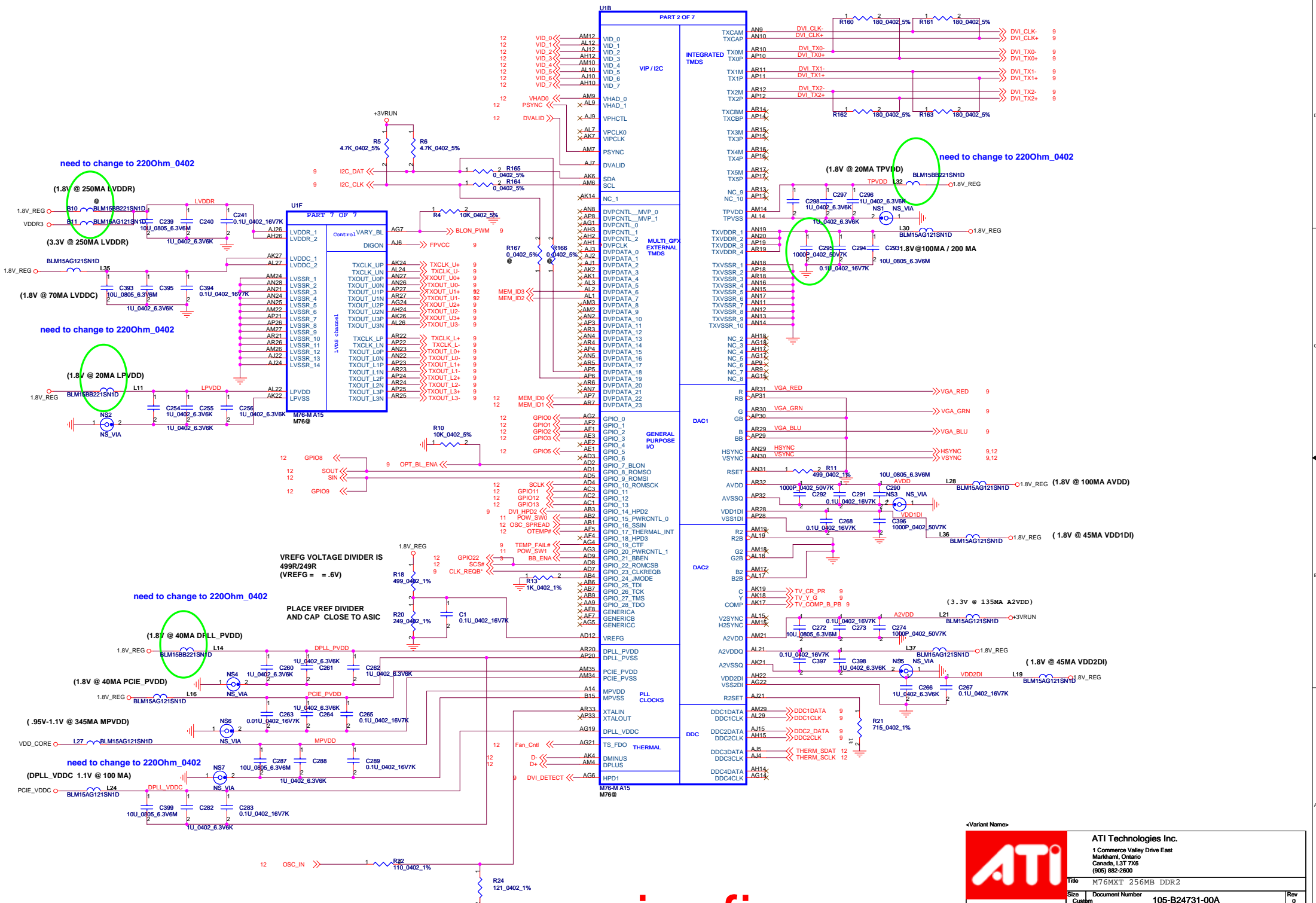


<Variant Name>



| | | |
|---|------------------------|----------------|
| ATI Technologies Inc. 1 Commerce Valley Drive East Markham, Ontario Canada, L3T 7X6 (905) 882-2600 | | |
| Title | M76MXT 256MB DDR2 | |
| Size | Document Number | 105-B24731-00A |
| Date: | Monday, April 09, 2007 | Sheet 1 of 13 |
| | | Rev 0 |



<Variant Name>

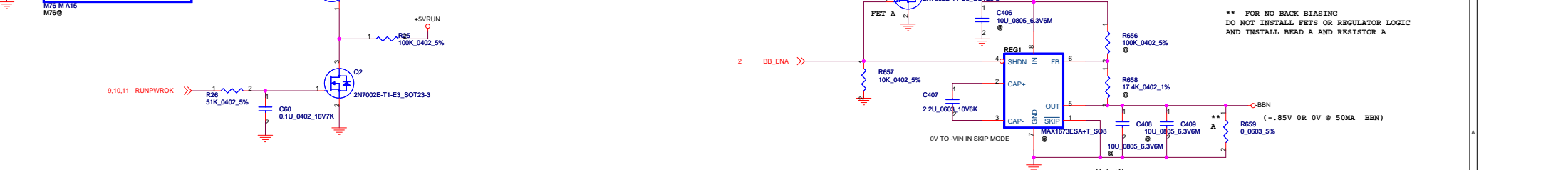
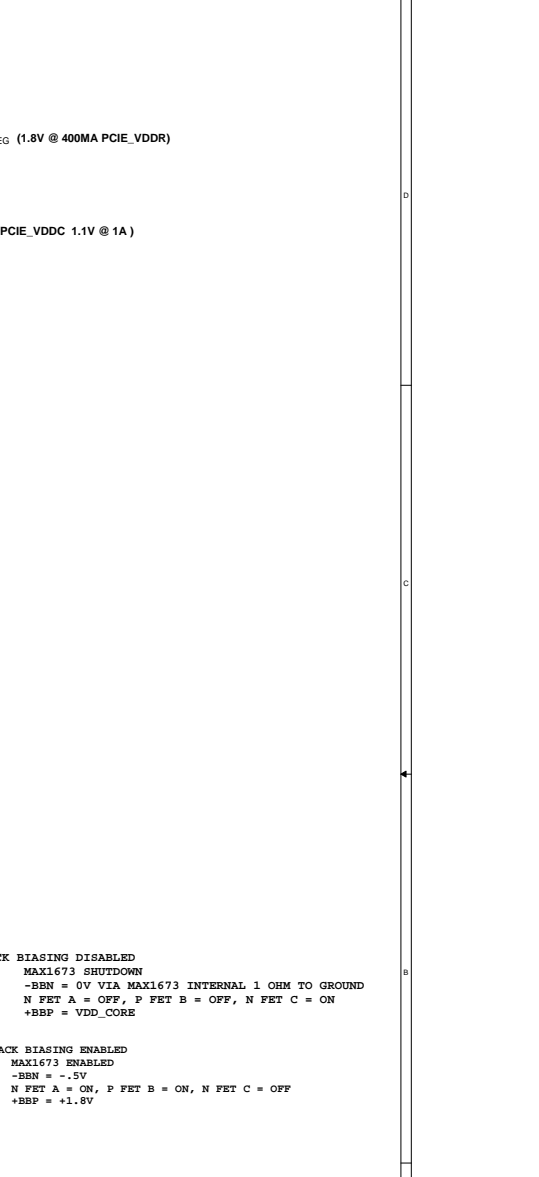
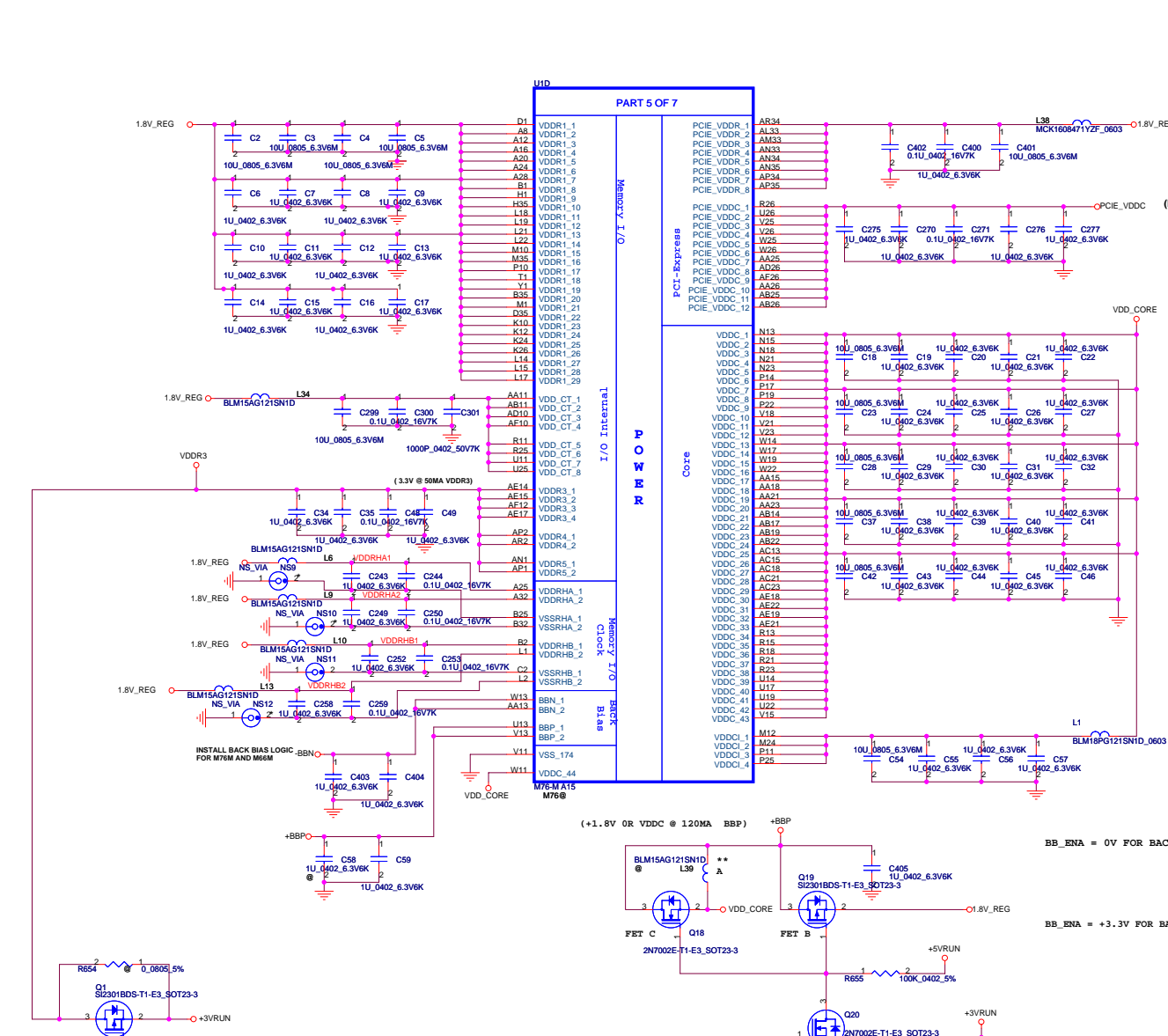


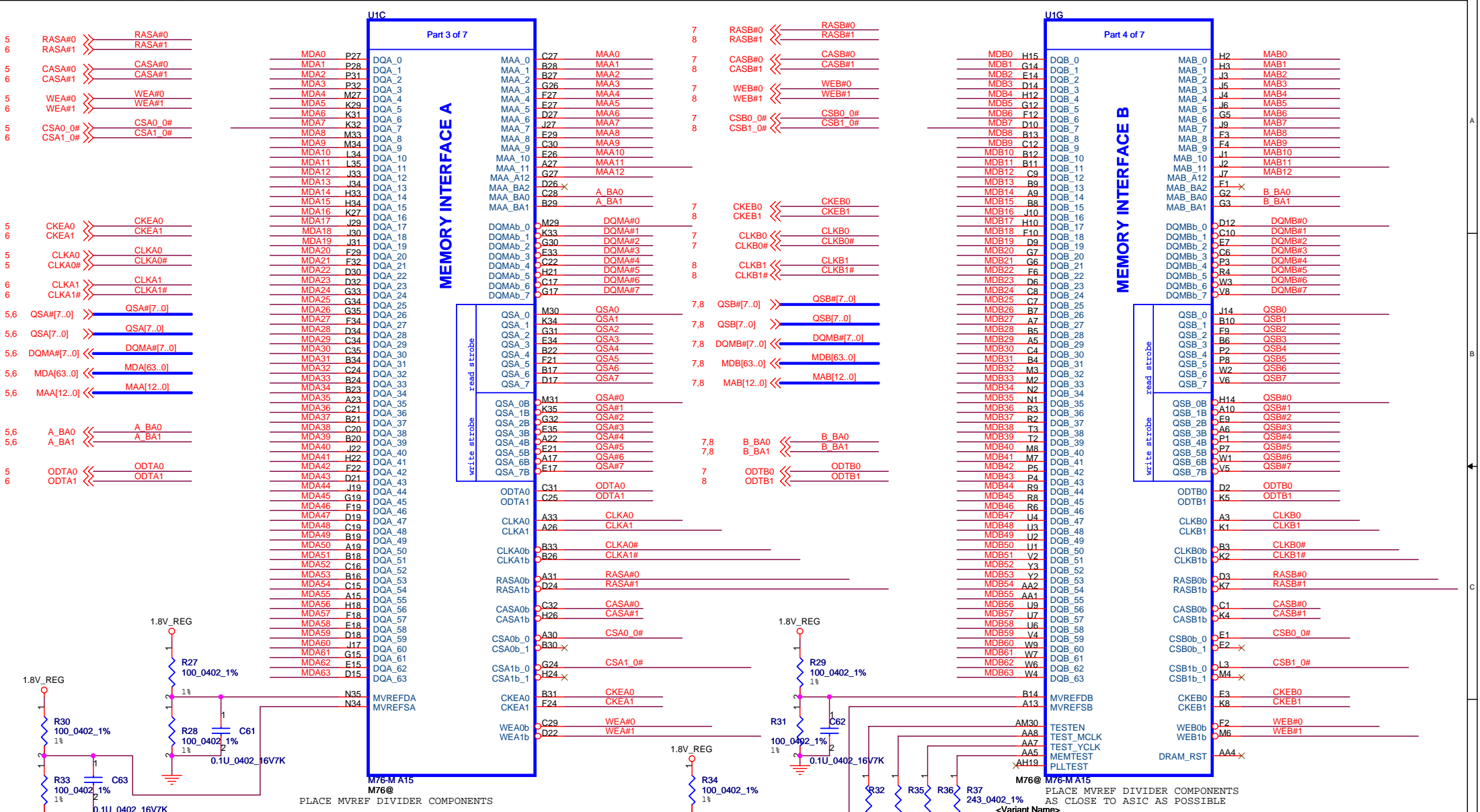
ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X8
 (905) 882-2600

| | | | |
|-------|-------------------------|----------------|---------|
| Title | M76MXT 256MB DDR2 | Rev | 0 |
| Size | Document Number | 105-B24731-00A | |
| Date | Wednesday, May 23, 2007 | Sheet | 2 of 13 |

Part 6 of 7

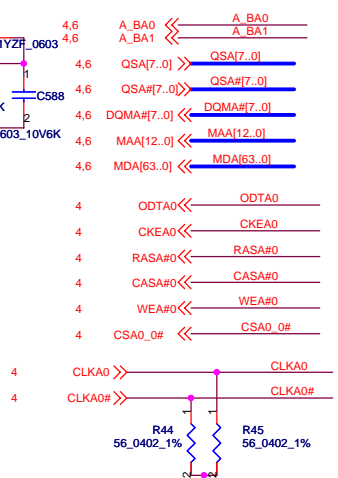
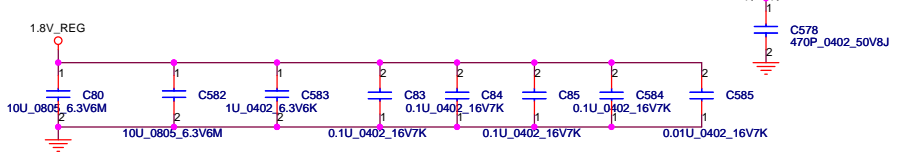
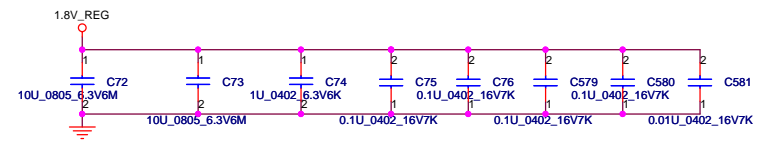
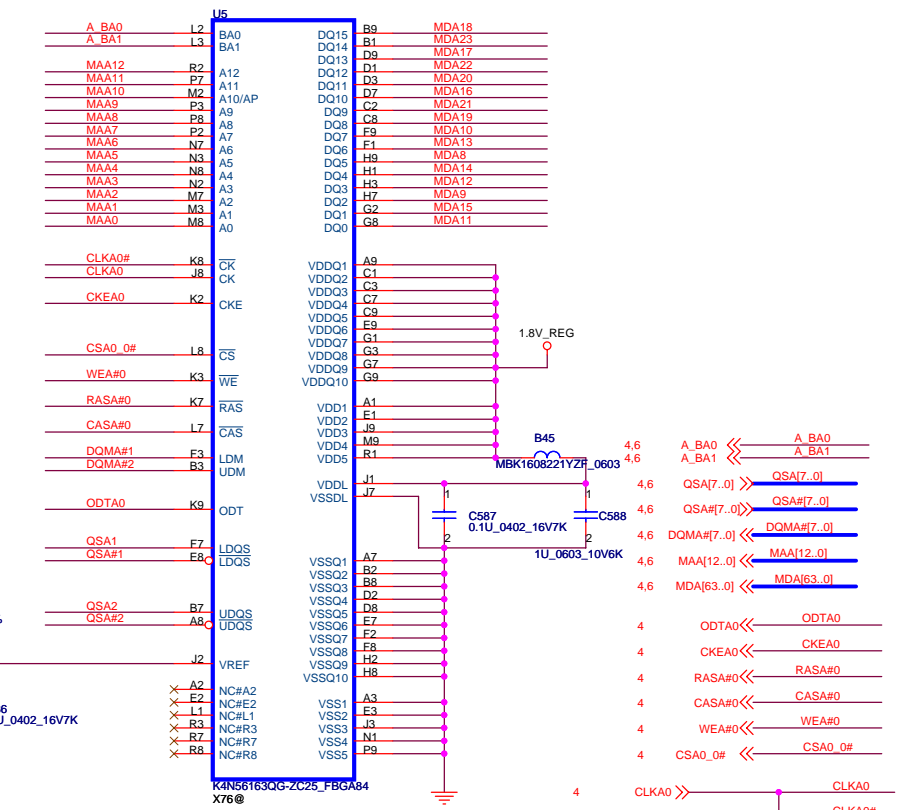
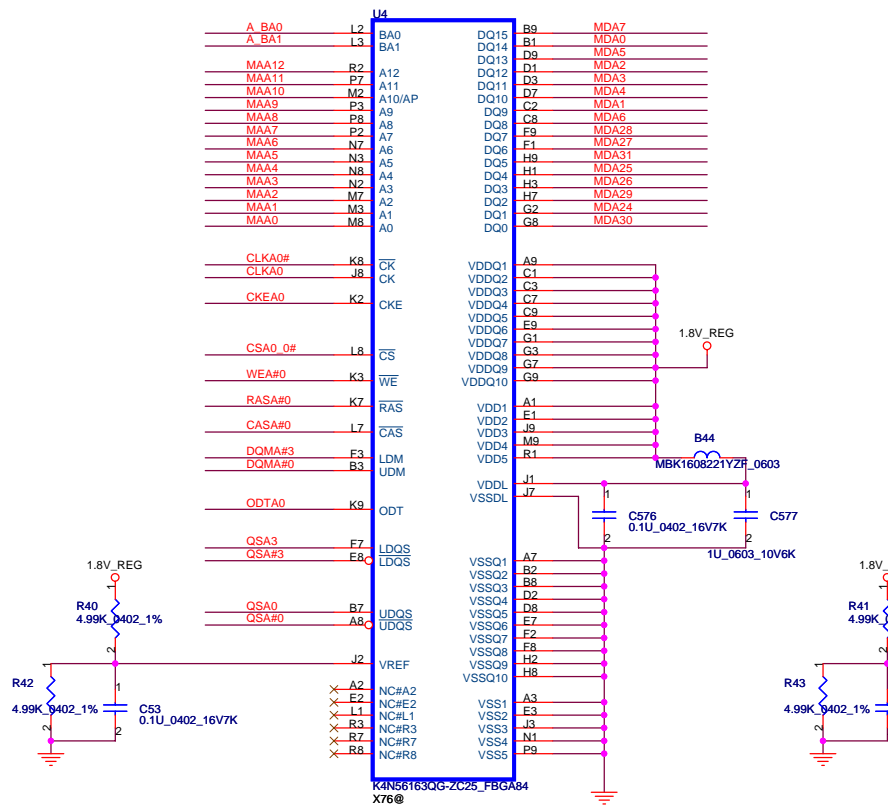
| | | | |
|------|-------------|---------|------|
| P33 | PCIE_VSS_1 | VSS_65 | L33 |
| P34 | PCIE_VSS_2 | VSS_66 | P6 |
| P35 | PCIE_VSS_3 | VSS_67 | M0 |
| R27 | PCIE_VSS_4 | VSS_68 | M26 |
| R28 | PCIE_VSS_5 | VSS_69 | K28 |
| R29 | PCIE_VSS_6 | VSS_70 | M32 |
| R32 | PCIE_VSS_7 | VSS_71 | N14 |
| R33 | PCIE_VSS_8 | VSS_72 | N17 |
| U29 | PCIE_VSS_9 | VSS_73 | N19 |
| U32 | PCIE_VSS_10 | VSS_74 | N22 |
| V29 | PCIE_VSS_11 | VSS_75 | N33 |
| Y32 | PCIE_VSS_12 | VSS_76 | R3 |
| T33 | PCIE_VSS_13 | VSS_77 | R5 |
| Y34 | PCIE_VSS_14 | VSS_78 | J8 |
| V35 | PCIE_VSS_15 | VSS_79 | N3 |
| W29 | PCIE_VSS_16 | VSS_80 | P15 |
| W32 | PCIE_VSS_17 | VSS_81 | P18 |
| W33 | PCIE_VSS_18 | VSS_82 | P21 |
| AA29 | PCIE_VSS_19 | VSS_83 | P23 |
| AB32 | PCIE_VSS_20 | VSS_84 | P26 |
| AB33 | PCIE_VSS_21 | VSS_85 | P29 |
| Y33 | PCIE_VSS_22 | VSS_86 | P30 |
| Y34 | PCIE_VSS_23 | VSS_87 | R6 |
| AE34 | PCIE_VSS_24 | VSS_88 | R9 |
| AB35 | PCIE_VSS_25 | VSS_89 | P9 |
| AC33 | PCIE_VSS_26 | VSS_90 | N30 |
| AD29 | PCIE_VSS_27 | VSS_91 | R10 |
| AD32 | PCIE_VSS_28 | VSS_92 | R14 |
| AF29 | PCIE_VSS_29 | VSS_93 | R17 |
| AF32 | PCIE_VSS_30 | VSS_94 | R19 |
| AD33 | PCIE_VSS_31 | VSS_95 | R22 |
| AF34 | PCIE_VSS_32 | VSS_96 | R23 |
| AF35 | PCIE_VSS_33 | VSS_97 | V3 |
| AG27 | PCIE_VSS_34 | VSS_98 | U10 |
| AG29 | PCIE_VSS_35 | VSS_99 | U15 |
| AG32 | PCIE_VSS_36 | VSS_100 | U21 |
| AG33 | PCIE_VSS_37 | VSS_101 | U23 |
| AJ29 | PCIE_VSS_38 | VSS_102 | W7 |
| AJ32 | PCIE_VSS_39 | VSS_103 | W8 |
| AH33 | PCIE_VSS_40 | VSS_104 | W10 |
| AL34 | PCIE_VSS_41 | VSS_105 | W14 |
| AL35 | PCIE_VSS_42 | VSS_106 | W17 |
| AK32 | PCIE_VSS_43 | VSS_107 | V19 |
| | | VSS_108 | U22 |
| A2 | VSS_1 | VSS_109 | V1 |
| A34 | VSS_2 | VSS_110 | AK12 |
| C3 | VSS_3 | VSS_111 | V9 |
| C5 | VSS_4 | VSS_112 | W10 |
| A4 | VSS_5 | VSS_113 | W15 |
| C18 | VSS_6 | VSS_114 | W18 |
| A21 | VSS_7 | VSS_115 | W21 |
| C11 | VSS_8 | VSS_116 | AA6 |
| C13 | VSS_9 | VSS_117 | AA8 |
| C14 | VSS_10 | VSS_118 | AA10 |
| A18 | VSS_11 | VSS_119 | AA17 |
| A11 | VSS_12 | VSS_120 | AA19 |
| C34 | VSS_13 | VSS_121 | AA22 |
| C35 | VSS_14 | VSS_122 | AB8 |
| F7 | VSS_15 | VSS_123 | AB10 |
| G10 | VSS_16 | VSS_124 | AB15 |
| F15 | VSS_17 | VSS_125 | AB18 |
| H17 | VSS_18 | VSS_126 | AB21 |
| G21 | VSS_19 | VSS_127 | AB23 |
| D29 | VSS_20 | VSS_128 | AC14 |
| A29 | VSS_21 | VSS_129 | AC17 |
| G1 | VSS_22 | VSS_130 | AC19 |
| F14 | VSS_23 | VSS_131 | AC22 |
| H15 | VSS_24 | VSS_132 | AE9 |
| E19 | VSS_25 | VSS_133 | AD6 |
| E22 | VSS_26 | VSS_134 | AE5 |
| D7 | VSS_27 | VSS_135 | AE8 |
| G9 | VSS_28 | VSS_136 | AE9 |
| F26 | VSS_29 | VSS_137 | AF5 |
| G29 | VSS_30 | VSS_138 | W5 |
| M5 | VSS_31 | VSS_139 | AF14 |
| G4 | VSS_32 | VSS_140 | AF21 |
| E10 | VSS_33 | VSS_141 | AF22 |
| E12 | VSS_34 | VSS_142 | AK10 |
| F17 | VSS_35 | VSS_143 | AF16 |
| G22 | VSS_36 | VSS_144 | AF17 |
| F30 | VSS_37 | VSS_145 | AF19 |
| K15 | VSS_38 | VSS_146 | AF26 |
| K17 | VSS_39 | VSS_147 | AA3 |
| K18 | VSS_40 | VSS_148 | AG12 |
| K21 | VSS_41 | VSS_149 | AJ14 |
| K22 | VSS_42 | VSS_150 | AH21 |
| K3 | VSS_43 | VSS_151 | D1 |
| | VSS_44 | VSS_152 | AF15 |
| | VSS_45 | VSS_153 | AG10 |
| | VSS_46 | VSS_154 | AN6 |
| | VSS_47 | VSS_155 | AK15 |
| | VSS_48 | VSS_156 | AJ17 |
| | VSS_49 | VSS_157 | AJ19 |
| | VSS_50 | VSS_158 | AJ18 |
| | VSS_51 | VSS_159 | AF24 |
| | VSS_52 | VSS_160 | AK32 |
| | VSS_53 | VSS_161 | AK3 |
| | VSS_54 | VSS_162 | AK3 |
| | VSS_55 | VSS_163 | AB6 |
| | VSS_56 | VSS_164 | AM1 |
| | VSS_57 | VSS_165 | AK30 |
| | VSS_58 | | |
| | VSS_59 | MECH_1 | AS5 |
| | VSS_60 | MECH_2 | AR1 |
| | VSS_61 | MECH_3 | AR35 |
| | VSS_62 | | |
| | VSS_63 | RSVD_4 | AE3 |
| | VSS_64 | RSVD_3 | AG9 |






ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X6
 (905) 882-2600

| | |
|-----------------|------------------------|
| Title | M76MXT 256MB DDR2 |
| Document Number | 105-B24731-00A |
| Date | Monday, March 05, 2007 |
| Sheet | 4 of 13 |
| Rev | 0 |

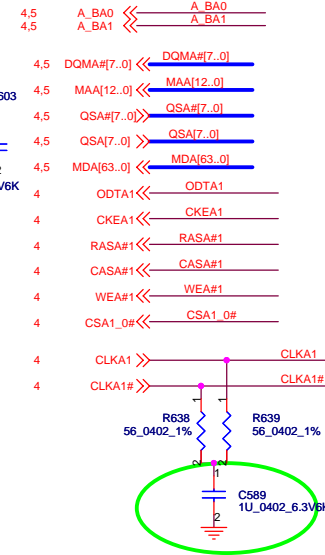
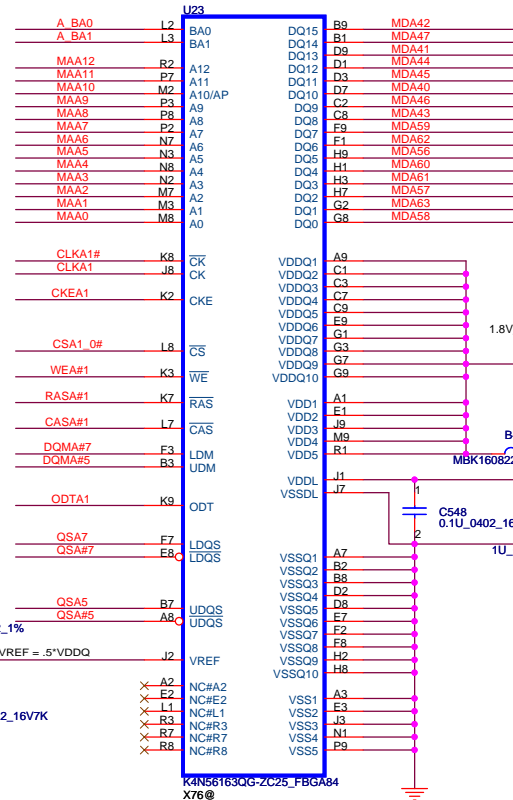
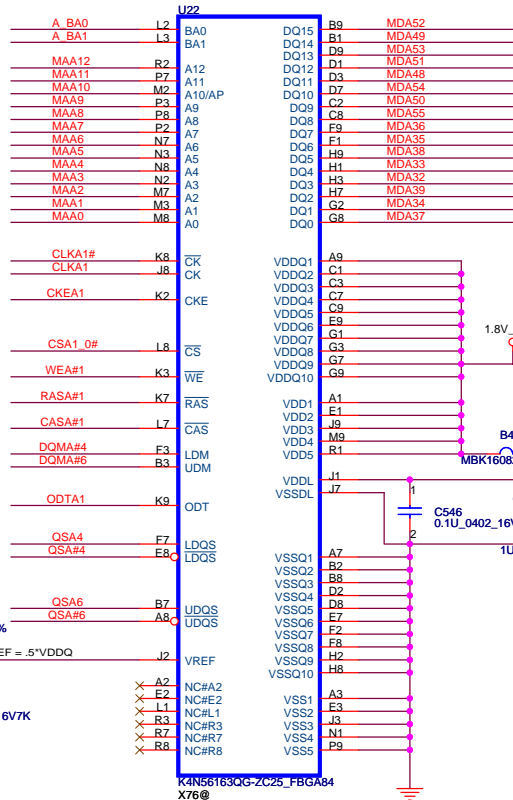


<Variant Names>

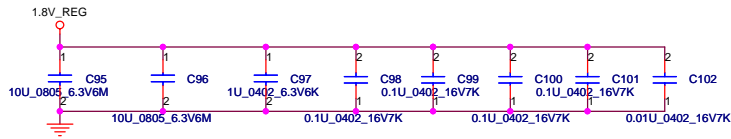


ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X6
 (905) 882-2600

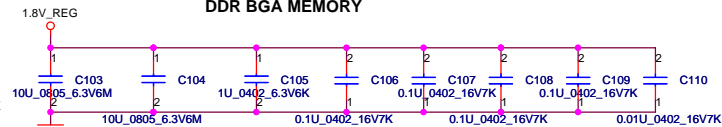
| | | | |
|--------|-------------------|------------------------|---------------|
| Title | M76MXT 256MB DDR2 | | |
| Size | Document Number | 105-B24731-00A | Rev 0 |
| Custom | Date: | Monday, April 09, 2007 | Sheet 5 of 13 |



DDR2 BGA MEMORY



DDR2 BGA MEMORY



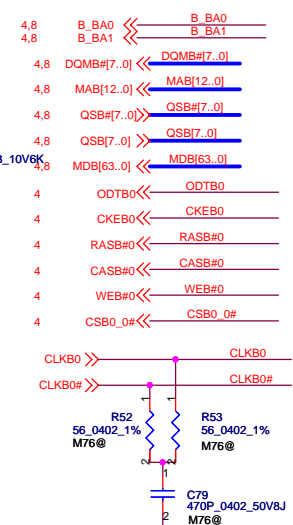
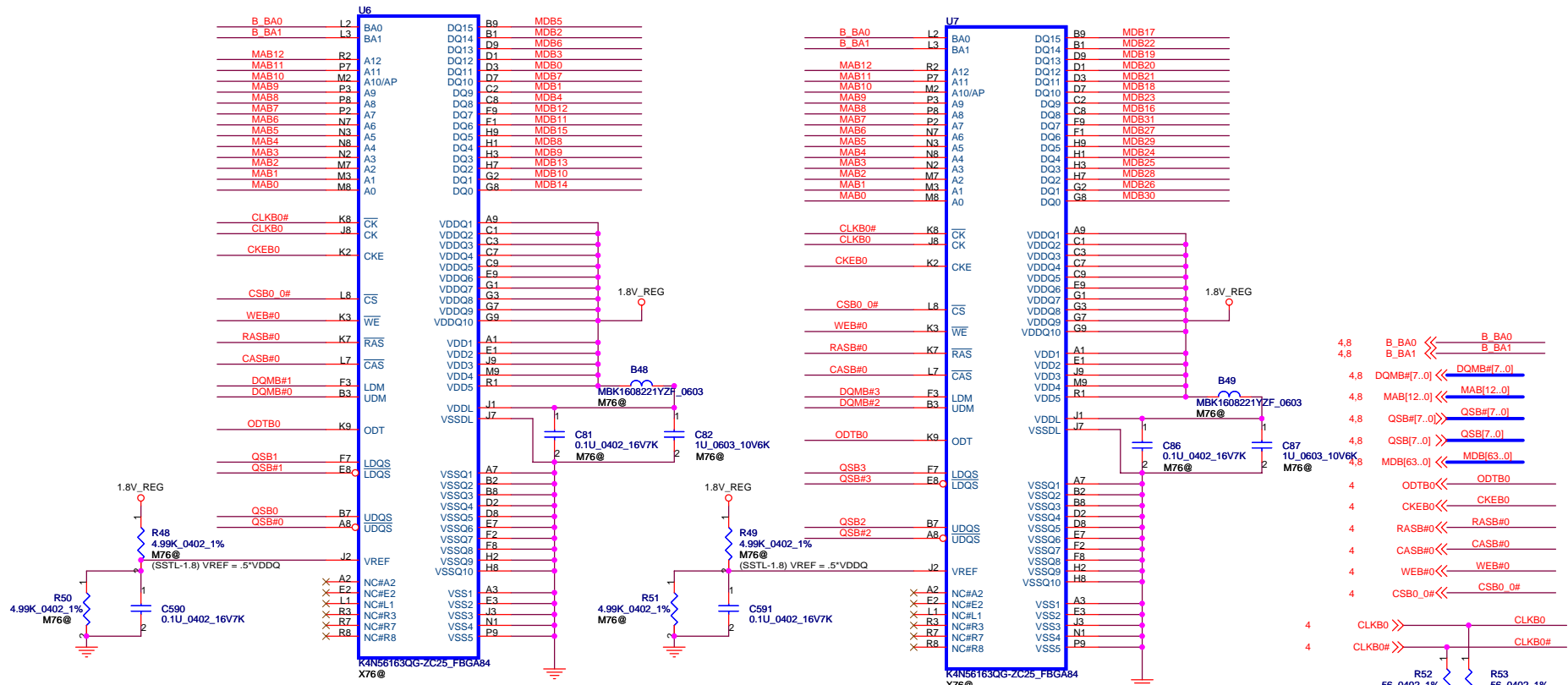
CHAN B RANK 0 DDR2 BGA MEMORY

<Variant Names>



ATI Technologies Inc.
1 Commerce Valley Drive East
Markham, Ontario
Canada, L3T 7X6
(905) 882-2600

| | | | |
|--------|-------------------|-----------------------|---------------|
| Title | M76MXT 256MB DDR2 | | |
| Size | Document Number | 105-B24731-00A | Rev 0 |
| Custom | Date: | Tuesday, May 22, 2007 | Sheet 6 of 13 |



DDR2 BGA MEMORY

DDR BGA MEMORY

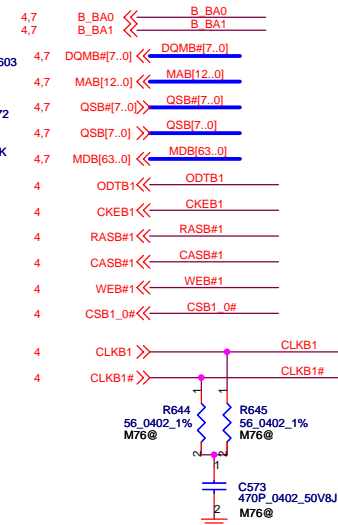
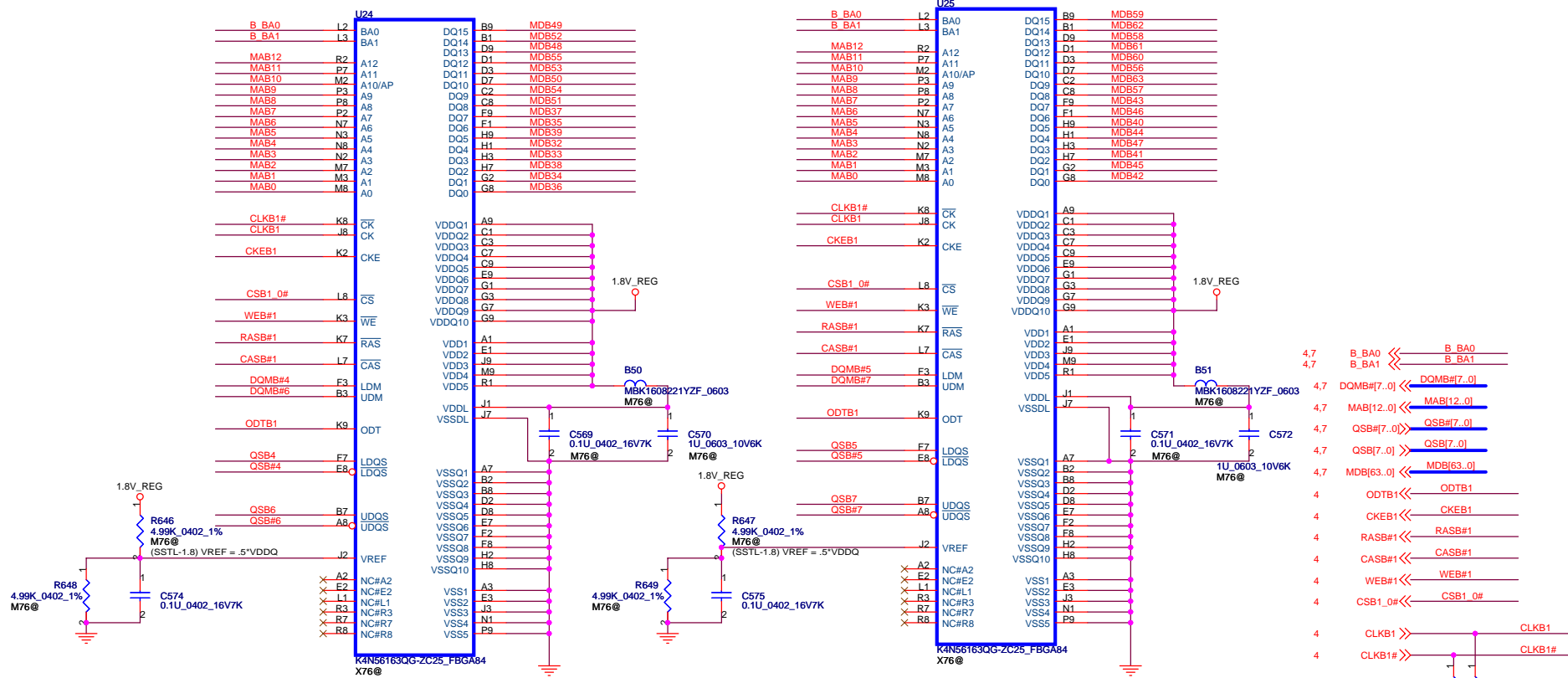
CHAN C RANK0 DDR2 BGA MEMORY

<Variant Names>

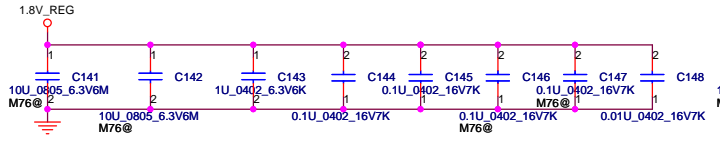


ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X6
 (905) 882-2600

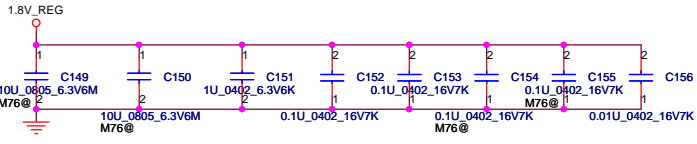
| | | | |
|----------|-------------------|-------------------------|---------------|
| Title | M76MXT 256MB DDR2 | | |
| Size | Document Number | 105-B24731-00A | Rev 0 |
| Customer | Date | Wednesday, May 23, 2007 | Sheet 7 of 13 |



DDR2 BGA MEMORY




DDR2 BGA MEMORY



CHAN D RANK0 DDR2 BGA MEMORY

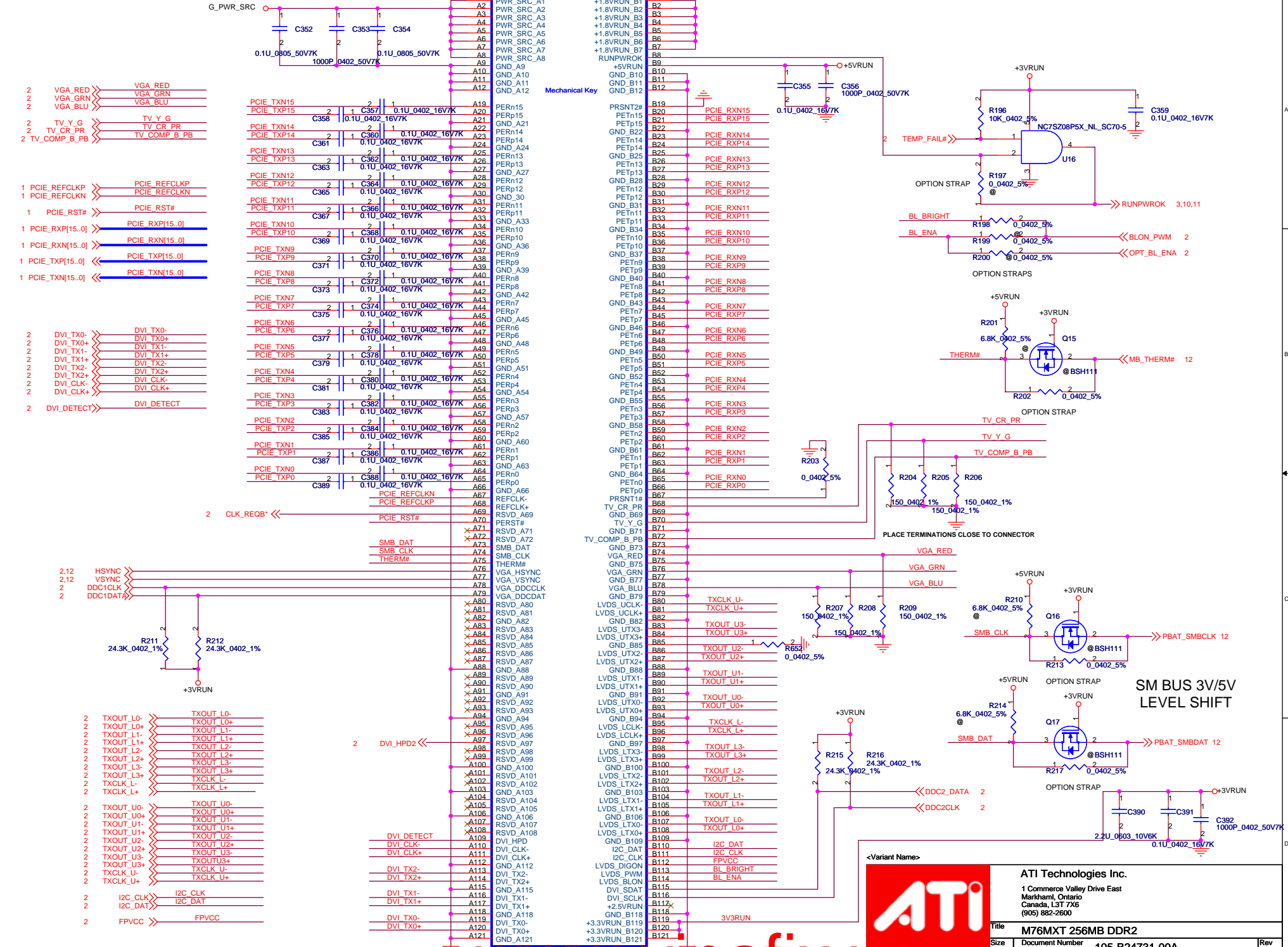
<Variant Name>



ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X6
 (905) 882-2600

| | | | |
|----------|-------------------|-------------------------|---------------|
| Title | M76MXT 256MB DDR2 | | |
| Size | Document Number | 105-B24731-00A | Rev 0 |
| Customer | Date | Wednesday, May 23, 2007 | Sheet 8 of 13 |

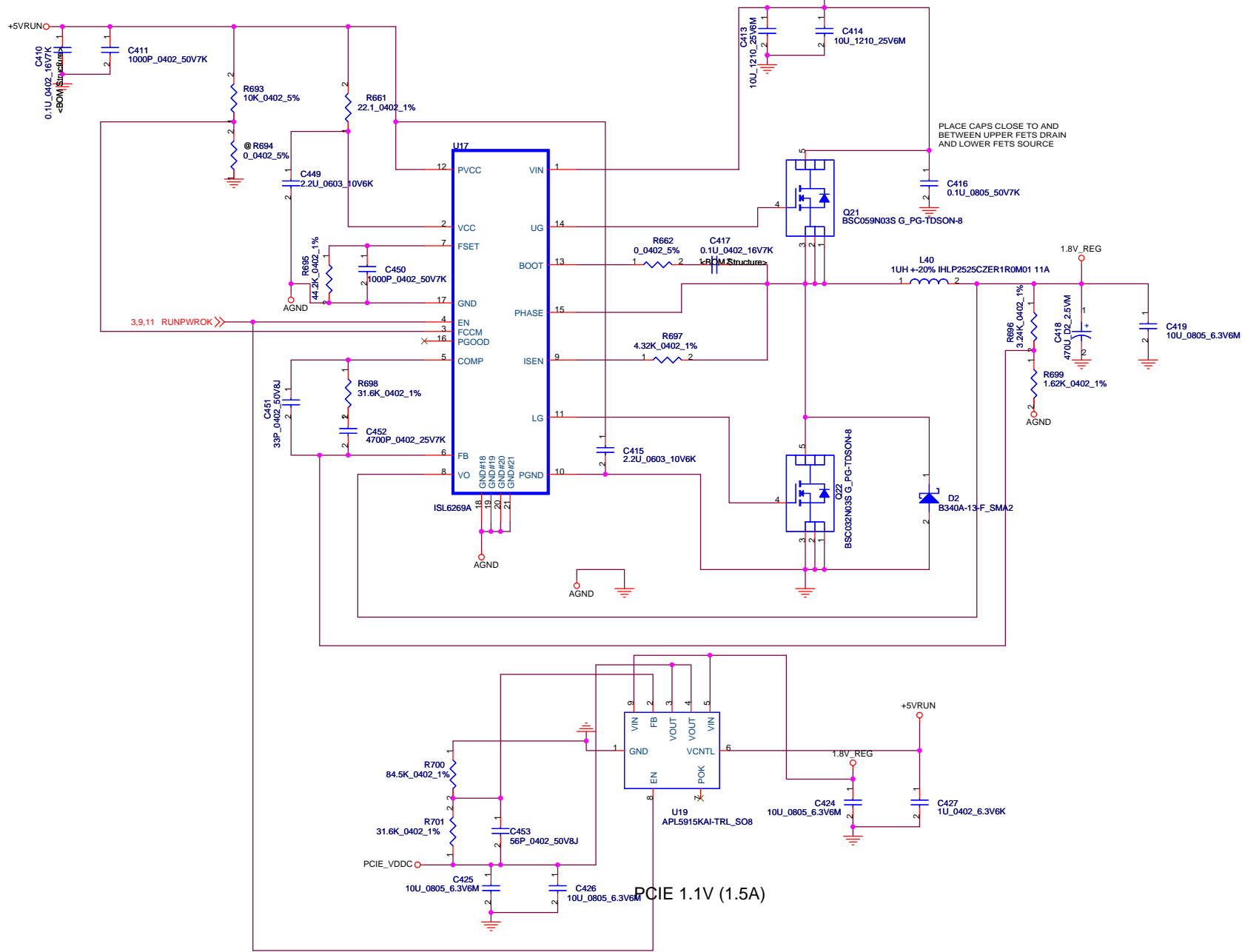
PLACE CAPS ON THIS PAGE AS CLOSE TO CONNECTOR AS POSSIBLE




ATI Technologies Inc.
 1 Commerce Valley Drive East
 Markham, Ontario
 Canada, L3T 7X6
 (905) 882-2600

| | | | |
|-------|-----------------------|----------------|---------|
| Title | M76MXT 256MB DDR2 | Rev | 0 |
| Size | Document Number | 105-B24731-00A | |
| Date: | Tuesday, May 22, 2007 | Sheet | 9 of 13 |

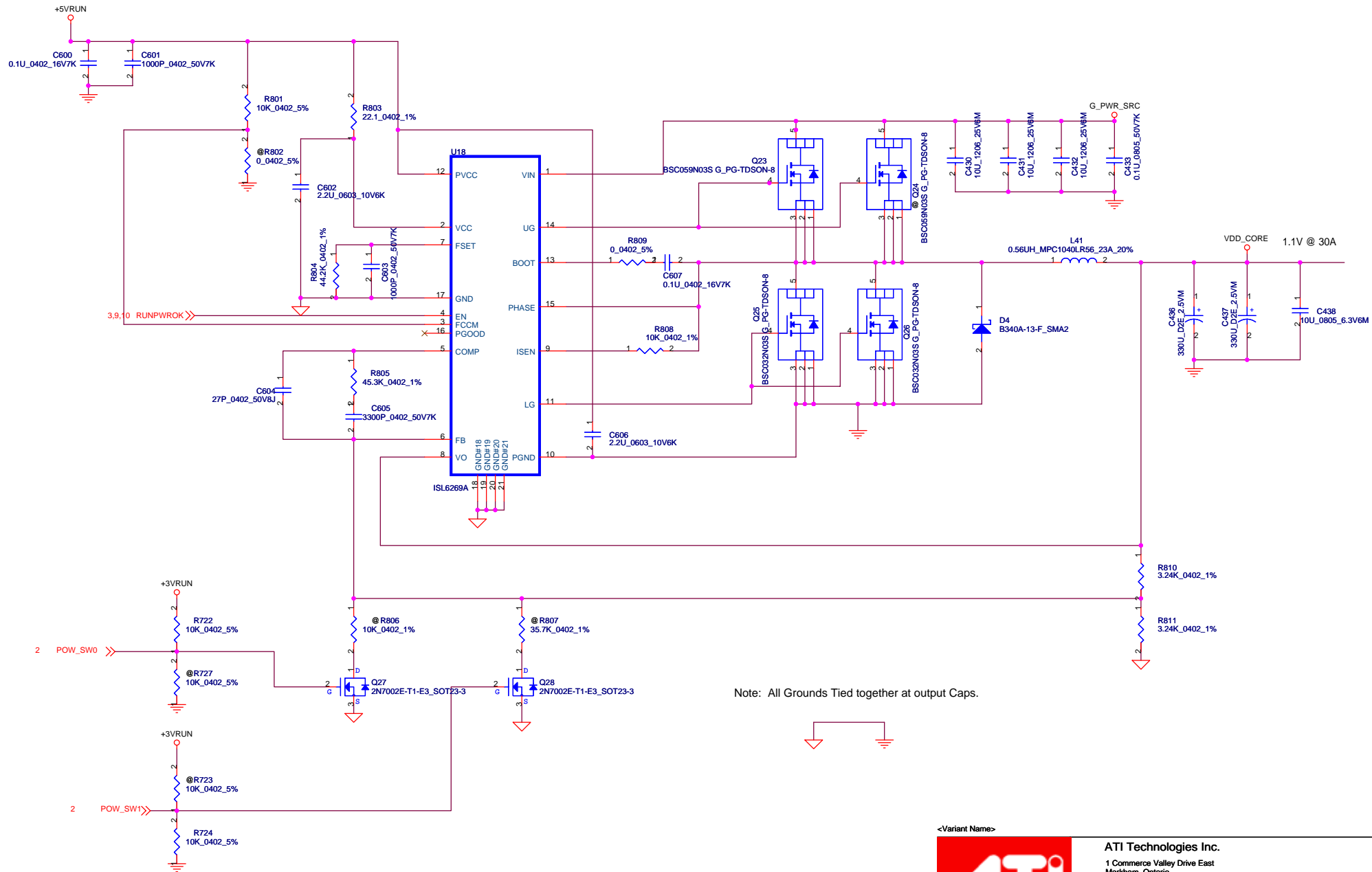
IO REGULATOR 1.8V @ 10A



<Variant Names>

| | | | |
|---|-----------------|---|-------|
|  | | ATI Technologies Inc. 1 Commerce Valley Drive East Markham, Ontario Canada, L3T 7X6 (905) 882-2600 | |
| | | Title M76MXT 256MB DDR2 | |
| Size | Document Number | 105-B24731-00A | |
| Custom | Date | Monday, April 09, 2007 | Rev 0 |
| | | Sheet 10 of 13 | |

CORE PWM REGULATOR .95V - 1.1V @ 30A



Note: All Grounds Tied together at output Caps.

<Variant Name>

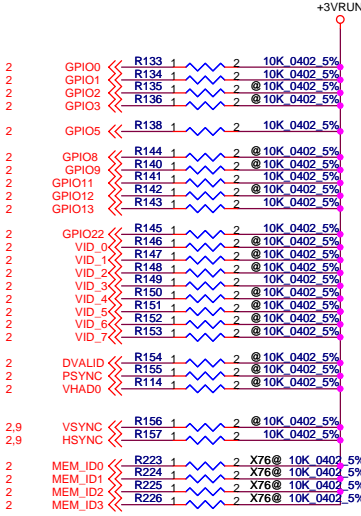
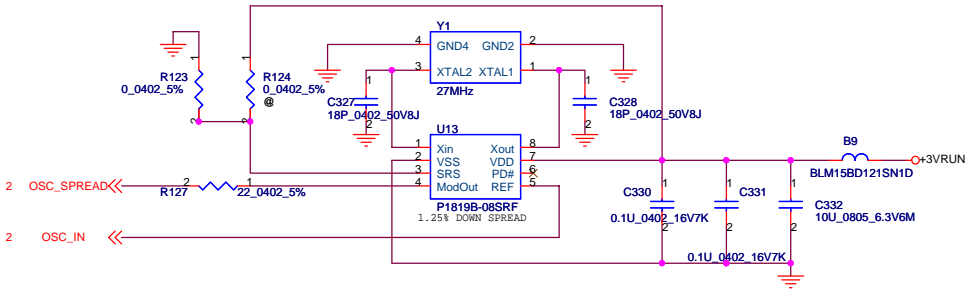


ATI Technologies Inc.

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

| | | | |
|-------|---------------------------|-----------------|----------------|
| Title | M76MXT 256MB DDR2 | Rev | 0 |
| Size | Custom | Document Number | 105-B24731-00A |
| Date: | Wednesday, March 07, 2007 | Sheet | 11 of 13 |

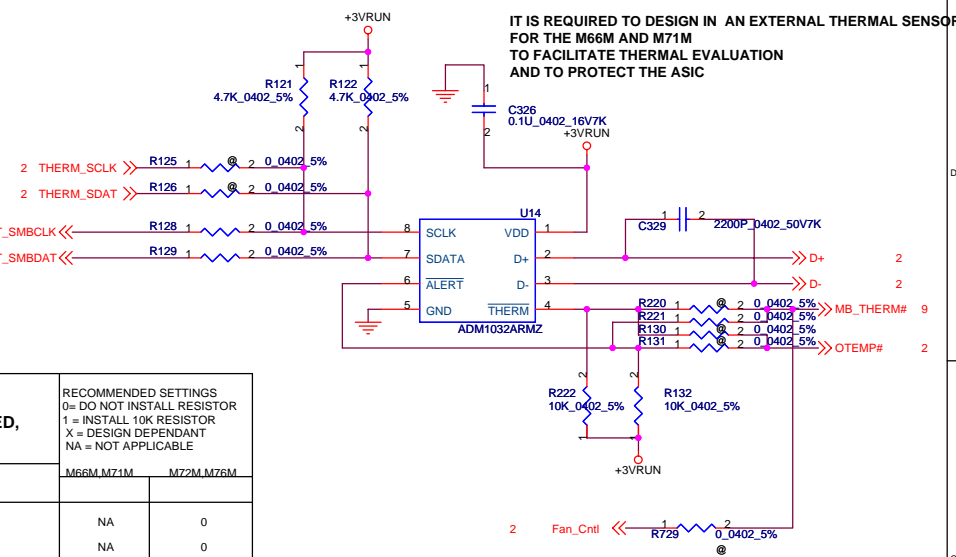
MEMORY CLOCK SPREAD SPECTRUM



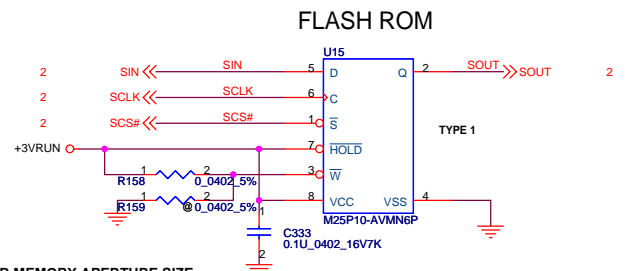
| CONFIGURATION STRAPS | | | RECOMMENDED SETTINGS | |
|---|----------------|--|---|-----------|
| ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET | | | 0= DO NOT INSTALL RESISTOR 1 = INSTALL 10K RESISTOR X = DESIGN DEPENDANT NA = NOT APPLICABLE | |
| STRAPS | PIN | DESCRIPTION OF DEFAULT SETTINGS | M66M,M71M | M72M,M76M |
| BIF_MSI_DIS | VID1 | MESSAGE SIGNAL INTERRUPT ENABLED | NA | 0 |
| BIF_64BAR_EN_A | VID5 | 64 BIT BARS DISABLED | NA | 0 |
| TX_PWRS_ENB | GPIO0 | PCIE FULL TX OUTPUT SWING | X | X |
| TX_DEEMPH_EN | GPIO1 | PCIE TRANSMITTER DE-EMPHASIS ENABLED | 1 | 1 |
| PLL_IBIAS_RD_0 | GPIO5 | M66(71)BIAS CURRENT FOR PCIE PHY PLL LSBIT (M72(76)RSVD) | 1 | 0 |
| BIOS_ROM_EN | GPIO_22_ROMCSB | ENABLE EXTERNAL BIOS ROM | 1 | 1 |
| ROMIDCFG(3:0) | GPIO[13:11,9] | SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT | XX X X | X X X X |
| VIP_DEVICE_STRAP_ENA | VSYNC | IGNORE VIP DEVICE STRAPS | X | X |
| BIF_VGA_DIS | PSYNC | VGA ENABLED | NA | 0 |
| MEM_TYPE | UNUSED GPIO | MEMORY TYPE,MAKE AND SIZE INFO | X X X | X X X |

| ATI RESERVED CONFIGURATION STRAPS | | | | | | | | | | | | | |
|--|----------|--------------|---|--------|--------|-------|--------|-------|-------|-------|-------|-------|-------|
| ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET | | | | | | | | | | | | | |
| VID0 | VID2 | VID3 | VID4 | VID6 | VID7 | HSYNC | DVALID | GPIO2 | GPIO3 | GPIO5 | GPIO6 | GPIO8 | VHAD0 |
| PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET | | | | | | | | | | | | | |
| GPIO_28_TDO | GENERICC | GPIO21_BB_EN | GPIO_23_CLKREQB (DRIVES LOW DURING RESET) | H2SYNC | V2SYNC | | | | | | | | |

| Vedio Memory Config. (GPU Internal PD) | | | | | | | | |
|--|------|------|------|------|-------|--------|----------|-------|
| | R224 | R223 | R225 | R226 | MEM | Size | Vendor | Chips |
| M74 | 0 | 0 | 0 | 0 | 128MB | 16Mx16 | Samsung | x4 |
| | 0 | 0 | 0 | 1 | 256MB | 32Mx16 | Samsung | x4 |
| | 0 | 0 | 1 | 0 | 128MB | 16Mx16 | Hynix | x4 |
| | 0 | 0 | 1 | 1 | 256MB | 32Mx16 | Hynix | x4 |
| | 0 | 1 | 0 | 0 | 128MB | 16Mx16 | Infineon | x4 |
| M76 | 0 | 1 | 0 | 1 | 256MB | 32Mx16 | Infineon | x4 |
| | 0 | 0 | 0 | 0 | 256MB | 16Mx16 | Samsung | x8 |
| | 0 | 0 | 0 | 1 | 512MB | 32Mx16 | Samsung | x8 |
| | 0 | 0 | 1 | 0 | 256MB | 16Mx16 | Hynix | x8 |
| | 0 | 0 | 1 | 1 | 512MB | 32Mx16 | Hynix | x8 |
| | 0 | 1 | 0 | 0 | 256MB | 16Mx16 | Infineon | x8 |
| | 0 | 1 | 0 | 1 | 512MB | 32Mx16 | Infineon | x8 |



IT IS REQUIRED TO DESIGN IN AN EXTERNAL THERMAL SENSOR FOR THE M66M AND M71M TO FACILITATE THERMAL EVALUATION AND TO PROTECT THE ASIC



A 256MB MEMORY APERTURE SIZE CAN BE DEFINED USING A SEPARATE ROM OR STRAPPING

<Variant Name>

ATI Technologies Inc.
1 Commerce Valley Drive East
Markham, Ontario
Canada, L3T 7X6
(905) 882-2600

| | |
|-----------------|----------------------|
| Title | M76MXT 256MB DDR2 |
| Size | B |
| Document Number | 105-B24731-00A |
| Date | Friday, May 25, 2007 |
| Sheet | 12 of 13 |



Title
M76MXT 256MB DDR2

Schematic No.
105-B24731-00A

Date:
Wednesday, January 10, 2007

REVISION HISTORY

Rev 0

| Sch Rev | PCB Rev | Date |
|---------|---------|------|
|---------|---------|------|

REVISION DESCRIPTION

| | | |
|---|-----|----------|
| 0 | 00A | 04/10/06 |
|---|-----|----------|

PROTOTYPE BASED ON 105-B17831-00A