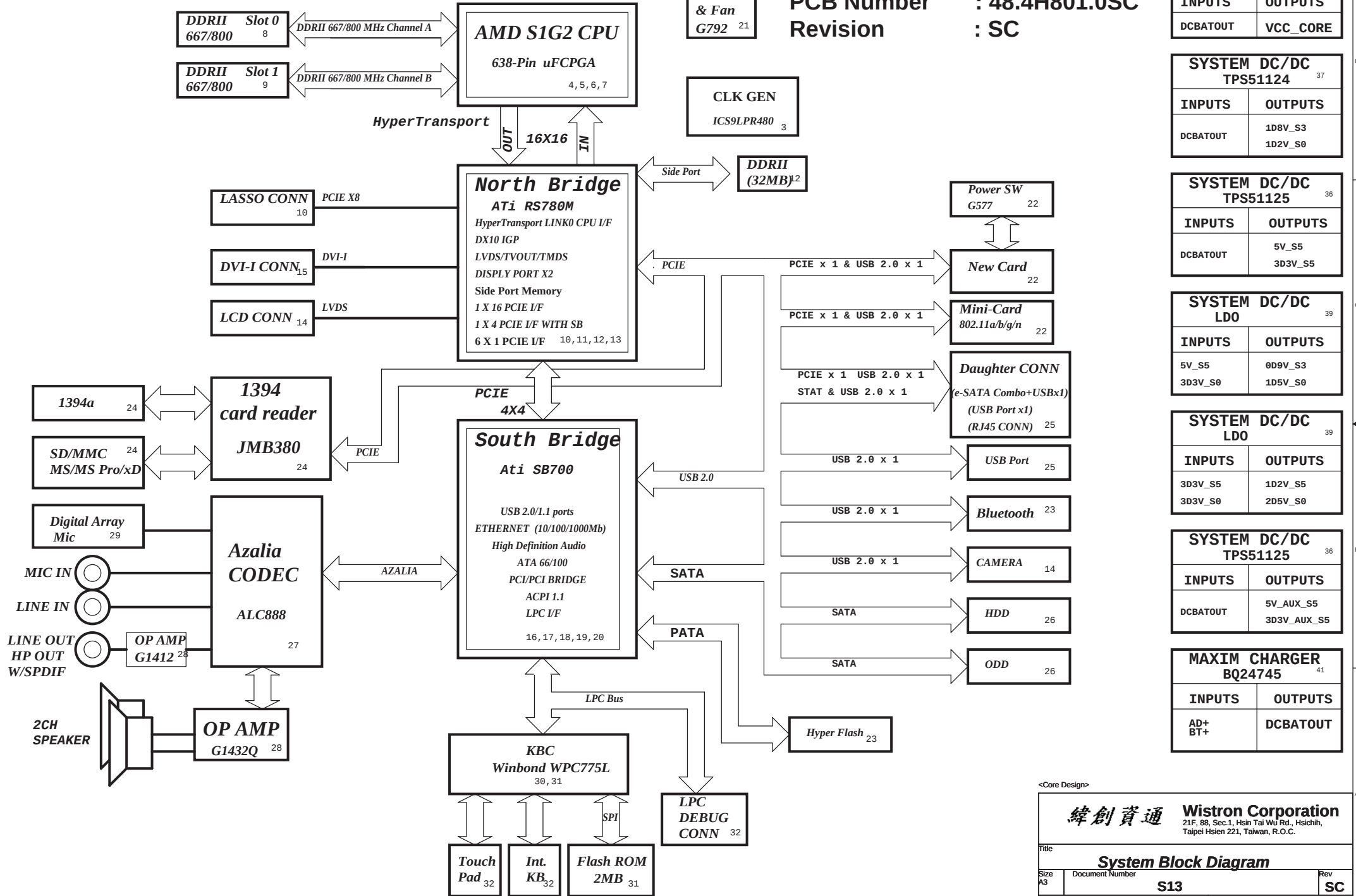


S13 Block Diagram

Project code : 91.4H801.001
PCB Number : 48.4H801.0SC
Revision : SC



<Core Design>

緯創資通

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

Title

System Block Diagram

Size
A3

Document Number

S13

Rev
SC

Date: Friday, May 16, 2008

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RS780M Functional Strap Definitions

STRAP_DEBUG_BUS_GPIO_ENABLE

Enables the Test Debug Bus using GPIO.(PIN: RS780M--> VSYNC)
0 : Enable * 1 : Disable

RS780: Enables Side port memory (RS780 use HSYNC)

* 0 : Enable 1 : Disable

SUS_STAT#

Selects Loading of STRAPS From EEPROM
1 : Bypass the loading of EEPROM straps and use Hardware Default Values
* 0 : I2C Master can load strap values from EEPROM if connected,
or use default values if not connected

SB700 Functional Strap Definitions

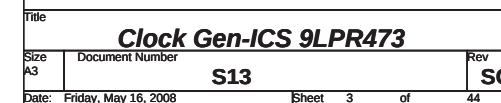
		PULL HIGH	PULL LOW
CLK_PCI_2	WatchDOG (NB_PWRGD)	ENABLED	DISABLED DEFAULT
CLK_PCI_3	DEBUG STRAPS	USB	IGNORE DEFAULT
CLK_PCI_1 CLK_PCI_4	RESERVED		
LPCCLK0	PCI MEM BOOT	ENABLED	DISABLED DEFAULT
LPCCLK1	INTERNAL CLK GEN	ENABLED	DISABLED DEFAULT
RTCCLK	INTERNAL RTC	ENABLED DEFAULT	DISABLED
AZ_RST#	IMC	ENABLED	DISABLED DEFAULT
SB_GPO17 SB_GPO16	ROM TYPE	H, H = Reserved H, L = SPI ROM L, H = LPC ROM DEFAULT L, L = FWH ROM	

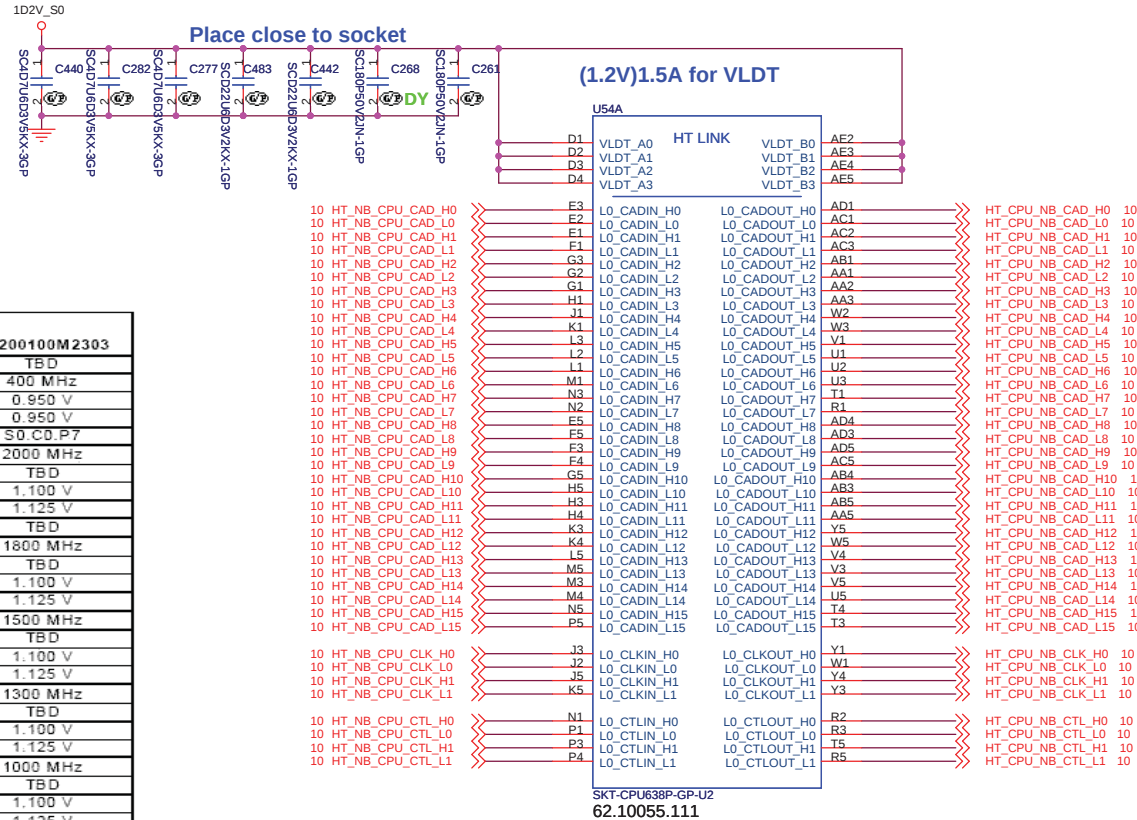
		USB PORT#	DESTINATION
SB700	2.0	0	USB1
		1	CAMERA
		2	Combo (ESATA/USB)
		3	NEW CARD
		4	USB2
		5	Bluetooth
		6	NC
		7	WLAN
		8	NC
		9	NC
		10	NC
		11	NC
	1.1	12	NC
		13	NC

PCI EXPRESS	DESTINATION
Lane 0	NEW CARD
Lane 1	WLAN
Lane 2	LAN
Lane 3	CARD READER&1394
Lane 4	NC
Lane 5	NC

<Core Design>

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
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Date: Friday, May 16, 2008	Rev SC
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State	Specification	Notes	ZM200100M2303
S0.C0.Px	Tcase Max	3	TBD
	NB COF	1	400 MHz
	VID_VDDNB Min	2	0.950 V
	VID_VDDNB Max	2	0.950 V
	Startup P-state		S0.C0.P7
S0.C0.P0	CPU COF	1	2000 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	IDD Max	3	TBD
S0.C0.P1	CPU COF	1	1800 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	1500 MHz
S0.C0.P2	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	1300 MHz
	TDP	3	TBD
S0.C0.P3	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	1000 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
S0.C0.P4	VID_VDD Max	2	1.125 V
	CPU COF	1	800 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P5	CPU COF	1	500 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	300 MHz
S0.C0.P6	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	300 MHz
	TDP	3	TBD
S0.C0.P7	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	CPU COF	1	300 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V

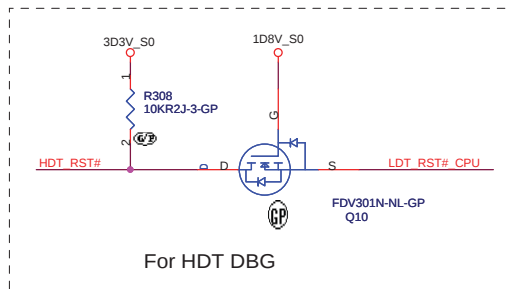
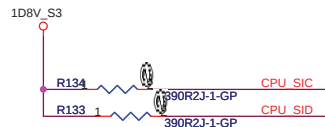
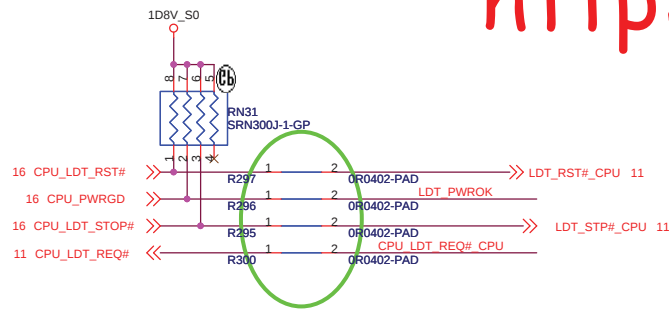
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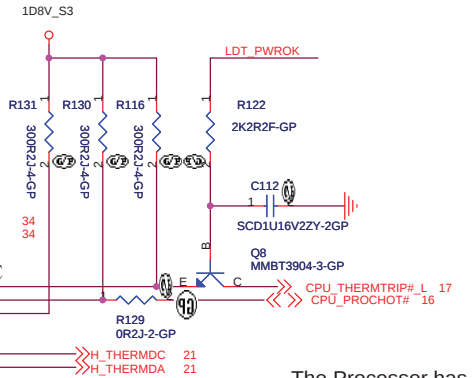
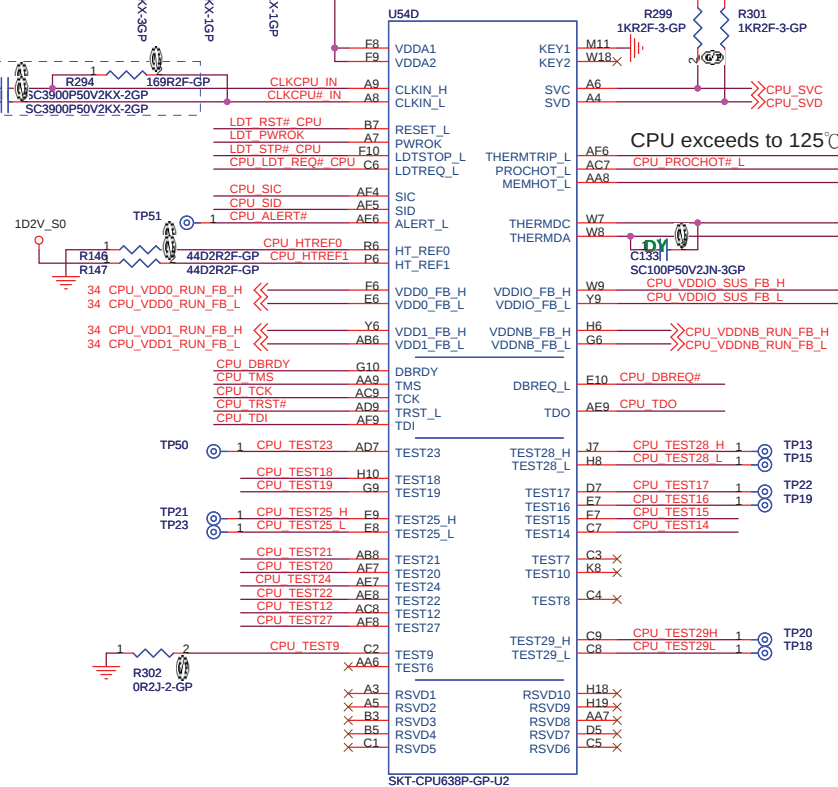
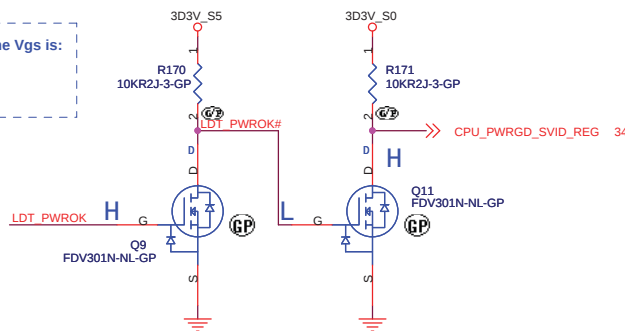
A

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Title			
CPU DDR (2/4)			
Size A3	Document Number		Rev
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Date:	Friday, May 16, 2008	Sheet 5 of	44



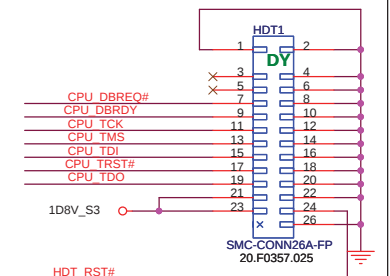
FDV301N, the Vgs is:
min = 0.65V
Typ = 0.85V
Max = 1.5V



The Processor has
reached a preset
maximum operating
temperature. 100°C
I=Active HTC
O=FAN

LAYOUT: Route FBCLKOUT_H/L
differentially impedance 80

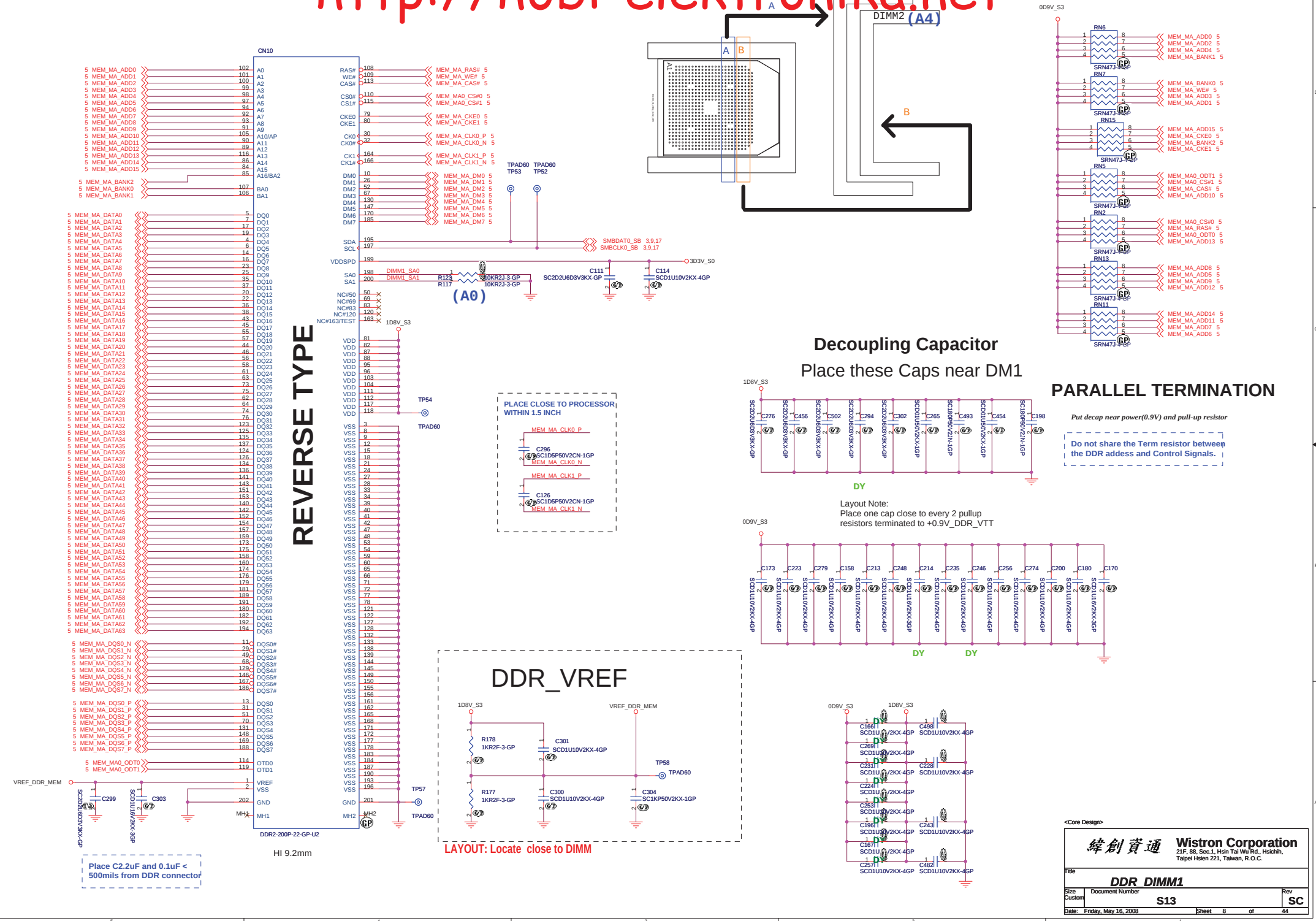
HDT Connectors



<Core Design>

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PARALLEL TERMINATION

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

Do not share the Term resistor between the DDR address and Control Signals.

REVERSE TYPE

Decoupling Capacitor

Place these Caps near DM2

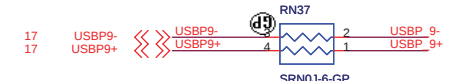
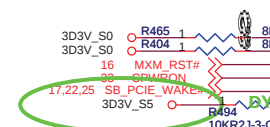
Layout Note: **DY**
Place one cap close to every 2 pullup resistors terminated to +0.9V_DDR_VTT

<Core Design>

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Tapei Hsien 223, Taiwan, R.O.C.

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LASSO CONNECTOR



HYPER TRANSPORT CPU I/F

PART 2 OF 6

PCIE I/F GFX

PCIE I/F GPP

PCIE I/F SB

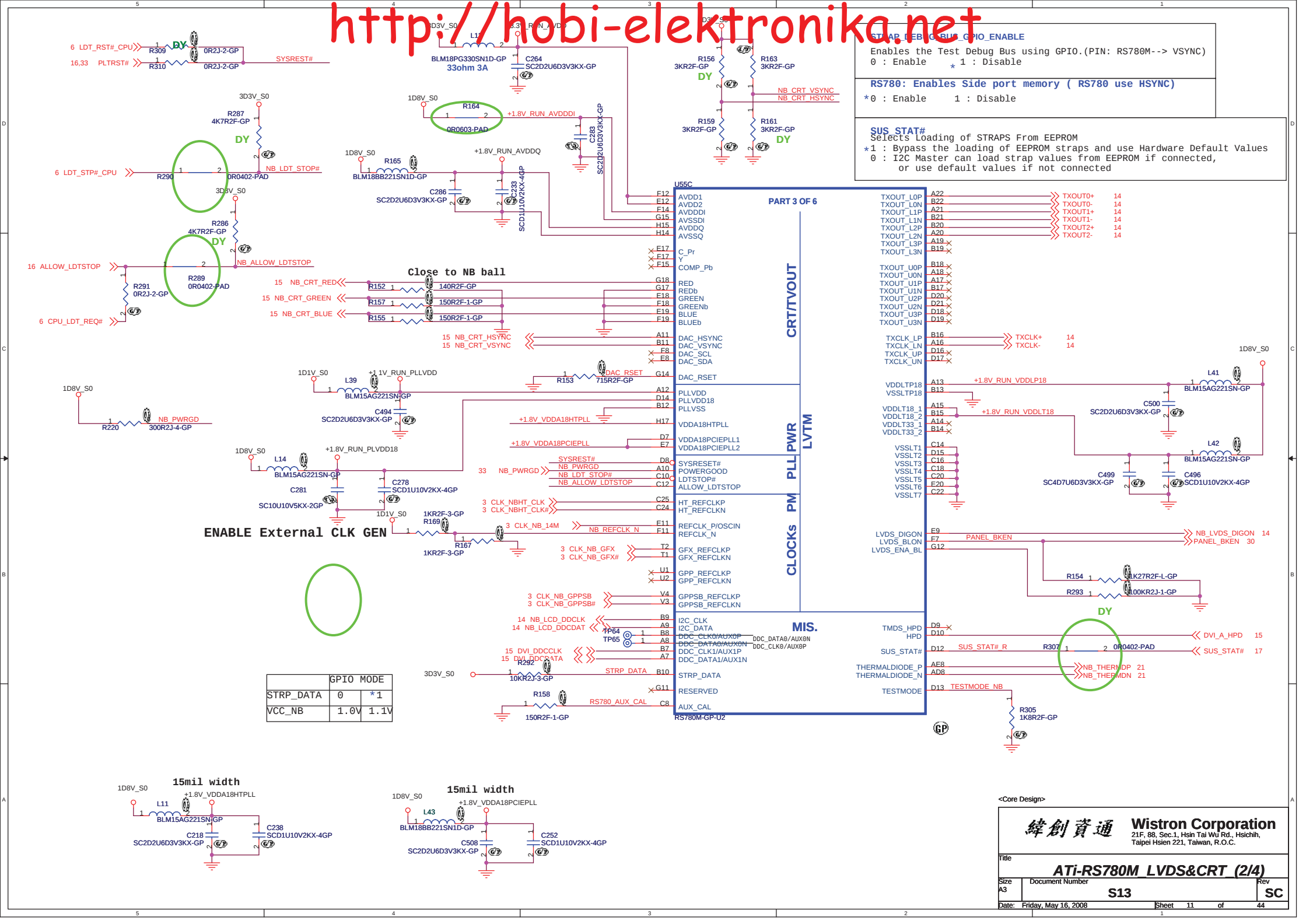
NEW ☐

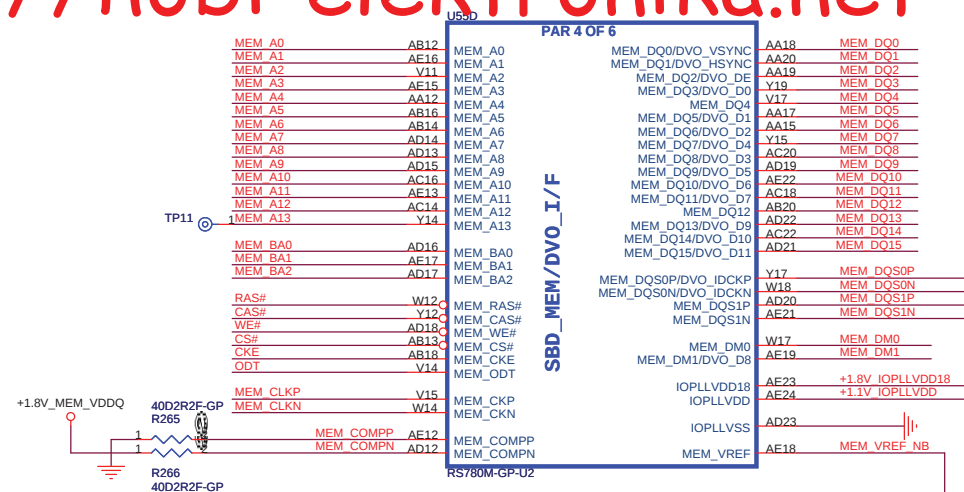
WLAN ☐

LAN ☐

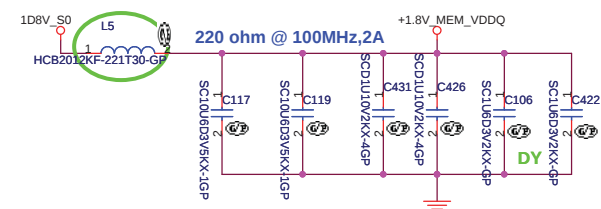
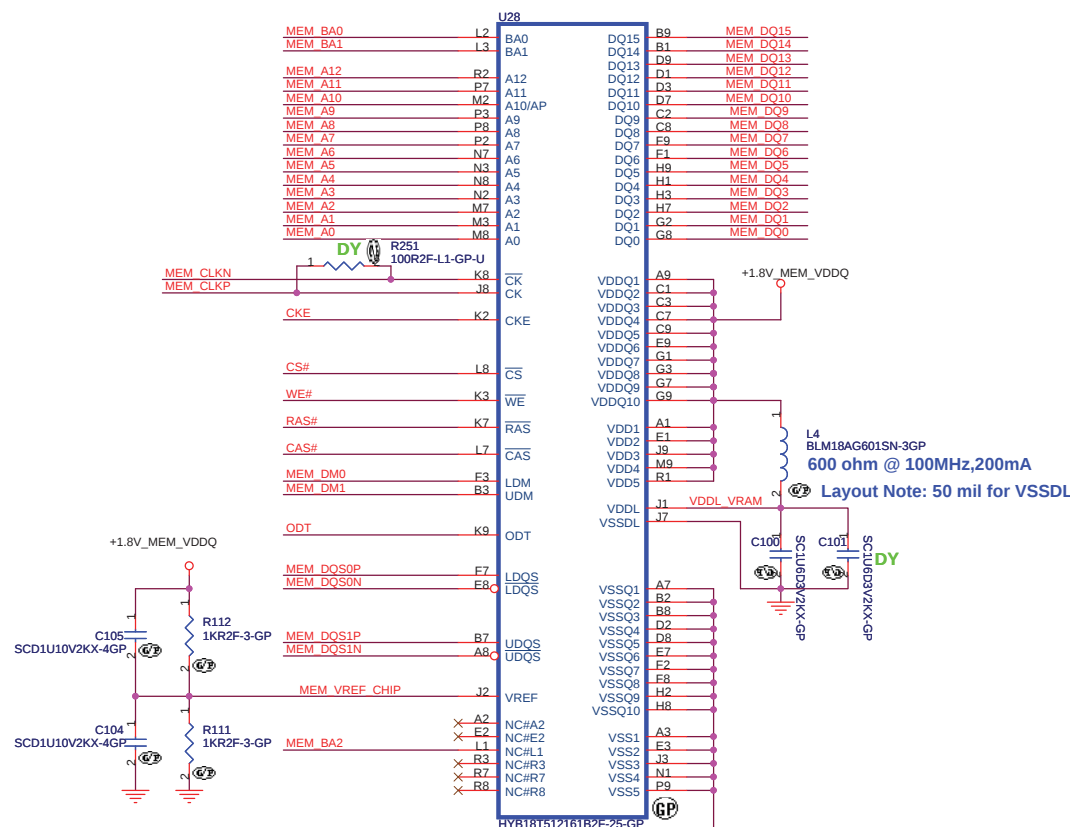
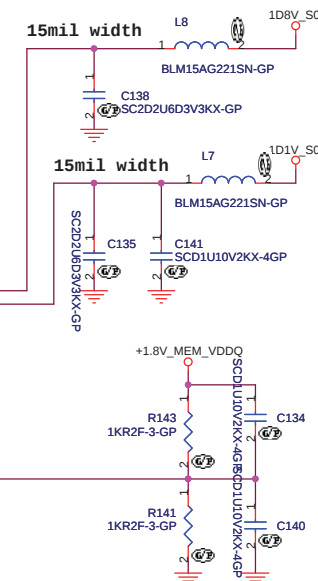
CARD ☐

A-LINK





MEM_COMP_P and MEM_COMP_N trace
width >=10mils and 10mils spacing from
other Signals in X,Y,Z directions



<Core Design>

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Title

ATi-RS780M SidePort (3/4)

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Size

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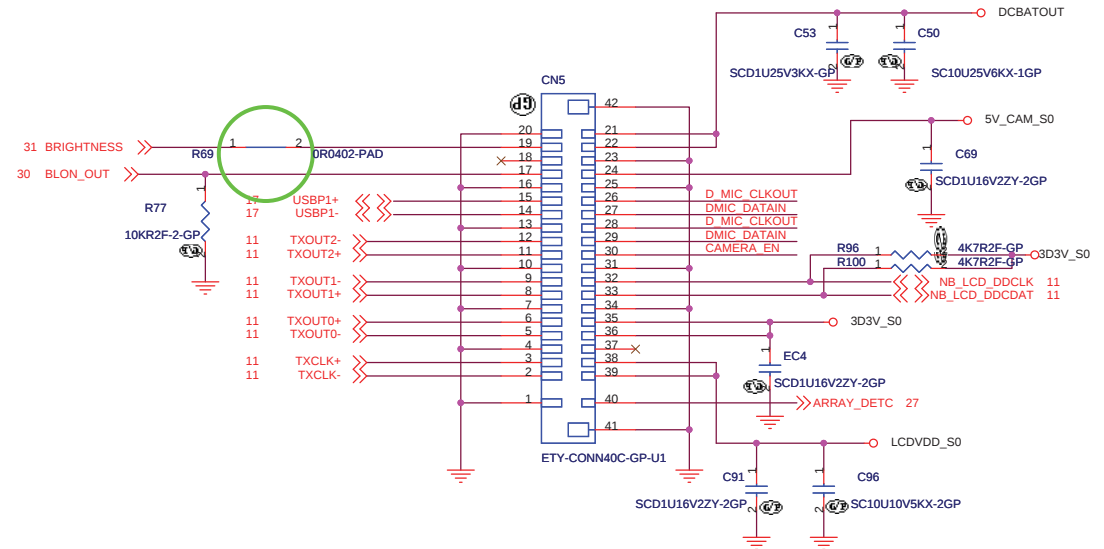
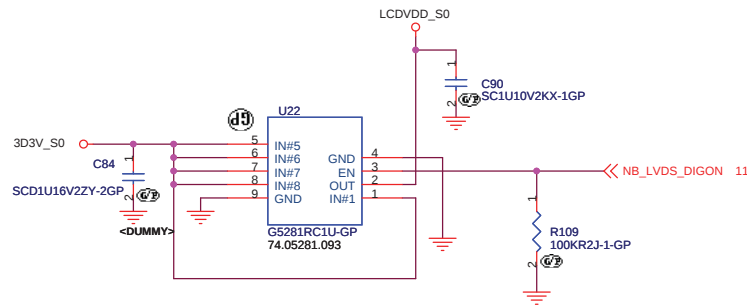
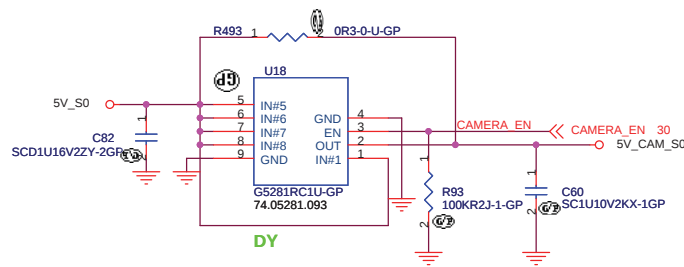
Rev

Date: Friday, May 16, 2008

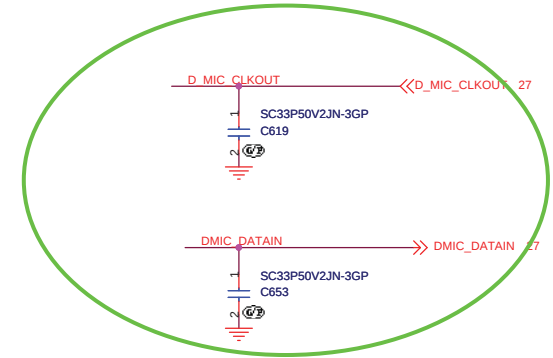
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LCD CONNECTOR

CAMERA POWER



TOP VIEW

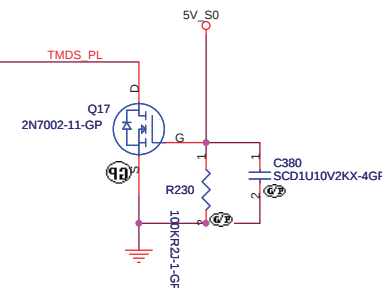
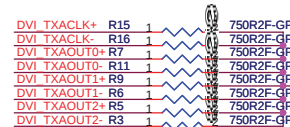
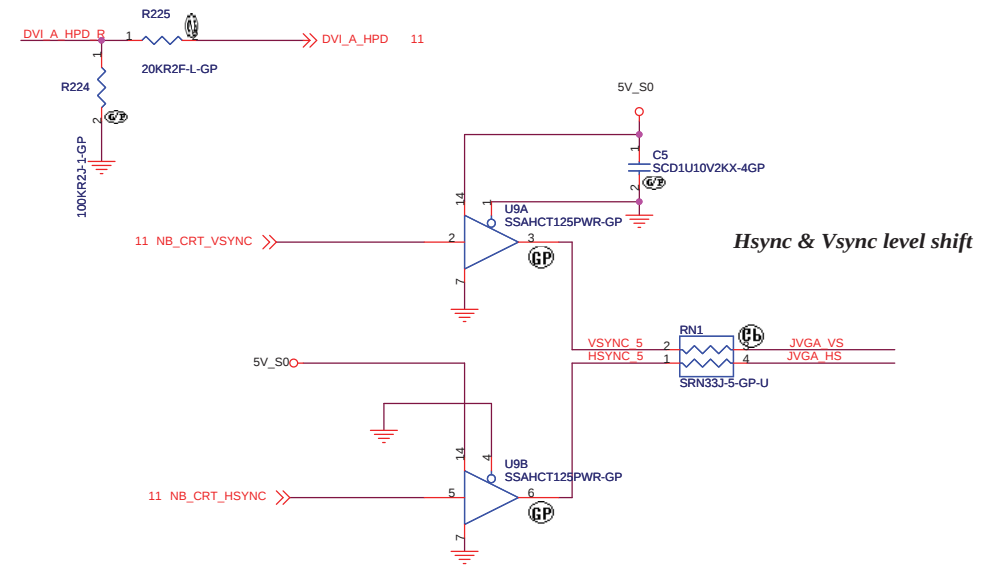
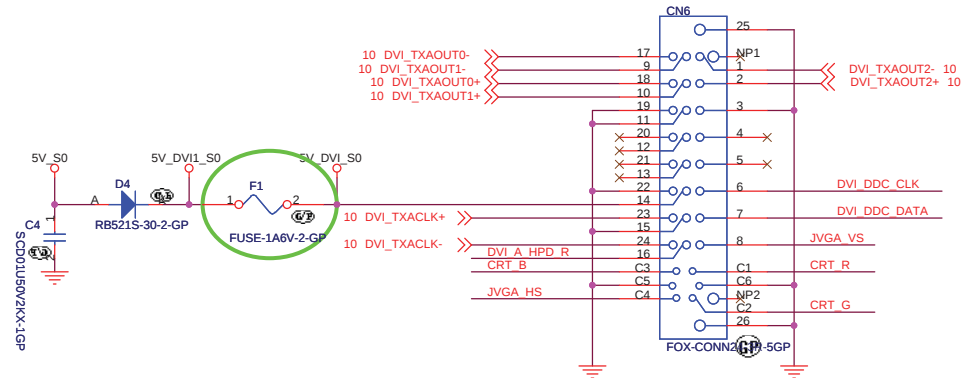
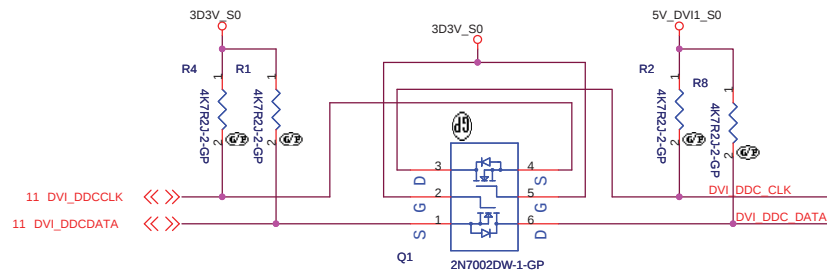
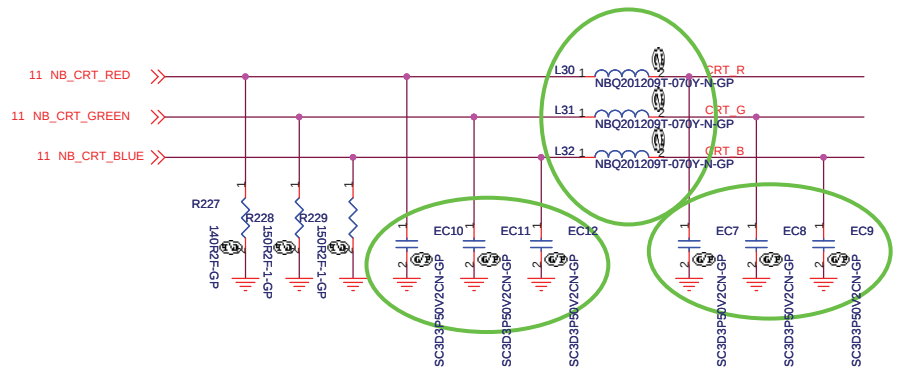


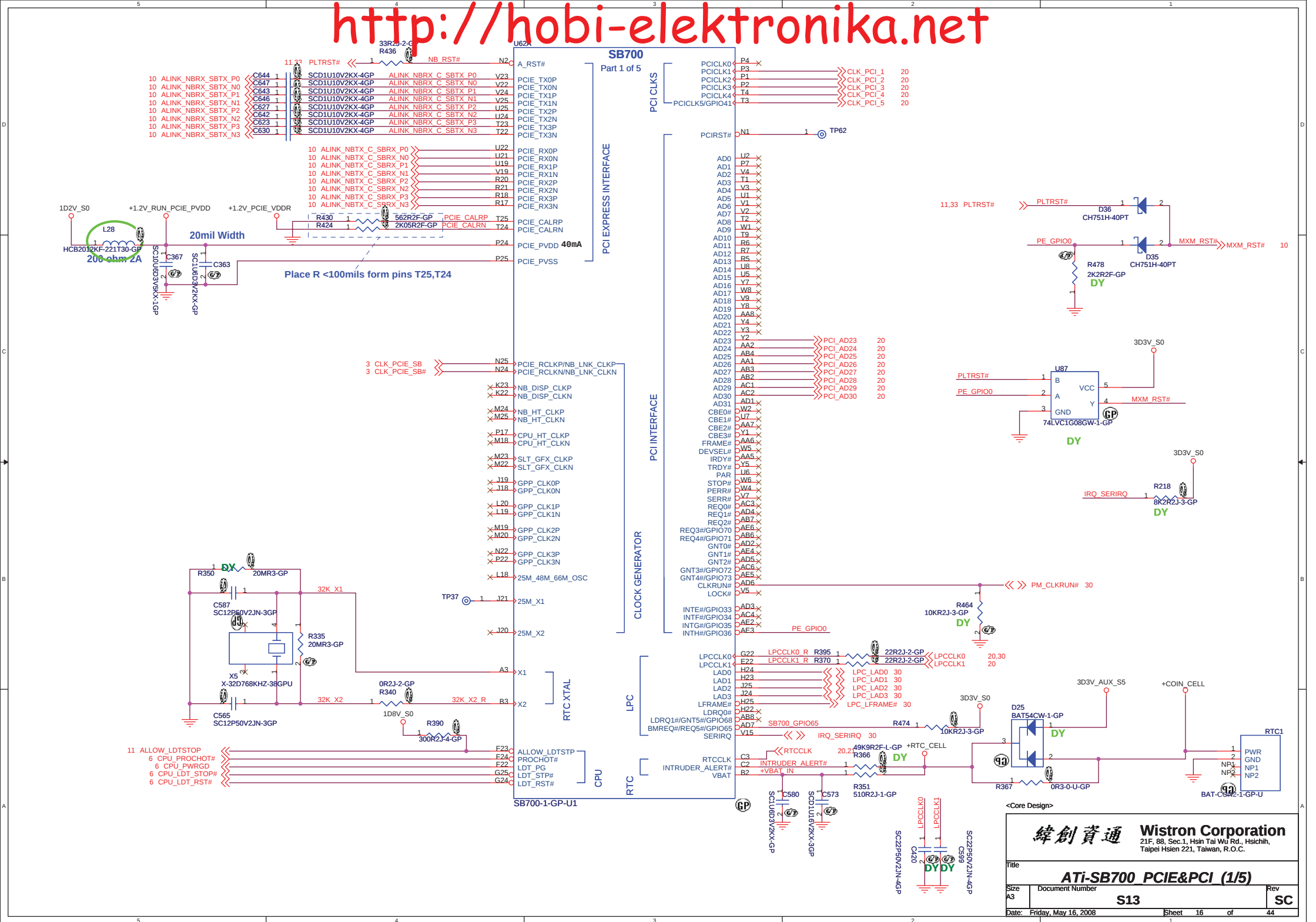
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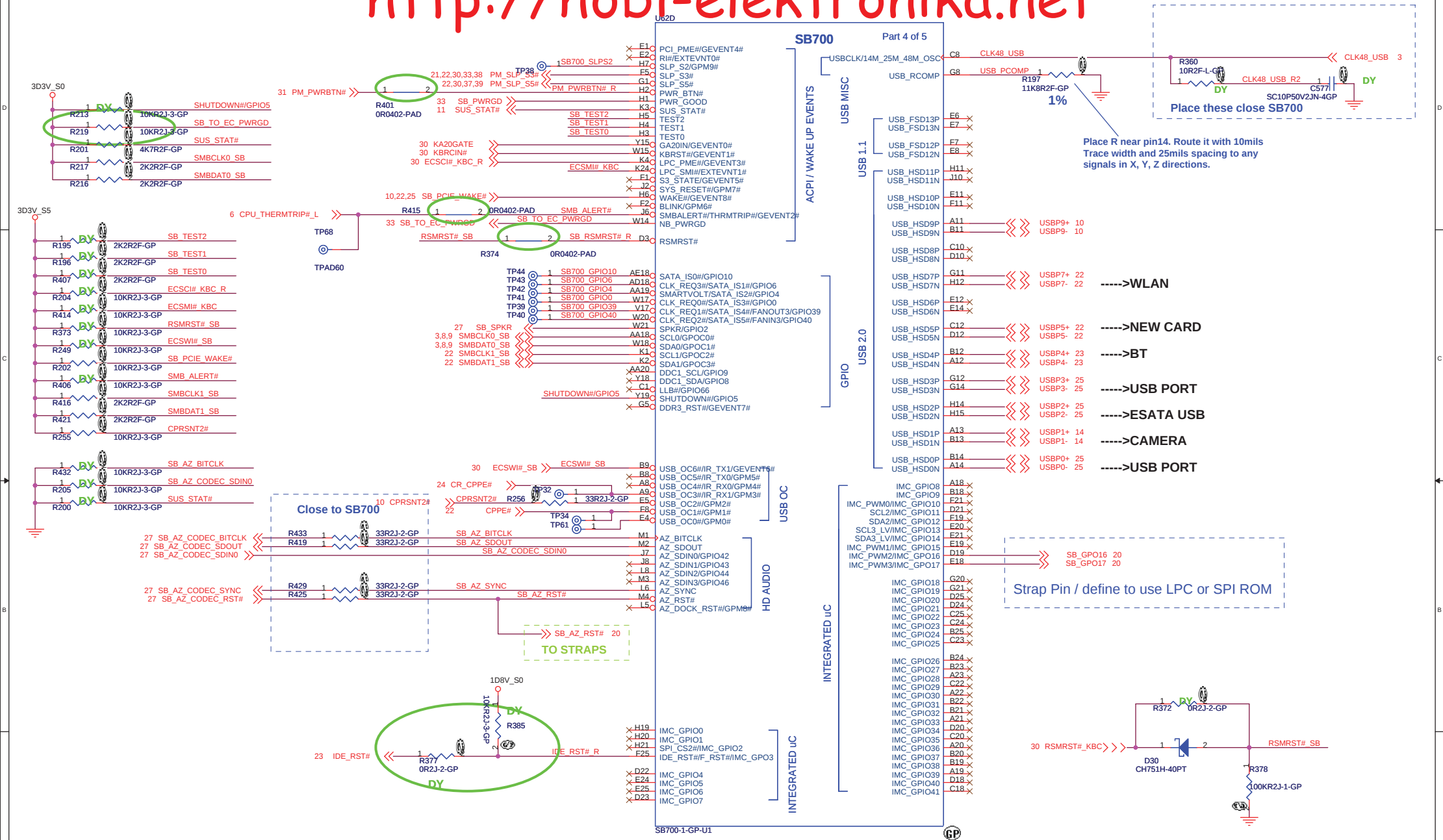
緯創資通 Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

Title		LCD CONN/CAMERA	
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Layout Note:
Place these resistors close to the connector



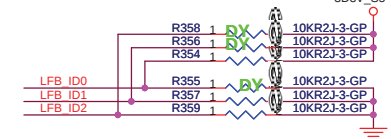


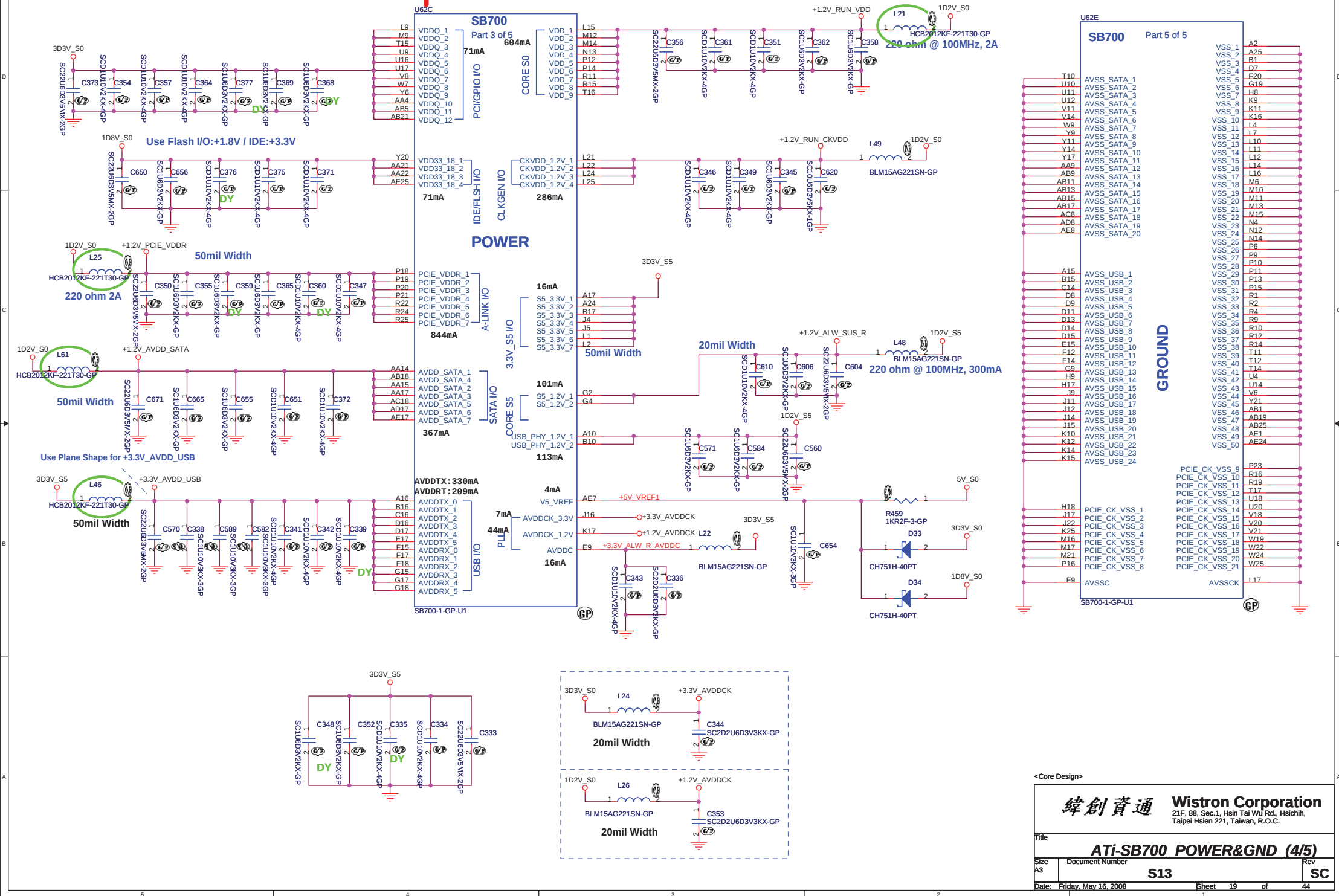


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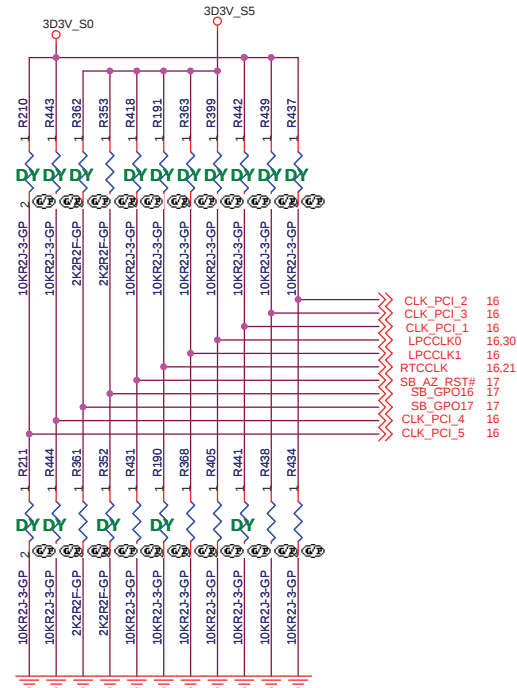
緯創資通 **Wistron Corporation**
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Title			
ATi-SB700 USB&GPIO (2/5)			
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REQUIRED STRAPS

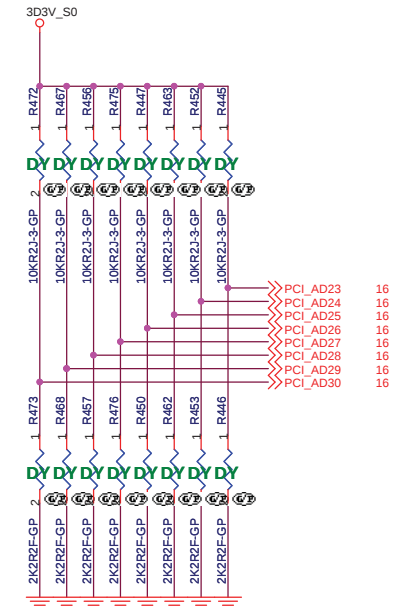


REQUIRED SYSTEM STRAPS

	CLK_PCI_2	CLK_PCI_3	CLK_PCI_4 CLK_PCI_5	LPCCLK0	LPCCLK1	RTCCLK	AZ_RST#	SB_GPO17 , SBGPO16
PULL HIGH	WatchDOG (NB_PWRGD) ENABLED	USE DEBUG STRAPS	RESERVED	ENABLE PCI MEM BOOT	CLKGEN ENABLED (Use Internal)	INTERNAL RTC DEFAULT	IMC ENABLED	ROM TYPE: H, H = Reserved
PULL LOW	WatchDog (NB_PWRGD) DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT		DISABLE PCI MEM BOOT DEFAULT	CLKGEN DISABLED (Use External) DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	IMC DISABLED DEFAULT	H, L = SPI ROM L, H = LPC ROM L, L = FWH ROM

NOTE: SB700 HAS INTERNAL 15K PULL UP RESISTOR FOR RTCCLK

DEBUG STRAPS



	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23	PCI_AD30 PCI_AD29
PULL HIGH	USE LONG RESET (DEFAULT)	USE PCI PLL (DEFAULT)	USE ACPI BCLK (DEFAULT)	USE IDE PLL (DEFAULT)	USE DEFAULT PCIE STRAPS (DEFAULT)	Reserved (DEFAULT)	Reserved
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	Reserved	Reserved

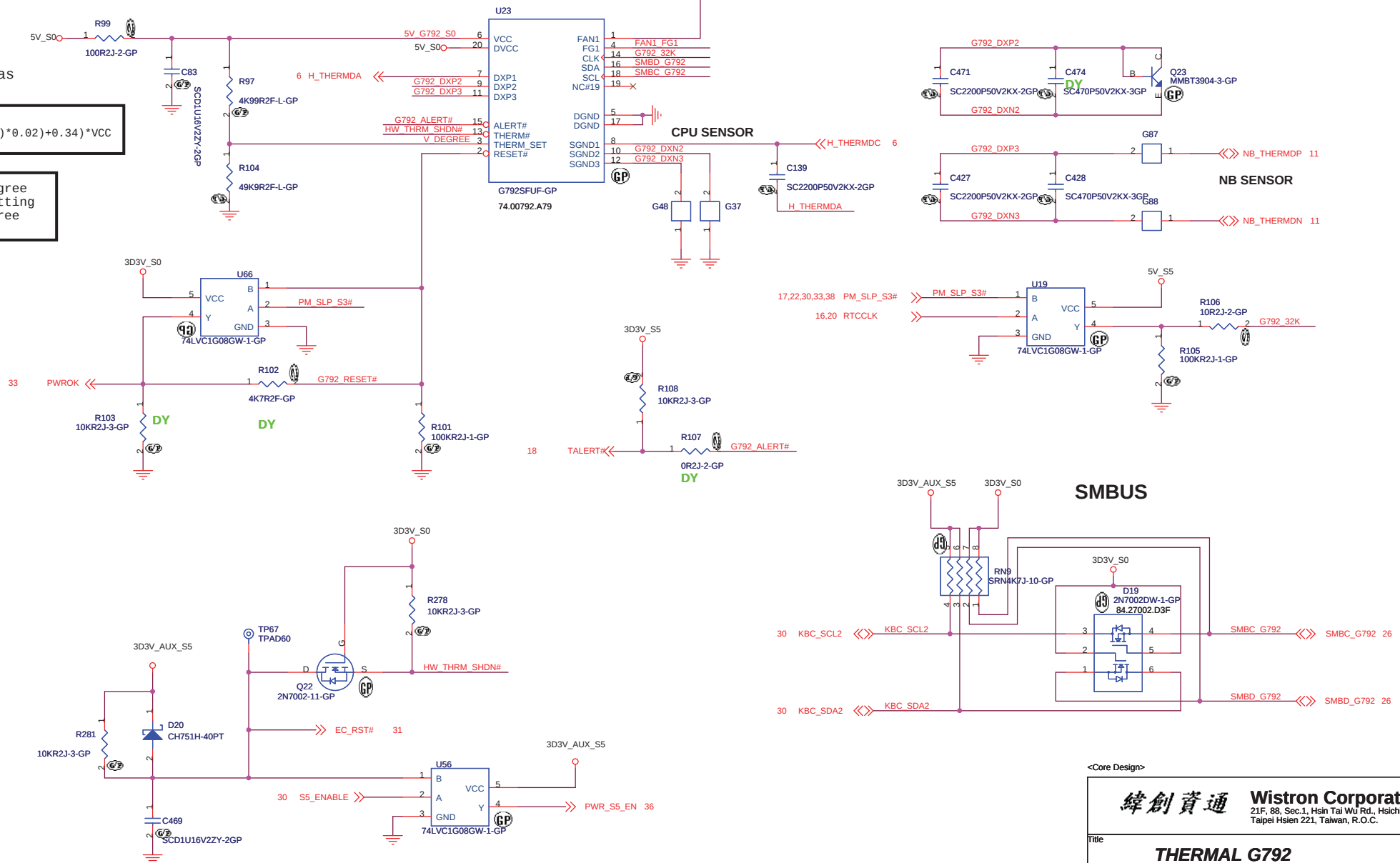
Note: SB700 has 15K internal PU FOR PCI_AD[30:23]

<Core Design>

Setting T8 as
100 Degree

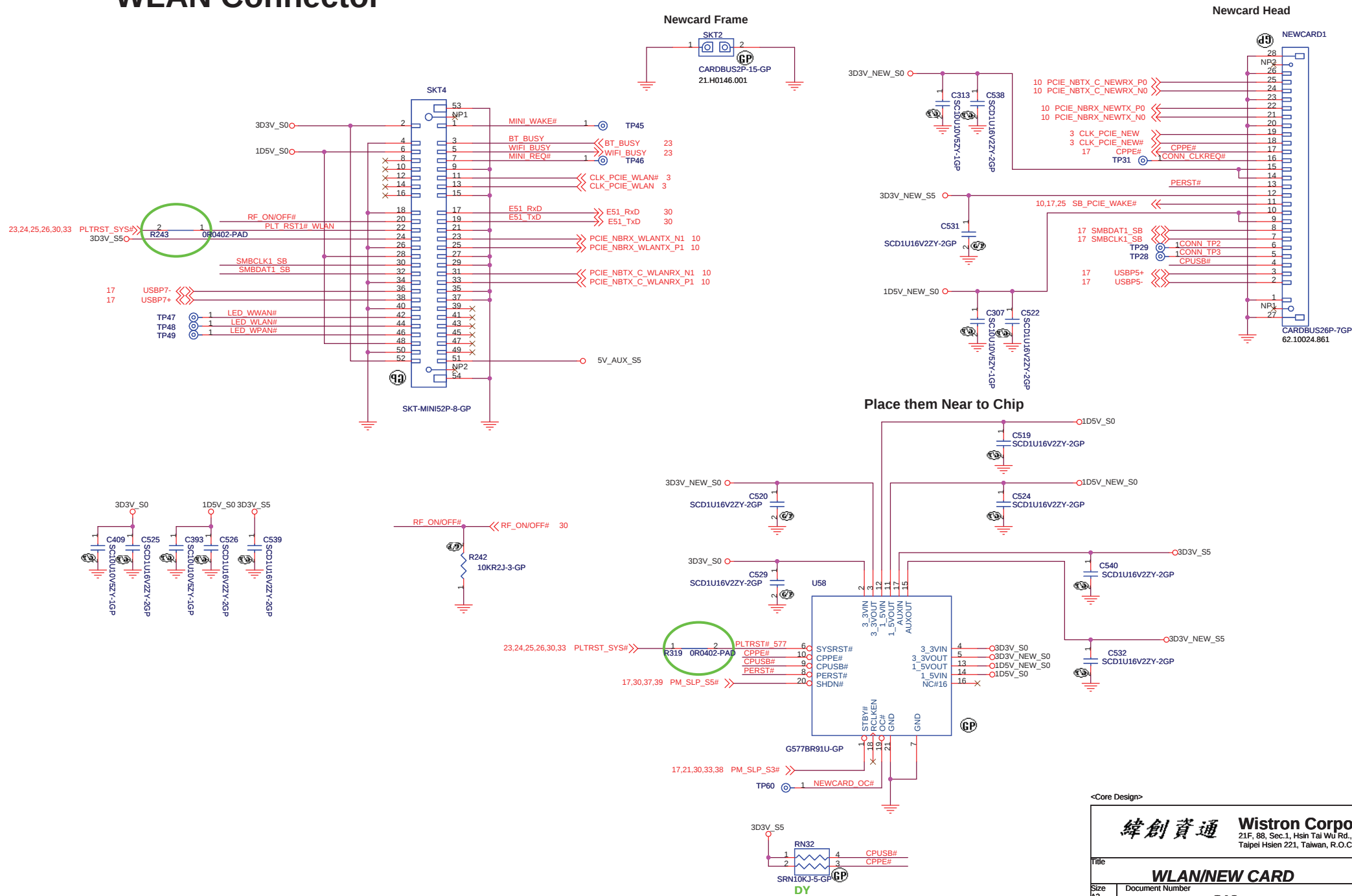
$$V_DEGREE = (((Degree - 72) * 0.02) + 0.34) * VCC$$

DXP1:108 Degree
DXP2:H/W Setting
DXP3:88 Degree



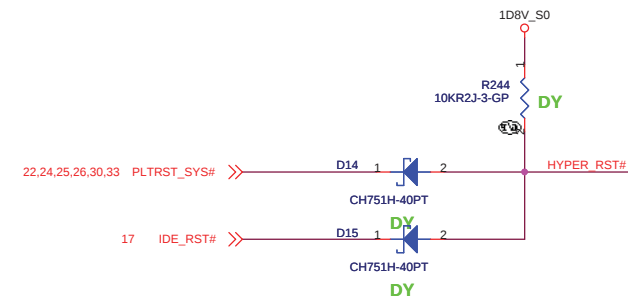
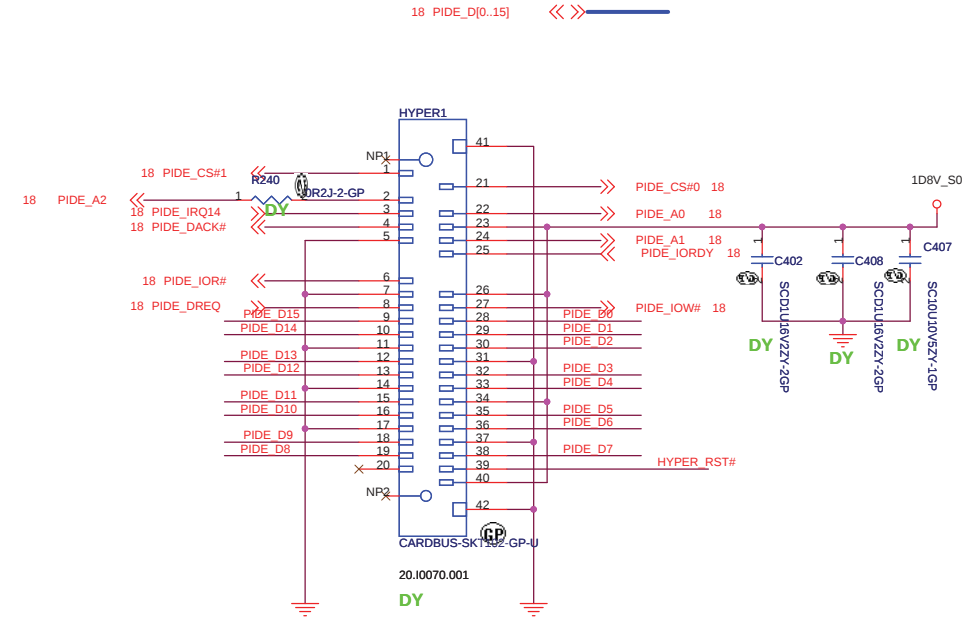
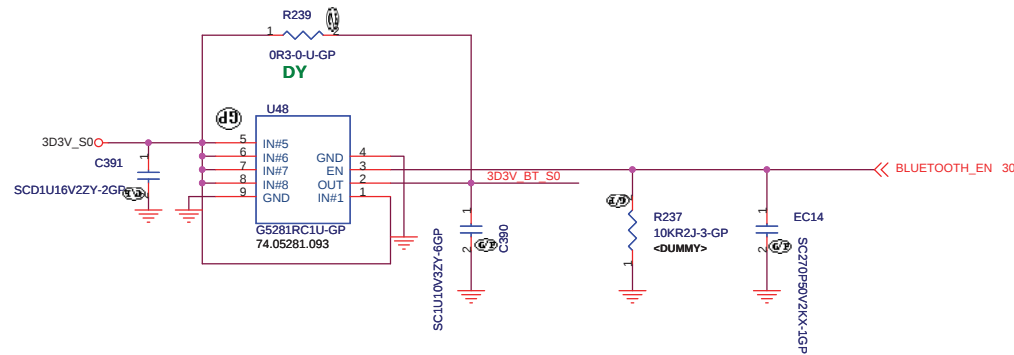
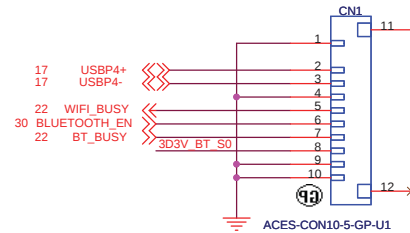
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WLAN Connector



Bluetooth

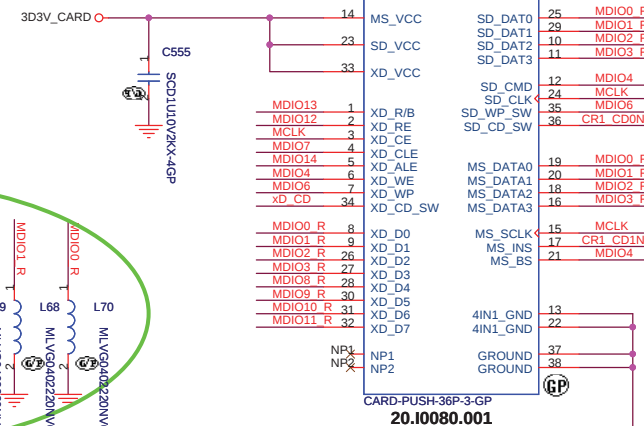
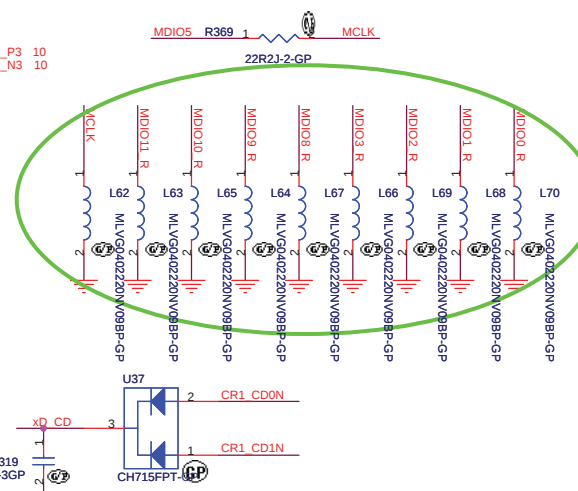
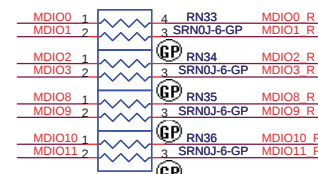
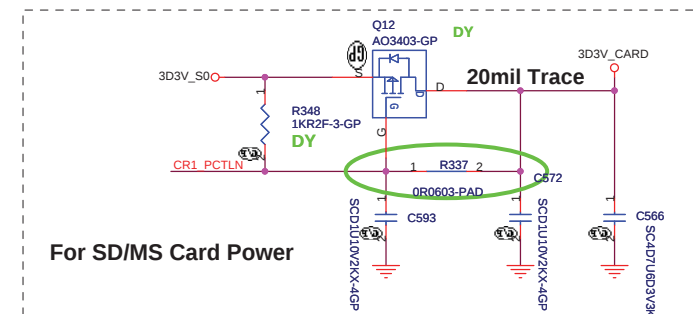
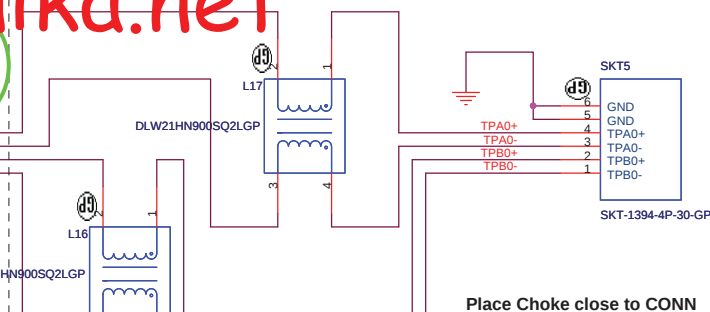
HYPER FLASH



<Core Design>

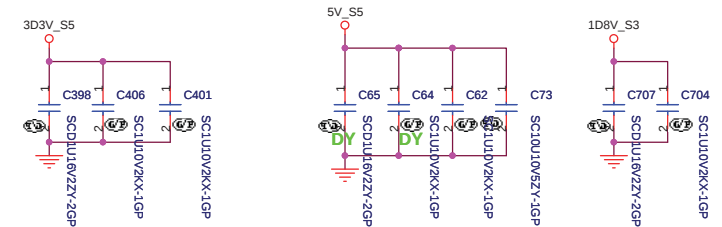
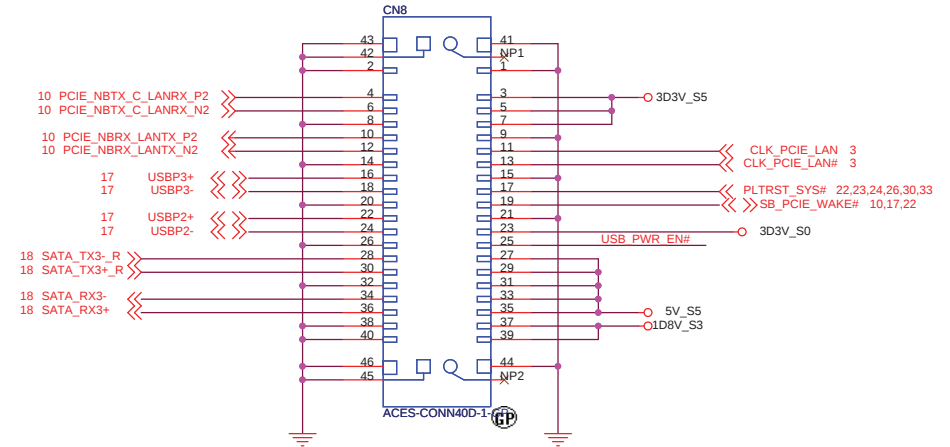
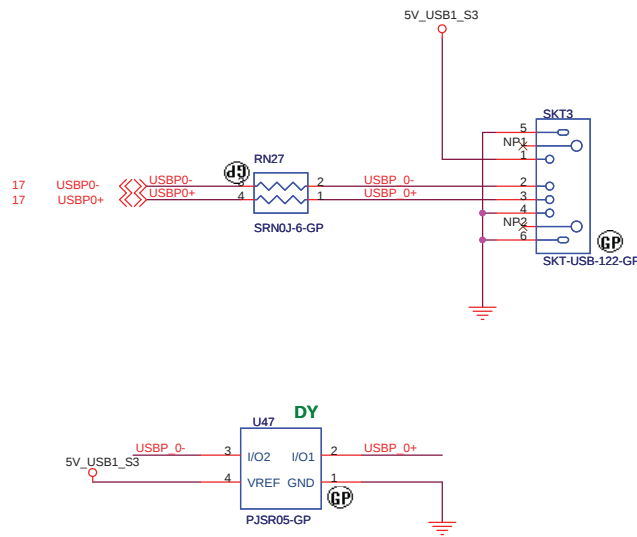
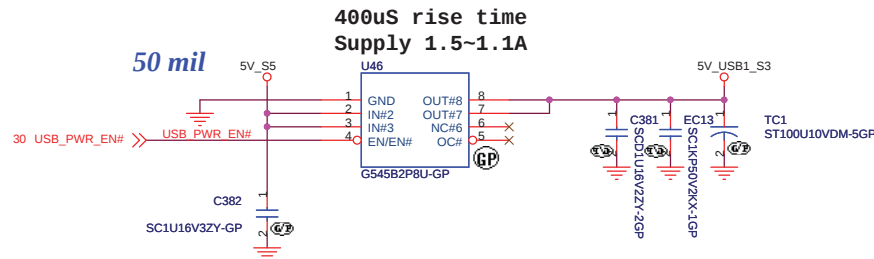
緯創資通 Wistron Corporation
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Title		
HYPER FLASH/BT		
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USB PORT

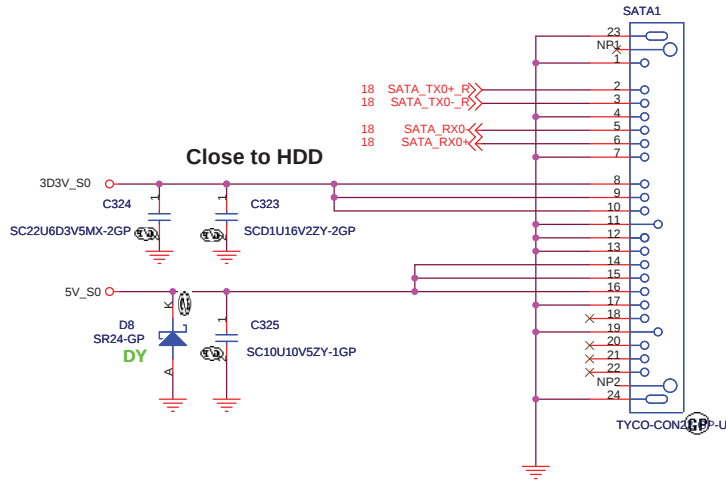
50 mil



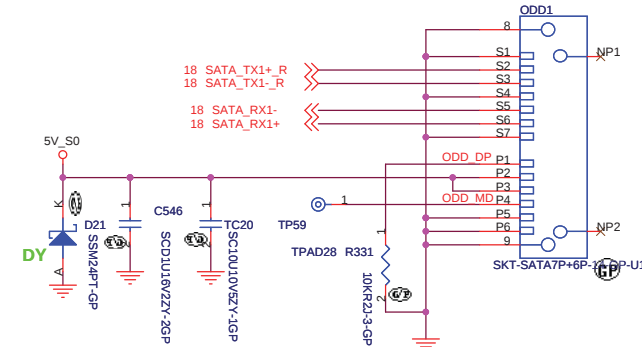
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緯創資通		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
USB & DAUGHTER CONN			
Size	Document Number	Rev	
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Date: Friday, May 16, 2008		Sheet 25 of	44

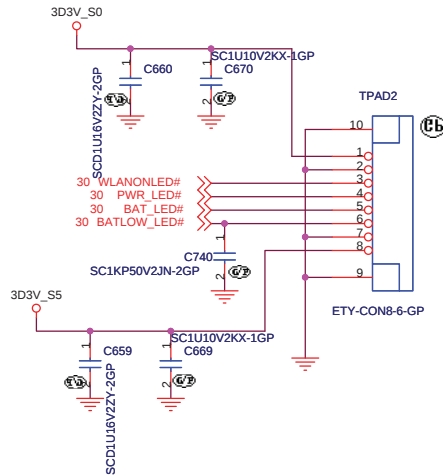
SATA HDD Connector



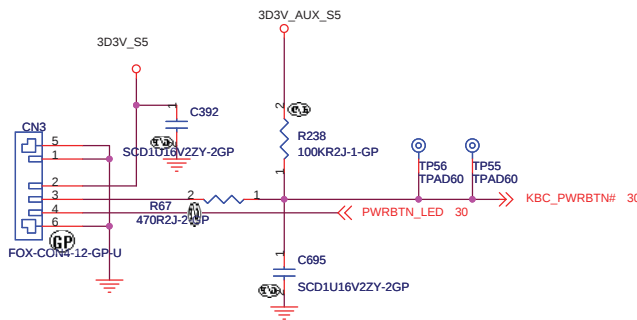
SATA ODD Connector



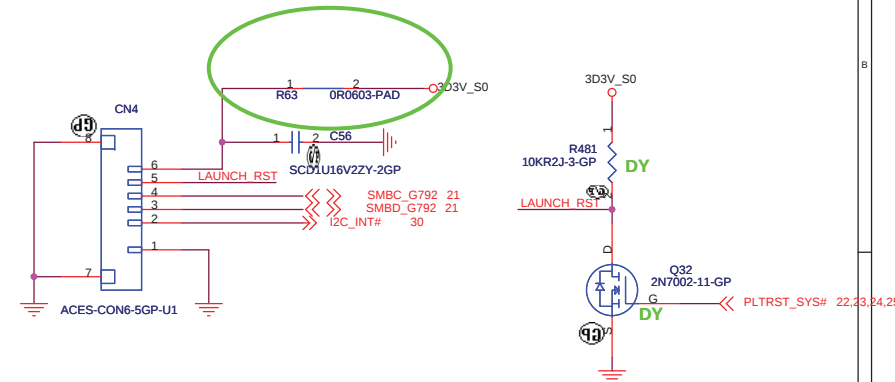
LED BD CONN



PWRBTN BD CONN



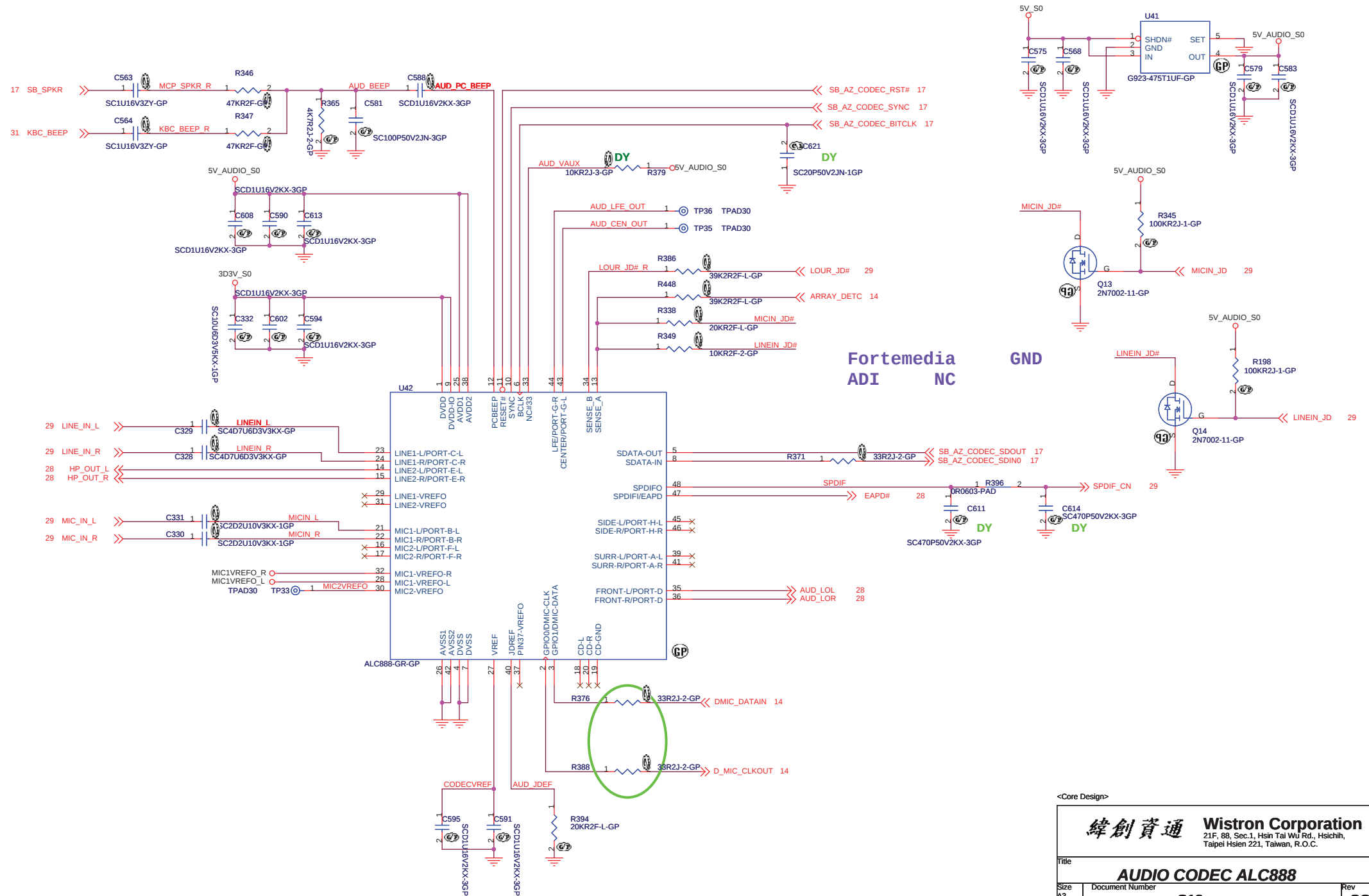
LAUNCH BD CONN



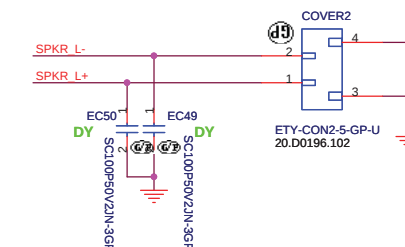
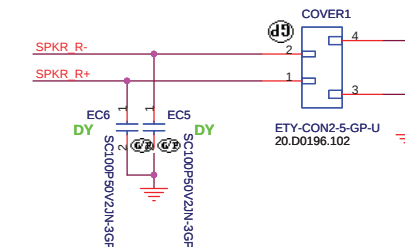
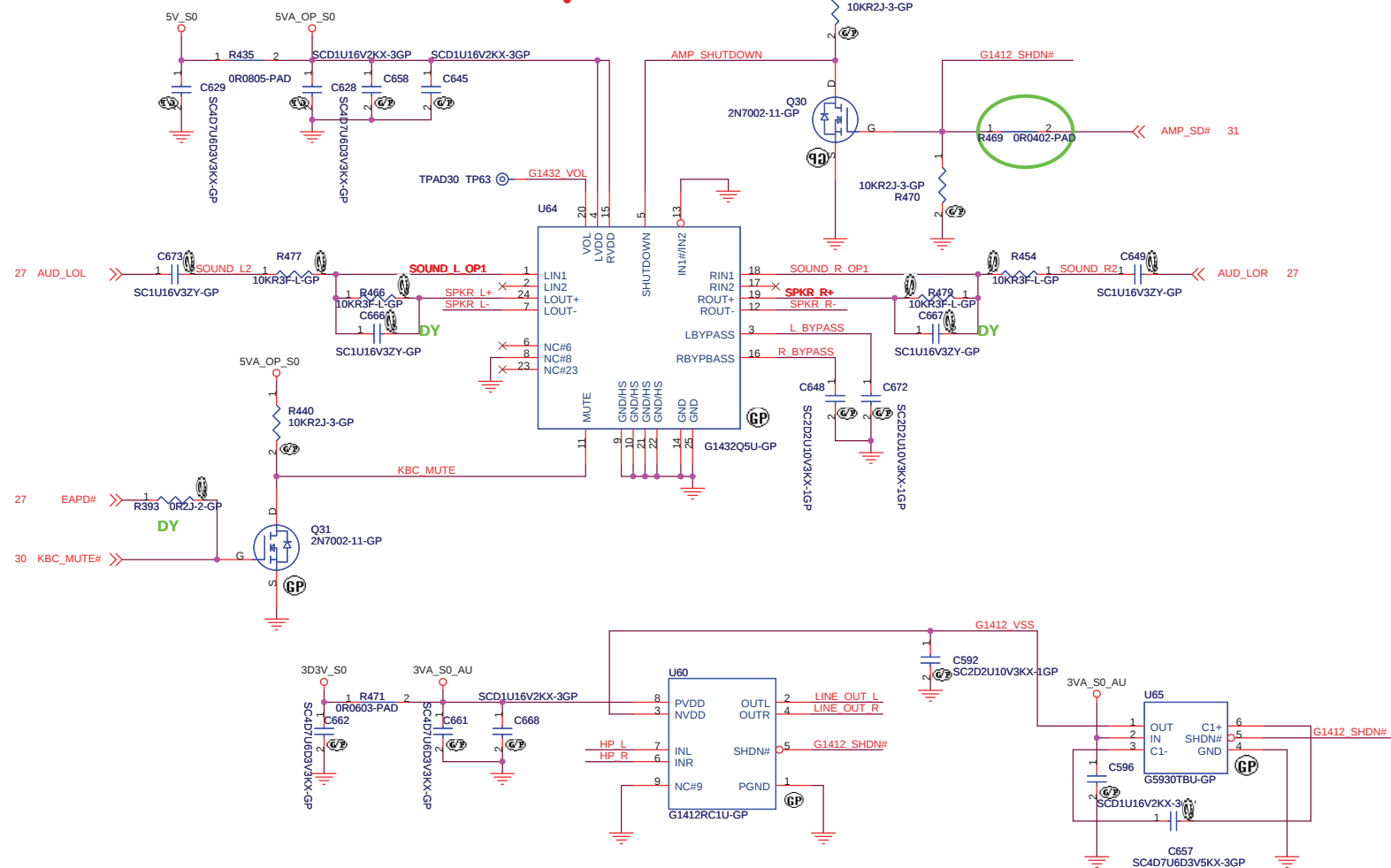
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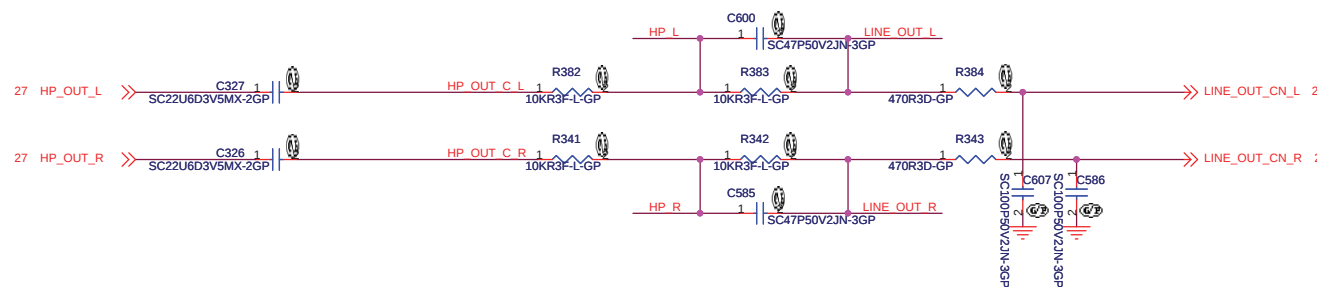
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Size	Document Number	Rev	
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Internal Speaker



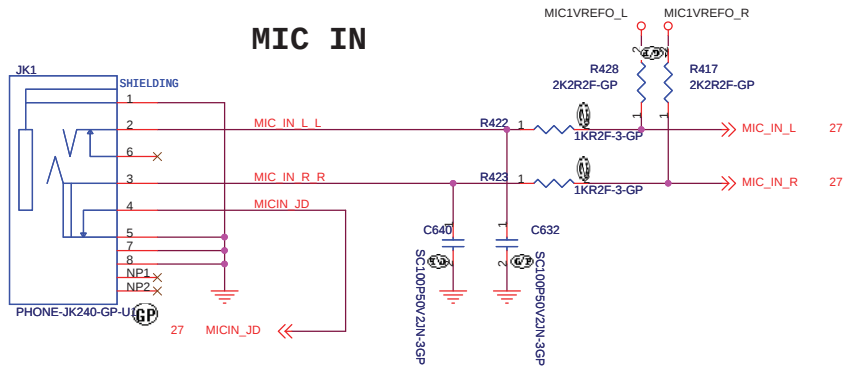
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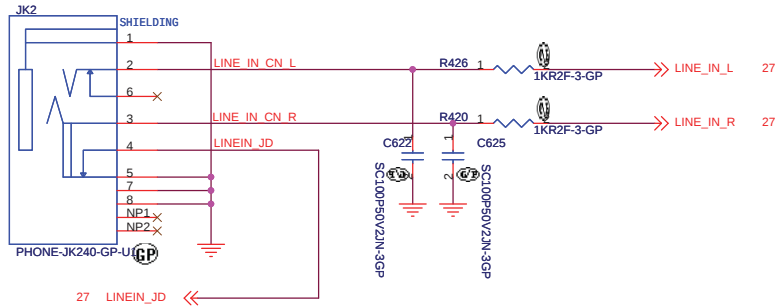
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Title	AUDIO AMP/Speaker
Size A3	Document Number S13
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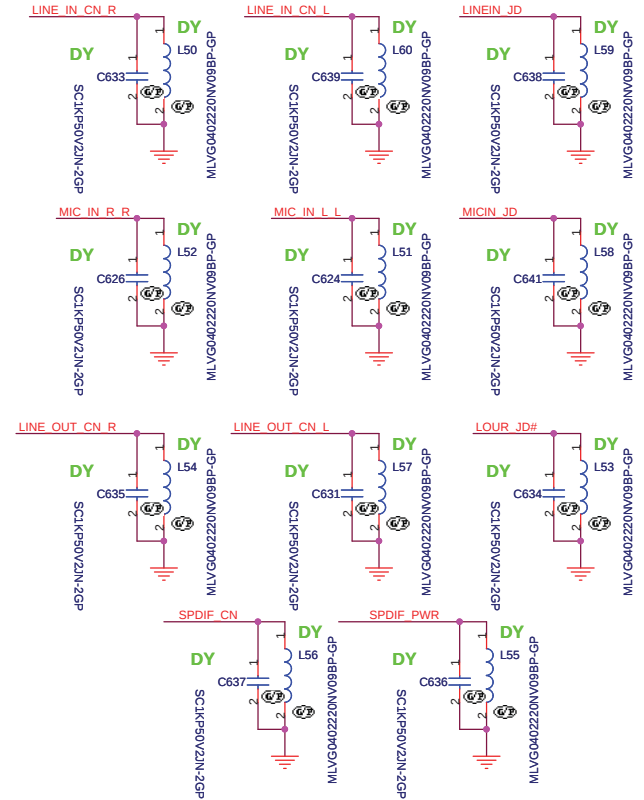
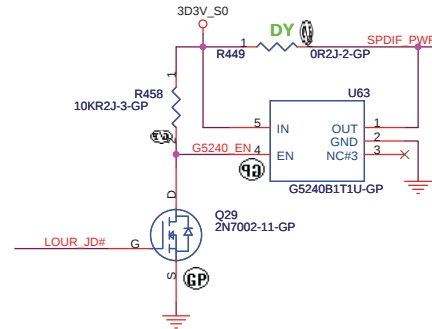
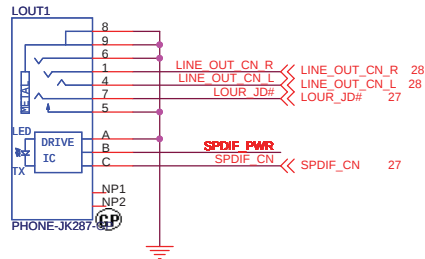
MIC IN



LINE IN



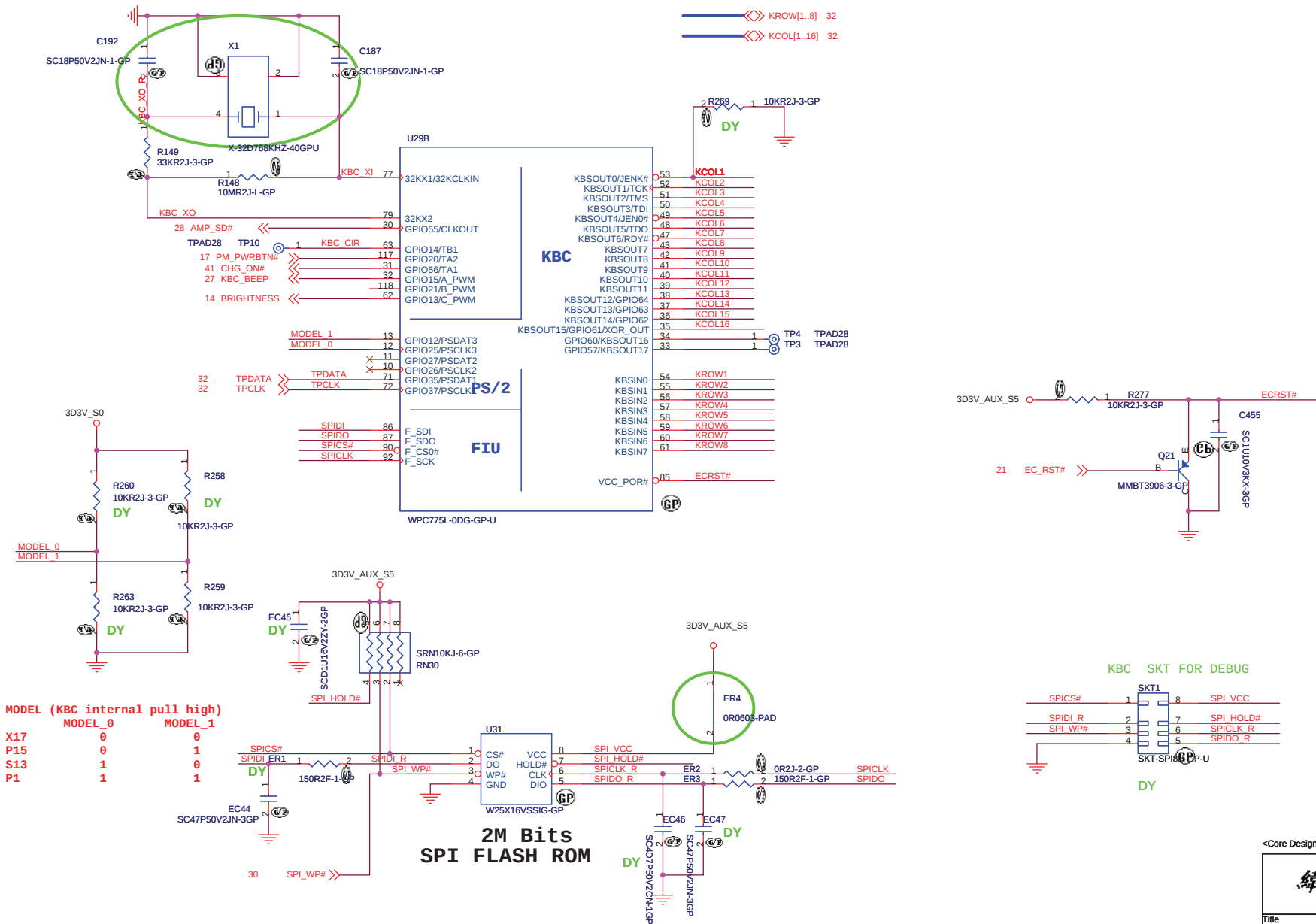
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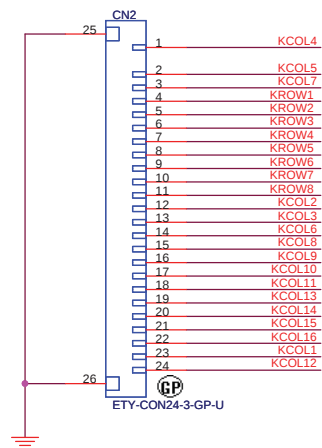
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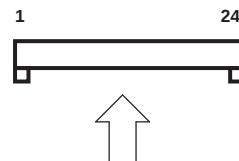
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Internal KeyBoard Connector

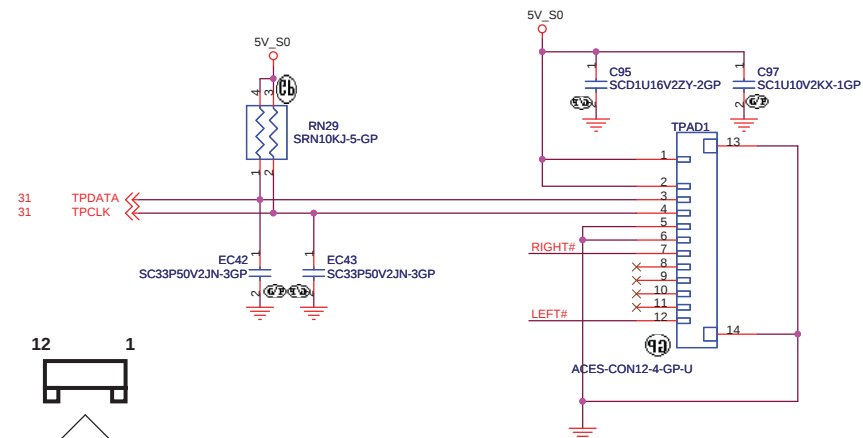


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《《 KCOL[1..16] 31

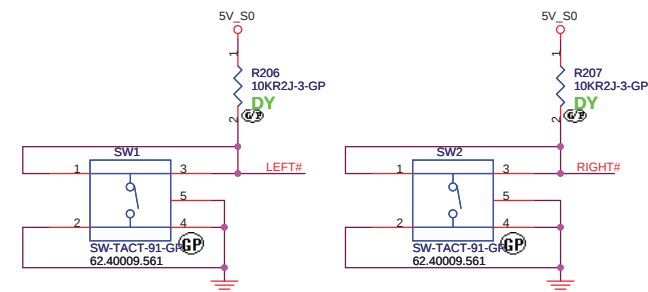


GOLDEN FINGER FOR DEBUG BOARD

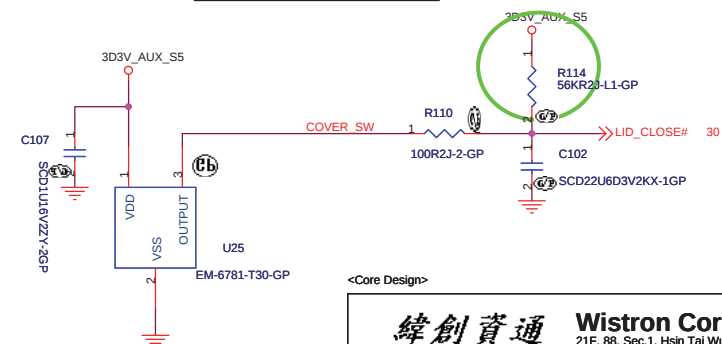
TouchPad Connector



TOUCHPAD BUTTON SWITCH



COVER SWITCH

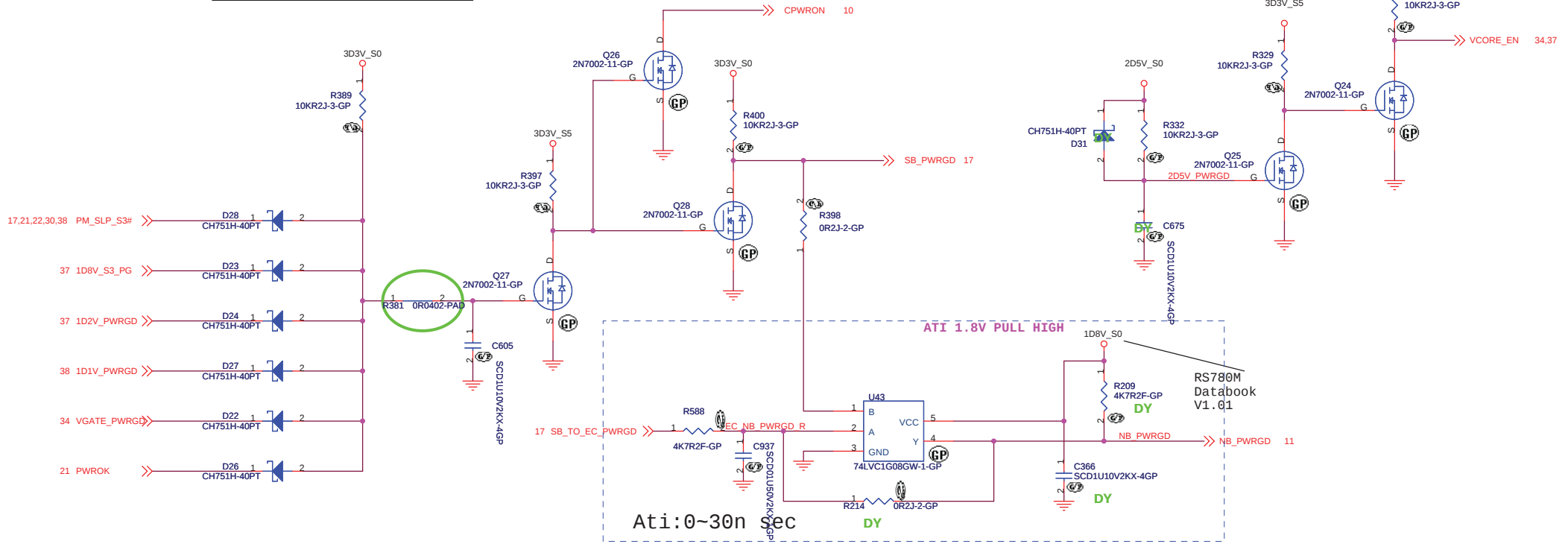


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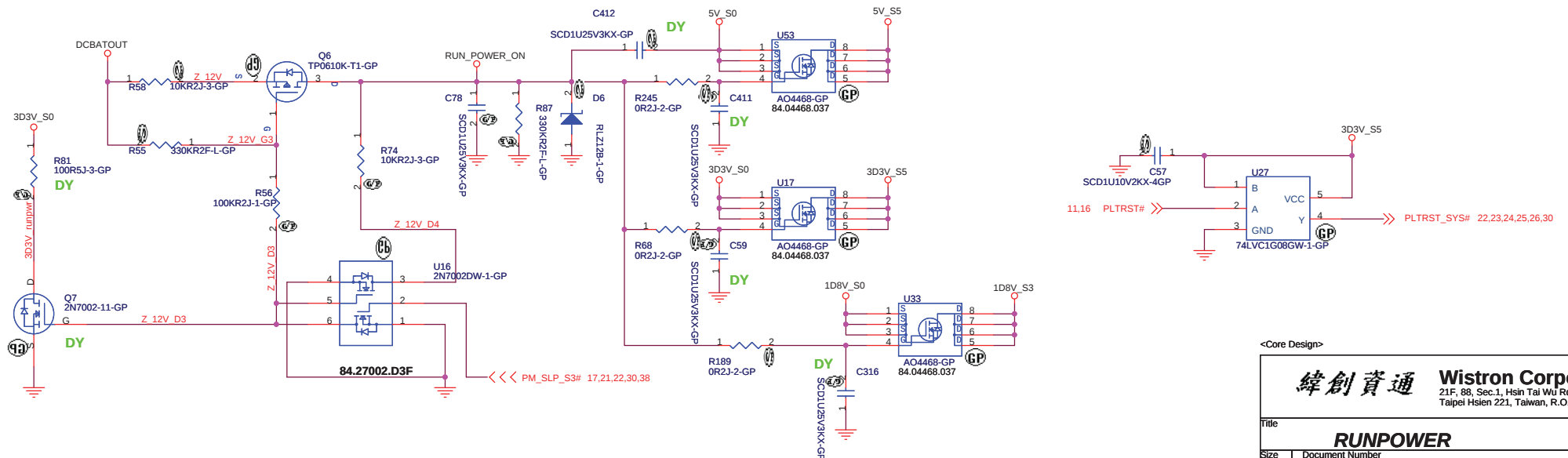
緯創資通 Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.

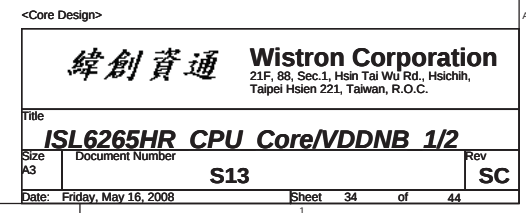
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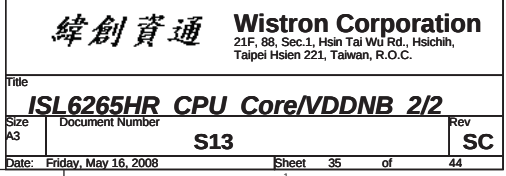
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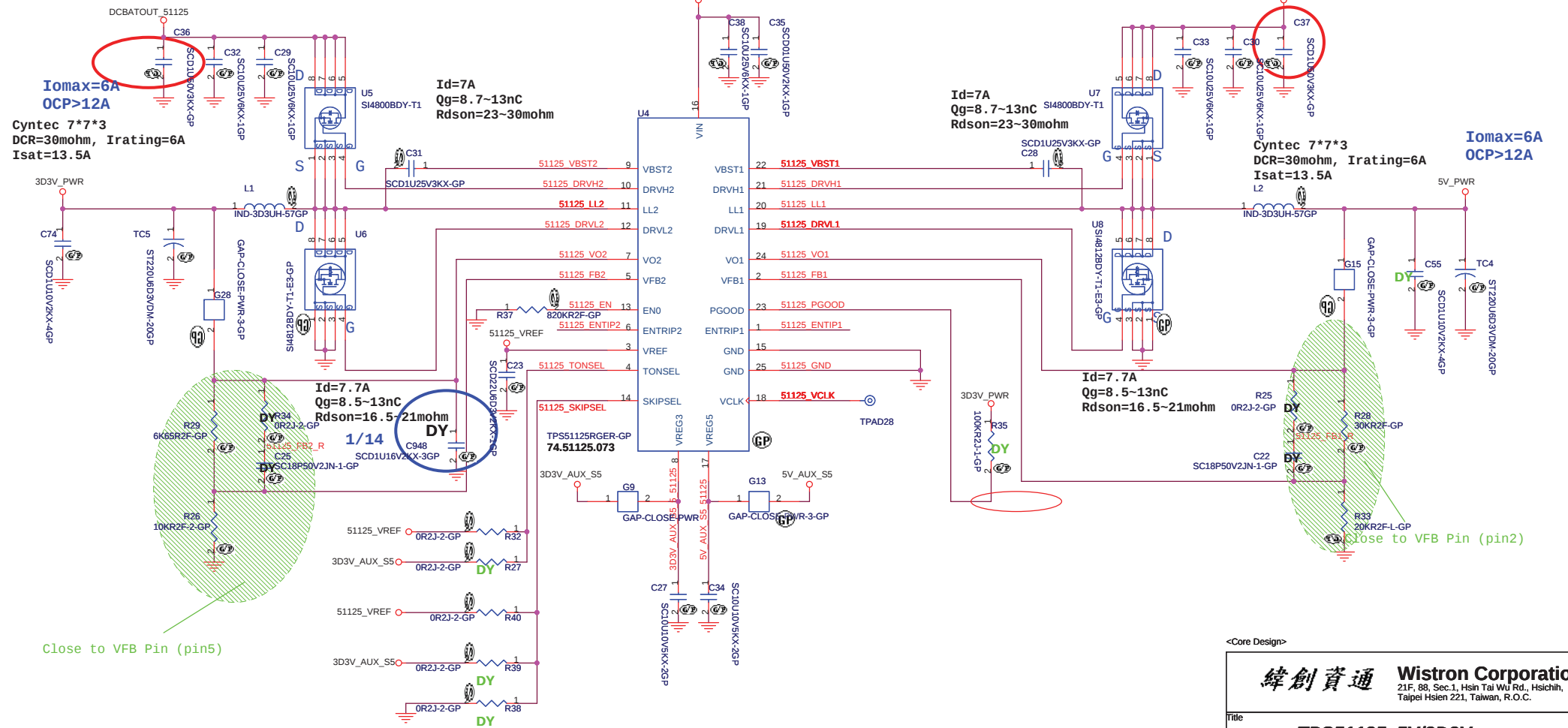
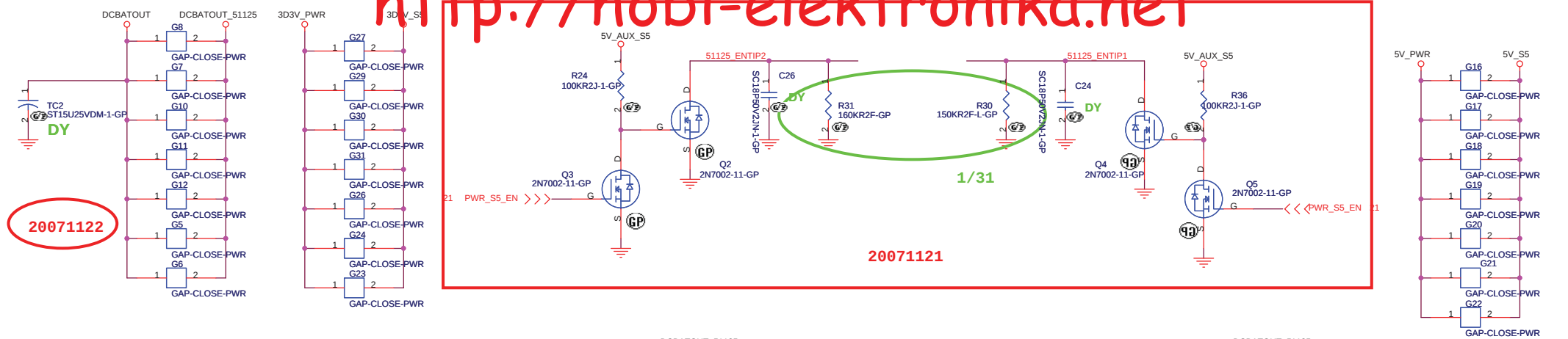


Run Power











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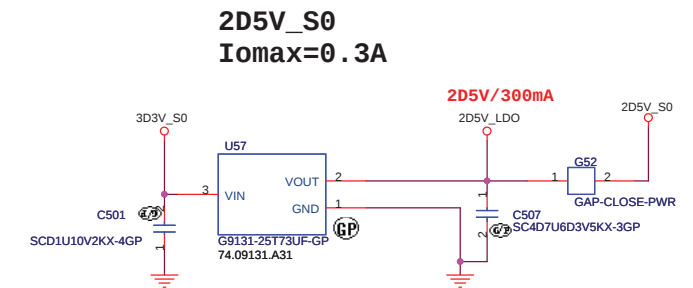
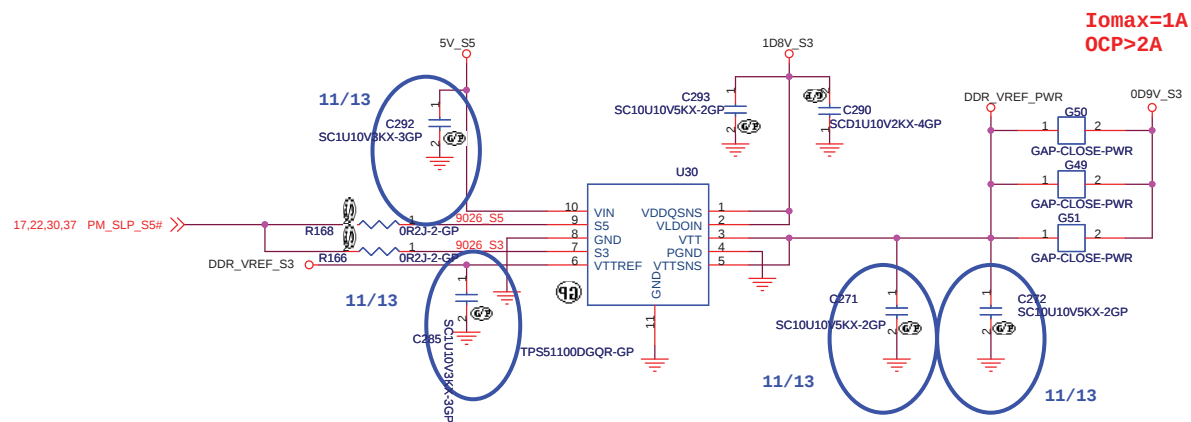
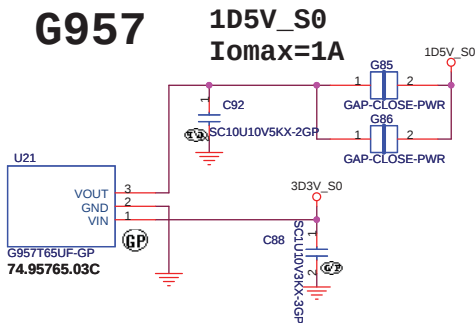
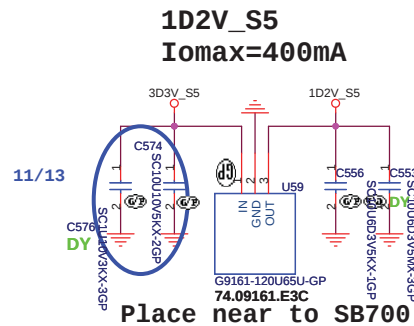
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**TPS51117_1D1V**

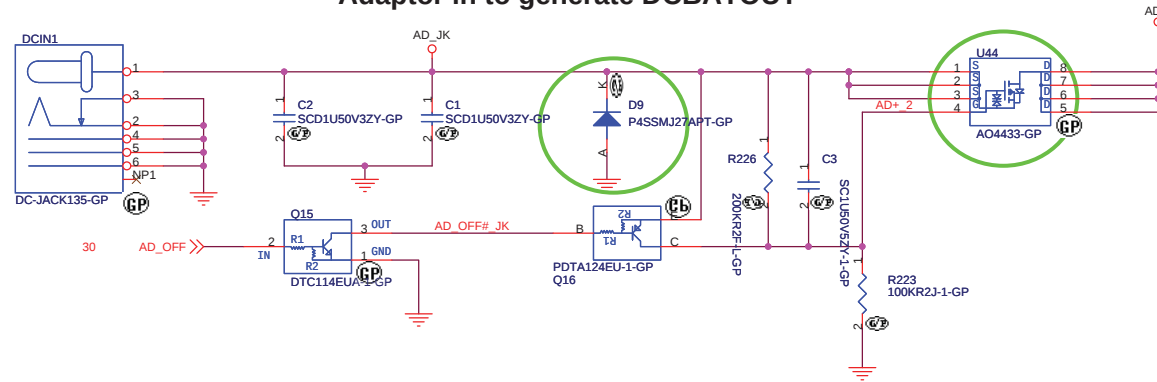
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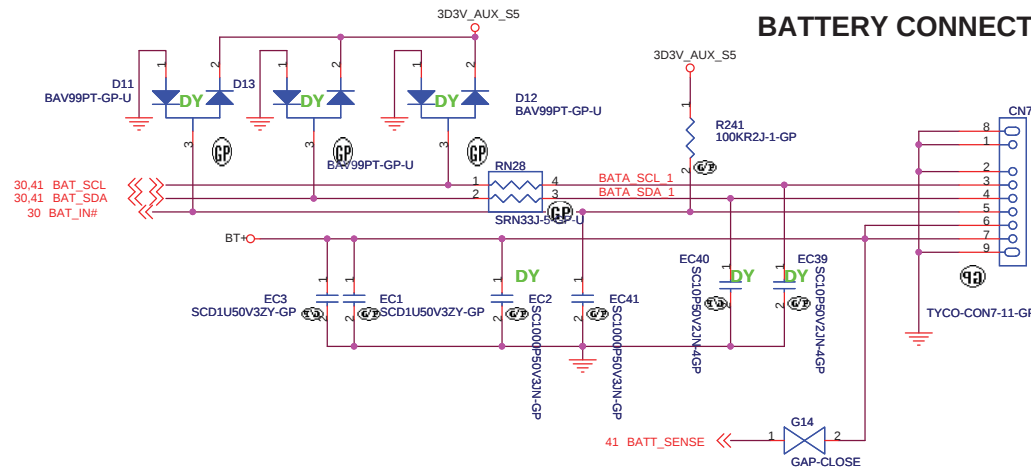
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Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



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Title

AD IN/ BTY SWITCH/GPURUN

Size

Document Number

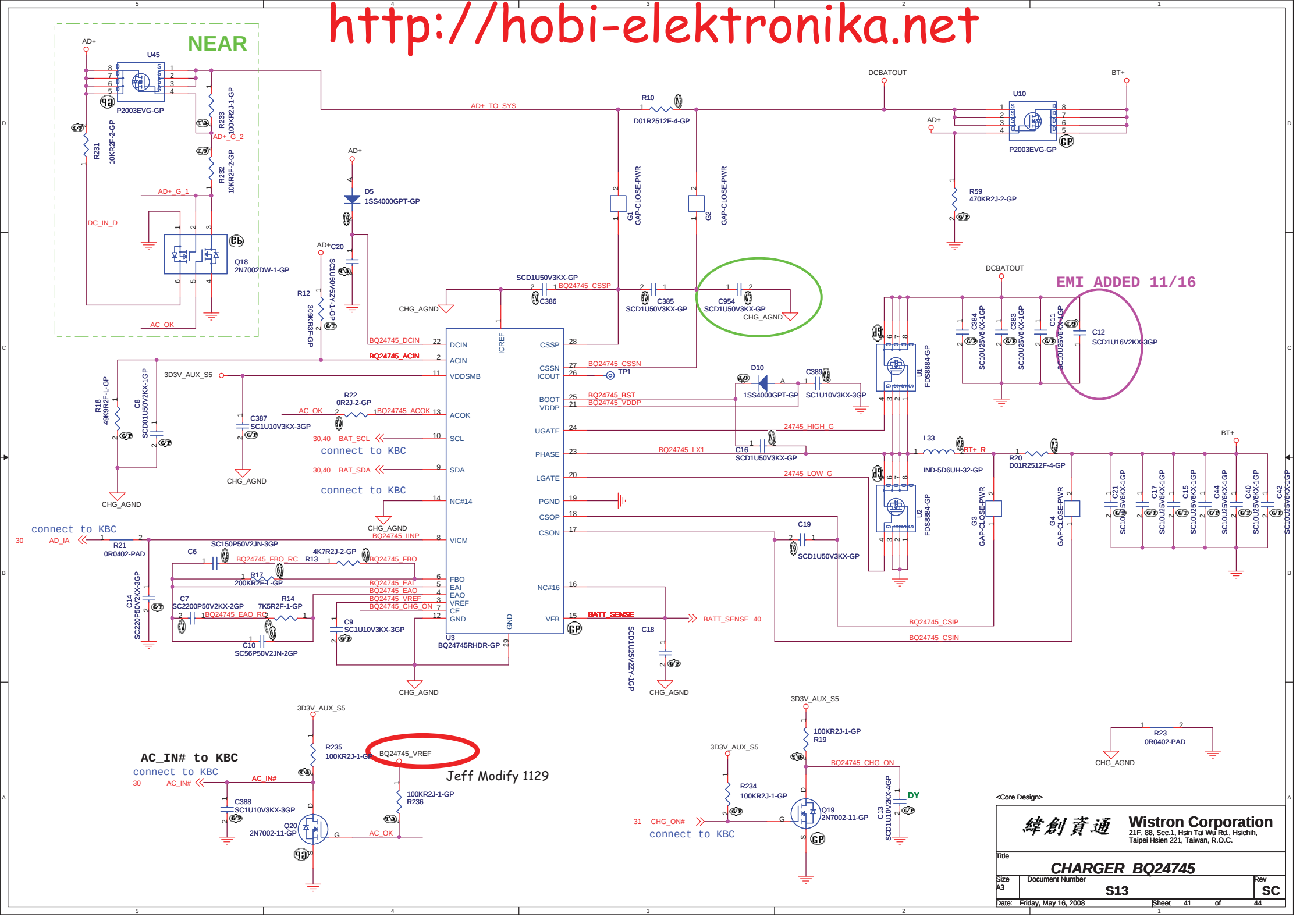
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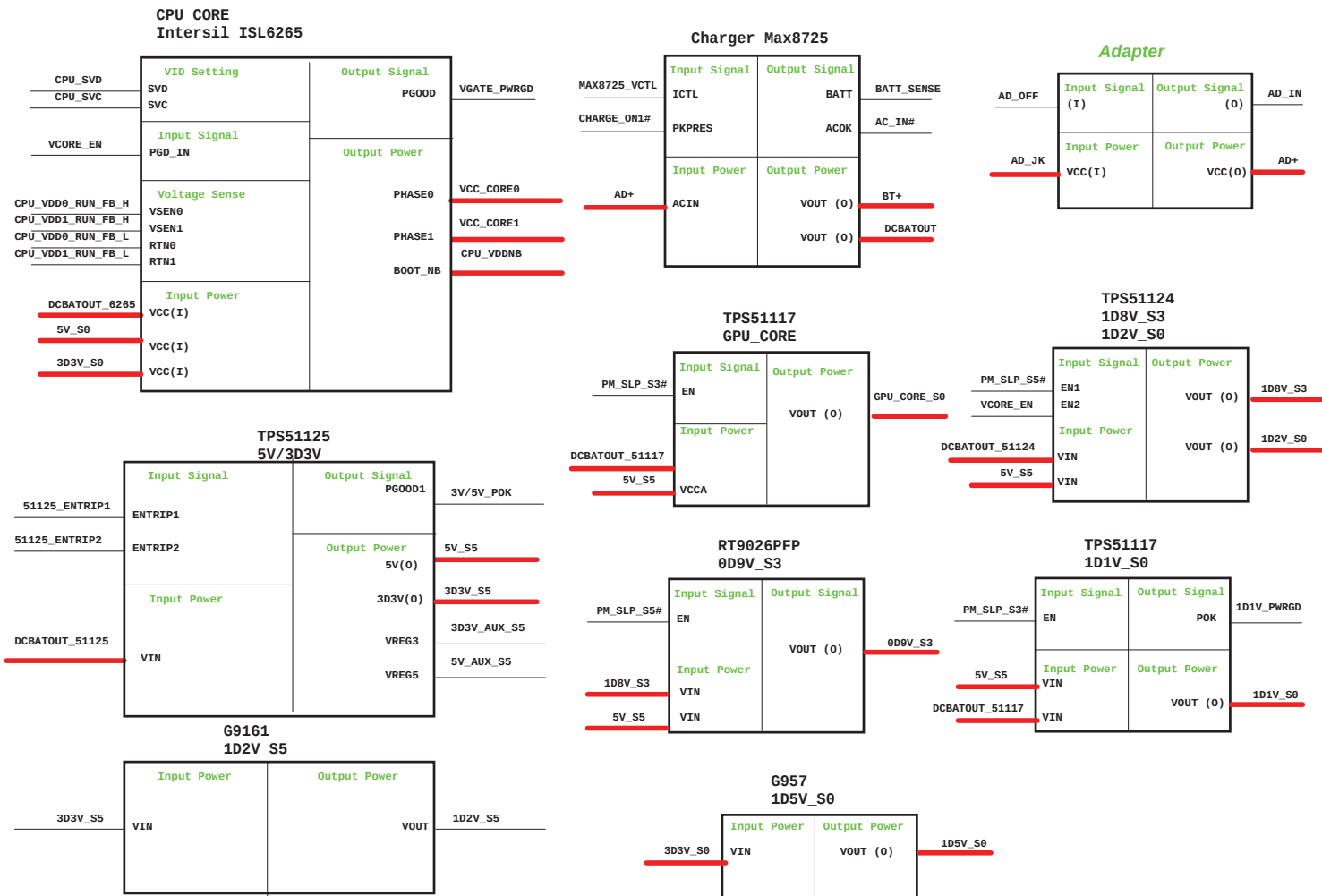
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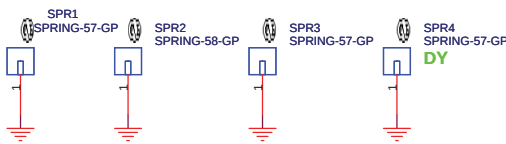
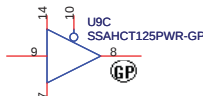
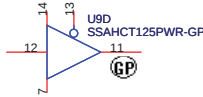
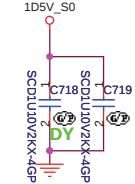
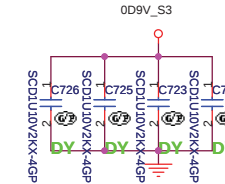
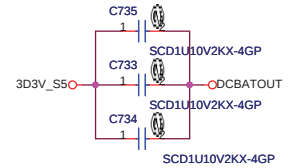
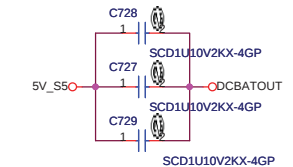
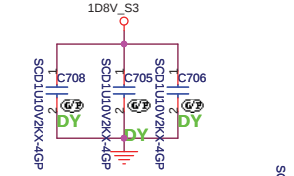
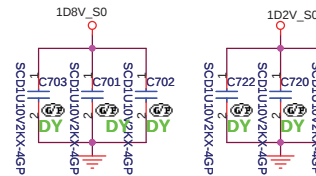
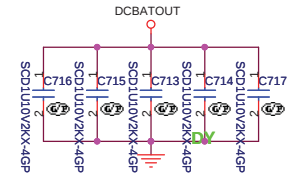
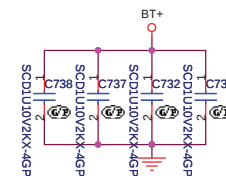
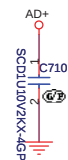
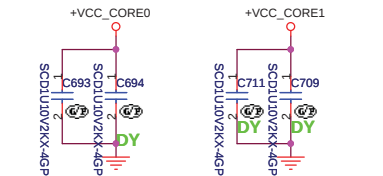
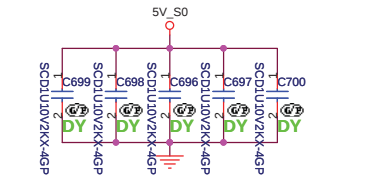
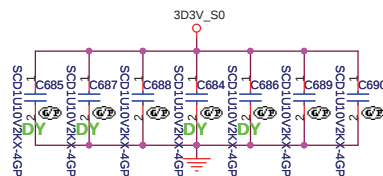
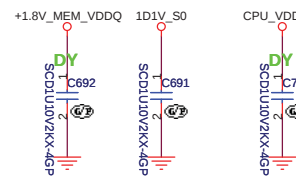
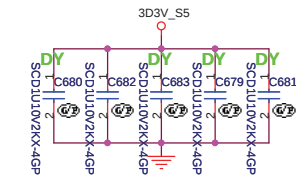
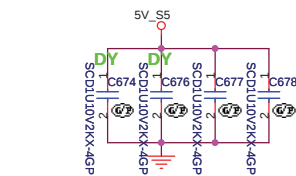
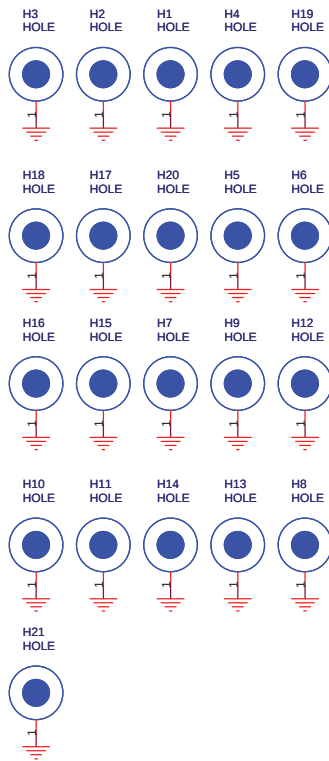
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Change List

Common Part

- 1.RS780M_A12 U55 71.RS780.M12
- 2.SB700_A12 U62 71.SB700.M06
- 3.KBC U29 71.00773.00G
- 4.CLKGEN U32 71.09480.A03
- 5.SIDE PORT U28 72.18512.M0U
- 6.MOSFET U52,U51 84.07686.037
- 7.MOSFET U13,U12,U49,U50 84.04634.037
- 8.H18,H19 34.4H802.001
- 9.CARD1 20.I0043.001
- 10.U61 71.00380.003
- 11. U11 74.06265.A73
- 12. U42 71.00888.E0G
- 13. U31 72.25X16.A01