

Ropros2E

MS-7594 Version 0A

CPU:

Intel Yorkfield, Wolfdale,
Conroe, Conroe-1M, Conroe-L - 65W CPU
(FSB1333/1066/800)

System Chipset:

Intel EaglelakeG4X - GMCH (North Bridge)
Intel ICH10/ICH10R (South Bridge)

On Board Chipset:

Gigabit LAN - Broadcom BCM5784M
HD Audio Codec - Realtek ALC262 VD
LPC Super I/O : SMSC SCH5617
Clock GEN - IDTCV184-2
TPM - SLB 9635 TT1.2

Main Memory:

Dual Channel DDR III*2 (1066MHz)

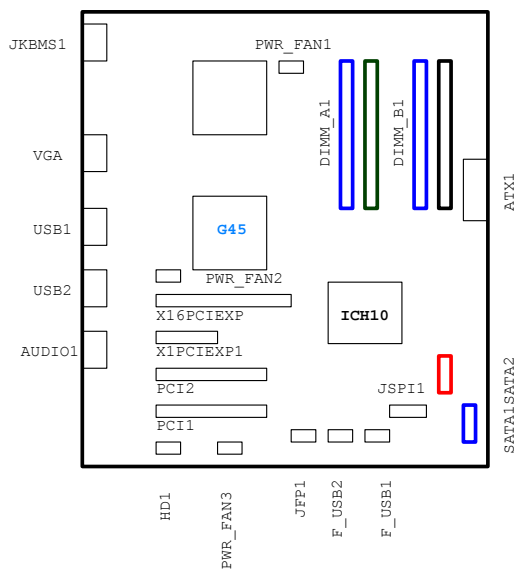
Intersil PWM:

VRD11 Intersil 6312 (3phase)

Expansion Slots:

PCI-E[X16] Slot *1
PCI-E[X1] Slot *1
PCI Slot *2

7594-0A-A20 (VS-H)



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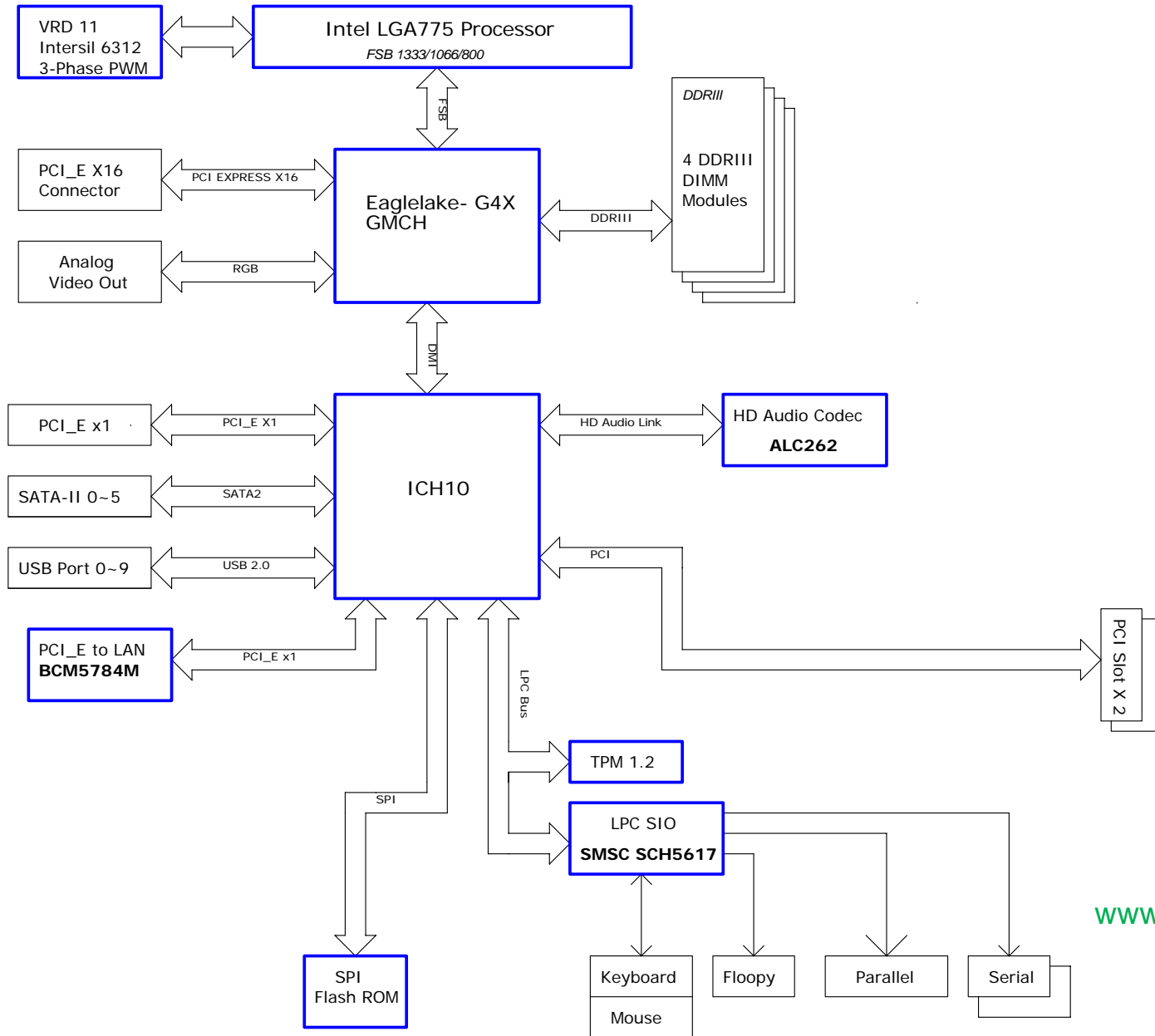


MICRO-STAR INT'L CO.,LTD

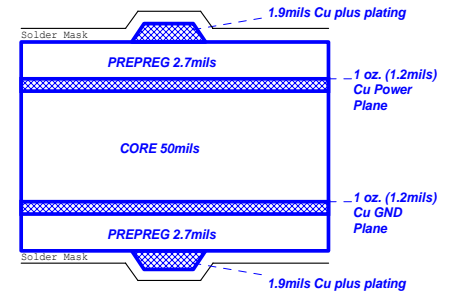
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Block Diagram



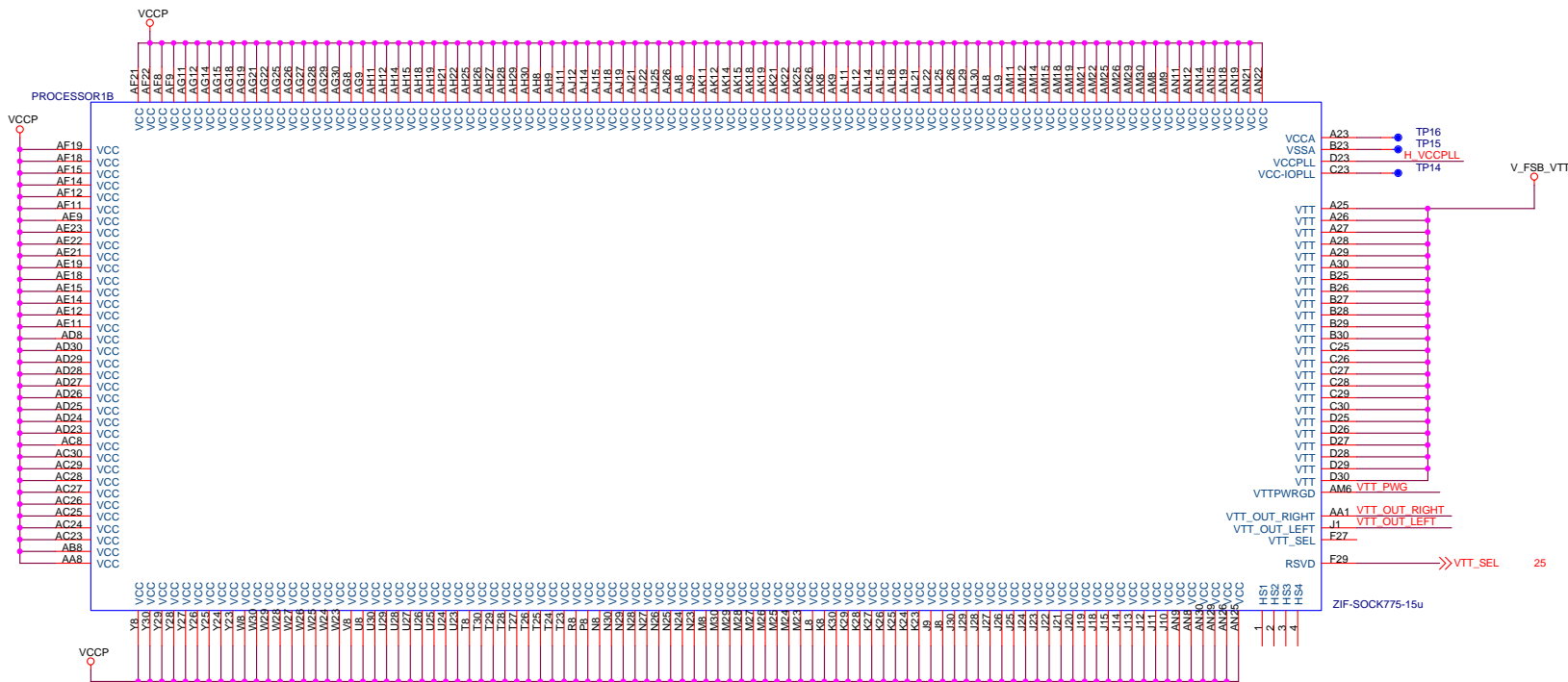
Board Stack-up
(1080 Prepreg Considerations)



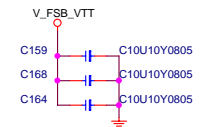
Single End 50ohm Top/Bottom : 4mils
 USB2.0 - 90ohm : 15/7.5/4.5/7.5/15
 SATA - 95ohm : 15/8/4/8/15
 LAN - 100ohm : 15/10/4/10/15
 PCIE - 95ohm : 15/8/4/8/15

www.schematic-x.blogspot.com

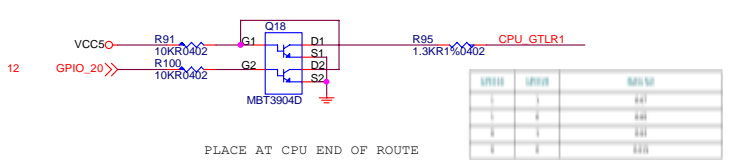
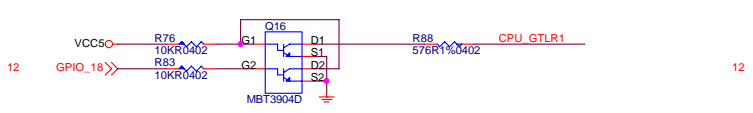
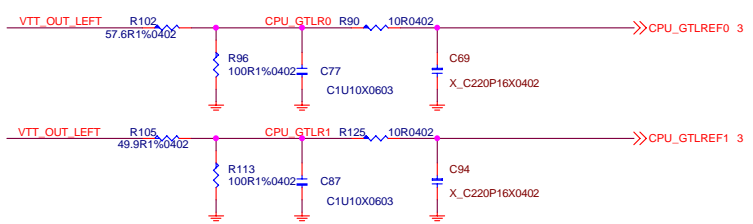
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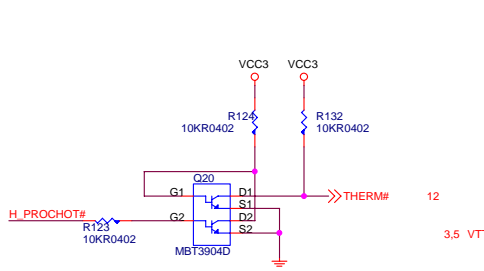
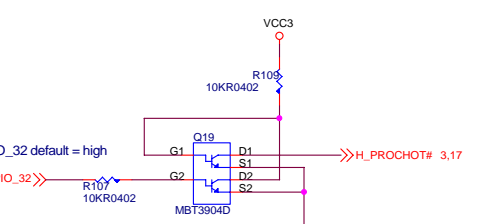
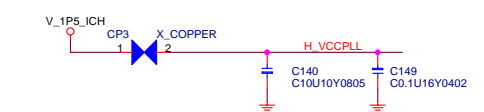


CAPS FOR FSB GENERIC

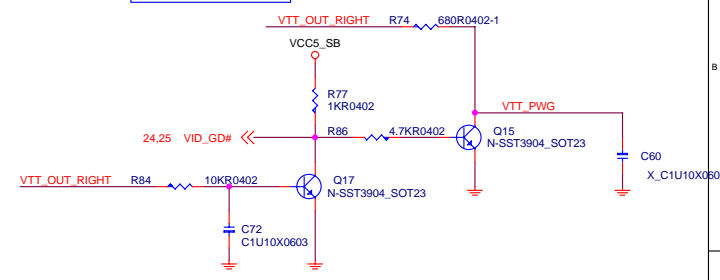


TYPE	VALUE	REF
R102	57.6R1%0402	
R105	48.9R1%0402	
R96	100R1%0402	
R113	100R1%0402	
R76	10KR0402	
R83	10KR0402	
R88	576R1%0402	
R91	10KR0402	
R100	10KR0402	
R95	1.3KR1%0402	

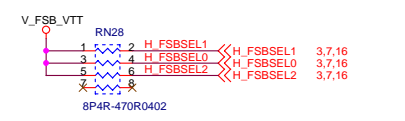
PLACE AT CPU END OF ROUTE



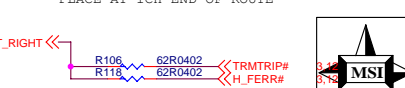
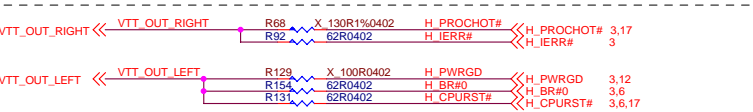
VTT_PWG SPEC :
High > 0.9V
Low < 0.3V
Trise < 150ns



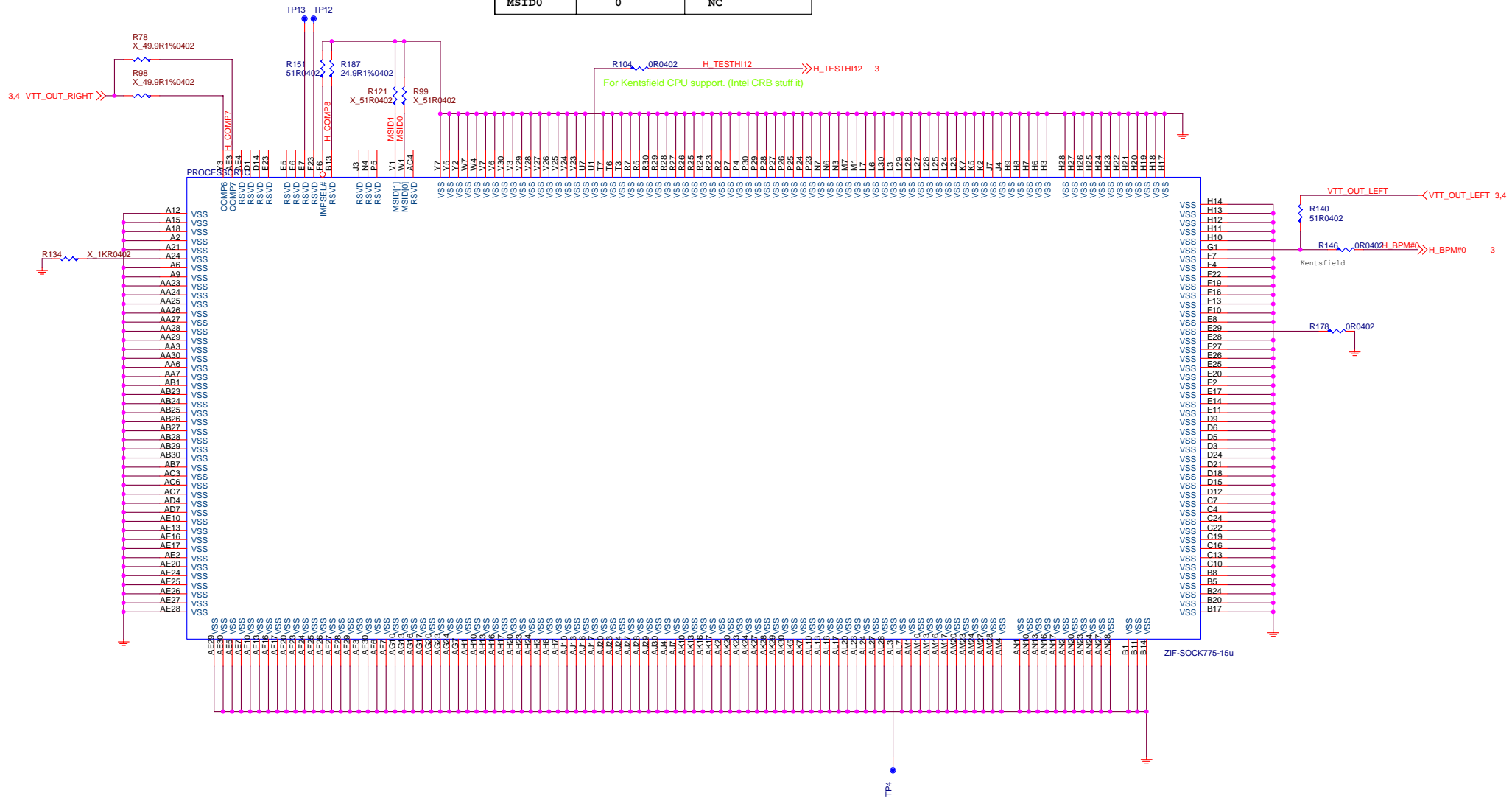
FSBSEL RESISTOR CAN BE REMOVED IF ONLY TEJAS AND CEDAR MILL ARE SUPPORTED



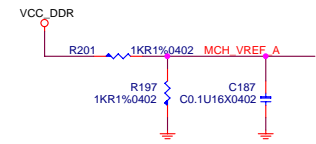
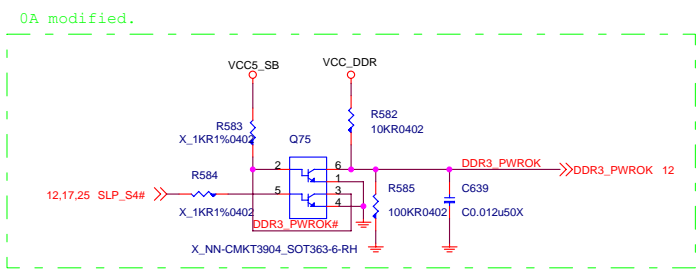
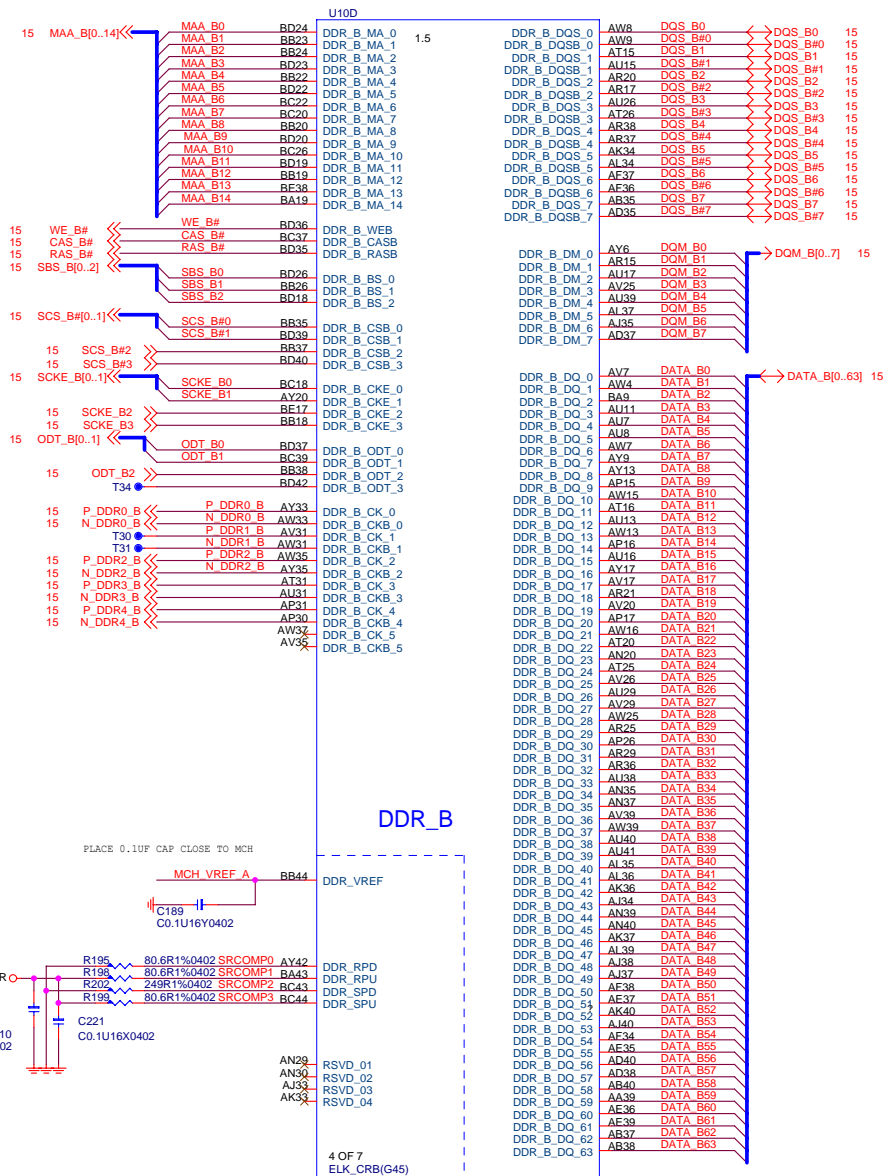
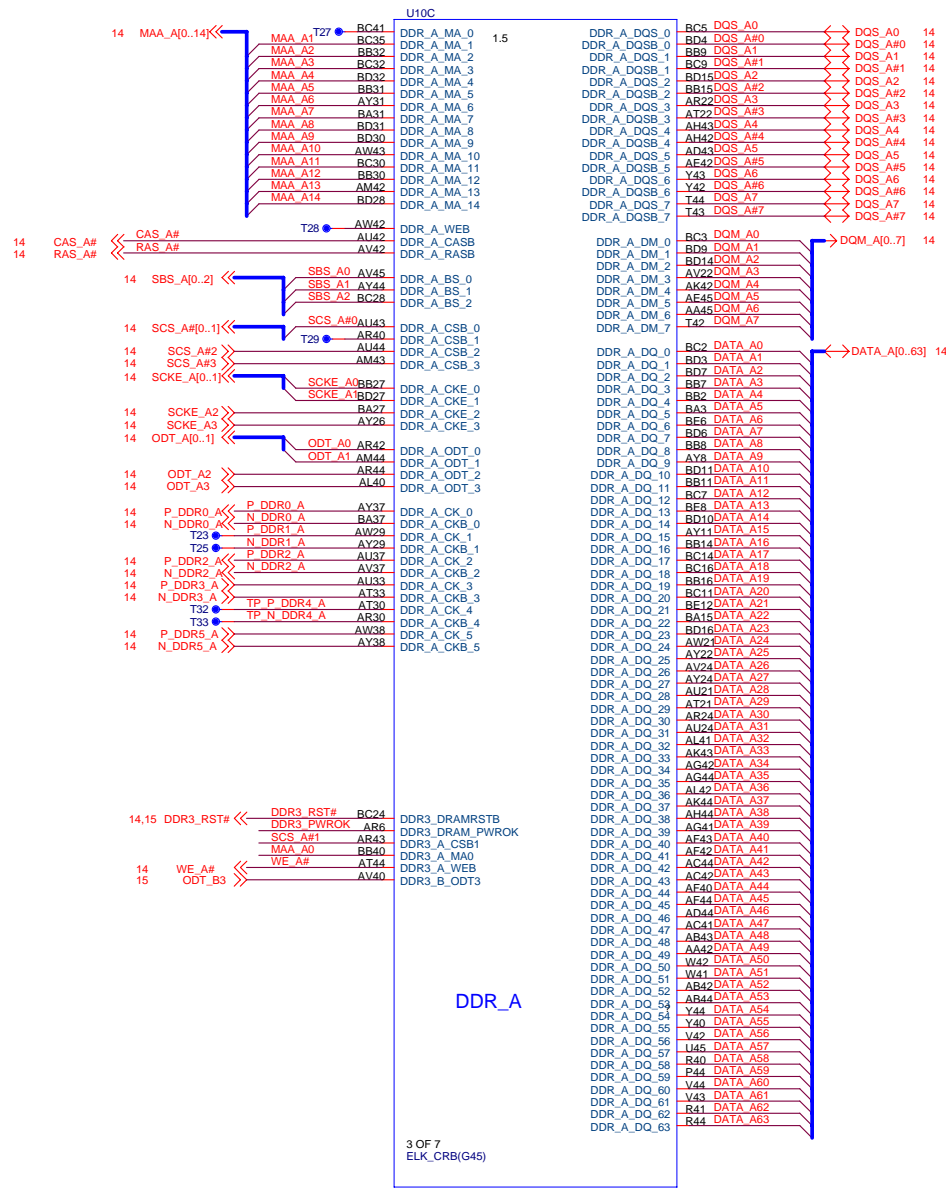
PLACE AT ICH END OF ROUTE



	Intel Core 2 Duo or Wolfdale processor	Intel Core 2 Quad or Yorkfield Processor
MSID1	0	NC
MSID0	0	NC



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Size Custom	Document Description Intel LGA775 CPU - GND	Rev 0A
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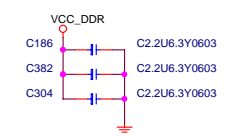
MICRO-STAR INT'L CO.,LTD

MS-7594

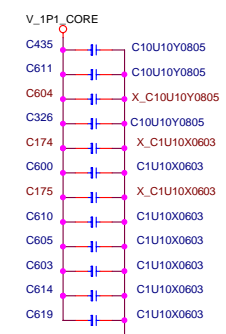
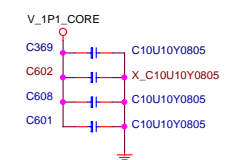
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Custom	Eaglelake_Memory_DDRIII	0A
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All cap place close to GMCH

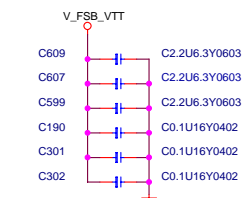
MCH memory decoupling cap



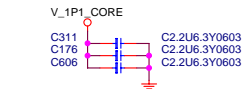
V_1P1_Core decoupling cap



V_FSB_VTT decoupling cap(FSB)



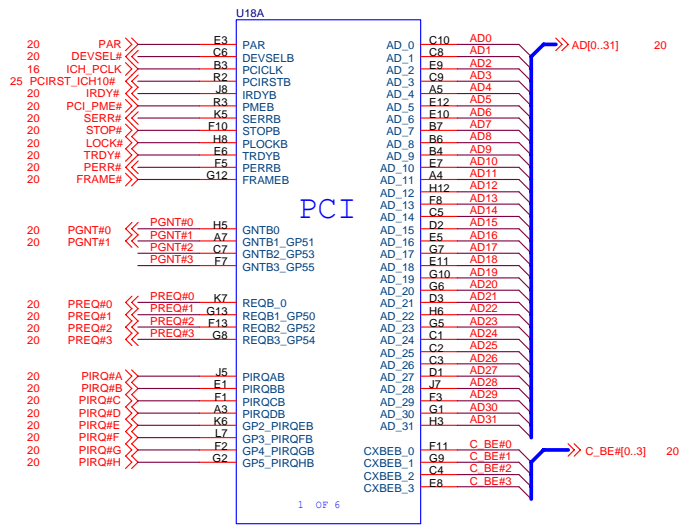
V_1P1_Core decoupling cap(PCIE)



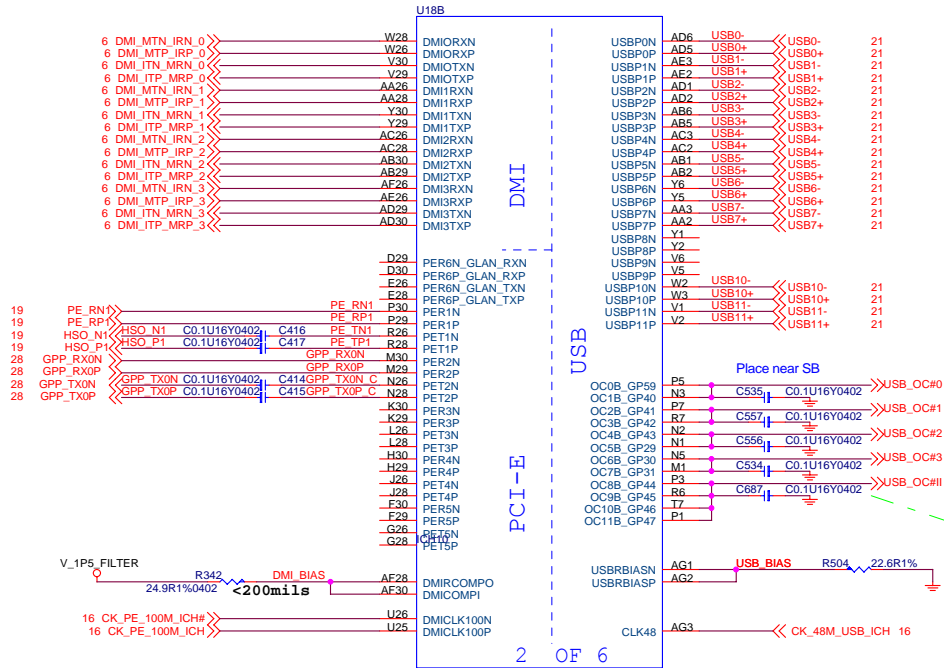
GND

TOF 7
ELK_CRB(G45)

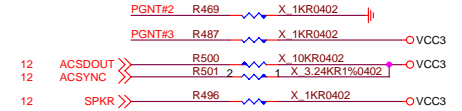
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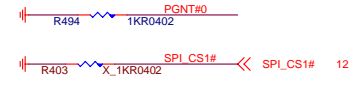
ICH10




ICH10 H/W STRAPS			
SIGNAL	H	L	DES.
SPKR	DIS	EN	REBOOT
GNT3	DIS	EN	AL6 OVERRIDE
INTVRMEN	EN	DIS	INT VRM
SATALED	NORM	REVERSE	PCIE 0-3 ORDER
HDA_SDOUT	EN	DIS	Danbury Tec.
HDA_SYNC	SET BIT	N/A	PCIE PORT CONFIG BIT 0 (1-4)
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)



BOOT SELECT STRAPS			
BOOT DEVICE	GNT#0	SPI_CS1#	
FWH	1	1	
SPI	0	X	(Default)
PCI	1	0	



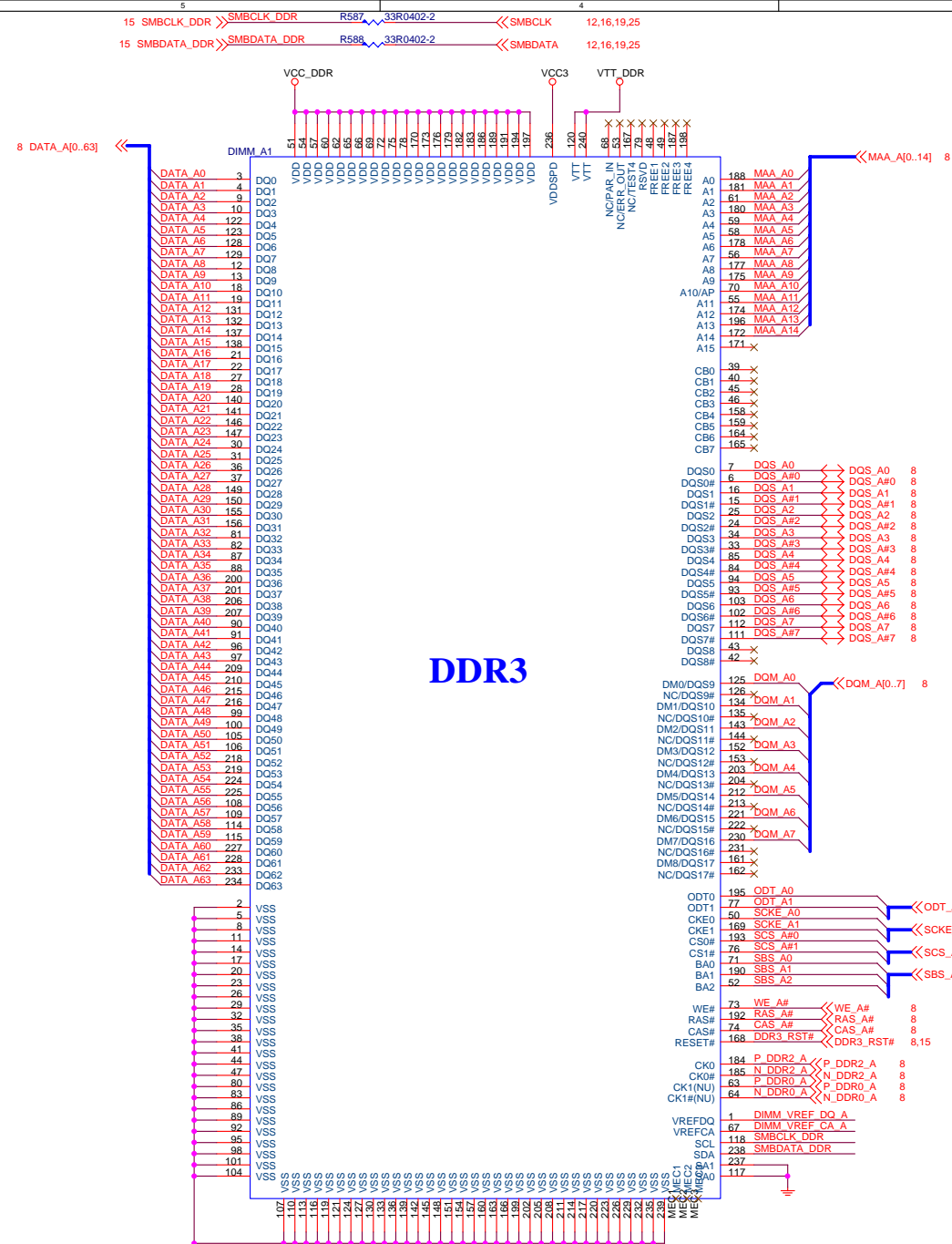
0A modified.



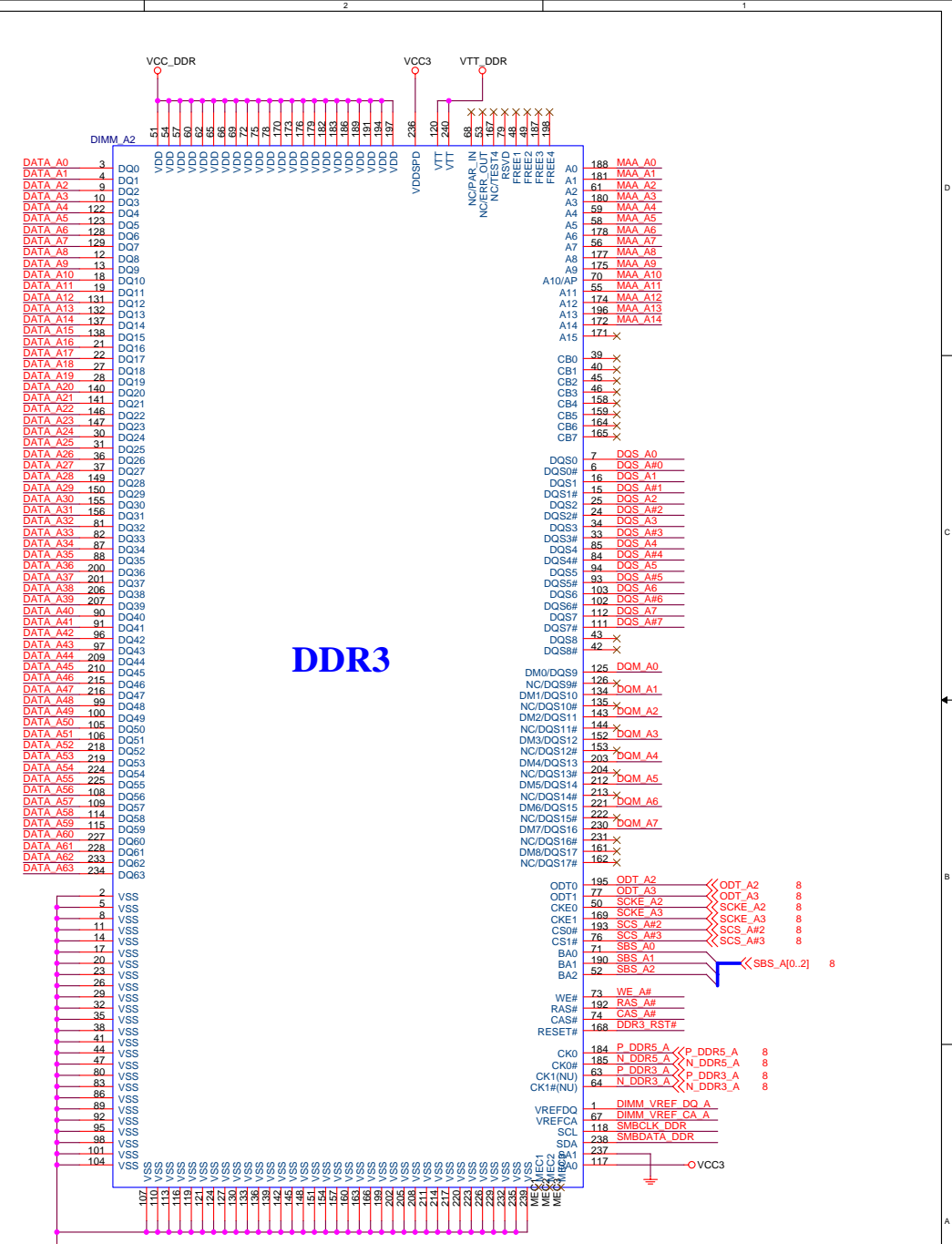
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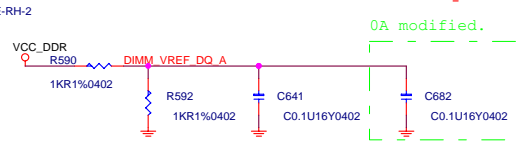
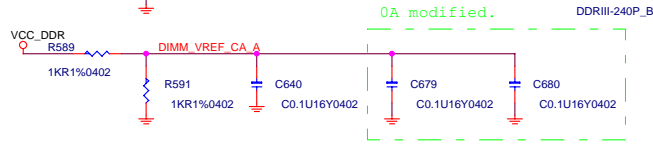
Size Custom	Document Description ICH10 - PCI, DMI, USB, PCIE & Slots	Rev 0A
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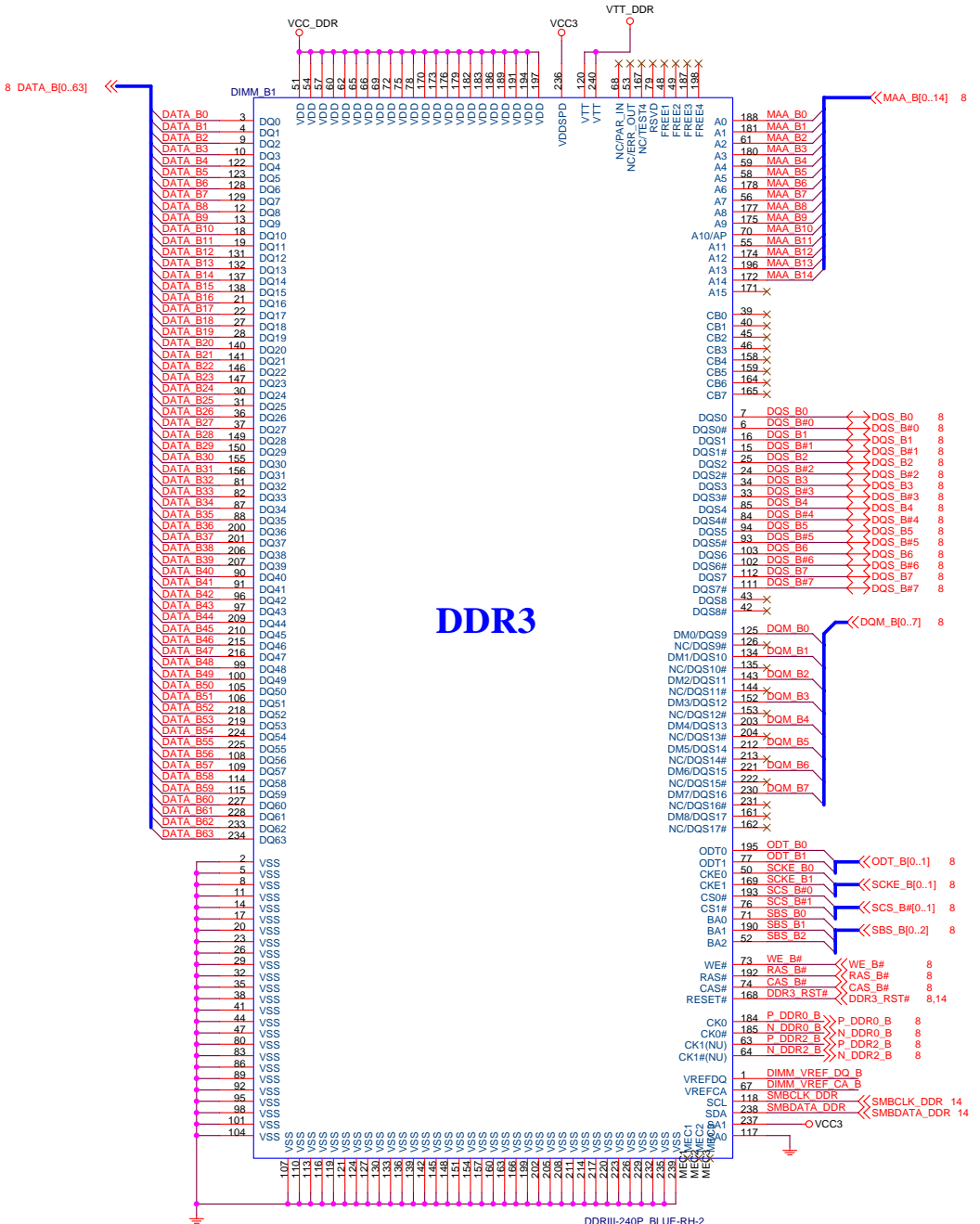


DDR3

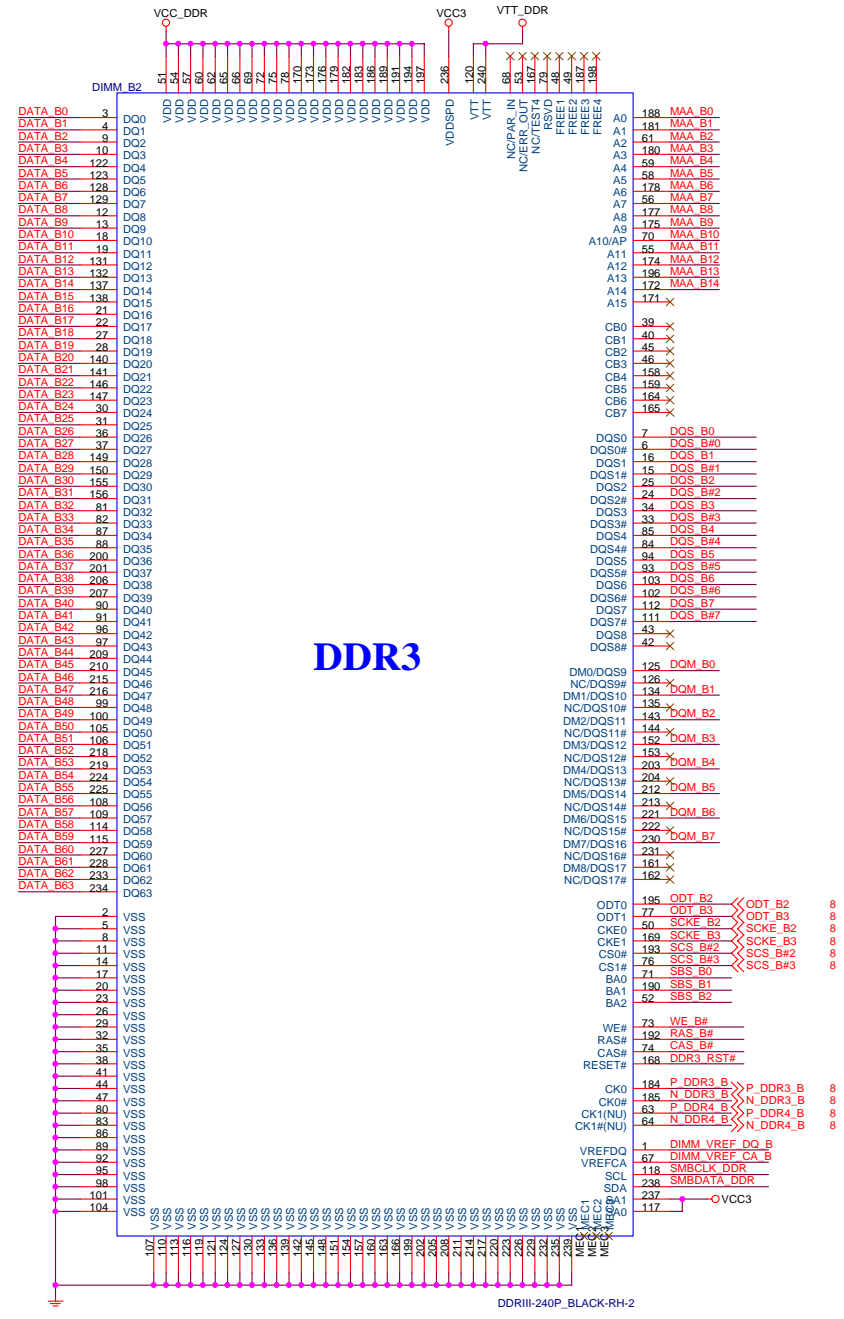


DDR3

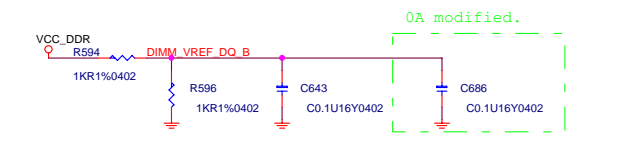
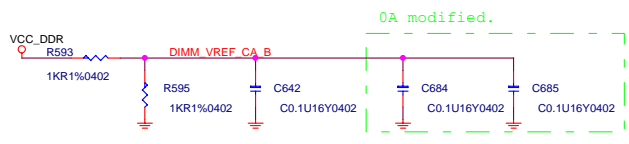




DDR3



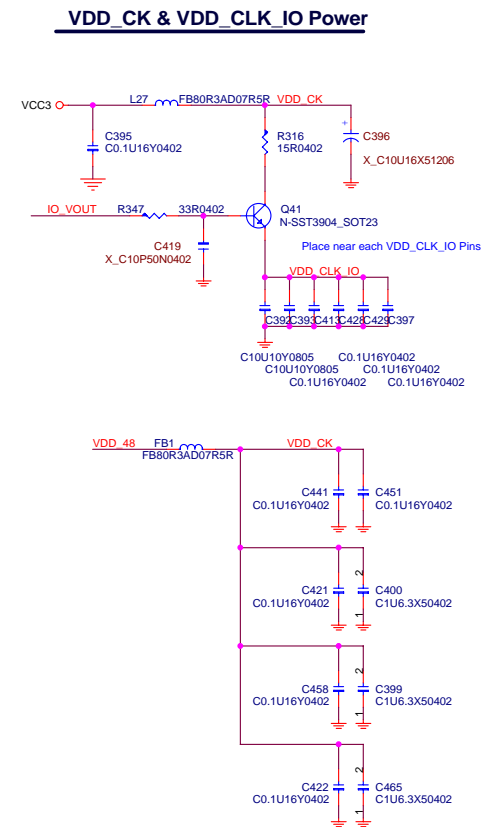
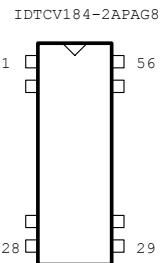
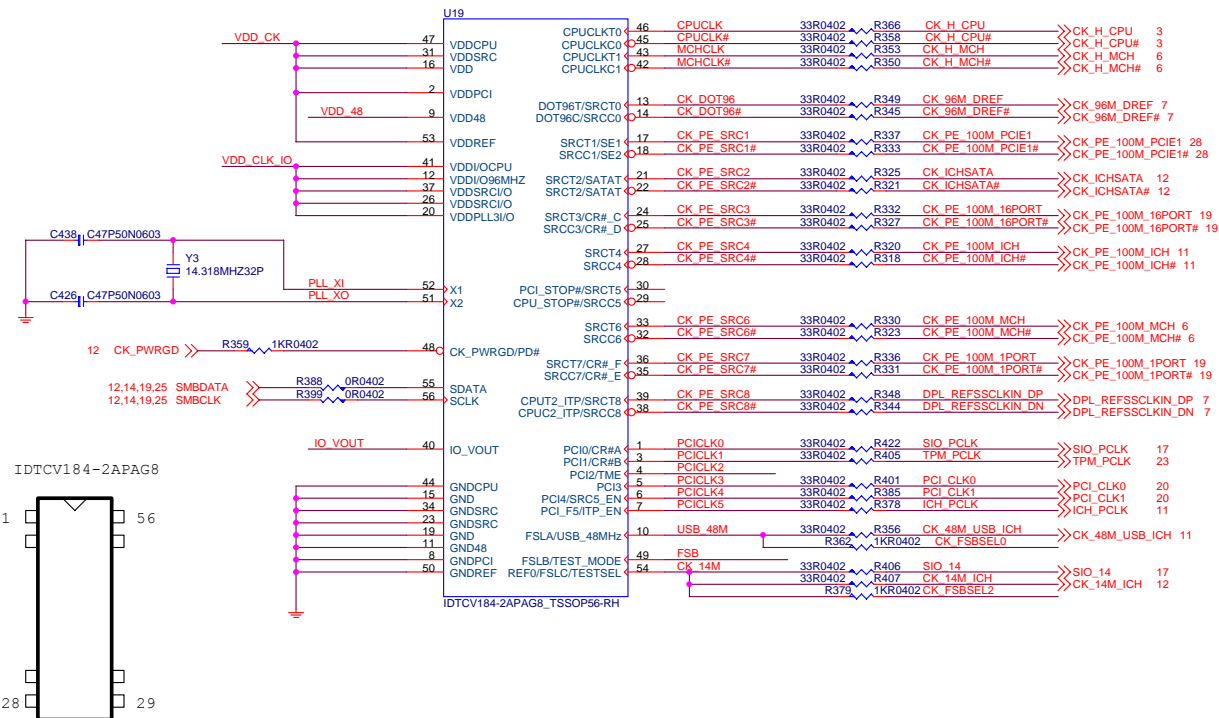
DDR3



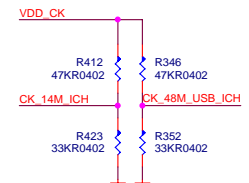
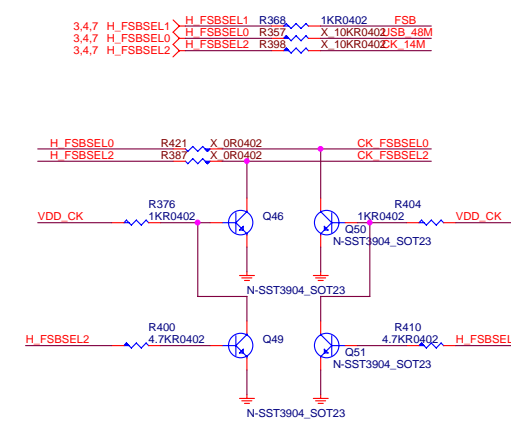
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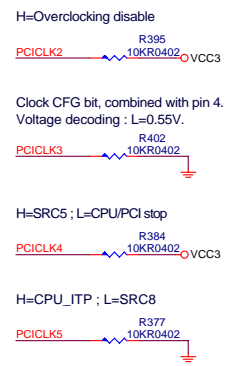


CPU Frequency select

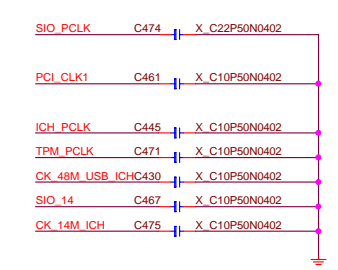


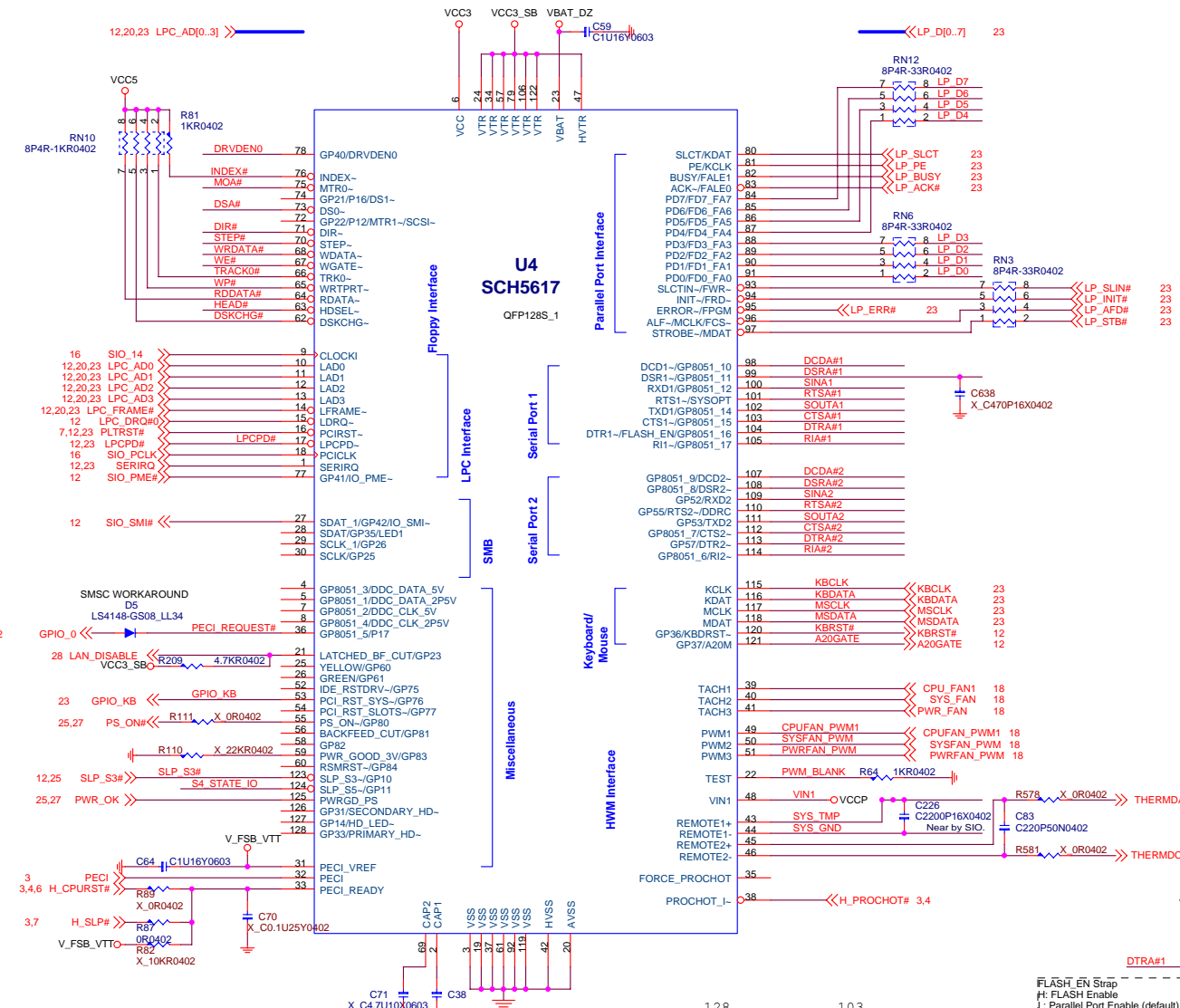
FSB ¹ Bus1	FSB ¹ Bus2	FSB ¹ Bus3	CPU ² Bus
0	0	0	200.00
0	0	1	133.33
0	1	0	200.00
0	1	1	133.33
1	0	0	200.00
1	0	1	133.33
1	1	0	200.00
1	1	1	Reserved

Strapping resistor

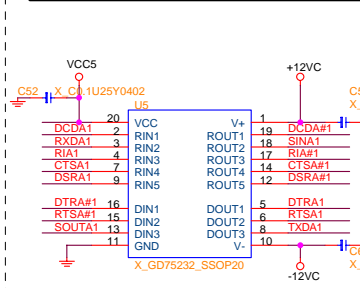


For EMI Reserve

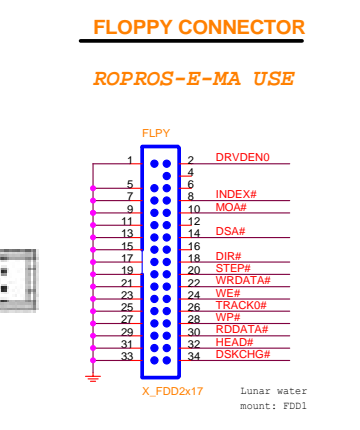
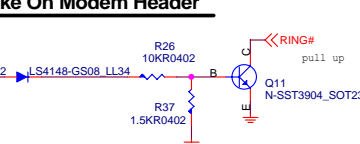
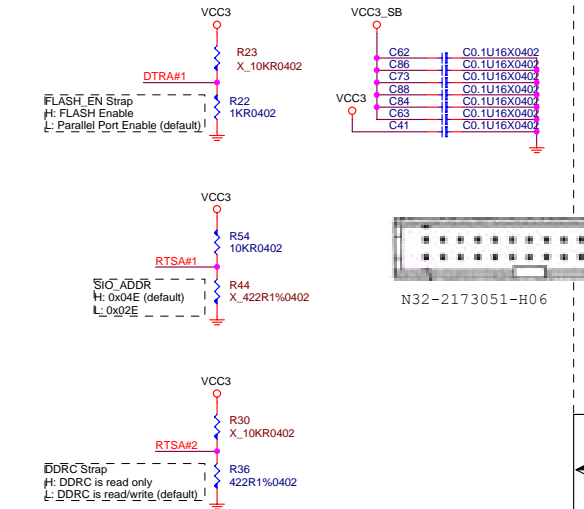
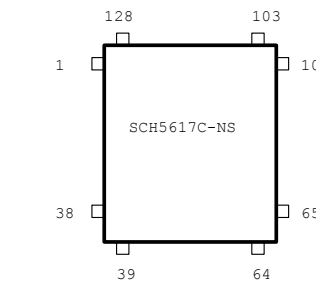
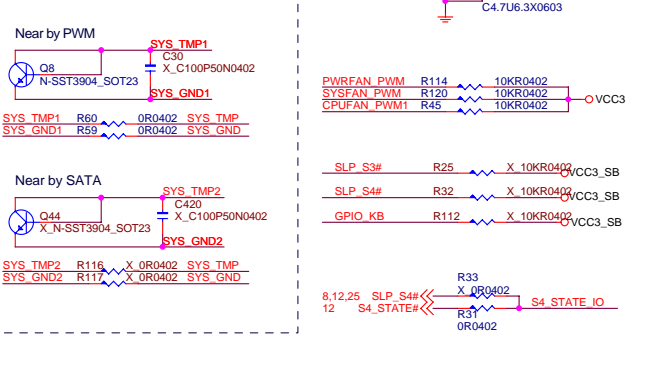
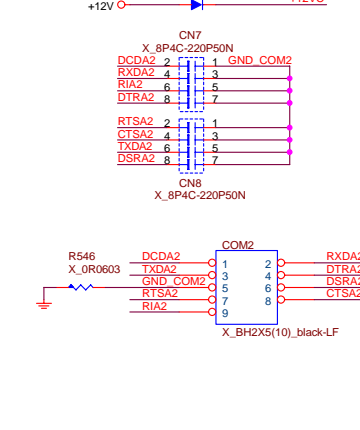
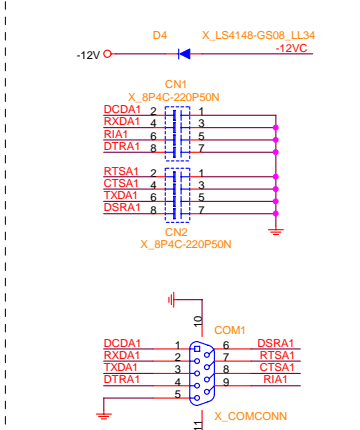
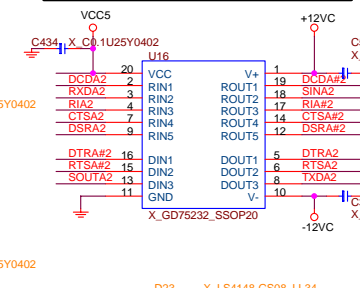




SERIAL PORT 1 FOR ROPROS-E-MA



SERIAL PORT 2 (NOT USE)

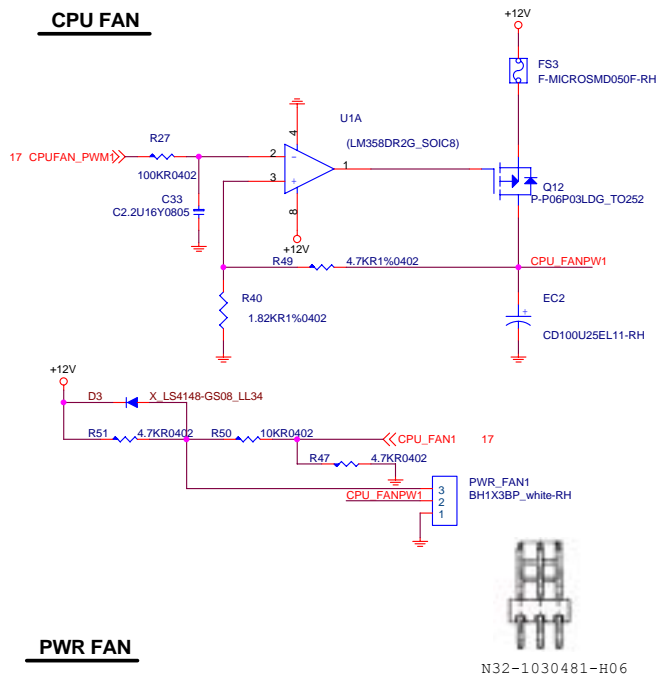


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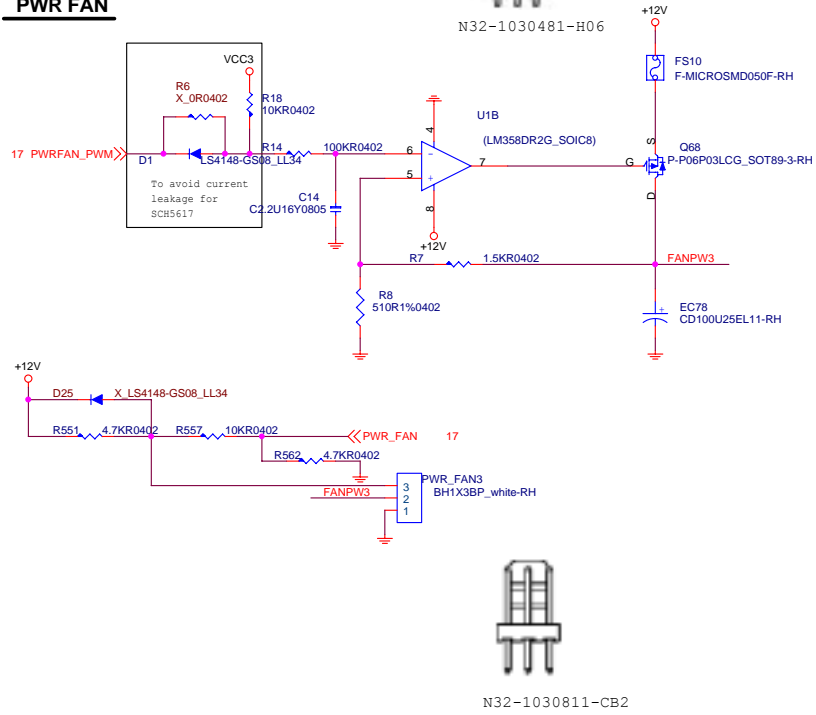
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SCH5617C, COM1,2, FDD		
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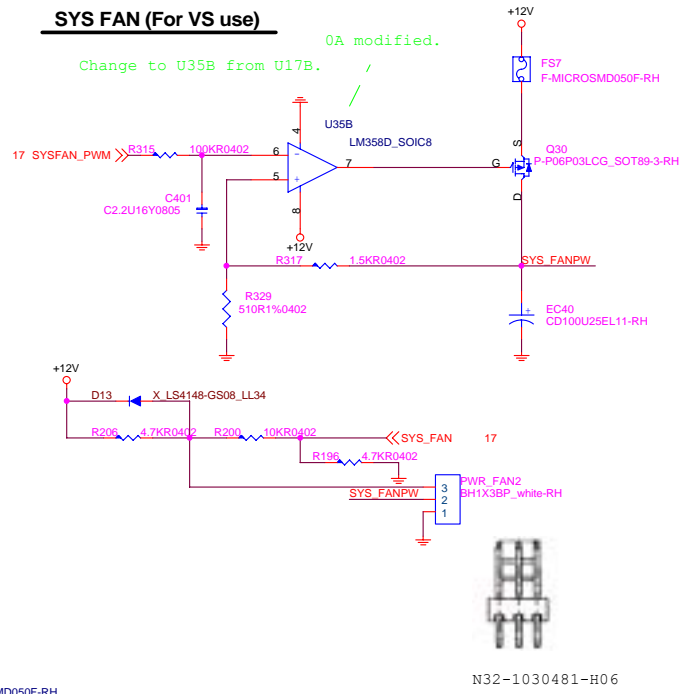
CPU FAN



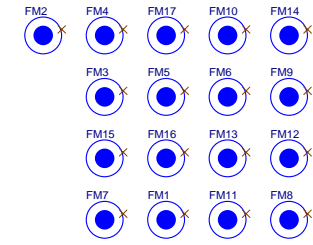
PWR FAN



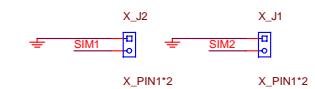
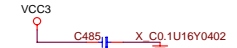
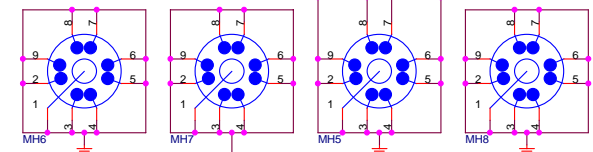
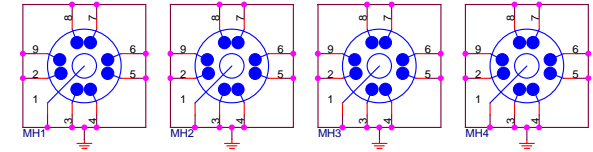
SYS FAN (For VS use)



Optical Fiducial Marks

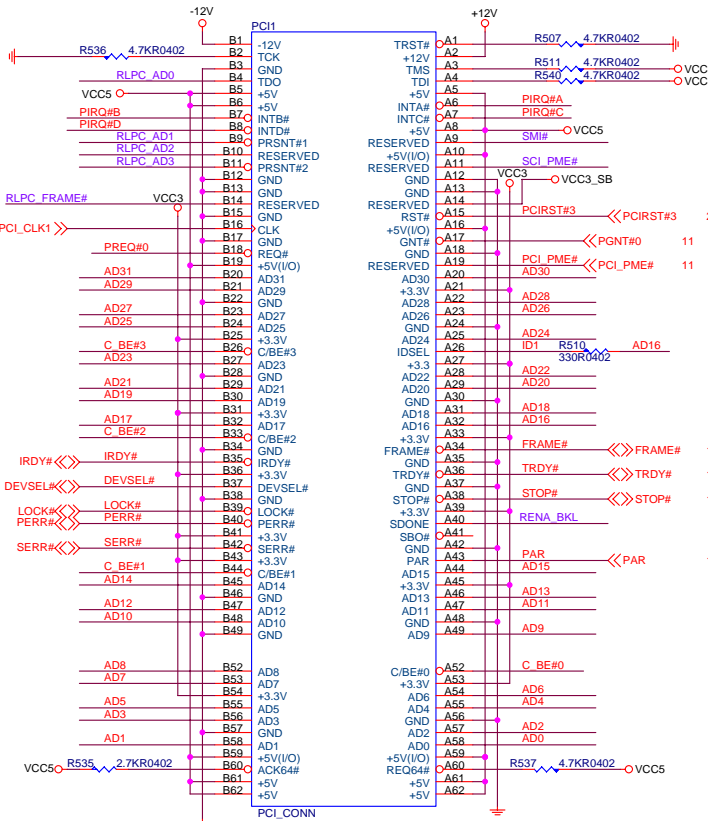


Mounting Holes



	MICRO-STAR INT'L CO.,LTD		
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Size Custom	Document Description CPU/SYS/PWR FAN		Rev 0A
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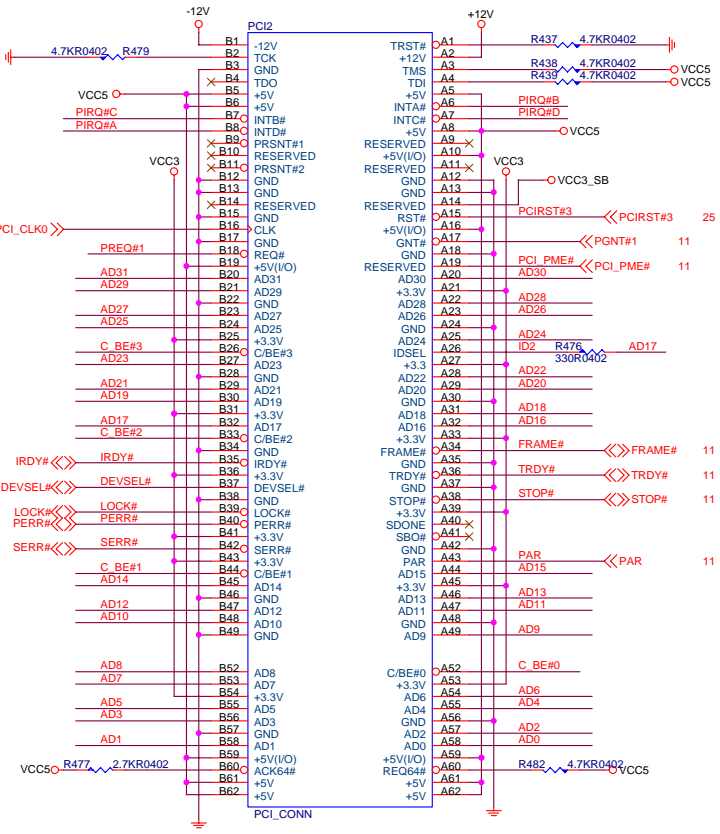
PCI SLOT 1 (PCI VER: 2.2 COMPLY)



IDSEL = AD16
MASTER = PREQ#0
PIRQ#A

11 C_BE#(0..3) >> C_BE#(0..3)
 11 AD(0..31) >> AD0..31

PCI SLOT 2 (PCI VER: 2.2 COMPLY)



IDSEL = AD17
MASTER = PREQ#1
PIRQ#B

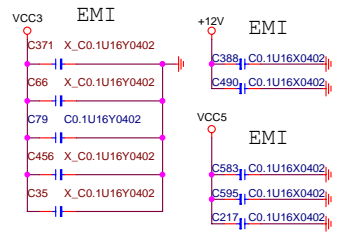
Option parts for GAIA's panel control board

- 12,17,23 LPC_AD0 >> R527 X 0R0402 RLPC_AD0
 - 12,17,23 LPC_AD1 >> R546 X 0R0402 RLPC_AD1
 - 12,17,23 LPC_AD2 >> R547 X 0R0402 RLPC_AD2
 - 12,17,23 LPC_AD3 >> R548 X 0R0402 RLPC_AD3
 - 12,17,23 LPC_FRAME# >> R549 X 0R0402 RLPC_FRAME#
- No need signal for LPC:
 1. LPC_DRQ#0 for DMA bus only.
 2. PLTRST# use PCI_RST# instead.
 3. LPCPD# is no need for power down mode.

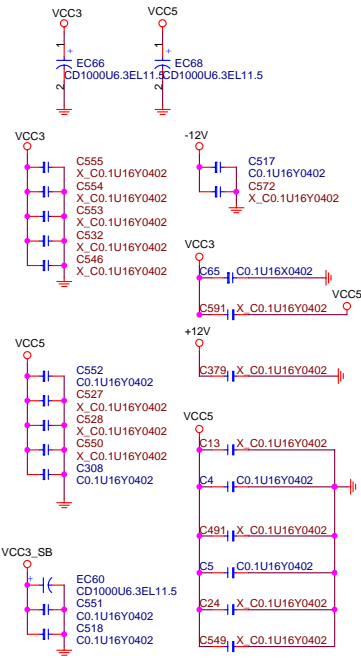
0A modified.

- 12 GAIA_SMI# >> R576 X 0R0402 SMI#
 - 12 GPIO_10 >> R560 X 0R0402 SCI_PME#
 - 19 ENA_BKL >> R562 X 0R0402 RENA_BKL
- SMI# connect from ICH10 GPI? to GAIA's panel control board's SIO pin27.
 SCI_PME# connect from ICH10 GPI? to GAIA's panel control board's SIO pin7.
 ENA_BKL connect from PCIE[X16] (Chrontel pin1) to PCI slot for GAIA's panel control board's inverter connector.

PCI PULL-UP / DOWN RESISTORS



PCI SLOT DECOUPLING CAPACITORS



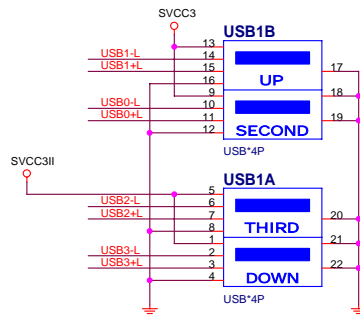
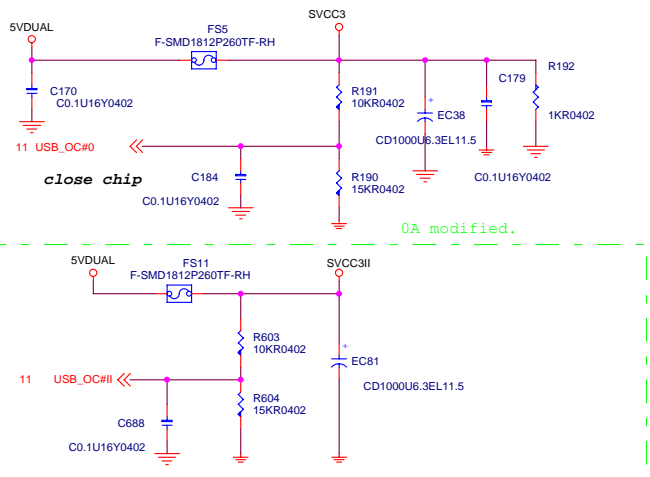
MICRO-STAR INT'L CO.,LTD		
MS-7594		
Size Custom	Document Description	Rev 0A
PCI Slot		
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REAR PANEL USB CONNECTOR FOR USB PORT 0,1,2,3

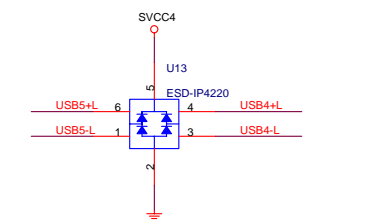
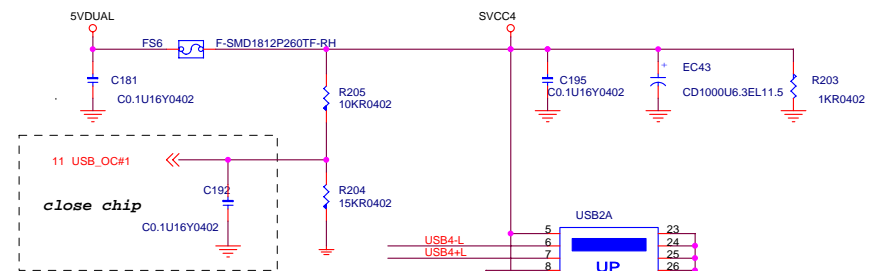
Iout=2A

REAR PANEL USB CONNECTOR FOR USB PORT 4,5

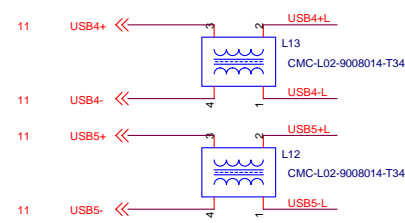
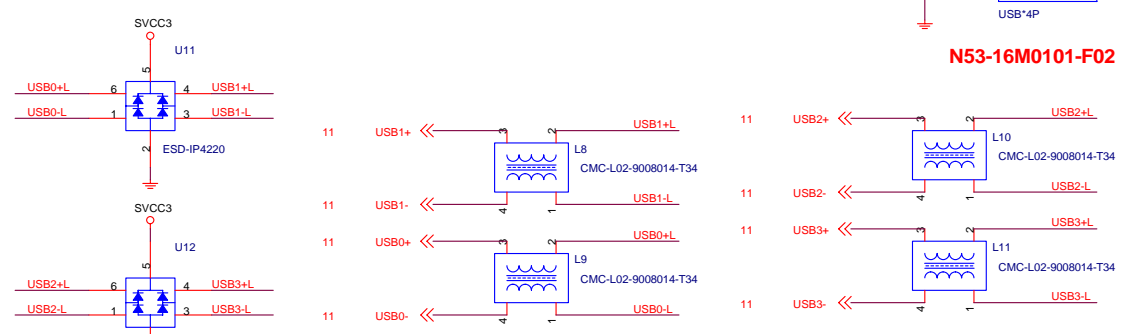
Iout=1A



N53-16M0101-F02



N58-22F0571-F02

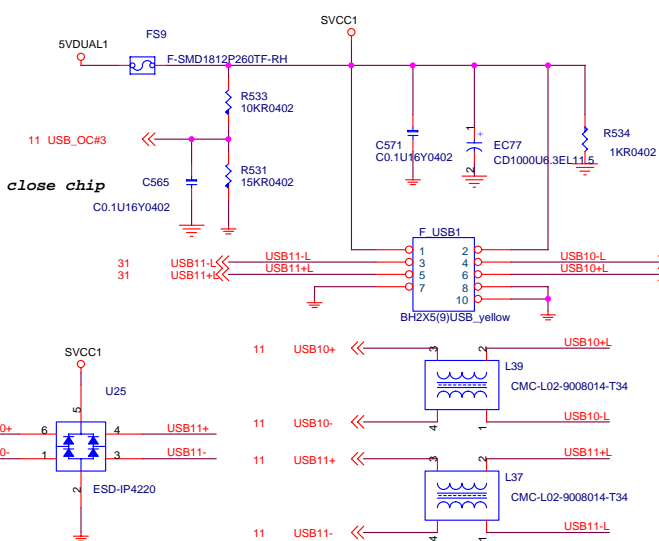


Front USB PORT 10,11 (right angel type)

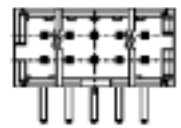
Iout=1A

Memory card reader USB CONNECTOR FOR USB PORT 8,9 (pinth 2.0)

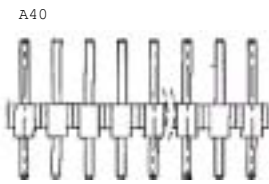
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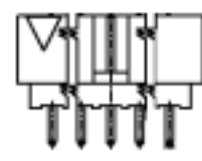
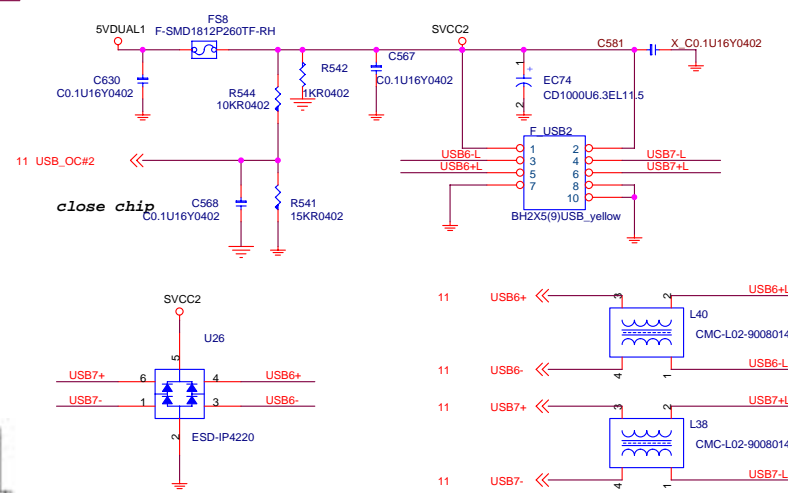
A10, A20, A30



N32-2051781-H06



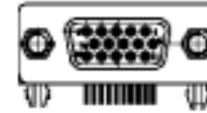
N31-2051711-H06



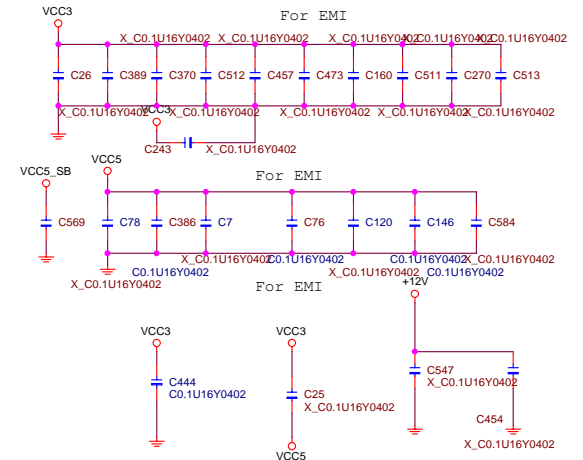
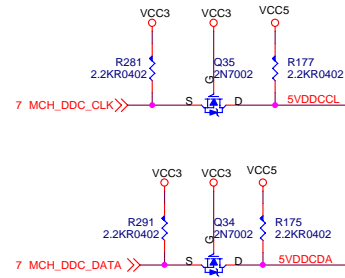
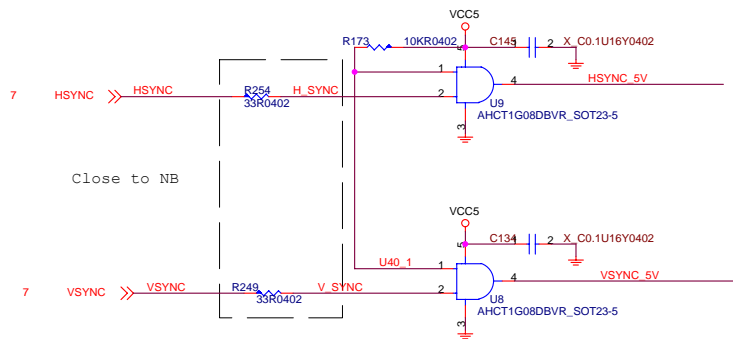
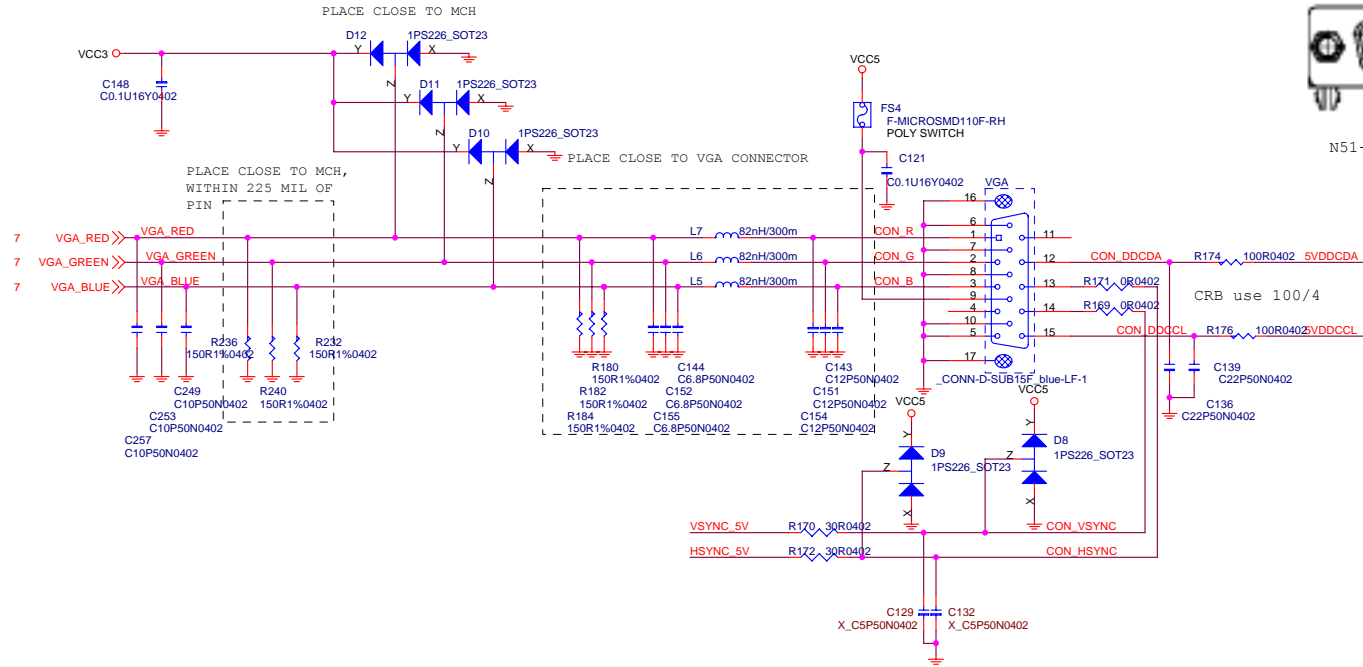
N32-2051801-H06

MICRO-STAR INT'L CO.,LTD		
MS-7594		
Size Custom	Document Description USB CONNECTORS	Rev 0A
Date: Tuesday, October 28, 2008	Sheet 21 of 39	

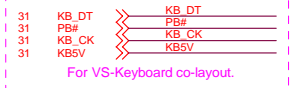
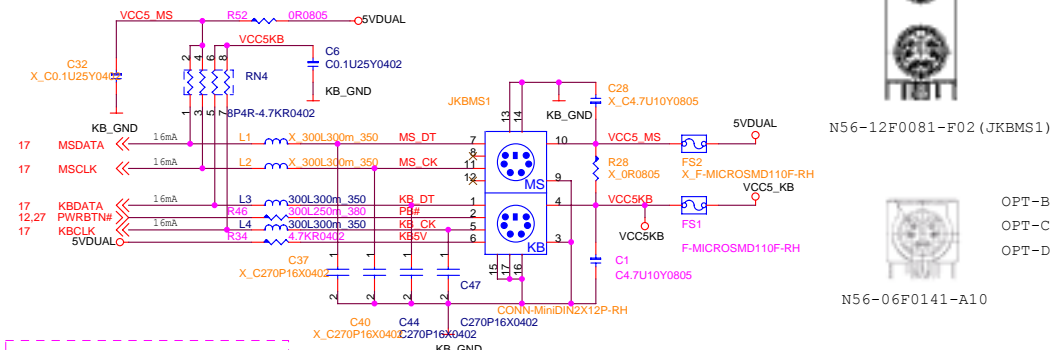
Video Connector



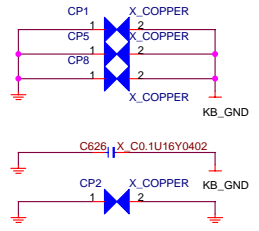
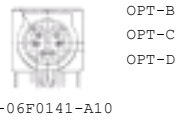
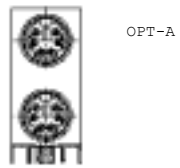
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PS2 KEYBOARD & MOUSE CONNECTOR

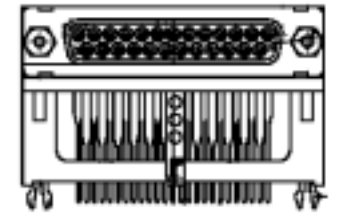
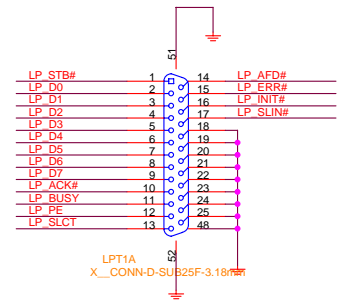
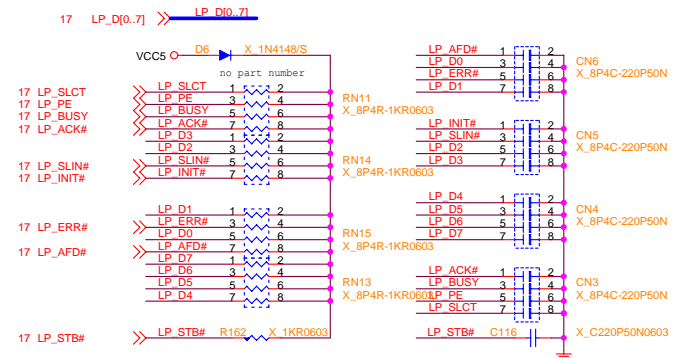


	FS2	R20	C24	L1	L2	C33	C33	C34	C36	FS1	C1	R27	R36
ROPROS-MA	V	V	V	V	V	V	V	V	V	X	X	X	X
ROPROS-VS	X	X	X	X	X	X	X	X	X	V	V	V	X
ROPROS-MBCCV	V	V	V	V	V	V	V	V	V	X	X	X	X



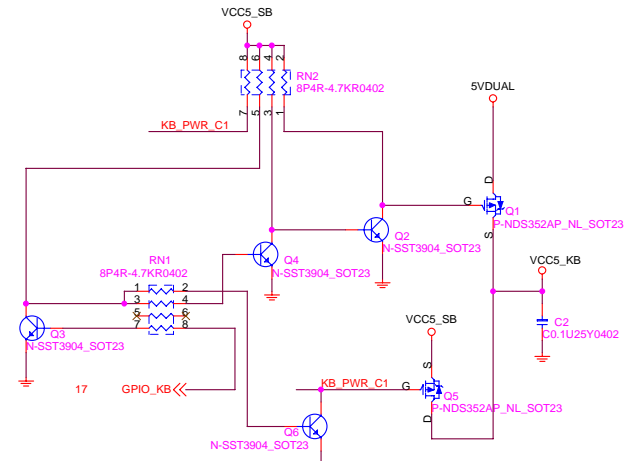
OPT-A
N56-12F0081-F02 (JKBMS1)
OPT-B
OPT-C
OPT-D
N56-06F0141-A10

PARALLEL PORT



N51-25F0221-F02

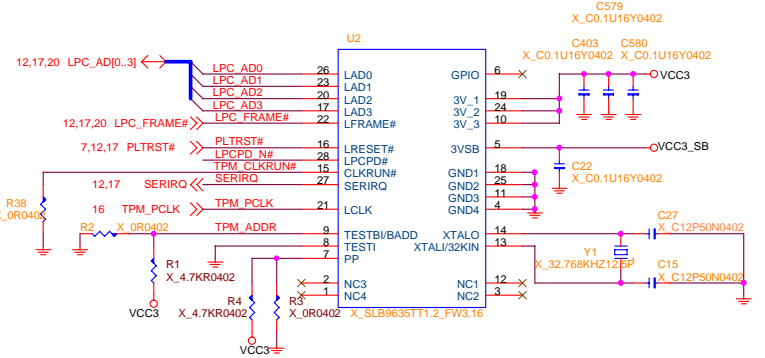
K/B Power supply function for ROPROS-VS & PSD



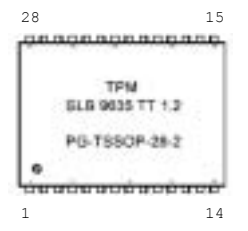
GPIO_KB
HI:VCC5_KB = +5VUSB_REAR
LOW:VCC5_KB = VCC5_SB
VCC VCC5_SB
DUAL(+5VUSB_REAR)
S0/S1:VCC5
S3:VCC5_SB
S4/S5:0V

T.P.M for Ropros-E_Mate

TPM 1.2 FW3.16 (IO Address:0x02E)



VCC3 - R503 X 10KR0402 LPCPD N#
LPCPD# for TPM:
S3: Go low with LRESET# within 1.8us.
Warm boot: Never go low.



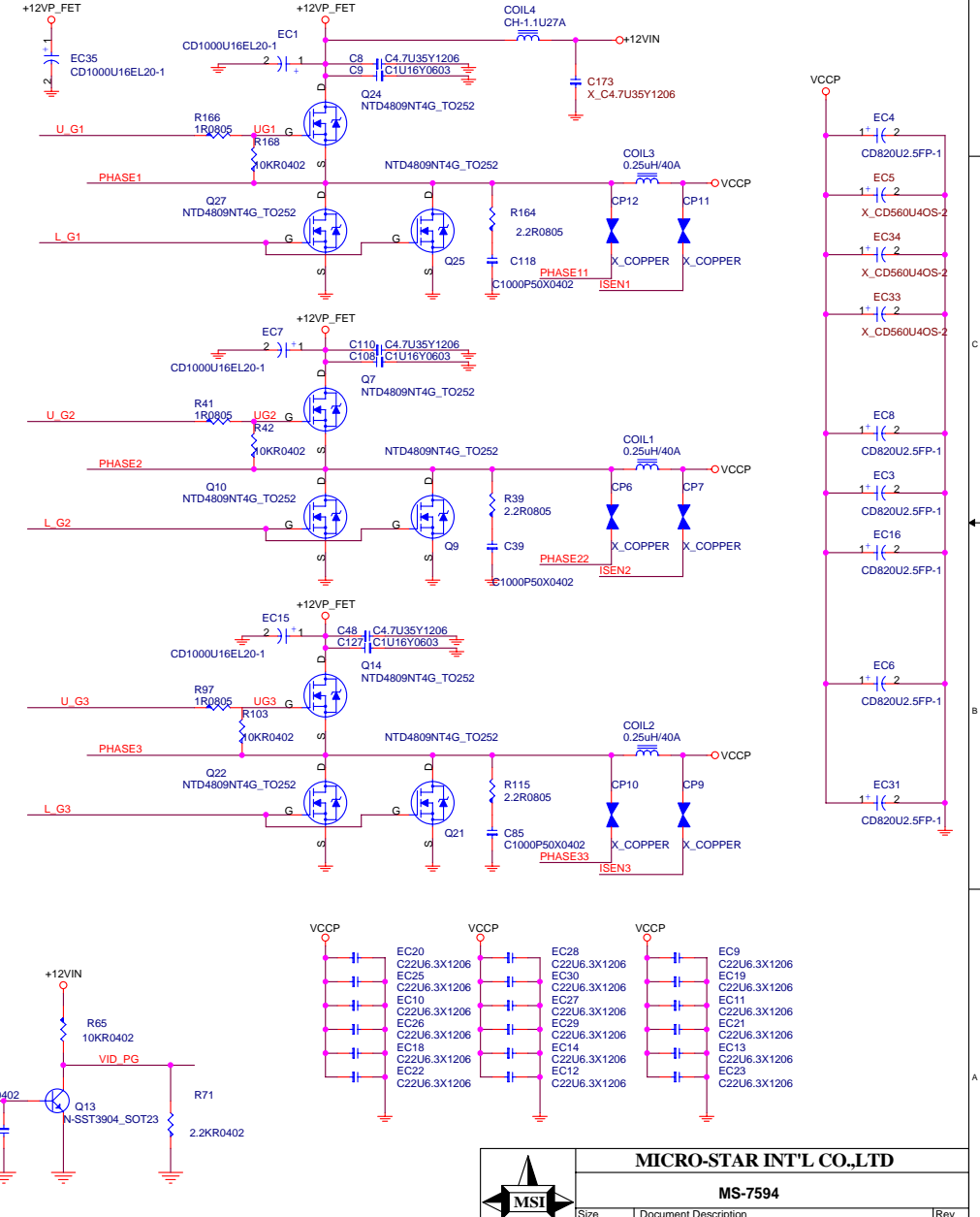
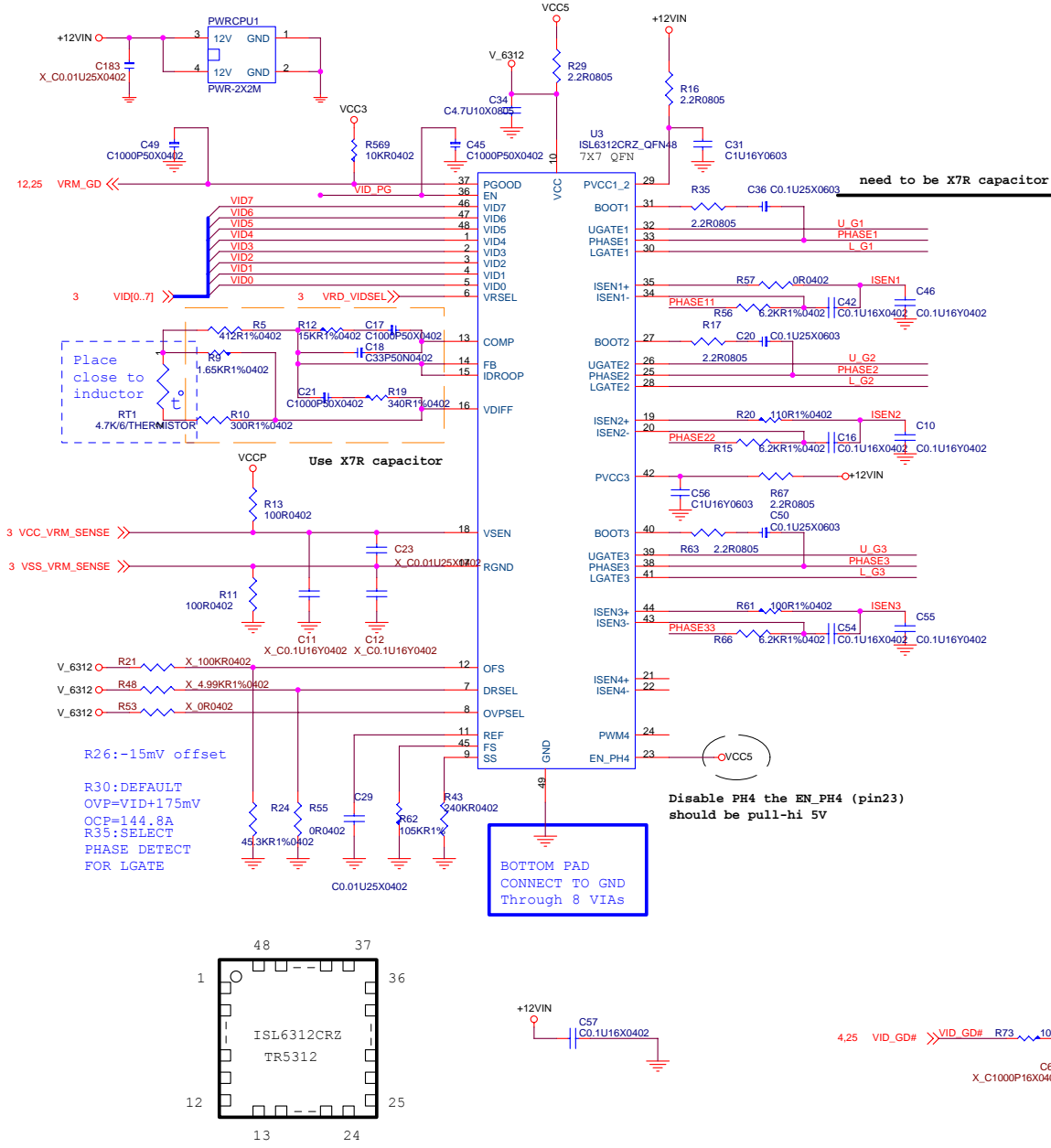
MICRO-STAR INT'L CO.,LTD


MS-7594

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Voltage Regular Module

- N-P0903BDG_TO252 mosfet/n-channel, P0903BDG, SMT/TO252, Rds (on) = 9.5mΩ (10V/25A), Vgs (on) = 1~3V, Id=50A, Ciss=1800pf, Qg=50nC, Vds=25V, Vgs=±20V, RoHS compliance
- P75N02LDG/TO252 mosfet/n-channel, P75N02LDG, SMT/TO252, Rds (on) = 7mΩ (10V, 30A), Vgs (on) = 1~3V, Id=75A, Ciss=5000pf, Qg=140nC, Vds=25V, Vgs=±20V, RoHS compliance
- C100U2SP ESR<13mΩ, Ripple cur.<2.7A, LC<12uA, 105C
- CD560U40S-2 CAP, OS-CON, 560u/4V, Dip-2/8*9/3.5mm, ESR<7mohm, Ripplecur.=6100mA, Lc. <500uA, SPEC series, RoHS compliance
- 1800UF/6.3V ESR<12mΩ, Ripplecur.<2350mA, 105C, longlife change from 2000hrs to 3000hrs ,KZJ series
- 0.25uH/40A , IND CHOKE, 0.25uH, 20%, DIP/8.5mm, 40A, 0.6mOhm, , , PEW, FERRITE, SQUARE, RoHS COMPLIANCE
- CH-1.1U25A-LF IND CHOKE, 1.1uH, 20%, DIP/9mm, 25A, 1.4mOhm, 5.5T, 0.9mmx3, PEW, IRON, , LEAD FREE
- CD1000U16EL20-2 CAP, EL, 1000u, 16V, Dip-8x20/3.5mm, 20%, 12mOhm, 2350mA, 105C, 3000hrs, RoHS COMPLIANCE





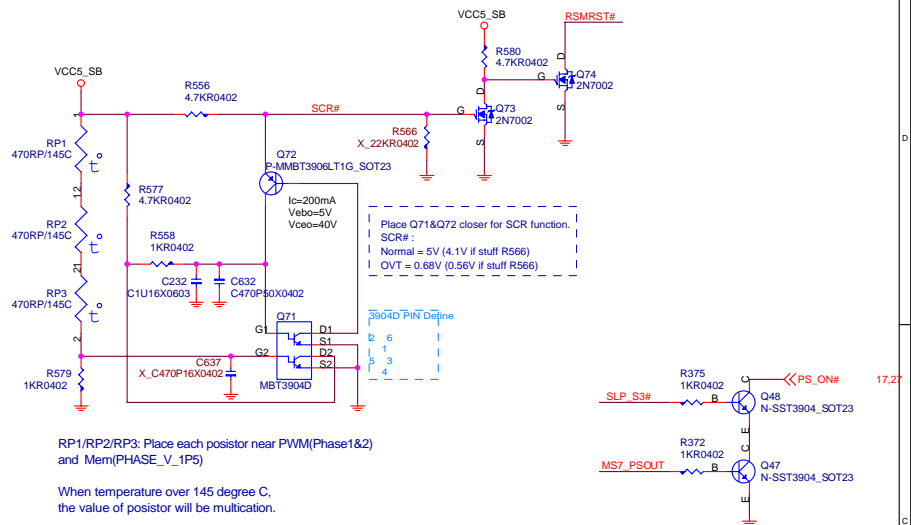
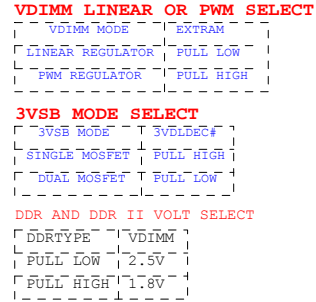
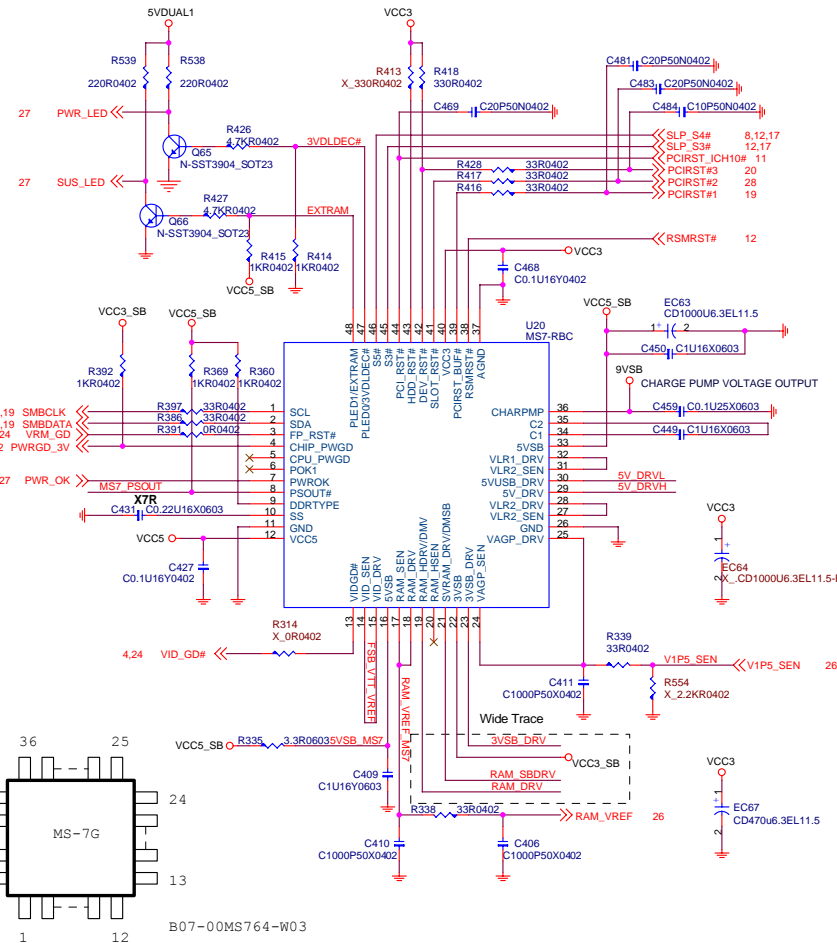
MICRO-STAR INT'L CO.,LTD

MS-7594

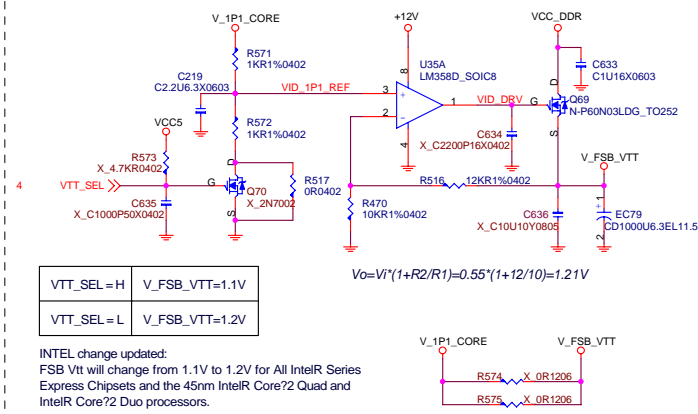
Size Custom	Document Description	Rev 0A
VRD11 Intersil 6312 3Phase		
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ACPI Controller MS-7

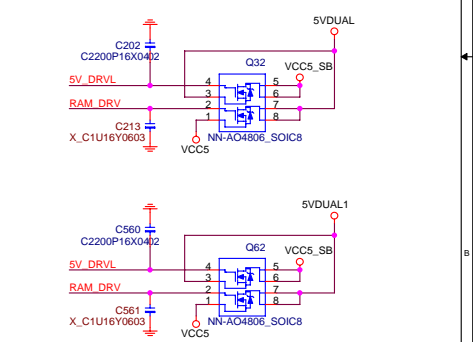
PSON# & Posister for thermal sense



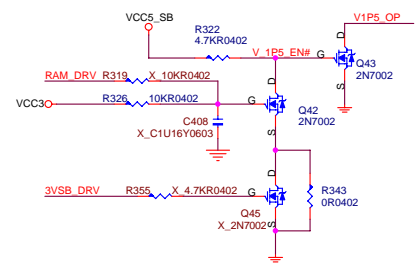
V_FSB_VTT POWER (5.8A)



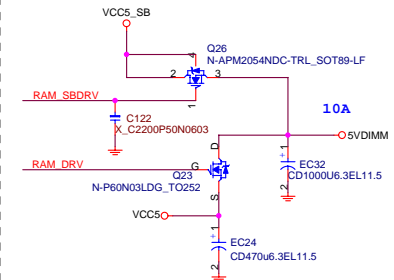
5V DUAL Power



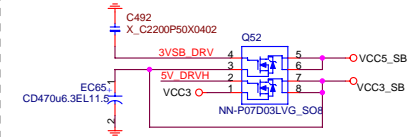
V1P5 SEN S3 power sequency

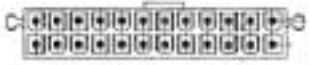


5V DIMM



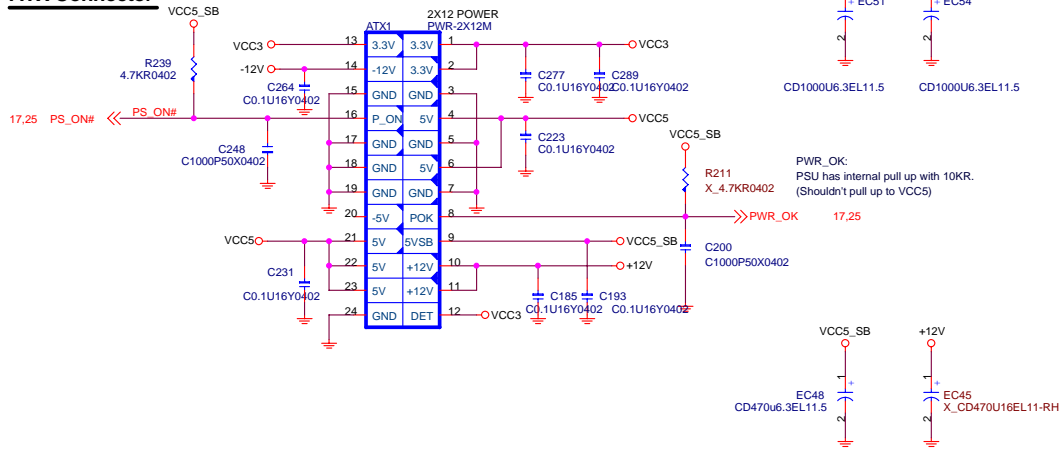
VCC3_SB Power



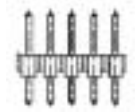


N93-24M0101-H06

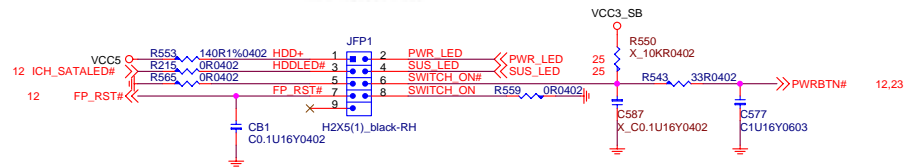
ATX Connector



Intel Front Panel



N31-2051451-H06

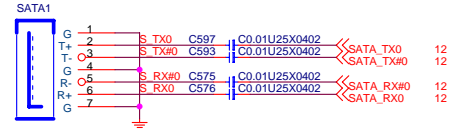


Serial ATA Connectors

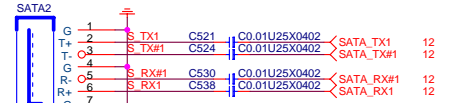
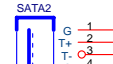
SATA1&SATA2 for Ropros-E (MA/VS)



N5N-07M0151-H06



CONN-SATA_BLUE



CONN-SATA_RED

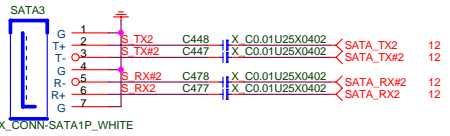


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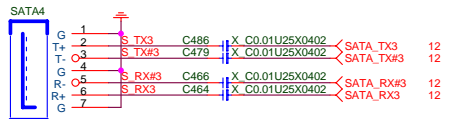
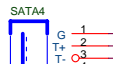


N5N-07M0161-H06

SATA3 to SATA6 for Poseidon-E



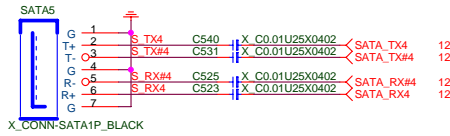
X_CONN-SATA1P_WHITE



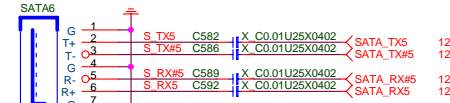
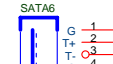
X_CONN-SATA1P_ORANGE



N5N-07M0221-H06



X_CONN-SATA1P_BLACK



X_CONN-SATA1P_PURPLE

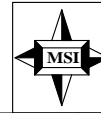


N5N-07M0181-H06



N5N-07M0231-H06

	OPT-A	OPT-B	OPT-C	OPT-D
SATA1	V	V	V	V
SATA2	V	V	V	V
SATA3	X	X	X	V
SATA4	X	X	X	V
SATA5	X	X	X	V
SATA6	X	X	X	V



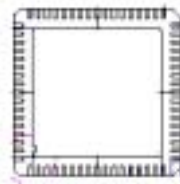
MICRO-STAR INT'L CO.,LTD

MS-7594

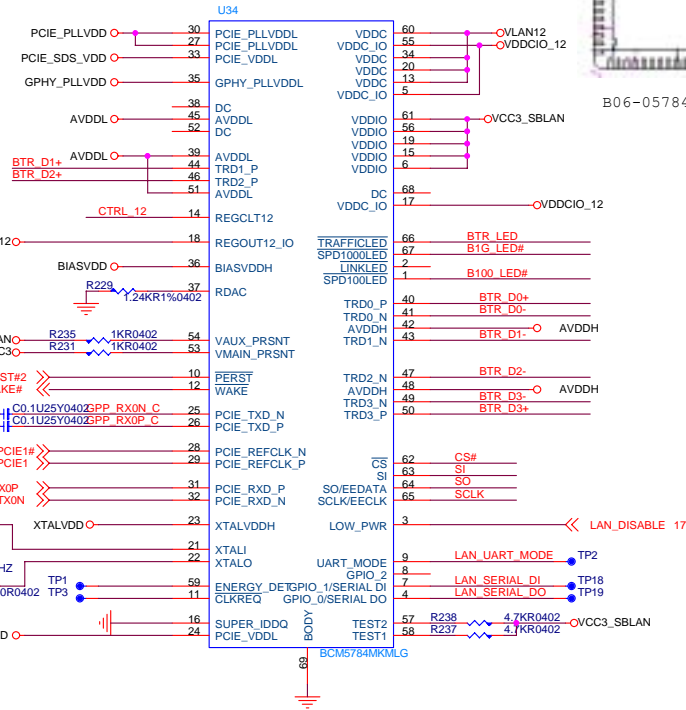
Size Custom	Document Description ATX Front Panel,SATA Conn	Rev 0A
Date: Tuesday, October 28, 2008	Sheet 27	of 39

BCM5784M

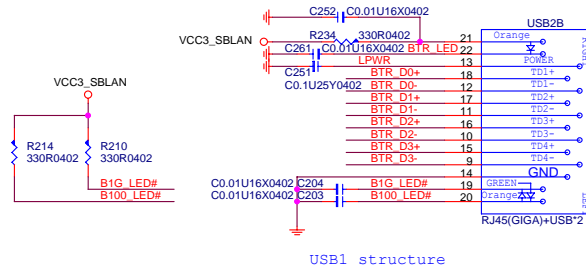
BCM5784MKMLG, B0



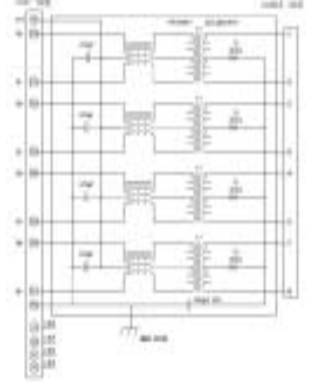
B06-057840C-B11



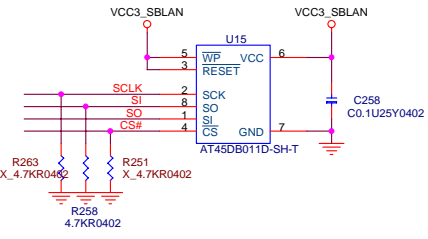
LAN Connector



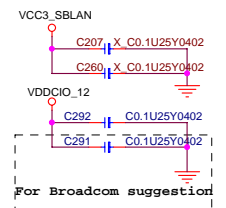
Giga-Lan	
N58-22F0571-F02	
Link	Orange
Active	Blinking
1000	Orange
100	Green
10	None
21	Orange
22	Orange
20	Green
19	Orange



LAN EEPROM

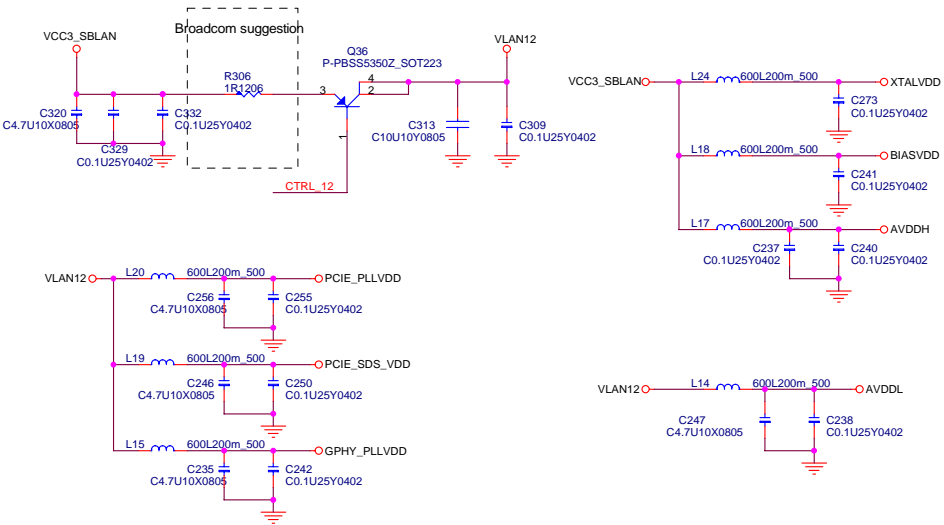


Bypass CAPs

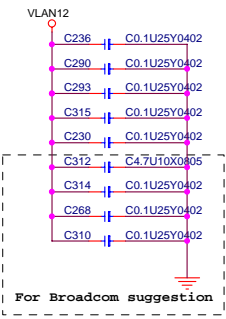
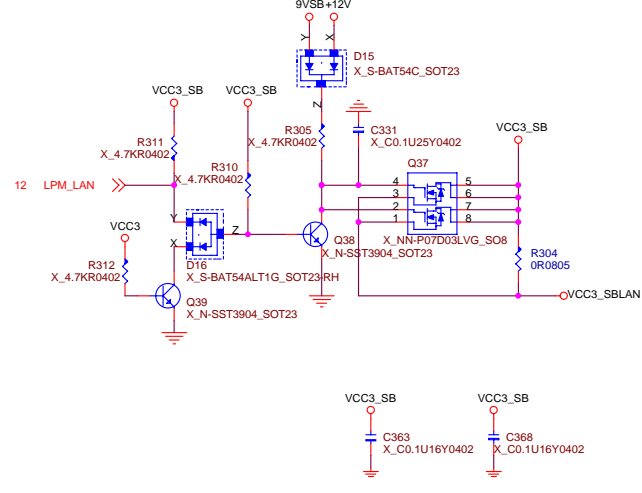


LAN 1.2 POWER

(590mA)



Power control for power consumption



MICRO-STAR INT'L CO.,LTD

MS-7594

Size	Document Description	Rev
Custom	Broadcom-BCM5784M	0A
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GPIO Pin	Type	Default	Function	Power	MUXED/ UNMUXED	Pin-out
GPIO 0	I/O	GPI	PECI_REQUEST# function, Pull-up to VCC3 with 10K	VCC3	MUXED	N7
GPIO 1	I/O	GPI	Pull-up to VCC3 with 10K	VCC3	MUXED	AK21
GPIO 2	I/O	GPI	PIRQ#E pull-up to VCC3 with 8.2K	VCC3		K6
GPIO 3	I/O	GPI	PIRQ#F pull-up to VCC3 with 8.2K	VCC3		L7
GPIO 4	I/O	GPI	PIRQ#G pull-up to VCC3 with 8.2K	VCC3		F2
GPIO 5	I/O	GPI	PIRQ#H pull-up to VCC3 with 8.2K	VCC3		G2
GPIO 6	I/O	GPI	Pull-up to VCC3 with 10K	VCC3	MUXED	AH22
GPIO 7	I/O	GPI	Pull-up to VCC3 with 10K	VCC3	MUXED	AK23
GPIO 8	I/O	GPI	DDR3_PWR0K (7594 modified for DDR11 refer to 7423)	VCC3_SB	UNMUXED	A20
GPIO 9	I/O	GPO/WOL	WOL_ENABLE/GPIO9, pull-down with 100K	VCC3_SB	MUXED	A18
GPIO 10	I/O	GPI	Detect AUDIO Devices, Pull-up to VCC3_SB with 10K	VCC3_SB	MUXED	C17
GPIO 11	I/O	SMBALERT#	SMB_ALERT# pull-up to VCC3_SB with 10K	VCC3_SB		C16
GPIO 12	I/O	GPO	Reserved for GAIA_SMI#	VCC3_SB	UNMUXED	A8
GPIO 13	I/O	GPI	SIO_PME# connect to SIO, pull-up VCC3_SB with 10k	VCC3_SB	UNMUXED	A19
GPIO 14	I/O	GPI	SIO_SMI# connect to SIO, Pull-up to VCC3_SB with 10K	VCC3_SB	MUXED	A9
GPIO 15	I/O	GPO	PCI_STOP# for CK505 IAMT, not use	VCC3_SB	MUXED	C15
GPIO 16	I/O	GPO	pull-up VCC3 with 10K.	VCC3	UNMUXED	M2
GPIO 17	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3	MUXED	AH21
GPIO 18	I/O	GPO	GTLREF GPO	VCC3	UNMUXED	K1
GPIO 19	I/O	GPI	Pull-up to VCC3 with 10K	VCC3		AE20
GPIO 20	I/O	GPO	GTLREF GPO	VCC3	UNMUXED	AF5
GPIO 21	I/O	GPI	Pull-up to VCC3 with 10K	VCC3		AK25
GPIO 22	I/O	GPI	Pull-up to VCC3 with 10K	VCC3	MUXED	AJ24
GPIO 23	I/O	LDRQ1#	LDRQ_1# pull-up VCC3 with 10K (Not Use)	VCC3	MUXED	J3
GPIO 24	I/O	GPO	SPI_HOLD_GPO#, not use	3.3V_SB	MUXED	A14
GPIO 25	I/O	GPO	CPU_STOP# for CK505 IAMT, not use	3.3V_SB	UNMUXED	B18
GPIO 26	I/O	GPO	S4 STATE#	3.3V_SB		C11
GPIO 27	I/O	GPO	LPM_LAN, control VCC3_SBLAN power	3.3V_SB		A11
GPIO 28	I/O	GPO	SPI_WP#	3.3V_SB		G18
GPIO 29	I/O	OC5#	OC#2 connect to USB connector (Port6,7)	3.3V_SB		N1
GPIO 30	I/O	OC6#	OC#3 connect to USB connector (Port10,11)	3.3V_SB		N5
GPIO 31	I/O	OC7#	OC#3 connect to USB connector (Port10,11)	3.3V_SB		M1
GPIO 32	I/O	GPO	PROHOT# for NEC Economy mode	VCC3	UNMUXED	K2
GPIO 33	I/O	GPO	NC	VCC3	UNMUXED	AF6
GPIO 34	I/O	GPO	NC	VCC3	UNMUXED	AH5
GPIO 35	I/O	GPO	SATACLKREQB_GP35, not use	VCC3		L1
GPIO 36	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3		AE21
GPIO 37	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3		AE22
GPIO 38	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3		AK24
GPIO 39	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3		AH23
GPIO 40	I/O	OC0#	OC#0 connect to USB connector (Port0,1,2,3)	3.3V_SB		N3
GPIO 41	I/O	OC1#	OC#1 connect to USB connector (Port4,5)	3.3V_SB		F7
GPIO 42	I/O	OC1#	OC#1 connect to USB connector (Port4,5)	3.3V_SB		R7
GPIO 43	I/O	OC2#	OC#2 connect to USB connector (Port6,7)	3.3V_SB		N2
GPIO 44/45	I/O	OC8/9#	USB_OC#II	3.3V_SB		P3/R6
GPIO 46/47	I/O	OC10/11#	USB_OC#II	3.3V_SB		T7/P1
GPIO 48	I/O	GPI	Pull-up to VCC3 with 10K directly	VCC3		AD20
GPIO 49	I/O	GPO	DMI strapping, not use	VCC3		AJ25
GPIO 50	I/O	REQ1#	REQ1 pull-up to VCC5 with 2.7K	VCC5	MUXED	G13
GPIO 51	I/O	GNT1#	GNT1#	VCC3	MUXED	A7
GPIO 52	I/O	REQ2#	REQ2 pull-up to VCC5 with 8.2K	VCC5	MUXED	F13
GPIO 53	I/O	GNT2#	GNT2#	VCC3	MUXED	C7
GPIO 54	I/O	REQ3#	REQ3 pull-up to VCC5 with 2.7K	VCC5	MUXED	G8
GPIO 55	I/O	GNT3#	GNT3# (Not Use)	VCC3	MUXED	F7
GPIO 56	I/O	GPI	Clear password, pull-up to VCC3_SB with 10K.	3.3V_SB	MUXED	F16
GPIO 57	I/O	GPI	Option for GAIA SMI# input signal	3.3V_SB	MUXED	C12
GPIO 58	I/O	SPI_CS1	SPI_CS# (Not Use), SPI_CS1_F# (Not Use)	3.3V_SB	MUXED	F23
GPIO 59	I/O	OC0#	OC#0 connect to USB connector (Port0,1,2,3)	3.3V_SB		P5
GPIO 60	I/O	LINKALERT	LINKALERT, pull-up to VCC3_SB with 10K	3.3V_SB		F18
GPIO 61	I/O	GPO	LPCPD#, connect to SIO and TPM	3.3V_SB	MUXED	R1
GPIO 62	I/O	GPO	(Not Use)	3.3V_SB	MUXED	R5
GPIO 63	I/O	GPO	(Not Use)	3.3V_SB		G17
GPIO 72	I/O	GPO	BATTLOW#, pull-up to VCC3_SB with 10K	3.3V_SB		C13

PCI Configuration

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK
PCI1	PIRQ#A	REQ#0	AD16	PCI_CLK0
	PIRQ#B	PGNT#0		
	PIRQ#C			
	PIRQ#D			
PCI2	PIRQ#B	REQ#1	AD17	PCI_CLK1
	PIRQ#D	PGNT#1		
	PIRQ#C			
	PIRQ#A			

DDR2 DIMM Configuration

DEVICE	ADDRESS	CLOCK
DIMM 1	0A0H	SCLK_A0/SCLK_A0#
		SCLK_A2/SCLK_A2#
DIMM 2	0A4H	SCLK_B0/SCLK_B0#
		SCLK_B2/SCLK_B2#
DIMM 3	0A0H	SCLK_A0/SCLK_A0#
		SCLK_A2/SCLK_A2#
DIMM 4	0A4H	SCLK_B0/SCLK_B0#
		SCLK_B2/SCLK_B2#

SIO - SMSC-5617C Configuration

PIN NAME	PIN#	USAGE	Input/Output
GP76	53	GPIO_KB	OUTPUT
GP42	27	SIO_SMI#	OUTPUT
GP41	77	SIO_PME#	OUTPUT
GP23	21	LAN_DISABLE	OUTPUT

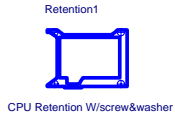
Jumper Setting

JBAT1	(1-2)Normal	(2-3)Clear CMOS
J1	(1-2)short: Normal	(1-2)Open: Clear PW

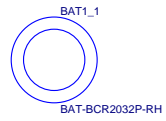
PCB



CPU Retention Mouldle



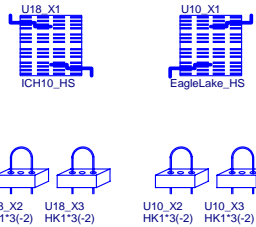
Battery



Jumper



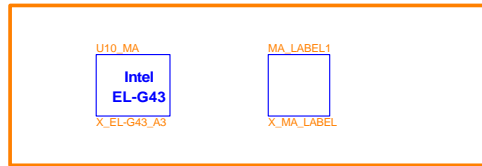
Heatsink



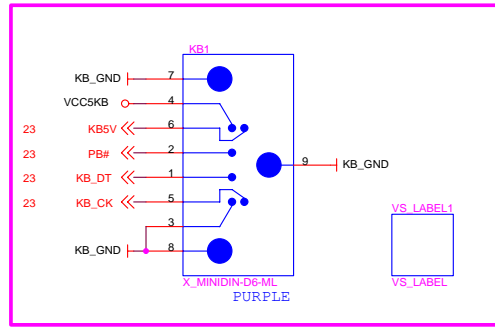
BIOS Label



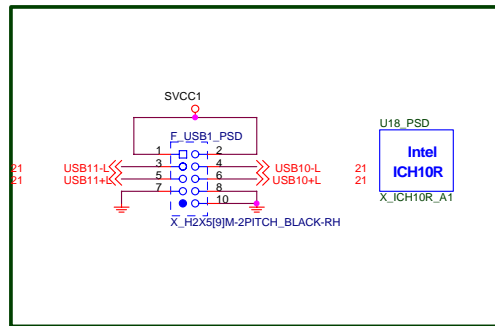
Ropros-Mate



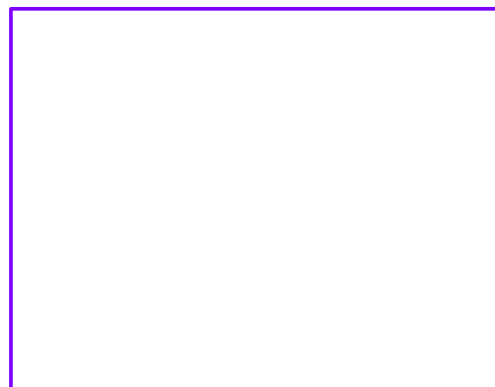
Ropros-VS(G45/G43)



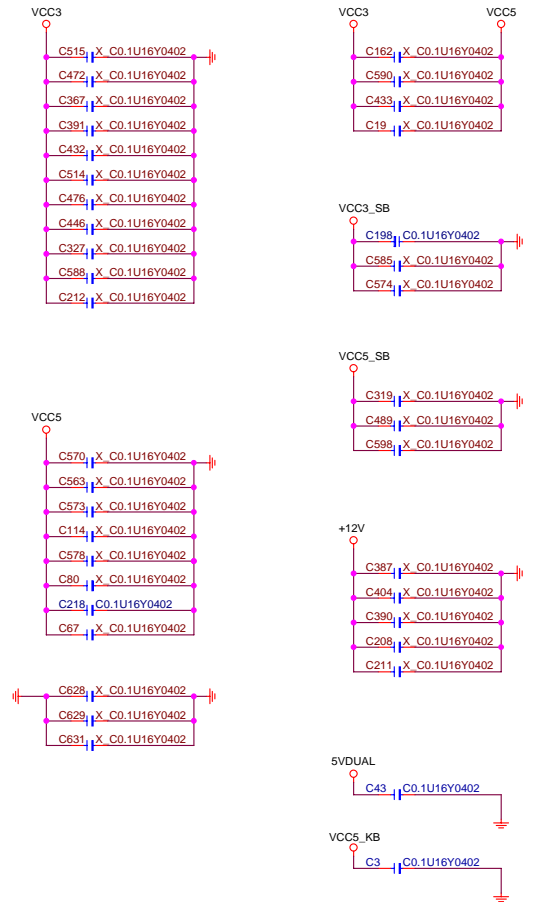
Poseidon-E



GAIA



EMI SUGGESTION



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LGA775-CPU		
1.15V - 1.50V Core	-	60A
1.1V FSB Vtt	-	4.6A

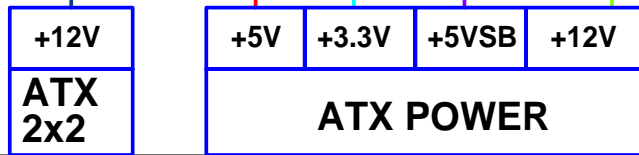
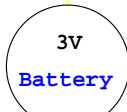
Eaglelake (GMCH)		
1.1V FSB_VTT	-	1.2 A
1.1V Core TBD (USE LB)	-	13.8A
1.1V DMI/PCI Exp.	-	2.47 A
1.1V Vcc CL	-	3A
1.8V VCC_DDR	-	3.33A
1.8V VCC_SMCLK	-	350mA
3.3V VCCA_DAC	-	66 mA
3.3V VCC33	-	15.8mA

ICH10		
1.1V DMI	-	41 mA
1.1V Core	-	1.16A
1.5V_A USB/SATA/PLL	-	1.652A
1.5V_B PCI Exp.	-	0.646A
VCCRTC	-	6 uA
3.3V CL	-	19 mA
1.5V GbE LAN	-	87 mA
3.3V VccSus3_3	-	200mA
3.3V Vcc3_3	-	308mA
3.3V 10/100 LAN	-	19 mA
3.3V GbE LAN	-	1 mA
3.3V HDA	-	32 mA
3.3V SusHDA	-	33 mA

HD Audio ALC262VD		
3.3V AUDIO	-	40mA
5V AUDIO	-	200mA

IDTCV184-2		
3.3V VDD_48/PCI/REF	-	250mA
0.3V-1V CPU/SRC/DOT/PLL	-	80mA

BCM5784M		
3.3V_SB I/O & LED	-	15.5mA
1.2V ANALOG	-	0.418A



ISL6312	
VCCP	VRD 11-cfg06
1.15V-1.50V	60A(65W)
3-Phase Switch	

W83310DS	
VTT_DDR	
0.9V	Linear 1.2A

MS11+ SW-Power	
VCC_DDR	
1.5V	PWM 20.8A

MS11+ SW-Power	
V_1P1_CORE	
1.1V	PWM 20.47A

MS7 CONTROLLER		
V_1P5_ICH	1.5V	Linear 2A
VCC3_SB	3.3V	Linear 1.5A
5VDUAL	5V	Switch 5A
5VSB	5V	Switch 500mA
5VDUAL1	5V	Switch 15A
5VSB	5V	Switch 500mA
5VDIMM	5V	Switch 15A
5VSB	5V	Switch 500mA

5VAUD	
5V	500mA

DDRIII x4 & TERMINATOR		
0.9V VTT_DDR	-	1.2A
1.5V VCC_DDR (S0, S1)	-	9.4A
1.5V VCC_DDR (S3)	-	400mA

PCI Express x16 slot		
+12V	-	5.5 A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

PCI slot x1		
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	7.6A
+5V	-	5.0A
+12V	-	0.5A

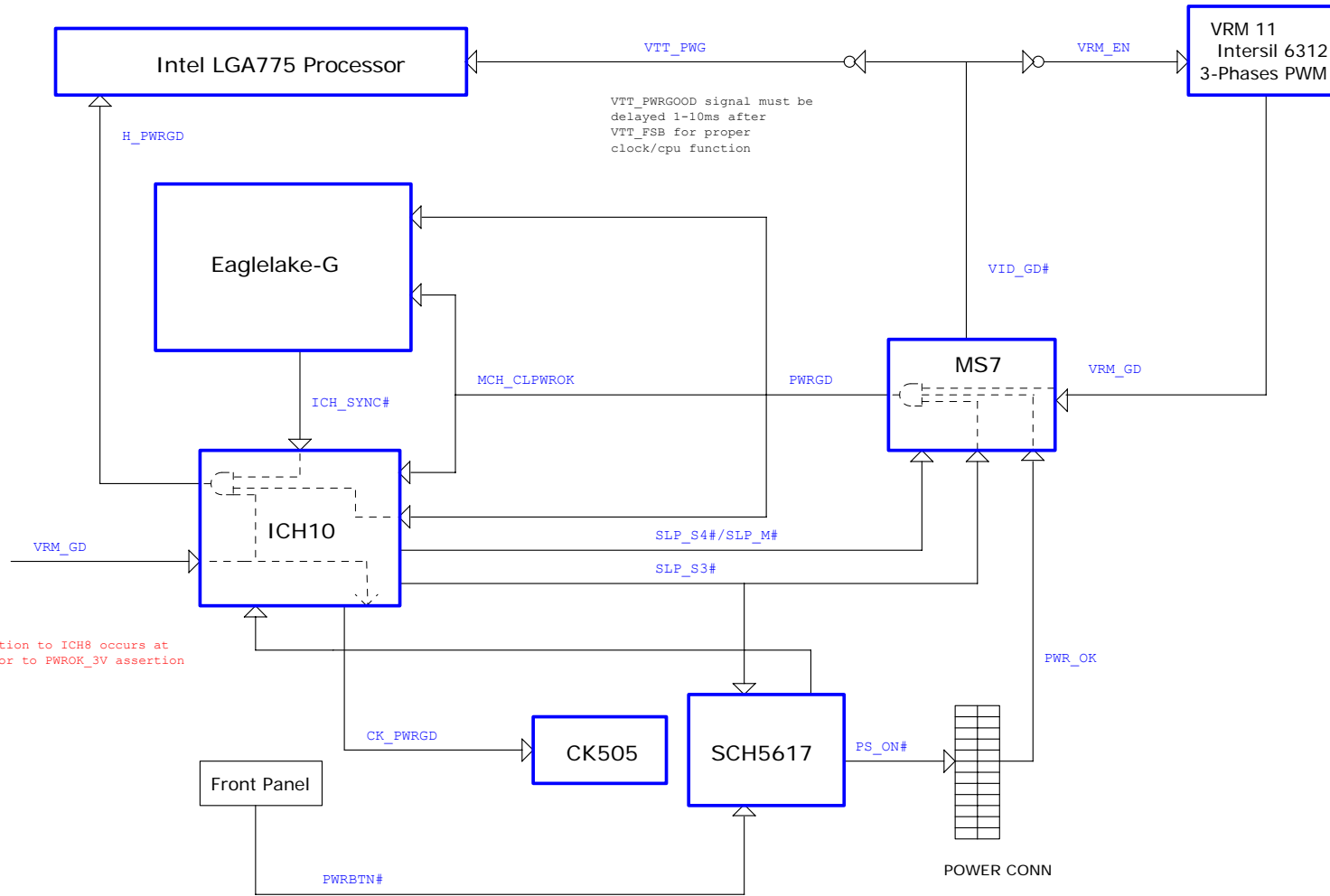
PCI Express x 1 slot *2		
+12V	-	0.5 A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

USB x8		
+5V (S0,S1)	-	6.0A
+5V (S3)	-	20mA

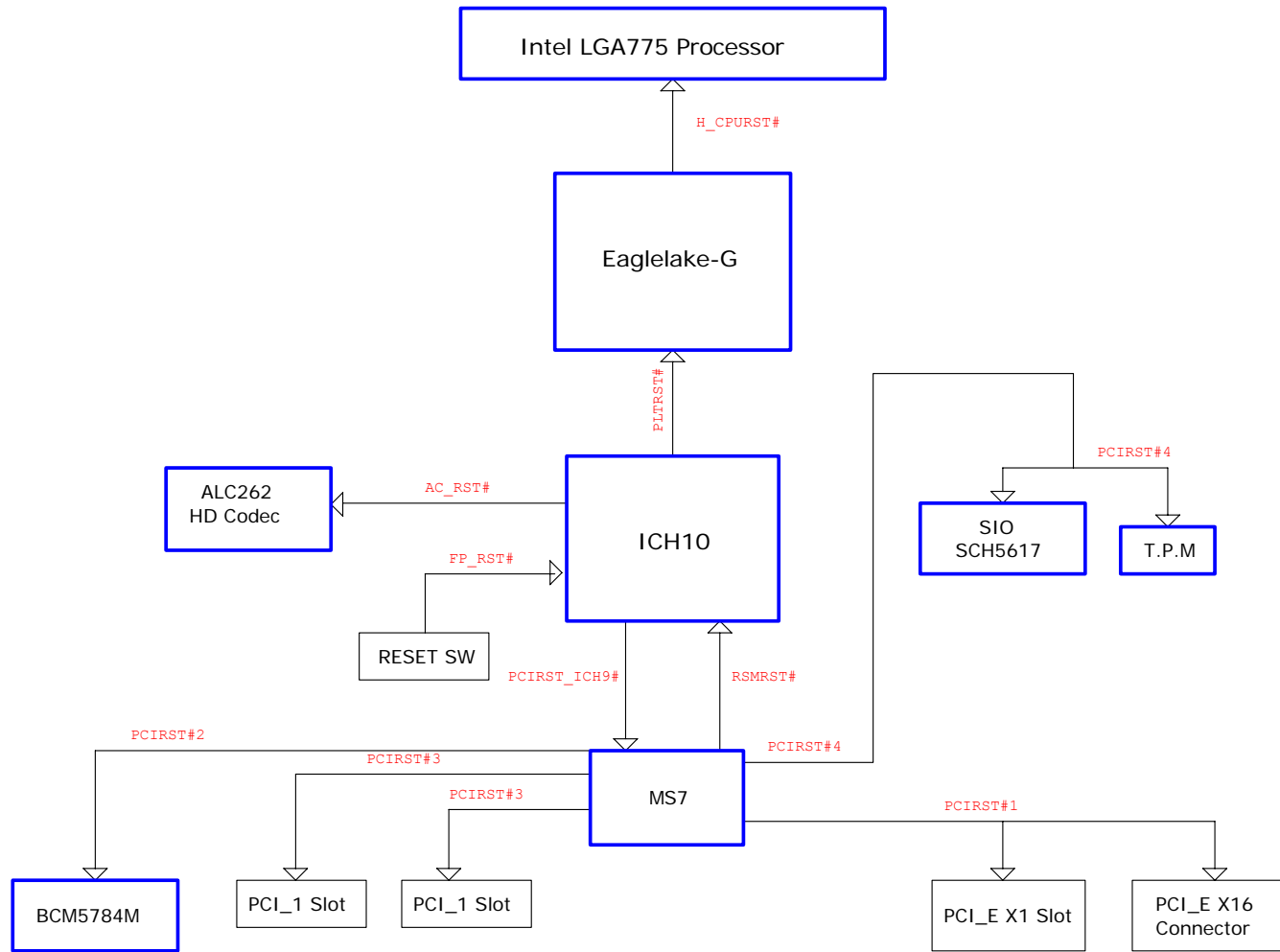
PS2		
+5V (S0,S1)	-	345mA
+5V (S3)	-	2.0mA



PWROK MAP



RESET MAP



7428-100 Options

How to distinguish the different SKU

- BLUE Color which mean all model need use
- ORANGE Color which mean ROPROS-MA use
- BROWN Color which mean the part reserve
- PINK Color which mean ROPROS-VS (G45/G43)
- Green Color which mean Poseidon-E
- Purple Color which mean GAIA (Reserved)

MS-6619N1	ERP Number	Function
MS-7428-XX	601-7428-XXX	Mainboard
MS-4032-020 (MA)	604-4032-020	Front USB/ PWR BTN
MS-4142-010 (VS)	604-4142-010	Front USB/ PWR BTN
MS-4079-020 (PSD)	604-4079-020	Front USB

MS-XXXXN1	ERP Number	Function
		Mainboard
		SDVO to LVDS - PCIE[X16]
		SIO for control panel
		HD Audio card

Model type	Function	BOM Config	ERP BOM No	BOM Opt.
MS-7428N1-10	Eaglelake G43+ICH10+LPT+COM+TPM+KBMS+2DIMMs for MATE.	CFG-MA	601-7428-010	A
MS-7428N1-10	Eaglelake G45+ICH10+F-USB2+KB+HD Audio+SYS FAN+4DIMMs for VS.	CFG-VS_G45	601-7428-020	B
MS-7428N1-10	Eaglelake G43+ICH10+F-USB2+KB+HD Audio+SYS FAN+2DIMMs for VS.	CFG-VS_G43	601-7428-030	C
MS-7428N1-10	Eaglelake G45+ICH10R+F-USB2+KB+HD Audio+SYS FAN+6SATA for VS.	CFG-PSD	601-7428-040	D
MS-XXXXN1-xx	GAIA	CFG-GAIA	601-XXX-XXX	

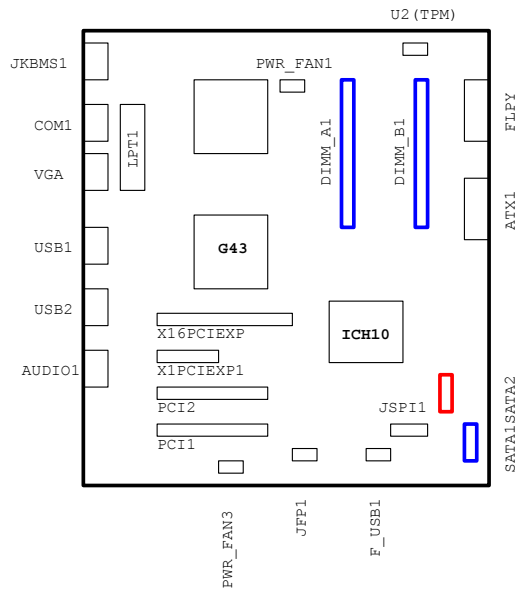


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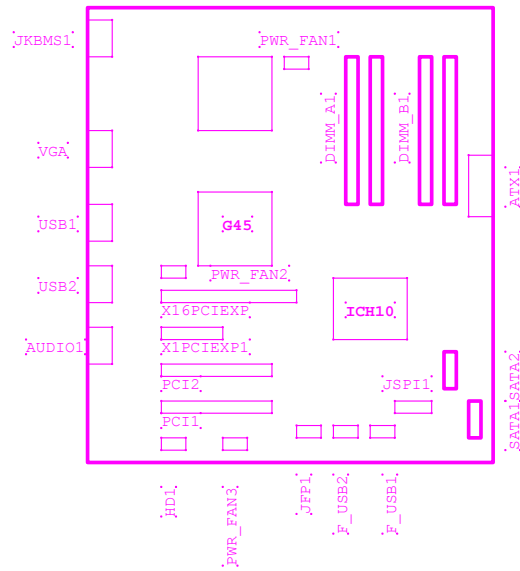
MS-7594

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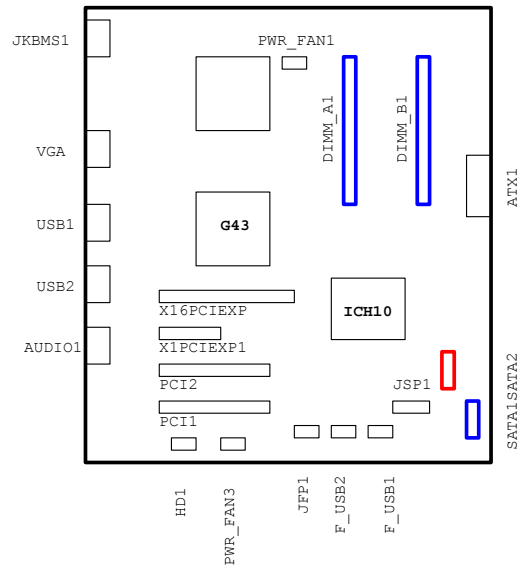
7594-0A-A10 (MATE)



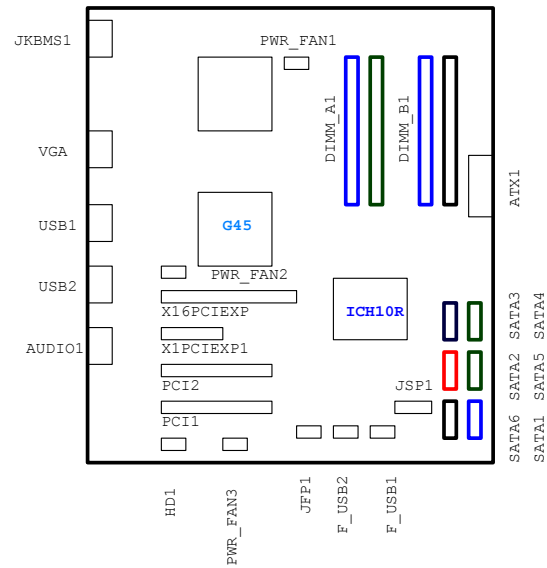
7594-0A-A20 (VS-H)




7594-0A-A30 (VS-L)



7594-0A-A40 (PSD)



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	7594-0A-A10 (MATE)	7594-0A-A20 (VS-H)	7594-0A-A30 (VS-L)	7594-0A-A40 (PSD)
GMCH	B01-82G4315-IX6	B01-82G4505-IX6	B01-82G4315-IX6	B01-82G4505-IX6
ICH10	B01-801JB25-IX6	B01-801JB25-IX6	B01-801JB25-IX6	B01-801JR15-I06
DDRIII	DIMM_A1 DIMM_B1	DIMM_A1 DIMM_A2 DIMM_B1 DIMM_B2	DIMM_A1 DIMM_B1	DIMM_A1 DIMM_A2 DIMM_B1 DIMM_B2
COM1	CN2 8P4C-220P50N CN1 8P4C-220P50N C68 C0.1U25Y0402 C52 C0.1U25Y0402 C51 C0.1U25Y0402 COM1 COMCONN U5 GD75232_SSOP20 D23 LS4148-GS08_LL34 D4 LS4148-GS08_LL34			
LPT1	R162 1KR0603 D6 1N4148/S CN6 8P4C-220P50N CN3 8P4C-220P50N CN5 8P4C-220P50N CN4 8P4C-220P50N RN13 8P4R-1KR0603 RN15 8P4R-1KR0603 RN11 8P4R-1KR0603 RN14 8P4R-1KR0603 C116 C220P50N0603 LPT1 CONN-D-SUB25F-3.18mm			
JKBMS1	JKBMS1 N56-12F0081-F02 R28 0R0805 L2 300L300m_350 L1 300L300m_350 C32 C0.1U25Y0402 C6 C0.1U25Y0402 C40 C270P16X0402 C37 C270P16X0402 C28 C4.7U10Y0805 FS2 F-MICROSMD110F-RH	JKBMS1 N56-06F0141-A10 Q1 P-NDS352AP_NL_SOT23 Q6 N-SST3904_SOT23 C2 C0.1U25Y0402 Q4 N-SST3904_SOT23 Q5 P-NDS352AP_NL_SOT23 RN1 8P4R-4.7KR0402 RN2 8P4R-4.7KR0402 Q2 N-SST3904_SOT23 Q3 N-SST3904_SOT23 FS1 F-MICROSMD110F-RH R52 0R0805 R46 300L250m_380 R34 4.7KR0402 C1 C4.7U10Y0805 C6 C0.1U25Y0402	JKBMS1 N56-06F0141-A10 Q1 P-NDS352AP_NL_SOT23 Q6 N-SST3904_SOT23 C2 C0.1U25Y0402 Q4 N-SST3904_SOT23 Q5 P-NDS352AP_NL_SOT23 RN1 8P4R-4.7KR0402 RN2 8P4R-4.7KR0402 Q2 N-SST3904_SOT23 Q3 N-SST3904_SOT23 FS1 F-MICROSMD110F-RH R52 0R0805 R46 300L250m_380 R34 4.7KR0402 C1 C4.7U10Y0805 C6 C0.1U25Y0402	JKBMS1 N56-06F0141-A10 Q1 P-NDS352AP_NL_SOT23 Q6 N-SST3904_SOT23 C2 C0.1U25Y0402 Q4 N-SST3904_SOT23 Q5 P-NDS352AP_NL_SOT23 RN1 8P4R-4.7KR0402 RN2 8P4R-4.7KR0402 Q2 N-SST3904_SOT23 Q3 N-SST3904_SOT23 FS1 F-MICROSMD110F-RH R52 0R0805 R46 300L250m_380 R34 4.7KR0402 C1 C4.7U10Y0805 C6 C0.1U25Y0402
F_USB2		F_USB2 N32-2051801-H06 U26 ESD-IP4220 EC74 CD1000U6.3EL11.5 L40 CMC-L02-9008014-T34 L38 CMC-L02-9008014-T34	F_USB2 N32-2051801-H06 U26 ESD-IP4220 EC74 CD1000U6.3EL11.5 L40 CMC-L02-9008014-T34 L38 CMC-L02-9008014-T34	F_USB2 N32-2051801-H06 U26 ESD-IP4220 EC74 CD1000U6.3EL11.5 L40 CMC-L02-9008014-T34 L38 CMC-L02-9008014-T34
F_USB1	N32-2051781-H06	N32-2051781-H06	N32-2051781-H06	N31-2051711-H06



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	7594-0A-A10 (MATE)	7594-0A-A20 (VS-H)	7594-0A-A30 (VS-L)	7594-0A-A40 (PSD)
SATA	SATA1 N5N-07M0151-H06 SATA2 N5N-07M0311-H06	SATA1 N5N-07M0151-H06 SATA2 N5N-07M0311-H06	SATA1 N5N-07M0151-H06 SATA2 N5N-07M0311-H06	SATA1 N5N-07M0151-H06 SATA2 N5N-07M0311-H06 SATA3 N5N-07M0161-H06 SATA4 N5N-07M0181-H06 SATA5 N5N-07M0221-H06 SATA6 N5N-07M0231-H06
HD1		HD1 N31-2061171-H06 C594 C22P50N0402 R567 33R0402 RN49 8P4R-33R0402	HD1 N31-2061171-H06 C594 C22P50N0402 R567 33R0402 RN49 8P4R-33R0402	HD1 N31-2061171-H06 C594 C22P50N0402 R567 33R0402 RN49 8P4R-33R0402
PWR_FAN2		PWR_FAN2 BH1X3BP_white-RH R315 100KR0402 R206 4.7KR0402 FS7 F-MICROSM050F-RH R317 1.5KR0402 EC40 CD100U25EL11-RH C401 C2.2U16Y0805 R329 510R1%0402 R200 10KR0402 Q30 P-P06P03LCG_SOT89-3-RH R196 4.7KR0402		PWR_FAN2 BH1X3BP_white-RH R315 100KR0402 R206 4.7KR0402 FS7 F-MICROSM050F-RH R317 1.5KR0402 EC40 CD100U25EL11-RH C401 C2.2U16Y0805 R329 510R1%0402 R200 10KR0402 Q30 P-P06P03LCG_SOT89-3-RH R196 4.7KR0402

DIMM_A1 N13-2400851-K06 ,CNT MEMORY SOCKET,DDRIII,240pin,DIP,2mm,BLUE/HOUSING+WHITE/LATCH,P-B/NY66,GF,,MODULE LOCK,2.54mm,1.5V,RoHS COMPLIANCE
 DIMM_B1 N13-2400851-K06 ,CNT MEMORY SOCKET,DDRIII,240pin,DIP,2mm,BLUE/HOUSING+WHITE/LATCH,P-B/NY66,GF,,MODULE LOCK,2.54mm,1.5V,RoHS COMPLIANCE
 DIMM_A2 N13-2400841-K06 ,CNT MEMORY SOCKET,DDRIII,240pin,DIP,2mm,BLACK/HOUSING+WHITE/LATCH,P-B/PA66,GF,,MODULE LOCK,2.54mm,1.5V,RoHS COMPLIANCE
 DIMM_B2 N13-2400841-K06 ,CNT MEMORY SOCKET,DDRIII,240pin,DIP,2mm,BLACK/HOUSING+WHITE/LATCH,P-B/PA66,GF,,MODULE LOCK,2.54mm,1.5V,RoHS COMPLIANCE
 Audio Capacitors: EC70, EC71, EC72, EC73 CD10U25EL5 C94-1002521-N07 ,CAP EL,10uF,25V,DIP-4x7/1.5mm,20%,5.4Ohm,37mA,105C,3000hrs,RoHS COMPLIANCE

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2008.10.15

Page_07_Eaglelake-VGA/MISC (Reserved decoupling capacitors for DDRIII slots.)
Page_08_Eaglelake-Memory_DDRIII(Add DDR3_PWROK circuit and change to DDRIII connections.)
Page_14_DDRIII Channel A(Change DIMM slots and reference voltage for DDRIII)
Page_15_DDRIII Channel B(Change DIMM slots and reference voltage for DDRIII)
Page_26_MS11-DIMM/GMCH POWER(Reserved EC80 for input capacitor of DDR3 power.)
Page_12_ICH10_Host, SATA, RTC, MSIC (Change GPIO_8 for DDR3_PWROK, Change GP57 for GAIA_SMI#)
Page_26_MS11-DIMM/GMCH_POWER (Change R160 to 665 ohm for VCC_DDR=1.5V)
Page_20_PCI Slot (Change SMI# net to GAIA_SMI# net)

2008.10.16

Page_14_DDRIII Channel A (Correct the colors of DDRIII --> DIMM_A1[BLUE] DIMM_A2[BLACK])
Page_15_DDRIII Channel B (Correct the colors of DDRIII --> DIMM_B1[BLUE] DIMM_B2[BLACK])
Page_12_ICH10_Host, SATA, RTC, MSIC (Reserved GPIO12 for GAIA_SMI#)
Page_25_MS7-ACPI Controller(Add compensation resistor for V_1P5_ICH)

2008.10.20

Page_14_DDRIII Channel A
Add C679(0.1u), C680(0.1u) for DIMM_VREF_CA_A
Add C682(0.1u) for DIMM_VREF_DQ_A
Page_15_DDRIII Channel B
Add C684(0.1u), C685(0.1u) for DIMM_VREF_CA_B
Add C686(0.1u) for DIMM_VREF_DQ_B
Page_21_USB Connector
Add FS11(poly fuse), EX81(1000uF) for rear USB port.
Page_11_ICH10_PCI, USB, DMI, PCIE x1
Add USB_OC#II net for detecting rear USB port.
Page_03_Intel LGA775 - Signals
Reserved R605(0) for CPU Socket VID_SELECT pin
Page_25_MS7 - ACPI Controller
Reserved C182(X_4.7uF) for V_1P5_ICH power rail.
Page_26_MS11 - DIMM/GMCH POWER
Modify ICH10 V_1P5_ICH POWER linear power
Page_18_CPU/SYS/PWR FAN
Change U17B(LM358) to U35B(LM358) for System FAN.
Because U17B(LM358) is used for V_1P5_ICH.



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