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Foxconn Precision Co. Inc.

AWA01 Schematic

Fab.A Date: 2003/11/28

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FOXCONN PCEG

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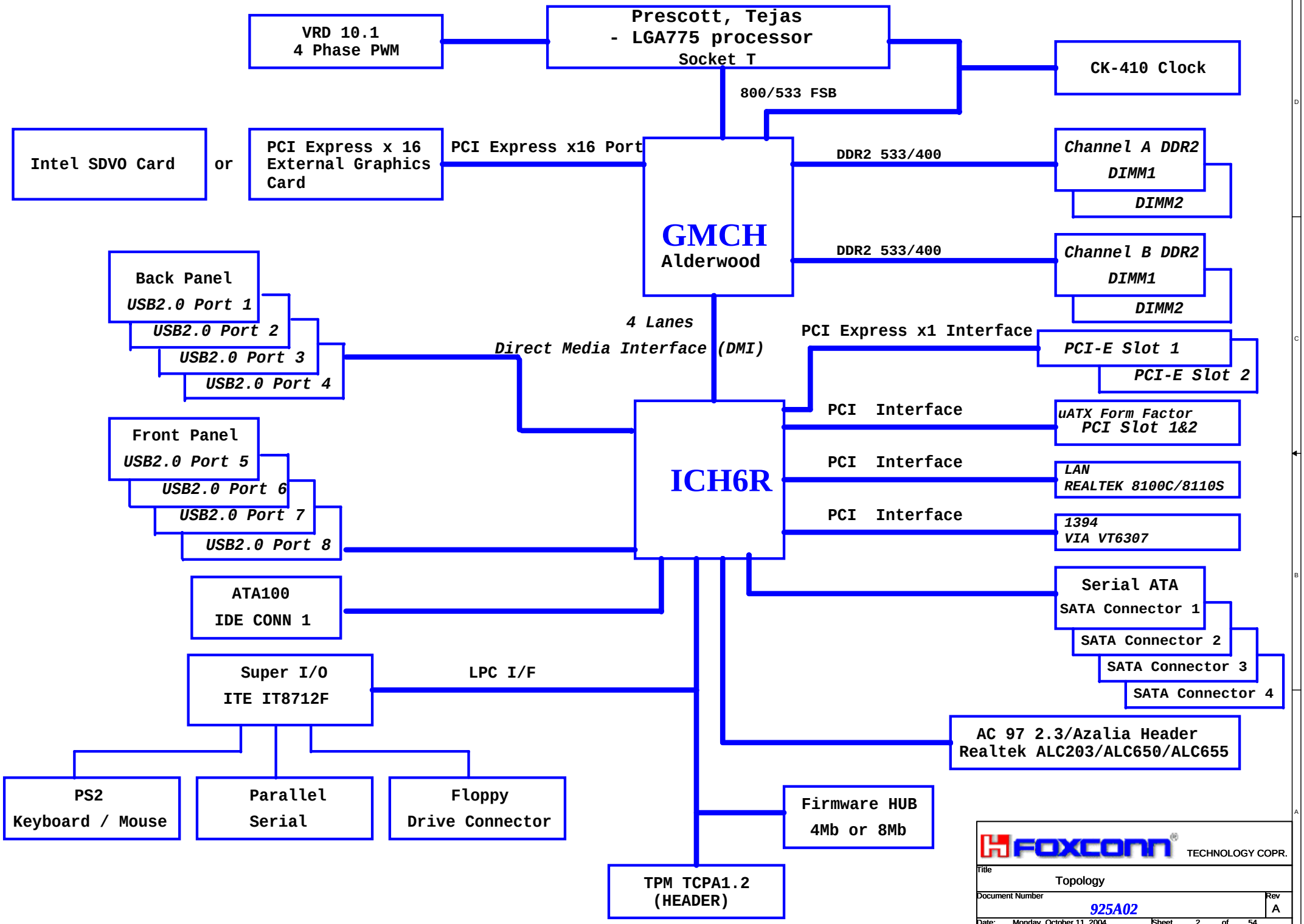

FOXCONN TECHNOLOGY COPR.

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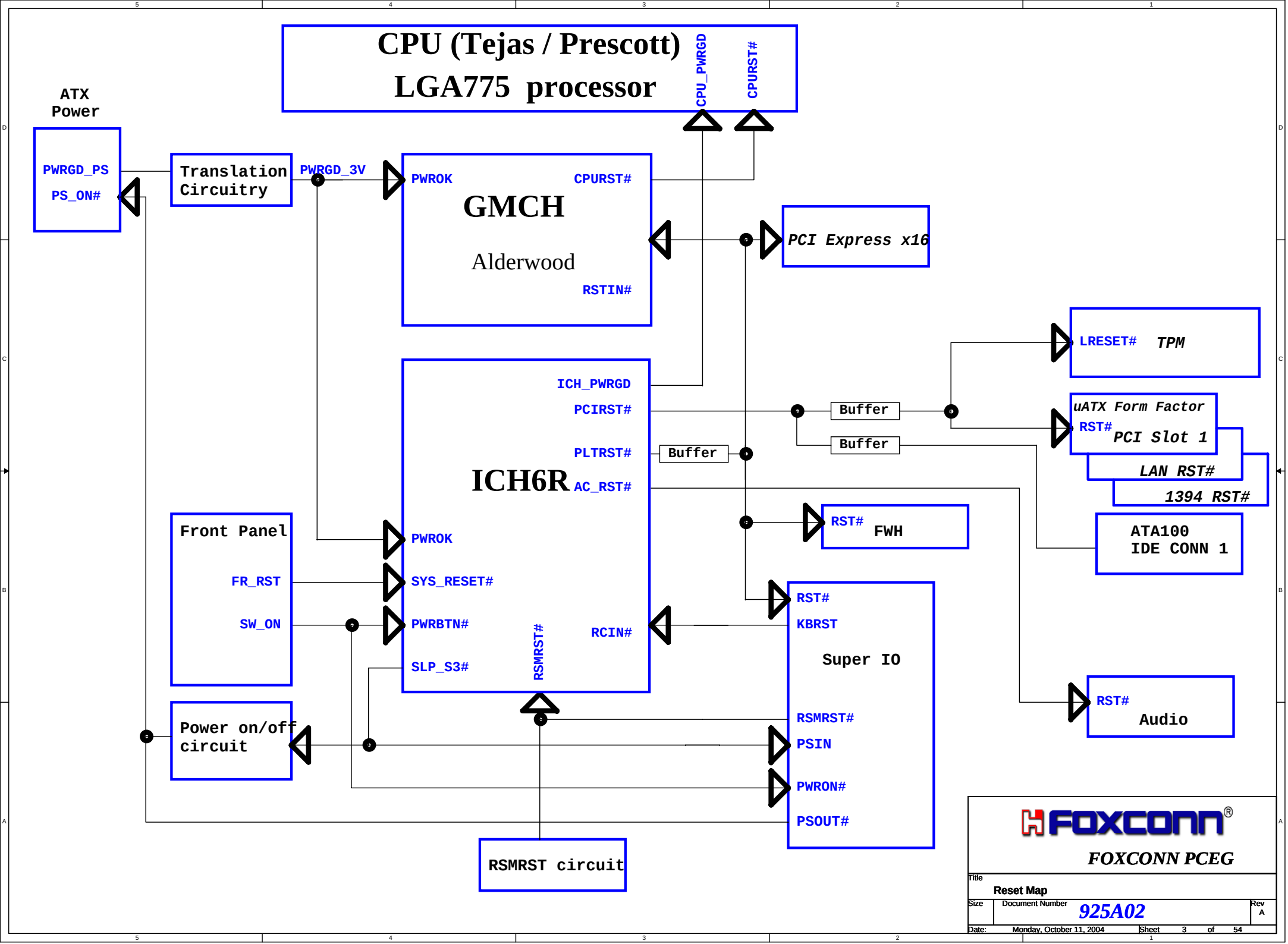
CPU (Tejas / Prescott)
LGA775 processor
CPU_PWRGD
CPURST#
ATX
Power
PWRGD_PS
PS_ON#
Translation
Circuitry
PWRGD_3V
PWROK
CPURST#
GMCH
Alderwood
RSTIN#
PCI Express x16
LRESET#
TPM
ICH_PWRGD
PCIRST#
PLTRST#
AC_RST#
ICH6R
Buffer
Buffer
Buffer
uATX Form Factor
RST#
PCI Slot 1
LAN RST#
1394 RST#
ATA100
IDE CONN 1
RST#
FWH
Front Panel
FR_RST
SW_ON
PWROK
SYS_RESET#
PWRBTN#
SLP_S3#
RSMRST#
RCIN#
RST#
KBRST
Super IO
RST#
Audio
RSMRST#
PSIN
PWRON#
PSOUT#
Power on/off
circuit
RSMRST circuit
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Reset Map
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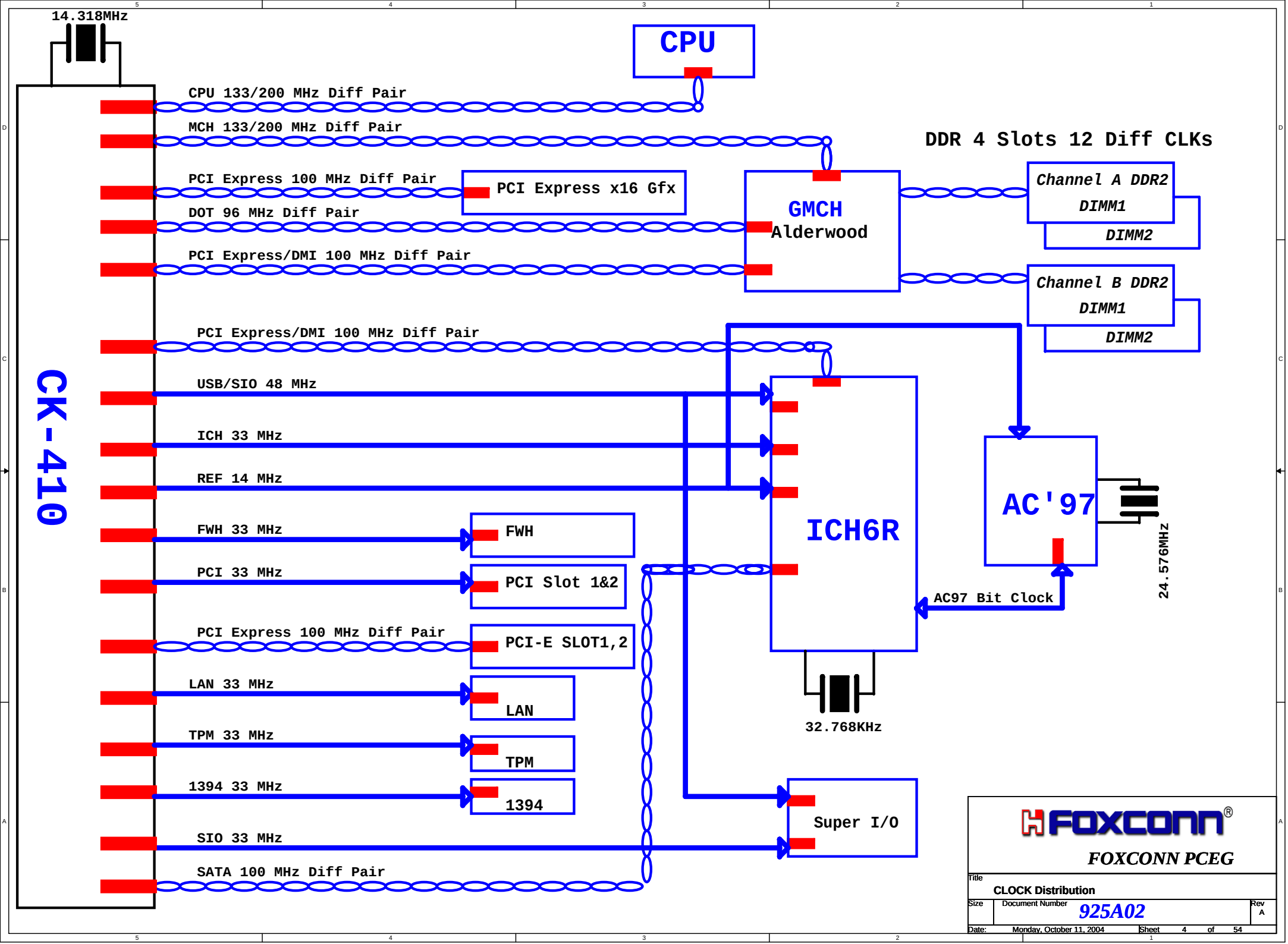
14.318MHz
CPU
CPU 133/200 MHz Diff Pair
MCH 133/200 MHz Diff Pair
PCI Express 100 MHz Diff Pair
PCI Express x16 Gfx
DOT 96 MHz Diff Pair
PCI Express/DMI 100 MHz Diff Pair
GMCH
Alderwood
DDR 4 Slots 12 Diff CLKs
Channel A DDR2
DIMM1
DIMM2
Channel B DDR2
DIMM1
DIMM2
PCI Express/DMI 100 MHz Diff Pair
CK-410
USB/SIO 48 MHz
ICH 33 MHz
REF 14 MHz
FWH 33 MHz
FWH
PCI 33 MHz
PCI Slot 1&2
PCI Express 100 MHz Diff Pair
PCI-E SLOT1,2
LAN 33 MHz
LAN
TPM 33 MHz
TPM
1394 33 MHz
1394
SIO 33 MHz
SATA 100 MHz Diff Pair
ICH6R
AC'97
24.576MHz
AC97 Bit Clock
32.768KHz
Super I/O
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CLOCK Distribution
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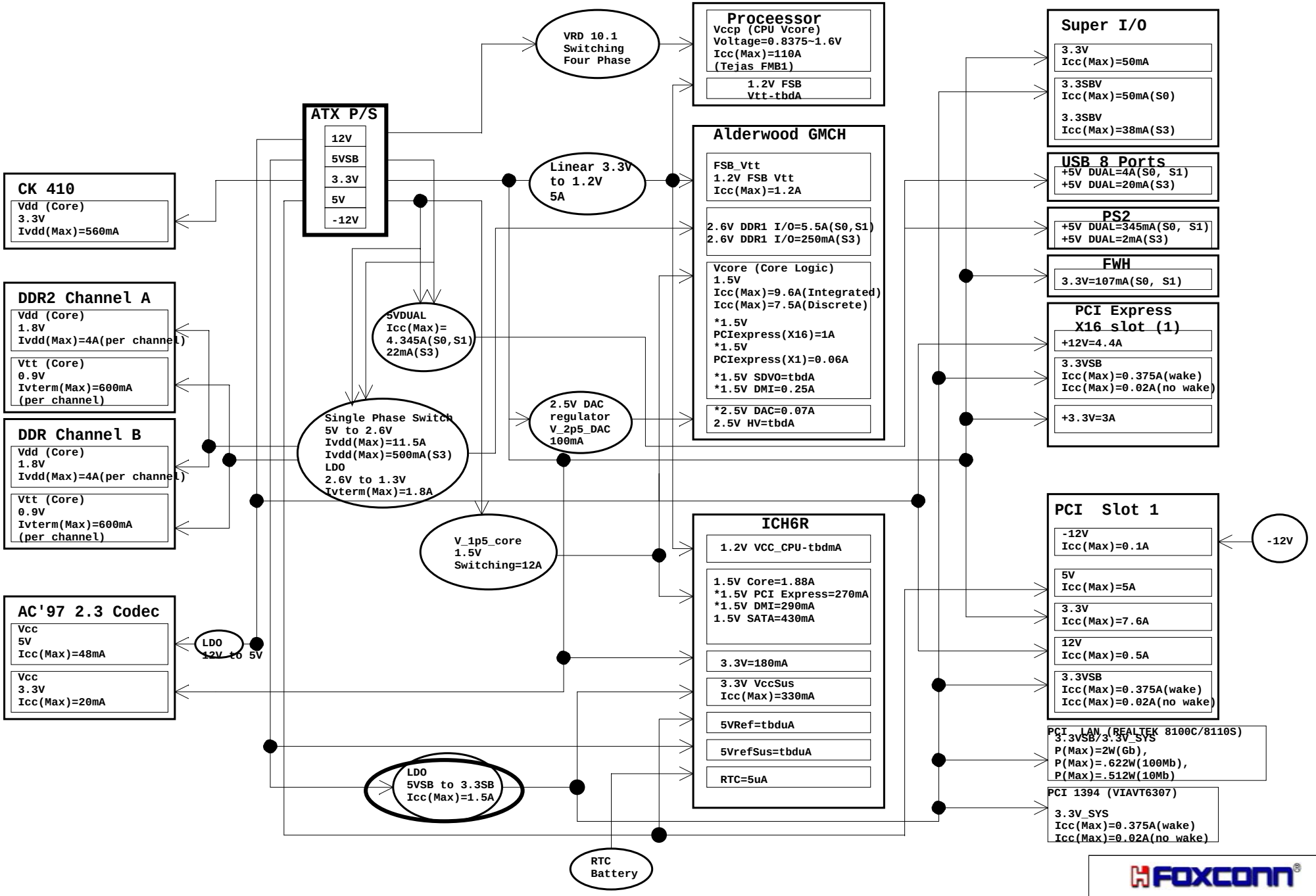

*Power derived through filter

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Title: Power Delivery Map

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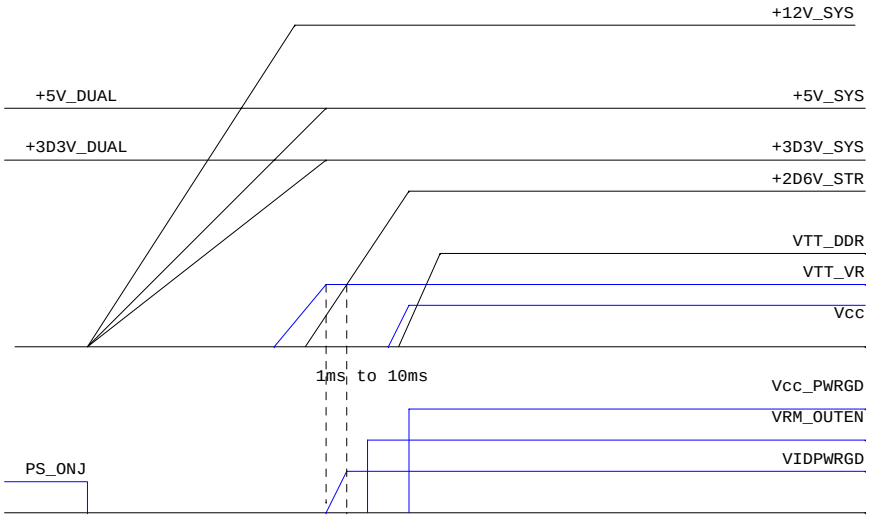
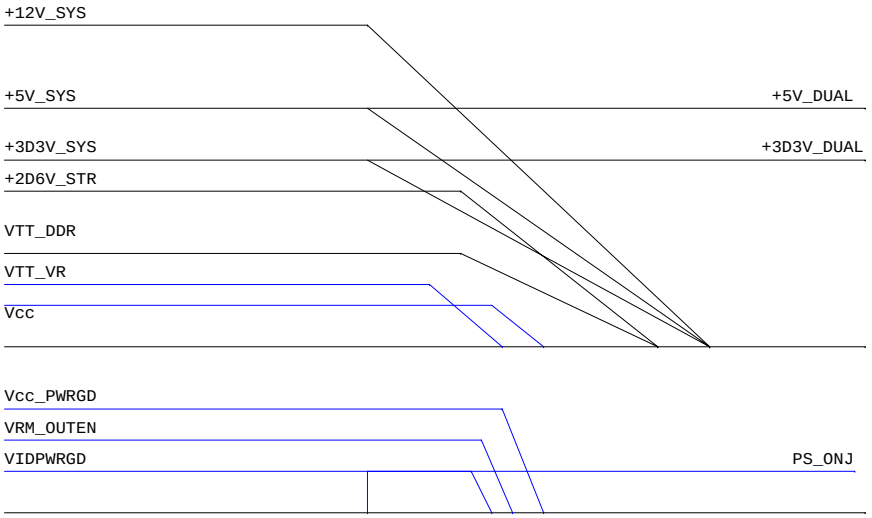
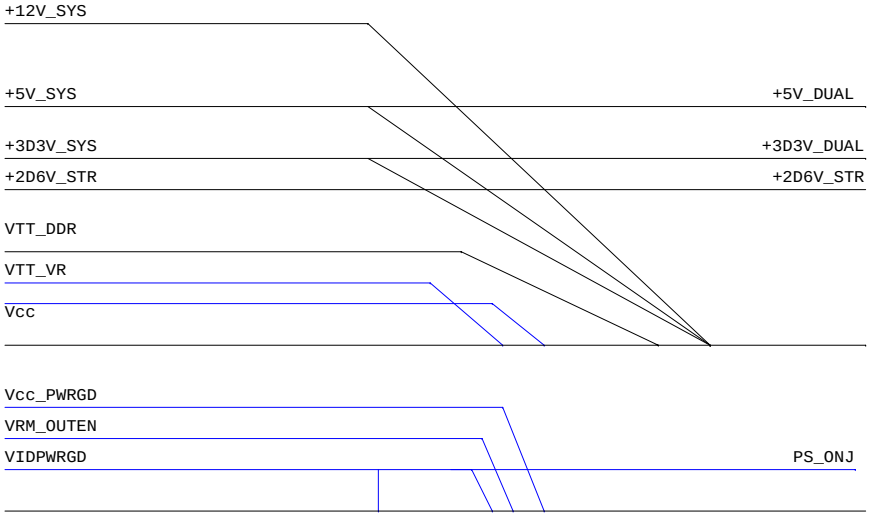
S5->S0



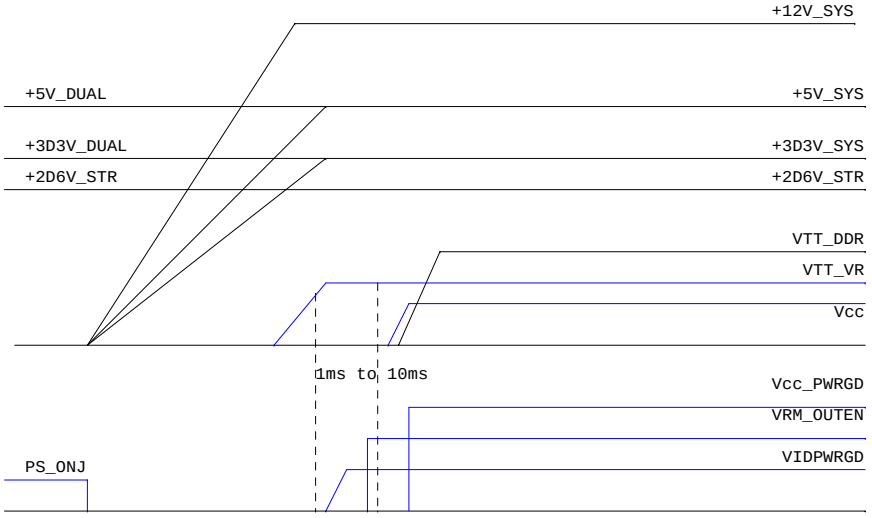
S0->S5



S0->S3



S3->S0



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Title: Power Sequence		
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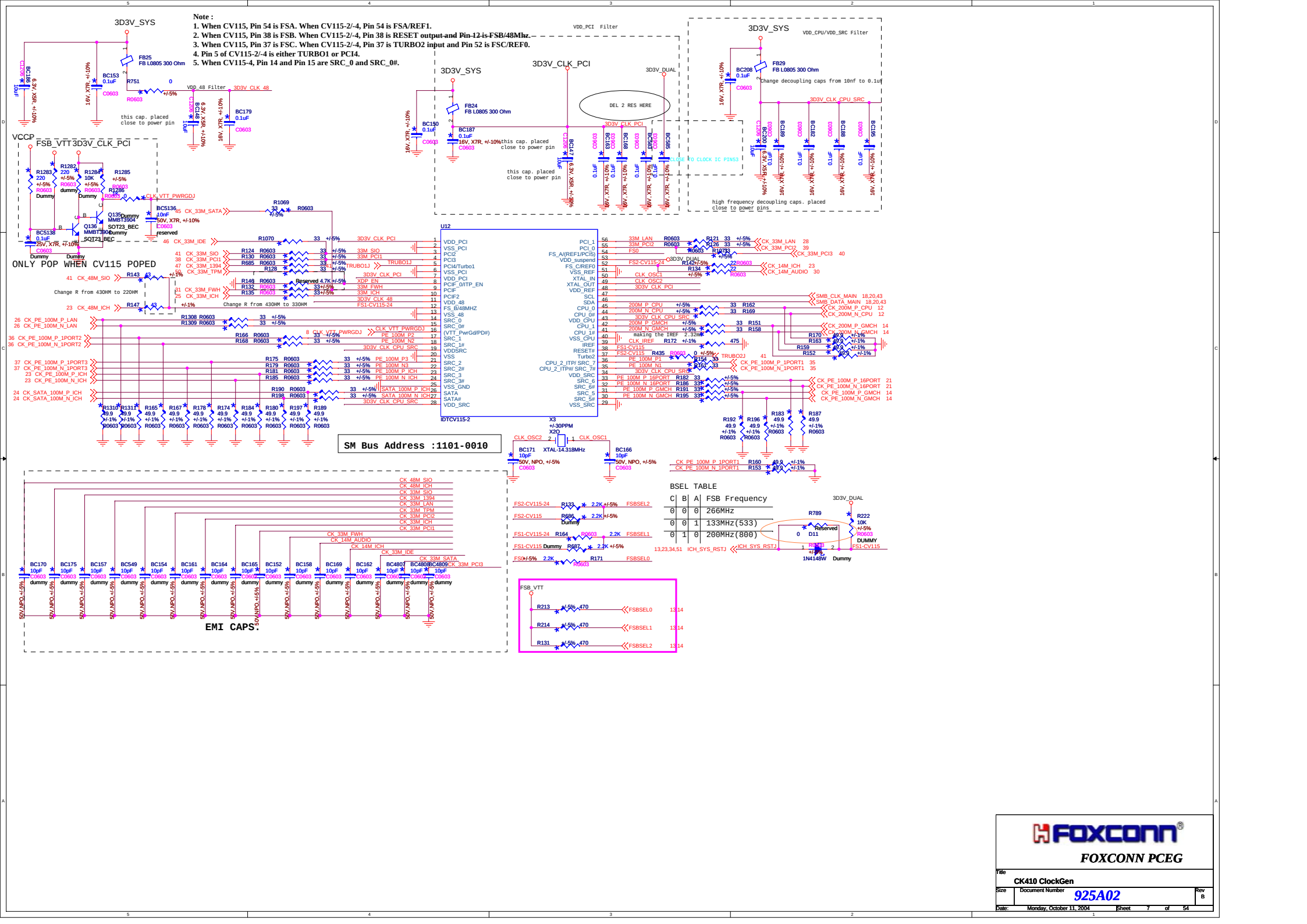

FOXCONN PCEG

Title	CK410 ClockGen
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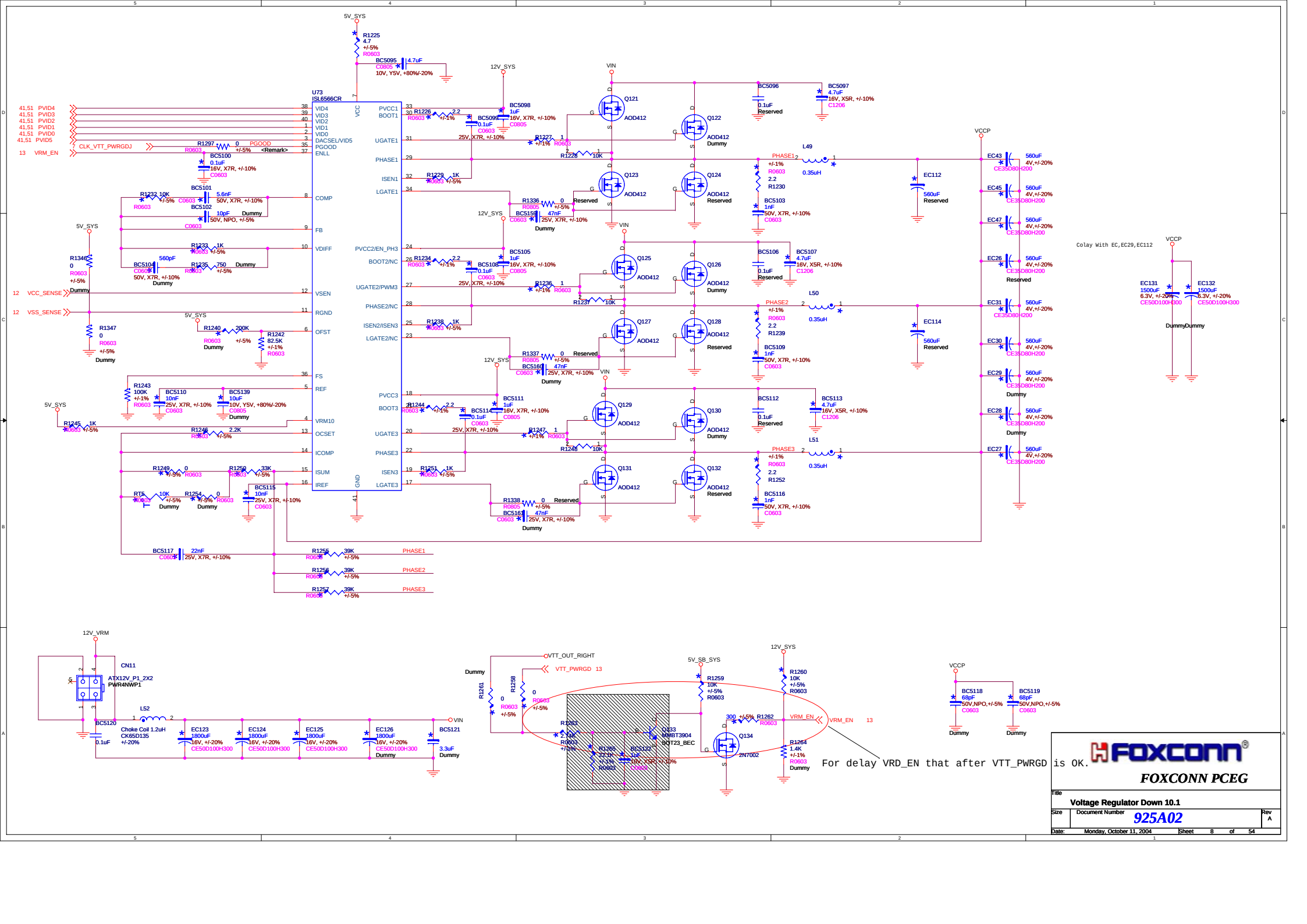
U73
ISL6566CR
VID4
VID3
VID2
VID1
VID0
DACSEL/VID5
PGOOD
ENLL
PVCC1
BOOT1
UGATE1
PHASE1
ISEN1
LGATE1
PVCC2/EN_PH3
BOOT2/NC
UGATE2/PWM3
PHASE2/NC
ISEN2/ISEN3
LGATE2/NC
PVCC3
BOOT3
UGATE3
PHASE3
ISEN3
LGATE3
COMP
FB
VDIFF
VSEN
RGND
OFST
FS
REF
VRM10
OCSET
ICOMP
ISUM
IREF
VCC
GND
5V_SYS
12V_SYS
VIN
VCCP
CLK_VTT_PWRGDJ
VRM_EN
PGOOD
VCC_SENSE
VSS_SENSE
Q121
Q122
Q123
Q124
Q125
Q126
Q127
Q128
Q129
Q130
Q131
Q132
AOD412
L49
L50
L51
0.35uH
PHASE1
PHASE2
PHASE3
Colay With EC,EC29,EC112
12V_VRM
CN11
ATX12V_P1_2X2
PWR4NWP1
L52
Choke Coil 1.2uH
CK65D135
+/-20%
VTT_OUT_RIGHT
VTT_PWRGD
5V_SB_SYS
Q133
MMBT3904
SOT23_BEC
Q134
2N7002
For delay VRD_EN that after VTT_PWRGD is OK.
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Voltage Regulator Down 10.1
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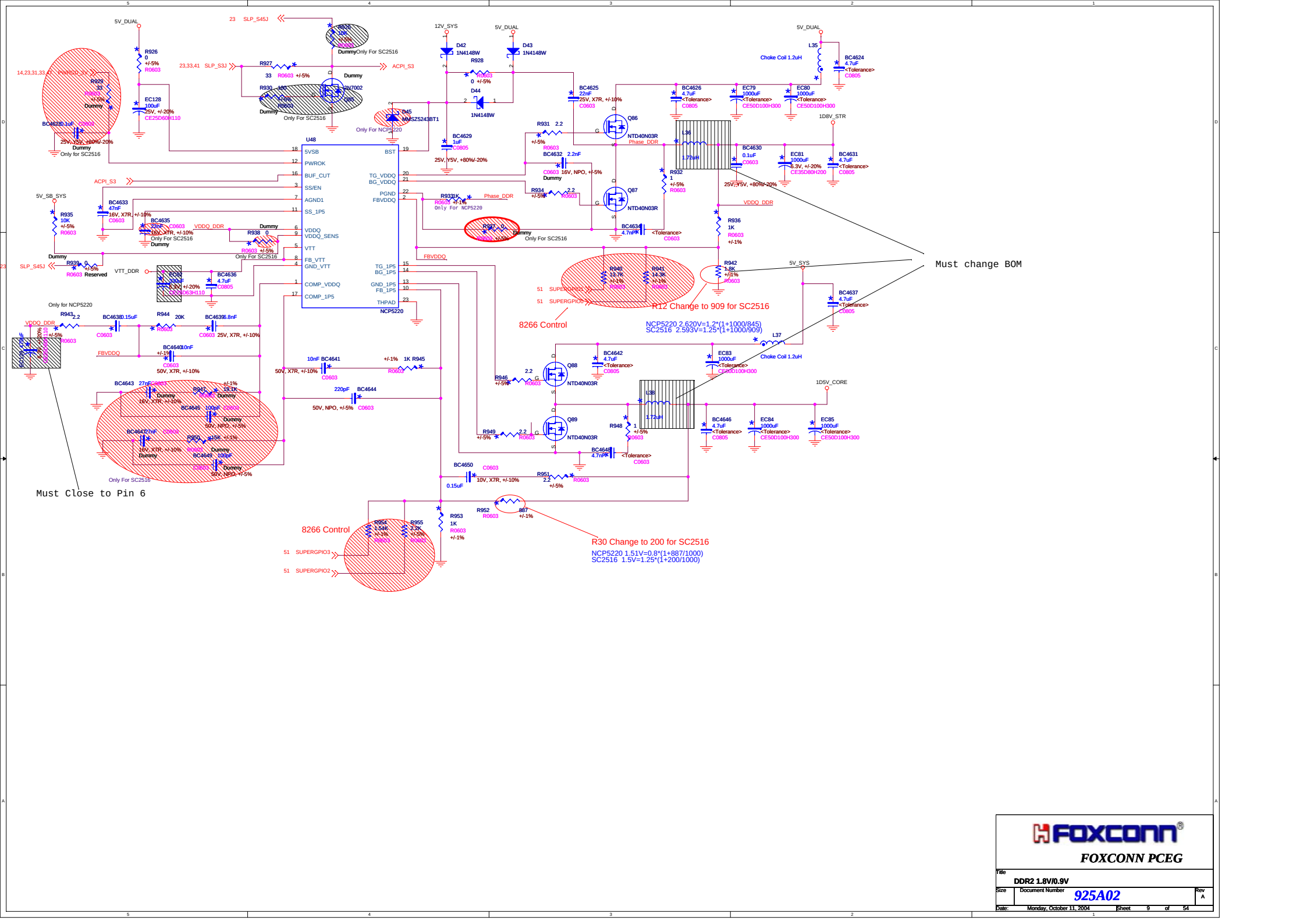
U48
NCP5220
5VSB
PWROK
BUF_CUT
SS/EN
AGND1
SS_1P5
VDDQ
VDDQ_SENS
VTT
FB_VTT
GND_VTT
COMP_VDDQ
COMP_1P5
BST
TG_VDDQ
BG_VDDQ
PGND
FBVDDQ
TG_1P5
BG_1P5
GND_1P5
FB_1P5
THPAD
5V_DUAL
12V_SYS
5V_SB_SYS
VDDQ_DDR
VTT_DDR
5V_SYS
1D8V_STR
1D5V_CORE
ACPI_S3
SLP_S3J
SLP_S45J
Phase_DDR
FBVDDQ
Only For SC2516
Only for NCP5220
Only For NCP5220
Dummy
Choke Coil 1.2uH
8266 Control
Must Close to Pin 6
Must change BOM
R12 Change to 909 for SC2516
R30 Change to 200 for SC2516
NCP5220 2.620V=1.2*(1+1000/845)
SC2516 2.593V=1.25*(1+1000/909)
NCP5220 1.51V=0.8*(1+887/1000)
SC2516 1.5V=1.25*(1+200/1000)
FOXCONN PCEG
DDR2 1.8V/0.9V
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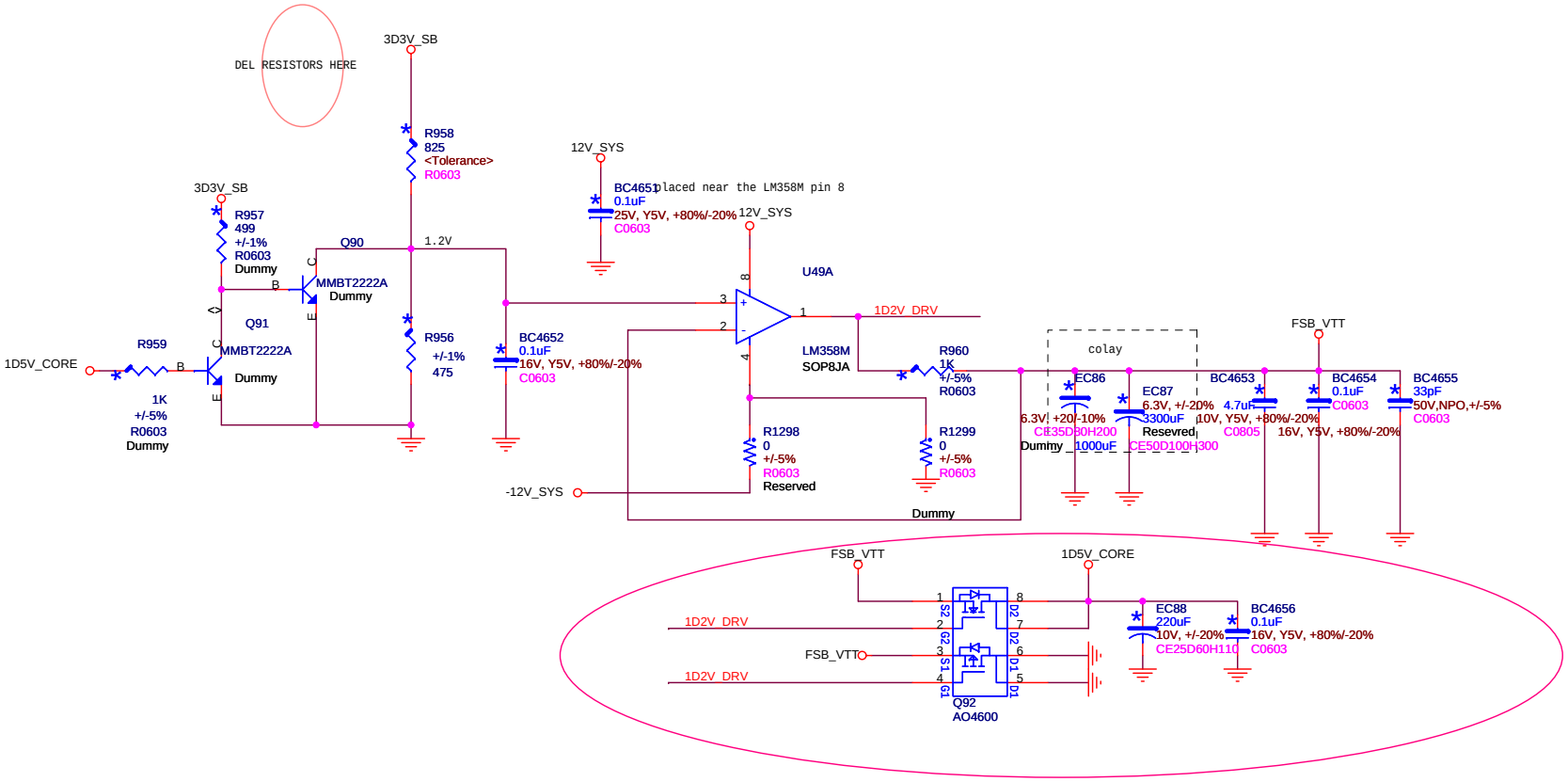

FOXCONN PCEG

Title: Power 1.5V 1.2V		
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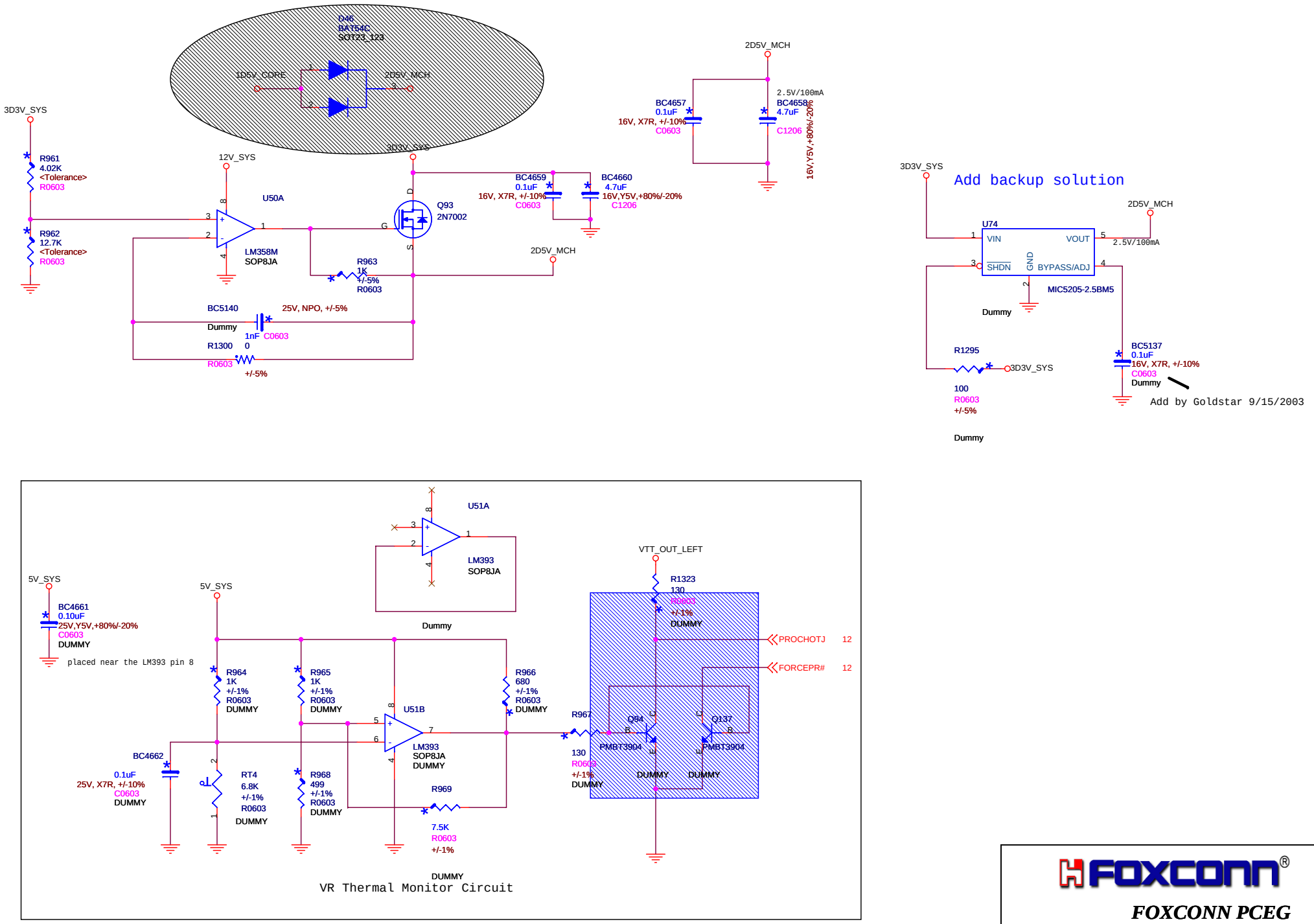

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Title: 2.5V_MCH		
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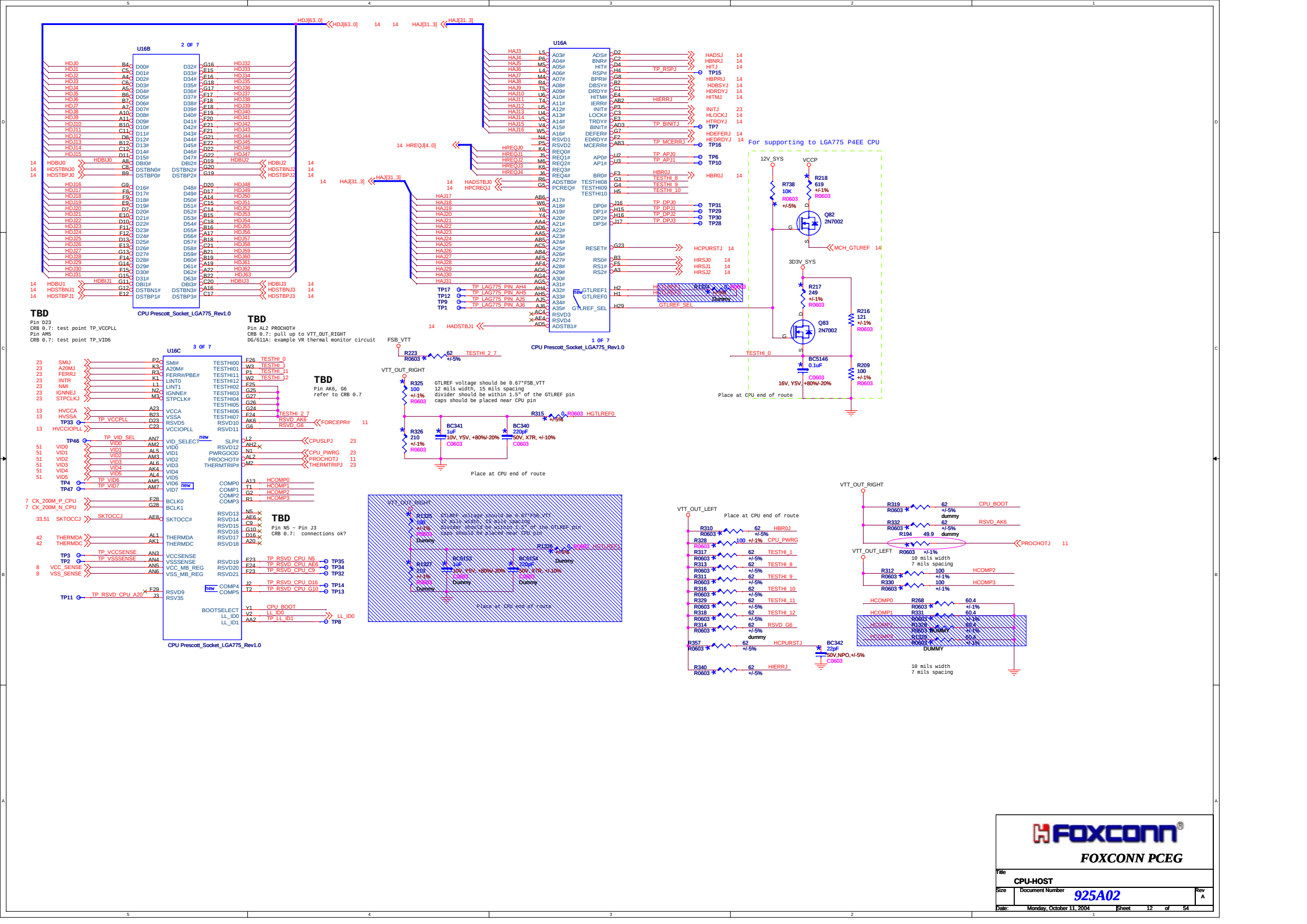
U16B
2 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
U16A
1 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
U16C
3 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
For supporting to LGA775 P4EE CPU
TBD
Pin D23
CRB 0.7: test point TP_VCCPLL
Pin AM5
CRB 0.7: test point TP_VID6
TBD
Pin AL2 PROCHOT#
CRB 0.7: pull up to VTT_OUT_RIGHT
DG/61A: example VR thermal monitor circuit
TBD
Pin AK6, G6
refer to CRB 0.7
TBD
Pin N5 ~ Pin J3
CRB 0.7: connections ok?
GTLREF voltage should be 0.67*FSB_VTT
12 mils width, 15 mils spacing
divider should be within 1.5" of the GTLREF pin
caps should be placed near CPU pin
Place at CPU end of route
Place at CPU end of route
Place at CPU end of route
10 mils width
7 mils spacing
10 mils width
7 mils spacing
FOXCONN PCEG
CPU-HOST
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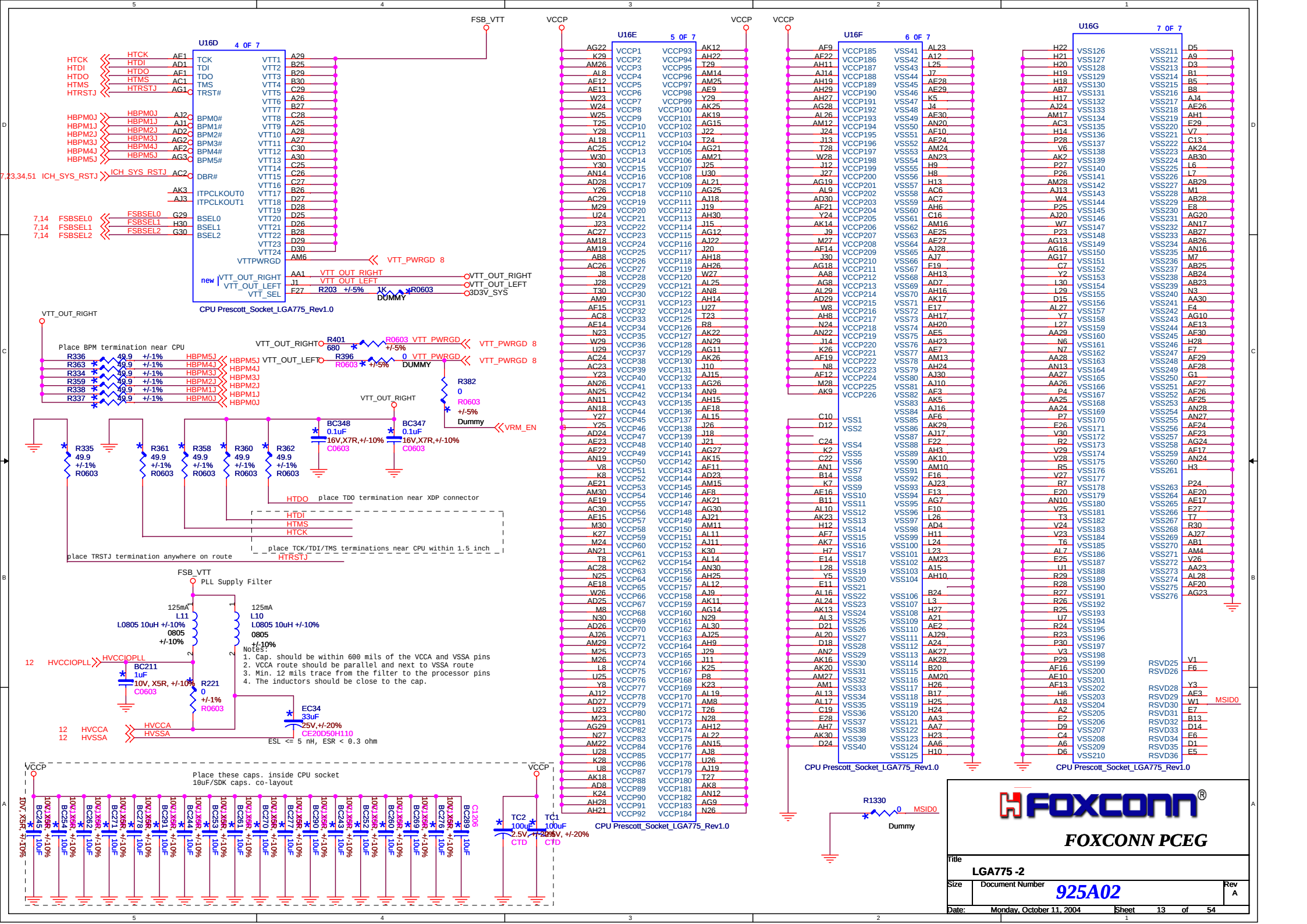
U16D 4 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
U16E 5 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
U16F 6 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
U16G 7 OF 7
CPU Prescott_Socket_LGA775_Rev1.0
FSB_VTT
VCCP
VTT_OUT_RIGHT
VTT_OUT_LEFT
VTT_PWRGD
VRM_EN
Place BPM termination near CPU
place TDO termination near XDP connector
place TCK/TDI/TMS terminations near CPU within 1.5 inch
place TRSTJ termination anywhere on route
PLL Supply Filter
Notes:
1. Cap. should be within 600 mils of the VCCA and VSSA pins
2. VCCA route should be parallel and next to VSSA route
3. Min. 12 mils trace from the filter to the processor pins
4. The inductors should be close to the cap.
Place these caps. inside CPU socket
10uF/SDK caps. co-layout
FOXCONN PCEG
LGA775 -2
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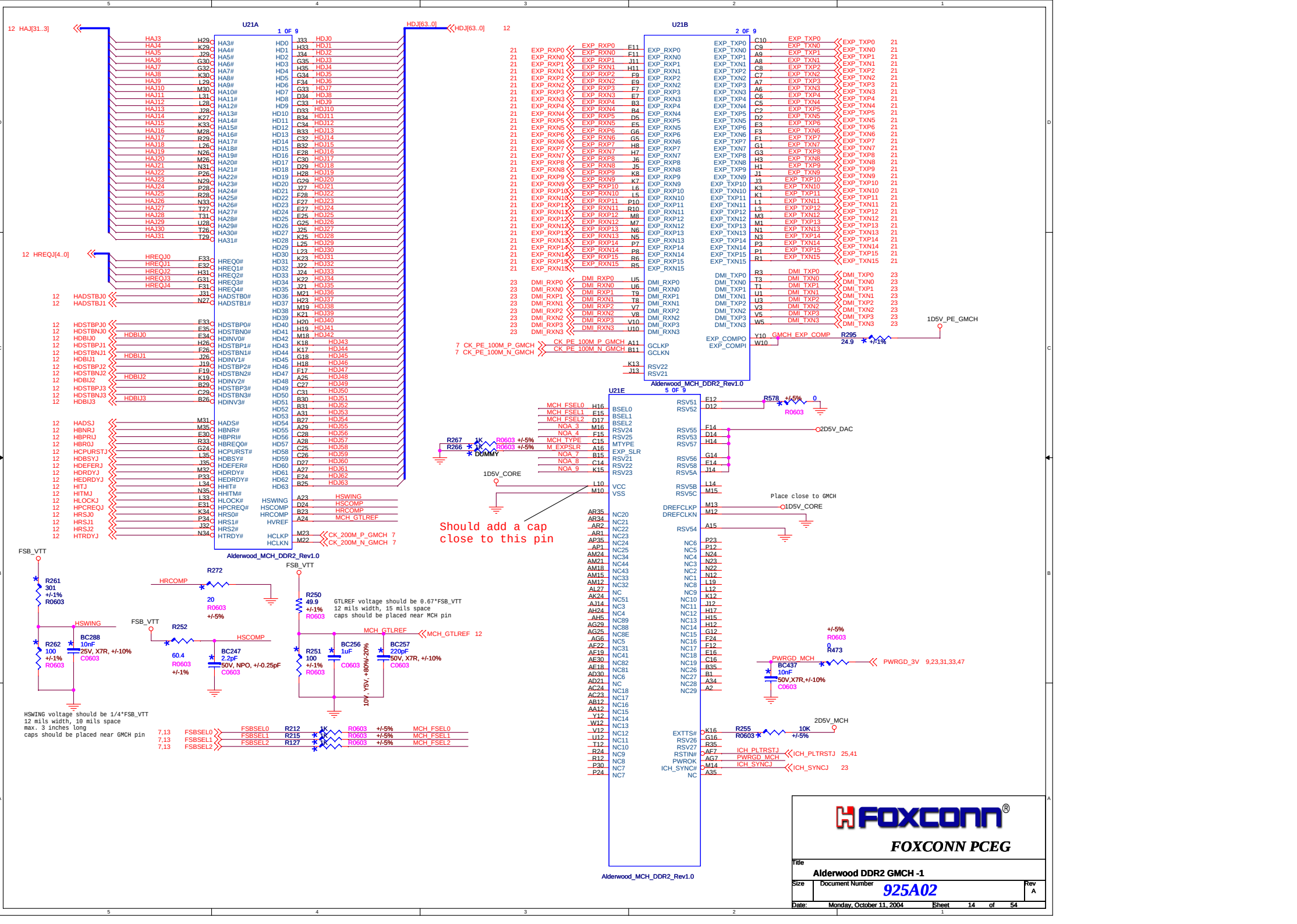
U21A
1 OF 9
Alderwood_MCH_DDR2_Rev1.0
U21B
2 OF 9
Alderwood_MCH_DDR2_Rev1.0
U21E
5 OF 9
Alderwood_MCH_DDR2_Rev1.0
Should add a cap close to this pin
Place close to GMCH
GTLREF voltage should be 0.67*FSB_VTT
12 mils width, 15 mils space
caps should be placed near MCH pin
HSWING voltage should be 1/4*FSB_VTT
12 mils width, 10 mils space
max. 3 inches long
caps should be placed near GMCH pin
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Alderwood DDR2 GMCH -1
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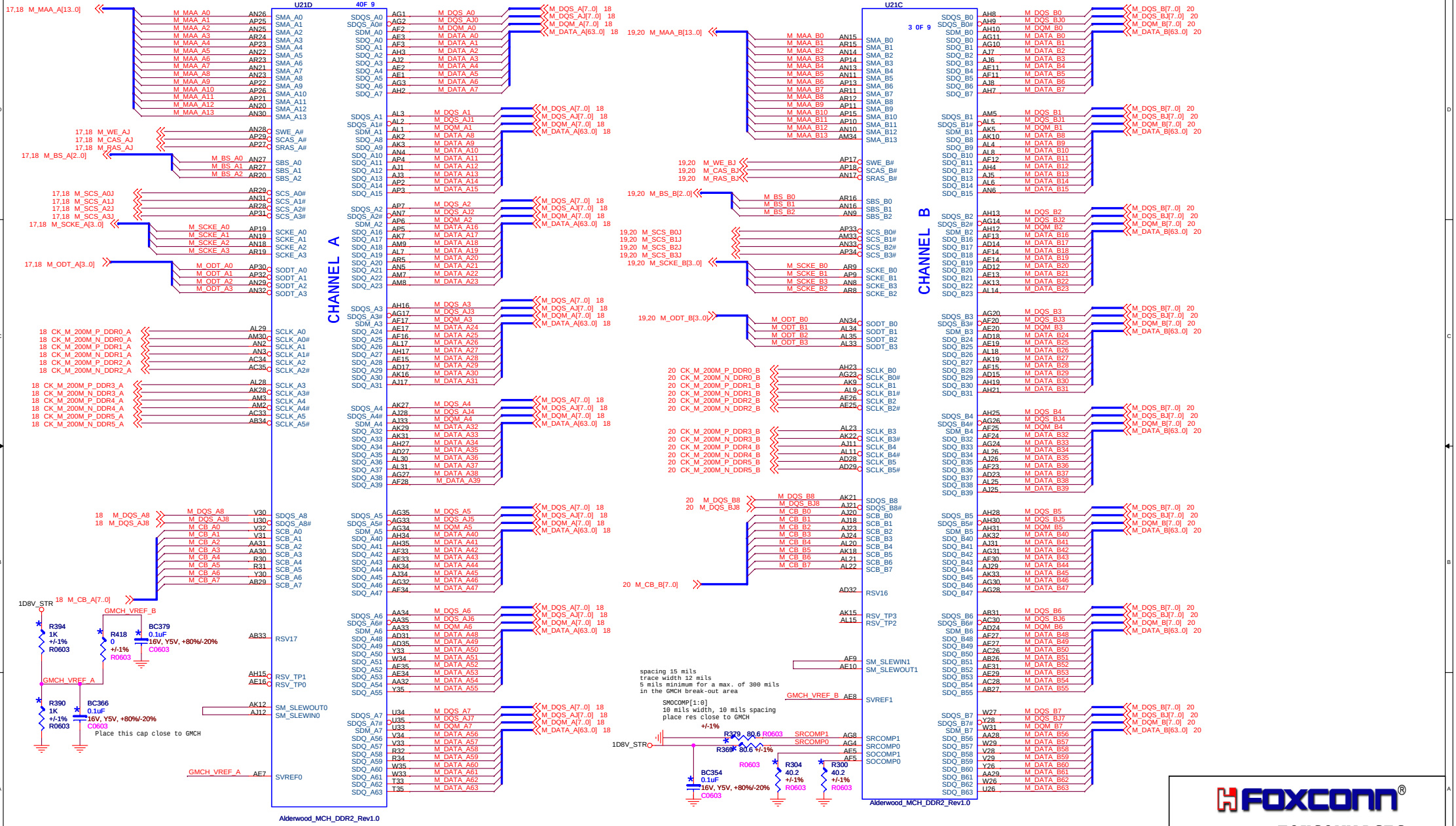

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Title: Alderwood DDR2 GMCH -2

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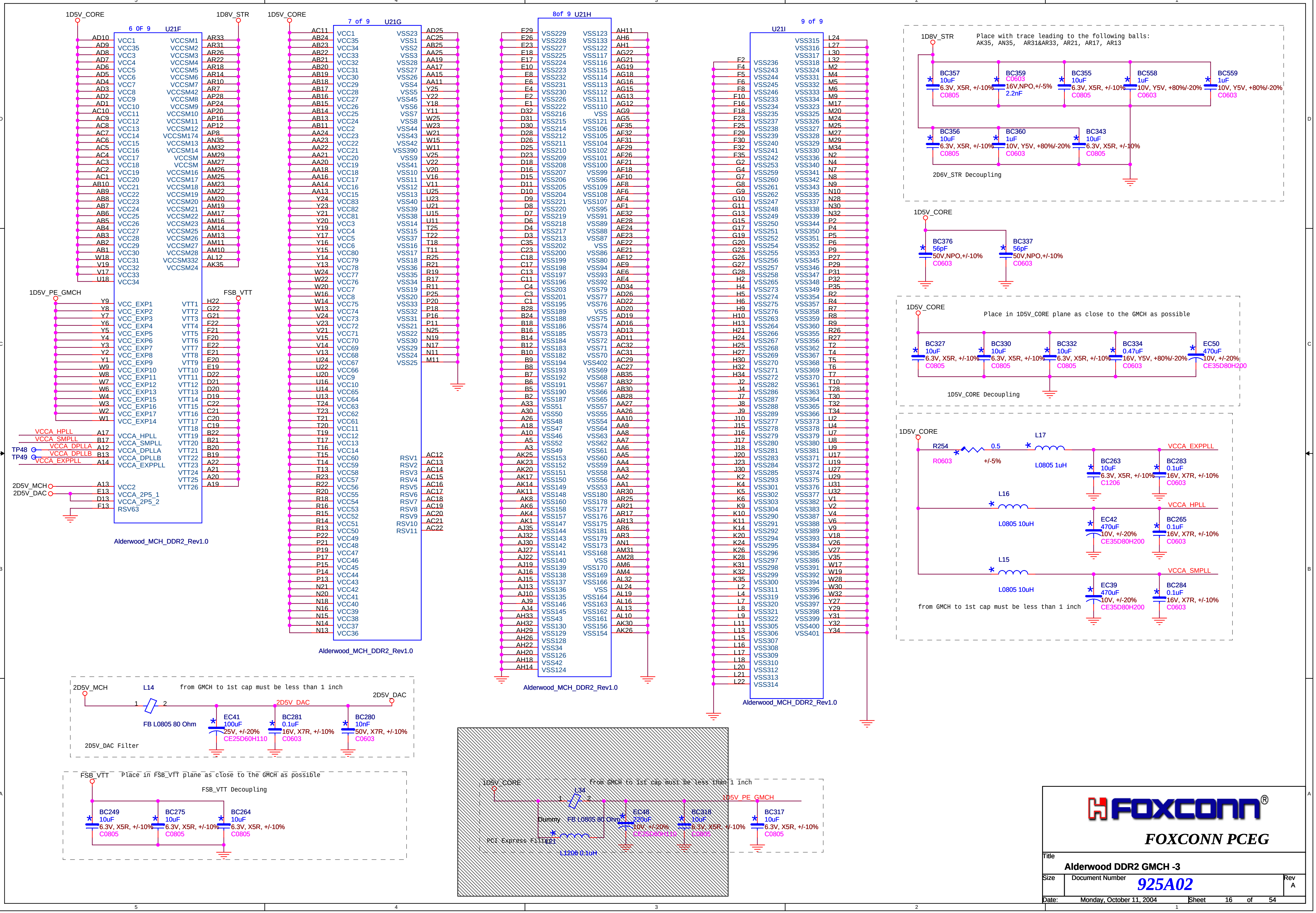

Place with trace leading to the following balls:
AK35, AN35, AR31&AR33, AR21, AR13
2D6V_STR Decoupling
Place in 1D5V_CORE plane as close to the GMCH as possible
1D5V_CORE Decoupling
from GMCH to 1st cap must be less than 1 inch
2D5V_DAC Filter
Place in FSB_VTT plane as close to the GMCH as possible
FSB_VTT Decoupling
PCI Express Filter
Alderwood_MCH_DDR2_Rev1.0
FOXCONN
FOXCONN PCEG
Title
Alderwood DDR2 GMCH -3
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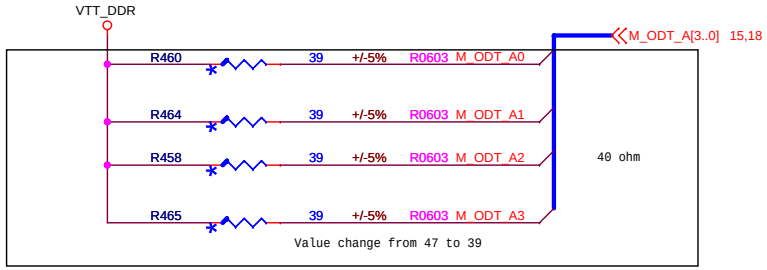

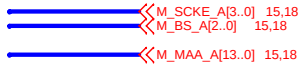

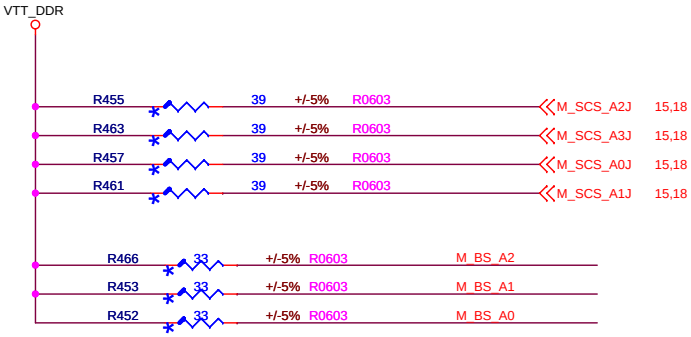

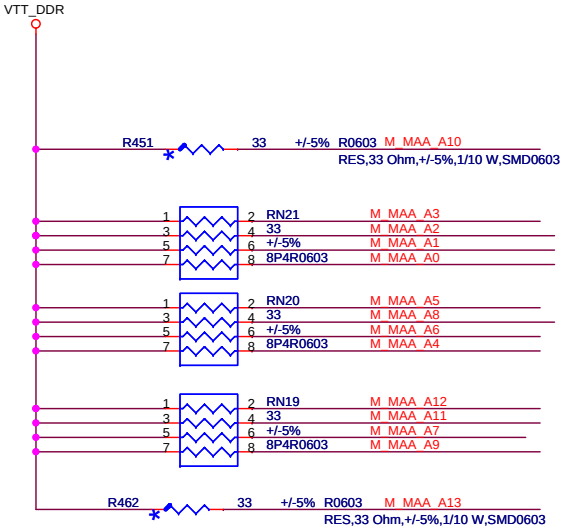

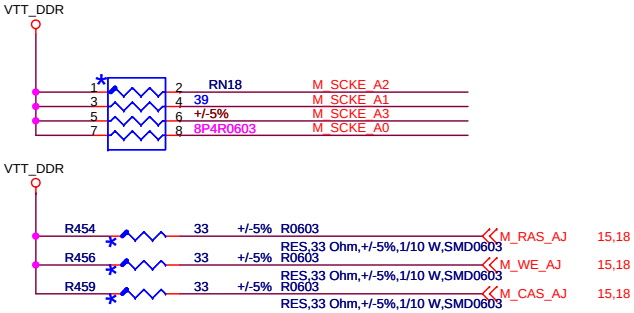

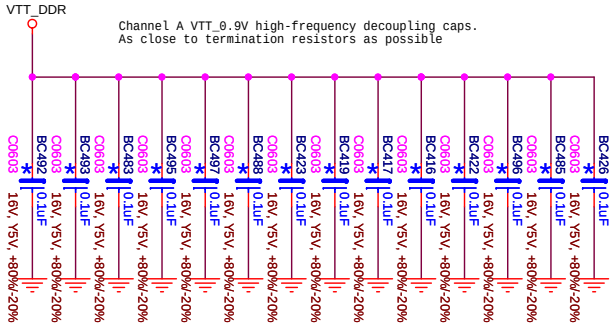

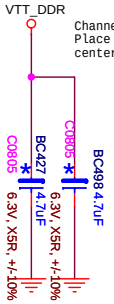

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Title: DDR2 Channel A Termination		
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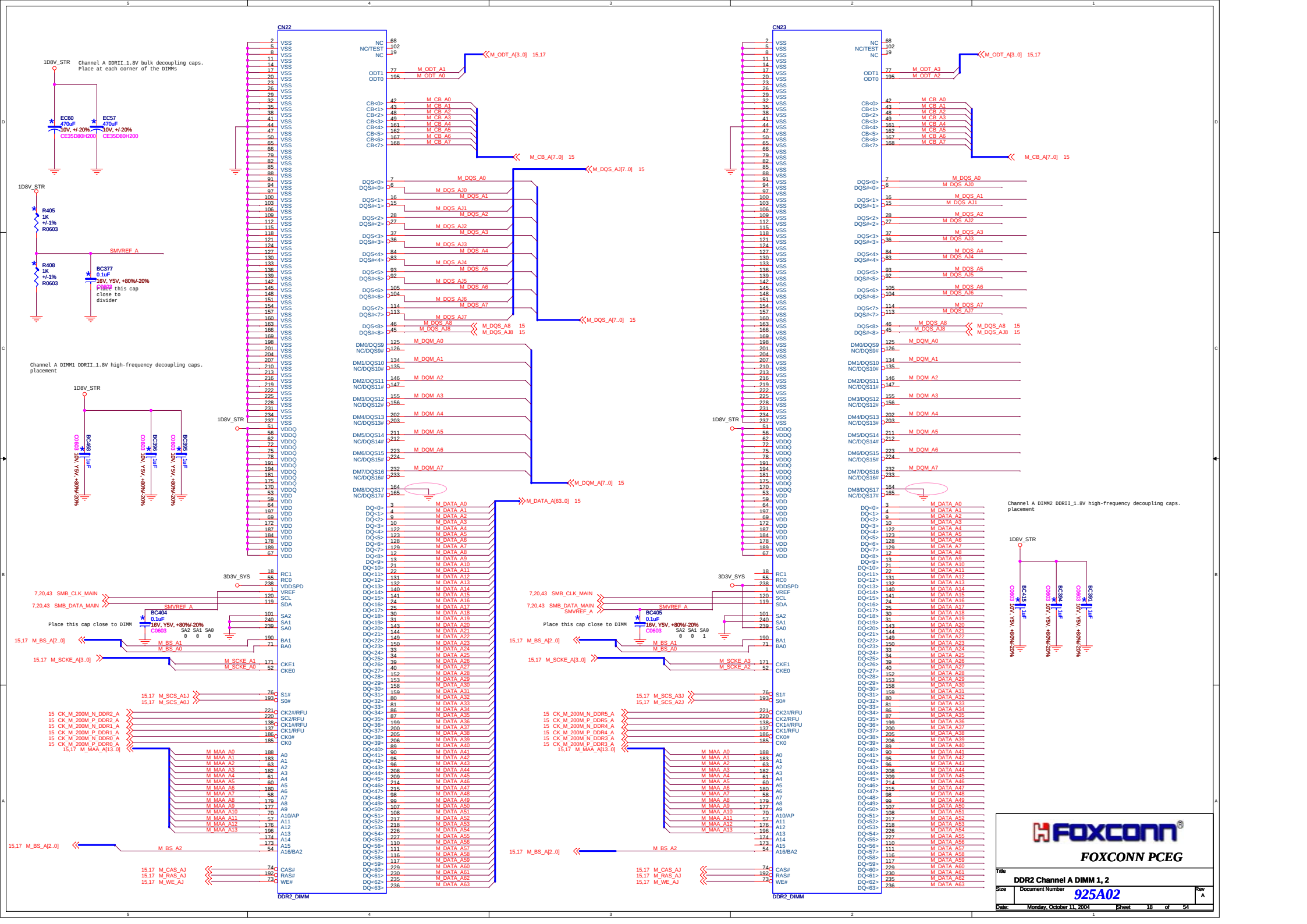
CN22
CN23
DDR2_DIMM
1D8V_STR
3D3V_SYS
SMVREF_A
Channel A DDRII_1.8V bulk decoupling caps.
Place at each corner of the DIMMs
EC60 470uF 10V, +/-20% CE35D80H200
EC57 470uF 10V, +/-20% CE35D80H200
R405 1K +/-1% R0603
R408 1K +/-1% R0603
BC377 0.1uF 16V, Y5V, +80%/-20%
Place this cap close to divider
Channel A DIMM1 DDRII_1.8V high-frequency decoupling caps. placement
BC406 1uF 10V, Y5V, +80%/-20%
BC396 1uF 10V, Y5V, +80%/-20%
BC395 1uF 10V, Y5V, +80%/-20%
BC404 0.1uF 16V, Y5V, +80%/-20% C0603
BC405 0.1uF 16V, Y5V, +80%/-20% C0603
Place this cap close to DIMM
SA2 SA1 SA0
0 0 0
0 0 1
M_ODT_A[3..0] 15,17
M_ODT_A1
M_ODT_A0
M_ODT_A3
M_ODT_A2
M_CB_A[7..0] 15
M_DQS_AJ[7..0] 15
M_DQS_A[7..0] 15
M_DQM_A[7..0] 15
M_DATA_A[63..0] 15
7,20,43 SMB_CLK_MAIN
7,20,43 SMB_DATA_MAIN
15,17 M_BS_A[2..0]
15,17 M_SCKE_A[3..0]
15,17 M_SCS_A1J
15,17 M_SCS_A0J
15,17 M_SCS_A3J
15,17 M_SCS_A2J
15 CK_M_200M_N_DDR2_A
15 CK_M_200M_P_DDR2_A
15 CK_M_200M_N_DDR1_A
15 CK_M_200M_P_DDR1_A
15 CK_M_200M_N_DDR0_A
15 CK_M_200M_P_DDR0_A
15 CK_M_200M_N_DDR5_A
15 CK_M_200M_P_DDR5_A
15 CK_M_200M_N_DDR4_A
15 CK_M_200M_P_DDR4_A
15 CK_M_200M_N_DDR3_A
15 CK_M_200M_P_DDR3_A
15,17 M_MAA_A[13..0]
15,17 M_CAS_AJ
15,17 M_RAS_AJ
15,17 M_WE_AJ
15,17 M_CAS_A
15,17 M_RAS_A
15,17 M_WE_A
Channel A DIMM2 DDRII_1.8V high-frequency decoupling caps. placement
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Title
DDR2 Channel A DIMM 1, 2
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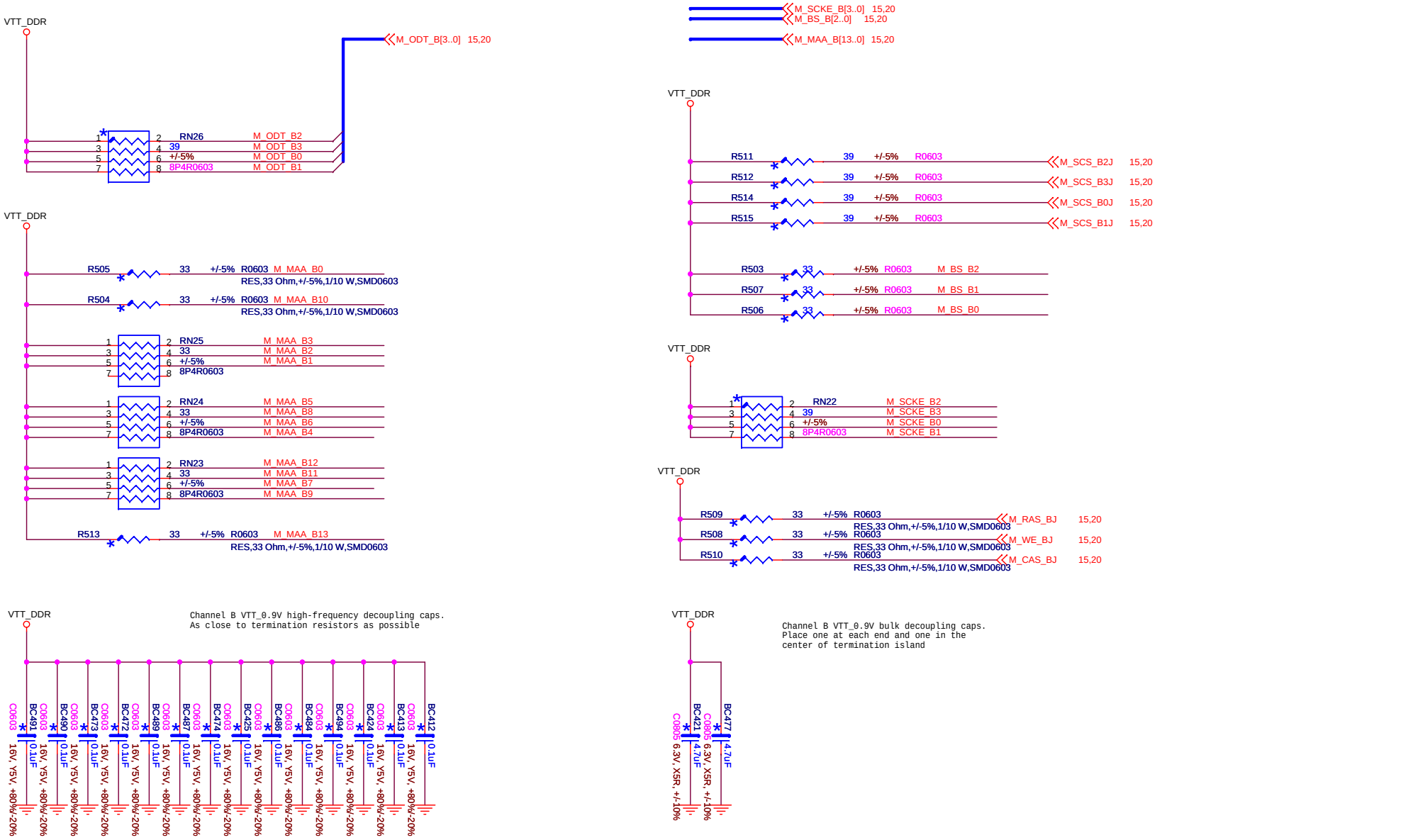

FOXCONN PCEG

Title: DDR2 Channel B Termination

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Channel B DDRII_1.8V bulk decoupling caps.
Place at each corner of the DIMMs

1D8V_STR
EC58 470uF 10V, +/-20% CE35D80H200
EC59 470uF 10V, +/-20% CE35D80H200

Channel B DIMM1 DDRII_1.8V high-frequency decoupling caps. placement

TBD

1D8V_STR
BC471 C0603 1uF 10V, Y5V, +80%/-20%
BC420 C0603 1uF 10V, Y5V, +80%/-20%
BC467 C0603 1uF 10V, Y5V, +80%/-20%
BC469 C0603 1uF 10V, Y5V, +80%/-20%

1D8V_STR
R407 1K +/-1% R0603
SMVREF_B
R413 1K +/-1% R0603
BC378 0.1uF 16V, Y5V, +80%/-20% C0603
Place this cap close to divider

spacing 15 mils
trace width 12 mils
5 mils minimum for a max. of 300 mils
in the GMCH break-out area

3D3V_SYS
7,18,43 SMB_CLK_MAIN
7,18,43 SMB_DATA_MAIN
SMVREF_B
BC430 0.1uF 16V, Y5V, +80%/-20% C0603
Place this cap close to DIMM
SA2 SA1 SA0
0 1 0

15,19 M_BS_B[2..0]
M_BS_B1
M_BS_B0
15,19 M_SCKE_B[3..0]
M_SCKE_B1
M_SCKE_B0
15,19 M_SCS_B1J
15,19 M_SCS_B0J
15 CK_M_200M_N_DDR2_B
15 CK_M_200M_P_DDR2_B
15 CK_M_200M_N_DDR1_B
15 CK_M_200M_P_DDR1_B
15 CK_M_200M_N_DDR0_B
15 CK_M_200M_P_DDR0_B
15,19 M_MAA_B[13:0]
M_BS_B2
15,19 M_CAS_BJ
15,19 M_RAS_BJ
15,19 M_WE_BJ

CN24 DDR2_DIMM

NC 68
NC/TEST 102
NC 19
M_ODT_B[3..0] 15,19
ODT1 77 M_ODT_B1
ODT0 195 M_ODT_B0

CB<0> 42 M_CB_B0
CB<1> 43 M_CB_B1
CB<2> 48 M_CB_B2
CB<3> 49 M_CB_B3
CB<4> 161 M_CB_B4
CB<5> 162 M_CB_B5
CB<6> 167 M_CB_B6
CB<7> 168 M_CB_B7
M_CB_B[7..0] 15

M_DQS_BJ[7..0] 15
DQS<0> 7 M_DQS_B0
DQS#<0> 6 M_DQS_BJ0
DQS<1> 16 M_DQS_B1
DQS#<1> 15 M_DQS_BJ1
DQS<2> 28 M_DQS_B2
DQS#<2> 27 M_DQS_BJ2
DQS<3> 37 M_DQS_B3
DQS#<3> 36 M_DQS_BJ3
DQS<4> 84 M_DQS_B4
DQS#<4> 83 M_DQS_BJ4
DQS<5> 93 M_DQS_B5
DQS#<5> 92 M_DQS_BJ5
DQS<6> 105 M_DQS_B6
DQS#<6> 104 M_DQS_BJ6
DQS<7> 114 M_DQS_B7
DQS#<7> 113 M_DQS_BJ7
DQS<8> 46 M_DQS_B8
DQS#<8> 45 M_DQS_BJ8
M_DQS_B8 15
M_DQS_BJ8 15
M_DQS_B[7..0] 15

DM0/DQS9 NC/DQS9# 125 M_DQM_B0
DM1/DQS10 NC/DQS10# 134 M_DQM_B1
DM2/DQS11 NC/DQS11# 146 M_DQM_B2
DM3/DQS12 NC/DQS12# 155 M_DQM_B3
DM4/DQS13 NC/DQS13# 202 M_DQM_B4
DM5/DQS14 NC/DQS14# 211 M_DQM_B5
DM6/DQS15 NC/DQS15# 223 M_DQM_B6
DM7/DQS16 NC/DQS16# 232 M_DQM_B7
DM8/DQS17 NC/DQS17# 164 M_DQM_B8
M_DQM_B[7..0] 15

DQ<0> 3 M_DATA_B0
DQ<1> 4 M_DATA_B1
DQ<2> 9 M_DATA_B2
DQ<3> 10 M_DATA_B3
DQ<4> 122 M_DATA_B4
DQ<5> 123 M_DATA_B5
DQ<6> 128 M_DATA_B6
DQ<7> 129 M_DATA_B7
DQ<8> 12 M_DATA_B8
DQ<9> 13 M_DATA_B9
DQ<10> 21 M_DATA_B10
DQ<11> 22 M_DATA_B11
DQ<12> 131 M_DATA_B12
DQ<13> 132 M_DATA_B13
DQ<14> 140 M_DATA_B14
DQ<15> 141 M_DATA_B15
DQ<16> 24 M_DATA_B16
DQ<17> 25 M_DATA_B17
DQ<18> 30 M_DATA_B18
DQ<19> 31 M_DATA_B19
DQ<20> 143 M_DATA_B20
DQ<21> 144 M_DATA_B21
DQ<22> 149 M_DATA_B22
DQ<23> 150 M_DATA_B23
DQ<24> 33 M_DATA_B24
DQ<25> 34 M_DATA_B25
DQ<26> 39 M_DATA_B26
DQ<27> 40 M_DATA_B27
DQ<28> 152 M_DATA_B28
DQ<29> 153 M_DATA_B29
DQ<30> 158 M_DATA_B30
DQ<31> 159 M_DATA_B31
DQ<32> 80 M_DATA_B32
DQ<33> 81 M_DATA_B33
DQ<34> 86 M_DATA_B34
DQ<35> 87 M_DATA_B35
DQ<36> 199 M_DATA_B36
DQ<37> 200 M_DATA_B37
DQ<38> 205 M_DATA_B38
DQ<39> 206 M_DATA_B39
DQ<40> 89 M_DATA_B40
DQ<41> 90 M_DATA_B41
DQ<42> 95 M_DATA_B42
DQ<43> 96 M_DATA_B43
DQ<44> 208 M_DATA_B44
DQ<45> 209 M_DATA_B45
DQ<46> 214 M_DATA_B46
DQ<47> 215 M_DATA_B47
DQ<48> 98 M_DATA_B48
DQ<49> 99 M_DATA_B49
DQ<50> 107 M_DATA_B50
DQ<51> 108 M_DATA_B51
DQ<52> 217 M_DATA_B52
DQ<53> 218 M_DATA_B53
DQ<54> 226 M_DATA_B54
DQ<55> 227 M_DATA_B55
DQ<56> 110 M_DATA_B56
DQ<57> 111 M_DATA_B57
DQ<58> 116 M_DATA_B58
DQ<59> 117 M_DATA_B59
DQ<60> 229 M_DATA_B60
DQ<61> 230 M_DATA_B61
DQ<62> 235 M_DATA_B62
DQ<63> 236 M_DATA_B63
M_DATA_B[63..0] 15

CN26 DDR2_DIMM

NC 68
NC/TEST 102
NC 19
M_ODT_B[3..0] 15,19
ODT1 77 M_ODT_B3
ODT0 195 M_ODT_B2

CB<0> 42 M_CB_B0
CB<1> 43 M_CB_B1
CB<2> 48 M_CB_B2
CB<3> 49 M_CB_B3
CB<4> 161 M_CB_B4
CB<5> 162 M_CB_B5
CB<6> 167 M_CB_B6
CB<7> 168 M_CB_B7
M_CB_B[7..0] 15

DQS<0> 7 M_DQS_B0
DQS#<0> 6 M_DQS_BJ0
DQS<1> 16 M_DQS_B1
DQS#<1> 15 M_DQS_BJ1
DQS<2> 28 M_DQS_B2
DQS#<2> 27 M_DQS_BJ2
DQS<3> 37 M_DQS_B3
DQS#<3> 36 M_DQS_BJ3
DQS<4> 84 M_DQS_B4
DQS#<4> 83 M_DQS_BJ4
DQS<5> 93 M_DQS_B5
DQS#<5> 92 M_DQS_BJ5
DQS<6> 105 M_DQS_B6
DQS#<6> 104 M_DQS_BJ6
DQS<7> 114 M_DQS_B7
DQS#<7> 113 M_DQS_BJ7
DQS<8> 46 M_DQS_B8
DQS#<8> 45 M_DQS_BJ8
M_DQS_B8 15
M_DQS_BJ8 15

DM0/DQS9 NC/DQS9# 125 M_DQM_B0
DM1/DQS10 NC/DQS10# 134 M_DQM_B1
DM2/DQS11 NC/DQS11# 146 M_DQM_B2
DM3/DQS12 NC/DQS12# 155 M_DQM_B3
DM4/DQS13 NC/DQS13# 202 M_DQM_B4
DM5/DQS14 NC/DQS14# 211 M_DQM_B5
DM6/DQS15 NC/DQS15# 223 M_DQM_B6
DM7/DQS16 NC/DQS16# 232 M_DQM_B7
DM8/DQS17 NC/DQS17# 164

DQ<0> 3 M_DATA_B0
DQ<1> 4 M_DATA_B1
DQ<2> 9 M_DATA_B2
DQ<3> 10 M_DATA_B3
DQ<4> 122 M_DATA_B4
DQ<5> 123 M_DATA_B5
DQ<6> 128 M_DATA_B6
DQ<7> 129 M_DATA_B7
DQ<8> 12 M_DATA_B8
DQ<9> 13 M_DATA_B9
DQ<10> 21 M_DATA_B10
DQ<11> 22 M_DATA_B11
DQ<12> 131 M_DATA_B12
DQ<13> 132 M_DATA_B13
DQ<14> 140 M_DATA_B14
DQ<15> 141 M_DATA_B15
DQ<16> 24 M_DATA_B16
DQ<17> 25 M_DATA_B17
DQ<18> 30 M_DATA_B18
DQ<19> 31 M_DATA_B19
DQ<20> 143 M_DATA_B20
DQ<21> 144 M_DATA_B21
DQ<22> 149 M_DATA_B22
DQ<23> 150 M_DATA_B23
DQ<24> 33 M_DATA_B24
DQ<25> 34 M_DATA_B25
DQ<26> 39 M_DATA_B26
DQ<27> 40 M_DATA_B27
DQ<28> 152 M_DATA_B28
DQ<29> 153 M_DATA_B29
DQ<30> 158 M_DATA_B30
DQ<31> 159 M_DATA_B31
DQ<32> 80 M_DATA_B32
DQ<33> 81 M_DATA_B33
DQ<34> 86 M_DATA_B34
DQ<35> 87 M_DATA_B35
DQ<36> 199 M_DATA_B36
DQ<37> 200 M_DATA_B37
DQ<38> 205 M_DATA_B38
DQ<39> 206 M_DATA_B39
DQ<40> 89 M_DATA_B40
DQ<41> 90 M_DATA_B41
DQ<42> 95 M_DATA_B42
DQ<43> 96 M_DATA_B43
DQ<44> 208 M_DATA_B44
DQ<45> 209 M_DATA_B45
DQ<46> 214 M_DATA_B46
DQ<47> 215 M_DATA_B47
DQ<48> 98 M_DATA_B48
DQ<49> 99 M_DATA_B49
DQ<50> 107 M_DATA_B50
DQ<51> 108 M_DATA_B51
DQ<52> 217 M_DATA_B52
DQ<53> 218 M_DATA_B53
DQ<54> 226 M_DATA_B54
DQ<55> 227 M_DATA_B55
DQ<56> 110 M_DATA_B56
DQ<57> 111 M_DATA_B57
DQ<58> 116 M_DATA_B58
DQ<59> 117 M_DATA_B59
DQ<60> 229 M_DATA_B60
DQ<61> 230 M_DATA_B61
DQ<62> 235 M_DATA_B62
DQ<63> 236 M_DATA_B63

3D3V_SYS
7,18,43 SMB_CLK_MAIN
7,18,43 SMB_DATA_MAIN
SMVREF_B
BC428 0.1uF 16V, Y5V, +80%/-20% C0603
Place this cap close to DIMM
SA2 SA1 SA0
0 1 1

15,19 M_BS_B[2..0]
M_BS_B1
M_BS_B0
15,19 M_SCKE_B[3..0]
M_SCKE_B3
M_SCKE_B2
15,19 M_SCS_B3J
15,19 M_SCS_B2J
15 CK_M_200M_N_DDR5_B
15 CK_M_200M_P_DDR5_B
15 CK_M_200M_N_DDR4_B
15 CK_M_200M_P_DDR4_B
15 CK_M_200M_N_DDR3_B
15 CK_M_200M_P_DDR3_B
15,19 M_MAA_B[13:0]
M_BS_B2
15,19 M_CAS_BJ
15,19 M_RAS_BJ
15,19 M_WE_BJ

Channel B DIMM2 DDRII_1.8V high-frequency decoupling caps. placement

TBD

1D8V_STR
BC418 C0603 1uF 10V, Y5V, +80%/-20%
BC470 C0603 1uF 10V, Y5V, +80%/-20%
BC475 C0603 1uF 10V, Y5V, +80%/-20%
BC410 C0603 1uF 10V, Y5V, +80%/-20%

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FOXCONN PCEG

Title: DDR2 Channel B DIMM 1, 2
Size: Document Number: 925A02 Rev: A
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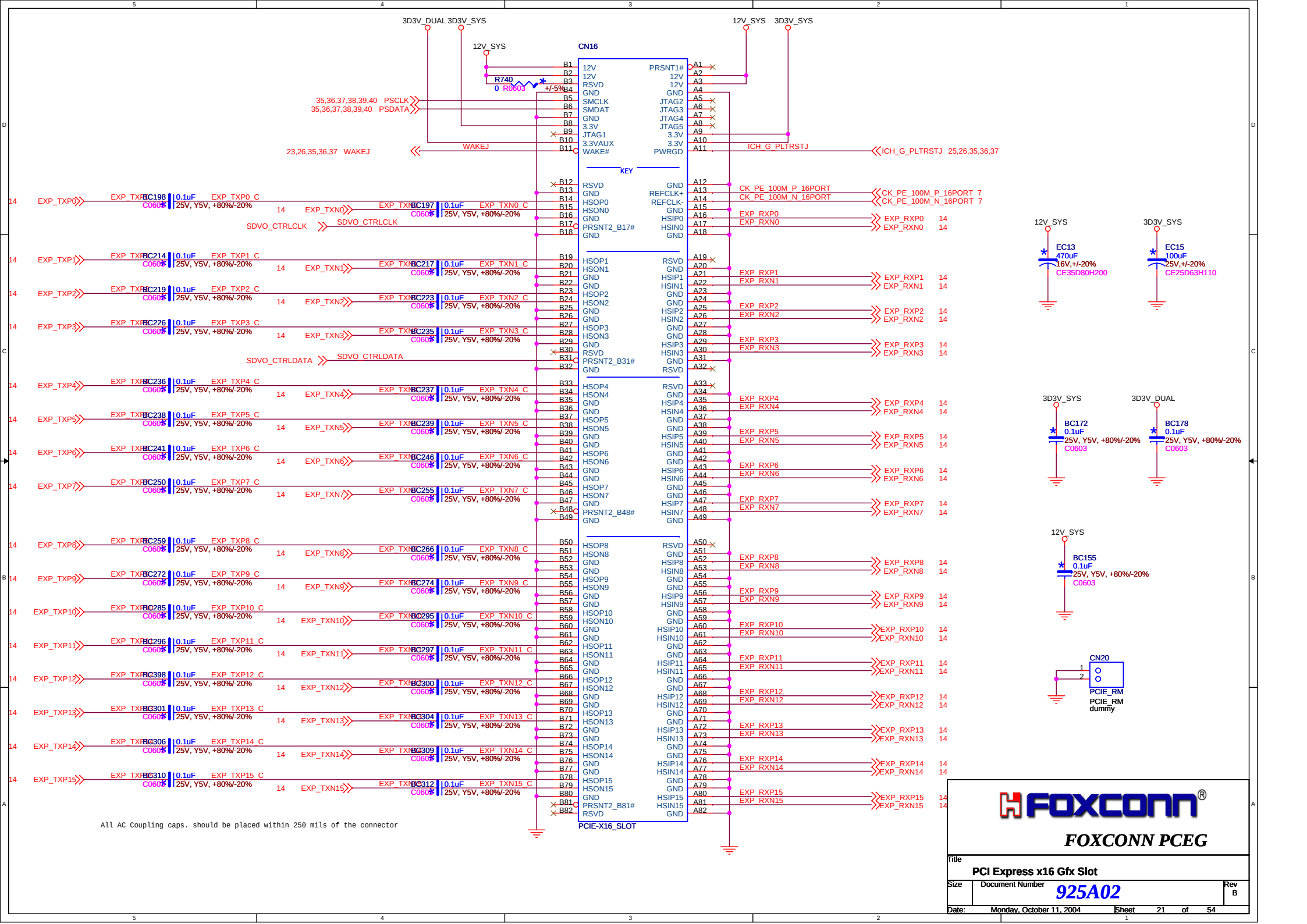
3D3V_DUAL 3D3V_SYS
12V_SYS
CN16
12V_SYS 3D3V_SYS
R740
0 R0603
+/-5%
35,36,37,38,39,40 PSCLK
35,36,37,38,39,40 PSDATA
WAKEJ
23,26,35,36,37 WAKEJ
ICH_G_PLTRSTJ
ICH_G_PLTRSTJ 25,26,35,36,37
KEY
SDVO_CTRLCLK
SDVO_CTRLDATA
CK_PE_100M_P_16PORT
CK_PE_100M_N_16PORT
CK_PE_100M_P_16PORT 7
CK_PE_100M_N_16PORT 7
EXP_TXP0
EXP_TXN0
EXP_TXP1
EXP_TXN1
EXP_TXP2
EXP_TXN2
EXP_TXP3
EXP_TXN3
EXP_TXP4
EXP_TXN4
EXP_TXP5
EXP_TXN5
EXP_TXP6
EXP_TXN6
EXP_TXP7
EXP_TXN7
EXP_TXP8
EXP_TXN8
EXP_TXP9
EXP_TXN9
EXP_TXP10
EXP_TXN10
EXP_TXP11
EXP_TXN11
EXP_TXP12
EXP_TXN12
EXP_TXP13
EXP_TXN13
EXP_TXP14
EXP_TXN14
EXP_TXP15
EXP_TXN15
0.1uF
25V, Y5V, +80%/-20%
EXP_RXP0
EXP_RXN0
EXP_RXP1
EXP_RXN1
EXP_RXP2
EXP_RXN2
EXP_RXP3
EXP_RXN3
EXP_RXP4
EXP_RXN4
EXP_RXP5
EXP_RXN5
EXP_RXP6
EXP_RXN6
EXP_RXP7
EXP_RXN7
EXP_RXP8
EXP_RXN8
EXP_RXP9
EXP_RXN9
EXP_RXP10
EXP_RXN10
EXP_RXP11
EXP_RXN11
EXP_RXP12
EXP_RXN12
EXP_RXP13
EXP_RXN13
EXP_RXP14
EXP_RXN14
EXP_RXP15
EXP_RXN15
PCIE-X16_SLOT
EC13
470uF
16V,+/-20%
CE35D80H200
EC15
100uF
25V,+/-20%
CE25D63H110
BC172
0.1uF
25V, Y5V, +80%/-20%
C0603
BC178
0.1uF
25V, Y5V, +80%/-20%
C0603
BC155
0.1uF
25V, Y5V, +80%/-20%
C0603
CN20
PCIE_RM
PCIE_RM
dummy
All AC Coupling caps. should be placed within 250 mils of the connector
FOXCONN PCEG
Title
PCI Express x16 Gfx Slot
Size
Document Number
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Blank

FOXCONN PCEG

Title: VGA Connector		
Size	Document Number: AWA01	Rev: A
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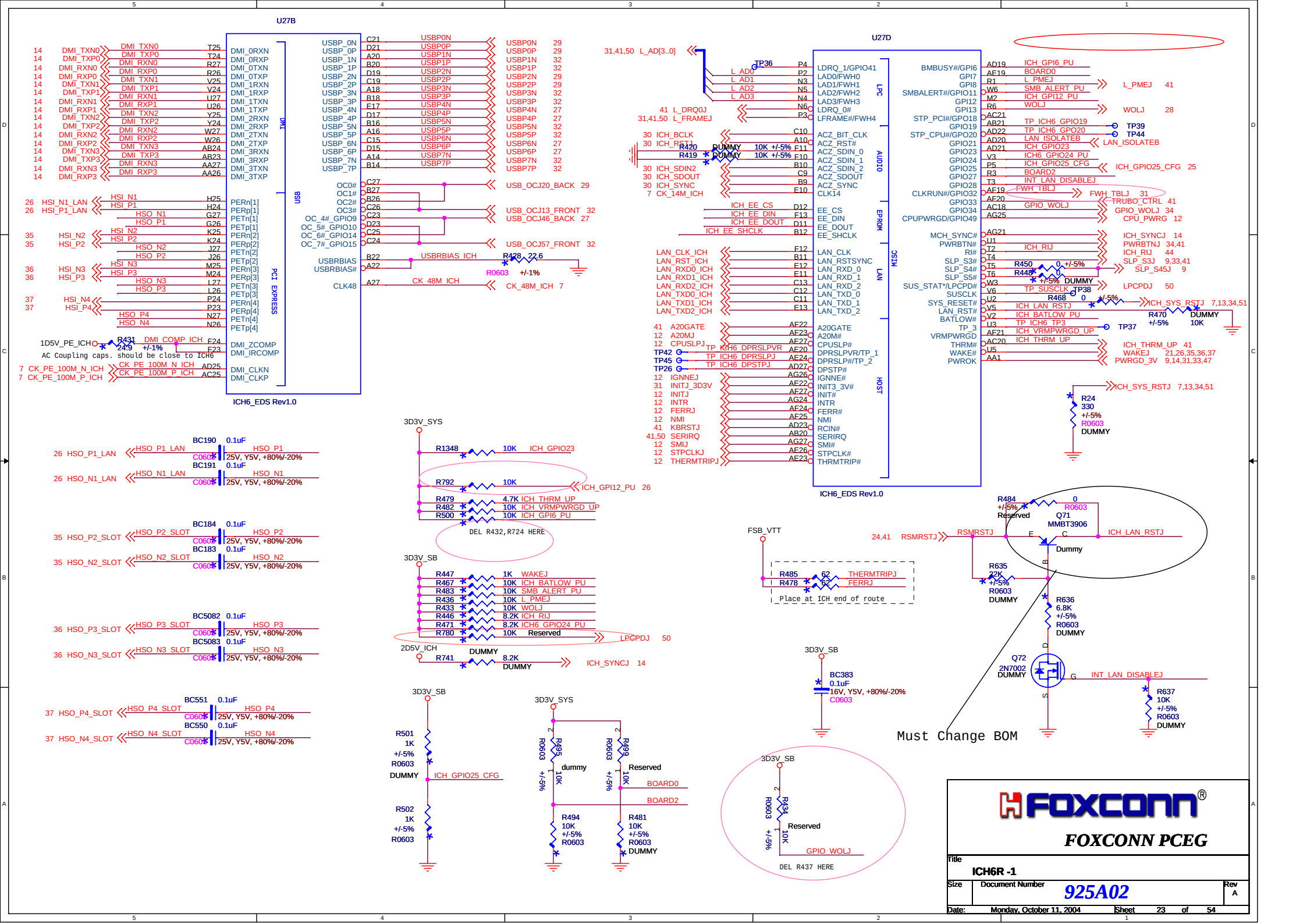
U27B
ICH6_EDS Rev1.0
U27D
ICH6_EDS Rev1.0
DMI_TXN0
DMI_TXP0
DMI_RXN0
DMI_RXP0
DMI_TXN1
DMI_TXP1
DMI_RXN1
DMI_RXP1
DMI_TXN2
DMI_TXP2
DMI_RXN2
DMI_RXP2
DMI_TXN3
DMI_TXP3
DMI_RXN3
DMI_RXP3
HSI_N1
HSI_P1
HSI_N2
HSI_P2
HSI_N3
HSI_P3
HSI_N4
HSI_P4
HSO_N1
HSO_P1
HSO_N2
HSO_P2
HSO_N3
HSO_P3
HSO_N4
HSO_P4
1D5V_PE_ICH
R431 24.9 +/-1%
DMI_COMP_ICH
AC Coupling caps. should be close to ICH6
CK_PE_100M_N_ICH
CK_PE_100M_P_ICH
USBP0N
USBP0P
USBP1N
USBP1P
USBP2N
USBP2P
USBP3N
USBP3P
USBP4N
USBP4P
USBP5N
USBP5P
USBP6N
USBP6P
USBP7N
USBP7P
USB_OCJ20_BACK
USB_OCJ13_FRONT
USB_OCJ46_BACK
USB_OCJ57_FRONT
USBRBIAS_ICH
R428 22.6 R0603 +/-1%
CK_48M_ICH
L_AD[3..0]
L_DRQ0J
L_FRAMEJ
ICH_BCLK
ICH_RST1J
R420 DUMMY 10K +/-5%
R419 DUMMY 10K +/-5%
ICH_SDIN2
ICH_SDOUT
ICH_SYNC
CK_14M_ICH
ICH_EE_CS
ICH_EE_DIN
ICH_EE_DOUT
ICH_EE_SHCLK
LAN_CLK_ICH
LAN_RST_ICH
LAN_RXD0_ICH
LAN_RXD1_ICH
LAN_RXD2_ICH
LAN_TXD0_ICH
LAN_TXD1_ICH
LAN_TXD2_ICH
A20GATE
A20MJ
CPUSLPJ
TP_ICH6_DPRSLPVR
TP_ICH6_DPRSLPJ
TP_ICH6_DPSTPJ
IGNNEJ
INITJ_3D3V
INITJ
INTR
FERRJ
NMI
KBRSTJ
SERIRQ
SMIJ
STPCLKJ
THERMTRIPJ
BMBUSY#/GPI6
GPI7
GPI8
SMBALERT#/GPIO11
GPI12
GPI13
STP_PCI#/GPO18
GPIO19
STP_CPU#/GPO20
GPIO21
GPIO23
GPIO24
GPIO25
GPIO27
GPIO28
CLKRUN#/GPIO32
GPIO33
GPIO34
CPUPWRGD/GPIO49
MCH_SYNC#
PWRBTN#
RI#
SLP_S3#
SLP_S4#
SLP_S5#
SUS_STAT*/LPCPD#
SUSCLK
SYS_RESET#
LAN_RST#
BATLOW#
TP_3
VRMPWRGD
THRM#
WAKE#
PWROK
ICH_GPI6_PU
BOARD0
L_PMEJ
SMB_ALERT_PU
ICH_GPI12_PU
WOLJ
TP_ICH6_GPIO19
TP_ICH6_GPO20
LAN_ISOLATEB
ICH_GPIO23
ICH6_GPIO24_PU
ICH_GPIO25_CFG
BOARD2
INT_LAN_DISABLEJ
FWH_TBLJ
TRUBO_CTRL
GPIO_WOLJ
CPU_PWRG
ICH_SYNCJ
PWRBTNJ
ICH_RIJ
SLP_S45J
SLP_S3J
LPCPDJ
TP_SUSCLK
ICH_SYS_RSTJ
ICH_LAN_RSTJ
ICH_BATLOW_PU
TP_ICH6_TP3
ICH_VRMPWRGD_UP
ICH_THRM_UP
WAKEJ
PWRGD_3V
R450 0 +/-5%
R448 0 +/-5% DUMMY
R468 0 +/-5%
R470 +/-5% 10K DUMMY
R24 330 +/-5% R0603 DUMMY
BC190 0.1uF C0603 25V, Y5V, +80%/-20%
BC191 0.1uF C0603 25V, Y5V, +80%/-20%
BC184 0.1uF C0603 25V, Y5V, +80%/-20%
BC183 0.1uF C0603 25V, Y5V, +80%/-20%
BC5082 0.1uF C0603 25V, Y5V, +80%/-20%
BC5083 0.1uF C0603 25V, Y5V, +80%/-20%
BC551 0.1uF C0603 25V, Y5V, +80%/-20%
BC550 0.1uF C0603 25V, Y5V, +80%/-20%
3D3V_SYS
R1348 10K ICH_GPIO23
R792 10K ICH_GPI12_PU
R479 4.7K ICH_THRM_UP
R482 10K ICH_VRMPWRGD_UP
R500 10K ICH_GPI6_PU
DEL R432,R724 HERE
3D3V_SB
R447 1K WAKEJ
R467 10K ICH_BATLOW_PU
R483 10K SMB_ALERT_PU
R436 10K L_PMEJ
R433 10K WOLJ
R446 8.2K ICH_RIJ
R471 8.2K ICH6_GPIO24_PU
R780 10K Reserved
LPCPDJ
2D5V_ICH
R741 8.2K DUMMY
ICH_SYNCJ
FSB_VTT
R485 62 THERMTRIPJ
R478 62 FERRJ
Place at ICH end of route
R484 0 +/-5% R0603 Reserved
Q71 MMBT3906 Dummy
R635 22K +/-5% R0603 DUMMY
R636 6.8K +/-5% R0603 DUMMY
Q72 2N7002 DUMMY
R637 10K +/-5% R0603 DUMMY
BC383 0.1uF 16V, Y5V, +80%/-20% C0603
Must Change BOM
R501 1K +/-5% R0603 DUMMY
R502 1K +/-5% R0603
R495 10K dummy
R499 10K Reserved
R494 10K +/-5% R0603
R481 10K +/-5% R0603 DUMMY
R434 10K Reserved
GPIO_WOLJ
DEL R437 HERE
FOXCONN PCEG
Title ICH6R -1
Size
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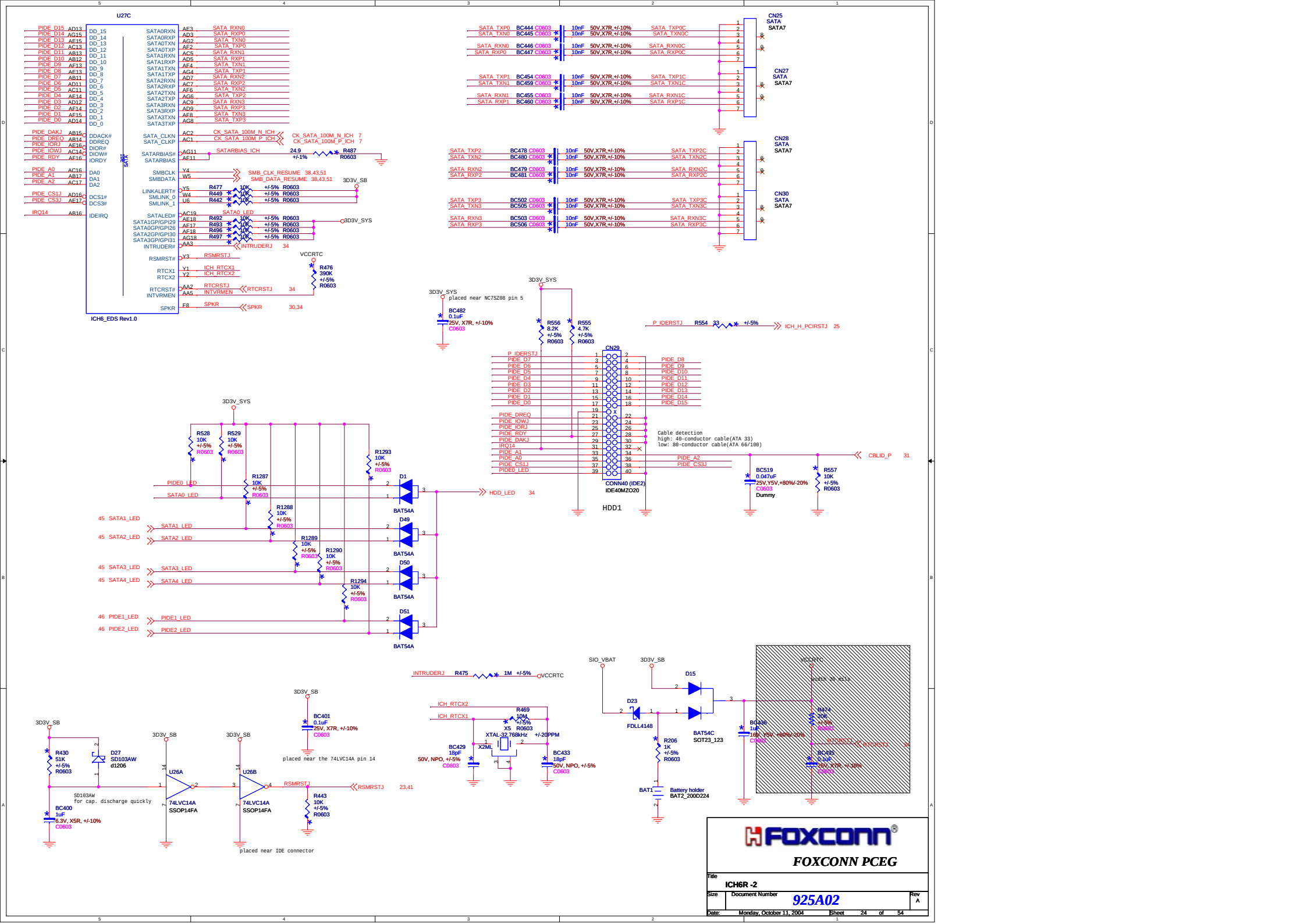
U27C
ICH6_EDS Rev1.0
CN25 SATA SATA7
CN27 SATA SATA7
CN28 SATA SATA7
CN30 SATA SATA7
CN29
CONN40 (IDE2) IDE40MZO20
HDD1
Cable detection
high: 40-conductor cable(ATA 33)
low: 80-conductor cable(ATA 66/100)
placed near NC7SZ08 pin 5
placed near the 74LVC14A pin 14
placed near IDE connector
SD103AW for cap. discharge quickly
Battery holder BAT2_200D224
FOXCONN PCEG
Title ICH6R -2
Size Document Number 925A02 Rev A
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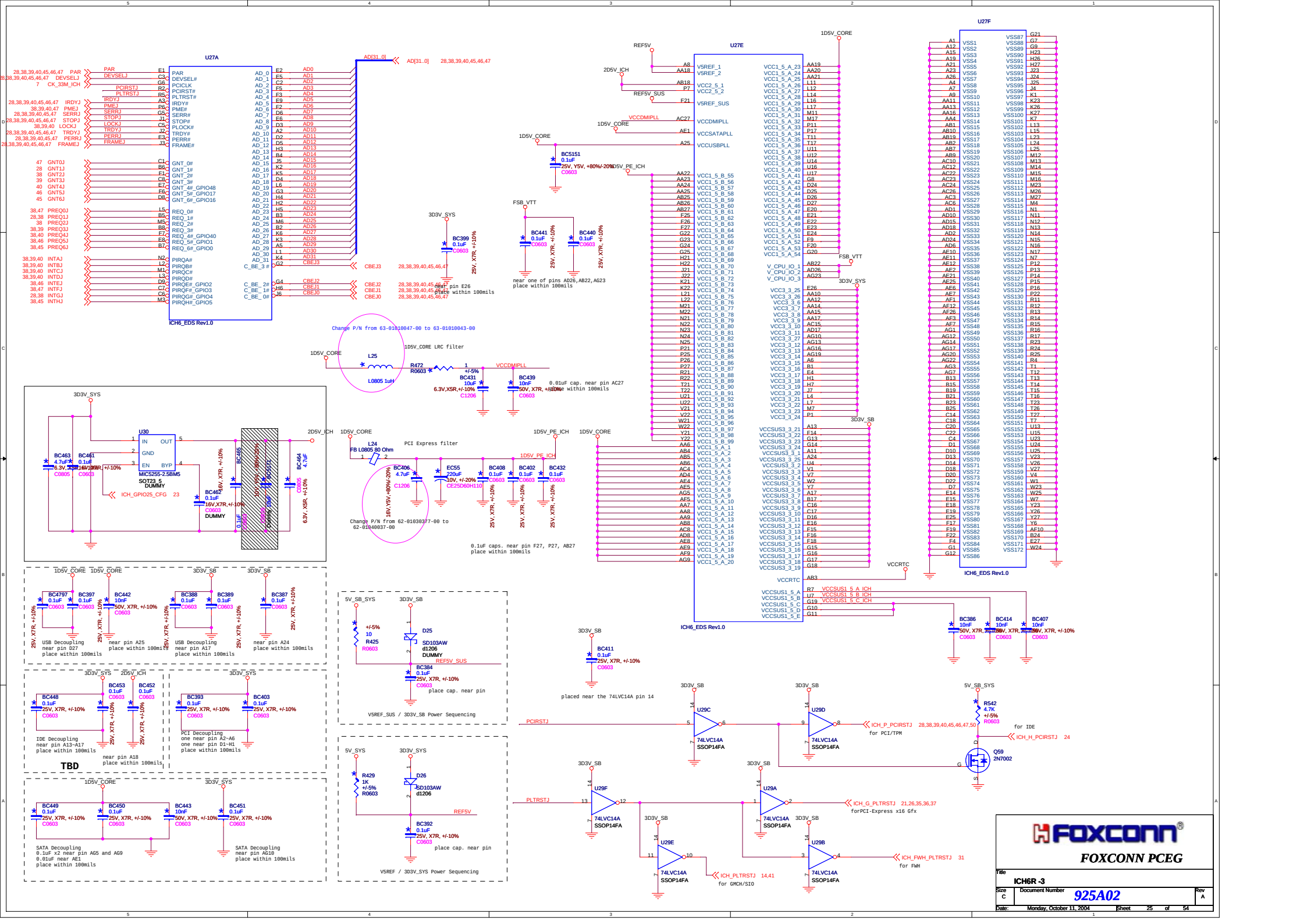
U27A
ICH6_EDS Rev1.0
U27E
ICH6_EDS Rev1.0
U27F
ICH6_EDS Rev1.0
U30
MIC5255-2.5BM5
SOT23_5
DUMMY
Change P/N from 63-01010047-00 to 63-01010043-00
1D5V_CORE LRC filter
L25
L0805 1uH
PCI Express filter
L24
FB L0805 80 Ohm
Change P/N from 62-01030377-00 to 62-01040037-00
USB Decoupling near pin D27 place within 100mils
near pin A25 place within 100mils
USB Decoupling near pin A17 place within 100mils
near pin A24 place within 100mils
IDE Decoupling near pin A13~A17 place within 100mils
near pin A18 place within 100mils
PCI Decoupling one near pin A2~A6 one near pin D1~H1 place within 100mils
TBD
SATA Decoupling 0.1uF X2 near pin AG5 and AG9 0.01uF near AE1 place within 100mils
SATA Decoupling near pin AG10 place within 100mils
V5REF_SUS / 3D3V_SB Power Sequencing
V5REF / 3D3V_SYS Power Sequencing
placed near the 74LVC14A pin 14
0.1uF caps. near pin F27, P27, AB27 place within 100mils
near one of pins AD26,AB22,AG23 place within 100mils
near pin E26 place within 100mils
0.01uF cap. near pin AC27 place within 100mils
for PCI/TPM
for IDE
for PCI-Express x16 Gfx
for FWH
for GMCH/SIO
FOXCONN PCEG
ICH6R -3
925A02
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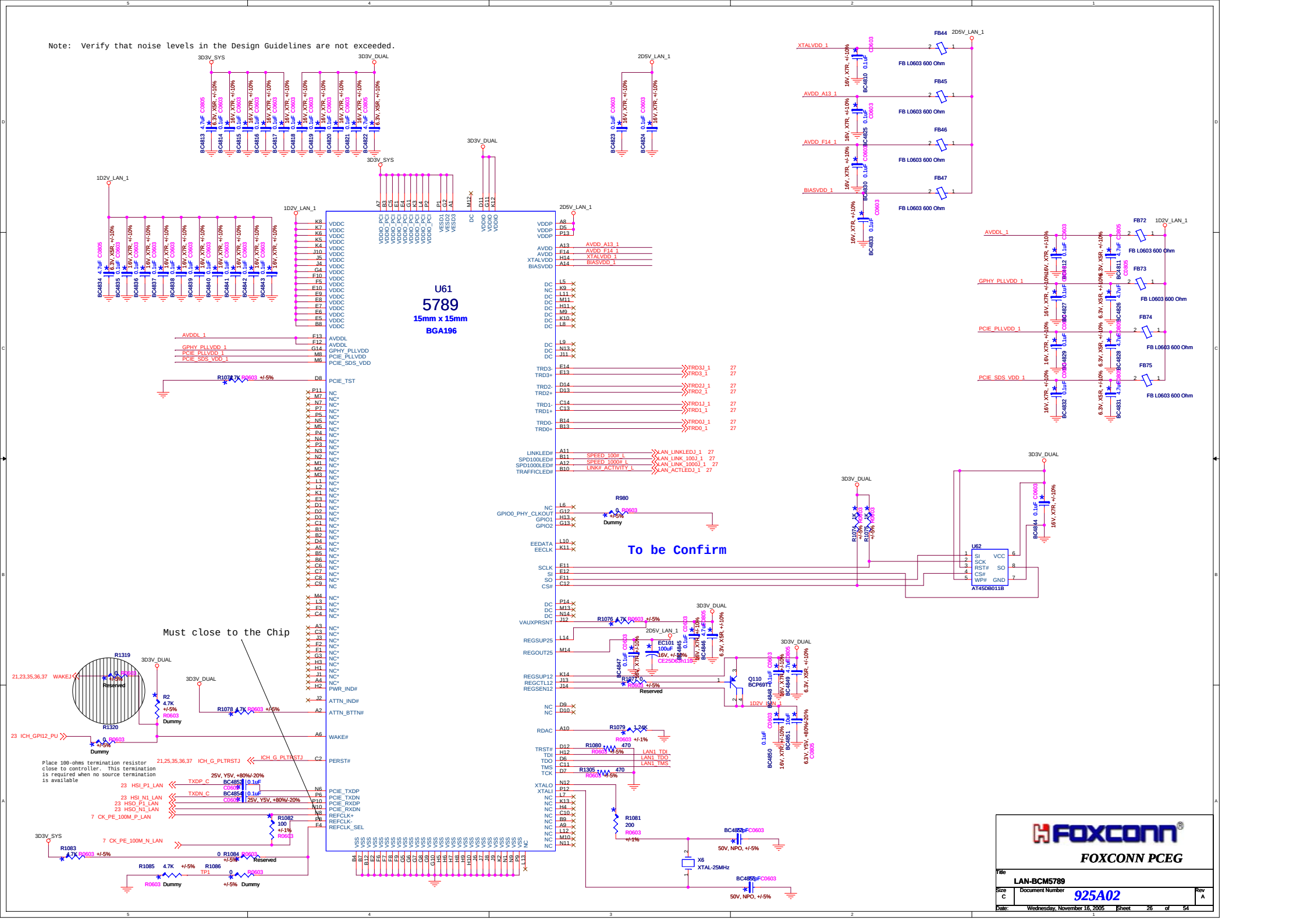
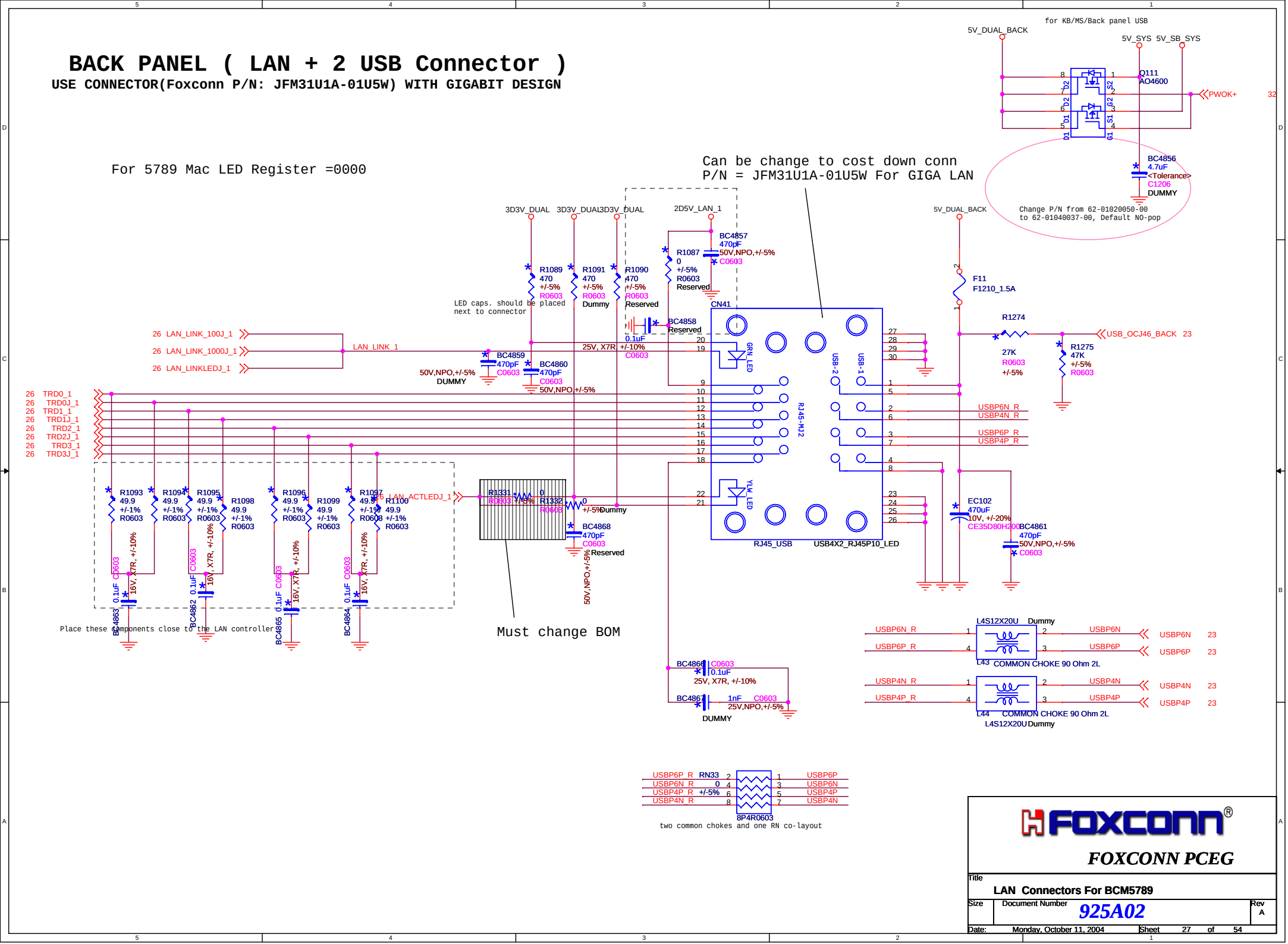
Note: Verify that noise levels in the Design Guidelines are not exceeded.



BACK PANEL (LAN + 2 USB Connector)

USE CONNECTOR(Foxconn P/N: JFM31U1A-01U5W) WITH GIGABIT DESIGN



FOXCONN PCEG

Title	LAN Connectors For BCM5789	
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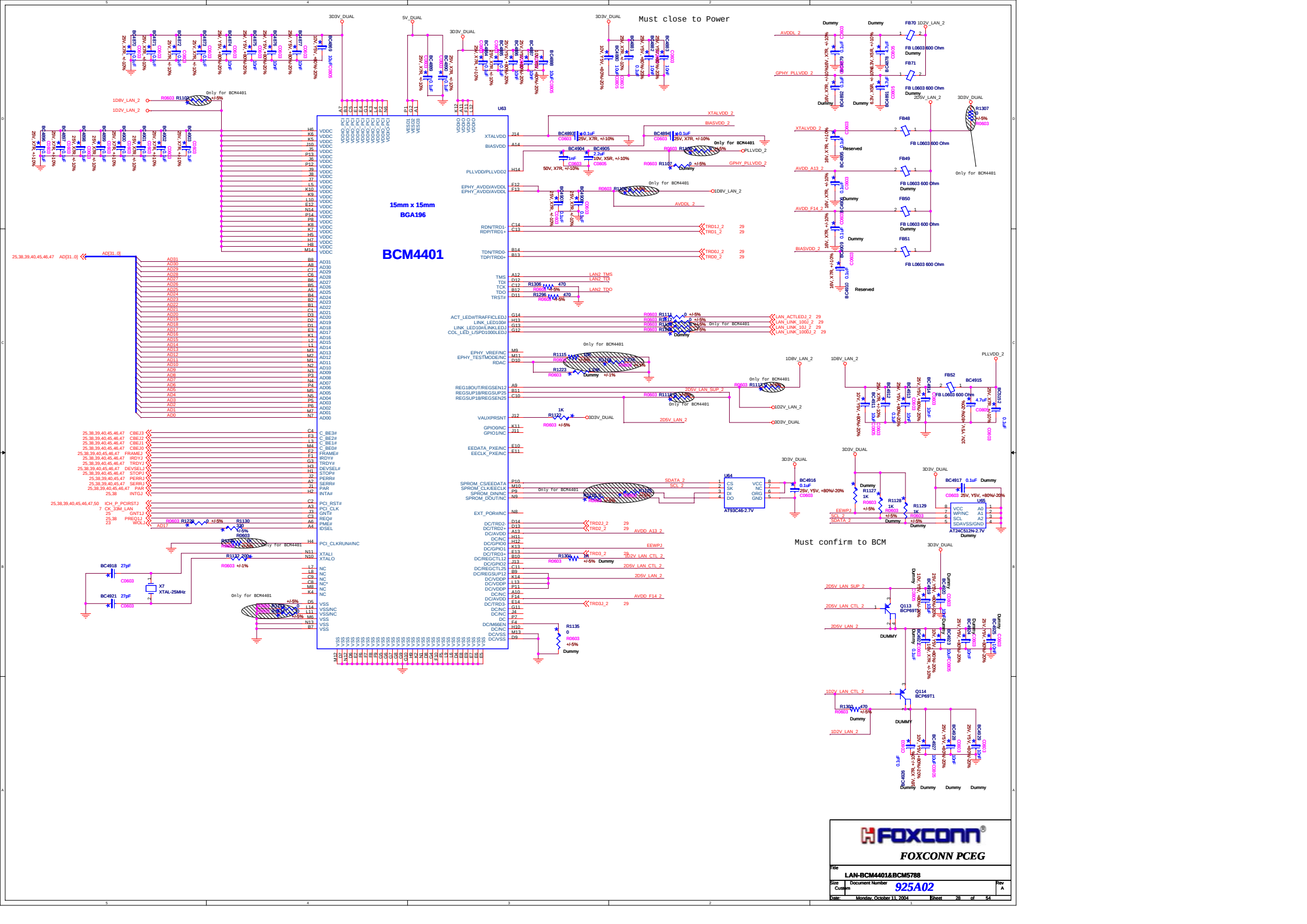
BCM4401
15mm x 15mm
BGA196
Must close to Power
Must confirm to BCM
FOXCONN PCEG
LAN-BCM4401&BCM5788
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BACK PANEL (LAN + 2 USB Connector)

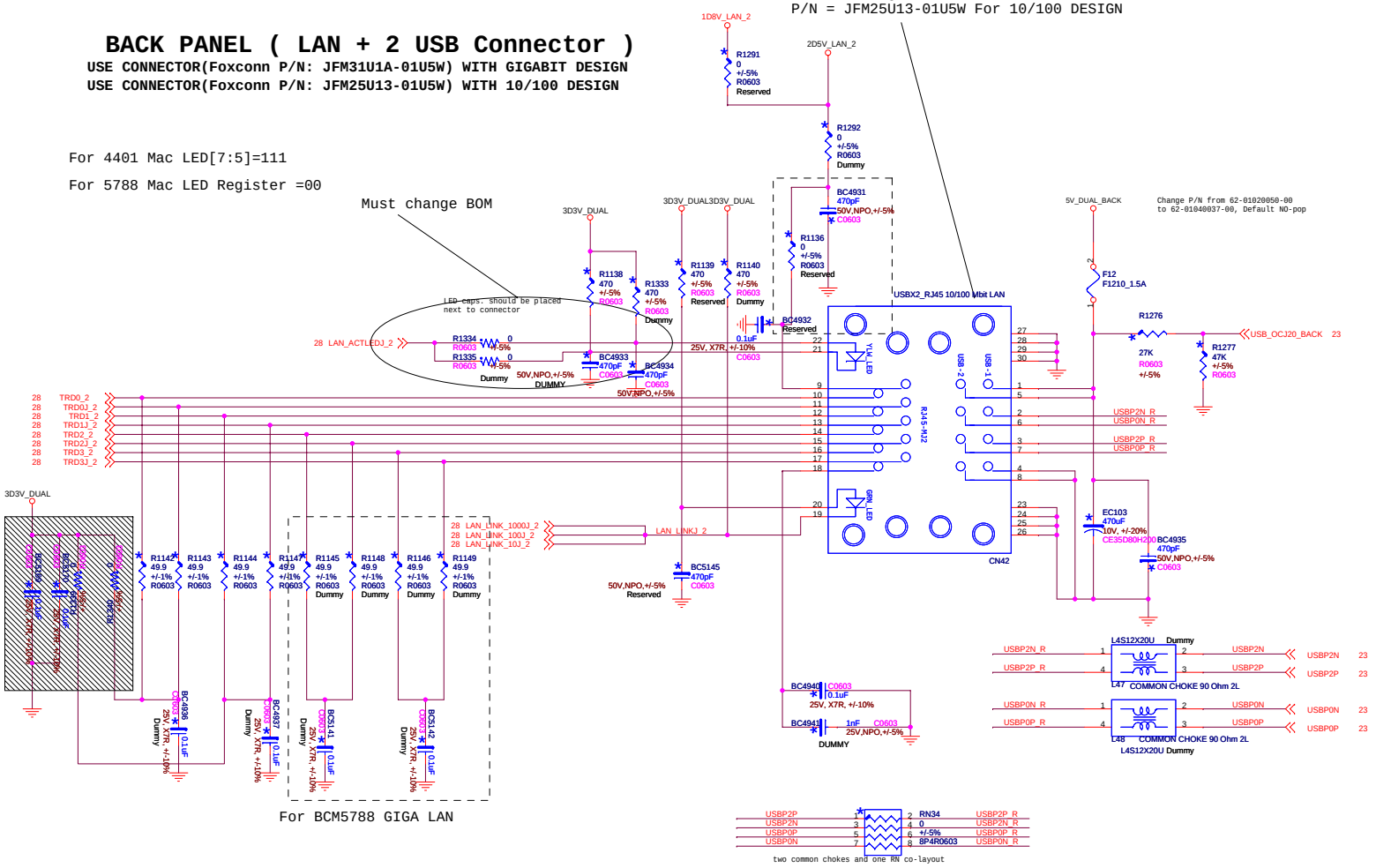
USE CONNECTOR(Foxconn P/N: JFM31U1A-01U5W) WITH GIGABIT DESIGN
USE CONNECTOR(Foxconn P/N: JFM25U13-01U5W) WITH 10/100 DESIGN

Can be change to cost down conn
P/N = JFM25U13-01U5W For 10/100 DESIGN

For 4401 Mac LED[7:5]=111

For 5788 Mac LED Register =00

Must change BOM



For BCM5788 GIGA LAN

FOXCONN PCEG

Title	LAN Connectors For BCM4401&BCM5788	
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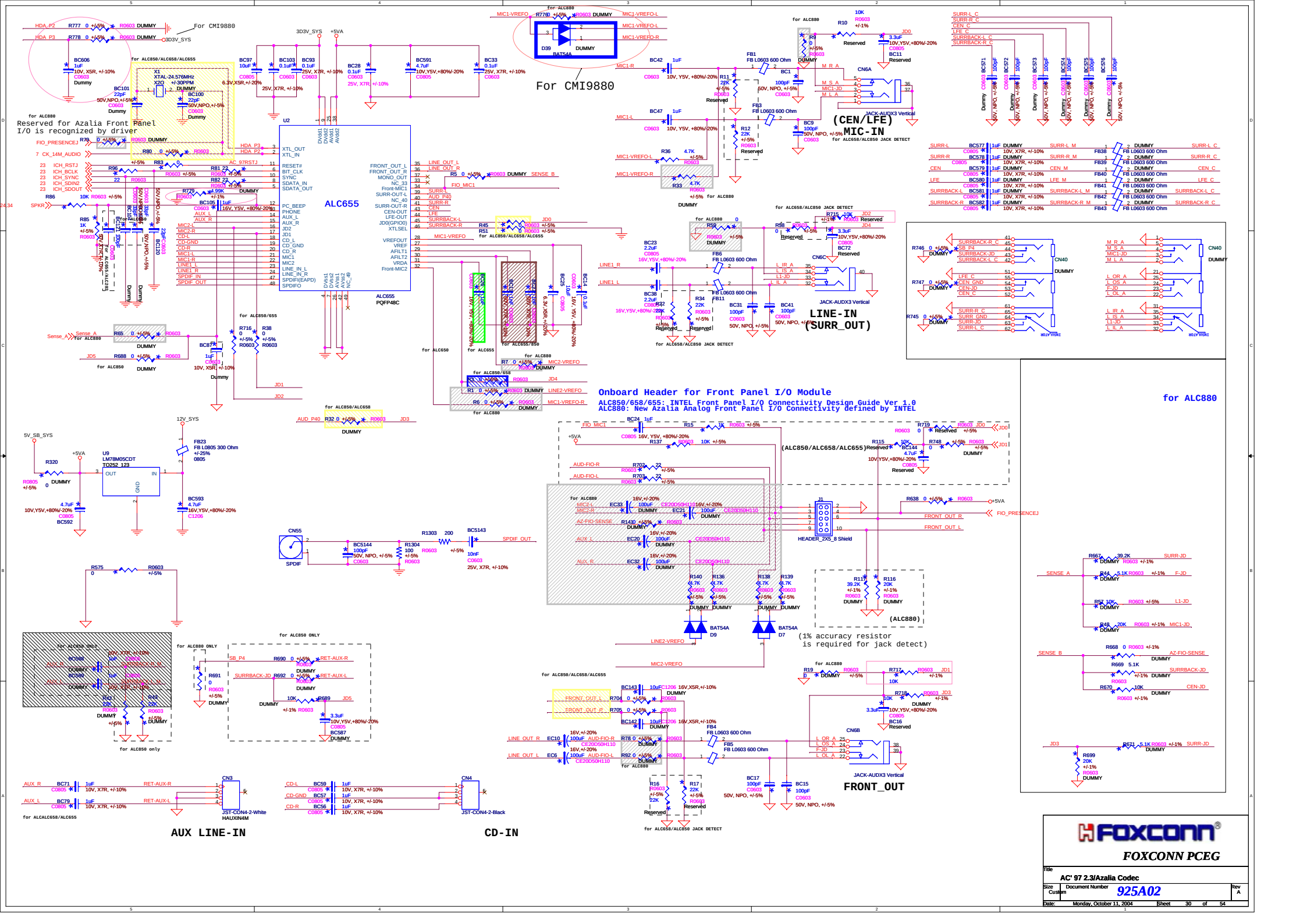
Reserved for Azalia Front Panel I/O is recognized by driver
ALC655
ALC655 PQFP48C
For CMI9880
(CEN/LFE) MIC-IN
LINE-IN (SURR_OUT)
FRONT_OUT
Onboard Header for Front Panel I/O Module
ALC850/658/655: INTEL Front Panel I/O Connectivity Design Guide Ver 1.0
ALC880: New Azalia Analog Front Panel I/O Connectivity defined by INTEL
for ALC880
(ALC880)
(1% accuracy resistor is required for jack detect)
AUX LINE-IN
CD-IN
FOXCONN PCEG
AC' 97 2.3/Azalia Codec
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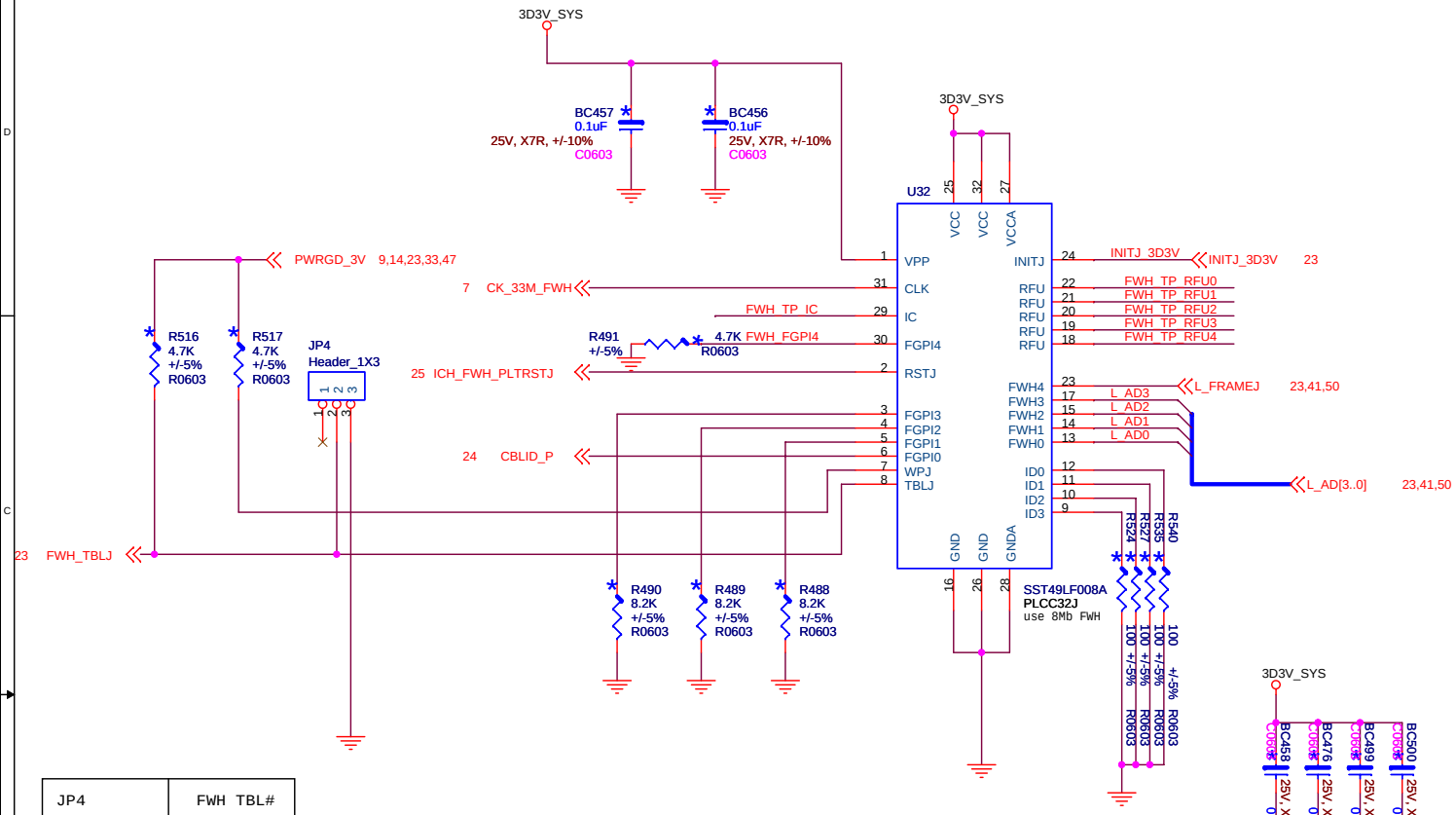
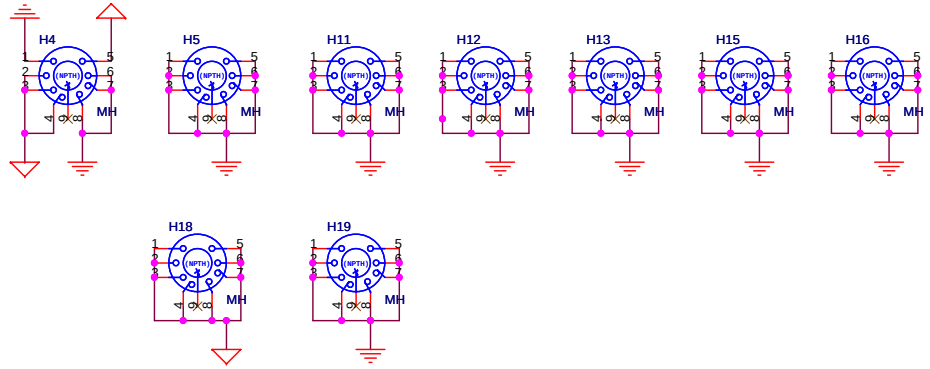
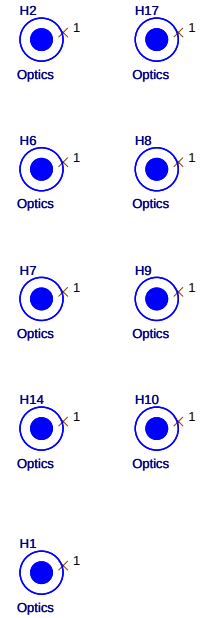


JP4	FWH TBL#
Unlock	(1-2)
Lock	(2-3)

Default





FOXCONN PCEG

Title: FWH		
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USB Connector: Back side 4 ports and Front side 4 ports.

two common chokes and one RN co-layout

USBP3N
USBP3P
USBP1N
USBP1P
RN30
0
+/-5%
8P4R0603
USBP3N_R
USBP3P_R
USBP1N_R
USBP1P_R

L4S12X20U dummy
Common Choke 90 Ohm 2L
L28
L29

23 USBP1N
23 USBP1P
23 USBP3N
23 USBP3P
Add 1.5A Fuse

R1278
27K
R0603
+/-5%
R1279
47K
+/-5%
R0603
USB_CONF_PWR
USB_OCJ13_FRONT 23

3D3V_SYS
BC385
0.1uF
16V, Y5V, +80%/-20%
C0603

for USB differential trace change layer

BC556 0.1uF
C0603
16V, Y5V, +80%/-20%

CN36
HEADER_2X5_9 Shield
@intel standard

Must Change BOM

5V_DUAL
F16
F1813_2.6A
USB_CONF_PWR
EC105
470uF
16V, +/-20%
CE35D80H200
Reserved

Q49
AO4600
SOP8JA
5V_SYS
5V_SB_SYS
PWOK+

N Rdson max=50m Ohm@Vgs=2.5V,P Rdson max=120m Ohm@Vgs=-2.5V

two common chokes and one RN co-layout

RN12
0
+/-5%
8P4R0603

L4S12X20U dummy
COMMON CHOKE 90 Ohm 2L
L23
L22

USBP7N
USBP7P
USBP5N
USBP5P
USBP7N_R
USBP7P_R
USBP5N_R
USBP5P_R

Change 2.6A to 1.5A

CN19
HEADER_2X5_9 Shield
@intel standard
BC329
0.1uF
C0603
16V, Y5V, +80%/-20%

for 3D3V_SB / Front panel USB / SBLED
power consumption?

12V_SYS
5V_SB_SYS
5V_DUAL
Q50
AO4600
SOP8JA
R421
1.5K
+/-1%
R0603
R424
1K
+/-5%
R0603
Q52
2N7002
Q51
2N7002
PWOKJ
PWRG_ATX
PWRG_ATX 33
5V level
EC54
1000uF
6.3V, +20/-10%
CE35D80H200
Id(N MOS) max= 6.9A
Id(P MOS) max= -5A

N Rdson max=50m Ohm@Vgs=2.5V,P Rdson max=120m Ohm@Vgs=-2.5V

R1280
27K
R0603
+/-5%
R1281
47K
+/-5%
R0603
USB_CONF_PWR
USB_OCJ57_FRONT 23

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FOXCONN PCEG

Title: USB Connectors		
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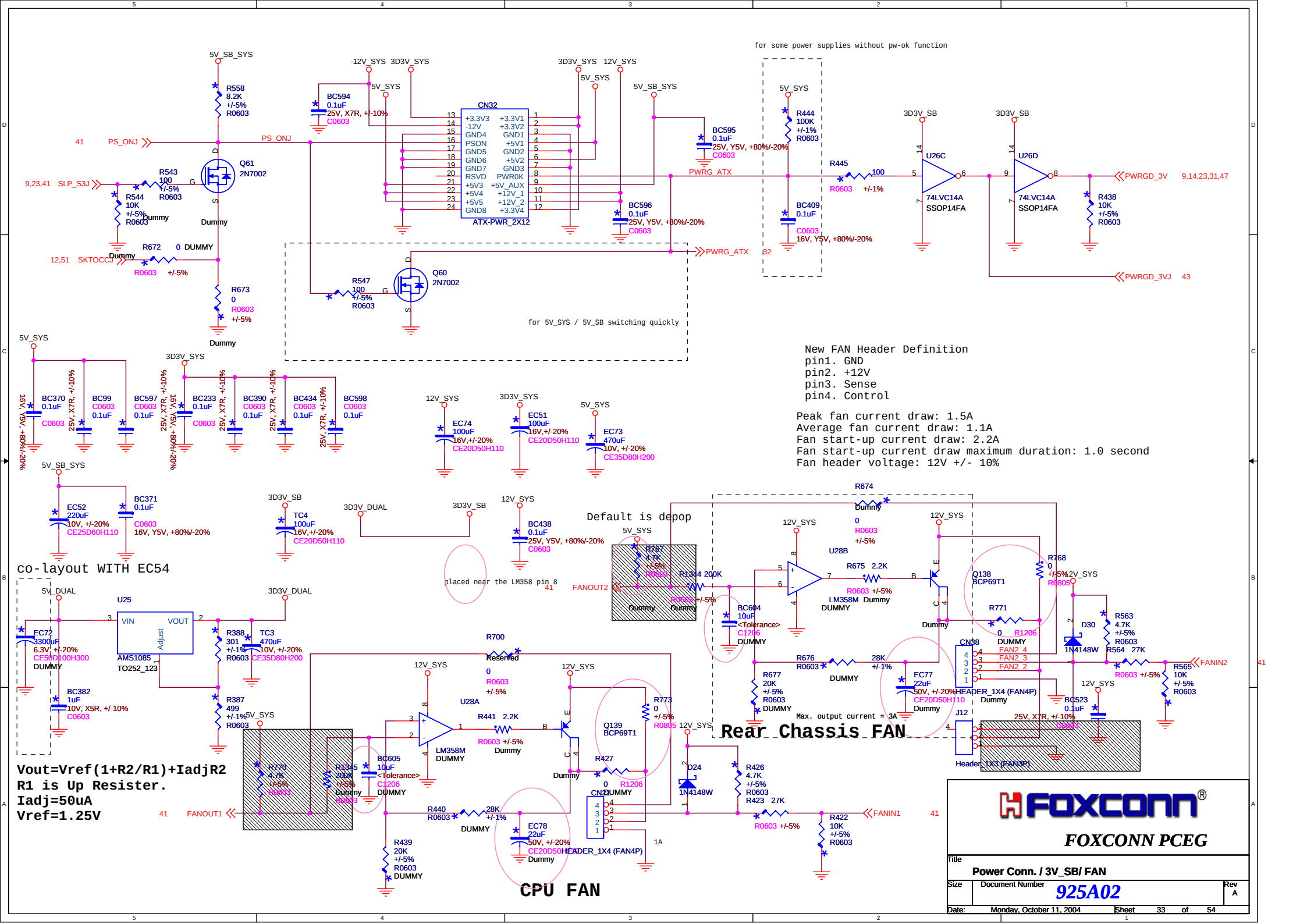
for some power supplies without pw-ok function
5V_SB_SYS
-12V_SYS 3D3V_SYS
3D3V_SYS 12V_SYS
5V_SYS
R558 8.2K +/-5% R0603
BC594 0.1uF 25V, X7R, +/-10% C0603
CN32
ATX-PWR_2X12
BC595 0.1uF 25V, Y5V, +80%/-20% C0603
BC596 0.1uF 25V, Y5V, +80%/-20% C0603
PS_ONJ
Q61 2N7002
R543 100 +/-5% R0603
R544 10K +/-5% R0603
Dummy
R672 0 DUMMY R0603 +/-5%
R673 0 R0603 +/-5%
SLP_S3J
SKTOCCJ
PWRG_ATX
Q60 2N7002
R547 100 +/-5% R0603
for 5V_SYS / 5V_SB switching quickly
R444 100K +/-1% R0603
R445 100 R0603 +/-1%
BC409 0.1uF C0603 16V, Y5V, +80%/-20%
U26C
U26D
74LVC14A SSOP14FA
3D3V_SB
R438 10K +/-5% R0603
PWRGD_3V
PWRGD_3VJ
BC370 0.1uF C0603
BC99 C0603 0.1uF
BC597 C0603 0.1uF
BC233 0.1uF C0603
BC390 C0603 0.1uF
BC434 C0603 0.1uF
BC598 C0603 0.1uF
16V, Y5V, +80%/-20%
25V, X7R, +/-10%
EC74 100uF 16V,+/-20% CE20D50H110
EC51 100uF 16V,+/-20% CE20D50H110
EC73 470uF 10V, +/-20% CE35D80H200
New FAN Header Definition
pin1. GND
pin2. +12V
pin3. Sense
pin4. Control
Peak fan current draw: 1.5A
Average fan current draw: 1.1A
Fan start-up current draw: 2.2A
Fan start-up current draw maximum duration: 1.0 second
Fan header voltage: 12V +/- 10%
EC52 220uF 10V, +/-20% CE25D60H110
BC371 0.1uF C0603 16V, Y5V, +80%/-20%
TC4 100uF 16V,+/-20% CE20D50H110
BC438 0.1uF 25V, Y5V, +80%/-20% C0603
placed near the LM358 pin 8
co-layout WITH EC54
Default is depop
R674 Dummy 0 R0603 +/-5%
U28B
LM358M DUMMY
R675 2.2K R0603 +/-5%
R676 R0603 28K +/-1%
R677 20K +/-5% R0603 DUMMY
R767 4.7K +/-5% R0603
R1344 200K R0603 +/-5%
FANOUT2
BC604 10uF <Tolerance> C1206 DUMMY
Q138 BCP69T1
R771 0 R1206 DUMMY
R768 0 +/-5% R0805
D30 1N4148W
R563 4.7K +/-5% R0603
R564 27K R0603 +/-5%
R565 10K +/-5% R0603
FANIN2
CN38
FAN2_4
FAN2_3
FAN2_2
HEADER_1X4 (FAN4P)
EC77 22uF 50V, +/-20% CE20D50H110 Dummy
BC523 0.1uF 25V, X7R, +/-10% C0603
J12
Header_1X3 (FAN3P)
Max. output current = 3A
Rear Chassis FAN
5V_DUAL
U25
VIN VOUT Adjust
AMS1085 TO252_123
EC72 3300uF 6.3V, +/-20% CE50D100H300 DUMMY
BC382 1uF 10V, X5R, +/-10% C0603
R388 301 +/-1% R0603
R387 499 +/-1% R0603
TC3 470uF 10V, +/-20% CE35D80H200
Vout=Vref(1+R2/R1)+IadjR2
R1 is Up Resister.
Iadj=50uA
Vref=1.25V
R700 Reserved 0 R0603 +/-5%
U28A
LM358M DUMMY
R441 2.2K R0603 +/-5%
R1335 200K R0603 +/-5%
BC605 10uF <Tolerance> C1206 DUMMY
Q139 BCP69T1
R773 0 +/-5% R0805
R427 0 R1206 DUMMY
D24 1N4148W
R426 4.7K +/-5% R0603
R423 27K R0603 +/-5%
R422 10K +/-5% R0603
FANIN1
R770 4.7K +/-5% R0603
R440 R0603 28K +/-1%
EC78 22uF 50V, +/-20% CE20D50H110 Dummy
R439 20K +/-5% R0603 DUMMY
HEADER_1X4 (FAN4P)
FANOUT1
CPU FAN
FOXCONN PCEG
Title
Power Conn. / 3V_SB/ FAN
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Chassis Intruder

24 INTRUDERJ — R526 220 +/-5% R0603 — J2 Header_1X2

Clear CMOS

JP5	CMOS
Clear	(1-2)
Normal	(2-3)

Default

3D3V_SYS — prevent clearing CMOS when power-on — D31 SD103AW d1206 — Header_1X3 JP5

24 RTCRSTJ

SPK_P — J9 Header_1X4_2 — 0 R582 Dummy — SPK_N — Reserved

5V_SYS — R534 100 +/-5% R0603 — SPK_P — SPK_N — BUZ1 BUZZER HY-05 BZ2

24,30 SPKR — D28 BAT54C SOT23_123 — R518 2.2K +/-5% R0603 — Q54 2N3904 SOT23_BEC — BC466 0.1uF 25V, X7R, +/-10% C0603

41 SIO_BEEP — R1341 0 +/-5% R0603 Dummy

12V_SYS — R1313 0 R0805 +/-5% — Header_1X3 (FAN3P) J11 — BC5135 0.1uF 25V, Y5V, +80%/-20% C0603

12V_SYS — D54 1N4148W Dummy — R1271 4.7K +/-5% R0603

R1272 15K +/-5% R0603 — FANIN3 — FANIN3 41

R1273 10K +/-5% R0603

GMCH_FAN

5V_SB_SYS — CN18 HEADER_1X3 (JWOL)

del R576 here — WOL

23 GPIO_WOLJ — Q33 2N7002 Dummy — R276 10K R0603 +/-5% — LWAKE_CON — R275 10K R0603 +/-5% Dummy

NEED TO REPLACE TO C1S LIB

WOL

PLED 41

5V_SYS — BC518 0.1uF 25V, X7R, +/-10% C0603 — R549 330 +/-5% R0603 — C0603 25V, X7R, +/-10% 0.1uF BC584 — R656 330 R0603 DUMMY +/-5%

5V_SB_SYS — R548 +/-5% R0603 330

5V_SB_SYS — R552 +/-5% R0603 330 — DEL R550 HERE — SUSLED 41

24 HDD_LED — HDD_LED — HDLEDP — J4 Header2X5_10 — PBTNJ_SIO 41

3D3V_SB — R562 4.7K +/-5% R0603

7,13,23,51 ICH_SYS_RSTJ — C0603 25V, X7R, +/-10% 0.1uF BC526

R708 330 R0603 +/-5% DUMMY

1-3: HDD LED
5-7: Reset
6-8: Power Button
2-4: Power/Suspend LED

5V_SB_SYS — R566 4.7K +/-5% R0603 — R569 10K +/-5% R0603

3D3V_SB — U26E 74LVC14A SSOP14FA — R561 100 +/-5% R0603 DUMMY

41 PBTNJ_SIO

3D3V_SB — U26F 74LVC14A SSOP14FA for quick rise time — PBTNJ — R342 0 R0603 +/-5% DUMMY — PWRBTNJ 23,41

3D3V_SB — R339 10K +/-5% R0603 — BC333 0.1uF 16V,X7R,+/-20% C0603 DUMMY

Should check the P/N

5V_SYS — BC527 0.1uF 25V, X7R, +/-10% C0603

IR CONNECTOR — J3 HEADER_1X5_2

41 IRRX

41 IRTX

On-board LAN WOL header

COM port wake-up WOM header

PCI card wake-up

ICH6 — WOL(GPI13) — RI# — PME#

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FOXCONN PCEG

Title: Front Panel / MISC Conn.		
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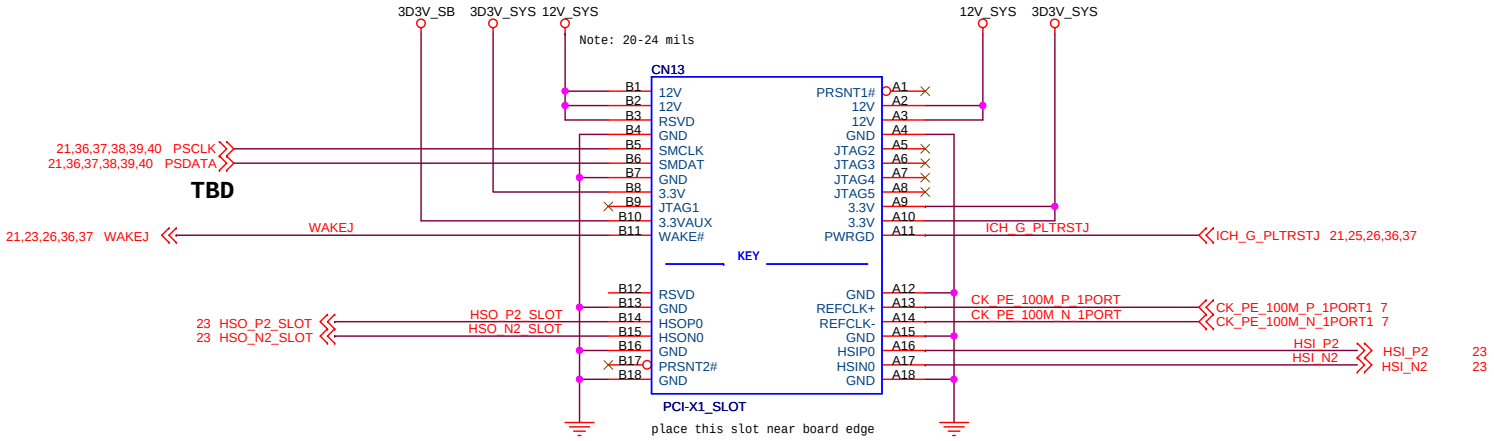

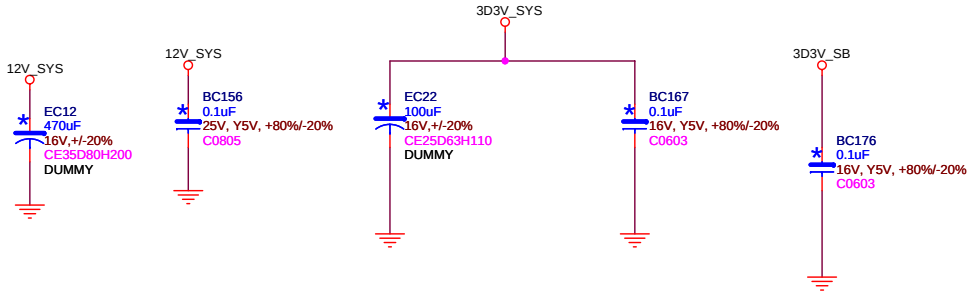

FOXCONN PCEG

Title: PCI Express x1 Slot 1

Size	Document Number	Rev
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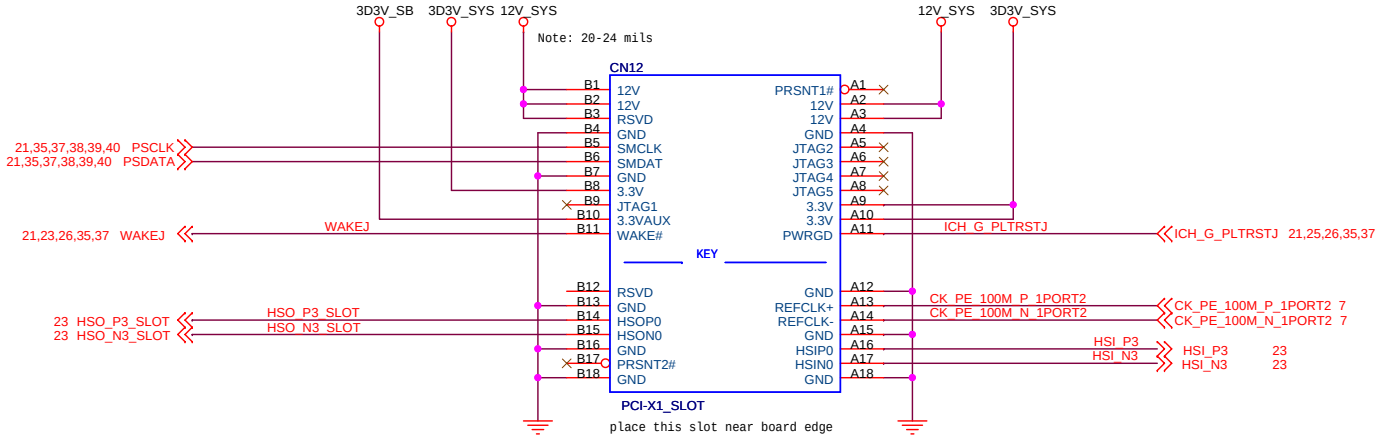

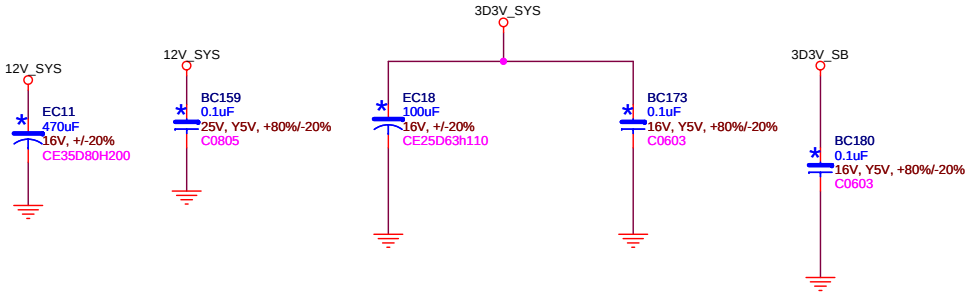

FOXCONN PCEG

Title: PCI Express x1 Slot 2

Size	Document Number	Rev
	925A02	A

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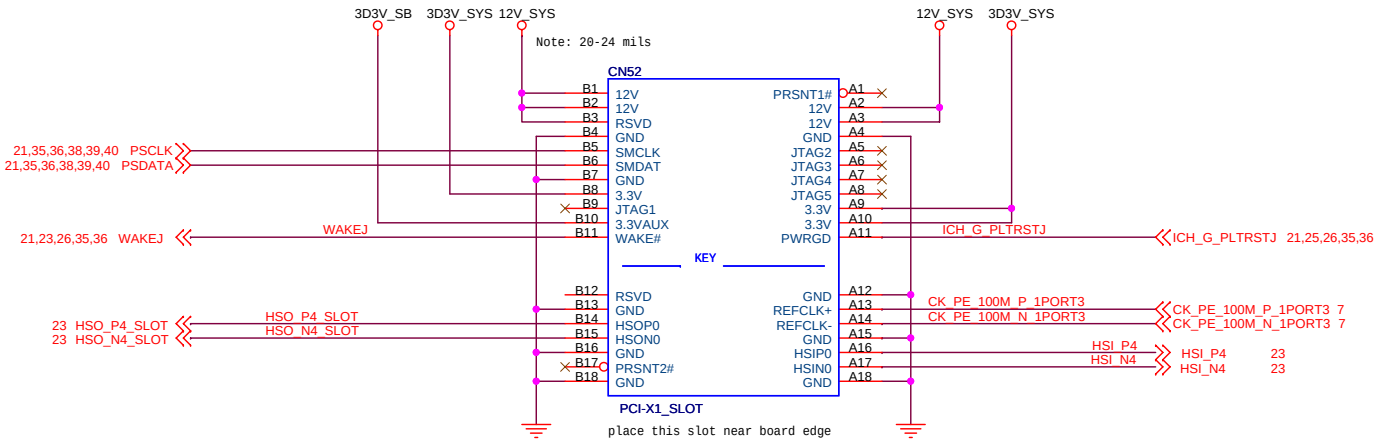

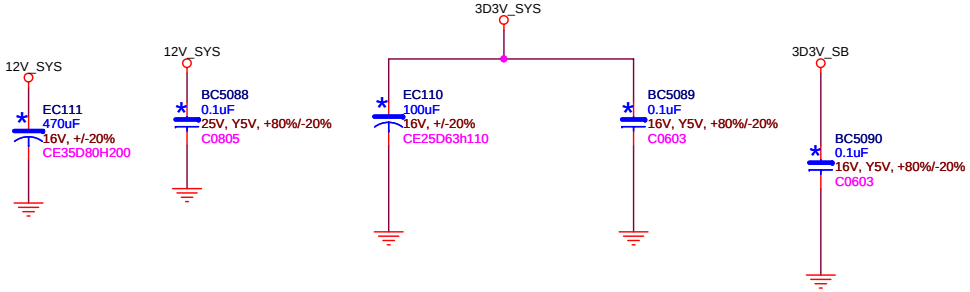

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FOXCONN PCEG

Title: PCI Express x1 Slot 3		
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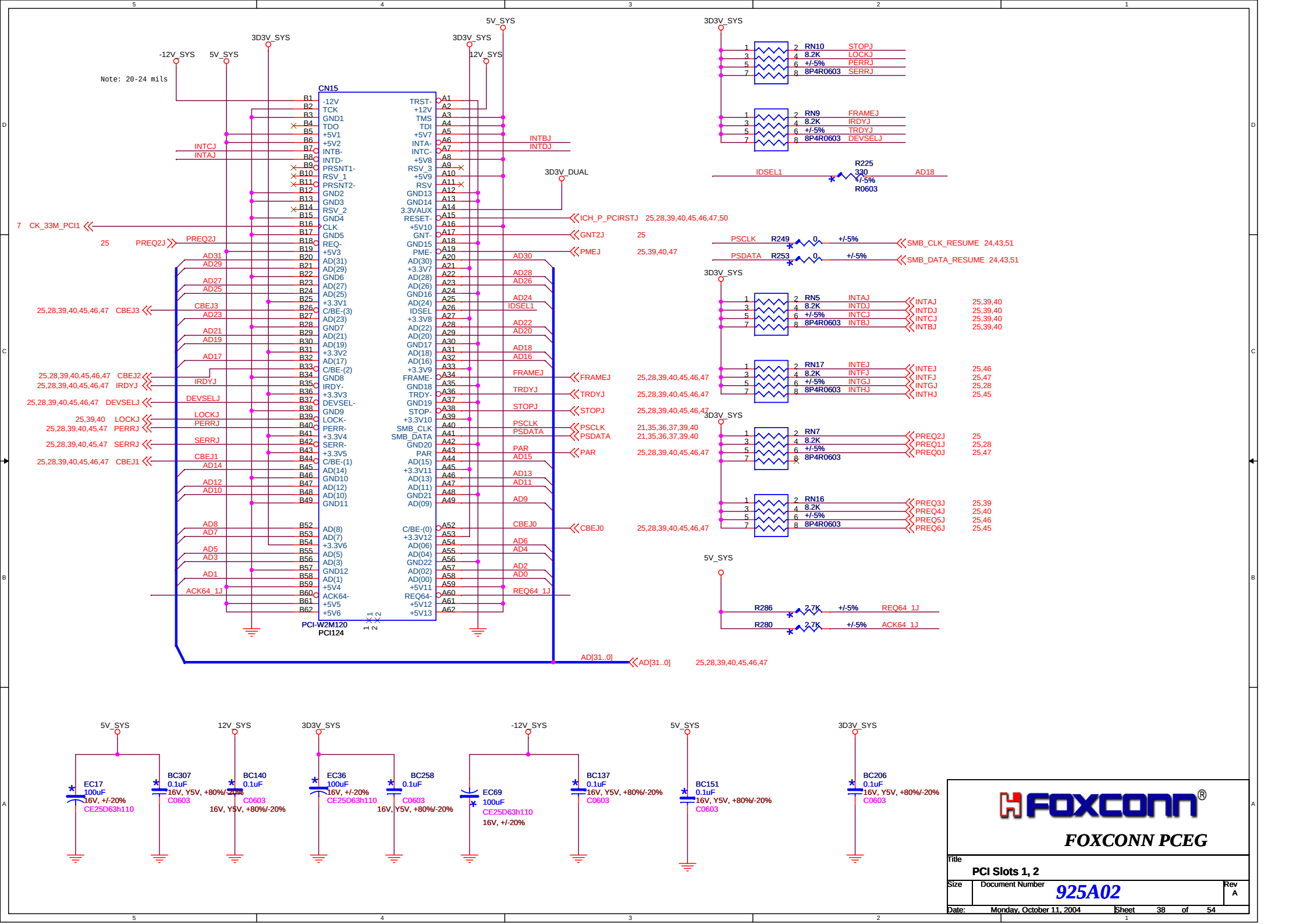

FOXCONN PCEG

Title: PCI Slots 1, 2

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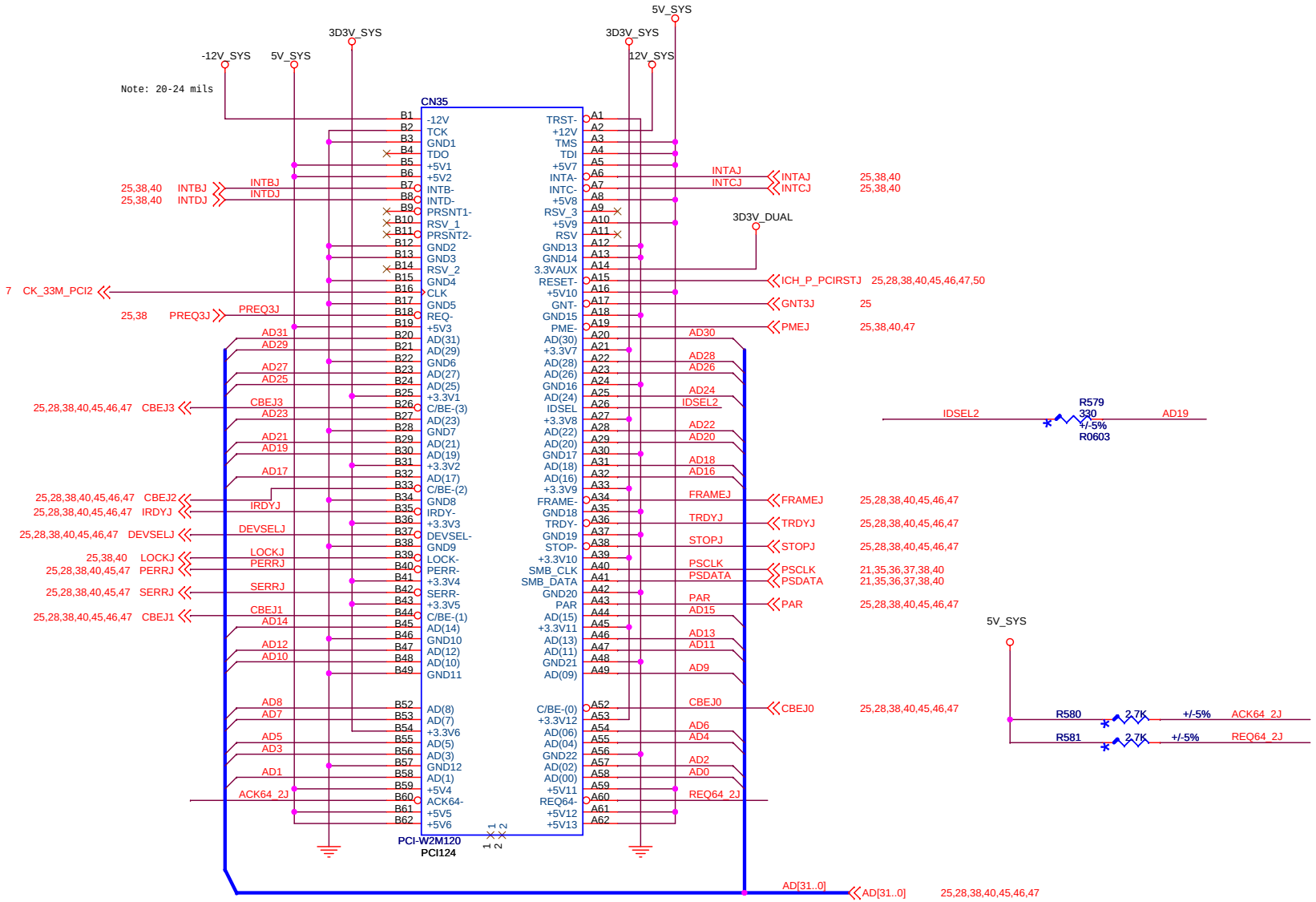

FOXCONN PCEG

Title: PCI Slot 2		
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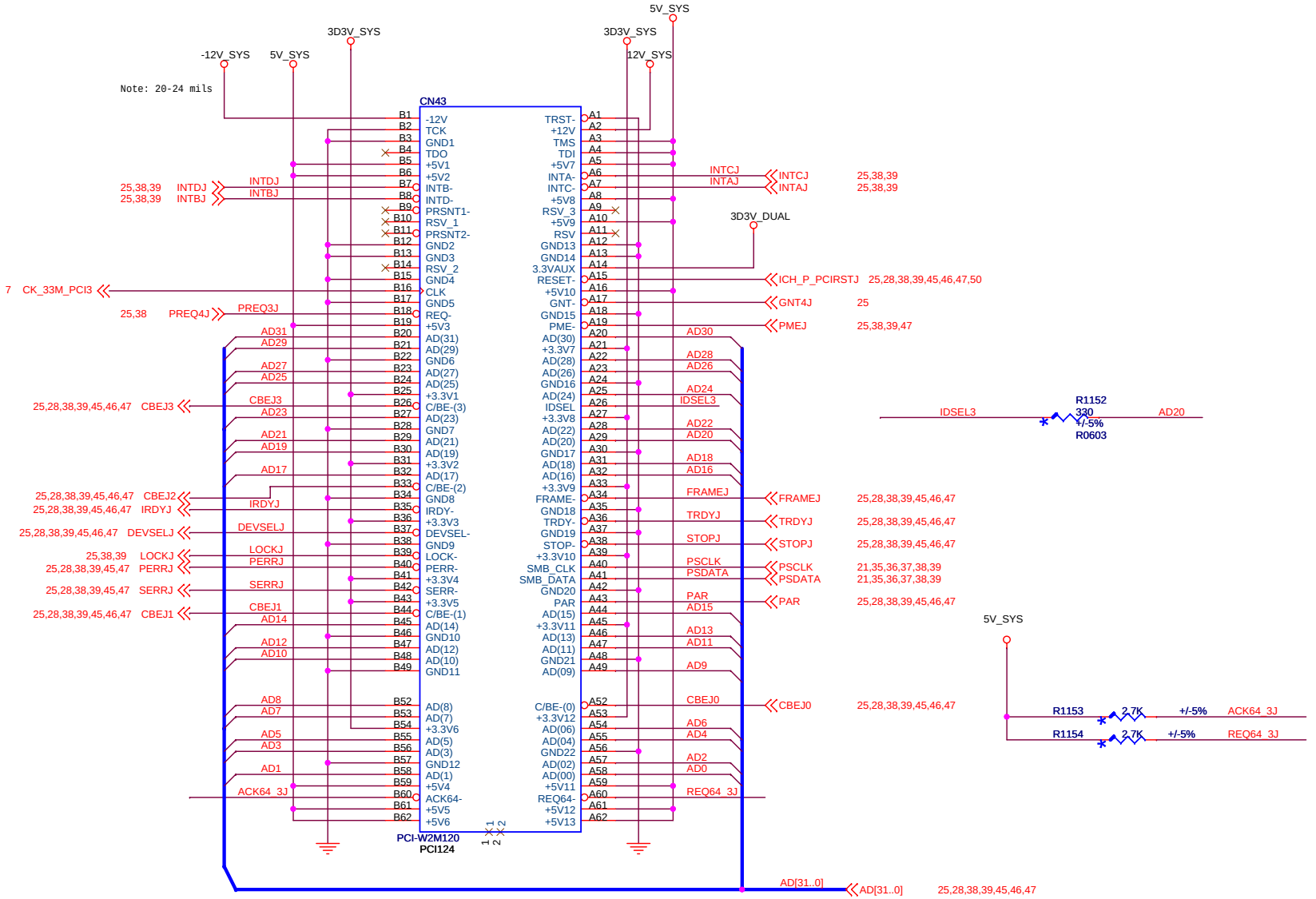

FOXCONN PCEG

Title	PCI Slot 3	
Size	Document Number 925A02	Rev A
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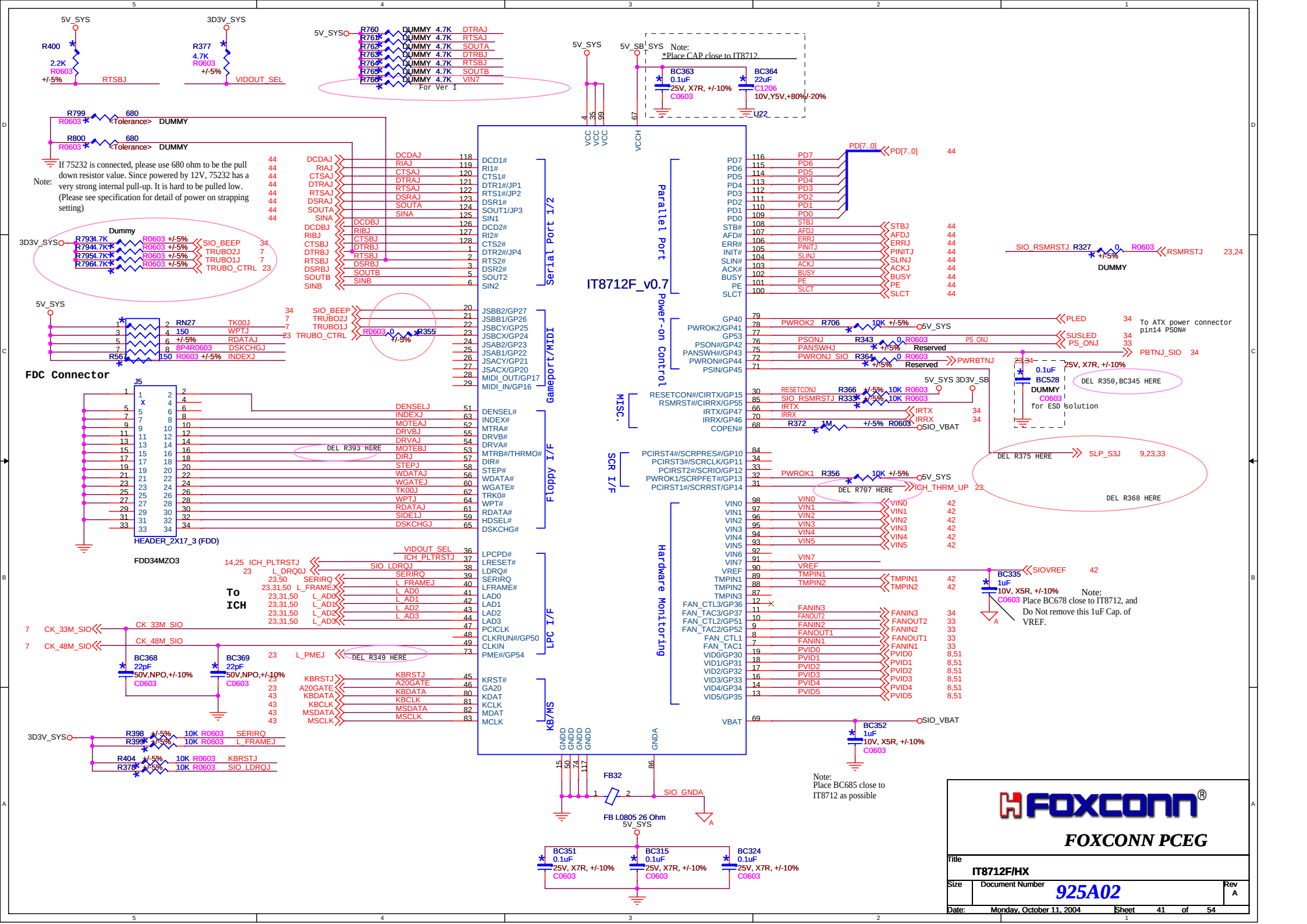
IT8712F_v0.7
Serial Port 1/2
Parallel Port
Power-on Control
Gameport/MIDI
Floppy I/F
MISC.
SCR I/F
LPC I/F
Hardware Monitoring
KB/MS
FDC Connector
HEADER_2X17_3 (FDD)
FDD34MZO3
To ICH
Note:
If 75232 is connected, please use 680 ohm to be the pull down resistor value. Since powered by 12V, 75232 has a very strong internal pull-up. It is hard to be pulled low. (Please see specification for detail of power on strapping setting)
Note:
*Place CAP close to IT8712.
Note:
Place BC678 close to IT8712, and Do Not remove this 1uF Cap. of VREF.
Note:
Place BC685 close to IT8712 as possible
To ATX power connector pin14 PSON#
FOXCONN PCEG
Title
IT8712F/HX
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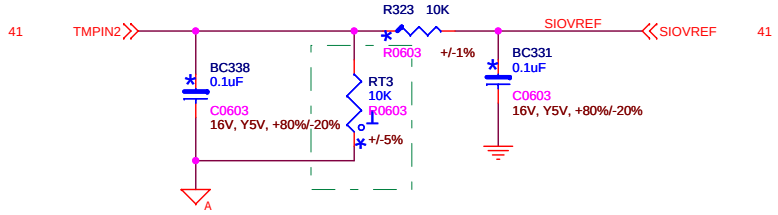
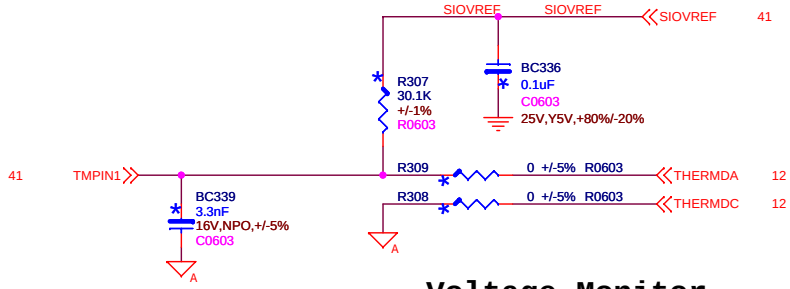
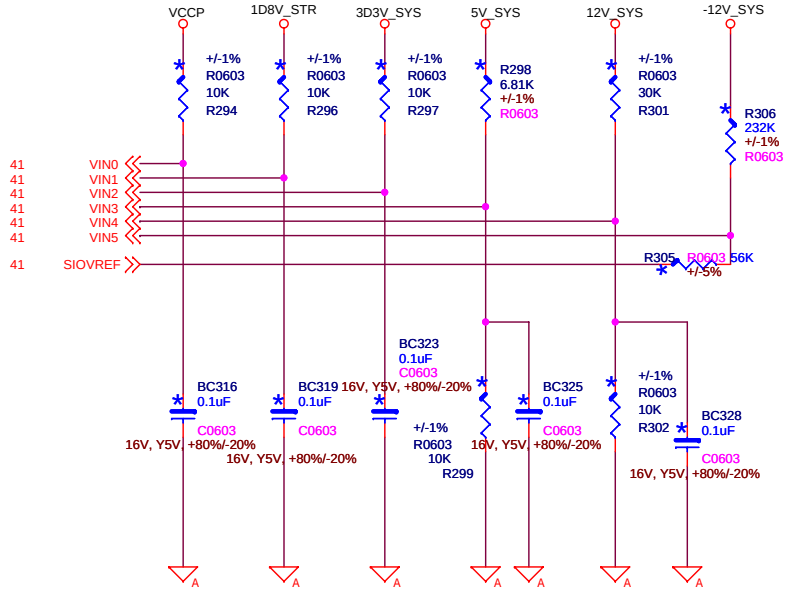




Voltage Monitor



Power On Strapping Options

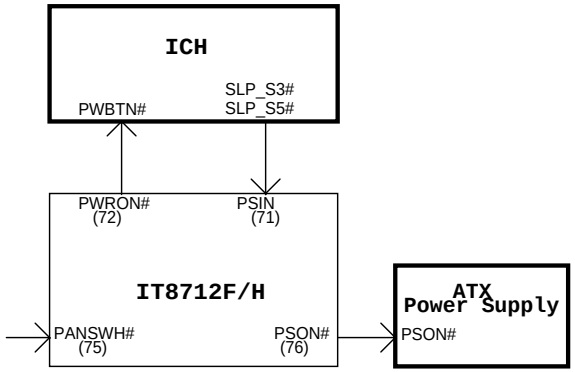
	Symbol	value	Description
DTR1#/JP1	KBCEN	1	KBC is enabled.
		0	KBC is disabled.
RTS1#/JP2	KBC_IROM	1	KBC's ROM is built in.
		0	KBC's ROM is external.
SOUT1/JP3	CHIP_SEL	--	Chip selection in configuration.
DTR2#/JP4	BUF_SEL	1	The output buffers of PCIRST1#, PCIRST2#, PCIRST3#, and PCIRST4# are enhanced open-drain. It will drive high about 10~20ns when the signal transit from low to high, and then Hi-Z.
		0	The output buffers are push-pull.

*Recommended net "VCCH" minimum trace width 12mils.

The different function pins between IT8712F/H and IT8712F/G

Pin	IT8712F/HX	Pin	IT8712F/GX
13	VID5/GP35	13	WTI#/GP35
30	RESETCON#/CIRTX/GP15	30	CIRTX/GP15
31	PCIRST1#/SCRRST/GP14	31	SCRRST/GP14
32	PWROK1/SCRPFET#/GP13	32	SCRPFET#/GP13
33	PCIRST2#/SCRIO/GP12	33	SCRIO/ GP12
34	PCIRST3#/SCRCLK/GP11	34	SCRCLK/ GP11
77	GP53	77	RING#/GP53
78	PWROK2/GP41	78	GP41
84	PCIRST4#/SCRPRES#/GP10	84	SCRPRES#/GP10
85	RSMRST#/CIRRX/GP55	85	CIRRX/COPENO#/GP55

POWER ON SCHEME



FOXCONN PCEG

Title: HW Monitor

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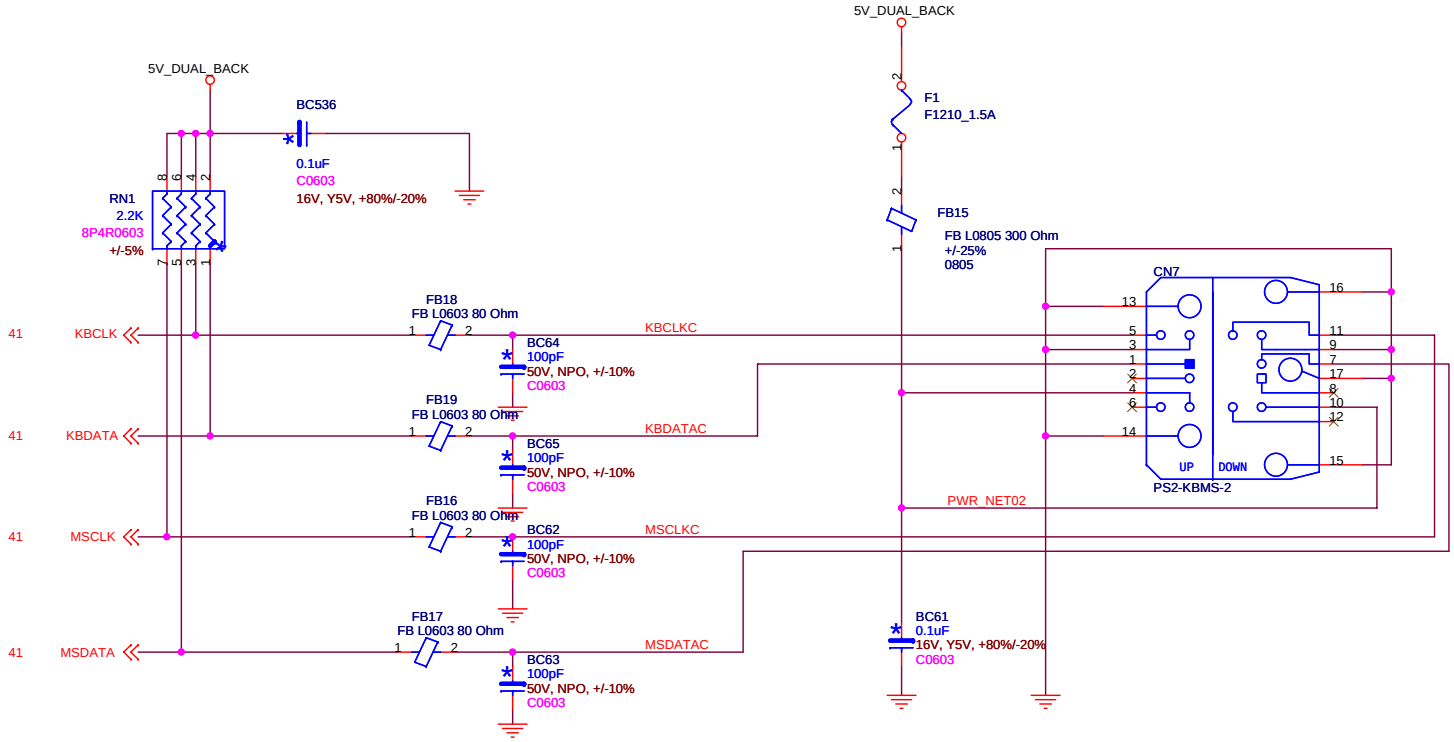
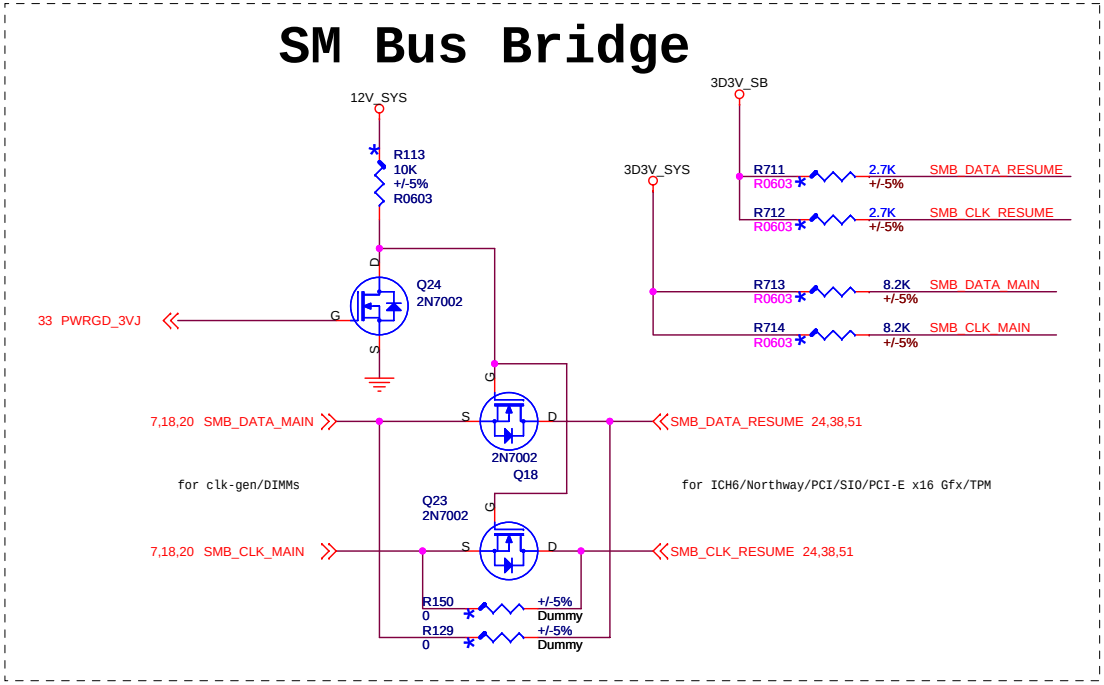


SM Bus Bridge



FOXCONN PCEG

Title: Keyboard / Mouse

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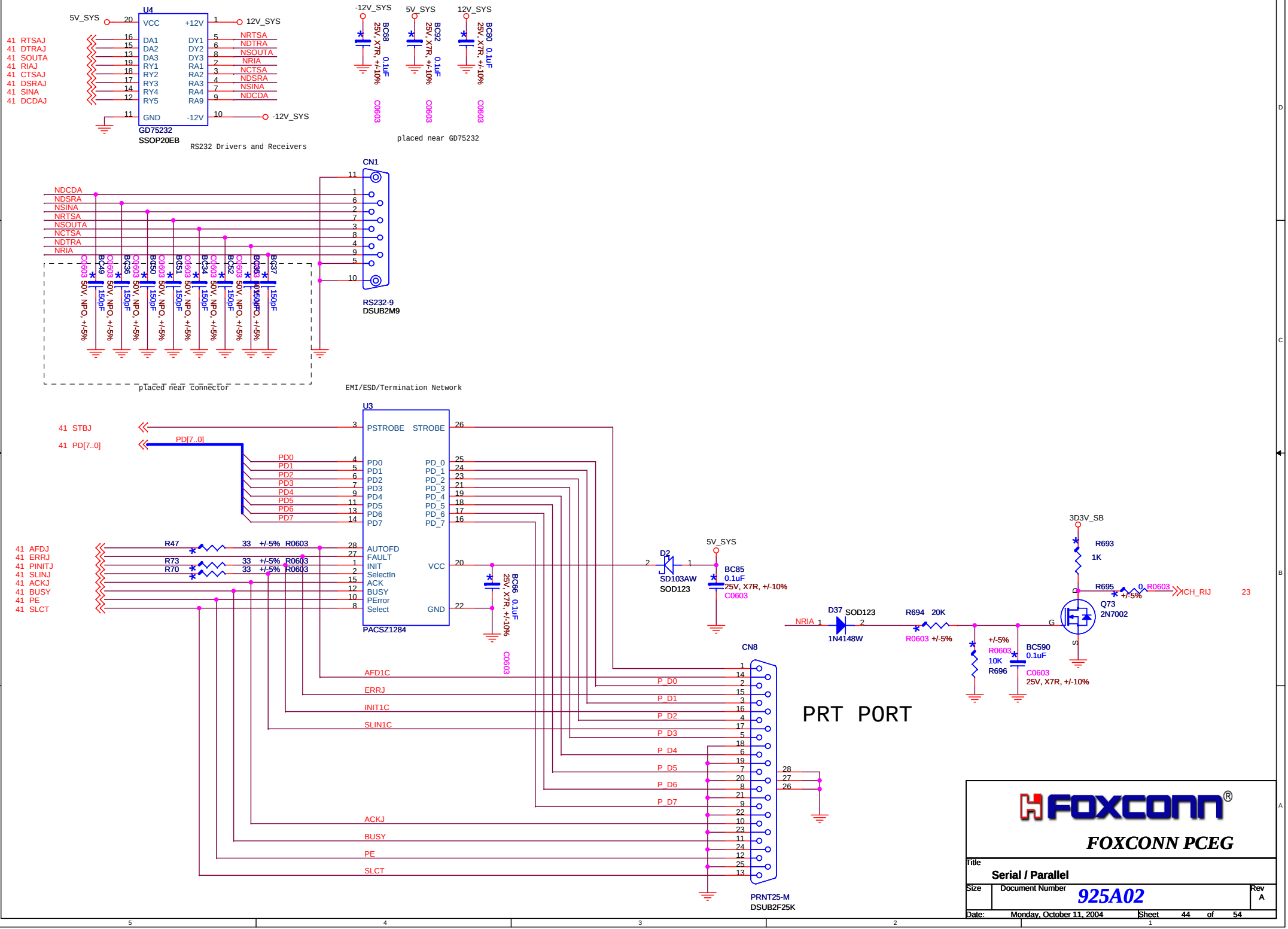
U4
GD75232
SSOP20EB
RS232 Drivers and Receivers
placed near GD75232
CN1
RS232-9
DSUB2M9
placed near connector
EMI/ESD/Termination Network
U3
PACSZ1284
CN8
PRNT25-M
DSUB2F25K
PRT PORT
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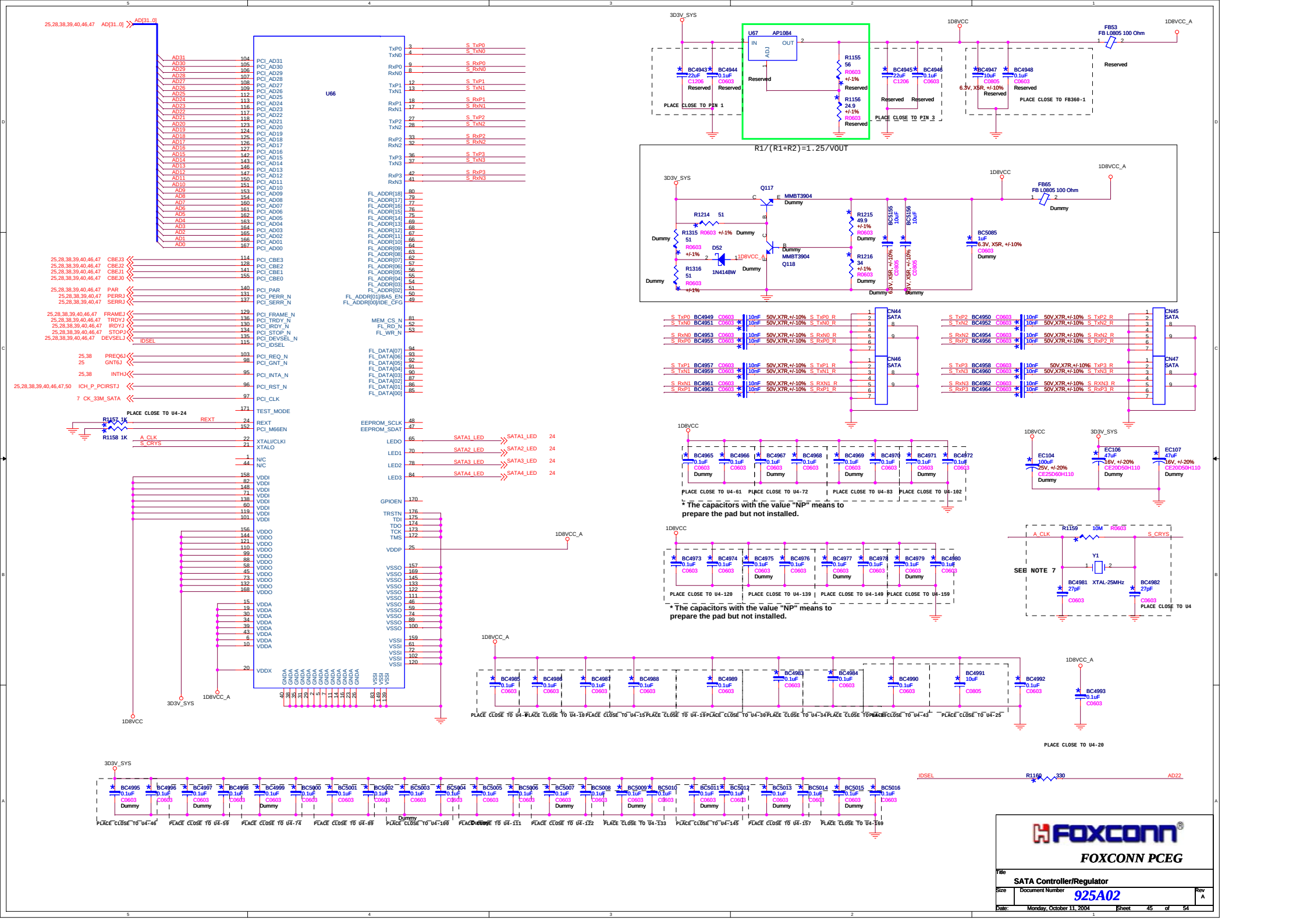
U66
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD28
PCI_AD27
PCI_AD26
PCI_AD25
PCI_AD24
PCI_AD23
PCI_AD22
PCI_AD21
PCI_AD20
PCI_AD19
PCI_AD18
PCI_AD17
PCI_AD16
PCI_AD15
PCI_AD14
PCI_AD13
PCI_AD12
PCI_AD11
PCI_AD10
PCI_AD09
PCI_AD08
PCI_AD07
PCI_AD06
PCI_AD05
PCI_AD04
PCI_AD03
PCI_AD02
PCI_AD01
PCI_AD00
PCI_CBE3
PCI_CBE2
PCI_CBE1
PCI_CBE0
PCI_PAR
PCI_PERR_N
PCI_SERR_N
PCI_FRAME_N
PCI_TRDY_N
PCI_IRDY_N
PCI_STOP_N
PCI_DEVSEL_N
PCI_IDSEL
PCI_REQ_N
PCI_GNT_N
PCI_INTA_N
PCI_RST_N
PCI_CLK
TEST_MODE
REXT
PCI_M66EN
XTALI/CLKI
XTALO
N/C
N/C
VDDI
VDDO
VDDA
VDDX
TxP0
TxN0
RxP0
RxN0
TxP1
TxN1
RxP1
RxN1
TxP2
TxN2
RxP2
RxN2
TxP3
TxN3
RxP3
RxN3
FL_ADDR[18]
FL_ADDR[17]
FL_ADDR[16]
FL_ADDR[15]
FL_ADDR[14]
FL_ADDR[13]
FL_ADDR[12]
FL_ADDR[11]
FL_ADDR[10]
FL_ADDR[09]
FL_ADDR[08]
FL_ADDR[07]
FL_ADDR[06]
FL_ADDR[05]
FL_ADDR[04]
FL_ADDR[03]
FL_ADDR[02]
FL_ADDR[01]/BA5_EN
FL_ADDR[00]/IDE_CFG
MEM_CS_N
FL_RD_N
FL_WR_N
FL_DATA[07]
FL_DATA[06]
FL_DATA[05]
FL_DATA[04]
FL_DATA[03]
FL_DATA[02]
FL_DATA[01]
FL_DATA[00]
EEPROM_SCLK
EEPROM_SDAT
LEDO
LED1
LED2
LED3
GPIOEN
TRSTN
TDI
TDO
TCK
TMS
VDDP
VSSO
VSSI
S_TxP0
S_TxN0
S_RxP0
S_RxN0
S_TxP1
S_TxN1
S_RxP1
S_RxN1
S_TxP2
S_TxN2
S_RxP2
S_RxN2
S_TxP3
S_TxN3
S_RxP3
S_RxN3
SATA1_LED
SATA2_LED
SATA3_LED
SATA4_LED
AD[31..0]
CBEJ3
CBEJ2
CBEJ1
CBEJ0
PAR
PERRJ
SERRJ
FRAMEJ
TRDYJ
IRDYJ
STOPJ
DEVSELJ
IDSEL
PREQ6J
GNT6J
INTHJ
ICH_P_PCIRSTJ
CK_33M_SATA
REXT
A_CLK
S_CRYS
R1157 1K
R1158 1K
PLACE CLOSE TO U4-24
3D3V_SYS
1D8VCC
1D8VCC_A
U67 AP1084
IN
OUT
ADJ
R1155 56 R0603 +/-1% Reserved
R1156 24.9 +/-1% R0603 Reserved
BC4943 22uF C1206 Reserved
BC4944 0.1uF C0603 Reserved
BC4945 22uF C1206
BC4946 0.1uF C0603
BC4947 10uF C0805 6.3V, X5R, +/-10% Reserved
BC4948 0.1uF C0603 Reserved
FB53 FB L0805 100 Ohm Reserved
PLACE CLOSE TO PIN 1
PLACE CLOSE TO PIN 3
PLACE CLOSE TO FB360-1
R1/(R1+R2)=1.25/VOUT
Q117 MMBT3904 Dummy
Q118 MMBT3904 Dummy
D52 1N4148W Dummy
R1214 51
R1315 51 R0603 +/-1% Dummy
R1316 51 R0603 +/-1% Dummy
R1215 49.9 +/-1% R0603 Dummy
R1216 34 +/-1% R0603 Dummy
BC5155 10uF
BC5156 10uF
BC5085 1uF 6.3V, X5R, +/-10% C0603 Dummy
FB65 FB L0805 100 Ohm Dummy
CN44 SATA
CN45 SATA
CN46 SATA
CN47 SATA
10nF 50V,X7R,+/-10%
* The capacitors with the value "NP" means to prepare the pad but not installed.
PLACE CLOSE TO U4-61
PLACE CLOSE TO U4-72
PLACE CLOSE TO U4-83
PLACE CLOSE TO U4-102
EC104 100uF 25V, +/-20% CE25D60H110 Dummy
EC106 47uF 16V, +/-20% CE20D50H110 Dummy
EC107 47uF 16V, +/-20% CE20D50H110 Dummy
PLACE CLOSE TO U4-120
PLACE CLOSE TO U4-139
PLACE CLOSE TO U4-149
PLACE CLOSE TO U4-159
R1159 10M R0603
Y1 XTAL-25MHz
BC4981 27pF C0603
BC4982 27pF C0603
SEE NOTE 7
PLACE CLOSE TO U4
PLACE CLOSE TO U4-1
PLACE CLOSE TO U4-10
PLACE CLOSE TO U4-15
PLACE CLOSE TO U4-19
PLACE CLOSE TO U4-30
PLACE CLOSE TO U4-34
PLACE CLOSE TO U4-43
PLACE CLOSE TO U4-25
PLACE CLOSE TO U4-20
PLACE CLOSE TO U4-46
PLACE CLOSE TO U4-59
PLACE CLOSE TO U4-74
PLACE CLOSE TO U4-89
PLACE CLOSE TO U4-108
PLACE CLOSE TO U4-111
PLACE CLOSE TO U4-122
PLACE CLOSE TO U4-133
PLACE CLOSE TO U4-145
PLACE CLOSE TO U4-157
PLACE CLOSE TO U4-169
R1160 330
AD22
FOXCONN PCEG
Title
SATA Controller/Regulator
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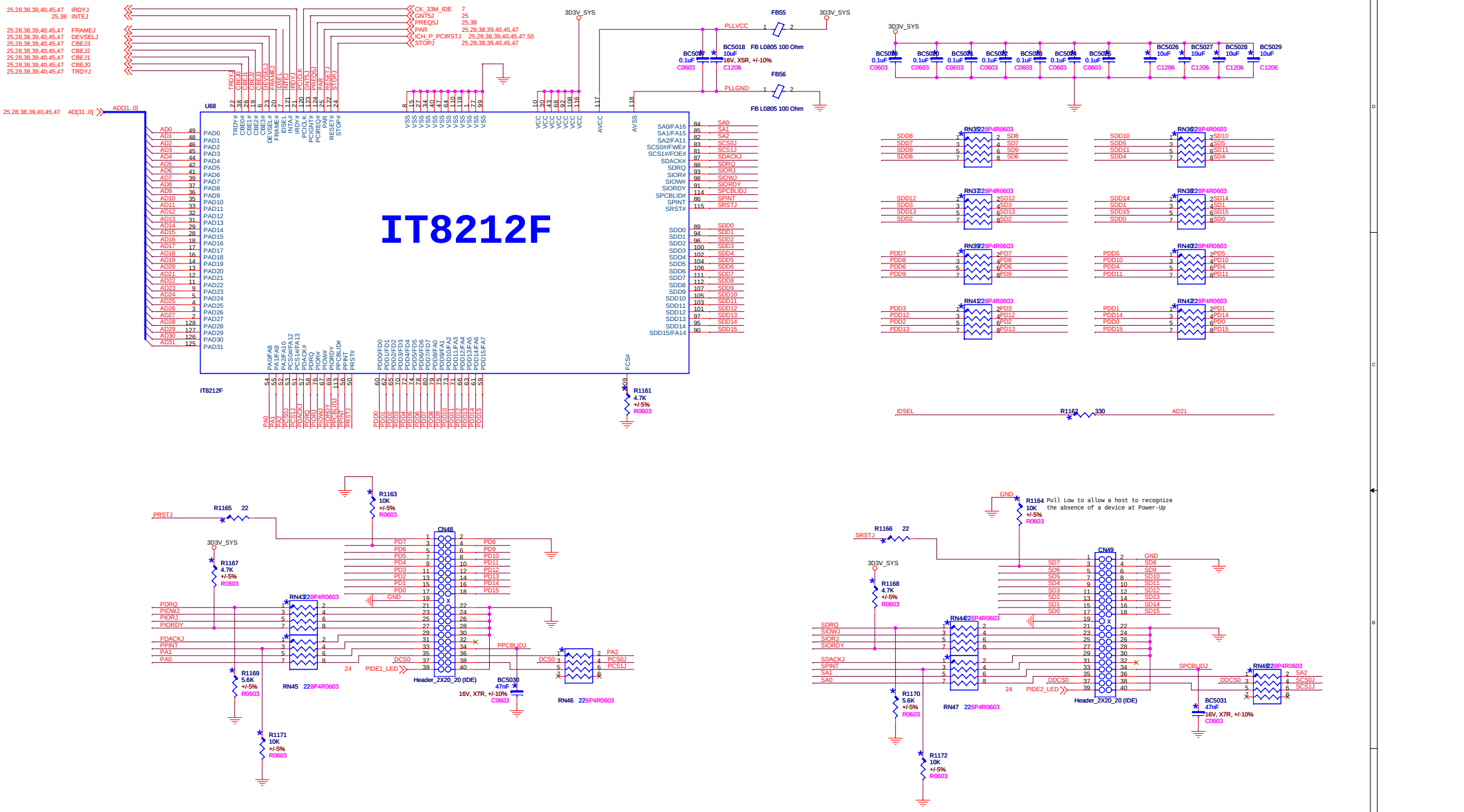
IT8212F
U68
IT8212F
AD[31..0]
3D3V_SYS
FB55
FB56
FB L0805 100 Ohm
PLLVCC
PLLGND
BC5018 10uF 16V, X5R, +/-10% C1206
BC5017 0.1uF 16V, X7R, +/-10% C0603
BC5019 0.1uF C0603
BC5020 0.1uF C0603
BC5021 0.1uF C0603
BC5022 0.1uF C0603
BC5023 0.1uF C0603
BC5024 0.1uF C0603
BC5025 0.1uF C0603
BC5026 10uF C1206
BC5027 10uF C1206
BC5028 10uF C1206
BC5029 10uF C1206
RN32 22 8P4R 0603
RN33 22 8P4R 0603
RN34 22 8P4R 0603
RN35 22 8P4R 0603
RN36 22 8P4R 0603
RN37 22 8P4R 0603
RN38 22 8P4R 0603
RN39 22 8P4R 0603
RN40 22 8P4R 0603
RN41 22 8P4R 0603
RN42 22 8P4R 0603
R1161 4.7K +/-5% R0603
R1162 330
IDSEL
AD21
R1163 10K +/-5% R0603
R1164 10K +/-5% R0603
Pull Low to allow a host to recognize the absence of a device at Power-Up
R1165 22
R1166 22
R1167 4.7K +/-5% R0603
R1168 4.7K +/-5% R0603
R1169 5.6K +/-5% R0603
R1170 5.6K +/-5% R0603
R1171 10K +/-5% R0603
R1172 10K +/-5% R0603
CN48
CN49
Header_2X20_20 (IDE)
RN45 22 8P4R 0603
RN46 22 8P4R 0603
RN47 22 8P4R 0603
BC5030 47nF 16V, X7R, +/-10% C0603
BC5031 47nF 16V, X7R, +/-10% C0603
PRSTJ
SRSTJ
PPCBLUDJ
SPCBLUDJ
DCS0
DDCS0
PIDE1_LED
PIDE2_LED
FOXCONN PCEG
IDE Controller & Regulator
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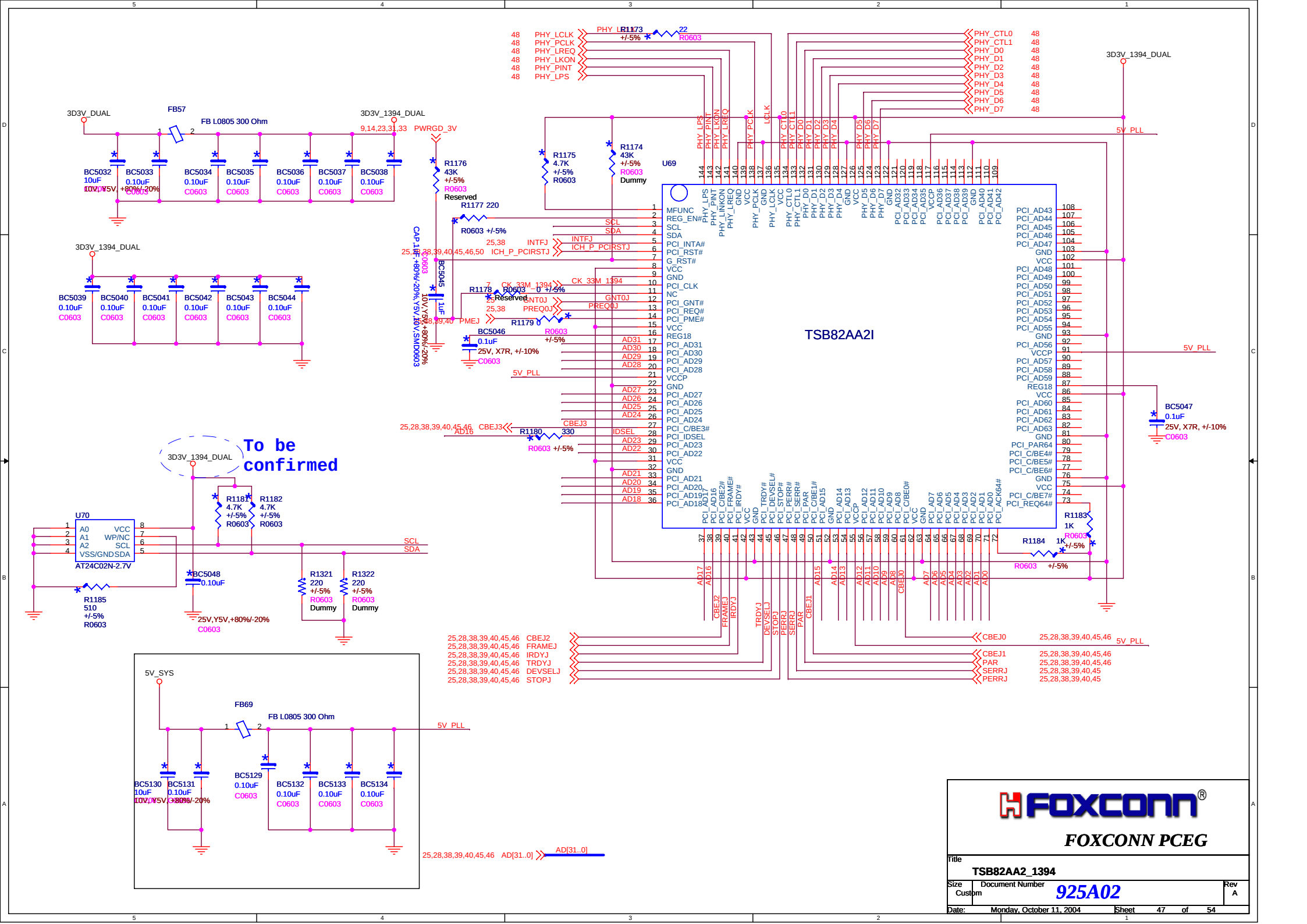
TSB82AA2I
U69
FB57
FB L0805 300 Ohm
3D3V_DUAL
3D3V_1394_DUAL
5V_PLL
5V_SYS
FB69
U70
AT24C02N-2.7V
To be confirmed
FOXCONN PCEG
Title
TSB82AA2_1394
Size
Custom
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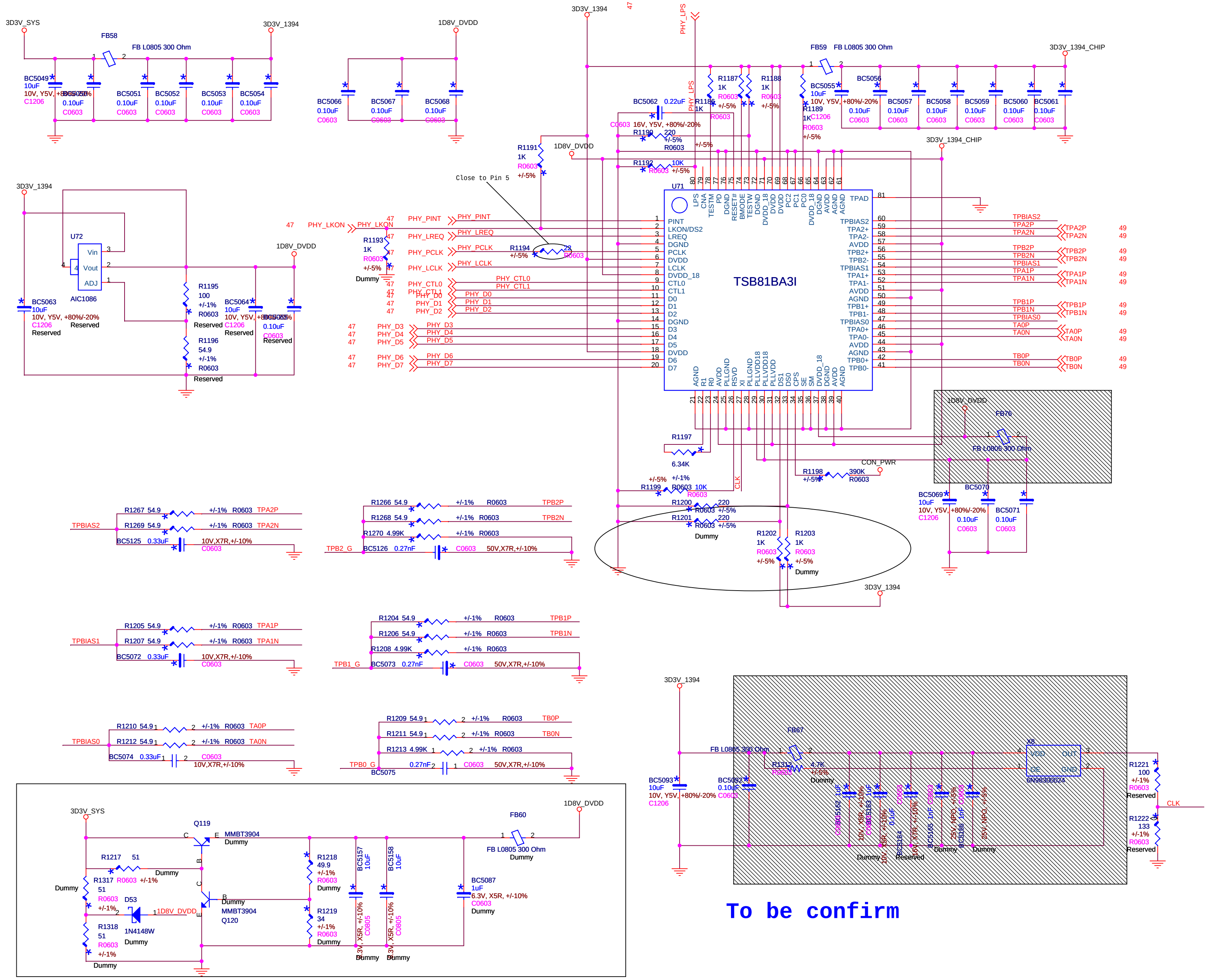

![FOXCONN logo]

FOXCONN PCEG

Title	TSB81BA3_1394
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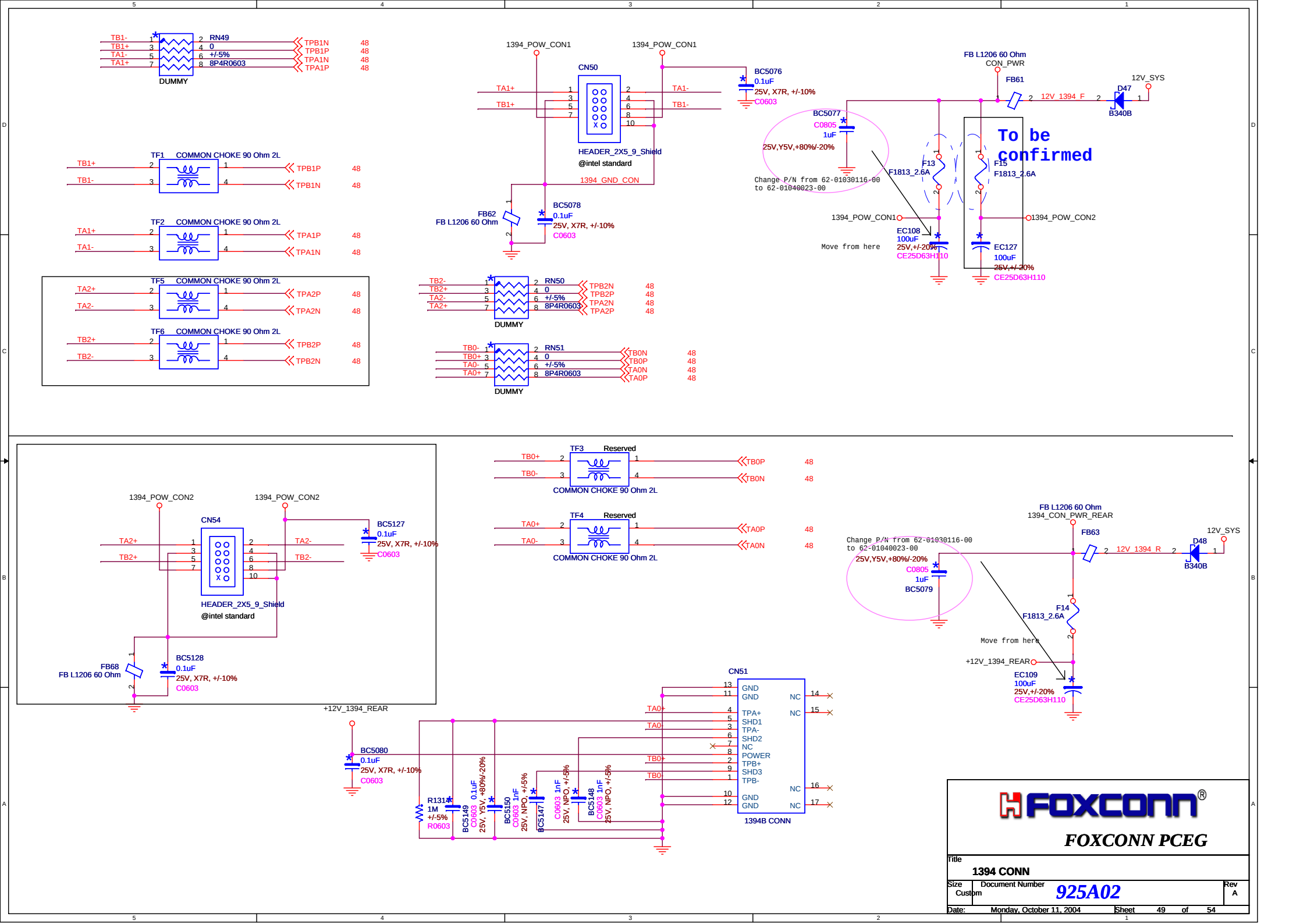
TB1-
TB1+
TA1-
TA1+
RN49
0
+/-5%
8P4R0603
DUMMY
TPB1N
TPB1P
TPA1N
TPA1P
48
TF1 COMMON CHOKE 90 Ohm 2L
TF2 COMMON CHOKE 90 Ohm 2L
TF5 COMMON CHOKE 90 Ohm 2L
TF6 COMMON CHOKE 90 Ohm 2L
TA2+
TA2-
TB2+
TB2-
TPB2P
TPB2N
TPA2P
TPA2N
1394_POW_CON1
CN50
HEADER_2X5_9_Shield
@intel standard
1394_GND_CON
BC5076
0.1uF
25V, X7R, +/-10%
C0603
FB62
FB L1206 60 Ohm
BC5078
RN50
RN51
TB0-
TB0+
TA0-
TA0+
TB0P
TB0N
TA0P
TA0N
FB L1206 60 Ohm
CON_PWR
FB61
12V_SYS
D47
B340B
12V_1394_F
BC5077
C0805
1uF
25V,Y5V,+80%/-20%
Change P/N from 62-01030116-00
to 62-01040023-00
To be confirmed
F13
F1813_2.6A
F15
F1813_2.6A
1394_POW_CON2
EC108
100uF
25V,+/-20%
CE25D63H110
Move from here
EC127
100uF
25V,+/-20%
CE25D63H110
TF3 Reserved
TF4 Reserved
COMMON CHOKE 90 Ohm 2L
CN54
BC5127
BC5128
FB68
FB L1206 60 Ohm
1394_CON_PWR_REAR
FB63
D48
B340B
12V_1394_R
BC5079
F14
F1813_2.6A
+12V_1394_REAR
EC109
100uF
25V,+/-20%
CE25D63H110
CN51
1394B CONN
BC5080
R1314
1M
+/-5%
R0603
BC5149
0.1uF
C0603
25V, Y5V, +80%/-20%
BC5150
C0603 1nF
25V, NPO, +/-5%
BC5147
BC5148
GND
TPA+
SHD1
TPA-
SHD2
NC
POWER
TPB+
SHD3
TPB-
FOXCONN PCEG
Title
1394 CONN
Size
Custom
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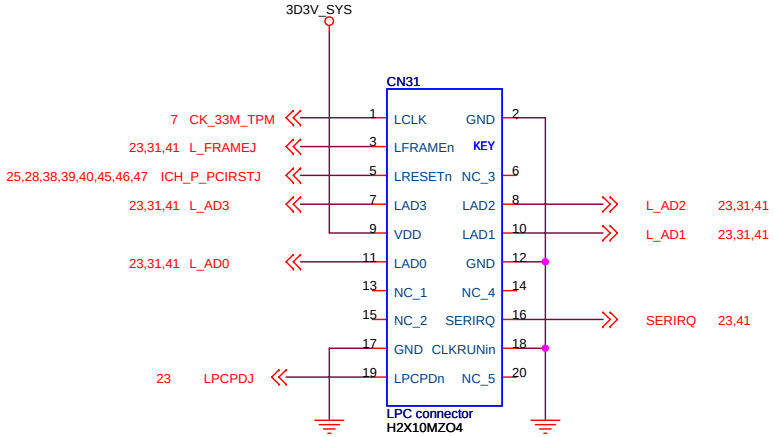

FOXCONN PCEG

Title: TPM		
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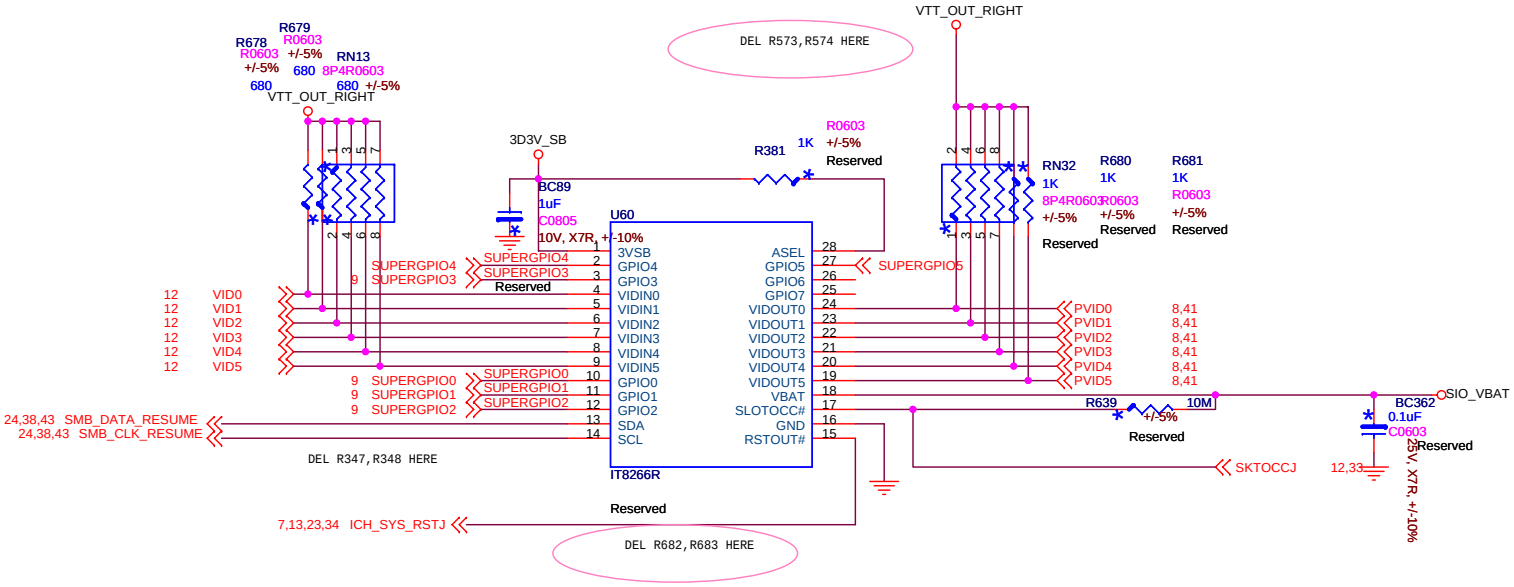

FOXCONN PCEG

Title: VID Controller

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ICH6 GPIO Summary

Name	Power Well	Type	Description
GPI0	V5REF	I	REQ_6#
GPI1	V5REF	I	REQ_5#
GPI2	V5REF	I	PIRQE#
GPI3	V5REF	I	PIRQF#
GPI4	V5REF	I	PIRQG#
GPI5	V5REF	I	PIRQH#
GPI6	Vcc3_3	I	Pull-up through 10K resistor(Unused)
GPI7	Vcc3_3	I	Board ID0
GPI8	VccSus3_3	I	LPC PME#
GPI9	VccSus3_3	I	USB OC4#
GPI10	VccSus3_3	I	USB OC5#
GPI11	VccSus3_3	I	Pull-up through 10K resistor(Unused)
GPI12	Vcc3_3	I	Pull-up through 10K resistor(Unused)
GPI13	VccSus3_3	I	Wake On LAN
GPI14	VccSus3_3	I	USB OC6#
GPI15	VccSus3_3	I	USB OC7#
GPO16	Vcc3_3	O	GNT_6#
GPO17	Vcc3_3	O	GNT_5#
GPO18	Vcc3_3	O	GP018(Unused)
GPO19	Vcc3_3	O	GPO19(Unused)
GPO20	Vcc3_3	O	GPO20(Unused)
GPO21	Vcc3_3	O	GPO21(Unused)
GPIO22	N/A	N/A	Not Implemented
GPO23	Vcc3_3	O	GPO23(Unused)
GPIO24	VccSus3_3	I/O	GPIO24(Unused)
GPIO25	VccSus3_3	I/O	GPIO25 Strap: 2.5 VRM Enable
GPIO26	Vcc3_3	I	SATA_0GP
GPIO27	VccSus3_3	I/O	Board ID2
GPIO28	VccSus3_3	I/O	GPIO LAN Disable
GPIO29	Vcc3_3	I	SATA_1GP
GPIO30	Vcc3_3	I	SATA_2GP
GPIO31	Vcc3_3	I	SATA_3GP
GPIO32	Vcc3_3	I/O	Board ID1
GPIO33	Vcc3_3	I/O	THERMAL CONTROL
GPIO34	Vcc3_3	I/O	Board ID3
GPIO35	N/A	N/A	Not Implemented
GPIO36	N/A	N/A	Not Implemented
GPIO37	N/A	N/A	Not Implemented
GPIO38	N/A	N/A	Not Implemented
GPIO39	N/A	N/A	Not Implemented
GPI40	V5REF	I	REQ_4#
GPI41	Vcc3_3	I	TBD
GPIO42	N/A	N/A	Not Implemented
GPIO43	N/A	N/A	Not Implemented
GPIO44	N/A	N/A	Not Implemented
GPIO45	N/A	N/A	Not Implemented
GPIO46	N/A	N/A	Not Implemented
GPIO47	N/A	N/A	Not Implemented
GPO48	Vcc3_3	O	GNT_4#
GPO49	V_CPU_IO	OD	CPUPWRGD

Super I/O GPIO Summary

Name	Power Plane	Type	Description
GPIO10-17	Main	I/O	Not Implemented
GPIO20	Main	I/O	SIO-BEEP
GPIO30	Main	I/O	VID0
GPIO31	Main	I/O	VID1
GPIO32	Main	I/O	VID2
GPIO33	Main	I/O	VID3
GPIO34	Main	I/O	VID4
GPIO35	Main	I/O	VID5
GPIO40	Main	I/O	POWER LED
GPIO41	Main	I/O	SUSPEND LED
GPIO42	Main	I/O	PS-ON TO ATX POWER CONN.
GPIO43	Main	I/O	POWER BUTTON-IN
GPIO44	Main	I/O	POWER BUTTON TO ICH6
GPIO45	Main	I/O	PS-IN
GPIO46	Main	I/O	IRRX
GPIO47	Main	I/O	IRTX
GPIO50	Main	I/O	Not Implemented
GPIO43	Main	I/O	POWER BUTTON-IN
GPIO44	Main	I/O	POWER BUTTON TO ICH6
GPIO45	Main	I/O	PS-IN
GPIO46	Main	I/O	IRRX
GPIO47	Main	I/O	IRTX
GPIO51	Main	I/O	FAN_CTRL2
GPIO52	Main	I/O	FAN_TAC2
GPIO53	Main	I/O	THERM-UP TO ICH6
GPIO54	Main	I/O	PME
GPIO55	5V_SB	I/O	RSMRST

FWH GPIO Summary

Name	Power Plane	Type	Description
FGPI0	Main	I	IDE1 Cable Detection(33 or 66/100)
FGPI1	Main	I	Unused
FGPI2	Main	I	Unused
FGPI3	Main	I	Unused

PCI Routing Summary

	PCI1	PCI2	PCI3	1394	LAN	
INTA#	B	A	C			
INTB#	C	B	D			
INTC#	D	C	A			
INTD#	A	D	B			
INTE#						
INTF#				A		
INTG#					A	
INTH#						
REG#/GNT#	2	3	4	0	1	
IDSEL	18	19	20	16	17	

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FOXCONN PCEG

Title: GPIO / IRQ / IDSEL Map

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Jumper Setting Summary

JP5	Clear CMOS 1-2 : Normal (Default) 2-3 : Clear CMOS
JP4	FWH TBL# 1-2 : Unlock 2-3 : Lock

TBD

GrantsDale Family Option Table

82570EI and 82562EX Option Table

ALC655, ALC650 and ALC203 Option Table

FOXCONN PCEG

Title: Jumper Setting / Option Table

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Changed from GDM03 FAB-A: Date: 12/22/2003

1. Change R562 from dummy to 5.6K (P34)
2. Change D13 to D340B package
3. Add ICH_LAN_RST circuit (p24)
4. Change PW_ON solution from SIO to ICH (P33,34,38)
5. Change U26, U28 P/N
6. Del VGA portion (P23)
7. Co-lay VRD output coil (P9)
8. Add processor present detect circuit (P34,13)
9. Change BC62~BC64 from 220pF to 100pF to solve PS2 mouse crazy issue (P42)
10. swap u28(LM358) pin 2,3 (p33)
11. Change Grantsdale to Alderwood and the peripheral circuit (p15~17)
12. Add ECC signal to DDR2 (P18,20)
13. Change R342 from 330 to 0 to solve pw-on too slow (P34)
14. De-pop BC432 and U30, add R502 to enable ICH6 internal 2.5v Regulator (P26,24)
15. De-pop Q48, R389, add R324 to combine 3vsb and 3vdaul (P33)
16. De-pop R400~R403 for LAD0~3 has internal pull-up res in ICH (P40)
17. Change power decoupling 1uF Cap BC24,BC119,BC138,BC322, BC212,BC213,BC501,BC512,BC525,BC516,BC544,BC531,BC532 from Y5V TO X7R

Changed from FAB-A to B: Date: 2/13/2003

18. Add co-lay circuit for JFET on DDR2 HS, Vcore LS(P9,10)

22. Change CLOCK GEN IDTCV115-2:
23. Change VID controller from PAC651 to IT8266R (P45)
24. Add Azalia conn. colay with AC97 conn. (P30)
25. Change Rear FAN circuit (P33)
26. Add com port ring circuit (P41)
27. Change all SMT CAP for power from Y5V to X7R
28. Add leakage current prevent circuit (P24)
29. Change Lan led and conn pin9 circuit (p29)
30. Change LAN pin23 circuit(P27)
31. Change 1394 clock pin conn(p7).
32. Add Rear line_out 2 resistor R704,R705 colay to 2 CAP(P30)

FAB-B to FAB-C(Include BOM) Changed items:

1. Add optional signal (PWRGD) for overclock fail reset(P7)
2. Change L19, L26 to R0520-120106Y-L3.4(P11,10)
3. Add R789 for short diode(P8)
4. Add substitution circuit for 2.5_MCH power sequency according to Intel CRB sch 1.3(P12)
5. Seperate on-board LAN/LAN card/Modem card wake-up fucntion(P34,P27)
6. Change BC292~4,BC286 to 3.3V_1394_CHIP and pop BC230,BC231(P44)
7. Add CMI9880 colayout circuit and remove SPDIF-IN (P30)
8. Change FAN control ciucuit(P33)
9. Add L34 for cost down opportunity(P17)
10. Add LPC_PD pull up res. (P24)
11. Add SPK 4 pin header(p34)
12. Change FWH_WP to FWH_TBL to let driver know the status of TBL(P24,31)
13. Del R432 for it's redundant to pull up FWH_TBL (P21)
14. Change 1394 clock from pin5 to pin4(P7)
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