First International Computer, Inc

Portable Computer Group HW Department

Board name : MotherBoard Schematic

Project : AMD S1 + Nvidia C51D + MCP51

Version : 0.1

Initial Date : 05/13/2006

Confidential

Manager Sign by : Avery Lee

Drawing by : Jason Lee

Total confirm by :Adam Cho

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: TITLE | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 1 of 57

1. Schematic Page Description :

FIC Schematic Ver : 0.1

2. PCI BUS Description :

IDSEL	CHIP
AD27	1394 VIA VT6311S

PCIINT	CHIP
IRQA	1394 VIA VT6311S
IRQB	——
IRQC	——
IRQD	——

BUSMASTER

REQ	CHIP
REQ0 / GNT0	——
REQ1 / GNT1	1394 VIA VT6311S
REQ2 / GNT2	——
REQ3 / GNT3	——
REQ4 / GNT4	——

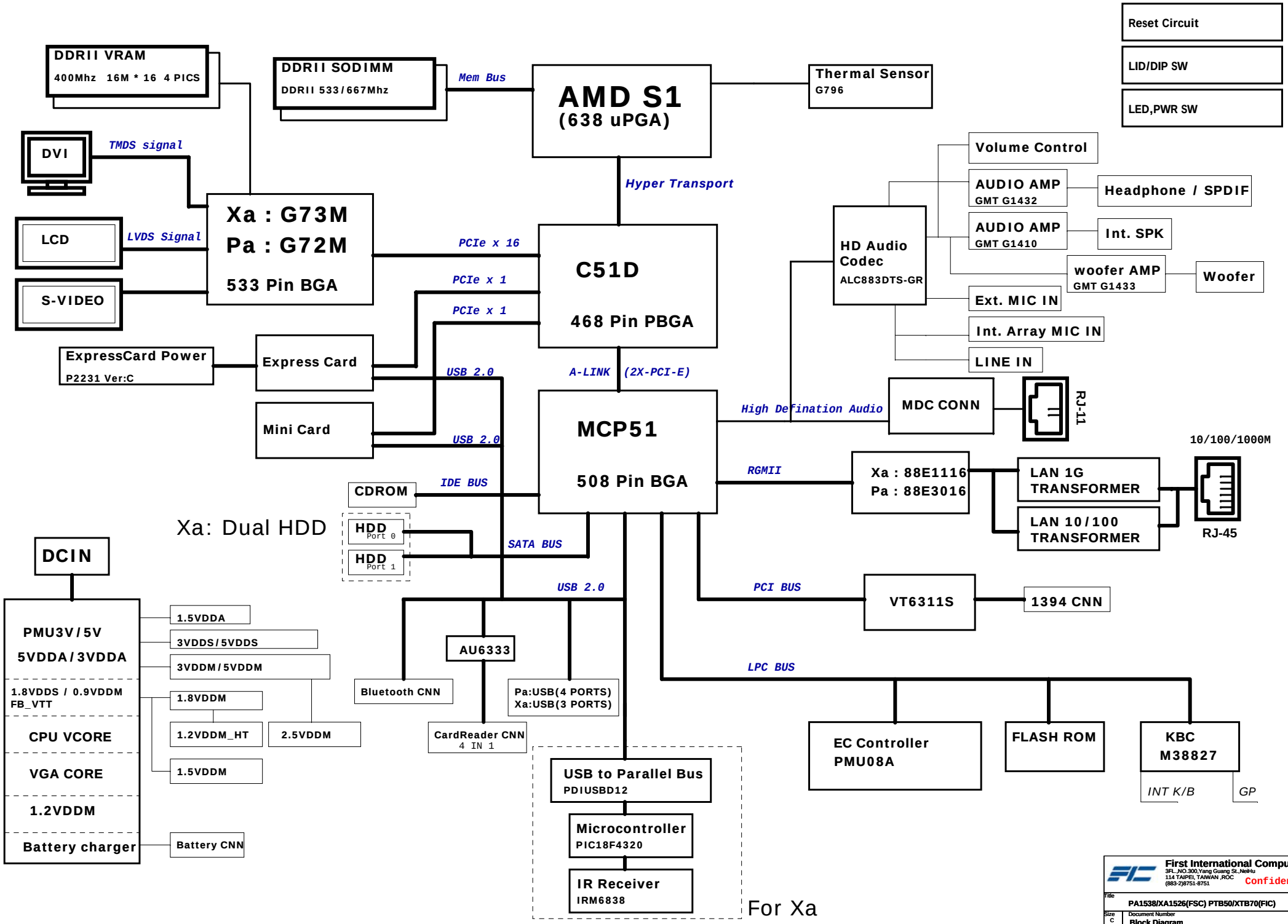
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: Schematic Page DESCR | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 2 of 57



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size: C | Document Number: Block Diagram | Rev: 0.1
Date: Thursday, June 08, 2006 | Sheet 3 of 57

4. Net name Description :

Voltage Rails

DCIN	Primary DC system power supply
PMU5V	5.0V always on power rail by LATCH or ACIN
PMU3V	3.3V always on power rail by LATCH or ACIN
5VDDA	5.0V always on power rail by DCON or PSUSC0
3VDDA	3.3V always on power rail by DCON or PSUSC0
1.5VDDA	1.5V always on power rail by DCON or PSUSC0
5VDDS	5.0V power rail
3VDDS	3.3V power rail
1.8VDDS	1.8V power rail
FB_VTT	0.9V power rail for VGA
0.9VDDM	0.9V DDR Termination Voltage
5VDDM	5.0V suspend power rail
3VDDM	3.3V suspend power rail
2.5VDDM	2.5V suspend power rail
1.5VDDM	1.5V suspend power rail
VDD_CORE	Core Voltage for VGA
VCPU_CORE	Core Voltage for CPU
1.2VDDM	VCC For CPU & NB
+1.2VHT	VCC For CPU & NB Hyper Transport

Part Naming Conventions

C = Capacitor
CN = Connector
D = Diode
F = Fuse
L = Inductor
Q = Transistor
R = Resistor
RP = Resistor Pack
U = Arbitrary Logic Device
Y = Crystal and Osc

Net Name Suffix

0 = Active Low signal

Signal Conditioning

_D_ = Damped (by a resistor)
_Q_ = Isolated (by a Q-switch)
_L_ = Filtered (by an inductor or bead)

5.Board Stack up Description

PCB Layers

Layer 1	TOP
Layer 2	GND
Layer 3	IN1/Mixer
Layer 4	GND
Layer 5	VCC
Layer 6	IN2/Mixer
Layer 7	GND
Layer 8	BOTTON

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size: C | Document Number: ANNOTATIONS | Rev: 0.1
Date: Thursday, June 08, 2006 | Sheet 4 of 57

6.Schematic modify Item and History :

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

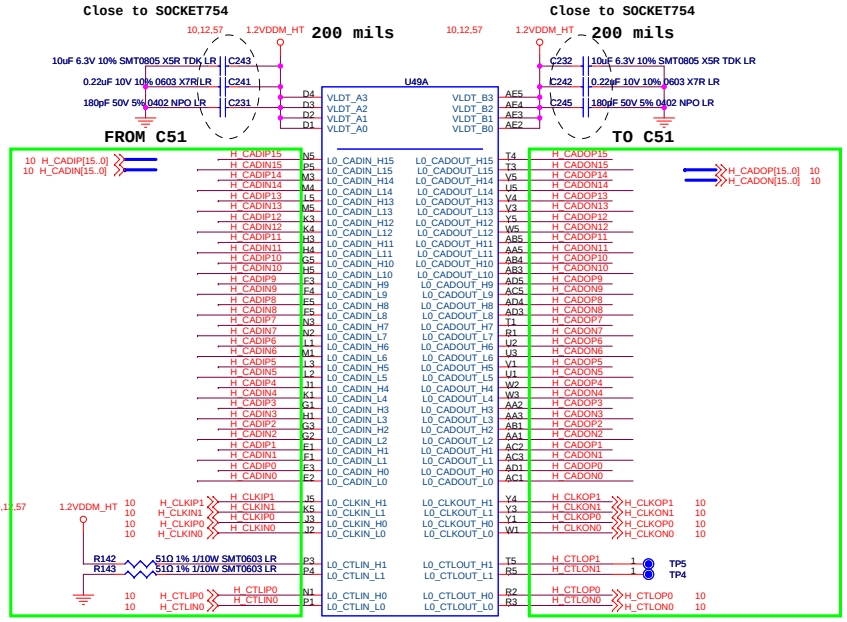
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: Schematic History | Rev: 0.1

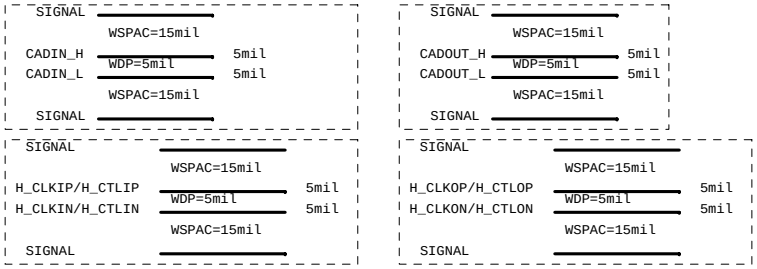
Date: Thursday, June 08, 2006 | Sheet 5 of 57

ClawHammer HT Interface

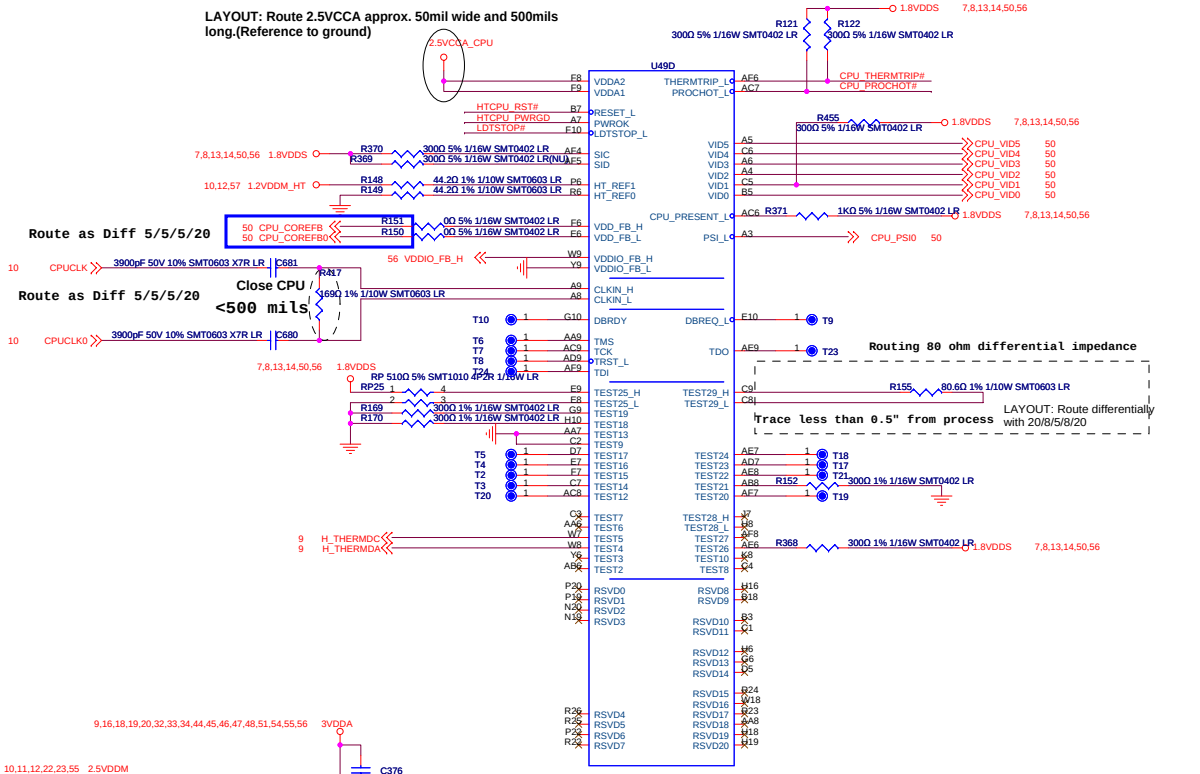


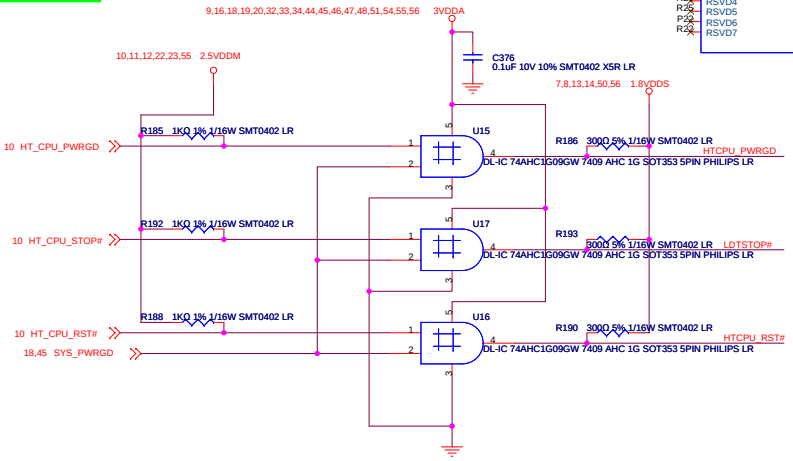
HT BUS General Routing Rules:

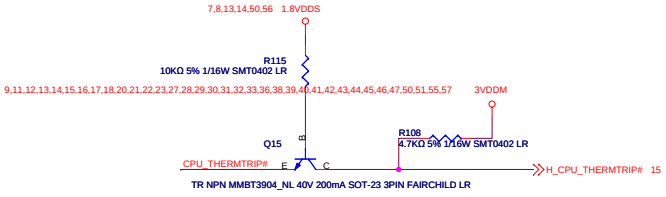
1. HT BUS is easy to route,and uses minmal board space.
2. HT BUS length must be greater than 1" and less than 12.0".
3. All CAD/CTL/CLK within a clock group must route at same layer.
4. HT BUS is Ground-referenced differential link.
5. Differential pair length matching within 30 mils.
6. CAD_H to CAD_L length matching within 30 mils.
7. CAD to CAD length matching within 120 mils.
8. CAD to CLK length matching within 60 mils.
9. CLK to CLK length matching within 600 mils(max).
10. CAD/CAD# and CTL/CTL# shall be treated identically within a clock group.

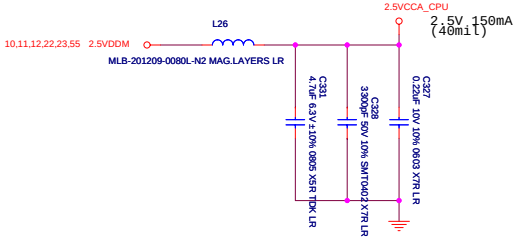


LAYOUT: Route 2.5VCCA approx. 50mil wide and 500mils long.(Reference to ground)



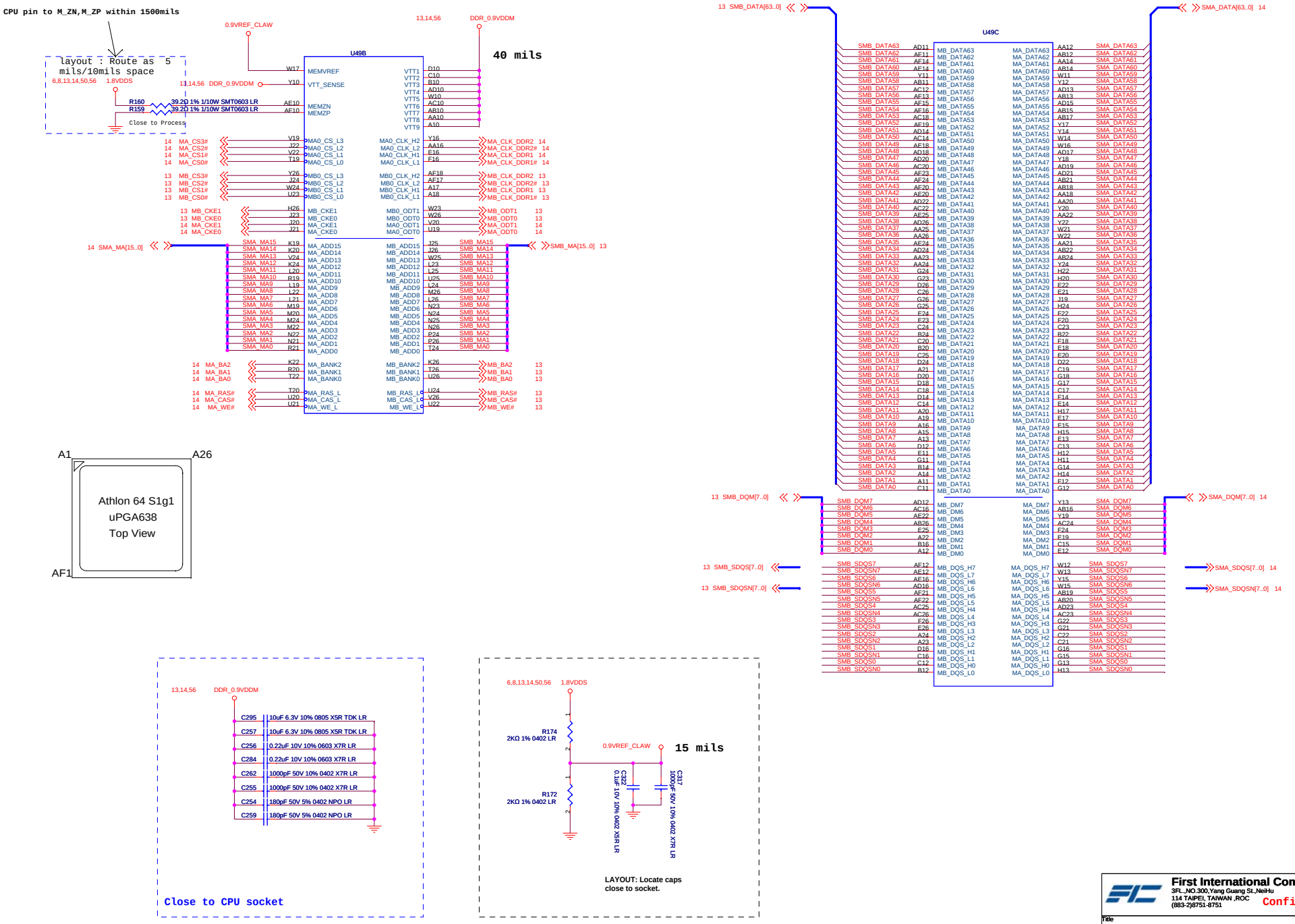






First International Computer, Inc.			
3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC (883-2)8751-8751			Confidential
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)			
Size: C	Document Number: AMD S1 HT(1/3)		Rev: 0.1
Date: Thursday, June 08, 2006	Sheet 6 of 57		

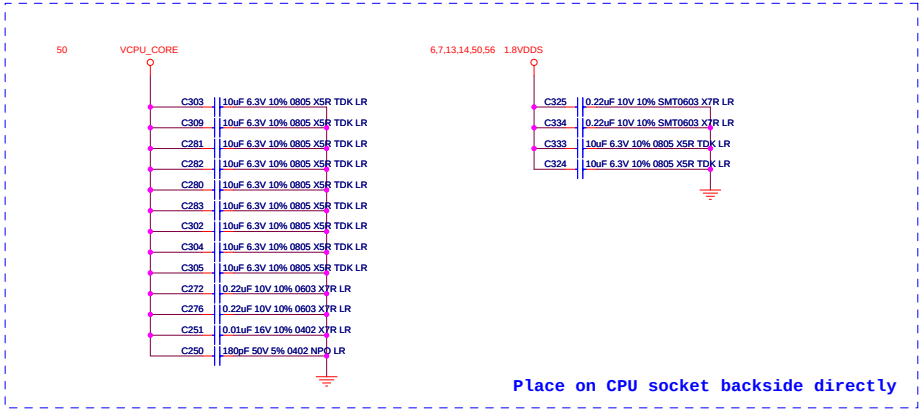
Clawhammer DDR Interface

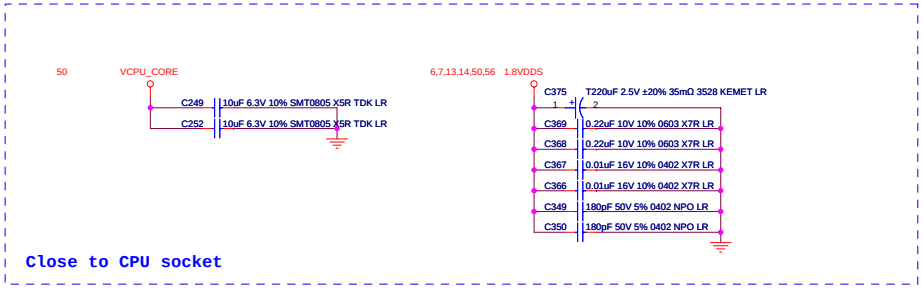


First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number AMD S1 DDR(2/3)	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 7 of 57	





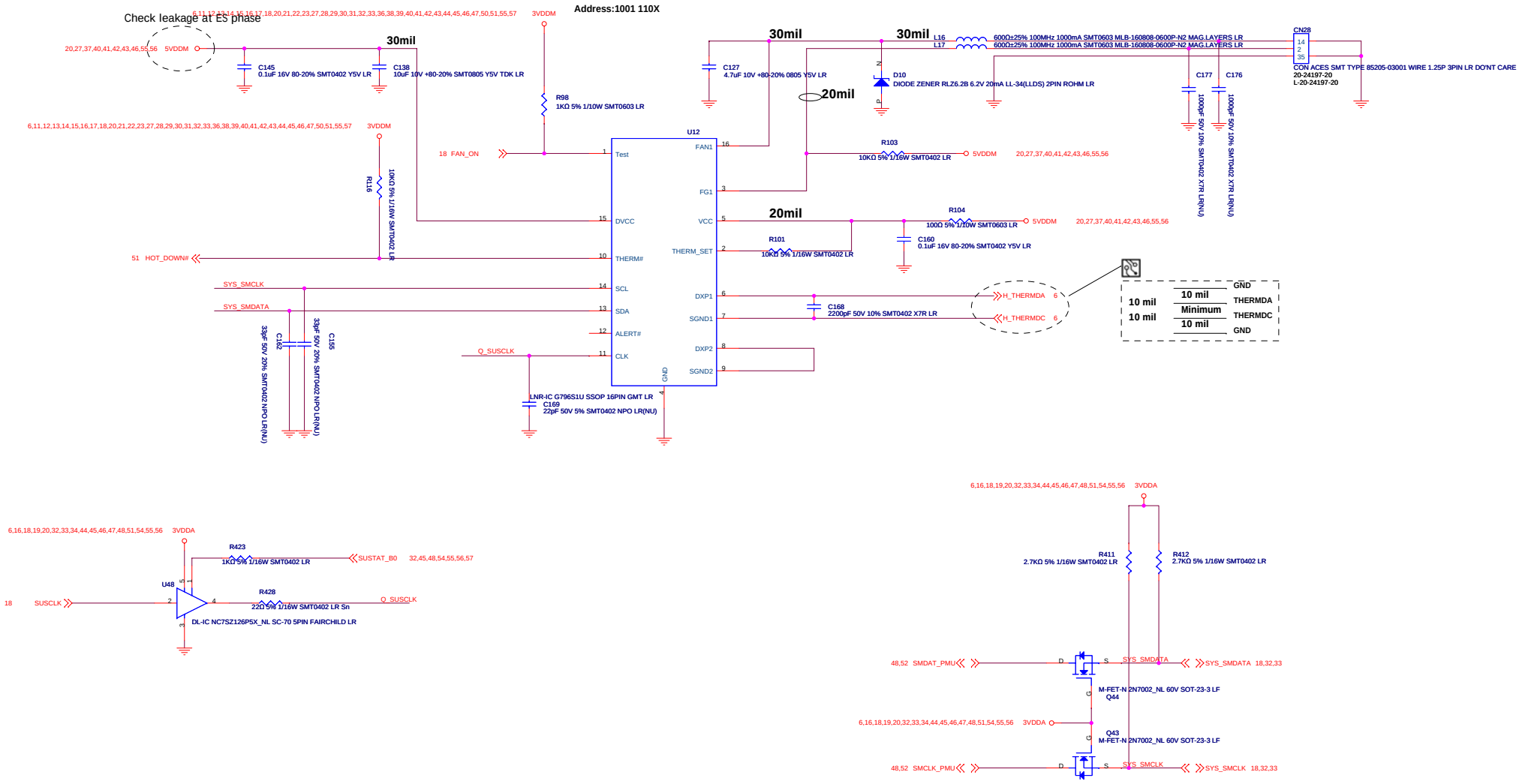
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size	Document Number	Rev
C	AMD S1 POWER(3/3)	0.1

Date: Thursday, June 08, 2006 Sheet 8 of 57

THERMAL SENSOR



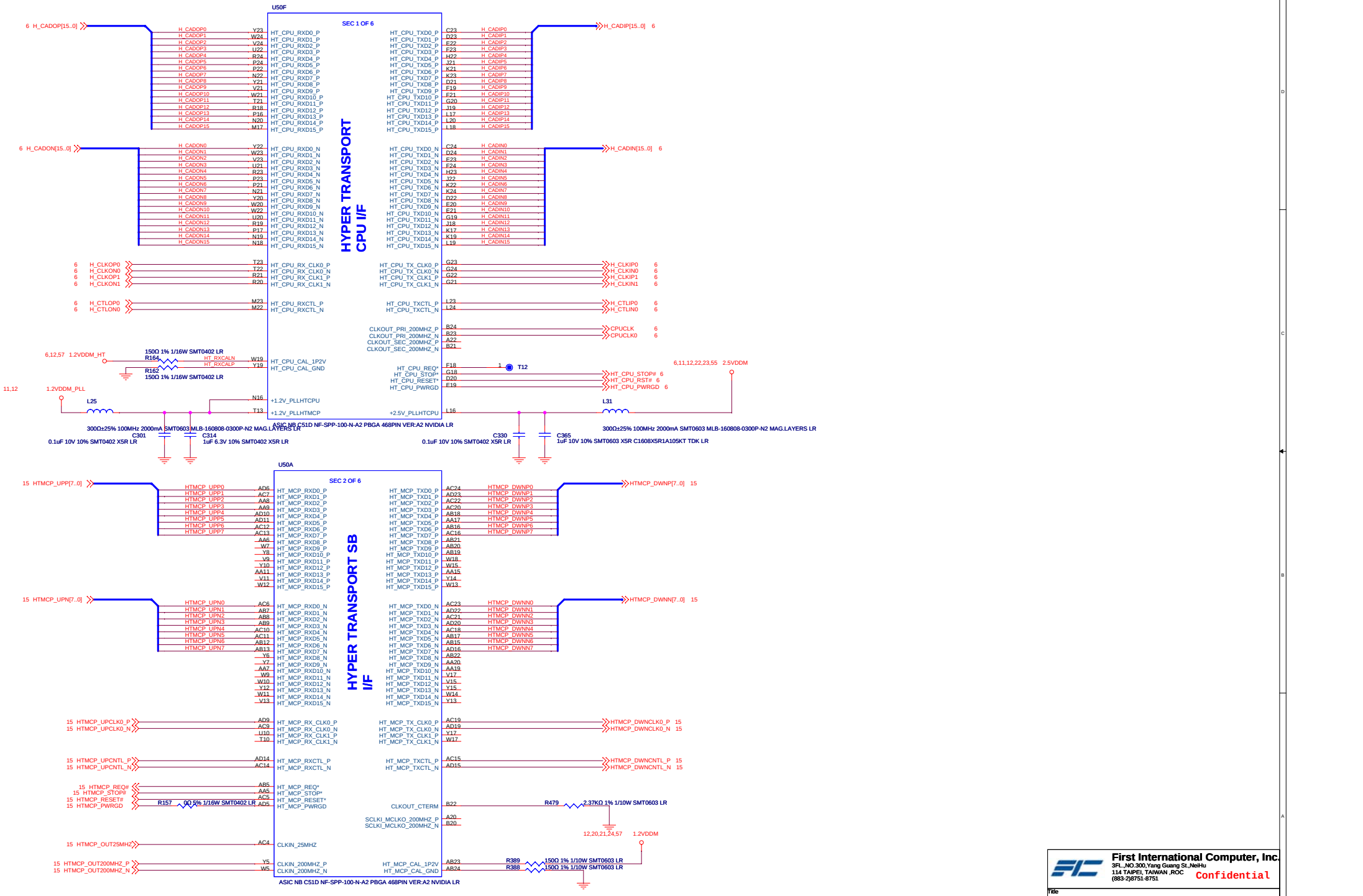
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

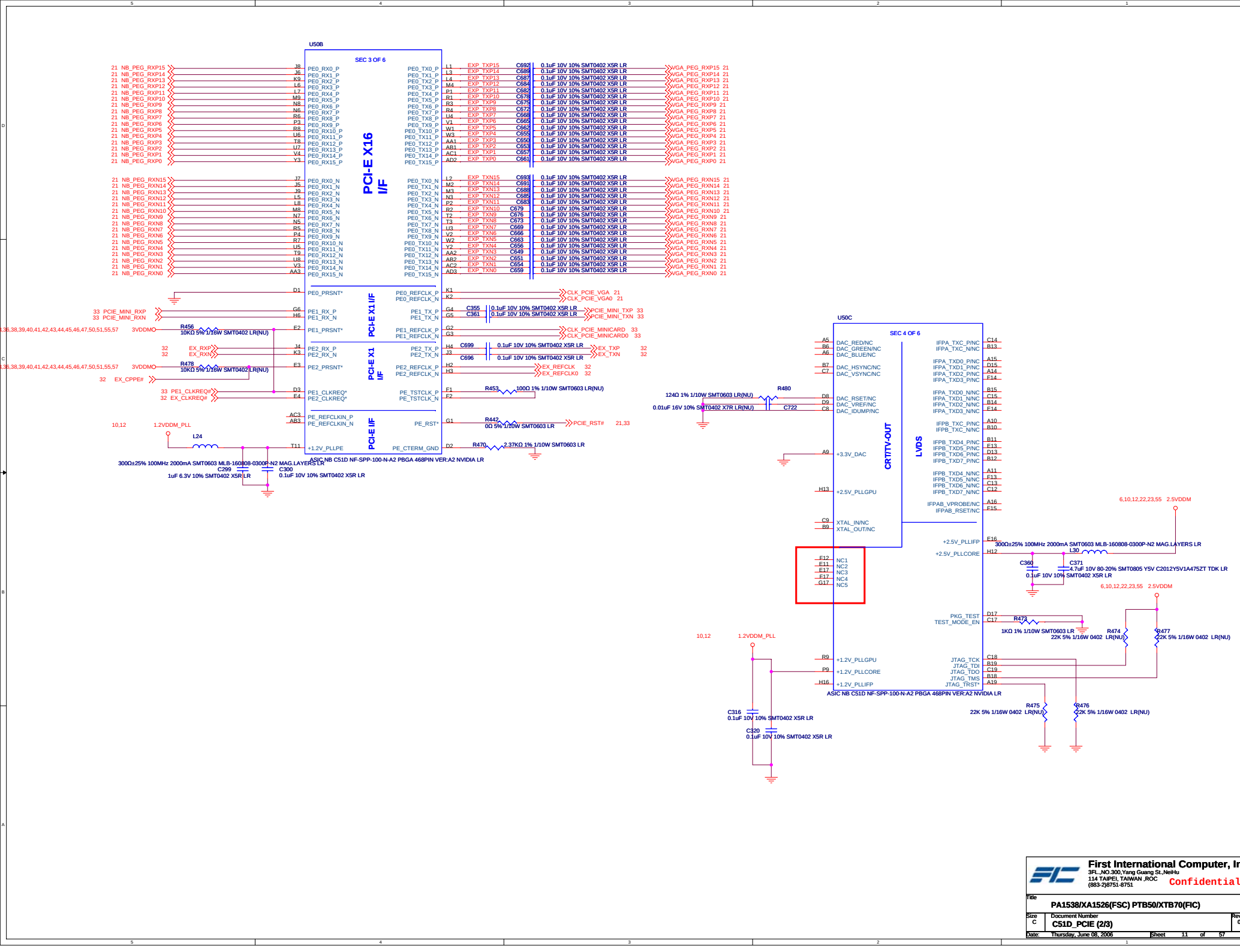
Confidential

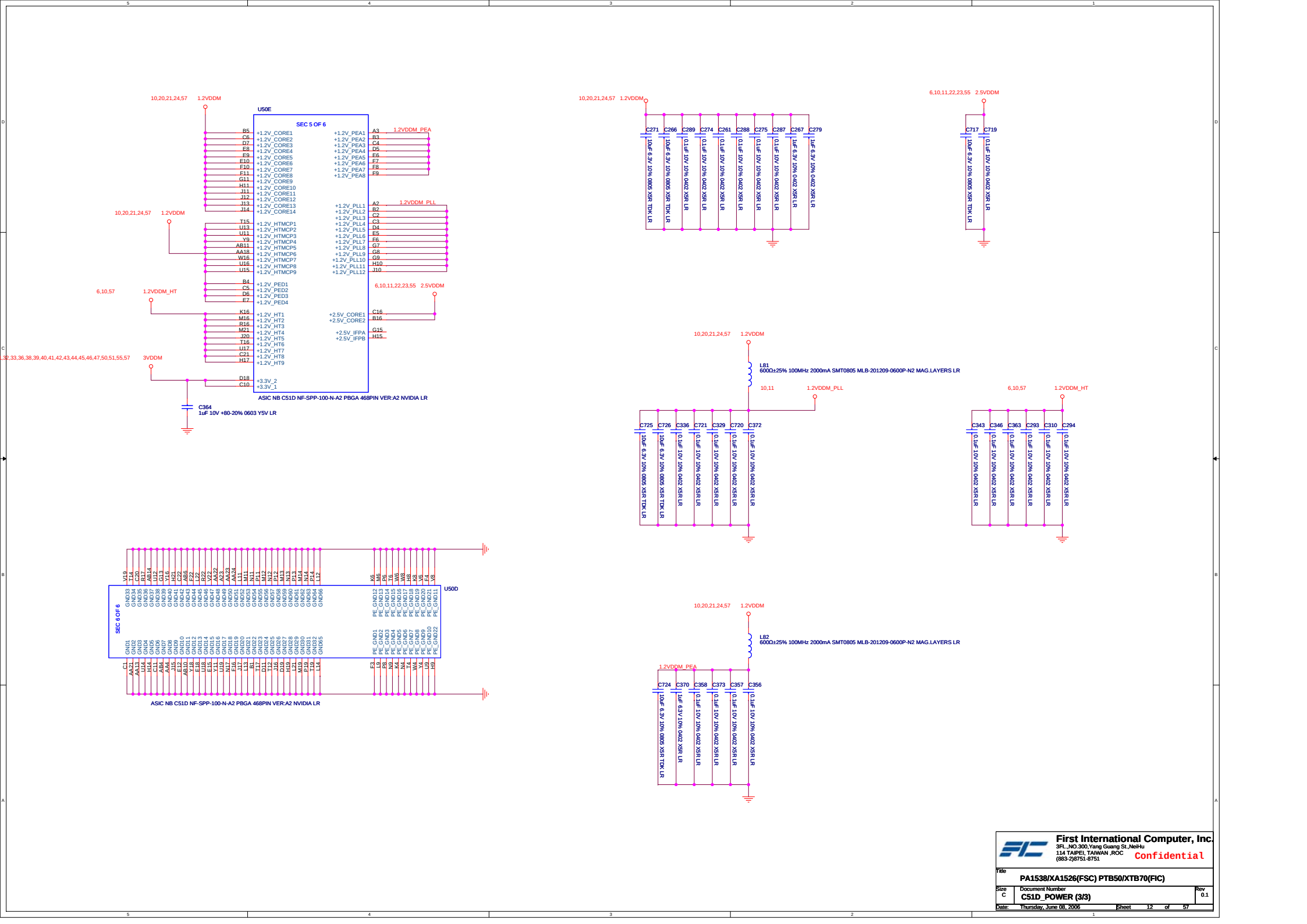
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: CPU Thermal/Fan CNN | Rev: 0.1

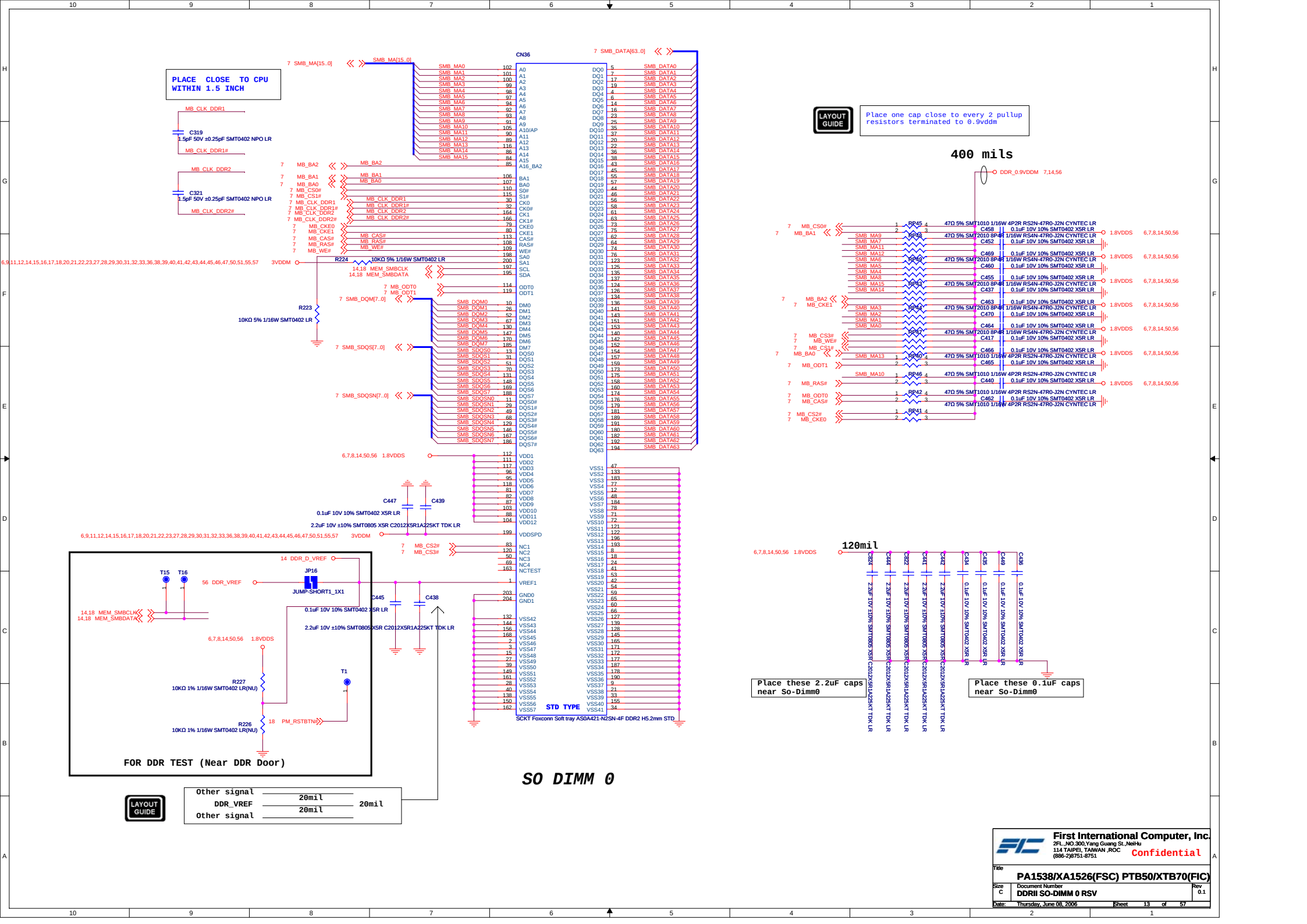
Date: Thursday, June 08, 2006 | Sheet 9 of 57

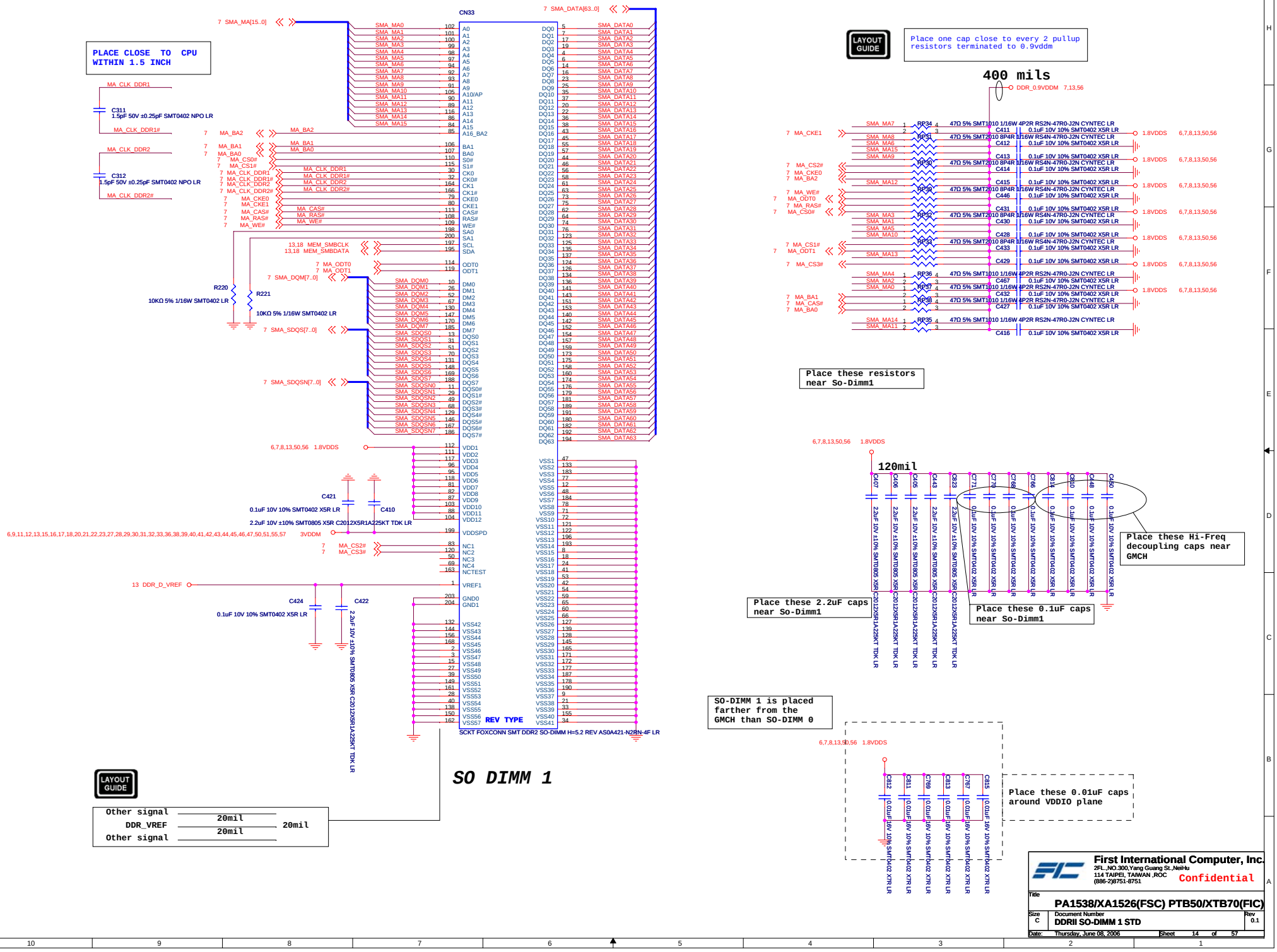

U50F
SEC 1 OF 6
HYPER TRANSPORT CPU I/F
ASIC NB C51D NF-SPP-100-N-A2 PBGA 468PIN VER:A2 NVIDIA LR
U50A
SEC 2 OF 6
HYPER TRANSPORT SB I/F
ASIC NB C51D NF-SPP-100-N-A2 PBGA 468PIN VER:A2 NVIDIA LR
150Ω 1% 1/16W SMT0402 LR
300Ω±25% 100MHz 2000mA SMT0603 MLB-160808-0300P-N2 MAG.LAYERS LR
0.1uF 10V 10% SMT0402 X5R LR
1uF 6.3V 10% SMT0402 X5R LR
1uF 10V 10% SMT0603 X5R C1608X5R1A105KT TDK LR
0Ω 5% 1/16W SMT0402 LR
2.37KΩ 1% 1/10W SMT0603 LR
150Ω 1% 1/10W SMT0603 LR
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
C51D_HT (1/3)
Thursday, June 08, 2006

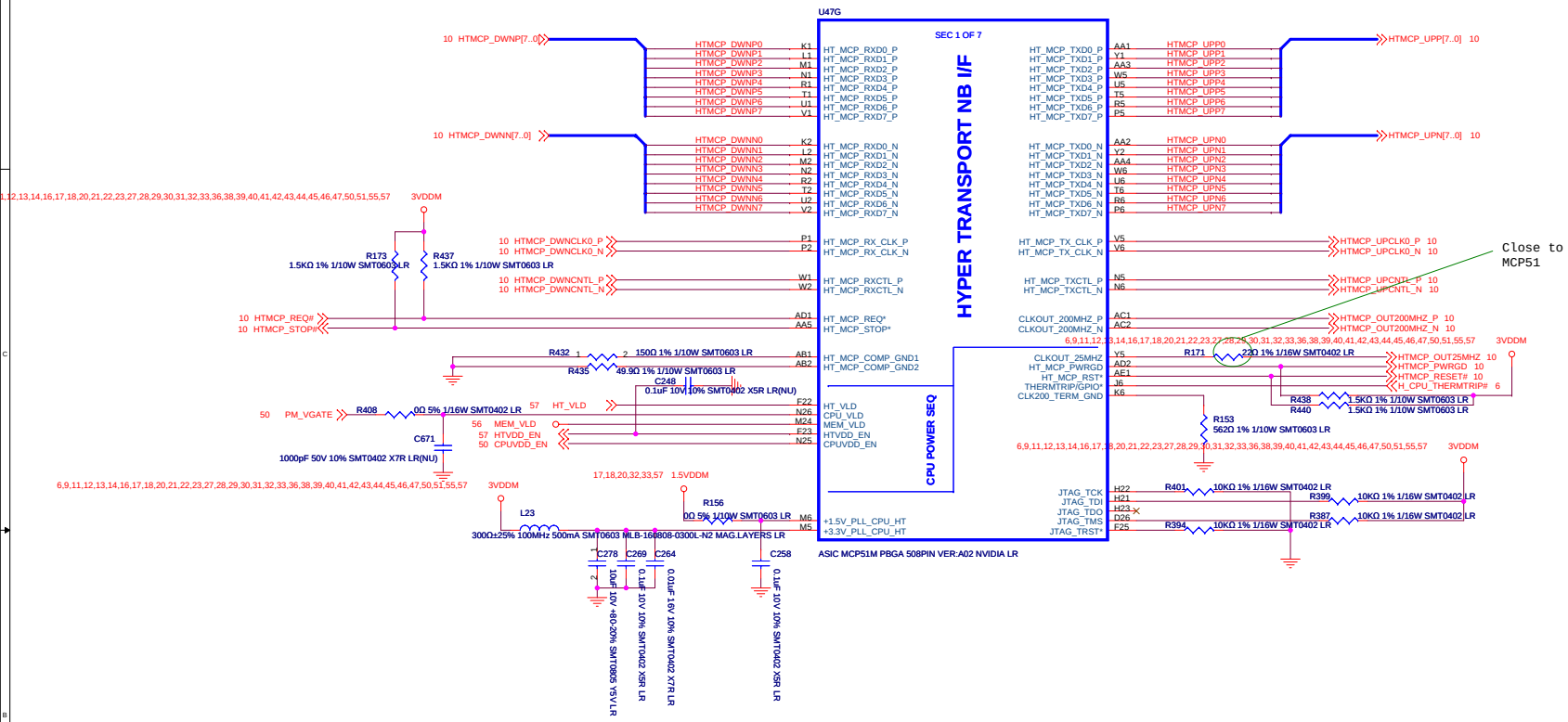

U50B
SEC 3 OF 6
PCI-E X16 I/F
PCI-E X1 I/F
PCI-E X1 I/F
PCI-E I/F
ASIC NB C51D NF-SPP-100-N-A2 PBGA 468PIN VER:A2 NVIDIA LR
U50C
SEC 4 OF 6
CRT/TV-OUT
LVDS
ASIC NB C51D NF-SPP-100-N-A2 PBGA 468PIN VER:A2 NVIDIA LR
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
C51D_PCIE (2/3)
Thursday, June 08, 2006
Sheet 11 of 57



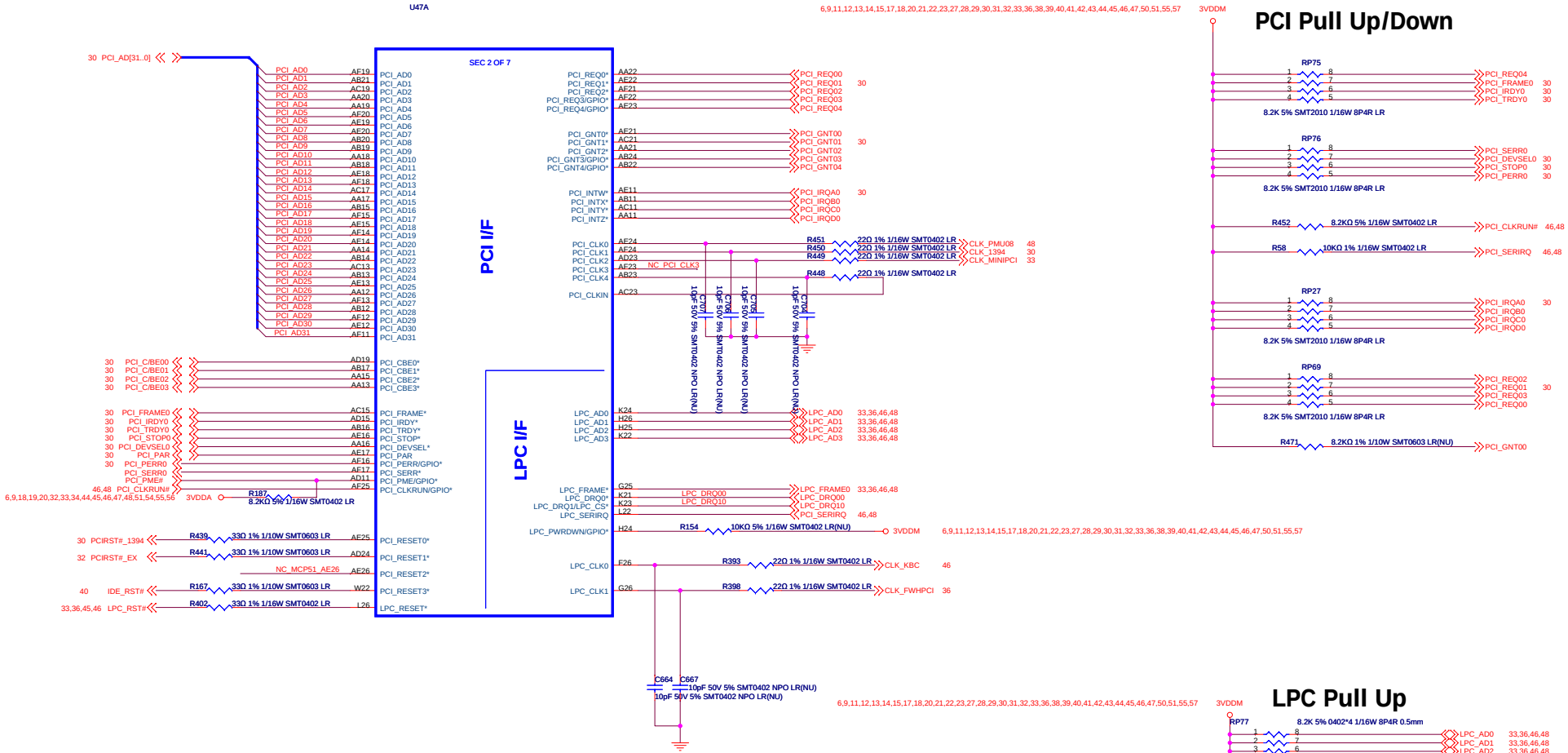
First International Computer, Inc.		
3FL.,NO.300,Yang Guang St.,NeiHu		
114 TAIPEI, TAIWAN ,ROC		
(883-2)8751-8751	Confidential	
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number C51D_POWER (3/3)	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 12 of 57	


PLACE CLOSE TO CPU WITHIN 1.5 INCH
CN36
SMB_MA[15..0]
SMB_DATA[63..0]
MB_CLK_DDR1
C319
1.5pF 50V ±0.25pF SMT0402 NPO LR
MB_CLK_DDR1#
MB_CLK_DDR2
C321
1.5pF 50V ±0.25pF SMT0402 NPO LR
MB_CLK_DDR2#
MB_BA2
MB_BA1
MB_BA0
MB_CS0#
MB_CS1#
MB_CLK_DDR1
MB_CLK_DDR1#
MB_CLK_DDR2
MB_CLK_DDR2#
MB_CKE0
MB_CKE1
MB_CAS#
MB_RAS#
MB_WE#
R224
10KΩ 5% 1/16W SMT0402 LR
3VDDM
14,18 MEM_SMBCLK
7 MB_ODT0
7 MB_ODT1
SMB_DQM[7..0]
R223
10KΩ 5% 1/16W SMT0402 LR
SMB_SDQS[7..0]
SMB_SDQSN[7..0]
6,7,8,14,50,56 1.8VDDS
C447
C439
0.1uF 10V 10% SMT0402 X5R LR
2.2uF 10V ±10% SMT0805 X5R C2012X5R1A225KT TDK LR
VDDSPD
MB_CS2#
MB_CS3#
14 DDR_D_VREF
56 DDR_VREF
JP16
JUMP-SHORT1_1X1
T15
T16
C445
C438
0.1uF 10V 10% SMT0402 X5R LR
2.2uF 10V ±10% SMT0805 X5R C2012X5R1A225KT TDK LR
14,18 MEM_SMBCLK
14,18 MEM_SMBDATA
R227
10KΩ 1% 1/16W SMT0402 LR(NU)
T1
R226
10KΩ 1% 1/16W SMT0402 LR(NU)
18 PM_RSTBTN#
FOR DDR TEST (Near DDR Door)
LAYOUT GUIDE
Other signal 20mil
DDR_VREF 20mil
Other signal
20mil
STD TYPE
SCKT Foxconn Soft tray AS0A421-N2SN-4F DDR2 H5.2mm STD
SO DIMM 0
LAYOUT GUIDE
Place one cap close to every 2 pullup resistors terminated to 0.9vddm
400 mils
DDR_0.9VDDM 7,14,56
RP45
RP44
RP43
RP40
RP46
RP42
RP41
47Ω 5% SMT1010 1/16W 4P2R RS2N-47R0-J2N CYNTEC LR
47Ω 5% SMT2010 8P4R 1/16W RS4N-47R0-J2N CYNTEC LR
0.1uF 10V 10% SMT0402 X5R LR
1.8VDDS 6,7,8,14,50,56
120mil
6,7,8,14,50,56 1.8VDDS
Place these 2.2uF caps near So-Dimm0
Place these 0.1uF caps near So-Dimm0
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751
Confidential
Title
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size C
Document Number
DDRII SO-DIMM 0 RSV
Rev 0.1
Date: Thursday, June 08, 2006
Sheet 13 of 57

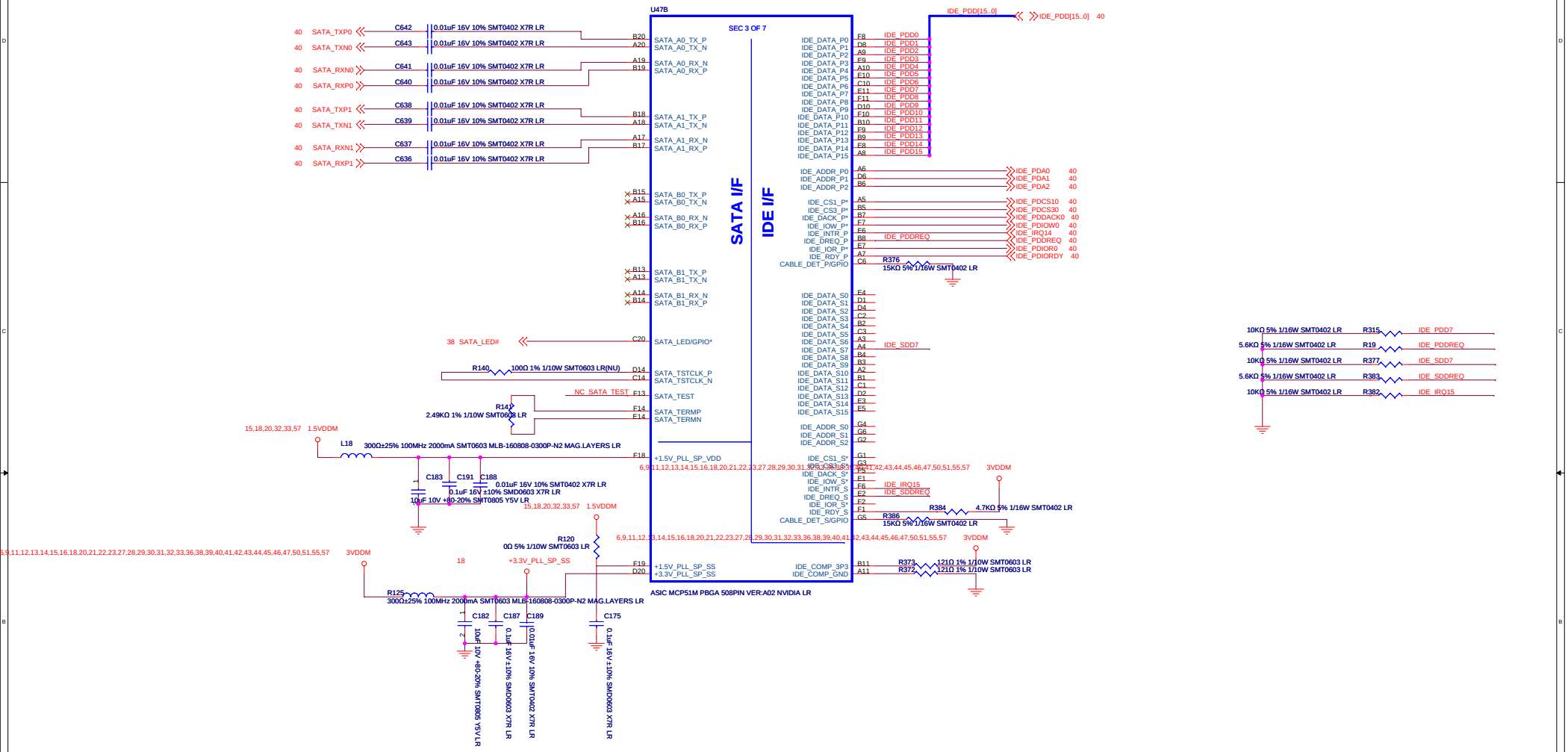

CN33
PLACE CLOSE TO CPU WITHIN 1.5 INCH
C311
1.5pF 50V ±0.25pF SMT0402 NPO LR
C312
1.5pF 50V ±0.25pF SMT0402 NPO LR
R220
10KΩ 5% 1/16W SMT0402 LR
R221
10KΩ 5% 1/16W SMT0402 LR
C421
C410
0.1uF 10V 10% SMT0402 X5R LR
2.2uF 10V ±10% SMT0805 X5R C2012X5R1A225KT TDK LR
C424
C422
0.1uF 10V 10% SMT0402 X5R LR
2.2uF 10V ±10% SMT0805 X5R C2012X5R1A225KT TDK LR
REV TYPE
SCKT FOXCONN SMT DDR2 SO-DIMM H=5.2 REV AS0A421-N2RN-4F LR
SO DIMM 1
LAYOUT GUIDE
Other signal 20mil
DDR_VREF 20mil 20mil
Other signal
Place one cap close to every 2 pullup resistors terminated to 0.9vddm
400 mils
DDR_0.9VDDM 7,13,56
47Ω 5% SMT1010 1/16W 4P2R RS2N-47R0-J2N CYNTEC LR
47Ω 5% SMT2010 8P4R 1/16W RS4N-47R0-J2N CYNTEC LR
0.1uF 10V 10% SMT0402 X5R LR
1.8VDDS 6,7,8,13,50,56
Place these resistors near So-Dimm1
6,7,8,13,50,56 1.8VDDS
120mil
2.2uF 10V ±10% SMT0805 X5R C2012X5R1A225KT TDK LR
0.1uF 10V 10% SMT0402 X5R LR
Place these Hi-Freq decoupling caps near GMCH
Place these 2.2uF caps near So-Dimm1
Place these 0.1uF caps near So-Dimm1
SO-DIMM 1 is placed farther from the GMCH than SO-DIMM 0
6,7,8,13,50,56 1.8VDDS
0.01uF 16V 10% SMT0402 X7R LR
Place these 0.01uF caps around VDDIO plane
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751
Confidential
Title
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size C
Document Number
DDRII SO-DIMM 1 STD
Rev 0.1
Date: Thursday, June 08, 2006
Sheet 14 of 57



First International Computer, Inc.		
3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC (883-2)8751-8751	Confidential	
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)		
Size: C	Document Number: MCP51 HT(1/6)	Rev: 0.1
Date: Thursday, June 08, 2006	Sheet 15 of 57	



First International Computer, Inc.		
3FL.,NO.300,Yang Guang St.,NeiHu		
114 TAIPEI, TAIWAN ,ROC		
(883-2)8751-8751	Confidential	
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number MCP51 PCI/LPC (2/6)	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 16 of 57	



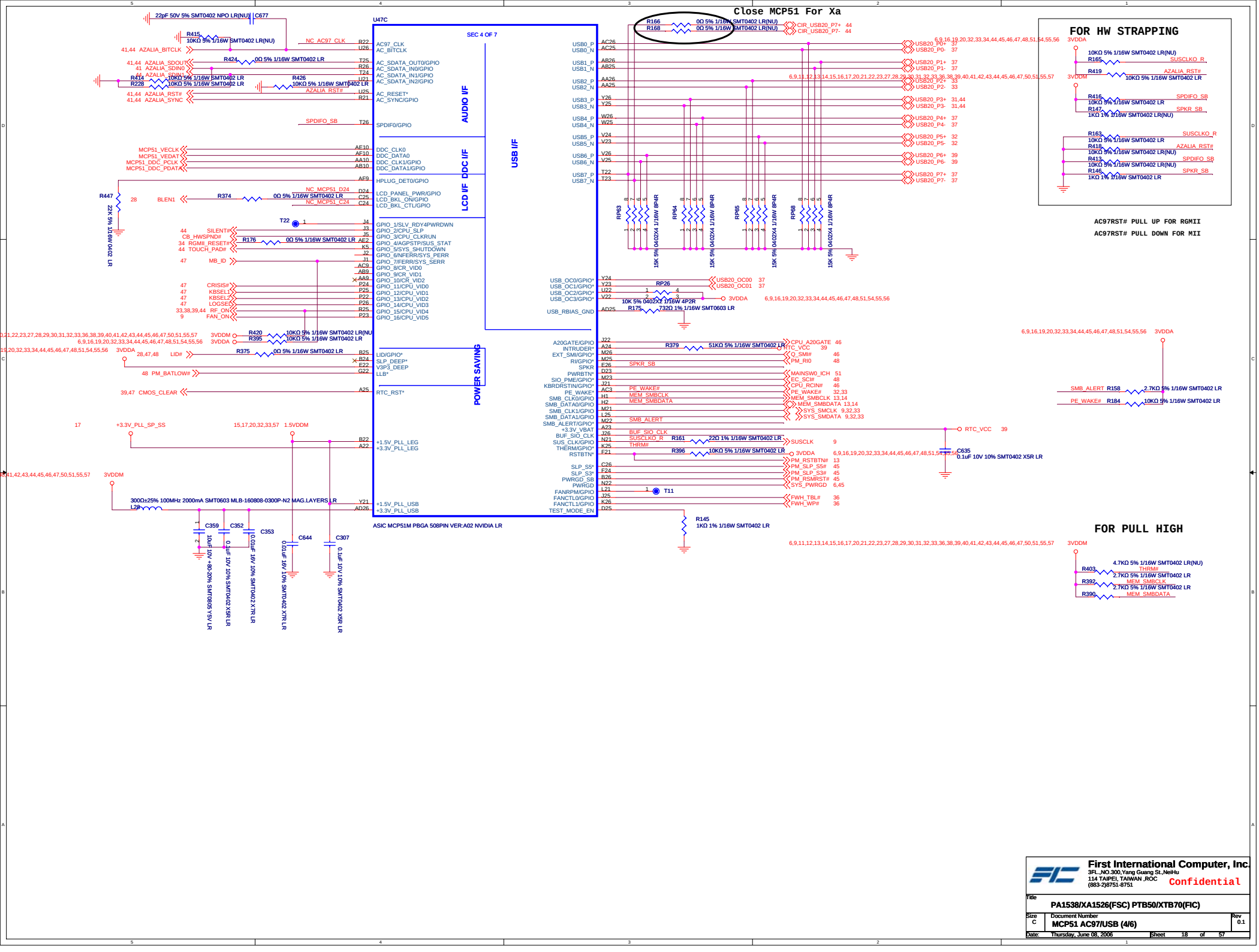
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

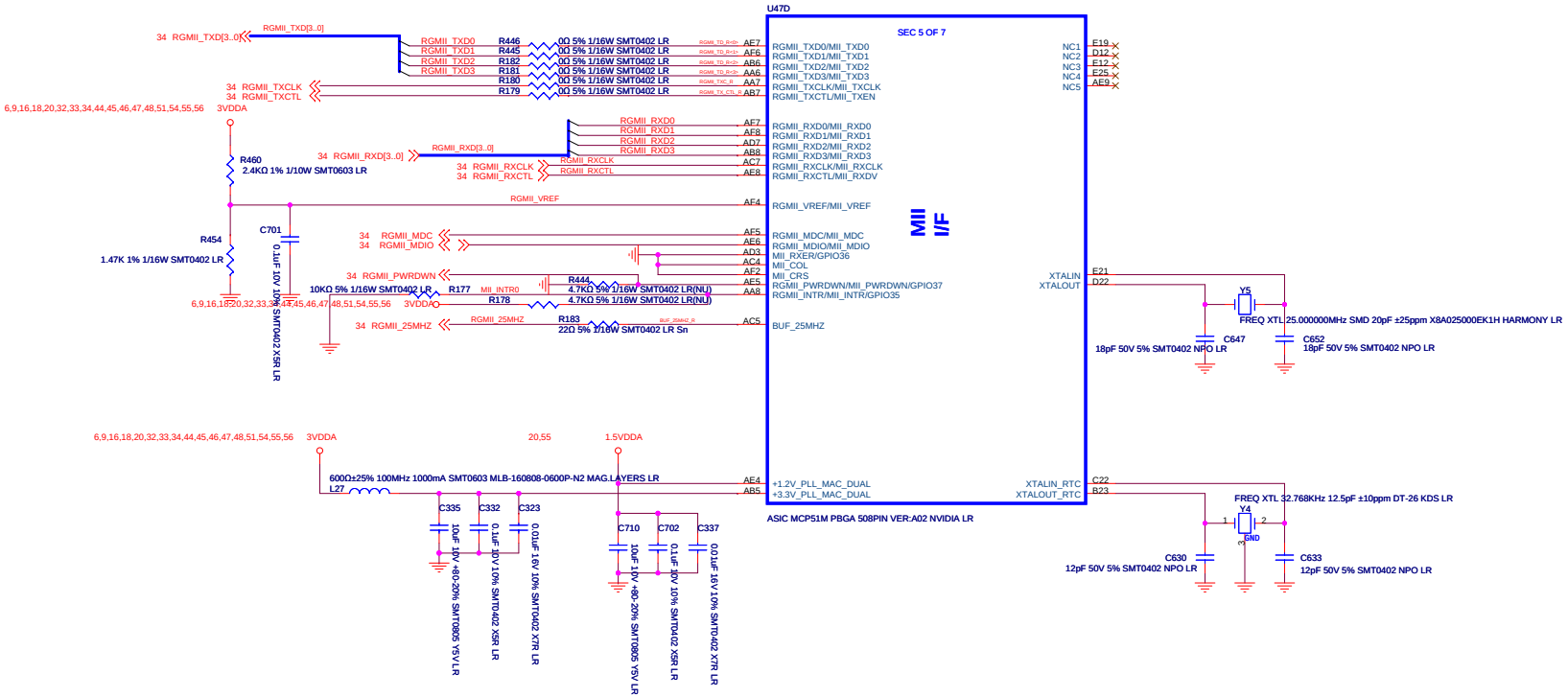
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: MCP51 SATA/PATA (3/6) | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 17 of 57


Close MCP51 For Xa
U47C
SEC 4 OF 7
ASIC MCP51M PBGA 508PIN VER:A02 NVIDIA LR
AUDIO I/F
DDC I/F
LCD I/F
USB I/F
POWER SAVING
FOR HW STRAPPING
AC97RST# PULL UP FOR RGMII
AC97RST# PULL DOWN FOR MII
FOR PULL HIGH
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
MCP51 AC97/USB (4/6)
Thursday, June 08, 2006
Sheet 18 of 57



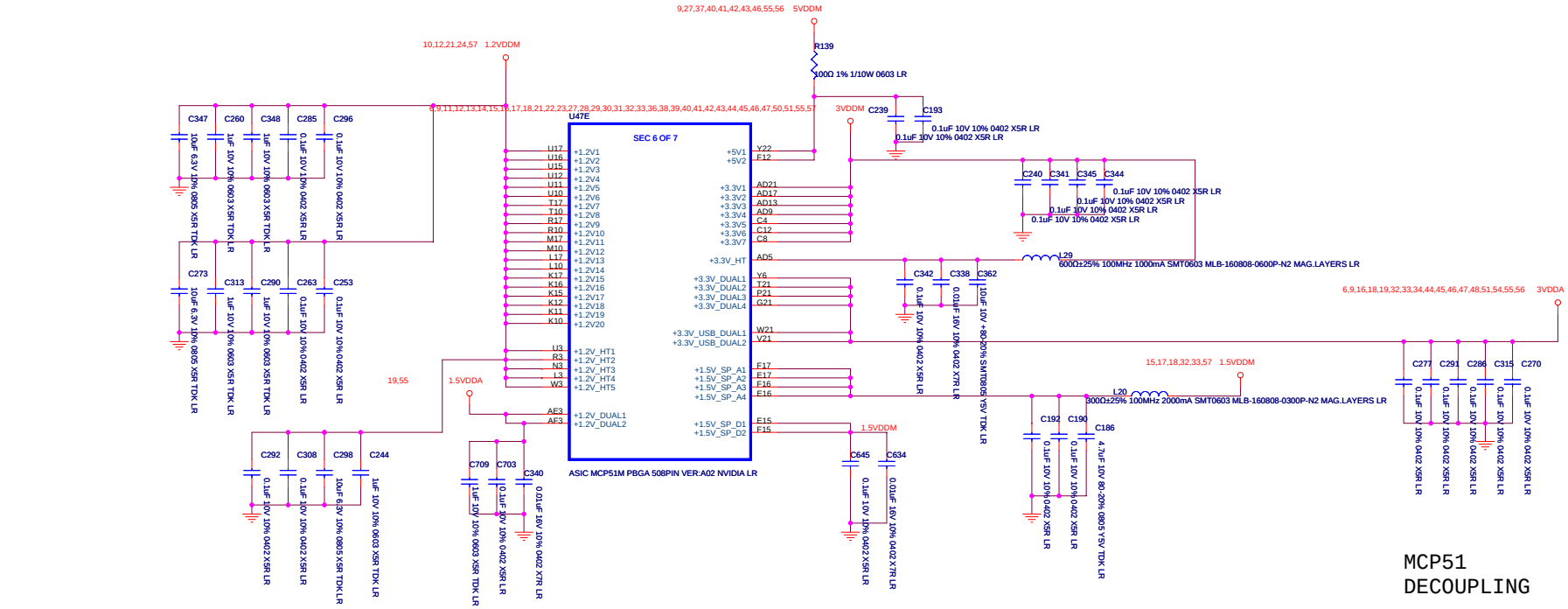
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

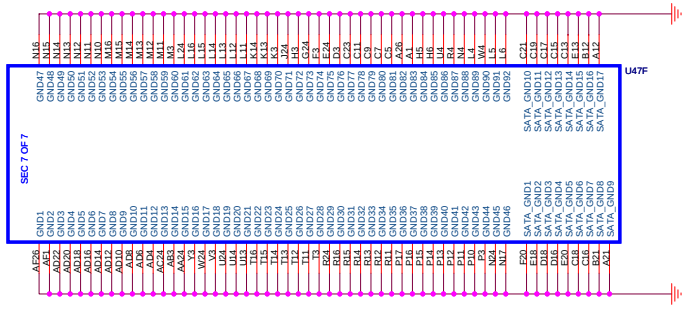
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size	Document Number	Rev
C	MCP51 RGMII (5/6)	0.1

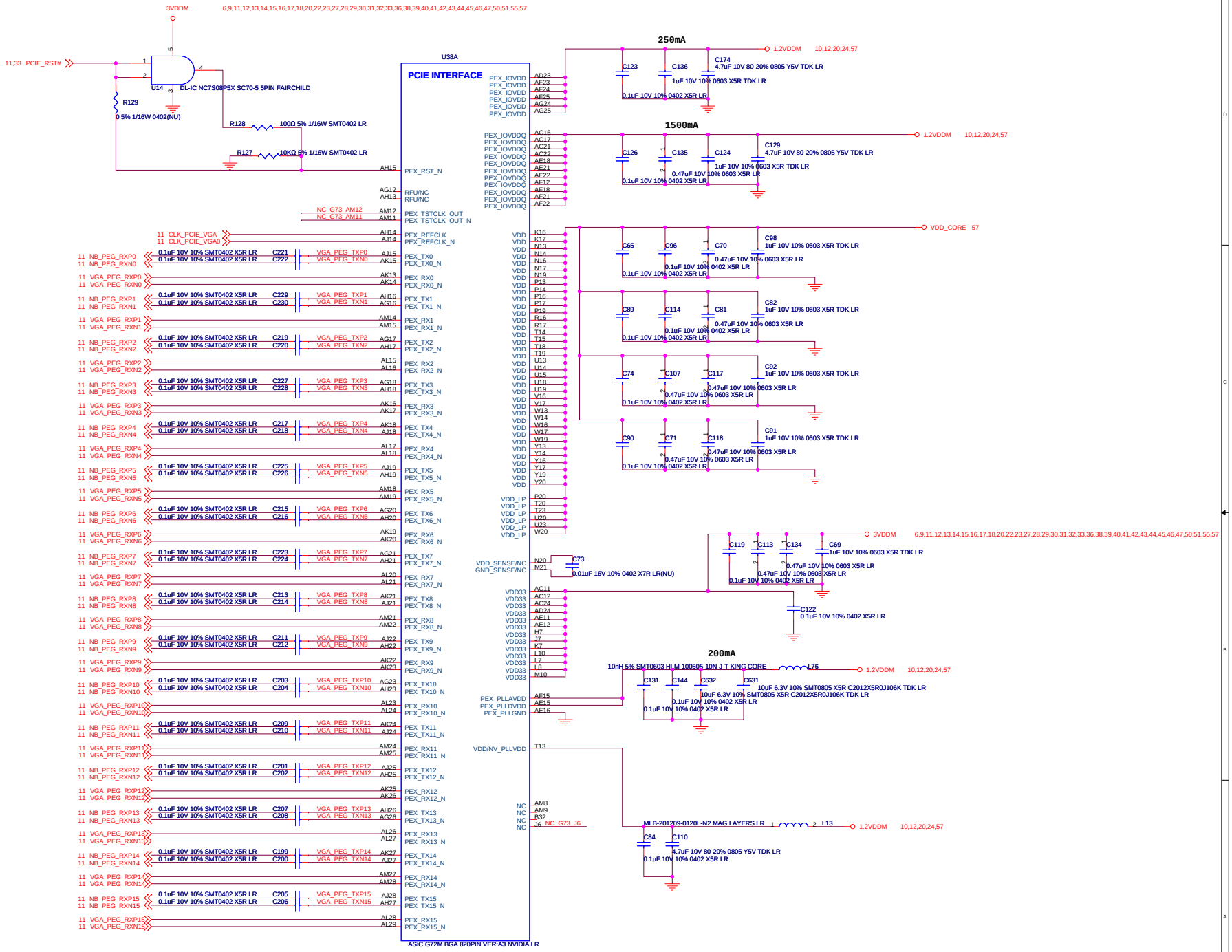
Date: Thursday, June 08, 2006 Sheet 19 of 57



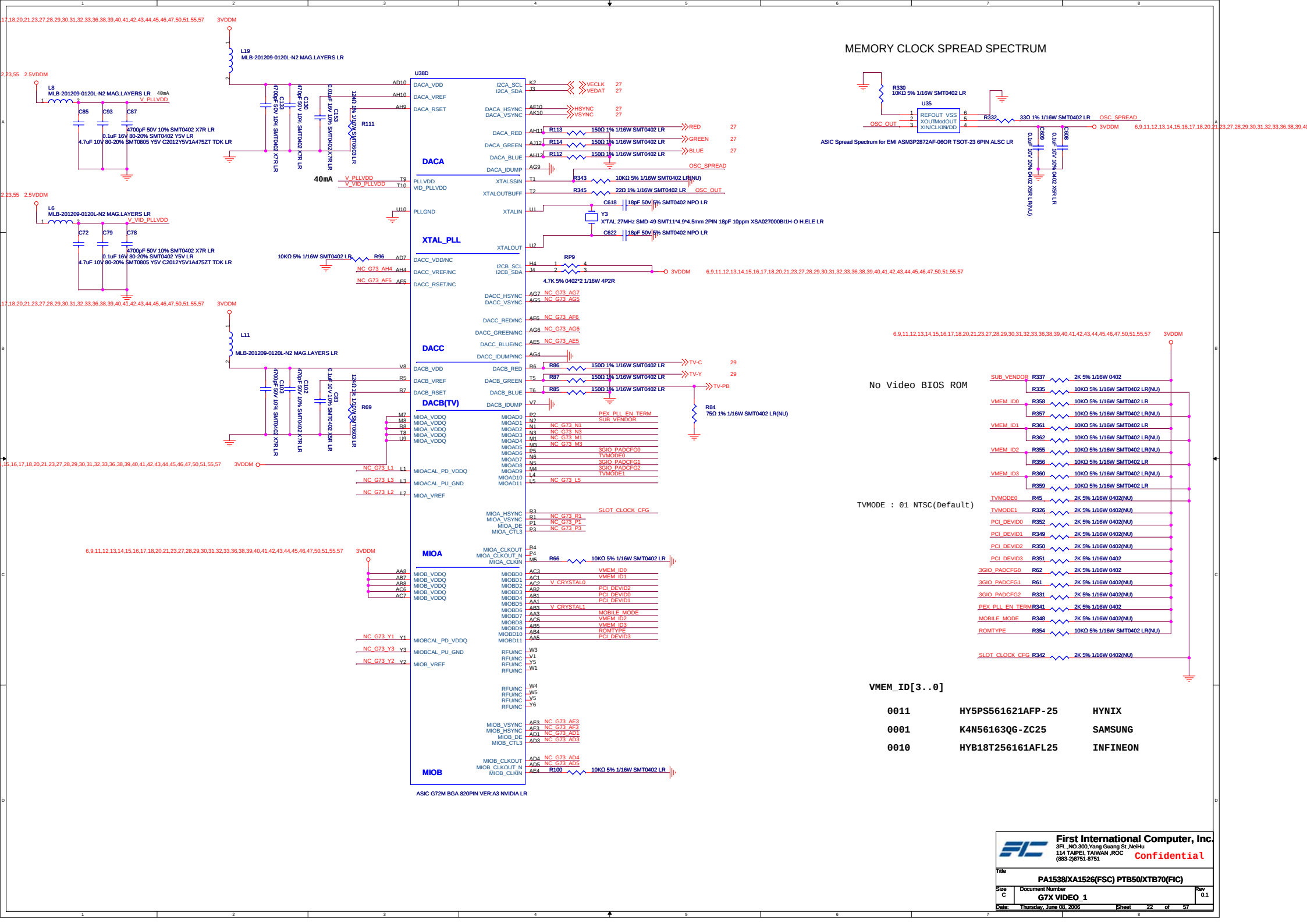


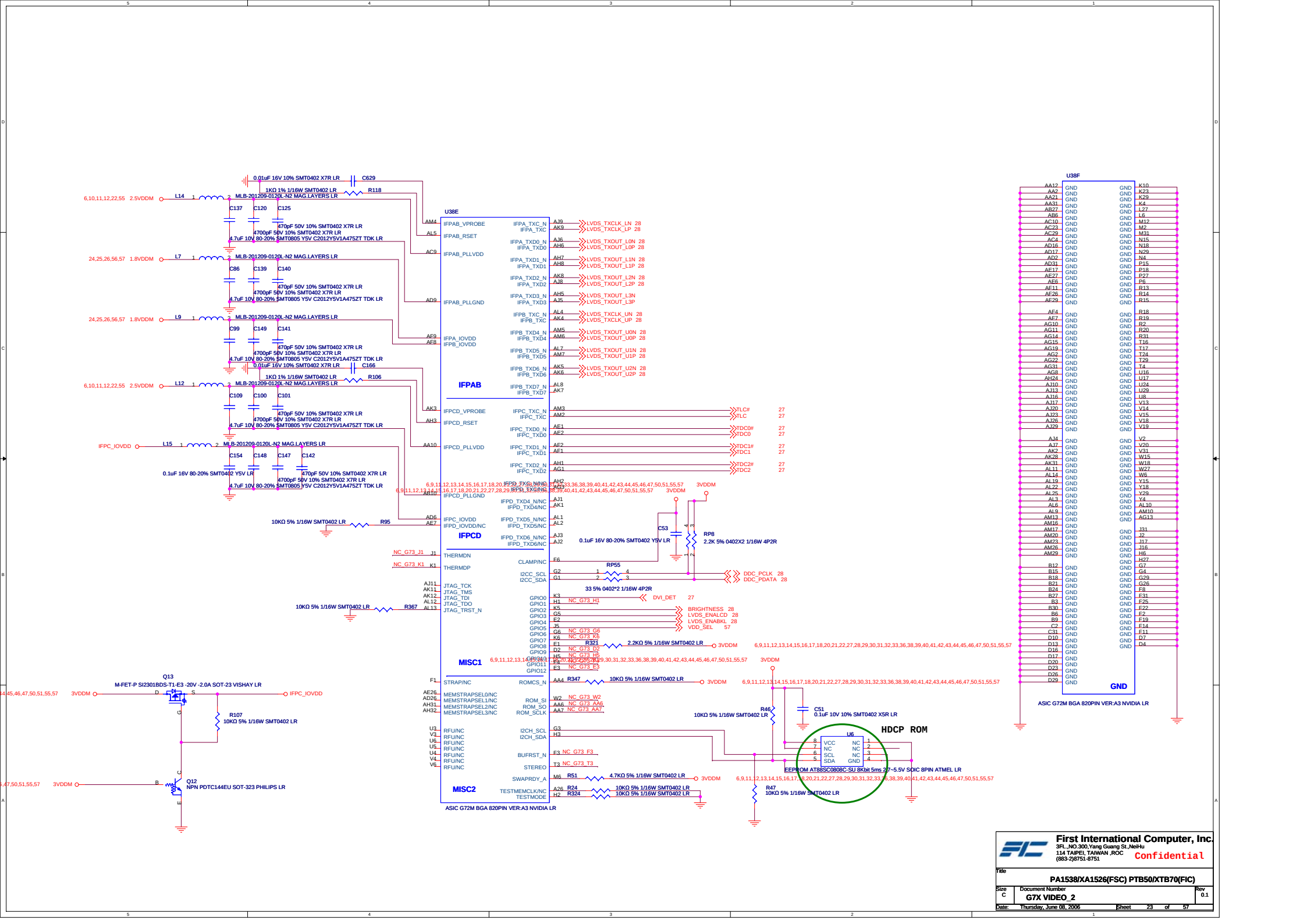
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

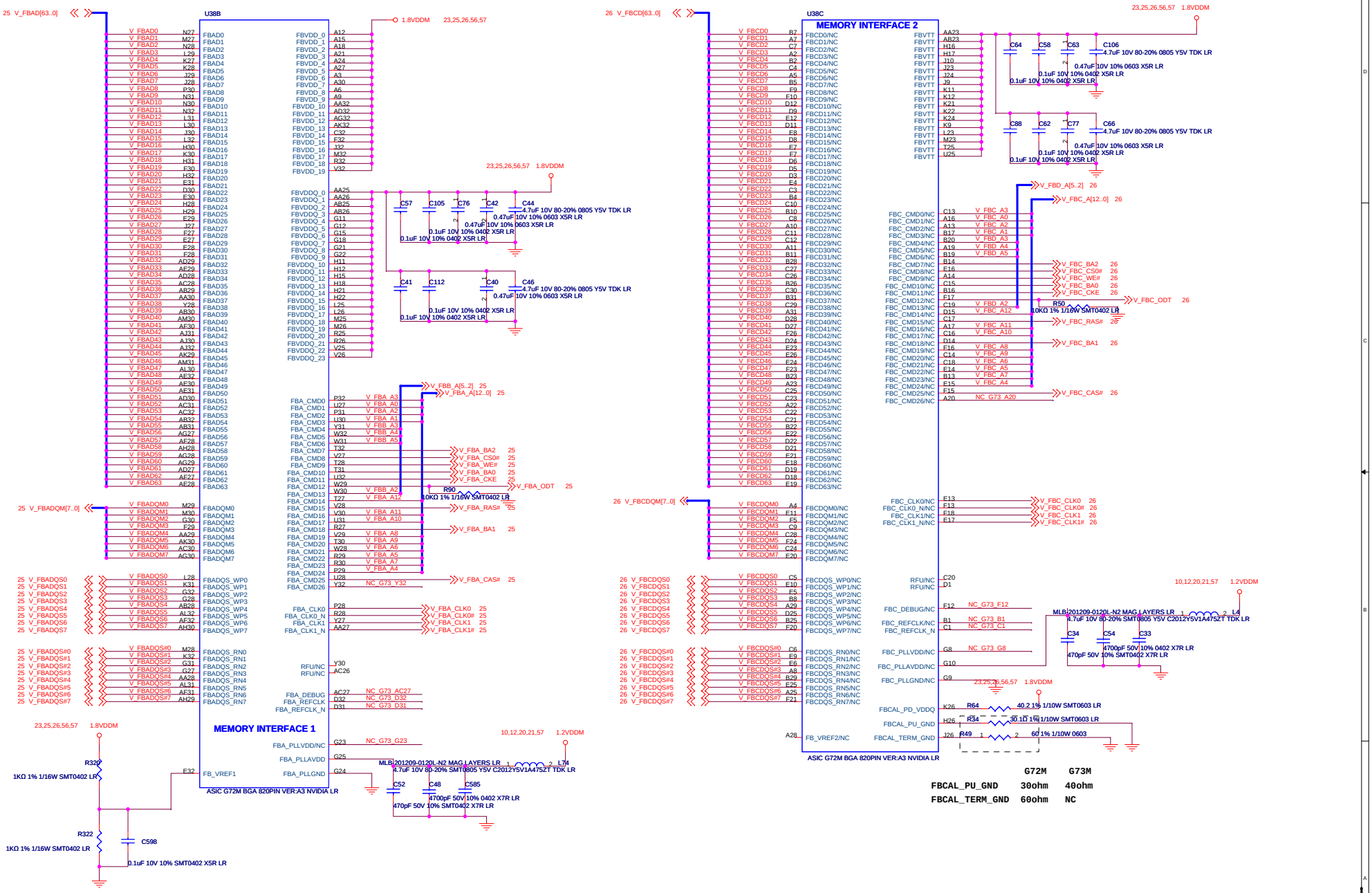
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number MCP51 POWER (6/6)	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 20 of 57	



Company	First International Computer, Inc.
Address	3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC (883-2)8751-8751
	Confidential
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size	C
Document Number	G7X PCI-EXPRESS
Rev	0.1
Date:	Thursday, June 08, 2006
Sheet	21 of 57


MEMORY CLOCK SPREAD SPECTRUM
U38D
DACA
XTAL_PLL
DACC
DACB(TV)
MIOA
MIOB
ASIC G72M BGA 820PIN VER:A3 NVIDIA LR
ASIC Spread Spectrum for EMI ASM3P2872AF-06OR TSOT-23 6PIN ALSC LR
No Video BIOS ROM
TVMODE : 01 NTSC(Default)
VMEM_ID[3..0]
0011 HY5PS561621AFP-25 HYNIX
0001 K4N56163QG-ZC25 SAMSUNG
0010 HYB18T256161AFL25 INFINEON
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
G7X VIDEO_1
Thursday, June 08, 2006


U38E
IFPAB
IFPCD
MISC1
MISC2
IFPA_TXC_N
IFPA_TXC
IFPA_TXD0_N
IFPA_TXD0
IFPA_TXD1_N
IFPA_TXD1
IFPA_TXD2_N
IFPA_TXD2
IFPA_TXD3_N
IFPA_TXD3
IFPB_TXC_N
IFPB_TXC
IFPB_TXD4_N
IFPB_TXD4
IFPB_TXD5_N
IFPB_TXD5
IFPB_TXD6_N
IFPB_TXD6
IFPB_TXD7_N
IFPB_TXD7
IFPC_TXC_N
IFPC_TXC
IFPC_TXD0_N
IFPC_TXD0
IFPC_TXD1_N
IFPC_TXD1
IFPC_TXD2_N
IFPC_TXD2
IFPD_TXC_N/NC
IFPD_TXC/NC
IFPD_TXD4_N/NC
IFPD_TXD4/NC
IFPD_TXD5_N/NC
IFPD_TXD5/NC
IFPD_TXD6_N/NC
IFPD_TXD6/NC
THERMDN
THERMDP
CLAMP/NC
I2CC_SCL
I2CC_SDA
JTAG_TCK
JTAG_TMS
JTAG_TDI
JTAG_TDO
JTAG_TRST_N
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
GPIO11
GPIO12
STRAP/NC
ROMCS_N
ROM_SI
ROM_SO
ROM_SCLK
I2CH_SCL
I2CH_SDA
BUFRST_N
STEREO
SWAPRDY_A
TESTMEMCLK/NC
TESTMODE
ASIC G72M BGA 820PIN VER:A3 NVIDIA LR
U38F
GND
ASIC G72M BGA 820PIN VER:A3 NVIDIA LR
HDCP ROM
U6
EEPROM AT88SC0808C-SU 8Kbit 5ms 2.7~5.5V SOIC 8PIN ATMEL LR
Q13
M-FET-P SI2301BDS-T1-E3 -20V -2.0A SOT-23 VISHAY LR
Q12
NPN PDTC144EU SOT-323 PHILIPS LR
0.01uF 16V 10% SMT0402 X7R LR
1KΩ 1% 1/16W SMT0402 LR
MLB-201209-0120L-N2 MAG.LAYERS LR
470pF 50V 10% SMT0402 X7R LR
4.7uF 10V 80-20% SMT0805 Y5V C2012Y5V1A475ZT TDK LR
0.1uF 16V 80-20% SMT0402 Y5V LR
10KΩ 5% 1/16W SMT0402 LR
33 5% 0402*2 1/16W 4P2R
2.2K 5% 0402X2 1/16W 4P2R
2.2KΩ 5% 1/16W SMT0402 LR
4.7KΩ 5% 1/16W SMT0402 LR
0.1uF 10V 10% SMT0402 X5R LR
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
G7X VIDEO_2
Thursday, June 08, 2006
Sheet 23 of 57



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: G7X MEM CHANEL | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 24 of 57

24 V_FBAD[63..0]

G72M :120 ohm
G73M :480 ohm

R70
24 V_FBA_CLK0 — 121Ω 1% 1/16W SMT0402 LR — V_FBA_CLK0# 24
R92
24 V_FBA_CLK1 — 121Ω 1% 1/16W SMT0402 LR — V_FBA_CLK1# 24

23,24,26,56,57 1.8VDDM

24 V_FBA_A[12..0]

U8

V_FBA_A0 M8 A0
V_FBA_A1 M3 A1
V_FBA_A2 M7 A2
V_FBA_A3 N2 A3
V_FBA_A4 N8 A4
V_FBA_A5 N3 A5
V_FBA_A6 N7 A6
V_FBA_A7 P2 A7
V_FBA_A8 P8 A8
V_FBA_A9 P3 A9
V_FBA_A10 M2 A10
V_FBA_A11 P7 A11
V_FBA_A12 R2 A12

VDD A1, E1, J9, M9, R1
VDDQ A9, C1, C3, C7, C9, E9, G1, G3, G7, G9
VDDL J1
VREF J2 — V_FBCVREF 26,56

24 V_FBA_CS0# L8 CS#
24 V_FBA_RAS# K7 RAS#
24 V_FBA_CAS# L7 CAS#
24 V_FBA_WE# K3 WE#
24 V_FBADQS3 B7 UDQS
24 V_FBADQS#3 A8 UDQS#

24 V_FBA_ODT K9 ODT

24 V_FBADQS2 F7 LDQS
24 V_FBADQS#2 E8 LDQS#
24 V_FBADQM3 B3 UDM
24 V_FBADQM2 F3 LDM
24 V_FBA_CLK0# K8 CK#
24 V_FBA_CLK0 J8 CK
24 V_FBA_CKE K2 CKE
24 V_FBA_BA0 L2 BA0
24 V_FBA_BA1 L3 BA1

24 V_FBA_BA2 — L1 NC

NC E2, R3, R7, R8

VSS A3, E3, J3, N1, P9
VSSQ A7, H8, H2, F8, F2, B8, D2, D8, E7, J7
VSSDL J7

UDQ0 C8 V_FBAD28
UDQ1 C2 V_FBAD26
UDQ2 D7 V_FBAD24
UDQ3 D3 V_FBAD31
UDQ4 D1 V_FBAD29
UDQ5 D9 V_FBAD25
UDQ6 B1 V_FBAD30
UDQ7 B9 V_FBAD27

LDQ0 G8 V_FBAD20
LDQ1 G2 V_FBAD23
LDQ2 H7 V_FBAD17
LDQ3 H3 V_FBAD21
LDQ4 H1 V_FBAD22
LDQ5 H9 V_FBAD16
LDQ6 F1 V_FBAD19
LDQ7 F9 V_FBAD18

C22 0.1uF 10V 10% 0402 X5R LR

GDDR2 SDRAM HY5PS561621AFP-25 256Mb(16M*16) 400MHz 1.8V FBGA 84PIN HYNIX LR

U34

V_FBA_A0 M8 A0
V_FBA_A1 M3 A1
V_FBA_A2 M7 A2
V_FBA_A3 N2 A3
V_FBA_A4 N8 A4
V_FBA_A5 N3 A5
V_FBA_A6 N7 A6
V_FBA_A7 P2 A7
V_FBA_A8 P8 A8
V_FBA_A9 P3 A9
V_FBA_A10 M2 A10
V_FBA_A11 P7 A11
V_FBA_A12 R2 A12

24 V_FBA_CS0# L8 CS#
24 V_FBA_RAS# K7 RAS#
24 V_FBA_CAS# L7 CAS#
24 V_FBA_WE# K3 WE#
24 V_FBADQS0 B7 UDQS
24 V_FBADQS#0 A8 UDQS#

24 V_FBA_ODT K9 ODT

24 V_FBADQS1 F7 LDQS
24 V_FBADQS#1 E8 LDQS#
24 V_FBADQM0 B3 UDM
24 V_FBADQM1 F3 LDM
24 V_FBA_CLK0# K8 CK#
24 V_FBA_CLK0 J8 CK
24 V_FBA_CKE K2 CKE
24 V_FBA_BA0 L2 BA0
24 V_FBA_BA1 L3 BA1

24 V_FBA_BA2 — L1 NC

UDQ0 C8 V_FBAD5
UDQ1 C2 V_FBAD2
UDQ2 D7 V_FBAD6
UDQ3 D3 V_FBAD1
UDQ4 D1 V_FBAD0
UDQ5 D9 V_FBAD7
UDQ6 B1 V_FBAD3
UDQ7 B9 V_FBAD4

LDQ0 G8 V_FBAD12
LDQ1 G2 V_FBAD10
LDQ2 H7 V_FBAD13
LDQ3 H3 V_FBAD11
LDQ4 H1 V_FBAD8
LDQ5 H9 V_FBAD14
LDQ6 F1 V_FBAD9
LDQ7 F9 V_FBAD15

GDDR2 SDRAM HY5PS561621AFP-25 256Mb(16M*16) 400MHz 1.8V FBGA 84PIN HYNIX LR

26,56 FB_VTT

24 V_FBA_BA2
24 V_FBA_CAS#
24 V_FBA_BA1
24 V_FBA_BA0
24 V_FBA_CS0#
24 V_FBA_RAS#
24 V_FBA_WE#

RP60 V_FBA_A10
RP14 V_FBA_A2
RP13 V_FBA_A5
RP10 V_FBA_A4
RP57 V_FBA_A3
RP12 V_FBA_A1
RP18 V_FBA_A0
RP17 V_FBB_A5
RP59 V_FBB_A2
RP11 V_FBB_A3
RP58 V_FBA_A8
RP56 V_FBA_A12 V_FBA_A7 V_FBA_A11 V_FBA_A6 V_FBA_A9

RP 75Ω 5% 4P2R 1/16W LR

24 V_FBA_ODT — R82 75Ω 5% 1/16W SMT0402 LR(NU)
24 V_FBA_CKE — R81 75Ω 5% 1/16W SMT0402 LR(NU)
R88 10KΩ 1% 1/16W SMT0402 LR

U40

24 V_FBA_A[12..0]
24 V_FBB_A[5..2]

V_FBA_A0 M8 A0
V_FBA_A1 M3 A1
V_FBB_A2 M7 A2
V_FBB_A3 N2 A3
V_FBB_A4 N8 A4
V_FBB_A5 N3 A5
V_FBA_A6 N7 A6
V_FBA_A7 P2 A7
V_FBA_A8 P8 A8
V_FBA_A9 P3 A9
V_FBA_A10 M2 A10
V_FBA_A11 P7 A11
V_FBA_A12 R2 A12

24 V_FBA_CS0# L8 CS#
24 V_FBA_RAS# K7 RAS#
24 V_FBA_CAS# L7 CAS#
24 V_FBA_WE# K3 WE#
24 V_FBADQS7 B7 UDQS
24 V_FBADQS#7 A8 UDQS#

24 V_FBA_ODT K9 ODT

24 V_FBADQS5 F7 LDQS
24 V_FBADQS#5 E8 LDQS#
24 V_FBADQM7 B3 UDM
24 V_FBADQM5 F3 LDM
24 V_FBA_CLK1# K8 CK#
24 V_FBA_CLK1 J8 CK
24 V_FBA_CKE K2 CKE
24 V_FBA_BA0 L2 BA0
24 V_FBA_BA1 L3 BA1

24 V_FBA_BA2 — L1 NC

UDQ0 C8 V_FBAD60
UDQ1 C2 V_FBAD57
UDQ2 D7 V_FBAD61
UDQ3 D3 V_FBAD56
UDQ4 D1 V_FBAD59
UDQ5 D9 V_FBAD62
UDQ6 B1 V_FBAD58
UDQ7 B9 V_FBAD63

LDQ0 G8 V_FBAD44
LDQ1 G2 V_FBAD46
LDQ2 H7 V_FBAD42
LDQ3 H3 V_FBAD47
LDQ4 H1 V_FBAD45
LDQ5 H9 V_FBAD41
LDQ6 F1 V_FBAD40
LDQ7 F9 V_FBAD43

C23 0.1uF 10V 10% 0402 X5R LR

GDDR2 SDRAM HY5PS561621AFP-25 256Mb(16M*16) 400MHz 1.8V FBGA 84PIN HYNIX LR

U11

24 V_FBA_A[12..0]
24 V_FBB_A[5..2]

V_FBA_A0 M8 A0
V_FBA_A1 M3 A1
V_FBB_A2 M7 A2
V_FBB_A3 N2 A3
V_FBB_A4 N8 A4
V_FBB_A5 N3 A5
V_FBA_A6 N7 A6
V_FBA_A7 P2 A7
V_FBA_A8 P8 A8
V_FBA_A9 P3 A9
V_FBA_A10 M2 A10
V_FBA_A11 P7 A11
V_FBA_A12 R2 A12

24 V_FBA_CS0# L8 CS#
24 V_FBA_RAS# K7 RAS#
24 V_FBA_CAS# L7 CAS#
24 V_FBA_WE# K3 WE#
24 V_FBADQS4 B7 UDQS
24 V_FBADQS#4 A8 UDQS#

24 V_FBA_ODT K9 ODT

24 V_FBADQS6 F7 LDQS
24 V_FBADQS#6 E8 LDQS#
24 V_FBADQM4 B3 UDM
24 V_FBADQM6 F3 LDM
24 V_FBA_CLK1# K8 CK#
24 V_FBA_CLK1 J8 CK
24 V_FBA_CKE K2 CKE
24 V_FBA_BA0 L2 BA0
24 V_FBA_BA1 L3 BA1

24 V_FBA_BA2 — L1 NC

UDQ0 C8 V_FBAD33
UDQ1 C2 V_FBAD36
UDQ2 D7 V_FBAD34
UDQ3 D3 V_FBAD37
UDQ4 D1 V_FBAD38
UDQ5 D9 V_FBAD35
UDQ6 B1 V_FBAD39
UDQ7 B9 V_FBAD32

LDQ0 G8 V_FBAD49
LDQ1 G2 V_FBAD54
LDQ2 H7 V_FBAD48
LDQ3 H3 V_FBAD53
LDQ4 H1 V_FBAD52
LDQ5 H9 V_FBAD50
LDQ6 F1 V_FBAD55
LDQ7 F9 V_FBAD51

GDDR2 SDRAM HY5PS561621AFP-25 256Mb(16M*16) 400MHz 1.8V FBGA 84PIN HYNIX LR

1.8VDDM 23,24,26,56,57

C590 10uF 6.3V 10% 0805 X5R TDK LR
C601 1uF 6.3V 10% 0402 X5R LR
C610 0.1uF 10V 10% 0402 X5R LR
C592 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC

C591 1uF 6.3V 10% 0402 X5R LR
C611 0.1uF 10V 10% 0402 X5R LR
C596 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC

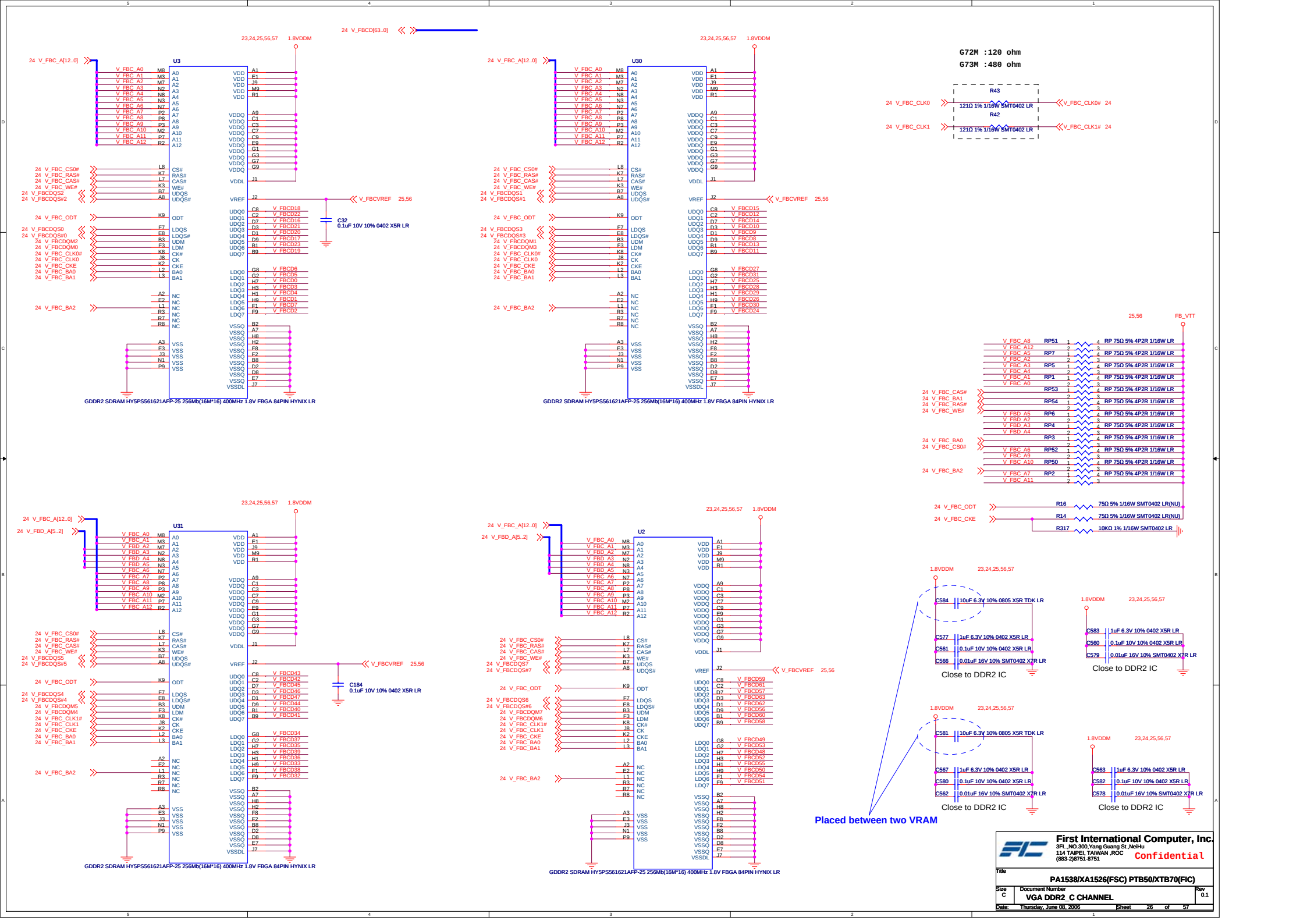
C619 10uF 6.3V 10% 0805 X5R TDK LR
C628 1uF 6.3V 10% 0402 X5R LR
C620 0.1uF 10V 10% 0402 X5R LR
C625 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC

C627 1uF 6.3V 10% 0402 X5R LR
C624 0.1uF 10V 10% 0402 X5R LR
C621 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC

Placed between two VRAM

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size: C
Document Number: VGA DDR2_A CHANNEL
Rev: 0.1
Date: Thursday, June 08, 2006
Sheet 25 of 57


24 V_FBCD[63..0]
U3
24 V_FBC_A[12..0]
23,24,25,56,57 1.8VDDM
V_FBC_A0 V_FBC_A1 V_FBC_A2 V_FBC_A3 V_FBC_A4 V_FBC_A5 V_FBC_A6 V_FBC_A7 V_FBC_A8 V_FBC_A9 V_FBC_A10 V_FBC_A11 V_FBC_A12
24 V_FBC_CS0# 24 V_FBC_RAS# 24 V_FBC_CAS# 24 V_FBC_WE#
24 V_FBCDQS2 24 V_FBCDQS#2
24 V_FBC_ODT
24 V_FBCDQS0 24 V_FBCDQS#0 24 V_FBCDQM2 24 V_FBCDQM0 24 V_FBC_CLK0# 24 V_FBC_CLK0 24 V_FBC_CKE 24 V_FBC_BA0 24 V_FBC_BA1
24 V_FBC_BA2
VDD VDDQ VDDL VREF VSS VSSQ VSSDL NC
V_FBCVREF 25,56
C32 0.1uF 10V 10% 0402 X5R LR
V_FBCD18 V_FBCD22 V_FBCD16 V_FBCD21 V_FBCD20 V_FBCD17 V_FBCD23 V_FBCD19 V_FBCD6 V_FBCD5 V_FBCD0 V_FBCD3 V_FBCD4 V_FBCD1 V_FBCD7 V_FBCD2
GDDR2 SDRAM HY5PS561621AFP-25 256Mb(16M*16) 400MHz 1.8V FBGA 84PIN HYNIX LR
U30
24 V_FBCDQS1 24 V_FBCDQS#1
24 V_FBCDQS3 24 V_FBCDQS#3 24 V_FBCDQM1 24 V_FBCDQM3 24 V_FBC_CLK0# 24 V_FBC_CLK0 24 V_FBC_CKE 24 V_FBC_BA0 24 V_FBC_BA1
V_FBCD15 V_FBCD12 V_FBCD14 V_FBCD10 V_FBCD9 V_FBCD8 V_FBCD13 V_FBCD11 V_FBCD27 V_FBCD31 V_FBCD25 V_FBCD28 V_FBCD29 V_FBCD26 V_FBCD30 V_FBCD24
G72M :120 ohm
G73M :480 ohm
R43 121Ω 1% 1/16W SMT0402 LR
R42 121Ω 1% 1/16W SMT0402 LR
24 V_FBC_CLK0 V_FBC_CLK0# 24
24 V_FBC_CLK1 V_FBC_CLK1# 24
25,56 FB_VTT
RP51 RP7 RP5 RP1 RP53 RP54 RP6 RP4 RP3 RP52 RP50 RP2
RP 75Ω 5% 4P2R 1/16W LR
R16 R14 75Ω 5% 1/16W SMT0402 LR(NU)
R317 10KΩ 1% 1/16W SMT0402 LR
U31
24 V_FBD_A[5..2]
V_FBC_CS0# V_FBC_RAS# V_FBC_CAS# V_FBC_WE#
24 V_FBCDQS5 24 V_FBCDQS#5
24 V_FBCDQS4 24 V_FBCDQS#4 24 V_FBCDQM5 24 V_FBCDQM4 24 V_FBC_CLK1# 24 V_FBC_CLK1 24 V_FBC_CKE 24 V_FBC_BA0 24 V_FBC_BA1
V_FBCD43 V_FBCD42 V_FBCD45 V_FBCD46 V_FBCD47 V_FBCD44 V_FBCD40 V_FBCD41 V_FBCD34 V_FBCD37 V_FBCD35 V_FBCD39 V_FBCD36 V_FBCD33 V_FBCD38 V_FBCD32
C184 0.1uF 10V 10% 0402 X5R LR
U2
24 V_FBCDQS7 24 V_FBCDQS#7
24 V_FBCDQS6 24 V_FBCDQS#6 24 V_FBCDQM7 24 V_FBCDQM6 24 V_FBC_CLK1# 24 V_FBC_CLK1 24 V_FBC_CKE 24 V_FBC_BA0 24 V_FBC_BA1
V_FBCD59 V_FBCD61 V_FBCD57 V_FBCD63 V_FBCD62 V_FBCD56 V_FBCD60 V_FBCD58 V_FBCD49 V_FBCD53 V_FBCD48 V_FBCD52 V_FBCD55 V_FBCD50 V_FBCD54 V_FBCD51
C584 10uF 6.3V 10% 0805 X5R TDK LR
C577 1uF 6.3V 10% 0402 X5R LR
C561 0.1uF 10V 10% 0402 X5R LR
C566 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC
C583 1uF 6.3V 10% 0402 X5R LR
C560 0.1uF 10V 10% 0402 X5R LR
C579 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC
C581 10uF 6.3V 10% 0805 X5R TDK LR
C567 1uF 6.3V 10% 0402 X5R LR
C580 0.1uF 10V 10% 0402 X5R LR
C562 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC
C563 1uF 6.3V 10% 0402 X5R LR
C582 0.1uF 10V 10% 0402 X5R LR
C578 0.01uF 16V 10% SMT0402 X7R LR
Close to DDR2 IC
Placed between two VRAM
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
Title
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size C
Document Number VGA DDR2_C CHANNEL
Rev 0.1
Date: Thursday, June 08, 2006
Sheet 26 of 57

CRT CIRCUIT

USE 47 ohms@100MHZ
BLM18BB470SN1(MURATA)

LAYOUT GUIDE

20 mil	Otrher Signal
20 mil	MXM_RED
20 mil	MXM_GREEN
20 mil	MXM_BLUE
	Other Signal

CRT5VS
C542 0.1uF 16V 80-20% 0402 Y5V LF(NU)
D26A D26B D26C
IMN10T108 SC-74 ROHM LR(NU)
D25A D25B D25C
IMN10T108 SC-74 ROHM LR(NU)

9,20,37,40,41,42,43,46,55,56 5VDDM
20mil
DIODE STKY MSCD104 40V 1A SMT0805 2PIN LR
D2
L2 MLB-160808-0600P-N2 LR
CRT5VS
20mil
C3 0.1uF 16V 80-20% 0402 Y5V LF

22 RED
22 GREEN
22 BLUE

WIDTH=5 MILS Z0=50 ohms
WIDTH=5 MILS Z0=50 ohms
WIDTH=5 MILS Z0=50 ohms
(10mil)
(10mil)

L62 75Ω±25% 850mA 0805 LR
L63 75Ω±25% 850mA 0805 LR
L64 75Ω±25% 850mA 0805 LR

WIDTH= 8 MILS Z0=75 ohms
WIDTH= 8 MILS Z0=75 ohms
WIDTH= 8 MILS Z0=75 ohms

CNN_RED
CNN_GREEN
CNN_BLUE

10Ω 5% 1/16W SMT0402 LR R271
10Ω 5% 1/16W SMT0402 LR R270

CNN_HSYNC
CNN_VSYNC

R282 150Ω 1% 1/16W 0402 LF
R283 150Ω 1% 1/16W 0402 LF
R284 150Ω 1% 1/16W 0402 LF

C538 22pF 50V 5% SMT0402 NPO LR(NU)
C539 22pF 50V 5% SMT0402 NPO LR(NU)
C540 22pF 50V 5% SMT0402 NPO LR(NU)
C530 2.2pF 25V ±0.25pF SMT0402 NPO LR
C529 2.2pF 25V ±0.25pF SMT0402 NPO LR
C528 2.2pF 25V ±0.25pF SMT0402 NPO LR
C527 27pF 50V 5% 0402 NPO LF(NU)
C531 27pF 50V 5% 0402 NPO LF(NU)

22 HSYNC
U27
DL-IC 74AHCT1G126GW SC-88A(SOT353) 5PIN PHILIPS LR
WIDTH=4 MILS Z0=55 ohms

CRT5VS
C534
0.1uF 16V 80-20% 0402 Y5V LF

22 VSYNC
U26
DL-IC 74AHCT1G126GW SC-88A(SOT353) 5PIN PHILIPS LR
WIDTH=4 MILS Z0=55 ohms

R272 0Ω 5% 1/16W SMT0402 LR
L57
23 TDC2#
CHOKE 90Ω 100MHz 300mA ACM2012H-900-2P-T00 TDK LR(NU)
23 TDC2
R273 0Ω 5% 1/16W SMT0402 LR

VECLK_CONN
VEDAT_CONN

R274 0Ω 5% 1/16W SMT0402 LR
23 TDC1#
CHOKE 90Ω 100MHz 300mA ACM2012H-900-2P-T00 TDK LR(NU)
L58
23 TDC1
R275 0Ω 5% 1/16W SMT0402 LR

C5 5pF 0402 NPO LR(NU)
C5 5pF 0402 NPO LR(NU)

R276 0Ω 5% 1/16W SMT0402 LR
23 TDC0#
CHOKE 90Ω 100MHz 300mA ACM2012H-900-2P-T00 TDK LR(NU)
L59
23 TDC0
R277 0Ω 5% 1/16W SMT0402 LR

R278 0Ω 5% 1/16W SMT0402 LR
23 TLC
CHOKE 90Ω 100MHz 300mA ACM2012H-900-2P-T00 TDK LR(NU)
L60
23 TLC#
R279 0Ω 5% 1/16W SMT0402 LR

DVI_DET_A

CN21
TMDS_D2-
TMDS_D2+
CNN_VSYNC
TMDS_D1-
TMDS_D1+
CRT5VS
TMDS_D0-
TMDS_D0+
TMDS_CLK-
TMDS_CLK+
CNN_RED
CNN_GREEN
CNN_BLUE
CNN_HSYNC
R1 0Ω 5% 1/16W 0402 LF
CON SUYIN DIP CN 29P 070939FR029SX37PR SUYIN 29PIN

25	CASE
26	CASE#M3
1	TMDS Data2-
2	TMDS Data2+
3	TMDS Data2/4 Shield
4	TMDS Data4-
5	TMDS Data4+
6	DDC Clock
7	DDC Data
8	Analog VSYNC
9	TMDS Data1-
10	TMDS Data1+
11	TMDS Data1/3 Shield
12	TMDS Data3-
13	TMDS Data3+
14	+5V Power
15	GND (for +5V)
16	Hot Plug Detect
17	TMDS Data0-
18	TMDS Data0+
19	TMDS Data0/5 Shield
20	TMDS Data5-
21	TMDS Data5+
22	TMDS Clock Shield
23	TMDS Clock+
24	TMDS Clock-
C1	Analog Red
C2	Analog Green
C3	Analog Blue
C4	Analog HYNC
C5	Analog GND
C6	Analog GND#C6
27	CASE#M4
28	CASE#M2

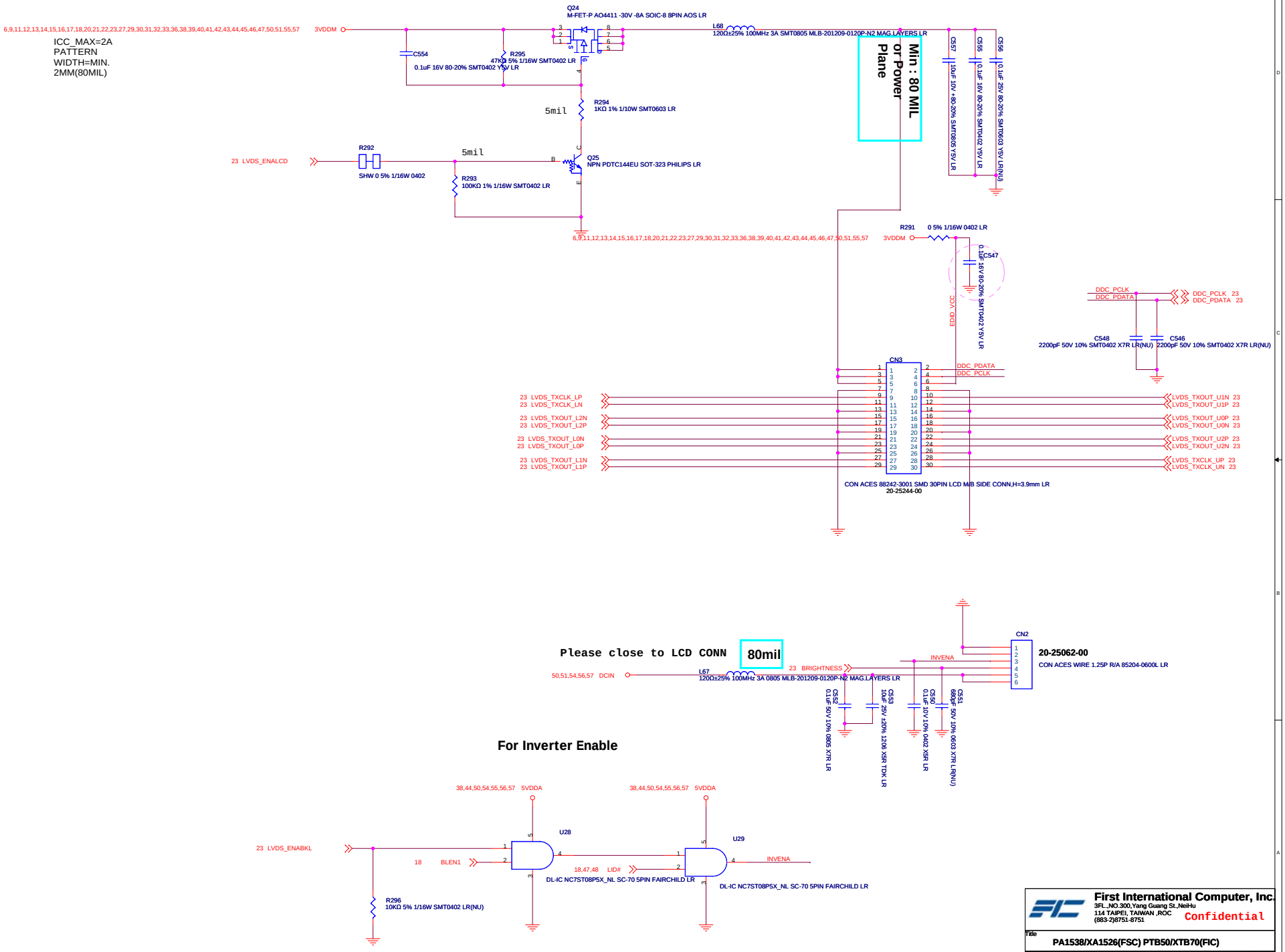
42,43,44,45,46,47,50,51,55,57 3VDDM
CRT5VS
R280 2.2KΩ 5% 1/16W SMT0402 LR
Q2
R5 4.7KΩ 5% 1/16W SMT0402 LR
22 VECLK
VECLK_CONN
M-FET-N 2N7002_NL 60V SOT-23-3 LF

41,42,43,44,45,46,47,50,51,55,57 3VDDM
CRT5VS
R281 2.2KΩ 5% 1/16W SMT0402 LR
Q1
R4 4.7KΩ 5% 1/16W SMT0402 LR
22 VEDAT
VEDAT_CONN
M-FET-N 2N7002_NL 60V SOT-23-3 LF

6,9,11,12,13,14,15,16,17,18,20,21,22,23,28,29,30,31,32,33,36,38,39,40,41,42,43,44,45,46,47,50,51,55,57 3VDDM
10KΩ 5% 1/16W 0402 LF
R3
L1
23 DVI_DET
MLB-201209-0120L-N2 MAG.LAYERS LR
DVI_DET_A
D1
R2 100KΩ 5% 1/16W SMT0402 LR
DIODE SWITCHING BAV99 SOT-23 3PIN PANJIT LR
C4 220pF 50V 10% SMT0402 X7R LR

First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size: C
Document Number: DVI Port
Rev: 0.1
Date: Thursday, June 08, 2006
Sheet 27 of 57



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

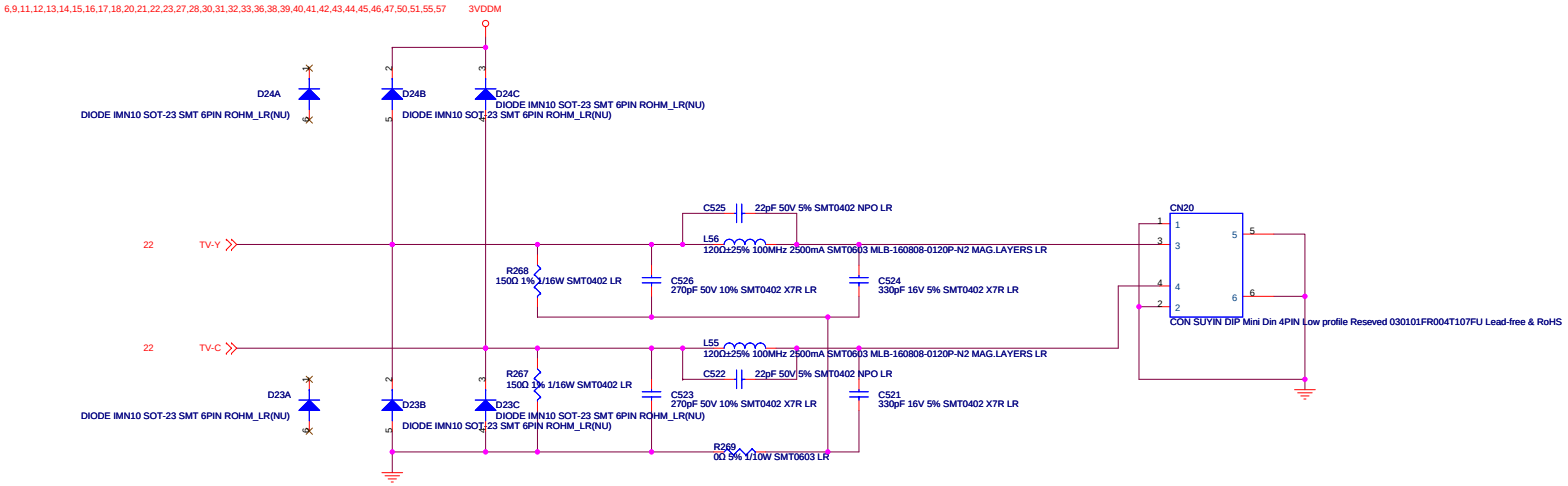
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: LCD CNN | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 28 of 57

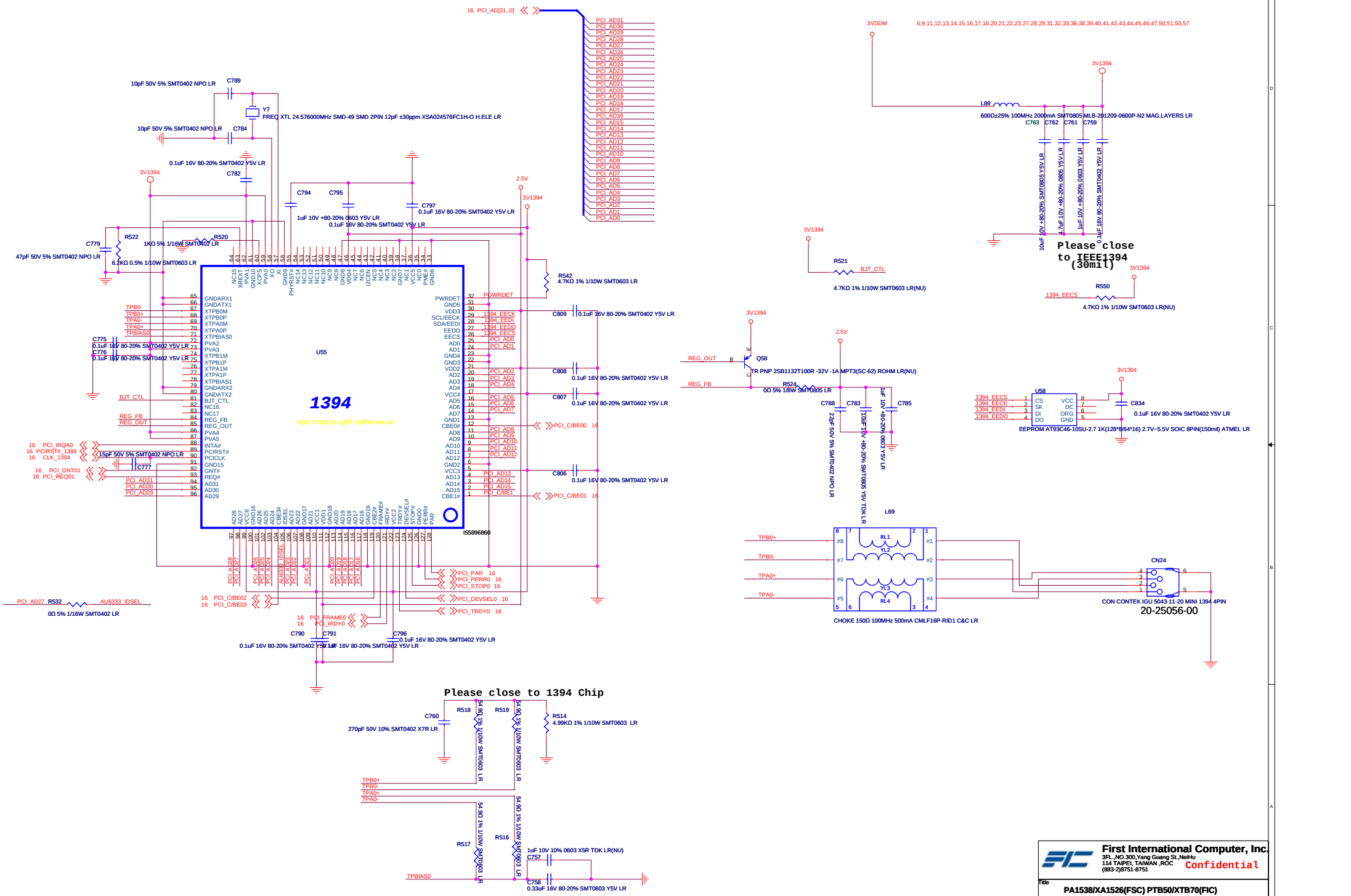
TV OUT CIRCUIT

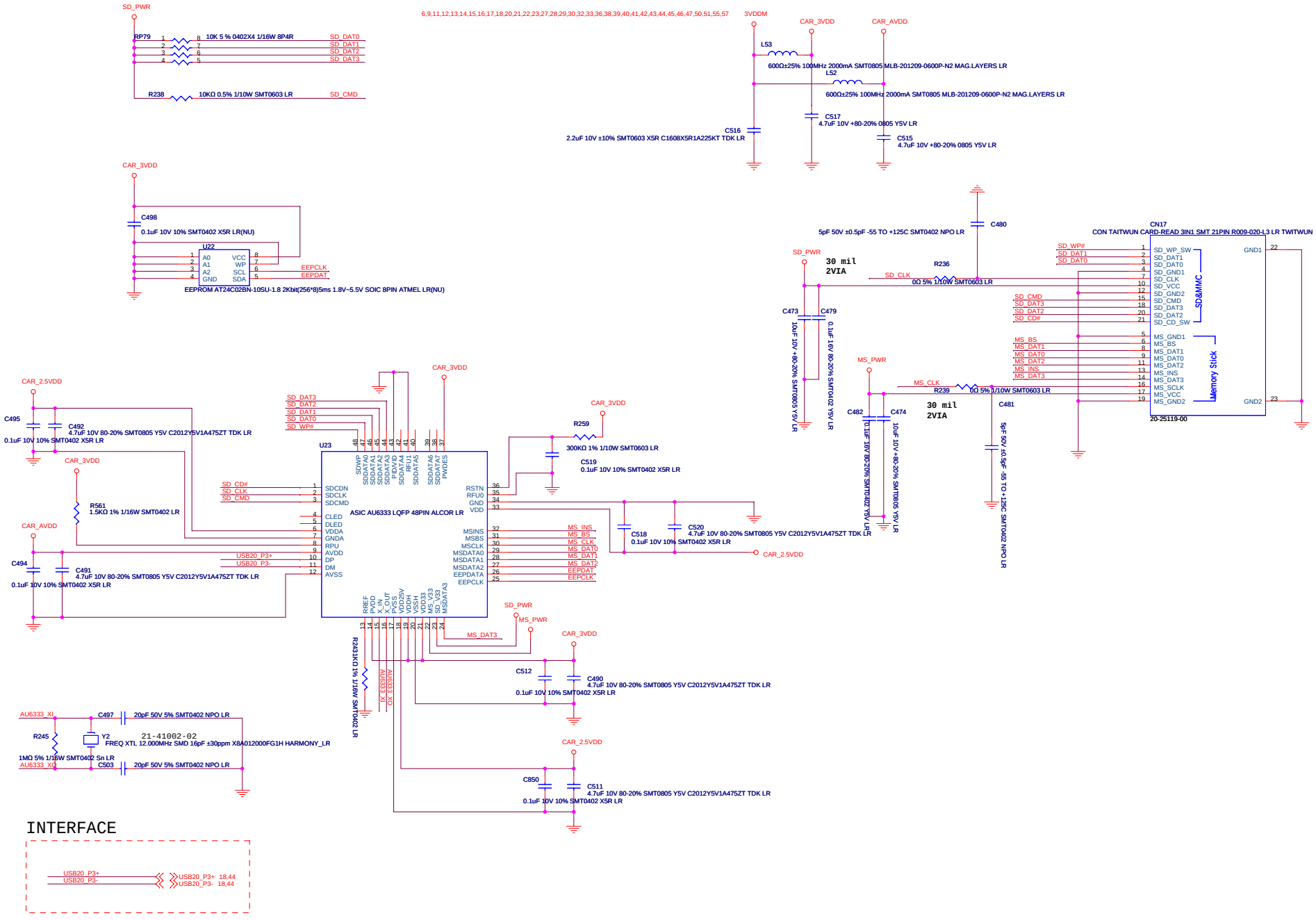


First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

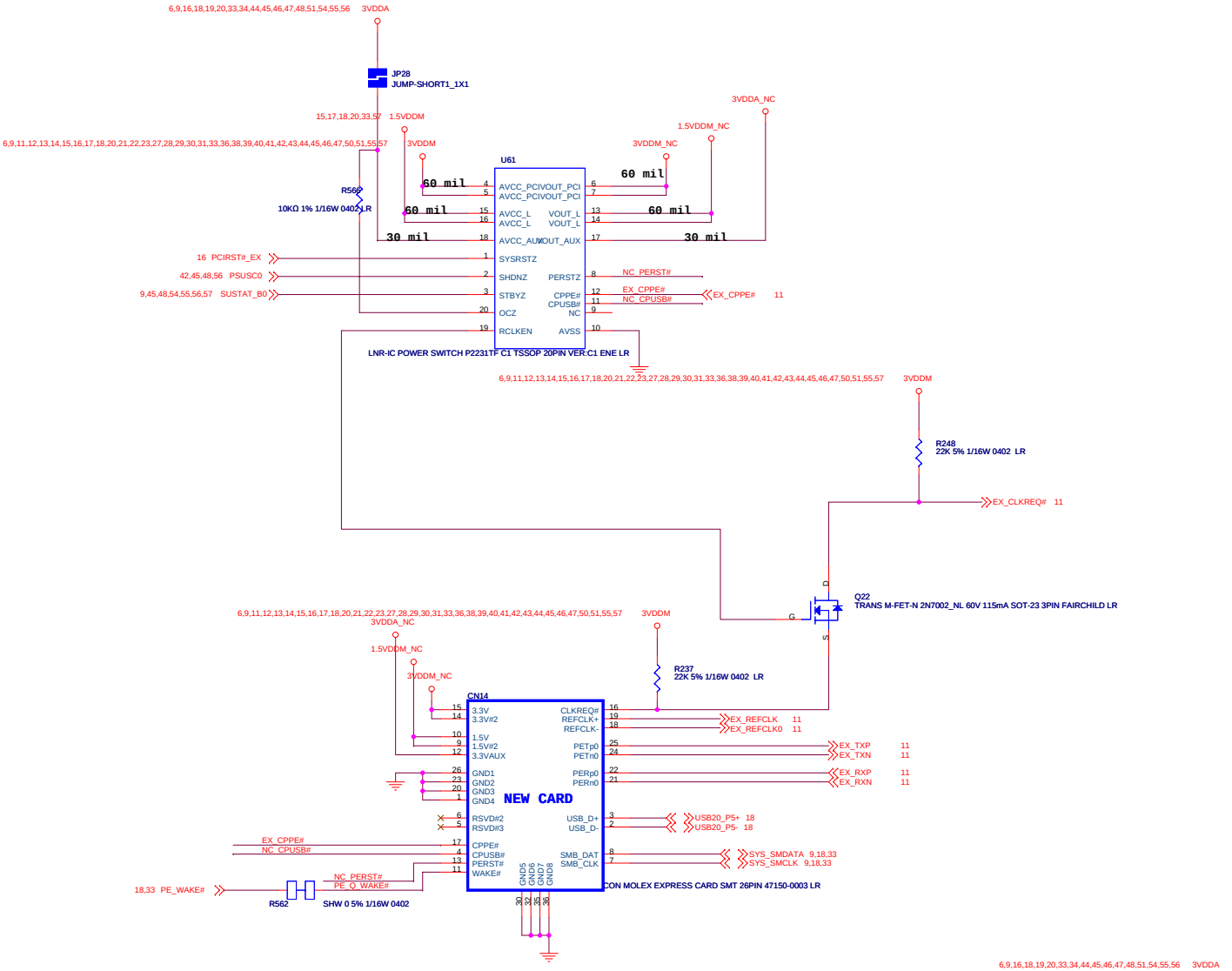
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number TV Port	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 29 of 57	


16 PCI_AD[31..0]
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD28
PCI_AD27
PCI_AD26
PCI_AD25
PCI_AD24
PCI_AD23
PCI_AD22
PCI_AD21
PCI_AD20
PCI_AD19
PCI_AD18
PCI_AD17
PCI_AD16
PCI_AD15
PCI_AD14
PCI_AD13
PCI_AD12
PCI_AD11
PCI_AD10
PCI_AD9
PCI_AD8
PCI_AD7
PCI_AD6
PCI_AD5
PCI_AD4
PCI_AD3
PCI_AD2
PCI_AD1
PCI_AD0
C789
10pF 50V 5% SMT0402 NPO LR
Y7
FREQ XTL 24.576000MHz SMD-49 SMD 2PIN 12pF ±30ppm XSA024576FC1H-O H.ELE LR
C784
10pF 50V 5% SMT0402 NPO LR
0.1uF 16V 80-20% SMT0402 Y5V LR
C782
3V1394
C794
C795
1uF 10V +80-20% 0603 Y5V LR
C797
0.1uF 16V 80-20% SMT0402 Y5V LR
0.1uF 16V 80-20% SMT0402 Y5V LR
2.5V
3V1394
C779
47pF 50V 5% SMT0402 NPO LR
R522
6.2KΩ 0.5% 1/10W SMT0603 LR
R520
1KΩ 5% 1/16W SMT0402 LR
R542
4.7KΩ 1% 1/10W SMT0603 LR
U55
1394
ASIC VT6311S LQFP 128PIN VIA LR
I55896860
PWRDET
C809
0.1uF 16V 80-20% SMT0402 Y5V LR
C808
0.1uF 16V 80-20% SMT0402 Y5V LR
C807
0.1uF 16V 80-20% SMT0402 Y5V LR
C806
0.1uF 16V 80-20% SMT0402 Y5V LR
PCI_C/BE00 16
PCI_C/BE01 16
TPB0-
TPB0+
TPA0-
TPA0+
TPBIAS0
C775
0.1uF 16V 80-20% SMT0402 Y5V LR
C776
0.1uF 16V 80-20% SMT0402 Y5V LR
BJT_CTL
REG_FB
REG_OUT
16 PCI_IRQA0
16 PCIRST#_1394
16 CLK_1394
15pF 50V 5% SMT0402 NPO LR
C777
16 PCI_GNT01
16 PCI_REQ01
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD27
R532
AU6333_IDSEL
0Ω 5% 1/16W SMT0402 LR
16 PCI_C/BE02
16 PCI_C/BE03
PCI_PAR 16
PCI_PERR0 16
PCI_STOP0 16
PCI_DEVSEL0 16
PCI_TRDY0 16
16 PCI_FRAME0
16 PCI_IRDY0
C790
0.1uF 16V 80-20% SMT0402 Y5V LR
C791
0.1uF 16V 80-20% SMT0402 Y5V LR
C796
0.1uF 16V 80-20% SMT0402 Y5V LR
3VDDM
6,9,11,12,13,14,15,16,17,18,20,21,22,23,27,28,29,31,32,33,36,38,39,40,41,42,43,44,45,46,47,50,51,55,57
3V1394
L89
600Ω±25% 100MHz 2000mA SMT0805 MLB-201209-0600P-N2 MAG.LAYERS LR
C763
C762
C761
C759
10uF 10V +80-20% SMT0805 Y5V LR
4.7uF 10V +80-20% 0805 Y5V LR
1uF 10V +80-20% 0603 Y5V LR
0.1uF 16V 80-20% SMT0402 Y5V LR
Please close to IEEE1394 (30mil)
3V1394
R521
BJT_CTL
4.7KΩ 1% 1/10W SMT0603 LR(NU)
3V1394
1394_EECS
R550
4.7KΩ 1% 1/10W SMT0603 LR(NU)
3V1394
REG_OUT
Q58
TR PNP 2SB1132T100R -32V -1A MPT3(SC-62) ROHM LR(NU)
REG_FB
R524
0Ω 5% 1/8W SMT0805 LR
2.5V
C788
22pF 50V 5% SMT0402 NPO LR
C783
10pF 10V +80-20% SMT0805 Y5V TDK LR
C785
1uF 10V +80-20% 0603 Y5V LR
L69
U58
1394_EECS
1394_EECK
1394_EEDI
1394_EEDO
CS
SK
DI
DO
VCC
DC
ORG
GND
C834
0.1uF 16V 80-20% SMT0402 Y5V LR
EEPROM AT93C46-10SU-2.7 1K(128*8/64*16) 2.7V~5.5V SOIC 8PIN(150mil) ATMEL LR
TPB0+
TPB0-
TPA0+
TPA0-
RL1
YL2
YL3
RL4
CHOKE 150Ω 100MHz 500mA CMLF16P-RID1 C&C LR
CN24
CON CONTEK IGU 5043-11-20 MINI 1394 4PIN
20-25056-00
Please close to 1394 Chip
C760
270pF 50V 10% SMT0402 X7R LR
R518
54.9Ω 1% 1/10W SMT0603 LR
R519
54.9Ω 1% 1/10W SMT0603 LR
R514
4.99KΩ 1% 1/10W SMT0603 LR
TPB0+
TPB0-
TPA0+
TPA0-
R517
54.9Ω 1% 1/10W SMT0603 LR
R516
54.9Ω 1% 1/10W SMT0603 LR
1uF 10V 10% 0603 X5R TDK LR(NU)
C757
C756
0.33uF 16V 80-20% SMT0603 Y5V LR
TPBIAS0
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential
Title
PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size C
Document Number
VIA VT6311S(1394)
Rev 0.1
Date: Thursday, June 08, 2006
Sheet 30 of 57



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number Cardreader AU6333	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 31 of 57	



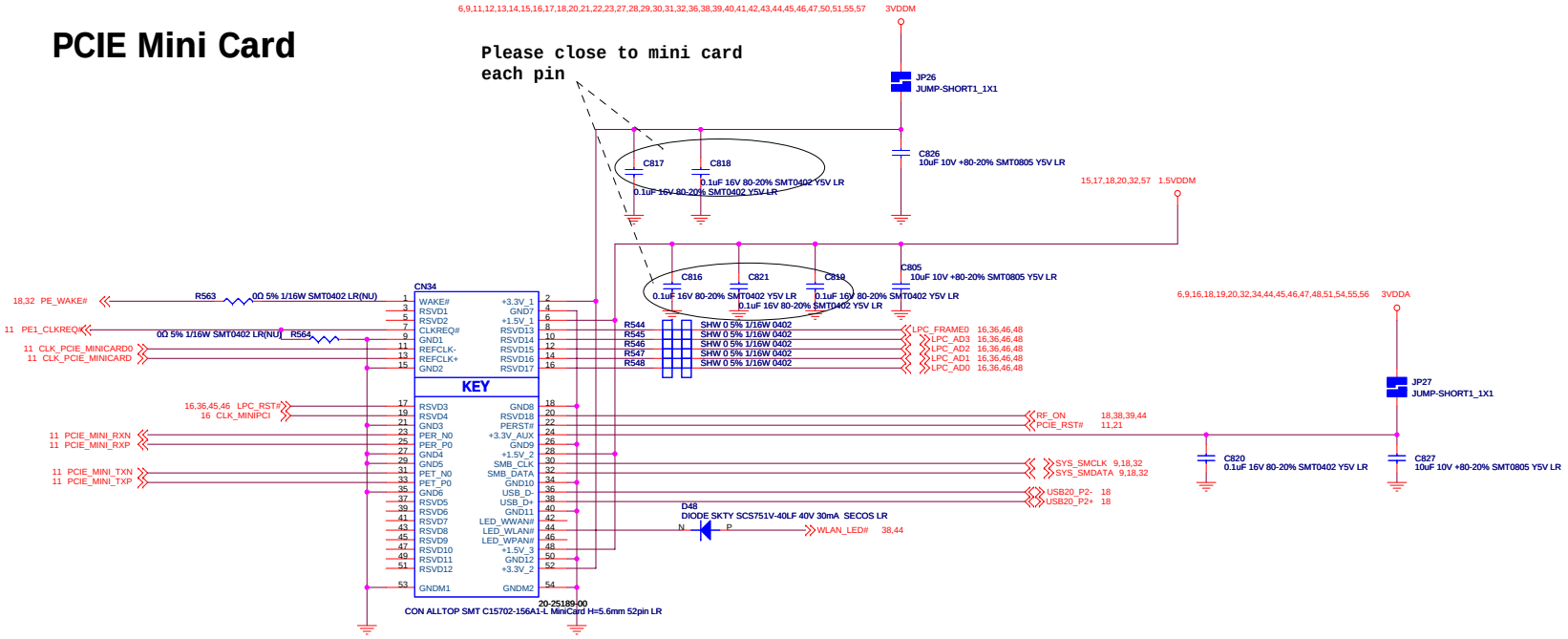
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size	Document Number	Rev
C	New Card(express card)	0.1

Date: Thursday, June 08, 2006 Sheet 32 of 57

PCIE Mini Card



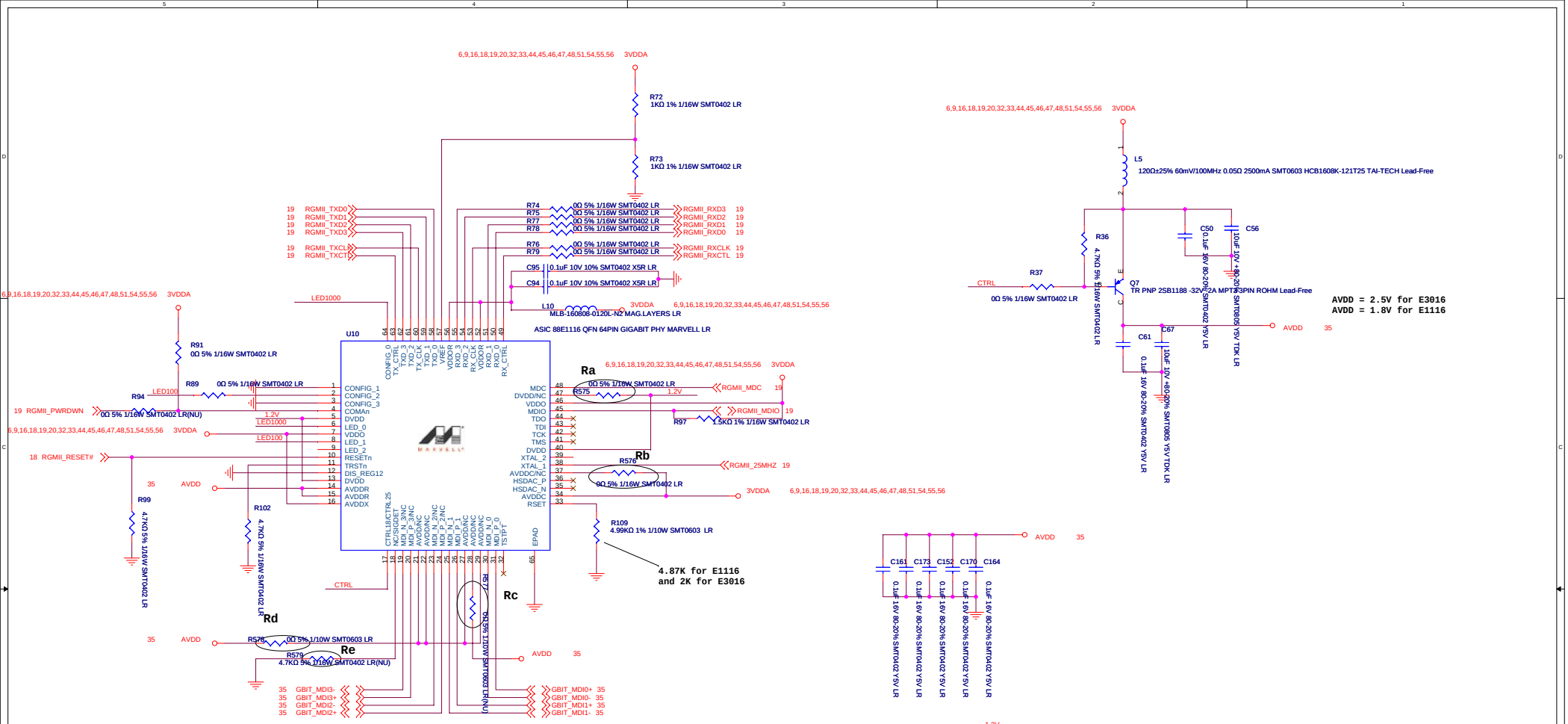
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size	Document Number	Rev
C	PCIE Mini Card	0.1

Date: Thursday, June 08, 2006 Sheet 33 of 57



	for 88E3016	for 88E1116
Ra	NU	STUFF
Rb	NU	STUFF
Rc	STUFF	NU
Rd	NU	STUFF
Re	STUFF	NU

Layout Guide

1.The Lan Chip should be placed as close as possible to the transfer.
2. The resistor connected to RSET pin should be placed near to the Lan Chip,and away from signal traces(ex:MDI0+/-) and clock signals as far as possible.
3. The transfer should be placed as close as possible to the RJ45 connector.
4. The crystal should be placed far away from I/O ports and high frequency signal.
5. The termination resistors and capacitors should be placed closely to the Lan Chip.
6. The decoupling capacitors should be placed as close as possible to the power pins,such that the distance from IC power pin to the capacitor is within 200mils.
7. Traces routed from the Lan Chip to the transfer,and to the RJ45 connector should be as short as possible.
8. The 10-12cm maximum lenghth between Lan Chip and transfer is achievable only when there's no interferences around.
9. All 4 pairs of the differential resister(49.9k) must close to Lan Chip,and make them(4pairs) as same as distant.
10.PLACE GND PLANE AS LARGE AS POSSIBLE
11.If power pins are next to each other and there is not much room to accommodate multipe capacitors,then the power pins can share the same capacitors.
12.It's important to separate digital signals from analog signals.If it is unavoidable to cross digtal signals with analong power do it at 90 degree angle.
13. The digital power plane should be separated from analog areas.
14. All analog decoupling capacitors should be placed as close to the IC as possible and the traces should be short.
15.The Lan Chip pin 1 facing the transformer,then you can make the signal shorter.

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

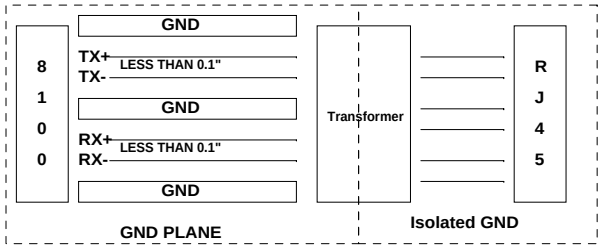
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

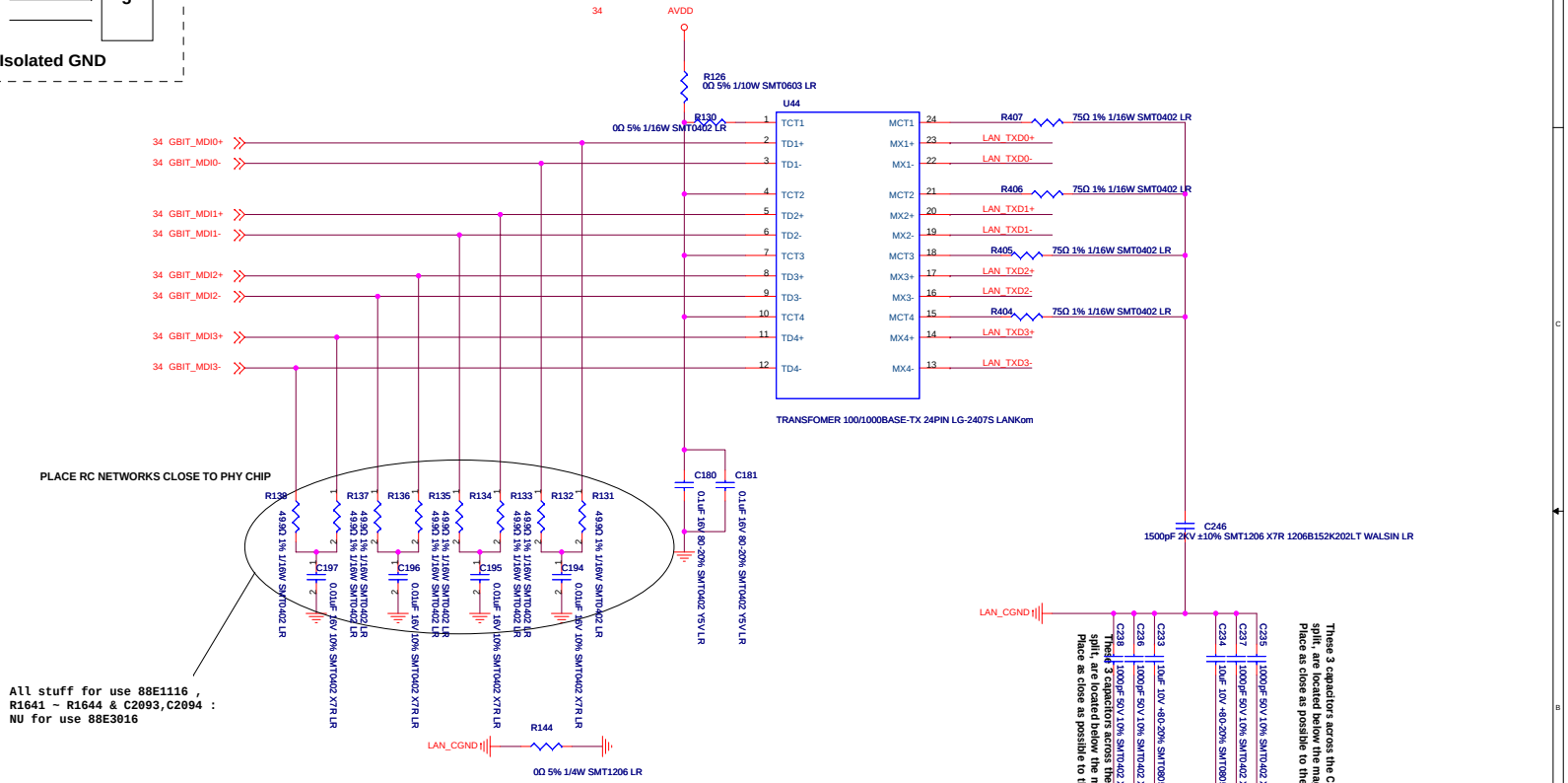
Size: C | Document Number: GIGA PHY 88E1116 | Rev: 0.1

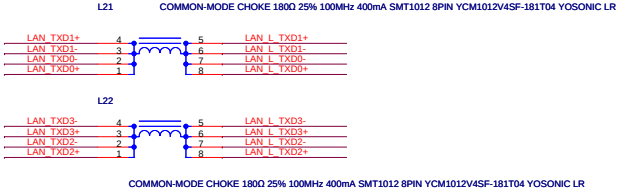
Date: Thursday, June 08, 2006 | Sheet 34 of 57

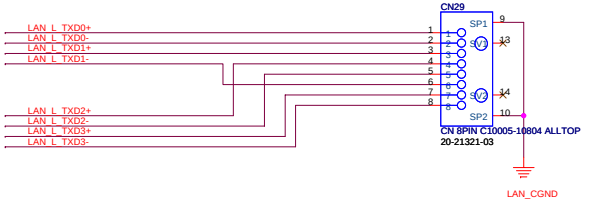
TX
RX

100 ohm ---> trace 4 mil , space 10 mil
50 mil space from other signals
Total Tace Length no more thans 4.8"
2 Differential pairs must have the same length









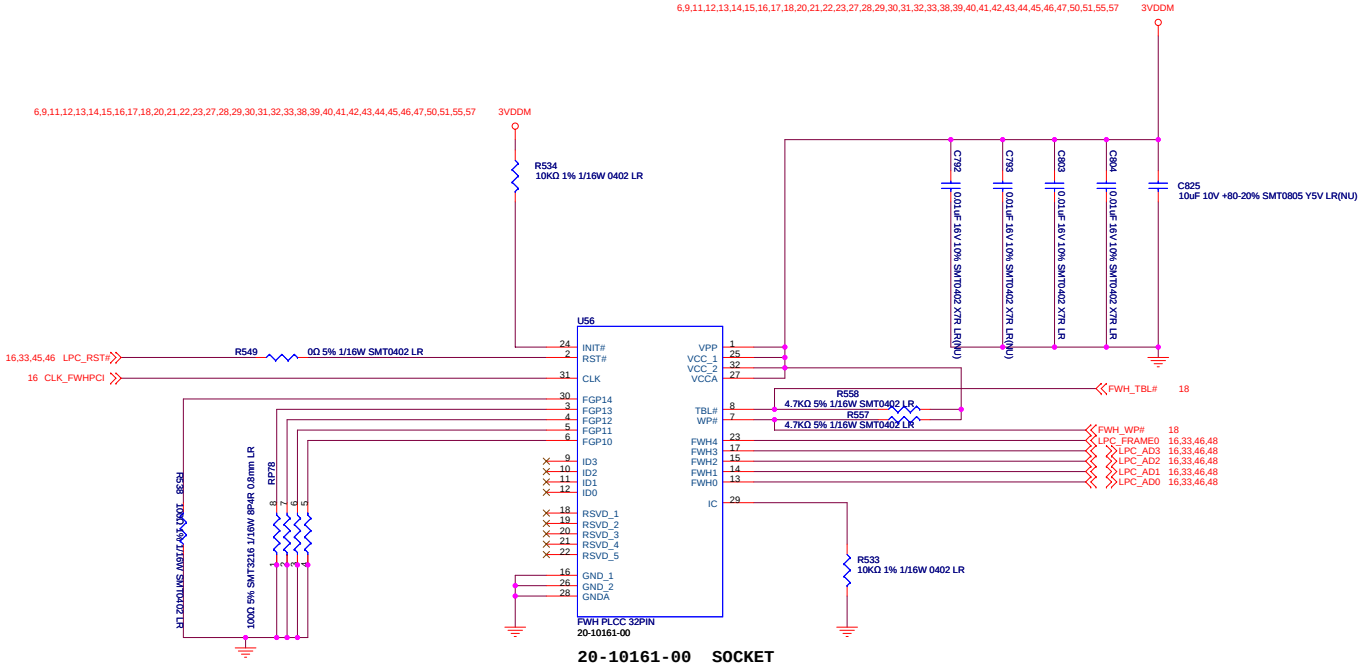
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title
PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size	Document Number	Rev
C	GIGA TRANSFORMER	0.1

Date: Thursday, June 08, 2006 Sheet 35 of 57



20-10161-00 SOCKET

03-10262-01 Flash ROM SST49LF004B-33-4C-NHE 4Mbit(512K*8)

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: FirmWare Hub | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 36 of 57

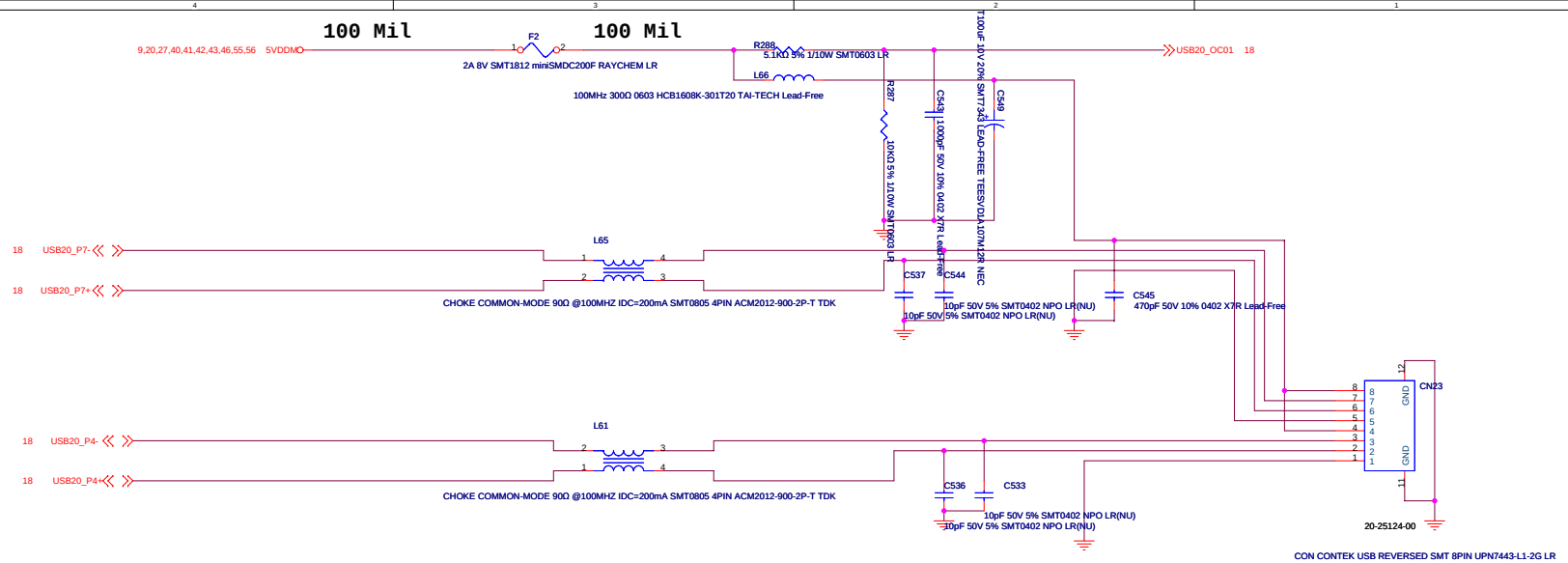
5 mil GND_POWER

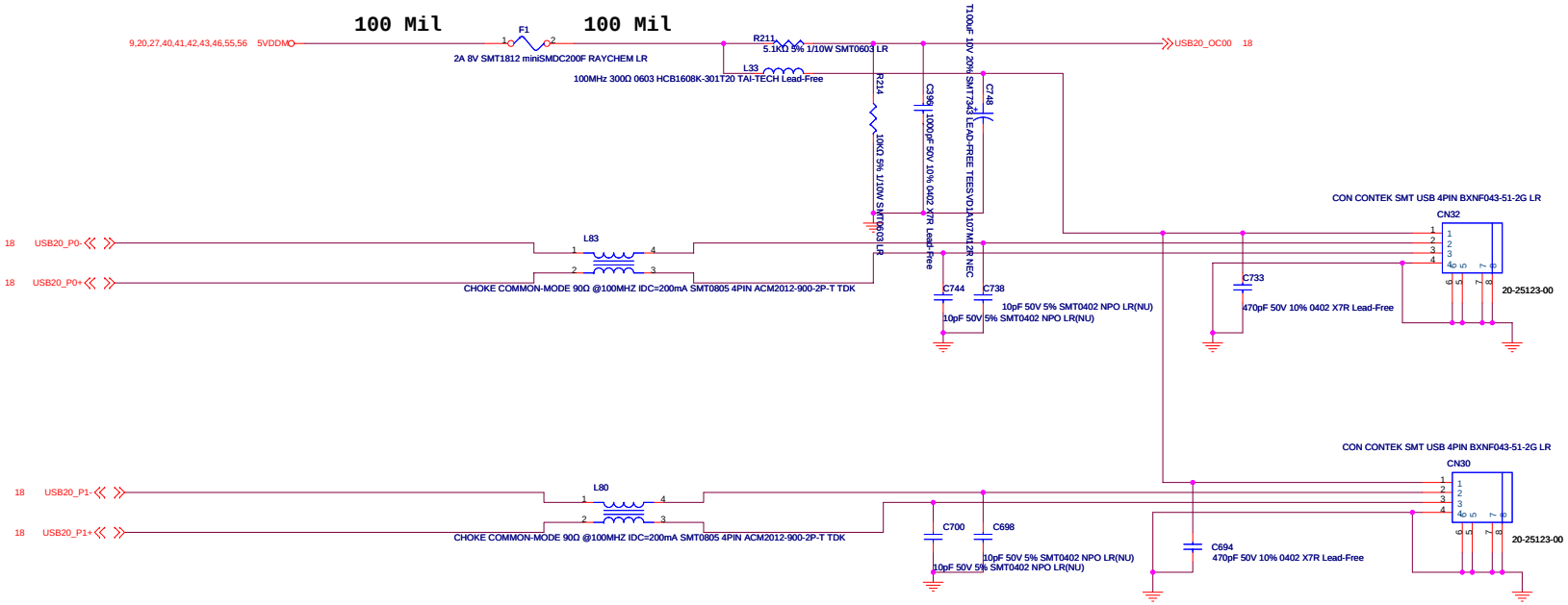
5 mil (10 mil) USB20_P+

5 mil (5 mil) USB20_P-

5 mil (10 mil) GND_POWER

USBP+/- must same length





First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

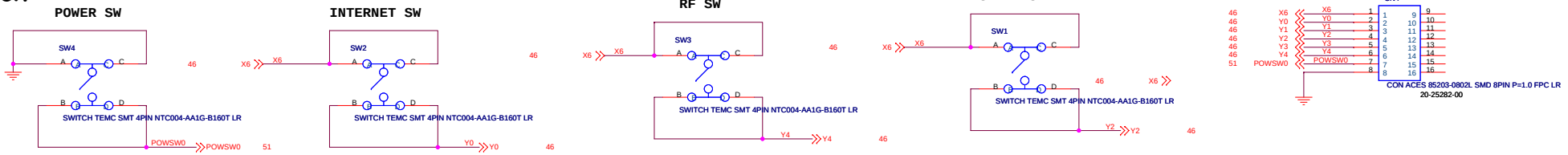
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

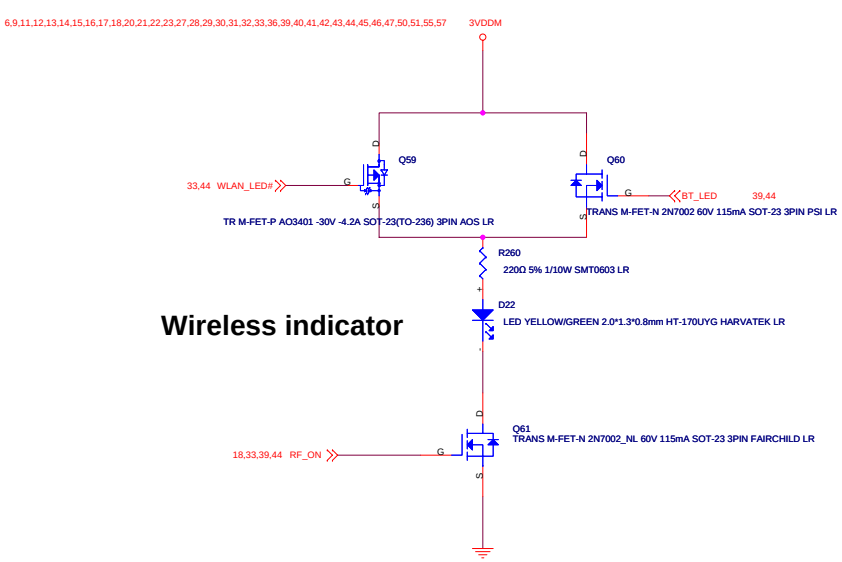
Size: C | Document Number: USB CNN | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 37 of 57

Switch

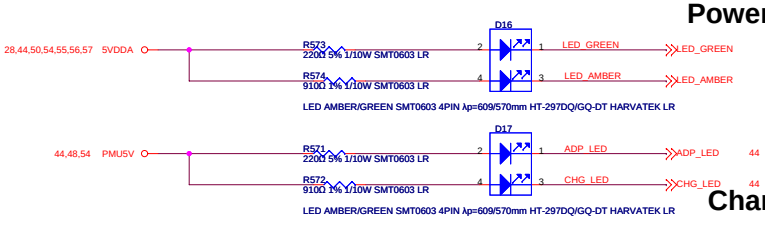


LED indicator control logic

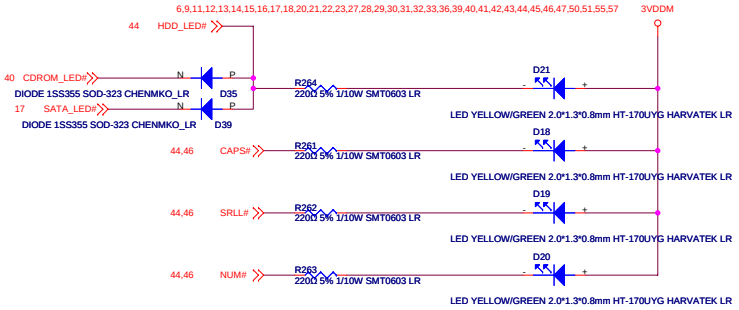


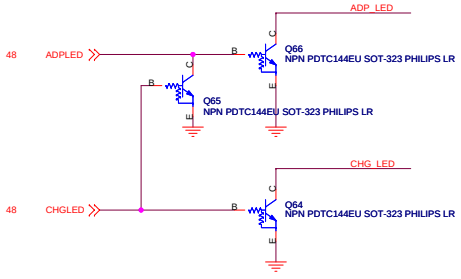
Wireless indicator

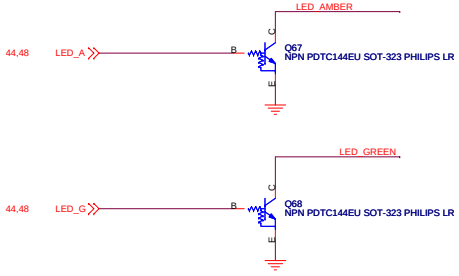
Power indicator



Charge indicator



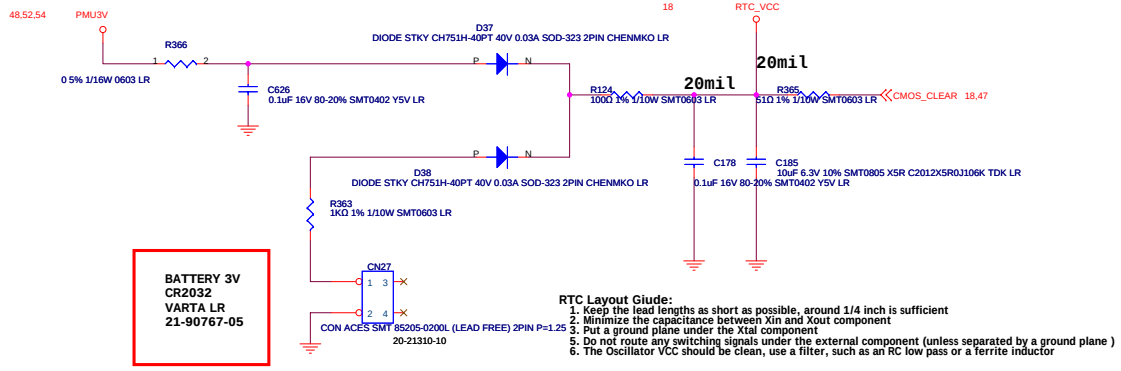




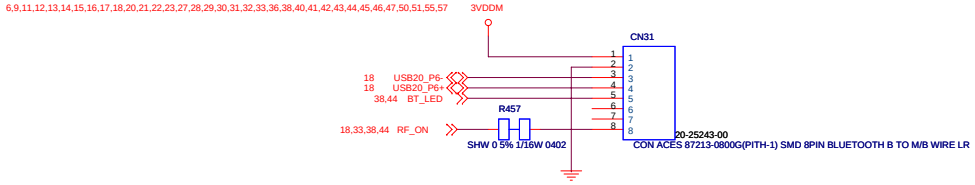
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number LED / SW	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 38 of 57	

RTC Discharge Circuit



BLUETOOTH

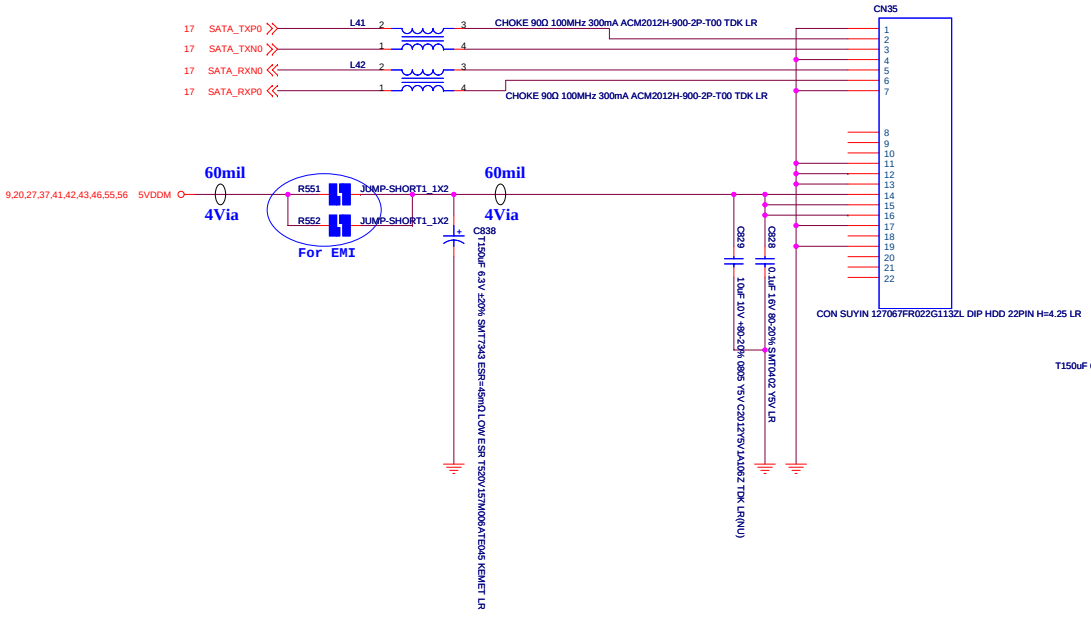


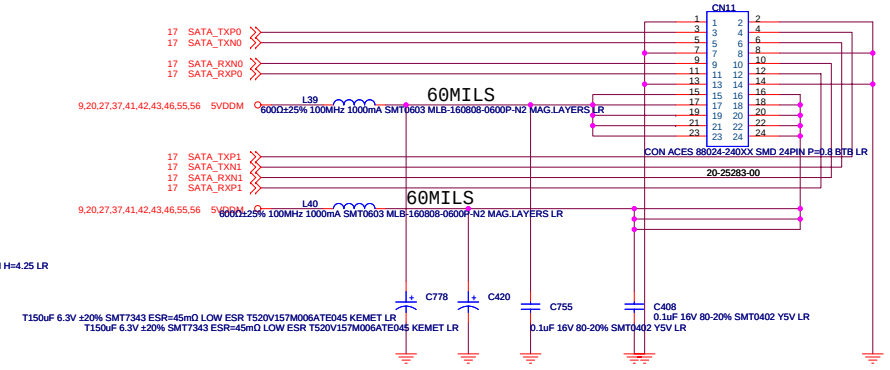
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number RTC/ MDC CNN	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 39 of 57	

HDD I/F

FOR XTB70



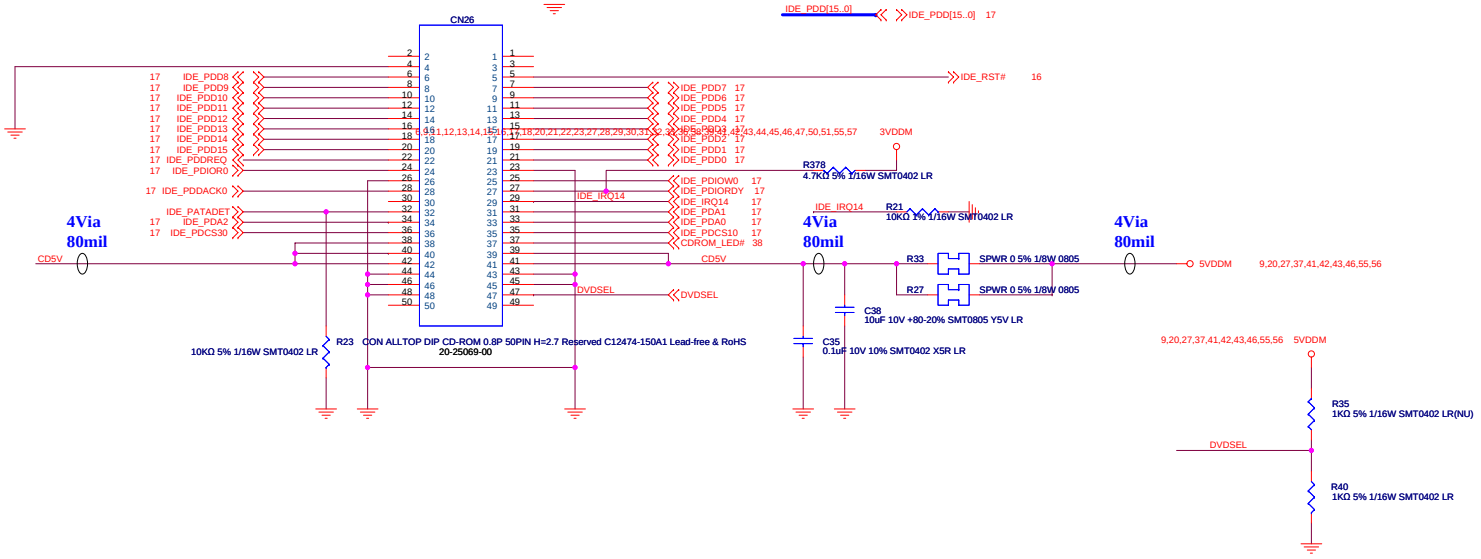


LAYOUT GUIDE **SATA Layout Note:**

MS or SL:

* Zdif = 100 Ohm +/- 10%. TX & RX should refer GND.No via & stubs.The Best layer is Top.
* TX/RX trace length < 2 inchs.
* TX+/- need matching trace ±10 mils length.
* RX+/- need matching trace ±10 mils length.
* SATA Pair to Pair Trace matching trace ±10 mils length.

CD-ROM CNN



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number SATA HD / CD-ROM CNN	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 40 of 57	

10mil GND_POWER
10mil AZALIA_PCBEEP 10mil
10mil GND_POWER 10mil
10mil GND_POWER
10mil AZALIA_BITCLK 10mil
10mil GND_POWER 10mil

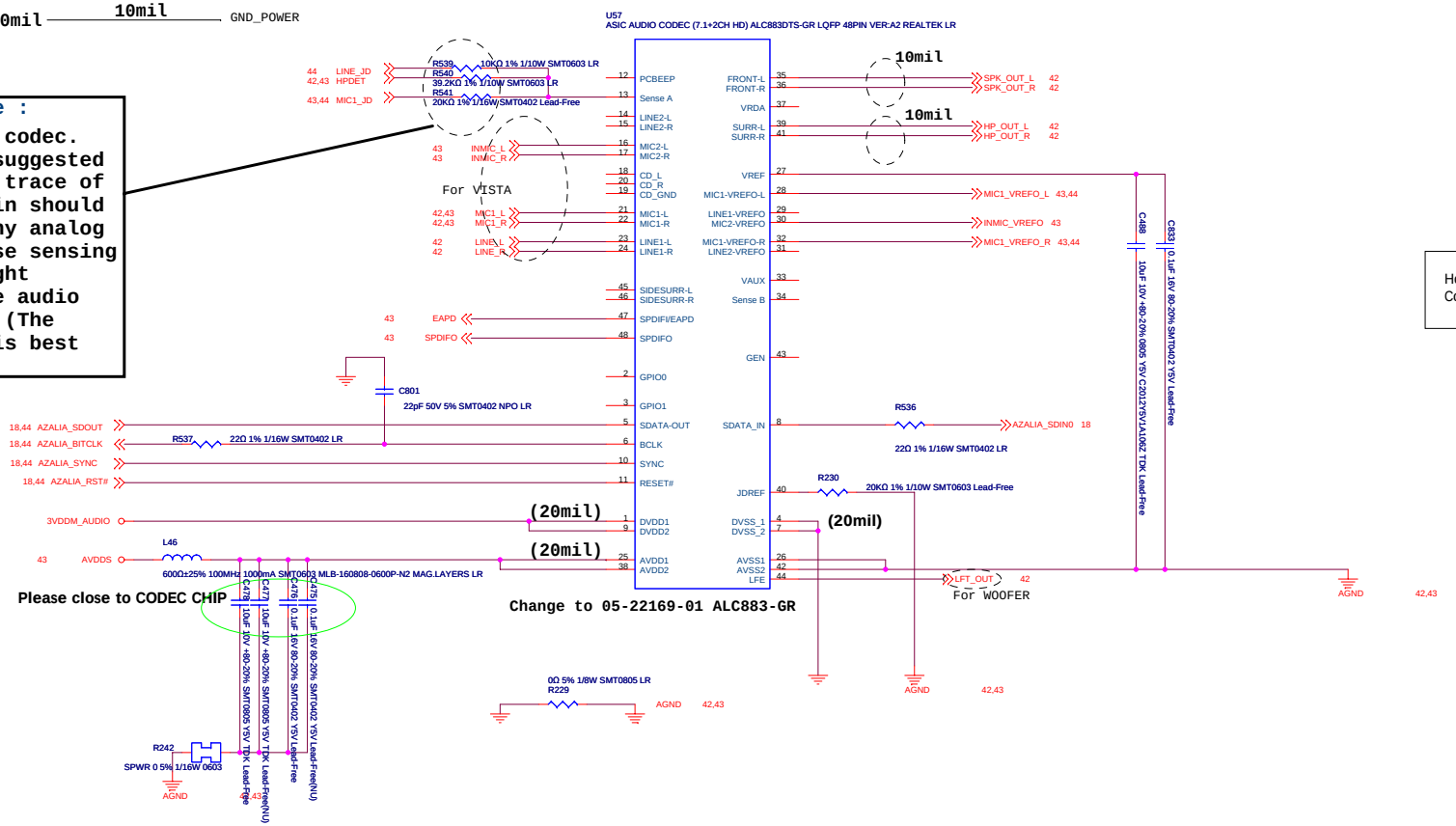
10mil GND_POWER
10mil 14MCLK_AZALIA 10mil
10mil GND_POWER 10mil

AC97/AZALIA CODEC DUAL LAYOUT

AC97 USE AL883 DTS / AZALIA(RESERVE)

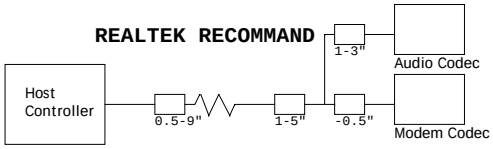
Layout guide :

1. Close to codec.
2. Realtek suggested that layout trace of the sense pin should away form any analog trace because sensing current might distorts the audio performance (The bottom lay is best choice).

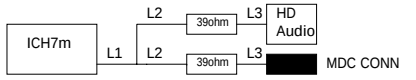


A_GND 10mil
SPK_OUT_R / HP_OUT_L 10mil
A_GND 10mil
SPK_OUT_R / HP_OUT_L 10mil
A_GND 10mil

REALTEK RECOMMAND



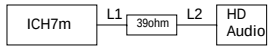
HD Audio-ACZ_SDOUT/ACZ_SYNC/ACZ_BITCLK/ACZ_RESET#



Trace Impedance	Routing Requirement	Trace Length
55 +/- 15%	4 on 7(stripline) 5 on 7(microstrip)	L1 = 0.5"~2.5" L2 <= 0.1" L3 = 1"~8"

*** L3 can be extened up to 15" if HD Audio docking is not used

HD Audio-ACZ_SDIN



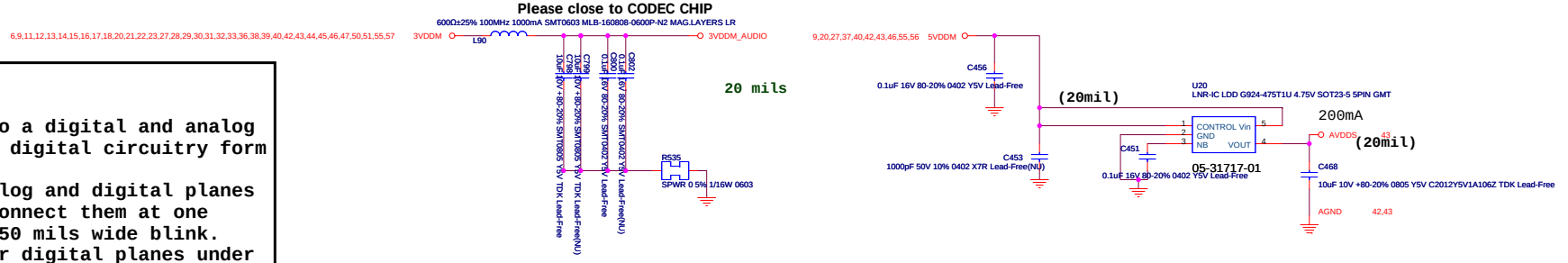
Trace Impedance	Routing Requirement	Trace Length
55 +/- 15%	4 on 7(stripline) 5 on 7(microstrip)	L1 = 0.1"~15" L2 <= 0.5"

*** Breakout can be routed 4 on 4 up to 500 mils

AC'97 CODEC & CD POWER

Layout guide :

1. The codec is partitioned into a digital and analog sections to help isolated noisy digital circuitry form quiet analog circuitry.
2. The layout separates the analog and digital planes with a 60 to 100 mils gap and connect them at one point beneath the codec with a 50 mils wide blink.
3. Never route digital traces or digital planes under the analog ground areas. Analog components should be located over analog planes (ground and power planes) and digital components should be located over digital planes.



First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

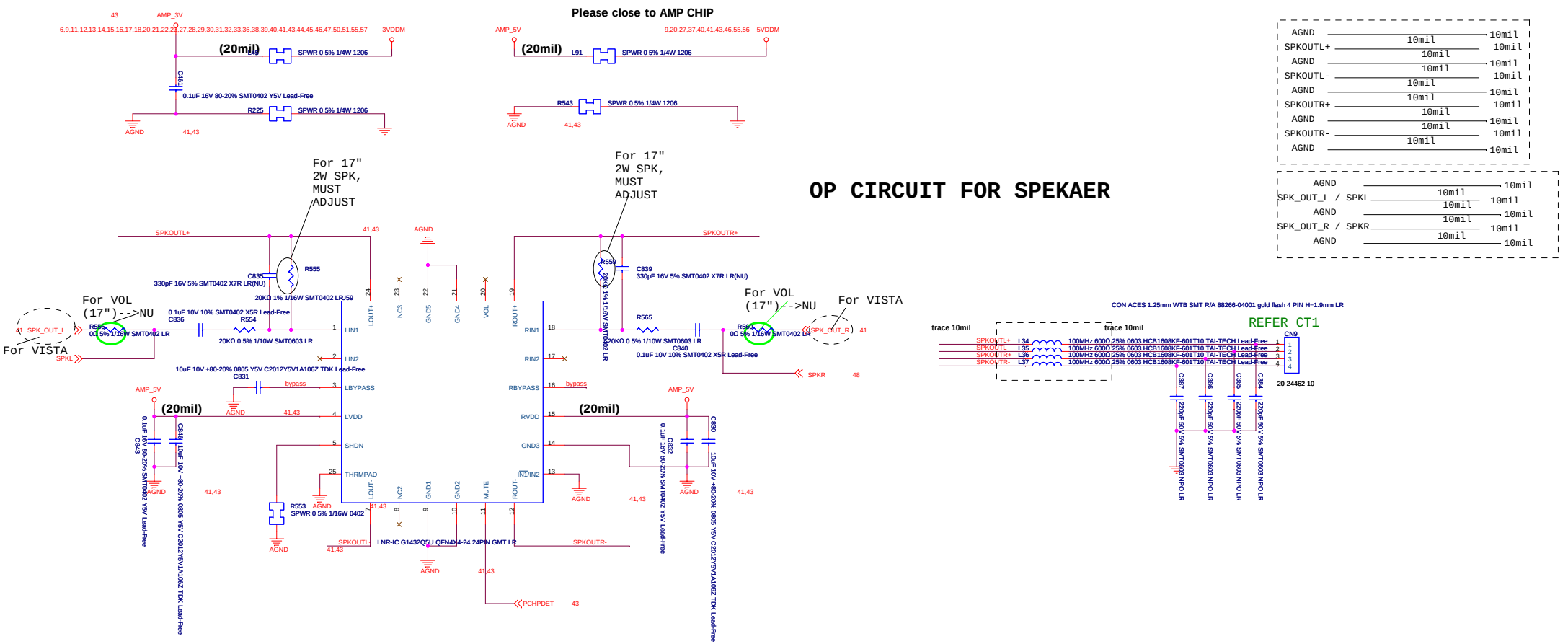
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

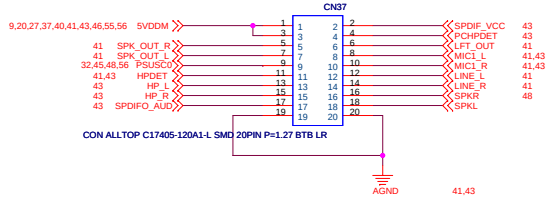
Size: C | Document Number: Azalia ALC883DTS- Codec | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 41 of 57

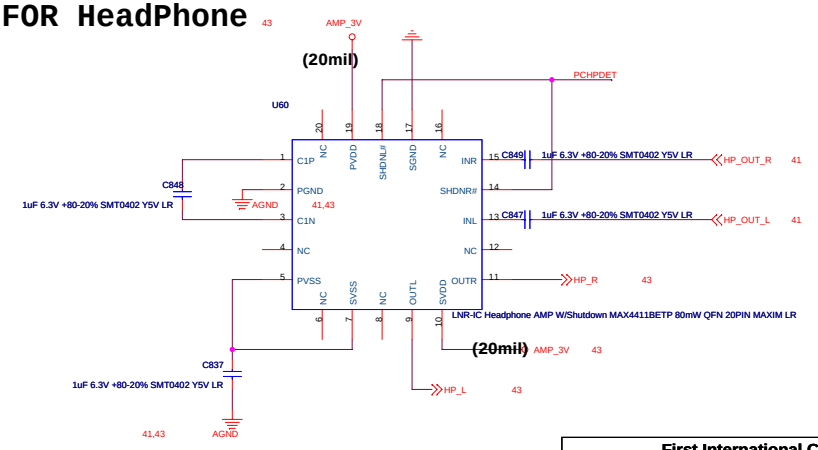
OP CIRCUIT FOR SPEKAER

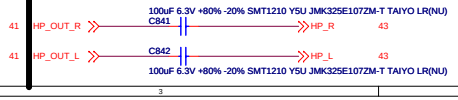


AUDIO A CNN



OP CIRCUIT FOR HeadPhone





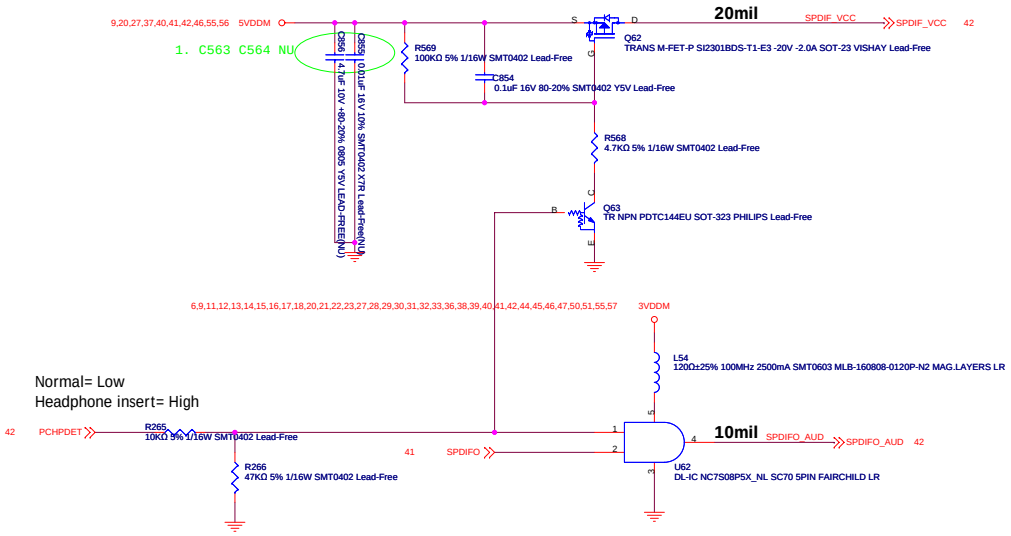
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

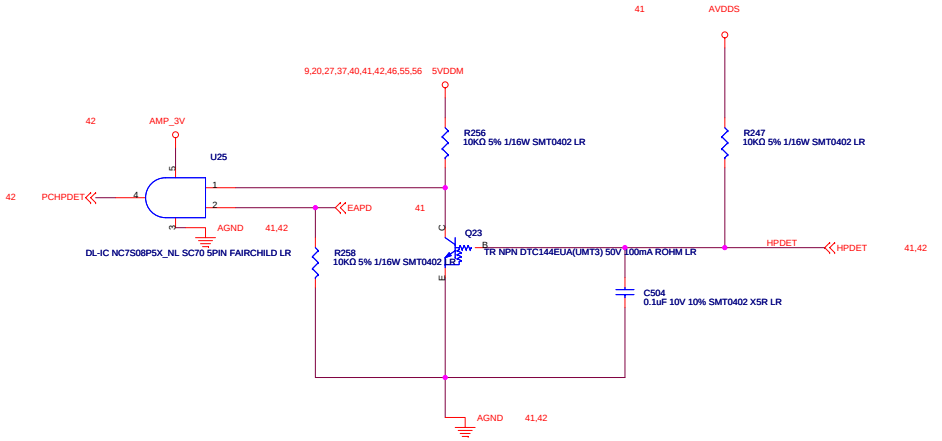
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: Custom | Document Number: AMP (G1432&M4411)/AD CN | Rev: 0.1

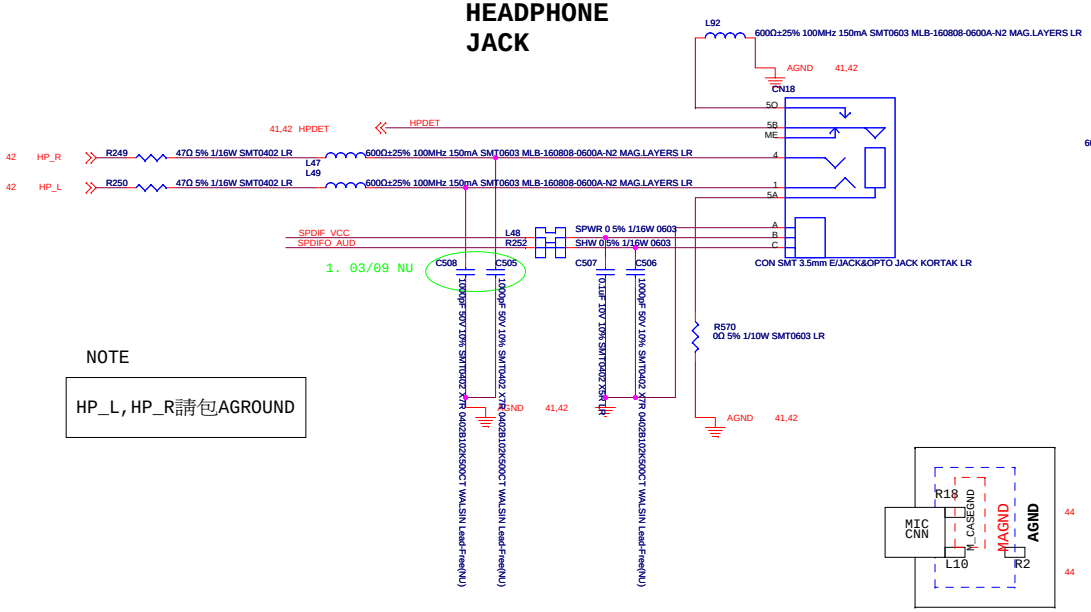
Date: Thursday, June 08, 2006 | Sheet 42 of 57

S/PDIF Power





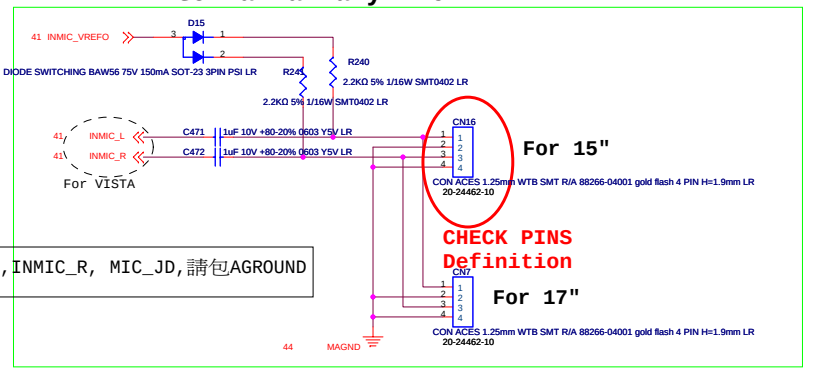
SPDIF & HEADPHONE JACK



NOTE

HP_L, HP_R請包AGROUND

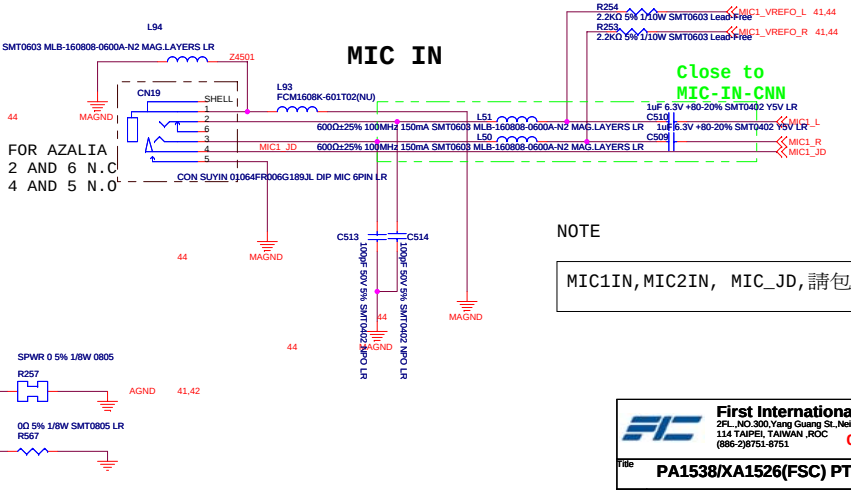
Internal arrary MIC



NOTE

INMIC_L, INMIC_R, MIC_JD, 請包AGROUND

MIC IN



NOTE

MIC1IN, MIC2IN, MIC_JD, 請包AGROUND

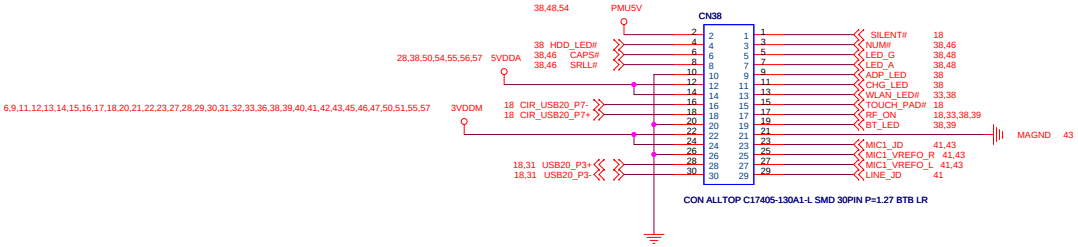
First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

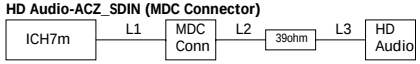
Size: C | Document Number: SPDIF OUT | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 43 of 57

AUDIO B CNN



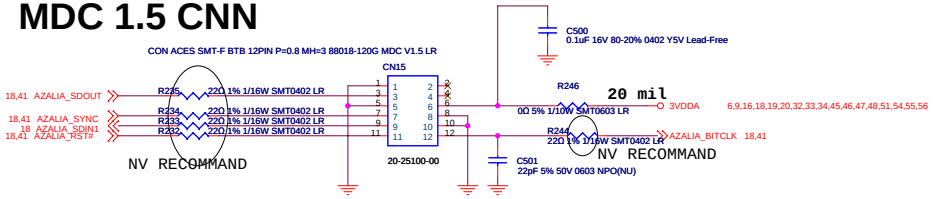
HD Audio-ACZ_SDIN (MDC Connector)



Trace Impedance	Routing Requirement	Trace Length
55 +/- 15%	4 on 7(stripline)	L1 = 0.1"~15" L2 = 0.5"~1.5" L3 = 0.5"

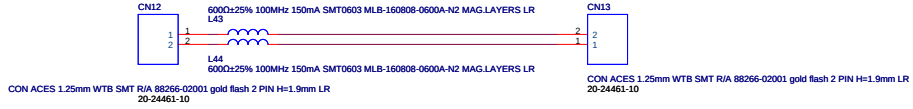
*** Breakout can be routed 4 on 4 up to 400 mils

MDC 1.5 CNN



FOR EMI Solution

Close



First International Computer, Inc.
2FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(886-2)8751-8751

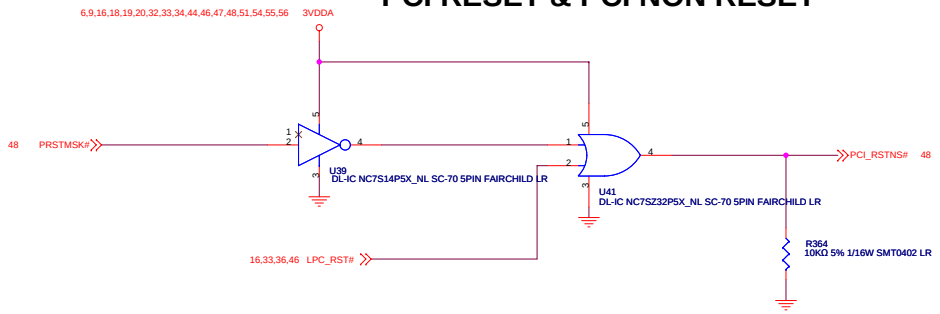
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

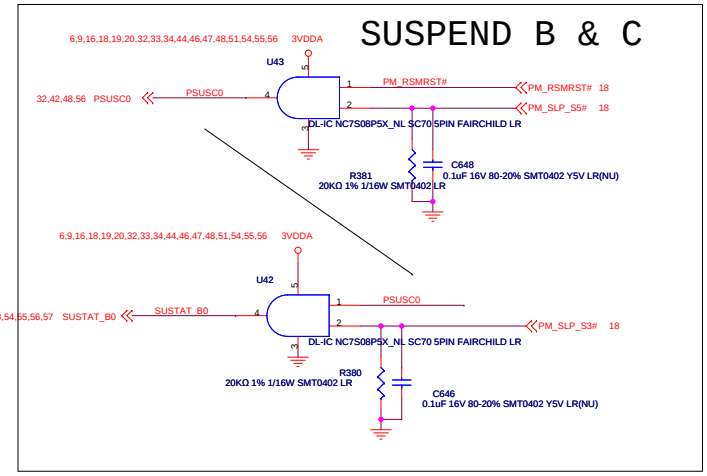
Size: C | Document Number: DIP SW/CIR/SCREW | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 44 of 57

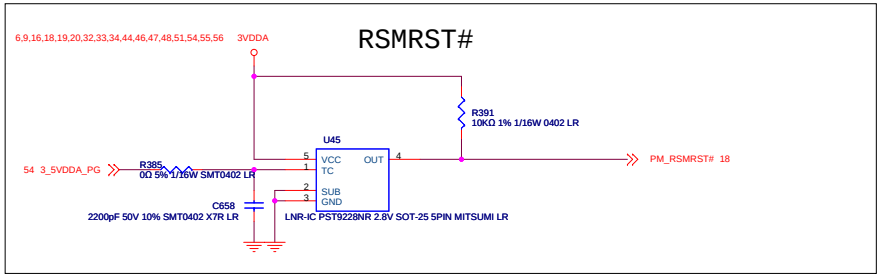
PCI RESET & PCI NON RESET

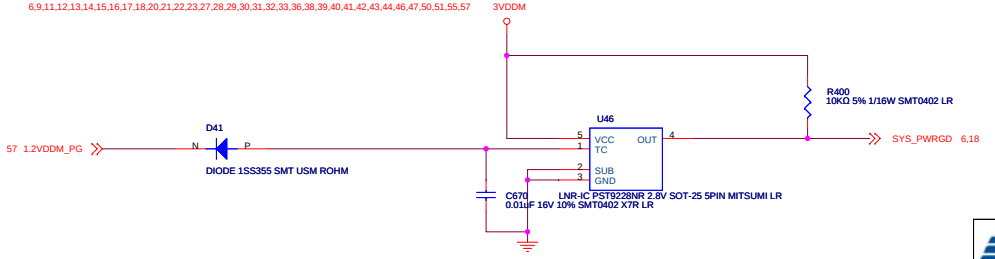


SUSPEND B & C



RESUME RESET





First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number Nvidia < AMD K8 + CP51D + MCP51 >	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 45 of 57	

Trace:5mil, Spacing:5mil

600Ω±25% 100MHz 1000mA SMT0603 MLB-160808-0600P-N2 MAG.LAYERS LR

L78

3VDDM

C690 470pF 50V 10% 0402 X7R Lead-Free

RP67 10K 5% V8V 1/16W 8P4R Lead-Free

RP66 10K 5% V8V 1/16W 8P4R Lead-Free

U53

ASIC LPC KBC M38827G5HP LQFP 80PIN VER:1.05 RENESAS LR

3VDDA

R206 4.7KΩ 5% 1/16W SMT0402 LR

Q_SMI#

Q16 TRANS M-FET-N 2N7002_NL 60V 115mA SOT-23 3PIN FAIRCHILD LR

KBC_SMI#

R191 10K 5% 1/16W 0603 Lead-Free

R196 10K 5% 1/16W 0603(NU) For ENE

R202 1K 5% 1/16W 0603 Lead-Free

NC_KBC_13

KBC_CNTR1

STSCLR1

RP74 10K 5% 0402X2 1/16W 4P2R

R504 0Ω 5% 1/16W SMT0402 LR(NU) For ENE

R494 10K 5% 1/16W 0603(NU)

R491 10K 5% 1/16W 0603(NU)

20 mil

L32 600Ω±25% 100MHz 2000mA SMT0805 MLB-201209-0600P-N2 MAG.LAYERS LR

R506 10K 5% 1/16W 0603(NU) For ENE

20 mil

C714 470pF 50V 10% 0402 X7R(NU)

C713 0.1uF 16V 80-20% 0402 Y5V Lead-Free

C374 10uF 10V +80-20% SMT0805 Y5V LR

D13 D SCS355V-LF 100V 500mA SOD-323 SECOS LEAD-FREE

RP29 10K 5% 0402X2 1/16W 4P2R KBC_CNTR1 STSCLR1

R201 10K 5% 1/16W 0603 Lead-Free

C379 10uF 10V +80-20% SMT0805 Y5V LR

R505 10K 5% 1/16W 0603 Lead-Free

R205 0Ω 5% 1/16W SMT0402 LR(NU)

16,33,36,45 LPC_RST#

R203 10K 5% 1/16W 0603 Lead-Free

C711 5pF 50V ±0.5pF -55 TO +125C SMT0402 NPO LR(NU)

RP72 10K 5 % 0402X4 1/16W 8P4R Lead-Free

R204 0Ω 5% 1/16W SMT0402 LR

KBC_SMI#

RP73 10K 5 % 0402X4 1/16W 8P4R Lead-Free

RP71 1K 5% 0402*4 1/16W 8P4R Lead-Free

RP70 10K 5% 0402X2 1/16W 4P2R

RP28 10K 5% 0402X2 1/16W 4P2R

PDCLK

PDDAT

C749 15pF 50V 5% 0402 NPO Lead-Free

R507 1M 5% 1/16W 0603(NU)

Y6 X'TAL 8MHz SMD-49 SMT11*4.9*4.5mm 2PIN 16pF 30ppm XSA008000FG1H-O H.ELE LR

C747 15pF 50V 5% 0402 NPO Lead-Free

GP BPARD FFC(MB)

20 mil

L86 GBK201209T-601Y-N CHILISIN LR

L84 FER-BEAD 600Ω±25% 100MHz 350mA SMT0603 MLB-160808-0600L-N2 MAG.LAYERS LR

L85 FER-BEAD 600Ω±25% 100MHz 350mA SMT0603 MLB-160808-0600L-N2 MAG.LAYERS LR

CN6 CN ACES SMT 85201-0406 4PIN 20-24169-00

C745 0.1uF 16V 80-20% SMT0402 Y5V LR

C743 47pF 50V 5% SMT0402 NPO LR

C742 47pF 50V 5% SMT0402 NPO LR

INT KB CNN

CN5

CON ACES SMT FPC P=1.0 85202-25061 H=2 LR

20-25101-00

GLIDE PAD CONNECTOR

GSWR

GSWL

PDCLK

PDDAT

T14

T13

CN8 20-21577-20 CON ACES SMT FFC 0.5P 12PIN R/A Top contact 87151-1207L Lead-free & RoHS

>20 Mils

R502 0Ω 5% 1/10W SMT0603 LR

C746 4.7uF 10V +80-20% 0805 Y5V LR(NU)

C741 0.1uF 25V 80-20% SMT0603 Y5V LR(NU)

GSW2

GSW1

SWITCH TEMC SMT 4PIN NTC004-AA1G-B160T LR

SWITCH TEMC SMT 4PIN NTC004-AA1G-B160T LR

First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

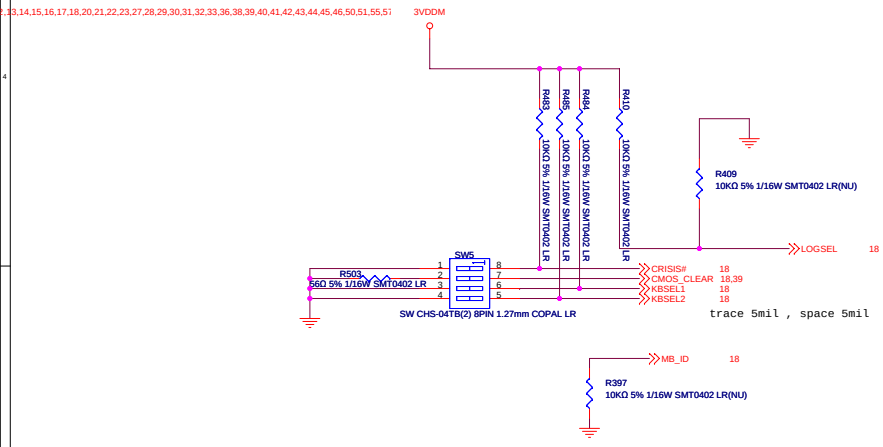
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

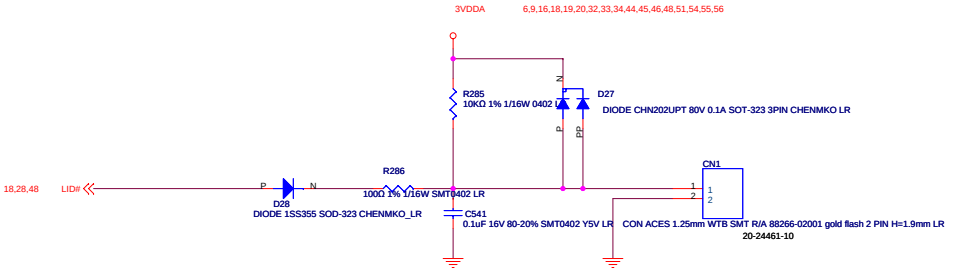
Size: C | Document Number: LPC KBC (M3886) | Rev: 0.1

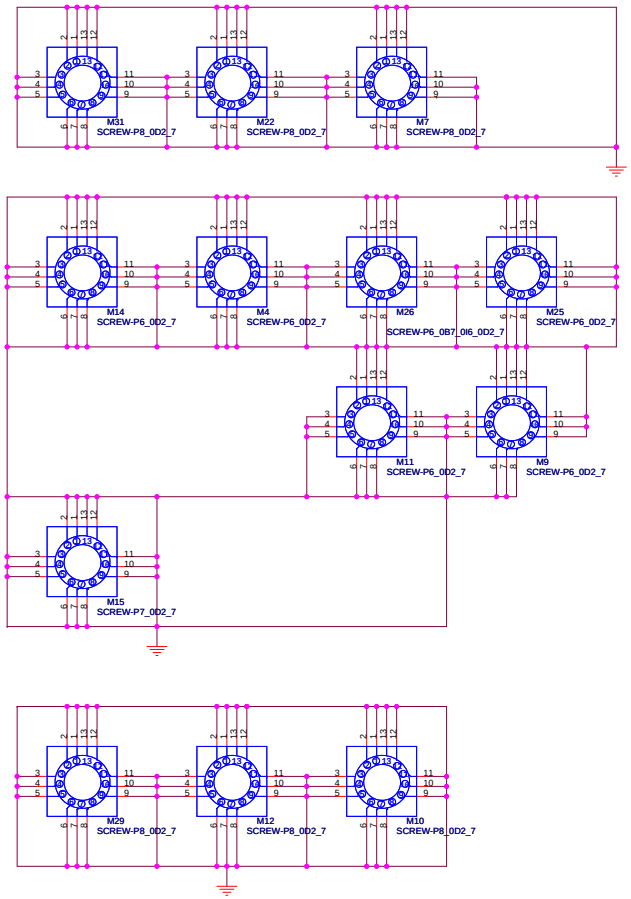
Date: Thursday, June 08, 2006 | Sheet 46 of 57

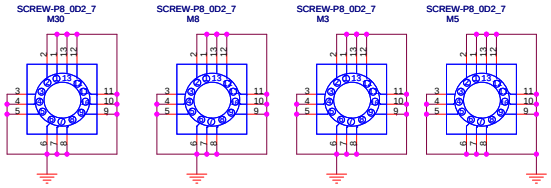
DIP SWITCH

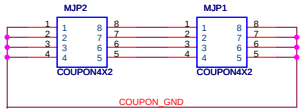


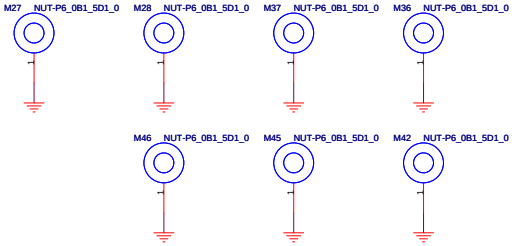
LID Switch

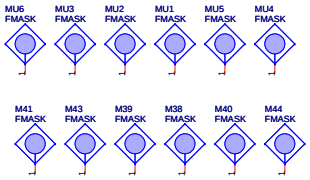


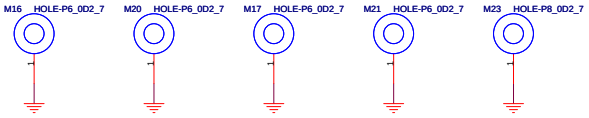


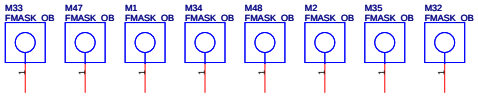


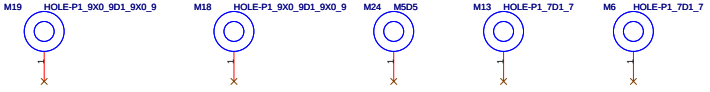












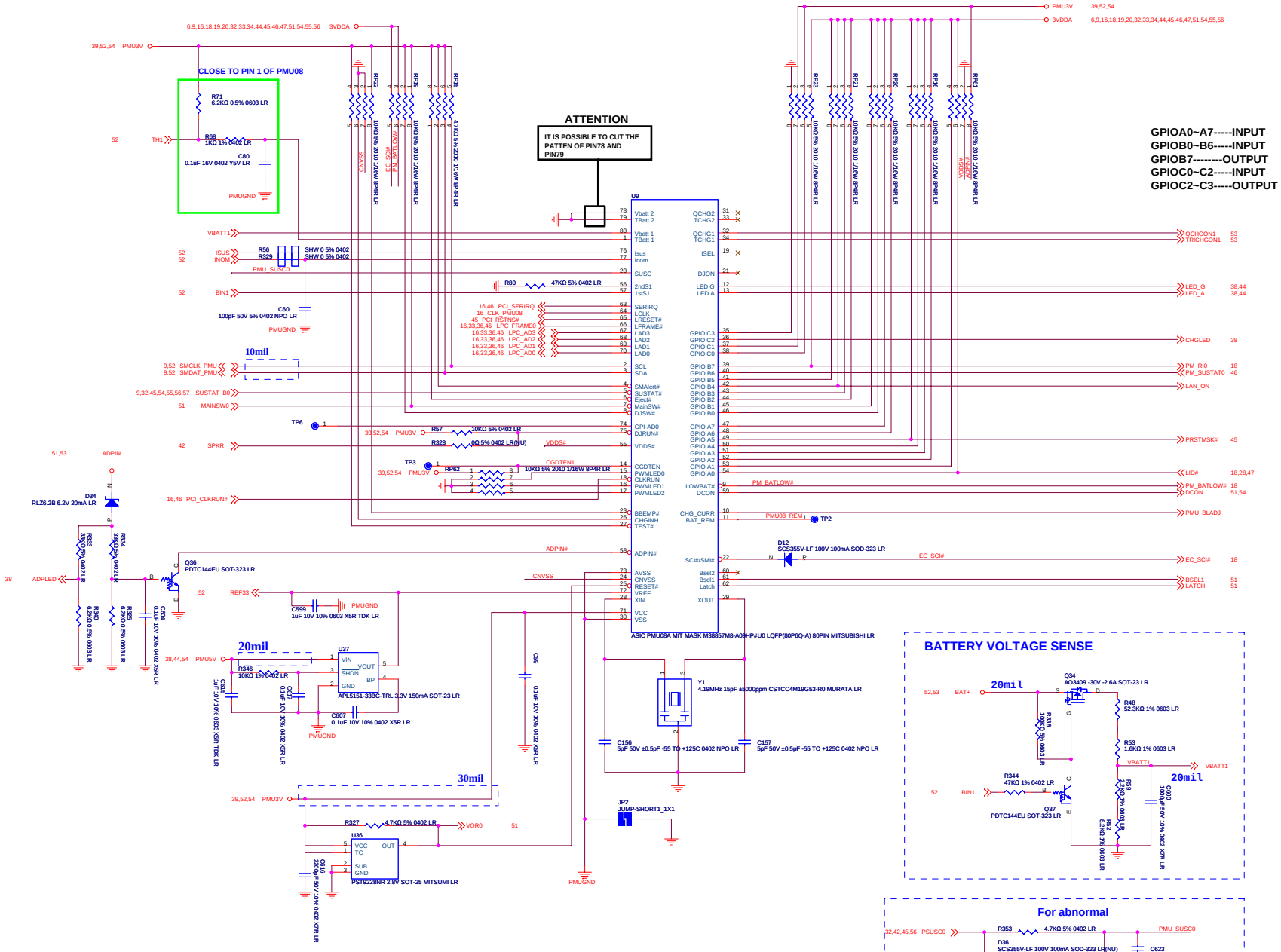
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

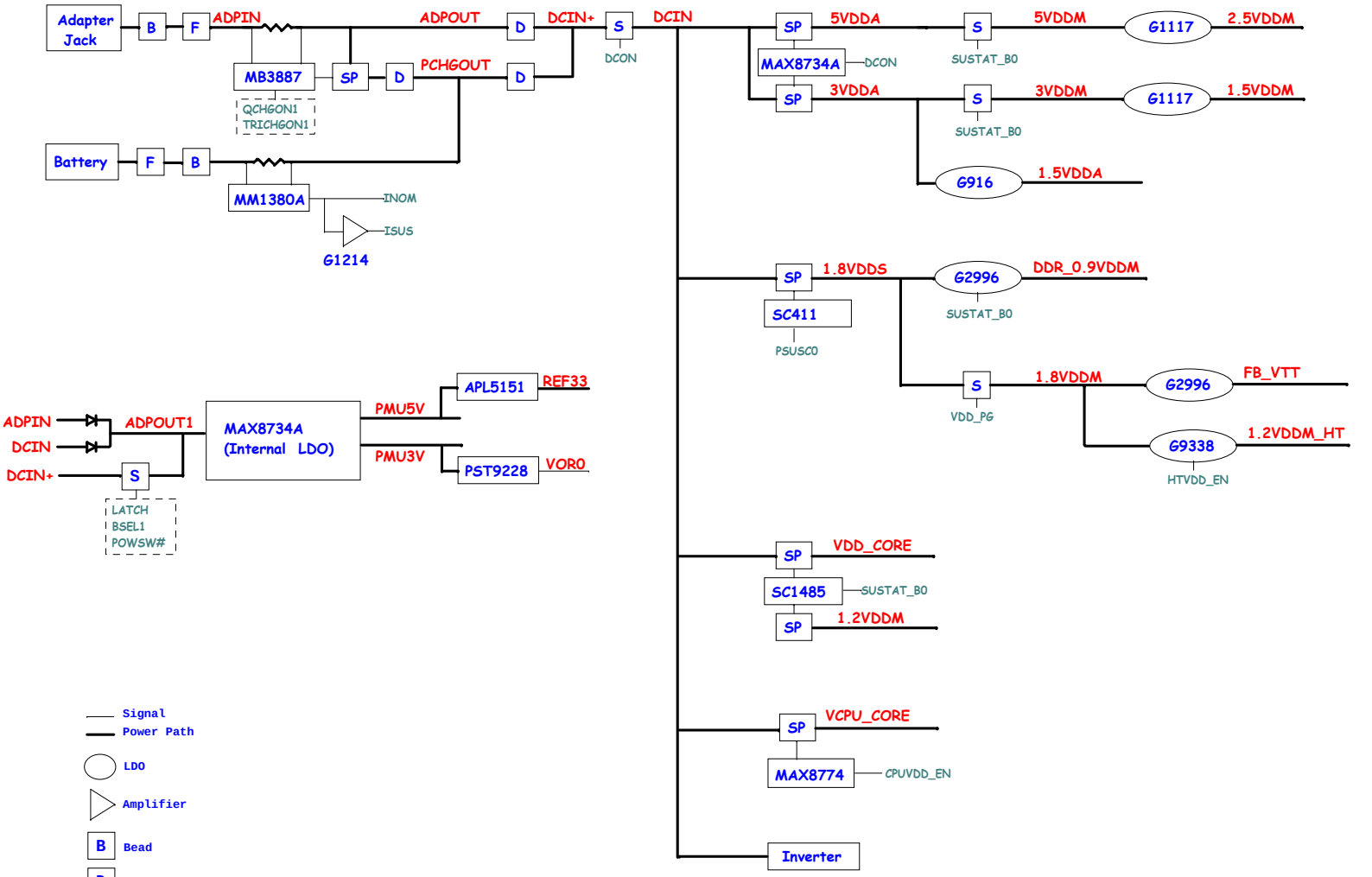
Size: C | Document Number: DIP/LID SW; SCREW | Rev: 0.1

Date: Thursday, June 08, 2006 | Sheet 47 of 57



First International Computer, Inc.	Confidential
3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC (883-2)8751-8751	
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size: Custom — Document Number: PMU08A — Rev: 0.1	
Date: Thursday, June 08, 2006 — Sheet 48 of 57	

PTB50 Power Block Diagram



First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

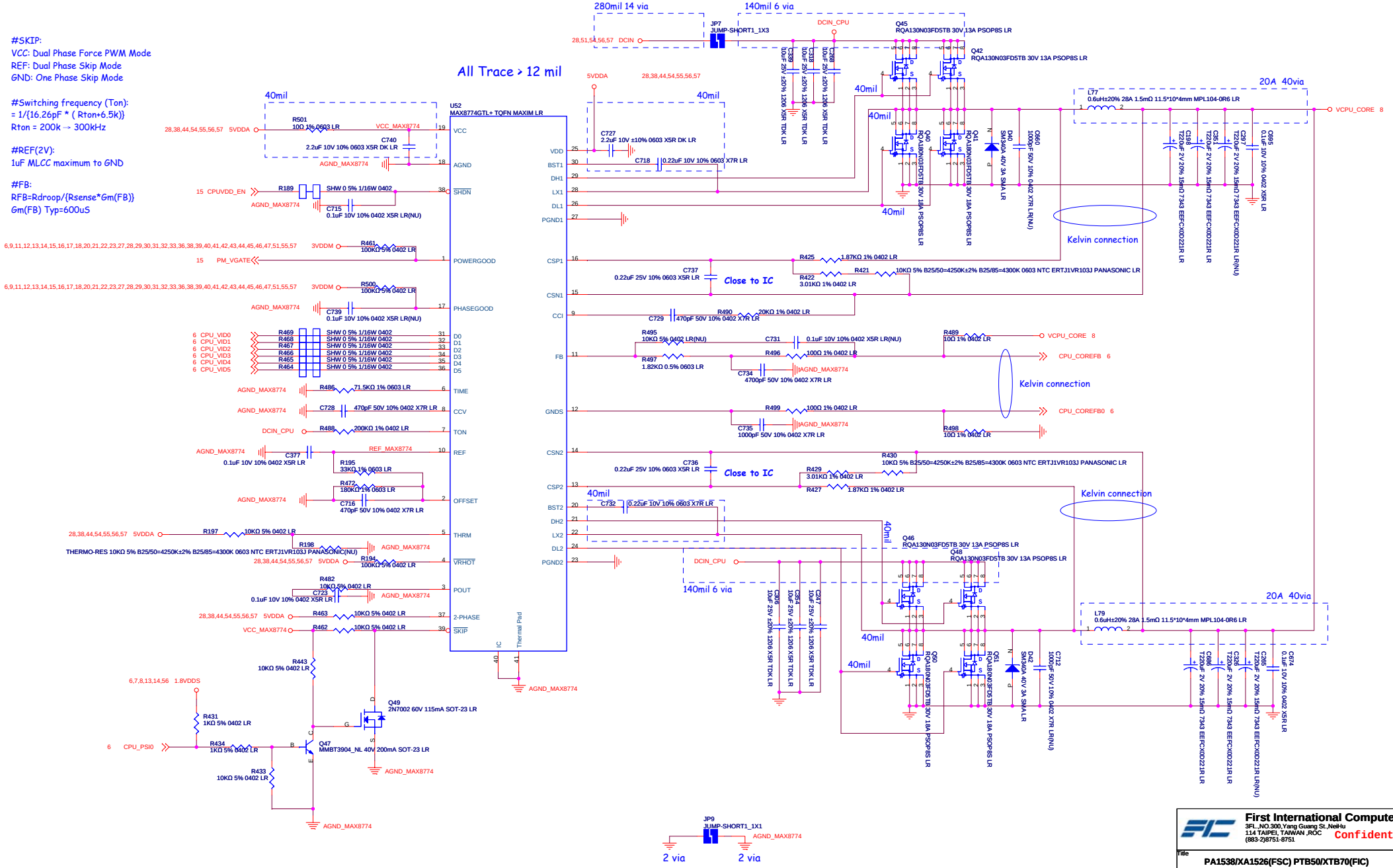
Confidential

Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)

Size: C | Document Number: Power Block Diagram | Rev: 0.1

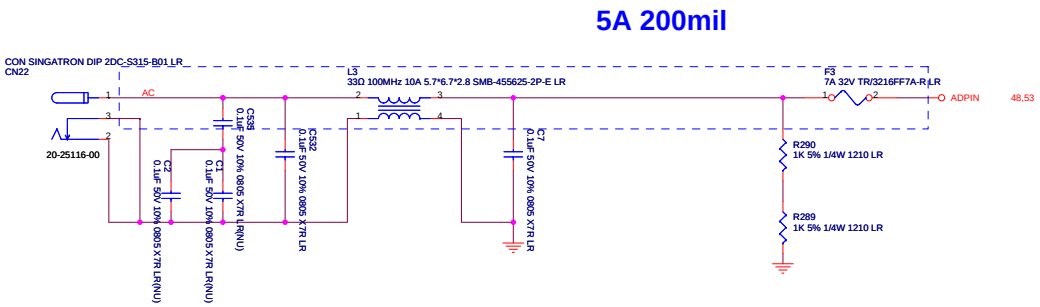
Date: Thursday, June 08, 2006 | Sheet 49 of 57

AMD K8 CPU Core Power (MAX8774)

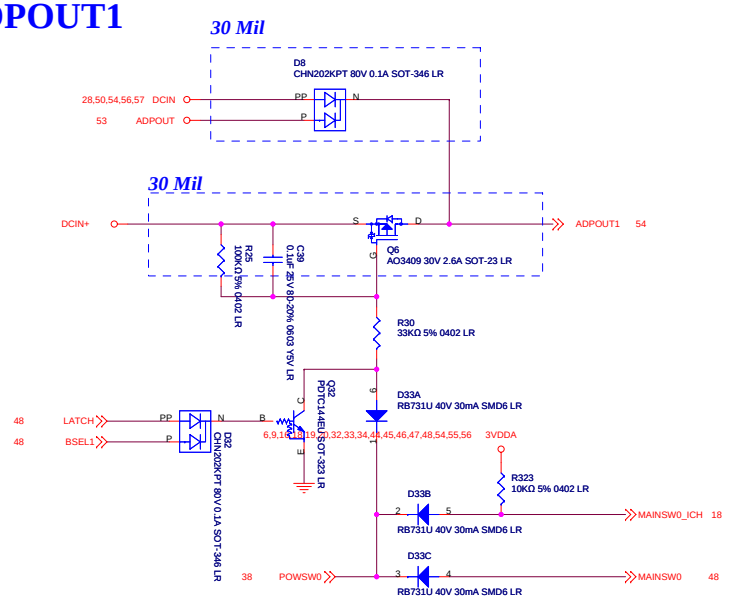


Company	First International Computer, Inc.
Address	3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC
Phone	(883-2)8751-8751
Confidential	Confidential
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)
Size	Custom
Document Number	CPU CORE (MAX8774)
Rev	0.1
Date:	Thursday, June 08, 2006
Sheet	50 of 57

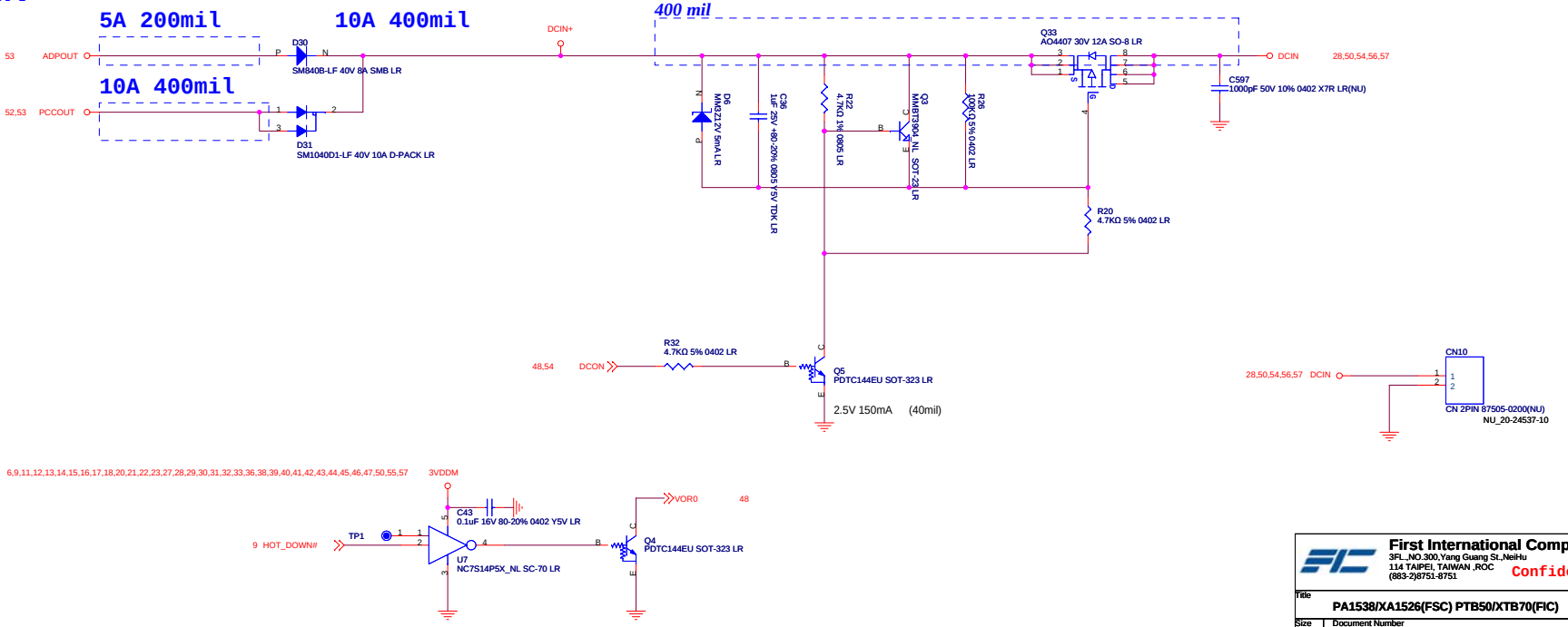
ACIN



ADPOUT1



DCIN+ / DCIN

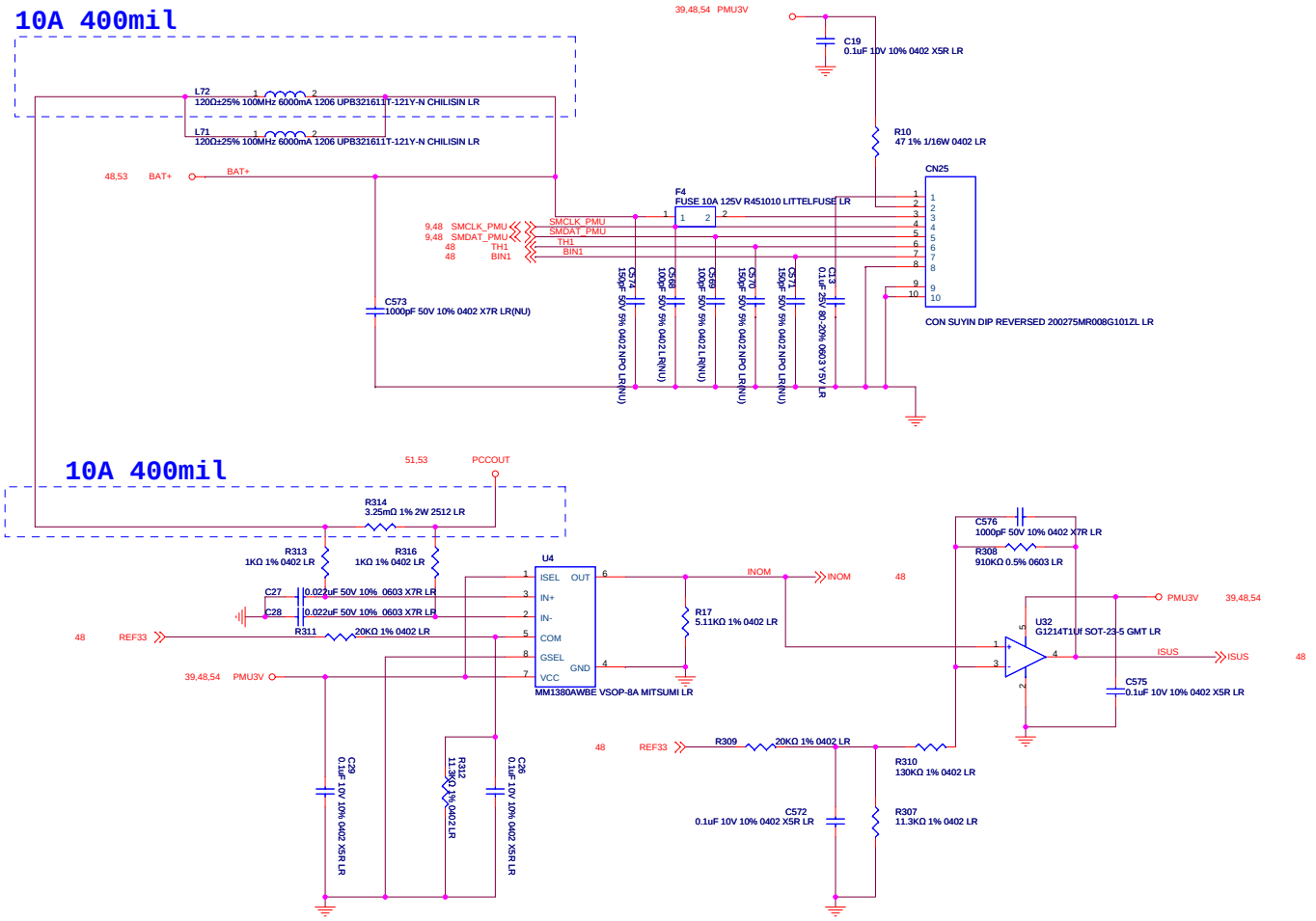


First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number ACIN / DCIN	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 51 of 57	

BATT CNN

Layout guideline : Close Battery CNN

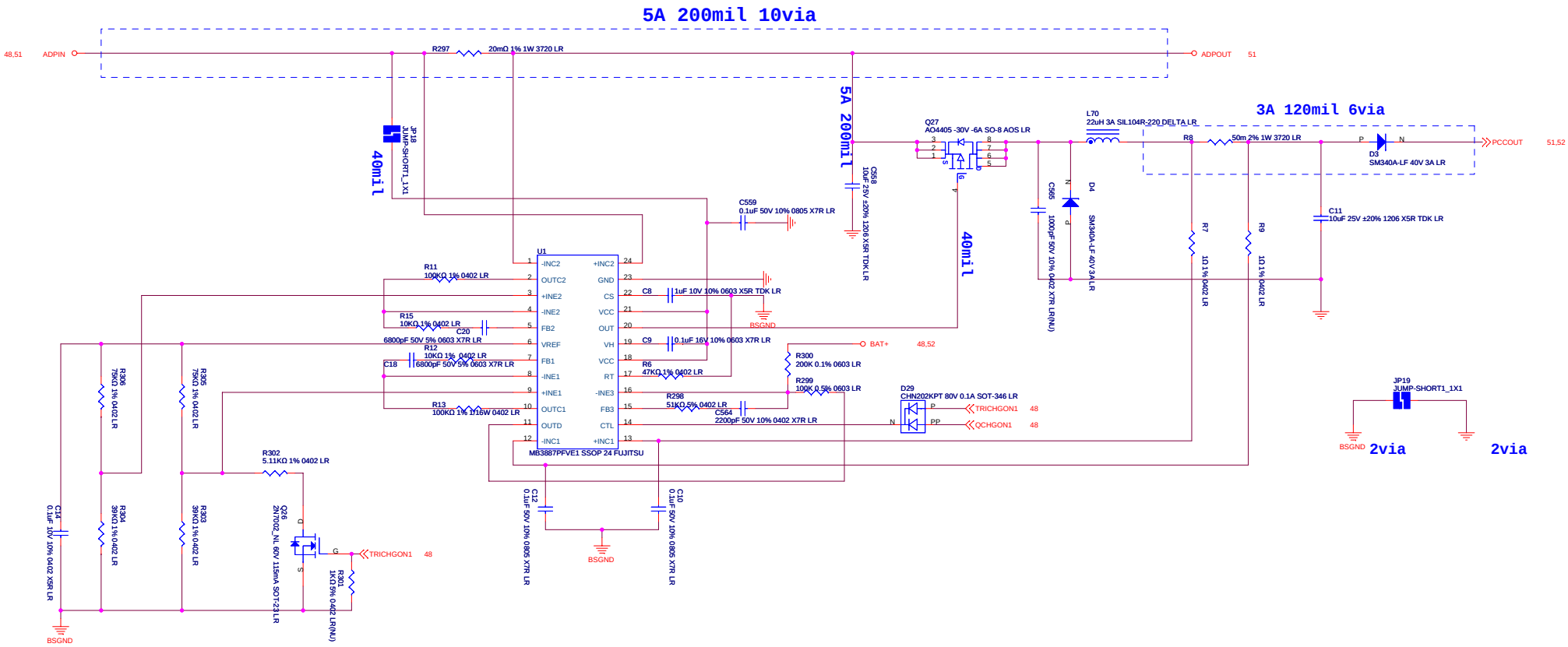


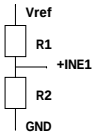
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

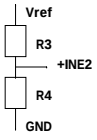
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number Battery CNN	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 52 of 57	

Charger





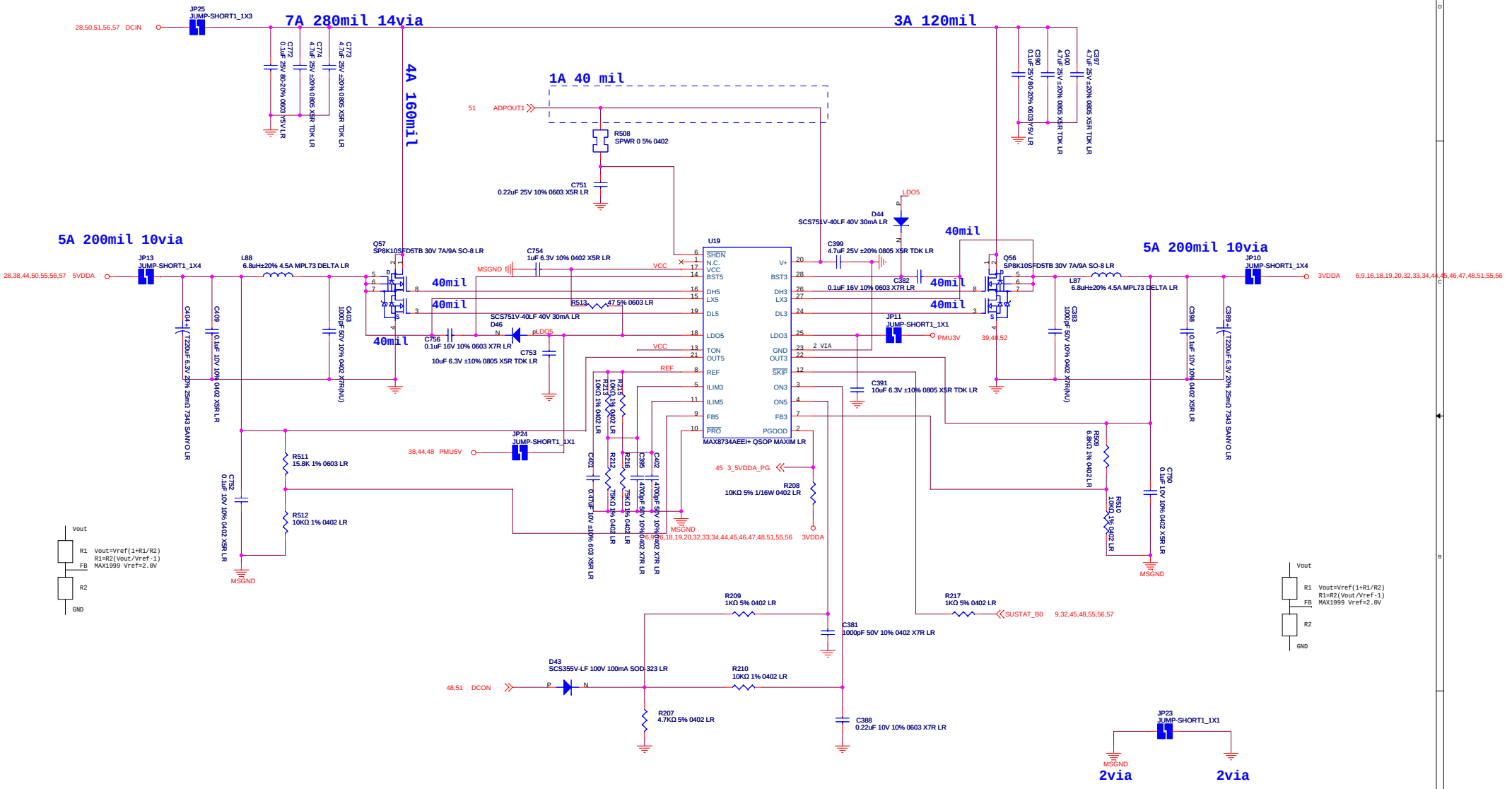
MB3887 Vref=5V
Charge current
= R2/(R1+R2)*5



Total power setting
V_+INE2 = Rsys * Isys * 20

First International Computer, Inc.		
3FL.,NO.300,Yang Guang St.,NeiHu 114 TAIPEI, TAIWAN ,ROC (883-2)8751-8751	Confidential	
Title: PA1538/XA1526(FSC) PTB50/XTB70(FIC)		
Size: C	Document Number: Charger Circuit (MB3887)	Rev: 0.1
Date: Thursday, June 08, 2006	Sheet 53 of 57	

3VDDA / 5VDDA / PMU3/5V

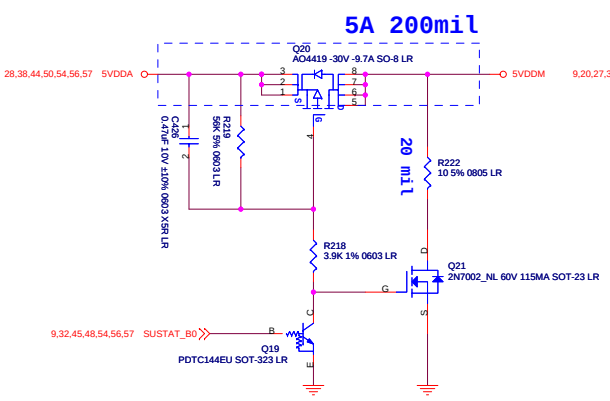


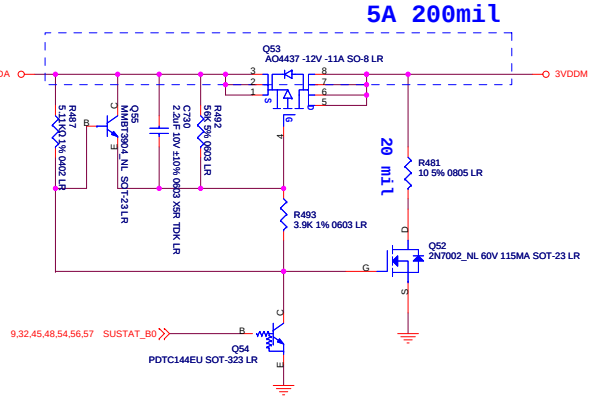
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

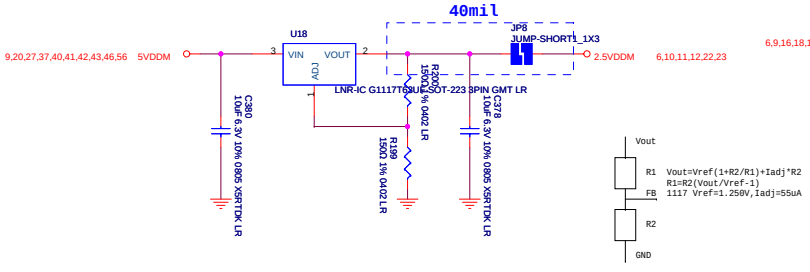
Confidential

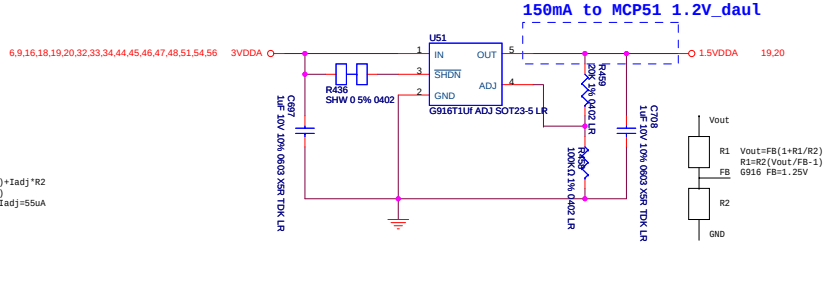
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number 5VDDA/3VDDA	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 54 of 57	

3VDDM/5VDDM





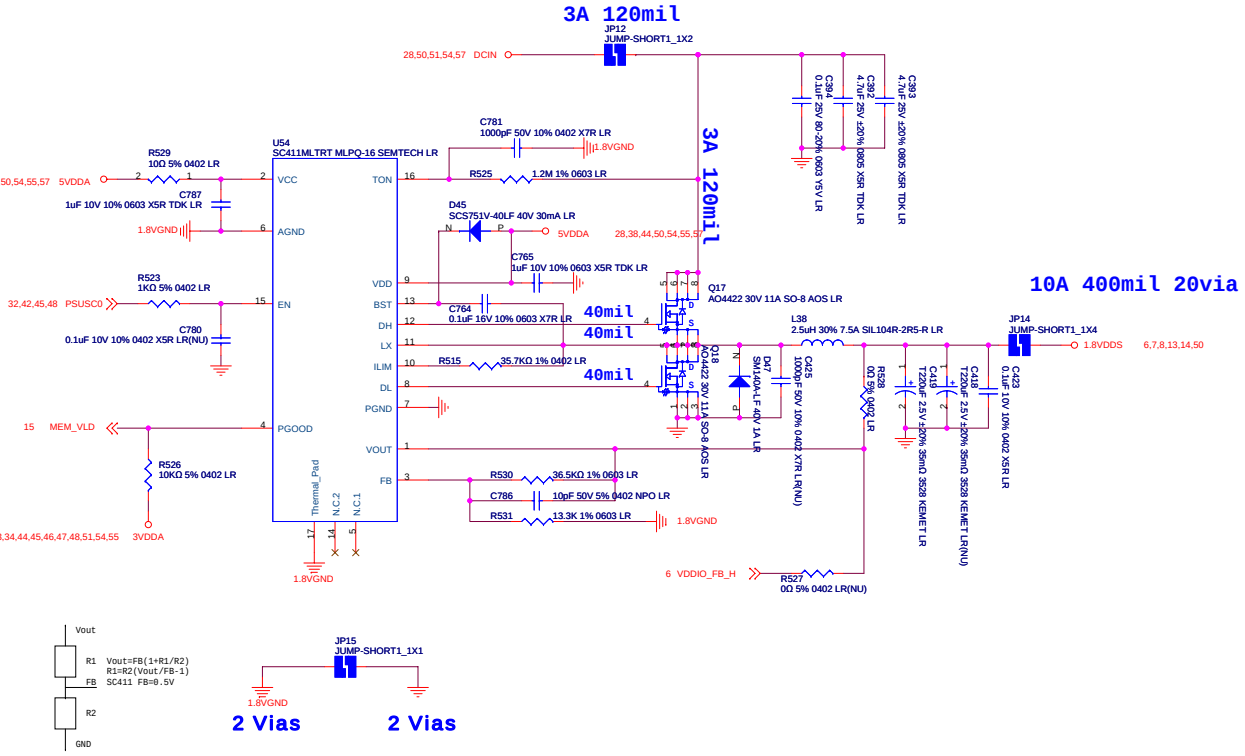


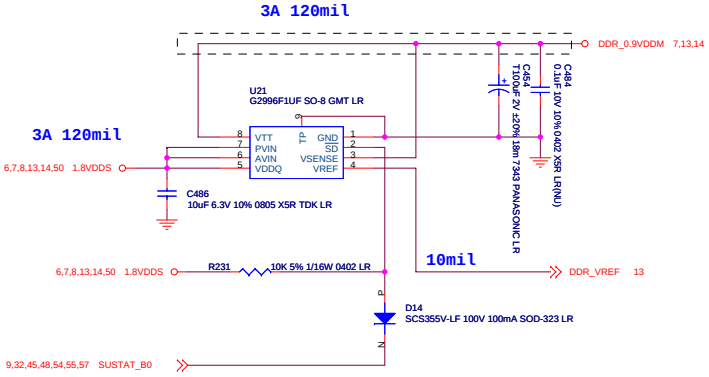


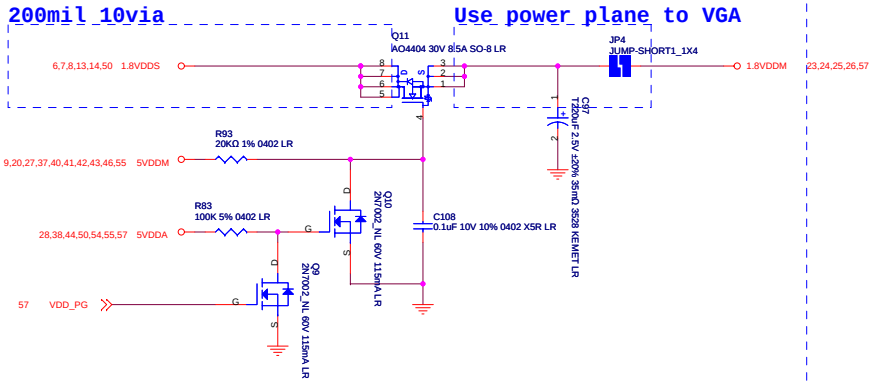
First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

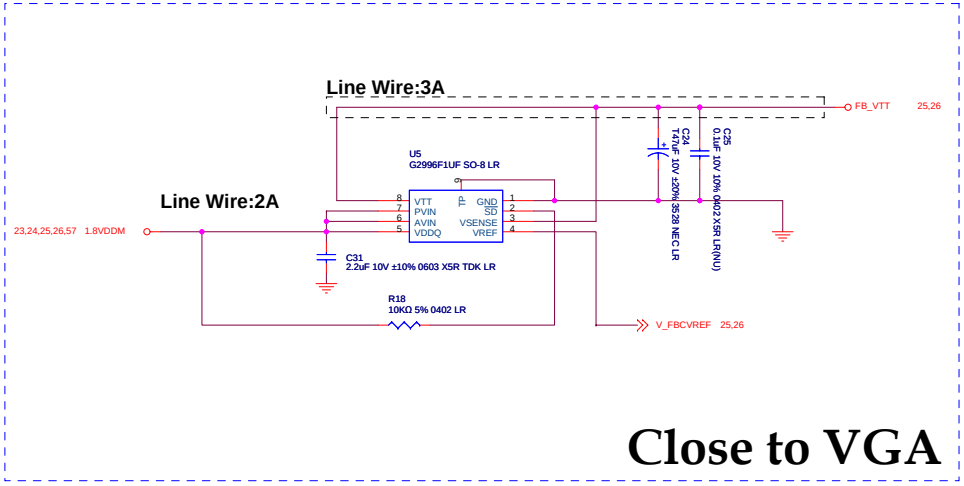
Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number SYSTEM POWER	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 55 of 57	

DDRII Power





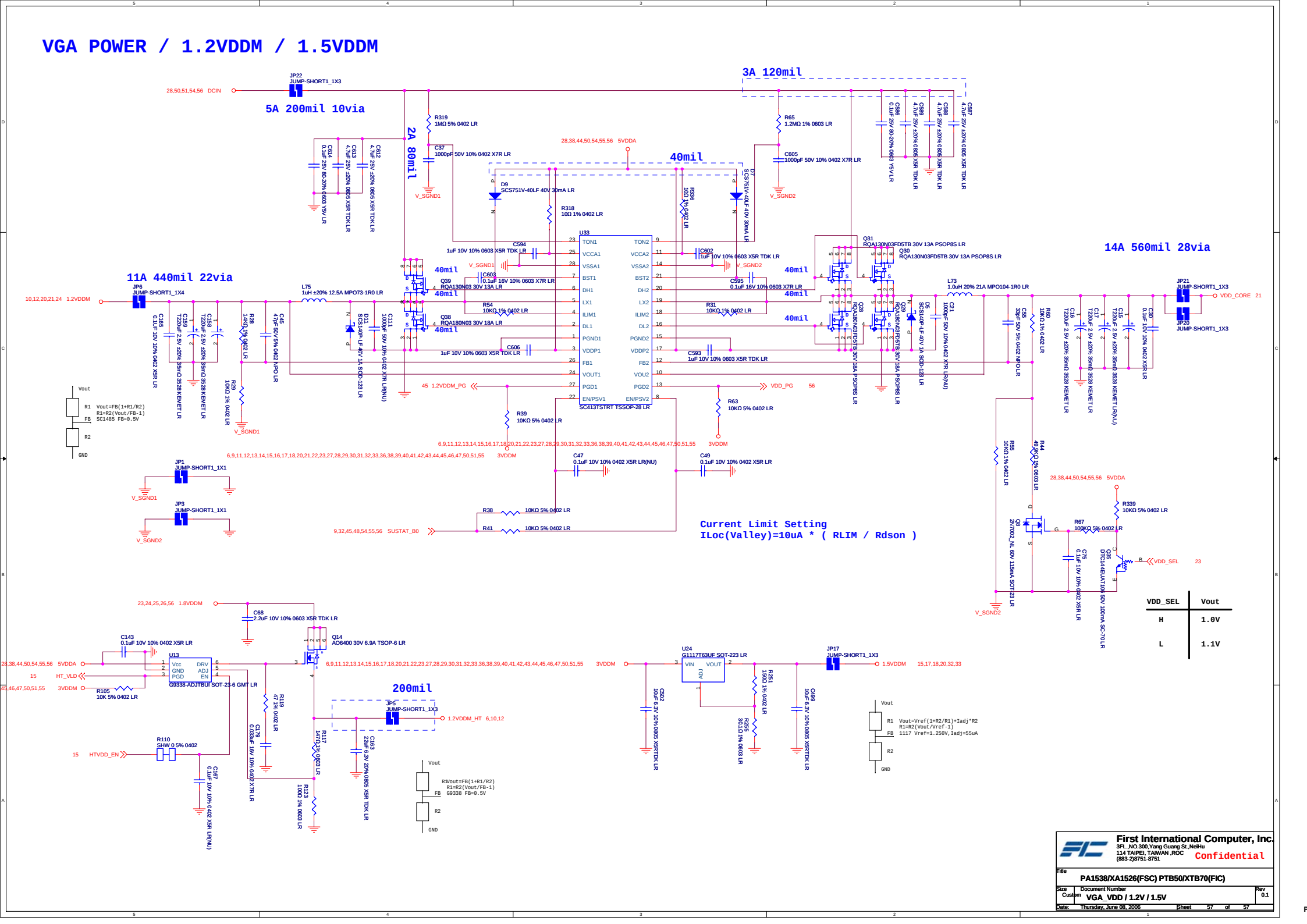




First International Computer, Inc.
3FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751
Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size C	Document Number DDRII Power	Rev 0.1
Date: Thursday, June 08, 2006	Sheet 56 of 57	

VGA POWER / 1.2VDDM / 1.5VDDM



First International Computer, Inc.
5FL.,NO.300,Yang Guang St.,NeiHu
114 TAIPEI, TAIWAN ,ROC
(883-2)8751-8751

Confidential

Title	PA1538/XA1526(FSC) PTB50/XTB70(FIC)	
Size: Custom	Document Number: VGA_VDD / 1.2V / 1.5V	Rev: 0.1
Date: Thursday, June 08, 2006	Sheet 57 of 57	