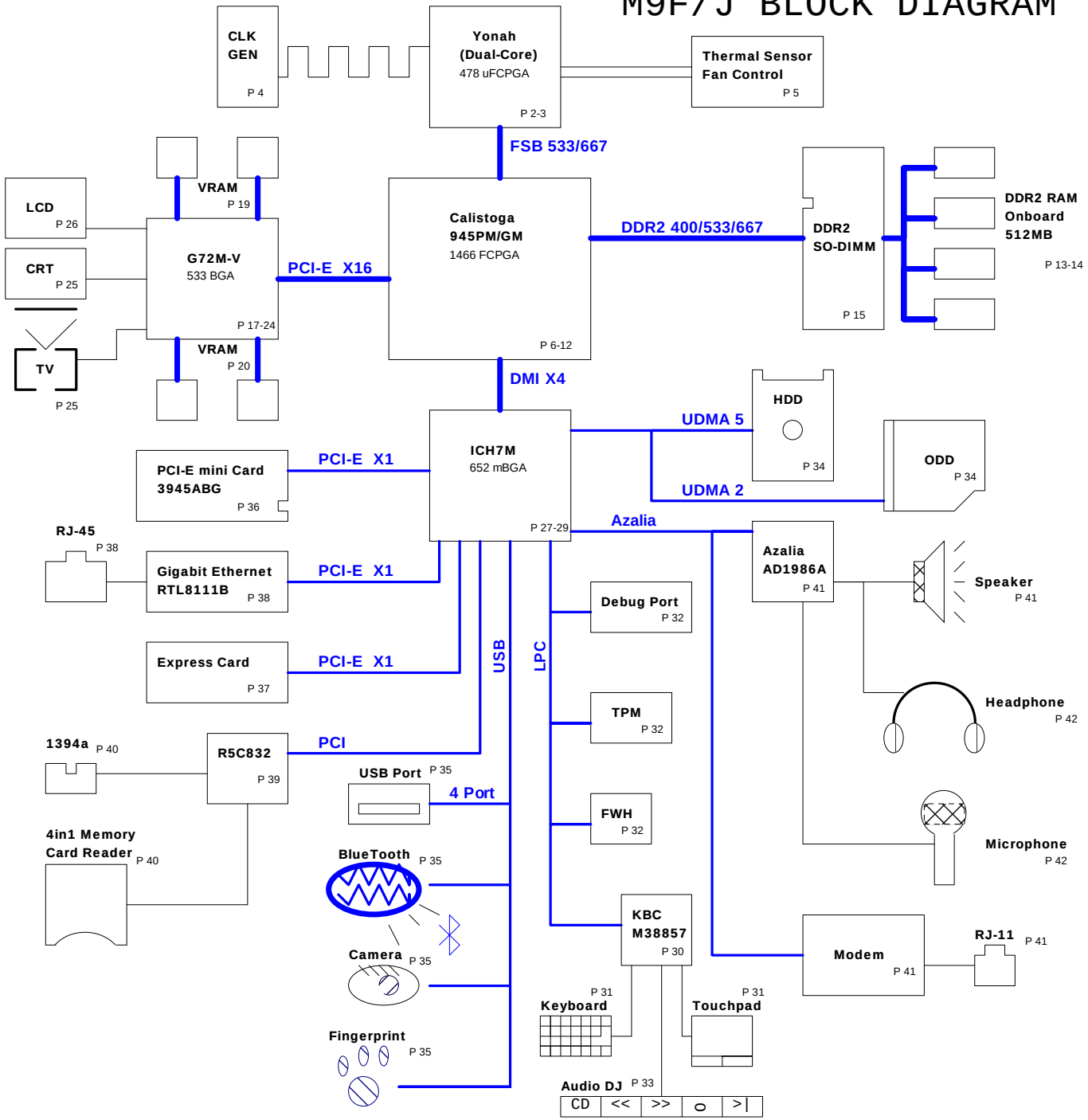
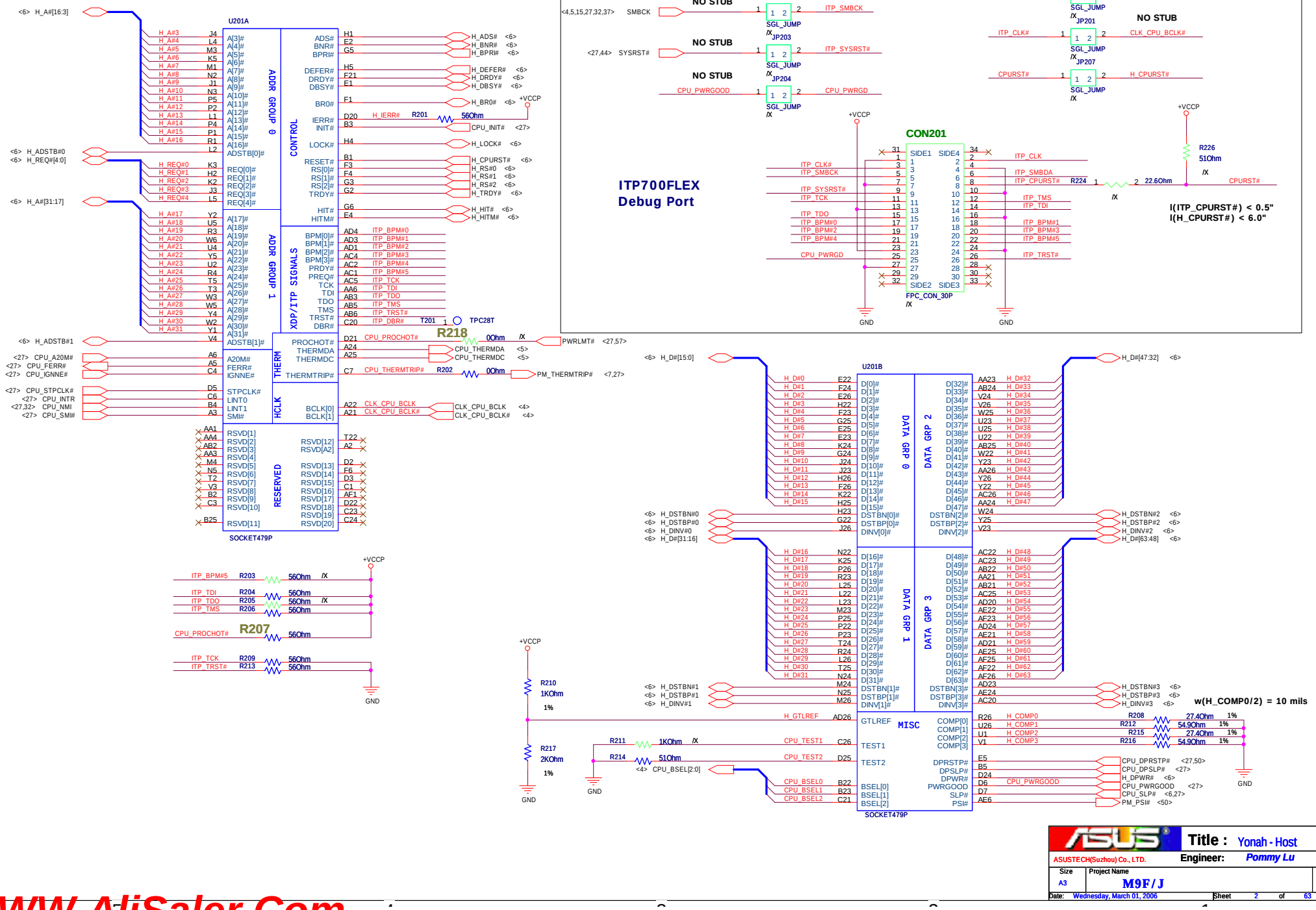
M9F/J BLOCK DIAGRAM



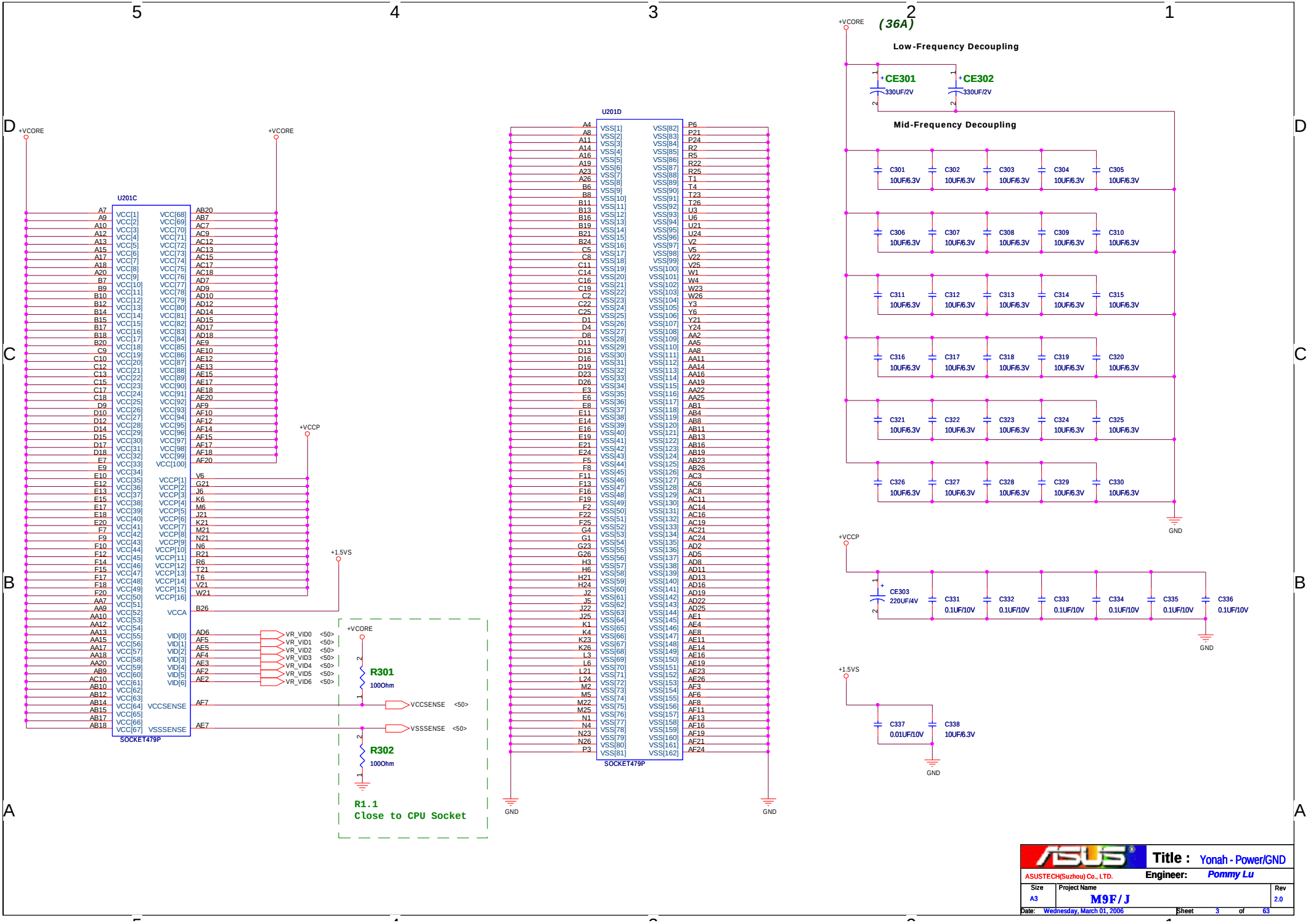
Content

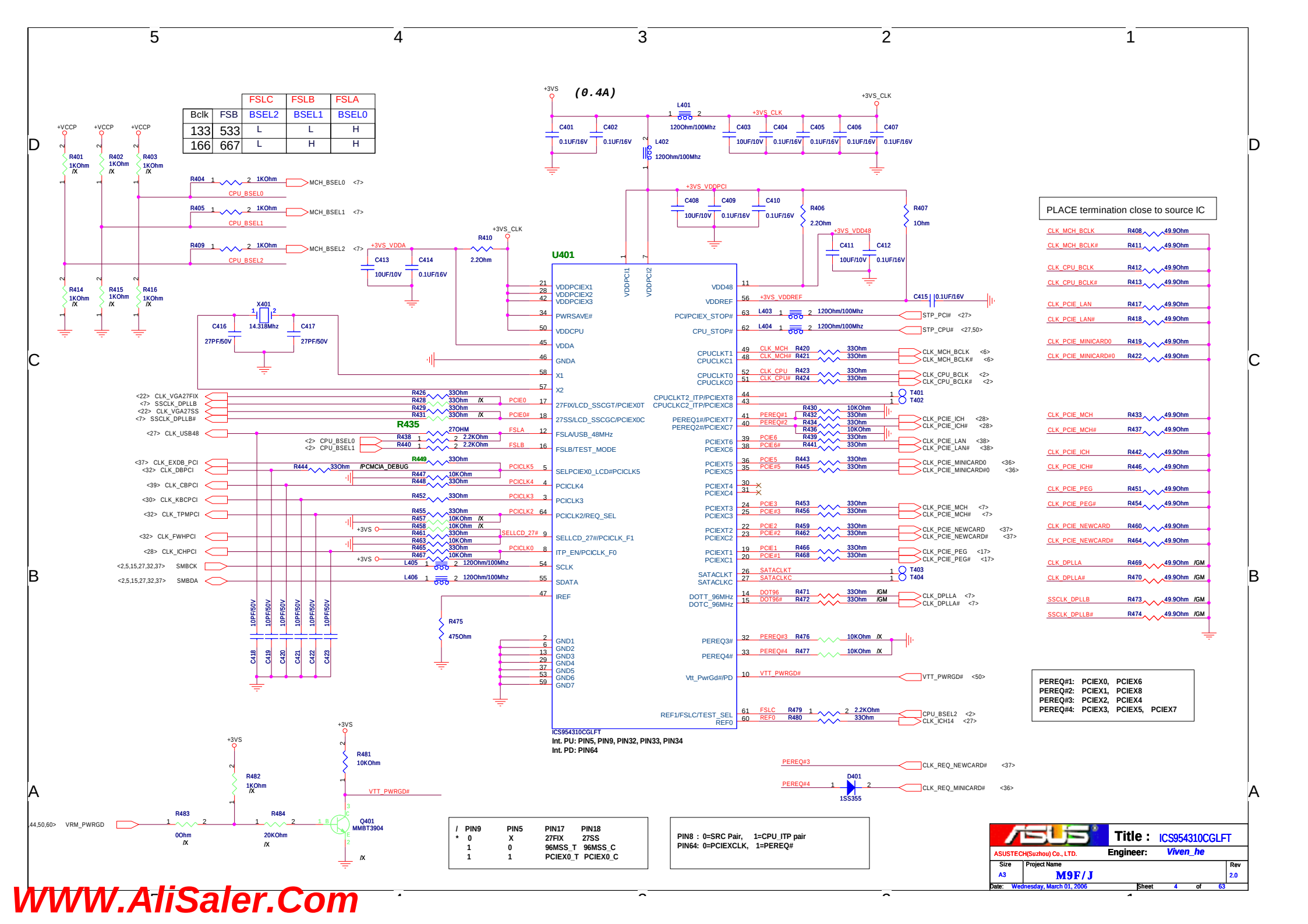
ASUSTECH(Suzhou) Co., LTD.	Title : Block Diagram	
	Engineer: Pommy Lu	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, January 11, 2006	Sheet 1 of 63	

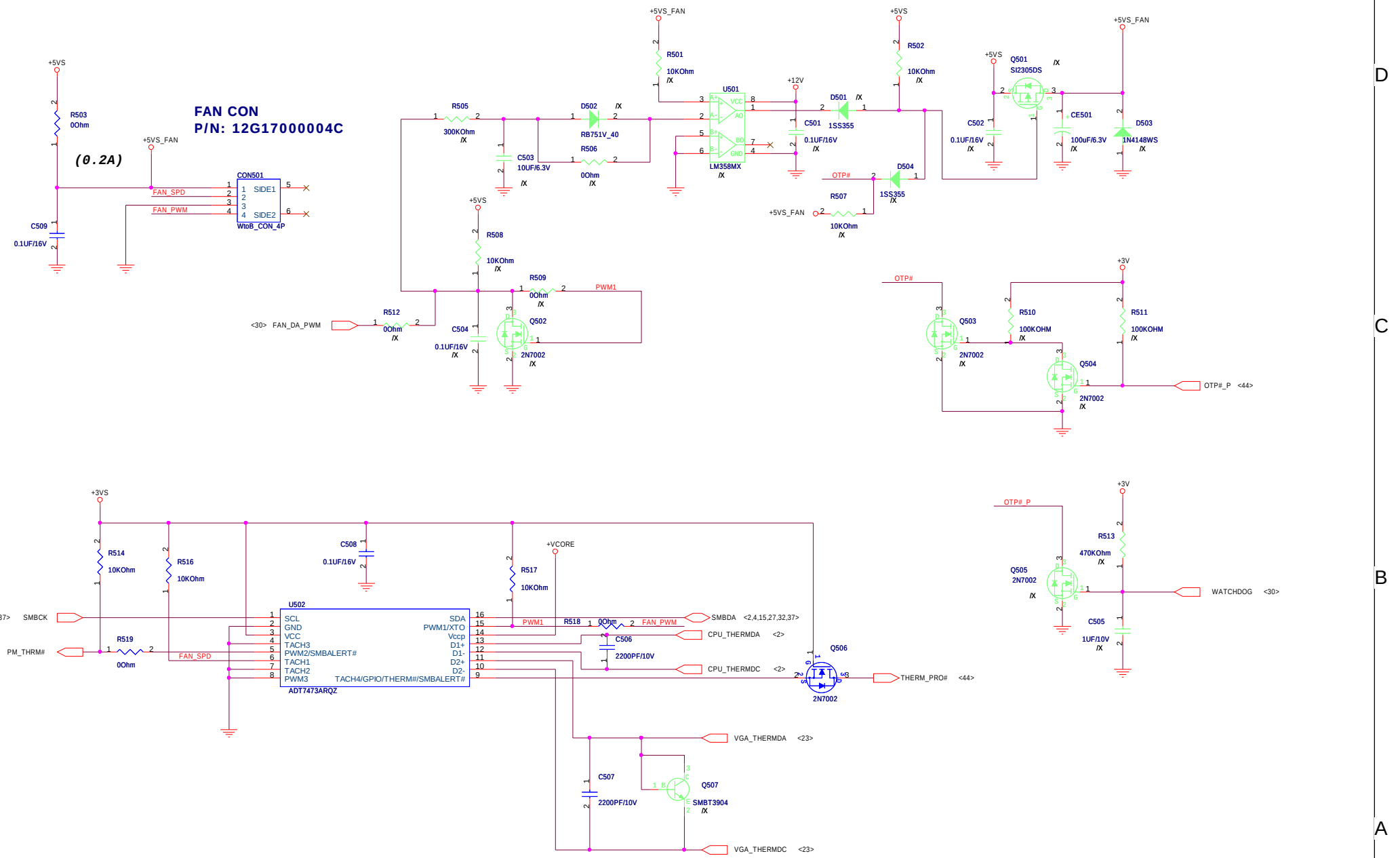
P/N: 12G04600479A



Title :	Yonah - Host
ASUSTECH(Suzhou) Co., LTD.	Engineer: Pommy Lu
Size: A3	Project Name: M9F/J
Rev: 2.0	
Date: Wednesday, March 01, 2006	Sheet 2 of 63

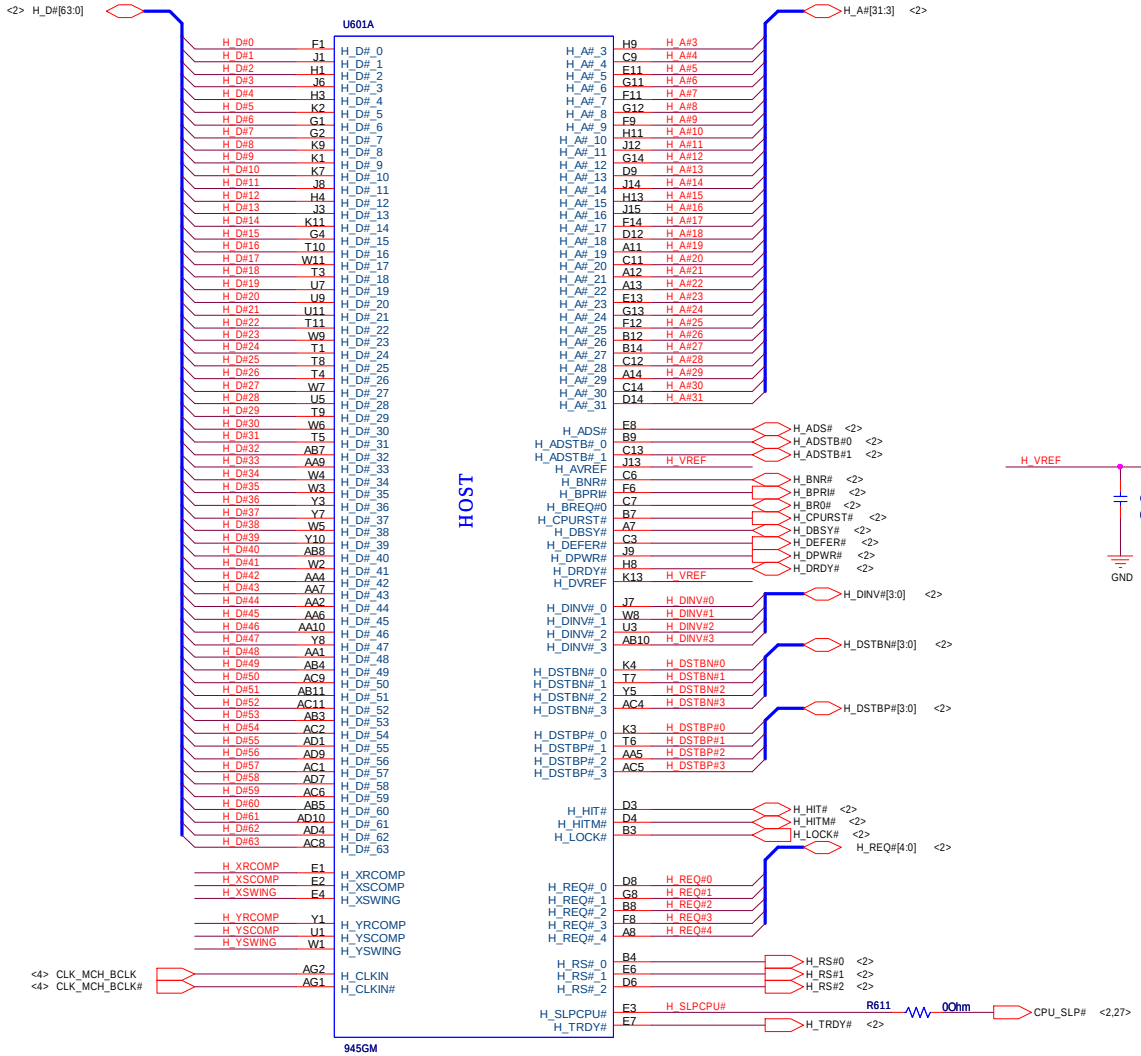

5
4
3
2
1
D
C
B
A
+VCORE
+VCCP
+1.5VS
U201C
SOCKET479P
U201D
SOCKET479P
R301
100Ohm
R302
100Ohm
VCCSENSE
VSSSENSE
R1.1
Close to CPU Socket
GND
(36A)
Low-Frequency Decoupling
CE301
330UF/2V
CE302
330UF/2V
Mid-Frequency Decoupling
C301 10UF/6.3V
C302 10UF/6.3V
C303 10UF/6.3V
C304 10UF/6.3V
C305 10UF/6.3V
C306 10UF/6.3V
C307 10UF/6.3V
C308 10UF/6.3V
C309 10UF/6.3V
C310 10UF/6.3V
C311 10UF/6.3V
C312 10UF/6.3V
C313 10UF/6.3V
C314 10UF/6.3V
C315 10UF/6.3V
C316 10UF/6.3V
C317 10UF/6.3V
C318 10UF/6.3V
C319 10UF/6.3V
C320 10UF/6.3V
C321 10UF/6.3V
C322 10UF/6.3V
C323 10UF/6.3V
C324 10UF/6.3V
C325 10UF/6.3V
C326 10UF/6.3V
C327 10UF/6.3V
C328 10UF/6.3V
C329 10UF/6.3V
C330 10UF/6.3V
CE303 220UF/4V
C331 0.1UF/10V
C332 0.1UF/10V
C333 0.1UF/10V
C334 0.1UF/10V
C335 0.1UF/10V
C336 0.1UF/10V
C337 0.01UF/10V
C338 10UF/6.3V
Title : Yonah - Power/GND
ASUSTECH(Suzhou) Co., LTD.
Engineer: Pommy Lu
Size A3
Project Name M9F/J
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 3 of 63

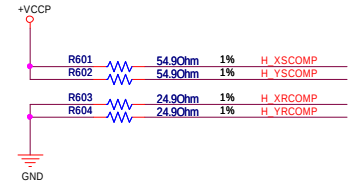


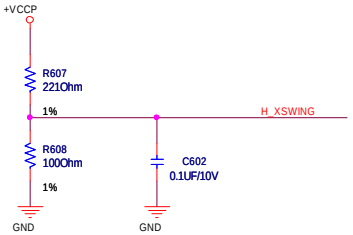


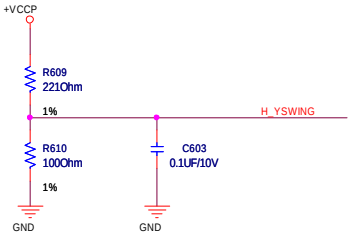
ASUSTECH(Suzhou) Co., LTD.	Title : FAN & THERMAL SENSOR	
	Engineer: Viven_he	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 5 of 63	

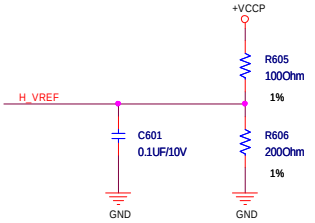
945PM P/N: 02G010009205
945GM P/N: 02G010009210











ASUSTECH(Suzhou) Co., LTD.	Title : Calistoga - Host		
	Engineer: Pommy Lu		
Size: A3	Project Name: M9F / J		Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 6 of 63		

STRAPPING CONFIGURATION
CFG[17:3] - Internal pull-up
CFG[20:18] - Internal pull-down

R705 2.2KOhm /X DMI_SEL

CFG5 - DMI x2 Select
0 = DMI x2
1 = DMI x4 (default)

R710 2.2KOhm /X CPU_STRAP

CFG7 - CPU Strap
0 = Reserved
1 = Mobile CPU (default)

R711 2.2KOhm PCIE_RVS

CFG9 - PCI-E Lane Reversal
0 = Reverse Lanes
1 = Normal (default)

R714 2.2KOhm /X TEST_MD0
R715 2.2KOhm /X TEST_MD1

CFG[13:12] - XOR/ALLZ
00 = Partial CLock Gating Disable
01 = XOR Mode Enabled
10 = All-Z Mode Enabled
11 = Normal (default)

R718 2.2KOhm /X DYN_ODT

CFG16 - FSB Dynamic ODT
0 = Disabled
1 = Enabled (default)

GND

+3VS

R723 1KOhm /X VCC_SEL

CFG18 - GMCH VCC Select
0 = 1.05V (default)
1 = 1.5V

R725 1KOhm /X DMI_RVS

CFG19 - DMI Lane Reversal
0 = Normal (default)
1 = Reverse Lanes

T701 1 TPC28T SDVO_PCIE

CFG20 - SDVO/PCIE Concurrent
0 = Only SDVO or PCIE x1 is ioperational (default)
1 = SDVO and PCIE x1 are operating simultaneously via PEG port

T702 1 TPC28T SDVO_PST

SDVO_CTRLDATA - SDVO Present
0 = No SDVO Card Present (default)
1 = SDVO Card Present

U601B

RSVD: T32 RSVD_1, R32 RSVD_2, F3 RSVD_3, F7 RSVD_4, AG11 RSVD_5, AF11 RSVD_6, H7 RSVD_7, J19 RSVD_8, K30 TV_DCONSEL_0, J29 TV_DCONSEL_1, A41 RSVD_11, A35 RSVD_12, A34 RSVD_13, D28 RSVD_14, D27 RSVD_15

CFG: <4> MCH_BSEL[2:0] → MCH_BSEL0 K16 CFG_0, MCH_BSEL1 K18 CFG_1, MCH_BSEL2 J18 CFG_2; DMI_SEL F18 CFG_3; CPU_STRAP E15 CFG_4; F15 CFG_5; PCIE_RVS E18 CFG_6; D19 CFG_7; D16 CFG_8; G16 CFG_9; E16 CFG_10; D15 CFG_11; TEST_MD0 G15 CFG_12; TEST_MD1 K15 CFG_13; C15 CFG_14; H16 CFG_15; DYN_ODT G18 CFG_16; H15 CFG_17; VCC_SEL J25 CFG_18; DMI_RVS K27 CFG_19; SDVO_PCIE J26 CFG_20

PM: +3VS
<27> PM_BMBUSY# R719 10KOhm PM_EXTTS#0 → G28 PM_BMBUSY#
R720 10KOhm PM_EXTTS#1 → H26 PM_EXTTS#_0
<2,27> PM_THERMTRIP# R721 0Ohm GMCH_THRMTRIP# → G6 PM_EXTTS#_1
<44> MCHOK_GMCH → AH33 PM_THRMTRIP#
<17,28,30,32,34,37> PLT_RST# R722 0Ohm GMCH_RST# → AH34 PWROK
RSTIN#

MISC: SDVO_PST → H28 SDVO_CTRLCLK, H27 SDVO_CTRLDATA
<28> GMCH_ICH_SYNC# R724 0Ohm GMCH_CLK_REQ# → K28 ICH_SYNC#, H32 CLK_REQ#

NC: <27,50> PM_DPRSLPVR R730 0Ohm PM_EXTTS#1 → D1 NC0, C41 NC1, C1 NC2, BA41 NC3, BA40 NC4, BA39 NC5, BA3 NC6, BA2 NC7, BA1 NC8, B41 NC9, B2 NC10, AY41 NC11, AY1 NC12, AW41 NC13, AW1 NC14, A40 NC15, A4 NC16, A39 NC17, A3 NC18

945GM

DDR MUXING:
SM_CK_0 AY35 SM_CK0 R701 0Ohm → SA_CK0 <13,14>
SM_CK_1 AR1 SM_CK1 R702 0Ohm → SA_CK1 <13,14>
SM_CK_2 AW7 SM_CK2 R703 0Ohm → SB_CK1 <15>
SM_CK_3 AW40 SM_CK3 R704 0Ohm → SB_CK0 <15>

SM_CK#_0 AW35 SM_CK#0 R706 0Ohm → SA_CK#0 <13,14>
SM_CK#_1 AT1 SM_CK#1 R707 0Ohm → SA_CK#1 <13,14>
SM_CK#_2 AY7 SM_CK#2 R708 0Ohm → SB_CK#1 <15>
SM_CK#_3 AY40 SM_CK#3 R709 0Ohm → SB_CK#0 <15>

SM_CKE_0 AU20 → SA_CKE0 <13,16>
SM_CKE_1 AT20 → SA_CKE1 <14,16>
SM_CKE_2 BA29 → SB_CKE0 <15,16>
SM_CKE_3 AY29 → SB_CKE1 <15,16>

SM_CS#_0 AW13 → SA_CS#0 <13,16>
SM_CS#_1 AW12 → SA_CS#1 <14,16>
SM_CS#_2 AY21 → SB_CS#0 <15,16>
SM_CS#_3 AW21 → SB_CS#1 <15,16>

SM_OCDCOMP_0 AL20 SM_OCDCOMP0 R712 40.2Ohm /X
SM_OCDCOMP_1 AF10 SM_OCDCOMP1 R713 40.2Ohm /X → GND

SM_ODT_0 BA13 → SA_ODT0 <13,16>
SM_ODT_1 BA12 → SA_ODT1 <14,16>
SM_ODT_2 AY20 → SB_ODT0 <15,16>
SM_ODT_3 AU21 → SB_ODT1 <15,16>

SM_RCOMP# AV9 SM_RCOMP# R716 80.6Ohm 1%
SM_RCOMP AT9 SM_RCOMP R717 80.6Ohm 1% → GND
+1.8V

SM_VREF_0 AK1
SM_VREF_1 AK41 → SM_VREF
C701 0.1UF/10V → GND

CLK:
G_CLKIN# AF33 CLK_PCIE_MCH# <4>
G_CLKIN AG33 CLK_PCIE_MCH <4>
D_REFCLKIN# A27 CLK_DPLLA# <4>
D_REFCLKIN A26 CLK_DPLLA <4>
D_REFSSCLKIN# C40 SSCLK_DPLLB# <4>
D_REFSSCLKIN D41 SSCLK_DPLLB <4>

DMI:
DMI_RXN_0 AE35 DMI_RXN0
DMI_RXN_1 AF39 DMI_RXN1
DMI_RXN_2 AG35 DMI_RXN2
DMI_RXN_3 AH39 DMI_RXN3 → DMI_RXN[3:0] <28>

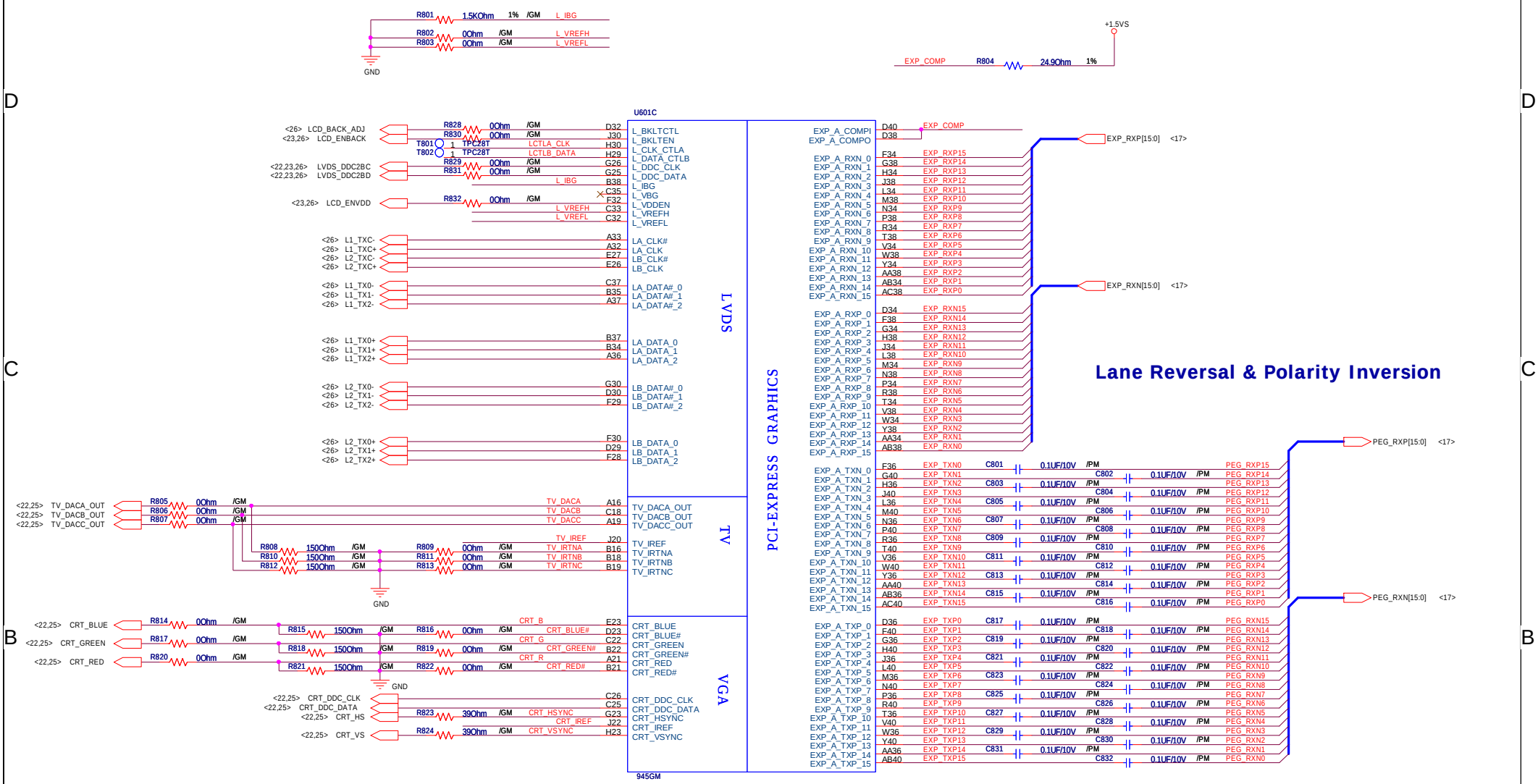
DMI_RXP_0 AC35 DMI_RXP0
DMI_RXP_1 AE39 DMI_RXP1
DMI_RXP_2 AF35 DMI_RXP2
DMI_RXP_3 AG39 DMI_RXP3 → DMI_RXP[3:0] <28>

DMI_TXN_0 AE37 DMI_TXN0
DMI_TXN_1 AF41 DMI_TXN1
DMI_TXN_2 AG37 DMI_TXN2
DMI_TXN_3 AH41 DMI_TXN3 → DMI_TXN[3:0] <28>

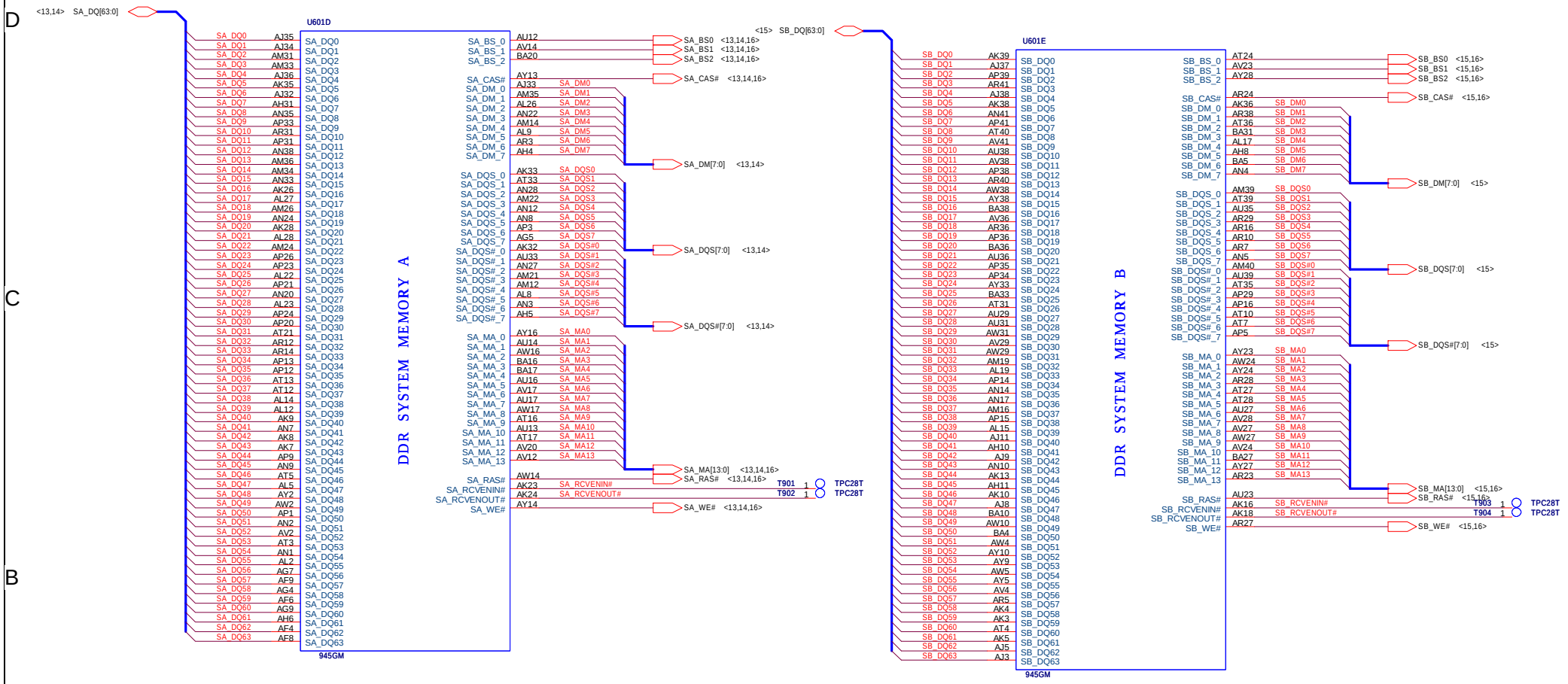
DMI_TXP_0 AC37 DMI_TXP0
DMI_TXP_1 AE41 DMI_TXP1
DMI_TXP_2 AF37 DMI_TXP2
DMI_TXP_3 AG41 DMI_TXP3 → DMI_TXP[3:0] <28>

+5V R726 0Ohm /X
+5VS R727 0Ohm
C702 0.1UF/10V → GND
SM_VREF
U701 LMV321IDBVR (V+ pin 5, V- pin 2, pins 1, 3, 4)
+1.8V R728 10KOhm 1%
R729 10KOhm 1% → GND
C703 0.01UF/10V → GND

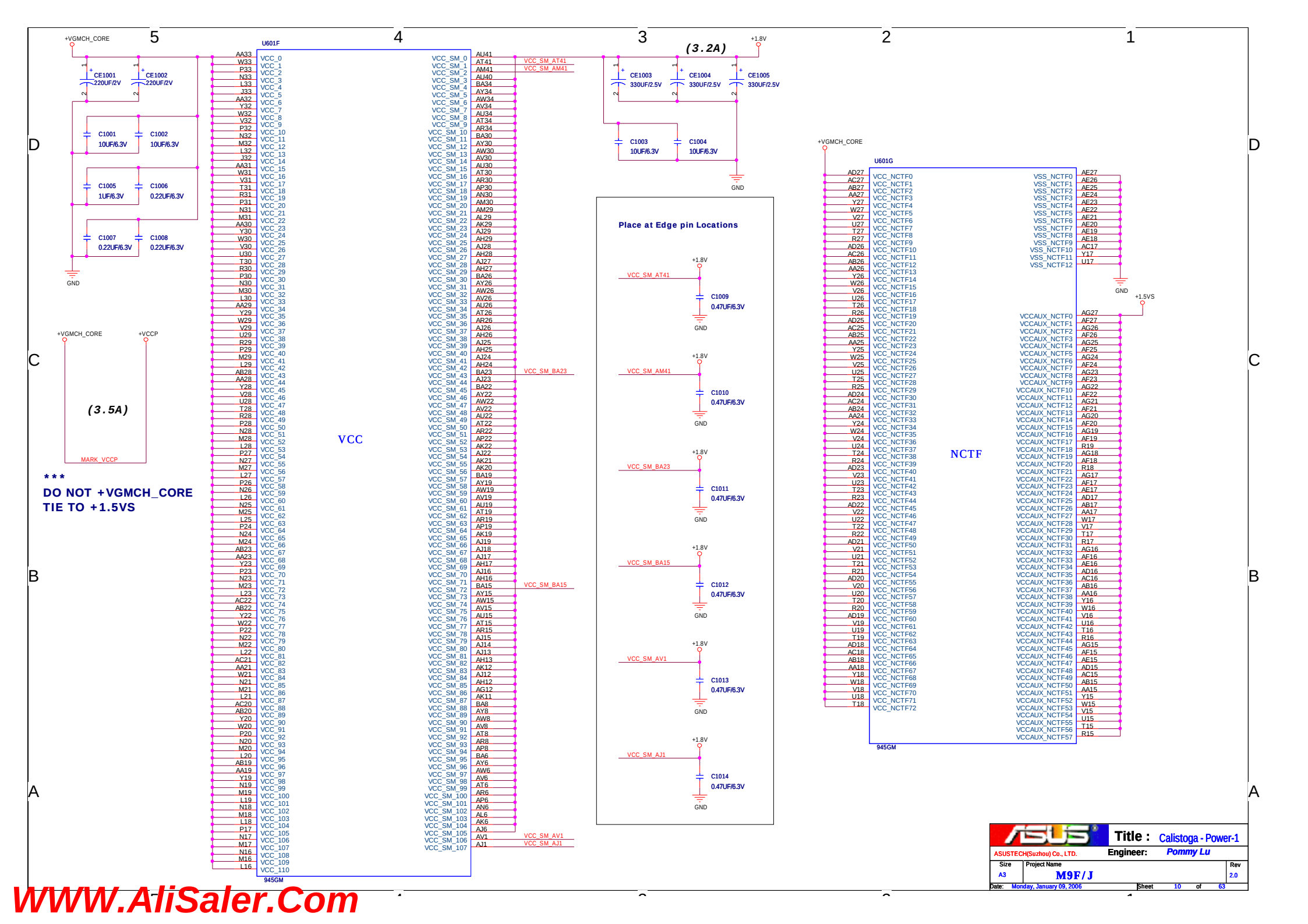
Title :	Calistoga - Host/DMI	
ASUSTECH(Suzhou) Co., LTD.	Engineer:	Pommy Lu
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 7 of 63	

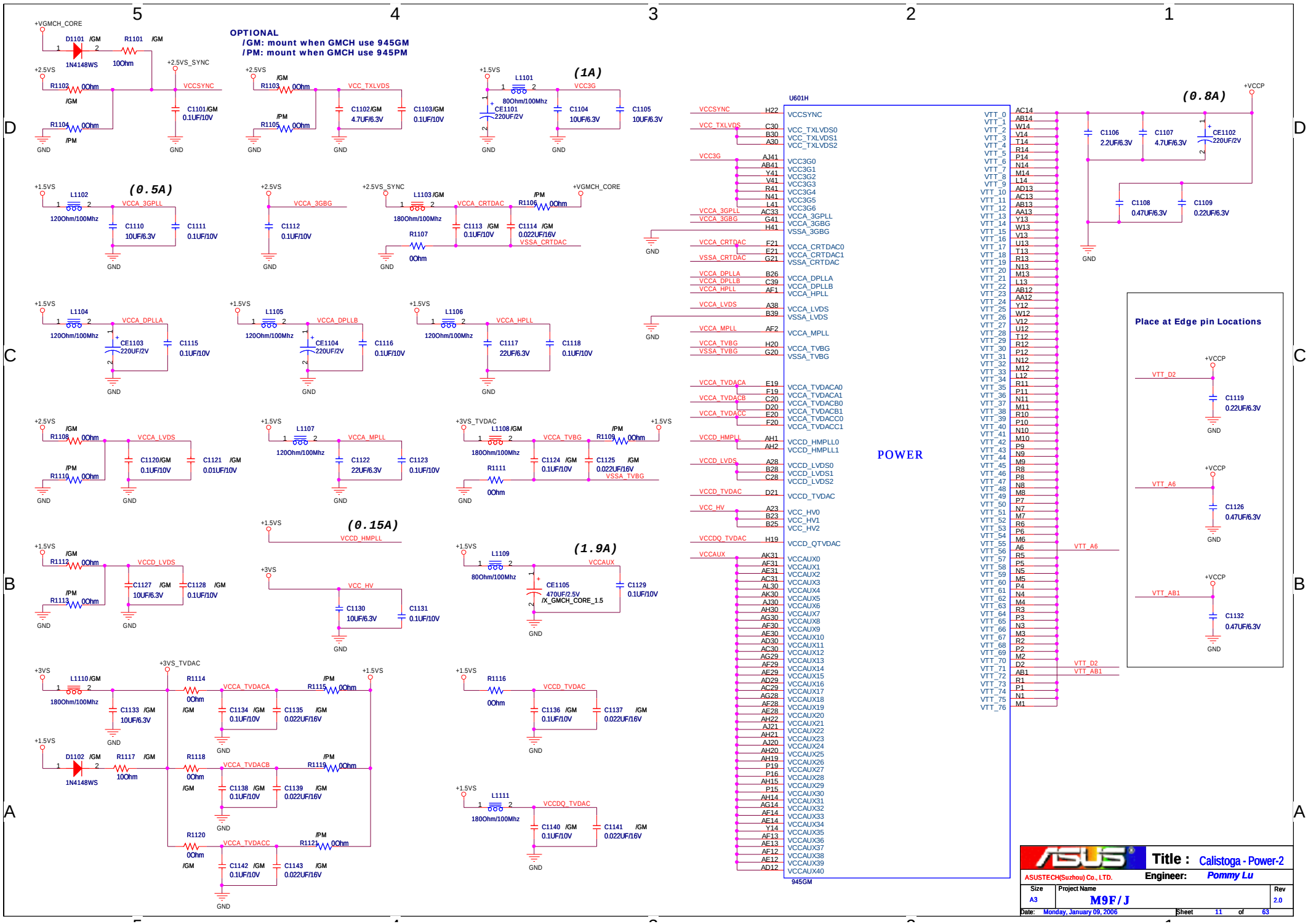


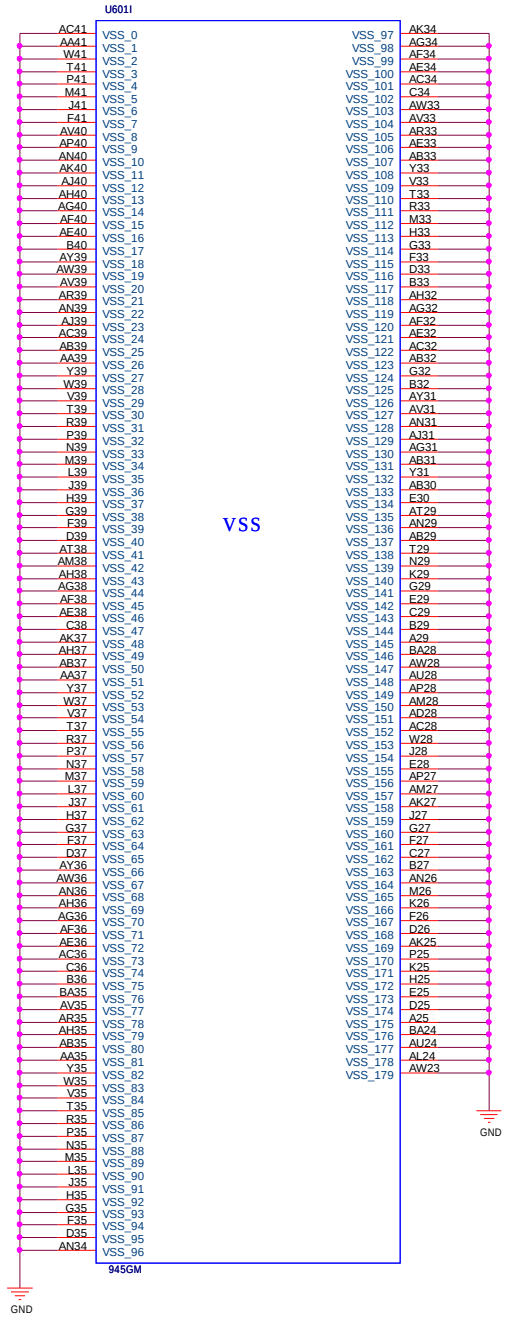
Title :	Calistoga - PCIE		
ASUSTECH(Suzhou) Co., LTD.	Engineer:	Pommy Lu	
Size: A3	Project Name: M9F / J		Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 8	of 63	

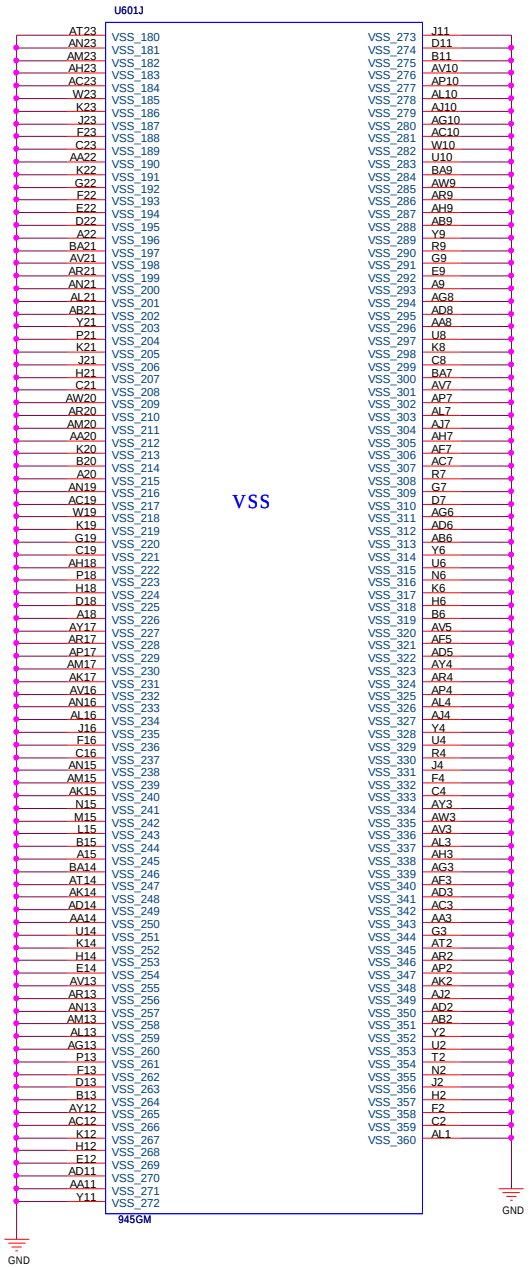


Title : Calistoga - SysMEM		
ASUSTECH(Suzhou) Co., LTD.	Engineer: Pommy Lu	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 9 of 63	




OPTIONAL
/GM: mount when GMCH use 945GM
/PM: mount when GMCH use 945PM
(1A)
(0.5A)
(0.15A)
(1.9A)
(0.8A)
POWER
U601H
945GM
Place at Edge pin Locations
Title : Calistoga - Power-2
ASUSTECH(Suzhou) Co., LTD.
Engineer: Pommy Lu
Size A3
Project Name M9F/J
Rev 2.0
Date: Monday, January 09, 2006
Sheet 11 of 63





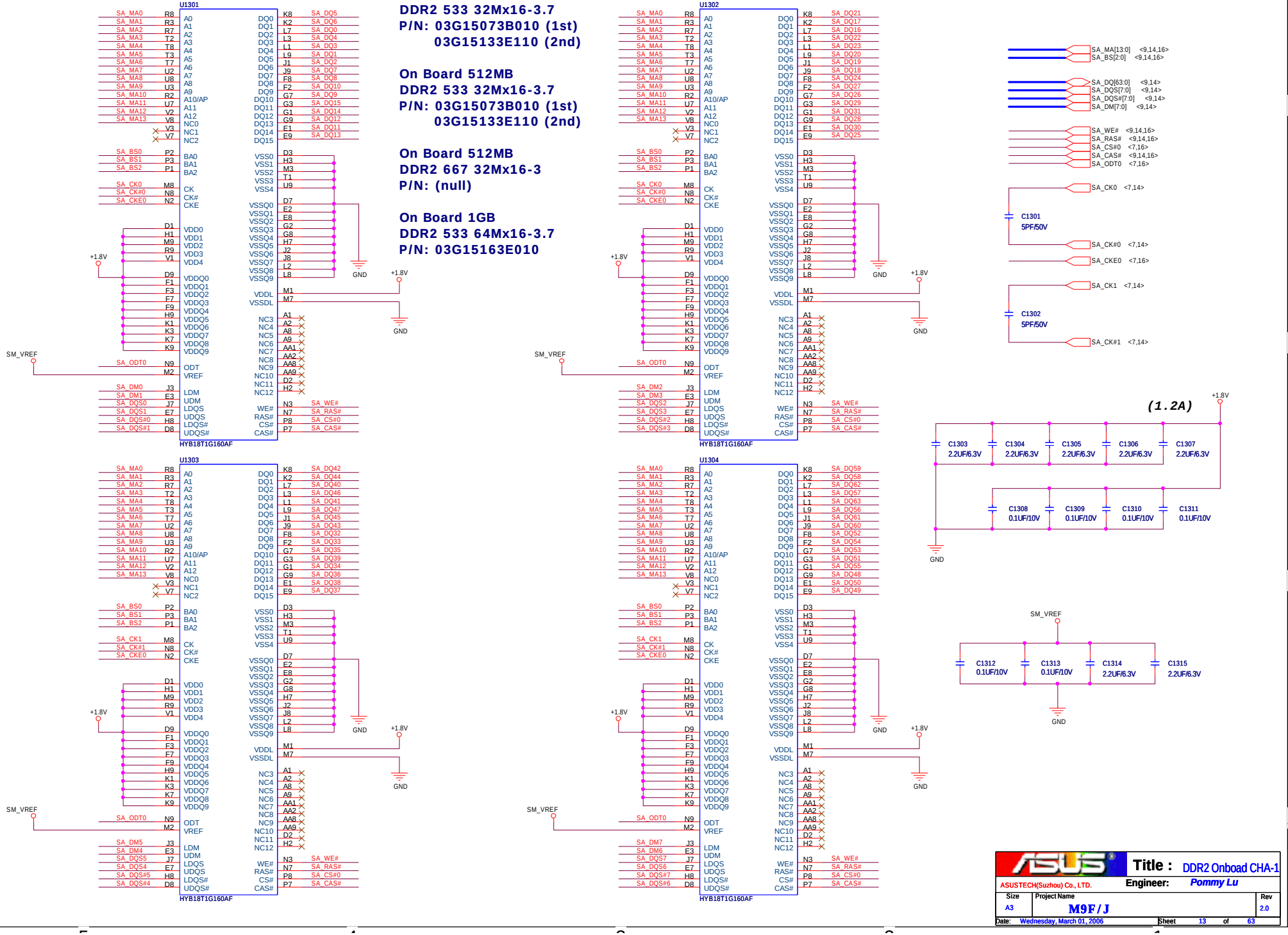
ASUSTECH(Suzhou) Co., LTD.	Title : Calistoga - GND	
	Engineer: Pommy Lu	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Monday, January 09, 2006	Sheet 12 of 63	

On Board 256MB
DDR2 533 32Mx16-3.7
P/N: 03G15073B010 (1st)
03G15133E110 (2nd)

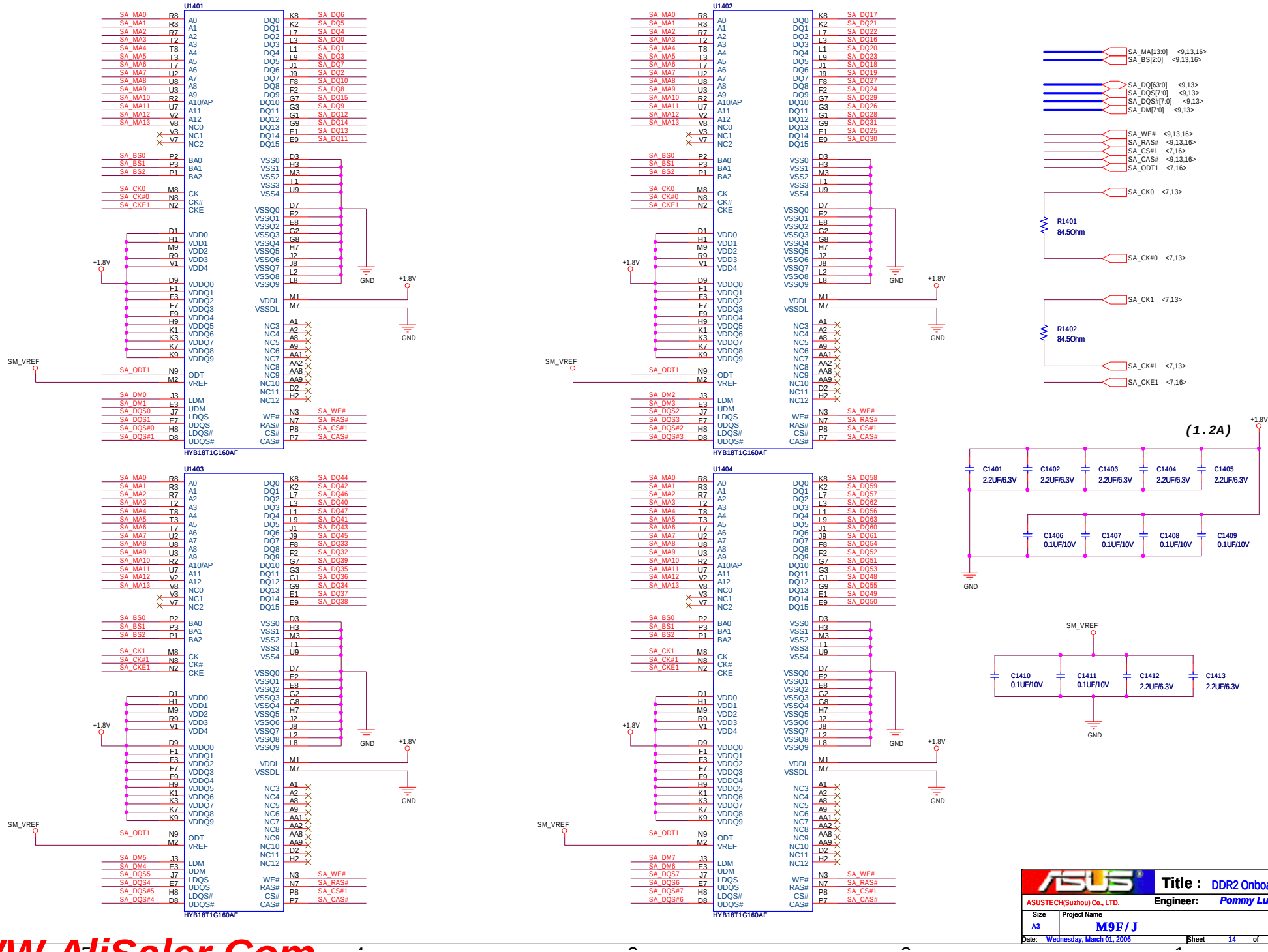
On Board 512MB
DDR2 533 32Mx16-3.7
P/N: 03G15073B010 (1st)
03G15133E110 (2nd)

On Board 512MB
DDR2 667 32Mx16-3
P/N: (null)

On Board 1GB
DDR2 533 64Mx16-3.7
P/N: 03G15163E010



ASUSTECH(Suzhou) Co., LTD.	Title : DDR2 Onboad CHA-1		
	Engineer: Pommy Lu		
Size: A3	Project Name: M9F / J		Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 13 of 63		



ASUSTECH(Suzhou) Co., LTD.

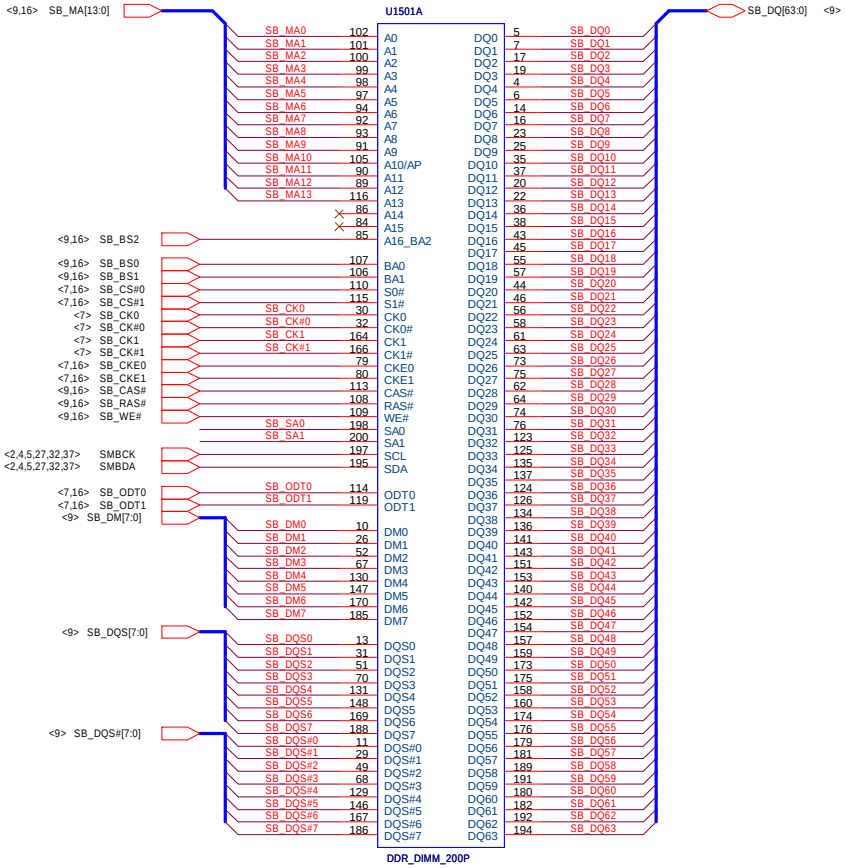
Title : DDR2 Onboad CHA-2

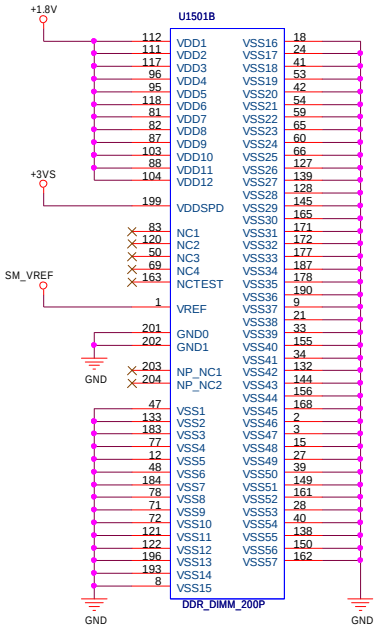
Engineer: Pommy Lu

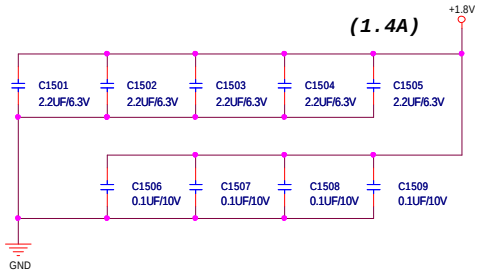
Size	Project Name	Rev
A3	M9F / J	2.0

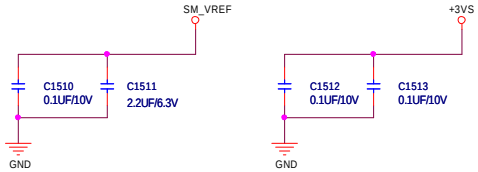
Date: Wednesday, March 01, 2006 Sheet 14 of 63

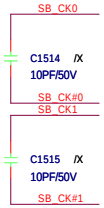
P/N: 12G025122007

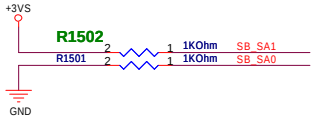












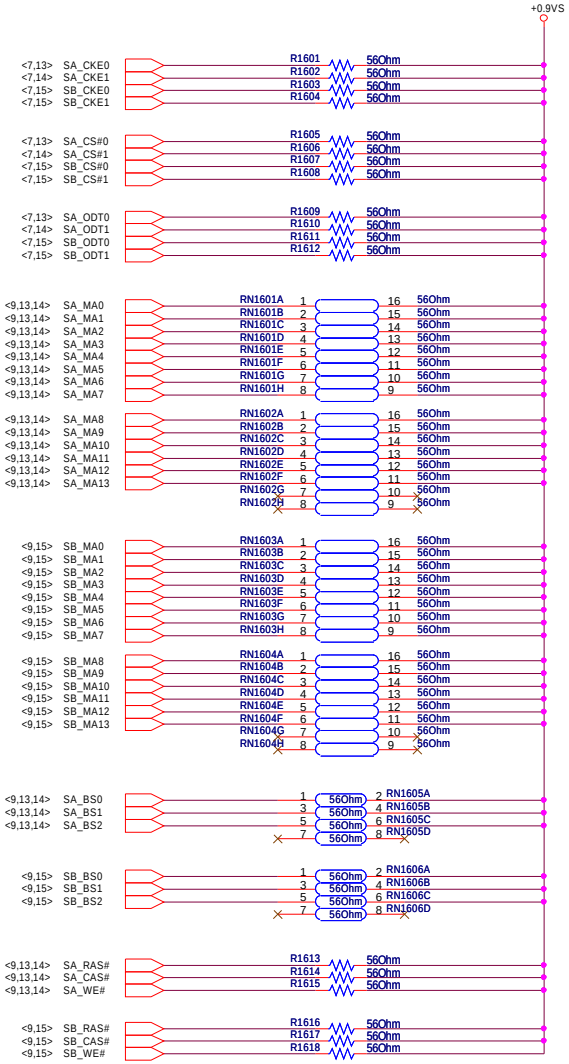
ASUSTeK

Title : DDR2 Slot CHB

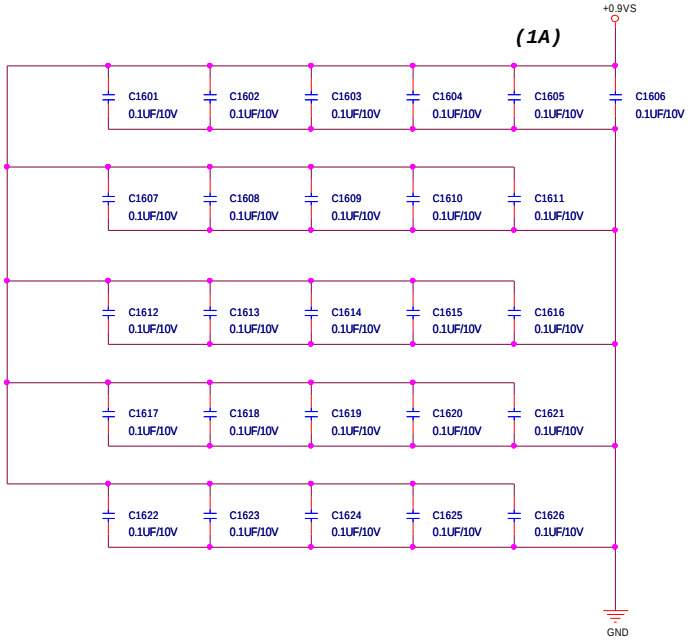
ASUSTECH(Suzhou) Co., LTD. Engineer: Pommy Lu

Size	Project Name	Rev
A3	M9F/J	2.0

Date: Wednesday, March 01, 2006 Sheet 15 of 63



Place one cap close to every 2 pull-up resistors teminated to +0.9VS



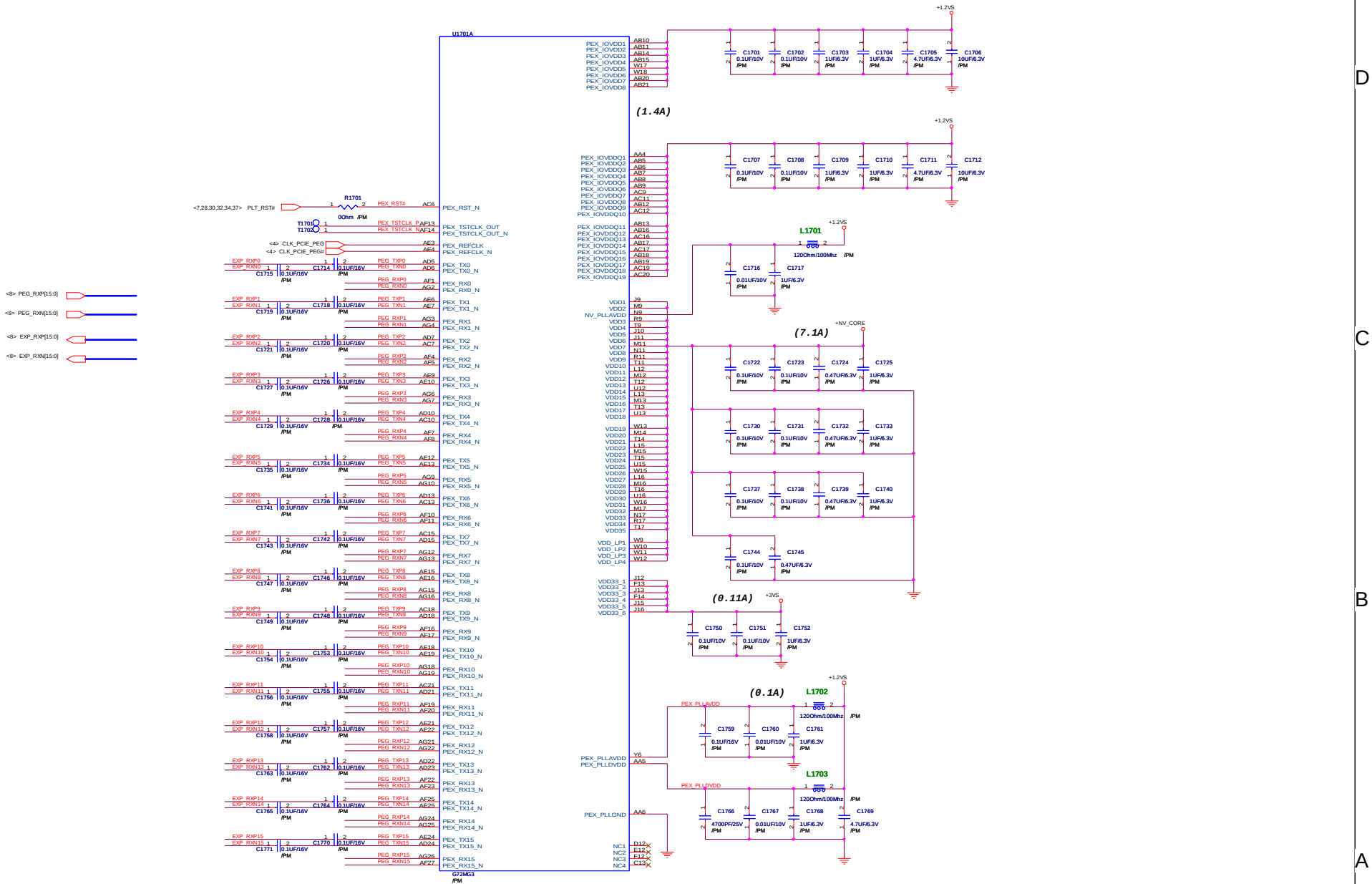
ASUSTECH(Suzhou) Co., LTD.

Title : DDR2 Termination

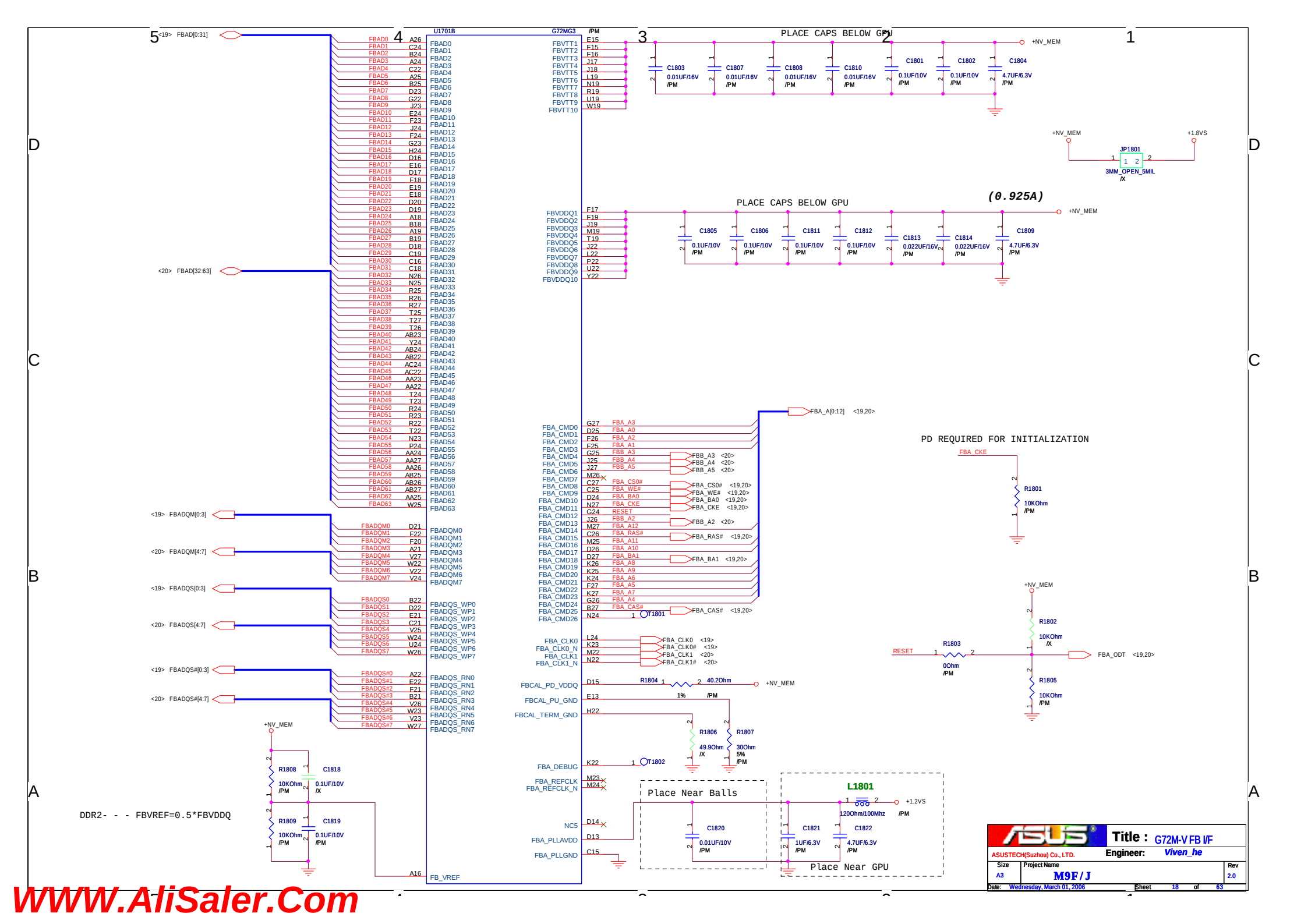
Engineer: Pommy Lu

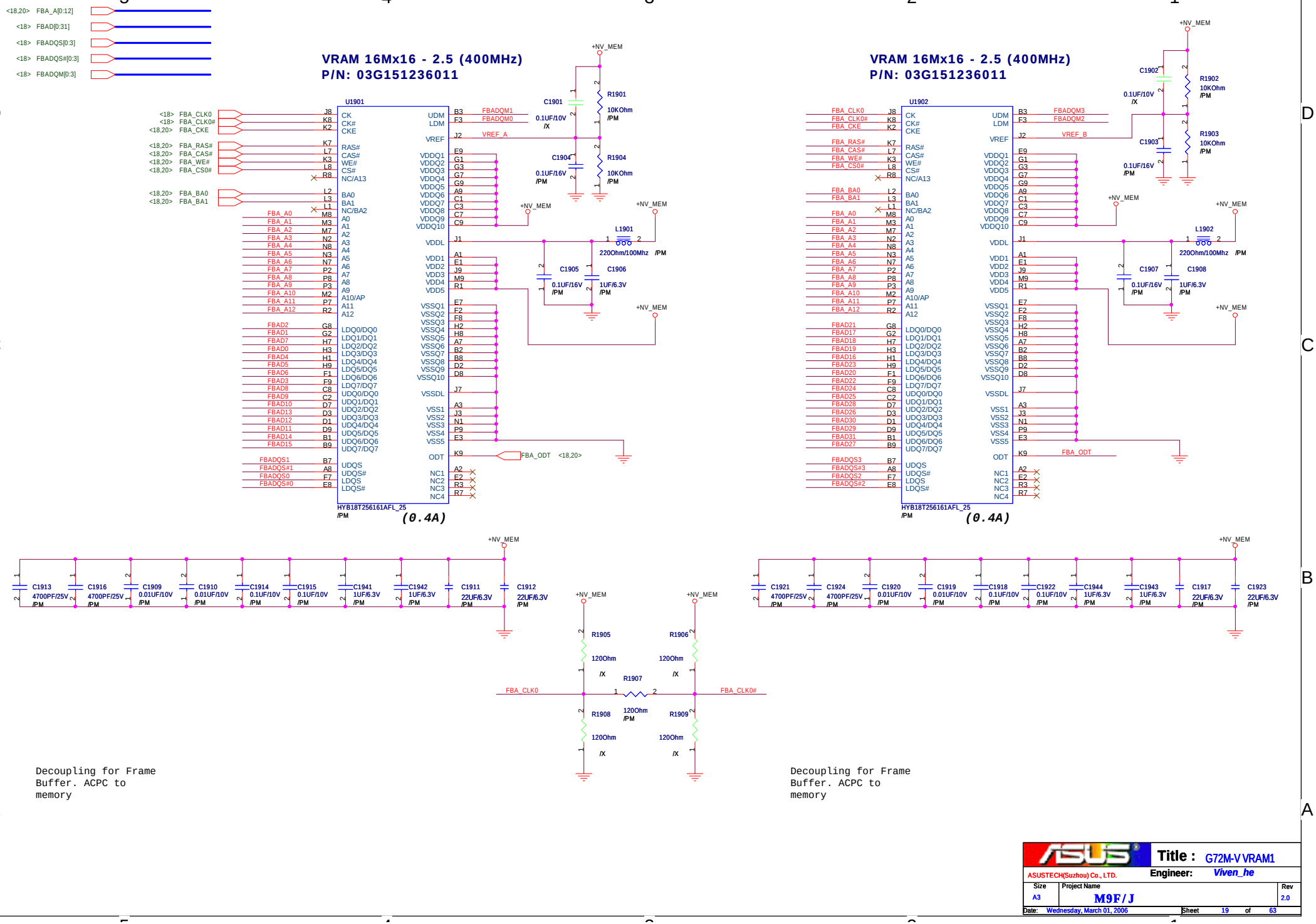
Size	Project Name	Rev
A3	M9F/J	2.0

Date: Wednesday, March 01, 2006 Sheet 16 of 63

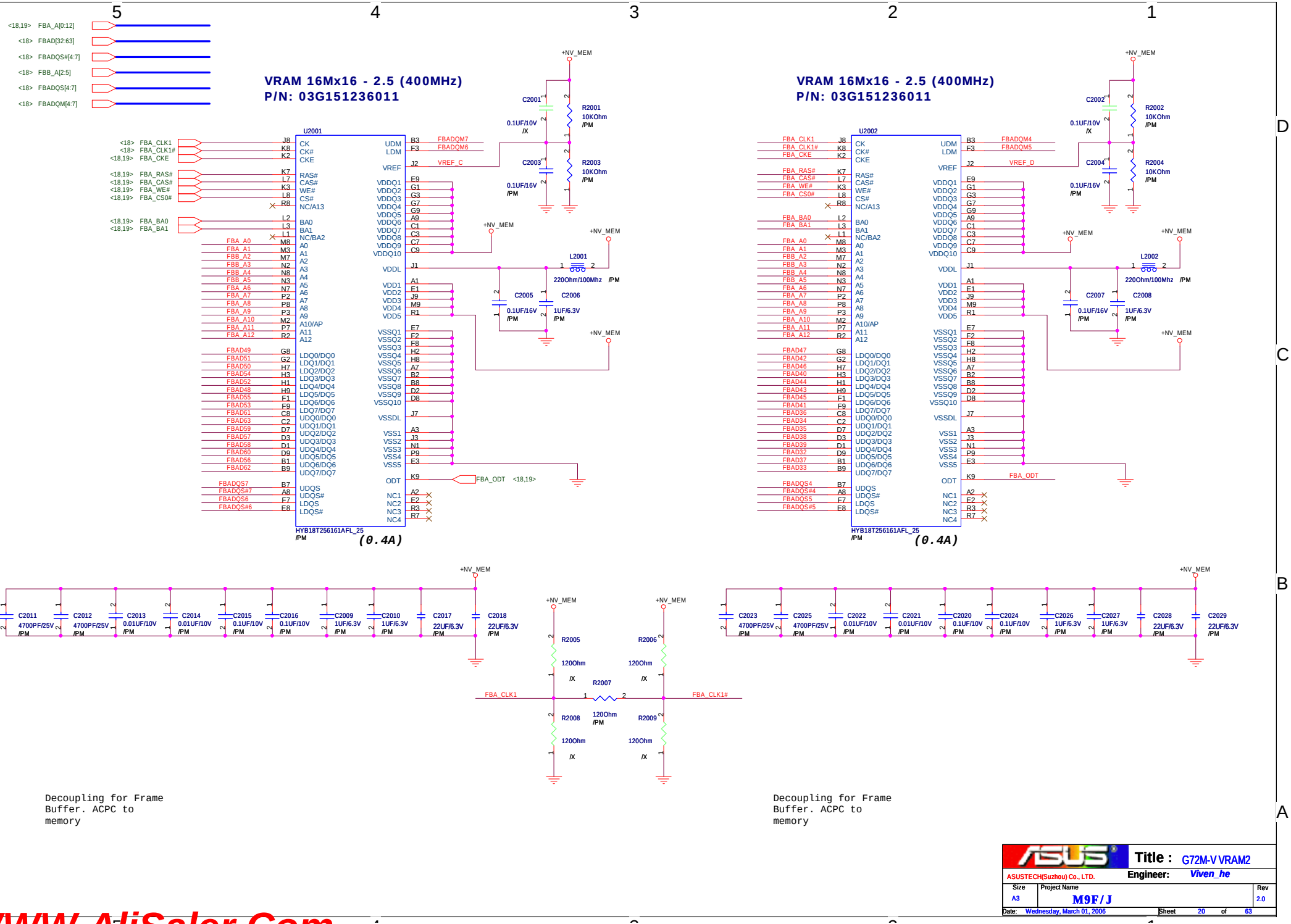


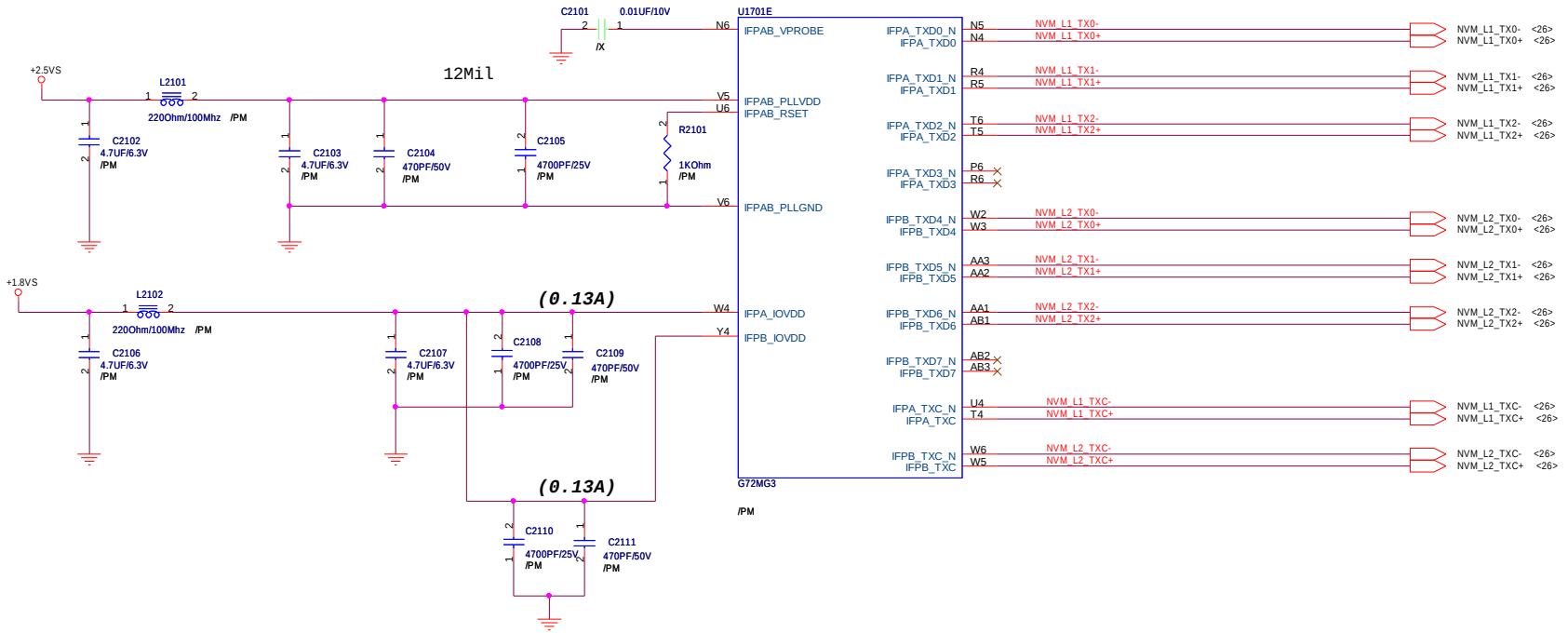
ASUSTECH(Suzhou) Co., LTD.	Title : G72M-V PCIE		
	Engineer: Viven_he		
Size: A2	Project Name: M9F/J		Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 17 of 63		

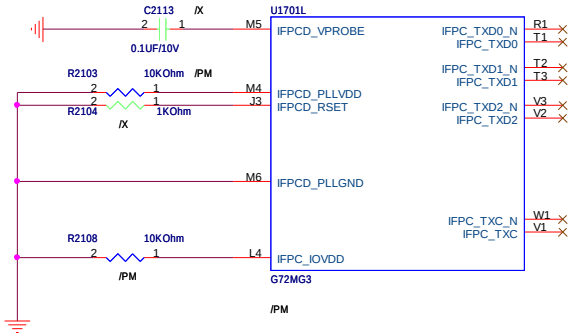


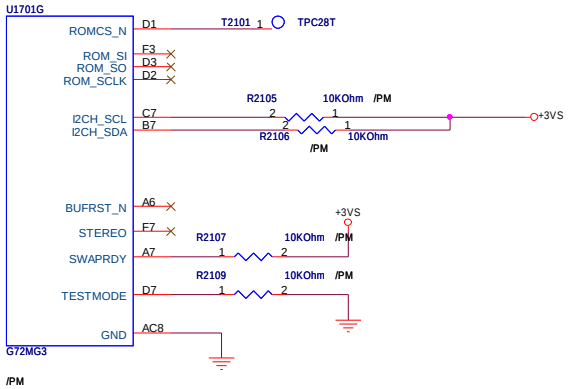


Title :	G72M-V VRAM1
ASUSTECH(Suzhou) Co., LTD.	Engineer: Viven_he
Size: A3	Project Name: M9F/J
Rev: 2.0	
Date: Wednesday, March 01, 2006	Sheet 19 of 63

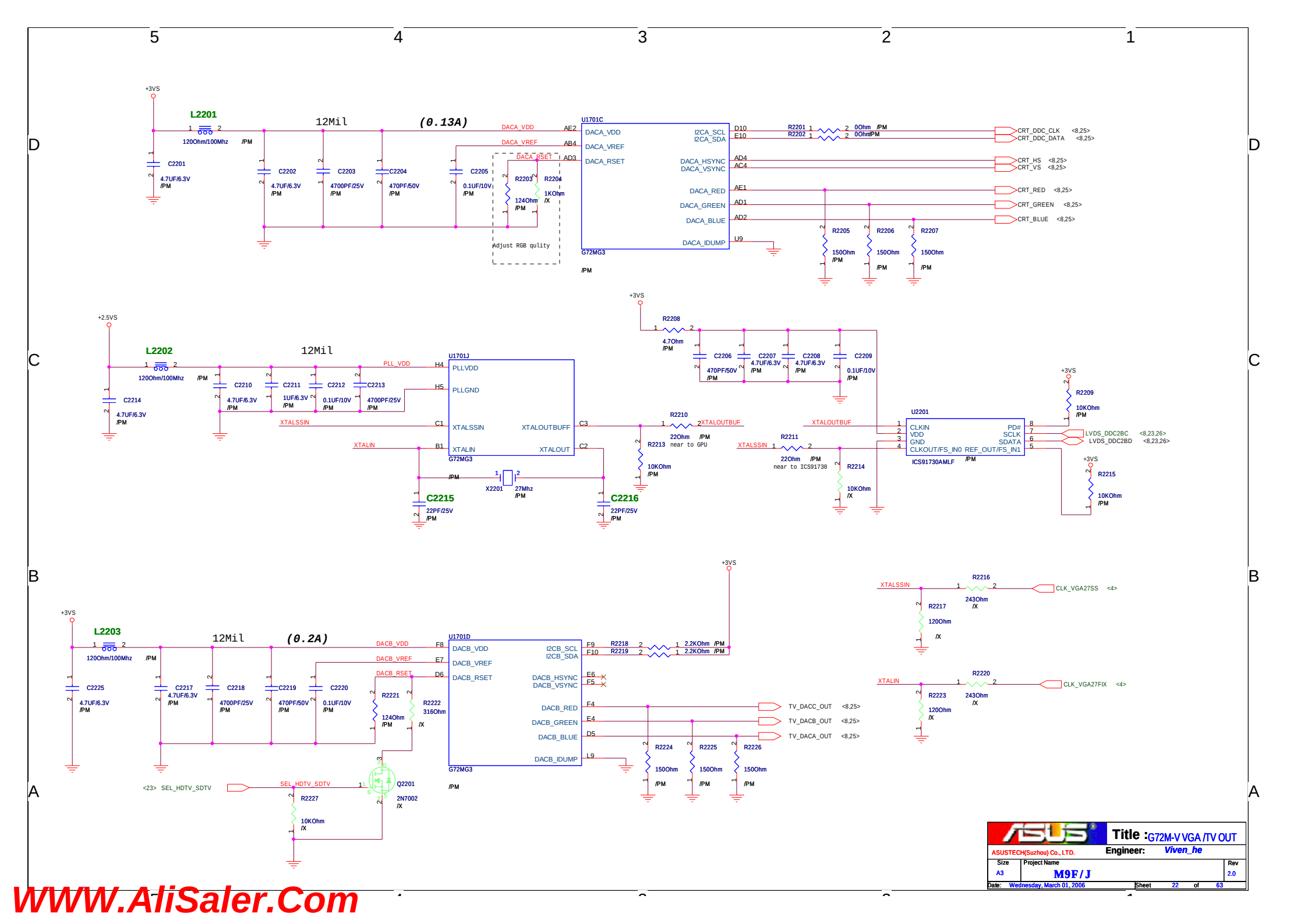




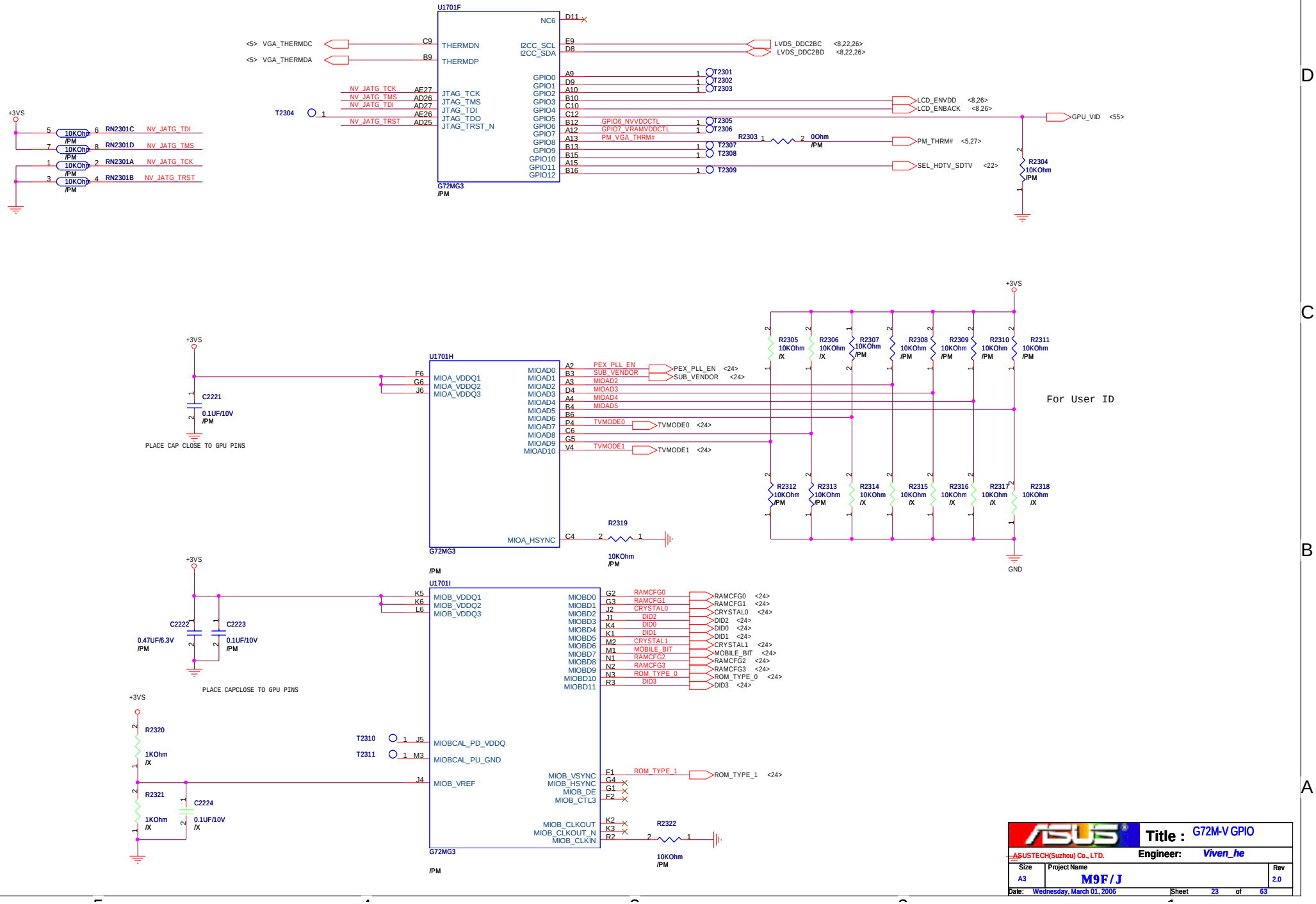




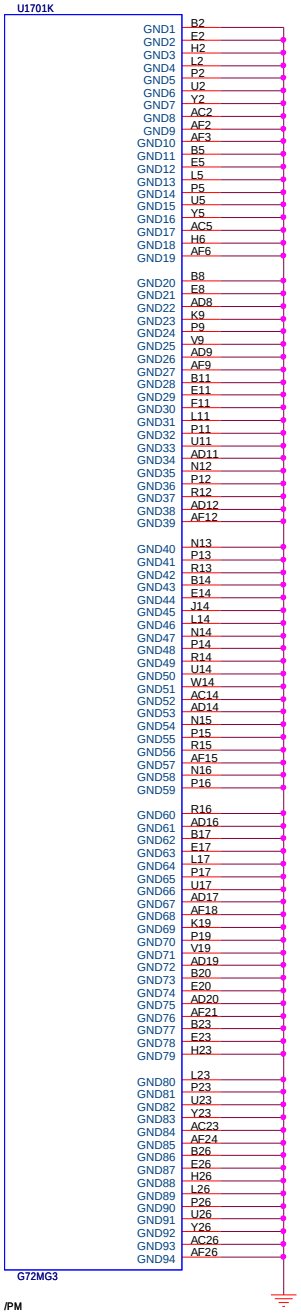
ASUSTECH(Suzhou) Co., LTD.	Title : G72M-V LVDS	
	Engineer: Viven_he	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 21 of 63	

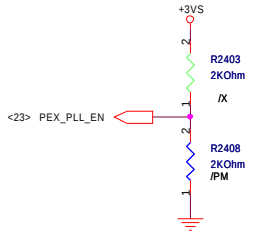


Title	G72M-V VGA /TV OUT
ASUSTECH(Suzhou) Co., LTD.	Engineer: Viven_he
Size	A3
Project Name	M9F / J
Rev	2.0
Date:	Wednesday, March 01, 2006
Sheet	22 of 63

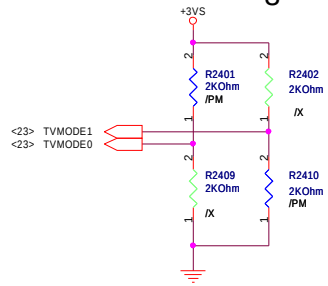


ASUSTECH(Suzhou) Co., LTD.	Title : G72M-V GPIO	
	Engineer: Viven_he	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 23 of 63	

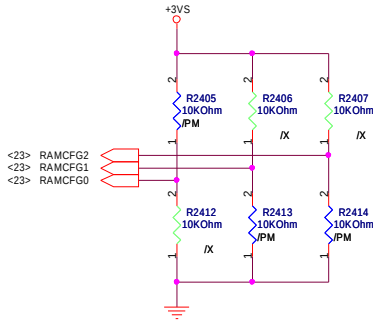




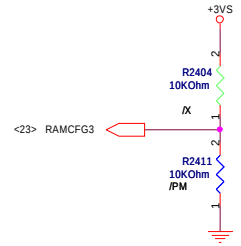
Express PLL internal termination	PEX_PLL_EN
Enable	0
Disable	1



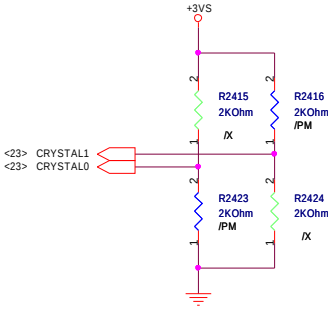
TV Mode	TVMODE1	TVMODE0
SECAN	0	0
PAL	1	0
NTSC(Default)	0	1
CRT	1	1



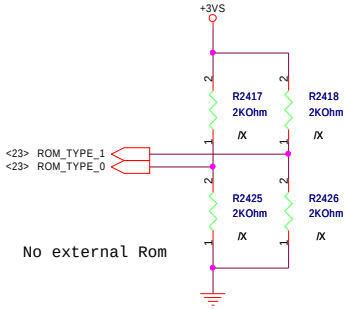
GPU	RAMCFG2	RAMCFG1	RAMCFG0
DDR2 16Mx16x4 128MB,SAMSUNG	0	o	1
DDR2 16Mx16x4 128MB,Infineon	0	1	0
DDR2 16Mx16x4 128MB,Hynix	0	1	1



	RAMCFG3
Full width of frame buffer	0
Half width of frame buffer	1

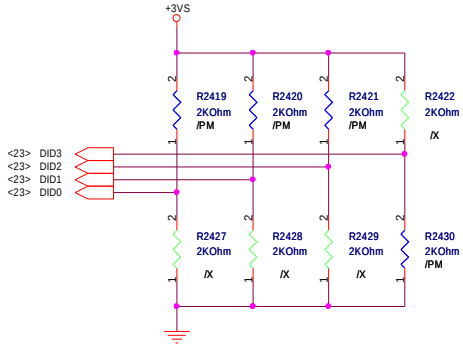


CRYSTAL	CRYSTAL1	CRYSTAL0
13.5MHZ	0	0
27MHZ(Default)	1	0
14.318MHZ	0	1
Reserved	1	1

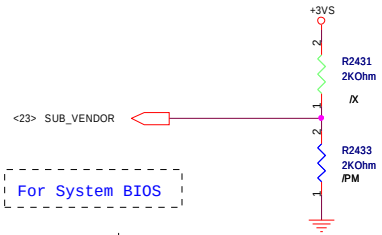


No external Rom

ROM_TYPE	ROM_TYPE_1	ROM_TYPE_0
Parallel	0	0
Reseved	1	0
Serial AT25F(Default)	0	1
LPC	1	1

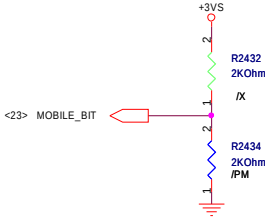


GPU	DID3	DID2	DID1	DID0
G72M	1	0	0	0
G72M-V	0	1	1	1



For System BIOS

	SUB_VENDOR
System BIOS	0
Adapter BIOS	1



MOBILE_BIT= 0: MOBILE

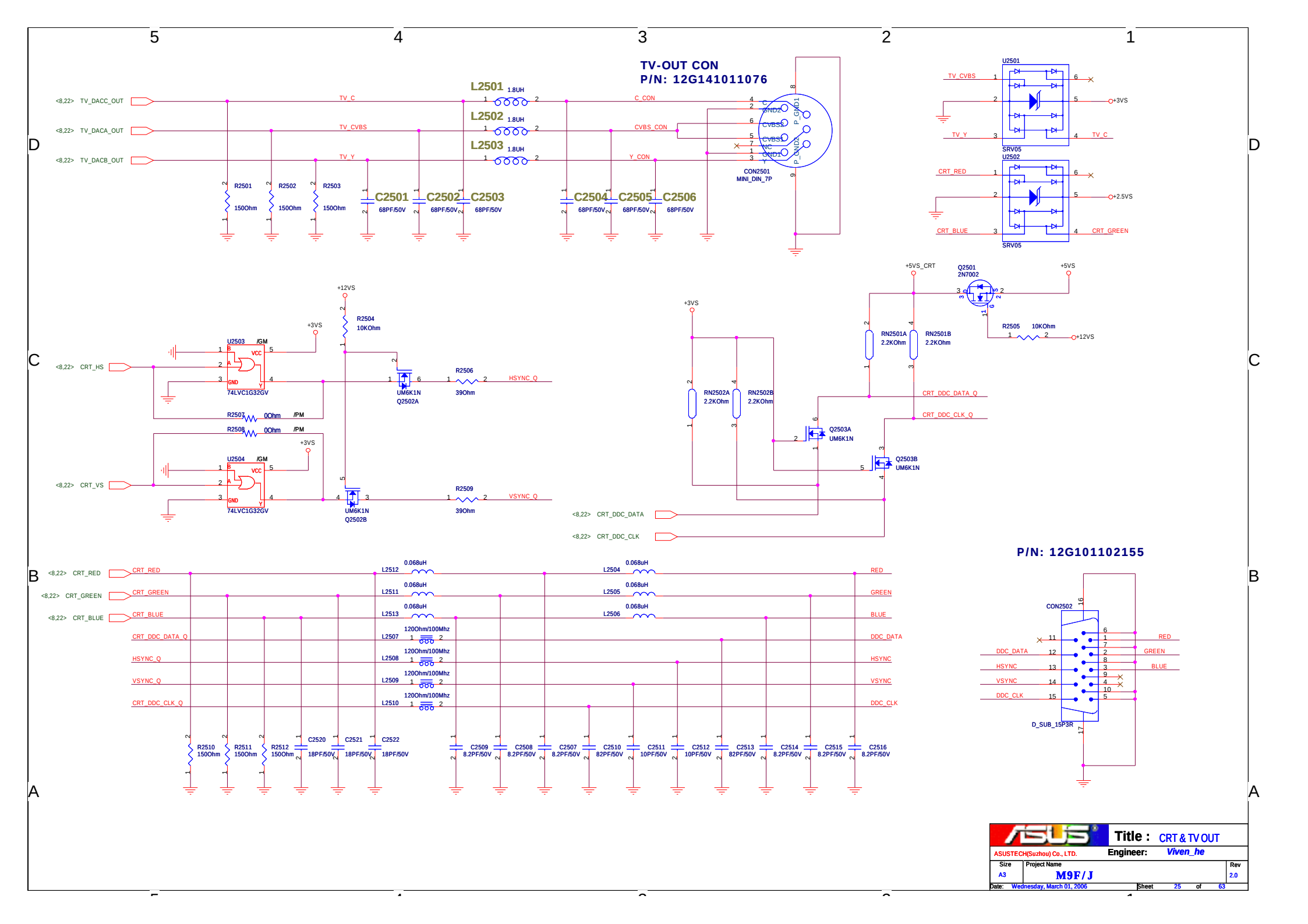
ASUSTECH(Suzhou) Co., LTD.

Title : G72M-V STRAPING&GND

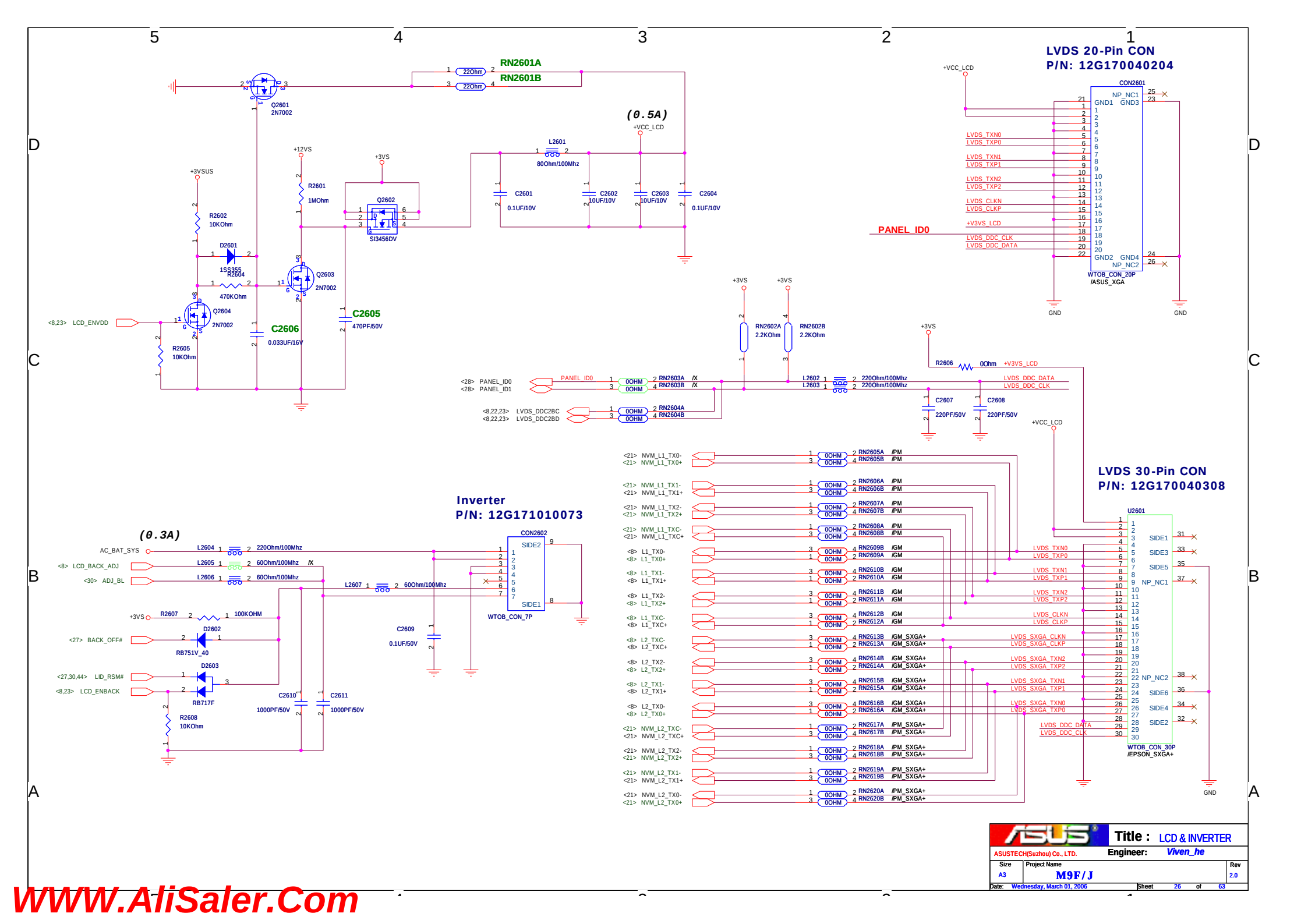
Engineer: Viven_he

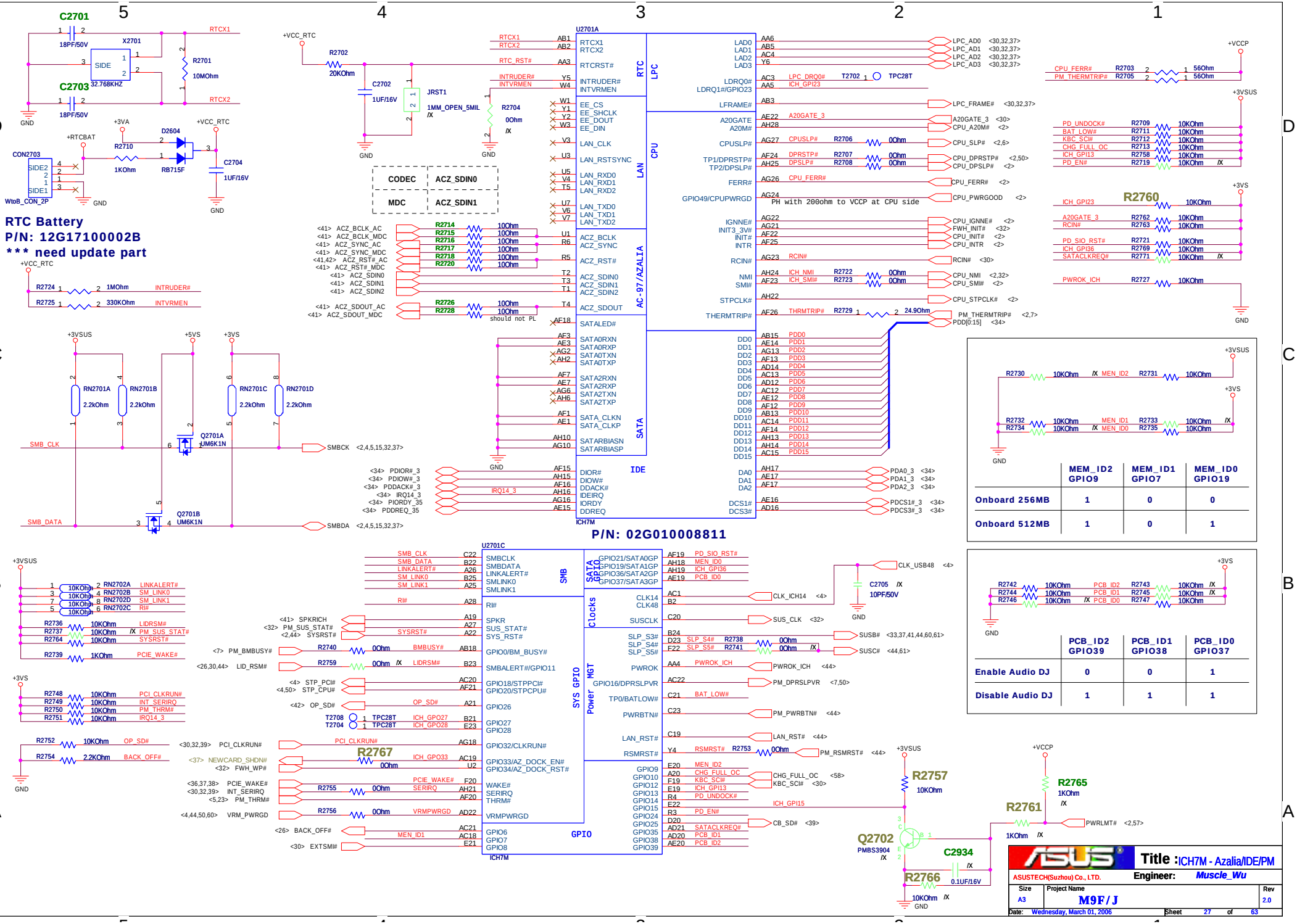
Size	Project Name	Rev
A3	M9F/J	2.0

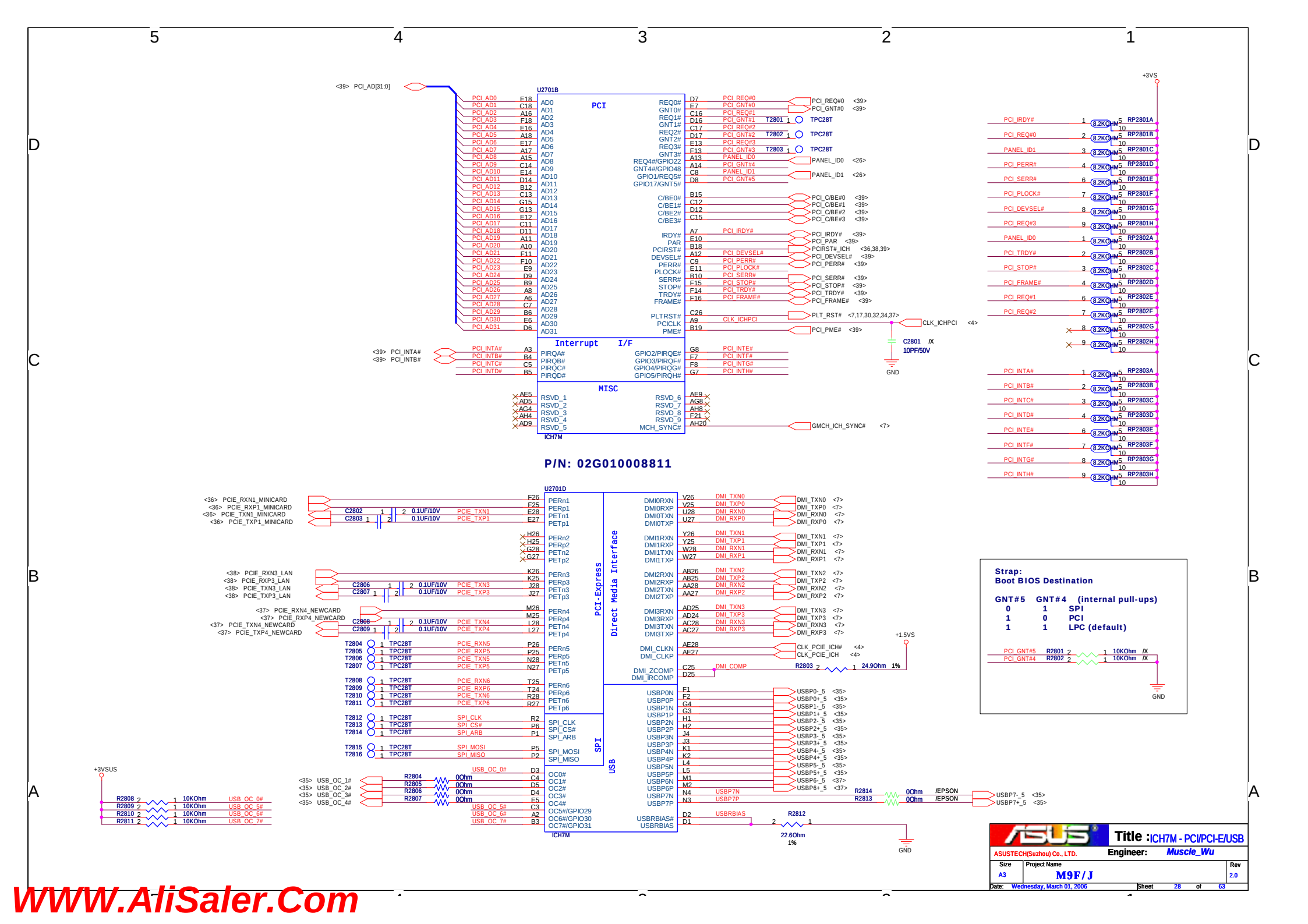
Date: Wednesday, March 01, 2006 Sheet 24 of 63

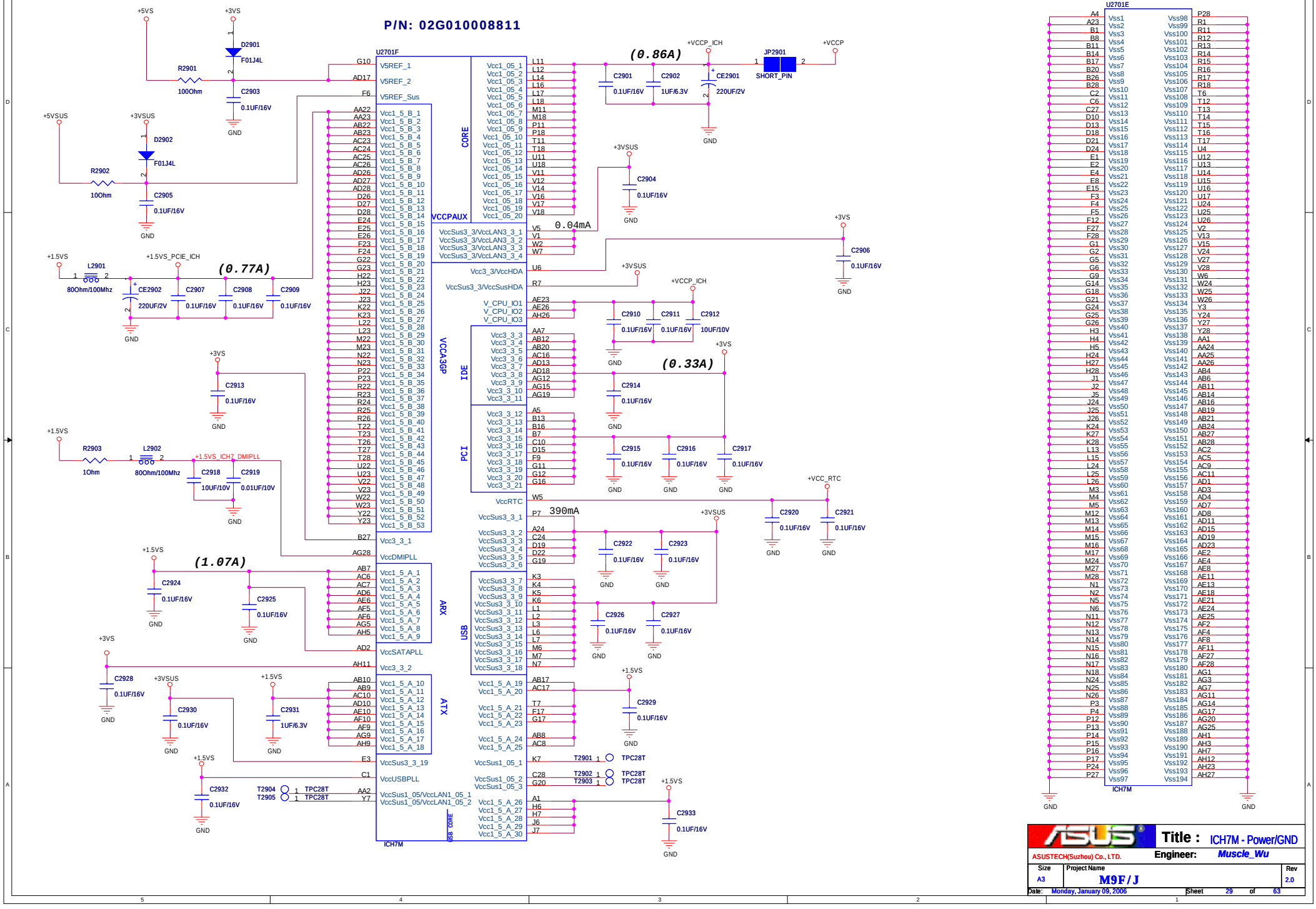


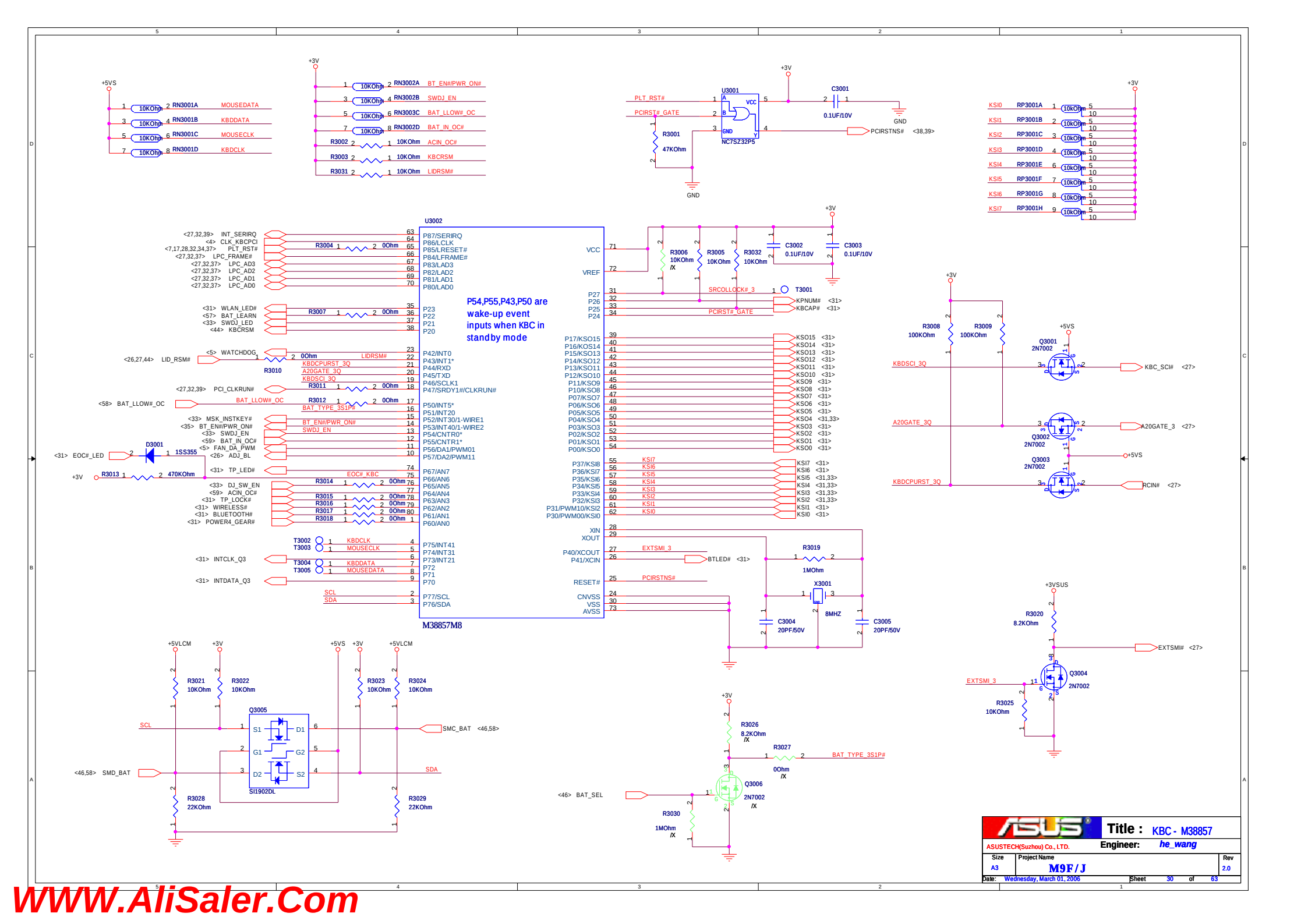
Title :	CRT & TV OUT
ASUSTECH(Suzhou) Co., LTD.	Engineer: Viven_he
Size: A3	Project Name: M9F / J
Rev: 2.0	
Date: Wednesday, March 01, 2006	Sheet 25 of 63



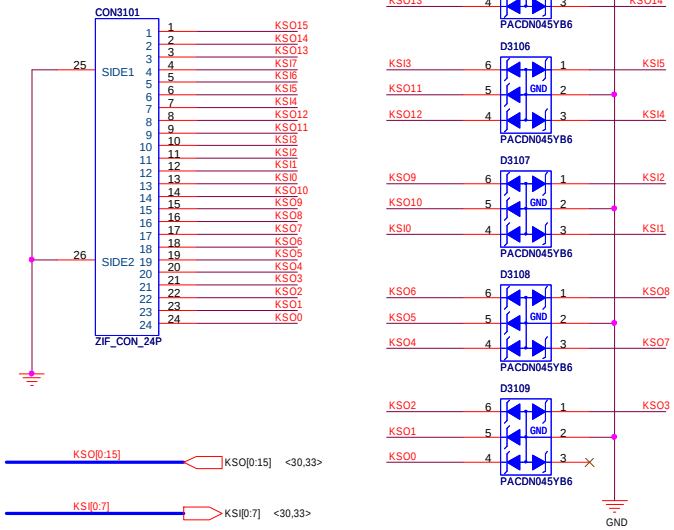

C2701
X2701
18PF/50V
32.768KHZ
SIDE
C2703
18PF/50V
RTCX1
RTCX2
R2701
10MOhm
GND
+3VA
+RTCBAT
+VCC_RTC
D2604
R2710
1KOhm
RB715F
C2704
1UF/16V
CON2703
SIDE2
SIDE1
WtoB_CON_2P
RTC Battery
P/N: 12G17100002B
*** need update part
+VCC_RTC
R2724 1MOhm INTRUDER#
R2725 330KOhm INTVRMEN
+VCC_RTC
R2702
20KOhm
C2702
1UF/16V
JRST1
1MM_OPEN_5MIL
/X
R2704
0Ohm
/X
RTCX1
RTCX2
RTC_RST#
INTRUDER#
INTVRMEN
U2701A
RTCX1
RTCX2
RTCRST#
INTRUDER#
INTVRMEN
EE_CS
EE_SHCLK
EE_DOUT
EE_DIN
LAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
ACZ_BCLK
ACZ_SYNC
ACZ_RST#
ACZ_SDIN0
ACZ_SDIN1
ACZ_SDIN2
ACZ_SDOUT
SATALED#
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA_CLKN
SATA_CLKP
SATARBIASN
SATARBIASP
DIOR#
DIOW#
DDACK#
IDEIRQ
IORDY
DDREQ
ICH7M
RTC
LPC
CPU
LAN
AC-97/AZALIA
SATA
IDE
CODEC
ACZ_SDIN0
MDC
ACZ_SDIN1
LAD0
LAD1
LAD2
LAD3
LDRQ0#
LDRQ1#/GPIO23
LFRAME#
A20GATE
A20M#
CPUSLP#
TP1/DPRSTP#
TP2/DPSLP#
FERR#
GPIO49/CPUPWRGD
IGNNE#
INIT3_3V#
INIT#
INTR
RCIN#
NMI
SMI#
STPCLK#
THERMTRIP#
DD0
DD1
DD2
DD3
DD4
DD5
DD6
DD7
DD8
DD9
DD10
DD11
DD12
DD13
DD14
DD15
DA0
DA1
DA2
DCS1#
DCS3#
LPC_AD0 <30,32,37>
LPC_AD1 <30,32,37>
LPC_AD2 <30,32,37>
LPC_AD3 <30,32,37>
LPC_DRQ0# T2702 TPC28T
ICH_GPI23
LPC_FRAME# <30,32,37>
A20GATE_3 A20GATE_3 <30>
CPU_A20M# <2>
CPUSLP# R2706 0Ohm CPU_SLP# <2,6>
DPRSTP# R2707 0Ohm CPU_DPRSTP# <2,50>
DPSLP# R2708 0Ohm CPU_DPSLP# <2>
CPU_FERR# CPU_FERR# <2>
CPU_PWRGOOD <2>
PH with 200ohm to VCCP at CPU side
CPU_IGNNE# <2>
FWH_INIT# <32>
CPU_INIT# <2>
CPU_INTR <2>
RCIN# RCIN# <30>
ICH_NMI R2722 0Ohm CPU_NMI <2,32>
ICH_SMI# R2723 0Ohm CPU_SMI# <2>
CPU_STPCLK# <2>
THRMTRIP# R2729 24.9Ohm PM_THERMTRIP# <2,7>
PDD[0:15] <34>
PDD0
PDD1
PDD2
PDD3
PDD4
PDD5
PDD6
PDD7
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
PDA0_3 <34>
PDA1_3 <34>
PDA2_3 <34>
PDCS1#_3 <34>
PDCS3#_3 <34>
+VCCP
CPU_FERR# R2703 56Ohm
PM_THERMTRIP# R2705 56Ohm
+3VSUS
PD_UNDOCK# R2709 10KOhm
BAT_LOW# R2711 10KOhm
KBC_SCI# R2712 10KOhm
CHG_FULL_OC R2713 10KOhm
ICH_GPI13 R2758 10KOhm
PD_EN# R2719 10KOhm /X
+3VS
R2760
ICH_GPI23 10KOhm
A20GATE_3 R2762 10KOhm
RCIN# R2763 10KOhm
PD_SIO_RST# R2721 10KOhm
ICH_GPI36 R2769 10KOhm
SATACLKREQ# R2771 10KOhm /X
PWROK_ICH R2727 10KOhm
GND
+3VSUS
+5VS
+3VS
RN2701A 2.2kOhm
RN2701B 2.2kOhm
RN2701C 2.2kOhm
RN2701D 2.2kOhm
Q2701A UM6K1N
Q2701B UM6K1N
SMB_CLK
SMB_DATA
SMBCK <2,4,5,15,32,37>
SMBDA <2,4,5,15,32,37>
P/N: 02G010008811
U2701C
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
SMB
SATA GPIO
GPIO21/SATA0GP
GPIO19/SATA1GP
GPIO36/SATA2GP
GPIO37/SATA3GP
Clocks
CLK14
CLK48
SUSCLK
SYS GPIO
Power MGT
RI#
SPKR
SUS_STAT#
SYS_RST#
GPIO0/BM_BUSY#
SMBALERT#/GPIO11
GPIO18/STPPCI#
GPIO20/STPCPU#
GPIO26
GPIO27
GPIO28
GPIO32/CLKRUN#
GPIO33/AZ_DOCK_EN#
GPIO34/AZ_DOCK_RST#
WAKE#
SERIRQ
THRM#
VRMPWRGD
GPIO6
GPIO7
GPIO8
GPIO
SLP_S3#
SLP_S4#
SLP_S5#
PWROK
GPIO16/DPRSLPVR
TP0/BATLOW#
PWRBTN#
LAN_RST#
RSMRST#
GPIO9
GPIO10
GPIO12
GPIO13
GPIO14
GPIO15
GPIO24
GPIO25
GPIO35
GPIO38
GPIO39
SMB_CLK C22
SMB_DATA B22
LINKALERT# A26
SM_LINK0 B25
SM_LINK1 A25
RI# A28
SPKRICH <41>
PM_SUS_STAT# <32>
SYSRST# <2,44>
PM_BMBUSY# <7>
LID_RSM# <26,30,44>
STP_PCI# <4>
STP_CPU# <4,50>
OP_SD# <42>
T2708 TPC28T ICH_GPO27
T2704 TPC28T ICH_GPO28
PCI_CLKRUN# <30,32,39>
NEWCARD_SHDN# <37>
FWH_WP# <32>
PCIE_WAKE# <36,37,38>
INT_SERIRQ <30,32,39>
PM_THRM# <5,23>
VRM_PWRGD <4,44,50,60>
BACK_OFF# <26>
EXTSMI# <30>
MEN_ID1
CLK_ICH14 <4>
CLK_USB48 <4>
C2705 /X 10PF/50V
SUS_CLK <32>
SUSB# <33,37,41,44,60,61>
SUSC# <44,61>
PWROK_ICH <44>
PM_DPRSLPVR <7,50>
BAT_LOW#
PM_PWRBTN# <44>
LAN_RST# <44>
PM_RSMRST# <44>
MEN_ID2
CHG_FULL_OC <58>
KBC_SCI# <30>
ICH_GPI13
PD_UNDOCK#
ICH_GPI15
PD_EN#
CB_SD# <39>
PCB_ID1
PCB_ID2
SATACLKREQ#
ICH7M
+3VSUS
10KOhm
LINKALERT# RN2702A
SM_LINK0 RN2702B
SM_LINK1 RN2702D
RI# RN2702C
LIDRSM# R2736 10KOhm
PM_SUS_STAT# R2737 10KOhm /X
SYSRST# R2764 10KOhm
PCIE_WAKE# R2739 1KOhm
+3VS
PCI_CLKRUN# R2748 10KOhm
INT_SERIRQ R2749 10KOhm
PM_THRM# R2750 10KOhm
IRQ14_3 R2751 10KOhm
OP_SD# R2752 10KOhm
BACK_OFF# R2754 2.2KOhm
BMBUSY# R2740 0Ohm
LIDRSM# R2759 0Ohm /X
R2767
ICH_GPO33 0Ohm U2
PCIE_WAKE# R2755 0Ohm SERIRQ
VRMPWRGD R2756 0Ohm
MEN_ID1
GND
R2730 10KOhm /X MEN_ID2 R2731 10KOhm
R2732 10KOhm MEN_ID1 R2733 10KOhm /X
R2734 10KOhm /X MEN_ID0 R2735 10KOhm
MEM_ID2 GPIO9
MEM_ID1 GPIO7
MEM_ID0 GPIO19
Onboard 256MB 1 0 0
Onboard 512MB 1 0 1
R2742 10KOhm PCB_ID2 R2743 10KOhm /X
R2744 10KOhm PCB_ID1 R2745 10KOhm /X
R2746 10KOhm /X PCB_ID0 R2747 10KOhm
PCB_ID2 GPIO39
PCB_ID1 GPIO38
PCB_ID0 GPIO37
Enable Audio DJ 0 0 1
Disable Audio DJ 1 1 1
Q2702 PMBS3904 /X
R2757 10KOhm
C2934 /X
R2766 10KOhm /X
0.1UF/16V
R2765 1KOhm /X
R2761 1KOhm /X
PWRLMT# <2,57>
Title : ICH7M - Azalia/IDE/PM
ASUSTECH(Suzhou) Co., LTD.
Engineer: Muscle_Wu
Size A3
Project Name M9F/J
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 27 of 63



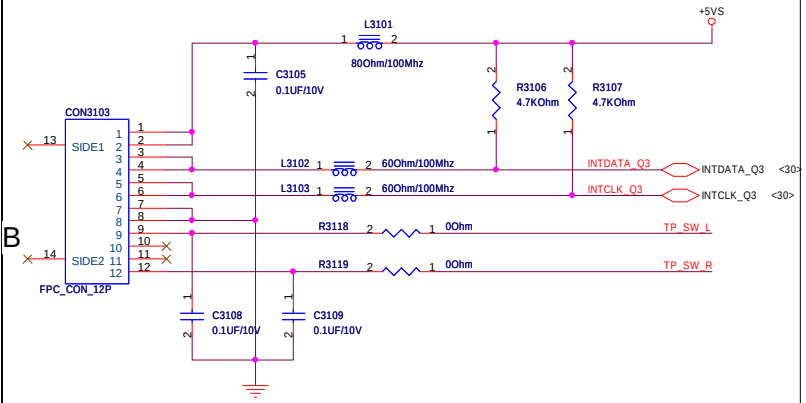

P/N: 02G010008811
U2701F
ICH7M
U2701E
ICH7M
(0.86A)
(0.77A)
(0.33A)
(1.07A)
0.04mA
390mA
Title : ICH7M - Power/GND
ASUSTECH(Suzhou) Co., LTD.
Engineer: Muscle_Wu
Size A3
Project Name M9F/J
Rev 2.0
Date: Monday, January 09, 2006
Sheet 29 of 63



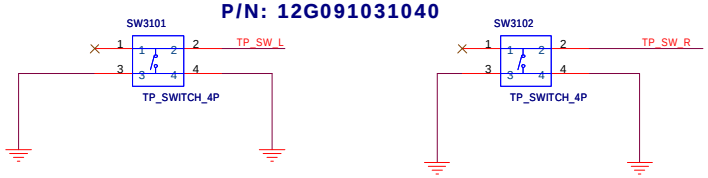
Keyboard
P/N: 12G182402404

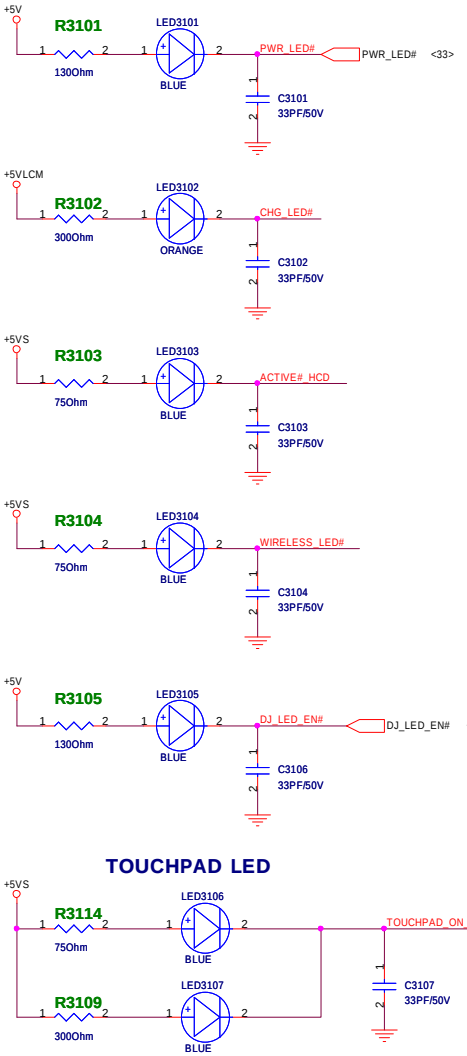


Touch Pad
P/N: 12G183101206



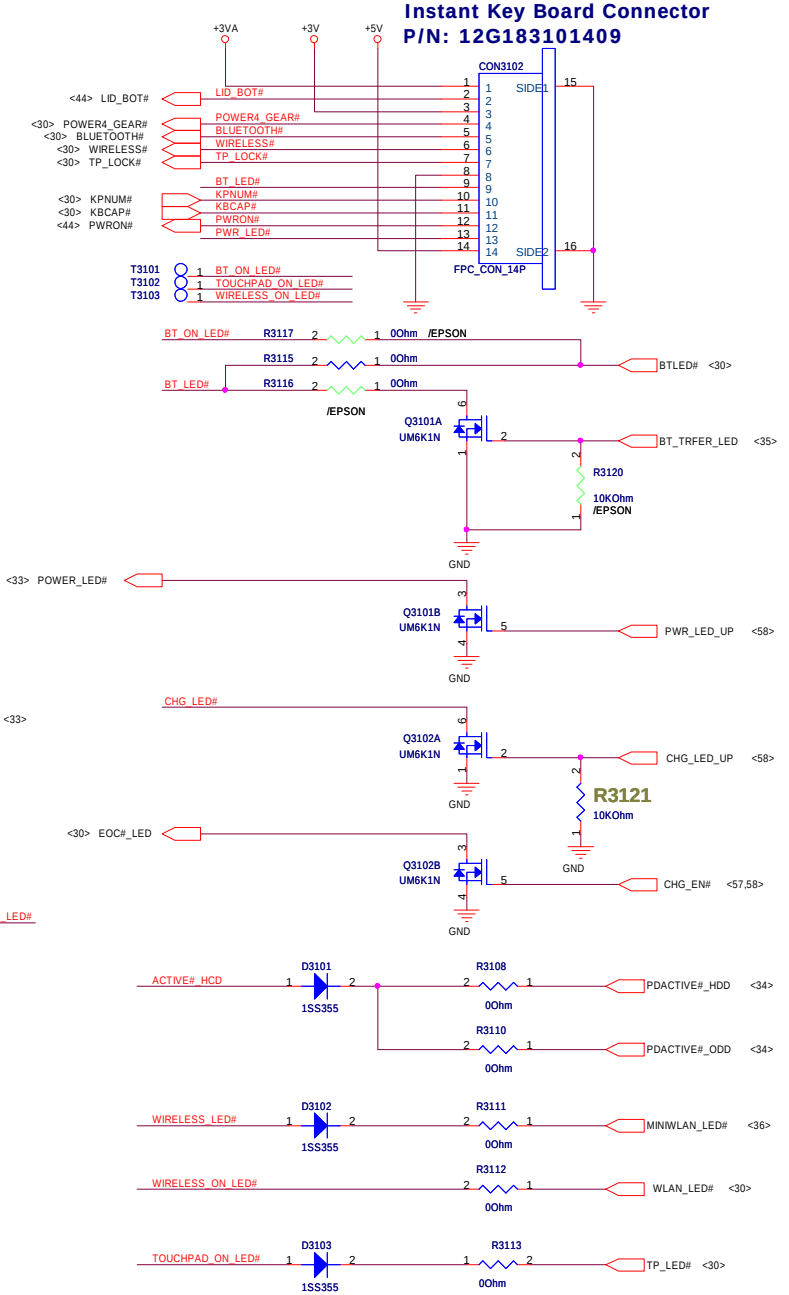
Touch Pad Button
P/N: 12G091031040





TOUCHPAD LED

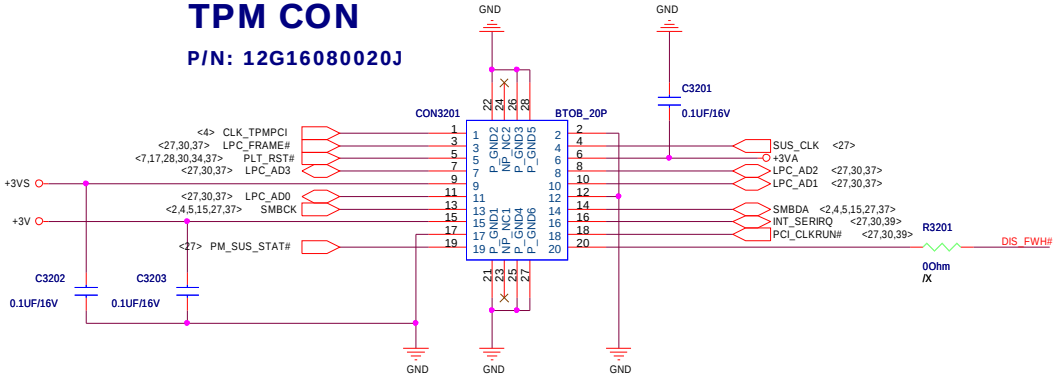
Instant Key Board Connector
P/N: 12G183101409



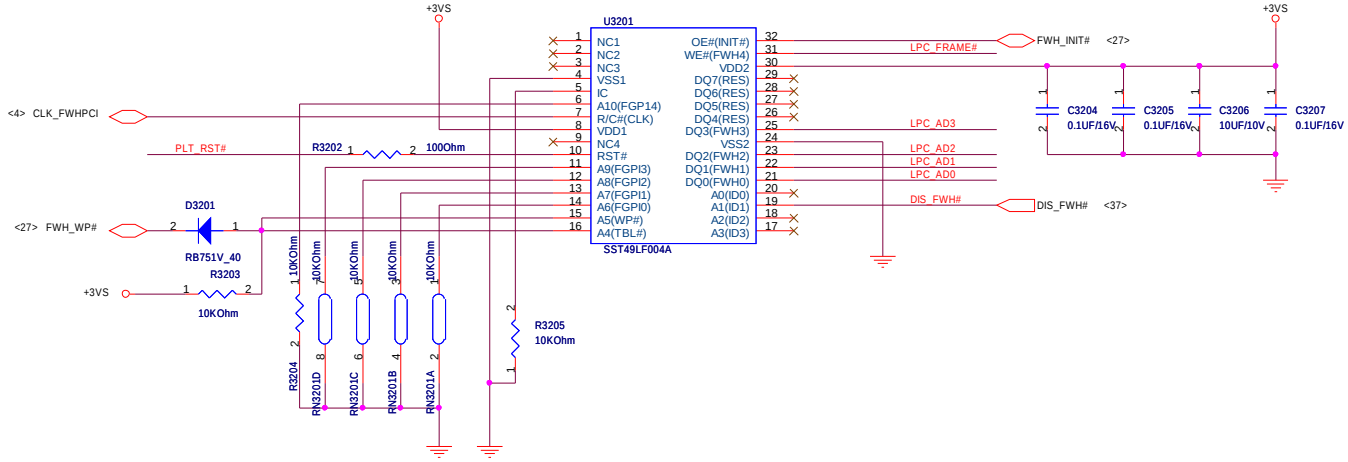
ASUSTeK(Suzhou) Co., LTD.	Title : KBC PORTS&LEDS	
	Engineer: he_wang	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 31 of 63	

TPM CON

P/N: 12G16080020J

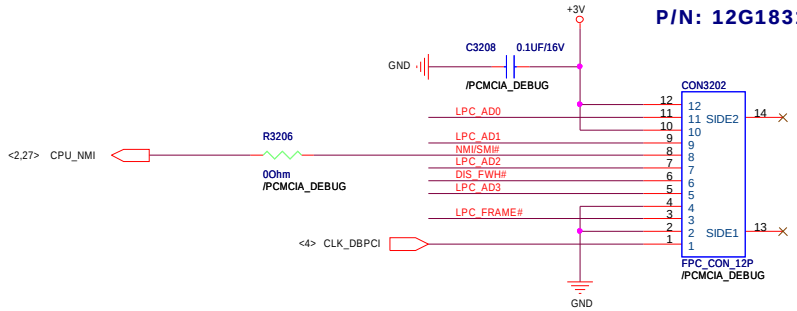


FWH

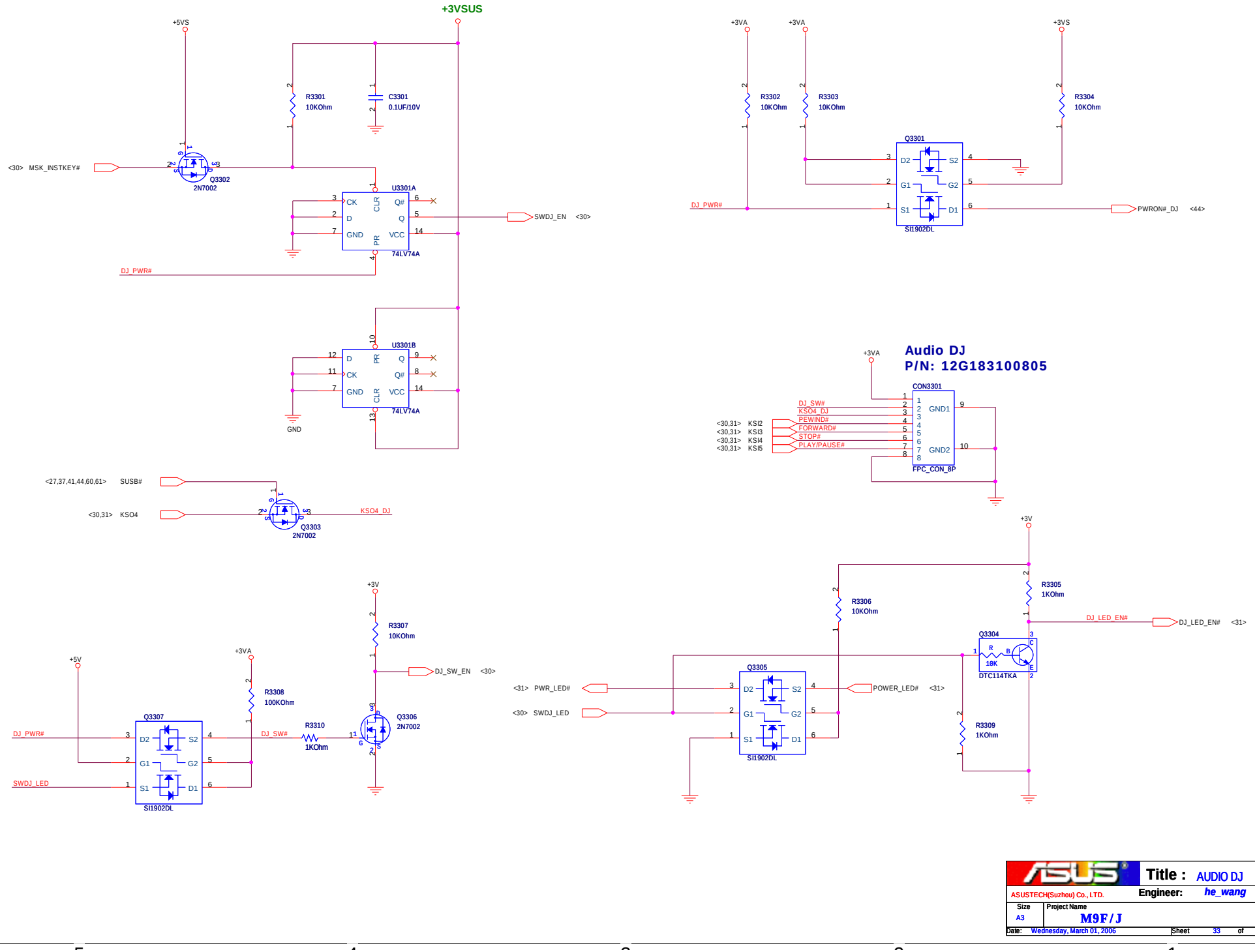


DEBUG PORT (CONNECT WITH FFC)

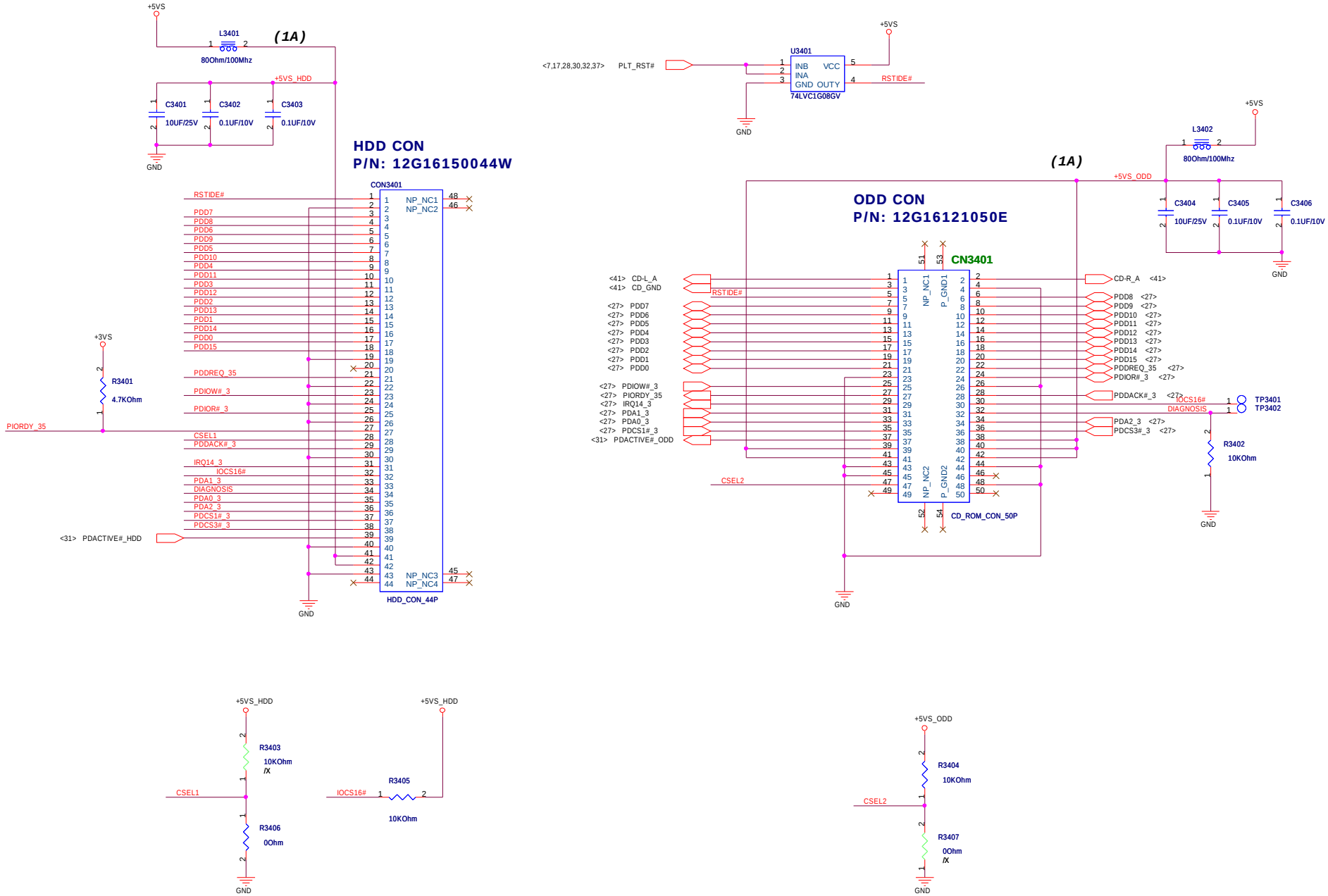
P/N: 12G183101206



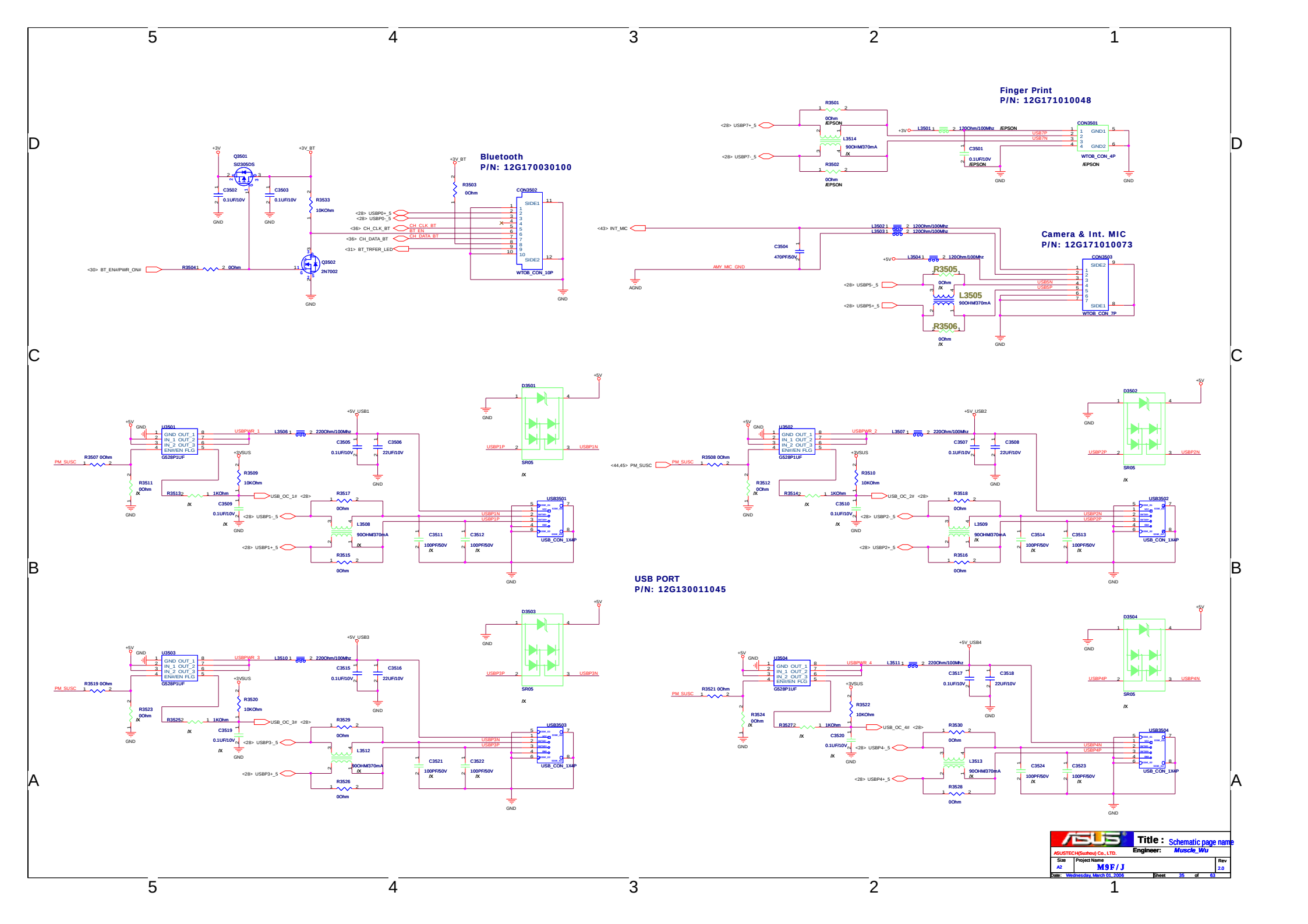
ASUSTECH(Suzhou) Co., LTD.	Title : DCIN&FWH&TPM	
	Engineer: he_wang	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 32 of 63	

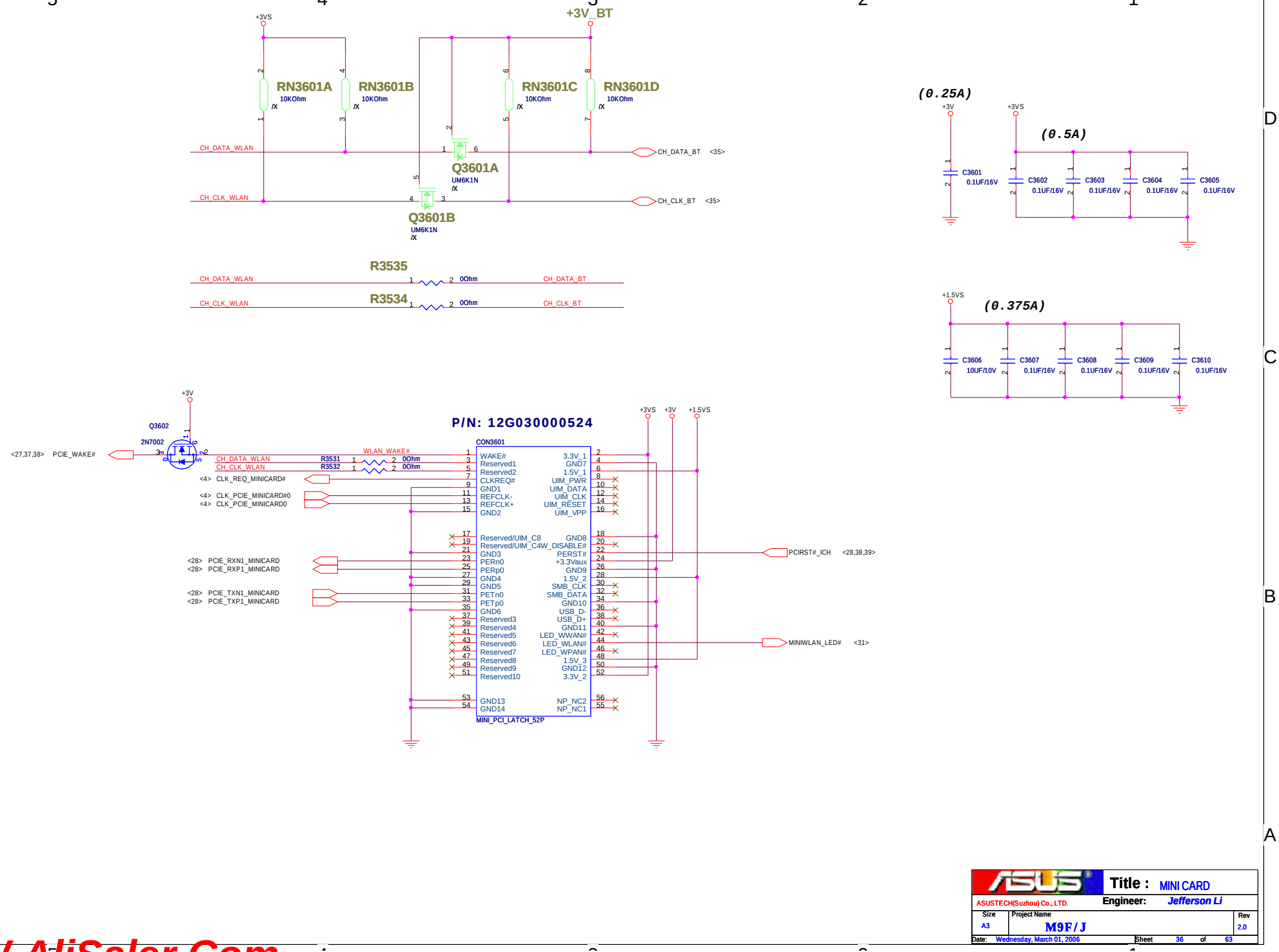


ASUSTECH(Suzhou) Co., LTD.	Title : AUDIO DJ	
	Engineer: he_wang	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 33 of 63	

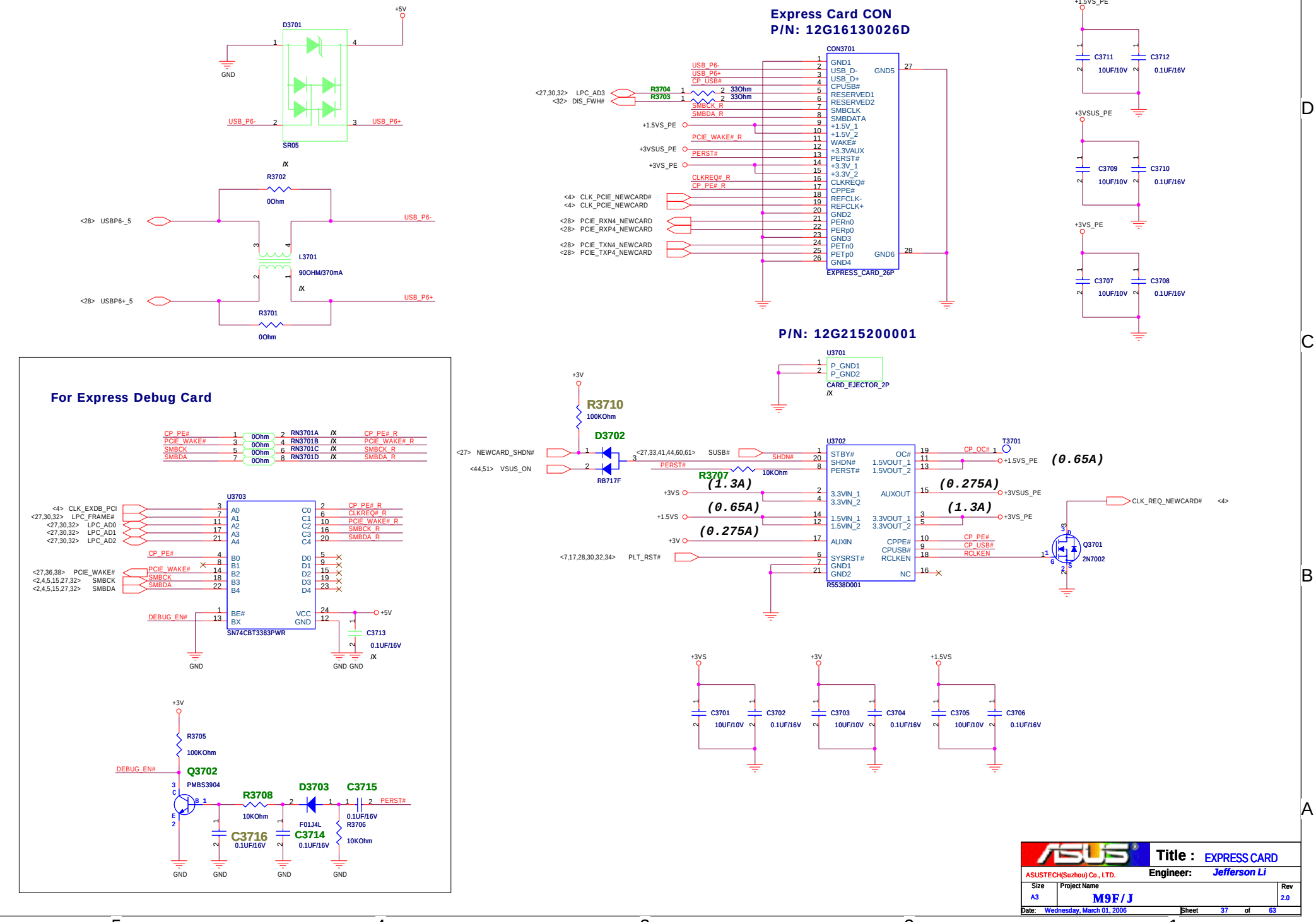


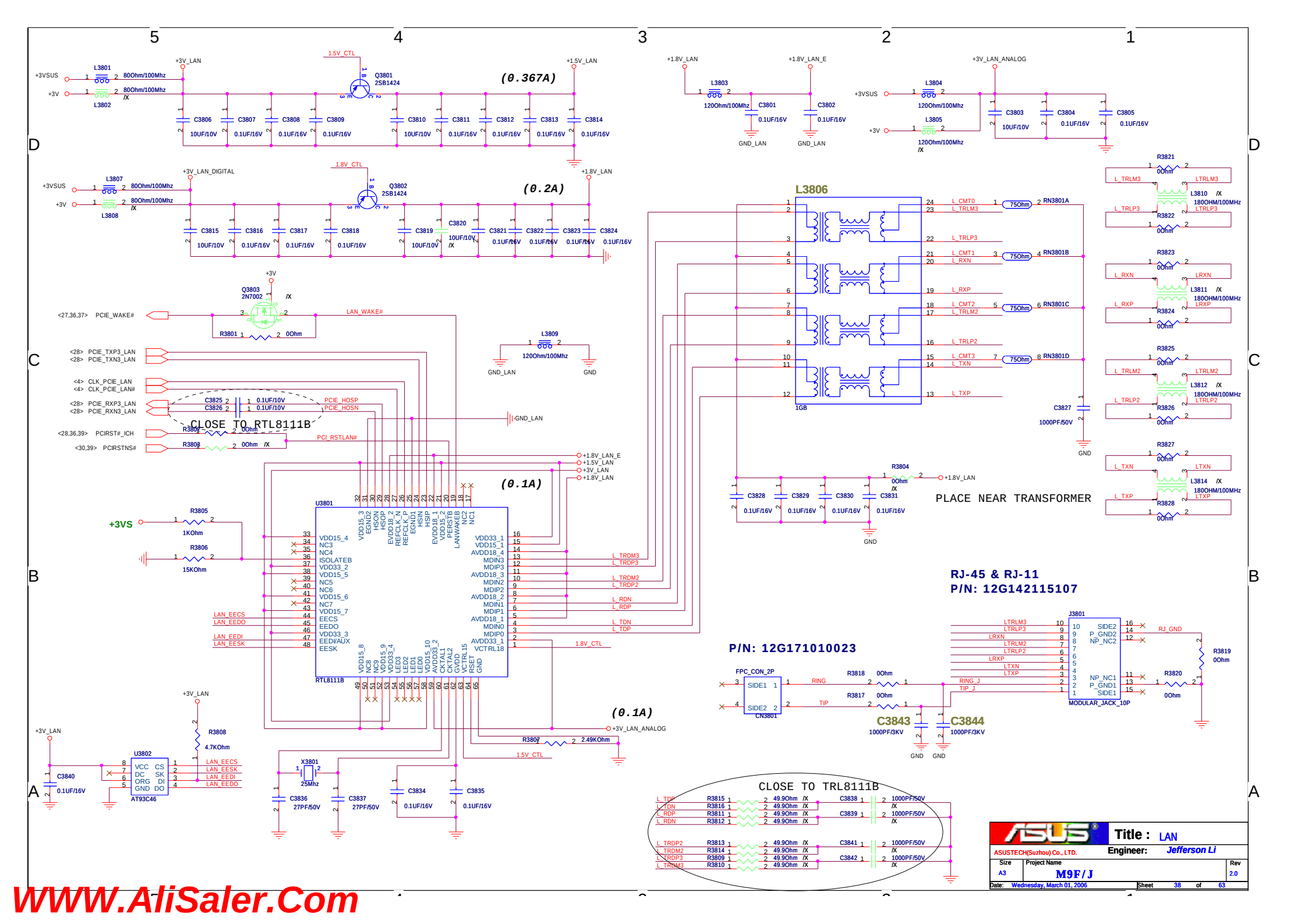
Title :	Schematic page name
ASUSTECH(Suzhou) Co., LTD.	Engineer: Muscle_Wu
Size: A3	Project Name: M9F/J
Rev: 2.0	
Date: Wednesday, March 01, 2006	Sheet 34 of 63

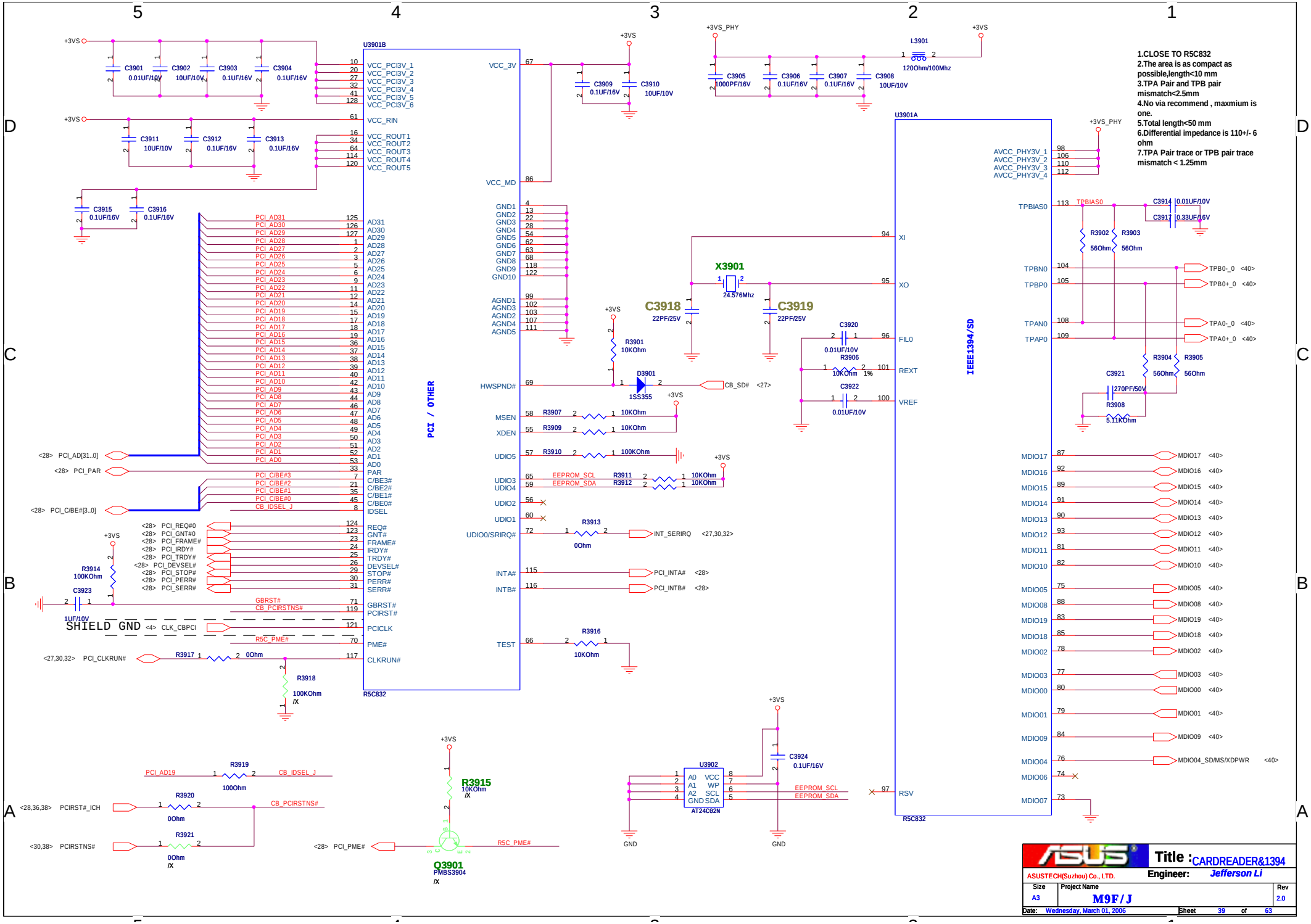

Bluetooth
P/N: 12G170030100
Finger Print
P/N: 12G171010048
Camera & Int. MIC
P/N: 12G171010073
USB PORT
P/N: 12G130011045
Q3501
SI2305DS
Q3502
2N7002
R3533
10KOhm
R3503
0Ohm
CON3502
WTOB_CON_10P
R3501
0Ohm
/EPSON
L3514
90OHM/370mA
R3502
CON3501
WTOB_CON_4P
C3501
0.1UF/10V
L3501
120Ohm/100Mhz
C3504
470PF/50V
L3502
L3503
L3504
R3505
L3505
R3506
CON3503
WTOB_CON_7P
U3501
U3502
U3503
U3504
G528P1UF
L3506
L3507
L3510
L3511
220Ohm/100Mhz
C3505
C3506
C3507
C3508
C3515
C3516
C3517
C3518
0.1UF/10V
22UF/10V
R3509
R3510
R3520
R3522
R3513
R3514
R3517
R3518
R3529
R3530
L3508
L3509
L3512
L3513
C3509
C3510
C3519
C3520
C3511
C3512
C3513
C3514
C3521
C3522
C3523
C3524
100PF/50V
D3501
D3502
D3503
D3504
SR05
USB3501
USB3502
USB3503
USB3504
USB_CON_1X4P
R3507 0Ohm
R3508 0Ohm
R3519 0Ohm
R3521 0Ohm
R3511
R3512
R3523
R3524
R35252
R35272
R3515
R3516
R3526
R3528
Title : Schematic page name
Engineer: Muscle_Wu
ASUSTECH(Suzhou) Co., LTD.
Project Name
M9F/J
Rev
2.0
Sheet 35 of 63
Date: Wednesday, March 01, 2006

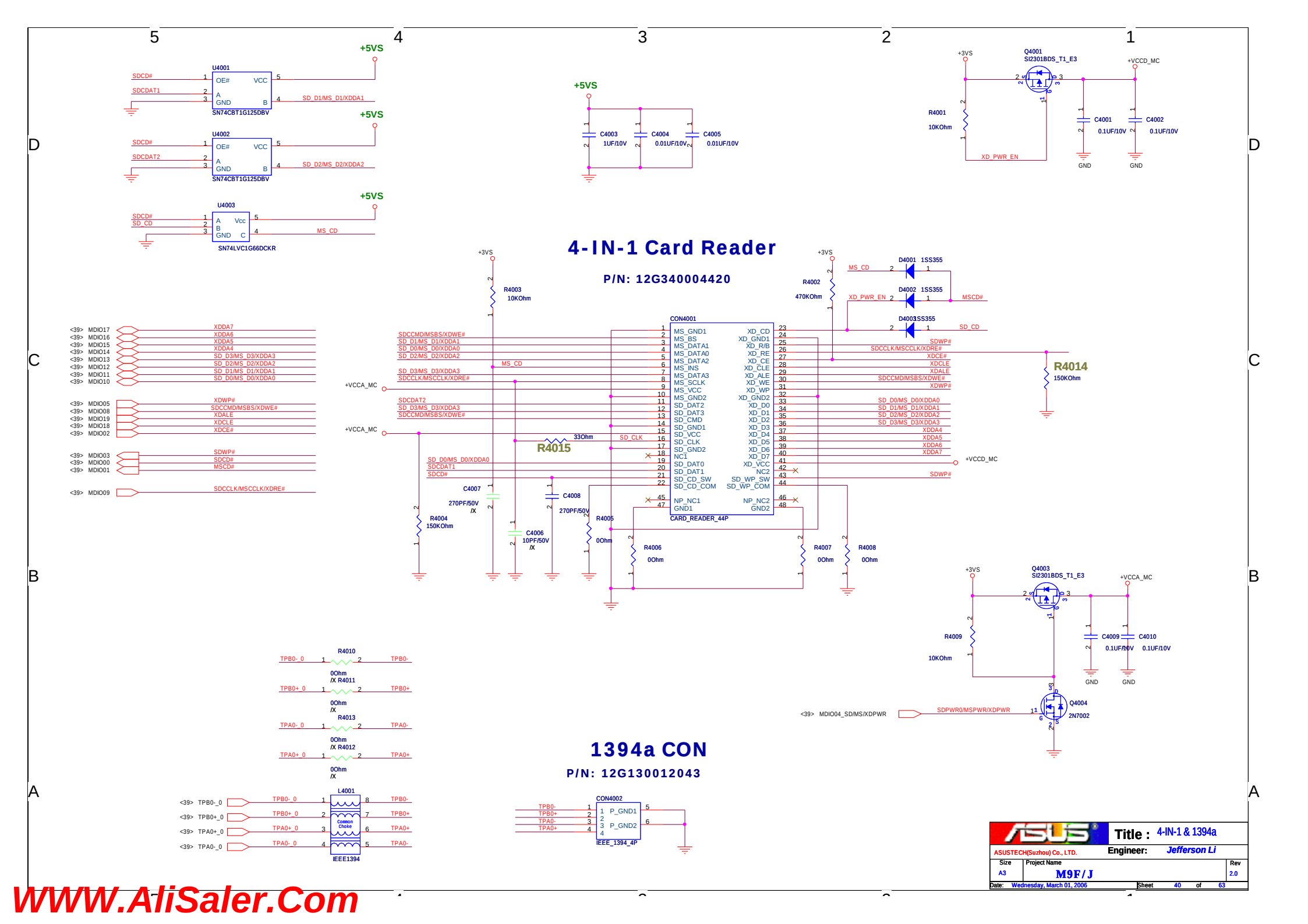


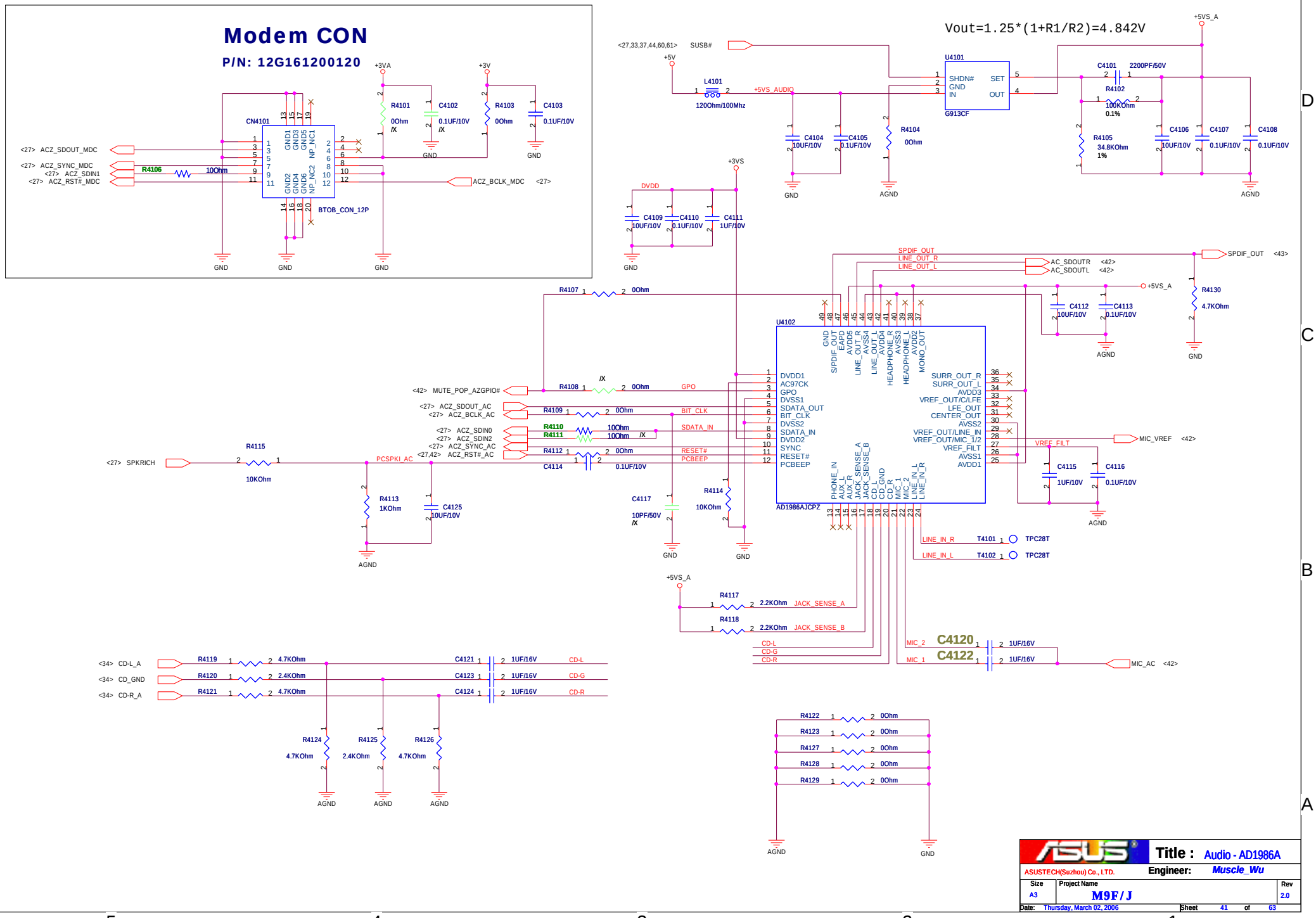
ASUSTECH(Suzhou) Co., LTD.	Title : MINI CARD		
	Engineer: Jefferson Li		
Size: A3	Project Name: M9F/J		Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 36 of 63		


Express Card CON
P/N: 12G16130026D
P/N: 12G215200001
For Express Debug Card
D3701
SR05
R3702
0Ohm
L3701
90OHM/370mA
R3701
0Ohm
CON3701
EXPRESS_CARD_26P
U3701
CARD_EJECTOR_2P
U3702
R5538D001
U3703
SN74CBT3383PWR
R3710
100KOhm
D3702
RB717F
R3707
10KOhm
(1.3A)
(0.65A)
(0.275A)
Q3701
2N7002
R3705
100KOhm
Q3702
PMBS3904
R3708
10KOhm
D3703
F01J4L
C3715
0.1UF/16V
R3706
10KOhm
C3716
0.1UF/16V
C3714
0.1UF/16V
C3711
C3712
C3709
C3710
C3707
C3708
C3701
C3702
C3703
C3704
C3705
C3706
10UF/10V
0.1UF/16V
C3713
0.1UF/16V
Title : EXPRESS CARD
ASUSTECH(Suzhou) Co., LTD.
Engineer: Jefferson Li
Size A3
Project Name M9F/J
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 37 of 63

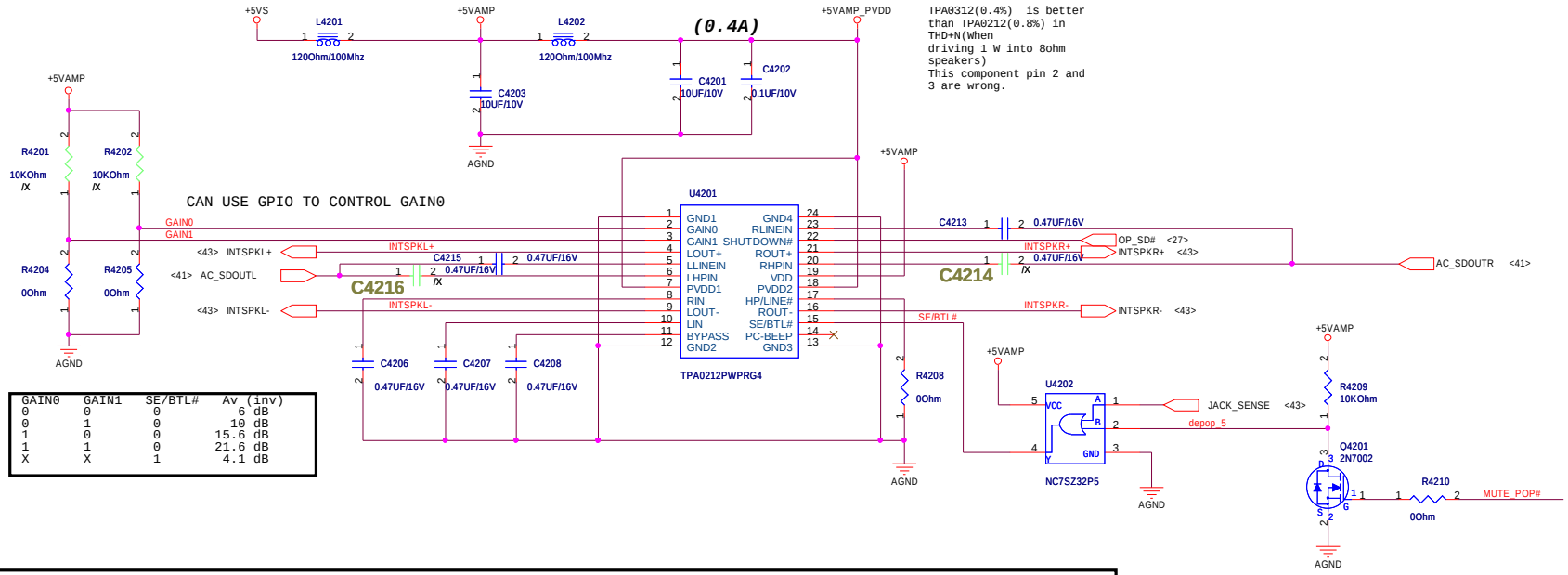



1.CLOSE TO R5C832
2.The area is as compact as possible,length<10 mm
3.TPA Pair and TPB pair mismatch<2.5mm
4.No via recommend , maxmium is one.
5.Total length<50 mm
6.Differential impedance is 110+/- 6 ohm
7.TPA Pair trace or TPB pair trace mismatch < 1.25mm
U3901B
U3901A
R5C832
PCI / OTHER
IEEE1394/SD
X3901
24.576Mhz
C3918
22PF/25V
C3919
22PF/25V
L3901
120Ohm/100Mhz
SHIELD GND
U3902
AT24C02N
Q3901
PMBS3904
Title : CARDREADER&1394
ASUSTECH(Suzhou) Co., LTD.
Engineer: Jefferson Li
Project Name M9F/J
Size A3
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 39 of 63

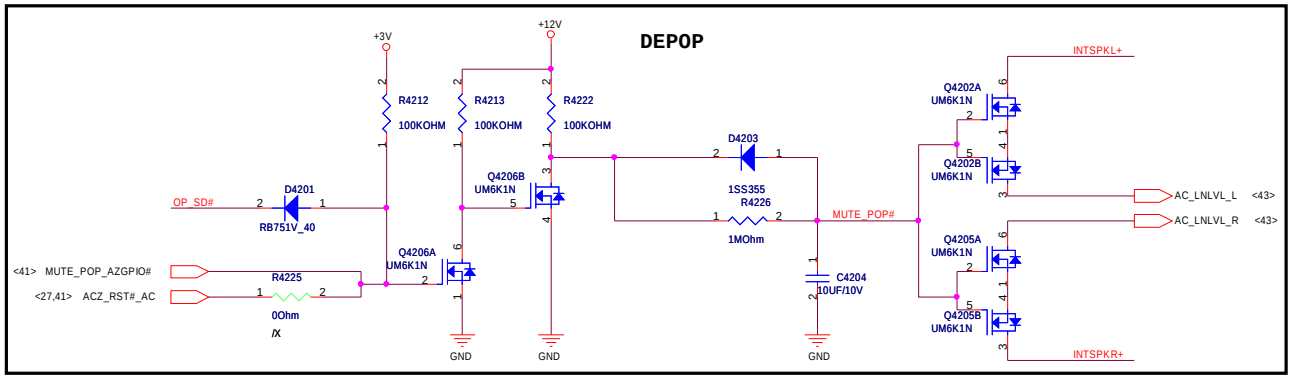


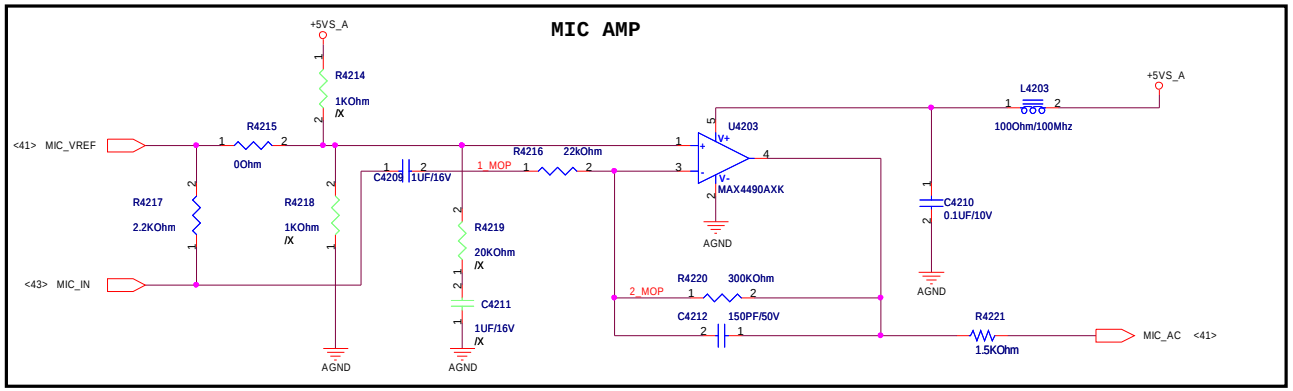


Title :	Audio - AD1986A
ASUSTECH(Suzhou) Co., LTD.	Engineer: Muscle_Wu
Size: A3	Project Name: M9F / J
Rev: 2.0	
Date: Thursday, March 02, 2006	Sheet 41 of 63

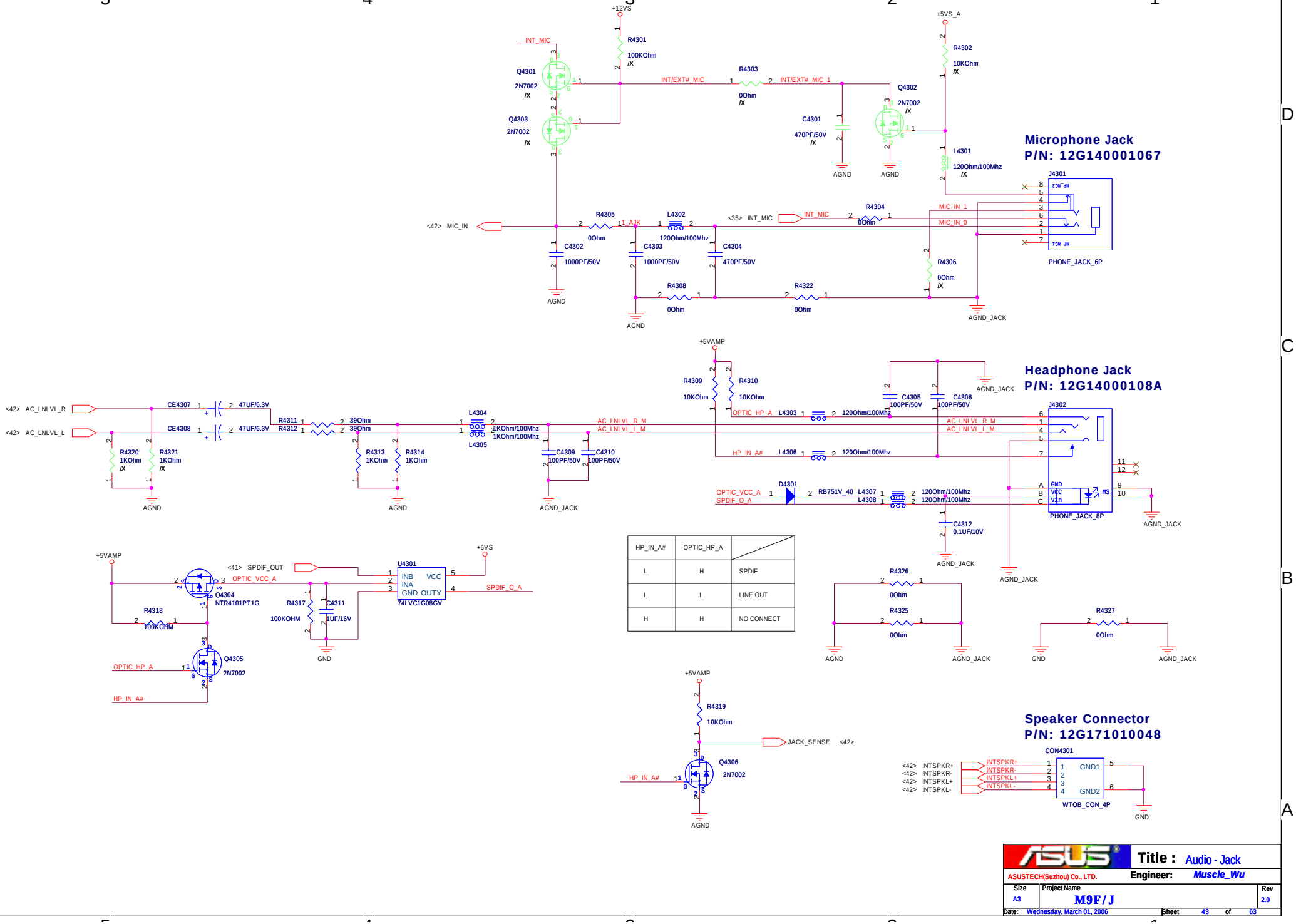


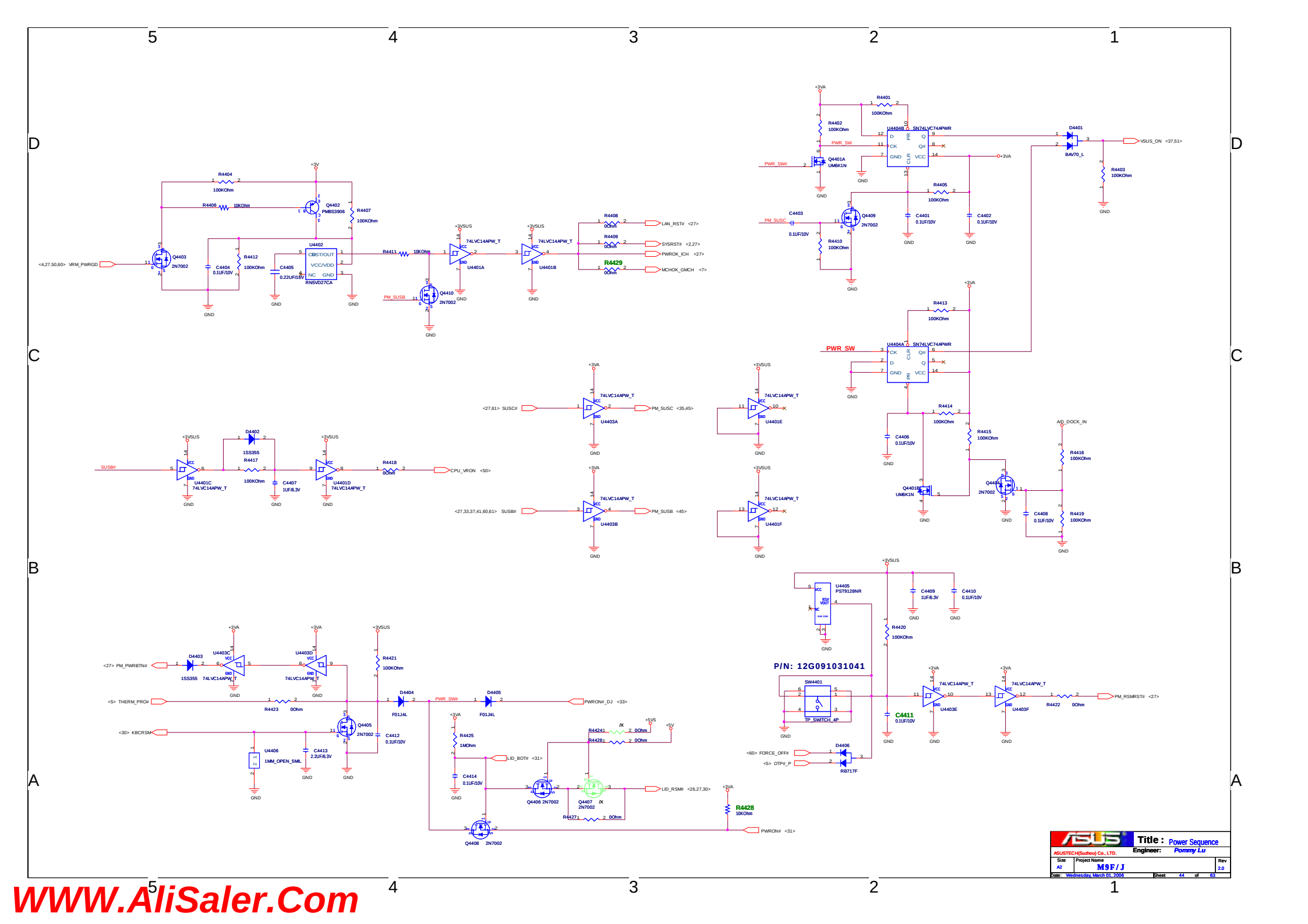
GAIN0	GAIN1	SE/BTL#	Av (inv)
0	0	0	6 dB
0	1	0	10 dB
1	0	0	15.6 dB
1	1	0	21.6 dB
X	X	1	4.1 dB

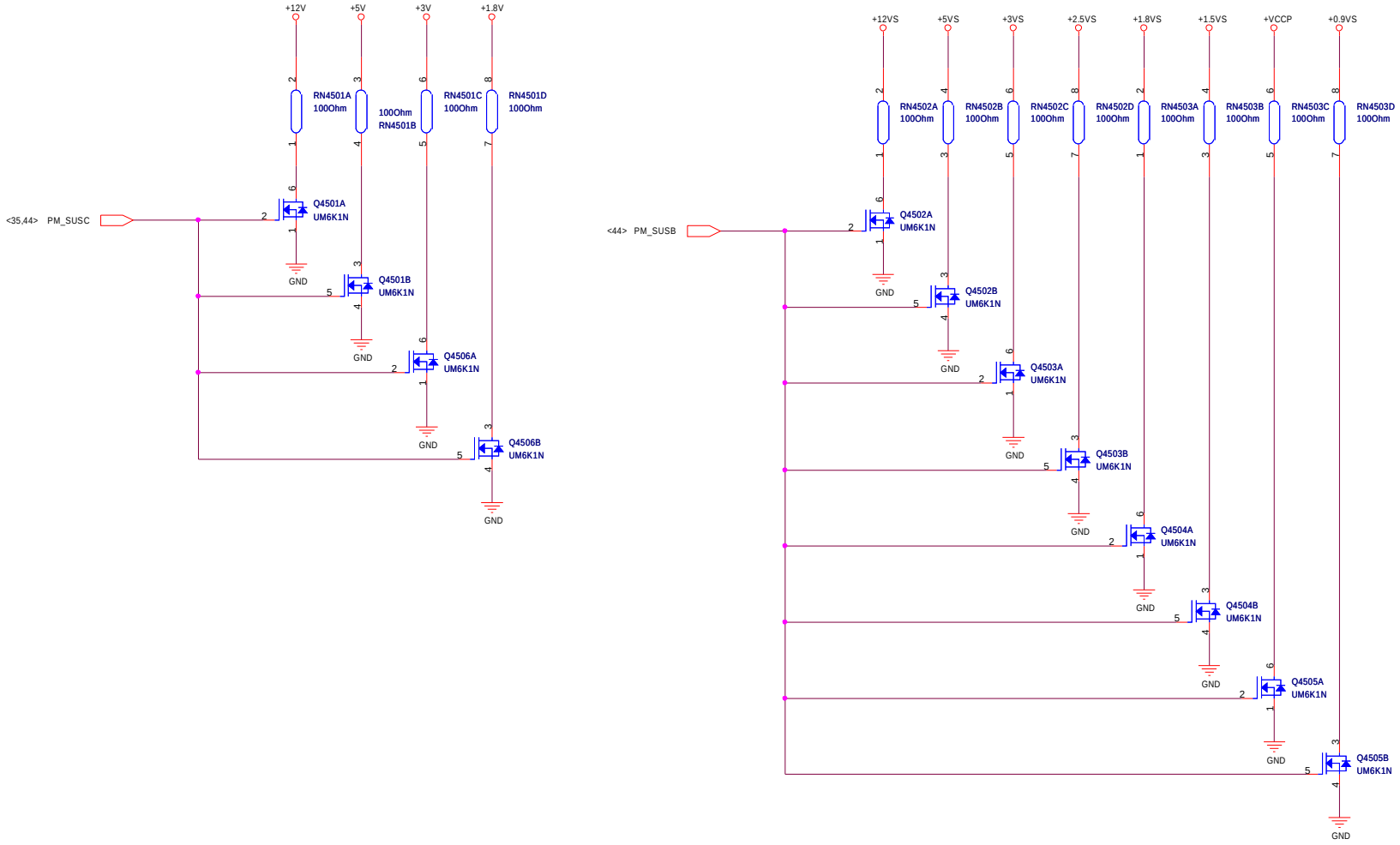




ASUSTECH(Suzhou) Co., LTD.	Title : Audio - AMP & Depop	
	Engineer: Muscle_Wu	
Size: A3	Project Name: M9F/J	Rev: 2.0
Date: Thursday, March 02, 2006	Sheet 42 of 63	


Microphone Jack
P/N: 12G140001067
Headphone Jack
P/N: 12G14000108A
Speaker Connector
P/N: 12G171010048
PHONE_JACK_6P
PHONE_JACK_8P
WTOB_CON_4P
74LVC1G08GV
NTR4101PT1G
2N7002
RB751V_40
HP_IN_A# | OPTIC_HP_A
L | H | SPDIF
L | L | LINE OUT
H | H | NO CONNECT
ASUSTECH(Suzhou) Co., LTD.
Title : Audio - Jack
Engineer: Muscle_Wu
Size A3
Project Name M9F/J
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 43 of 63

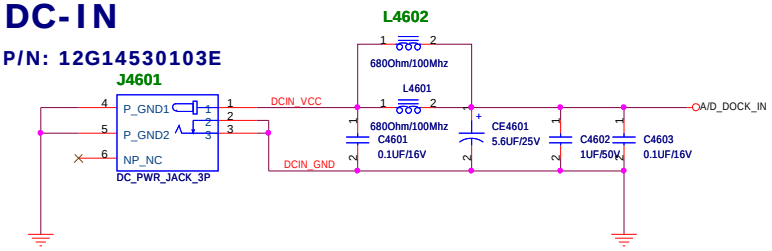




ASUSTECH(Suzhou) Co., LTD.	Title : Power Discharge	
	Engineer: Pommy Lu	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 45 of 63	

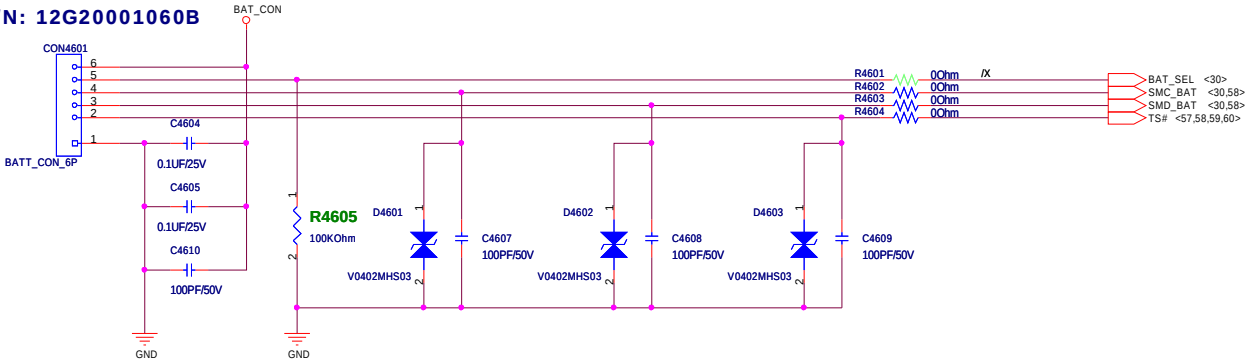
DC-IN

P/N: 12G14530103E



Battery-IN

P/N: 12G20001060B



ASUSTECH(Suzhou) Co., LTD.	Title : DC-IN & BAT-IN	
	Engineer: Pommy Lu	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 46 of 63	

A

H4701
CT276B299D110N
H4702
CT276B299D110N
GND
GND

B

H4703
L4E_1A
H4704
L4E_1A
H4705
L4E_1A
H4706
L4E_1A
/PM
H4707
L4E_1A
/PM
GND

E

H4708
CT236B94D94
GND

F

H4709
C236D94N
H4710
C236D94N
H4711
C236D94N
H4712
C236D94N
H4713
C236D94N
H4719
C236D94N
H4720
C236D94N
H4714
C236D94N
H4715
C236D94N
H4716
C236D94N
H4717
C236D94N
H4718
C236D94N
H4721
C236D94N
GND
GND
GND

J

H4722
CT295B236D94N
H4723
CT295B236D94N
GND
GND

L

H4724
DO142X94N

O

H4729
C150D87N

CPU Heat Sink Bracket Holes

H4725
C276D138
H4726
C276D138
H4727
C276D138
H4728
C276D138
GND

Mini Card Latch Nuts

H4730
CT236B189D150
H4731
CT236B189D150
GND

ASUSTECH(Suzhou) Co., LTD.	Title : Screw Hole	
	Engineer: Pommy Lu	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Thursday, February 23, 2006	Sheet 47 of 63	

5 4 3 2 1

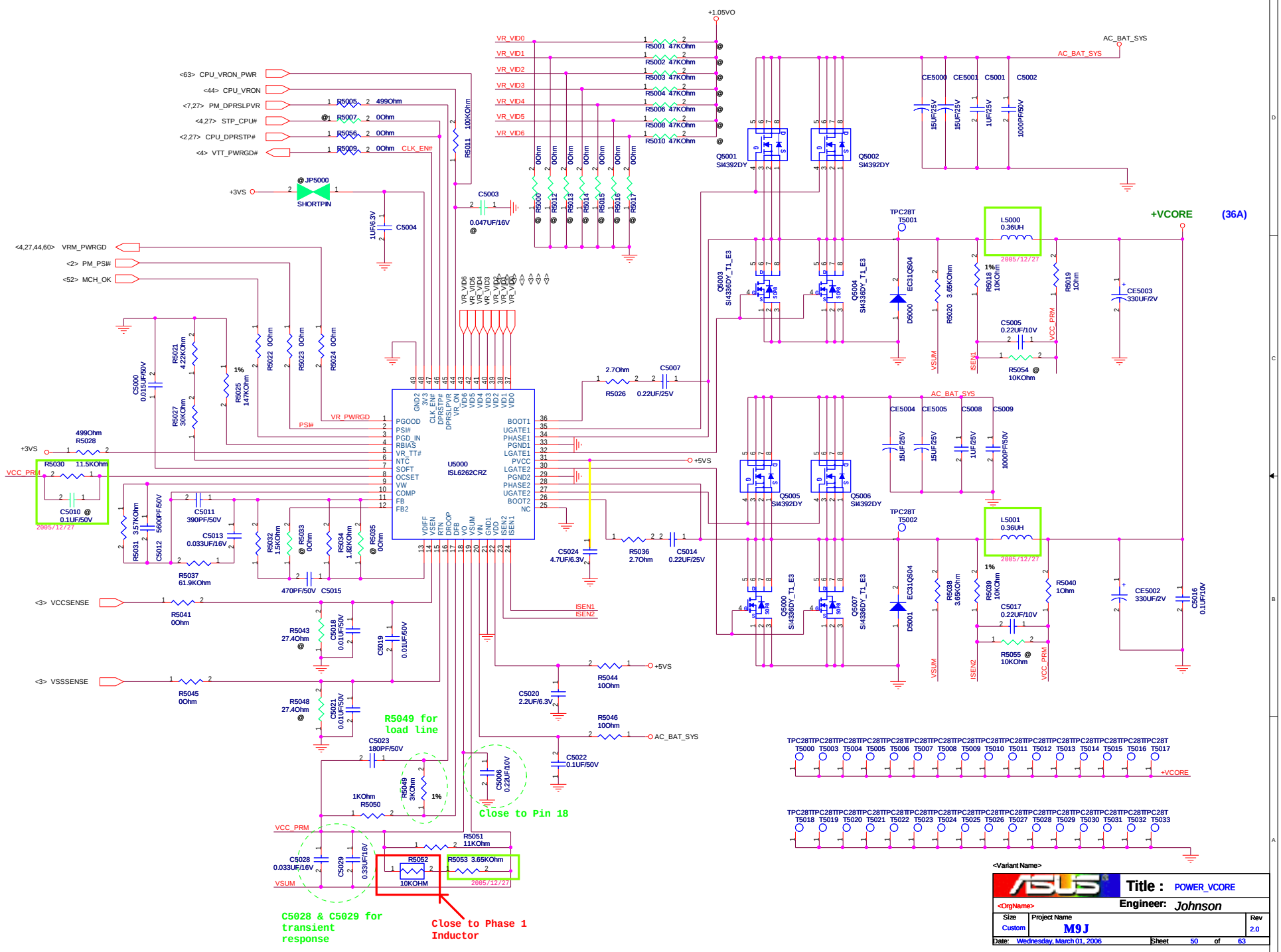
D C B A

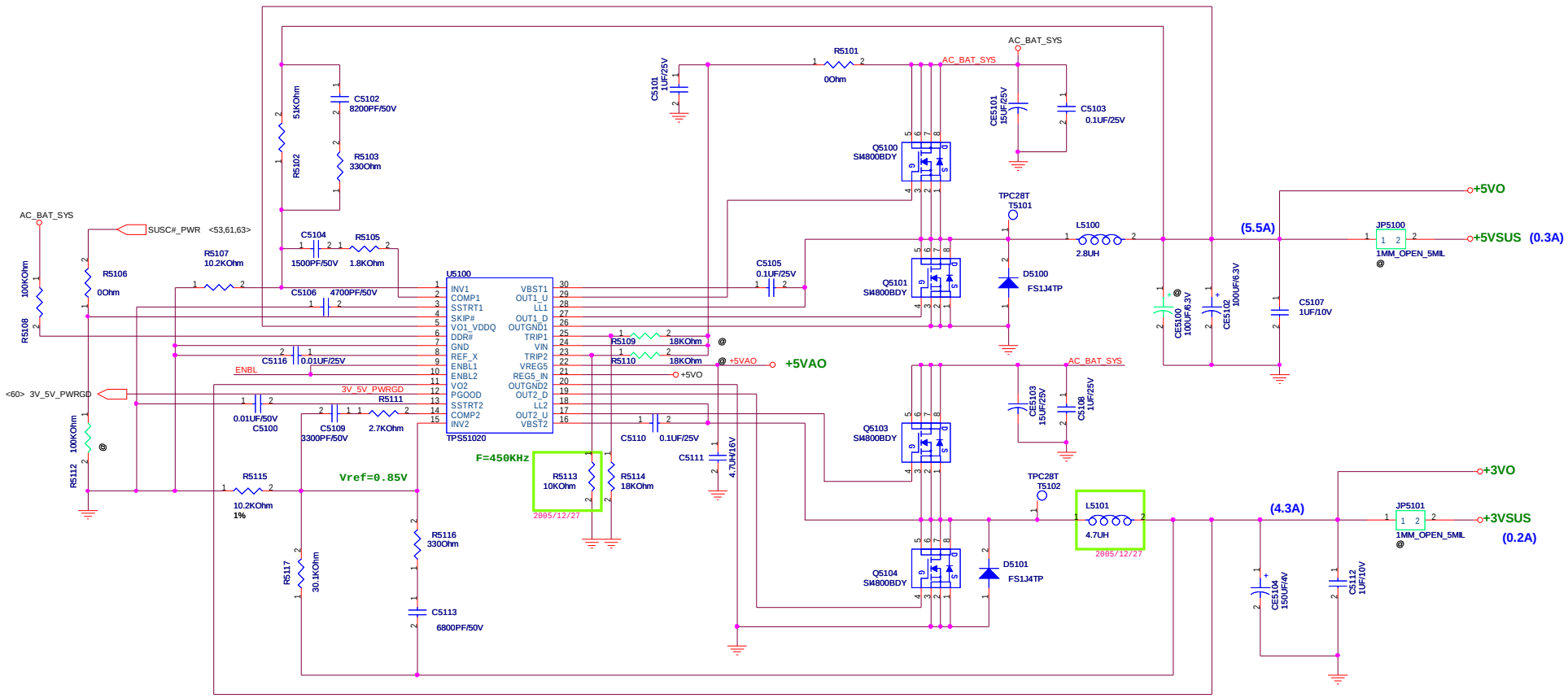
ASUSTECH(Suzhou) Co., LTD.	Title : Dummy	
	Engineer: Dummy	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Monday, January 09, 2006	Sheet 48 of 63	

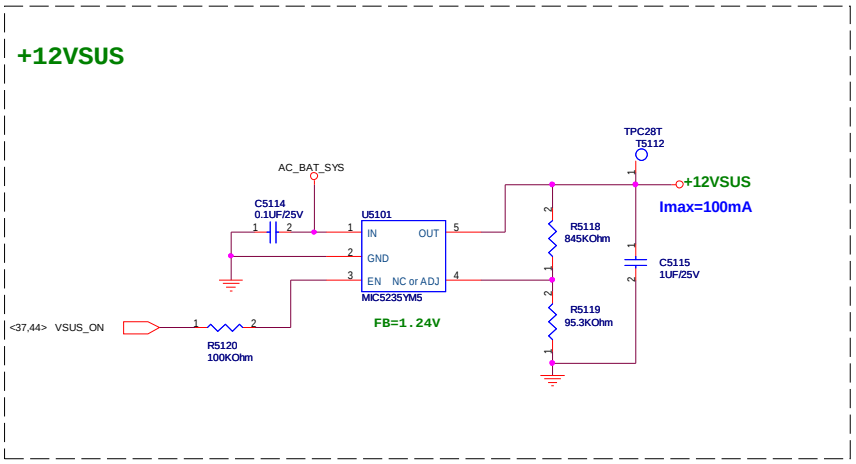
5 4 3 2 1

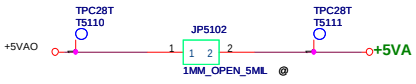
D C B A

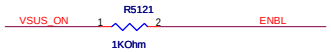
ASUSTECH(Suzhou) Co., LTD.	Title : Dummy	
	Engineer: *Dummy*	
Size: A3	Project Name: M9F / J	Rev: 2.0
Date: Monday, January 09, 2006	Sheet 49 of 63	

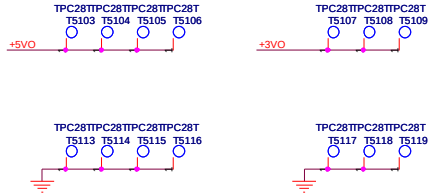






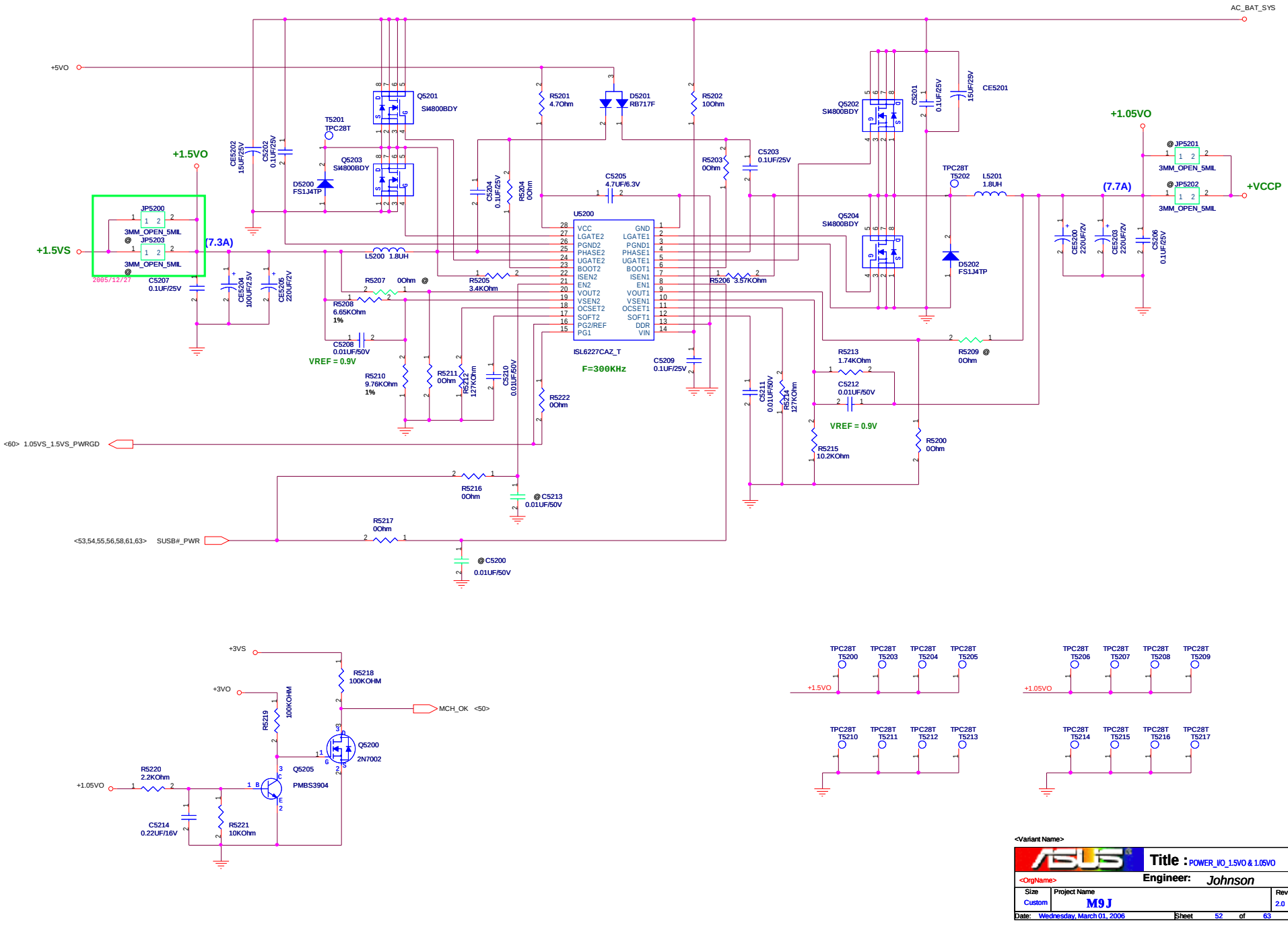


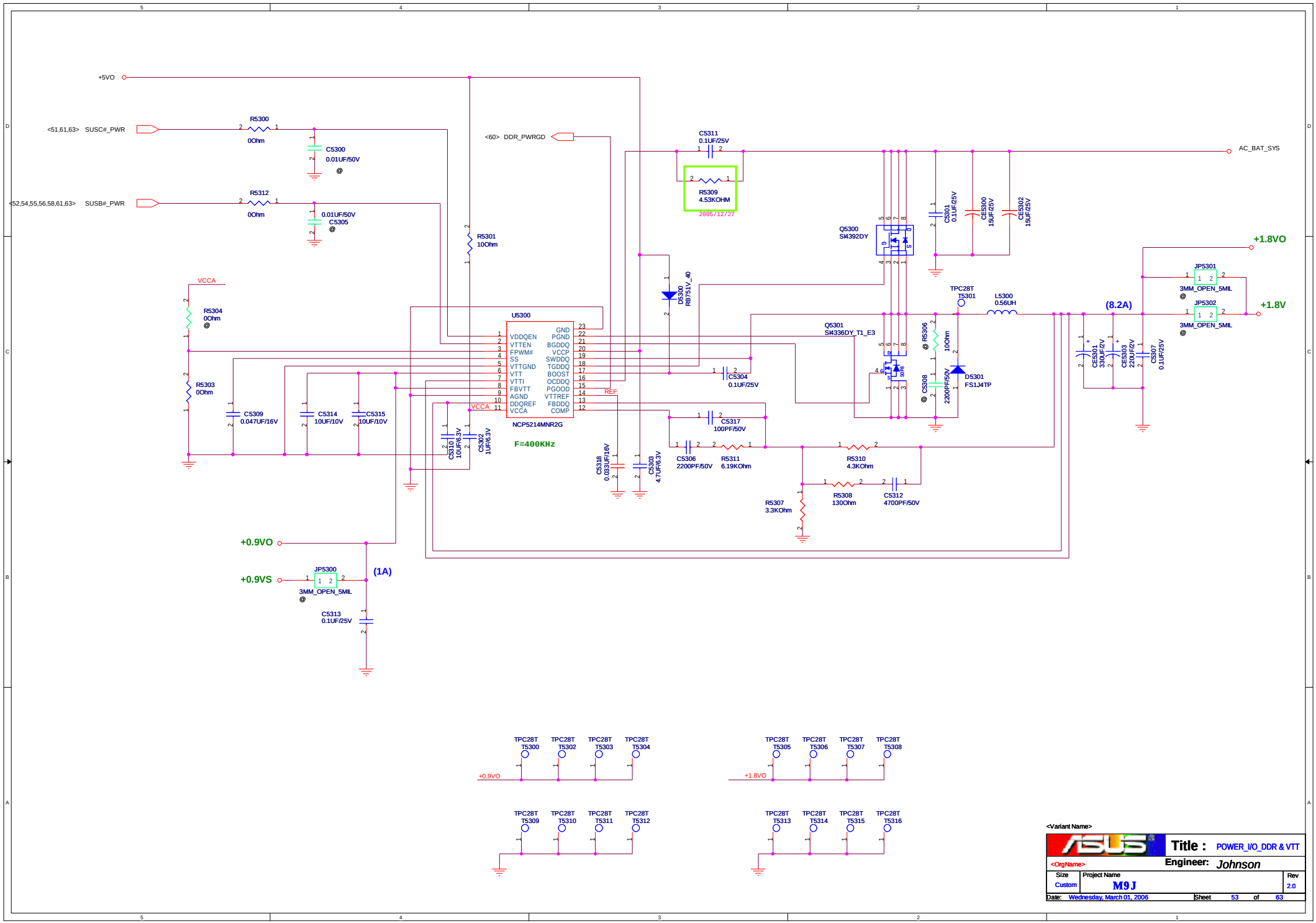




<variant_name>

<OrgName>	Title : POWER_SYSTEM	
	Engineer: Johnson	
Size: Custom	Project Name: M9J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 51 of 63	





<Variant Name>

Title : POWER_I/O_DDR & VTT

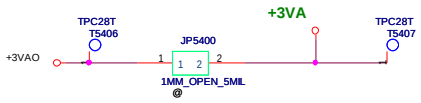
<OrgName>

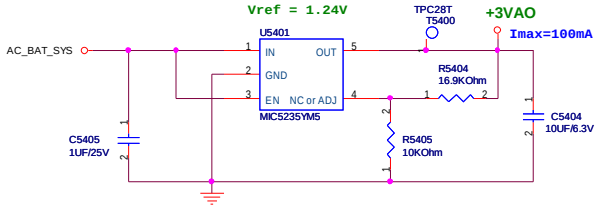
Engineer: Johnson

Size	Project Name	Rev
Custom	M9 J	2.0

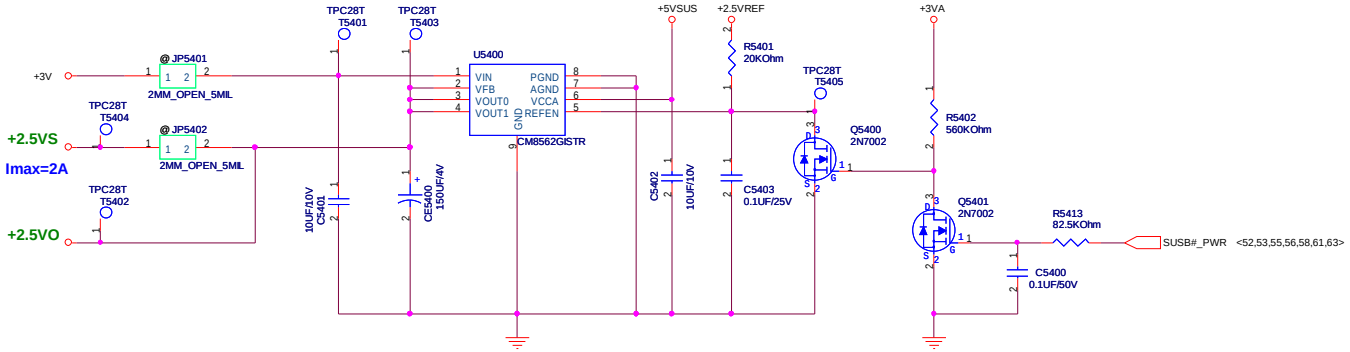
Date: Wednesday, March 01, 2006 Sheet 53 of 63

+3VA0



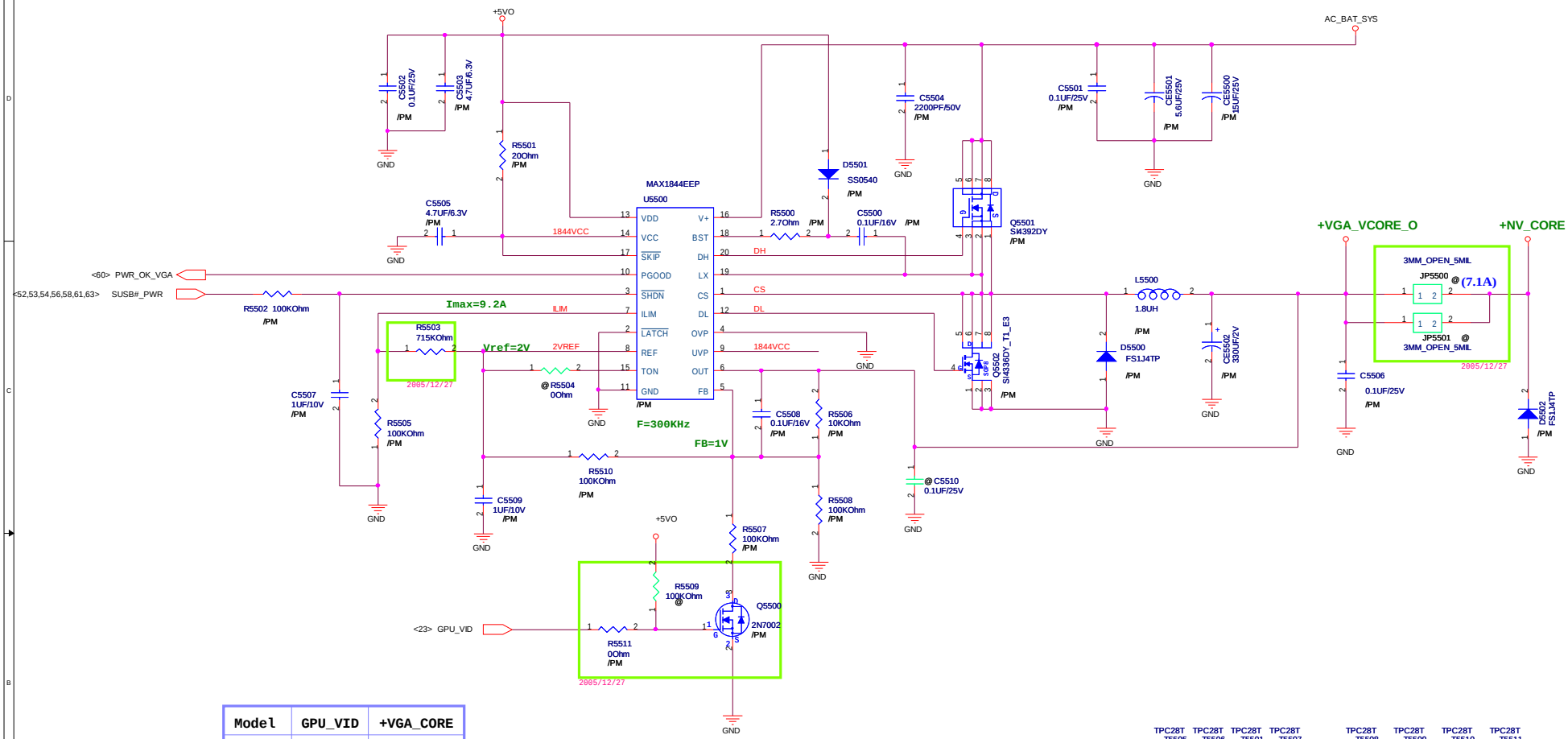


+2.5VS

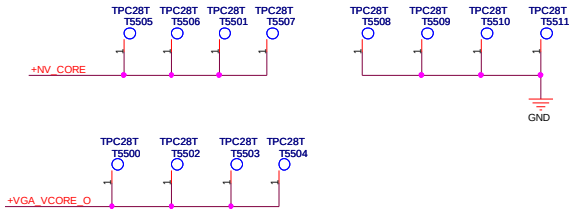


<Variant Name>

ASUS	Title : POWER_I/O_+3VA & +2.5V	
<OrgName>	Engineer: Johnson	
Size: Custom	Project Name: M9 J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 54 of 63	



Model	GPU_VID	+VGA_CORE
M9J	H	1.1V
	L	1.0V



<Variant Name>

Title : + VGA_CORE

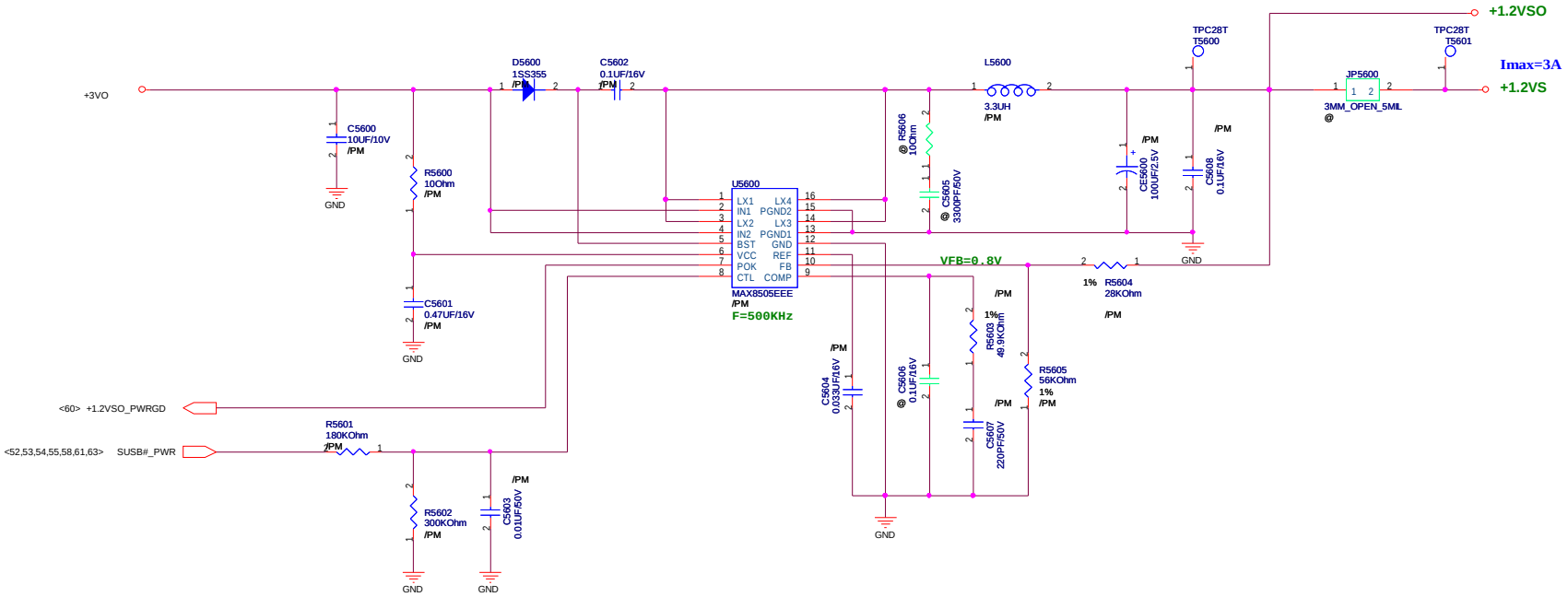
<OrgName>

Engineer: Johnson

Size	Project Name	Rev
Custom	M9J	2.0

Date: Wednesday, March 01, 2006 Sheet 55 of 63

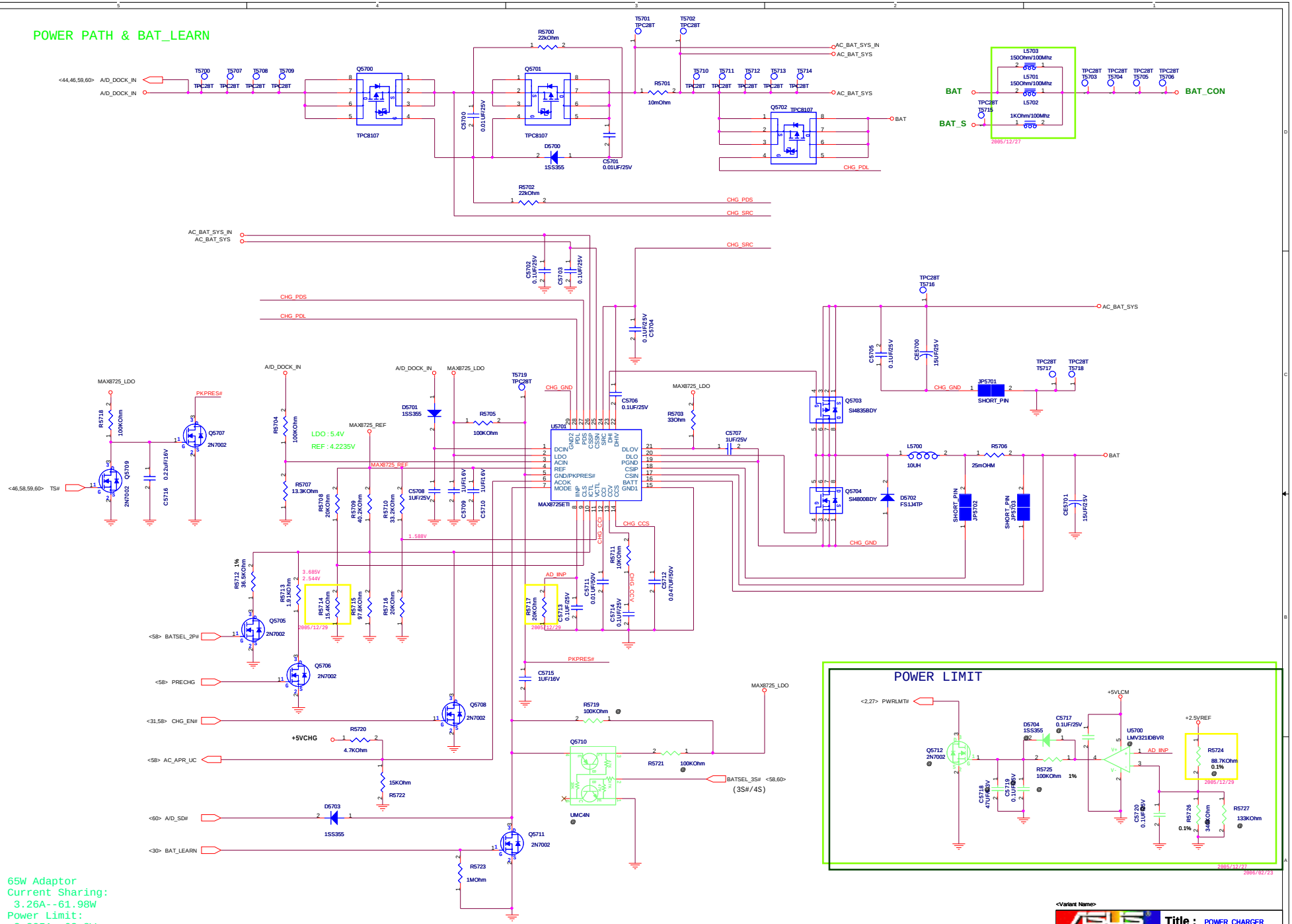
+1.2VSP



<Variant Name>

<OrgName>	Title : POWER_VGA_+1.2VSP	
	Engineer: Johnson	
Size: Custom	Project Name: M9 J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 56 of 63	

POWER PATH & BAT_LEARN



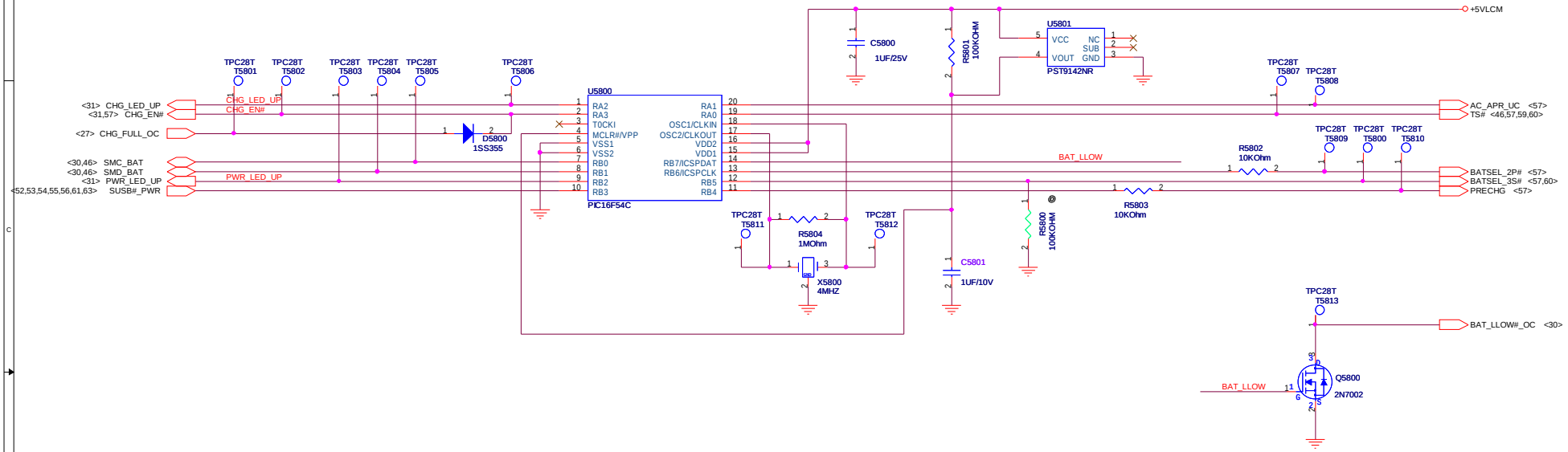
POWER LIMIT

65W Adaptor
Current Sharing:
3.26A--61.98W
Power Limit:
3.305A--62.8W

<Variant Name>

ASUS	Title : POWER_CHARGER	
<OrgName>	Engineer: Johnson	
Size: C	Project Name: M9J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 57 of 63	

PIC16F54C

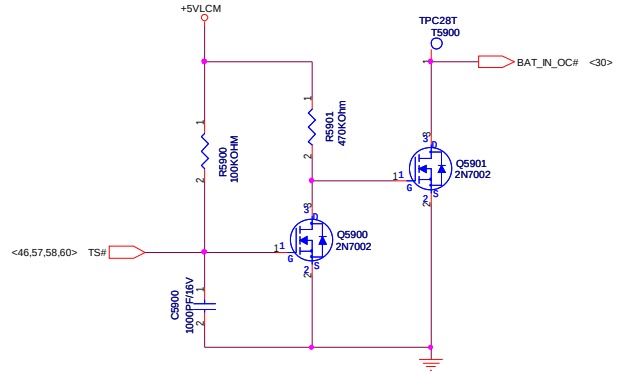


When BAT_LLOW#_OC is active, system entry S4

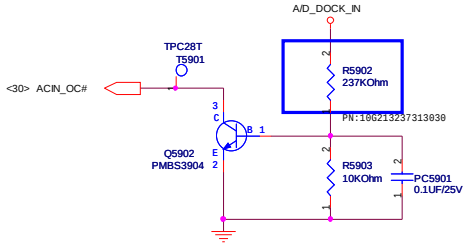
<Variant Name>

<OrgName>	Title : POWER_PIC	
	Engineer: Johnson	
Size: Custom	Project Name: M9J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 58 of 63	

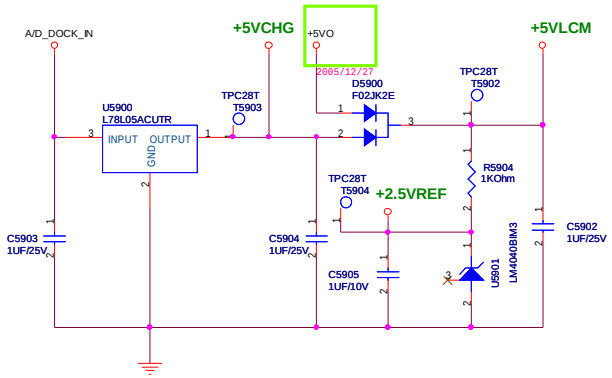
BATTERY IN DETECT



ADAPTER IN DETECT



+5VLCM, +5VCHG & +2.5VREF



<Variant Name>

Title : POWER_DETECT

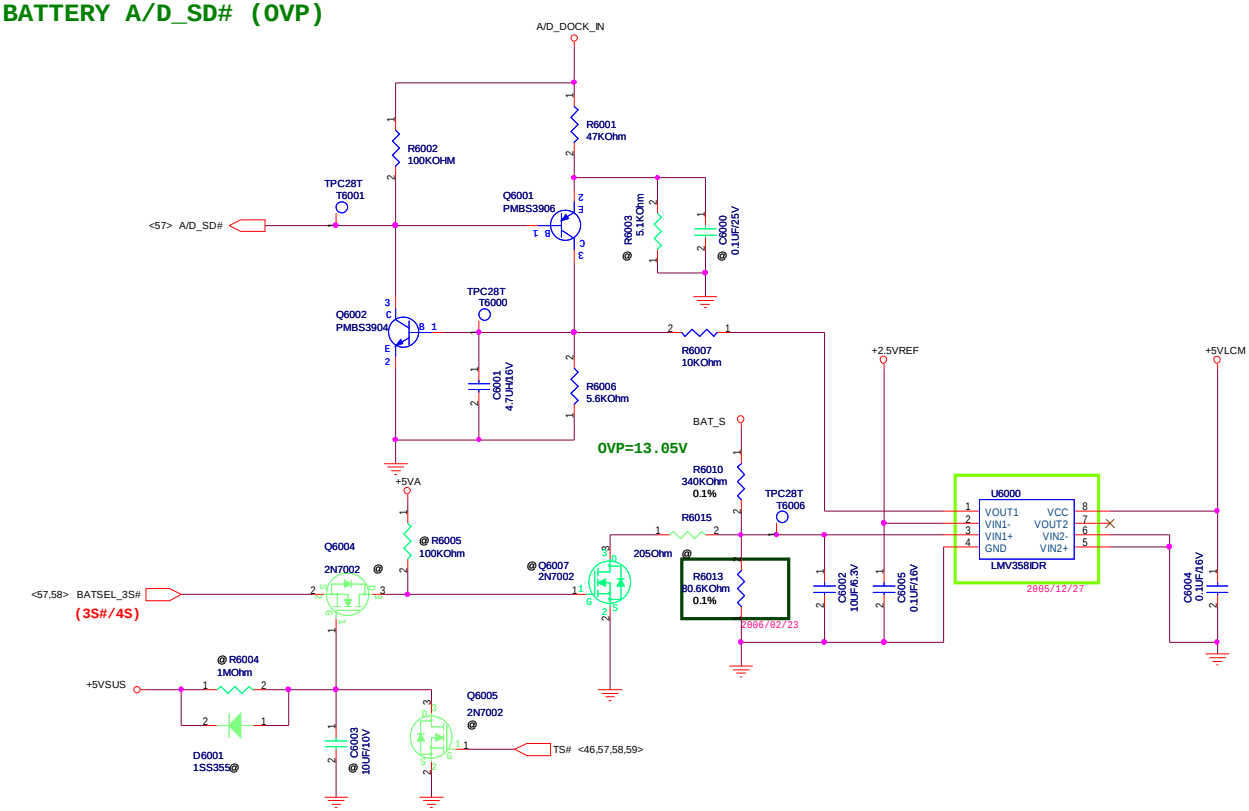
<OrgName>

Engineer: Johnson

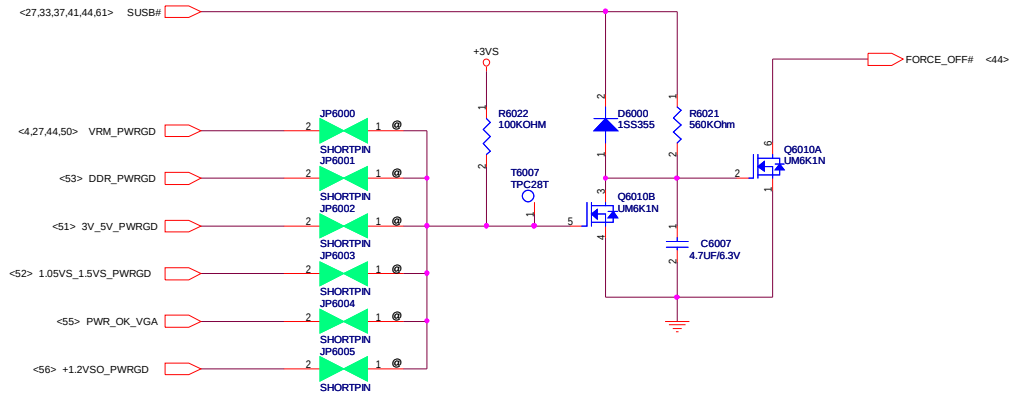
Size	Project Name	Rev
Custom	M9J	2.0

Date: Wednesday, March 01, 2006 Sheet 59 of 63

BATTERY A/D_SD# (OVP)



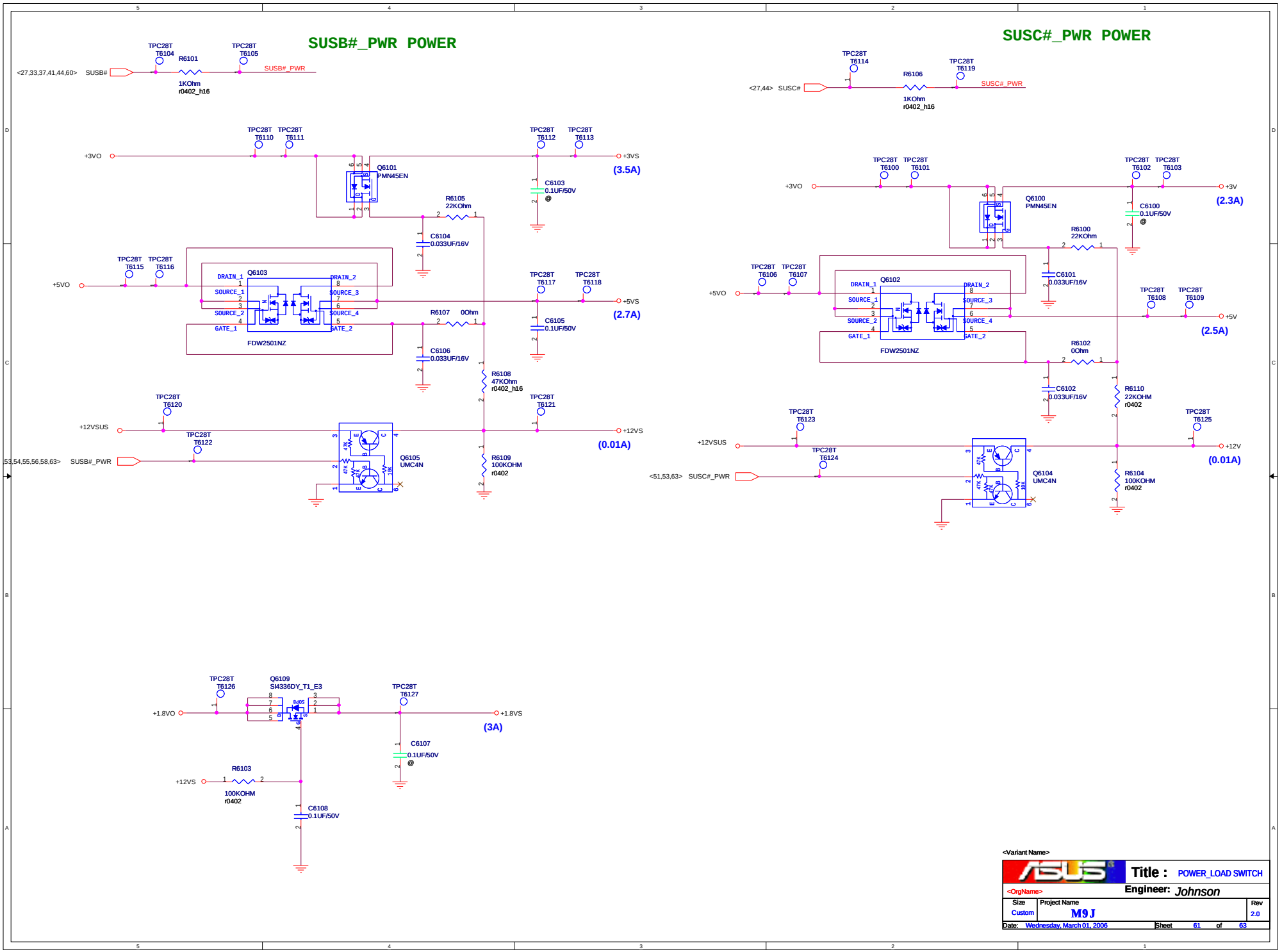
POWER GOOD DETECTER

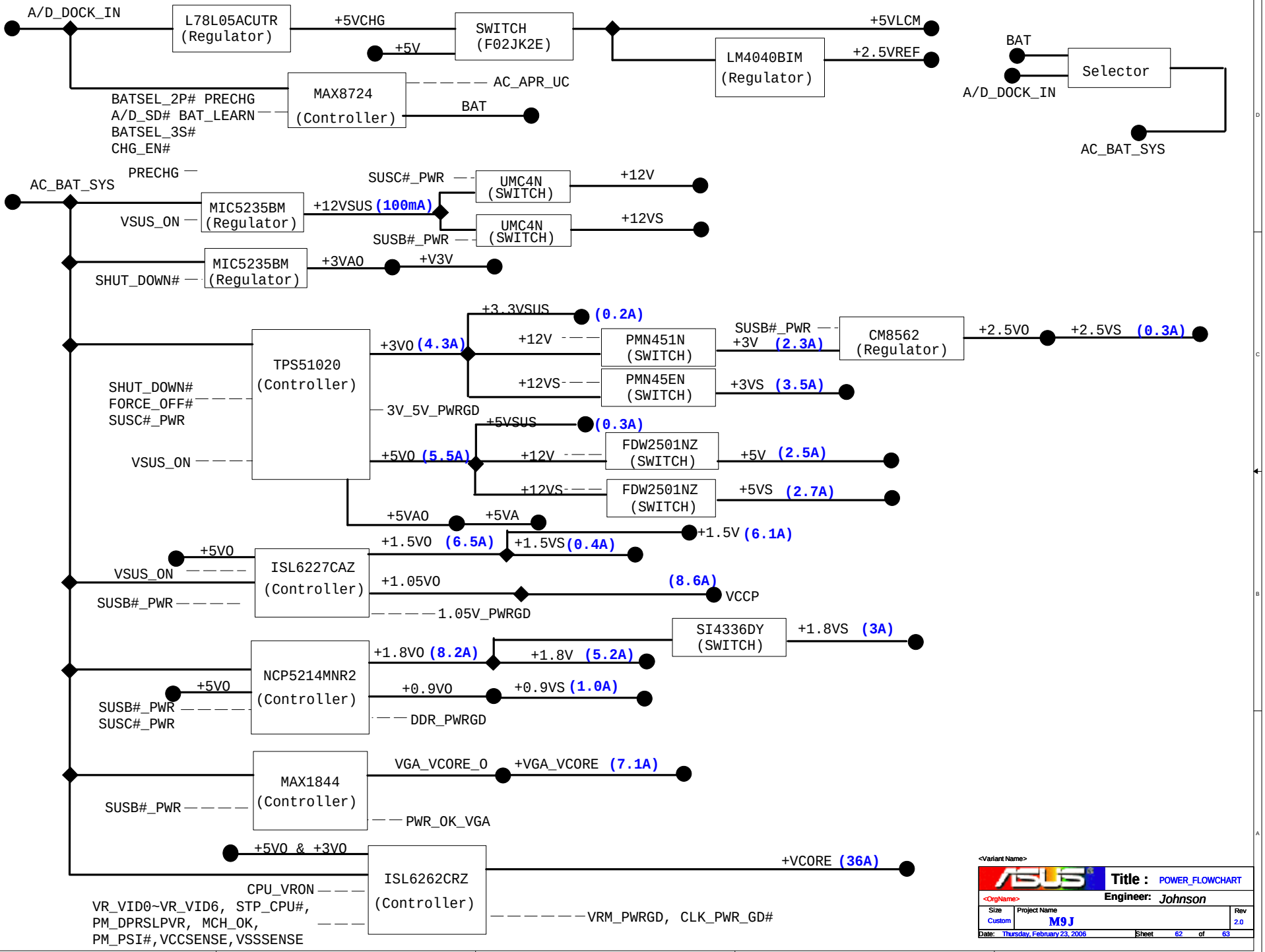


TPC28T T6002 1 VRM_PWRGD
TPC28T T6003 1 DDR_PWRGD
TPC28T T6004 1 3V_5V_PWRGD
TPC28T T6005 1 1.05VS_1.5VS_PWRGD

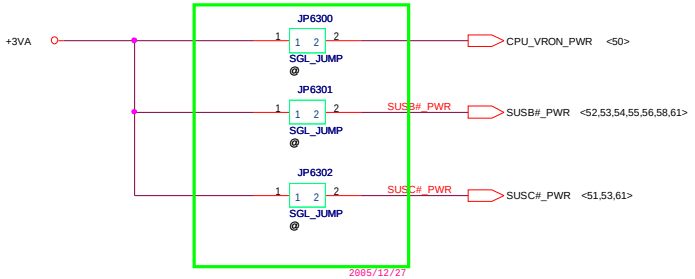
<Variant Name>

<OrgName>	Title : POWER_PROTECT	
	Engineer: Johnson	
Size: Custom	Project Name: M9J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 60 of 63	


SUSB#_PWR POWER
SUSC#_PWR POWER
<27,33,37,41,44,60> SUSB#
SUSB#_PWR
R6101
1KOhm
r0402_h16
<27,44> SUSC#
SUSC#_PWR
R6106
1KOhm
r0402_h16
+3VO
+3VS
(3.5A)
Q6101
PMN45EN
C6103
0.1UF/50V
@
R6105
22KOhm
C6104
0.033UF/16V
+5VO
+5VS
(2.7A)
Q6103
FDW2501NZ
R6107 0Ohm
C6105
0.1UF/50V
C6106
0.033UF/16V
R6108
47KOhm
r0402_h16
+12VSUS
+12VS
(0.01A)
Q6105
UMC4N
R6109
100KOHM
r0402
<53,54,55,56,58,63> SUSB#_PWR
+3VO
+3V
(2.3A)
Q6100
PMN45EN
C6100
0.1UF/50V
@
R6100
22KOhm
C6101
0.033UF/16V
+5VO
+5V
(2.5A)
Q6102
FDW2501NZ
R6102
0Ohm
C6102
0.033UF/16V
R6110
22KOHM
r0402
+12VSUS
+12V
(0.01A)
Q6104
UMC4N
R6104
100KOHM
r0402
<51,53,63> SUSC#_PWR
+1.8VO
+1.8VS
(3A)
Q6109
SI4336DY_T1_E3
C6107
0.1UF/50V
@
R6103
100KOHM
r0402
+12VS
C6108
0.1UF/50V
<Variant Name>
Title : POWER_LOAD SWITCH
<OrgName>
Engineer: Johnson
Size Custom
Project Name M9J
Rev 2.0
Date: Wednesday, March 01, 2006
Sheet 61 of 63



FOR POWER TEST



AC_BAT_SYS — AC_BAT_SYS <26,50,51,52,53,54,55,57>
+3VA — +3VA <27,31,32,33,41,44,54>
+5VA — +5VA <51,60>
+5VO — +5VO <51,52,53,55,59,61>
+3VO — +3VO <51,52,56,61>

+3V — +3V <5,30,31,32,33,35,36,37,38,41,42,44,45,54,61>
+3VS — +3VS <4,5,7,11,15,17,21,22,23,24,25,26,27,28,29,32,33,34,36,37,38,39,40,41,45,50,52,60,61>

+12VSUS — +12VSUS <51,61>
+12V — +12V <5,42,45,61>
+12VS — +12VS <25,26,43,45,61>

+5V — +5V <7,31,33,35,37,41,44,45,61>
+5VS — +5VS <5,7,25,27,29,30,31,33,34,40,42,43,44,45,50,61>

+2.5VO — +2.5VO <54>
+2.5VS — +2.5VS <11,21,22,25,45,54>
+1.8VO — +1.8VO <53,61>
+1.8V — +1.8V <7,10,13,14,15,45,53>
+1.8VS — +1.8VS <18,21,45,61>

+1.5VO — +1.5VO <52>
+1.5VS — +1.5VS <3,8,10,11,28,29,36,37,45,52>

+1.2VS — +1.2VS <17,18,56>
+1.05VO — +1.05VO <50,52>
+VCCP — +VCCP <2,3,4,6,8,10,11,27,29,45,52>

+0.9VS — +0.9VS <16,45,53>
BAT — BAT <57>
+5VCHG — +5VCHG <57,59>
+5VLCM — +5VLCM <30,31,57,58,59,60>
+2.5VREF — +2.5VREF <54,57,59,60>
+VCORE — +VCORE <3,5,50>

+NV_CORE — +NV_CORE <17,55>

BAT_CON — BAT_CON <46,57>

MODIFY LIST

2000/02/23
1.Unmount Power Limit Circuit
2.Modify OVP Circuit
3.Change R6013 to 0.1% resistor

<Variant Name>

<OrgName>	Title : POWER_SIGNAL	
	Engineer: Johnson	
Size: Custom	Project Name: M9J	Rev: 2.0
Date: Wednesday, March 01, 2006	Sheet 63 of 63	