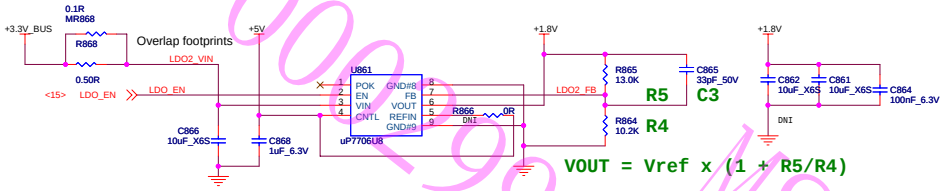
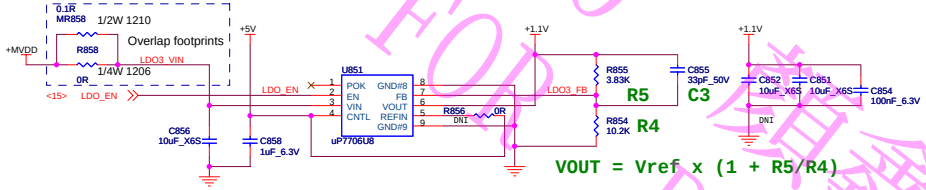
Date:	Wednesday, March 19, 2008
Rev	1
Sheet	15 of 23
Title	RH RV670 - Power Management
Doc No.	105-B340xx-00B

Regulators for +5V, +5V_VESA and +5V_VESA2

LDO #2: Vin = 2.5V to 3.6V MAX Vout = +1.8V +/- 3% Iout = 0.8A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

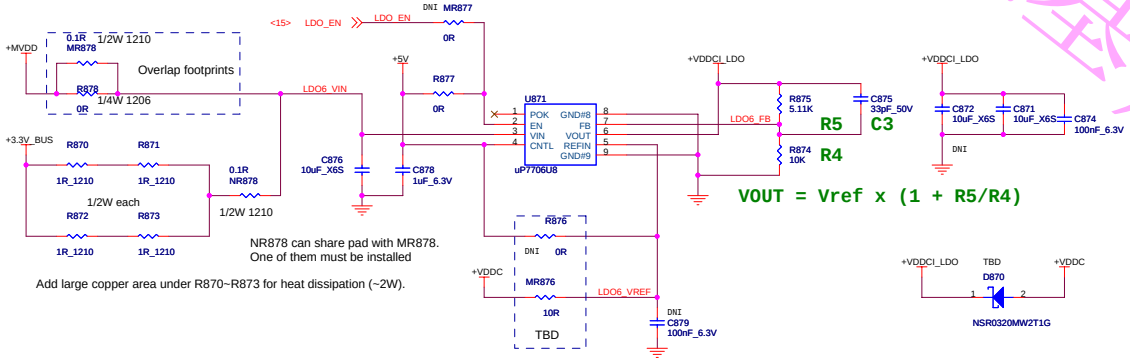


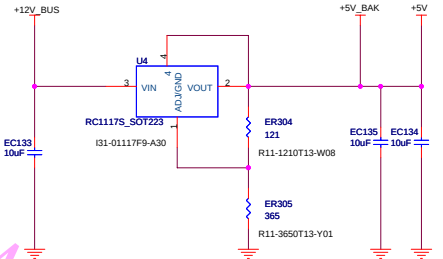
LDO #3: Vin = +1.70V to 2.1VMAX Vout = +1.1V +/- 3% Iout = Up to 1.3A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling



LDO #6: For fixed output voltage: Vin = +1.70V to 2.1V MAX Vout = +1.20V +/- 3% Iout = 1.3A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

LDO #6: For tracking VDDC: Vin = TBD Vout = TBD Iout = 1.3A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling





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

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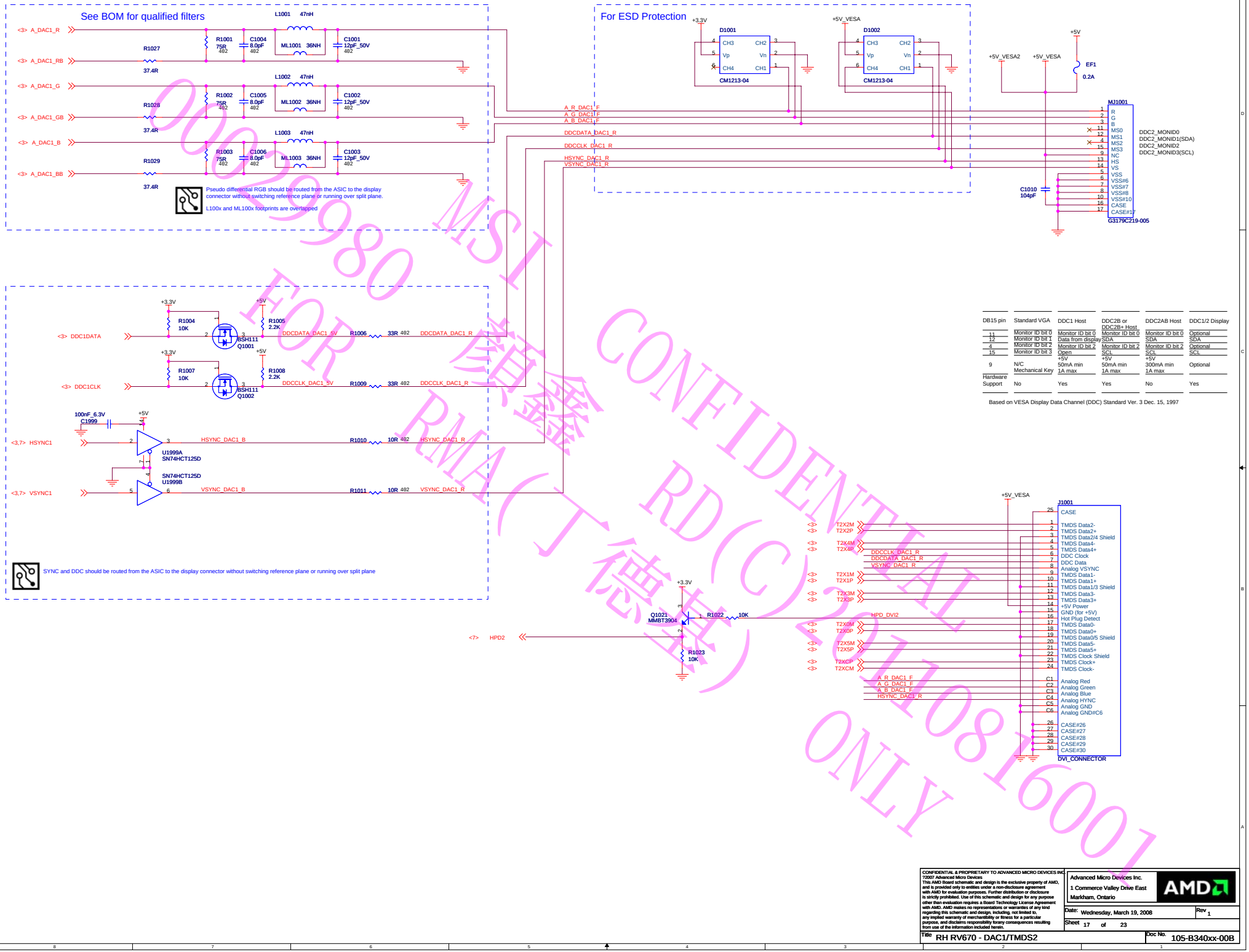
Date: Wednesday, March 19, 2008 Rev 1
Sheet 16 of 23
Title RH RV670 - Linear Regulators
Doc No. 105-B340xx-00B



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	Mechanical Key	1A max	1A max	1A max	
Support	No	Yes	Yes	No	Yes

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

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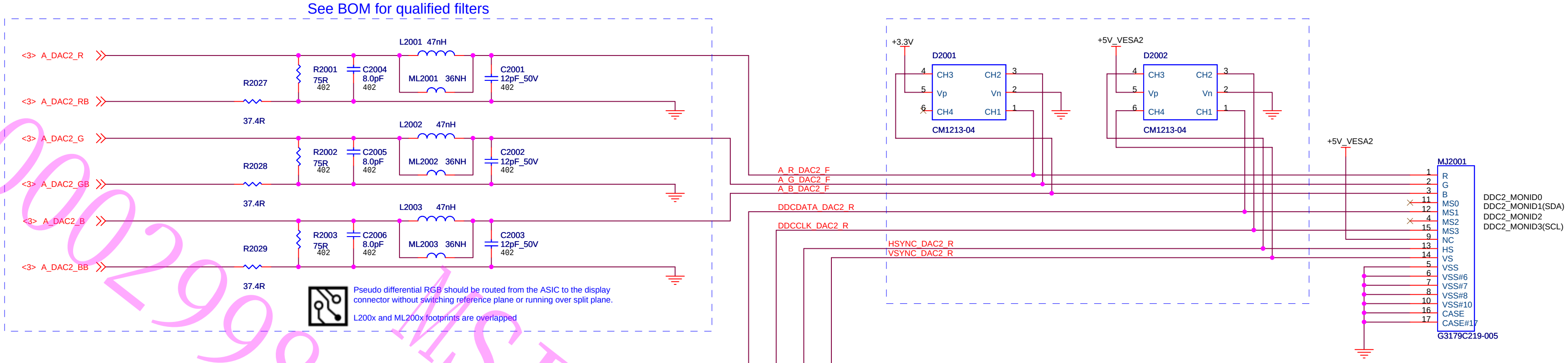
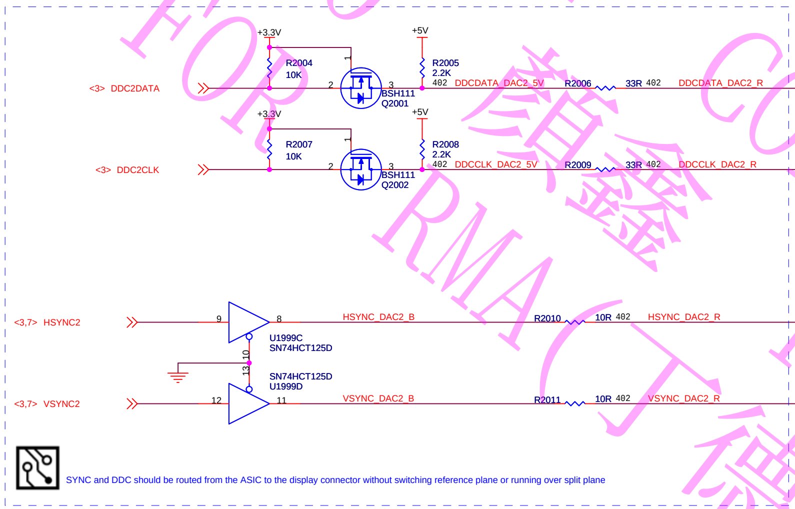
Date: Wednesday, March 19, 2008 Rev 1

Sheet 17 of 23

Title: RH RV670 - DAC1/TMDS2

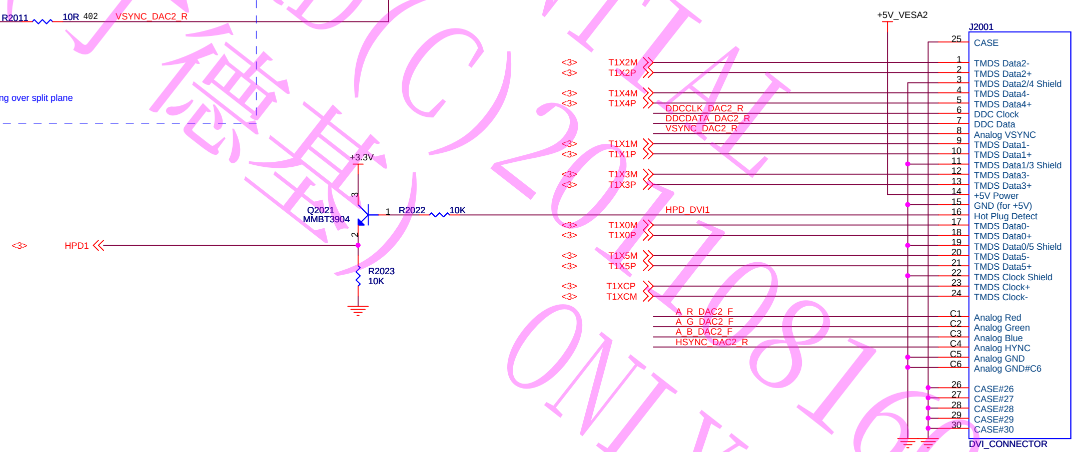
Doc No. 105-B340xx-00B





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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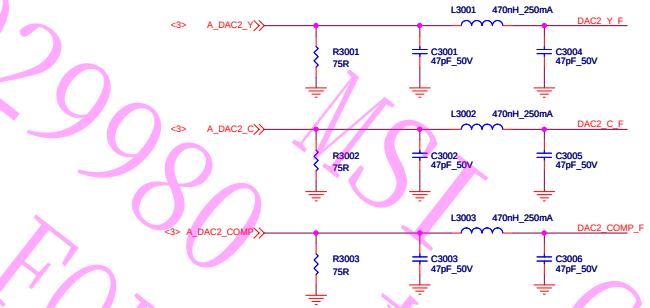
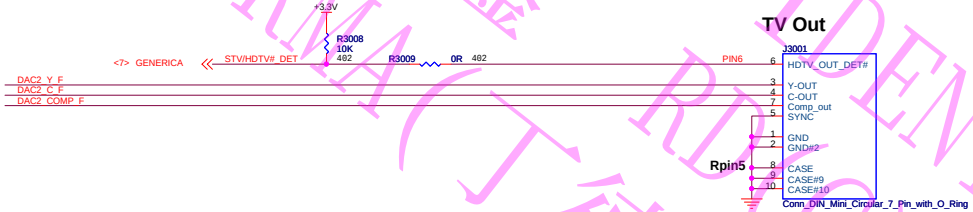
Date: Wednesday, March 19, 2008 | Rev 1
Sheet 18 of 23
Title RH RV670 - DAC2/TMDS1
Doc No. 105-B340xx-00B





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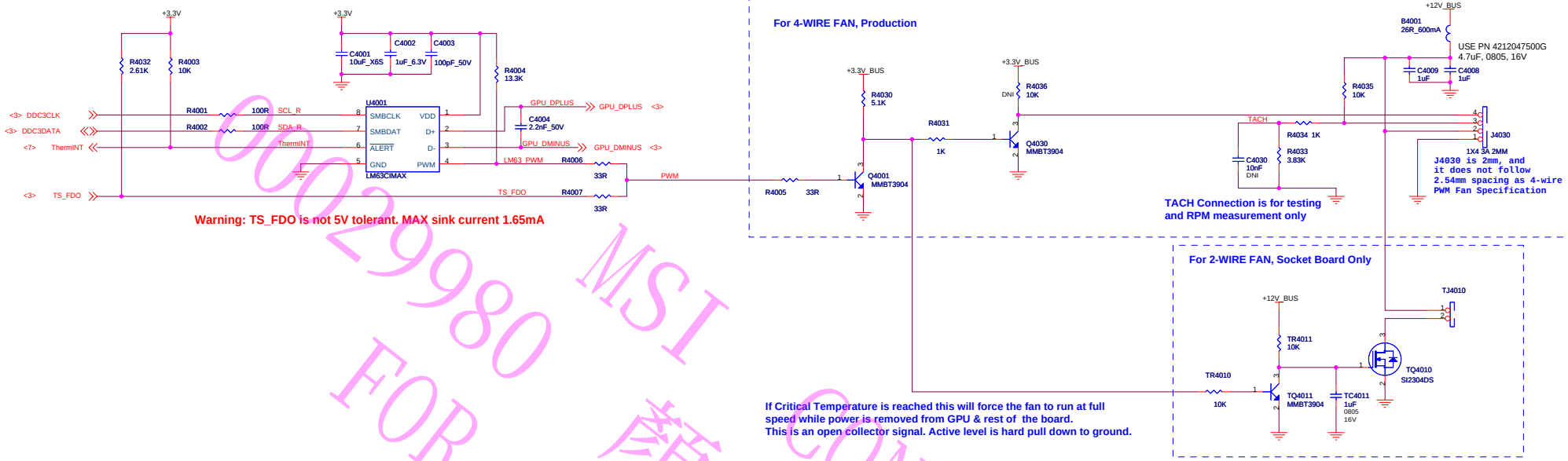
Date: Wednesday, March 19, 2008 Rev 1

Sheet 19 of 23

Title RH RV670 - TV OUT

Doc No. 105-B340xx-00B



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Date:	Wednesday, March 19, 2008
Rev	1
Sheet	20 of 23
Title	RH RV670 - Thermal Management
Doc No.	105-B340xx-00B

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

ASSY-SCREW1
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>

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

MT1
MT_Hole_0.136 TM 5.5 BM 7.0

SK1
Socket_RV670/M88L

PCB1
PCB
109-B34031-00B

ASSY1
ANTISTATIC BAG
6_X_11

BKT1
BRACKET
8020038600G

ASSY-SCREW5
SCREW
SCREW

BKT2
BRACKET
80200386B0G

BKT1: DVI - DIN -DVI
BKT2: DVI - DVI
ASSY-SCREW5 only for Slim-VGA with upper or lower tab bracket

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

J7 3 1 4 2 impedence
J4 3 1 4 2 impedence
J2 3 1 4 2 impedence
J1 3 1 4 2 impedence

J3 X_PIN1*2
J6 X_PIN1*2
J9 X_PIN1*2
J11 X_PIN1*2

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Date: Friday, March 28, 2008
Rev 1
Sheet 21 of 23
Title RH RV670 - Mechanical
Doc No. 105-B340xx-00B

<variant Name>

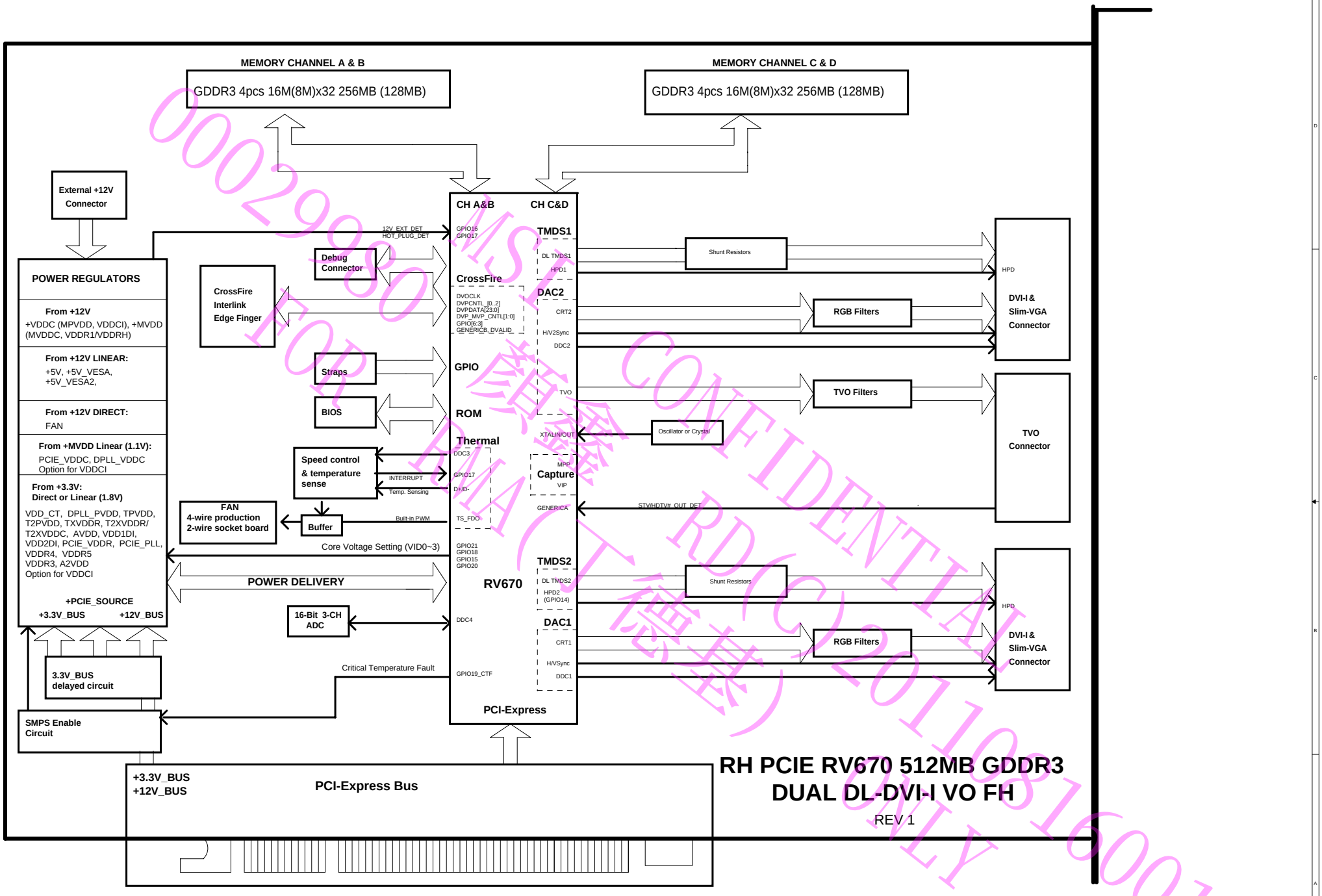
Title	Schematic No.	Date:
RH PCIE RV670 512MB GDDR3 DUAL DL-DVI-I VO FH	105-B340xx-00B	Thursday, March 13, 2008

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 1

Sch Rev	PCB Rev	Date	REVISION DESCRIPTION
0	00A	07/05/11	Initial design for RV670 GDDR3 (Revival) based on B339
1	00B	07/08/1	(pg 1) Adding R1 and connecting switch #7 of TSW1. Some mother boards require B7 to be grounded. Table-1 updated accordingly (pg 7) Adding R64 and MR64 to select HOT_PLUG_DET or ThermINT as the interrupt source. (pg 13) Adding R1617, MR1617, R1616, Q1613, R1615, R1618, and R1619 as option to support hot plug detection of external cable. (pg 13) Adding R1282, MR1282, R1283, MR1283, R1284, MR1284, R1281, R1285, Q1280, and C1280 as option for thermal protection for VDDC SMPS MOSFETs (pg 13) Adding MC1603 (overlapped with C1603) (pg 14) Adding D870 as option for power up sequencing (pg 18) Adding heatsink symbol/footprint (Layout) Increasing spacing between DDC4DATA & DDC4CLK going to U1270 to reduce the crosstalk



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Date:	Thursday, March 13, 2008
Rev	1
Sheet	23 of 23
Title	RH PCIE RV670 512MB GDDR3 DUAL DL-DVI-I VO FH
Doc No.	105-B340xx-00B