

Storm 2
UMA Schematics Document

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Storm2

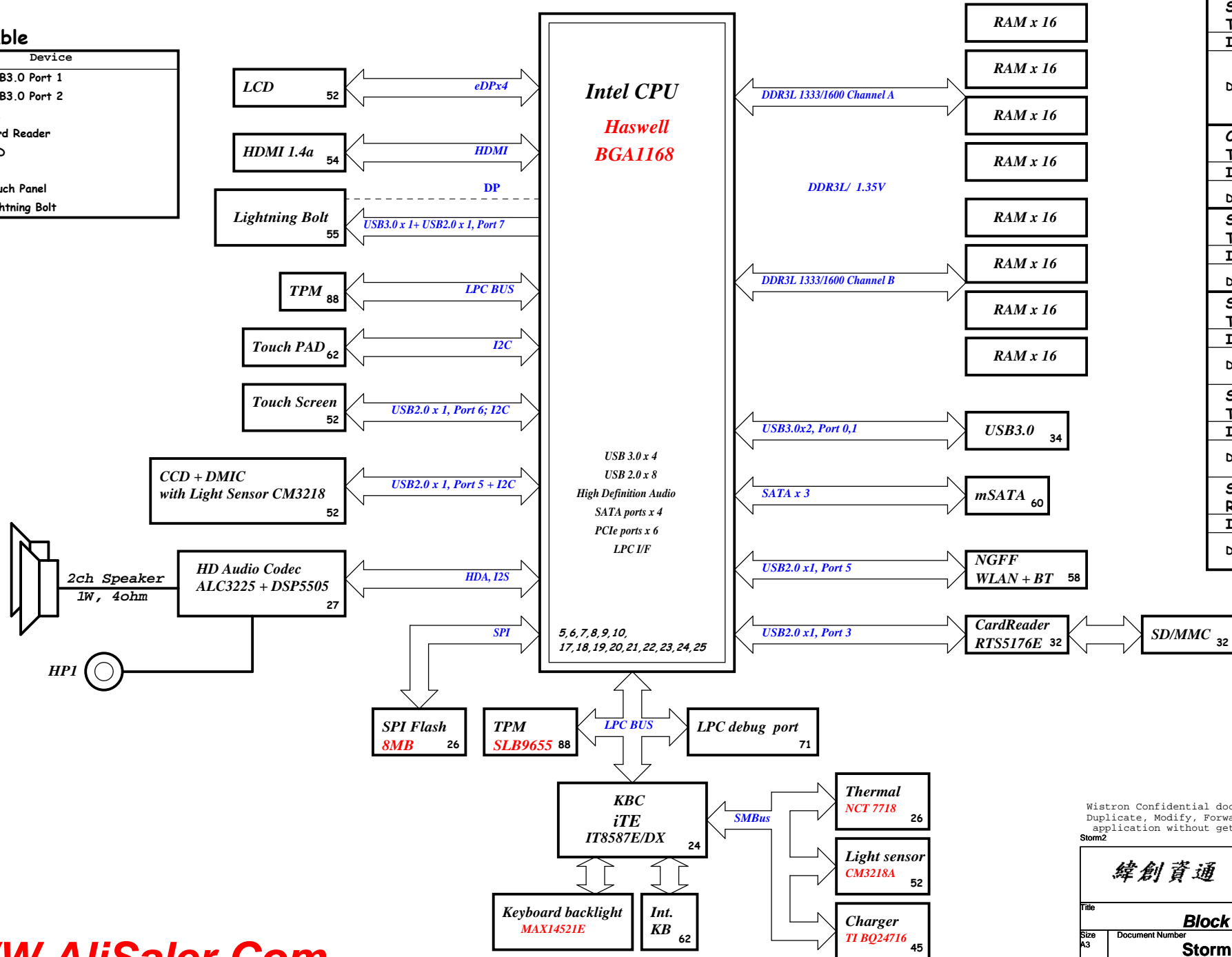
緯創資通		Wistron Corporation	
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Title			
Cover			
Size	Document Number		Rev
A4	Storm 2		-1
Date: Wednesday, March 13, 2013		Sheet 1 of	102

Project code : 91.4LZ01.001
PCB P/N :12302-1
Revision : 1

Storm 2 Block Diagram

USB Table

Pair	Device
0	USB3.0 Port 1
1	USB3.0 Port 2
2	NA
3	Card Reader
4	CCD
5	BT
6	Touch Panel
7	Lightning Bolt



CHARGER BQ24737 44	
INPUTS	OUTPUTS
DCBATOUT	BT+
SYSTEM DC/DC TPS51285 45	
INPUTS	OUTPUTS
DCBATOUT	3D3V_DSW 3D3V_WLAN_S0 MSATA_VDD MSATA_VDD 5V_DSW 5V_S5 USB30_VCC
CPU DC/DC TPS51622 46, 47	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE
SYSTEM DC/DC TPS51367 48	
INPUTS	OUTPUTS
DCBATOUT	1D05V_VTT
SYSTEM DC/DC TPS51367+TPS51206 49	
INPUTS	OUTPUTS
DCBATOUT	1D35V_S3 VDDQ_VREF 0D675V_S0
SYSTEM DC/DC TLV62065 51	
INPUTS	OUTPUTS
DCBATOUT	1D5V_S0
SYSTEM DC/DC RT9013 58	
INPUTS	OUTPUTS
DCBATOUT	1D8V_S0

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Storm2

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Block Diagram	
Size A3	Document Number Storm 2
Date: Wednesday, March 13, 2013	Rev -1
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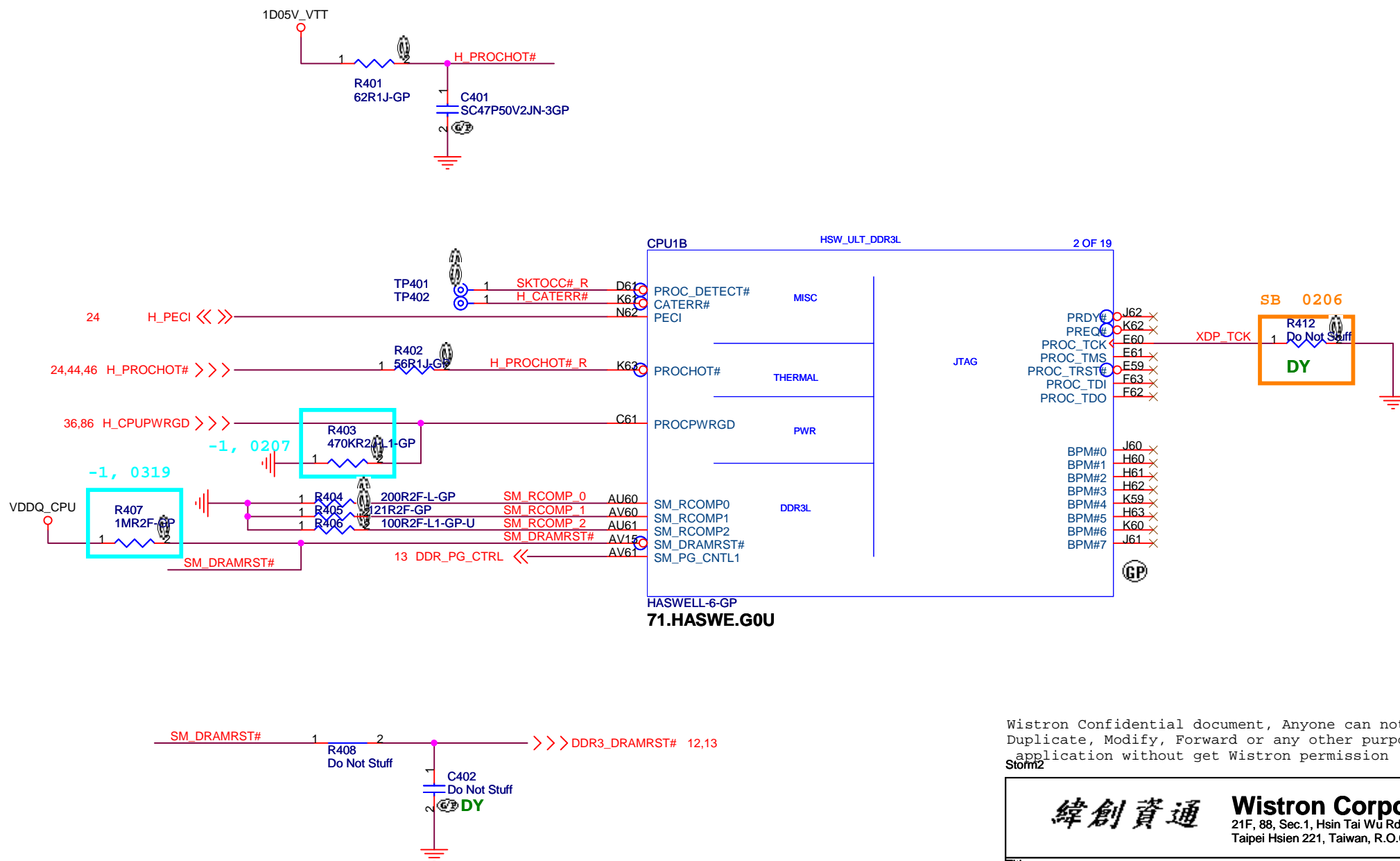
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Storm2

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Title			
CPU (Reserved)			
Size A4	Document Number Storm 2		Rev -1
Date:	Friday, December 28, 2012	Sheet 3 of	102

SSID = CPU



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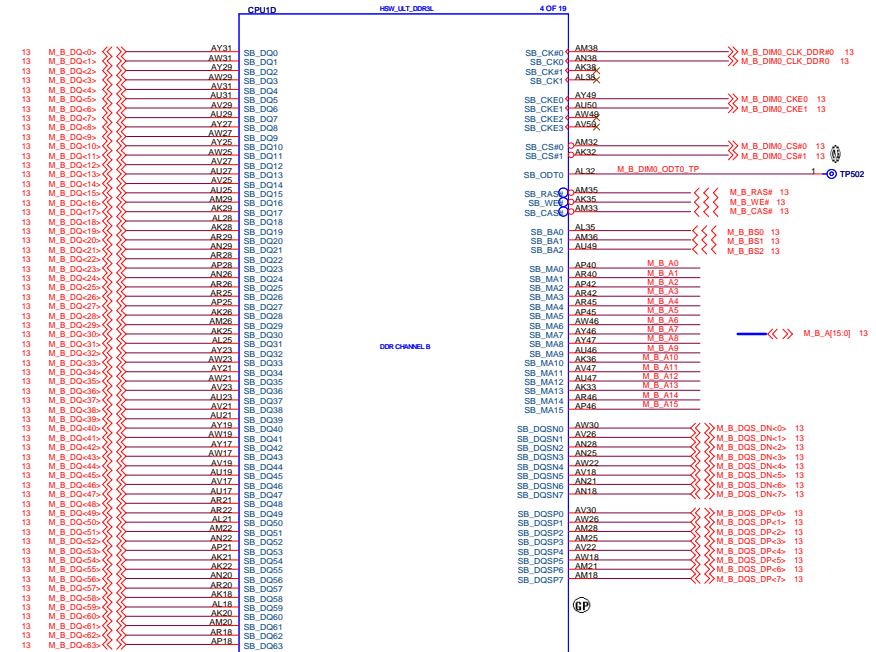
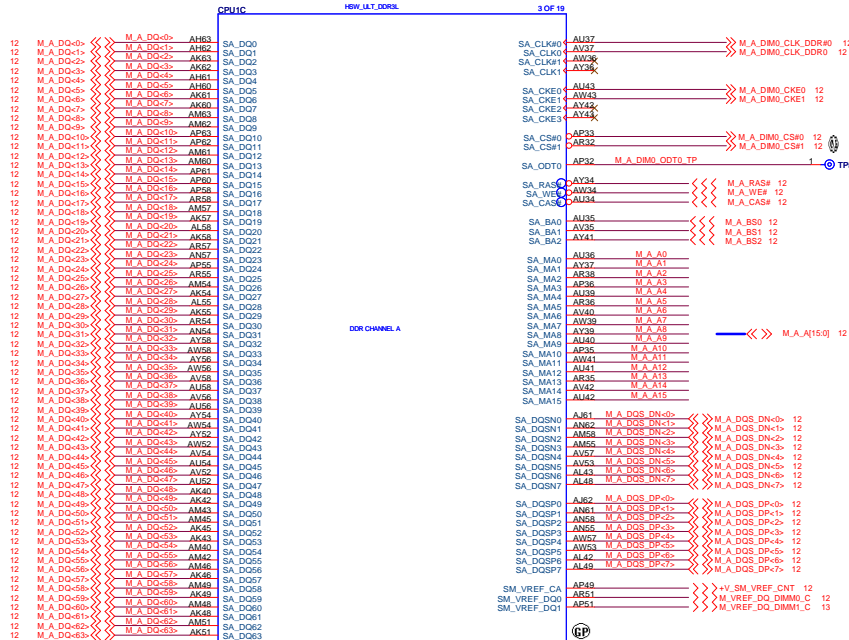
緯創資通 **Wistron Corporation**
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Title	<i>CPU (THERMAL/CLOCK/PM)</i>
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Size A4	Document Number Storm 2	Rev -1
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Date: Tuesday, April 02, 2013 Sheet 4 of 102

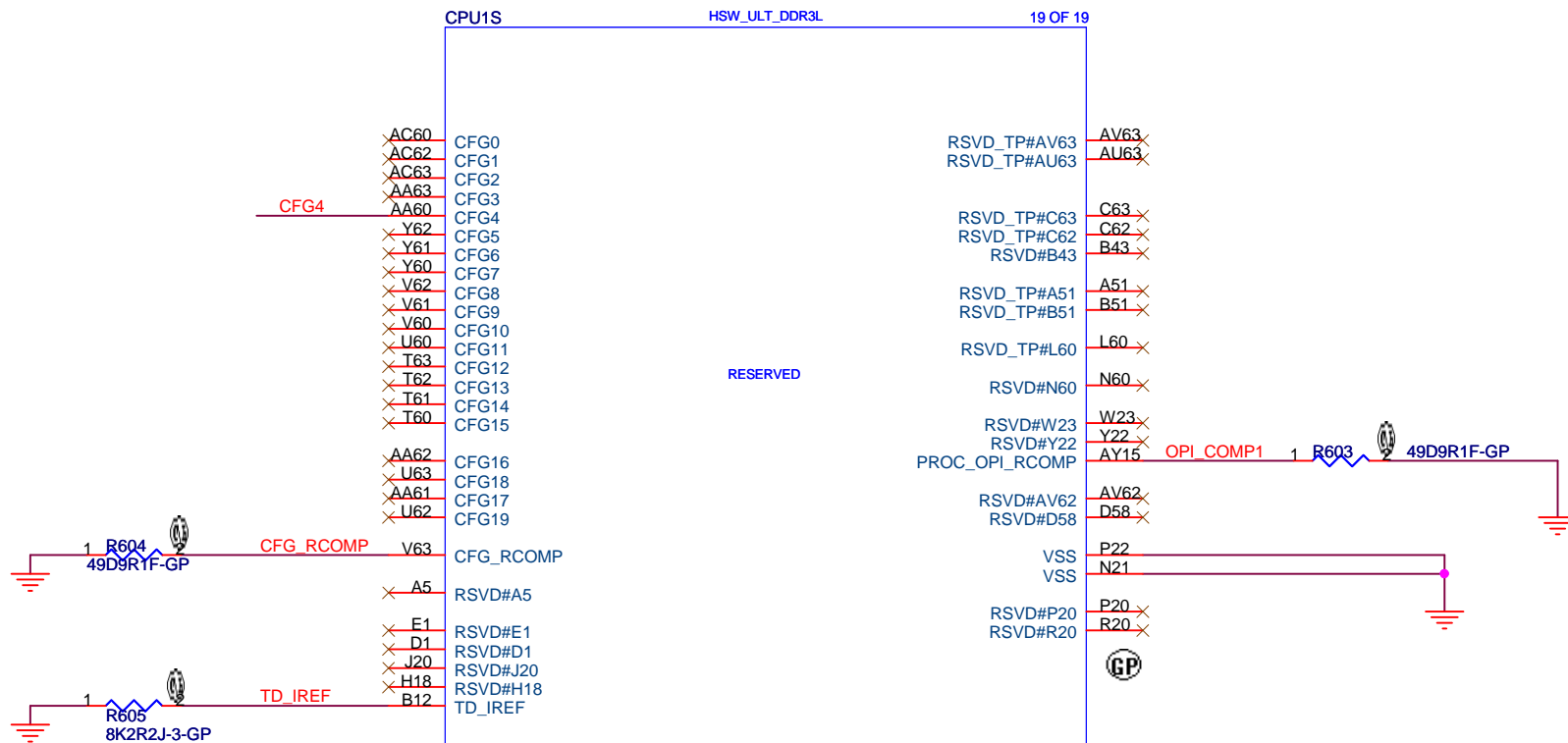
SSID = CPU



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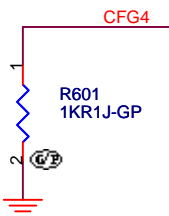
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Title CPU (DDR)	
Size A2	Document Number Storm 2
Date: Tuesday, April 02, 2013	Sheet 6 of 102

SSID = CPU



71.HASWE.G0U

eDP Enable	1:Disable
CFG4	0:Enable



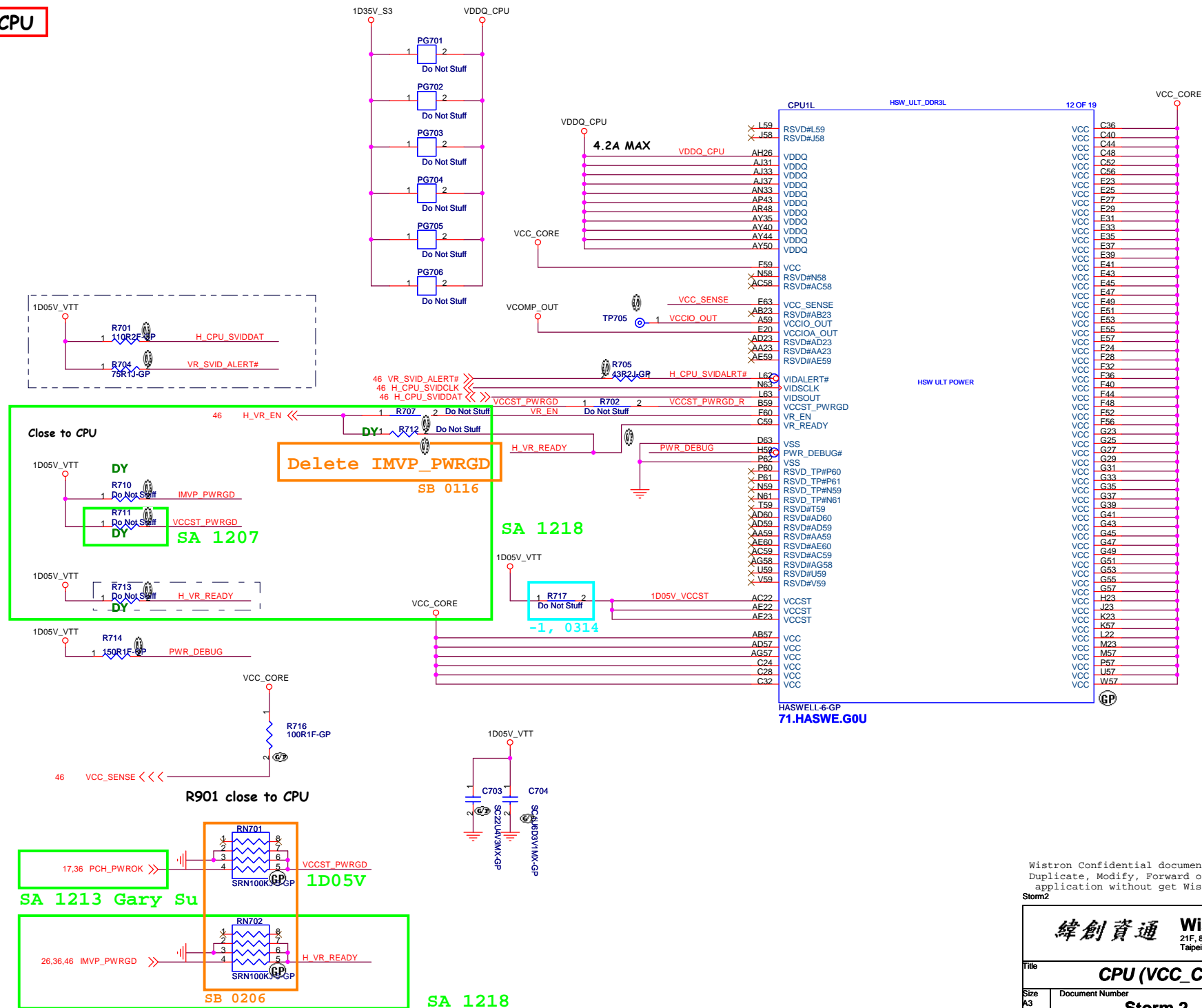
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Title CPU (CFG)		
Size A4	Document Number Storm 2	Rev -1
Date: Friday, December 28, 2012 Sheet 6 of 102		

SSID = CPU



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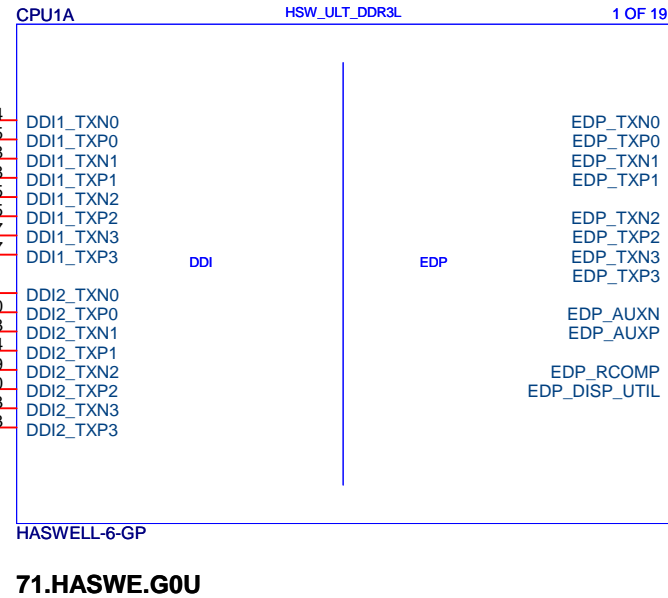
Storm2

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CPU (VCC_CORE)		
Title	Document Number	Rev
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SSID = CPU

HDMI

Lightning Bolt



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Storm2

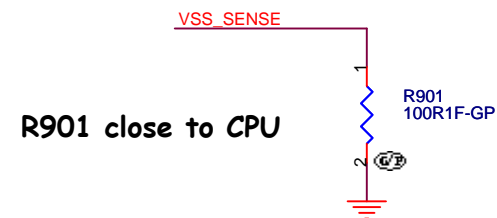
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Title **CPU (DDI/EDP)**

Size A4	Document Number Storm 2	Rev -1
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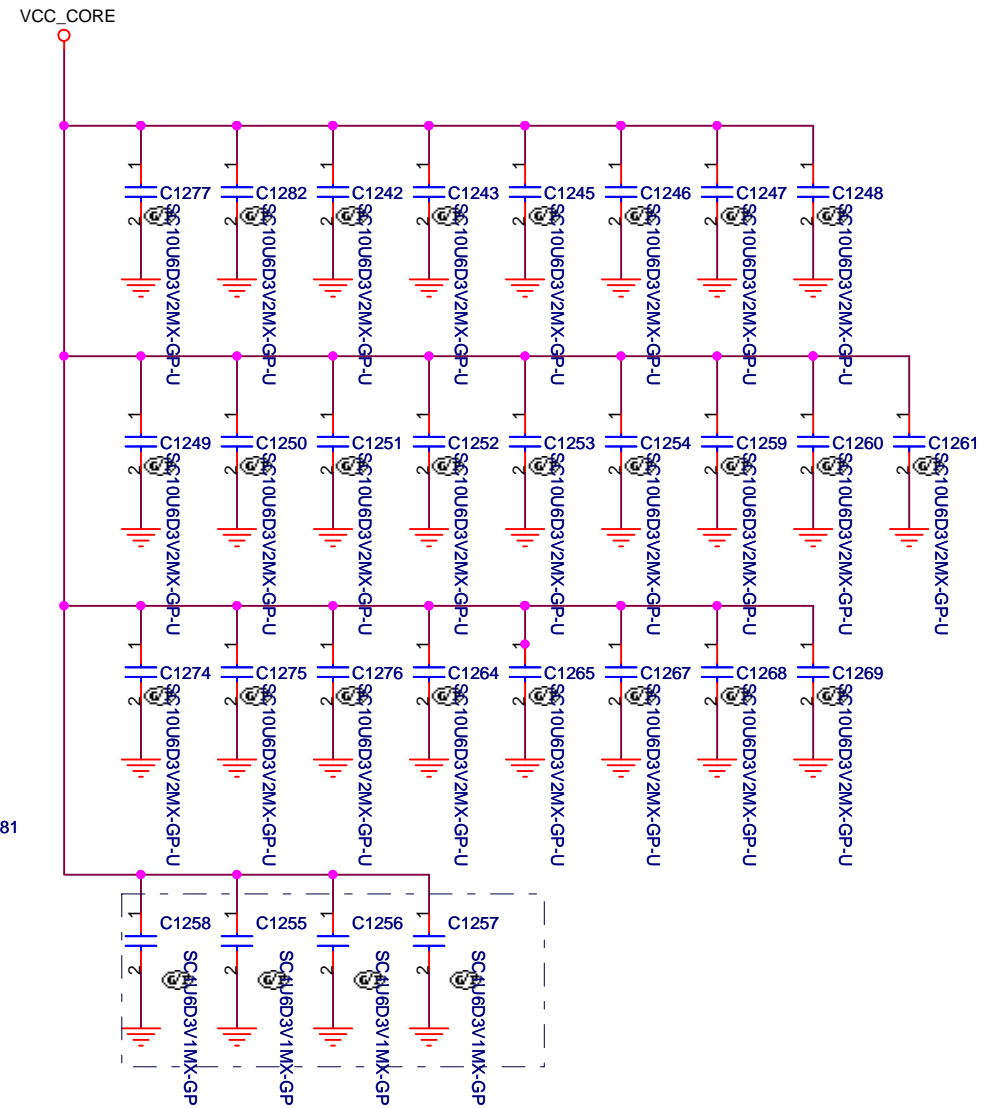
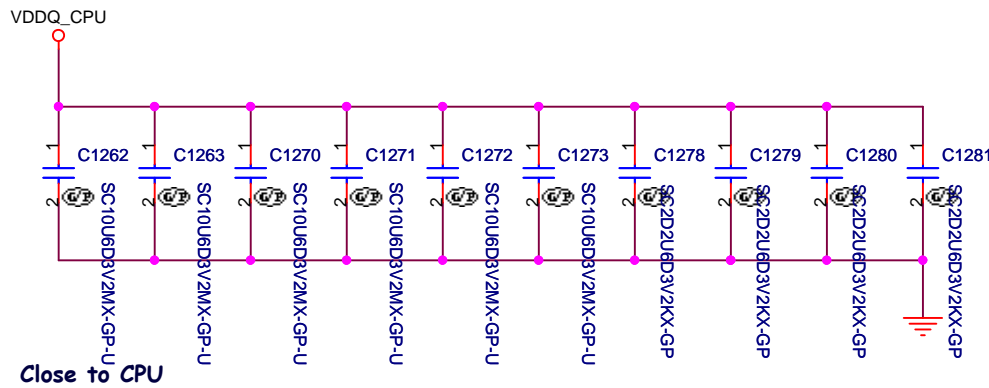
SSID = CPU



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Title	<i>CPU (VSS)</i>
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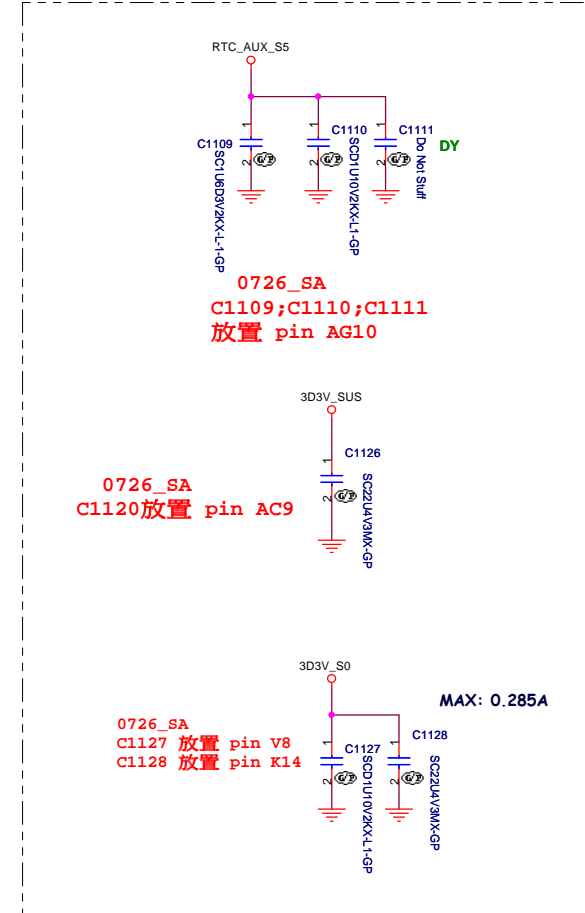
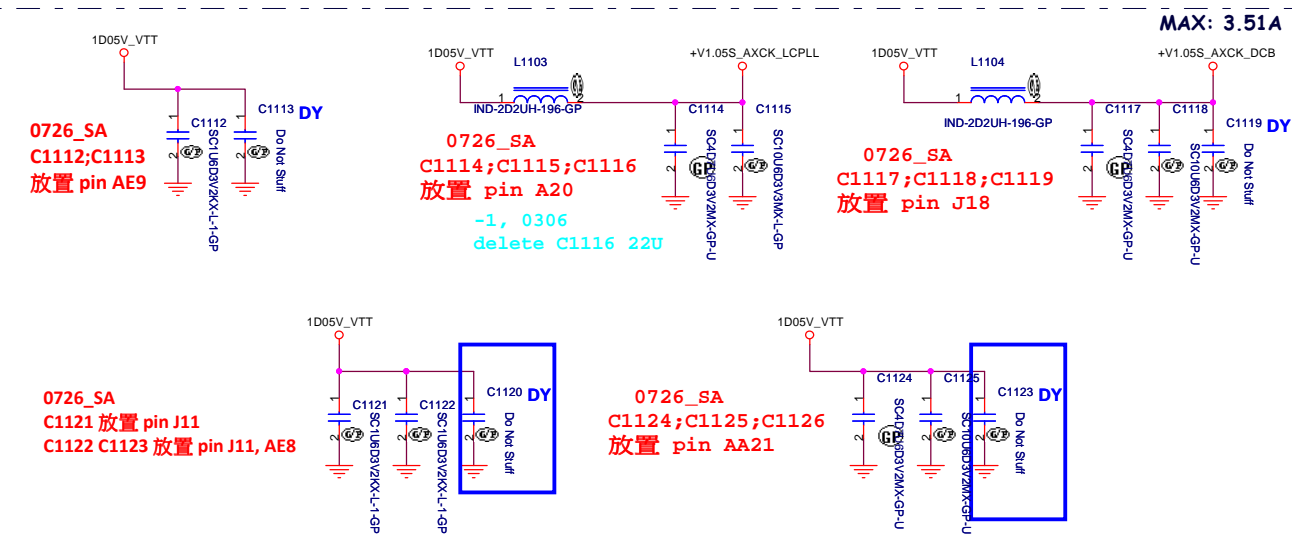
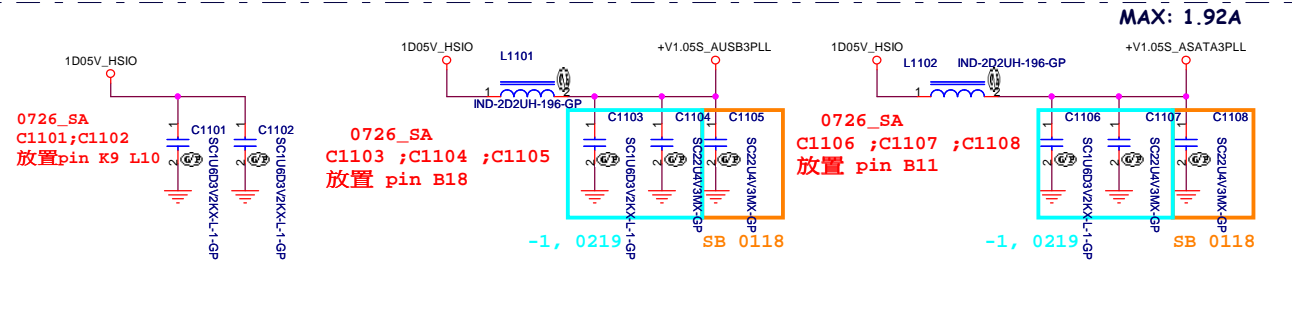
Size A4	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 9 of 102	



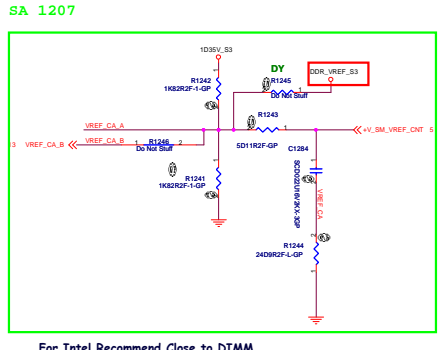
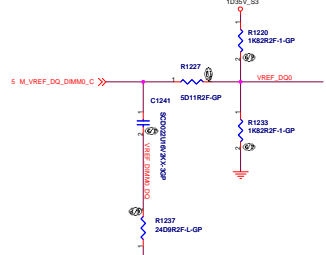
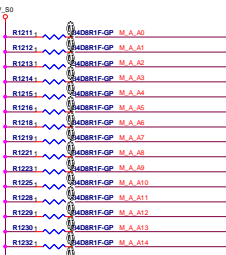
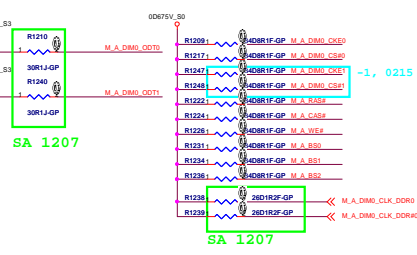
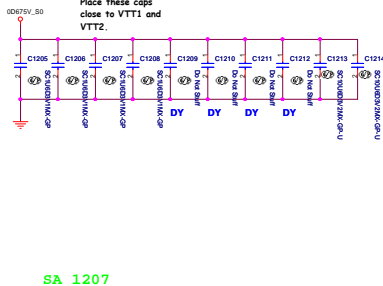
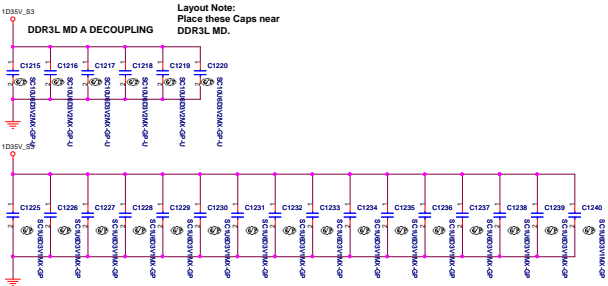
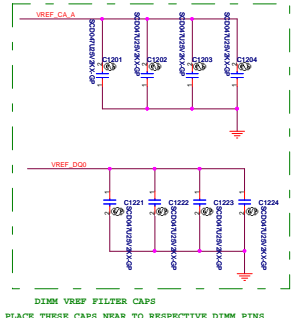
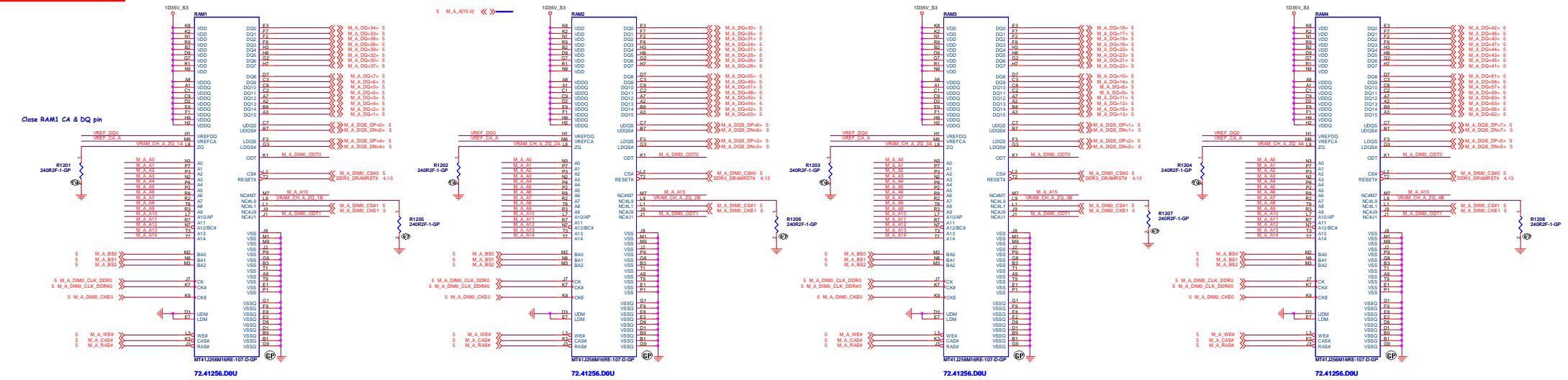
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<p>Title CPU (Power CAP1)</p>	
<p>Size A4</p>	<p>Document Number Storm 2</p>
<p>Date: Monday, February 04, 2013</p>	<p>Rev -1</p>
<p>Sheet 10 of 102</p>	<p>102</p>

0726_SA 擺放電容的位置請參考Page 21
每個位置如下



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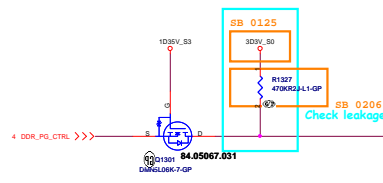
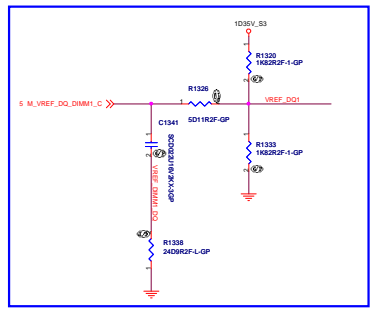
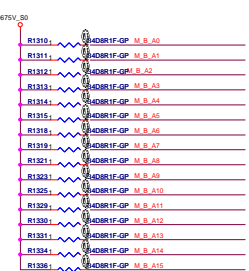
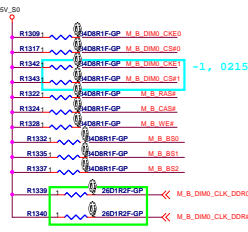
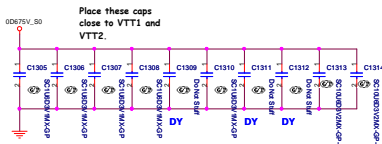
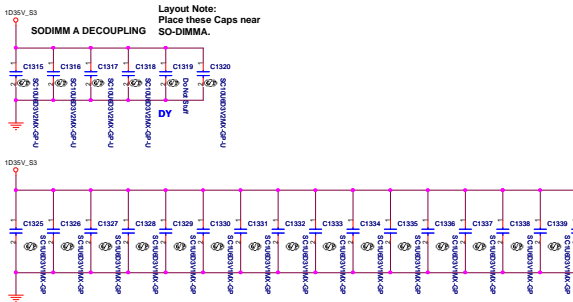
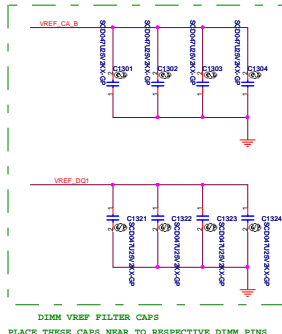
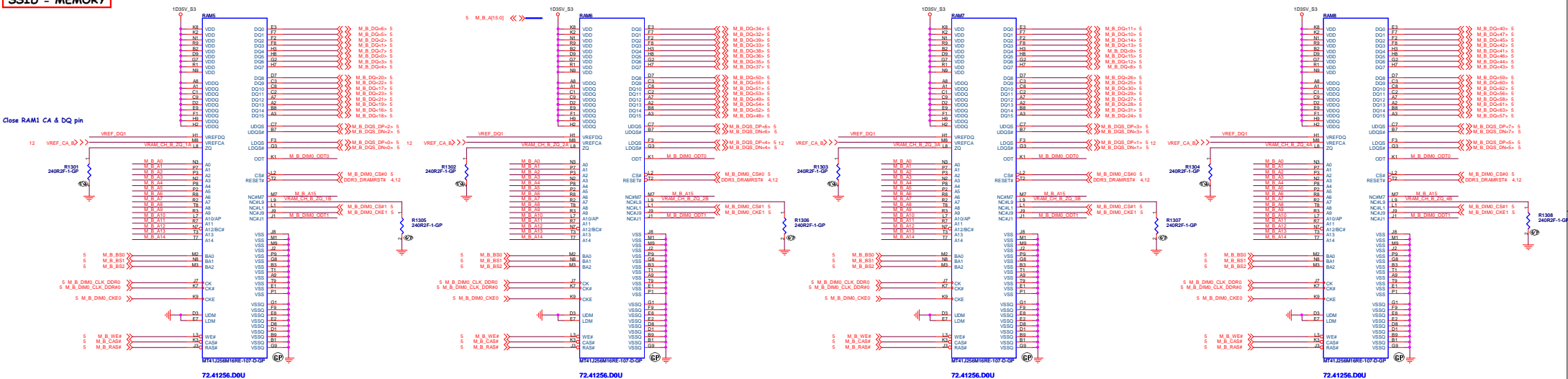


For Intel Recommend Close to DIMM

For Intel Recommend Close to DIMM

SSID = MEMORY

Close RAM1 CA & DQ pin



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Title

SODIMM3_SODIMM4 (Reserved)

Size

A4

Document Number

Storm 2

Date

Friday, December 28, 2012

Rev

-1

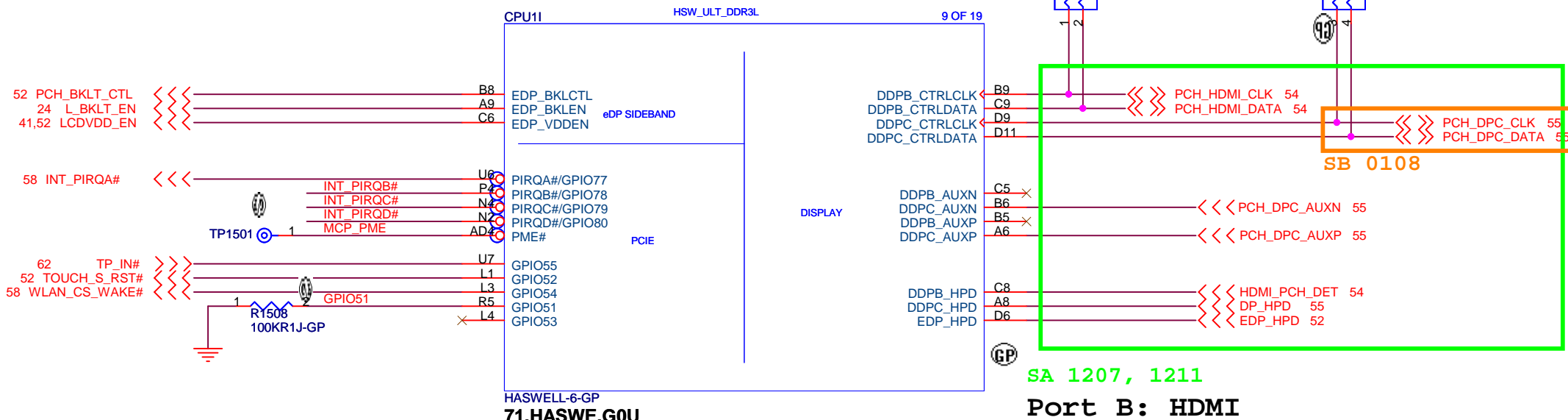
Sheet

14

of

102

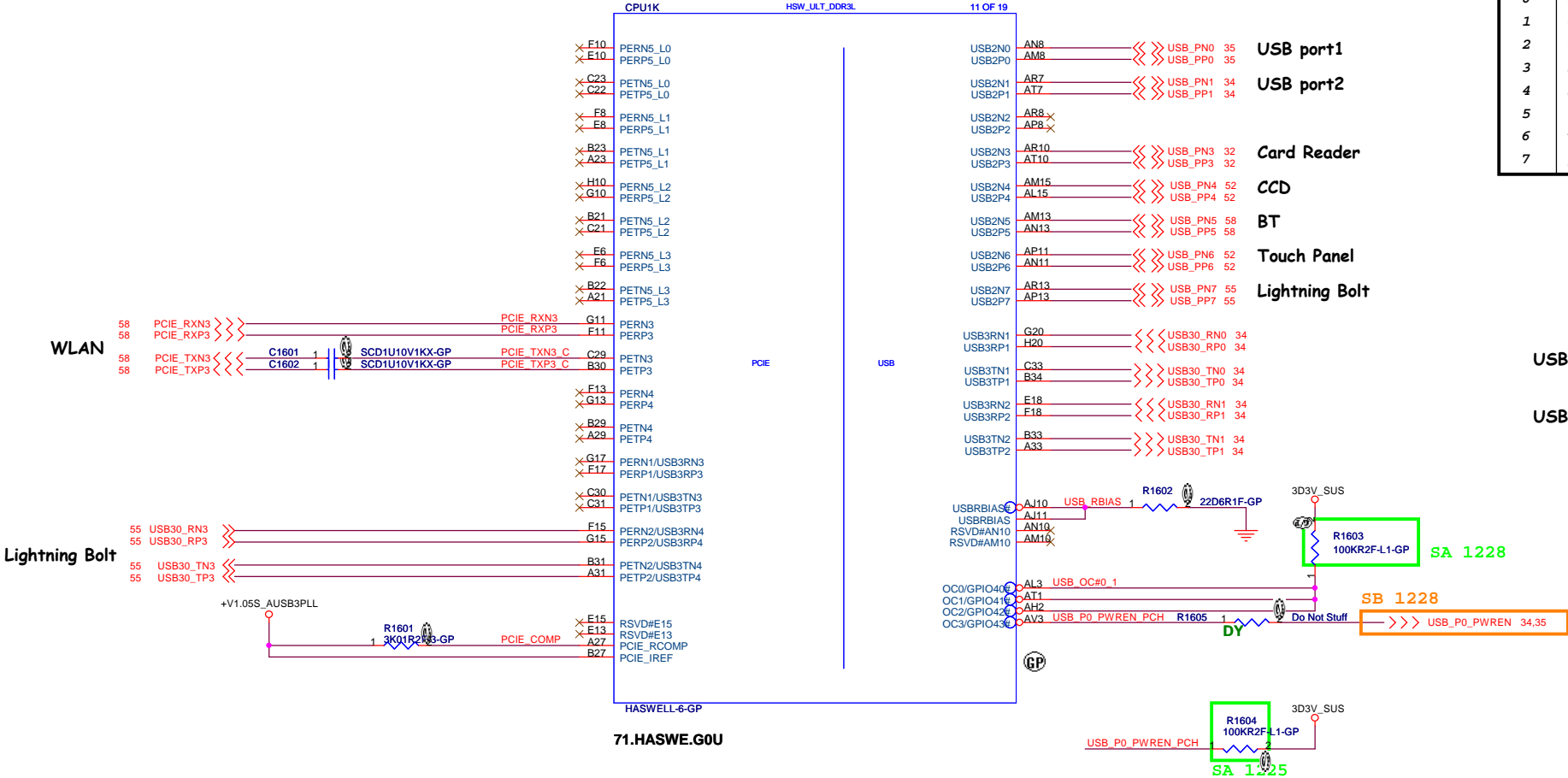
SSID = PCH



SSID = PCH

USB Table

Pair	Device
0	USB3.0 Port 1
1	USB3.0 Port 2
2	NA
3	Card Reader
4	CCD
5	BT
6	Touch Panel
7	Lightning Bolt



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TitleCPU (PCI/USB)

SizeA3

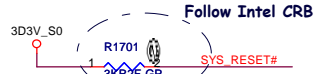
Document NumberStorm 2

Rev-1

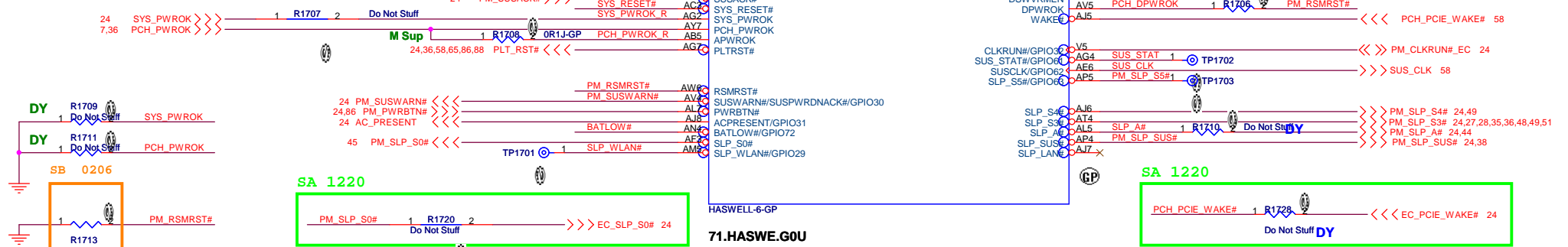
Date: Tuesday, April 02, 2013

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SSID = PCH



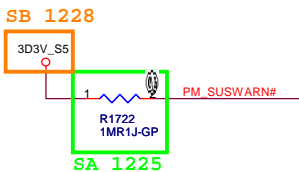
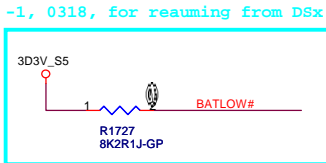
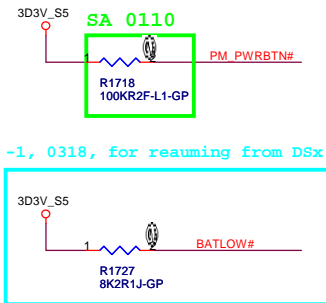
SA 1214 Delete IMVP_PWRGD



DSWODVREN - On Die DSW VR Enable	
HIGH	Enabled (DEFAULT)
LOW	Disabled

SA 1220

SA 1220

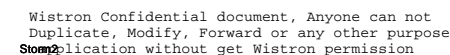
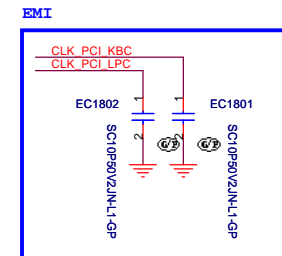


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Storm2

Title		PCH (PM)	
Size	Document Number	Rev	
A3	Storm 2	-1	
Date:	Wednesday, April 03, 2013	Sheet	17 of 102

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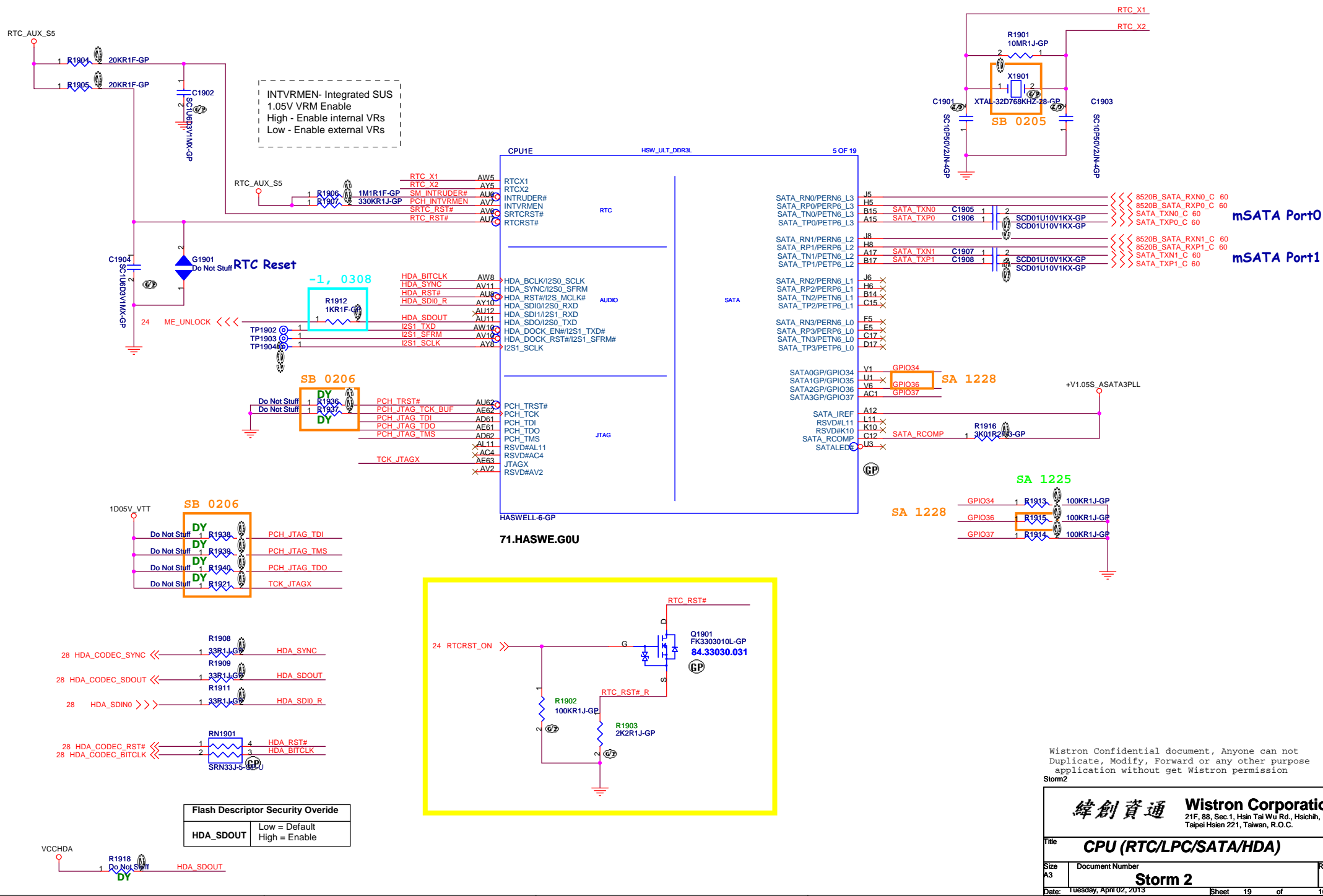


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Title	PCH (PCI-E/SMBUS/CLOCK/CL)
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Size A3	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 18 of 102	

SSID = PCH



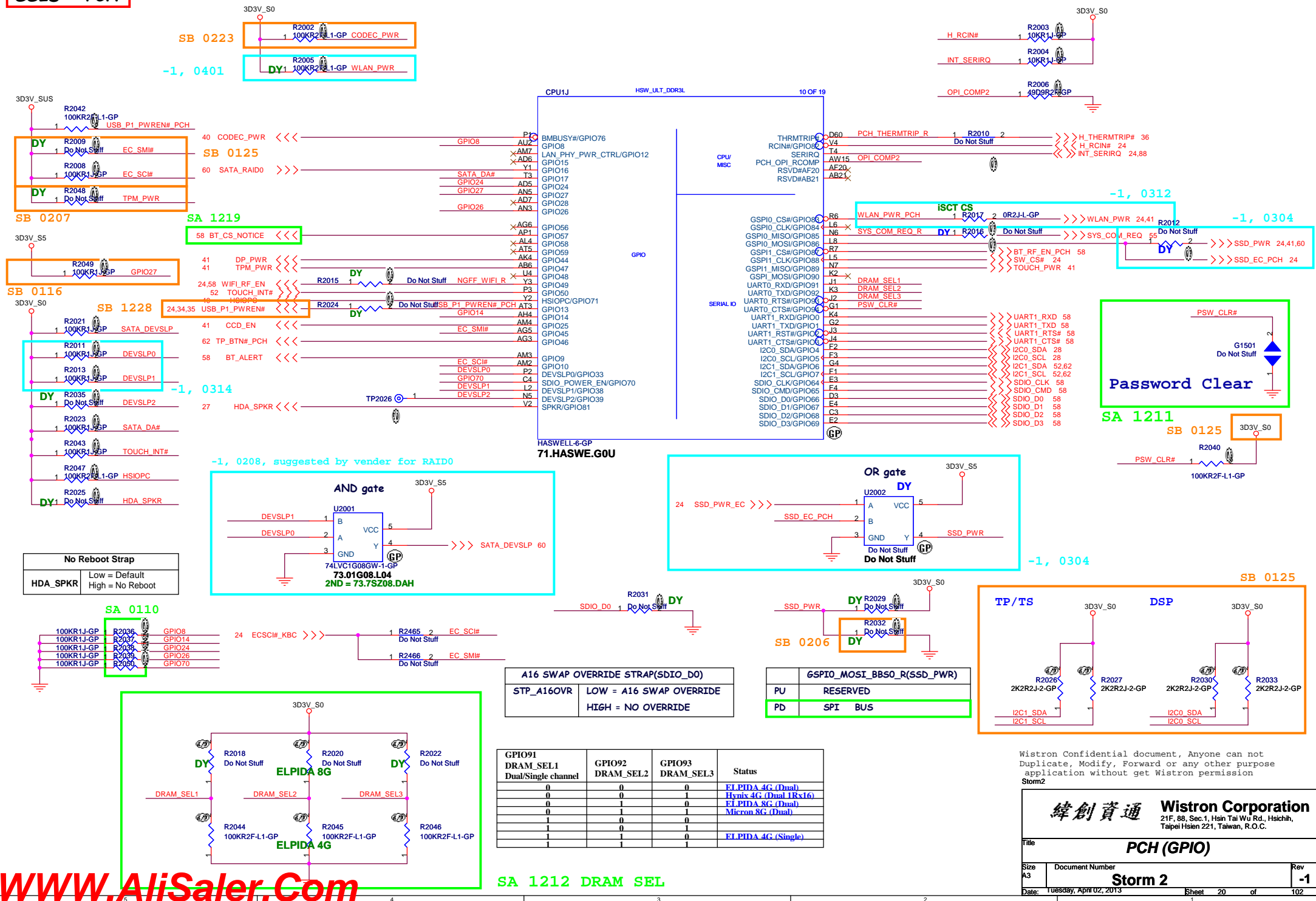
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Title	CPU (RTC/LPC/SATA/HDA)
-------	-------------------------------

Size A3	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 19 of 102	

SSID = PCH

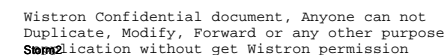


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Title				PCH (GPIO)			
Size A3	Document Number						Rev
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1. Required only on external SUS.
2. Placeholder only. Does not need to be stuffed.
3. The following pins are not to be connected and be left floating. Test point is optional on these pins: AC20, Y20, K18, M20, V21.
4. Note that some decoupling capacitors are shared between more than 1 rail. Follow the "Place capacitors near balls" instructions above to ensure this sharing is optimized.
5. Capacitors should be placed less than 100 mils (2.54 mm) from the edge of package.
6. For description of (R)unway, and (E)dge decoupling capacitor placement, please refer to [Section 41.3, "Loop Inductance Reduction Decoupling"](#) on page 532.

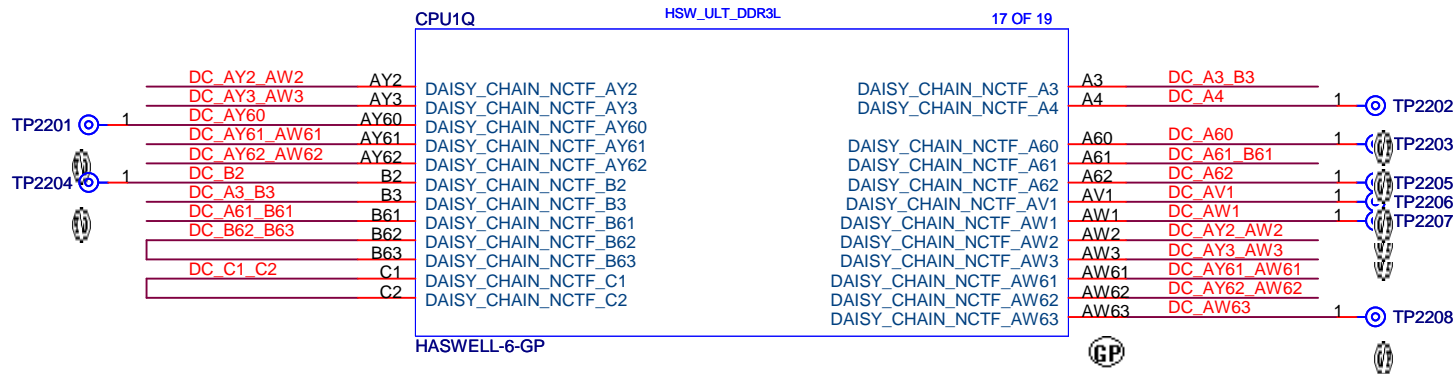


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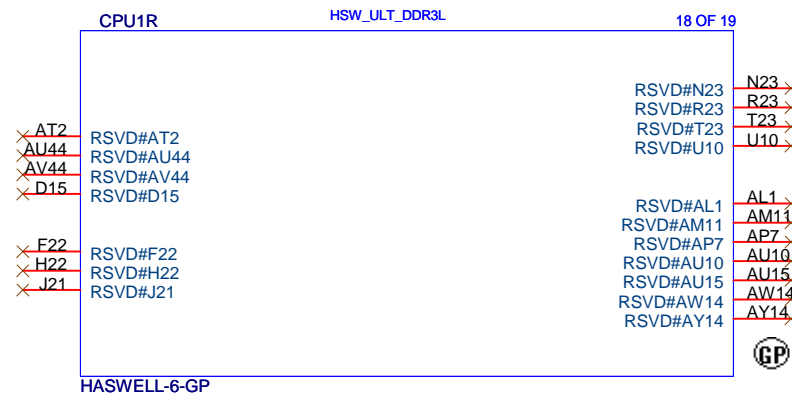
Title	CPU (POWER)
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Size A3	Document Number Storm 2	Rev -1
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SSID = CPU



71.HASWE.G0U



71.HASWE.G0U

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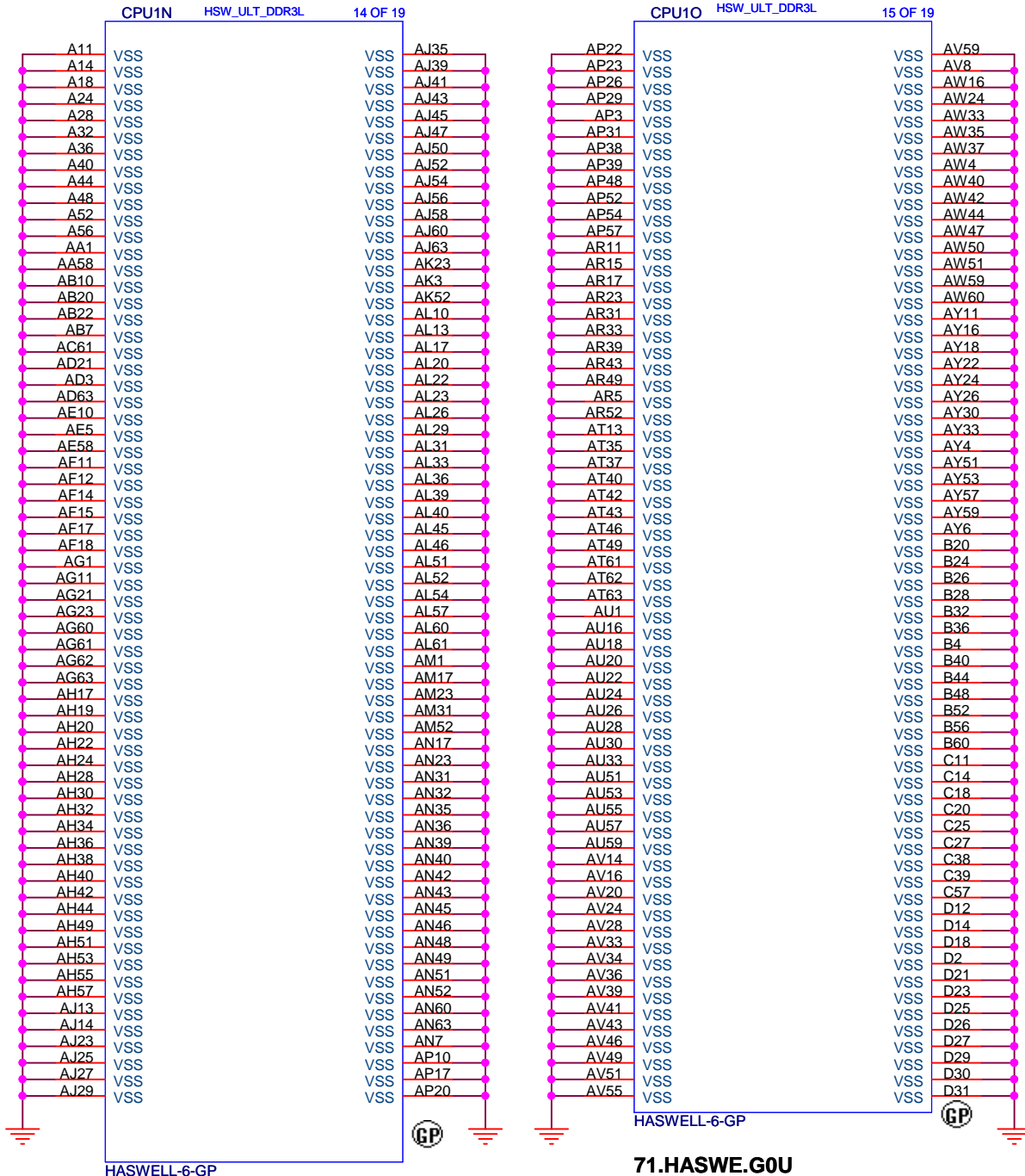
Storm2

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Title CPU (RSVD)

Size A4 Document Number Storm 2 Rev -1
Date: Friday, February 01, 2013 Sheet 22 of 102

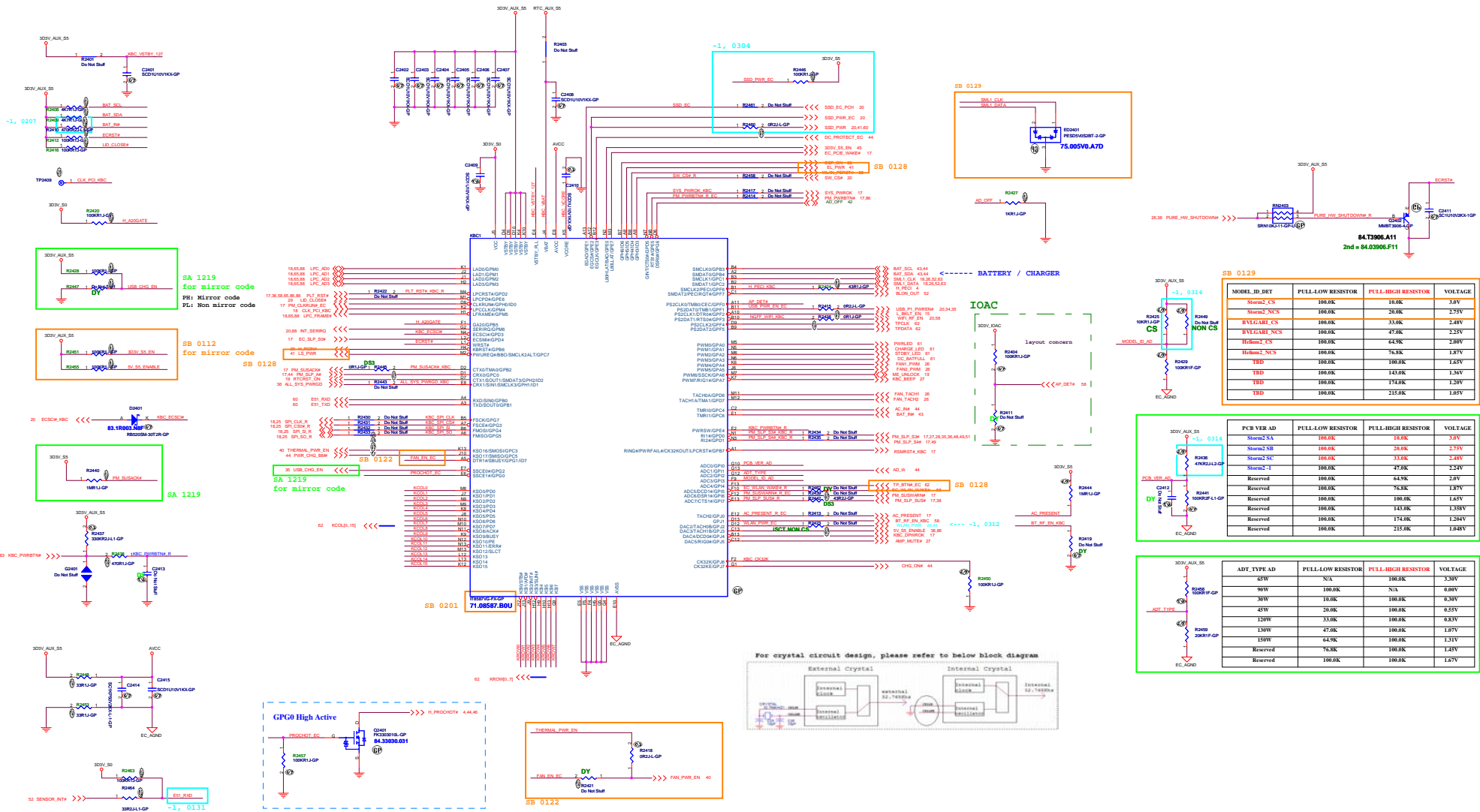
SSID = PCH



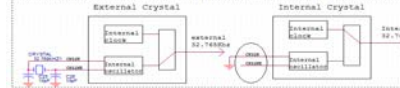
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Title		
PCH (VSS)		
Size	Document Number	Rev
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SSID = KBC



For crystal circuit design, please refer to below block diagram



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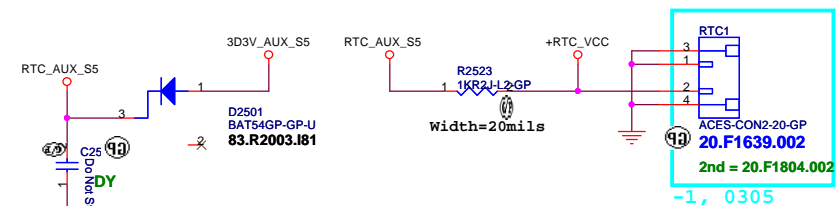
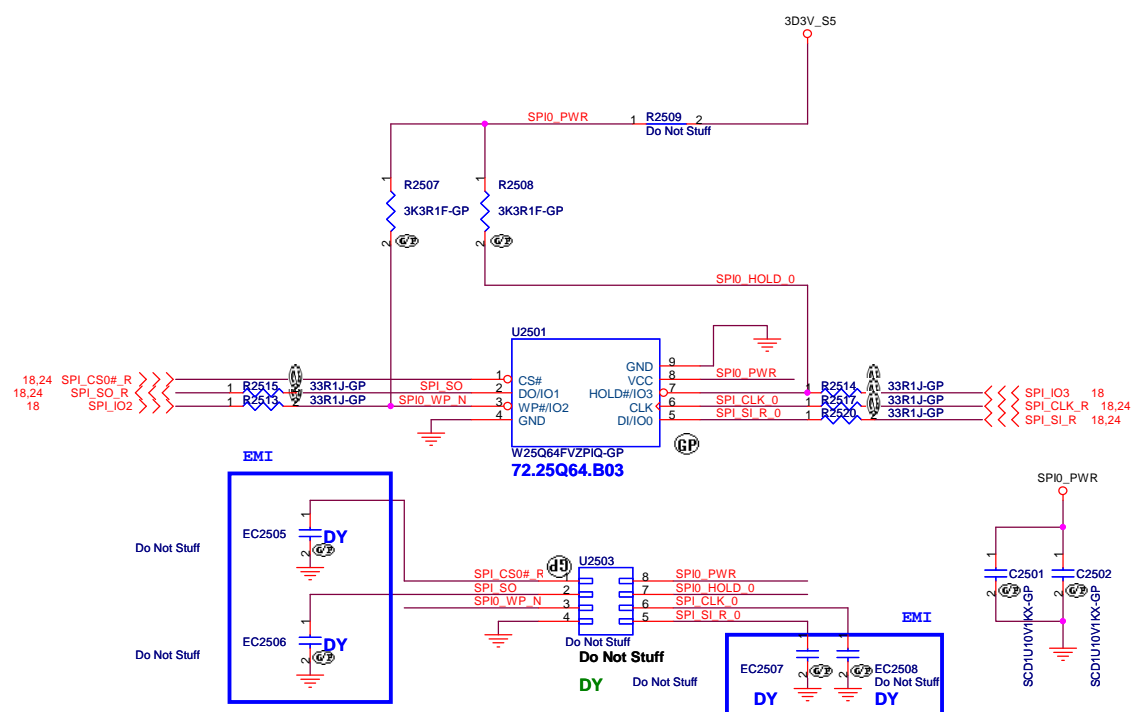
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File KBC ITE IT7857E/DX			
Size	Document Number		Rev.
A1	Storm 2		
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SSID = Flash.ROM

SPI FLASH ROM (8M byte) for PCH

SSID = RBAT

SPI ROM Equal length need to less than 500mil

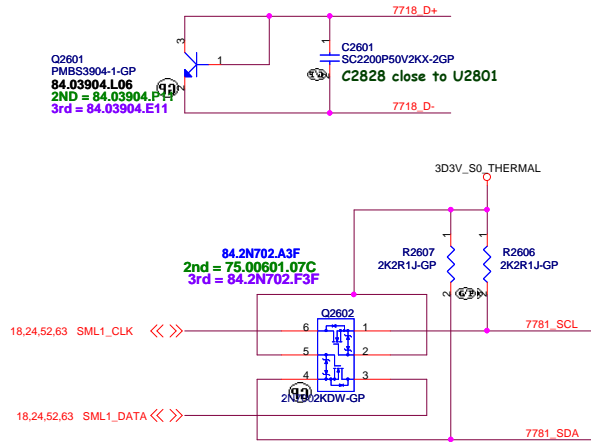


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Title			
Flash/RTC			
Size A3	Document Number		Rev
	Storm 2		-1
Date:	Tuesday, April 02, 2013	Sheet 25 of	102

SSID = Thermal



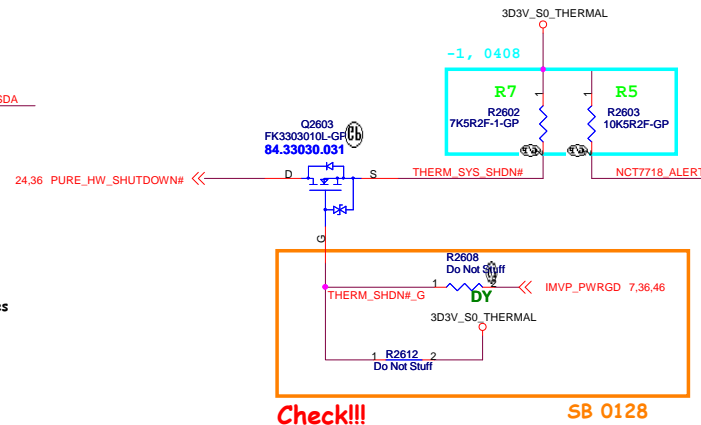
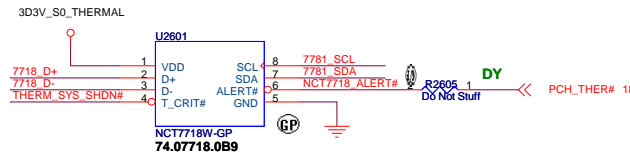
Layout notice :

- * Put the C1 2200pF to close the nct7718W
- * Add ground shielding for D+ and D- traces
- * D+/D- route has to be away from the high noise area
- * The recommended traces width and ground shielding spacing are 10miles

Setting 91°C

The default value is trapping after power up 100ms by different pull-up resistors of T_CRIT# and ALERT# pin:

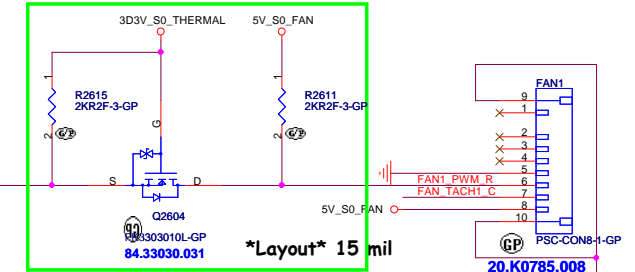
TEMPERATURE (°C)		T_CRIT#				
		2KΩ	7.5KΩ	10.5KΩ	14KΩ	18.7KΩ
ALERT#	2KΩ	77	87	97	107	117
	7.5KΩ	79	89	99	109	119
	10.5KΩ	81	91	101	111	121
	14KΩ	83	93	103	113	123
	18.7KΩ	85	95	105	115	125



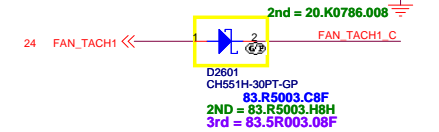
Check!!!

SB 0128

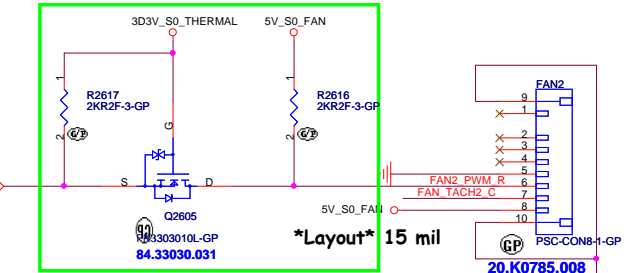
SA 1222



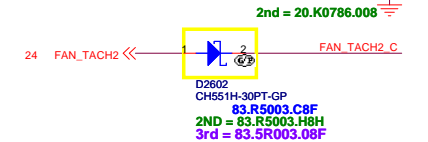
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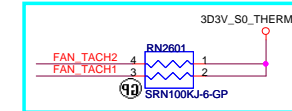
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Layout 15 mil



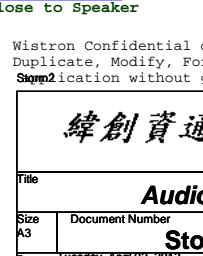
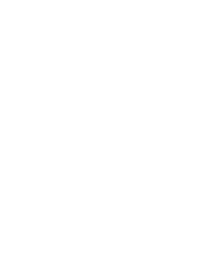
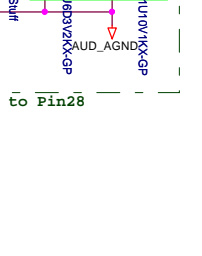
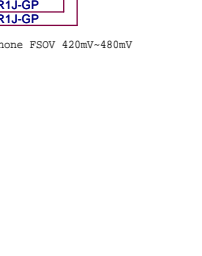
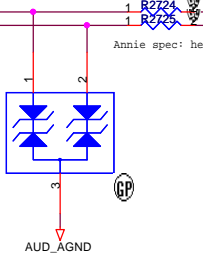
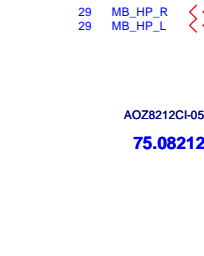
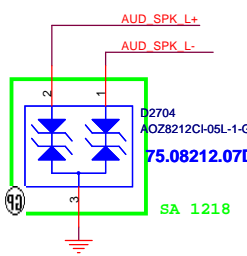
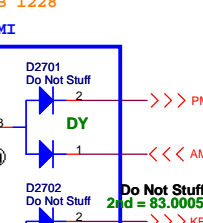
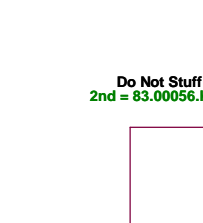
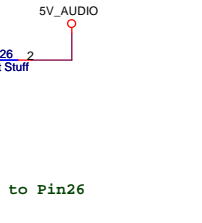
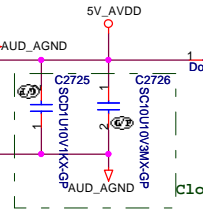
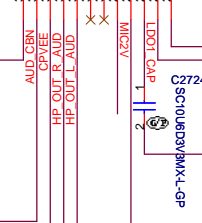
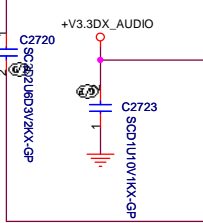
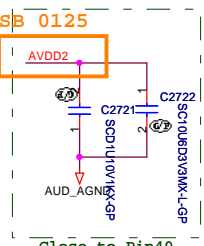
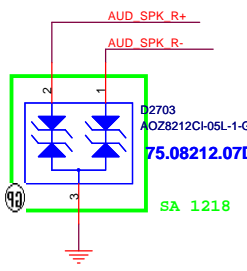
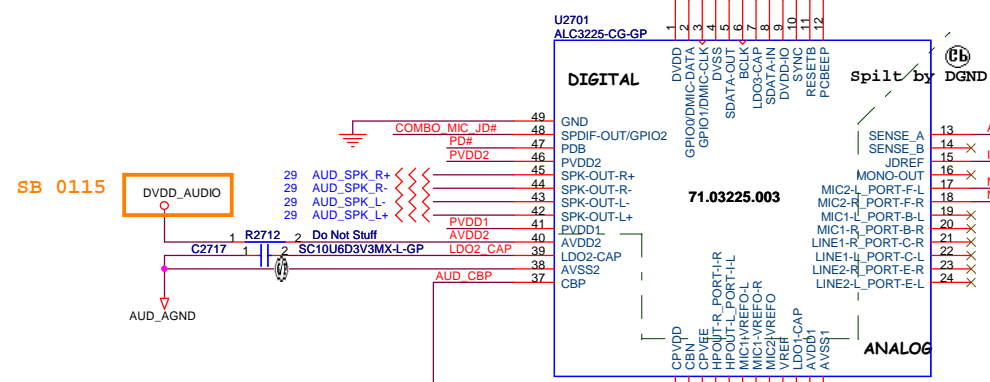
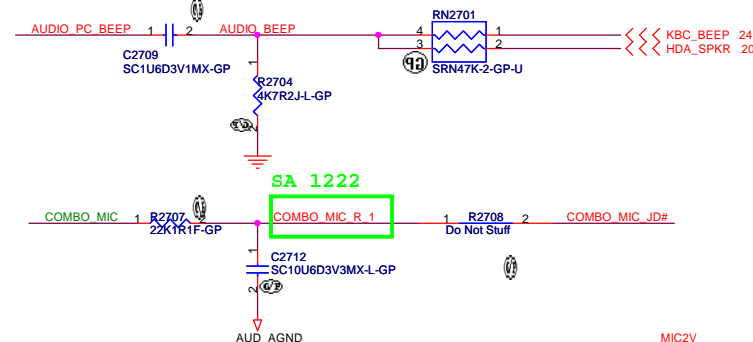
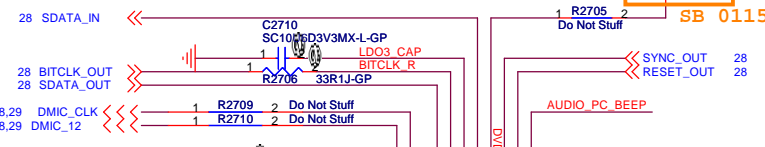
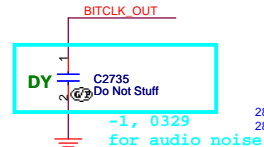
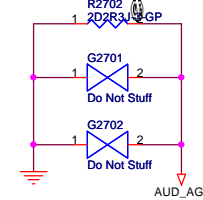
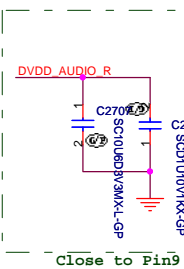
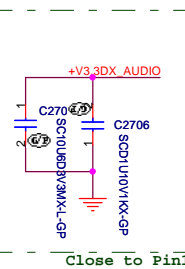
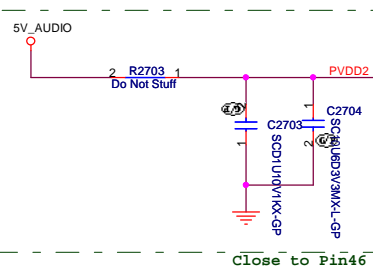
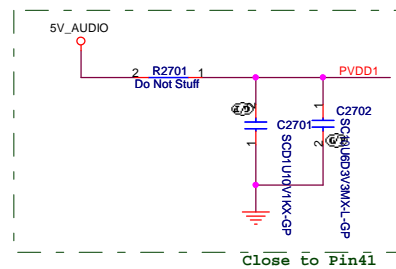
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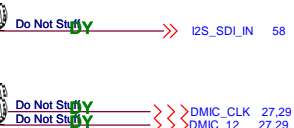
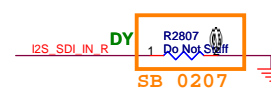
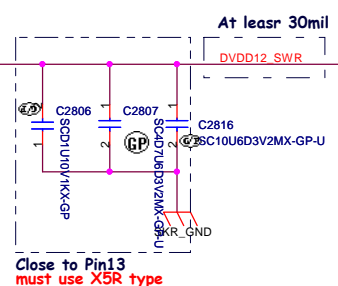
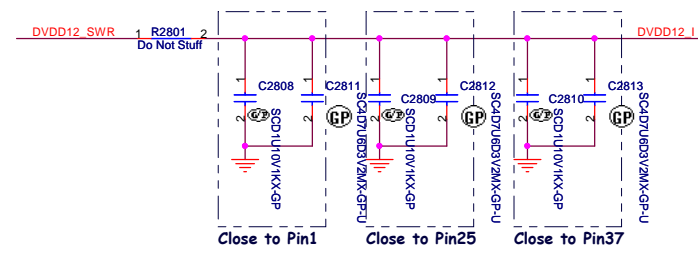
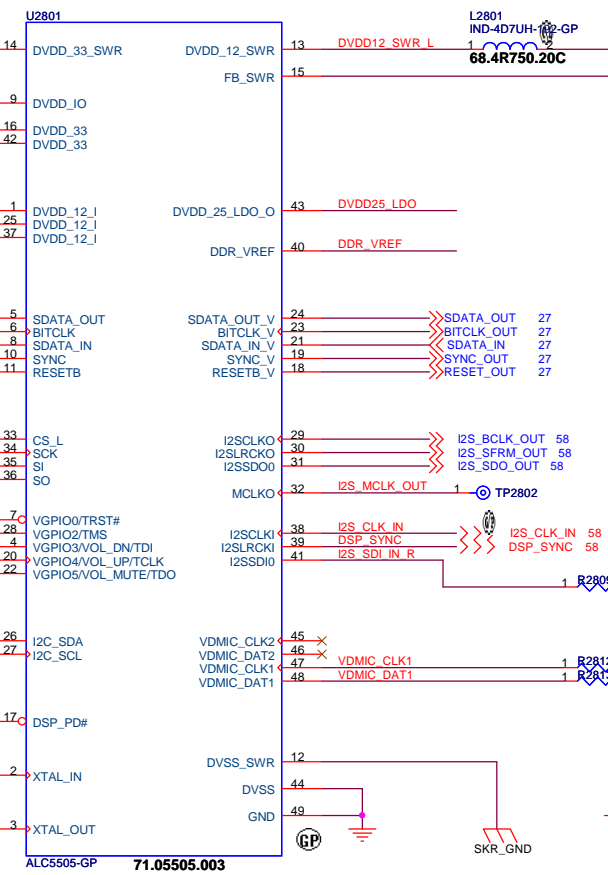
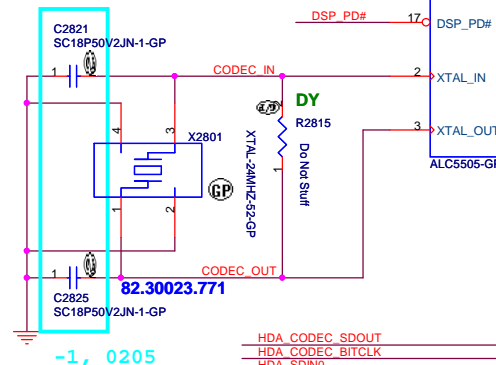
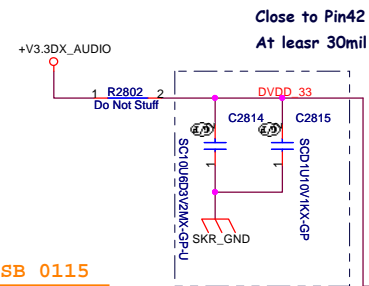
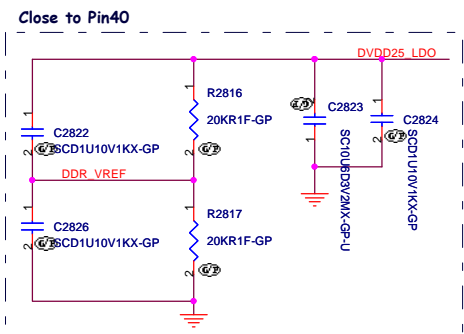
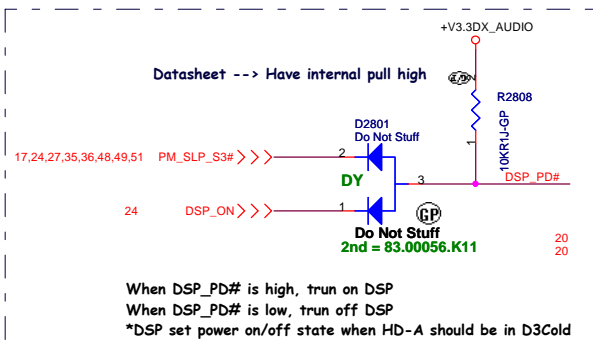
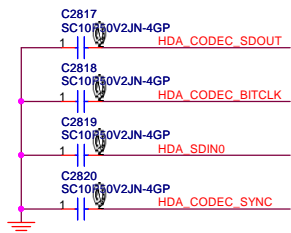
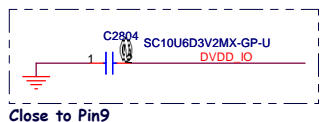


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Title		NUVOTON_NCT7718W	
Size	Document Number	Storm 2	
Custon		-1	
Date:	Monday, April 08, 2013	Sheet	26 of 102

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AUDIO_DSP5505 (Reserved)		
Title AUDIO_DSP5505 (Reserved)	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 28 of 102	

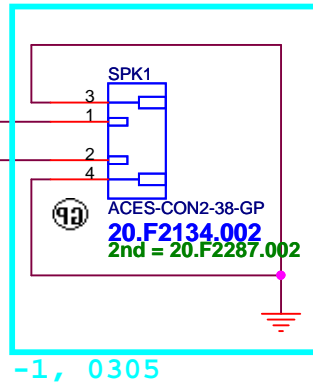
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Speaker

27 AUD_SPK_L- >>>
27 AUD_SPK_L+ >>>

Layout Note:

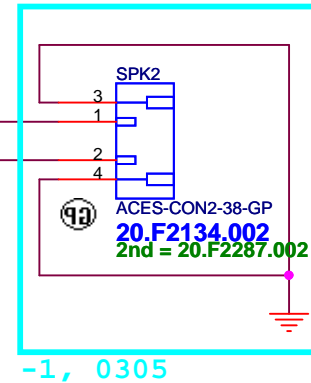
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27 AUD_SPK_R+ >>>

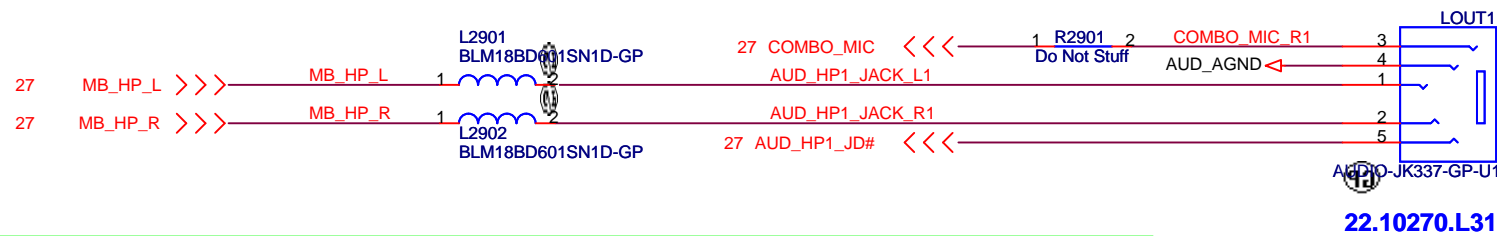
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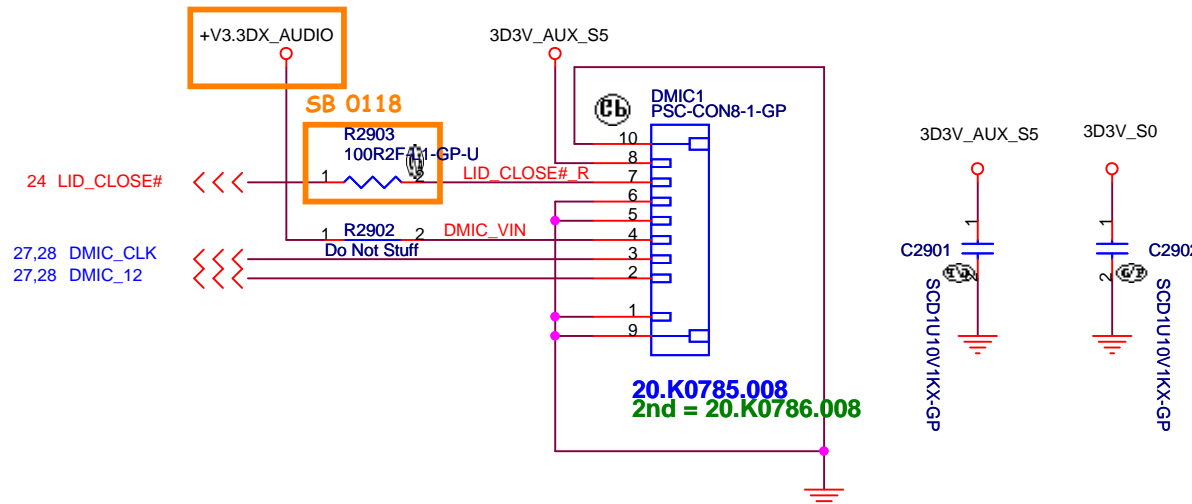


Combo Jack

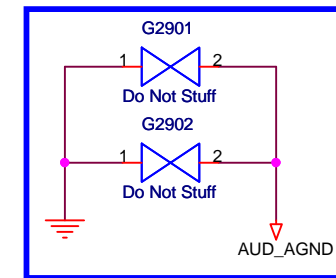
600ohm 100MHz
200mA 0.5ohm DC



DMIC & Hall Sensor



EMI



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Title Audio Jack & Hall Sensor

Size A4	Document Number Storm 2	Rev -1
Date Tuesday, April 02, 2013	Sheet 29	of 102

SSID = User.Interface

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Title LAN (Reserved)

Size A4	Document Number Storm 2	Rev -1
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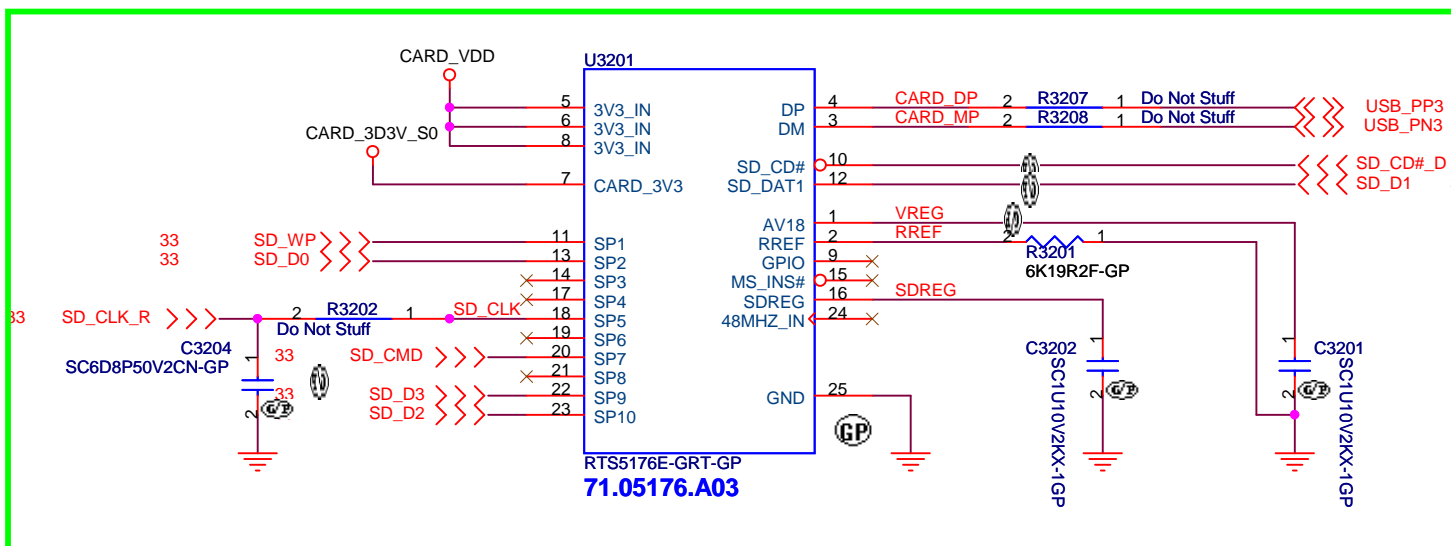
Date: Friday, December 28, 2012 Sheet 30 of 102

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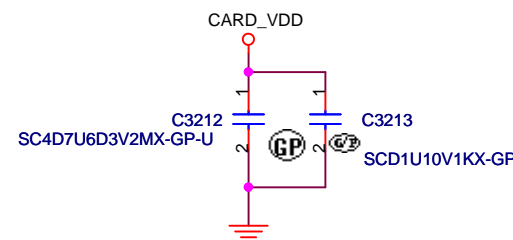
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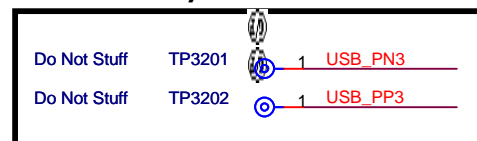
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Title RJ45 + Transformer (Reserved)			
Size A	Document Number Storm 2		Rev -1
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Pin#	Name	I/O Type	Description
1	AV18	O	Internal regulator for Analog blocks. An external capacitor should be connected
2	RREF	I	Connect external resistor (6.2K \pm 1%) to reference ground
3	DM	I/O	USB2.0 D- signal
4	DP	I/O	USB2.0 D+ signal
5	3V3_IN	I	3.3V power input
6	3V3_IN	I	3.3V power input
7	CARD_3V3	O	3.3V power supplied for all media cards
8	3V3_IN	I	3.3V power input
9	GPIO	I/O	General purpose input/output. Now it's used for LED blinking
10	SD_CD#	I	SD Card Detect pin
11	SP1	I/O	SD Write Protect pin and MS Data 1
12	SD_DAT1	I/O	SD/MMC Data 1
13	SP2	I/O	SD/MMC Data 0 and MS Data 5
14	SP3	I/O	MMC Data 7 and MS Data 4
15	MS_INS#	I	MS Card Detect pin
16	SDREG	O	Internal regulator for SD card. An external capacitor should be connected
17	SP4	I/O	MMC Data 6 and MS Data 0
18	SP5	I/O	SD/MMC Clock pin and MS Data 2
19	SP6	I/O	MMC Data 5 and MS Data 6
20	SP7	I/O	SD/MMC Command pin and MS Data 3
21	SP8	I/O	MMC Data 4 and MS Data 7
22	SP9	I/O	SD/MMC Data 3 and MS Clock pin
23	SP10	I/O	SD/MMC Data 2 and MS BS pin
24	48MHz_In	I	48MHz clock input
	Exposed PAD		The Exposed PAD must be connected to the reference ground



FOR SIV,PLS near U3201



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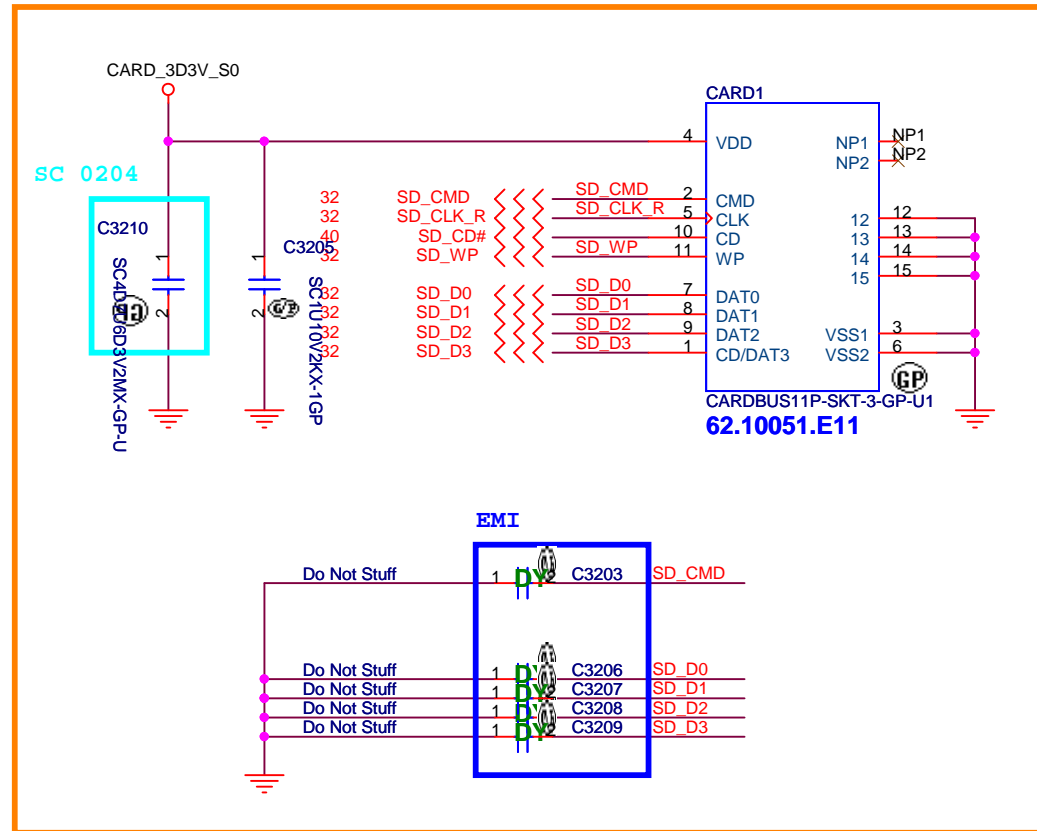
緯創資通 **Wistron Corporation**
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Title	CARD READER RTS5176E
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Size A4	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 32 of 102	

SD Card Reader CONN.

SB 1228



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Title

CARD Reader CONN.

Size
A4

Document Number

Storm 2

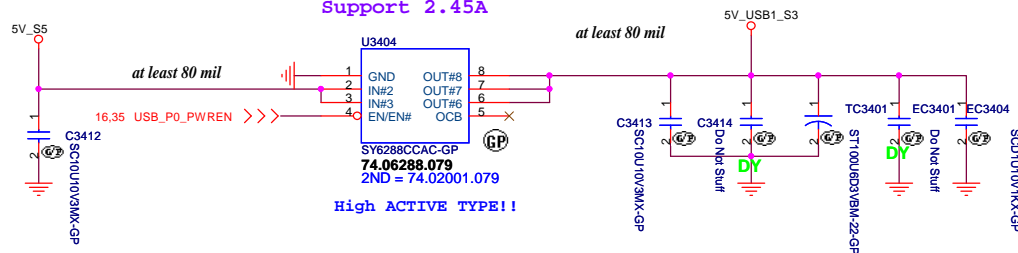
Rev
-1

Date: Tuesday, April 02, 2013

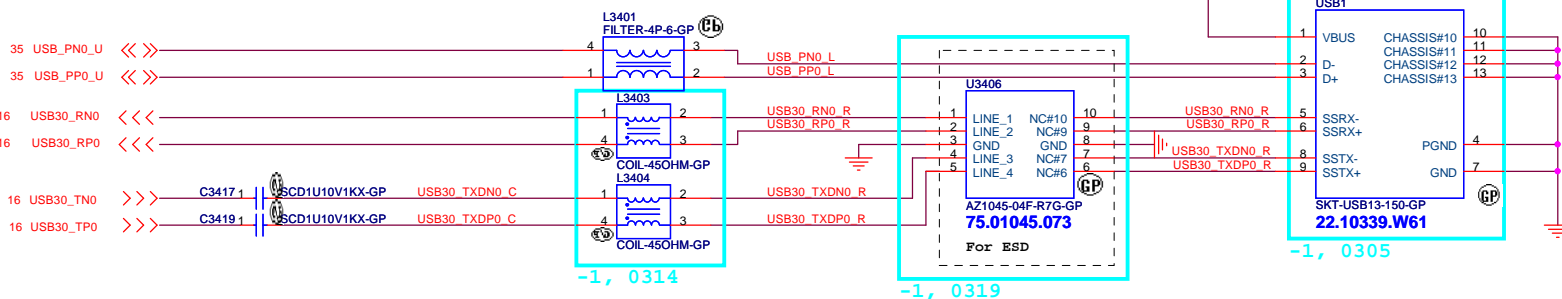
Sheet 33 of 102

SSID = USB

Change Main source
Support 2.45A



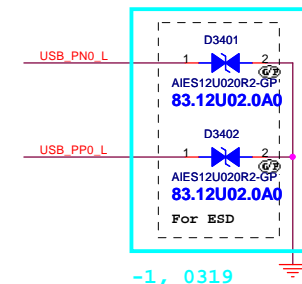
USB Charger Port
USB3.0 Port1



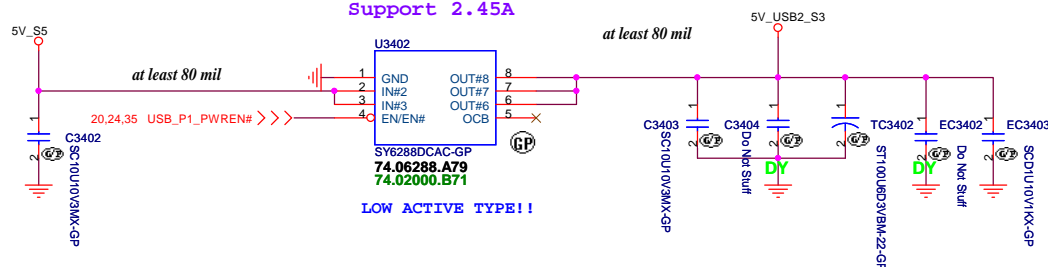
JE40 modify

USB 3.0 Connector
Pin definition

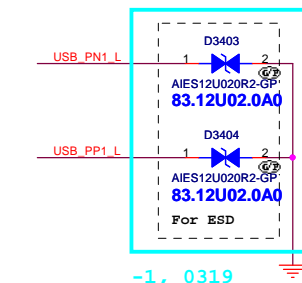
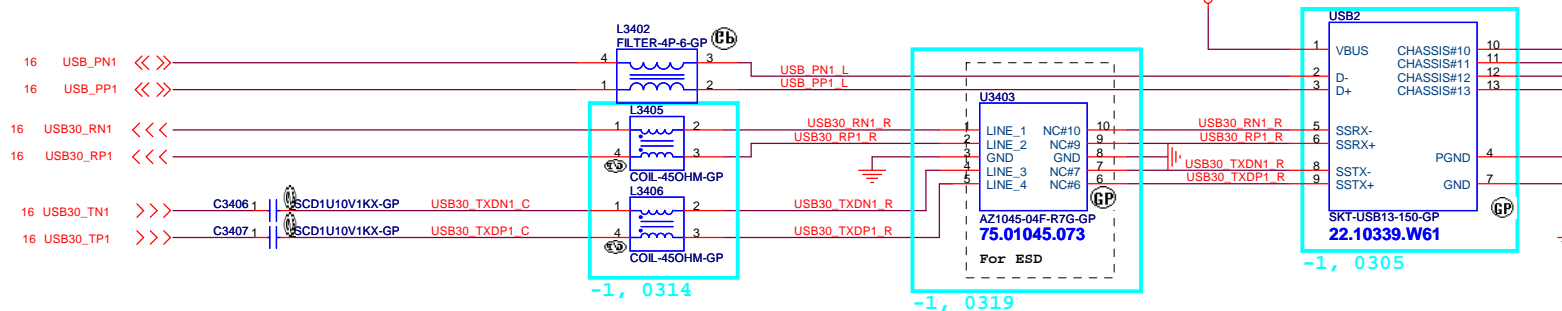
1	POWER
2	USB 2.0 D-
3	USB 2.0 D+
4	GND
5	StdA_SSRX-
6	StdA_SSRX+
7	GND
8	StdA_SSTX-
9	StdA_SSTX+



Change Main source
Support 2.45A



USB3.0 Port2

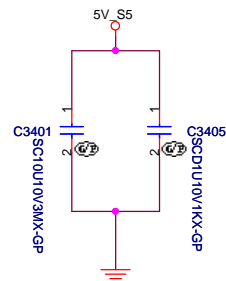


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Title	USB 3.0 Port	
Size A3	Document Number	Rev
	Storm 2	-1
Date: Tuesday, April 02, 2013	Sheet 34	of 102

USB Charger



Pin Description - SLG55583A

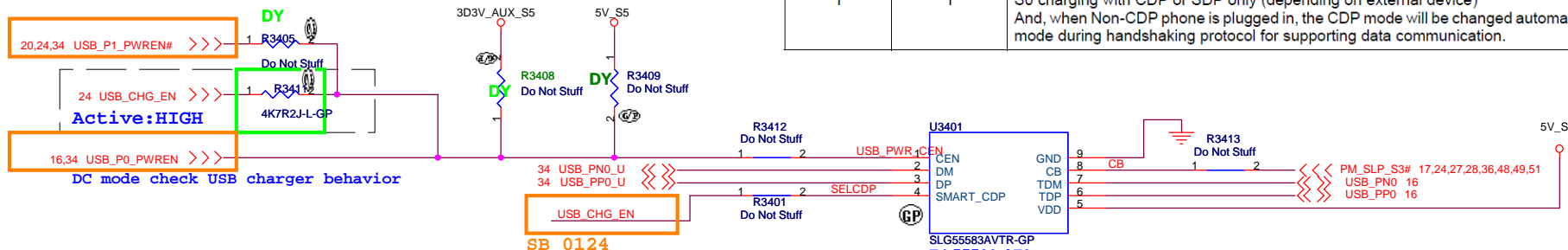
Pin Define

The symbol by pin number.

Pin #	Name	Type	Description
1	CEN	Output	N-FET Open Drain Output. Current Limit Switch (CLS) Control Output. CB changes from 0 to 1 or 1 to 0. CEN will be low for 2 seconds (typ)
2	DM	Input/Output	USB Connector D-
3	DP	Input/Output	USB Connector D+
4	SMART-CDP	Input	Input Control logic (see truth table)
5	VDD	PWR	Power Supply. Connect a 0.1μF capacitor between VDD and GND as close as possible to the device.
6	TDP	Input/Output	Host USB Transceiver D+ Connection
7	TDM	Input/Output	Host USB Transceiver D- Connection
8	CB	Input	Switch Control Bit 0 = autodetection charger identification active 1 = charging downstream port with active USB2.0 data communication mode with 1.5A support
9	Thermal Pad	GND	Ground

Truth Table

CB	SMART-CDP	Function
0	X	DCP autodetect with mouse/keyboard wakeup
1	0	S0 charging with SDP only
1	1	S0 charging with CDP or SDP only (depending on external device) And, when Non-CDP phone is plugged in, the CDP mode will be changed automatically to SDP mode during handshaking protocol for supporting data communication.



SB 1228

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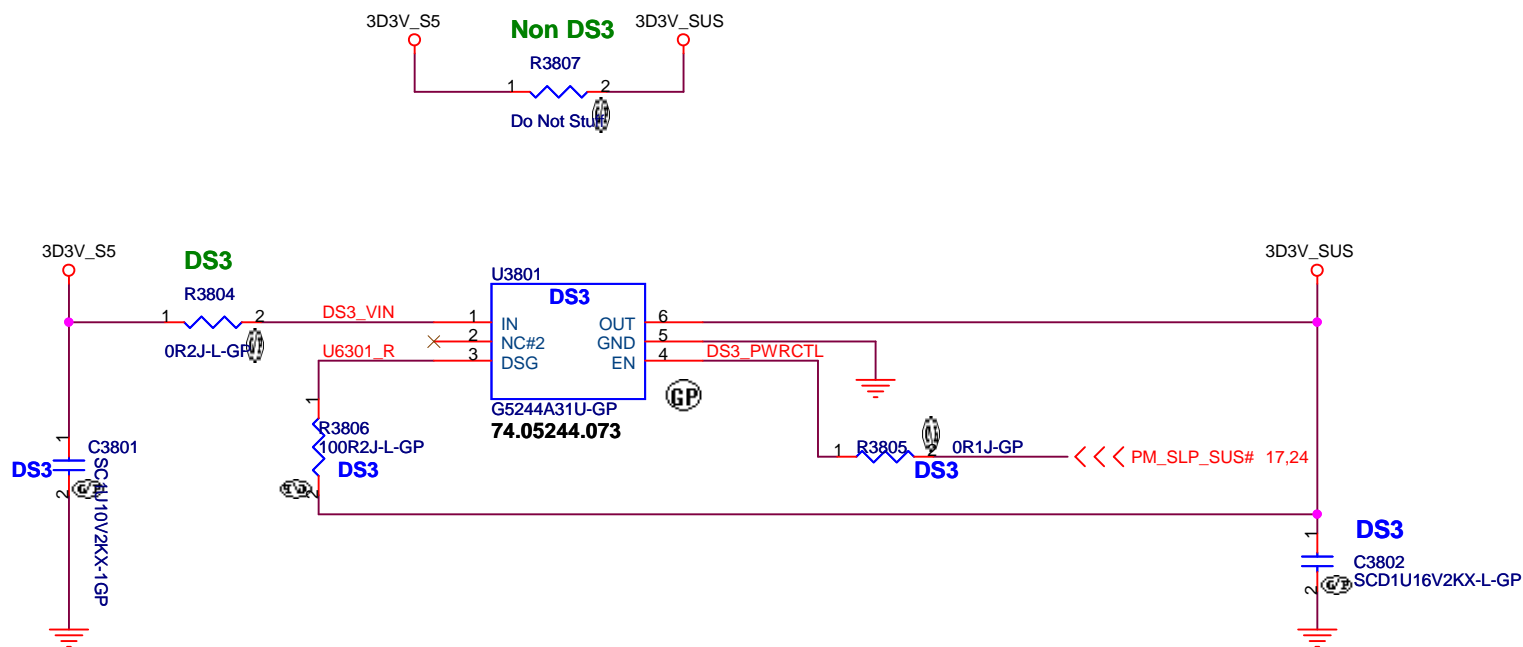
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USB Charger (reserved)		
Size B	Document Number	Rev
Storm 2		-1
Date: Tuesday, April 02, 2013	Sheet 35 of 102	

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Storm2

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Title ADAPTER OCP / S3 reduction		
Size A4	Document Number Storm 2	Rev -1
Date: Friday, December 28, 2012		Sheet 37 of 102



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Storm2

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Title

DS3

Size

Document Number

Rev

Storm 2

-1

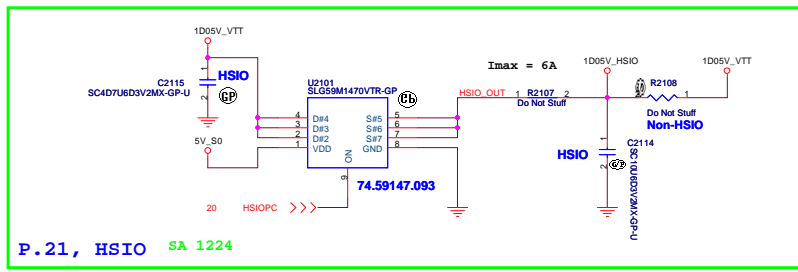
Date: Tuesday, April 02, 2013

Sheet 38 of 102

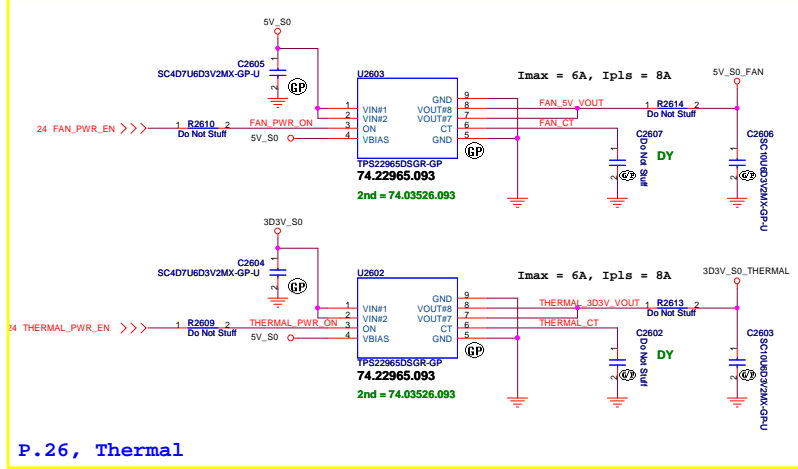
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Storm2

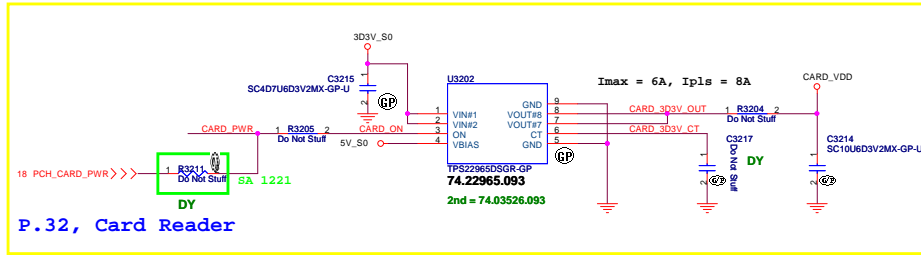
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1D05M (Reserved)			
Size A	Document Number		Rev
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Date:	Friday, December 28, 2012		Sheet 39 of 102



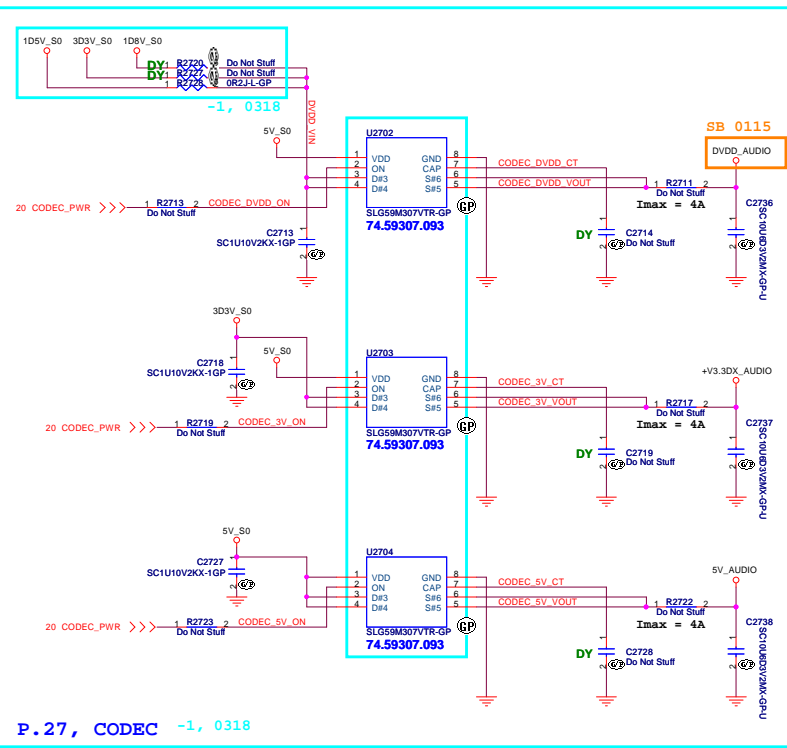
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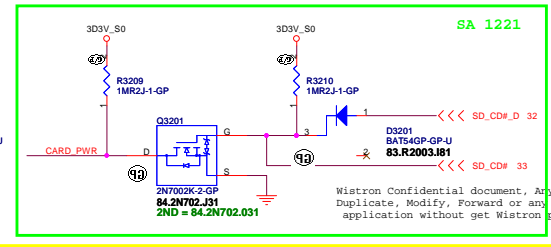
P.26, Thermal



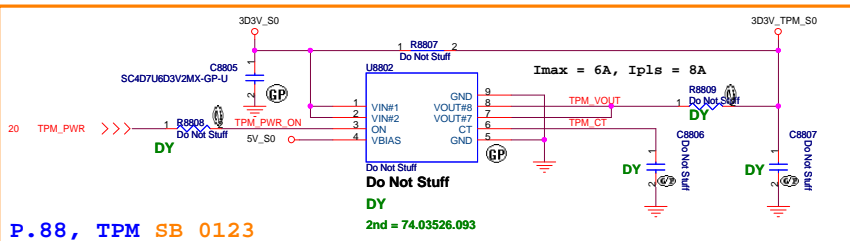
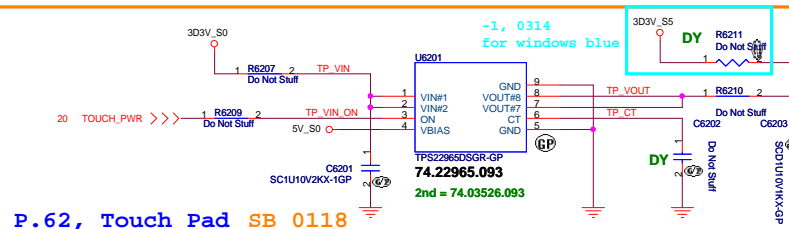
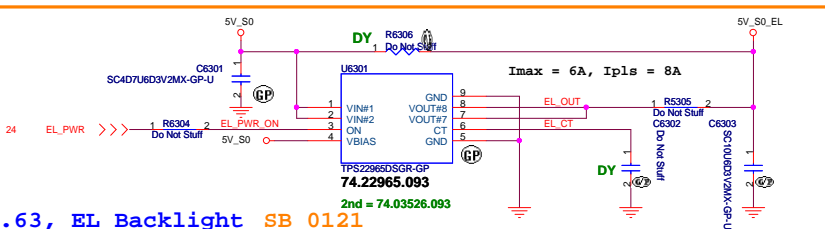
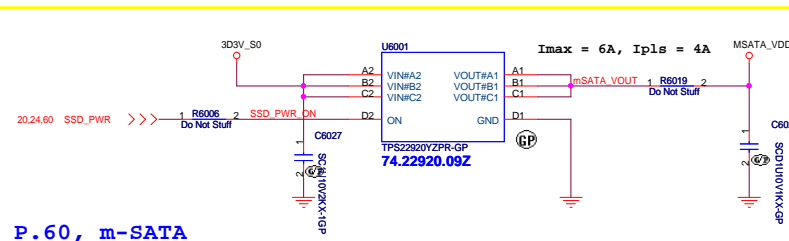
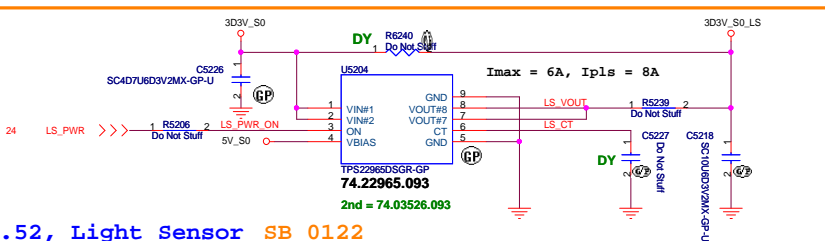
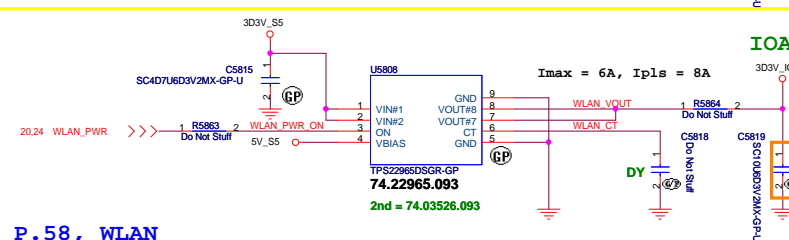
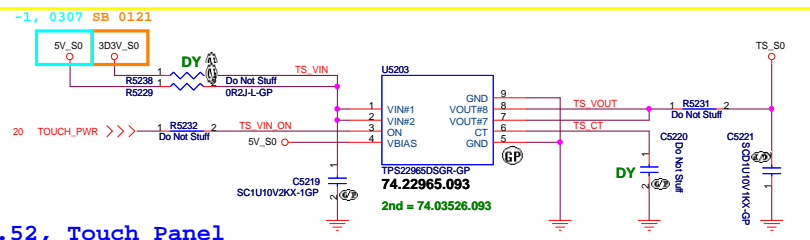
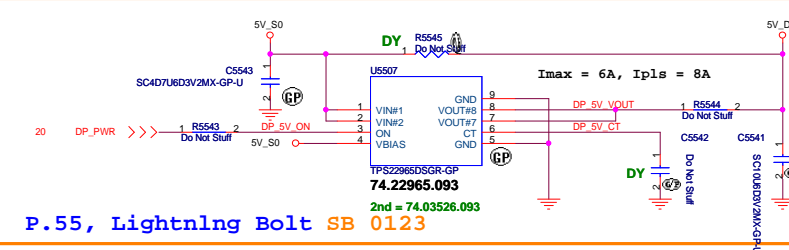
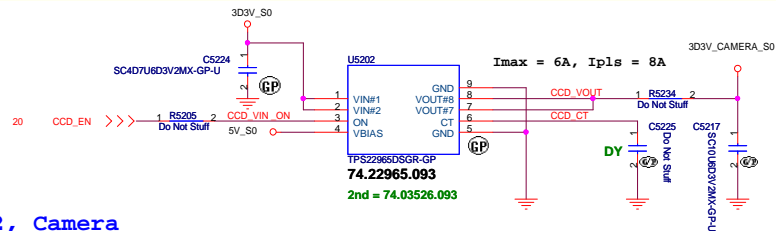
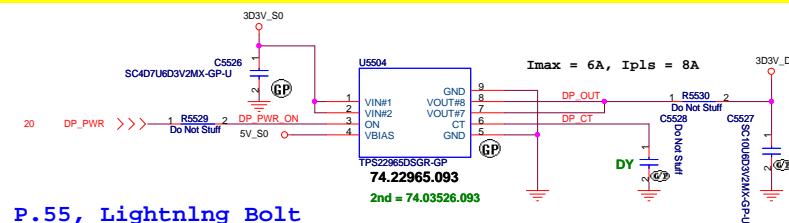
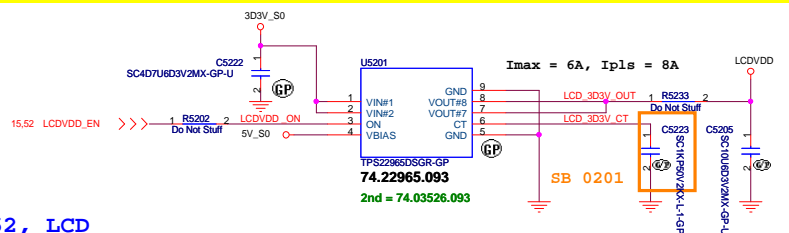
P.32, Card Reader



P.27, CODEC -1, 0318

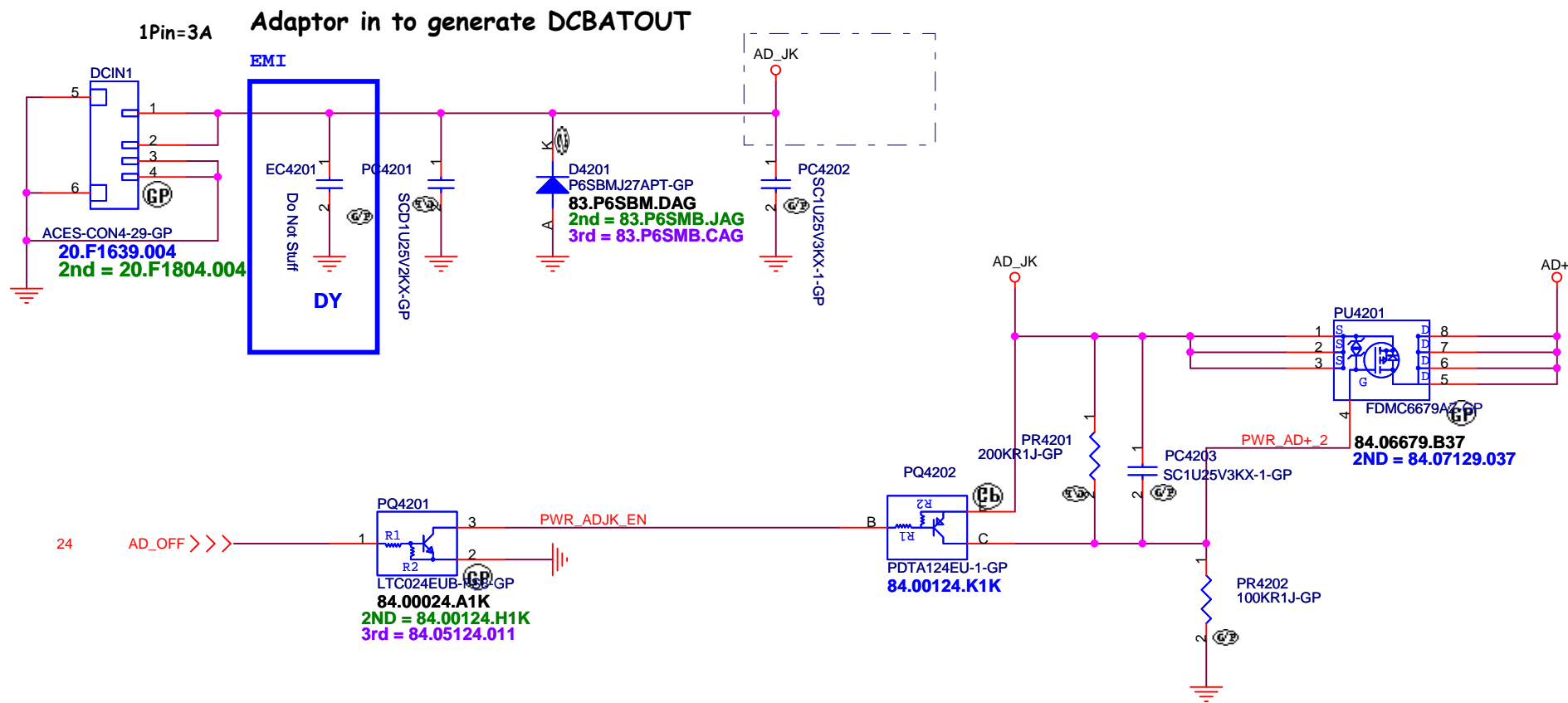


P.32, Card Reader SA 1221



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ANNIE solution



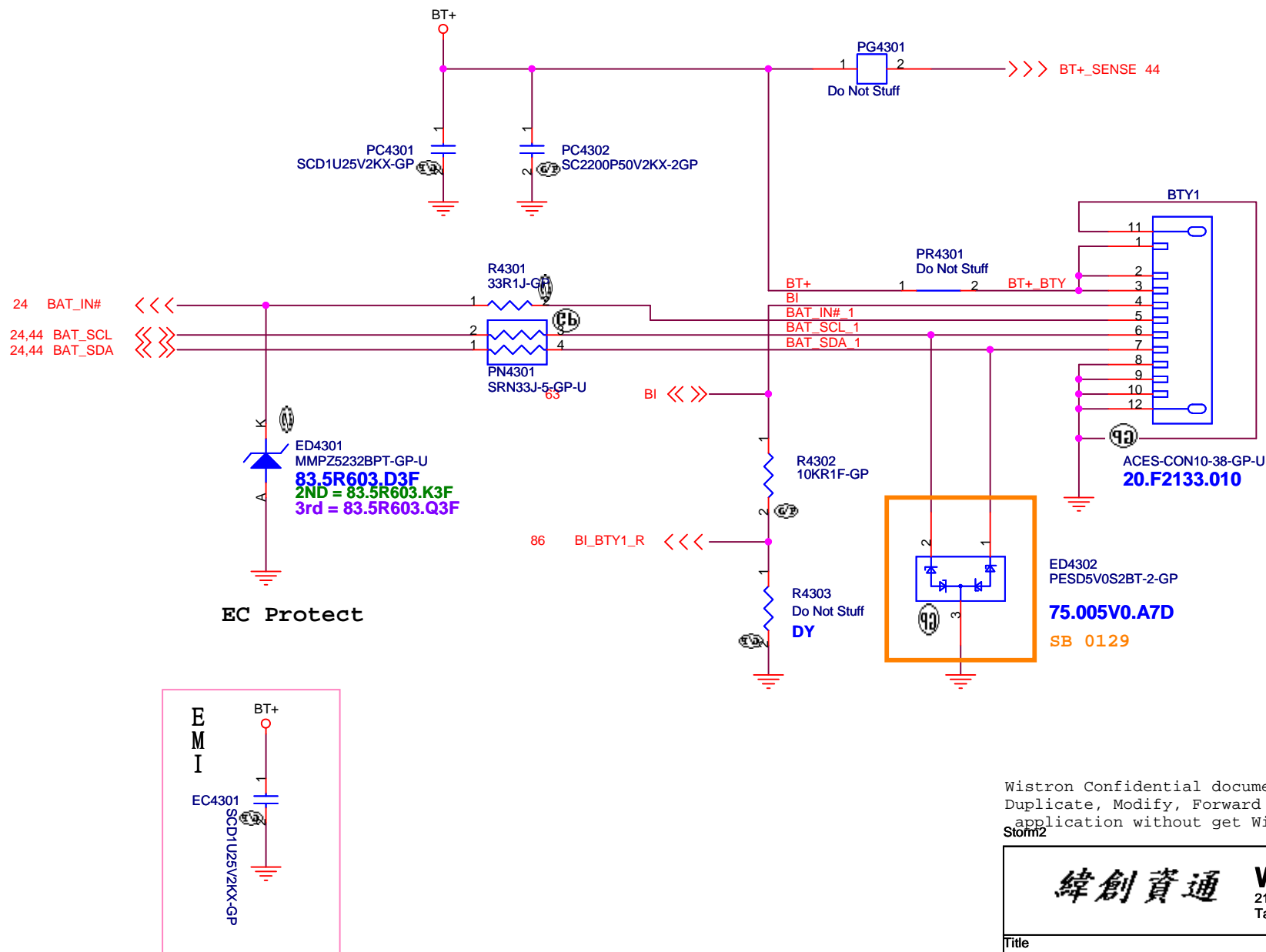
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Title		
DCIN JACK		
Size	Document Number	Rev
A4	Storm 2	-1
Date	Tuesday, April 02, 2013	Sheet 42 of 102

BATTERY CONNECTOR



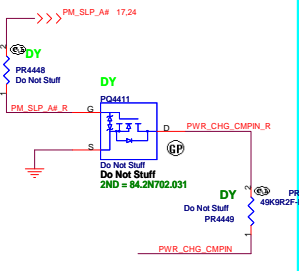
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Storm2

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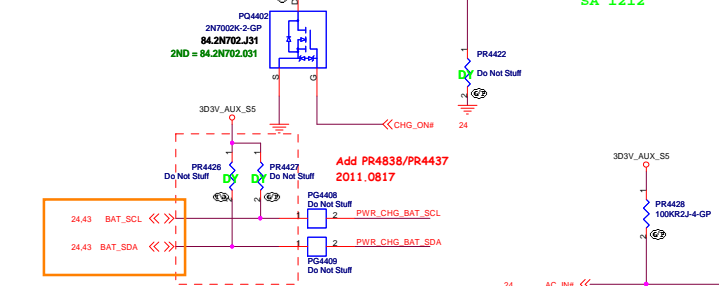
Title		
BATT CONN		
Size A4	Document Number Storm 2	Rev -1
Date: Tuesday, April 02, 2013	Sheet 43	of 102

SSID = Charger

AD+ total power	R1	R2
45w	56K	100K
65w	106K	100K



SA 1212



AC adapter detect current :

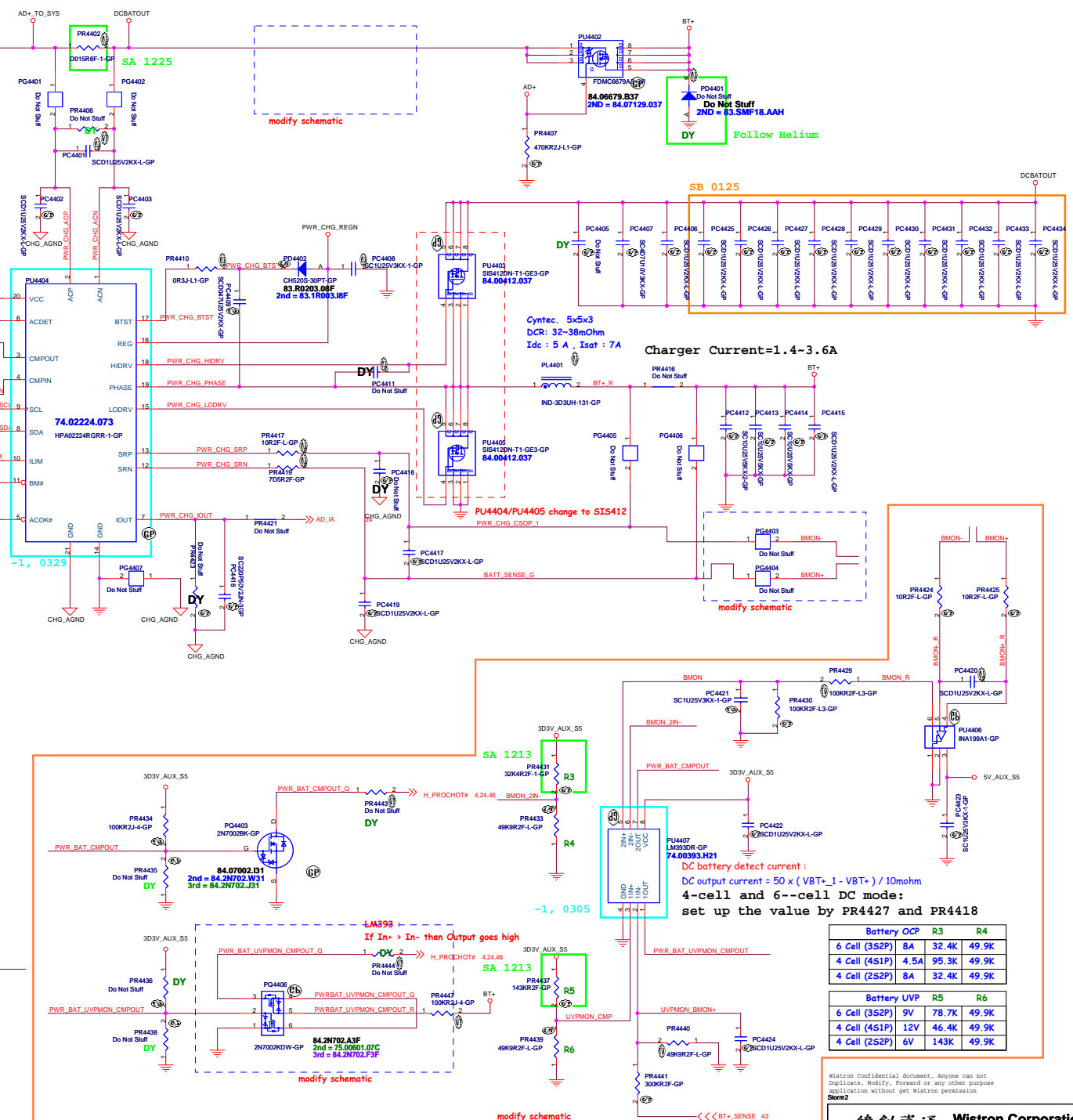
Ac input current = $20 \times (V_{acp} - V_{acn}) / 10\text{mohm}$

4.24,46 H_PRODCHOTA <<

check !!

PO4404
2N7002K-3-GR
84.2N702.J31
2ND = 84.2N702.031

AC_Protect



Battery	OCV	R3	R4
6 Cell (3S2P)	8A	32.4K	49.9K
4 Cell (4S1P)	4.5A	95.3K	49.9K
4 Cell (2S2P)	8A	32.4K	49.9K

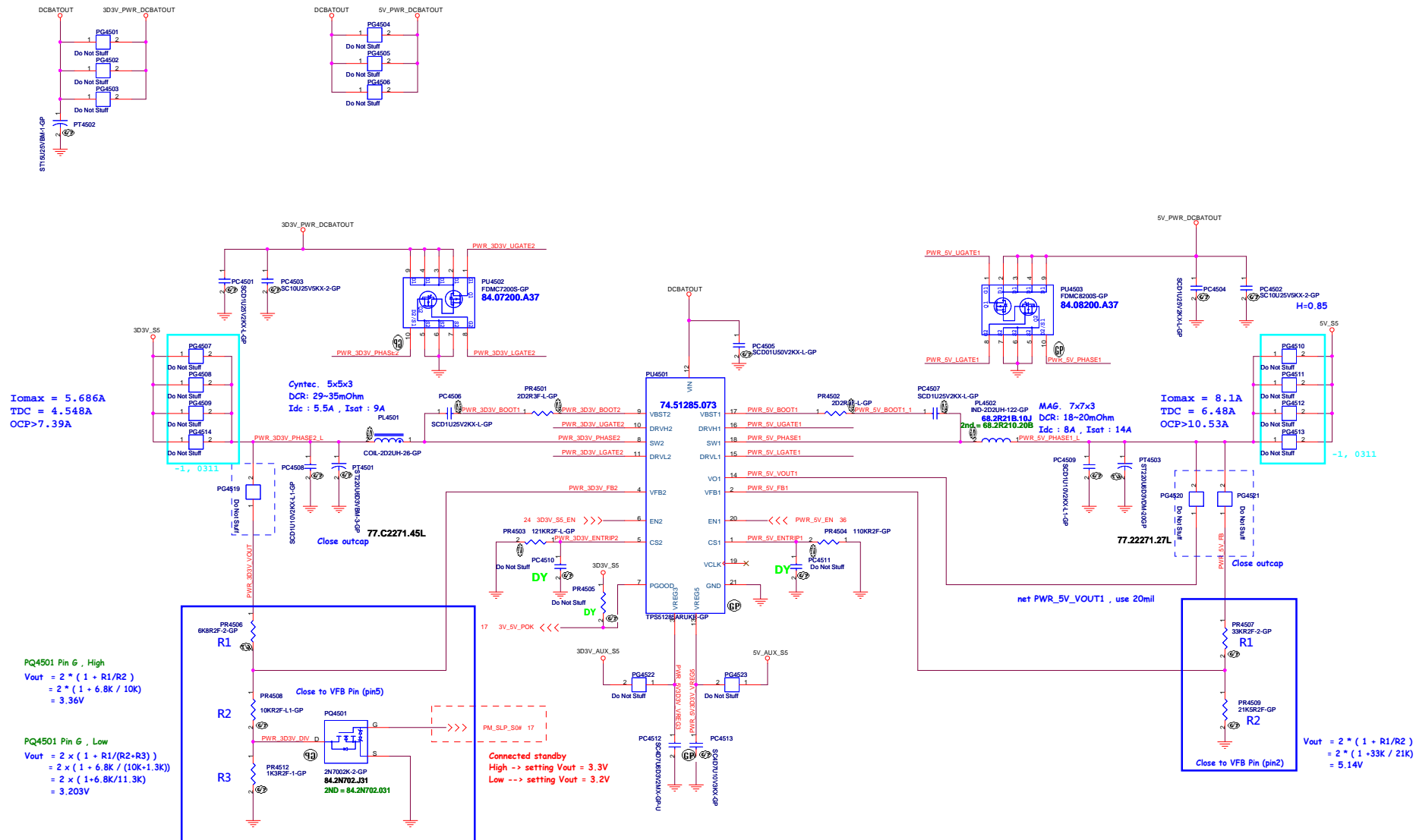
Battery	UVP	R5	R6
6 Cell (3S2P)	9V	78.7K	49.9K
4 Cell (4S1P)	12V	46.4K	49.9K
4 Cell (2S2P)	6V	143K	49.9K

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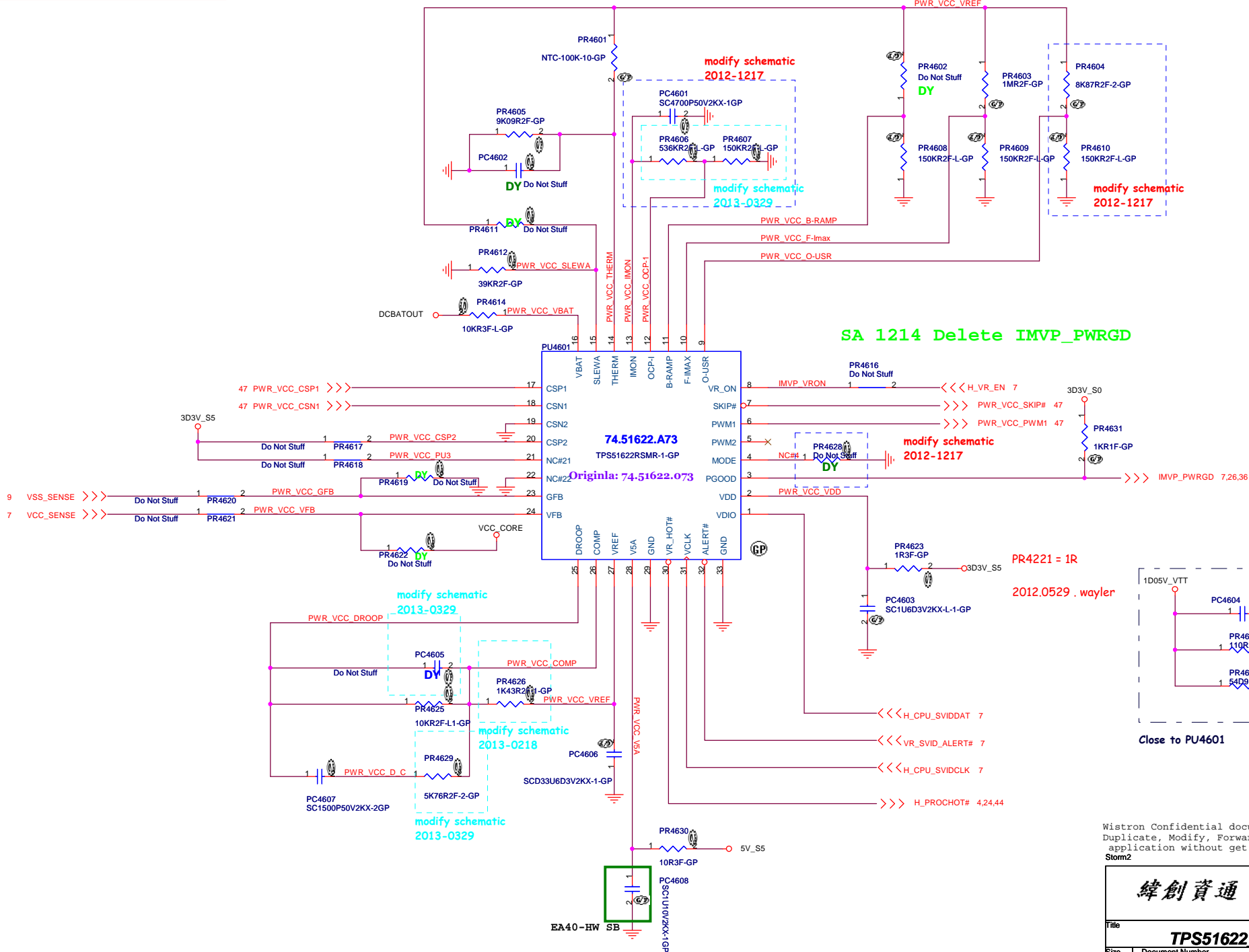
Title			
CHARGER BQ24737			
Size A2	Document Number		Rev
	Storm 2		-1
Date:	Tuesday, April 02, 2013		Sheet 44 of 102

```
SSID = PWR.Plane.Regulator_3p3v5v
```



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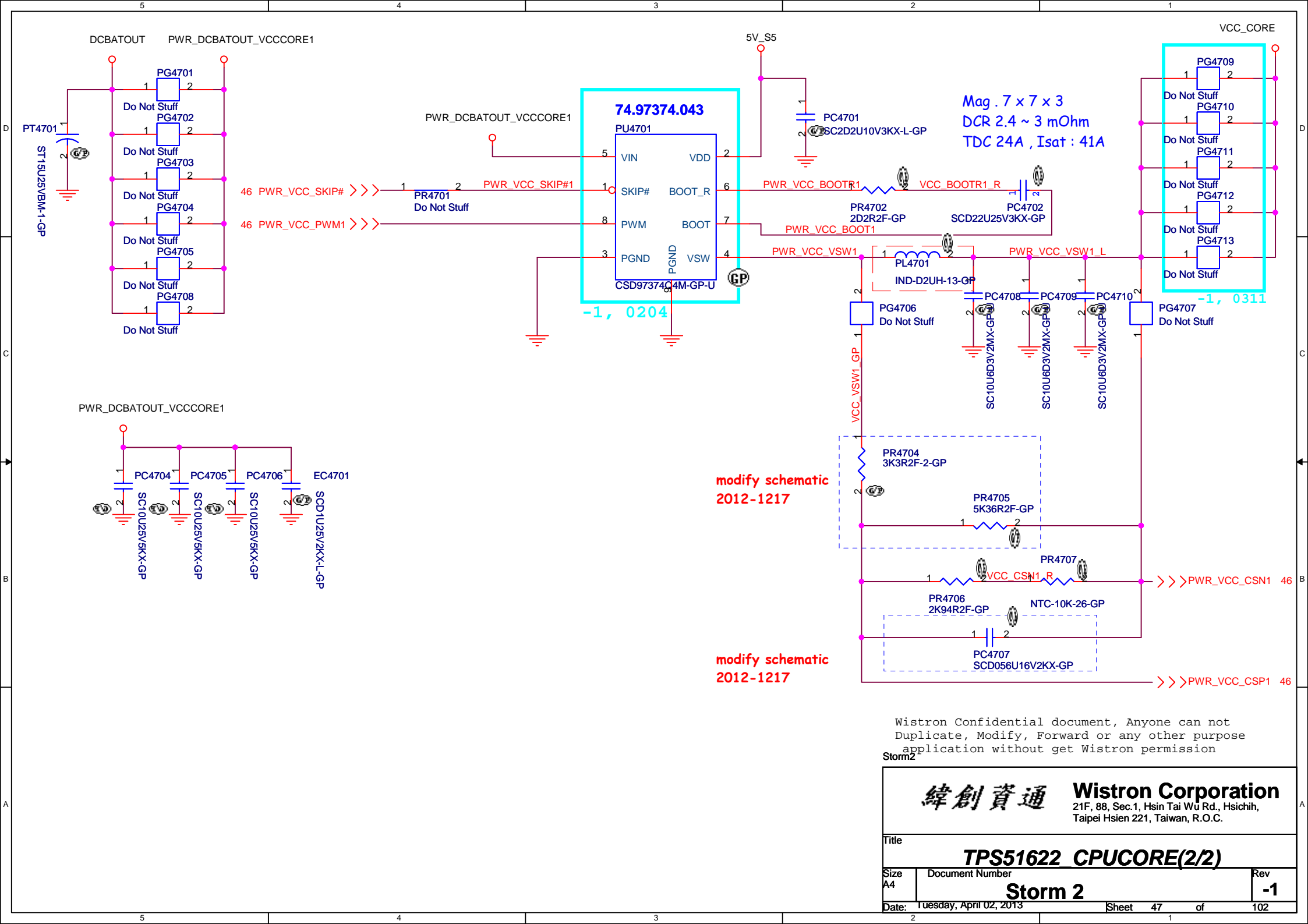
SSID = CPU_Regulator



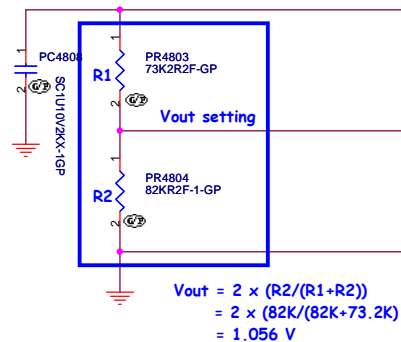
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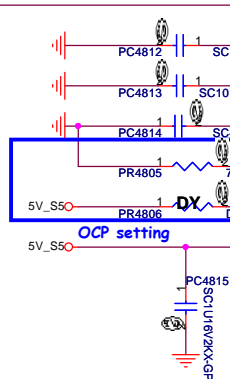
Title			TPS51622 CPUCORE(1/2)
Size	Document Number	Rev	-1
A3	Storm 2		
Date:	Monday, April 08, 2013	Sheet	46 of 102



17,24,27,28,35,36,49,51 PM_SLP_S3#
1D05VTT PWR EN



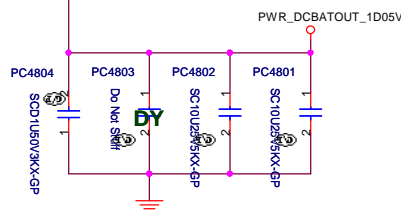
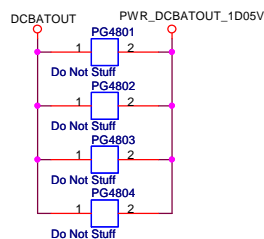
$$V_{out} = 2 \times \frac{R2}{(R1+R2)} = 2 \times \frac{82K}{(82K+73.2K)} = 1.056V$$



REFIN setting	
GND	Vout=1D05V
Float	Vout=1D2V
RES. Divider	Vout=Adj.

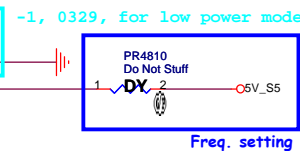
Mode setting	
GND	FSW=400KHz
Float	FSW=800KHz
5V	FSW=1MHz

TRIP setting	
GND	OCL = 8A
5V	OCL = 12A
Float	OCL = 16A



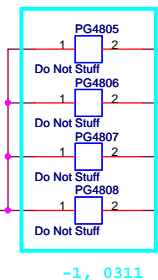
PU4801
TPS51367RVER-1-GP
74.51367.A43

1D05VTT PWRGD
1D05VTT_PWRGD 36,51



CYNTEC. 5*5*3
DCR: 11~12mOhm
Idc : 8.5 A , Isat : 14A

Iomax = 5.252A
TDC = 4.2 A
OCP > 8A



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Title		
DC to DC 1D05V(TPS51367)		
Size A3	Document Number	Rev -1
Date: Tuesday, April 02, 2013	Storm 2	
Sheet 48	of 102	

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Storm2

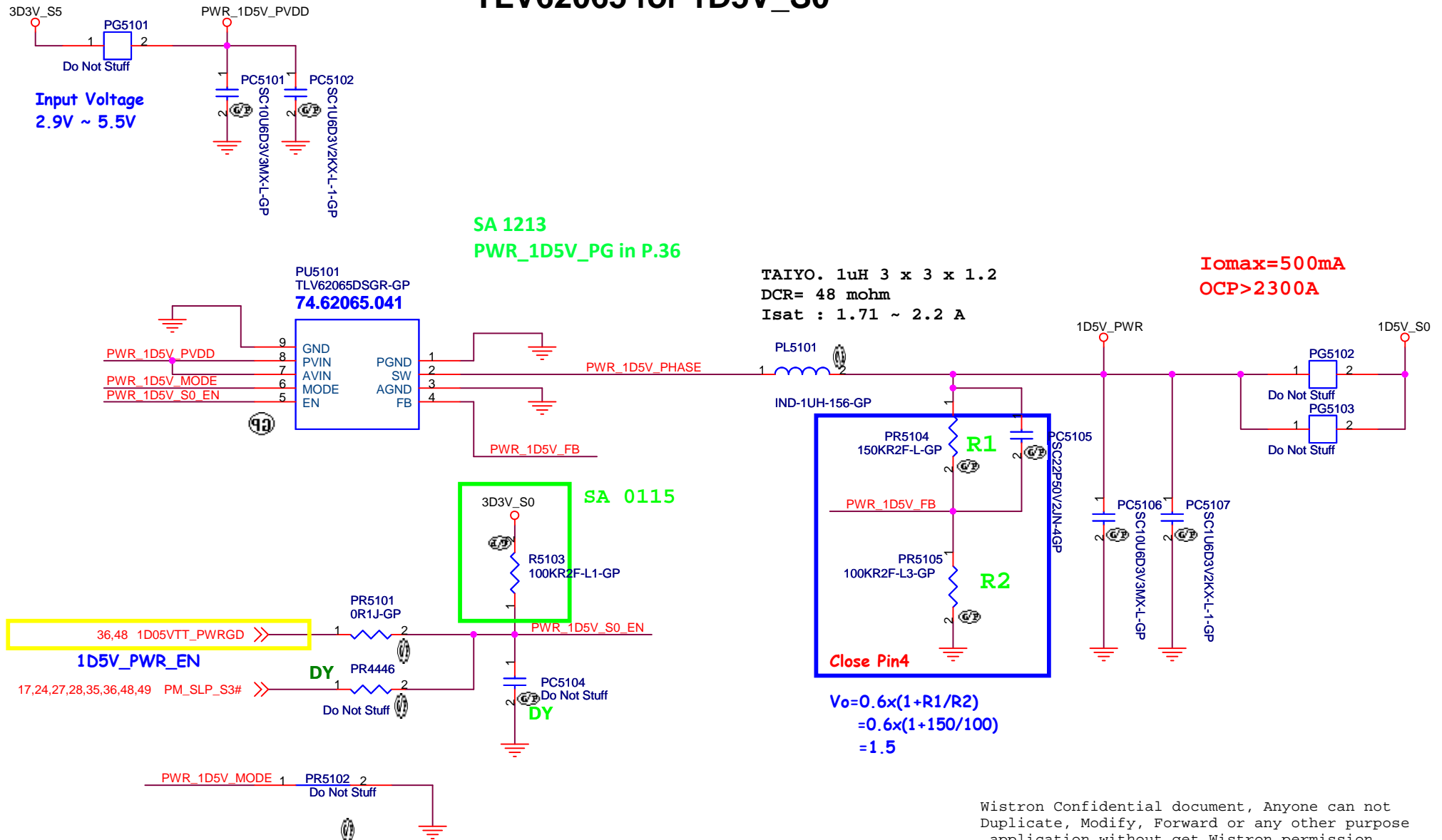
緯創資通 Wistron Corporation
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Title 1D8V S0 (Reserved)

Size A4	Document Number Storm 2	Rev -1
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Date: Friday, December 28, 2012 Sheet 50 of 102

TLV62065 for 1D5V_S0



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Storm2

MODE pin	Function
High	Fixed Freq. PWM mode
Low	Power Save Mode with automatic transition from PFM mode to fixed freq. PWM mode

緯創資通

Wistron Corporation

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Title

1D5V S0 TLV62065

Size
A4

Document Number

Storm 2

Rev
-1

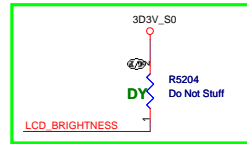
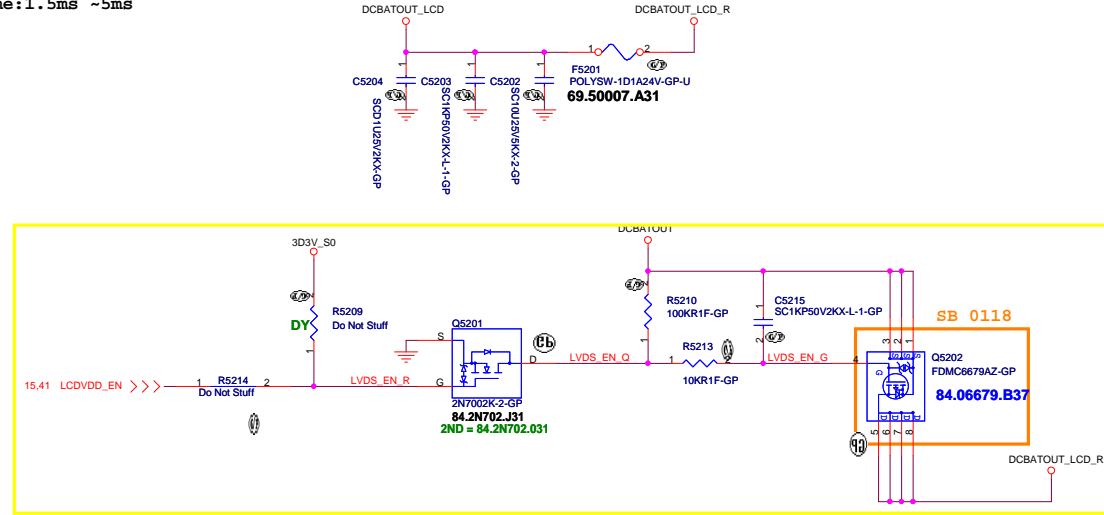
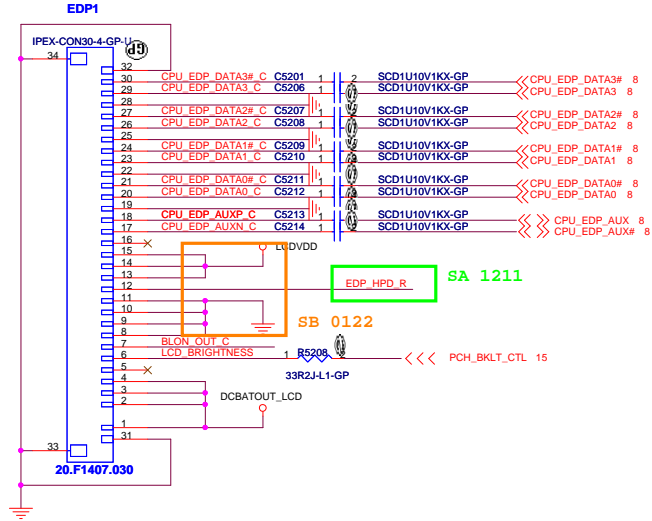
Date: Tuesday, April 02, 2013

Sheet 51 of 102

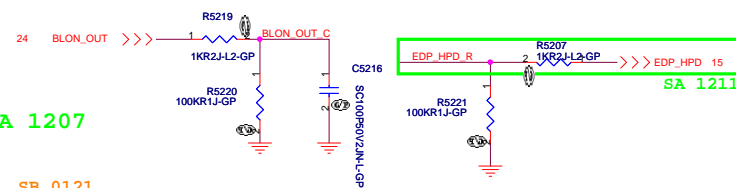
SSID = VIDEO

EDP CONNECTOR

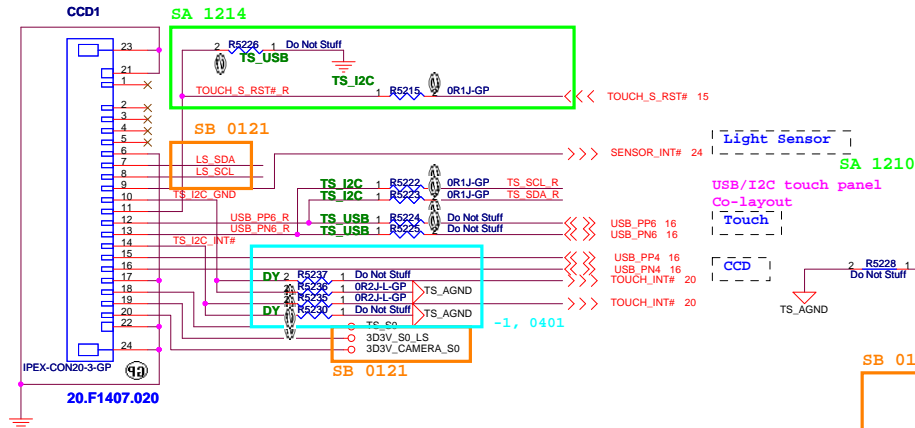
output turn-On Rising Time:1.3ms~2.7ms
current limit:2~3.3A
Previous parts(74.05285.07F)rise time:1.5ms ~5ms
current limit:1.5ms~ 3.5ms



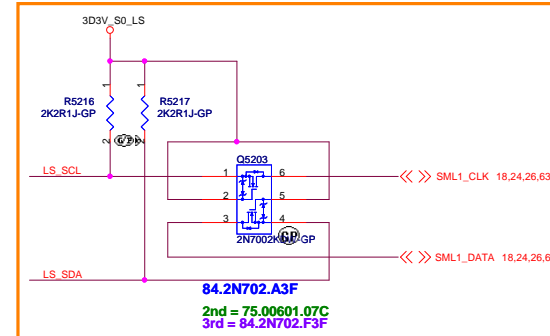
SA 1207



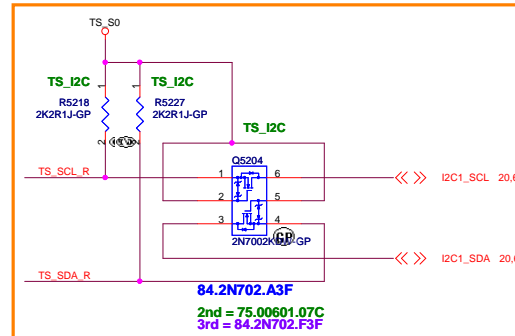
CCD/TS/LS CONNECTOR



SB 0121



SB 0125



Storm / Helium / MA50 /
Petra / MA40 / Husk / MA52

USB interface pin define

Pin Assignment	
1	VBus
2	USB_dm
3	USB_dp
4	GND
5	GND
6	INT

Need to modify cable

Storm2 / Helium2 / Angel

USB / I2C interface pin define

USB		I2C(compatible)	
pin	define	pin	Define
1	VUSB_5V	1	+3.3V touch panel
2	USB_DM	2	SCL
3	USB_DP	3	SDA
4	UA_PA4	4	INT
5	GND	5	RESET
6	GND	6	GND

Need to rework component
Change USB and I2C I/F on PCBs

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Title	LCD/Inverter CONN	Rev	-1
Size	Document Number		
Custom	Storm 2		
Date:	Wednesday, April 05, 2013	Sheet	52 of 102

5

4

3

2

1

D

D

C

C

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B

B

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Storm2

A

A

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Title			Reserved		
Size A4	Document Number Storm 2				Rev -1
Date: Friday, December 28, 2012			Sheet	53	of 102

5

4

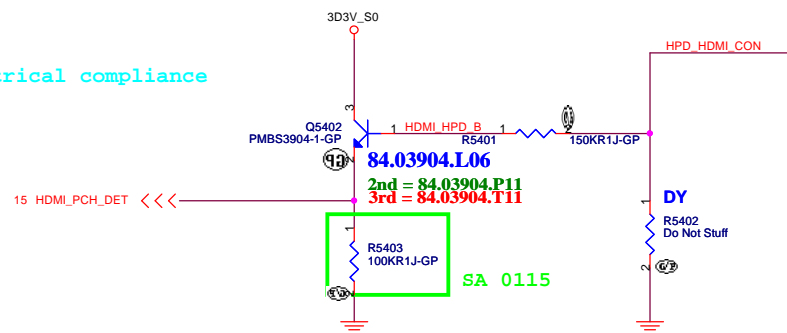
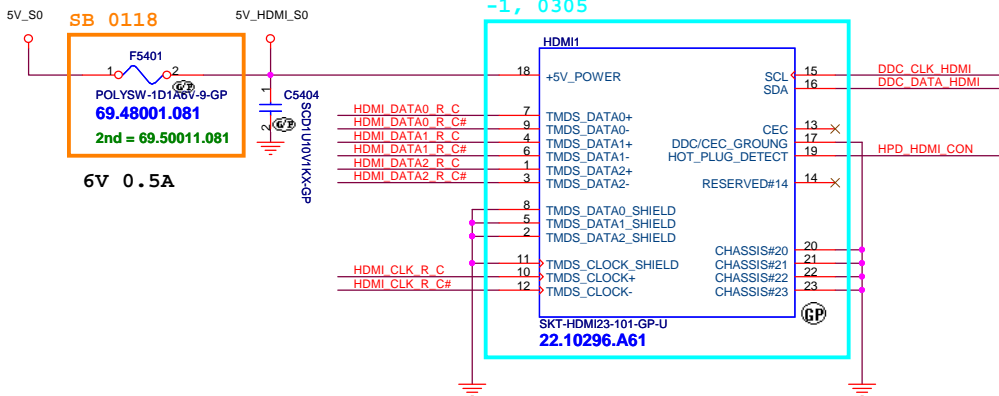
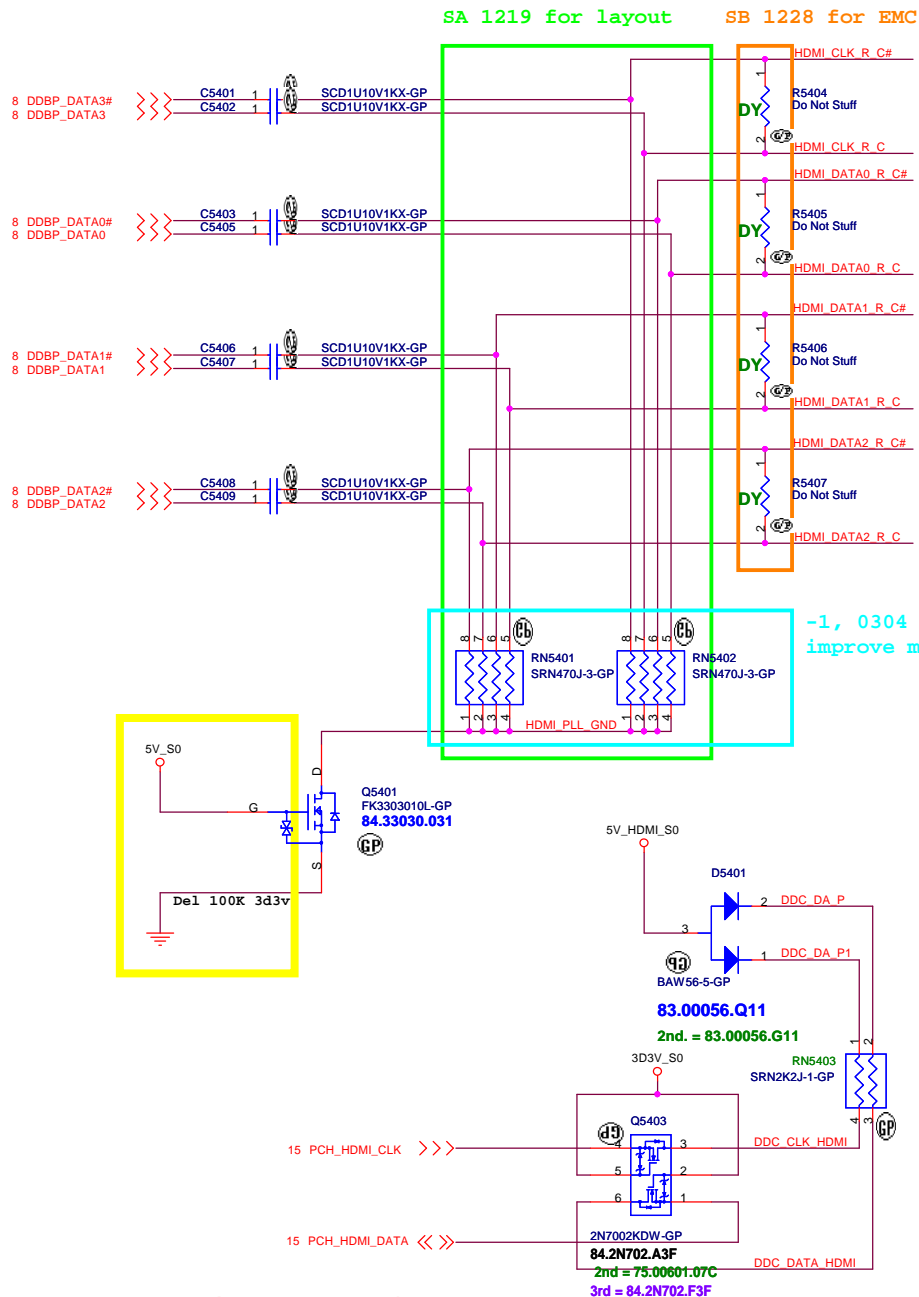
3

2

1

SSID = VIDEO

HDMI CONN.

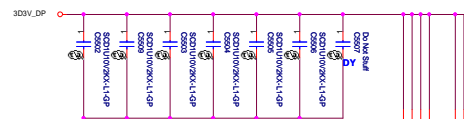


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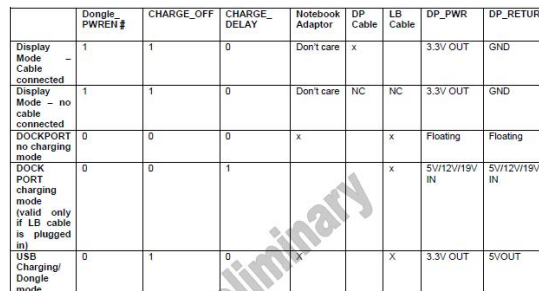
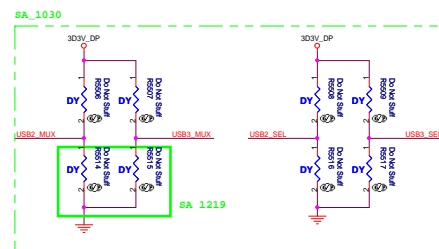
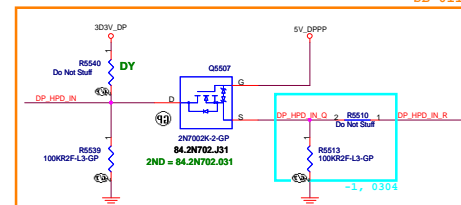
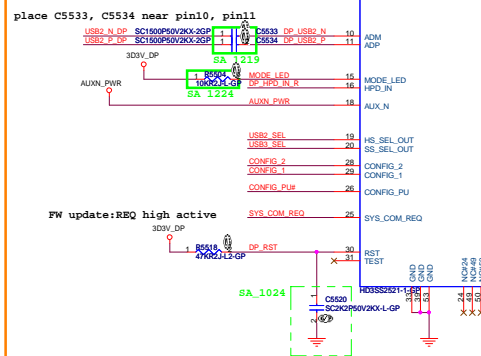
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Title	HDMI Level Shifter/Connector
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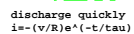
Size A3	Document Number Storm 2	Rev -1
Date:	Tuesday, April 02, 2013	Sheet 54 of 102



Pin 19 connection diagram for the ADXL345. Pin 19 is labeled 'VDDIO' and is connected to a 3.3V supply. The pin is also connected to the 'VDDIO' pin of the ADXL345 chip. The chip pin is labeled 'VDDIO' and is connected to the 'VDDIO' pin of the ADXL345 chip. The chip pin is also connected to the 'VDDIO' pin of the ADXL345 chip.



	Dongle PWREN#	CHARGE_OFF	CHARGE_DELAY	Notebook Adaptor	DP Cable	LB Cable	DP_PWR	DP_RETURN
Display Mode - Cable connected	1	1	0	Don't care	x		3.3V OUT	GND
Display Mode - no cable connected	1	1	0	Don't care	NC	NC	3.3V OUT	GND
DOCKPORT no charging mode	0	0	0	x	x		Floating	Floating
DOCKPORT charging mode (valid only if LB cable is plugged in)	0	0	1			x	5V/12V/19V IN	5V/12V/19V IN
USB Charging/Dongle mode	0	1	0	x		x	3.3V OUT	5VOUT



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Title <div>NGFF_SSD (Reserved)</div>		
Size <div>A4</div>	Document Number <div>Storm 2</div>	Rev <div>-1</div>
Date <div>Friday, December 28, 2012</div>		Sheet <div>56</div> of <div>102</div>

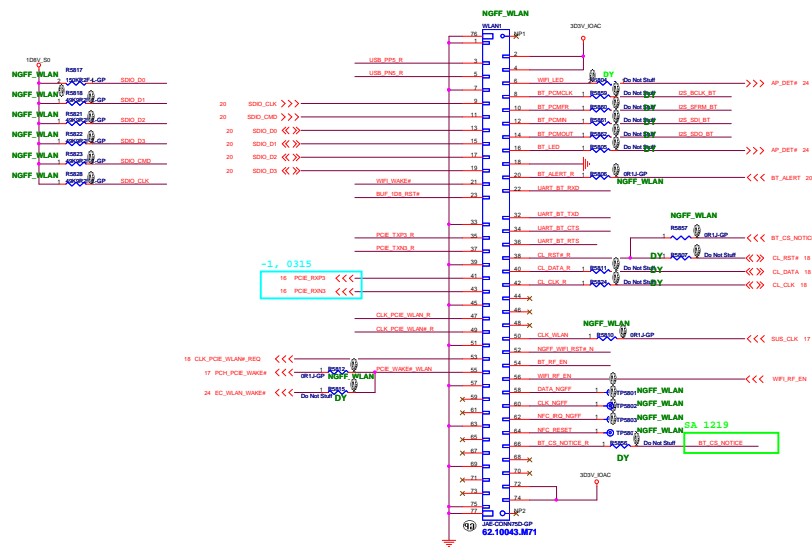
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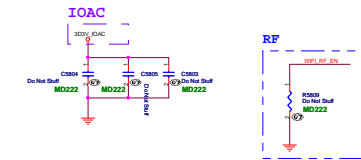
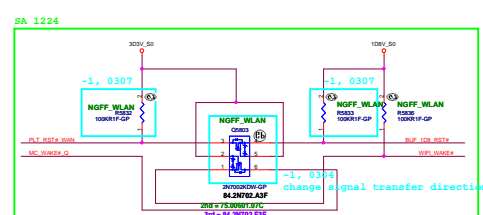
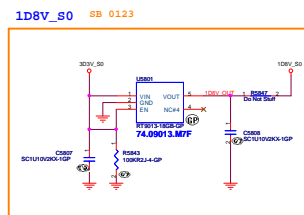
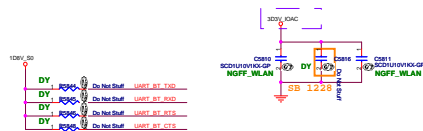
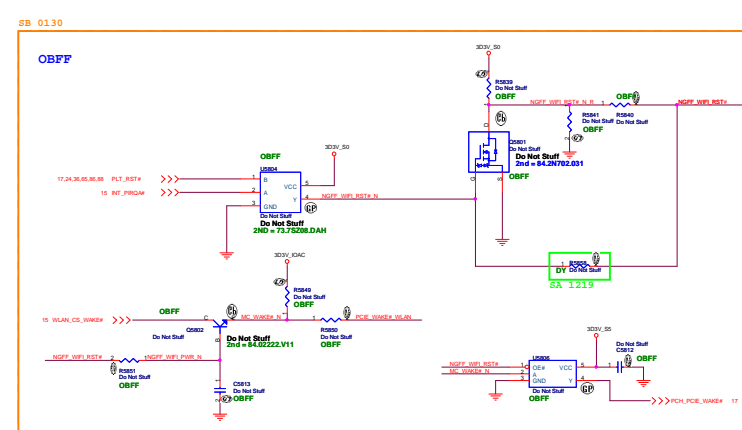
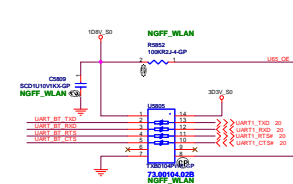
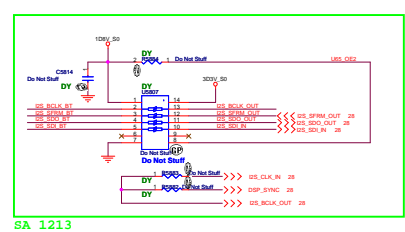
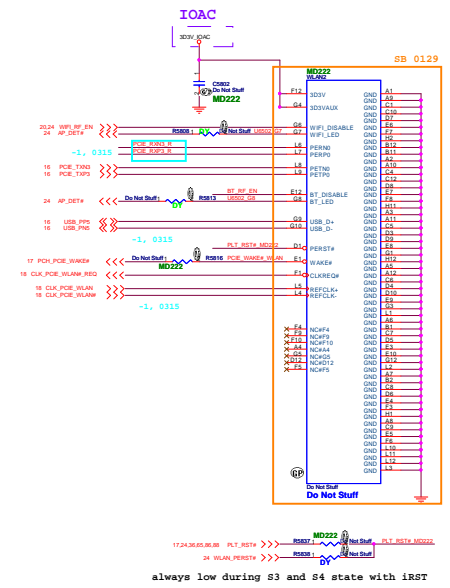
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Title			
Reserved			
Size	Document Number		Rev
A4	Storm 2		-1
Date: Friday, December 28, 2012		Sheet	57 of 102

SSID = Wireless



```
SSID = Wireless
```

Mini Card Connector(802.11a/b/g/n)

[illegible]

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File			WLAN_NGFF & MD222		
Size	Document Number				Ver
A1	Storm 2				-1

SSID = Wireless

NGFF Conn(WWAN) Reserved

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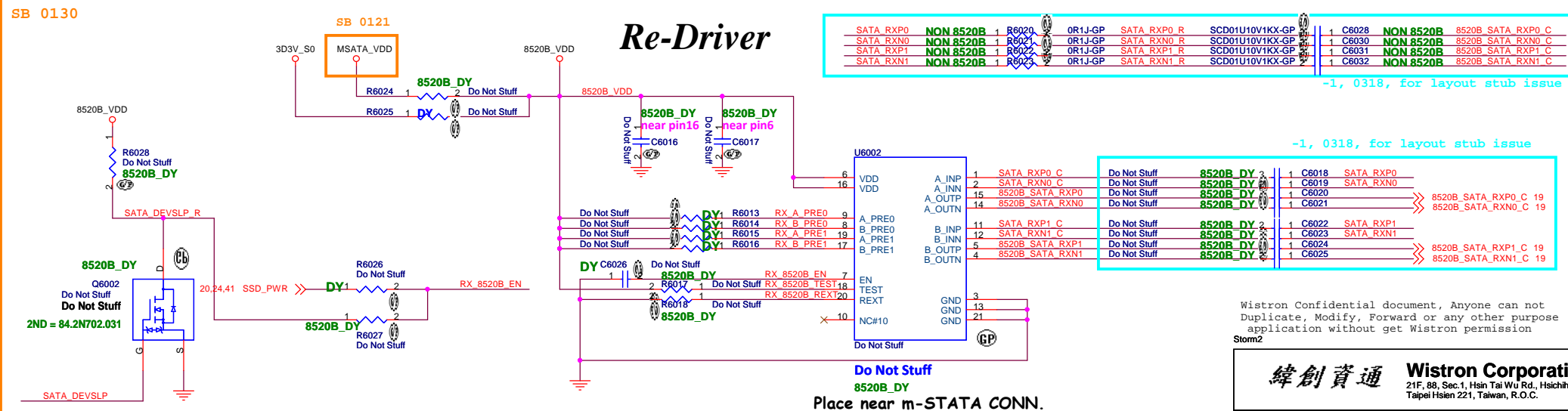
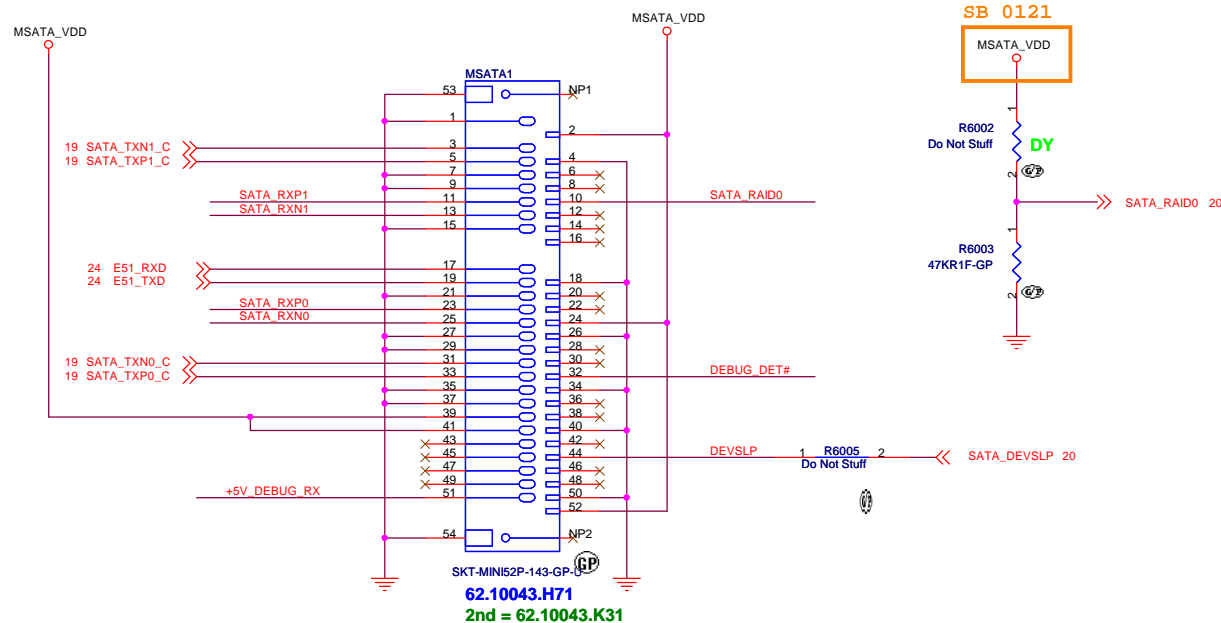
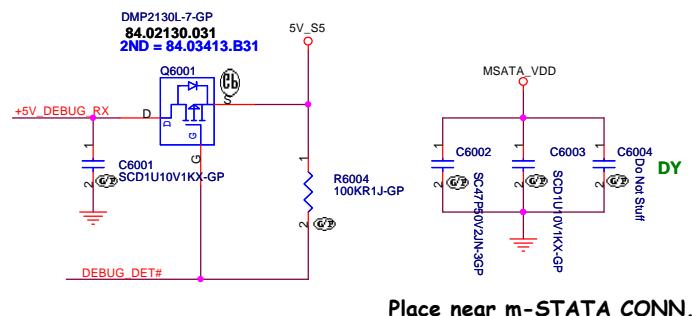
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Title reserved			
Size A4	Document Number Storm 2		Rev -1
Date: Friday, December 28, 2012		Sheet 59 of	102

SSID = mSATA

Mini Card Connector(mSATA)



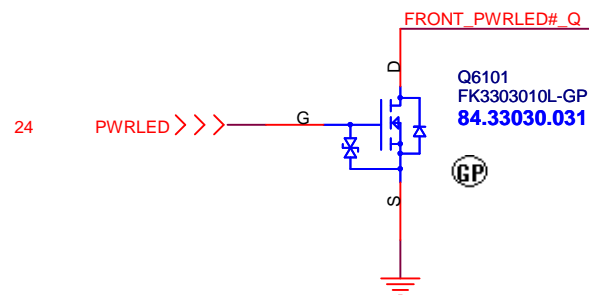
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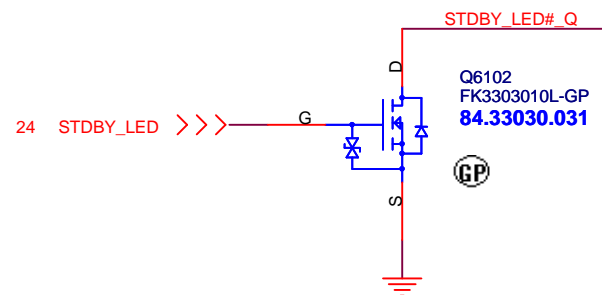
Title			
mSATA Connector			
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SSID = User.Interface

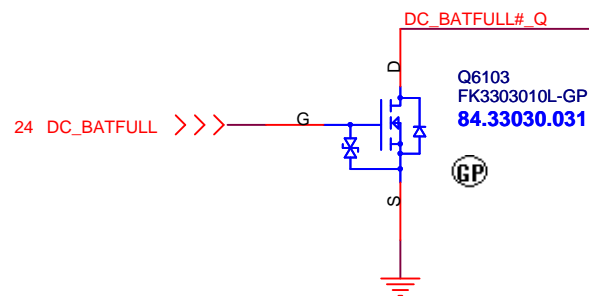
Power button LED



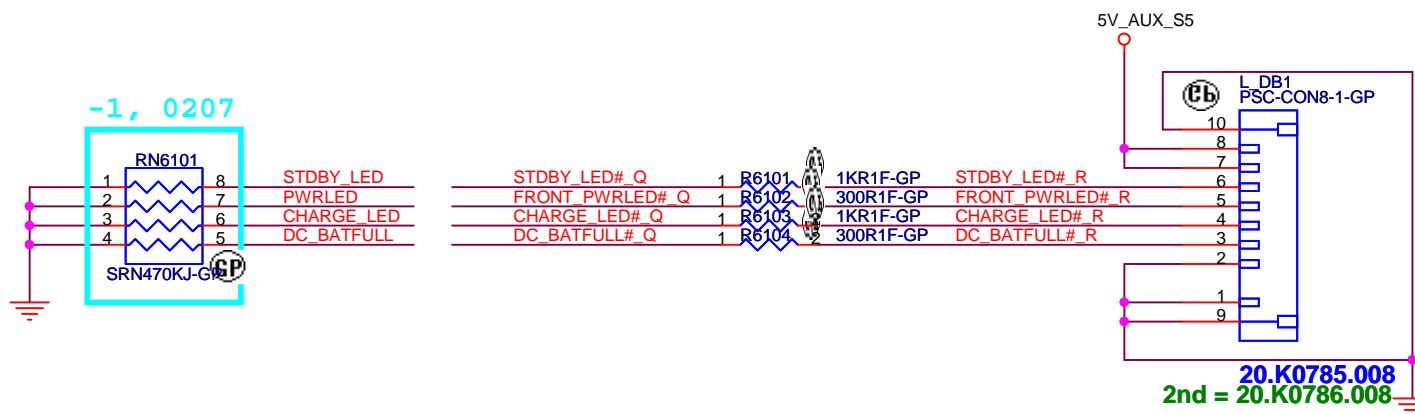
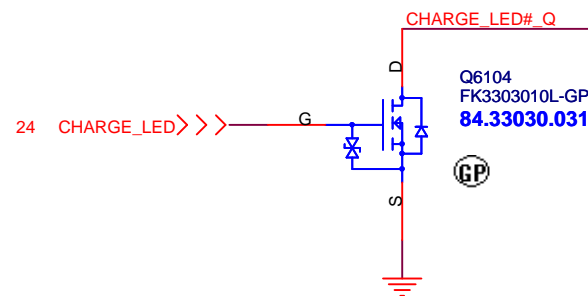
Power STDBY_LED



Battery LED2(DC_BATFULL)



Battery LED1(CHARGE)



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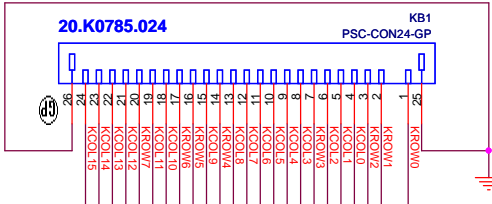
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Title			LED Board/Power Button	
Size	Document Number		Rev	
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Pin Assignment and Description			
Pin#	Signal	I/O	Description
1	VCC	VCC	VCC, 3.3V +/-5%. Power ripple: 100 mVpp max. Power sequence: See section 4.6.
2	NC		Not connected
3	NC		Not connected
4	GND	GND	Ground
5	I ² C_SDA	I/O	I ² C data. I _{Drive} or I _{Sink} : 8 mA max.
6	I ² C_SCL	I/O	I ² C clock I _{Drive} or I _{Sink} : 8 mA max.
7	/INT	O	Reserved for SMBUS application. Indicates touchpad likes to send data to system (host). Low active.
8	/Button		Low active, pulled to VCC through a 200K Ω resistor inside touchpad when touchpad is powered. Suggest pulled to VCC through a suitable resistor in system side when touchpad is powered off. Low when button is pressed.

Internal KeyBoard Connector

2nd = 20.K0786.024

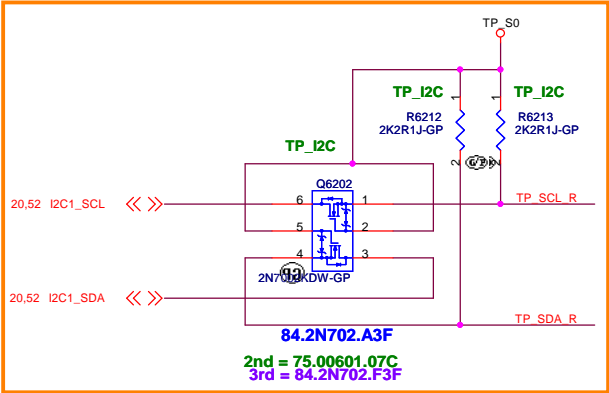
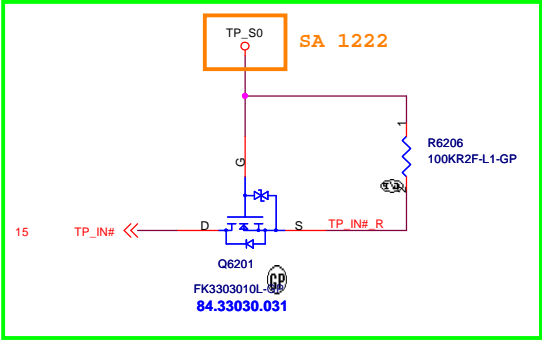


R01	R02	R03	R04	R05	R06	R07	R08	R09	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
VIEW FROM TOP SIDE																									
PIN NUMBER																									

Pin number	Pin Define
1	VDD(3.3V)
2	PCClk
3	PCDt
4	DGND
5	NC*(SDA)
6	NC*(SCL)
7	NC*(/INT)
8	NC

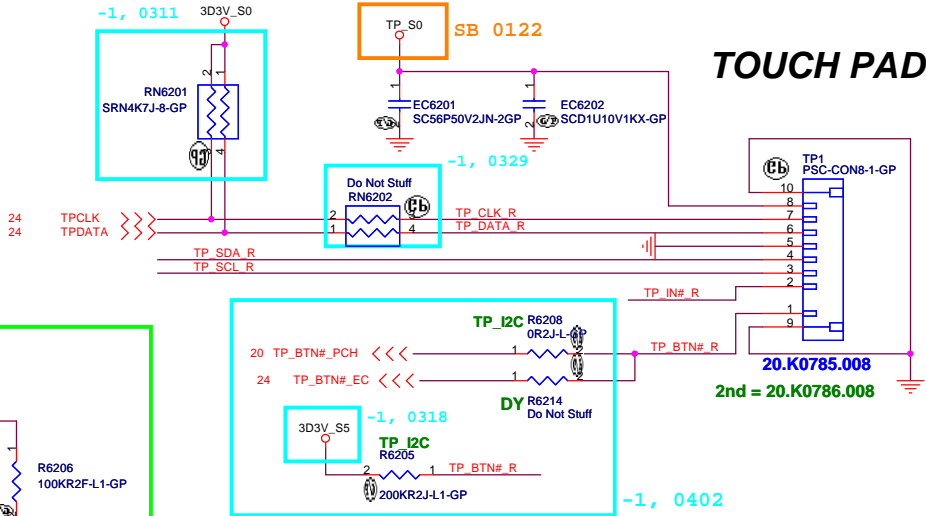
Note: Reserve for SMBus

SA 1218



0.5 pitch

20	131			6	8	10	12	132				27	121	75	122	110
17	14			5	7	9	11	13				26	120	76	123	1
16	18			20	21	23	25	28				41	15		119	116
14	32			19	36	22	24	43				40	4	85	17	16
7	31			34	35	37	39	42	57			55	3	86	115	112
3	46			33	49	51	38		44	64		54	83	89	114	113
2			62-1	47	48	50	53	56				124	84	2	30	
1	59	127	60	45	61	29	52	129-1		58		133	126	79	118	117
	4	5	6	8	9	10	11	12	13	15	18	19	21	22	23	24



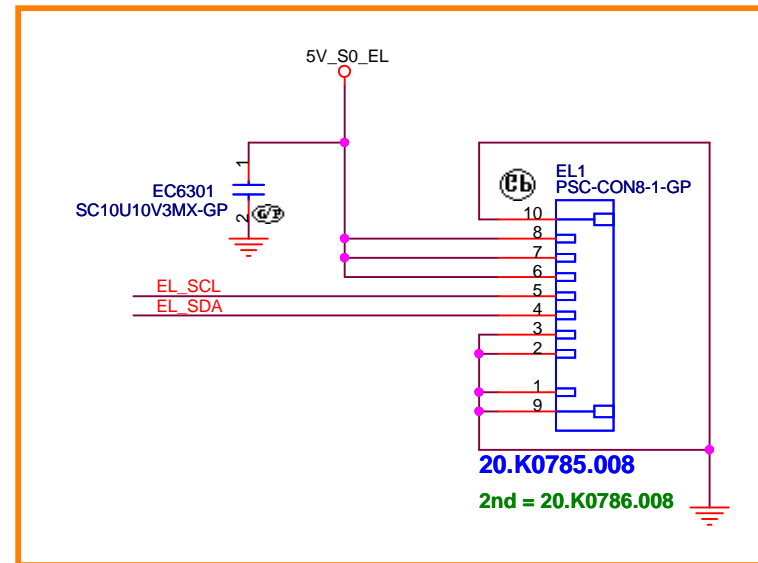
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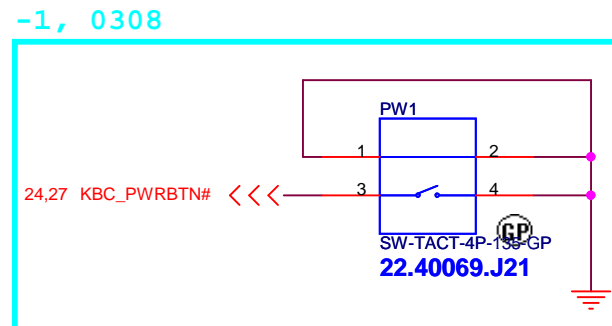
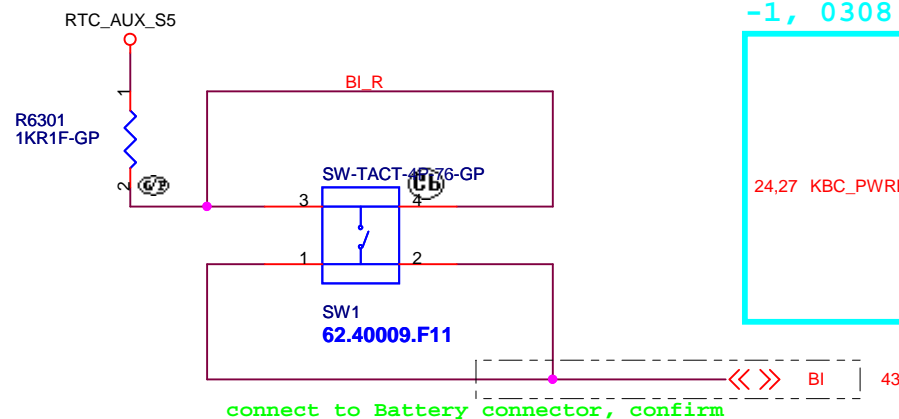
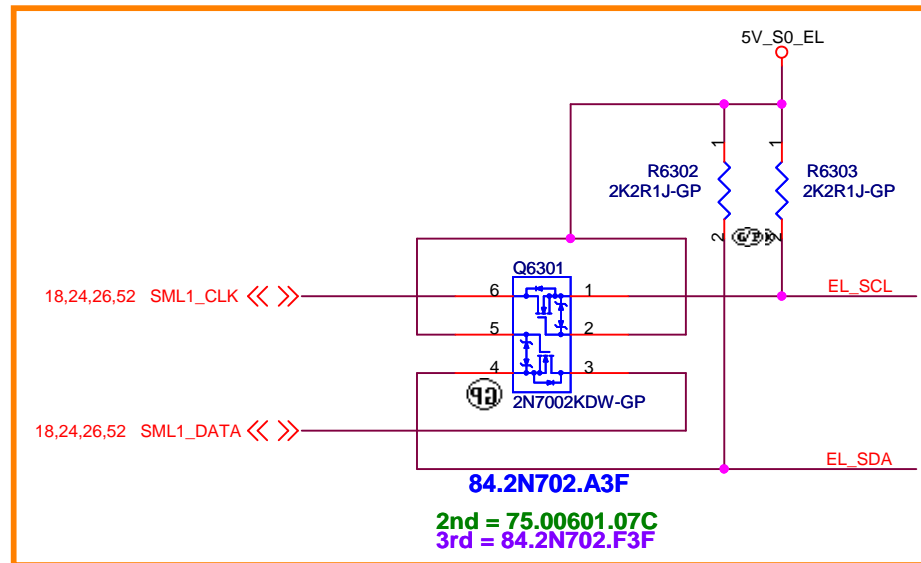
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Key Board/Touch Pad		
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SB 1228



SB 0121



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Title

IO Board Connector

Size
A4

Document Number

Storm 2

Rev	-1
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Date: Tuesday, April 02, 2013

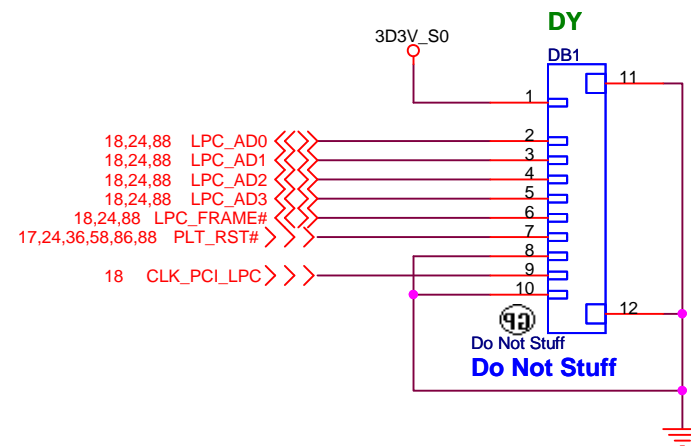
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Title <div>Hall Sensor (Reserved)</div>		
Size <div>A4</div>	Document Number <div>Storm 2</div>	Rev <div>-1</div>
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Title

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Size
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Title **Sensor Hub**

Size A4	Document Number Storm 2	Rev -1
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G Sensor (Reserved)			
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Thunderbolt 1/5 (Reserved)					
Size	Document Number				Rev
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Title <div>Thunderbolt 2/5 (Reserved)</div>		
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Thunderbolt 3/5 (Reserved)					
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GPU PEG (Reserved)		
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Title <div>VRAM 3,4 (Reserved)</div>		
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Title VRAM 5,6 (Reserved)

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VGA CORE (Reserved)

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Title		
Switchable CRT (Reserved)		
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Do Not Stuff



Do Not Stuff



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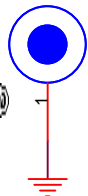


-1, 0306

SB 0118

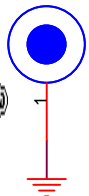
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HS1
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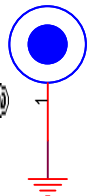
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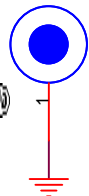
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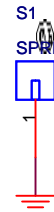


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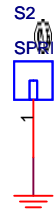
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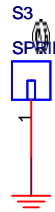
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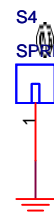
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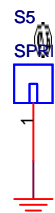
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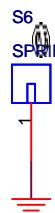
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34.4PT16.001

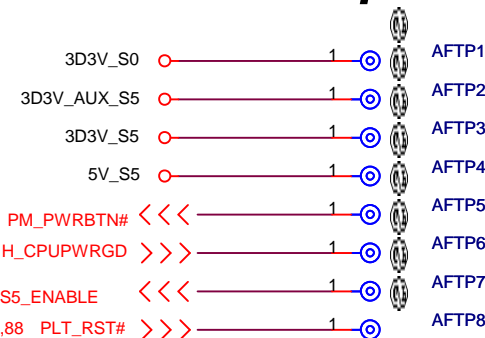


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SB 0123

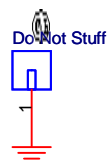
Check test point



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GNDPADS213X99-NP

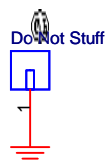
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H7



Do Not Stuff

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H8



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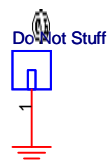
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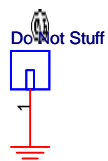
H10



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GNDPADS213X99-NP

H11



Do Not Stuff

GNDPADS213X99-NP

H12



Do Not Stuff

GNDPADS213X99-NP

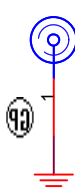
H13



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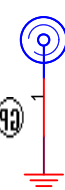
H14



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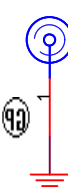
H15



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Do Not Stuff

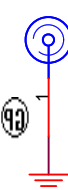
H16



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Do Not Stuff

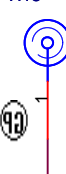
H17



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Do Not Stuff

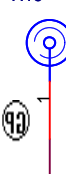
H18



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H19



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Title
UNUSED PARTS/EMI Capacitors

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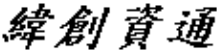
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NFC Connector			
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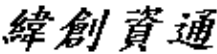
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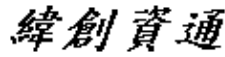
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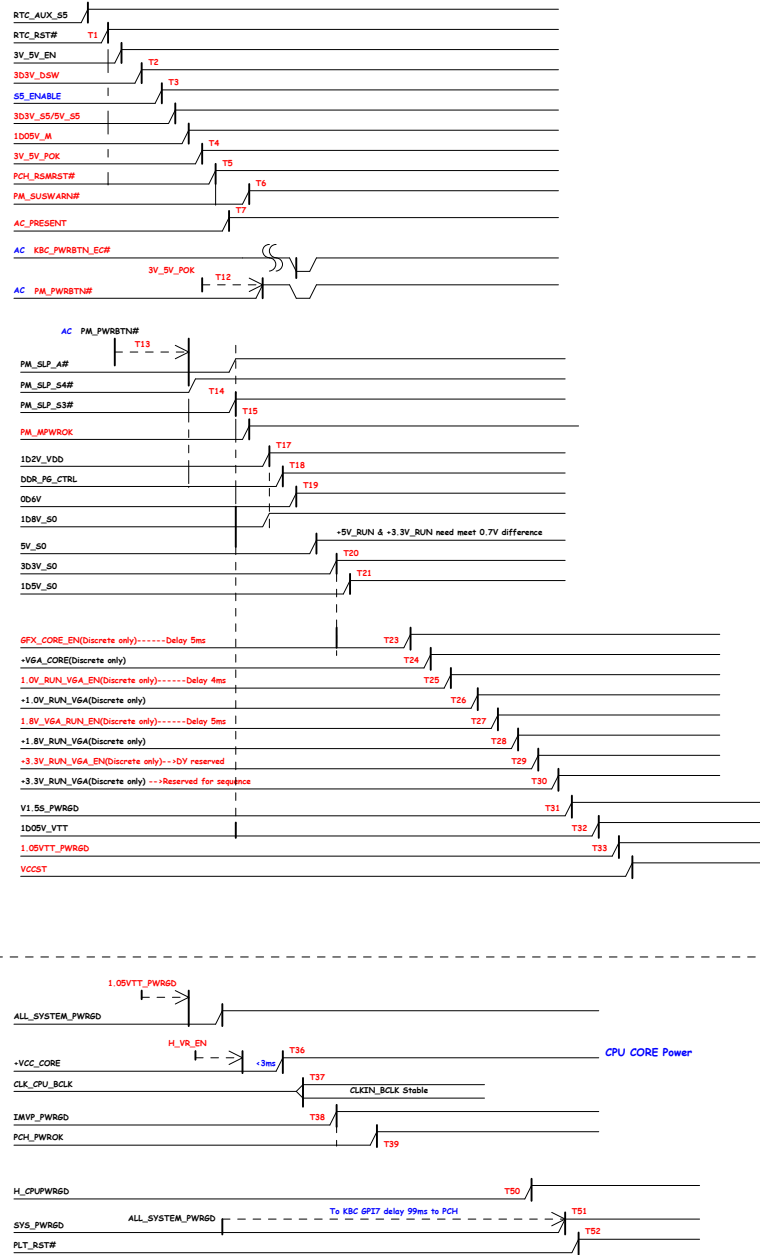
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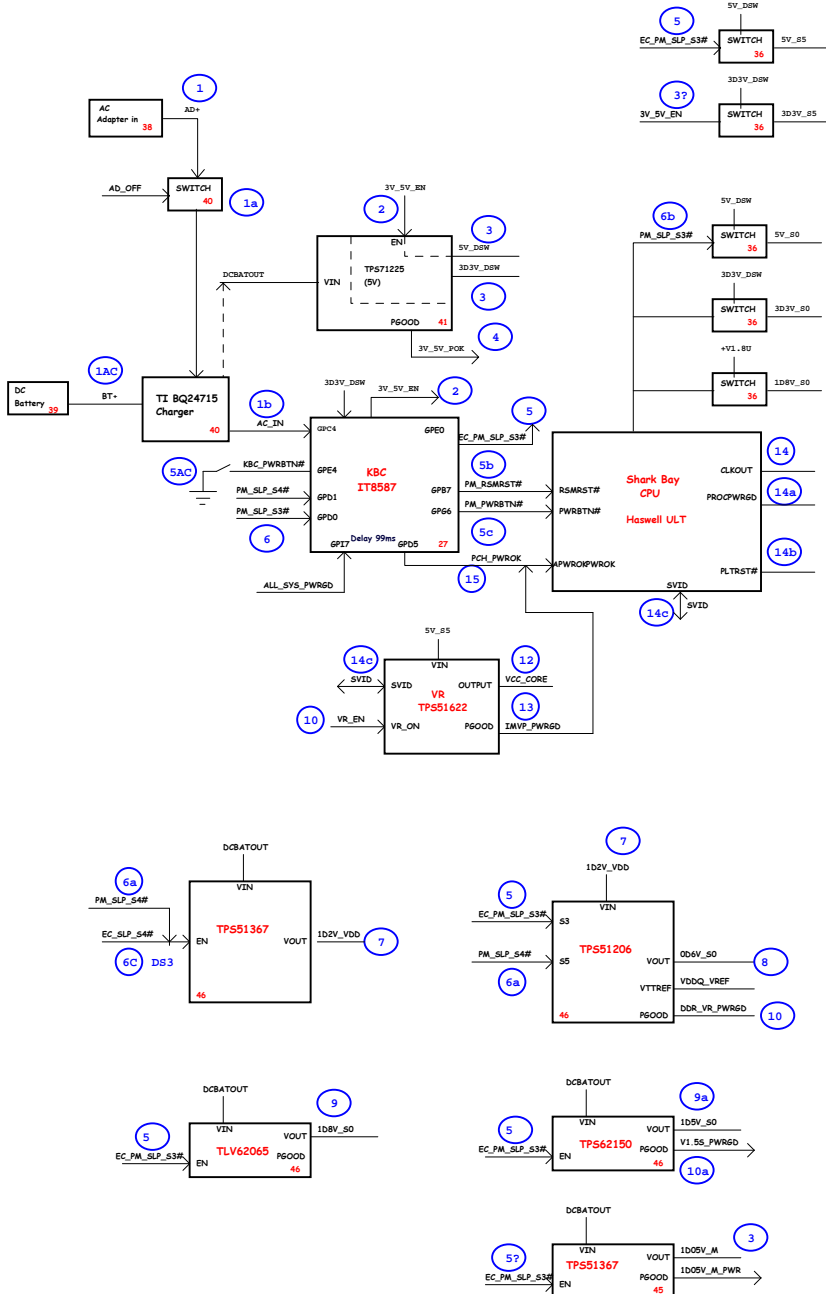
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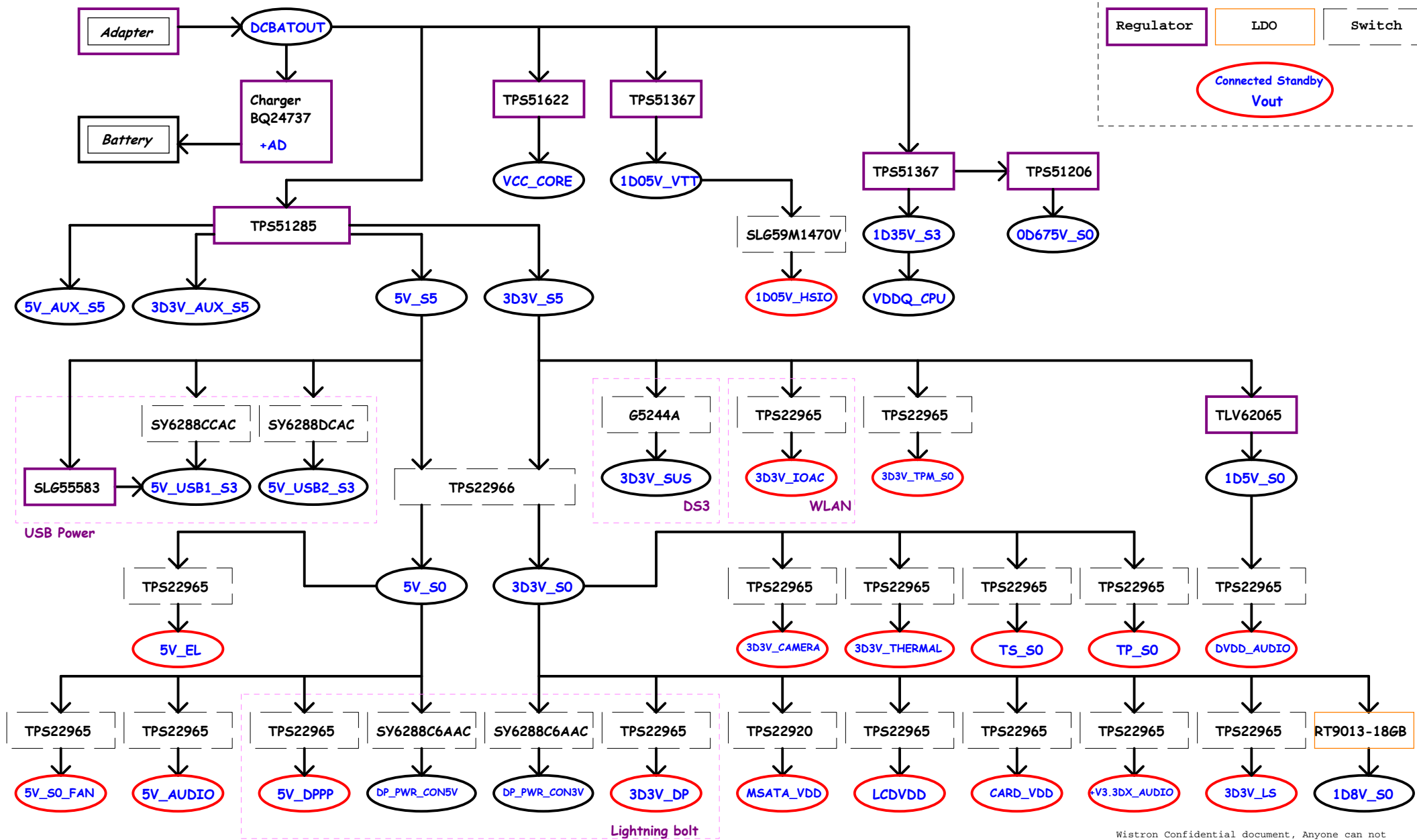
Intel-Power Up Sequence

(AC mode)



SHARK BAY POWER UP SEQUENCE DIAGRAM



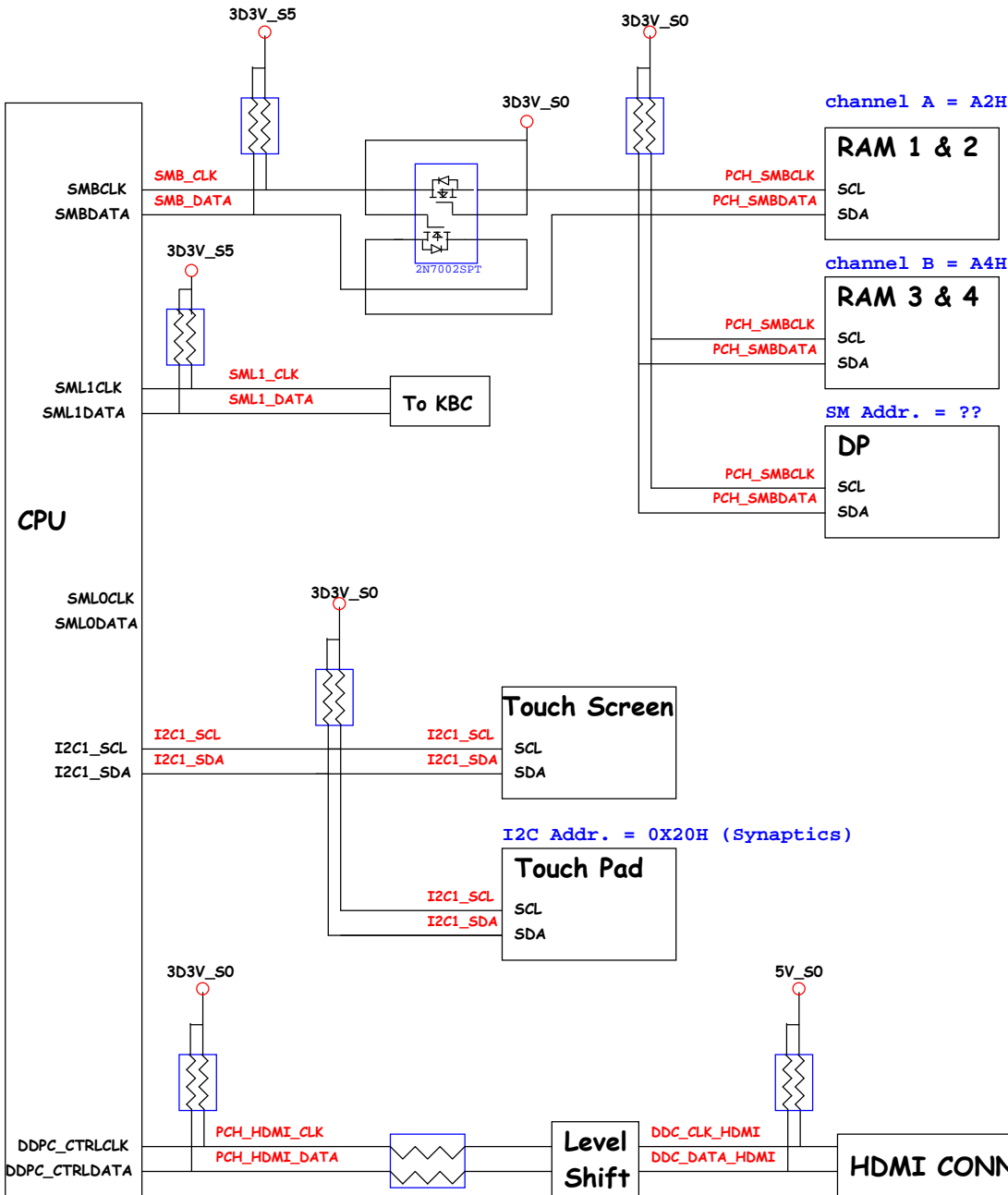


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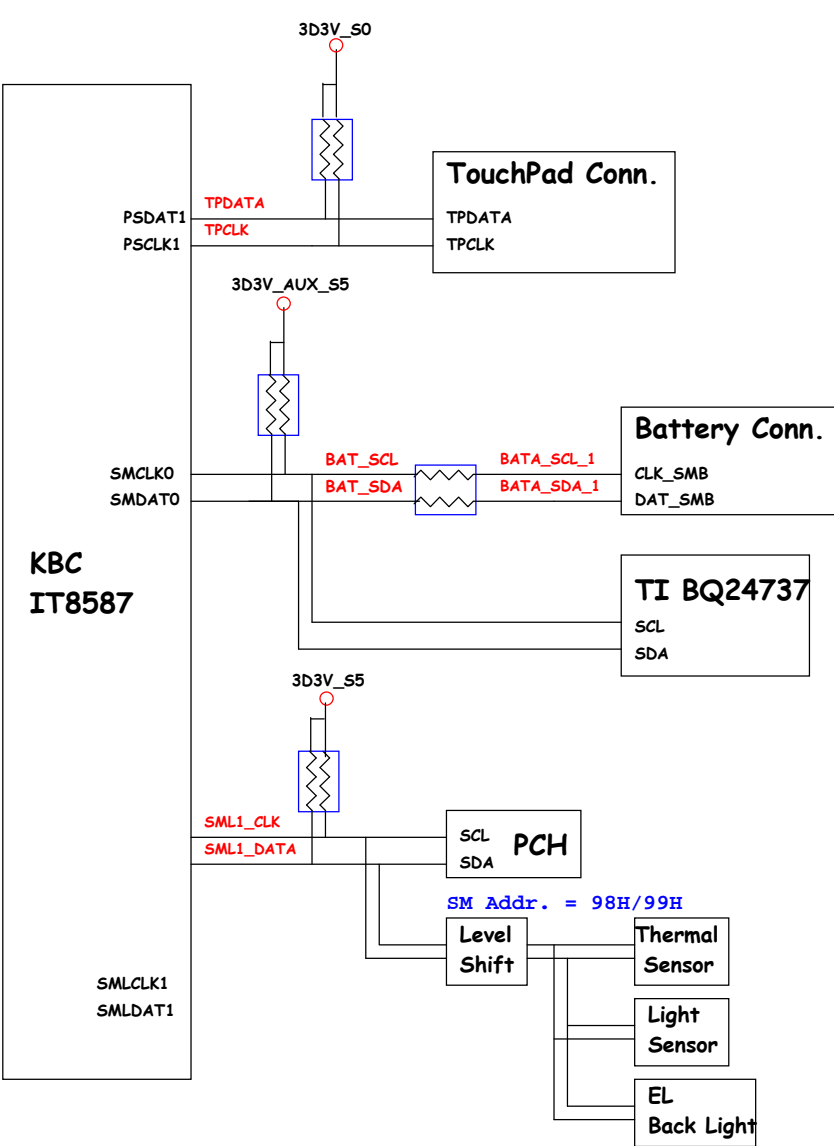
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CPU SMBus Block Diagram



KBC SMBus Block Diagram



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The diagram illustrates the audio system architecture with the following components and connections:

- Codec (ALC3225):**
 - Outputs: SPK-OUT-L-, SPK-OUT-L+, SPK-OUT-R-, SPK-OUT-R+ to **SPEAKER**.
 - Inputs: HP_OUT_L_AUD, HP_OUT_R_AUD, MIC2-L_PORT-F-L, MIC2-R_PORT-F-R, SENSE_A from **COMBO Jack**.
 - Outputs: DMIC-CLK, DMIC-DATA to **DMIC**.
- COMBO Jack:**
 - Outputs: HP_OUT_L_AUD, HP_OUT_R_AUD, MIC2-L_PORT-F-L, MIC2-R_PORT-F-R, SENSE_A to the **Codec**.
- DMIC:**
 - Outputs: DMIC-CLK, DMIC-DATA to the **Codec**.
- Audio DSP (ALC5505):**
 - Inputs: SDATA_OUT, BITCLK, SDATA_IN, SYNC, RESETB from the **CPU**.
 - Outputs: SDATA_OUT_V, BITCLK_V, SDATA_IN_V, SYNC_V, RESETB_V to the **CPU**.
- CPU:**
 - Outputs: SDATA_OUT, BITCLK, SDATA_IN, SYNC, RESETB to the **Audio DSP**.
 - Outputs: Audio to the **COMBO Jack**.

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Title	<i>Thermal/Audio Block Diagram</i>
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