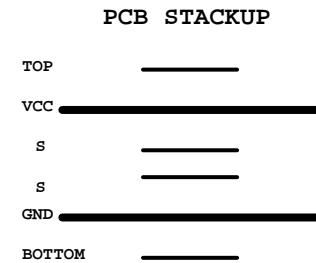
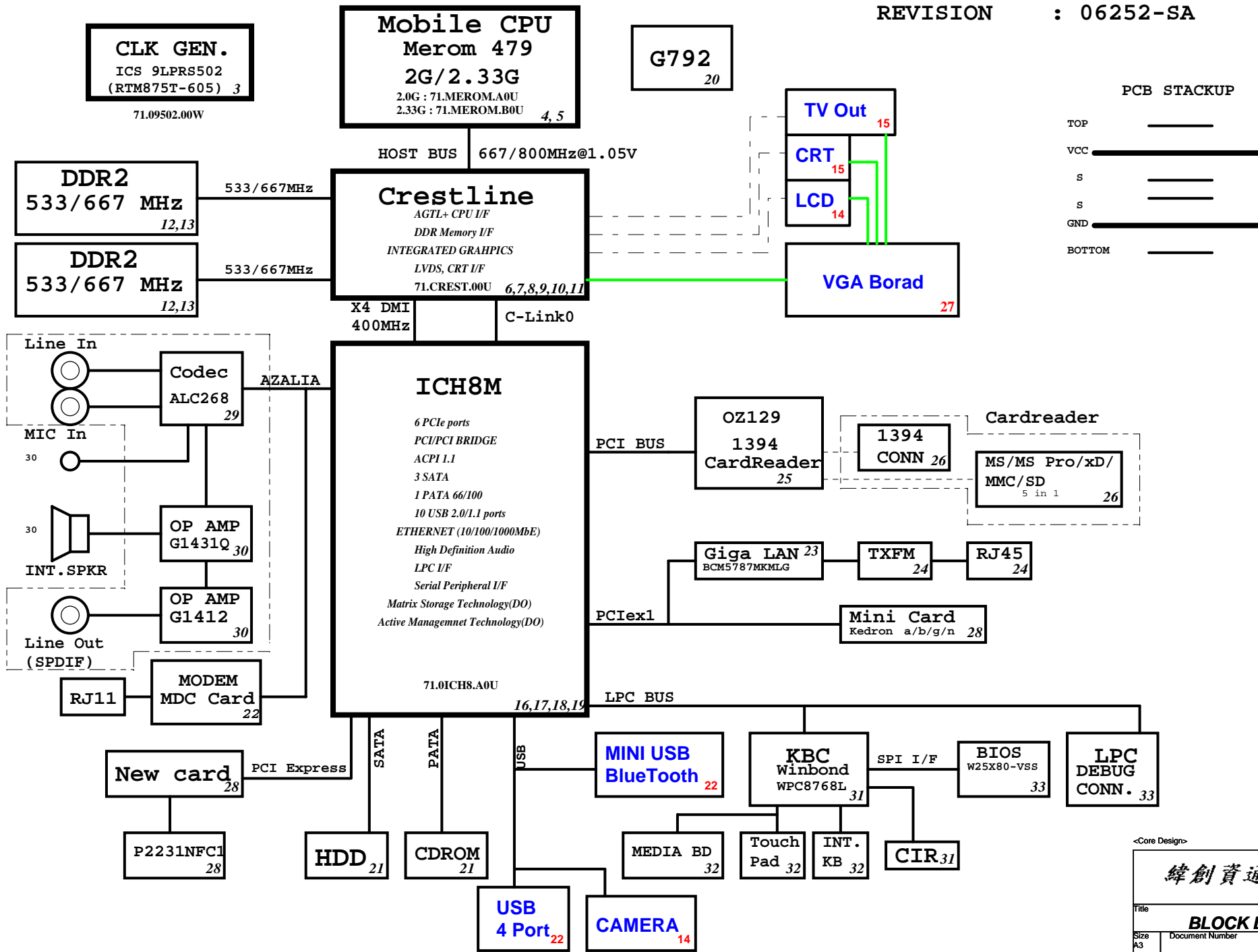


# Tahoe Block Diagram

Project code: 91.4T901.001  
 PCB P/N : 48.4T901.0SA  
 REVISION : 06252-SA



<b>SYSTEM DC/DC</b> MAX8744 38	
INPUTS	OUTPUTS
DCBATOUT	5V_S5(6A) 3D3V_S5(7A)
<b>SYSTEM DC/DC</b> Max8717 39	
INPUTS	OUTPUTS
DCBATOUT	1D05V_S0(9.5A) 1D8V_S3(8.5A)
TPS51100 41	
1D8V_S3	DDR_VREF_S0(1.5A) DDR_VREF_S3
APL5915 41	
1D8V_S3	1D25V_S0(2A)
APL531230	
3D3V_S0	2D5V_S0(300mA)
APW5912 40	
3D3V_S5	1D5V_S3(7.5A)
<b>CHARGER</b> MAX8731 41	
INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 4.0A UP+5V 5V 100mA
<b>CPU DC/DC</b> MAX8770 35,36	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE_S0 0~1.3V 47A

<Core Design>

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Title	
<b>BLOCK DIAGRAM</b>	
Size	Document Number
A3	Tahoe
Date: Friday, April 27, 2007	Sheet 1 of 44
Rev	-1

# ICH8M Functional Strap Definitions

ICH8-M EDS 21762 2.0V1 page 16

Signal	Usage/When Sampled	Comment
HDA_SDOUT	XOR Chain Entrance/ PCIE Port Config1 bit1, Rising Edge of PWROK	Allows entrance to XOR Chain testing when TP3 pulled low. When TP3 not pulled low at rising edge of PWROK, sets bit1 of RPC.PC(Config Registers: offset 224h)
HDA_SYNC	PCIE config1 bit0, Rising Edge of PWROK.	This signal has a weak internal pull-down. Sets bit0 of RPC.PC(Config Registers:Offset 224h)
GNT2#	PCIE config2 bit0, Rising Edge of PWROK.	This signal has a weak internal pull-up. Sets bit2 of RPC.PC2(Config Registers:Offset 0224h)
GPIO20	Reserved	This signal should not be pulled high.
GNT1#/ GPIO51	ESI Strap (Server Only) Rising Edge of PWROK	ESI compatible mode is for server platforms only. This signal should not be pulled low for desktop and mobile.
GNT3#	Top-Block Swap Override. Rising Edge of PWROK.	Sampled low:Top-Block Swap mode(inverts A16 for all cycles targeting FWH BIOS space). Note: Software will not be able to clear the Top-Swap bit until the system is rebooted without GNT3# being pulled down.
GNT0#/ SPI_CS1#	Boot BIOS Destination Selection. Rising Edge of PWROK.	Controllable via Boot BIOS Destination bit (Config Registers:Offset 3410h:bit 11:10). GNT0# is MSB, 01-SPI, 10-PCI, 11-LPC.
INTVRMEN	Integrated VccSus1_05 and VccCL1_5 VRM Enable/Disable. Always sampled.	Enables integrated VccSus1_05, VccSus1_5 and VccCL1_5 VRM's when sampled high
LAN100_SLP	Integrated VccLAN1_05 and VccCL1_05 VRM Enable/Disable. Always sampled.	Enables integrated VccLAN1_05 and VccCL1_05 VRM's when sampled high
SATALED#	PCI Express Lane Reversal. Rising Edge of PWROK.	Signal has weak internal pull-up. Sets bit 27 of MPC.LR(Device 28:Function 0:Offset D8)
SPKR	No Reboot. Rising Edge of PWROK.	If sampled high, the system is strapped to the "No Reboot" mode(ICH8 will disable the TCO Timer system reboot feature). The status is readable via the NO REBOOT bit.
TP3	XOR Chain Entrance. Rising Edge of PWROK.	This signal should not be pull low unless using XOR Chain testing.
GPIO33/ HDA_DOCK_EN#	Flash Descriptor Security Override Strap Rising Edge of PWROK	This signal has a weak internal pull-up. Sampled low:the Flash Descriptor Security will be overridden. If high,the security measures will be in effect.This should only be used in manufacturing environments.

# ICH8M Integrated Pull-up and Pull-down Resistors

ICH8-M EDS 21762 2.0V1

SIGNAL	Resistor Type/Value
HDA_BIT_CLK	PULL-DOWN 20K
HDA_RST#	NONE
HDA_SDIN[3:0]	PULL-DOWN 20K
HDA_SDOUT	PULL-DOWN 20K
HDA_SYNC	PULL-DOWN 20K
GNT[3:0]	PULL-UP 20K
GPIO[20]	PULL-DOWN 20K
LDA[3:0]#/FHW[3:0]#	PULL-UP 20K
LAN_RXD[2:0]	PULL-UP 10K
LDRQ[0]	PULL-UP 20K
LDRQ[1]/GPIO23	PULL-UP 20K
PME#	PULL-UP 20K
PWRBTN#	PULL-UP 20K
SATALED#	PULL-UP 15K
SPI_CS1#	PULL-UP 20K
SPI_CLK	PULL-UP 20K
SPI_MOSI	PULL-UP 20K
SPI_MISO	PULL-UP 20K
TACH [3:0]	PULL-UP 20K
SPKR	PULL-DOWN 20K
TP[3]	PULL-UP 20K
USB[9:0][P,N]	PULL-DOWN 15K
CL_RST#	PULL-UP 13K

# Crestline Strapping Signals and Configuration

Crestline EDS 20954 1.0 page 7

Pin Name	Strap Description	Configuration
CFG[2:0]	FSB Frequency Select	001 = FSB533 011 = FSB667 010 = FSB800 others = Reserved
CFG[4:3]	Reserved	
CFG5	DMI x2 Select	0 = DMI x2 1 = DMI x4 (Default)
CFG[8:6]	Reserved	
	Low Power PCI Express	0 = Normal mode 1 = Low Power mode (Default)
CFG9	PCI Express Graphics Lane Reversal	0 = Reverse Lanes,15->0,14->1 ect.. 1= Normal operation(Default):Lane Numbered in order
CFG[11:10]	Reserved	
CFG[13:12]	XOR/ALL Z test straps	00 = Reserved 01 = XOR mode enabled 10 = All Z mode enabled 11 = Normal Operation (Default)
CFG[15:14]	Reserved	
CFG16	FSB Dynamic ODT	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled (Default)
CFG[18:17]	Reserved	
CFG19	DMI Lane Reversal	0 = Normal operation (Default):lane Numbered in order 1 =Reverse Lane,4->0,3->1 ect...
CFG20	SDVO/PCIE Concurrent	0 = Only SDVO or PCIE x1 is operational (Default) 1 =SDVO and PCIE X1 are operating simultaneously via the PEG port
SDVOCRTL_DATA	SDVO Present	0 = No SDVO Card present (Default) 1= SDVO Card present

NOTE: All strap signals are sampled with respect to the leading edge of the Crestline GMCH PWROK in signal.

## History

# ICH8M IDE Integrated Series Termination Resistors

DD[15:0], DIOW#, DIOR#, DREQ, DDACK#, IORDY, DA[2:0], DCS1#, DCS3#, IDEIRQ	approximately 33 ohm
--	----------------------

## PCI Routing

page 17

	IDSEL	INT	REQ	GNT
TI7412	AD22	G:CARDBUS B:1394 F:Flash Media G:SD Host	0	0

## PCIE Routing

LANE1	LAN BCM5787M
LANE2	MiniCard WLAN
LANE3	NewCard WLAN

## USB Table

USB	
Pair	Device
0	USB1
1	USB4
2	USB2
3	FT
4	USB3
5	BLUETOOTH
6	NC
7	MINICARD
8	WEBCAM
9	NEW1

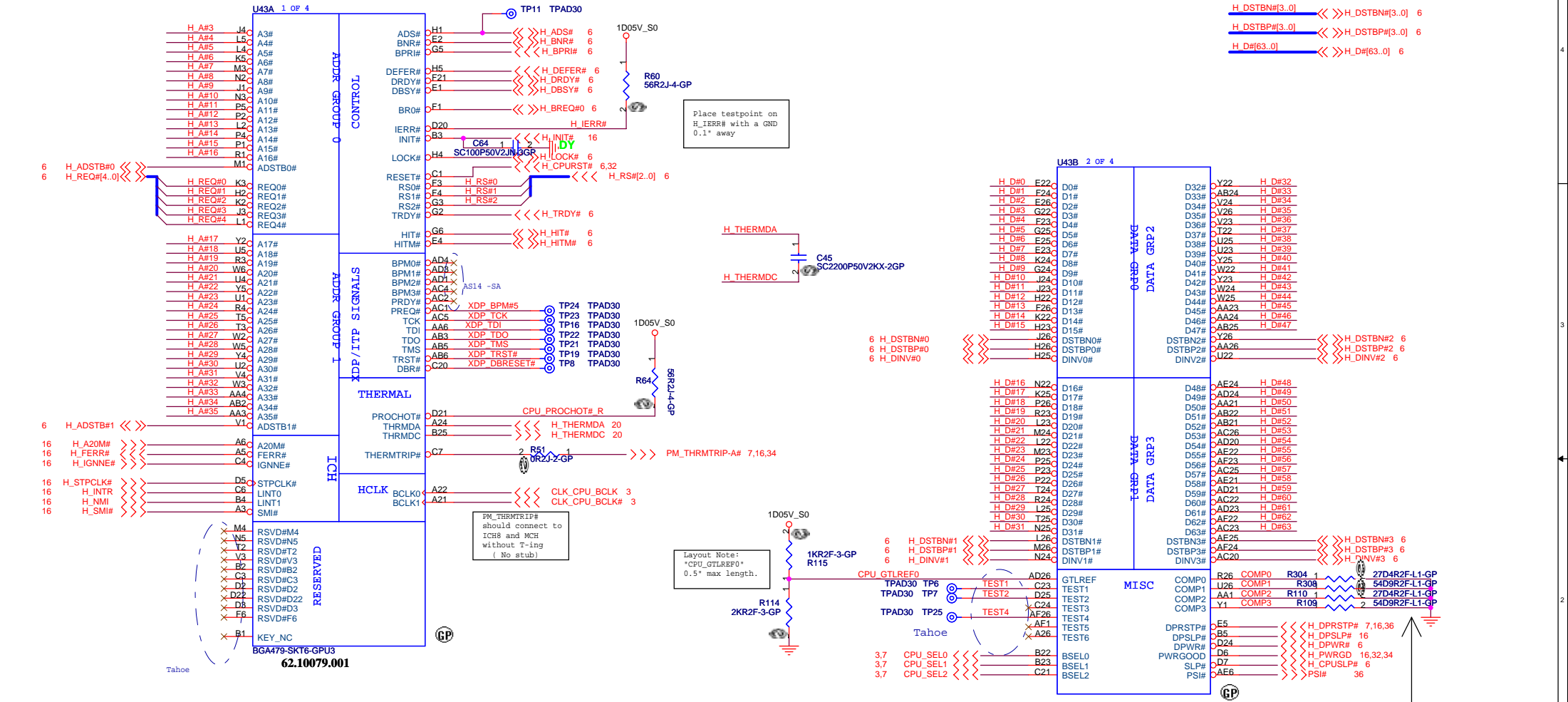
UMA

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<b>Reference</b>			
Title	Document Number		Rev
	<b>Tahoe</b>		<b>-1</b>
Size A3	Date: Friday, April 27, 2007	Sheet 2 of 44	



6 H\_A#(35..3) <<< H\_A#(35..3)

H\_DIN#(3..0) <<>> H\_DIN#(3..0) 6  
H\_DSTBN#(3..0) <<>> H\_DSTBN#(3..0) 6  
H\_DSTBP#(3..0) <<>> H\_DSTBP#(3..0) 6  
H\_D#(63..0) <<>> H\_D#(63..0) 6



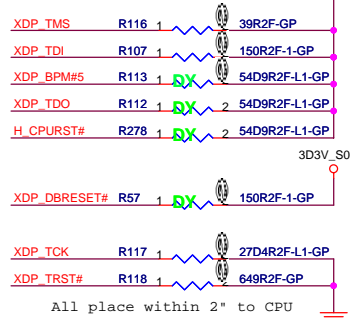
Place testpoint on H\_IERR# with a GND 0.1" away

PM\_THRMTRIP# should connect to ICH8 and MCH without T-ling (No stub)

Layout Note: "CPU\_GTLREF0" 0.5" max length.

Net "TEST4" as short as possible, make sure "TEST4" routing is reference to GND and away other noisy signals

Layout Note: Comp0, 2 connect with Zo=27.4 ohm, make trace length shorter than 0.5" Comp1, 3 connect with Zo=55 ohm, make trace length shorter than 0.5"



All place within 2" to CPU

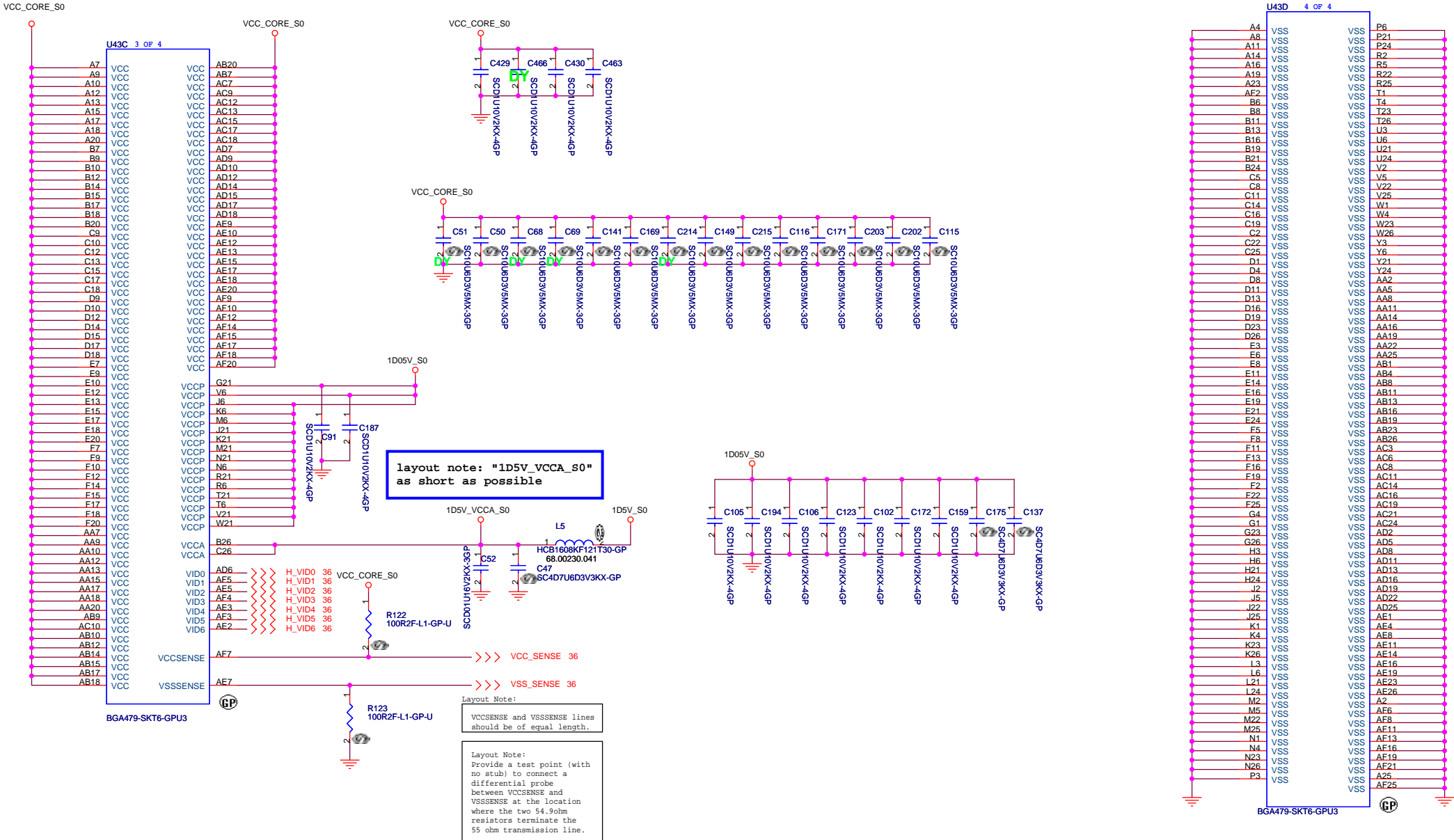
UMA

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Title: **CPU (1 of 2)**

Size: Document Number: **Tahoe** Rev: -1

Date: Friday, April 27, 2007 Sheet 4 of 44



layout note: "1D05V\_S0" as short as possible

Layout Note:  
VCCSENSE and VSSSENSE lines should be of equal length.

Layout Note:  
Provide a test point (with no stub) to connect a differential probe between VCCSENSE and VSSSENSE at the location where the two 54.9ohm resistors terminate the 55 ohm transmission line.

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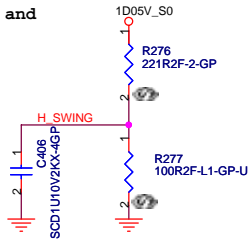
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Size: Document Number: **Tahoe** Rev: **-1**

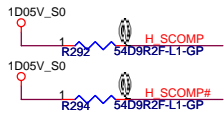
Date: Friday, April 27, 2007 Sheet 5 of 44

H\_SWING routing Trace width and Spacing use 10 / 20 mil

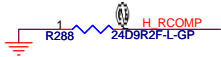
H\_SWING Resistors and Capacitors close MCH 500 mil ( MAX )



H\_SCOMP and H\_SCOMP# Resistors and Capacitors close MCH 500 mil ( MAX )

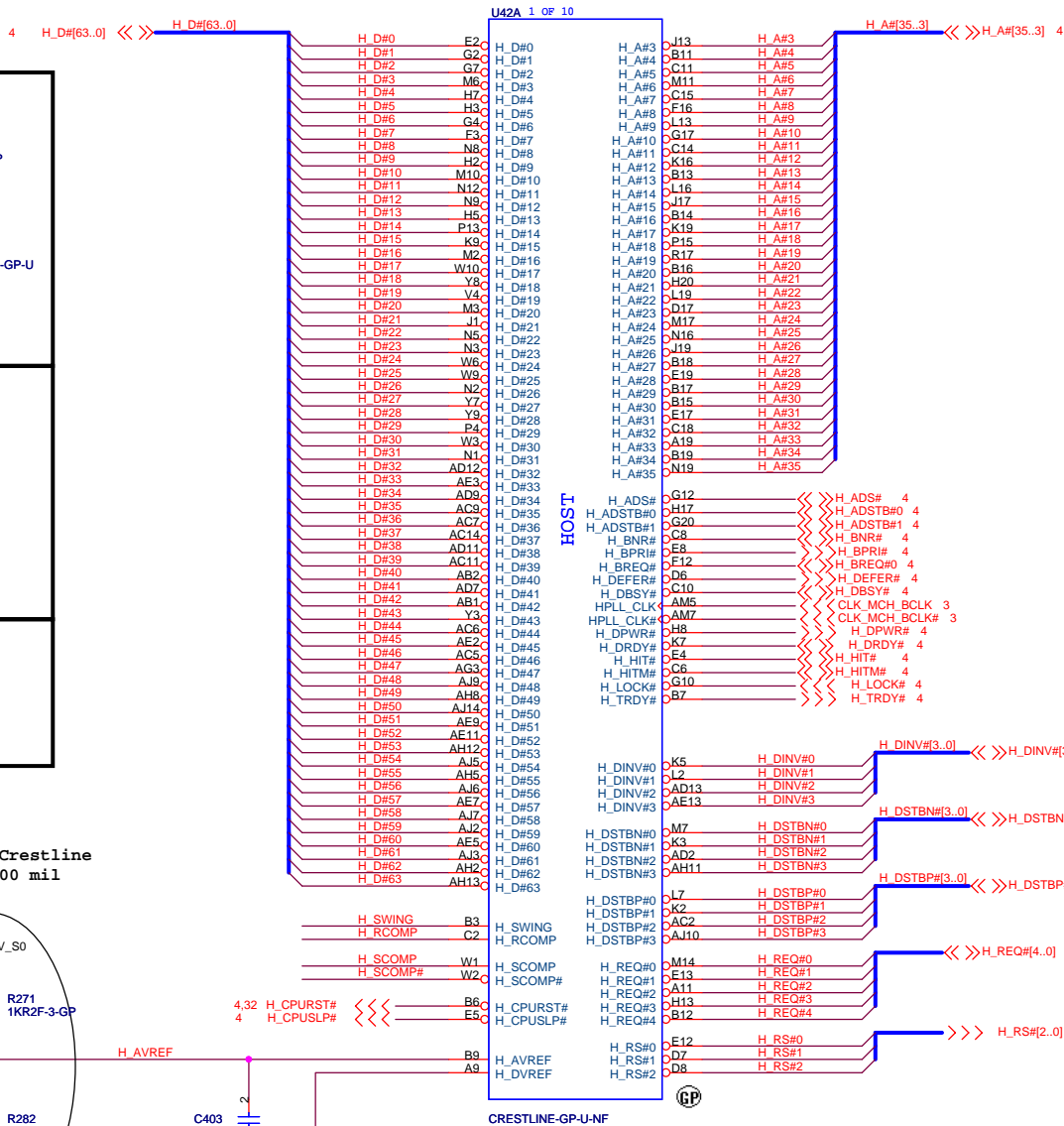
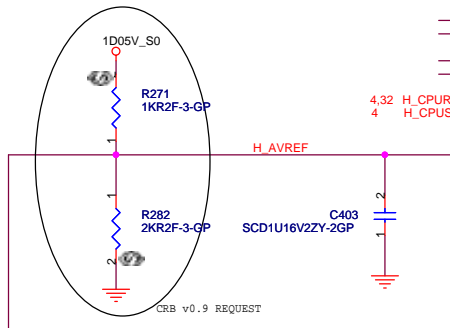


H\_RCOMP routing Trace width and Spacing use 10 / 20 mil

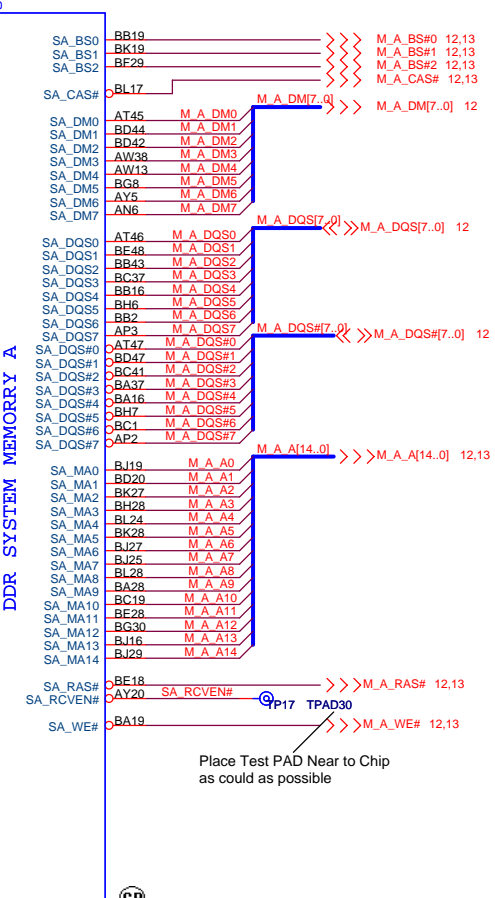
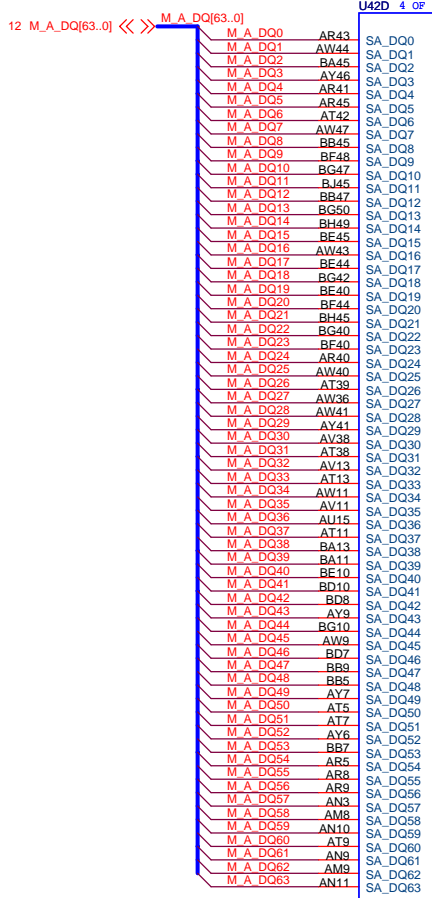


Place them near to the chip ( < 0.5" )

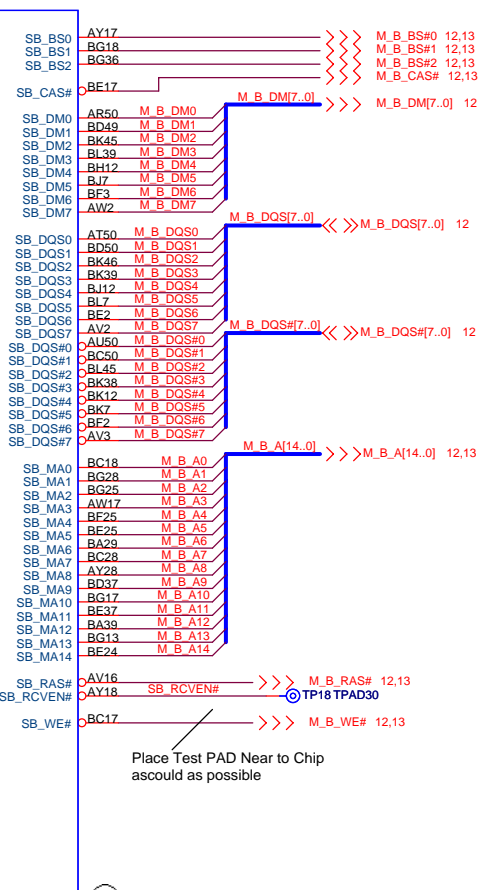
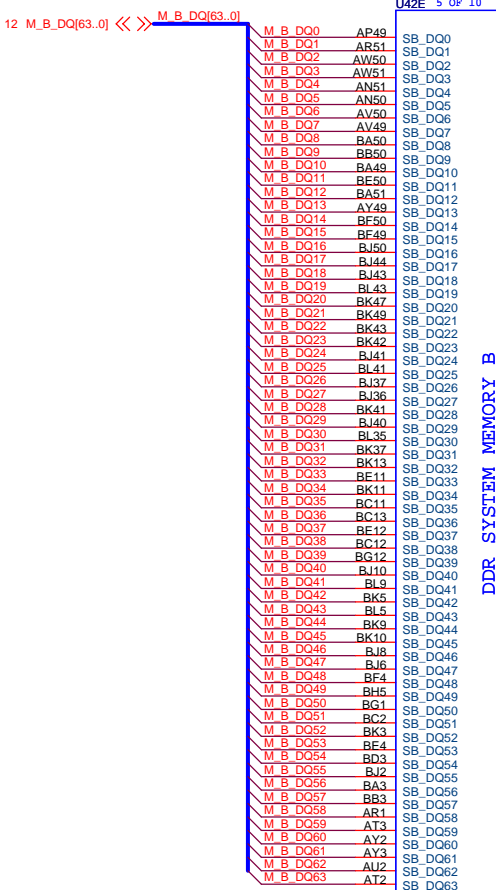
H\_REF Decoupling Crestline close Crestline 100 mil







CRESTLINE-GP-U-NF



CRESTLINE-GP-U-NF

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Title: GMCH (3 of 6)

Size: Document Number: Tahoe

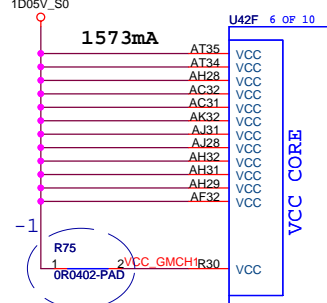
Date: Friday, April 27, 2007

Sheet 8 of 44

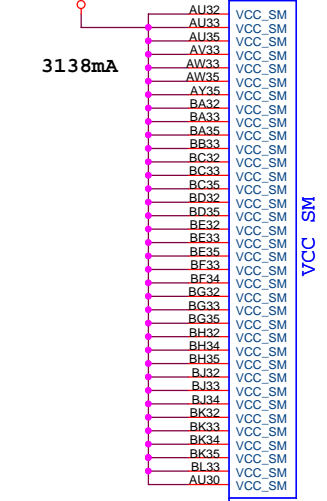
Rev: -1



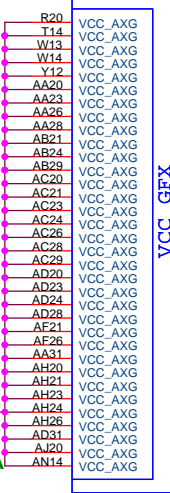
VCC\_NCTF + VCC=1573mA



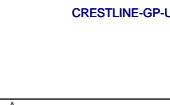
POWER



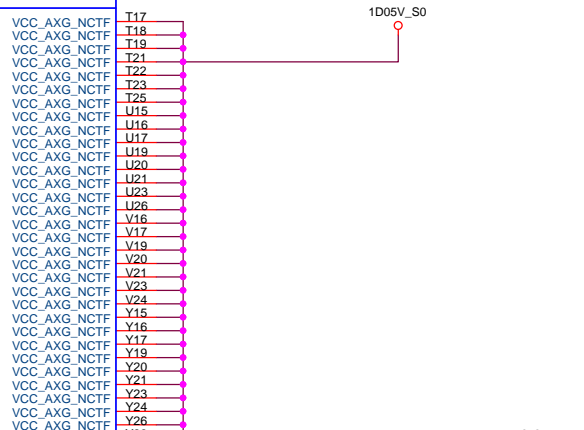
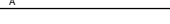
VCC SM



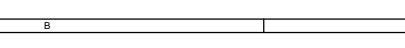
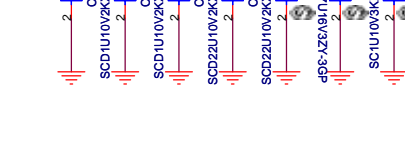
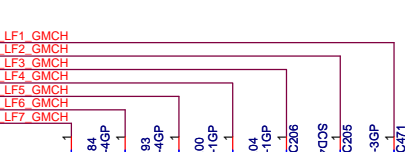
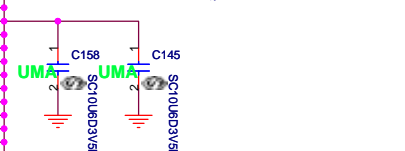
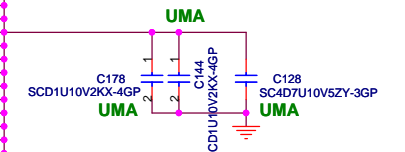
VCC GFX



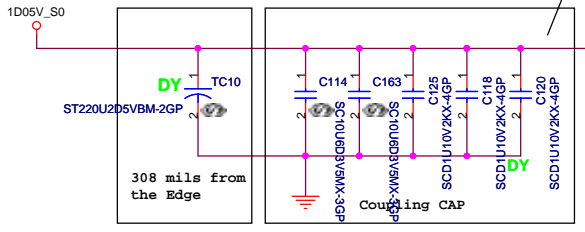
VCC SM LF



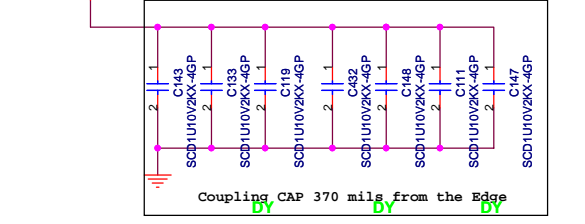
VCC\_AXG\_NCTF + VCC\_AXG=7700mA



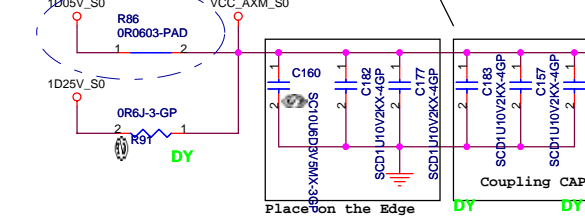
FOR VCC CORE AND VCC NCTF



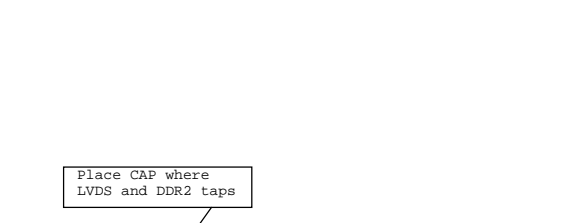
FOR VCC CORE



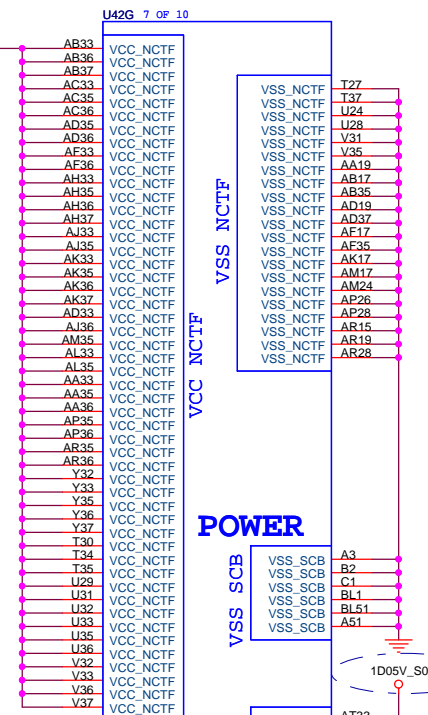
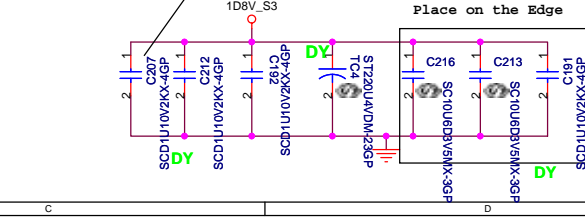
FOR VCC AXM NCTF AND VCC AXM



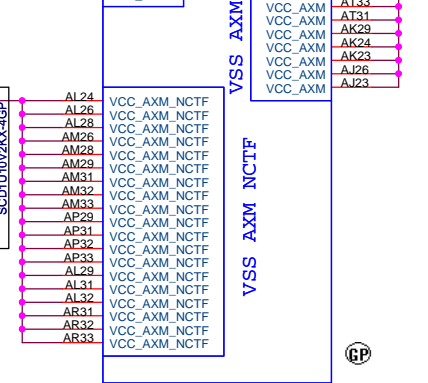
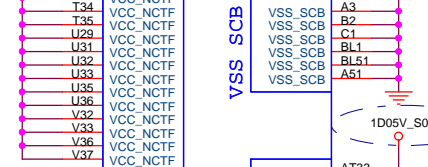
VCC\_AXM\_NCTF + VCC\_AXM=540mA



FOR VCC SM



POWER



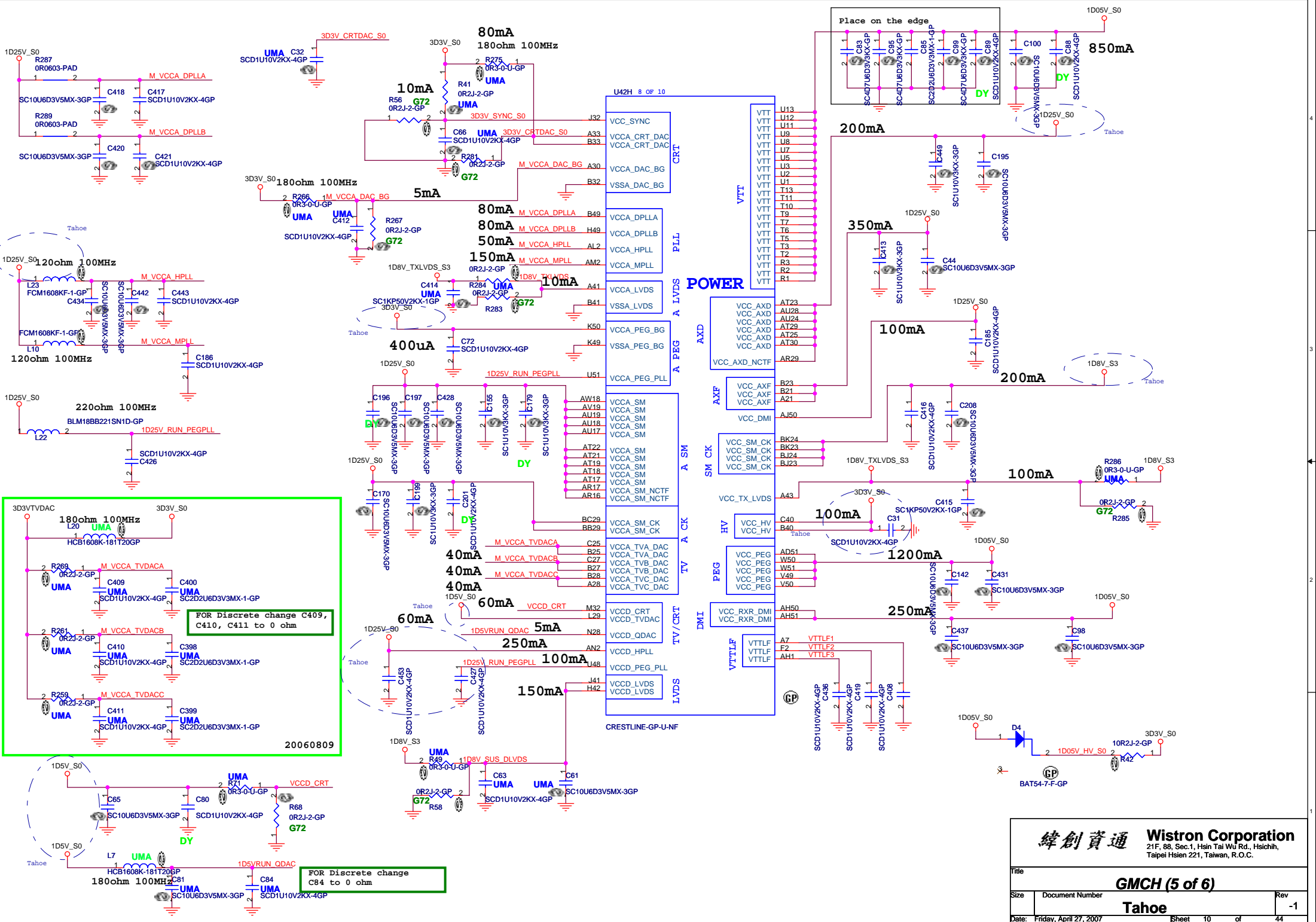
CRESTLINE-GP-U-NF

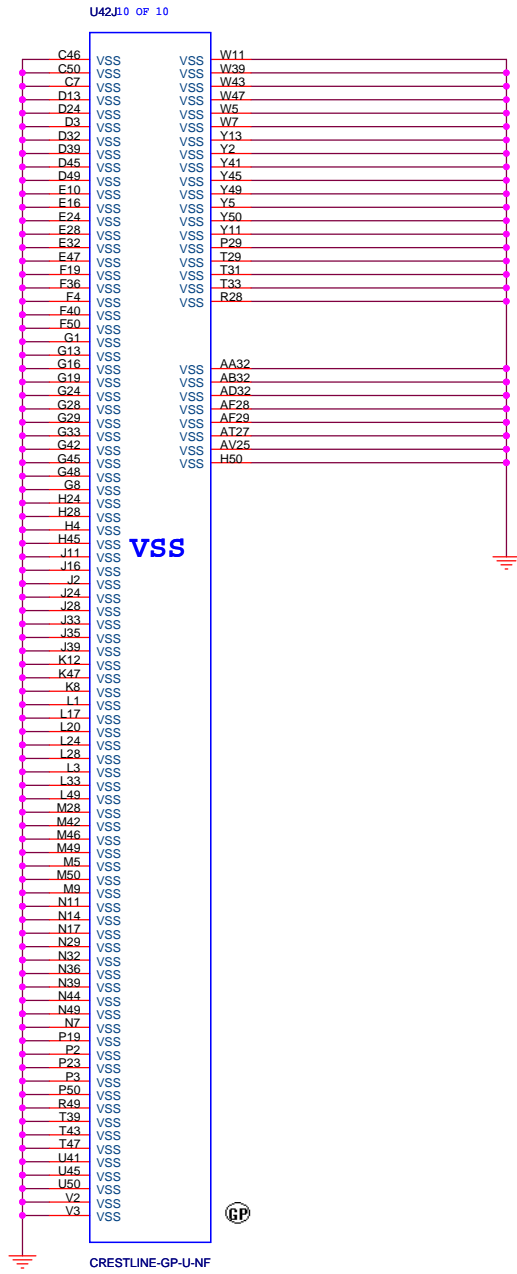
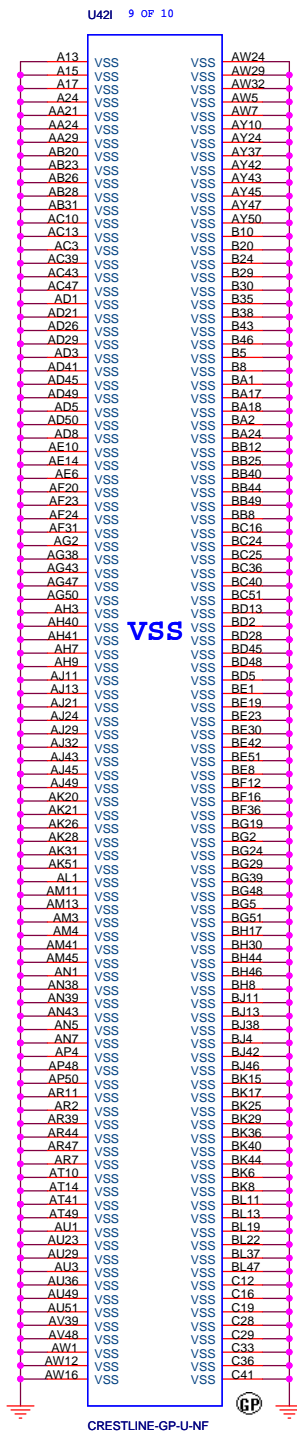
Place CAP where LVDS and DDR2 taps

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Title	GMCH (4 of 6)	
Size	Document Number	Rev
Date	Friday, April 27, 2007	Sheet 9 of 44

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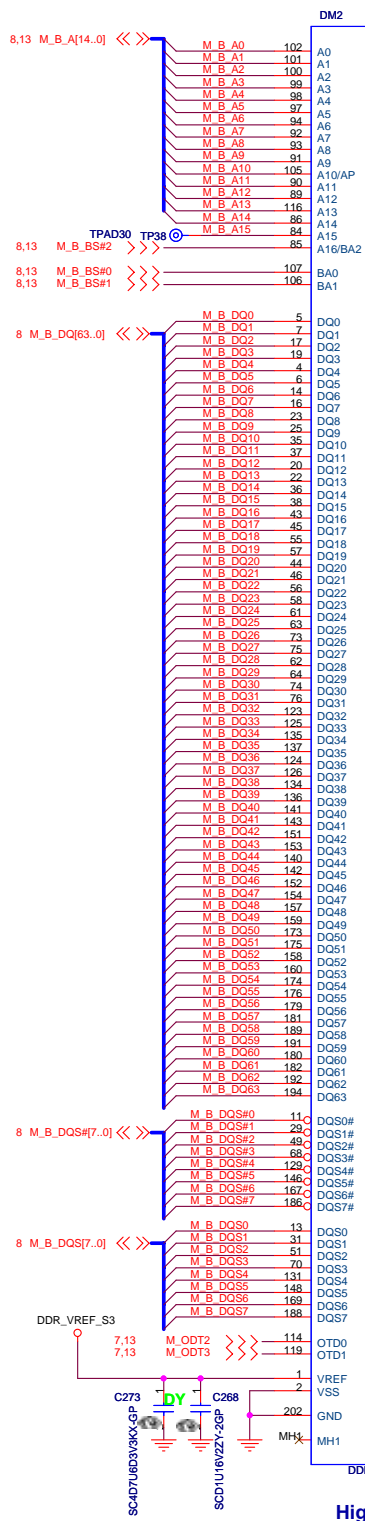


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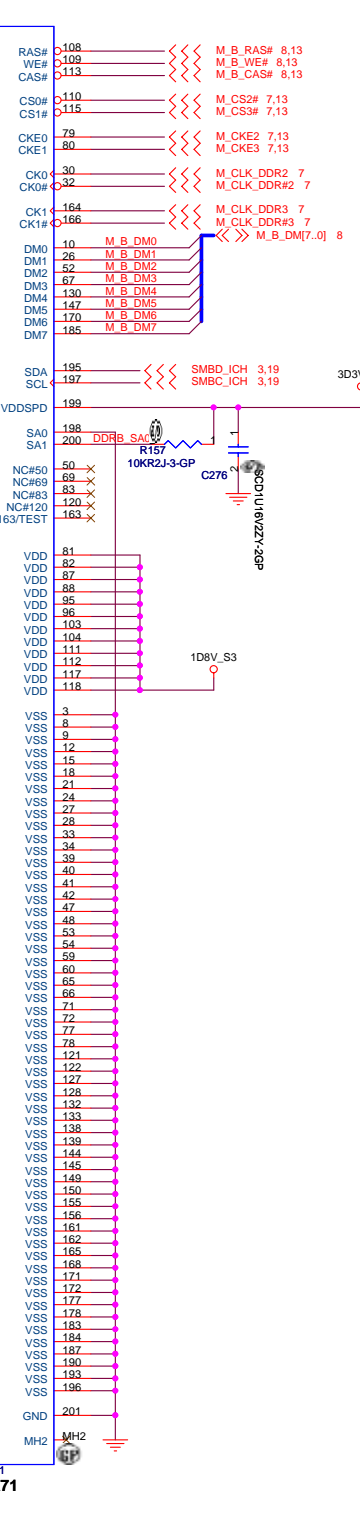
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Size: Document Number: Tahoe Rev: -1

Date: Friday, April 27, 2007 Sheet 11 of 44



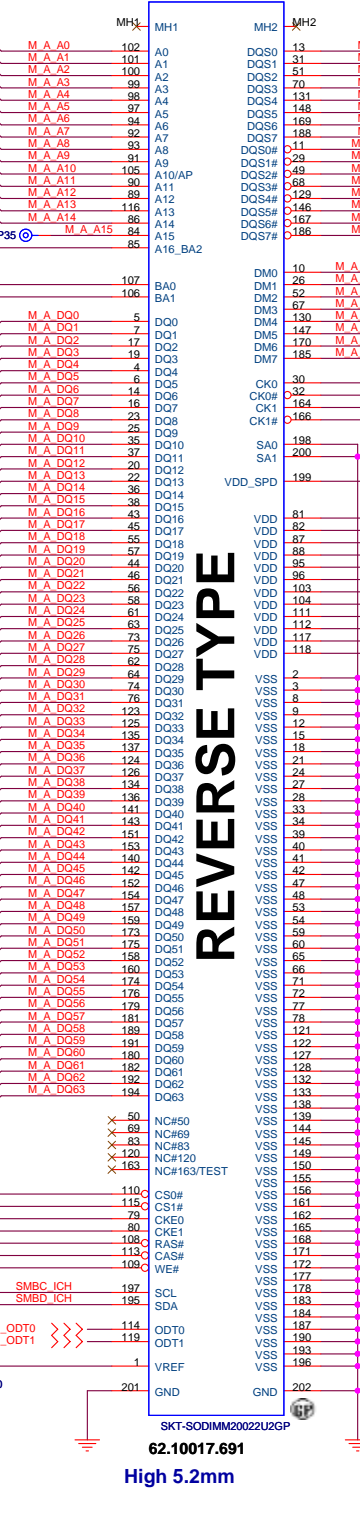
**REVERSE TYPE**



**REVERSE TYPE**



**REVERSE TYPE**



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Title: **DDR2 Socket**

Size: Document Number: **Tahoe**

Date: Friday, April 27, 2007

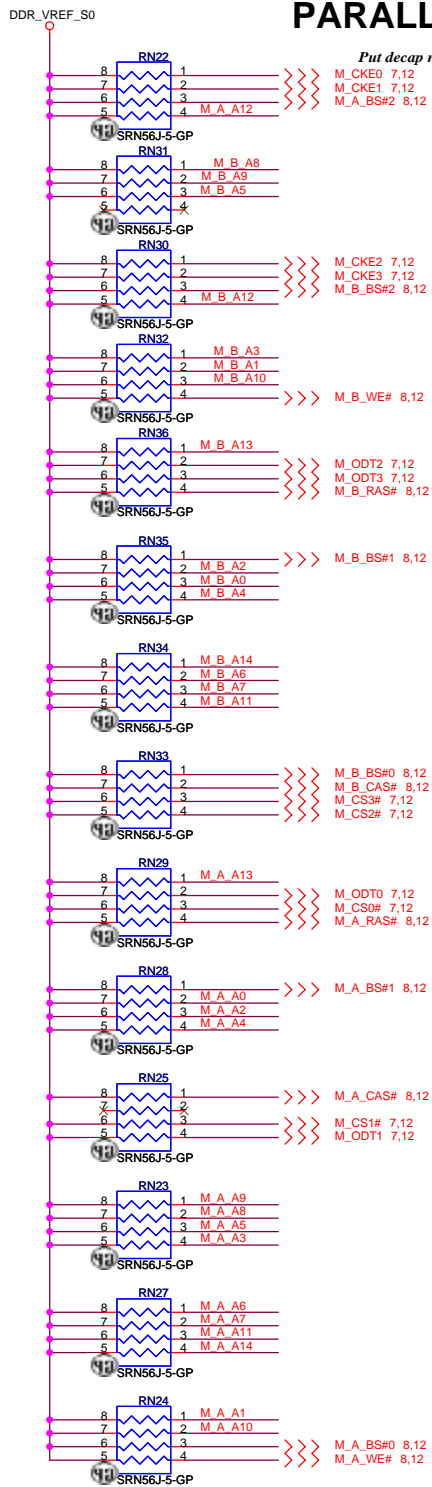
Sheet 12 of 44

Rev -1

62.10017.691  
High 5.2mm

High 9.2mm

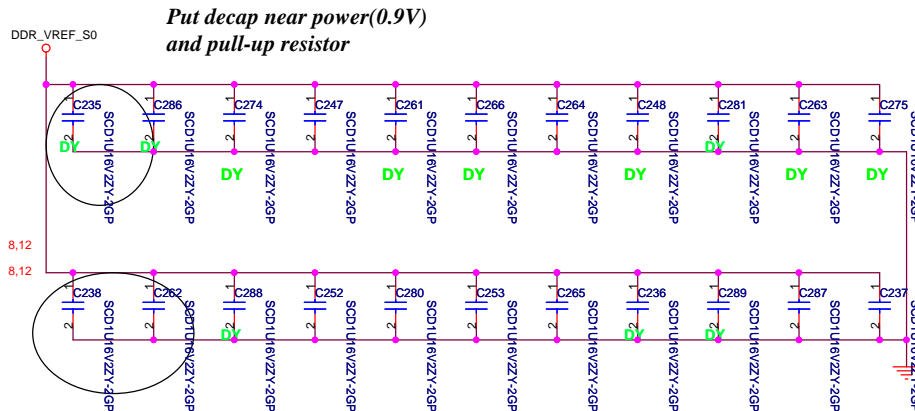
# PARALLEL TERMINATION



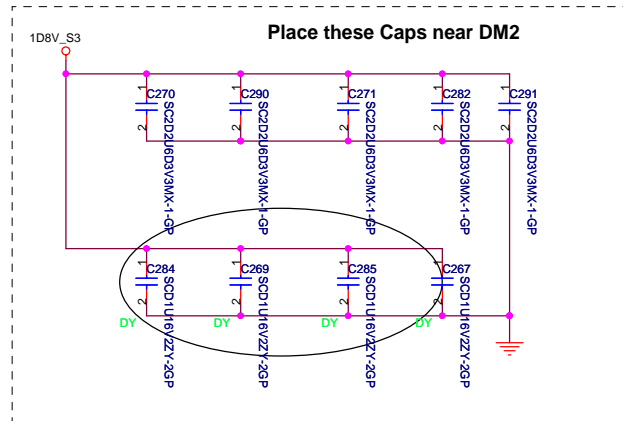
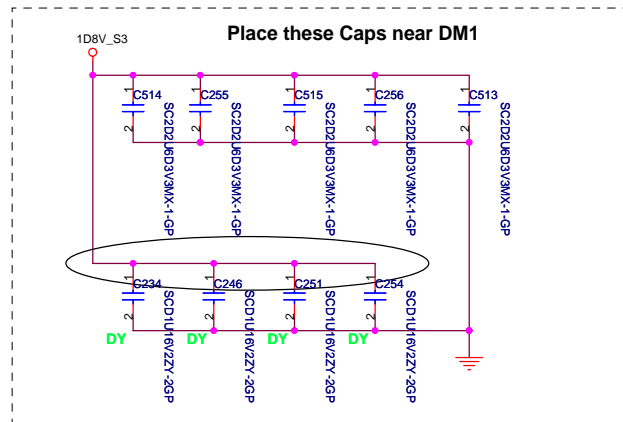
Put decap near power(0.9V) and pull-up resistor

M\_A\_A[14..0] <<< M\_A\_A[14..0] 8,12  
M\_B\_A[14..0] <<< M\_B\_A[14..0] 8,12

# Decoupling Capacitor

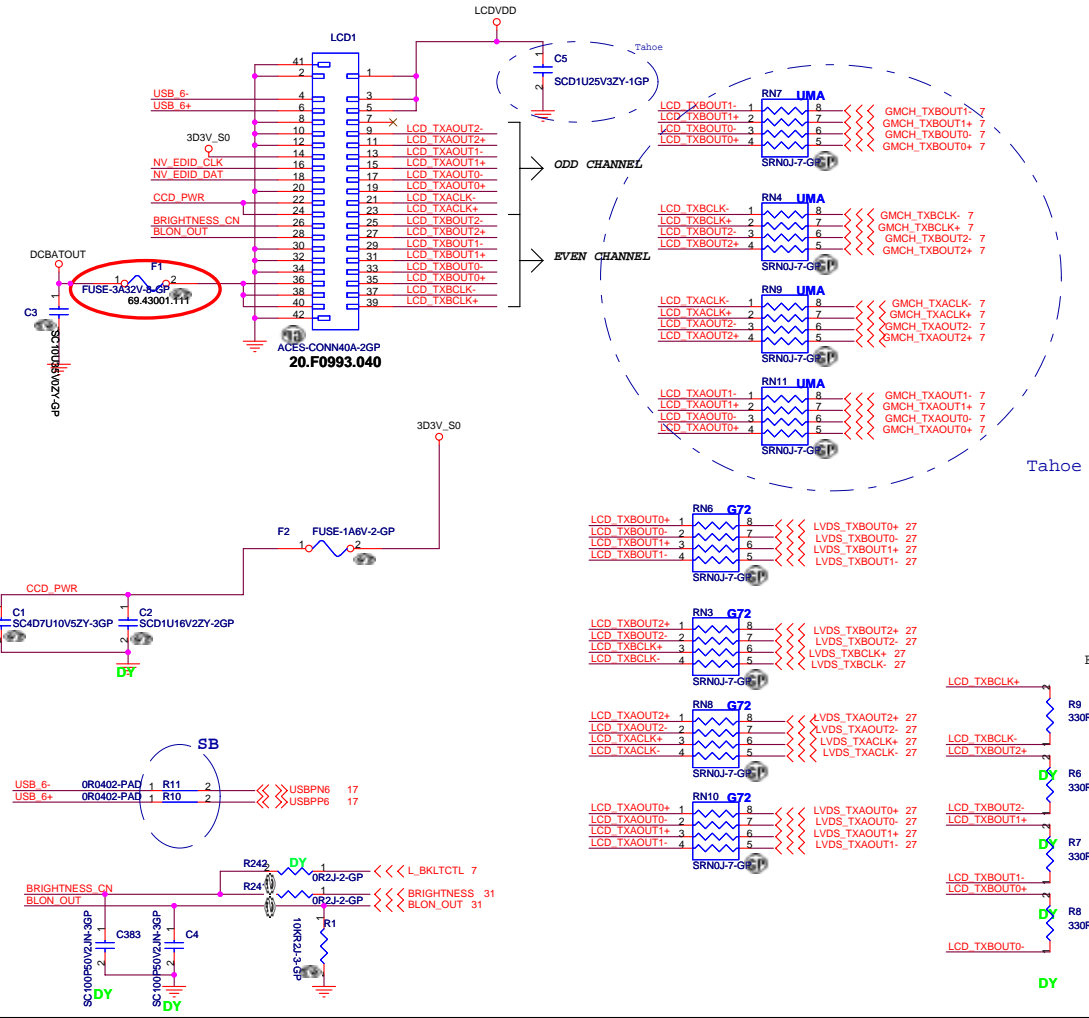
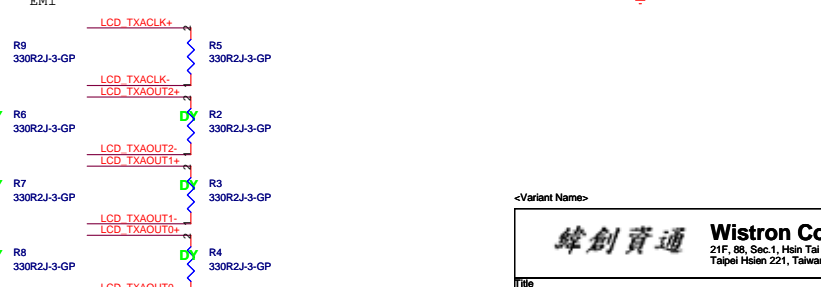
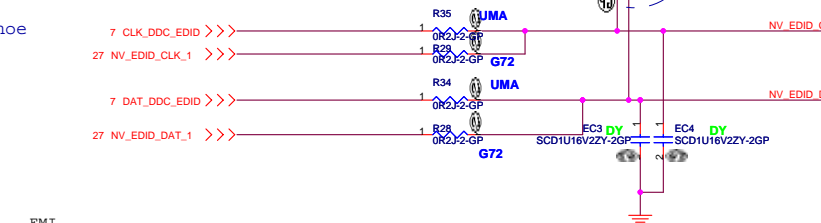
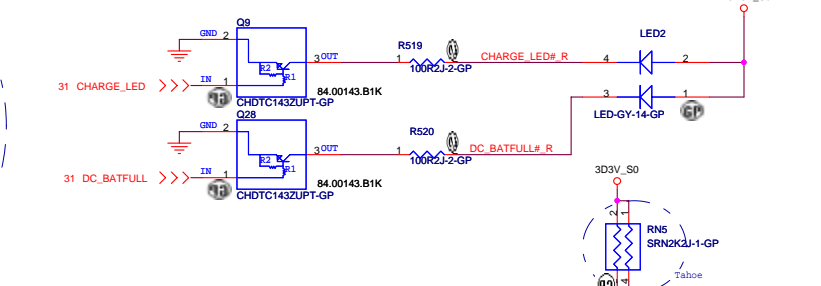
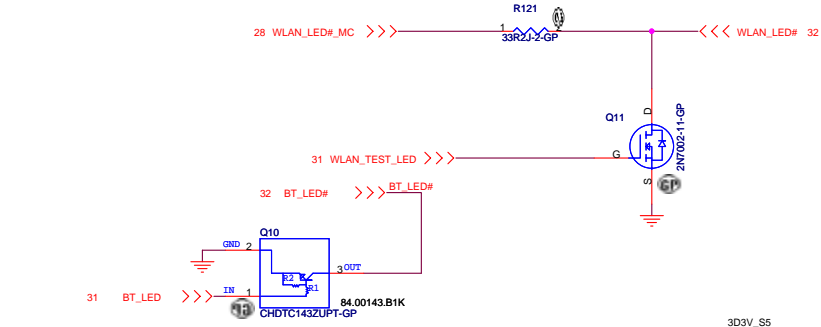
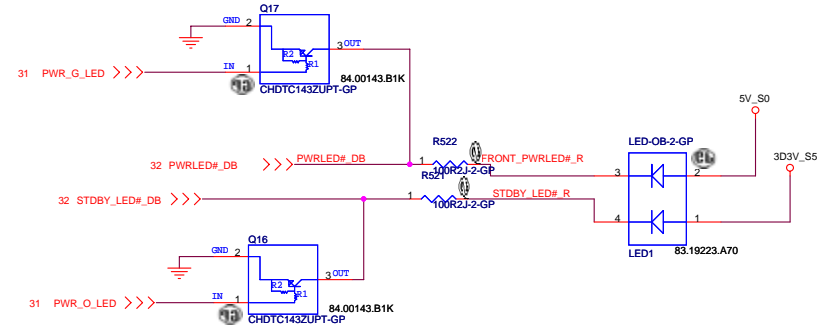
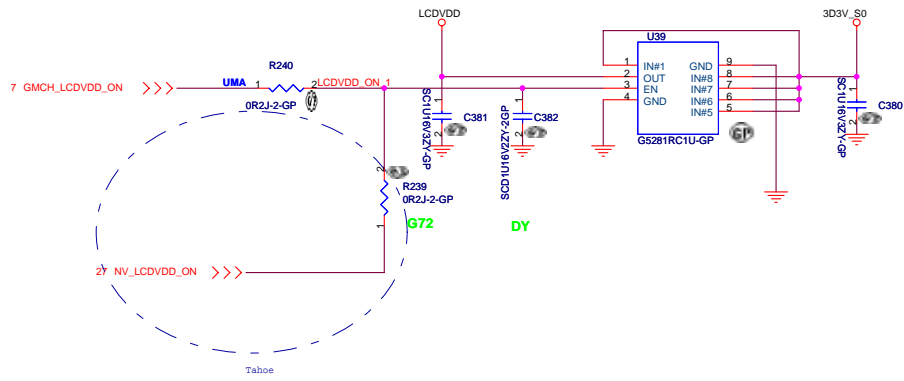


Put decap near power(0.9V) and pull-up resistor

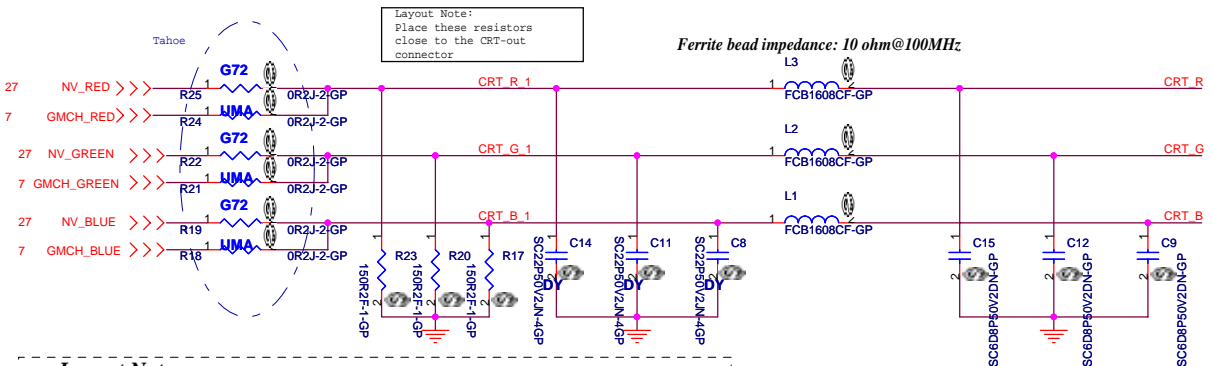


		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: <b>DDR2 Termination Resistor</b>			
Size:	Document Number:	<b>Tahoe</b>	
Date:	Friday, April 27, 2007	Sheet:	13 of 44
			Rev: <b>-1</b>

# LCD/INVERTER CONN

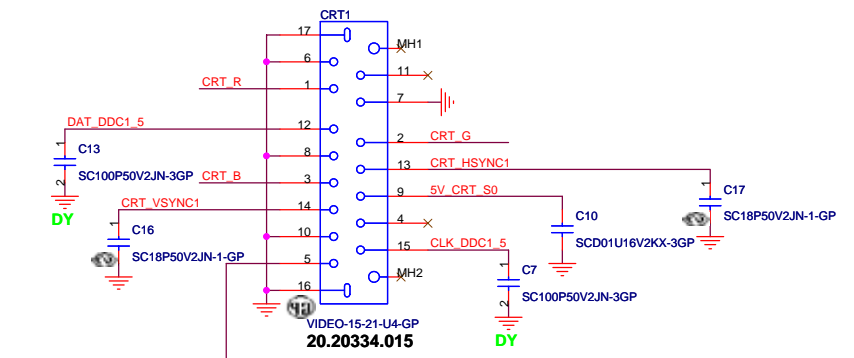


# CRT I/F & CONNECTOR

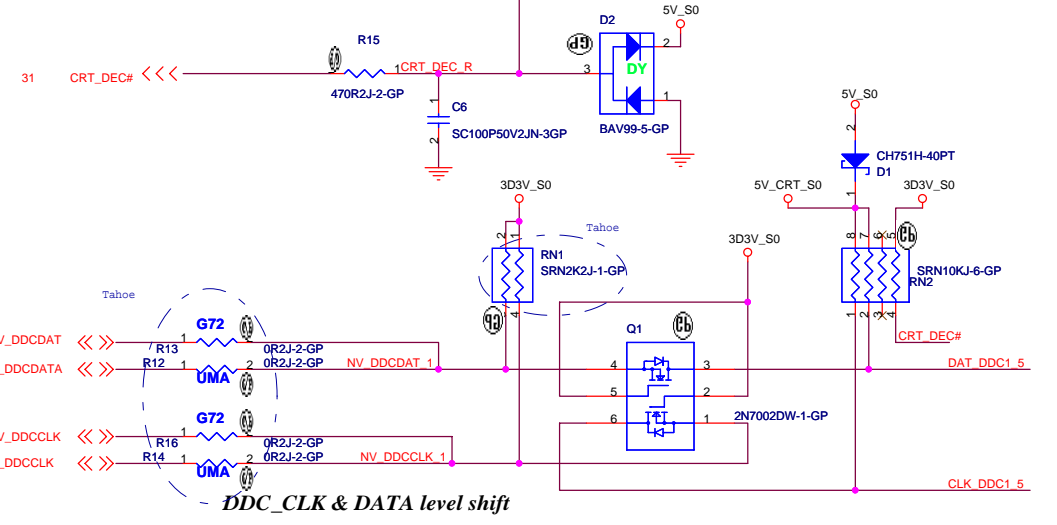
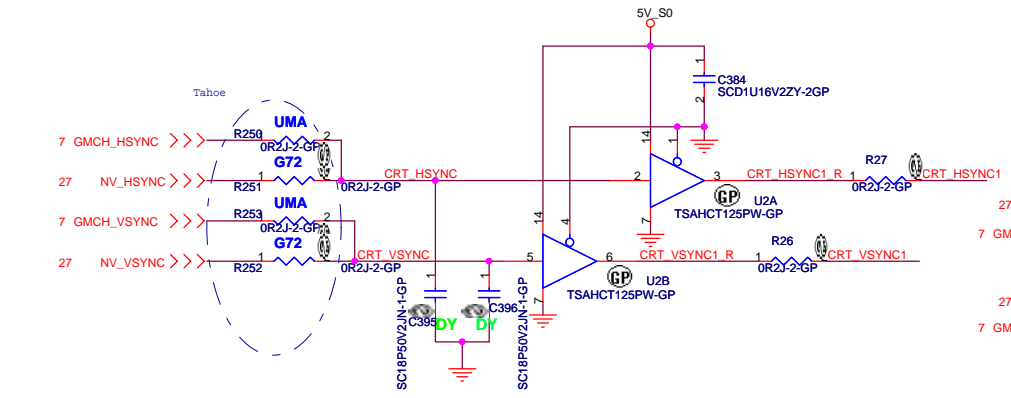


**Layout Note:**  
\* Must be a ground return path between this ground and the ground on the VGA connector.  
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.

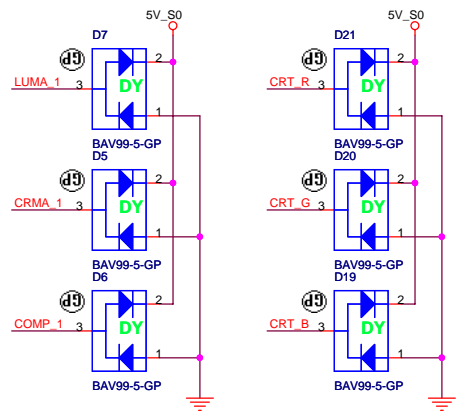
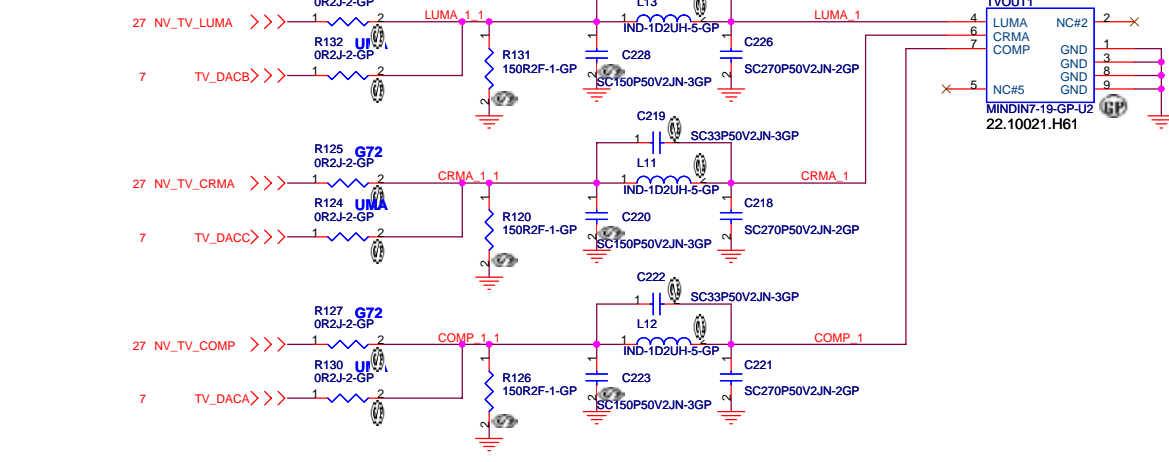
For DIS  
C15---->78.15034.1FL  
C12,C9---->78.18034.1FL



## Hsync & Vsync level shift

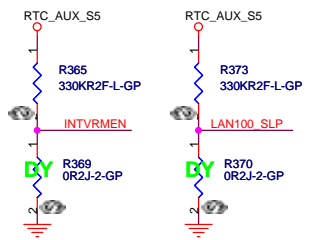
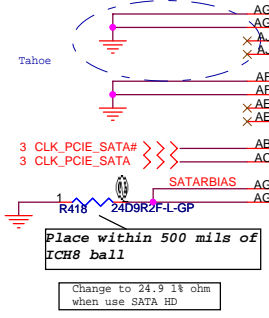
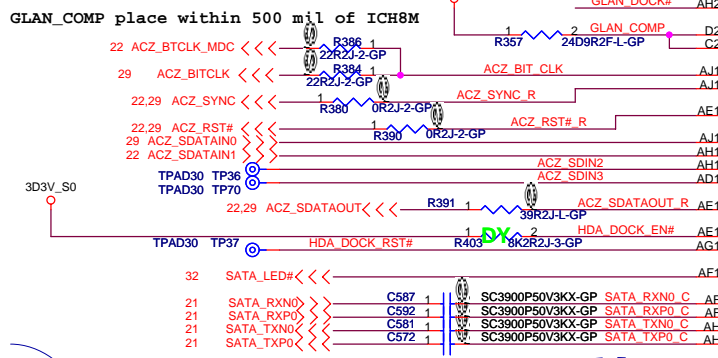
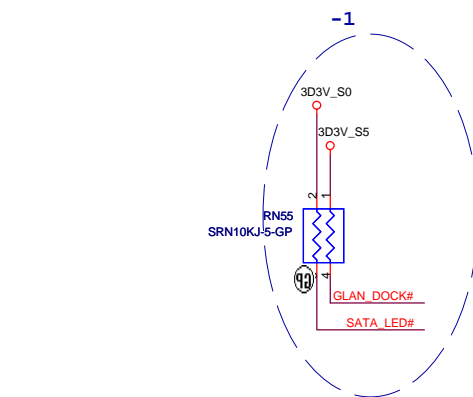
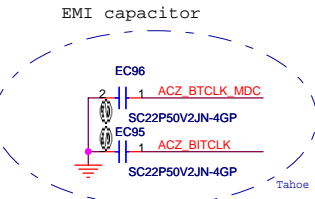
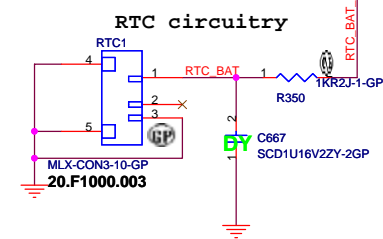
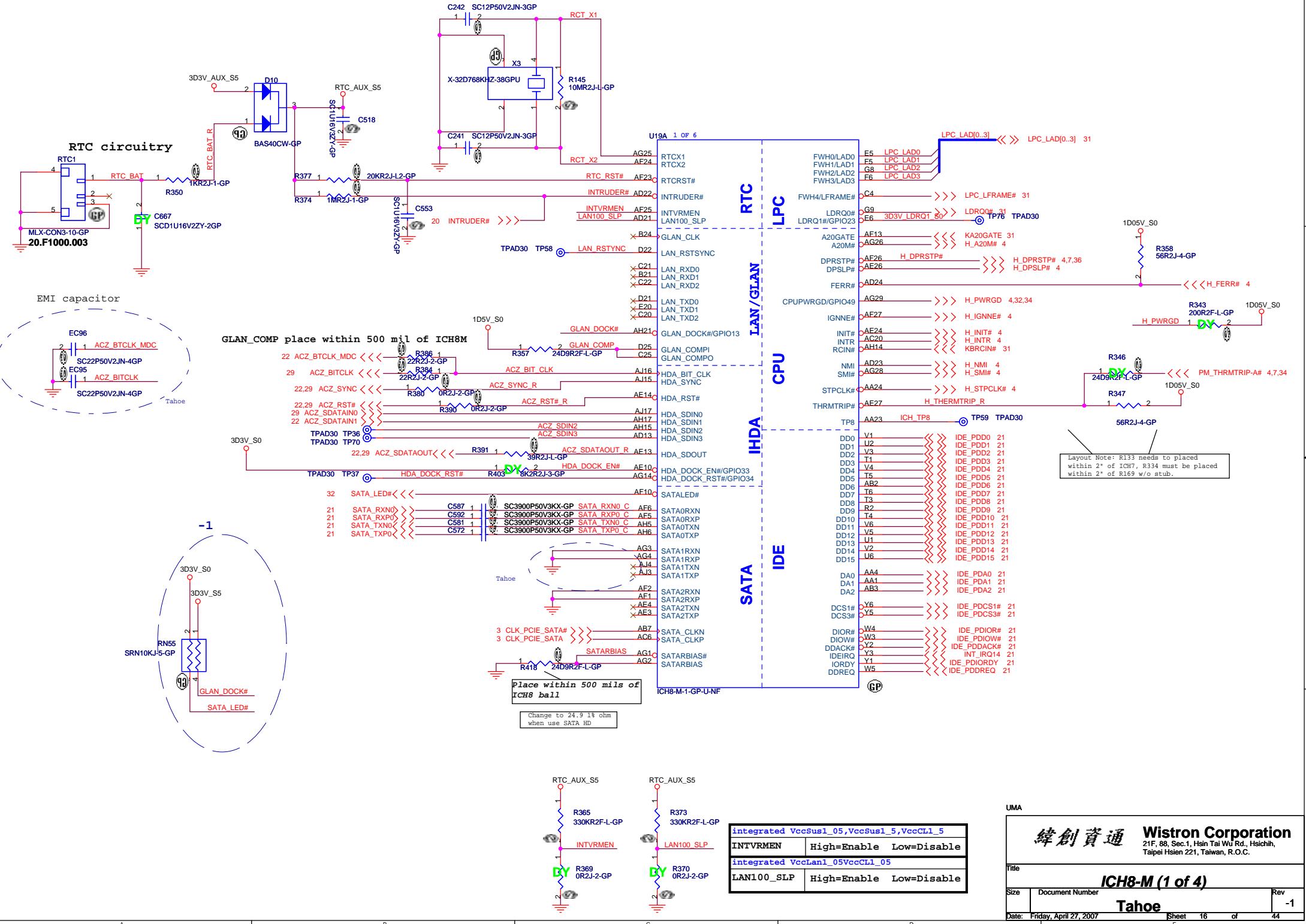


## TV CONN



緯創資通 Wistron Corporation  
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title		CRT/TV Connector	
Size	Document Number	Rev	-1
Date: Friday, April 27, 2007	Sheet 15 of 44	Tahoe	



Signal	IC Pin	Board Component
RTCX1	AF24	AG25
RTCX2	AF23	RCT_X1
RTC_RST#	AF23	RCT_X2
INTRUDER#	AD22	INTRUDER#
INTVRMEN	AF25	INTVRMEN
LAN100_SLP	AD21	LAN100_SLP
GLAN_CLK	D22	B24
LAN_RSTSYNC	D22	LAN_RSTSYNC
LAN_RXD0	C21	X21
LAN_RXD1	B21	X21
LAN_RXD2	C22	X21
LAN_TXD0	D21	X20
LAN_TXD1	E20	X20
LAN_TXD2	C20	X20
GLAN_DOCK#	AH21	GLAN_DOCK#
GLAN_COMPI	D25	GLAN_COMP
GLAN_COMPO	C25	GLAN_COMP
HDA_BIT_CLK	AJ16	ACZ_BIT_CLK
HDA_SYNC	AJ15	ACZ_SYNC_R
HDA_RST#	AE14	ACZ_RST#_R
HDA_SDIN0	AJ17	ACZ_SDIN0
HDA_SDIN1	AH17	ACZ_SDIN1
HDA_SDIN2	AH15	ACZ_SDIN2
HDA_SDIN3	AD13	ACZ_SDIN3
HDA_SDOUT	AE13	ACZ_SDATAOUT_R
HDA_DOCK_EN#	AG10	HDA_DOCK_EN#
HDA_DOCK_RST#	AG14	HDA_DOCK_RST#
SATA_LED#	AF10	SATA_LED#
SATA_RXN0	AF6	SATA_RXN0_C
SATA_RXP0	AF5	SATA_RXP0_C
SATA_TXN0	AH5	SATA_TXN0_C
SATA_TXP0	AH6	SATA_TXP0_C
SATA1RXN	AG3	SATA1RXN
SATA1RXP	AG4	SATA1RXP
SATA1TXN	AJ4	SATA1TXN
SATA1TXP	AJ3	SATA1TXP
SATA2RXN	AF2	SATA2RXN
SATA2RXP	AE1	SATA2RXP
SATA2TXN	AE4	SATA2TXN
SATA2TXP	AE3	SATA2TXP
SATA_CLKN	AB7	SATA_CLKN
SATA_CLKP	AC6	SATA_CLKP
SATARBIAS	AG1	SATARBIAS
SATARBIAS	AG2	SATARBIAS

Integrated VccSus1_05, VccSus1_5, VccCLI_5		
INTVRMEN	High=Enable	Low=Disable
Integrated VccLan1_05VccCLI_05		
LAN100_SLP	High=Enable	Low=Disable

Layout Note: R133 needs to be placed within 2" of ICH7, R334 must be placed within 2" of R169 w/o stub.

UMA

**緯創資通 Wistron Corporation**  
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **ICH8-M (1 of 4)**

Size: Document Number: **Tahoe** Rev: -1

Date: Friday, April 27, 2007 Sheet 16 of 44



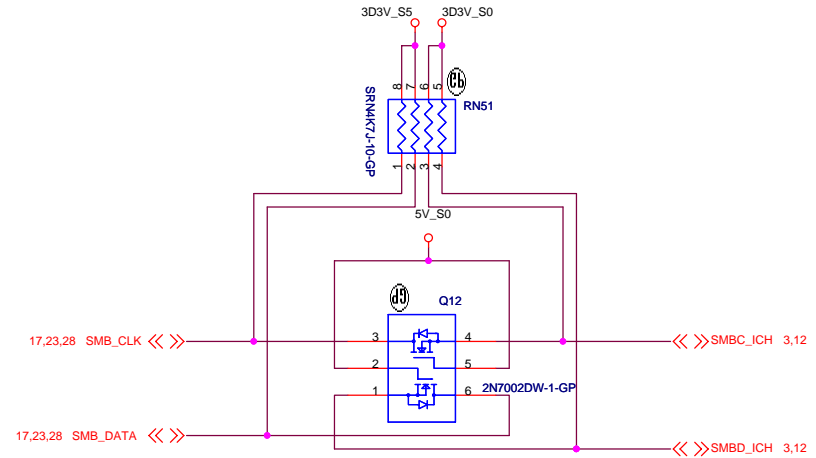




U19F 6 OF 6

A23	VSS	VSS	K7
A5	VSS	VSS	L1
AA2	VSS	VSS	L13
AA7	VSS	VSS	L15
A25	VSS	VSS	L26
AB1	VSS	VSS	L27
AB24	VSS	VSS	L4
AC11	VSS	VSS	L5
AC14	VSS	VSS	M12
AC25	VSS	VSS	M13
AC26	VSS	VSS	M14
AC27	VSS	VSS	M15
AD17	VSS	VSS	M16
AD20	VSS	VSS	M17
AD28	VSS	VSS	M23
AD29	VSS	VSS	M28
AD3	VSS	VSS	M29
AD4	VSS	VSS	M3
AD6	VSS	VSS	N1
AE1	VSS	VSS	N11
AE12	VSS	VSS	N12
AE2	VSS	VSS	N13
AE22	VSS	VSS	N14
AD1	VSS	VSS	N15
AE25	VSS	VSS	N16
AE5	VSS	VSS	N17
AE6	VSS	VSS	N18
AE9	VSS	VSS	N26
AF14	VSS	VSS	N27
AF16	VSS	VSS	N4
AF18	VSS	VSS	N5
AF3	VSS	VSS	N6
AF4	VSS	VSS	P12
AG5	VSS	VSS	P13
AG6	VSS	VSS	P14
AH10	VSS	VSS	P15
AH13	VSS	VSS	P16
AH16	VSS	VSS	P17
AH19	VSS	VSS	P23
AH2	VSS	VSS	P28
AE28	VSS	VSS	P29
AH22	VSS	VSS	R11
AH24	VSS	VSS	R12
AH26	VSS	VSS	R13
AH3	VSS	VSS	R14
AH4	VSS	VSS	R15
AH8	VSS	VSS	R16
AJ5	VSS	VSS	R17
B11	VSS	VSS	R18
B14	VSS	VSS	R28
B17	VSS	VSS	R4
B2	VSS	VSS	T12
B20	VSS	VSS	T13
B22	VSS	VSS	T14
B3	VSS	VSS	T15
C24	VSS	VSS	T16
C26	VSS	VSS	T17
C27	VSS	VSS	T2
C6	VSS	VSS	U12
D12	VSS	VSS	U13
D15	VSS	VSS	U14
D18	VSS	VSS	U15
D2	VSS	VSS	U16
D4	VSS	VSS	U17
E21	VSS	VSS	U23
E24	VSS	VSS	U26
E4	VSS	VSS	U27
E9	VSS	VSS	U3
F15	VSS	VSS	U5
E23	VSS	VSS	V13
F28	VSS	VSS	V15
F29	VSS	VSS	V28
F7	VSS	VSS	V29
G1	VSS	VSS	W2
F2	VSS	VSS	W26
G10	VSS	VSS	W27
G13	VSS	VSS	Y28
G19	VSS	VSS	Y29
G23	VSS	VSS	Y4
G25	VSS	VSS	AB4
G26	VSS	VSS	AB23
G27	VSS	VSS	AB5
H25	VSS	VSS	AB6
H28	VSS	VSS	AD5
H29	VSS	VSS	U4
H3	VSS	VSS	W24
H6	VSS	VSS	A1
J1	VSS	VSS_NCTF	A2
J25	VSS	VSS_NCTF	A28
J26	VSS	VSS_NCTF	A29
J27	VSS	VSS_NCTF	AJ28
J4	VSS	VSS_NCTF	AH1
J5	VSS	VSS_NCTF	AH29
K23	VSS	VSS_NCTF	AJ1
K28	VSS	VSS_NCTF	AJ2
K29	VSS	VSS_NCTF	AJ29
K3	VSS	VSS_NCTF	B1
K6	VSS	VSS_NCTF	B29
	VSS	VSS_NCTF	

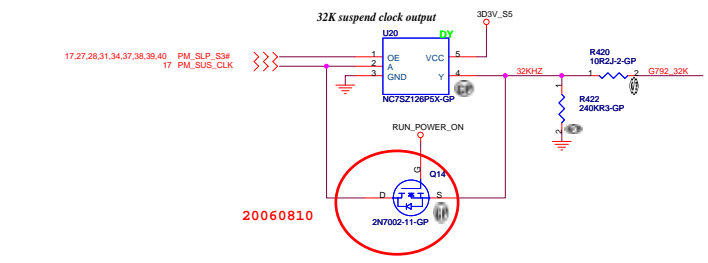
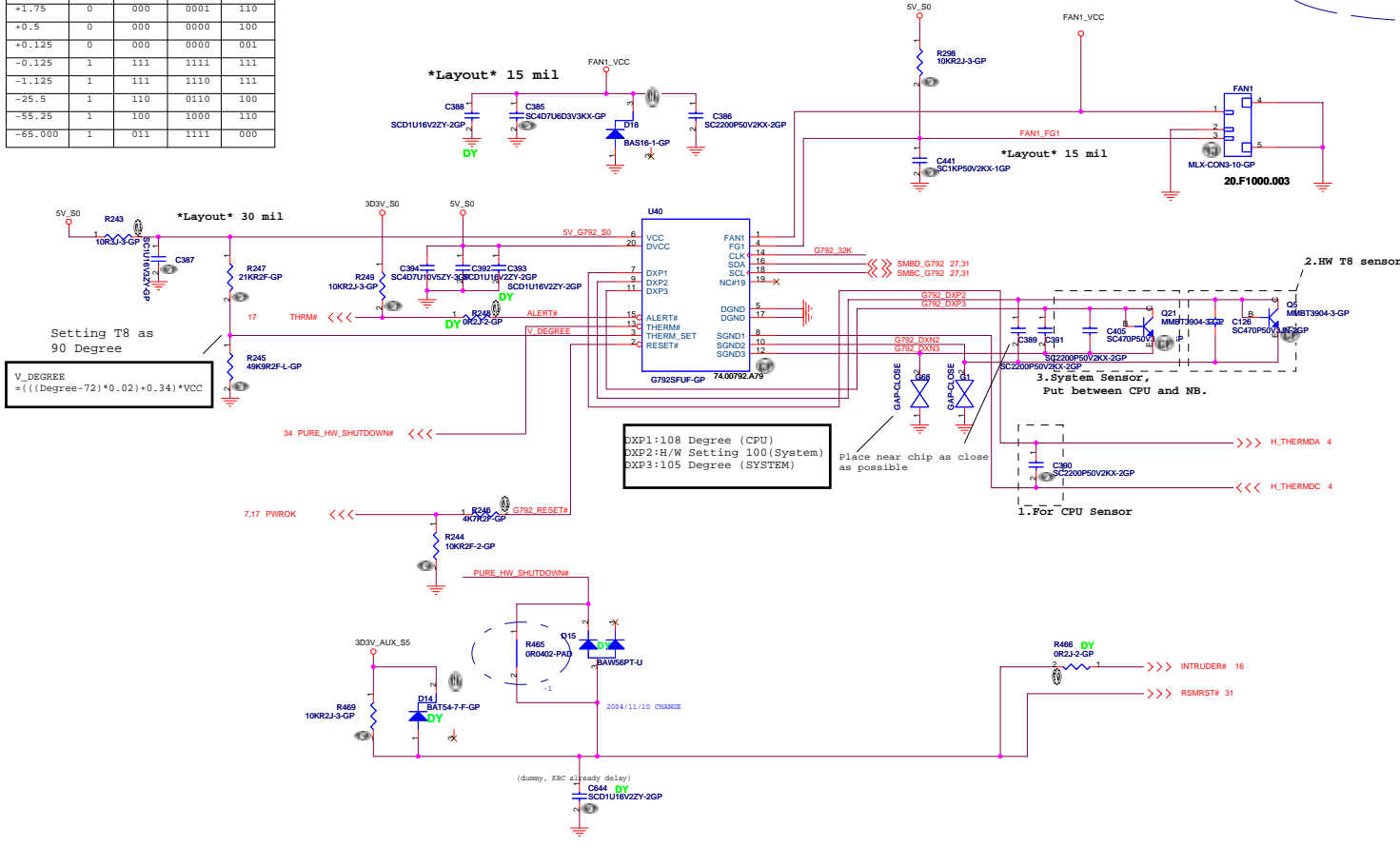
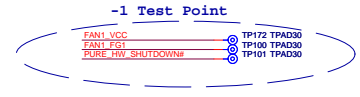
ICH8-M-1-GP-U-NF



Q13 & Q14 connect SMLINK and SMBUS in S) for SMBUS 2.0 compliance

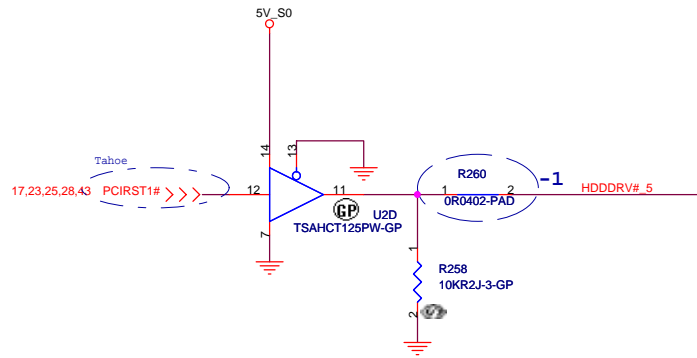
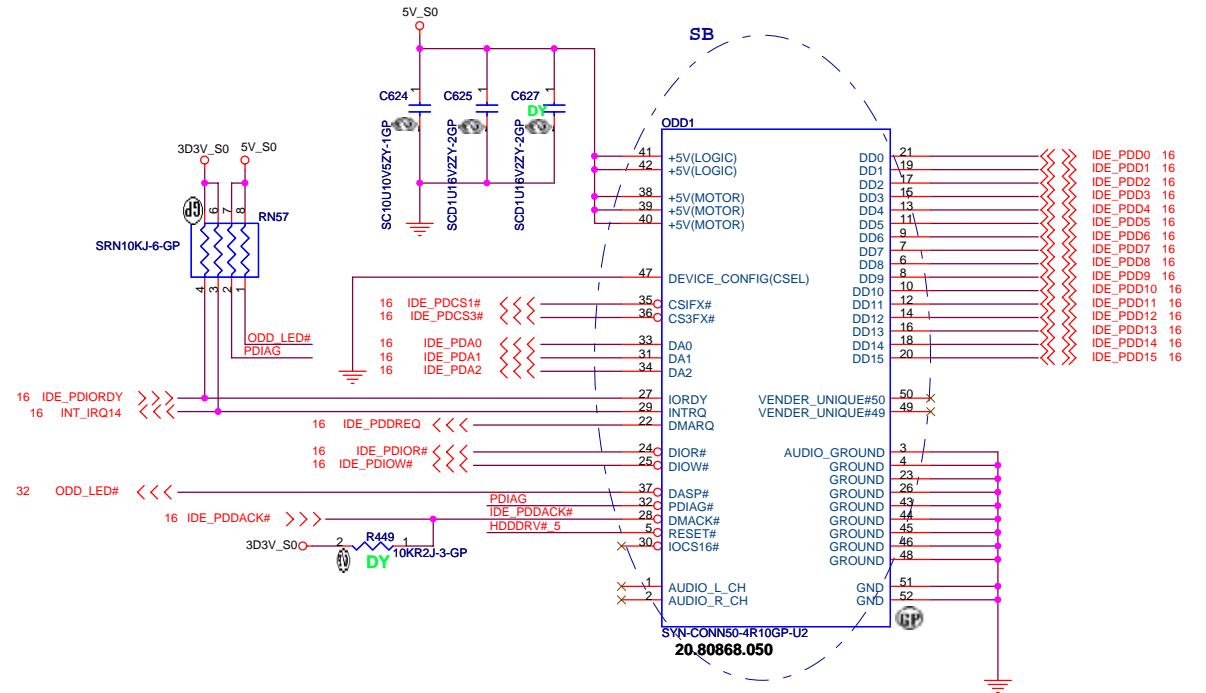
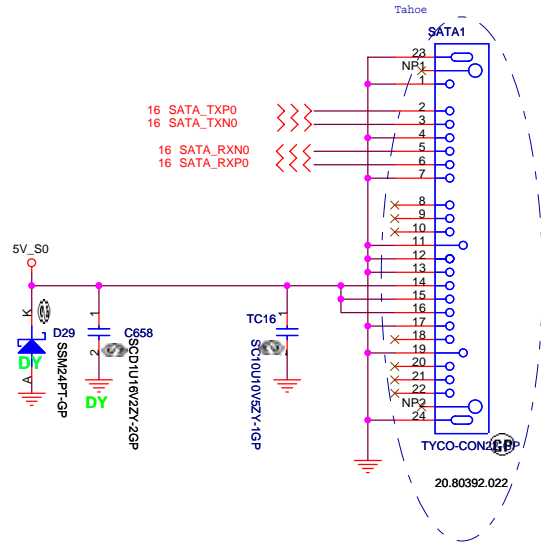
**SMBUS**

TEMP.	Digital Output Data Bits			
	Sign	MSB	LSB	EXT
+127.875	0	1111	1111	111
+126.375	0	111	1110	011
+25.5	0	001	1001	100
+1.75	0	000	0001	110
+0.5	0	000	0000	100
+0.125	0	000	0000	001
-0.125	1	111	1111	111
-1.125	1	111	1110	111
-25.5	1	110	0110	100
-55.25	1	100	1000	110
-65.000	1	011	1111	000



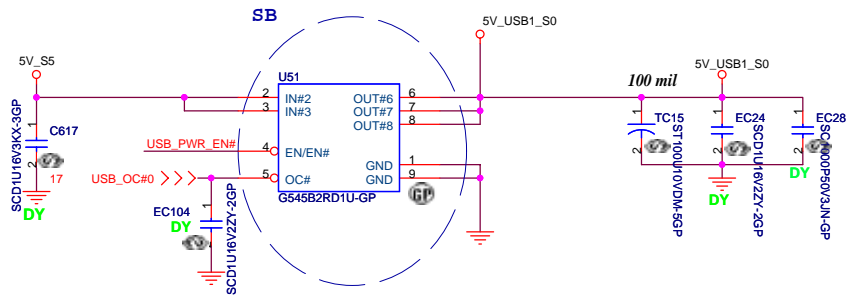
# SATA HD Connector

# ODD Connector



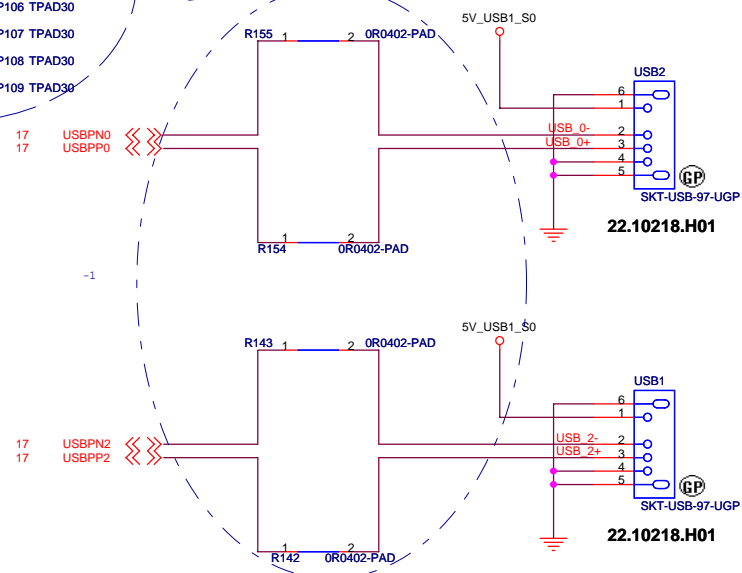
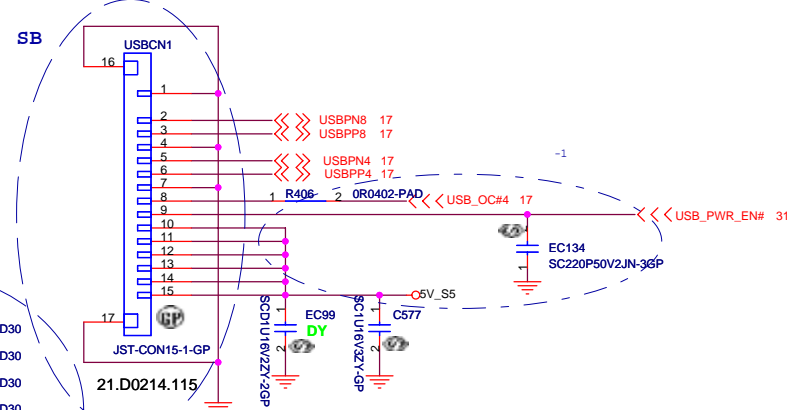
bom1

<b>緯創資通</b>		<b>Wistron Corporation</b>	
		21F, 8th, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>HDD and CDROM</b>			
<b>Tahoe</b>			
Size	Document Number	Rev	
Date: Friday, April 27, 2007	Sheet 21 of 44		-1

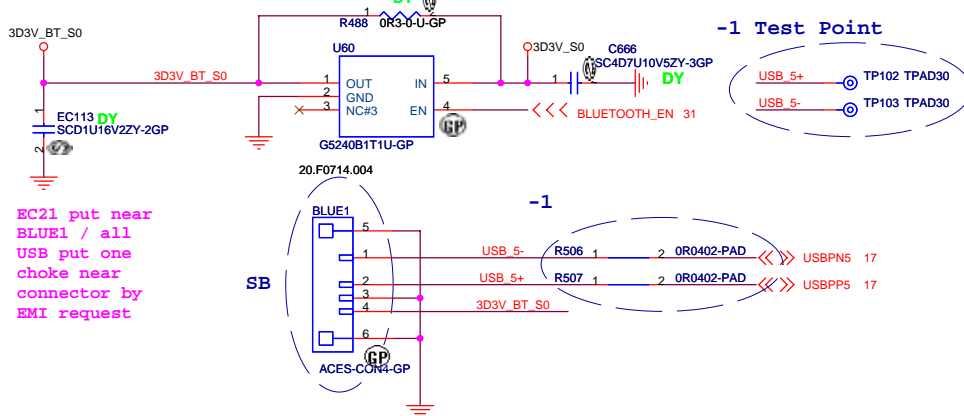


-1 Test Point

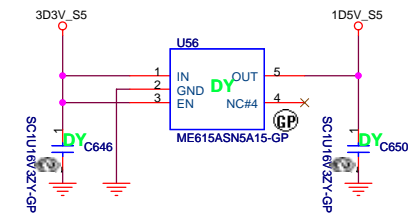
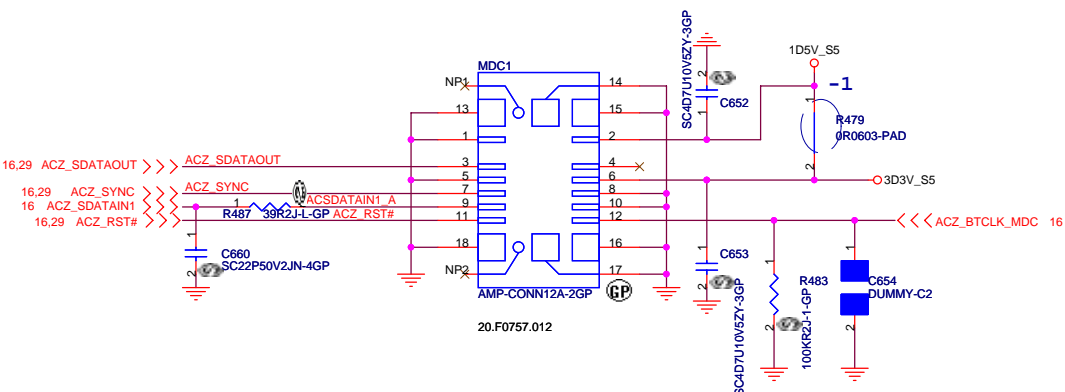
- 5V\_S5 TP176 TPAD30
- 5V\_S5 TP175 TPAD30
- USBPN8 TP104 TPAD30
- USBPP8 TP105 TPAD30
- USBPN4 TP106 TPAD30
- USBPP4 TP107 TPAD30
- USB\_OC#4 TP108 TPAD30
- USB\_PWR\_EN# TP109 TPAD30



## BLUETOOTH MODULE

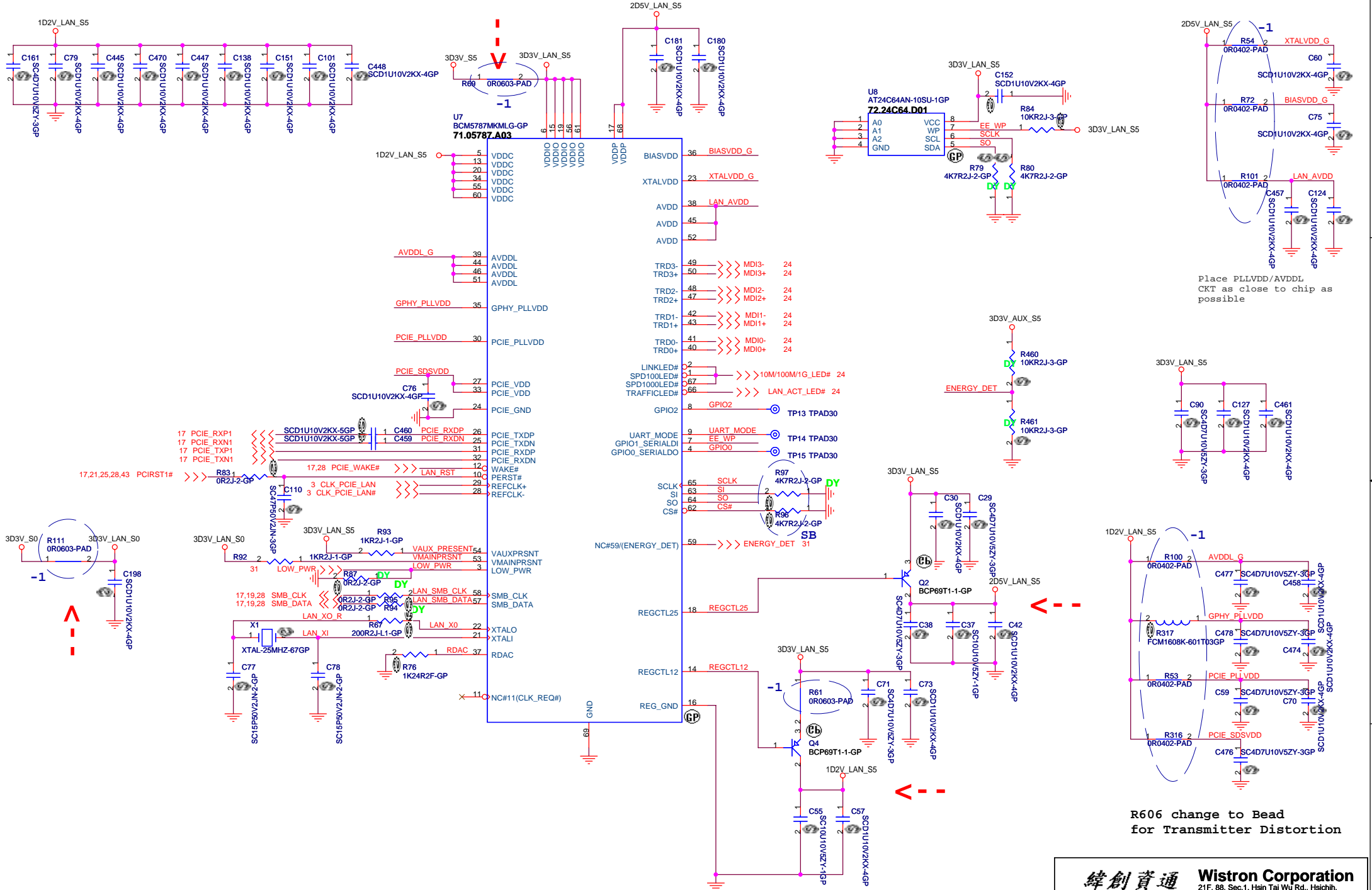


## MDC 1.5 CONN



bom1

<b>緯創資通</b>		<b>Wistron Corporation</b>	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>USB / MDC / BLUETOOTH</b>			
File	Document Number		Rev
	<b>Tahoe</b>		-1
Date: Friday, April 27, 2007	Sheet 22	of	44



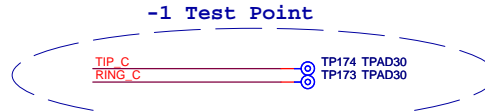
Place PLLVDD/AVDDL  
CKT as close to chip as  
possible

R606 change to Bead  
for Transmitter Distortion

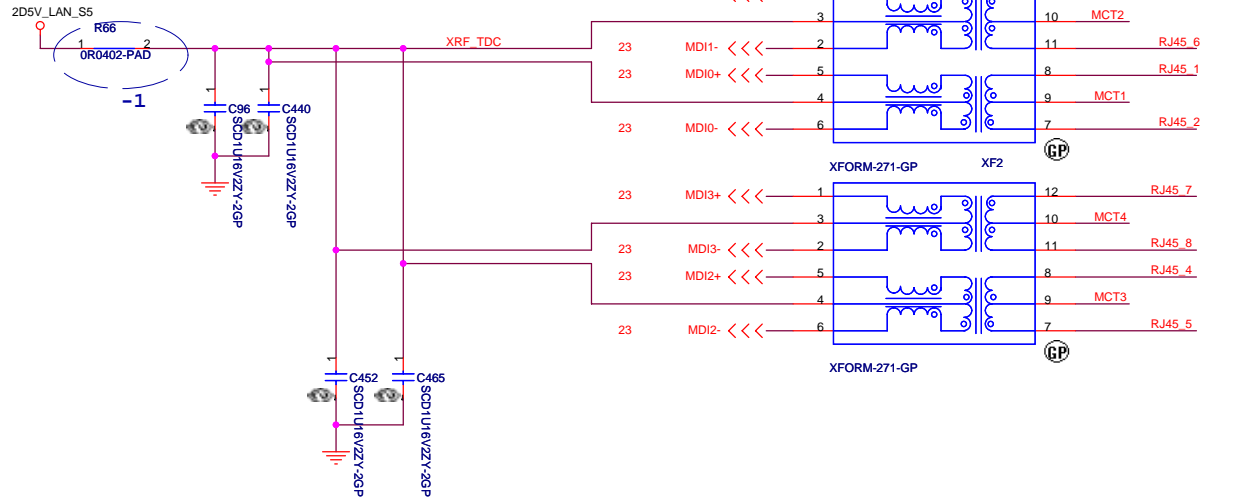
<b>緯創資通 Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsein 221, Taiwan, R.O.C.		
Title	<b>BCM5787MKMLG</b>	
Size	Document Number	Rev
A3	<b>Tahoe</b>	<b>-1</b>
Date: Tuesday, May 08, 2007	Sheet 23	of 44

Voltage Rail	4401E	5789	5787
VDDIO_PCI	3D3V_LAN_S5	3D3V_S0	Don't Care
VDDC	1D8V_LAN_S5	1D2V_LAN_S5	
VDDIO	3D3V_LAN_S5	3D3V_LAN_S5	
VESD	3D3V_LAN_S5	3D3V_S0	Don't Care
VDDP	Don't Care	2D5V_S5	
3D3V_2D5V_S5	3D3V_S5	2D5V_S5	
1D8V_1D2V_S5	1D8V_LAN_S5	1D2V_S5	

# LAN Connector



## GIGA Lan Transformer

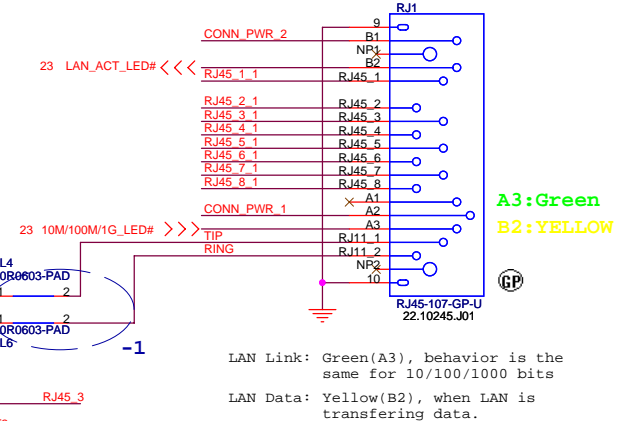
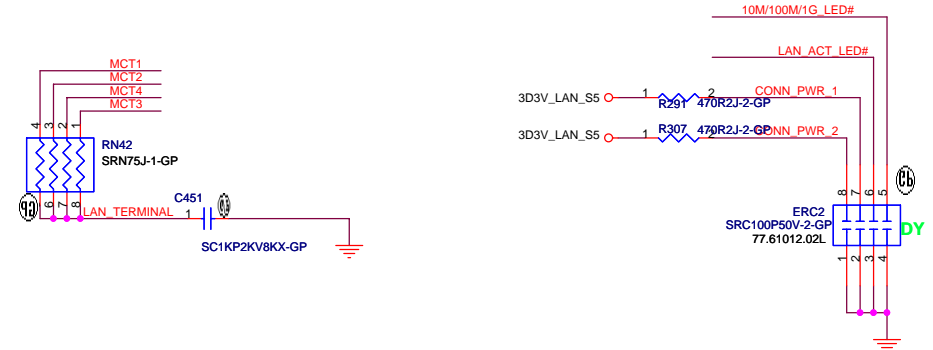


- 1.route on bottom as differential pairs.
- 2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
- 3.No vias, No 90 degree bends.
- 4.pairs must be equal lengths.
- 5.6mil trace width, 12mil separation.
- 6.36mil between pairs and any other trace.
- 7.Must not cross ground moat, except RJ-45 moat.

**RJ11 signal must leave the other signal or power plane 100mil.**

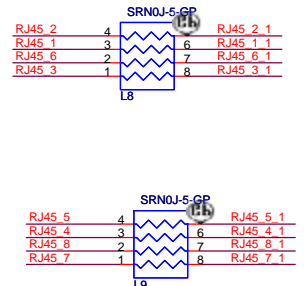
DOC\_TIP,DOC\_RING,TIP,RING:  
W/S : 10/100 @ Surface layers  
10/20 @ Inner layers

10/100 LAN Transformer	RJ45 PIN
TD+ --> TX+	RJ45-1
TD- --> TX-	RJ45-2
RD+ --> RX+	RJ45-3
RD- --> RX-	RJ45-6



LAN Link: Green(A3), behavior is the same for 10/100/1000 bits  
LAN Data: Yellow(B2), when LAN is transferring data.

### For EMI



<Variant Name>

**緯創資通 Wistron Corporation**  
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **LAN Connector**

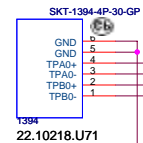
Size A3 Document Number: **Tahoe** Rev: **-1**

Date: Friday, April 27, 2007 Sheet 24 of 44

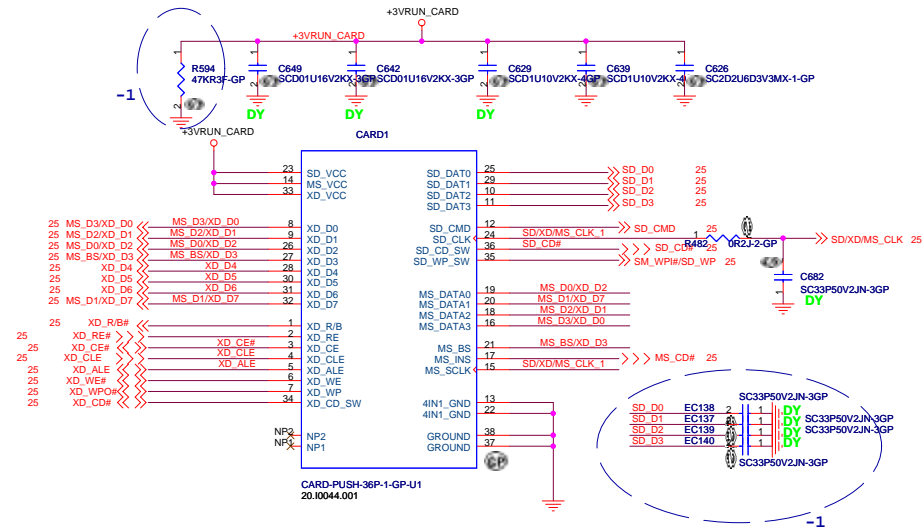
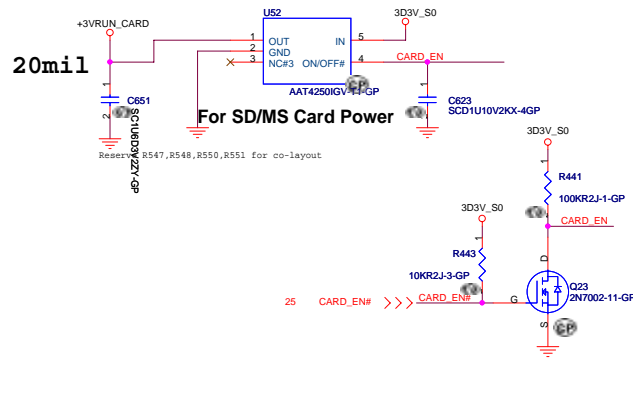
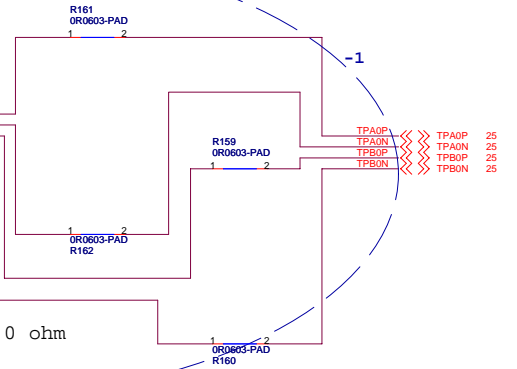




# 1394 Connector



check with EMI, can change to 0 ohm



<Variant Name>

緯創資通 Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai WJ Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

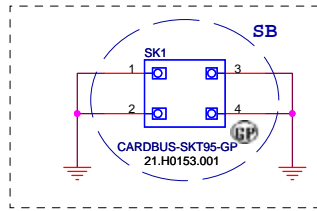
Title		1394 / CARD READER	
Size	Document Number	Rev	-1
Date: Friday, April 27, 2007		Sheet	26 of 44



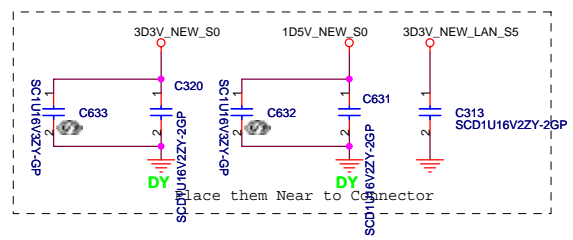
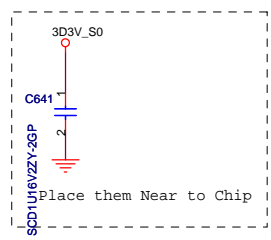
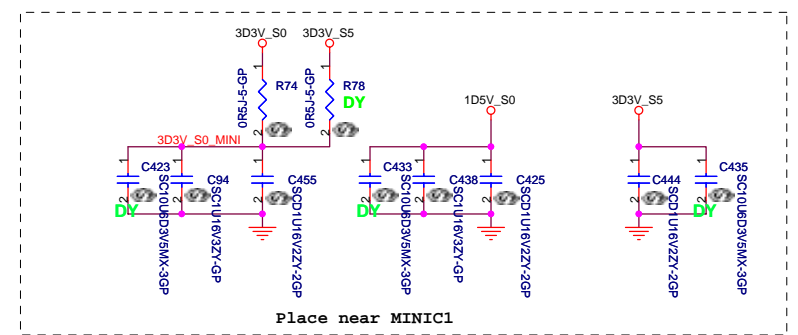
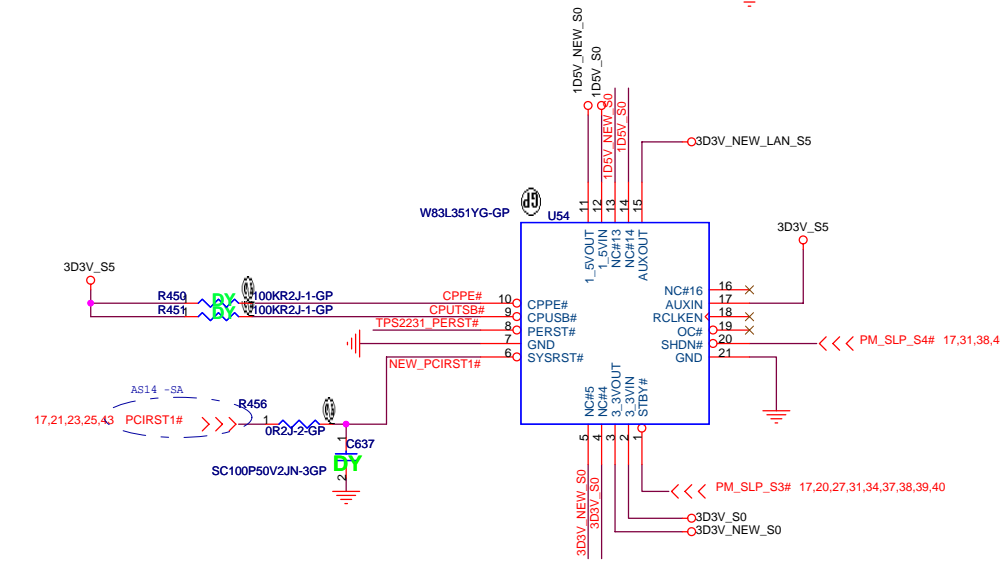
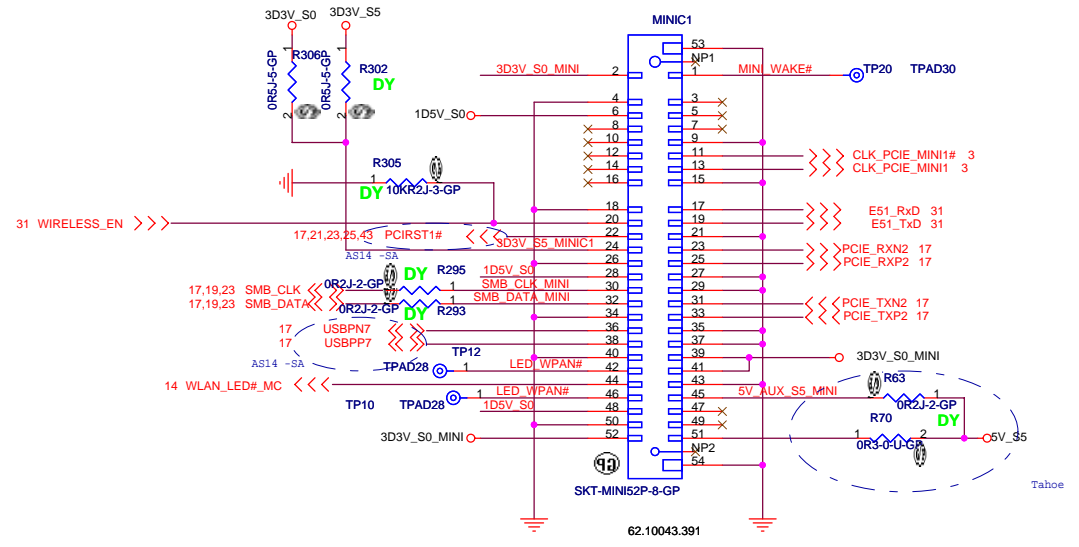
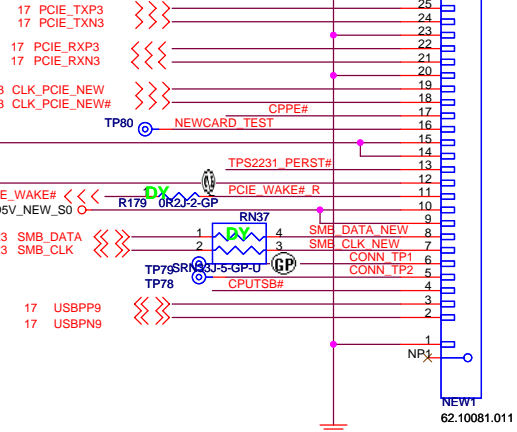
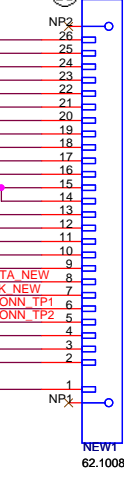
# Mini Card Connector

## NEWCARD Connector

Reserve the symbol  
for bottom side  
connector

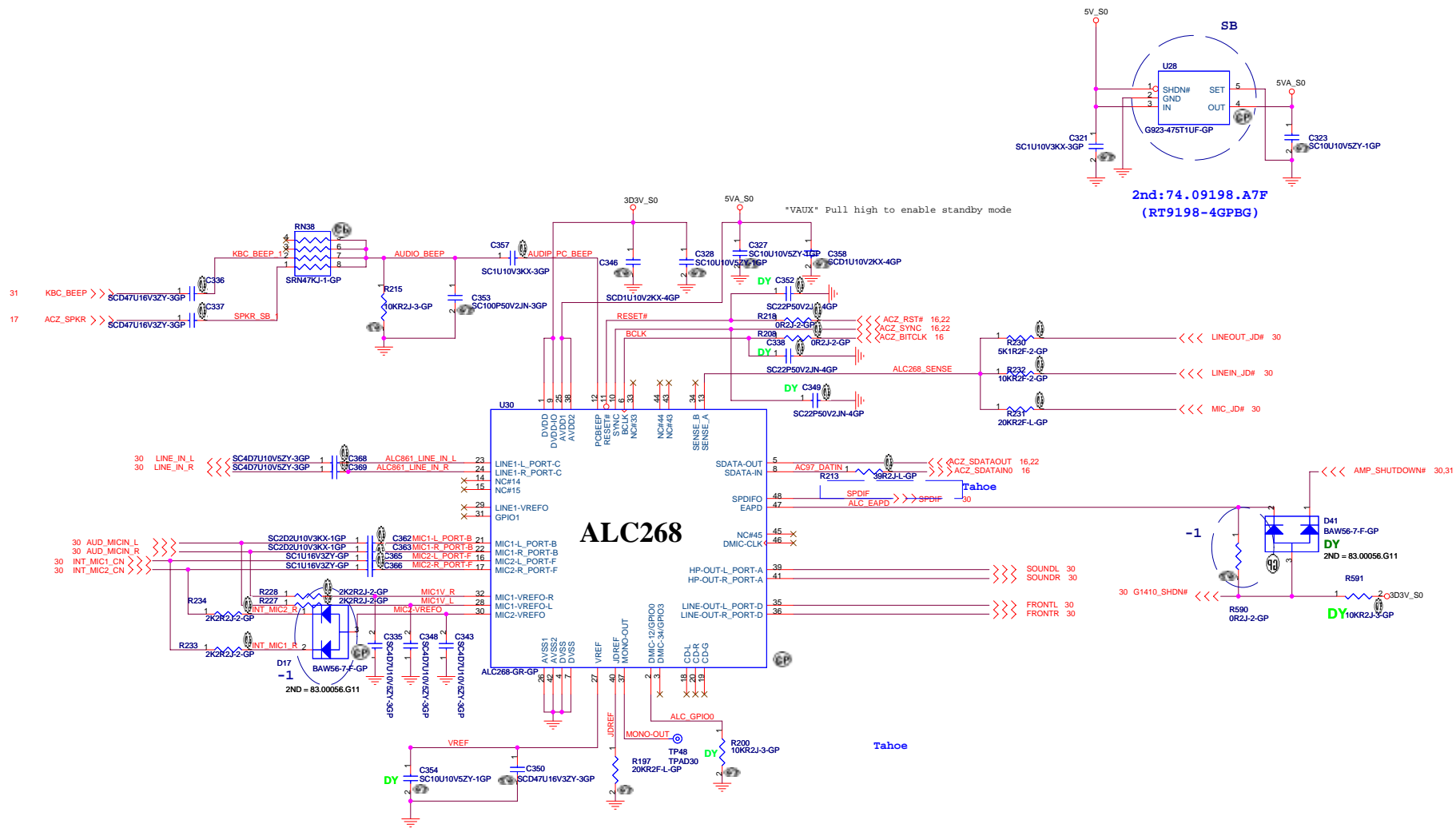


FCI-CONN-4-GP-U



bom1

<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>MINI CARD / NEW CARD</b>	
<b>Tahoe</b>	
Date: Friday, April 27, 2007	Sheet 28 of 44

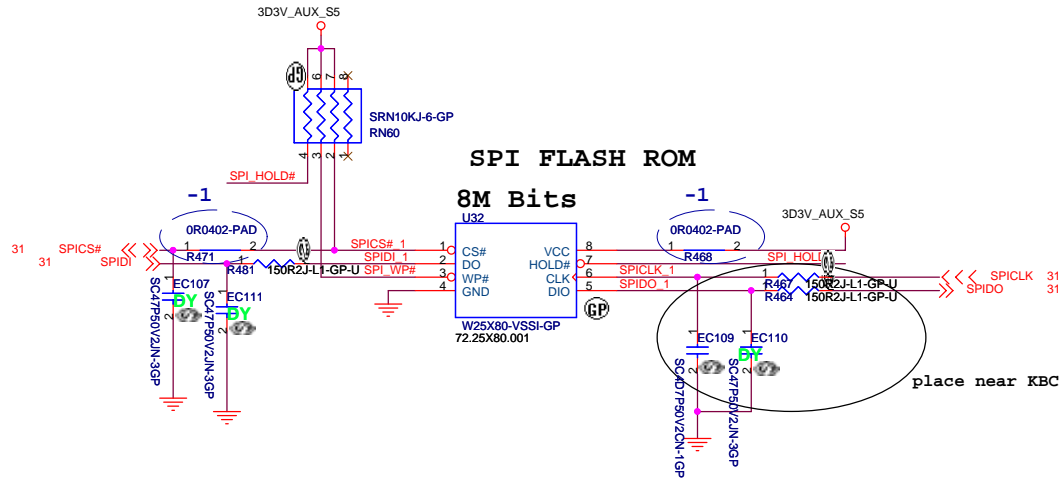






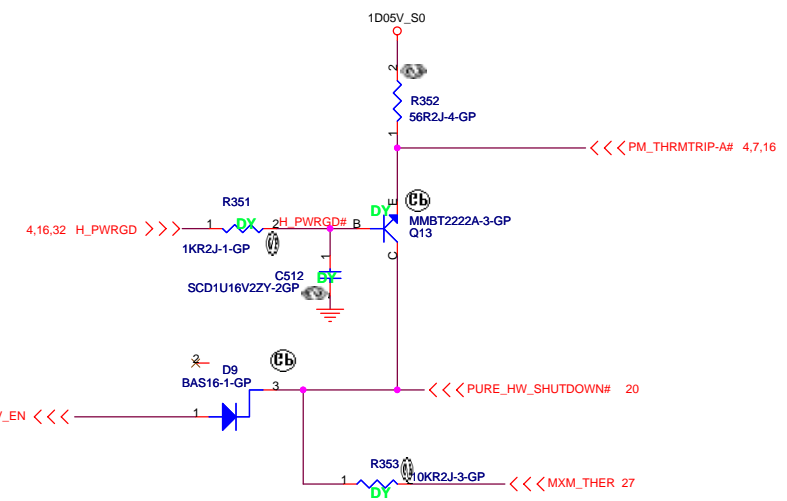
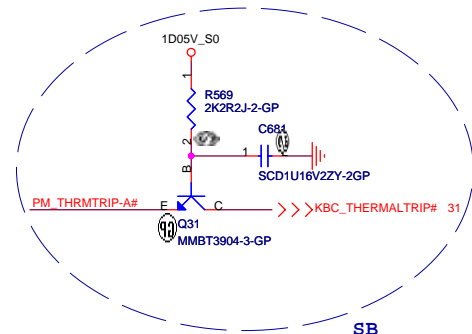
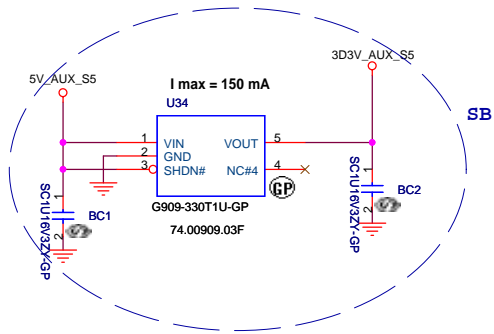




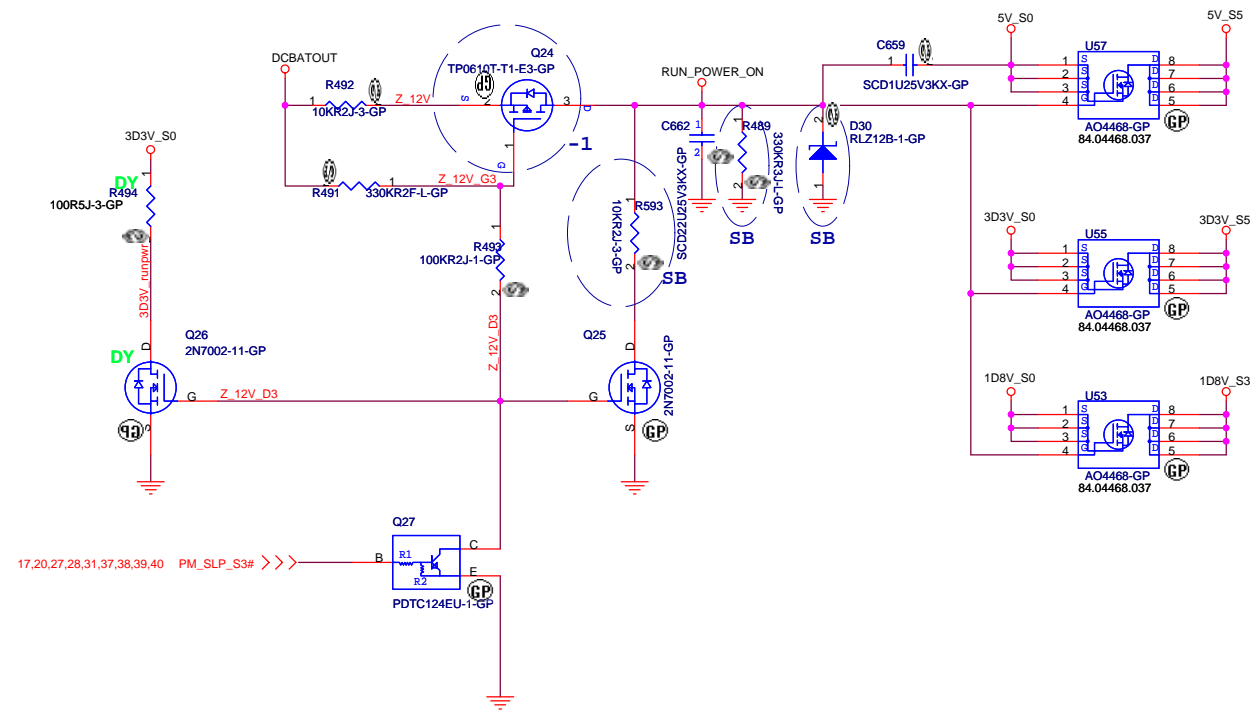


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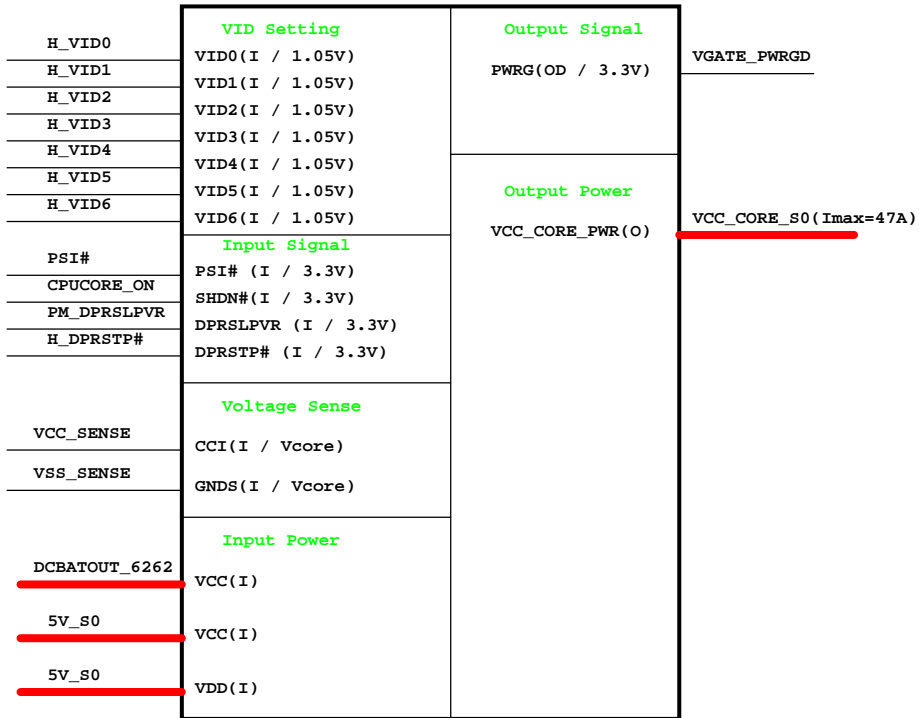
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		<small>21F, 8B, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</small>	
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BIOS			
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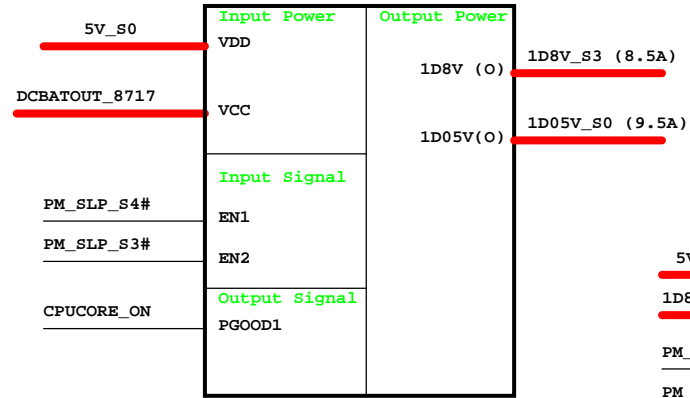
Run Power



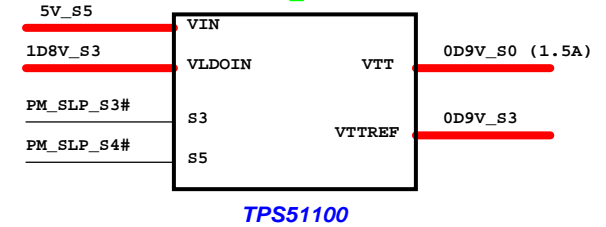
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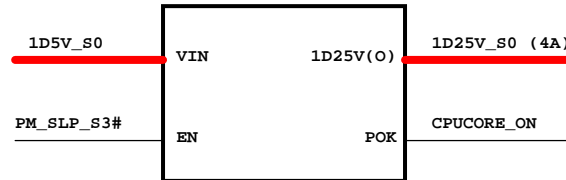
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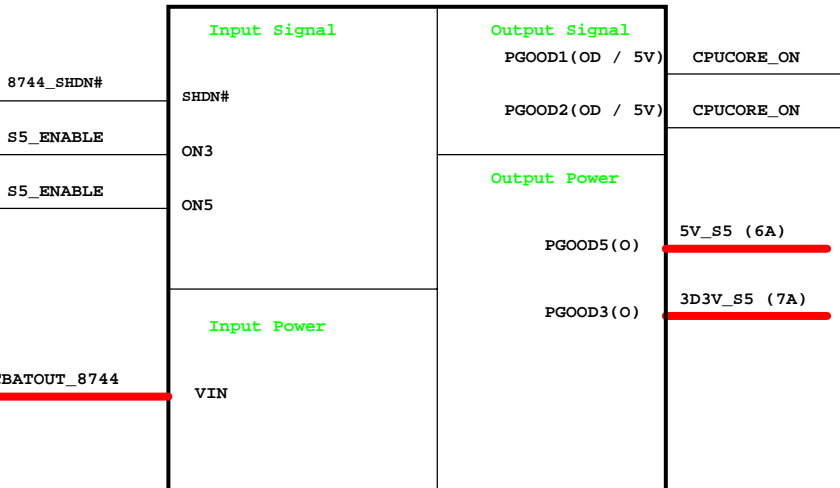


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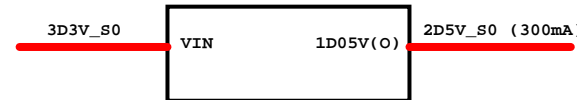


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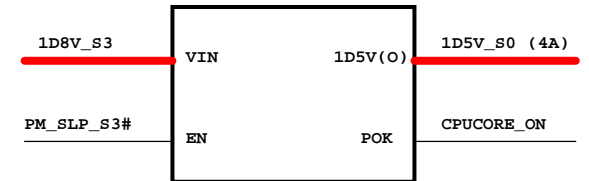


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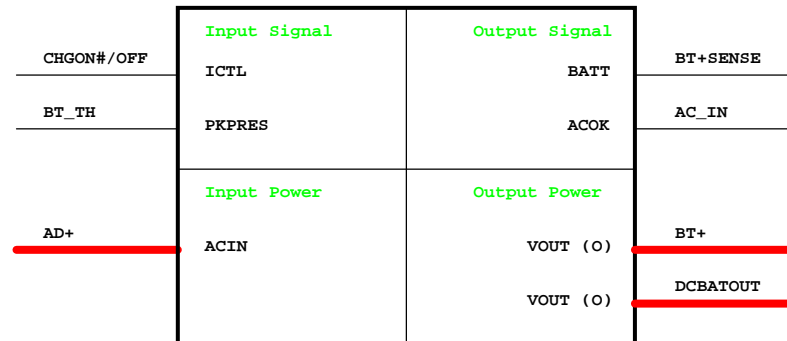
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**APL5912**

**Charger ISL6255**



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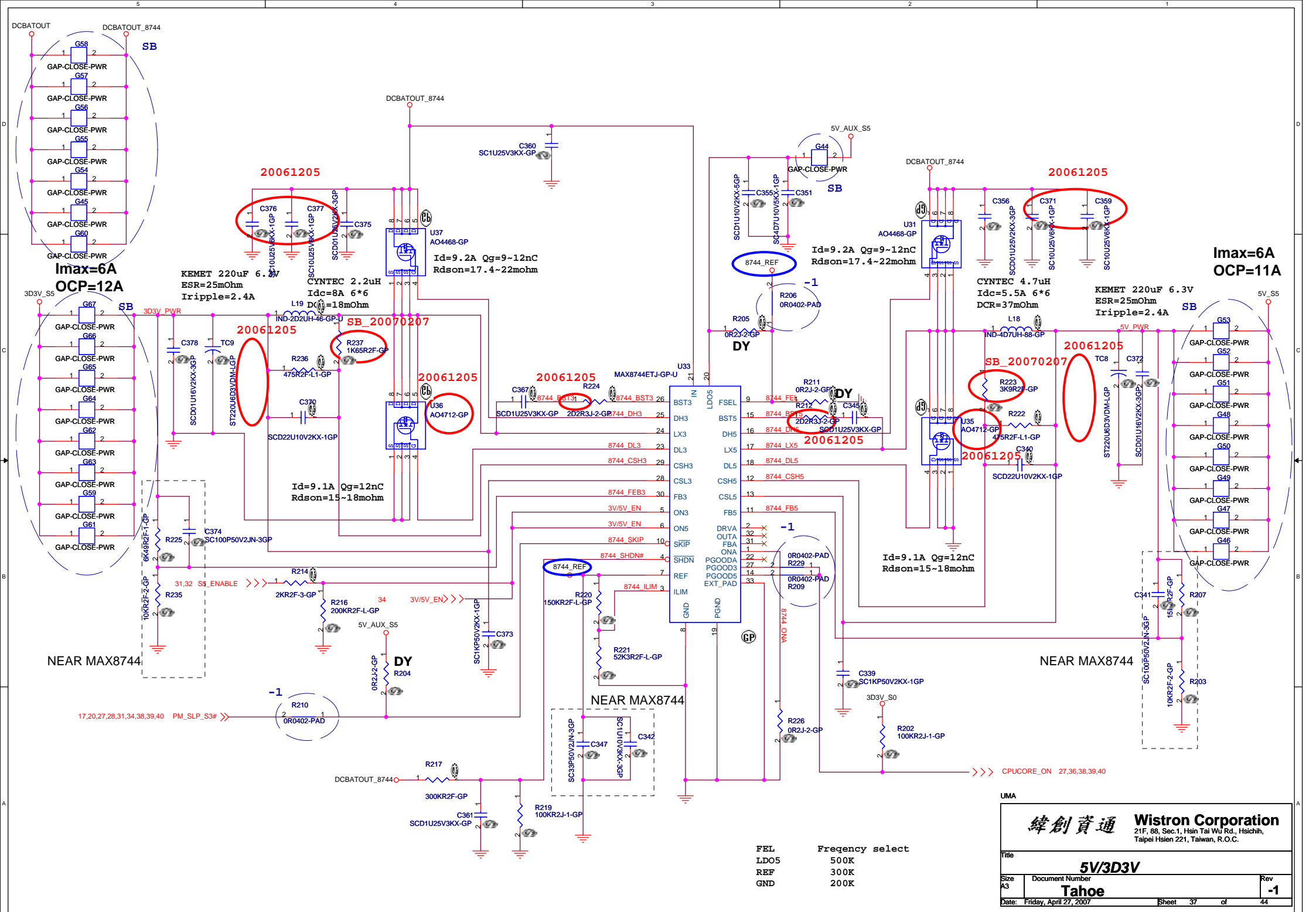
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Title: **Power Block Diagram**

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FEL	Frequency select
LDO5	500K
REF	300K
GND	200K

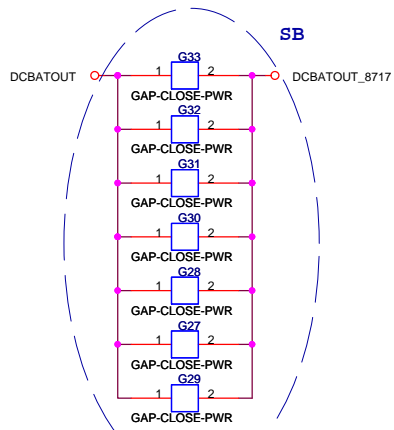
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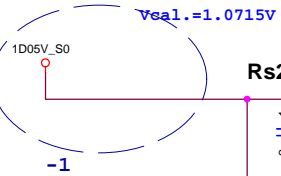
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Size A3	Document Number	Rev
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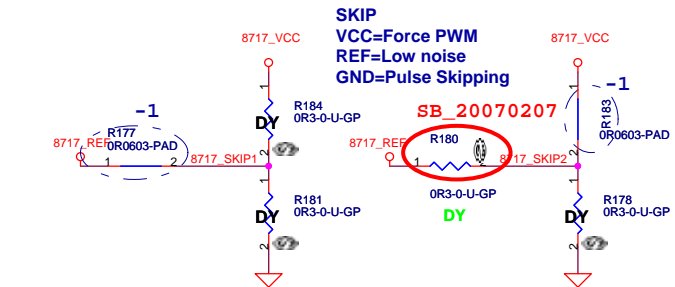
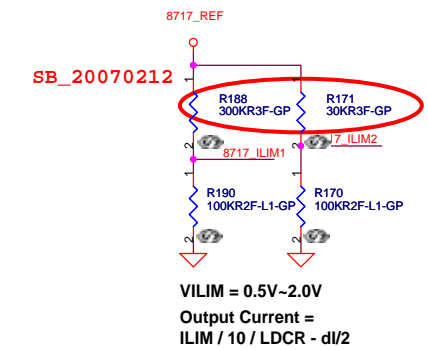
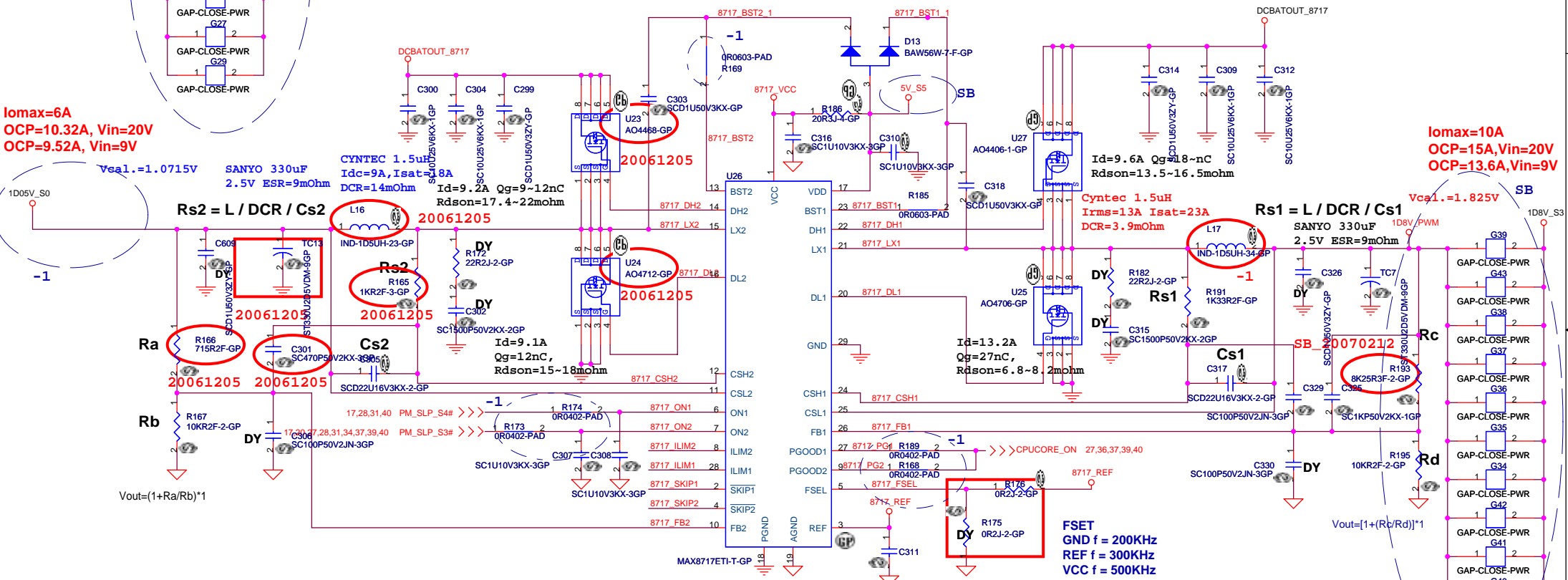
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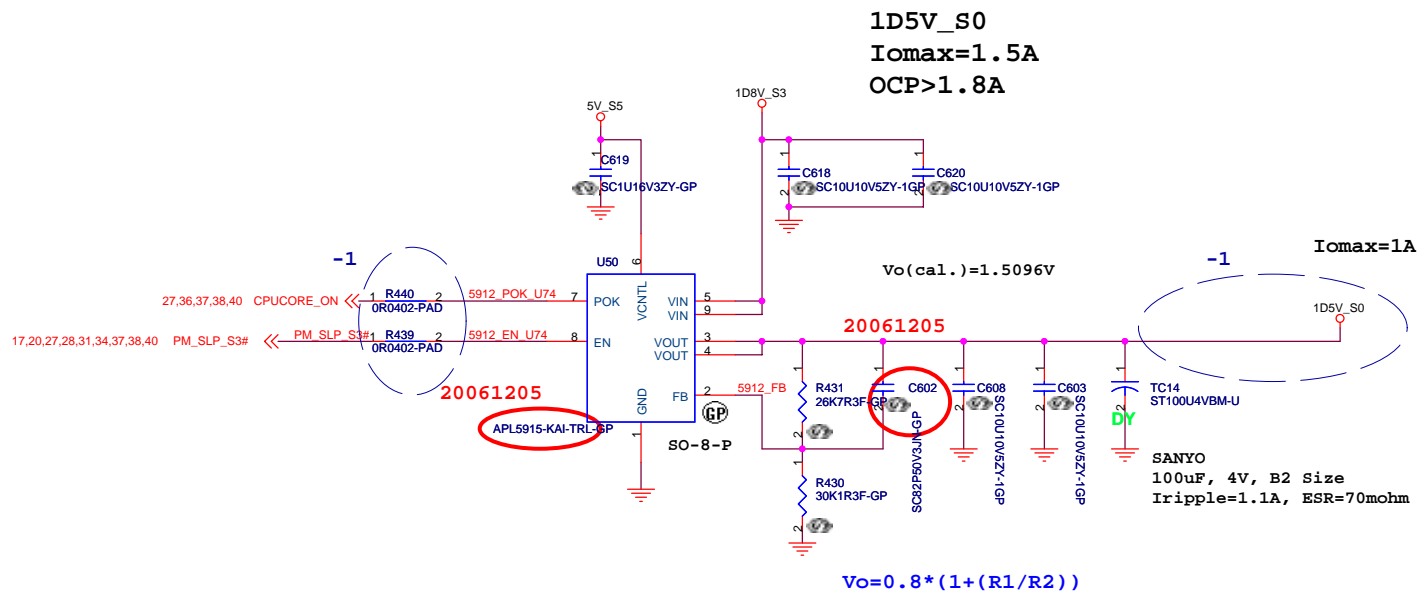
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**OCp=10.32A, Vin=20V**  
**OCp=9.52A, Vin=9V**



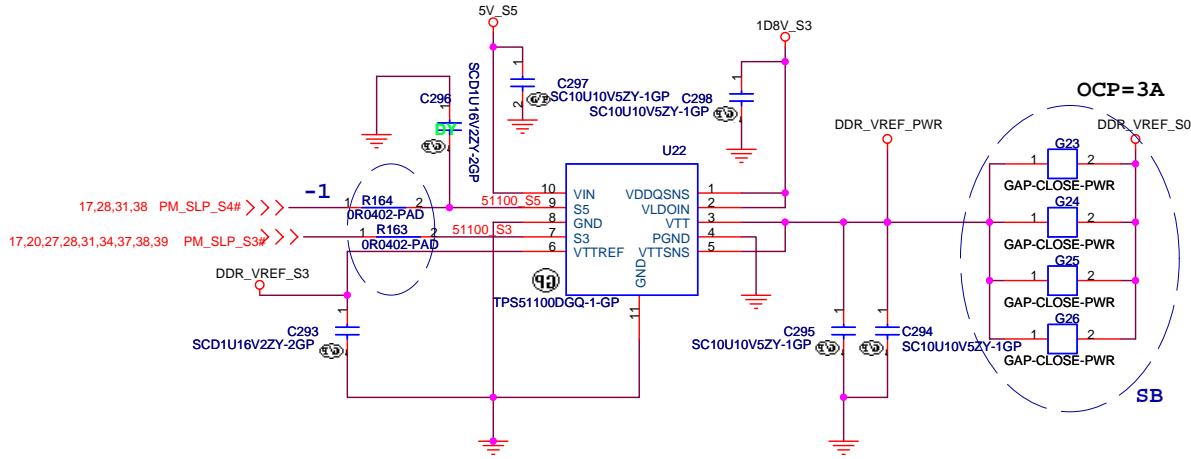
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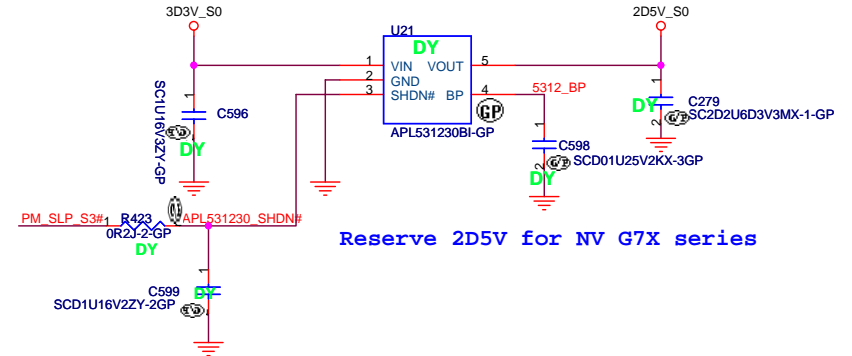
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**GND f = 200KHz**  
**REF f = 300KHz**  
**VCC f = 500KHz**



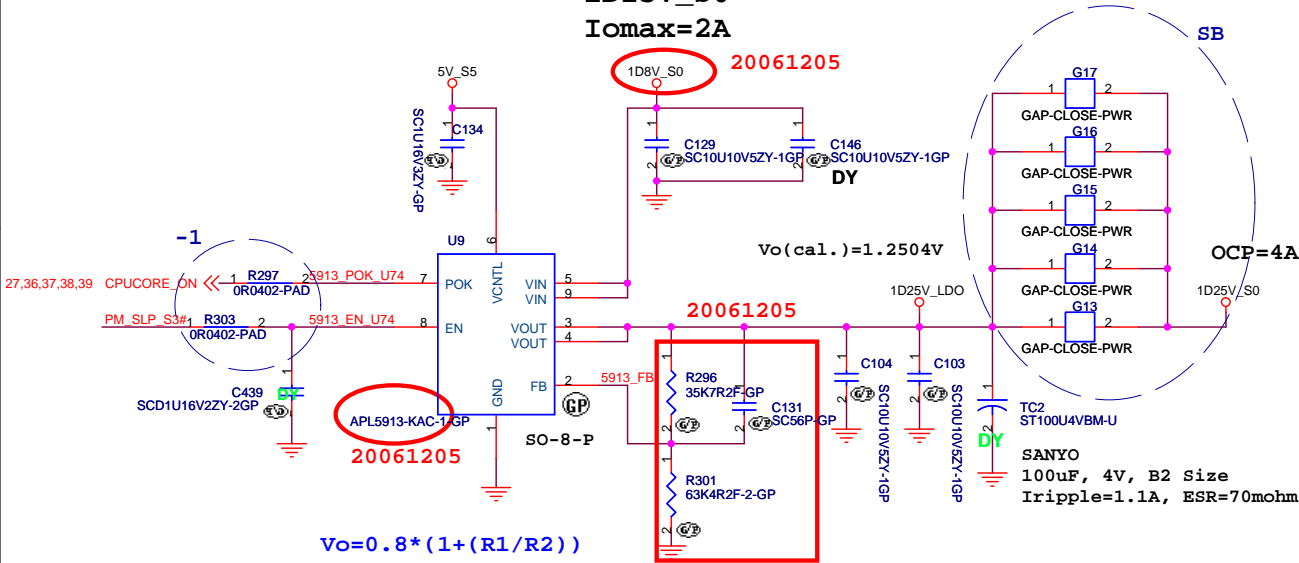
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**Iomax=0.5A**



**2D5V**  
**Iomax=130mA**



**1D25V\_S0**  
**Iomax=2A**



UMA

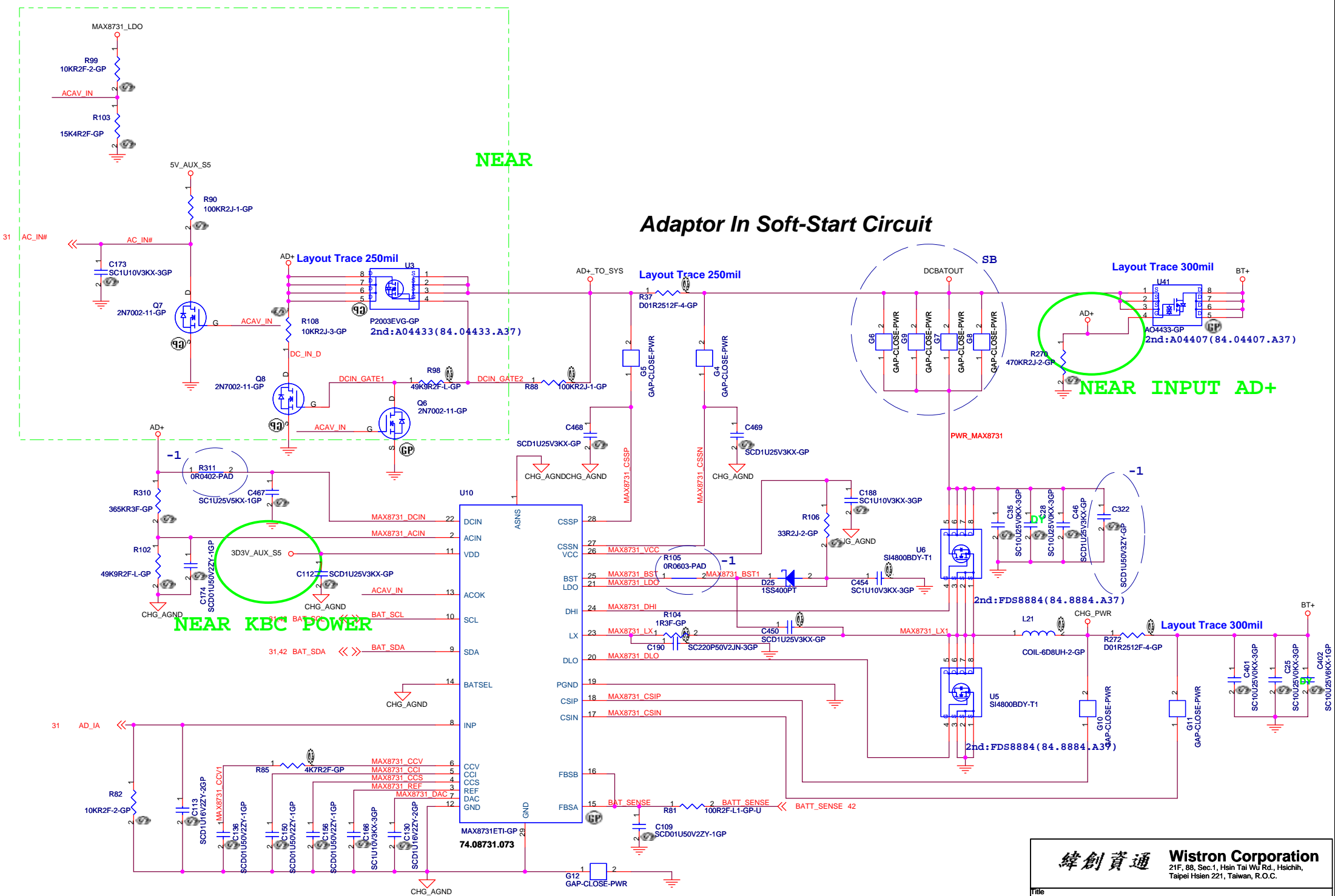
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 Taipei Hsien 221, Taiwan, R.O.C.

Title **1D25V/2D5V//1D05V/0D9V**

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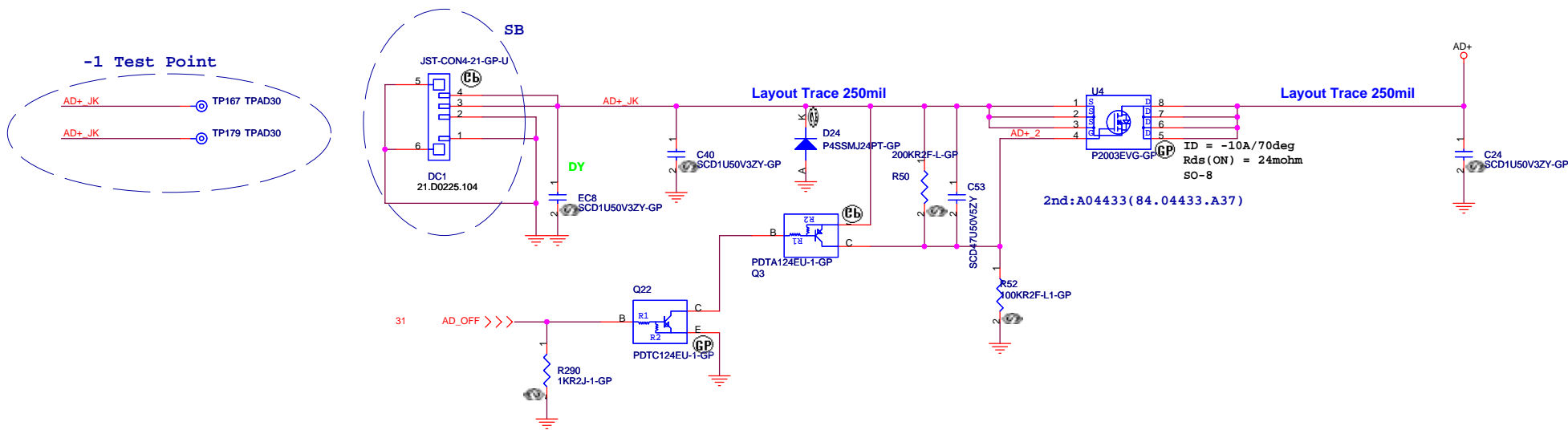




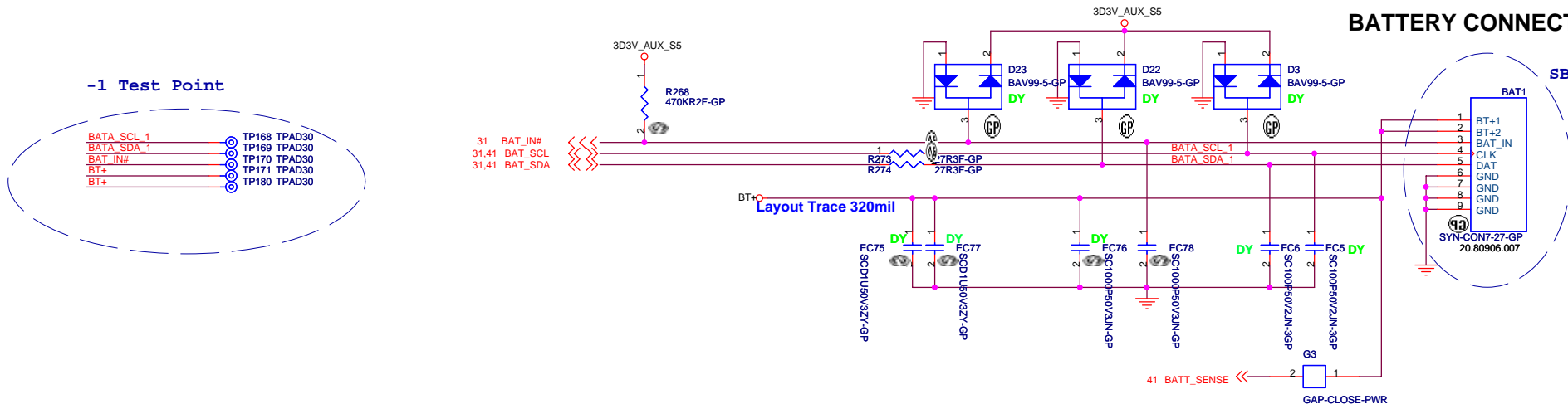
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<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>CHARGER MAX8731</b>	
Title <b>CHARGER MAX8731</b>	Document Number <b>Tahoe</b>
Size A3	Rev <b>-1</b>
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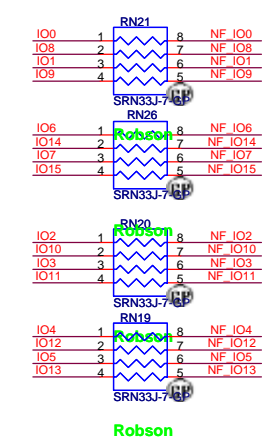
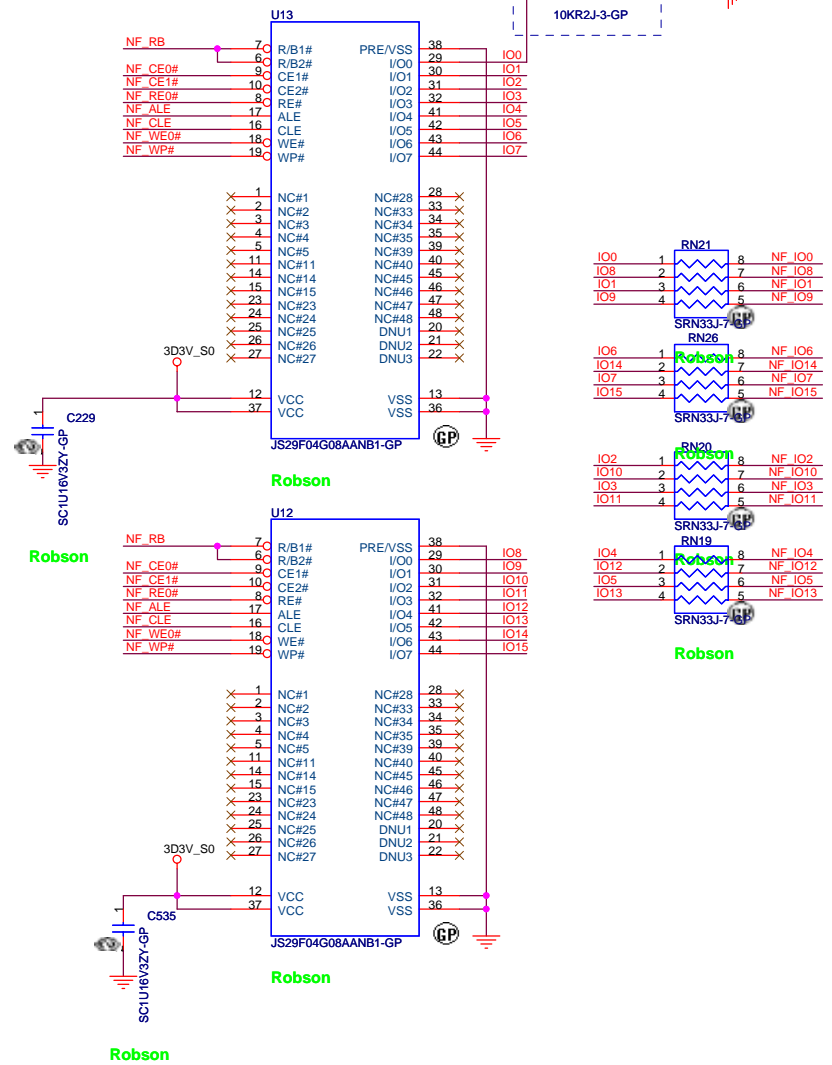
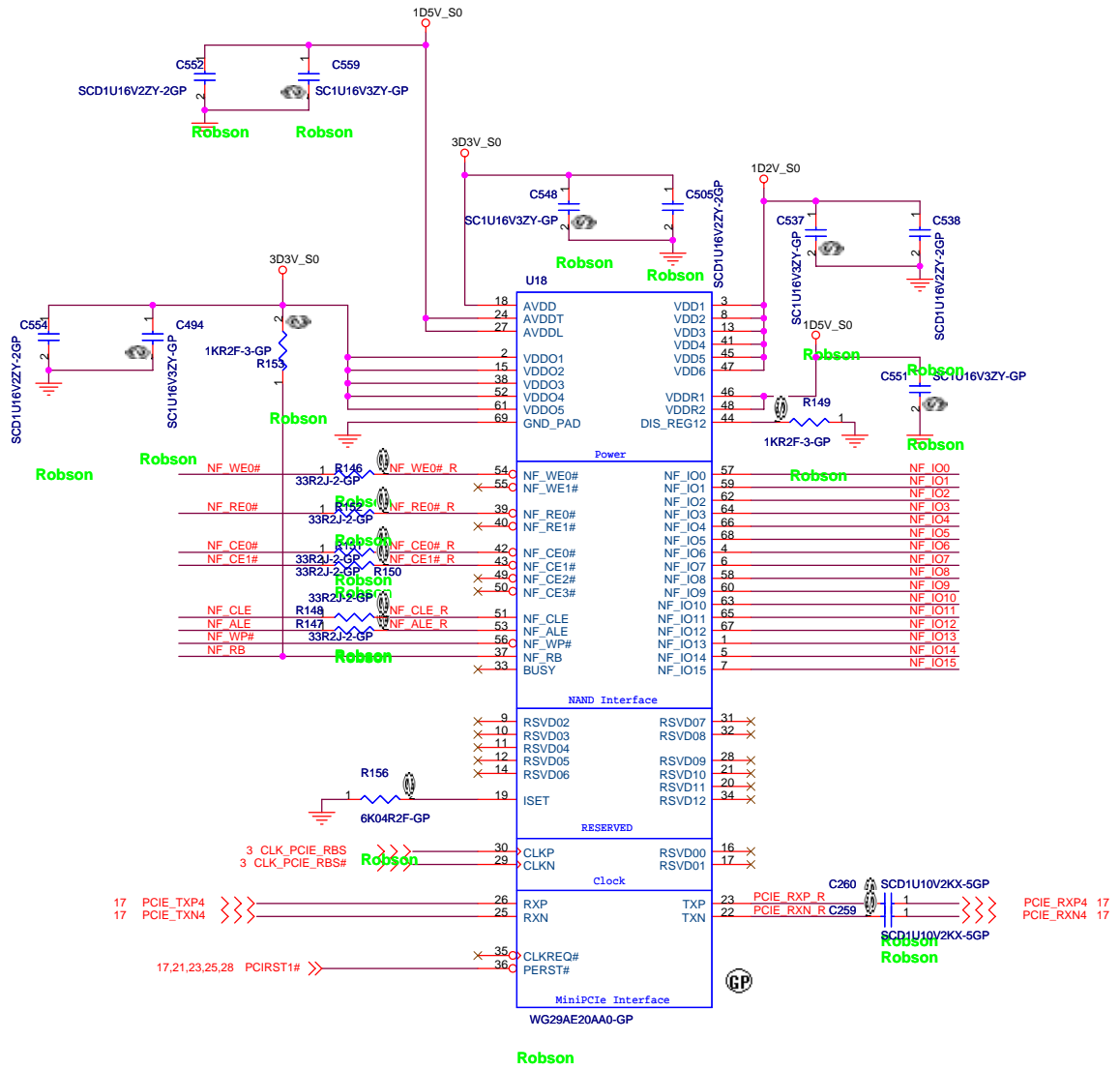


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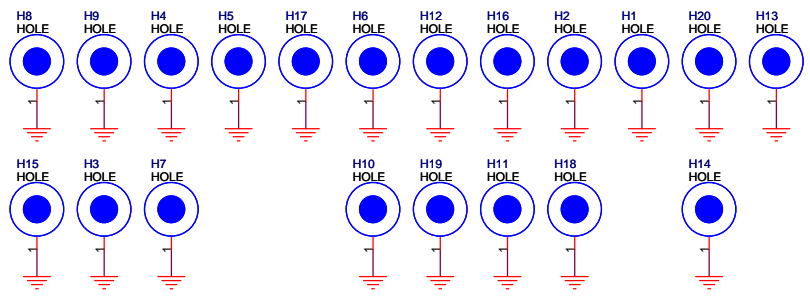
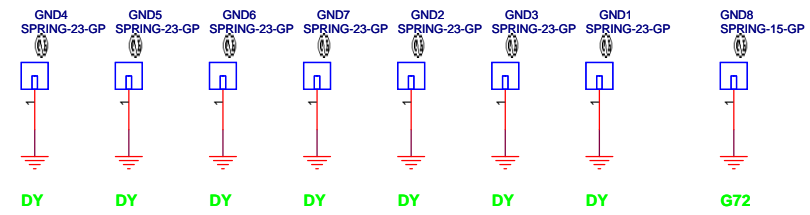
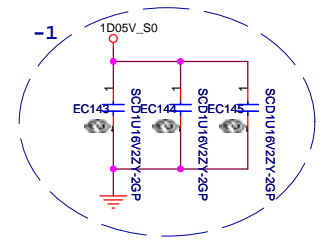
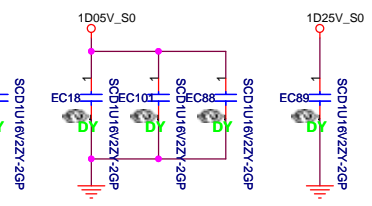
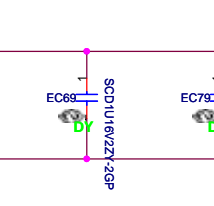
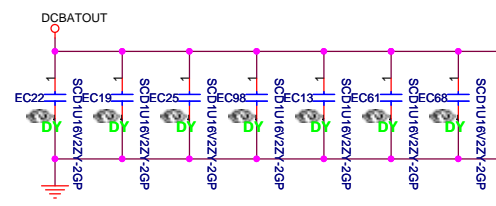
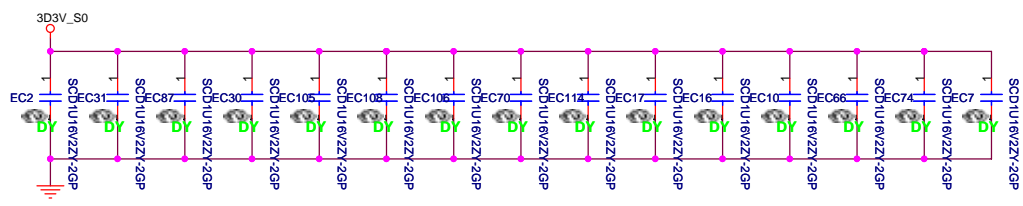
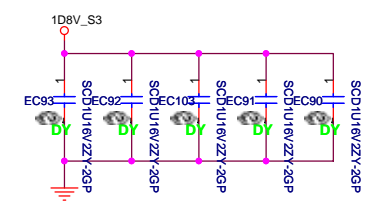
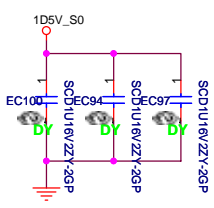
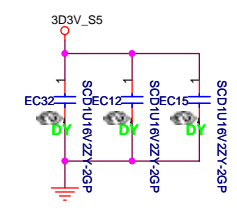
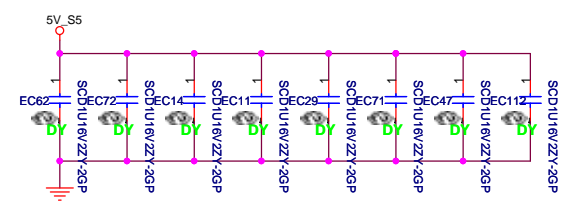
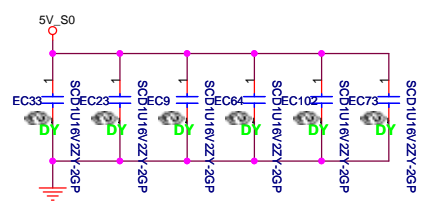
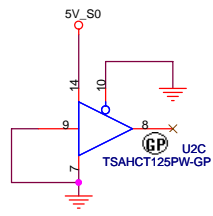
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Title: **EMI/Spring/Boss**

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