F6S SCHEMATIC Revision 1.1

SYSTEM PAGE REF.

POWER PAGE REF.

<Variant Name>

Title : PAGE REF.

ASUSTeK COMPUTER INC

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 1 of 94

F6S BLOCK DIAGRAM

BATTERY TYPE

3S1P
3S2P
3S3P

Internal IO CON with Cable for MB

TP&F/P CON | MDC CON | BT CON | LVDS , iverter and CCD CON

Internal IO CON with Cable for IO Board

SPEAKER | INT. MIC CON

GDDR2 16Mx16 x4
DDR2 16M*16-2.5 1.8V
INFINEON page42

Merom 478 page4,5,6

CPU CAP page6

THERMAL SENSOR(MAX6657)/ FAN CON. page6

RTC page25

Discharge circuit page37

CLOCK GEN. ICS9LPR363 page7

AC & BAT CON page47

HOST BUS

LVDS & INV CON page17

CRT CON page18

HDMI CONN page19

NB8M-SE G3-64 page40,41,43,44,45

PCI-E X8

SPDIF IN from CODEC

965PM page8,9,10,11,12,13

DDR2 SDRAM 533/667MHz

DDR2 533/667 SODIMM X2 +1.8V +0.9VS page14,15

DDR CAP/RES

DMI X2

ICH8-M page25,26,27,28

USB2.0

PATA BUS

SATA BUS

ACZ

USB2.0

PCI EXPRESS X1

USB2.0

USB x1 eSATA

USB x 2 page24

B/T page21

Camera page17

Touch Pad connector page38

F/P page38

RTS5158 page36

4 IN 1 CON page36

ODD page23

SATA HDD page23

TPM Conn. page21

LPC, 33MHz

EC(IT8511E) page34

ISA ROM (8Mbits TSOP) page35

INTERNAL KEYBOARD page35

MDC CON page19

USB X1

NEWCARD page33

GigaLAN RTL8111B page29

MINI CARD WLAN page20

eSATA JMB360 page30

Azalia ALC888S

AUDIO AMP TPA6017A2PWP

HP

MIC AMP LM358MX

MIC_IN

USB x1

MINI CARD WWAN(3G)

SIM CON

RJ11,RJ45 CON

Daughter Board

<Variant Name>

ASUSTeK COMPUTER INC

Title : BLOCK DIAGRAM

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 2 of 94

EC-IT8511 GPIO SETTING

Pin	Pin Name	Signal Name	Type
32	PWM0/GPA0	LCD_BL_PWM	
33	PWM1/GPA1	FAN_PWM	
36	PWM2/GPA2	BAT1_CNT1#	I
37	PWM3/GPA3	BAT2_CNT1#	
38	PWM4/GPA4	CHG_LED_UP#	O
39	PWM5/GPA5	PWR_LED_UP#	O
40	PWM6/GPA6	BATSEL_3S#	O
43	PWM7/GPA7	LCD_BACKOFF#	O
153	RXD/GPB0	NUM_LED	O
154	TXD/GPB1	CAP_LED	O
162	GPB2	SCRL_LED	O
163	SMCLK0/GPB3	SMB0_CLK	O
164	SMDAT0GPB4	SMB0_DAT	I/0
5	GA20/GPB5	A20GATE	O
6	KBRST#/GPB6	RCIN#	O
165	GPB7	THRO_CPU	O
47	CLKOUT/GPC0	N/A	
169	SMCLK1/GPC1	SMB1_CLK	O
170	SMDAT1/GPC2	SMB1_DAT	I/0
171	GPC3	PWRLIMIT#	O
172	TMRI0/WUI2/GPC4	ACIN_OC#	I
175	GPC5	OP_SD#	O
176	TMRI1/WUI3/GPC6	BAT_IN_OC#	I
1	CK32KOUT/GPC7	EC_IDE_RST#	O
26	RI1#/WUI0/GPD0	SUSB#	I
29	RI2#/WUI1/GPD1	SUSC#	I
30	LPCRST#/WUI4//GPD2	BUF_PLT_RST#	I
31	ECSCI#/GPD3	EXT_SCI#	O
41	GPD4	RF_ON_SW#	O
42	GINT/GPD5	PM_SLP_M#	O
62	TACH0/GPD6	FAN0_TACH	
63	TACH1/GPD7	COLOREN#	I
87	ADC4/GPE0	BLUETOOTH#	I
88	ADC5/GPE1	INTERNET#	I
89	ADC6/GPE2	MARATHON#	I
90	ADC7/GPE3	DISTP#	I
2	PWRSW/GPE4	PWR_SW#	I
44	WUI5/GPE5	BAT2_IN_OC#	I
24	LPCPD#/WUI6/GPE6	WLAN_SW#	I
25	CLKRUN#/WUI7/GPE7	ME_ALERT#	
110	PS2CLK0/GPF0	NC/PS2CLK0	O
111	PS2DAT0/GPF1	NC/PS2DAT0	I/0
114	PS2CLK1/GPF2	DVD/CD_ON#	I
115	PS2DAT1/GPF3	TV_ON#	I
116	PS2CLK2/GPF4	TP_CLK	O
117	PS2DAT2/GPF5	TP_DAT	I/0
118	PS2CLK3/GPF6	SLOT_ON# ??	I
119	PS2DAT3/GPF7	INSTANT_ON#	I
113	FA16/GPG0	FA16_SWAP	O
112	FA17/GPG1	FA17	O
104	FA18/GPG2	FA18	O
103	FA19/GPG3	FA19 BAT2_IN_OC#	O
3	FA20/GPG4	LID_EC#	I
4	FA21/GPG5	BAT2_IN_OC#	I
27	LPC80HL/GPG6	PMTHERM#	O
28	LPC80LL/GPG7	AC_APR_UC#	I

Pin	Pin Name	Signal Name	Type
48	GPH0	VSUS_ON	O
54	GPH1	VSUS_GD	I
55	GPH2	CPUPWR_GD	I
69	GPH3	PM_PWRBTN#	O
70	GPH4	SUSC_EC#	O
75	GPH5	SUSB_EC0#	O
76	GPH6	CPU_VRON	O
105	GPH7	PM_RSMRST#	O
148	GPI0	ICH8_PWROK	O
149	GPI1	ALL_SYS_PWRGD	I
152	GPI2	BAT1_CNT2#	O
155	GPI3	CHG_EN#	O
156	GPI4	PRECHG	O
168	GPI5	EC_CLK_EN	O
174	GPI6	BAT_LEARN	O

SM_BUS ADDRESS :

SM-Bus Device	SM-Bus Address
Clock Generator	1101001x (D2)
SO-DIMM 0	1010000x (A0)
SO-DIMM 1	1010001x (A2)
Thermal Sensor(MAX6657)	1001100x (98)
VGA Thermal IC(G781-1)	1001101x (9A)

ICH8M_GPIO

Pin.	Default	RST#	Use As	Signal Name	Power	Mux
GPIO 00	i		GPI	PM_BMBUSY#	+3VS	BM_BUSY#
GPIO 01	i	0	GPI	BT_DET#	+3VS	TACH1
GPIO [5:2]	i	H-Z	GPI	PCI_INT[H:E]#	+3VS	PIRQ[H:E]#
GPIO 06	i	0	GPO	BIOS_REC_?_(TP)	+3VS	TACH2
GPIO 07	i	0	GPO	802_LED_EN	+3VS	TACH3
GPIO 08	i		GPI	EXTSMI#	+3VSUS	N/A
GPIO 09	i	H-Z	GPO	LAN_WOL_EN_?_(TP)	+3VSUS	WOL_EN
GPIO 10	i	H-Z	GPO	RST#_NEWCARD	+3VSUS	ALERT#
GPIO 11	Nat.	H-Z	Native	SMB_ALERT#	+3VSUS	SMBALERT#
GPIO 12	i		GPI	KBC_SCI#	+3VSUS	GLAN_DOCK#
GPIO 13	Nat.		GPI	N/A	+3VSUS	ENERGY_DETECT
GPIO 14	i	H-Z	GPI	N/A	+3VSUS	NETDETECT
GPIO 15	Nat.	1	Native	STP_PCI#	+3VSUS	STP_PCI# , No-GPIO, in Mobile
GPIO 16	Nat.	0	Native	PM_DPRSLPVR	+3VS	DPRSLPVR
GPIO 17	i	1	GPO	WLAN_ON#	+3VS	TACH0
GPIO 18	O	freq 1K	GPO	N/A	+3VS	N/A
GPIO 19	i		GPO	CPU_SELECT	+3VS	SATA1GP
GPIO 20	O	1	GPO	BT_LED_EN	+3VS	N/A
GPIO 21	i		GPI	CPPE#_DET	+3VS	SATA0GP
GPIO 22	i		GPI	N/A	+3VS	SCLOCK
GPIO 23	Nat.		Native	N/A	+3VS	LDRQ1#
GPIO 24	O	H-Z	GPO	MSK_PCIRST	+3VSUS	CLGPIO0(MEM_LED), Not Cleared by CF9h RST event.
GPIO 25	Nat.	1	Native	STP_CPU#	+3VS	STP_CPU# , No-GPIO, in Mobile
GPIO 26	Nat.		GPO	CPPE_EN	+3VSUS	S4_STATE#
GPIO 27	O	0	GPO	BT_ON#	+3VSUS	QRT_STATE0
GPIO 28	O	0	GPO	CB_SD#_?_(TP)	+3VSUS	QRT_STATE1
GPIO 29	Nat.		Native	USB_OC#5	+3VSUS	OC5#
GPIO 30	Nat.		Native	USB_OC#6	+3VSUS	OC6#
GPIO 31	Nat.		Native	USB_OC#7	+3VSUS	OC7#
GPIO 32	O	0	Native	PM_CLKRUN#	+3VS	CLKRUN# , No-GPIO, in Mobile
GPIO 33	O	1	GPO	N/A	+3VS	HDA_DOCK_EN#
GPIO 34	O	0	GPO	N/A	+3VS	HDA_DOCK_RST#
GPIO 35	O	0	GPO	SATACLKREQ#_?_(TP)	+3VS	SATACLKREQ#
GPIO 36	i		GPO	EMAIL_LED#_?_(TP)	+3VS	SATA2GP
GPIO 37	i	0	GPI	PCB_ID0	+3VS	SATA3GP
GPIO 38	i		GPI	PCB_ID1	+3VS	SLOAD

Pin	Default	RST#	Use As	Signal Name	Power	Mux
GPIO 39	i		GPI	PCB_ID2	+3VS	SDATAOUT0
GPIO [40:43]	Nat.		Native	USB_OC[4:1]#	+3VSUS	OC[4:1]#
GPIO [47:44]	n/a		N/A	N/A	N/A	No implement
GPIO 48	i	1	Native		+3VS	SDATAOUT1
GPIO 49	Nat.		Native	H_PWRGD	+VCORE	CPUPWRGD
GPIO 50	Nat.		Native	PCI_REQ1#	+5VS	REQ1#
GPIO 51	Nat.	1	Native	PCI_GNT1#	+3VS	GNT1#
GPIO 52	Nat.		Native	PCI_REQ2#	+5VS	REQ2#
GPIO 53	Nat.	1	Native	PCI_GNT2#	+3VS	GNT2#
GPIO 54	Nat.		Native	PCI_REQ3#	+5VS	REQ3#
GPIO 55	Nat.	1	Native	PCI_GNT3#	+3VS	GNT3#

<Variant Name>

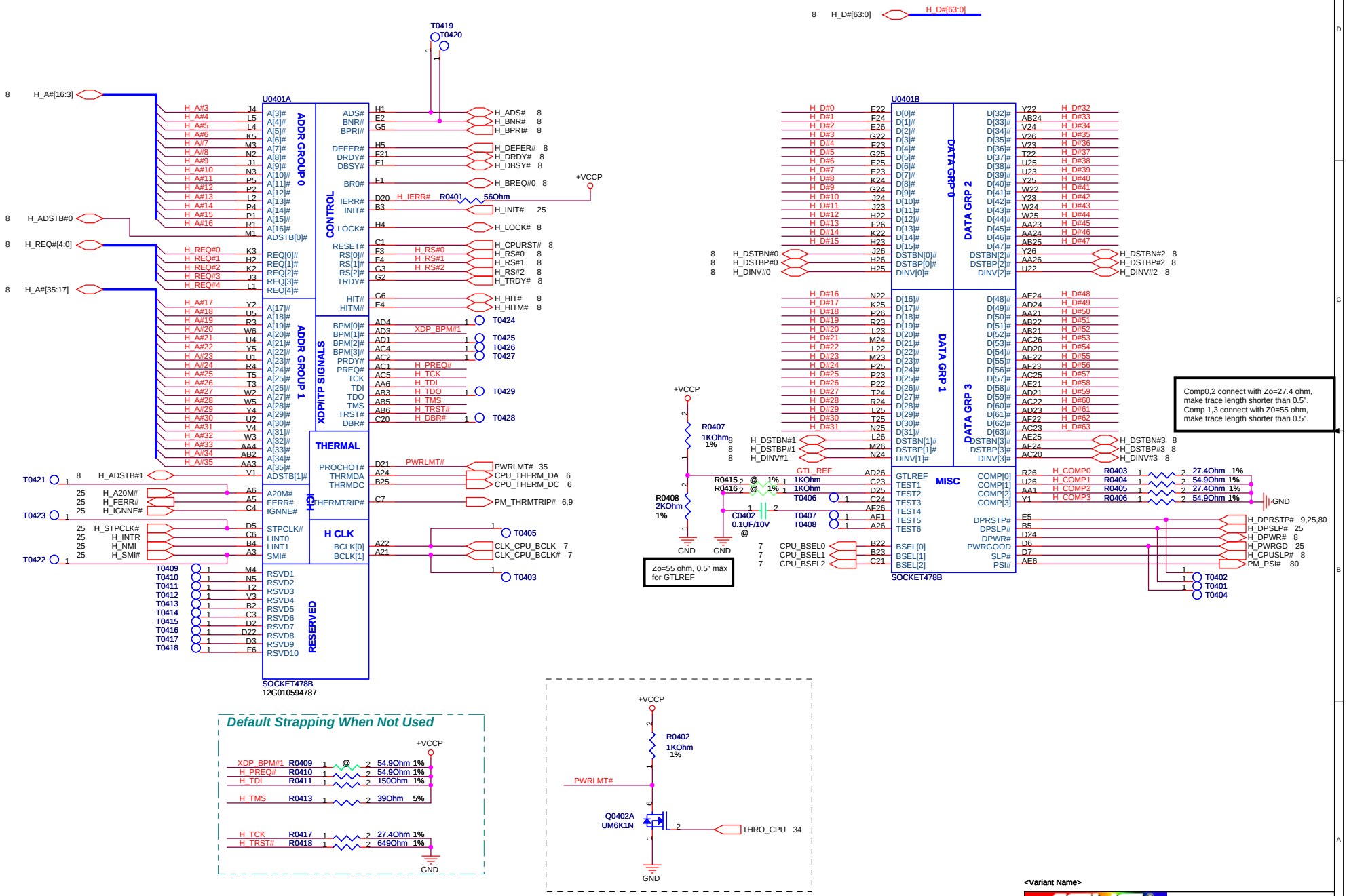
ASUSTeK COMPUTER INC

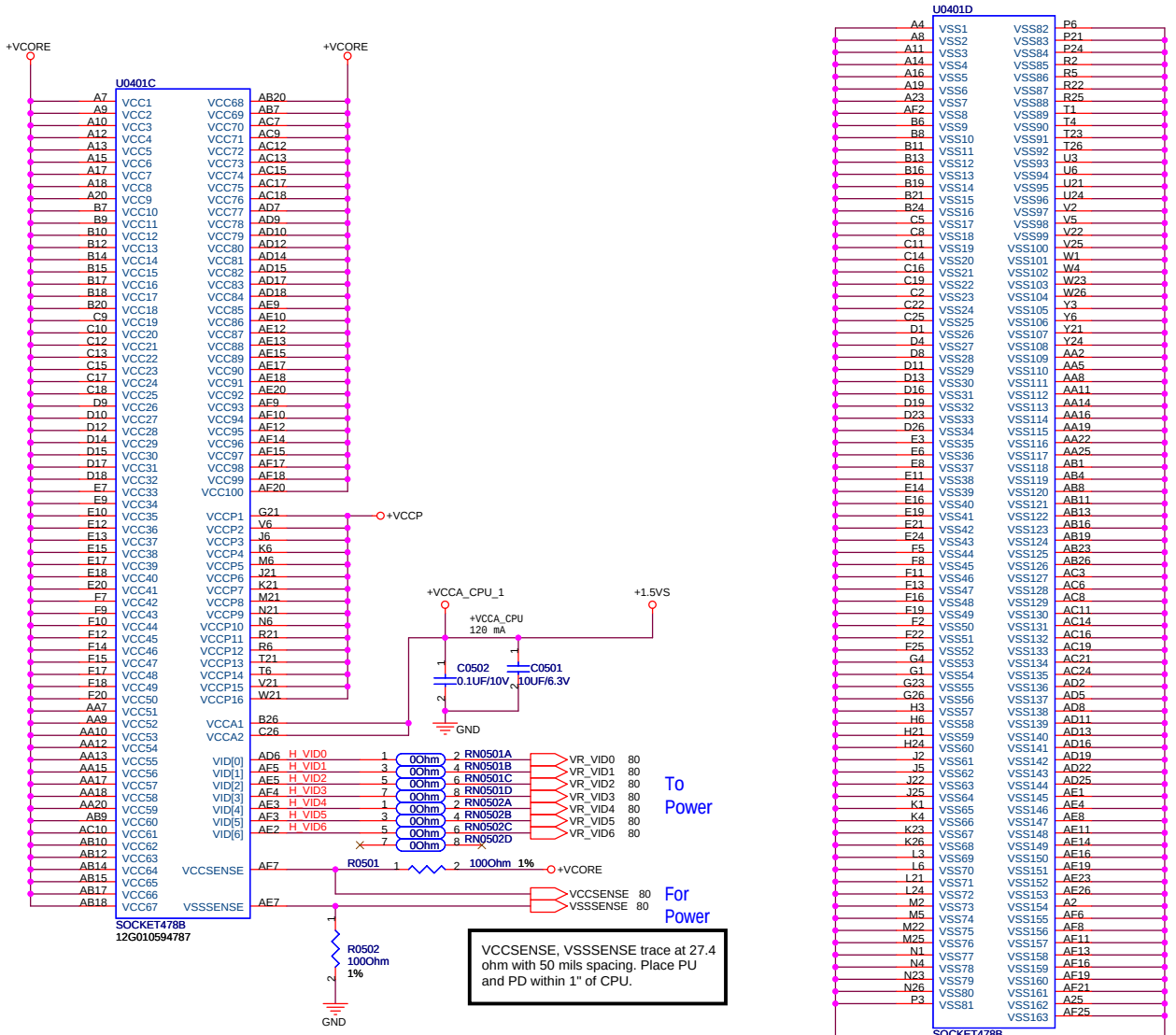
Title : Schematic Info.

Engineer: <OrgAddr1>

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 3 of 94





<Variant Name>

ASUSTeK COMPUTER INC

Title : MEROM CPU (2)

Engineer: <OrgAddr1>

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 5 of 94

+VCCP → +VCCP 4,5,7,8,9,11,12,28,37,95
+VCORE → +VCORE 3,5,80
+3VS → +3VS 7,9,12,13,14,15,17,18,19,20,21,22,23,25,27,28,29,30,33,34,37,39,40,43,44,45,80,91,92
+5VA → +5VA 81

Place on L1/L8, upper/lower side of inside socket. according intel layout suggestion.

44A for Merom

+VCORE

C0614 10UF/6.3V, C0632 10UF/6.3V, C0621 10UF/6.3V, C0603 10UF/6.3V @, C0625 10UF/6.3V, C0609 10UF/6.3V @, C0631 10UF/6.3V, C0604 10UF/6.3V @, C0622 10UF/6.3V, C0629 10UF/6.3V

C0627 10UF/6.3V @, C0620 10UF/6.3V @, C0626 10UF/6.3V @, C0607 10UF/6.3V, C0624 10UF/6.3V @, C0605 10UF/6.3V, C0623 10UF/6.3V, C0601 10UF/6.3V, C0615 10UF/6.3V, C0602 10UF/6.3V

C0616 10UF/6.3V @, C0639 10UF/6.3V, C0619 10UF/6.3V @, C0610 10UF/6.3V, C0613 10UF/6.3V, C0608 10UF/6.3V @, C0612 10UF/6.3V @, C0617 10UF/6.3V, C0628 10UF/6.3V, C0630 10UF/6.3V

C0611 10UF/6.3V, C0633 10UF/6.3V @

GND

+VCCP Decoupling Capacitor (Place near CPU)

+VCCP

CE0601 100UF/2.5V, C0618 0.1UF/10V X7R, C0606 0.1UF/10V X7R, C0636 0.1UF/10V X7R, C0635 0.1UF/10V X7R, C0638 0.1UF/10V X7R, C0637 0.1UF/10V X7R

GND

Decoupling guide from INTEL

VCORE	22uF/10V	* 32pcs
	330uF/2V	* 6pcs
VCCP	0.1uF	* 6pcs for CPU
	150uF	* 1pcs for CPU

R0651 @ 0Ohm → ICH_THRMTRIP# 25

+VCCP, +3VS

R0606 56Ohm @

R0652 330

C0650 0.1U @

R0654 10KOhm

Q0650 PMBS3904

Q0651 H2N7002

Enable: Turn OFF system
To EC(Internal Pull Hi)

4,9 PM_THRMTRIP#
4,9 GMCH_THRMTRIP#
9,23,26,40 PLT_RST#

THRMTRIP# 34 → To EC

Thermal Sensor

+3VS

SMB1_CLK R0658 @ 4.7KOhm
SMB1_DAT R0657 @ 4.7KOhm
THRM_ALERT#_CPU R0650 10KOhm

+3VS_THM

CPU_THERM_DA, CPU_THERM_DC

C0651 1000P, C0652 0.1U

R0656 200 → +3VS

Max: 1mA

U0650 MAX6657MSA

VCC, DXP, DXN, OVERT#, SCLK, SDA, ALERT#, GND

4 CPU_THERM_DA
4 CPU_THERM_DC

SMB1_CLK 34,40,45
SMB1_DAT 34,44,45
THRM_ALERT#_CPU → T0601

GND

Close to Pin A24 & A25 of CPU
Enable: Turn OFF system
Slave address: 98h

+3VS, R0604 10KOhm, Q0652 PMBS3904

OS#_OC → OS#_OC 34

Max6657: 0.26(USD)
ADT7401ARM2: 0.28(USD)

PWM FAN Control

+5VS_FAN

R0605 0Ohm

C0671 0.1U, C0672 22UF/10V

+5VSFAN

D0601 1N4148WS @

GND

+3VS, +5VSFAN

R0601 100KOhm @
R0603 10KOhm @

+5VS_FAN

D0603 BAT54C @

R0602 100KOhm

Q0653A UM6K1N
Q0653B UM6K1N

34 FAN_PWM

C0654 100PF/50V @

R0659 10KOhm

D0602 1N4148WS

34 FAN0_TACH

C0653 100PF/50V @

34,43,45 NV_OVERT# → NV_OVERT#

D0604 1N4148WS @

+5VSFAN P/N:12G17100004B

CON601 SIDE1, SIDE2 WtoB_CON_4P_1

H/W Thermal Protect

+5VA (94~98'C protect)

R0670 22.1K 1% @

C0670 @ 0.1U

RT0671 100K @

R0662 4.7KOhm @

U0670 @ PST9013NR (NC, SUB, GND, VCC, VOUT)

FORCE_OFF# 34,81,92

Enable: Turn OFF system
OPEN Collector

<Variant Name>

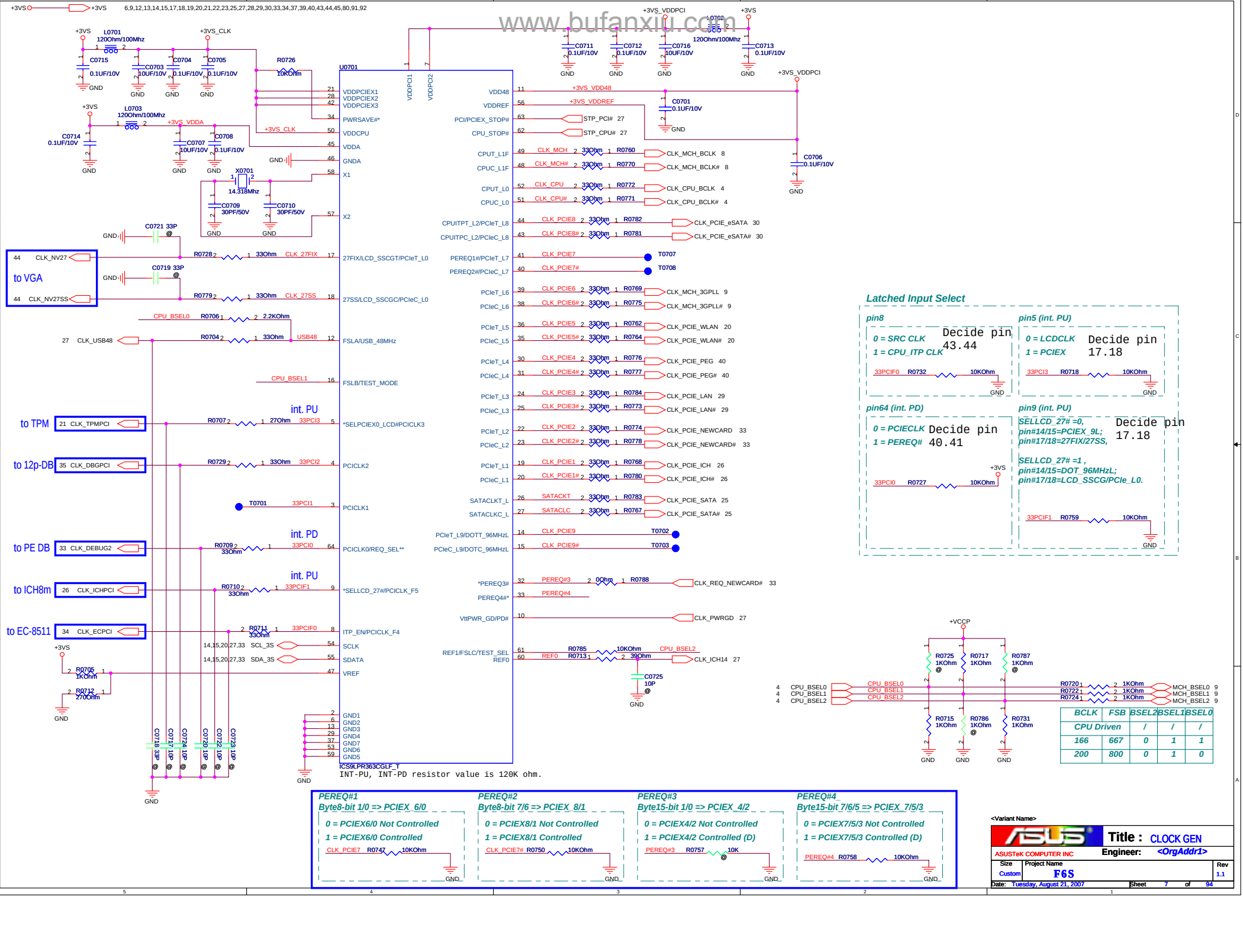
ASUSTeK COMPUTER INC

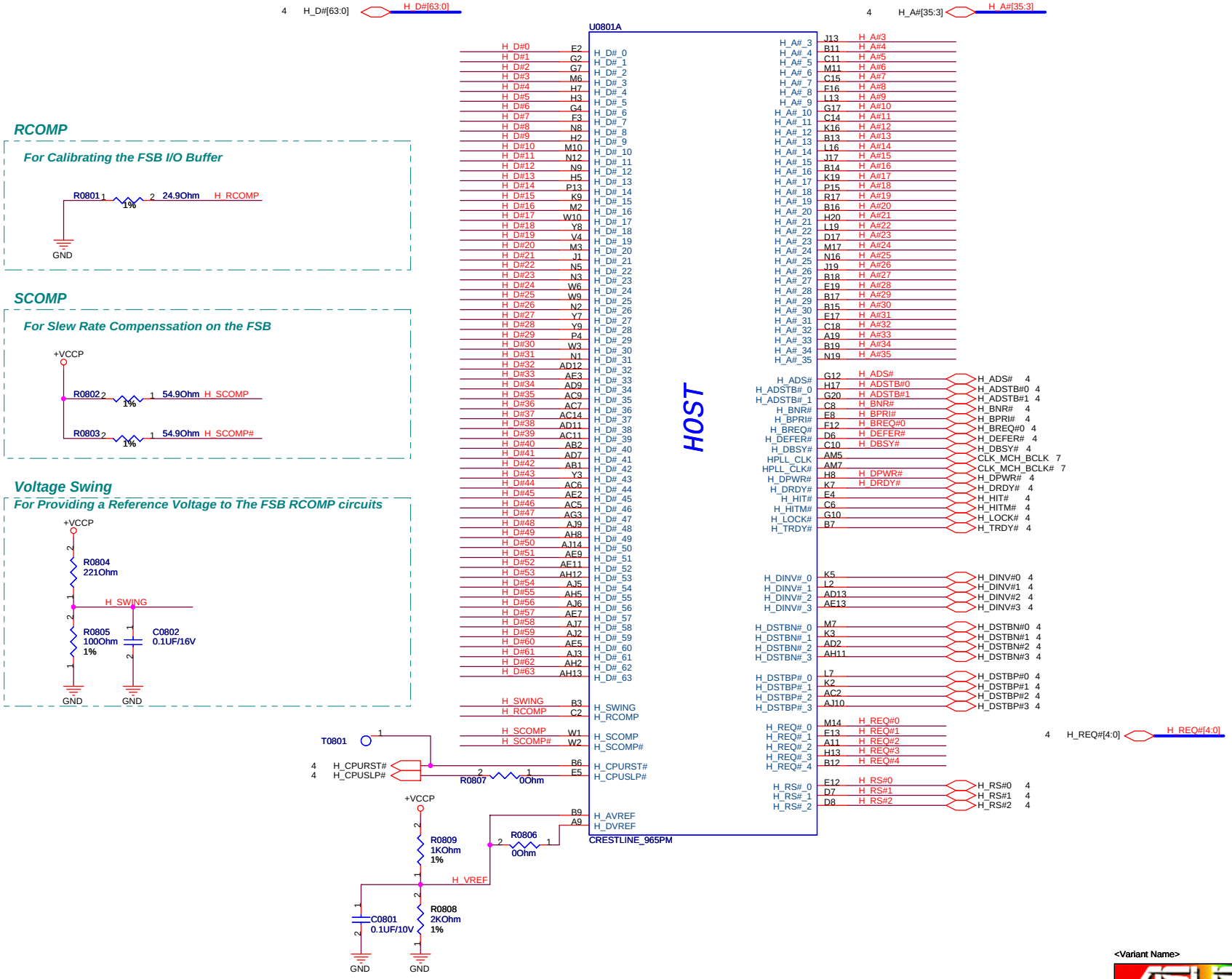
Title : CPU CAP, Thermal,FAN_CTRL

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 6 of 94





<Variant Name>

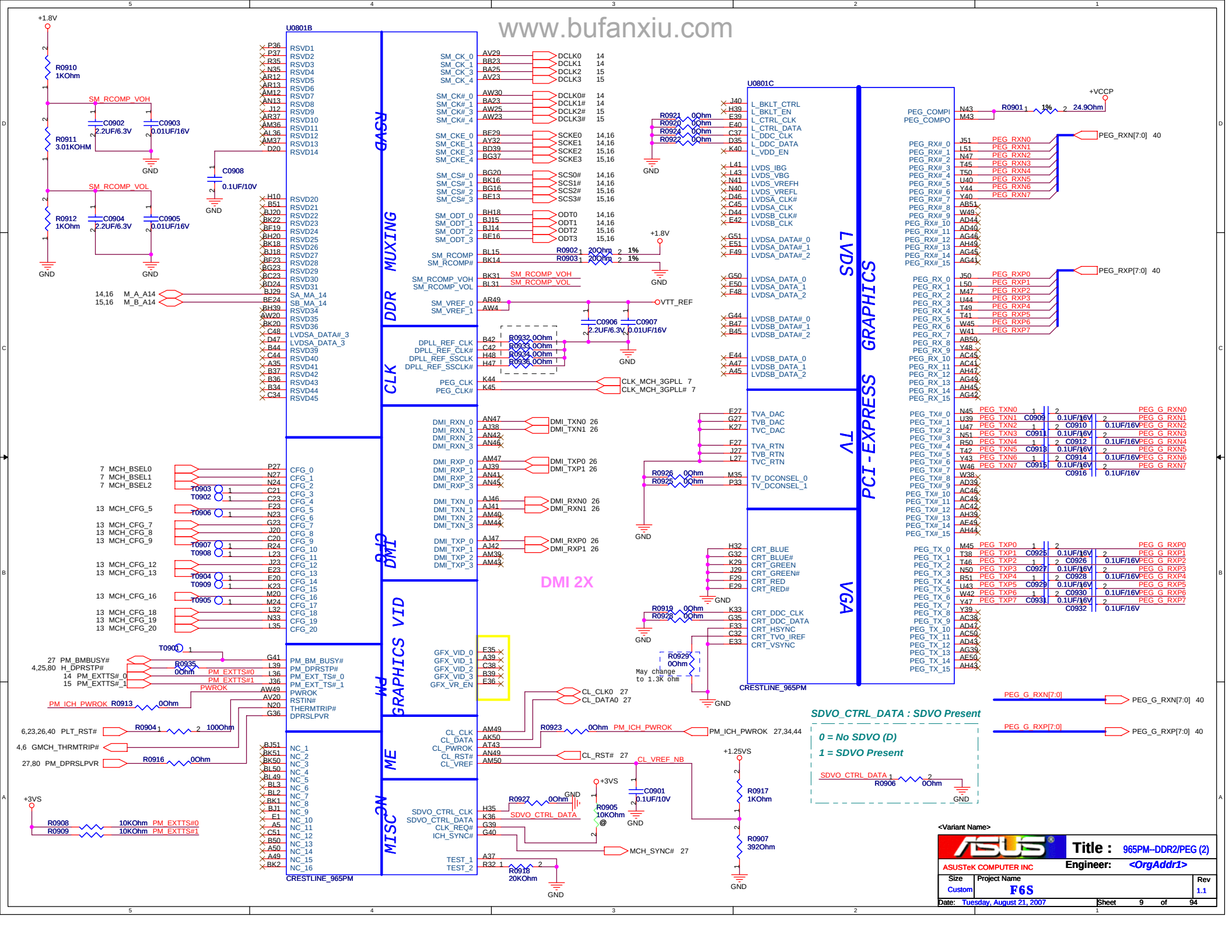
ASUSTeK COMPUTER INC

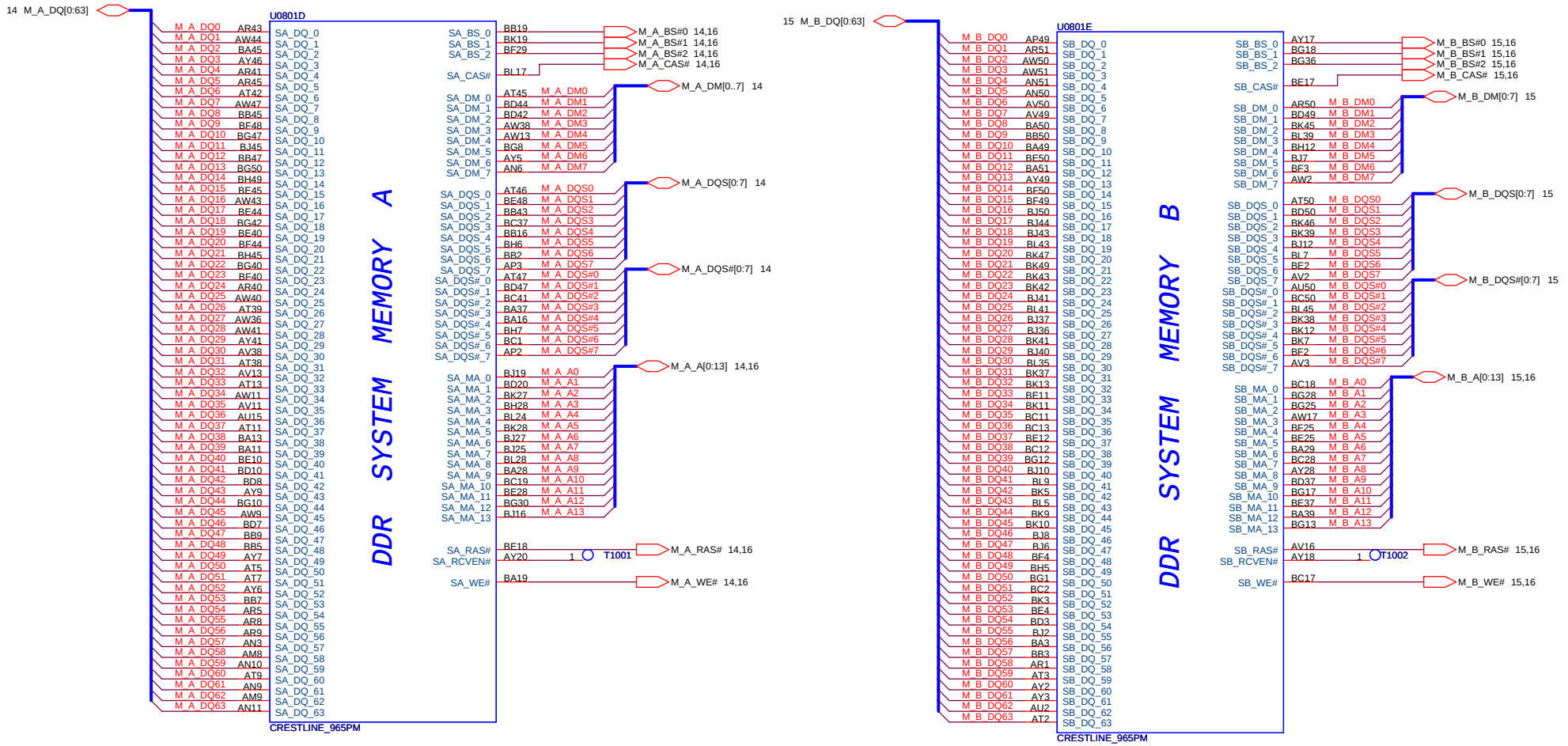
Title : 965PM -- CPU (1)

Engineer: <OrgAddr1>

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 8 of 94





<Variant Name>

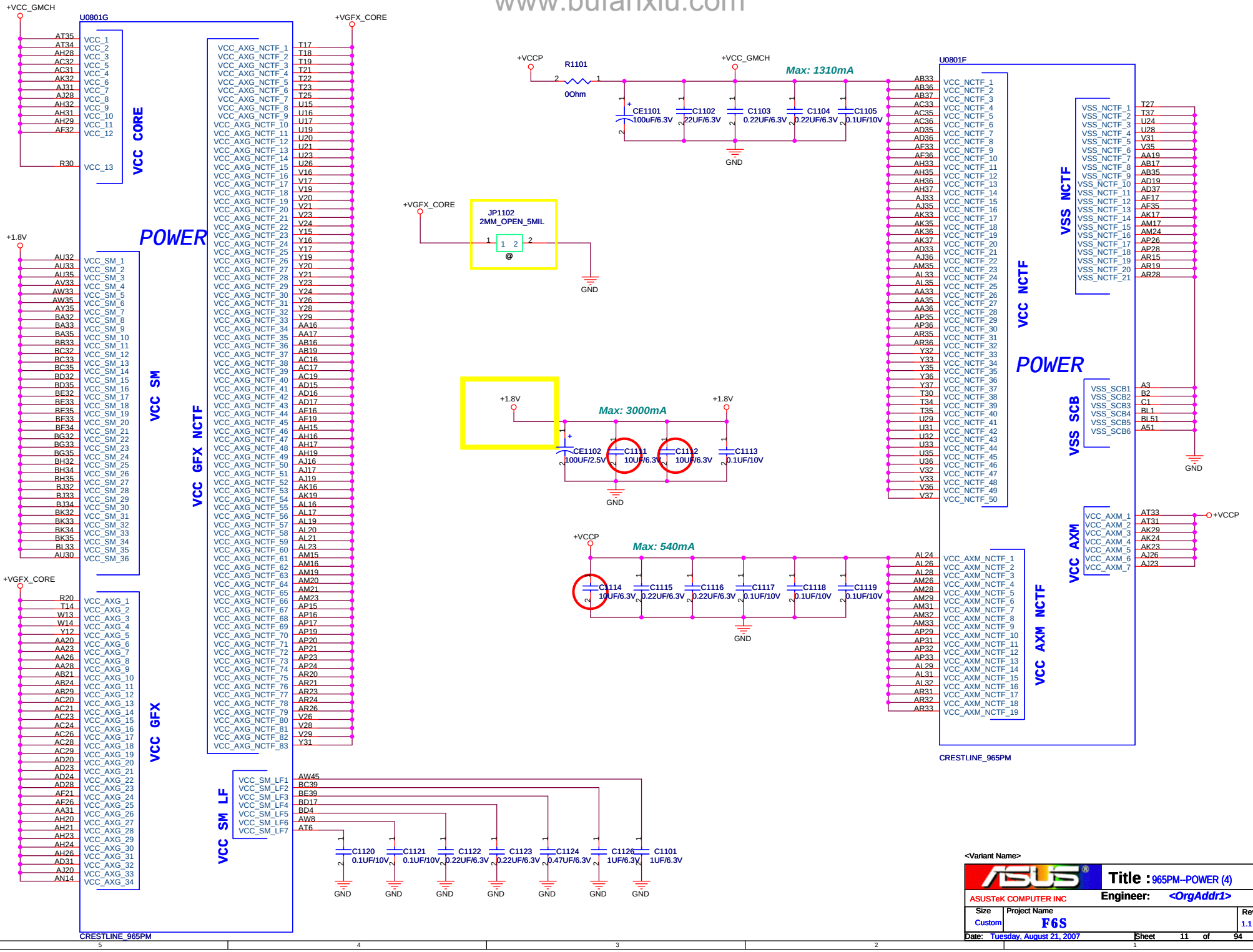
ASUSTeK COMPUTER INC

Title : 965PM--DDR2 bus (3)

Engineer: <OrgAddr1>

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 10 of 94



<Variant Name>

ASUSTeK COMPUTER INC

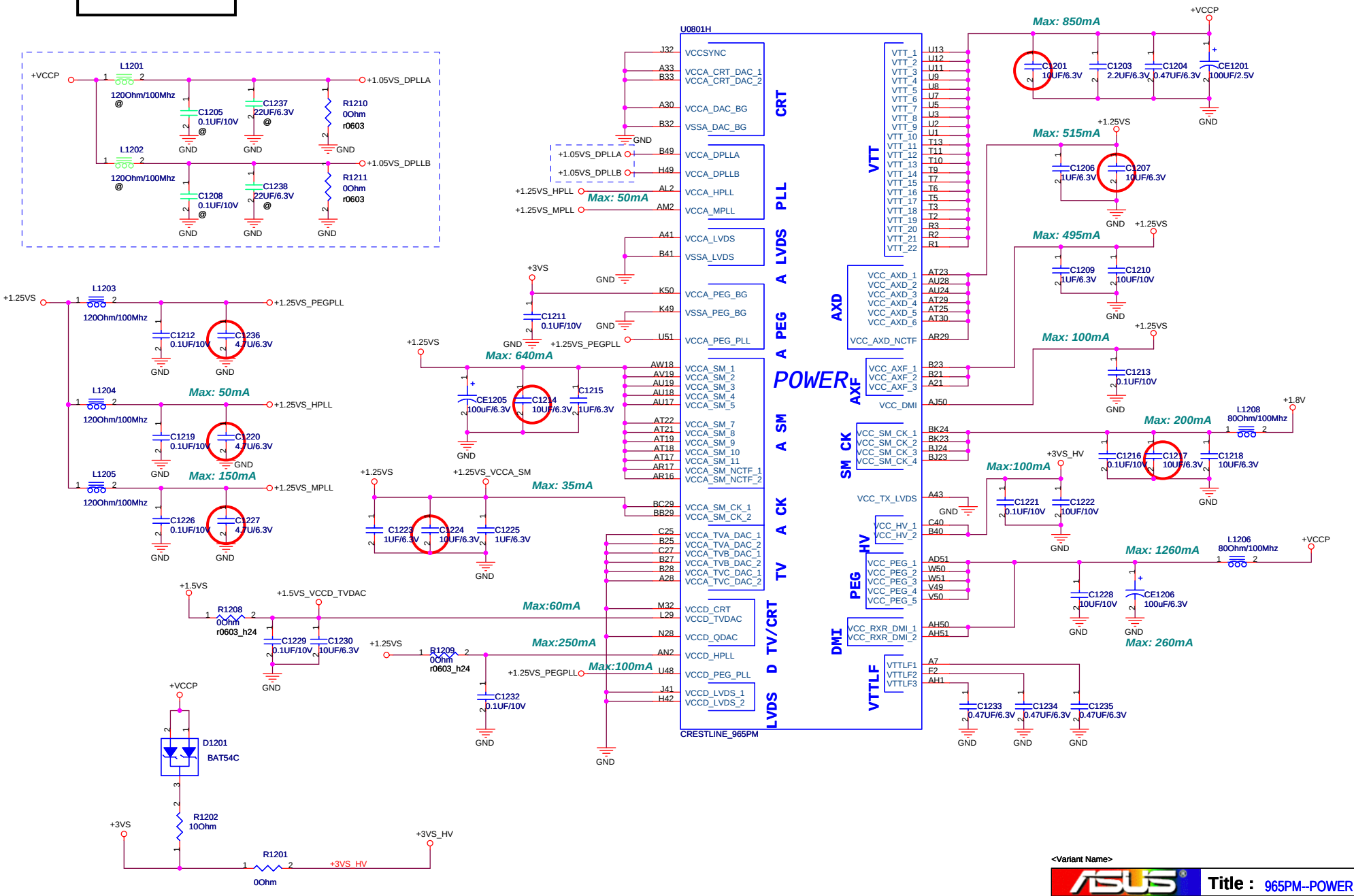
Title : 965PM--POWER (4)

Engineer: <OrgAddr1>

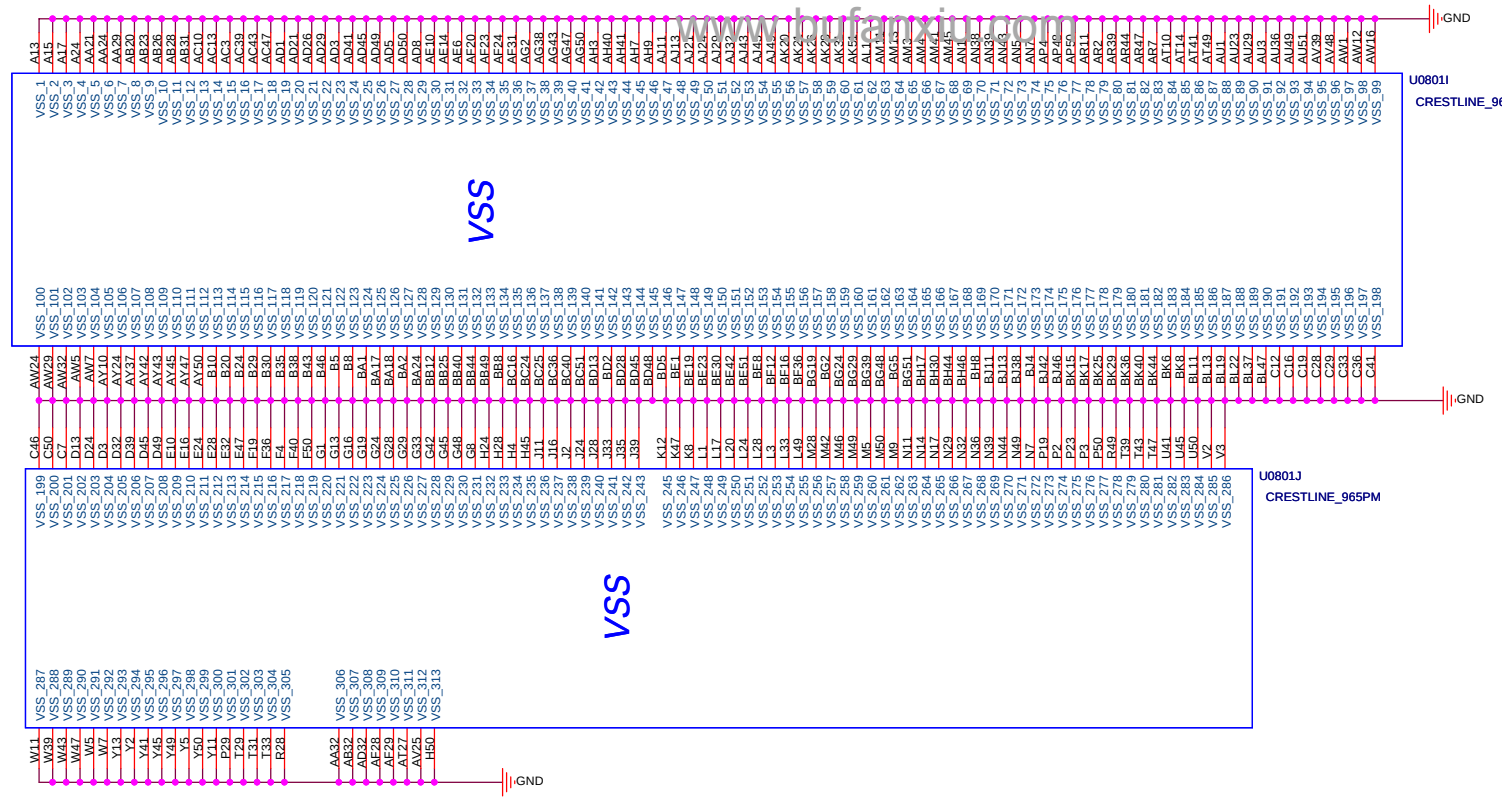
Size	Project Name	Rev
Custom	F6S	1.1

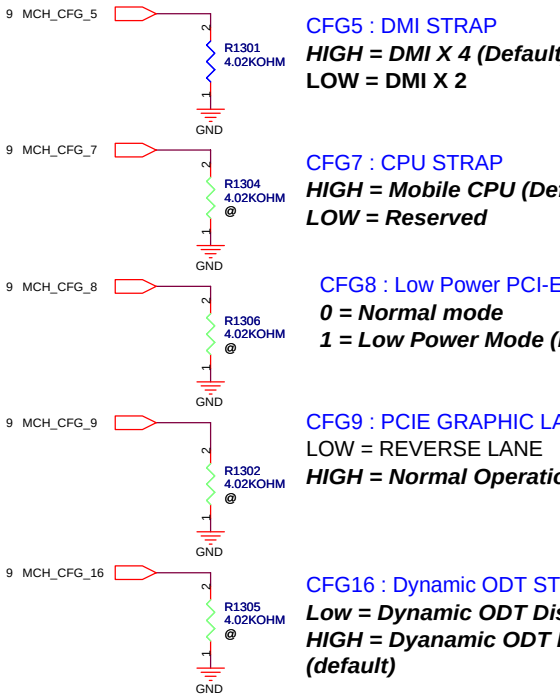
Date: Tuesday, August 21, 2007 Sheet 11 of 94

NOTE:0.1uF caps in 1.5VS_XPLL need to be located as edge caps within 200 mils.



HIGH = LANES REVERSED





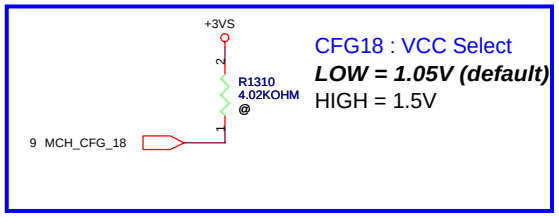
CFG5 : DMI STRAP
HIGH = DMI X 4 (Default)
LOW = DMI X 2

CFG7 : CPU STRAP
HIGH = Mobile CPU (Default)
LOW = Reserved

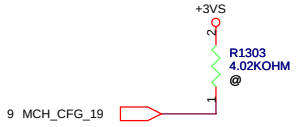
CFG8 : Low Power PCI-E
0 = Normal mode
1 = Low Power Mode (Default)

CFG9 : PCIE GRAPHIC LANE
LOW = REVERSE LANE
HIGH = Normal Operation (Default)

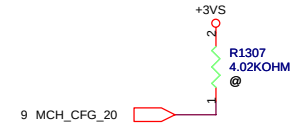
CFG16 : Dynamic ODT STRAP
Low = Dynamic ODT Disabled
HIGH = Dyanamic ODT Enabled (default)



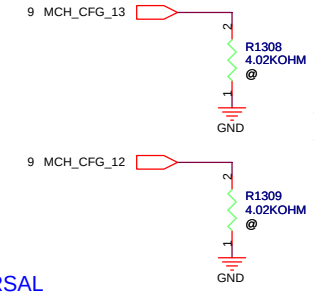
CFG18 : VCC Select
LOW = 1.05V (default)
HIGH = 1.5V



CFG19 : DMI LANE REVERSAL
LOW = NORMAL (default)
HIGH = LANES REVERSED



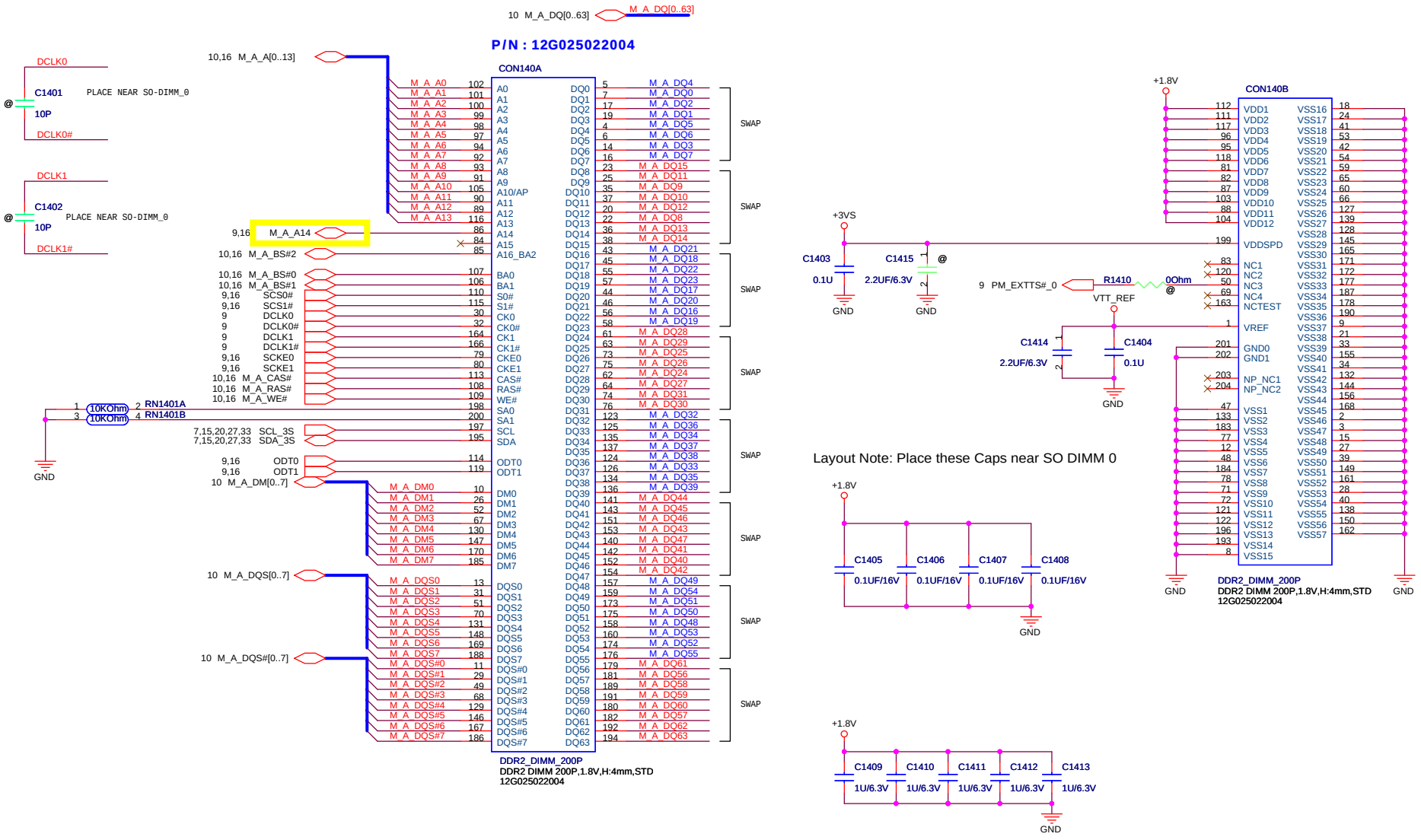
CFG20 : SDVO/PCIE CONCURRENT MODE
LOW = ONLY SDVO or PCIE is Operational (default)
HIGH = SDVO and PCIE are operating simultaneously via the PEG port



CFG [13:12] : XOR/ALL-Z
00 = Reserved
01= XOR Mode Enabled
10= All-Z Mode Enabled
11= Normal Operation (Default)

ASUSTeK COMPUTER INC	Title : GND/Strapping (6)	
	Engineer: <OrgAddr1>	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 13 of 94	

Standard Type



<Variant Name>

ASUSTeK COMPUTER INC

Title : DDR SO-DIMM 0

Engineer: <OrgAddr1>

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 14 of 94

Standard Type

10 M_B_DQ[0..63] — M_B_DQ[0..63]

10,16 M_B_A[0..13]

P/N : 12G025C22004

CON150A

DCLK2 — C1501 10P @ PLACE NEAR SO-DIMM_1 — DCLK2#

DCLK3 — C1502 10P @ PLACE NEAR SO-DIMM_1 — DCLK3#

+3VS — 5 10KOhm 6 RN1401C, 7 10KOhm 8 RN1401D — GND

M_B_A0	102	A0	DQ0	5	M_B_DQ4
M_B_A1	101	A1	DQ1	7	M_B_DQ1
M_B_A2	100	A2	DQ2	17	M_B_DQ3
M_B_A3	99	A3	DQ3	19	M_B_DQ2
M_B_A4	98	A4	DQ4	4	M_B_DQ5
M_B_A5	97	A5	DQ5	6	M_B_DQ0
M_B_A6	94	A6	DQ6	14	M_B_DQ6
M_B_A7	92	A7	DQ7	16	M_B_DQ7
M_B_A8	93	A8	DQ8	23	M_B_DQ9
M_B_A9	91	A9	DQ9	25	M_B_DQ8
M_B_A10	105	A10/AP	DQ10	35	M_B_DQ12
M_B_A11	90	A11	DQ11	37	M_B_DQ11
M_B_A12	89	A12	DQ12	20	M_B_DQ10
M_B_A13	116	A13	DQ13	22	M_B_DQ13
9,16 M_B_A14	86	A14	DQ14	36	M_B_DQ15
	84	A15	DQ15	38	M_B_DQ14
10,16 M_B_BS#2	85	A16_BA2	DQ16	43	M_B_DQ21
			DQ17	45	M_B_DQ16
	107		DQ18	55	M_B_DQ18
10,16 M_B_BS#0	106	BA0	DQ19	57	M_B_DQ22
10,16 M_B_BS#1	110	BA1	DQ20	44	M_B_DQ20
9,16 SCS2#	115	S0#	DQ21	46	M_B_DQ17
9,16 SCS3#	30	S1#	DQ22	56	M_B_DQ23
9 DCLK2	32	CK0	DQ23	58	M_B_DQ19
9 DCLK2#	164	CK0#	DQ24	61	M_B_DQ25
9 DCLK3	166	CK1	DQ25	63	M_B_DQ28
9 DCLK3#	79	CK1#	DQ26	73	M_B_DQ26
9,16 SCKE2	80	CKE0	DQ27	75	M_B_DQ31
9,16 SCKE3	113	CKE1	DQ28	62	M_B_DQ29
10,16 M_B_CAS#	108	CAS#	DQ29	64	M_B_DQ24
10,16 M_B_RAS#	109	RAS#	DQ30	74	M_B_DQ27
10,16 M_B_WE#	198	WE#	DQ31	76	M_B_DQ30
	200	SA0	DQ32	123	M_B_DQ36
	197	SA1	DQ33	125	M_B_DQ37
7,14,20,27,33 SCL_3S	195	SCL	DQ34	135	M_B_DQ38
7,14,20,27,33 SDA_3S		SDA	DQ35	137	M_B_DQ35
			DQ36	124	M_B_DQ32
9,16 ODT2	114	ODT0	DQ37	126	M_B_DQ34
9,16 ODT3	119	ODT1	DQ38	134	M_B_DQ39
10 M_B_DM[0..7]			DQ39	136	M_B_DQ33
M_B_DM0	10	DM0	DQ40	141	M_B_DQ44
M_B_DM1	26	DM1	DQ41	143	M_B_DQ41
M_B_DM2	52	DM2	DQ42	151	M_B_DQ43
M_B_DM3	67	DM3	DQ43	153	M_B_DQ42
M_B_DM4	130	DM4	DQ44	140	M_B_DQ40
M_B_DM5	147	DM5	DQ45	142	M_B_DQ45
M_B_DM6	170	DM6	DQ46	152	M_B_DQ46
M_B_DM7	185	DM7	DQ47	154	M_B_DQ47
			DQ48	157	M_B_DQ50
10 M_B_DQS[0..7]			DQ49	159	M_B_DQ55
M_B_DQS0	13	DQS0	DQ50	173	M_B_DQ54
M_B_DQS1	31	DQS1	DQ51	175	M_B_DQ53
M_B_DQS2	51	DQS2	DQ52	158	M_B_DQ52
M_B_DQS3	70	DQS3	DQ53	160	M_B_DQ49
M_B_DQS4	131	DQS4	DQ54	174	M_B_DQ51
M_B_DQS5	148	DQS5	DQ55	176	M_B_DQ48
M_B_DQS6	169	DQS6	DQ56	179	M_B_DQ60
M_B_DQS7	188	DQS7	DQ57	181	M_B_DQ61
10 M_B_DQS#[0..7]			DQ58	189	M_B_DQ58
M_B_DQS#0	11	DQS#0	DQ59	191	M_B_DQ63
M_B_DQS#1	29	DQS#1	DQ60	180	M_B_DQ56
M_B_DQS#2	49	DQS#2	DQ61	182	M_B_DQ57
M_B_DQS#3	68	DQS#3	DQ62	192	M_B_DQ62
M_B_DQS#4	129	DQS#4	DQ63	194	M_B_DQ59
M_B_DQS#5	146	DQS#5			
M_B_DQS#6	167	DQS#6			
M_B_DQS#7	186	DQS#7			

SWAP

DDR2_DIMM_200P

DDR2 DIMM 200P,1.8V,H:9.2mm,ST

12G025C22004

+1.8V — +1.8V 9,11,12,14,16,37,83
+3VS — +3VS 6,7,9,12,13,14,17,18,19,20,21,22,23,25,27,28,29,30,33,34,37,39,40,43,44,45,80,91,92
VTT_REF — VTT_REF 9,14,16

CON150B

112	VDD1	VSS16	18
111	VDD2	VSS17	24
117	VDD3	VSS18	41
96	VDD4	VSS19	53
95	VDD5	VSS20	42
118	VDD6	VSS21	54
81	VDD7	VSS22	59
82	VDD8	VSS23	65
87	VDD9	VSS24	60
103	VDD10	VSS25	66
88	VDD11	VSS26	127
104	VDD12	VSS27	139
		VSS28	128
199	VDDSPD	VSS29	145
		VSS30	165
83	NC1	VSS31	171
120	NC2	VSS32	172
50	NC3	VSS33	177
69	NC4	VSS34	187
163	NCTEST	VSS35	178
		VSS36	190
1	VREF	VSS37	9
		VSS38	21
201	GND0	VSS39	33
202	GND1	VSS40	155
		VSS41	34
203	NP_NC1	VSS42	132
204	NP_NC2	VSS43	144
		VSS44	156
47	VSS1	VSS45	168
133	VSS2	VSS46	2
183	VSS3	VSS47	3
77	VSS4	VSS48	15
12	VSS5	VSS49	27
48	VSS6	VSS50	39
184	VSS7	VSS51	149
78	VSS8	VSS52	161
71	VSS9	VSS53	28
72	VSS10	VSS54	40
121	VSS11	VSS55	138
122	VSS12	VSS56	150
196	VSS13	VSS57	162
193	VSS14		
8	VSS15		

DDR2_DIMM_200P

DDR2 DIMM 200P,1.8V,H:9.2mm,ST

12G025C22004

+3VS — C1503 0.1U — GND; C1506 2.2UF/6.3V @ — GND

9 PM_EXTTS#_1 — R1510 0Ohm @ — VTT_REF

C1504 2.2UF/6.3V — GND; C1505 0.1U — GND

Layout Note: Place these Caps near SO DIMM 1

+1.8V — C1517 0.1UF/16V; C1518 0.1UF/16V; C1515 0.1UF/16V; C1516 0.1UF/16V — GND

+1.8V — C1510 1U/6.3V; C1511 1U/6.3V; C1512 1U/6.3V; C1513 1U/6.3V; C1514 1U/6.3V — GND

<Variant Name>

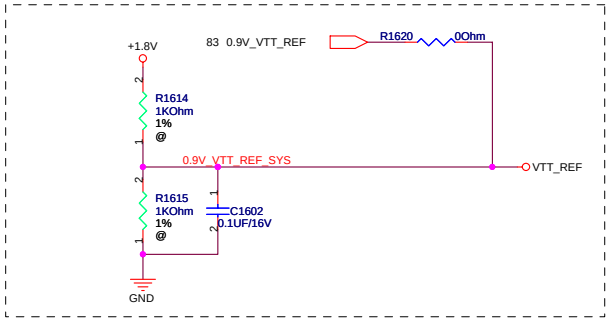
ASUSTeK COMPUTER INC

Title : DDR SO-DIMM_1

Engineer: <OrgAddr1>

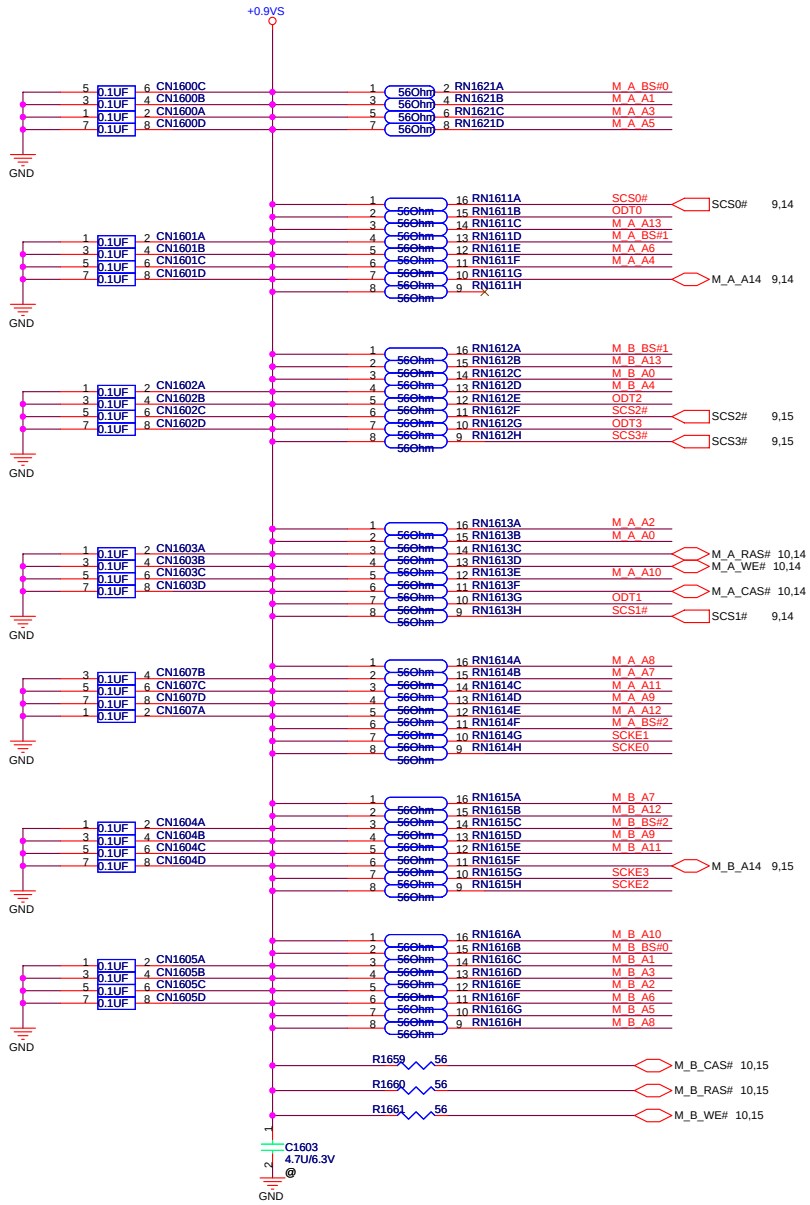
Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 15 of 94



M_A_A[0..13] 10,14
M_A_BS#[0..2] 10,14
M_B_A[0..13] 10,15
M_B_BS#[0..2] 10,15
SCKE[0:3] 9,14,15
ODT[0:3] 9,14,15

SWAPPED

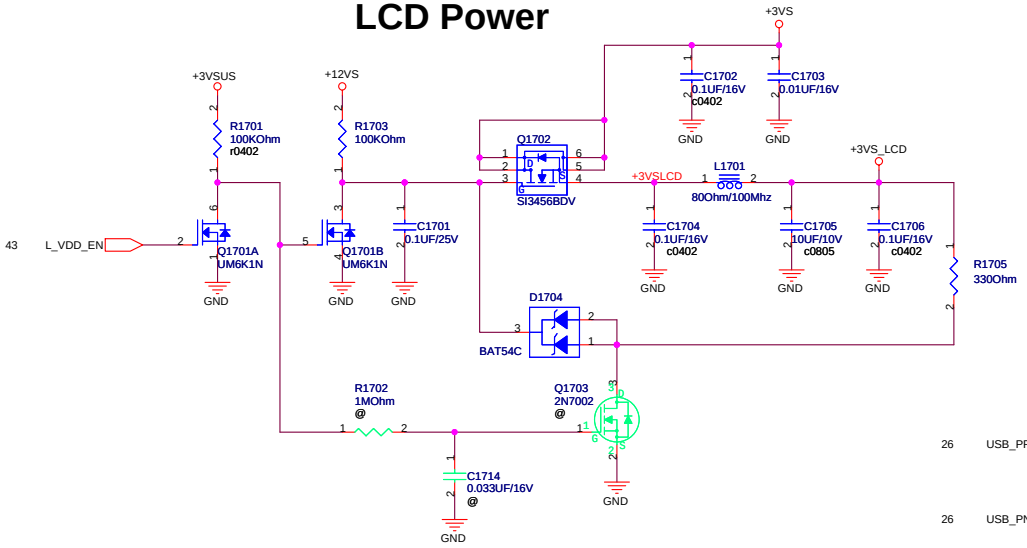


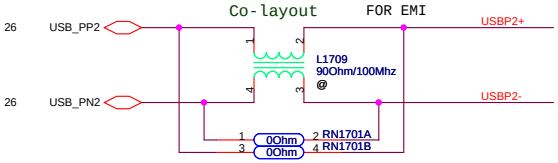
Layout note: Place array cap close to each pullup resistors terminated to +0.9VS

<Variant Name>

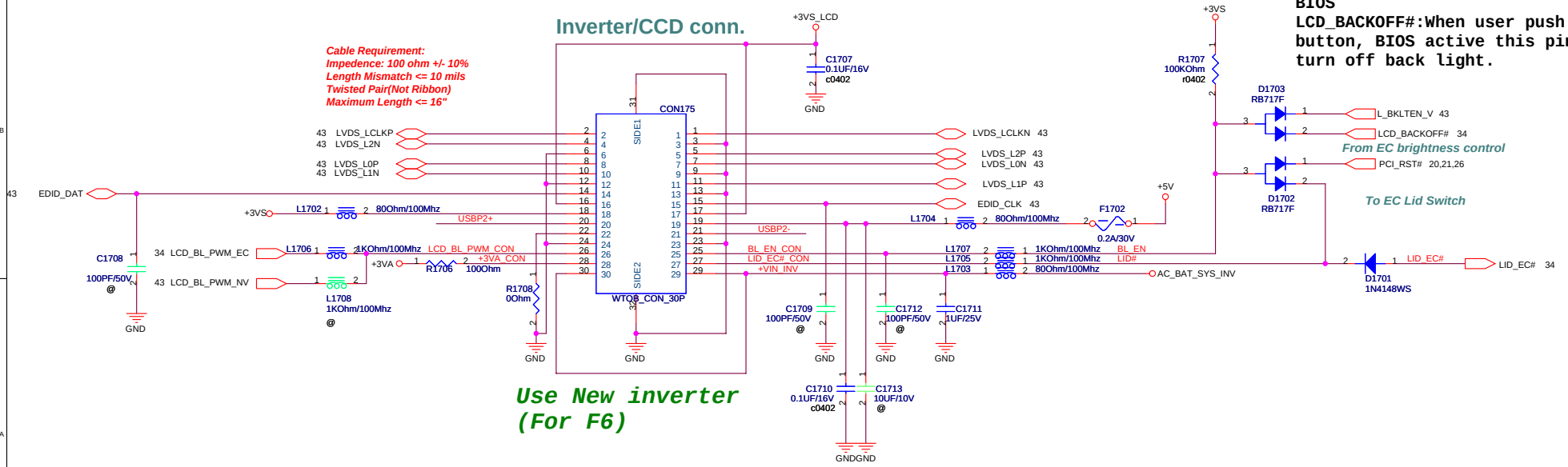
ASUSTeK COMPUTER INC	Title : DDR2 ADDR TERM	
	Engineer: <OrgAddr1>	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 16 of 94	

LCD Power





Inverter/CCD conn.



Use New inverter (For F6)

BIOS
LCD_BACKOFF#:When user push "Fn+F7" button, BIOS active this pin to turn off back light.

<Variant Name>

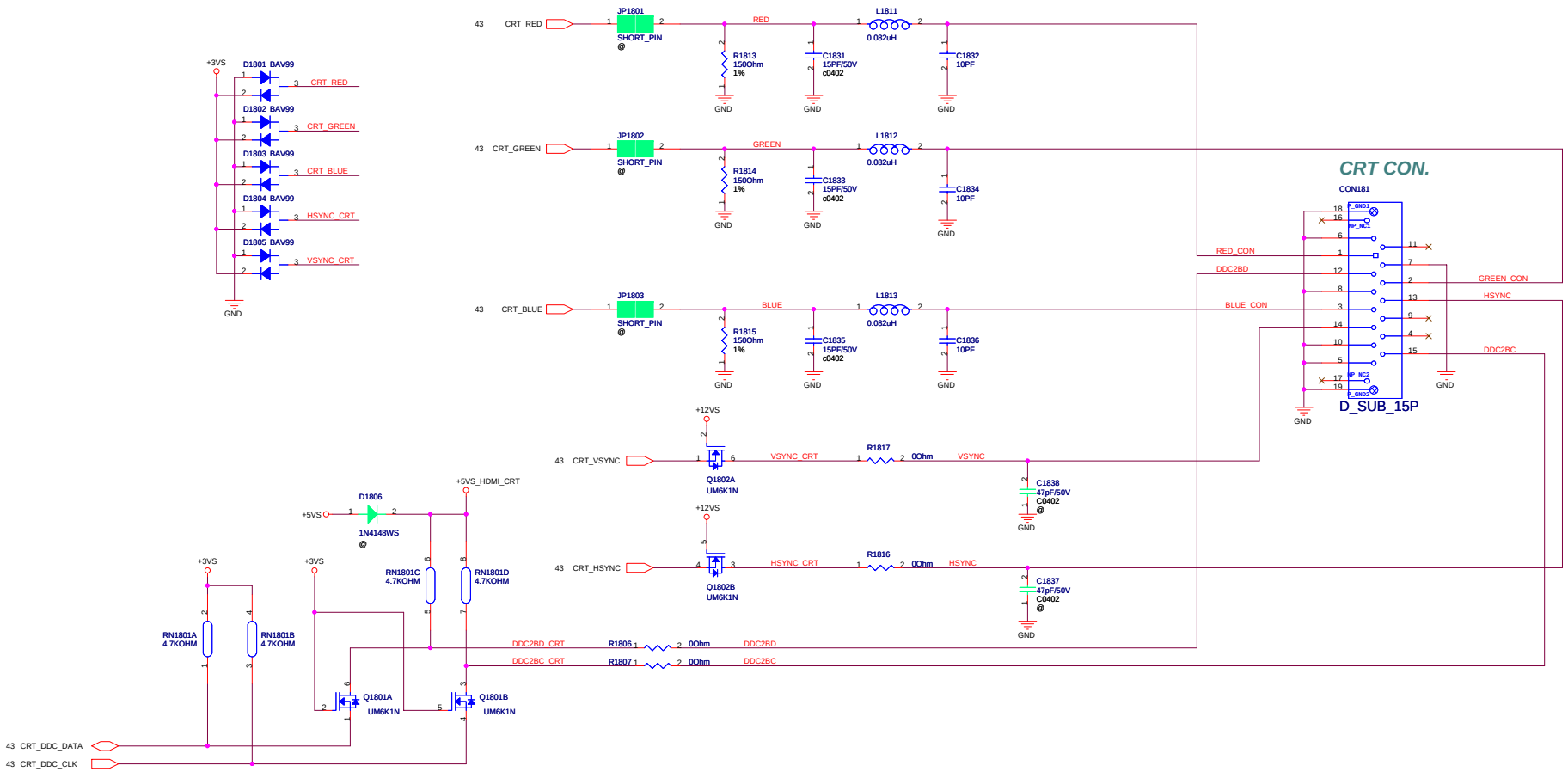
ASUSTeK COMPUTER INC

Title : LVDS & INVERTER

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 17 of 94



<Variant Name>

ASUSTeK COMPUTER INC

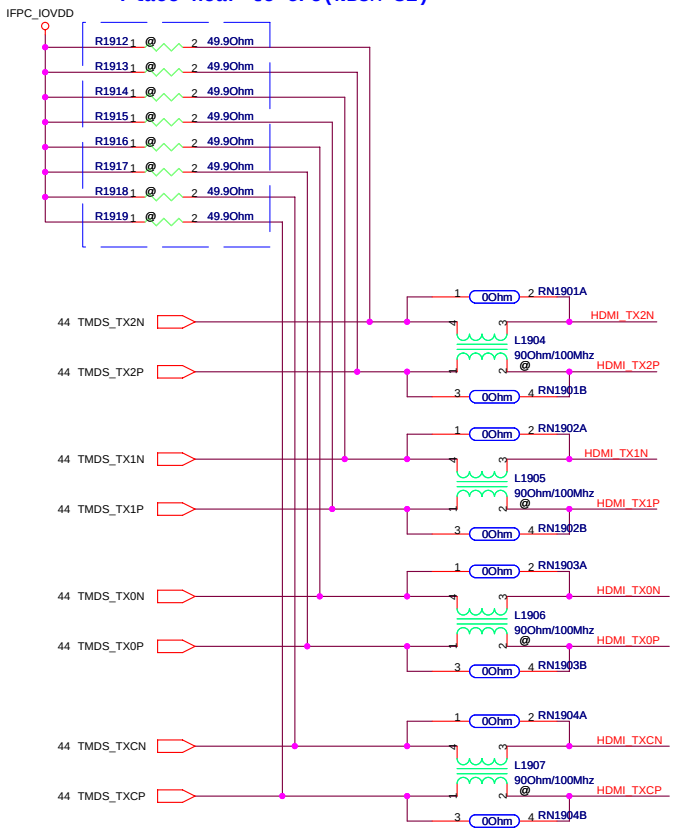
Title : CRT

Engineer:

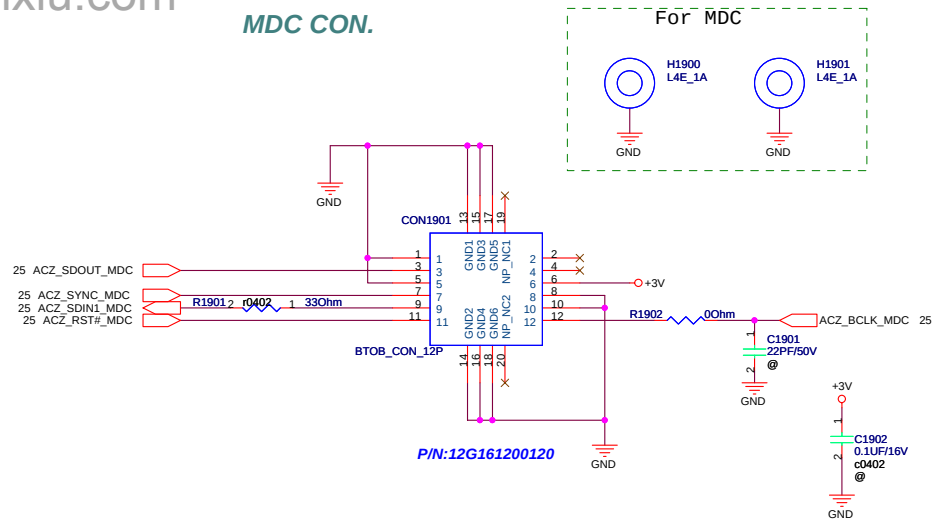
Size	Project Name	Rev
C	F6S	1.1

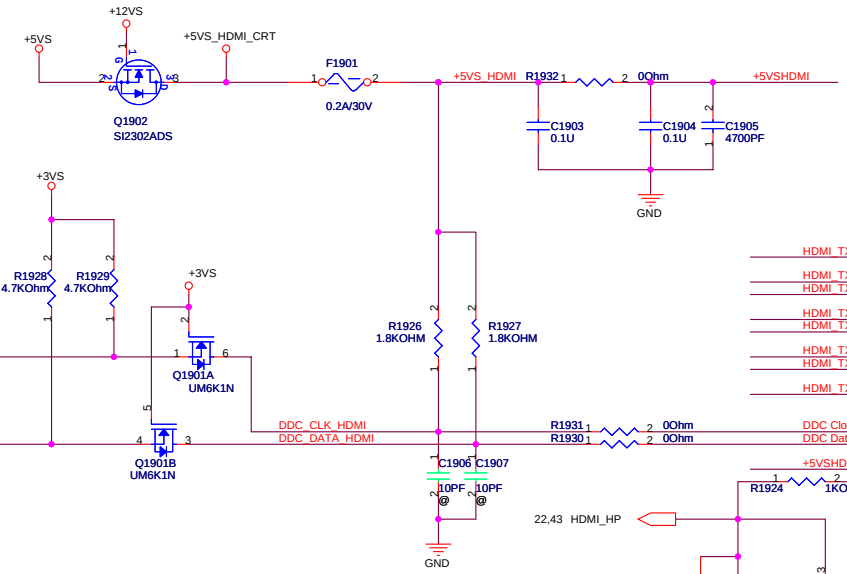
Date: Tuesday, August 21, 2007 Sheet 18 of 94

Place near to GPU(NB8M-SE)



MDC CON.





Note: 1. R1930,R1931,R1932: For EMI.(defult=0 ohm)
2. HDMI_DDC_CLK,HDMI_DDC_DATA: +5V tolerant

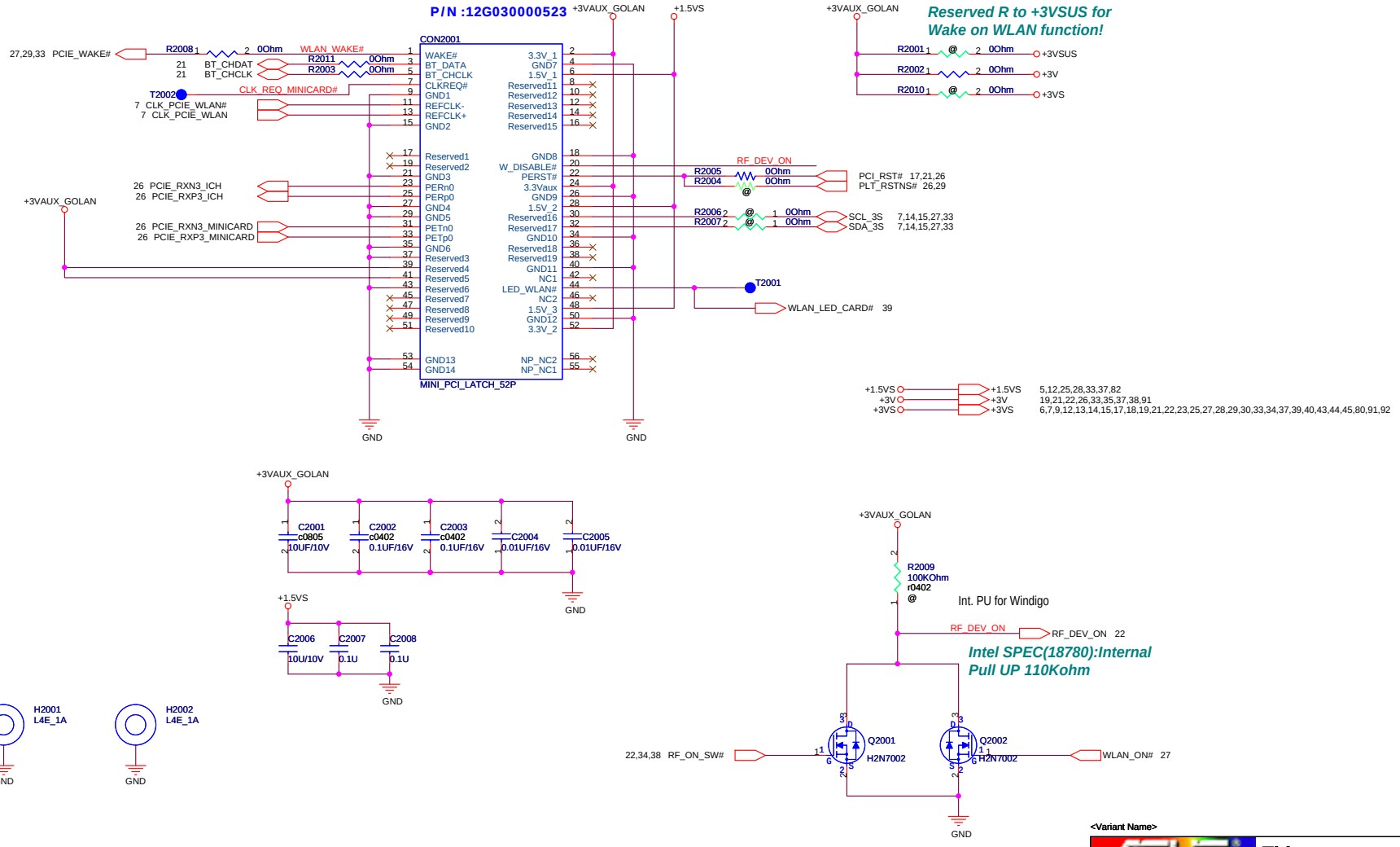
<Variant Name>

Title :	MDC,HDMI CON
ASUSTeK COMPUTER INC	Engineer:
Size: Custom	Project Name: F6S
Rev: 1.1	
Date: Tuesday, August 21, 2007	Sheet 19 of 94

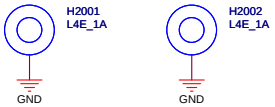
+3VAUX_GOLAN:+3.003V~+3.597V
Max= 1100 mA
+1.5VS:+1.425V~+1.575V
Max= 375 mA

WLAN

P/N :12G030000523



Reserved R to +3VSUS for Wake on WLAN function!



<variant_name>

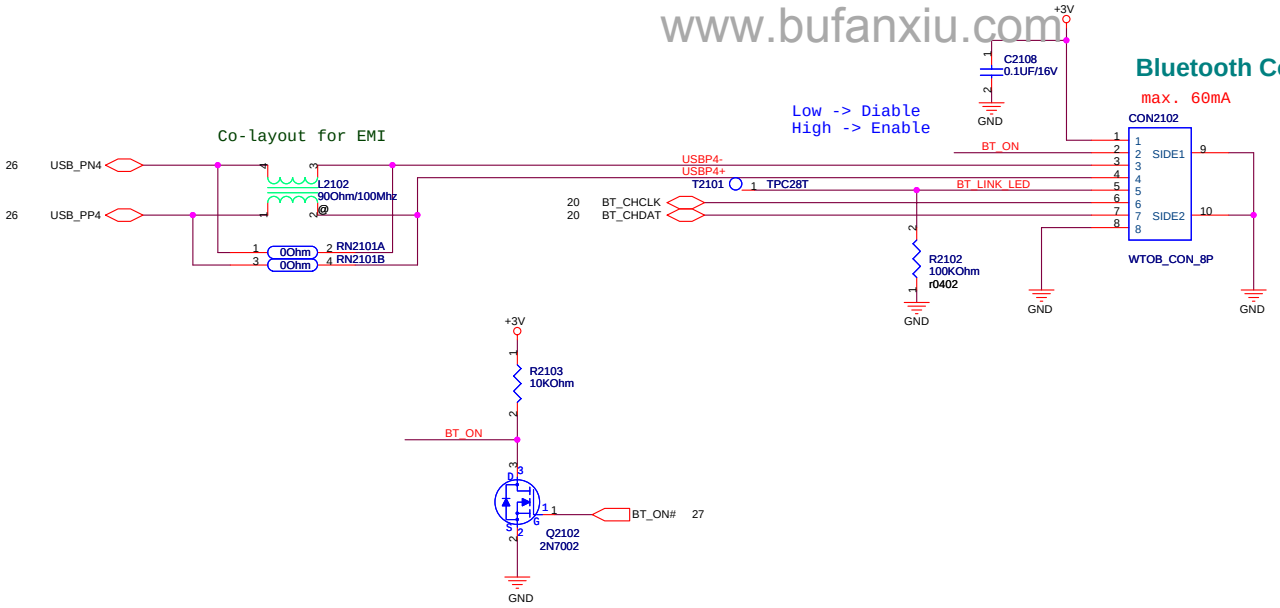
ASUSTeK COMPUTER INC	Title : MINI CARD--(1)	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 20 of 94	

Bluetooth Conn.

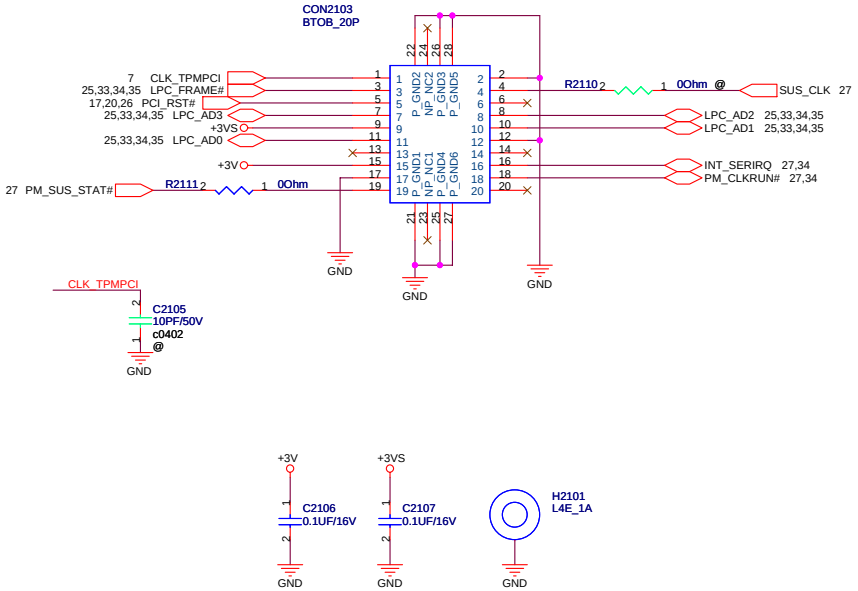
max. 60mA

Low -> Diable
High -> Enable

Co-layout for EMI



TPM Module Conn.



<Variant Name>

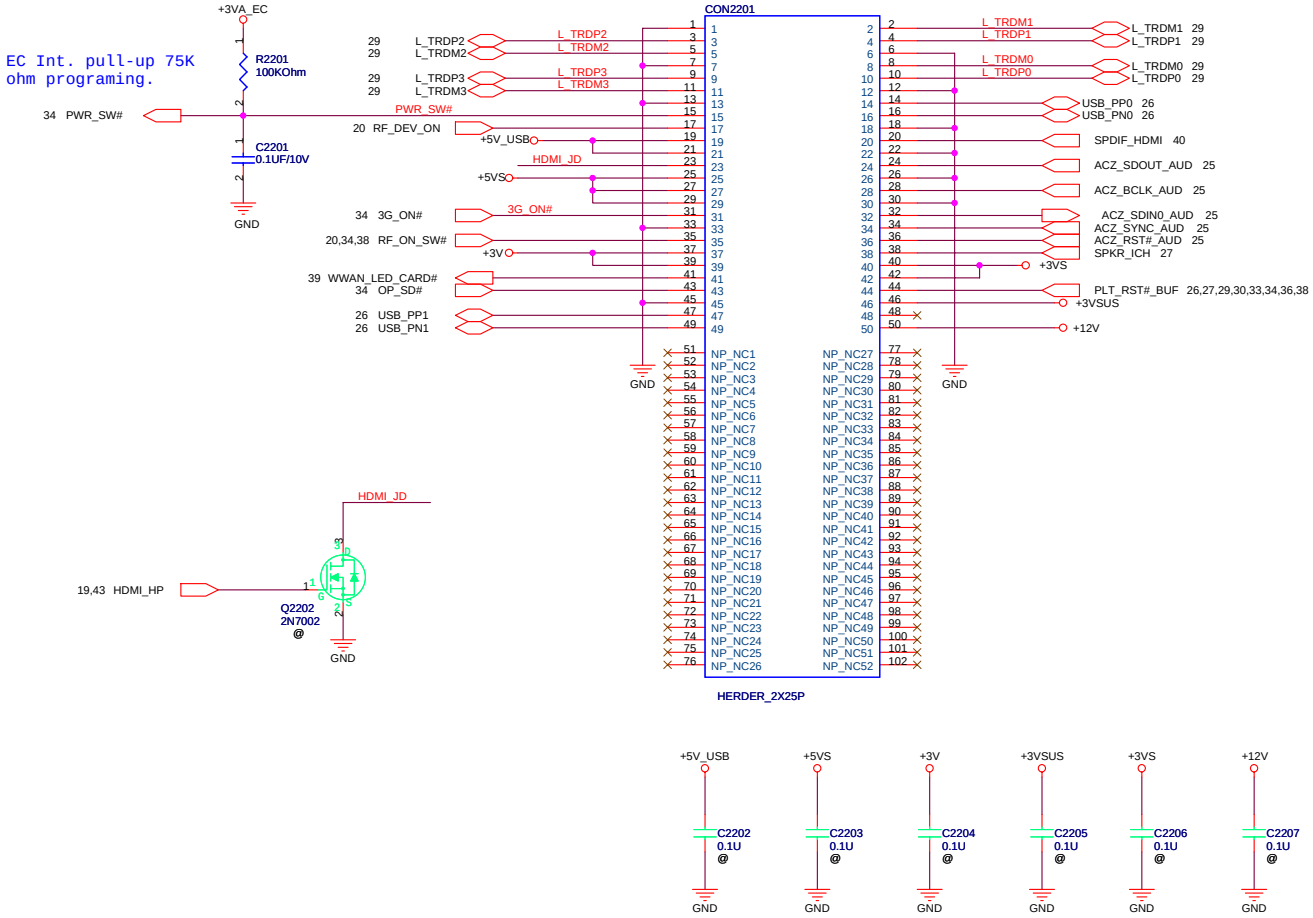
ASUSTeK COMPUTER INC

Title : B/T& TPM

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

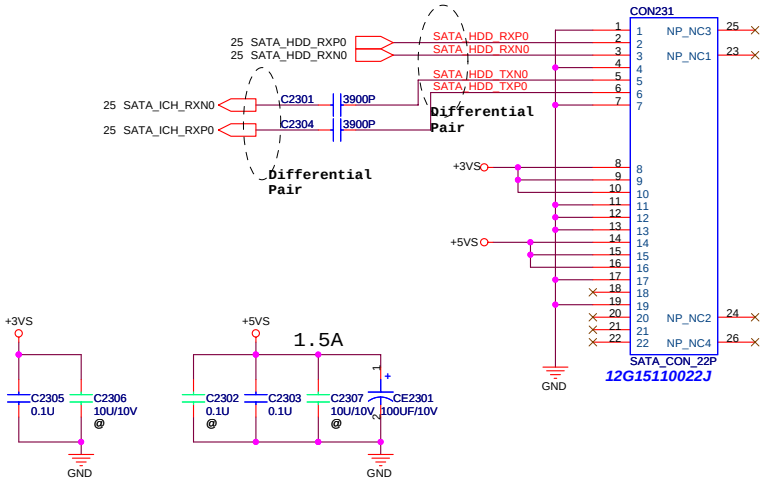
Date: Tuesday, August 21, 2007 Sheet 21 of 94



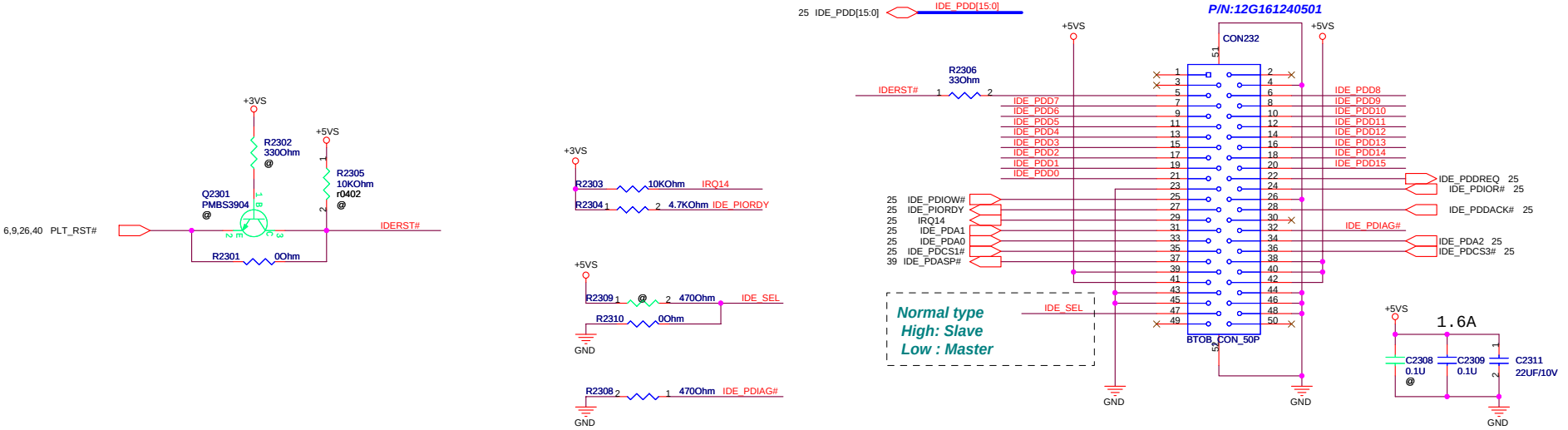
<Variant Name>

ASUSTeK COMPUTER INC	Title : B TO B CONN(M)	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 22 of 94	

SATA HDD CON



PATA CD-ROM CON



<Variant Name>

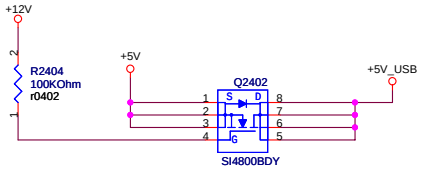
ASUSTeK COMPUTER INC

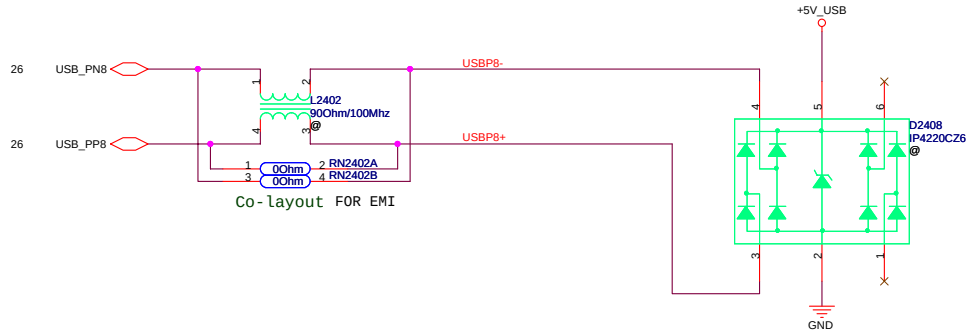
Title : HDD & CDROM

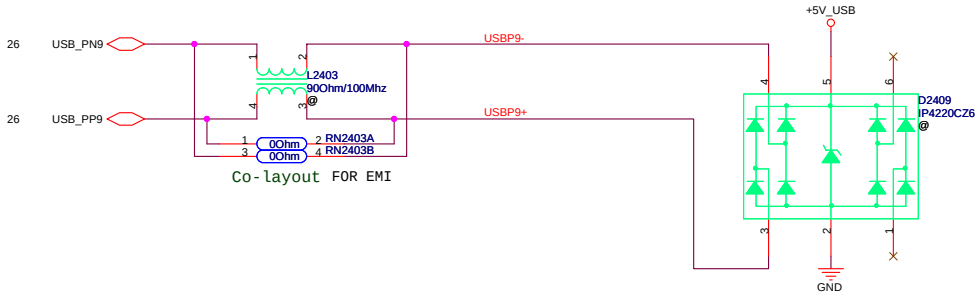
Engineer:

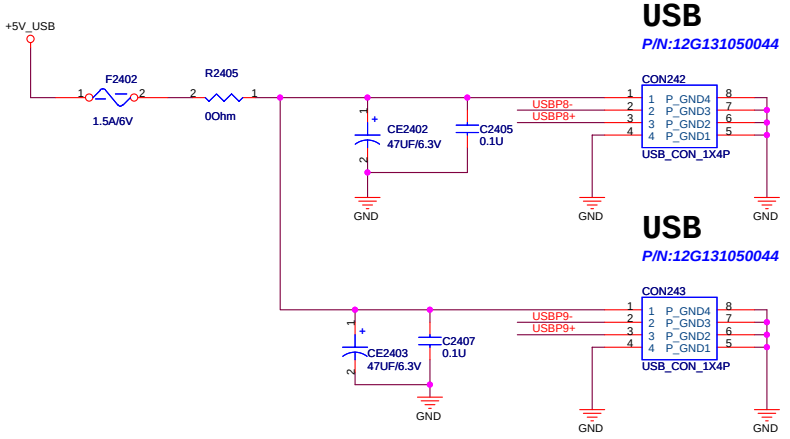
Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 23 of 94









<Variant Name>

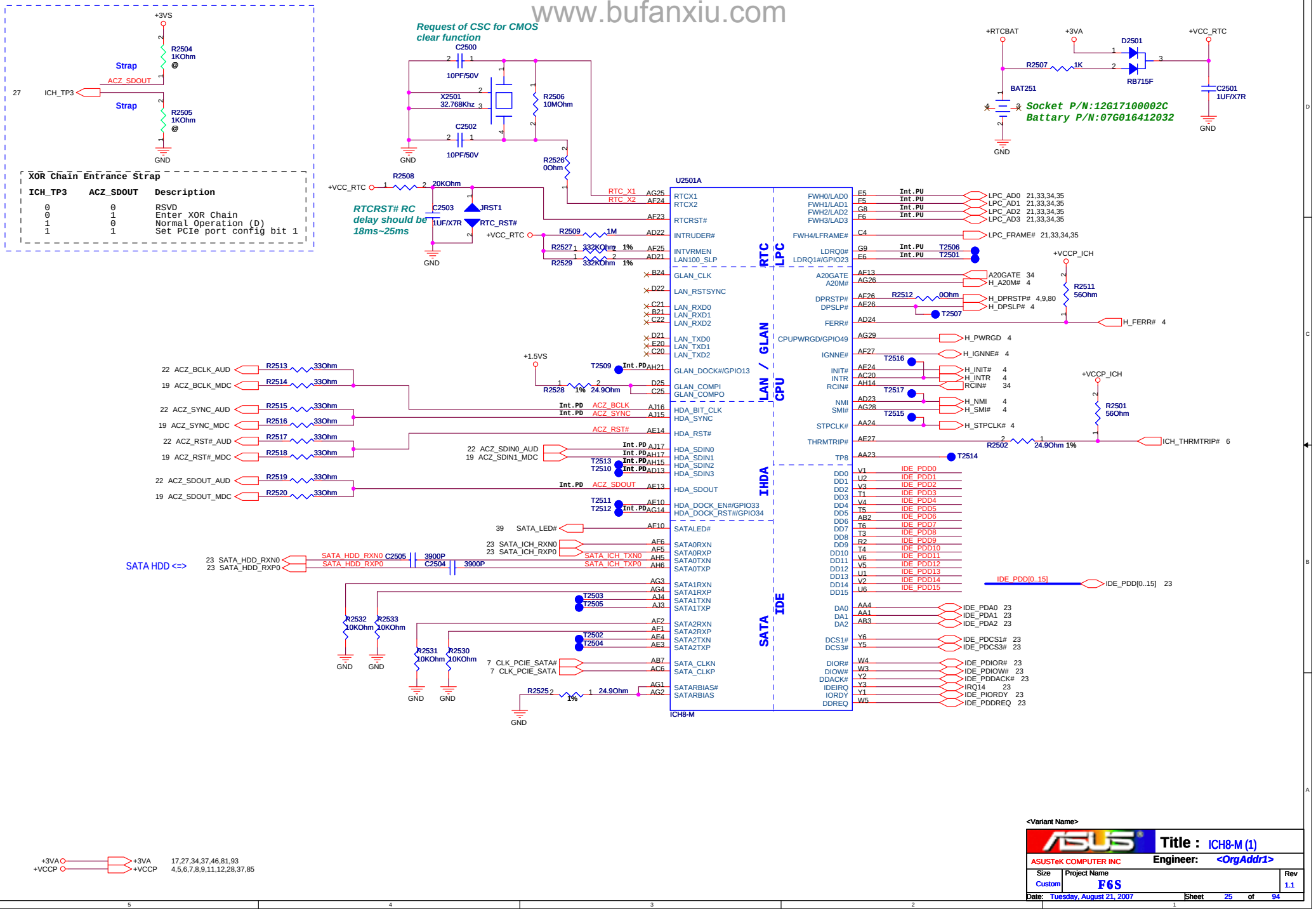
ASUSTeK COMPUTER INC

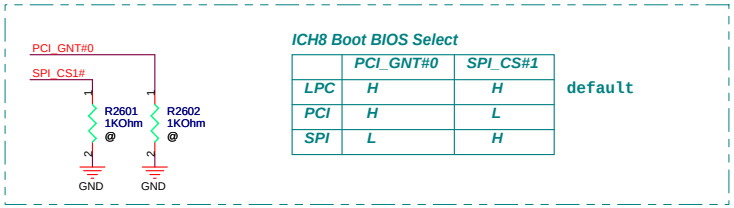
Title : USB PORTS

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

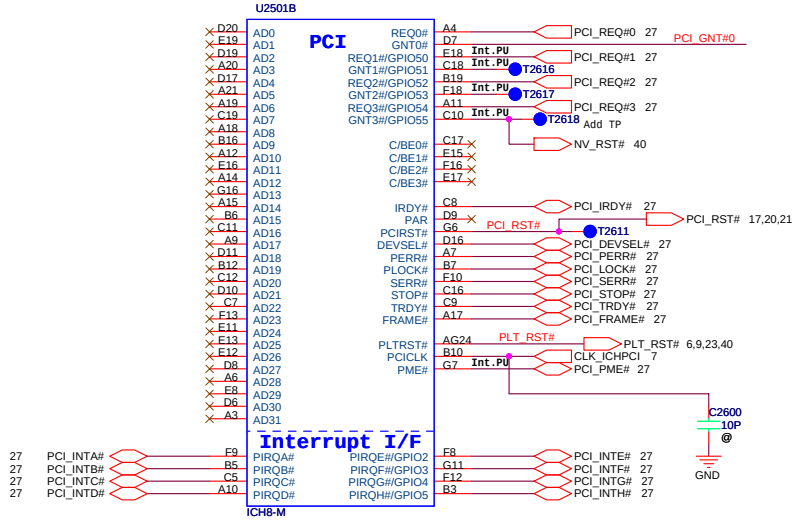
Date: Tuesday, August 21, 2007 Sheet 24 of 94

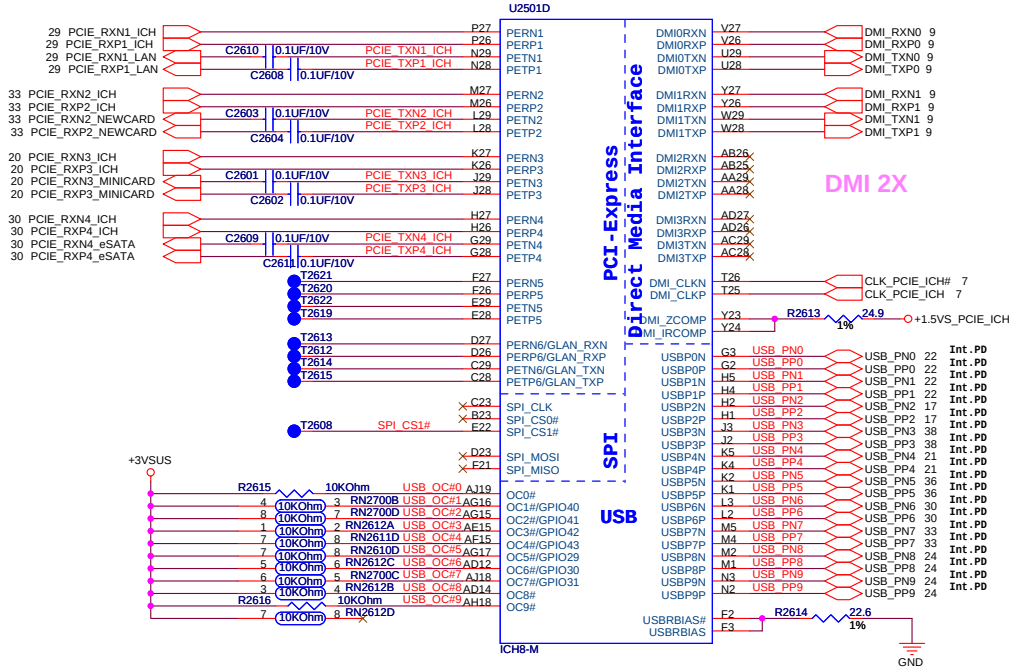


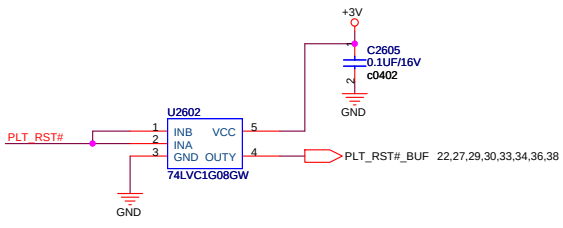


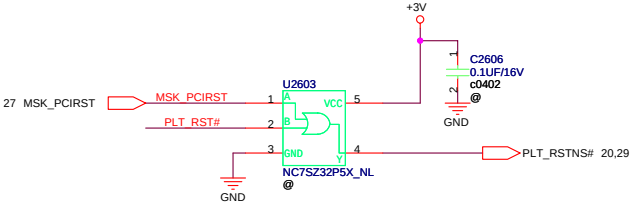
ICH8 Boot BIOS Select

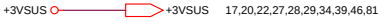
	PCI_GNT#0	SPI_CS#1	
LPC	H	H	default
PCI	H	L	
SPI	L	H	











USB 0	USB Conn.
USB 1	WWAN
USB 2	Camera
USB 3	Finger Printer
USB 4	Bluetooth
USB 5	Card Reader
USB 6	USB Conn.
USB 7	Newcard
USB 8	USB Conn.
USB 9	USB Conn.

<Variant Name>

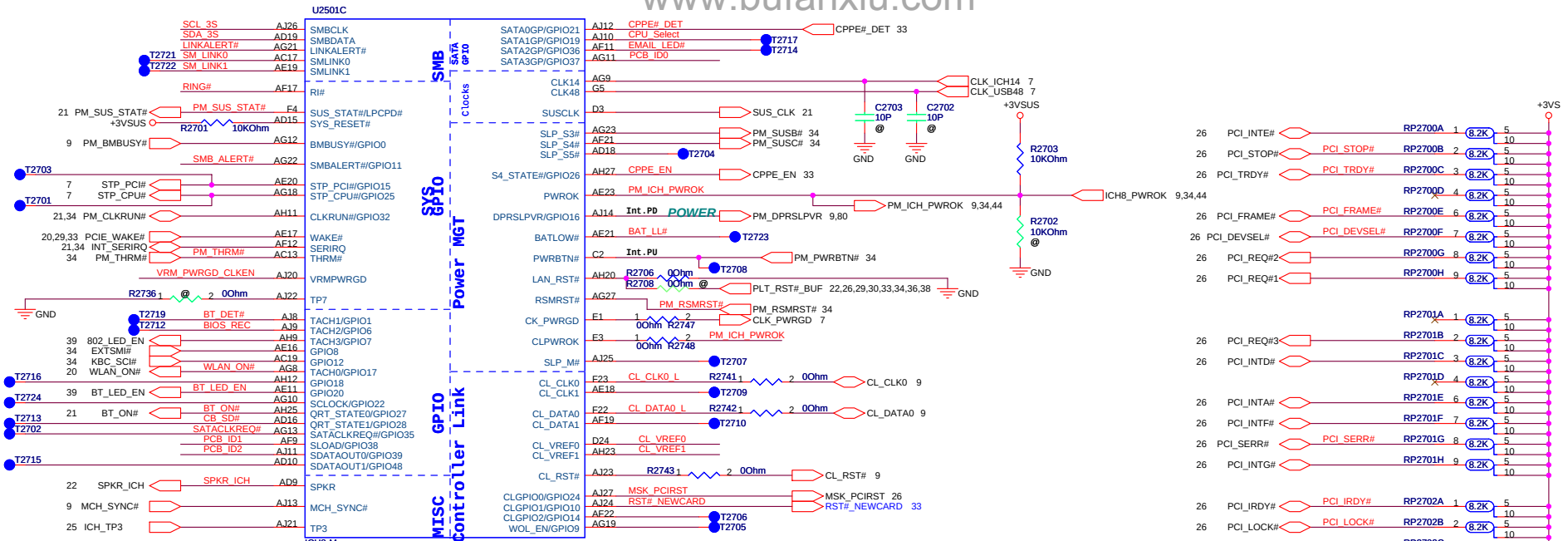
Title : ICH8-M (2)

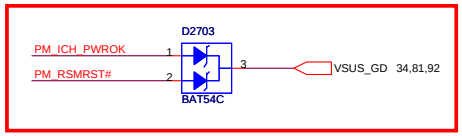
ASUSTeK COMPUTER INC

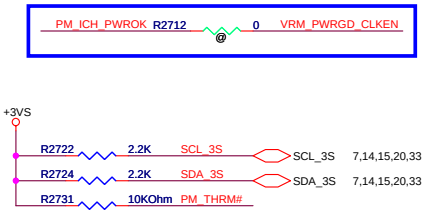
Engineer: <OrgAddr1>

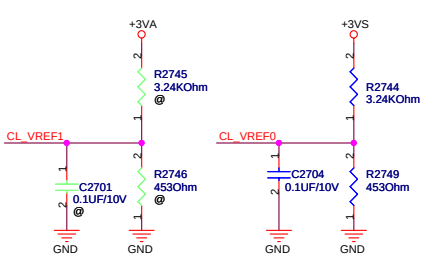
Size	Project Name	Rev
Custom	F6S	1.1

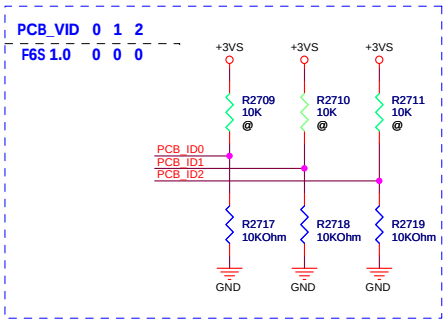
Date: Tuesday, August 21, 2007 Sheet 26 of 94

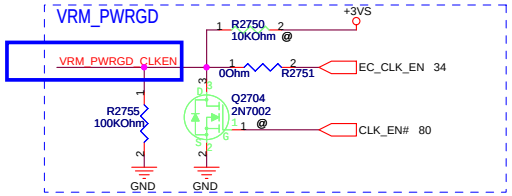


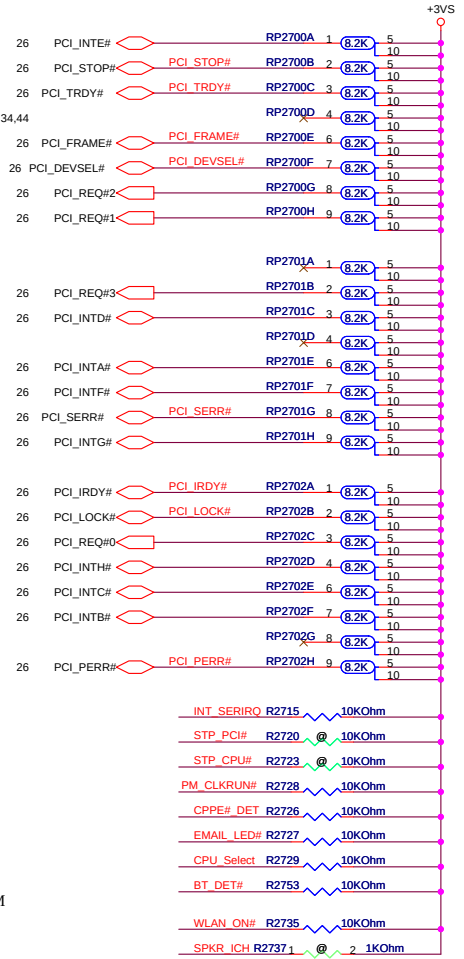


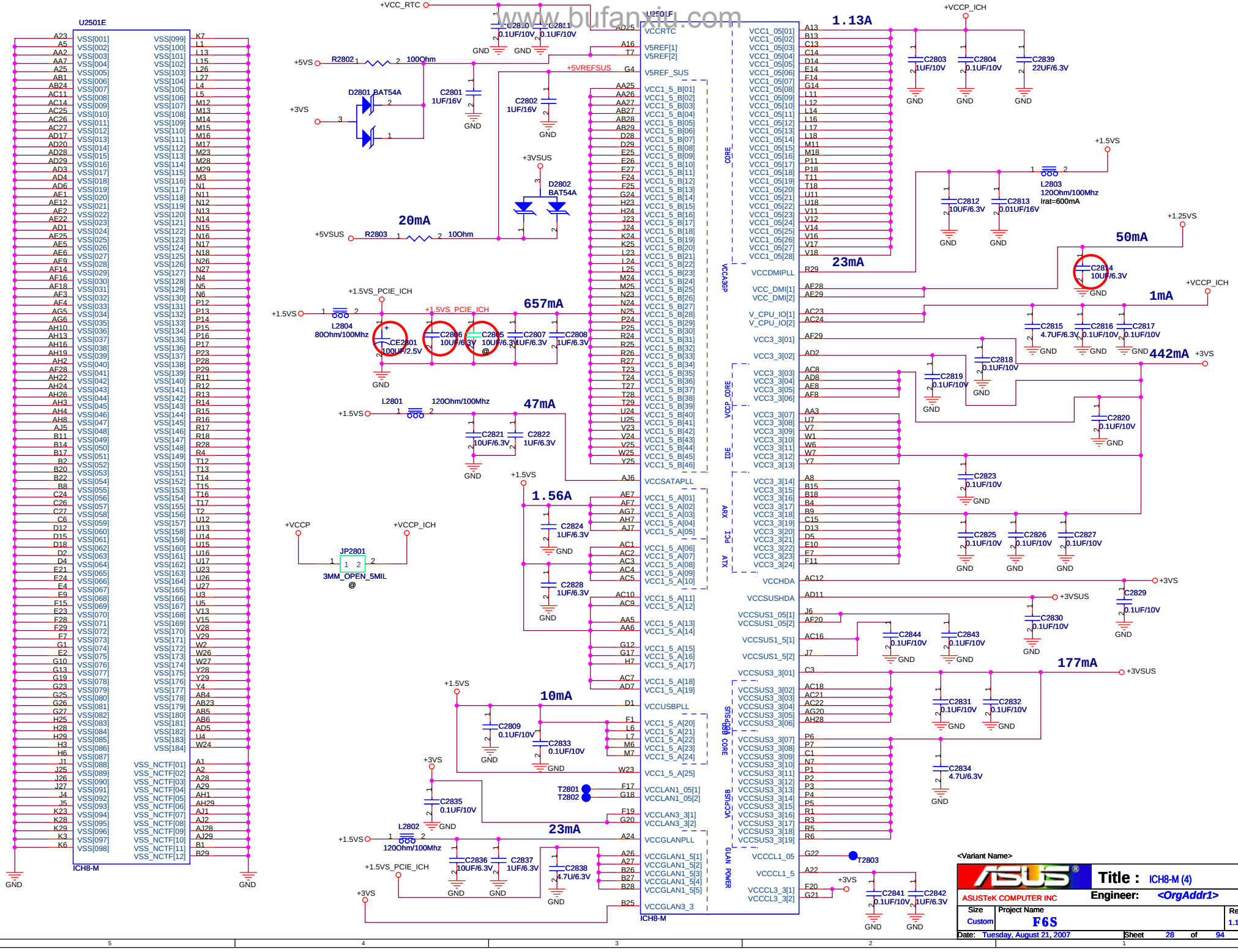


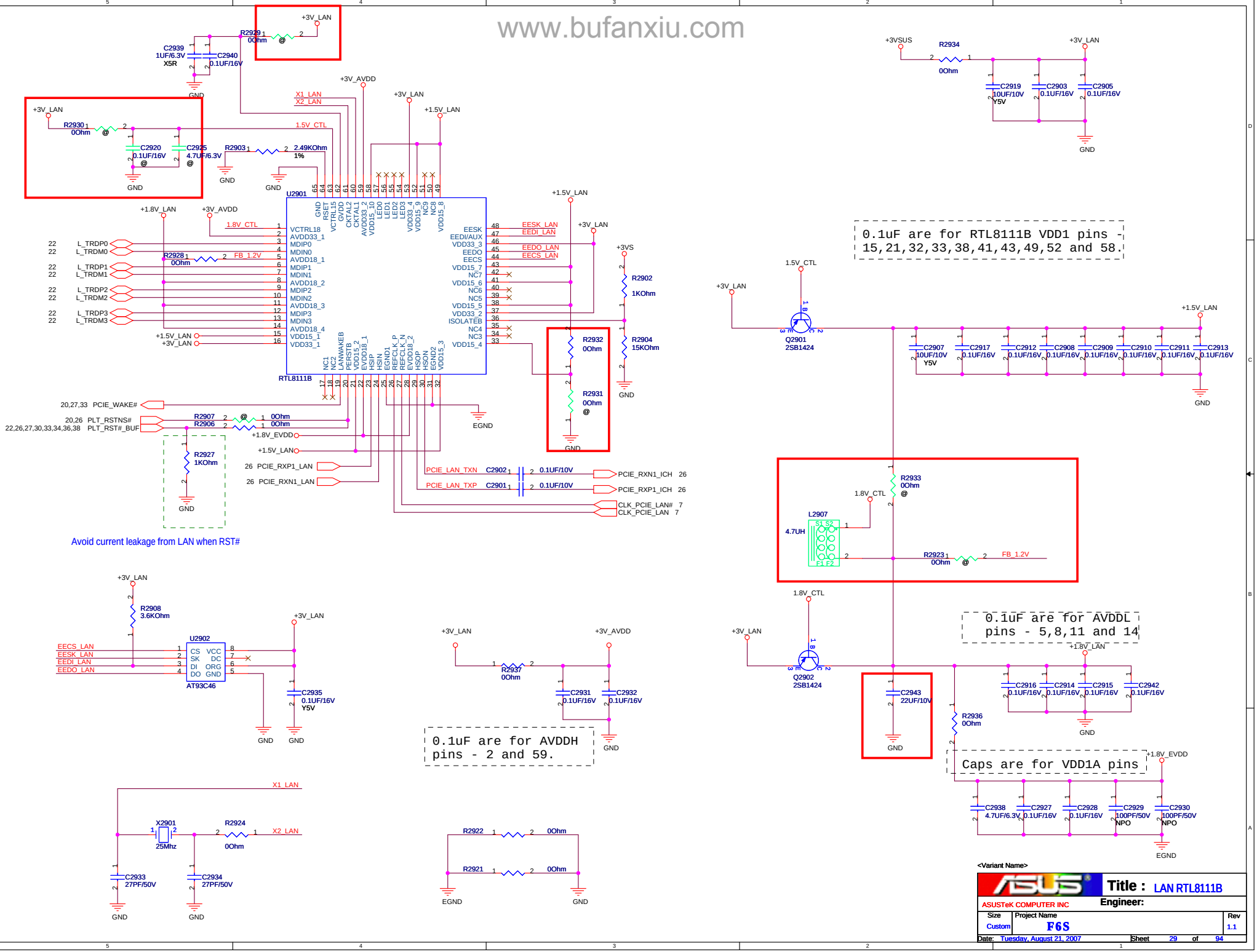









www.bufanxiu.com
U2501E
ICH8-M
U2501F
ICH8-M
+VCC_RTC
C2810 0.1UF/10V
C2811 0.1UF/10V
+5VS
R2802 100Ohm
D2801 BAT54A
C2801 1UF/16V
C2802 1UF/16V
+3VS
+5VREFSUS
+3VSUS
D2802 BAT54A
20mA
+5VSUS
R2803 10Ohm
+1.5VS_PCIE_ICH
+1.5VS
L2804 80Ohm/100Mhz
CE2801 100UF/2.5V
C2806 10UF/6.3V
C2805 10UF/6.3V @
C2807 1UF/6.3V
C2808 1UF/6.3V
657mA
L2801 120Ohm/100Mhz
C2821 10UF/6.3V
C2822 1UF/6.3V
47mA
+VCCP
+VCCP_ICH
JP2801
3MM_OPEN_5MIL
@
C2824 1UF/6.3V
C2828 1UF/6.3V
1.56A
C2809 0.1UF/10V
C2833 0.1UF/10V
10mA
C2835 0.1UF/10V
T2801
T2802
L2802 120Ohm/100Mhz
C2836 10UF/6.3V
C2837 1UF/6.3V
C2838 4.7U/6.3V
23mA
GND
1.13A
C2803 1UF/10V
C2804 0.1UF/10V
C2839 22UF/6.3V
+VCCP_ICH
+1.5VS
L2803 120Ohm/100Mhz Irat=600mA
C2812 10UF/6.3V
C2813 0.01UF/16V
+1.25VS
50mA
C2814 10UF/6.3V
23mA
1mA
C2815 4.7UF/6.3V
C2816 0.1UF/10V
C2817 0.1UF/10V
442mA
+3VS
C2818 0.1UF/10V
C2819 0.1UF/10V
C2820 0.1UF/10V
C2823 0.1UF/10V
C2825 0.1UF/10V
C2826 0.1UF/10V
C2827 0.1UF/10V
C2829 0.1UF/10V
+3VSUS
C2830 0.1UF/10V
C2844 0.1UF/10V
C2843 0.1UF/10V
177mA
C2831 0.1UF/10V
C2832 0.1UF/10V
C2834 4.7U/6.3V
T2803
C2841 0.1UF/10V
C2842 1UF/6.3V
<Variant Name>
Title : ICH8-M (4)
ASUSTeK COMPUTER INC
Engineer: <OrgAddr1>
Size Custom
Project Name F6S
Rev 1.1
Date: Tuesday, August 21, 2007
Sheet 28 of 94



Avoid current leakage from LAN when RST#

0.1uF are for AVDDH pins - 2 and 59.

0.1uF are for RTL8111B VDD1 pins - 15,21,32,33,38,41,43,49,52 and 58.

0.1uF are for AVDDL pins - 5,8,11 and 14

Caps are for VDD1A pins

<Variant Name>

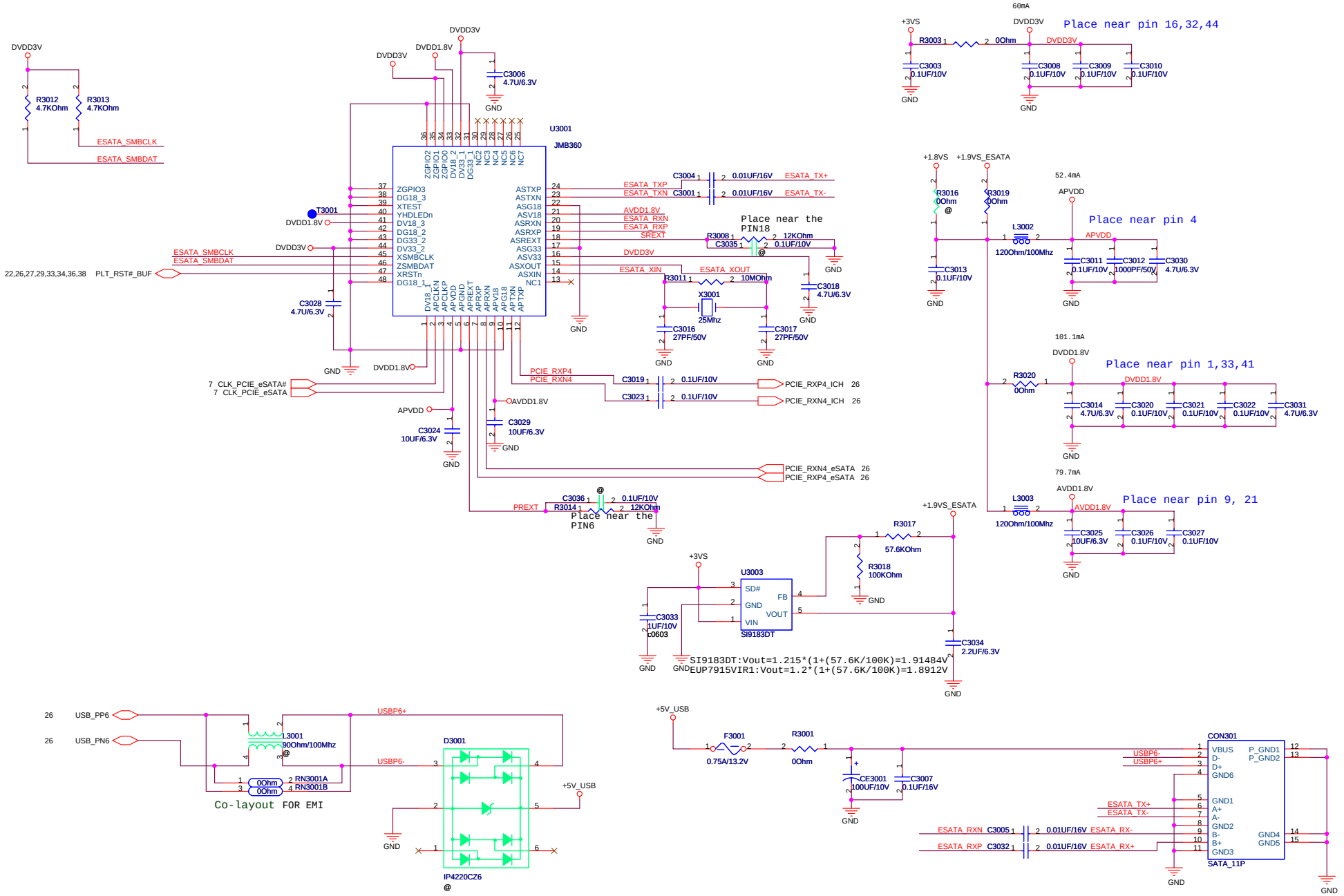
ASUSTeK COMPUTER INC

Title : LAN RTL8111B

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 29 of 94



ASUSTek COMPUTER INC		Engineer:	
Size: Custom	Project Name: F6S		Rev: 1.1
Date: Tuesday, August 21, 2007		Sheet 30 of 94	

Title : eSATA-JMB360

Title : EMPTY		
ASUSTek COMPUTER INC	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 31 of 94	

<Variant Name>

Title : EMPTY

ASUSTeK COMPUTER INC

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 32 of 94

New EC pin to avoid the re-recognize when resume from S3/S4..

34,37,91,92 SUSB_EC1#

U3301 R5538D001

PERST# R3301 1KOhm

+3VS +1.5VS +3V

22,26,27,29,30,34,36,38 PLT_RST#_BUF

GND

T3305 +1.5VS_PE

+3VAUX_PE +3VS_PE

Q_CPPE# CPUSB# REFCLK_EN T3306

27 CPPE_EN R3302 @ 10KOhm Q3300 @ PMBS3904 R3311 0Ohm

SB(GPIO26)

27 CPPE#_DET R3315 @ 0 CPPE#_DET_L

SB(GPIO21)

26 USB_PN7 USB_PP7 0Ohm RN3303A RN3303B USB_P7- USB_P7+

L3301 90Ohm/100Mhz @

D3304 EGA10603V05A1 @ D3305 EGA10603V05A1 @

NewCard Header

CON331 NEW_CARD_26P

USB_P7- USB_P7+ CPUSB#

T3203 LPC_FRAME# R DIS_SYSBIOS R3312 33Ohm R3313 33Ohm @ SMB_CLK_R SMB_DATA_R

+1.5VS_PE +3VAUX_PE +3VS_PE WAKE# R PERST# CLKREQ# R CPPE# DET R

7 CLK_PCIE_NEWCARD# 7 CLK_PCIE_NEWCARD

26 PCIE_RXN2_ICH 26 PCIE_RXP2_ICH

26 PCIE_RXN2_NEWCARD 26 PCIE_RXP2_NEWCARD

P/N:12G16130026R

+3VS C3309 4.7UF/10V C3310 0.1UF/16V

+3V C3311 2.2UF/6.3V C3312 0.1UF/16V

+1.5VS C3313 2.2UF/6.3V C3314 0.1UF/16V

27 RST#_NEWCARD R3303 @ 1KOhm PERST#

SB(GPIO10)

C3307 2200PF/50V D3303 1N4148WS R3305 10KOhm C3308 0.1UF/16V

+3VS R3304 100KOhm PE_DEBUGEN#

R3306 47KOhm Q3302 PMBS3904 R3307 47KOhm @

21,25,34,35 LPC_FRAME#

U3303 74LVC1G125GV +3VS LPC_FRAME# R

CON332 NEW_CARD_EJECTOR_3P @

CPPE# DET L

RN3302A RN3302B RN3302C RN3302D R3316 0OHM @ 0Ohm @

U3302 74CBT3383

7 CLK_DEBUG2 21,25,34,35 LPC_AD3 LPC_AD0 LPC_AD1 LPC_AD2

CPPE# DET R CLKREQ# R WAKE# R SMB_CLK_R SMB_DATA_R

7 CLK_REQ_NEWCARD# 20,27,29 PCIE_WAKE# 7,14,15,20,27 SCL_3S 7,14,15,20,27 SDA_3S

R3308 0Ohm SCL_3S SDA_3S

PE_DEBUGEN# GND +5VS C3315 0.1UF/16V c0402

+3VS_PE 1.3A C3316 10UF/10V C3301 10UF/10V C3302 0.01UF/16V

+3VAUX_PE 275mA C3303 10UF/10V C3304 0.01UF/16V

+1.5VS_PE 650mA C3305 10UF/10V C3306 0.01UF/16V

<Variant Name>

ASUSTeK COMPUTER INC

Title : NEW CARD

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 33 of 94

1011_based on EC GPIO_rev1.3
p/n : 06G042012011.....revB

U3400 IT8511TE

LPC: LAD0 LAD1 LAD2 LAD3 LPCCLK LFRAME# LPCRST#/WUI4/GPD2 SERIRQ ECSMI#/GPM0 ECSCI#/GPD3 GA20/GPB5 KBRST#/GPB6 WRST# PWUREQ#/GPM1

FLASH ROM: FRD# FWR# FCS# FD0 FD1 FD2 FD3 FD4 FD5 FD6 FD7 FA0 FA1 FA2/BADDR0 FA3/BADDR1 FA4/PPEN FA5/SHBM FA6 FA7 FA8 FA9 FA10 FA11 FA12 FA13 FA14 FA15 FA16/GPG0 FA17/GPG1 FA18/GPG2 FA19/GPG3

for 8M ISA ROM, TSOP_MXIC

KBMX: KSI0/STB# KSI1/AFD# KSI2/INIT# KSI3/SLIN# KSI4 KSI5 KSI6 KSI7 KSO0/PD0 KSO1/PD1 KSO2/PD2 KSO3/PD3 KSO4/PD4 KSO5/PD5 KSO6/PD6 KSO7/PD7 KSO8/ACK# KSO9/BUSY KSO10/PE KSO11/ERR# KSO12/SLCT KSO13 KSO14 KSO15

PS2: CK32K CK32KE PS2CLK0/GPF0 PS2DAT0/GPF1 PS2CLK1/GPF2 PS2DAT1/GPF3

SMBus: SMCLK0/GPB3 SMDAT0/GPB4 SMCLK1/GPC1 SMDAT1/GPC2

ADC: ADC0/GPK0 ADC1/GPK1 ADC2/GPK2 ADC3/GPK3 ADC8/GPK4 ADC9/GPK5

DAC: DAC0/GPJ0 DAC1/GPJ1 DAC2/GPJ2 DAC3/GPJ3

GPIO: PWM0/GPA0 PWM1/GPA1 PWM2/GPA2 PWM3/GPA3 PWM4/GPA4 PWM5/GPA5 PWM6/GPA6 PWM7/GPA7 RXD/GPB0 TXD/GPB1 GPB2 RING#/PWRFAIL#/LPCRST#/GPB7 CLKOUT/GPC0 GPC3 TMRI0/WUI2/GPC4 GPC5 TMRI1/WUI3/GPC6 CK32KOUT/GPC7 RI1#/WUI0/GPD0 RI2#/WUI1/GPD1 GPD4 GINT/GPD5 TACH0/GPD6 TACH1/GPD7 ADC4/GPE0 ADC5/GPE1 ADC6/GPE2 ADC7/GPE3 PWRSW/GPE4 WUI5/GPE5 LPCPD#/WUI6/GPE6 CLKRUN#/WUI7/GPE7 PS2CLK2/GPF4 PS2DAT2/GPF5 PS2CLK3/GPF6 PS2DAT3/GPF7 FA20/GPG4 FA21/GPG5 LPC80HL/GPG6 LPC80LL/GPG7 GPH0 GPH1 GPH2 GPH3 GPH4 GPH5 GPH6 GPH7 GPI0 GPI1 GPI2 GPI3 GPI4 GPI5 GPI6

Battery
Thermal Sensor
for Keyboard ID
POWER

SUSB_EC0# : +5VS ON for TP.
_EC1# : all +VS ON
_EC2# : +3VSG ON, only ATI GPU.

tD=0.69*10^6*CD(1u) pin sec
=690ms

Use 4 pin XTAL'

Don't mount for INTEL platform

only CPU_PWRGD, not all_PWRGD

<Variant Name>

ASUSTeK COMPUTER INC

Title : EC-IT8511TE

Engineer:

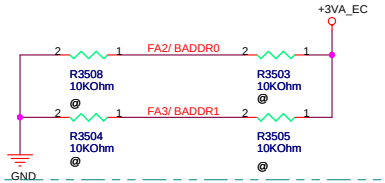
Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 34 of 94

EC Hardware Strapping

FA2/ BADDR0 & FA3/ BADDR1

00: PNPCNG Access Register Pair Are 002Eh and 002Fh
10: PNPCNG Access Register Pair Are 004Eh and 004Fh
01: PNPCNG Access Register Pair Are Determined by EC Domain Registers SWCBALR and SWCBAHR.
11: Reserved



FA4/ PPEN

0: Normal
1: KBS Interface Pins Are Switched to Parallel Port Interface for In-System Programming

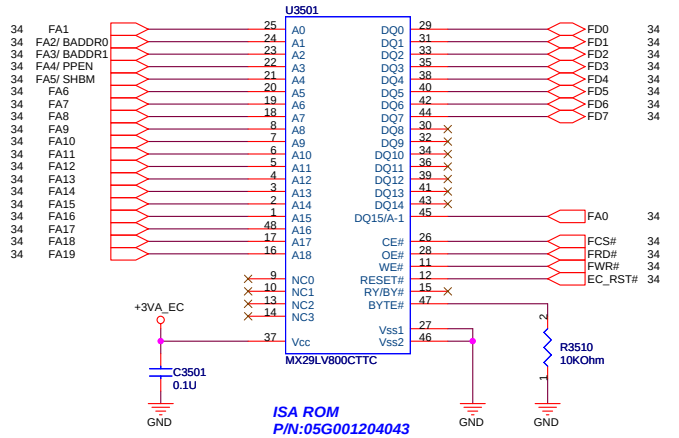
FA5/ SHBM

0: Disable Shared Memory with Host BIOS
1: Enable Shared Memory with Host BIOS

Note: Sampled at VSTBY Power Up Reset

ISA ROM_TSOP

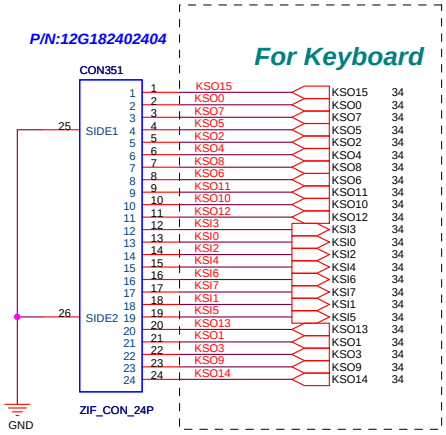
8M TSOP _ MXIC

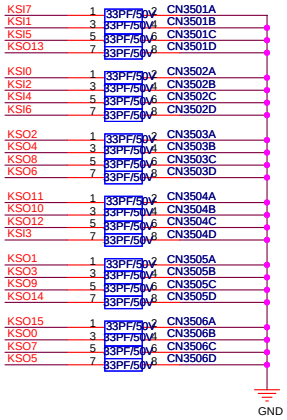


ISA ROM
P/N:05G001204043

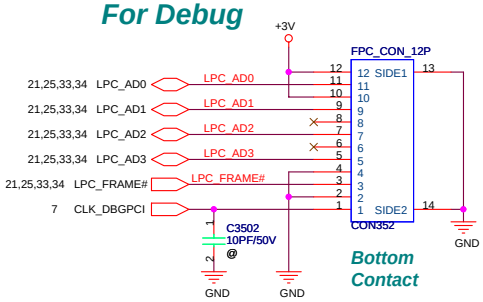
For Keyboard

P/N:12G182402404



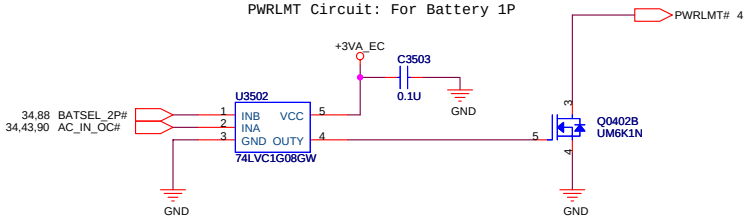


For Debug



Bottom Contact

PWRLMT Circuit: For Battery 1P



<Variant Name>

ASUSTeK COMPUTER INC

Title : ISA_ROM&KB conn

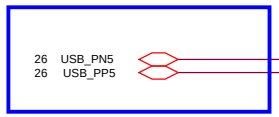
Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 35 of 94

Pull down 10K: 3 in 1 mode
Stuff 47P: Support suspend mode in CPU's C3

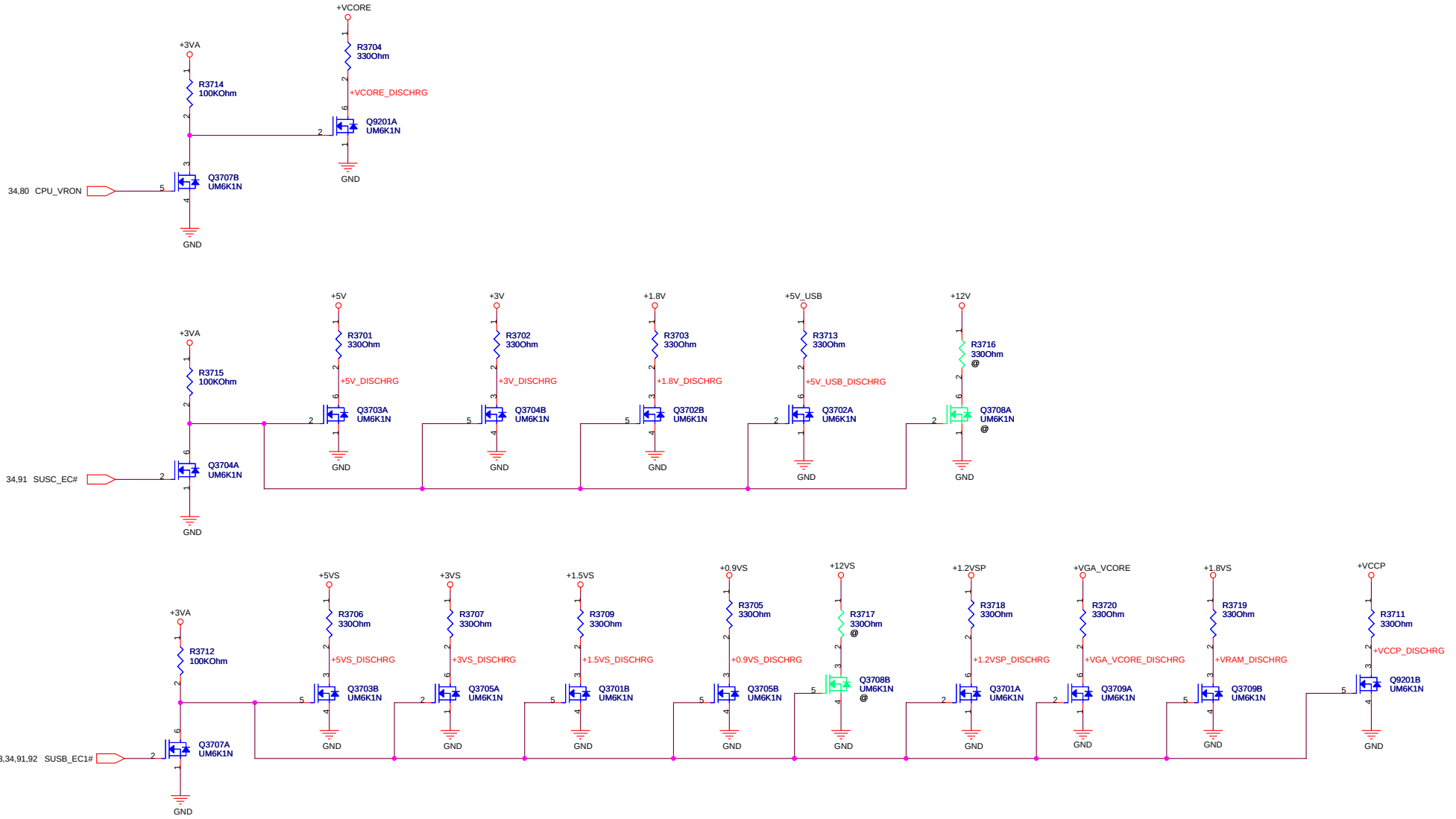
C-L-C Filter



Max: 250mA
Max: 220mA
Max: 120mA

<Variant Name>

ASUSTeK COMPUTER INC	Title : RTS5158	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 36 of 94	



<Variant Name>

ASUSTeK COMPUTER INC

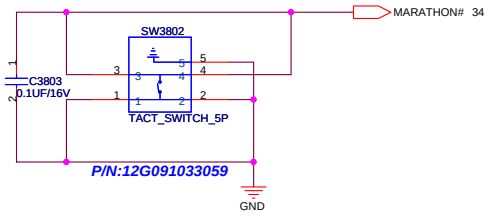
Title : DISCHARGE

Engineer:

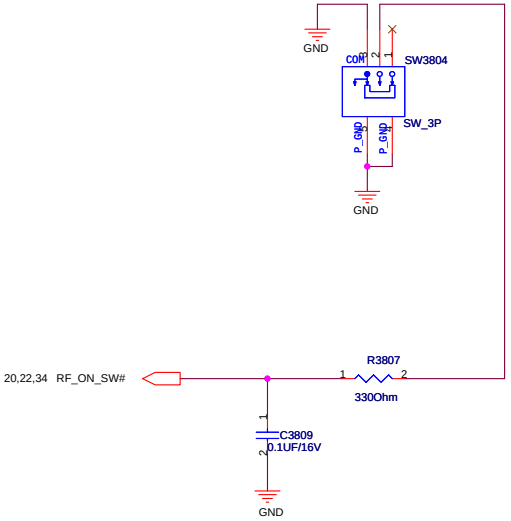
Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 37 of 94

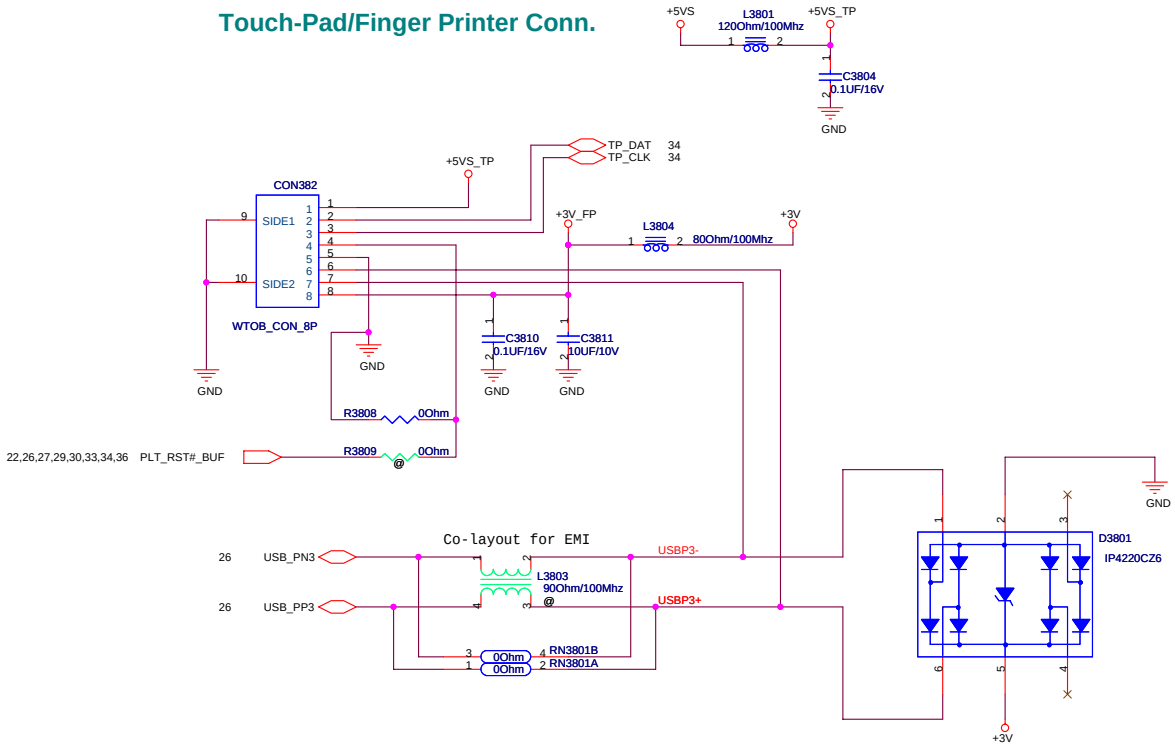
MARATHON#



BT/WLAN SW



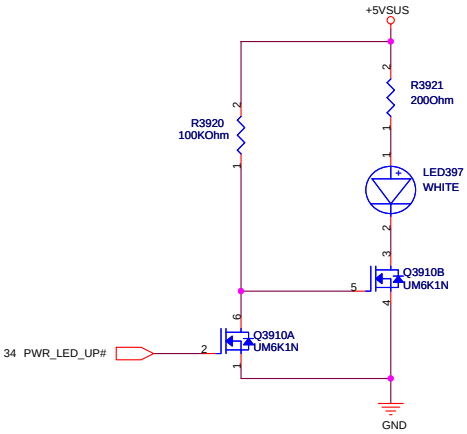
Touch-Pad/Finger Printer Conn.



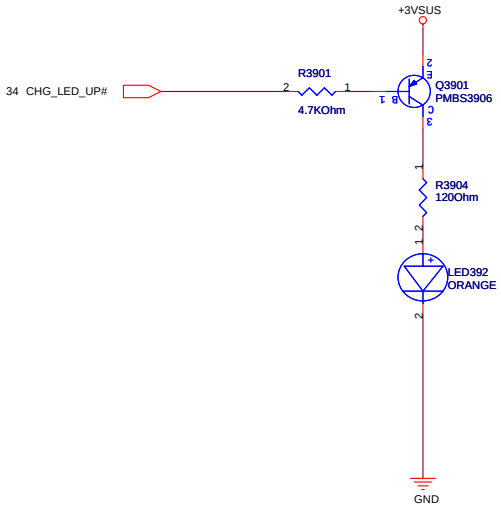
<Variant Name>

ASUSTeK COMPUTER INC	Title : KEY & LED	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 38 of 94	

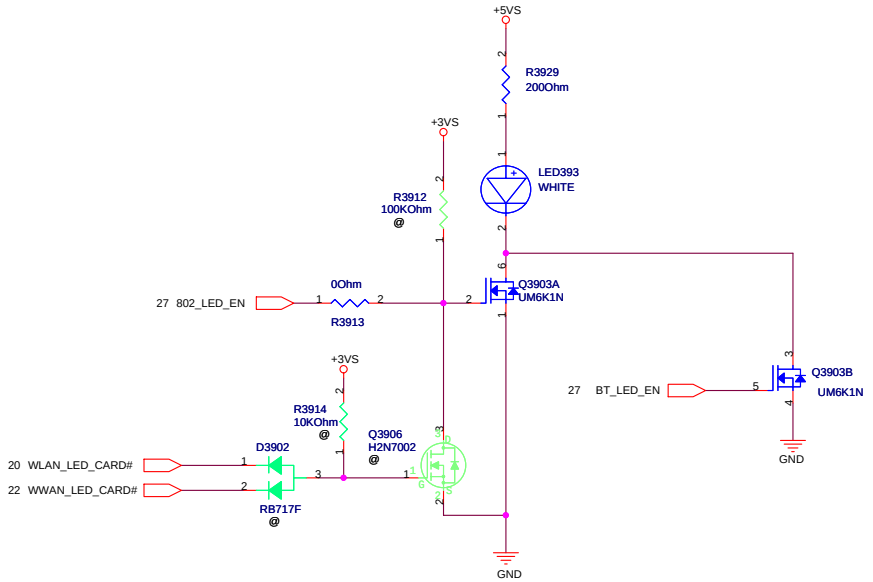
PWR LED



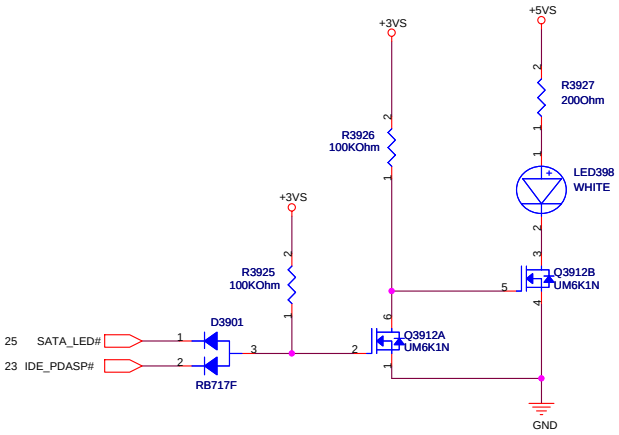
BATTERY LED



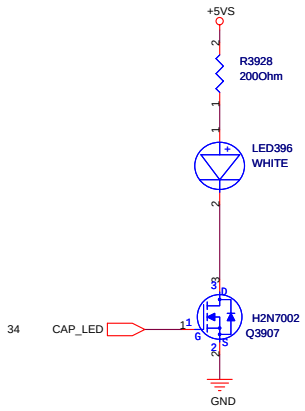
WireLess/BT LED



SATA/IDE LED



Cap. Lock



<Variant Name>

ASUSTeK COMPUTER INC	Title : LEDs	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 39 of 94	

Escape use difference wire trace

U4000A
G72MG3

PCIE 8X

NB8M-SE : 1.15V(7.82A)

NB8M-SE : 1.2VSP (1.75A)

MAX:250mA

MAX:1.5A

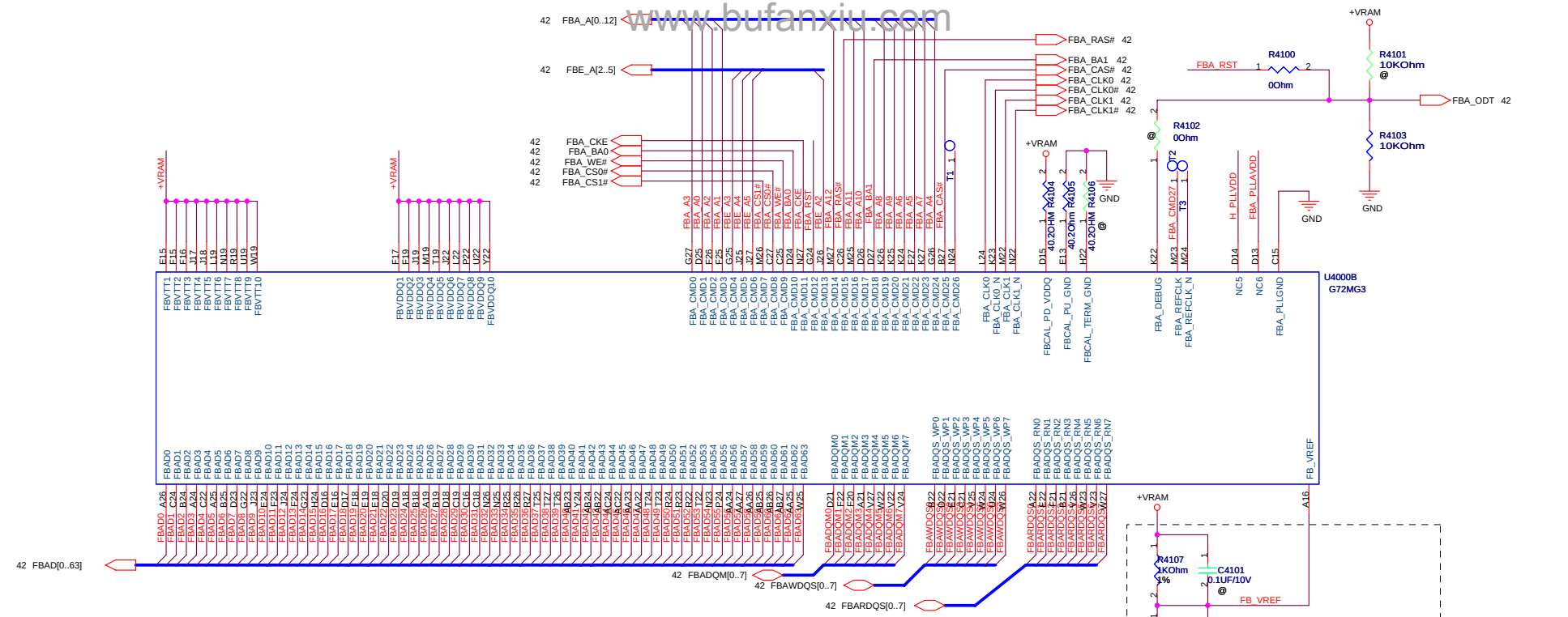
MAX:10mA

MAX:110mA

MAX:85mA

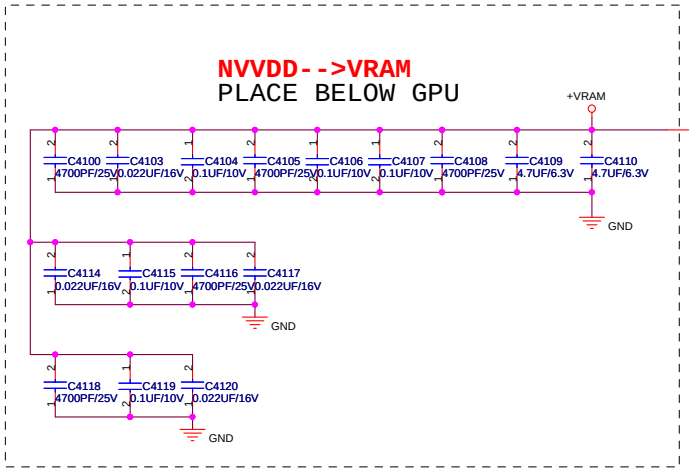
Power Seq.
+3VS --> +NV_VDD
+3VS --> +FBVDDQ(1.9VS)
+NV_VDD --> +FBVDDQ(2.0VS)
+3VS --> +1.2VS

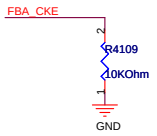
ASUSTeK COMPUTER INC	Title : NB8MSE--PCIE (1)		
	Engineer:		
Size: Custom	Project Name: F6S		Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 40 of 94		

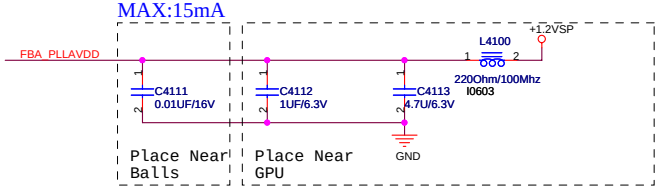


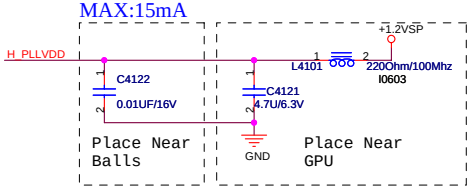
NB8M-SE:MAX:1.87A
G72M:MAX:2.075A
G72M-V:MAX:1A

GDDR2 16x16 FBVDDQ 1.8V 84PIN









<variant_name>

ASUSTeK COMPUTER INC	Title : NB8MSE--FB (2)	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 41 of 94	

03G151236012

U4200 / U4201 / U4202 / U4203 — K4N56163QF

FBA_CLK termination resistor close to VRAM

Close to U4200,U4201,U4202,U4203

Place near U4201.J2

Place near U4203.J2

Decoupling for Frame Buffer. ACPC to memory

Decoupling for Frame Buffer. ACPC to memory

<Variant Name>

Title : NB8MSE--VRAM (3)

ASUSTeK COMPUTER INC

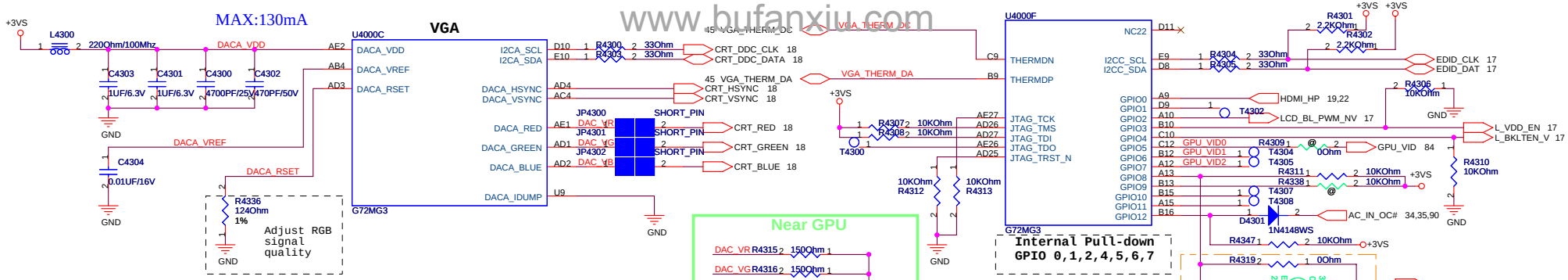
Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

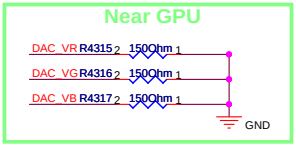
Date: Tuesday, August 21, 2007 Sheet 42 of 94

VGA

MAX:130mA

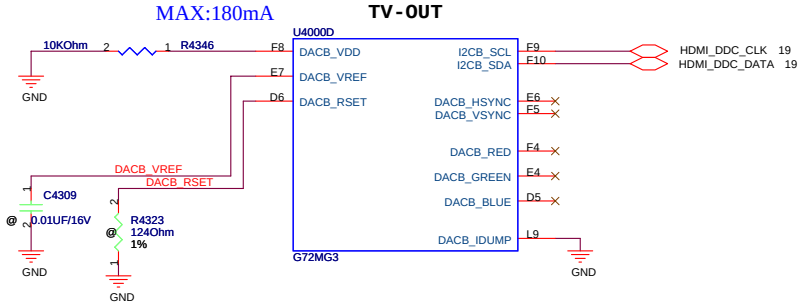


Near GPU



TV-OUT

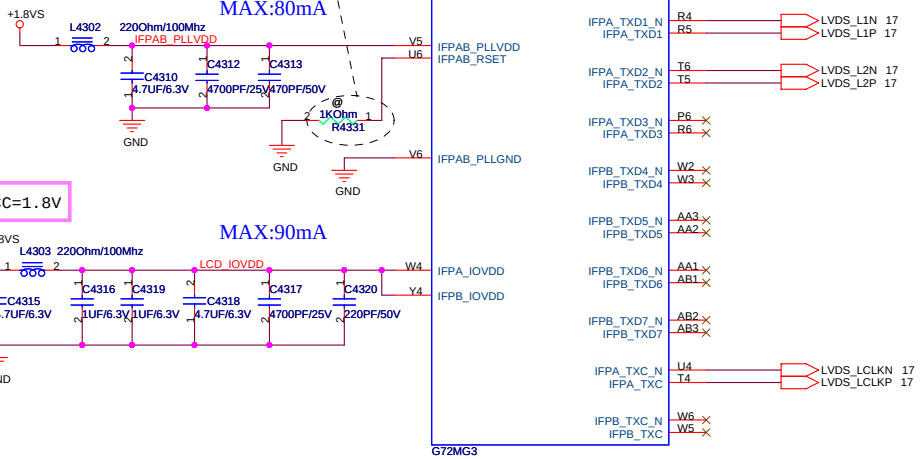
MAX:180mA



LVDS

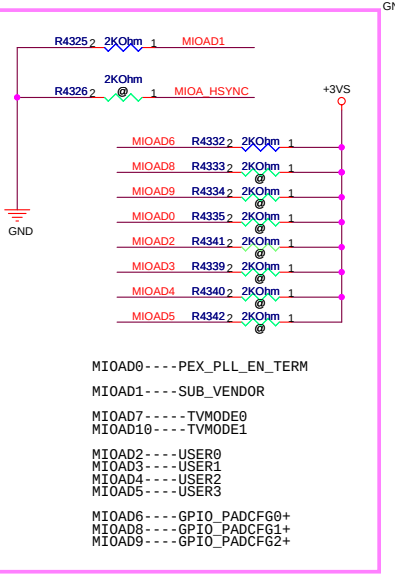
Design Guide Page80: IFPAB_RSET should be no stuff.

MAX:80mA

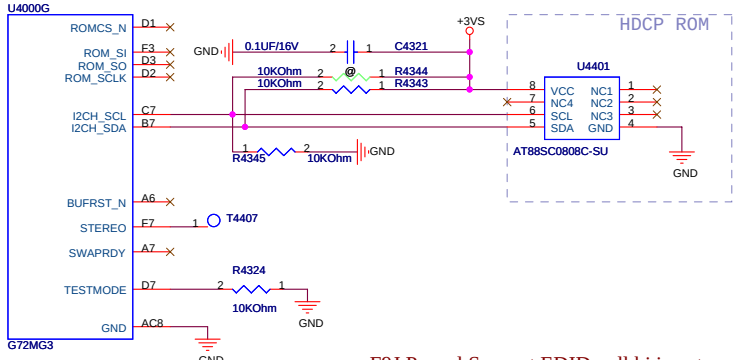


+LCD_VCC=1.8V

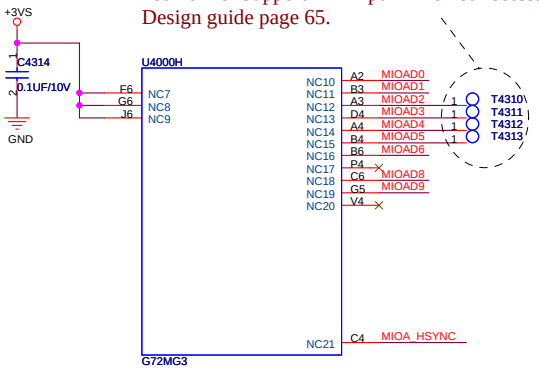
MAX:90mA



HDCP ROM



F9J Pannel Support EDID pull hi is not necessary. Design guide page 65.



<Variant Name>

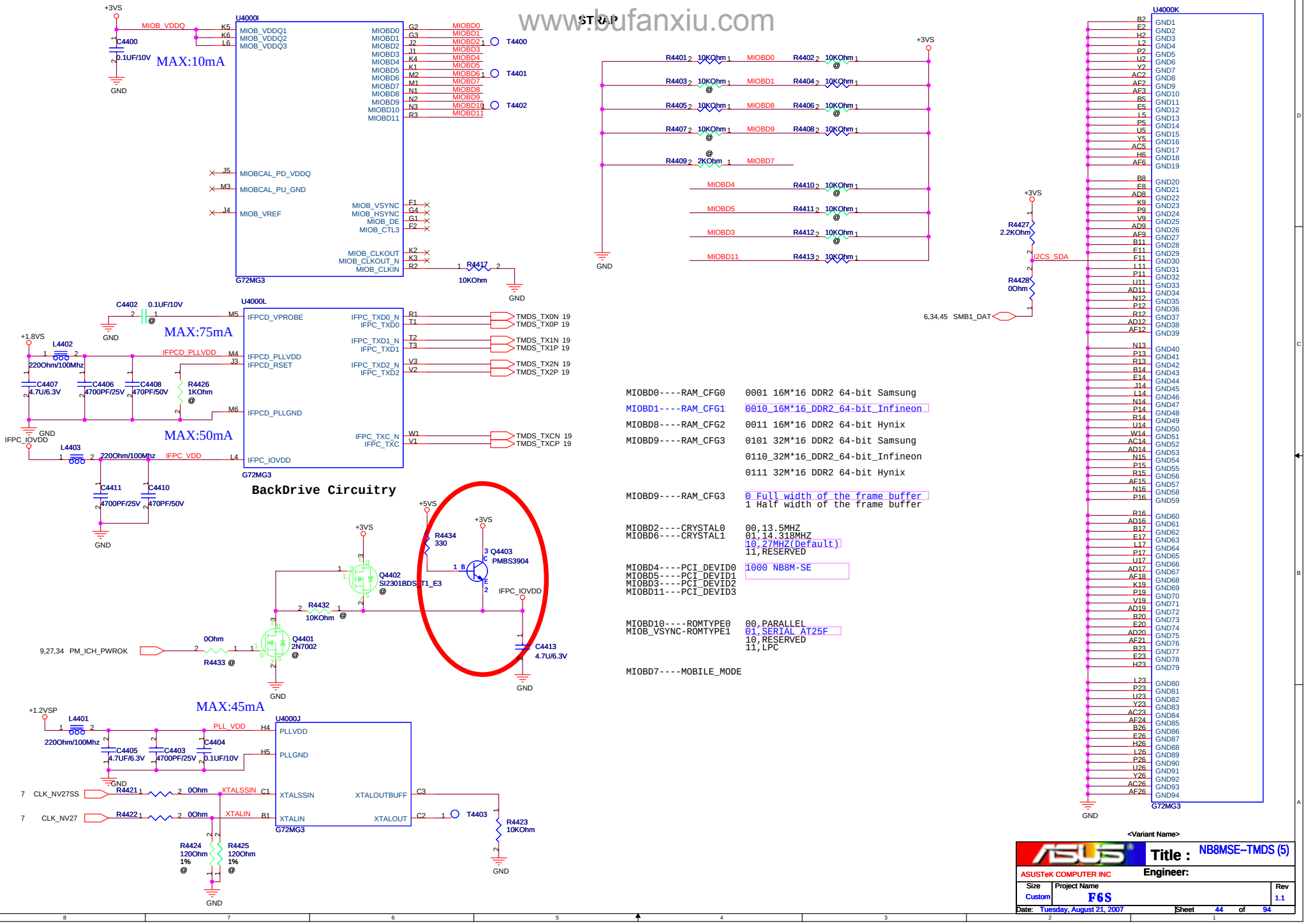
ASUSTeK COMPUTER INC

Title : NB8MSE--I/O (4)

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 43 of 94



<Variant Name>

ASUSTeK COMPUTER INC

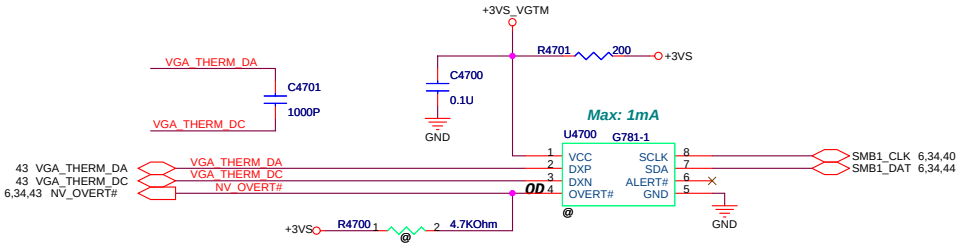
Title : NB8MSE--TMDS (5)

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 44 of 94

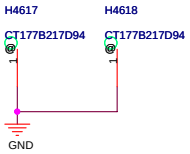
Slave Address:9A

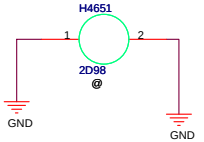


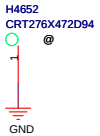
For frame buffer address/command lines those external pull up resistor can be removed for easy layout from Nvidia FAE

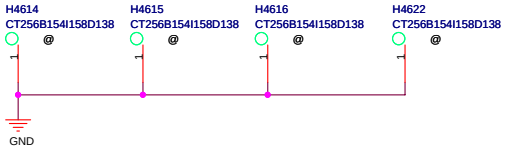
<Variant Name>

ASUSTeK COMPUTER INC	Title: NB8MSE--VRAM_TERM	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 45 of 94	



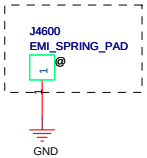


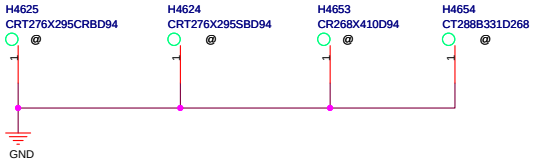


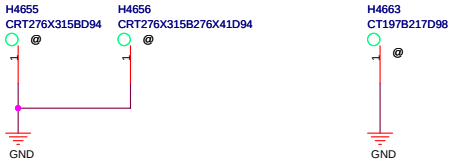


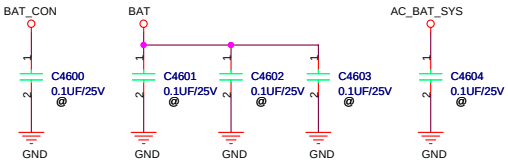
EMI SPRING

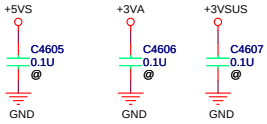
F2J SPRING(H:4.7mm)







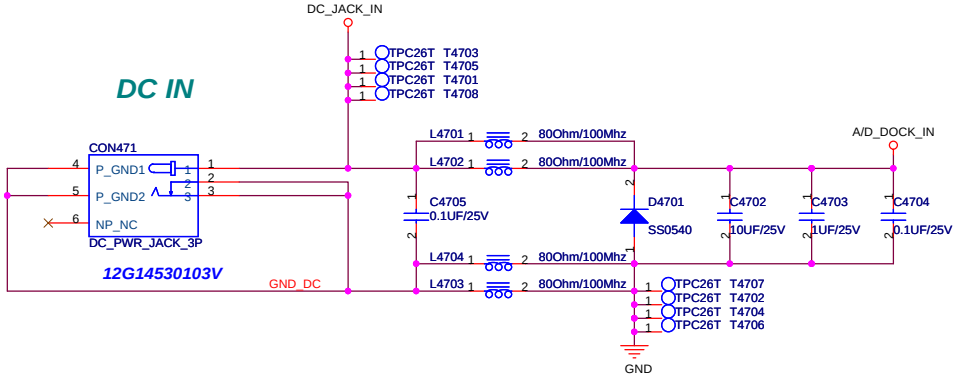




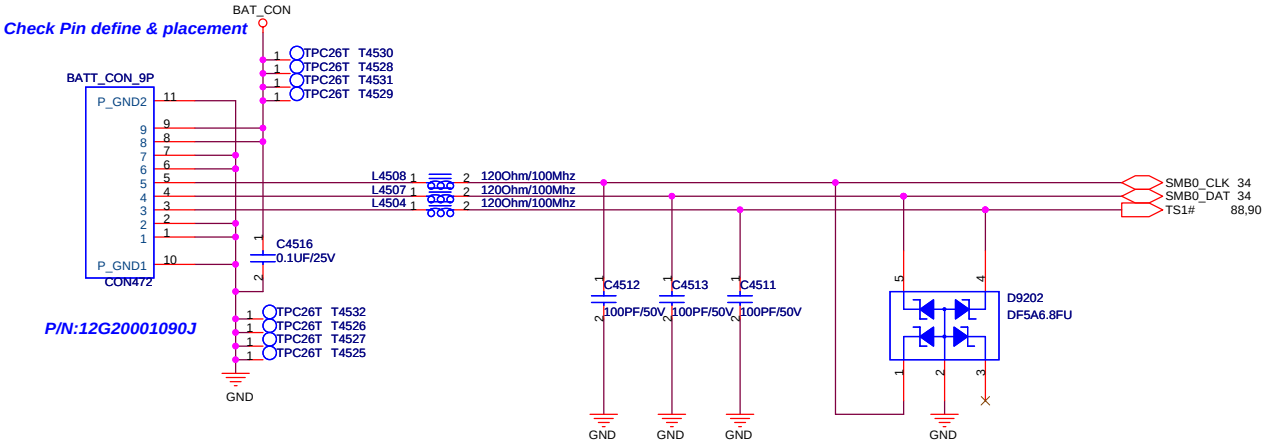
<Variant Name>

ASUSTeK COMPUTER INC	Title : SREW HOLE	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 46 of 94	

DC IN



BAT IN



<Variant Name>

ASUSTeK COMPUTER INC

Title : DC & BAT IN

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 47 of 94

Rev0.3 (Change from R0.2)

1.Page 30: Change C3024,C3025 andC3029 from 4.7UF to 10UF for JMB FAE suggestion.
2.Page 30:Del R3002,R3004,R3005 and R3006.
3.Page 21: Del Finger printer power reset circuit for restart.
4.Page 29: Change C2938 4.7U 0603 to 0805 for cost down.
5.Page 38: Combine TP and F/P to one commector.
6.Page 19: Swap HDMI signals for layout request.
7.Page 20:change H2001and H2002 to 13GNHC10M020-1.
8.Page 34:Add EC_RST# circuit for EC team sugesstion.
9.Page 20:change H2001and H2002 to 13GN7510M270-1 and change CON2001 to 12G030000523
10.Page 22:Swap CON2201 pin define for IO board layout.

Rev0.4 (Change from R0.3)

11.Page 30 and page34:Swap RN3401 L3001and RN3001 for layout.
12.Page 30 :Swap RN3001 and D3001 for layout.
13.Page 38 :Change SW3802 to 12G091033059.
14.Page 26 and 40 :Add NV_RST#(GPIO55) for NV8M-SE reset.
15.Page7 :Add Q0701 for clcok generator power saving.
16.Page47 :Change CON472 to 12G20001090J
17.Page19 :ChangeR1902 and C1901 from 0603 size to 0402 size.
18.Page38 :Swap SW3804 Pin1 and Pin2 to meet ME request.
19.Page38 :Del L1708 and add R1706 100 ohm for short protection.
20.Page26,35 and 40 :ChangeU2602, U3502 and U4002 from 06G004131011 to 06-004092010 for cost down.
21.Page26:ChangeU2603 from 06G004603217 to 06G004603219 for cost down.
22.Page7:Mount R0707 for PEREQ1# and PEREQ2#.
23.Page28:Add C2839 for +VCCP_ICH.
24.Page28:Change C2812 to 11G23521065320 for cost down.
25.Page6:Add R0606 for PM_THRMTRIP# pull up to +VCCP.
26.Page7:Chane reference R785 to R0788
27.Page16:Add C1603 4.7U for +0.9VS.
28.Page27:Add R2703 and D2702 and DNI R2702 for ICH8_PWROK, to fix auto power on issue.
29.Page24:Change R2411 0 ohm from 0603 to 0805 size.
30.Page17:Add R1708 0 ohm for CCD.
31.Page26and 27:Del R2714 and R2738,add RN2613, swap RN2610,RN2612 and RN2700 for USB_OC[0~9].
USB_OC[1~7] can be set GPI if not needed(DNI RN2612 and RN2700).
32.Page30:JMicron suggest to dd R3020,C3035 and C3036 for eSATA JMB360.
33.Page19:Del R1904~R1911,and add RN1901~RN1904.
34.Page33:Change C3308 0.1U(Y5V)from 0603 to 0402. 0603 0.1U(Y5V) is single part.
35.Page24:DelD2403,D2404,D2405 and D2406 ,add D2407 and D2408 for cost issue.
36.Page43:Add R4314,R4318,R4319,R4338 and Q4301 for using NV8M-SE internal sensor.
37.Page39:Del BT LED(DED395,R3909) and Num LED(LED394,R3906,Q3905) for sales PM request.
38.Page47:Del D4504,D4505,D4506 and add D4507 for cost down.
39.Page30 and 35:Change eSATA connector(CON301) and debug connector(CON352) for ME request.
40.Page22:Add Q2202 for HDMI SPDIF jack sense.

Rev0.5 (Change from R0.4)

41.Page39:Modify the LED circuit for white LED.
42.Page46:Update all screw hole.
43.Page6:Remane +5VS to +5V_FAN for FAN circuit as power request.
44.Page46:Update H4631 screw hole.
45.Page28:Change C2801 and C2801 from 0.1U to 1U.
46.Page39:Change R3926 pin2 pull high from +5VS to +3VS.

Rev1.0 (Change from R0.5)

47.Change Rev from 0.5 to 1.0

Rev1.01 (Change from R1.0)

48.page16:Change R1614 and R1615 from 10K to 1K, can meet S3 Vref voltage spec.
DNI R1614,R1615 and Mount R1620 for Vref voltage provide from power.
49.page07:ChangeR0713 from 33 ohm to 39 ohm to meet rise and fall timing.
50.page12:Change C1220,C1227 and C1236 from 22uF to 4.7uF for cost down.
51.page12:Change C1207,C1214,C1217 and C1224 from 22uF to 10uF for cost down.
52.page12:Del C1202 4.7uF(0603) and Change C1201from 4.7U(0603) to 10uF(0805)for cost down.
53.page28:DNI C2805 and change C2806 from 22uF to 10uF for cost down.
54.page28:Change CE2801 from 220uF to 100uF for cost down.
55.page21&38:Del Q2101and R3806 for never use.
56.page40:Change C4026 from 22uF (1206)single part to 4.7uF for cost down.
57.page6,9,30&34:Del 0 ohm R0655,R0937,R0938,R3010,R3015,R3418,R3419,R3445,R3449 and R3454 for cost down.
58.page30:Del U3002,C3002 andC3015 fornever use.
59.page36:DNI R3608 andC3619,mount R3618 use PLT_RST#_BUF to reset RTS5158
60.page29:Add C2941 and C2942 for _1.8V_LAN.
61.page6:DNI R0606 and C0650.
62.page6:Mount CN3501,CN3502,CN3503,CN3504,CN3505,and CN3506 for EMI request.
63.page27:Del D2701,D2702 for no use as EC pin ICH8_PWROK,PM_RSMRST# open drain output.
64.page30:DNI C3035, C3036 (eSATA Issue)
65.page23:Del CE2301 100uF and add CE2302 and CE2303 47uF x2 for cost down.
66.page30:Change CE3001 to CAP EL 100UF/10V for cost down.
67.page36:Add R3619 for Realtek suggestion.
68.page35:DNI R3505,R3507 and R3508 for EC team suggestion.
69:page39:Del R3922,R3923,Q3911 for nouse.
70.page6:Add L4703 and L4704 for EMI request.
71:page38:Change SW3804 to 12G09107003M.
72:page17:ChangeCON175 to 12G17001030V.
73:page46:Add screw hole H4663.
74:page24:Change CON242 and CON243 to 12G131050044.
75:page29:Colay TRL8111C.
76:page:29Change R2903 to 2.21K ohm for GigaLan requires
77:page22:DNI Q2202 for not support HDMI jack sense.
78:page29:Mount C2943 for 100m cable link.Del C2941 and C2918.
79:page38:Add R3808 and R3809(PLT_RST#_BUF)for Finger Printer.
80:page36:Change C3668 and C3669 to 6pF for Realtek suggestion.
81:page36:Mount C3618,C3609,R3608 and DNI R3618 for Realtek suggestion.
82:page29&30:Change C2933,C2934,C3016 and C3017 to 27pF for ITTI suggestion.
83:pag7:Change C0709,C0710,30pF for ITTI suggestion.

ASUSTeK COMPUTER INC	Title : History(1)	
	Engineer:	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 48 of 94	

<Variant Name>

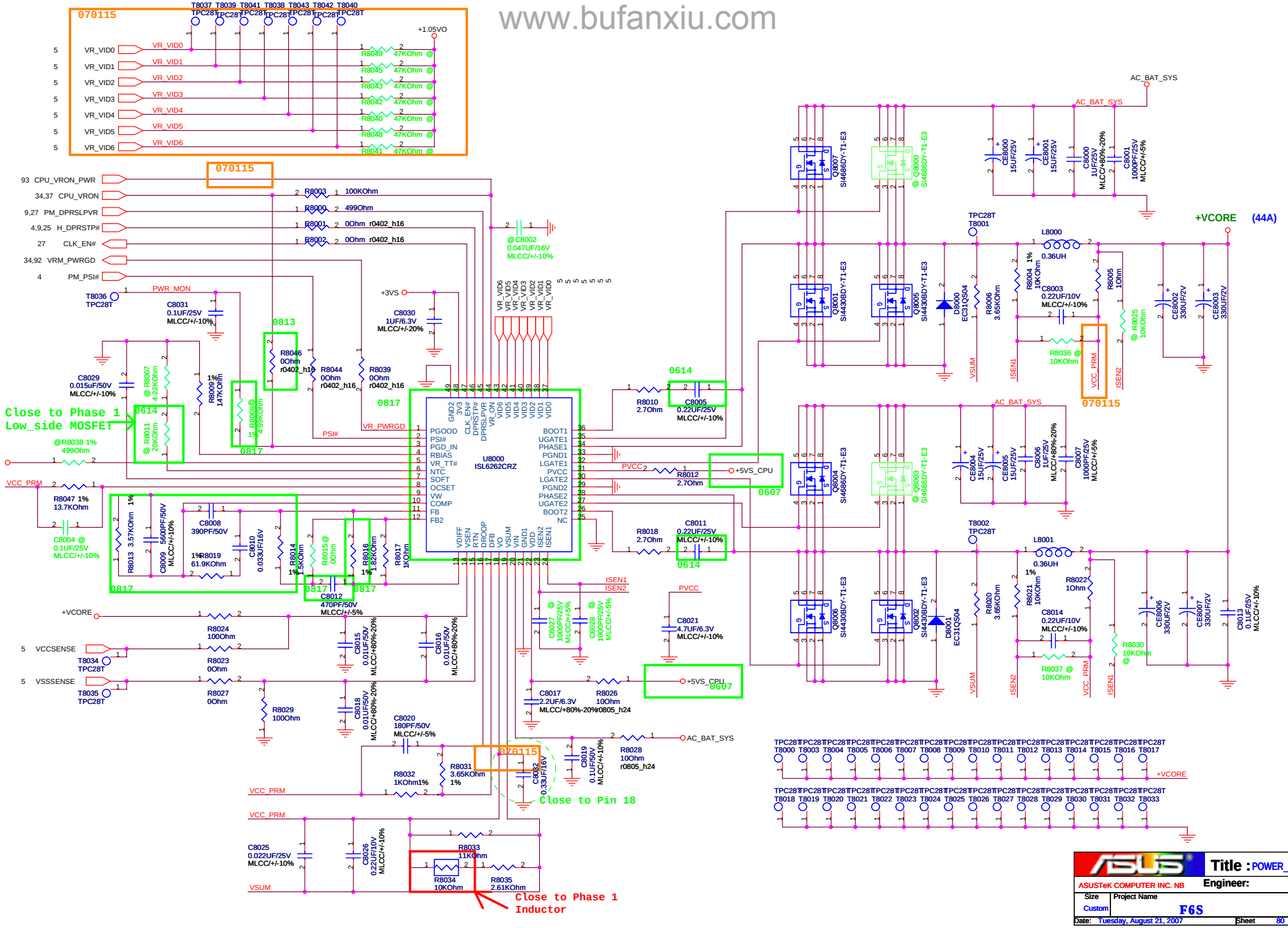
Title : History(2)

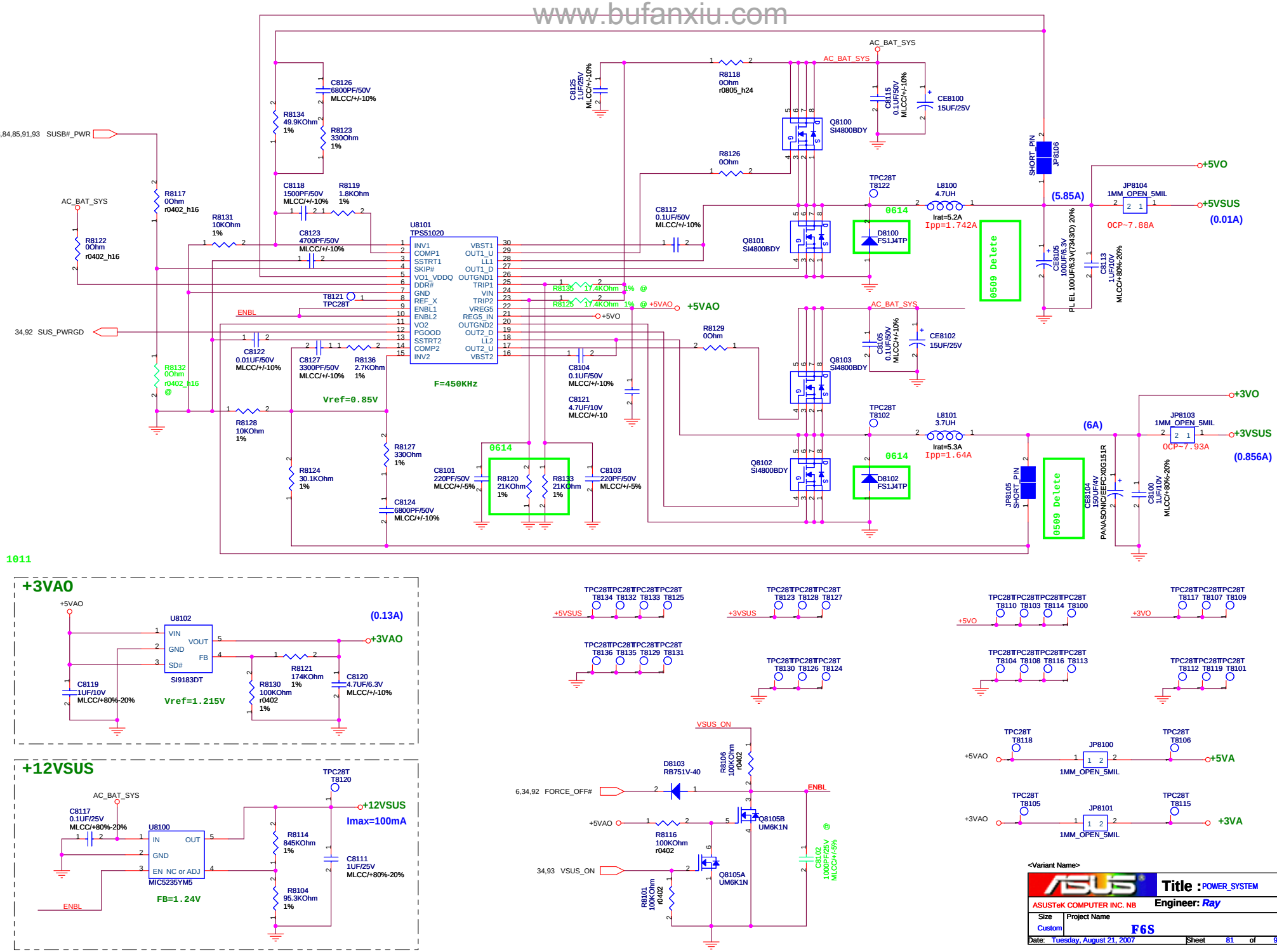
ASUSTeK COMPUTER INC

Engineer:

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 49 of 94





1011

<Variant Name>

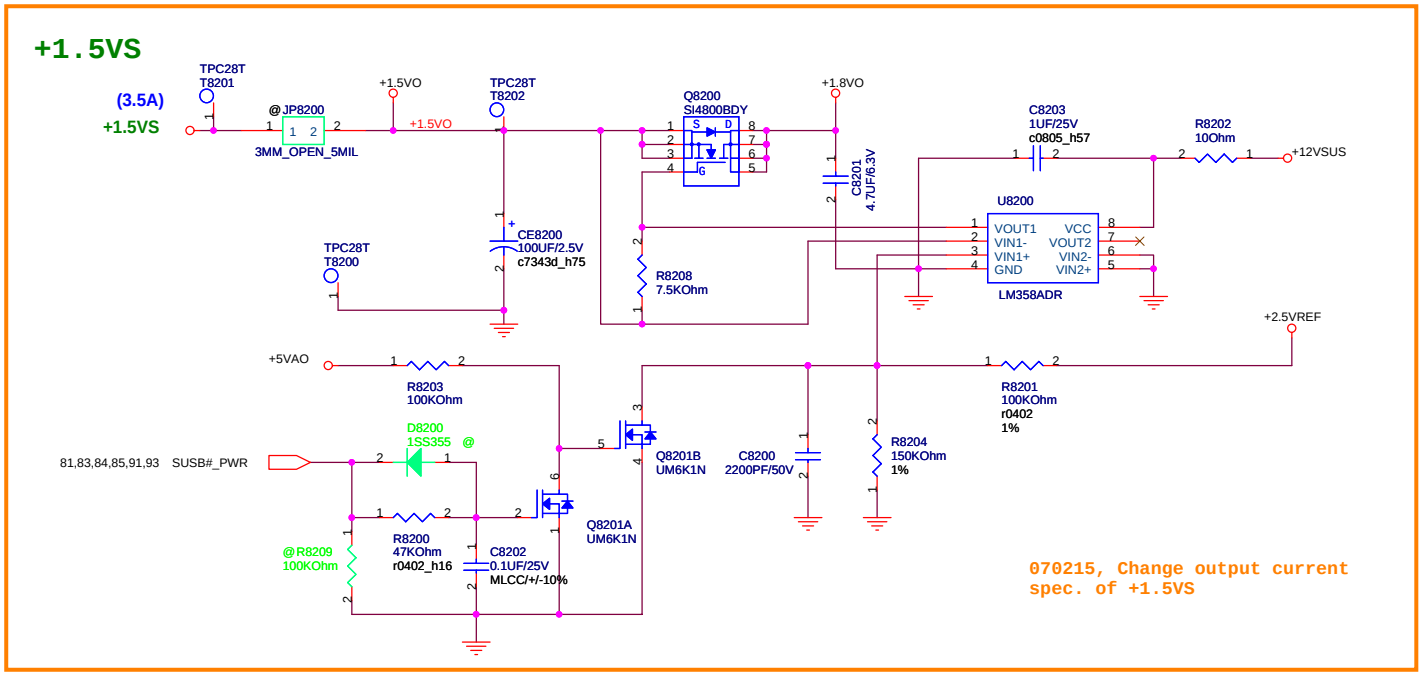
ASUSTeK COMPUTER INC. NB

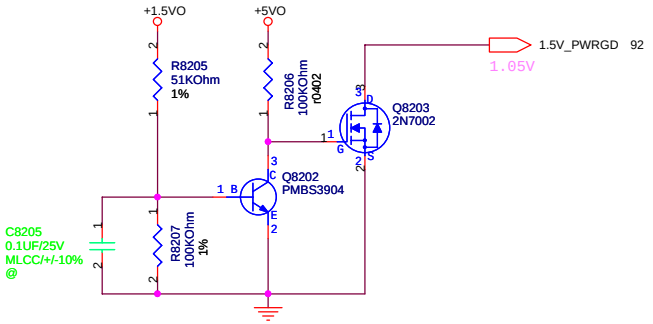
Title : POWER_SYSTEM

Engineer: Ray

Size	Project Name	Rev
Custom	F6S	1.1

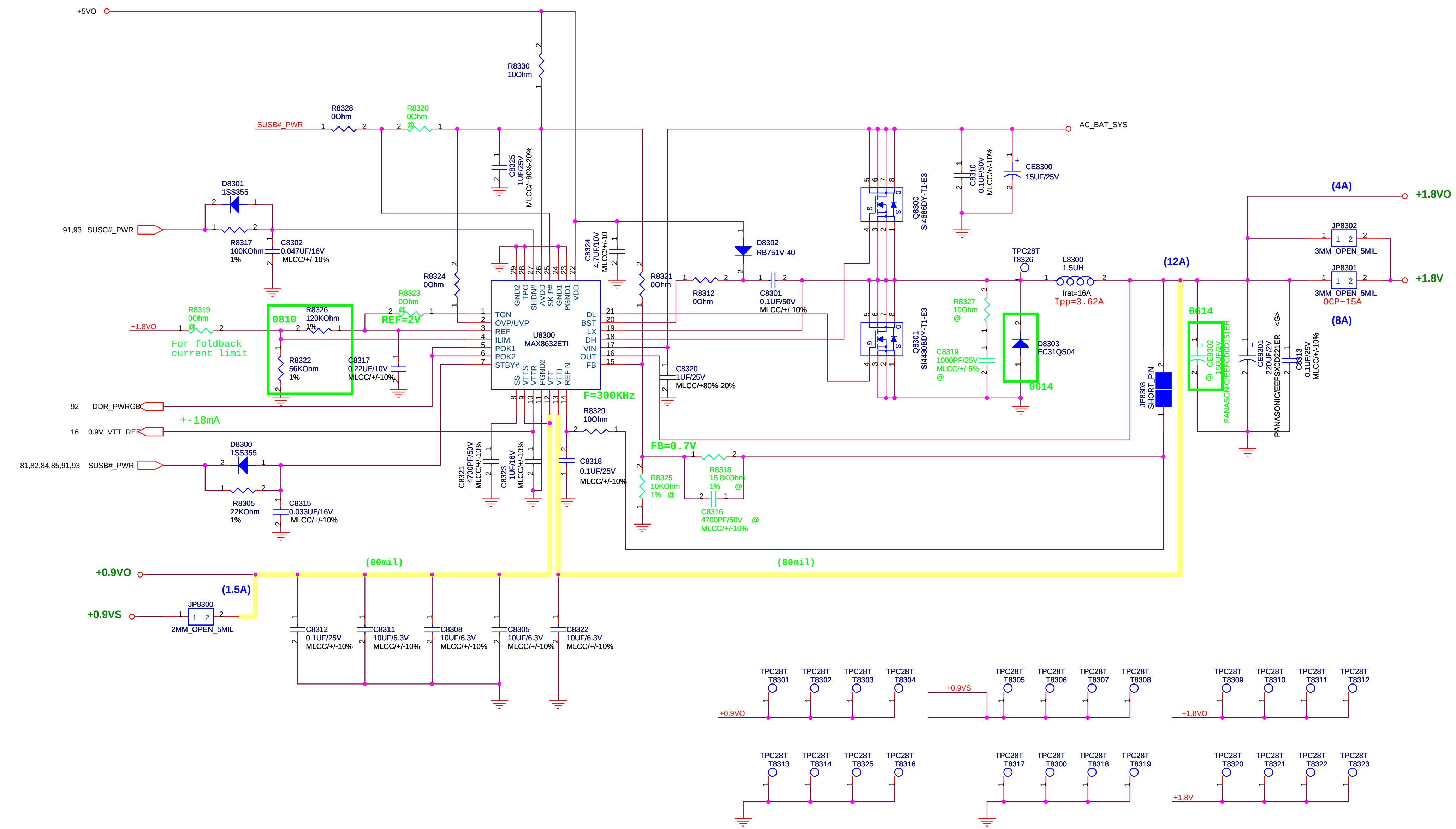
Date: Tuesday, August 21, 2007 Sheet 81 of 94





<Variant Name>

ASUSTeK COMPUTER INC. NB	Title : POWER_I/O_1.5VS	
	Engineer: Ray	
Size: B	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 82 of 94	



<Variant Name>

ASUS

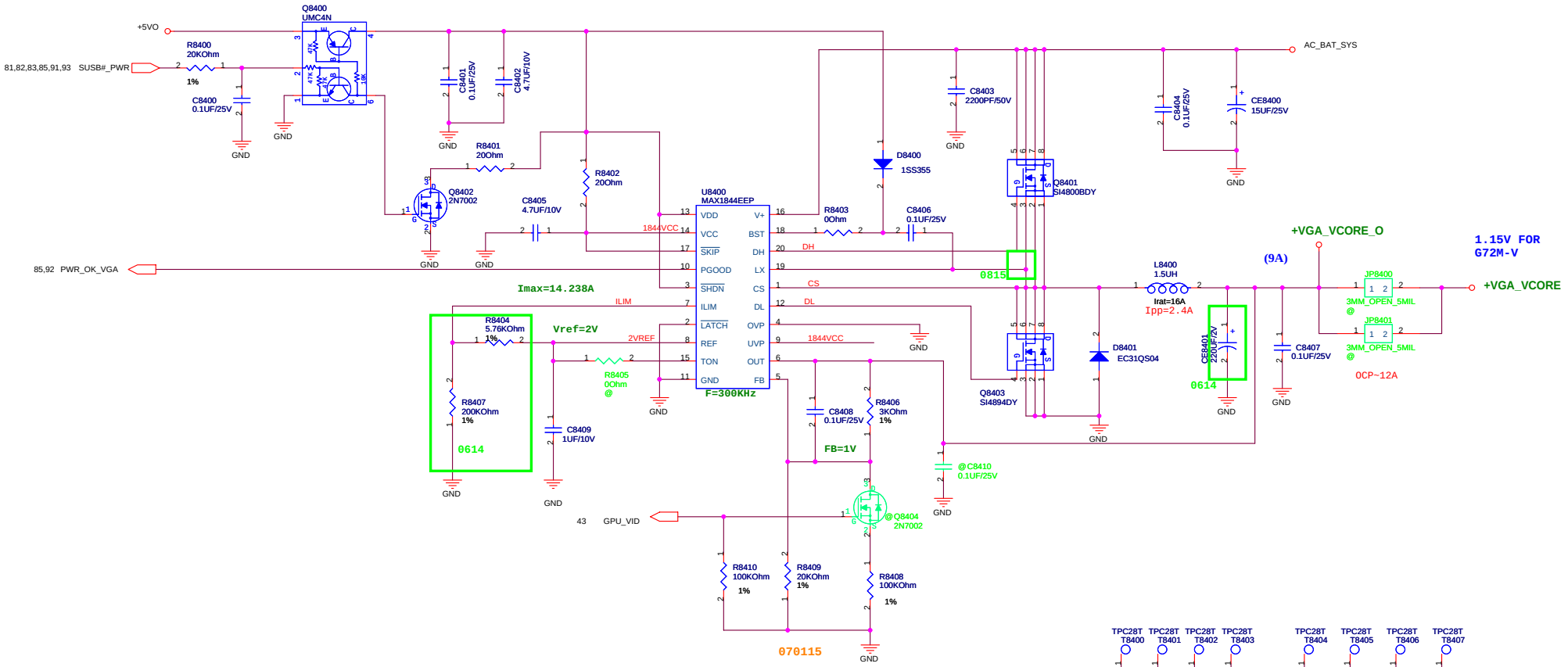
Title : POWER_I/O_DDR & VTT

ASUSTeK COMPUTER INC. NB

Engineer: *Ray*

Size	Project Name	Rev
Custom	F6S	1.1

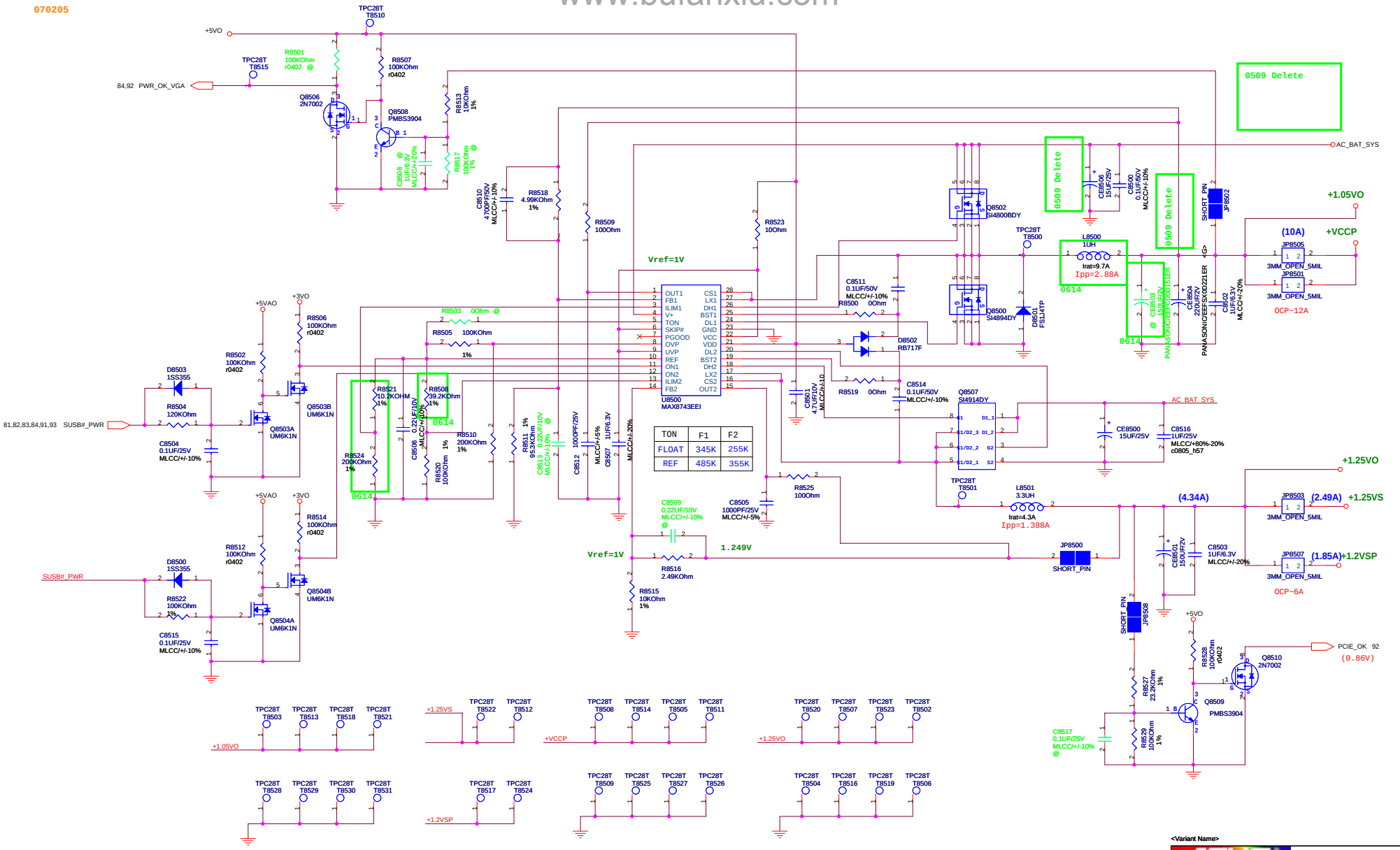
Date: Tuesday, August 21, 2007 Sheet 83 of 94



<Variant Name>

ASUSTeK COMPUTER INC. NB	Title : POWER_VGA_CORE	
	Engineer: Ray	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 84 of 94	

070205



<Variant Name>

Title : N/A

ASUSTeK COMPUTER INC. NB

Engineer: Ray

Size	Project Name	Rev
B	F6S	1.0

Date: Tuesday, August 21, 2007 Sheet 86 of 94

<Variant Name>

Title : POWER_SHUTDOWN#

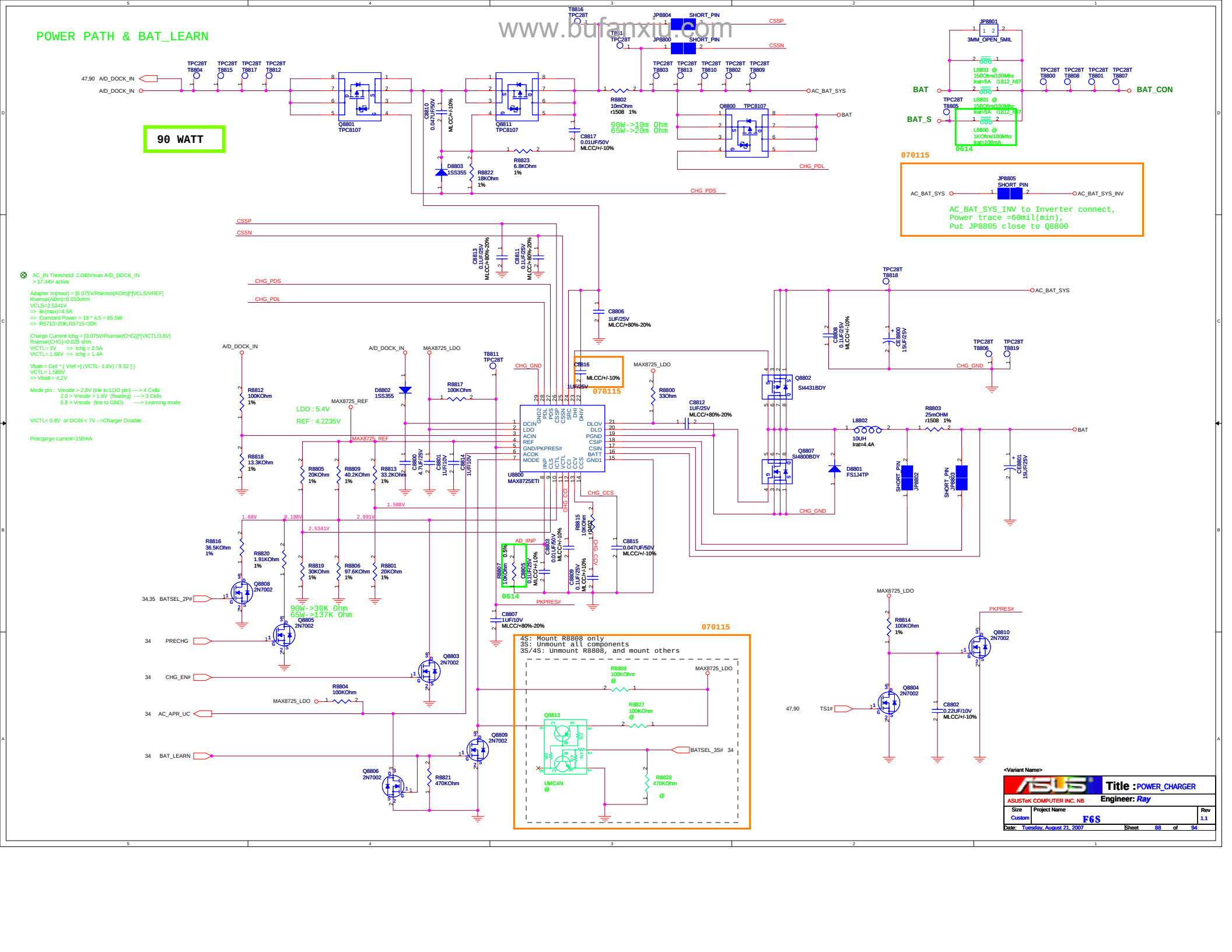
ASUSTeK COMPUTER INC. NB

Engineer: Ray

Size	Project Name	Rev
Custom	F6S	1.0

Date: Tuesday, August 21, 2007 Sheet 87 of 94

POWER PATH & BAT_LEARN



<Variant Name>

Title : N/A

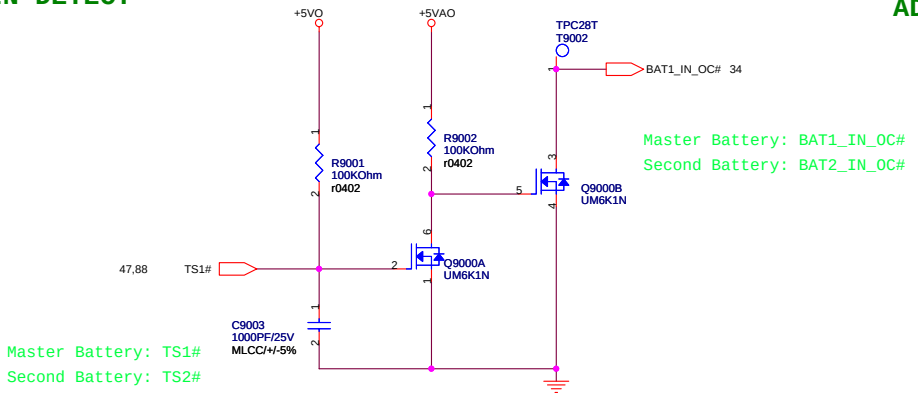
ASUSTeK COMPUTER INC. NB

Engineer: Ehong-Ping

Size	Project Name	Rev
Custom	F9S	1.3

Date: Tuesday, August 21, 2007 Sheet 89 of 94

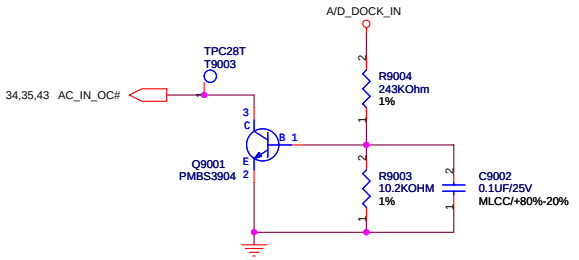
BATTERY IN DETECT



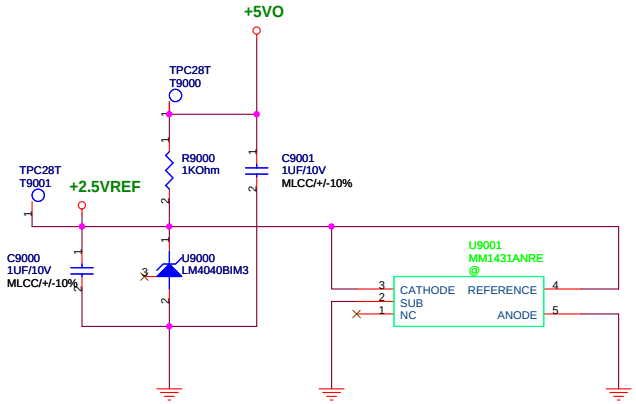
Master Battery: BAT1_IN_OC#
Second Battery: BAT2_IN_OC#

Master Battery: TS1#
Second Battery: TS2#

ADAPTER IN DETECT



+2.5VREF

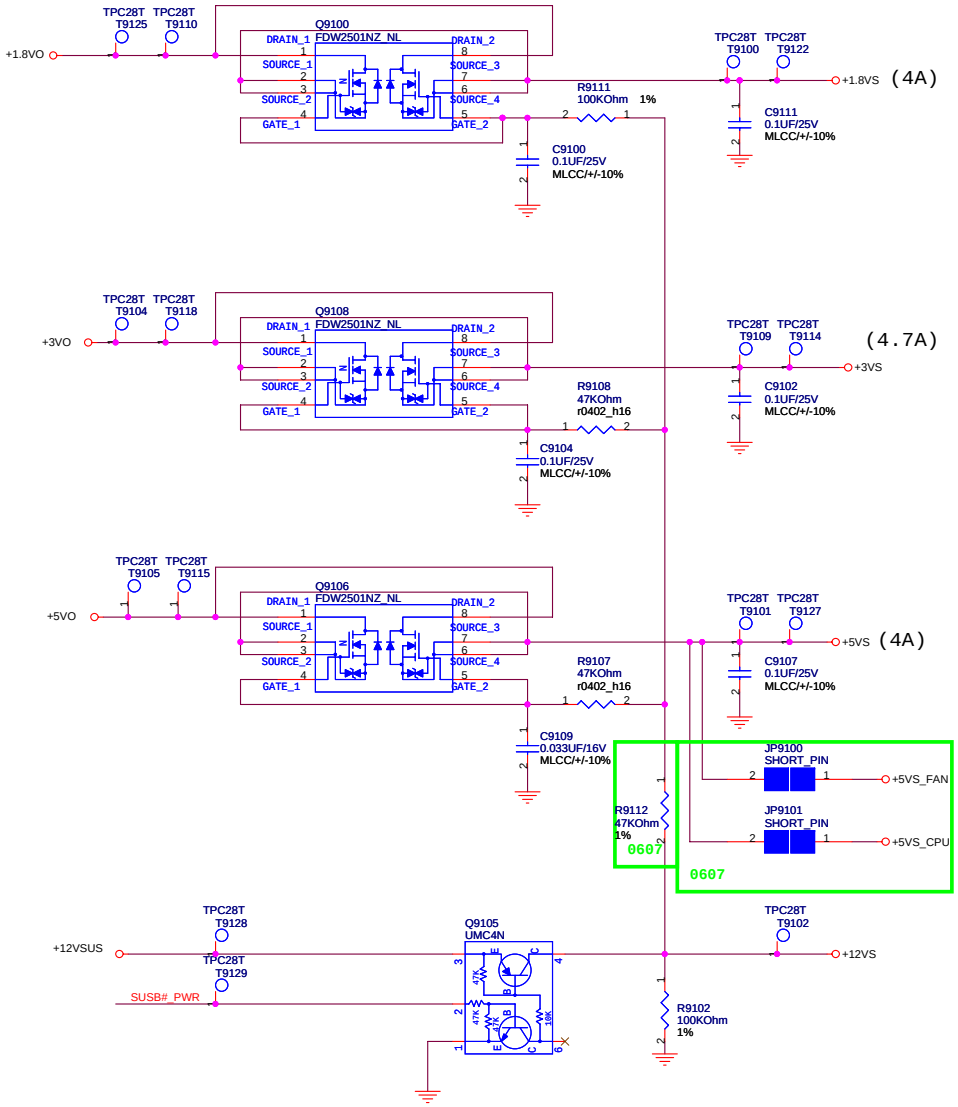


U9000 & U9001 colay

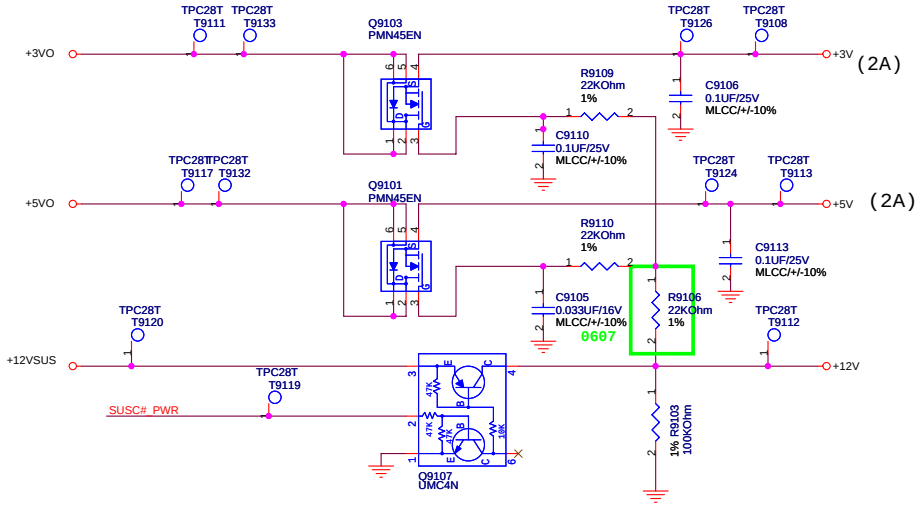
<Variant Name>

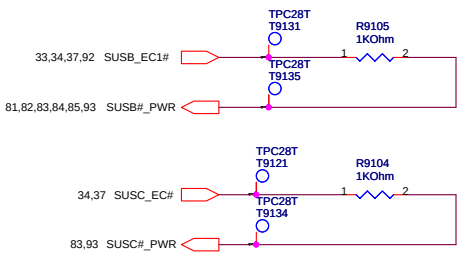
ASUSTeK COMPUTER INC. NB	Title : POWER_DETECT	
	Engineer: Ray	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 90 of 94	

SUSB#_PWR POWER



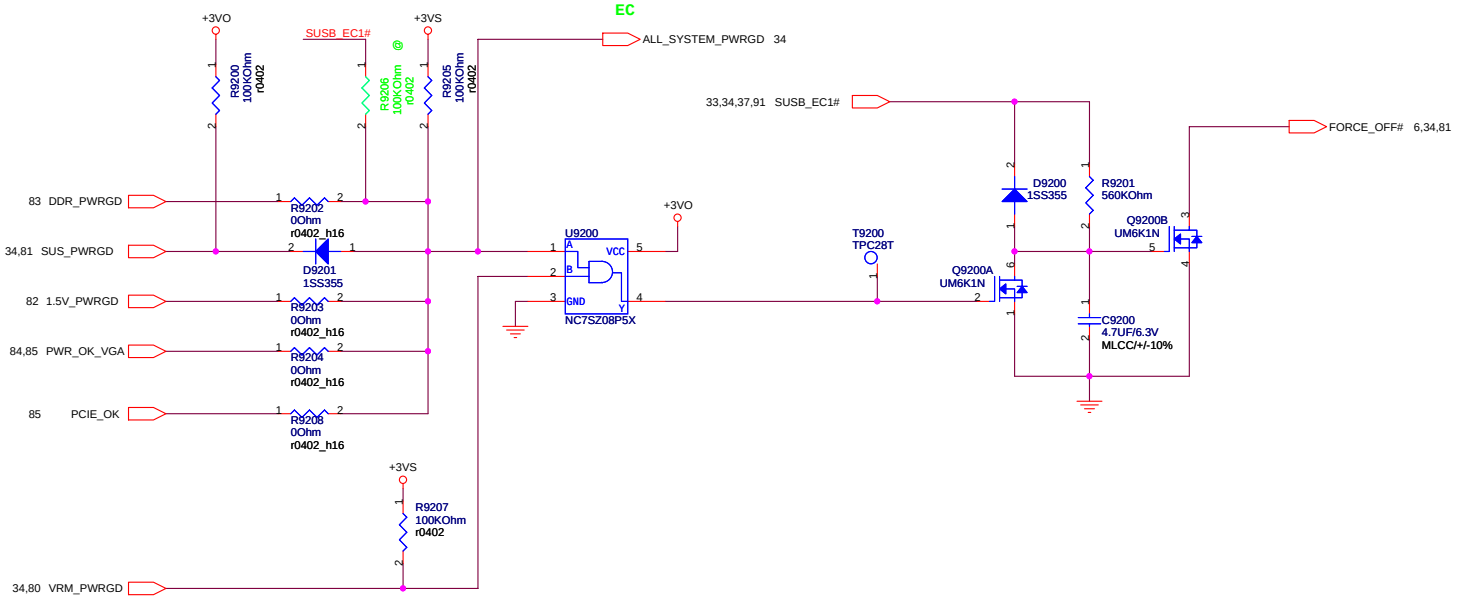
SUSC#_PWR POWER





ASUSTeK COMPUTER INC. NB	Title : POWER_LOAD SWITCH	
	Engineer: Ray	
Size: Custom	Project Name: F6S	Rev: 1.1
Date: Tuesday, August 21, 2007	Sheet 91 of 94	

POWER GOOD DETECTER



<Variant Name>

ASUSTeK COMPUTER INC. NB

Title : POWER_PROTECT

Engineer: Ray

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 Sheet 92 of 94

AC_BAT_SYS — AC_BAT_SYS 46,80,81,83,84,85,88
BAT — BAT 46,88
BAT_CON — BAT_CON 46,47,88

+2.5VREF — +2.5VREF 82,90

+3VA — +3VA 17,25,27,34,37,46,81
+5VAO — +5VAO 81,82,85,90
+5VO — +5VO 81,82,83,84,85,90,91
+5VSUS — +5VSUS 28,81
+5V — +5V 17,24,36,37,91
+5VS — +5VS 6,18,19,22,23,28,33,34,37,38,44,46,80,91
+3VO — +3VO 81,85,91,92
+3VSUS — +3VSUS 17,20,22,26,27,28,29,34,39,46,81
+3V — +3V 19,20,21,22,26,33,35,37,38,91
+3VS — +3VS 6,7,9,12,13,14,15,17,18,19,20,21,22,23,25,27,28,29,30,33,34,37,38,39,40,43,44,45,80,91,92

+12VSUS — +12VSUS 81,82,91
+12V — +12V 22,24,36,37,91
+12VS — +12VS 17,18,19,37,91

+1.8VO — +1.8VO 82,83,91
+1.8V — +1.8V 9,11,14,15,16,37,83

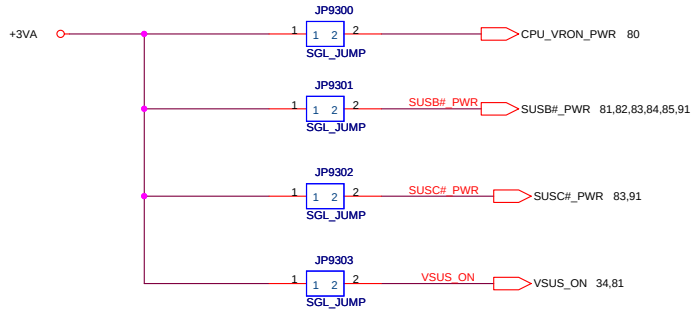
+0.9VS — +0.9VS 16,37,83
+0.9VO — +0.9VO 83

+1.05VO — +1.05VO 80,85
+VCCP — +VCCP 4,5,6,7,8,9,11,12,28,37,85
+1.5VO — +1.5VO 82
+1.5VS — +1.5VS 5,12,20,25,28,33,37,82

+VCORE — +VCORE 5,6,37,80

+VGA_VCORE — +VGA_VCORE 37,40,84
+1.8VS — +1.8VS 30,37,41,43,44,91
+1.2VSP — +1.2VSP 37,40,41,44,85
+1.25VS — +1.25VS 9,12,28,85

FOR POWER TEST



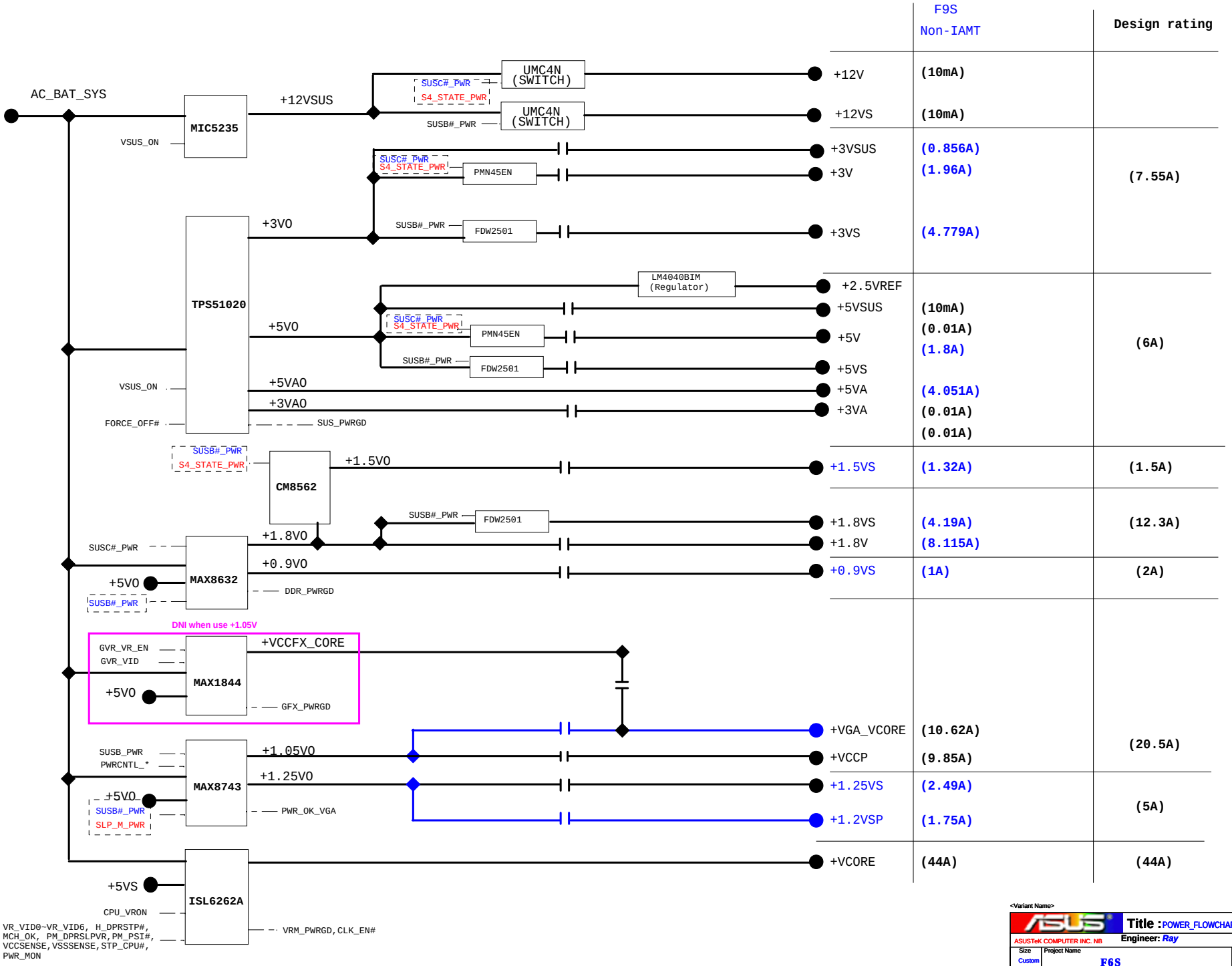
<Variant Name>

Title : POWER_SIGNAL

ASUSTeK COMPUTER INC. NB — Engineer: Ray

Size	Project Name	Rev
Custom	F6S	1.1

Date: Tuesday, August 21, 2007 — Sheet 93 of 94



	F9S Non-IAMT	Design rating
+12V	(10mA)	
+12VS	(10mA)	
+3VSUS	(0.856A)	(7.55A)
+3V	(1.96A)	
+3VS	(4.779A)	
+2.5VREF		
+5VSUS	(10mA)	
+5V	(0.01A)	(6A)
+5VS	(1.8A)	
+5VA	(4.051A)	
+3VA	(0.01A)	
	(0.01A)	
+1.5VS	(1.32A)	(1.5A)
+1.8VS	(4.19A)	(12.3A)
+1.8V	(8.115A)	
+0.9VS	(1A)	(2A)
+VGA_VCORE	(10.62A)	(20.5A)
+VCCP	(9.85A)	
+1.25VS	(2.49A)	(5A)
+1.2VSP	(1.75A)	
+VCORE	(44A)	(44A)

<Variant Name>

ASUSTeK COMPUTER INC. NB

Title : POWER_FLOWCHART

Engineer: Ray

Size	Project Name	Rev
Custom	F6S	1.0

Date: Tuesday, August 21, 2007 Sheet 94 of 94