16-D1 PCI Express Reference Design (Montserrat)

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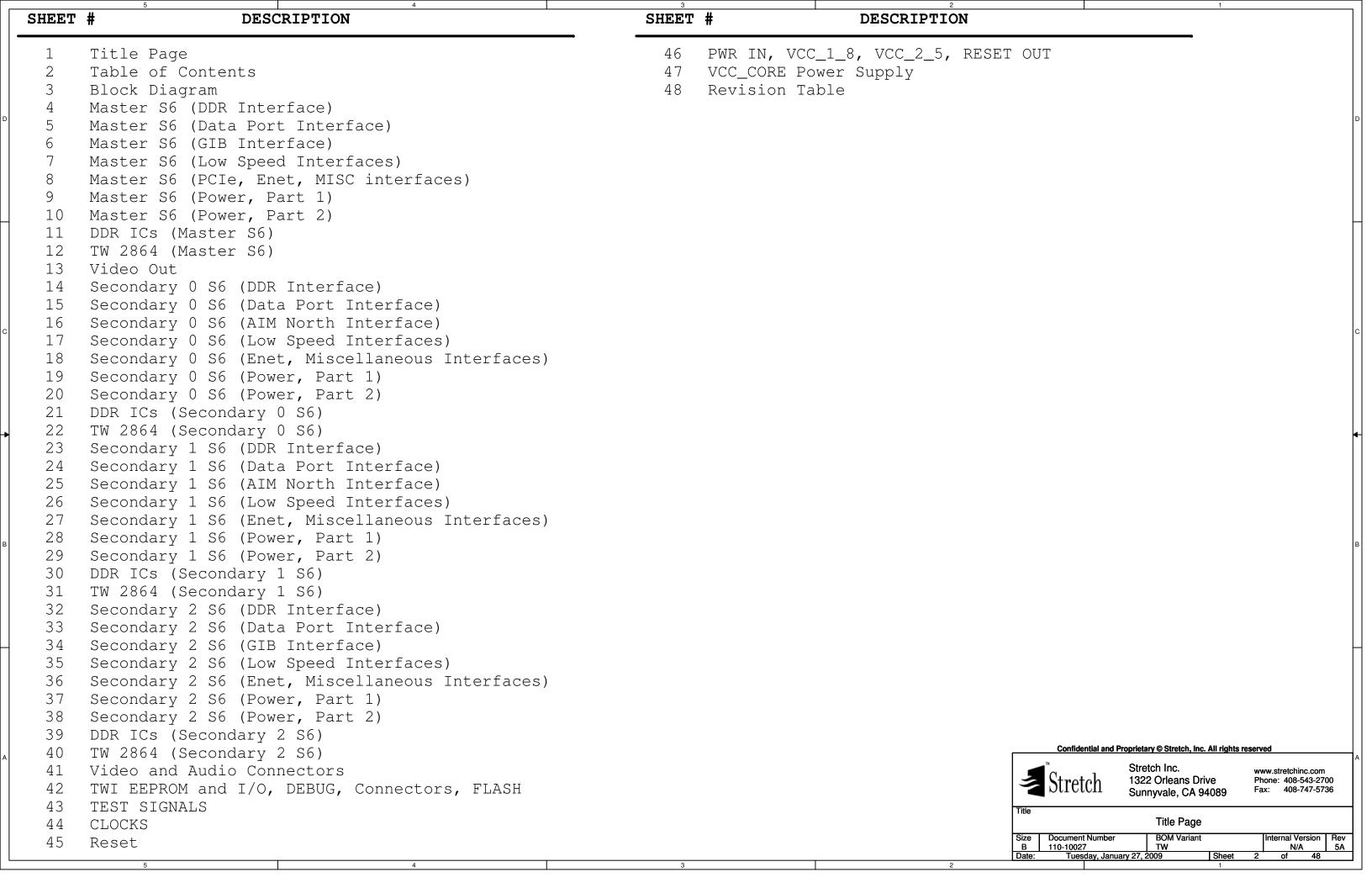
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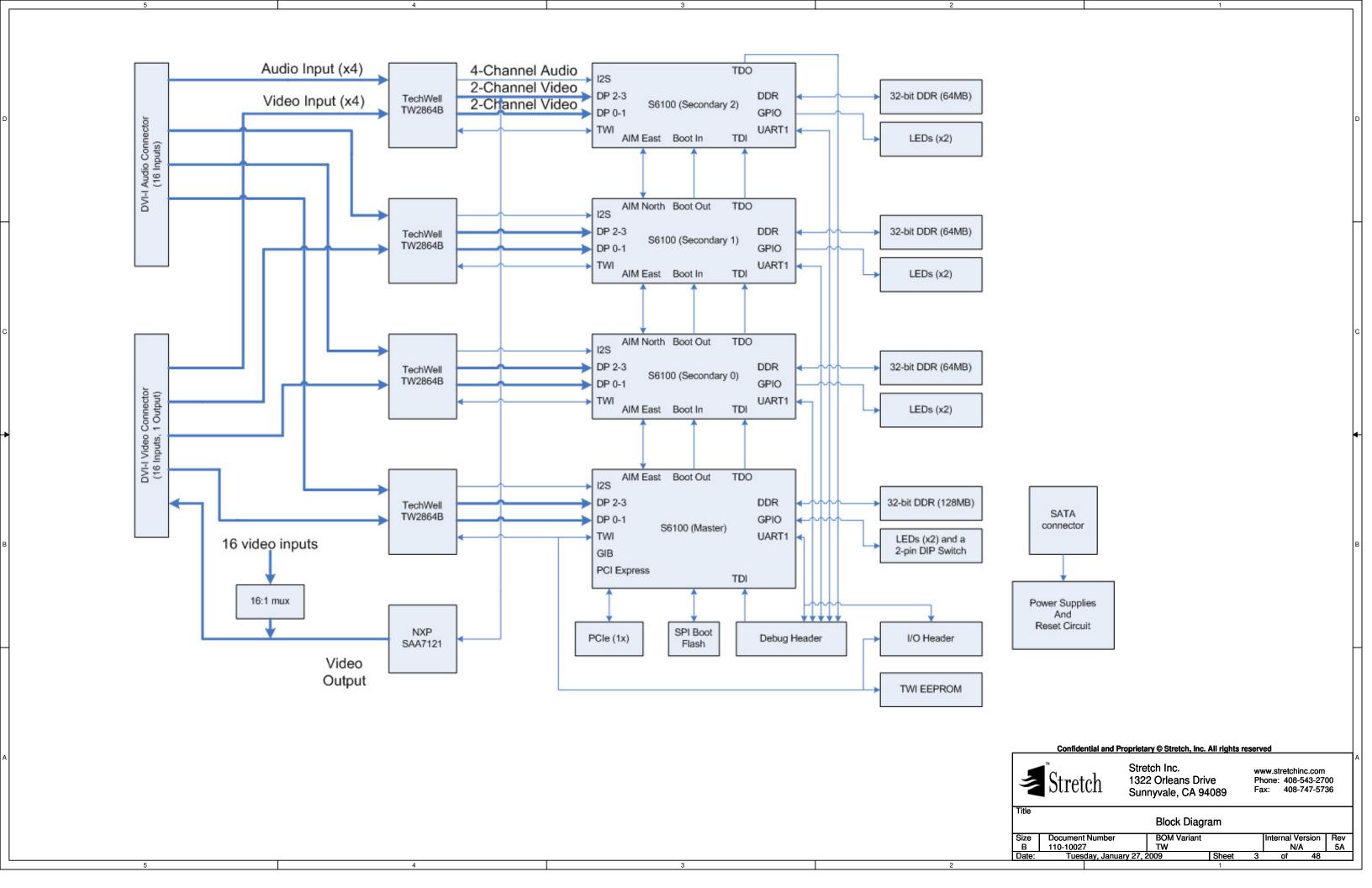
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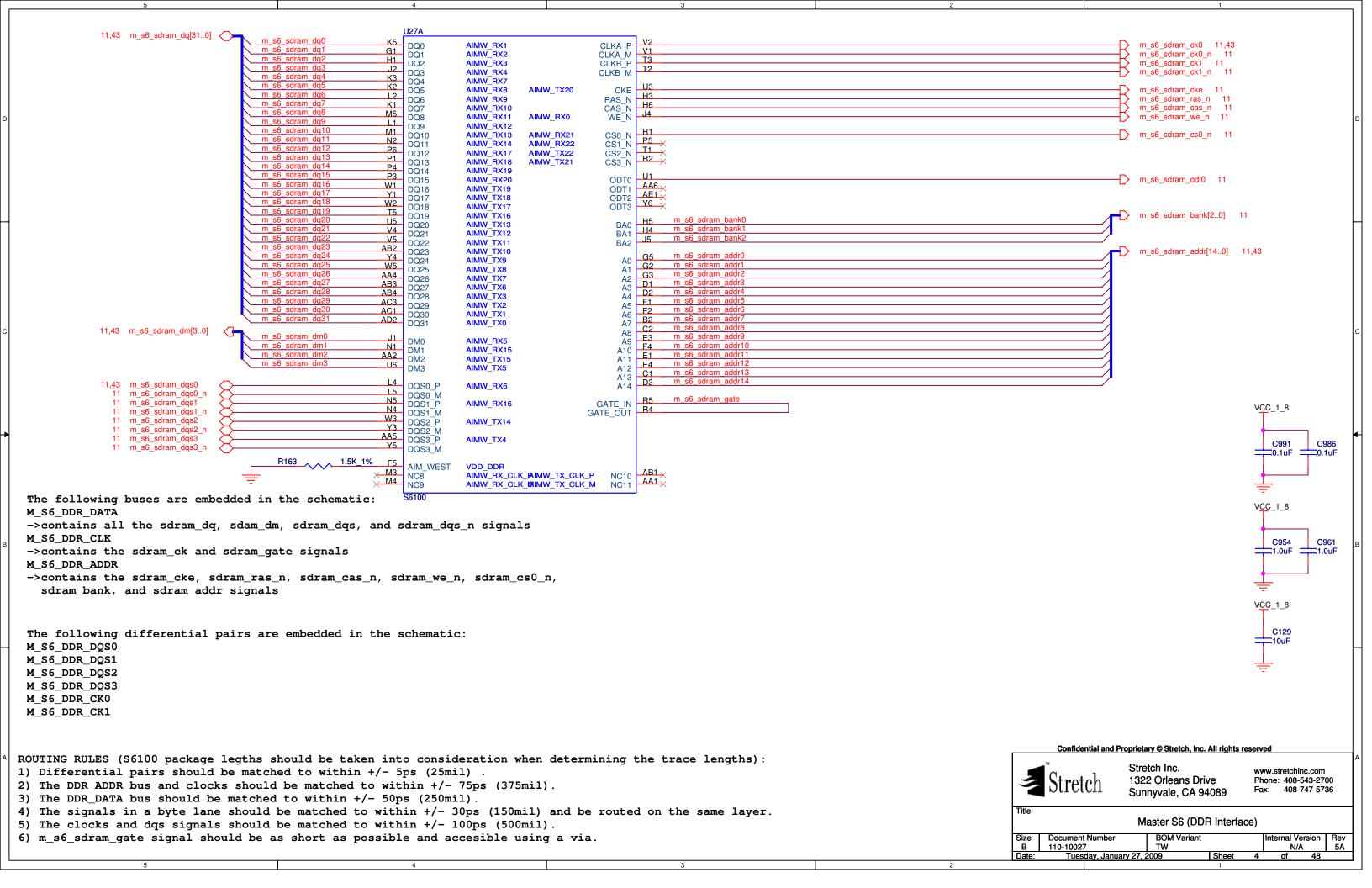
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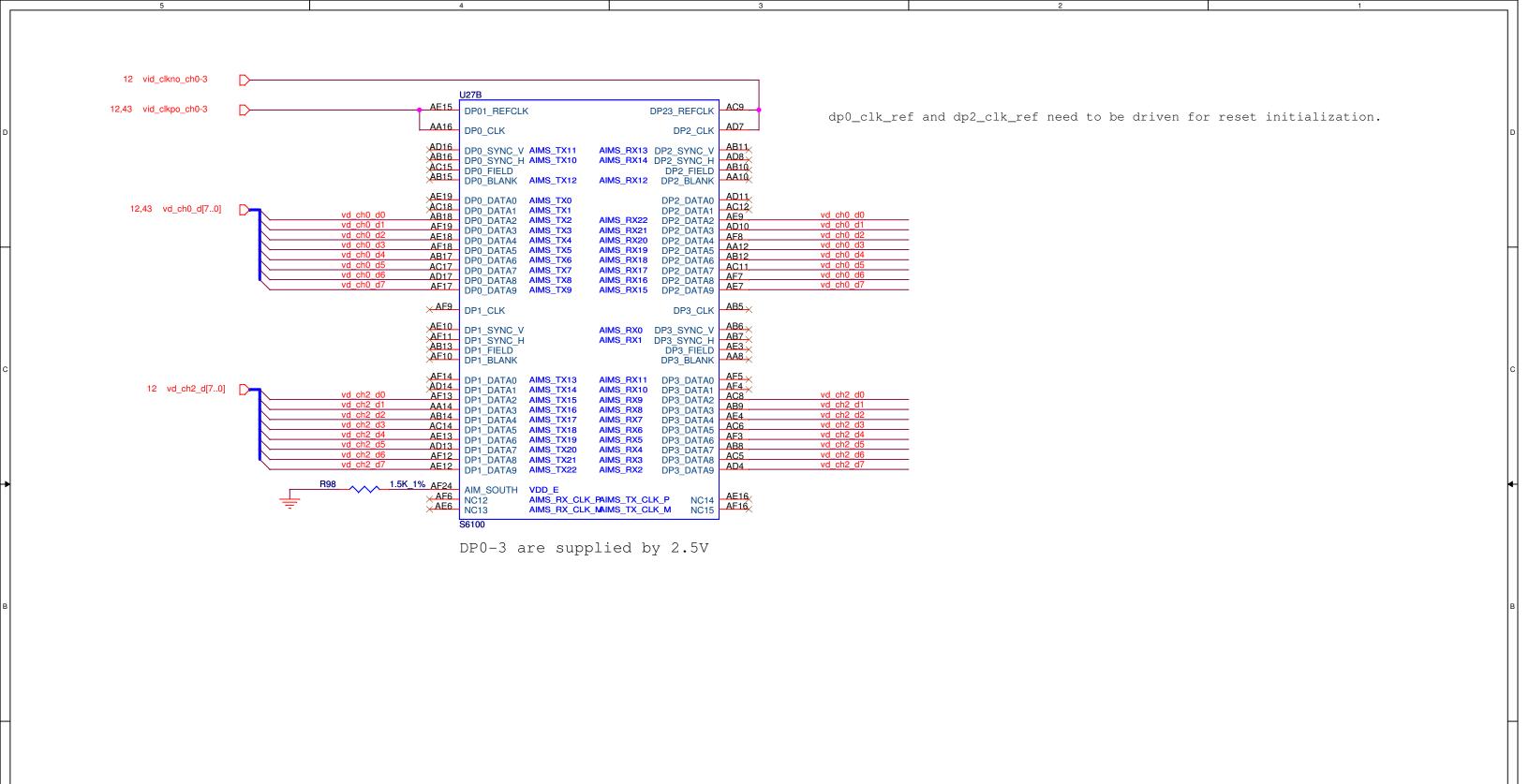
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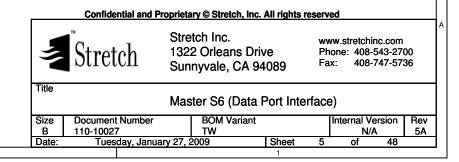


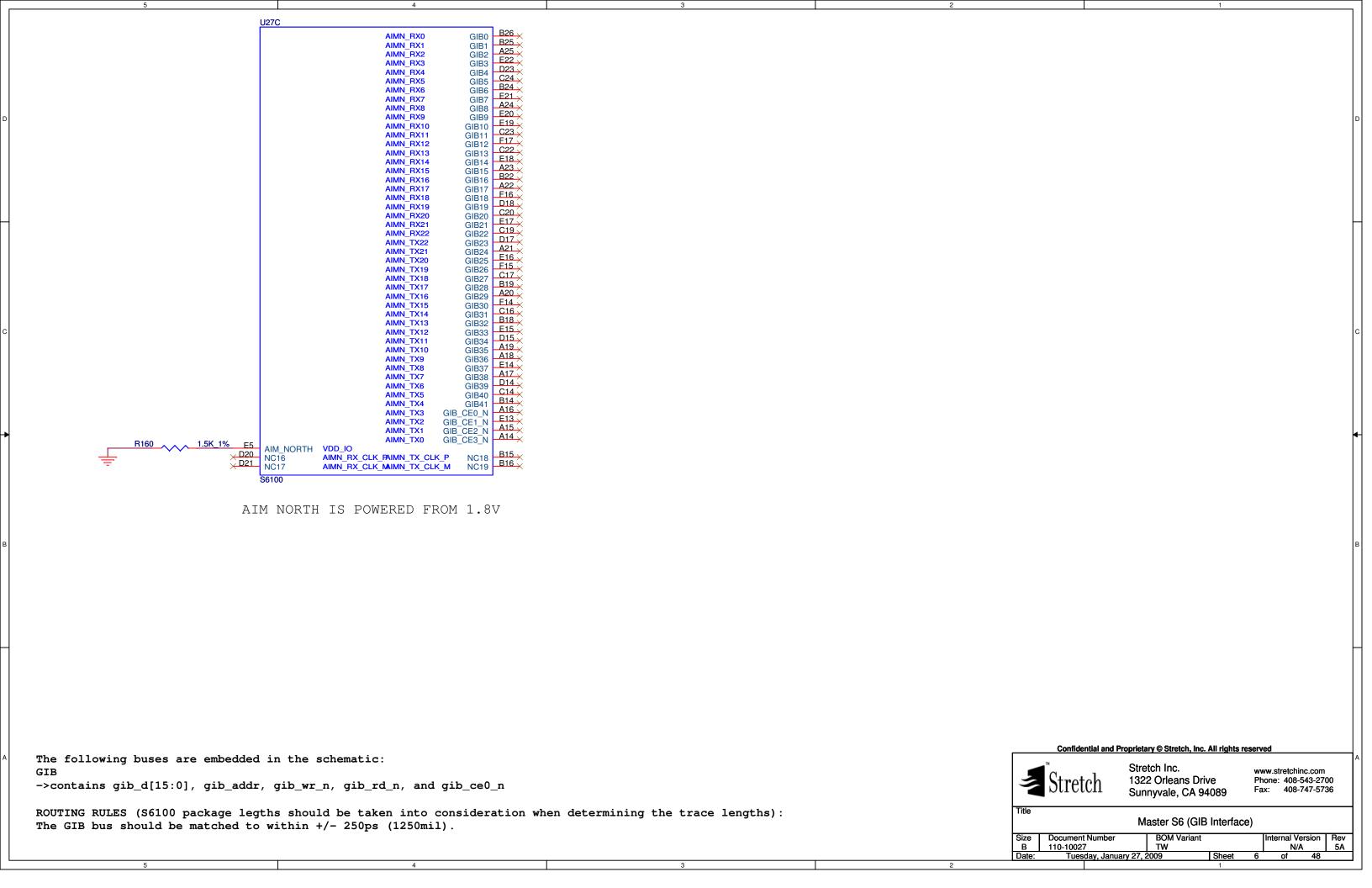


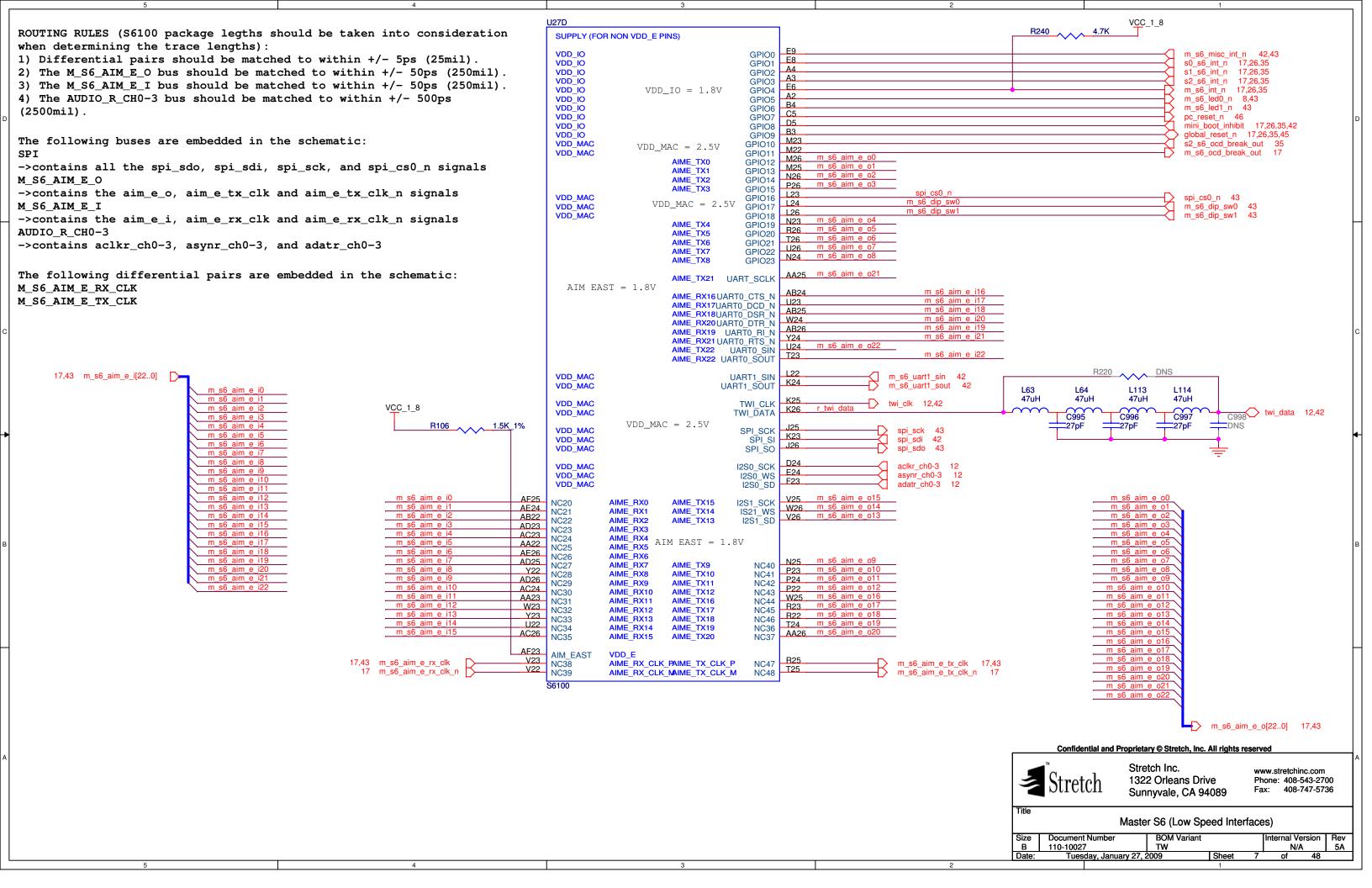


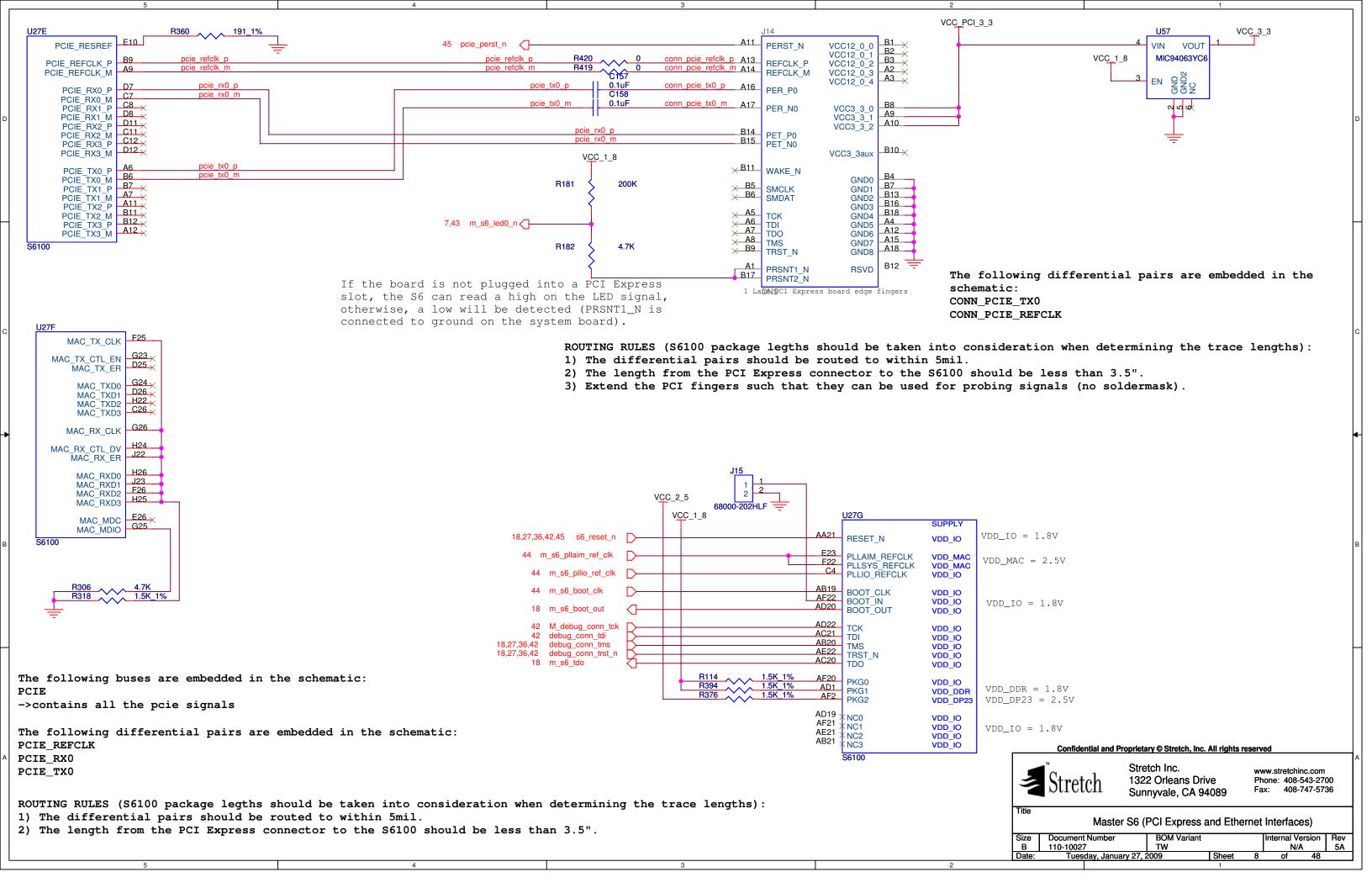
The following buses are embedded in the schematic: VD_CH0 ->contains all the vd_ch0 signals VD_CH2 ->contains all the vd_ch2 signals

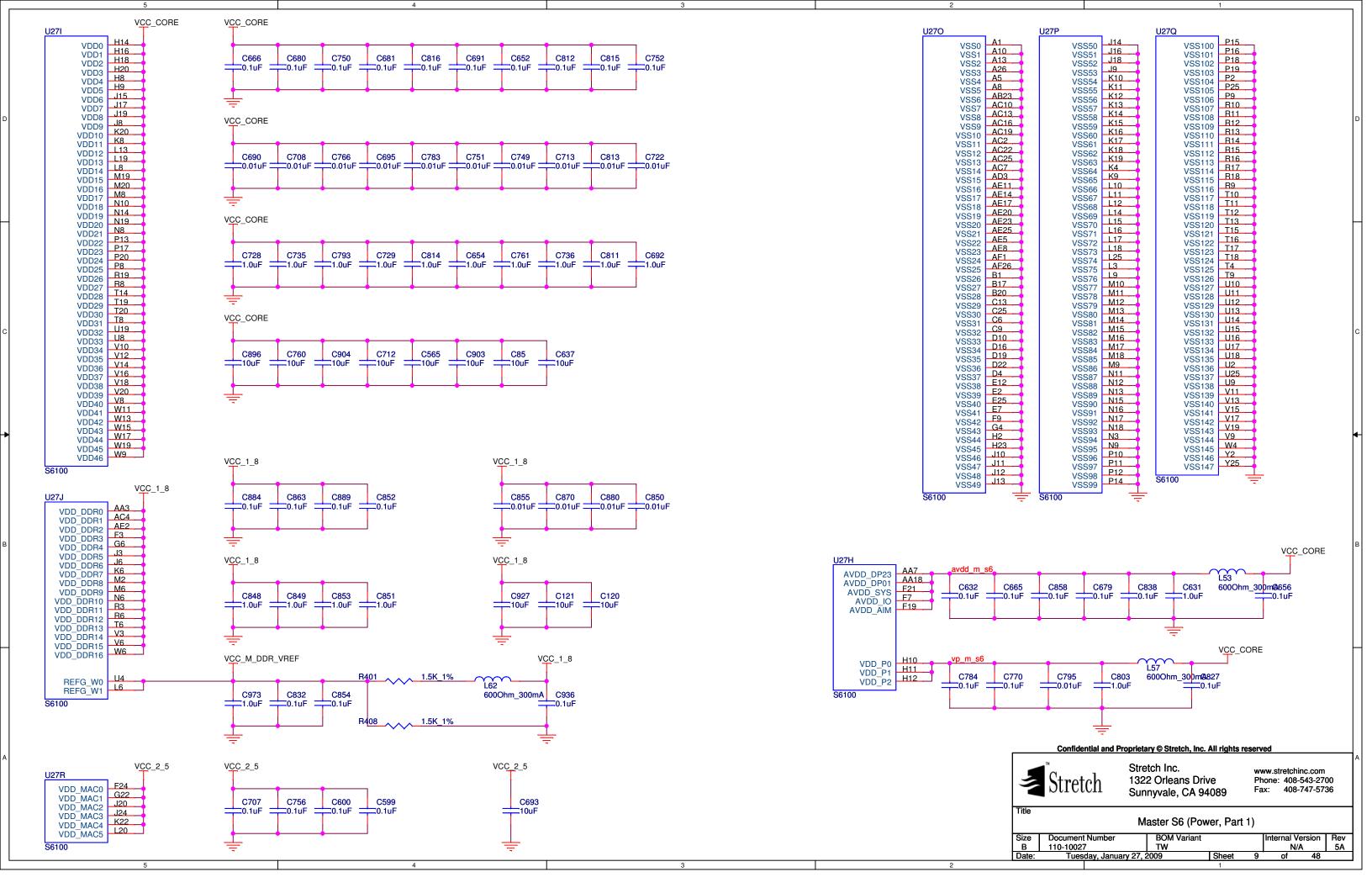
ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths): The VD_CH0, VD_CH2 buses, vid_clkpo_ch0-3, vid_clkno_ch0-3 should be matched to within +/- 250ps (1250mil).

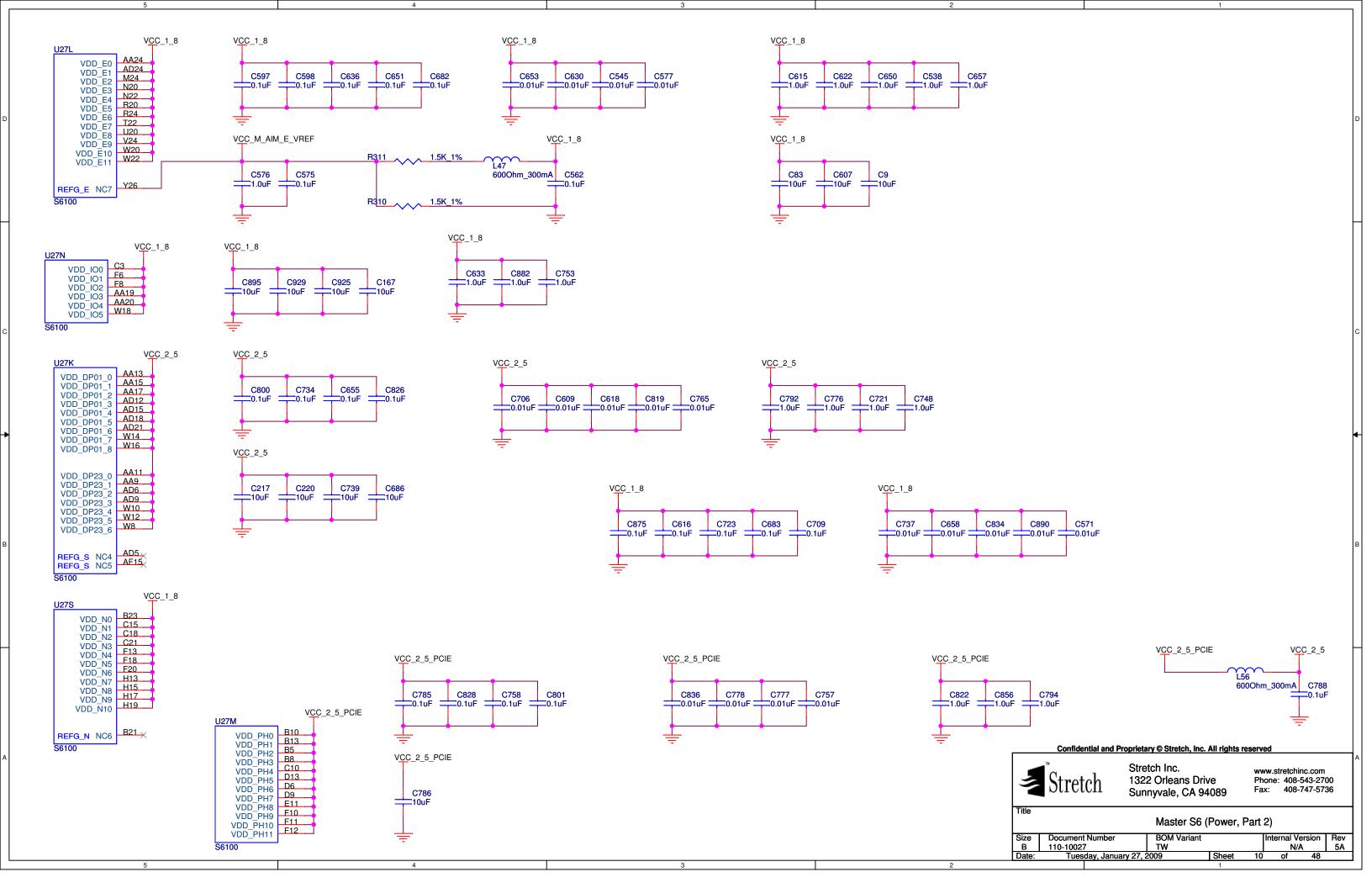


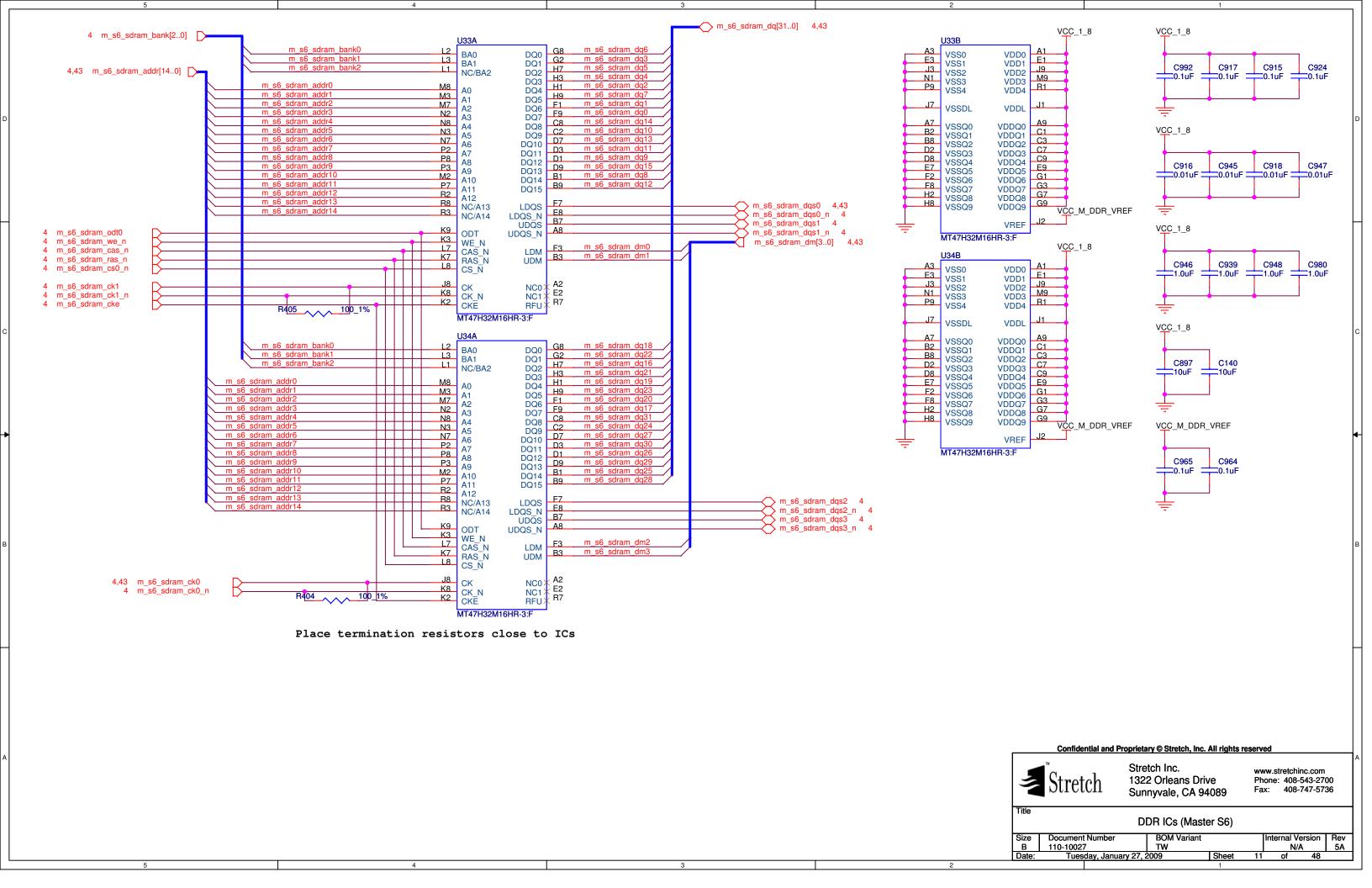


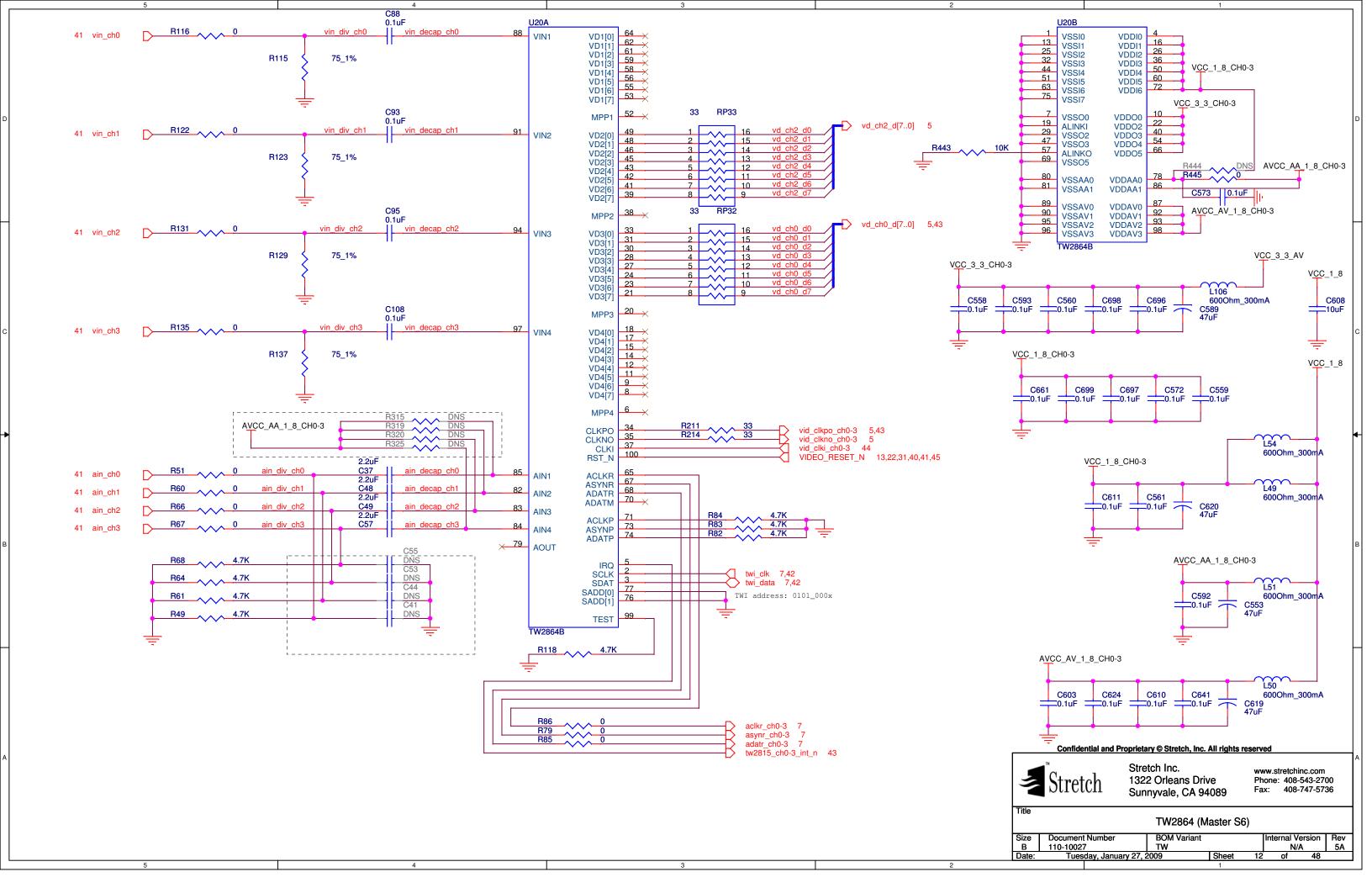


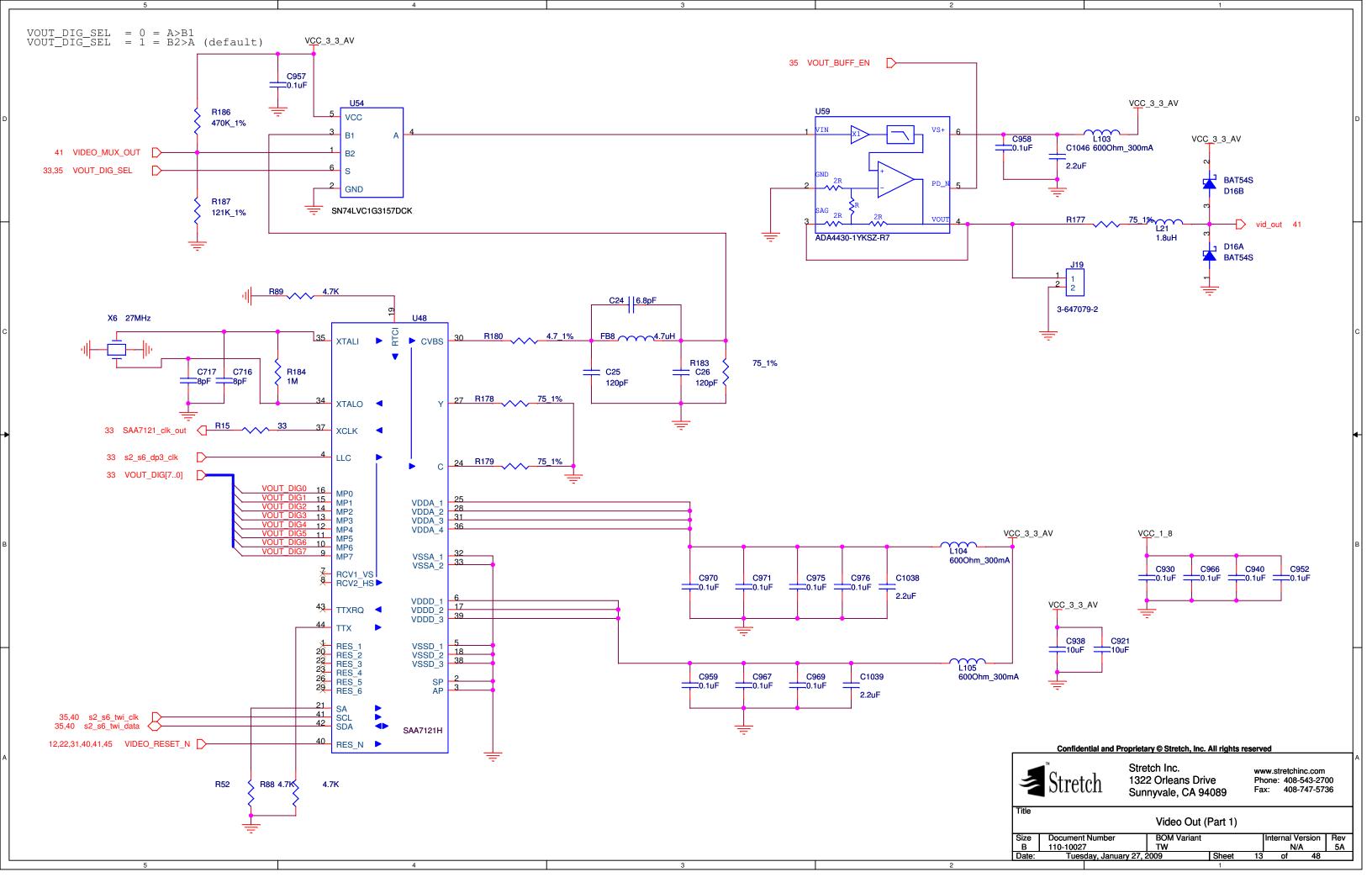


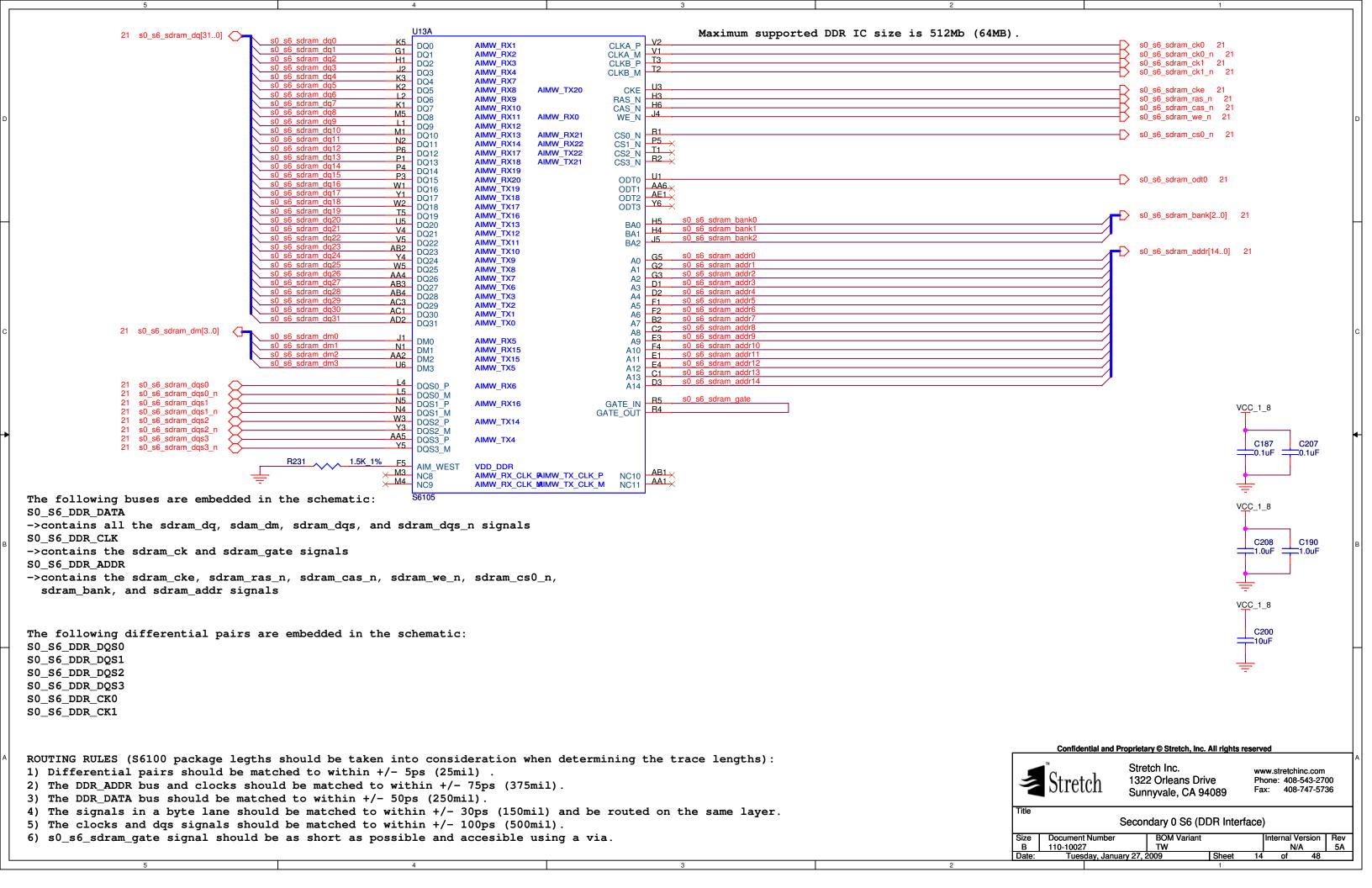












22 vid clkno ch4-7 22 vid clkpo ch4-7 DP01 REFCLK DP23 REFCLK DP0_CLK DP2_CLK AD16 DP0_SYNC_V AB16 DP0_SYNC_H AC15 DP0_FIELD DP0_BLANK AB11 DP0_SYNC_V AIMS_TX11 DP0_SYNC_H AIMS_TX10 AIMS_RX13 DP2_SYNC_V AIMS_RX14 DP2_SYNC_H
DP2_FIELD
AIMS_RX16 AIMS_RX12 DP2_BLANK AA10 AIMS_TX12 AE19 AC18 DP2_DATA0 DP0_DATA0 AIMS_TX0 AC12 22 vd_ch4_d[7..0] DP0_DATA1 AIMS_TX1 DP2_DATA1 ÀB18 AE9 DP0_DATA2 AIMS_TX2 AIMS_RX22 DP2_DATA2 AD10 vd_ch4_d1 AF19 DP0 DATA3 AIMS_TX3 AIMS_RX21 DP2 DATA3 vd ch4 d2 AE18 DP0_DATA4 AF8 AIMS_TX4 AIMS_RX20 DP2_DATA4 vd_ch4_d3 AF18 AA12 vd ch4 d3 DP0 DATA5 AIMS_TX5 AIMS_RX19 DP2 DATA5 vd ch4 d4 AB17 DP0_DATA6 AB12 vd_ch4_d4 AIMS_TX6 AIMS RX18 DP2 DATA6 vd_ch4_d5 AC11 vd_ch4_d5 DP0_DATA7 AIMS_TX7 AIMS_RX17 DP2_DATA7 DP2_DATA8 AF7 vd ch4 d6 AD17 DP0_DATA8 vd ch4 d6 vd ch4 d7 AIMS_TX8 AIMS_RX16 vd_ch4_d7 AF17 DP0_DATA9 AE7 AIMS_TX9 AIMS_RX15 DP2_DATA9 ×AF9 DP1_CLK AB5 DP3_CLK AE10 AF11 AB13 DP1_SYNC_H DP3 SYNC V AIMS_RX0 DP3_SYNC_H AB7 AIMS RX1 DP1 FIELD DP3_FIELD AF10 DP1_BLANK AA8 🗘 DP3_BLANK AF14 DP1_DATA0 AF5 DP3_DATA0 AIMS_TX13 AIMS RX11 AF4 22 vd_ch6_d[7..0] DP1 DATA1 AIMS TX14 AIMS RX10 DP3 DATA1 AF13 DP1_DATA2 AC8 AIMS TX15 AIMS RX9 DP3 DATA2 AA14 AB9 DP3_DATA3 DP1 DATA3 AIMS TX16 AIMS RX8 AB14 DP1_DATA4 AE4 AIMS_TX17 AIMS RX7 DP3_DATA4 AC14 AC6 AIMS TX18 AIMS RX6 DP3_DATA5 DP1 DATA5 AE13 DP1_DATA6 AF3 AIMS TX19 AIMS RX5 DP3_DATA6 AD13 DP1_DATA7 vd_ch6_d5 DP3_DATA7 AB8 AIMS_TX20 AIMS RX4 AF12 AC5 AIMS TX21 DP3_DATA8 DP3_DATA9 AIMS RX3 DP1_DATA8 AE12 AIMS_TX22 AD4 AIMS_RX2 DP1_DATA9 R282 1.5K_1% AF24 AIM_SOUTH VDD E × AF6 × AE6 AIMS_RX_CLK_PAIMS_TX_CLK_P AIMS_RX_CLK_MAIMS_TX_CLK_M NC14 NC₁₂ NC15 AF16 NC13 S6105

dp0_clk_ref and dp2_clk_ref need to be driven for reset initialization.

DP 0-3 ARE POWERED FROM 2.5V

The following buses are embedded in the schematic: VD CH4

->contains all the vd_ch4 signals

VD CH6

->contains all the vd_ch6 signals

ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths): The VD CH4, VD CH6 buses, vid clkpo ch4-7, and vid clkno ch4-7 should be matched to within +/- 250ps (1250mil).

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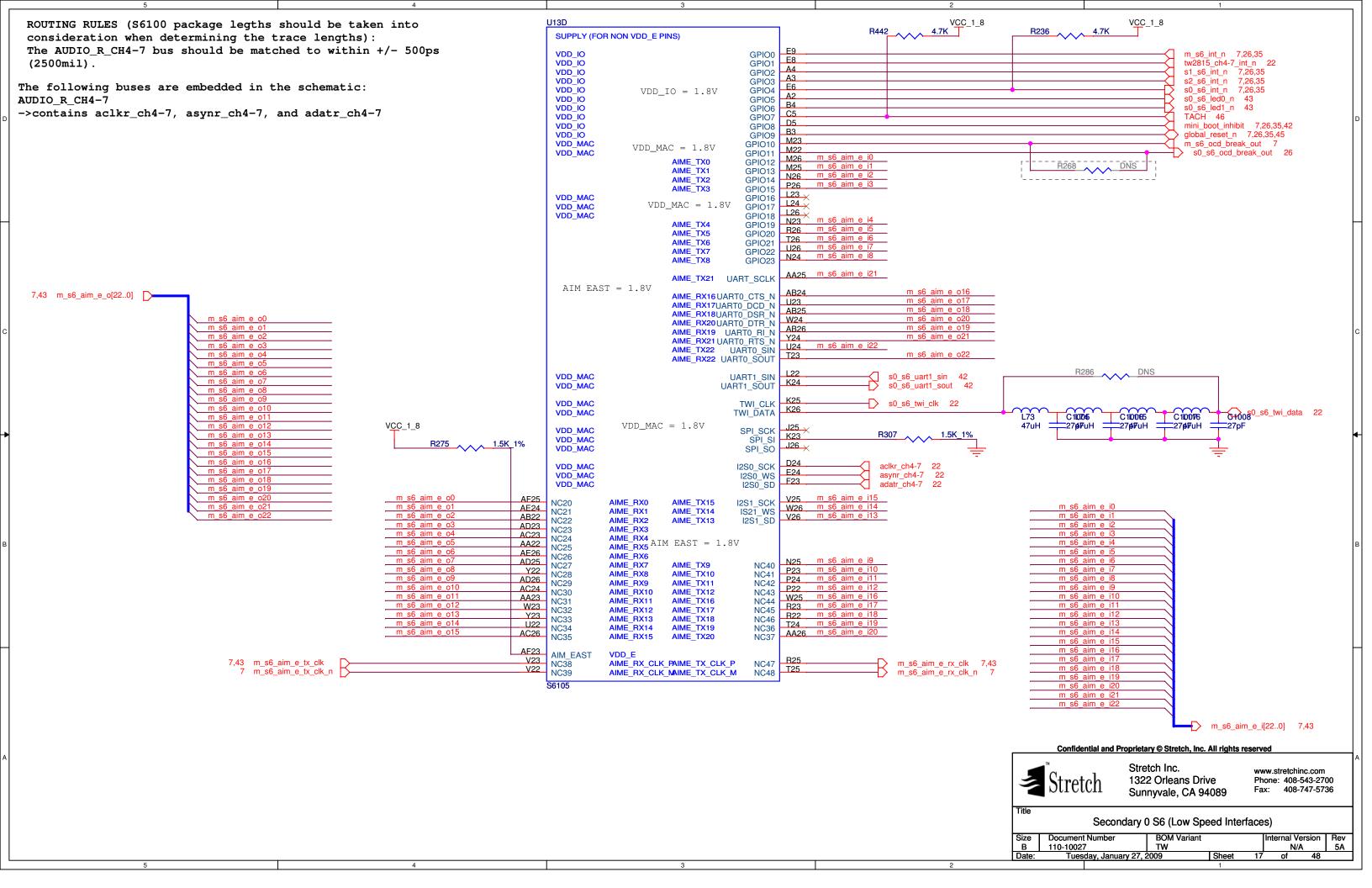
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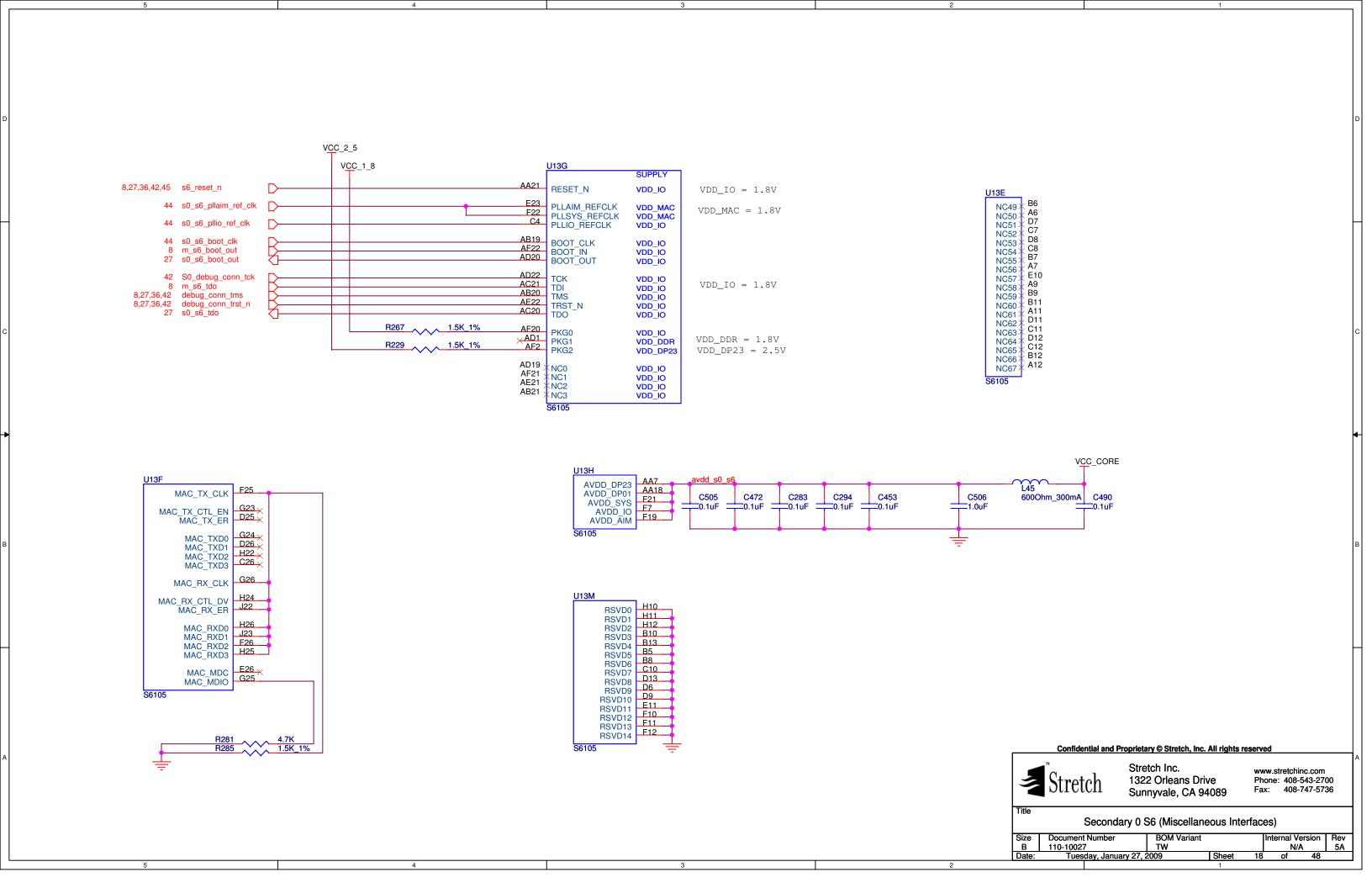
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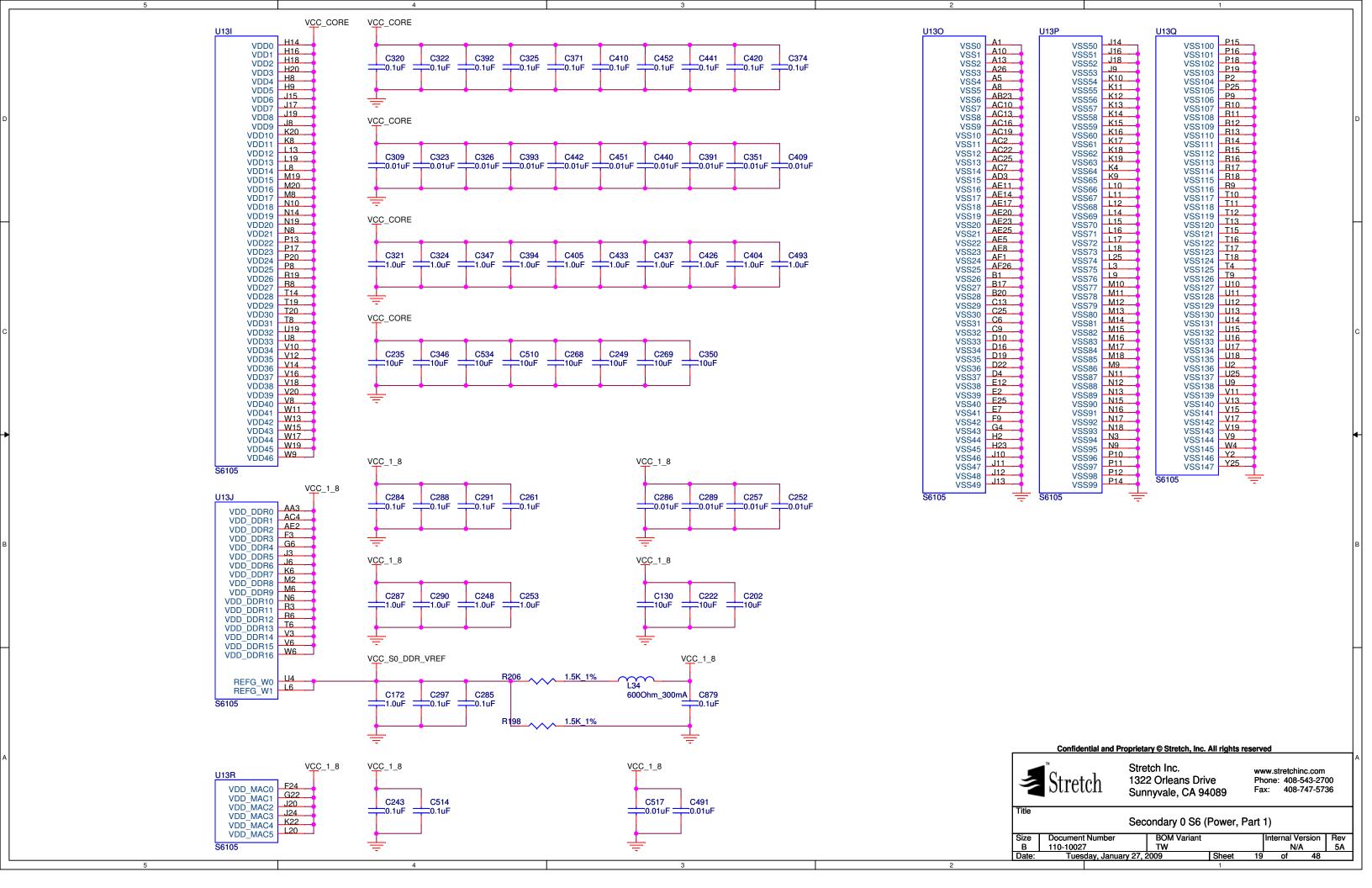
Secondary 0 S6 (Data Port Interface)

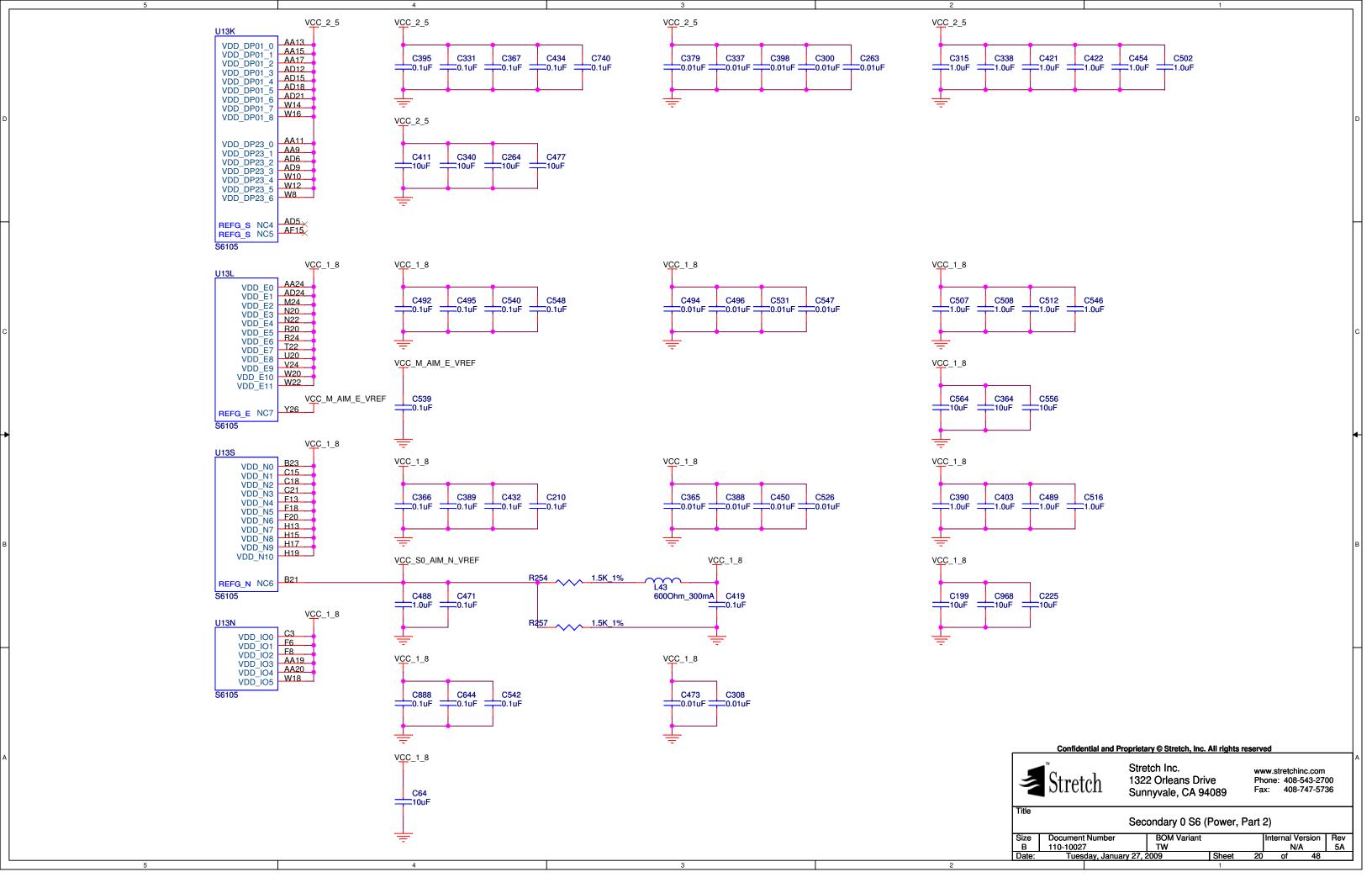
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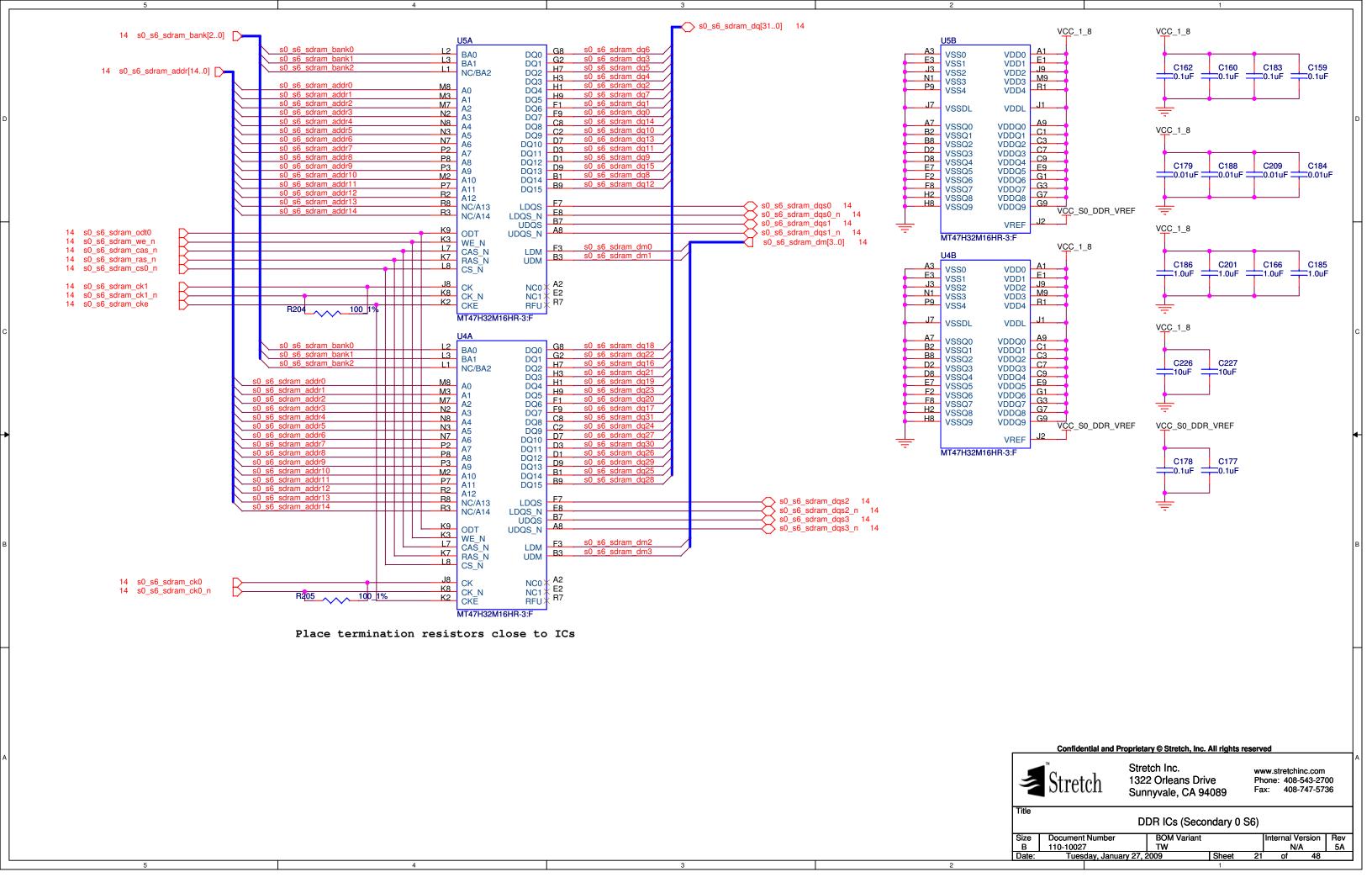
```
s0_s6_aim_n_i[22..0] 26
                                                                                                                                               AIMN_RX0
AIMN_RX1
AIMN_RX2
AIMN_RX3
AIMN_RX4
                                                                                                                                                                       B25
A25
                                                                                                                                                                  GIB1
                                                                                                                                                                  GIB2
                                                                                                                                                                        E22
                                                                                                                                                                  GIB3
                                                                                                                                                                 GIB3
GIB4
GIB5
GIB6
GIB7
GIB8
GIB9
                                                                                                                                                                        D23
                                                                                                                                                                        C24
B24
                                                                                                                                               AIMN_RX6
AIMN_RX7
                                                                                                                                                                        E21
                                                                                                                                               AIMN_RX8
                                                                                                                                               AIMN_RX9
                                                                                                                                               AIMN_RX10
                                                                                                                                                                GIB10
                                                                                                                                               AIMN_RX11
                                                                                                                                                                GIB11
                                                                                                                                               AIMN_RX12
                                                                                                                                                                GIB12
                                                                                                                                               AIMN_RX13
                                                                                                                                                                GIB13
                                                                                                                                               AIMN_RX14
                                                                                                                                                                GIB14
                                                                                                                                               AIMN RX15
                                                                                                                                                                GIB15
                                                                                                                                               AIMN_RX16
                                                                                                                                                                GIB16
                                                                                                                                               AIMN RX17
                                                                                                                                                                GIB17
                                                                                                                                               AIMN RX18
                                                                                                                                                                GIB18
                                                                                                                                                                        D18
                                                                                                                                               AIMN_RX19
                                                                                                                                                                GIB19
                                                                                                                                               AIMN RX20
                                                                                                                                                                GIB20
                                                                                                                                               AIMN_RX21
AIMN_RX22
                                                                                                                                                                GIB21
                                                                                                                                                                GIB22
                                                                                                                                                                                                       s0_s6_aim_n_o[22..0] 26
                                                                                                                                               AIMN_TX22
                                                                                                                                                                GIB23
                                                                                                                                               AIMN_TX22
AIMN_TX21
AIMN_TX21
AIMN_TX19
AIMN_TX18
AIMN_TX16
AIMN_TX15
AIMN_TX14
AIMN_TX13
AIMN_TX14
AIMN_TX14
AIMN_TX11
AIMN_TX10
AIMN_TX10
AIMN_TX9
AIMN_TX8
AIMN_TX8
AIMN_TX8
AIMN_TX7
                                                                                                                                                                GIB24
                                                                                                                                                                GIB24
GIB25
GIB26
GIB27
GIB28
GIB30
GIB31
GIB32
GIB33
                                                                                                                                                                        E16
                                                                                                                                                                        B19
                                                                                                                                                                        A20
                                                                                                                                                                        C16
                                                                                                                                                                        B18
                                                                                                                                                                        E15
                                                                                                                                                                        D15
                                                                                                                                                                GIB34
                                                                                                                                                                        A19
                                                                                                                                                                GIB35
                                                                                                                                                                        A18
                                                                                                                                                                GIB36
                                                                                                                                                                        E14
                                                                                                                                                                 GIB37
                                                                                                                                                                        A17
                                                                                                                                                                 GIB38
                                                                                                                                                                        D14
                                                                                                                                               AIMN_TX6
                                                                                                                                                                GIB39
                                                                                                                                                                        C14
                                                                                                                                               AIMN_TX5
                                                                                                                                                                 GIB40
                                                                                                                                                                        B14
                                                                                                                                               AIMN_TX4
                                                                                                                                                                 GIB41
                                                                                                                                                                        A16
                                                                                                                                               AIMN_TX3
                                                                                                                                                            GIB_CE0_N
                                                                                                                                                                        E13
                                                                                                                                               AIMN_TX2
                                                                                                                                                            GIB_CE1_N
                                                                               VCC_1_8
                                                                                                                                                                        A15
                                                                                                                                               AIMN TX1
                                                                                                                                                            GIB CE2 N
                                                                                                                                               AIMN_TX0
                                                                                             1.5K_1% E5 AIM_NORTH VDD_IO
                                                                                                                                                           GIB_CE3_N
                                                                                                              D20 NC16
                                                                                                                                 AIMN_RX_CLK_PAIMN_TX_CLK_P
AIMN_RX_CLK_MAIMN_TX_CLK_M
                                                          26 s0_s6_aim_n_rx_clk
                                                                                                                                                                                                           s0_s6_aim_n_tx_clk 26
                                                          26 s0_s6_aim_n_rx_clk_n
                                                                                                                                                                                                           s0_s6_aim_n_tx_clk_n 26
The following buses are embedded in the schematic:
                                                                                                                                        AIM_NORTH = 1.8V
S0_S6_AIM_N_O
->contains the aim n o, aim n tx clk and aim n tx clk n signals
SO S6 AIM N I
->contains the aim_n_i, aim_n_rx_clk and aim_n_rx_clk_n signals
The following differential pairs are embedded in the schematic:
S0_S6_AIM_N_RX_CLK
S0_S6_AIM_N_TX_CLK
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                                                                                                                                                                                                                                                     1322 Orleans Drive
                                                                                                                                                                                                                                                    Sunnyvale, CA 94089
ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths):
1) Differential pairs should be matched to within +/- 5ps (25mil).
2) The SO_S6_AIM_N_O bus should be matched to within +/- 50ps (250mil).
                                                                                                                                                                                                                                                 Secondary 0 S6 (AIM North Interface)
3) The S0 S6 AIM N I bus should be matched to within \pm 50ps (250mil).
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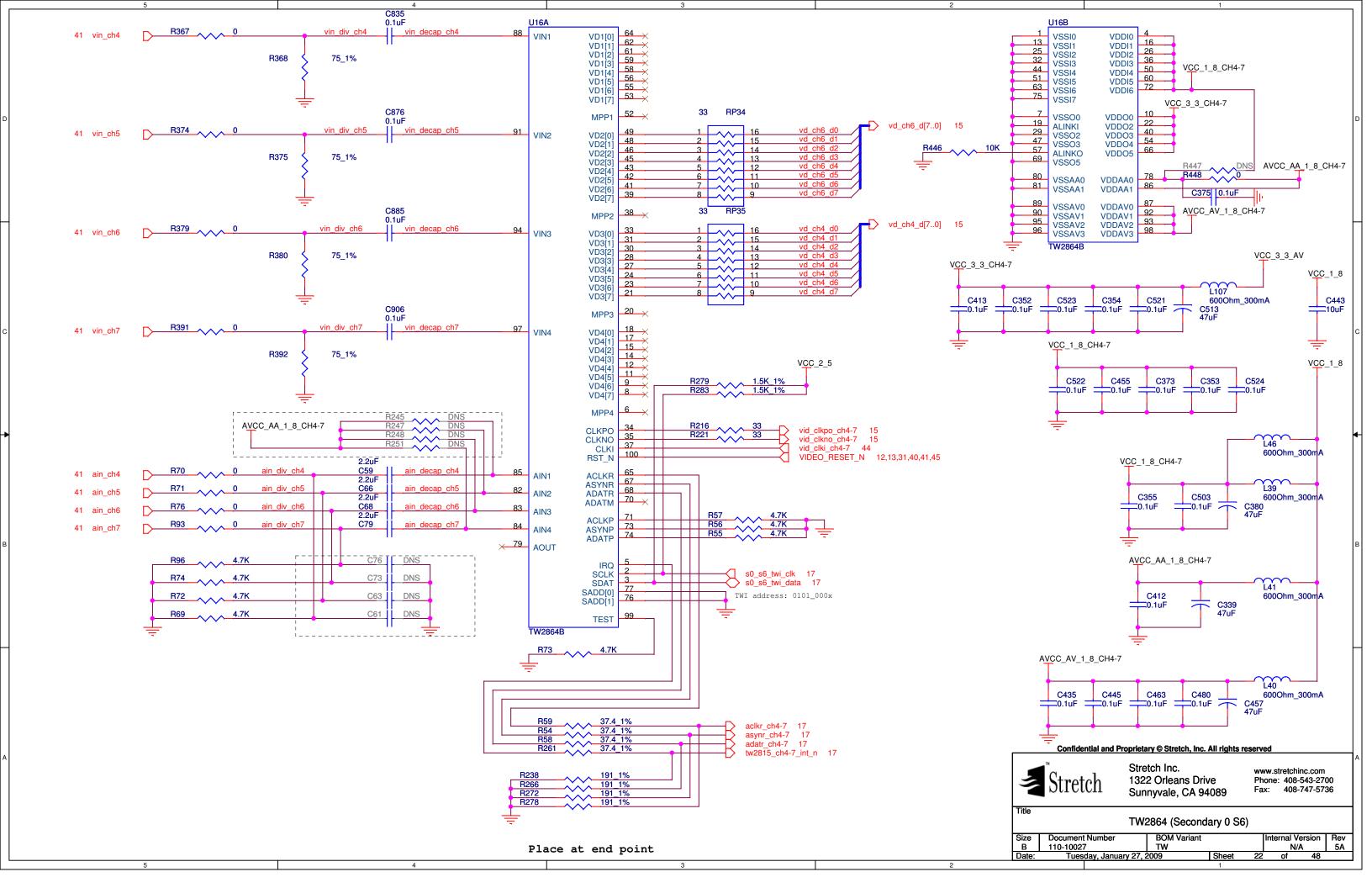


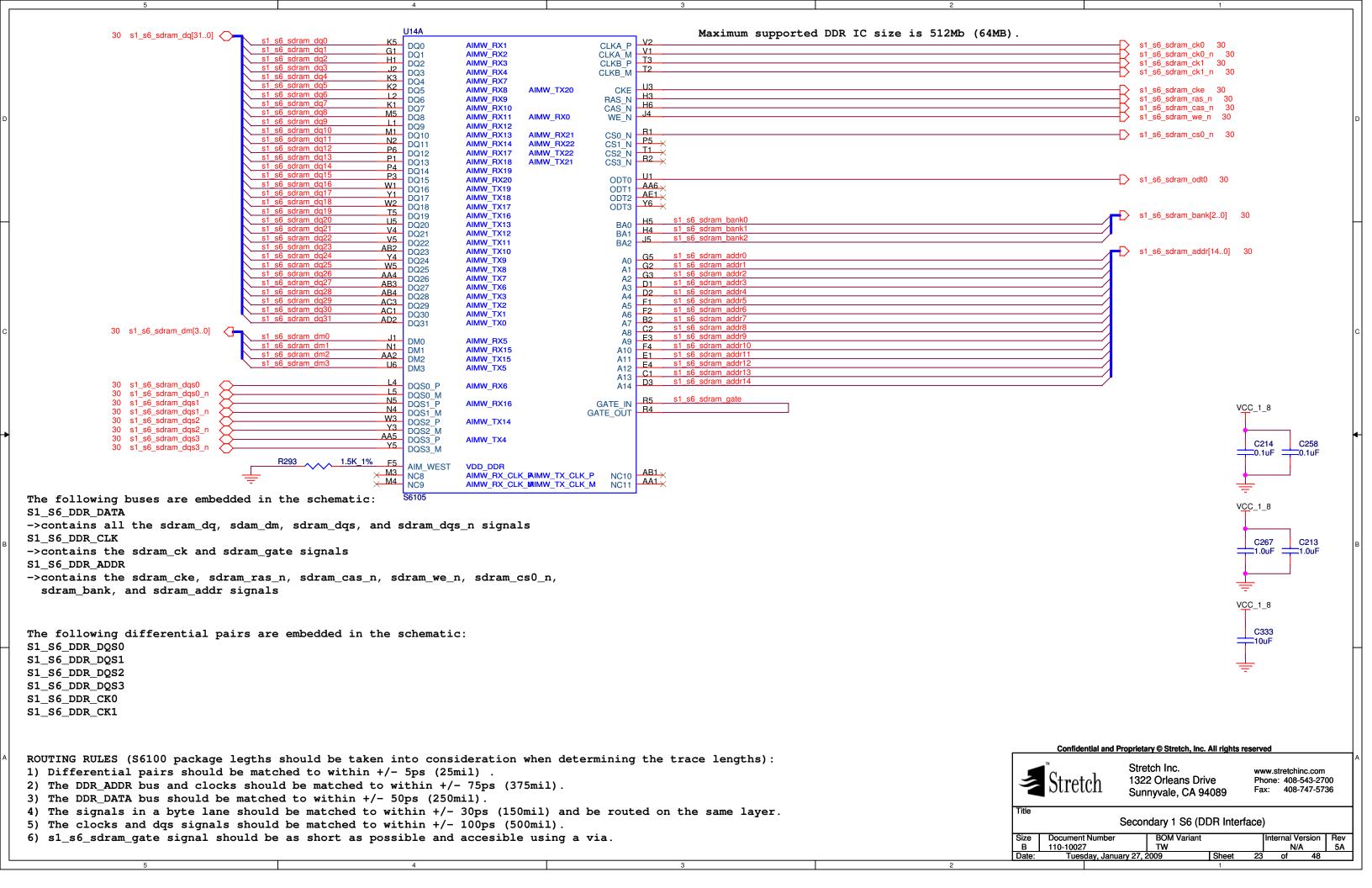












dp0_clk_ref and dp2_clk_ref need to be driven for reset initialization. 31 vid_clkno_ch8-11 U14B 31 vid clkpo ch8-11 DP01_REFCLK DP23_REFCLK AD7 DP0 CLK DP2_CLK AD16 DP0_SYNC_V AIMS_IALL DP0_SYNC_H AIMS_TX10 AIMS_RX13 DP2 SYNC V AIMS_RX14 DP2_SYNC_H AD8 AC15 DP0_FIELD DP2_FIELD AB10 AB15 DP0_BLANK AA10 AIMS TX12 AIMS_RX12 DP2_BLANK 31 vd_ch8_d[7..0] AE19 DP0_DATA0 AD11 DP2 DATA0 AC18 DP0_DATA1 AC12 AIMS_TX1 DP2 DATA1 vd ch8 d0 vd ch8 d0 AB18 DP0_DATA2 AE9 AIMS_TX2 AIMS RX22 DP2 DATA2 AF19 DP0_DATA3 vd ch8 d1 vd ch8 d2 vd ch8 d1 vd ch8 d2 AD10 AIMS_TX3 AIMS_RX21 DP2 DATA3 AE18 DP0_DATA4 AF8 AIMS TX4 AIMS RX20 DP2 DATA4 AF18 DP0_DATA5 AIMS_TX5 AIMS_RX19 DP2 DATA5 AB17 DP0_DATA6 AB12 AIMS TX6 DP2_DATA6 AC17 DP0_DATA7 AC11 AIMS TX7 AIMS RX17 DP2 DATA7 AD17 DP0_DATA8 DP0_DATA9 AF7 AIMS_TX8 AIMS_RX16 DP2 DATA8 AE7 AIMS TX9 AIMS RX15 DP2 DATA9 XAF9 DP1_CLK AB5 DP3_CLK AE10 DP1_SYNC_V AIMS_RX0 DP3_SYNC_V AF11 DP1_SYNC_H
AB13 DP1_FIELD DP3_SYNC_H
DP3_FIELD

AB7

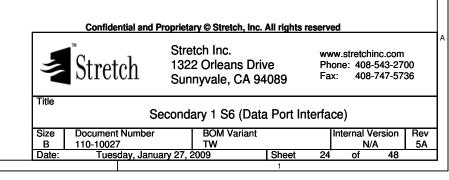
AE3 AIMS RX1 AF10 DP1_BLANK AA8 🗘 DP3_BLANK AF14 AD14 DP1_DATA1 DP1_DATA2 DP3_DATA0 DP3_DATA1 AIMS_TX13 AIMS RX11 AF4 31 vd_ch10_d[7..0] AIMS RX10 AIMS_TX14 AC8 AIMS_TX15 AIMS RX9 DP3_DATA2 AA14 DP1_DATA3 AR9 AIMS RX8 AIMS_TX16 DP3_DATA3 AB14 DP1_DATA4 AE4 AIMS_TX17 AIMS_RX7 AIMS_RX6 DP3_DATA4 vd ch10 d3 vd ch10 d4 vd ch10 d5 AC14 DP1_DATA5 AC6 AIMS_TX18 DP3_DATA5 AE13 DP1_DATA6
AD13 DP1_DATA7 AF3 AIMS_RX5 AIMS_TX19 DP3 DATA6 DP3_DATA7 AB8 AIMS RX4 AIMS_TX20 vd_ch10_d AF12 DP1_DATA8
AE12 DP1_DATA9 AIMS_RX3 AIMS_RX2 AIMS_TX21 DP3_DATA8 AD4 AIMS_TX22 DP3_DATA9 R32 1.5K_1% AF24 AIM SOUTH AF6 NC12 AE6 NC13 AIMS_RX_CLK_PAIMS_TX_CLK_P AIMS_RX_CLK_MAIMS_TX_CLK_M NC14 AF16

DP0-3 ARE POWERED FROM 2.5V

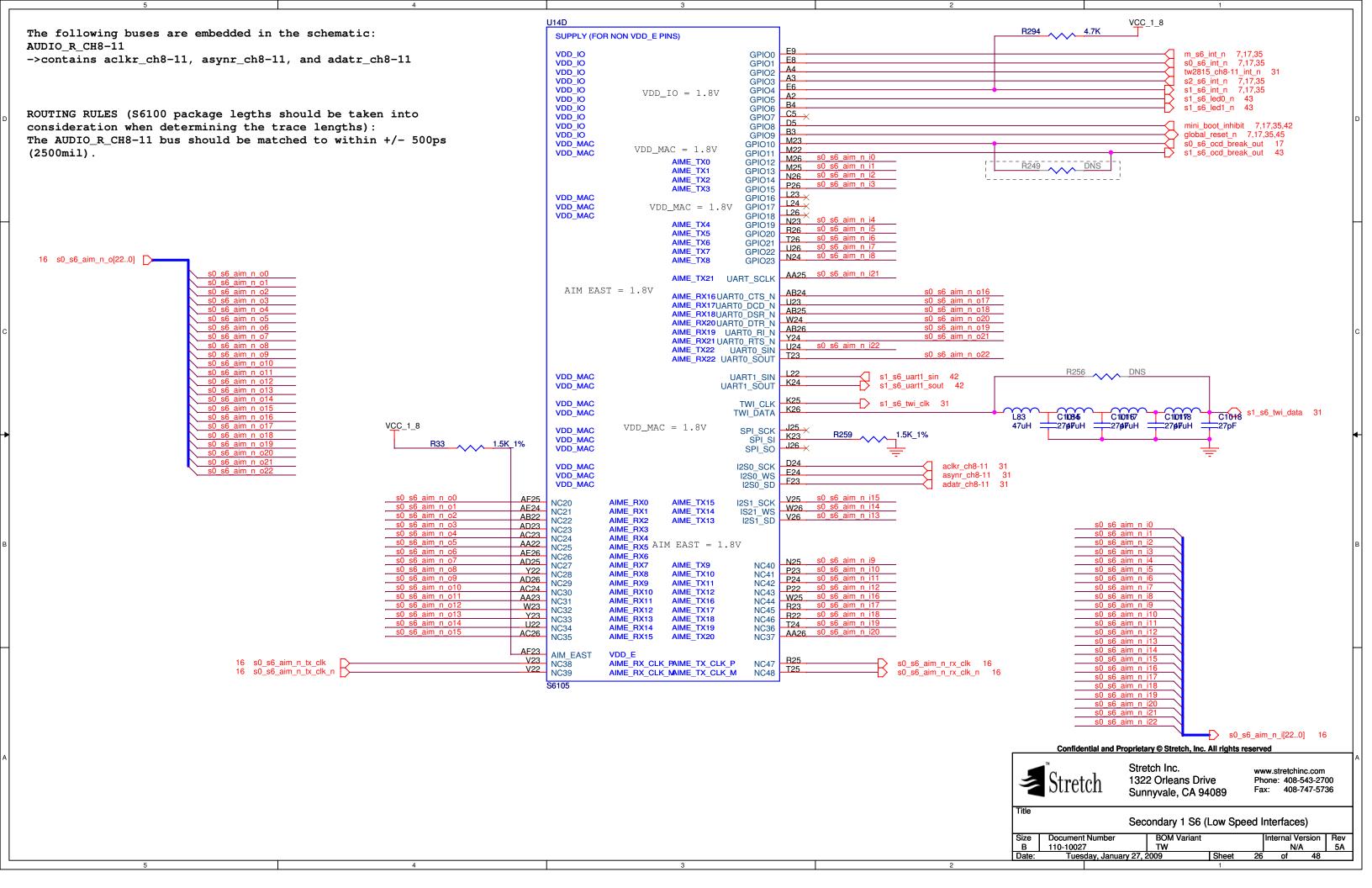
The following buses are embedded in the schematic: VD CH8

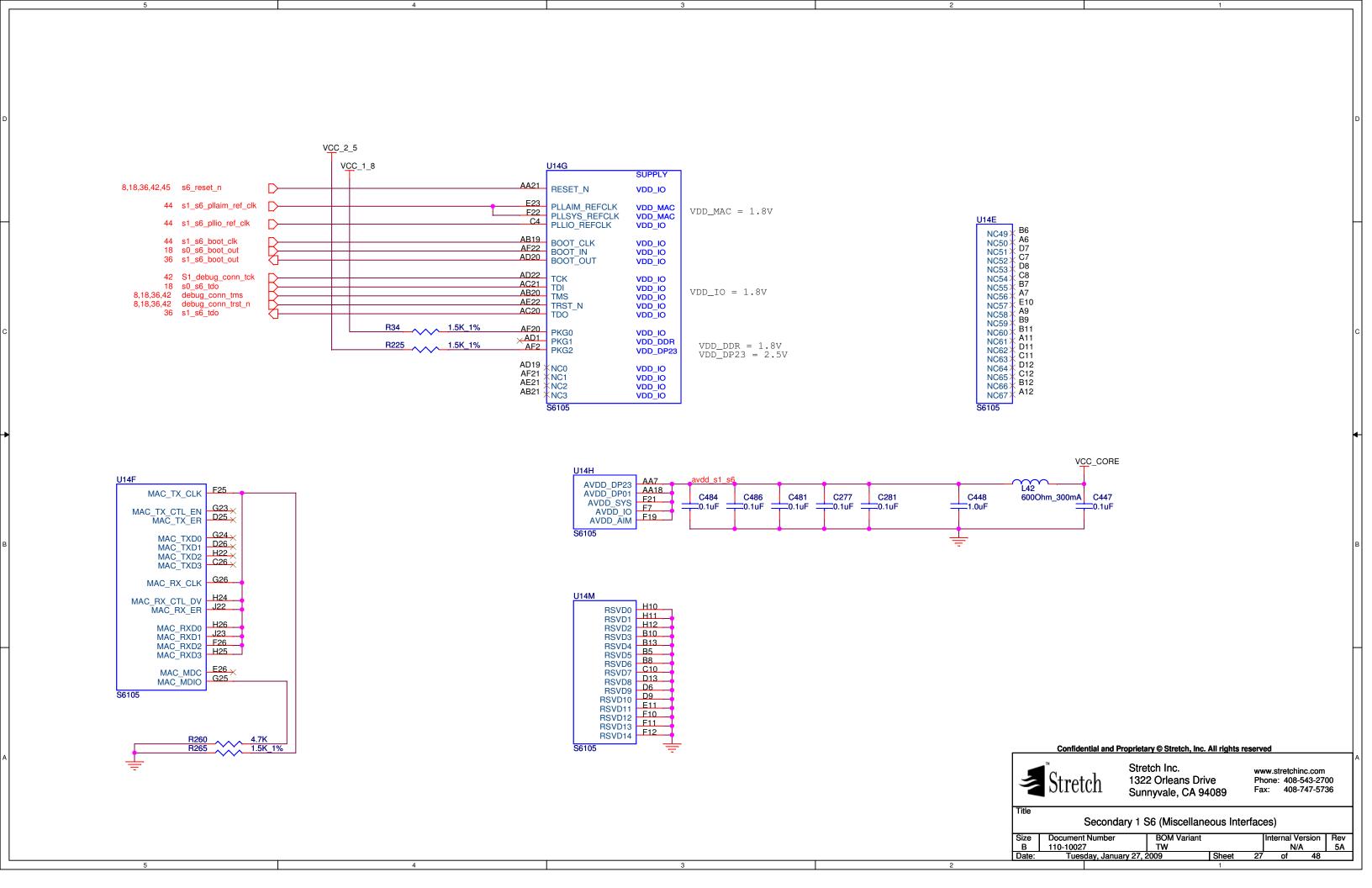
- ->contains all the vd_ch8 signals VD CH10
- ->contains all the vd_ch10 signals

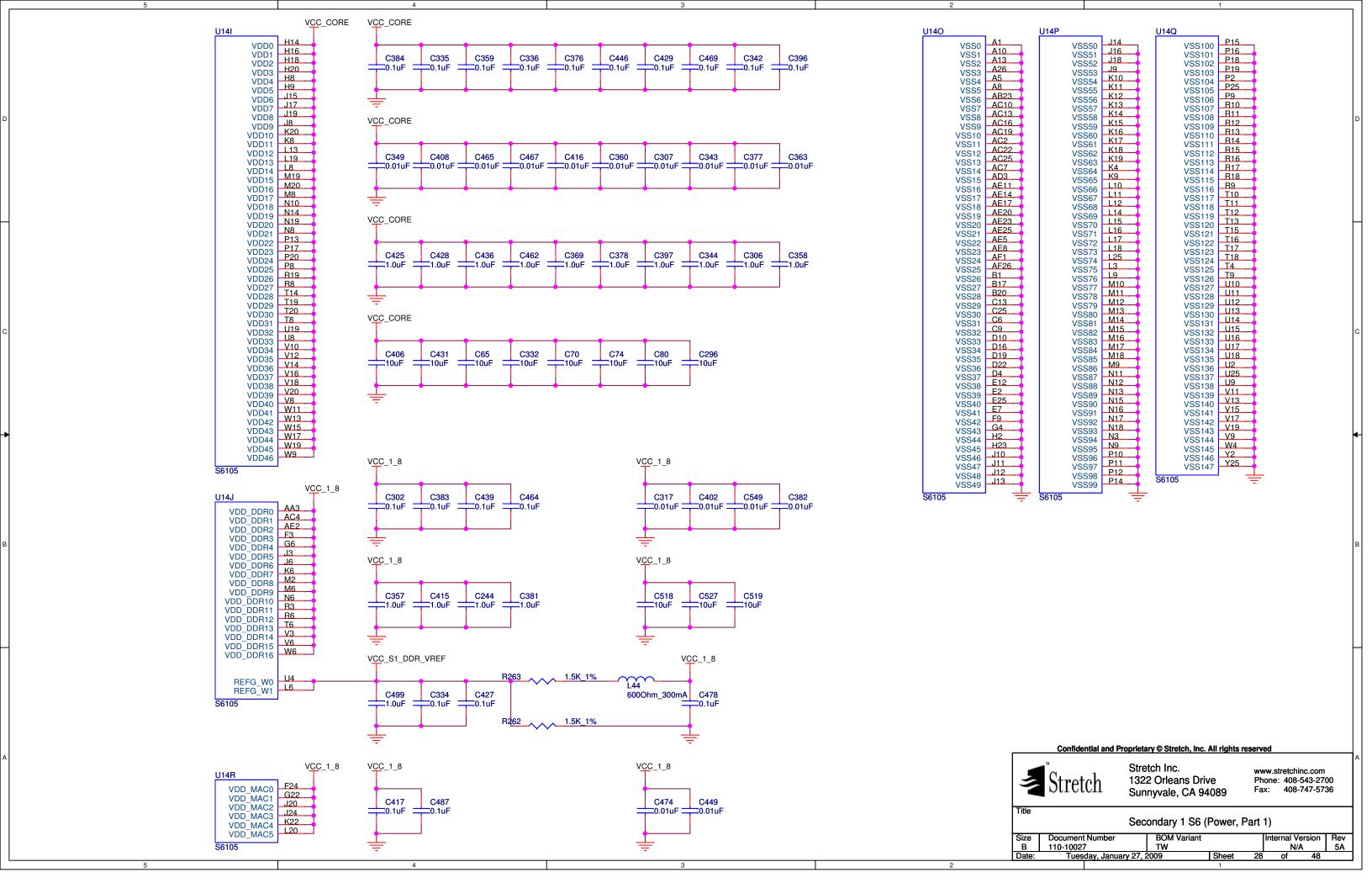
ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths): The VD_CH8, VD_CH10 buses, vid_clkpo_ch8-11, and vid_clkno_ch8-11 should be matched to within +/- 250ps (1250mil).

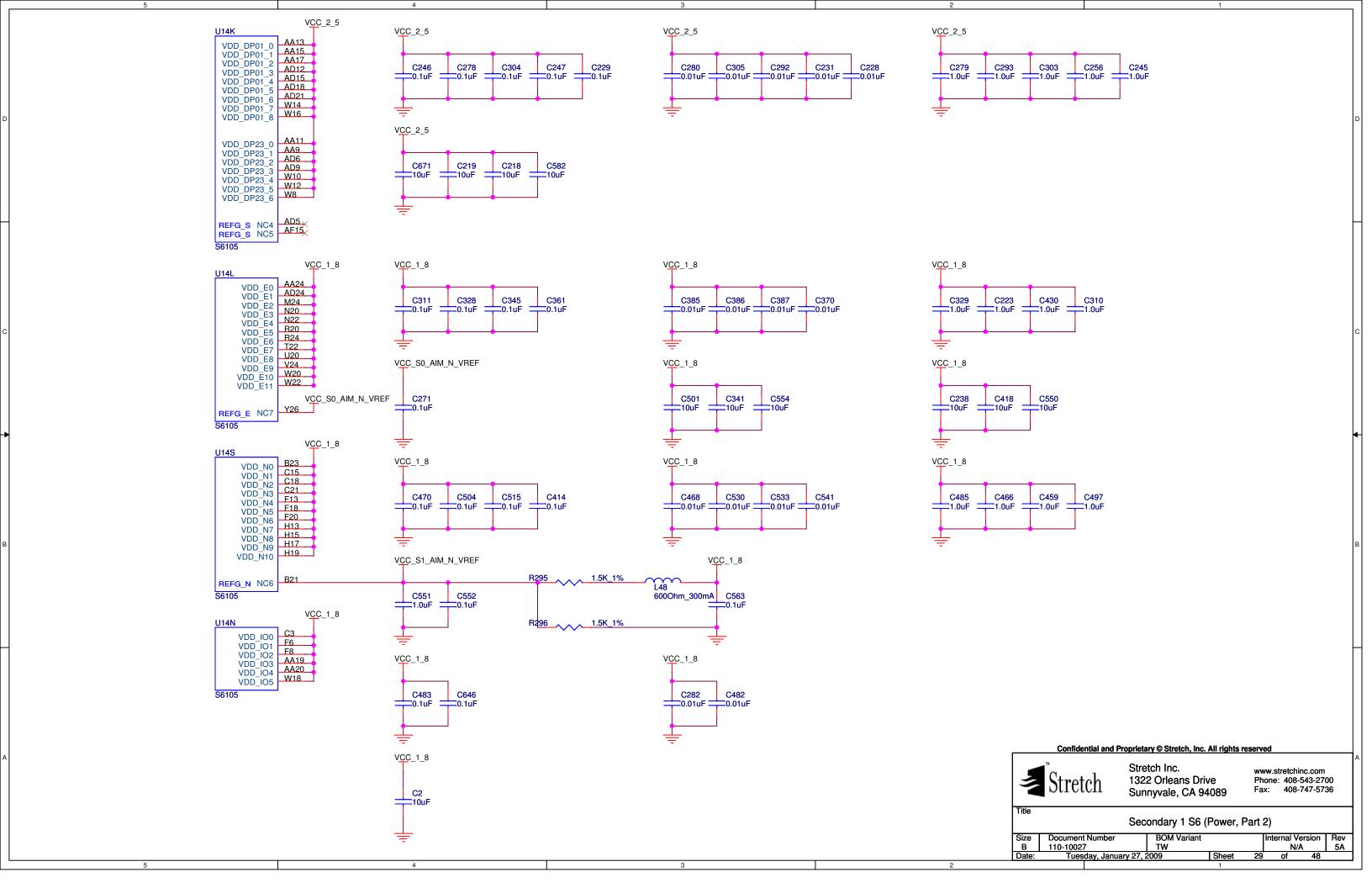


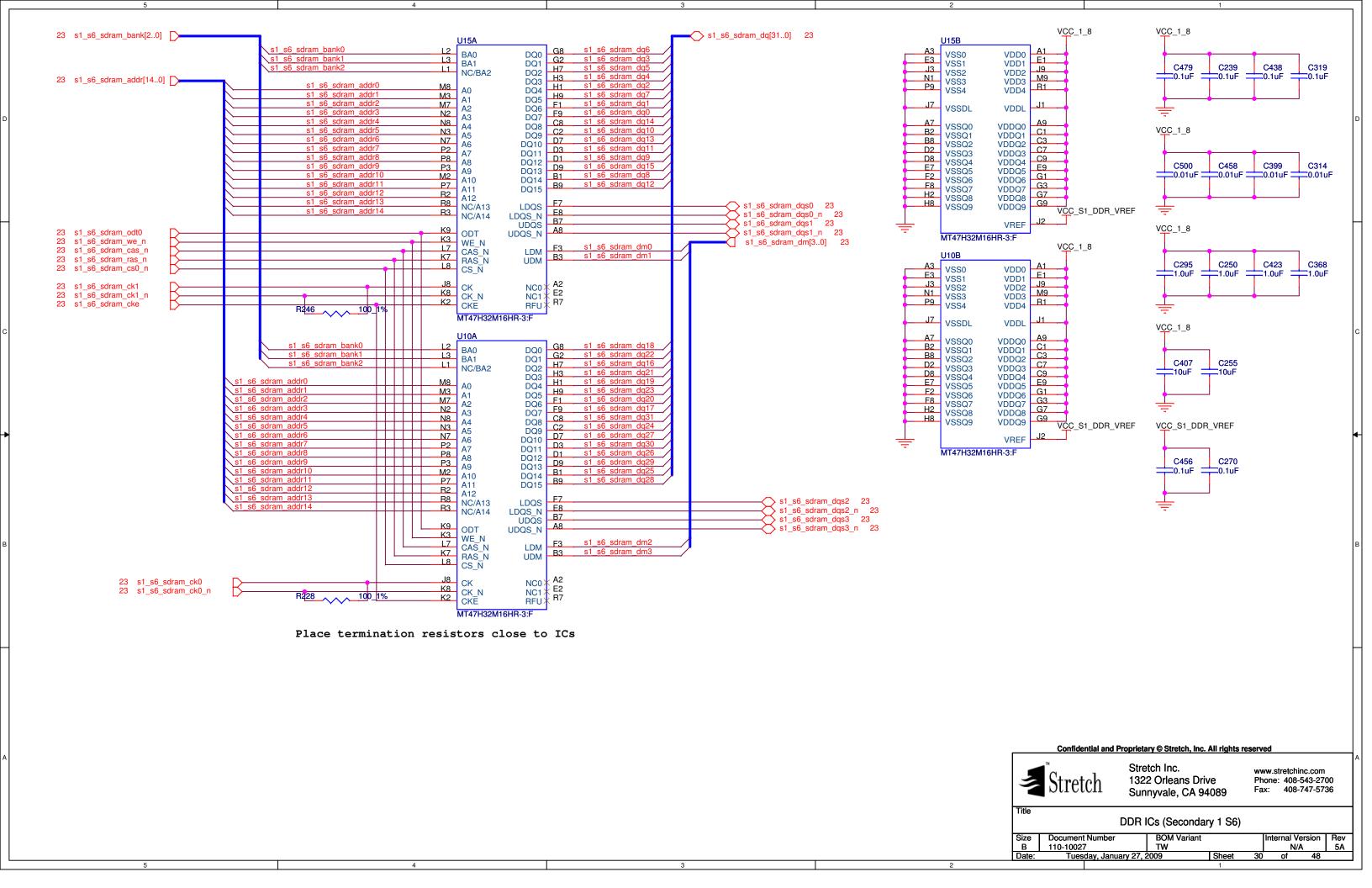
```
s1_s6_aim_n_i[22..0] 35
                                                                                                                                          AIMN_RX0
AIMN_RX1
AIMN_RX2
AIMN_RX3
                                                                                                                                                                  R26
                                                                                                                                                                  B25
                                                                                                                                                            GIB1
                                                                                                                                                                  A25
                                                                                                                                                            GIB2
                                                                                                                                                                  E22
                                                                                                                                                            GIB3
                                                                                                                                                                  D23
                                                                                                                                          AIMN_RX4
AIMN_RX5
                                                                                                                                                            GIB4
                                                                                                                                                                  C24
B24
                                                                                                                                                            GIB5
GIB6
GIB7
                                                                                                                                          AIMN_RX6
AIMN_RX7
                                                                                                                                                                  E21
                                                                                                                                                                  A24
                                                                                                                                                            GIB8
GIB9
                                                                                                                                          AIMN_RX8
                                                                                                                                          AIMN_RX9
                                                                                                                                          AIMN_RX10
                                                                                                                                                           GIB10
                                                                                                                                                                  C23
                                                                                                                                          AIMN_RX11
                                                                                                                                                           GIB11
                                                                                                                                          AIMN_RX12
                                                                                                                                                           GIB12
                                                                                                                                          AIMN_RX13
                                                                                                                                                           GIB13
                                                                                                                                          AIMN_RX14
                                                                                                                                                           GIB14
                                                                                                                                                                  A23
                                                                                                                                          AIMN RX15
                                                                                                                                                           GIB15
                                                                                                                                          AIMN_RX16
                                                                                                                                                           GIB16
                                                                                                                                                                  A22
                                                                                                                                          AIMN RX17
                                                                                                                                                           GIB17
                                                                                                                                          AIMN RX18
                                                                                                                                                           GIB18
                                                                                                                                                                  D18
                                                                                                                                          AIMN_RX19
                                                                                                                                                           GIB19
                                                                                                                                          AIMN RX20
                                                                                                                                                           GIB20
                                                                                                                                          AIMN_RX21
AIMN_RX22
                                                                                                                                                           GIB21
                                                                                                                                                                                                $1_s6_aim_n_o[22..0] 35
                                                                                                                                                           GIB22
                                                                                                                                                                  D17
                                                                                                                                          AIMN_TX22
                                                                                                                                                           GIB23
                                                                                                                                          AIMN_TX22
AIMN_TX21
AIMN_TX21
AIMN_TX19
AIMN_TX18
AIMN_TX16
AIMN_TX15
AIMN_TX14
AIMN_TX13
AIMN_TX14
AIMN_TX14
AIMN_TX11
AIMN_TX10
AIMN_TX10
AIMN_TX9
AIMN_TX8
AIMN_TX8
AIMN_TX8
AIMN_TX7
                                                                                                                                                           GIB24
                                                                                                                                                           GIB25
GIB26
GIB27
GIB28
                                                                                                                                                                  E16
                                                                                                                                                                  C17
                                                                                                                                                                  B19
                                                                                                                                                                  A20
                                                                                                                                                           GIB29
GIB30
                                                                                                                                                                  C16
                                                                                                                                                           GIB31
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                                                                                                                                                           GIB32
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                                                                                                                                                           GIB33
                                                                                                                                                                  D15
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                                                                                                                                                           GIB36
                                                                                                                                                                  E14
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                                                                                                                                                           GIB38
                                                                                                                                                                  D14
                                                                                                                                          AIMN_TX6
                                                                                                                                                           GIB39
                                                                                                                                                                  C14
                                                                                                                                          AIMN_TX5
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                                                                                                                                          AIMN_TX4
                                                                                                                                                           GIB41
                                                                                                                                                                  A16
                                                                                                                                          AIMN_TX3
                                                                                                                                                      GIB_CE0_N
                                                                                                                                                                  E13
                                                                                                                                          AIMN_TX2
                                                                                                                                                      GIB_CE1_N
                                                                            VCC_1_8
                                                                                                                                                                  A15
                                                                                                                                          AIMN TX1
                                                                                                                                                      GIB CE2 N
                                                                                          1.5K_1% E5 AIM_NORTH VDD_IO
                                                                                                                                          AIMN_TX0
                                                                                                                                                      GIB_CE3_N
                                                                                                          D20 NC16
                                                                                                                            AIMN_RX_CLK_PAIMN_TX_CLK_P
AIMN_RX_CLK_MAIMN_TX_CLK_M
                                                        35 \quad s1\_s6\_aim\_n\_rx\_clk
                                                                                                                                                                                                    s1_s6_aim_n_tx_clk 35
                                                                                                          D21 NC17
                                                        35 s1_s6_aim_n_rx_clk_n
                                                                                                                                                                                                    s1_s6_aim_n_tx_clk_n 35
The following buses are embedded in the schematic:
S1_S6_AIM_N_O
                                                                                                                                AIM_NORTH = 1.8V
->contains the aim n o, aim n tx clk and aim n tx clk n signals
S1 S6 AIM N I
->contains the aim_n_i, aim_n_rx_clk and aim_n_rx_clk_n signals
The following differential pairs are embedded in the schematic:
S1_S6_AIM_N_RX_CLK
S1_S6_AIM_N_TX_CLK
                                                                                                                                                                                                                             Confidential and Proprietary © Stretch, Inc. All rights reserved
                                                                                                                                                                                                                                            Stretch Inc.
                                                                                                                                                                                                                                                                       www.stretchinc.com
                                                                                                                                                                                                                                                                       Phone: 408-543-2700
Fax: 408-747-5736
                                                                                                                                                                                                                                            1322 Orleans Drive
                                                                                                                                                                                                                                            Sunnyvale, CA 94089
ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths):
1) Differential pairs should be matched to within +/- 5ps (25mil).
2) The S1_S6_AIM_N_O bus should be matched to within +/- 50ps (250mil).
                                                                                                                                                                                                                                        Secondary 1 S6 (AIM North Interface)
3) The S1 S6 AIM N I bus should be matched to within +/- 50ps (250mil).
                                                                                                                                                                                                                    Size Document Number B 110-10027
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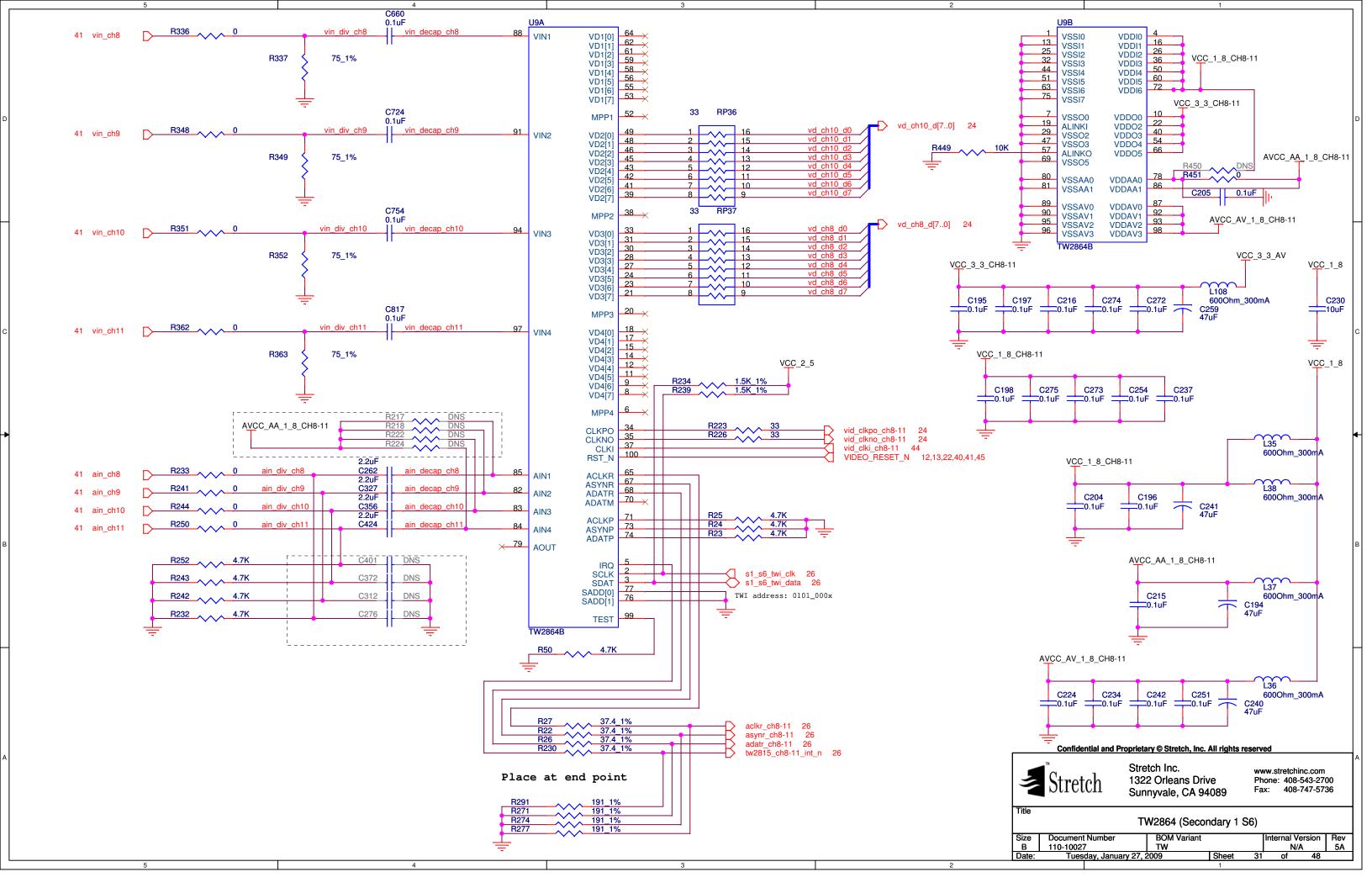


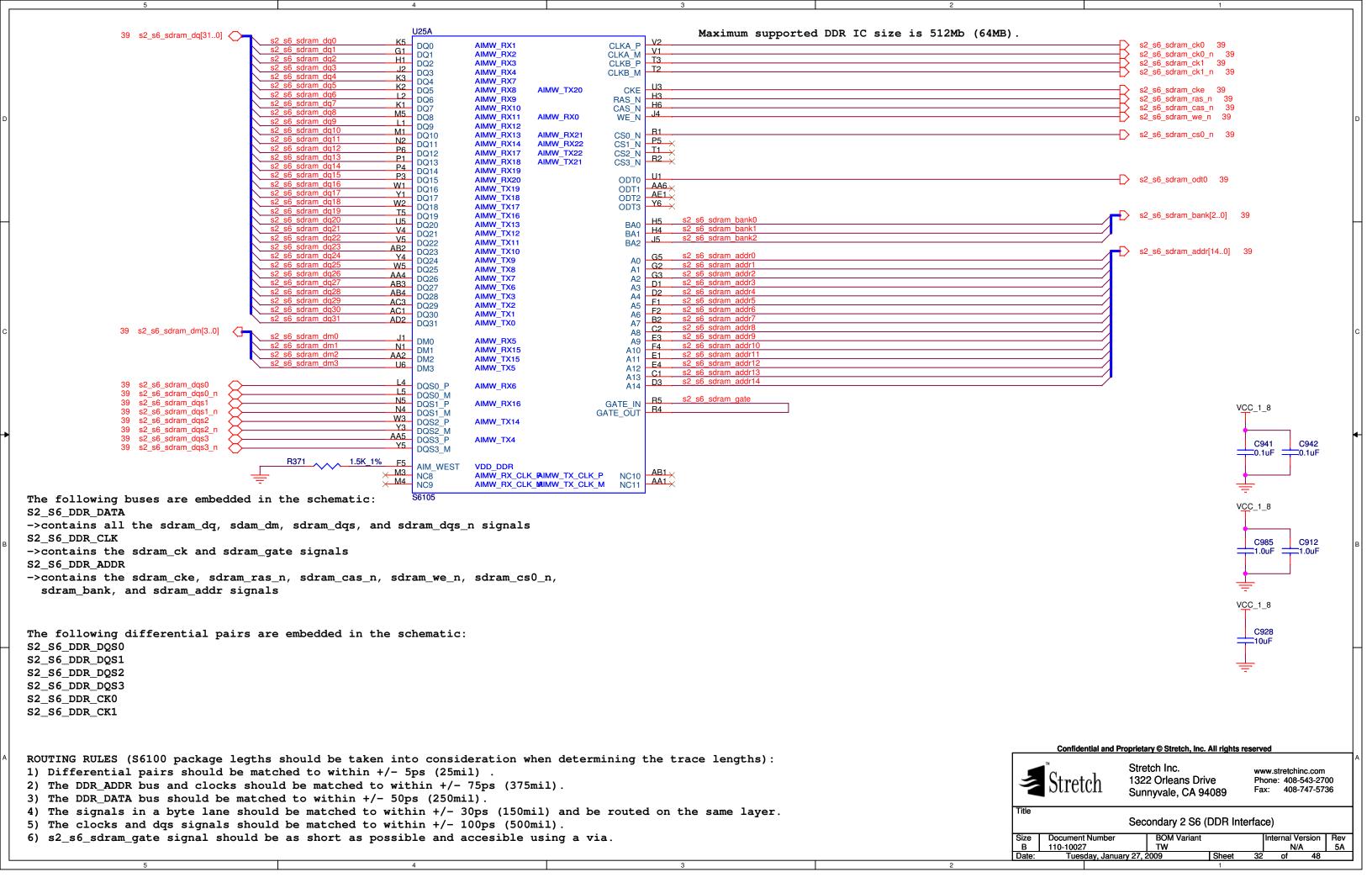




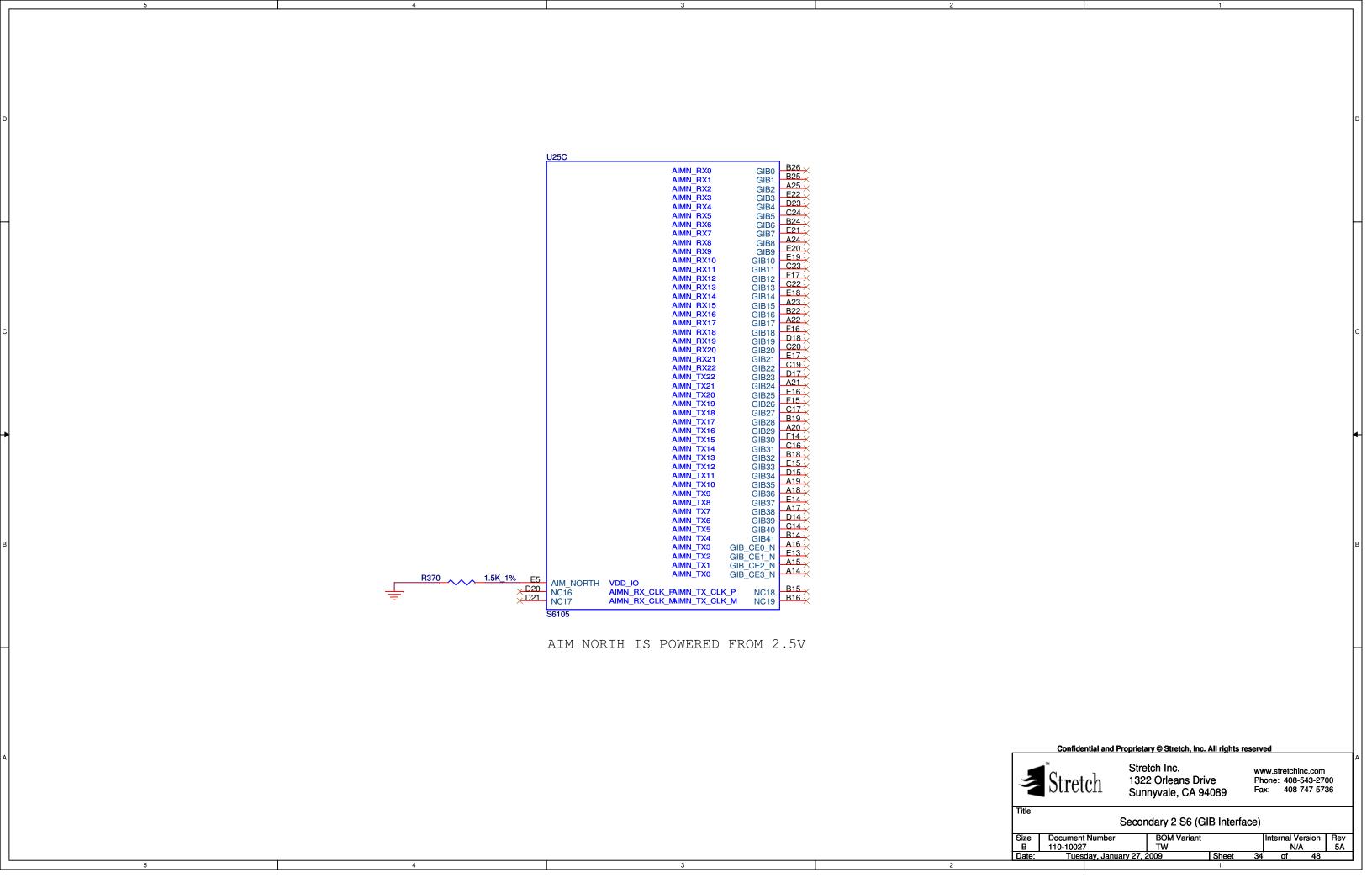


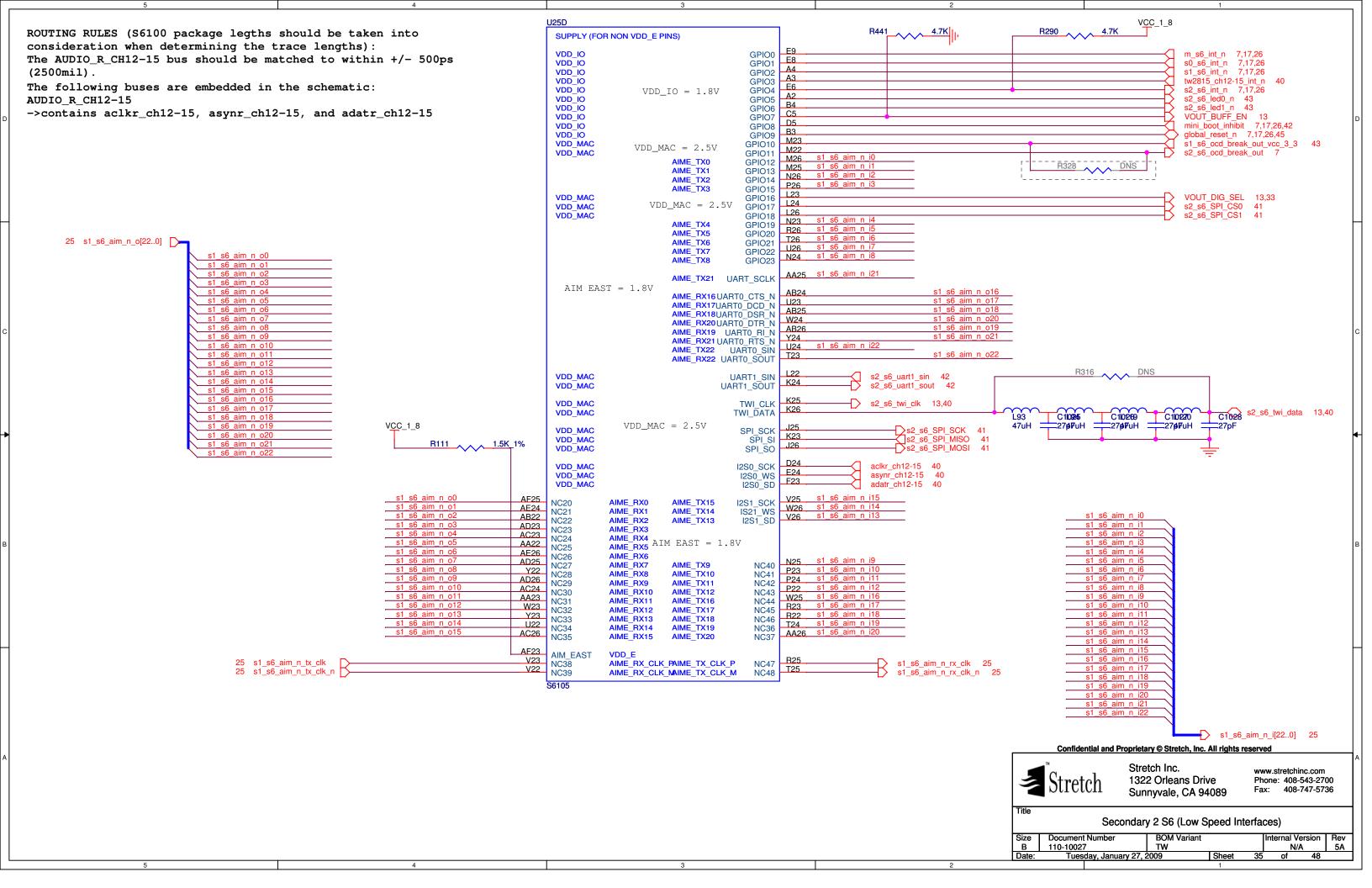


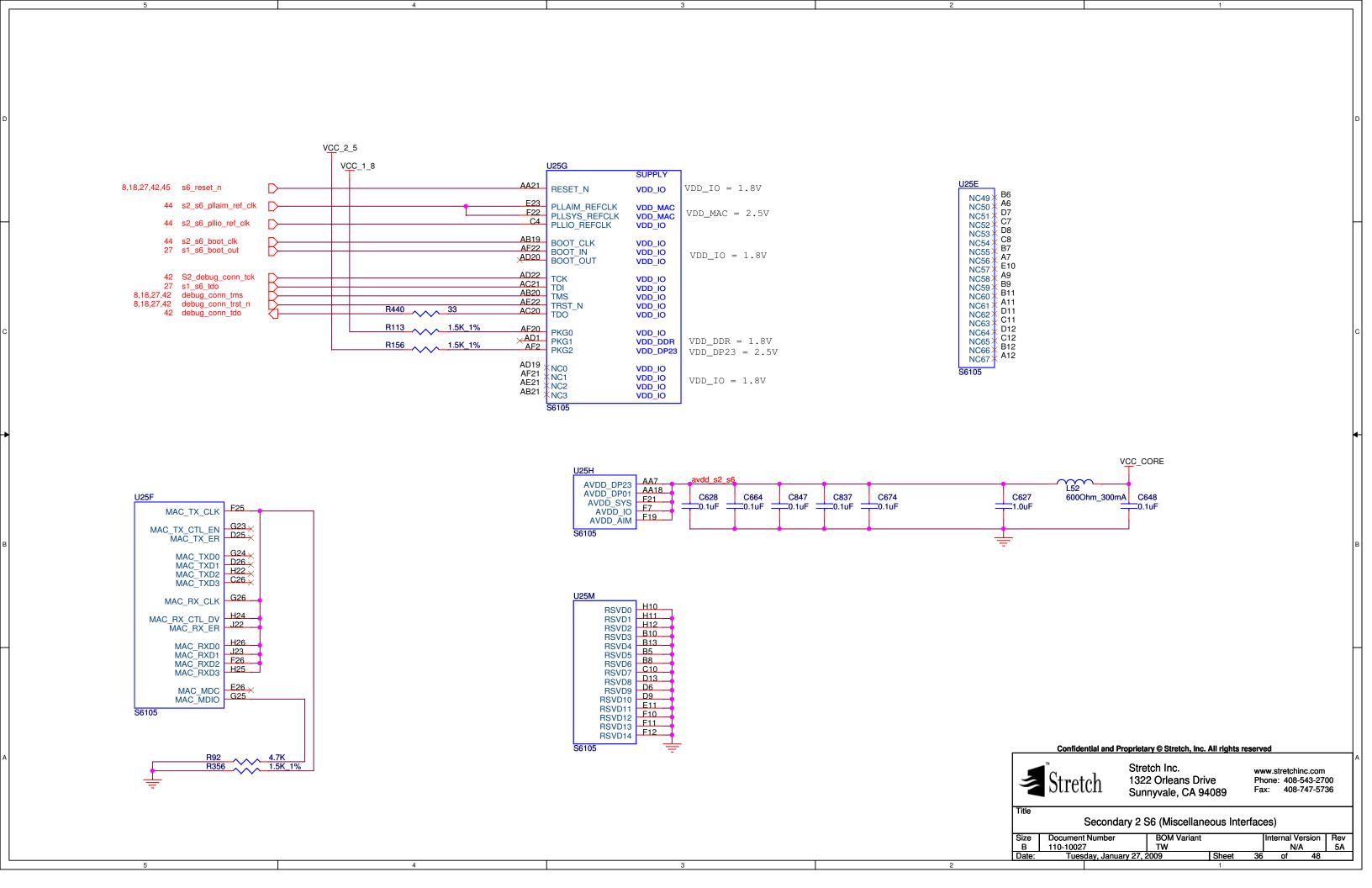


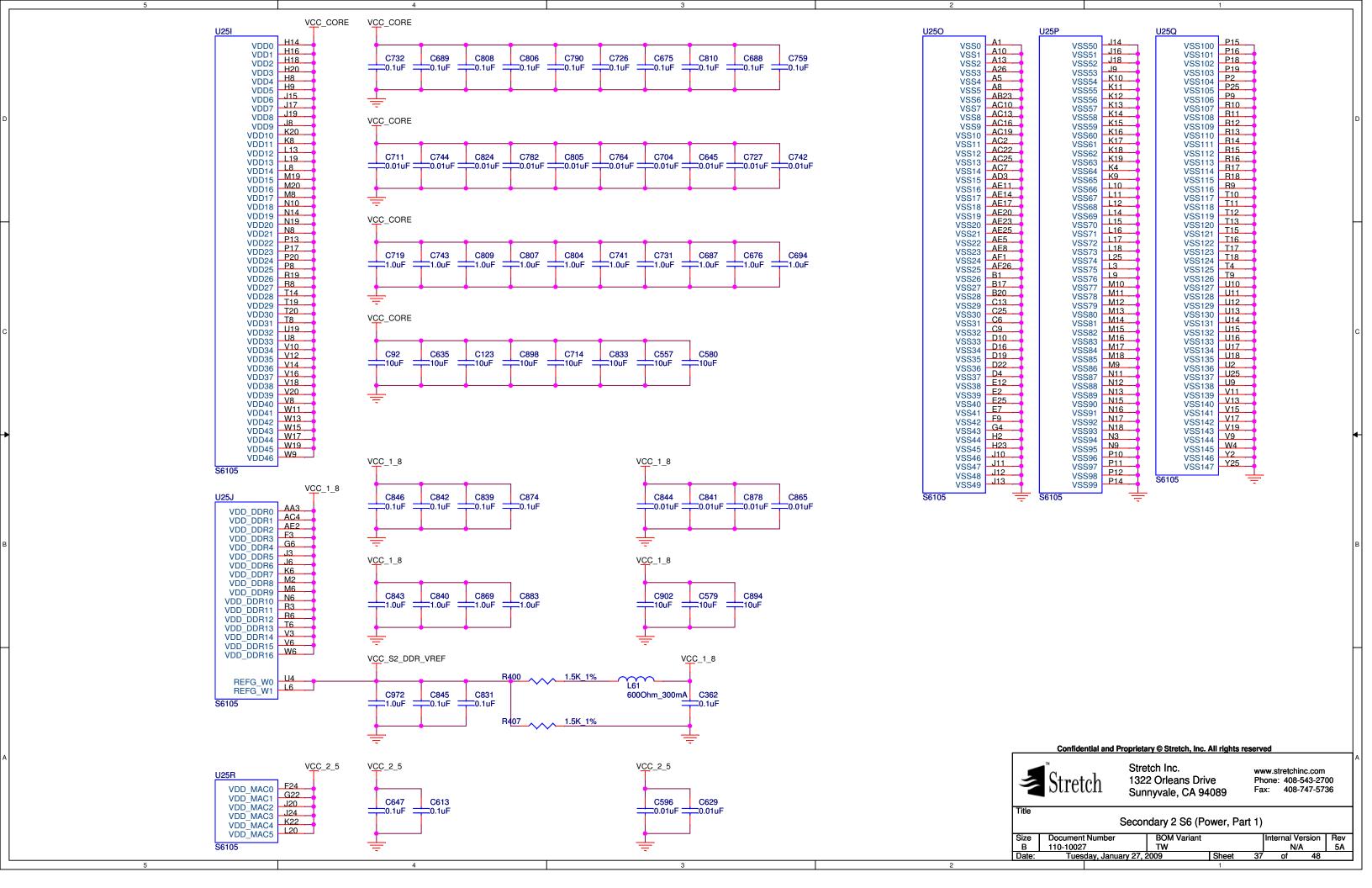


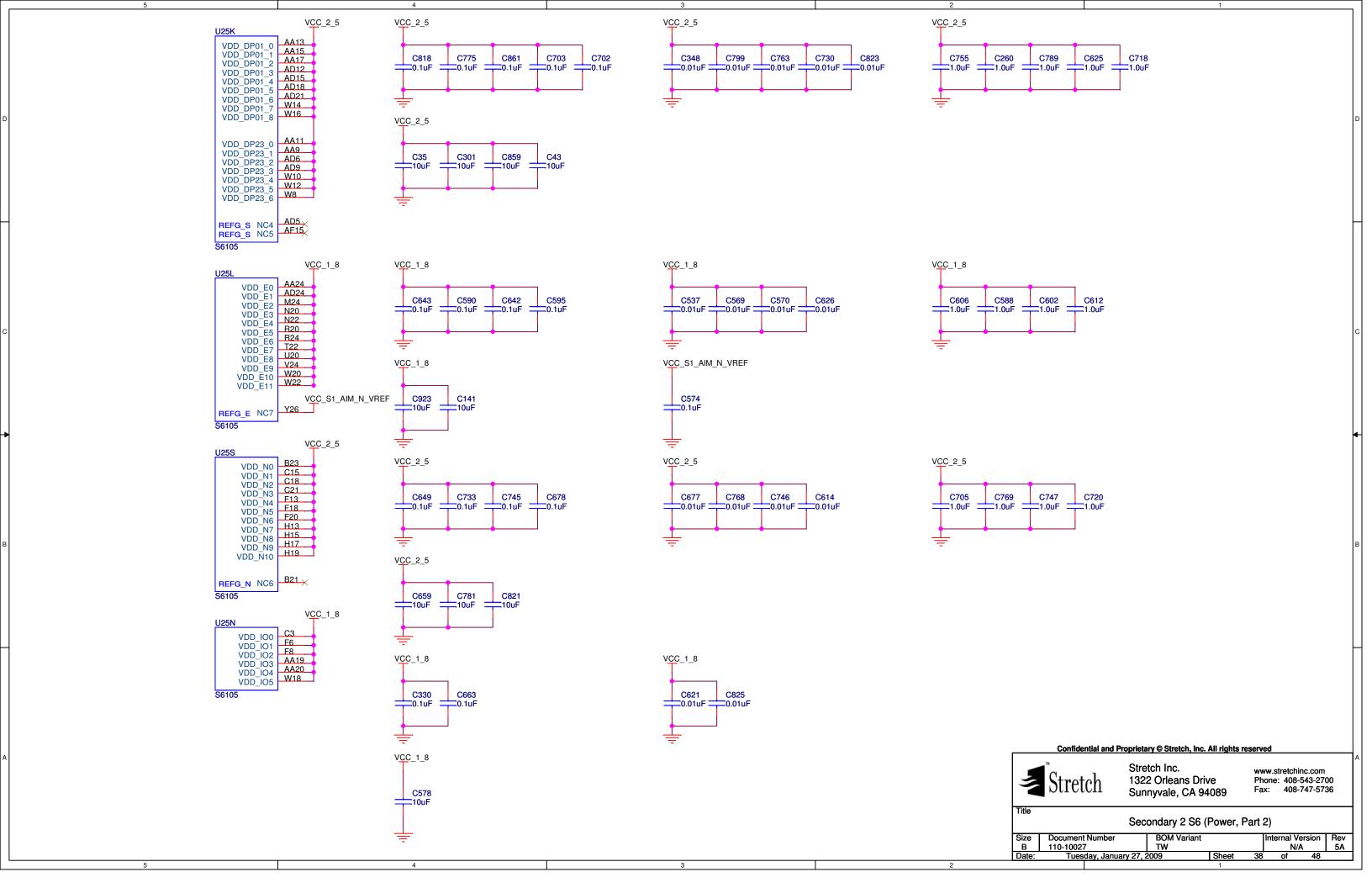
dp0_clk_ref and dp2_clk_ref need to be driven for reset initialization. 40 vid_clkno_ch12-15 \rightarrow AE15 AC9 SAA7121_clk_out 13 40 vid_clkpo_ch12-15 DP01 REFCLK DP23 REFCLK AA16 DP0 CLK DP2 CLK DP0_SYNC_V AIMS_TX11 AIMS_RX13 DP2_SYNC_V AB16 AD8 DP0_SYNC_H AIMS_TX10 AIMS_RX14 DP2_SYNC_H AC15 AB10 DP0_FIELD DP2_FIELD AB15 DP0_BLANK AA10 AIMS_RX12 DP2_BLANK AE19 DP0_DATA0 DP2_DATA0 AC18 AC12 40 vd_ch12_d[7..0] DP0 DATA1 AIMS_TX1 DP2 DATA1 vd_ch12_d0 vd_ch12_d0 AB18 DP0_DATA2 AE9 AIMS TX2 AIMS_RX22 DP2 DATA2 vd_ch12_d1 AF19 DP0_DATA3 AD10 vd_ch12_d1 AIMS_TX3 AIMS_RX21 DP2_DATA3 AE18 DP0_DATA4 AIMS_TX4 AIMS_RX20 DP2 DATA4 AF18 DP0_DATA5 AIMS_TX5 AIMS_RX19 DP2 DATA5 AB17 DP0_DATA6 AB12 AIMS_RX18 AIMS_TX6 DP2 DATA6 AC17 DP0_DATA7 AIMS_TX7 AIMS_RX17 DP2 DATA7 AD17 DP0_DATA8 AIMS TX8 AIMS RX16 DP2 DATA8 AF17 DP0_DATA9 AIMS_TX9 AIMS_RX15 DP2_DATA9 ×AF9 DP1_CLK DP3 CLK = s2_s6_dp3_clk 13 AE10 DP1_SYNC_V AF11 DP1_SYNC_H VCC_3_3 AIMS RX0 DP3 SYNC V VCC_3_3 AB7♀ AIMS RX1 DP3_SYNC_H AE3 🗘 AB13 DP3_FIELD DP1 FIELD VCC C1040 AF10 DP1_BLANK _AA8 🗘 DP3_BLANK =0.1uF 1B2 AF14 AD14 DP1_DATA1 DP1_DATA1 DP1_DATA2 vd_ch14_d1 AF5 DP3_DATA0 DP3_DATA1 AIMS TX13 AIMS RX11 2B2 AF4 🗘 40 vd_ch14_d[7..0] AIMS TX14 AIMS RX10 3B2 vd_ch14_d0 AC8 AIMS TX15 AIMS RX9 DP3_DATA2 4B2 vd_ch14_d1 AA14 AR9 VOUT_DIG[7..0] 13 AIMS RX8 DP1_DATA3 AIMS TX16 DP3_DATA3 AB14 DP1_DATA4 AE4 AIMS TX17 AIMS RX7 1B1 DP3_DATA4 AC14 AC6 AIMS BX6 DP3_DATA5 DP1_DATA5 AIMS TX18 2B1 AF3 AF13 AIMS RX5 DP1_DATA6 AIMS_TX19 DP3_DATA6 3B1 AD13 AR8 AIMS_RX4 DP1_DATA7 AIMS TX20 4B1 DP3 DATA7 AF12 AC5 DP1_DATA8 AIMS_TX21 AIMS RX3 DP3_DATA8 AE12 AD4 AIMS_TX22 AIMS_RX2 DP1_DATA9 DP3_DATA9 0E_N 1.5K_1% AF24 8 AIM_SOUTH GND \times AF6 AIMS_RX_CLK_PAIMS_TX_CLK_P AIMS_RX_CLK_MAIMS_TX_CLK_M NC12 NC14 SN74CBTLV3257PWR AE6 _AF16 NC13 S6105 VCC_3_3 VCC_3_3 DP0-3 ARE POWERED FROM 2.5V **U53** C1041 VCC ____0.1uF VCC_2_5 1B2 2B2 R258 4.7K 3B2 4B2 The following buses are embedded in the schematic: VD CH12 2B1 ->contains all the vd_ch12 signals 3B1 Before switching DP3 to an output port be VD CH14 4B1 sure to drive "VOUT_DIG_SEL" low. ->contains all the vd ch14 signals VOUT_DIG_SEL 13,35 15 0E_N GND 8 SN74CBTLV3257PWR $VOUT_DIG_SEL = 0 = A>B1$ VOUT_DIG_SEL = 1 = B2>A (default) Confidential and Proprietary © Stretch, Inc. All rights reserved ROUTING RULES (S6100 package legths should be taken into consideration when determining the trace lengths): Stretch Inc. www.stretchinc.com 1322 Orleans Drive Phone: 408-543-2700 The VD CH12, VD CH14, buses, vid clkpo ch12-15, and vid clkno ch12-15 should be matched to within +/- 250ps (1250mil). Fax: 408-747-5736 Sunnyvale, CA 94089 Secondary 2 S6 (Data Port Interface) Size Document Number nternal Version N/A Tuesday, January 27, 2009

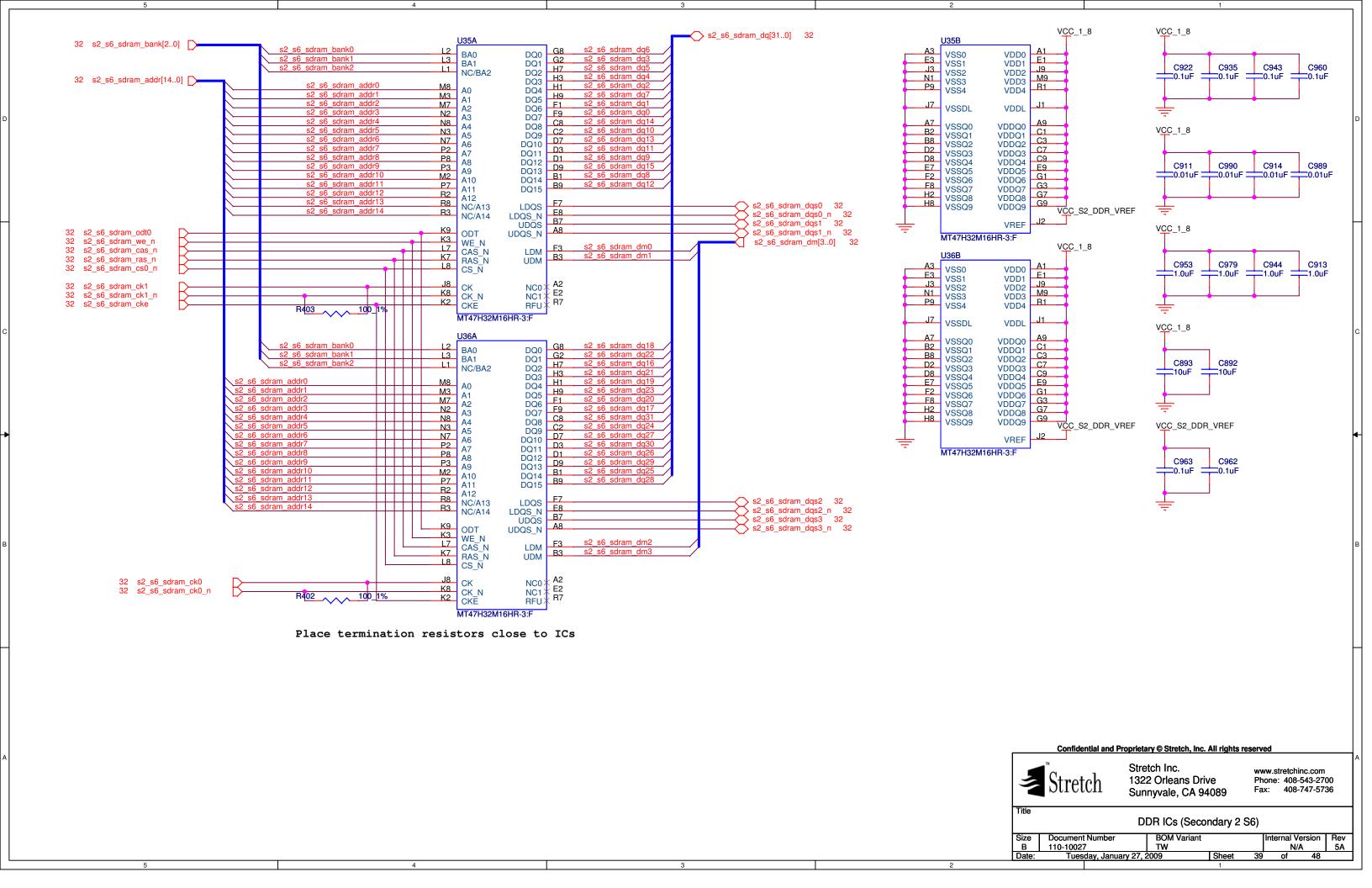


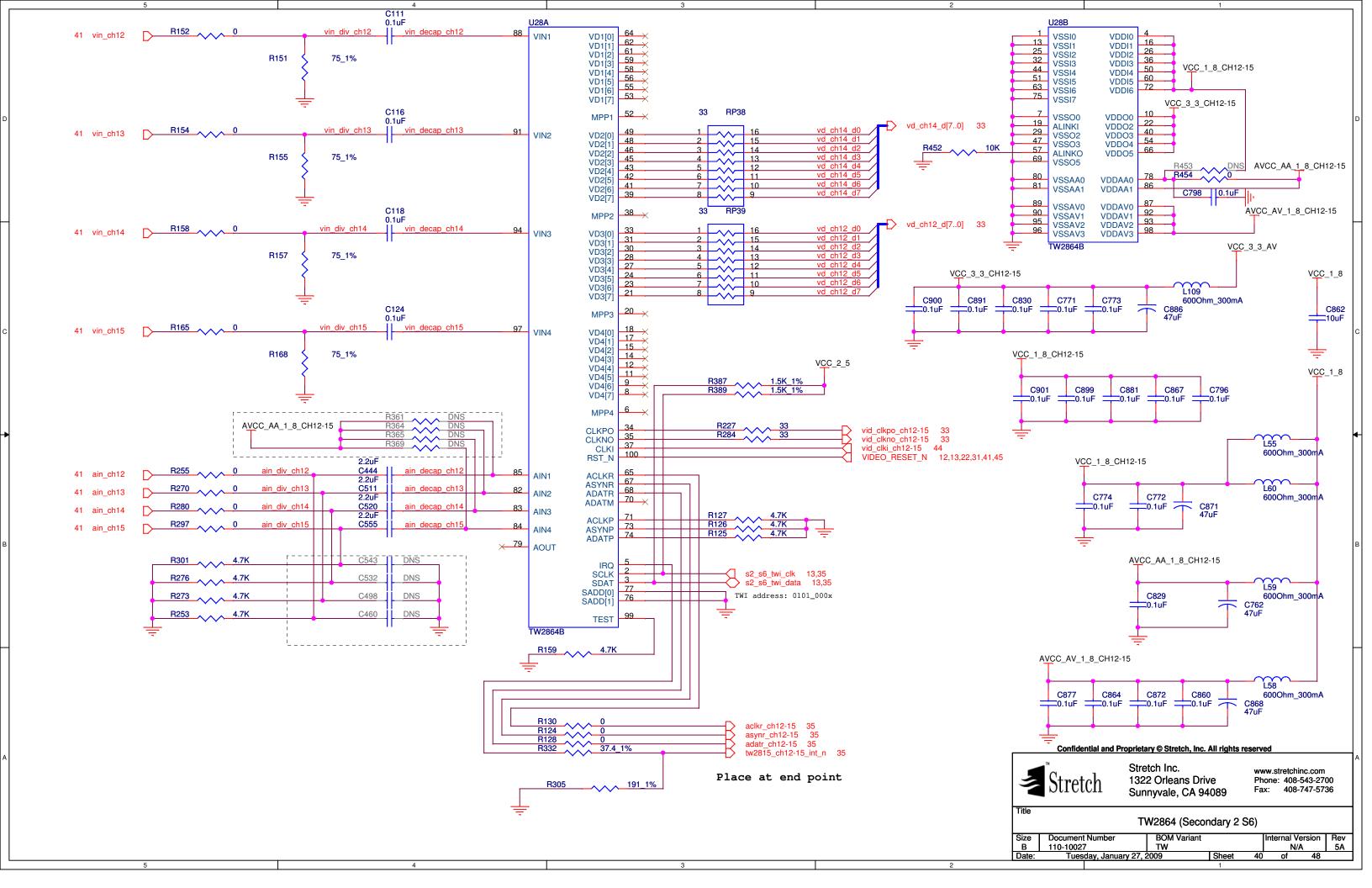


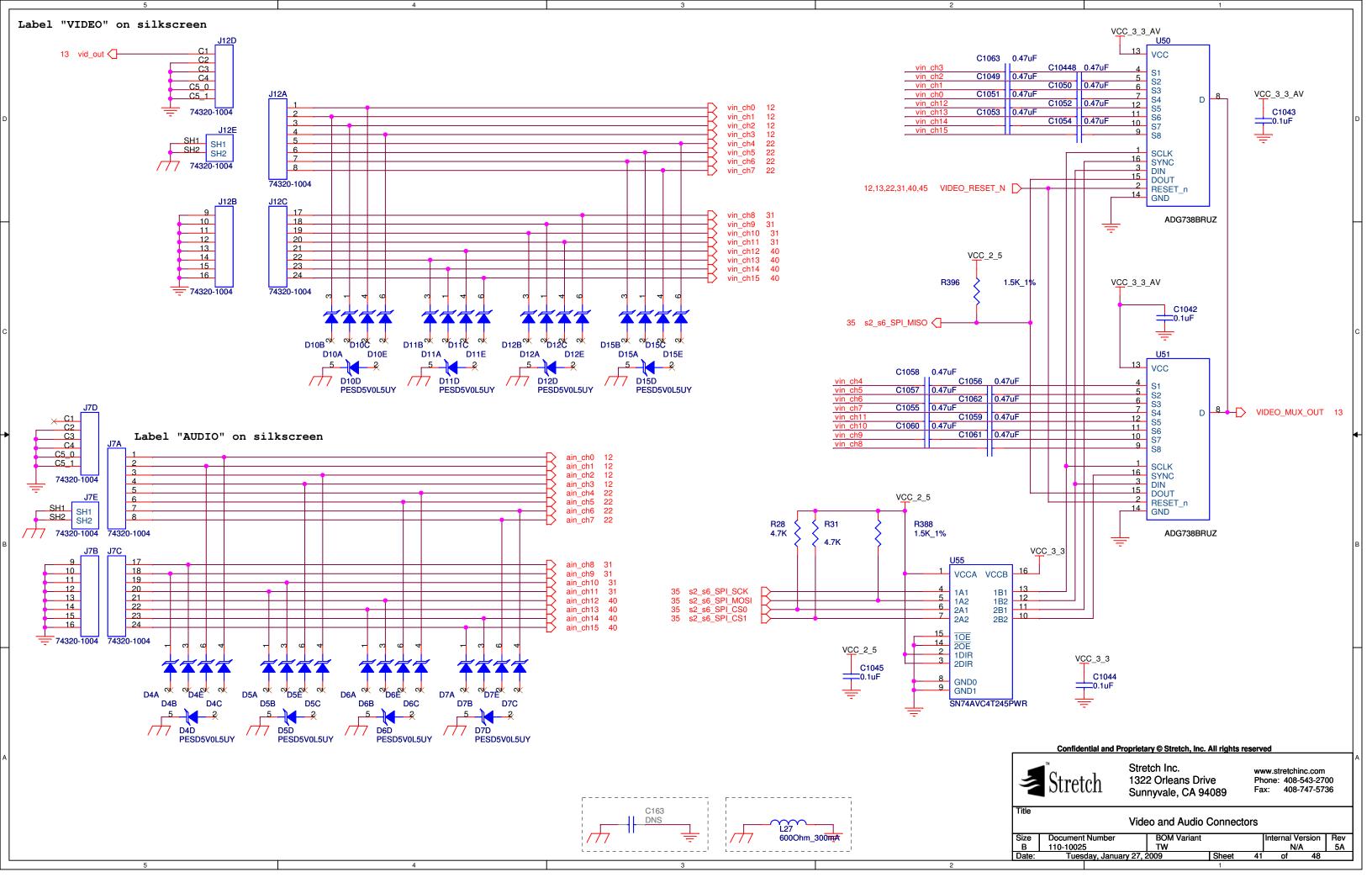


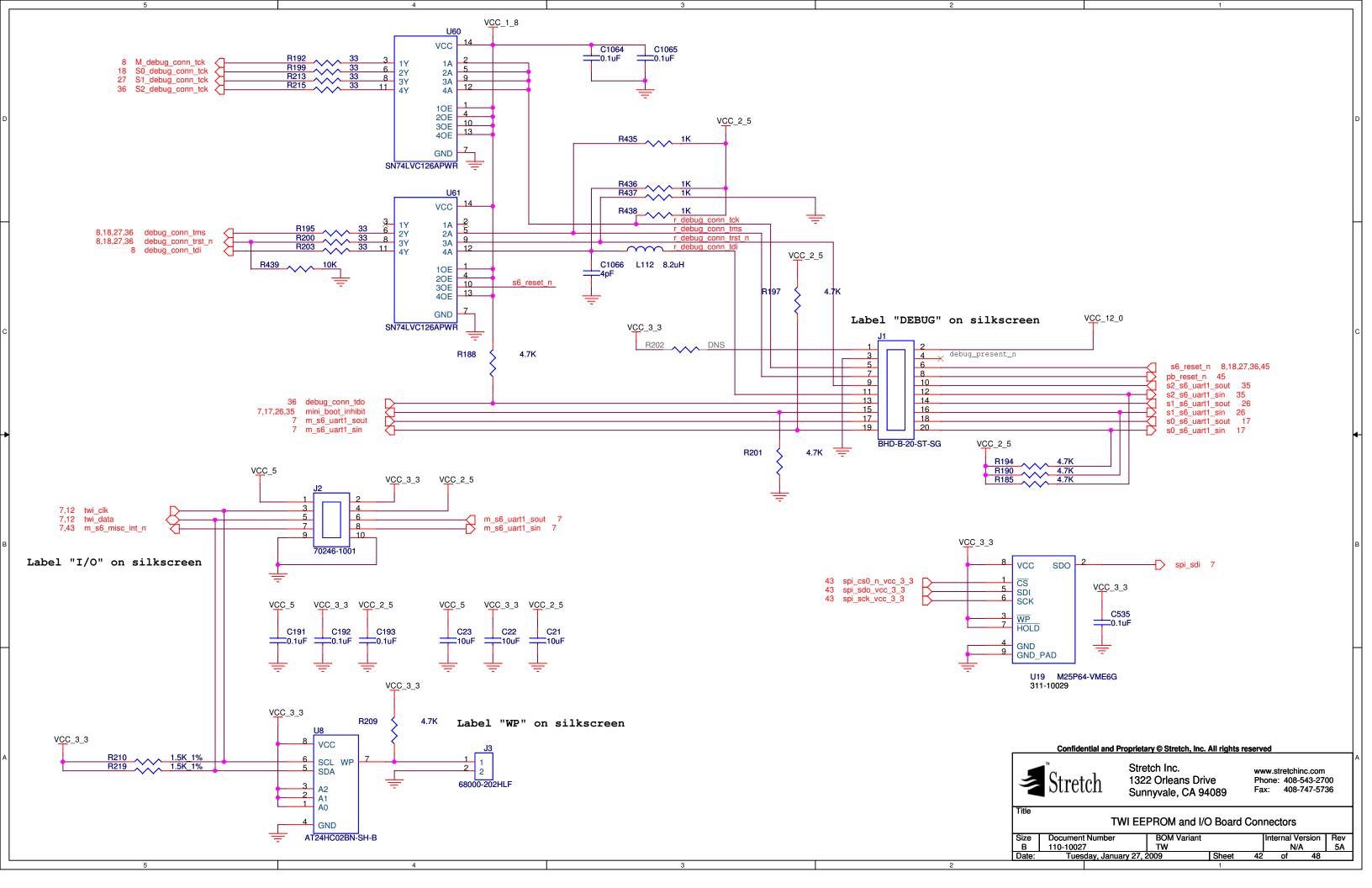


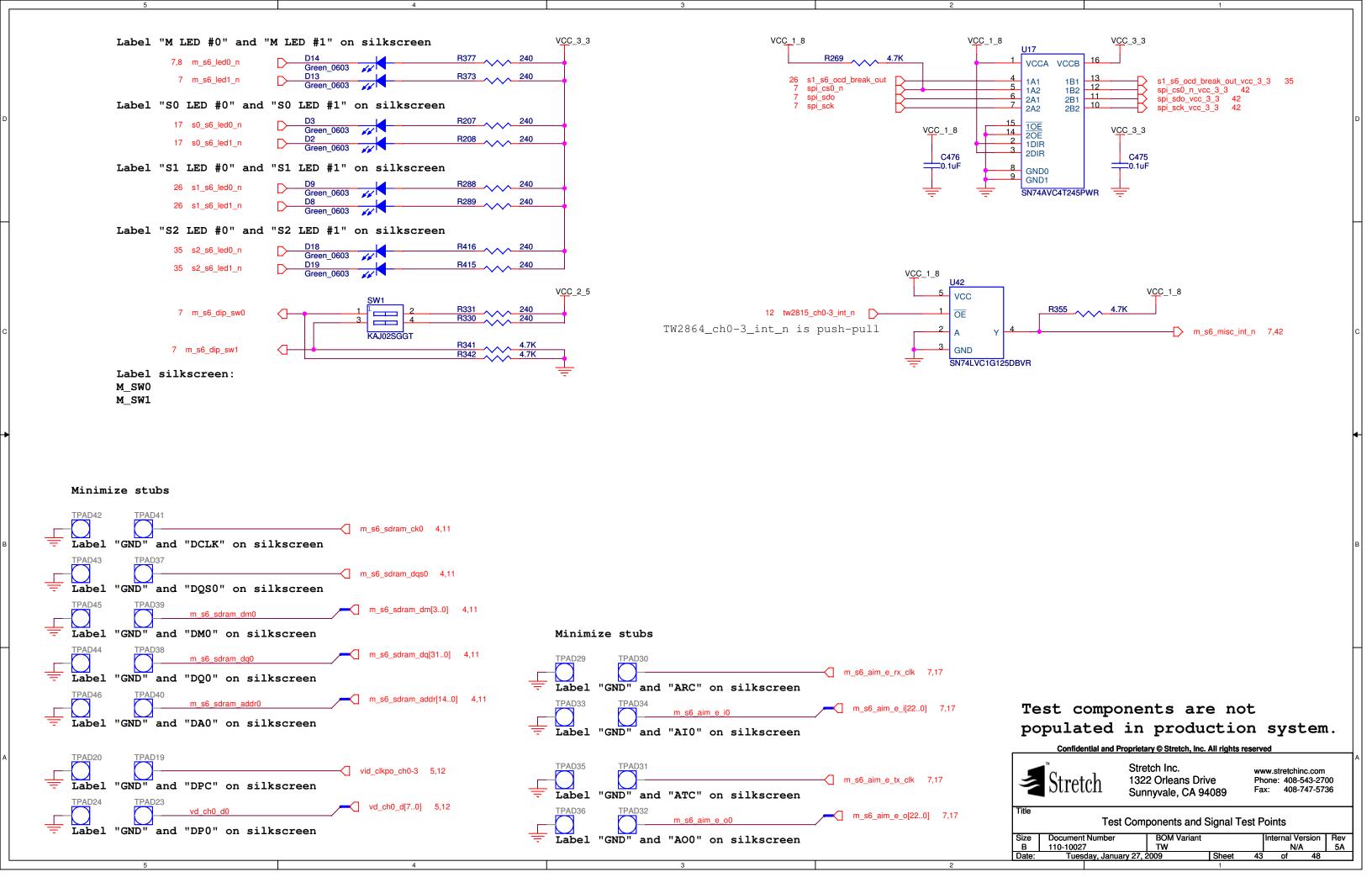


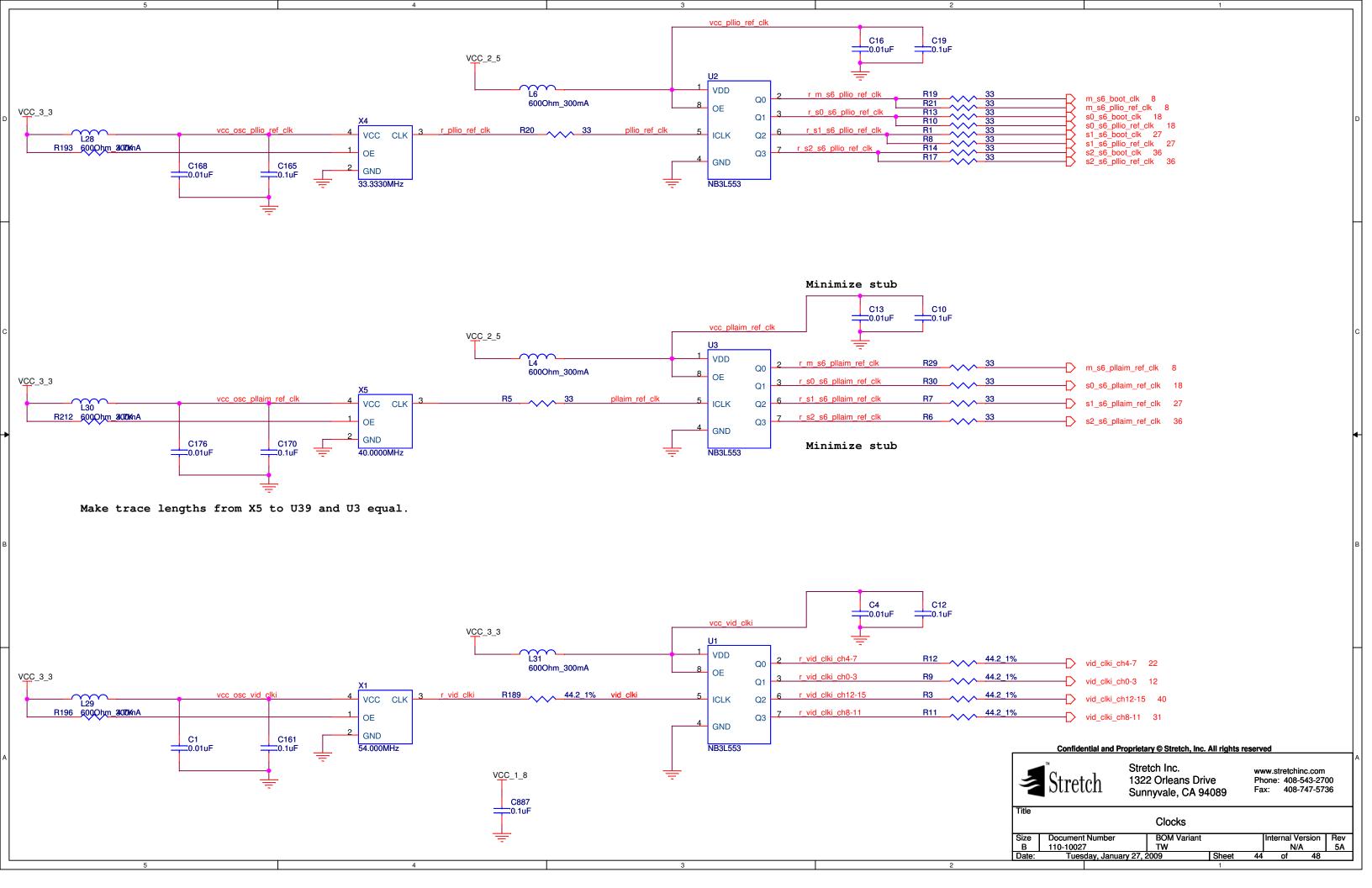


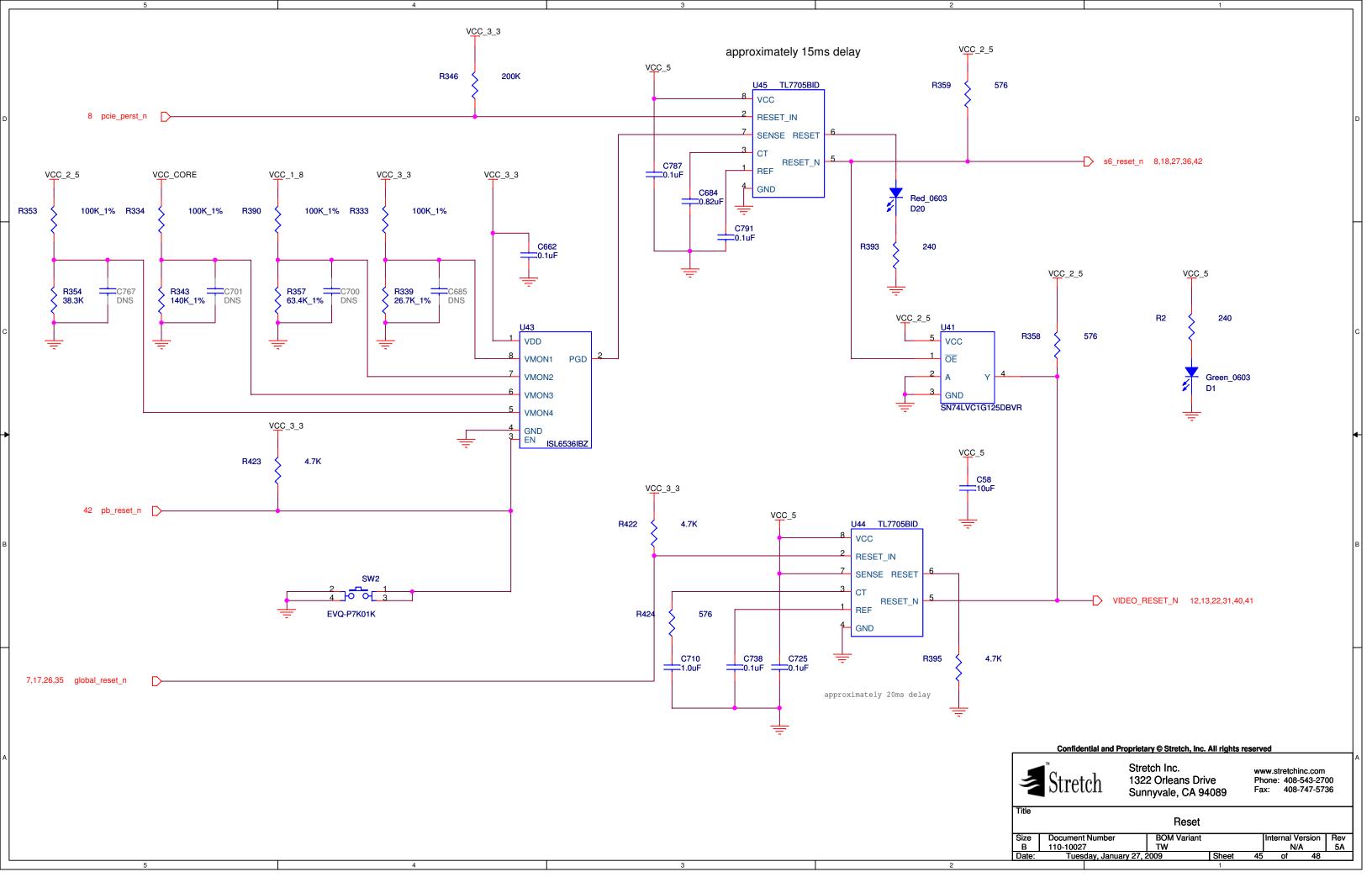


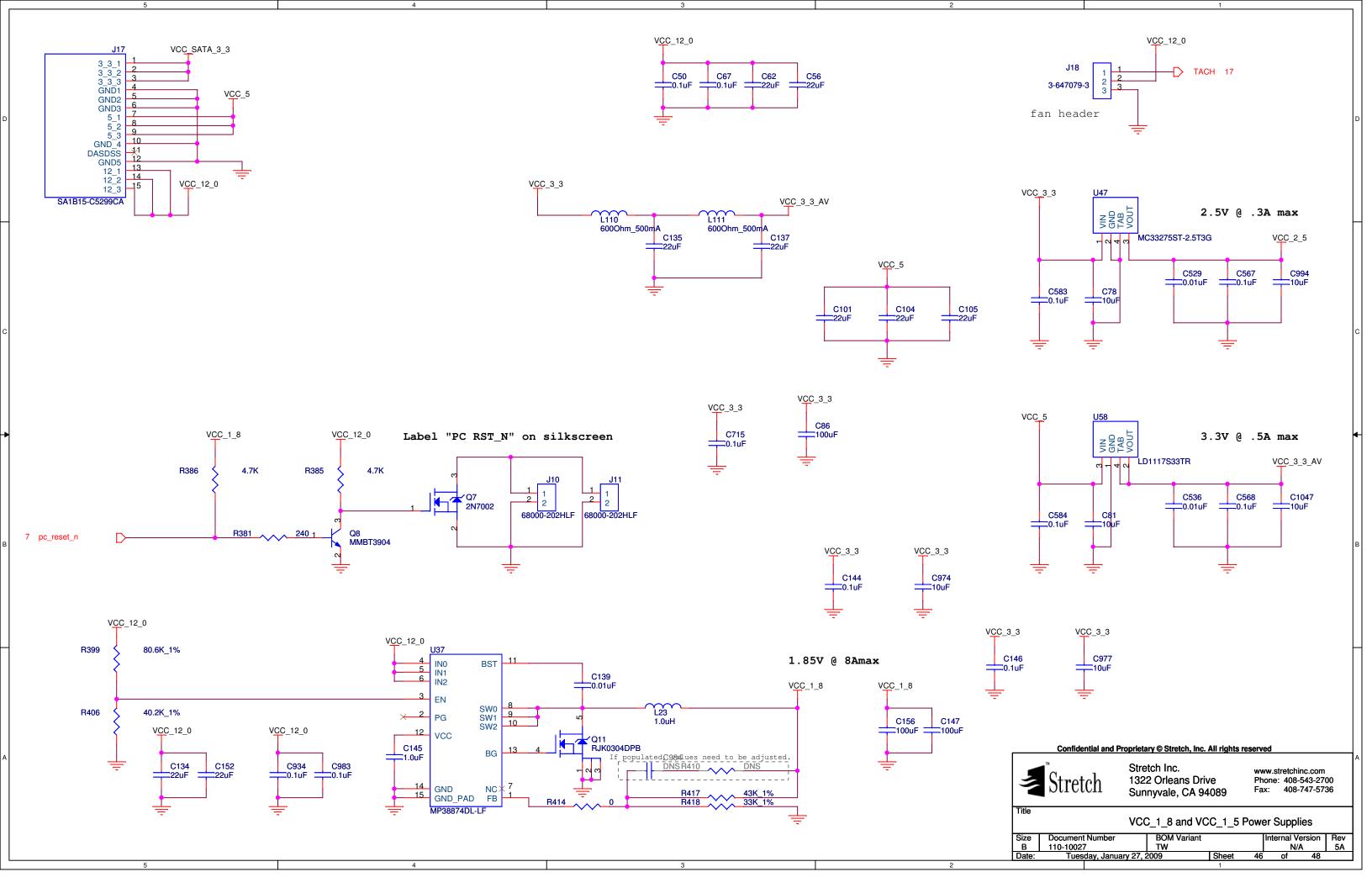


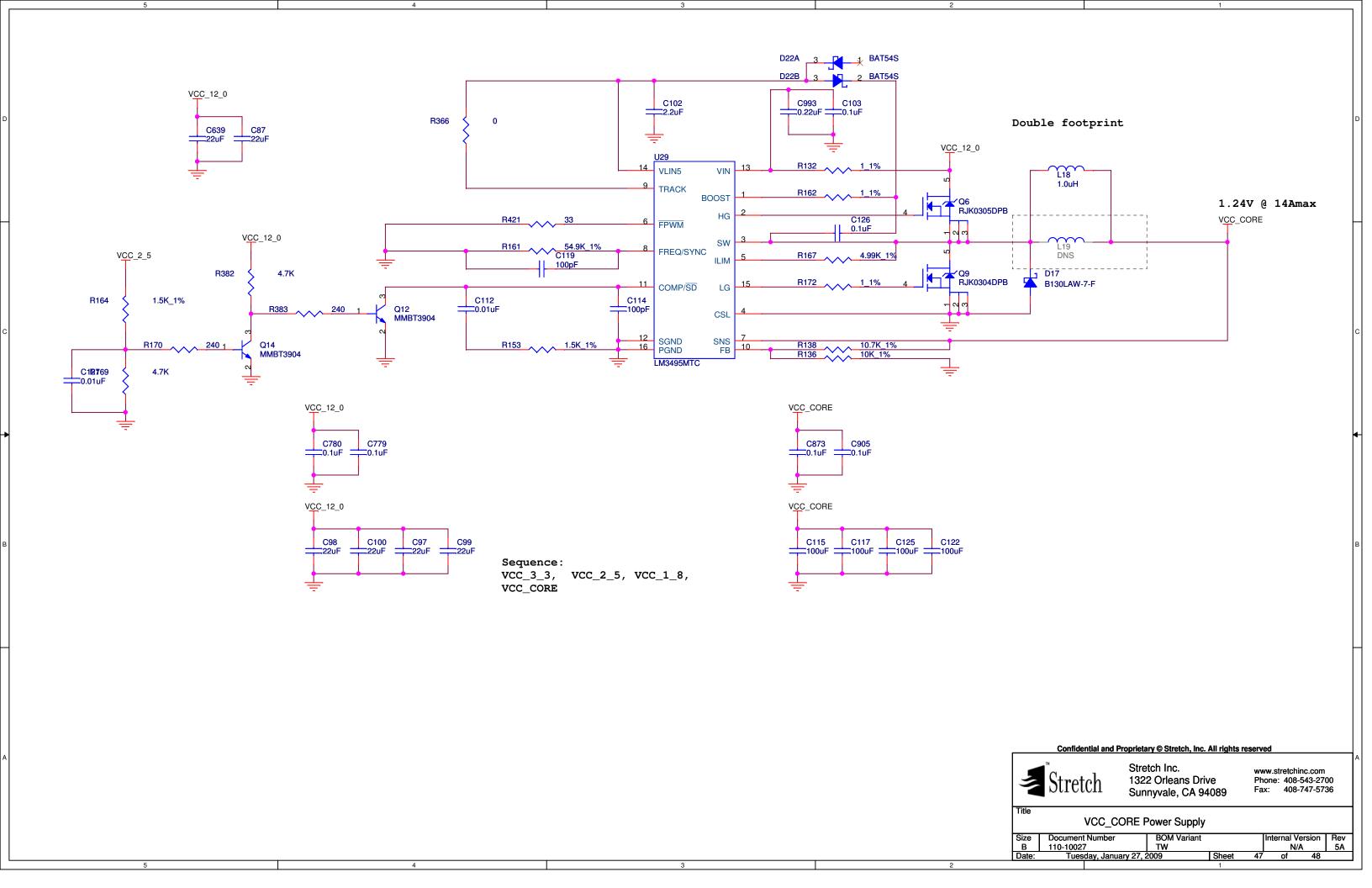












Fab Number: 210-10027-5 Revision Version Date Description	D
JP1 JACK SCREW 250" ZINC/clear JP2 JP3 JP3 JP4 JP4 Z 1 5/7/08 Created from 110-10025-10. Changed main power connector to SATA plug. Removed the 3.3V and 2.5V regulators. Replace 2.5V with LDO. Deleted mounting holes for PCI bracket. Changed to TW2864. Changed the video out circuit. Cost reduced the reset circuit. Changed the IO board connector power. JP4 Z 1 5/7/08 Changed clocks to data ports. SAA7121 was on wrong TWI bus. Trst buffer changed to be controlled by S6_reset. Soft reset pulse shortened. Changed pull up resistor values for S6 and soft reset. Added 27Mbz crystal to SAA7121 chip. Mathematical Screen Section (Changed pull up resistor values for S6 and soft reset. Added 27Mbz crystal to SAA7121 chip.	D
JACK SOREW 250* ZINC/clear JP2 JRACK SOREW 250* ZINC/clear JP4 JP3 JP4 JP4 JP4 JP5 JP6 JP7 JP7 JP8 JP8 JP8 JP8 JP8 JP8	D
BRK1 Bracket, PCI, 2 DVI cutout Bracket, PCI, 2 DVI cutout bs1 DACK SCREW .250" ZINC/clear 2 1 5/7/08 Changed clocks to data ports. SAA7121 was on wrong TWI bus. Trst buffer changed to be controlled by S6_reset. Soft reset pulse shortened. Changed pull up resistor values for S6 and soft reset. Added 27Mhz crystal to SAA7121 chip. Added provision for isolating 3.3V for audio/video functions.	
Added pull ups to Slave 2 SPI bus chip selects. Debug connector now gets S6_reset instead of soft reset. Clock out from SAA7121 goes to PE3 ref clk 2-3. clk N from PE3 TW goes to DP2 clk. AV connectors only use earth ground for the shell, no signals. Changed video out circuit, bias and output buffer, 16 video input caps. Load switch from PCI connector for 3.3V is now controlled by a jumper. Changed audio input resistor values per TW newest spec. fan header is now right angle. / 2.5V LDO moved to back side.	С
NET_PHYSICAL_TYPE: POWER -> Current carrying traces. AVIDEO -> Analog video signals AAUDIO NET_PHYSICAL_TYPE: 9000 3 1 5/27/08 Moved video out filter to the output of the SAA7121. Changed S6_reset pulse width to 100ms. Changed S6_reset pulse width to 100ms.	4
-> Analog audio signals 100HM_DIFF 3.1 1 6/6/08 Changed core voltage to 1.24V TYP> Differential signals (100 ohm).	
3.2 1 6/16/08 Part number of the EEPROM was wrong.	
NET_SPACING_TYPE: 3.B 1 7/15/08 AC termination for JTAG clock change	
WX1P5_GAP -> 1.5x trace width spacing 3.C 1 8/13/08 Changed reset time delay to 15ms	
WX2_GAP -> 2.0x trace width spacing WX2P5_GAP -> 2.5x trace width spacing WX3_GAP -> 3.0x trace width spacing WX5_GAP -> 5.0x trace width spacing WX5_GAP -> 5.0x trace width spacing WX5_GAP -> 1.0x trace width spacing WX5_GAP -> 5.0x trace width spacing AUDIO -> analog audio signal (3x trace width spacing) AUDIDEO -> analog video signals (3.75x trace width spacing) AUDIDEO -> analog video signals (3.75x trace width spacing) Stretch Inc. WX2P5_GAP -> AUDIO Confidential and Proprietary © Stretch, Inc. All rights reserved avides AVIDEO Stretch Inc. WWW. Changed SATA connector Tied PC reset FET source pin to gnd Deleted C136. Added TACH output from fan (to PE3). Added ICT fixes. Added header for SMO daisy chaining and GPIO 7 control for video output buffer Connected ref clocks to port clocks Removed connection to SATA 3.3V Changed the PCI bracket Confidential and Proprietary © Stretch, Inc. All rights reserved. AVIDEO -> analog video signals (3.75x trace width spacing)	.stretchinc.com le: 408-543-2700 408-747-5736
Size Document Number BOM Variant Ir B 110-10027 TW	ternal Version Rev N/A 5A
Date: Tuesday, January 27, 2009 Sheet 48 5 4 3 2 1	of 48