X58B-A Rev : B

PCB STACK:
L1:TOP
L2:GND
L3:VCC
L4:INT1
L5:GND1
L6:BOTTOM

SCHEMATICS TABLE:

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11	CLK CV193	31	LPC SIO-ITE8720
12	CPU VCORE ISL6336CR	32	COM, LPT,PSKBM
13	CPU VTT POWER ISL6314	33	ALC888S Chipset
14	DC-DC V_DIMM	34	Audio Connector
15	DC-DC IOH POWER	35	RTL8111C LAN1
16	Front Panel,FAN,PowerConn	36	RTL8111C LAN2
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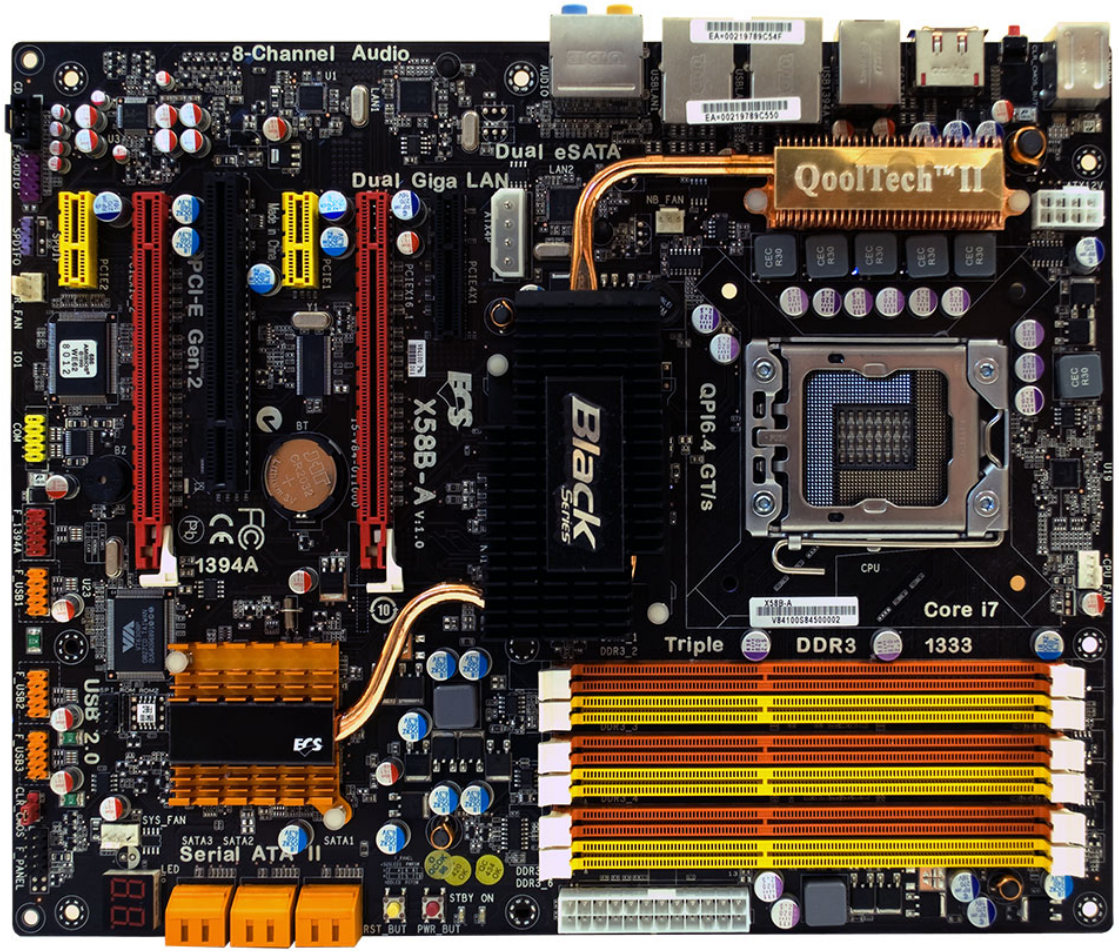

IMPORTANT NOTES ABOUT THIS SCHEMATIC

DESIGN NOTE: Example text for the design note to show the note inside the colored box.

1) DESIGN NOTES in grey are information notes.

DESIGN NOTE: Example text for the design note to show the note inside the colored box.

2) DESIGN NOTES in yellow are notes of caution.

3) DESIGN NOTES in red are critical, and must be understood and followed.

REVISION HISTORY:

Rev	Date	Notes
A	2008.05.30	INITIAL RELEASE
	2008.06.24	Modify1,Page12,Page13 ER50 change to 1.74K-1-04,C169 change to 47pF-----Power loadline
		2,Page16 ATX12V change to 8 pins connnetor
		3,ADD R427,R428,R429
B	2008.07.07	Merge the split CPU VTTd/VTTa planes
		Change ICH10 GP24 to GP8,Control QPI_FRQ1

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Title: Cover Page

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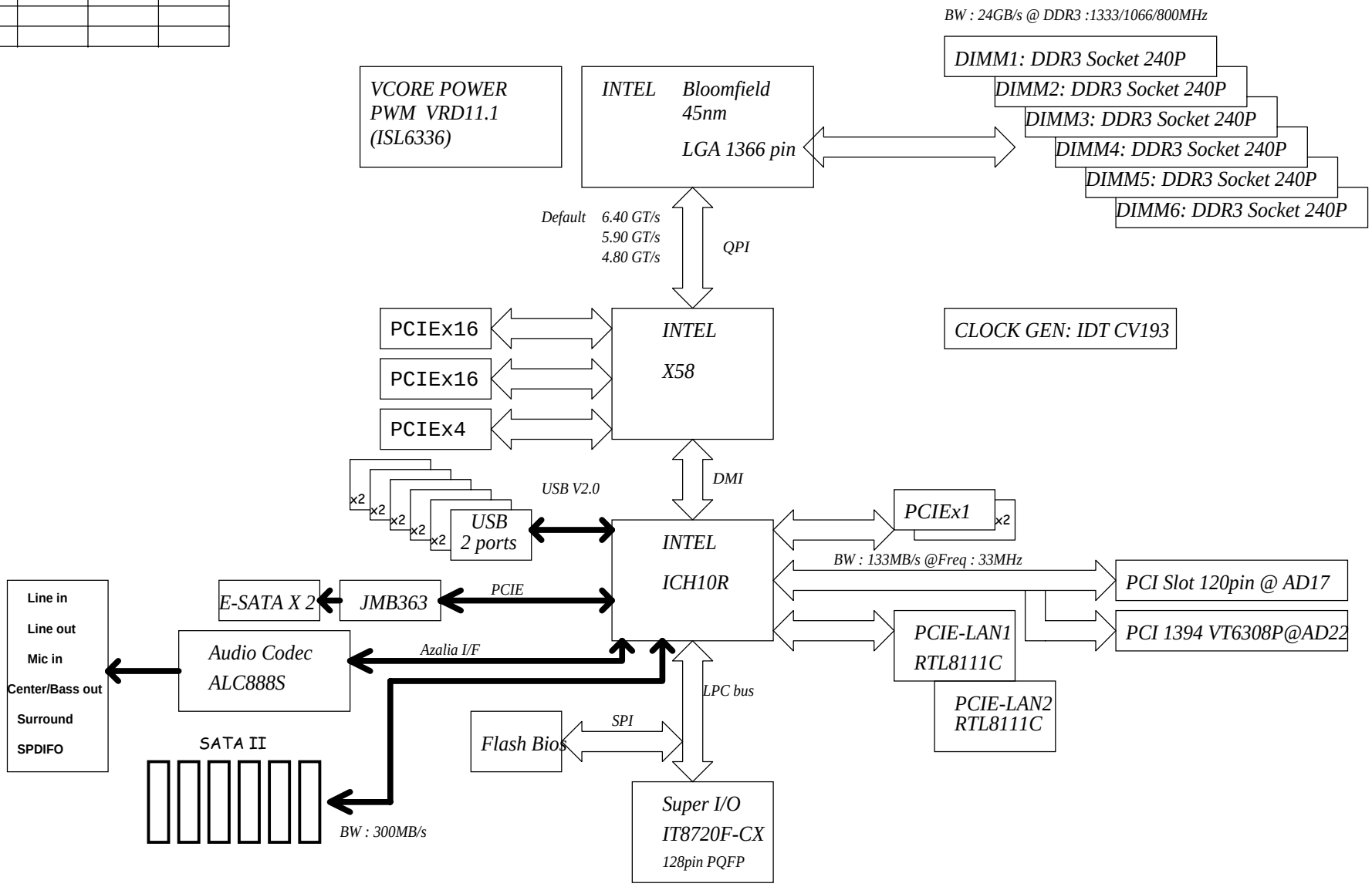
DEVICE	IDSEL	INT#	REQ#	GNT#
PCI1	17	C/D/E/F	PREQ-0	PGNT-0
1394	22	G	PREQ-1	PGNT-1

PCB : 305 x 244 mm ; 6 layers



Elitegroup Computer Systems			
Title: Block Diagram			
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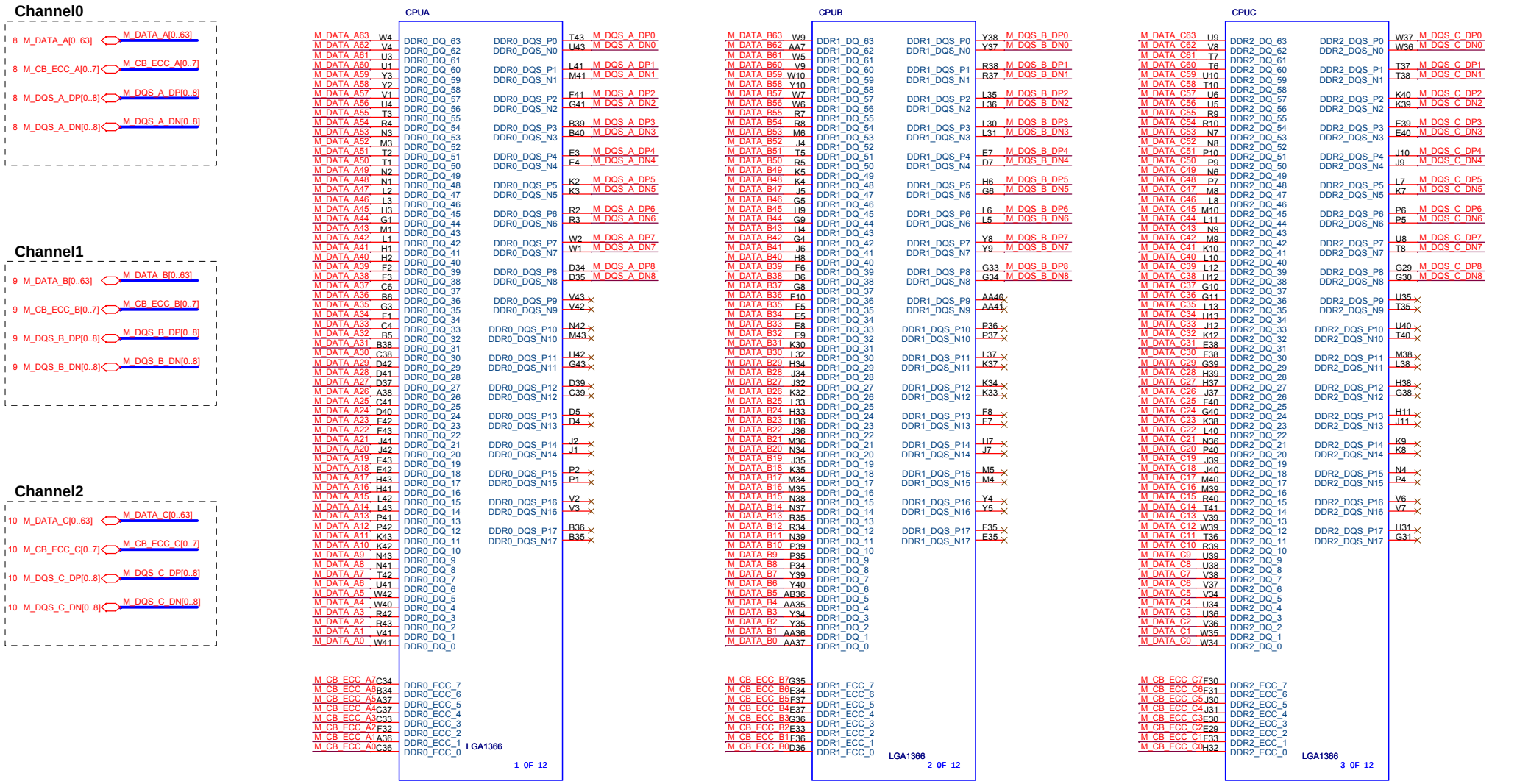
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8 M_CB_ECC_A[0..7]
M_CB_ECC_A[0..7]
8 M_DQS_A_DP[0..8]
M_DQS_A_DP[0..8]
8 M_DQS_A_DN[0..8]
M_DQS_A_DN[0..8]
Channel1
9 M_DATA_B[0..63]
M_DATA_B[0..63]
9 M_CB_ECC_B[0..7]
M_CB_ECC_B[0..7]
9 M_DQS_B_DP[0..8]
M_DQS_B_DP[0..8]
9 M_DQS_B_DN[0..8]
M_DQS_B_DN[0..8]
Channel2
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M_DATA_C[0..63]
10 M_CB_ECC_C[0..7]
M_CB_ECC_C[0..7]
10 M_DQS_C_DP[0..8]
M_DQS_C_DP[0..8]
10 M_DQS_C_DN[0..8]
M_DQS_C_DN[0..8]
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LGA1366P Part A DDR3 P1
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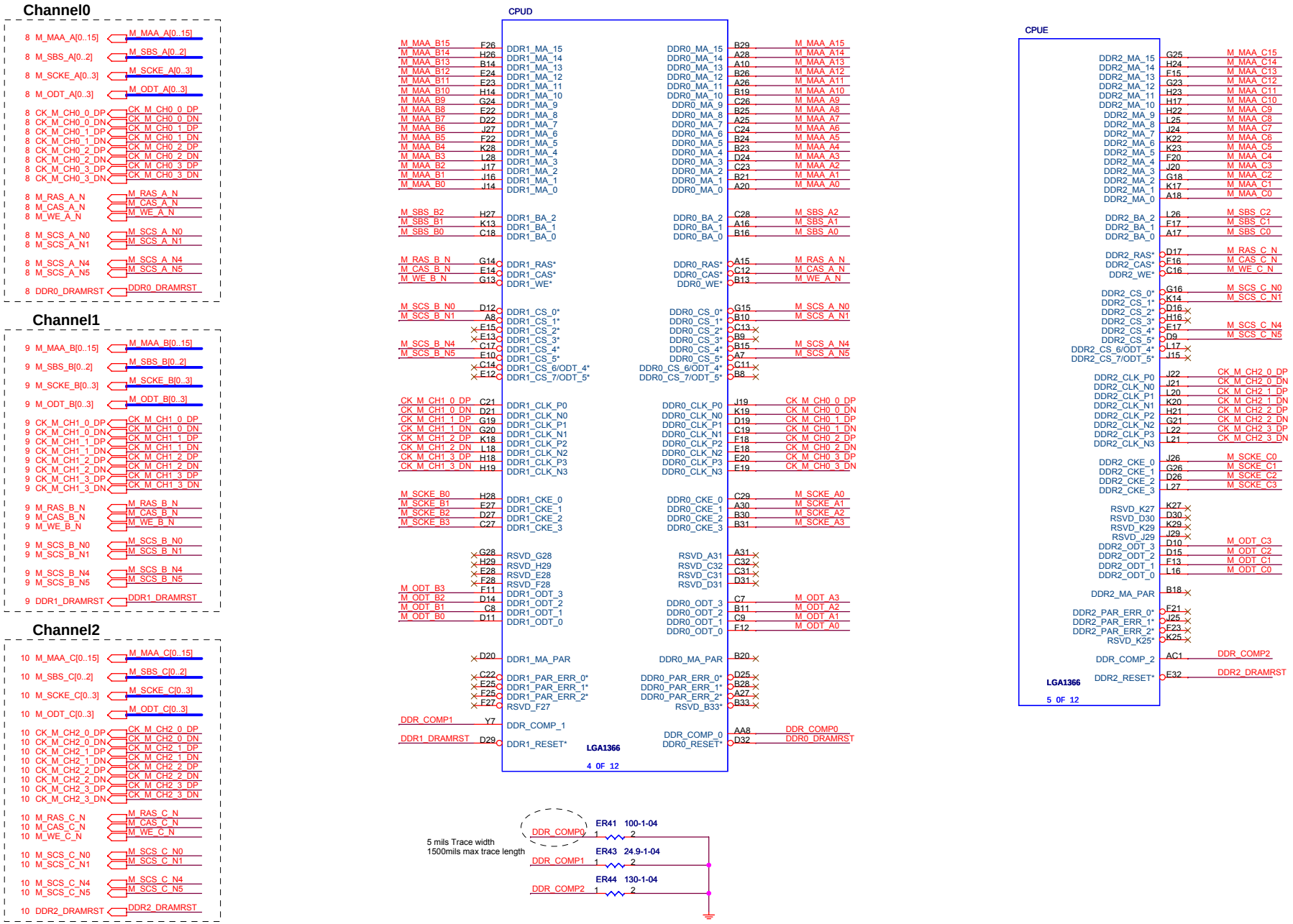
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8 M_SCKE_A[0..3]
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8 CK_M_CH0_0_DN
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CK_M_CH1_1_DN
CK_M_CH1_2_DP
CK_M_CH1_2_DN
CK_M_CH1_3_DP
CK_M_CH1_3_DN
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9 M_CAS_B_N
9 M_WE_B_N
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M_WE_B_N
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M_SCS_B_N1
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10 M_SCKE_C[0..3]
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10 CK_M_CH2_1_DP
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10 CK_M_CH2_2_DN
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CK_M_CH2_1_DN
CK_M_CH2_2_DP
CK_M_CH2_2_DN
CK_M_CH2_3_DP
CK_M_CH2_3_DN
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M_SCS_C_N4
M_SCS_C_N5
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DDR2_DRAMRST
CPUD
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E13 DDR1_CS_3*
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M_SCS_B_N5 E10 DDR1_CS_5*
C14 DDR1_CS_6/ODT_4*
E12 DDR1_CS_7/ODT_5*
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G28 RSVD_G28
H29 RSVD_H29
E28 RSVD_E28
F28 RSVD_F28
M_ODT_B3 F11 DDR1_ODT_3
M_ODT_B2 D14 DDR1_ODT_2
M_ODT_B1 C8 DDR1_ODT_1
M_ODT_B0 D11 DDR1_ODT_0
RSVD_A31 A31
RSVD_C32 C32
RSVD_C31 C31
RSVD_D31 D31
DDR0_ODT_3 C7 M_ODT_A3
DDR0_ODT_2 B11 M_ODT_A2
DDR0_ODT_1 C9 M_ODT_A1
DDR0_ODT_0 F12 M_ODT_A0
D20 DDR1_MA_PAR
DDR0_MA_PAR B20
C22 DDR1_PAR_ERR_0*
E25 DDR1_PAR_ERR_1*
F25 DDR1_PAR_ERR_2*
F27 RSVD_F27
DDR0_PAR_ERR_0* D25
DDR0_PAR_ERR_1* B28
DDR0_PAR_ERR_2* A27
RSVD_B33* B33
DDR_COMP1 Y7 DDR_COMP_1
DDR_COMP_0 AA8 DDR_COMP0
DDR1_DRAMRST D29 DDR1_RESET*
DDR0_RESET* D32 DDR0_DRAMRST
LGA1366
4 OF 12
5 mils Trace width
1500mils max trace length
DDR_COMP0
ER41 100-1-04
DDR_COMP1
ER43 24.9-1-04
DDR_COMP2
ER44 130-1-04
CPUE
DDR2_MA_15 G25 M_MAA_C15
DDR2_MA_14 H24 M_MAA_C14
DDR2_MA_13 F15 M_MAA_C13
DDR2_MA_12 G23 M_MAA_C12
DDR2_MA_11 H23 M_MAA_C11
DDR2_MA_10 H17 M_MAA_C10
DDR2_MA_9 H22 M_MAA_C9
DDR2_MA_8 L25 M_MAA_C8
DDR2_MA_7 J24 M_MAA_C7
DDR2_MA_6 K22 M_MAA_C6
DDR2_MA_5 K23 M_MAA_C5
DDR2_MA_4 F20 M_MAA_C4
DDR2_MA_3 J20 M_MAA_C3
DDR2_MA_2 G18 M_MAA_C2
DDR2_MA_1 K17 M_MAA_C1
DDR2_MA_0 A18 M_MAA_C0
DDR2_BA_2 L26 M_SBS_C2
DDR2_BA_1 F17 M_SBS_C1
DDR2_BA_0 A17 M_SBS_C0
DDR2_RAS* D17 M_RAS_C_N
DDR2_CAS* F16 M_CAS_C_N
DDR2_WE* C16 M_WE_C_N
DDR2_CS_0* G16 M_SCS_C_N0
DDR2_CS_1* K14 M_SCS_C_N1
DDR2_CS_2* D16
DDR2_CS_3* H16
DDR2_CS_4* E17 M_SCS_C_N4
DDR2_CS_5* D9 M_SCS_C_N5
DDR2_CS_6/ODT_4* L17
DDR2_CS_7/ODT_5* J15
DDR2_CLK_P0 J22 CK_M_CH2_0_DP
DDR2_CLK_N0 J21 CK_M_CH2_0_DN
DDR2_CLK_P1 L20 CK_M_CH2_1_DP
DDR2_CLK_N1 K20 CK_M_CH2_1_DN
DDR2_CLK_P2 H21 CK_M_CH2_2_DP
DDR2_CLK_N2 G21 CK_M_CH2_2_DN
DDR2_CLK_P3 L22 CK_M_CH2_3_DP
DDR2_CLK_N3 L21 CK_M_CH2_3_DN
DDR2_CKE_0 J26 M_SCKE_C0
DDR2_CKE_1 G26 M_SCKE_C1
DDR2_CKE_2 D26 M_SCKE_C2
DDR2_CKE_3 L27 M_SCKE_C3
RSVD_K27 K27
RSVD_D30 D30
RSVD_K29 K29
RSVD_J29 J29
DDR2_ODT_3 D10 M_ODT_C3
DDR2_ODT_2 D15 M_ODT_C2
DDR2_ODT_1 F13 M_ODT_C1
DDR2_ODT_0 L16 M_ODT_C0
DDR2_MA_PAR B18
DDR2_PAR_ERR_0* F21
DDR2_PAR_ERR_1* J25
DDR2_PAR_ERR_2* F23
RSVD_K25* K25
DDR_COMP_2 AC1 DDR_COMP2
DDR2_RESET* E32 DDR2_DRAMRST
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QPI BUS External Connection

17 CSI0_DRX_DP[0..19] — CSI0_DRX_DP[0..19]
17 CSI0_DRX_DN[0..19] — CSI0_DRX_DN[0..19]
17 CSI0_DTX_DP[0..19] — CSI0_DTX_DP[0..19]
17 CSI0_DTX_DN[0..19] — CSI0_DTX_DN[0..19]

17 CSI0_CLKRX_DP — CSI0_CLKRX_DP
17 CSI0_CLKRX_DN — CSI0_CLKRX_DN
17 CSI0_CLKTX_DP — CSI0_CLKTX_DP
17 CSI0_CLKTX_DN — CSI0_CLKTX_DN

11 CK_133M_CPU_DN — CK_133M_CPU_DN
11 CK_133M_CPU_DP — CK_133M_CPU_DP
12,13 CPUVTT_PGD — CPUVTT_PGD
12 VTTPWRGOOD — VTTPWRGOOD
12 IMON — IMON
12 H_PSI_N — H_PSI_N
13 CPU_VTT_FB — CPU_VTT_FB
13 CPU_VTT_FB- — CPU_VTT_FB-
13 CPUVTT_VID4 — CPUVTT_VID4
13 CPUVTT_VID3 — CPUVTT_VID3
13 CPUVTT_VID2 — CPUVTT_VID2
31 H_VID[0..7] — H_VID[0..7]
12 PROCHOT1 — PROCHOT1
12 VCC_SENSE — VCC_SENSE
12 VSS_SENSE — VSS_SENSE
19,26,38 H_PWRGD — H_PWRGD
14,16,19,31 ATX_PWRGD — ATX_PWRGD
19,38 H_CPURST_N — H_CPURST_N
16,26,38 HWRST_L — HWRST_L
25,31 PECI — PECI
25 THERMTRIP_L — THERMTRIP_L

38 H_MBP_N[0..7] — H_MBP_N[0..7]
38 H_PRDY_N — H_PRDY_N
38 H_PREQ_N — H_PREQ_N
38 H_TCK — H_TCK
38 H_TDI — H_TDI
38 H_TDO — H_TDO
38 H_TMS — H_TMS
38 H_TRST_N — H_TRST_N
38 CPU_TAPGOOD — CPU_TAPGOOD
38 CK_H_BCLK_ITP_DN — CK_H_BCLK_ITP_DN
38 CK_H_BCLK_ITP_DP — CK_H_BCLK_ITP_DP

08/07/15 ADD debug card

CPUF

	AF1	RSVD	RSVD_AK7	AK7	
	AG1	RSVD	ISENSE	AK8	IMON
CK_133M_CPU_DN	AH35	BCLK_DN			
CK_133M_CPU_DP	AJ35	BCLK_DP			
CK_H_BCLK_ITP_DN	AA4	BCLK_ITP_DN	VTTD_SENSE	AE36	CPU_VTT_FB
CK_H_BCLK_ITP_DP	AA5	BCLK_ITP_DP	VSS_SENSE_VTTD	AE37	CPU_VTT_FB-
COMP0	AB41	COMP0	VCC_SENSE	AR9	VCC_SENSE
			RSVD	V11	STP24
H_CATERR_N	AC37	CAT_ERR*			
PROCHOT1	AG35	PROCHOT*	VSS_SENSE	AR8	VSS_SENSE
H_CPURST_N	AL39	RESET*	RSVD	U11	STP25
	AG36	SKTOCC*			
THERMTRIP_L	AG37	THERMTRIP*			
PECI	AH36	PECI	VCCTT_VID_4	AV6	CPUVTT_VID4
H_PECI_ID	AK35	RSVD	VCCTT_VID_3	AF7	CPUVTT_VID3
			VCCTT_VID_2	AV3	CPUVTT_VID2
HWRST_L	AE10	DBR*			
H_MBP_N0	B3	BPM_0*			
H_MBP_N1	A5	BPM_1*	VTTPWRGOOD	AB35	VTTPWRGOOD
H_MBP_N2	C2	BPM_2*	VDDPWRGOOD	AA6	VDDPWRGOOD
H_MBP_N3	B4	BPM_3*	VCCPWRGOOD	AR7	H_PWRGD
H_MBP_N4	D1	BPM_4*			
H_MBP_N5	C3	BPM_5*			
H_MBP_N6	D2	BPM_6*	RSVD	AF4	PLT_MNR_EXTTS_N1
H_MBP_N7	E2	BPM_7*	DDR_THERM*	AB5	PLT_MNR_EXTTS_N0
H_PRDY_N	B41	PRDY*			
H_PREQ_N	C42	PREQ*	PSI*	AP7	H_PSI_N
H_TCK	AH10	TCK			
H_TDI	AJ9	TDI	VID_0/MSID_0	AL10	H_VID0
H_TDO	AJ10	TDO	VID_1/MSID_1	AL9	H_VID1
H_TMS	AG10	TMS	VID_2/MSID_2	AN9	H_VID2
H_TRST_N	AH9	TRST*	VID_3/CSC_0	AM10	H_VID3
CPU_TAPGOOD	AH5	RSVD	VID_4/CSC_1	AN10	H_VID4
			VID_5/CSC_2	AP9	H_VID5
			VID6	AP8	H_VID6
			VID7	AN8	H_VID7
STP5	BA4	RSVD			
STP4	AY4	RSVD			
STP2	AW41	RSVD			
TP3	AY40	RSVD			
TP2	BA40	RSVD	RSVD	AG4	
STP8	AV2	RSVD	RSVD	AC5	
STP10	AW2	RSVD	RSVD	AK2	
STP9	AY3	RSVD			
STP11	AV1	RSVD	RSVD	AL3	
STP6	AV42	RSVD	RSVD	AL35	
STP7	AV43	RSVD	RSVD	AM36	
STP3	AW42	RSVD	RSVD	AM38	
STP1	AY41	RSVD	RSVD	AN36	
STP13	AU2	RSVD	RSVD	AN38	
			RSVD	AR36	
			RSVD	AR37	
			RSVD	AT36	
STP30	A40	RSVD			
STP18	AL5	RSVD			
STP19	AL4	RSVD	RSVD	AY39	
STP15	AL40	RSVD	RSVD	AY35	
STP16	AL41	RSVD	RSVD	AW39	
			RSVD	AV35	
STP28	K24	RSVD			
STP17	AK36	RSVD			
STP26	L15	RSVD			
STP27	K15	RSVD			
CPU_DDR_VREF	L23	DDR_VREF			
CRB_CPU_GTLREF	AJ37	RVSD			
STP12	AT5	RVSD			
STP14	AT4	RVSD			

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08/07/15 ADD debug card

CPUG

CSI0_DRX_DP19	AP38	QPI_DRX_DP19	QPI_DTX_DP19	AF40	CSI0_DTX_DP19
CSI0_DRX_DN19	AR38	QPI_DRX_DN19	QPI_DTX_DN19	AF40	CSI0_DTX_DN19
CSI0_DRX_DP18	AN39	QPI_DRX_DP18	QPI_DTX_DP18	AD38	CSI0_DTX_DP18
CSI0_DRX_DN18	AP39	QPI_DRX_DN18	QPI_DTX_DN18	AE38	CSI0_DTX_DN18
CSI0_DRX_DP17	AP41	QPI_DRX_DP17	QPI_DTX_DP17	AB39	CSI0_DTX_DP17
CSI0_DRX_DN17	AP40	QPI_DRX_DN17	QPI_DTX_DN17	AB38	CSI0_DTX_DN17
CSI0_DRX_DP16	AM42	QPI_DRX_DP16	QPI_DTX_DP16	AC39	CSI0_DTX_DP16
CSI0_DRX_DN16	AM41	QPI_DRX_DN16	QPI_DTX_DN16	AC38	CSI0_DTX_DN16
CSI0_DRX_DP15	AN40	QPI_DRX_DP15	QPI_DTX_DP15	AC41	CSI0_DTX_DP15
CSI0_DRX_DN15	AM40	QPI_DRX_DN15	QPI_DTX_DN15	AC40	CSI0_DTX_DN15
CSI0_DRX_DP14	AN43	QPI_DRX_DP14	QPI_DTX_DP14	AD40	CSI0_DTX_DP14
CSI0_DRX_DN14	AM43	QPI_DRX_DN14	QPI_DTX_DN14	AD39	CSI0_DTX_DN14
CSI0_DRX_DP13	AP42	QPI_DRX_DP13	QPI_DTX_DP13	AC43	CSI0_DTX_DP13
CSI0_DRX_DN13	AN42	QPI_DRX_DN13	QPI_DTX_DN13	AB43	CSI0_DTX_DN13
CSI0_DRX_DP12	AT40	QPI_DRX_DP12	QPI_DTX_DP12	AD42	CSI0_DTX_DP12
CSI0_DRX_DN12	AR40	QPI_DRX_DN12	QPI_DTX_DN12	AC42	CSI0_DTX_DN12
CSI0_DRX_DP11	AT43	QPI_DRX_DP11	QPI_DTX_DP11	AF42	CSI0_DTX_DP11
CSI0_DRX_DN11	AR43	QPI_DRX_DN11	QPI_DTX_DN11	AE41	CSI0_DTX_DN11
CSI0_DRX_DP10	AU42	QPI_DRX_DP10	QPI_DTX_DP10	AF43	CSI0_DTX_DP10
CSI0_DRX_DN10	AT42	QPI_DRX_DN10	QPI_DTX_DN10	AE43	CSI0_DTX_DN10
CSI0_DRX_DP9	AU40	QPI_DRX_DP9	QPI_DTX_DP9	AG40	CSI0_DTX_DP9
CSI0_DRX_DN9	AU41	QPI_DRX_DN9	QPI_DTX_DN9	AG41	CSI0_DTX_DN9
CSI0_DRX_DP8	AW40	QPI_DRX_DP8	QPI_DTX_DP8	AJ43	CSI0_DTX_DP8
CSI0_DRX_DN8	AV40	QPI_DRX_DN8	QPI_DTX_DN8	AH43	CSI0_DTX_DN8
CSI0_DRX_DP7	AU39	QPI_DRX_DP7	QPI_DTX_DP7	AK42	CSI0_DTX_DP7
CSI0_DRX_DN7	AT39	QPI_DRX_DN7	QPI_DTX_DN7	AJ42	CSI0_DTX_DN7
CSI0_DRX_DP6	BA38	QPI_DRX_DP6	QPI_DTX_DP6	AH41	CSI0_DTX_DP6
CSI0_DRX_DN6	AY38	QPI_DRX_DN6	QPI_DTX_DN6	AH42	CSI0_DTX_DN6
CSI0_DRX_DP5	AW37	QPI_DRX_DP5	QPI_DTX_DP5	AK40	CSI0_DTX_DP5
CSI0_DRX_DN5	AW38	QPI_DRX_DN5	QPI_DTX_DN5	AK41	CSI0_DTX_DN5
CSI0_DRX_DP4	BA36	QPI_DRX_DP4	QPI_DTX_DP4	AH40	CSI0_DTX_DP4
CSI0_DRX_DN4	BA37	QPI_DRX_DN4	QPI_DTX_DN4	AJ40	CSI0_DTX_DN4
CSI0_DRX_DP3	AW36	QPI_DRX_DP3	QPI_DTX_DP3	AJ38	CSI0_DTX_DP3
CSI0_DRX_DN3	AY36	QPI_DRX_DN3	QPI_DTX_DN3	AJ39	CSI0_DTX_DN3
CSI0_DRX_DP2	AV36	QPI_DRX_DP2	QPI_DTX_DP2	AK37	CSI0_DTX_DP2
CSI0_DRX_DN2	AV37	QPI_DRX_DN2	QPI_DTX_DN2	AK38	CSI0_DTX_DN2
CSI0_DRX_DP1	AU38	QPI_DRX_DP1	QPI_DTX_DP1	AF39	CSI0_DTX_DP1
CSI0_DRX_DN1	AV38	QPI_DRX_DN1	QPI_DTX_DN1	AG39	CSI0_DTX_DN1
CSI0_DRX_DP0	AT37	QPI_DRX_DP0	QPI_DTX_DP0	AG38	CSI0_DTX_DP0
CSI0_DRX_DN0	AU37	QPI_DRX_DN0	QPI_DTX_DN0	AH38	CSI0_DTX_DN0
CSI0_CLKRX_DP	AR41	QPI_CLKRX_DP			
CSI0_CLKRX_DN	AR42	QPI_CLKRX_DN			
CSI0_CLKTX_DP	AG42	QPI_CLKTX_DP			
CSI0_CLKTX_DN	AF42	QPI_CLKTX_DN	QPI_CMP0	AL43	ER42 21-1-04

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CPUH

AM8	RSVD	RSVD	AC8
AL8	RSVD	RSVD	AD8
AM6	RSVD	RSVD	AD5
AM7	RSVD	RSVD	AE5
AN5	RSVD	RSVD	AD6
AN6	RSVD	RSVD	AD7
AM4	RSVD	RSVD	AB6
AN4	RSVD	RSVD	AC6
AP3	RSVD	RSVD	AC4
AP4	RSVD	RSVD	AD4
AM2	RSVD	RSVD	AE3
AM3	RSVD	RSVD	AE4
AN1	RSVD	RSVD	AC3
AM1	RSVD	RSVD	AB3
AP2	RSVD	RSVD	AD2
AN2	RSVD	RSVD	AD3
AP1	RSVD	RSVD	AE1
AR5	RSVD	RSVD	AD1
AT1	RSVD	RSVD	AF2
AR1	RSVD	RSVD	AF3
AT3	RSVD	RSVD	AH2
AT2	RSVD	RSVD	AG2
AU4	RSVD	RSVD	AH3
AU3	RSVD	RSVD	AH4
AW4	RSVD	RSVD	AK1
AW3	RSVD	RSVD	AJ1
AU7	RSVD	RSVD	AJ3
AU6	RSVD	RSVD	AJ2
AY6	RSVD	RSVD	AG7
AY5	RSVD	RSVD	AG6
BA7	RSVD	RSVD	AJ4
BA6	RSVD	RSVD	AK4
AV5	RSVD	RSVD	AK6
AW5	RSVD	RSVD	AK5
AY8	RSVD	RSVD	AH6
BA8	RSVD	RSVD	AJ6
AV7	RSVD	RSVD	AJ8
AW7	RSVD	RSVD	AJ7
AU8	RSVD	RSVD	AG8
AV8	RSVD	RSVD	AH8
AT6	RSVD		
AR6	RSVD		
AF6	RSVD	RSVD	AL6
AE6	RSVD		

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08/04/25 Daniel

For strap

H_VID0	R298	1K-04	H_VID0	R308	1K-04-O
H_VID1	R297	1K-04-O	H_VID1	R307	1K-04
H_VID2	R296	1K-04-O	H_VID2	R306	1K-04
H_VID3	R295	1K-04-O	H_VID3	R305	1K-04
H_VID4	R294	1K-04-O	H_VID4	R304	1K-04
H_VID5	R293	1K-04-O	H_VID5	R303	1K-04
H_VID6	R292	1K-04	H_VID6	R302	1K-04-O
H_VID7	R291	1K-04	H_VID7	R301	1K-04-O

CPU_VTTD

CPU_VTTD — ER23 49.9-1-04 — H_CPURST_N
ER54 49.9-1-04 — PROCHOT1
ER24 49.9-1-04 — H_CATERR_N
R289 1K-04 — CPU_TAPGOOD

ER60 51-1-04 — H_TDI
ER59 51-1-04-O — H_TDO
ER63 51-1-04 — H_TMS
R146 1K-04-O — H_PRDY_N
R300 0-04-O — PLT_MNR_EXTTS_N1
R310 0-04-O — PLT_MNR_EXTTS_N0

ER61 51-1-04 — H_TCK
ER62 51-1-04 — H_TRST_N
ER45 49.9-1-04 — COMP0

Bloomfield now requires board level termination for JTAG signals.
---Daniel 08/05/28

Backup,Bloomfield processor is designed with an internal VREF

V_DIMM — ER69 1K-1-04-O — CPU_DDR_VREF
BC59 .1U-04-O — ER67 1K-1-04-O — BC57 .1U-04-O

CPU_VTTD — ER21 1K-1-04-O — CRB_CPU_GTLREF
BC34 .1U-04-O — ER22 1K-1-04-O — BC36 .1U-04-O

08/04/16 Daniel

CPU_VTTD — For debug, Don't need place near CPU 08/05/06
R150 0-04-O — H_PECI_ID
R153 0-04-O

5VSB — R245 4.7K-04
CPU_VTTD — R254 1K-04
VTTPWRGOOD — R249 0-04-O — CPUVTT_PGD
ATX_PWRGD — R247 10K-04
Q29 2N3904-S
Q31 2N3904-S

V_DIMM — ER70 806-1-04 — VDDPWRGOOD
R312 2K-04 — MC79 4.7U-06 — BC58 .1U-04

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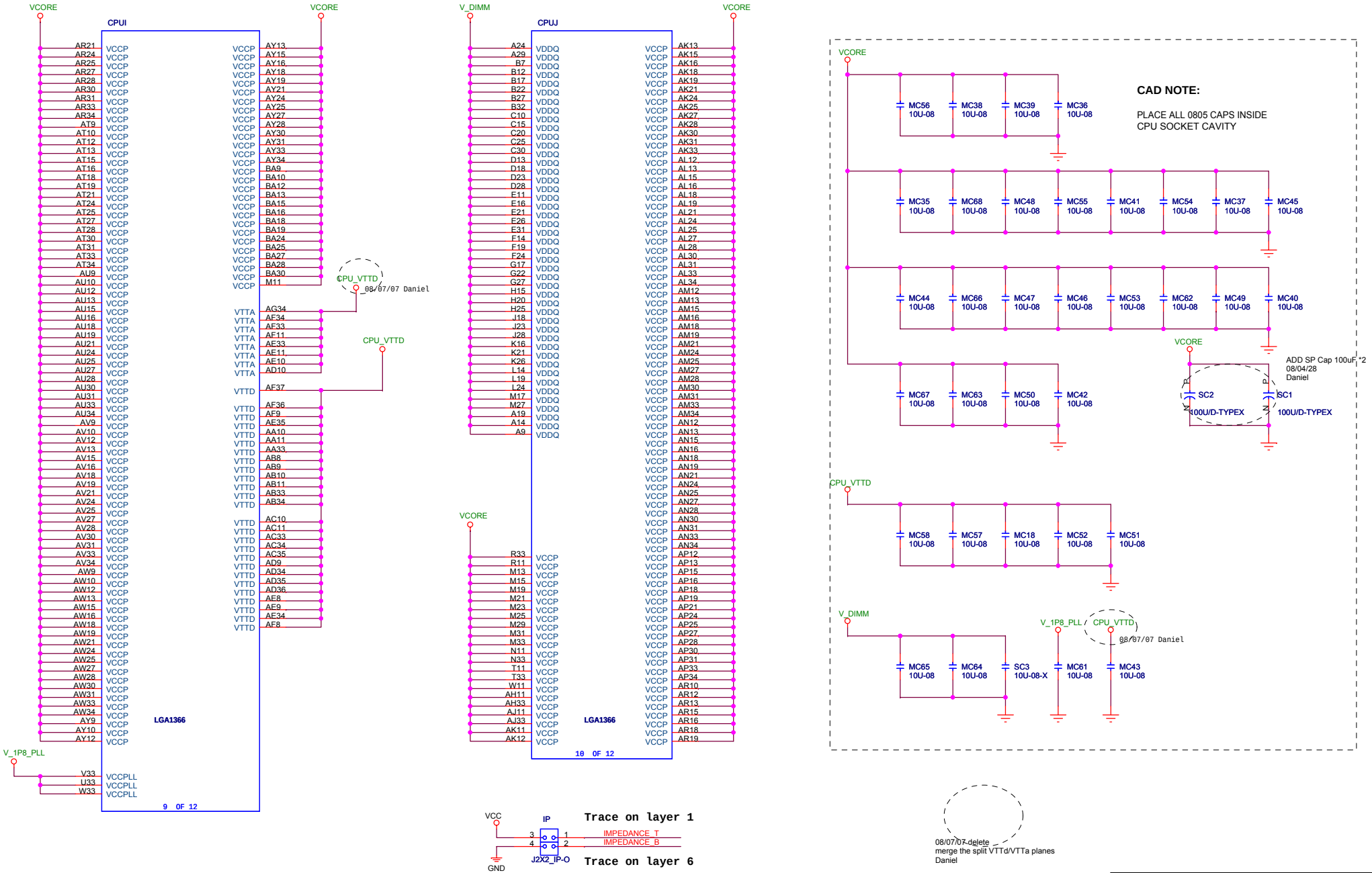
Size: Custom	Document Number: X58B-A		Rev: B
Date: Tuesday, July 22, 2008	Sheet 5 of 41		



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Rev: B	
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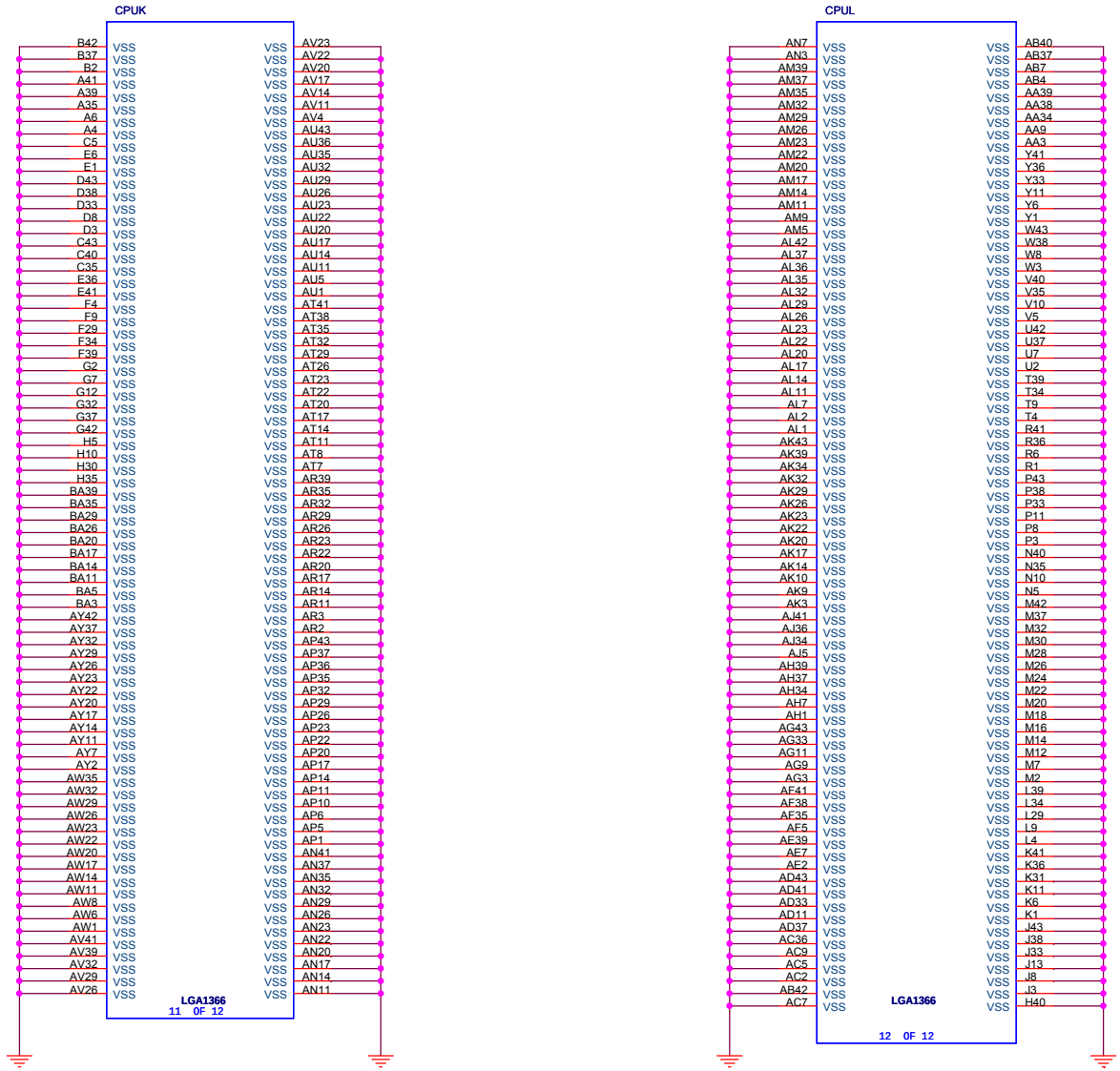

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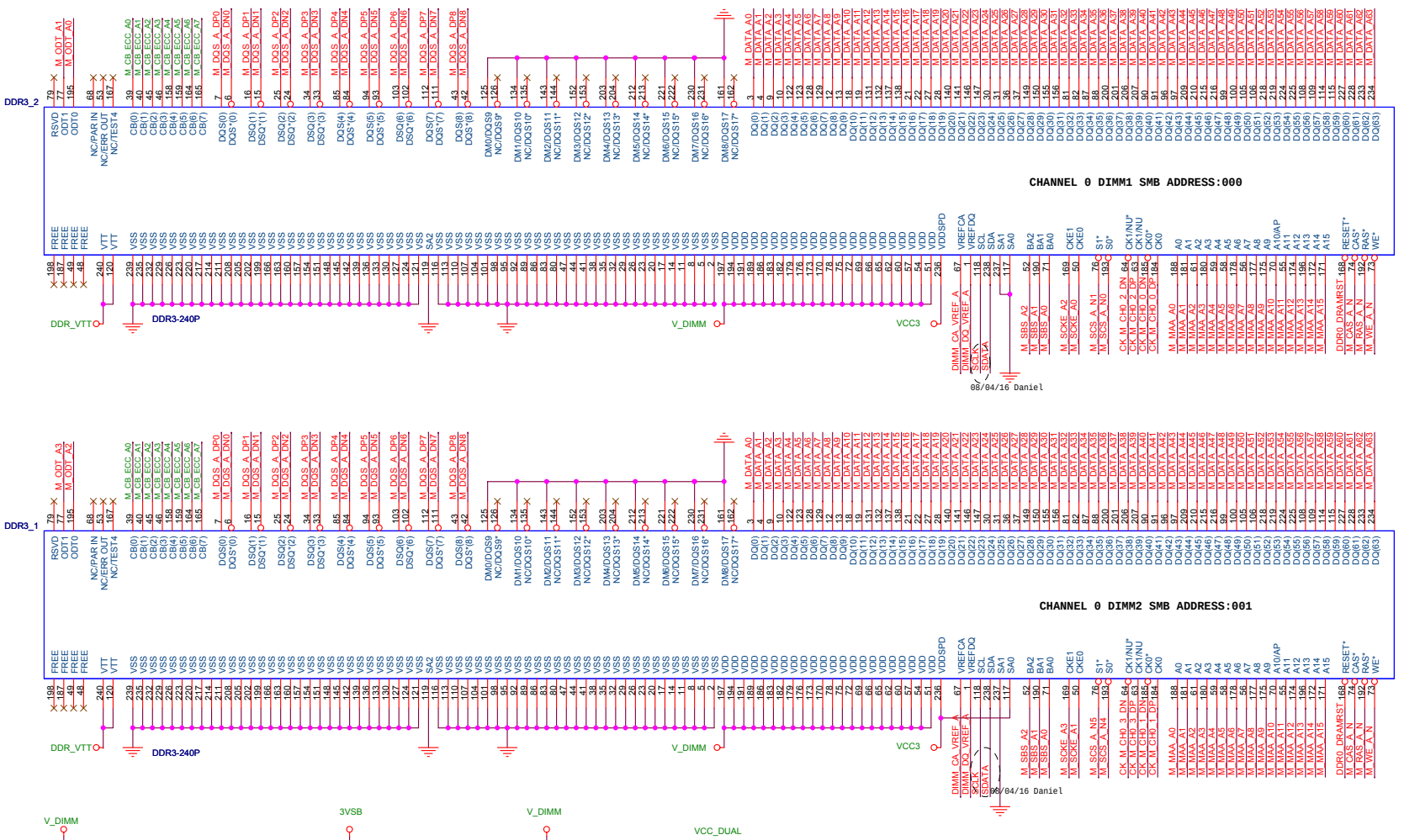
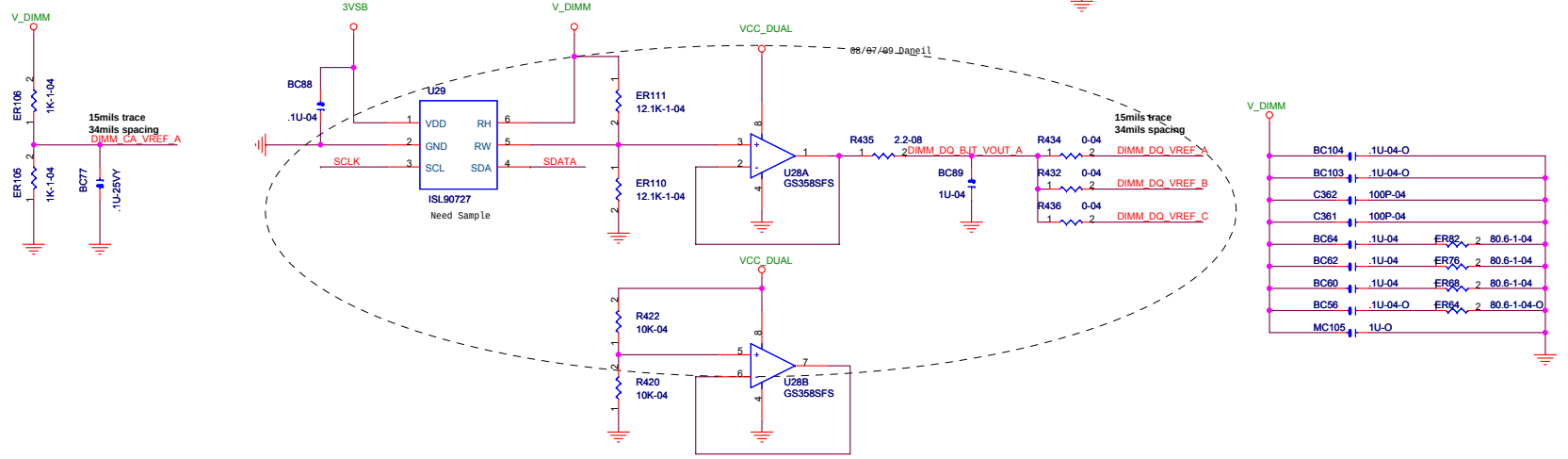
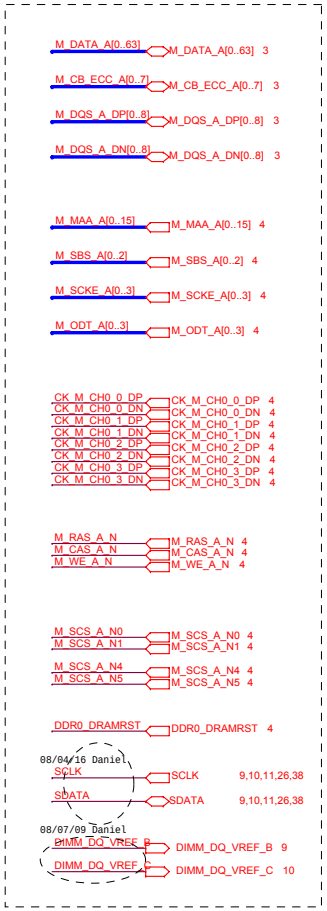




Channel0



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Size	Custom
Document Number	X58B-A
Rev	B
Date:	Tuesday, July 22, 2008
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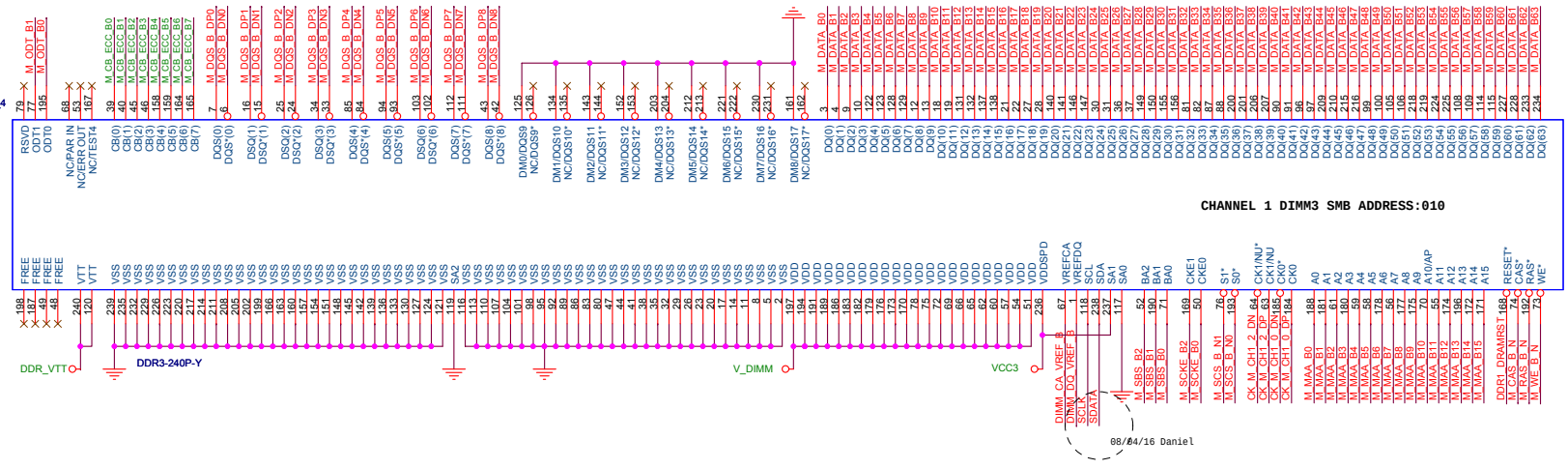
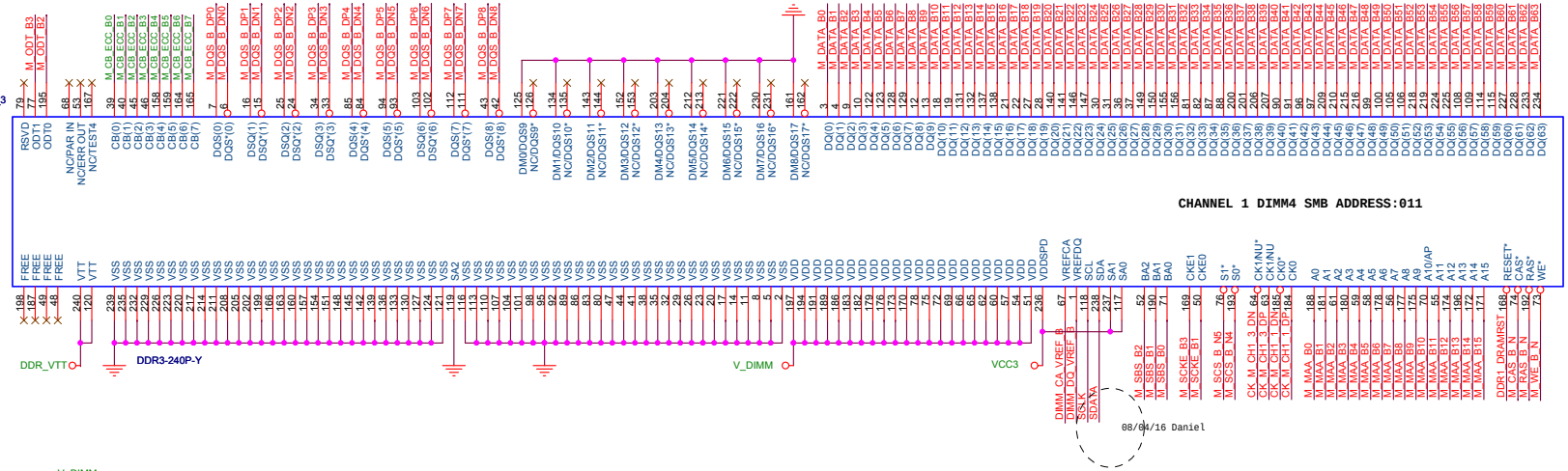
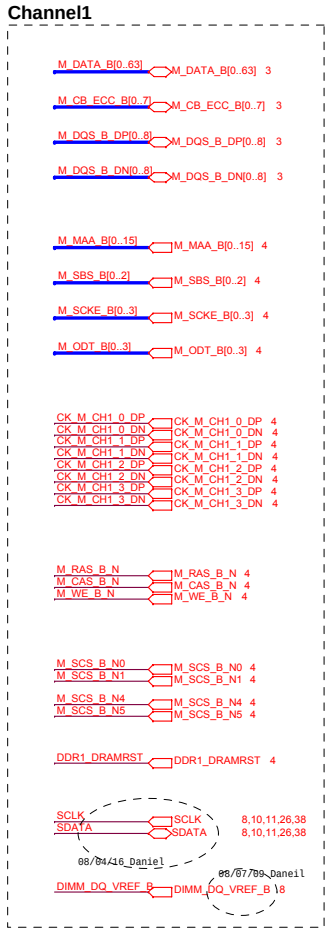
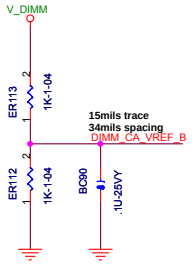
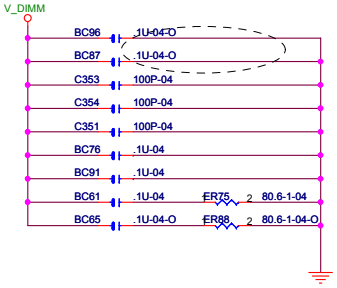
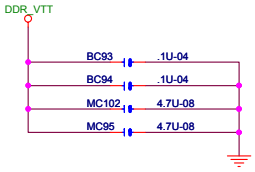


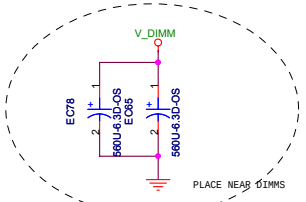




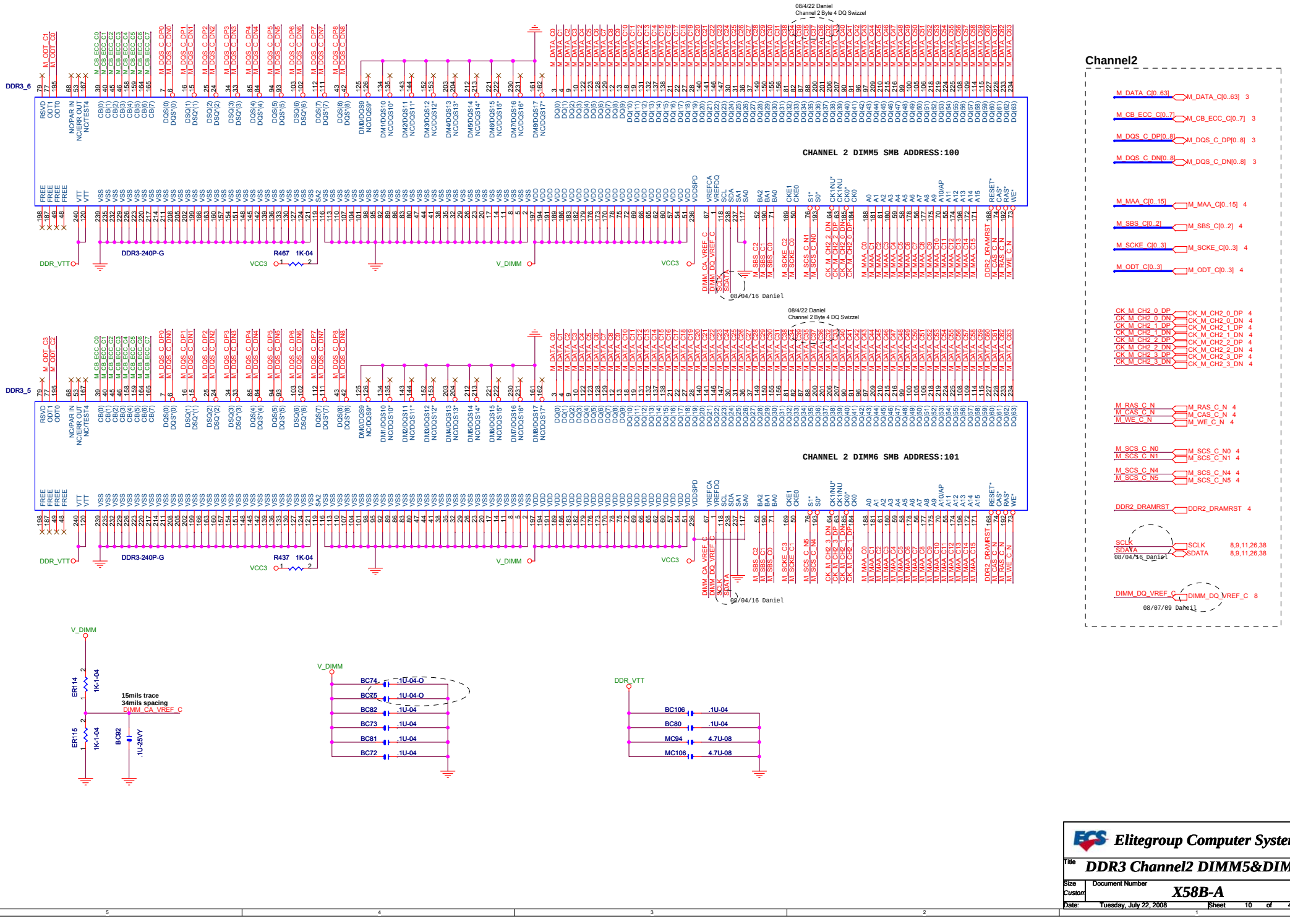




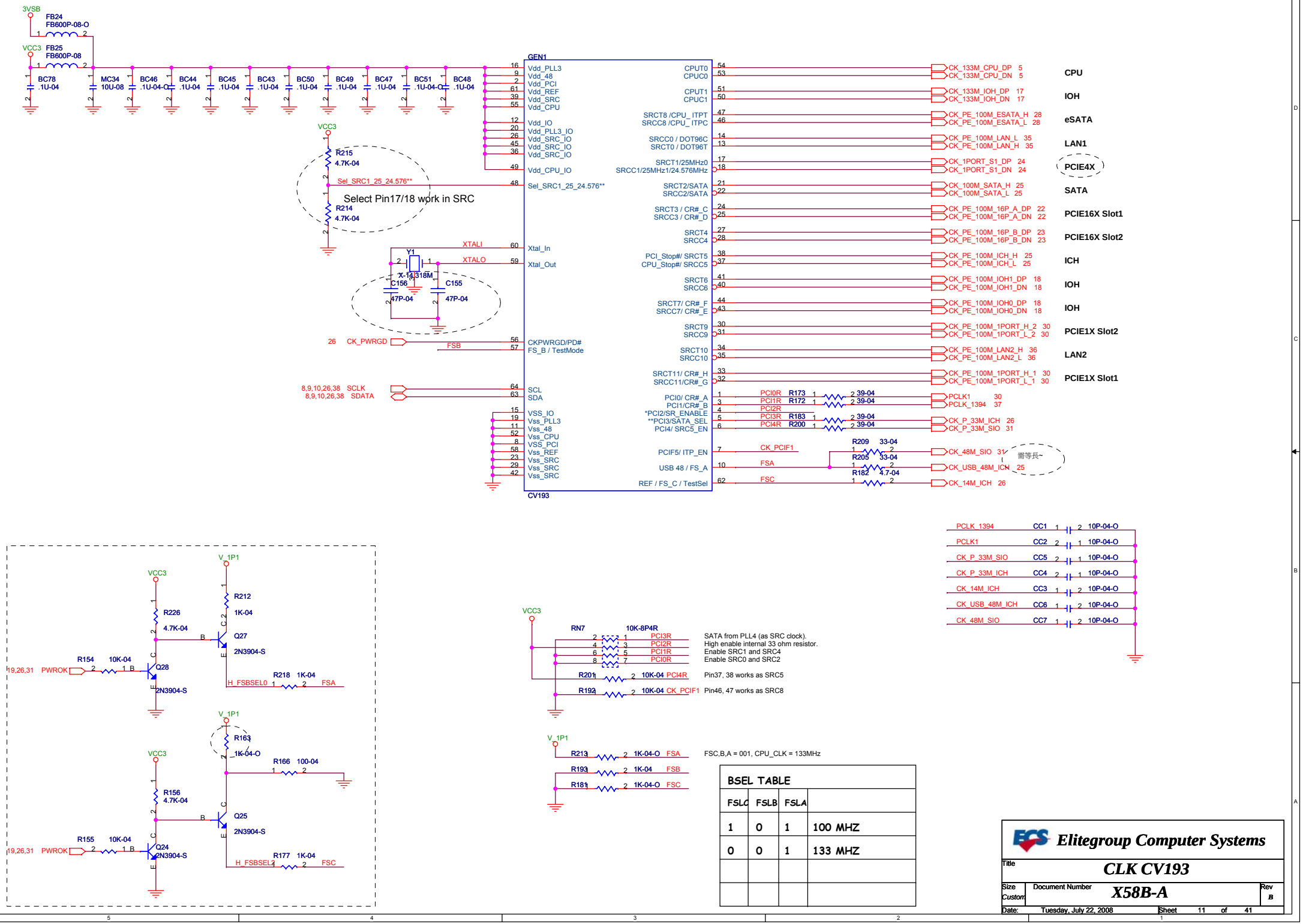




Elitegroup Computer Systems			
Title: DDR3 Channel1 DIMM3&DIMM4			
Size: Custom	Document Number: X58B-A		Rev: B
Date: Tuesday, July 22, 2008	Sheet 9 of 41		



Elitegroup Computer Systems			
Title: DDR3 Channel2 DIMM5&DIMM6			
Size: Custom	Document Number: X58B-A		Rev: B
Date: Tuesday, July 22, 2008		Sheet 10 of 41	



BSEL TABLE

FSLC	FSLB	FSLA	
1	0	1	100 MHZ
0	0	1	133 MHZ

Elitegroup Computer Systems

Title: CLK CV193

Size: Custom | Document Number: X58B-A | Rev: B

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Note:C184,C95,C113,C114,C106,C108
C215,C212,C204,C207,C218,C223
料號：04-884-104103 C/C.0.1uF.16V.10%..X7R..SMD 0402

DCR:0.8mohm
ESR:7mohm

For VR11.1 Imon load line use

BOTTOM PAD CONNECT TO GND

TDK NTCG104KF104FT

VR FAN TRIP:1.69V ~ 80 degC
VR HOT TRIP:1.44V ~ 90 degC

1,L/DCR=R*C,0.3uH/0.8m ohm=R224*C215
2,RLL=0.8m ohm, Vfb=0.8m *150A=120mV, Isense=60uA,
Rfb=Vfb/Isense=120mV/60uA=2K ohm

245K Change to 243K-1-04

Power vendor test report-2008.07/07

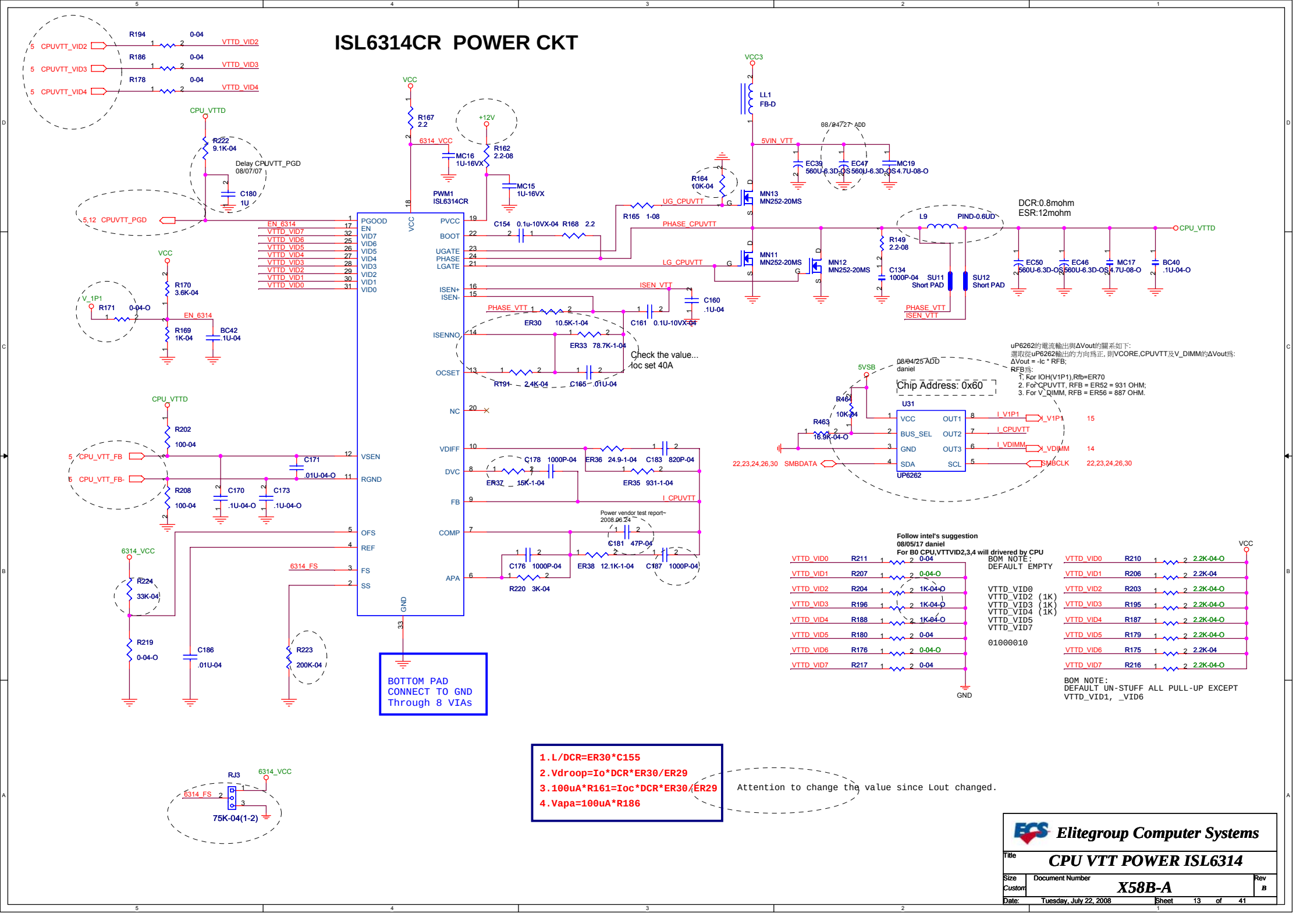
change to 1nF

Disable Phase6

No Stuff~08/04/29 Daniel

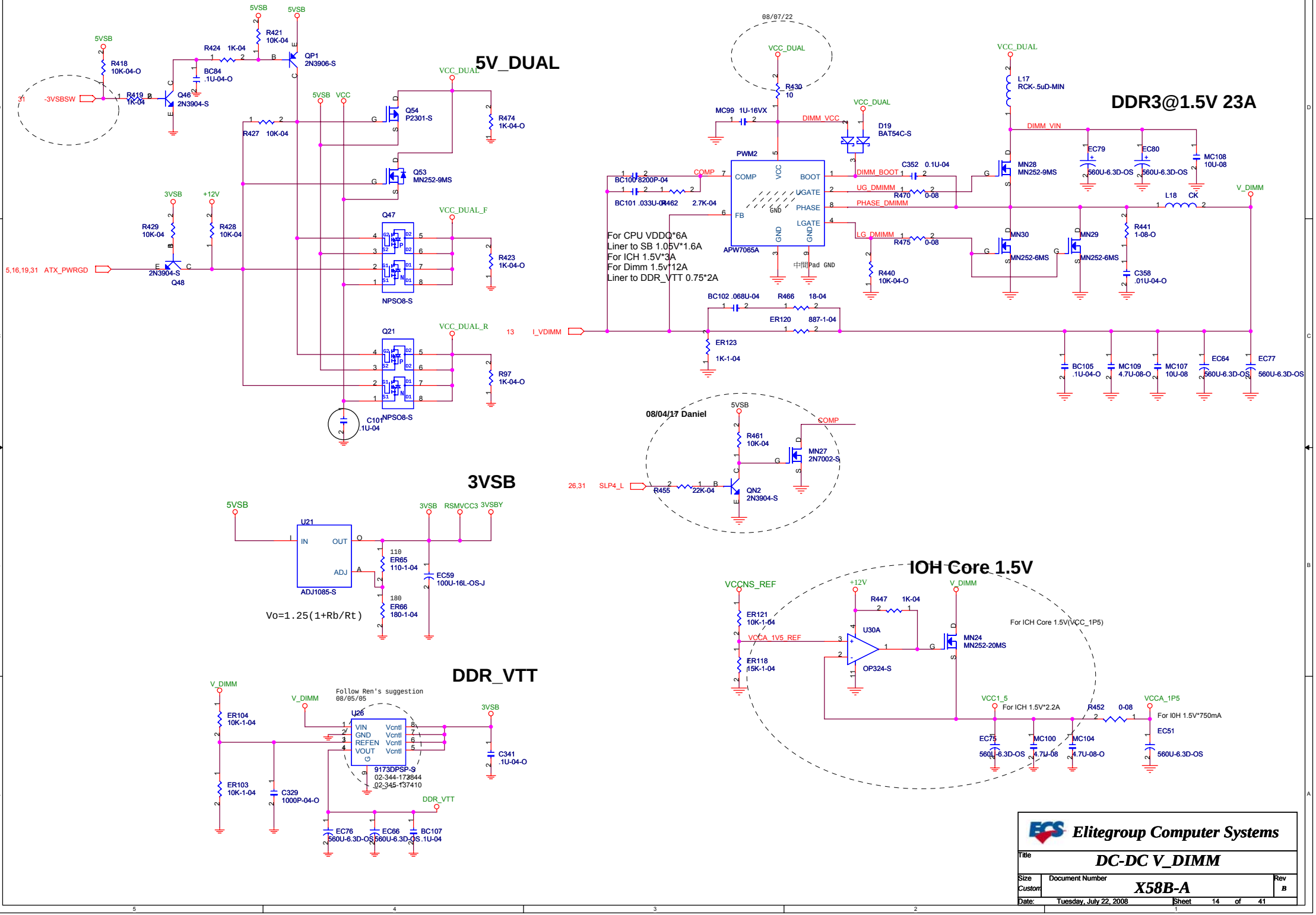
Elitegroup Computer Systems		
Title: CPU VCORE ISL6336CR		
Size: Custom	Document Number: X58B-A	Rev: B
Date: Tuesday, July 22, 2008	Sheet 12 of 41	

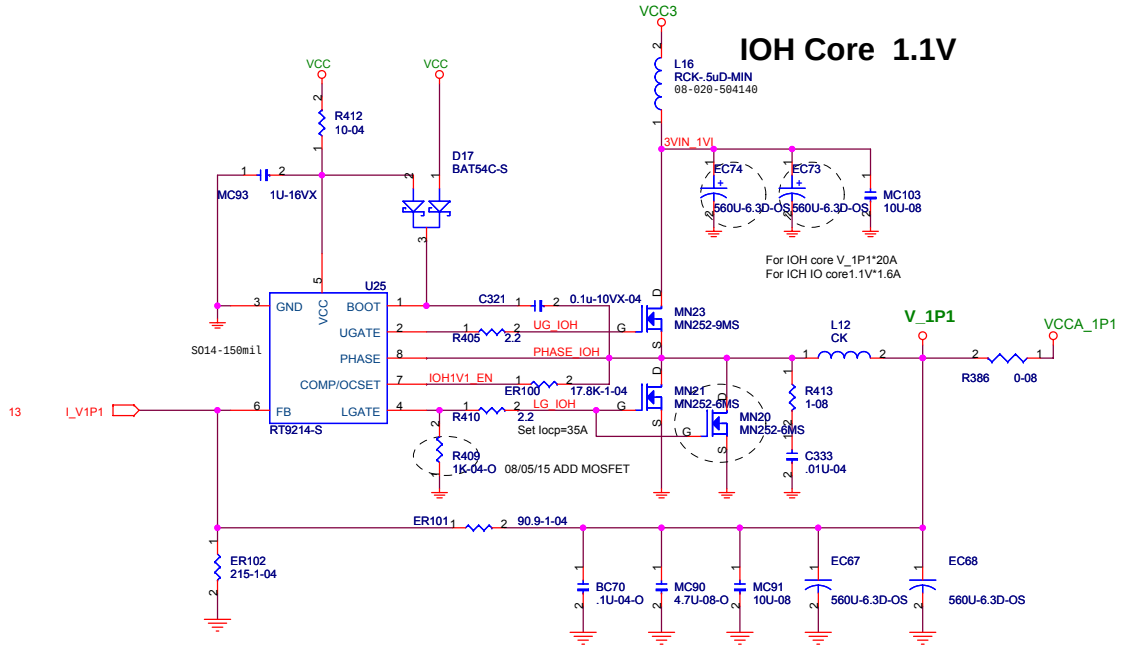
ISL6314CR POWER CKT

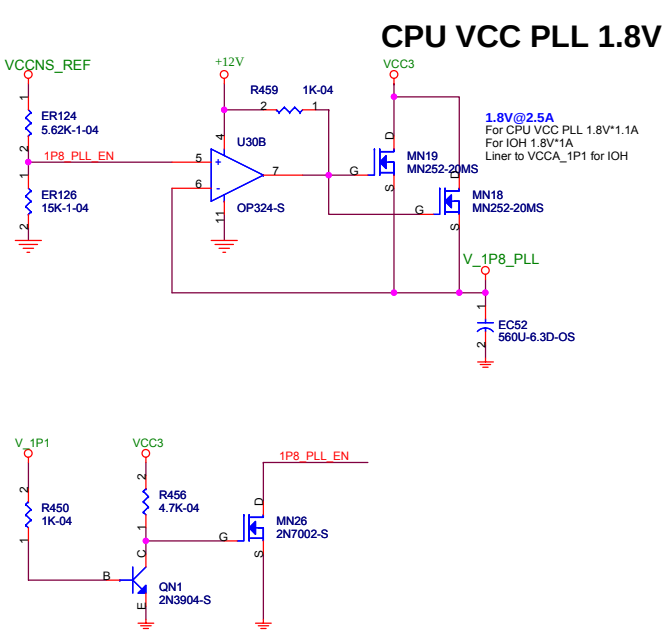


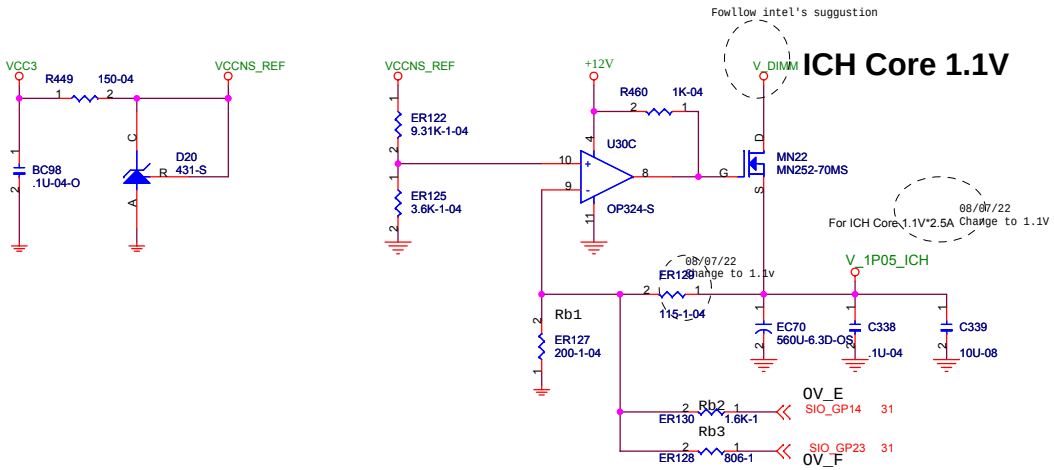
Elitegroup Computer Systems

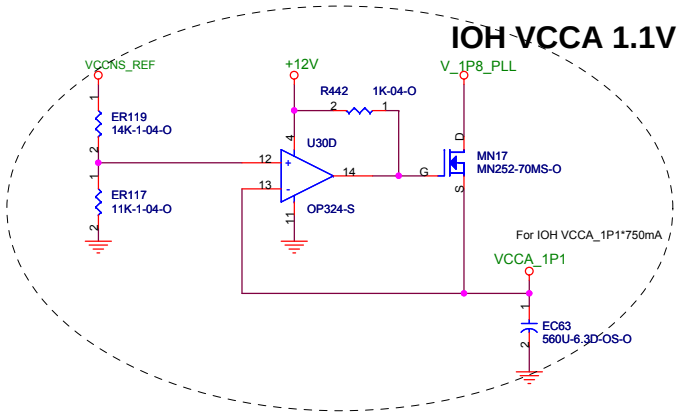
Title	CPU VTT POWER ISL6314	
Size: Custom	Document Number: X58B-A	Rev: B
Date: Tuesday, July 22, 2008	Sheet 13 of 41	


5V_DUAL
3VSB
DDR_VTT
DDR3@1.5V 23A
IOH Core 1.5V
08/07/22
08/04/17 Daniel
For CPU VDDQ*6A
Liner to SB 1.05V*1.6A
For ICH 1.5V*3A
For Dimm 1.5v*12A
Liner to DDR_VTT 0.75*2A
Vo=1.25(1+Rb/Rt)
Follow Ren's suggestion
08/05/05
For ICH Core 1.5V(VCC_1P5)
For ICH 1.5V*2.2A
For IOH 1.5V*750mA
Elitegroup Computer Systems
DC-DC V_DIMM
X58B-A
Tuesday, July 22, 2008
Sheet 14 of 41









OV_E	OV_F	V_1P05_ICH	
1	1	1.1V	Default
0	1	1.15V	
1	0	1.20V	
0	0	1.25V	

Elitegroup Computer Systems

Title: DC-DC IOH POWER

Size: Custom | Document Number: X58B-A | Rev: B

Date: Tuesday, July 22, 2008 | Sheet 15 of 41

FRONT PANEL

External Connection

28 HDDLED — HDDLED
25 SATALED — SATA_LED1-
5,26,38 HWRST_L — HWRST_L
31 -PWRBTN — -PWRBTN
31 G_LED1 — G_LED1
31 G_LED2 — G_LED2
26 SLP5_L — SLP5_L

If you found anything wrong with this circuit,please contact with Jack Hu (Ext:622)

PWR_BUT: PWRBTN — DTSM-63NR-V-T/R — 11-251-004815 (Red)

RST_BUT: HWRST_L — DTSM-63NY-V-T/R — 11-251-004814 (Yellow)

R407 Pin 1 connect to pwr_but

Fixed power led issue 2008.06.24

VCC_DUAL — RN34 330-8P4R

F_PANEL: +HDD_LED, -HDD_LED, PWRBTN, HWRST_L, F_LAN_LED1, F_LAN_LED2 — H7X2-P10E

D21 1N4148-S — SATA_LED1- — HDDLED

R451 180-04 — C277 1U-O — BC99 .1U-04-O — C360 1U-O

R465 100-04 (2008.6.23)

Q52 2N3906S-S — R471 1K-04 — LAN_ACTIVE- — LAN_ACTIVE- 35

F_PANEL connector: +HDDLED, RST, +MSGLED, PWR

R469 165-1 — R468 165-1 — F_LAN_LED1

	S0	S1	S3	S4	S5
G_LED1	L	B	B	L	L
G_LED2	H	N	L	L	L
	G	GB	YB	OFF	OFF

B:Blinking

Opened when using 83627

5VSB — R454 4.7K-04 — R453 1K — G_LED1X — 31 G_LED1 — Q50 2N3904-S — SLP5_L_S

Opened when using 83627

VCC — R458 4.7K-04 — R457 1K — G_LED2X — 31 G_LED2 — Q51 2N3904-S — SLP5_L_S

26 SLP5_L — R446 1K-04 — MN25 2N3904-S — SLP5_L_S

POWER CONNECTOR

External Connection

VCC3, -12V, 5VSB, VCC, +12V, 12V_POWER

31 -ATX_PSON_SIO — -ATX_PSON_SIO

5,14,19,31 ATX_PWRGD — ATX_PWRGD

5VSB, -12V, VCC, VCC3 — R473 1K-04 — -ATX_PSON_SIO

ATX_POWER: 3.3V, -12V, GND, PS_ON, GND, GND, GND, -5V, +5V, +5V, +5V, GND / 3.3V, 3.3V, GND, +5V, GND, +5V, GND, PWROK, AUX5V, +12V, +12V, 3.3V — ATX-PW-24P2R

VCC3, VCC+12V, 5VSB, VCC — R472 8.2K-04 — ATX_PWRGD — C390 .1U-04-O

Change to 8pin power connector 2008.06.24----Daniel

ATX12V — atx_pwr_8p — 10-011-008380

12V_POWER — C79 .1U-04-O

VCC3 — C391 .1U-04-O

VCC — C387 .1U-04-O

+12V — C392 .1U-04-O

For EMI.

5VSB — C389 .1U-04-O

VCC — C388 .1U-04-O

VCC — C332 .1U-04-O

FOR EMI.

FAN

External Connection

+12V, VCC

31 CFAN_PWM1 — CFAN_PWM1

31 CFAN_TAC1 — CFAN_TAC1

31 SFAN_PWM2 — SFAN_PWM2

31 SFAN_TAC2 — SFAN_TAC2

CFAN_PWM1 — R174 15K-04-O — U16B GS358SFS — R345 470-04-O — Q36 HI772-D-O — R356 0-08

R357 1K-04-O — EC49 100U-16L-OS-J — R341 28K-1-04-O — R365 20K-04-O

CPU_FAN: GND, +12V, SENSE, CONTROL — H4*1-POH

VCC — R313 4.7K-04 — R311 100-04 — CFAN_PWM1

EC61 100U-16L-OS-J — C286 .1u-16VY-04-O

VCC — R343 1K-04 — CFAN_TAC1 — D15 1N4148W-S — C285 470P-04

4 3 2 1 — Top Veiw

SFAN_PWM2 — R230 15K-04 — U16A GS358SFS — R198 470-04 — Q26 HI772-D — R197 0-08-O

R189 1K-04 — EC55 100U-16L-OS-J — R184 36K-04 — R185 20K-04

SYS_FAN: GND, +12V, SENSE, CONTROL — H3*1-PO

VCC — R241 4.7K-04 — R239 100-04-O — SFAN_PWM2

EC54 100U-16L-OS-J — C190 1u-16VY-04

VCC — R244 1K-04 — SFAN_TAC2 — D9 1N4148W-S — C204 470P-04

+12V — PWR_FAN — BC38 .1U-04 — SENSE, +12V, GND — H3X1-P-W

+12V — NB_FAN — BC35 .1U-04 — SENSE, +12V, GND — H3X1-P-W

H1 TH8 — AUGND — AUGND

H2 TH8

H3 TH8

H4 TH8

H5 TH8

H6 TH8

H7 TH8

H8 TH8

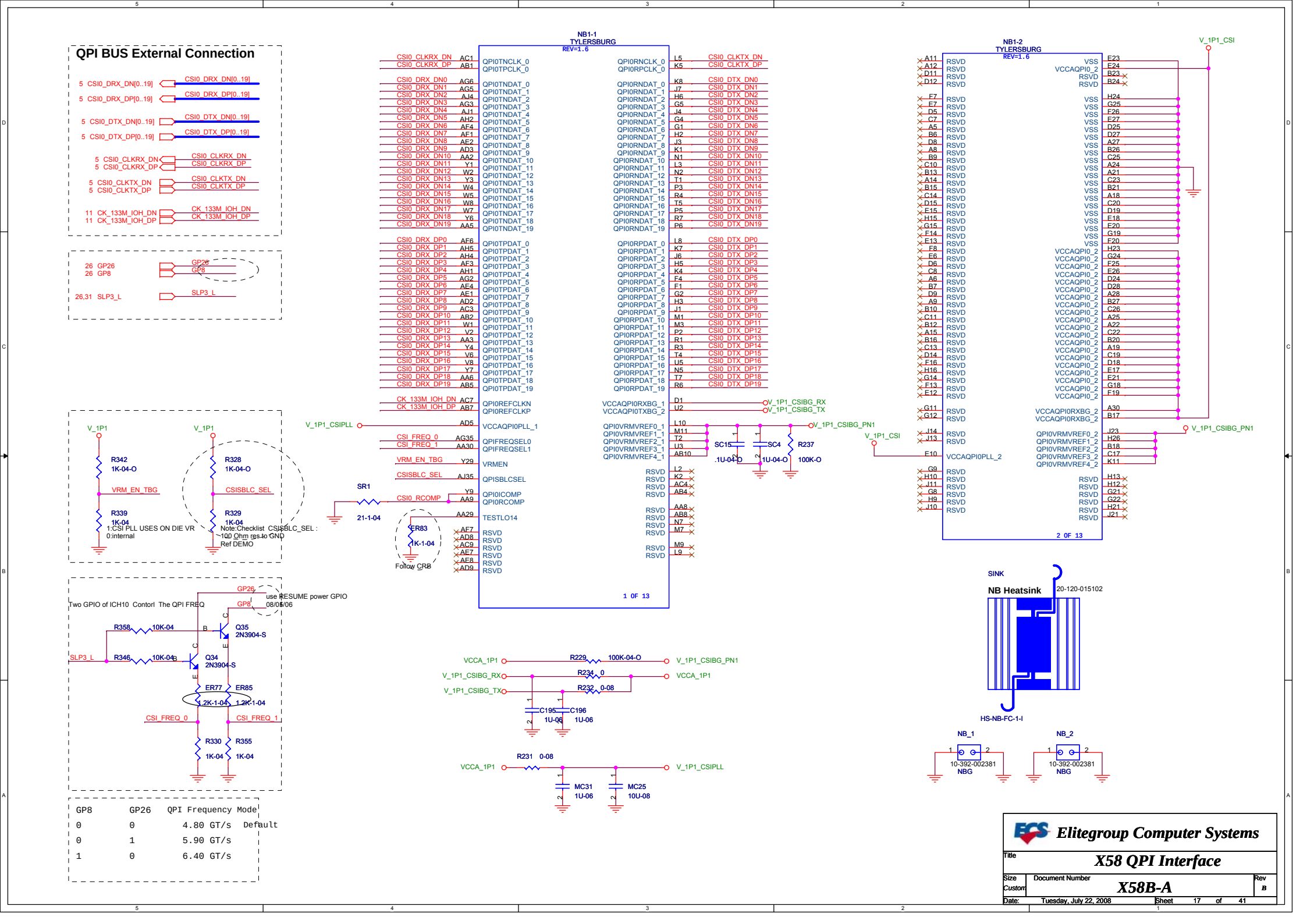
H9 TH8

Elitegroup Computer Systems

Title: Front Panel,FAN,PowerConn

Size: Custom — Document Number: X58B-A — Rev: B

Date: Tuesday, July 22, 2008 — Sheet 16 of 41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5 CSI0_DRX_DN[0..19]
CSI0_DRX_DN[0..19]
5 CSI0_DRX_DP[0..19]
CSI0_DRX_DP[0..19]
5 CSI0_DTX_DN[0..19]
CSI0_DTX_DN[0..19]
5 CSI0_DTX_DP[0..19]
CSI0_DTX_DP[0..19]
5 CSI0_CLKRX_DN
5 CSI0_CLKRX_DP
CSI0_CLKRX_DN
CSI0_CLKRX_DP
5 CSI0_CLKTX_DN
5 CSI0_CLKTX_DP
CSI0_CLKTX_DN
CSI0_CLKTX_DP
11 CK_133M_IOH_DN
11 CK_133M_IOH_DP
CK_133M_IOH_DN
CK_133M_IOH_DP
26 GP26
26 GP8
GP26
GP8
26,31 SLP3_L
SLP3_L
NB1-1
TYLERSBURG
REV=1.6
QPI0TNCLK_0
QPI0TPCLK_0
QPI0TNDAT_0
QPI0TNDAT_1
QPI0TNDAT_2
QPI0TNDAT_3
QPI0TNDAT_4
QPI0TNDAT_5
QPI0TNDAT_6
QPI0TNDAT_7
QPI0TNDAT_8
QPI0TNDAT_9
QPI0TNDAT_10
QPI0TNDAT_11
QPI0TNDAT_12
QPI0TNDAT_13
QPI0TNDAT_14
QPI0TNDAT_15
QPI0TNDAT_16
QPI0TNDAT_17
QPI0TNDAT_18
QPI0TNDAT_19
QPI0TPDAT_0
QPI0TPDAT_1
QPI0TPDAT_2
QPI0TPDAT_3
QPI0TPDAT_4
QPI0TPDAT_5
QPI0TPDAT_6
QPI0TPDAT_7
QPI0TPDAT_8
QPI0TPDAT_9
QPI0TPDAT_10
QPI0TPDAT_11
QPI0TPDAT_12
QPI0TPDAT_13
QPI0TPDAT_14
QPI0TPDAT_15
QPI0TPDAT_16
QPI0TPDAT_17
QPI0TPDAT_18
QPI0TPDAT_19
QPI0REFCLKN
QPI0REFCLKP
VCCAQPI0PLL_1
QPIFREQSEL0
QPIFREQSEL1
VRMEN
QPISBLCSEL
QPI0ICOMP
QPI0RCOMP
TESTLO14
RSVD
QPI0RNCLK_0
QPI0RPCLK_0
QPI0RNDAT_0
QPI0RNDAT_1
QPI0RNDAT_2
QPI0RNDAT_3
QPI0RNDAT_4
QPI0RNDAT_5
QPI0RNDAT_6
QPI0RNDAT_7
QPI0RNDAT_8
QPI0RNDAT_9
QPI0RNDAT_10
QPI0RNDAT_11
QPI0RNDAT_12
QPI0RNDAT_13
QPI0RNDAT_14
QPI0RNDAT_15
QPI0RNDAT_16
QPI0RNDAT_17
QPI0RNDAT_18
QPI0RNDAT_19
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QPI0RPDAT_3
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QPI0RPDAT_5
QPI0RPDAT_6
QPI0RPDAT_7
QPI0RPDAT_8
QPI0RPDAT_9
QPI0RPDAT_10
QPI0RPDAT_11
QPI0RPDAT_12
QPI0RPDAT_13
QPI0RPDAT_14
QPI0RPDAT_15
QPI0RPDAT_16
QPI0RPDAT_17
QPI0RPDAT_18
QPI0RPDAT_19
VCCAQPI0RXBG_1
VCCAQPI0TXBG_2
QPI0VRMVREF0_1
QPI0VRMVREF1_1
QPI0VRMVREF2_1
QPI0VRMVREF3_1
QPI0VRMVREF4_1
1 OF 13
NB1-2
TYLERSBURG
REV=1.6
VSS
VCCAQPI0_2
VCCAQPI0RXBG_2
QPI0VRMVREF0_2
QPI0VRMVREF1_2
QPI0VRMVREF2_2
QPI0VRMVREF3_2
QPI0VRMVREF4_2
VCCAQPI0PLL_2
2 OF 13
V_1P1_CSI
V_1P1_CSIBG_PN1
V_1P1_CSIPLL
V_1P1_CSIBG_RX
V_1P1_CSIBG_TX
SC15
SC4
R237
100K-O
1U-04-O
SR1
21-1-04
ER83
1K-1-04
Follow CRB
V_1P1
R342
1K-04-O
R328
1K-04-O
R339
1K-04
R329
1K-04
VRM_EN_TBG
CSISBLC_SEL
1:CSI PLL USES ON DIE VR
0:internal
Note:Checklist CSISBLC_SEL :
100 Ohm res to GND
Ref DEMO
Two GPIO of ICH10 Contorl The QPI FREQ
use RESUME power GPIO
08/05/06
R358
10K-04
Q35
2N3904-S
R346
Q34
2N3904-S
ER77
ER85
1.2K-1-04
CSI_FREQ_0
CSI_FREQ_1
R330
R355
1K-04
VCCA_1P1
R229
100K-04-O
R234
0
R232
0-08
C195
C196
1U-06
R231
MC31
MC25
10U-08
SINK
NB Heatsink
20-120-015102
HS-NB-FC-1-I
NB_1
NB_2
10-392-002381
NBG
GP8 GP26 QPI Frequency Mode
0 0 4.80 GT/s Default
0 1 5.90 GT/s
1 0 6.40 GT/s
Elitegroup Computer Systems
Title
X58 QPI Interface
Size
Custom
Document Number
X58B-A
Rev
B
Date: Tuesday, July 22, 2008
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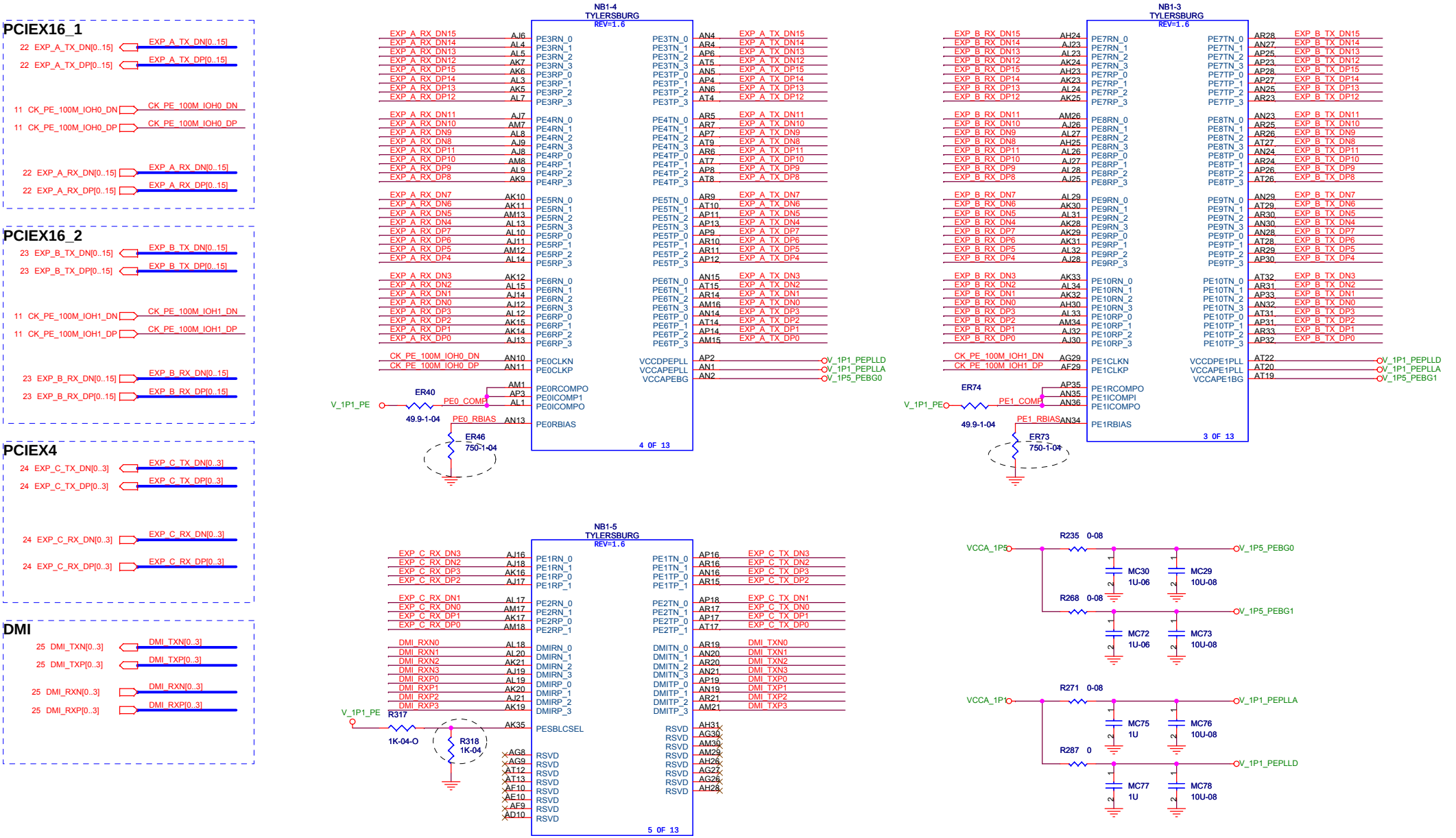
PCIEX16_1
22 EXP_A_TX_DN[0..15]
EXP_A_TX_DN[0..15]
22 EXP_A_TX_DP[0..15]
EXP_A_TX_DP[0..15]
11 CK_PE_100M_IOH0_DN
CK_PE_100M_IOH0_DN
11 CK_PE_100M_IOH0_DP
CK_PE_100M_IOH0_DP
22 EXP_A_RX_DN[0..15]
EXP_A_RX_DN[0..15]
22 EXP_A_RX_DP[0..15]
EXP_A_RX_DP[0..15]
PCIEX16_2
23 EXP_B_TX_DN[0..15]
EXP_B_TX_DN[0..15]
23 EXP_B_TX_DP[0..15]
EXP_B_TX_DP[0..15]
11 CK_PE_100M_IOH1_DN
CK_PE_100M_IOH1_DN
11 CK_PE_100M_IOH1_DP
CK_PE_100M_IOH1_DP
23 EXP_B_RX_DN[0..15]
EXP_B_RX_DN[0..15]
23 EXP_B_RX_DP[0..15]
EXP_B_RX_DP[0..15]
PCIEX4
24 EXP_C_TX_DN[0..3]
EXP_C_TX_DN[0..3]
24 EXP_C_TX_DP[0..3]
EXP_C_TX_DP[0..3]
24 EXP_C_RX_DN[0..3]
EXP_C_RX_DN[0..3]
24 EXP_C_RX_DP[0..3]
EXP_C_RX_DP[0..3]
DMI
25 DMI_TXN[0..3]
DMI_TXN[0..3]
25 DMI_TXP[0..3]
DMI_TXP[0..3]
25 DMI_RXN[0..3]
DMI_RXN[0..3]
25 DMI_RXP[0..3]
DMI_RXP[0..3]
NB1-4
TYLERSBURG
REV=1.6
4 OF 13
NB1-3
TYLERSBURG
REV=1.6
3 OF 13
NB1-5
TYLERSBURG
REV=1.6
5 OF 13
V_1P1_PE
ER40
PE0_COMP
49.9-1-04
PE0_RBIAS
ER46
750-1-04
ER74
PE1_COMP
PE1_RBIAS
ER73
750-1-04
R317
1K-04-O
R318
1K-04
R235 0-08
R268 0-08
R271 0-08
R287 0
VCCA_1P5
VCCA_1P1
MC30 1U-06
MC29 10U-08
MC72 1U-06
MC73 10U-08
MC75 1U
MC76 10U-08
MC77 1U
MC78 10U-08
V_1P5_PEBG0
V_1P5_PEBG1
V_1P1_PEPLLA
V_1P1_PEPLLD
Elitegroup Computer Systems
Title
X58 PCIEX16(1,2),PCIEX4,DMI
Size
Custom
Document Number
X58B-A
Rev
B
Date: Tuesday, July 22, 2008
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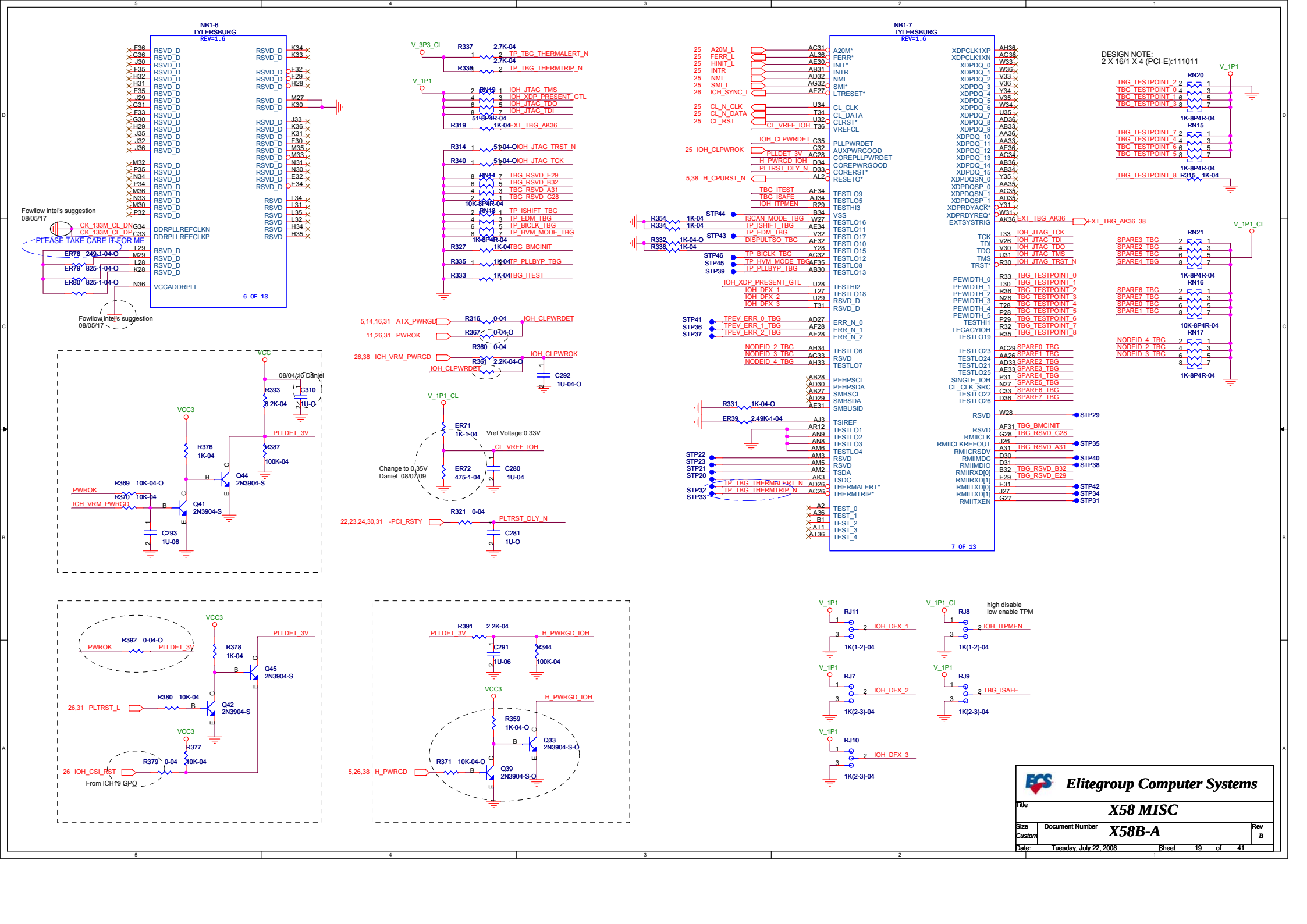
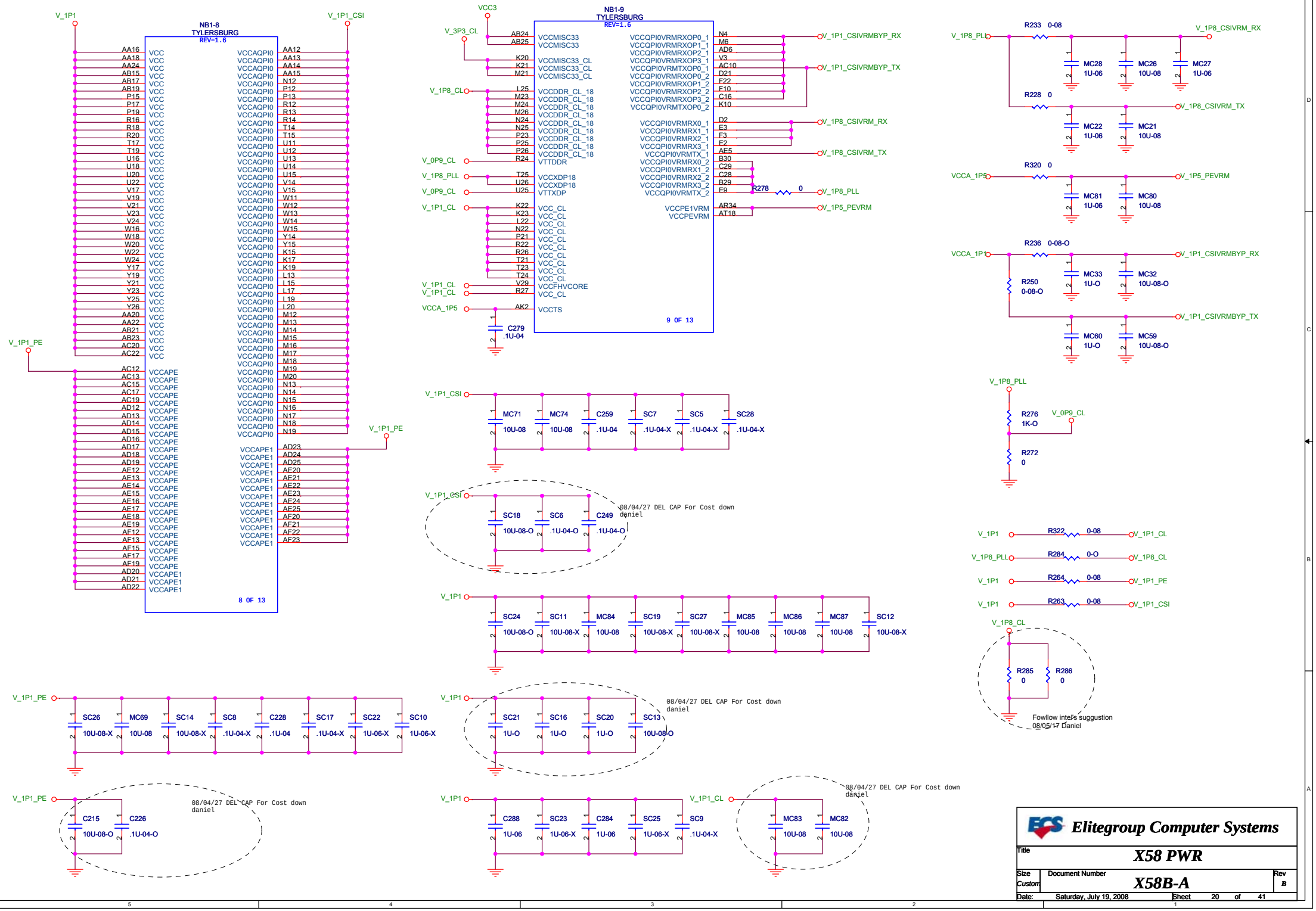
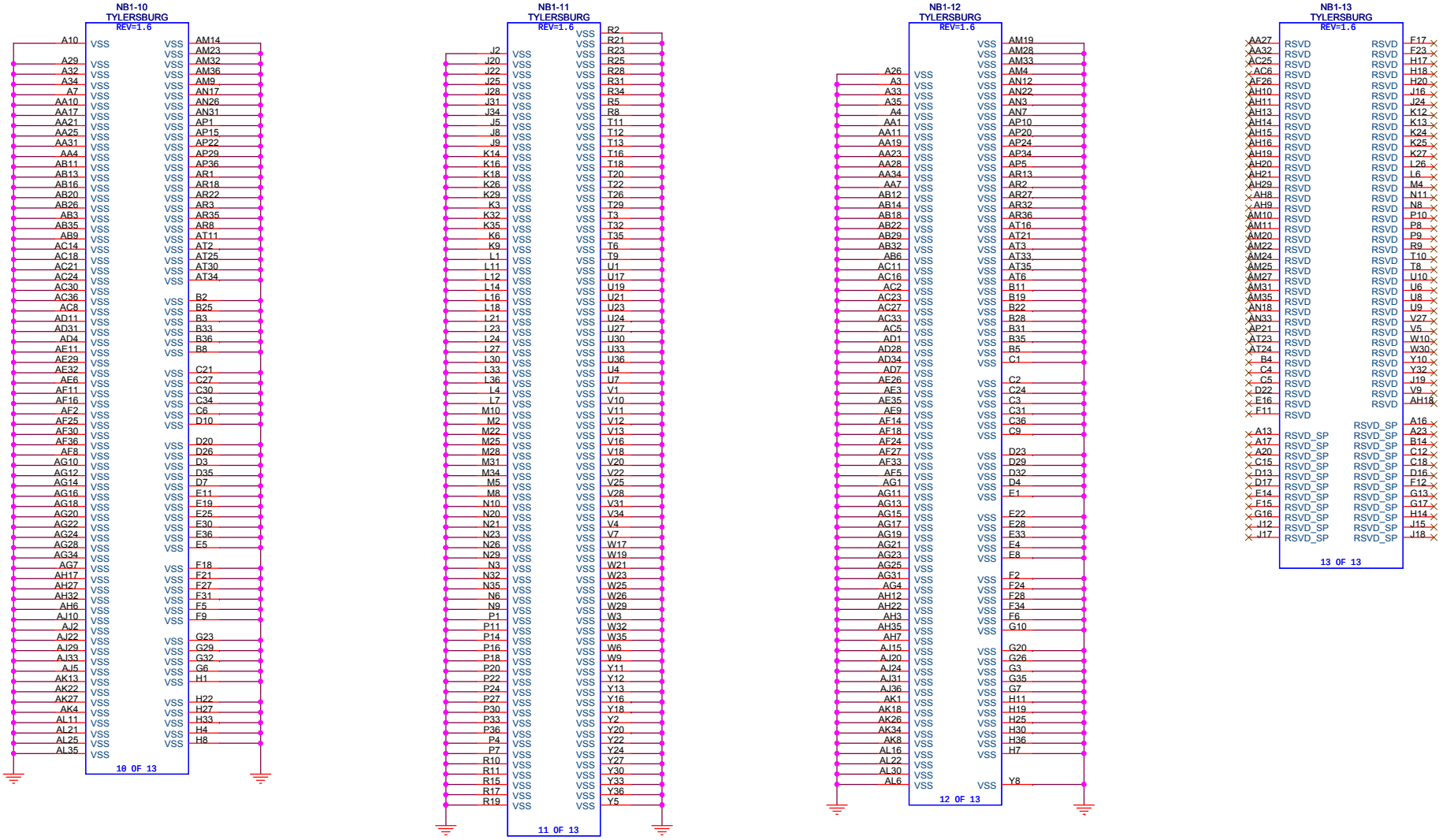
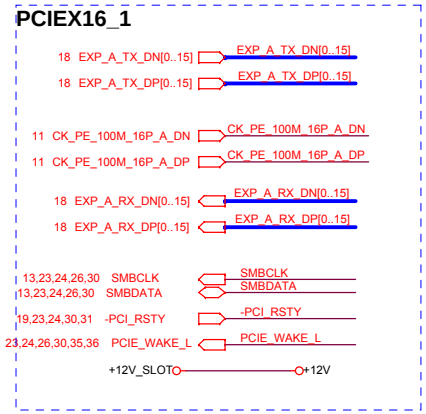

NB1-6
TYLERSBURG
REV=1.6
6 OF 13
Fowllow intel's suggestion
08/05/17
PLEASE TAKE CARE IT FOR ME
Fowllow intel's suggestion
08/05/17
NB1-7
TYLERSBURG
REV=1.6
7 OF 13
DESIGN NOTE:
2 X 16/1 X 4 (PCI-E):111011
08/04/16 Daniel
Change to 0.35V
Daniel 08/07/09
Vref Voltage:0.33V
high disable
low enable TPM
Elitegroup Computer Systems
X58 MISC
X58B-A
Tuesday, July 22, 2008
Sheet 19 of 41

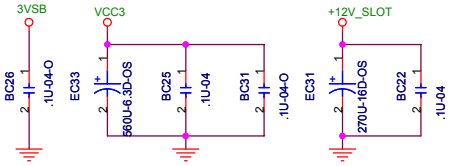

NB1-8
TYLERSBURG
REV=1.6
8 0F 13
NB1-9
TYLERSBURG
REV=1.6
9 0F 13
V_1P1
V_1P1_CSI
V_1P1_PE
VCC3
V_3P3_CL
V_1P8_CL
V_0P9_CL
V_1P8_PLL
V_1P1_CL
VCCA_1P5
V_1P1_CSIVRMBYP_RX
V_1P1_CSIVRMBYP_TX
V_1P8_CSIVRM_RX
V_1P8_CSIVRM_TX
V_1P8_PLL
V_1P5_PEVRM
R278 0
C279 .1U-04
R233 0-08
R228 0
R320 0
R236 0-08-O
R250 0-08-O
R276 1K-O
R272 0
R322 0-08
R284 0-O
R264 0-08
R263 0-08
R285 0
R286 0
MC28 1U-06
MC26 10U-08
MC27 1U-06
MC22 1U-06
MC21 10U-08
MC81 1U-06
MC80 10U-08
MC33 1U-O
MC32 10U-08-O
MC60 1U-O
MC59 10U-08-O
MC71 10U-08
MC74 10U-08
C259 .1U-04
SC7 .1U-04-X
SC5 .1U-04-X
SC28 .1U-04-X
SC18 10U-08-O
SC6 .1U-04-O
C249 .1U-04-O
08/04/27 DEL CAP For Cost down daniel
SC24 10U-08-O
SC11 10U-08-X
MC84 10U-08
SC19 10U-08-X
SC27 10U-08-X
MC85 10U-08
MC86 10U-08
MC87 10U-08
SC12 10U-08-X
SC26 10U-08-X
MC69 10U-08
SC14 10U-08-X
SC8 .1U-04-X
C228 .1U-04
SC17 .1U-04-X
SC22 1U-06-X
SC10 1U-06-X
SC21 1U-O
SC16 1U-O
SC20 1U-O
SC13 10U-08-O
C215 10U-08-O
C226 .1U-04-O
C288 1U-06
SC23 1U-06-X
C284 1U-06
SC25 1U-06-X
SC9 .1U-04-X
MC83 10U-08
MC82 10U-08
Fowllow intel's suggustion 08/05/17 Daniel
Elitegroup Computer Systems
X58 PWR
X58B-A
Size Custom
Document Number
Rev B
Date: Saturday, July 19, 2008
Sheet 20 of 41

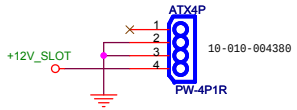


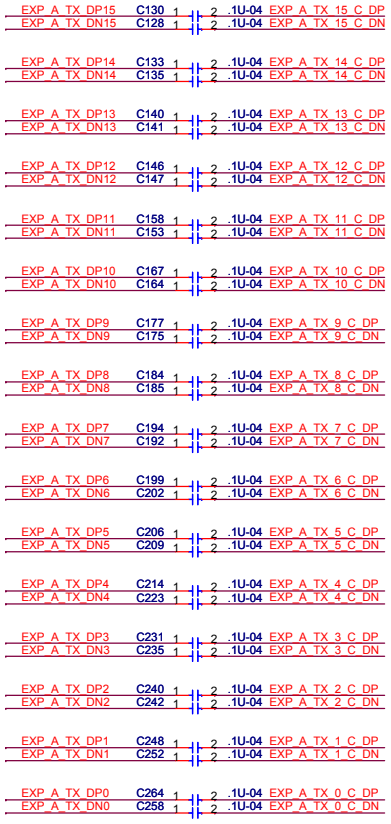
Elitegroup Computer Systems

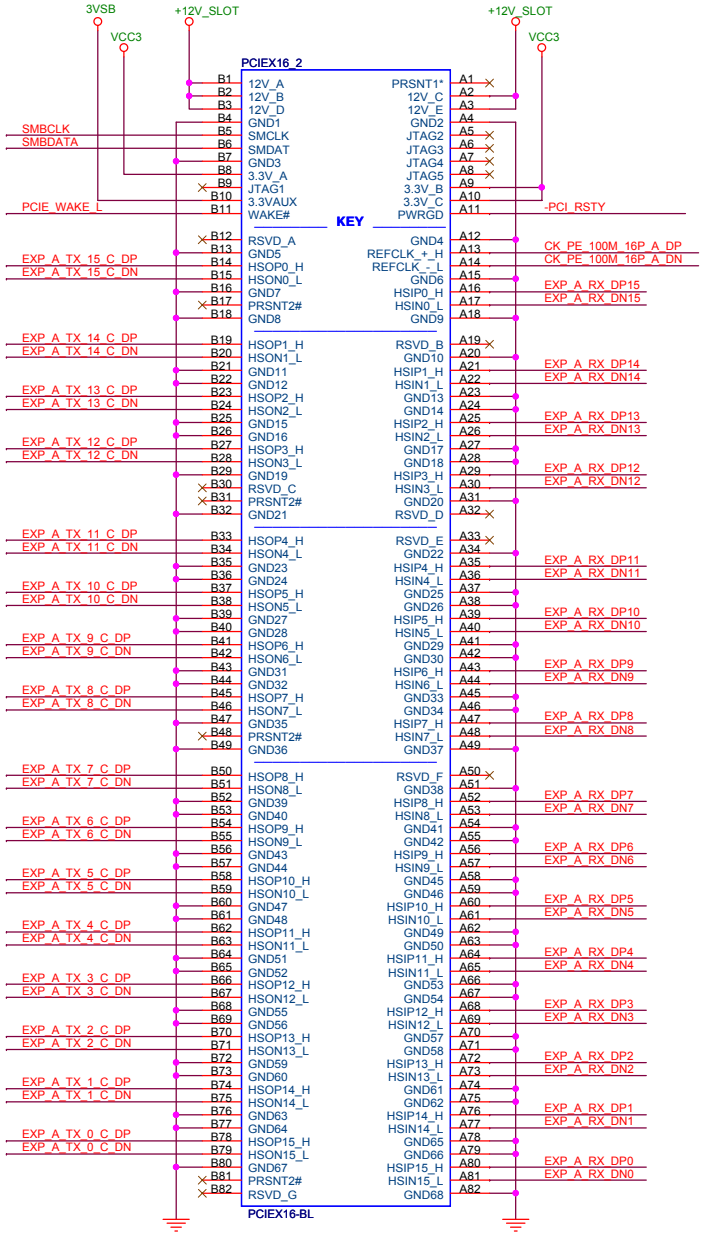
Title	X58 GND	
Size: Custom	Document Number: X58B-A	Rev: B
Date: Saturday, July 19, 2008	Sheet 21 of 41	











Elitegroup Computer Systems

Title: PCI Express X16 Slot 0

Size: Custom | Document Number: X58B-A | Rev: B

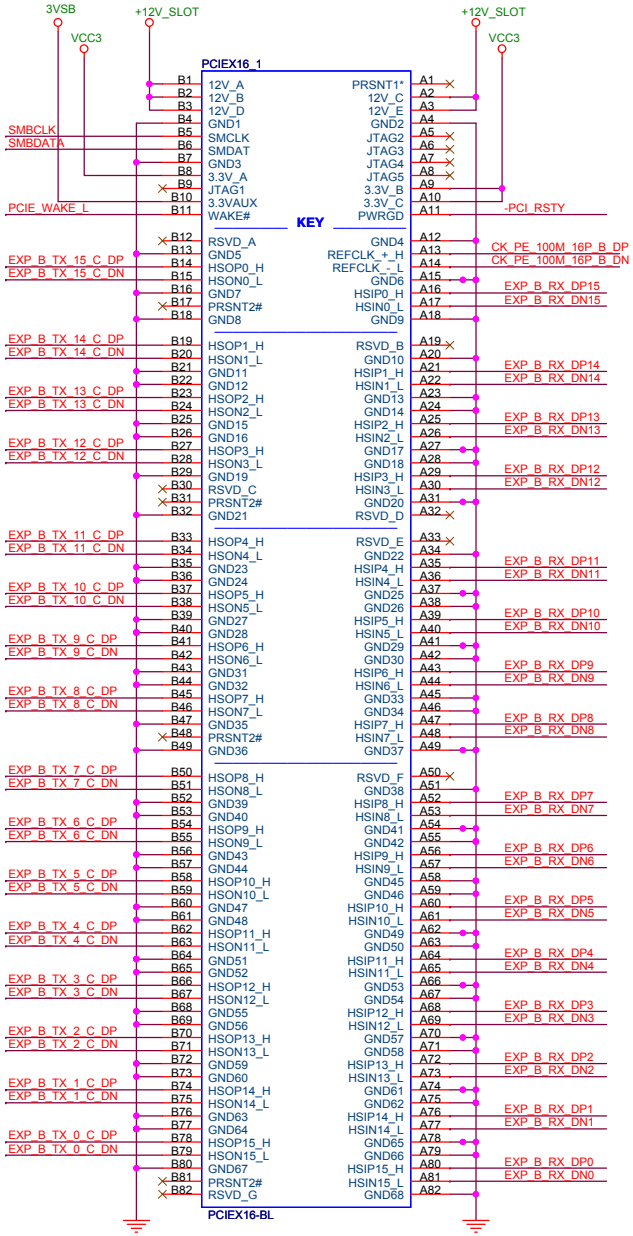
Date: Tuesday, July 22, 2008 | Sheet 22 of 41

PCIEX16_2

18 EXP_B_TX_DN[0..15] — EXP_B_TX_DN[0..15]
18 EXP_B_TX_DP[0..15] — EXP_B_TX_DP[0..15]
11 CK_PE_100M_16P_B_DN — CK_PE_100M_16P_B_DN
11 CK_PE_100M_16P_B_DP — CK_PE_100M_16P_B_DP
18 EXP_B_RX_DN[0..15] — EXP_B_RX_DN[0..15]
18 EXP_B_RX_DP[0..15] — EXP_B_RX_DP[0..15]
19,22,24,30,31 -PCI_RSTY — -PCI_RSTY
22,24,26,30,35,36 PCIE_WAKE_L — PCIE_WAKE_L
13,22,24,26,30 SMBCLK — SMBCLK
13,22,24,26,30 SMBDATA — SMBDATA

3VSB
BC33 .1U-04-O
VCC3
EC34 560U-6.3D-OS
BC27 .1U-04
BC30 .1U-04-O
+12V_SLOT
EC29 270U-16D-OS
BC23 .1U-04

EXP_B_TX_DP15	C132	1 2	.1U-04	EXP_B_TX_15_C_DP
EXP_B_TX_DN15	C131	1 2	.1U-04	EXP_B_TX_15_C_DN
EXP_B_TX_DP14	C136	1 2	.1U-04	EXP_B_TX_14_C_DP
EXP_B_TX_DN14	C138	1 2	.1U-04	EXP_B_TX_14_C_DN
EXP_B_TX_DP13	C142	1 2	.1U-04	EXP_B_TX_13_C_DP
EXP_B_TX_DN13	C145	1 2	.1U-04	EXP_B_TX_13_C_DN
EXP_B_TX_DP12	C148	1 2	.1U-04	EXP_B_TX_12_C_DP
EXP_B_TX_DN12	C149	1 2	.1U-04	EXP_B_TX_12_C_DN
EXP_B_TX_DP11	C159	1 2	.1U-04	EXP_B_TX_11_C_DP
EXP_B_TX_DN11	C163	1 2	.1U-04	EXP_B_TX_11_C_DN
EXP_B_TX_DP10	C169	1 2	.1U-04	EXP_B_TX_10_C_DP
EXP_B_TX_DN10	C172	1 2	.1U-04	EXP_B_TX_10_C_DN
EXP_B_TX_DP9	C179	1 2	.1U-04	EXP_B_TX_9_C_DP
EXP_B_TX_DN9	C182	1 2	.1U-04	EXP_B_TX_9_C_DN
EXP_B_TX_DP8	C188	1 2	.1U-04	EXP_B_TX_8_C_DP
EXP_B_TX_DN8	C189	1 2	.1U-04	EXP_B_TX_8_C_DN
EXP_B_TX_DP7	C191	1 2	.1U-04	EXP_B_TX_7_C_DP
EXP_B_TX_DN7	C193	1 2	.1U-04	EXP_B_TX_7_C_DN
EXP_B_TX_DP6	C198	1 2	.1U-04	EXP_B_TX_6_C_DP
EXP_B_TX_DN6	C201	1 2	.1U-04	EXP_B_TX_6_C_DN
EXP_B_TX_DP5	C205	1 2	.1U-04	EXP_B_TX_5_C_DP
EXP_B_TX_DN5	C208	1 2	.1U-04	EXP_B_TX_5_C_DN
EXP_B_TX_DP4	C213	1 2	.1U-04	EXP_B_TX_4_C_DP
EXP_B_TX_DN4	C222	1 2	.1U-04	EXP_B_TX_4_C_DN
EXP_B_TX_DP3	C230	1 2	.1U-04	EXP_B_TX_3_C_DP
EXP_B_TX_DN3	C234	1 2	.1U-04	EXP_B_TX_3_C_DN
EXP_B_TX_DP2	C239	1 2	.1U-04	EXP_B_TX_2_C_DP
EXP_B_TX_DN2	C241	1 2	.1U-04	EXP_B_TX_2_C_DN
EXP_B_TX_DP1	C246	1 2	.1U-04	EXP_B_TX_1_C_DP
EXP_B_TX_DN1	C251	1 2	.1U-04	EXP_B_TX_1_C_DN
EXP_B_TX_DP0	C257	1 2	.1U-04	EXP_B_TX_0_C_DP
EXP_B_TX_DN0	C263	1 2	.1U-04	EXP_B_TX_0_C_DN



Elitegroup Computer Systems

Title: **PCI Express X16 Slot 1**

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Custom	X58B-A	B

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PCIEX4

18 EXP_C_TX_DN[0..3] — EXP_C_TX_DN[0..3]
18 EXP_C_TX_DP[0..3] — EXP_C_TX_DP[0..3]
18 EXP_C_RX_DN[0..3] — EXP_C_RX_DN[0..3]
18 EXP_C_RX_DP[0..3] — EXP_C_RX_DP[0..3]

19,22,23,30,31 -PCI_RSTY — -PCI_RSTY
22,23,26,30,35,36 PCIE_WAKE_L — PCIE_WAKE_L
13,22,23,26,30 SMBCLK — SMBCLK
13,22,23,26,30 SMBDATA — SMBDATA
11 CK_1PORT_S1_DP — CK_1PORT_S1_DP
11 CK_1PORT_S1_DN — CK_1PORT_S1_DN

PCIEX1 From ICH10

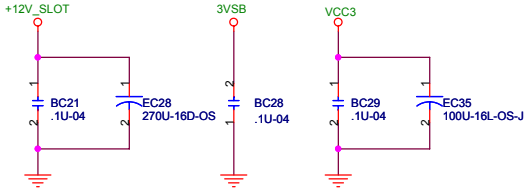
25 HSO_P4 — HSO_P4
25 HSO_N4 — HSO_N4
25 HSI_P4 — HSI_P4
25 HSI_N4 — HSI_N4

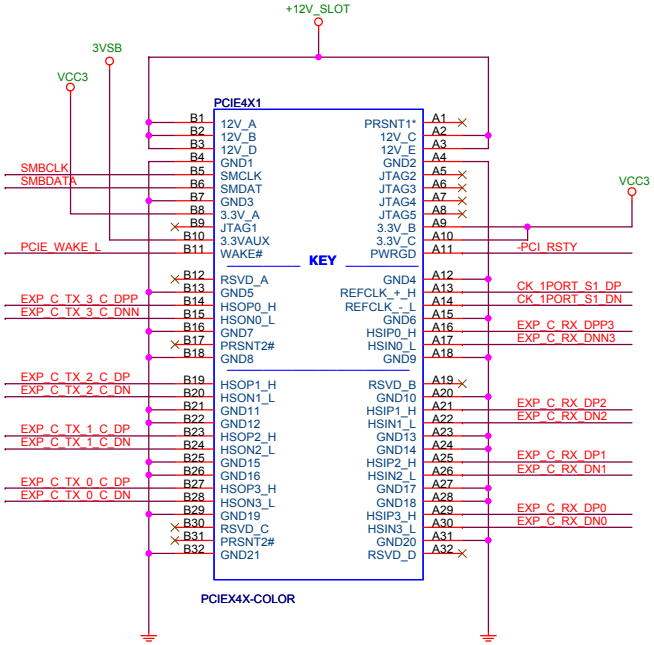
EXP_C_TX_DN0	C151	.1U-04	EXP_C_TX_0_C_DN
EXP_C_TX_DP0	C150	.1U-04	EXP_C_TX_0_C_DP
EXP_C_TX_DN1	C143	.1U-04	EXP_C_TX_1_C_DN
EXP_C_TX_DP1	C144	.1U-04	EXP_C_TX_1_C_DP
EXP_C_TX_DN2	C139	.1U-04	EXP_C_TX_2_C_DN
EXP_C_TX_DP2	C137	.1U-04	EXP_C_TX_2_C_DP
EXP_C_TX_DN3	C123	.1U-04	EXP_C_TX_3_C_DN
EXP_C_TX_DP3	C126	.1U-04	EXP_C_TX_3_C_DP

PLACE CAP CLOSE TO PCIEX4

Colay PCIE4X &PCIE1X

EXP_C_TX_3_C_DP	R141 0-04	EXP_C_TX_3_C_DPP
EXP_C_TX_3_C_DN	R139 0-04	EXP_C_TX_3_C_DNN
EXP_C_RX_DP3	R144 0-04	EXP_C_RX_DPP3
EXP_C_RX_DN3	R147 0-04	EXP_C_RX_DNN3
HSO_P4	R142 0-04-O	EXP_C_TX_3_C_DPP
HSO_N4	R140 0-04-O	EXP_C_TX_3_C_DNN
HSI_P4	R145 0-04-O	EXP_C_RX_DPP3
HSI_N4	R148 0-04-O	EXP_C_RX_DNN3





Elitegroup Computer Systems

Title: PCI Express X4

Size: Custom | Document Number: X58B-A | Rev: B

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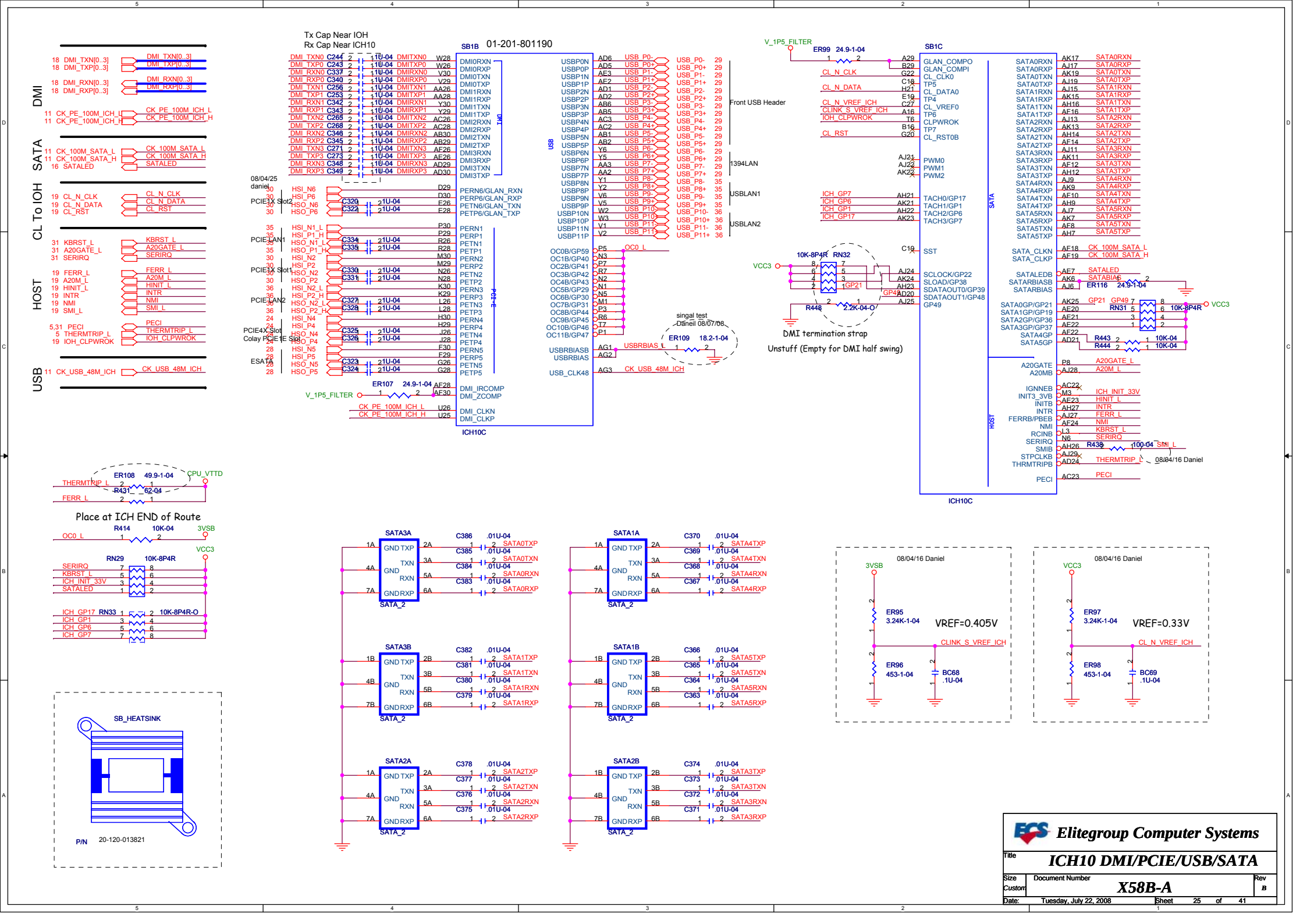
DMI
SATA
CL To IOH
HOST
USB
Tx Cap Near IOH
Rx Cap Near ICH10
SB1B 01-201-801190
ICH10C
SB1C
Front USB Header
1394LAN
USBLAN1
USBLAN2
08/04/25 daniel
singal test Daniel 08/07/08
DMI termination strap
Unstuff (Empty for DMI half swing)
08/04/16 Daniel
Place at ICH END of Route
SB_HEATSINK
P/N 20-120-013821
SATA3A
SATA3B
SATA2A
SATA1A
SATA1B
SATA2B
SATA_2
VREF=0.405V
VREF=0.33V
Elitegroup Computer Systems
ICH10 DMI/PCIE/USB/SATA
X58B-A
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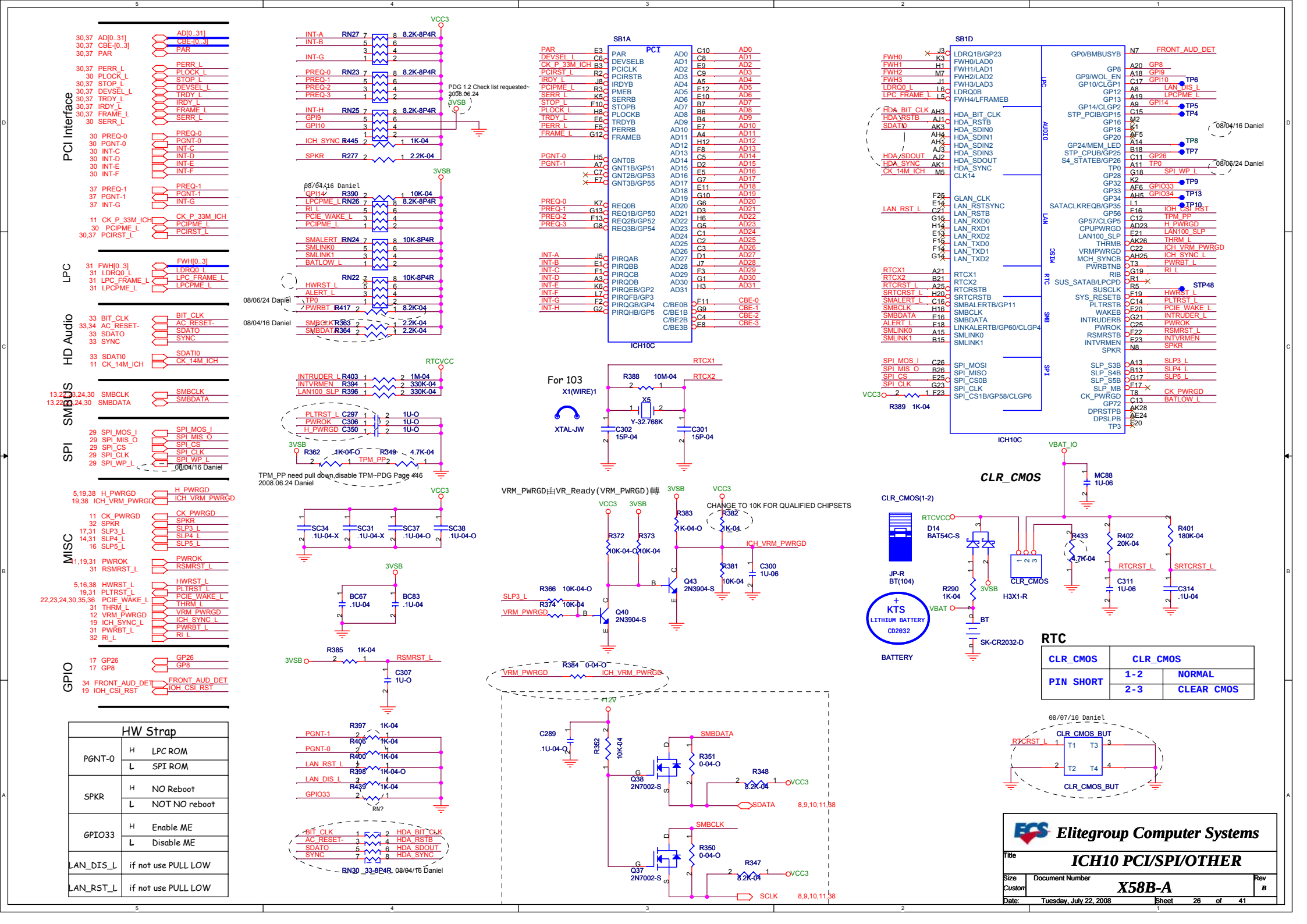
PCI Interface
LPC
HD Audio
SMBUS
SPI
MISC
GPIO
HW Strap
PGNT-0 H LPC ROM
PGNT-0 L SPI ROM
SPKR H NO Reboot
SPKR L NOT NO reboot
GPIO33 H Enable ME
GPIO33 L Disable ME
LAN_DIS_L if not use PULL LOW
LAN_RST_L if not use PULL LOW
SB1A
PCI
ICH10C
SB1D
LDRQ1B/GP23
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
LDRQ0B
FWH4/LFRAMEB
HDA_BIT_CLK
HDA_RSTB
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDOUT
HDA_SYNC
CLK14
GLAN_CLK
LAN_RSTSYNC
LAN_RSTB
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
RTCX1
RTCX2
RTCRSTB
SMBALERTB/GP11
SMBCLK
SMBDATA
LINKALERTB/GP60/CLGP4
SMLINK0
SMLINK1
SPI_MOSI
SPI_MISO
SPI_CS0B
SPI_CLK
SPI_CS1B/GP58/CLGP6
GP0/BMBUSYB
GP8
GP9/WOL_EN
GP10/CLGP1
GP12
GP13
GP14/CLGP2
STP_PCIB/GP15
GP16
GP18
GP20
GP24/MEM_LED
STP_CPUB/GP25
S4_STATEB/GP26
TP0
GP28
GP32
GP33
GP34
SATACLKREQB/GP35
GP56
GP57/CLGP5
CPUPWRGD
LAN100_SLP
THRMB
VRMPWRGD
MCH_SYNCB
PWRBTNB
RIB
SUS_SATAB/LPCPD
SUSCLK
SYS_RESETB
PLTRSTB
WAKEB
INTRUDERB
PWROK
RSMRSTB
INTVRMEN
SPKR
SLP_S3B
SLP_S4B
SLP_S5B
SLP_MB
CK_PWRGD
GP72
DPRSTPB
DPSLPB
TP3
FRONT_AUD_DET
GP8
GP9
GPI10
LAN_DIS_L
GPI14
LPCPME_L
TP0
SPI_WP_L
GPIO33
GPIO34
IOH_CSI_RST
TPM_PP
H_PWRGD
PLTRST_L
PCIE_WAKE_L
INTRUDER_L
PWROK
RSMRST_L
INTVRMEN
SPKR
SLP3_L
SLP4_L
SLP5_L
CK_PWRGD
BATLOW_L
RI_L
STP48
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP13
08/04/16 Daniel
08/06/24 Daniel
PDG 1.2 Check list requested~ 2008.06.24
TPM_PP need pull down,disable TPM~PDG Page 446 2008.06.24 Daniel
For 103
X1(WIRE)1
XTAL-JW
Y-32.768K
VRM_PWRGD由VR_Ready(VRM_PWRGD)轉
CHANGE TO 10K FOR QUALIFIED CHIPSETS
Q43 2N3904-S
Q40 2N3904-S
CLR_CMOS
CLR_CMOS(1-2)
JP-R BT(104)
KTS LITHIUM BATTERY CD2032
BATTERY
D14 BAT54C-S
H3X1-R
BT
SK-CR2032-D
RTC
CLR_CMOS
PIN SHORT
1-2 NORMAL
2-3 CLEAR CMOS
08/07/10 Daniel
CLR_CMOS_BUT
Q38 2N7002-S
Q37 2N7002-S
SMBDATA
SMBCLK
SDATA
SCLK
Elitegroup Computer Systems
ICH10 PCI/SPI/OTHER
X58B-A
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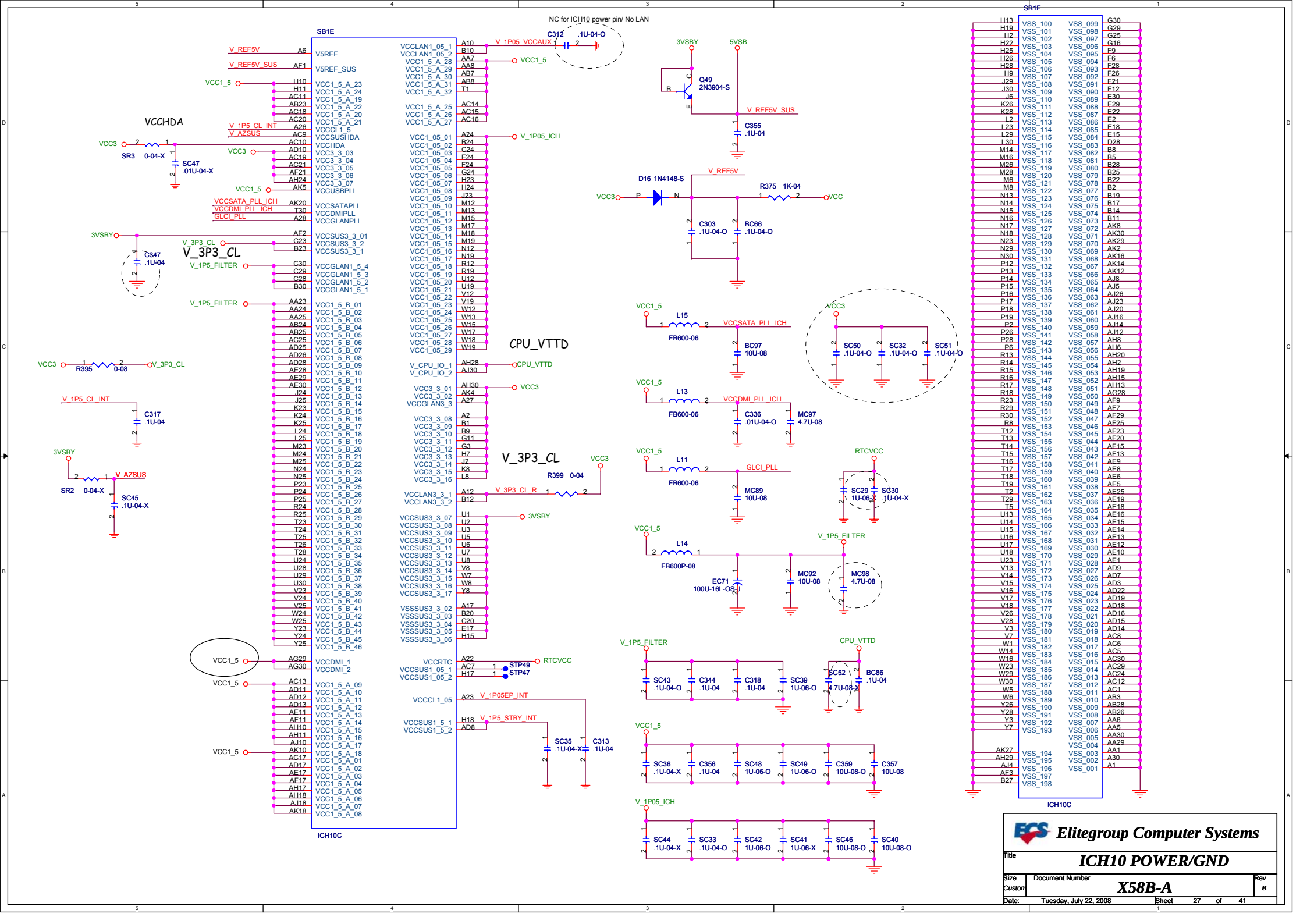
NC for ICH10 power pin/ No LAN
SB1E
ICH10C
SB1F
ICH10C
VCCHDA
V_3P3_CL
CPU_VTTD
V_3P3_CL
Q49
2N3904-S
D16 1N4148-S
Elitegroup Computer Systems
ICH10 POWER/GND
X58B-A
Size
Custom
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Rev
B
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Tuesday, July 22, 2008
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27
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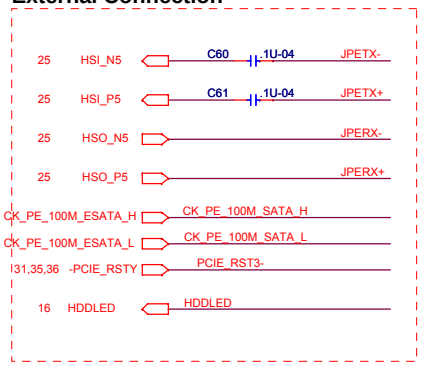
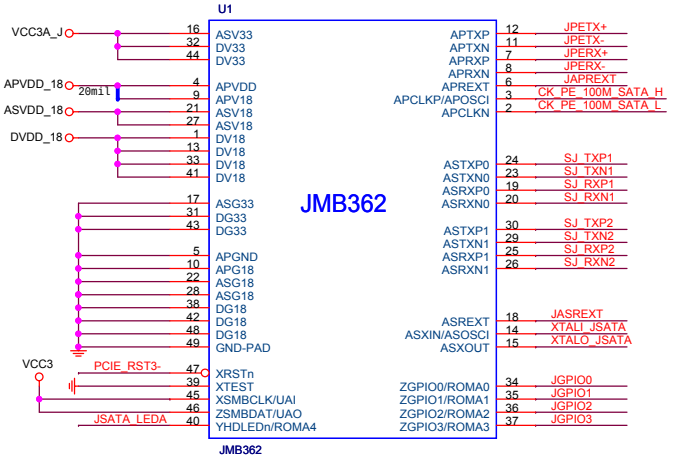
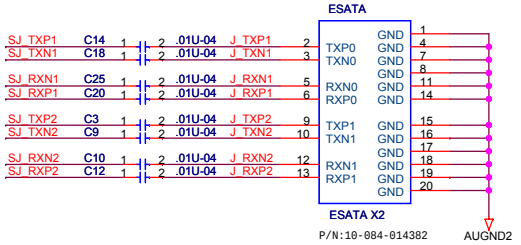
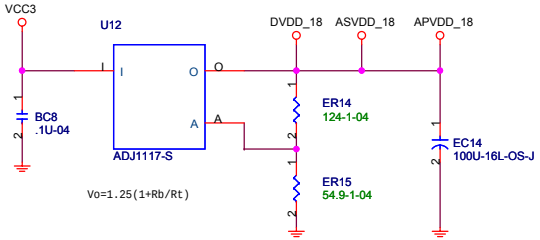
41

External Connection

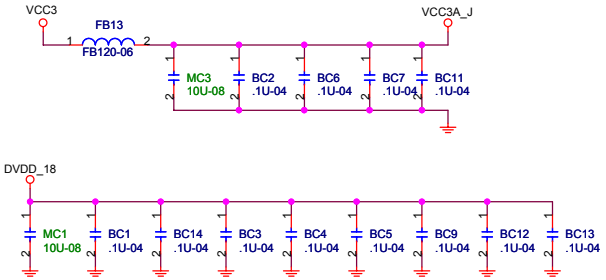


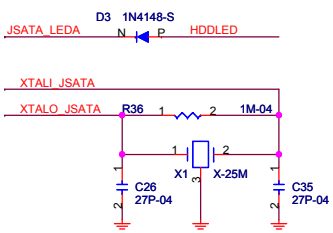


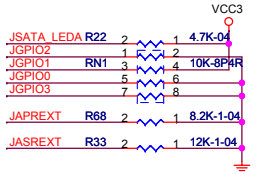


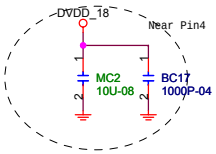


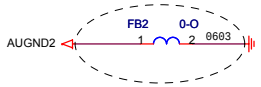
	H	L	NOTE
JGPIO0	JMB360	JMB362	FOR COLAY JMB360
JGPIO1	INTERNAL_CLOCK	ASXIN & ASXOUT	CONTROL CLOCK
JGPIO2	SMBUS I/F	RESERVED	
JGPIO3	8'H44	8'H4A	SMBUS ID ADDRESS











Elitegroup Computer Systems

Title: JMB362 Dual eSATA

Size	Document Number	Rev
Custom	X58B-A	B

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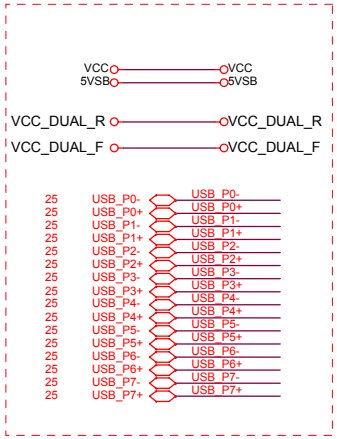
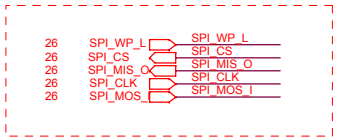
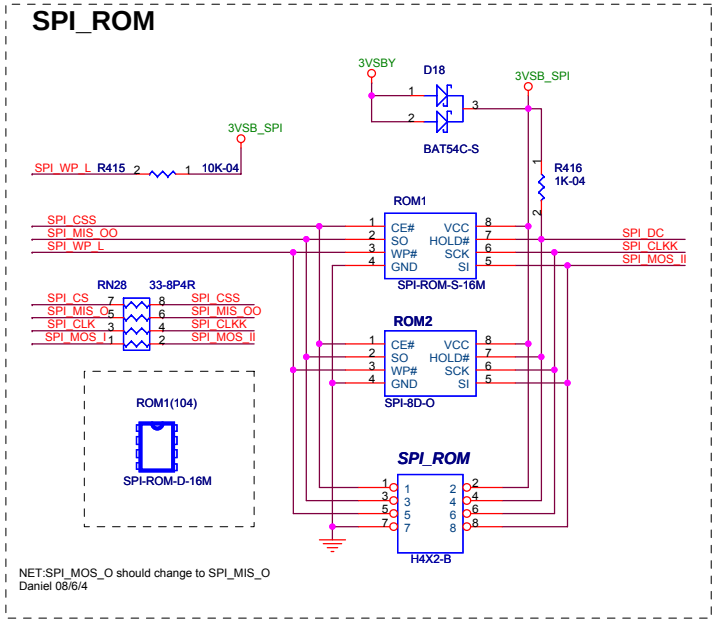
External Connection

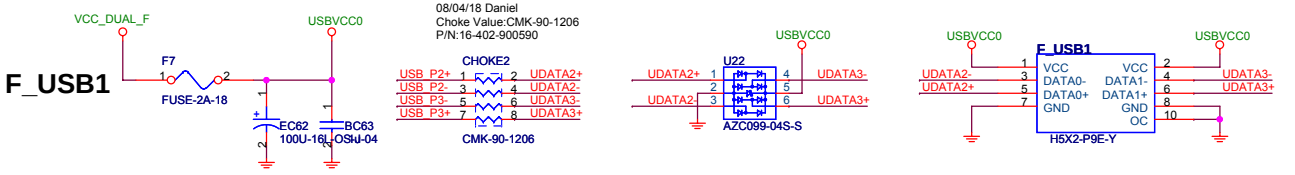




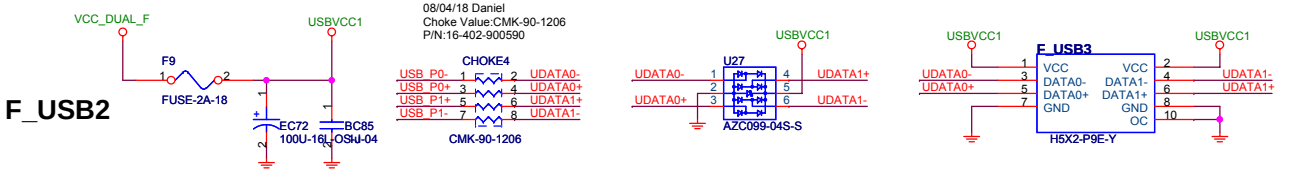
SPI_ROM



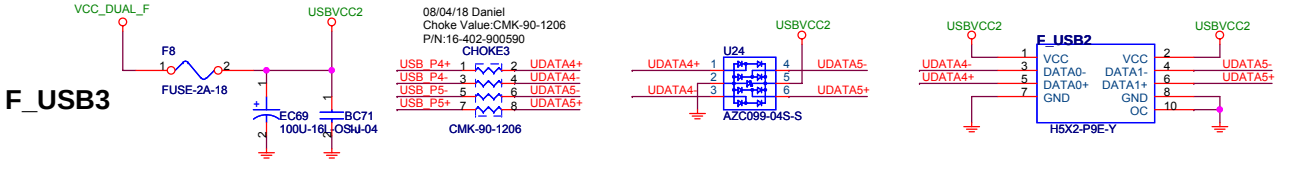
F_USB1



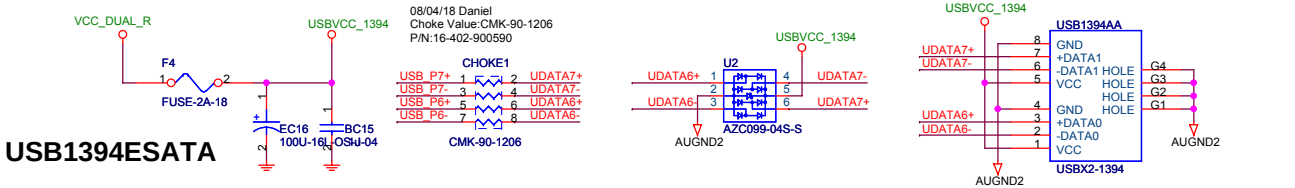
F_USB2



F_USB3



USB1394ESATA



Elitegroup Computer Systems		
Title: Front USB/SPI		
Size: Custom	Document Number: X58B-A	Rev: B
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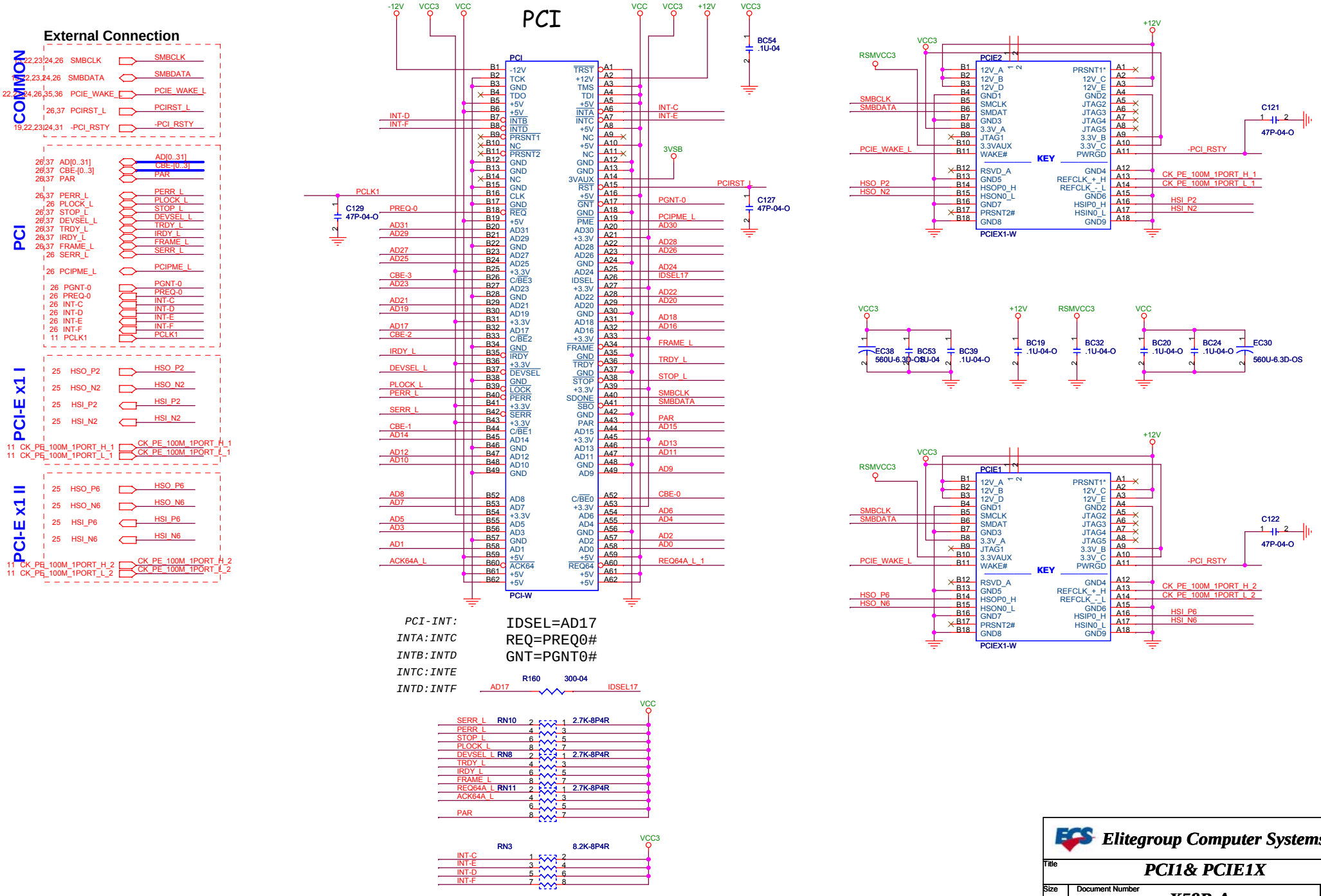
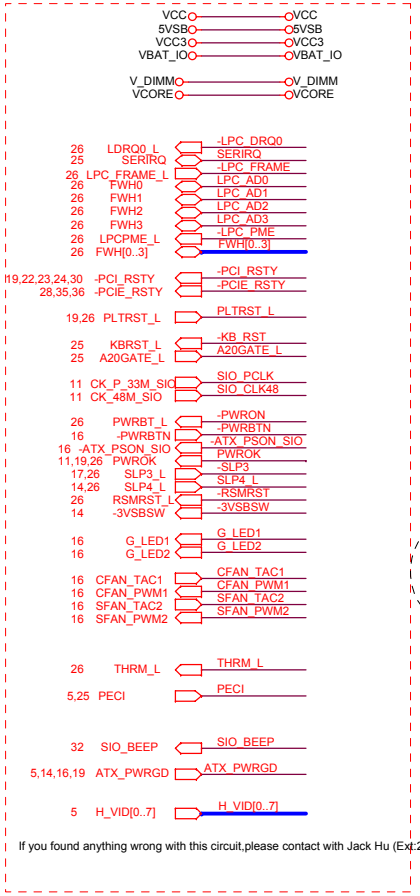
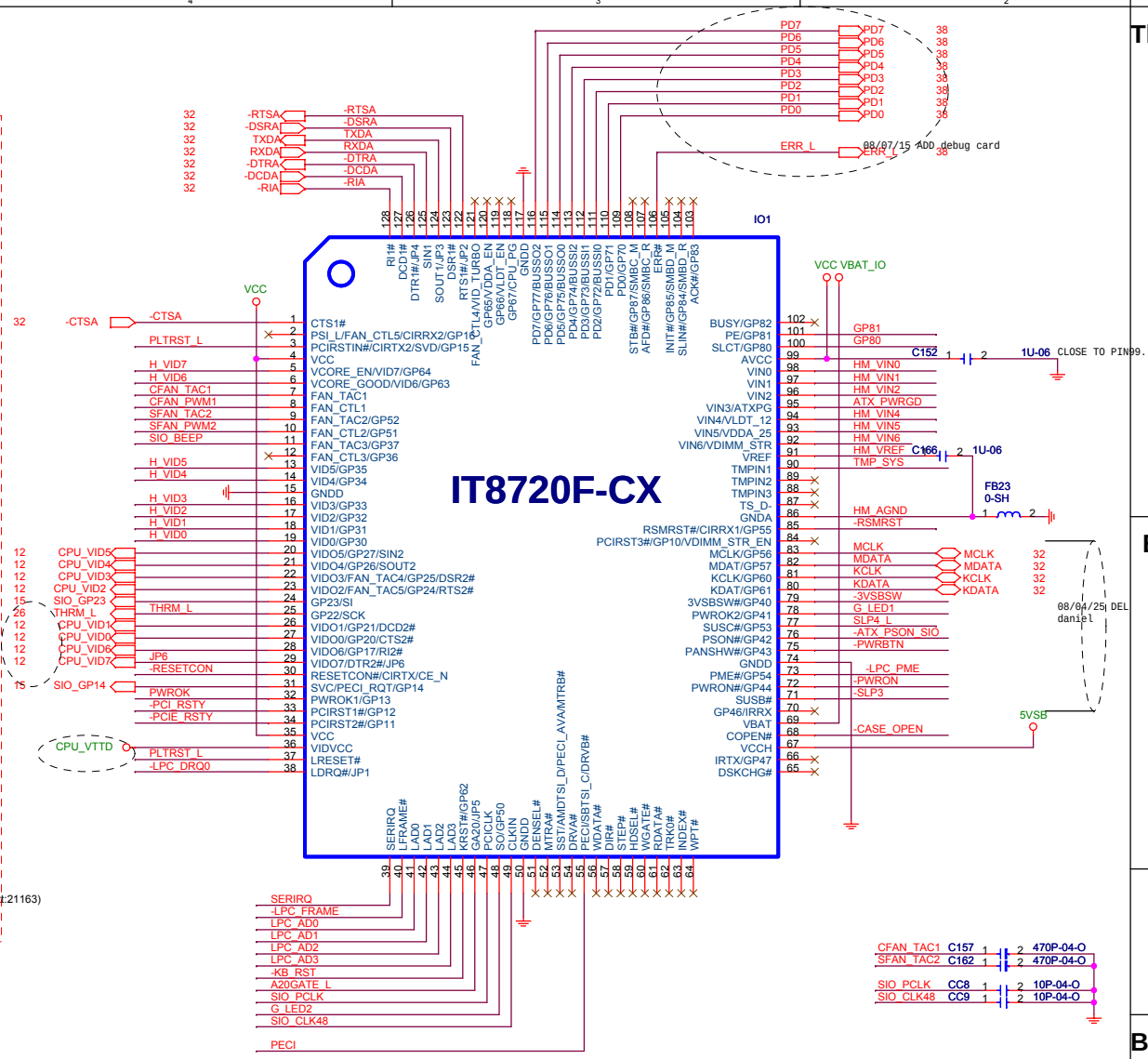

External Connection
COMMON
PCI
PCI-E x1 I
PCI-E x1 II
PCI
PCI-W
PCIE2
PCIE1
PCIEX1-W
KEY
PCI-INT:
INTA:INTC
INTB:INTD
INTC:INTE
INTD:INTF
IDSEL=AD17
REQ=PREQ0#
GNT=PGNT0#
R160 300-04
RN10 2.7K-8P4R
RN8 2.7K-8P4R
RN11 2.7K-8P4R
RN3 8.2K-8P4R
Elitegroup Computer Systems
PCI1& PCIE1X
X58B-A
Tuesday, July 22, 2008

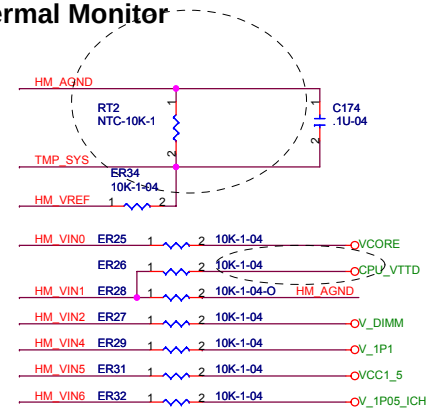
External Connection



If you found anything wrong with this circuit,please contact with Jack Hu (Ext:21163)

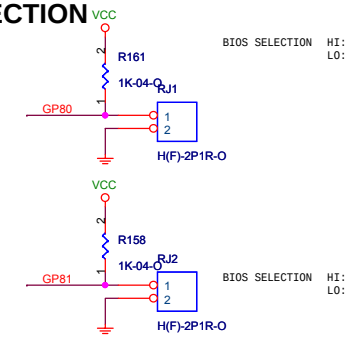


Thermal Monitor

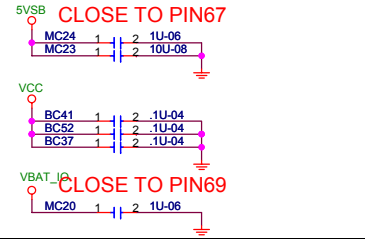


* HM_VIN0 for VCORE
* HM_VIN1 for CPUVTT
* HM_VIN2 for V_DIMM
* HM_VIN4 for NB_CORE
* HM_VIN5 for SB_VCC
* HM_VIN6 for SB_CORE

BIOS SELECTION

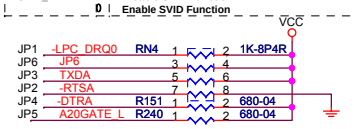


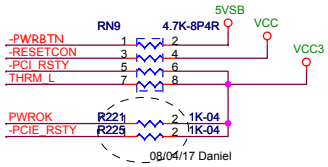
BYPASS CAP

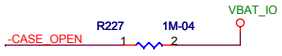


HW STRAPPING

JP1	Pin 38	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	1	Chip selection in Configuration
JP4	Pin 126	K8PWR_EN	1	K8 power sequence function is disabled
			0	K8 power sequence function is enabled
JP3 & JP4	Pin 124 & Pin 126	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
JP5	Pin46	WDT_EN	1	Disable WDT to rest PWROK
			0	Enable WDT to rest PWROK
JP6	Pin29	SVID_EN	1	Disable SVID Function
			0	Enable SVID Function







Title	LPC SIO-ITE8720
Size: Custom	Document Number: X58B-A
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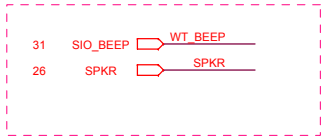
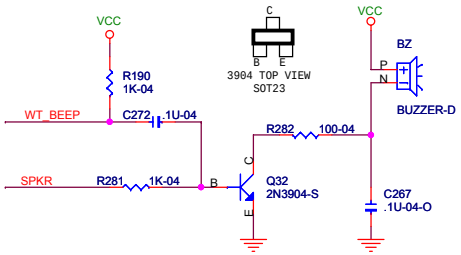
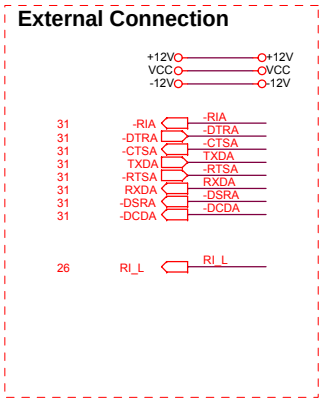
Buzzer



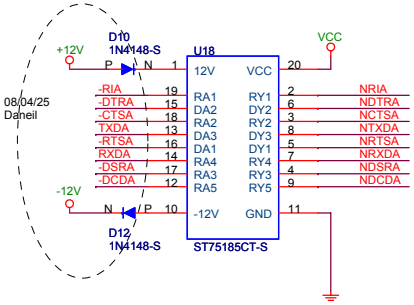


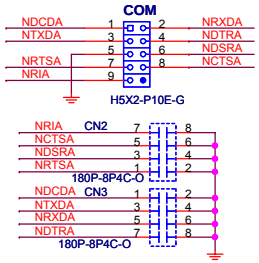
COM Ports

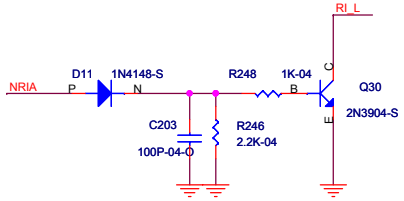
External Connection



COM

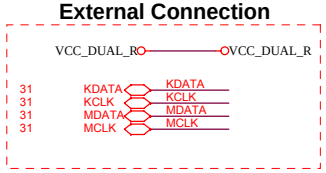


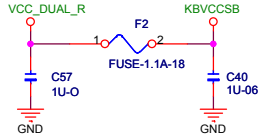


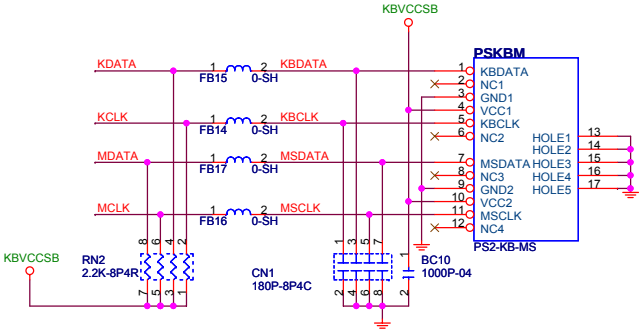


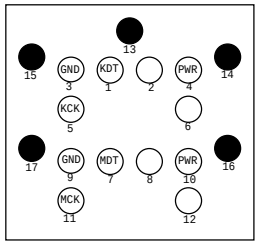
PSKBM

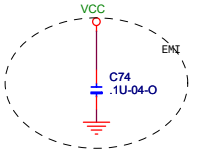
External Connection











Elitegroup Computer Systems

Title: COM, BUZZER,PSKBM

Size	Document Number	Rev
Custom	X58B-A	B

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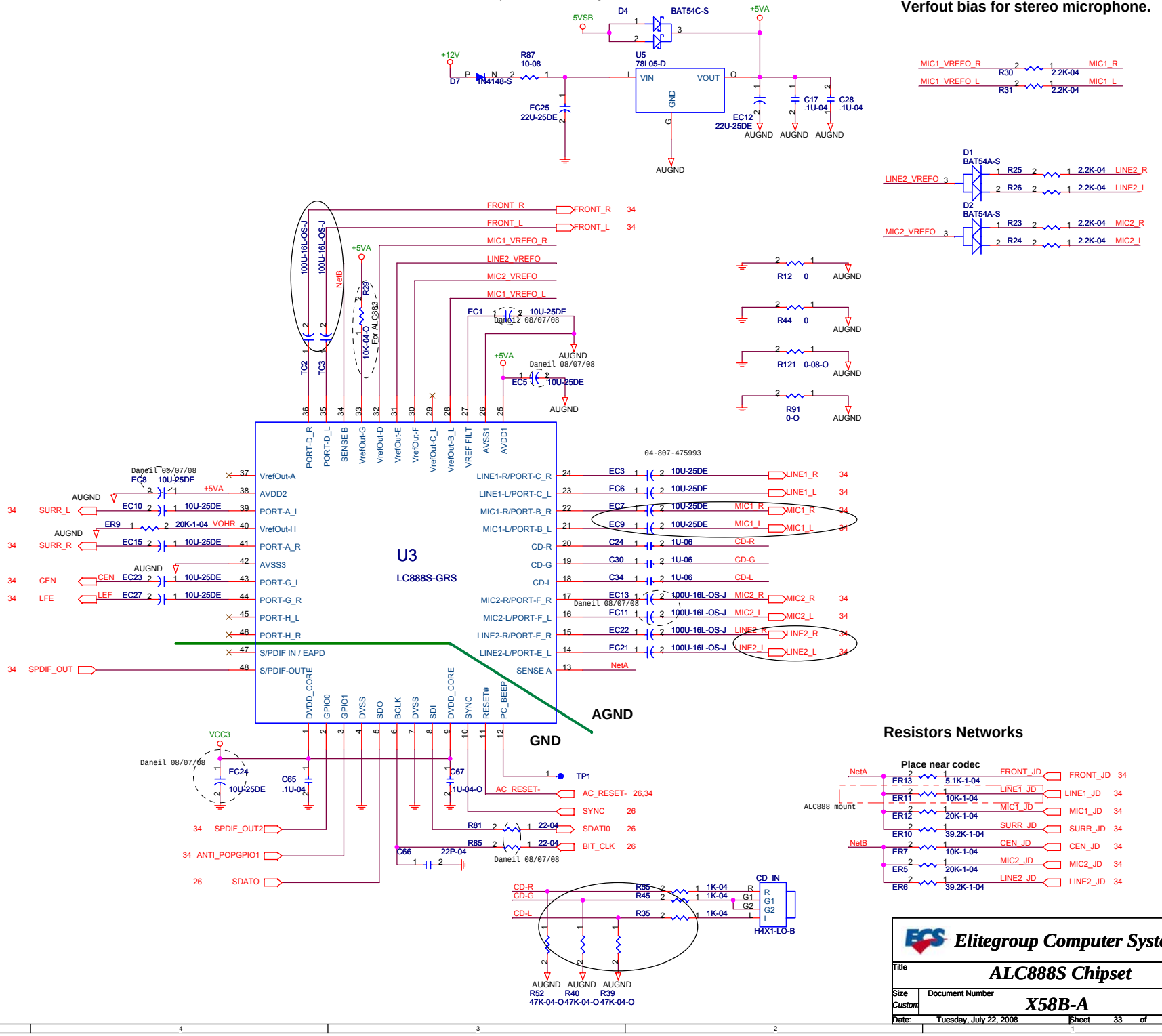
Improve the background noise of MIC boost

Verfout bias for stereo microphone.



Resistors Networks

Place near codec

Elitegroup Computer Systems

Title: ALC888S Chipset

Size: Custom | Document Number: X58B-A | Rev: B

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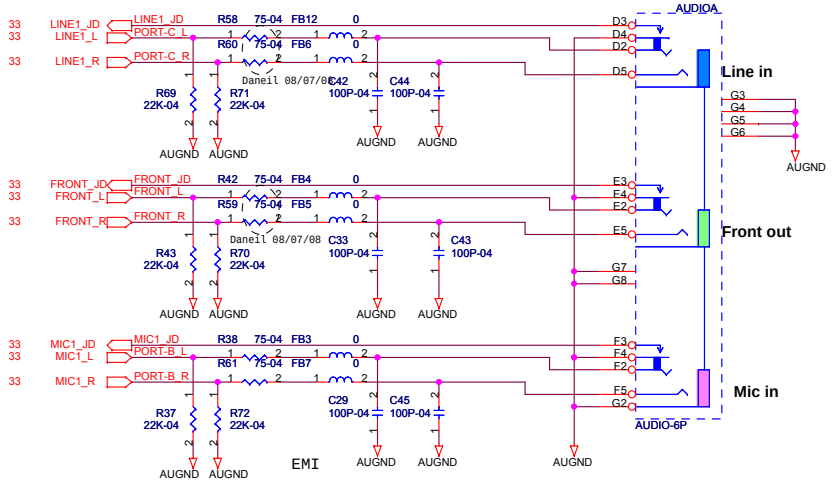
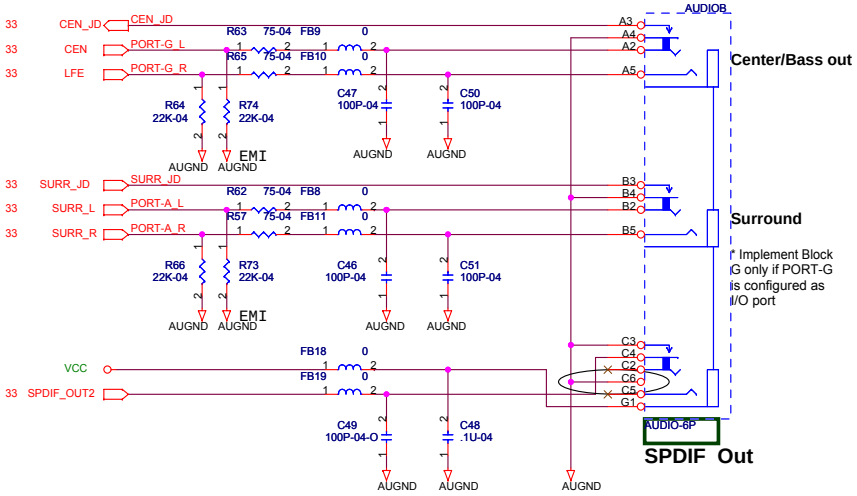
08.05.08 follow Realtek's suggusetion

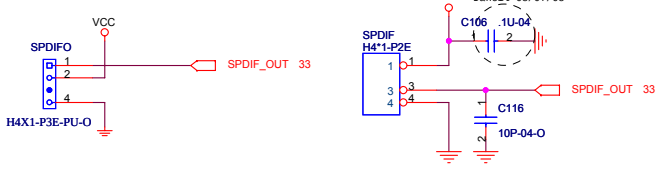
Rear Panel Onboard Analog I/O

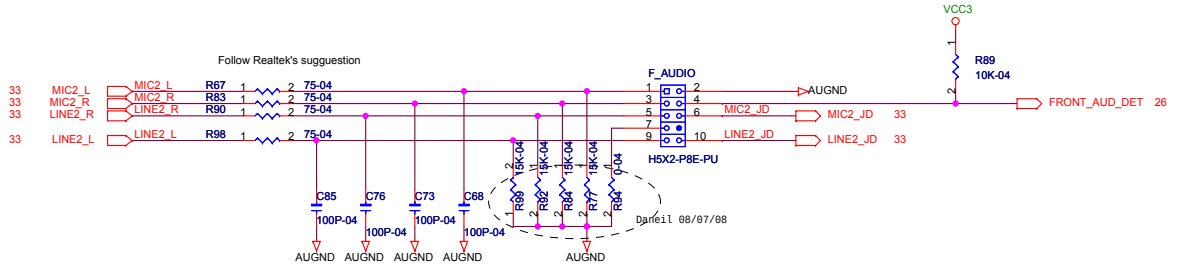


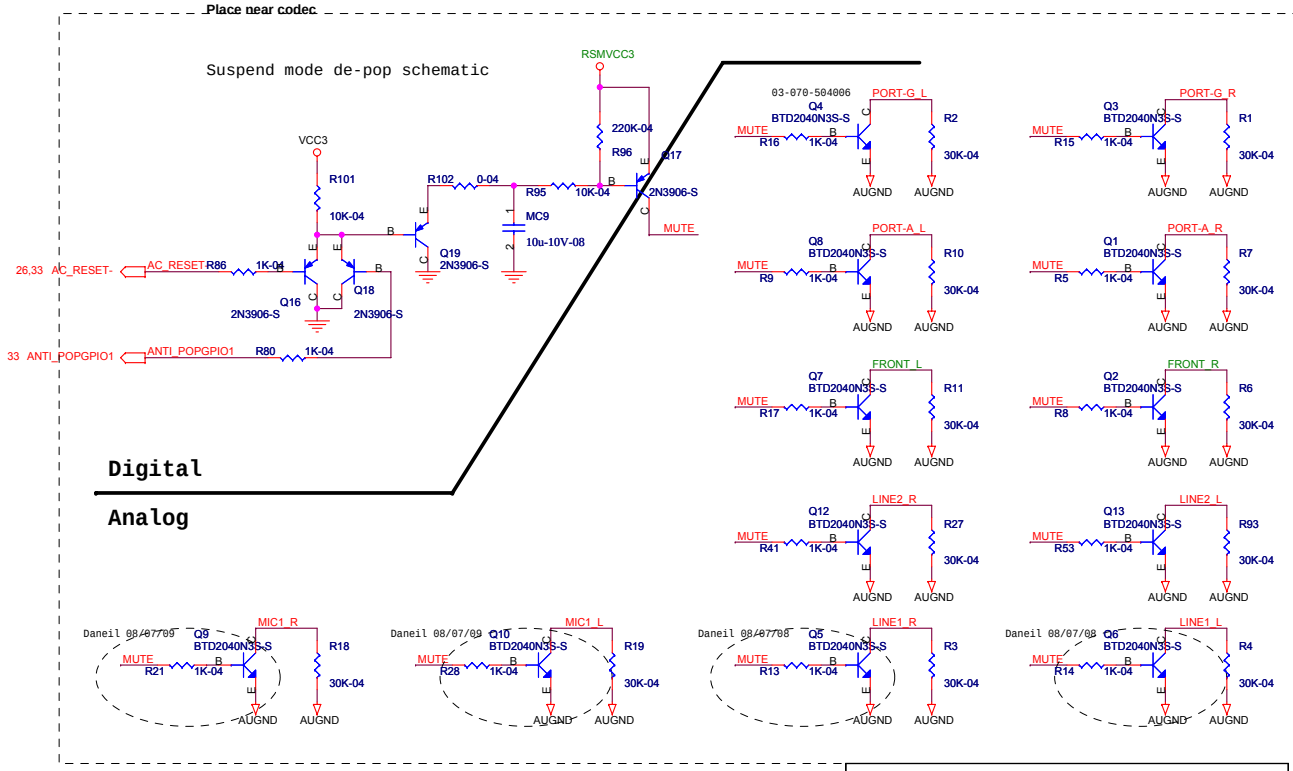
Rear Panel (Optional Rear Audio Panel)



SPDIF Out







Elitegroup Computer Systems		
Title: Audio Connector		
Size: Custom	Document Number: X58B-A	Rev: B
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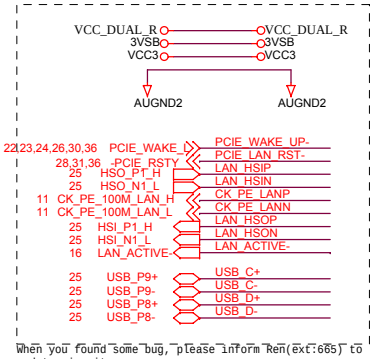
External Connection



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

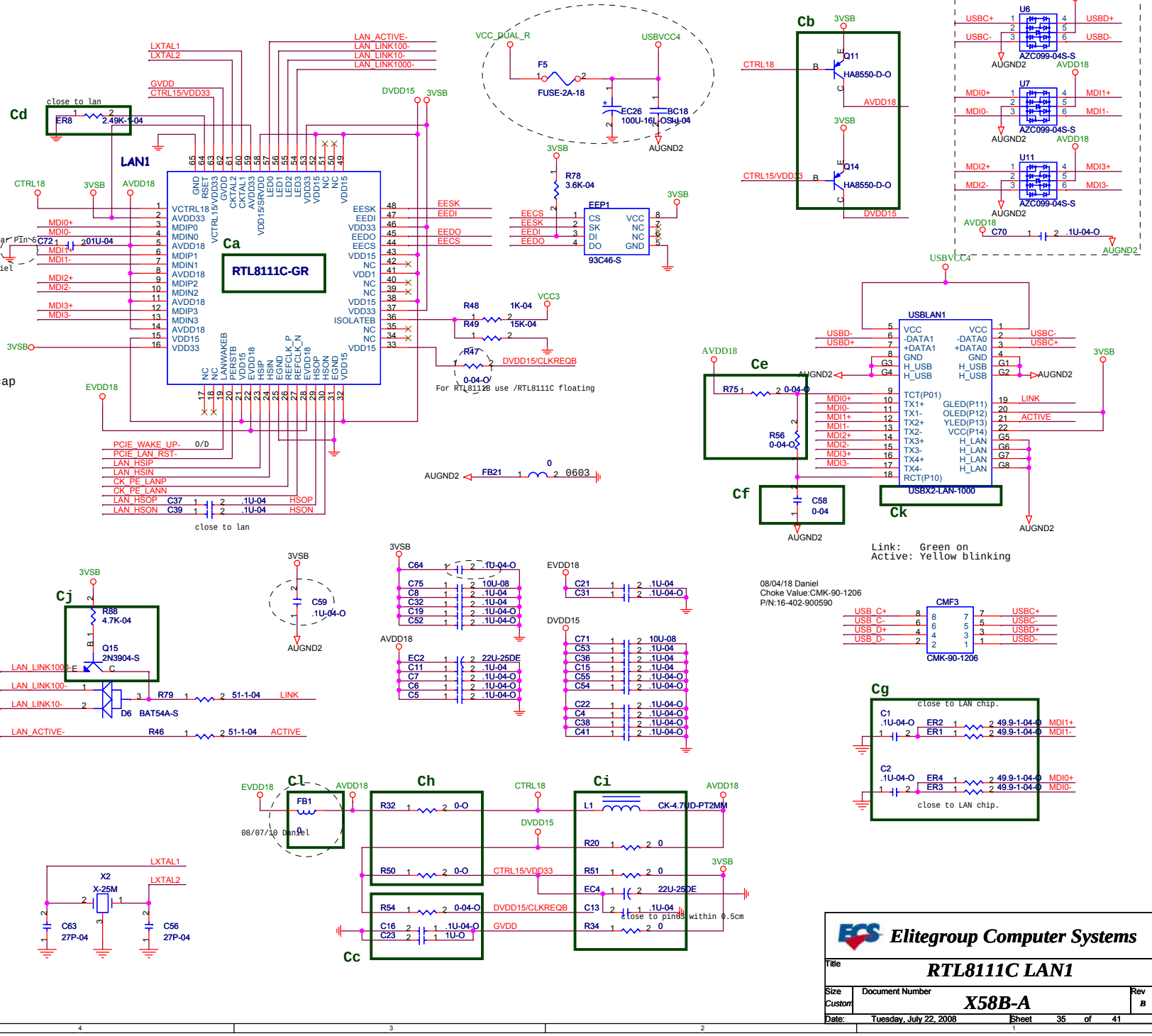
LAN_HSIP/N在SB的PCIE TX端要記得放AC coupling cap

BOM Difference

	RTL8101E-GR 10/100M	RTL8111C-GR 1000M	RTL8111B-GR 1000M
Ca	RTL8101E-GR	RTL8111C-GR	RTL8111B-GR
Cb	X	X	V
Cc	X	X	V
Cd	2K-1-04	2.49K-1-04	2.49K-1-04
Ce	V	X	X
Cf	.01U-04	0-04	0-04
Cg	V	X	X
Ch	V	X	X
Ci	X	V	X
Cj	X	V	V
Ck	USBX2-LAN-100	USBX2-LAN-1000	
Cl	0	0	0

Power Difference

	RTL8101E	RTL8111C	RTL8111B
AVDD33	3.3V 3VSB供應	3.3V 3VSB供應	3.3V 3VSB供應
AVDD18	1.8V CTRL18供應	1.2V CTRL18供應	1.8V 3VSB轉BJT供應
EVDD18	1.8V CTRL18供應	1.2V CTRL18供應	1.8V 3VSB轉BJT供應
DVDD15	1.5V CTRL15供應	1.2V CTRL18供應	1.5V 3VSB轉BJT供應



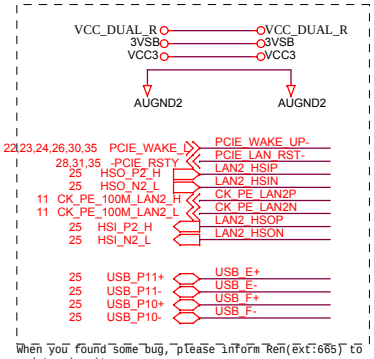
Elitegroup Computer Systems

Title: RTL8111C LAN1

Size: Custom | Document Number: X58B-A | Rev: B

Date: Tuesday, July 22, 2008 | Sheet 35 of 41

External Connection



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

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

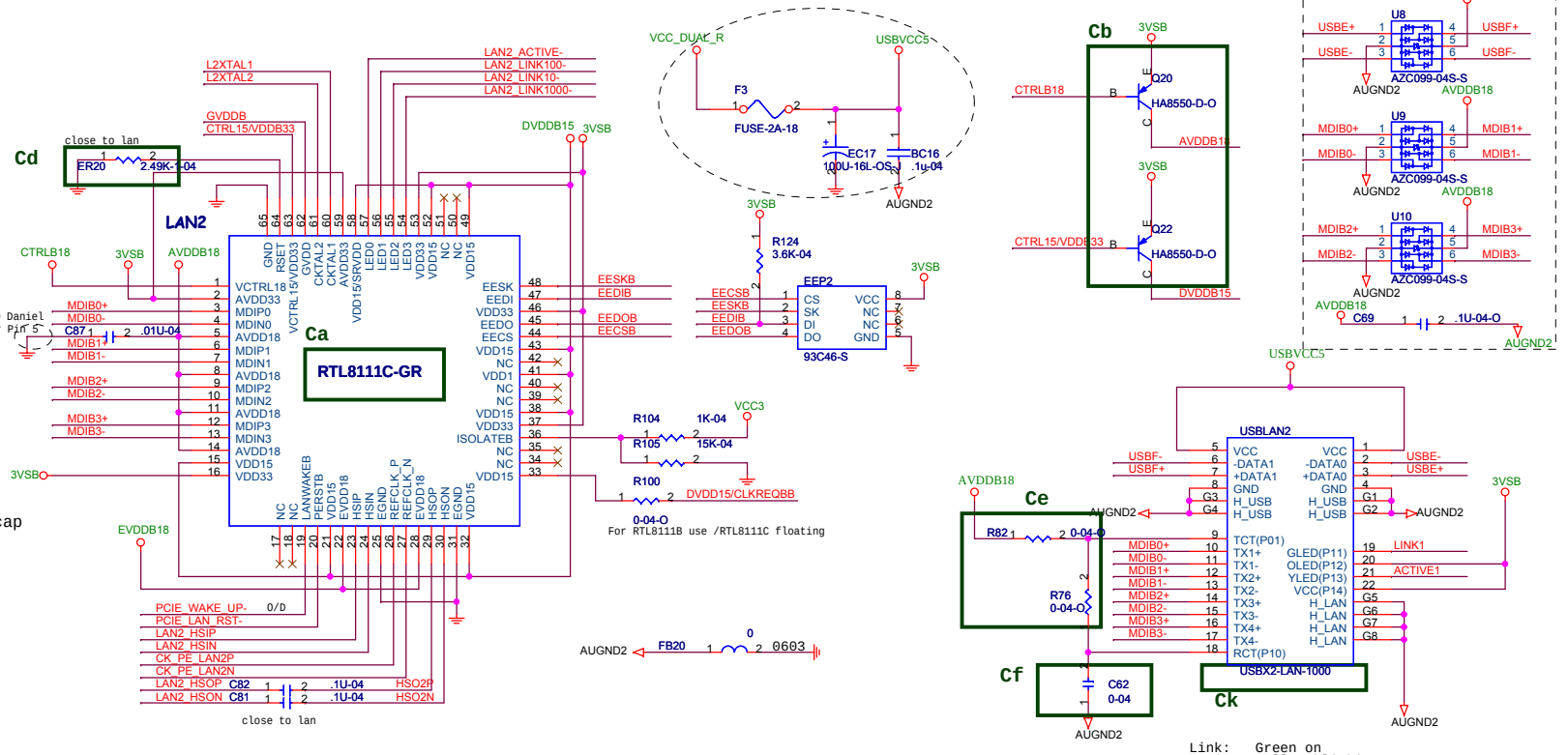
LAN_HSIP/N在SB的PCIE TX端要記得放AC coupling cap

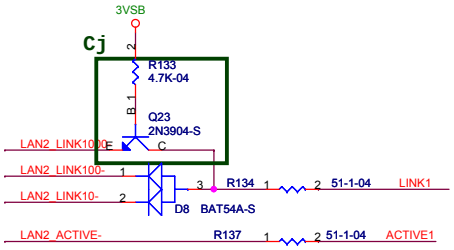
BOM Difference

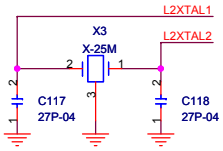
	RTL8101E-GR 10/100M	RTL8111C-GR 1000M	RTL8111B-GR 1000M
Ca	RTL8101E-GR	RTL8111C-GR	RTL8111B-GR
Cb	X	X	V
Cc	X	X	V
Cd	2K-1-04	2.49K-1-04	2.49K-1-04
Ce	V	X	X
Cf	.01U-04	0-04	0-04
Cg	V	X	X
Ch	V	X	X
Ci	X	V	X
Cj	X	V	V
Ck	USBX2-LAN-100	USBX2-LAN-1000	
Cl	0	0	0

Power Difference

	RTL8101E	RTL8111C	RTL8111B
AVDD33	3.3V 3VSB供應	3.3V 3VSB供應	3.3V 3VSB供應
AVDD18	1.8V CTRL18供應	1.2V CTRL18供應	1.8V 3VSB轉BJT供應
EVDD18	1.8V CTRL18供應	1.2V CTRL18供應	1.8V 3VSB轉BJT供應
DVDD15	1.5V CTRL15供應	1.2V CTRL18供應	1.5V 3VSB轉BJT供應







Elitegroup Computer Systems		
Title	RTL8111C LAN2	
Size: Custom	Document Number: X58B-A	Rev: B
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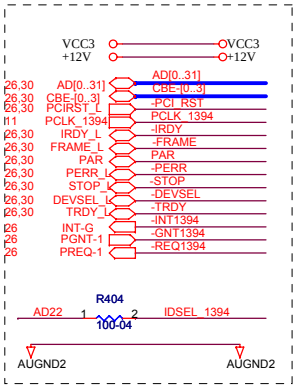
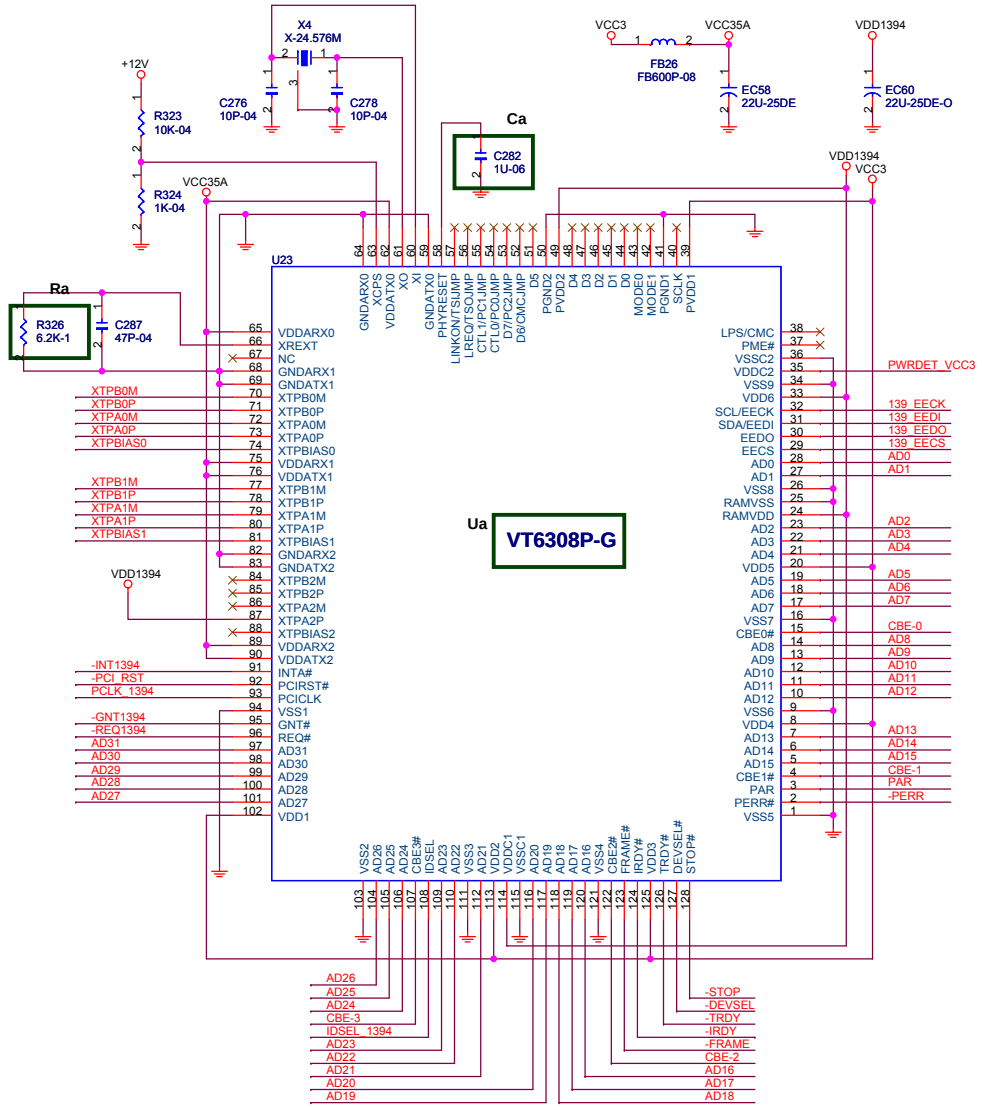
External Connection



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

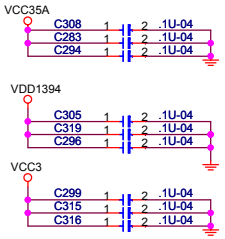


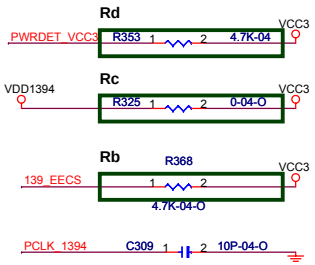
EEPROM LESS
M/B only for 6308

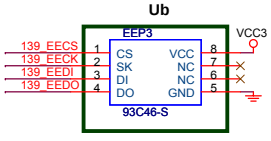
	Ub	Rb
W/O EEPROM	X	V
* W/ EEPROM	V	X

6307/6308 BOM

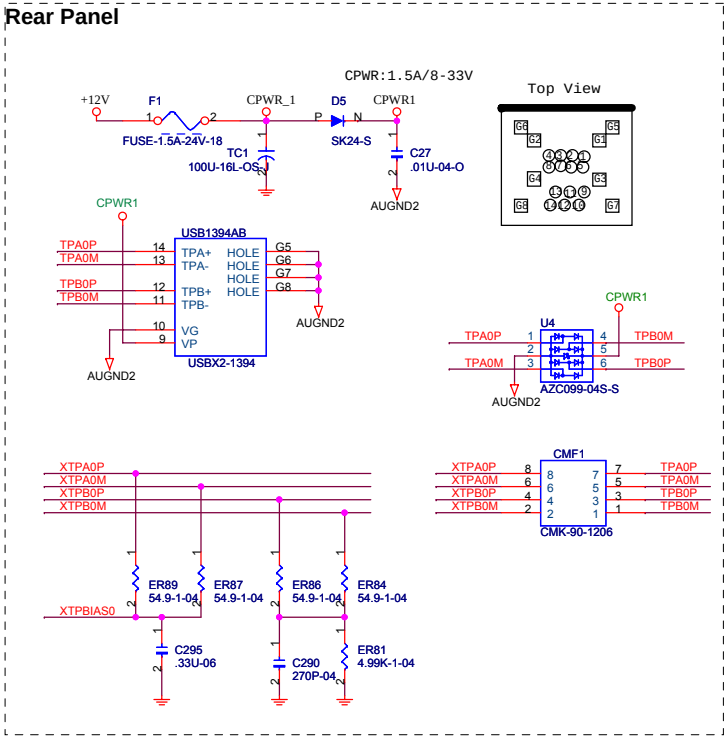
Ua	Ra	Rc	Rd
VT6307	6.34K-1	V	0-04
* VT6308P	6.2K-1	X	4.7K-04



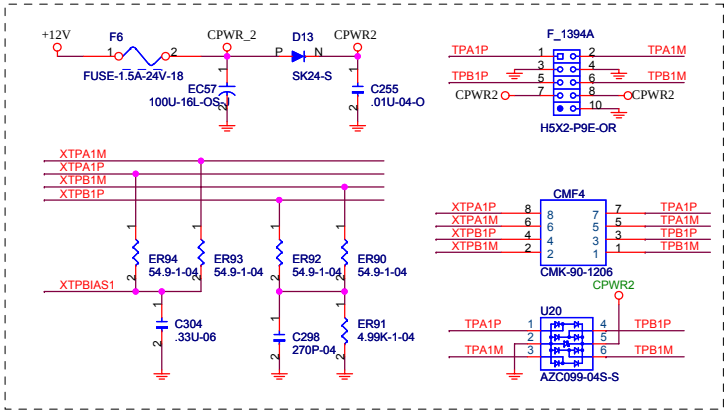




Rear Panel



Front Panel



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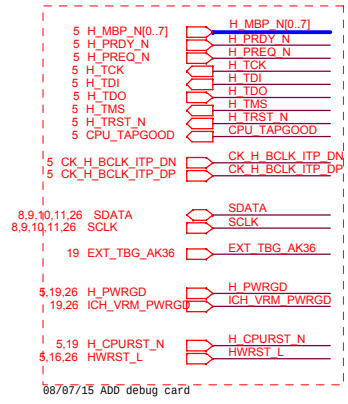
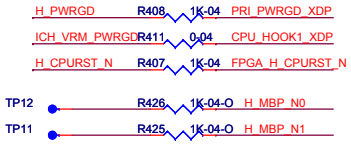
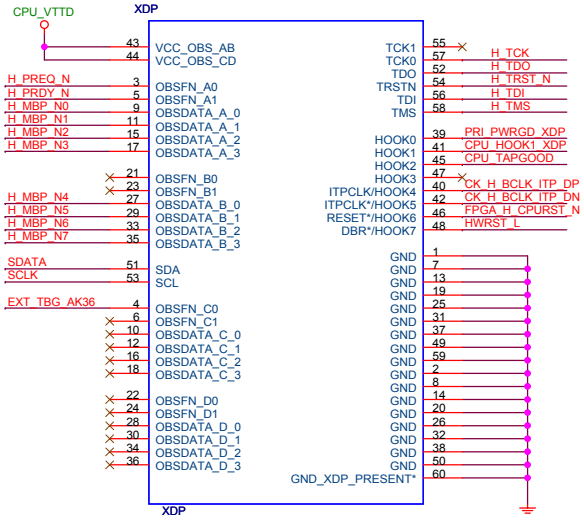
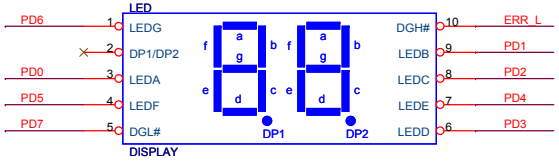
External Connection

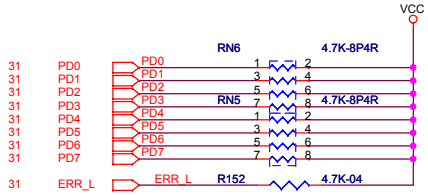






Debug Card





Elitegroup Computer Systems			
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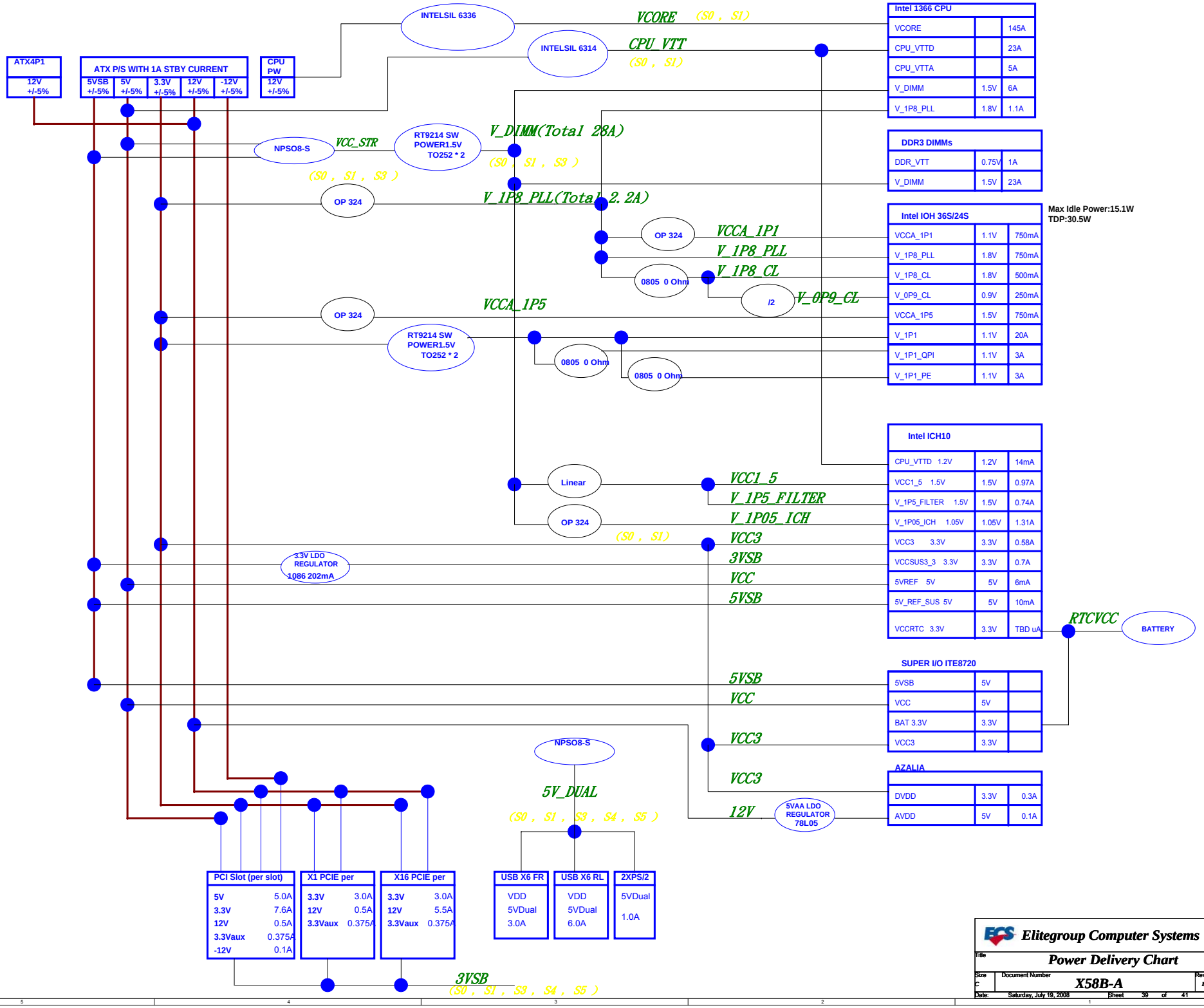
ATX4P1
12V +/-5%
ATX P/S WITH 1A STBY CURRENT
5VSB +/-5%
5V +/-5%
3.3V +/-5%
12V +/-5%
-12V +/-5%
CPU PW
12V +/-5%
INTELSIL 6336
INTELSIL 6314
VCORE (S0 , S1)
CPU_VTT (S0 , S1)
Intel 1366 CPU
VCORE 145A
CPU_VTTD 23A
CPU_VTTA 5A
V_DIMM 1.5V 6A
V_1P8_PLL 1.8V 1.1A
NPSO8-S
VCC_STR
(S0 , S1 , S3)
RT9214 SW POWER1.5V TO252 * 2
V_DIMM(Total 28A)
(S0 , S1 , S3)
DDR3 DIMMs
DDR_VTT 0.75V 1A
V_DIMM 1.5V 23A
OP 324
V_1P8_PLL(Total 2.2A)
Intel IOH 36S/24S
Max Idle Power:15.1W
TDP:30.5W
OP 324
VCCA_1P1
V_1P8_PLL
V_1P8_CL
0805 0 Ohm
/2
V_0P9_CL
VCCA_1P5
OP 324
RT9214 SW POWER1.5V TO252 * 2
0805 0 Ohm
0805 0 Ohm
VCCA_1P1 1.1V 750mA
V_1P8_PLL 1.8V 750mA
V_1P8_CL 1.8V 500mA
V_0P9_CL 0.9V 250mA
VCCA_1P5 1.5V 750mA
V_1P1 1.1V 20A
V_1P1_QPI 1.1V 3A
V_1P1_PE 1.1V 3A
Intel ICH10
Linear
OP 324
VCC1_5
V_1P5_FILTER
V_1P05_ICH
(S0 , S1)
VCC3
3VSB
VCC
5VSB
CPU_VTTD 1.2V 1.2V 14mA
VCC1_5 1.5V 1.5V 0.97A
V_1P5_FILTER 1.5V 1.5V 0.74A
V_1P05_ICH 1.05V 1.05V 1.31A
VCC3 3.3V 3.3V 0.58A
VCCSUS3_3 3.3V 3.3V 0.7A
5VREF 5V 5V 6mA
5V_REF_SUS 5V 5V 10mA
VCCRTC 3.3V 3.3V TBD uA
RTCVCC
BATTERY
3.3V LDO REGULATOR 1086 202mA
SUPER I/O ITE8720
5VSB 5V
VCC 5V
BAT 3.3V 3.3V
VCC3 3.3V
5VSB
VCC
VCC3
NPSO8-S
5V_DUAL
(S0 , S1 , S3 , S4 , S5)
VCC3
12V
5VAA LDO REGULATOR 78L05
AZALIA
DVDD 3.3V 0.3A
AVDD 5V 0.1A
PCI Slot (per slot)
5V 5.0A
3.3V 7.6A
12V 0.5A
3.3Vaux 0.375A
-12V 0.1A
X1 PCIE per
3.3V 3.0A
12V 0.5A
3.3Vaux 0.375A
X16 PCIE per
3.3V 3.0A
12V 5.5A
3.3Vaux 0.375A
USB X6 FR
VDD
5VDual
3.0A
USB X6 RL
VDD
5VDual
6.0A
2XPS/2
5VDual
1.0A
3VSB
(S0 , S1 , S3 , S4 , S5)
Elitegroup Computer Systems
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Power Delivery Chart
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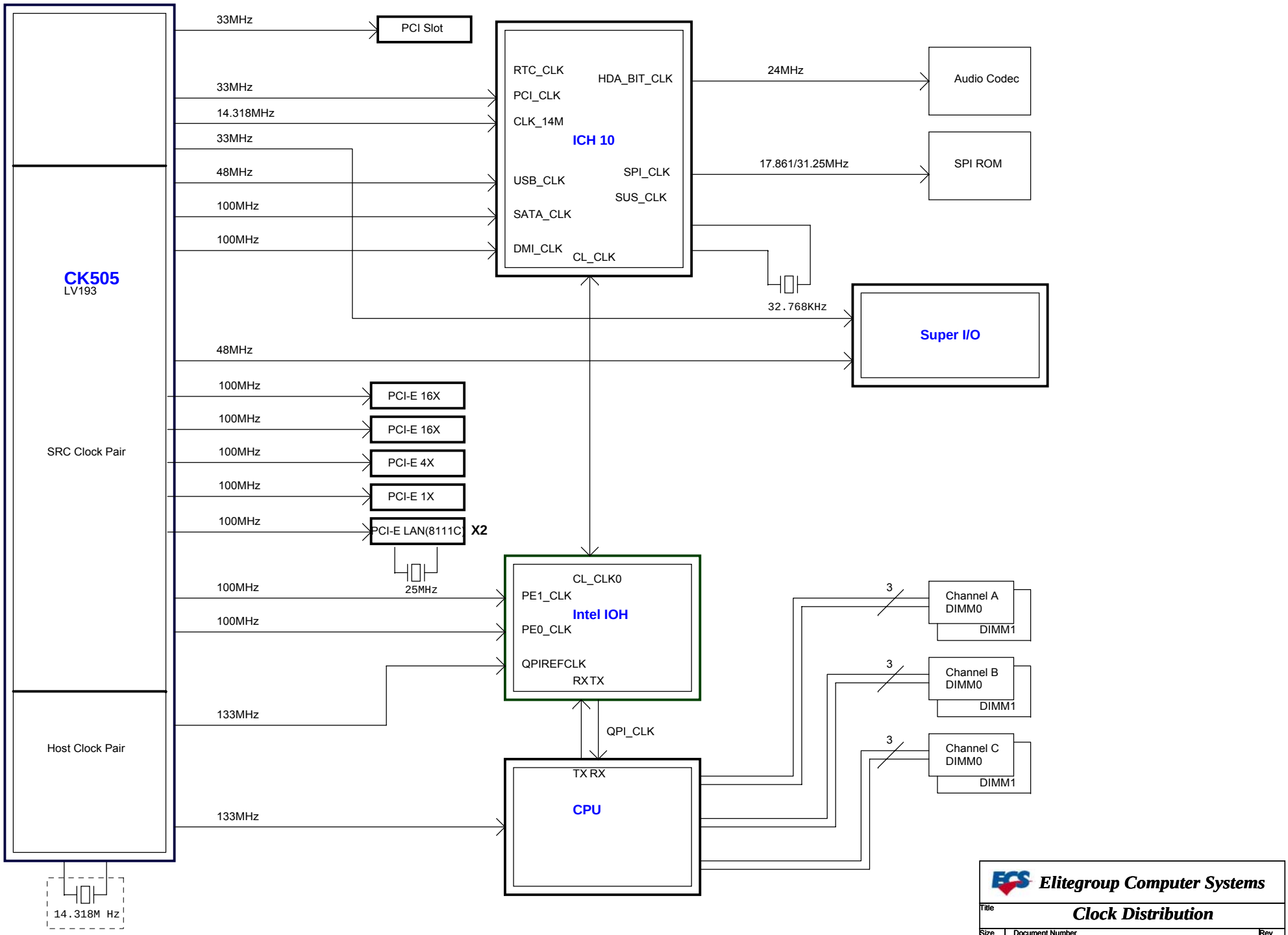

Elitegroup Computer Systems

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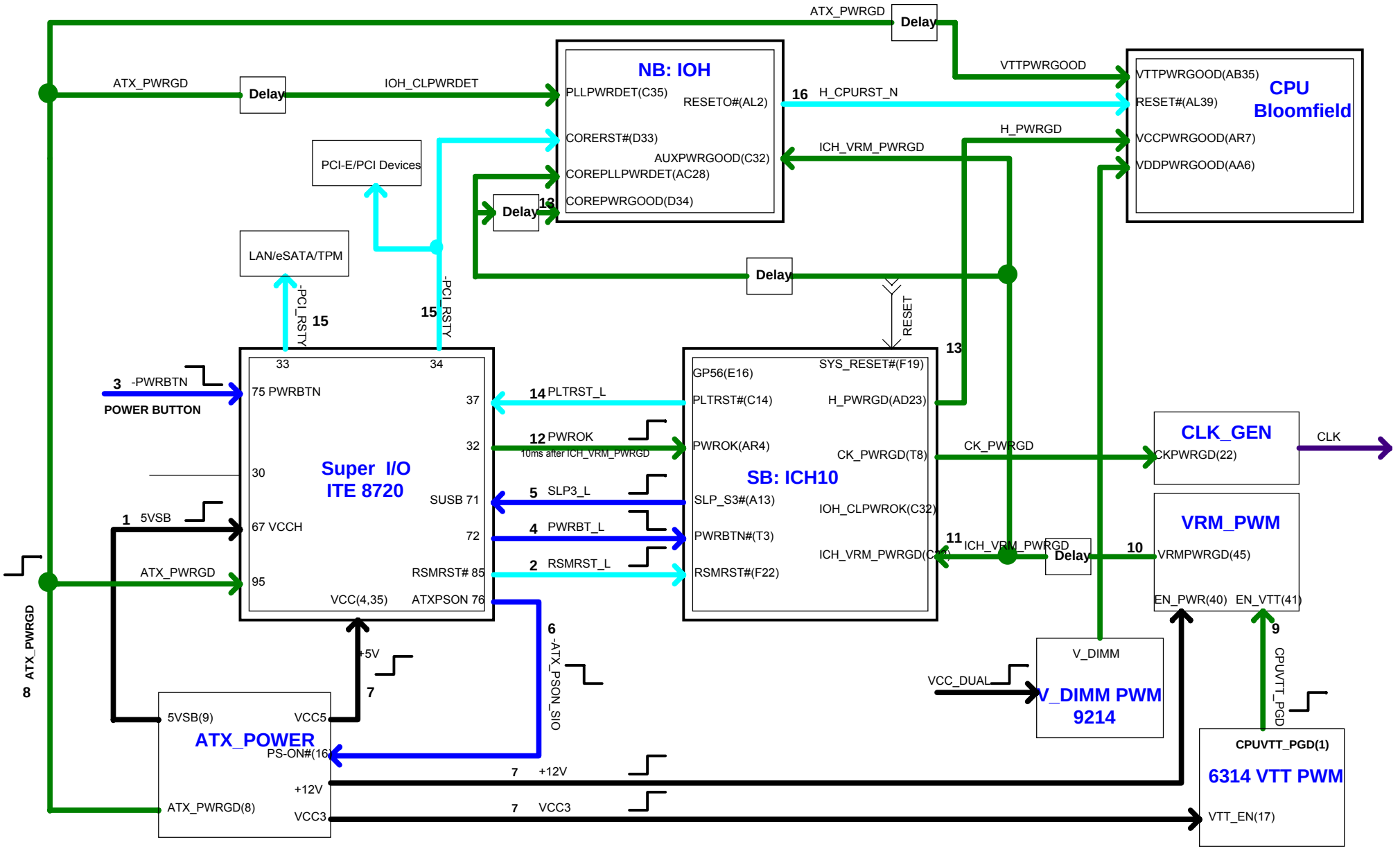

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