

CICHLID 3

CPU : Intel Yonah 533/667(Merom)
 Chip Set : Intel Calistoga PM & ICH7-M(B/H)
 Remarks : Mobility Platform

Model Name : CICHLID 3
 PBA Name : MAIN
 PCB Code : BA41-00645A
 Dev. Step : PRR
 Revision : 1.4
 T.R. Date :

DRAW	CHECK	APPROVAL

■ Owner : SESC R&D TEAM_3 Signature :

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DRAW	SUN, LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU, SHIJIANG	DEV. STEP	PRR		COVER	
APPROVAL	KEVIN, LEE	REV	1.4			
MODULE CODE	CAA059-107	LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	1 OF 56	

SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

PCI Devices

Devices	IDSEL#	REQ/GNT#	Interrupts
Cardbus	AD25	0	E,F,G
LAN	AD21	1	G
MiniPCI SLOT1	AD23	2	D,E
USB	AD29(internal)	-	USB2.0 #0 : A USB2.0 #1: D USB2.0 #2 : C
Hub to PCI	AD30(internal)	-	-
LPC bridge/IDE/AC97/SMBUS	AD31(internal)	-	B
Internal MAC	AD24(internal)	-	E
AC Link	-	-	B

Voltage Rails

VDC	Primary DC system power supply (7 to 21V)
VCC_CORE	Core voltage for YONAH (1.308~1.068V)
VCCP	YONAH/CALISTOGA Processor System Bus(PSB) Termination (1.05V) MCH-M Core Voltage
P0.9V	0.9V switched power rail (off in S3-S5)
P1.2V	1.2V switched power rail (off in S3-S5)
P1.5V	1.5V switched power rail (off in S3-S5)
P1.8V	1.8V switched power rail (off in S3-S5)
P1.8V_AUX	1.8V power rail(off in S4-S5)
P2.5V	2.5V switched power rail (off in S3-S5)
MICOM_P3V	3.3V always on power rail for MICOM
P3.3V	3.3V switched power rail (off in S3-S5)
P3.3V_AUX	3.3V power rail (off in S4-S5)
P5V	5.0V switched power rail (off in S3-S5)
P5V_AUX	5.0V power rail (off in S4-S5)
P2.5V_ALWS	2.5V power rail (Always On)
P3.3V_ALWS	3.3V power rail (Always On)
P5V_ALWS	5V power rail (Always On)
P12V_ALWS	12V power rail (Always On)

IC / SMB Address

Devices	Address	Hex	Bus
ICH7	Master	-	SMBUS Master
EMC6N300(CPU Thermal Sensor)	1001 110X	9Ch	Thermal Sensor
SODIMM0	1010 0000	A0h	-
SODIMM1	1010 001X	A2h	-
CK-410M (Clock Generator)	1101 001X	D2h	Clock, Unused Clock Output Disable

USB PORT Assign

PORT NUMBER	ASSIGNED TO
0	SYSTEM PORT A
1,2	SYSTEM PORT B
3	SYSTEM PORT C
4	BLUETOOTH
5	PORT REPLICATOR
6	MINI PCIEXPRESS FINGER PRINT
7	EXPRESS CARD

System Power States

- CHP3_SLPS1* S1, Powered-On-Suspend(POS) : In this state, all clocks(except the 32.768KHz clock) are stopped.
The system context is maintained in system DRAM. Power is maintained to PCI, the CPU, memory controller, memory, and all other critical subsystems.
Note that this state does not preclude power being removed from non-essential devices, such as disk drives. During this state, CPU can be selected for either Deep Sleep or Deeper Sleep.
- CHP3_SLPS3* S3, Suspend-To-RAM(STR) : The system context is maintained in system DRAM, but power is shut off to non-critical circuits.
Memory is retained, and refreshes continue. All clocks stop except RTC clock.
- CHP3_SLPS4* S4, Suspend-To-Disk(STD) : The Context of the system is maintained on the disk. All power is then shut off to the system except for the logic required to resume.
Externally appears same as S5, but may have different wake events.
- CHP3_SLPS5* S5, Soft Off(SOFF) : System context is not maintained. All power is shut off except for the logic required to restart. A full boot is required when waking.

Crystal / Oscillator

TYPE	FREQUENCY	DEVICE	USAGE
Crystal	32.768KHz	ICH7-M	Real Time Clock
Crystal	10MHz	MICOM	HD64F2169/2160
Crystal	14.318MHz	CLOCK-Generator	CK-410M
Crystal	24.576MHz	Cardbus Controller	1394
Crystal	25MHz	LAN	Intel LAN
Crystal	27MHz	VIDEO	PEG (G73m)

CPU Core Voltage Table

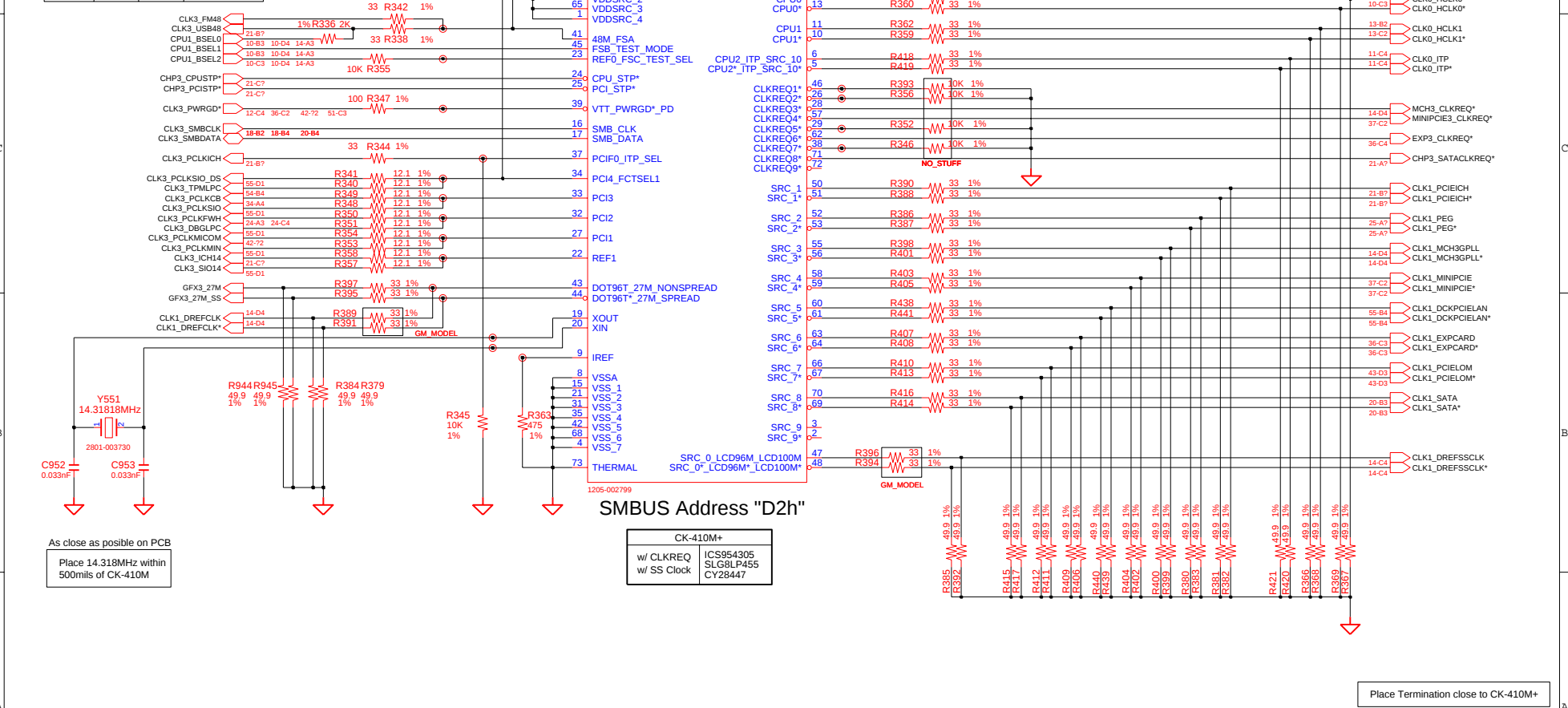
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VID(6:0)	Voltage	VID(6:0)	Voltage	VID(6:0)	Voltage
0 0 0 0 0 0 0	1.5000 V	0 1 0 1 0 0 0	1.0000 V	1 0 1 0 0 0 1	0.4875 V
0 0 0 0 0 0 0	1.4875 V	0 1 0 1 0 0 1	0.9875 V	1 0 1 0 0 1 0	0.4750 V
0 0 0 0 0 1 0	1.4750 V	0 1 0 1 0 1 0	0.9750 V	1 0 1 0 0 1 1	0.4625 V
0 0 0 0 0 1 1	1.4625 V	0 1 0 1 1 0 1	0.9625 V	1 0 1 0 1 0 0	0.4500 V
0 0 0 0 1 0 0	1.4500 V	0 1 0 1 1 0 0	0.9500 V	1 0 1 0 1 0 1	0.4375 V
0 0 0 0 1 0 1	1.4375 V	0 1 0 1 1 1 0	0.9375 V	1 0 1 0 1 1 0	0.4250 V
0 0 0 0 1 0 1	1.4250 V	0 1 0 1 1 1 1	0.9250 V	1 0 1 0 1 1 1	0.4125 V
0 0 0 0 1 1 1	1.4125 V	0 1 0 1 1 1 1	0.9125 V	1 0 1 1 1 0 0	0.4000 V
0 0 0 1 0 0 0	1.4000 V	0 1 1 0 0 0 0	0.9000 V	1 0 1 1 1 0 1	0.3875 V
0 0 0 1 0 0 1	1.3875 V	0 1 1 0 0 0 1	0.8875 V	1 0 1 1 1 0 1	0.3750 V
0 0 0 1 0 1 0	1.3750 V	0 1 1 0 0 1 0	0.8750 V	1 0 1 1 1 0 1	0.3625 V
0 0 0 1 0 1 1	1.3625 V	0 1 1 0 0 1 1	0.8625 V	1 0 1 1 1 1 0	0.3500 V
0 0 0 1 1 0 0	1.3500 V	0 1 1 0 1 0 0	0.8500 V	1 0 1 1 1 0 1	0.3375 V
0 0 0 1 1 0 1	1.3375 V	0 1 1 0 1 0 1	0.8375 V	1 0 1 1 1 1 0	0.3250 V
0 0 0 1 1 1 0	1.3250 V	0 1 1 0 1 1 0	0.8250 V	1 0 1 1 1 1 1	0.3125 V
0 0 0 1 1 1 1	1.3125 V	0 1 1 1 0 1 1	0.8125 V	1 1 1 0 0 0 0	0.3000 V
0 0 1 0 0 0 0	1.3000 V	0 1 1 1 0 0 0	0.8000 V	1 1 1 0 0 0 1	0.2875 V
0 0 1 0 0 0 1	1.2875 V	0 1 1 1 0 0 1	0.7875 V	1 1 1 0 0 0 1	0.2750 V
0 0 1 0 0 1 0	1.2750 V	0 1 1 1 0 1 0	0.7750 V	1 1 1 0 0 1 1	0.2625 V
0 0 1 0 0 1 1	1.2625 V	0 1 1 1 0 1 1	0.7625 V	1 1 1 0 0 1 1	0.2500 V
0 0 1 0 1 0 0	1.2500 V	0 1 1 1 1 0 0	0.7500 V	1 1 1 0 0 1 1	0.2375 V
0 0 1 0 1 0 1	1.2375 V	0 1 1 1 1 0 1	0.7375 V	1 1 1 0 0 1 1	0.2250 V
0 0 1 0 1 1 0	1.2250 V	0 1 1 1 1 1 0	0.7250 V	1 1 1 0 0 1 1	0.2125 V
0 0 1 0 1 1 1	1.2125 V	0 1 1 1 1 1 1	0.7125 V	1 1 1 0 1 0 0	0.2000 V
0 0 1 1 0 0 0	1.2000 V	1 0 0 0 0 0 0	0.7000 V	1 1 1 0 1 0 0	0.1875 V
0 0 1 1 0 0 1	1.1875 V	1 0 0 0 0 0 1	0.6875 V	1 1 1 0 1 0 1	0.1750 V
0 0 1 1 0 1 0	1.1750 V	1 0 0 0 0 1 0	0.6750 V	1 1 1 0 1 0 1	0.1625 V
0 0 1 1 0 1 1	1.1625 V	1 0 0 0 0 1 1	0.6625 V	1 1 1 0 1 1 0	0.1500 V
0 0 1 1 1 0 0	1.1500 V	1 0 0 0 1 0 0	0.6500 V	1 1 1 0 1 1 0	0.1375 V
0 0 1 1 1 0 1	1.1375 V	1 0 0 0 1 0 1	0.6375 V	1 1 1 0 1 1 1	0.1250 V
0 0 1 1 1 1 0	1.1250 V	1 0 0 0 1 1 0	0.6250 V	1 1 1 0 1 1 1	0.1125 V
0 0 1 1 1 1 1	1.1125 V	1 0 0 0 1 1 1	0.6125 V	1 1 1 1 0 0 0	0.1000 V
0 1 0 0 0 0 0	1.1000 V	1 0 0 0 1 0 0	0.6000 V	1 1 1 1 0 0 0	0.0875 V
0 1 0 0 0 0 1	1.0875 V	1 0 0 0 1 0 0	0.5875 V	1 1 1 1 0 0 1	0.0750 V
0 1 0 0 0 1 0	1.0750 V	1 0 0 0 1 0 1	0.5750 V	1 1 1 1 0 0 1	0.0625 V
0 1 0 0 0 1 1	1.0625 V	1 0 0 0 1 0 1	0.5625 V	1 1 1 1 0 1 0	0.0500 V
0 1 0 0 1 0 0	1.0500 V	1 0 0 0 1 1 0	0.5500 V	1 1 1 1 0 1 0	0.0375 V
0 1 0 0 1 0 1	1.0375 V	1 0 0 0 1 1 0	0.5375 V	1 1 1 1 0 1 1	0.0250 V
0 1 0 0 1 1 0	1.0250 V	1 0 0 0 1 1 1	0.5250 V	1 1 1 1 0 1 1	0.0125 V
0 1 0 0 1 1 1	1.0125 V	1 0 0 0 1 1 1	0.5125 V	1 1 1 1 1 0 0	0.0000 V
		1 0 0 0 1 0 0	0.5000 V	1 1 1 1 1 0 0	0.0000 V
				1 1 1 1 1 0 1	0.0000 V
				1 1 1 1 1 1 0	0.0000 V
				1 1 1 1 1 1 0	0.0000 V
				1 1 1 1 1 1 1	0.0000 V
				**11111111" : 0V power good asserted.	

*Yonah Processor (2.33 GHz / 800 MHz : TBD)

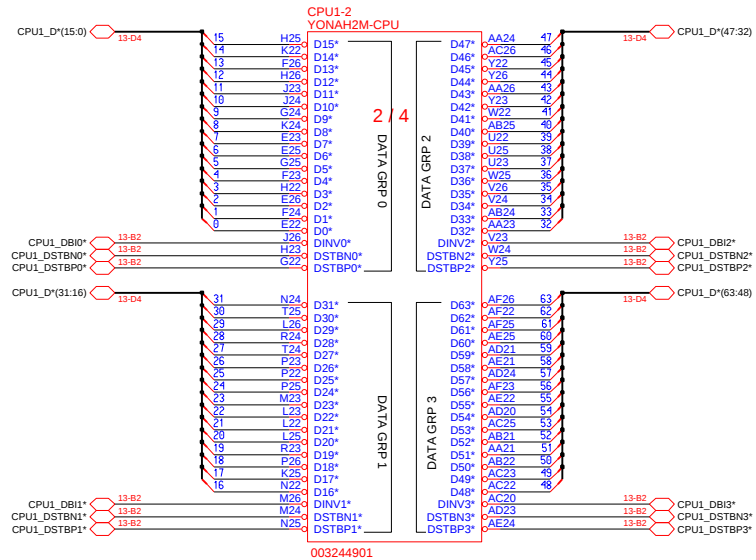
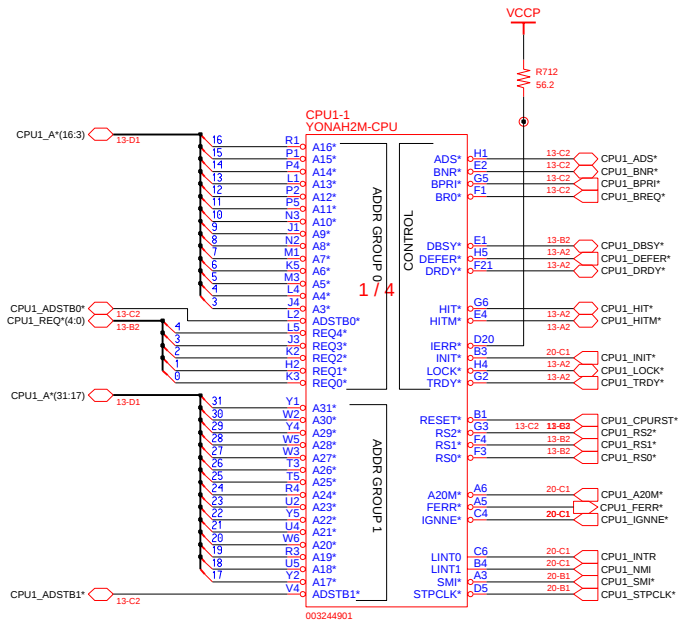
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CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.3		BOARD INFORMATION	PART NO. BA41- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	7	OF 56

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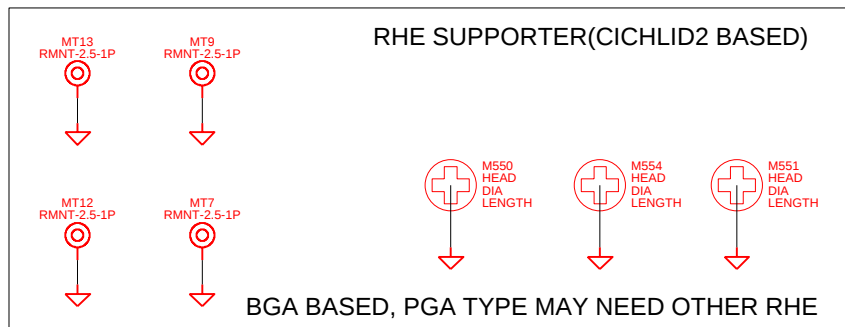
CPU	FSA	FSB	FSC	HOST CLK
	BSEL0	BSEL1	BSEL2	
	0	0	0	266 MHz
	0	0	1	333 MHz
	0	1	0	200 MHz
	0	1	1	400 MHz
	1	0	0	133 MHz
	1	0	1	100 MHz
	1	1	0	166 MHz
	1	1	1	RSVD



DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN CLOCK GENERATOR	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	8	OF 56



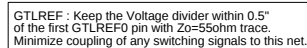
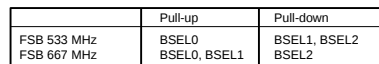
**NOTE



BGA Yonah CPU

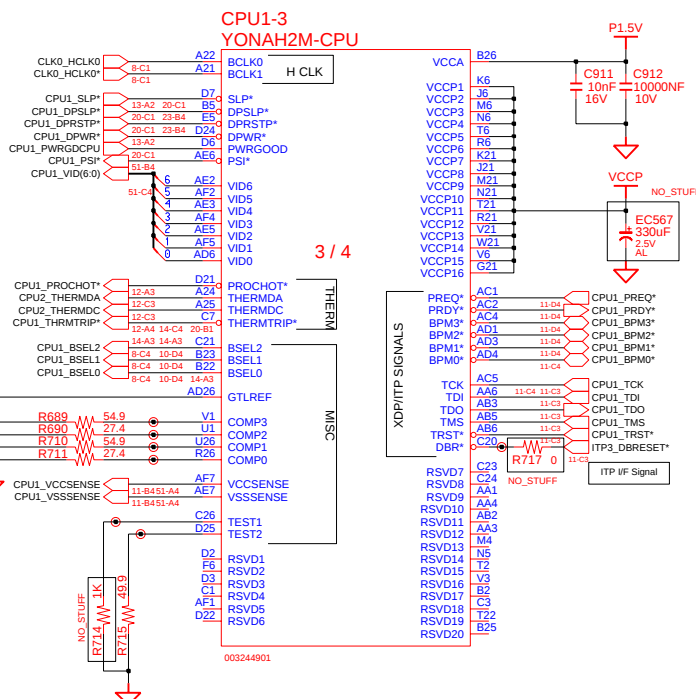
0902-001987	1.5G
0902-001988	1.66G
0902-001989	1.83G
0902-001990	2.0G
0902-001991	2.16G
0902-001992	2.33G

DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN YONAH CPU (1/3)	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	9	OF 56



COMP0,2(COMP1,3) should be connected with $Z_0=27.4\text{ohm}(55\text{ohm})$ trace shorter than $1/2''$ to their respective Banias socket pins.

STUFF R140(TEST2) FROM Yonah B0 ES



CPU Core Voltage Table IMVP-6

Active Mode		Active/Deeper Sleep Dual Mode Region		Deeper Sleep/Extended Deeper Sleep Dual Mode Region	
VID(6:0)	Voltage	VID(6:0)	Voltage	VID(6:0)	Voltage
0 0 0 0 0 0 0 0	1.5000 V	0 1 0 1 0 0 0 0	1.0000 V	1 0 1 0 0 0 0 1	0.4875 V
0 0 0 0 0 0 0 1	1.4875 V	0 1 0 1 0 0 0 1	0.9875 V	1 0 1 0 0 0 1 0	0.4750 V
0 0 0 0 0 0 1 0	1.4750 V	0 1 0 1 0 0 1 0	0.9750 V	1 0 1 0 0 0 1 1	0.4625 V
0 0 0 0 0 0 1 1	1.4625 V	0 1 0 1 0 0 1 1	0.9625 V	1 0 1 0 0 1 0 0	0.4500 V
0 0 0 0 0 1 0 0	1.4500 V	0 1 0 1 0 1 0 0	0.9500 V	1 0 1 0 0 1 0 1	0.4375 V
0 0 0 0 0 1 0 1	1.4375 V	0 1 0 1 0 1 0 1	0.9375 V	1 0 1 0 0 1 1 0	0.4250 V
0 0 0 0 0 1 1 0	1.4250 V	0 1 0 1 0 1 1 0	0.9250 V	1 0 1 0 0 1 1 1	0.4125 V
0 0 0 0 0 1 1 1	1.4125 V	0 1 0 1 0 1 1 1	0.9125 V	1 0 1 0 1 0 0 0	0.4000 V
0 0 0 0 1 0 0 0	1.4000 V	0 1 1 0 0 0 0 0	0.9000 V	1 0 1 0 1 0 0 1	0.3875 V
0 0 0 0 1 0 0 1	1.3875 V	0 1 1 0 0 0 0 1	0.8875 V	1 0 1 0 1 0 0 1	0.3750 V
0 0 0 0 1 0 1 0	1.3750 V	0 1 1 0 0 0 1 0	0.8750 V	1 0 1 0 1 0 1 0	0.3625 V
0 0 0 0 1 0 1 1	1.3625 V	0 1 1 0 0 0 1 1	0.8625 V	1 0 0 1 1 0 0 0	0.3500 V
0 0 0 0 1 1 0 0	1.3500 V	0 1 1 0 0 1 0 0	0.8500 V	1 0 0 1 1 0 0 1	0.3375 V
0 0 0 0 1 1 0 1	1.3375 V	0 1 1 0 0 1 0 1	0.8375 V	1 0 0 1 1 0 1 0	0.3250 V
0 0 0 0 1 1 0 1	1.3250 V	0 1 1 0 0 1 0 1	0.8250 V	1 0 0 1 1 0 1 1	0.3125 V
0 0 0 0 1 1 1 0	1.3125 V	0 1 1 0 0 1 1 0	0.8125 V	1 1 0 0 0 0 0 0	0.3000 V
0 0 0 1 0 0 0 0	1.3000 V	0 1 1 1 0 0 0 0	0.8000 V	1 1 0 0 0 0 0 1	0.2875 V
0 0 0 1 0 0 0 1	1.2875 V	0 1 1 1 0 0 0 1	0.7875 V	1 1 0 0 0 0 0 1	0.2750 V
0 0 0 1 0 0 1 0	1.2750 V	0 1 1 1 0 0 1 0	0.7750 V	1 1 0 0 0 0 1 0	0.2625 V
0 0 0 1 0 0 1 0	1.2625 V	0 1 1 1 0 0 1 0	0.7625 V	1 1 0 0 0 0 1 1	0.2500 V
0 0 0 1 0 1 0 0	1.2500 V	0 1 1 1 1 0 0 0	0.7500 V	1 1 0 0 0 1 0 0	0.2375 V
0 0 0 1 0 1 0 1	1.2375 V	0 1 1 1 1 0 0 1	0.7375 V	1 1 0 0 0 1 0 1	0.2250 V
0 0 0 1 0 1 1 0	1.2250 V	0 1 1 1 1 0 1 0	0.7250 V	1 1 0 0 0 1 0 1	0.2125 V
0 0 0 1 0 1 1 1	1.2125 V	0 1 1 1 1 0 1 1	0.7125 V	1 1 0 0 0 1 1 0	0.2000 V
0 0 0 1 1 0 0 0	1.2000 V	1 0 0 0 0 0 0 0	0.7000 V	1 1 0 0 0 1 1 0	0.1875 V
0 0 0 1 1 0 0 1	1.1875 V	1 0 0 0 0 0 0 0	0.6875 V	1 1 0 0 0 1 0 1	0.1750 V
0 0 0 1 1 0 1 0	1.1750 V	1 0 0 0 0 0 0 1	0.6750 V	1 1 0 0 0 1 0 1	0.1625 V
0 0 0 1 1 0 1 1	1.1625 V	1 0 0 0 0 0 1 0	0.6625 V	1 1 0 0 0 1 1 0	0.1500 V
0 0 0 1 1 1 0 0	1.1500 V	1 0 0 0 0 0 1 0	0.6500 V	1 1 0 0 0 1 1 0	0.1375 V
0 0 0 1 1 1 0 1	1.1375 V	1 0 0 0 0 0 1 0	0.6375 V	1 1 0 0 0 1 1 1	0.1250 V
0 0 0 1 1 1 1 0	1.1250 V	1 0 0 0 0 0 1 1	0.6250 V	1 1 0 0 0 1 1 1	0.1125 V
0 0 0 1 1 1 1 1	1.1125 V	1 0 0 0 0 0 1 1	0.6125 V	1 1 0 0 0 0 0 0	0.1000 V
0 0 1 0 0 0 0 0	1.1000 V	1 0 0 0 0 0 1 0	0.6000 V	1 1 0 0 0 0 0 0	0.0875 V
0 0 1 0 0 0 0 1	1.0875 V	1 0 0 0 0 0 1 0	0.5875 V	1 1 0 0 0 0 0 1	0.0750 V
0 0 1 0 0 0 1 0	1.0750 V	1 0 0 0 0 0 1 0	0.5750 V	1 1 0 0 0 0 0 1	0.0625 V
0 0 1 0 0 0 1 1	1.0625 V	1 0 0 0 0 0 1 1	0.5625 V	1 1 0 0 0 0 1 0	0.0500 V
0 0 1 0 0 1 0 0	1.0500 V	1 0 0 0 0 0 1 0	0.5500 V	1 1 0 0 0 0 1 0	0.0375 V
0 0 1 0 0 1 0 1	1.0375 V	1 0 0 0 0 0 1 0	0.5375 V	1 1 0 0 0 0 1 1	0.0250 V
0 0 1 0 0 1 1 0	1.0250 V	1 0 0 0 0 0 1 1	0.5250 V	1 1 0 0 0 0 1 1	0.0125 V
0 0 1 0 0 1 1 1	1.0125 V	1 0 0 0 0 0 1 1	0.5125 V	1 1 0 0 0 0 0 0	0.0000 V
		1 0 0 0 0 0 0 0	0.5000 V	1 1 0 0 0 0 0 0	0.0000 V
				1 1 0 0 0 0 0 1	0.0000 V
				1 1 0 0 0 0 1 0	0.0000 V
				1 1 0 0 0 0 1 0	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
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				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V
				1 1 0 0 0 0 1 1	0.0000 V

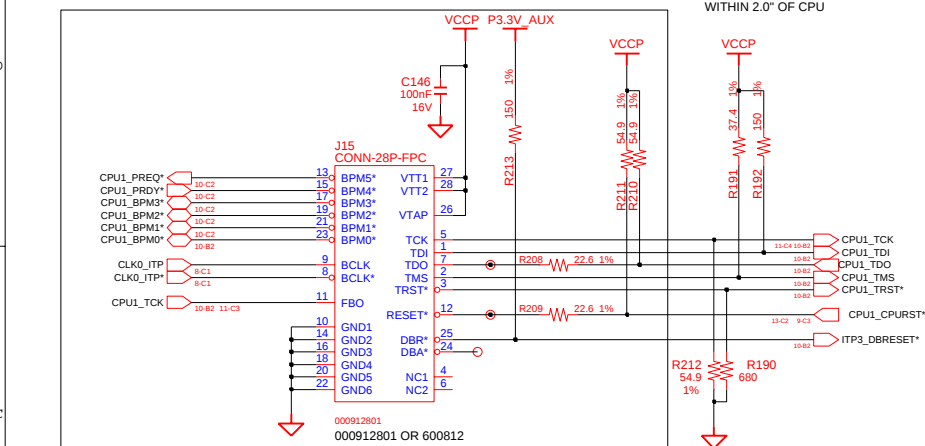
*Yonah Processor (2.33 GHz / 800 MHz : TBD)

DATE	SUN LIANG	2/27/2006	TITLE	CICHLID 3 MAIN YONAH CPU(2/3)	SAMSUNG ELECTRONICS	
CHECK	WU SHI JIANG	DEV. STEP				PR
APPROVAL	KEVIN LEE	REV				1.3
MODULE CODE	LAST EDIT					February 27, 2006 3:31:27 PM
				PART NO.	BA41- 00645A	

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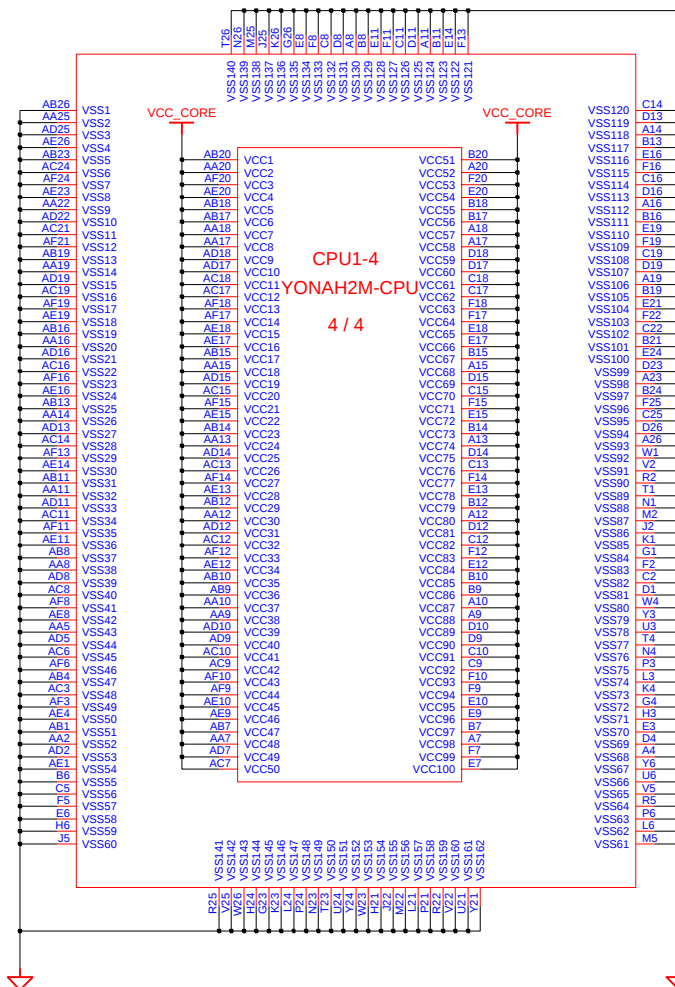
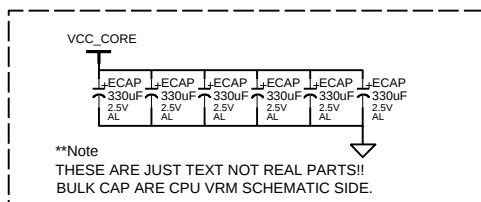
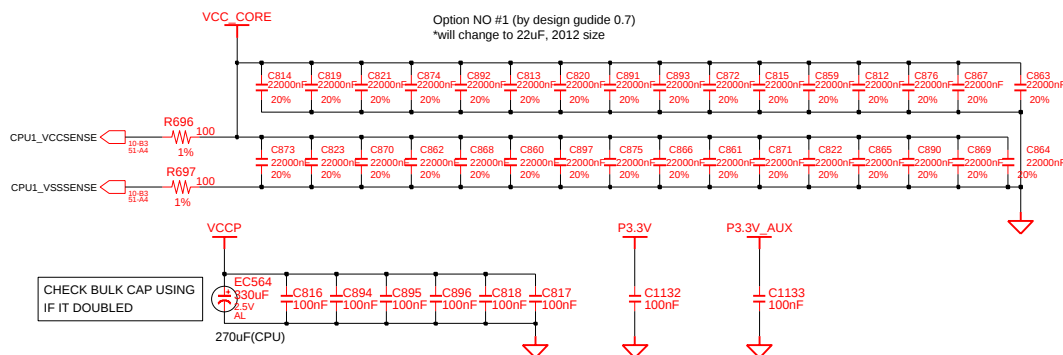
NO STUFF

WITHIN 2.0" OF CPU



****Note**
WHEN ITP NOT USED NO STUFF THIS BLOCK

ITP/XDP



DRAW	SUN LIANG	DATE	2/27/2006	CICHLID 3 MAIN YONAH CPU(3/3)	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		
APPROVAL	KEVIN LEE	REV	1.3		
MODULE CODE	LAST EDIT		February 27, 2006 3:31:27 PM		
				PART NO.	BA41- 00645A

CPU / DDR2 Thermal Sensor

LAYOUT NOTE:
ROUTE CPU2_THERMDC AND CPU2_THERMDA
ON SAME LAYER W/10 MIL TRACE & 10 MIL SPACING
ROUTE AWAY FROM NOISE SOURCES WITH GROUND
GUARD TRACKS ON EACH SIDE.

Refer To Thermal Sensor Layout Guidelines.

- Place the Thermal Sensor close to a remote diode.
- Keep traces away from high voltage (+12V bus)
- Keep traces away from fast data buses and CRT signal.
- Use recommended trace widths and spacings (10mil)
- Place a ground plane under the traces.
- Use guard traces flanking DXN and DXN and connecting to GND

PLACE THE MIDDLE OF CPU & GMCH

$V_{set} = (T_p - 75) / 16$
Guardian Temp-tolerance = $\pm 3^\circ\text{C}$
1) $T_p = 88^\circ\text{C}$, $\Rightarrow V_{set} = 0.9375$
 $0.9375 = \frac{x}{3.3 + x + y}$ $x : y = 1 : 2.52$
when $y = 30 \text{ Kohm}$, $\Rightarrow x = 11.91 \text{ Kohm}$
2) $x = 12 \text{ Kohm}$, $y = 30.1 \text{ Kohm}$
 $V_{set} = 3.3 \times \frac{12.0}{12.0 + 30.1}$
 $T_p = V_{set} \times 16 + 75 = 90.0496^\circ\text{C} \pm 3$
Guardian Temp-tolerance = $\pm 3^\circ\text{C}$

PLACE NEAR TO DDR2 SODIMM

THERMISTOR - NTC : 10Kohm 1%
1. ERTJ1VG103FA - Panasonic
2. TH11-3H103FT - Mitsubishi
- Resistance ratios to R25 at each temperature

Temp(C)	Ratio	Temp(C)	Ratio
-40	20.238	40	0.5826
-30	11.669	50	0.4164
-20	6.984	60	0.3027
-10	4.322	70	0.2233
0	2.755	80	0.1670
10	1.803	90	0.1260
20	1.210	100	0.09570
25	1	110	0.07338
30	0.8309	120	0.05678
35	0.6941	125	0.05011

FAN Control Logic

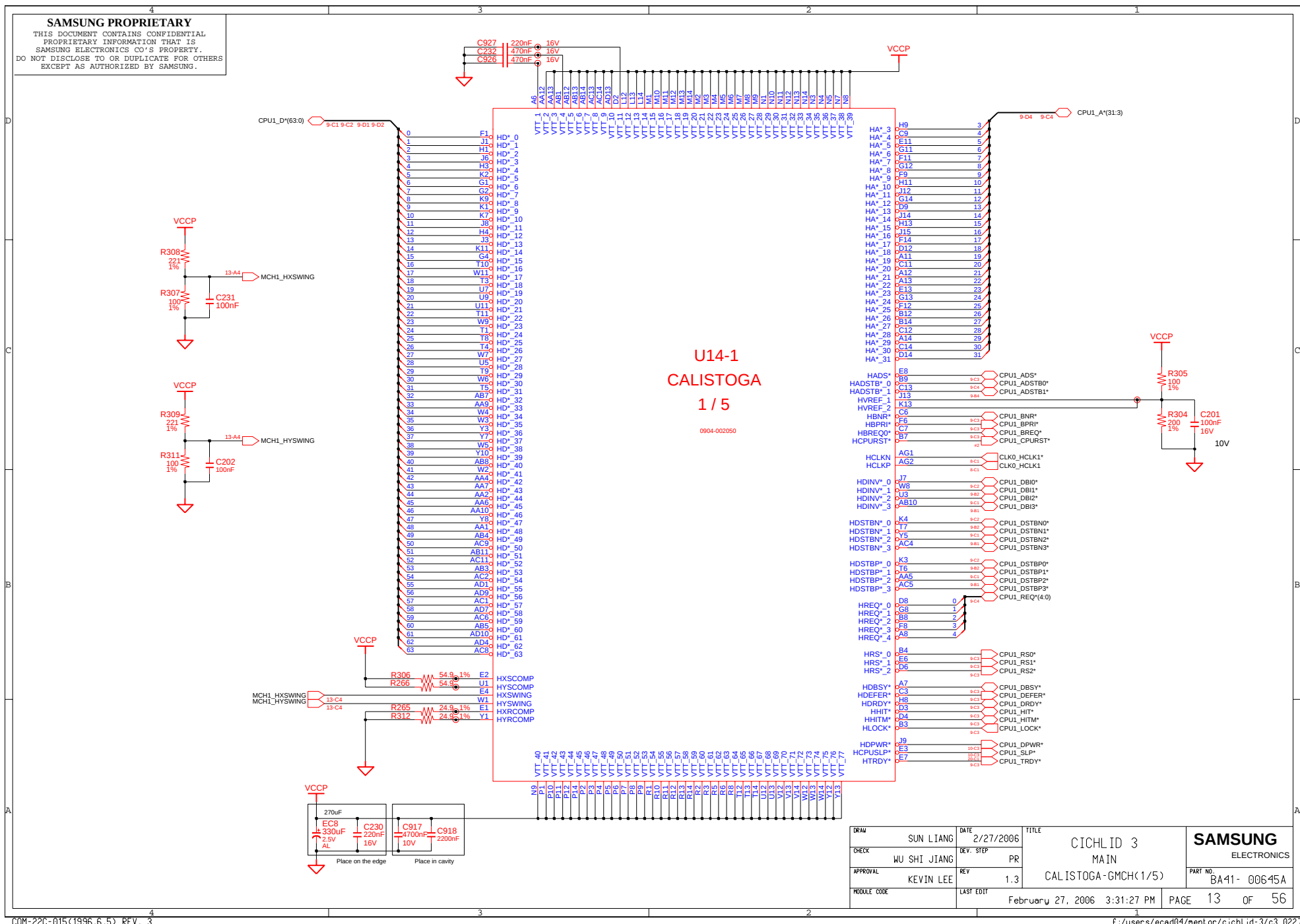
PLACE FAN CONNECTOR NEAR CPU

Line Width = 20 mil

Changed to Control Methode(EBL)

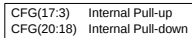
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3	THERMAL SENSOR/FAN CONTRL	PART NO.	BA41- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	12	OF 56

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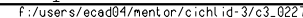
Signal	Recommendation
VCCA_CRTDAC	GMCH CORE
VSSA_CRTDAC	GND
VCC_SYNC	GND
HSYNC,VSYNC	GND
R,G,B PAIRS	GMCH CORE



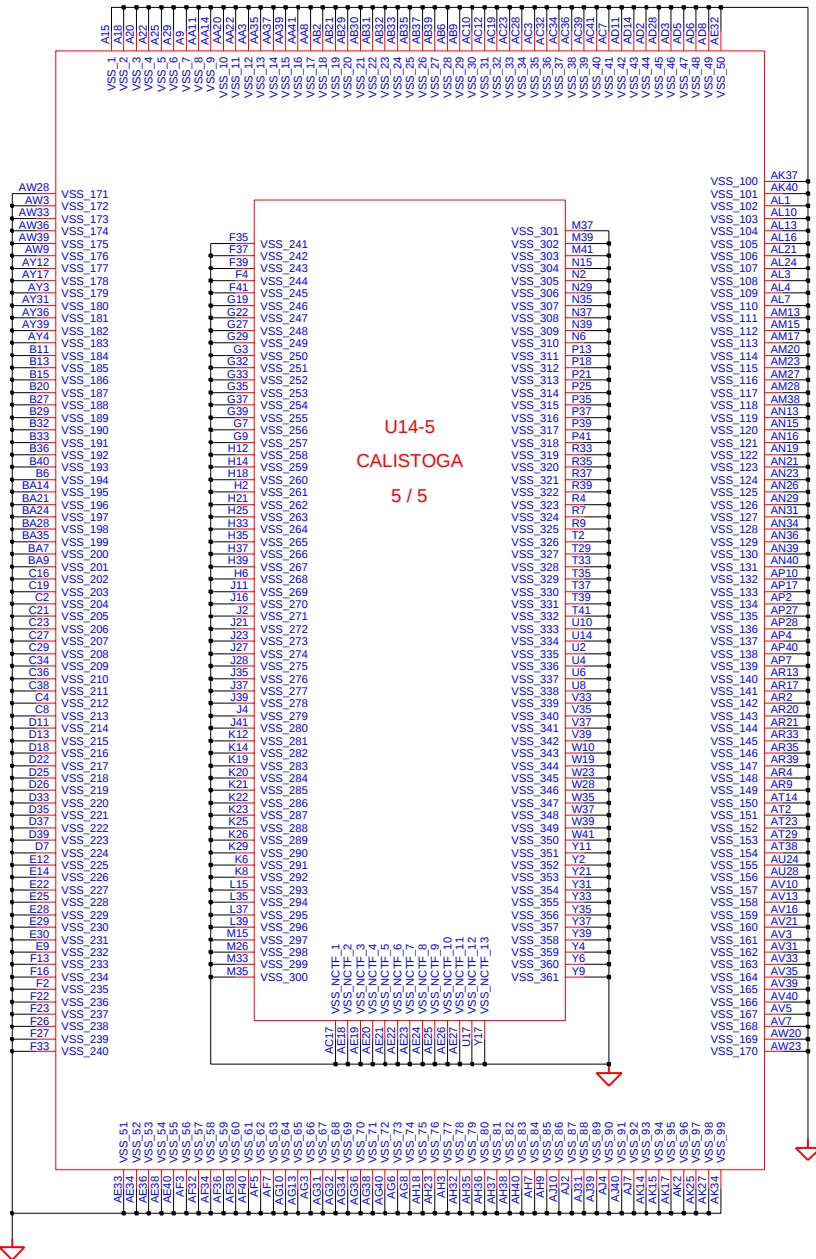
DATE	SUN LIANG	2/27/2006	CICHLID 3 MAIN CALISTOGA-GMCH(2/5)		SAMSUNG ELECTRONICS		
CHECK	WU SHI JIANG	DEV. STEP					PR
APPROVAL	KEVIN LEE	REV					1.3
MODULE CODE	LAST EDIT		February 27, 2006 3:31:27 PM		PAGE	14 OF 56	
					PART NO.	BA41- 00645A	

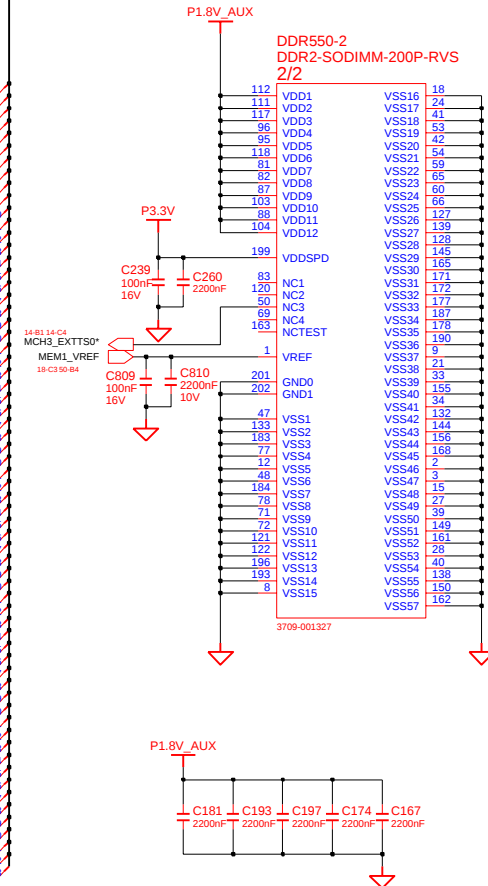
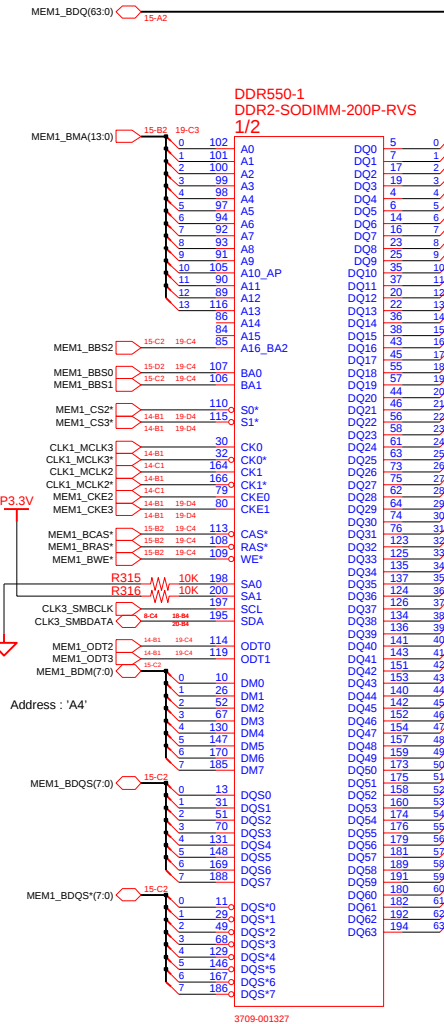
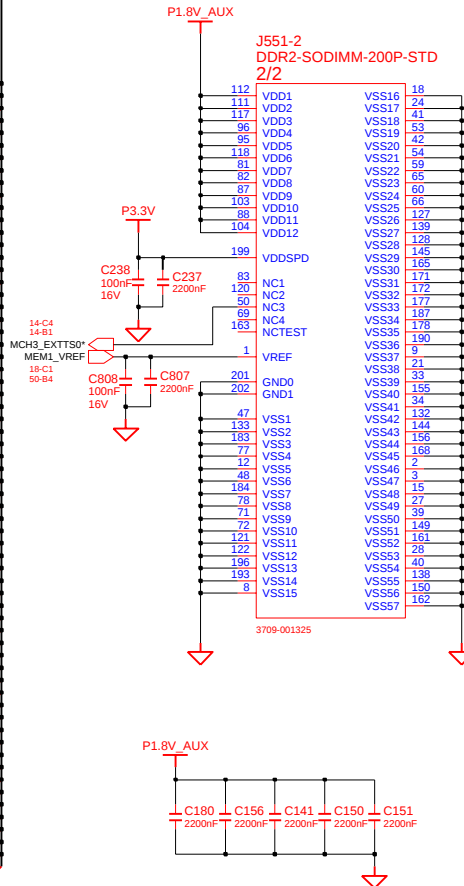
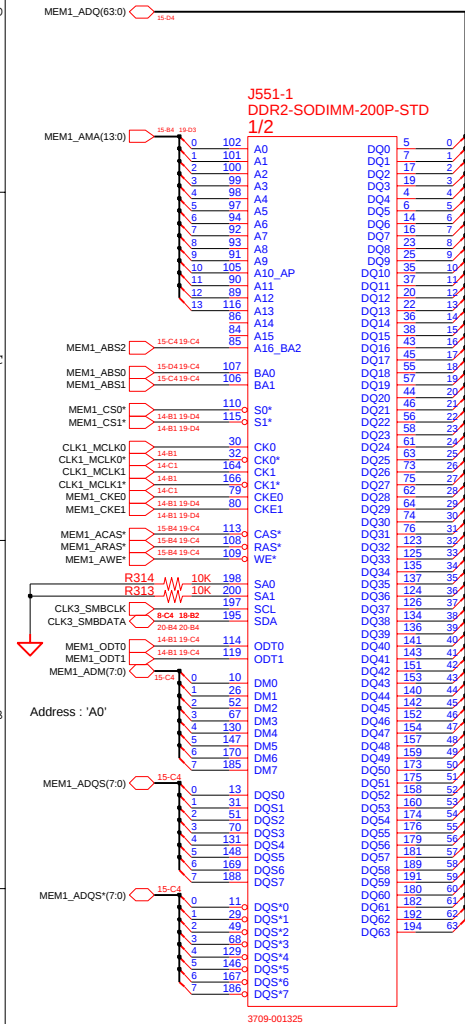
CICHLID 3 MAIN	SAMSUNG ELECTRONICS
CAL ISTOGA-GMCH(3/5)	PART NO. BA41- 00645A

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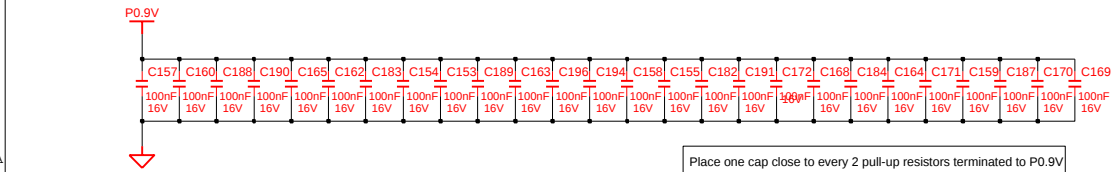
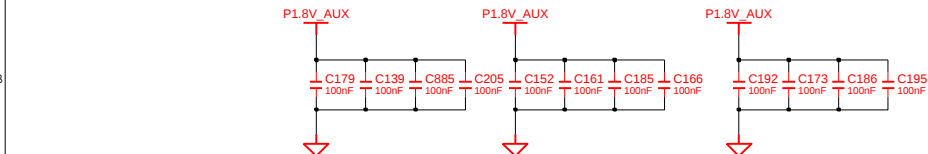
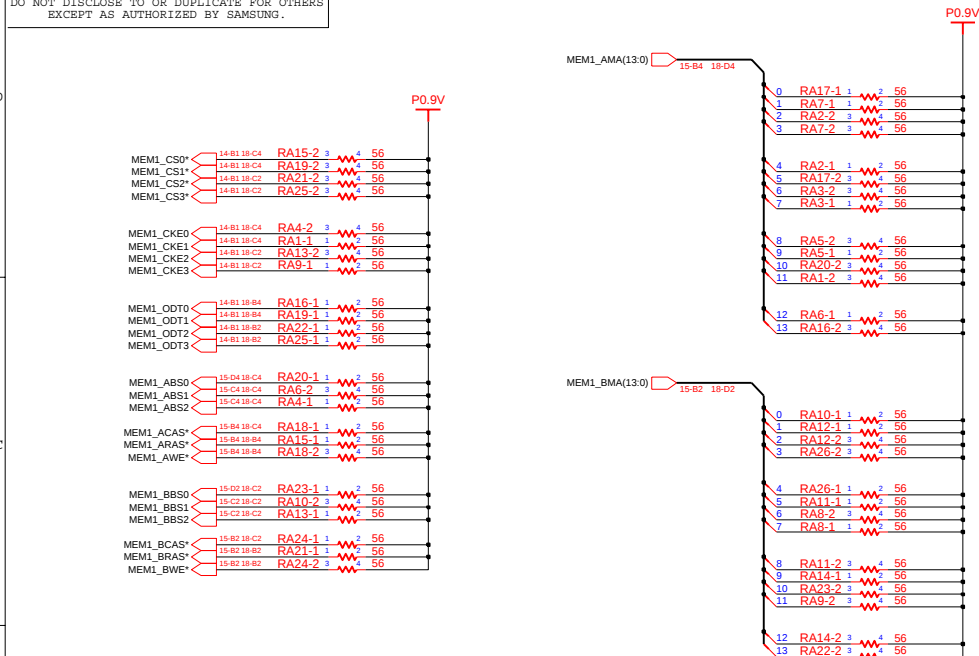
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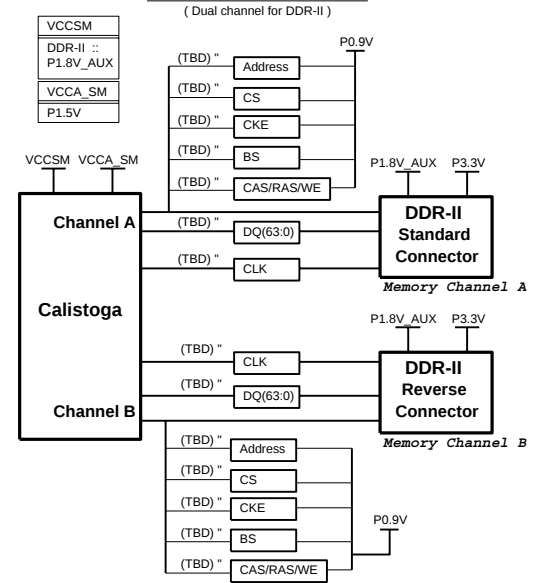


DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		DDR2 - SODIMM	
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	18 OF 56	

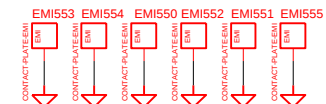
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Memory Topology

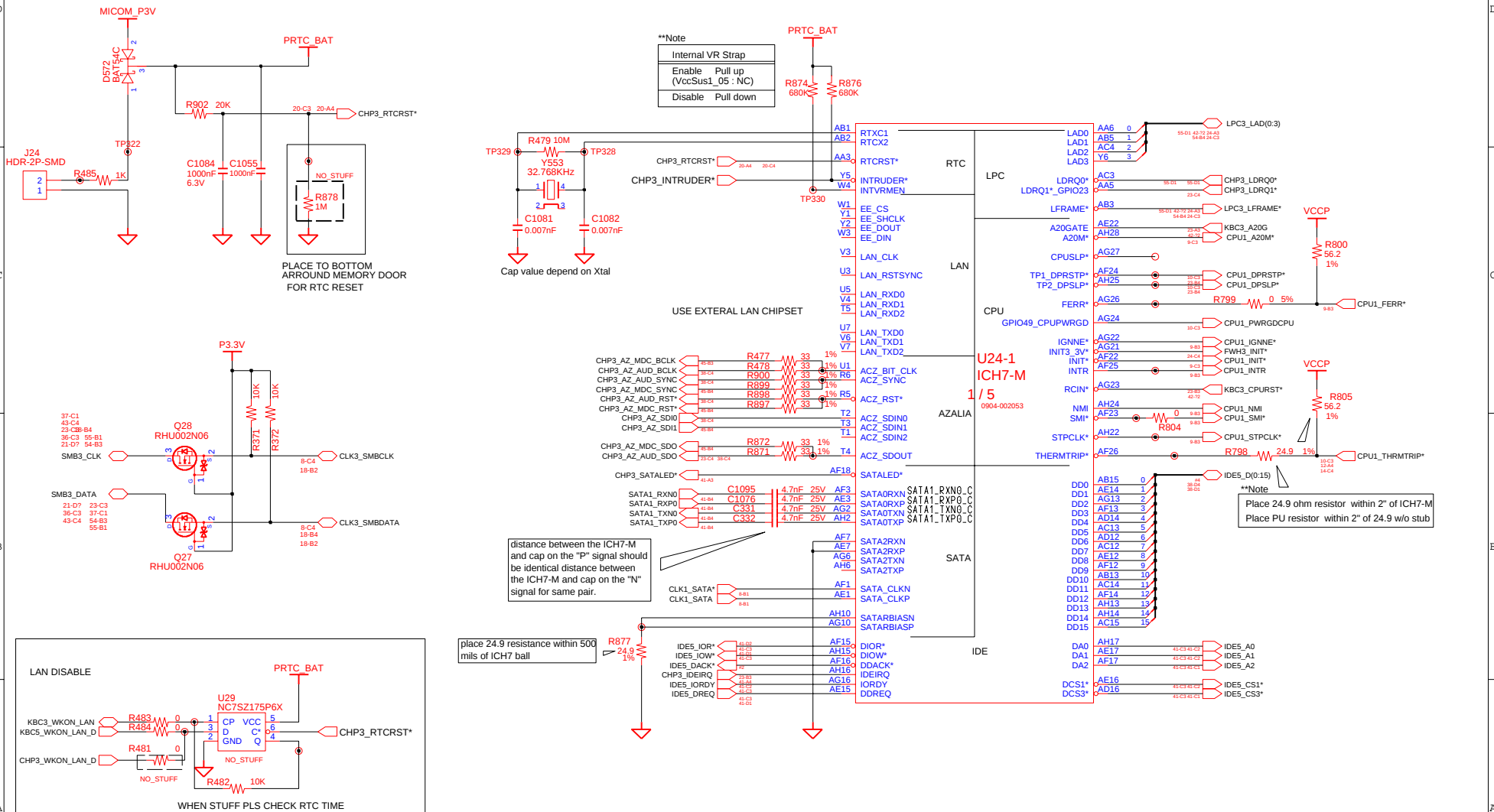


LOCATE EMI FINGER AT THE CORNER OF SODIMM CONNECTOR



DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN DDR2 - TERMINATION	SAMSUNG ELECTRONICS PART NO. BA41- 00645A
CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	19 OF 56	

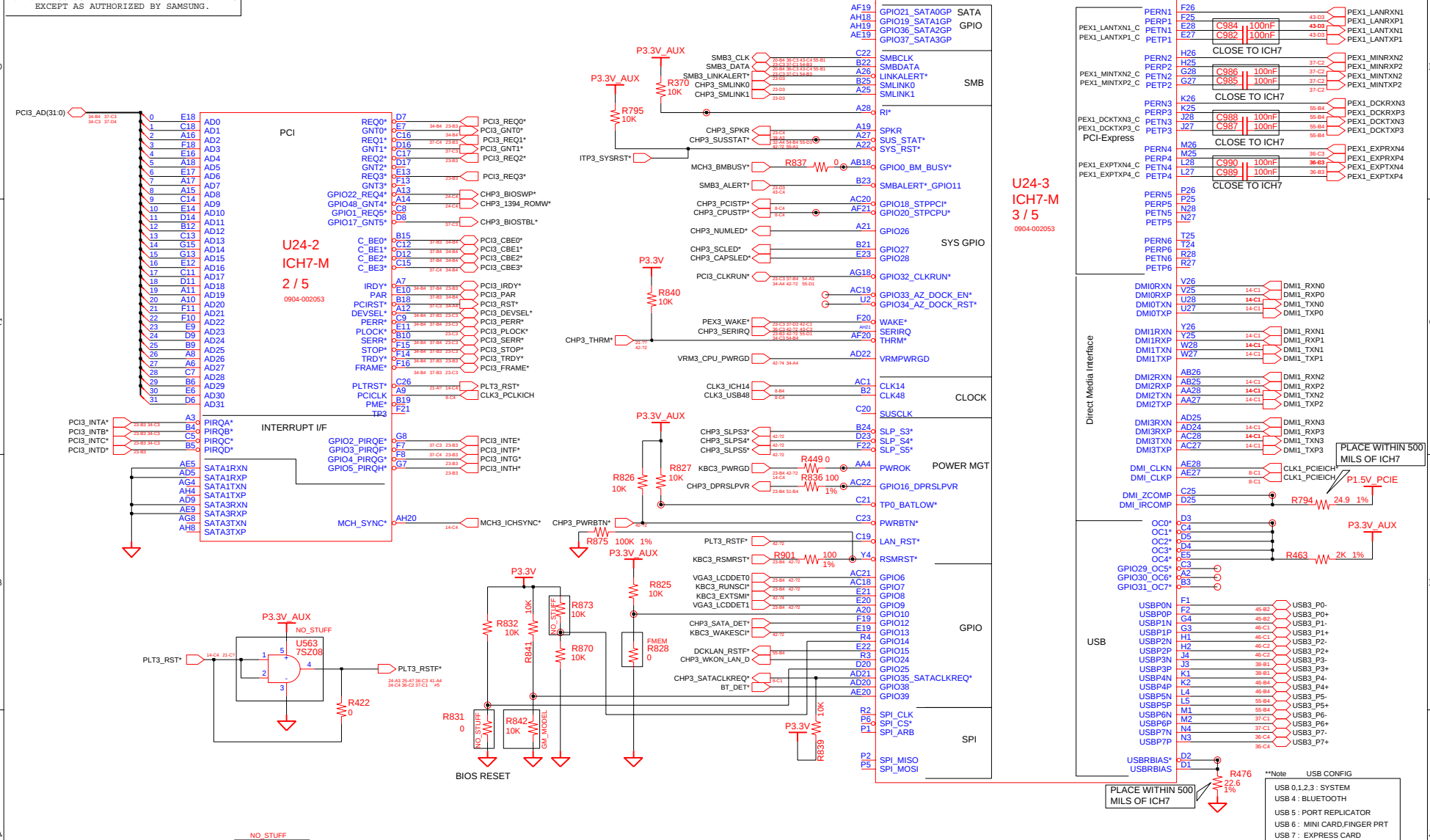
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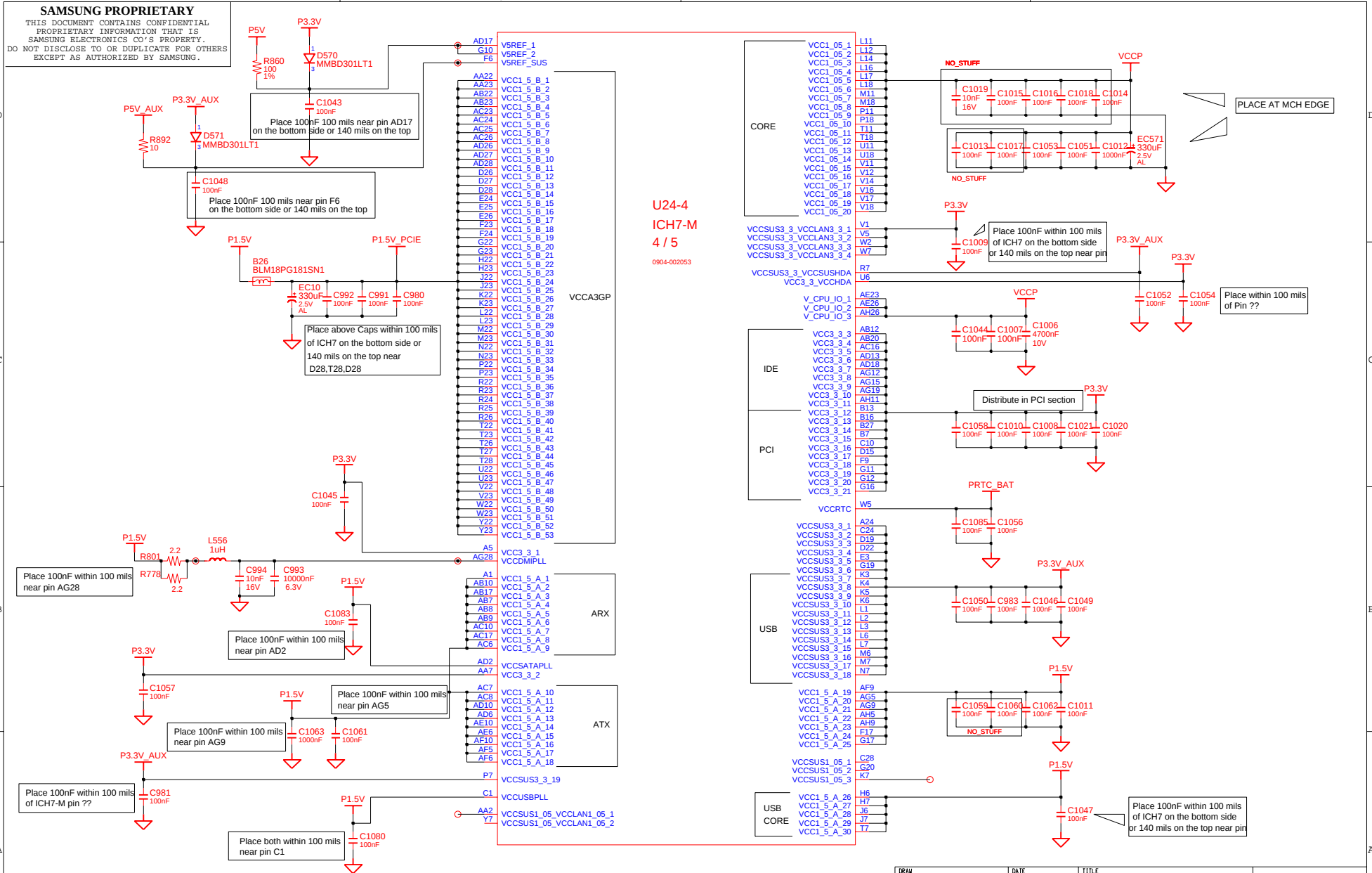
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS PART NO. BA41- 00645A
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		ICH7 - M(1/4)	
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	20 OF 56	

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AC caps : PCIe need to be within 250mils of the driver
Resistor for Test : Place Stuffing Option to minimize stubs



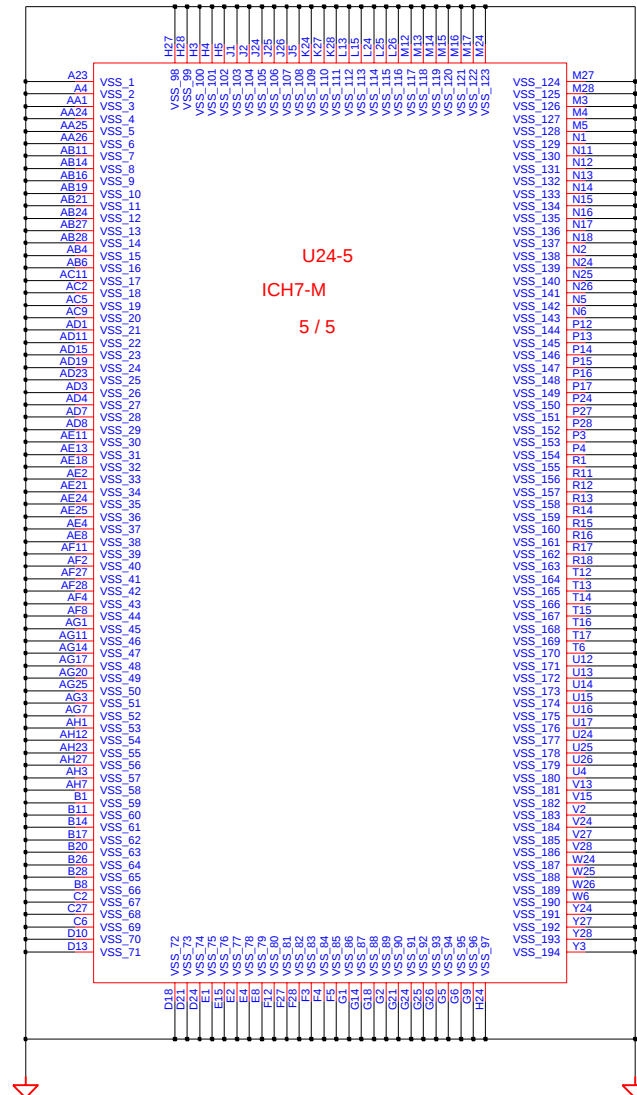
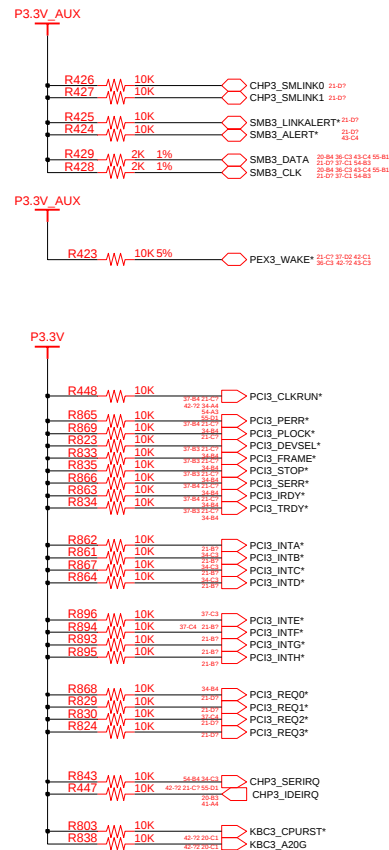
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CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	21 OF 56	



DRAM	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3	ICH7 - M(3/4)	PART NO.	
MODULE CODE		LAST EDIT		February 27, 2006 3:31:27 PM	BA14 - 00645A	
				PAGE	22	OF 56

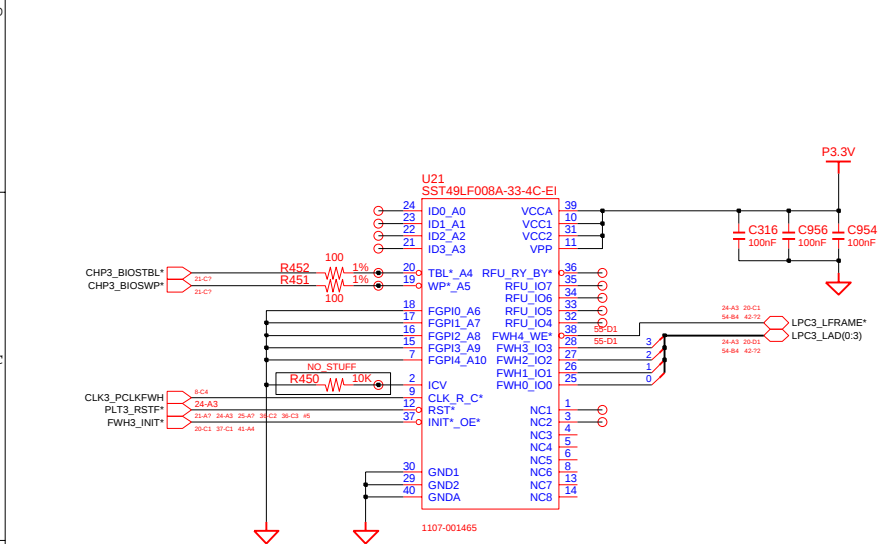
ICH7-m Options

	Function	Default
CHP3_SPKR	No Reboot	No Stuff
CHP3_GNT3	A16 swap override	No Stuff
AC97_SDOUT	Safe Mode	TBD
CHP3_GNT(5:4)	Boot BIOS Option	

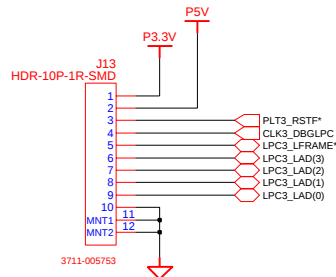


DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		ICH7 - M(4/4)	
MODULE CODE		LAST EDIT				
February 27, 2006 3:31:27 PM						PAGE 23 OF 56

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80 PORT CONNECTOR

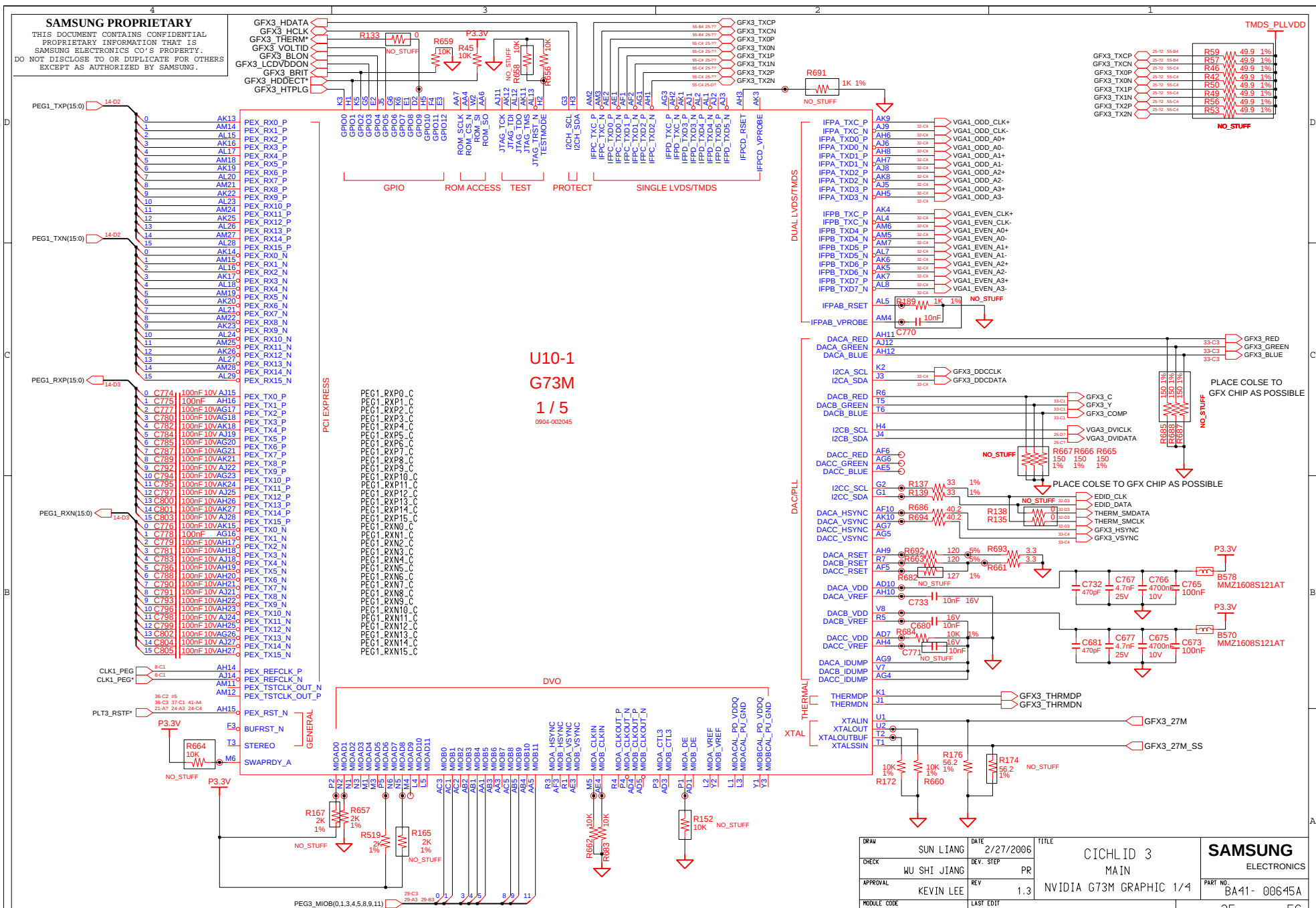


```
02  VERIFY REAL MODE
03  DISABLE NMI
04  GET CPU TYPE
06  INIT. SYSTEM H/W
08  INIT. CHIPSET REG.
09  SET IN POST FLAG
0A  INIT CPU.REG
0B  CPU CACHE ON
0C  INIT.CACHE TO POST
0E  INIT. I/O VALUE
0F  ENABLE THE L-BUS IDE
10  INIT. POWER MANAGER
11  LOAD ALTERNATE REG.
13  PCI BUS MASTER RESET
    WITH INITIAL POST VALUE
14  INIT. KEYBOARD CONTROLLER
16  CHECK CHECKSUM
18  8254 TIMER INIT.
1A  8237 DMA CONTROLLER INIT.
1C  RESET INTERRUPT CONTROLLER
20  TEST DRAM REFRESH
22  TEST 8742 KEYBOARD CONTROLLER
24  SET ES SEGMENT REG. TO 4GB
26  ENABLE A20
28  AUTO SIZING DRAM
32  COMPUTE THE CPU SPEED
34  TESET CMOS RAM
38  SHADOW SYSTEM BIOS ROM
3A  AUTO SIZING CACHE
3C  CONFIGURE ADVANCED CHIPSET REG.
3D  LOAD ALTER REG. WITH CMOS VALUE
42  INIT. INTERRUPT VECTOR
44  INIT. BIOS INTERRUPT
46  CHECK ROM COPYRIGHT NOTICE
47  INIT. I20 SUPPORT IF INSTALLED
48  CHECK VIDEO CONFIGURE AGAINST CMOS
49  INIT. PCI BUS AND DEVICE
4A  INIT. ALL VIDEO BIOS ROM
4C  SHADOW VIDEO BIOS ROM
50  DISPLAY CPU TYPE AND SPEED
52  TEST KEYBOARD
54  SET KEYCLICK IF ENABLED
56  ENABLE KEYBOARD
58  TEST FOR UNEXPECTED INTERRUPTS
5A  DISPLAY " PRESS ..... SETUP"
5C  TEST RAM BETWEEN 512K AND 640K
60  TEST EXTENDED MEMORY
62  TEST EXTENDED MEMORY ADDRESS LINE
64  JUMP TO USER PATCH 1

66  CONFIGURE ADVANCE CACHE REG.
6A  DISPLAY EXTERNAL CACHE SIZE
6C  DISPLAY SHADOW MESSAGE
6E  DISPLAY NON-DISPOSABLE SEGMENT
70  DISPLAY ERROR MESSAGE
72  CHECK FOR CONFIGURATION ERROR
74  TEST REAL-TIME CLOCK
76  CHECK FOR KEYBOARD ERROR
7C  SETUP HARDWARE INTERRUPT VECTOR
7E  TEST COPROCESSER IF PRESENT
80  DISABLE ON-BOARD I/O PORT
82  DETECT AND INSTALL EXT.RS232C
84  DETECT AND INSTALL EXT.PARALLEL
86  RE-INIT. ON-BOARD I/O PORT
88  INIT. BIOS DATA ROM
8A  INIT.EXTENDED BIOS DATA AREA
8C  INIT. FDD CONTROLLER
9A  SHADOW OPTION ROMS
9C  SETUP POWER MANAGEMENT
9E  ENABLE H/W INTERRUPT
A0  SET TIME OF DAY
A4  INIT. TYPEMATIC RATE
A8  ERASE F2 PROMPT
AA  SCAN FOR F2 KEY STROKE
AC  ENTER SETUP
AE  CLEAR IN POST FLAG
B0  CHECK FOR ERRORS
B2  POST DONE-PREPARE TO BOOT O/S
B4  ONE BEEP
B6  CHECK PASSWORD (OPTION)
B7  ACPI INIT
BA  DMI INIT
BE  CLEAR SCREEN
C0  TRY BOOT WITH INT19
D0  INTERRUPT HANDLER ERROR
D2  UNKNOWN INTERRUPT ERROR
D4  PENDING INTERRUPT ERROR
D6  SHUTDOWN 5
D8  SHUTDOWN ERROR
DA  EXTENDED BLOCK MOVE
DC  SHUTDOWN 10
E8  ENABLE NMI
90  INIT. HDD CONTROLLER
91  INIT. LOCAL BUS HDD CONTROLLER
92  JUMP TO USER PATCH 2
94  DISABLE A20 ADDRESS LINE
96  CLEAR HUGE ES.SEGMENT REG.
98  SEARCH FOR OPTION ROMS
```

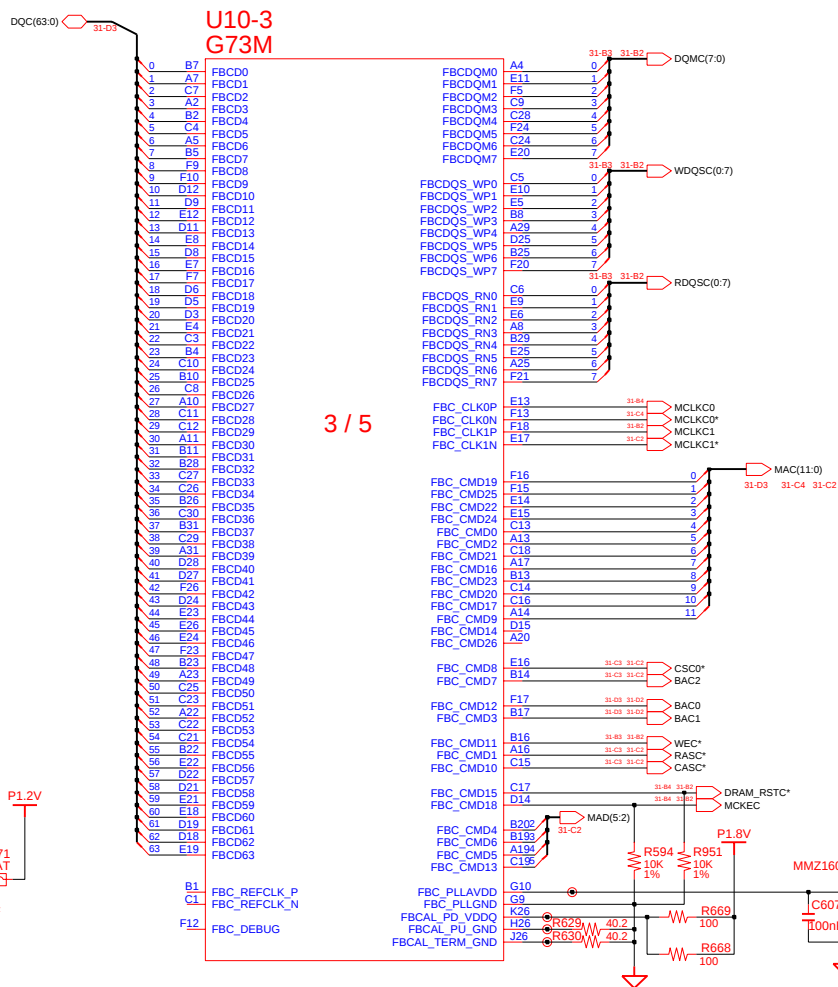
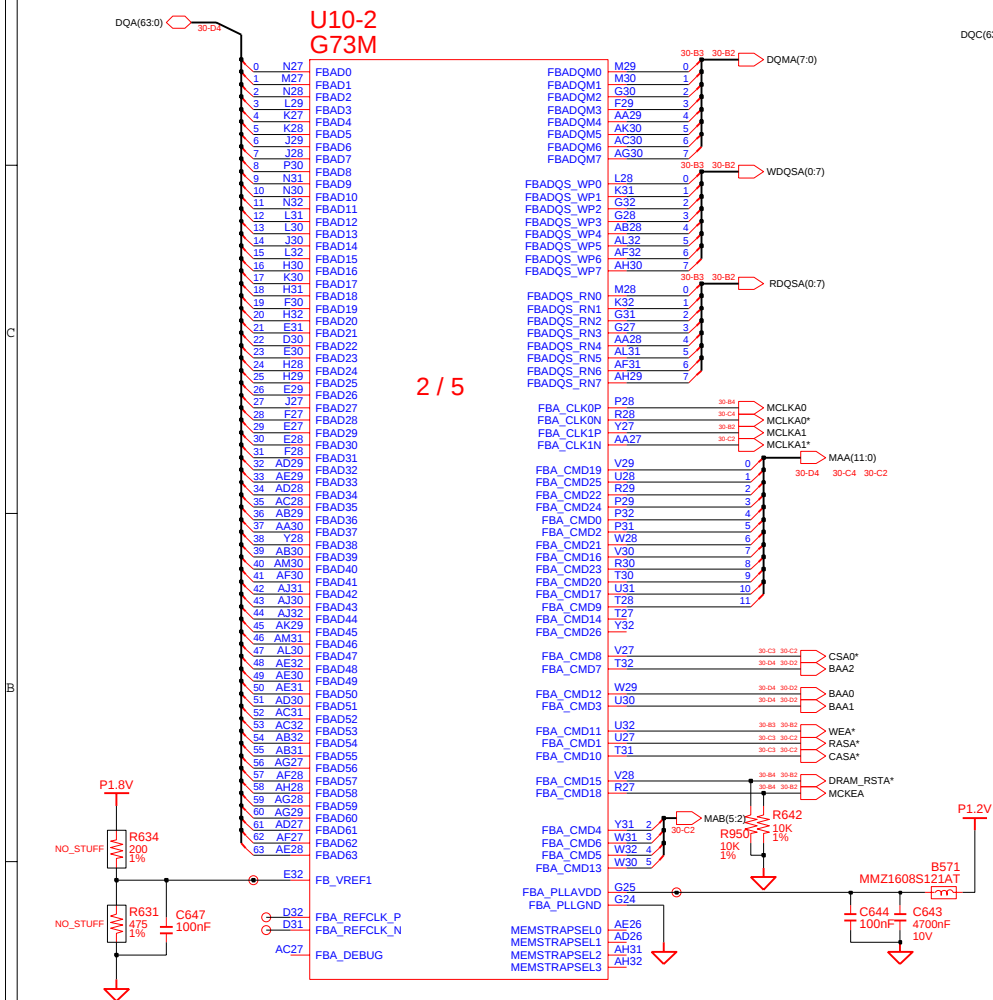
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CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	ELECTRONICS
APPROVAL	KEVIN LEE	REV	1.3		FIRMWARE HUB	PART NO. BA411- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	24	OF 56

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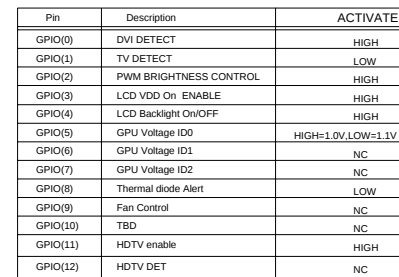
Graphic Memory I/F (Using FBA Channel)

Graphic Memory I/F (Using FBC Channel)



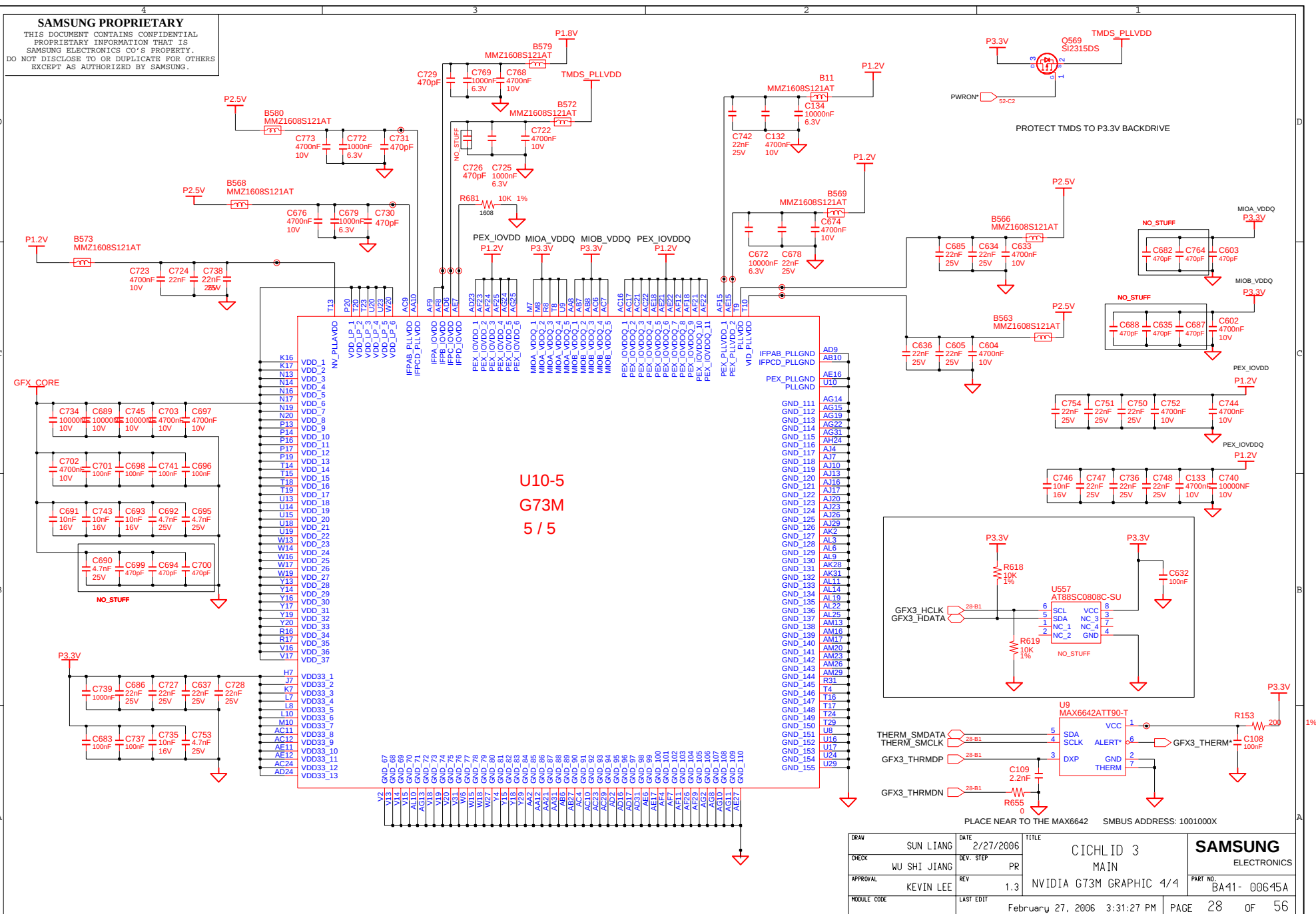
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CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		NVIDIA G73M GRAPHIC 2/4	PART NO. BA41- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	26	OF 56

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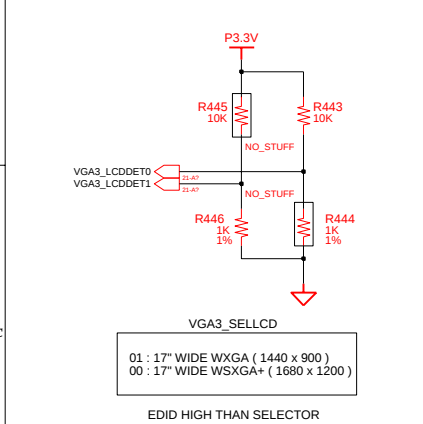


DATE	SUN LIANG	2/27/2006	TITLE		CICHLID 3 MAIN	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	PR				
APPROVAL	KEVIN LEE	REV 1.3	NVIDIA G73M GRAPHIC 3/4		PART NO.	BA41- 00645A
MODULE CODE	LAST EDIT		February 27, 2006 3:31:27 PM		PAGE	27 OF 56

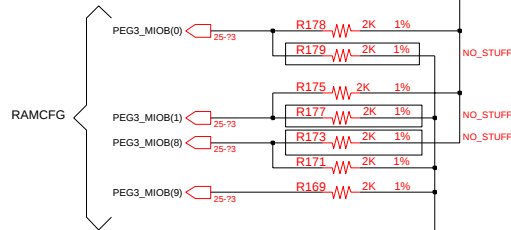
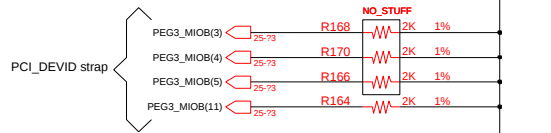
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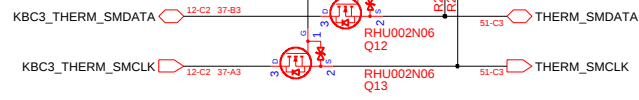
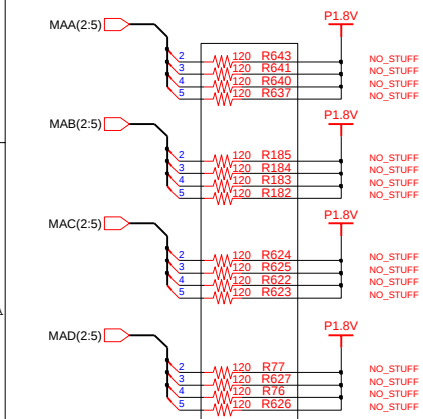
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	R168(3)	R170(4)	R166(5)	R164(11)
73M	NO_STUFF	NO_STUFF	NO_STUFF	STUFF
72M	NO_STUFF	NO_STUFF	NO_STUFF	STUFF
72M-V	STUFF	STUFF	STUFF	NO_STUFF



	R173(8H)	R171(8L)	R175(1H)	R177(1L)
SS 256Mbit	STUFF	NO_STUFF	STUFF	NO_STUFF
IF 256Mbit	STUFF	NO_STUFF	NO_STUFF	STUFF
SS 512Mbit	NO_STUFF	STUFF	STUFF	NO_STUFF
IF 512Mbit	NO_STUFF	STUFF	NO_STUFF	STUFF



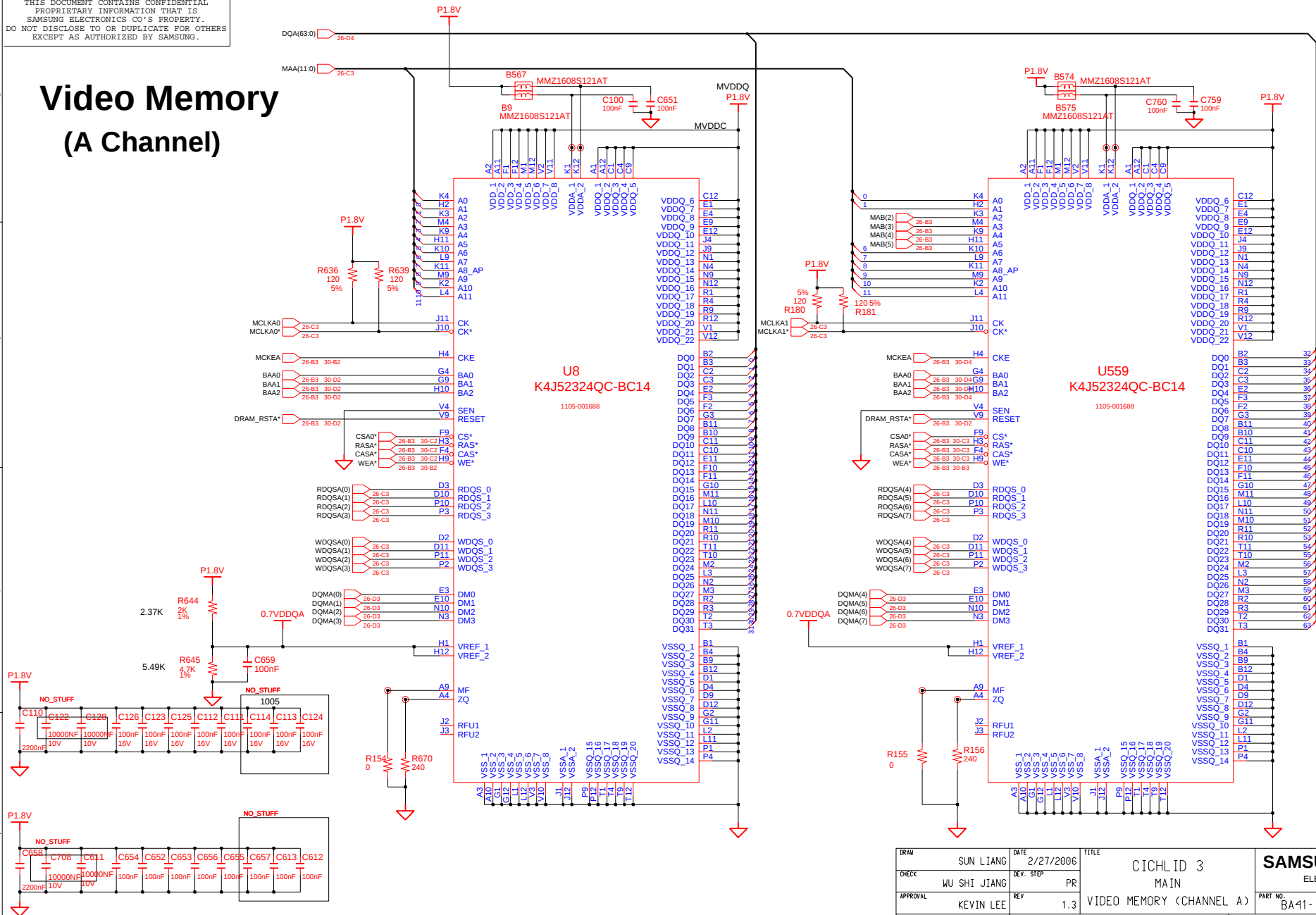
Straps		Pin # (Rev.A02)	Descriptions
SUB_VENDOR		MIOAD(1)	0 : No BIOS 1 : Read from BIOS
RAMCFG(3:0) [9,8,1,0]		MIOB(9) MIOB(8) MIOB(1) MIOB(0)	0111 : SAMSUNG GDDR3 256Mbit 0101 : INFINEON GDDR3 256Mbit 0011 : SAMSUNG GDDR3 512Mbit 0001 : INFINEON GDDR3 512Mbit
CRYSTAL(1:0)		MIOB(2) MIOB(6)	01 : 14.318 MHz 10 : 27 MHz 11 : Unknown 00 : 13.5 MHz
TV_MODE(1:0)		MIOAD(7) MIOAD(10)	00 : SECAM 01 : NTSC 10 : PAL 11 : CRT
PCI_DEVID(3:0) [11,3,5,4]		MIOB(11) MIOB(3) MIOB(5) MIOB(4)	72M: 0X01D8 72M-V: 0X01D7 73M: 0X0398
ROM_TYPE(1:0)		MIOB(10) MIOBVSYN	NO ROM(NC)
USER STRAP		MIOAD(2:5)	EDID
GPIO(12:0)		Sheet 25	Refer to Sheet 25

Test Options for GPIO should be updated..

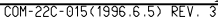
Samsung		Infineon	
256Mbit	512Mbit	256Mbit	512Mbit
K4J55323QG (1.2/1.4/1.6/2.0) K4J55323QF (1.4/1.6/2.0)	K4J52324QC (1.2/1.4/1.6/2.0)	HYB18H256321AF-12(2.0) HYB18H256321AF-16(1.6) HYB18H256324AF-20(2.0) HYB18H256321AF-14(1.4) HYB18H256321AF-12(1.2)	HYB18H512321AF-12(2.0) HYB18H512321AF-16(1.6) HYB18H512324AF-20(1.6) HYB18H512321AF-14(1.4) HYB18H512321AF-12(1.2)
8M*32BIT	16M*32BIT	8M*32BIT	16M*32BIT

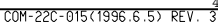
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN NVIDIA G73M STRAP	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	29	OF 56

Video Memory (A Channel)



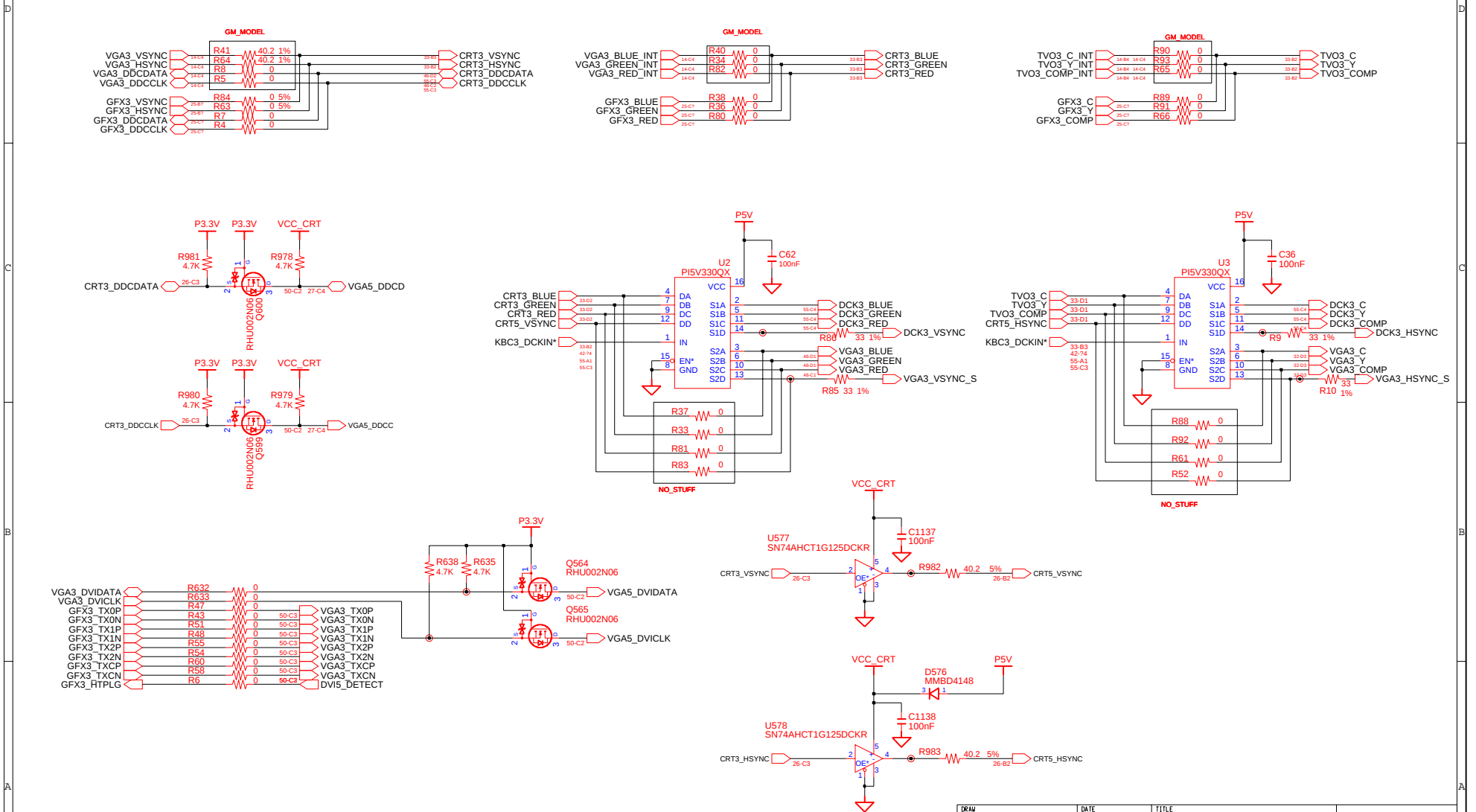
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CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE	LAST EDIT		February 27, 2006 3:31:27 PM	PAGE 30 OF 56		





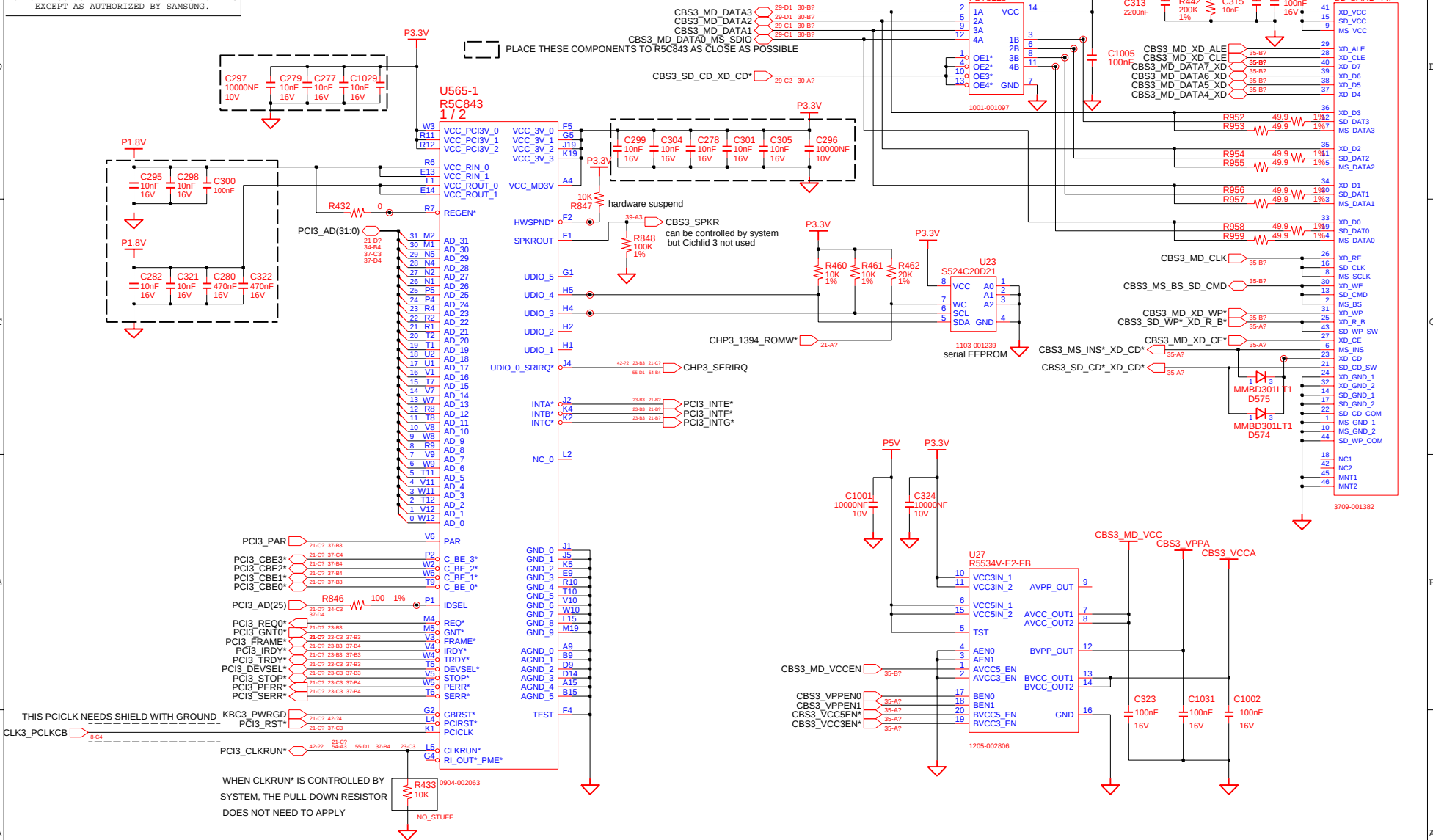
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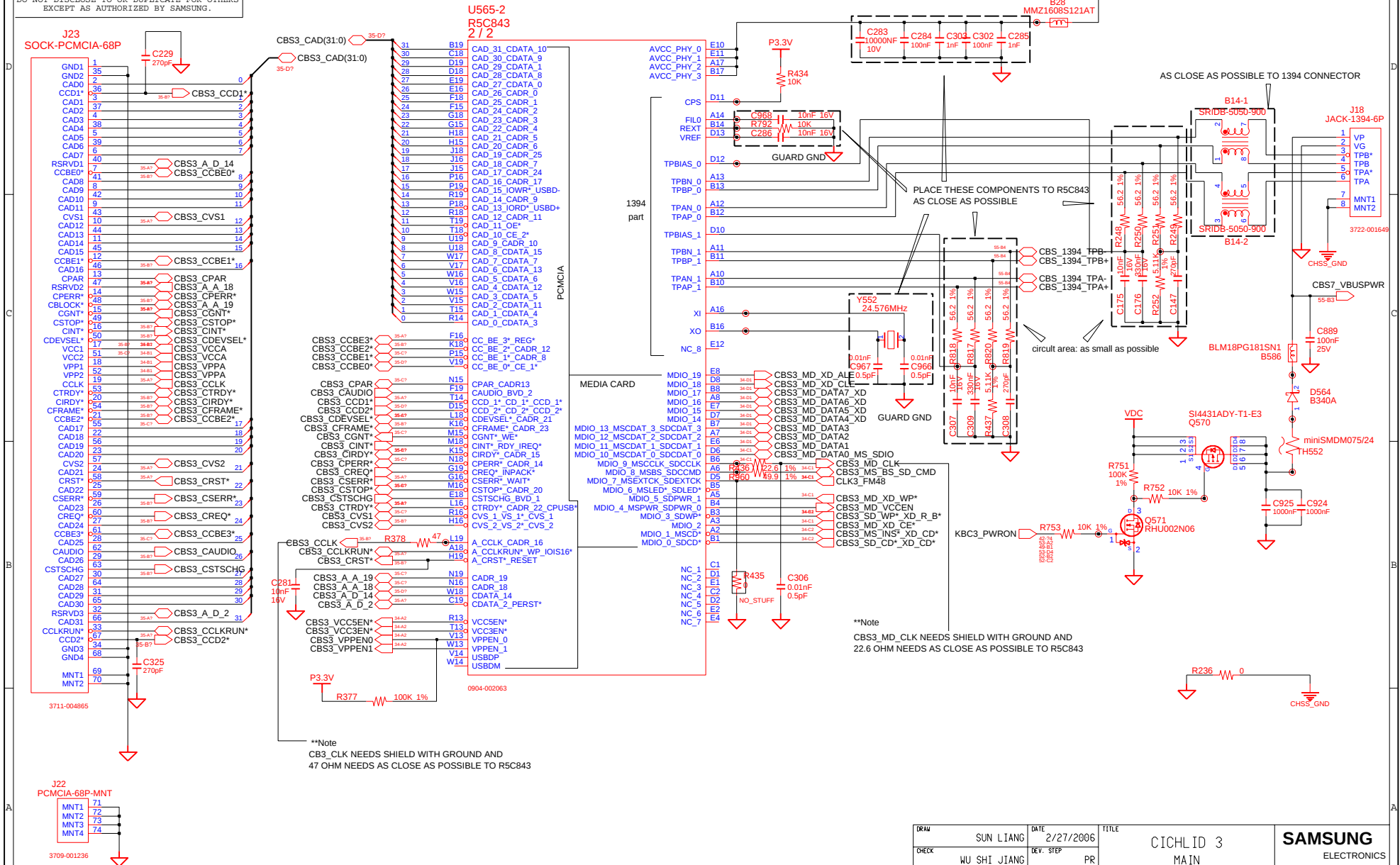
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN CRT PORT	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	33	OF 56

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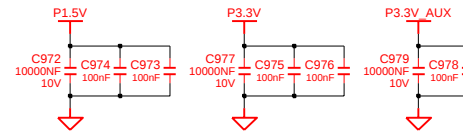
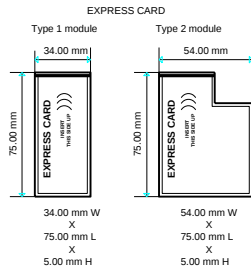
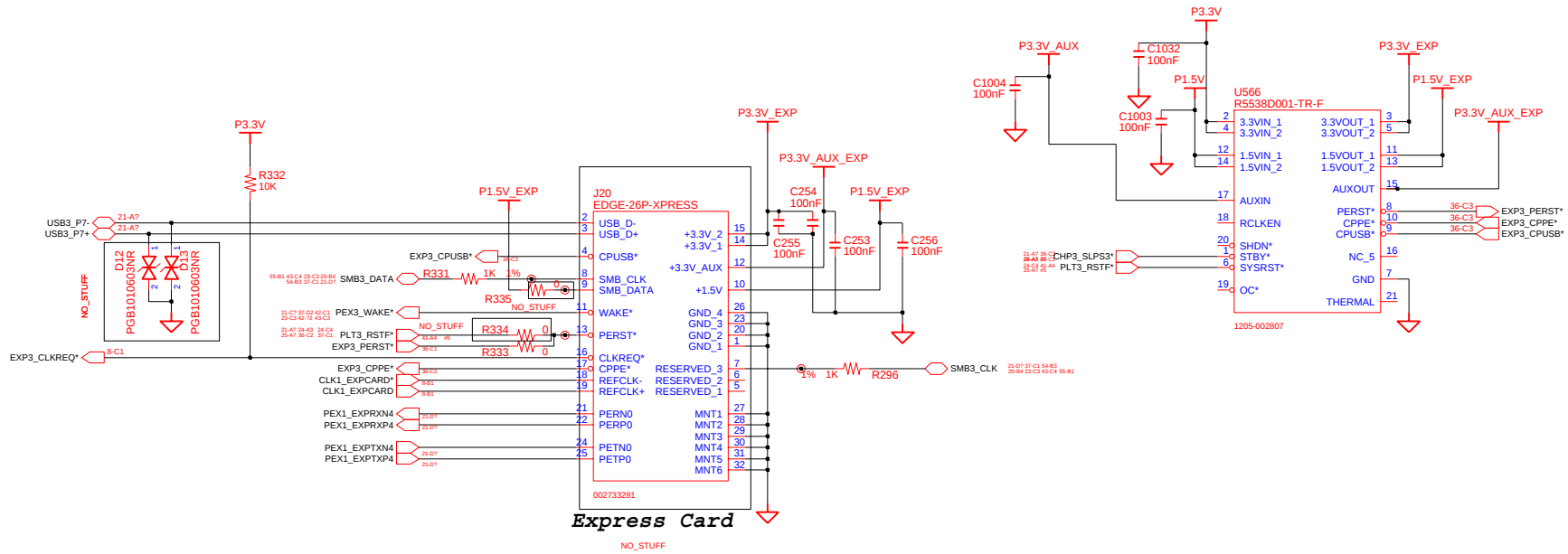
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHlid 3 MAIN CARDBUS / 1394	SAMSUNG ELECTRONICS PART NO. BA41- 00645A
CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	34 OF 56	

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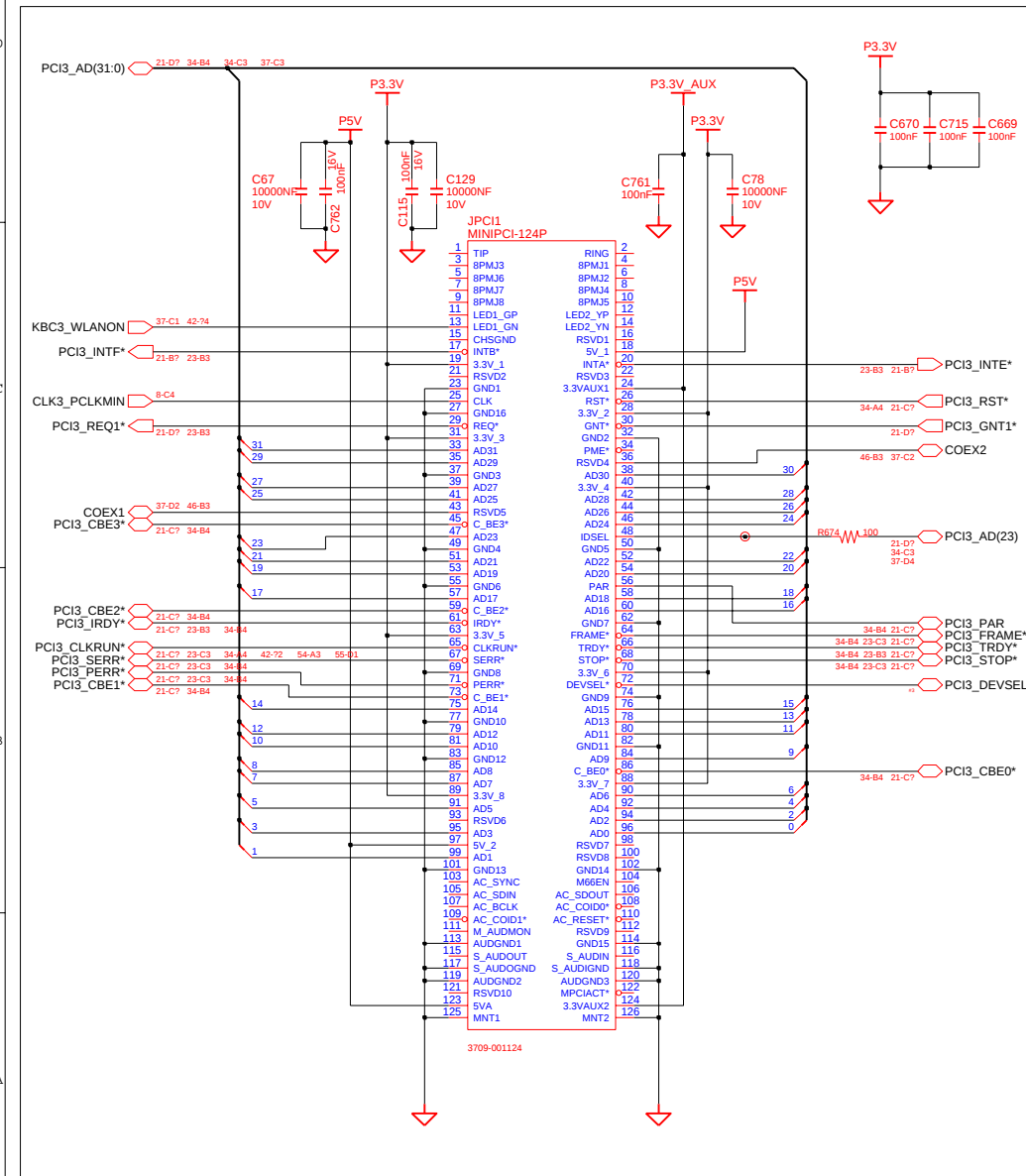
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		CARDBUS SOCKET/MEDIA CARD	PART NO. BA41- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	35	OF 56

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DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS PART NO. BA41- 00645A
CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3	EXPRESS CARD		
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	36 OF 56	

NO_STUFF (WHEN USE MINICARD CONNECTOR)



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U571 AD1986AAJSTZ_R0.2

NO_STUFF

SPDIF

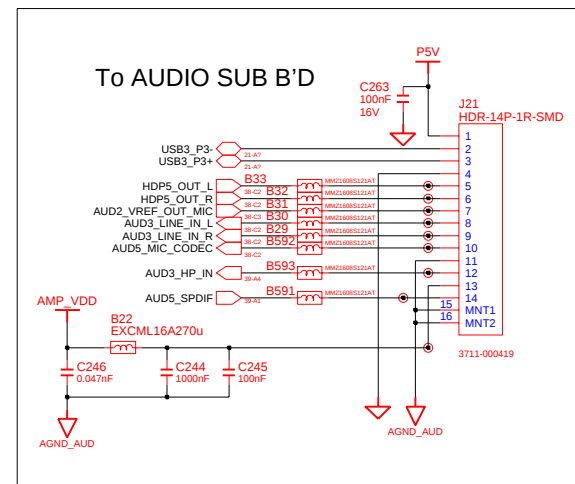
To AUDIO SUB B'D

Legend:

- 1. AGND_AUD IS AUDIO GROUND
- 2. GND is Digital Ground
- 3. AGND_MIC IS MIC GROUND

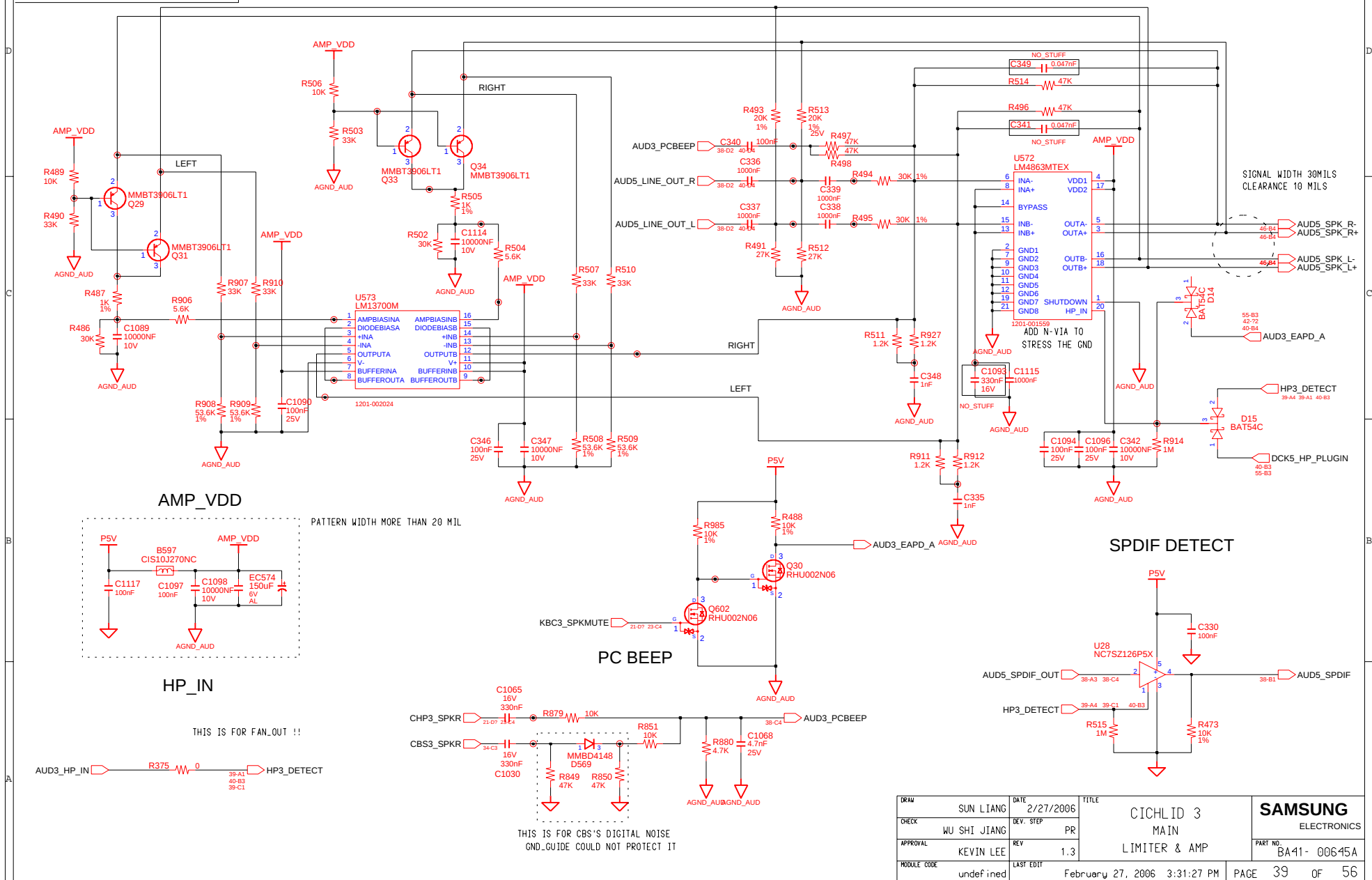
Component List:

- U571: AD1986AAJSTZ_R0.2
- U30: TPS793475DBVR
- B37: EXCML16A270u
- B33: EXCML16A270u
- B31: EXCML16A270u
- B30: EXCML16A270u
- B29: EXCML16A270u
- B592: EXCML16A270u
- B593: EXCML16A270u
- B591: EXCML16A270u
- B22: EXCML16A270u
- Q601: RHU002N06
- Q602: RHU002N06
- Q603: RHU002N06
- Q604: RHU002N06
- Q605: RHU002N06
- Q606: RHU002N06
- Q607: RHU002N06
- Q608: RHU002N06
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- Q615: RHU002N06
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- Q617: RHU002N06
- Q618: RHU002N06
- Q619: RHU002N06
- Q620: RHU002N06
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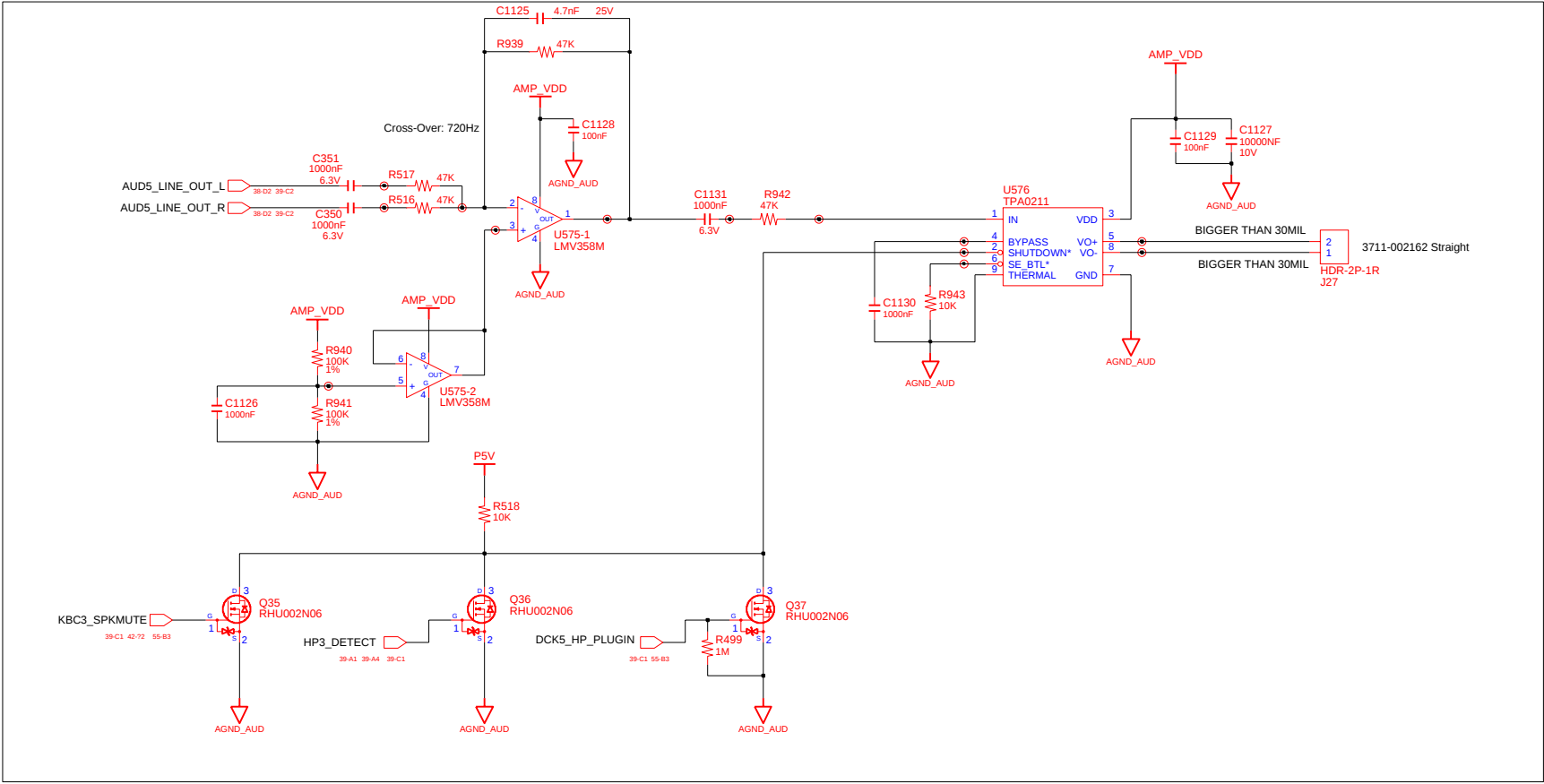


DRAM	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	SAMSUNG ELECTRONICS		
CHECK	WU SHI JIANG	DEV. STEP	PR				MAIN	
APPROVAL	KEVIN LEE	REV	1.3				AUDIO CODEC & SUB B'D CONN	PART NO.
MODULE CODE	undef ined	LAST EDIT	February 27, 2006 3:31:27 PM				PAGE	38 OF 56

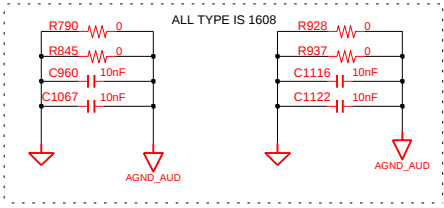
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NO_STUFF

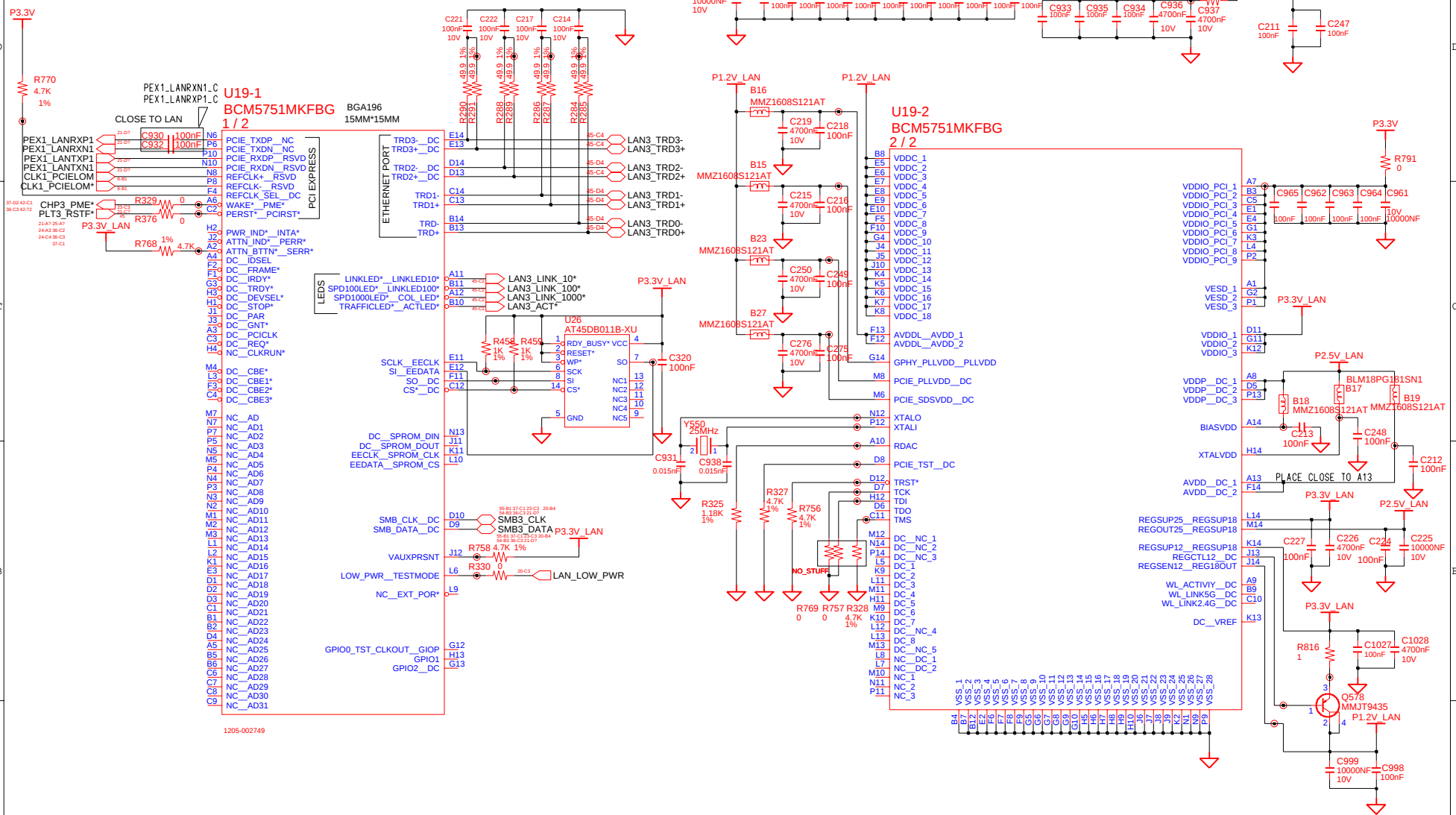


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CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		UPPER & AUDIO CONN	
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	40 OF 56	

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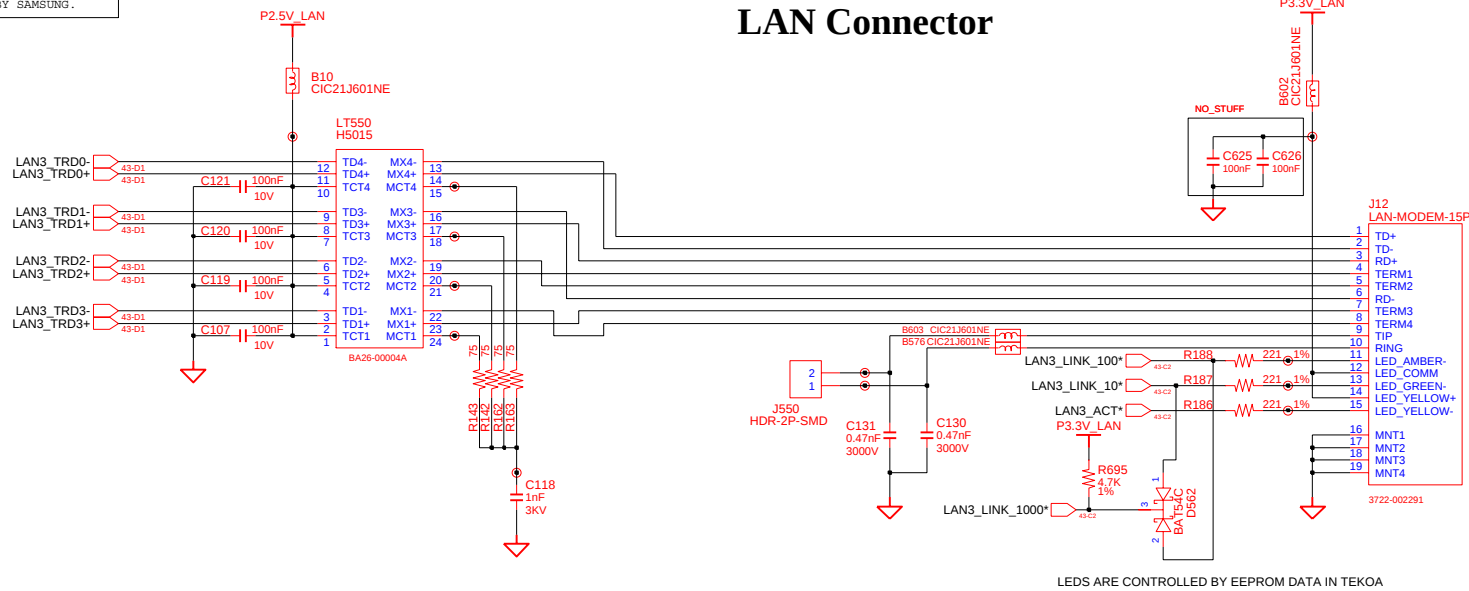
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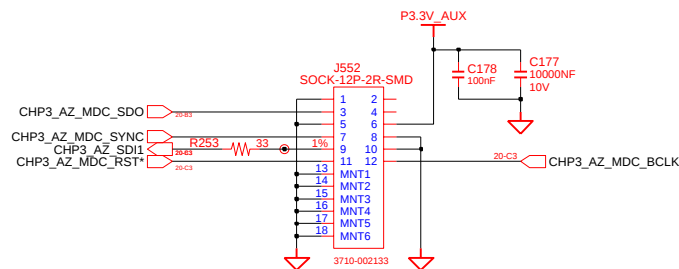
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CHECK	WU SHI JIANG	DEV. STEP	PR	MAIN		
APPROVAL	KEVIN LEE	REV	1.3	LAN(BROADCOM BCM5751M)		
MODULE CODE	LAST EDIT		February 27, 2006 3:31:27 PM		PAGE 43 OF 56	
				PART NO. BA-1 - 00645A		

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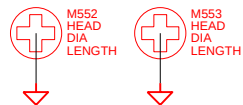
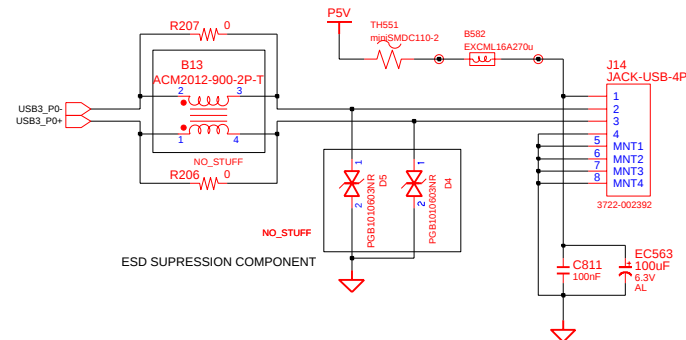
LAN Connector



MDC Connector



USB0 Connector



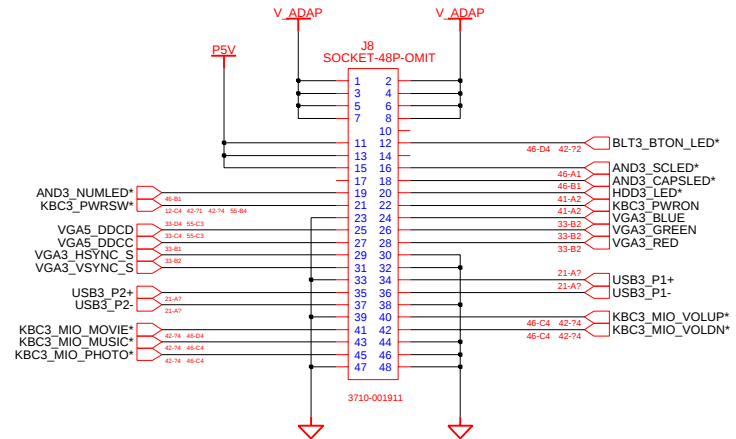
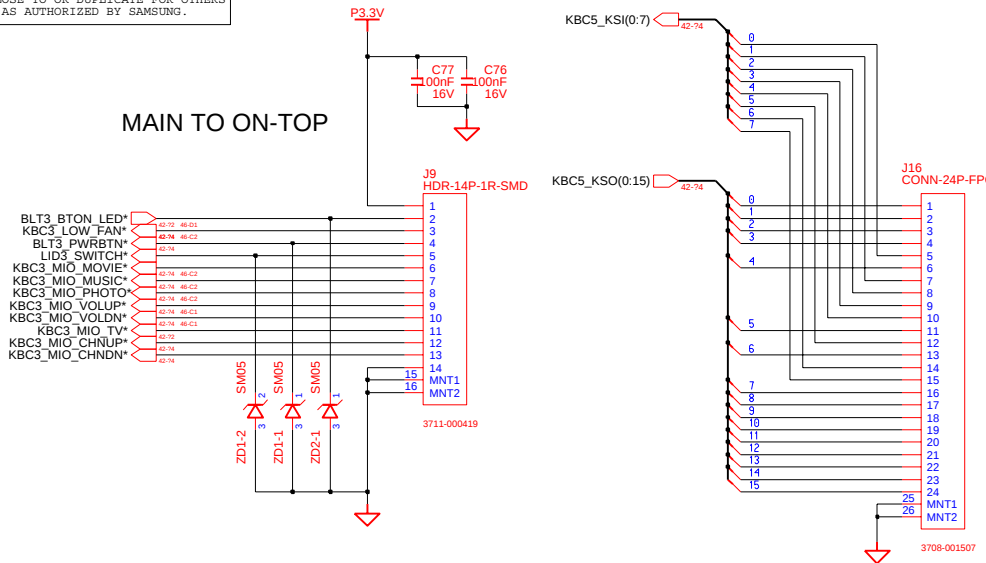
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CHECK	WU SHI JIANG	DEV. STEP	PR		MAIN	
APPROVAL	KEVIN LEE	REV	1.3		LAN & USB0 & MODEM Conn.	PART NO. BA41- 00645A
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	44	OF 56

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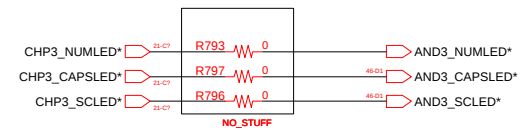
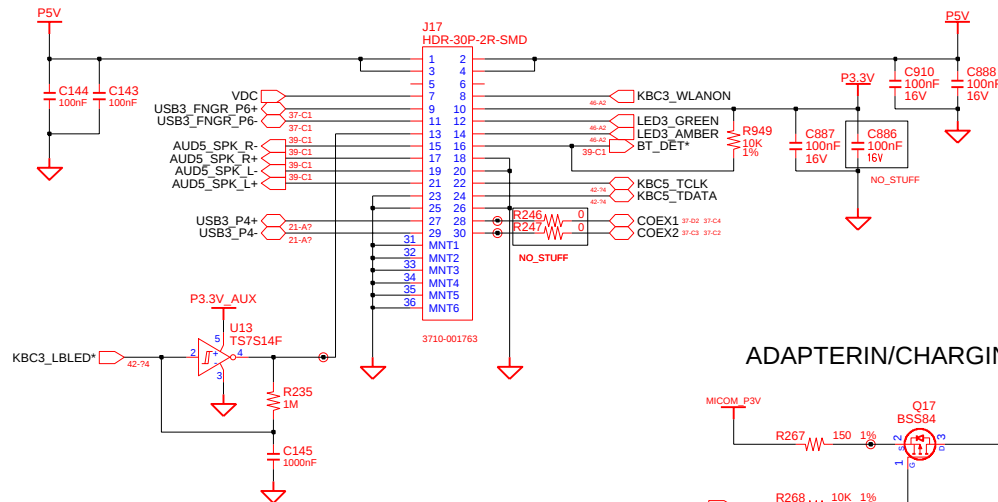
KEYBOARD

Main to DC/DC BOARD

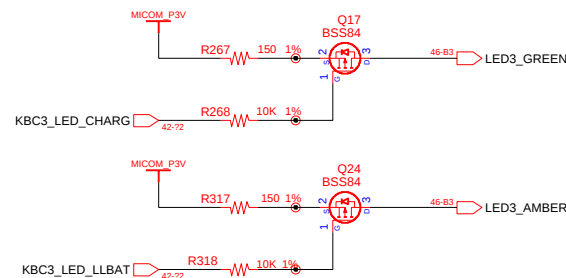
MAIN TO ON-TOP



TOUCHPAD CONNECTOR



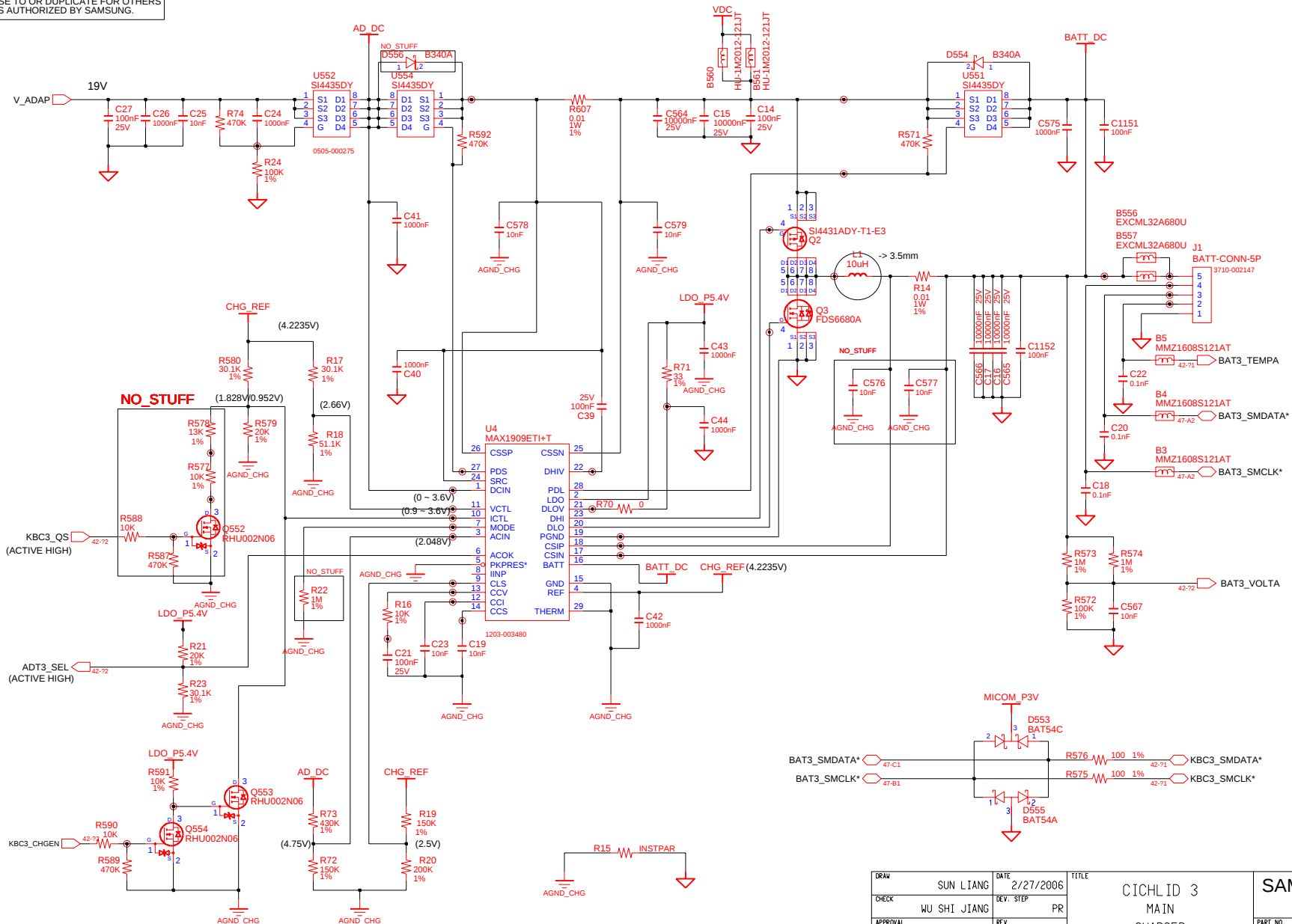
ADAPTERIN/CHARGING LED



DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN B'D TO B'D CONNECTOR	SAMSUNG ELECTRONICS PART NO. BA41-00645A
CHECK	WU SHI JIANG	DEV. STEP	PR	REV	1.3	
APPROVAL	KEVIN LEE	LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	45 OF 56	
MODULE CODE						

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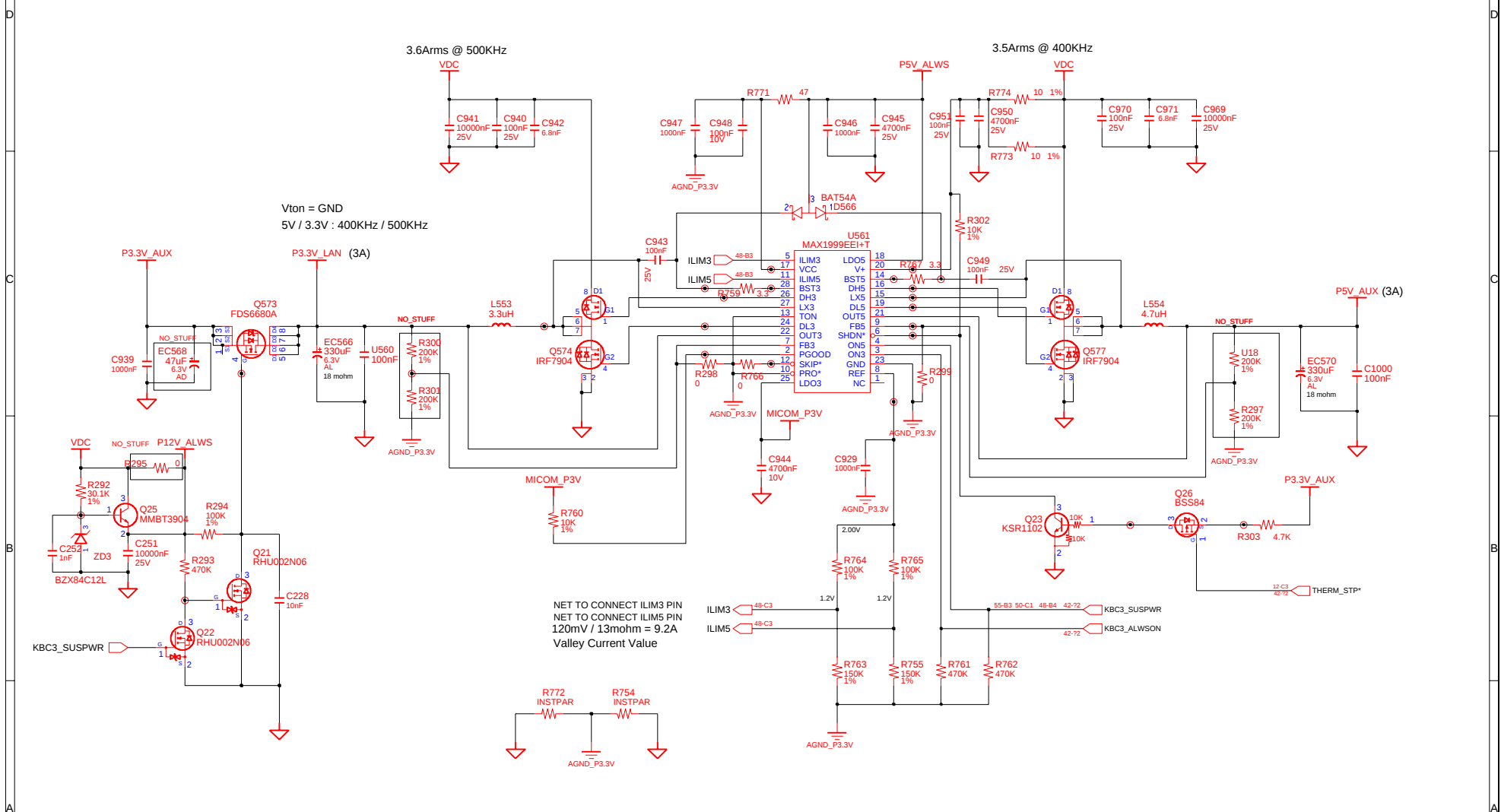
CHARGER & POWER MANAGEMENT



DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN CHARGER	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3			
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	46	OF 56

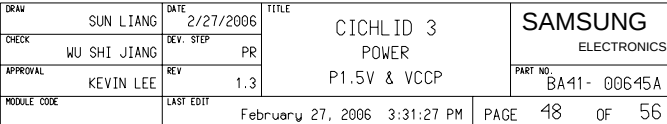
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P3.3V_ALWAYS/AUX & P5V_AUX

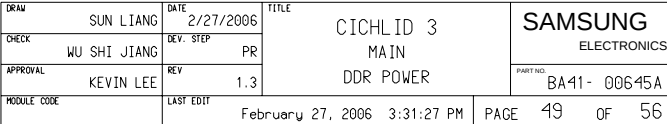


DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 POWER	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR	REV	1.3	PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	47	OF 56
MODULE CODE						

P1.5V & VCCP (1.05V)

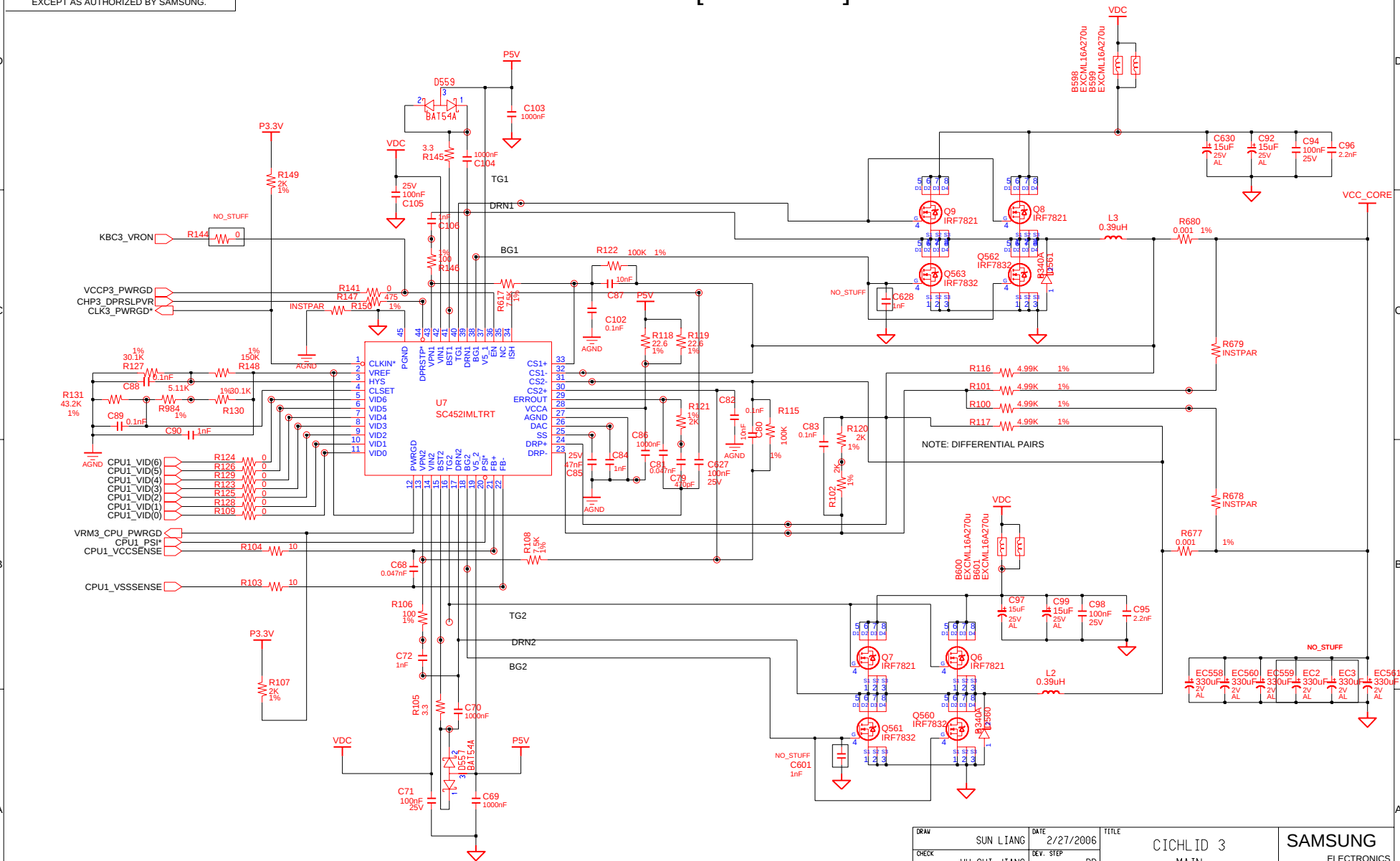


DDR2 Power



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CPU VRM [SEMTECH]

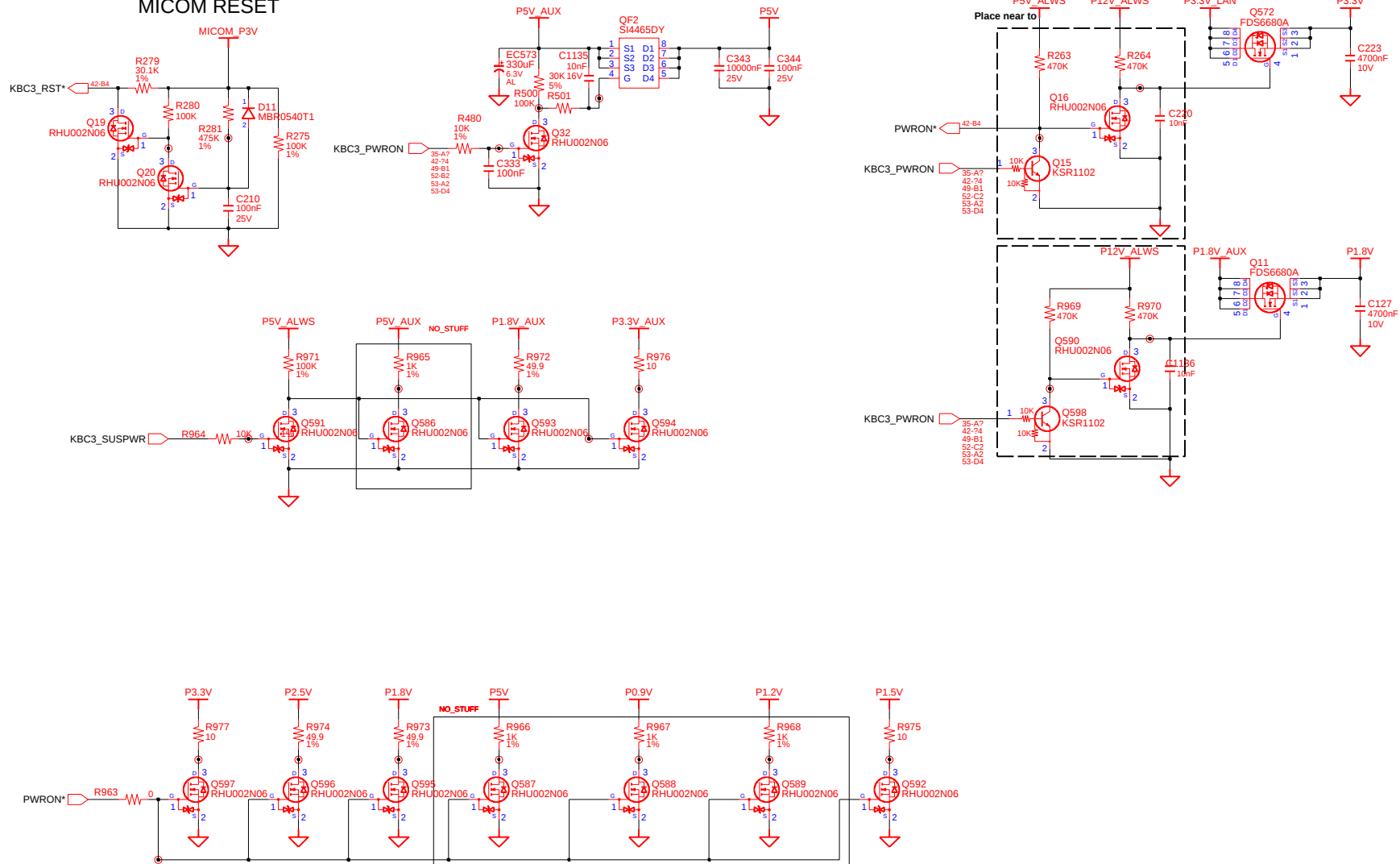


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Switched Power On (P5V)

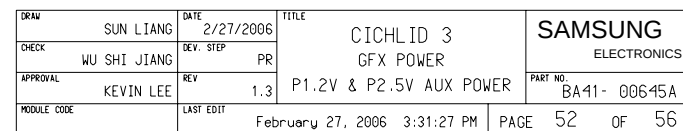
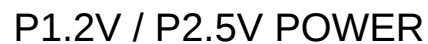
Switched Power On (P3.3V & 1.8V)

MICOM RESET



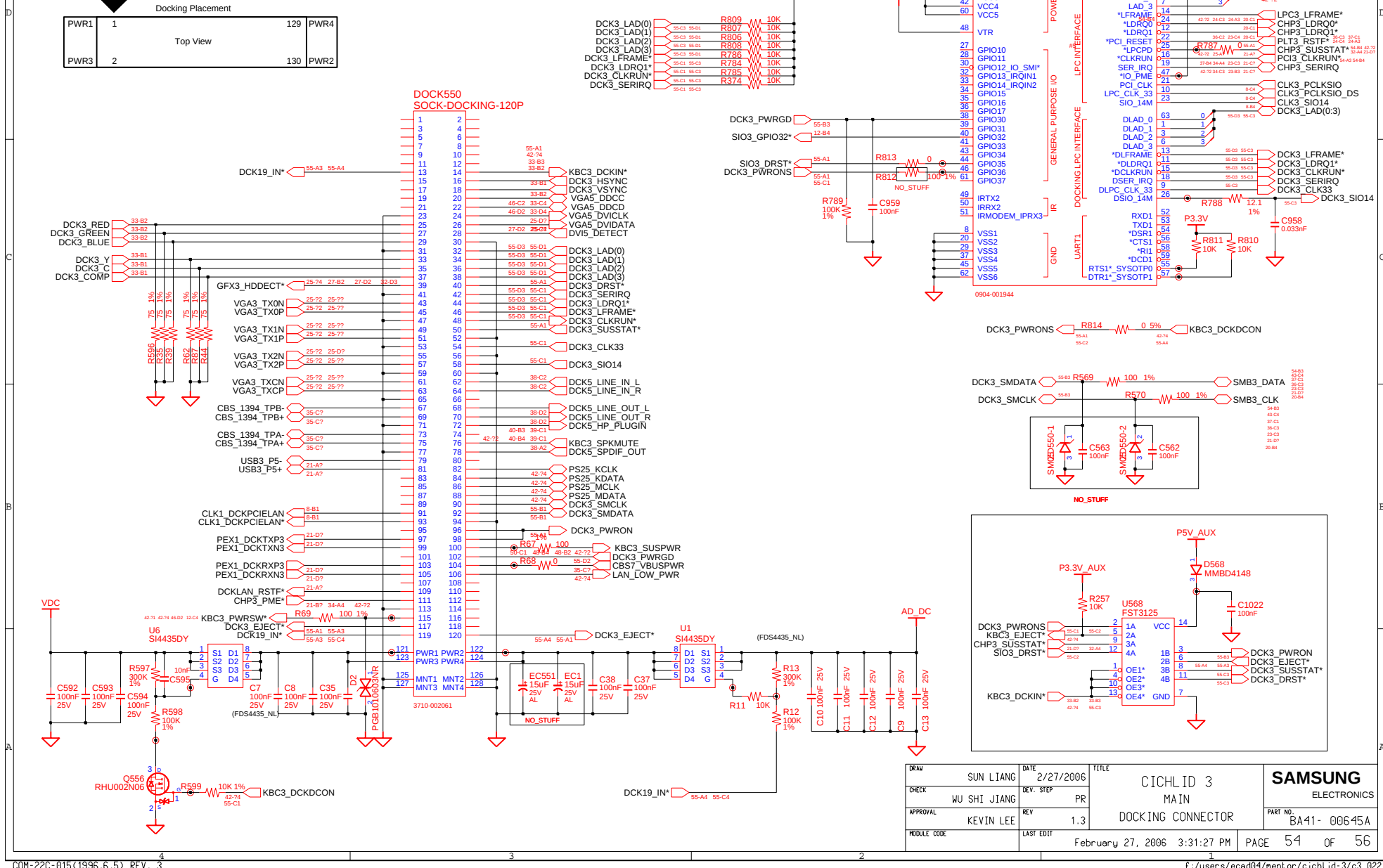
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3 MAIN	SAMSUNG ELECTRONICS
CHECK	WU SHI JIANG	DEV. STEP	PR			PART NO. BA41- 00645A
APPROVAL	KEVIN LEE	REV	1.3		MICOM & SWITCHED POWER	
MODULE CODE		LAST EDIT	February 27, 2006 3:31:27 PM	PAGE	51	OF 56

Graphic Core Power

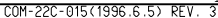


DOCKING CONNECTOR (130PIN)

Docking Placement			
PWR1	1	129	PWR4
Top View			
PWR3	2	130	PWR2



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TP918A0D3.SOL*
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TP920A0ATXLX.1ST
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TP925A0D3.EAPD_A*
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TP1420A0CND_AUD
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TP931A0D5.2.LINE_OUT_R
TP932A0D5.MIC_CODEC
TP933A0D5.AUD1
TP934A0D5.SPD1F_OUT
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TP766 OOLK3.ICH14
TP767 OOLK3.PCLCKB
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TP758 CPU1.BSRST*
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TP740 CPU1.DEFER*
TP741 CPU1.DPAR*
TP742 CPU1.DRIV*
TP743 CPU1.FERR*
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TP721 CPU1.SLK
TP722 CPU1.T0
TP723 CPU1.TD0
TP724 CPU1.THRMTRIP*
TP725 CPU1.TMS
TP726 CPU1.TMR*
TP727 CPU1.TRST*
TP728 CPU1.VCCSENSE
TP729 CPU1.VID(0)
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TP734 CPU1.VID(5)
TP735 CPU1.VID(6)
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TP738 CPU2.THERMDC
TP675 CPU3.ALERT*
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TP1435 OAGND.3P.3V
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TP1437 OAGND.3P.3V
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TP1129 OPLT3.RSTIF*
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TP1021 OCBK3.WKON.LAN*
TP1022 OCBK3.WKON*
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TP1102OILM5
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TP1048OKB3_CHGEN
TP1049OKB3_CHMPPWRSM*
TP1050OKB3_CPURST*
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TP1052OKB3_DCK_LIN*
TP1053OKB3_DCK_FSM*
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TP1058OKB3_LBL_VIF*
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TP1060OKB3_LED_LBLAT
TP1061OKB3_LOW_FAN*
TP1062OKB3_MIO_CHNPN*
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TP1064OKB3_MIO_MUSIC*
TP1065OKB3_MIO_MOVIE*
TP1066OKB3_MIO_PHOTO*
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TP1068OKB3_MIO_VOLDN*
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TP1161 C0P3.C1.INTD
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TP1163 C0P3.C1.NW2
TP1164 C0P3.C1.INTG
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TP1166 C0P3.C1.IRDR
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TP1169 C0P3.C1.PLOCK
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TP1171 C0P3.C1.REG1
TP1172 C0P3.C1.REG2
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TP1176 C0P3.C1.STOP
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TP1145 C0P3.C1.MIOB(9)
TP1127 C0P3.C1.WAKE

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T1112#SMB3.DATA
T1113#SMB3.LINKALERT*
T1114#S.AUD5.SP01F
T1115#S.HP.IN
T1116#THERM.SMCLK
T1117#THERM.SMDATA
T1118#THERM.SID*
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T1120#TV03.COMP
T1121#TV03.COMP.INT
T1122#TV03.C.INT
T1123#TV03.DCONSELO
T1124#TV03.DCONSEL1
T1125#TV03.Y
T1126#TV03.Y.INT
T1248#OVCCP3.BLUE
T1226#CVGA3.PWRGD
T1227#CVGA3.BLUE.INT
T1228#CVGA3.C
T1229#CVGA3.COMP
T1230#CVGA3.DDCLK
T1231#CVGA3.DDCLKAT
T1232#CVGA3.DVCLK
T1233#CVGA3.DVIDATA
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T1235#CVGA3.GREEN.INT
T1236#CVGA3.HSYNC
T1237#CVGA3.HSYNC.S
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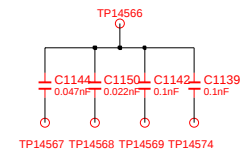
DRAW	SUN LIANG	DATE	2/27/2006	TITLE	CICHLID 3	
CHECK	WU SHI JIANG	DEV. STEP	PR			
APPROVAL	KEVIN LEE	REV	1.3			
				REVISION HISTORY	PART NO. BA41- 00645A	
MODULE CODE		LAST EDIT		February 27, 2006 3:31:27 PM	PAGE	56 OF 56

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TP1442 OAGND_VGA
TP1443 OAMP_VDD
TP1447 OAVDD
TP1448 OAVDD
TP1449 OAVDD
TP1386 OAVDD
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TP1388 OBATT_DC
TP1389 OBATT_DC
TP1390 OBATT_DC
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TP1405 OCBS3_VPPA
TP1406 OCBS3_VPPA
TP1409 OCHG_REF
TP1410 OCHG_REF
TP1411 OCHSS_GND
TP1412 OCHSS_GND
TP1413 OCHSS_GND
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TP1415 OGFX_CORE
TP1416 OGFX_CORE
TP1417 OGFX_CORE
TP1354 OGFX_CORE
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TP1358 OGROUND
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TP1331 OP1_5V_EXP
TP1332 OP1_5V_EXP
TP1333 OP1_5V_EXP
TP1334 OP1_5V_EXP
TP1335 OP1_5V_PCIE
TP1336 OP1_5V_PCIE
TP1337 OP1_5V_PCIE
TP1338 OP1_5V_PCIE

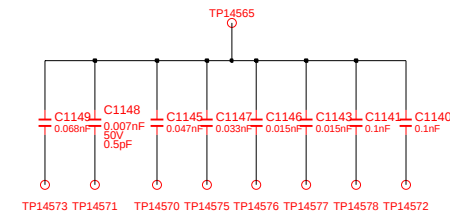
TP1339 OP1_8V
TP1340 OP1_8V
TP1341 OP1_8V
TP1342 OP1_8V
TP1343 OP1_8V_AUX
TP1344 OP1_8V_AUX
TP1345 OP1_8V_AUX
TP1346 OP1_8V_AUX
TP1347 OP12V_ALWS
TP1348 OP12V_ALWS
TP1349 OP12V_ALWS
TP1350 OP12V_ALWS
TP1351 OP2_5V
TP1352 OP2_5V
TP1353 OP2_5V
TP1294 OP2_5V
TP1295 OP2_5V_LAN
TP1296 OP2_5V_LAN
TP1297 OP2_5V_LAN
TP1298 OP2_5V_LAN
TP1299 OP3_3V
TP1300 OP3_3V
TP1301 OP3_3V
TP1302 OP3_3V
TP1303 OP3_3V_AUX
TP1304 OP3_3V_AUX
TP1305 OP3_3V_AUX
TP1306 OP3_3V_AUX
TP1307 OP3_3V_AUX_EXP
TP1308 OP3_3V_AUX_EXP
TP1309 OP3_3V_AUX_EXP
TP1310 OP3_3V_AUX_EXP
TP1311 OP3_3V_EXP
TP1312 OP3_3V_EXP
TP1313 OP3_3V_EXP
TP1314 OP3_3V_EXP
TP1315 OP3_3V_LAN
TP1316 OP3_3V_LAN
TP1317 OP3_3V_LAN
TP1318 OP3_3V_LAN
TP1319 OP5V
TP1320 OP5V
TP1321 OP5V
TP1322 OP5V
TP1323 OP5V_ALWS
TP1324 OP5V_ALWS
TP1325 OP5V_ALWS
TP1262 OP5V_ALWS
TP1263 OP5V_AUX
TP1264 OP5V_AUX
TP1265 OP5V_AUX
TP1266 OP5V_AUX
TP1267 OPRTC_BAT
TP1268 OPRTC_BAT
TP1269 OPRTC_BAT
TP1270 OPRTC_BAT
TP1273 OCHSS_GND
TP1274 OCHSS_GND
TP1275 OCHSS_GND
TP1276 OCHSS_GND
TP1277 OS_AUD_GND
TP1278 OS_AUD_GND
TP1279 OS_AUD_GND
TP1280 OS_AUD_GND
TP1281 OS_AVDD
TP1282 OS_AVDD
TP1283 OTMDS_PLLVDD
TP1284 OTMDS_PLLVDD
TP1285 OTMDS_PLLVDD

TP1252 OVCC_CORE
TP1253 OVCC_CORE
TP1254 OVCC
TP1255 OVCC
TP1256 OVCC
TP1257 OVCC
TP1258 OV_ADAP
TP1259 OV_ADAP
TP1260 OV_ADAP
TP1261 OV_ADAP
TP1450 OGROUND
TP1451 OGROUND
TP1452 OS_7VDDQA
TP1454 OAGND
TP1455 OAGND_AUD
TP1456 OAGND_CHG
TP1459 OAGND_P3_3V
TP1461 OAMP_VDD
TP1462 OAVDD
TP1463 OBATT_DC
TP1464 OCBS3_MD_VCC
TP1465 OCBS3_VCCA
TP1468 OCHSS_GND
TP1469 OGFX_CORE
TP1470 OGROUND
TP1471 OGROUND
TP1475 OMICOM_P3V
TP1476 OP0_9V
TP1477 OP1_2V
TP1478 OP1_2V_LAN
TP1479 OP1_5V
TP1480 OP1_5V_EXP
TP1481 OP1_5V_PCIE
TP1482 OP1_8V
TP1483 OP1_8V_AUX
TP1484 OP12V_ALWS
TP1485 OP2_5V
TP1486 OP2_5V_LAN
TP1487 OP3_3V
TP1488 OP3_3V_AUX
TP1491 OP3_3V_LAN
TP1492 OP5V
TP1494 OP5V_AUX
TP1495 OPRTC_BAT
TP1496 OCHSS_GND
TP1497 OS_AUD_GND
TP1498 OS_AVDD
TP1499 OTMDS_PLLVDD
TP1500 OUSB_CHSS_GND
TP1501 OVCCP
TP1502 OVCC_CORE
TP1503 OVCC
TP1286 OTMDS_PLLVDD
TP1287 OUSB_CHSS_GND
TP1288 OUSB_CHSS_GND
TP1289 OUSB_CHSS_GND
TP1290 OUSB_CHSS_GND
TP1291 OVCCP
TP1292 OVCCP
TP1293 OVCCP
TP1249 OVCCP
TP1250 OVCC_CORE
TP1251 OVCC_CORE
TP14561 OVCC_CRT
TP14564 OVCC_CRT
TP14579 OV_ADAP
TP14580 OV_ADAP

ICT TEST CAP



TOP SIDE



BOTTOM SIDE