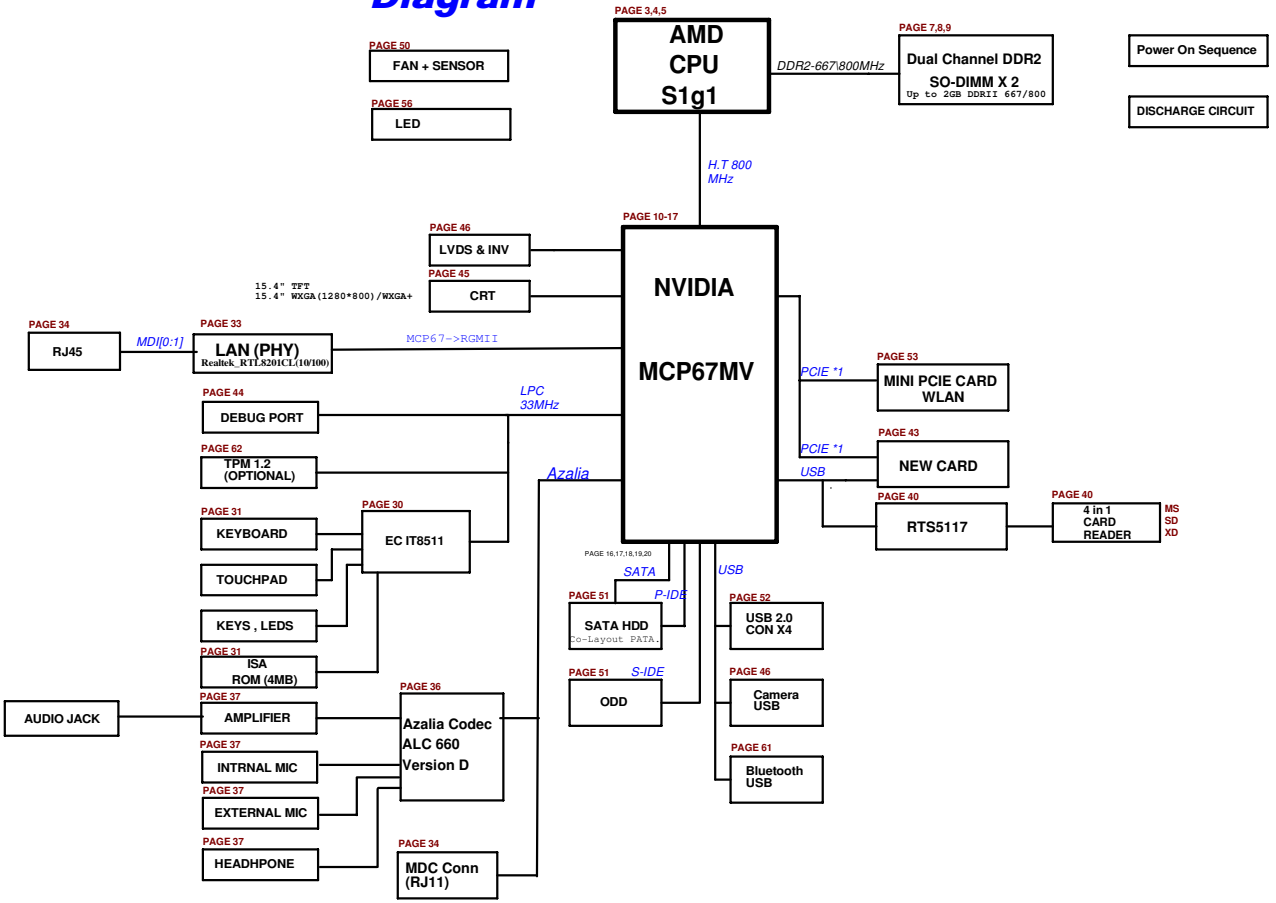
F5N Block Diagram



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期二, 十月 23, 2007	Sheet 1 of 88		

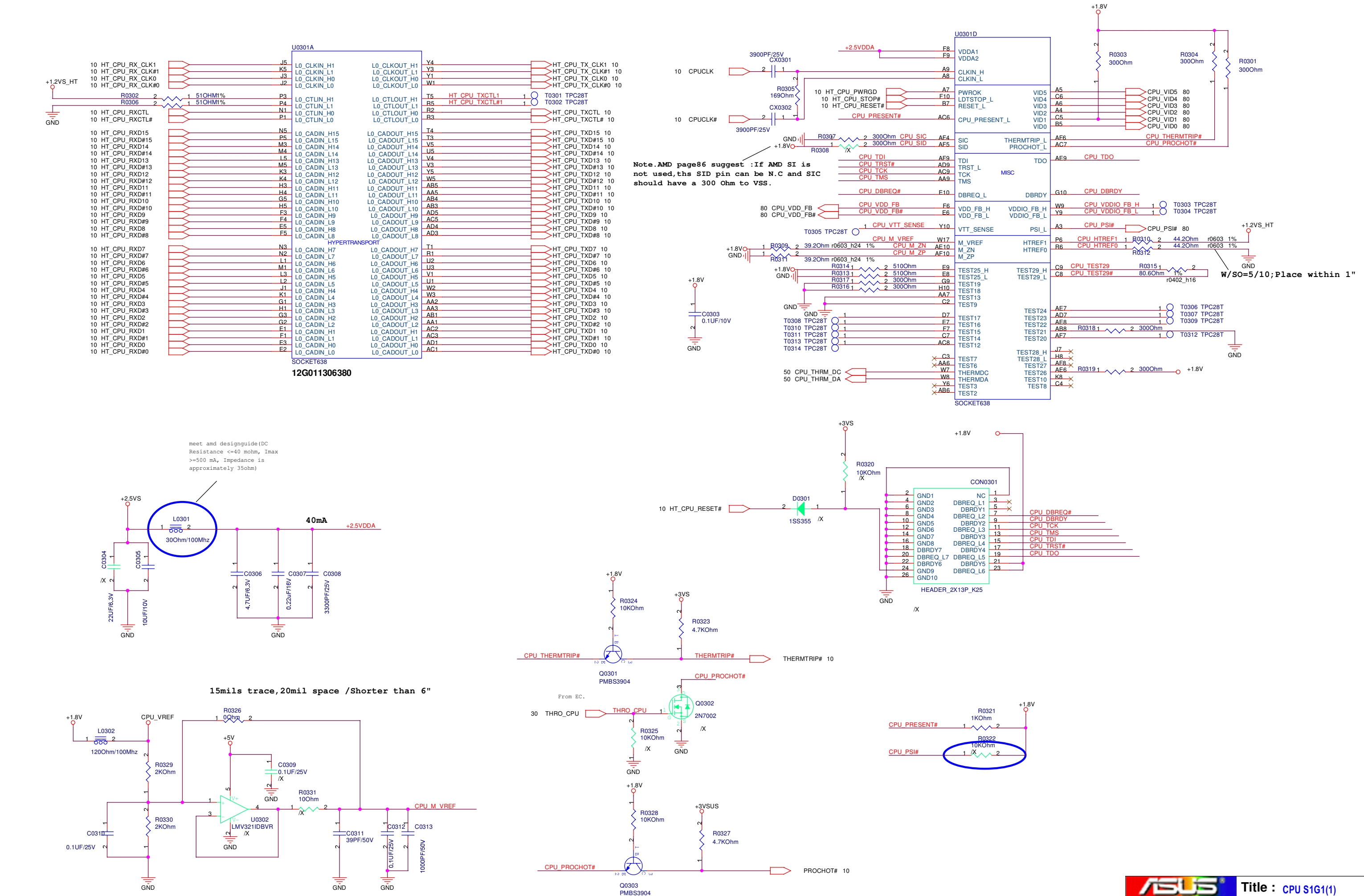
ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 2 of 68


U0301A
HYPERTRANSPORT
SOCKET638
12G011306380
U0301D
SOCKET638
MISC
Note.AMD page86 suggest :If AMD SI is not used,ths SID pin can be N.C and SIC should have a 300 Ohm to VSS.
W/SO=5/10;Place within 1"
CON0301
HEADER_2X13P_K25
D0301
1SS355
meet amd designguide(DC Resistance <=40 mohm, Imax >=500 mA, Impedance is approximately 35ohm)
L0301
30Ohm/100Mhz
40mA
+2.5VDDA
15mils trace,20mil space /Shorter than 6"
U0302
LMV321IDBVR
CPU_VREF
CPU_M_VREF
Q0301
PMBS3904
Q0302
2N7002
Q0303
PMBS3904
From EC.
THRO_CPU
THERMTRIP#
PROCHOT#
CPU_PRESENT#
CPU_PSI#

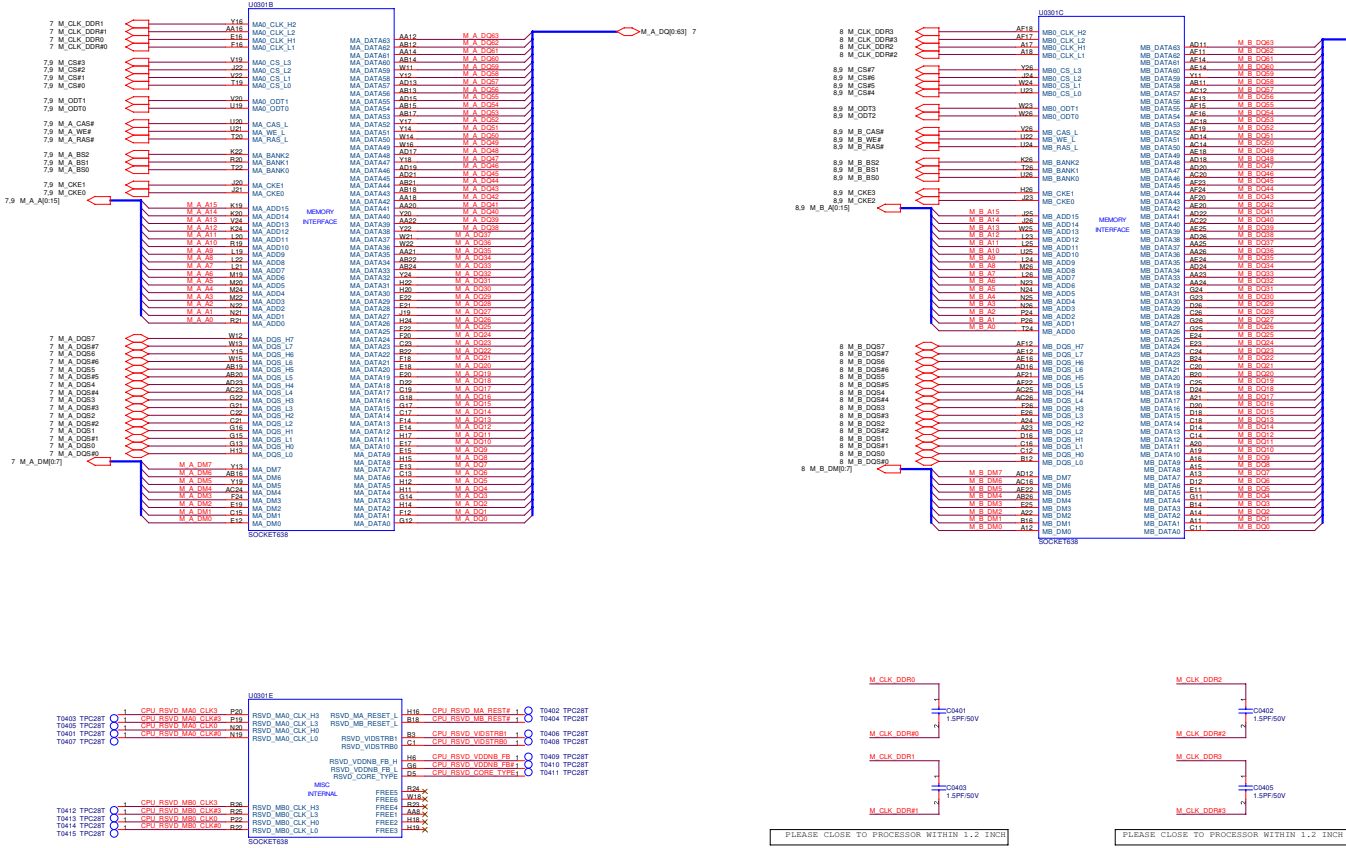
Title : CPU S1G1(1)

Engineer: He_Wang

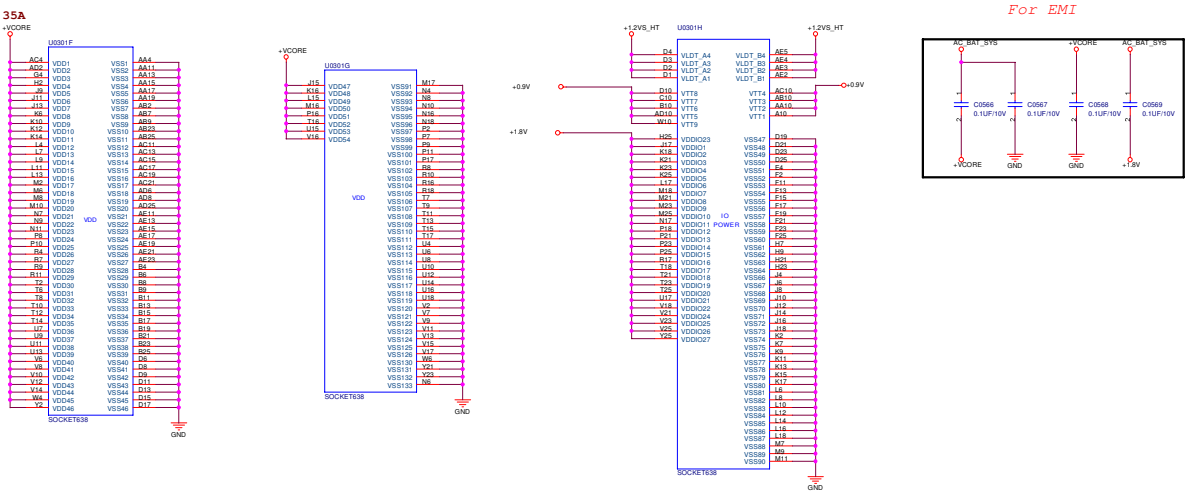
ASUSTeK.Computer.INC

Size	Project Name	Rev
C	F5U	1.0

Date: 星期一, 四月 09, 2007 Sheet 3 of 88



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 九月 09, 2007	Sheet 4 of 88		


35A
For EMI
For DDR2 add/cmd refer to split plane.
Title : F5U
Engineer: He_Wang
ASUSTeK Computer INC
Size: C
Project Name: F5U
Rev: 1.0
Date: 星期二, 十月 28, 2007
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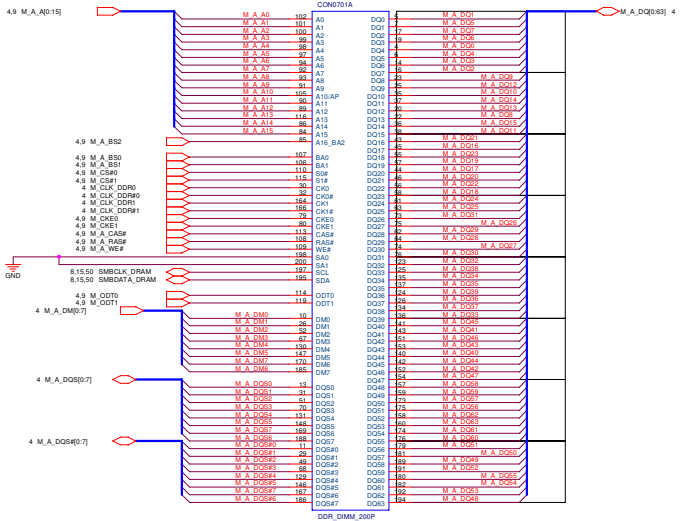
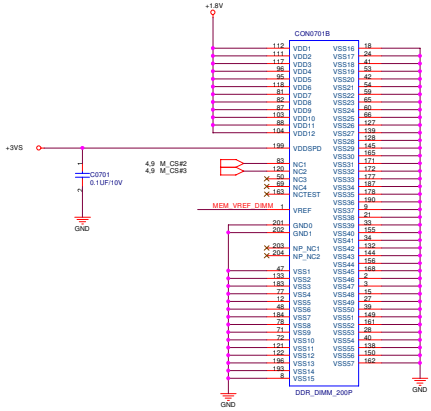
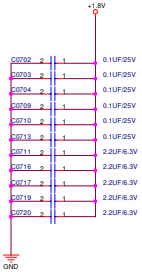
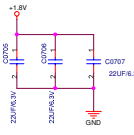
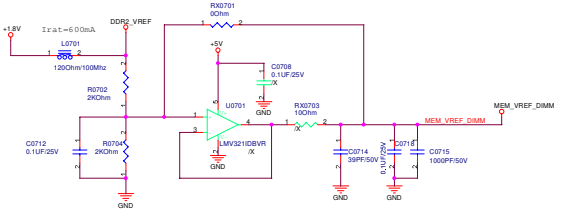
ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期二, 十月 23, 2007		Sheet 6 of 88	





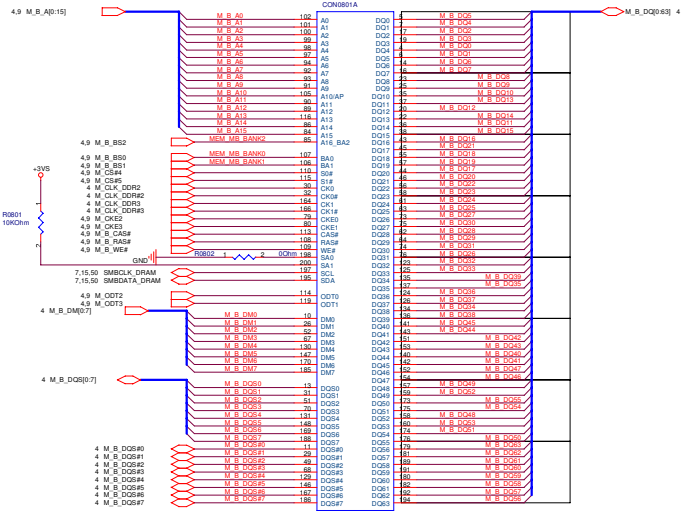




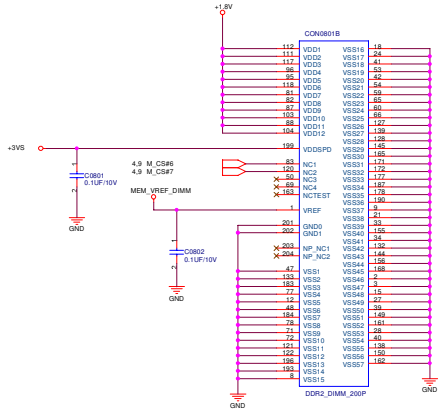


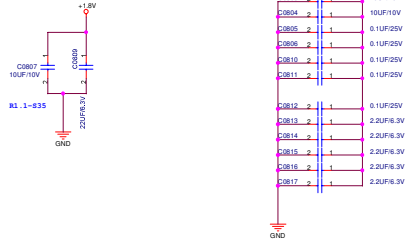
Nearby SO-DIMM

ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007		Sheet 7 of 88	



PN:12G025C22002





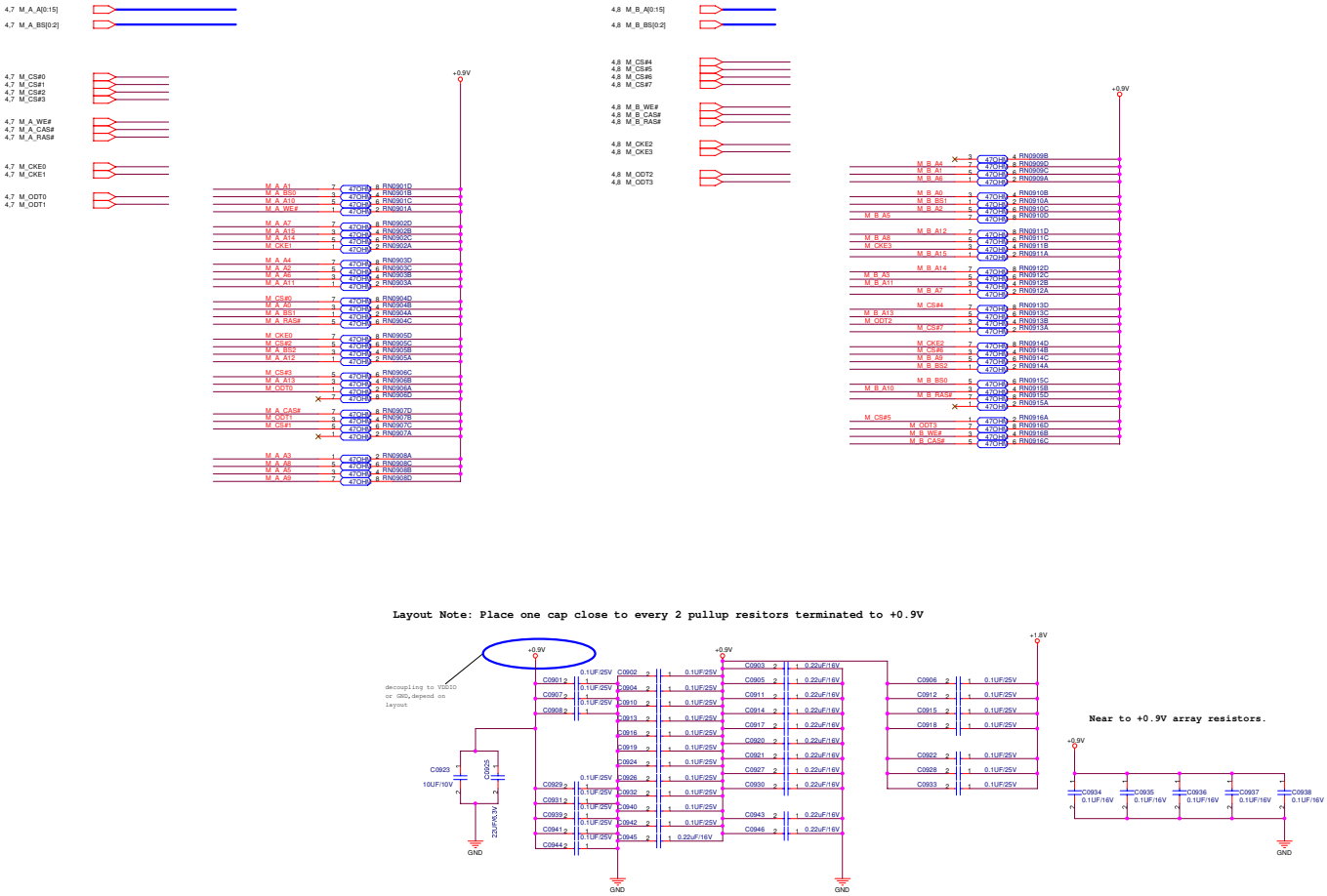
ASUSTeK Computer INC

Title : F5U

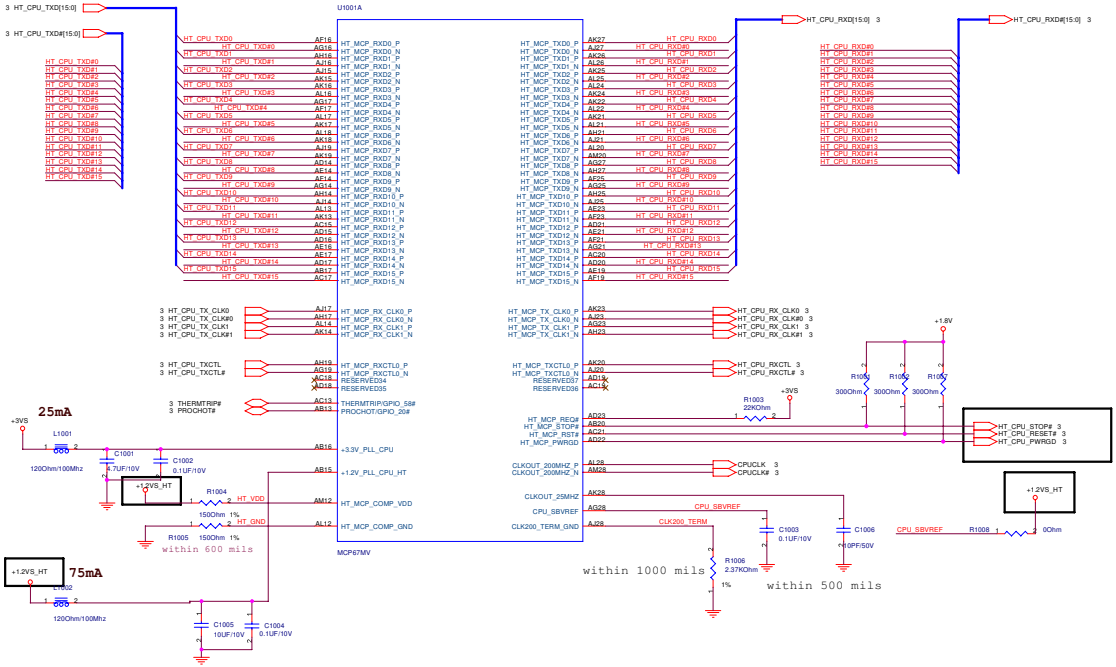
Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

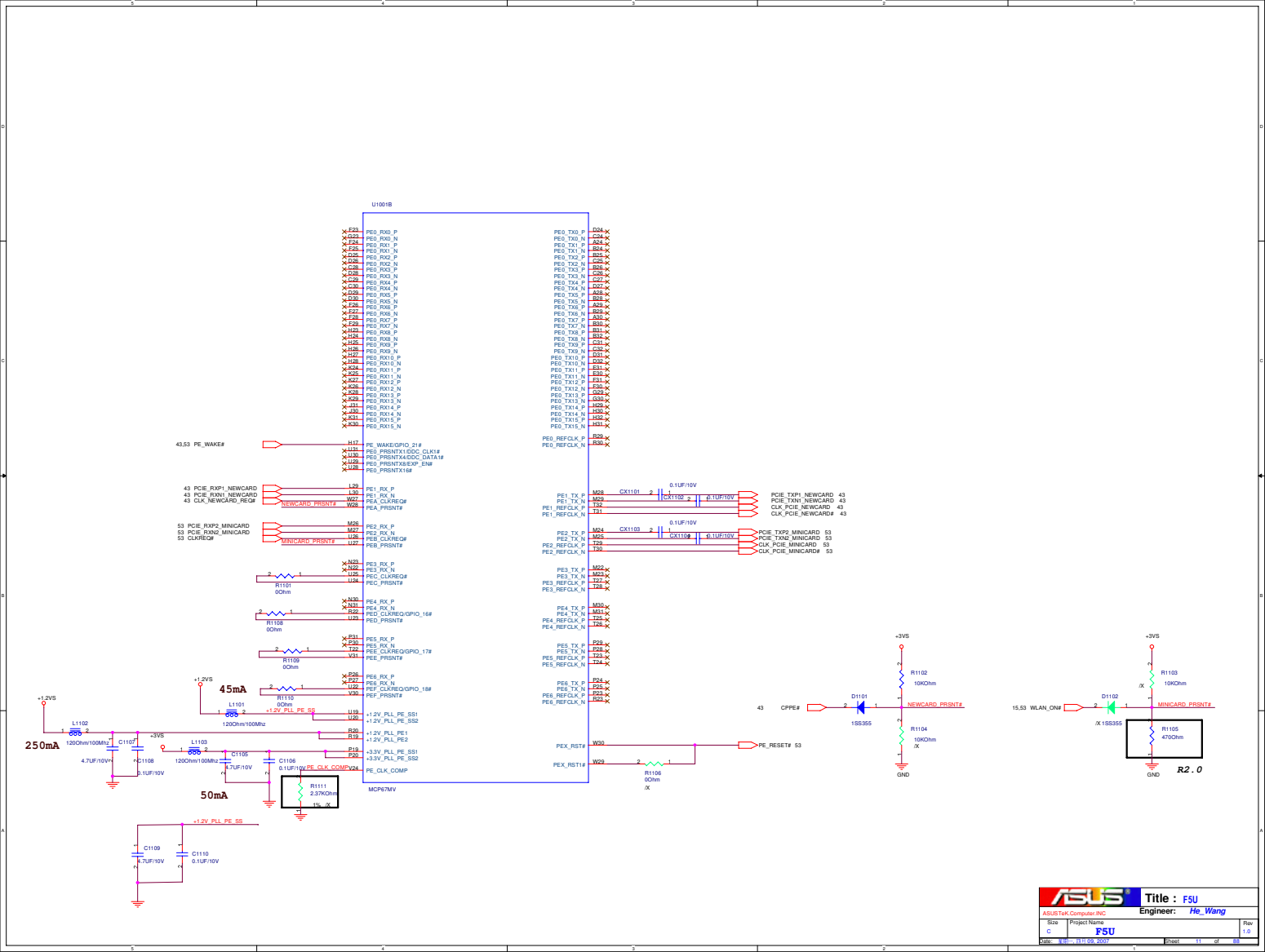
Date: 星期一, 四月 09, 2007 Sheet 8 of 88



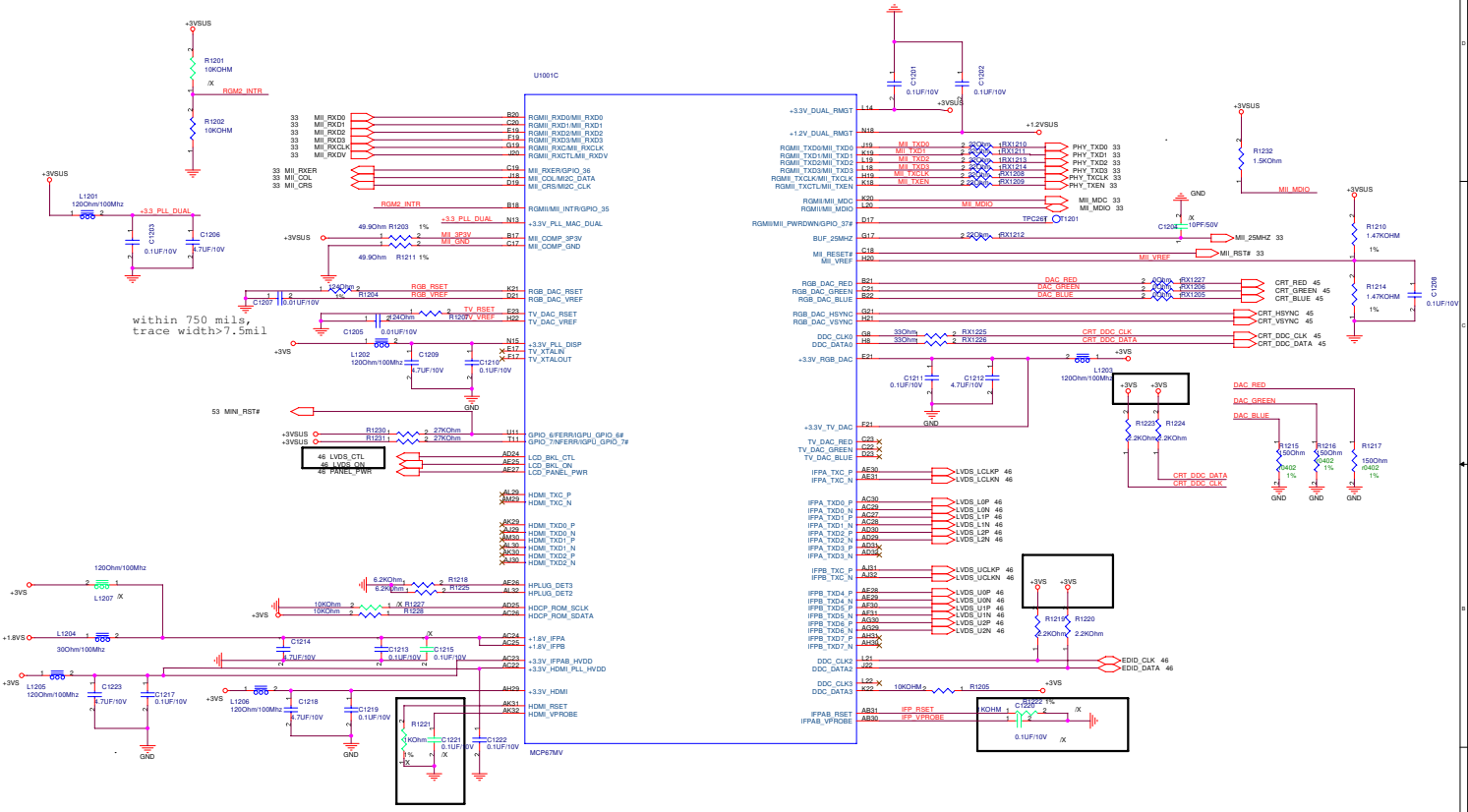
ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007		Sheet 9 of 88	



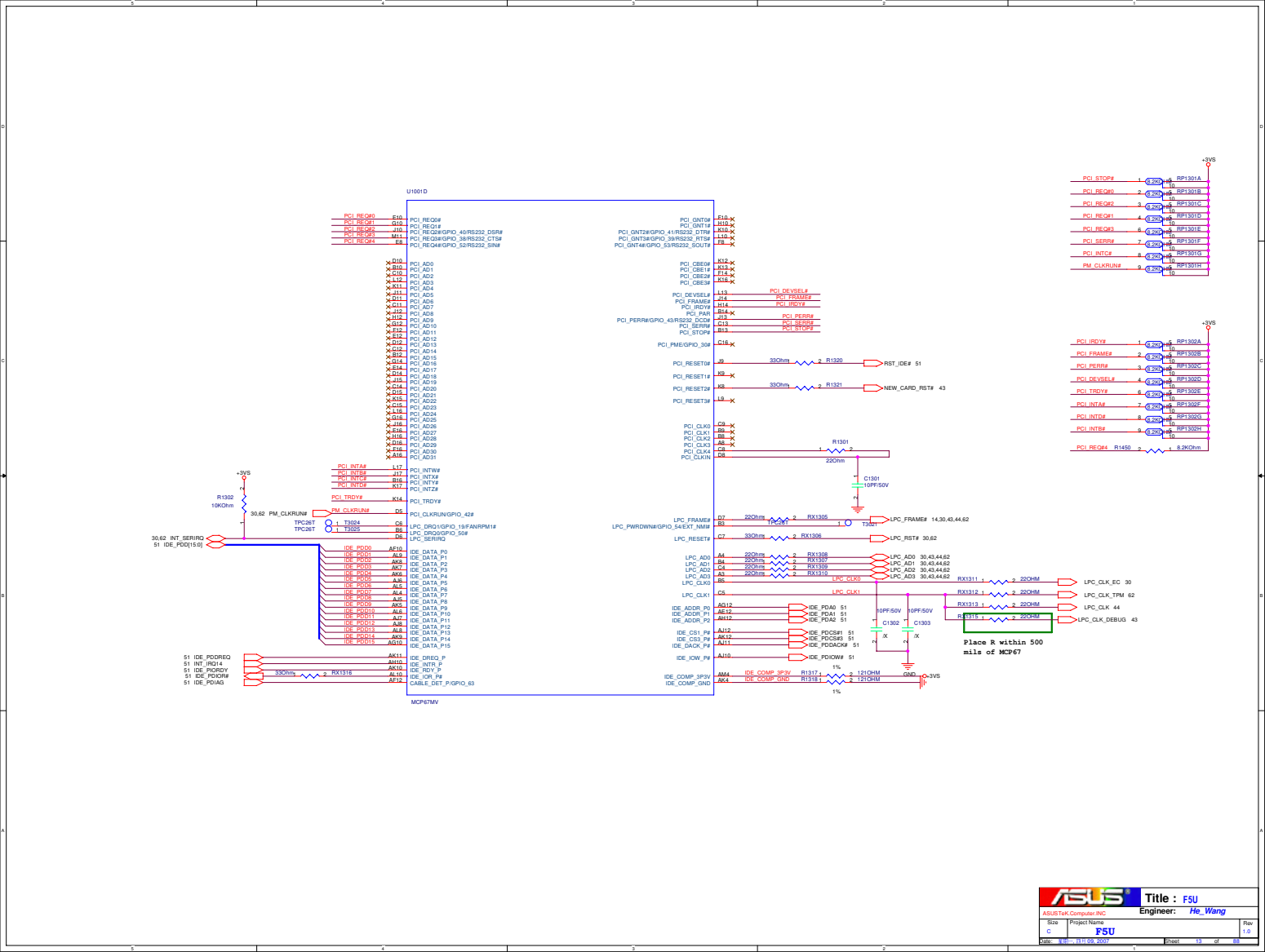
ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007		Sheet 10 of 88	



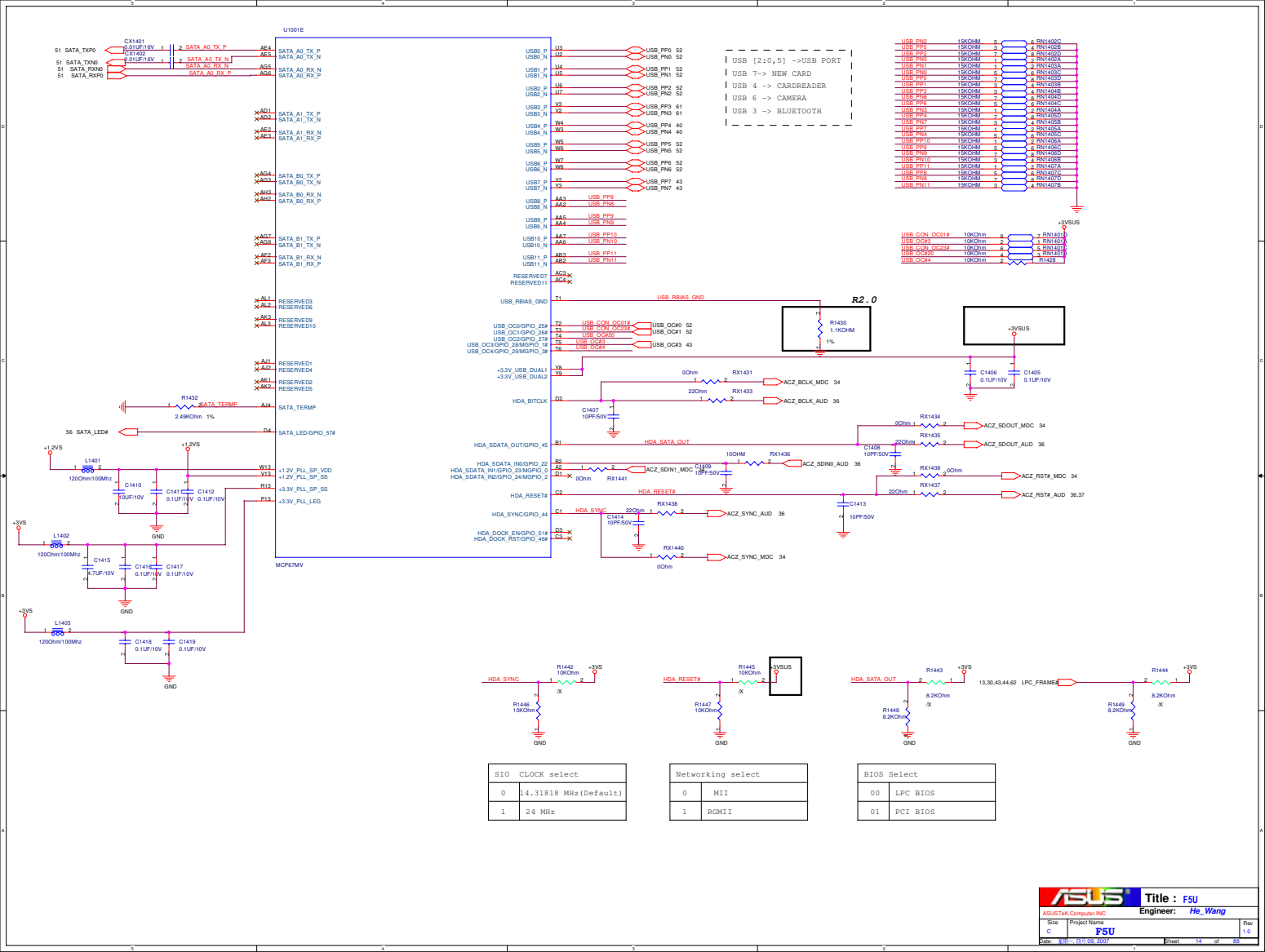
ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007		Sheet 11 of 88	



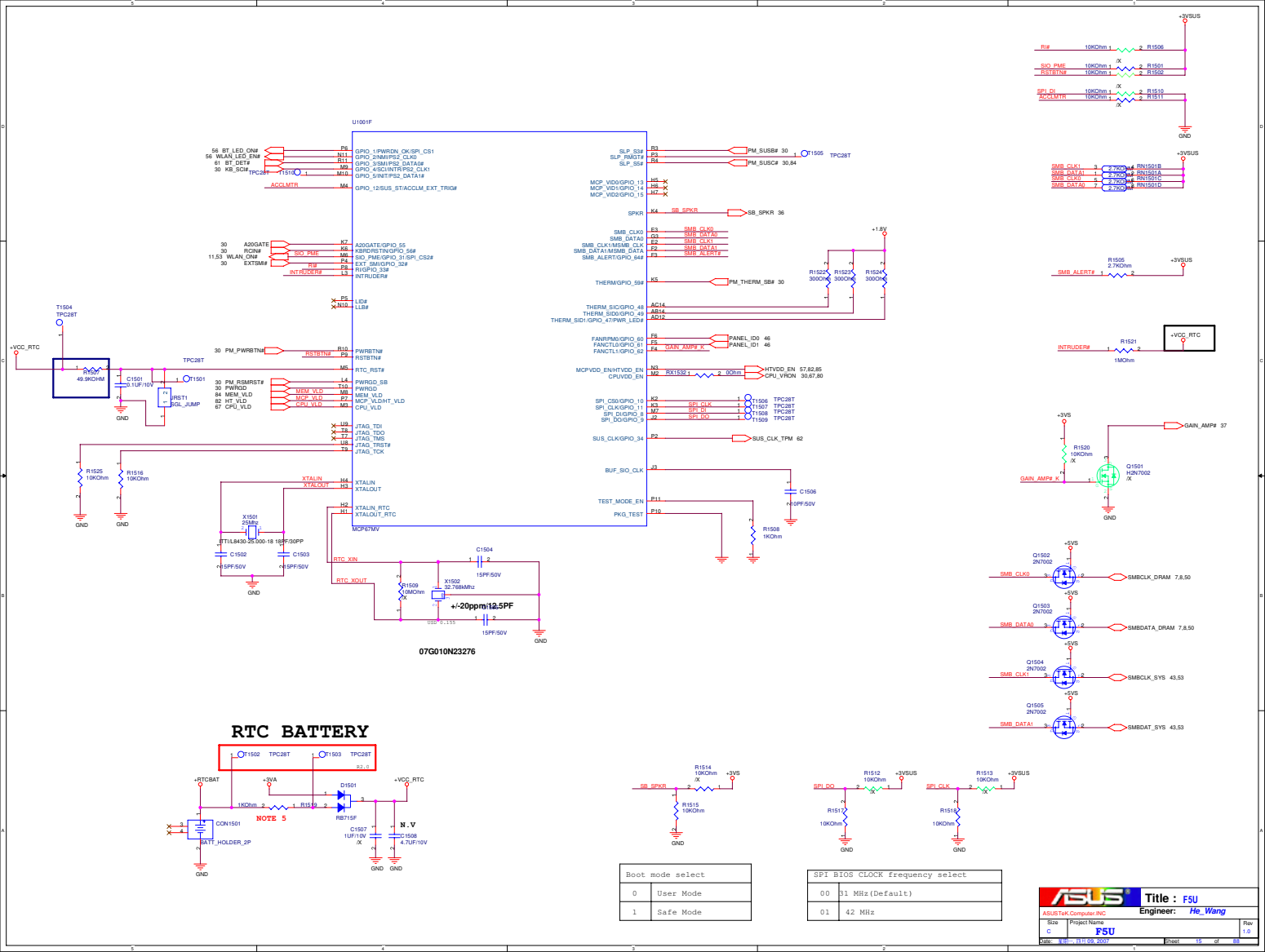
ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 八月 09, 2007		Sheet 12 of 88	



Title :	F5U
Engineer:	He_Wang
ASUSTeK Computer INC	
Size: C	Project Name: F5U
Rev: 1.0	
Date: 星期一, 八月 09, 2007	Sheet 13 of 88



Title : F5U			
ASUSTeK Computer INC	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 八月 09, 2007		Sheet 14 of 88	


U1001F
GPIO_1/PWRDN_CK/SPI_CS1
GPIO_2/NMI/PS2_CLK0
GPIO_3/SMI/PS2_DATA0#
GPIO_4/SCI/INTRP/PS2_CLK1
GPIO_5/INIT/PS2_DATA1#
GPIO_12/SUS_ST/ACCLM_EXT_TRIG#
A20GATE/GPIO_55
KBRDRSTIN/GPIO_56#
SIO_PME/GPIO_31/SPI_CS2#
EXT_SMI/GPIO_32#
R#/GPIO_33#
INTRUDER#
LID#
LLB#
PWRBTN#
RSTBTN#
RTC_RST#
PWRGD_SB
PWRGD
MEM_VLD
MCP_VLD
CPU_VLD
MCP_VLD-HT_VLD
CPU_VLD
JTAG_TDI
JTAG_TDO
JTAG_TMS
JTAG_TRST#
JTAG_TCK
XTALIN
XTALOUT
XTALIN_RTC
XTALOUT_RTC
MCP67MV
SLP_S3#
SLP_RMG3T#
SLP_S5#
MCP_VID0/GPIO_13
MCP_VID1/GPIO_14
MCP_VID2/GPIO_15
SPKR
SMB_CLK0
SMB_DATA0
SMB_CLK1/MSMB_CLK
SMB_DATA1/MSMB_DATA
SMB_ALERT/GPIO_64#
THERM/GPIO_59#
THERM_SIO/GPIO_48
THERM_SID0/GPIO_49
THERM_SID1/GPIO_47/PWR_LED#
FANRPM0/GPIO_60
FANCTL0/GPIO_61
FANCTL1/GPIO_62
MCPVDD_EN/HTVDD_EN
CPUVDD_EN
SPI_CS0/GPIO_10
SPI_CLK/GPIO_11
SPI_DI/GPIO_8
SPI_DO/GPIO_9
SUS_CLK/GPIO_34
BUF_SIO_CLK
TEST_MODE_EN
PKG_TEST
07G010N23376
RTC BATTERY
CON1501
BATT_HOLDER_2P
D1501
RB715F
NOTE 5
N.V
Boot mode select
0 User Mode
1 Safe Mode
SPI BIOS CLOCK frequency select
00 31 MHz(Default)
01 42 MHz
Title : F5U
Engineer: He_Wang
ASUSTeK Computer INC
Size C
Project Name F5U
Rev 1.0
Date: 星期一, 八月 09, 2007
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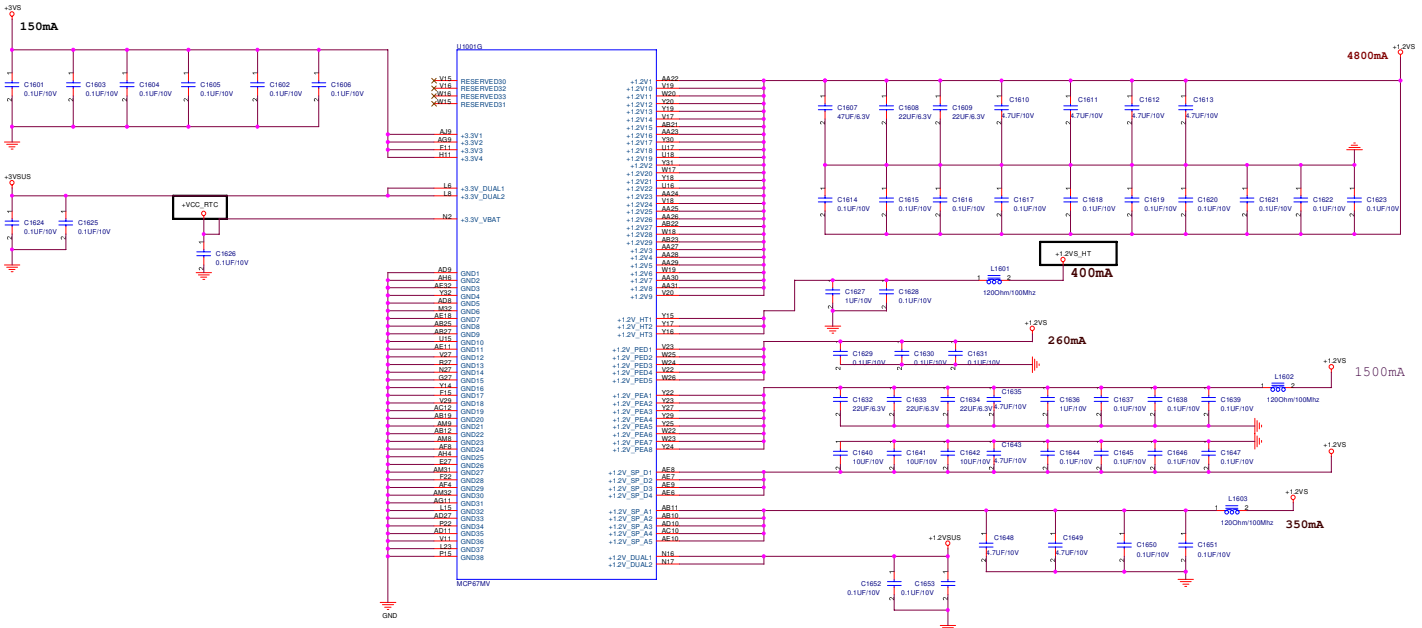


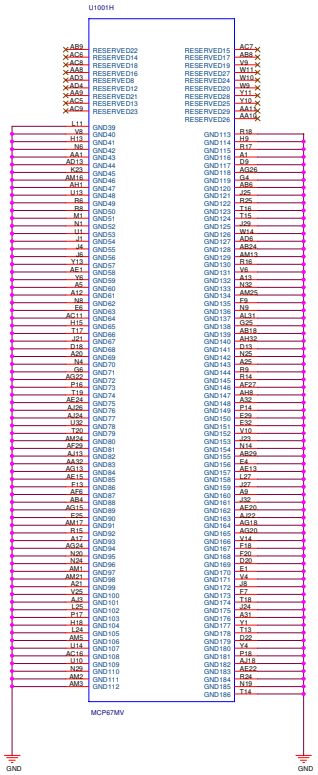
ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 16 of 88



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期二, 十月 23, 2007		Sheet 17 of 88	

Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 19 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 20 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 21 of 68

Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 22 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 23 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 24 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 25 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 26 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 27 of 68

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 28 of 68

ASUSTeK Computer INC

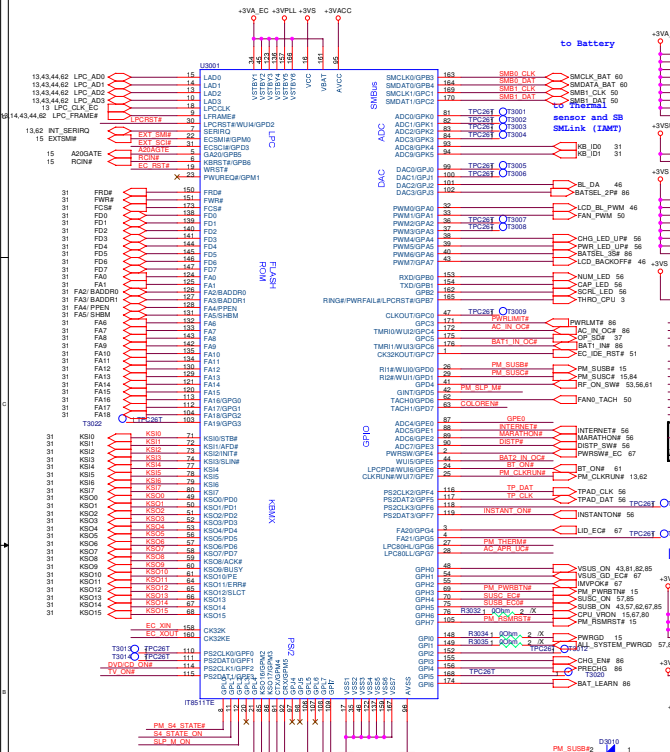
Title : F5U

Engineer: He_Wang

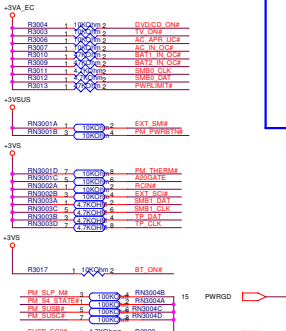
Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 29 of 68

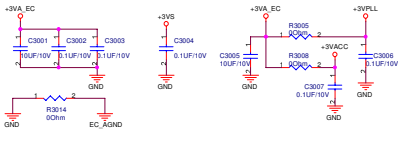
For IT8511 Core IC



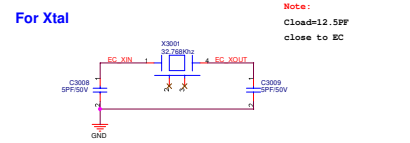
For Pull-up/Pull-down

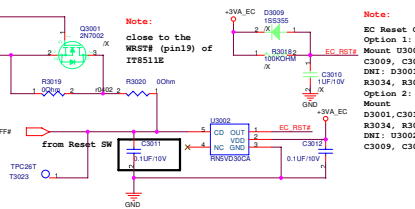


For IT8511 Power

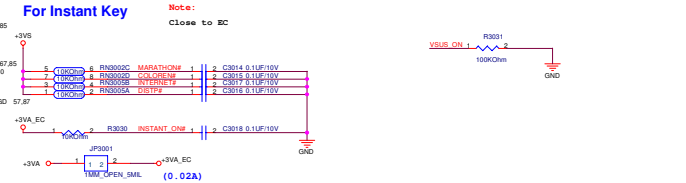


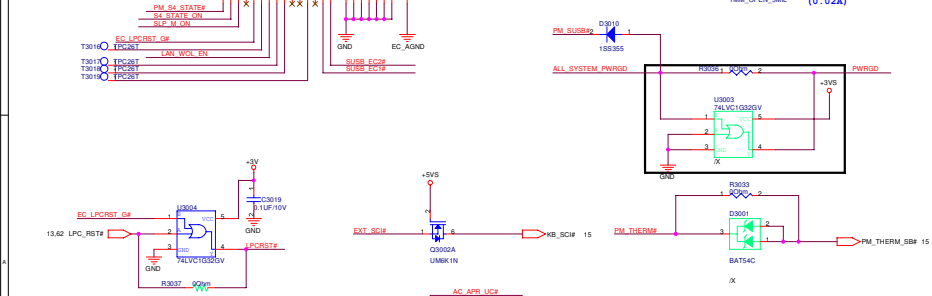
For Xtal





For Instant Key

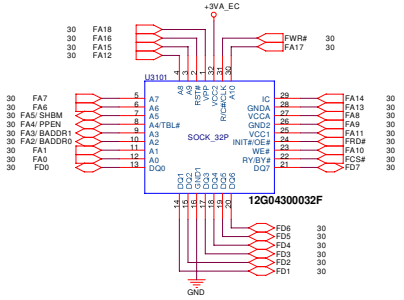


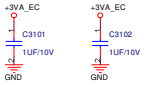


ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 狂E二, 十月 09, 2007	Sheet 30 of 88		

KBC connector

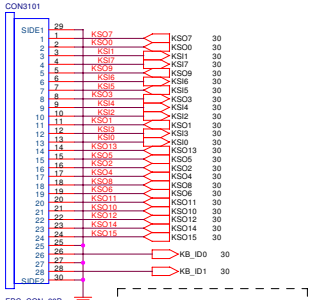
ISA ROM
(4Mbits)





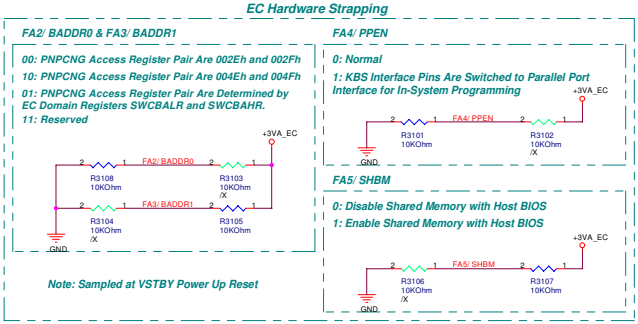
SST-PLCC32 4Mbits Flash ROM
PN:05G001014110
(FLASH SST SST39VF040-70-4C-NHE
4M-70 PLCC-32)

If need to use 8Mbits ISA ROM, could choose SST39LF080.
But it does not have PLCC32 package.
ASUS does not have part number yet.



TYPE	JP	UK	US
KID1	H	H	L
KID2	L	H	L

ISA ROM



ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: Custom	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007	Sheet 31 of 88		

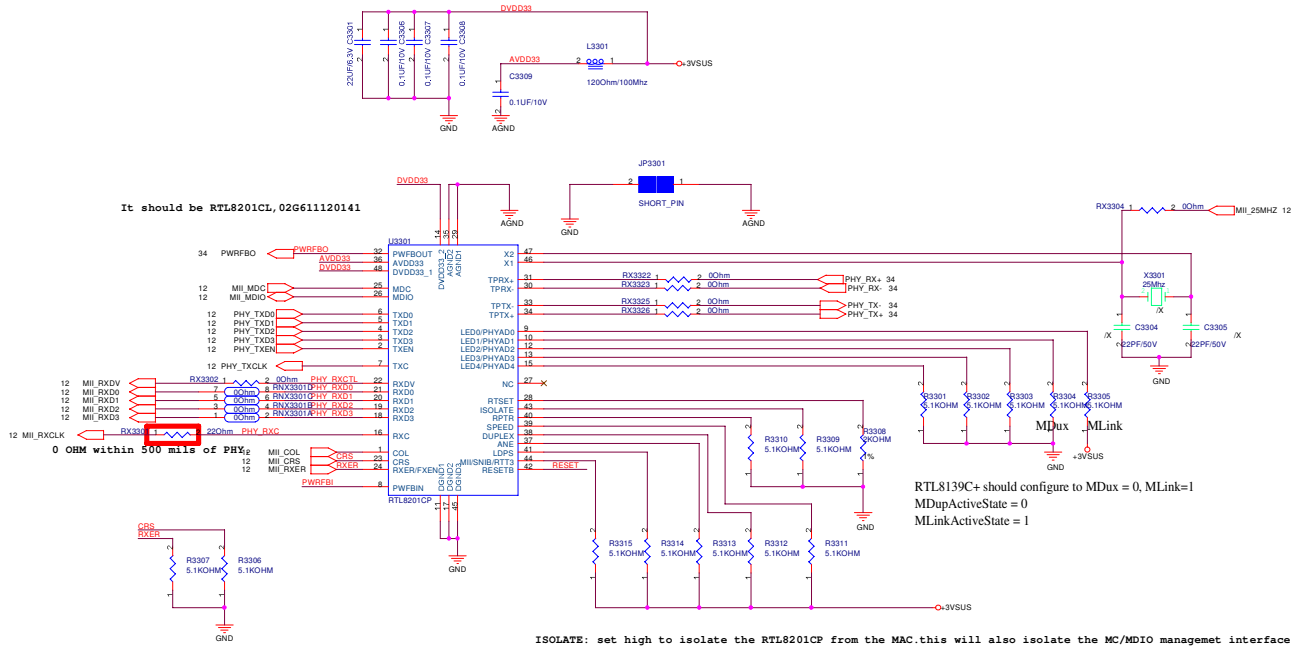
Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

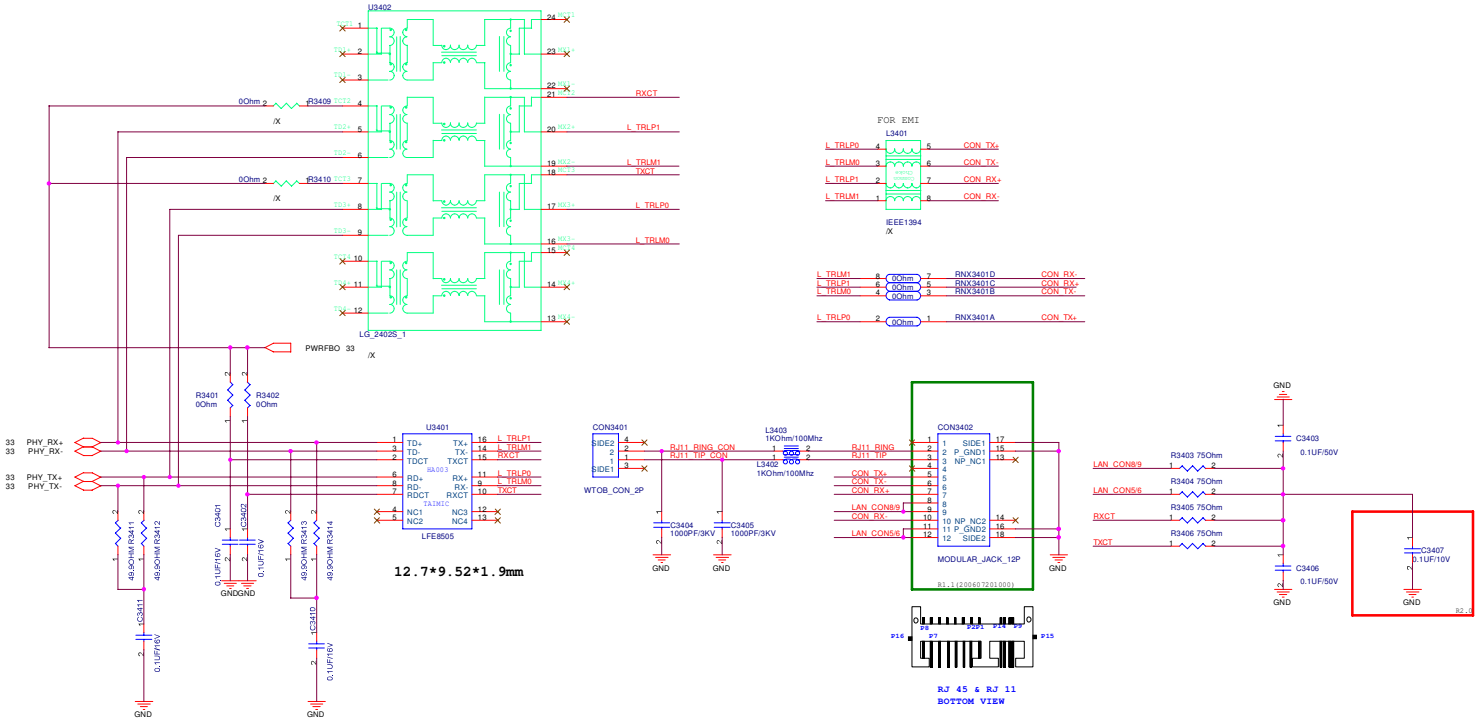
Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 32 of 88

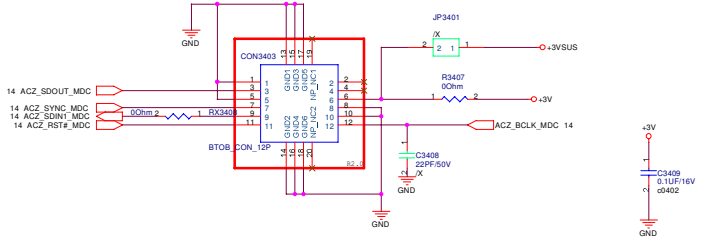


ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: Custom	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007	Sheet 33 of 88		

LAN PORT



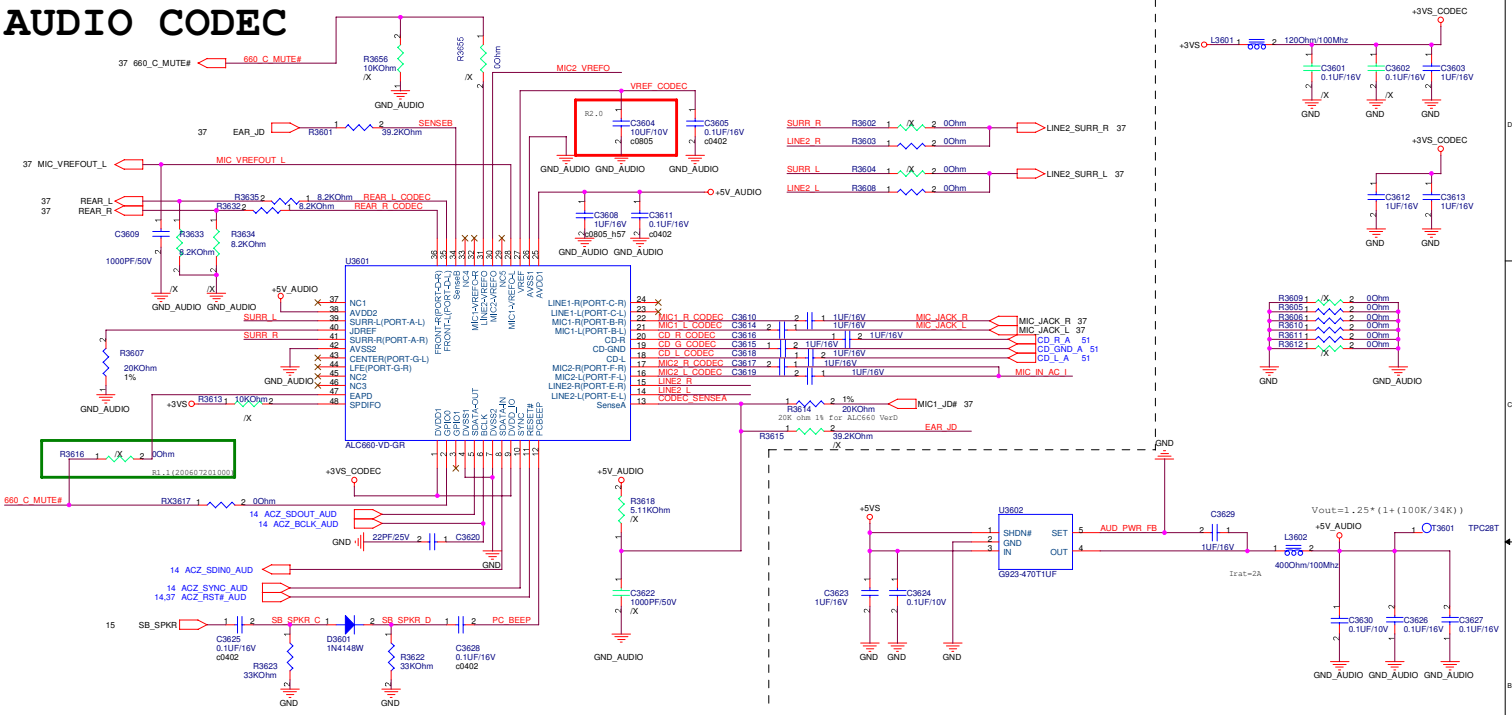
MDC CONN.



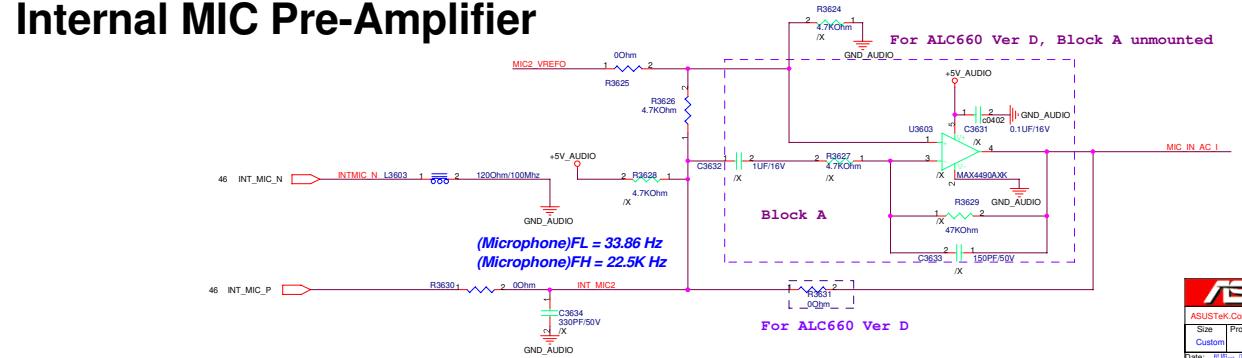
ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: Custom	Project Name: F5U		Rev: 1.0
Date: MM/DD/YYYY 09, 2007	Sheet 34 of 88		

ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: Custom	Project Name: F5U		Rev: 1.0
Date: 星期一, 一月 28, 2007	Sheet 35 of 88		

AUDIO CODEC

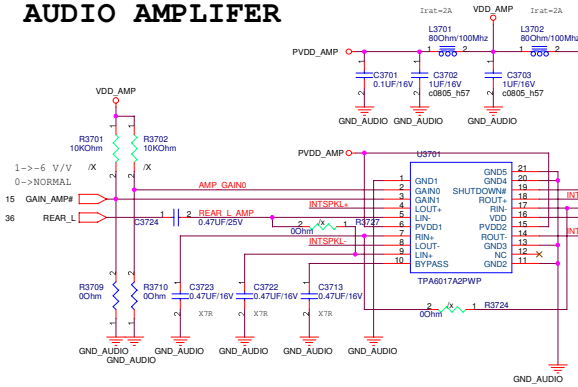


Internal MIC Pre-Amplifier

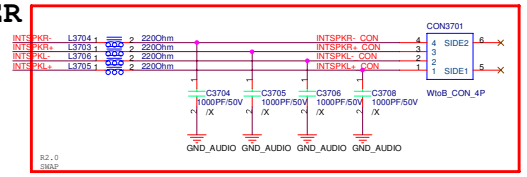


ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
Size: Custom	Project Name: F5U		Rev: 1.0
Date: 星期一, 四月 09, 2007	Sheet 36 of 88		

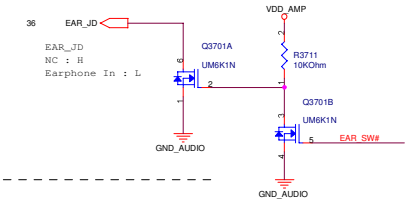
AUDIO AMPLIFER



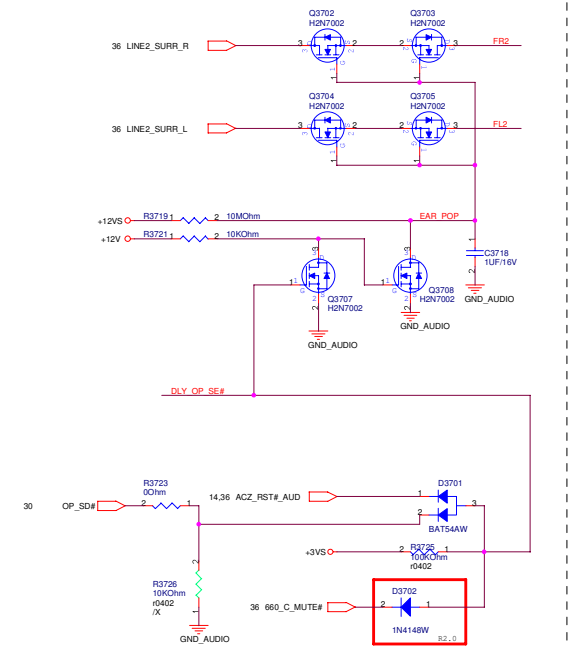
SPEAKER

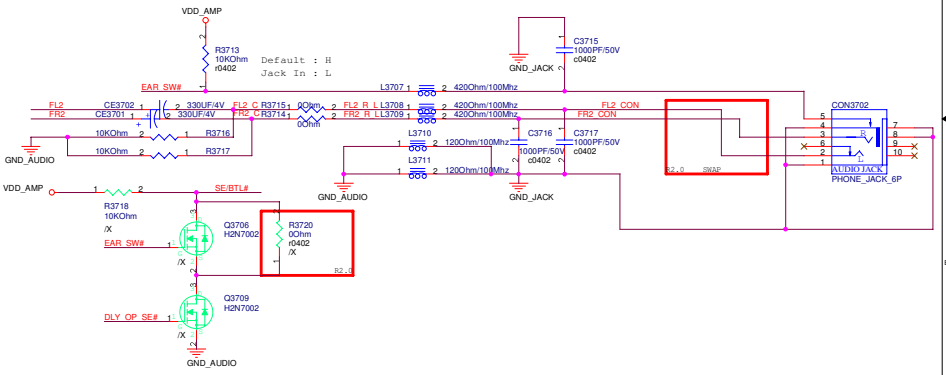


HeadPhone

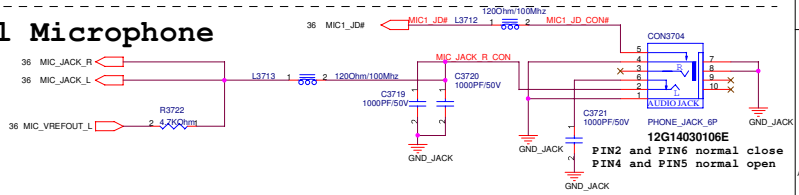


DEPOP CIRCUIT





External Microphone



ASUSTeK.Computer.INC	Title : F5U	
	Engineer: He_Wang	
Size: Custom	Project Name: F5U	Rev: 1.0
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ASUSTeK.Computer.INC	Title : F5U		
	Engineer: He_Wang		
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ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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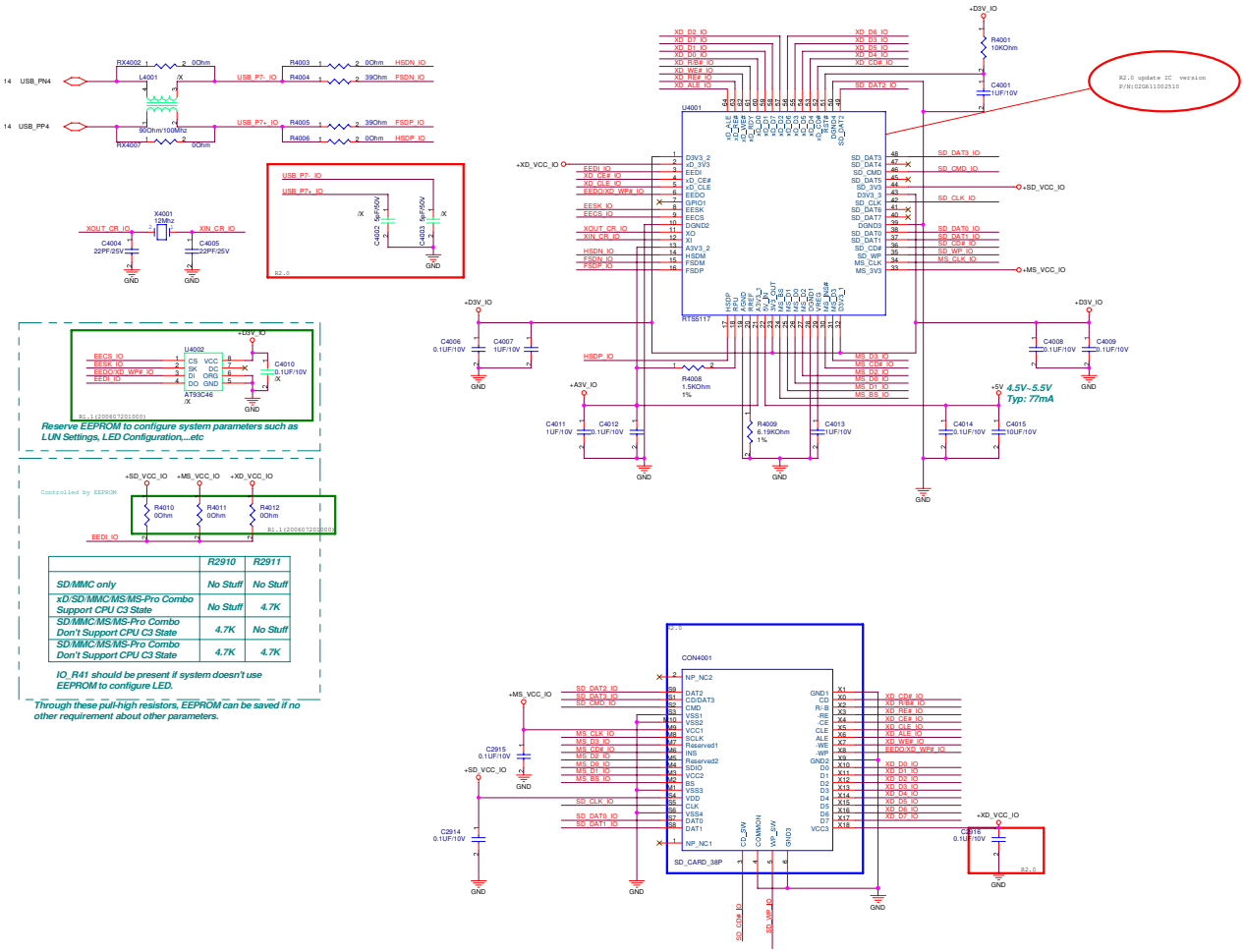

	R2910	R2911
SD/MMC only	No Stuff	No Stuff
xD/SD/MMC/MS/MS-Pro Combo Support CPU C3 State	No Stuff	4.7K
SD/MMC/MS/MS-Pro Combo Don't Support CPU C3 State	4.7K	No Stuff
SD/MMC/MS/MS-Pro Combo Don't Support CPU C3 State	4.7K	4.7K

Title :	F5U
Engineer:	He_Wang
Size: C	Project Name: F5U
Rev:	1.0
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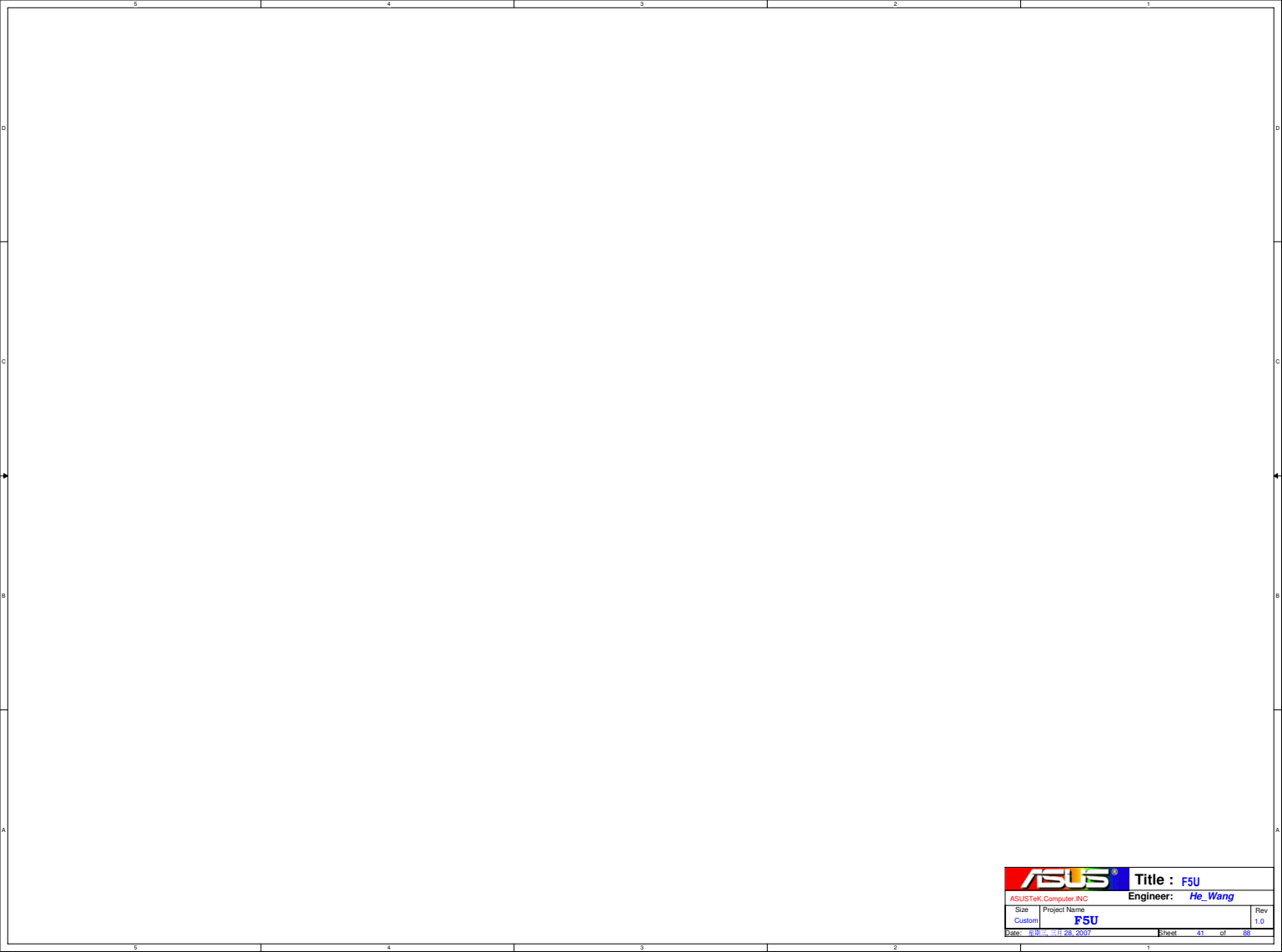
ASUSTeK Computer INC



ASUSTeK.Computer.INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
Custom	F5U	1.0

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ASUSTeK.Computer.INC	Title : F5U	
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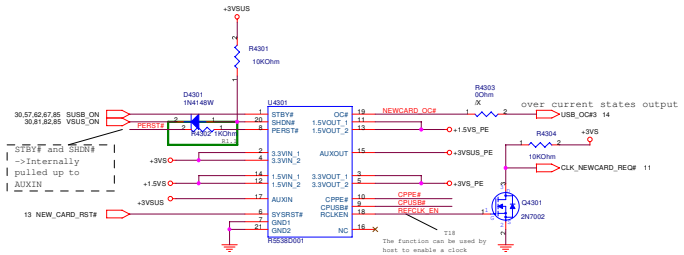
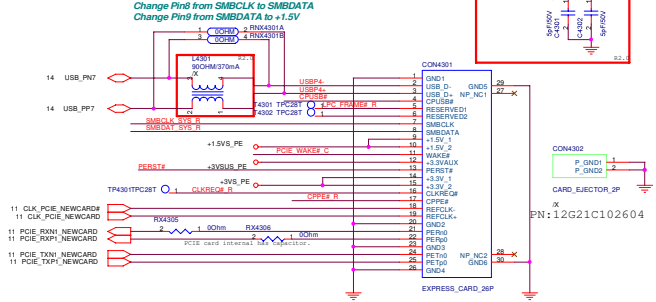
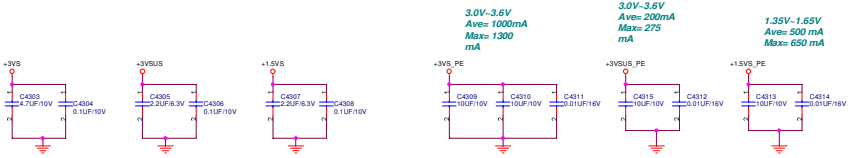
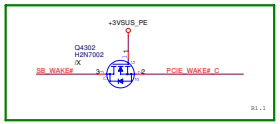
NEW CARD SOCKET

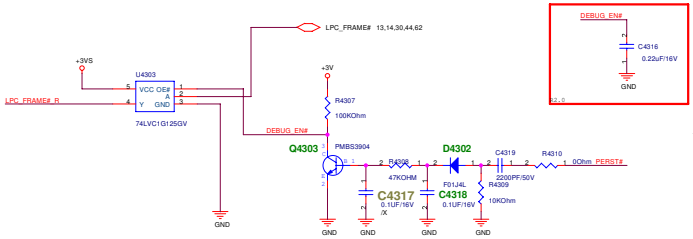
!! ExpressCard Standard 1.0:
Change Pin7 from RESERVED to SMBCLK
Change Pin8 from SMBCLK to SMBDATA
Change Pin9 from SMBDATA to +1.5V

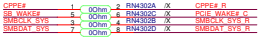


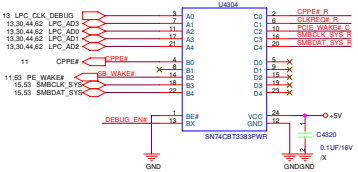












ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
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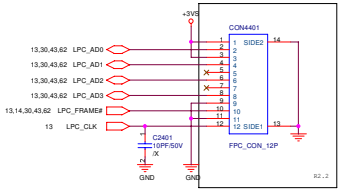
LPC DEBUG CONNCTOR



Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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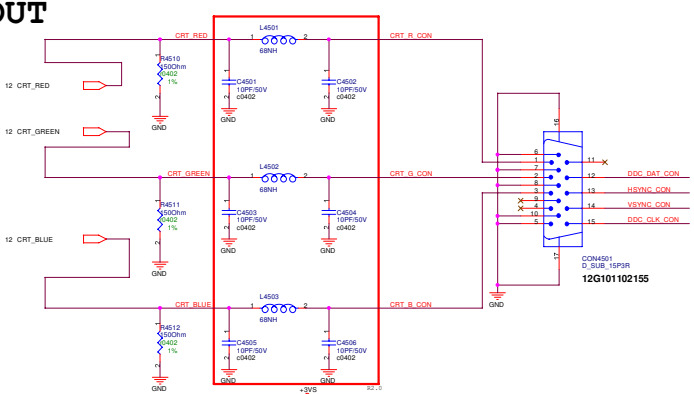
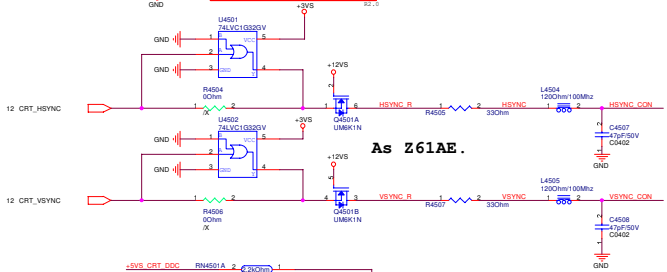
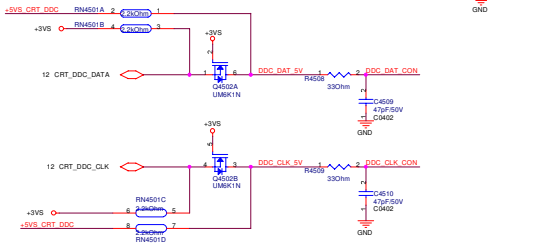
VGA OUT

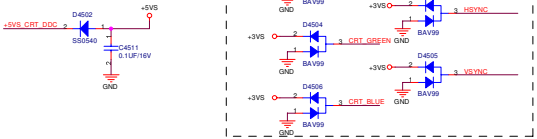




As Z61AE.



PLACE ESD Diodes near VGA port



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
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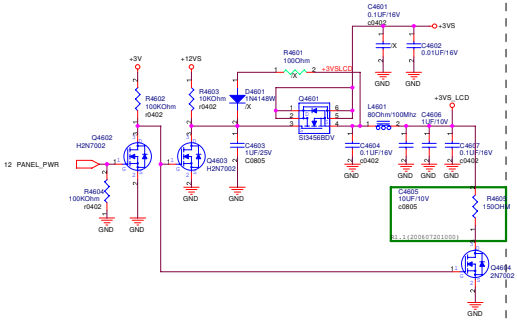
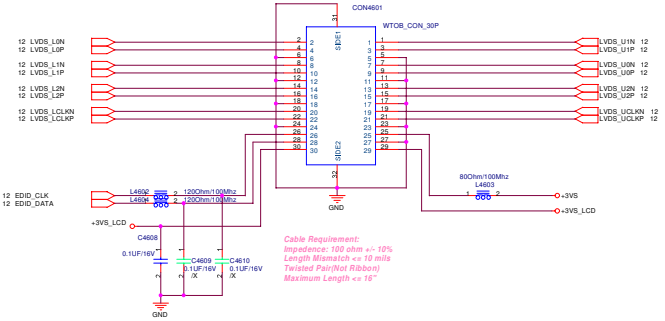
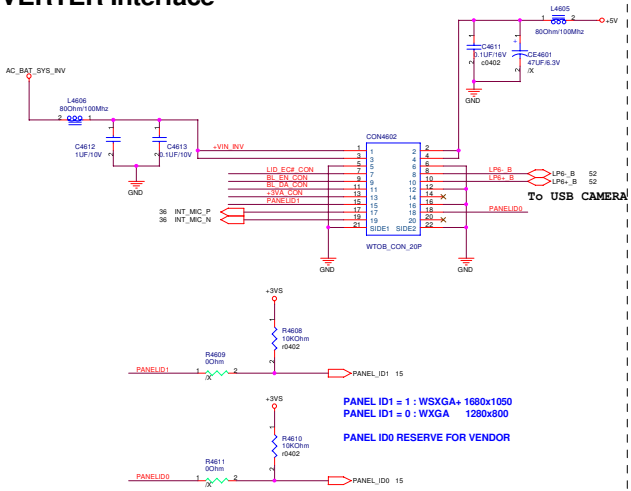
LCD Power



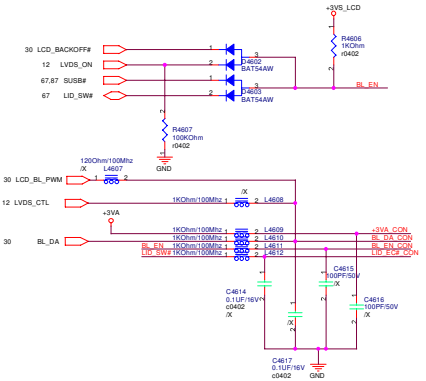
LCD LVDS Interface



INVERTER Interface



Backlight Enable



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	Engineer: He_Wang		
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	Engineer: He_Wang	
Size: Custom	Project Name: F5U	Rev: 1.0
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ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
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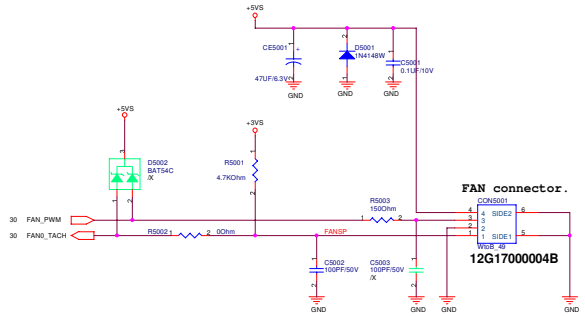
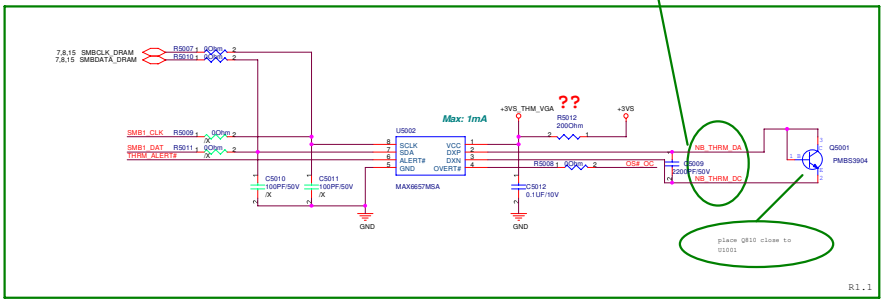
DC FAN control

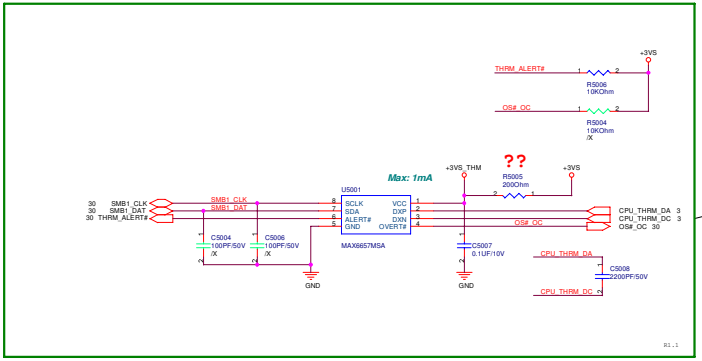





```
----------OTHER SIGNALS
  15 mils
==========GND
  10 mils
==========NB_THRM_DA(10 mils)
  10 mils
==========NB_THRM_DC(10 mils)
  10 mils
==========GND
  15 mils
----------OTHER SIGNALS

Avoid FSB,Power
```

Thermal Sensor




```
Route CPU_THRM_DA and
CPU_THRM_DC
on the same layer
----------OTHER SIGNALS
  15 mils
==========GND
  10 mils
==========H_THERMDA(10 mils)
  10 mils
==========H_THERMDC(10 mils)
  10 mils
==========GND
  15 mils
----------OTHER SIGNALS

Avoid FSB,Power
```

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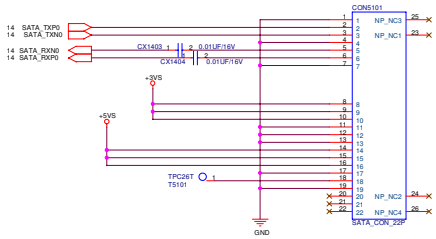
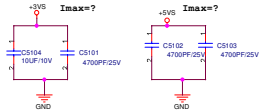
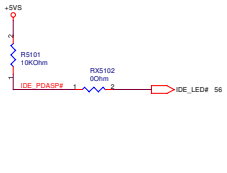
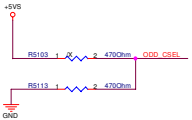
SATA_HDD(Default)



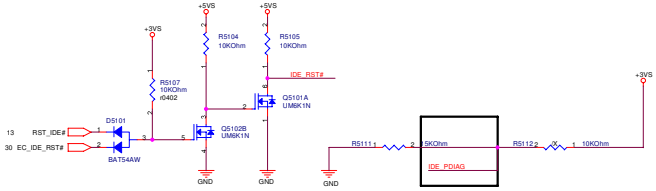


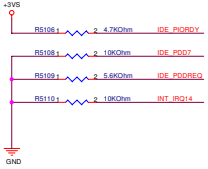
CD-ROM

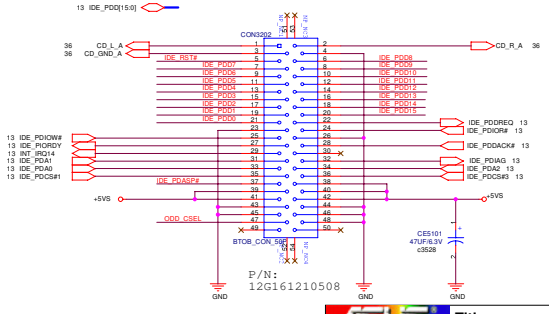




ODD_CSEL
Pull-Up: CDROM as Slave
Pull-Down: CDROM as Master







P/N: 12G161210508

ASUSTeK Computer INC.	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
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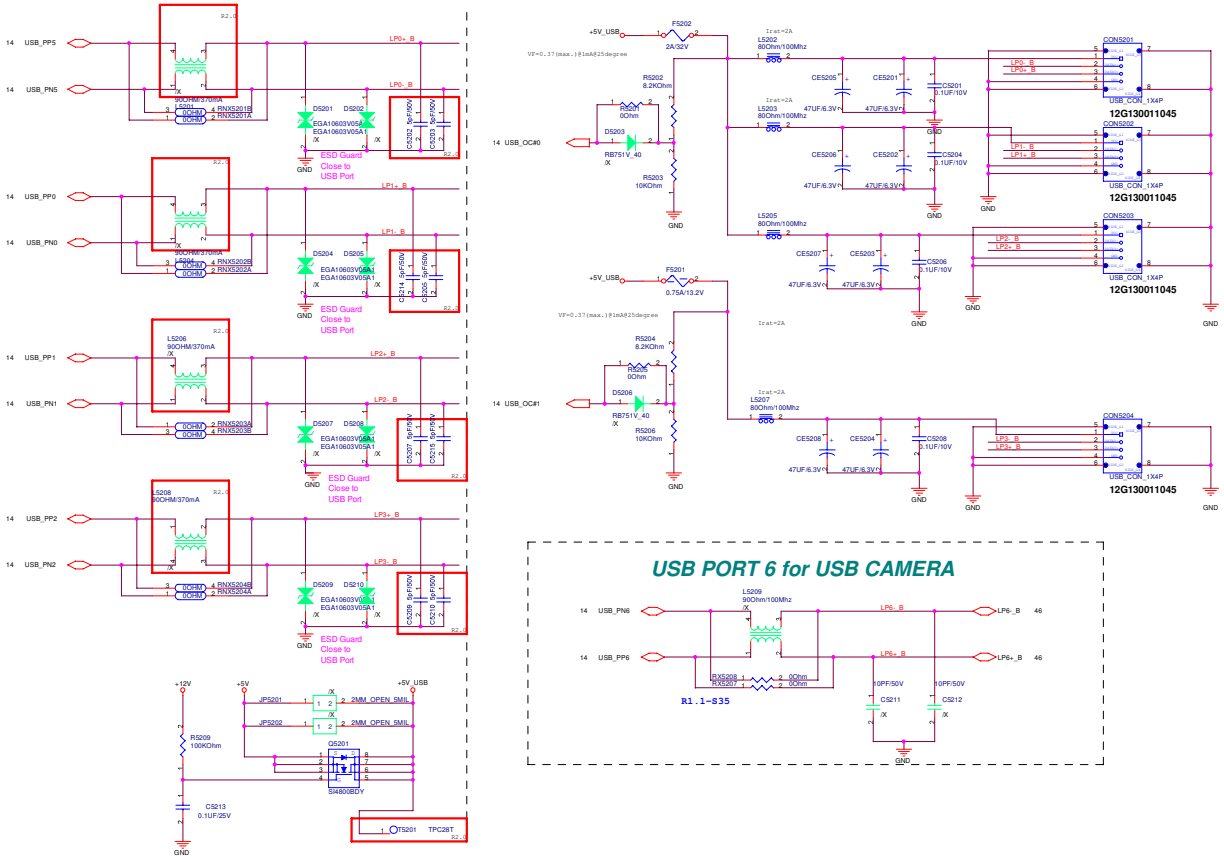

ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
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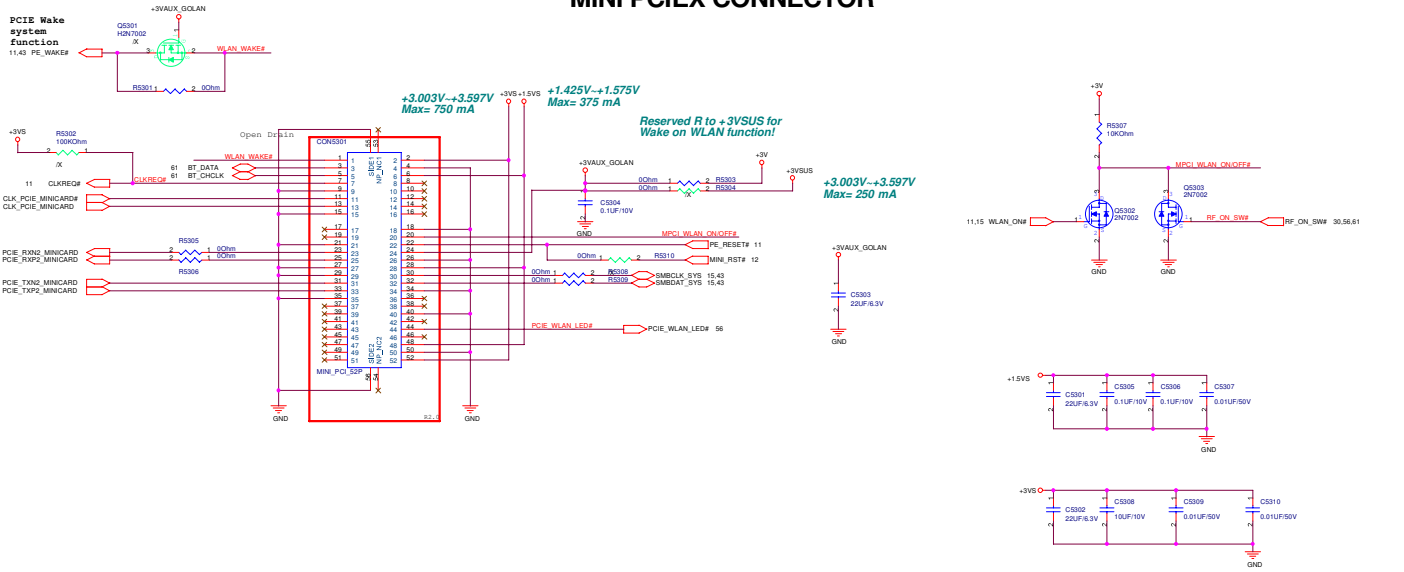
MINI PCIEX CONNECTOR



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
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Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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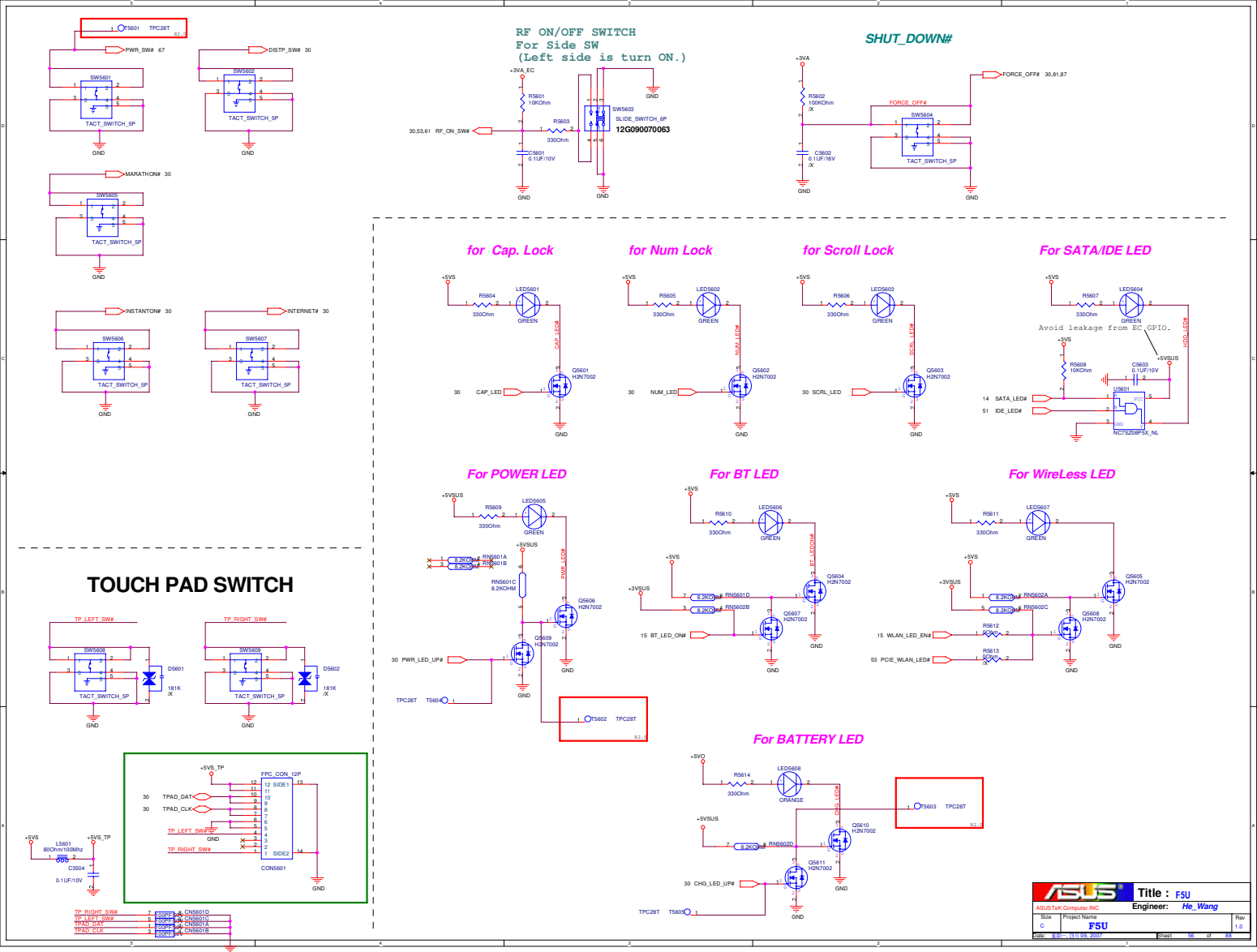
T5601 TPC28T
PWR_SW# 67
DISTP_SW# 30
SW5601
SW5602
TACT_SWITCH_5P
GND
MARATHON# 30
SW5605
INSTANTON# 30
INTERNET# 30
SW5606
SW5607
RF ON/OFF SWITCH
For Side SW
(Left side is turn ON.)
+3VA_EC
R5601 10KOhm
R5603 330Ohm
C5601 0.1UF/10V
30,53,61 RF_ON_SW#
SW5603 SLIDE_SWITCH_6P
12G090070063
SHUT_DOWN#
+3VA
R5602 100KOhm /X
C5602 0.1UF/16V /X
FORCE_OFF#
FORCE_OFF# 30,81,87
SW5604
for Cap. Lock
for Num Lock
for Scroll Lock
For SATA/IDE LED
+5VS
R5604 330Ohm
LED5601 GREEN
CAP_LED#
Q5601 H2N7002
30 CAP_LED
R5605 330Ohm
LED5602 GREEN
NUM_LED#
Q5602 H2N7002
30 NUM_LED
R5606 330Ohm
LED5603 GREEN
SCRL_LED#
Q5603 H2N7002
30 SCRL_LED
R5607 330Ohm
LED5604 GREEN
HDD_LED#
Avoid leakage from EC GPIO.
+3VS
R5608 10KOhm
C5603 0.1UF/10V
+5VSUS
U5601
NC7SZ08P5X_NL
14 SATA_LED#
51 IDE_LED#
For POWER LED
For BT LED
For WireLess LED
+5VSUS
R5609 330Ohm
LED5605 GREEN
PWR_LED#
RN5601A 8.2KOHM
RN5601B 8.2KOHM
RN5601C 8.2KOHM
Q5606 H2N7002
Q5609 H2N7002
30 PWR_LED_UP#
TPC28T T5604
T5602 TPC28T
R5610 330Ohm
LED5606 GREEN
BT_LED#
Q5604 H2N7002
Q5607 H2N7002
+3VSUS
RN5601D 8.2KOHM
RN5602B 8.2KOHM
15 BT_LED_ON#
R5611 330Ohm
LED5607 GREEN
Q5605 H2N7002
Q5608 H2N7002
RN5602A 8.2KOHM
RN5602C 8.2KOHM
R5612 0Ohm
R5613 0Ohm /X
15 WLAN_LED_EN#
53 PCIE_WLAN_LED#
TOUCH PAD SWITCH
TP_LEFT_SW#
TP_RIGHT_SW#
SW5608
SW5609
D5601
D5602
181K /X
+5VS_TP
FPC_CON_12P
30 TPAD_DAT
30 TPAD_CLK
SIDE1
SIDE2
CON5601
L5601 80Ohm/100Mhz 0805
C3504 0.1UF/10V
100PF CN5601D
100PF CN5601C
100PF CN5601A
100PF CN5601B
For BATTERY LED
+5VO
R5614 330Ohm
LED5608 ORANGE
CHG_LED#
Q5610 H2N7002
Q5611 H2N7002
30 CHG_LED_UP#
T5603 TPC28T
T5600
ASUSTeK Computer INC
Title : F5U
Engineer: He_Wang
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Project Name F5U
Rev 1.0
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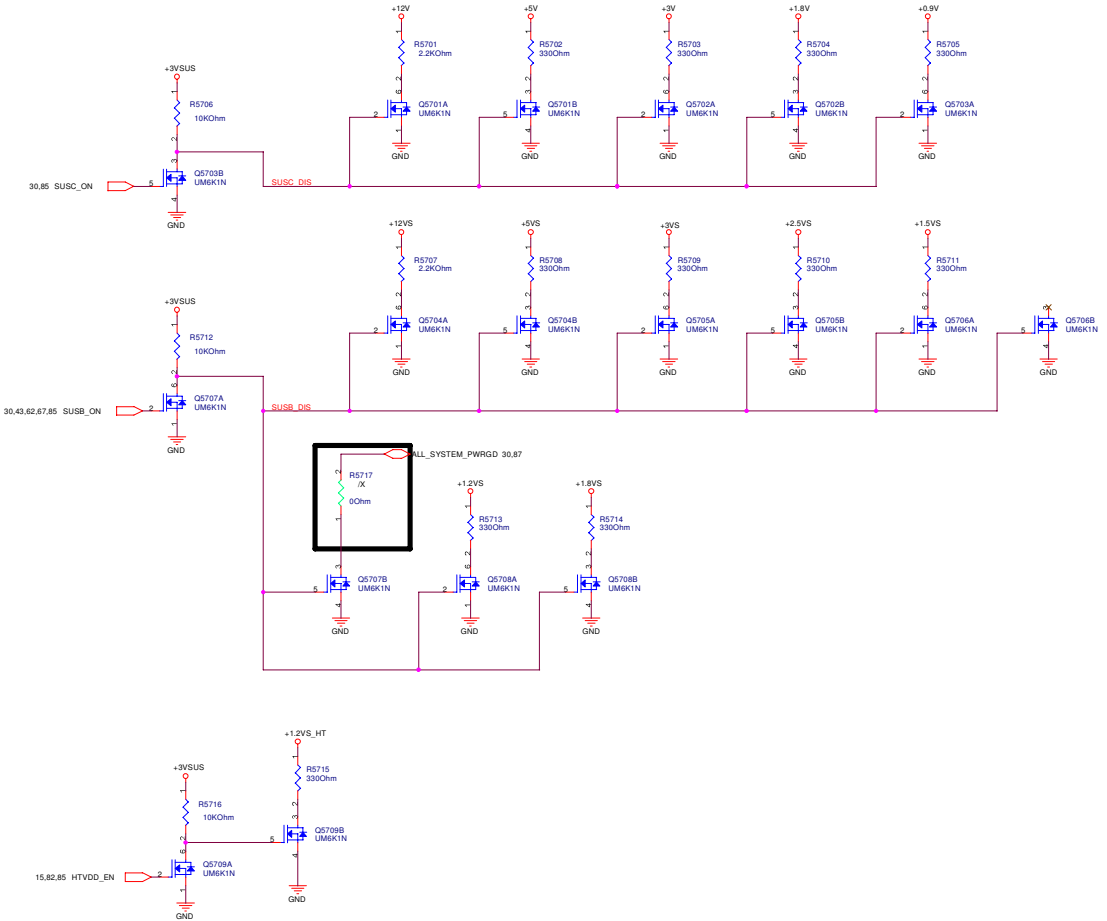
DISCHARGE CIRCUIT



ASUSTeK.Computer.INC	Title : F5U	
	Engineer: He_Wang	
Size: Custom	Project Name: F5U	Rev: 1.0
Date: 星期一, 四月 09, 2007	Sheet 57 of 88	

Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 58 of 88

Title : F5U

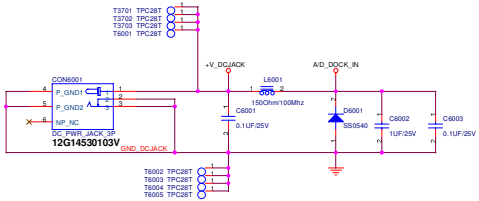
ASUSTeK Computer INC

Engineer: He_Wang

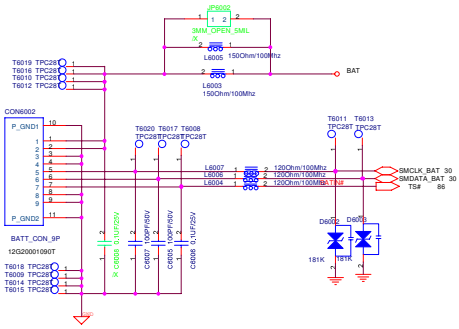
Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 59 of 88

Adaptor IN Circuit

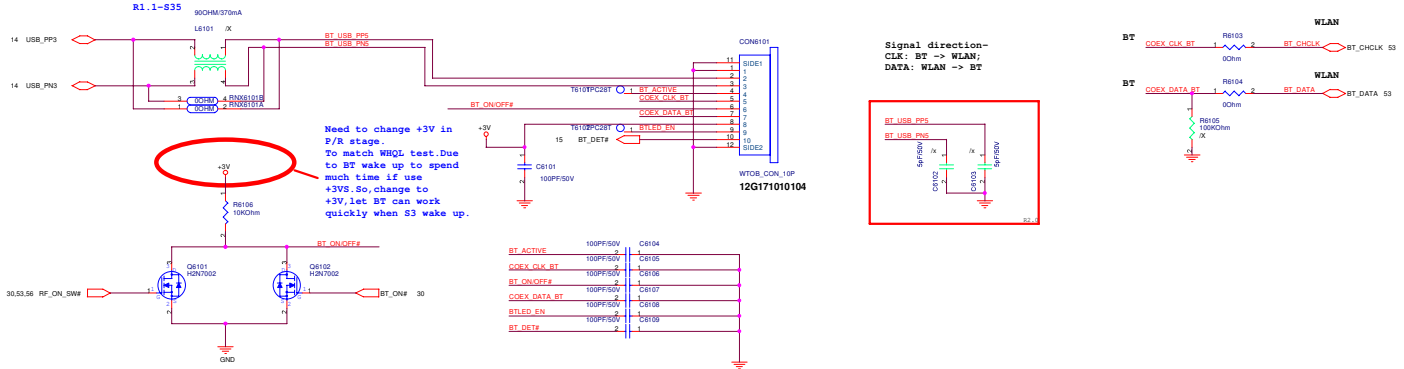


BATTERY IN CIRCUIT



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 八月 09, 2007		Sheet 60 of 88	

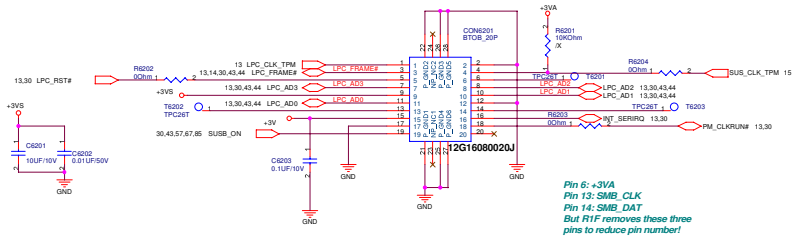
BLUETOOTH CONNECTOR



Signal direction-
CLK: BT -> WLAN;
DATA: WLAN -> BT

ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 八月 09, 2007		Sheet 61 of 88	

TPM CONN.



Pin 6: +3VA
Pin 13: SMB_CLK
Pin 14: SMB_DAT
But R1F removes these three pins to reduce pin number!

ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
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Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 63 of 88

Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 64 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 65 of 88

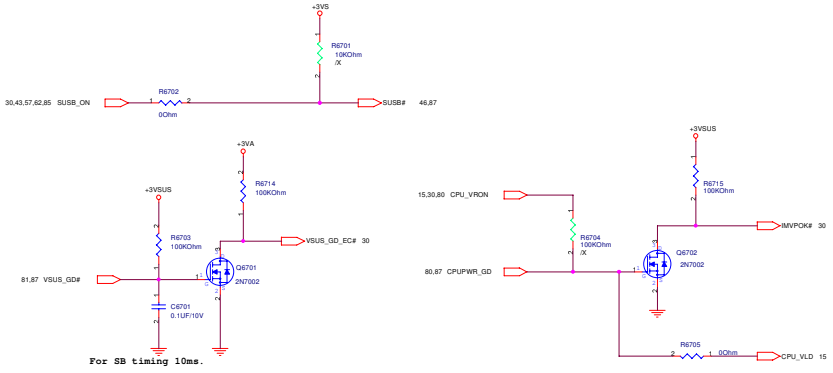
Title : F5U

ASUSTeK Computer INC

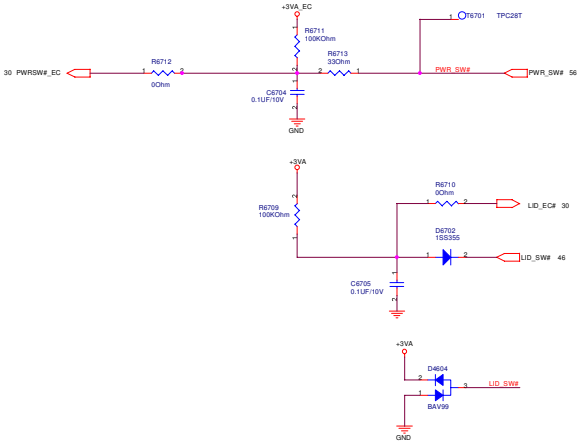
Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

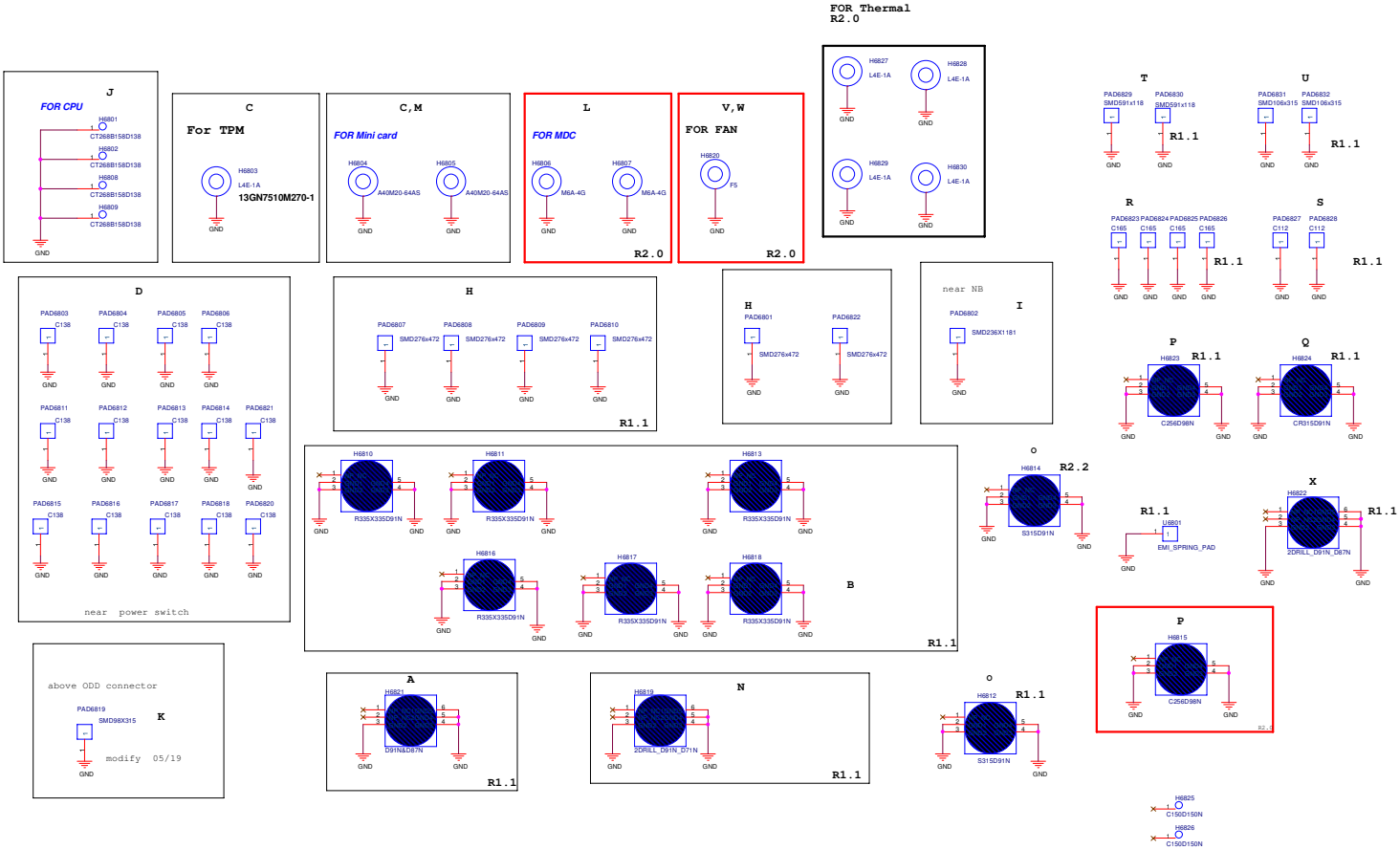
Date: 星期二, 十月 23, 2007 Sheet 66 of 88



POWER SWITCH



ASUSTeK Computer INC	Title : F5U		
	Engineer: He_Wang		
Size: C	Project Name: F5U		Rev: 1.0
Date: 星期一, 八月 09, 2007		Sheet 67 of 88	



ASUSTeK Computer INC.

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 五月 04, 2007 Sheet 68 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 70 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 71 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 72 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 73 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

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ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 75 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 76 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 77 of 88

ASUSTeK Computer INC

Title : F5U

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 78 of 88

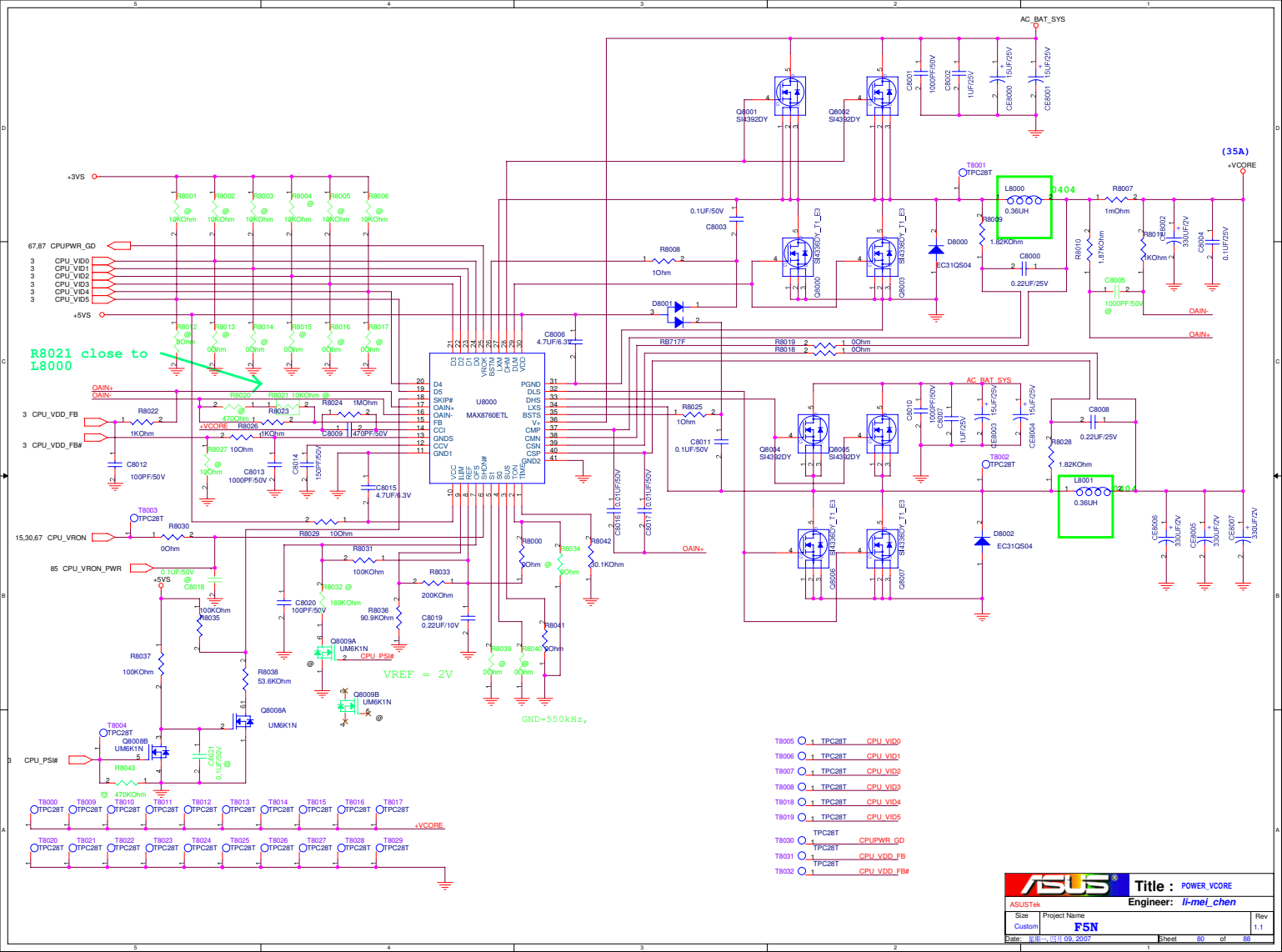
Title : F5U

ASUSTeK Computer INC

Engineer: He_Wang

Size	Project Name	Rev
C	F5U	1.0

Date: 星期二, 十月 23, 2007 Sheet 79 of 88


AC_BAT_SYS
(35A)
+VCORE
+3VS
+5VS
67,87 CPUPWR_GD
3 CPU_VID0
3 CPU_VID1
3 CPU_VID2
3 CPU_VID3
3 CPU_VID4
3 CPU_VID5
R8021 close to L8000
OAIN+
OAIN-
3 CPU_VDD_FB
3 CPU_VDD_FB#
15,30,67 CPU_VRON
85 CPU_VRON_PWR
3 CPU_PSI#
U8000
MAX8760ETL
Q8001 SI4392DY
Q8002 SI4392DY
Q8004 SI4392DY
Q8005 SI4392DY
Q8000 SI4365DY_T1_E3
Q8003 SI4365DY_T1_E3
Q8006 SI4365DY_T1_E3
Q8007 SI4365DY_T1_E3
D8000 EC31QS04
D8001 RB717F
D8002 EC31QS04
L8000 0.36UH
L8001 0.36UH
VREF = 2V
GND=550kHz,
CPU_PSI#
Q8009A UM6K1N
Q8009B UM6K1N
Q8008A UM6K1N
Q8008B UM6K1N
T8001 TPC28T
T8002 TPC28T
T8003 TPC28T
T8004 TPC28T
T8005 TPC28T CPU_VID0
T8006 TPC28T CPU_VID1
T8007 TPC28T CPU_VID2
T8008 TPC28T CPU_VID3
T8018 TPC28T CPU_VID4
T8019 TPC28T CPU_VID5
T8030 TPC28T CPUPWR_GD
T8031 TPC28T CPU_VDD_FB
T8032 TPC28T CPU_VDD_FB#
Title : POWER_VCORE
ASUSTek
Engineer: li-mei_chen
Size Custom
Project Name F5N
Rev 1.1
Date: 星期一, 四月 09, 2007
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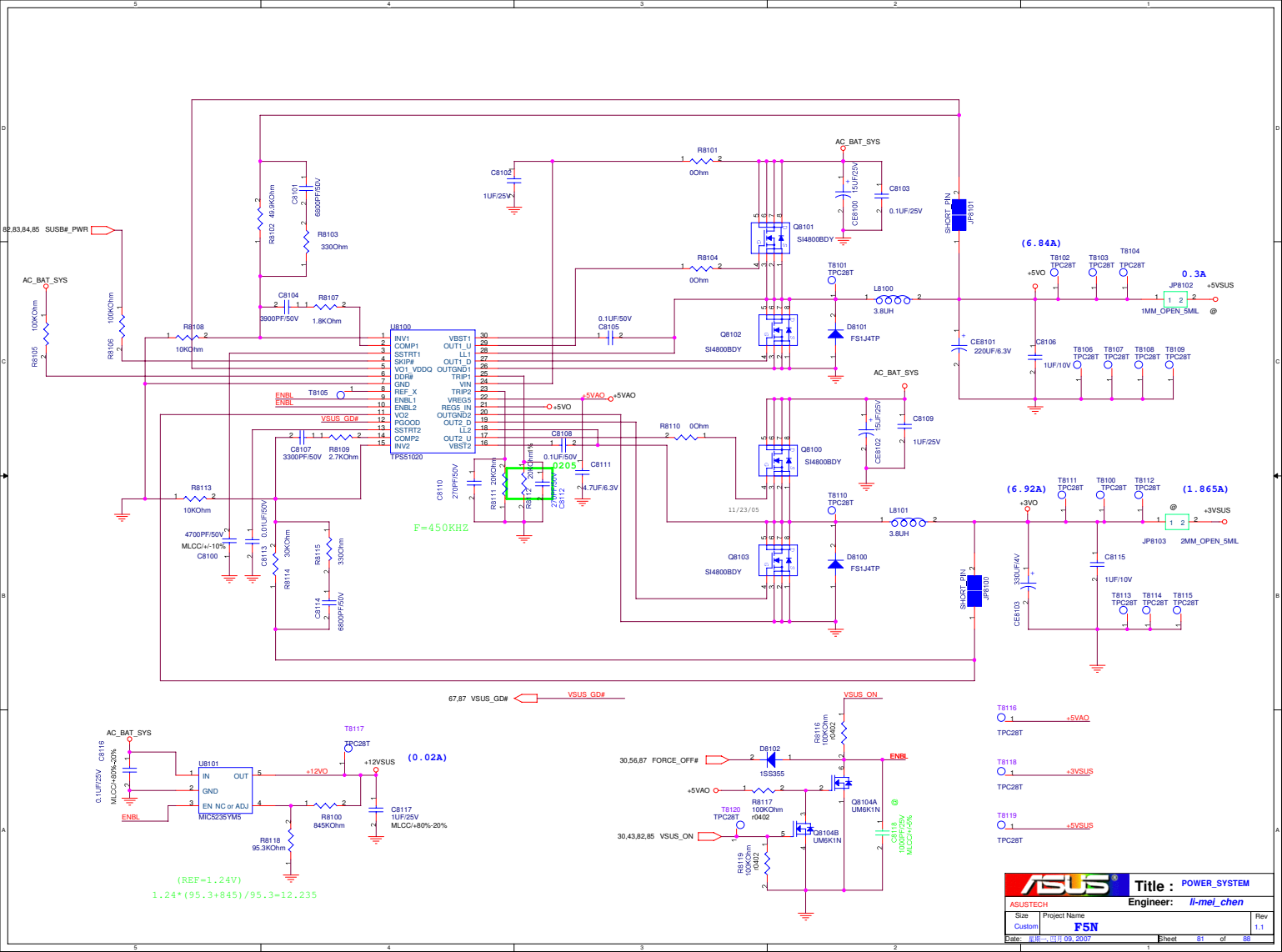
82,83,84,85 SUSB#_PWR
AC_BAT_SYS
R8105 100KOhm
R8106 100KOhm
R8102 49.9KOhm
C8101 680PF/50V
R8103 330Ohm
C8104 3900PF/50V
R8107 1.8KOhm
R8108 10KOhm
U8100
INV1
COMP1
SSTRT1
SKIP#
VO1_VDDQ
DDR#
GND
REF_X
ENBL1
ENBL2
VO2
PGOOD
SSTRT2
COMP2
INV2
VBST1
OUT1_U
LL1
OUT1_D
OUTGND1
TRIP1
VIN
TRIP2
VREG5
REG5_IN
OUTGND2
OUT2_D
LL2
OUT2_U
VBST2
TPS51020
ENBL
T8105
VSUS_GD#
C8107 3300PF/50V
R8109 2.7KOhm
R8113 10KOhm
4700PF/50V
MLCC/+/-10%
C8100
C8113 0.01UF/50V
R8114 30KOhm
R8115 330Ohm
C8114 680PF/50V
C8102 1UF/25V
R8101 0Ohm
R8104 0Ohm
C8105 0.1UF/50V
C8110 270PF/50V
R8111 20KOhm
R8112 20KOhm 1%
C8108 0.1UF/50V
C8111 4.7UF/6.3V
+5VO
+5VAO
F=450KHZ
11/23/05
R8110 0Ohm
Q8101 SI4800BDY
Q8102 SI4800BDY
Q8100 SI4800BDY
Q8103 SI4800BDY
AC_BAT_SYS
CE8100 15UF/25V
C8103 0.1UF/25V
CE8102 15UF/25V
C8109 1UF/25V
SHORT_PIN JP8101
SHORT_PIN JP8100
T8101 TPC28T
T8110 TPC28T
L8100 3.8UH
L8101 3.8UH
D8101 FS1J4TP
D8100 FS1J4TP
(6.84A)
+5VO
T8102 TPC28T
T8103 TPC28T
T8104 TPC28T
0.3A
JP8102
+5VSUS
1MM_OPEN_5MIL
CE8101 220UF/6.3V
C8106 1UF/10V
T8106 TPC28T
T8107 TPC28T
T8108 TPC28T
T8109 TPC28T
(6.92A)
+3VO
T8111 TPC28T
T8100 TPC28T
T8112 TPC28T
(1.865A)
+3VSUS
JP8103
2MM_OPEN_5MIL
CE8103 330UF/4V
C8115 1UF/10V
T8113 TPC28T
T8114 TPC28T
T8115 TPC28T
67,87 VSUS_GD#
VSUS_GD#
AC_BAT_SYS
C8116 0.1UF/25V MLCC/+80%-20%
U8101
IN
GND
EN NC or ADJ
OUT
MIC5235YM5
ENBL
T8117 TPC28T
+12VSUS
(0.02A)
+12VO
R8100 845KOhm
C8117 1UF/25V MLCC/+80%-20%
R8118 95.3KOhm
(REF=1.24V)
1.24*(95.3+845)/95.3=12.235
VSUS_ON
R8116 100KOhm r0402
30,56,87 FORCE_OFF#
D8102 1SS355
ENBL
+5VAO
R8117 100KOhm r0402
Q8104A UM6K1N
T8120 TPC28T
30,43,82,85 VSUS_ON
Q8104B UM6K1N
C8118 1000PF/25V MLCC/+-5%
R8119 100KOhm r0402
T8116 +5VAO TPC28T
T8118 +3VSUS TPC28T
T8119 +5VSUS TPC28T
ASUSTECH
Title : POWER_SYSTEM
Engineer: li-mei_chen
Size Custom
Project Name F5N
Rev 1.1
Date: 星期一, 四月 09, 2007
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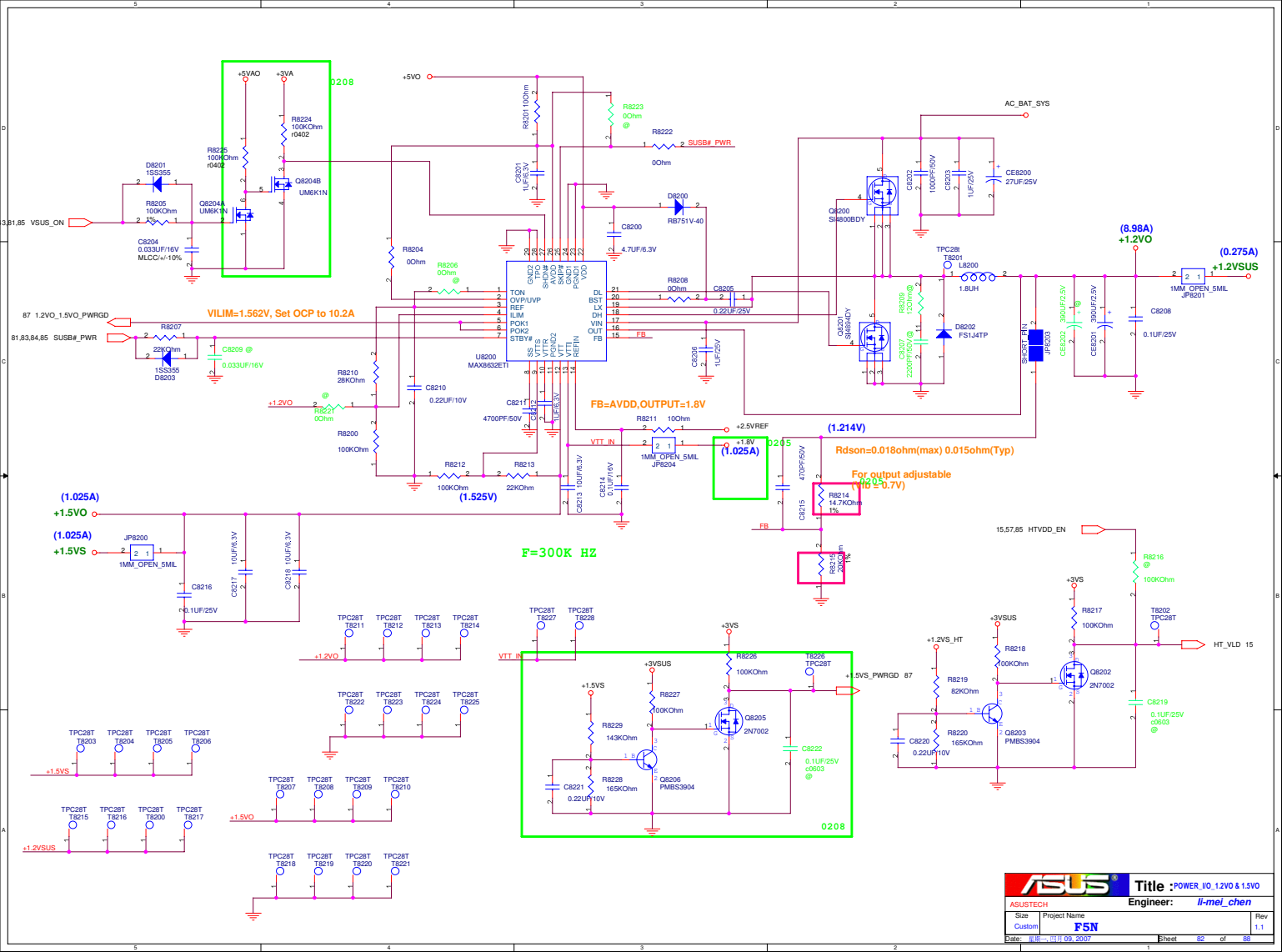
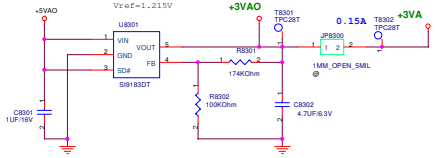
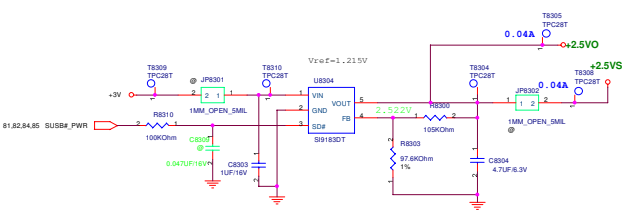


ASUSTECH	Title : POWER_I/O_1.2VO & 1.5VO		
	Engineer: li-mei_chen		
Size: Custom	Project Name: F5N		Rev: 1.1
Date: 星期一, 四月 09, 2007		Sheet 82 of 88	

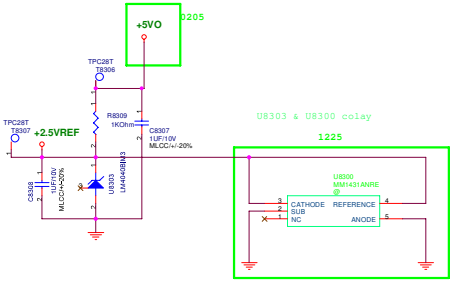
+3VA



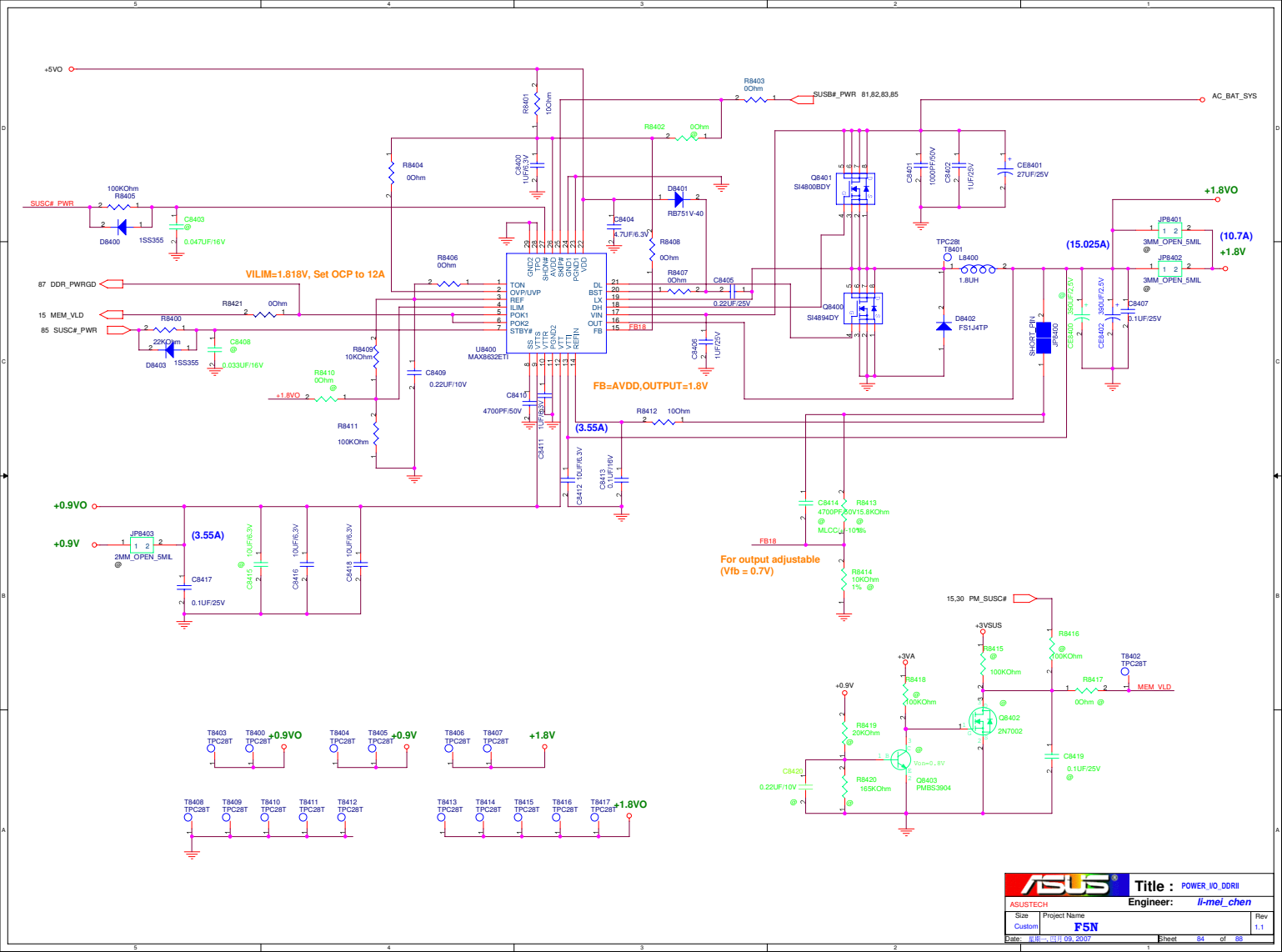
+2.5VS



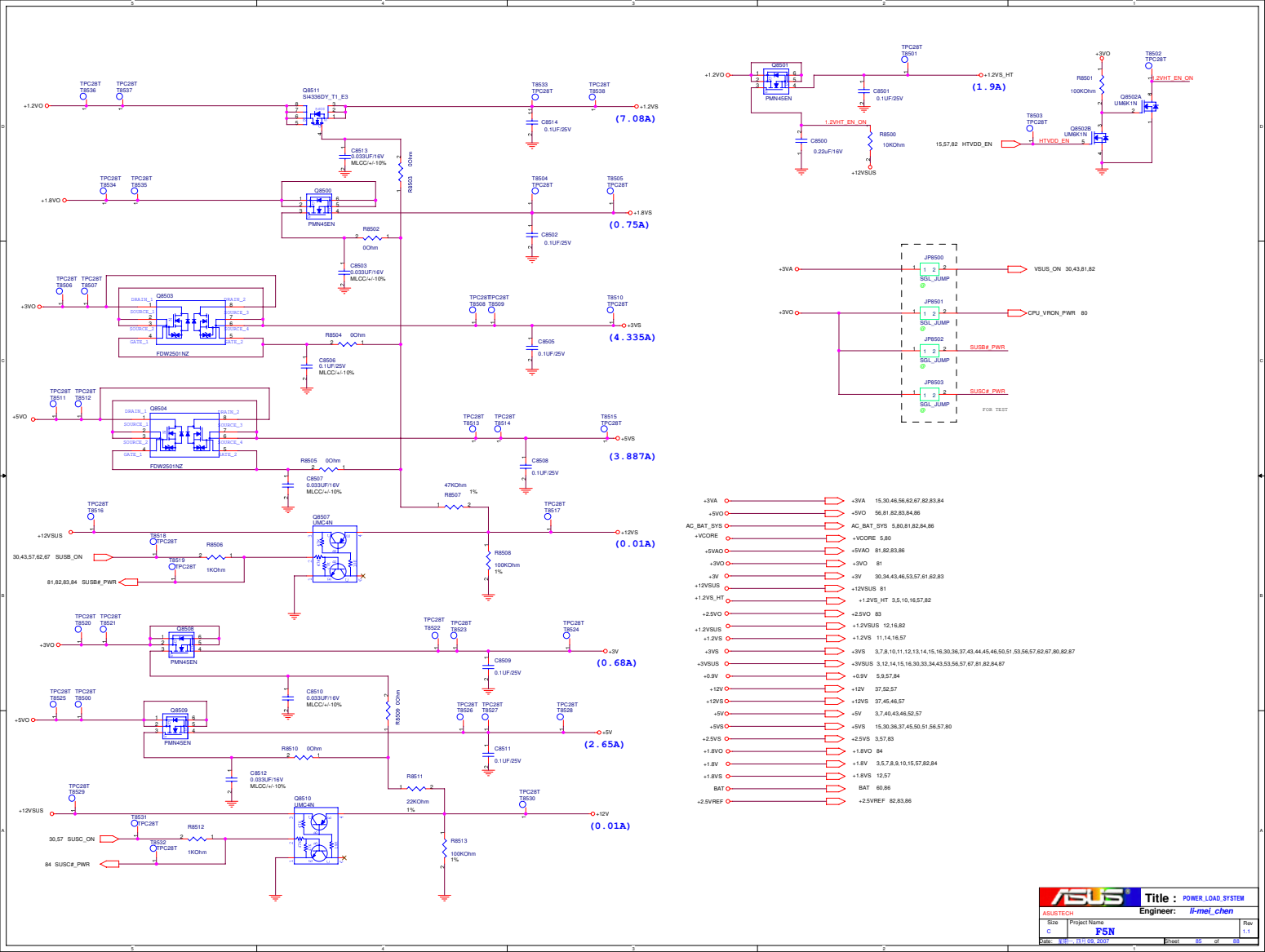
+2.5VREF



ASUSTECH	Title : POWER_I/O_LDO		
	Engineer: li-mei_chen		
Size: C	Project Name: F5N		Rev: 1.1
Date: 星期二, 五月 09, 2007	Sheet 83 of 88		



ASUSTECH	Title : POWER_I/O_DDRII		
	Engineer: li-mei_chen		
Size: Custom	Project Name: F5N		Rev: 1.1
Date: 星期一, 四月 09, 2007		Sheet 84 of 88	


+1.2VO
Q8511 SI4336DY_T1_E3
C8513 0.033UF/16V MLCC/+/-10%
R8503 0Ohm
C8514 0.1UF/25V
+1.2VS
(7.08A)
+1.8VO
Q8500 PMN45EN
R8502 0Ohm
C8503 0.033UF/16V MLCC/+/-10%
C8502 0.1UF/25V
+1.8VS
(0.75A)
+3VO
Q8503 FDW2501NZ
R8504 0Ohm
C8506 0.1UF/25V MLCC/+/-10%
C8505 0.1UF/25V
+3VS
(4.335A)
+5VO
Q8504 FDW2501NZ
R8505 0Ohm
C8507 0.033UF/16V MLCC/+/-10%
C8508 0.1UF/25V
+5VS
(3.887A)
+12VSUS
Q8507 UMC4N
R8506 1KOhm
30,43,57,62,67 SUSB_ON
81,82,83,84 SUSB#_PWR
47KOhm 1%
R8507
R8508 100KOhm 1%
+12VS
(0.01A)
+3VO
Q8508 PMN45EN
C8509 0.1UF/25V
+3V
(0.68A)
+5VO
Q8509 PMN45EN
C8510 0.033UF/16V MLCC/+/-10%
R8509 0Ohm
C8511 0.1UF/25V
+5V
(2.65A)
R8510 0Ohm
C8512 0.033UF/16V MLCC/+/-10%
+12VSUS
Q8510 UMC4N
R8512 1KOhm
30,57 SUSC_ON
84 SUSC#_PWR
R8511 22KOhm 1%
R8513 100KOhm 1%
+12V
(0.01A)
+1.2VO
Q8501 PMN45EN
C8501 0.1UF/25V
C8500 0.22uF/16V
R8500 10KOhm
+12VSUS
1.2VHT_EN_ON
+1.2VS_HT
(1.9A)
15,57,82 HTVDD_EN
HTVDD_EN
+3VO
R8501 100KOhm
Q8502A UM6K1N
Q8502B UM6K1N
1.2VHT_EN_ON
+3VA
JP8500 SGL_JUMP
VSUS_ON 30,43,81,82
+3VO
JP8501 SGL_JUMP
CPU_VRON_PWR 80
JP8502 SGL_JUMP
SUSB#_PWR
JP8503 SGL_JUMP
SUSC#_PWR
FOR TEST
+3VA +3VA 15,30,46,56,62,67,82,83,84
+5VO +5VO 56,81,82,83,84,86
AC_BAT_SYS AC_BAT_SYS 5,80,81,82,84,86
+VCORE +VCORE 5,80
+5VAO +5VAO 81,82,83,86
+3VO +3VO 81
+3V +3V 30,34,43,46,53,57,61,62,83
+12VSUS +12VSUS 81
+1.2VS_HT +1.2VS_HT 3,5,10,16,57,82
+2.5VO +2.5VO 83
+1.2VSUS +1.2VSUS 12,16,82
+1.2VS +1.2VS 11,14,16,57
+3VS +3VS 3,7,8,10,11,12,13,14,15,16,30,36,37,43,44,45,46,50,51,53,56,57,62,67,80,82,87
+3VSUS +3VSUS 3,12,14,15,16,30,33,34,43,53,56,57,67,81,82,84,87
+0.9V +0.9V 5,9,57,84
+12V +12V 37,52,57
+12VS +12VS 37,45,46,57
+5V +5V 3,7,40,43,46,52,57
+5VS +5VS 15,30,36,37,45,50,51,56,57,80
+2.5VS +2.5VS 3,57,83
+1.8VO +1.8VO 84
+1.8V +1.8V 3,5,7,8,9,10,15,57,82,84
+1.8VS +1.8VS 12,57
BAT BAT 60,86
+2.5VREF +2.5VREF 82,83,86
Title : POWER_LOAD_SYSTEM
Engineer: li-mei_chen
ASUSTECH
Size C
Project Name F5N
Rev 1.1
Date: 星期一, 八月 09, 2007
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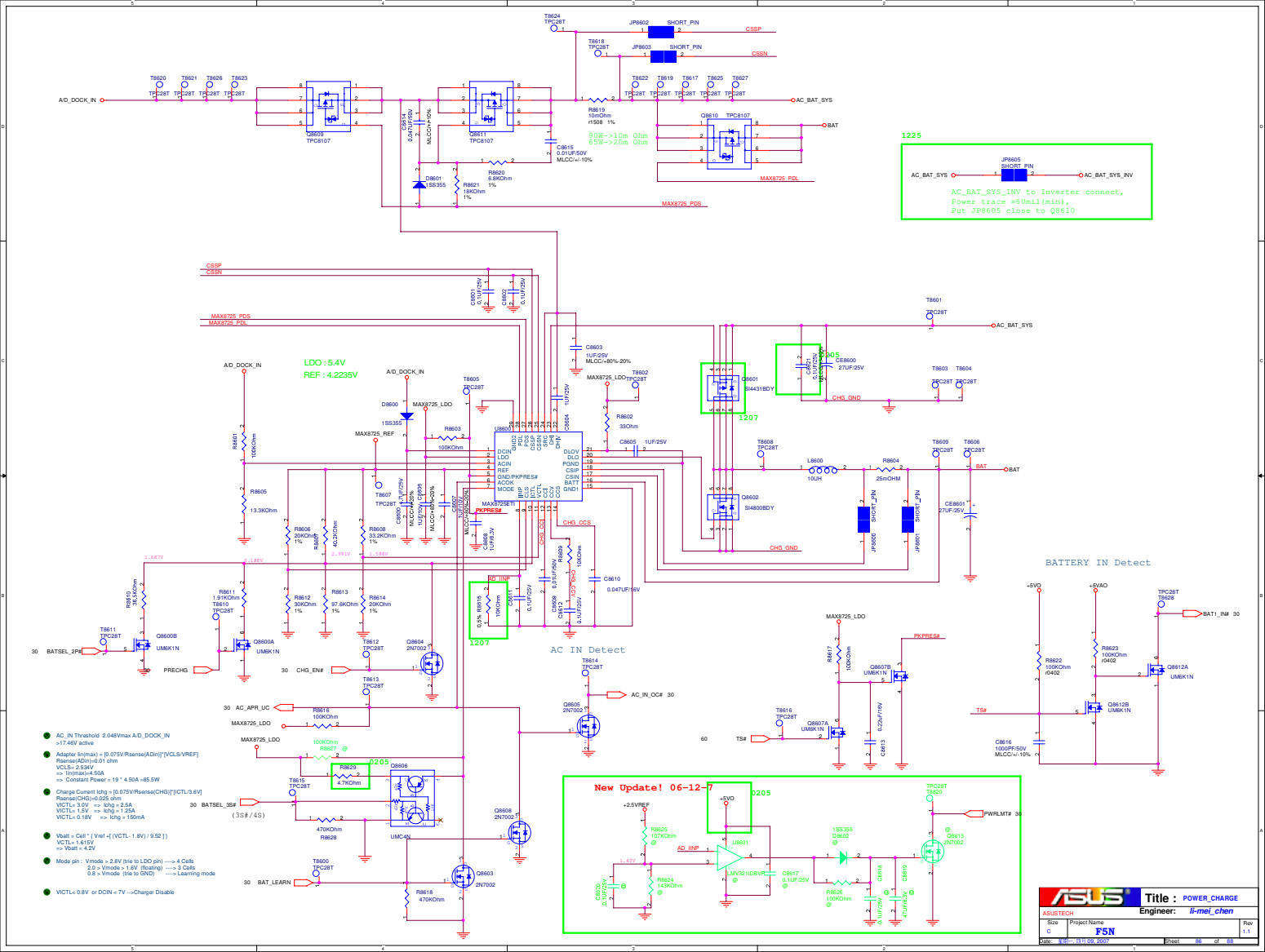
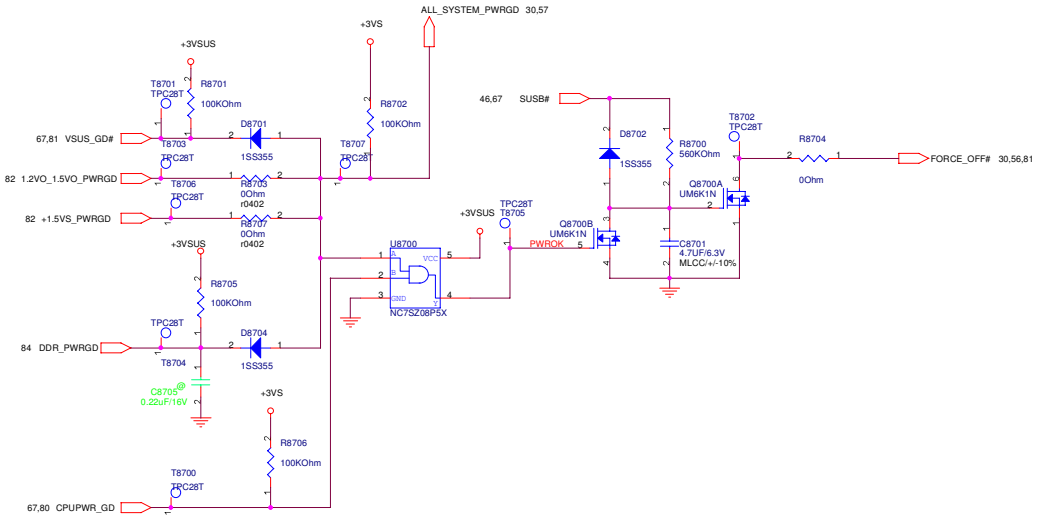
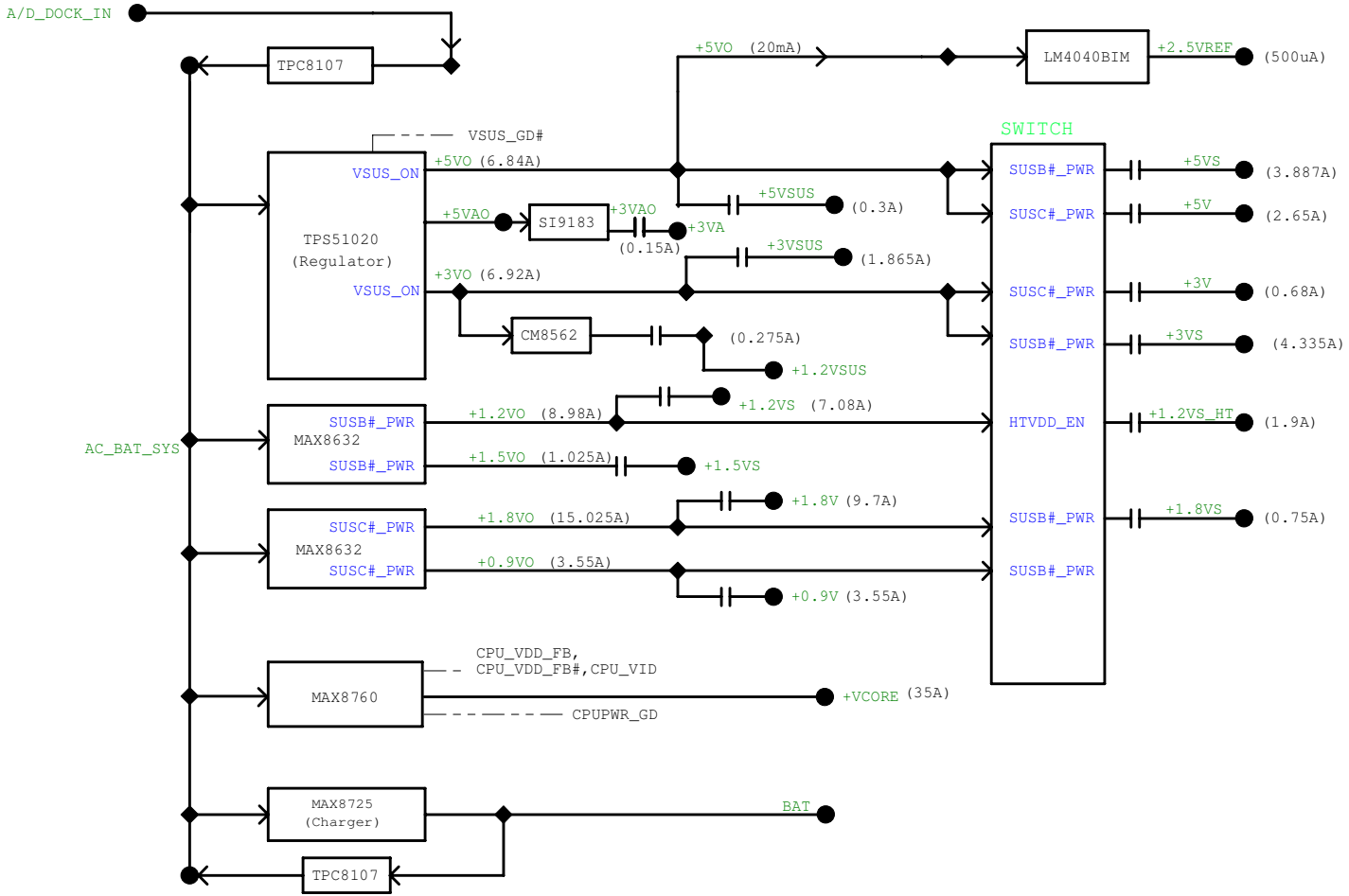

A/D_DOCK_IN
LDO : 5.4V
REF : 4.2235V
AC IN Detect
BATTERY IN Detect
New Update! 06-12-7
AC_BAT_SYS_INV to Inverter connect,
Power trace =60mil(min),
Put JP8605 close to Q8610
AC_BAT_SYS
BAT
CSSP
CSSN
MAX8725_PDS
MAX8725_PDL
PKPRES#
CHG_GND
BATSEL_2P#
PRECHG
CHG_EN#
AC_APR_UC
BATSEL_3S#
BAT_LEARN
AC_IN_OC#
TS#
PWRLMT#
BAT1_IN#
AC_IN Threshold 2.048Vmax A/D_DOCK_IN
>17.46V active
Adapter Iin(max) = [0.075V/Rsense(ADin)]*[VCLS/VREF]
Rsense(ADin)=0.01 ohm
VCLS= 2.534V
VREF= 2.5V
Iin(max)=4.50A
=> Constant Power = 19 * 4.50A =85.5W
Charge Current Ichg = [0.075V/Rsense(CHG)]*[ICTL/3.6V]
Rsense(CHG)=0.025 ohm
VICTL= 3.0V => Ichg = 2.5A
VICTL= 1.5V => Ichg = 1.25A
VICTL= 0.18V => Ichg = 150mA
Vbatt = Cell * [Viset +[(VCTL- 1.8V) / 9.52]]
VCTL= 1.615V
=> Vbatt = 4.2V
Mode pin : Vmode > 2.8V (trie to LDO pin) ----> 4 Cells
2.0 > Vmode > 1.6V (floating) ----> 3 Cells
0.8 > Vmode (trie to GND) ----> Learning mode
VICTL< 0.8V or DCIN < 7V -->Charger Disable
Title : POWER_CHARGE
Engineer: li-mei_chen
ASUSTECH
Size: C
Project Name: F5N
Rev: 1.1
Date: 星期一, 八月 09, 2007
Sheet 86 of 88



ASUSTECH	Title : POWER_PROTECT	
	Engineer: li-mei_chen	
Size: Custom	Project Name: F5N	Rev: 1.1
Date: 星期一, 四日 09, 2007	Sheet 87 of 88	



ASUSTECH	Title : POWER DIAGRAM	
	Engineer: li-mei_chen	
Size: Custom	Project Name: F5N	Rev: 1.1
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