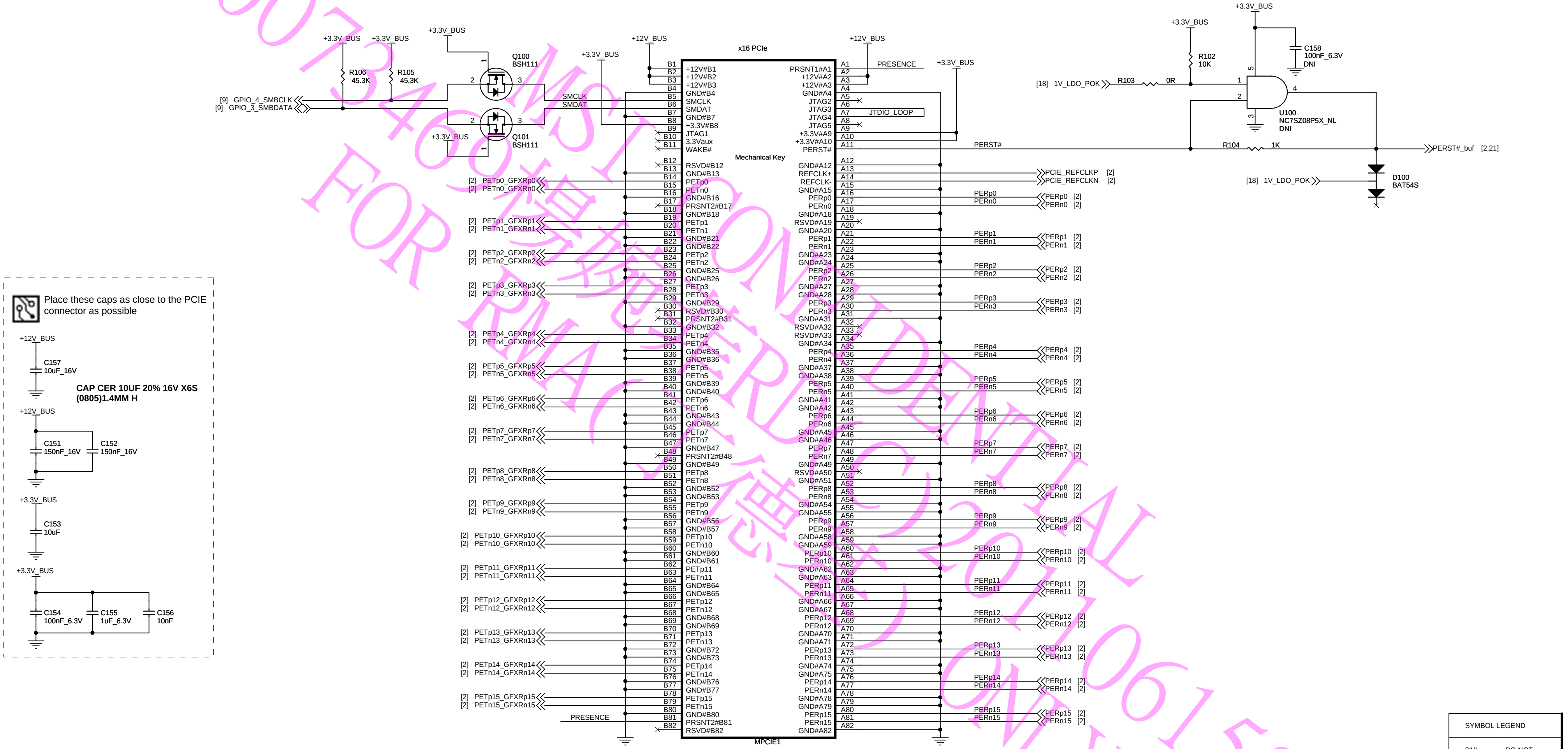
PCI-EXPRESS EDGE CONNECTOR

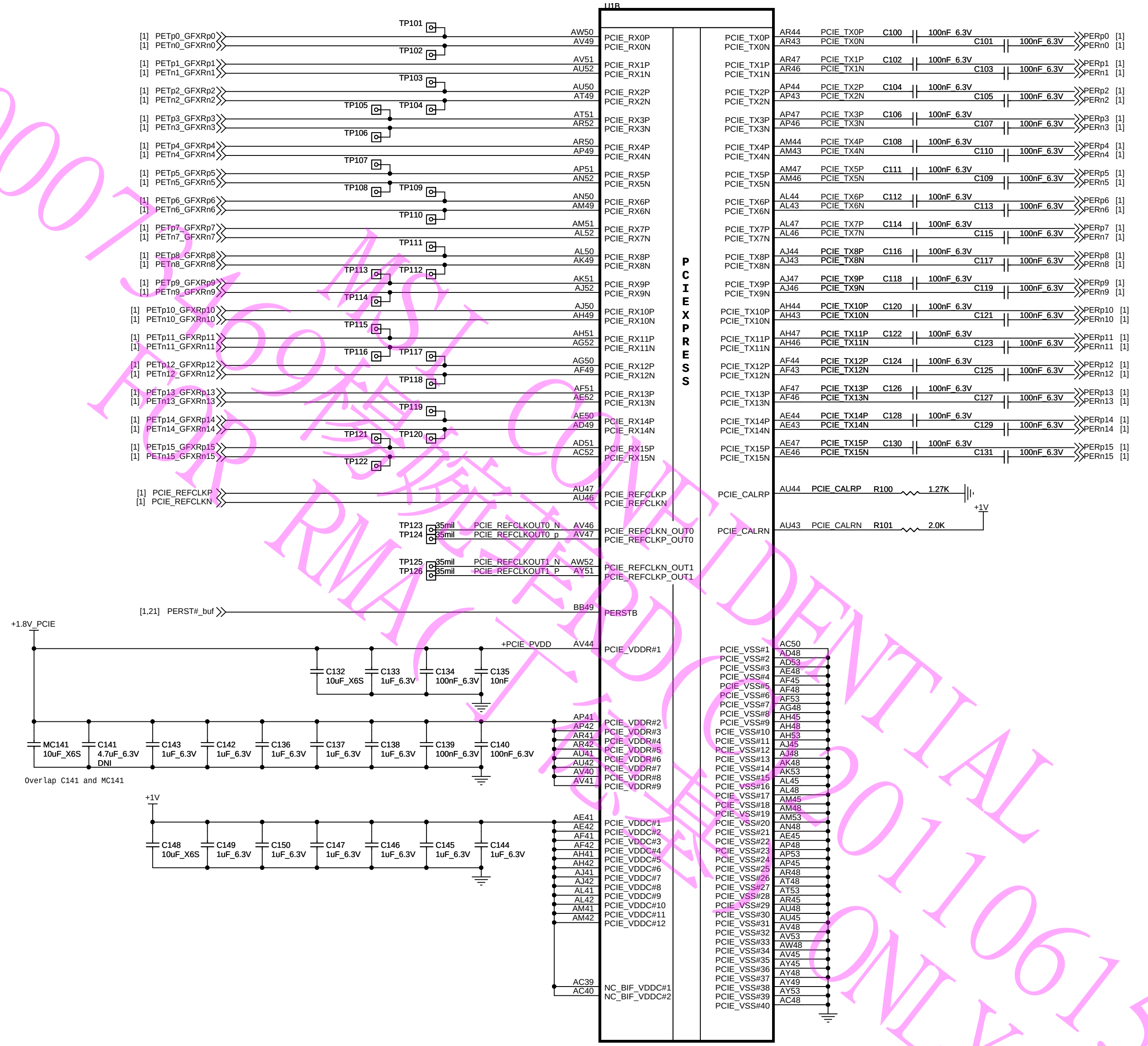
PCIe RESET Buffered



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	1 of 24
Title	PCIE EDGE CONNECTOR
Doc No.	105-C204XX-00A

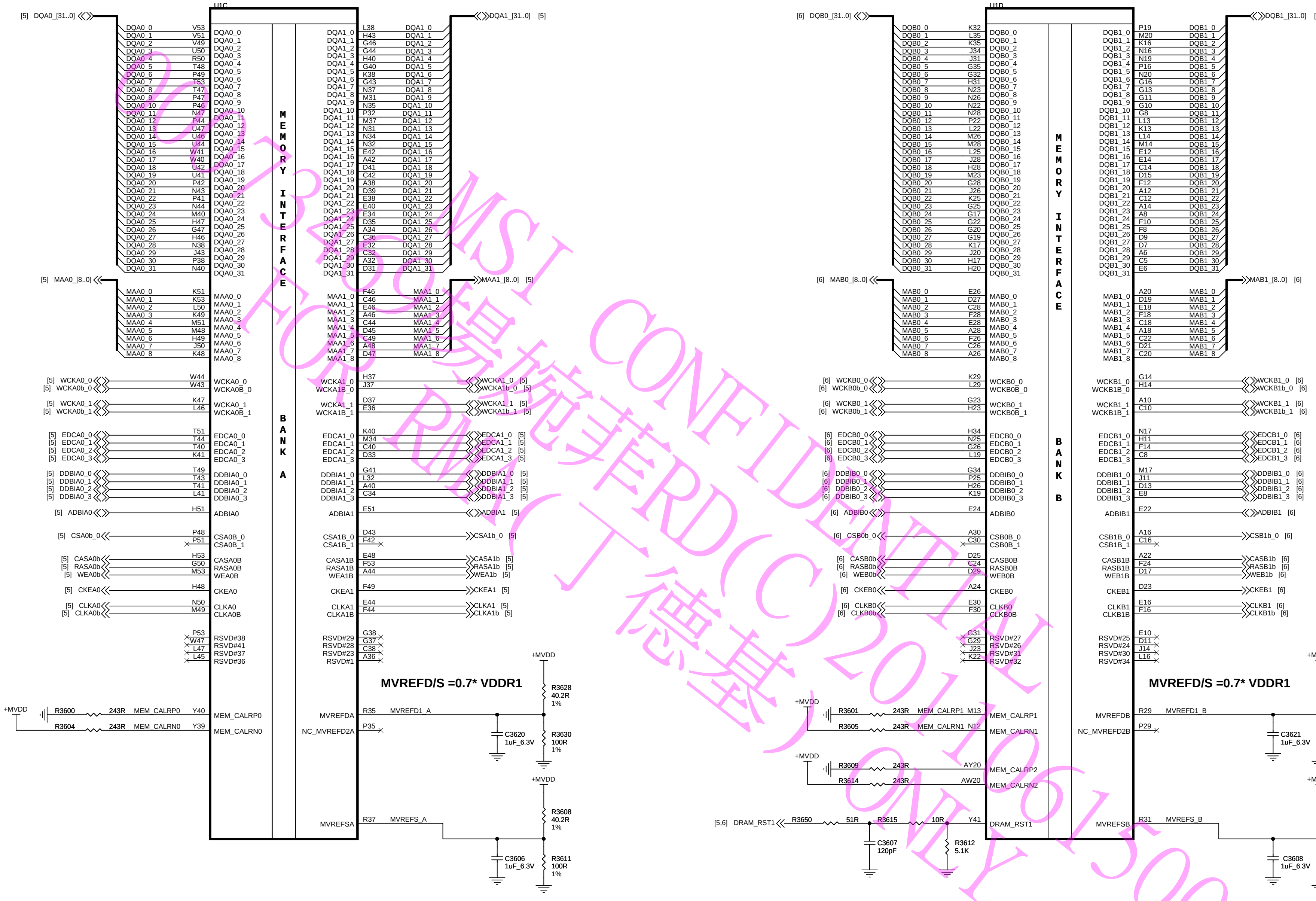
(2) CAMEN PCIE Interface



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date: Monday, September 20, 2010 | Rev 01
Sheet 2 of 24
Title ASIC PCIE Interface
Doc No. 105-C204XX-00A

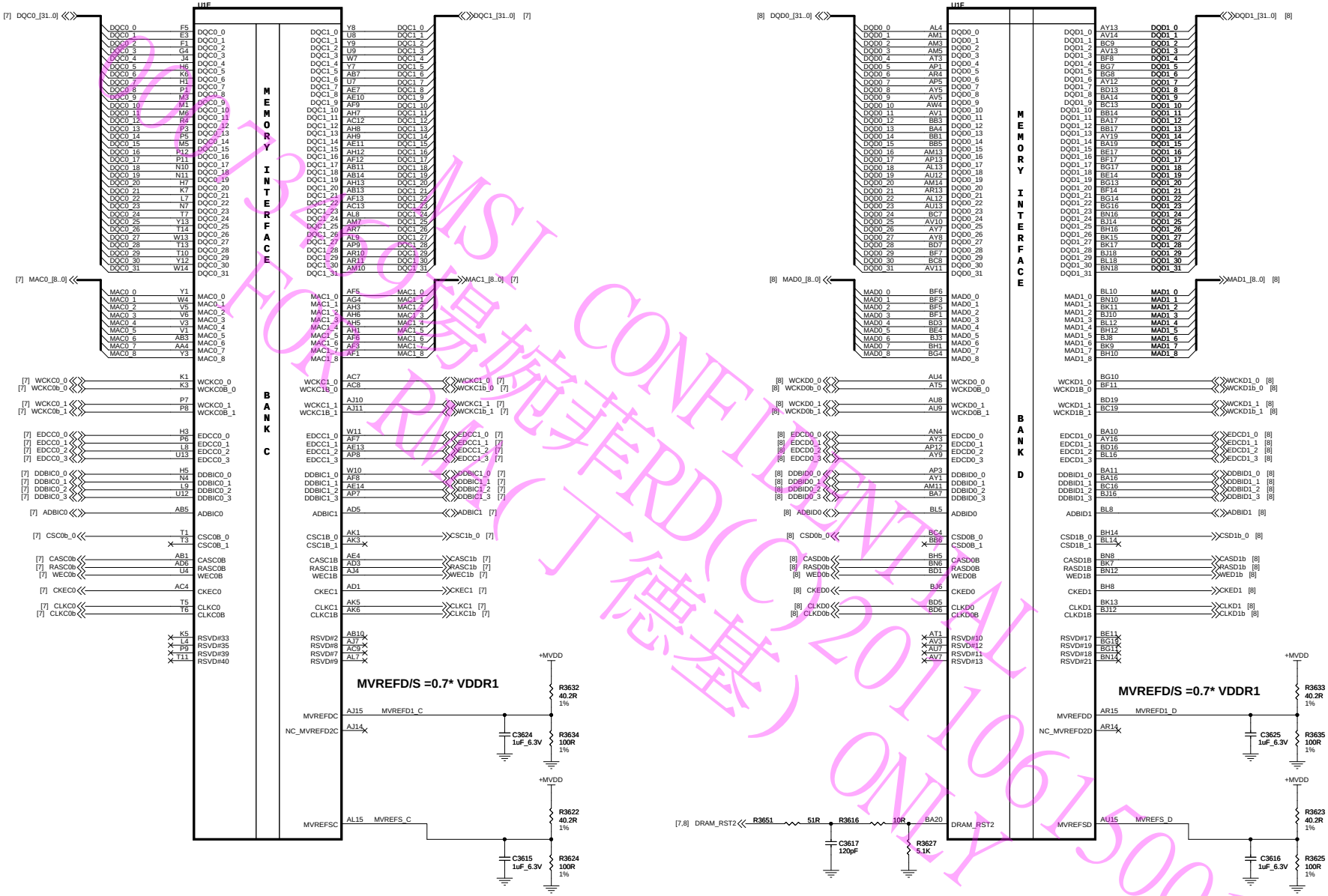
(3) CAYMEN MEM Interface Ch A&B



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date: Monday, September 20, 2010	Rev 01
Sheet 3 of 24	
Title ASIC Memory Ch A & B	Doc No. 105-C204XX-00A

(4) CAYMEN MEM Interface Ch C&D



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

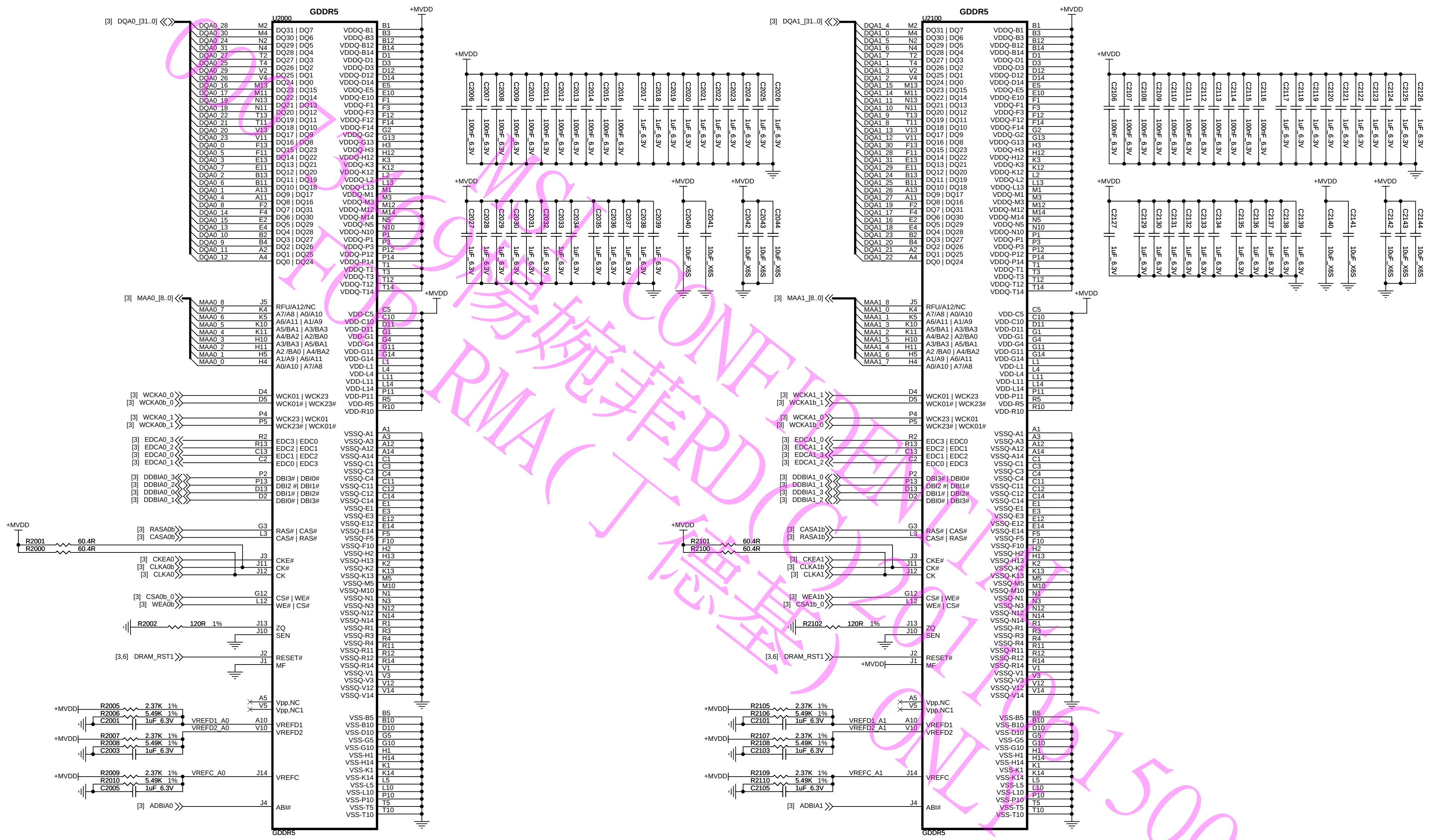
Date: Monday, September 20, 2010 Rev 01

Sheet 4 of 24

Title ASIC Memory Ch C & D

Doc No. 105-C204XX-00A

(5) GDDR5 Memory Channel A

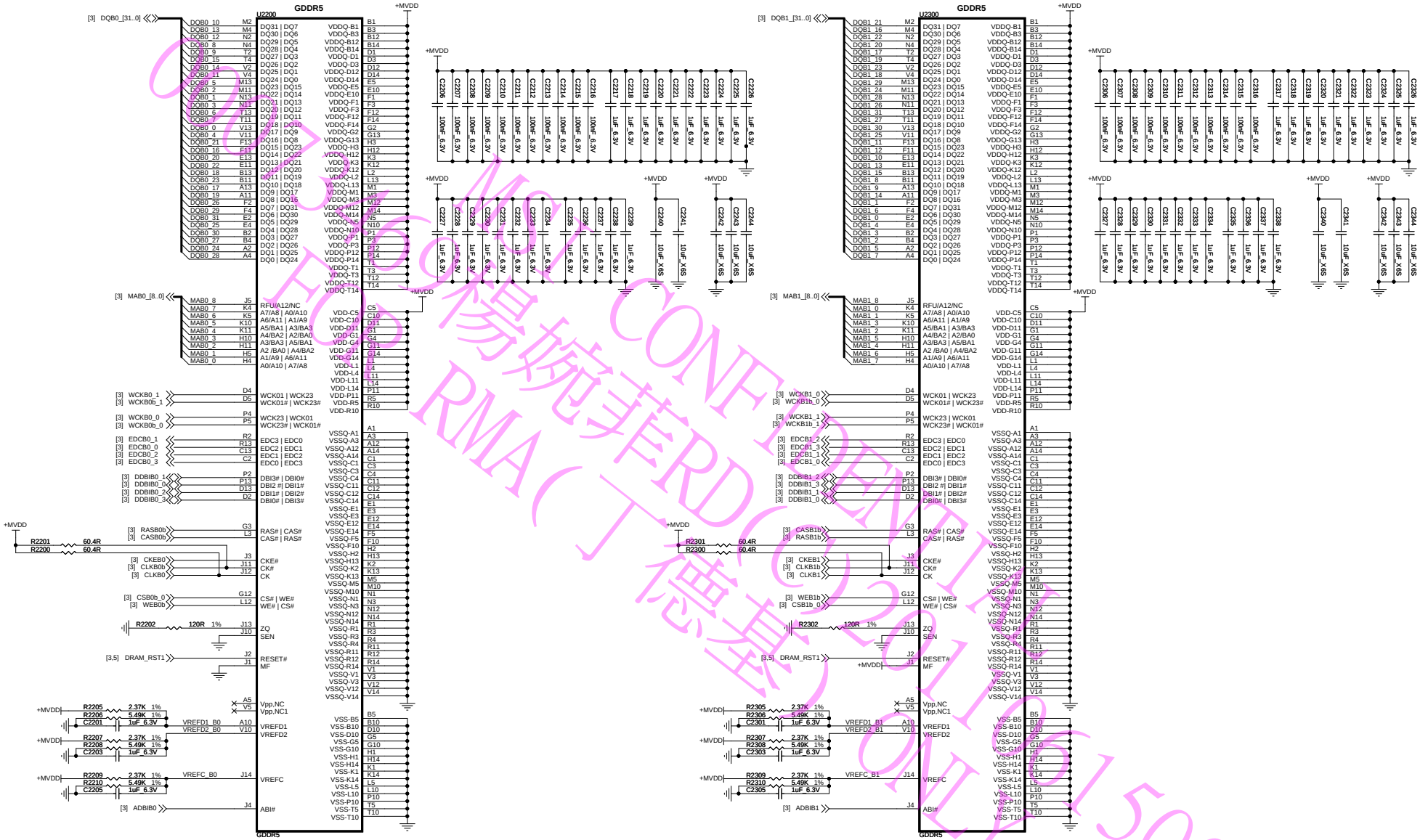


Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date: Monday, September 20, 2010 | Rev 01

Title GDDR5 Ch A | Doc No. 105-C204XX-00A

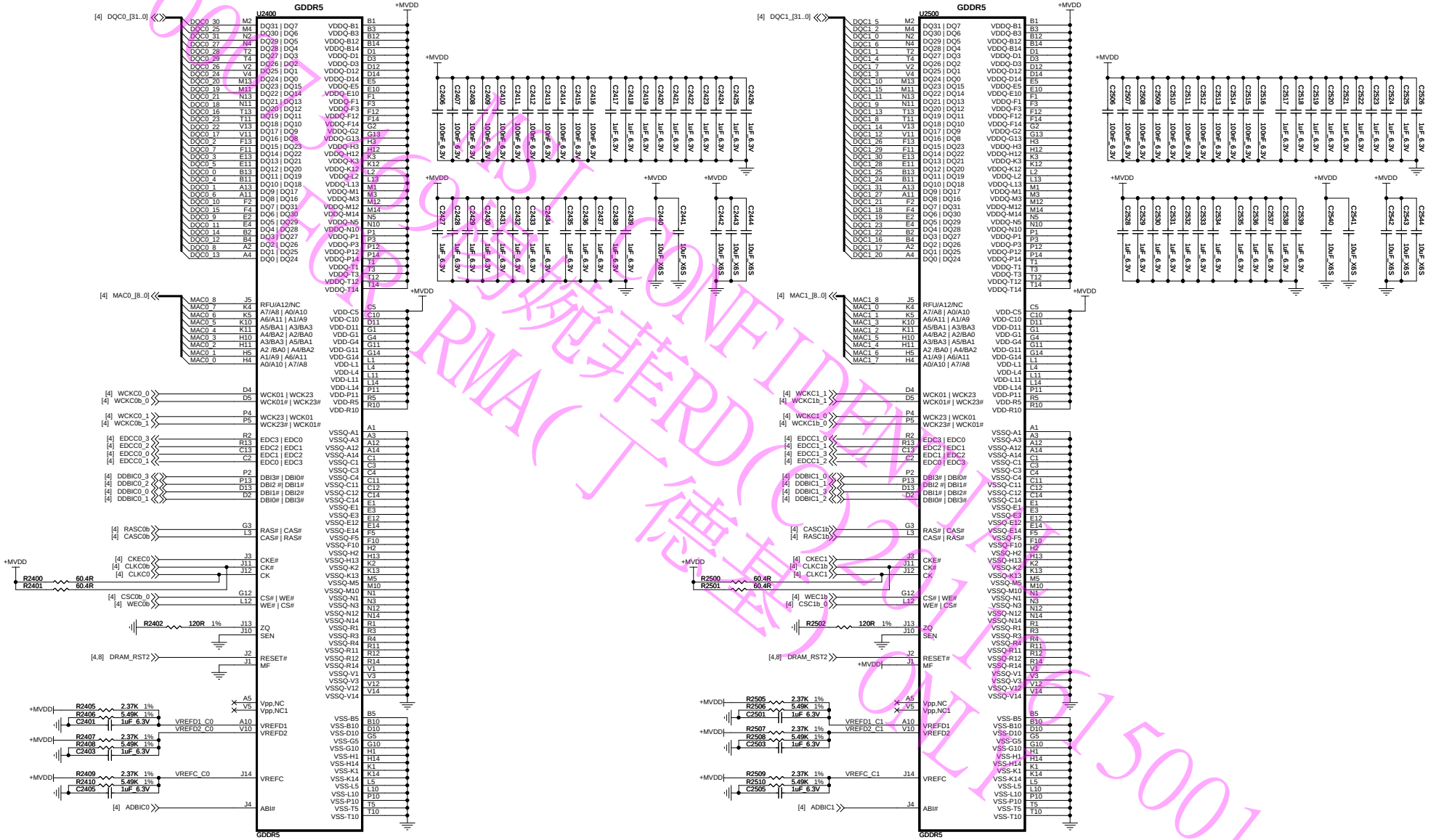
(6) GDDR5 Memory Channel B



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	6 of 24
Title	GDDR5 Ch B
Doc No.	105-C204XX-00A

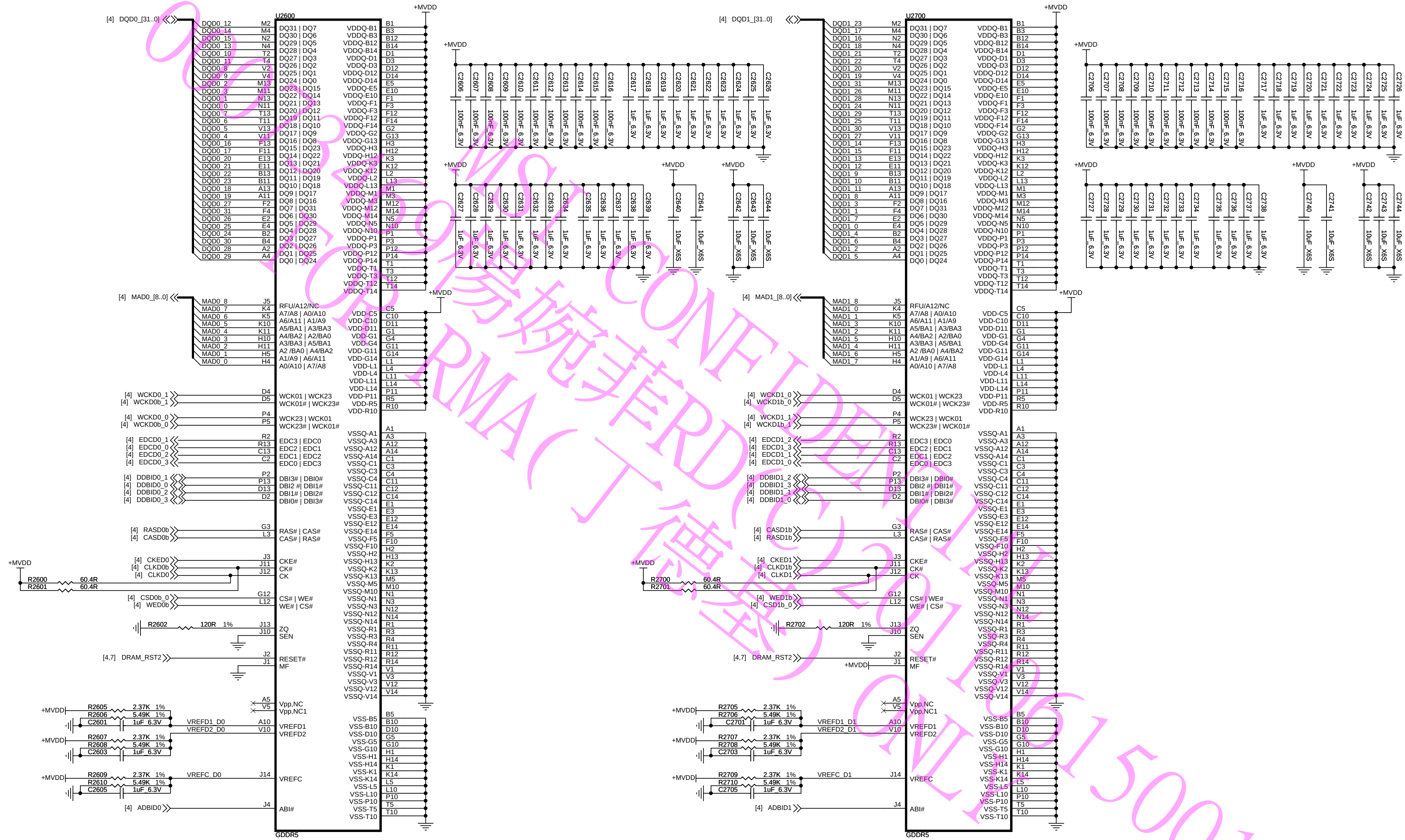
(7) GDDR5 Memory Channel C



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	7 of 24
Title	GDDR5 Ch C
Doc No.	105-C204XX-00A

(8) GDDR5 Memory Channel D

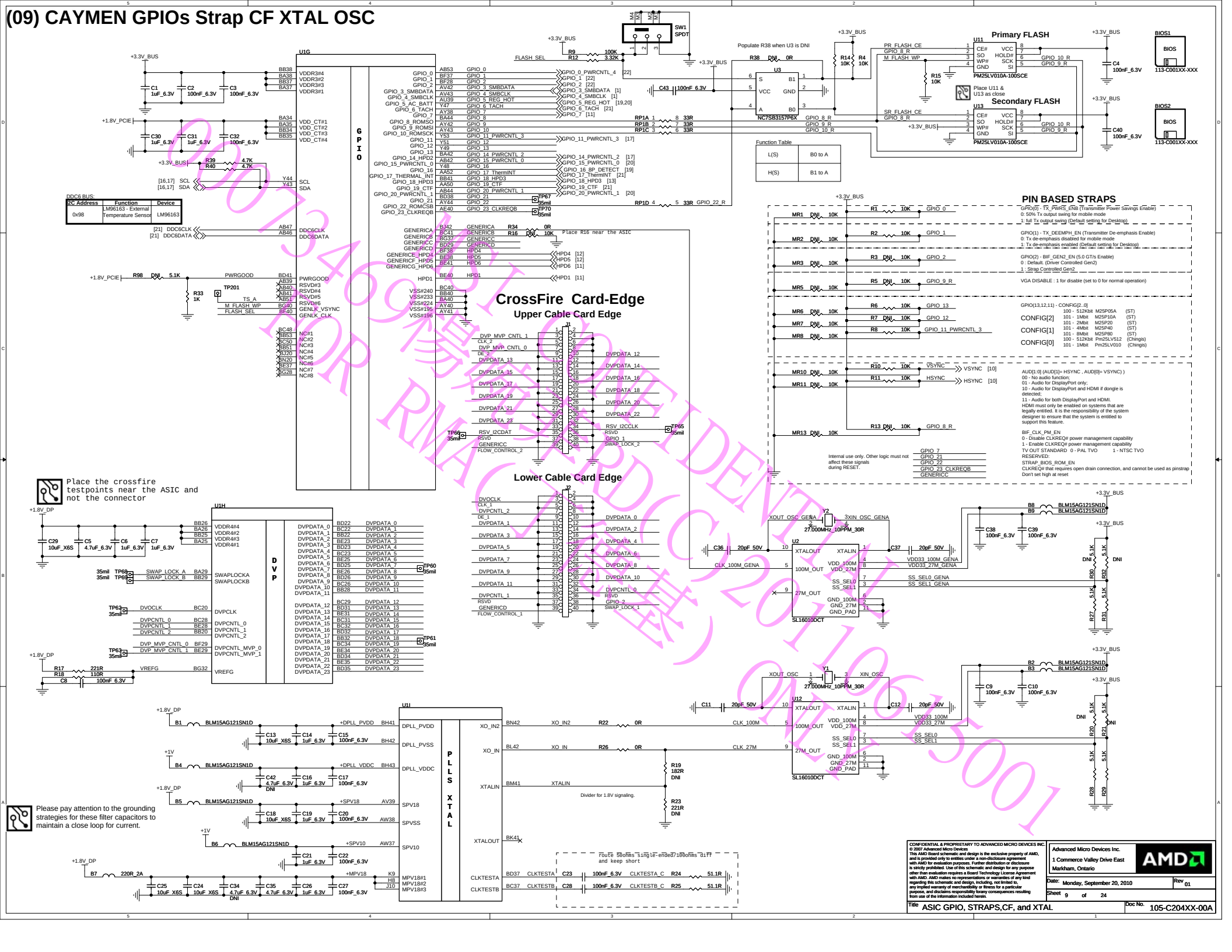


Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

AMD

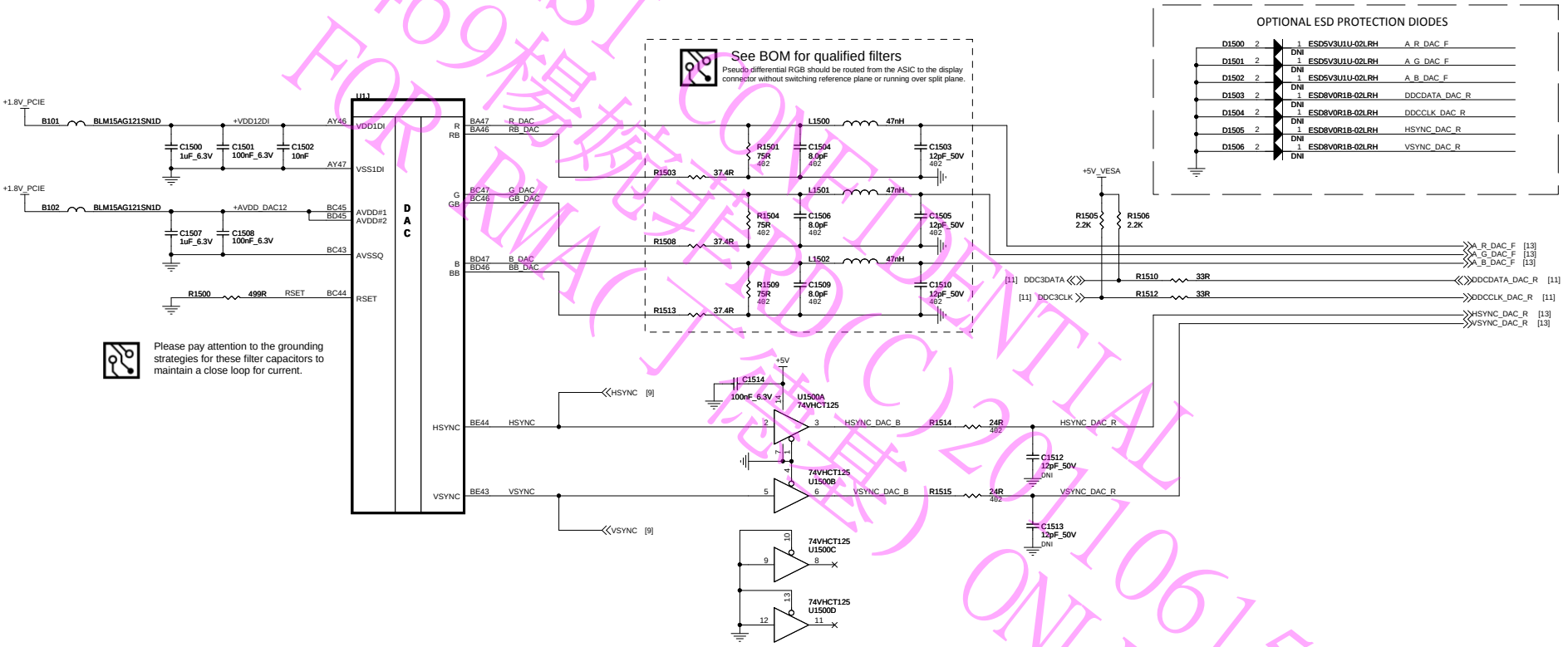
Date: Monday, September 20, 2010	Rev 01
Sheet 8 of 24	
Title GDDR5 Ch D	Doc No. 105-C204XX-00A

(09) CAYMEN GPIOs Strap CF XTAL OSC



Advanced Micro Devices Inc.	
1 Commerce Valley Drive East Markham, Ontario	
Date: Monday, September 20, 2010	Rev 01
Sheet 9 of 24	
Title ASIC GPIO, STRAPS,CF, and XTAL	Doc No. 105-C204XX-00A

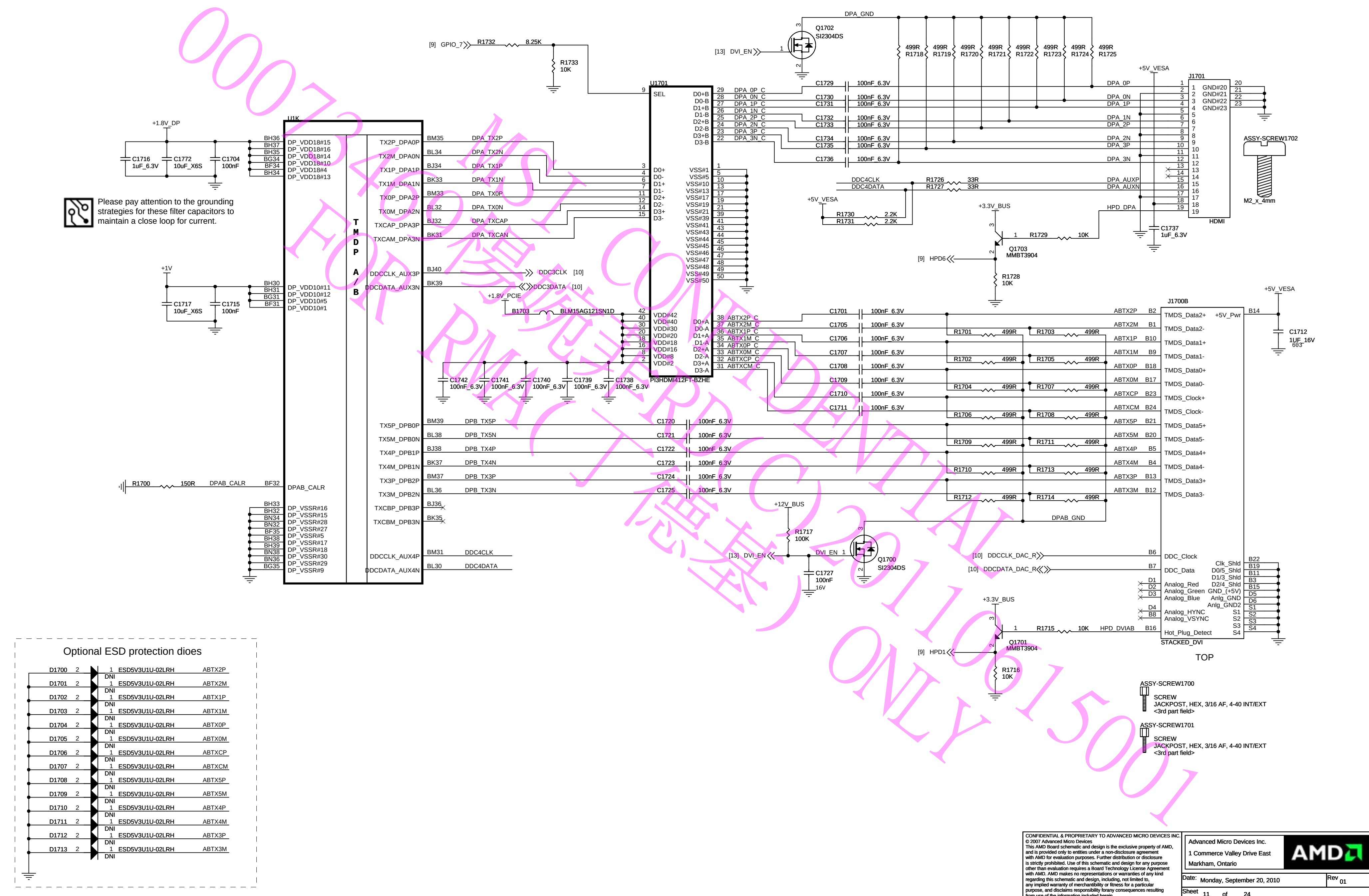
(10) CAYMEN DAC



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	10 of 24
Title	ASIC DAC1 & DAC2
Doc No.	105-C204XX-00A

(11) CAYMEN TMDS A&B

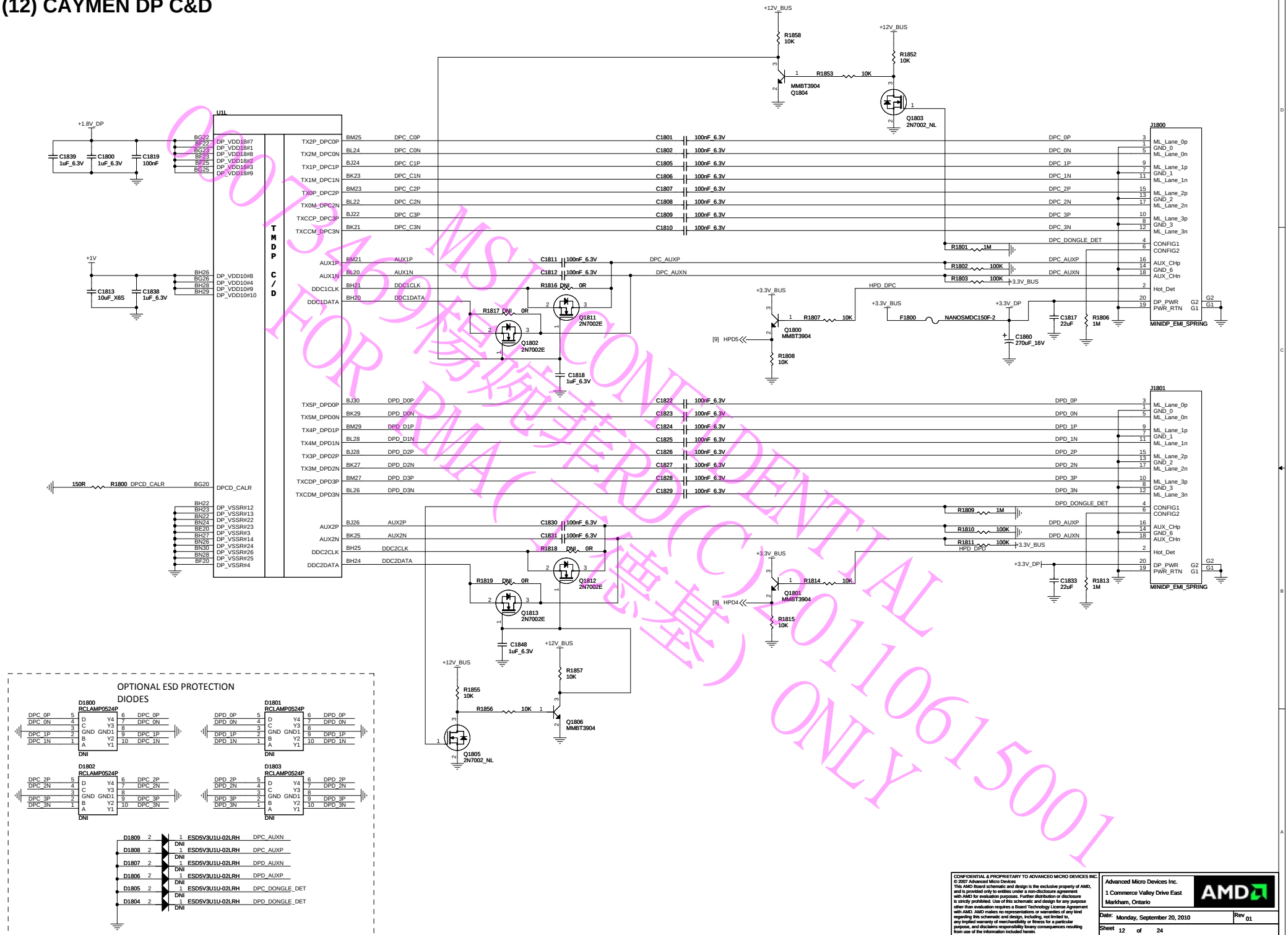


Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

AMD

Date:	Monday, September 20, 2010
Rev	01
Sheet	11 of 24
Title	TMDS AB
Doc No.	105-C204XX-00A

(12) CAYMEN DP C&D



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

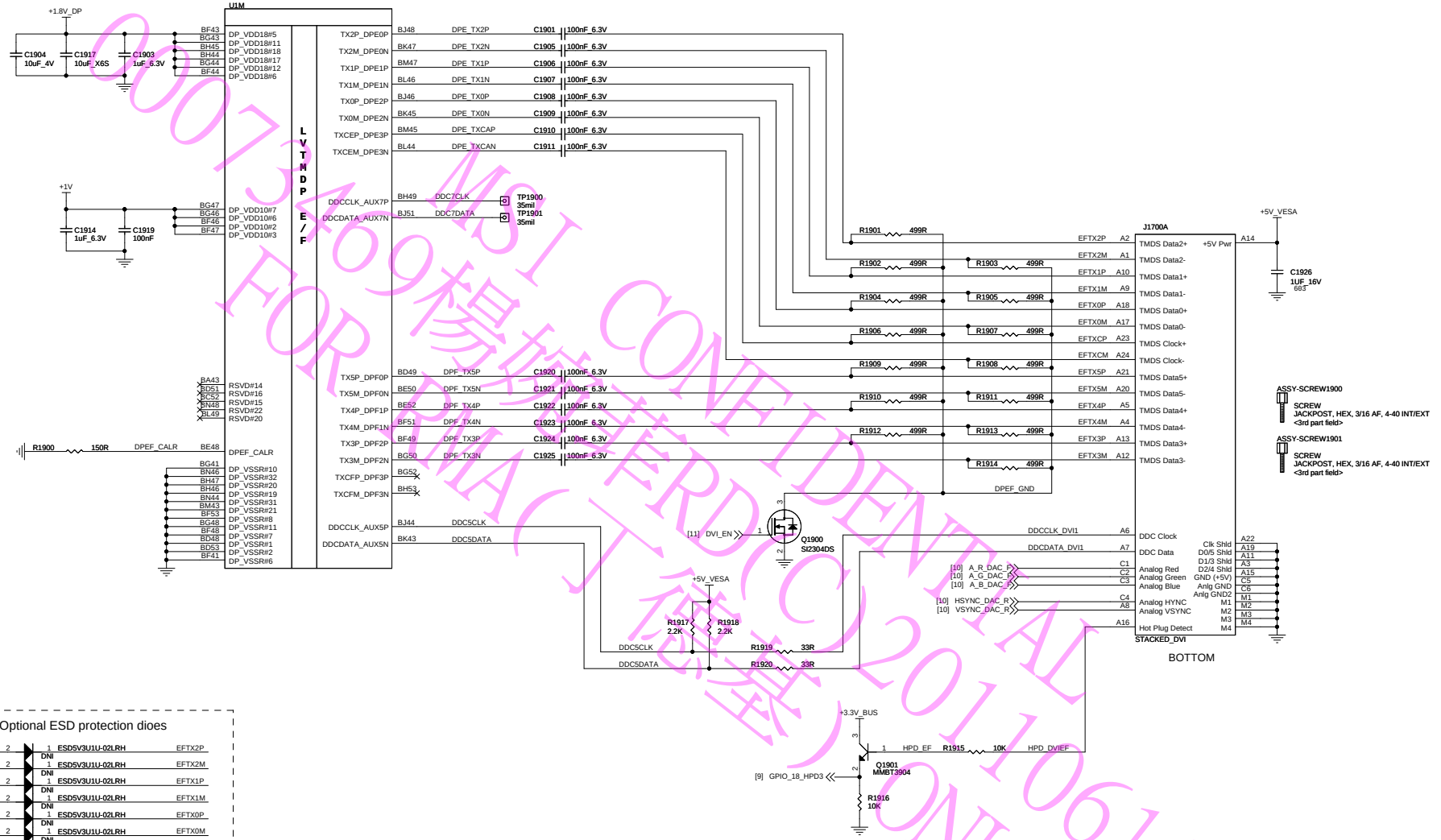
Date: Monday, September 20, 2010 Rev 01

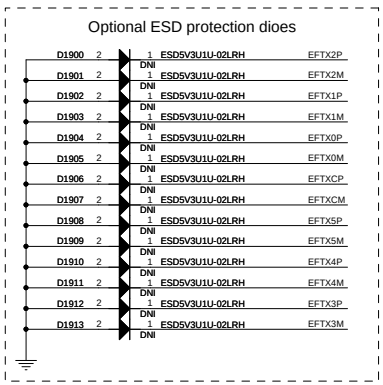
Sheet 12 of 24

Title mini DP C / D

Doc No. 105-C204XX-00A

(13) CAYMEN LVTMDP E&F

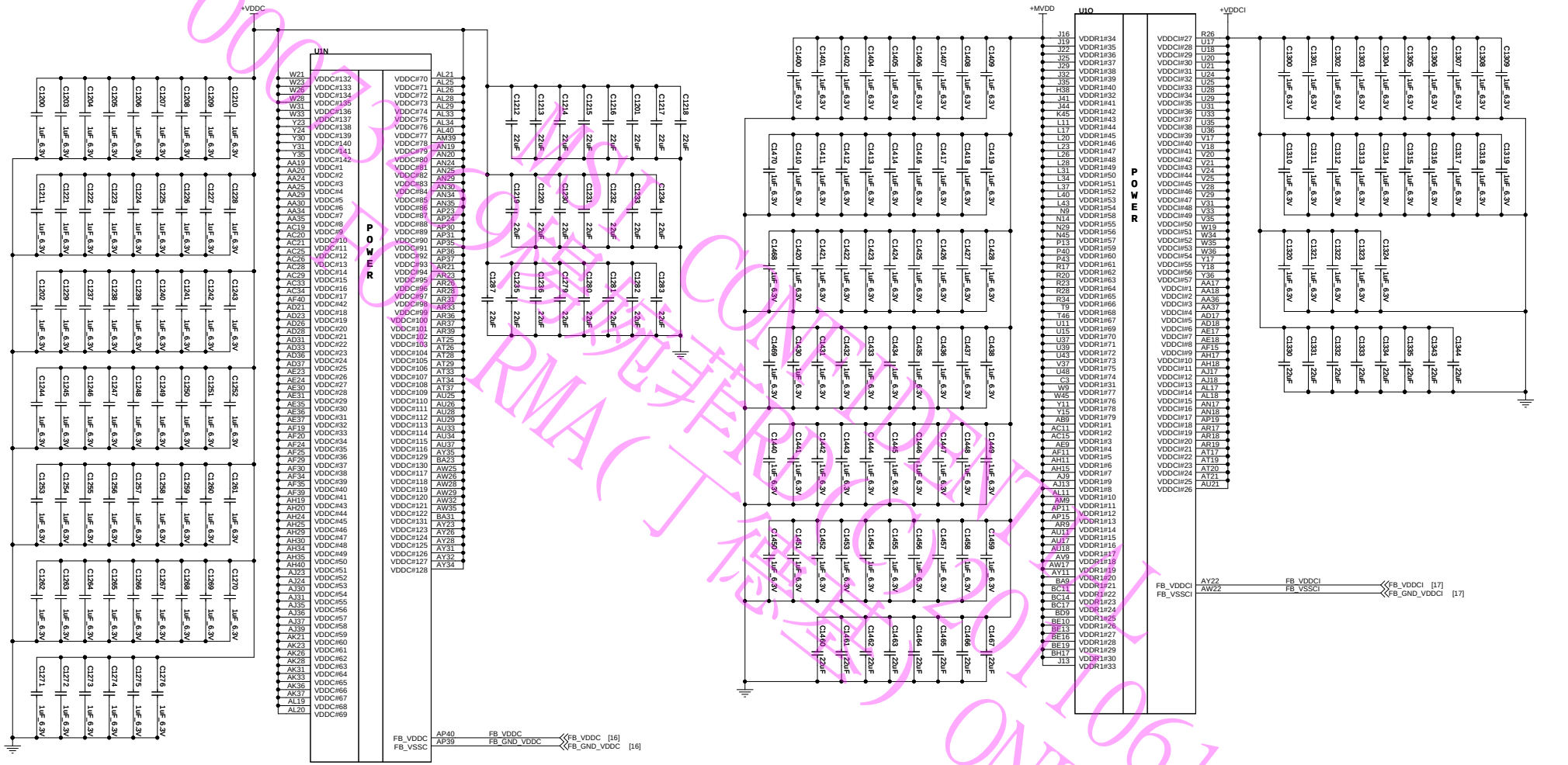




Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	13 of 24
Title	TMDS EF
Doc No.	105-C204XX-00A

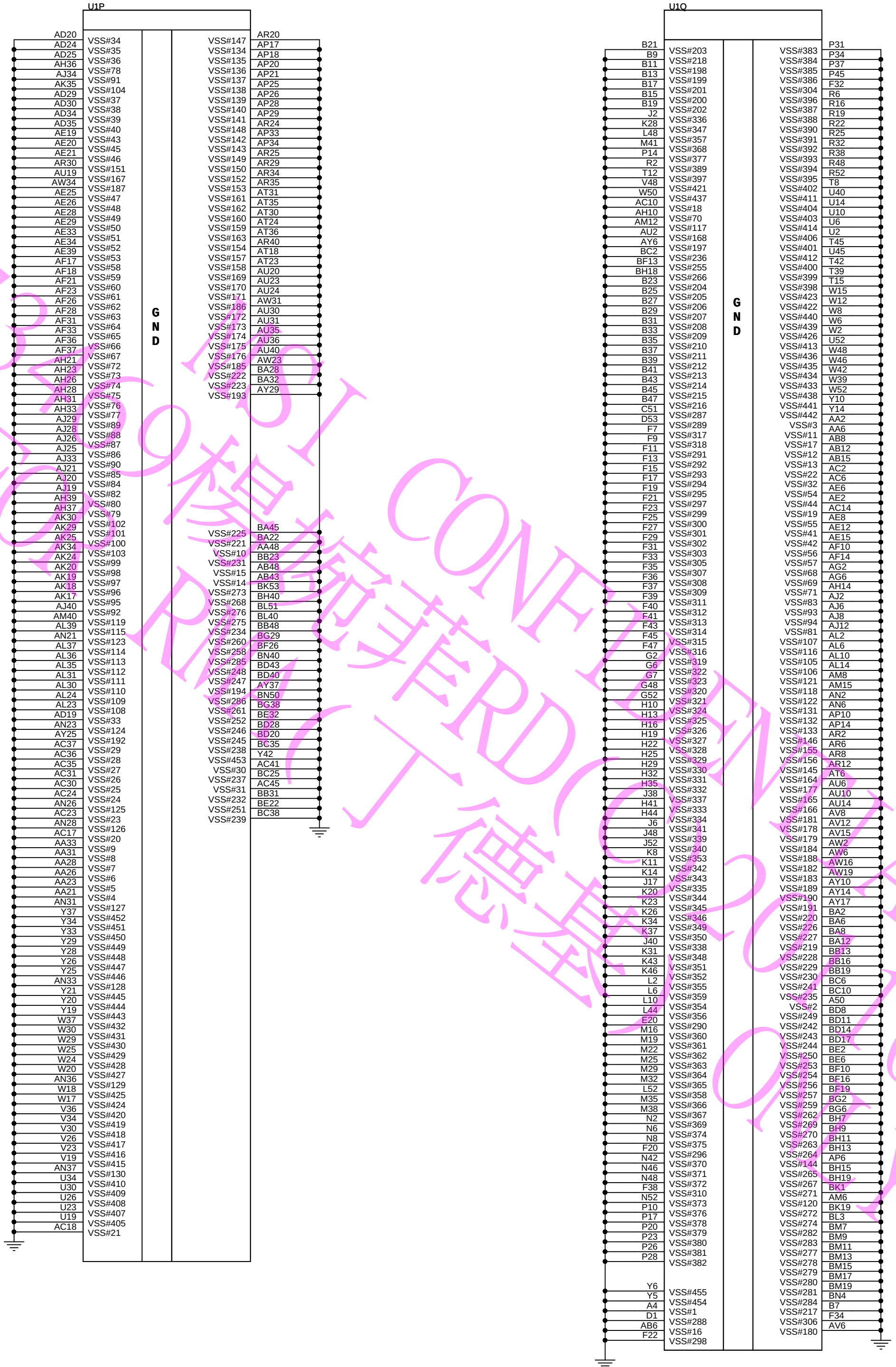
(14) CAYMEN Power



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	14 of 24
Title	ASIC POWER
Doc No.	105-C204XX-00A

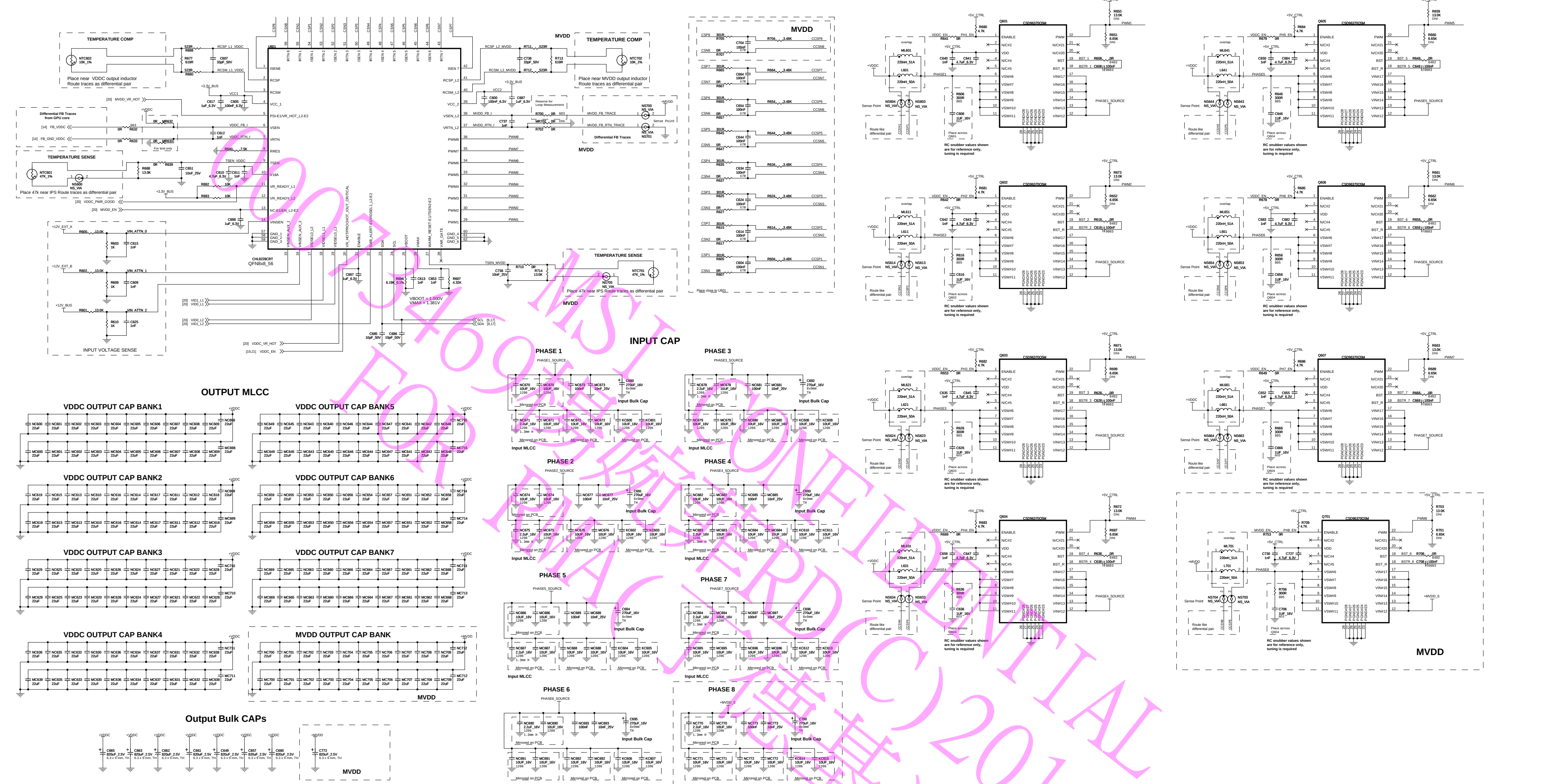
(15) CAYMEN GND



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

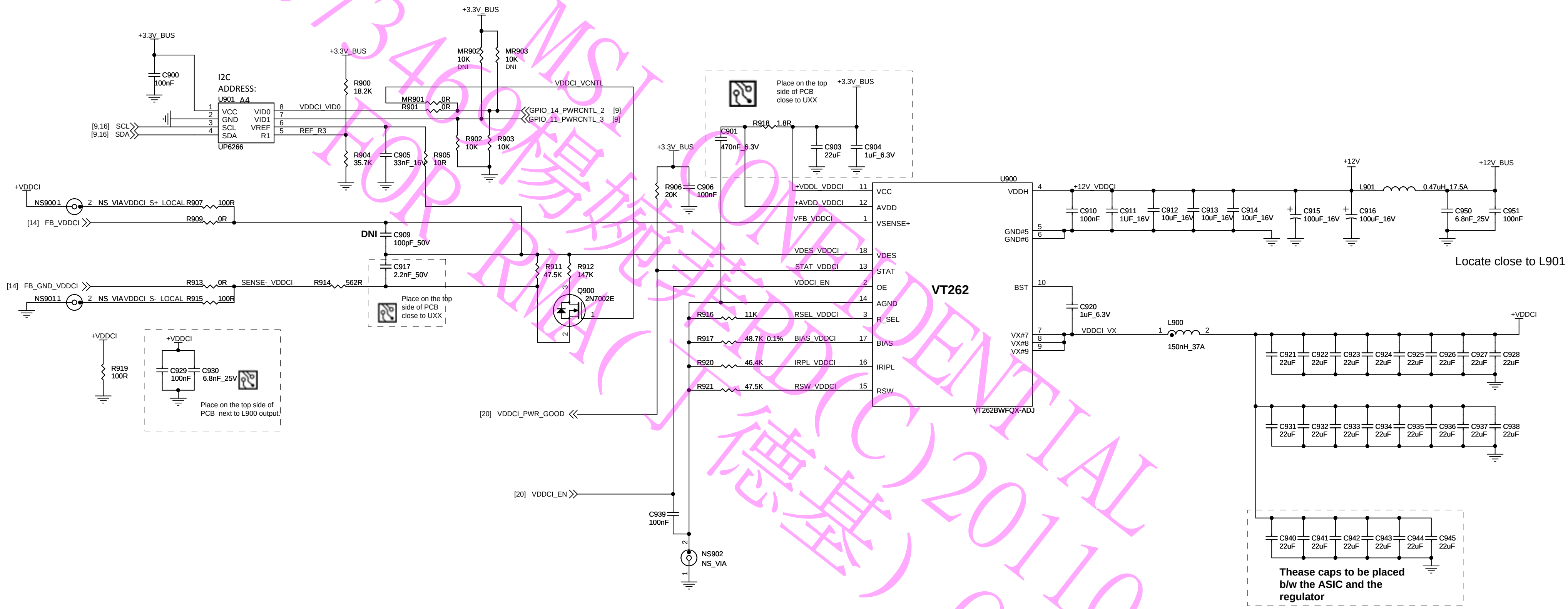
Date:	Monday, September 20, 2010
Rev	01
Sheet	15 of 24
Title	ASIC GND
Doc No.	105-C204XX-00A

(16) VDDC & MVDD



Advanced Micro Devices Inc. 1 Commerce Valley Drive East Markham, Ontario	AMD
Date: Monday, September 20, 2010	Sheet 16 of 24
Title: VDDC & MVDD	Doc No. 105-C204XX-00A

(17) VDDCI



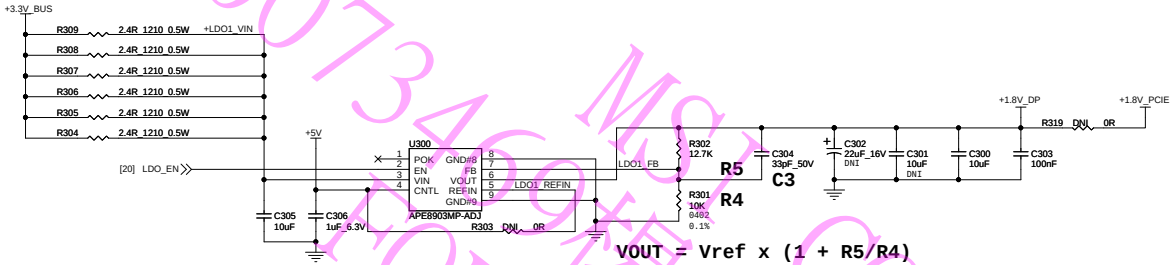
Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

AMD

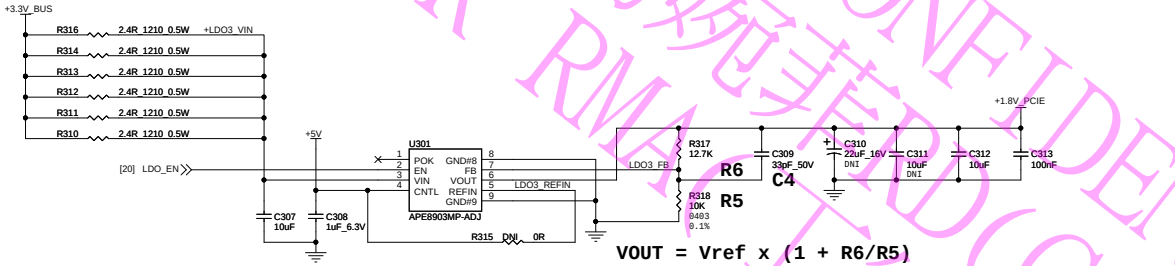
Date: Monday, September 20, 2010 | Rev 01
Sheet 17 of 25
Title VDDCI Regulator
Doc No. 105-C204XX-00A

(18) CAYMEN Small Rail Regulators

LDO #1: Vin = 2.3V to 3.6V MAX Vout = +1.8V +/- 2% Iout = 2.0A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

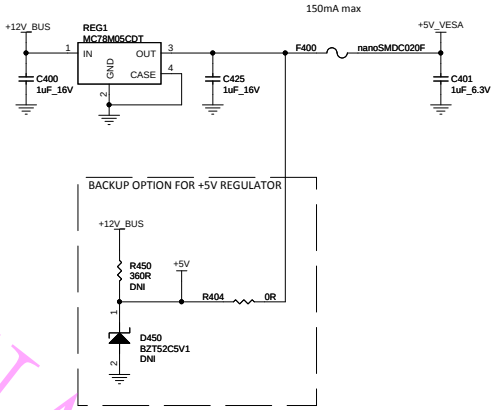


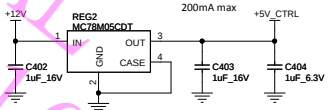
VOUT = Vref x (1 + R5/R4)



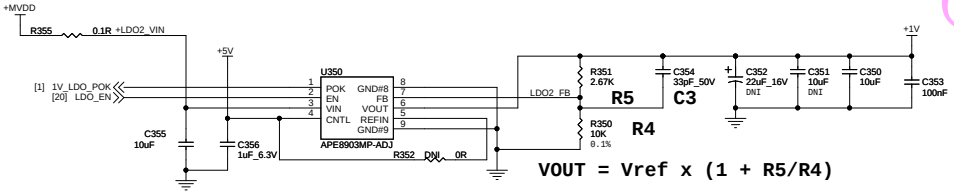
VOUT = Vref x (1 + R6/R5)

Regulators for +5V, +5V_VESA and +5V_HDMI
Iout max = 150mA (DVI+HDMI)





LDO #2: Vin = +1.40V to 1.8VMAX Vout = +1V +/- 2% Iout = 1.5A (TBV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling

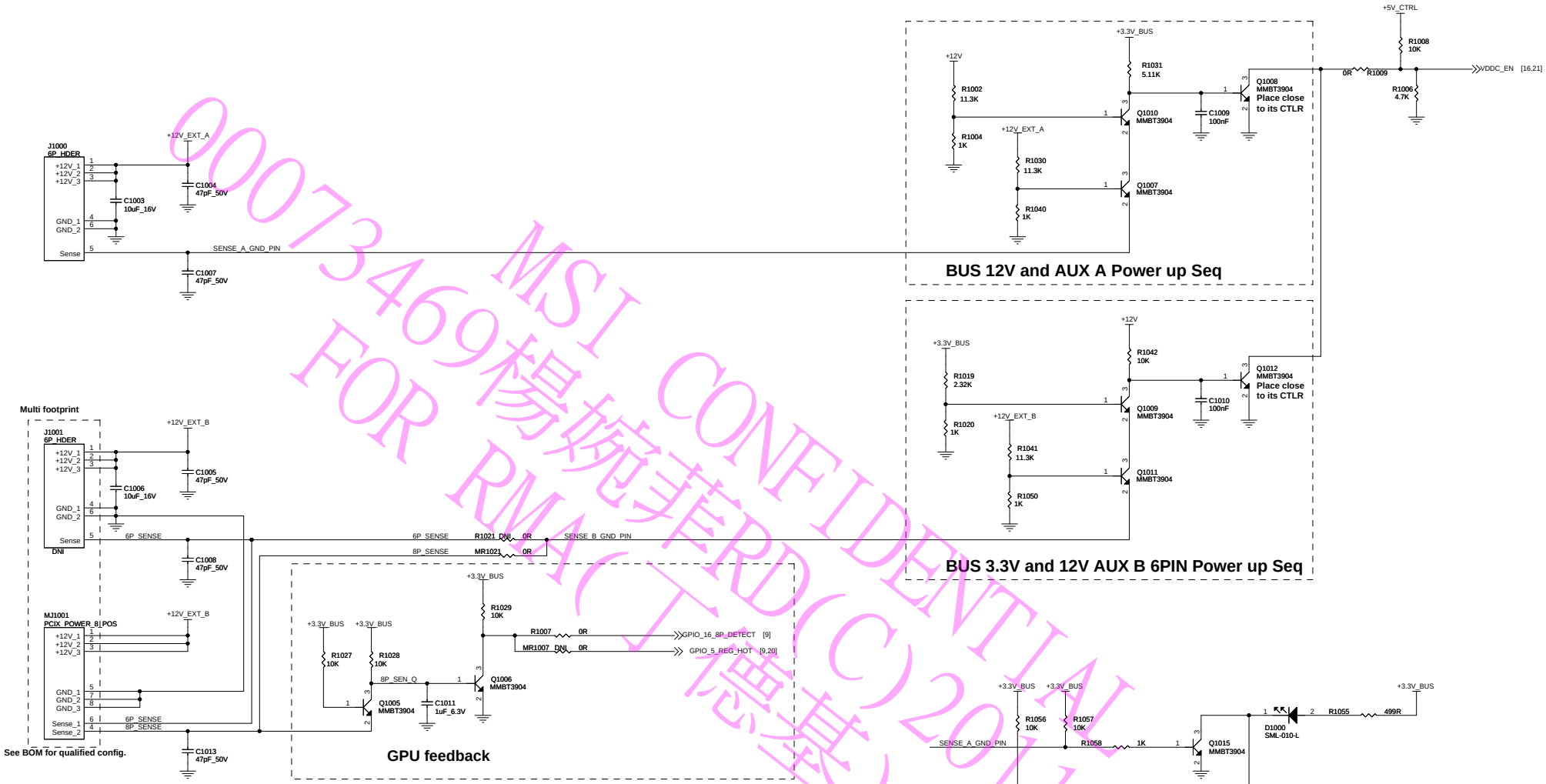


VOUT = Vref x (1 + R5/R4)

Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	18 of 24
Title	Small Rail Regulators
Doc No.	105-C204XX-00A

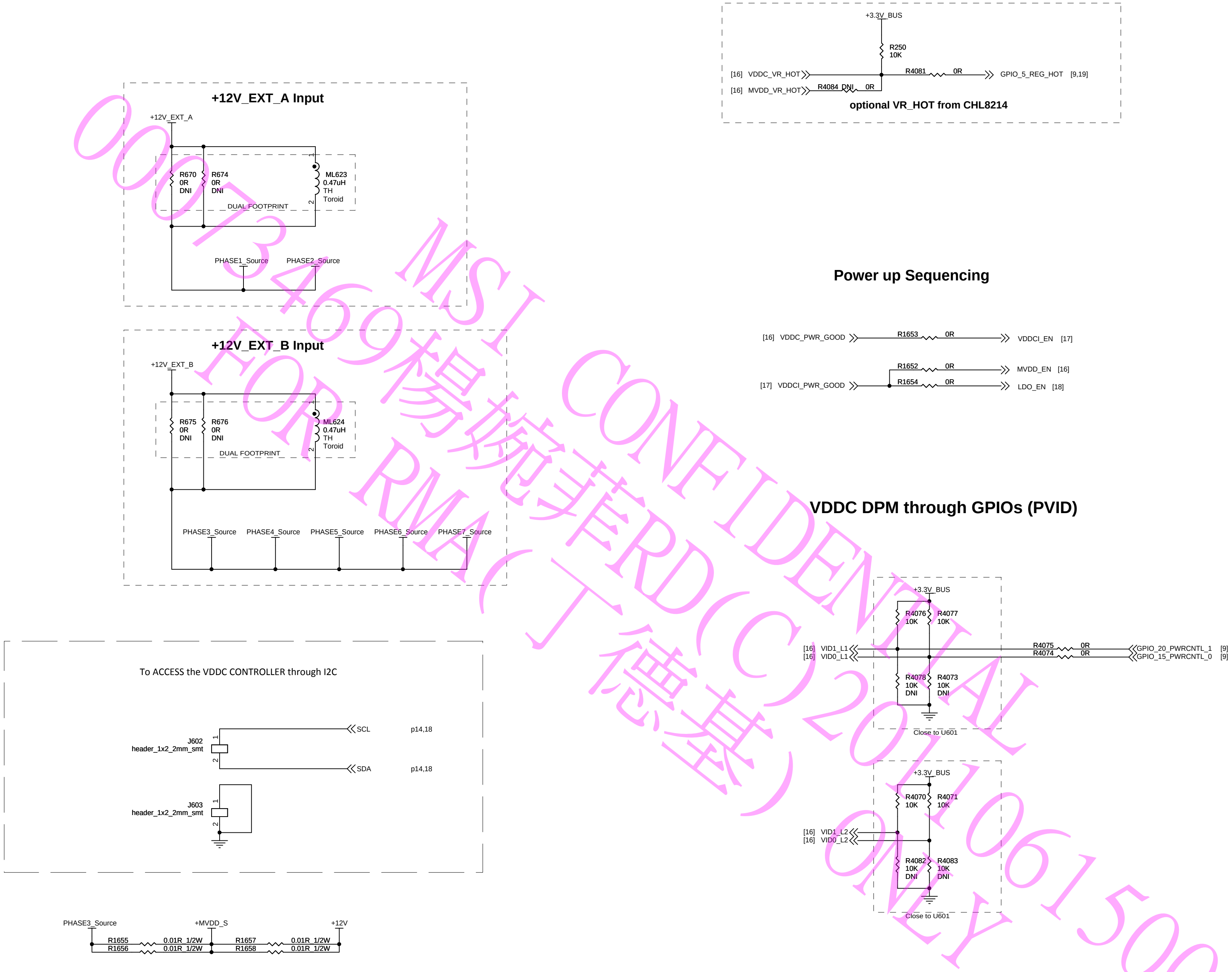
(19) CAYMEN POWER MGMNT



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	19 of 24
Title	Power Management1
Doc No.	105-C204XX-00A

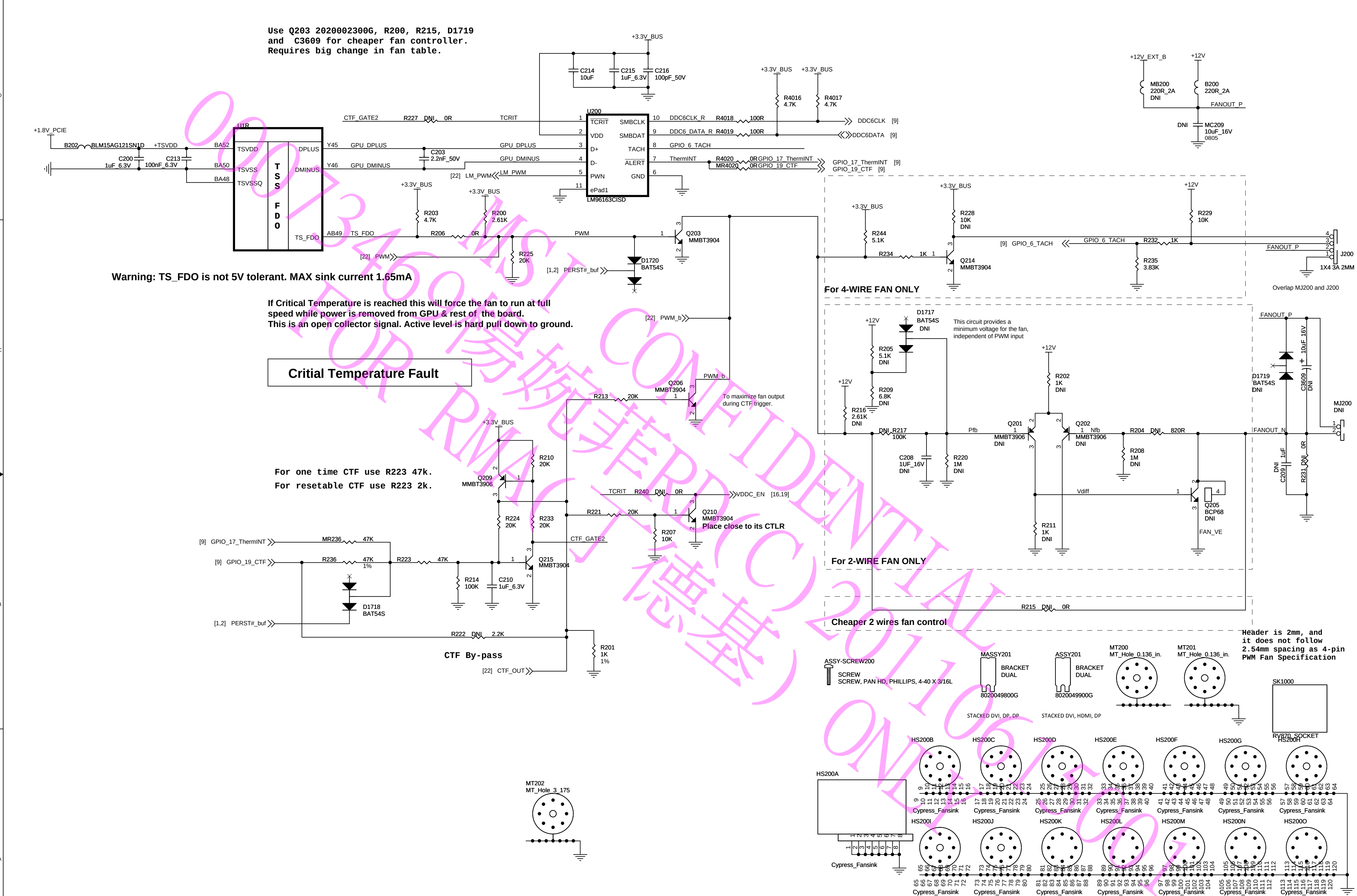
(20) CAYMEN POWER MANAGEMENT 2



Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date: Monday, September 20, 2010
Rev 01
Sheet 20 of 24
Title Power Management 2
Doc No. 105-C204XX-00A

(21) CAYMEN Mechanical and Thermal Management



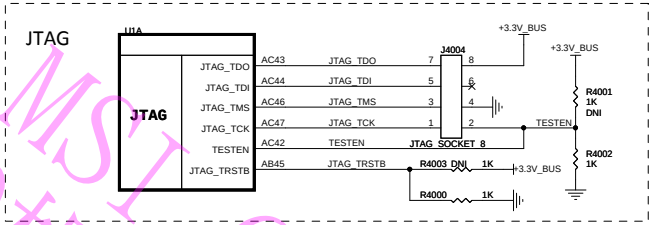
Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date: Monday, September 20, 2010 Rev 01

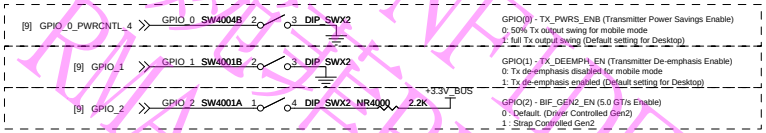
Title: Mechanical & Thermal Management

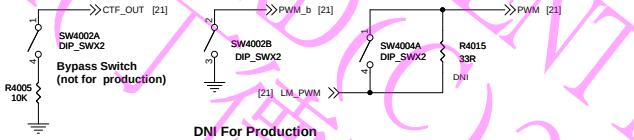
Doc No. 105-C204XX-00A

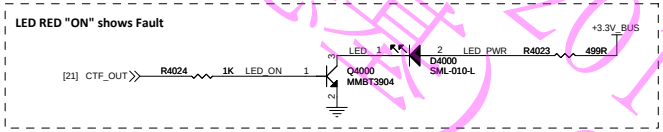
(22) CAYMEN Debug Circuits



SWITCH CONNECTIONS TO PINSTRAPS

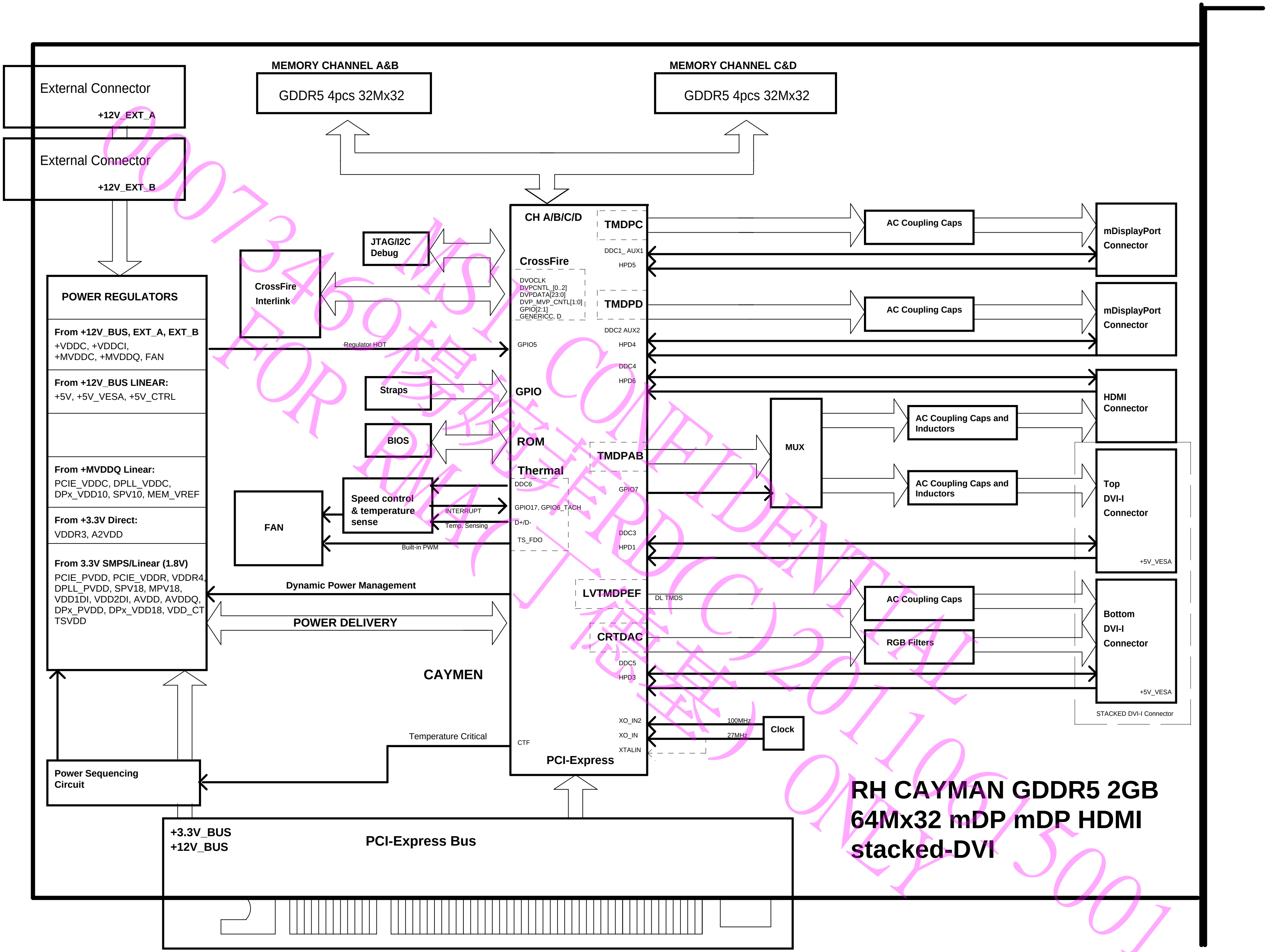






Advanced Micro Devices Inc.
1 Commerce Valley Drive East
Markham, Ontario

Date:	Monday, September 20, 2010
Rev	01
Sheet	22 of 24
Title	Debug Circuits
Doc No.	105-C204XX-00A



RH CAYMAN GDDR5 2GB 64Mx32 mDP mDP HDMI stacked-DVI

Advanced Micro Devices
1 Commerce Valley Drive East
Markham, Ontario
Canada, L3T 7X6 (905) 882-2600

Date:	Monday, September 20, 2010	Rev	01
Sheet	23 of 24		
Title	Block Diagram	Doc No.	105-C204XX-00A

Title	Schematic No.	Date:
RH CAYMAN GDDR5 2GB 64Mx32 mDP mDP HDMI stacked-DVI	105-C204XX-00A	Monday, September 20, 2010

REVISION HISTORY

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

Rev 01

Sch Rev	PCB Rev	Date	REVISION DESCRIPTION