Q67/ Q65/ H67/ H61 H2-AD

Rev : 1.0

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NOTE:

REVISION HISTORY:

Rev	Date	Notes
V.A	2010/07/22	Initial version
V.B	2010/08/24	
V.C	2010/09/10	
V.1.0	2010/09/16	

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Title: Cover Page		
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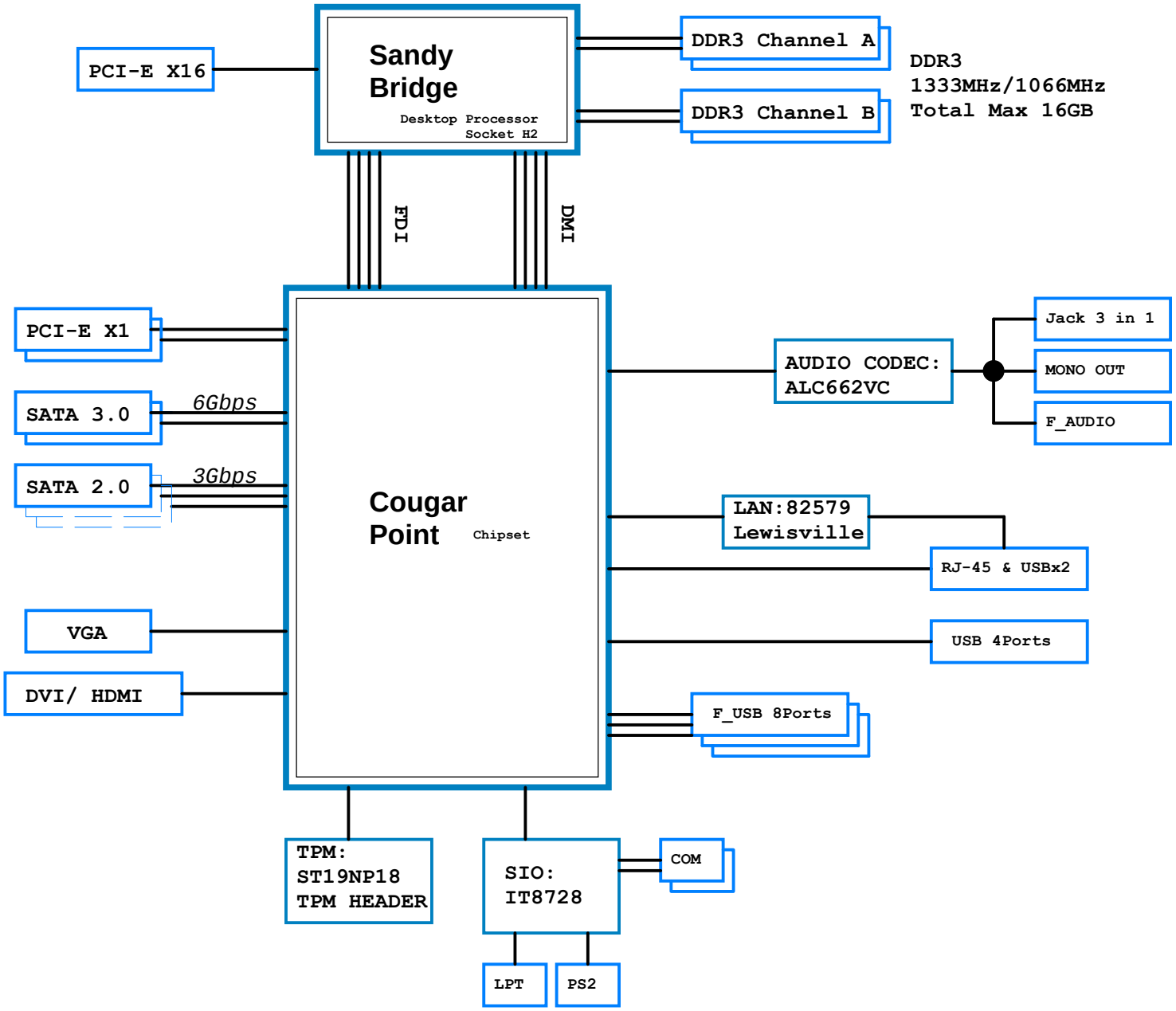

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Title: Block Diagram

Size	Document Number	Rev
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PCH-GPIO function

Pin Name	Power Well	Usage	Default Status
GPIO71	VCC3	LPT Detect	GPI
GPIO22	VCC3	CLR_CMOS	GPI
GPIO38	VCC3	KM Detect	GPI
GPIO39	VCC3	SENSE_Header	GPI
GPIO48	VCC3	SENSE_Header	GPI
GPIO21	VCC3	COM2 Detect	GPI
GPIO36	VCC3	TCM,TPM Detect	GPI
GPIO37	VCC3	TCM,TPM Detect	GPI
GPIO16	VCC3	Reserve for TPM	GPI
GPIO49	VCC3	Reserve for TPM	GPI
GPIO0	VCC3	F_AUDIO Detect	GPI
GPIO33	VCC3	ME Enable/Disable	GPO
GPIO34	VCC3	pull-up	GPI
GPIO13	3VSB	PME	GPI
GPIO24	3VSB	SKTOCC	GPO
GPIO57	3VSB	Board ID(CRB_0.7)	GPI
GPIO61	3VSB	TPM_LPCPD	GPI

SIO-GPIO function

Pin Name	Power Well	Usage	Default Status
GP16		BEEP	
GP23		Power LED	
GP22		Power LED	
Pin Name		Usage	
Pin Name		Usage	
Pin Name		Usage	
Pin Name		Usage	

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Title: GPIO Function Map

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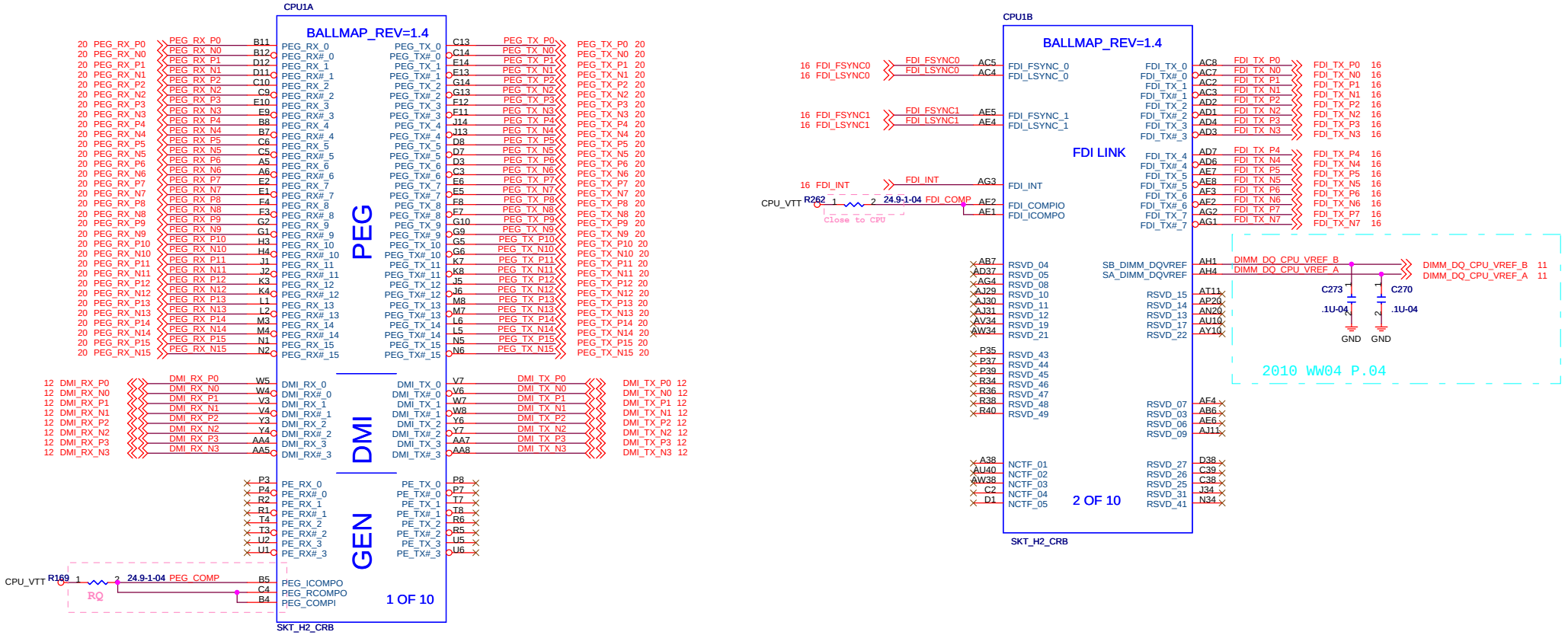

SHORT B4 & C4 TOGETHER, ROUTE AS A SINGLE 4MIL TRACE TO RQ.
1 ROUTE B5 TO RQ. 1 AS A SEPERATE 12MIL TRACE.

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Title	CPU - DMI/FDI/PEG	
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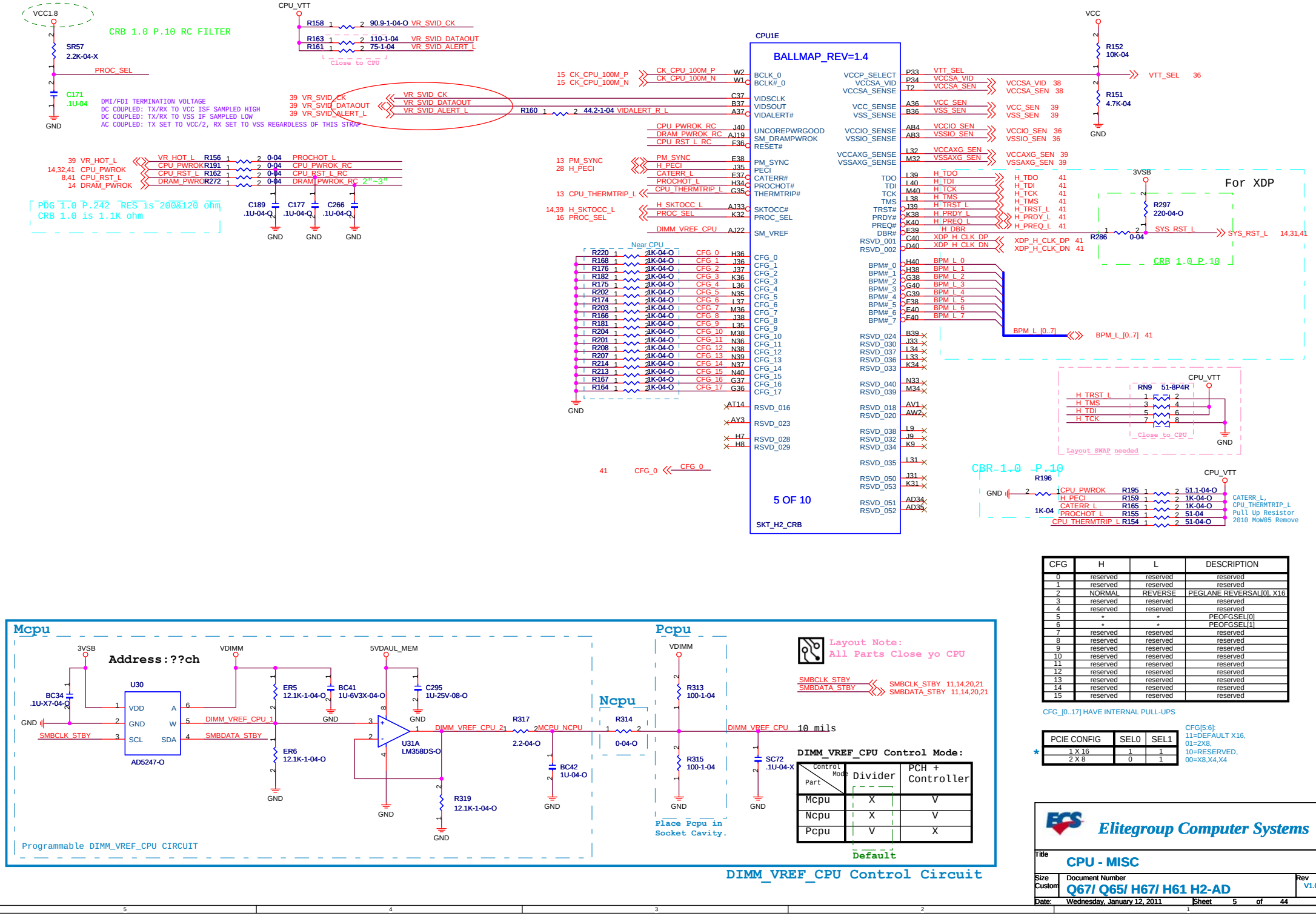

CFG	H	L	DESCRIPTION
0	reserved	reserved	reserved
1	reserved	reserved	reserved
2	NORMAL	REVERSE	PEGLANE REVERSAL[0], X16
3	reserved	reserved	reserved
4	reserved	reserved	reserved
5	*	*	PEOFGSEL[0]
6	*	*	PEOFGSEL[1]
7	reserved	reserved	reserved
8	reserved	reserved	reserved
9	reserved	reserved	reserved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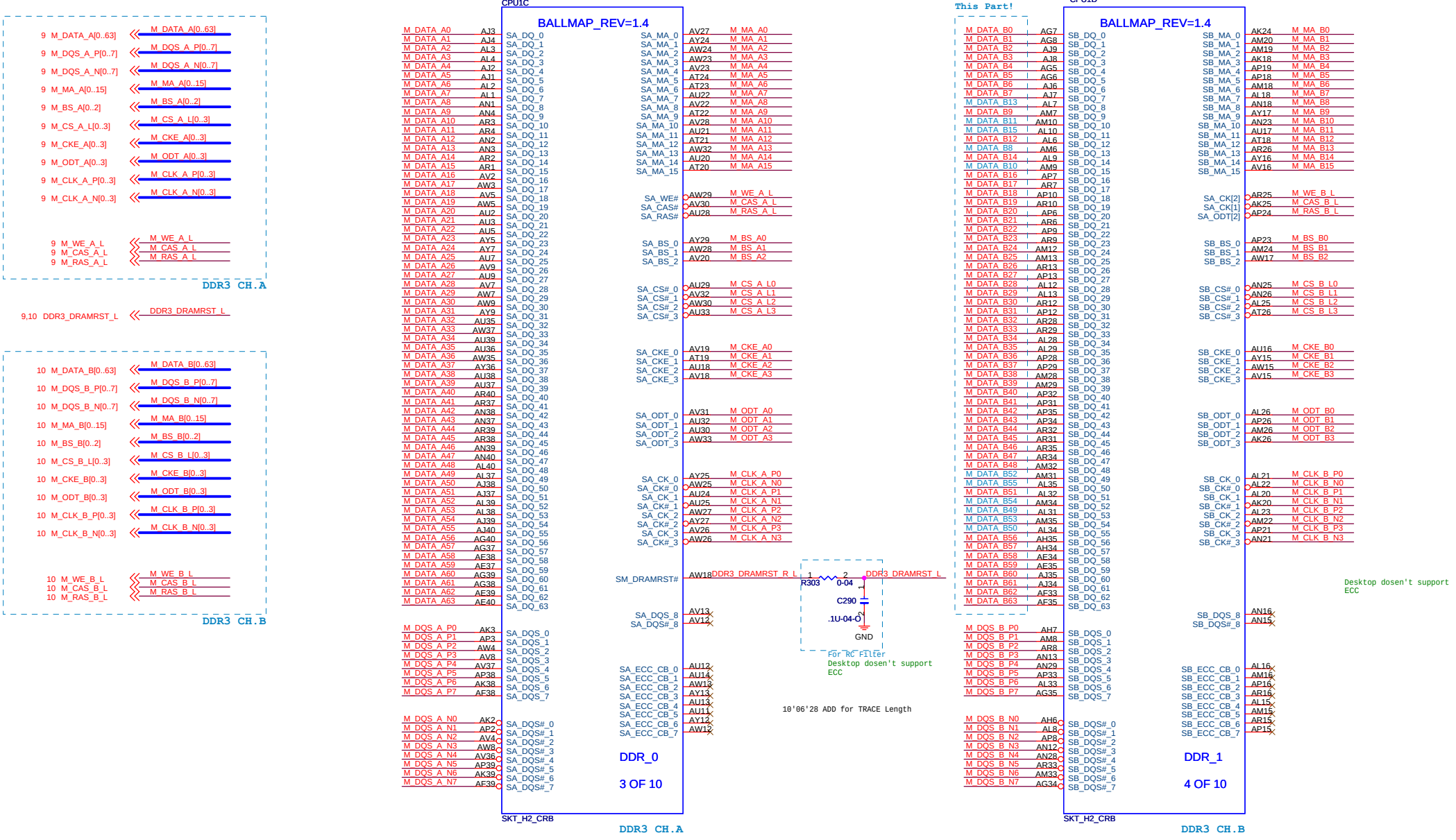

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Title	CPU - DDR3	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
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MAX 112A
In CPU_VCORE

CPU1F

BALLMAP_REV=1.4

A12	VCC_001	VCC_082	F32
A13	VCC_002	VCC_083	F33
A14	VCC_003	VCC_084	F34
A15	VCC_004	VCC_085	G15
A16	VCC_005	VCC_086	G16
A18	VCC_006	VCC_087	G18
A24	VCC_007	VCC_088	G19
A25	VCC_008	VCC_089	G21
A27	VCC_009	VCC_090	G22
A28	VCC_010	VCC_091	G24
B15	VCC_011	VCC_092	G25
B16	VCC_012	VCC_093	G27
B18	VCC_013	VCC_094	G28
B24	VCC_014	VCC_095	G30
B25	VCC_015	VCC_096	G31
B27	VCC_016	VCC_097	G32
B28	VCC_017	VCC_098	G33
B30	VCC_018	VCC_099	H13
B31	VCC_019	VCC_100	H14
B33	VCC_020	VCC_101	H15
B34	VCC_021	VCC_102	H16
C15	VCC_022	VCC_103	H18
C16	VCC_023	VCC_104	H19
C18	VCC_024	VCC_105	H21
C19	VCC_025	VCC_106	H22
C21	VCC_026	VCC_107	H24
C22	VCC_027	VCC_108	H25
C24	VCC_028	VCC_109	H27
C25	VCC_029	VCC_110	H28
C27	VCC_030	VCC_111	H30
C28	VCC_031	VCC_112	H31
C30	VCC_032	VCC_113	H32
C31	VCC_033	VCC_114	J12
C33	VCC_034	VCC_115	J15
C34	VCC_035	VCC_116	J16
C36	VCC_036	VCC_117	J18
D13	VCC_037	VCC_118	J19
D14	VCC_038	VCC_119	J21
D15	VCC_039	VCC_120	J22
D16	VCC_040	VCC_121	J24
D18	VCC_041	VCC_122	J25
D19	VCC_042	VCC_123	J27
D21	VCC_043	VCC_124	J28
D22	VCC_044	VCC_125	J30
D24	VCC_045	VCC_126	K15
D25	VCC_046	VCC_127	K16
D27	VCC_047	VCC_128	K18
D28	VCC_048	VCC_129	K19
D30	VCC_049	VCC_130	K21
D31	VCC_050	VCC_131	K22
D33	VCC_051	VCC_132	K24
D34	VCC_052	VCC_133	K25
D35	VCC_053	VCC_134	K27
D36	VCC_054	VCC_135	K28
E15	VCC_055	VCC_136	K30
E16	VCC_056	VCC_137	L13
E18	VCC_057	VCC_138	L14
E19	VCC_058	VCC_139	L15
E21	VCC_059	VCC_140	L16
E22	VCC_060	VCC_141	L18
E24	VCC_061	VCC_142	L19
E25	VCC_062	VCC_143	L21
E27	VCC_063	VCC_144	L22
E28	VCC_064	VCC_145	L24
E30	VCC_065	VCC_146	L25
E31	VCC_066	VCC_147	L27
E33	VCC_067	VCC_148	L28
E34	VCC_068	VCC_149	L30
E35	VCC_069	VCC_150	M14
F15	VCC_070	VCC_151	M15
F16	VCC_071	VCC_152	M16
F18	VCC_072	VCC_153	M18
F19	VCC_073	VCC_154	M19
F21	VCC_074	VCC_155	M21
F22	VCC_075	VCC_156	M22
F24	VCC_076	VCC_157	M24
F25	VCC_077	VCC_158	M25
F27	VCC_078	VCC_159	M27
F28	VCC_079	VCC_160	M28
F30	VCC_080	VCC_161	M30
F31	VCC_081		

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SKT_H2_CRB

MAX 112A
In CPU_VCORE

1.05V/1.00V
MAX 8.8A
In CPU_VTT

CPU1G

BALLMAP_REV=1.4

M13	VCCIO_34	VDDQ_01	AJ13
		VDDQ_02	AJ14
A11	VCCIO_01	VDDQ_04	AJ23
A7	VCCIO_02	VDDQ_05	AJ24
AA3	VCCIO_03	VDDQ_06	AR20
AB8	VCCIO_04	VDDQ_07	AR21
AF8	VCCIO_05	VDDQ_08	AR22
AG33	VCCIO_06	VDDQ_09	AR23
AJ16	VCCIO_07	VDDQ_10	AR24
AJ17	VCCIO_08	VDDQ_11	AU19
AJ26	VCCIO_09	VDDQ_12	AU23
AJ28	VCCIO_10	VDDQ_13	AU27
AJ32	VCCIO_11	VDDQ_14	AU31
AK15	VCCIO_12	VDDQ_15	AV21
AK17	VCCIO_13	VDDQ_16	AV24
AK19	VCCIO_14	VDDQ_17	AV25
AK21	VCCIO_15	VDDQ_18	AV29
AK23	VCCIO_16	VDDQ_19	AV33
AK27	VCCIO_17	VDDQ_20	AW31
AK29	VCCIO_18	VDDQ_21	AY23
AK30	VCCIO_19	VDDQ_22	AY26
B9	VCCIO_20	VDDQ_23	AY28
D10	VCCIO_21		
D6	VCCIO_22	VDDQ_03	AJ20
E3	VCCIO_23		
E4	VCCIO_24		
G3	VCCIO_25		
G4	VCCIO_26		
J3	VCCIO_27		
J4	VCCIO_28		
J7	VCCIO_29		
J8	VCCIO_30		
L3	VCCIO_31		
L4	VCCIO_32		
L7	VCCIO_33		
N3	VCCIO_35		
N4	VCCIO_36		
N7	VCCIO_37		
R3	VCCIO_38		
R4	VCCIO_39		
R7	VCCIO_40		
U3	VCCIO_41		
U4	VCCIO_42		
U7	VCCIO_43		
V8	VCCIO_44		
W3	VCCIO_45		

1.5V
MAX 4.5A
In VDIMM

0.925V/0.85V
MAX 8.8A
In V_SA

H10	VCCSA_01		
H11	VCCSA_02		
H12	VCCSA_03		
J10	VCCSA_04		
K10	VCCSA_05		
K11	VCCSA_06		
L11	VCCSA_07		
L12	VCCSA_08		
M10	VCCSA_09		
M11	VCCSA_10		
M12	VCCSA_11		

1.8V
MAX 1A
In VCC1.8

AK11	VCCPLL_01		
AK12	VCCPLL_02		

POWER
7 OF 10

SKT_H2_CRB

MAX 35A
In V_AXG

CPU1H

VBALLMAP_REV=1.4

AB33	VCCAXG_01		
AB34	VCCAXG_02		
AB35	VCCAXG_03		
AB36	VCCAXG_04		
AB37	VCCAXG_05		
AB38	VCCAXG_06		
AB39	VCCAXG_07		
AB40	VCCAXG_08		
AC33	VCCAXG_09		
AC34	VCCAXG_10		
AC35	VCCAXG_11		
AC36	VCCAXG_12		
AC37	VCCAXG_13		
AC38	VCCAXG_14		
AC39	VCCAXG_15		
AC40	VCCAXG_16		
T33	VCCAXG_17		
T34	VCCAXG_18		
T35	VCCAXG_19		
T36	VCCAXG_20		
T37	VCCAXG_21		
T38	VCCAXG_22		
T39	VCCAXG_23		
T40	VCCAXG_24		
U33	VCCAXG_25		
U34	VCCAXG_26		
U35	VCCAXG_27		
U36	VCCAXG_28		
U37	VCCAXG_29		
U38	VCCAXG_30		
U39	VCCAXG_31		
U40	VCCAXG_32		
W33	VCCAXG_33		
W34	VCCAXG_34		
W35	VCCAXG_35		
W36	VCCAXG_36		
W37	VCCAXG_37		
W38	VCCAXG_38		
Y33	VCCAXG_39		
Y34	VCCAXG_40		
Y35	VCCAXG_41		
Y36	VCCAXG_42		
Y37	VCCAXG_43		
Y38	VCCAXG_44		

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SKT_H2_CRB

CPU_VTT

BC21 .1U-04
C514 .1U-04
BC22 .1U-04
SC63 .1U-04-X-O
BC18 .1U-04
SC61 .1U-04-X-O
BC16 .1U-04
BC19 .1U-04
SC64 .1U-04-X-O
10'06'30
SC62 .1U-04-X-O
10'06'30
BC20 .1U-04
SC60 .1U-04-X-O
BC17 .1U-04
C515 .1U-04
GND

DECOUPLING & STITCHING CAPS.

CPU_VTT
V_SA

SC66 22U-X5-08-X
SC40 22U-X5-08-X
GND

PLACE NEAR SKT EDGE
OUTSIDE CAVITY.

CPU_VCORE

C218 22U-X5-08
C220 22U-X5-08
C219 22U-X5-08
C169 22U-X5-08
GND

PLACE NEAR SKT EDGE
OUTSIDE CAVITY.

VCC1.8

BC24 .1U-X7-04
10'06'30
C254 22U-X5-08
GND

CPU_VTT

C241 22U-X5-08
C248 22U-X5-08
C242 22U-X5-08
C243 22U-X5-08
C256 22U-X5-08
C245 22U-X5-08
C244 22U-X5-08
C246 22U-X5-08
GND

V_AXG

C225 22U-X5-08
C247 22U-X5-08
C251 22U-X5-08
SC57 22U-X5-08-X
SC47 22U-X5-08-X
C235 22U-X5-08-O
C302 22U-X5-08-O
GND

CPU_VCORE

SC41 22U-X5-08-X
SC44 22U-X5-08-X
SC45 22U-X5-08-X
SC42 22U-X5-08-X
SC46 22U-X5-08-X
C221 22U-X5-08
C216 22U-X5-08
C215 22U-X5-08-O
SC43 22U-X5-08-X
C167 22U-X5-08
C223 22U-X5-08
C222 22U-X5-08
C168 22U-X5-08
C170 22U-X5-08
SC39 22U-X5-08-X
SC69 22U-X5-08-X-O
GND

VDIMM

C255 22U-X5-08
C258 22U-X5-08
C257 22U-X5-08
GND

PLACE ALL 0805 CAPS INSIDE CPU SOCKET CAVITY, TOPSIDE.

CPU_VTT
V_AXG

SC68 22U-X5-08-X-O
SC53 22U-X5-08-O
SC38 22U-X5-08-X
SC56 22U-X5-08-X-O
SC49 22U-X5-08-X
SC59 22U-X5-08-X
SC65 22U-X5-08-X
SC58 22U-X5-08-X
SC67 22U-X5-08-X-O
C226 22U-X5-08
C236 22U-X5-08
SC48 22U-X5-08-X
SC52 22U-X5-08-X-O
SC50 22U-X5-08-X
C196 22U-X5-08-O
SC54 22U-X5-08-X-O
SC55 22U-X5-08-X-O
SC51 22U-X5-08-X-O
GND

PLACE ALL 0805 CAPS INSIDE CPU SOCKET CAVITY, BACKSIDE.

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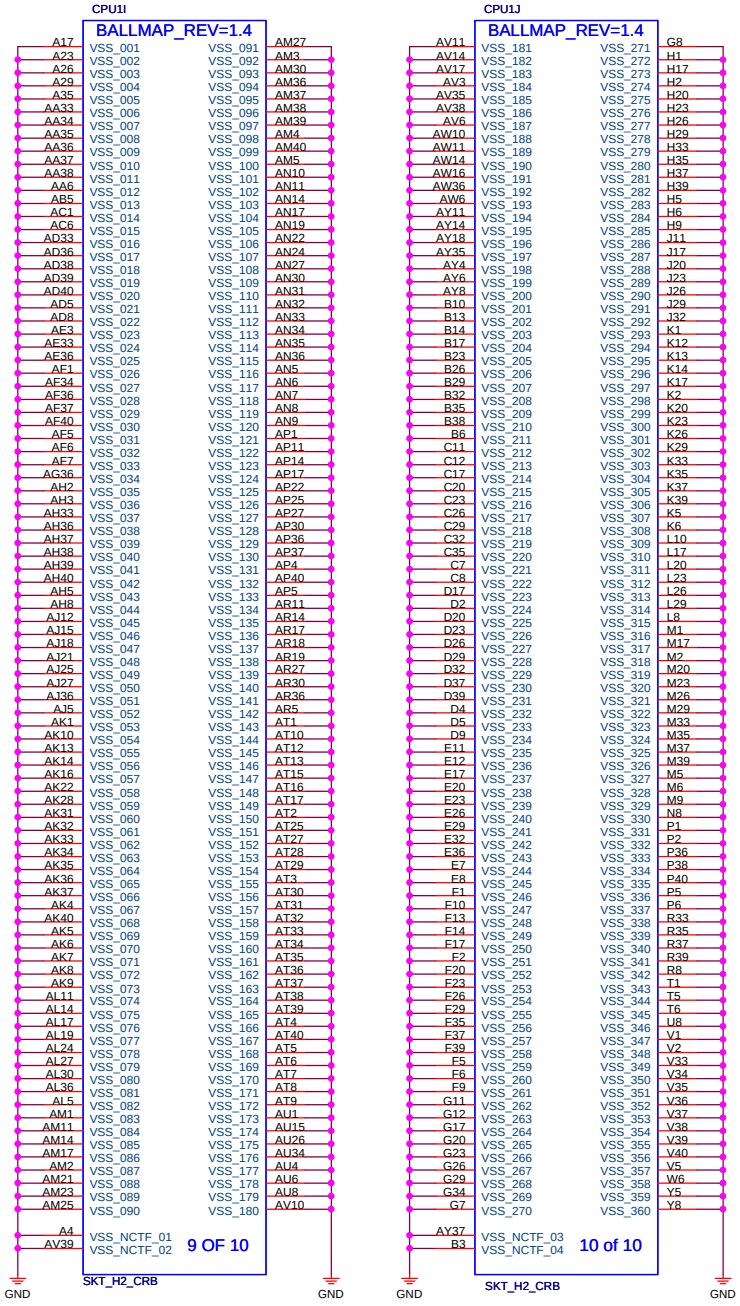
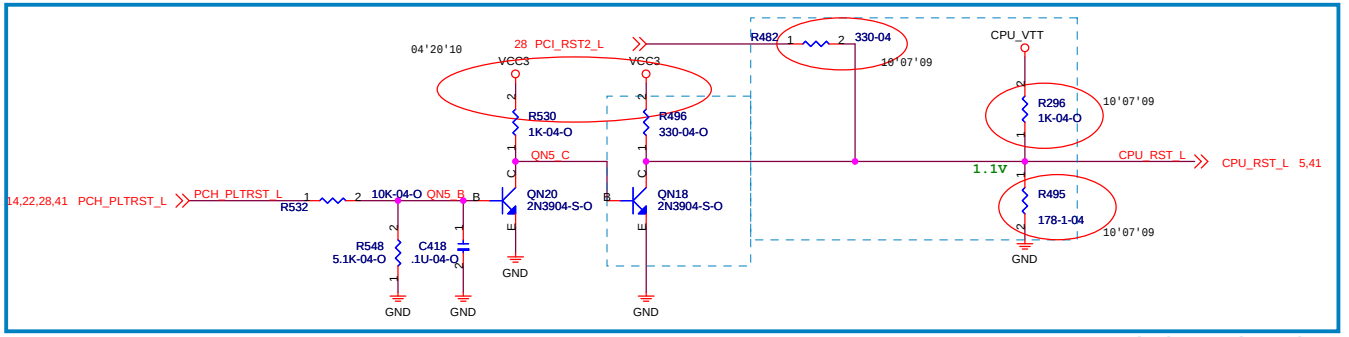
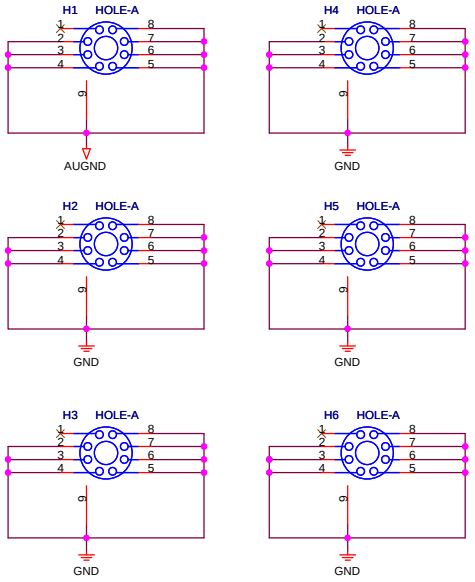




PLTRST_L Driving Circuit

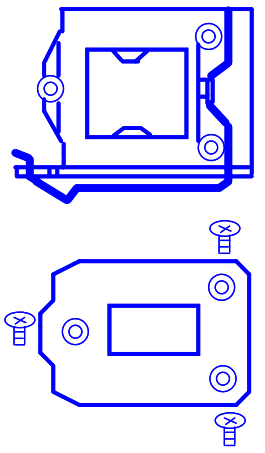
04'06'10 CHANGE FOOTPRINT



11-018-115021 CPU SMD SOCKET
SOCKET.CPU..LGA 1155P SMD.BLACK.PE115527-4041-01F.
LEAD-FREE.FOXCONN

20-800-004711 CPU SOCKET STEEL
SUBASSY.STEEL.LGA 1156P.W/
BACK PLATE.PT44A11-6401.LEAD-FREE(RoHS).FOXCONN

CPU(104)
CPU_SUBASSY_STEEL



01D201-000060 PCH ES0

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Title: CPU - GND, CPU_RST_L

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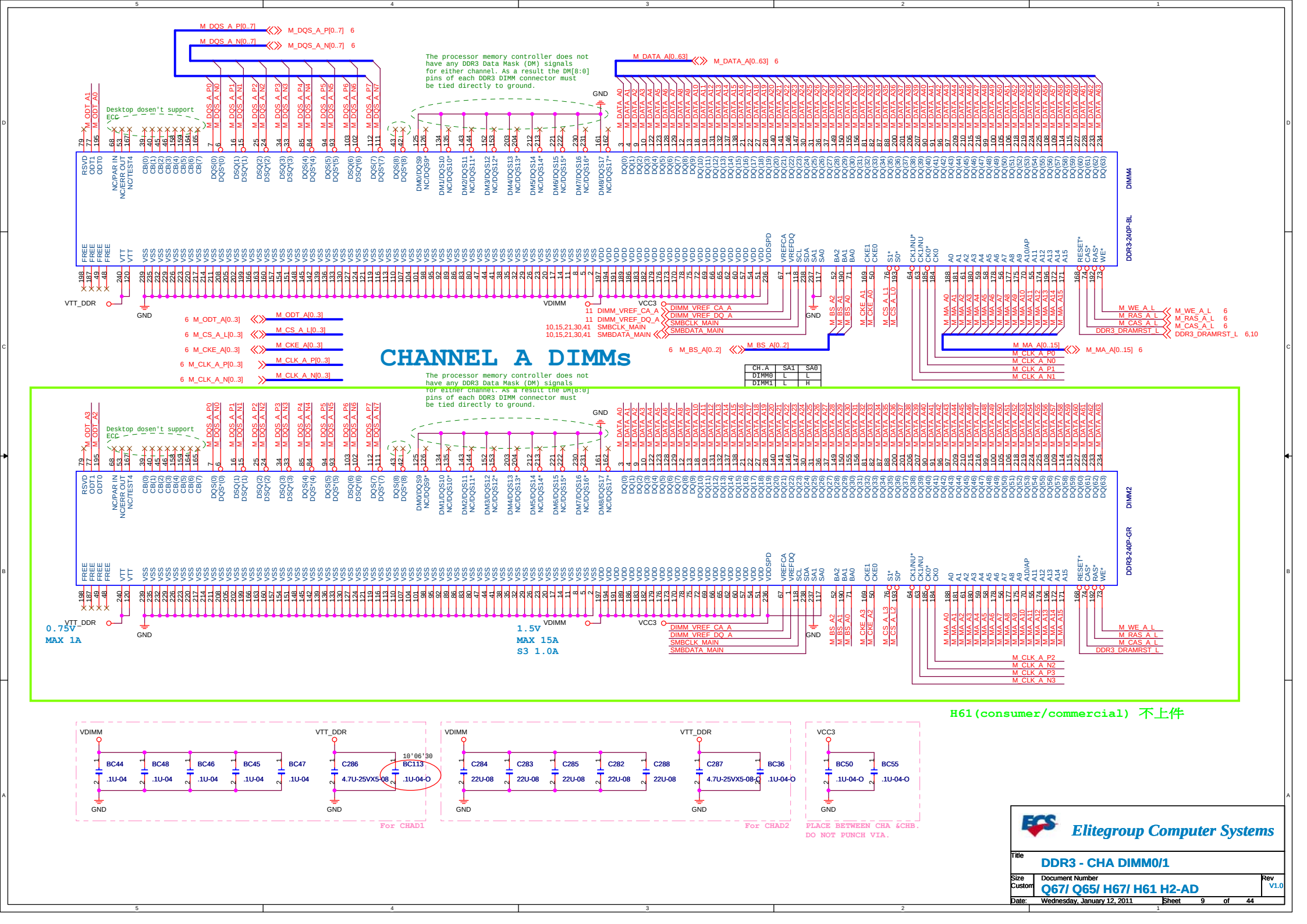

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Title	DDR3 - CHA DIMM0/1	
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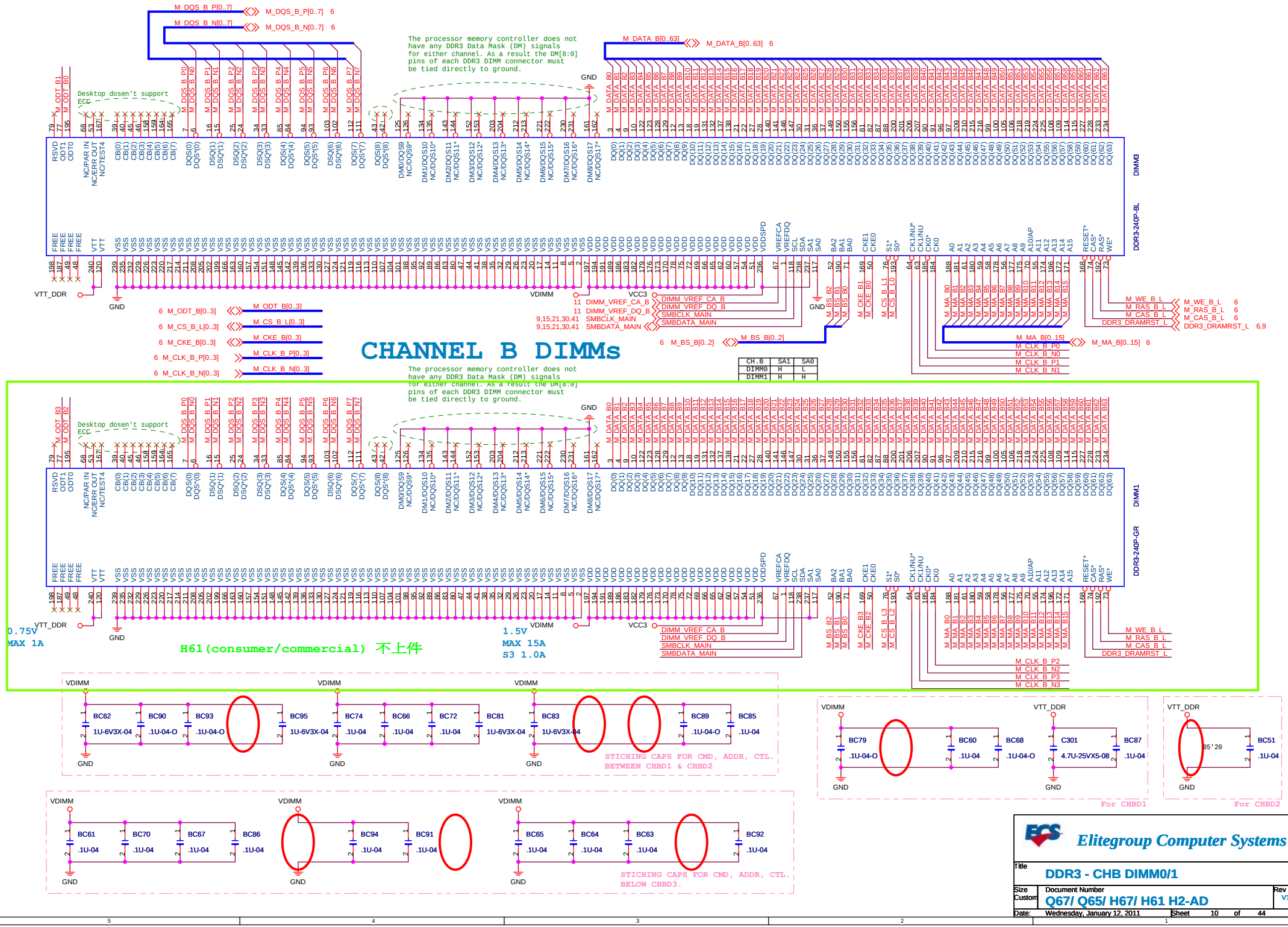

Elitegroup Computer Systems		
Title	DDR3 - CHB DIMM0/1	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
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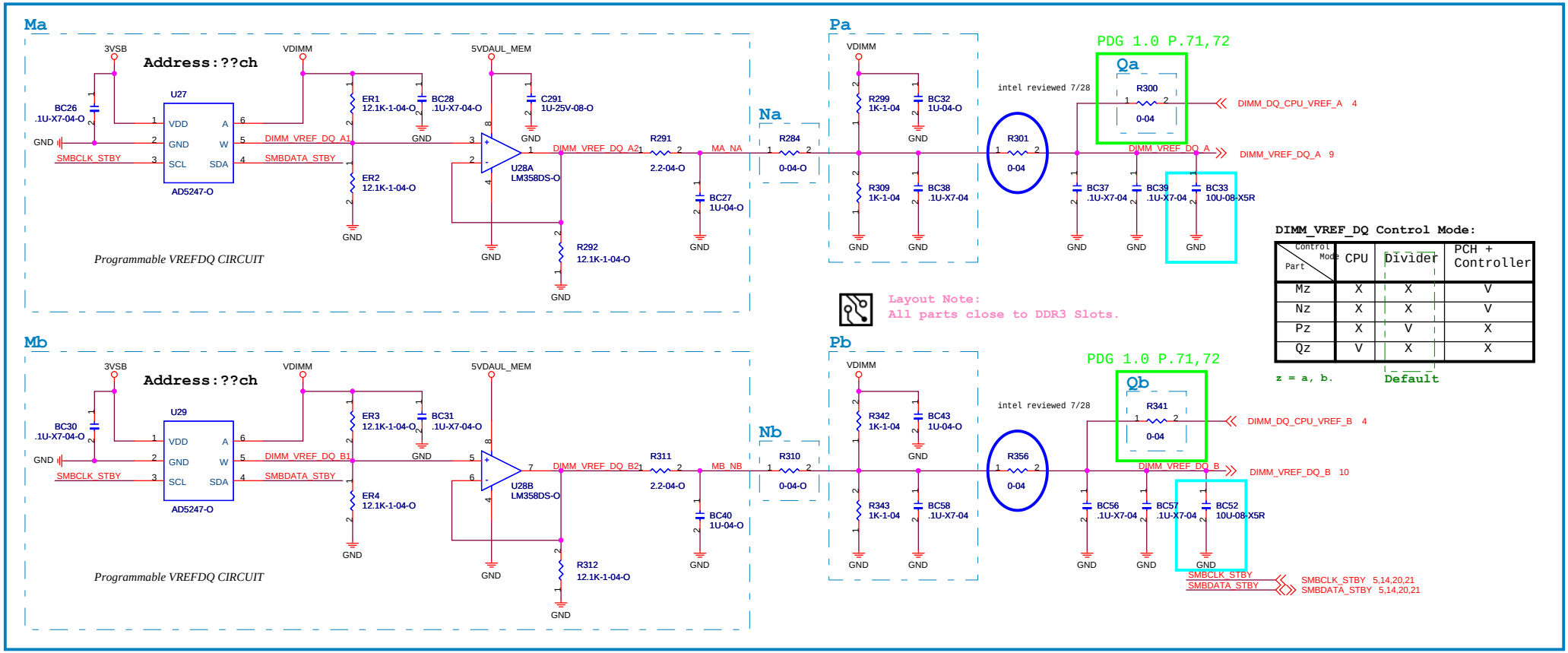

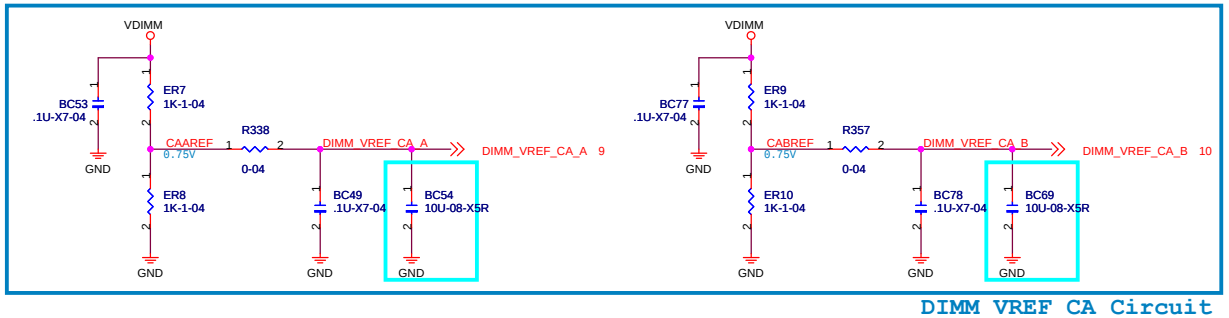

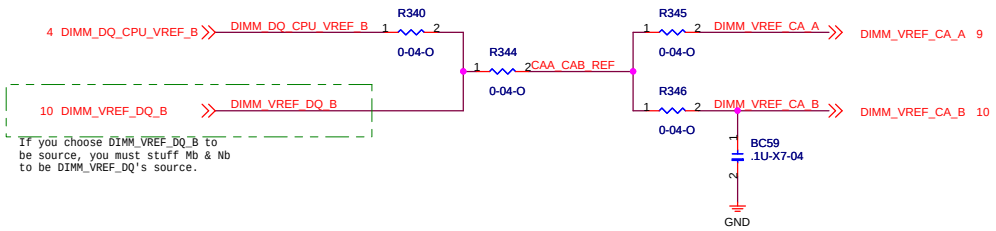

Elitegroup Computer Systems

Title: DDR3 - VREF

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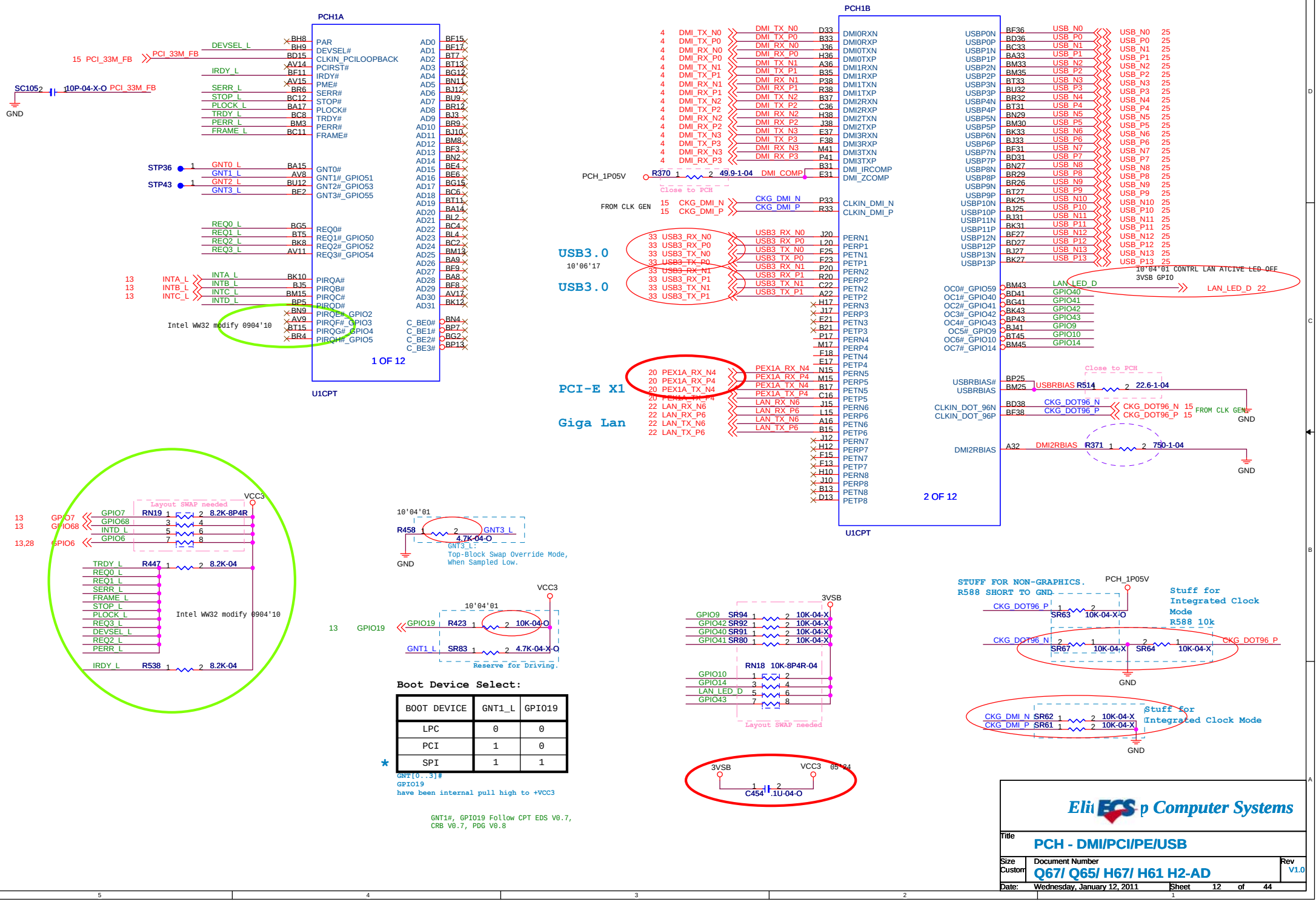

PCH1A
PCH1B
U1CPT
1 OF 12
2 OF 12
USB3.0
10'06'17
PCI-E X1
Giga Lan
Intel WW32 modify 0904'10
Layout SWAP needed
Close to PCH
Close to PCH
Boot Device Select:
BOOT DEVICE | GNT1_L | GPIO19
LPC | 0 | 0
PCI | 1 | 0
SPI | 1 | 1
GNT1#, GPIO19 Follow CPT EDS V0.7, CRB V0.7, PDG V0.8
STUFF FOR NON-GRAPHICS. R588 SHORT TO GND
Stuff for Integrated Clock Mode R588 10k
Stuff for Integrated Clock Mode
Elitegroup Computer Systems
PCH - DMI/PCI/PE/USB
Q67/ Q65/ H67/ H61 H2-AD
V1.0
Wednesday, January 12, 2011
Sheet 12 of 44

Q67/Q65/H61(commercial) 上件

H67/H61(consumer) 上件

OBR HEADER

OBR1 H2*1 GPIO1_OBR

Q67/Q65上件

H67/H61(consumer/commercial) 上件

MODE	Ra	Rb
AMT	V	X
NON AMT	X	V

FAN FUNCTION JUST FOR MOBILE

Default GPI set to Pull Up:

0906'10 SWAP

Intel WW32 modify 0904'10

Intel reveiwed and modify again 07'29'10

Stuff for Integrated Clock Mode 05'09'10

PCH1C U1CPT 3 OF 12

ONLY SATA PORT0 & PORT1 SUPPORT SATA3.0, ALSO SUPPORT SATA2.0, SATA1.0.

10'06'17 DEL ESATA

PECI SIGNAL, CRB RESERVE CONNECT FROM CPU

ONLY SATA PORT0 & PORT1 SUPPORT SATA3.0, ALSO SUPPORT SATA2.0, SATA1.0.

SATA3-7P2R-RED
XX-XXX-XXXXXX
Footprint: SATA3_7P-LOTES
Sample Request!

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%

SATA-7P2R-RED SATA-7P2R-BK SATA-7P2R-BK-O

Q67/Q65 上件

H67 上件

H61(consumer) 上件

H61(commercial) 上件

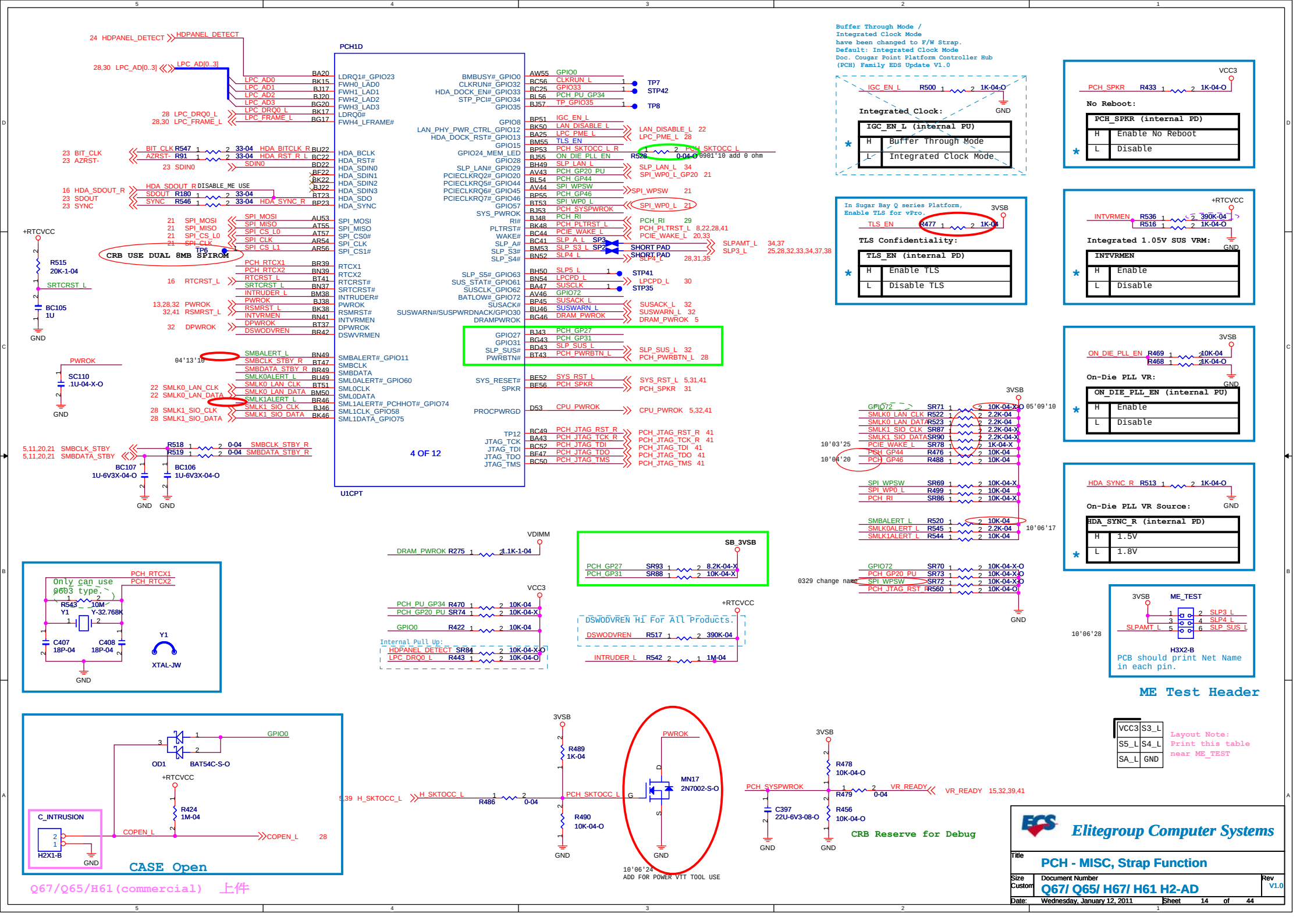
INTERNAL SATA CONNECTOR

Elitegroup Computer Systems

Title: PCH - SATA, SATA CONN

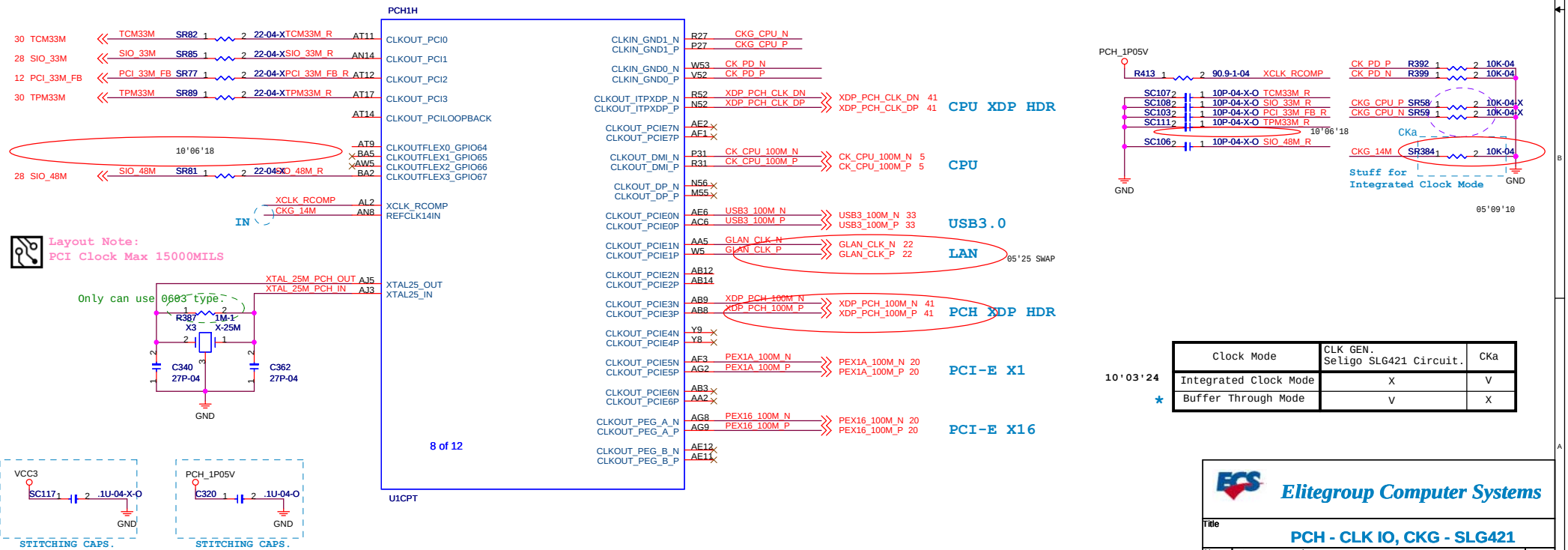
Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

Date: Wednesday, January 12, 2011 | Sheet 13 of 44


PCH1D
U1CPT
4 OF 12
CRB USE DUAL 8MB SPIROM
Buffer Through Mode / Integrated Clock Mode have been changed to F/W Strap. Default: Integrated Clock Mode Doc. Cougar Point Platform Controller Hub (PCH) Family EDS Update V1.0
Integrated Clock:
IGC_EN_L (internal PU)
H Buffer Through Mode
L Integrated Clock Mode
No Reboot:
PCH_SPKR (internal PD)
H Enable No Reboot
L Disable
In Sugar Bay Q series Platform, Enable TLS for vPro.
TLS Confidentiality:
TLS_EN (internal PD)
H Enable TLS
L Disable TLS
Integrated 1.05V SUS VRM:
INTVRMEN
H Enable
L Disable
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
Only can use 0603 type.
DSWODVREN Hi For All Products.
0329 change name
ME_TEST
PCB should print Net Name in each pin.
ME Test Header
CASE Open
CRB Reserve for Debug
ADD FOR POWER VTT TOOL USE
Layout Note: Print this table near ME_TEST
VCC3 S3_L
S5_L S4_L
SA_L GND
Q67/Q65/H61(commercial) 上件
Elitegroup Computer Systems
PCH - MISC, Strap Function
Q67/ Q65/ H67/ H61 H2-AD
V1.0
Wednesday, January 12, 2011
Sheet 14 of 44

0908'10 TAKE OFF CLK GEN

CLK GEN.Seligo SLG421 Circuit.



10'03'24
*

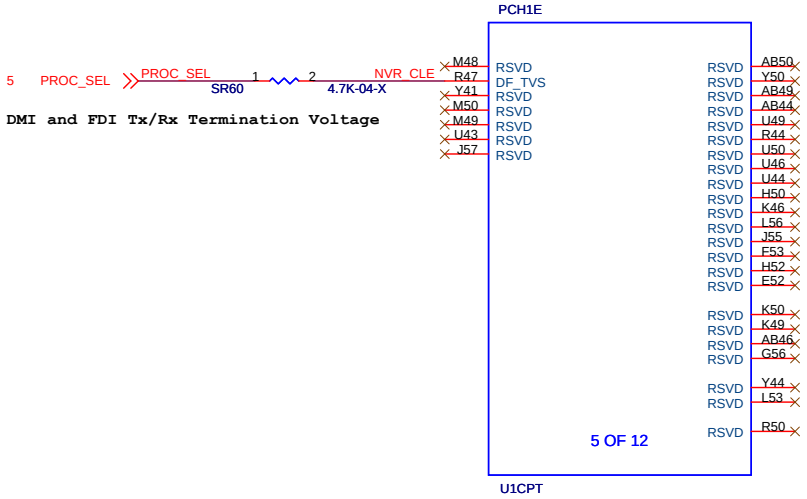
Clock Mode	CLK GEN. Seligo SLG421 Circuit.	CKa
Integrated Clock Mode	X	V
Buffer Through Mode	V	X

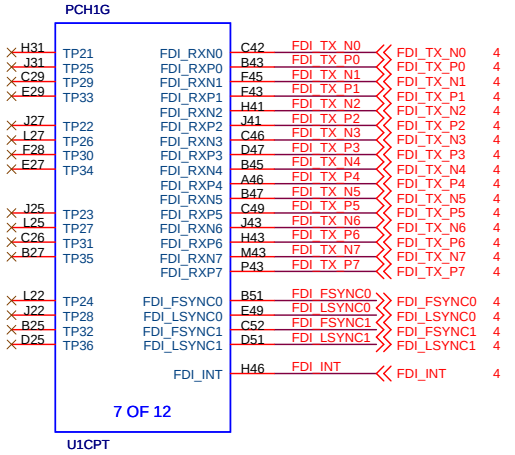
Elitegroup Computer Systems

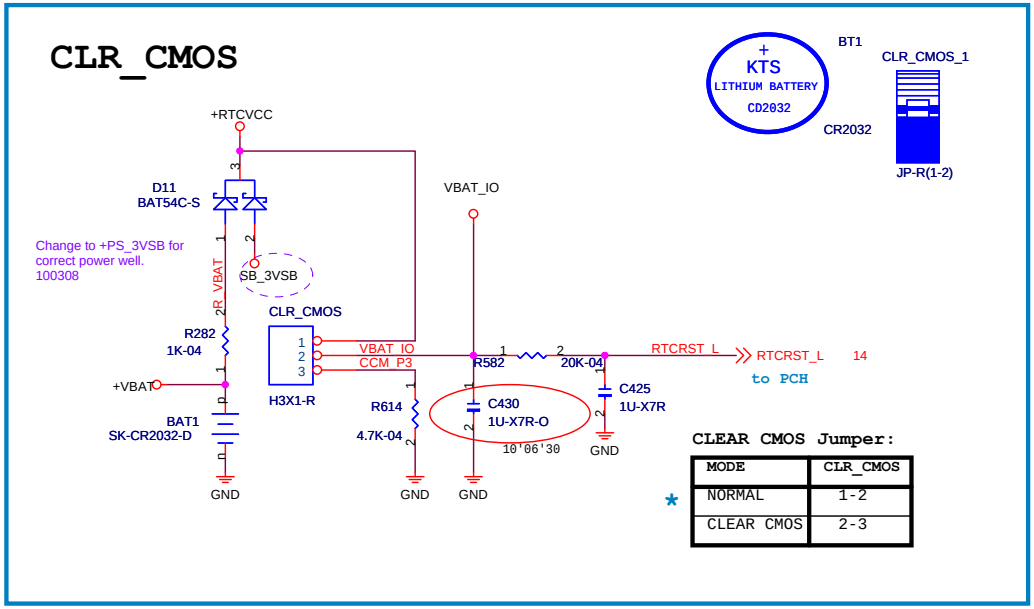
Title: PCH - CLK IO, CKG - SLG421

Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

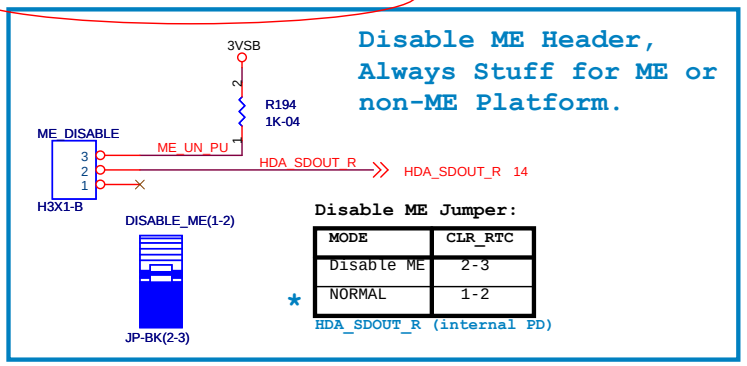
Date: Wednesday, January 12, 2011 | Sheet 15 of 44







04'20'10 CHANGE JUMPER DEFINE

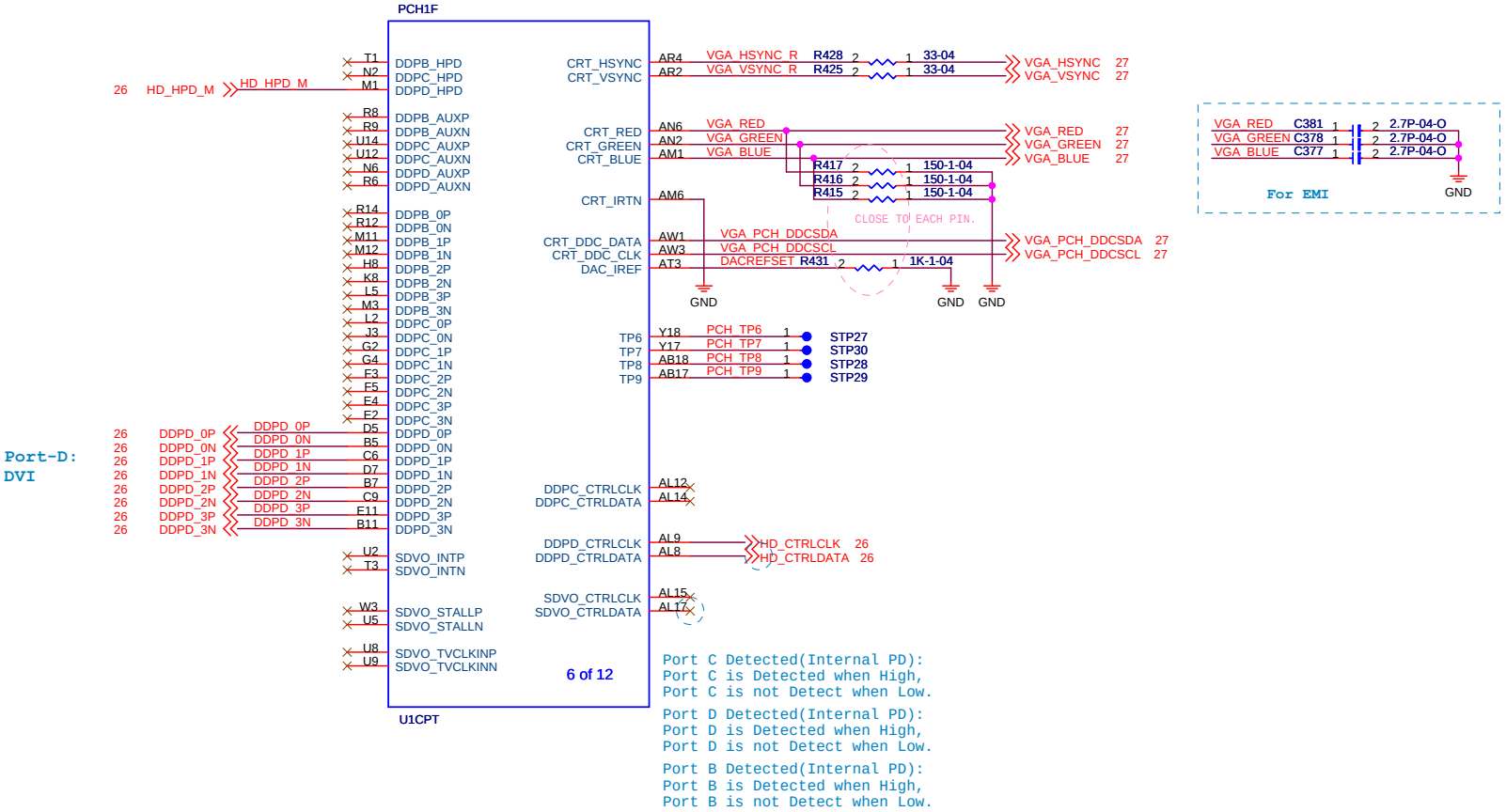


Elitegroup Computer Systems

Title: PCH - NVRAM/FDI, CLR_CMOS

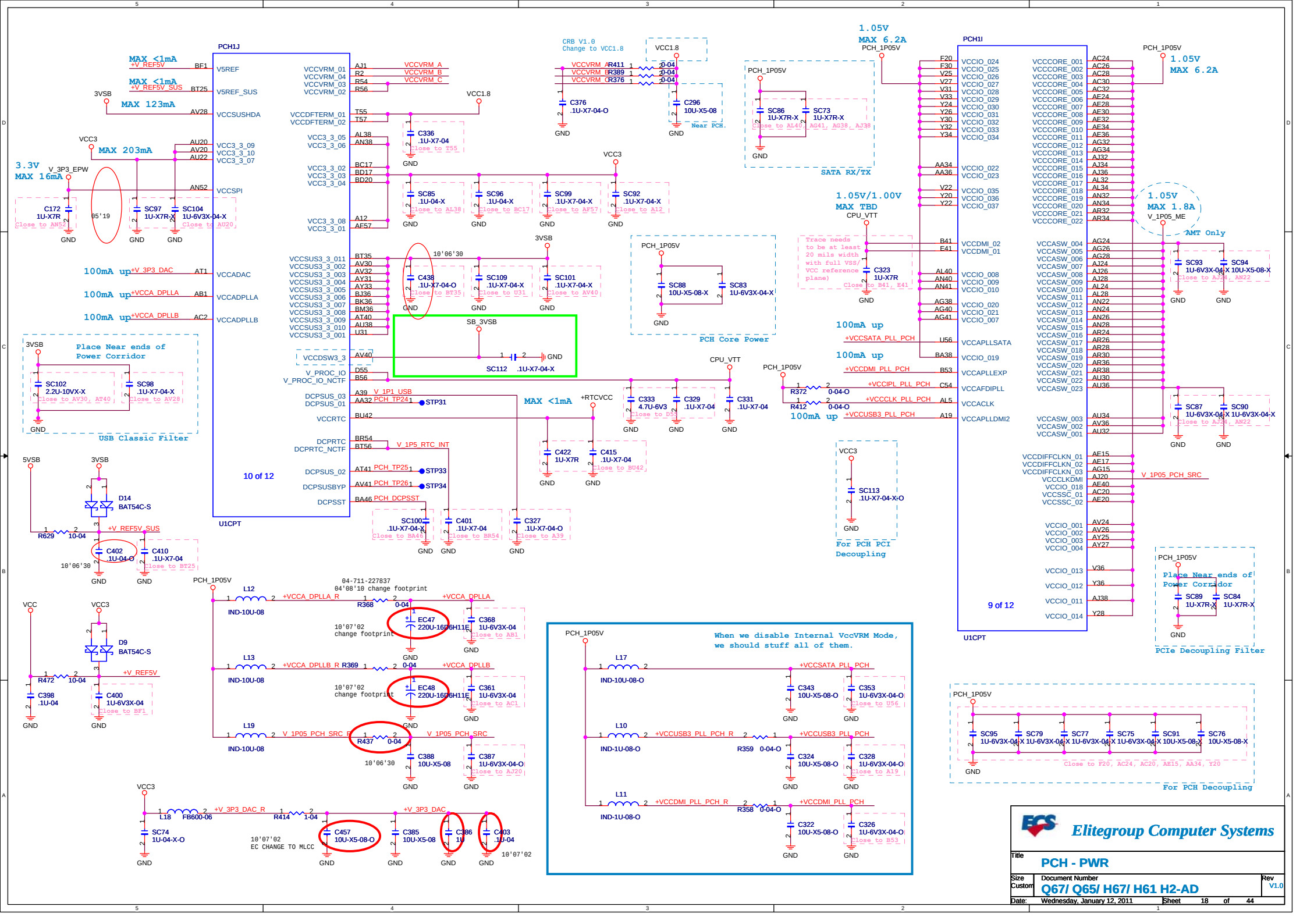
Size: B | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

Date: Wednesday, January 12, 2011 | Sheet 16 of 44



Elitegroup Computer Systems

Title	PCH - DP/VGA	
Size B	Document Number Q67/ Q65/ H67/ H61 H2-AD	Rev V1.0
Date: Wednesday, January 12, 2011	Sheet 17 of 44	


PCH1J
MAX <1mA
+V_REF5V
MAX <1mA
+V_REF5V_SUS
MAX 123mA
3VSB
VCC3
MAX 203mA
3.3V
MAX 16mA
V_3P3_EPW
V5REF
V5REF_SUS
VCCSUSHDA
VCC3_3_09
VCC3_3_10
VCC3_3_07
VCCSPI
VCCVRM_01
VCCVRM_04
VCCVRM_03
VCCVRM_02
VCCDFTERM_01
VCCDFTERM_02
VCC3_3_05
VCC3_3_06
VCC3_3_02
VCC3_3_03
VCC3_3_04
VCC3_3_08
VCC3_3_01
VCCSUS3_3_011
VCCSUS3_3_002
VCCSUS3_3_003
VCCSUS3_3_004
VCCSUS3_3_005
VCCSUS3_3_006
VCCSUS3_3_007
VCCSUS3_3_008
VCCSUS3_3_009
VCCSUS3_3_010
VCCSUS3_3_001
100mA up
+V_3P3_DAC
100mA up
+VCCA_DPLLA
100mA up
+VCCA_DPLLB
VCCADAC
VCCADPLLA
VCCADPLLB
VCCDSW3_3
V_PROC_IO
V_PROC_IO_NCTF
DCPSUS_03
DCPSUS_01
VCCRTC
DCPRTC
DCPRTC_NCTF
DCPSUS_02
DCPSUSBYP
DCPSST
10 of 12
U1CPT
VCCVRM_A
VCCVRM_B
VCCVRM_C
VCC1.8
C336 .1U-X7-04 Close to T55
SC85 .1U-04-X Close to AL38
SC96 .1U-04-X Close to BC17
SC99 .1U-X7-04-X Close to AF57
SC92 .1U-X7-04-X Close to A12
C172 1U-X7R Close to AN52
SC97 1U-X7R-X
SC104 1U-6V3X-04-X Close to AU20
05'19
GND
3VSB
Place Near ends of Power Corridor
SC102 2.2U-10VX-X Close to AV30, AT40
SC98 .1U-X7-04-X Close to AV28
USB Classic Filter
10'06'30
C438 .1U-X7-04-O Close to BT35
SC109 .1U-X7-04-X Close to U31
SC101 .1U-X7-04-X Close to AV40
SB_3VSB
SC112 .1U-X7-04-X
V_1P1_USB
PCH_TP24
STP31
PCH_TP25
STP33
PCH_TP26
STP34
PCH_DCPSST
SC100 .1U-X7-04-X Close to BA46
C401 .1U-X7-04 Close to BR54
C327 .1U-X7-04-O Close to A39
MAX <1mA
+RTCVCC
C333 4.7U-6V3 Close to P51
C329 .1U-X7-04
C331 .1U-X7-04
C422 1U-X7R
C415 .1U-X7-04 Close to BU42
CPU_VTT
PCH_1P05V
R372 0-04-O
R412 0-04-O
+VCCIPL_PLL_PCH
+VCCCLK_PLL_PCH
+VCCUSB3_PLL_PCH
100mA up
+VCCDMI_PLL_PCH
5VSB
D14 BAT54C-S
R629 10-04
+V_REF5V_SUS
C402 .1U-04-O
C410 .1U-X7-04 Close to BT25
10'06'30
D9 BAT54C-S
R472 10-04
+V_REF5V
C398 .1U-04
C400 1U-6V3X-04 Close to BF1
VCC
04-711-227837
04'08'10 change footprint
L12
IND-10U-08
+VCCA_DPLLA_R
R368 0-04
+VCCA_DPLLA
EC47 220U-16D6H11E
10'07'02 change footprint
C368 1U-6V3X-04 Close to AB1
L13
+VCCA_DPLLB_R
R369 0-04
+VCCA_DPLLB
EC48 220U-16D6H11E
C361 1U-6V3X-04 Close to AC1
L19
V_1P05_PCH_SRC_R
R437 0-04
V_1P05_PCH_SRC
C388 10U-X5-08
C387 1U-6V3X-04-O Close to AJ20
L18 FB600-06
+V_3P3_DAC_R
R414 1-04
+V_3P3_DAC
C457 10U-X5-08-O
C385 10U-X5-08
C386 1U
C403 .1U-04
10'07'02 EC CHANGE TO MLCC
10'07'02
CRB V1.0 Change to VC1.8
R411 0-04
R389 0-04
R376 0-04
C376 .1U-X7-04-O
C296 10U-X5-08
Near PCH.
SC86 1U-X7R-X
SC73 1U-X7R-X
Close to AL40, AG41, AG38, AJ38
SATA RX/TX
1.05V
MAX 6.2A
1.05V/1.00V
MAX TBD
CPU_VTT
Trace needs to be at least 20 mils width with full VSS/ VCC reference plane)
C323 1U-X7R
Close to B41, E41
SC88 10U-X5-08-X
SC83 10U-6V3X-04-X
PCH Core Power
PCH1I
VCCIO_024
VCCIO_025
VCCIO_026
VCCIO_027
VCCIO_028
VCCIO_029
VCCIO_030
VCCIO_031
VCCIO_032
VCCIO_033
VCCIO_034
VCCIO_022
VCCIO_023
VCCIO_035
VCCIO_036
VCCIO_037
VCCIO_008
VCCIO_009
VCCIO_010
VCCIO_020
VCCIO_021
VCCIO_007
VCCIO_019
VCCIO_001
VCCIO_002
VCCIO_003
VCCIO_004
VCCIO_013
VCCIO_012
VCCIO_011
VCCIO_014
VCCDMI_02
VCCDMI_01
VCCAPLLSATA
VCCAPLLEXP
VCCAFDIPLL
VCCACLK
VCCAPLLDMI2
VCCCORE_001
VCCCORE_002
VCCCORE_003
VCCCORE_004
VCCCORE_005
VCCCORE_006
VCCCORE_007
VCCCORE_008
VCCCORE_009
VCCCORE_010
VCCCORE_011
VCCCORE_012
VCCCORE_013
VCCCORE_014
VCCCORE_015
VCCCORE_016
VCCCORE_017
VCCCORE_018
VCCCORE_019
VCCCORE_020
VCCCORE_021
VCCCORE_022
VCCASW_004
VCCASW_005
VCCASW_006
VCCASW_007
VCCASW_008
VCCASW_009
VCCASW_010
VCCASW_011
VCCASW_012
VCCASW_013
VCCASW_014
VCCASW_015
VCCASW_016
VCCASW_017
VCCASW_018
VCCASW_019
VCCASW_020
VCCASW_021
VCCASW_022
VCCASW_023
VCCASW_003
VCCASW_002
VCCASW_001
VCCDIFFCLKN_01
VCCDIFFCLKN_02
VCCDIFFCLKN_03
VCCCLKDMI
VCCIO_018
VCCSSC_01
VCCSSC_02
9 of 12
U1CPT
1.05V
MAX 1.8A
V_1P05_ME
AMT Only
SC93 1U-6V3X-04-X
SC94 10U-X5-08-X
Close to AJ24, AN22
SC87 1U-6V3X-04-X
SC90 1U-6V3X-04-X
Close to AJ24, AN22
V_1P05_PCH_SRC
Place Near ends of Power Corridor
SC89 1U-X7R-X
SC84 1U-X7R-X
PCIe Decoupling Filter
VCC3
SC113 .1U-X7-04-X-O
For PCH PCI Decoupling
When we disable Internal VccVRM Mode, we should stuff all of them.
L17
IND-1U-08-O
+VCCSATA_PLL_PCH
C343 10U-X5-08-O
C353 1U-6V3X-04-O Close to U56
L10
IND-1U-08-O
+VCCUSB3_PLL_PCH_R
R359 0-04-O
+VCCUSB3_PLL_PCH
C324 10U-X5-08-O
C328 1U-6V3X-04-O Close to A19
L11
IND-1U-08-O
+VCCDMI_PLL_PCH_R
R358 0-04-O
+VCCDMI_PLL_PCH
C322 10U-X5-08-O
C326 1U-6V3X-04-O Close to B53
SC95 1U-6V3X-04-X
SC79 1U-6V3X-04-X
SC77 1U-6V3X-04-X
SC75 1U-6V3X-04-X
SC91 10U-X5-08-X
SC76 10U-X5-08-X
Close to F20, AC24, AC20, AE15, AA34, Y20
For PCH Decoupling
Elitegroup Computer Systems
Title
PCH - PWR
Size Custom
Document Number
Q67/ Q65/ H67/ H61 H2-AD
Rev V1.0
Date: Wednesday, January 12, 2011
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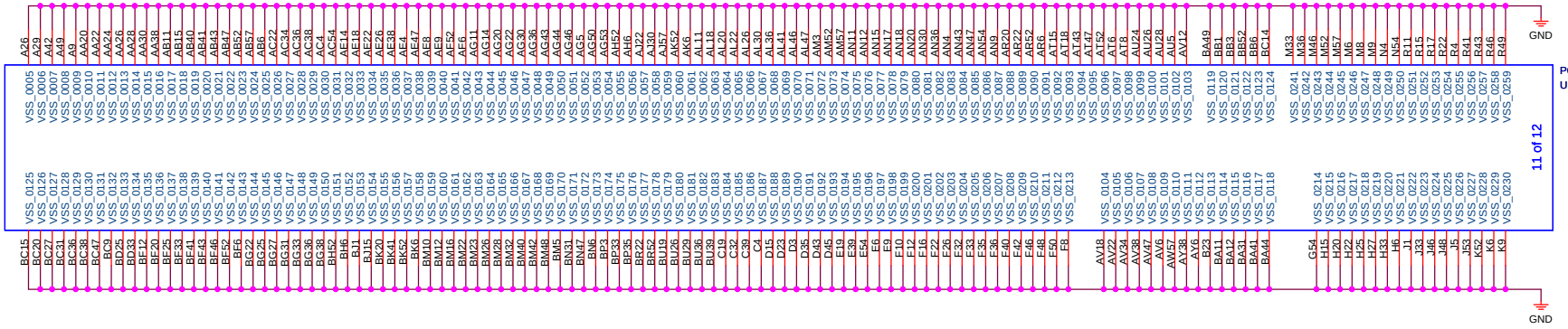
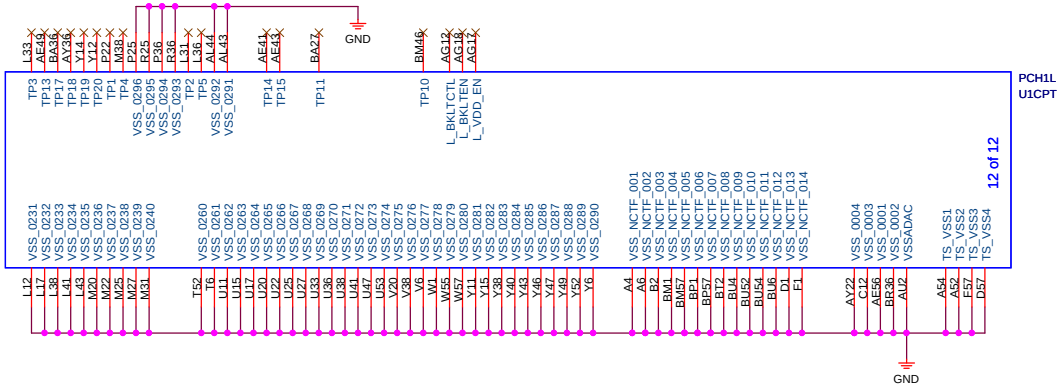
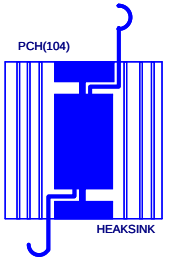
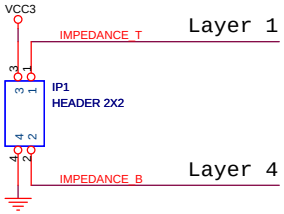






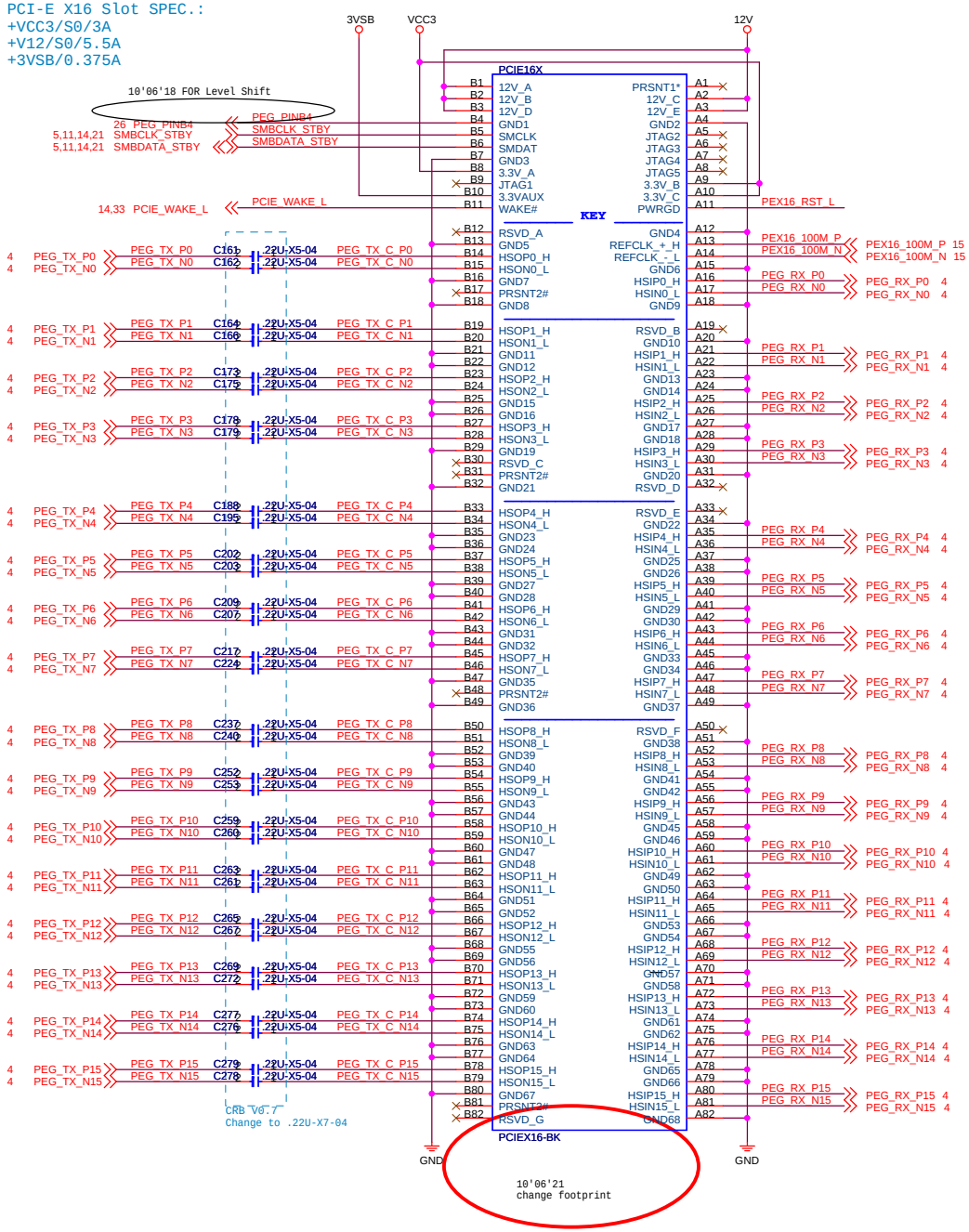
2010'08'19 update heatsink footprint to hk29d4x30d7_pt40d11x21



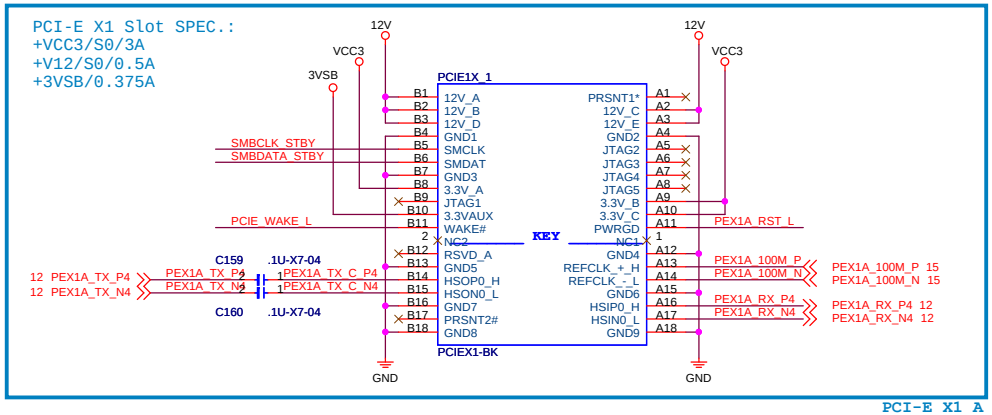
Elitegroup Computer Systems

Title: PCH - GND		
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 19 of 44	

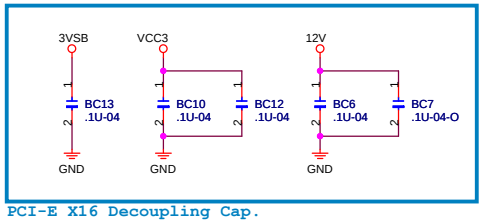
PCI-E X16 Slot SPEC.:
+VCC3/S0/3A
+V12/S0/5.5A
+3VSB/0.375A



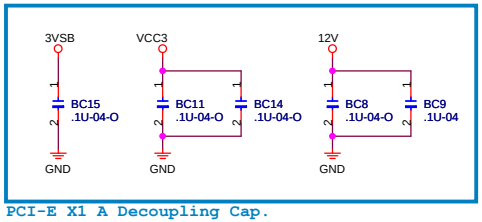
PCI-E X1 Slot SPEC.:
+VCC3/S0/3A
+V12/S0/0.5A
+3VSB/0.375A



PCI-E X1 A

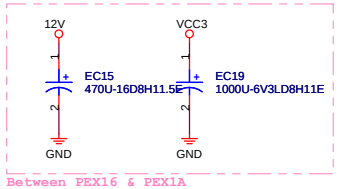


PCI-E X16 Decoupling Cap.

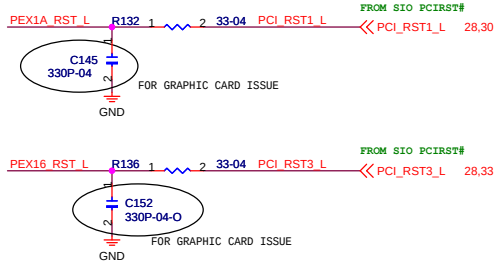


PCI-E X1 A Decoupling Cap.

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



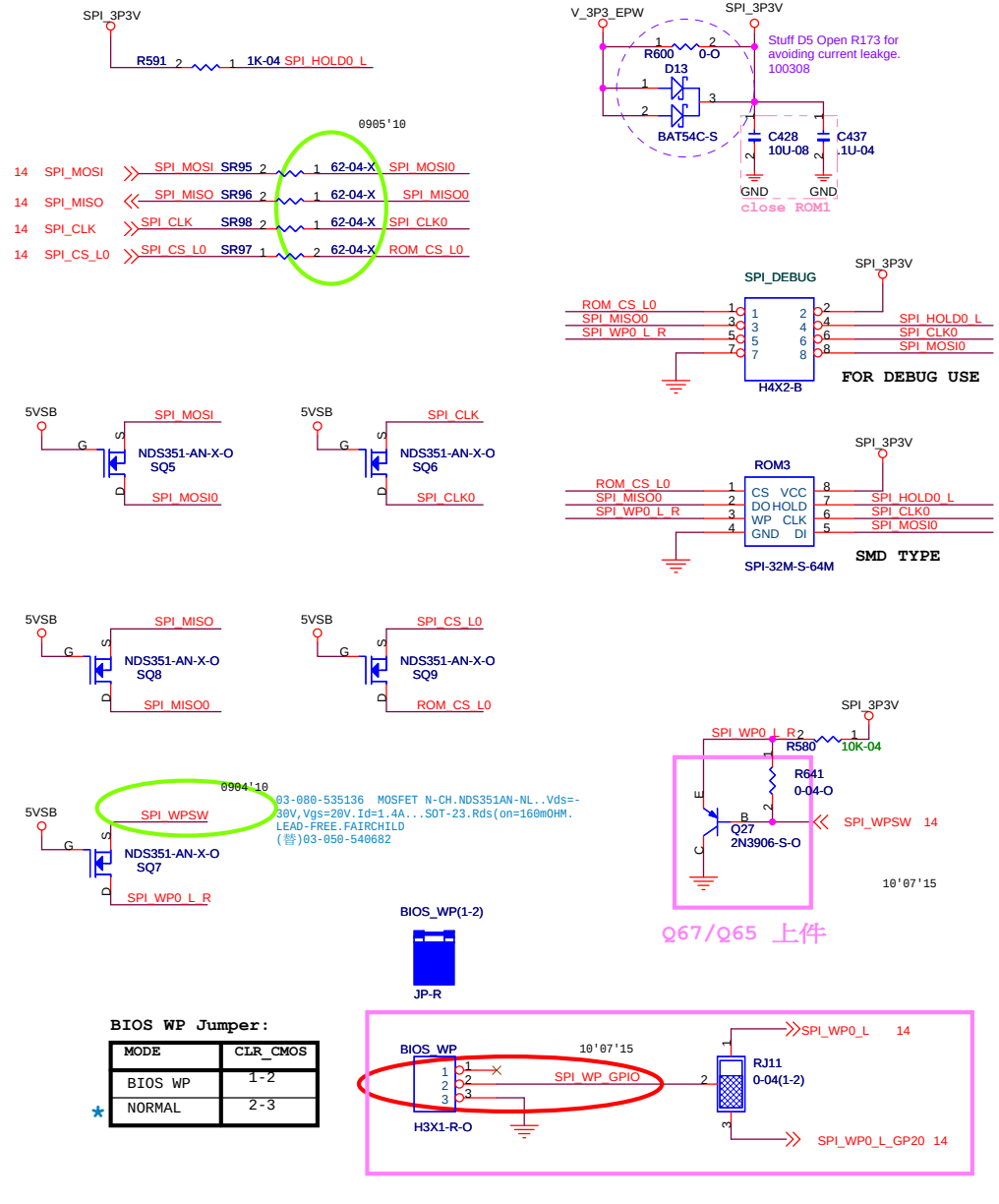
Between PEX16 & PEX1A



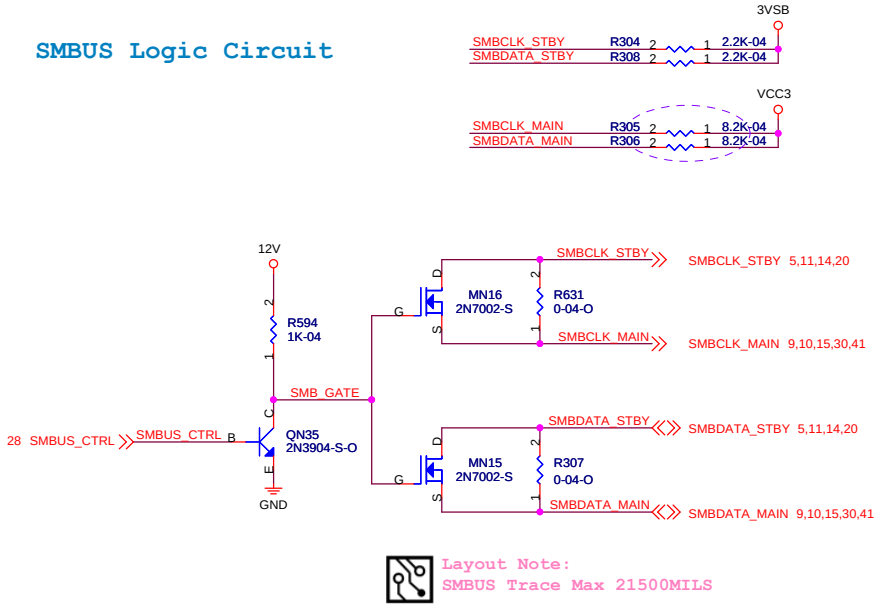
Elitegroup Computer Systems

Title	Slot - PCI-EX16/PCI-EX1	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 20 of 44	

SPI ROM Circuit



SMBUS Logic Circuit



Elitegroup Computer Systems		
Title: SPI ROM, SMBUS		
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 21 of 44	

82579LM	Q67/Q65
82579V	H67/H61(consumer/commercial) 上件

CRB V0.7 cHECK ok

8,14,28,41 PCH_PLTRST_L → R123 33-04 → LAN_RST_L; C128 .1U-04-Q; GND

+VCC3_LAN → R120 10K-04

GLAN_CLK_REQ_L, LAN_RST_L

LAN

CLK_REQN	48	MDI_PLUS_0 / MDI_MINUS_0	13 / 14 → MDI0_P / MDI0_N
PE_RSTN	36		
PE_CLKP / PE_CLKN	44 / 45	MDI_PLUS_1 / MDI_MINUS_1	17 / 18 → MDI1_P / MDI1_N
PETP / PETN	38 / 39	MDI_PLUS_2 / MDI_MINUS_2	20 / 21 → MDI2_P / MDI2_N
PERP / PERN	41 / 42	MDI_PLUS_3 / MDI_MINUS_3	23 / 24 → MDI3_P / MDI3_N
SMB_CLK	28	VDD3P3_IN	5
SMB_DATA	31	VDD3P3_OUT	4
LAN_DISABLE_N	3	RSVD1_VCCP3P3	1
LED0	26	RSVD2_VCCP3P3	2
LED1	27	RSVD_NC	6
LED2	25	VDD3P3	15
JTAG_TDI	32	VDD3P3	19
JTAG_TDO	34	VDD3P3	29
JTAG_TMS	33	VDD1P0	47
JTAG_TCK	35	VDD1P0	46
TEST_EN	30	VDD1P0	37
XTALO	9	VDD1P0	43
XTALI	10	VDD1P0	11
RBIAS	12	VDD1P0	8
		VDD1P0	40
		VDD1P0	22
		VDD1P0	16
		CTRL1P0	7
		VSS_EPAD	49

82579

vPro, AMT, RPAT(Remote PC Assist Tech.)

720mW Max TDP (target)
~600mW @ Gigabit (target)

3.3V / 1.0V power consumption
S0-->3.3V:90mA,1.0V:332mA

3.3V
MAX 550mA
218mA for 3.3VIN
332mA for 3.3VIN->1.0V

+VCC3_LAN → VCC3_LAN1 R114 4.7K-04, VCC3_LAN2 R108 4.7K-04; C137 10U-16VX-08; C125 1U-X7R; C115 .1U-04; VCC3_LAN_C_G C112 1U-6V3X-04; GND

1.0V
MAX 332mA

V_1P0_DC → GLAN_VL → L2 IND-4.7U-LAN → C108 10U-16VX-08; C134 .1U-X7-04; C113 .1U-X7-04-O; SC24 .1U-X7-04-X-G; C129 .1U-X7-04-O; C110 .1U-X7-04

CRB RESERVE TIE TO PCH1P05 BUT NOT VERIFIED
10'04'01
10'06'30

+VCC3_LAN → R106 10K-04-O JTAG_TMS; R117 10K-04-O JTAG_TCK

+VCC3_LAN → R115 10K-04

14 LAN_DISABLE_L → R109 0-04 → LAN_DISABLE_R_L; R105 10K-04-O; GND

TP1 JTAG_TDI, TP3 JTAG_TDO, TP2 JTAG_TMS, TP4 JTAG_TCK

GLAN_TEST_EN

LAN_XTL_DN, LAN_XTL_DP

R104 1K-04; R97 3.01K-1-04; GND GND

More than 300uW

X1 X-25M; C104 33P-04; C105 33P-04; GND

X3 Crystal CL=20pF
LAN 82579 Ci=2p~4pF
Cs=2.8p~10pF by Layout
Ce=2*CL-(Cs+Ci)

15 GLAN_CLK_P / GLAN_CLK_N

12 LAN_RX_P6 / LAN_RX_N6 → C130 .1U-X7-04, C131 .1U-X7-04 → LAN_RX_P6_C / LAN_RX_N6_C

Close to PHY

12 LAN_TX_P6 / LAN_TX_N6 → C132 .1U-X7-04, C133 .1U-X7-04 → LAN_TX_P6_C / LAN_TX_N6_C

14 SMLK0_LAN_CLK / SMLK0_LAN_DATA

+VCC3_LAN → R82 330-04-O, R83 330-04-O, R61 330-04-O

MDI1_P, MDI0_P, MDI0_N, MDI1_N — U12 AZC099-04S-R7G-S-O

MDI3_P, MDI2_P, MDI2_N, MDI3_N — U9 AZC099-04S-R7G-S-O

UGND

C69 1U; C51 .1U-04-O; GND GND

CENTER_TAP, MDI0_P, MDI0_N, MDI1_P, MDI1_N, MDI2_P, MDI2_N, MDI3_P, MDI3_N

USBLANB USBX2-LAN-1000

POWER	19	GLED	20
TX1+	21	OLED	22
TX1-	G5	YLED	G6
TX2+	G7	POWER	G8
TX2-	18	H_KAN	LAN_UGND
TX3+	H_LAN		
TX3-	H_LAN		
TX4+	H_LAN		
TX4-	DGND		

LAN_LED2_100M_R, LAN_LED0_ACTIVE_R

R101 330-04 LAN_LED2_100M; R278 330-04 LAN_LED1_1G / LAN_LED0_ACTIVE

LAN_LED0_ACTIVE 31

10'06'17

+VCC3_LAN → C67 470P-04-O, C66 470P-04-O, C65 470P-04-O, C64 470P-04-O

R62 0-04 → UGND

06'17'10 CHANGE FOOTPRINT

FOR PANEL

05'24 delet

For EMI

Place Caps between chipset and Lan connector in Bottom Side.

SP12 SHORT PAD — UGND GND

10'06'29 del R85

LAN ACT LED DISABLE SWITCH

12 LAN_LED_D → G; 10'06'17

LAN_LED0_ACTIVE → D; 2N7002-S; S → LAN_LED0_ACTIVE_1; Q10

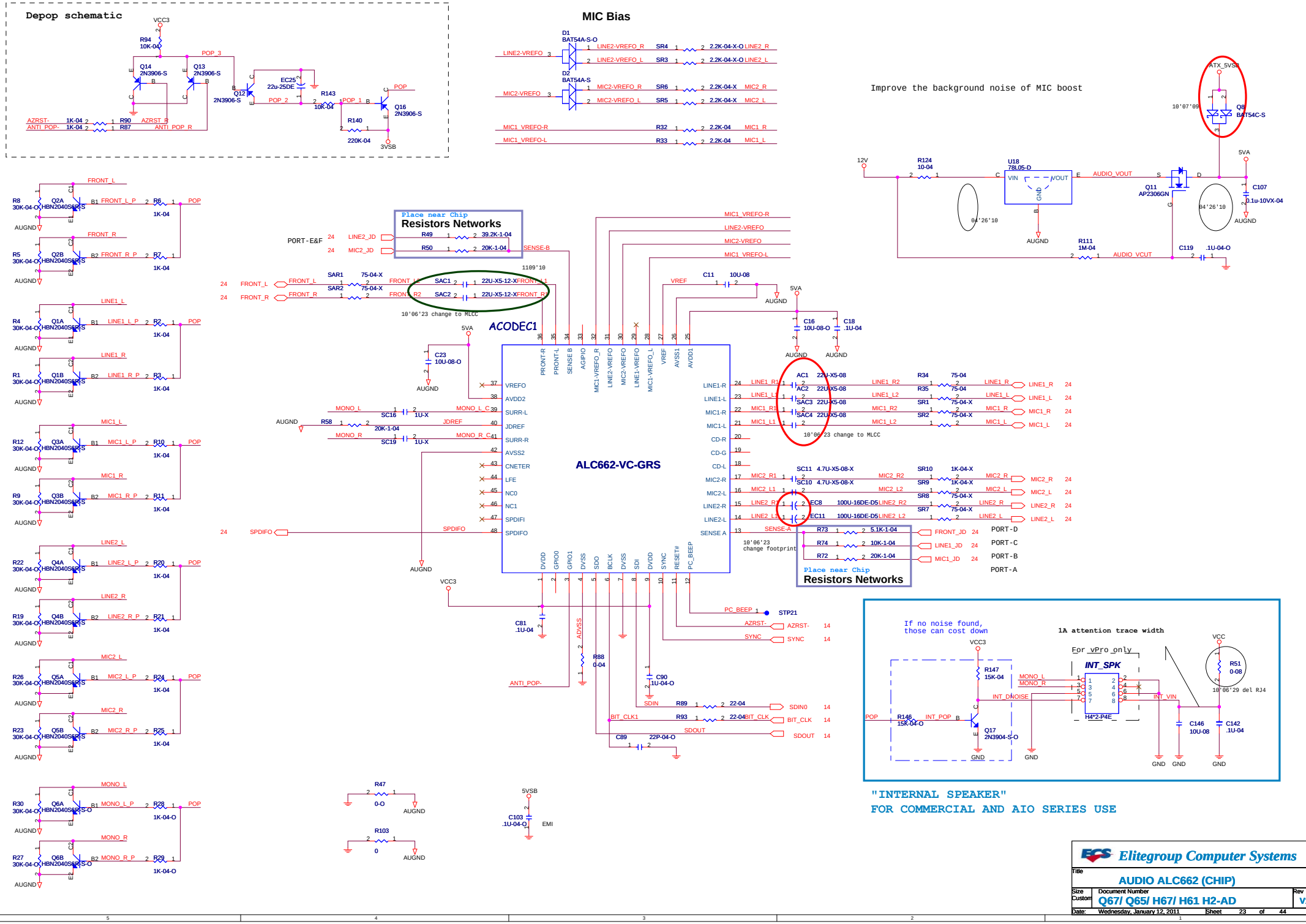
VCC → C506 .1U-04-O; STITCHING CAPS; GND

Elitegroup Computer Systems

Title: LAN PHY - 82579, USBLAN

Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

Date: Wednesday, January 12, 2011 | Sheet 22 of 44


Depop schematic
MIC Bias
Improve the background noise of MIC boost
Place near Chip
Resistors Networks
ACODEC1
ALC662-VC-GRS
Place near Chip
Resistors Networks
If no noise found,
those can cost down
1A attention trace width
For vPro only
"INTERNAL SPEAKER"
FOR COMMERCIAL AND AIO SERIES USE
Elitegroup Computer Systems
AUDIO ALC662 (CHIP)
Q67/ Q65/ H67/ H61 H2-AD
V1.0
Wednesday, January 12, 2011
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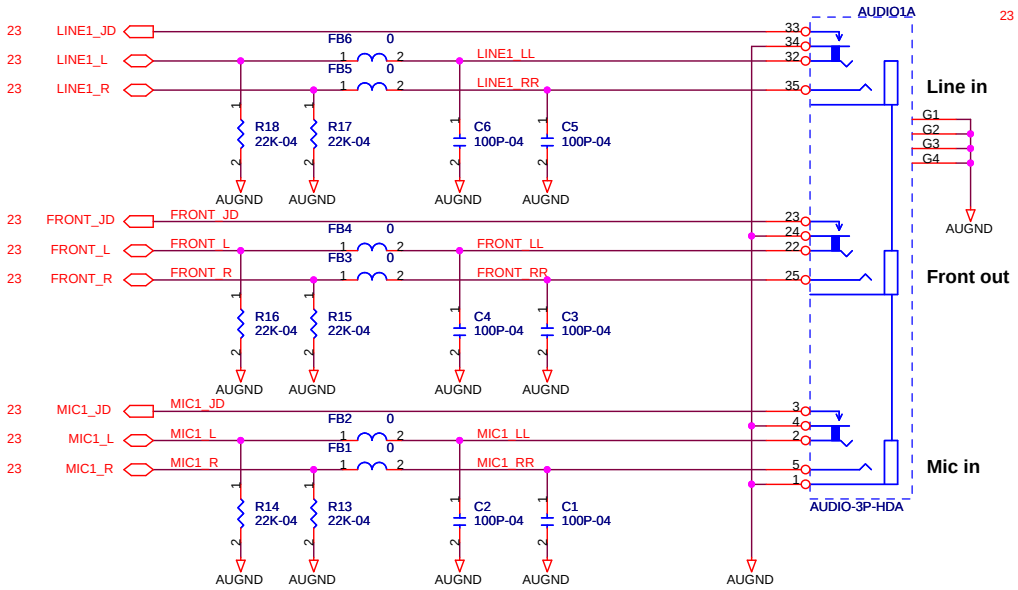
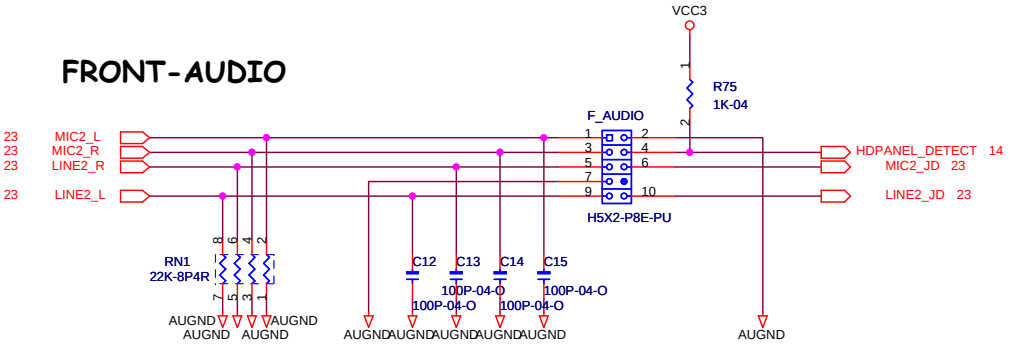
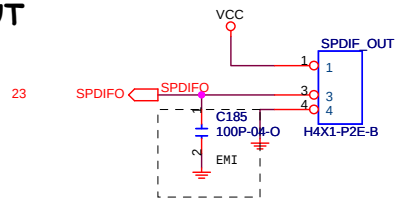
REAR-AUDIO

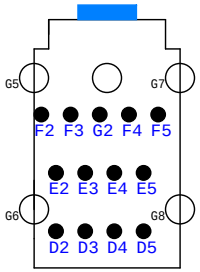


FRONT-AUDIO

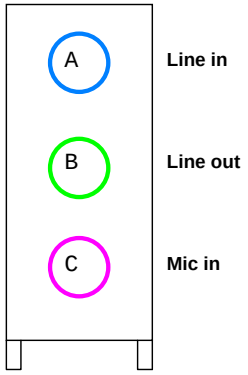


SPDIF-OUT





TOP VIEW



FRONT VIEW

Elitegroup Computer Systems		
Title: AUDIO ALC662 (PANEL)		
Size: B	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 24 of 44	

H61(consumer/commercial)"不" 上件

RN12 0-8P4R
USB_N7 USB_P7 USB_N6 USB_P6
CM7 CMF-S04-O
CM8 CMF-S04-O
U39 AZC099-04S-S-O
C379 1000P-04-O
F_USB1 H5X2B
EC51 220U-16DE
C507 .1U-04
80 mils

RN10 0-8P4R
USB_P9 USB_N9 USB_P8 USB_N8
CM9 CMF-S04-O
CM10 CMF-S04-O
U37 AZC099-04S-S-O
C382 1000P-04-O
F_USB2 H5X2B
EC52 220U-16DE
SC80 .1U-04-X
10'06'22 SWAP

RN11 0-8P4R
USB_P10 USB_N10 USB_P11 USB_N11
CM5 CMF-S04-O
CM6 CMF-S04-O
U38 AZC099-04S-S-O
C383 1000P-04-O
F_USB3 H5X2B
EC53 220U-16DE
SC81 .1U-04-X
10'06'22 SWAP

RN21 0-8P4R
USB_P12 USB_N12 USB_P13 USB_N13
CM12 CMF-S04-O
CM11 CMF-S04-O
U52 AZC099-04S-S-O
C496 1000P-04-O
F_USB4 H5X2B
EC58 220U-16DE
SC120 .1U-04-X
10'06'22 SWAP
04'26'10
10'06'17

H61(consumer/commercial)"不" 上件

FRONT PANEL USB HEADER

REAR PANEL USB HEADER

USB_P0 USB_N0 USB_P1 USB_N1
CM13 CMF-S04
CM14 CMF-S04
U54 AZC099-04S-S-O
SC130 1000P-04-X-O
USBLANA USBX2-LAN-1000
EC59 220U-16DE
BC35 .1U-04
10'06'17

USB_N2 USB_P2 USB_P4 USB_N4
CM1 CMF-S04
CM2 CMF-S04
U5 AZC099-04S-S-O
C53 1000P-04-O
USB
EC10 220U-16DE
SC14 .1U-04-X
10'07'02 CHANGE FOOTPRINT

USB_P5 USB_N5 USB_N3 USB_P3
CM3 CMF-S04
CM4 CMF-S04
U6 AZC099-04S-S-O
SC131 1000P-04-X-O
USBX4
EC9 220U-16DE
SC15 .1U-04-X
10'07'02 CHANGE FOOTPRINT

SP13 SHORT PAD
R67 0

VDIMM 5VSB
Ra R473 0-04
R471 1K-04-O
R510 1K-04-O Rb
GPIO40_S4S5 28,34
USBEN 33

	uP7536 Enable use	Ra	Rb	S4/S5 USB_5V_DUAL	Customer
*	VDIMM	0ohm	N A	0 Volt	Acer CONSUMER
	GPIO	N A	1Kohm	GPIO CONTROL	Acer COMMERCIAL

Q67/Q65/H61(commercial) 上件
H67/H61(consumer) 上件

ATX_5VSB VCC
U40 U41 U42 U53 uP7536
H61(consumer/commercial)"不" 上件

U55 U11 U10 uP7536
14,28,32,33,34,37,38

Elitegroup Computer Systems

Title: USB - PWR/CONN/HDR
Size: Custom
Document Number: Q67/ Q65/ H67/ H61 H2-AD
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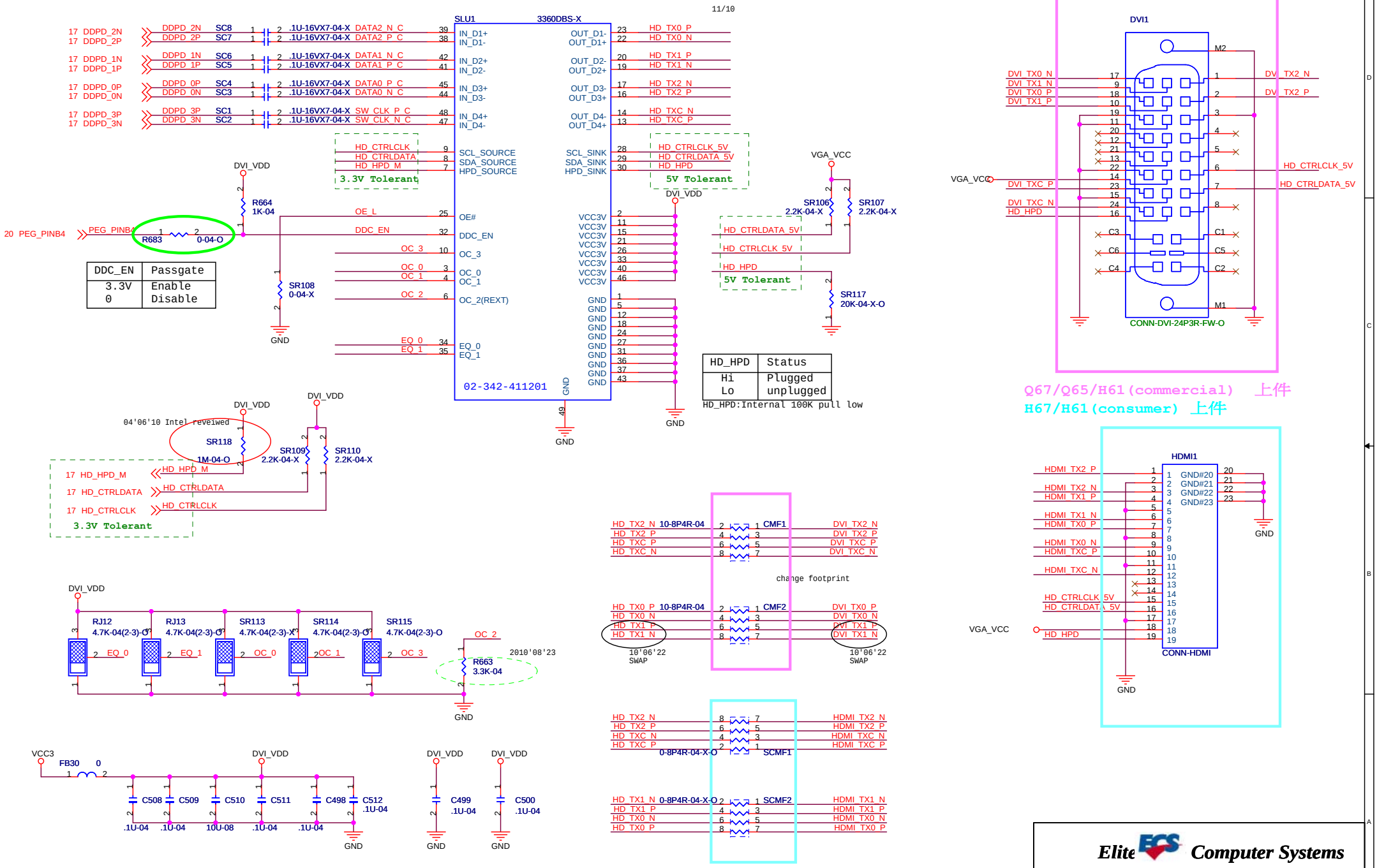
Level Shifter



DDC_EN	Passgate
3.3V	Enable
0	Disable

HD_HPD	Status
Hi	Plugged
Lo	unplugged

Q67/Q65/H61(commercial) 上件

H67/H61(consumer) 上件

Elite ECS Computer Systems

Title: DVI HDMI(either one)

Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

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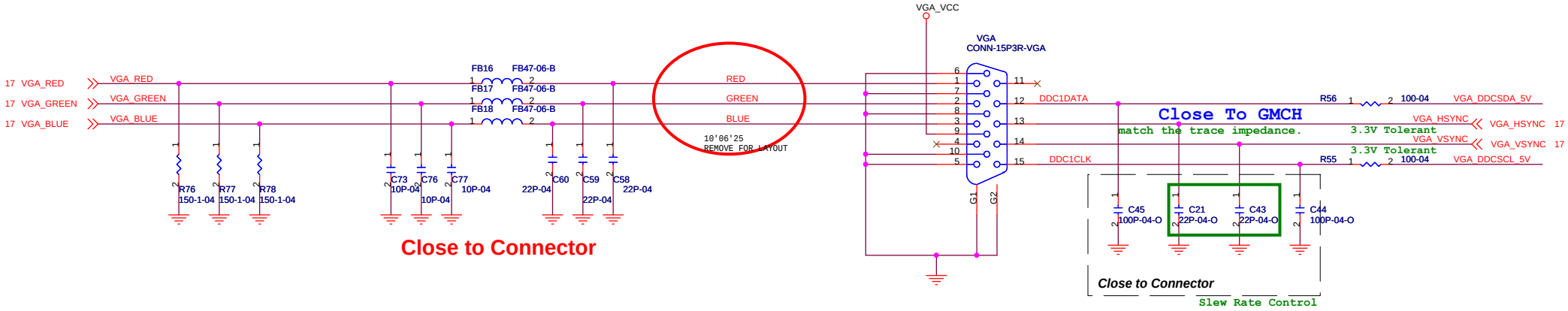
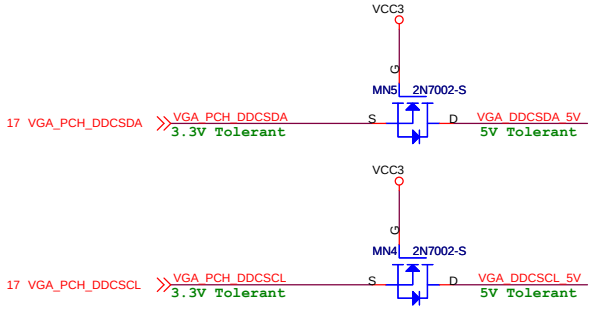
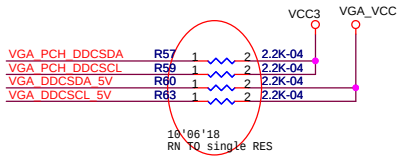
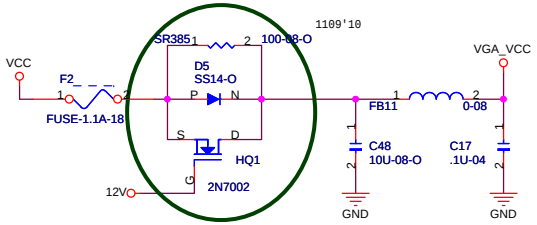


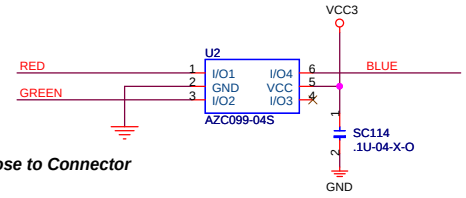
Close to Connector



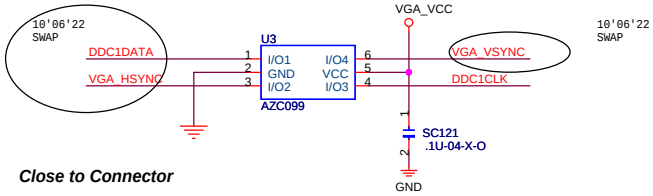


If build in Internal DVI/HDMI Con,
that can use the circuit to protect reverse voltage together.



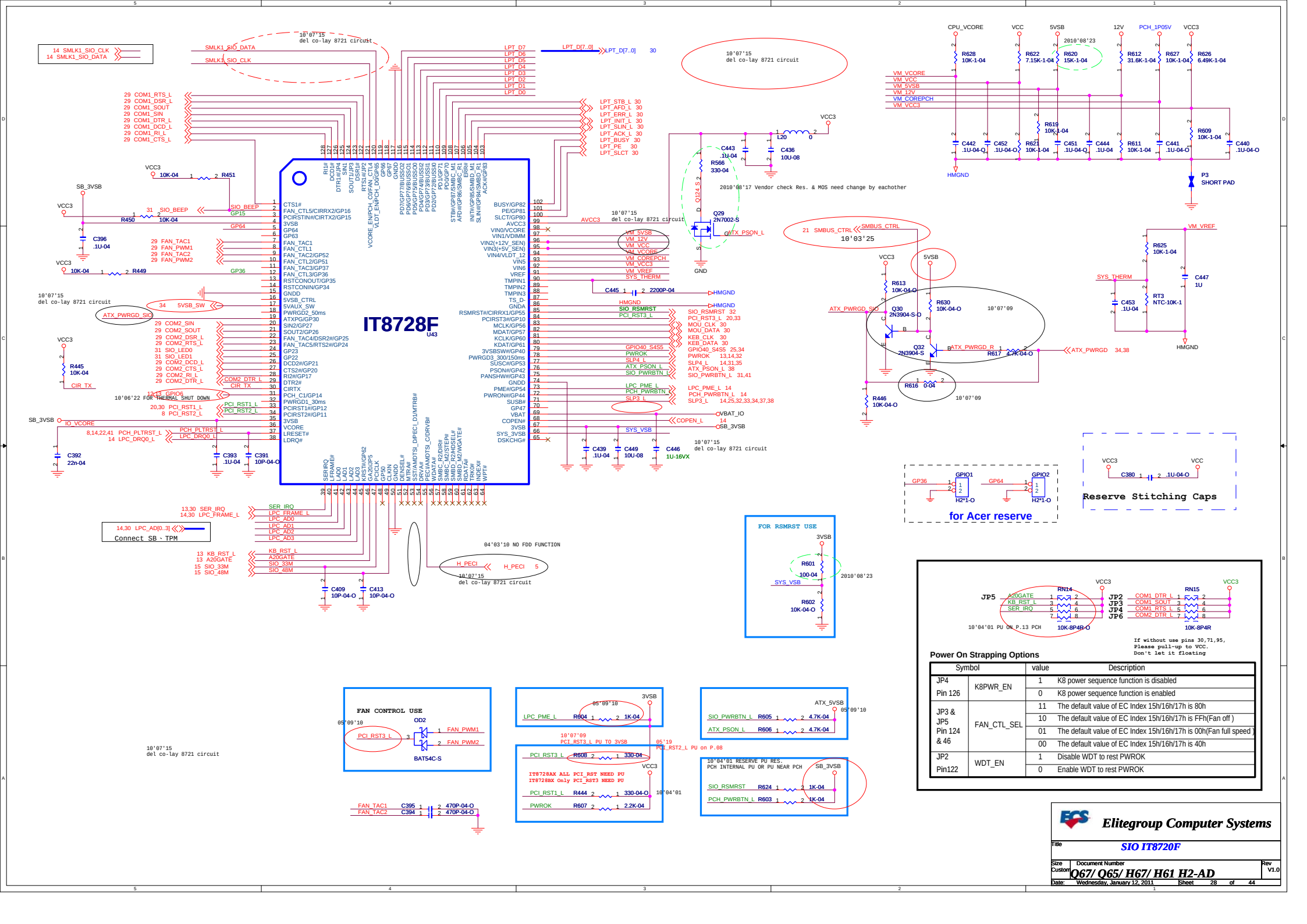


Close to Connector



Close to Connector

Elitegroup Computer Systems		
Title: VGA CONNECTOR		
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 27 of 44	



Power On Strapping Options

Symbol		value	Description
JP4 Pin 126	K8PWR_EN	1	K8 power sequence function is disabled
		0	K8 power sequence function is enabled
JP3 & JP5 Pin 124 & 46	FAN_CTL_SEL	11	The default value of EC Index 15h/16h/17h is 80h
		10	The default value of EC Index 15h/16h/17h is FFh(Fan off)
		01	The default value of EC Index 15h/16h/17h is 00h(Fan full speed)
		00	The default value of EC Index 15h/16h/17h is 40h
JP2 Pin122	WDT_EN	1	Disable WDT to rest PWROK
		0	Enable WDT to rest PWROK

Elitegroup Computer Systems

Title: SIO IT8720F

Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

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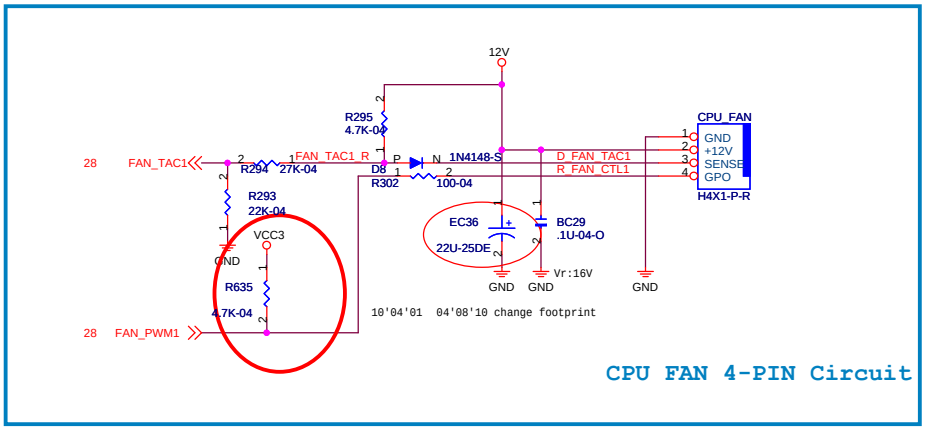
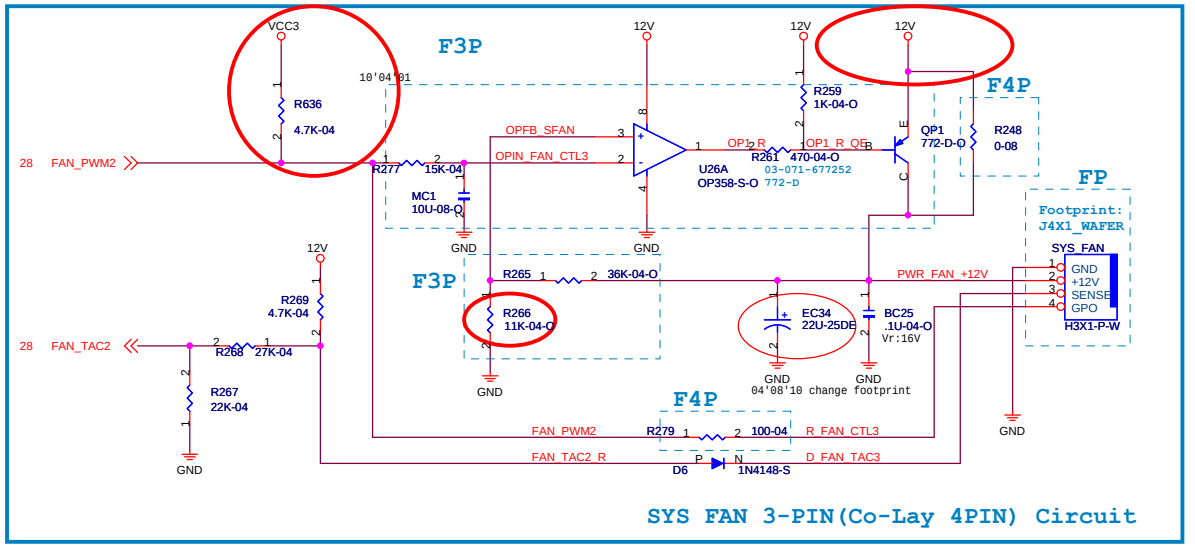
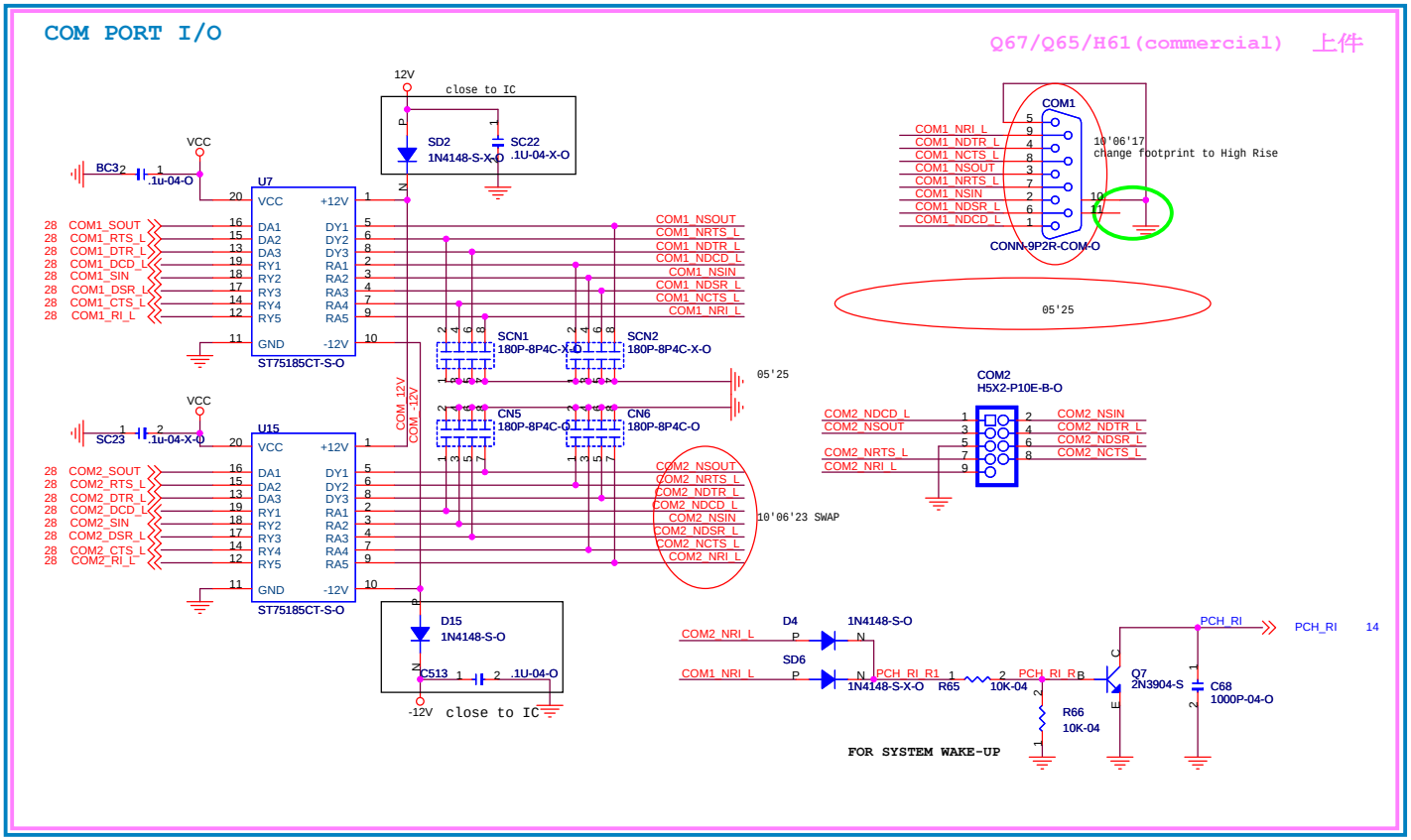




PWR FAN:

MODE	F3P	F4P	FP Value
3PIN	V	X	H3X1-P-W
* 4PIN	X	V	H4X1-P-W

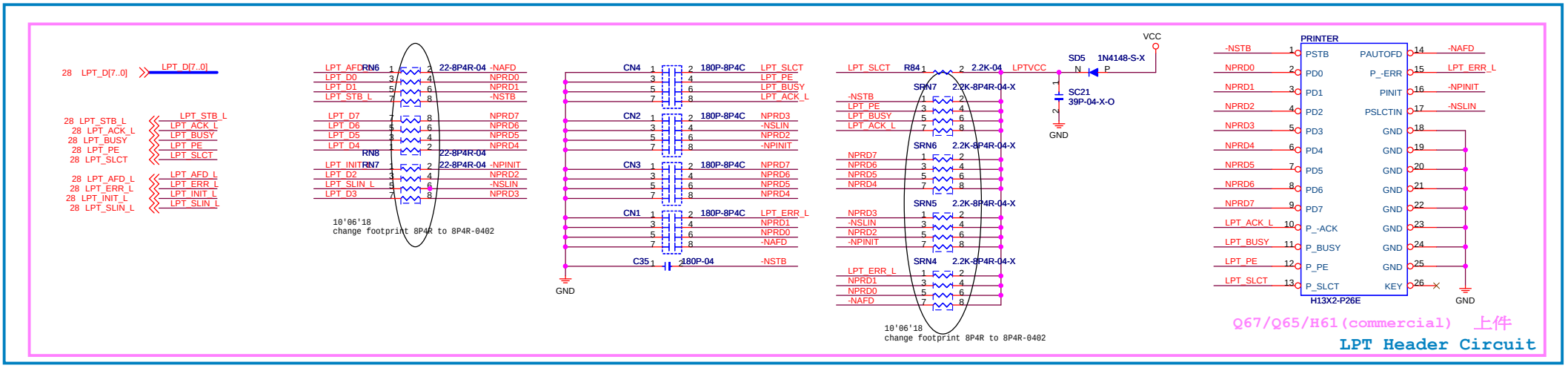


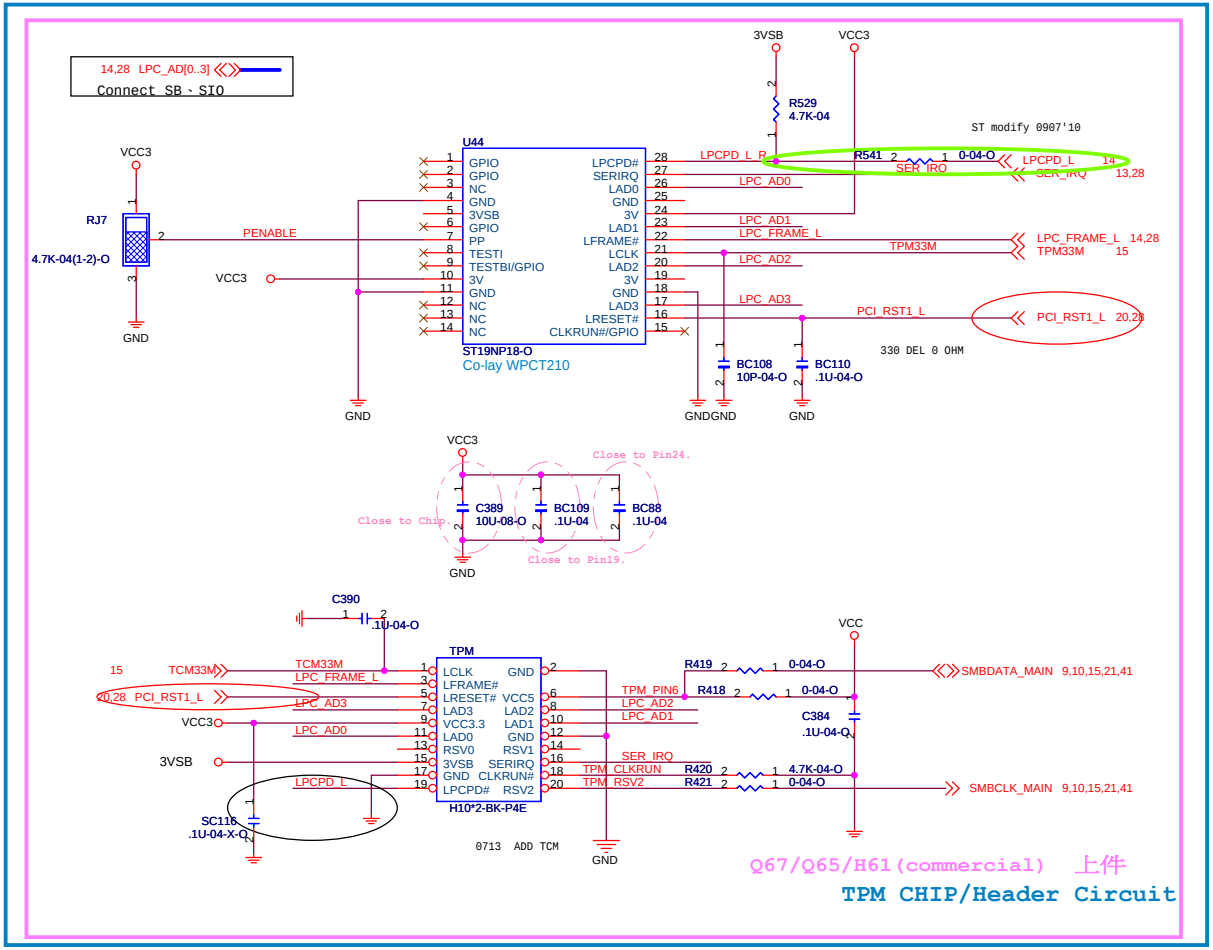
Elitegroup Computer Systems

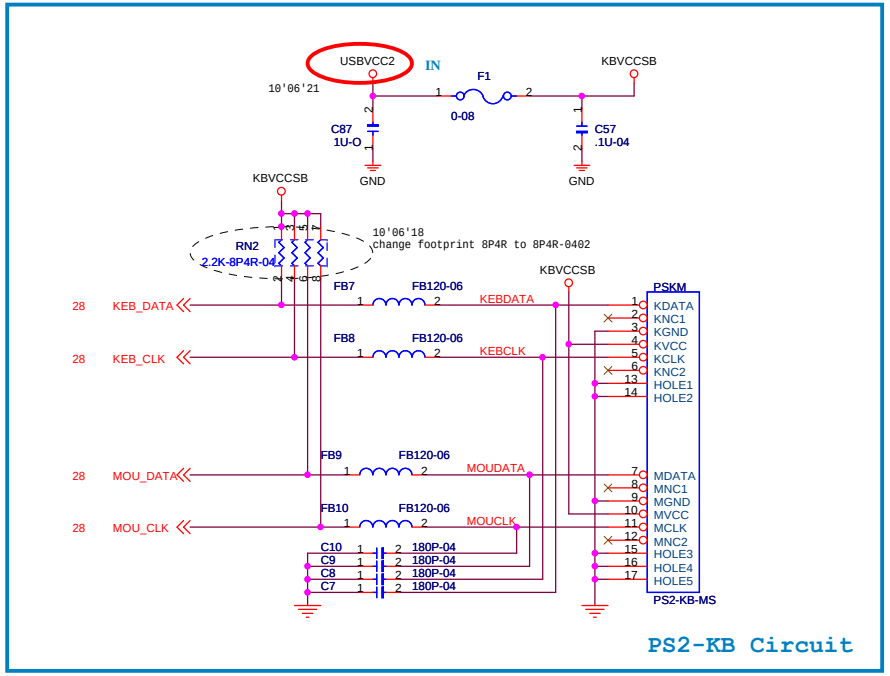
Title: FAN, COM

Size	Document Number	Rev
Custom	Q67/ Q65/ H67/ H61 H2-AD	V1.0

Date: Wednesday, January 12, 2011 Sheet 29 of 44





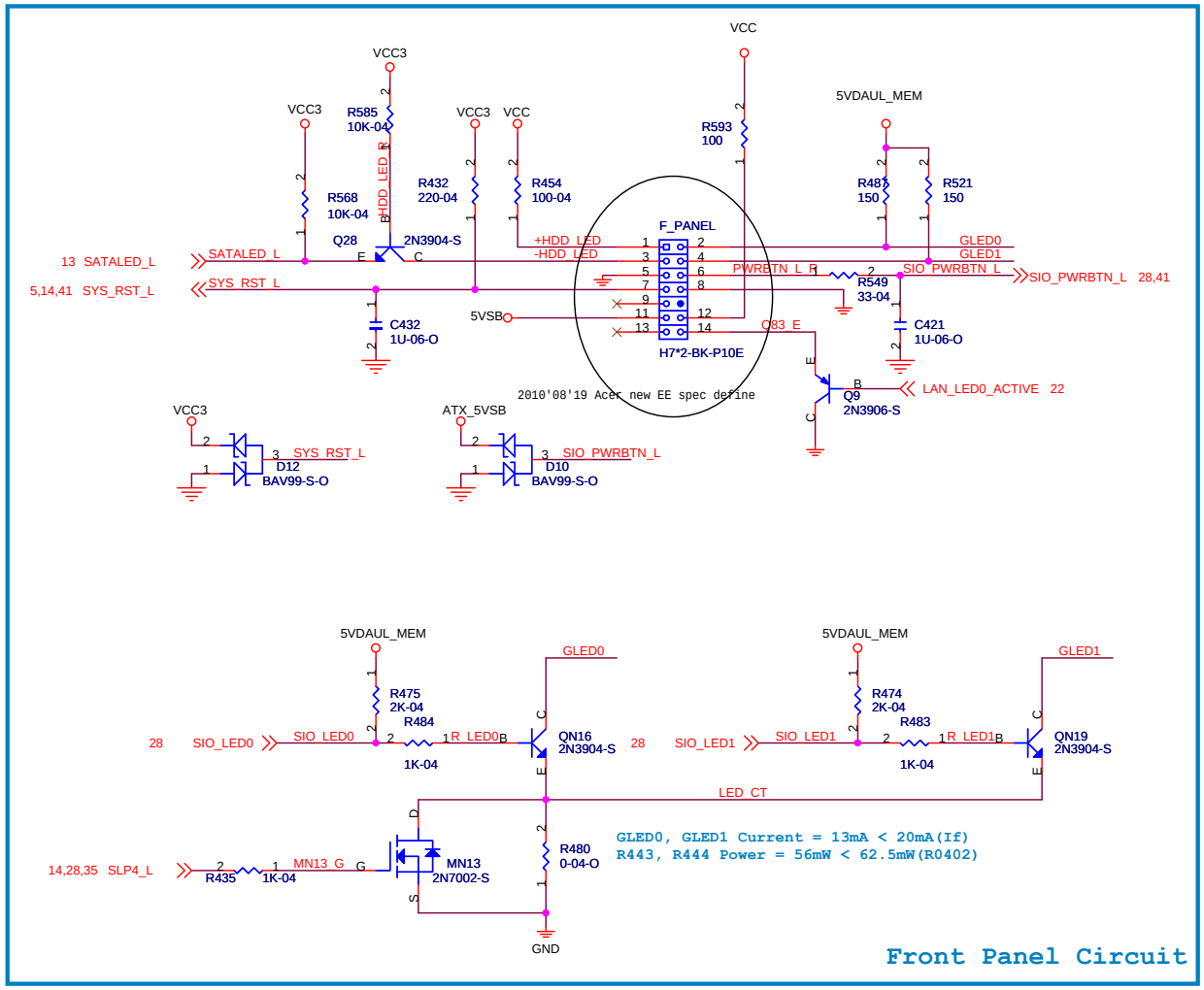


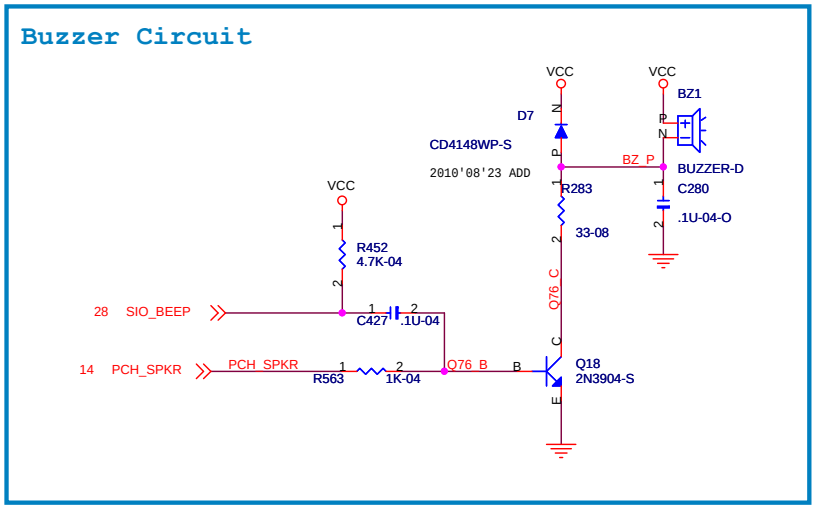
Elitegroup Computer Systems

Title: TPM, PS/2, LPT

Size: Custom | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

Date: Wednesday, January 12, 2011 | Sheet 30 of 44



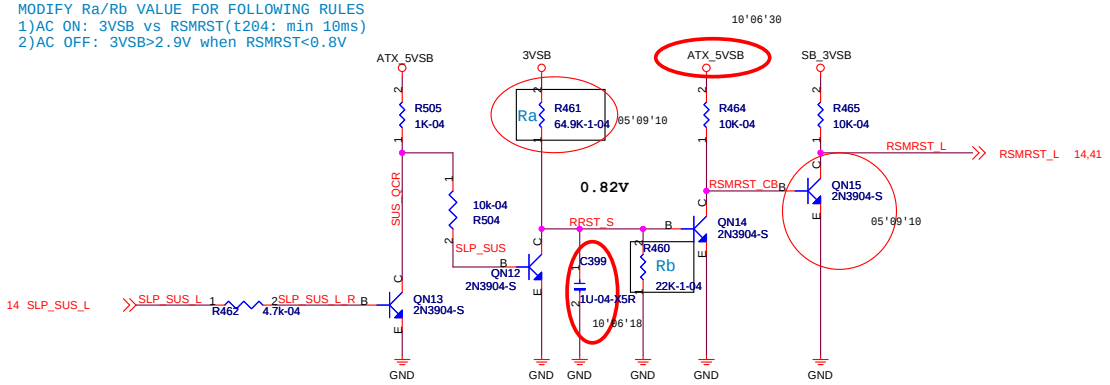


Elitegroup Computer Systems

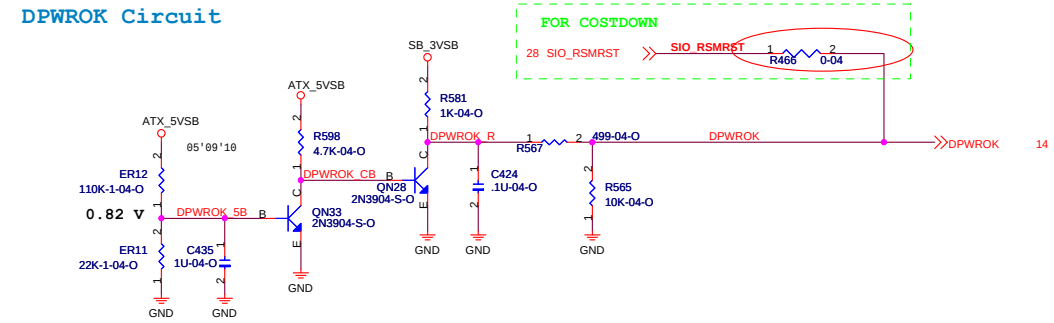
Title	F_PANEL, BUZ	
Size B	Document Number Q67/ Q65/ H67/ H61 H2-AD	Rev V1.0
Date: Wednesday, January 12, 2011	Sheet 31 of 44	

RSMRST Circuit

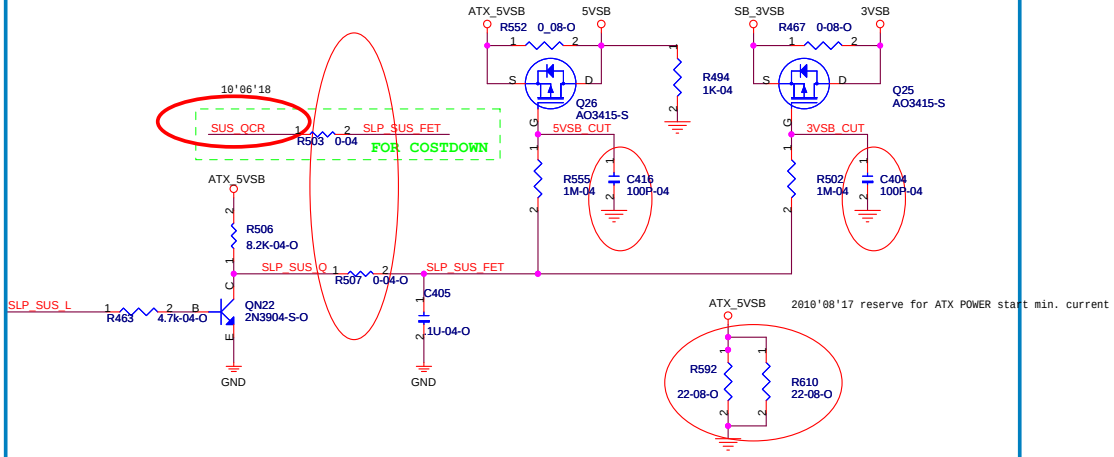
MODIFY Ra/Rb VALUE FOR FOLLOWING RULES
1)AC ON: 3VSB vs RSMRST(t204: min 10ms)
2)AC OFF: 3VSB>2.9V when RSMRST<0.8V

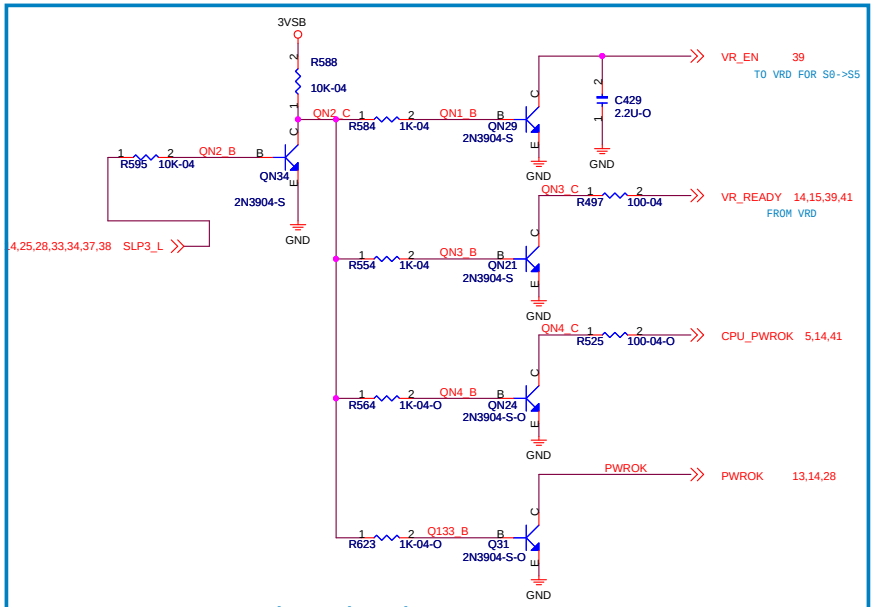


DPWROK Circuit

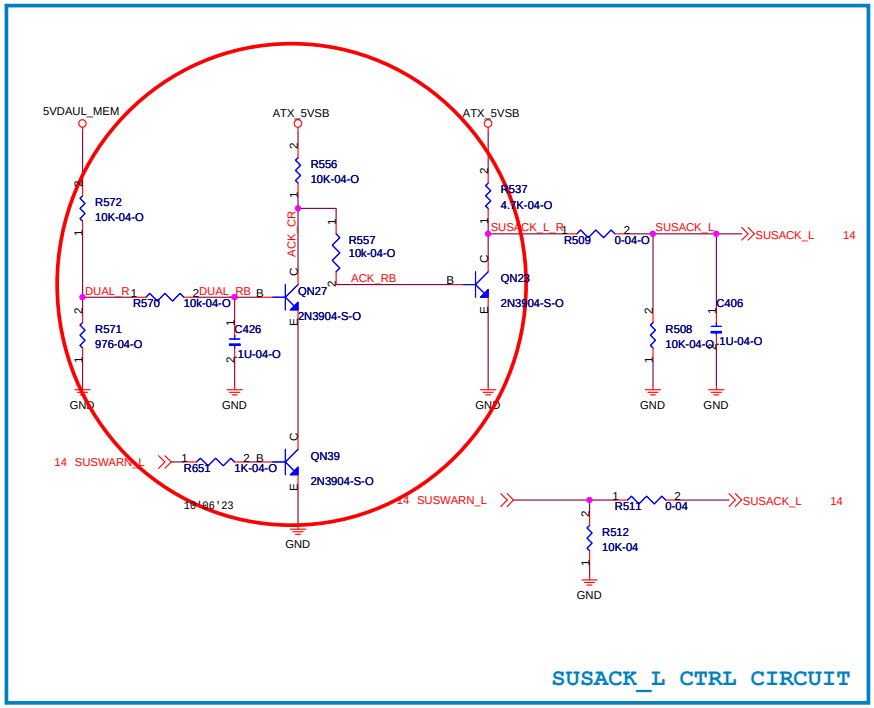


SUS_3/5VSB SWITCH



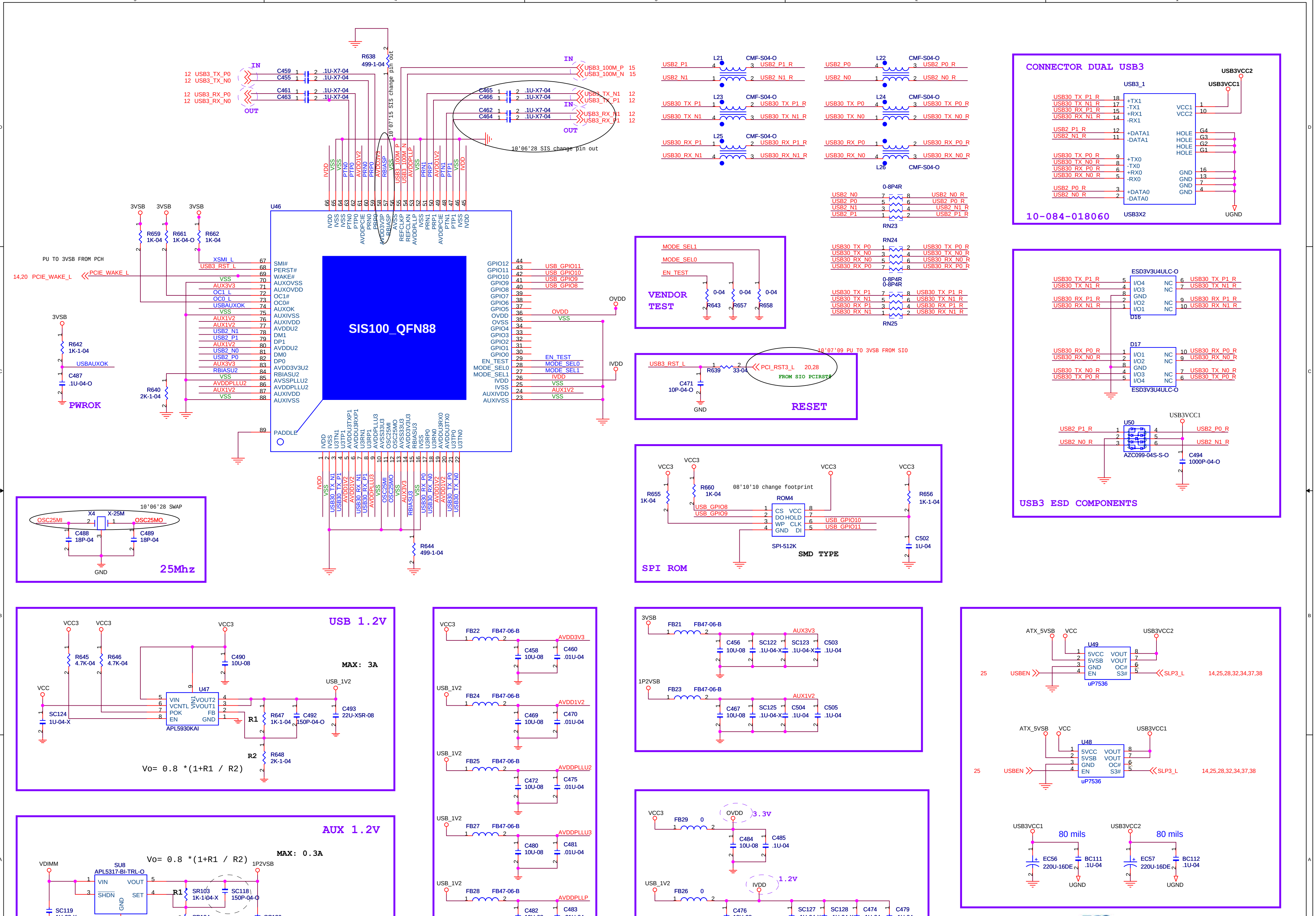


Power Down Sequencing Circuit



SUSACK_L CTRL CIRCUIT

Elitegroup Computer Systems		
Title: SEQUENCE/ DSW CKT		
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 32 of 44	



Elitegroup Computer Systems

Title: SiS SIS100 USB3.0 HOST

Size: C | Document Number: Q67/ Q65/ H67/ H61 H2-AD | Rev: V1.0

Date: Wednesday, January 12, 2011 | Sheet 33 of 44

Q67/Q65 上件
H67/H61(commercial)/H61(consumer) 上件

DEL CRB DISABLE 3VSB DUAL PCH

LAN Power Source	La	Lb	Lc
3V LANDUAL (Intel LAN)	V	X	X
Cost down (Intel LAN)	X	V	X
For Non-Intel LAN(NO WoL) or M0 Only	X	X	V

+VCC3_EPW	Ld	Le
COMBO	V	X
DEFENSIVE	X	V

VCC3_EPW control

5VDUAL_MEM MODULE

Q67/Q65 上件

PCH_MEPWROK Circuit

08/06change footprint to MLCC for chassis limited

3VSB Circuit

*
02-347-183840: 0.74W
IC REG.RT9183-33GGF..SOT-223(F-TYPE).
3.3V.1.5A.....LEAD-FREE(RoHS/HF).RICHTEK+PS_3VSB
XX-XXX-XXXXXX: 1.333W
RT9183-33GLF TO-252

Need more than 1A

Elitegroup Computer Systems

Title	DC/DC 3VDUAL	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 34 of 44	

VDIMM

SLP4_L	High	Low
NCP1587DR2G	Enable	Disable

NCP1587 & RT8116 pin to pin.
RT8116: boot voltage 30V.

02-436-587890
IC PWM.NCP1587DR2G..SO 8P.0.8V.....LEAD-FREE(RoHS).ON

Close to Pin5

Layout Note:
EC43, EC49.
Dual Value / Footprint:
560U-6V3OD6H9E / OSCON2D5_6D3_H9MM
560U-6.3D-OS-J / EC3D5_8_H9MM_1P

Layout Note:
VSMCx are under Channel B.
VSMCz are between Channel A & CPU.

MAX 28A
DCR=2mohm
08-413-105098
08-413-105099

1.5V
MAX 22A
VDIMM

VSMCx
VSMCz

20100705 CHANGE FOOTPRINT

10'07'02
CHANGE FOOTPRINT

Iloc=Iocset*Rocset/Rdson.
Iocset=10uA.

Ioc = 37~42A
Vgs = 4.5V
QML1//QML2 = 4m ~ 4.5m Ohm

DDR_VTT

CRB RESERVE S3 CTRL CKT

10'07'09
change footprint

0.75V
MAX 1A
VTT_DDR

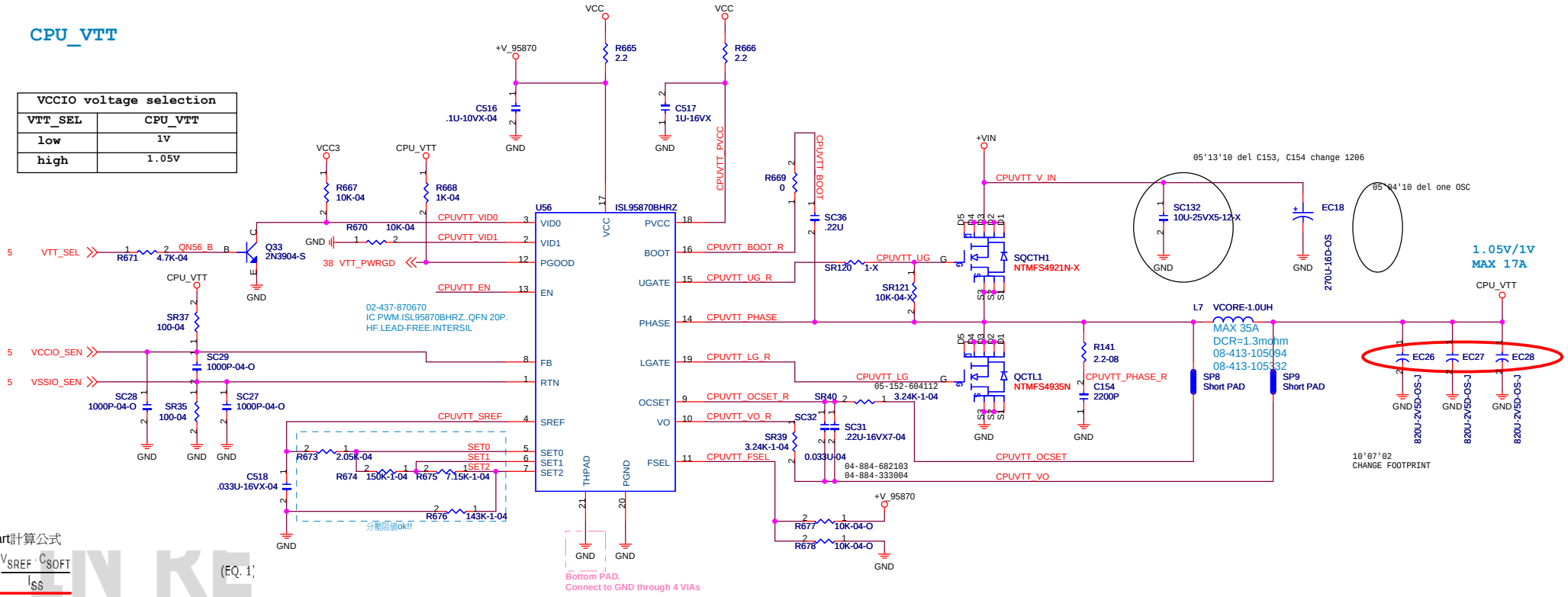
Layout Note:
SMVTTCf close to U35 Pin4.
SMVTTCg are between Channel A & B.
SMVTTCh are between Channel A & CPU.

Elitegroup Computer Systems

Title	DC/DC VDIMM/DDR_VTT/5VDUAL	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
Date: Wednesday, January 12, 2011	Sheet 35 of 44	

CPU_VTT

VCCIO voltage selection	
VTT_SEL	CPU_VTT
low	1V
high	1.05V



Soft-start計算公式

$$t_{SS} = \frac{V_{SREF} \cdot C_{SOFT}}{I_{SS}} \quad \text{(EQ. 1)}$$

Where:

- I_{SS} is the soft-start current source at the 20µA limit
- V_{SREF} is the buffered V_{REF} reference voltage

Frequency selection	
F(Hz)	FSEL
300K	Directly to GND
500K	Floating
600K	100K ohm to GND
1M	Pull-up to VCC

Vout計算公式

TABLE 2. ISL95870B VID TRUTH TABLE

VID STATE		RESULT		
VID1	VID0	CLOSE	V_{SREF}	V_{OUT}
1	1	SW0	V_{SET1}	V_{OUT1}
1	0	SW1	V_{SET2}	V_{OUT2}
0	1	SW2	V_{SET3}	V_{OUT3}
0	0	SW3	V_{SET4}	V_{OUT4}

Equations 21, 22, 23 and 24 give the specific V_{SET} equations for the ISL95870B setpoint reference voltages.

The ISL95870B V_{SET1} setpoint is written as Equation 21:

$$V_{SET1} = V_{REF} \quad \text{(EQ. 21)}$$

The ISL95870B V_{SET2} setpoint is written as Equation 22:

$$V_{SET2} = V_{REF} \cdot \left(1 + \frac{R_{SET1}}{R_{SET2} + R_{SET3} + R_{SET4}}\right) \quad \text{(EQ. 22)}$$

The ISL95870B V_{SET3} setpoint is written as Equation 23:

$$V_{SET3} = V_{REF} \cdot \left(1 + \frac{R_{SET1} + R_{SET2}}{R_{SET3} + R_{SET4}}\right) \quad \text{(EQ. 23)}$$

The ISL95870B V_{SET4} setpoint is written as Equation 24:

$$V_{SET4} = V_{REF} \cdot \left(1 + \frac{R_{SET1} + R_{SET2} + R_{SET3}}{R_{SET4}}\right) \quad \text{(EQ. 24)}$$

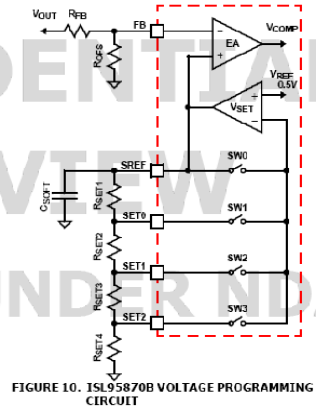
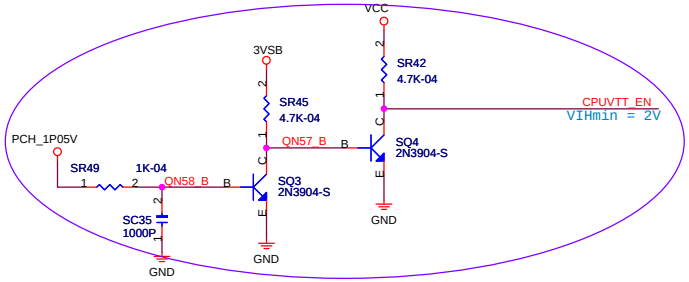


FIGURE 10. ISL95870B VOLTAGE PROGRAMMING CIRCUIT



Elitegroup Computer Systems

Title	DC/DC V_CPUVTT	
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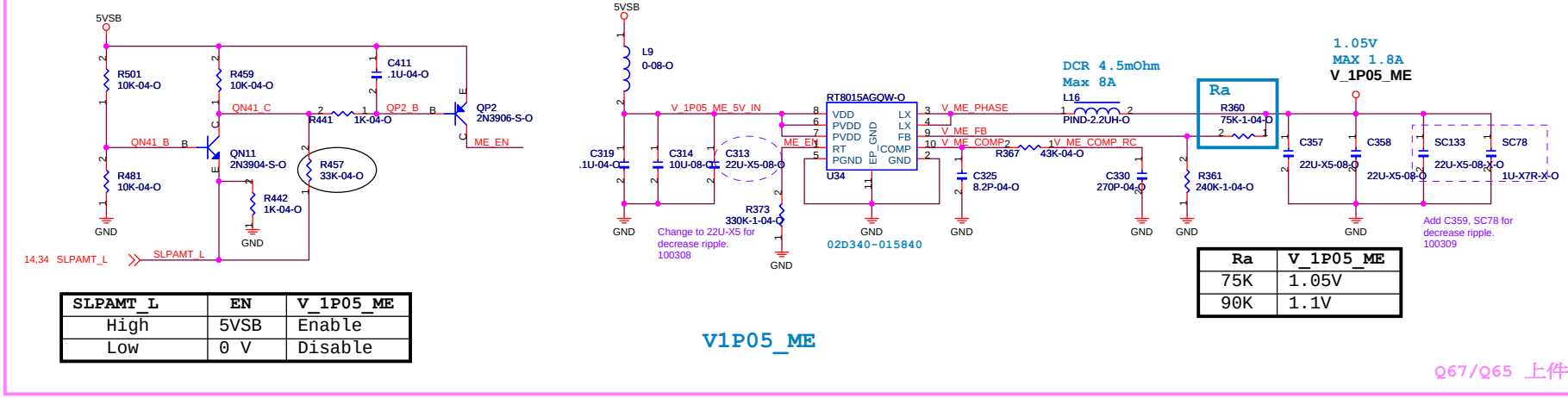
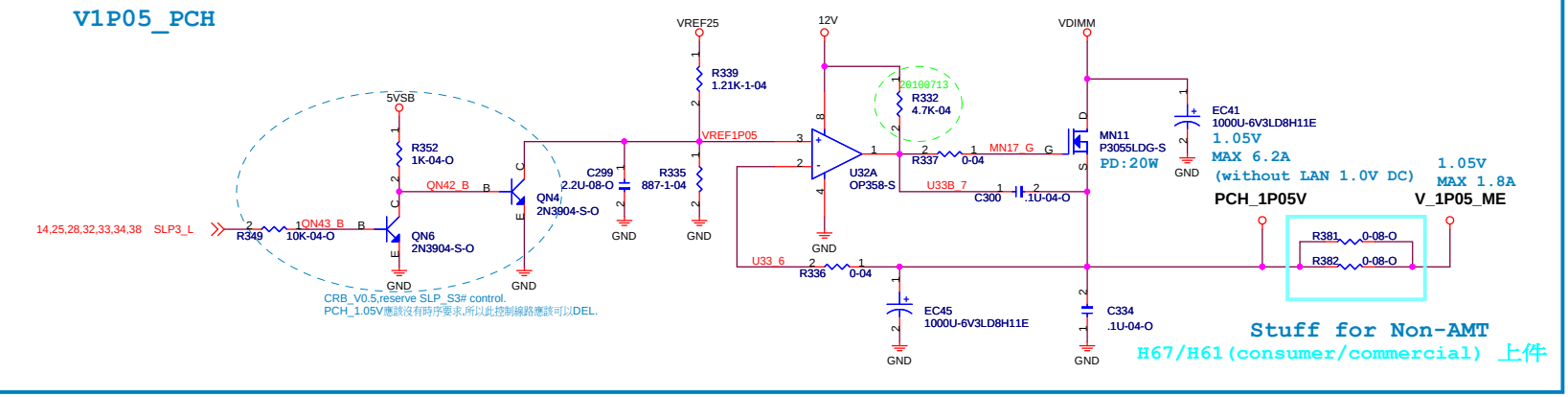


SLPAMT_L	EN	V_1P05_ME
High	5VSB	Enable
Low	0 V	Disable

Ra	V_1P05_ME
75K	1.05V
90K	1.1V

V1P05_ME

Q67/Q65 上件



BOM Note:

02-340-015840....dfn10_rt8106a
IC REG.RT8015AGQW.WDFN 10P.3A.LEAD-FREE(RoHS/HF).
RICHTEK

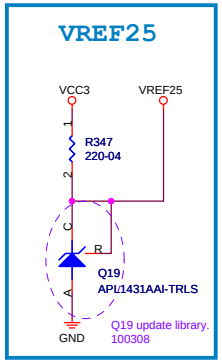
08-413-225094....choke_2r2m_pt4d9x4d6mm
POWER IND.2.2uH.20%.8A.4.5m OHM.DIP 2P.8.2*8.2*7.5*6.7 mm.AKL0806MN-2R2M-L3.2....LEAD-FREE(RoHS).MAGIC

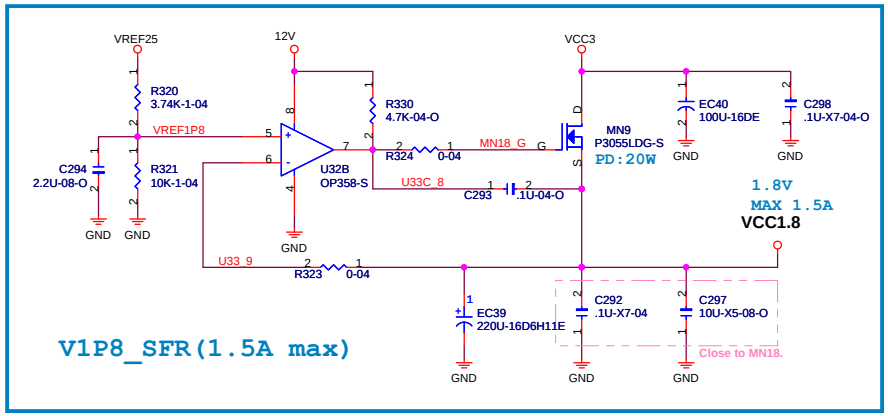
05-152-750113
RES.75K.1/16W.1%..SMD 0402.....LEAD-FREE(RoHS/HF).

05-152-430103
RES.43K.1/16W.5%..SMD 0402.....LEAD-FREE(RoHS/HF).

05-152-240114
RES.240K.1/16W.1%..SMD 0402.....LEAD-FREE(RoHS/HF).

04-880-828100
C/C.8.2pF.50V.0.25pf..NPO...SMD 0402....LEAD-FREE(RoHS/HF).





Elitegroup Computer Systems

Title: DC/DC V1P05_PCH,ME/V1P8_SFR

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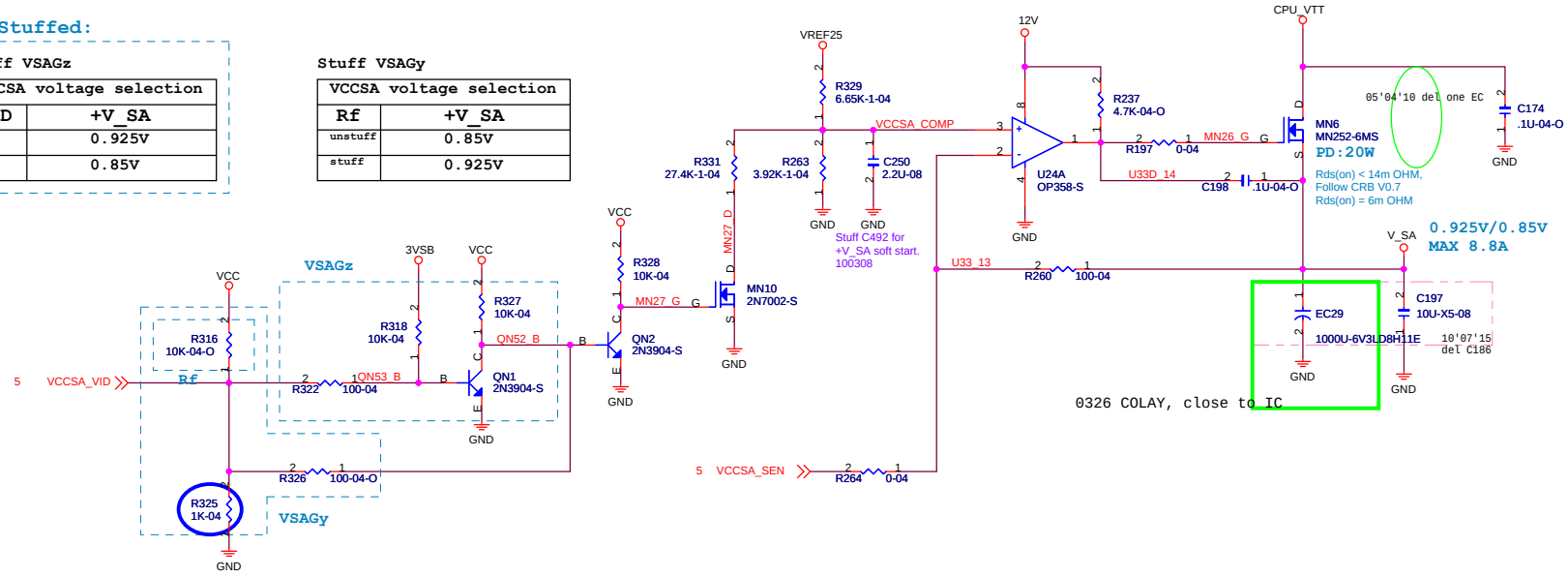
Default Stuffed:

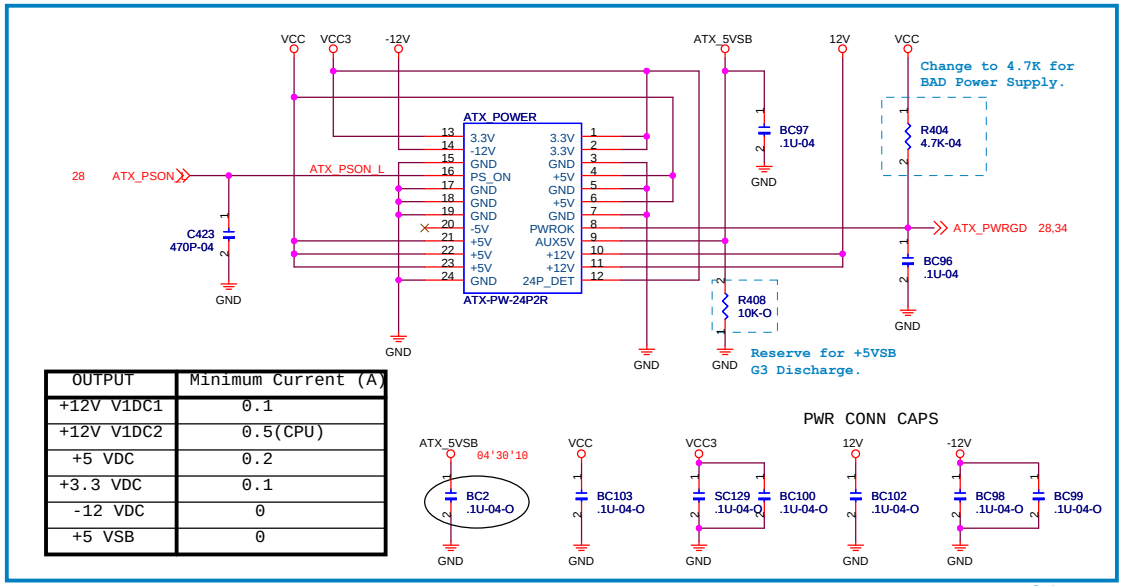
Stuff VSAGz

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

Stuff VSAGy

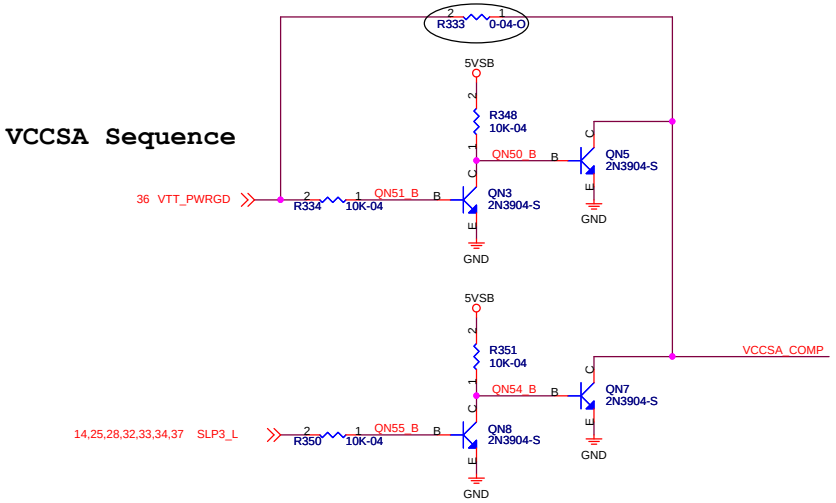
VCCSA voltage selection	
Rf	+V_SA
unstuff	0.85V
stuff	0.925V

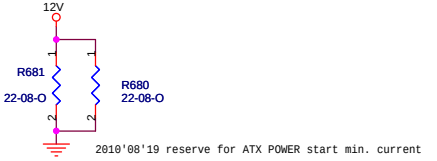




OUTPUT	Minimum Current (A)
+12V V1DC1	0.1
+12V V1DC2	0.5(CPU)
+5 VDC	0.2
+3.3 VDC	0.1
-12 VDC	0
+5 VSB	0

ATX Power 24PIN





Elitegroup Computer Systems

Title: DC/DC VCCSA, ATXPWR

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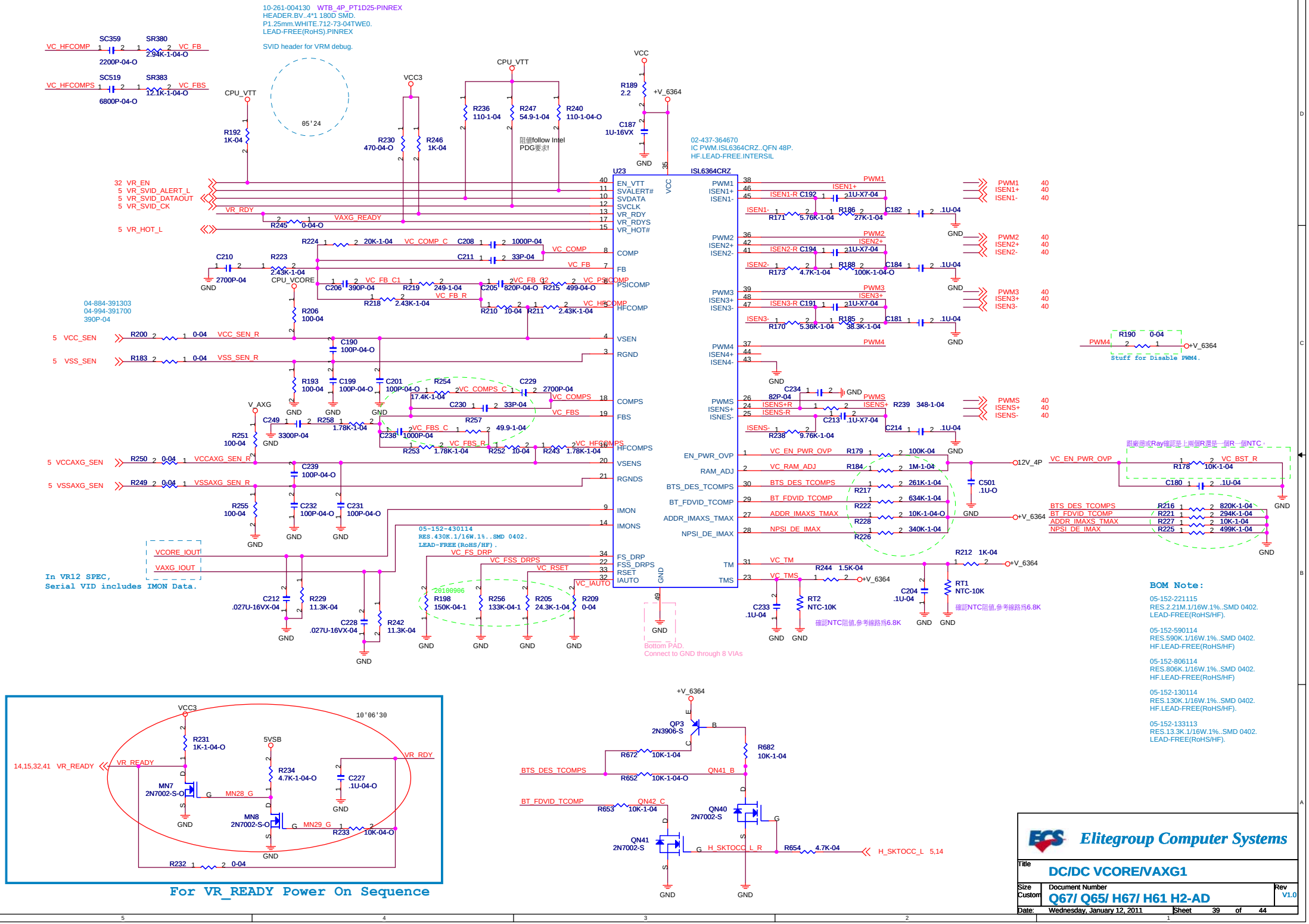
10-261-004130 WTB_4P_PT1D25-PINREX
HEADER.BV..4*1 180D SMD.
P1.25mm.WHITE.712-73-04TWE0.
LEAD-FREE(RoHS).PINREX
SVID header for VRM debug.
02-437-364670
IC PWM.ISL6364CRZ..QFN 48P.
HF.LEAD-FREE.INTERSIL
U23
ISL6364CRZ
VC_HFCOMP
SC359 2200P-04-O
SR380 2.94K-1-04-O
VC_FB
VC_HFCOMPS
SC519 6800P-04-O
SR383 12.1K-1-04-O
VC_FBS
CPU_VTT
VCC3
VCC
+V_6364
R189 2.2
C187 1U-16VX
R192 1K-04
R230 470-04-O
R246 1K-04
R236 110-1-04
R247 54.9-1-04
R240 110-1-04-O
阻值follow Intel PDG要求!
05'24
32 VR_EN
5 VR_SVID_ALERT_L
5 VR_SVID_DATAOUT
5 VR_SVID_CK
VR_RDY
VAXG_READY
R245 0-04-O
5 VR_HOT_L
EN_VTT
SVALERT#
SVDATA
SVCLK
VR_RDY
VR_RDYS
VR_HOT#
R224 20K-1-04
VC_COMP_C
C208 1000P-04
C211 33P-04
VC_COMP
COMP
C210 2700P-04
R223 2.43K-1-04
CPU_VCORE
VC_FB
FB
C206 390P-04
VC_FB_C1
R219 249-1-04
C205 820P-04-O
VC_FB_C2
R215 499-04-O
VC_PSICOMP
PSICOMP
R218 2.43K-1-04
VC_FB_R
R210 10-04
R211 2.43K-1-04
VC_HFCOMP
HFCOMP
04-884-391303
04-994-391700
390P-04
R206 100-04
5 VCC_SEN
R200 0-04
VCC_SEN_R
VSEN
5 VSS_SEN
R183 0-04
VSS_SEN_R
RGND
C190 100P-04-O
R193 100-04
C199 100P-04-O
C201 100P-04-O
R254 17.4K-1-04
C229 2700P-04
VC_COMPS_C
C230 33P-04
VC_COMPS
COMPS
VC_FBS
FBS
V_AXG
C249 3300P-04
R258 1.78K-1-04
R257 49.9-1-04
C238 1000P-04
VC_FBS_C
R253 1.78K-1-04
VC_FBS_R
R252 10-04
R243 1.78K-1-04
VC_HFCOMPS
HFCOMPS
R251 100-04
5 VCCAXG_SEN
R250 0-04
VCCAXG_SEN_R
VSENS
5 VSSAXG_SEN
R249 0-04
VSSAXG_SEN_R
RGNDS
C239 100P-04-O
R255 100-04
C232 100P-04-O
C231 100P-04-O
IMON
IMONS
05-152-430114
RES.430K.1/16W.1%..SMD 0402.
LEAD-FREE(RoHS/HF).
VCORE_IOUT
VAXG_IOUT
In VR12 SPEC,
Serial VID includes IMON Data.
VC_FS_DRP
VC_FSS_DRPS
VC_RSET
VC_IAUTO
FS_DRP
FSS_DRPS
RSET
IAUTO
20100906
R198 150K-04-1
R256 133K-04-1
R205 24.3K-1-04
R209 0-04
C212 .027U-16VX-04
R229 11.3K-04
C228 .027U-16VX-04
R242 11.3K-04
Bottom PAD.
Connect to GND through 8 VIAs
PWM1
ISEN1+
ISEN1-
ISEN1-R C192 1U-X7-04
R171 5.76K-1-04
R186 27K-1-04
C182 .1U-04
PWM2
ISEN2+
ISEN2-
ISEN2-R C194 1U-X7-04
R173 4.7K-1-04
R188 100K-1-04-O
C184 .1U-04
PWM3
ISEN3+
ISEN3-
ISEN3-R C191 1U-X7-04
R170 5.36K-1-04
R185 38.3K-1-04
C181 .1U-04
PWM4
ISEN4+
ISEN4-
R190 0-04
Stuff for Disable PWM4.
PWMS
ISENS+
ISENS-
C234 82P-04
ISENS+R
R239 348-1-04
ISENS-R
C213 .1U-X7-04
ISENS-
R238 9.76K-1-04
C214 .1U-04
EN_PWR_OVP
RAM_ADJ
BTS_DES_TCOMPS
BT_FDVID_TCOMPS
ADDR_IMAXS_TMAX
NPSI_DE_IMAX
TM
TMS
VC_EN_PWR_OVP
R179 100K-04
VC_RAM_ADJ
R184 1M-1-04
BTS_DES_TCOMPS
R217 261K-1-04
BT_FDVID_TCOMPS
R222 634K-1-04
ADDR_IMAXS_TMAX
R228 10K-1-04-O
NPSI_DE_IMAX
R226 340K-1-04
VC_TM
R244 1.5K-04
VC_TMS
C233 .1U-04
RT2 NTC-10K
C204 .1U-04
RT1 NTC-10K
R212 1K-04
12V_4P
C501 .1U-O
跟廠商或Ray確認是上兩個R還是一個R一個NTC。
VC_BST_R
R178 10K-1-04
C180 .1U-04
R216 820K-1-04
R221 294K-1-04
R227 10K-1-04
R225 499K-1-04
確認NTC阻值,參考線路爲6.8K
BOM Note:
05-152-221115
RES.2.21M.1/16W.1%..SMD 0402.
LEAD-FREE(RoHS/HF).
05-152-590114
RES.590K.1/16W.1%..SMD 0402.
HF.LEAD-FREE(RoHS/HF)
05-152-806114
RES.806K.1/16W.1%..SMD 0402.
HF.LEAD-FREE(RoHS/HF)
05-152-130114
RES.130K.1/16W.1%..SMD 0402.
HF.LEAD-FREE(RoHS/HF).
05-152-133113
RES.13.3K.1/16W.1%..SMD 0402.
LEAD-FREE(RoHS/HF).
10'06'30
14,15,32,41 VR_READY
R231 1K-1-04-O
5VSB
R234 4.7K-1-04-O
C227 .1U-04-O
MN7 2N7002-S-O
MN8 2N7002-S-O
MN28_G
MN29_G
R233 10K-04-O
R232 0-04
For VR_READY Power On Sequence
QP3 2N3906-S
R672 10K-1-04
R682 10K-1-04
BTS_DES_TCOMPS
R652 10K-1-04-O
QN41_B
BT_FDVID_TCOMP
R653 10K-1-04
QN42_C
QN40 2N7002-S
QN41 2N7002-S
H_SKTOCC_L_R
R654 4.7K-04
H_SKTOCC_L 5,14
Elitegroup Computer Systems
Title
DC/DC VCORE/VAXG1
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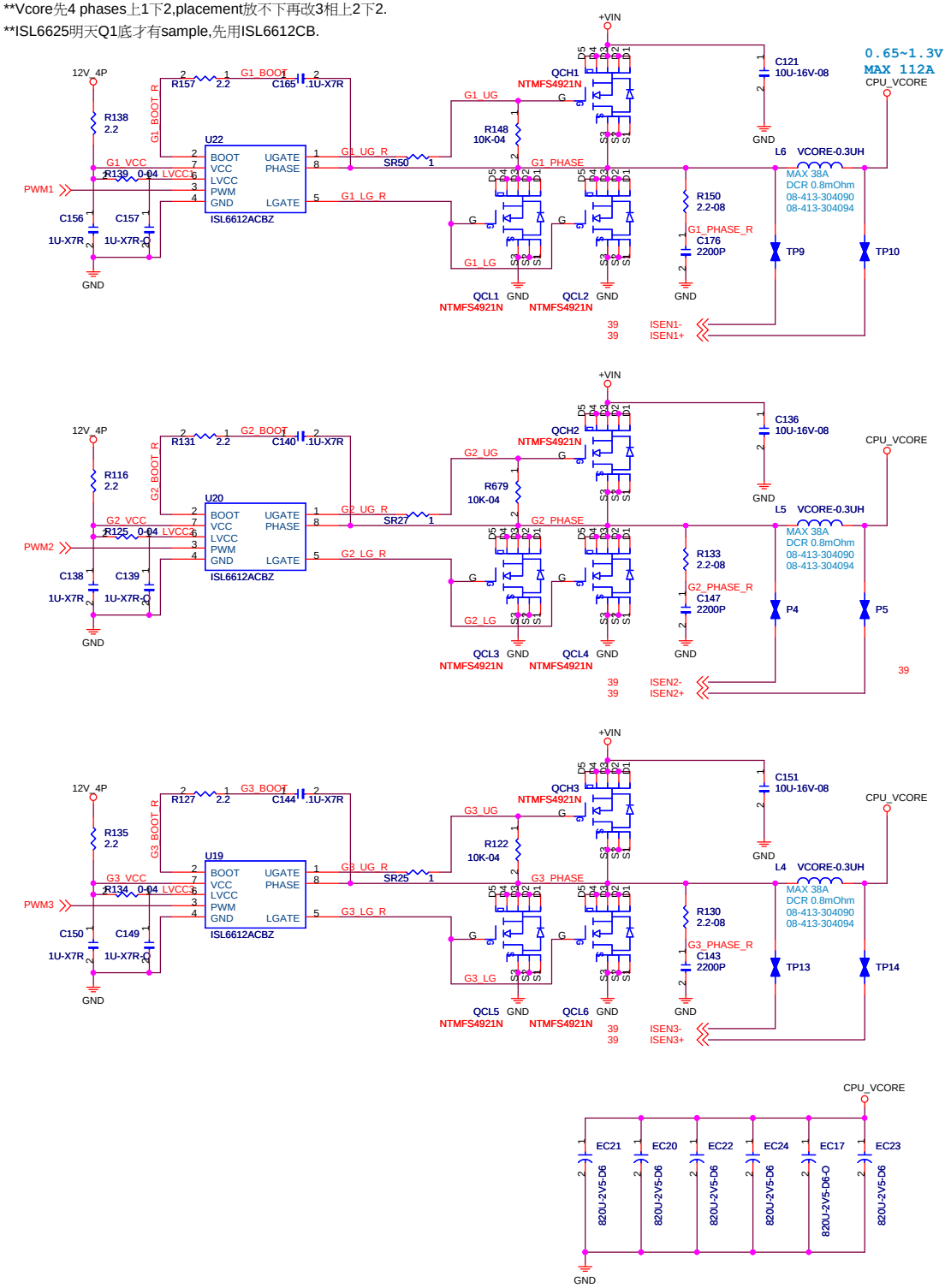
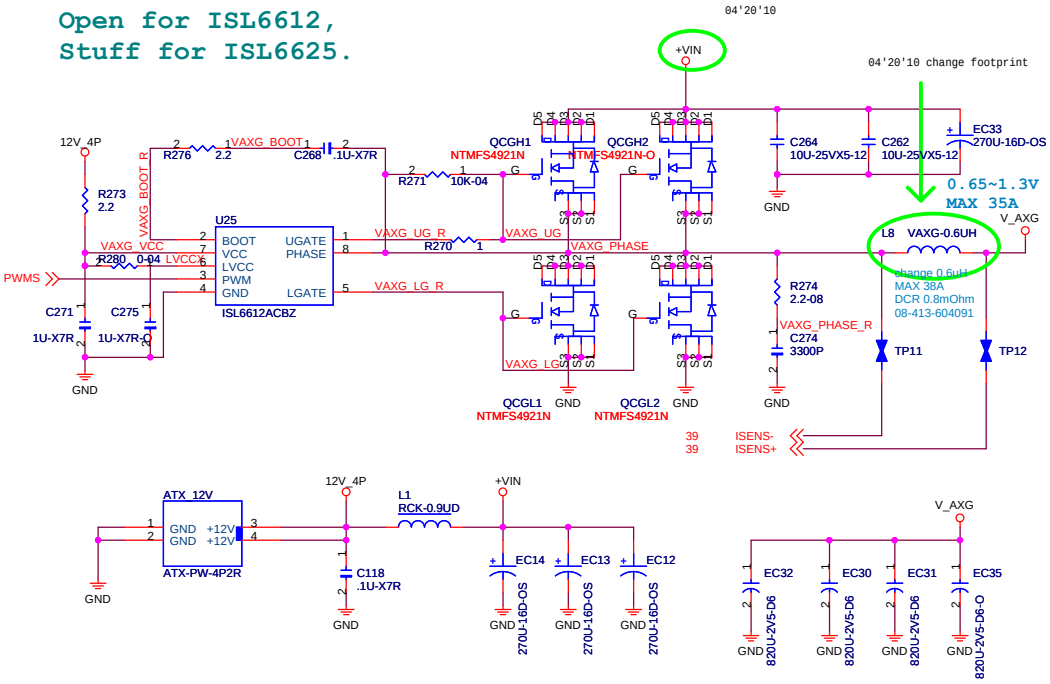
**Vcore先4 phases上1下2,placement放不下再改3相上2下2.
**ISL6625明天Q1底才有sample,先用ISL6612CB.



02-415-612672
IC DRIVER.ISL6612ACBZ..SO 8P.LEAD-FREE.INTERSIL

Stuff for ISL6612,
Open for ISL6625.

Open for ISL6612,
Stuff for ISL6625.



Elitegroup Computer Systems		
Title: DC/DC VCORE/VAXG2		
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
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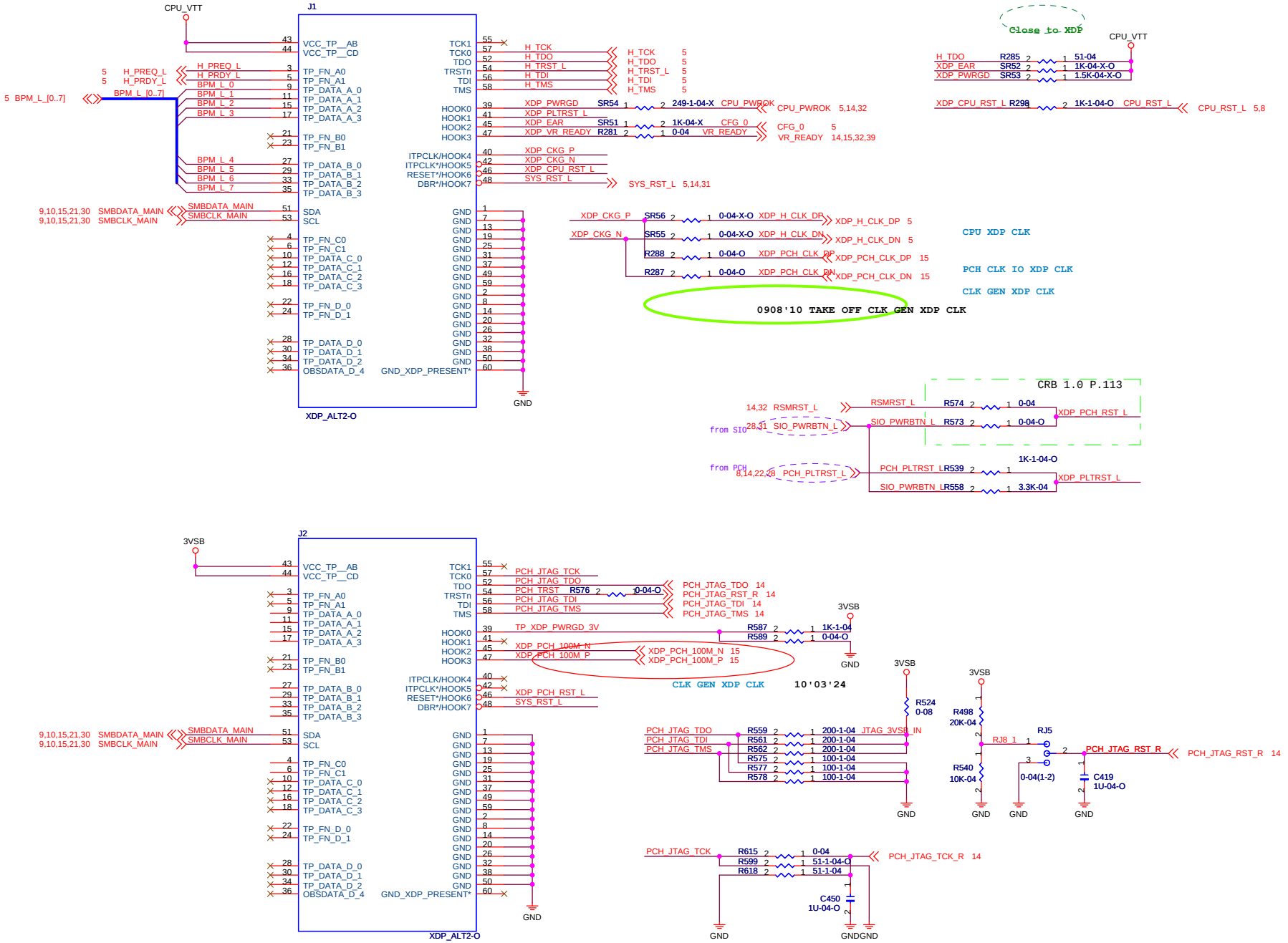

Elitegroup Computer Systems

Title	XDP	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
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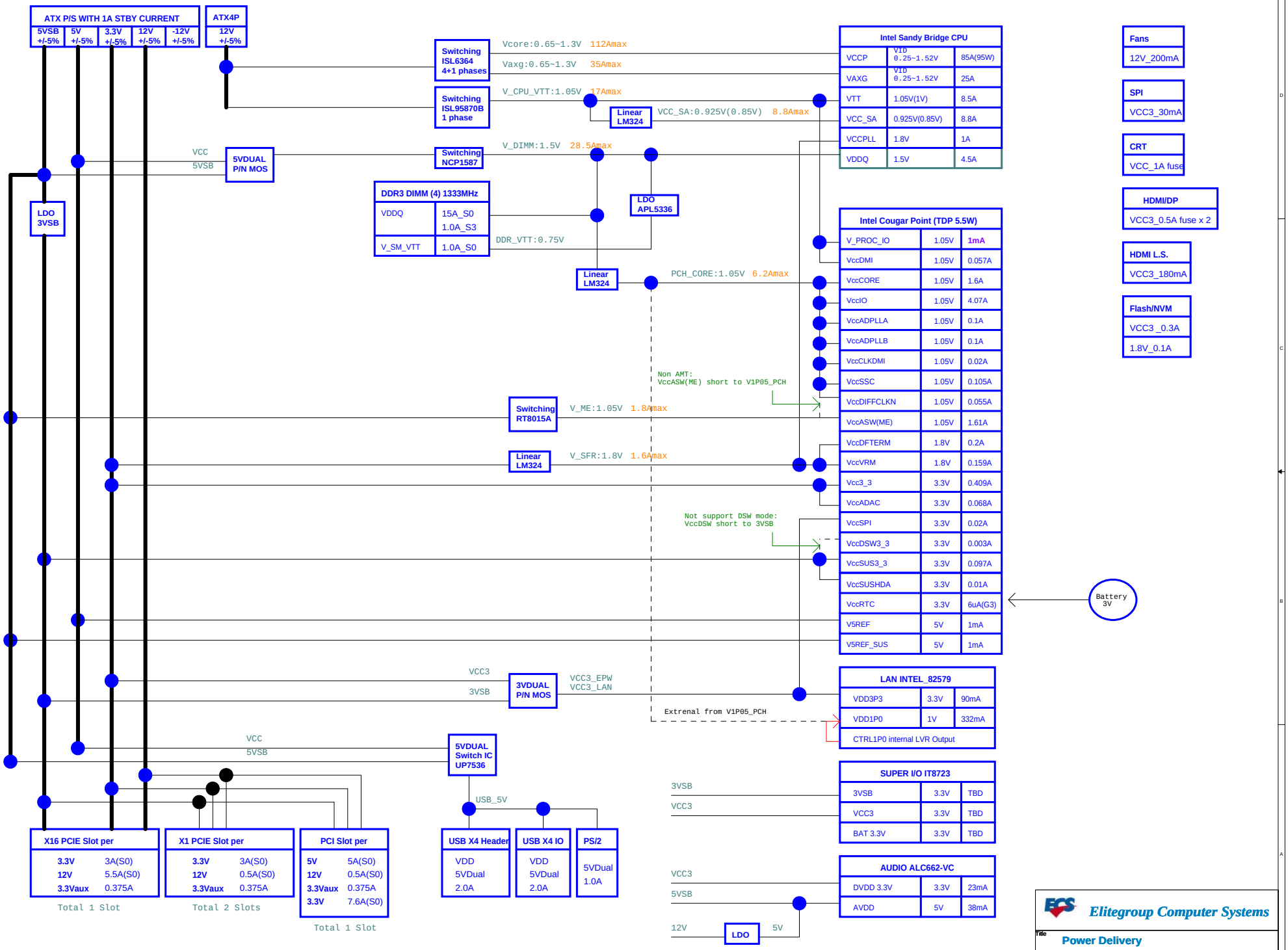
ATX P/S WITH 1A STBY CURRENT
5VSB +/-5%
5V +/-5%
3.3V +/-5%
12V +/-5%
-12V +/-5%
ATX4P
12V +/-5%
Switching ISL6364 4+1 phases
Vcore:0.65~1.3V 112Amax
Vaxg:0.65~1.3V 35Amax
Switching ISL95870B 1 phase
V_CPU_VTT:1.05V 17Amax
Linear LM324
VCC_SA:0.925V(0.85V) 8.8Amax
Intel Sandy Bridge CPU
VCCP VID 0.25~1.52V 85A(95W)
VAXG VID 0.25~1.52V 25A
VTT 1.05V(1V) 8.5A
VCC_SA 0.925V(0.85V) 8.8A
VCCPLL 1.8V 1A
VDDQ 1.5V 4.5A
Fans
12V_200mA
SPI
VCC3_30mA
CRT
VCC_1A fuse
HDMI/DP
VCC3_0.5A fuse x 2
HDMI L.S.
VCC3_180mA
Flash/NVM
VCC3 _0.3A
1.8V_0.1A
VCC
5VSB
5VDUAL P/N MOS
Switching NCP1587
V_DIMM:1.5V 28.5Amax
LDO 3VSB
DDR3 DIMM (4) 1333MHz
VDDQ 15A_S0 1.0A_S3
V_SM_VTT 1.0A_S0
LDO APL5336
DDR_VTT:0.75V
Linear LM324
PCH_CORE:1.05V 6.2Amax
Intel Cougar Point (TDP 5.5W)
V_PROC_IO 1.05V 1mA
VccDMI 1.05V 0.057A
VccCORE 1.05V 1.6A
VccIO 1.05V 4.07A
VccADPLLA 1.05V 0.1A
VccADPLLB 1.05V 0.1A
VccCLKDMI 1.05V 0.02A
VccSSC 1.05V 0.105A
VccDIFFCLKN 1.05V 0.055A
VccASW(ME) 1.05V 1.61A
VccDFTERM 1.8V 0.2A
VccVRM 1.8V 0.159A
Vcc3_3 3.3V 0.409A
VccADAC 3.3V 0.068A
VccSPI 3.3V 0.02A
VccDSW3_3 3.3V 0.003A
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
Switching RT8015A
V_ME:1.05V 1.8Amax
Linear LM324
V_SFR:1.8V 1.6Amax
Not support DSW mode:
VccDSW short to 3VSB
Battery 3V
VCC3
3VSB
3VDUAL P/N MOS
VCC3_EPW
VCC3_LAN
Extrenal from V1P05_PCH
LAN INTEL_82579
VDD3P3 3.3V 90mA
VDD1P0 1V 332mA
CTRL1P0 internal LVR Output
VCC
5VSB
5VDUAL Switch IC UP7536
USB_5V
SUPER I/O IT8723
3VSB 3.3V TBD
VCC3 3.3V TBD
BAT 3.3V 3.3V TBD
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 2 Slots
PCI Slot per
5V 5A(S0)
12V 0.5A(S0)
3.3Vaux 0.375A
3.3V 7.6A(S0)
Total 1 Slot
USB X4 Header
VDD 5VDual 2.0A
USB X4 IO
VDD 5VDual 2.0A
PS/2
5VDual 1.0A
VCC3
5VSB
12V
LDO
5V
AUDIO ALC662-VC
DVDD 3.3V 3.3V 23mA
AVDD 5V 38mA
Elitegroup Computer Systems
Title
Power Delivery
Size C
Document Number
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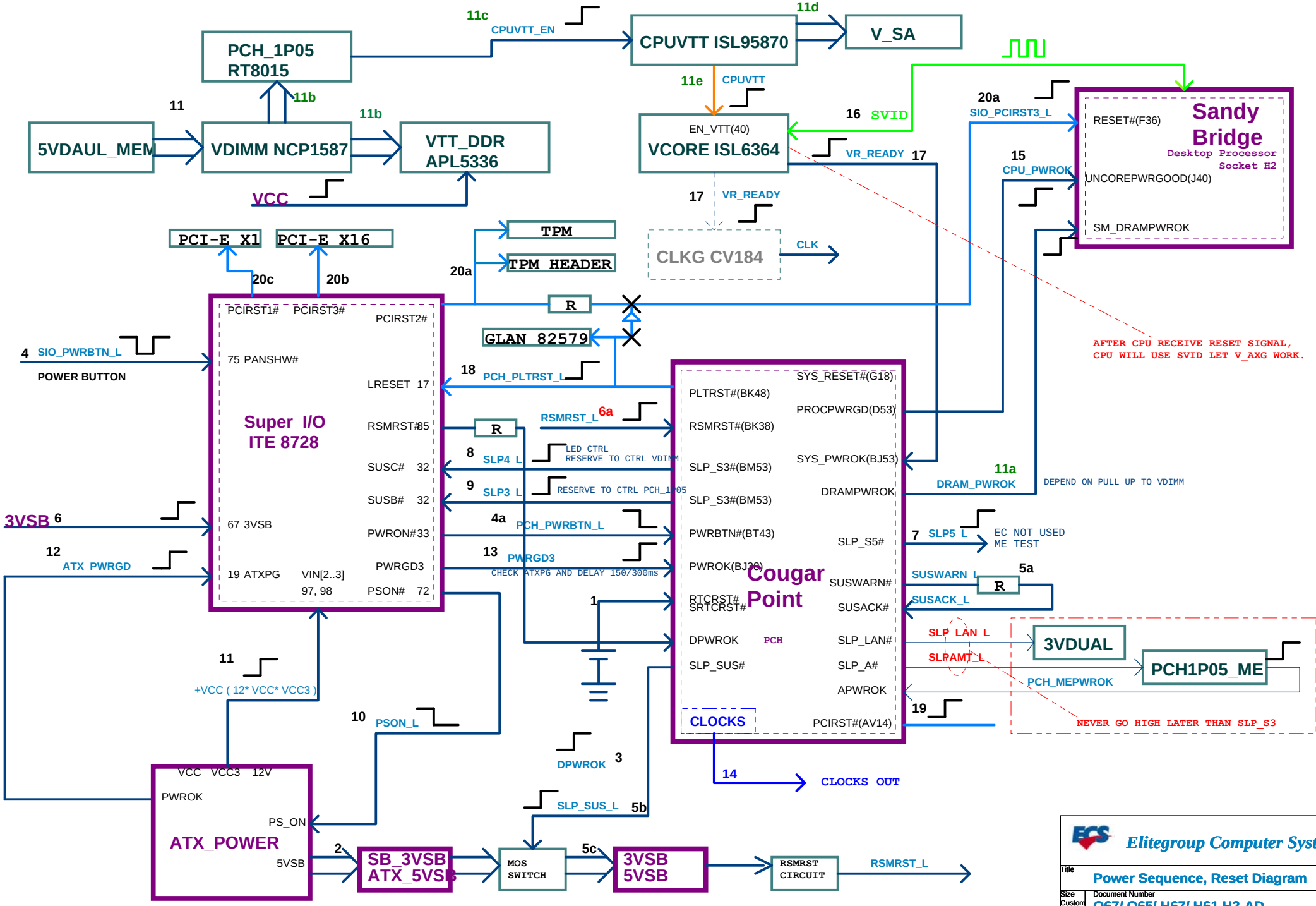

Elitegroup Computer Systems

Title	Power Sequence, Reset Diagram	
Size: Custom	Document Number: Q67/ Q65/ H67/ H61 H2-AD	Rev: V1.0
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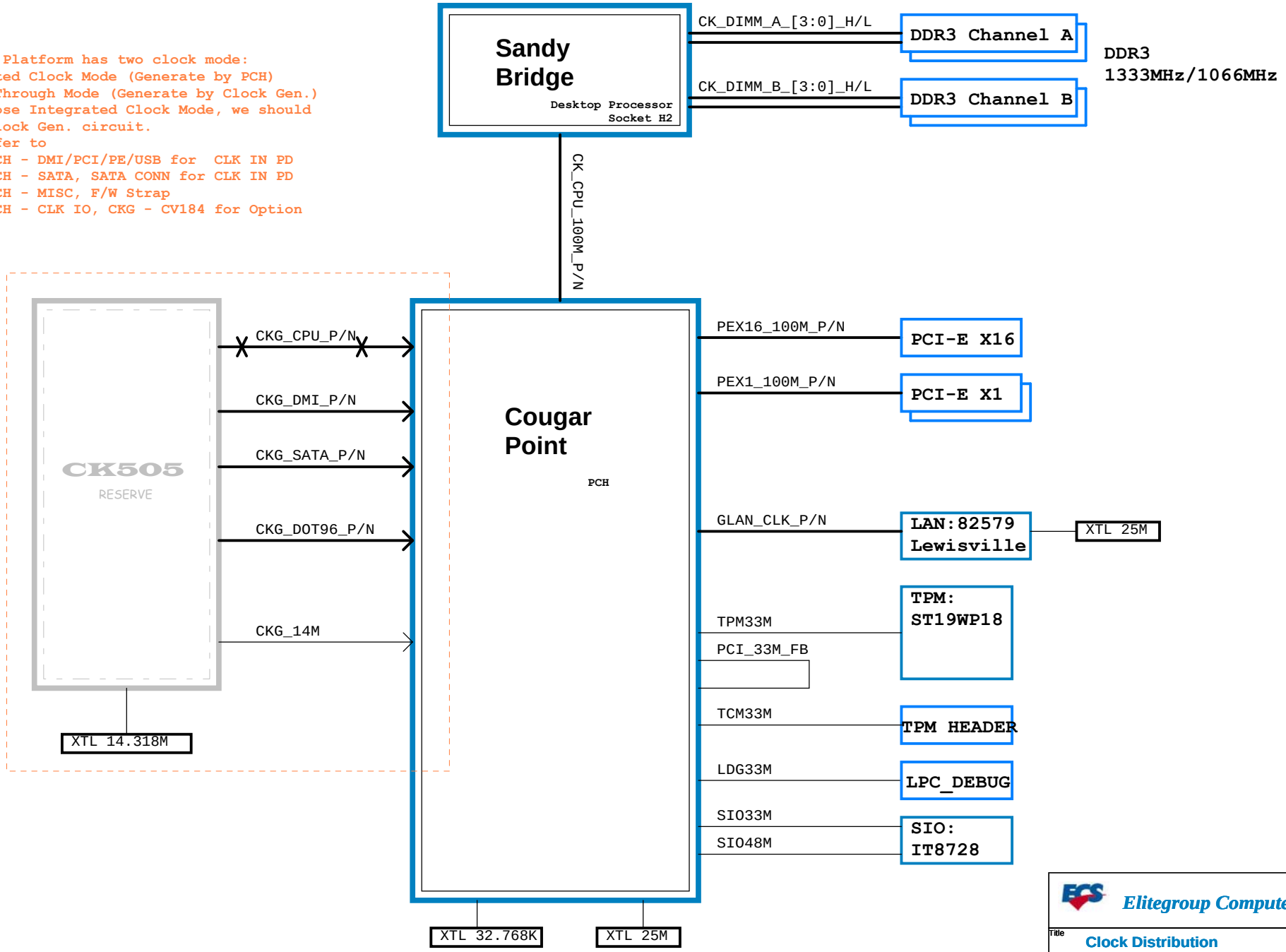
NOTE:

Sugar Bay Platform has two clock mode:
1.Integrated Clock Mode (Generate by PCH)
2.Buffer Through Mode (Generate by Clock Gen.)
If we choose Integrated Clock Mode, we should unstuff Clock Gen. circuit.
Please refer to
Page.12 PCH - DMI/PCI/PE/USB for CLK IN PD
Page.13 PCH - SATA, SATA CONN for CLK IN PD
Page.14 PCH - MISC, F/W Strap
Page.15 PCH - CLK IO, CKG - CV184 for Option



Elitegroup Computer Systems

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