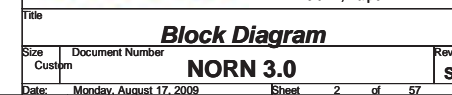


Wistron Confidential


SI2

2009/09/10

REV :SI2-01



<Core Design>



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Size
A3

Document Number
NORN 3.0

Rev
SE

Change Notes List

Date: Monday, August 17, 2009

Sheet 1 of 3

power plane State	+3VL VL	+3VALW +5VALW	+1.5V +0.75VS	+5VS +3VS +1.8VS +1.5VS +VCCP +1.05VS +VCC_CORE +VCC_GFXCORE	+3VM +1.05VM	CLOCK
S0	O	O	O	O	O	O
S3/M1	O	O	O	X	O	O
S3	O	O	O	X	O	O
S5 S4/AC	O	O	X	X	X	O
S5 S4/Battery only	O	X	X	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X	X	X

PCI Devices


EETERNAL	IDSEL#	REQ/GNT#	PIRQ
Cardreader & 1394	AD22	2	G,E

DMA Channel	Device
DMA0	Modem/LAN
DMA1	ECP
DMA2	Floppy Disk
DMA3	Audio
DMA4	(Cascade)
DMA5	Unused
DMA6	Unused
DMA7	Unused

USB PORT#	Destination
0	Walk-up1 (Right Side)
1	Walk-up2 (Right Side)
2	Walk-up3 (Left Side)
3	Free
4	EXPRESS SLOT
5	Free
6	WLAN
7	Free
8	Bluetooth
9	WWAN
10	Fingerprint
11	Dock1 (HUB)
12	Webcam
13	Dock2 (IDE)

Symbols	Description
DY/DUMMY	No install
1KR2J	Resistor 1K ohm ,Size 0402 ,5%
1KR3F	Resistor 1K ohm ,Size 0603 ,1%
GP	ROHS parts
NC	Pin no connect to anything

IRQ	Device
0	System Timer
1	Keyboard
2	N/A
3	Serial port (COM2) ,LAN/Modem
4	Serial port (COM1)
5	Audio/VGA
6	Floppy
7	Parallel port
8	System CMOS/Real-time clock
9	Microsoft ACPI
10	N/A,Modem,LAN
11	Mass storage control/PCI simple communication control
12	synactic PS2 port GlidePAD
13	Numeric Data Process
14	Primary IDE interface ,HDD
15	Secondary IDE interface ,CD-ROM
16	Mobile Intel Crestline Express Chipset Family Microsoft UAA Bus Drive for High Definition Audio Intel 82801H (ICH8 Family) PCI Express Root Port -27D0 Broadcom NetXtreme Gigabit Ethernet
17	Intel 82801H (ICH8 Family) PCI Express Root Port -27D2 Broadcom 802.11b/g WLAN Intel 82801H (ICH8 Family) USB Universal Host Control
18	Intel 82801H (ICH8 Family) USB Universal Host Control Richo R5C853 Integrates FlashMedia Control Richo R5C853 Gemcore based SmartCard Control
19	Intel 82801H (ICH8 Family) PCI Express Root Port -27D6 Intel 82801H (ICH8 Family) USB Universal Host Control
20	Intel 82801H (ICH8 Family) USB Universal Host Control Intel 82801H (ICH8 Family) USB2 Enhanced Host Control
21	Intel 82801H (ICH8 Family) USB Universal Host Control
22	SDA Standard Compliant SD Host Control
23	HP Mobile Data Protection Sensor



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Notes List

Size A3

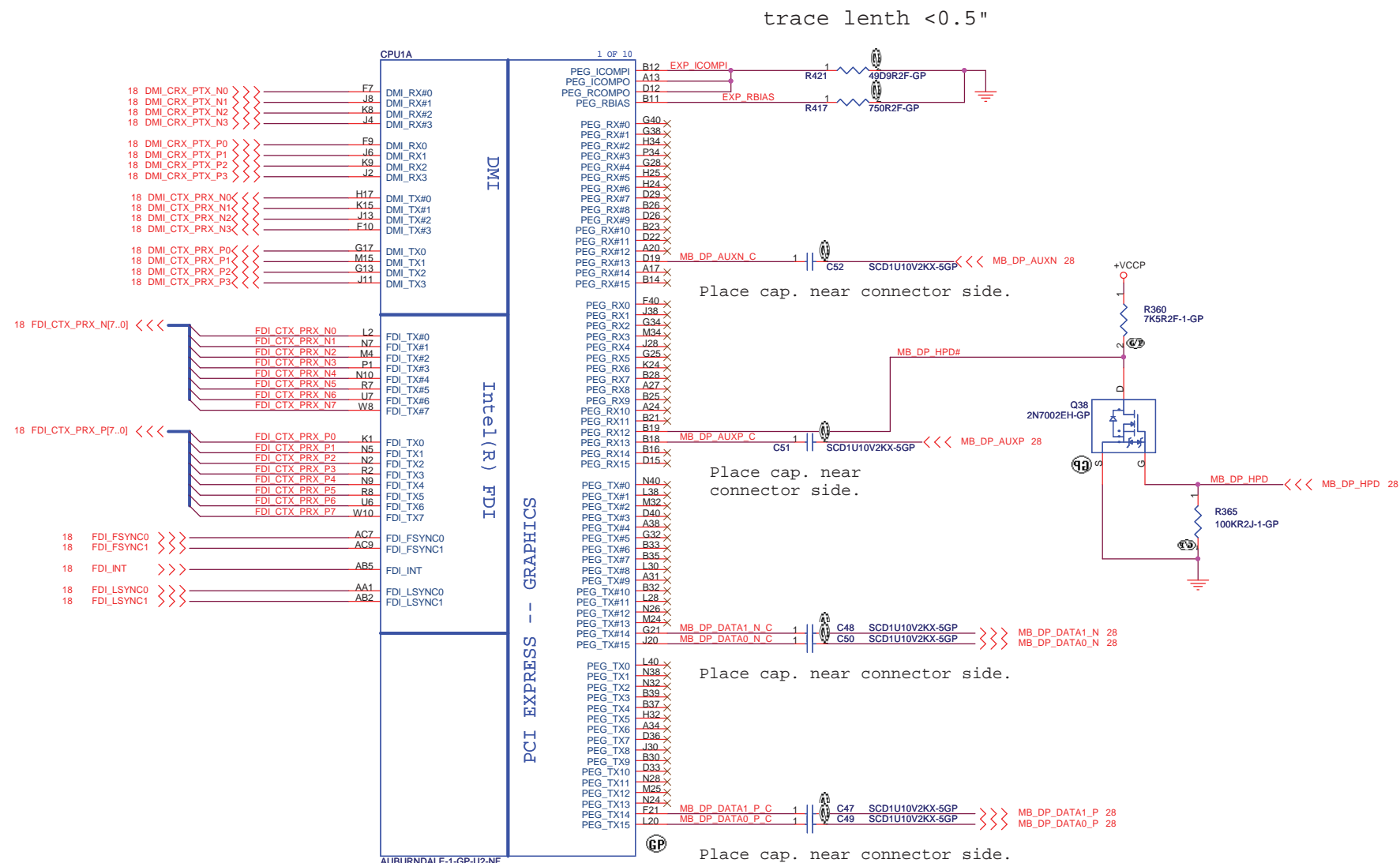
Document Number

Rev SE

Date: Monday, August 17, 2009

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Hsichih, Taipei

Title

Auburndale(1/8)-DMI+PEG+FDI

Size

Document Number

Rev

A3

NORN 3.0**SE**

Date:

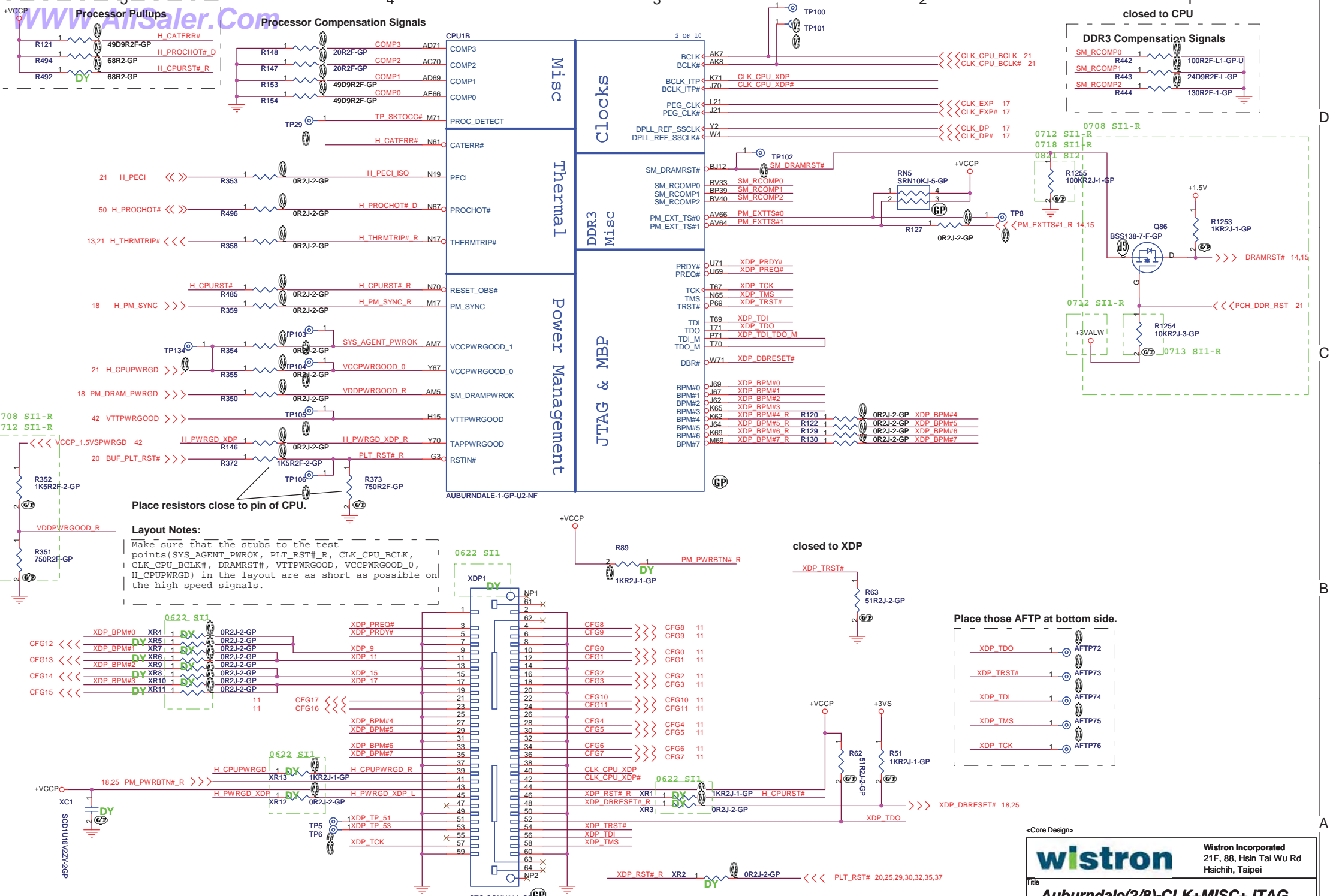
Thursday, September 10, 2009

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of

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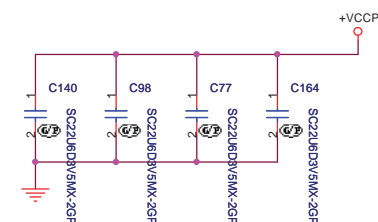
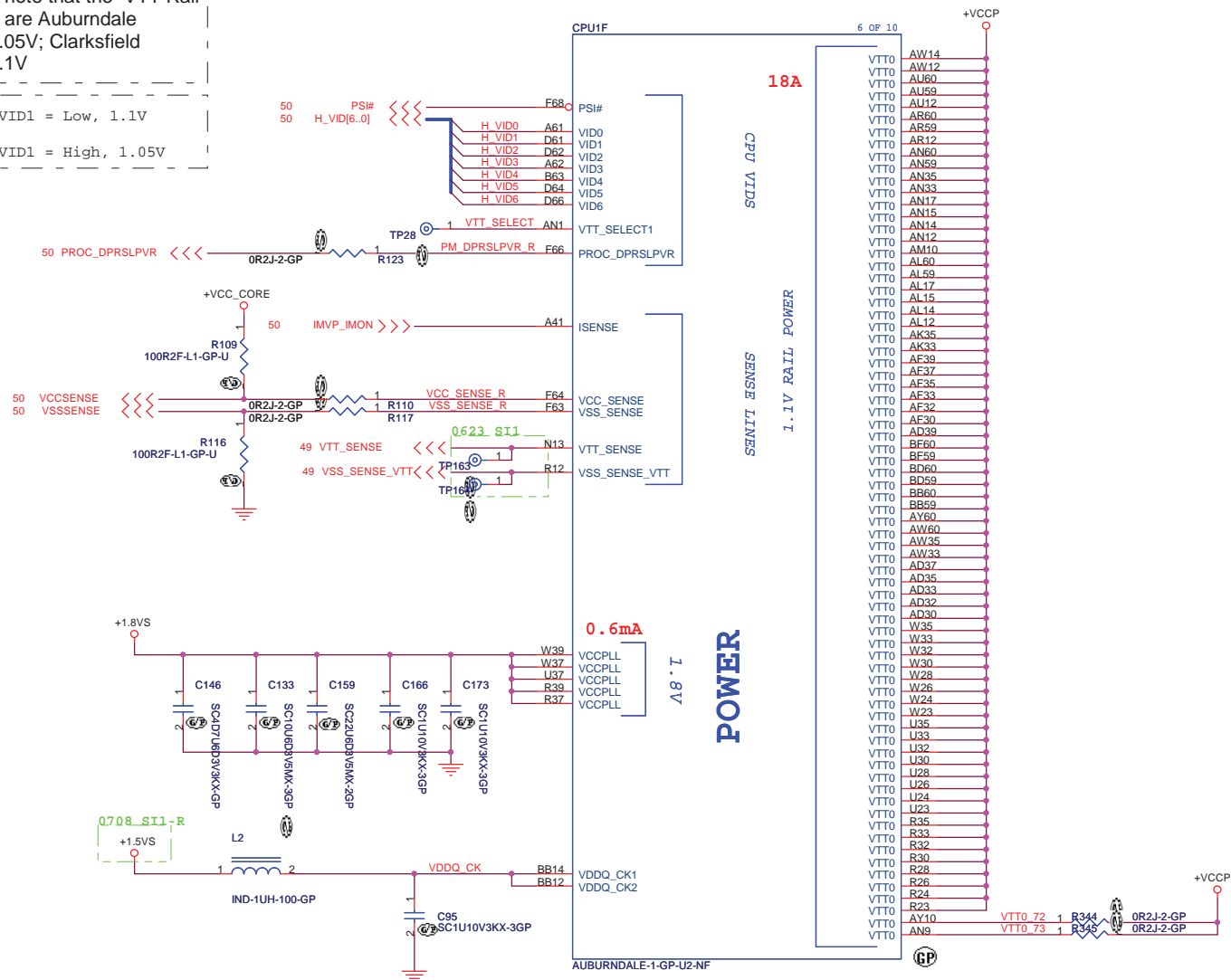




Please note that the VTT Rail
Values are Auburndale
VTT=1.05V; Clarksfield
VTT=1.1V

H_VTTVID1 = Low, 1.1V

H_VTTVID1 = High, 1.05V



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Title **Auburndale(4/8)-POWER**

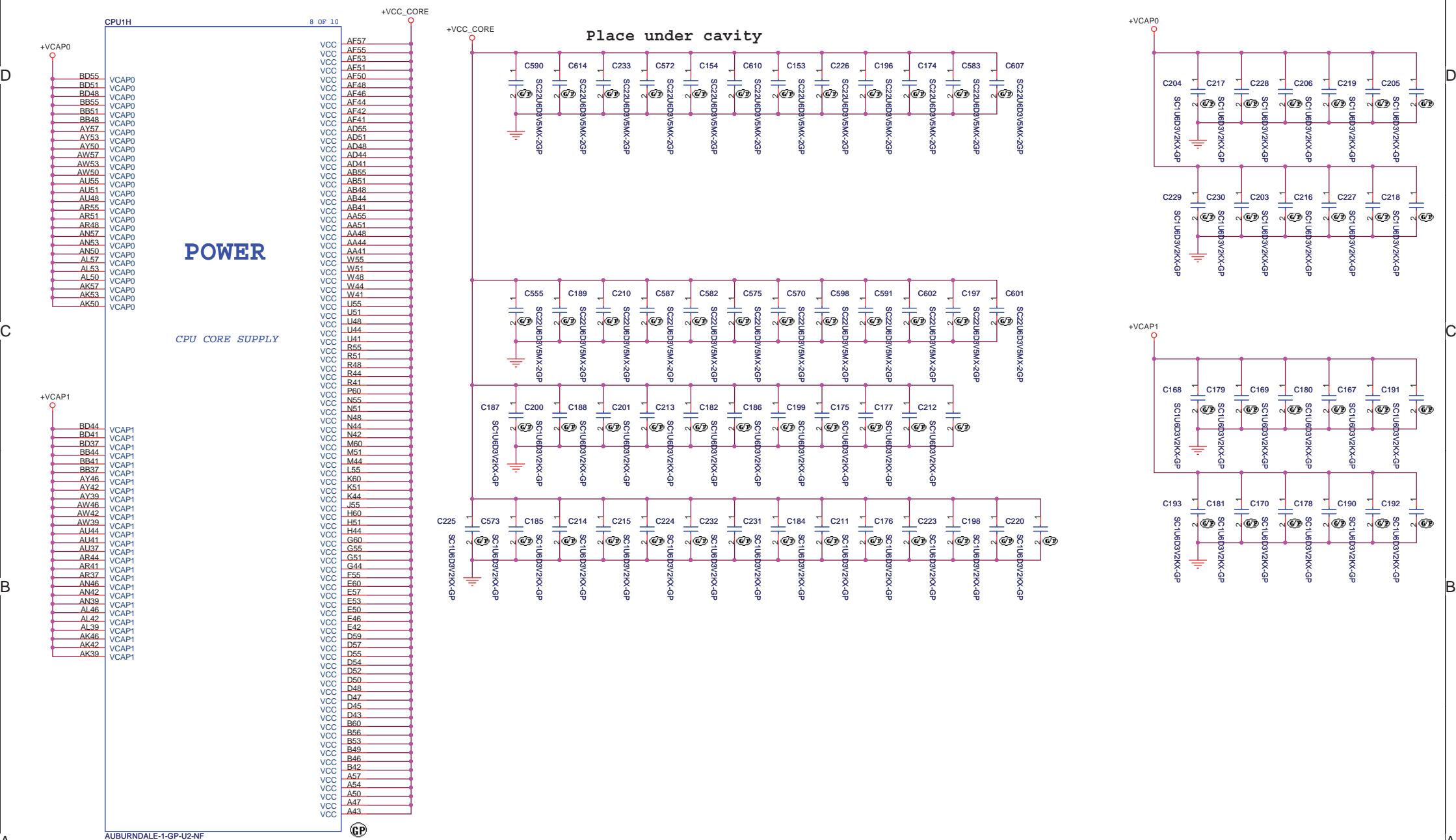
Size A3	Document Number NORN 3.0	Rev SE
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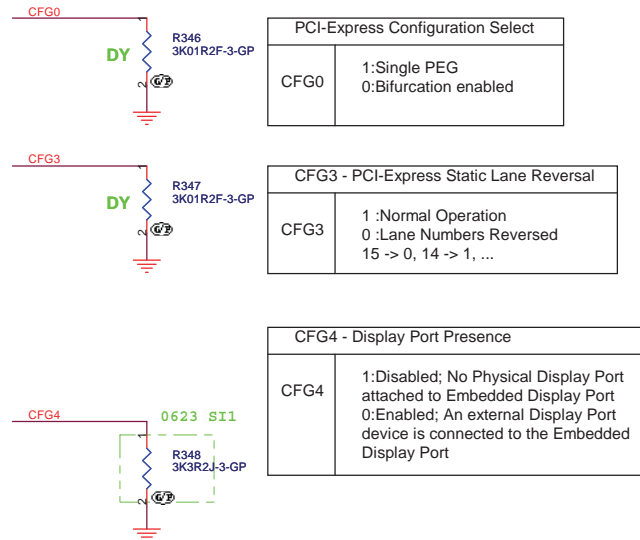
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Size A3	Document Number NORN 3.0	Revision 5
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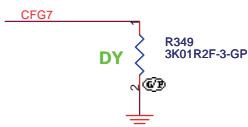
Date: Thursday, September 10, 2009 Sheet 9 of 57



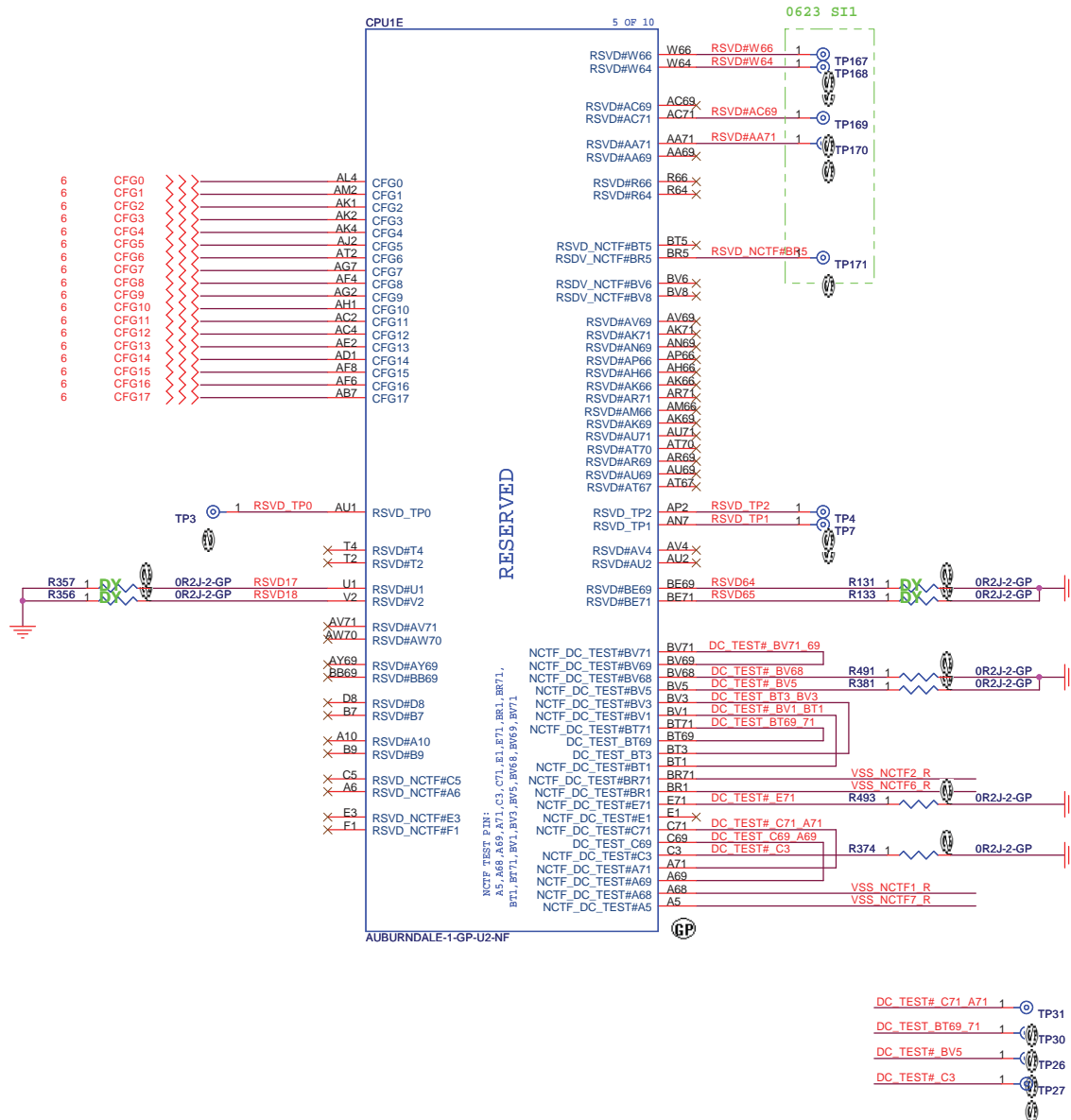
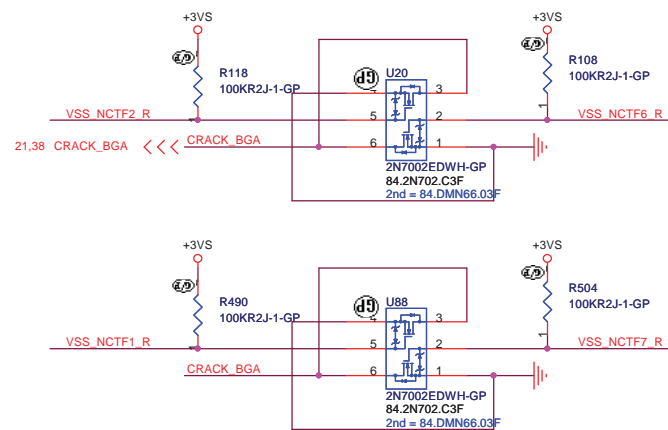
CFG Straps for Processor



Only temporary for early CFD samples (rPGA/BGA)



BGA Ball Cracking Prevention and Detection

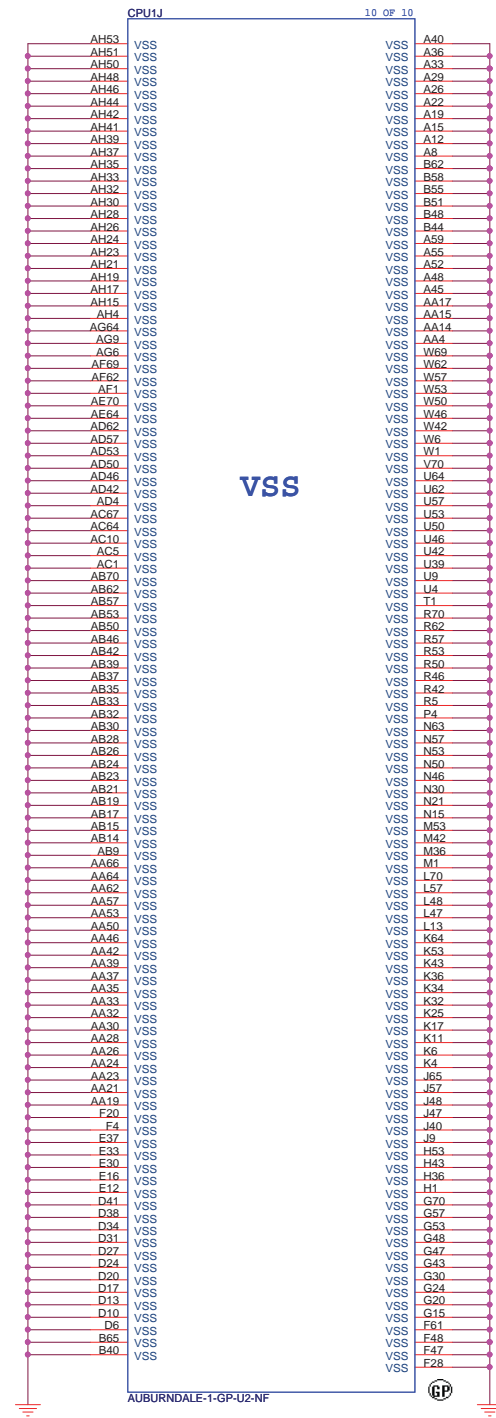
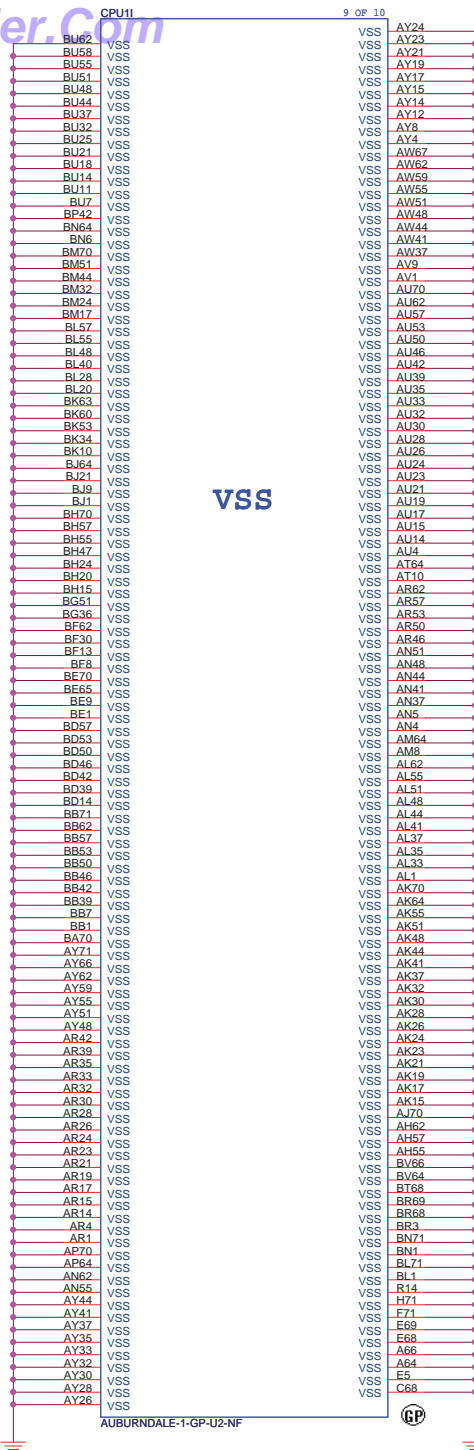


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Title			Auburndale(7/8)-RESERVED	
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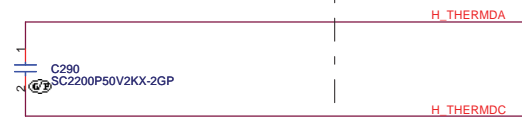
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Size: Custom Document Number: **NORN 3.0** Rev: SE

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CPU TEMP:

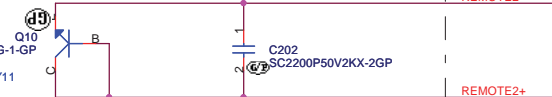
H_THERMDA and H_THERMDC routing 10mil trace width and spacing. Locate Capacity near Thermal diode.



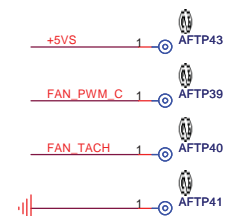
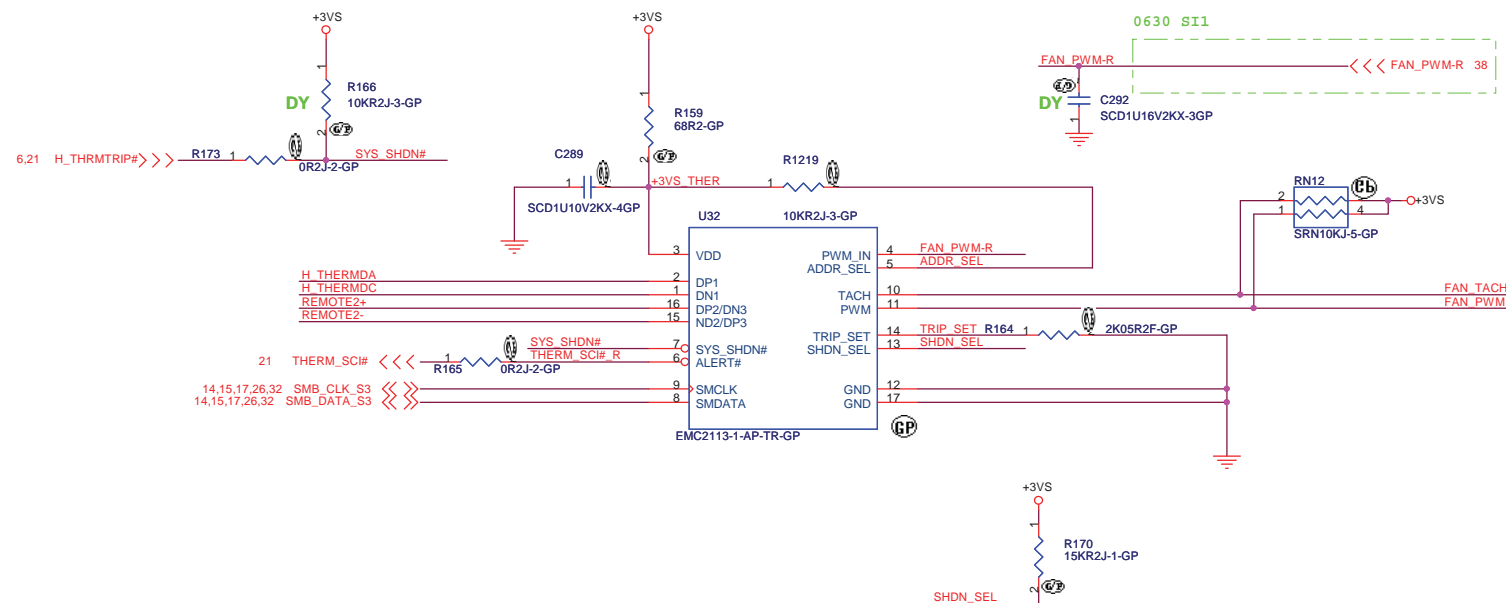
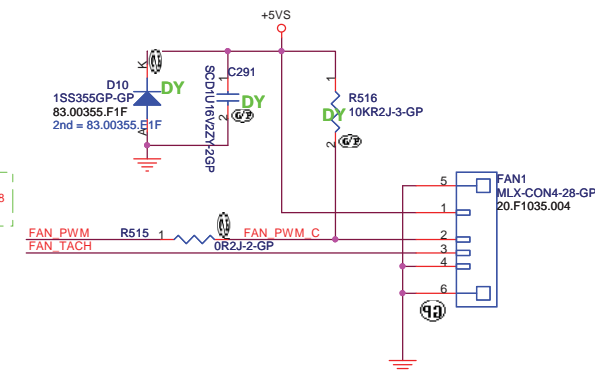
AMBIENT TEMP:

Q24 used for GPU

REMOTE2+ and REMOTE2- routing 10mil trace width and 10 mil spacing. Lacate Cap near thermal diode



4 WIRE PWM Fan Control circuit

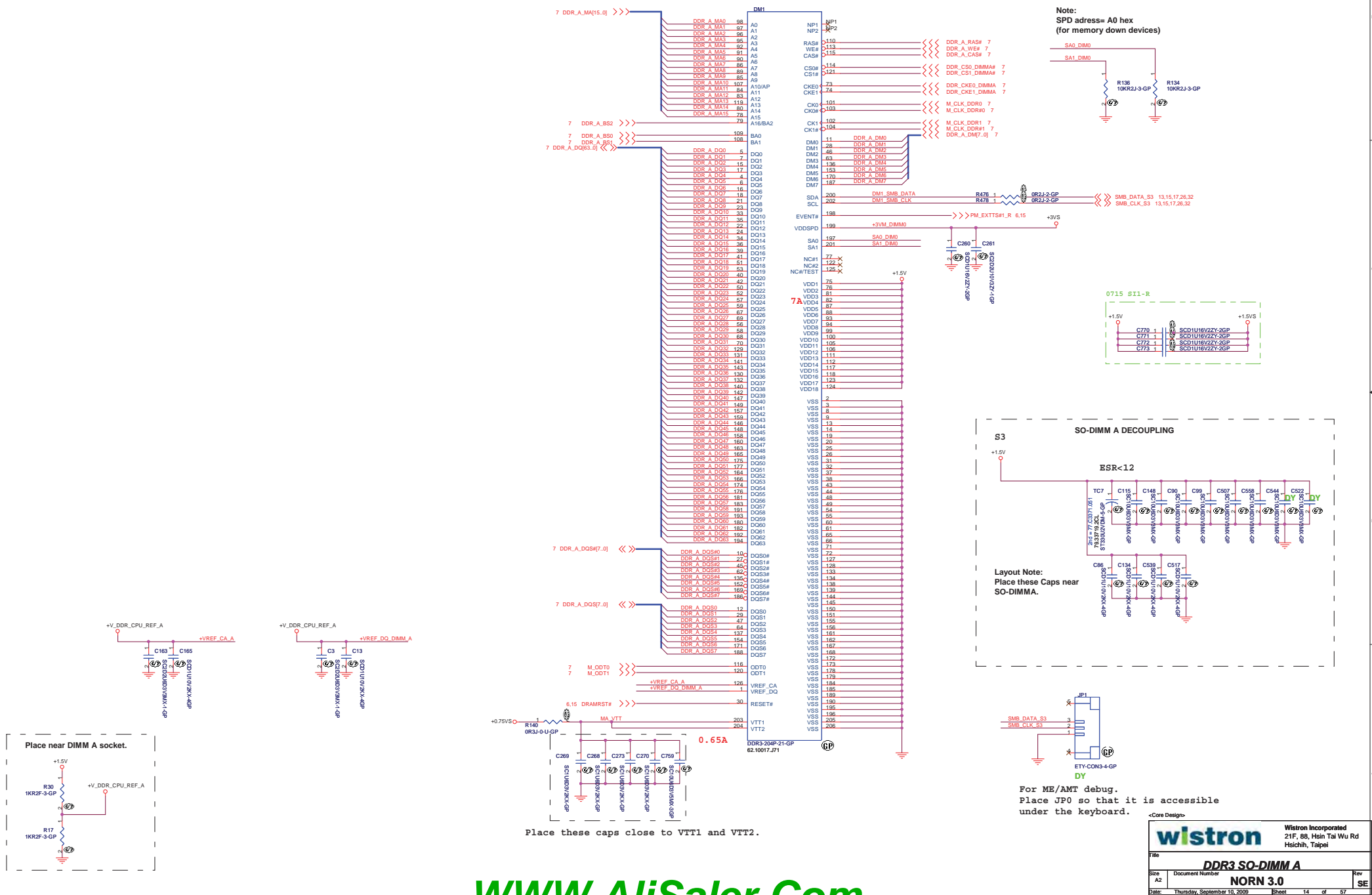


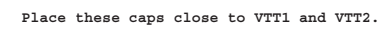
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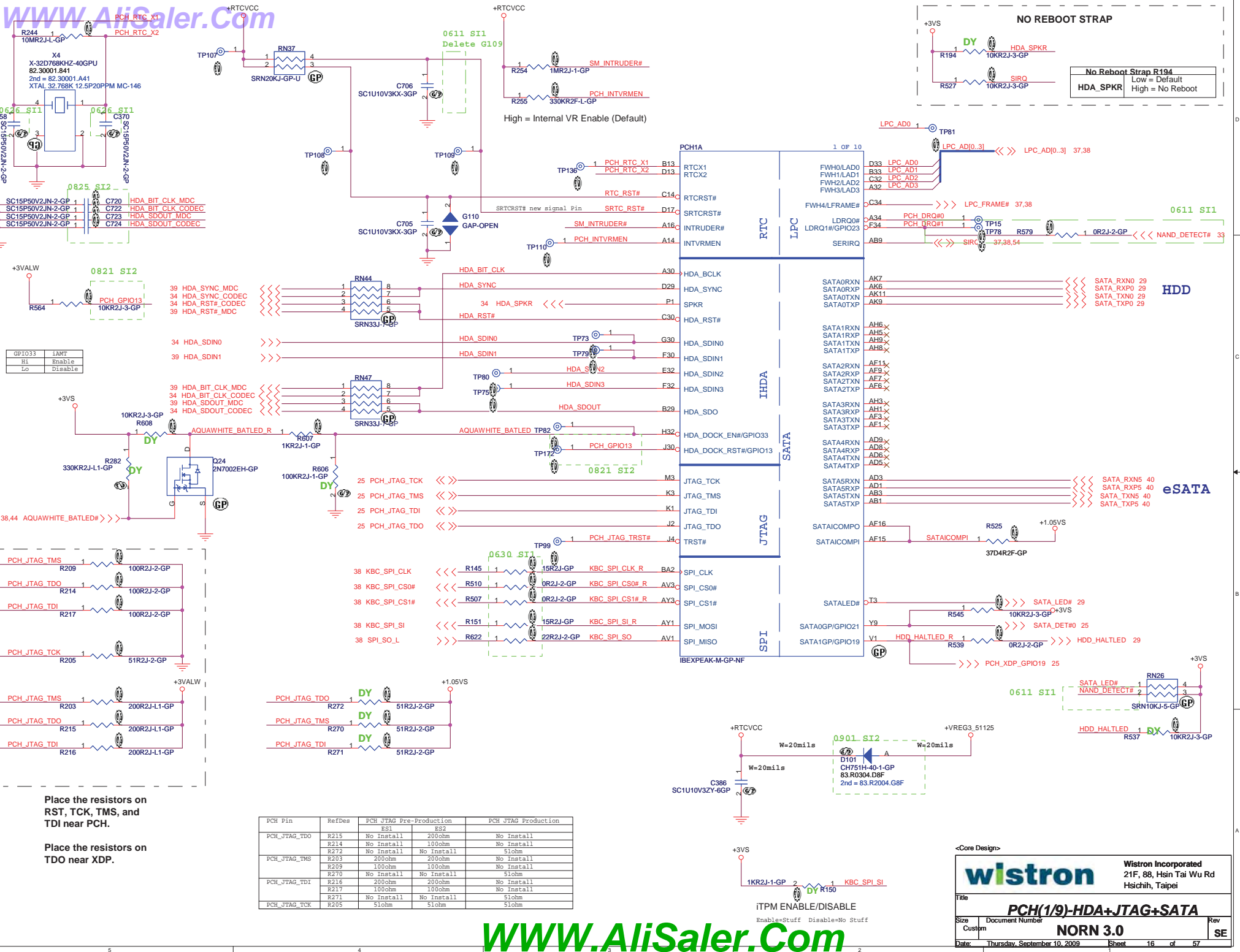
wistron

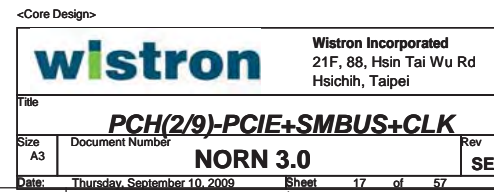
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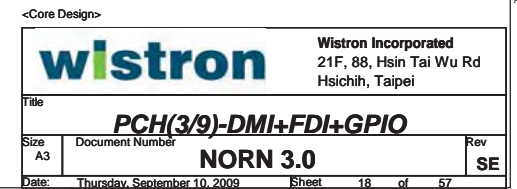
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Size	Document Number	Rev	
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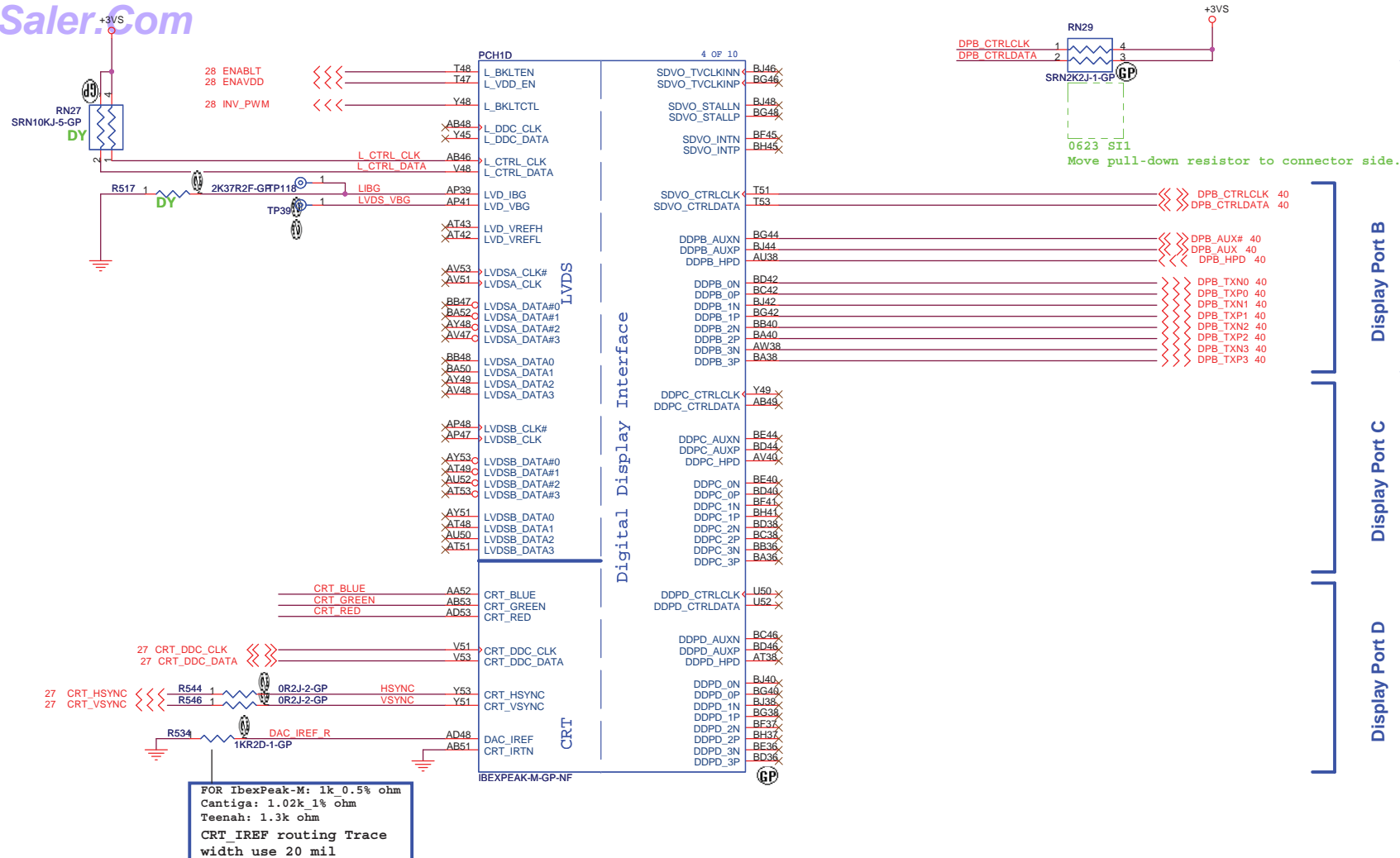




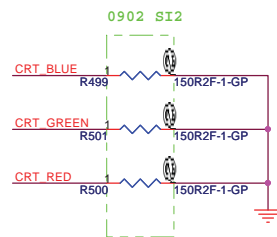






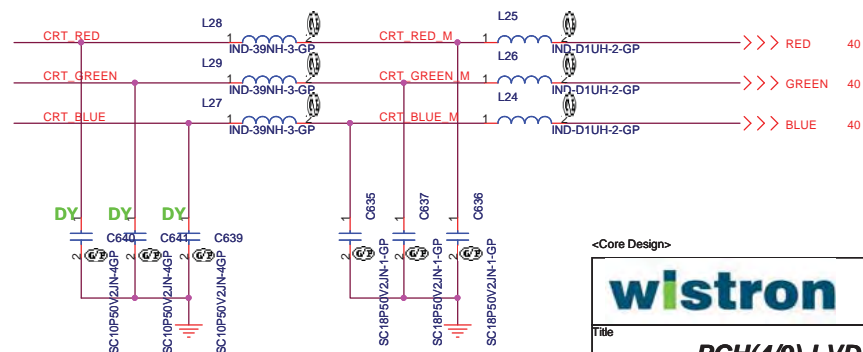


Place Close IbexPeak-M



CRT Termination/EMI Filter

T-Filter network should be placed near IbexPeak-M.

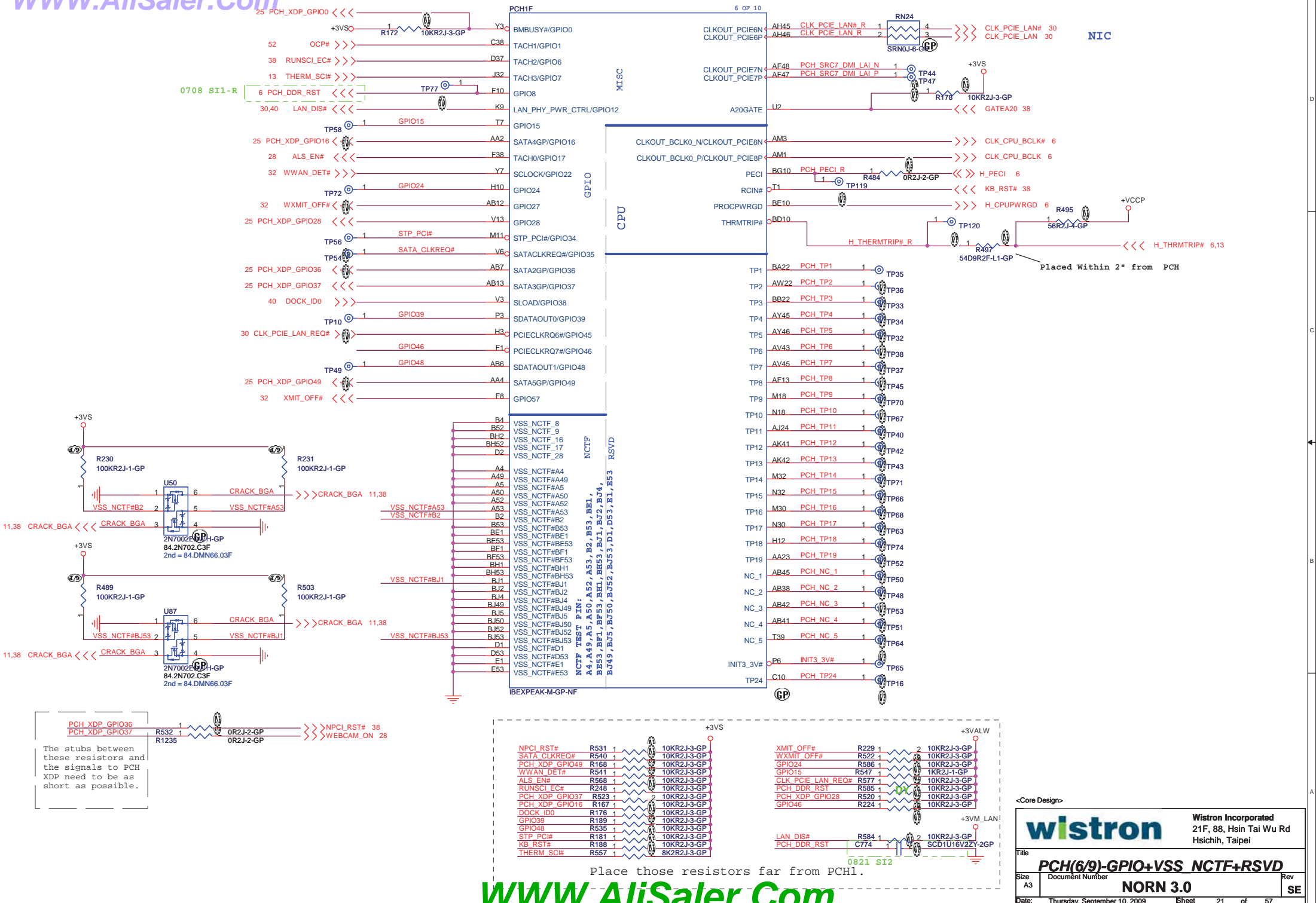


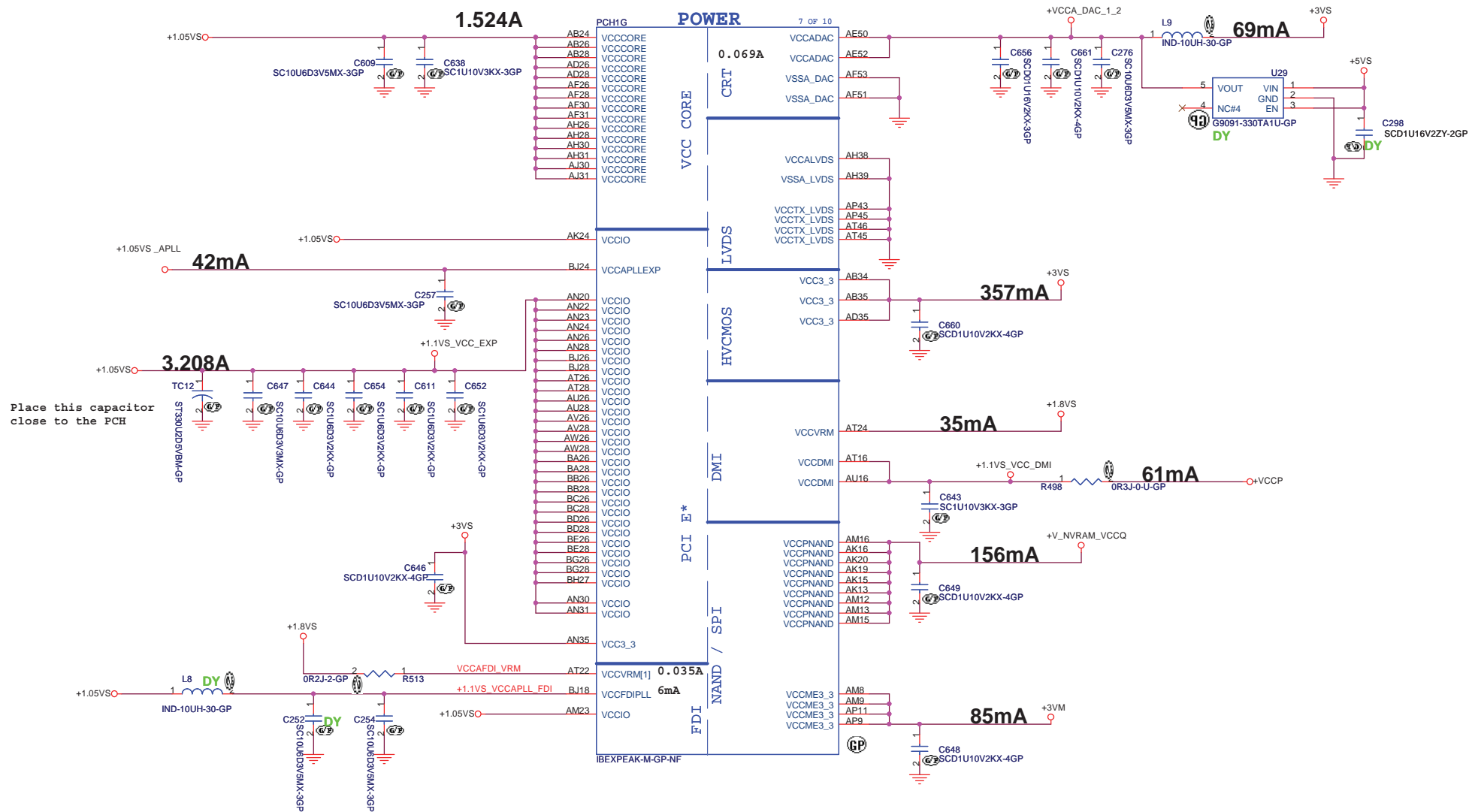
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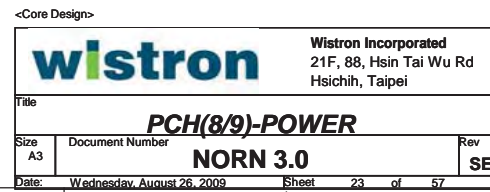
wistron

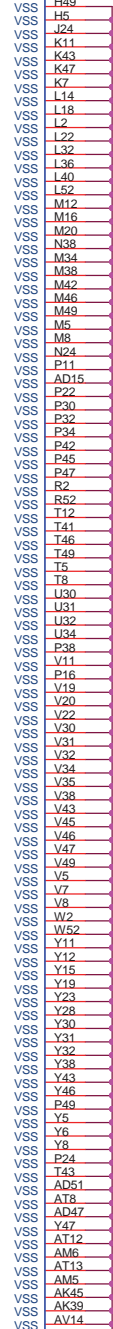
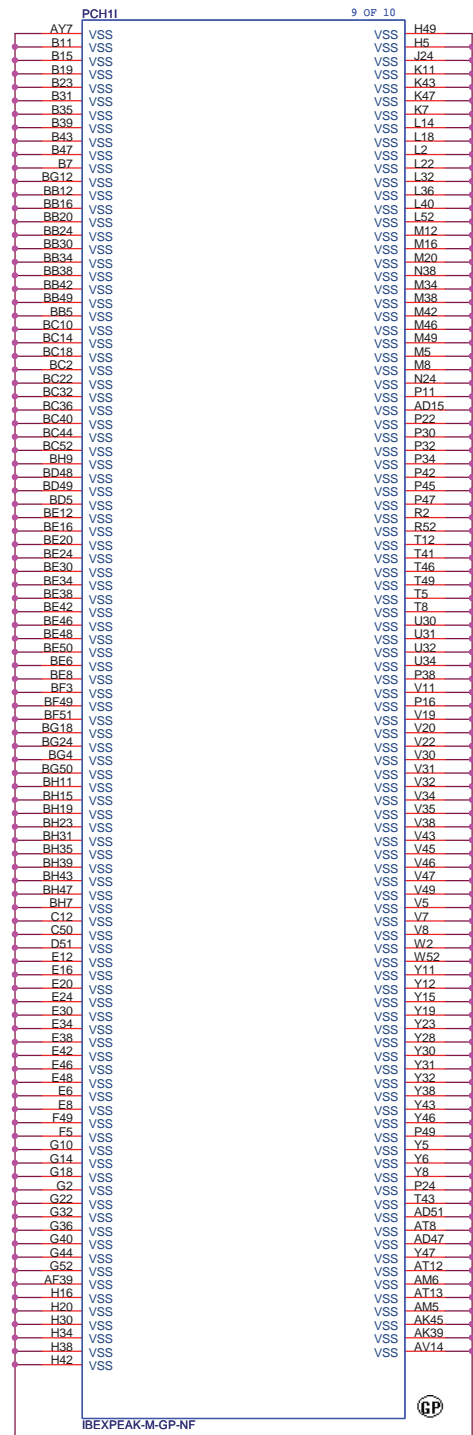
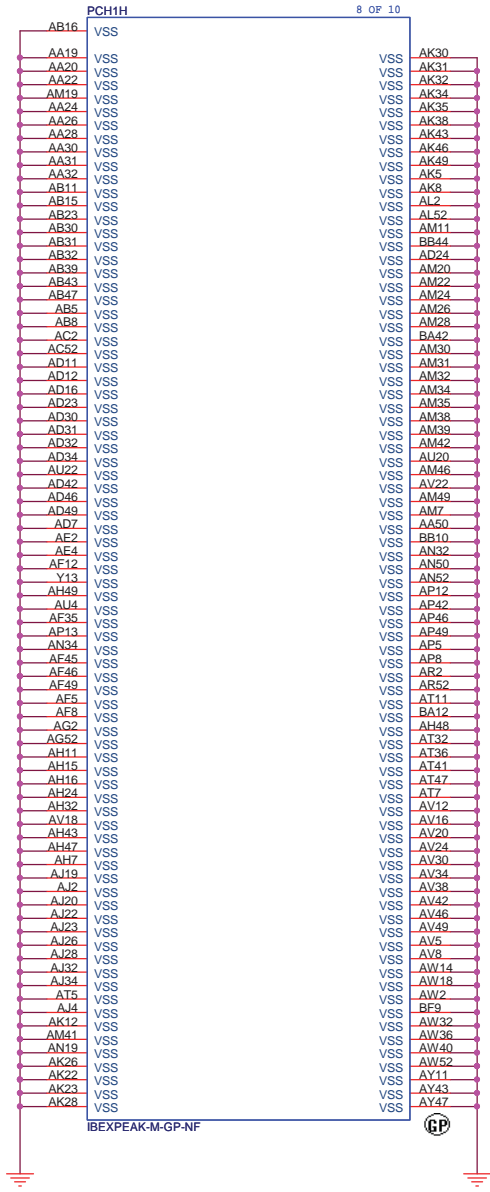
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Title			PCH(4/9)-LVDS+DDI	
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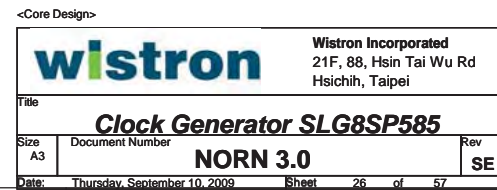




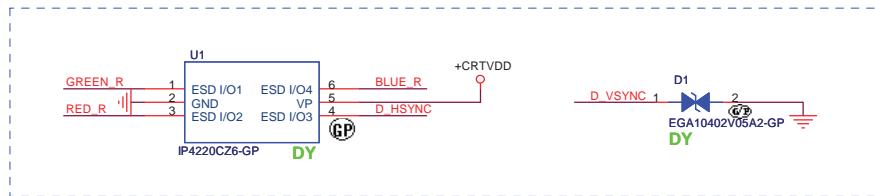


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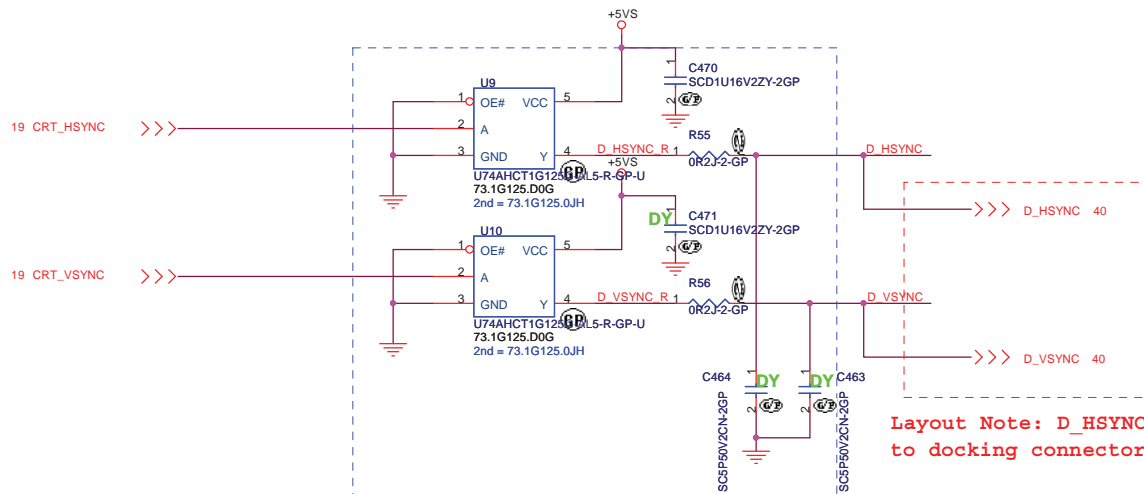
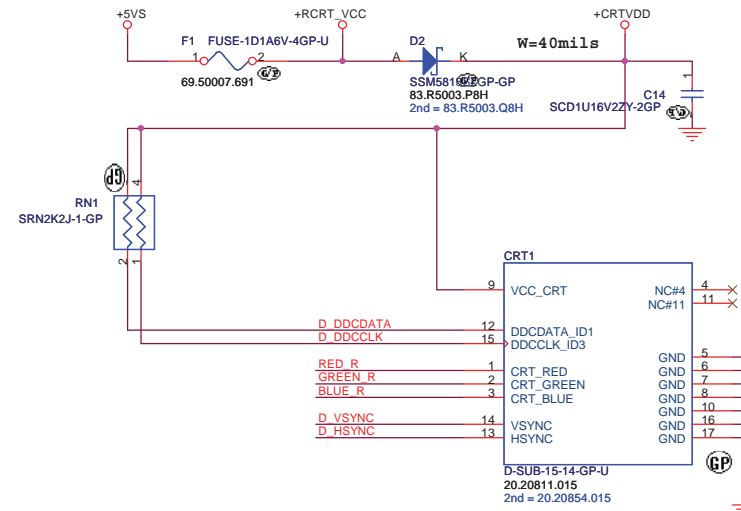
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Size A3	Document Number NORN 3.0	Rev SE	
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CRT connector

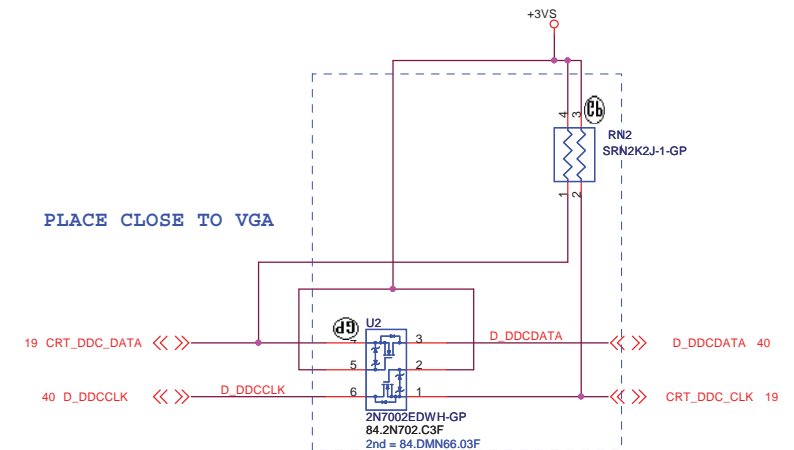


Place near the CRT connector




PLACE CLOSE TO VGA

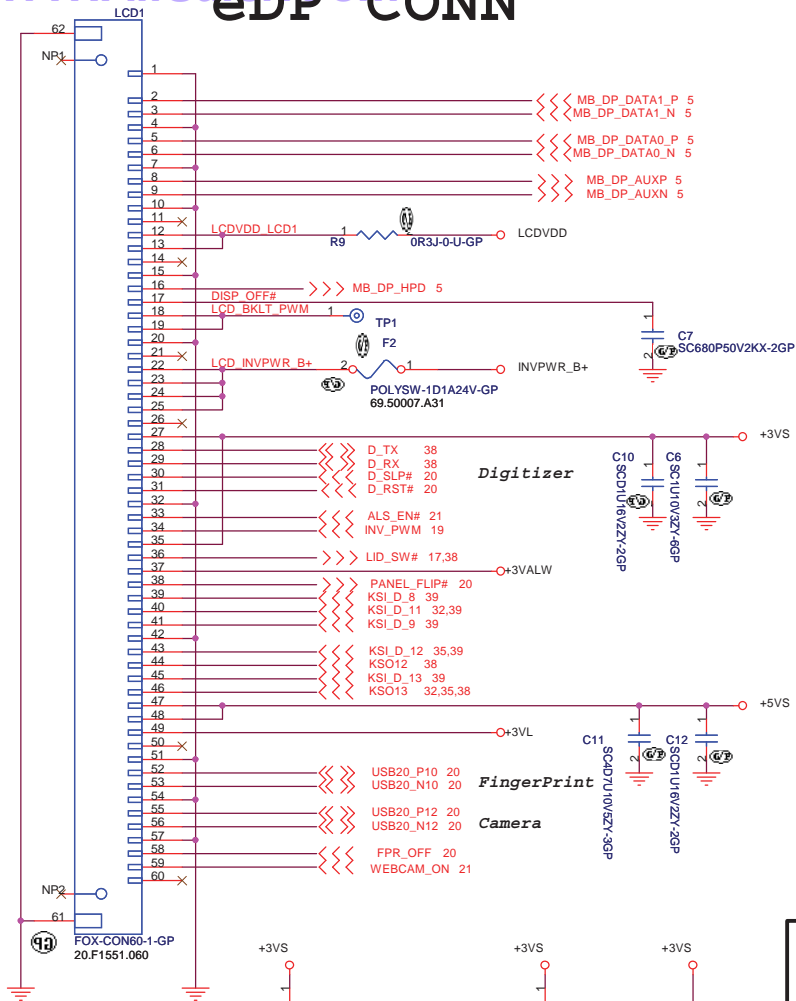
Layout Note: D_HSNC & D_VSYNC should be routed to docking connector then to VGA connector



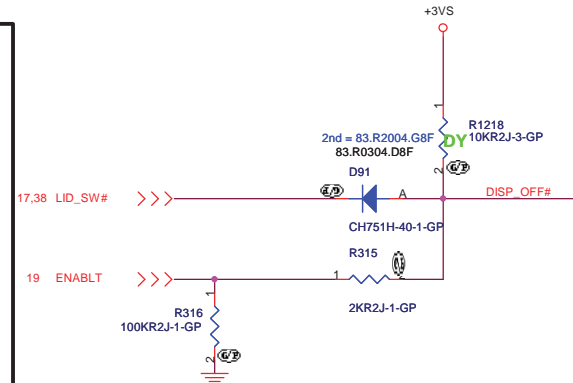
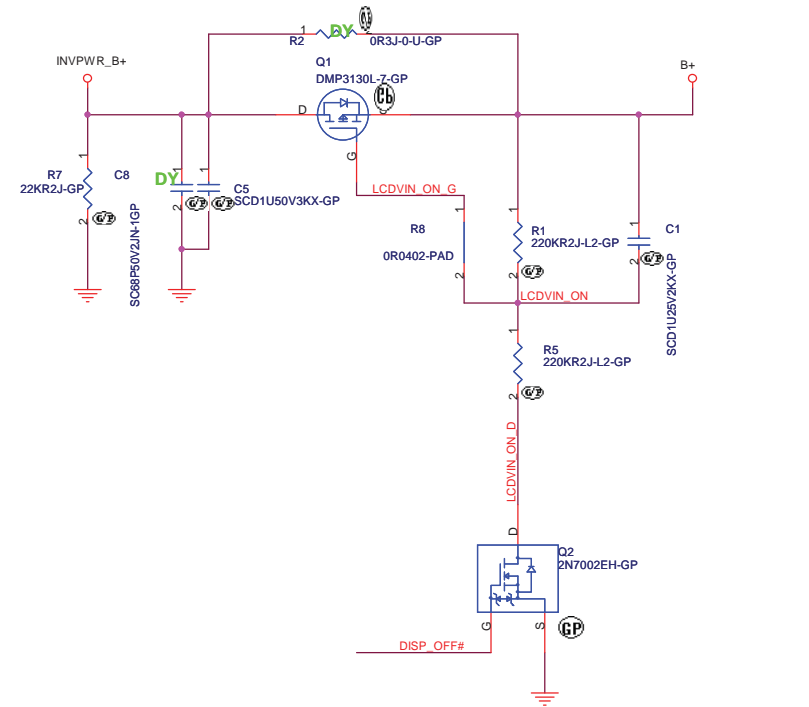
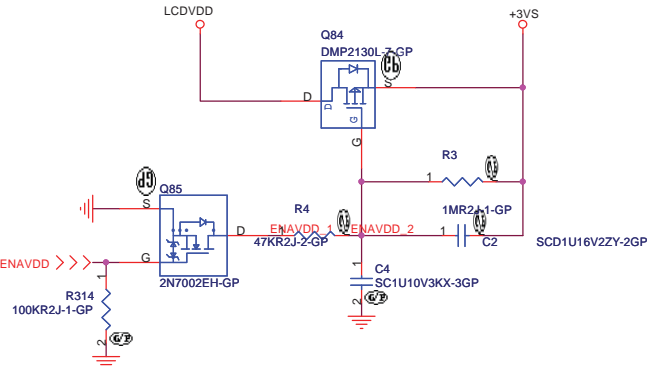
PLACE CLOSE TO VGA

<Core Design>

		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
Title			
<i>CRT/TV CONNECTOR</i>			
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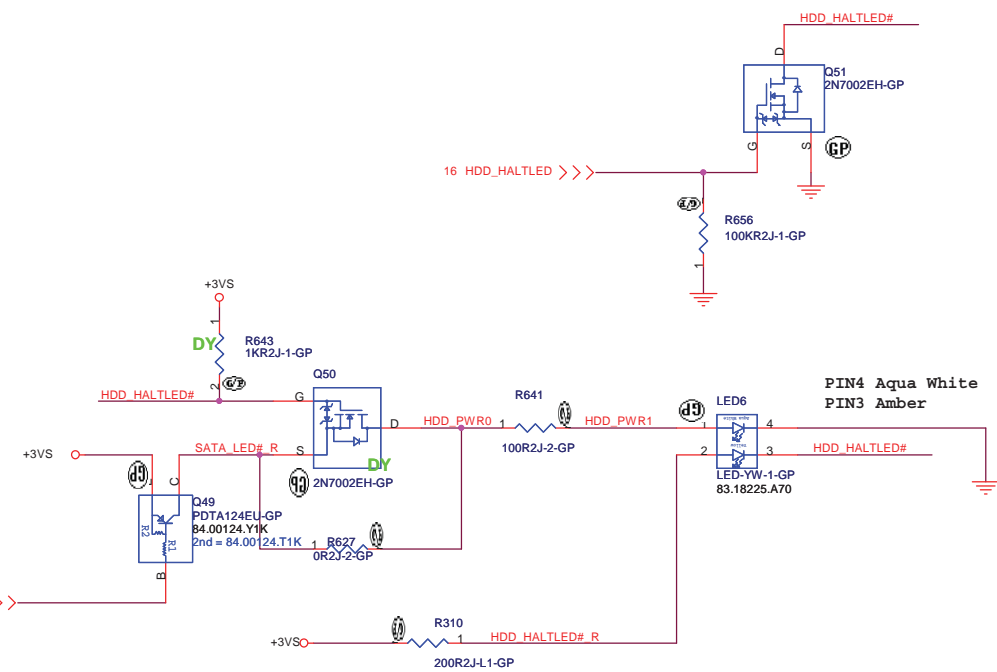
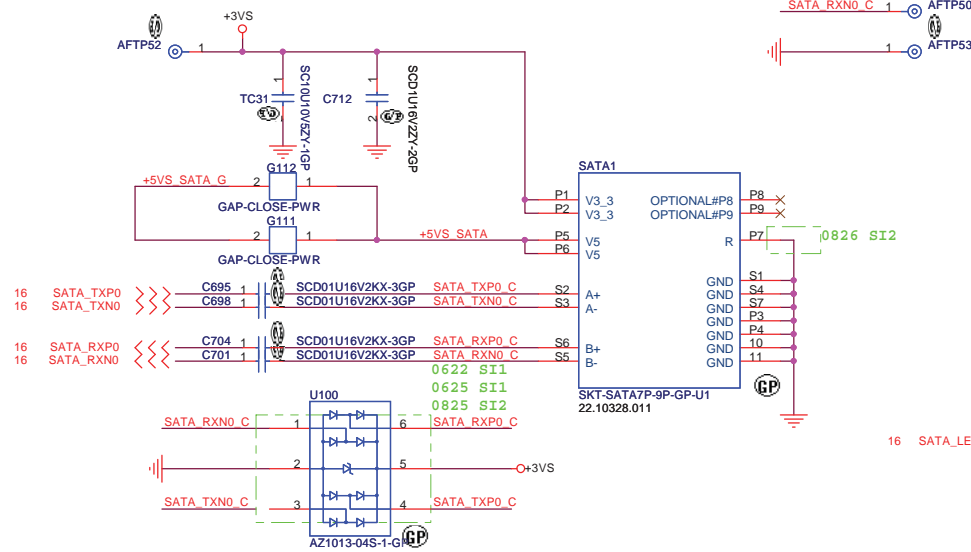
LCD POWER CIRCUIT



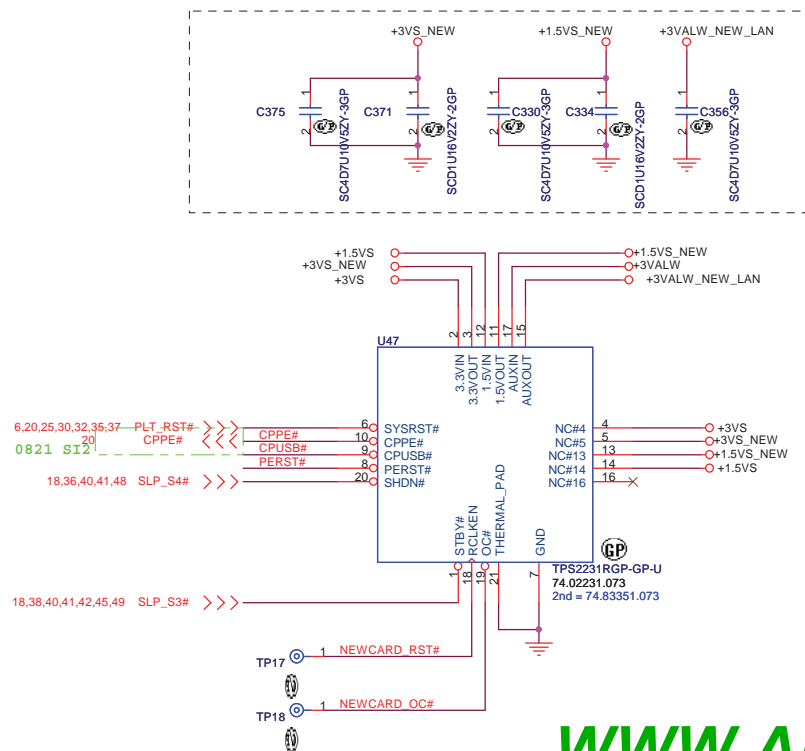
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wistron		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
Title			
<i>LCD CONN.</i>			
Size A3	Document Number NORN 3.0	Rev SE	
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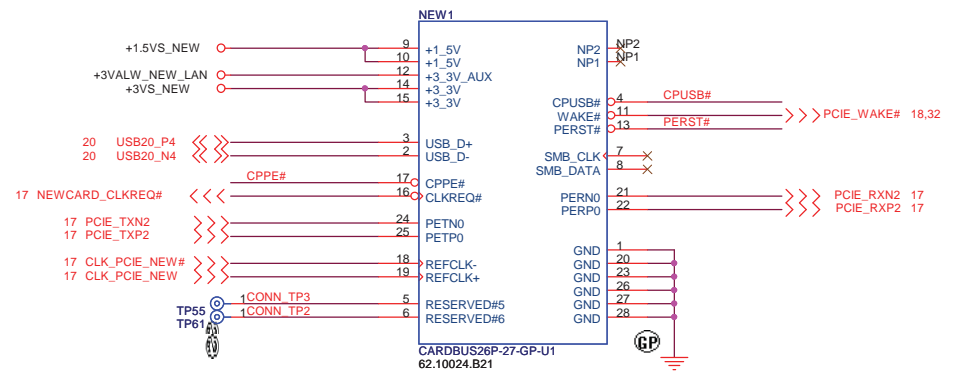
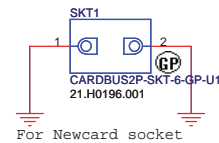
SATA HDD



Place them Near to Connector

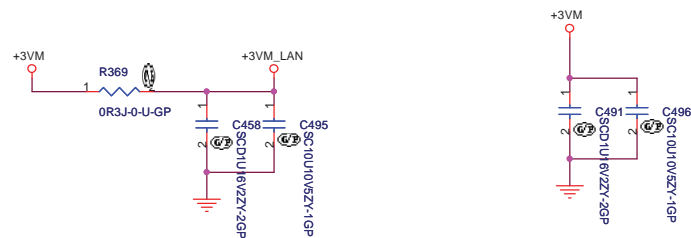


NEWCARD Connector

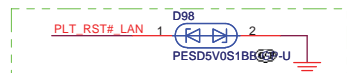


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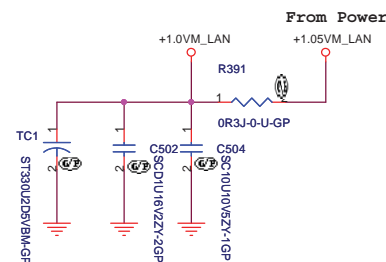
wistron		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
Title HDD /NEW CARD CONN.			
Size A3	Document Number NORN 3.0	Rev SE	
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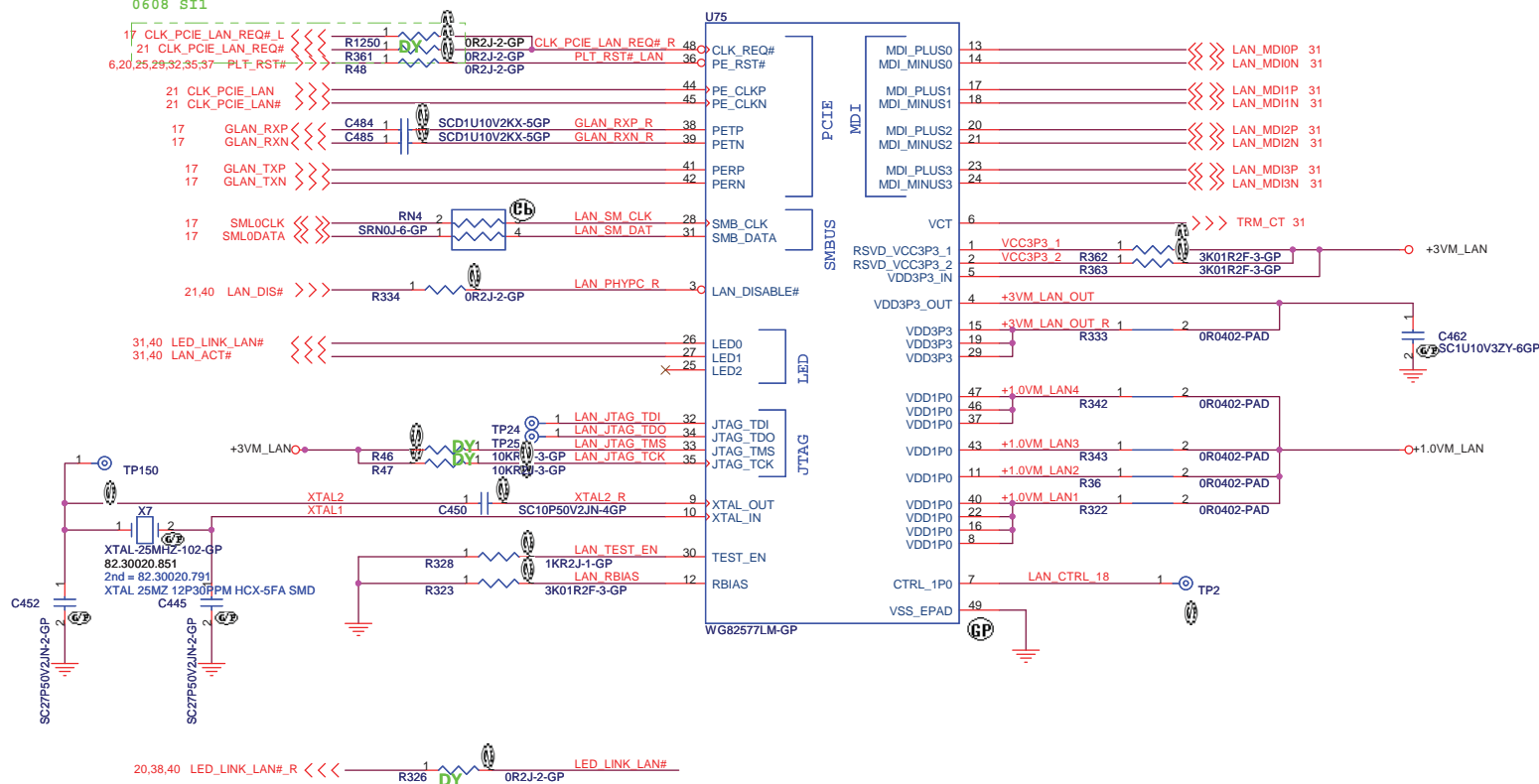
0825 SI2



Place this capacitor close to the U140



0608 SI1



Layout Notes:

Make sure that the stubs to the test points(XTAL2) in the layout are as short as possible on the high speed signals.

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Title

Intel 82577 BavoZ

Size

Document Number

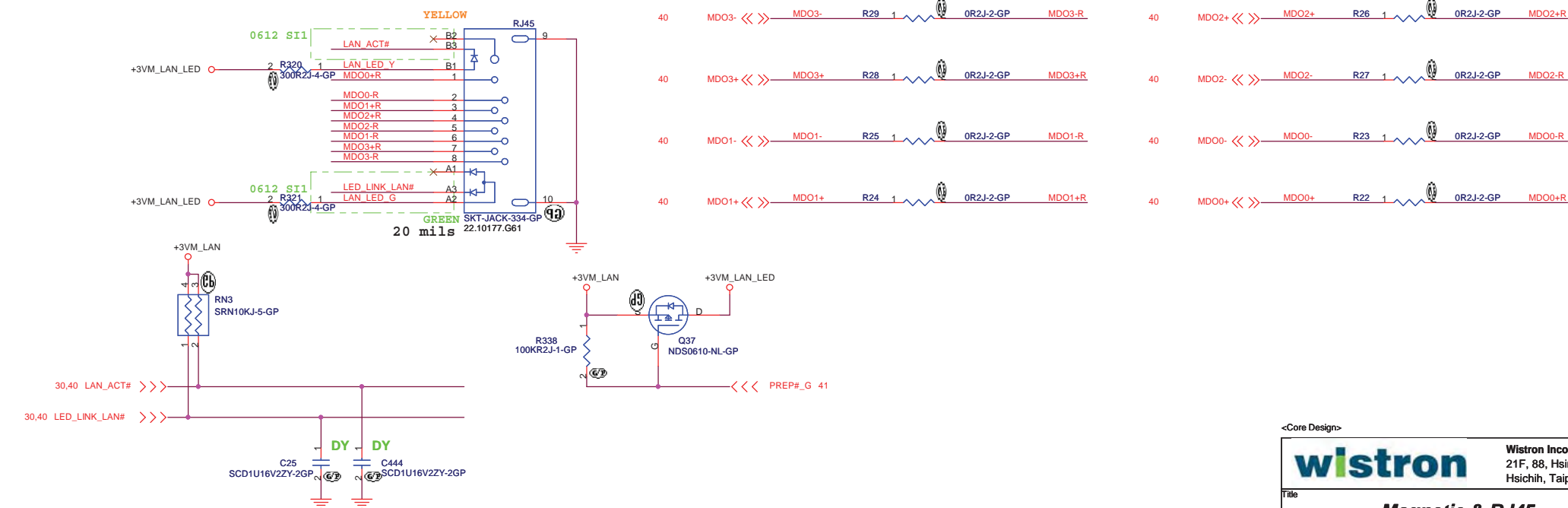
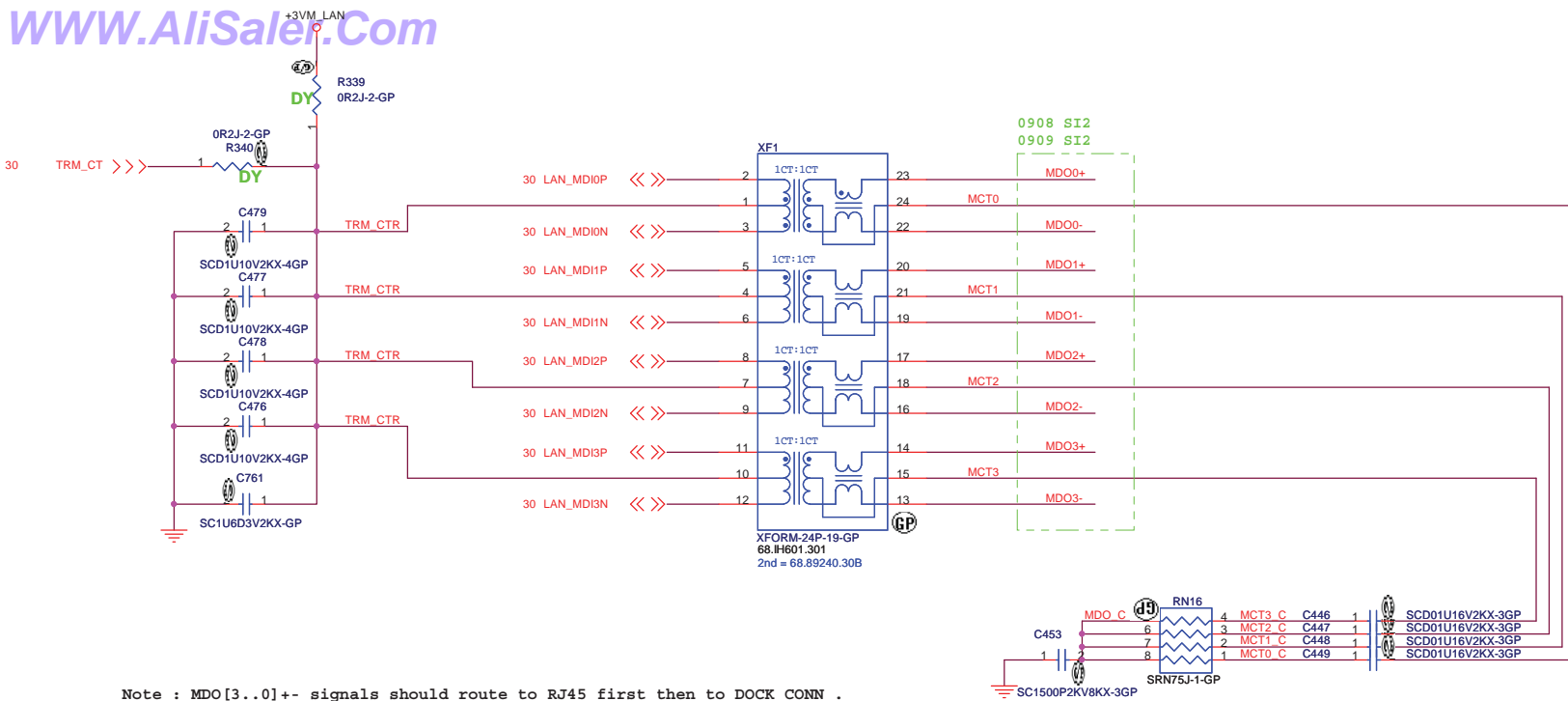
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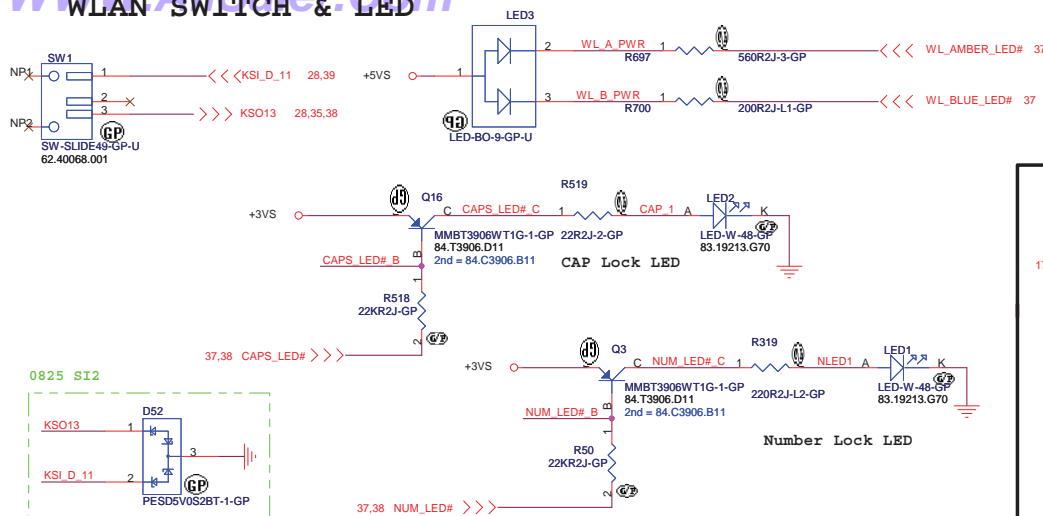
Rev

SE

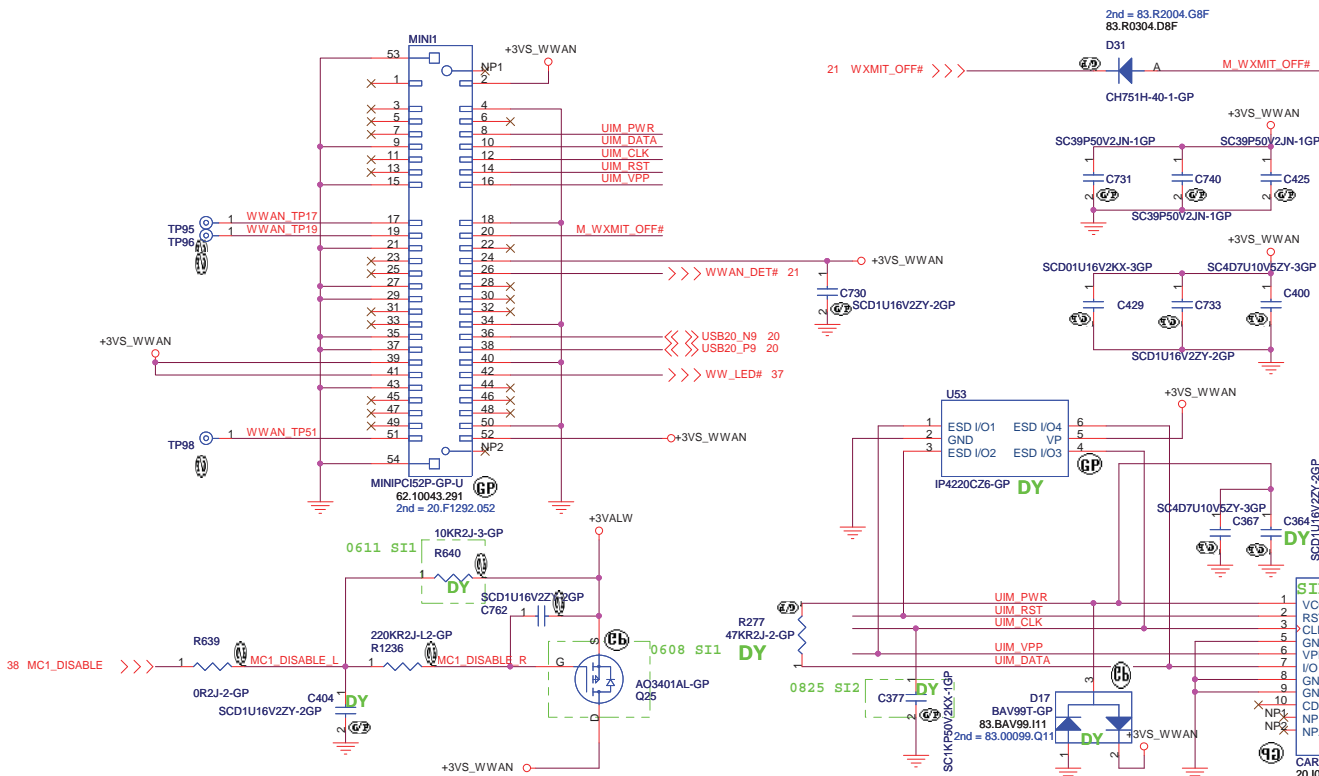
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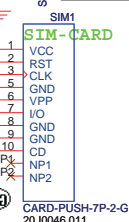
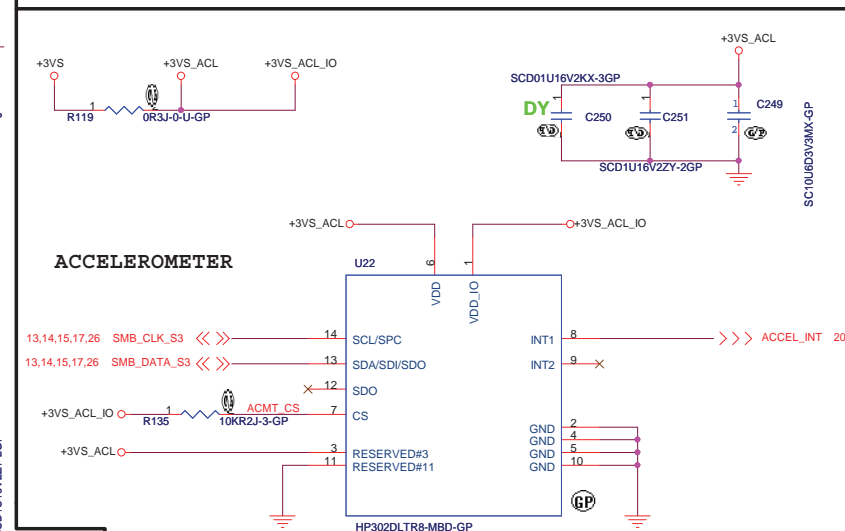
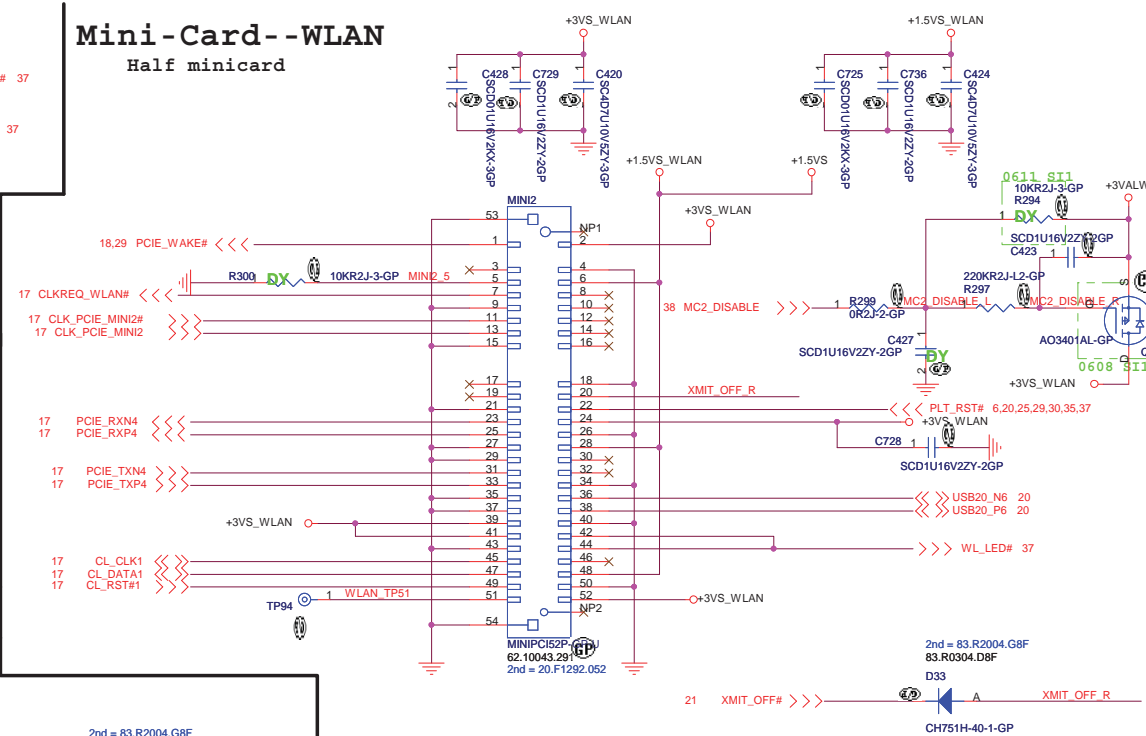




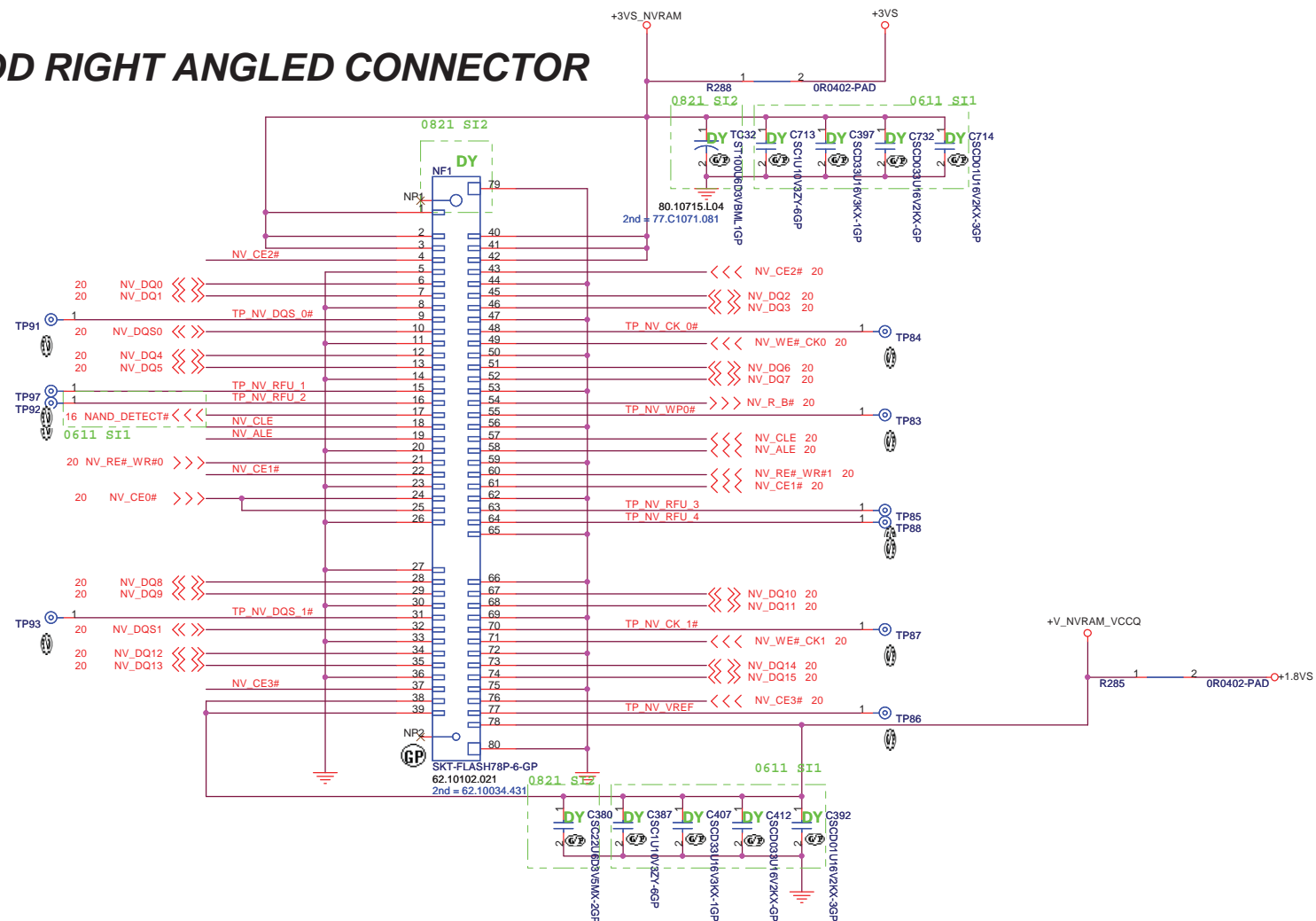
Mini-Card--WWAN
Full minicard



Mini-Card--WLAN



BRAIDWOOD RIGHT ANGLED CONNECTOR

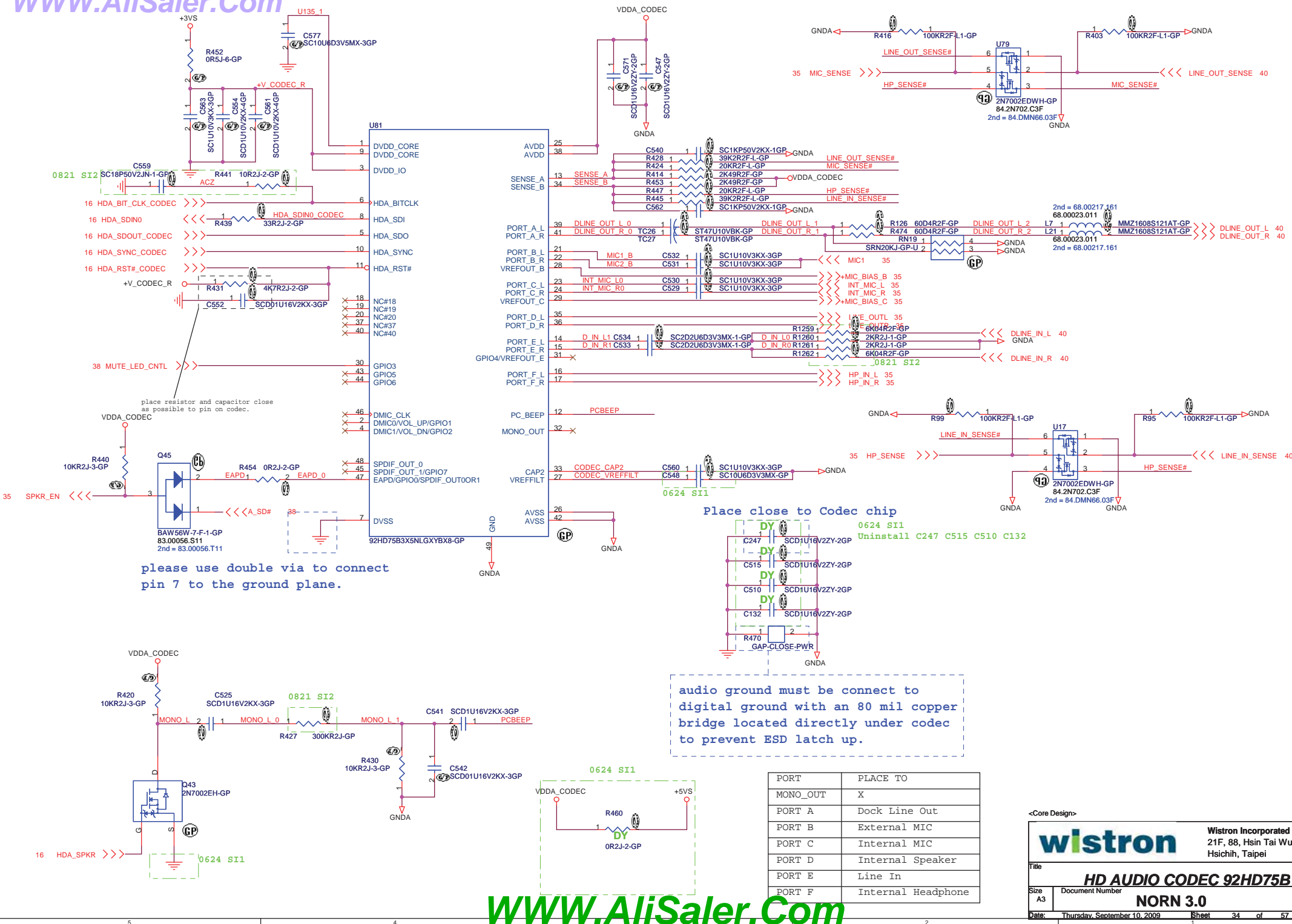


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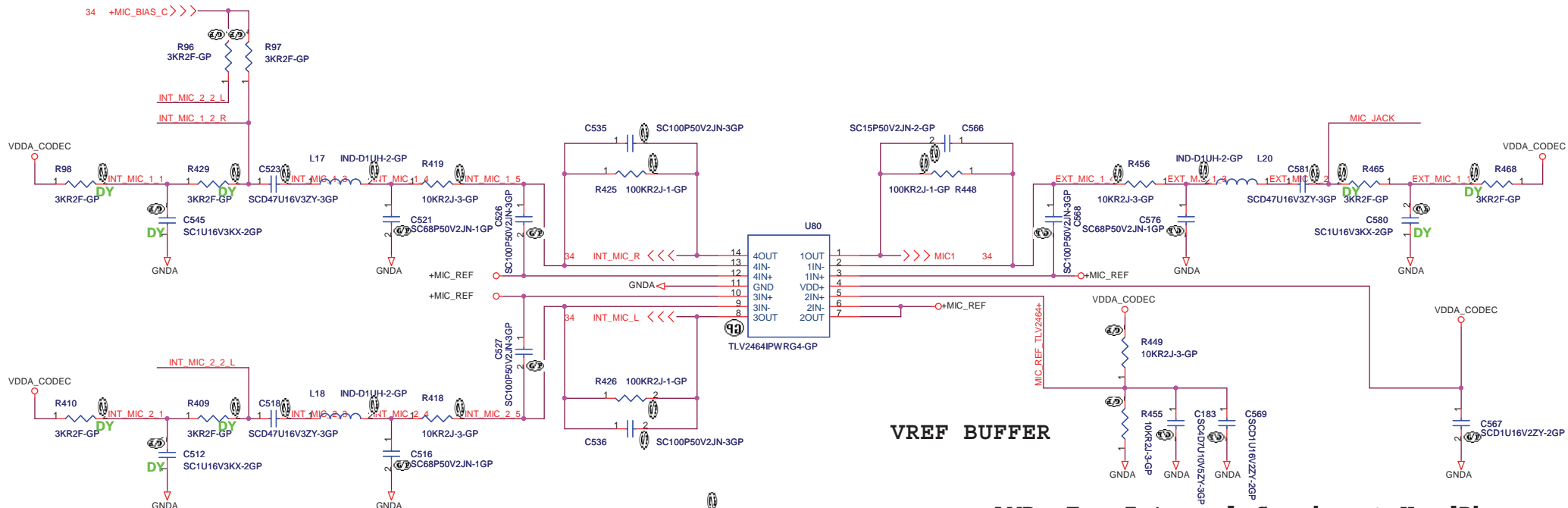
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Hsichih, Taipei

Title			
NAND FLASH CONN			
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AMP. for Internal Microphone

AMP. for External Microphone

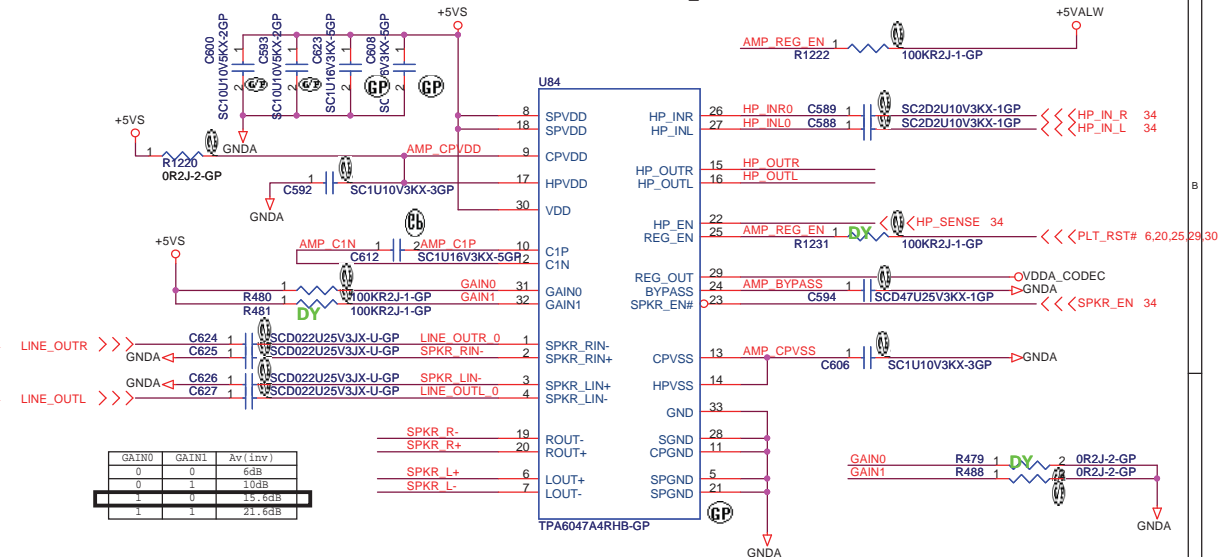
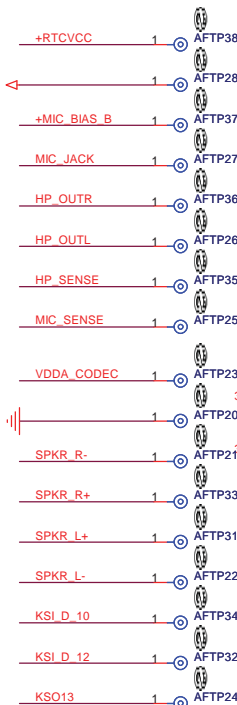
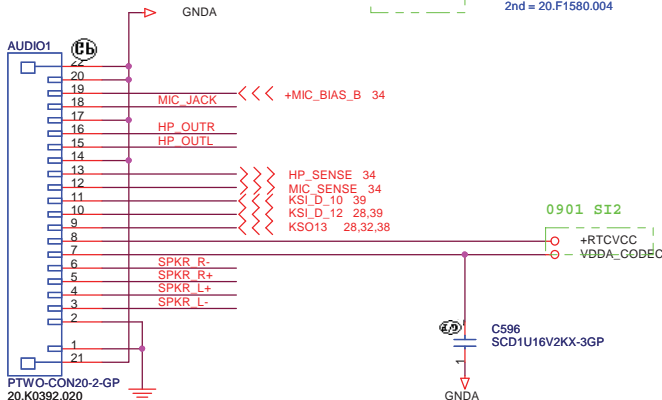


VREF BUFFER

AMP. For Internal Speaker & HeadPhone.

AUDIO CONN

INT. MIC CONN

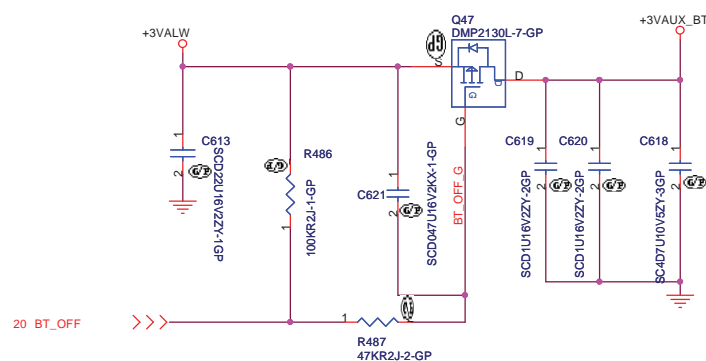
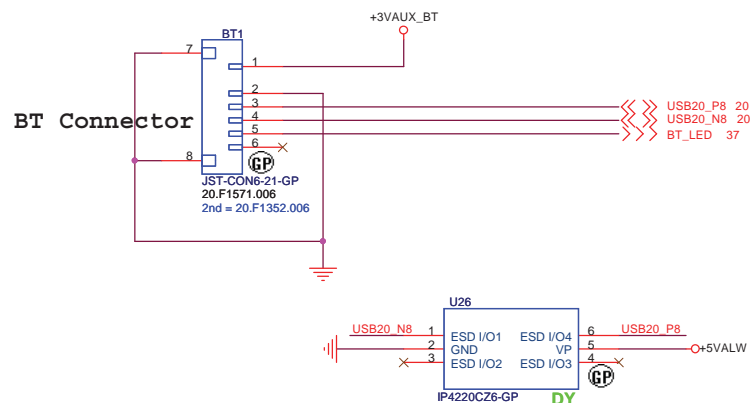
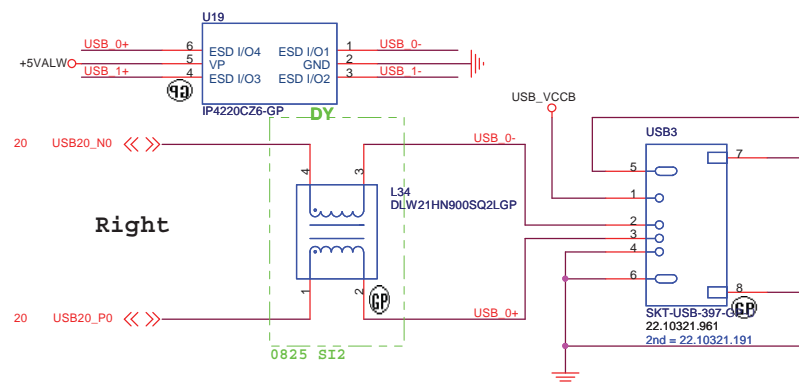
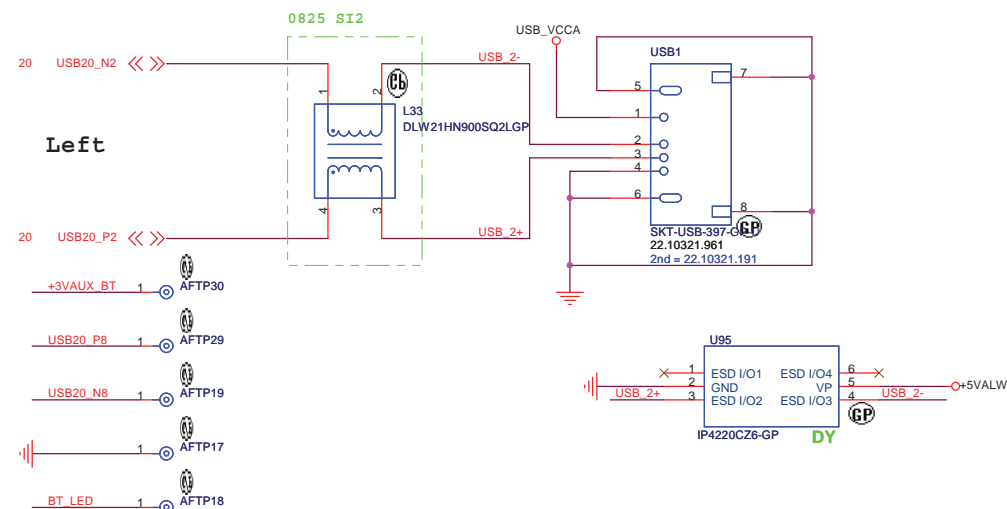
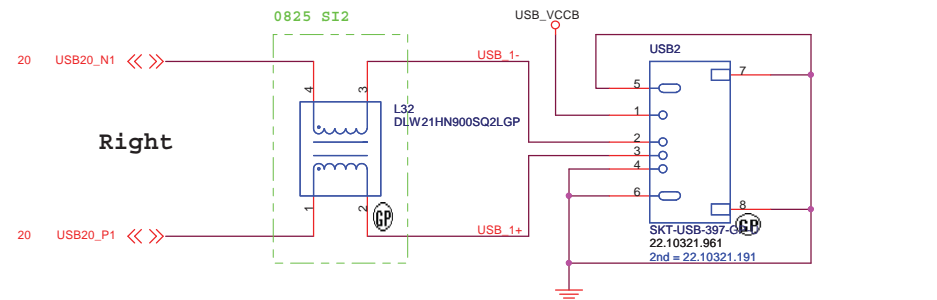
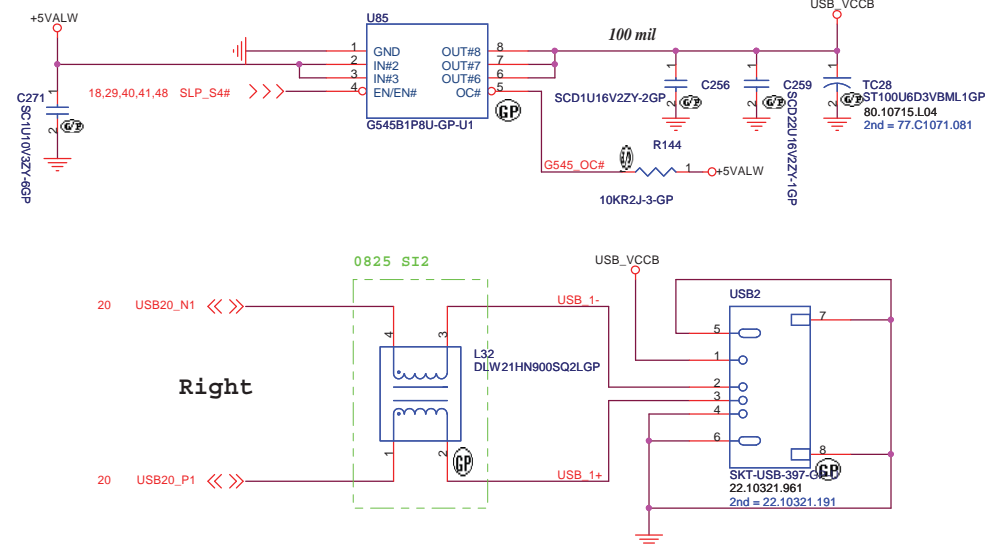
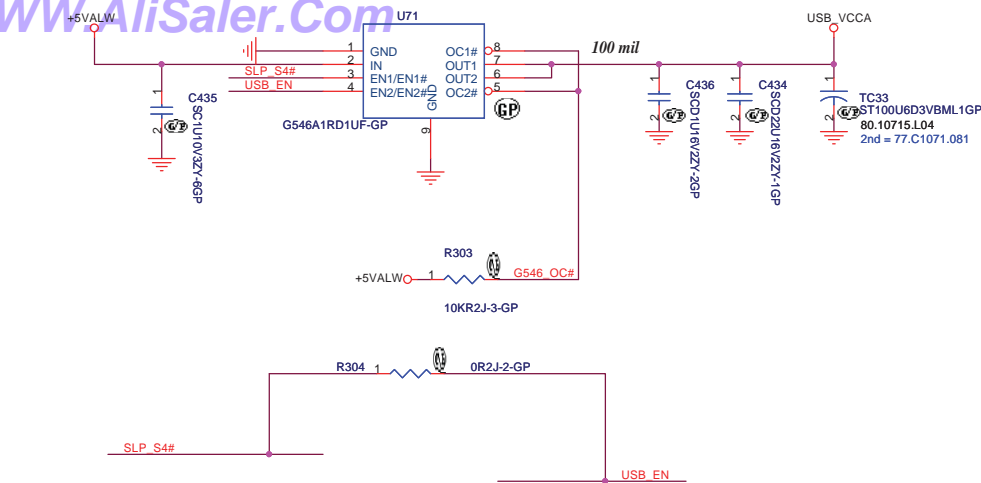


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Title			
AMP & Audio Conn.			
Size	Document Number	Rev	
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Date:	Thursday, September 10, 2009	Sheet	35 of 57

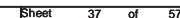


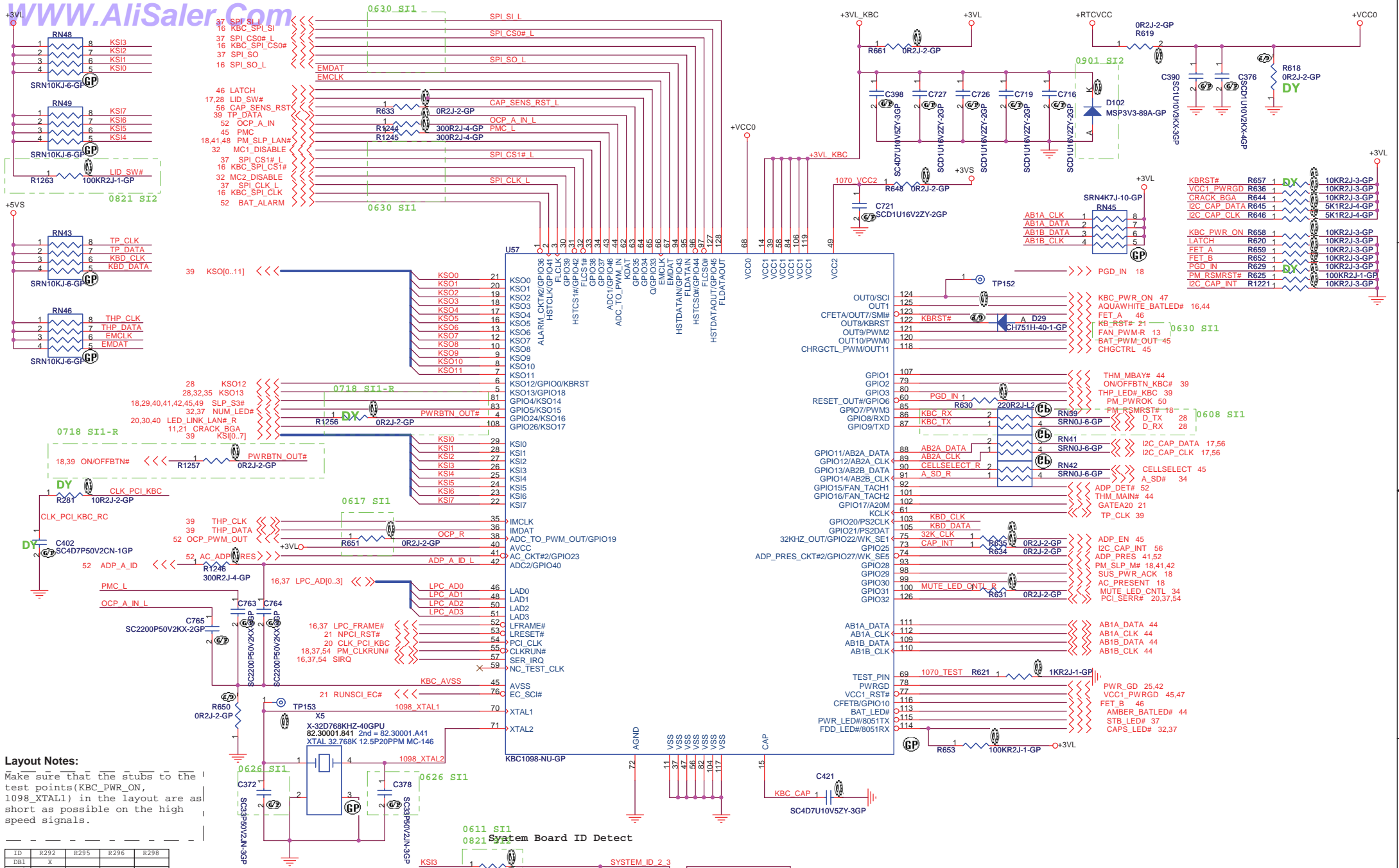
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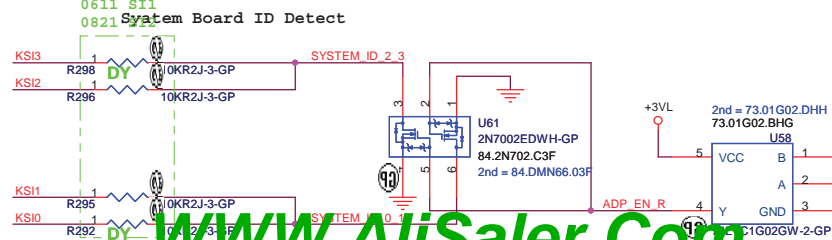
Title			
USB&1394 & BT Connector			
Size	Document Number	Rev	
A3	NORN 3.0	SE	
Date:	Thursday, September 10, 2009	Sheet	36 of 57






Layout Notes:
Make sure that the stubs to the test points (KBC_PWR_ON, 1098_XTAL1) in the layout are as short as possible on the high speed signals.

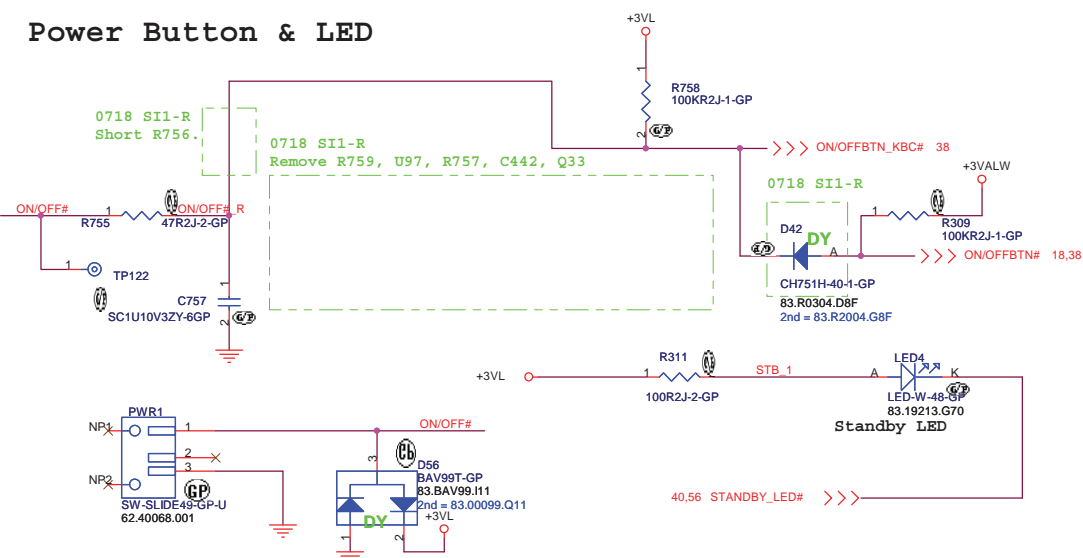
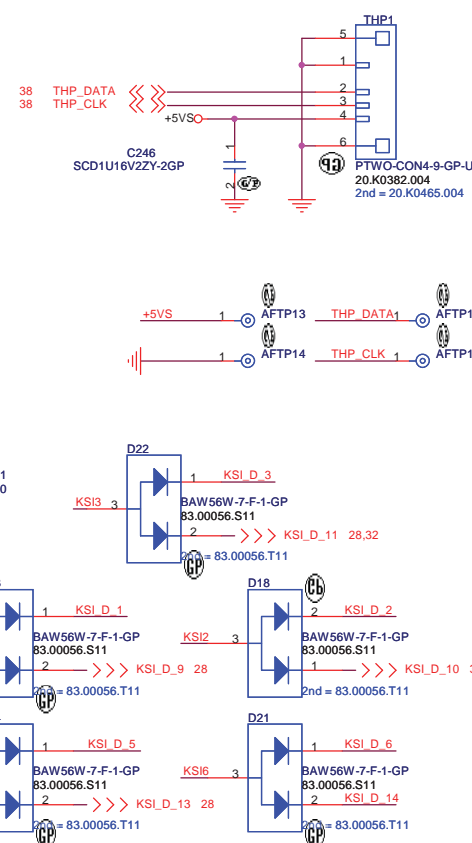
ID	R292	R295	R296	R298
DB1	X			
DB2	X		X	
DBx	X			X
SI1		X		
SI2		X	X	
SIx		X		X
PV			X	
N/A				
N/A				
PVx				X
N/A				
N/A				
MV				



 <div> Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei </div>	
Title <i>KBC SMSC 1098</i>	
Size A3	Document Number NORN 3.0
Date: Thursday, September 10, 2009	
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<div> <div>SE</div> </div>	



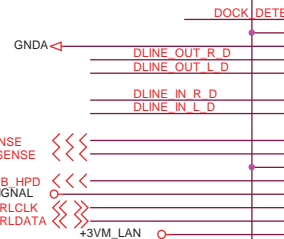
Touch Pad CONN.



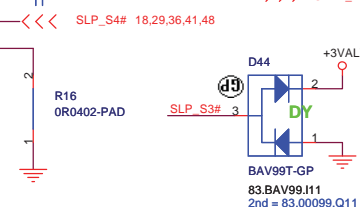
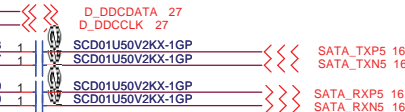
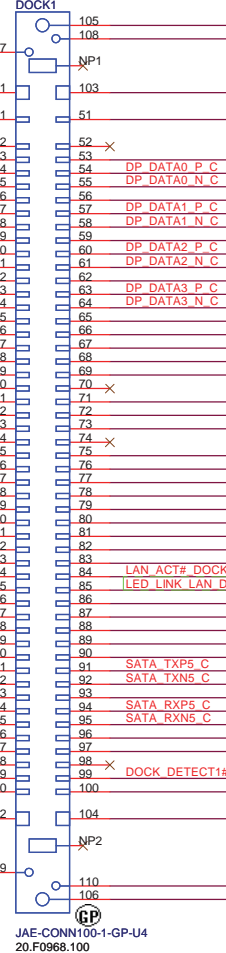
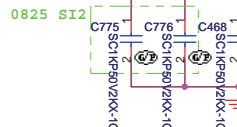
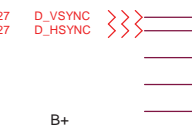
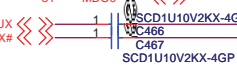
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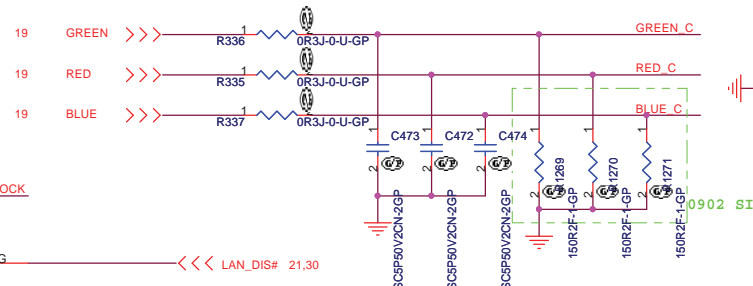
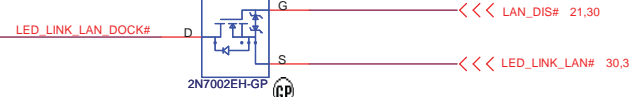
Title			
MDC/KBD/ON OFF/T.P.			
Size A3	Document Number		Rev
	NORN 3.0		SE
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+5VS
R72
10KR2



```
2 sets
Set 1 = 18.5V @ 4A per contact
Set 2 = VBATR @ 3A per contact
```



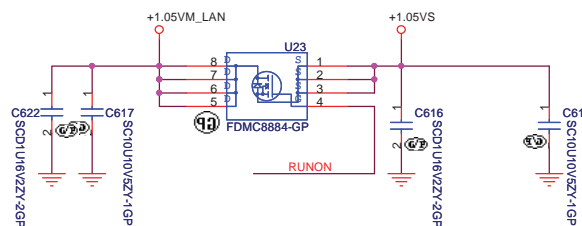
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NORN 3.0

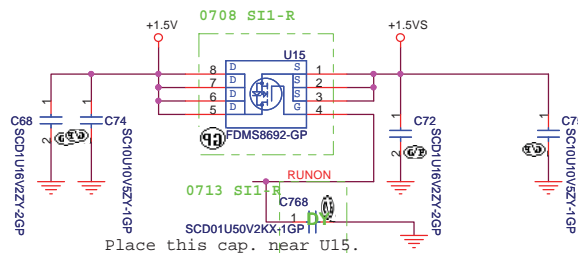
Rev	
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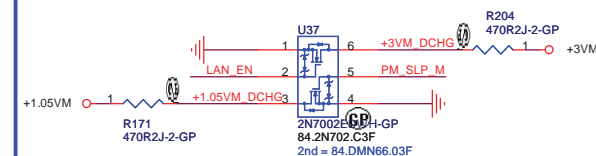
+1.05VM_LAN to +1.05VS Transfer



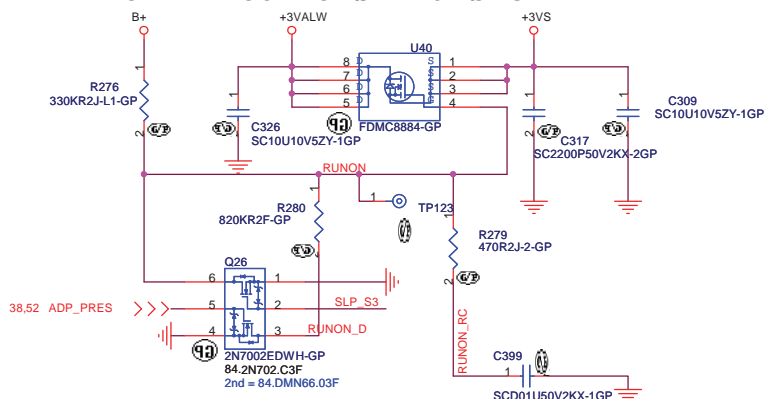
+1.5V to +1.5VS Transfer



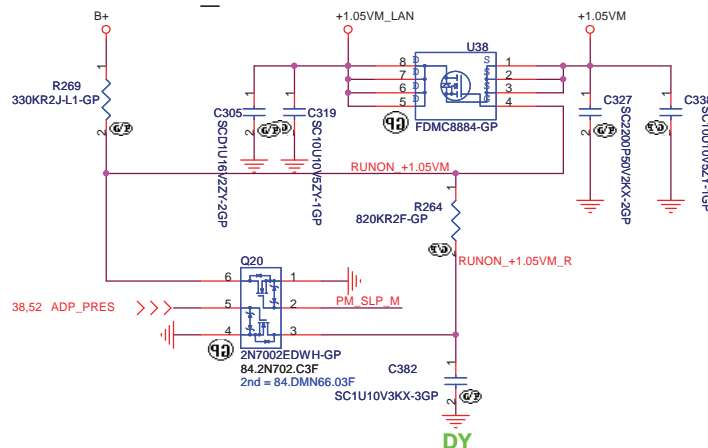
Discharge circuit-2 fot V-M



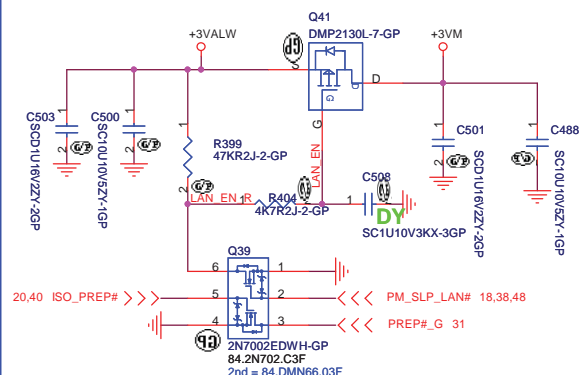
+3VALW to +3VS Transfer



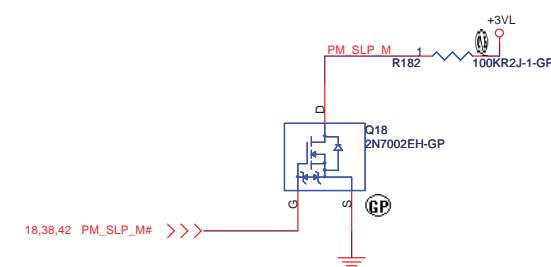
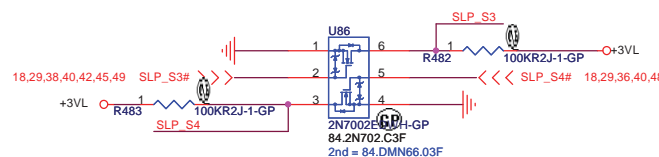
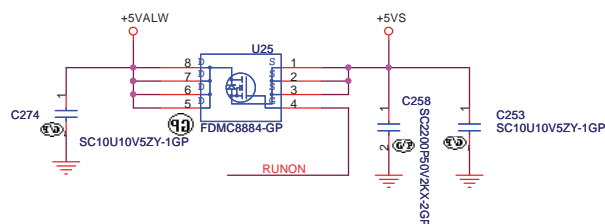
+1.05VM_LAN to +1.05VM Transfer



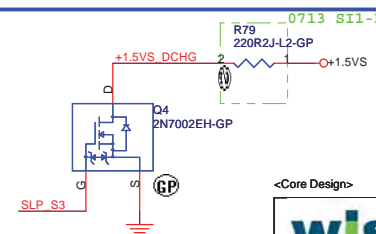
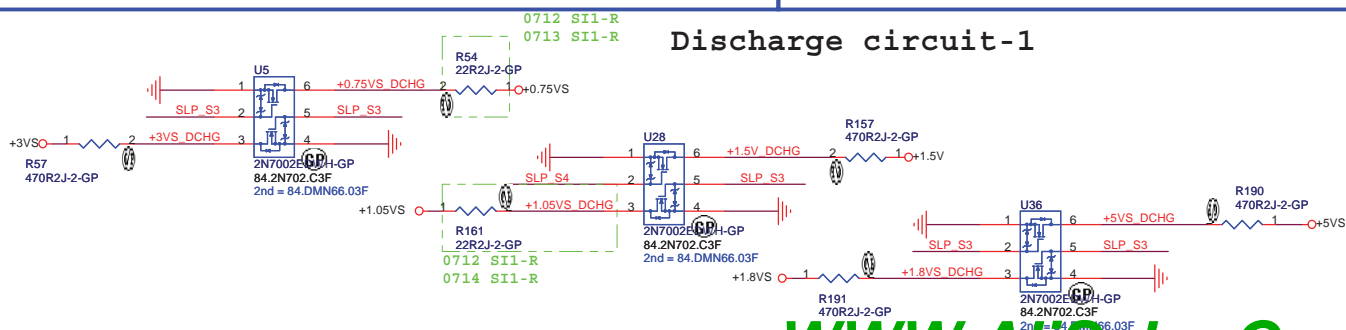
+3VALW to +3VM Transfer



+5VALW to +5VS Transfer



Discharge circuit-1



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Title

DC/DC Circuit

Size

Document Number

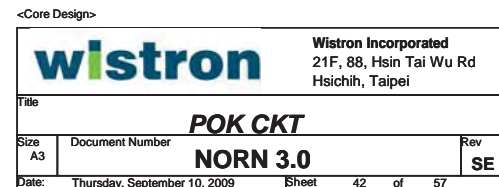
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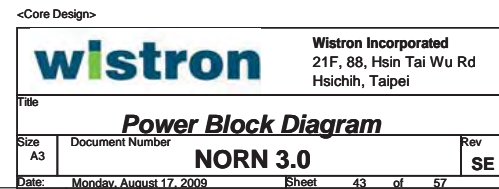
Rev

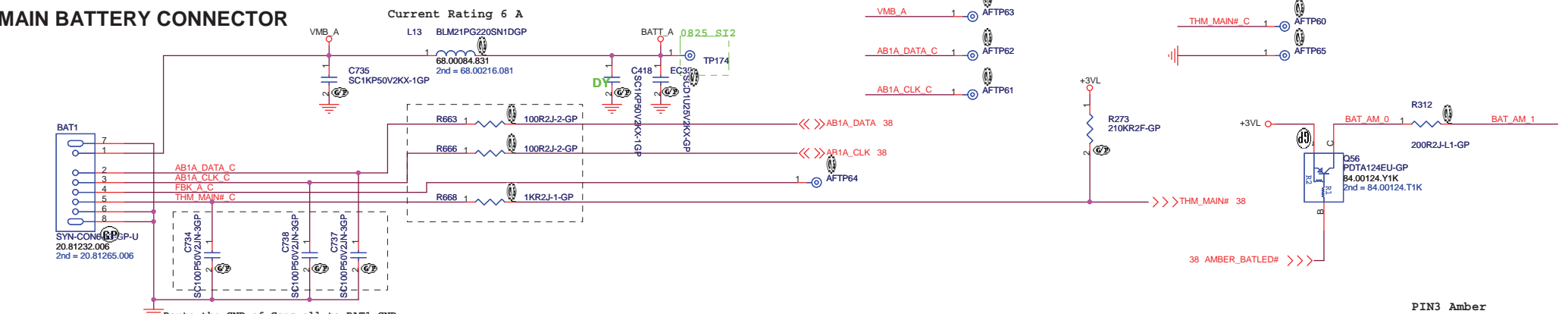
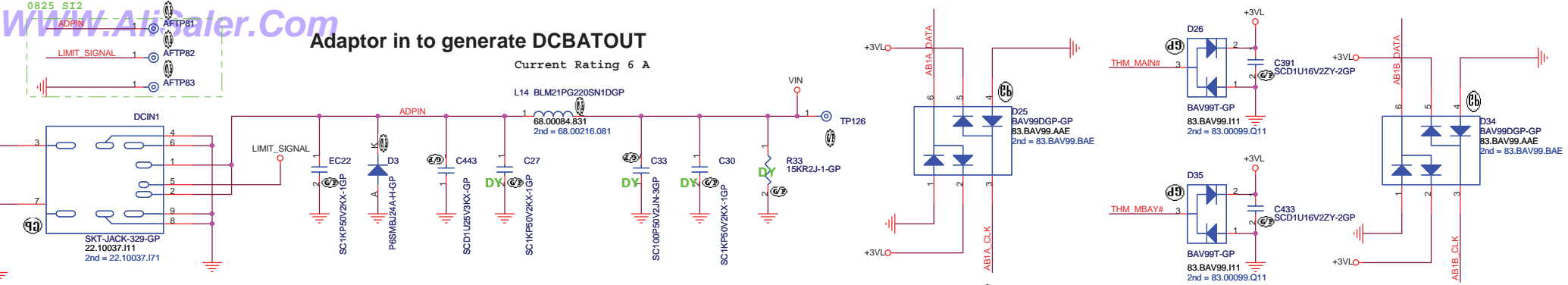
SE

Date: Thursday, September 10, 2009

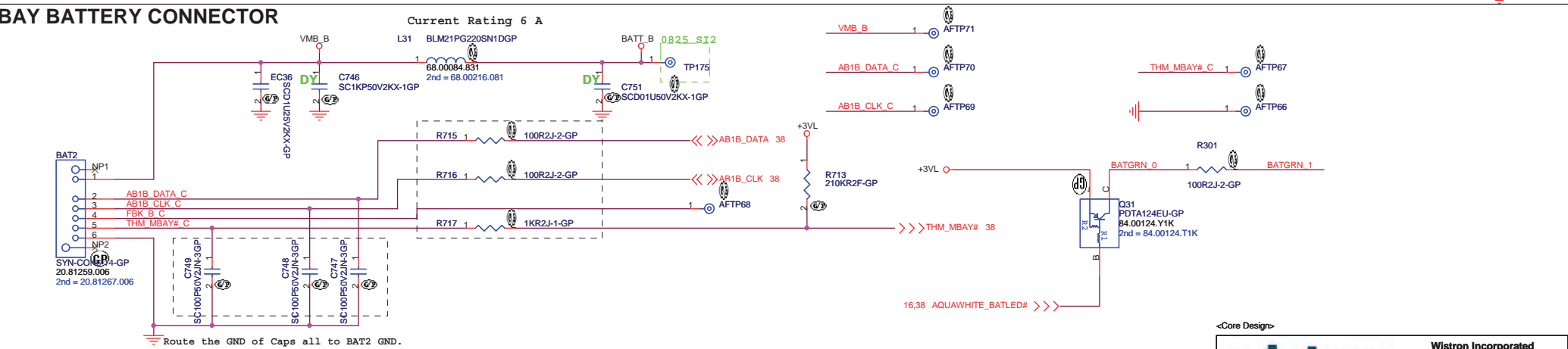
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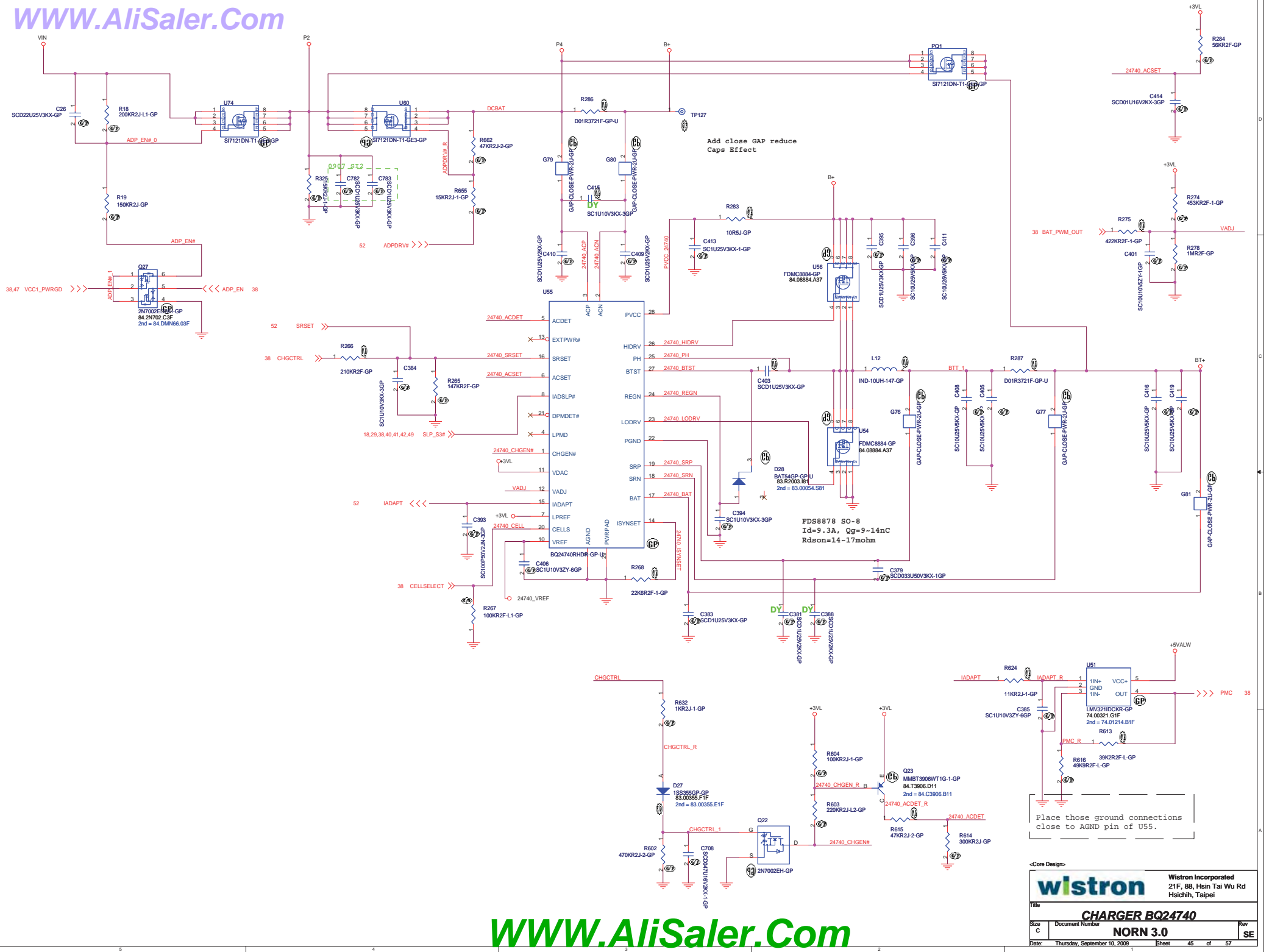


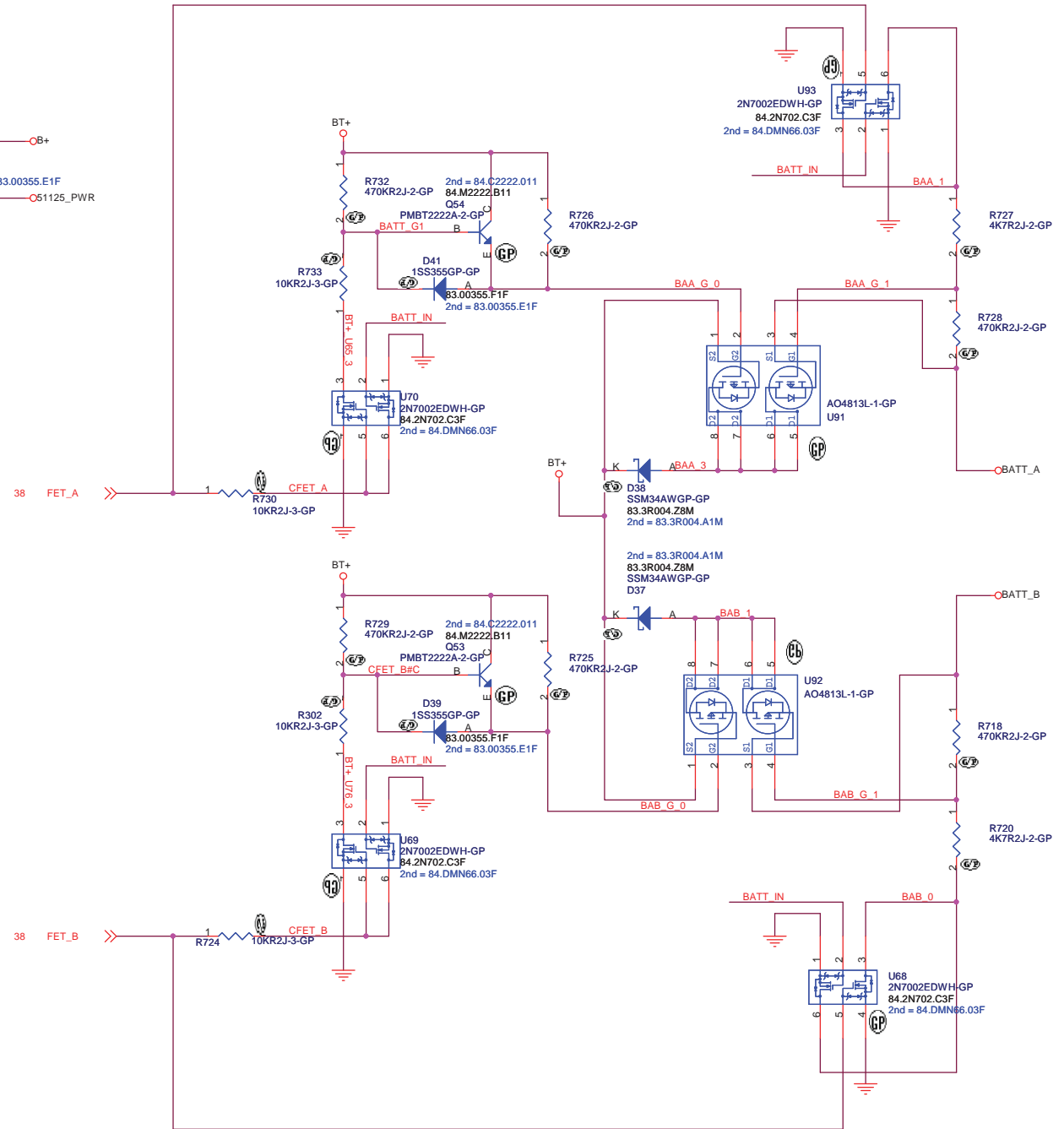
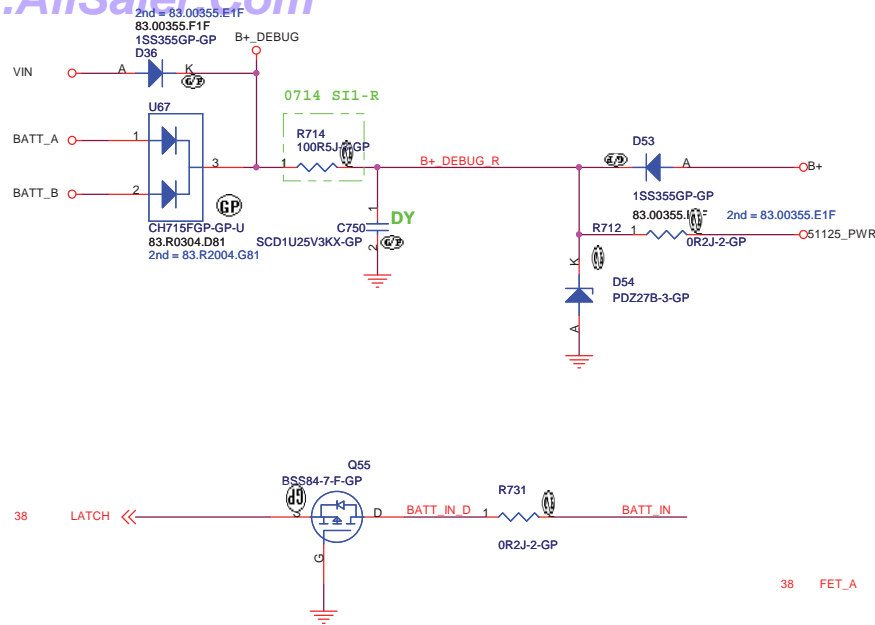


Layout Note:
Place R663, R666, R668,
C734, C738, and C737 close to BAT1.




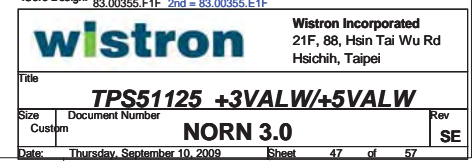
Layout Note:
Place R715, R716, R717,
C749, C748, and C747 close to BAT2.

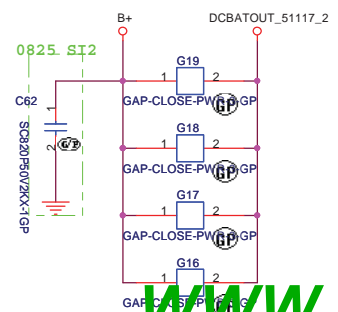
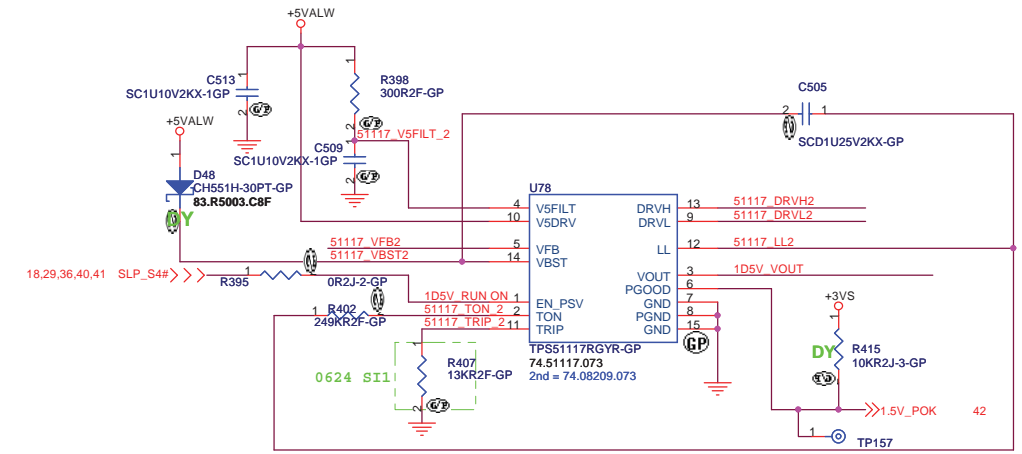
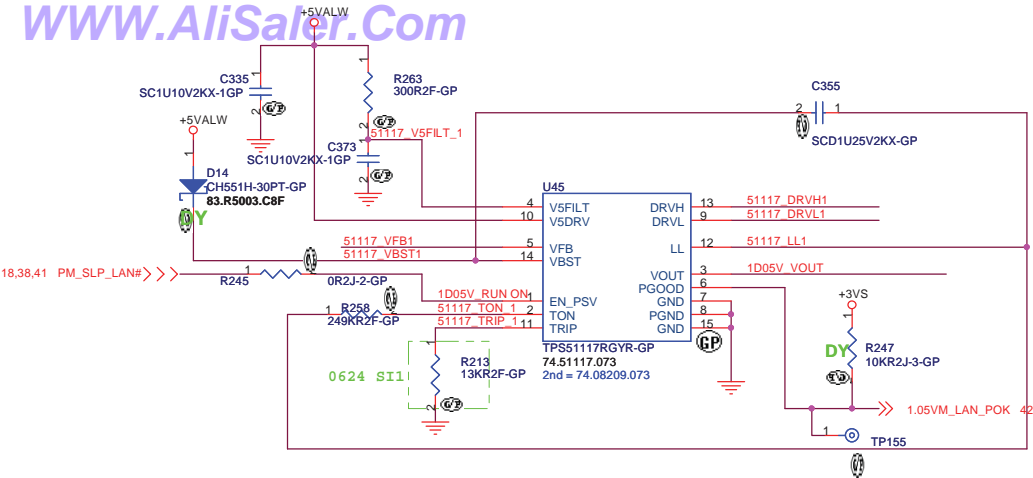




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		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
Title			
Battery Selector			
Size A3	Document Number	Rev	
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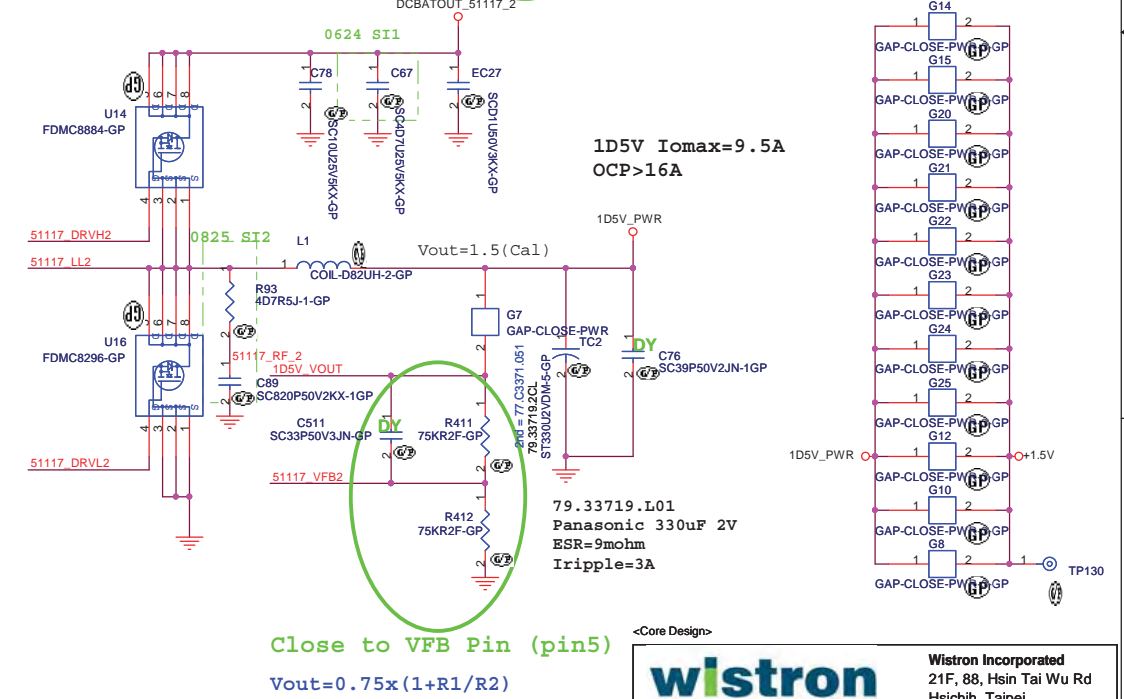
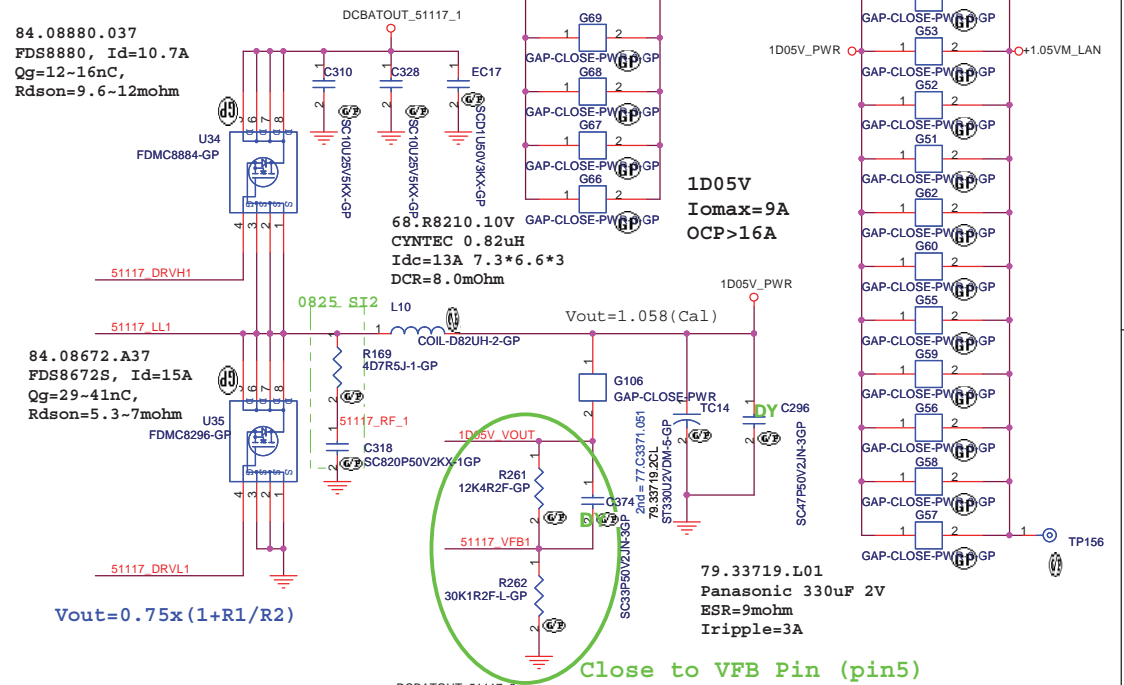




	GND	OPEN	V5FILT
TONSEL	240k/CH1 300k/CH2	300k/CH1 360k/CH2	360k/CH1 420k/CH2

84.08880.037
FDS8880, Id=10.7A
Qg=12~16nC,
Rdson=9.6~12mohm

84.08672.A37
FDS8672S, Id=15A
Qg=29~41nC,
Rdson=5.3~7mohm



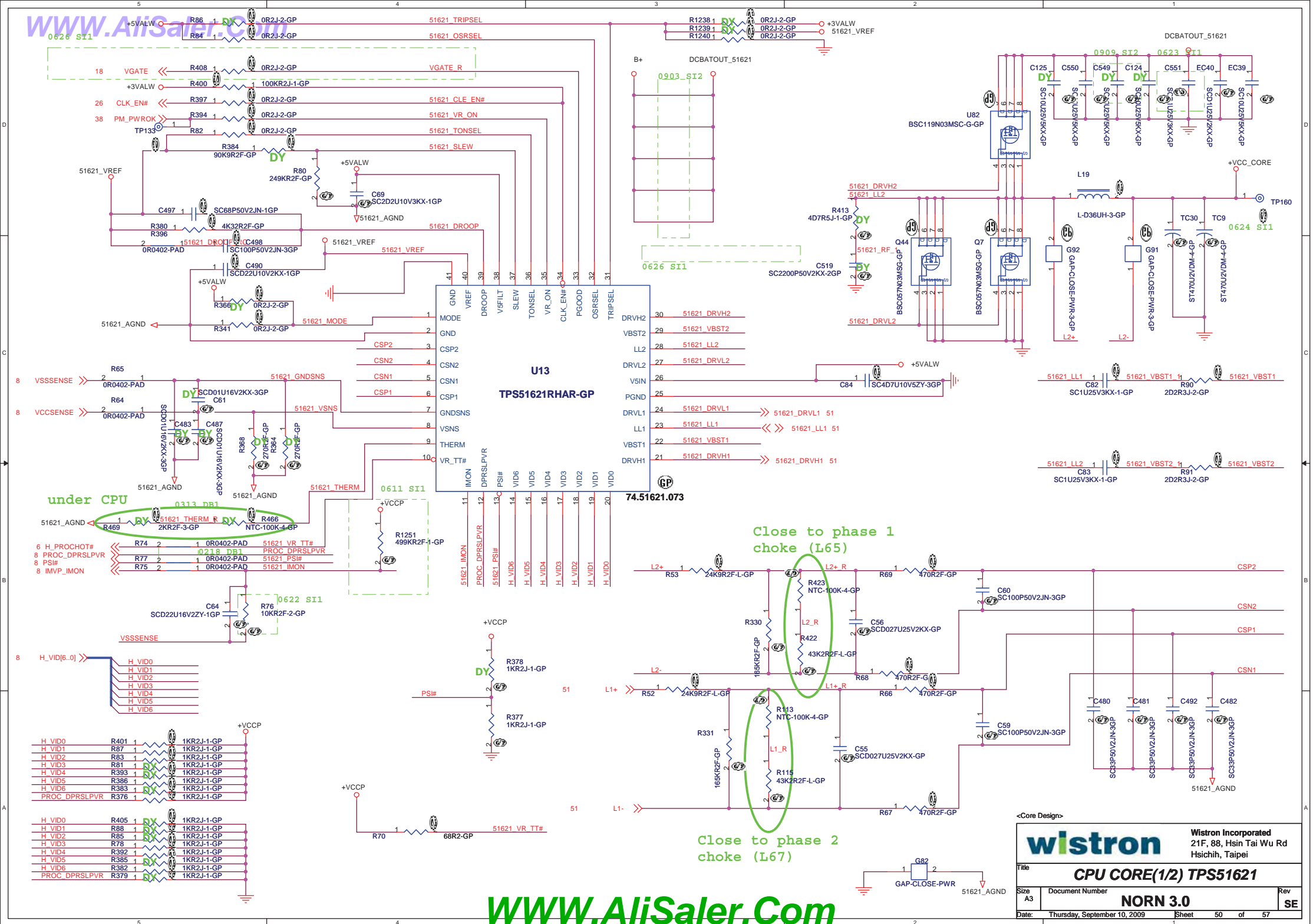
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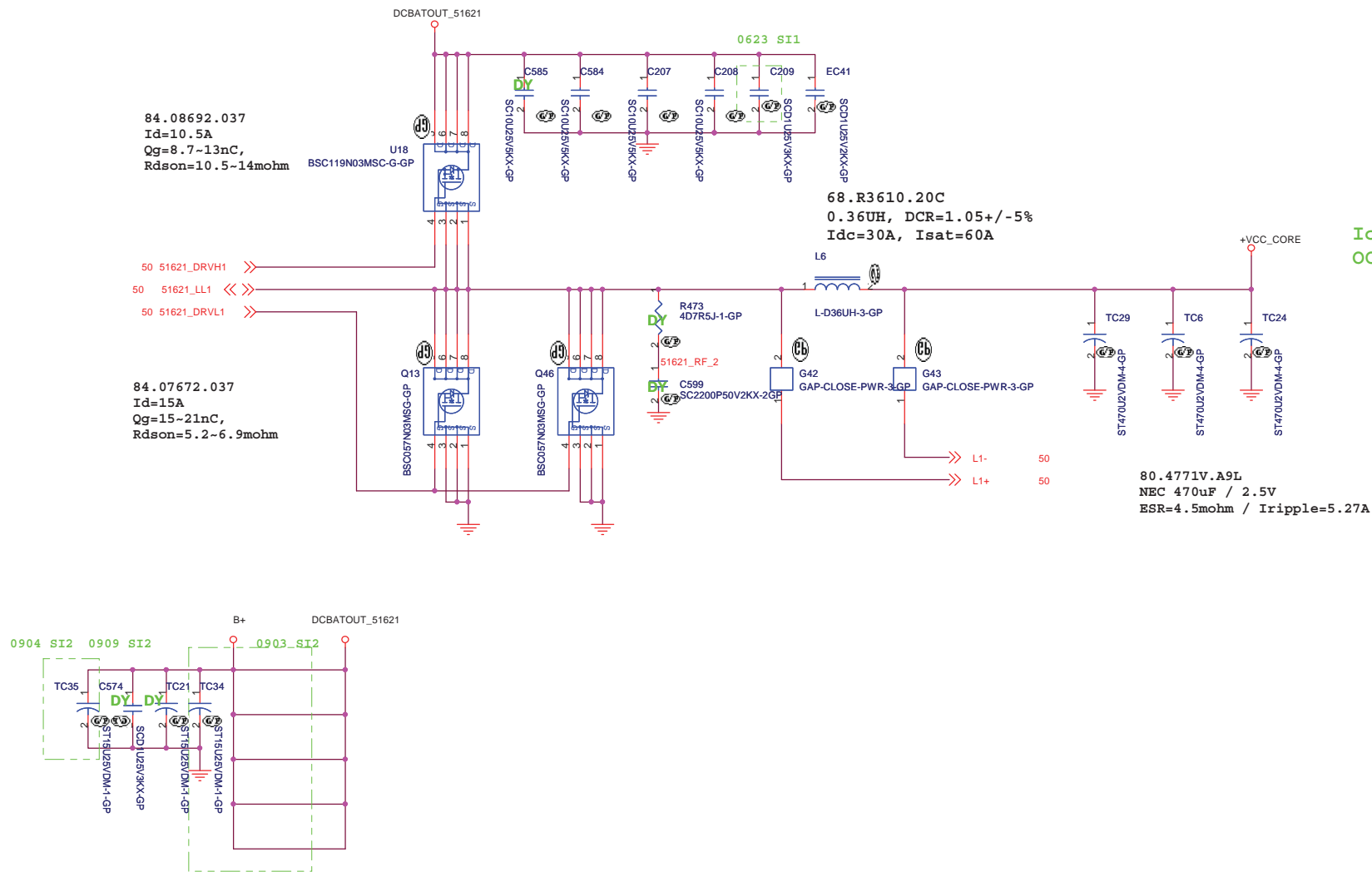
wistron Wistron Incorporated
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Hsichih, Taipei

Title **TPS51117_+1.05VM_LAN/+1.5V**

Size A3	Document Number	NORN 3.0	Rev
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<Core Design>

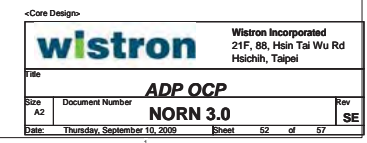
wistron

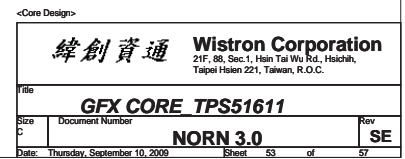
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Hsichih, Taipei

Title **CPU CORE(2/2) TPS51621**

Size A3 Document Number **NORN 3.0** Rev **SE**

Date: Thursday, September 10, 2009 Sheet 51 of 57







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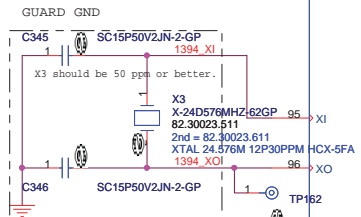
R5C835/PCI(1/2)

NORN 3.0

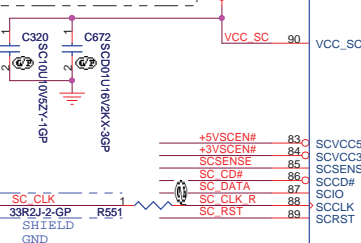
Sheet 54 of 57

SE

Place C345 and C346, and X3 as close to R5C835 as possible.



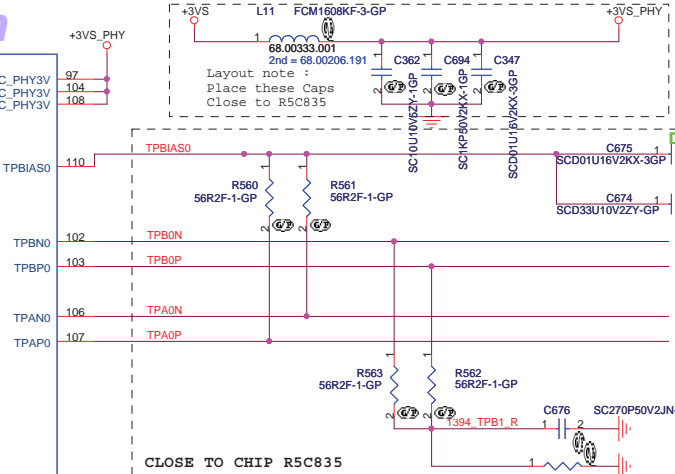
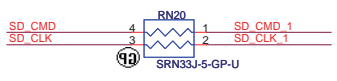
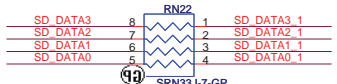
Place R576 and C693 as close to R5C835 as possible.



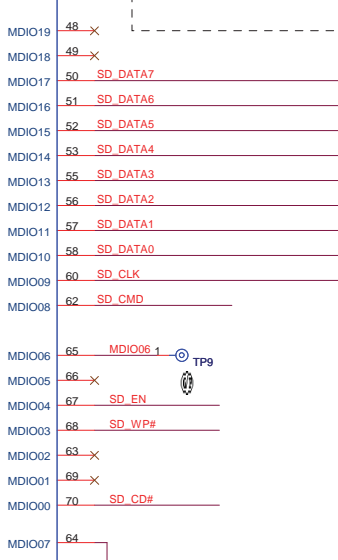
Layout notes : external parts for VREF, REXT and FILD as close as possible to R5C835.

Layout Notes:

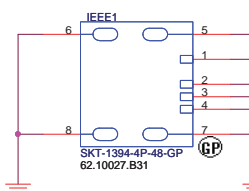
Make sure that the stubs to the test points(1394_XO) in the layout are as short as possible on the high speed signals.



CLOSE TO CHIP R5C835

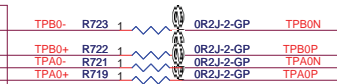


The shield GND is needed for SD_CLK(MDIO09). Also, the wide-width (more than 0.02inch) trace for MDIO09 should be used.

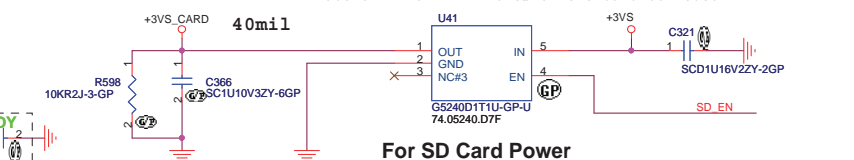


Layout Note: Add guard GND around SD_CLK Change +3VS_CARD to 40mils

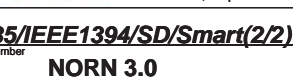
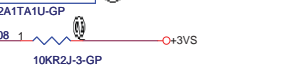
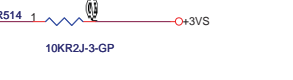
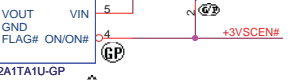
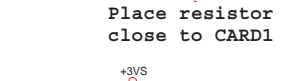
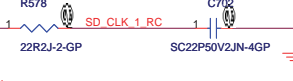
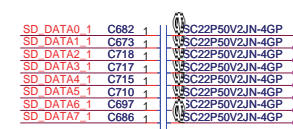
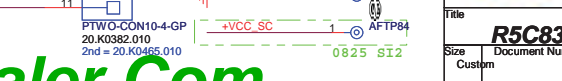
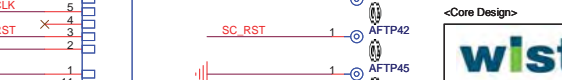
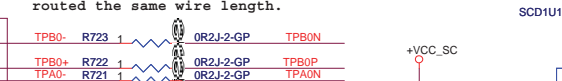
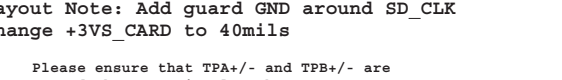
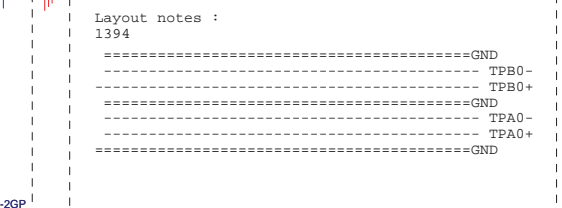
Please ensure that TPA+/- and TPB+/- are routed the same wire length.



Place U41 within 2 inches of the card connector



For SD Card Power



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Hsichih, Taipei

Title: **R5C835/IEEE1394/SD/Smart(2/2)**

Size: Document Number

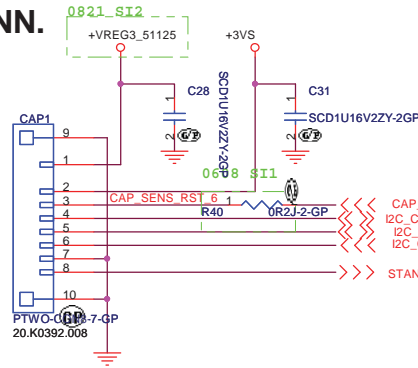
Custom: **NORN 3.0**

Date: Tuesday, September 01, 2009

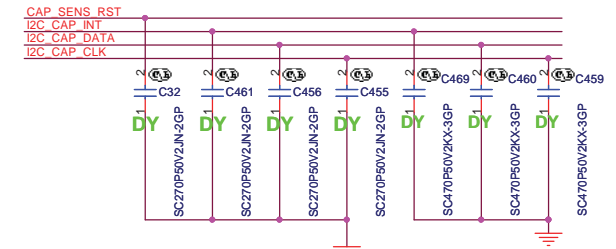
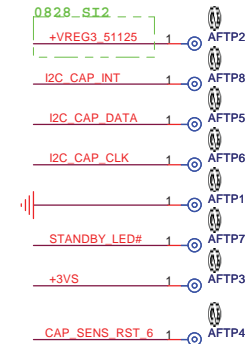
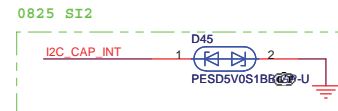
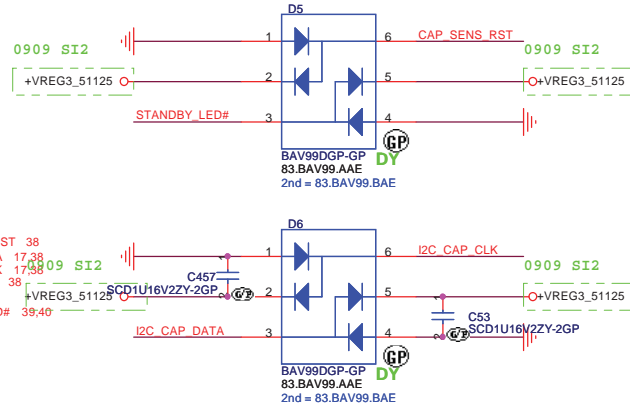
Sheet: 55 of 57

Rev: SE

CAP BD CONN.



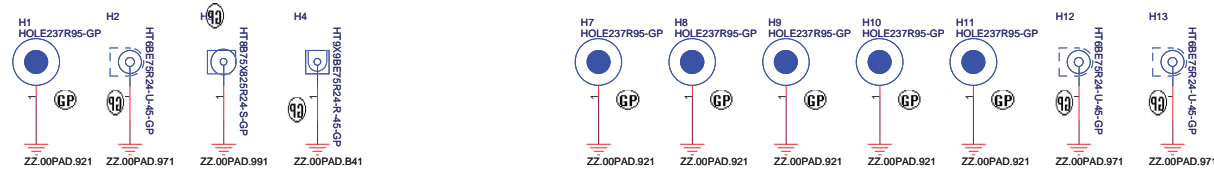
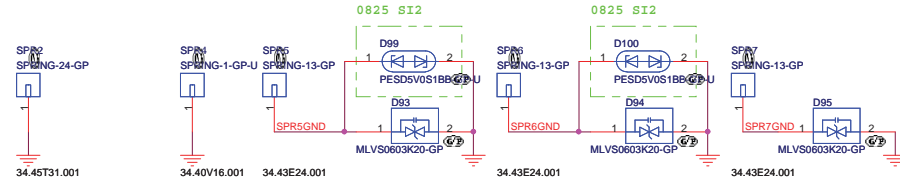
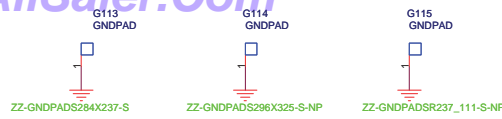
Vol up , Vol down , Mute ,Presentation



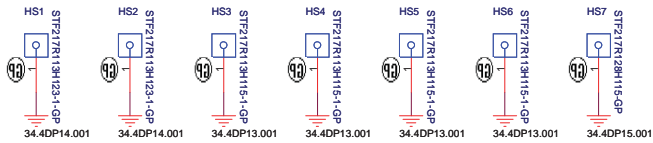
Place these 4 Caps close to CAP1.

<Core Design>

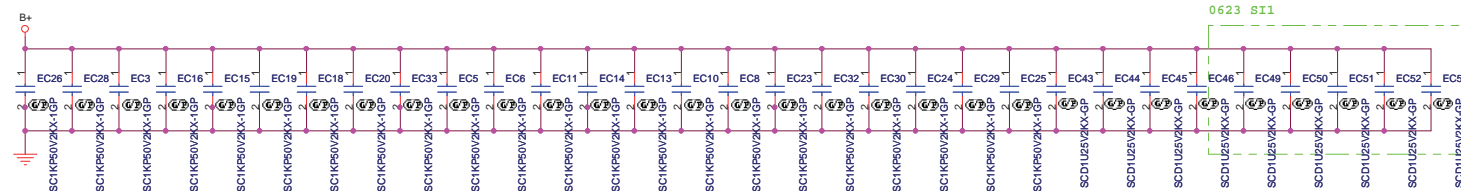
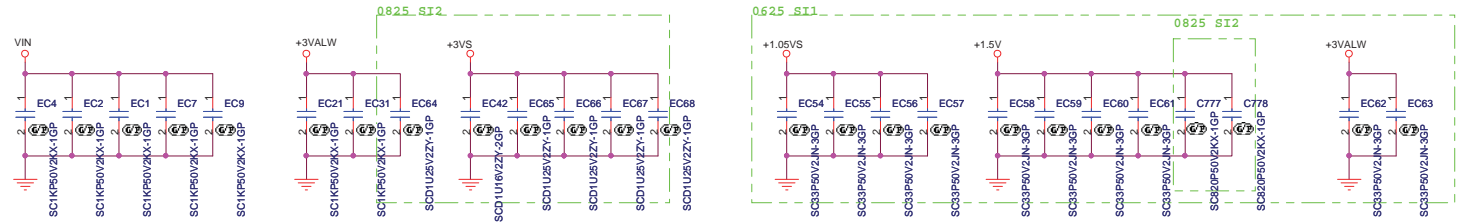
wistron		Wistron Incorporated 21F, 88, Hsin Tai Wu Rd Hsichih, Taipei	
Title		CAP CONN.	
Size	Document Number	Rev	SE
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ZZ-HOLE335R189 ZZ-HOLE335R189 ZZ-HOLE335R189 ZZ-HOLE335R189 ZZ-HTE5B5R24-L-3ZZ-HTE5B5R24-L-35



HOLET177B129R118HOLET177B129R118HOLET177B129R118HOLET177B129R118HOLET177B129R113-OPHOLET177B129R113-OP



<Core Design>

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