G41T-M7

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Elitegroup Computer Systems	
Title	01-COVER PAGE
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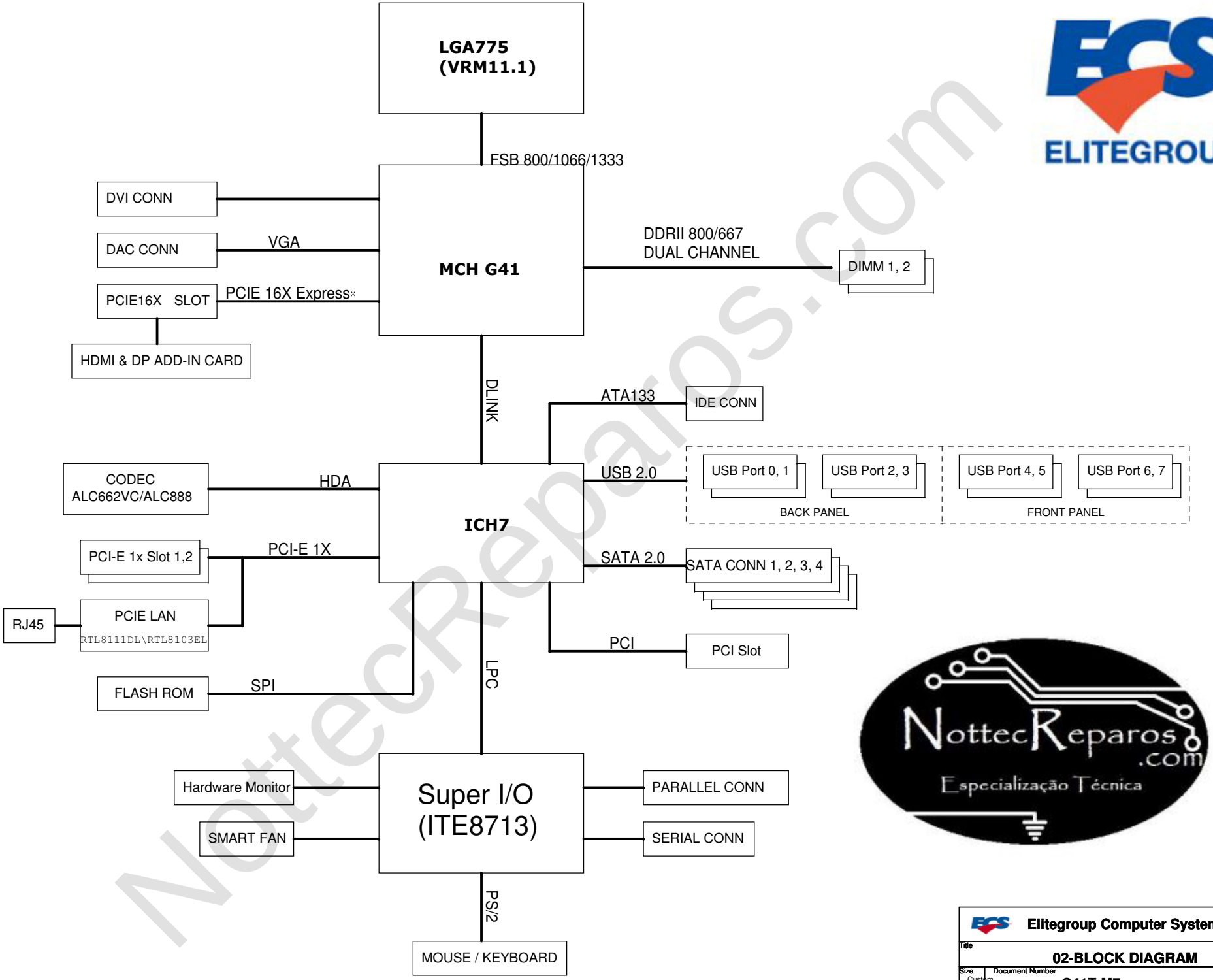

Elitegroup Computer Systems	
Title	02-BLOCK DIAGRAM
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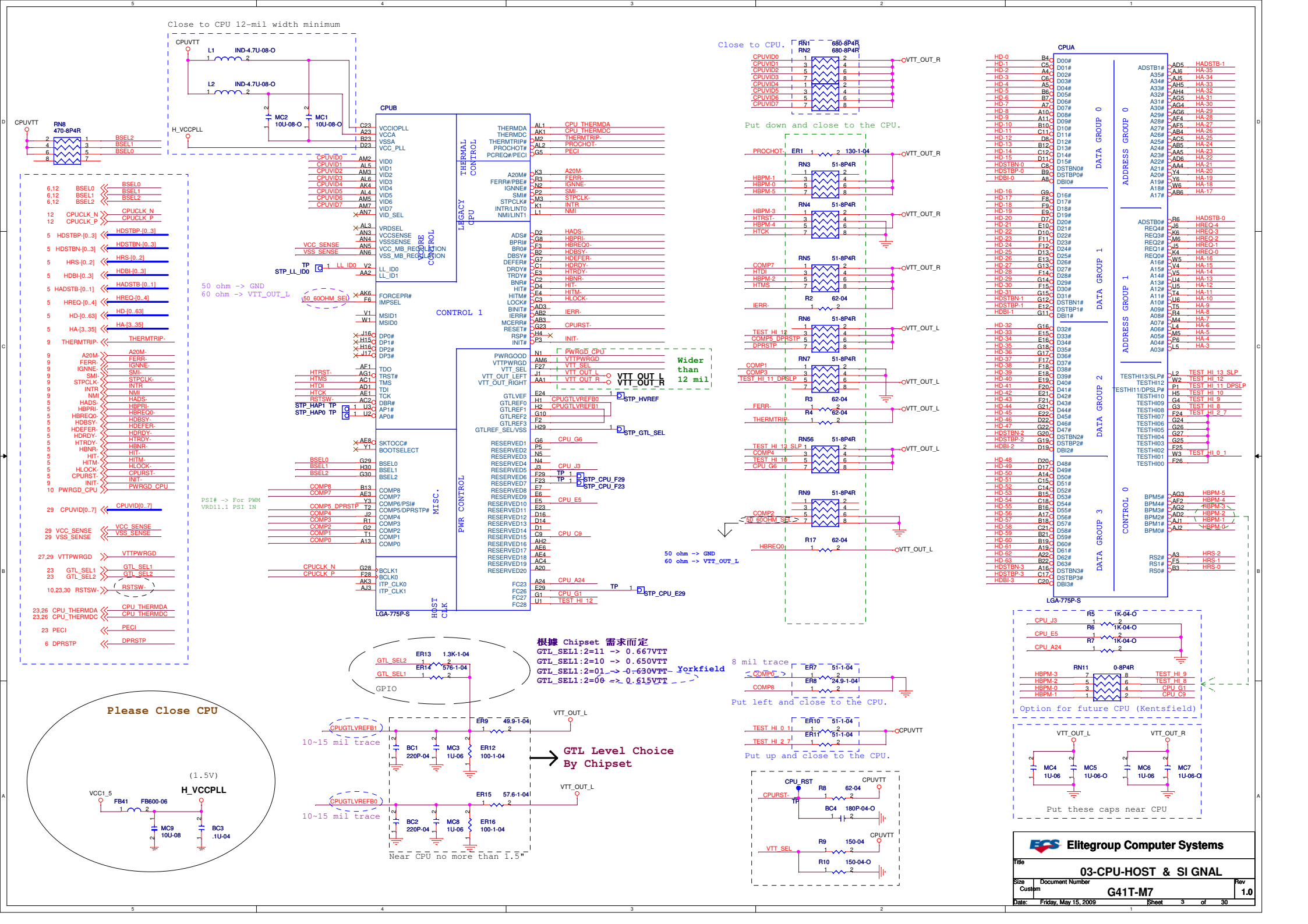

Elitegroup Computer Systems

Title	03-CPU-HOST & SI GNAL	
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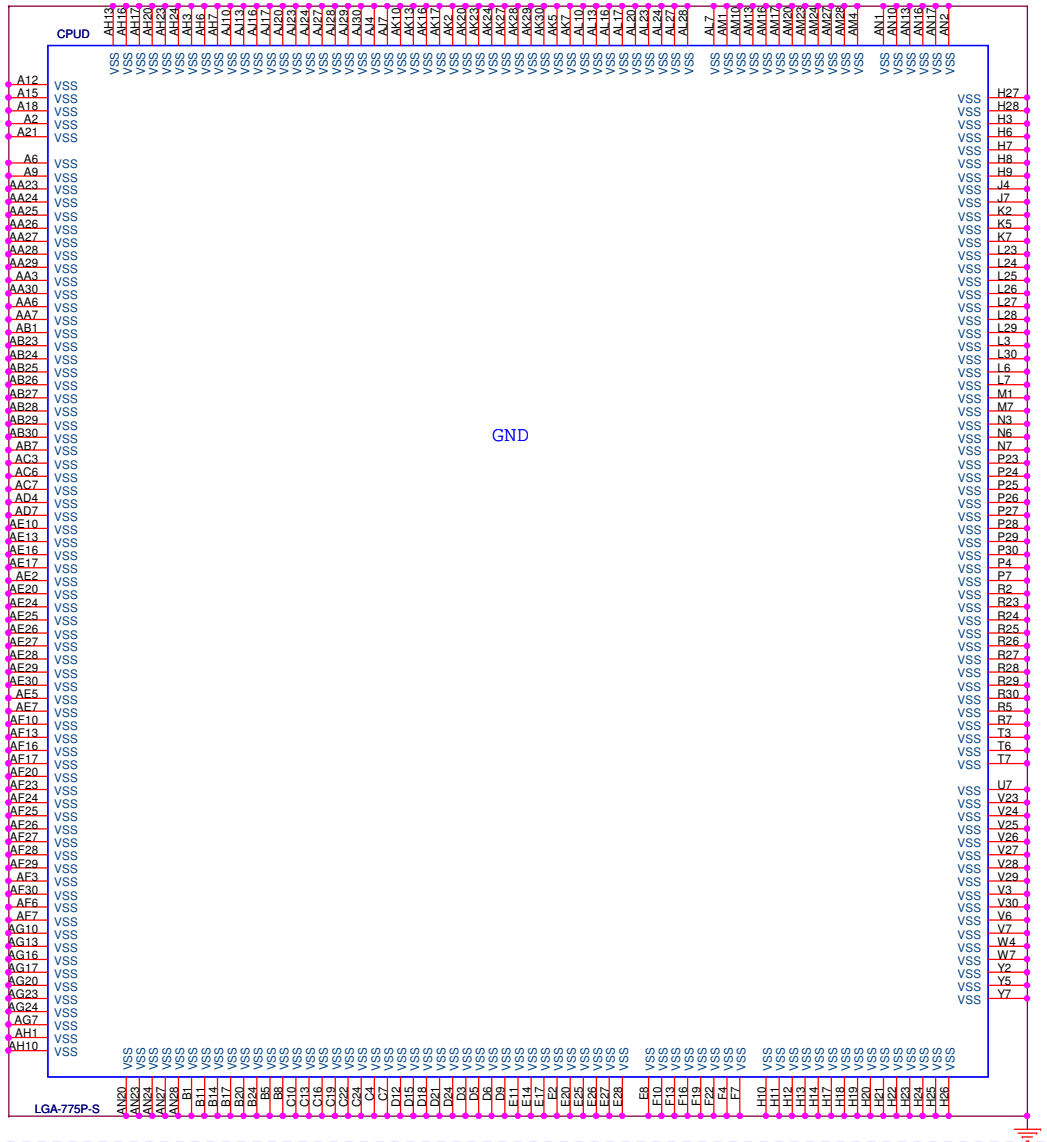

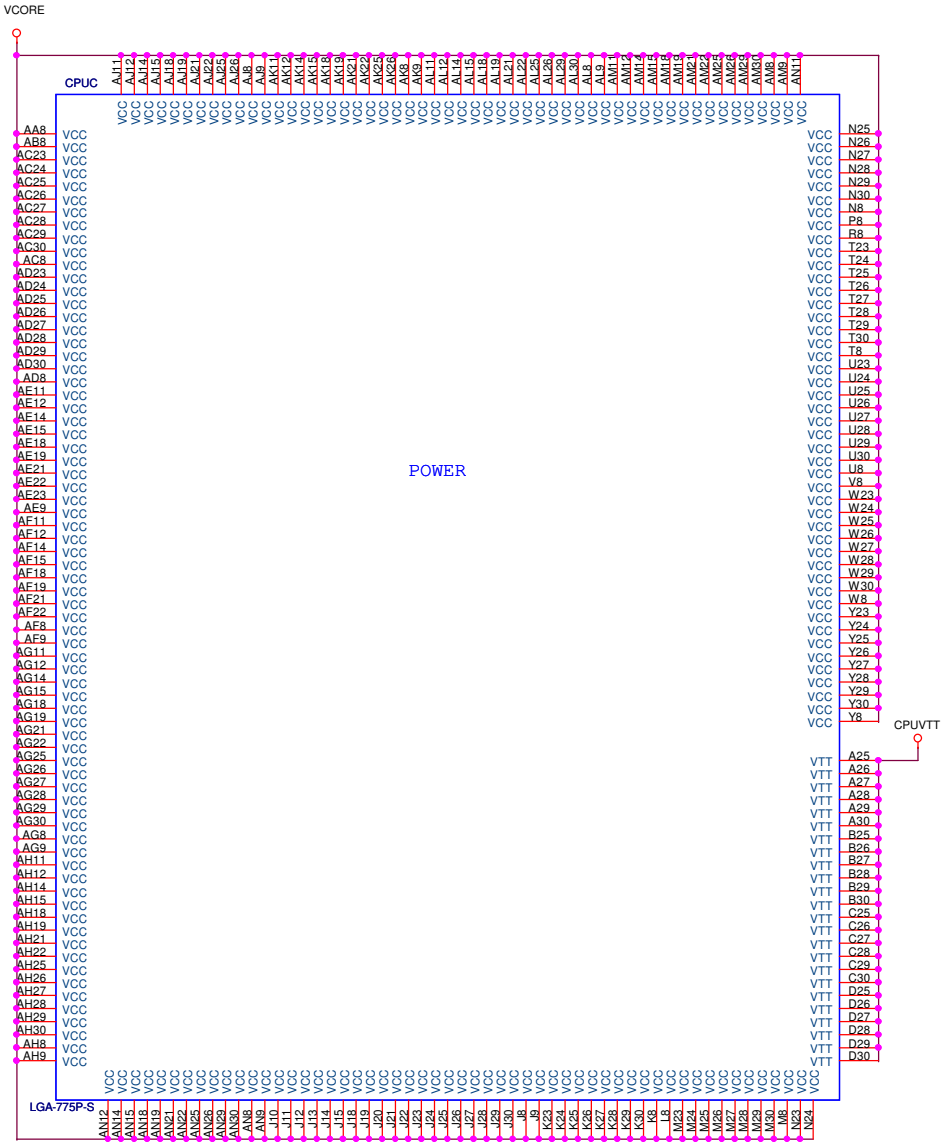

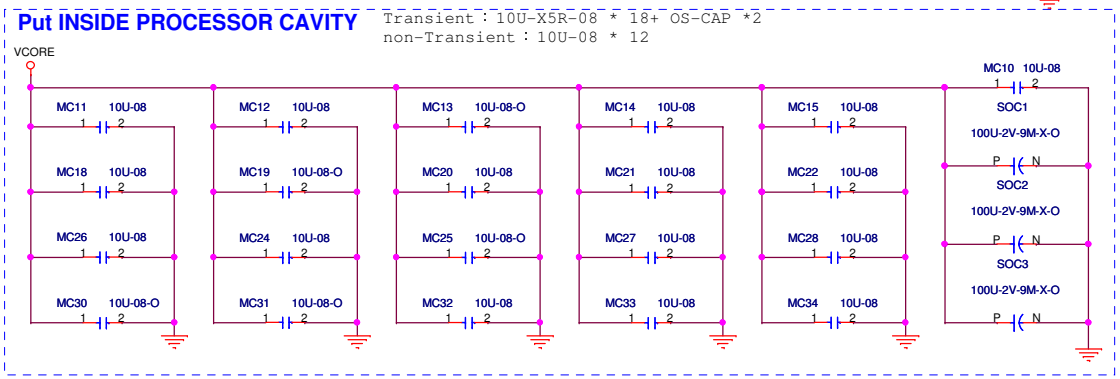

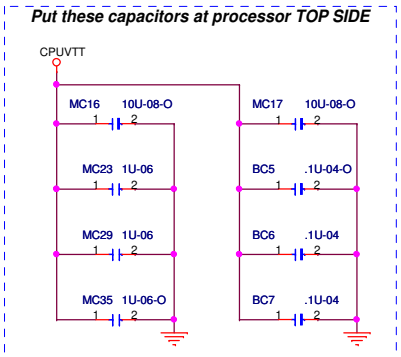

Elitegroup Computer Systems

Title: 04-CPU-PWR & GND

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HOST

3	HDSTBP-[0..3]	HDSTBP-[0..3]
3	HD-[0..63]	HD-[0..63]
3	HA-[3..35]	HA-[3..35]
3	HDSTBN-[0..3]	HDSTBN-[0..3]
3	HREQ-[0..4]	HREQ-[0..4]
3	HDBI-[0..3]	HDBI-[0..3]
3	HRS-[0..2]	HRS-[0..2]
3	HADSTB-[0..1]	HADSTB-[0..1]
3	HADS-	HADS-
3	HTRDY-	HTRDY-
3	HDRDY-	HDRDY-
3	HDEFER-	HDEFER-
3	HITM-	HITM-
3	HIT-	HIT-
3	HLOCK-	HLOCK-
3	HBREQ0-	HBREQ0-
3	HBNR-	HBNR-
3	HBPRI-	HBPRI-
3	HDBSY-	HDBSY-
3	CPURST-	CPURST-

12	HCLK_NB_P	HCLK_NB_P
12	HCLK_NB_N	HCLK_NB_N

NBA — EAGLELAKE_DDR2

SYM_REV = 1.55

FSB

HA-3	L36	FSB_AB_3
HA-4	L37	FSB_AB_4
HA-5	J38	FSB_AB_5
HA-6	F40	FSB_AB_6
HA-7	H39	FSB_AB_7
HA-8	L38	FSB_AB_8
HA-9	L43	FSB_AB_9
HA-10	N39	FSB_AB_10
HA-11	N35	FSB_AB_11
HA-12	N37	FSB_AB_12
HA-13	J41	FSB_AB_13
HA-14	N40	FSB_AB_14
HA-15	M45	FSB_AB_15
HA-16	R35	FSB_AB_16
HA-17	T36	FSB_AB_17
HA-18	R36	FSB_AB_18
HA-19	R34	FSB_AB_19
HA-20	R37	FSB_AB_20
HA-21	R39	FSB_AB_21
HA-22	U38	FSB_AB_22
HA-23	T37	FSB_AB_23
HA-24	U34	FSB_AB_24
HA-25	U40	FSB_AB_25
HA-26	T34	FSB_AB_26
HA-27	Y36	FSB_AB_27
HA-28	U35	FSB_AB_28
HA-29	AA35	FSB_AB_29
HA-30	U37	FSB_AB_30
HA-31	Y37	FSB_AB_31
HA-32	Y34	FSB_AB_32
HA-33	Y38	FSB_AB_33
HA-34	AA37	FSB_AB_34
HA-35	AA36	FSB_AB_35

HREQ-0	G38	FSB_REQB_0
HREQ-1	K35	FSB_REQB_1
HREQ-2	J39	FSB_REQB_2
HREQ-3	C43	FSB_REQB_3
HREQ-4	G39	FSB_REQB_4
HADSTB-0	J40	FSB_ADSTBB_0
HADSTB-1	T39	FSB_ADSTBB_1
HDSTBP-0	C39	FSB_DSTBPB_0
HDSTBN-0	B39	FSB_DSTBNB_0
HDBI-0	B40	FSB_DINVB_0
HDSTBP-1	K31	FSB_DSTBPB_1
HDSTBN-1	J31	FSB_DSTBNB_1
HDBI-1	F33	FSB_DINVB_1
HDSTBP-2	J25	FSB_DSTBPB_2
HDSTBN-2	K25	FSB_DSTBNB_2
HDBI-2	F26	FSB_DINVB_2
HDSTBP-3	C32	FSB_DSTBPB_3
HDSTBN-3	D32	FSB_DSTBNB_3
HDBI-3	D30	FSB_DINVB_3
HADS-	J42	FSB_ADSB
HTRDY-	L40	FSB_TRDYB
HDRDY-	J43	FSB_DRDYB
HDEFER-	G44	FSB_DEFERB
HITM-	K44	FSB_HITMB
HIT-	H45	FSB_HITB
HLOCK-	H40	FSB_LOCKB
HBREQ0-	L42	FSB_BREQ0B
HBNR-	J44	FSB_BNRB
HBPRI-	H37	FSB_BPRIB
HDBSY-	H42	FSB_DBSYB
HRS-0	G43	FSB_RSB_0
HRS-1	L44	FSB_RSB_1
HRS-2	G42	FSB_RSB_2
CPURST-	D27	FSB_CPURSTB
STP_NB_N1		
TP	1	
	N25	RSVD_05

FSB_DB_0	F44	HD-0
FSB_DB_1	C44	HD-1
FSB_DB_2	D44	HD-2
FSB_DB_3	C41	HD-3
FSB_DB_4	E43	HD-4
FSB_DB_5	B43	HD-5
FSB_DB_6	D40	HD-6
FSB_DB_7	B42	HD-7
FSB_DB_8	B38	HD-8
FSB_DB_9	F38	HD-9
FSB_DB_10	A38	HD-10
FSB_DB_11	B37	HD-11
FSB_DB_12	D38	HD-12
FSB_DB_13	C37	HD-13
FSB_DB_14	D37	HD-14
FSB_DB_15	B36	HD-15
FSB_DB_16	E37	HD-16
FSB_DB_17	J35	HD-17
FSB_DB_18	H35	HD-18
FSB_DB_19	F37	HD-19
FSB_DB_20	G37	HD-20
FSB_DB_21	J33	HD-21
FSB_DB_22	L33	HD-22
FSB_DB_23	G33	HD-23
FSB_DB_24	L31	HD-24
FSB_DB_25	M31	HD-25
FSB_DB_26	M30	HD-26
FSB_DB_27	J30	HD-27
FSB_DB_28	G31	HD-28
FSB_DB_29	K30	HD-29
FSB_DB_30	M29	HD-30
FSB_DB_31	G30	HD-31
FSB_DB_32	J29	HD-32
FSB_DB_33	F29	HD-33
FSB_DB_34	H29	HD-34
FSB_DB_35	L25	HD-35
FSB_DB_36	K26	HD-36
FSB_DB_37	L29	HD-37
FSB_DB_38	J26	HD-38
FSB_DB_39	M26	HD-39
FSB_DB_40	H26	HD-40
FSB_DB_41	F25	HD-41
FSB_DB_42	F24	HD-42
FSB_DB_43	G25	HD-43
FSB_DB_44	H24	HD-44
FSB_DB_45	L24	HD-45
FSB_DB_46	J24	HD-46
FSB_DB_47	N24	HD-47
FSB_DB_48	C28	HD-48
FSB_DB_49	B31	HD-49
FSB_DB_50	F35	HD-50
FSB_DB_51	C35	HD-51
FSB_DB_52	B35	HD-52
FSB_DB_53	D35	HD-53
FSB_DB_54	D31	HD-54
FSB_DB_55	A34	HD-55
FSB_DB_56	B32	HD-56
FSB_DB_57	F31	HD-57
FSB_DB_58	D28	HD-58
FSB_DB_59	A29	HD-59
FSB_DB_60	C30	HD-60
FSB_DB_61	B30	HD-61
FSB_DB_62	E27	HD-62
FSB_DB_63	B28	HD-63
FSB_SWING	B24	HXSWING
FSB_RCOMP	A23	HXRCOMP
FSB_DVREF	C22	MCH_GTLREF
FSB_ACCVREF	B23	
HPL_CLKINP	P29	HCLK_NB_P
HPL_CLKINN	P30	HCLK_NB_N

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ELK-G41

HXSWING — ER19 16.5-1-04 — HXRCOMP

MCH_GTLREF

HDSWING W/S =10/10 mils

HXSWING — 301-1-04 ER17 — CPUVTT

BC8 .1U-04

ER18 100-1-04

MCH_GTLREF W/S =10/7 mils

MCH_GTLREF — 115-1-04 ER20 — CPUVTT

C1 220P-04-O

C2 .1U-04

ER21 200-1-04

Elitegroup Computer Systems

Title: 05-G43/ G41_HOST

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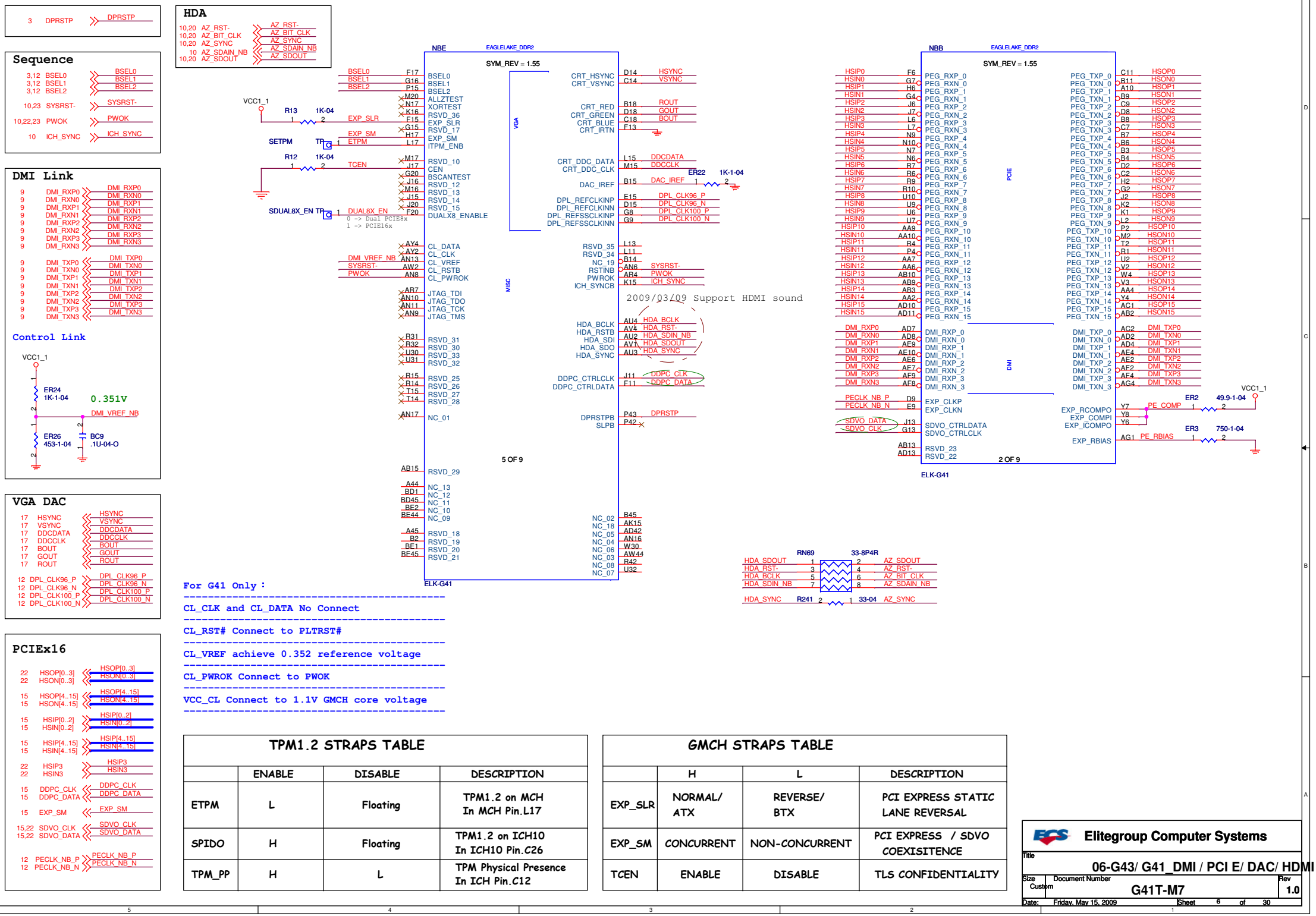

For G41 Only :

CL_CLK and CL_DATA No Connect

CL_RST# Connect to PLTRST#

CL_VREF achieve 0.352 reference voltage

CL_PWROK Connect to PWOK

VCC_CL Connect to 1.1V GMCH core voltage

TPM1.2 STRAPS TABLE

	ENABLE	DISABLE	DESCRIPTION
ETPM	L	Floating	TPM1.2 on MCH In MCH Pin.L17
SPIDO	H	Floating	TPM1.2 on ICH10 In ICH10 Pin.C26
TPM_PP	H	L	TPM Physical Presence In ICH Pin.C12

GMCH STRAPS TABLE

	H	L	DESCRIPTION
EXP_SLR	NORMAL/ ATX	REVERSE/ BTX	PCI EXPRESS STATIC LANE REVERSAL
EXP_SM	CONCURRENT	NON-CONCURRENT	PCI EXPRESS / SDVO COEXISITENCE
TCEN	ENABLE	DISABLE	TLS CONFIDENTIALITY

Elitegroup Computer Systems

Title: 06-G43/ G41_DMI / PCI E/ DAC/ HDMI

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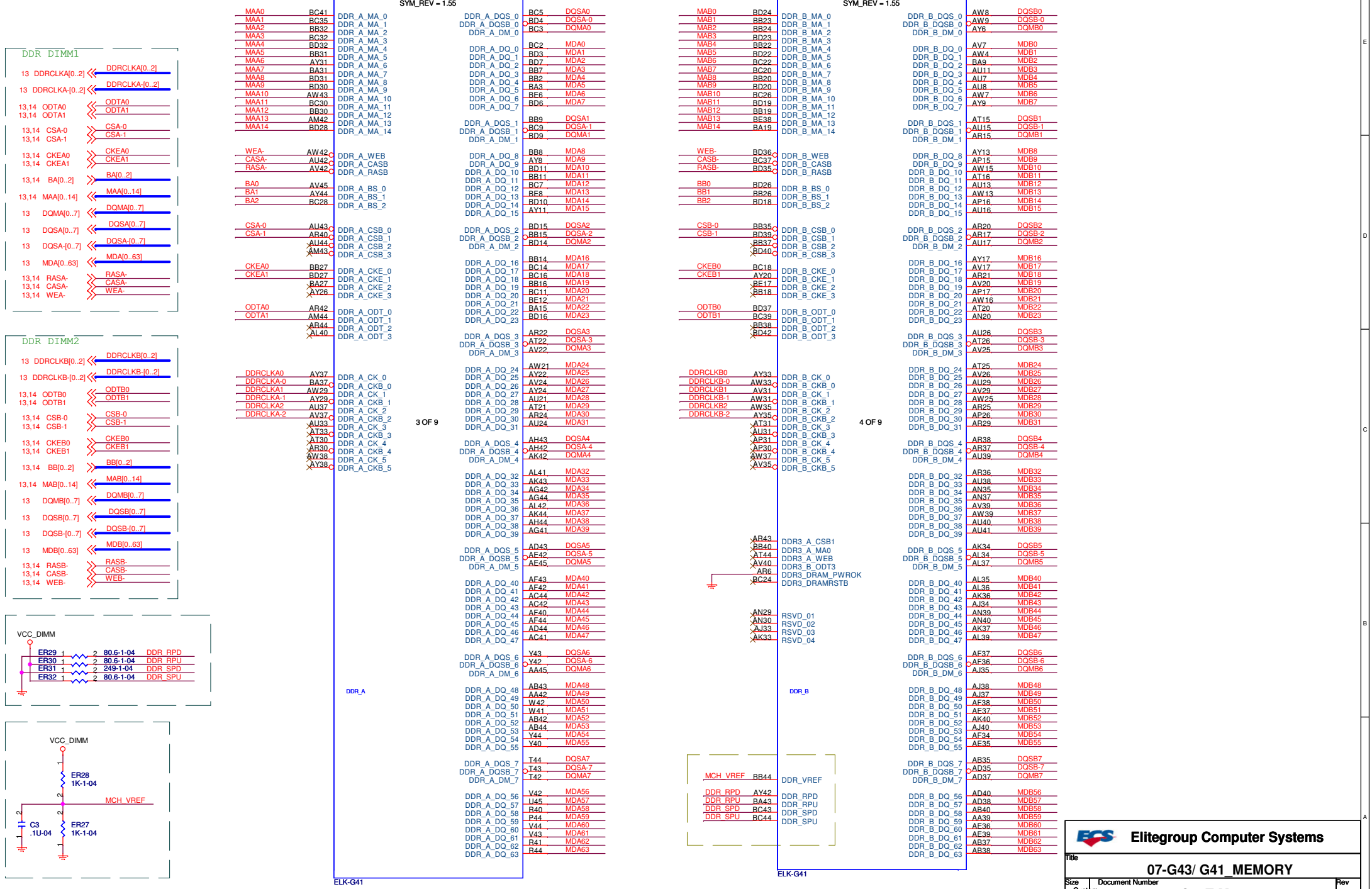
DDR DIMM1
DDRCLKA[0..2]
DDRCLKA-[0..2]
ODTA0
ODTA1
CSA-0
CSA-1
CKEA0
CKEA1
BA[0..2]
MAA[0..14]
DQMA[0..7]
DQSA[0..7]
DQSA-[0..7]
MDA[0..63]
RASA-
CASA-
WEA-
DDR DIMM2
DDRCLKB[0..2]
DDRCLKB-[0..2]
ODTB0
ODTB1
CSB-0
CSB-1
CKEB0
CKEB1
BB[0..2]
MAB[0..14]
DQMB[0..7]
DQSB[0..7]
DQSB-[0..7]
MDB[0..63]
RASB-
CASB-
WEB-
VCC_DIMM
ER29 80.6-1-04 DDR_RPD
ER30 80.6-1-04 DDR_RPU
ER31 249-1-04 DDR_SPD
ER32 80.6-1-04 DDR_SPU
VCC_DIMM
ER28 1K-1-04
MCH_VREF
C3 .1U-04
ER27 1K-1-04
NBC
EAGLELAKE_DDR2
SYM_REV = 1.55
DDR_A_MA_0
DDR_A_MA_1
DDR_A_MA_2
DDR_A_MA_3
DDR_A_MA_4
DDR_A_MA_5
DDR_A_MA_6
DDR_A_MA_7
DDR_A_MA_8
DDR_A_MA_9
DDR_A_MA_10
DDR_A_MA_11
DDR_A_MA_12
DDR_A_MA_13
DDR_A_MA_14
DDR_A_WEB
DDR_A_CASB
DDR_A_RASB
DDR_A_BS_0
DDR_A_BS_1
DDR_A_BS_2
DDR_A_CSB_0
DDR_A_CSB_1
DDR_A_CSB_2
DDR_A_CSB_3
DDR_A_CKE_0
DDR_A_CKE_1
DDR_A_CKE_2
DDR_A_CKE_3
DDR_A_ODT_0
DDR_A_ODT_1
DDR_A_ODT_2
DDR_A_ODT_3
DDR_A_CK_0
DDR_A_CKB_0
DDR_A_CK_1
DDR_A_CKB_1
DDR_A_CK_2
DDR_A_CKB_2
DDR_A_CK_3
DDR_A_CKB_3
DDR_A_CK_4
DDR_A_CKB_4
DDR_A_CK_5
DDR_A_CKB_5
DDR_A_DQS_0
DDR_A_DQSB_0
DDR_A_DM_0
DDR_A_DQ_0
DDR_A_DQ_1
DDR_A_DQ_2
DDR_A_DQ_3
DDR_A_DQ_4
DDR_A_DQ_5
DDR_A_DQ_6
DDR_A_DQ_7
DDR_A_DQS_1
DDR_A_DQSB_1
DDR_A_DM_1
DDR_A_DQ_8
DDR_A_DQ_9
DDR_A_DQ_10
DDR_A_DQ_11
DDR_A_DQ_12
DDR_A_DQ_13
DDR_A_DQ_14
DDR_A_DQ_15
DDR_A_DQS_2
DDR_A_DQSB_2
DDR_A_DM_2
DDR_A_DQ_16
DDR_A_DQ_17
DDR_A_DQ_18
DDR_A_DQ_19
DDR_A_DQ_20
DDR_A_DQ_21
DDR_A_DQ_22
DDR_A_DQ_23
DDR_A_DQS_3
DDR_A_DQSB_3
DDR_A_DM_3
DDR_A_DQ_24
DDR_A_DQ_25
DDR_A_DQ_26
DDR_A_DQ_27
DDR_A_DQ_28
DDR_A_DQ_29
DDR_A_DQ_30
DDR_A_DQ_31
DDR_A_DQS_4
DDR_A_DQSB_4
DDR_A_DM_4
DDR_A_DQ_32
DDR_A_DQ_33
DDR_A_DQ_34
DDR_A_DQ_35
DDR_A_DQ_36
DDR_A_DQ_37
DDR_A_DQ_38
DDR_A_DQ_39
DDR_A_DQS_5
DDR_A_DQSB_5
DDR_A_DM_5
DDR_A_DQ_40
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DDR_A_DQ_47
DDR_A_DQS_6
DDR_A_DQSB_6
DDR_A_DM_6
DDR_A_DQ_48
DDR_A_DQ_49
DDR_A_DQ_50
DDR_A_DQ_51
DDR_A_DQ_52
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DDR_A_DQ_55
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DDR_A_DQSB_7
DDR_A_DM_7
DDR_A_DQ_56
DDR_A_DQ_57
DDR_A_DQ_58
DDR_A_DQ_59
DDR_A_DQ_60
DDR_A_DQ_61
DDR_A_DQ_62
DDR_A_DQ_63
3 OF 9
DDR_A
ELK-G41
EAGLELAKE_DDR2
NBD
SYM_REV = 1.55
DDR_B_MA_0
DDR_B_MA_1
DDR_B_MA_2
DDR_B_MA_3
DDR_B_MA_4
DDR_B_MA_5
DDR_B_MA_6
DDR_B_MA_7
DDR_B_MA_8
DDR_B_MA_9
DDR_B_MA_10
DDR_B_MA_11
DDR_B_MA_12
DDR_B_MA_13
DDR_B_MA_14
DDR_B_WEB
DDR_B_CASB
DDR_B_RASB
DDR_B_BS_0
DDR_B_BS_1
DDR_B_BS_2
DDR_B_CSB_0
DDR_B_CSB_1
DDR_B_CSB_2
DDR_B_CSB_3
DDR_B_CKE_0
DDR_B_CKE_1
DDR_B_CKE_2
DDR_B_CKE_3
DDR_B_ODT_0
DDR_B_ODT_1
DDR_B_ODT_2
DDR_B_ODT_3
DDR_B_CK_0
DDR_B_CKB_0
DDR_B_CK_1
DDR_B_CKB_1
DDR_B_CK_2
DDR_B_CKB_2
DDR_B_CK_3
DDR_B_CKB_3
DDR_B_CK_4
DDR_B_CKB_4
DDR_B_CK_5
DDR_B_CKB_5
DDR3_A_CSB1
DDR3_A_MA0
DDR3_A_WEB
DDR3_B_ODT3
DDR3_DRAM_PWROK
DDR3_DRAMRSTB
RSVD_01
RSVD_02
RSVD_03
RSVD_04
DDR_B_DQS_0
DDR_B_DQSB_0
DDR_B_DM_0
DDR_B_DQ_0
DDR_B_DQ_1
DDR_B_DQ_2
DDR_B_DQ_3
DDR_B_DQ_4
DDR_B_DQ_5
DDR_B_DQ_6
DDR_B_DQ_7
DDR_B_DQS_1
DDR_B_DQSB_1
DDR_B_DM_1
DDR_B_DQ_8
DDR_B_DQ_9
DDR_B_DQ_10
DDR_B_DQ_11
DDR_B_DQ_12
DDR_B_DQ_13
DDR_B_DQ_14
DDR_B_DQ_15
DDR_B_DQS_2
DDR_B_DQSB_2
DDR_B_DM_2
DDR_B_DQ_16
DDR_B_DQ_17
DDR_B_DQ_18
DDR_B_DQ_19
DDR_B_DQ_20
DDR_B_DQ_21
DDR_B_DQ_22
DDR_B_DQ_23
DDR_B_DQS_3
DDR_B_DQSB_3
DDR_B_DM_3
DDR_B_DQ_24
DDR_B_DQ_25
DDR_B_DQ_26
DDR_B_DQ_27
DDR_B_DQ_28
DDR_B_DQ_29
DDR_B_DQ_30
DDR_B_DQ_31
DDR_B_DQS_4
DDR_B_DQSB_4
DDR_B_DM_4
DDR_B_DQ_32
DDR_B_DQ_33
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DDR_B_DQ_35
DDR_B_DQ_36
DDR_B_DQ_37
DDR_B_DQ_38
DDR_B_DQ_39
DDR_B_DQS_5
DDR_B_DQSB_5
DDR_B_DM_5
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DDR_B_DQSB_7
DDR_B_DM_7
DDR_B_DQ_56
DDR_B_DQ_57
DDR_B_DQ_58
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DDR_B_DQ_60
DDR_B_DQ_61
DDR_B_DQ_62
DDR_B_DQ_63
MCH_VREF
DDR_VREF
DDR_RPD
DDR_RPU
DDR_SPD
DDR_SPU
4 OF 9
DDR_B
ELK-G41
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Title
07-G43/ G41_MEMORY
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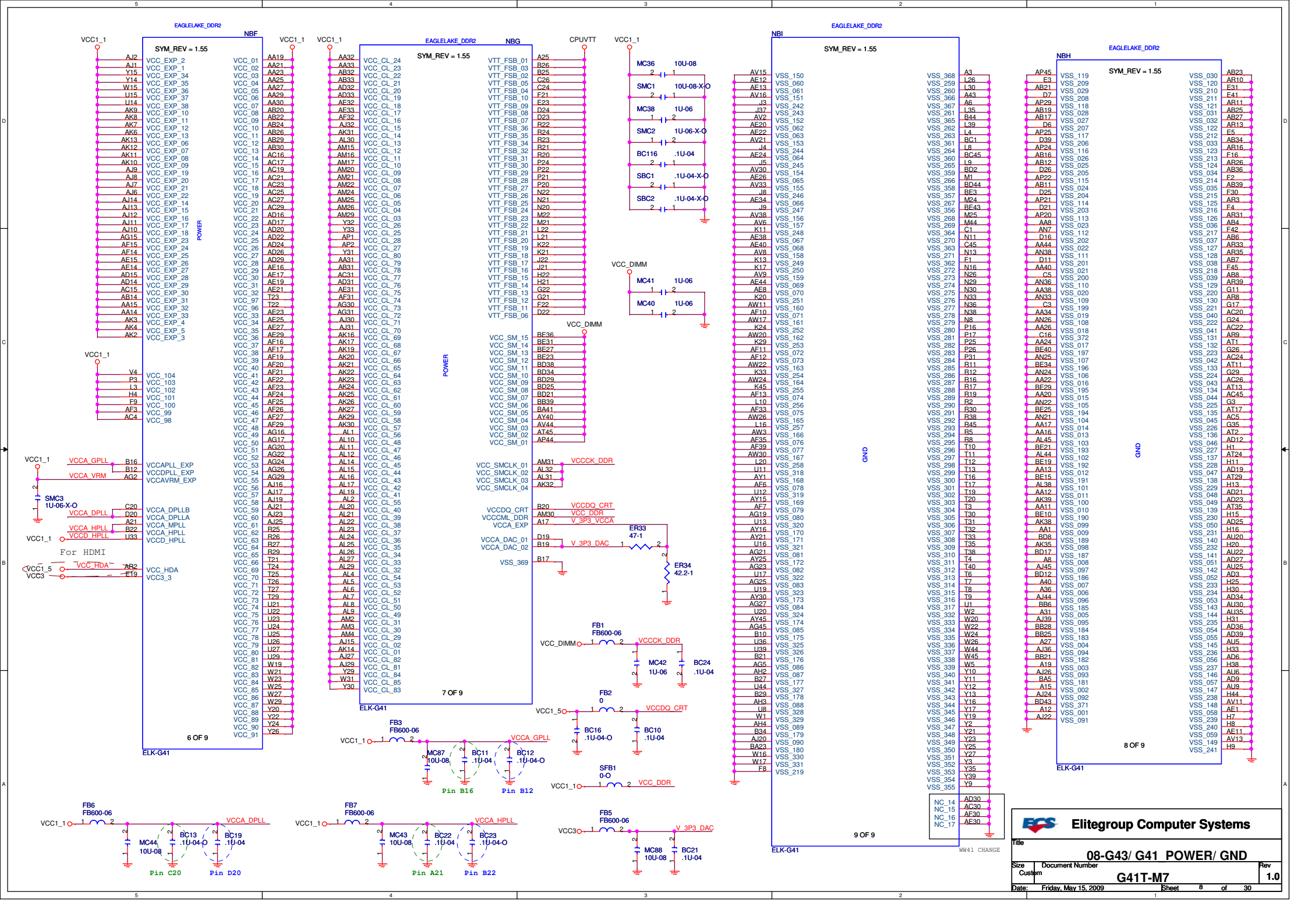
EAGLELAKE_DDR2
NBF
SYM_REV = 1.55
POWER
6 OF 9
ELK-G41
NBG
7 OF 9
NBI
GND
9 OF 9
NBH
8 OF 9
For HDMI
Pin B16
Pin B12
Pin C20
Pin D20
Pin A21
Pin B22
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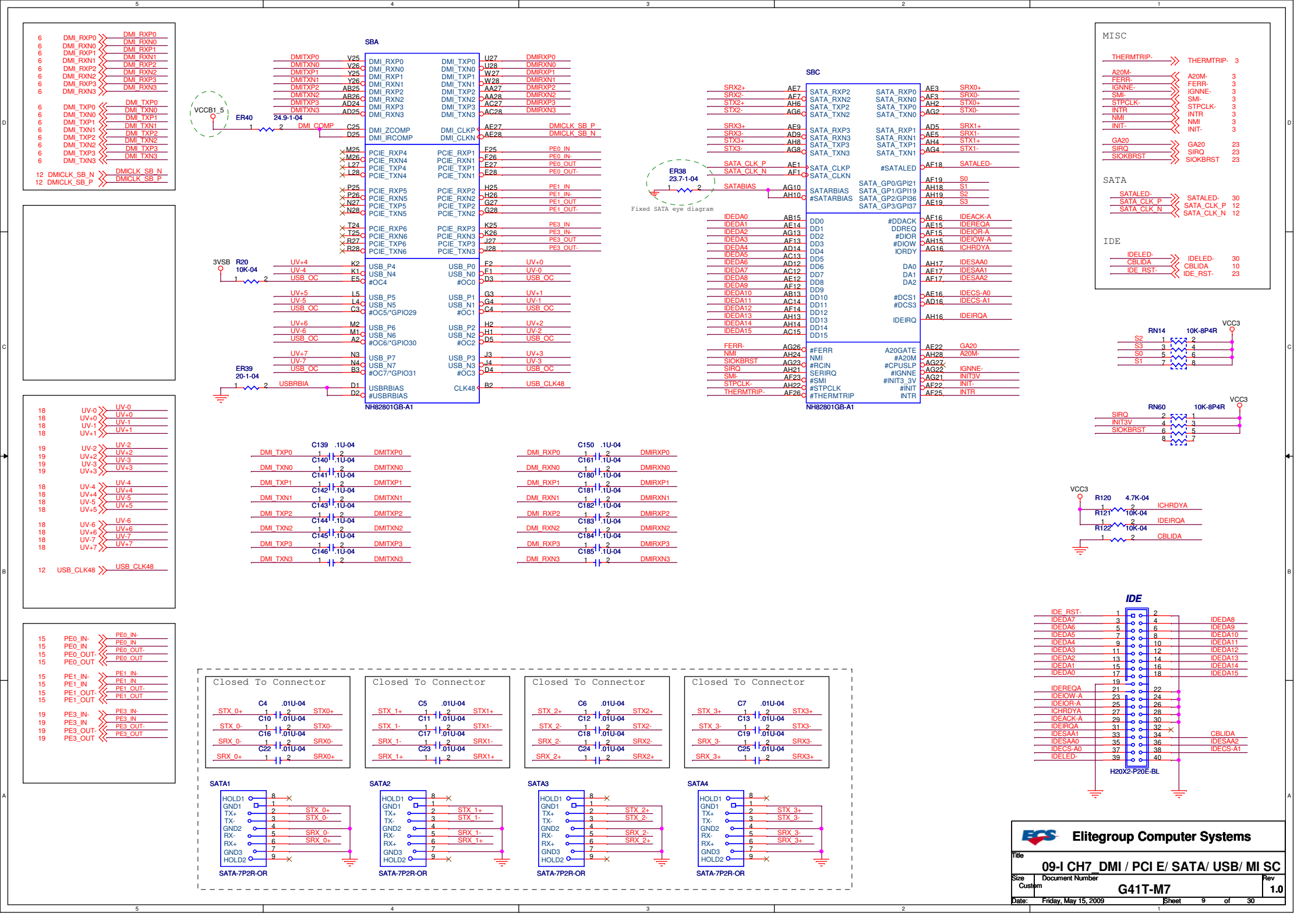

Elitegroup Computer Systems

Title: 09-I CH7_DMI / PCI E/ SATA/ USB/ MI SC

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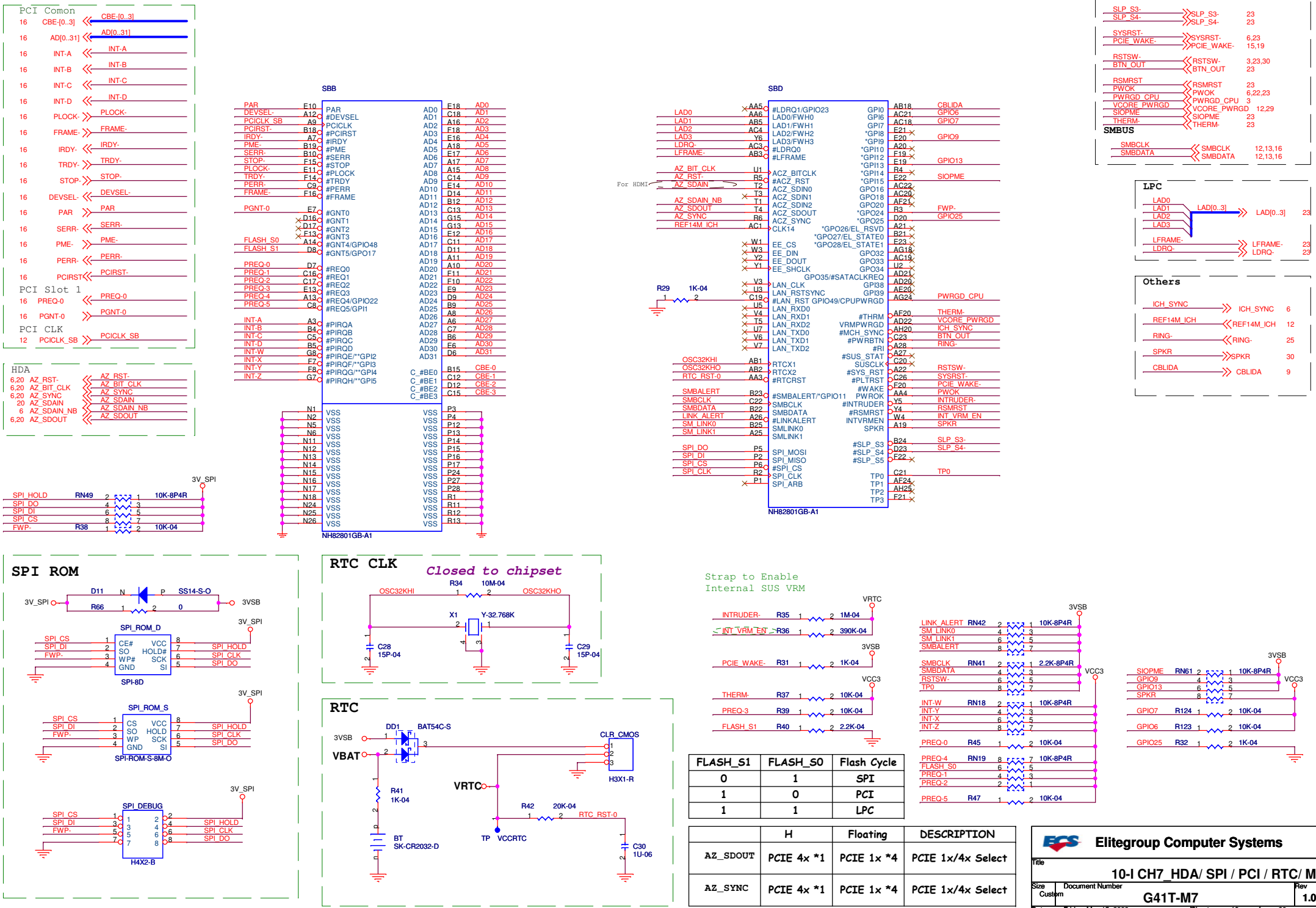
PCI Comon
CBE-[0..3]
AD[0..31]
INT-A
INT-B
INT-C
INT-D
PLOCK-
FRAME-
IRDY-
TRDY-
STOP-
DEVSEL-
PAR
SERR-
PME-
PERR-
PCIRST-
PCI Slot 1
PREQ-0
PGNT-0
PCI CLK
PCICLK_SB
HDA
AZ_RST-
AZ_BIT_CLK
AZ_SYNC
AZ_SDAIN
AZ_SDAIN_NB
AZ_SDOUT
SBB
NH82801GB-A1
SBD
NH82801GB-A1
ACPI
SLP_S3-
SLP_S4-
SYSRST-
PCIE_WAKE-
RSTSW-
BTN_OUT
RSMRST
PWOK
PWRGD_CPU
VCORE_PWRGD
SIOPME
THERM-
SMBUS
SMBCLK
SMBDATA
LPC
LAD0
LAD1
LAD2
LAD3
LFRAME-
LDRQ-
Others
ICH_SYNC
REF14M_ICH
RING-
SPKR
CBLIDA
SPI_HOLD
SPI_DO
SPI_DI
SPI_CS
FWP-
RN49
10K-8P4R
R38
10K-04
3V_SPI
SPI ROM
D11
SS14-S-O
R66
3VSB
SPI_ROM_D
SPI-8D
SPI_ROM_S
SPI-ROM-S-8M-O
SPI_DEBUG
H4X2-B
RTC CLK
Closed to chipset
OSC32KHI
OSC32KHO
R34
10M-04
X1
Y-32.768K
C28
15P-04
C29
15P-04
RTC
DD1
BAT54C-S
VBAT
R41
1K-04
BT
SK-CR2032-D
VRTC
R42
20K-04
RTC_RST-0
TP
VCCRTC
CLR_CMOS
H3X1-R
C30
1U-06
Strap to Enable
Internal SUS VRM
INTRUDER-
INT_VRM_EN
PCIE_WAKE-
THERM-
PREQ-3
FLASH_S1
R35
1M-04
R36
390K-04
R31
1K-04
R37
10K-04
R39
10K-04
R40
2.2K-04
VRTC
VCC3
3VSB
LINK_ALERT
SM_LINK0
SM_LINK1
SMBALERT
SMBCLK
SMBDATA
RSTSW-
TP0
INT-W
INT-Y
INT-X
INT-Z
PREQ-0
PREQ-4
FLASH_S0
PREQ-1
PREQ-2
PREQ-5
RN42
RN41
RN18
RN19
R45
R47
10K-8P4R
2.2K-8P4R
10K-04
SIOPME
GPIO9
GPIO13
SPKR
GPIO7
GPIO6
GPIO25
RN61
R124
R123
R32
1K-04
FLASH_S1
FLASH_S0
Flash Cycle
0
1
SPI
PCI
LPC
H
Floating
DESCRIPTION
AZ_SDOUT
PCIE 4x *1
PCIE 1x *4
PCIE 1x/4x Select
AZ_SYNC
Elitegroup Computer Systems
Title
10-I CH7_HDA/ SPI / PCI / RTC/ MISC
Size
Custom
Document Number
G41T-M7
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1.0
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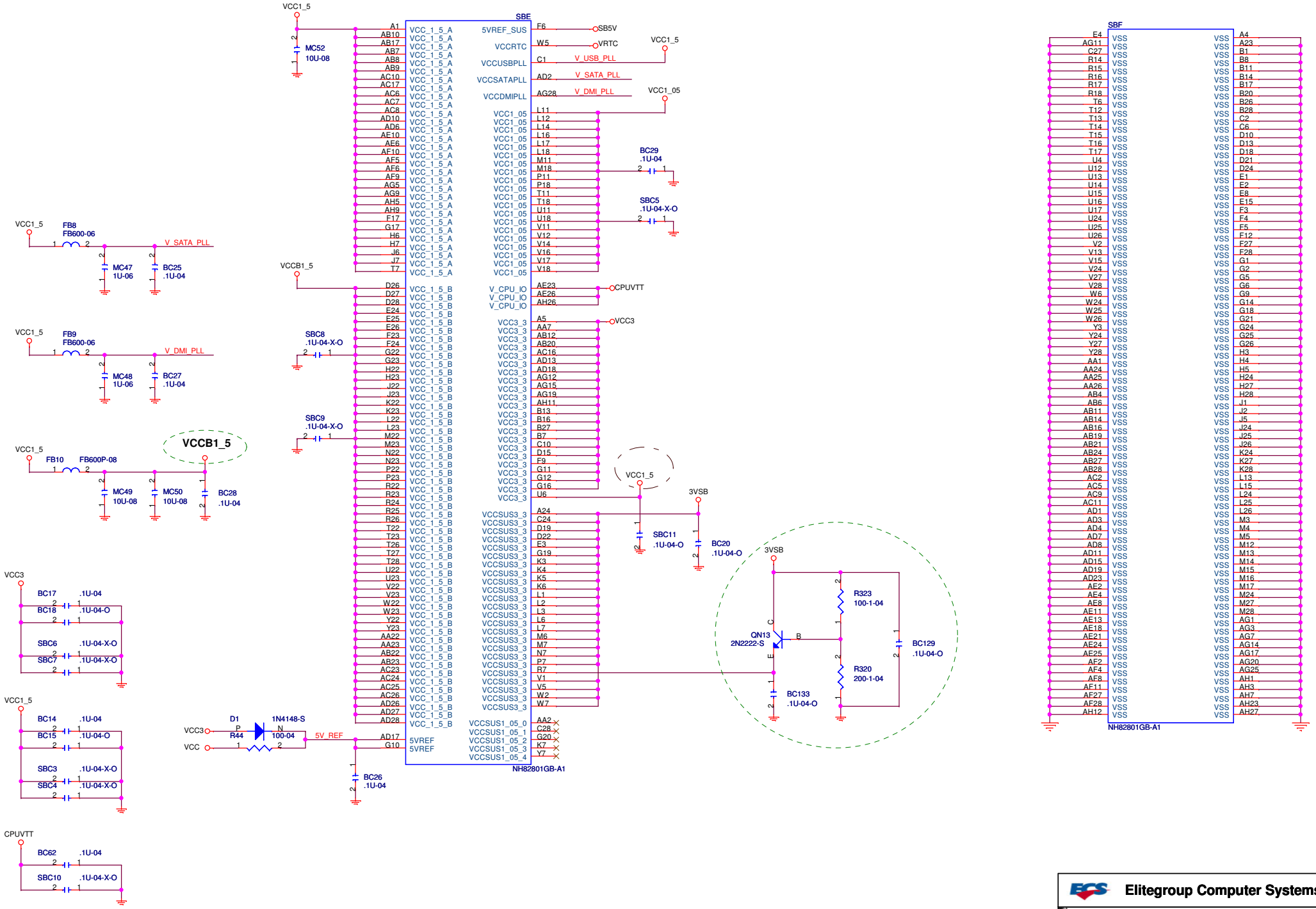

Elitegroup Computer Systems		
Title: 11-I CH7_POWER/ GND		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
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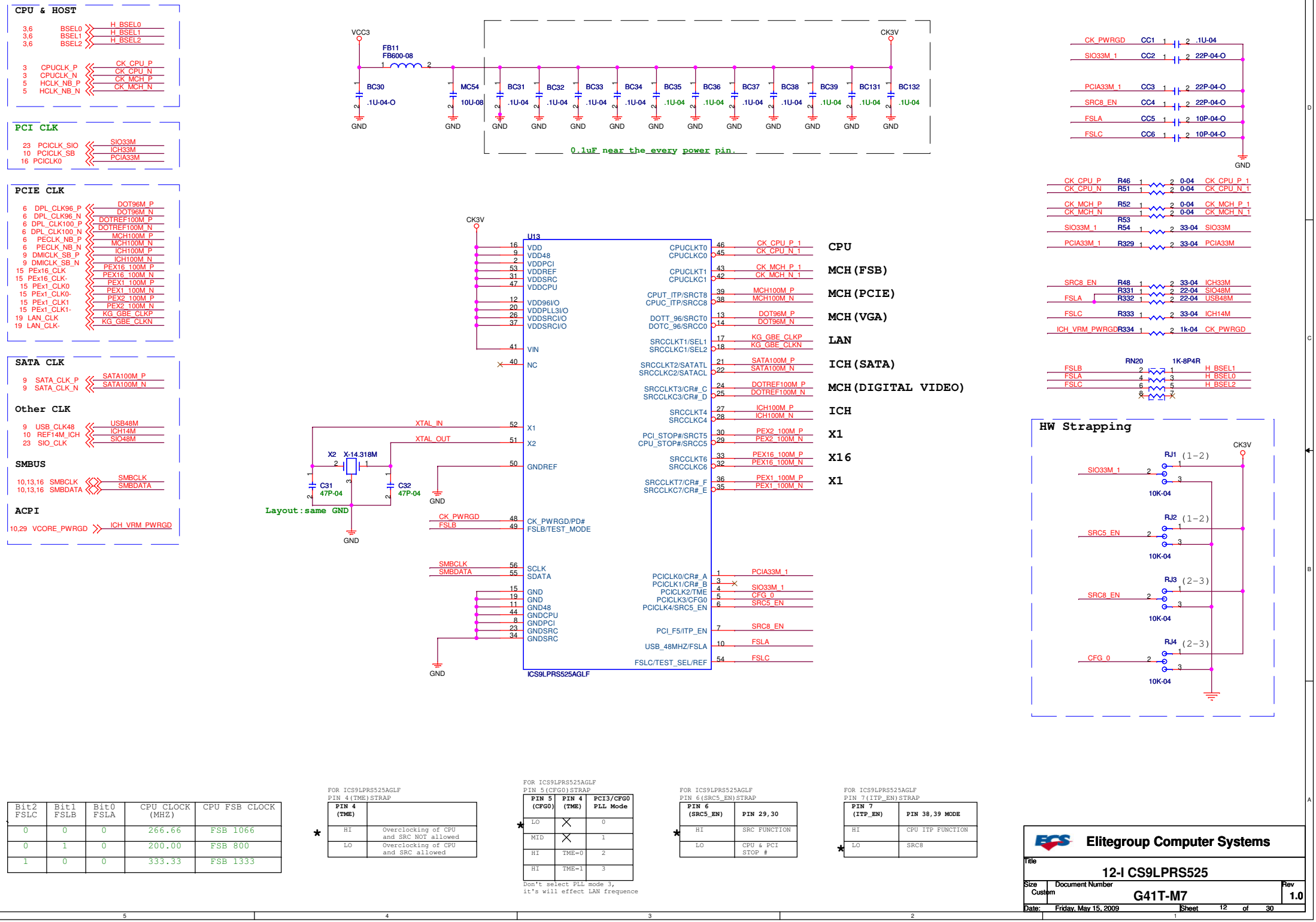

Bit2 FSLC	Bit1 FSLB	Bit0 FSLA	CPU CLOCK (MHZ)	CPU FSB CLOCK
0	0	0	266.66	FSB 1066
0	1	0	200.00	FSB 800
1	0	0	333.33	FSB 1333

FOR ICS9LPRS525AGLF
PIN 4(TME)STRAP

PIN 4 (TME)	
HI	Overclocking of CPU and SRC NOT allowed
LO	Overclocking of CPU and SRC allowed

FOR ICS9LPRS525AGLF
PIN 5(CFG0)STRAP

PIN 5 (CFG0)	PIN 4 (TME)	PCI3/CFG0 PLL Mode
LO	X	0
MID	X	1
HI	TME=0	2
HI	TME=1	3

Don't select PLL mode 3,
it's will effect LAN frequence

FOR ICS9LPRS525AGLF
PIN 6(SRC5_EN)STRAP

PIN 6 (SRC5_EN)	PIN 29,30
HI	SRC FUNCTION
LO	CPU & PCI STOP #

FOR ICS9LPRS525AGLF
PIN 7(ITP_EN)STRAP

PIN 7 (ITP_EN)	PIN 38,39 MODE
HI	CPU ITP FUNCTION
LO	SRC8

Elitegroup Computer Systems

Title: 12-I CS9LPRS525

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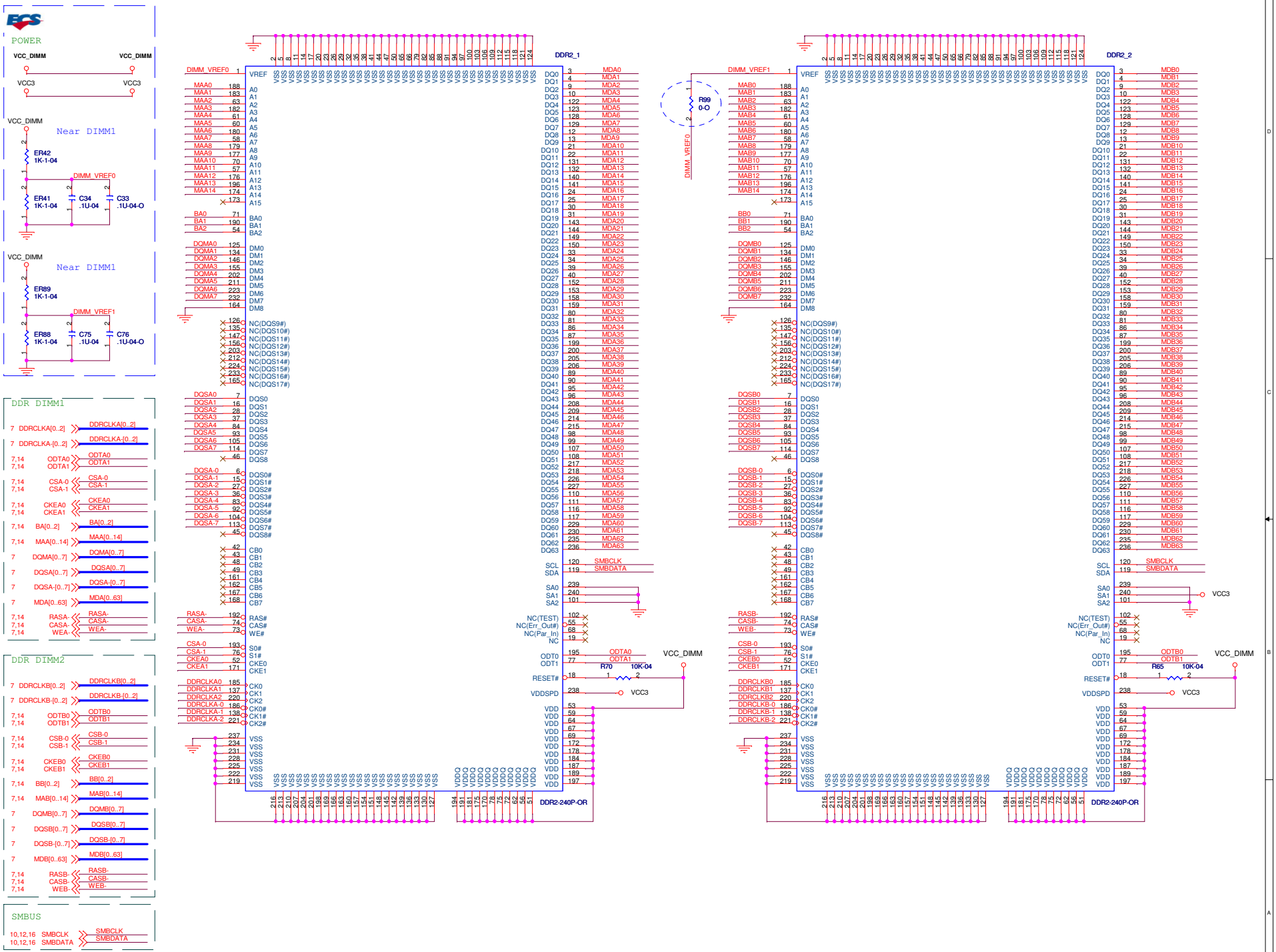
POWER
VCC_DIMM
VCC_DIMM
VCC3
VCC3
VCC_DIMM
Near DIMM1
ER42
1K-1-04
DIMM_VREF0
ER41
1K-1-04
C34
.1U-04
C33
.1U-04-O
VCC_DIMM
Near DIMM1
ER89
1K-1-04
DIMM_VREF1
ER88
1K-1-04
C75
.1U-04
C76
.1U-04-O
DDR DIMM1
DDR DIMM2
SMBUS
DDR2_1
DDR2_2
DDR2-240P-OR
R99
0-O
R70
10K-04
R65
10K-04
VCC_DIMM
VCC3
Elitegroup Computer Systems
13-DDR2 DI MM1, 2
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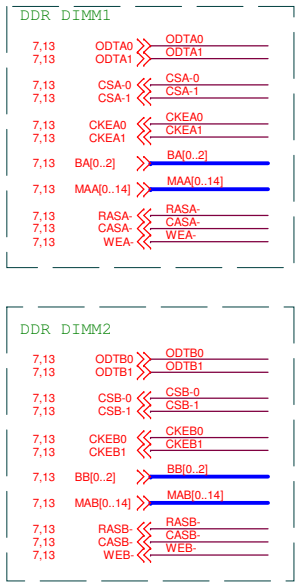
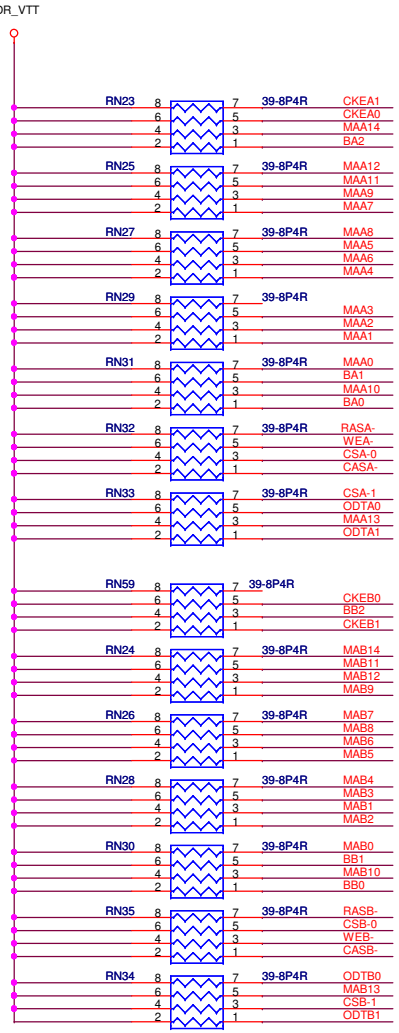
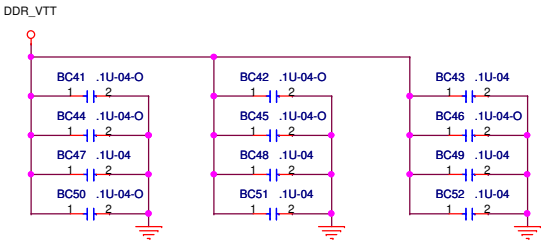
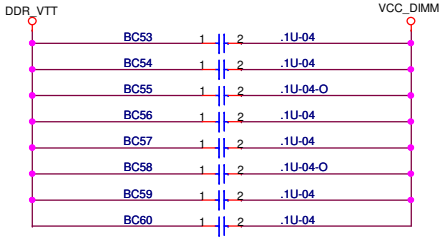


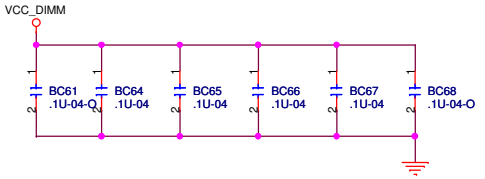


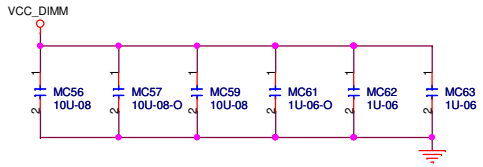
DECOUPLING CAPACITOR FOR SSTL-2 END TERMIANTION VTT ISLAND

Placed within 200mils of VTT Termination R-packs









Elitegroup Computer Systems		
Title: 14-DDR TERMI NATI ON		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
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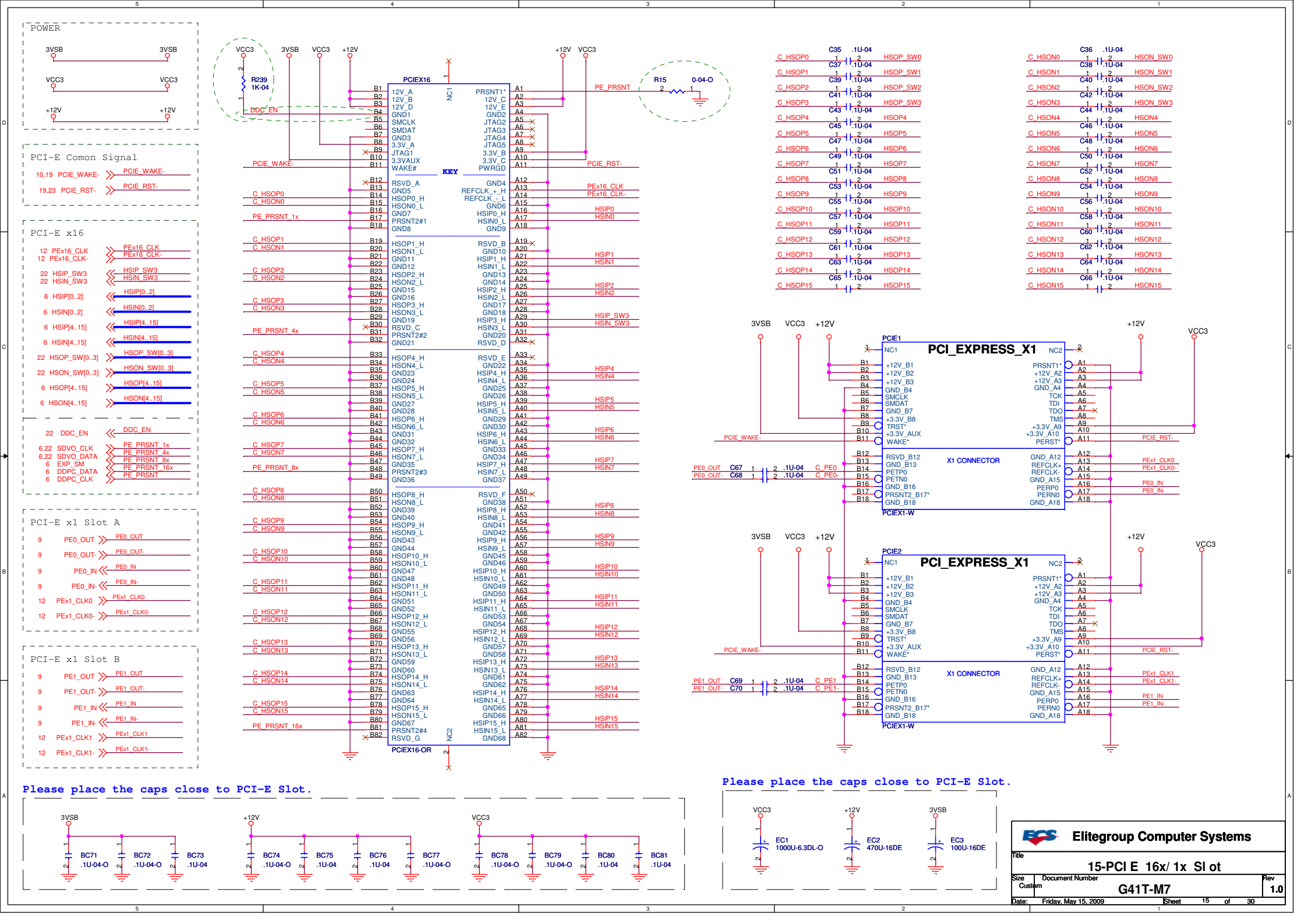
POWER
3VSB
VCC3
+12V
PCI-E Comon Signal
10,19 PCIE_WAKE-
19,23 PCIE_RST-
PCI-E x16
12 PEx16_CLK
12 PEx16_CLK-
22 HSIP_SW3
22 HSIN_SW3
6 HSIP[0..2]
6 HSIN[0..2]
6 HSIP[4..15]
6 HSIN[4..15]
22 HSOP_SW[0..3]
22 HSON_SW[0..3]
6 HSOP[4..15]
6 HSON[4..15]
22 DDC_EN
6,22 SDVO_CLK
6,22 SDVO_DATA
6 EXP_SM
6 DDPC_DATA
6 DDPC_CLK
PE_PRSNT_1x
PE_PRSNT_4x
PE_PRSNT_8x
PE_PRSNT_16x
PE_PRSNT
PCI-E x1 Slot A
9 PE0_OUT
9 PE0_OUT-
9 PE0_IN
9 PE0_IN-
12 PEx1_CLK0
12 PEx1_CLK0-
PCI-E x1 Slot B
9 PE1_OUT
9 PE1_OUT-
9 PE1_IN
9 PE1_IN-
12 PEx1_CLK1
12 PEx1_CLK1-
R239 1K-04
DDC_EN
PCIEX16
PCIEX16-OR
KEY
NC1
NC2
R15 0-04-O
C_HSOP0 C35 .1U-04 HSOP_SW0
C_HSOP1 C37 .1U-04 HSOP_SW1
C_HSOP2 C39 .1U-04 HSOP_SW2
C_HSOP3 C41 .1U-04 HSOP_SW3
C_HSOP4 C43 .1U-04 HSOP4
C_HSOP5 C45 .1U-04 HSOP5
C_HSOP6 C47 .1U-04 HSOP6
C_HSOP7 C49 .1U-04 HSOP7
C_HSOP8 C51 .1U-04 HSOP8
C_HSOP9 C53 .1U-04 HSOP9
C_HSOP10 C55 .1U-04 HSOP10
C_HSOP11 C57 .1U-04 HSOP11
C_HSOP12 C59 .1U-04 HSOP12
C_HSOP13 C61 .1U-04 HSOP13
C_HSOP14 C63 .1U-04 HSOP14
C_HSOP15 C65 .1U-04 HSOP15
C_HSON0 C36 .1U-04 HSON_SW0
C_HSON1 C38 .1U-04 HSON_SW1
C_HSON2 C40 .1U-04 HSON_SW2
C_HSON3 C42 .1U-04 HSON_SW3
C_HSON4 C44 .1U-04 HSON4
C_HSON5 C46 .1U-04 HSON5
C_HSON6 C48 .1U-04 HSON6
C_HSON7 C50 .1U-04 HSON7
C_HSON8 C52 .1U-04 HSON8
C_HSON9 C54 .1U-04 HSON9
C_HSON10 C56 .1U-04 HSON10
C_HSON11 C58 .1U-04 HSON11
C_HSON12 C60 .1U-04 HSON12
C_HSON13 C62 .1U-04 HSON13
C_HSON14 C64 .1U-04 HSON14
C_HSON15 C66 .1U-04 HSON15
PCIE1
PCIE2
PCI_EXPRESS_X1
X1 CONNECTOR
PCIEX1-W
PE0_OUT C67 .1U-04 C_PE0
PE0_OUT- C68 .1U-04 C_PE0-
PE1_OUT C69 .1U-04 C_PE1
PE1_OUT- C70 .1U-04 C_PE1-
Please place the caps close to PCI-E Slot.
BC71 .1U-04-O
BC72 .1U-04-O
BC73 .1U-04
BC74 .1U-04-O
BC75 .1U-04
BC76 .1U-04
BC77 .1U-04-O
BC78 .1U-04-O
BC79 .1U-04-O
BC80 .1U-04
BC81 .1U-04
Please place the caps close to PCI-E Slot.
EC1 1000U-6.3DL-O
EC2 470U-16DE
EC3 100U-16DE
Elitegroup Computer Systems
Title
15-PCI E 16x/ 1x Sl ot
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PCI Comon

10	CBE-[0..3]	CBE-[0..3]
10	AD[0..31]	AD[0..31]
10	INT-A	INT-A
10	INT-B	INT-B
10	INT-C	INT-C
10	INT-D	INT-D
10	IRDY-	IRDY-
10	SERR-	SERR-
10	DEVSEL-	DEVSEL-
10	FRAME-	FRAME-
10	TRDY-	TRDY-
10	STOP-	STOP-
10	PAR	PAR
10	PME-	PME-
10	PLOCK-	PLOCK-
10	PERR-	PERR-
10,12,13	SMBCLK	SMBCLK
10,12,13	SMBDATA	SMBDATA
10	PCIRST-	PCIRST-

PCI Slot 1

10	PREQ-0	PREQ-0
10	PGNT-0	PGNT-0
12	PCICLK0	PCICLK0

PCI Slot 1

PCI1

B1	-12V		A1	TRST	
B2	TCK		A2	+12V	
B3	GND		A3	TMS	TMS
B4	TDO		A4	TDI	TDI
B5	+5V		A5	+5V	
B6	+5V		A6	INTA	INT-A
B7	INTB	INT-B	A7	INTC	INT-C
B8	INTD	INT-D	A8	+5V	
B9	PRSNT1		A9	NC1	
B10	NC3		A10	+5V	
B11	PRSNT2		A11	NC2	
B12	GND		A12	GND	
B13	GND		A13	GND	
B14	NC4		A14	3VAUX	3VSB
B15	GND		A15	RST	PCIRST-
B16	CLK	PCICLK0	A16	+5V	
B17	GND		A17	GNT	PGNT-0
B18	REQ	PREQ-0	A18	GND	
B19	+5V		A19	PME	PME-
B20	AD31	AD31	A20	AD30	AD30
B21	AD29	AD29	A21	+3.3V	
B22	GND		A22	AD28	AD28
B23	AD27	AD27	A23	AD26	AD26
B24	AD25	AD25	A24	GND	
B25	+3.3V		A25	AD24	AD24
B26	C/BE3	CBE-3	A26	IDSEL	IDSEL_20
B27	AD23	AD23	A27	+3.3V	
B28	GND		A28	AD22	AD22
B29	AD21	AD21	A29	AD20	AD20
B30	AD19	AD19	A30	GND	
B31	+3.3V		A31	AD18	AD18
B32	AD17	AD17	A32	AD16	AD16
B33	C/BE2	CBE-2	A33	+3.3V	
B34	GND		A34	FRAME	FRAME-
B35	IRDY	IRDY-	A35	GND	
B36	+3.3V		A36	TRDY	TRDY-
B37	DEVSEL	DEVSEL-	A37	GND	
B38	GND		A38	STOP	STOP-
B39	LOCK	PLOCK-	A39	+3.3V	
B40	PERR	PERR-	A40	SDONE	SMBCLK
B41	+3.3V		A41	SBO	SMBDATA
B42	SERR	SERR-	A42	GND	
B43	+3.3V		A43	PAR	PAR
B44	C/BE1	CBE-1	A44	AD15	AD15
B45	AD14	AD14	A45	+3.3V	
B46	GND		A46	AD13	AD13
B47	AD12	AD12	A47	AD11	AD11
B48	AD10	AD10	A48	GND	
B49	GND		A49	AD9	AD9
B52	AD8	AD8	A52	C/BE0	CBE-0
B53	AD7	AD7	A53	+3.3V	
B54	+3.3V		A54	AD6	AD6
B55	AD5	AD5	A55	AD4	AD4
B56	AD3	AD3	A56	GND	
B57	GND		A57	AD2	AD2
B58	AD1	AD1	A58	AD0	AD0
B59	+5V		A59	+5V	
B60	ACK64	PACK64-1	A60	REQ64	PREQ64-1
B61	+5V		A61	+5V	
B62	+5V		A62	+5V	

PCI-W

R50 330-04

Close PCI Slot.

EMI

C71 100P-04-O

IDSEL=AD20
INT[A,B,C,D]

RN36 10K-8P4R: STOP-, PLOCK-, PERR-, SERR-

RN37 10K-8P4R: DEVSEL-, TRDY-, IRDY-, FRAME-

RN38 10K-8P4R: PREQ64-1, PACK64-1, TDI, TMS

RN39 10K-8P4R: INT-D, INT-B, INT-A, INT-C

EC4 1000U-6.3DL

EC5 1000U-6.3DL

Please place close to PCI1 and PCI2 Slot.

每個 PCI 插槽 pin B62 各放一顆: C72 .1U-04-O

每個 PCI 插槽 pin A33 各放一顆: C73 .1U-04

每個 PCI 插槽 pin A14 各放一顆: C74 .1U-04

Elitegroup Computer Systems

Title: 16-PCI Slot

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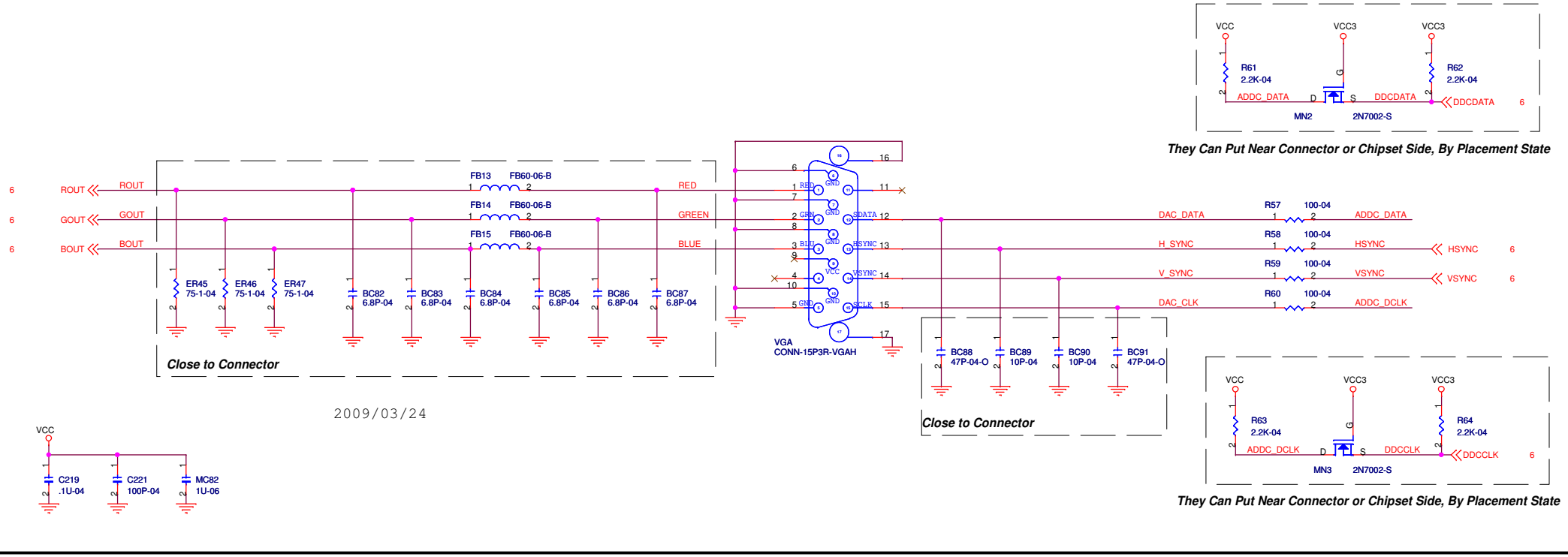
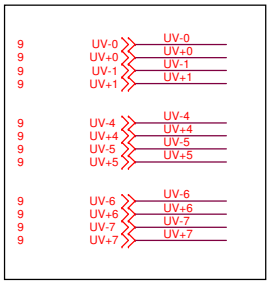
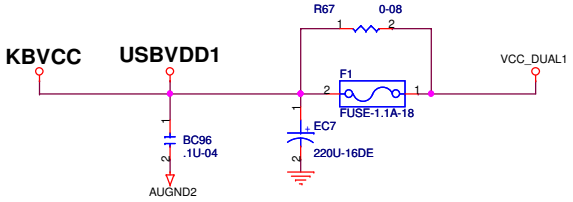
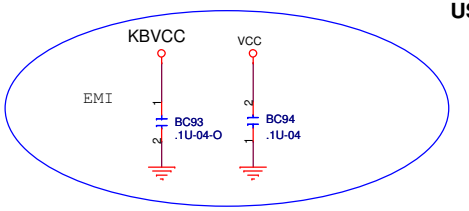
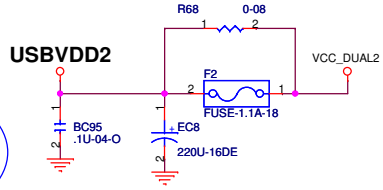


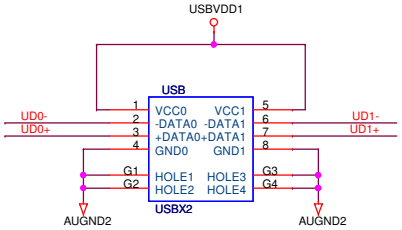
Elitegroup Computer Systems		
Title: 17-VGA (RGB & HDMI)		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
Date: Friday, May 15, 2009	Sheet 17 of 30	

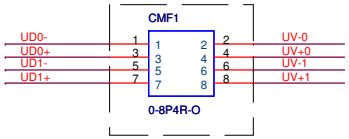




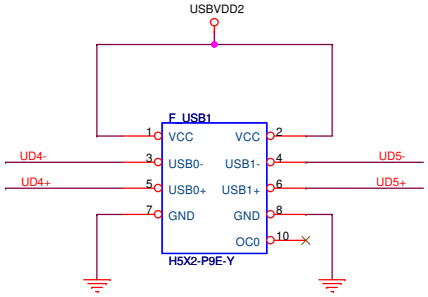


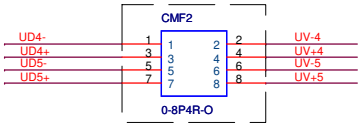




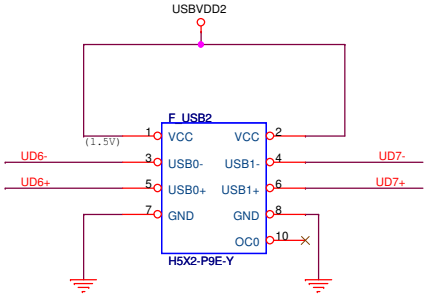


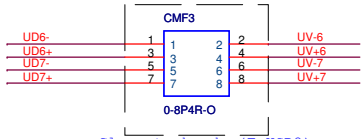
Close to USB connector





Close to header(F_USB1)





Close to header(F_USB2)

Elitegroup Computer Systems		
Title: 18-USB		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
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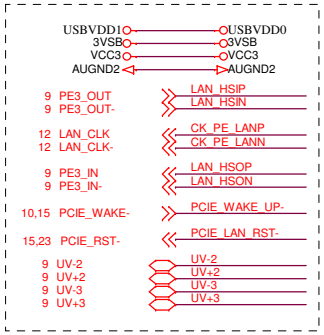
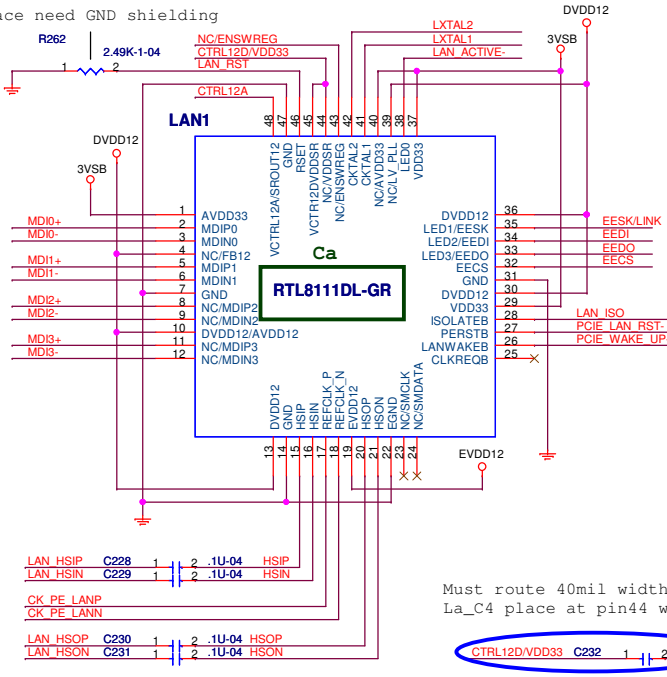
External Connection



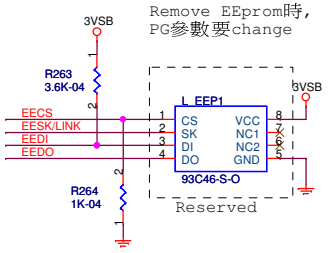
When you found some bug, please inform Ren(ext:665) to update circuit.

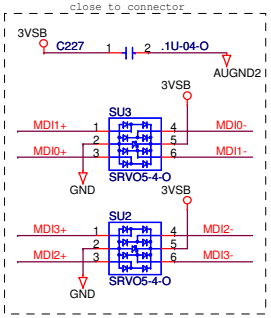
RSET電阻需close to LAN

Trace need GND shielding



Remove EEprom時,
PG參數要change





R265 1K-04 VCC3
R266 15K-04

新手提醒:

LAN_HSOP/N請接到SB的PCIE RX端

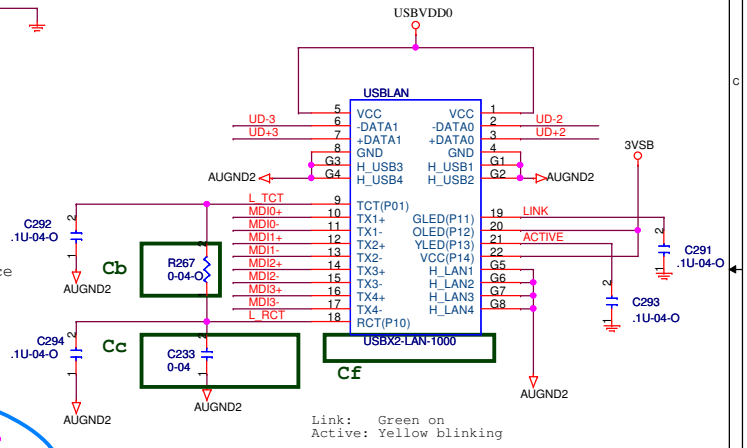
LAN_HSIP/N請接到SB的PCIE TX端

LAN_HSIP/N在SB的PCIE TX端要記得放AC coupling cap

Must route 40mil width

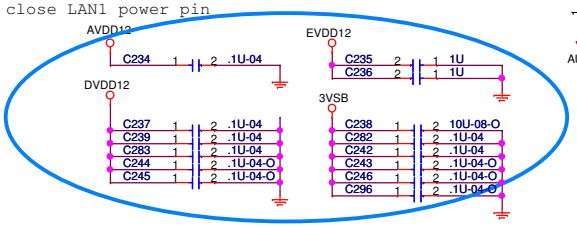
La_C4 place at pin44 with 200mil distance

CTRL12D/VDD33 C232 .1U-04

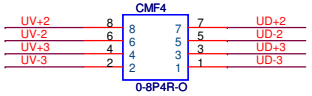


Link: Green on
Active: Yellow blinking

close LAN1 power pin



EESK/LINK R268 330-04 LINK
LAN_ACTIVE- R269 330-04 ACTIVE

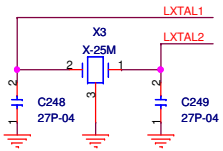


BOM Difference

	RTL8111DL-GR 1000M	RTL8102EL-GR 10/100M
Ca	RTL8111DL-GR	RTL8102EL-GR
Cb	X	V
Cc	0-04	.01U-04
Cd	X	V
Ce	V	X
Cf	USBX2-LAN-1000	USBX2-LAN-100

Power Difference

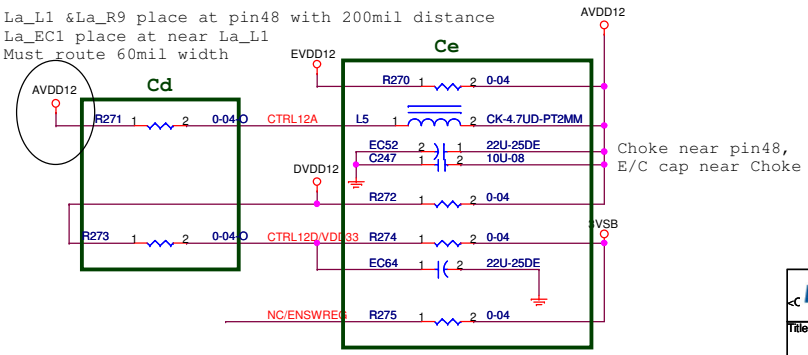
	RTL8111D	RTL8102E
AVDD33 VDD33	3.3V 3VSB供應	3.3V 3VSB供應
CTRL12A	SWitching Output	1.2V pinself 供應
DVDD12	1.2V CTRL12A供應	1.2V pinself 供應
EVDD12	1.2V CTRL12A供應	1.2V pinself 供應



La_L1 &La_R9 place at pin48 with 200mil distance

La_EC1 place at near La_L1

Must route 60mil width



Choke near pin48,
E/C cap near Choke

AUGND2 FB44 0 0603

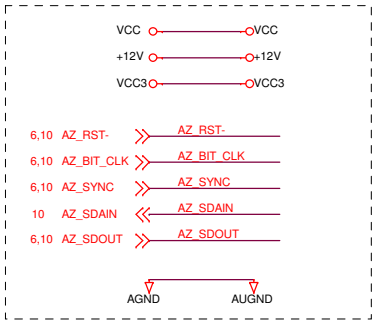
Elitegroup Computer Systems

Title: 19-PCI E LAN RTL8111DL&8102EL

Size: Custom | Document Number: G41T-M7 | Rev: 1.0

Date: Friday, May 15, 2009 | Sheet 19 of 30

External Connection

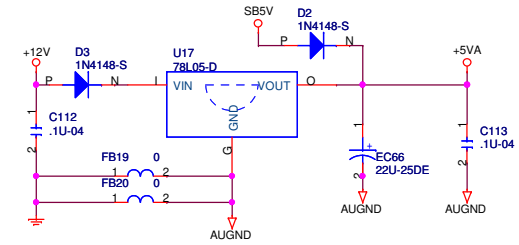


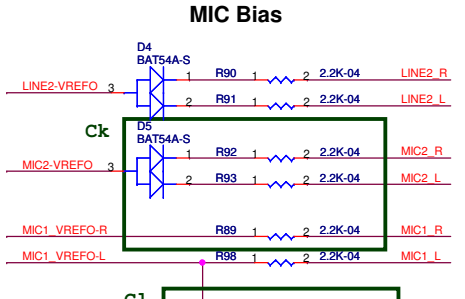
When you found some bug, please inform Ren(ext:665) to update circuit.

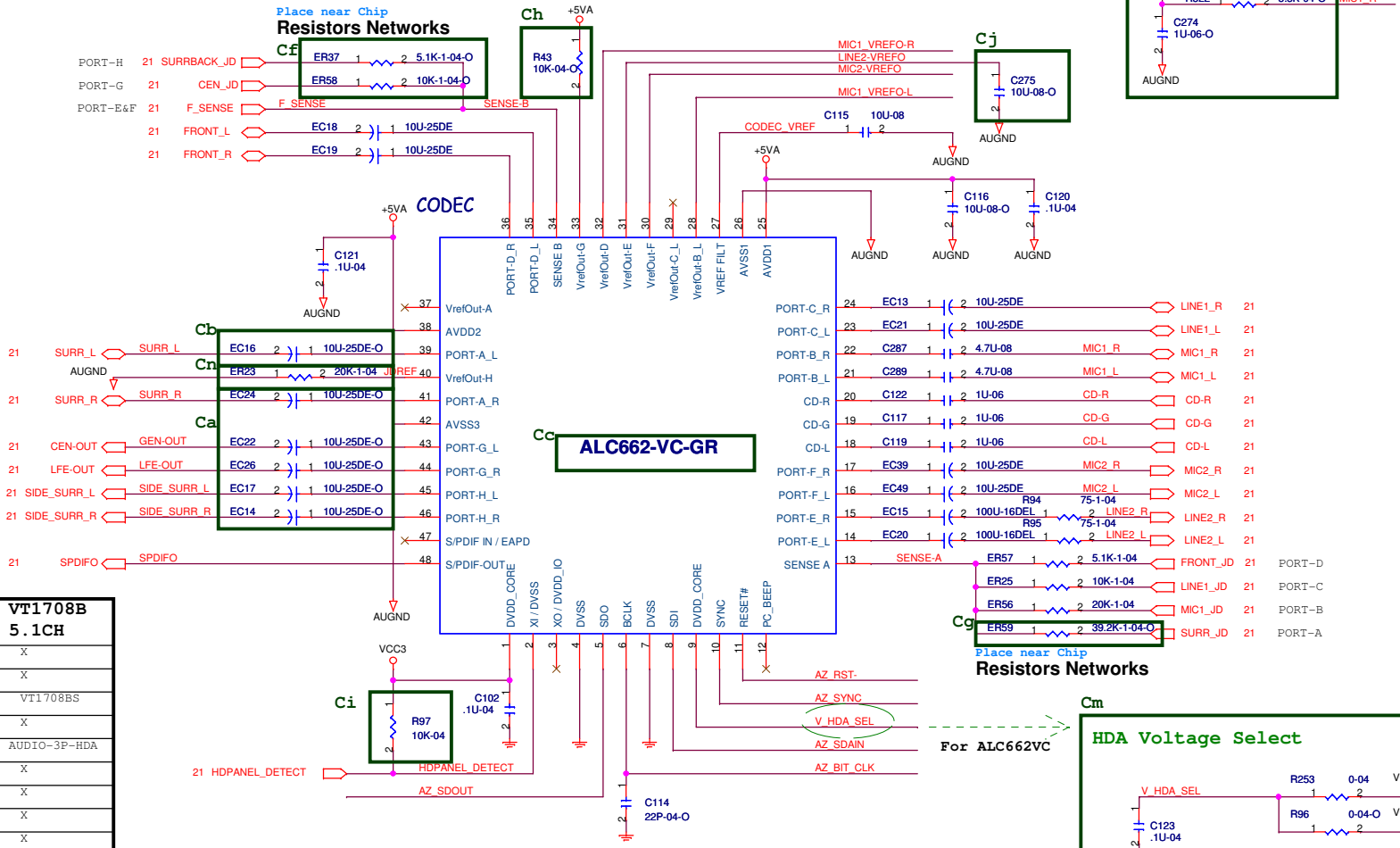
BOM Difference

Location	ALC888VC 7.1 Ch	ALC662 5.1 CH	VT1708B 7.1CH	VT1708B 5.1CH
Ca	V	X	V	X
Cb	V	X	V	X
Cc	ALC888-GR C2S	ALC662-VC-GRS	VT1708BS	VT1708BS
Cd	V	X	V	X
Ce	AUDIO-6P	AUDIO-3P-HDA	AUDIO-6P	AUDIO-3P-HDA
Cf	V	X	V	X
Cg	V	X	V	X
Ch	V	X	V	X
Ci	V	V	X	X
Cj	X	X	V	V
Ck	V	V	X	X
Cl	X	X	V	V
Cm	VCC1.5/VCC3	VCC1.5/VCC3	VCC3	VCC3
Cn	20K-1-04	20K-1-04	5.1K-1-04	5.1K-1-04

When you change BOM, remember change GPI to inform BIOS use different Verb-Table.

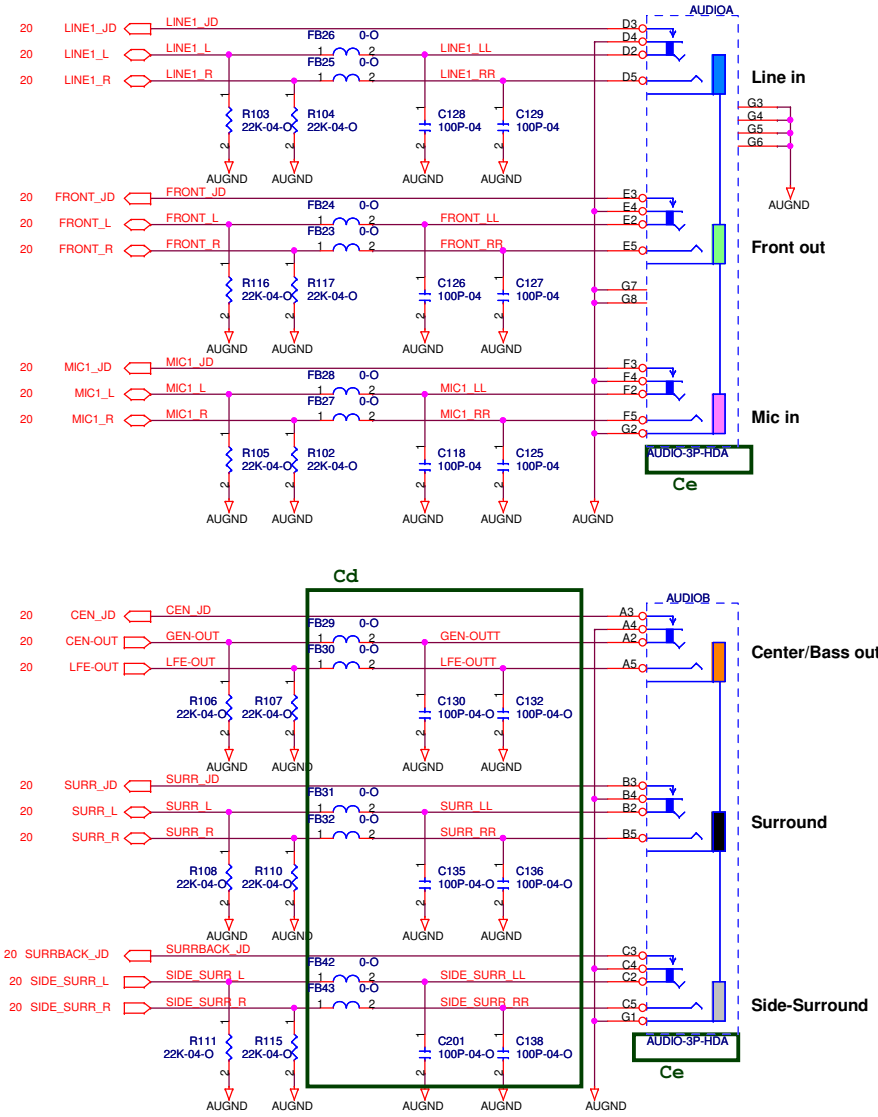




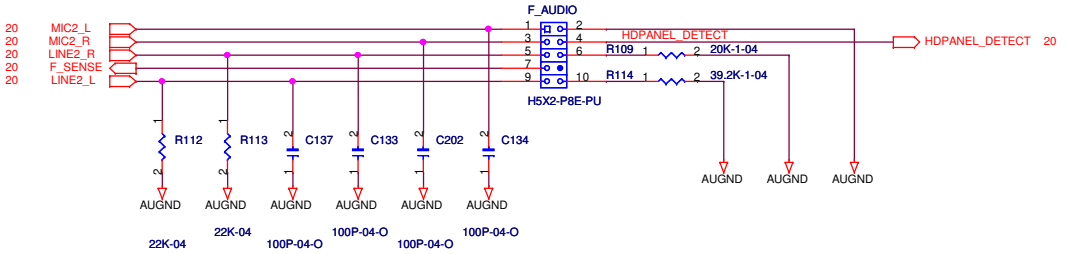


Elitegroup Computer Systems		
Title	20-Audi o Codec (ALC662VC/ 883/ 888)	
Size: Custom	Document Number: G41T-M7	Rev: 1.0
Date: Friday, May 15, 2009	Sheet 20 of 30	

REAR-AUDIO

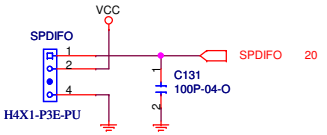


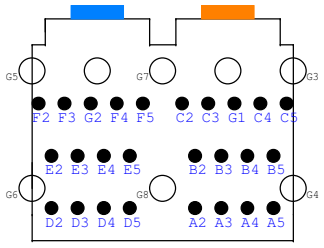
FRONT-AUDIO

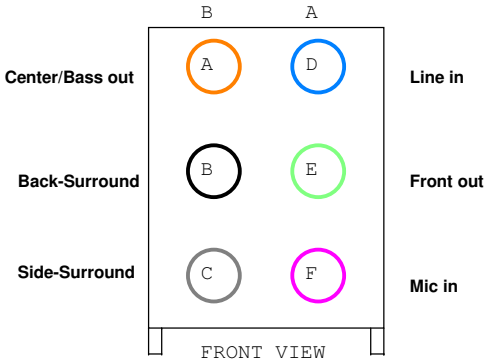


CD_IN

SPDIF-OUT







Elitegroup Computer Systems

Title: 21-Audi o I nterface (6 Port HDA)

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6 HSOP[0..3] HSOP[0..3]
6 HSON[0..3] HSON[0..3]
15 HSOP_SW[0..3] HSOP_SW[0..3]
15 HSON_SW[0..3] HSON_SW[0..3]
6 HSIP3 HSIP3
6 HSIN3 HSIN3
15 HSIP_SW3 HSIP_SW3
15 HSIN_SW3 HSIN_SW3
6,15 SDVO_CLK SDVO_CLK
6,15 SDVO_DATA SDVO_DATA
15 DDC_EN DDC_EN
6,10,23 PWOK PWOK

Switch

U8 PI3PCIE2612-A

SEL	Function
Hi	DVI mode
Lo	PCIEx16 mode

Level Shifter

U2 PI3VDP411LST-8KV

3.3V level 5V level

R254 1.5K-04-O

DDC_EN	Passgate
3.3V	Enable
0	Disable

HD_HPD	Status
Hi	Plugged
Lo	unplugged

HD_HPD:Internal 100K pull low

RN63 0-8P4R

RN64 0-8P4R

DVI CONN-24P3R-DVI

IF PIN4=HI THE (PIN1==PIN2)

74V1G66 TOP VIEW

SOT23-5

QN12 2N3904-S

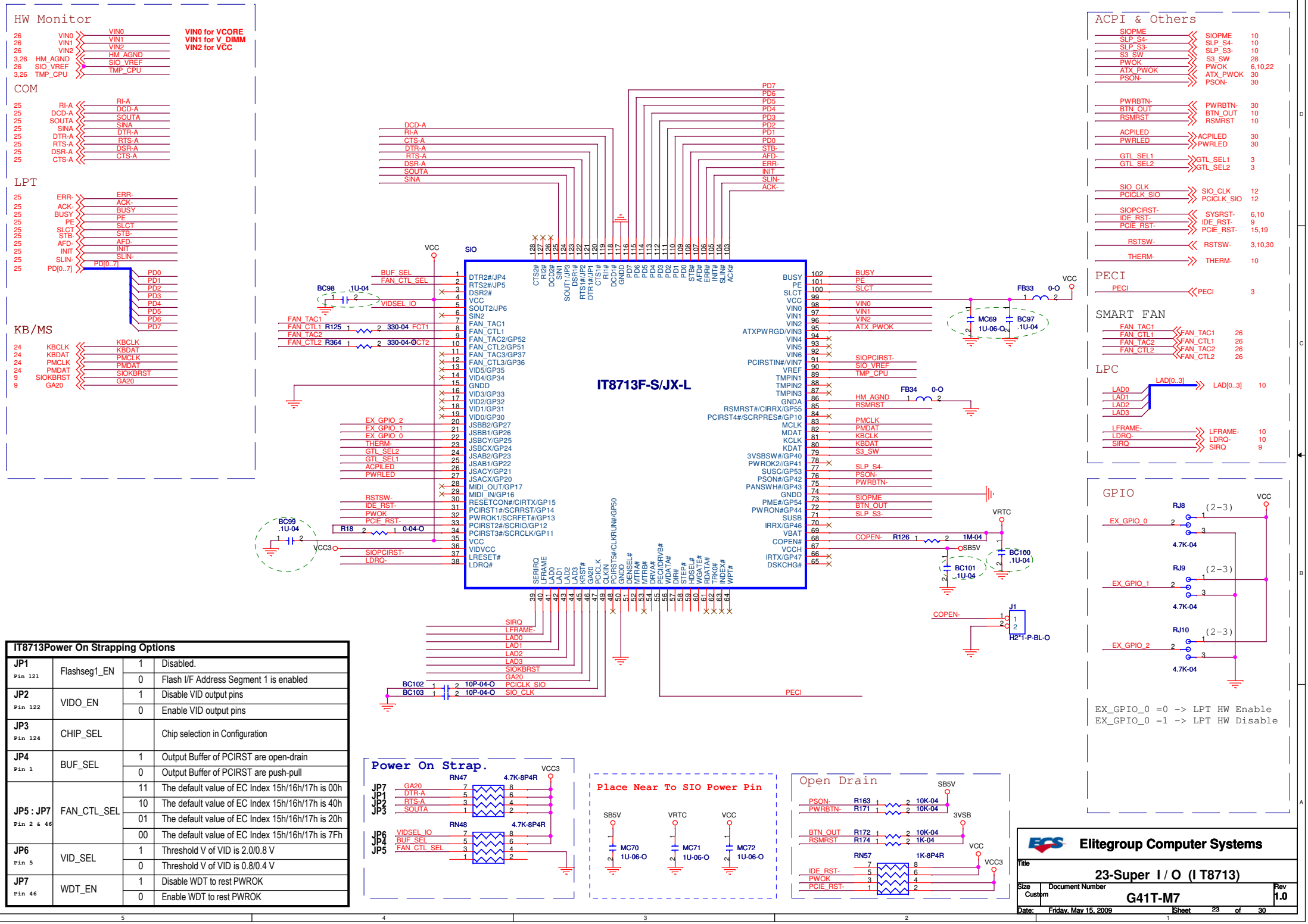
3904 TOP VIEW

SOT23

F4 FUSE-1.1A-18

D6 SK24-S

Elitegroup Computer Systems		
Title: 22-DVI I nterface(Swi tch, Level shi fter &Conn		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
Date: Friday, May 15, 2009	Sheet 22 of 30	



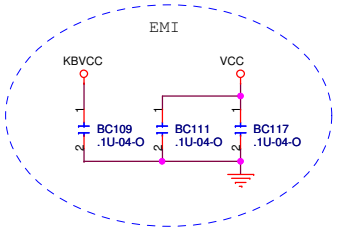
IT8713Power On Strapping Options			
JP1 Pin 121	Flashseg1_EN	1	Disabled.
		0	Flash I/F Address Segment 1 is enabled
JP2 Pin 122	VIDO_EN	1	Disable VID output pins
		0	Enable VID output pins
JP3 Pin 124	CHIP_SEL		Chip selection in Configuration
JP4 Pin 1	BUF_SEL	1	Output Buffer of PCIRST are open-drain
		0	Output Buffer of PCIRST are push-pull
JP5 : JP7 Pin 2 & 46	FAN_CTL_SEL	11	The default value of EC Index 15h/16h/17h is 00h
		10	The default value of EC Index 15h/16h/17h is 40h
		01	The default value of EC Index 15h/16h/17h is 20h
		00	The default value of EC Index 15h/16h/17h is 7Fh
JP6 Pin 5	VID_SEL	1	Threshold V of VID is 2.0/0.8 V
		0	Threshold V of VID is 0.8/0.4 V
JP7 Pin 46	WDT_EN	1	Disable WDT to rest PWROK
		0	Enable WDT to rest PWROK

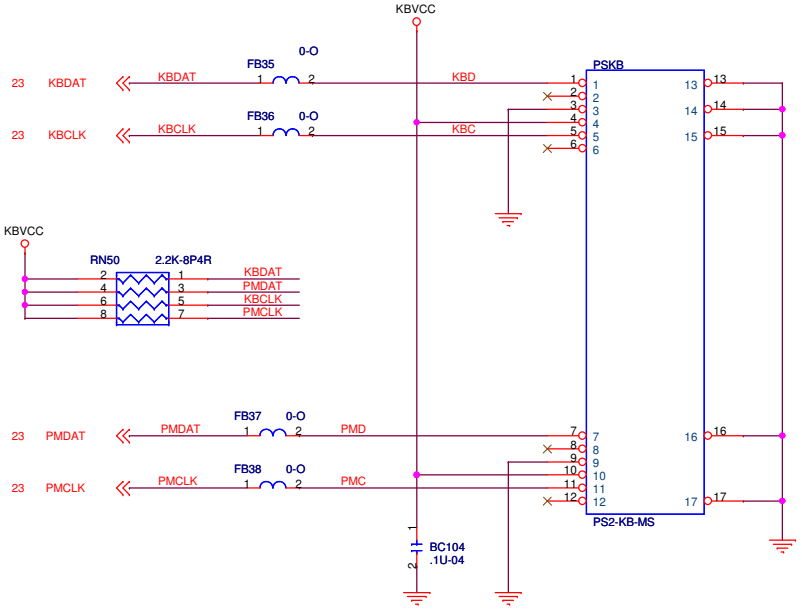
Elitegroup Computer Systems

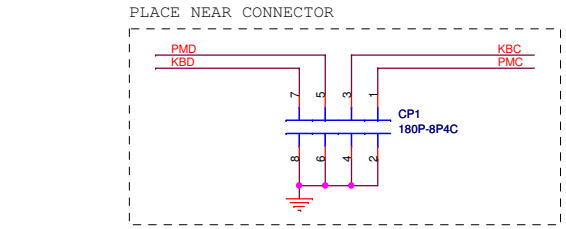
Title: 23-Super I / O (I T8713)

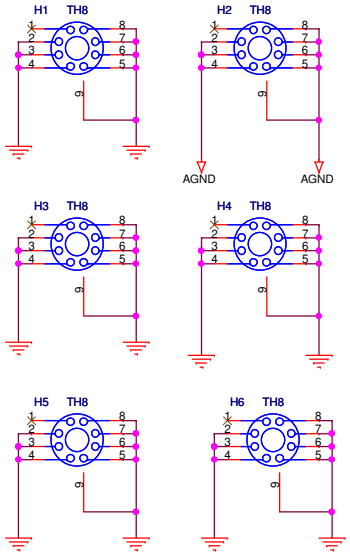
Size: Custom | Document Number: G41T-M7 | Rev: 1.0

Date: Friday, May 15, 2009 | Sheet 23 of 30









Elitegroup Computer Systems		
Title: 24-KB/ MS/ FDD/ HOLE		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
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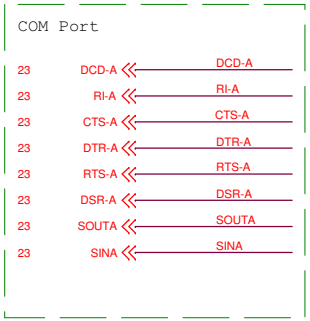
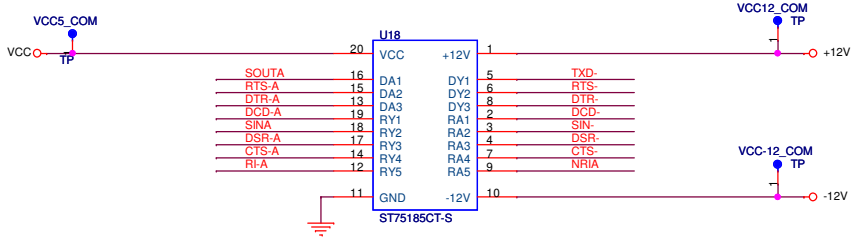
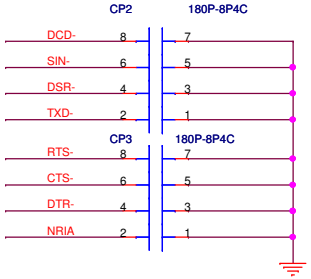
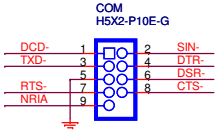








For 104

SPI_ROM_D(104)

SPI-ROM-D-8M

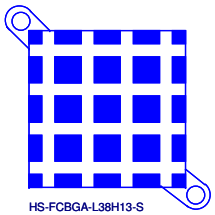
CLR_CMOS1(1-2)

JP-R-H

USBPWR_R(1-2)

JP-Y

NB(104)



HS-FCBGA-L38H13-S

For 103

X1(wire)

XTAL-JW

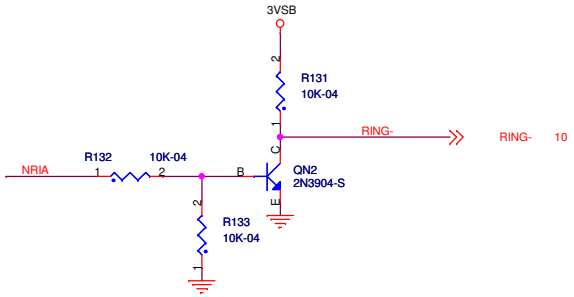
BT(104)

CR2032

USBPWR_F(1-2)

JP-Y

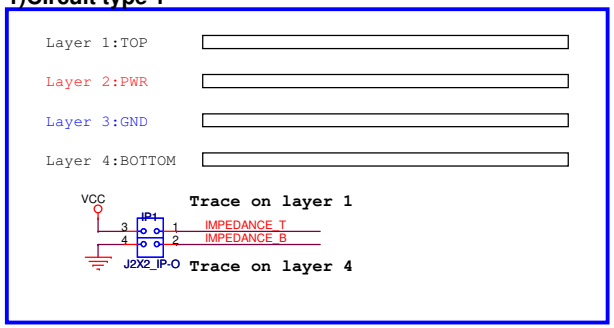
If need 25mm hight :
20-120-010937 or 20-120-011420

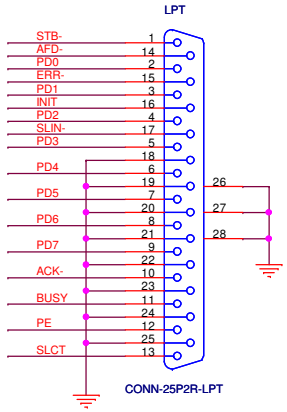


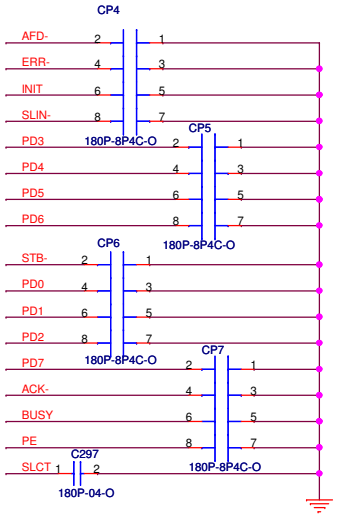
PCB Impedance control

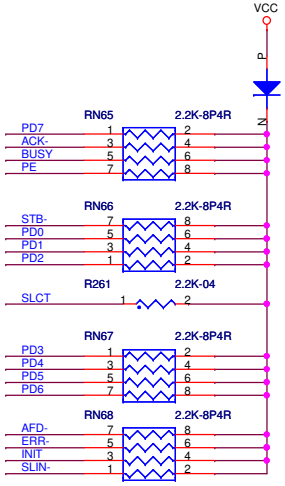
Impedance (ohm)	Trace Width (mil) (S/W/S)	Trace Length (inch)	Pre-preg
60	5 (20/5/20)	6	2116
50	4 (50/4/50)	6	1080
42	6 (50/6/50)	6	1080

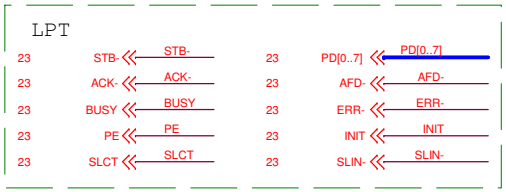
1)Circuit type 1











Elitegroup Computer Systems

Title: 25-COM/ LPT

Size: Custom | Document Number: G41T-M7 | Rev: 1.0

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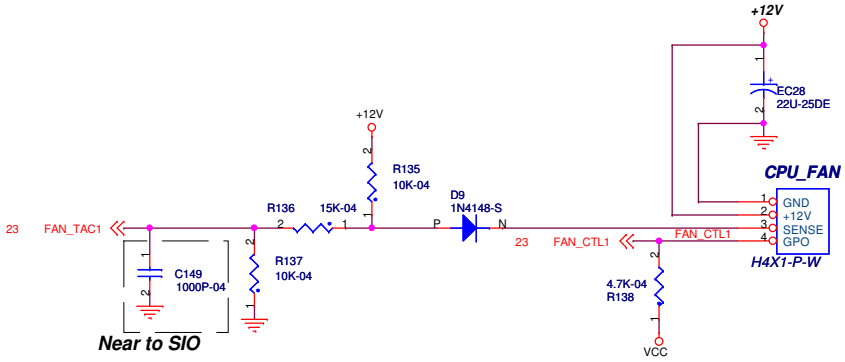
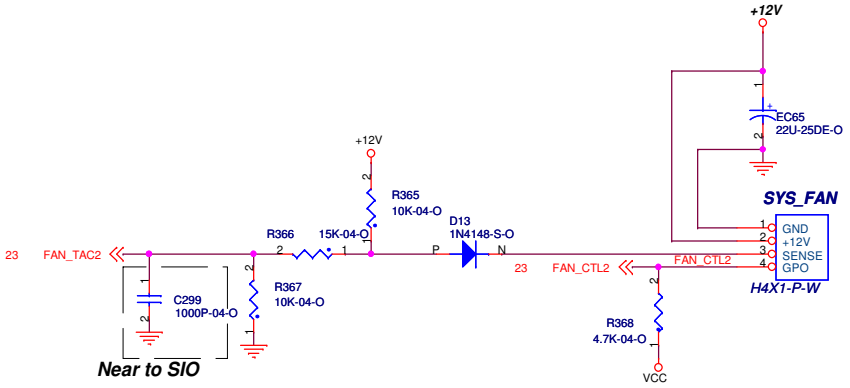
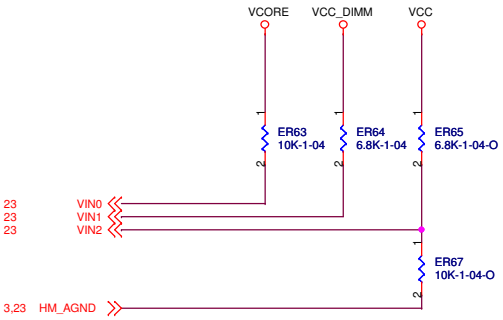


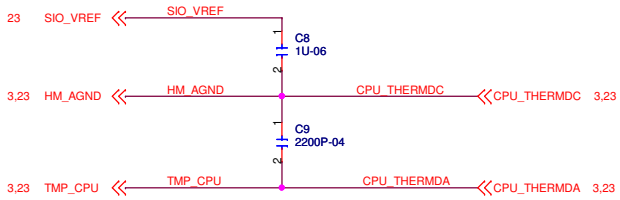


Voltage Monitor

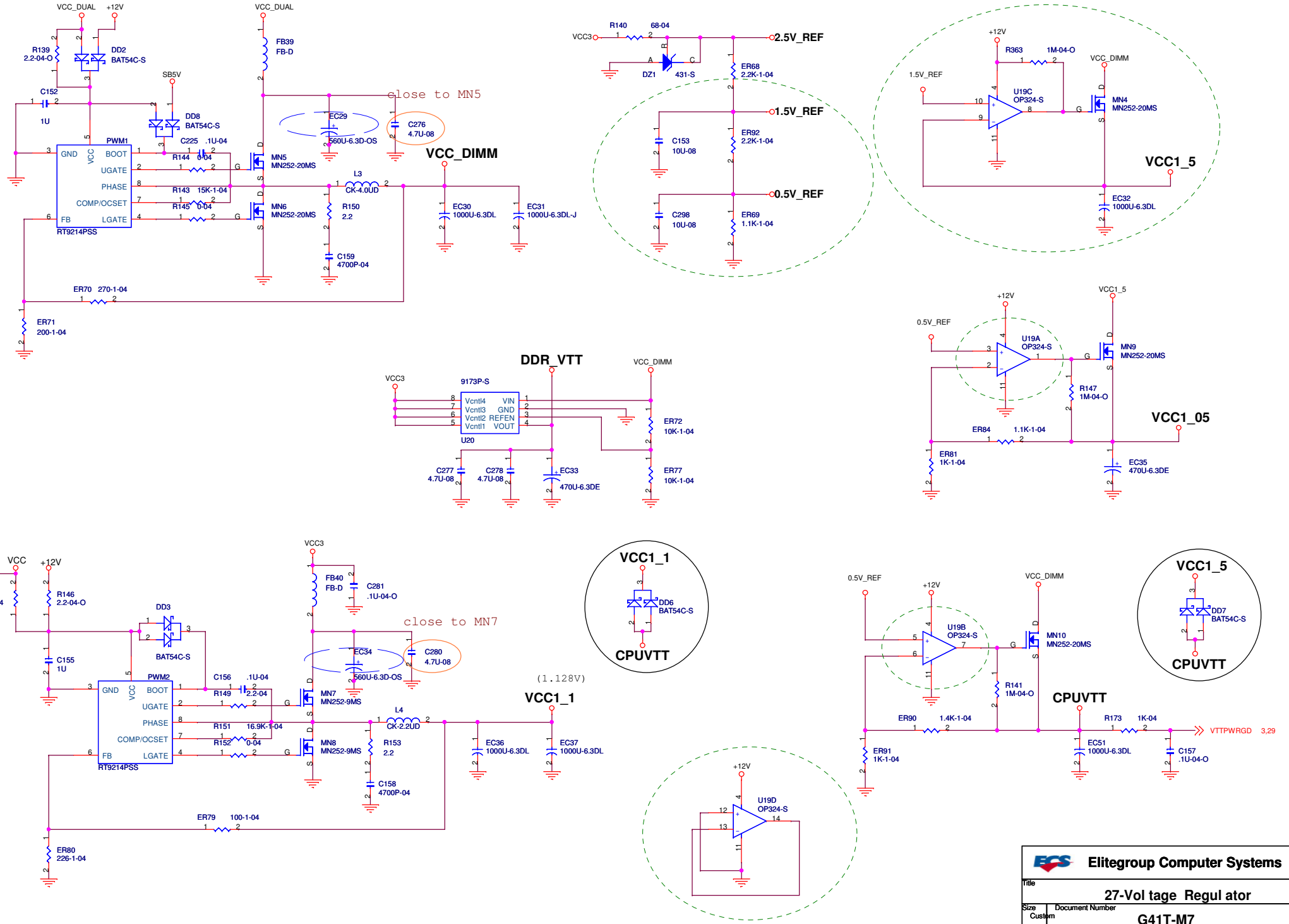


Temperature Monitor

Choosing method of measuring temperature by either thermistor or diode



Elitegroup Computer Systems		
Title: 26-HW Moni tor/ Fan		
Size: Custom	Document Number: G41T-M7	Rev: 1.0
Date: Friday, May 15, 2009	Sheet 26 of 30	

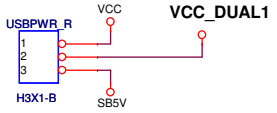


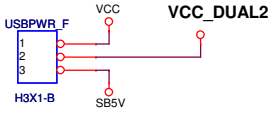
Elitegroup Computer Systems

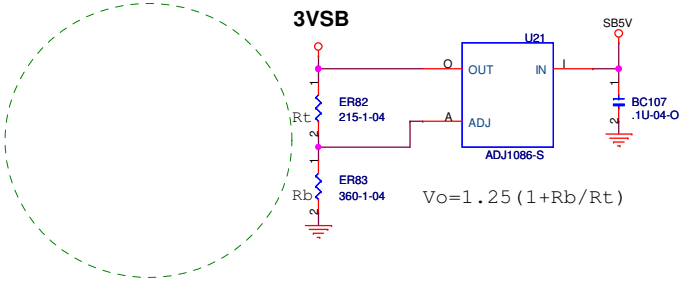
Title: 27-Vol tage Regul ator

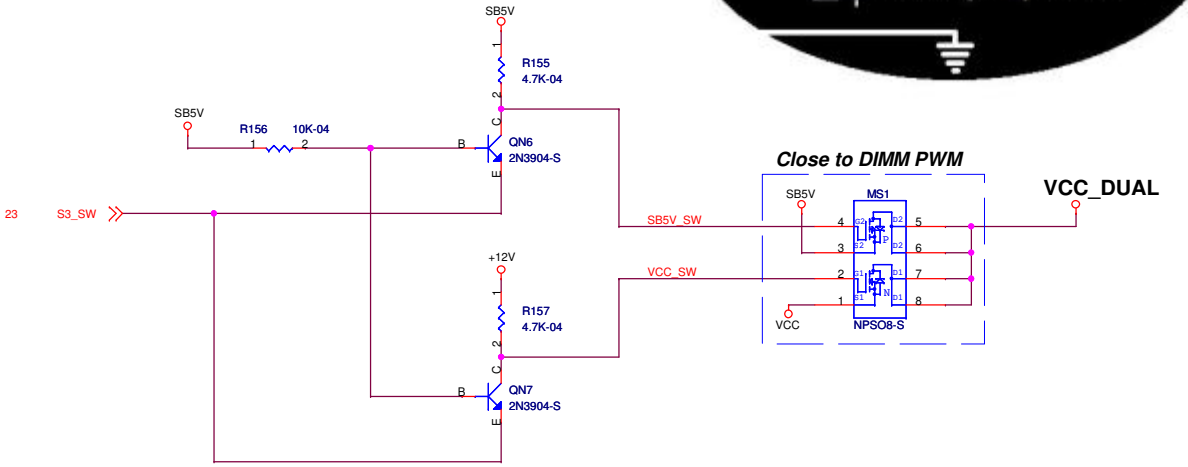
Size	Document Number	Rev
Custom	G41T-M7	1.0

Date: Friday, May 15, 2009 Sheet 27 of 30









Memory Power Output Control

	VCC_DUAL	ATX_PWOK	SLP_S4-	SLP_S3-	S3_SW
S0	VCC	1	1	1	1
S1	VCC	1	1	1	1
S3	SB5V	0	1	0	0
S4	0	0	0	0	1
S5	0	0	0	0	1

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Title: 28-Dual Power

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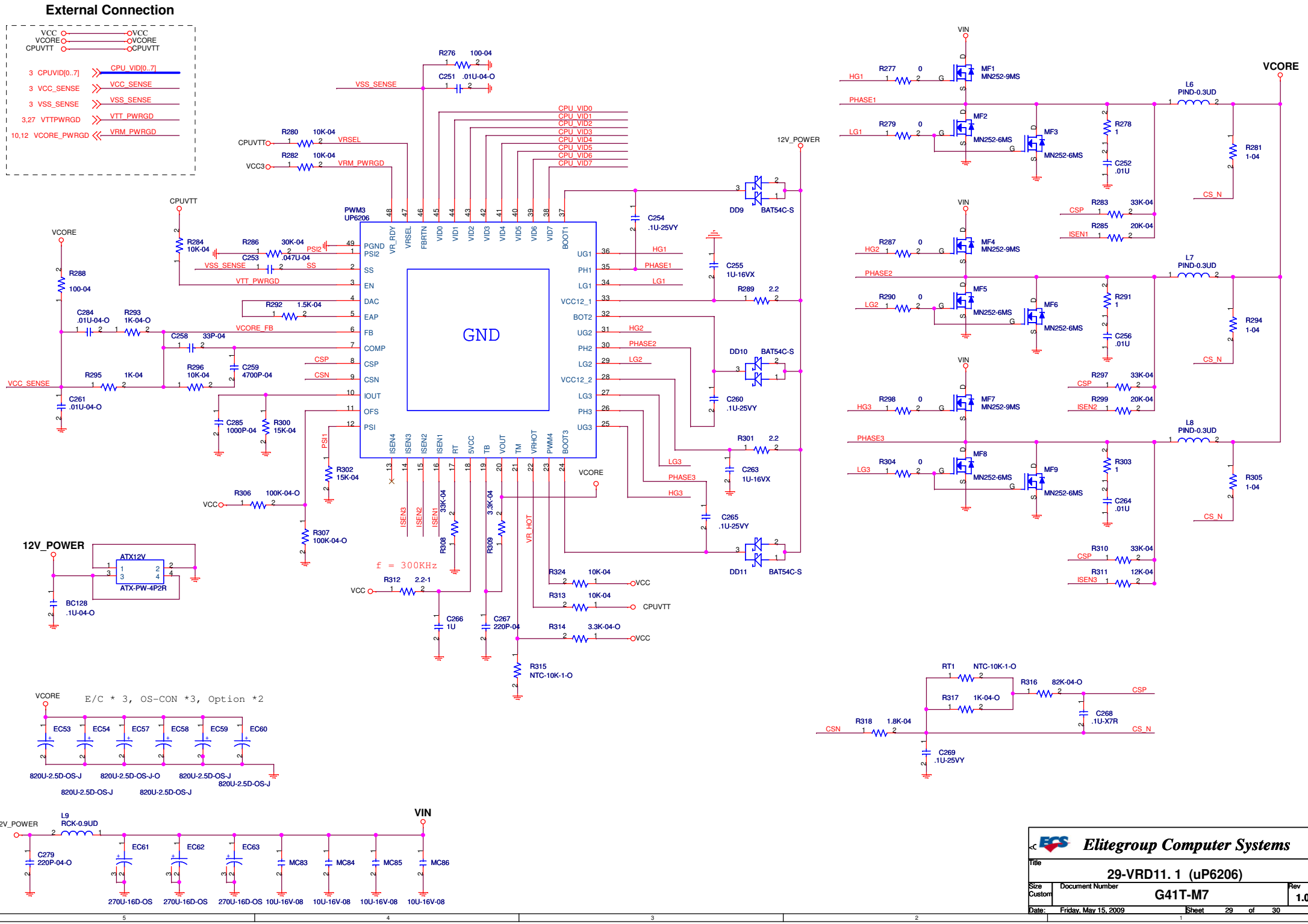
External Connection
VCC
VCORE
CPUVTT
3 CPUVID[0..7]
3 VCC_SENSE
3 VSS_SENSE
3,27 VTTPWRGD
10,12 VCORE_PWRGD
CPU_VID[0..7]
VCC_SENSE
VSS_SENSE
VTT_PWRGD
VRM_PWRGD
PWM3
UP6206
GND
f = 300KHz
12V_POWER
ATX12V
ATX-PW-4P2R
BC128 .1U-04-O
E/C * 3, OS-CON *3, Option *2
820U-2.5D-OS-J
820U-2.5D-OS-J-O
VIN
L9 RCK-0.9UD
270U-16D-OS
10U-16V-08
L6 PIND-0.3UD
L7 PIND-0.3UD
L8 PIND-0.3UD
MF1 MN252-9MS
MF2 MN252-6MS
MF3 MN252-6MS
MF4 MN252-9MS
MF5 MN252-6MS
MF6 MN252-6MS
MF7 MN252-9MS
MF8 MN252-6MS
MF9 MN252-6MS
DD9 BAT54C-S
DD10 BAT54C-S
DD11 BAT54C-S
NTC-10K-1-O
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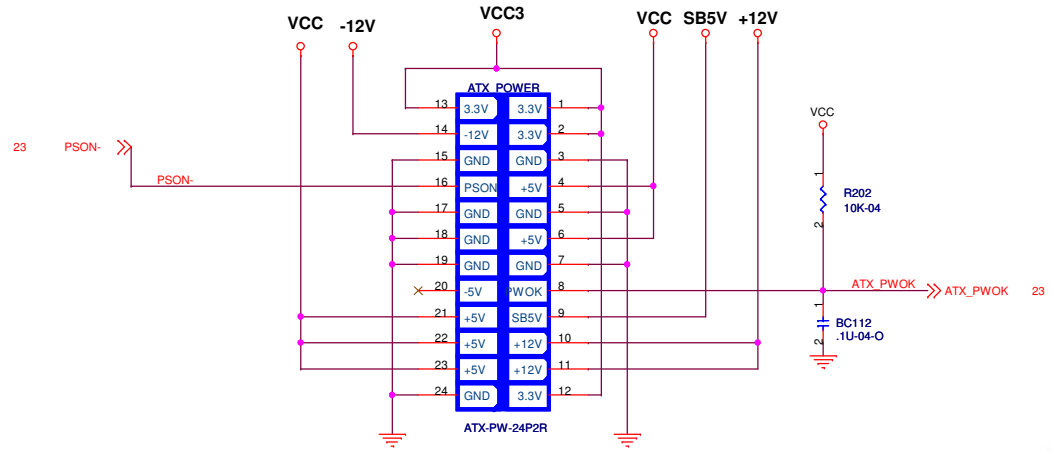

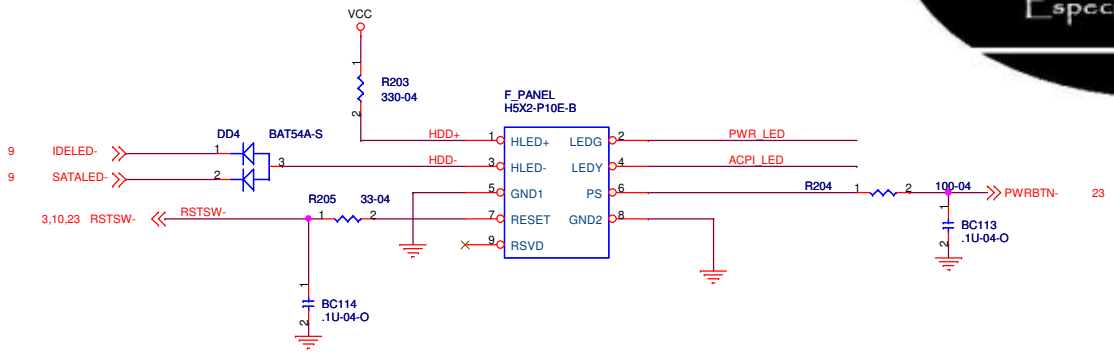

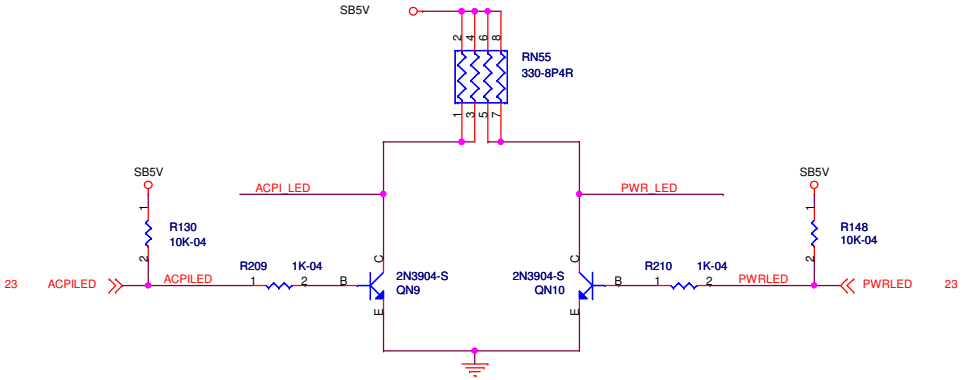

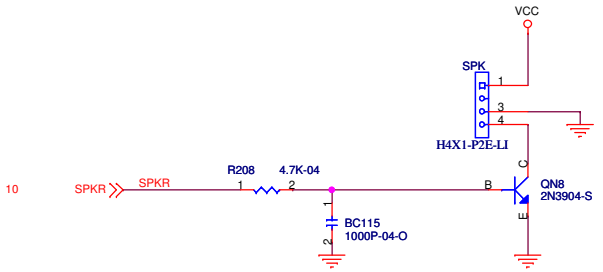

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Title: 30-ATX/ Panel		
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