H61H2-LM3 Rev : 1.0

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REVISION HISTORY:

Rev	Date	Notes
V0.1	11/06/29	
V0.2	11/07/29	1.CLK SI:R374=51 OHM,R376=51 OHM,R378=47 OHM,R425=47 OHM 2.VGA SI:R27=47 OHM,R28=47 OHM,R18=120 OHM,R20=120 OHM 3.DC SI:PFB3=0 OHM,ADD C289,DEL SC75 4.SPEC CHANGE:DEL USB_HDMI,ADD HDMI,ADD USBX2 5.COLAY ALC662-VC:ADD R102,EC88,U18,MN14,R781,D16,R780,R537,R542,R543 6.HDA SI:ADD R112 7.ADD DPWROK CIRCUIT:ADD R680,C656,MN15,R660,QN12,R646 8.ADD WIFI LED CIRCUIT:ADD D51,R655 9.VRM12 CHANGE:C463=470P,C231=2200P,C230=1500P,R254=6.49K,R272=11.5K,R162=3.01K, C240=1000P,C454=3300P,R294=93.1K 10.VRM 65W: R275=29.4K,R300=21.5K,R217=60.4K DEL:R225,C2220,R255,R217,R319,R898,R157,C159,R159,R148,C163,R149,R186,C119 C118,R167,C171,L5,QCH4,QCL4,QCL8 ADD:R229,R279,R370 11.WIFI LED:Add D51,R655,C659

NOTE:

Design by
428971_Sugar Bay_PDG_Rev2.0
443554_Intel_6_Series_C200_Series_Chipset_EDS_rev2_1
428969_Sugar Bay_CRB_Rev1.1

Elitegroup Computer Systems

Title: Cover Page		
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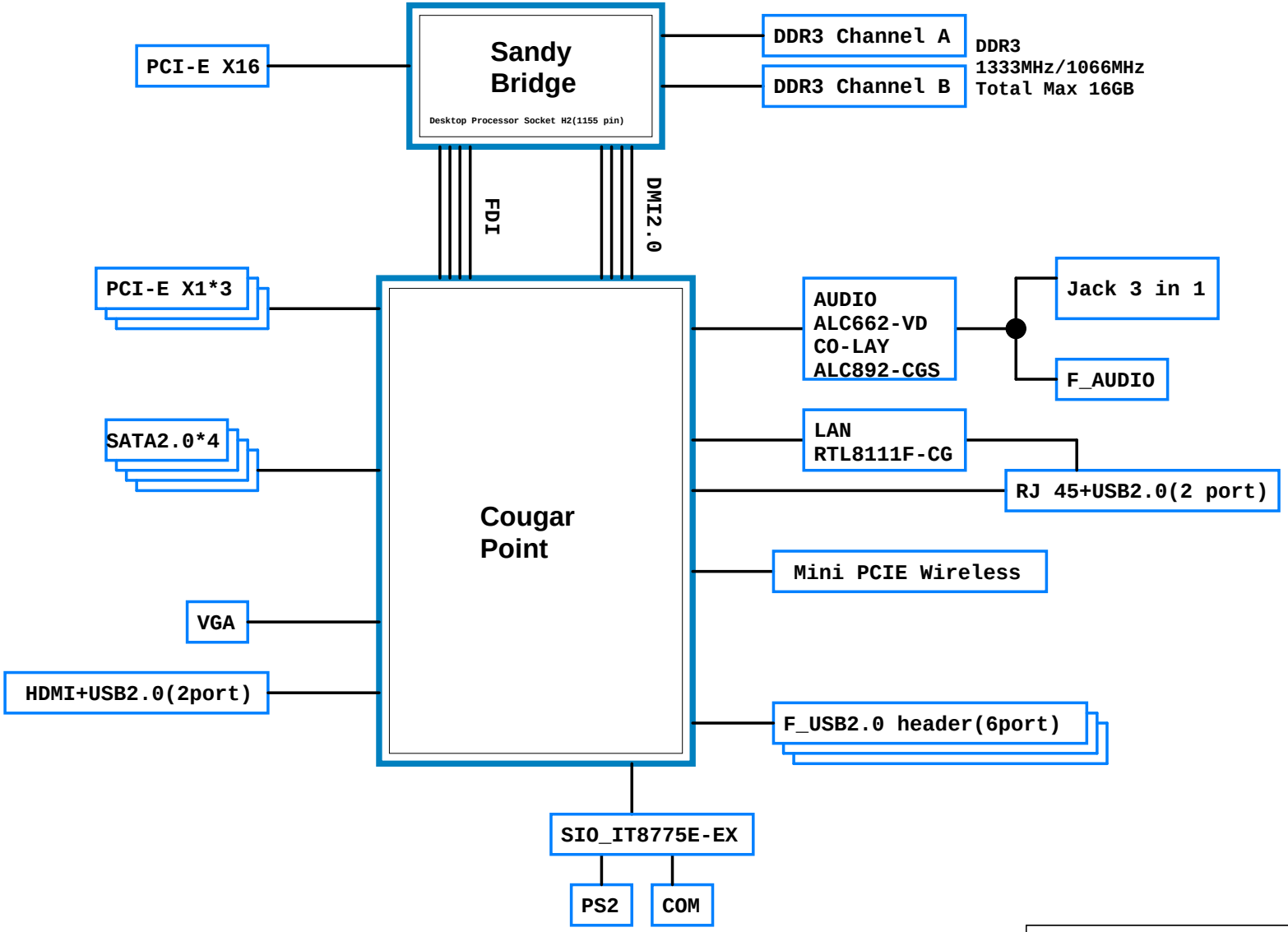

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Title: Block Diagram		
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PCH-GPIO function

Pin Name	Power Well	Usage	Default Status
GPIO1	VCC3	GP1_BOMDET2	GPI
GPIO6	VCC3	GP6_BOMDET3	GPI
GPIO7	VCC3	GP7_BOMDET4	GPI
GPIO9	3VSB	WIFI_CTL	Native
GPIO10	3VSB	USB_OC_L6	Native
GPIO11	3VSB	SMBALERT_L	Native
GPIO12	3VSB	MODE_TRIGGER	Native
GPIO13	3VSB	LPC_PME	GPI
GPIO14	+DIMM_5VDUAL	PCH_LED1	Native
GPIO17	VCC3	GP17_BOMDET1	GPI
GPIO21	VCC3	GPIO21_COM2_DET	GPI
GPIO22	VCC3	CLR_CMOS_GP22	GPI
GPIO23	VCC3	LPC_DRQ1_L	Native
GPIO24	3VSB	PCH_SKTOCC_L	GPO
GPIO27	+PS_3VSB	MS_GP0	GPI
GPIO30	+PS_3VSB	SUSWARN_L	Native
GPIO31	+PS_3VSB	MS_GP1	GPI
GPIO39	VCC3	GPIO39_CASE0	GPI
GPIO40	3VSB	USB_OC_L1	Native
GPIO41	3VSB	USB_OC_L2	Native
GPIO42	3VSB	USB_OC_L3	Native
GPIO43	3VSB	USB_OC_L4	Native
GPIO45	3VSB	WLAN_DIS_L	Native
GPIO48	VCC3	GPIO48_CASE1	GPI
GPIO57	3VSB	MODE_CTRL	GPI
GPIO59	3VSB	USB_OC_L0	Native
GPIO63	3VSB	SLP5_L	Native
GPIO64	VCC3	LDG33M	Native
GPIO67	VCC3	SIO48M	Native
GPIO72	3VSB	GPIO72_BOMDET5	Native

SIO-GPIO function

Pin Name	Power Well	Usage	Default Status
GP10	3VSB	SIO_PCIRST3_L	PCIRST3#
GP12	VCC3	SIO_PCIRST1_L	PCIRST1#
GP22	3VSB	SIO_LED0	GP22
GP23	3VSB	DPWROK	DPWROK
GP30	VCC3	ATXPWRGD	ATXPWRGD
GP31	VCC3	CTS1_L	CTS1#
GP32	VCC3	SIO_RI1_L	RI1#
GP33	VCC3	DCD1_L	DCD1#
GP36	VCC3	FAN_CTL3	FAN_CTL3
GP37	VCC3	FAN_TAC3	FAN_TAC3
GP40	3VSB	GPIO40_S4S5	3VSBSW#
GP41	3VSB	SIN1	SIN1
GP42	3VSB	PSON_L	PSON#
GP43	3VSB	FP_PWRBTN_L	PANSWH#
GP44	3VSB	SIO_PWRBTN_L	PWRON#
GP45	VCC3	DSR1_L	DSR1#
GP51	VCC3	FAN_CTL2	FAN_CTL2
GP52	VCC3	FAN_TAC2	FAN_TAC2
GP53	3VSB	SLP4_L	SUSC#
GP54	3VSB	LPC_PME_L	PME#
GP55	3VSB	RSMRST_L	RSMRST#
GP56	3VSB	MCLK	MCLK
GP57	3VSB	MDATA	MDAT
GP60	3VSB	KCLK	KCLK
GP61	3VSB	KDATA	KDAT
GP62	VCC3	KBRST_L	KRST#

H61 fuction PCI INT#

Function	INT PORT	PCIE 1X PORT	Chipset
LAN Controller	INT A#	PE_TX/RX_5	RTL8111F
PCIE1X_4 Wireless Card	INT C#	PE_TX/RX_3	H61 integrated
PCIE1X_1 Slot	INT D#	PE_TX/RX_4	H61 integrated
PCIE1X_2 Slot	INT B#	PE_TX/RX_6	H61 integrated
PCIE1X_3 Slot	INT B#	PE_TX/RX_2	H61 integrated
SATA Controller	INT B#	NA	H61 integrated

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Title: GPIO Function Map

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Title	CPU - DMI/FDI/PEG
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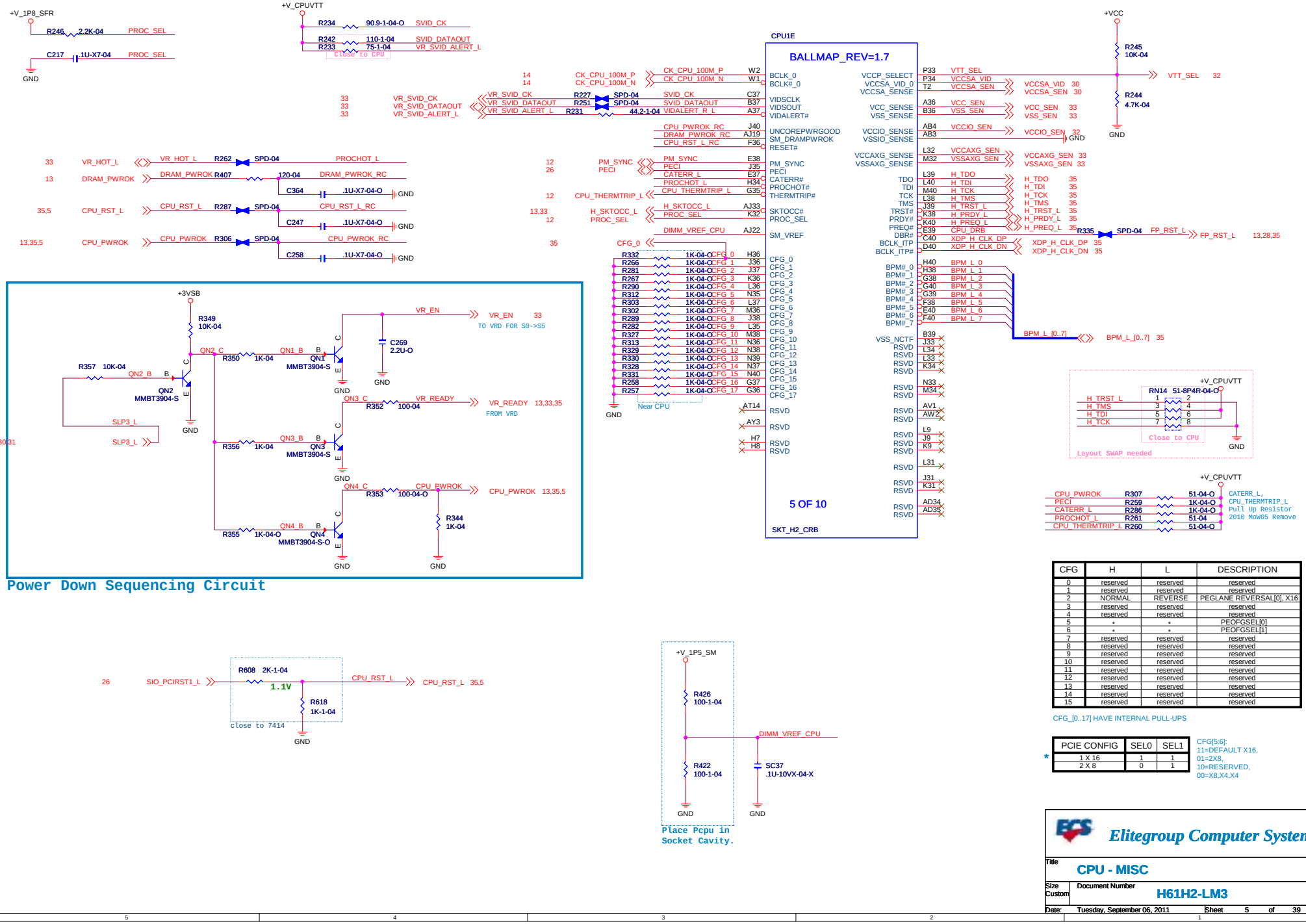

CFG	H	L	DESCRIPTION
0	reserved	reserved	reserved
1	reserved	reserved	reserved
2	NORMAL	REVERSE	PEGLANE REVERSAL[0], X16
3	reserved	reserved	reserved
4	reserved	reserved	reserved
5	*	*	PEOFGSEL[0]
6	*	*	PEOFGSEL[1]
7	reserved	reserved	reserved
8	reserved	reserved	reserved
9	reserved	reserved	reserved
10	reserved	reserved	reserved
11	reserved	reserved	reserved
12	reserved	reserved	reserved
13	reserved	reserved	reserved
14	reserved	reserved	reserved
15	reserved	reserved	reserved

CFG_[0..17] HAVE INTERNAL PULL-UPS

PCIE CONFIG	SEL0	SEL1
1 X 16	1	1
2 X 8	0	1

*

CFG[5:6]:
11=DEFAULT X16,
01=2X8,
10=RESERVED,
00=X8,X4,X4

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Title: CPU - MISC

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DDR3 CH.A

DDR3 CH.B

CPU1C

BALLMAP_REV=1.7

DDR_0

3 OF 10

SKT_H2_CRB

Pay Attention to This Part!

CPU1D

BALLMAP_REV=1.7

DDR_1

4 OF 10

SKT_H2_CRB

R479 SPD-04

C428 .1U-X7-04-O

For RC Filter

Desktop dosen't support ECC

C384 .1U-10VX-04

C379 .1U-10VX-04

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Title	CPU - DDR3	
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MAX 112A
In +VCORE

CPU1F

BALLMAP
REV=1.7

6 OF 10

SKT_H2_CRB

MAX 112A
In +VCORE

1.05V/1.00V
MAX 8.5A
In +V_CPUVTT

CPU1G

BALLMAP
REV=1.7

POWER
7 OF 10

SKT_H2_CRB

1.5V
MAX 4.5A
In +V_1P5_SM

0.925V/0.85V
MAX 8.8A
In +V_SA

1.8V
MAX 1A
In +V_1P8_SFR

MAX 35A
In +VAXG

CPU1H

BALLMAP
REV=1.7

8 OF 10

SKT_H2_CRB

+VCORE
C238 22U-X5-08-O
C236 22U-X5-08-O
C237 22U-X5-08-O
C239 22U-X5-08-O
GND

PLACE NEAR SKT EDGE
OUTSIDE CAVITY.

+V_CPUVTT
C256 22U-X5-08
GND

+V_SA
C287 22U-X5-08
GND

PLACE NEAR SKT EDGE
OUTSIDE CAVITY.

+V_1P8_SFR
C354 .1U-X7-04
C351 22U-X5-08
GND

+V_CPUVTT
C365 .1U-X7-04
C347 .1U-X7-04
C362 .1U-X7-04
C283 .1U-X7-04
C279 .1U-X7-04
C350 .1U-X7-04
C368 .1U-X7-04
C371 .1U-X7-04
C245 .1U-X7-04
C246 .1U-X7-04
C244 .1U-X7-04
C265 .1U-X7-04
C274 .1U-X7-04
C268 .1U-X7-04
C243 .1U-X7-04
C322 .1U-X7-04
GND

DECOUPLING & STITCHING CAPS.

+V_CPUVTT
SC34 22U-X5-08-X-O
SC26 22U-X5-08-X-O
SC35 22U-X5-08-X-O
SC25 22U-X5-08-X-O
SC19 22U-X5-08-X-O
SC36 22U-X5-08-X-O
GND

110301
Del 5 +V_CPUVTT MLCCs in BOTTOM Side by Power Team Suggest.

PLACE ALL 0805 CAPS INSIDE CPU SOCKET CAVITY, BACKSIDE.

+V_CPUVTT
C300 22U-X5-08
C312 22U-X5-08
C321 22U-X5-08
C332 22U-X5-08
SC331 22U-X5-08-X
C330 22U-X5-08
C343 22U-X5-08
C329 22U-X5-08
C334 22U-X5-08-O
GND

PLACE ALL 0805 CAPS INSIDE CPU SOCKET CAVITY.

+VAXG
C346 22U-X5-08
C320 22U-X5-08
C311 22U-X5-08
C336 22U-X5-08
C339 22U-X5-08
C358 22U-X5-08
GND
SC29 22U-X5-08-X
SC22 22U-X5-08-X-O
SC23 22U-X5-08-X-O
SC21 22U-X5-08-X
SC33 22U-X5-08-X-O
SC18 22U-X5-08-X-O
GND

+V_1P5_SM
C352 22U-X5-08
C360 22U-X5-08
C359 22U-X5-08-O
GND

110726 Anders : FOR COST DOWN

+VCORE
C306 22U-X5-08
C307 22U-X5-08
C305 22U-X5-08
C301 22U-X5-08
C304 22U-X5-08
C309 22U-X5-08
C308 22U-X5-08
C601 22U-X5-08
C615 22U-X5-08
C639 22U-X5-08
C595 22U-X5-08
C593 22U-X5-08
SC9 22U-X5-08-X
SC13 22U-X5-08-X
SC12 22U-X5-08-X
SC16 22U-X5-08-X
SC15 22U-X5-08-X
SC14 22U-X5-08-X
SC11 22U-X5-08-X
SC69 22U-X5-08-X
SC70 22U-X5-08-X
SC71 22U-X5-08-X
SC72 22U-X5-08-X
SC68 22U-X5-08-X
GND

PLACE ALL 0805 CAPS INSIDE CPU SOCKET CAVITY.

Elitegroup Computer Systems

Title: CPU - PWR

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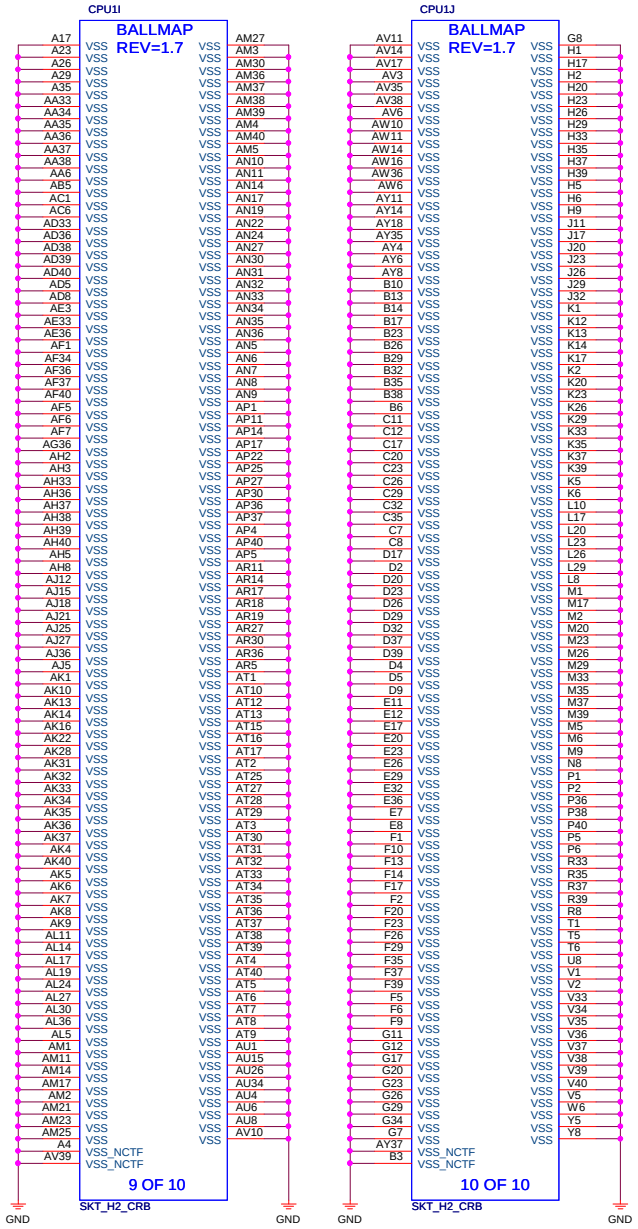
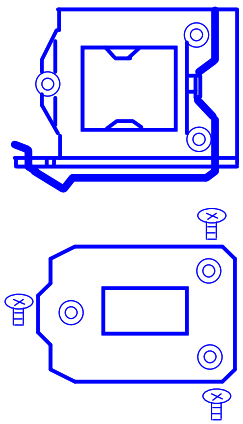


CPU steel P/N

20-800-005711 CPU SOCKET STEEL
SUBASSY.STEEL....LGA 1155/1156P.W/BACK PLATE,CAP.LOTES

CPU1
CPU_SUBASSY_STEEL



CPU socket P/N

11-018-115122 CPU SMD SOCKET
SOCKET.CPU..LGA 1155P SMD..15u...BLACK.ACA-ZIF-096-P01
.LEAD-FREE(RoHS/HF).LOTES

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Title	CPU - GND, CPU_RST_L	
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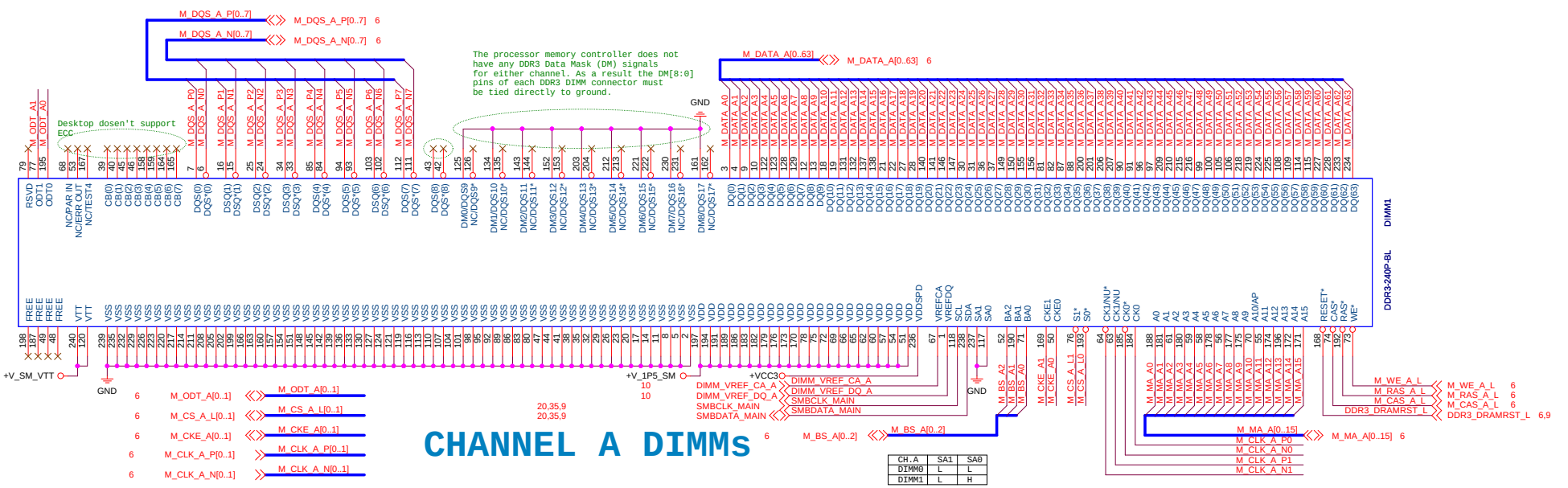

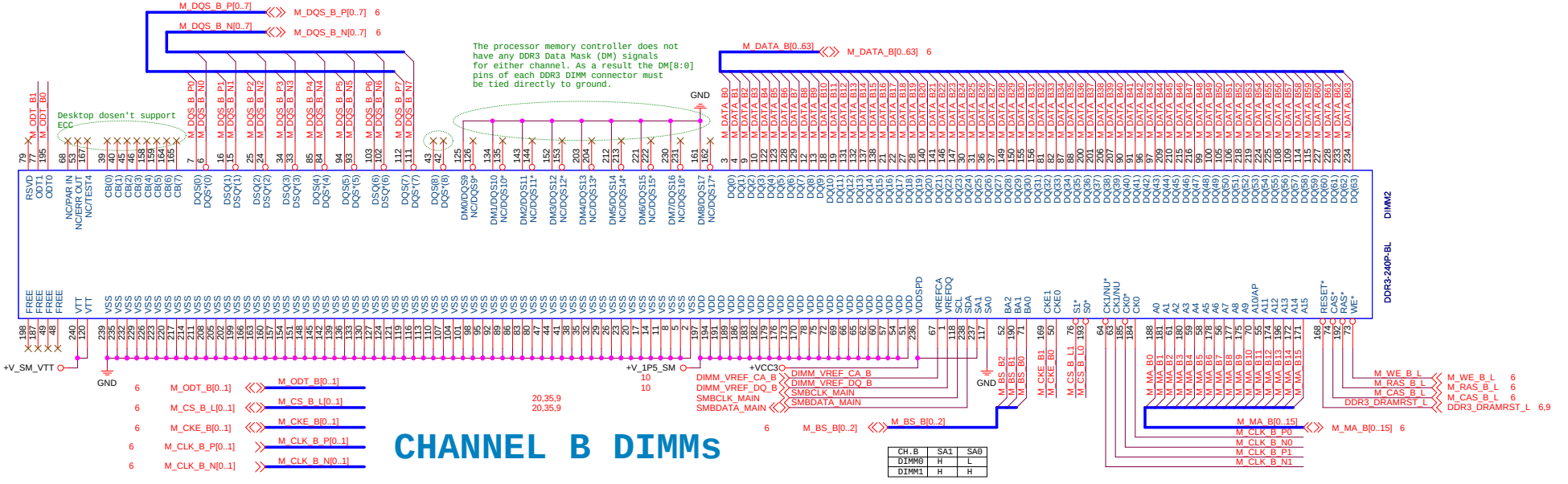

110614-2
match PDG_V2.0 9pcs MLCC for Vdimm power

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Title	DDR3 - CHA DIMM0/1	
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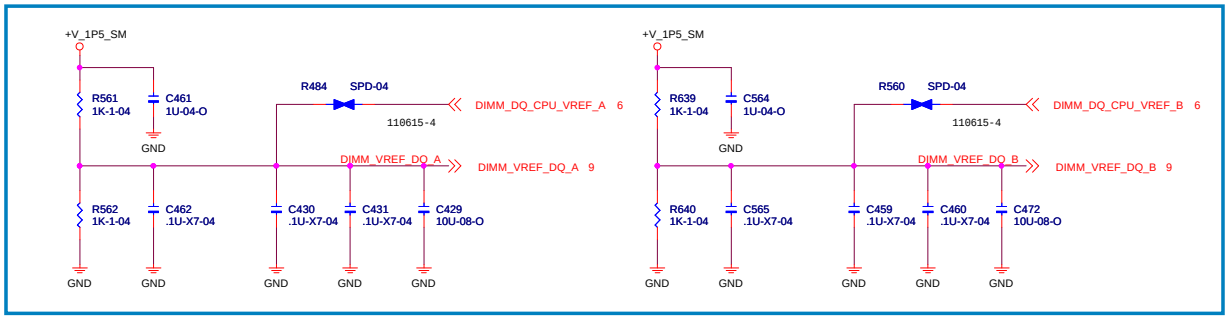
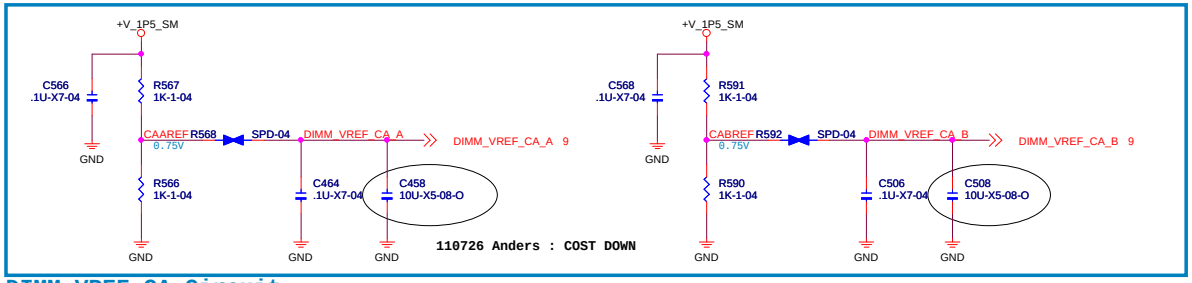
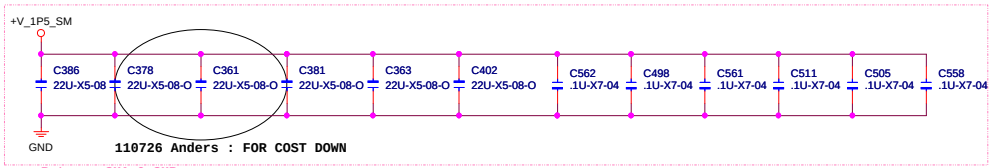


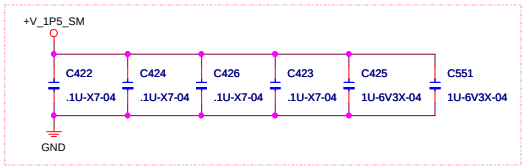
DIMM_VREF_DQ Control Circuit



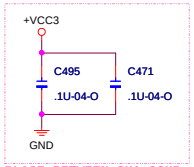
DIMM_VREF_CA Circuit



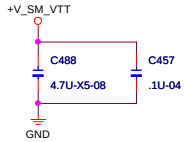
Between CHA & CHB

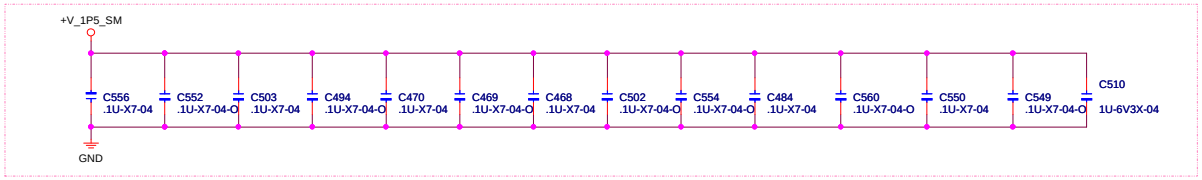


For CHA

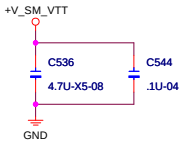


PLACE BETWEEN CHA &CHB.
DO NOT PUNCH VIA.





STICHING CAPS FOR CMD, ADDR, CTL.BELOW CHBD3.



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Title: DDR3 - VREF		
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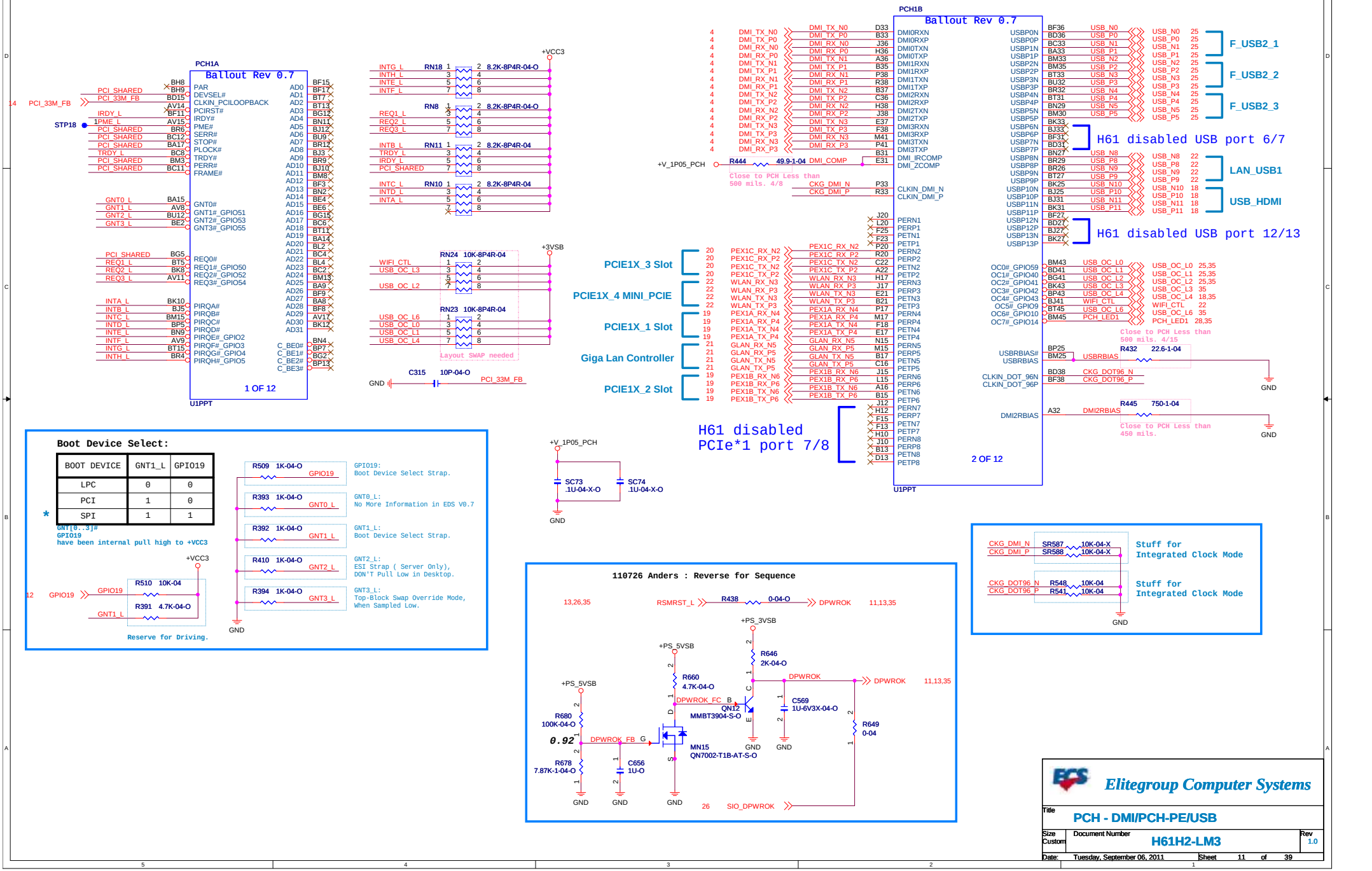
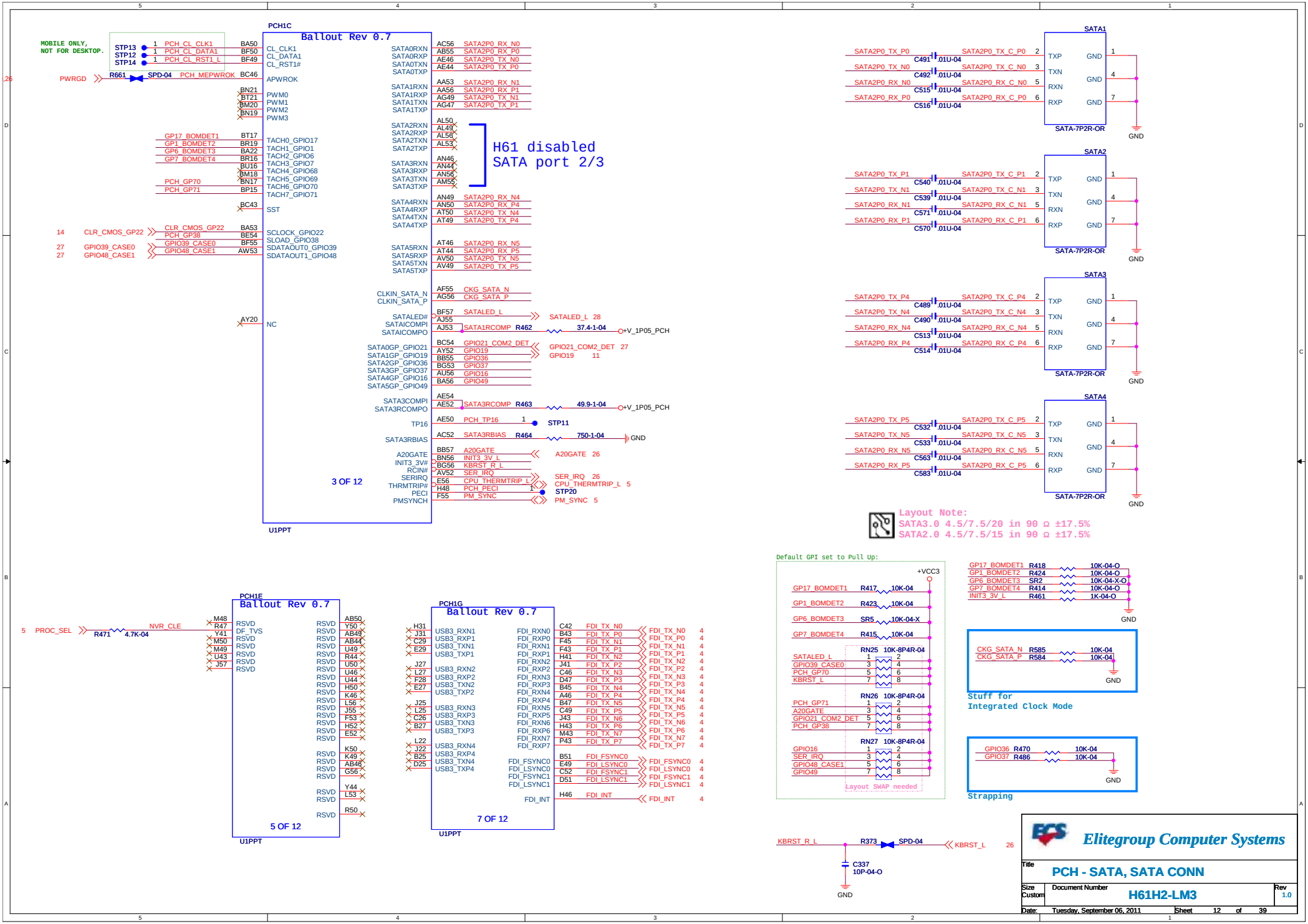

PCH1A
Ballout Rev 0.7
1 OF 12
U1PPT
PCH1B
Ballout Rev 0.7
2 OF 12
U1PPT
H61 disabled USB port 6/7
H61 disabled USB port 12/13
F_USB2_1
F_USB2_2
F_USB2_3
LAN_USB1
USB_HDMI
PCIE1X_3 Slot
PCIE1X_4 MINI_PCIE
PCIE1X_1 Slot
Giga Lan Controller
PCIE1X_2 Slot
H61 disabled
PCIe*1 port 7/8
Boot Device Select:
BOOT DEVICE | GNT1_L | GPIO19
LPC | 0 | 0
PCI | 1 | 0
SPI | 1 | 1
Reserve for Driving.
110726 Anders : Reverse for Sequence
Stuff for
Integrated Clock Mode
Stuff for
Integrated Clock Mode
Elitegroup Computer Systems
PCH - DMI/PCH-PE/USB
H61H2-LM3
Tuesday, September 06, 2011


PCH1C
Ballout Rev 0.7
MOBILE ONLY, NOT FOR DESKTOP.
STP13 1 PCH_CL_CLK1 BA50
STP12 1 PCH_CL_DATA1 BF50
STP14 1 PCH_CL_RST1_L BF49
CL_CLK1
CL_DATA1
CL_RST1#
PWRGD R661 SPD-04 PCH_MEPWROK BC46
APWROK
BN21 PWM0
BT21 PWM1
BM20 PWM2
BN19 PWM3
GP17_BOMDET1 BT17
GP1_BOMDET2 BR19
GP6_BOMDET3 BA22
GP7_BOMDET4 BR16
BU16
BM18
PCH_GP70 BN17
PCH_GP71 BP15
TACH0_GPIO17
TACH1_GPIO1
TACH2_GPIO6
TACH3_GPIO7
TACH4_GPIO68
TACH5_GPIO69
TACH6_GPIO70
TACH7_GPIO71
BC43 SST
14 CLR_CMOS_GP22 CLR_CMOS_GP22 BA53
PCH_GP38 BE54
27 GPIO39_CASE0 GPIO39_CASE0 BF55
27 GPIO48_CASE1 GPIO48_CASE1 AW53
SCLOCK_GPIO22
SLOAD_GPIO38
SDATAOUT0_GPIO39
SDATAOUT1_GPIO48
AY20 NC
SATA0RXN AC56 SATA2P0_RX_N0
SATA0RXP AB55 SATA2P0_RX_P0
SATA0TXN AE46 SATA2P0_TX_N0
SATA0TXP AE44 SATA2P0_TX_P0
SATA1RXN AA53 SATA2P0_RX_N1
SATA1RXP AA56 SATA2P0_RX_P1
SATA1TXN AG49 SATA2P0_TX_N1
SATA1TXP AG47 SATA2P0_TX_P1
SATA2RXN AL50
SATA2RXP AL49
SATA2TXN AL56
SATA2TXP AL53
H61 disabled
SATA port 2/3
SATA3RXN AN46
SATA3RXP AN44
SATA3TXN AN56
SATA3TXP AM55
SATA4RXN AN49 SATA2P0_RX_N4
SATA4RXP AN50 SATA2P0_RX_P4
SATA4TXN AT50 SATA2P0_TX_N4
SATA4TXP AT49 SATA2P0_TX_P4
SATA5RXN AT46 SATA2P0_RX_N5
SATA5RXP AT44 SATA2P0_RX_P5
SATA5TXN AV50 SATA2P0_TX_N5
SATA5TXP AV49 SATA2P0_TX_P5
CLKIN_SATA_N AF55 CKG_SATA_N
CLKIN_SATA_P AG56 CKG_SATA_P
SATALED# BF57 SATALED_L SATALED_L 28
SATAICOMPI AJ55
SATAICOMPO AJ53 SATA1RCOMP R462 37.4-1-04 +V_1P05_PCH
SATA0GP_GPIO21 BC54 GPIO21_COM2_DET GPIO21_COM2_DET 27
SATA1GP_GPIO19 AY52 GPIO19 GPIO19 11
SATA2GP_GPIO36 BB55 GPIO36
SATA3GP_GPIO37 BG53 GPIO37
SATA4GP_GPIO16 AU56 GPIO16
SATA5GP_GPIO49 BA56 GPIO49
SATA3COMPI AE54
SATA3RCOMPO AE52 SATA3RCOMP R463 49.9-1-04 +V_1P05_PCH
TP16 AE50 PCH_TP16 1 STP11
SATA3RBIAS AC52 SATA3RBIAS R464 750-1-04 GND
A20GATE BB57 A20GATE A20GATE 26
INIT3_3V# BN56 INIT3_3V_L
RCIN# BG56 KBRST_R_L
SERIRQ AV52 SER_IRQ SER_IRQ 26
THRMTRIP# E56 CPU_THERMTRIP_L CPU_THERMTRIP_L 5
PECI H48 PCH_PECI 1 STP20
PMSYNCH F55 PM_SYNC PM_SYNC 5
3 OF 12
U1PPT
SATA1
SATA2P0_TX_P0 C491 .01U-04 SATA2P0_TX_C_P0
SATA2P0_TX_N0 C492 .01U-04 SATA2P0_TX_C_N0
SATA2P0_RX_N0 C515 .01U-04 SATA2P0_RX_C_N0
SATA2P0_RX_P0 C516 .01U-04 SATA2P0_RX_C_P0
TXP TXN RXN RXP GND
SATA-7P2R-OR
GND
SATA2
SATA2P0_TX_P1 C540 .01U-04 SATA2P0_TX_C_P1
SATA2P0_TX_N1 C539 .01U-04 SATA2P0_TX_C_N1
SATA2P0_RX_N1 C571 .01U-04 SATA2P0_RX_C_N1
SATA2P0_RX_P1 C570 .01U-04 SATA2P0_RX_C_P1
SATA-7P2R-OR
GND
SATA3
SATA2P0_TX_P4 C489 .01U-04 SATA2P0_TX_C_P4
SATA2P0_TX_N4 C490 .01U-04 SATA2P0_TX_C_N4
SATA2P0_RX_N4 C513 .01U-04 SATA2P0_RX_C_N4
SATA2P0_RX_P4 C514 .01U-04 SATA2P0_RX_C_P4
SATA-7P2R-OR
GND
SATA4
SATA2P0_TX_P5 C532 .01U-04 SATA2P0_TX_C_P5
SATA2P0_TX_N5 C533 .01U-04 SATA2P0_TX_C_N5
SATA2P0_RX_N5 C563 .01U-04 SATA2P0_RX_C_N5
SATA2P0_RX_P5 C583 .01U-04 SATA2P0_RX_C_P5
SATA-7P2R-OR
GND
Layout Note:
SATA3.0 4.5/7.5/20 in 90 Ω ±17.5%
SATA2.0 4.5/7.5/15 in 90 Ω ±17.5%
PCH1E
Ballout Rev 0.7
5 PROC_SEL NVR_CLE R471 4.7K-04
M48 R47 Y41 M50 M49 U43 J57
RSVD DF_TVS RSVD RSVD RSVD RSVD RSVD
AB50 Y50 AB49 AB44 U49 R44 U50 U46 U44 H50 K46 L56 J55 F53 H52 E52 K50 K49 AB48 G56 Y44 L53 R50
5 OF 12
U1PPT
PCH1G
Ballout Rev 0.7
H31 J31 C29 E29 J27 L27 F28 E27 J25 L25 C26 B27 L22 J22 B25 D25
USB3_RXN1 USB3_RXP1 USB3_TXN1 USB3_TXP1 USB3_RXN2 USB3_RXP2 USB3_TXN2 USB3_TXP2 USB3_RXN3 USB3_RXP3 USB3_TXN3 USB3_TXP3 USB3_RXN4 USB3_RXP4 USB3_TXN4 USB3_TXP4
FDI_RXN0 FDI_RXP0 FDI_RXN1 FDI_RXP1 FDI_RXN2 FDI_RXP2 FDI_RXN3 FDI_RXP3 FDI_RXN4 FDI_RXP4 FDI_RXN5 FDI_RXP5 FDI_RXN6 FDI_RXP6 FDI_RXN7 FDI_RXP7 FDI_FSYNC0 FDI_LSYNC0 FDI_FSYNC1 FDI_LSYNC1 FDI_INT
C42 B43 F45 F43 H41 J41 C46 D47 B45 A46 B47 C49 J43 H43 M43 P43 B51 E49 C52 D51 H46
FDI_TX_N0 FDI_TX_P0 FDI_TX_N1 FDI_TX_P1 FDI_TX_N2 FDI_TX_P2 FDI_TX_N3 FDI_TX_P3 FDI_TX_N4 FDI_TX_P4 FDI_TX_N5 FDI_TX_P5 FDI_TX_N6 FDI_TX_P6 FDI_TX_N7 FDI_TX_P7 FDI_FSYNC0 FDI_LSYNC0 FDI_FSYNC1 FDI_LSYNC1 FDI_INT
7 OF 12
U1PPT
Default GPI set to Pull Up:
+VCC3
GP17_BOMDET1 R417 10K-04
GP1_BOMDET2 R423 10K-04
GP6_BOMDET3 SR5 10K-04-X
GP7_BOMDET4 R415 10K-04
RN25 10K-8P4R-04
SATALED_L GPIO39_CASE0 PCH_GP70 KBRST_L
RN26 10K-8P4R-04
PCH_GP71 A20GATE GPIO21_COM2_DET PCH_GP38
RN27 10K-8P4R-04
GPIO16 SER_IRQ GPIO48_CASE1 GPIO49
Layout SWAP needed
GP17_BOMDET1 R418 10K-04-O
GP1_BOMDET2 R424 10K-04-O
GP6_BOMDET3 SR2 10K-04-X-O
GP7_BOMDET4 R414 10K-04-O
INIT3_3V_L R461 1K-04-O
GND
CKG_SATA_N R585 10K-04
CKG_SATA_P R584 10K-04
GND
Stuff for
Integrated Clock Mode
GPIO36 R470 10K-04
GPIO37 R486 10K-04
GND
Strapping
KBRST_R_L R373 SPD-04 KBRST_L 26
C337 10P-04-O
GND
Elitegroup Computer Systems
Title
PCH - SATA, SATA CONN
Size Custom
Document Number H61H2-LM3
Rev 1.0
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110824 Anders : FOR SI

110726 Anders : FOR SI

110712 Anders:ADD TP_VGA

110824 Anders : FOR SI

110802 Anders:MODE_SWITCH上件

When Deep Sleep not Implemented:

1.PCH_GP31, PCH_GP27 need to be Pull Up +3VSB.
2.VCCDSW3_3 should to be connected to +3VSB.
3.SLP_SUS_L, SUSACK_L left unconnected.
4.SUSWARN_L may be used as GPIO30.(Referance to 1.)

PCH1D

Ballout Rev 0.7

4 OF 12

U1PPT

In Sugar Bay Q series Platform, Enable TLS for vPro.

TLS Confidentiality:

TLS_EN (internal PD)	
H	Enable TLS
* L	Disable TLS

Without TLS
no AMT, RCFG(remote Config), or RPAT.

Integrated 1.05V SUS VRM:

INTVRMEN	
* H	Enable
L	Disable

DFX TEST MODE Rings Oscillator:

PCH_GP44 (internal PU)	
* H	Enable
L	Bypass

Reserve for Debug

No Reboot:

PCH_SPKR (internal PD)	
* H	Enable No Reboot
L	Disable

JTAG CLK FILTER:

PCH_GP46 (internal PU)	
* H	Enable
L	Bypass

On-Die PLL VR:

ON_DIE_PLL_EN (internal PU)	
* H	Enable
L	Disable

On-Die PLL VR Source:

HDA_SYNC_R (internal PD)	
* H	1.5V
L	1.8V

For Power Test without CPU.

Title	PCH - MISC, Strap Function
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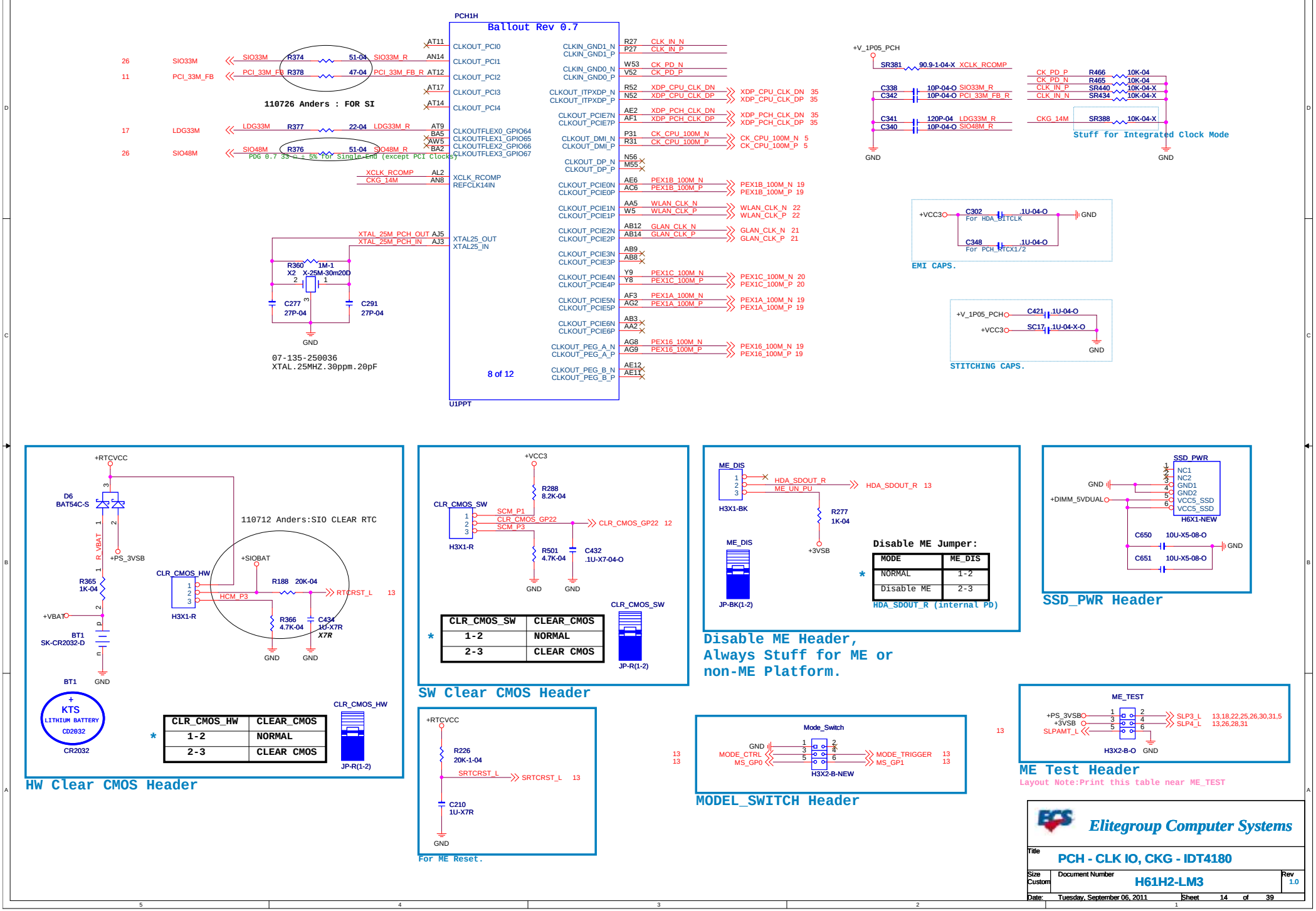
Elitegroup Computer Systems


PCH1H
Ballout Rev 0.7
110726 Anders : FOR SI
8 of 12
U1PPT
07-135-250036
XTAL.25MHZ.30ppm.20pF
EMI CAPS.
STITCHING CAPS.
Stuff for Integrated Clock Mode
110712 Anders:SIO CLEAR RTC
HW Clear CMOS Header
SW Clear CMOS Header
Disable ME Header,
Always Stuff for ME or
non-ME Platform.
SSD_PWR Header
MODEL_SWITCH Header
ME Test Header
Layout Note:Print this table near ME_TEST
For ME Reset.
Elitegroup Computer Systems
PCH - CLK IO, CKG - IDT4180
H61H2-LM3
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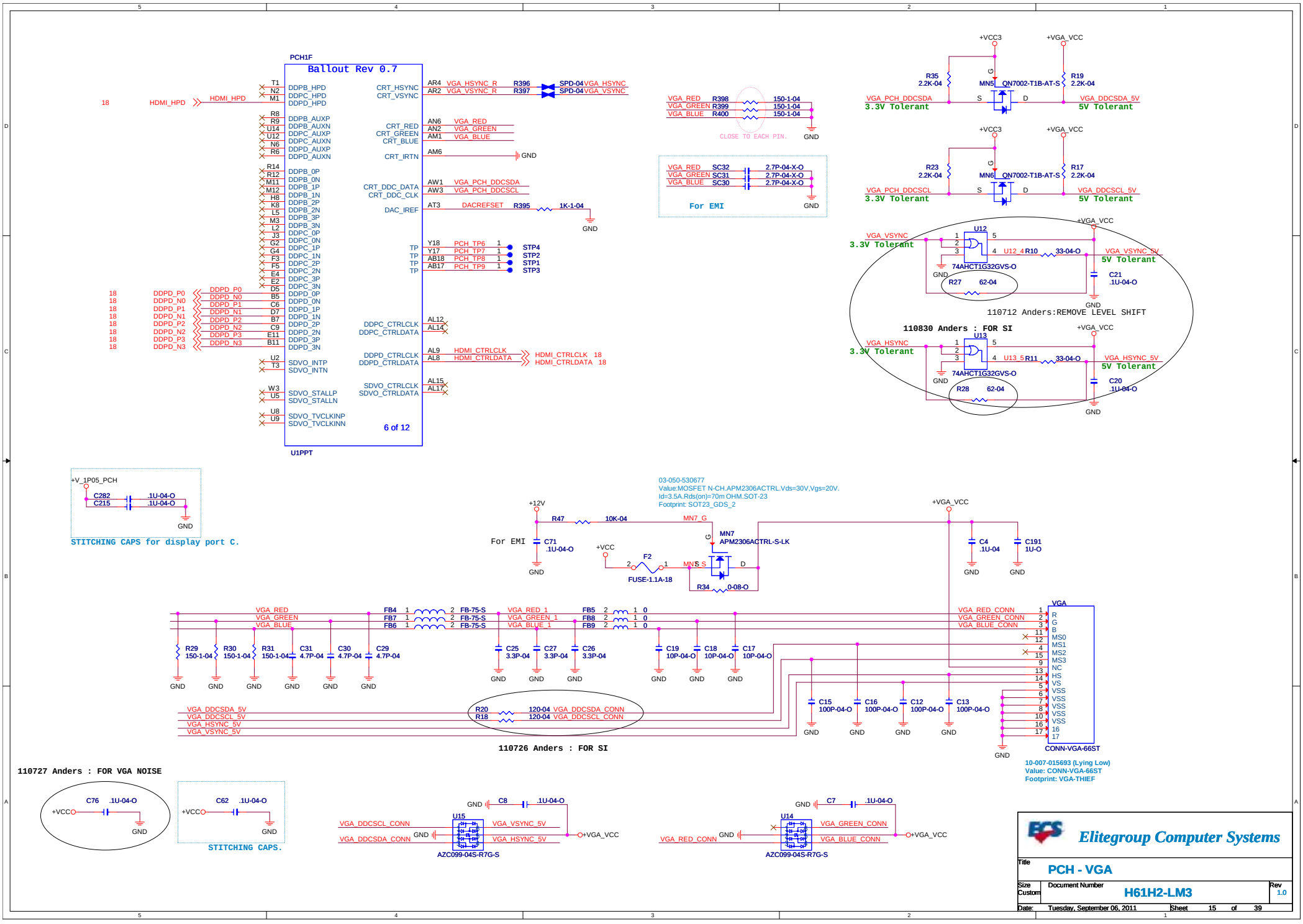
PCH1F
Ballout Rev 0.7
6 of 12
U1PPT
HDMI_HPD
DDPD_P0
DDPD_N0
DDPD_P1
DDPD_N1
DDPD_P2
DDPD_N2
DDPD_P3
DDPD_N3
CRT_HSYNC
CRT_VSYNC
CRT_RED
CRT_GREEN
CRT_BLUE
CRT_IRTN
CRT_DDC_DATA
CRT_DDC_CLK
DAC_IREF
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPD_CTRLCLK
DDPD_CTRLDATA
SDVO_CTRLCLK
SDVO_CTRLDATA
VGA_HSYNC_R
VGA_VSYNC_R
VGA_RED
VGA_GREEN
VGA_BLUE
VGA_PCH_DDCSDA
VGA_PCH_DDCSCL
DACREFSET
R396
R397
R395
1K-1-04
SPD-04VGA_HSYNC
SPD-04VGA_VSYNC
R398
R399
R400
150-1-04
CLOSE TO EACH PIN.
SC32
SC31
SC30
2.7P-04-X-O
For EMI
+VCC3
+VGA_VCC
R35
R19
R23
R17
2.2K-04
MN5 QN7002-T1B-AT-S
MN6 QN7002-T1B-AT-S
VGA_PCH_DDCSDA
VGA_DDCSDA_5V
VGA_PCH_DDCSCL
VGA_DDCSCL_5V
3.3V Tolerant
5V Tolerant
U12
U13
74AHCT1G32GVS-O
R10
R11
33-04-O
R27
R28
62-04
C21
C20
.1U-04-O
VGA_VSYNC
VGA_HSYNC
VGA_VSYNC_5V
VGA_HSYNC_5V
110712 Anders:REMOVE LEVEL SHIFT
110830 Anders : FOR SI
+V_1P05_PCH
C282
C215
.1U-04-O
STITCHING CAPS for display port C.
03-050-530677
Value:MOSFET N-CH.APM2306ACTRL.Vds=30V,Vgs=20V.
Id=3.5A.Rds(on)=70m OHM.SOT-23
Footprint: SOT23_GDS_2
+12V
R47
10K-04
MN7_G
MN7
APM2306ACTRL-S-LK
C71
F2
FUSE-1.1A-18
R34
0-08-O
C4
C191
1U-O
VGA_RED
VGA_GREEN
VGA_BLUE
FB4
FB7
FB6
FB-75-S
VGA_RED_1
VGA_GREEN_1
VGA_BLUE_1
FB5
FB8
FB9
R29
R30
R31
C31
C30
C29
4.7P-04
C25
C27
C26
3.3P-04
C19
C18
C17
10P-04-O
VGA_RED_CONN
VGA_GREEN_CONN
VGA_BLUE_CONN
VGA
CONN-VGA-66ST
R20
R18
120-04
VGA_DDCSDA_CONN
VGA_DDCSCL_CONN
C15
C16
C12
C13
100P-04-O
110726 Anders : FOR SI
10-007-015693 (Lying Low)
Value: CONN-VGA-66ST
Footprint: VGA-THIEF
110727 Anders : FOR VGA NOISE
C76
C62
STITCHING CAPS.
C8
C7
U15
U14
AZC099-04S-R7G-S
Elitegroup Computer Systems
PCH - VGA
H61H2-LM3
Tuesday, September 06, 2011
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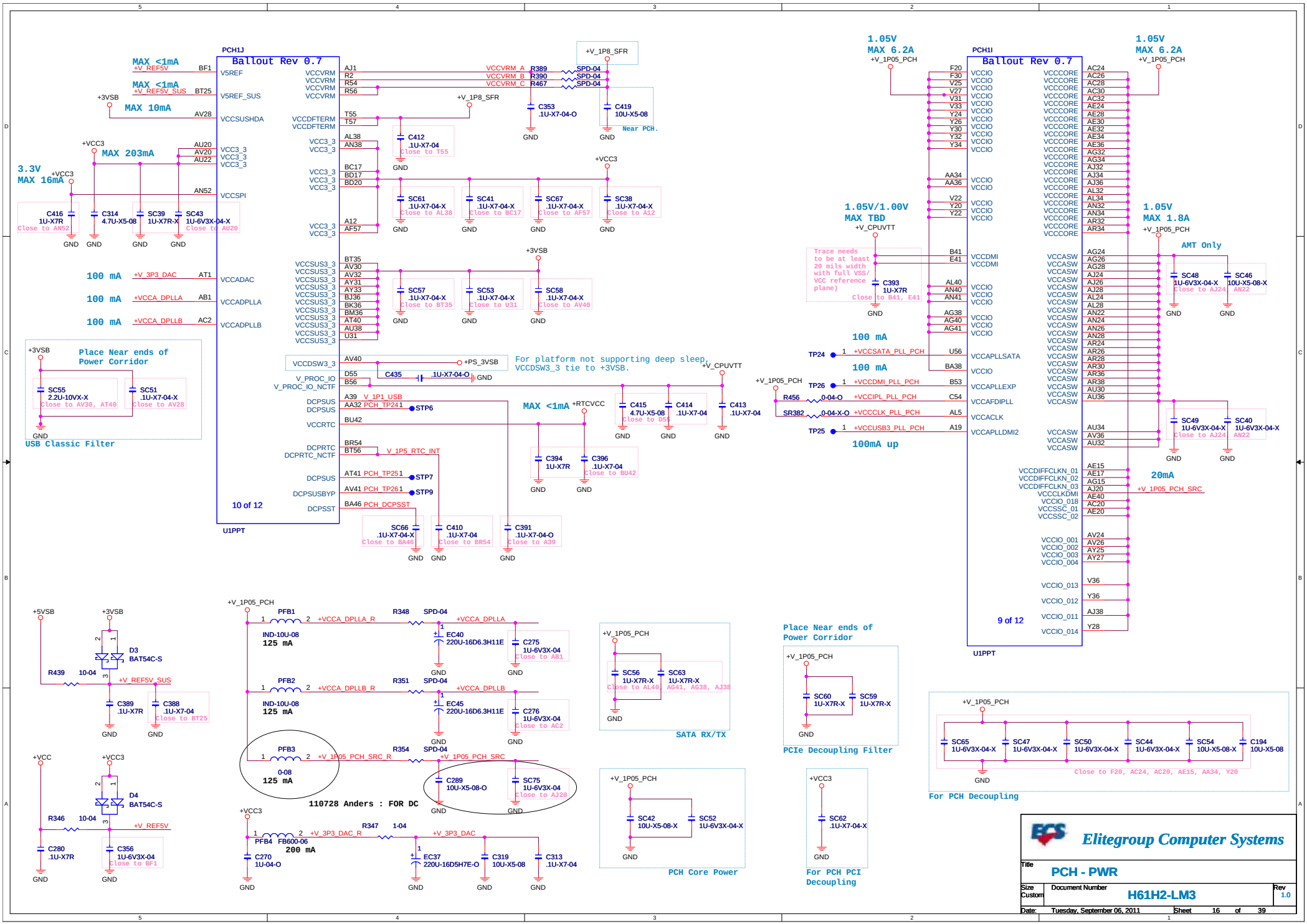
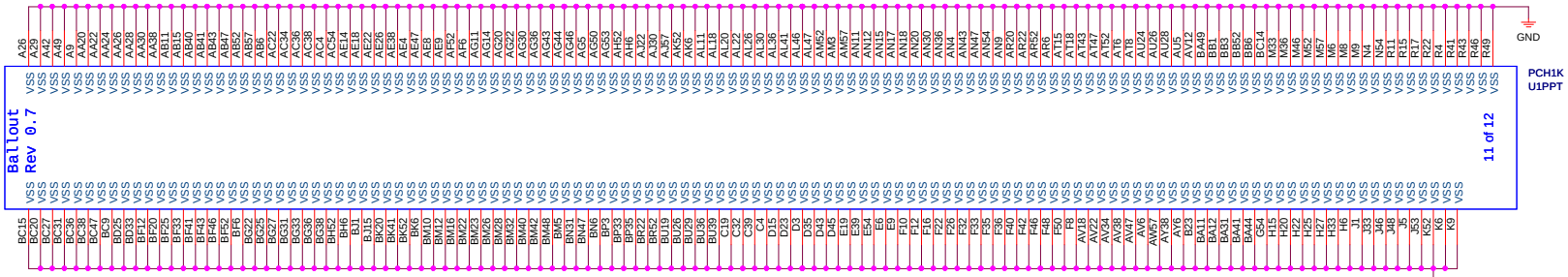
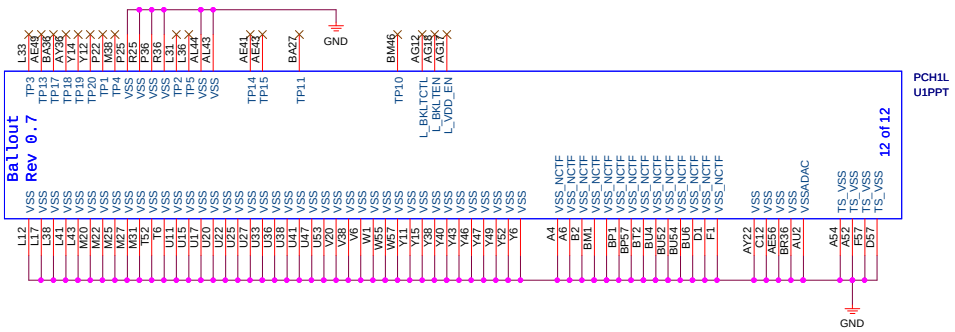
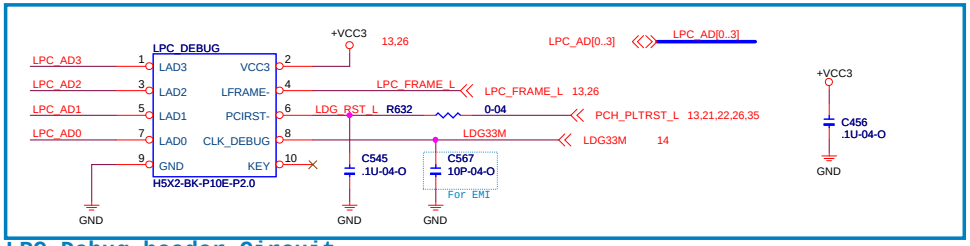
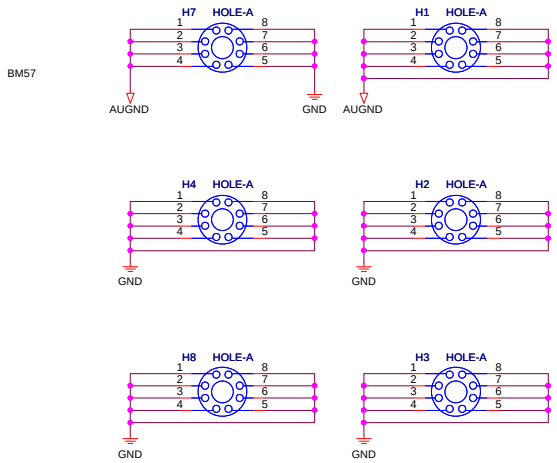

PCH1J
Ballout Rev 0.7
MAX <1mA
+V_REF5V
MAX <1mA
+V_REF5V_SUS
+3VSB
MAX 10mA
+VCC3
MAX 203mA
3.3V
MAX 16mA
100 mA
+V_3P3_DAC
100 mA
+VCCA_DPLLA
100 mA
+VCCA_DPLLB
Place Near ends of Power Corridor
USB Classic Filter
+V_1P8_SFR
For platform not supporting deep sleep, VCCDSW3_3 tie to +3VSB.
MAX <1mA
+RTCVCC
10 of 12
U1PPT
1.05V
MAX 6.2A
+V_1P05_PCH
1.05V/1.00V
MAX TBD
+V_CPUVTT
Trace needs to be at least 20 mils width with full VSS/ VCC reference plane)
100 mA
+VCCSATA_PLL_PCH
100 mA
+VCCDMI_PLL_PCH
+VCCIPL_PLL_PCH
+VCCCLK_PLL_PCH
100mA up
Ballout Rev 0.7
1.05V
MAX 6.2A
1.05V
MAX 1.8A
AMT Only
20mA
+V_1P05_PCH_SRC
9 of 12
U1PPT
+5VSB
+3VSB
D3
BAT54C-S
+V_REF5V_SUS
+VCC
+VCC3
D4
BAT54C-S
+V_REF5V
+V_1P05_PCH
PFB1
IND-10U-08
125 mA
+VCCA_DPLLA_R
+VCCA_DPLLA
PFB2
IND-10U-08
125 mA
+VCCA_DPLLB_R
+VCCA_DPLLB
PFB3
0-08
125 mA
+V_1P05_PCH_SRC_R
+V_1P05_PCH_SRC
110728 Anders : FOR DC
PFB4 FB600-06
200 mA
+V_3P3_DAC_R
+V_3P3_DAC
SATA RX/TX
PCH Core Power
PCIe Decoupling Filter
For PCH PCI Decoupling
For PCH Decoupling
Elitegroup Computer Systems
PCH - PWR
H61H2-LM3
Tuesday, September 06, 2011

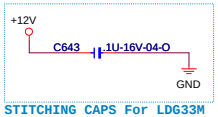




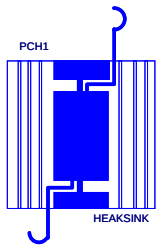


LPC Debug header Circuit





STITCHING CAPS For LDG33M



20-120-013526

10-392-002134

Elitegroup Computer Systems

Title	PCH - GND, VGA CONN	
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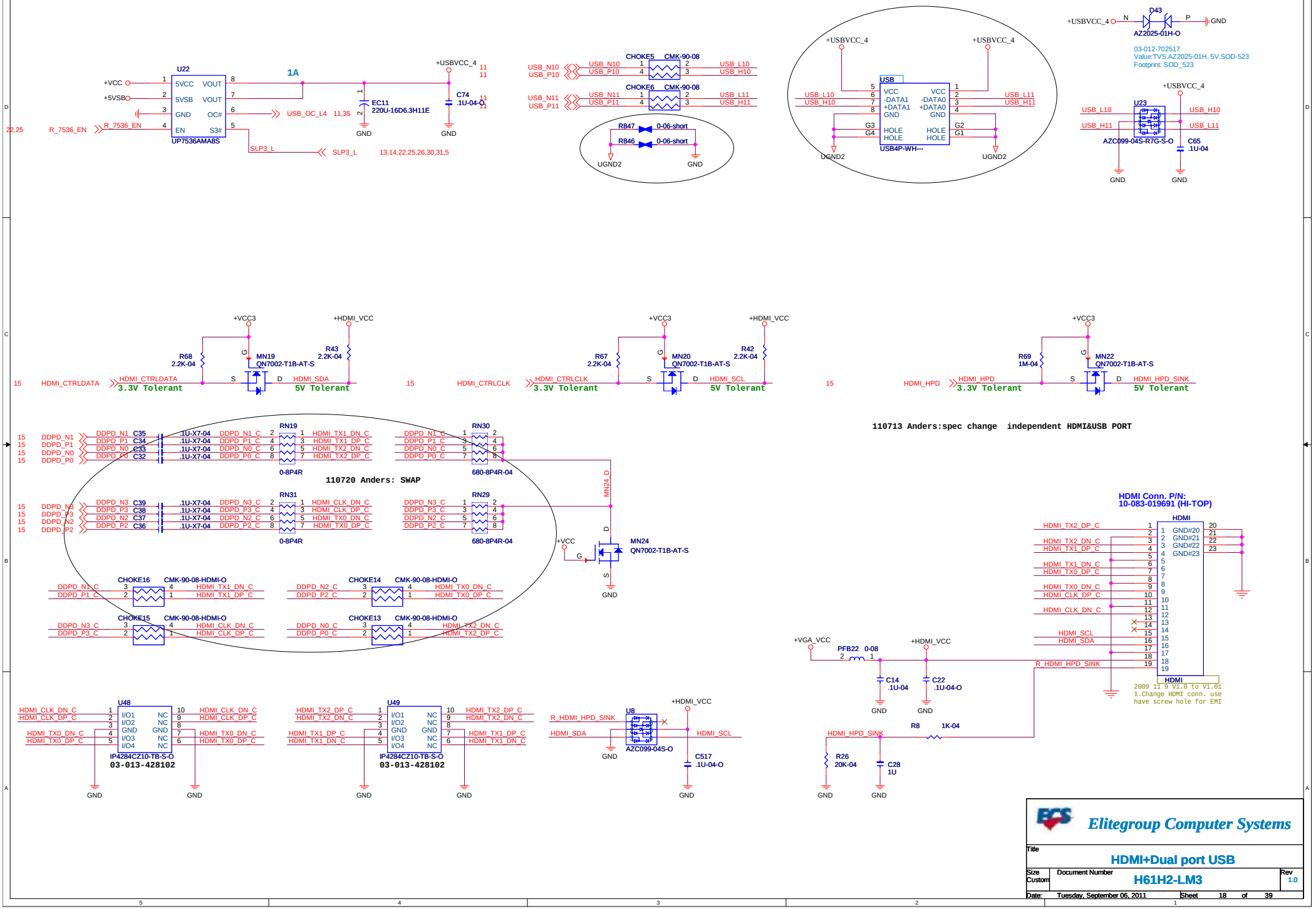
U22
UP7536AMA8S
1A
EC11
220U-16D6.3H11E
C74
.1U-04-O
+USBVCC_4
CHOKE5 CMK-90-08
CHOKE6 CMK-90-08
R847 0-06-short
R846 0-06-short
USB
USB4P-WH---
D43
AZ2025-01H-O
03-012-702517
Value:TVS,AZ2025-01H..5V.SOD-523
Footprint: SOD_523
U23
AZC099-04S-R7G-S-O
C65
.1U-04
R68 2.2K-04
MN19 QN7002-T1B-AT-S
R43 2.2K-04
3.3V Tolerant
5V Tolerant
R67 2.2K-04
MN20 QN7002-T1B-AT-S
R42 2.2K-04
R69 1M-04
MN22 QN7002-T1B-AT-S
110713 Anders:spec change independent HDMI&USB PORT
RN19
RN30
RN31
RN29
0-8P4R
680-8P4R-04
110720 Anders: SWAP
MN24 QN7002-T1B-AT-S
CHOKE16 CMK-90-08-HDMI-O
CHOKE15 CMK-90-08-HDMI-O
CHOKE14 CMK-90-08-HDMI-O
CHOKE13 CMK-90-08-HDMI-O
HDMI Conn. P/N:
10-083-019691 (HI-TOP)
HDMI
2009 11 9 V1.0 to V1.01
1.Change HDMI conn. use
have screw hole for EMI
U48
IP4284CZ10-TB-S-O
03-013-428102
U49
IP4284CZ10-TB-S-O
03-013-428102
U8
AZC099-04S-O
C517
.1U-04-O
PFB22 0-08
C14
.1U-04
C22
.1U-04-O
R8 1K-04
R26 20K-04
C28 1U
Elitegroup Computer Systems
HDMI+Dual port USB
H61H2-LM3
Tuesday, September 06, 2011
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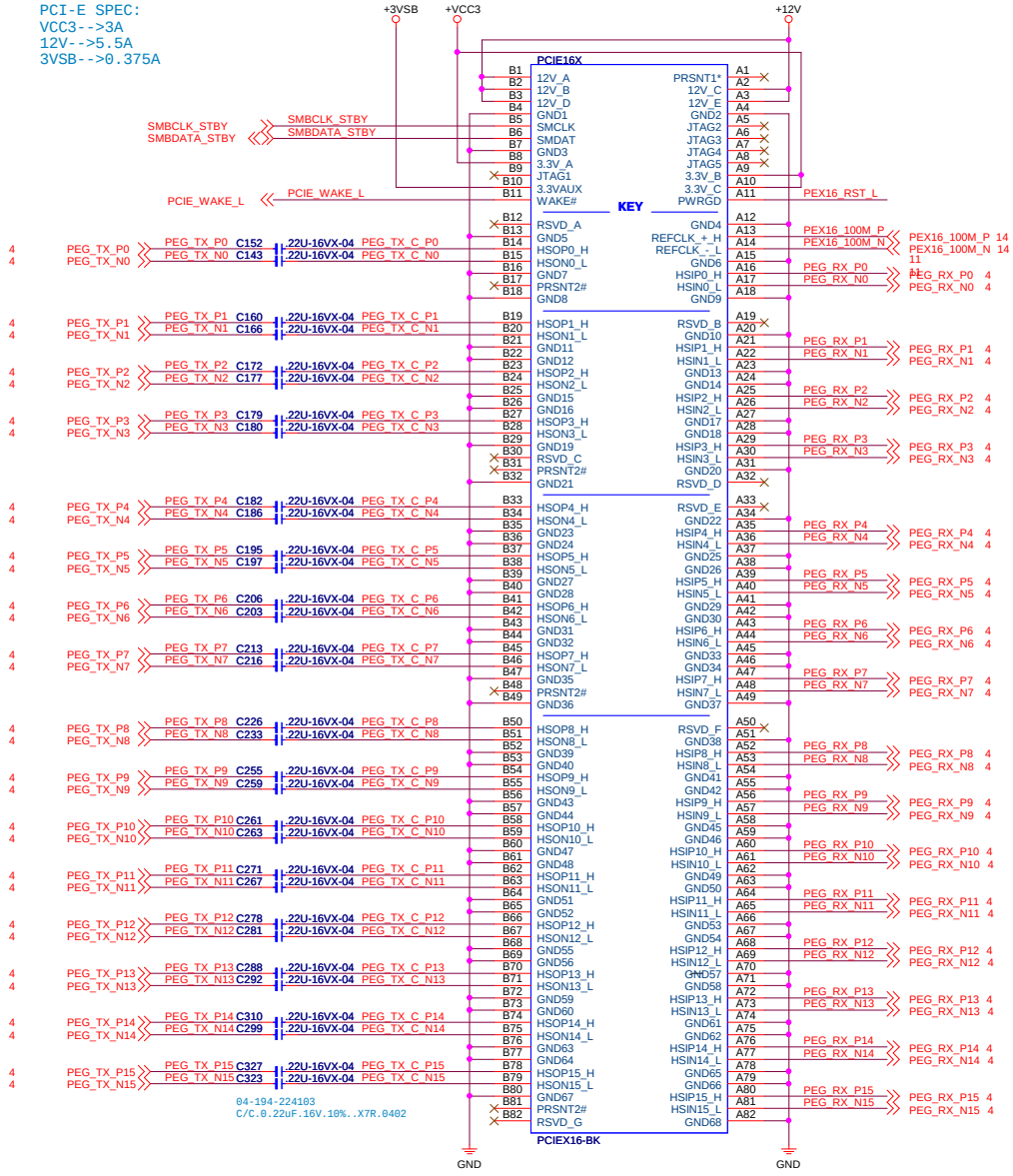
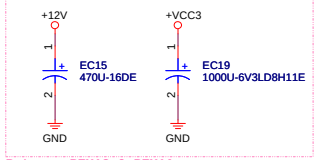
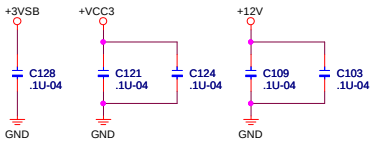
PCI-E SPEC:
VCC3-->3A
12V-->5.5A
3VSB-->0.375A

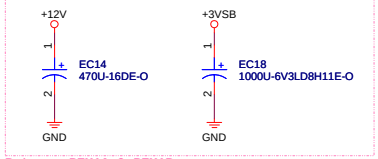


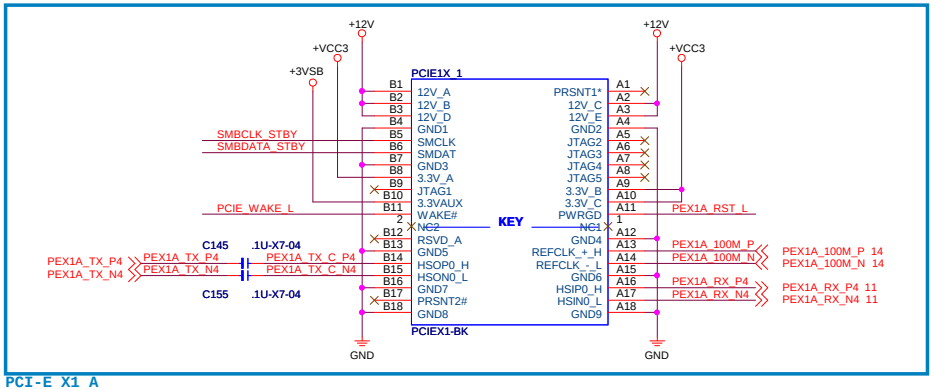
04-711-102073
E/C.1000uF.16V.20%...105C.RT D10*17mm....



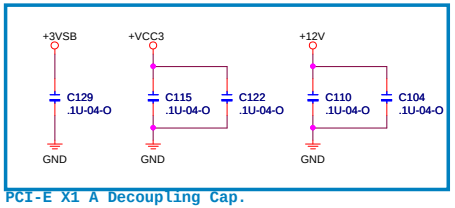


04-711-102073
E/C.1000uF.16V.20%...105C.RT D10*17mm....

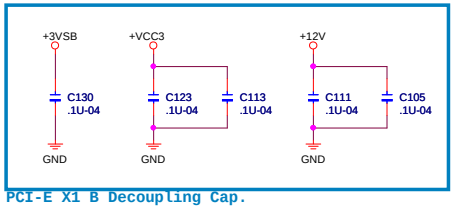




PCI-E X1 A

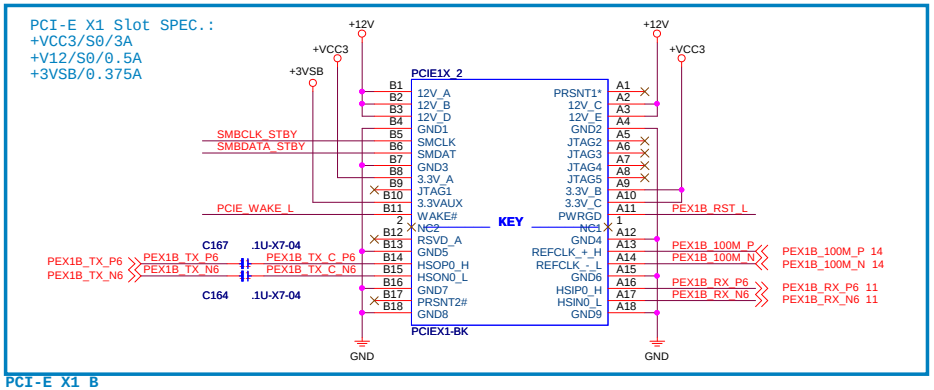


PCI-E X1 A Decoupling Cap.

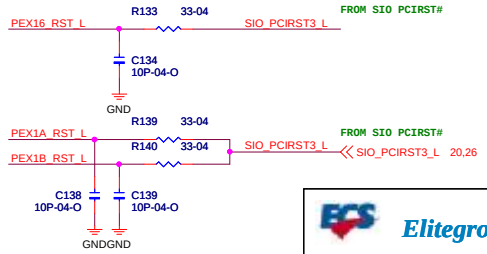


PCI-E X1 B Decoupling Cap.

PCI-E X1 Slot SPEC.:
+VCC3/S0/3A
+V12/S0/0.5A
+3VSB/0.375A



PCI-E X1 B



Elitegroup Computer Systems

Title	Slot - PCI-EX16/PCI-EX1	
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
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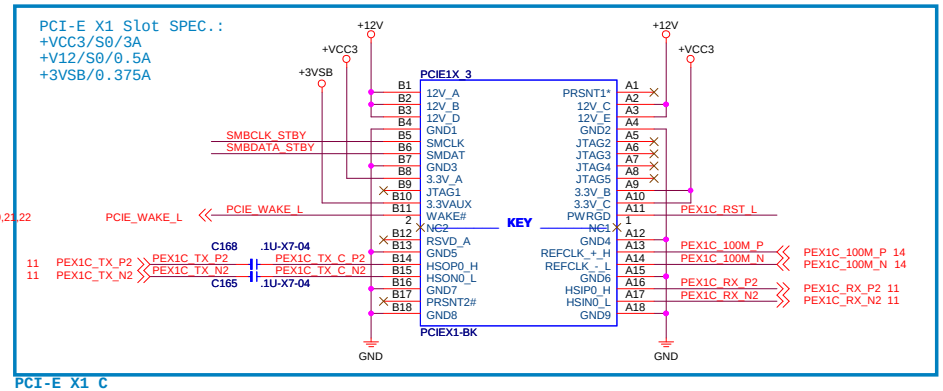
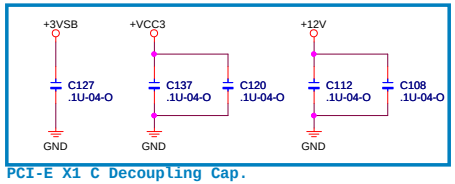
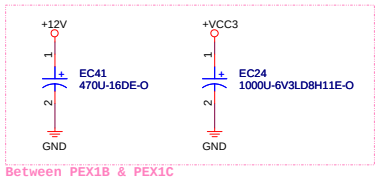


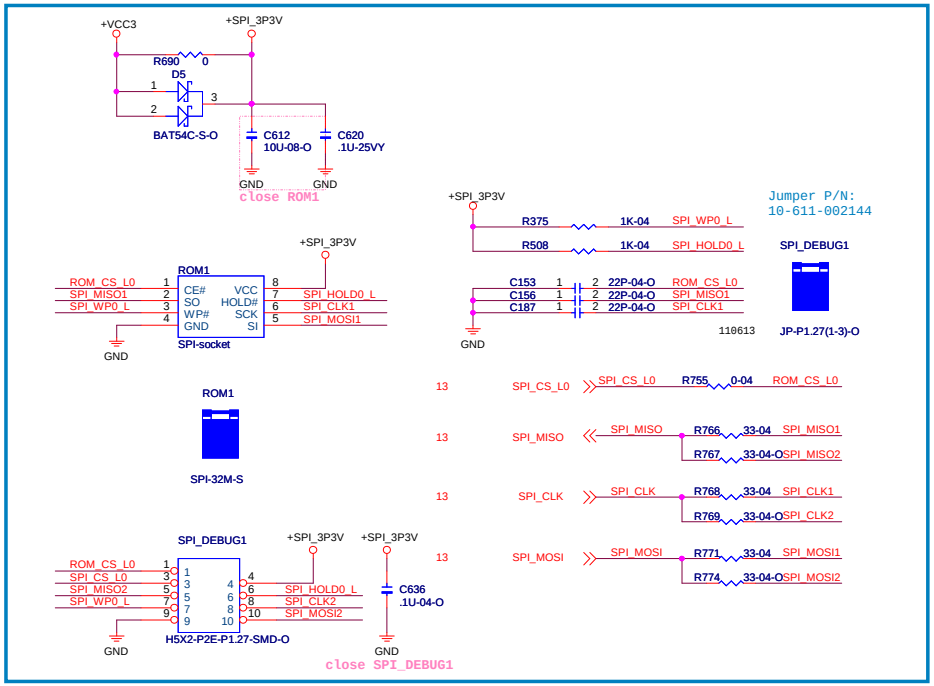
PCI-E X1 C



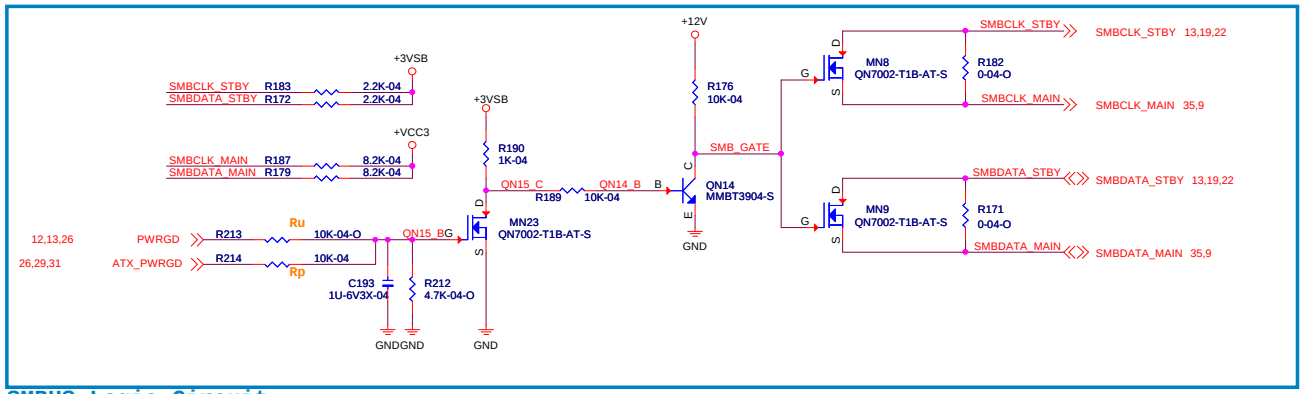
PCI-E X1 C Decoupling Cap.



Between PEX1B & PEX1C



SPI ROM Circuit



SMBUS Logic Circuit

Elitegroup Computer Systems	
Title	Slot - PCIEX1, SPI ROM, SMBUS
Size: Custom	Document Number: H61H2-LM3
Rev	1.0
Date: Tuesday, September 06, 2011	Sheet 20 of 39

Crystal Spec:+/-30ppm,CL=20pF
Ce=2*CL-(Cs+Ci)
P/N:07-135-250024
INCLUDE FILE DATE: 100719

LAN_XTAL1 — Y1 X-25M — LAN_XTAL2
C674 27P-04 C675 27P-04 GND

LAN_XTAL1 LAN_XTAL2 +DVDD1P05 RSET +VDD33 +VDD33 +VDD33 +DVDD1P05 LAN_LED0 +VDD33 LAN_GPO LAN_LED1_EESK

LAN
GND
RTL8111F-CG

MDI0_P MDI0_N +DVDD1P05 MDI1_P MDI1_N +DVDD1P05 MDI2_P MDI2_N +DVDD1P05 MDI3_P MDI3_N +VDD33
MDIP0 MDIN0 AVDD10 MDIP1 MDIN1 AVDD10(NC) MDIP2(NC) MDIN2(NC) AVDD10(NC) MDIP3(NC) MDIN3(NC) AVDD33(NC)

REGOUT VDDREG VDDREG ENSWREG EEDI/SDA LED3/EEDO EECS/SCL DVDD10 LANWAKEB DVDD33 ISOLATEB PERSTB
CTRL1P05 +AVDD33 +AVDD33 ENSWREG EEDI_SDA LAN_LED3_EEDO EECS +DVDD1P05 LAN_WAKE_L +VDD33 +VDD33 GLAN_RST_L

DVDD10 SMBCLK(NC) SMBDATA(NC) CLKREQB HSIN HSIP REFCLK_P REFCLK_N EVDD10 HSOP HSON GND

CLKREQ_L R869 10K-04 +VDD33
EECS R870 10K-04
EEDI_SDA R871 10K-04
RSET R868 2.49K-1-04
Layout Note: Close to LAN chip

LAN_GPO R882 1K-04
ENSWREG R872 0-04

LAN_WAKE_L 21

ISOLATEB R873 1K-04 +VCC3
ISOLATEB R875 15K-1-04

Layout Note: Close to LAN chip

TP18 +DVDD1P05 LAN_SMBCLK SMBDATA CLKREQ_L

GLAN_RX_C_N5 C667 .1U-X7-04 GLAN_RX_N5 GLAN_RX_N5 11
GLAN_RX_C_P5 C666 .1U-X7-04 GLAN_RX_P5 GLAN_RX_P5 11
+EVDD1P05

11 GLAN_TX_P5 GLAN_TX_P5 C663 .1U-X7-04 GLAN_TX_C_P5
11 GLAN_TX_N5 GLAN_TX_N5 C665 .1U-X7-04 GLAN_TX_C_N5

GLAN_CLK_N GLAN_CLK_N 14
GLAN_CLK_P GLAN_CLK_P 14

Layout Note: Close to LAN chip

GLAN_RST_L R837 33-04 PCH_PLTRST_L PCH_PLTRST_L 13,17,22,26,35
C442 10P-04-O GND

+VDD33 R874 10K-04 Ld

21 LAN_WAKE_L LAN_WAKE_L R886 0-04-O Lc PCIE_WAKE_L PCIE_WAKE_L 13,19,20,22

R887 0-04 SIO_RI1_L SIO_RI1_L 26,27 Lb

MODE	Lb	Lc	Ld
WOL Normal	X	V	X
* WOL G3->S5	V	X	V
WO_PCIEs G3->S5	V	V	X

Internal Switching Regulator

Layout Note:
IND close to Pin36 within 0.5cm.

1.05V — L1 IND-4.7U-SCD0403-LK — CTRL1P05
08-403-475270
POWER IND.4.7uH.10%.1.7A.94m OHM.
SMD.4.5*4*3.2mm.SCD0403T-4R7K-N...
LEAD-FREE(RoHS/HF).CHILISIN

1.05V MAX 300mA

CTRL1P05_R R51 0-08-short R45 0-08-short +EVDD1P05
C198 4.7U-X5-08 C199 4.7U-X5-08-O C78 .1U-X7-04 GND
C67 .1U-X7-04 C223 1U-X7R GND
Layout Note: Close to IND within 0.5cm
Layout Note: Close to Pin 21

1.05V +DVDD1P05
C81 .1U-04 C9 .1U-04 C10 .1U-04 C11 .1U-04 C192 .1U-04 C225 .1U-04 C66 .1U-04 GND
Layout Note: Close to VDD10 Pins: 3,6,9,13,29,41,45

3.3V
+VDD33/+AVDD33 MAX 70mA,
Internal 1.05V REG need Additional MAX 95mA
from 3.3Vin (300mA*1.05V/3.3V = 95mA),
Total 3.3Vin MAX 165mA (S0)

+3VSB R46 0-08-short +VDD33 R53 0-08-short +AVDD33
C224 .1U-04 C24 10U-08-O C73 .1U-04 C68 .1U-04 C69 .1U-04 C72 .1U-04 C70 .1U-04 C126 .1U-04 GND
C79 4.7U-X5-08 C80 .1U-04 C125 1U-04-O GND
Layout Note: Close to VDD33 Pins: 12,27,39,42,47,49
Layout Note: Close to Pin34,35 within 0.5cm.

BOM Selection

Rk — RJ21 10K-04(2-3) +VDD33 — SMBDATA

Ea — EEP1 M93C66WMN6-O
EECS LAN_LED1_EESK EEDI_SDA LAN_LED3_EEDO
CS SK DI DO VCC DC ORG GND
C747 .1U-04-O GND
93C46 P/N:01-530-046157
93C66 P/N:01-530-066020

Chip/version	ASF	EEPROM	Ea	Rk
8111F	Without ASF	EEPROM (93C46)	O	10K GND
		EEPROM (93C56/66)	O	1K VDD33
		EFUSE	X	10K GND

*It must be used external EEPROM(93C66) that support ASF.

Place Caps in Bottom Side.
MDI0_P SC1 2.7P-04-X-O
MDI0_N SC2 2.7P-04-X-O
MDI1_P SC3 2.7P-04-X-O
MDI1_N SC4 2.7P-04-X-O
MDI2_P SC5 2.7P-04-X-O
MDI2_N SC6 2.7P-04-X-O
MDI3_P SC7 2.7P-04-X-O
MDI3_N SC8 2.7P-04-X-O
EMI value must be tuned
GND

C693 .1U-04-O UGND1
USBLAN1B
TCT MDI0_P MDI0_N MDI1_P MDI1_N MDI2_P MDI2_N MDI3_P MDI3_N
POWER TX1+ TX1- TX2+ TX2- TX3+ TX3- TX4+ TX4- DGND
GLED OLED YLED PWR H_KAN H_LAN H_LAN H_LAN DGND
USBX2-LAN-1000-6KV
DGND R232 0
0905 Anders: fix ESD issue

-LINK_100 -LINK_1G -ACTIVE_P
LAN_LED0 LAN_LED1_EESK LAN_LED3_EEDO

+VDD33 R849 330-O R850 330-O C708 .1U-04-O GND
R889 150 R888 150 R851 330
C50 470P-04-O C709 470P-04-O C63 470P-04-O UGND1

Layout Note: Close to LAN chip

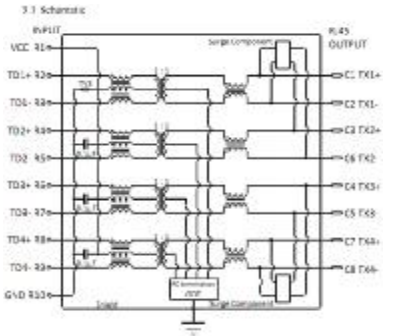
WOL	status	Yellow	Green/Org
don't care	No Link	off	off
dP(ME WOL and Host WOL should be disable both)	S3/S4/S5	off	off
on	10M inactive		off
on	10M active		off
on	100M inactive		
on	100M active		
on	1G inactive		
on	1G active		

always on
always on
always on
blinking

SU1 SU2 +VDD33
MDI1_P MDI1_N MDI0_N MDI0_P
AZC099-04S-R7G-S-X-O
MDI3_P MDI3_N MDI2_N MDI2_P
AZC099-04S-R7G-S-X-O
GND

-ACTIVE_P D53 AZ5125-01H-S-O UGND1
+VDD33 D55 AZ5125-01H-S-O UGND1
-LINK_100 D52 AZ5125-01H-S-O UGND1
-LINK_1G D54 AZ5125-01H-S-O UGND1

110901 Anders:Change For Surge
R844 0-08-short
R845 0-08-short
UGND1 GND



<OrgAddr1>
Elitegroup Computer Systems

Title: LAN RTL8111F-CG,MINI_PCIE
Size: Custom
Document Number: H61H2-LM3
Rev: 1.0
Date: Tuesday, September 06, 2011
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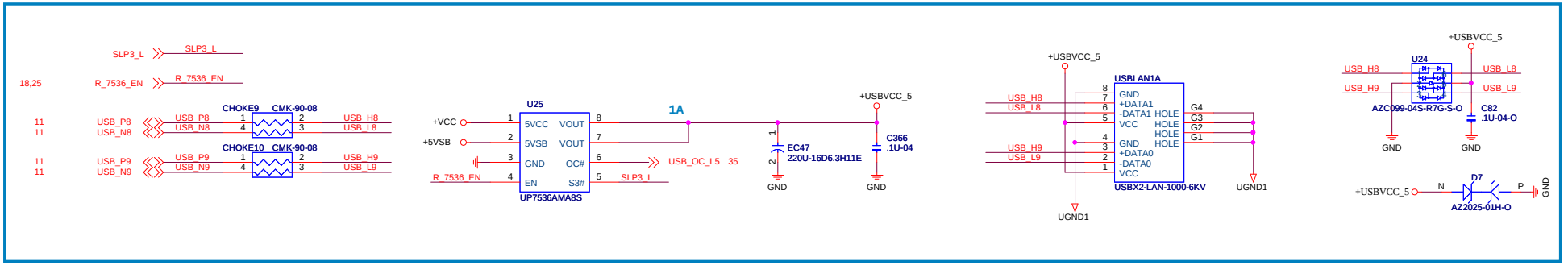
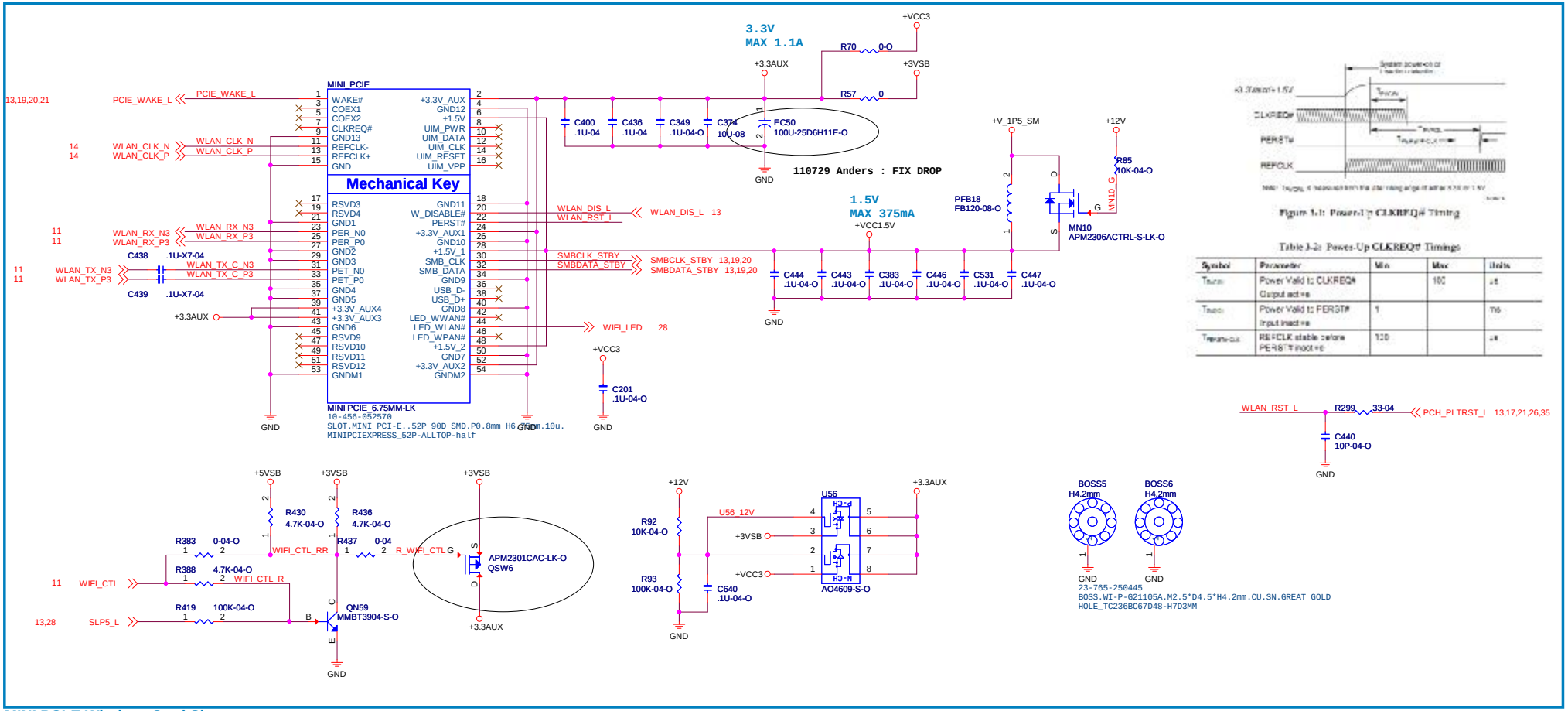
HDMI+USB CONNECTOR



MINI PCI-E Wireless Card Slot



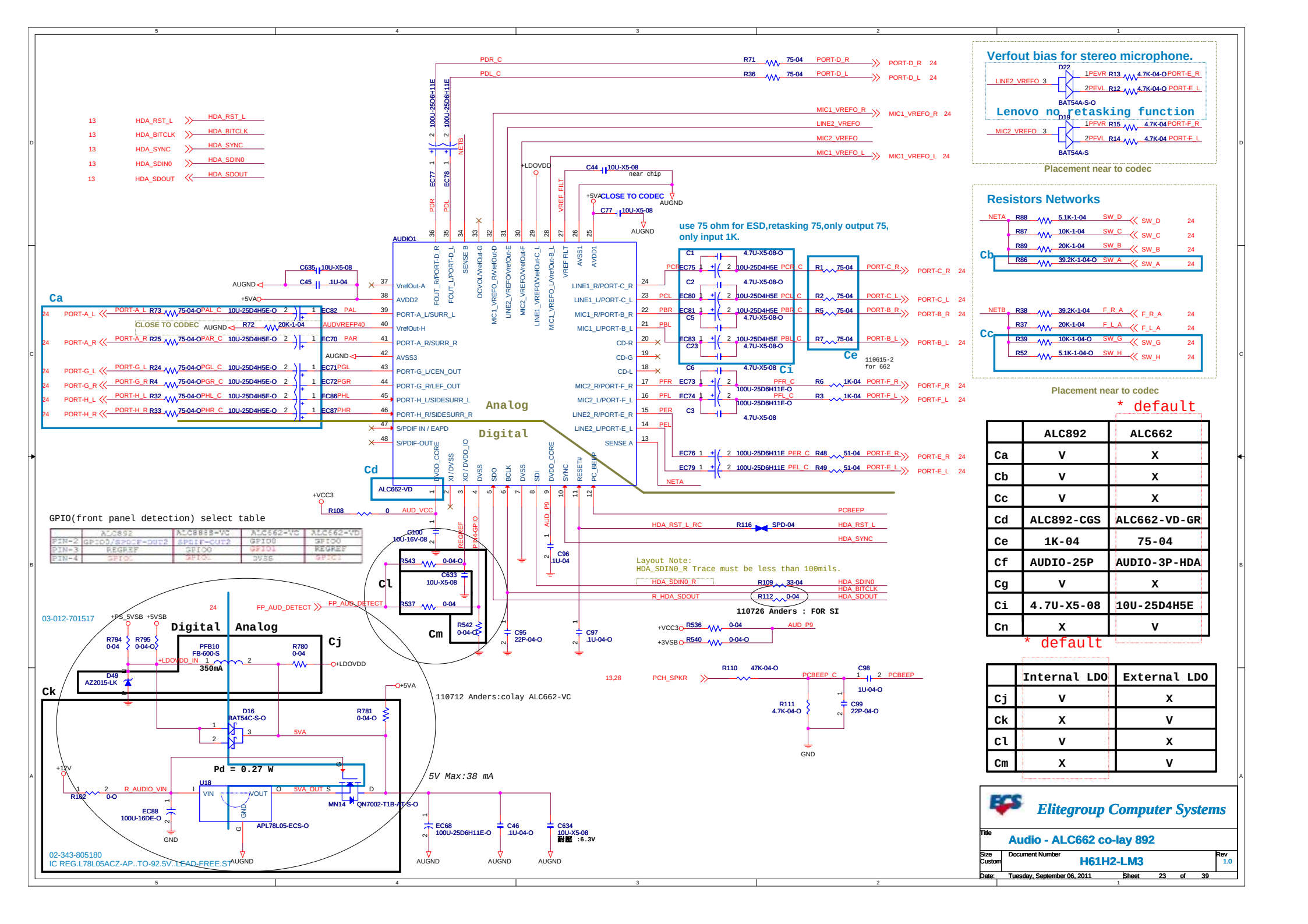
Symbol	Parameter	Min	Max	Units
T_{pvrs}	Power Valid to CLKREQ# Output active		100	µs
T_{pvcr}	Power Valid to PERST# Input inactive	1		ms
T_{rfrc}	REFCLK stable before PERST# inactive	100		µs

<OrgAddr1>
Elitegroup Computer Systems

Title: LAN & USB Connector

Size: Custom | Document Number: H61H2-LM3 | Rev: 1.0

Date: Tuesday, September 06, 2011 | Sheet 22 of 39



* default

	ALC892	ALC662
Ca	V	X
Cb	V	X
Cc	V	X
Cd	ALC892-CGS	ALC662-VD-GR
Ce	1K-04	75-04
Cf	AUDIO-25P	AUDIO-3P-HDA
Cg	V	X
Ci	4.7U-X5-08	10U-25D4H5E
Cn	X	V

* default

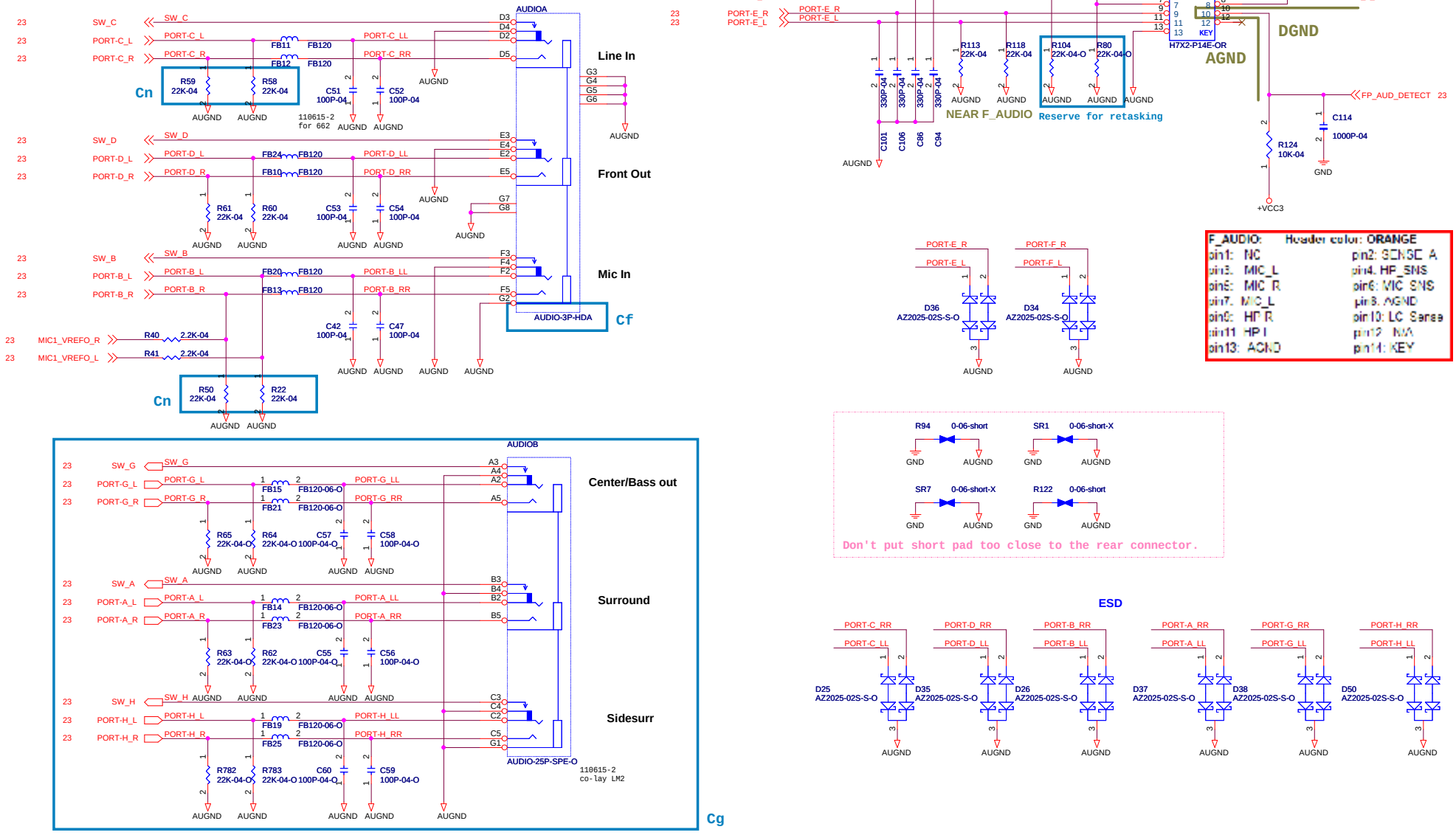
	Internal LDO	External LDO
Cj	V	X
Ck	X	V
Cl	V	X
Cm	X	V

Elitegroup Computer Systems

Title: Audio - ALC662 co-lay 892

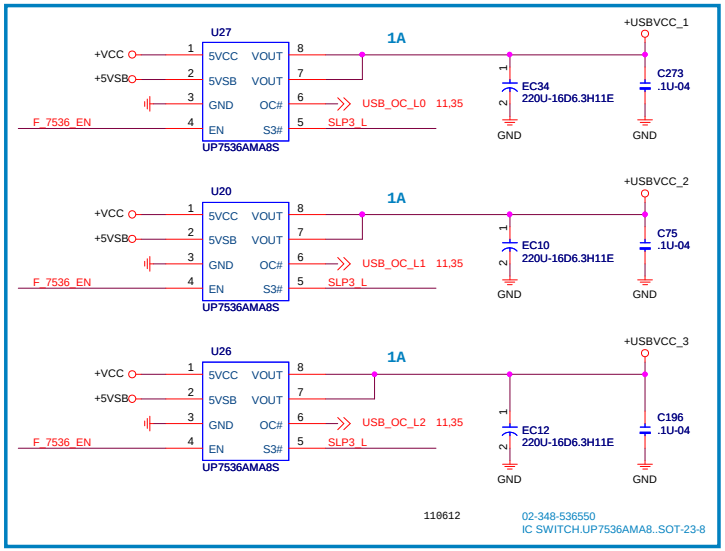
Size: Custom | Document Number: H61H2-LM3 | Rev: 1.0

Date: Tuesday, September 06, 2011 | Sheet 23 of 39

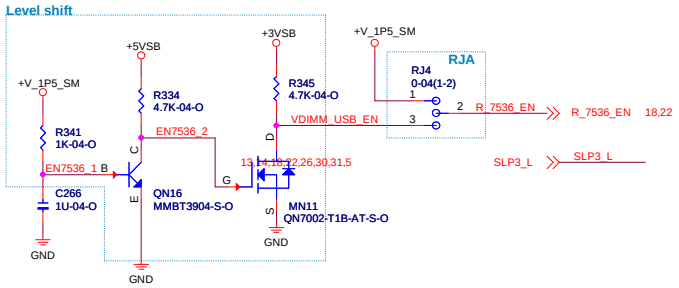


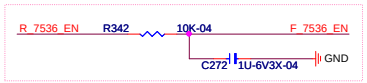
Elitegroup Computer Systems

Title	Audio - CONN/HDR	
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
Date: Tuesday, September 06, 2011	Sheet 24 of 39	

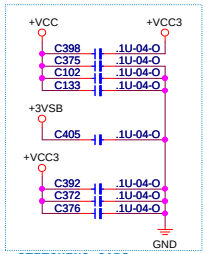


USB2.0 POWER CIRCUIT

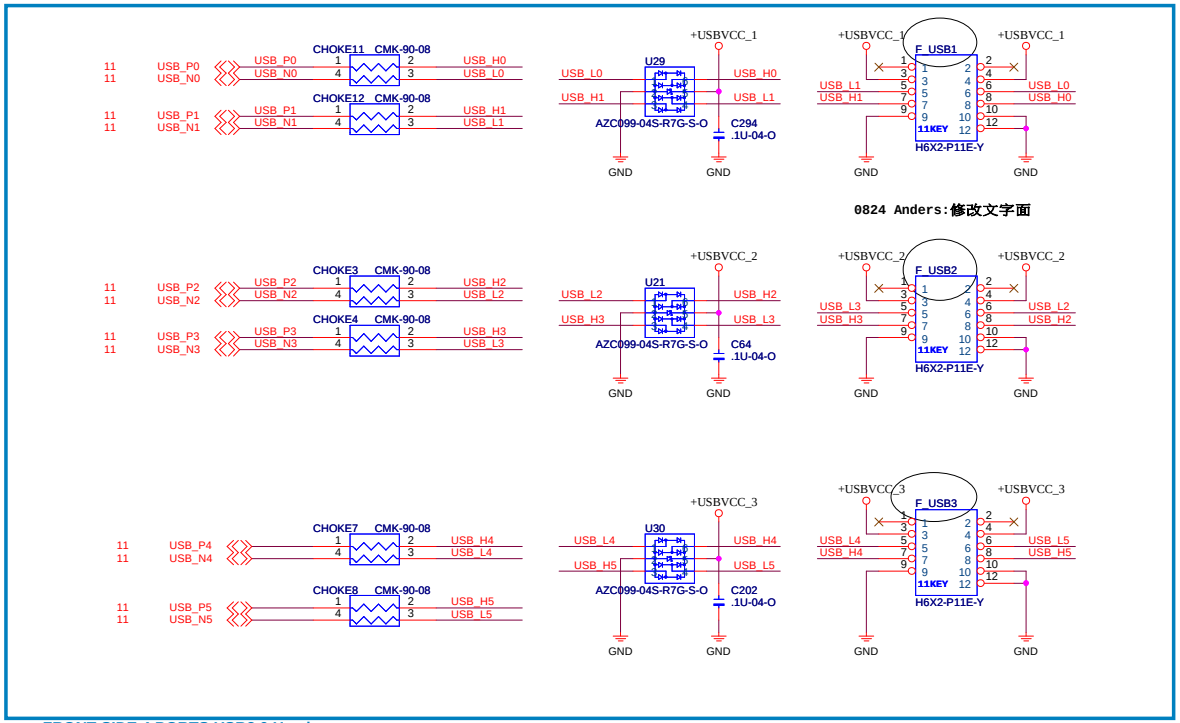




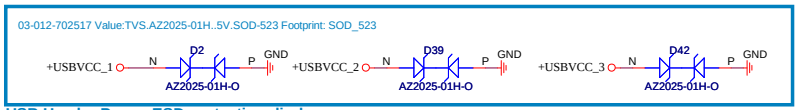
uP7536 Enable use	Level shift	RJA	RJB	S4/S5 USB_5V_DUAL	Customer
* VDIMM	N A	0ohm (1-2)	N A	0 Volt	Lenovo S4/S5 w/o USB_5V_DUAL
VDIMM level shift (3.3V)	Stuff	0ohm (2-3)	N A	0 Volt	



STITCHING CAPS.



FRONT SIDE 4 PORTS USB2.0 Header



USB Header Power ESD protection diode.

Elitegroup Computer Systems

Title: USB2.0 - header

Size: Custom | Document Number: H61H2-LM3 | Rev: 1.0

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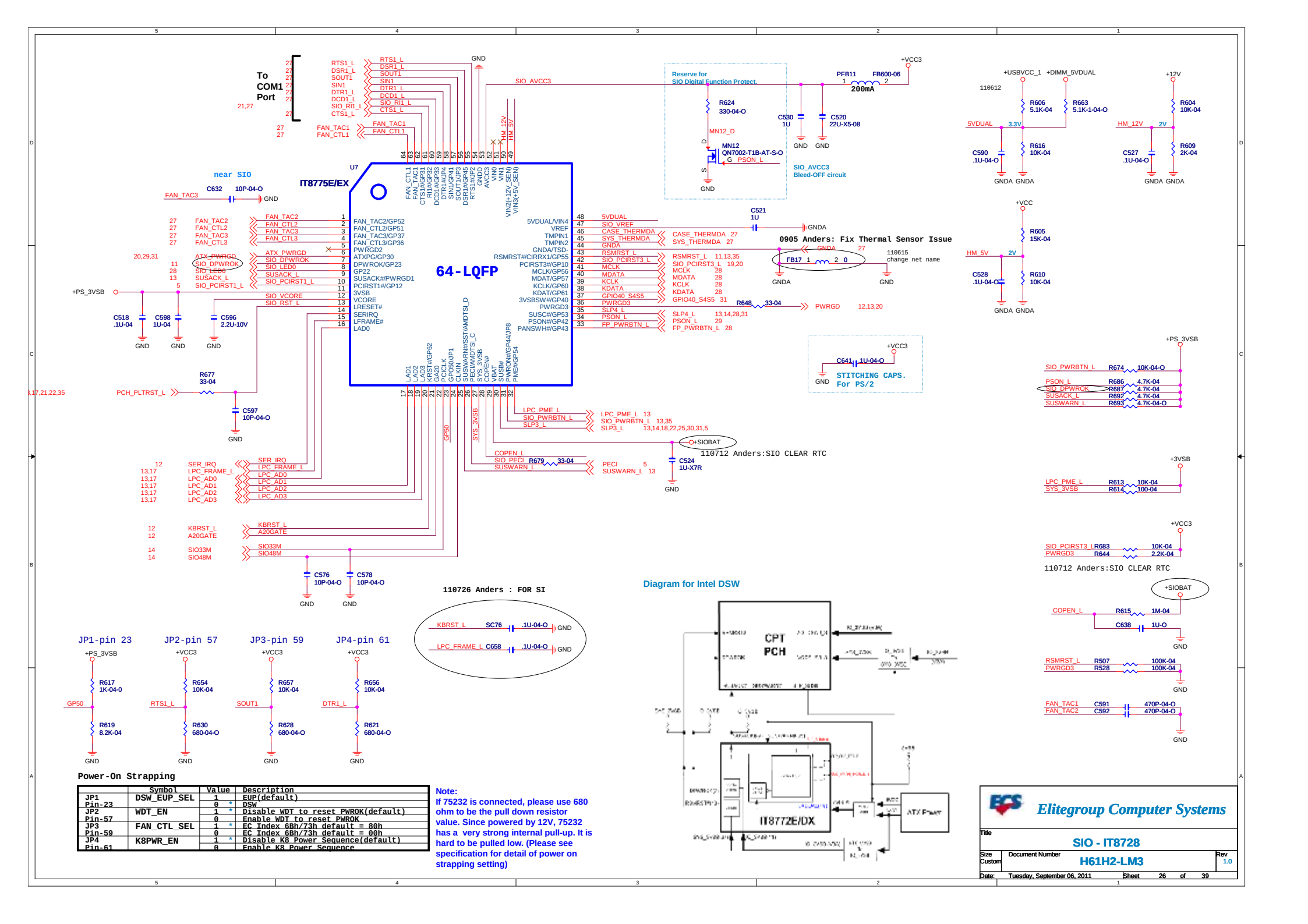
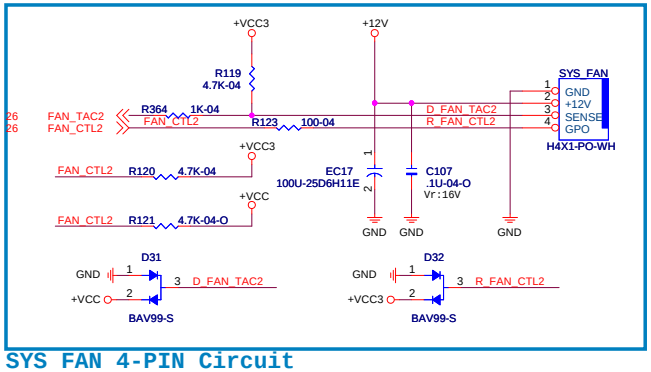
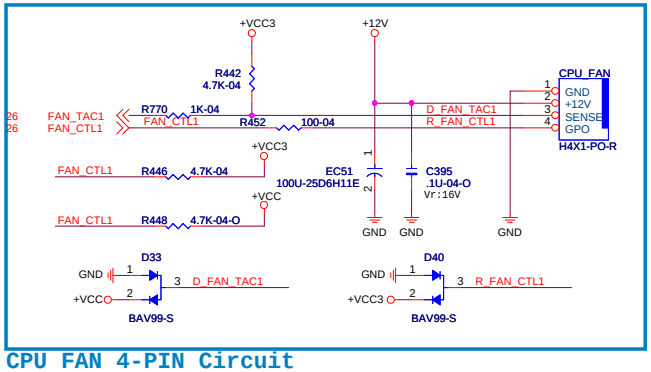


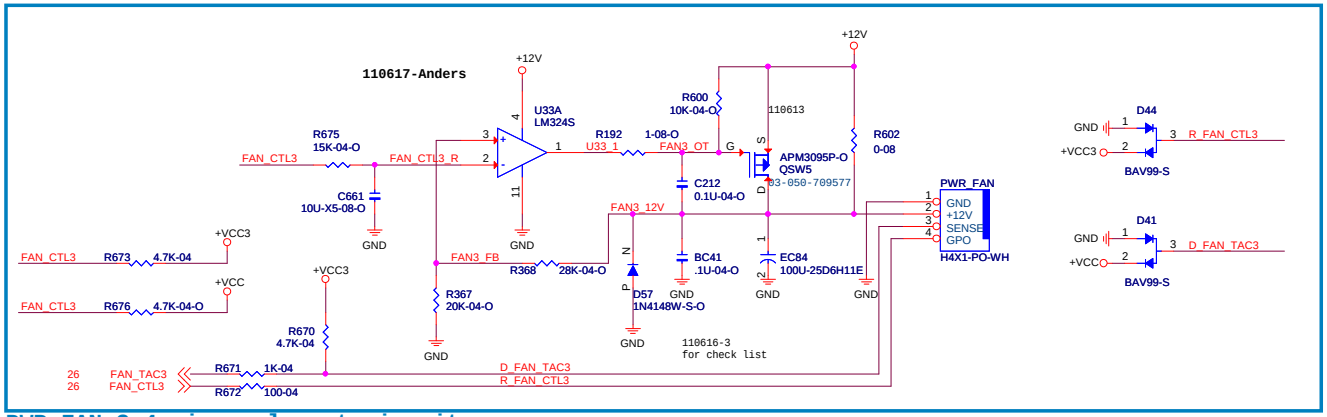
	Symbol	Value		Description
JP1 Pin-23	DSW_EUP_SEL	1		EUP(default)
		0	*	DSW
JP2 Pin-57	WDT_EN	1	*	Disable WDT to reset PWROK(default)
		0		Enable WDT to reset PWROK
JP3 Pin-59	FAN_CTL_SEL	1	*	EC Index 6Bh/73h default = 80h
		0		EC Index 6Bh/73h default = 00h
JP4 Pin-61	K8PWR_EN	1	*	Disable K8 Power Sequence(default)
		0		Enable K8 Power Sequence



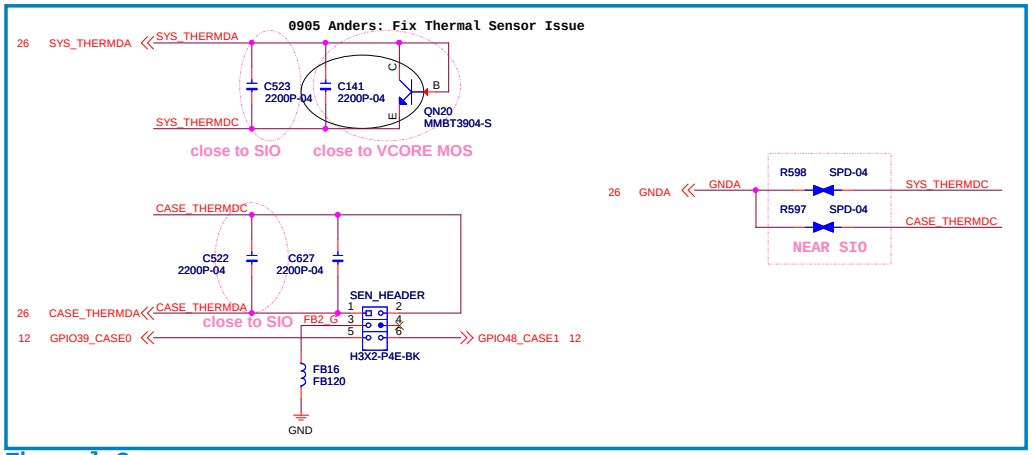
SYS FAN 4-PIN Circuit



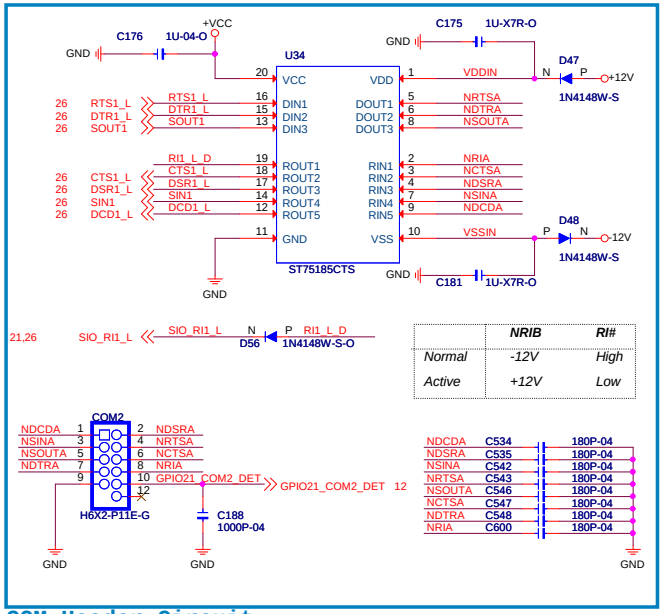
CPU FAN 4-PIN Circuit



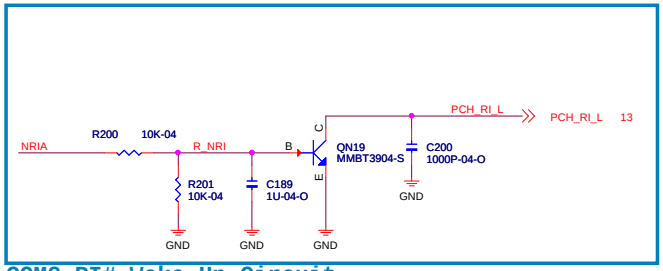
PWR FAN 3,4 pin co-layout circuit



Thermal Sense



COM Header Circuit



COM2 RI# Wake Up Circuit

Elitegroup Computer Systems

Title	FAN, COM, CASE_OPEN, THERM	
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
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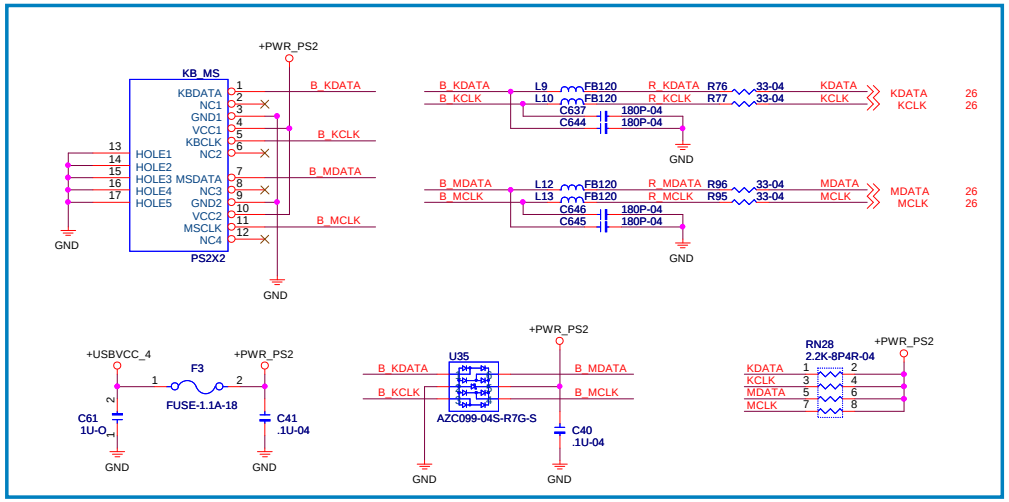
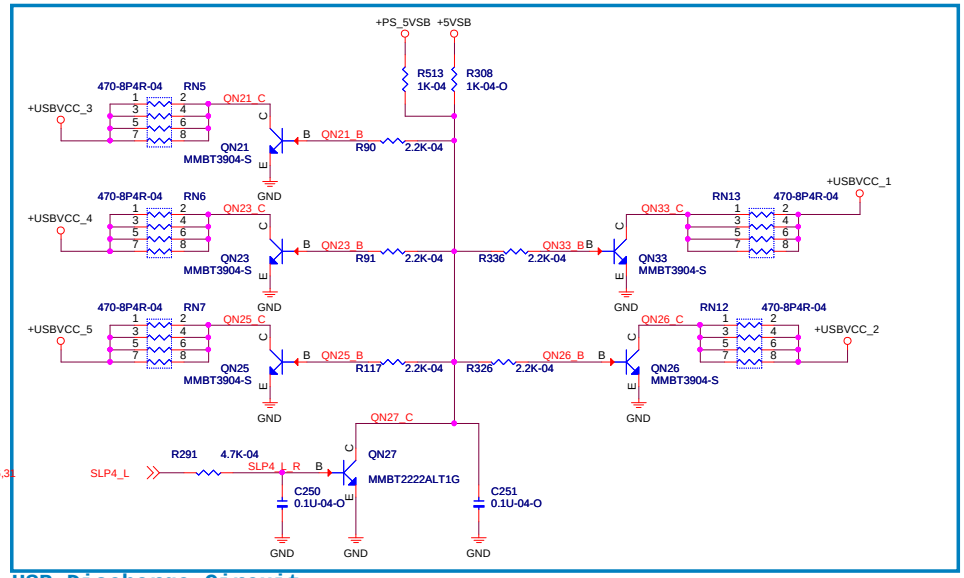
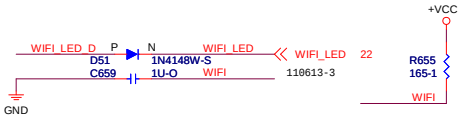
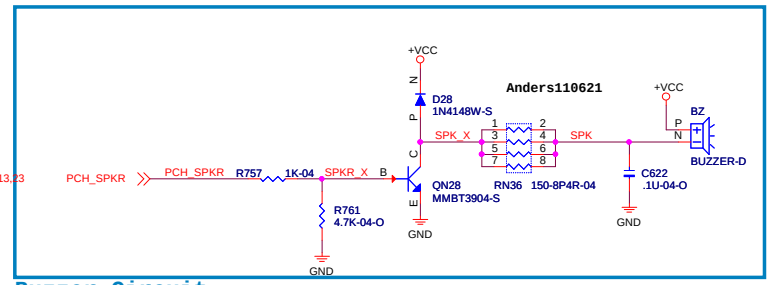


PS/2 Connector

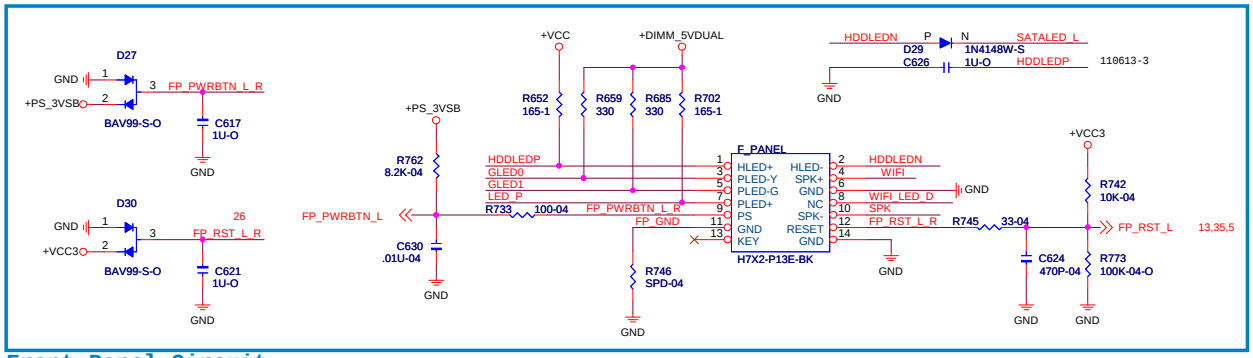


USB Discharge Circuit



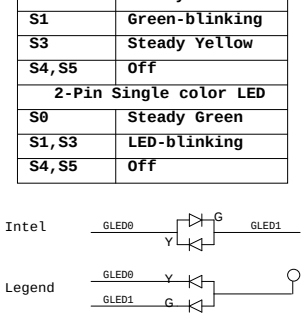


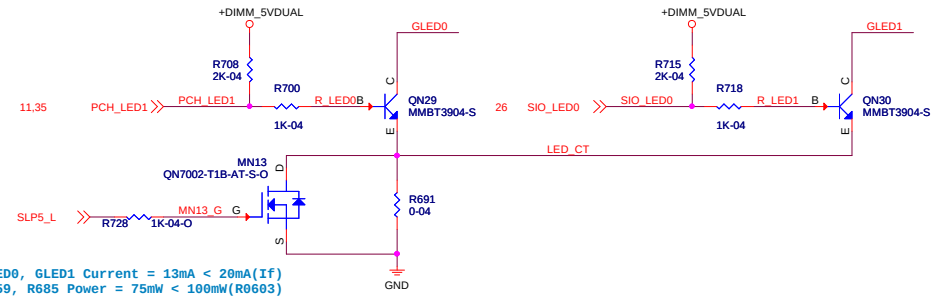
Buzzer Circuit



Front Panel Circuit

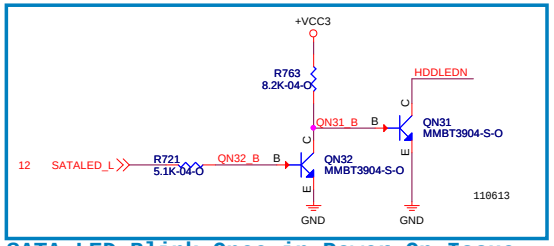
3-Pin Dual color LED	
S0	Steady Green
S1	Green-blinking
S3	Steady Yellow
S4,S5	Off
2-Pin Single color LED	
S0	Steady Green
S1,S3	LED-blinking
S4,S5	Off





GLED0, GLED1 Current = 13mA < 20mA(If)
R659, R685 Power = 75mW < 100mW(R0603)

Front LED



SATA LED Blink Once in Power On Issue

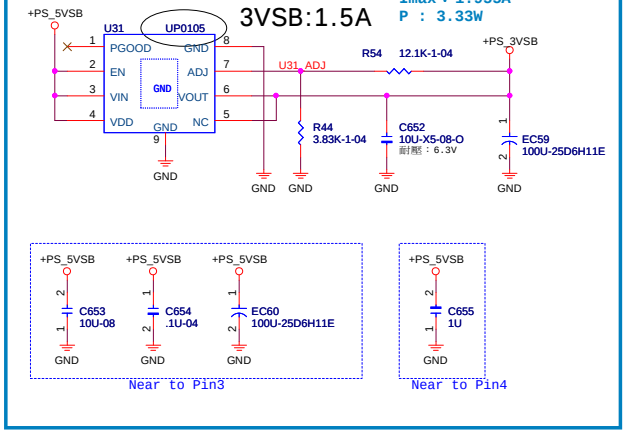
Elitegroup Computer Systems

Title	F_PANEL, BUZ, PS2, USB Discharge	
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
Date: Tuesday, September 06, 2011	Sheet 28 of 39	

110726 Anders : DEL RT9025 NO SOFT START

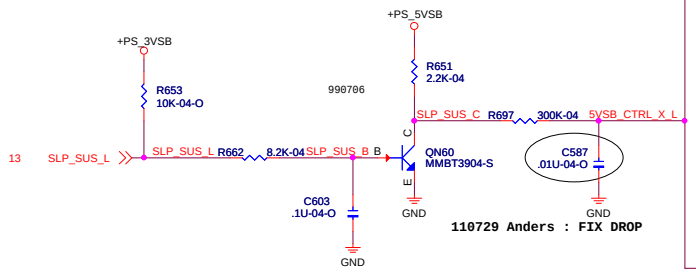
Vout : 3.3V
Imax : 1.955A
P : 3.33W

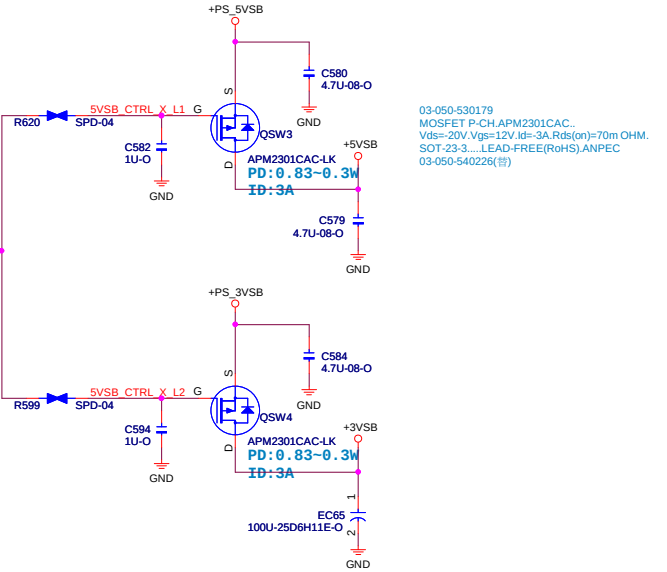
3VSB:1.5A



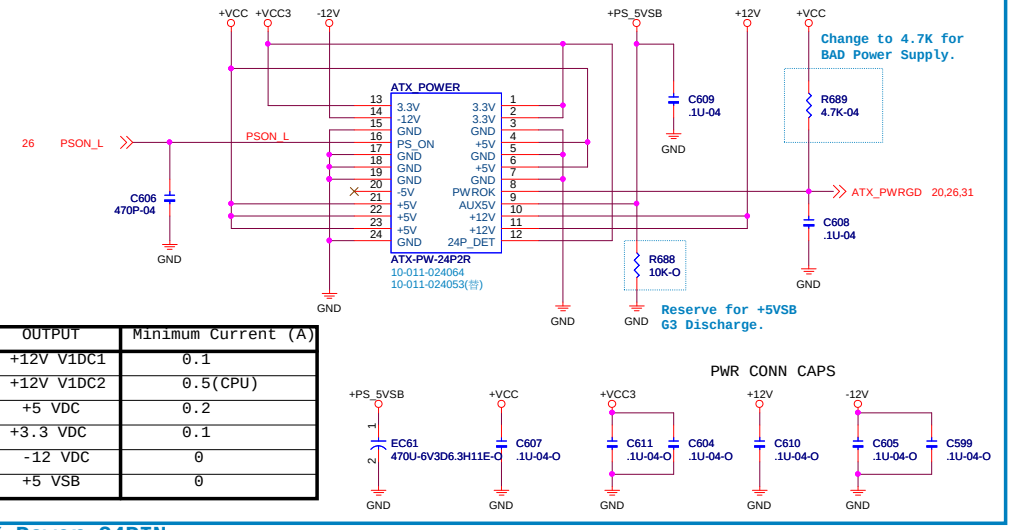
3VSB (S0):

Power Name	Current
PCH	109mA
LAN RTL8111E-VL	165mA
SIO IT8772EX	6mA
EPW Non-AMT	0mA
SPI Non-AMT	0mA
PCI-E 4 Slots	0.375 X 4 = 1.5A
MINI PCI-E 1 Slots	1.1A
Total Current	0.28 + 2.6 = 2.88A





03-050-530179
MOSFET P-CH,APM2301CAC..
Vds=-20V,Vgs=12V,Id=-3A,Rds(on)=70m OHM.
SOT-23-3....LEAD-FREE(RoHS),ANPEC
03-050-540226(暫)



OUTPUT	Minimum Current (A)
+12V V1DC1	0.1
+12V V1DC2	0.5(CPU)
+5 VDC	0.2
+3.3 VDC	0.1
-12 VDC	0
+5 VSB	0

EuP Lot6 2013 0.5W:

PWR STATE	+5VSB Source
S0	+PS_5VSB
S3	+PS_5VSB
S4	OFF
S5	OFF

Layout Note:
Close to ATX 24P2R Connector.

ATX Power 24PIN

Elitegroup Computer Systems

Title: DC/DC 3VDUAL

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Default Stuffed:

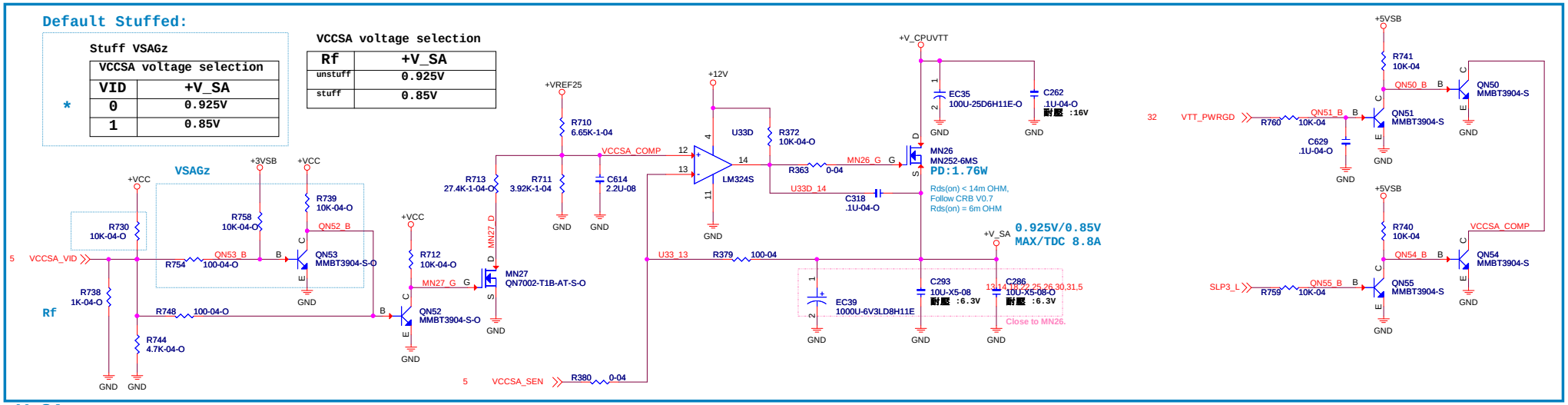
Stuff VSAGz

VCCSA voltage selection	
VID	+V_SA
0	0.925V
1	0.85V

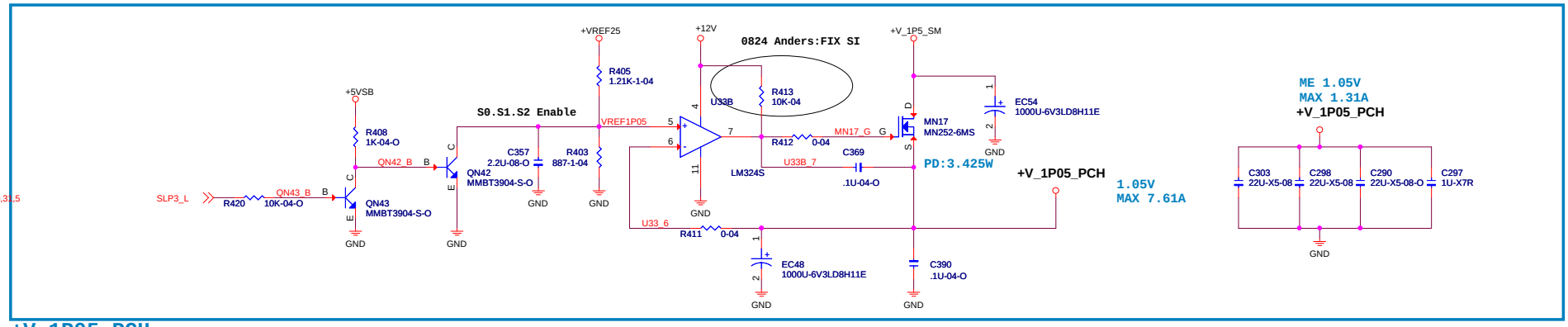
*

VCCSA voltage selection

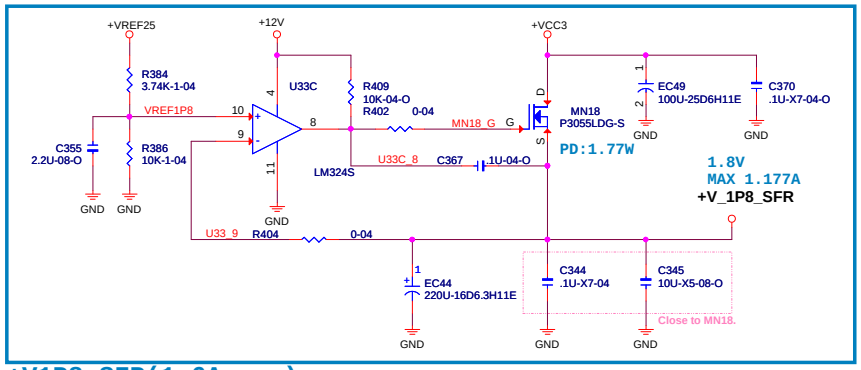
Rf	+V_SA
unstuff	0.925V
stuff	0.85V



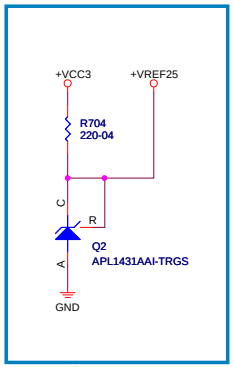
+V_SA



+V_1P05_PCH



+V1P8_SFR(1.6A max)



VREF25

02-348-431705
Value:IC REG.APL1431AAI-TRL..SOT-23..2.5V
Footprint: SOT23_RAC_Z_2

Elitegroup Computer Systems

Title	DC/DC VCCSA, ATXPWR	
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
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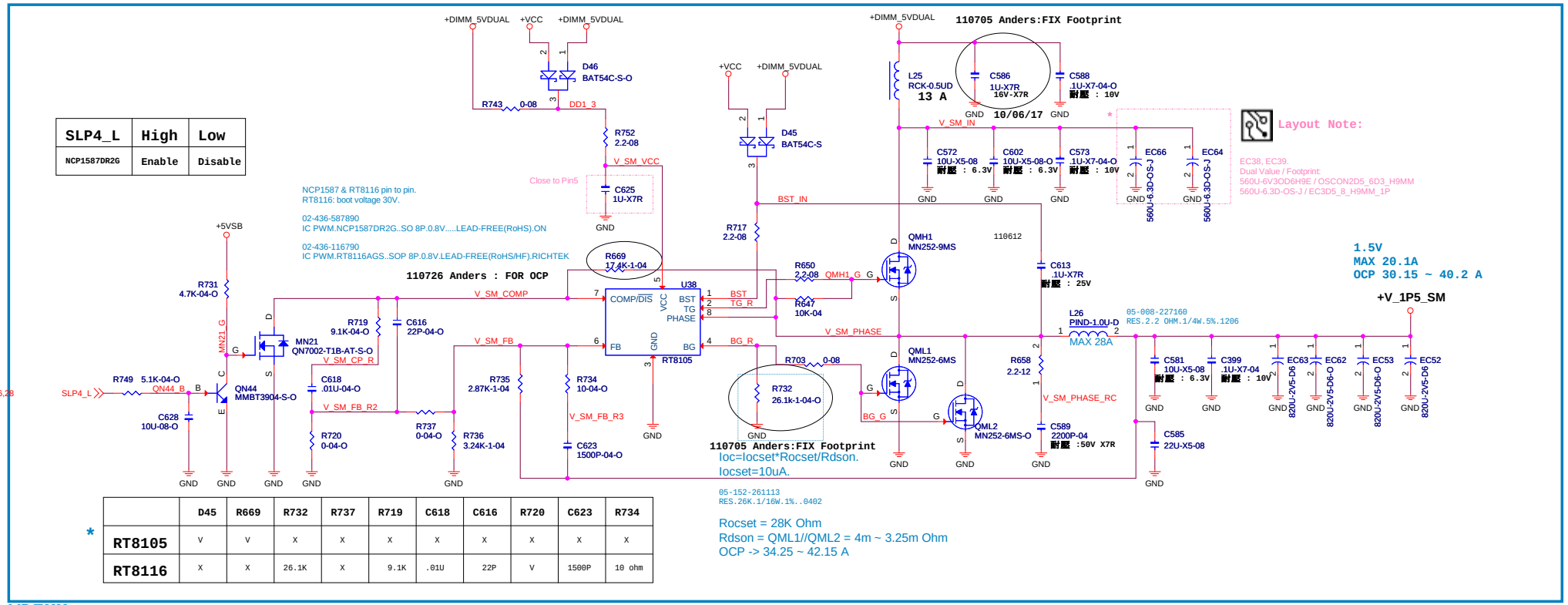
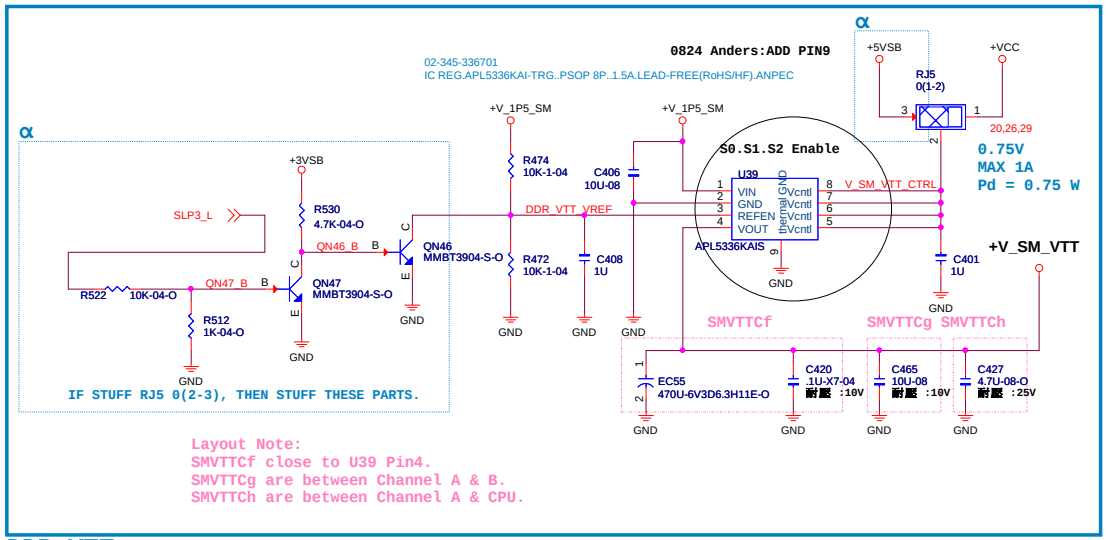
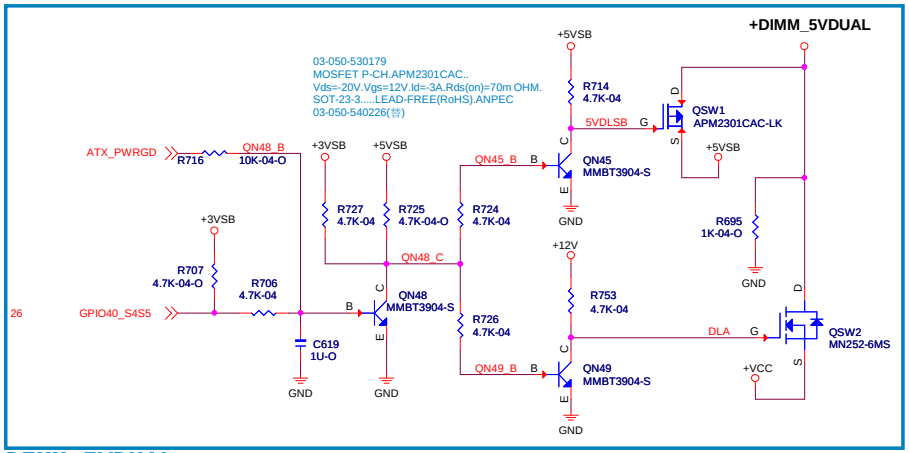


VDIMM



DDR_VTT



DIMM_5VDUAL

Elitegroup Computer Systems

Title	DC/DC VDIMM/DDR_VTT/5VDUAL		
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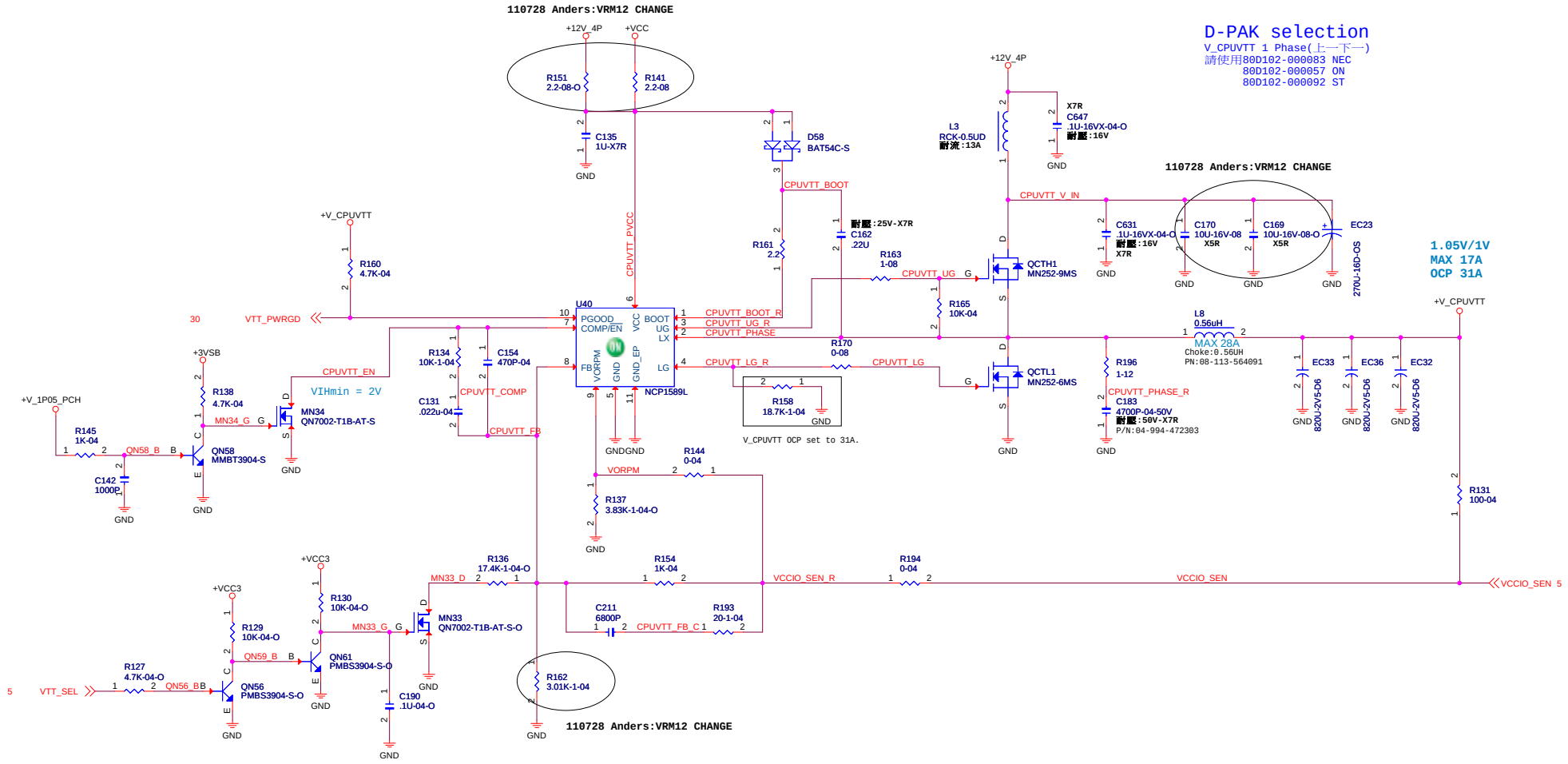
Date: Tuesday, September 06, 2011	Sheet 31 of 39		



VCCIO voltage selection	
VTT_SEL	V_CPUVTT
low	1V
high	1.05V

Elitegroup Computer Systems

Title	DC/DC V_CPUVTT	
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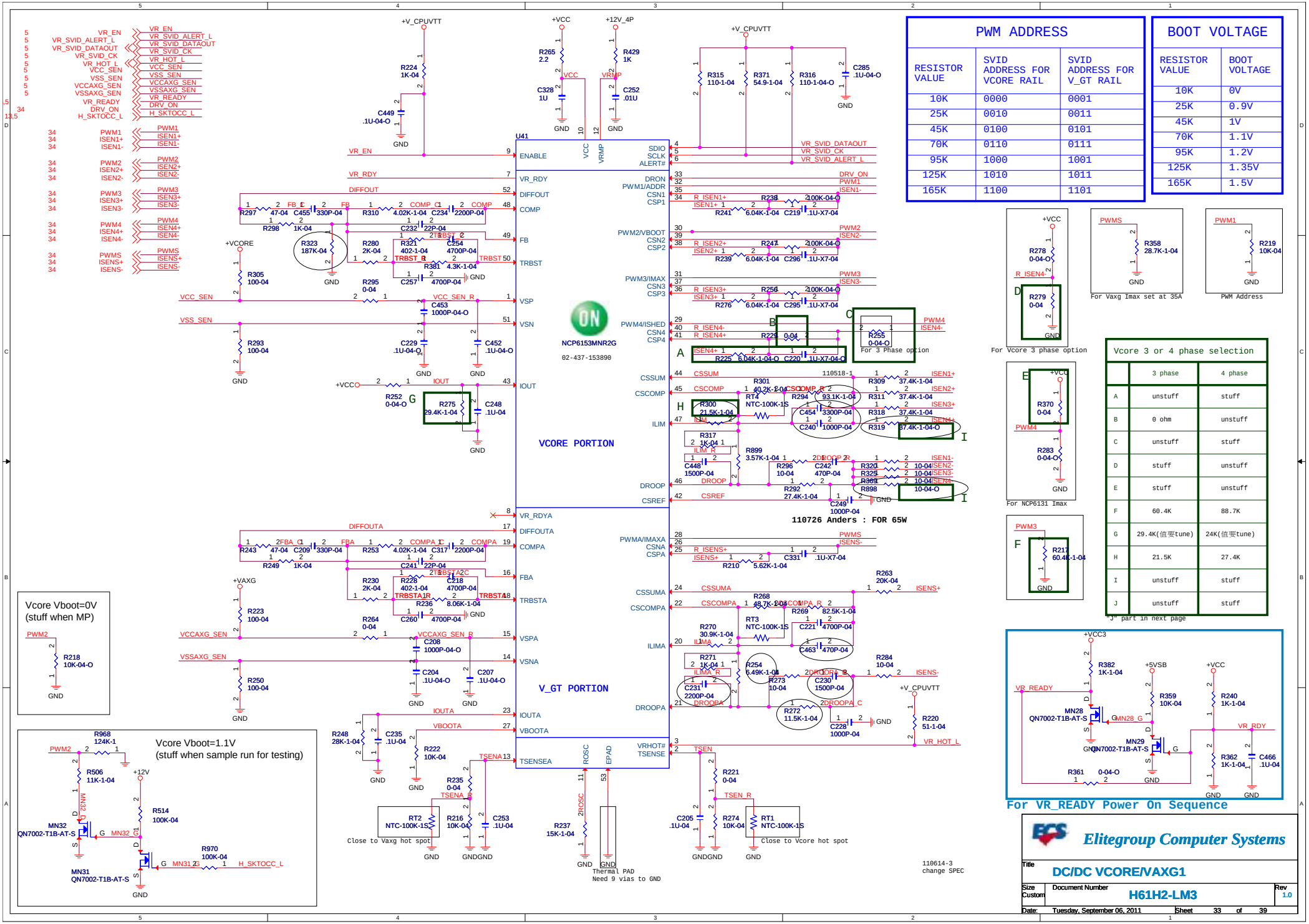

PWM ADDRESS		
RESISTOR VALUE	SVID ADDRESS FOR VCORE RAIL	SVID ADDRESS FOR V_GT RAIL
10K	0000	0001
25K	0010	0011
45K	0100	0101
70K	0110	0111
95K	1000	1001
125K	1010	1011
165K	1100	1101

BOOT VOLTAGE	
RESISTOR VALUE	BOOT VOLTAGE
10K	0V
25K	0.9V
45K	1V
70K	1.1V
95K	1.2V
125K	1.35V
165K	1.5V

Vcore 3 or 4 phase selection

	3 phase	4 phase
A	unstuff	stuff
B	0 ohm	unstuff
C	unstuff	stuff
D	stuff	unstuff
E	stuff	unstuff
F	60.4K	88.7K
G	29.4K(值要tune)	24K(值要tune)
H	21.5K	27.4K
I	unstuff	stuff
J	unstuff	stuff

*J" part in next page

For Vcore 3 phase option

For Vaxg Imax set at 35A

PWM Address

For NCP6131 Imax

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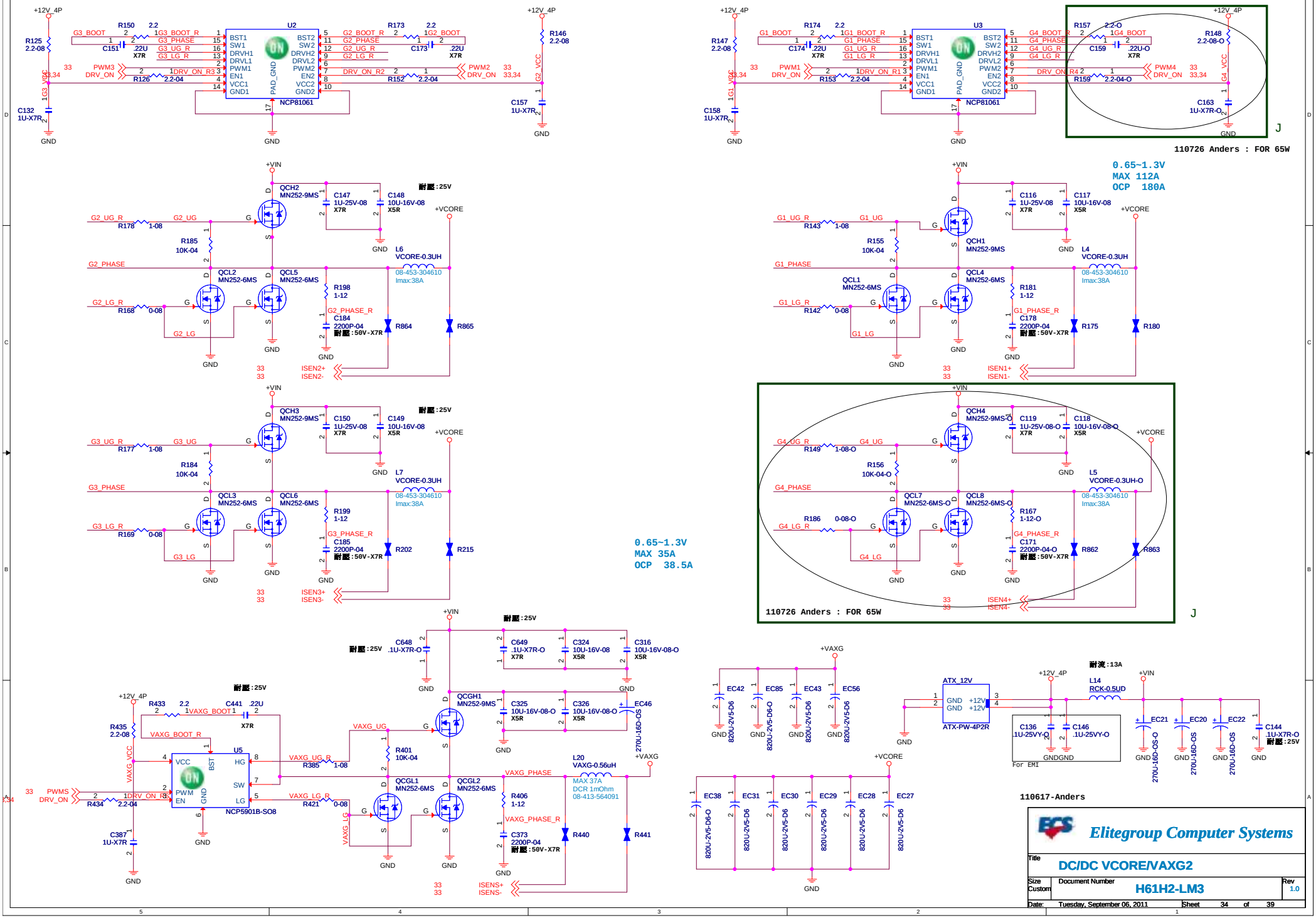
U2
NCP81061
U3
NCP81061
U5
NCP5901B-SO8
110726 Anders : FOR 65W
110726 Anders : FOR 65W
0.65~1.3V
MAX 112A
OCP 180A
0.65~1.3V
MAX 35A
OCP 38.5A
110617-Anders
Elitegroup Computer Systems
DC/DC VCORE/VAXG2
H61H2-LM3
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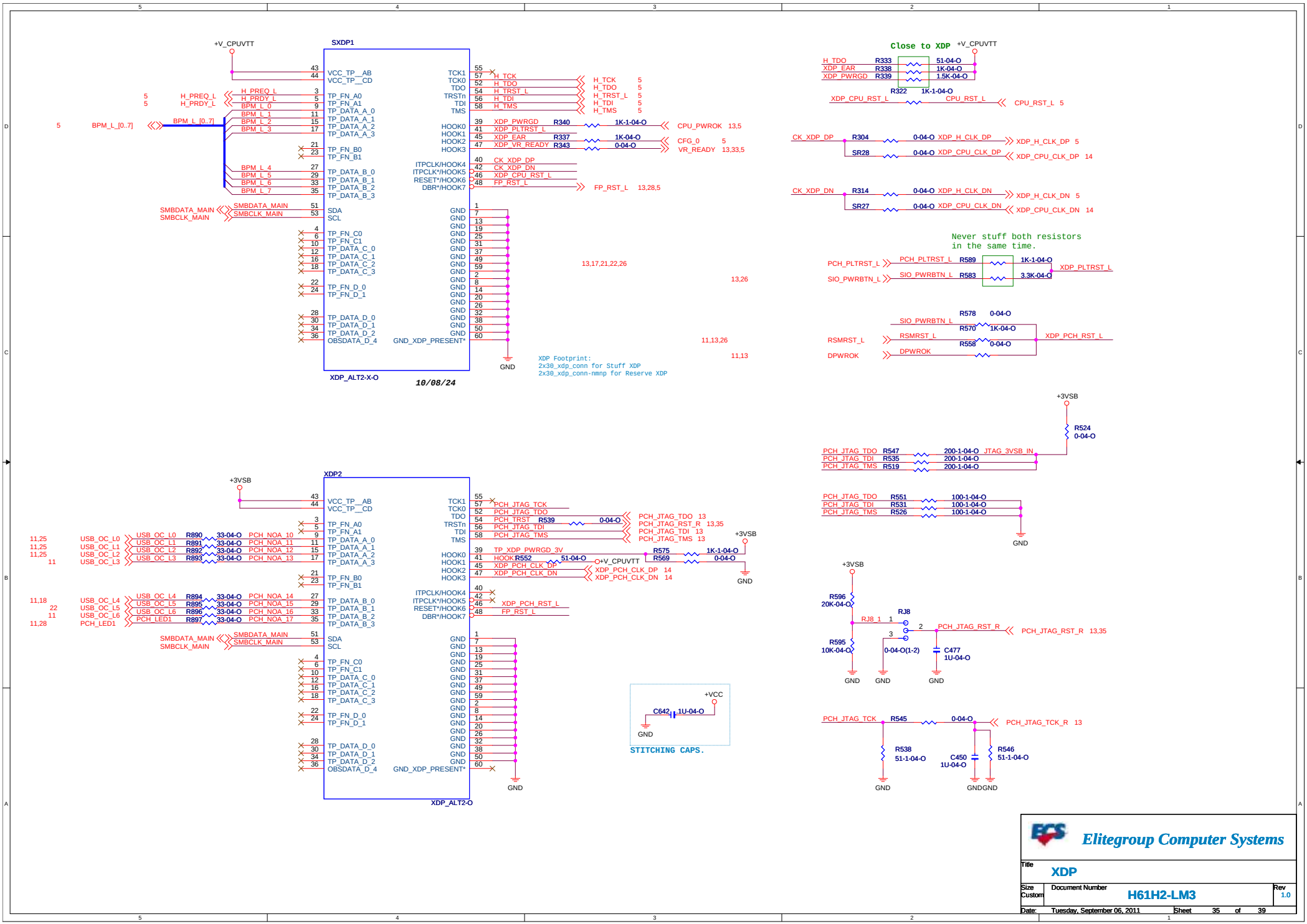
SXDP1
+V_CPUVTT
VCC_TP__AB
VCC_TP__CD
H_PREQ_L
H_PRDY_L
BPM_L_0
BPM_L_1
BPM_L_2
BPM_L_3
BPM_L_4
BPM_L_5
BPM_L_6
BPM_L_7
BPM_L_[0..7]
TP_FN_A0
TP_FN_A1
TP_DATA_A_0
TP_DATA_A_1
TP_DATA_A_2
TP_DATA_A_3
TP_FN_B0
TP_FN_B1
TP_DATA_B_0
TP_DATA_B_1
TP_DATA_B_2
TP_DATA_B_3
SMBDATA_MAIN
SMBCLK_MAIN
SDA
SCL
TP_FN_C0
TP_FN_C1
TP_DATA_C_0
TP_DATA_C_1
TP_DATA_C_2
TP_DATA_C_3
TP_FN_D_0
TP_FN_D_1
TP_DATA_D_0
TP_DATA_D_1
TP_DATA_D_2
OBSDATA_D_4
TCK1
TCK0
TDO
TRSTn
TDI
TMS
HOOK0
HOOK1
HOOK2
HOOK3
ITPCLK/HOOK4
ITPCLK*/HOOK5
RESET*/HOOK6
DBR*/HOOK7
GND_XDP_PRESENT*
H_TCK
H_TDO
H_TRST_L
H_TDI
H_TMS
XDP_PWRGD
XDP_PLTRST_L
XDP_EAR
XDP_VR_READY
CK_XDP_DP
CK_XDP_DN
XDP_CPU_RST_L
FP_RST_L
R340
R337
R343
1K-1-04-O
0-04-O
CPU_PWROK 13,5
CFG_0 5
VR_READY 13,33,5
FP_RST_L 13,28,5
13,17,21,22,26
13,26
11,13,26
11,13
GND
XDP_ALT2-X-O
10/08/24
XDP Footprint:
2x30_xdp_conn for Stuff XDP
2x30_xdp_conn-nmnp for Reserve XDP
Close to XDP
+V_CPUVTT
H_TDO R333 51-04-O
XDP_EAR R338 1K-04-O
XDP_PWRGD R339 1.5K-04-O
R322 1K-1-04-O
XDP_CPU_RST_L
CPU_RST_L
CPU_RST_L 5
CK_XDP_DP R304 0-04-O XDP_H_CLK_DP
SR28 0-04-O XDP_CPU_CLK_DP
XDP_H_CLK_DP 5
XDP_CPU_CLK_DP 14
CK_XDP_DN R314 0-04-O XDP_H_CLK_DN
SR27 0-04-O XDP_CPU_CLK_DN
XDP_H_CLK_DN 5
XDP_CPU_CLK_DN 14
Never stuff both resistors
in the same time.
PCH_PLTRST_L R589 1K-1-04-O XDP_PLTRST_L
SIO_PWRBTN_L R583 3.3K-04-O
R578 0-04-O
SIO_PWRBTN_L
R570 1K-04-O
RSMRST_L
R558 0-04-O
XDP_PCH_RST_L
DPWROK
XDP2
+3VSB
USB_OC_L0 R890 33-04-O PCH_NOA_10
USB_OC_L1 R891 33-04-O PCH_NOA_11
USB_OC_L2 R892 33-04-O PCH_NOA_12
USB_OC_L3 R893 33-04-O PCH_NOA_13
USB_OC_L4 R894 33-04-O PCH_NOA_14
USB_OC_L5 R895 33-04-O PCH_NOA_15
USB_OC_L6 R896 33-04-O PCH_NOA_16
PCH_LED1 R897 33-04-O PCH_NOA_17
11,25
11,18
22
11
11,28
PCH_JTAG_TCK
PCH_JTAG_TDO
PCH_TRST R539 0-04-O
PCH_JTAG_TMS
TP_XDP_PWRGD_3V
HOOK R552 51-04-O +V_CPUVTT
XDP_PCH_CLK_DP
XDP_PCH_CLK_DN
R575 1K-1-04-O
R569 0-04-O
PCH_JTAG_TDO 13
PCH_JTAG_RST_R 13,35
PCH_JTAG_TDI 13
PCH_JTAG_TMS 13
XDP_PCH_CLK_DP 14
XDP_PCH_CLK_DN 14
XDP_PCH_RST_L
FP_RST_L
XDP_ALT2-O
+VCC
C642 1U-04-O
STITCHING CAPS.
R524 0-04-O
PCH_JTAG_TDO R547 200-1-04-O JTAG_3VSB_IN
PCH_JTAG_TDI R535 200-1-04-O
PCH_JTAG_TMS R519 200-1-04-O
PCH_JTAG_TDO R551 100-1-04-O
PCH_JTAG_TDI R531 100-1-04-O
PCH_JTAG_TMS R526 100-1-04-O
R596 20K-04-O
RJ8
RJ8_1
R595 10K-04-O
0-04-O(1-2)
C477 1U-04-O
PCH_JTAG_RST_R
PCH_JTAG_RST_R 13,35
PCH_JTAG_TCK
R545 0-04-O
PCH_JTAG_TCK_R 13
R538 51-1-04-O
C450 1U-04-O
R546 51-1-04-O
Elitegroup Computer Systems
Title
XDP
Size Custom
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PCH Strap Pin

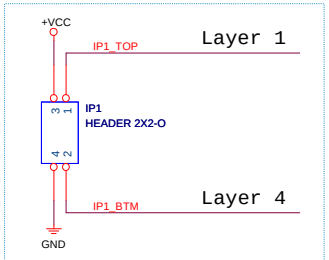
Pin Name	Usage	Default Status
SPKR	No Reboot	20K internal pull-down，No Reboot Mode with TCO Disabled:
INIT3_3V#	Reserved	20K internal pull-up，intend for Firmware Hub.
GNT[3]#/GPIO[55]	Disable Top-Block Swap	20K internal pull-up，“topblock swap” mode Disable
INTVRMEN	Enable Integrated 1.05V VRM	Need External Pull-up，Integrated 1.05V VRM Enable
GNT1# /GPIO51	Boot BIOS Strap bit [1] BBS[1]	20K internal pull-up，The default flash selection is the SPI flash.All
SATA1GP / GPIO19	Boot BIOS Strap bit[0] BBS[0]	20K internal pull-up，The default flash selection is the SPI flash.All
HDA_SDO	Flash Descriptor Security Override/ ME	Internal pull-down. The security measures defined in the Flash Descriptor will be in effect(default)
DF_TVS	Enable DMI termination voltage	This signal has a weak internal pull-down.
GPIO28	Eable On-Die PLL Voltage Regulator	The On-Die PLL voltage regulator is enabled
HDA_SYNC	On-Die PLL Voltage Regulator Voltage Select 1.8V	20K internal pull-down.On Die PLL VR is supplied by 1.5 V when sampled high, 1.8 V when sampled low.
GPIO15	Disable TLS Confidentiality	Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality.

SIO Strap Pin

Power-On Strapping

	Symbol	Value		Description
JP1 Pin-23	DSW_EUP_SEL	1		EUP(default)
		0	*	DSW
JP2 Pin-57	WDT_EN	1	*	Disable WDT to reset PWROK(default)
		0		Enable WDT to reset PWROK
JP3 Pin-59	FAN_CTL_SEL	1	*	EC Index 6Bh/73h default = 80h
		0		EC Index 6Bh/73h default = 00h
JP4 Pin-61	K8PWR_EN	1	*	Disable K8 Power Sequence(default)
		0		Enable K8 Power Sequence

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)



Impedance Test Header

Elitegroup Computer Systems

Title: STRAPPING		
Size: Custom	Document Number: H61H2-LM3	Rev: 1.0
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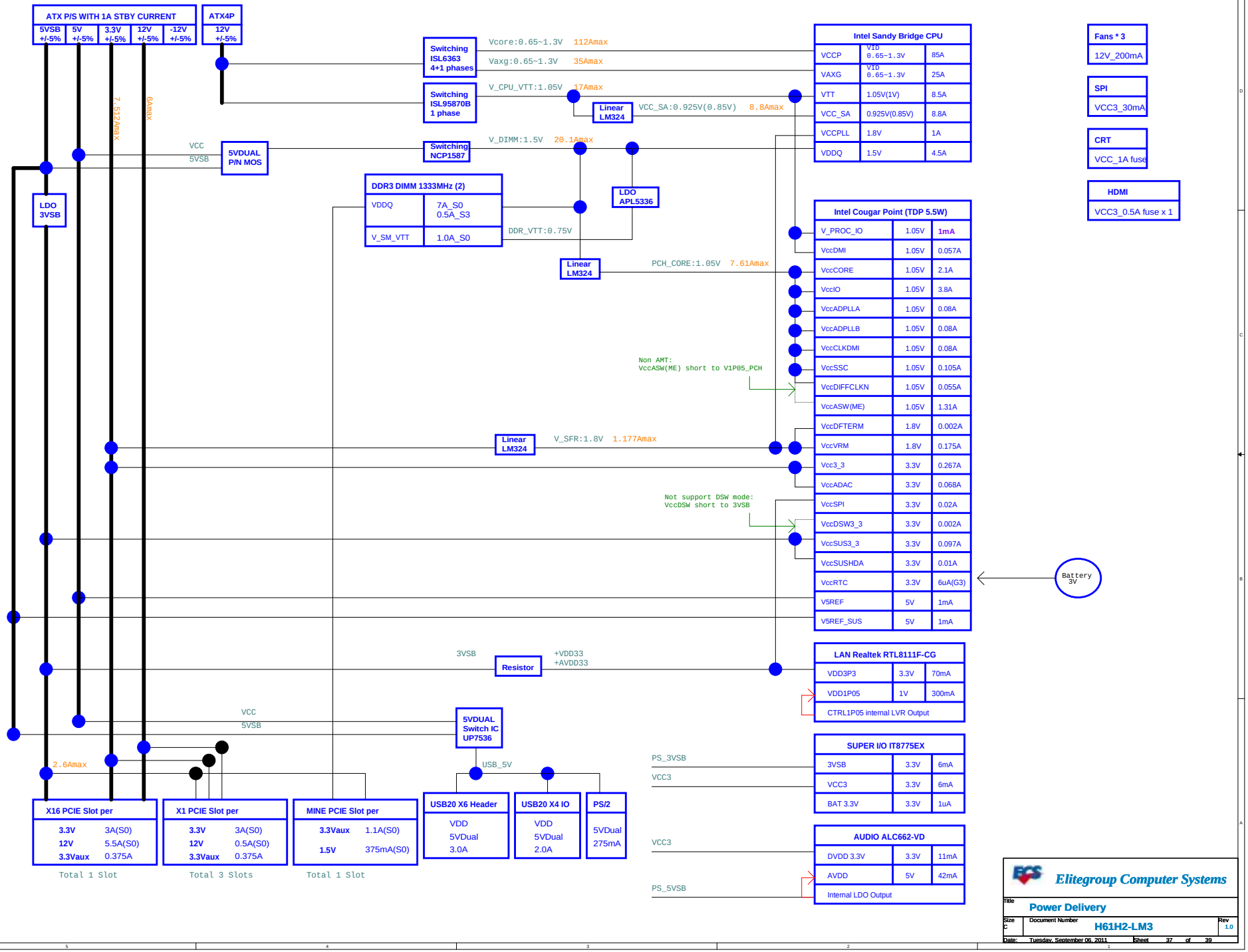
ATX P/S WITH 1A STBY CURRENT
5VSB +/-5%
5V +/-5%
3.3V +/-5%
12V +/-5%
-12V +/-5%
ATX4P
12V +/-5%
7.515Amax
6Amax
Switching ISL6363 4+1 phases
Vcore:0.65~1.3V 112Amax
Vaxg:0.65~1.3V 35Amax
Switching ISL95870B 1 phase
V_CPU_VTT:1.05V 17Amax
Linear LM324
VCC_SA:0.925V(0.85V) 8.8Amax
Intel Sandy Bridge CPU
VCCP VID 0.65~1.3V 85A
VAXG VID 0.65~1.3V 25A
VTT 1.05V(1V) 8.5A
VCC_SA 0.925V(0.85V) 8.8A
VCCPLL 1.8V 1A
VDDQ 1.5V 4.5A
VCC
5VSB
5VDUAL P/N MOS
Switching NCP1587
V_DIMM:1.5V 20.1Amax
LDO APL5336
DDR3 DIMM 1333MHz (2)
VDDQ 7A_S0 0.5A_S3
V_SM_VTT 1.0A_S0
DDR_VTT:0.75V
LDO 3VSB
Linear LM324
PCH_CORE:1.05V 7.61Amax
Intel Cougar Point (TDP 5.5W)
V_PROC_IO 1.05V 1mA
VccDMI 1.05V 0.057A
VccCORE 1.05V 2.1A
VccIO 1.05V 3.8A
VccADPLLA 1.05V 0.08A
VccADPLLB 1.05V 0.08A
VccCLKDMI 1.05V 0.08A
VccSSC 1.05V 0.105A
VccDIFFCLKN 1.05V 0.055A
VccASW(ME) 1.05V 1.31A
VccDFTERM 1.8V 0.002A
VccVRM 1.8V 0.175A
Vcc3_3 3.3V 0.267A
VccADAC 3.3V 0.068A
VccSPI 3.3V 0.02A
VccDSW3_3 3.3V 0.002A
VccSUS3_3 3.3V 0.097A
VccSUSHDA 3.3V 0.01A
VccRTC 3.3V 6uA(G3)
V5REF 5V 1mA
V5REF_SUS 5V 1mA
Non AMT:
VccASW(ME) short to V1P05_PCH
Not support DSW mode:
VccDSW short to 3VSB
Battery 3V
Linear LM324
V_SFR:1.8V 1.177Amax
3VSB
Resistor
+VDD33
+AVDD33
LAN Realtek RTL8111F-CG
VDD3P3 3.3V 70mA
VDD1P05 1V 300mA
CTRL1P05 internal LVR Output
VCC
5VSB
5VDUAL Switch IC UP7536
USB_5V
2.6Amax
SUPER I/O IT8775EX
PS_3VSB
3VSB 3.3V 6mA
VCC3
VCC3 3.3V 6mA
BAT 3.3V 3.3V 1uA
AUDIO ALC662-VD
VCC3
DVDD 3.3V 3.3V 11mA
PS_5VSB
AVDD 5V 42mA
Internal LDO Output
X16 PCIE Slot per
3.3V 3A(S0)
12V 5.5A(S0)
3.3Vaux 0.375A
Total 1 Slot
X1 PCIE Slot per
3.3V 3A(S0)
12V 0.5A(S0)
3.3Vaux 0.375A
Total 3 Slots
MINE PCIE Slot per
3.3Vaux 1.1A(S0)
1.5V 375mA(S0)
Total 1 Slot
USB20 X6 Header
VDD 5VDual 3.0A
USB20 X4 IO
VDD 5VDual 2.0A
PS/2
5VDual 275mA
Fans * 3
12V_200mA
SPI
VCC3_30mA
CRT
VCC_1A fuse
HDMI
VCC3_0.5A fuse x 1
Elitegroup Computer Systems
Title
Power Delivery
Size C
Document Number
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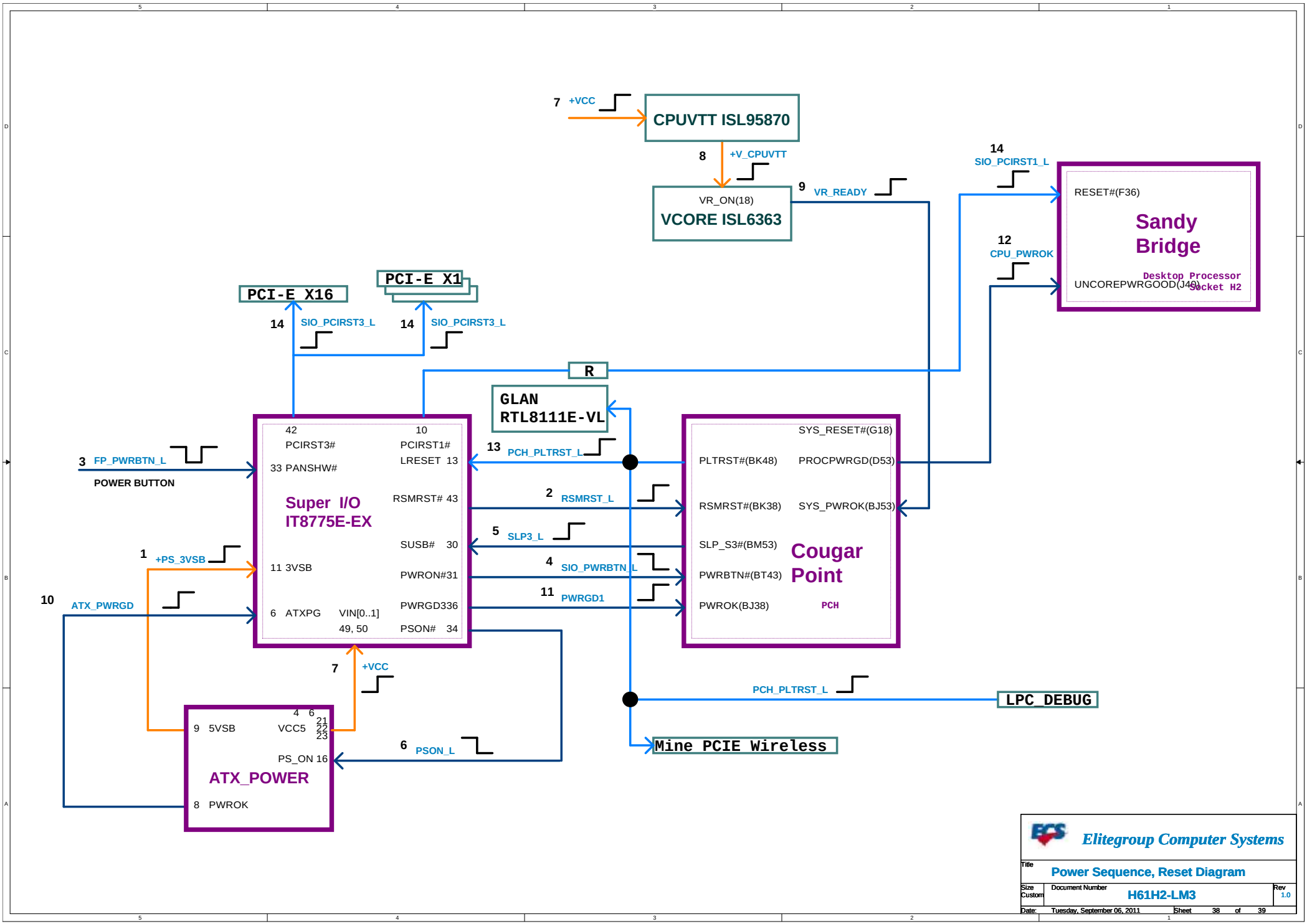

Elitegroup Computer Systems

Title: Power Sequence, Reset Diagram

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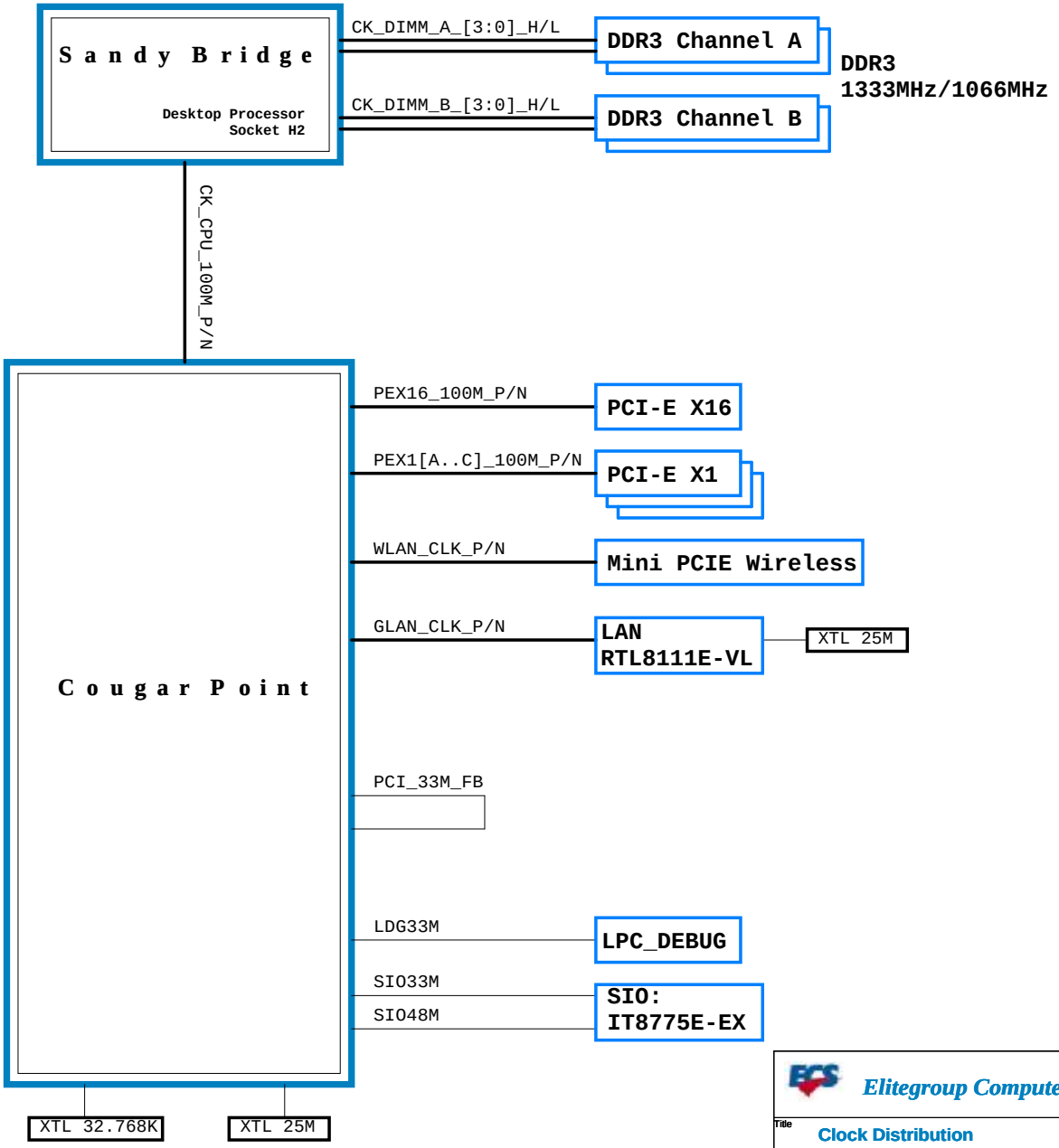

Elitegroup Computer Systems

Title: Clock Distribution			
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