



MS-7212L2 Ver:20

RoHs

CPU:

AMD 939 Athlon 64/Athlon 64 FX

System Chipset:

NVIDIA CRUSH 51G

NVIDIA MCP51G

On Board Chipset:

LPC Super I/O -- W83627EHF REV:D

LAN -- REALTEK 8110S / 8100C

AC97 Codec --ALC655

BIOS --LPC FLASH ROM 4M

Main Memory:

DDR1 * 2 (Max 2GB)

Expansion Slots:

PCI-E 16X * 1

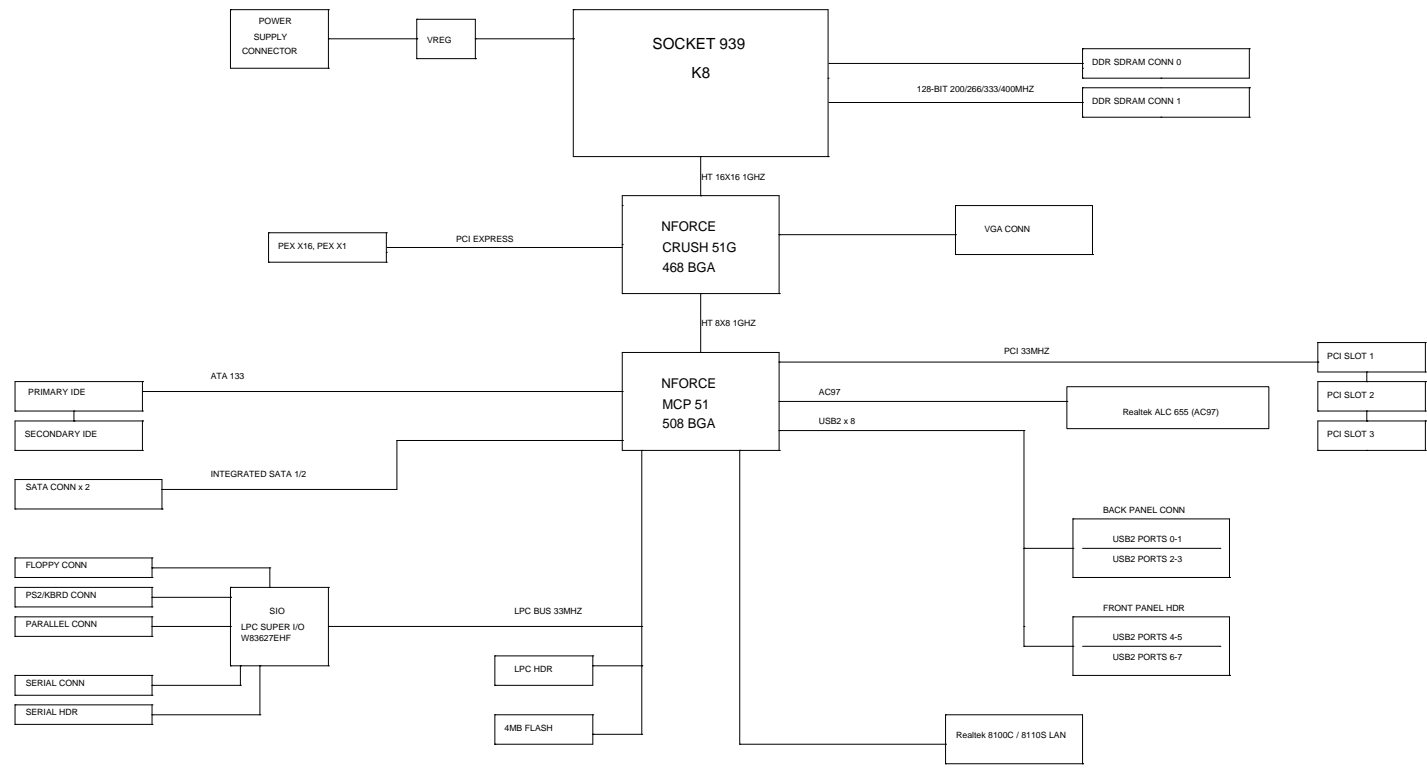
PCI 2.2 Slot * 3

PWM:

Controller--Intersil ISL6566CR with Driver inside

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BLOCK DIAGRAM



MS-7212 GPIO FUNCTION

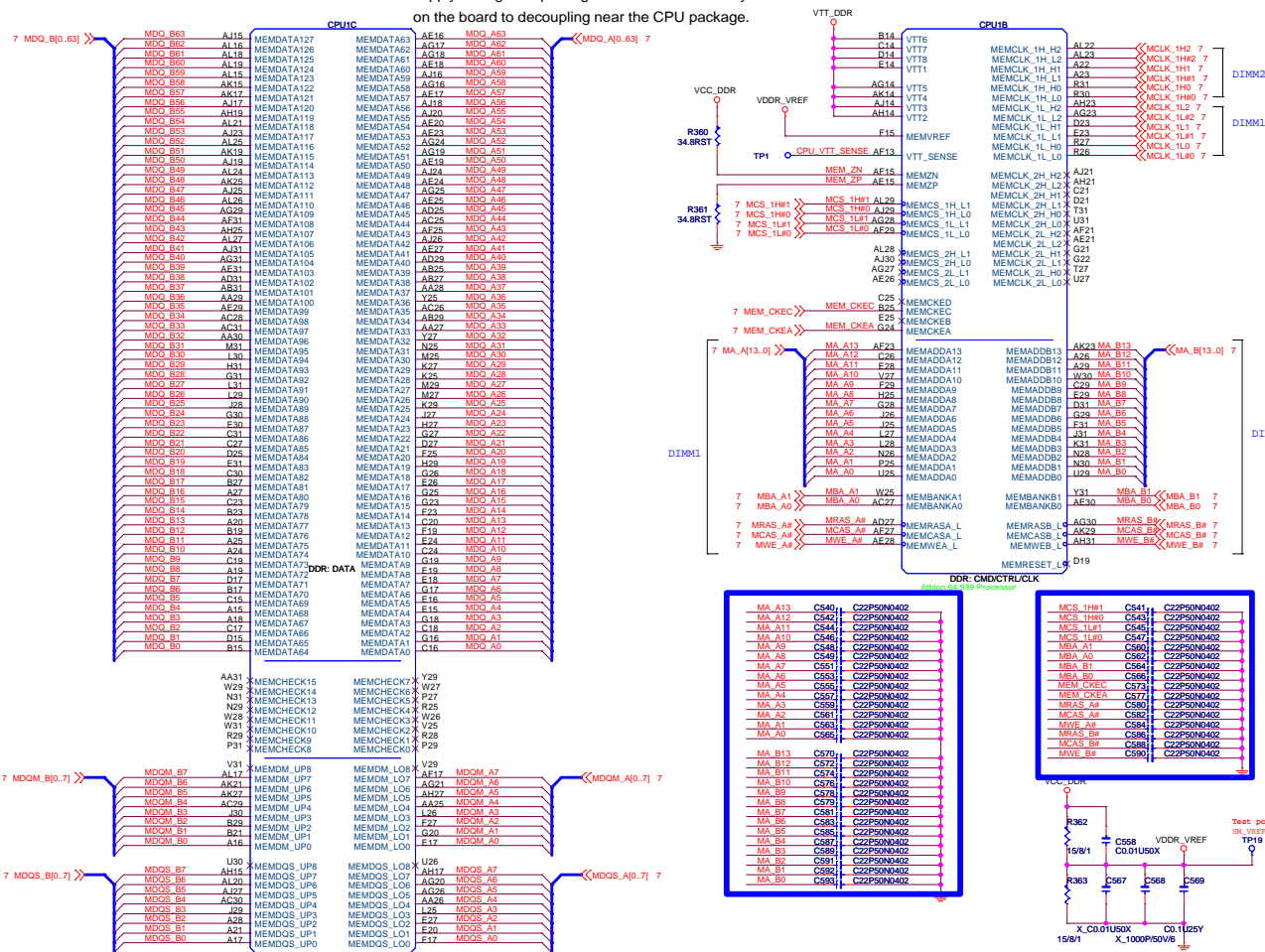
MCP51 GPIO FUNCTION

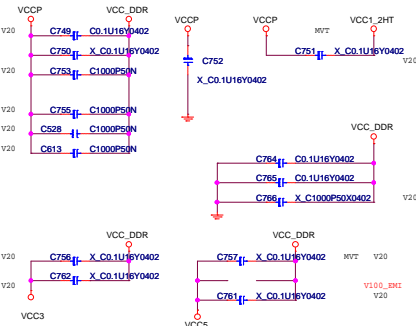
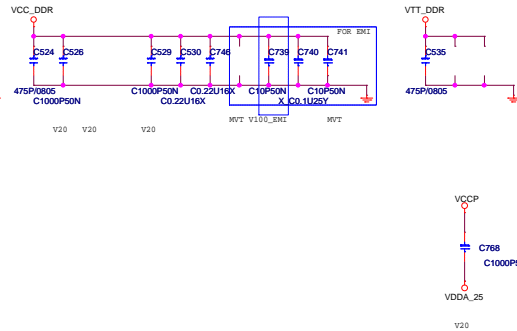
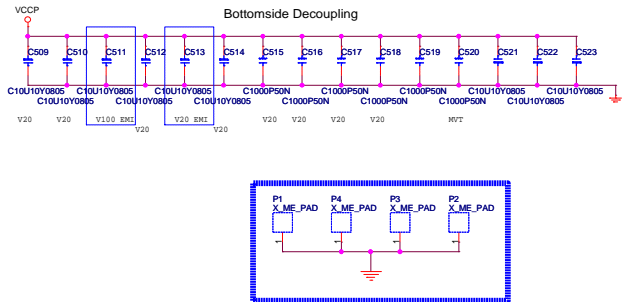
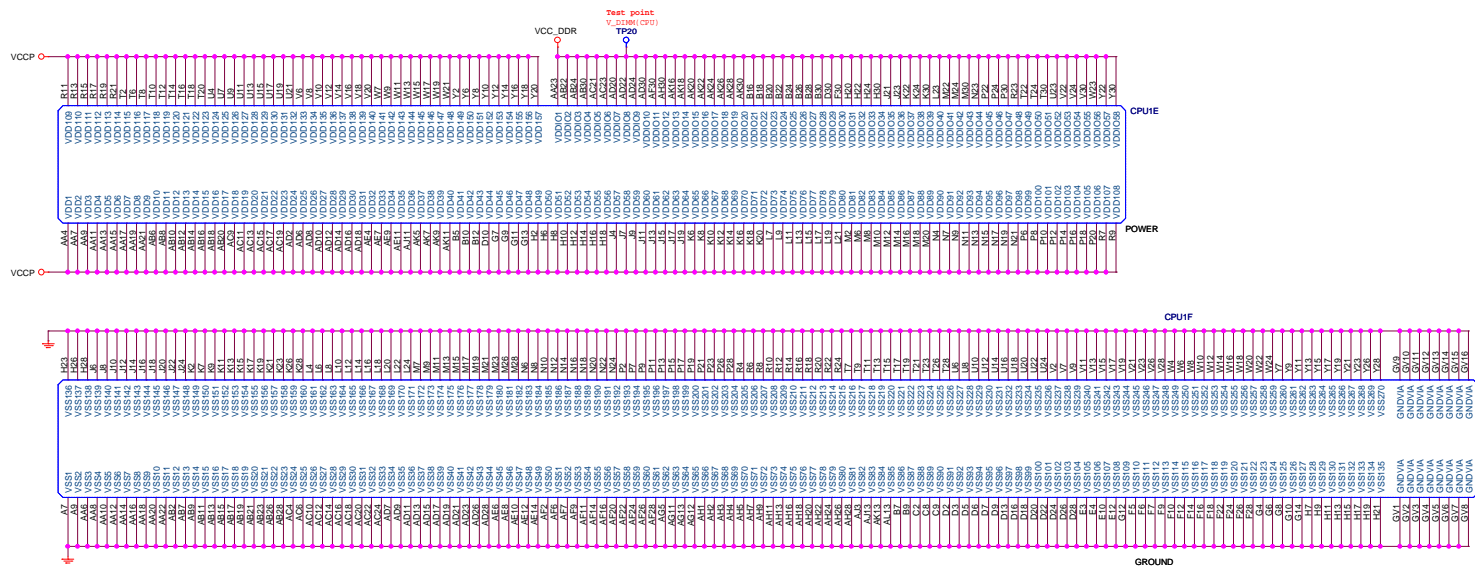
NAME	Function Description	PAGE
GPIO_1	F_PANL RESET GPIO(FOR LENOVO SPEC)	12
GPIO_2	BIOS WRITE PROTECT(FOR LENOVO SPEC)	12
GPIO_3	BIOS_TBL#(FOR LENOVO SPEC)	12
GPIO_4	RESERVE(NC)	12
GPIO_5	RESERVE(NC)	12
GPIO_6	FOR LENOVO USB SWITCH(FOR LENOVO SPEC)	12
GPIO_7	FOR LENOVO USB SWITCH(FOR LENOVO SPEC)	12
GPIO_8	RESERVE GPIO(RSV1)(FOR LENOVO SPEC)	12
GPIO_9	RESERVE GPIO(RSV2)(FOR LENOVO SPEC)	12
GPIO_10	RESERVE(NC)	12
GPSB1/GP11	FOR LENOVO SUSPEND LED CONTROL(FOR LENOVO SPEC)	12
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GPIO_13	NC	12
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GPIO_16	NC	12
THERMTRIP*/GPIO	CPU THERMTRIP	12
FANRPM/GPIO	THRM#	12
SATA_LED*/GPIO	SATA_LED	13

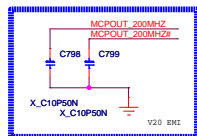
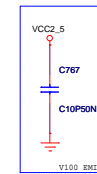
SIO GPIO FUNCTION

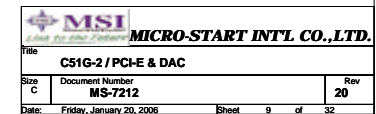
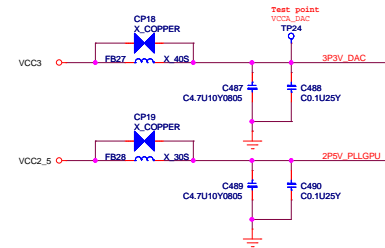
NAME	Function Description	PAGE
GP10	NC	19
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GP60/RIA#	RIA#	19
GP52/SUSB#	SLP_S3#	19
GP50	GP50 (EN_VRM10)	19

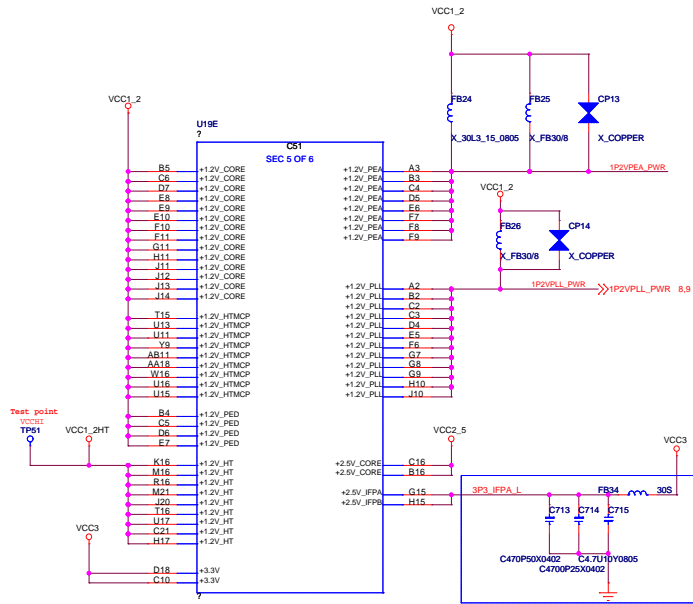
VDD_VTT_SUS_CPU is connected to the VDD_VTT_SUS power supply through the package or on the die. It is only connected on the board to decoupling near the CPU package.



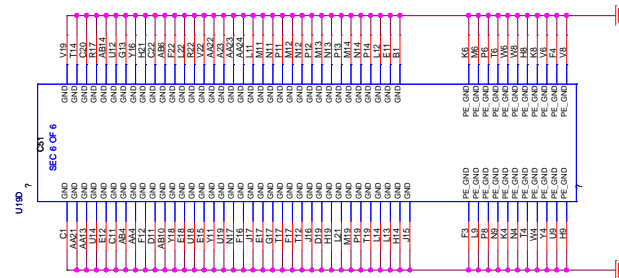
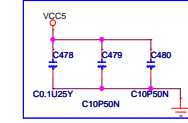
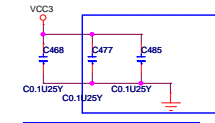
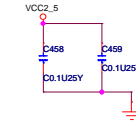
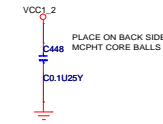
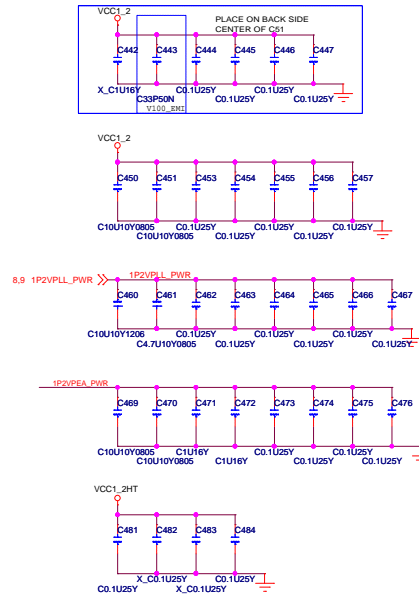


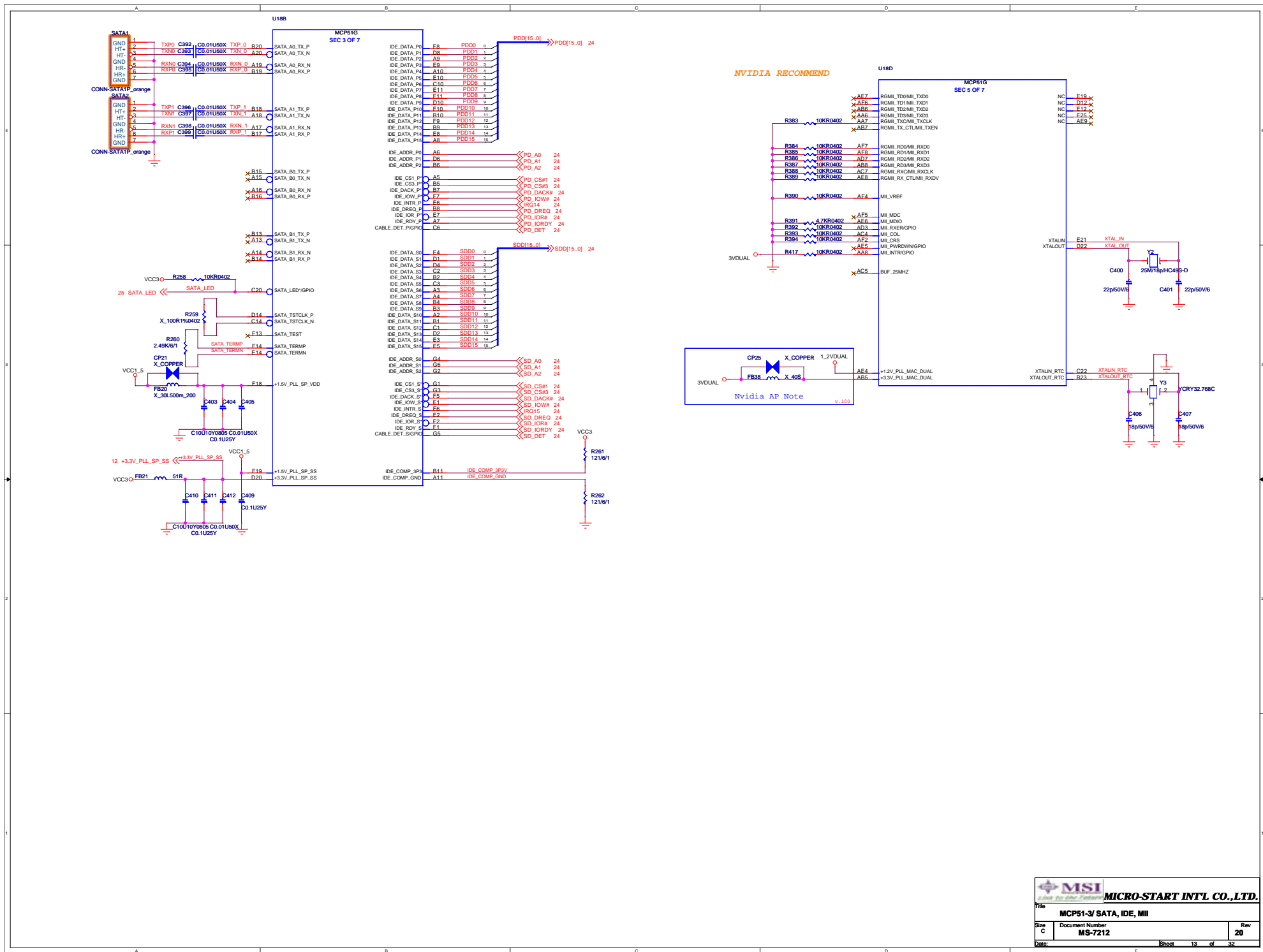


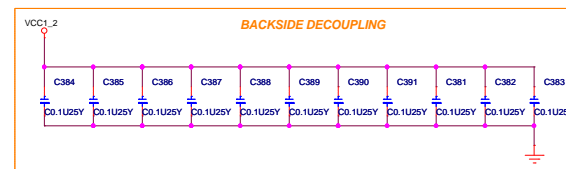


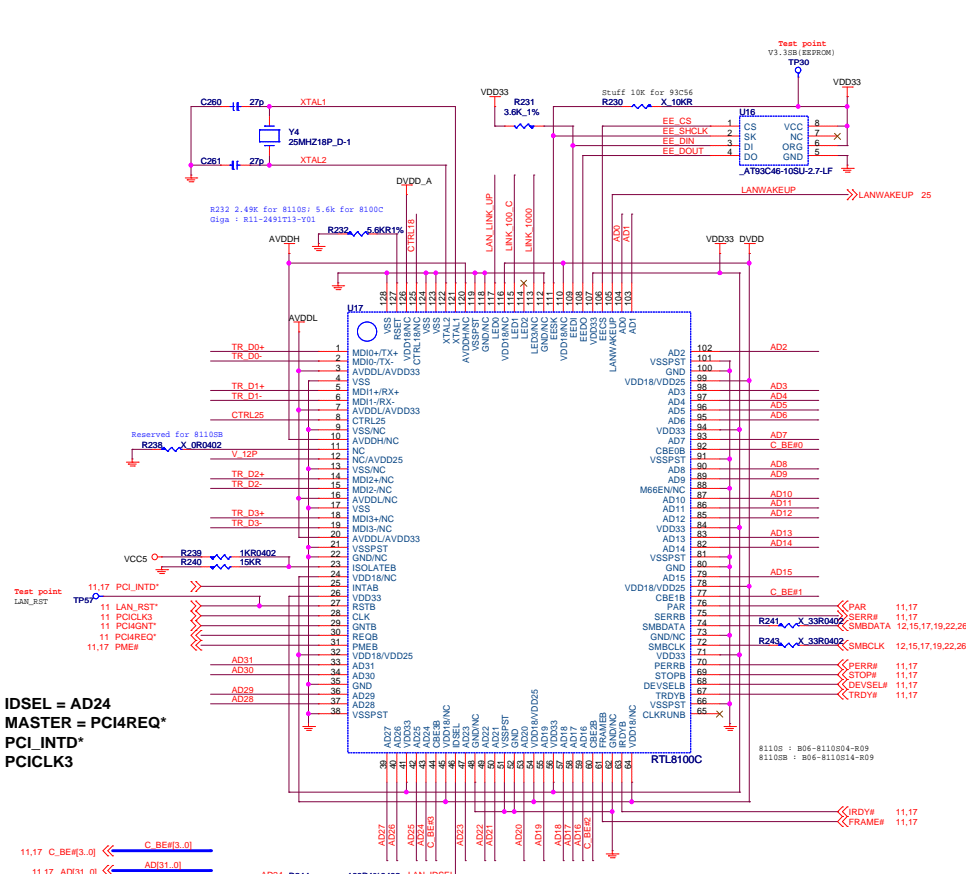


C51 DECOUPLING



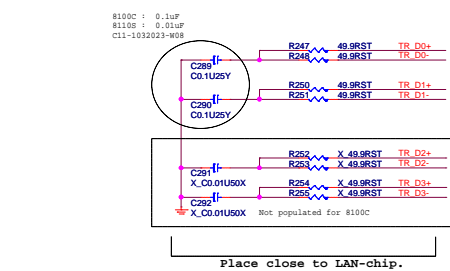




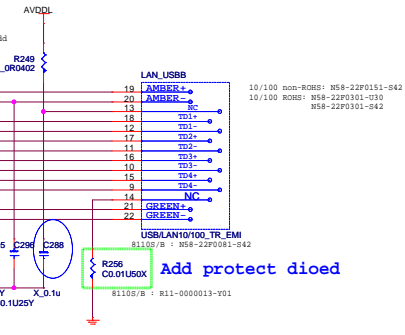
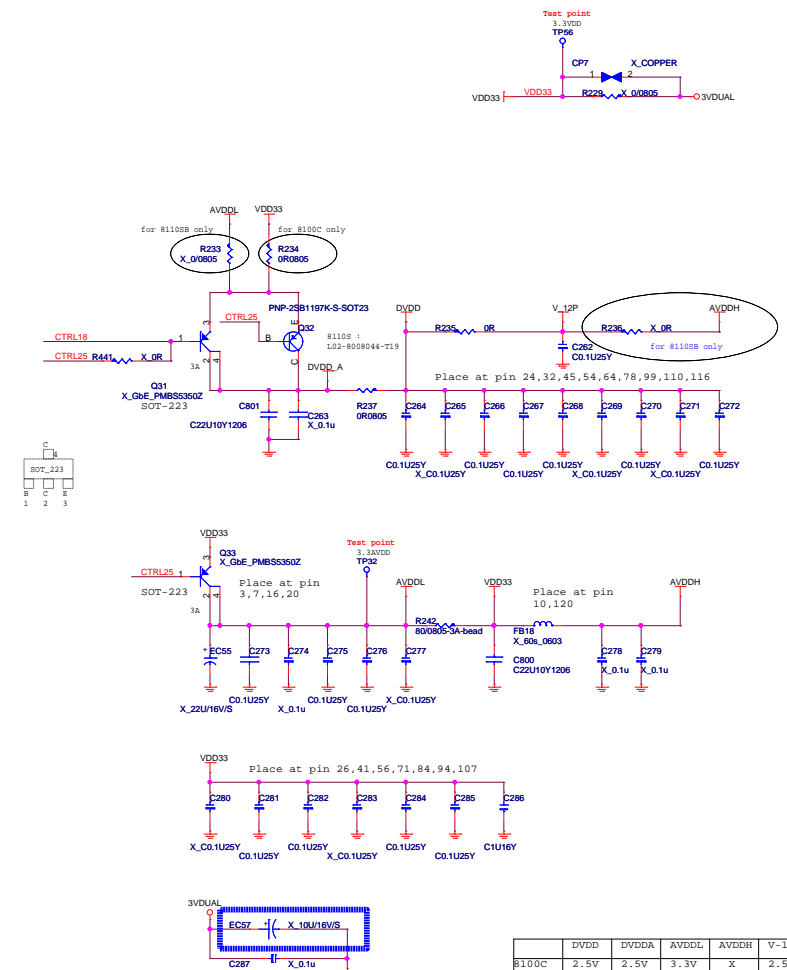


IDSEL = AD24
MASTER = PCI4REQ*
PCI_INTD*
PCICLK3

11.17 C_BE#3.0I
11.17 AD31.0I
AD24 R244 100R1%0402 LAN_IDSEL

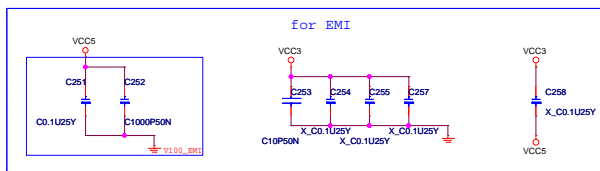


1- MDIO+ & MDIO- pairs should be 100-ohm differential impedance. Route equal length and symmetrically. Separate every pairs.

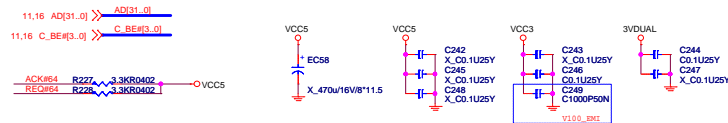


	DVDD	DVDDA	AVDDL	AVDDH	V-12P
8100C	2.5V	2.5V	3.3V	X	2.5V
8110S	1.8V	1.8V	2.5V	3.3V	X
8110SB	1.2V	1.2V	2.5V	3.3V	3.3V

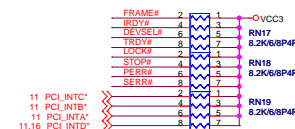
Giga-Lan		10/100-Lan	
N58-22P0081-842		N58-22P0081-842	
Link	Yellow	Link	Yellow
Active	Blinking	Active	Blinking
1000	Orange	100	Green
100	Green	10	None
10	None	10	None
19	Yellow	19	Yellow
20	Yellow	20	Yellow
21	Orange	21	Orange
22	Green	22	Green

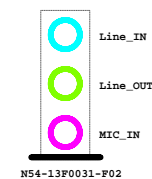
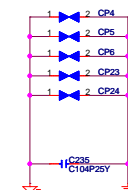
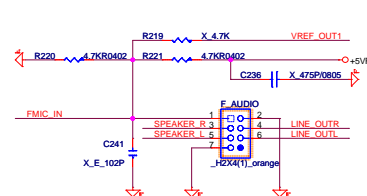
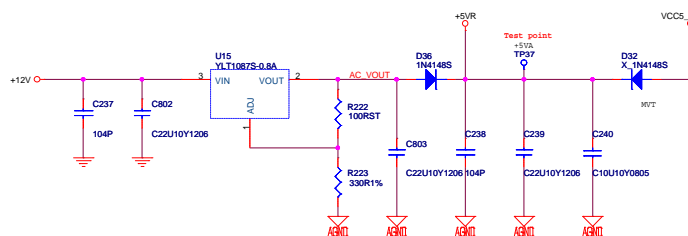
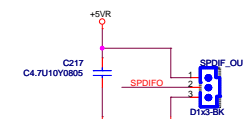
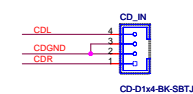
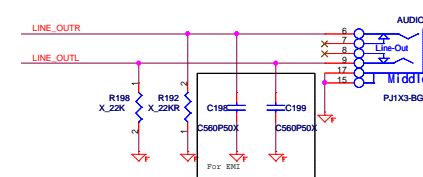
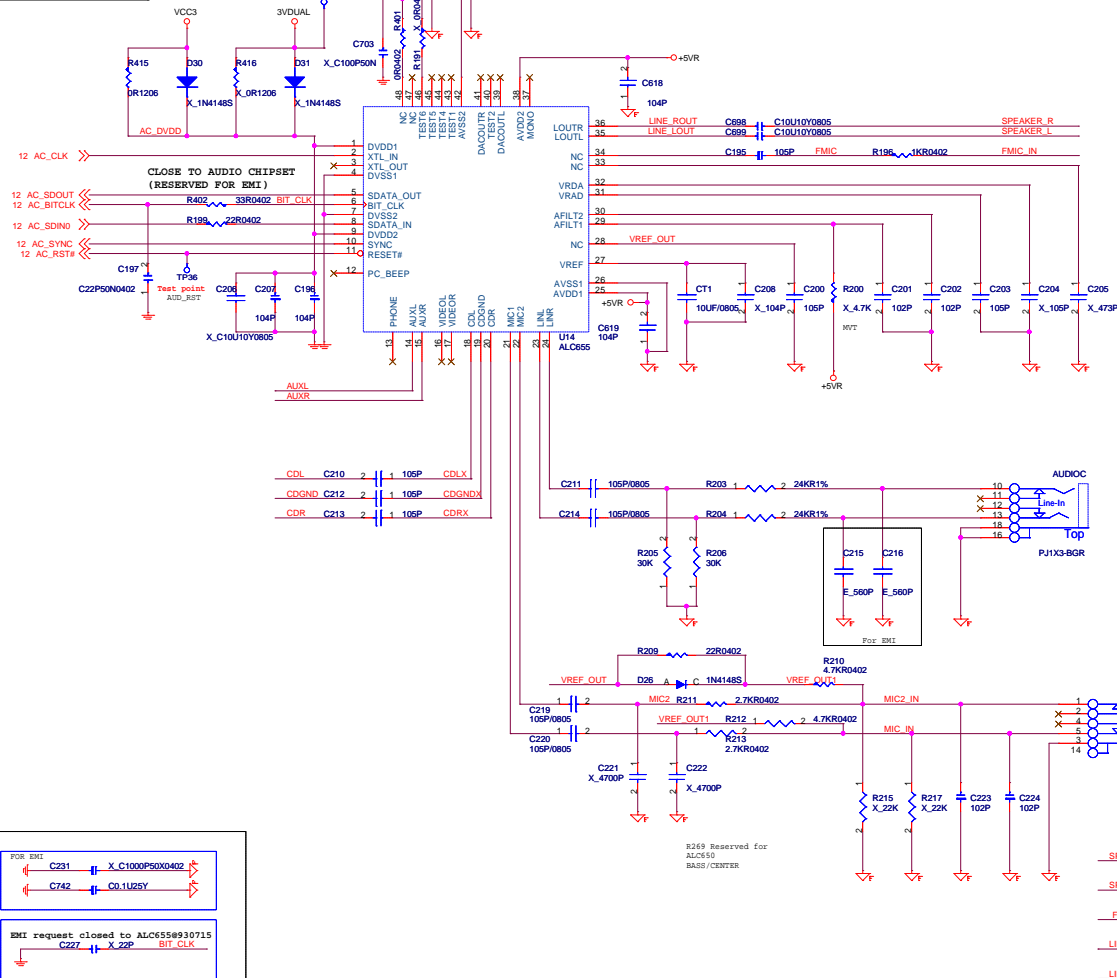


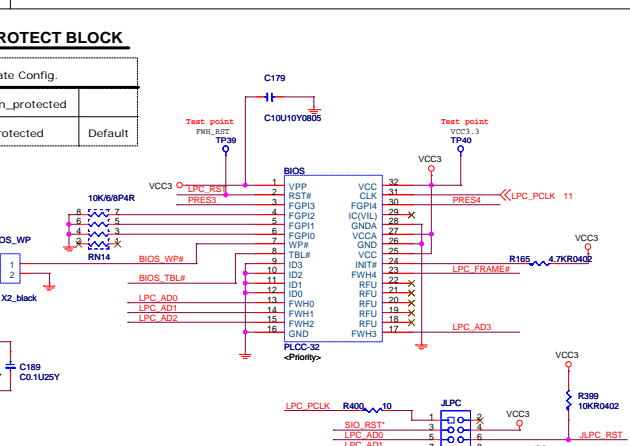
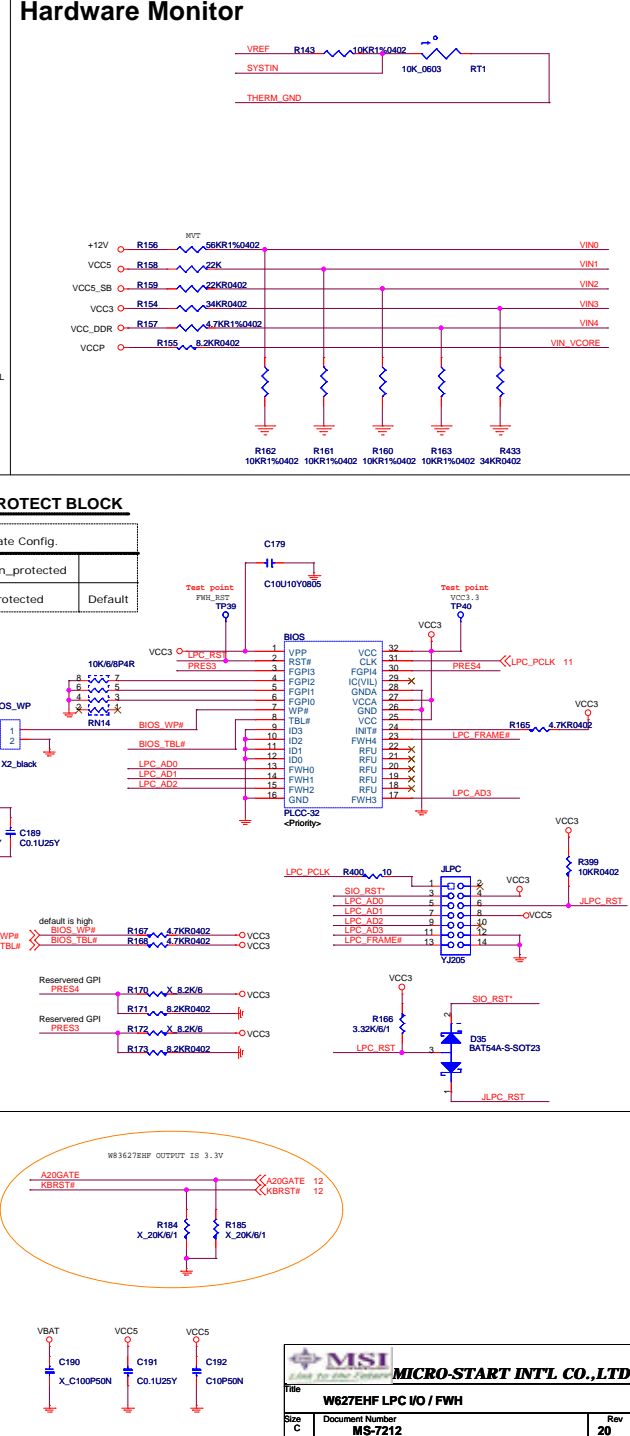
```
IDSEL = AD22
MASTER = PCI2REQ*
PCI_INT* B C D A
PCICLK1
```



```
IDSEL = AD23
MASTER = PCI3REQ*
PCI_INT* C D A B
PCICLK2
```



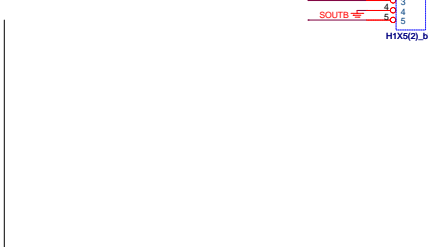
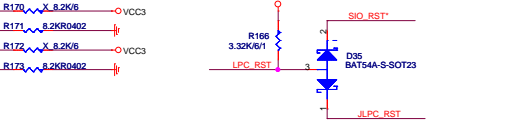



Winbond APnote 

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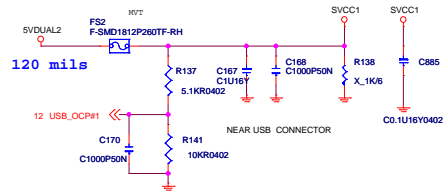
[illegible]

PRES4

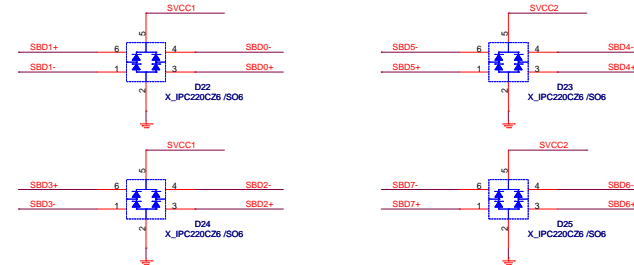
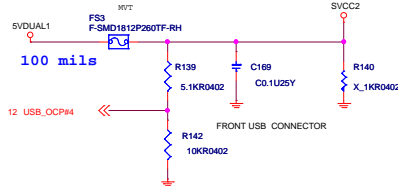


 MICRO-START INT'L CO., LTD	
Title W627EHF LPC I/O / FW/H	
Size C	Document Number MS-7212 Rev 20
Date: Friday, January 20, 2006	Sheet 19 of 32

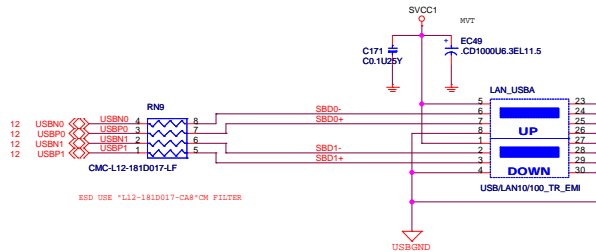
POWER CIRCUIT FOR USB PORT 0,1,2,3



POWER CIRCUIT FOR USB PORT 4,5,6,7



REAR PANEL USB CONNECTOR FOR USB PORT 4,5

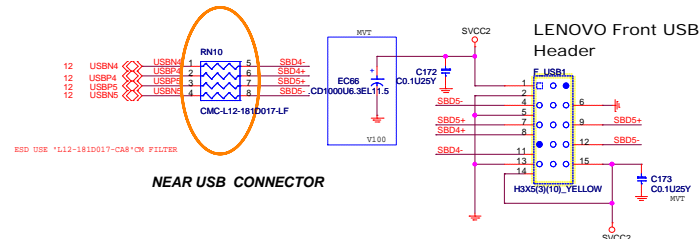


NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

FRONT PANEL USB CONNECTOR FOR USB PORT 0,1

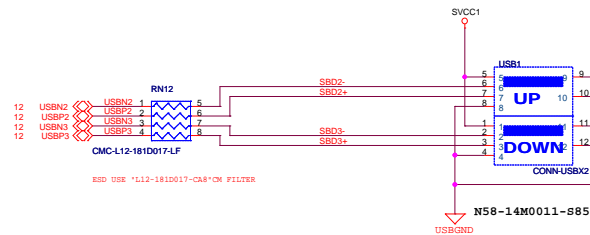
Reserved, can be taken off riser card within bead



NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

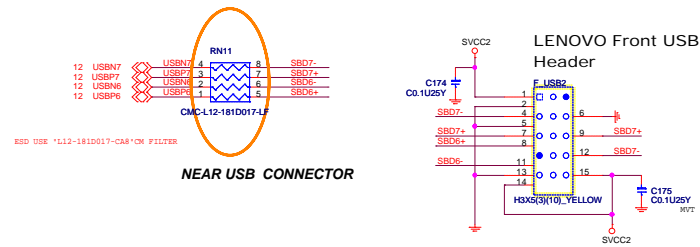
REAR PANEL USB CONNECTOR FOR USB PORT 6,7



NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

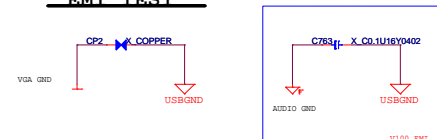
FRONT PANEL USB CONNECTOR FOR USB PORT 2,3



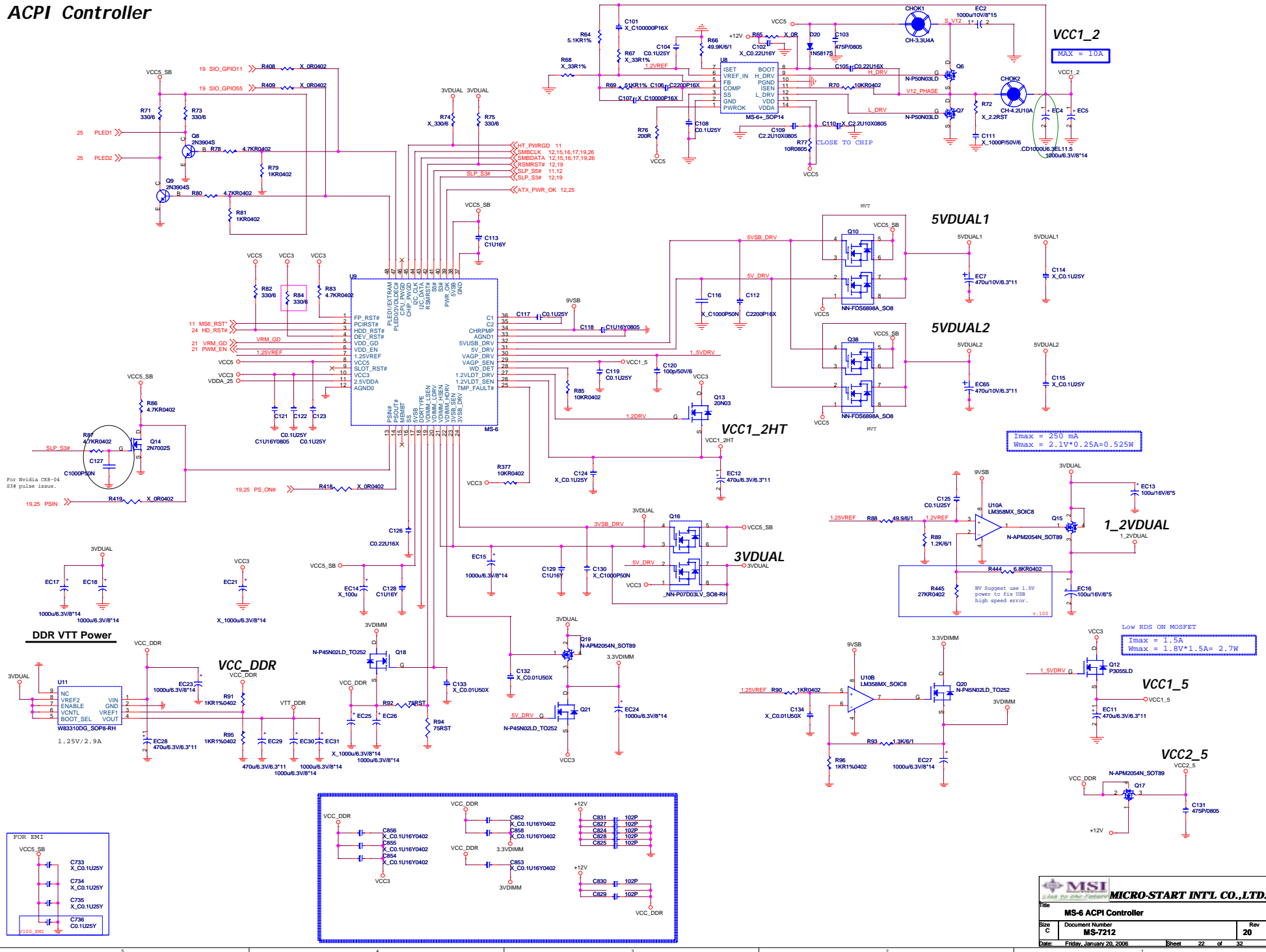
NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

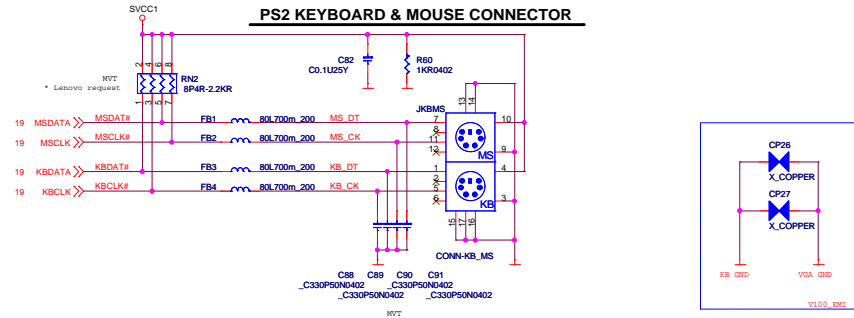
EMI TEST



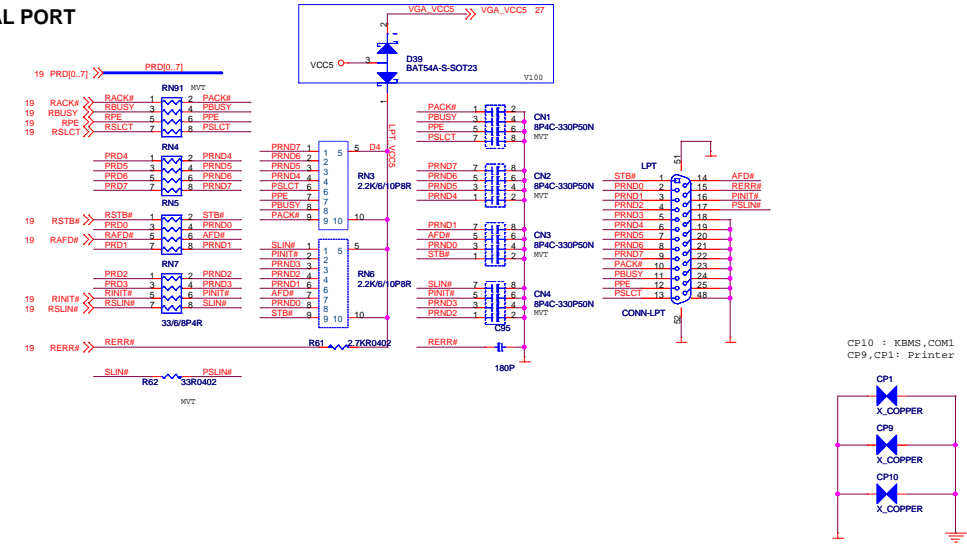
ACPI Controller



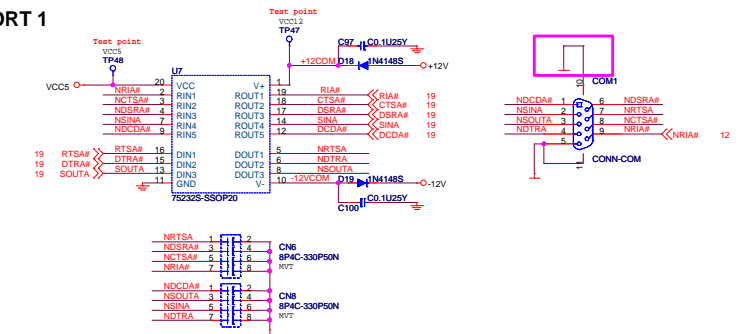
KB/MS/LPT/COM Port



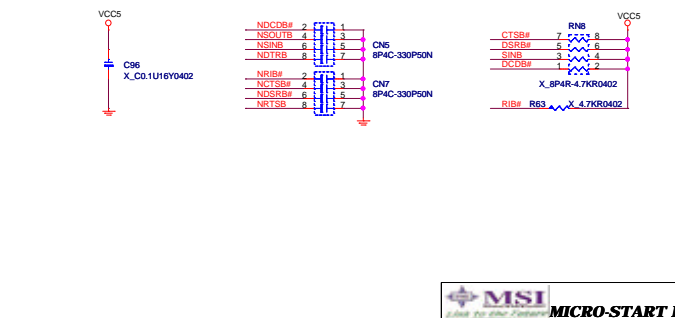
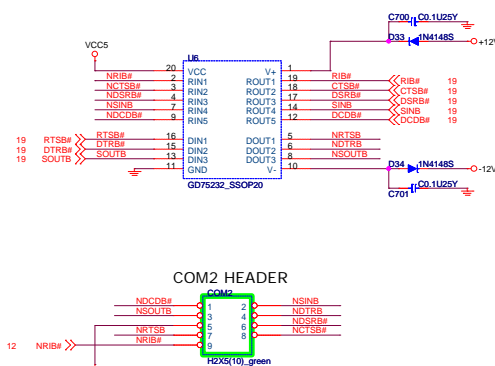
PARALLAL PORT



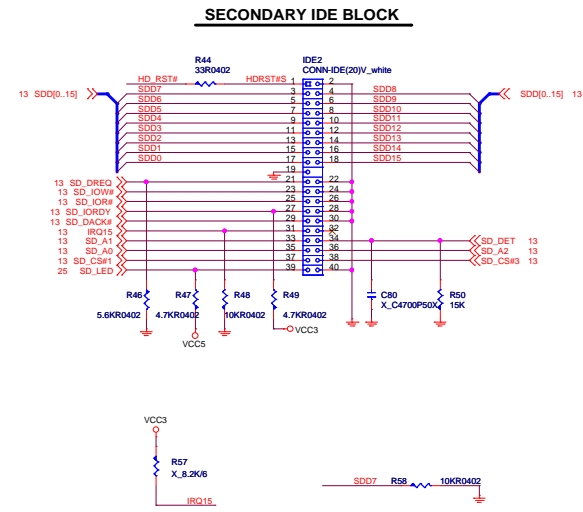
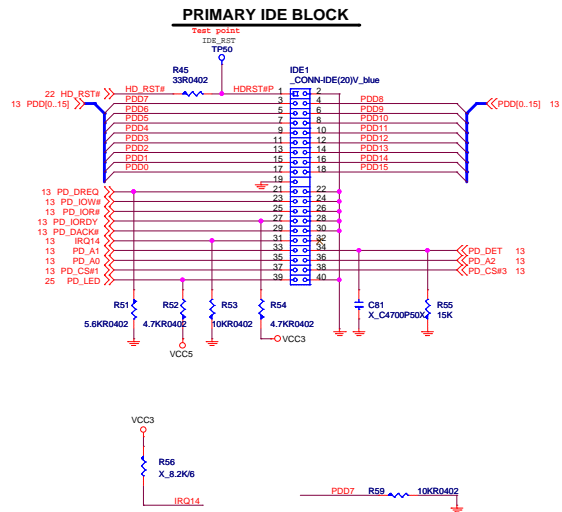
SERIAL PORT 1



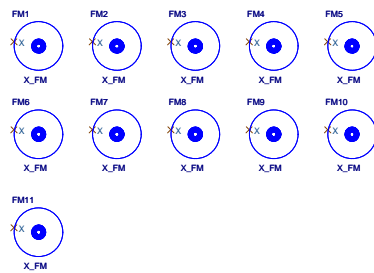
SERIAL PORT 2



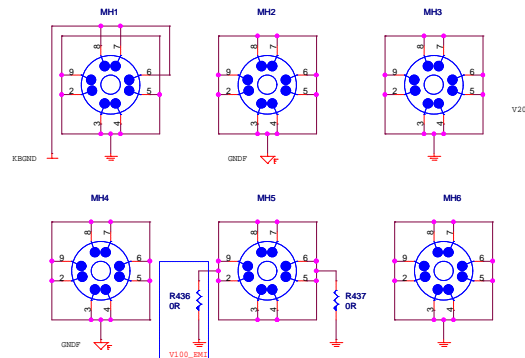
ATA 33/66/100 Connector



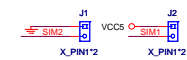
Optics Orientation Holes



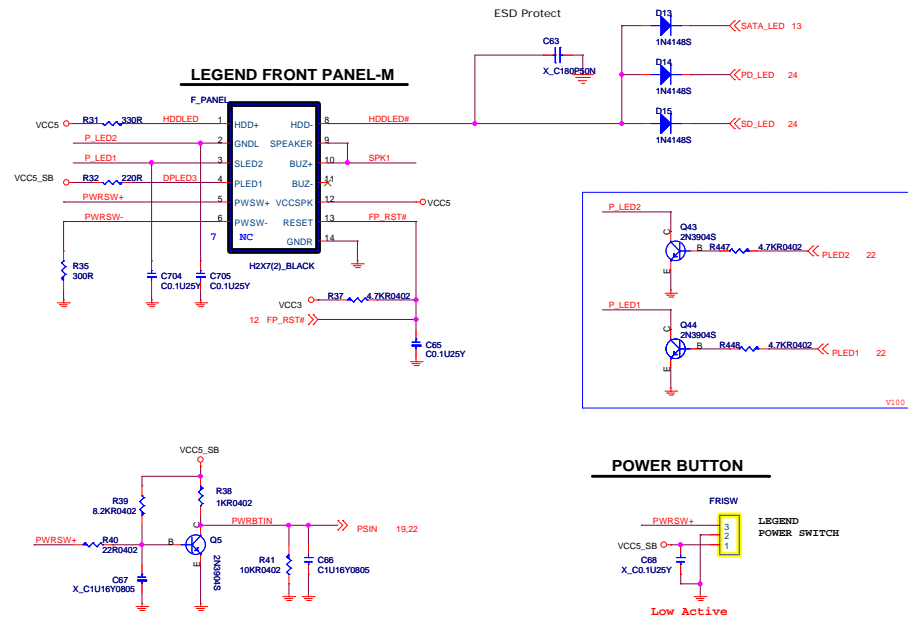
Mounting Holes



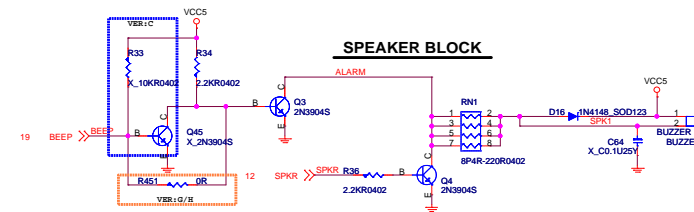
Simulation



ATX connector / Front Panel

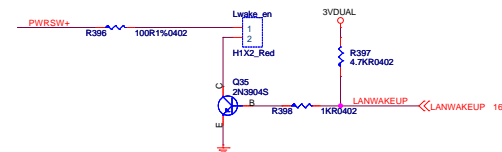
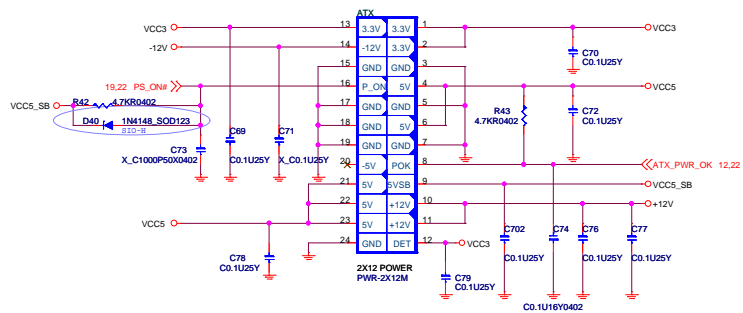


BUZZER

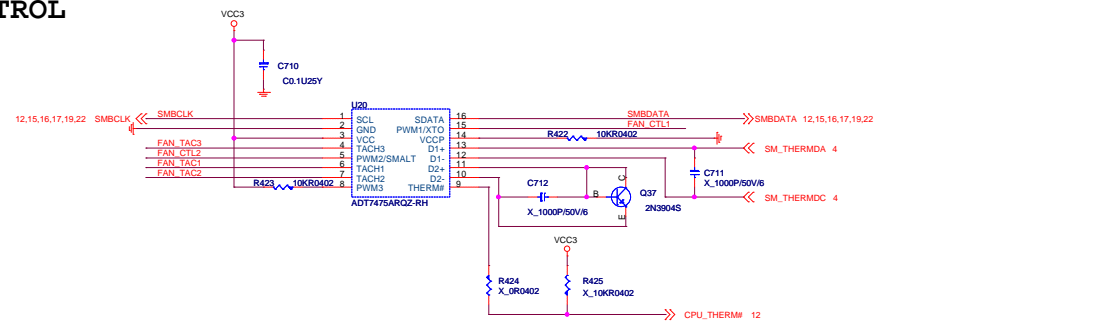


ATX Connector

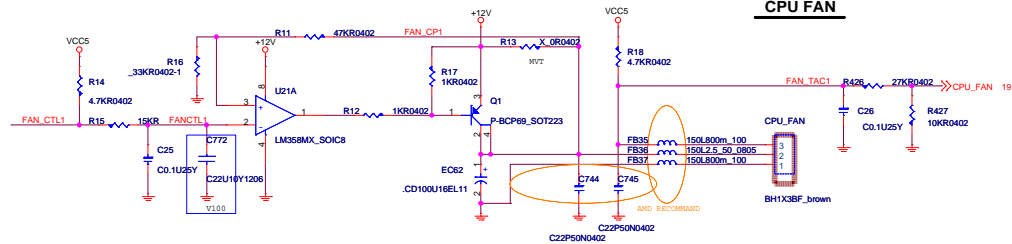
For LENOVO LAN Wake up function



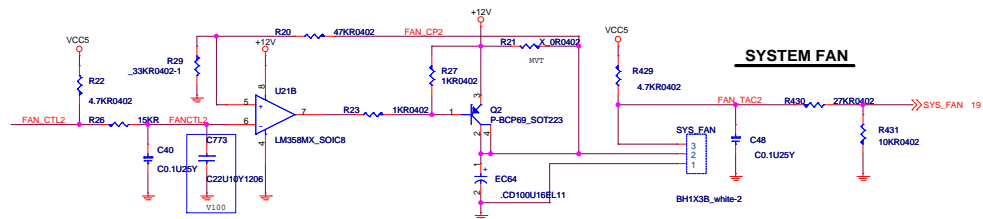
FAN CONTROL



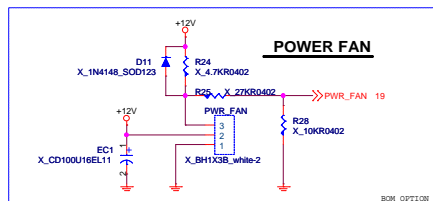
CPU FAN



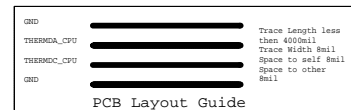
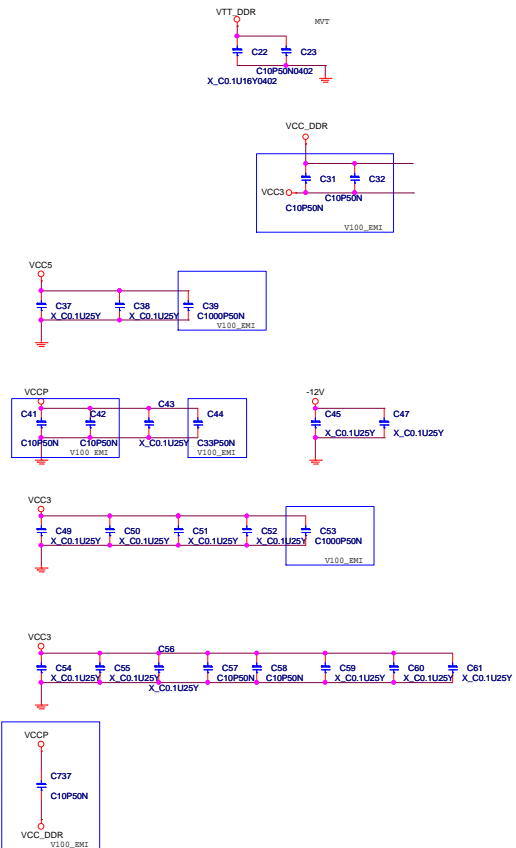
SYSTEM FAN



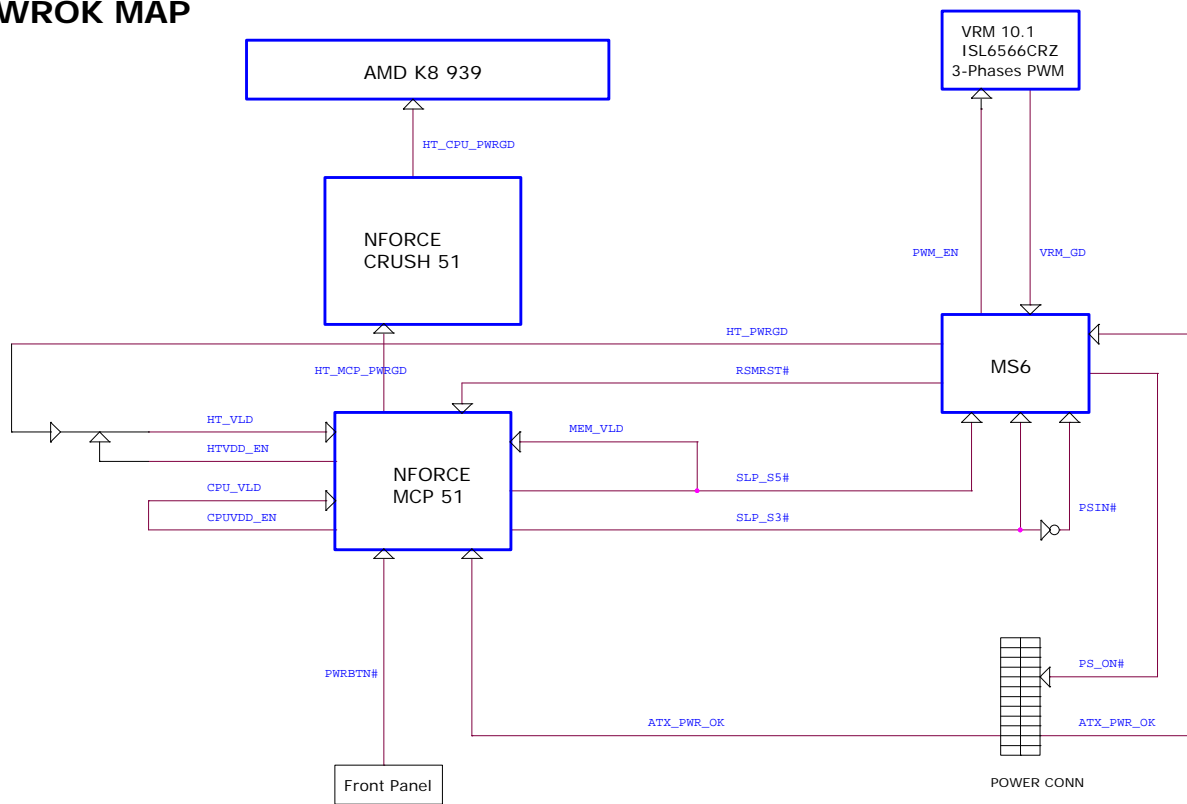
POWER FAN



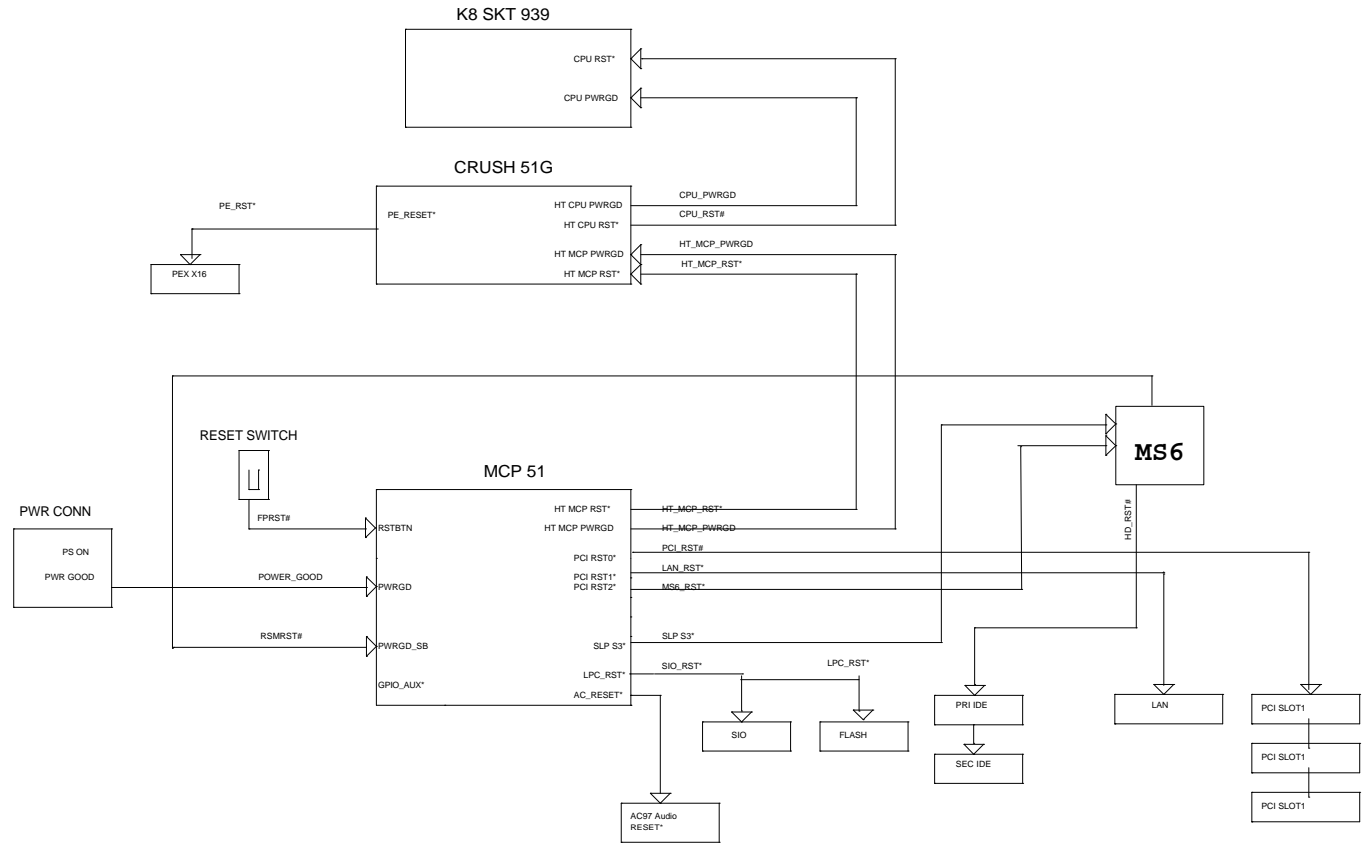
EMI



PWROK MAP



RESET MAP



POWER MAP

ATHLON 64		
0.8V - 1.55V Core	-	95A
VLDT 1.2V	-	0.5A

CRUSH 51G		
+1.2V REGULATOR	-	10A
+1.2V_HT REGULATOR	-	850mA
+2.5V REGULATOR	-	500 mA

MCP51		
+1.2V REGULATOR	-	TBD A
+1.5V REGULATOR	-	1 A
+3.3V DUAL	-	TBD A
RTC (G3)	-	5uA
5V	-	TBD A
1.2V DUAL	-	200 mA

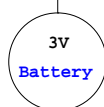
FWH		
+3.3V (S0,S1)	-	107mA

ISL6565		
VCCP VRM 10.1		
0.8375V-1.6000V	95A	
3-Phase Switch		

W83310DS		
VTT_DDR		
0.9V Linear	1.5A	

MS7 Regulator		
V_FSB_VTT		
1.2V Linear	5.0A	
V_1P5_CORE		
1.5V (S0,S1)	14A	
Linear		
V_2P5_MCH		
2.5V Linear	100mA	
VCC3_SB		
3.3V Linear	1.5A	
5V DUAL1,2		
5V Linear	22mA	

MS6+ Regulator		
VCC_DDR		
1.8V Switch	20A	
Linear (S3)	425mA	



ATX POWER			
+12V	+5V	+3.3V	+5VSB

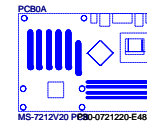
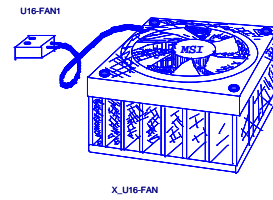
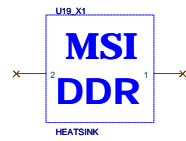
DDR DIMM & TERMINATOR		
0.9V VTT_DDR	-	1.2A
1.8V VCC_DDR (S0,S1)	-	9.4A
1.8V VCC_DDR (S3)	-	400mA

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

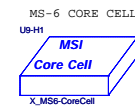
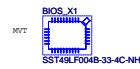
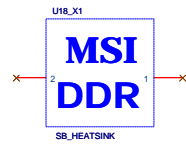
PCI slot x3		
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	7.6A
+5V	-	5.0A
+12V	-	0.5A

USB		
+5V (S0,S1)	-	4.0A
+5V (S3)	-	20mA

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



PCB NEW PN
VER:0A
P00-072120A-G37
P00-072120A-T39
VER:10
P00-0721210-G37
P00-0721210-E48
VER:
P01-0721210-E48
P01-0721210-G37



LEGEND SPEC:

CLR_CMOS(2)

X_JUMPER-1X2A_green-1

JBAT1 Clear CMOS	
1-2	Clear CMOS
2	Normal
2	Normal

LEGEND SPEC:

BIOS_WP(1)

X_JUMPER-1X2A_green

BIOS WRITE PROTECT

LEGEND SPEC:

F_AUDIO(3-6)

X_JUMPER-2X2_green

LEGEND AUDIO

LEGEND SPEC:

RSV1(1)

X_JUMPER-1X2A_black

RSV1 PROTECT

LEGEND SPEC:

RSV2(1)

X_JUMPER-1X2A_black

RSV2 PROTECT



MICRO-START INT'L CO.,LTD.

HISTORY

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