



# H81H3-MV

Rev :1.0

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Rev	Date	Notes
VA	2013 1224	Initial version

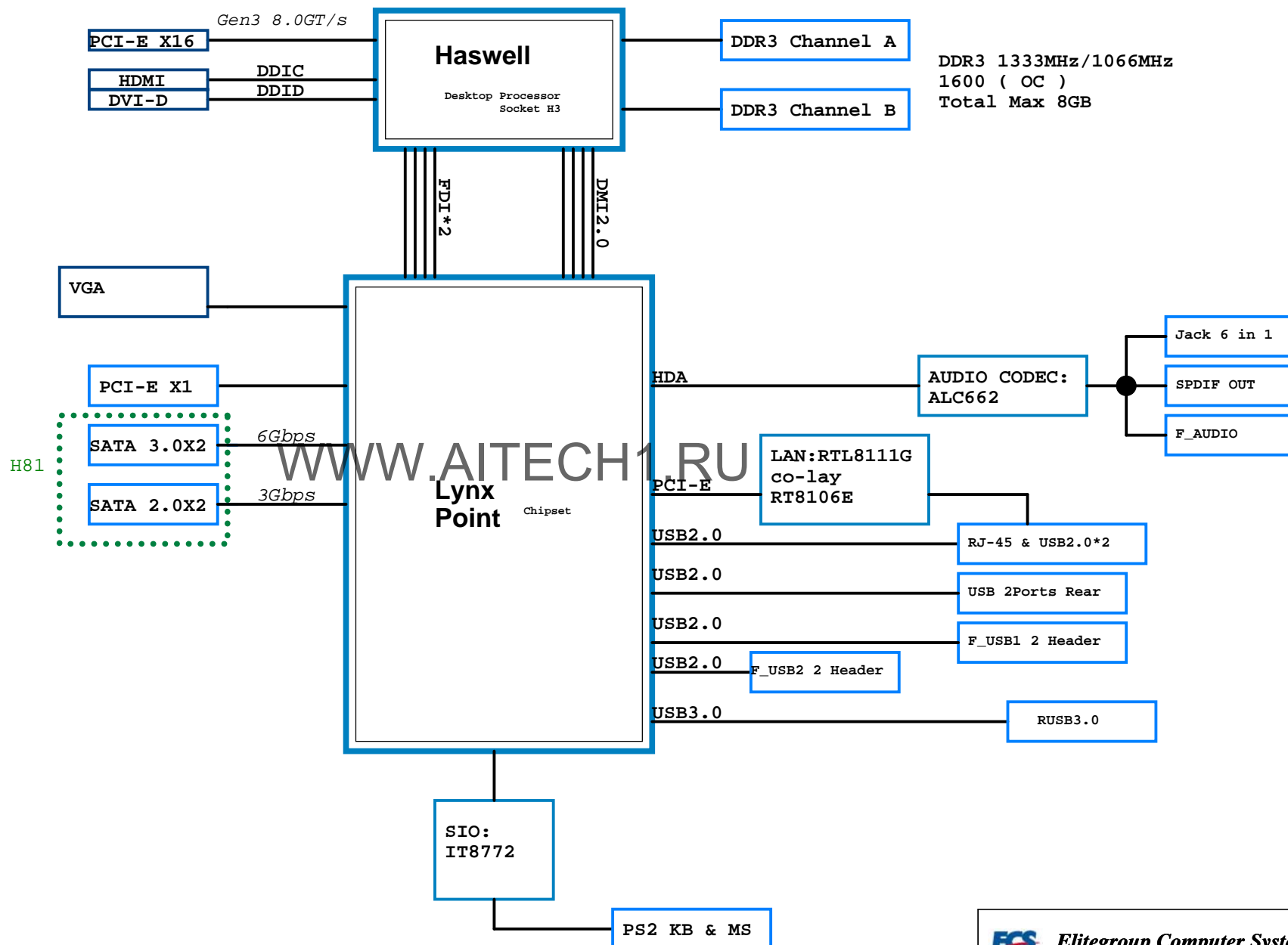
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- NOTE:**
1. Model Code:
  2. Modified from H81H3-M7 V:1.0

**ECS**  
**CONFIDENTIAL**

		<b>Elitegroup Computer Systems</b>	
Title			
<b>Cover Page</b>			
Size	Document Number	Rev	
Custom	<b>H81H3-MV</b>	1.0	
Date: Monday, March 03, 2014		Sheet	1 of 32

PCB size:225X170



### PCH-GPIO function

Pin Name	Power Well	Usage	Default Status
GPIO0	VCC3	case open(reserve)	GPI
GPIO13	3VSB	LPC_PME	GPI
GPIO24	3VSB	USB_5VDUAL control	GPO
GPIO72	3VSB	USB_5VDUAL control (reserve)	Native
GPIO45	3VSB	BIOS WP	Native
GPIO57	3VSB	BIOS WP	GPI
GPIO46	3VSB	WLAN_DIS_L	Native
GPIO61	3VSB	LPCPD_L	Native
GPIO27	ATX_3VSB	LAN_WAKE_L	GPI
GPIO1	VCC3	OBR	GPI
GPIO68	VCC3	TP_VGA	GPI

### SIO-GPIO function


Pin Name	Power Well	Usage	Default Status
GP16	VCC3	Beep(reserve)	GPIO
GP33	ATX_3VSB	SUSACK#	GPIO
GP34	ATX_3VSB	SUSWARN#	GPIO
GP55	ATX_3VSB	DPWROK	RSMRST#
GP41	3VSB	RSMRST#	PWROK2
GP63	3VSB	3VSB SW_MINI	GPIO
GP35	3VSB	LED0	GPIO
GP37	3VSB	LED1	GPIO
GP72	VCC3	BOM detect	GPIO
GP73	VCC3	BOM detect	GPIO
GP74	VCC3	BOM detect	GPIO
GP75	VCC3	BOM detect	GPIO
GP76	VCC3	BOM detect	GPIO

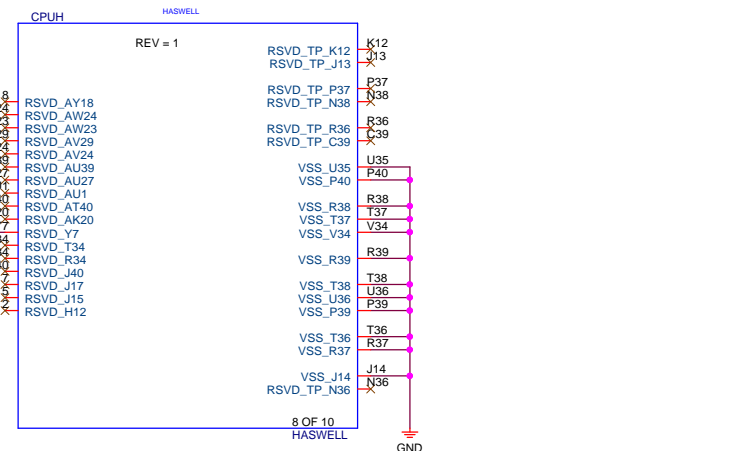
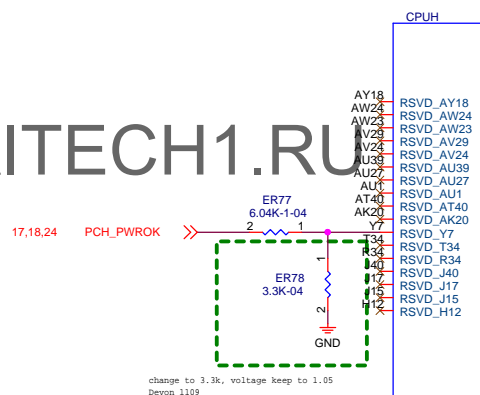
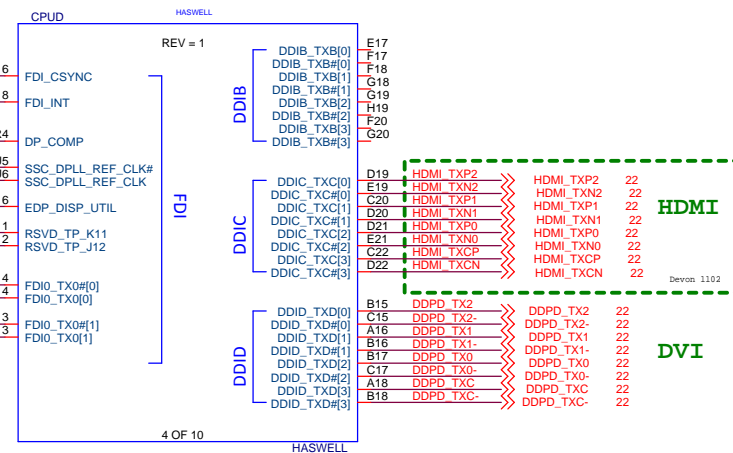
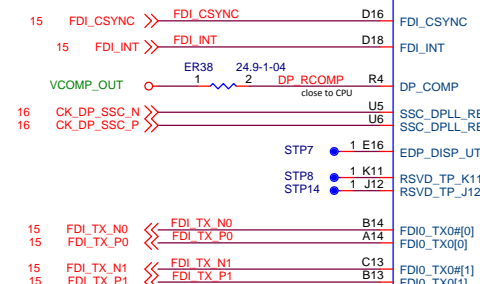
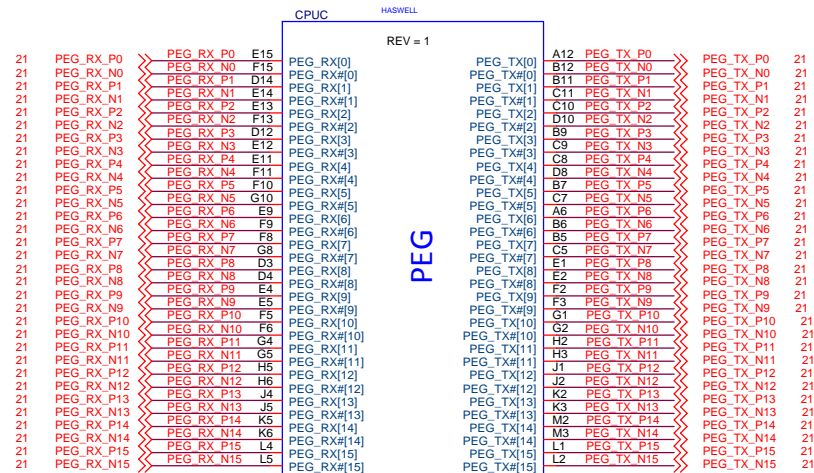
Update 20130520 Amos

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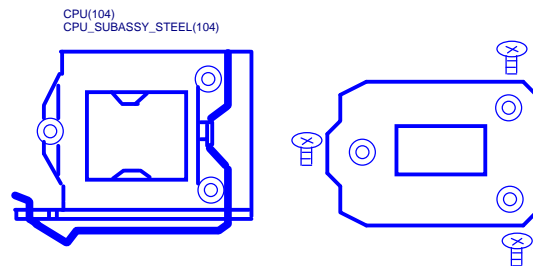
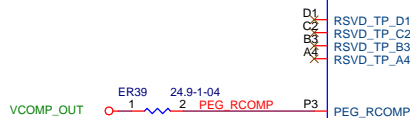
Function	INT# port	PCle*1 port	Device
LAN	INTC#	port 7	RTL8111G or RTL8106E
PCIEX1	INTD#	port 6	LPT integrate
PCIEX1	INTA#/B#	port 8	LPT integrate
SATA	INTB#	NA	LPT integrate

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 <b>Elitegroup Computer Systems</b>			
Title: <b>GPIO Function &amp; INT# Mapping</b>			
Size: Custom	Document Number: <b>H81H3-MV</b>		Rev: 1.0
Date: Monday, March 03, 2014	Sheet: 3	of 32	



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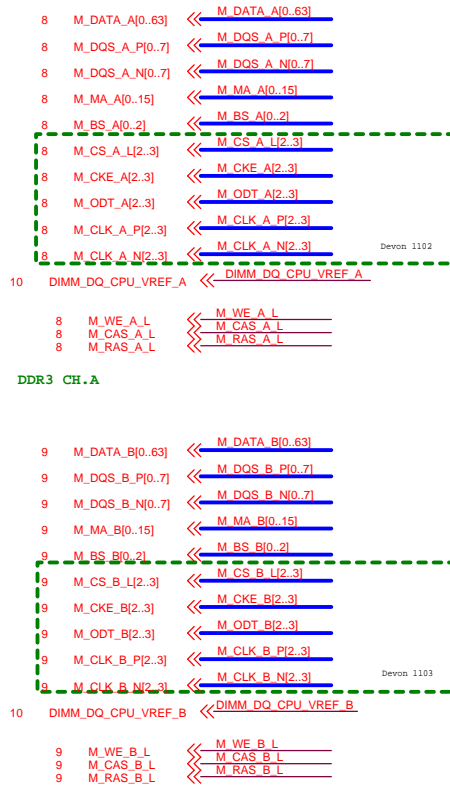


CPU steel (T/U phase)  
 PN:20-800-005711 CPU SOCKET STEEL SUBASSY.STEEL...LGA 1155/1156P.W/BACK PLATE,CAP.LOTES

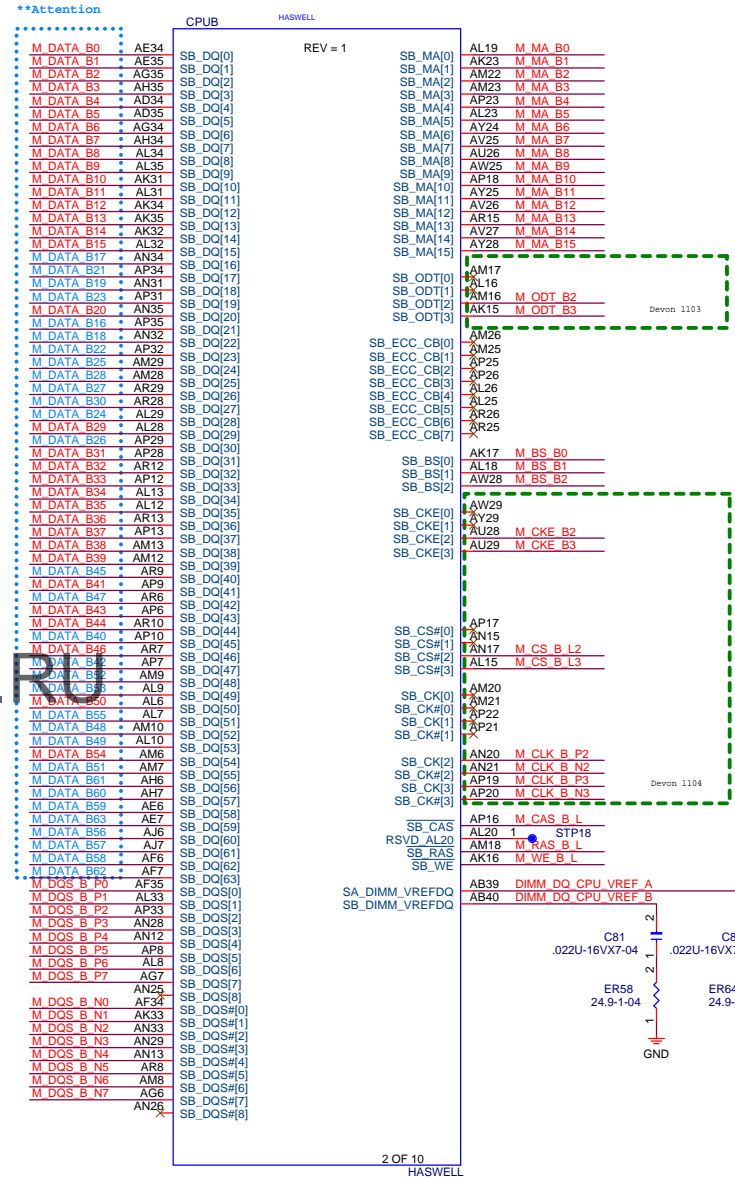
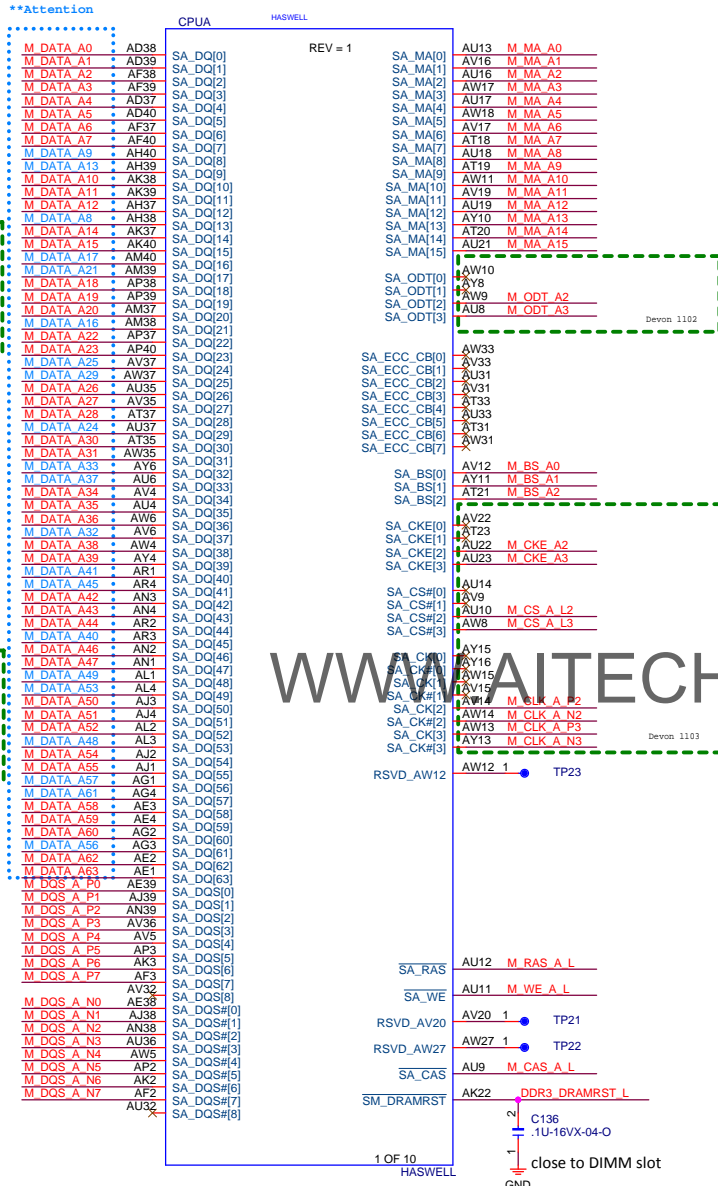
CPU socket (SMD phase)  
 PN:11-018-115128 SOCKET.CPU..LGA 1150P SMD..15u...BLACK.ACA-ZIF-138-P01...HF.LEAD-FREE.LOTES



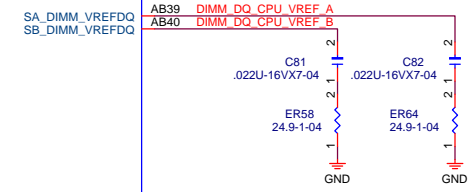
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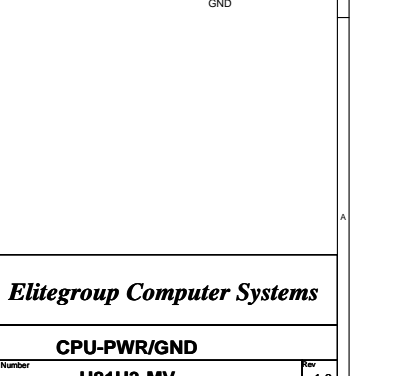
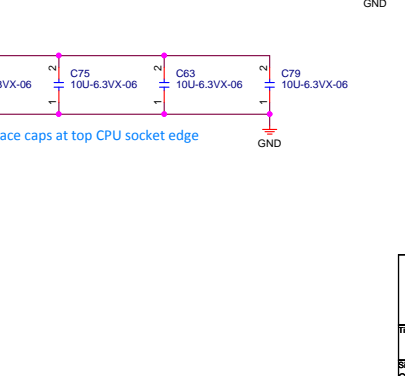
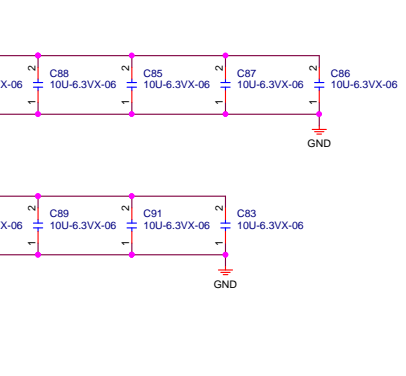
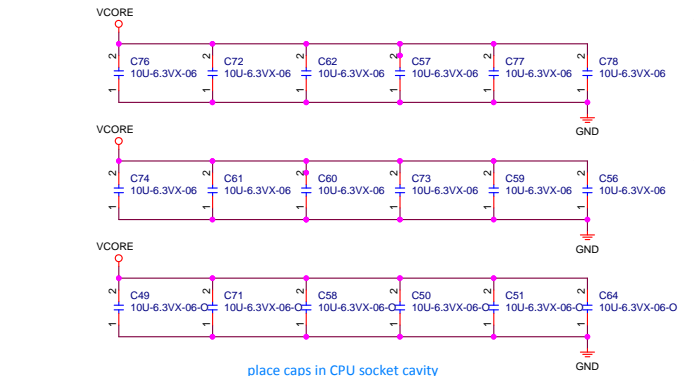
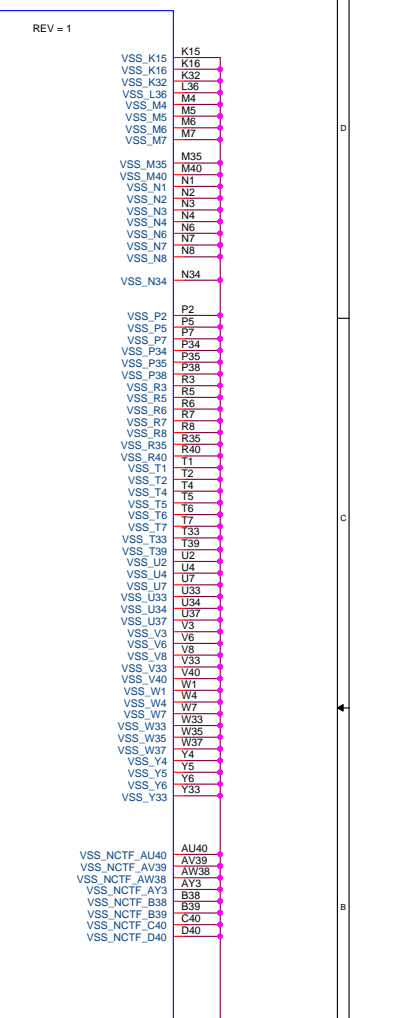
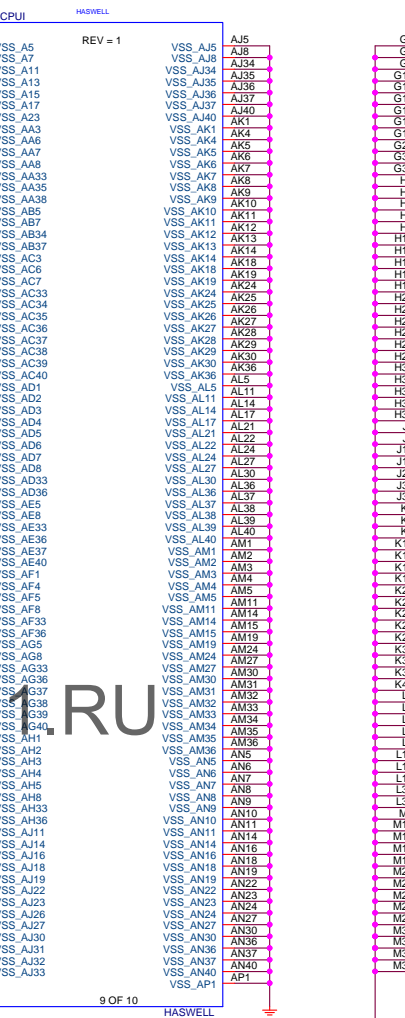
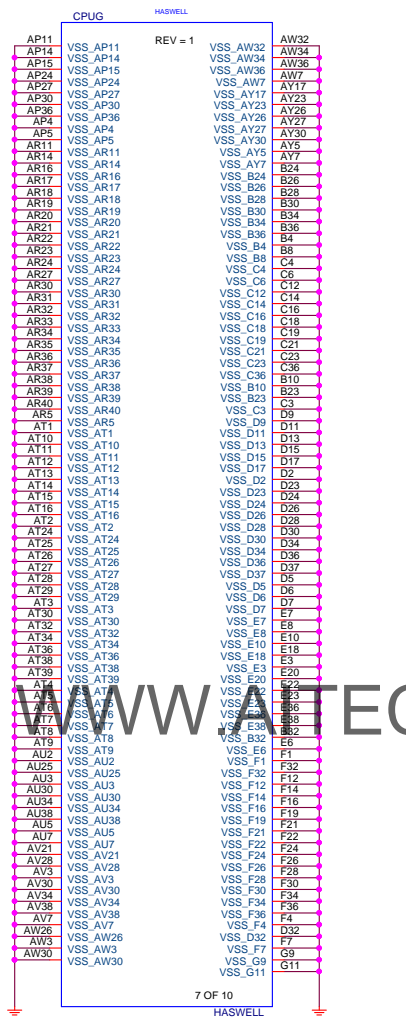
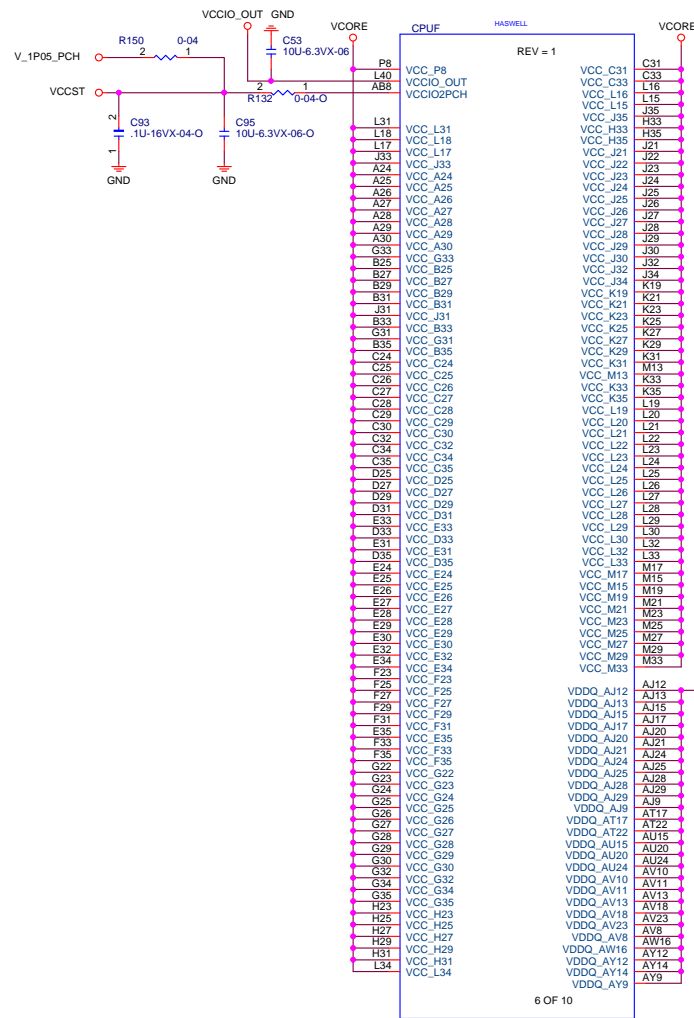


```
NC_M_ODT_A[0..1],M_CKE_A[0..1],M_CS_A_L[0..1],M_CLK_A_P[0..1],M_CLK_A_N[0..1]
Devon 20121016
```



```
NC_M_ODT_B[0..1],M_CKE_B[0..1],M_CS_B_L[0..1],M_CLK_B_P[0..1],M_CLK_B_N[0..1]
Devon 20121016
```

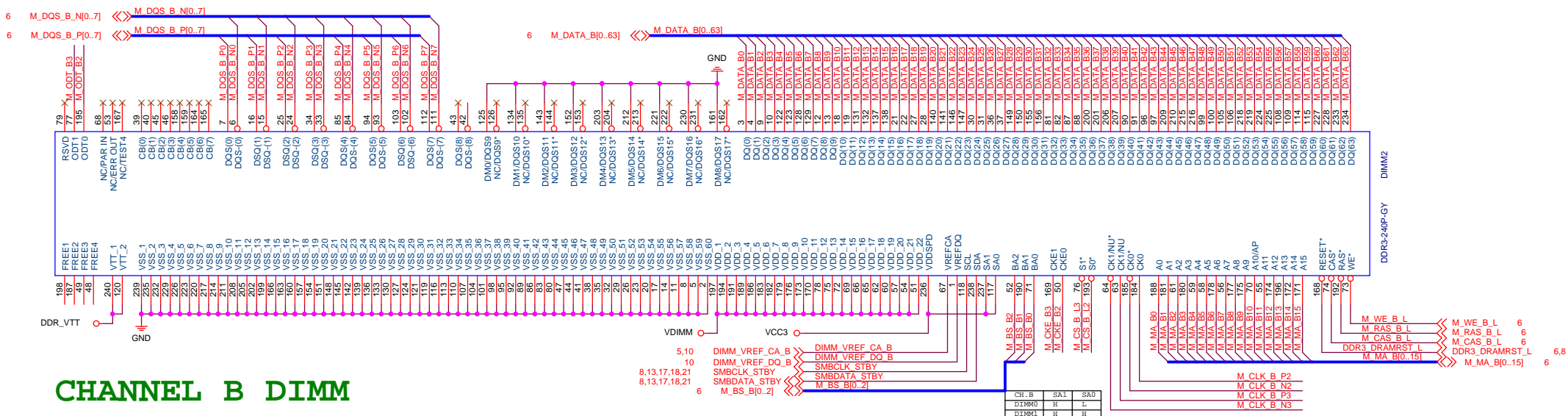




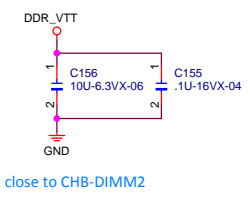
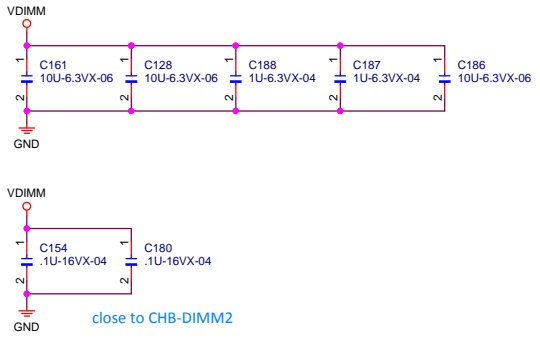
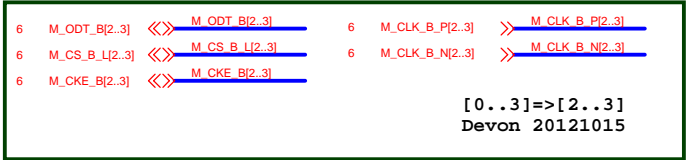




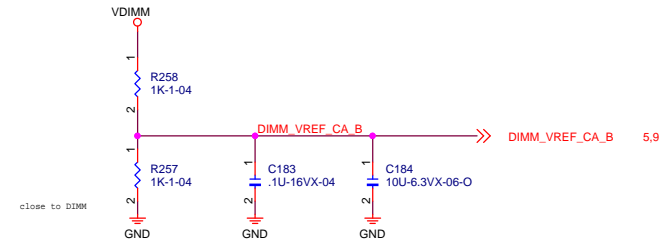
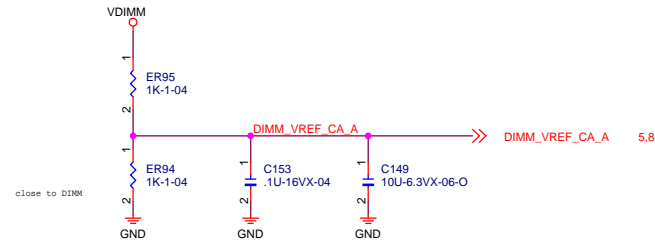




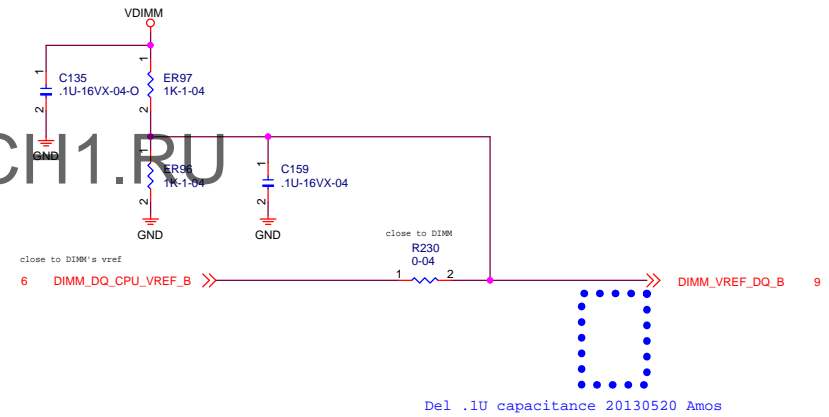
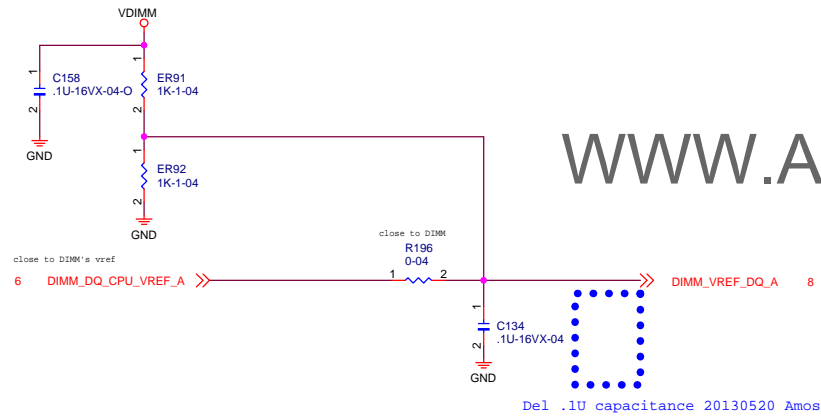
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### DIMM\_VREF\_CA Circuit

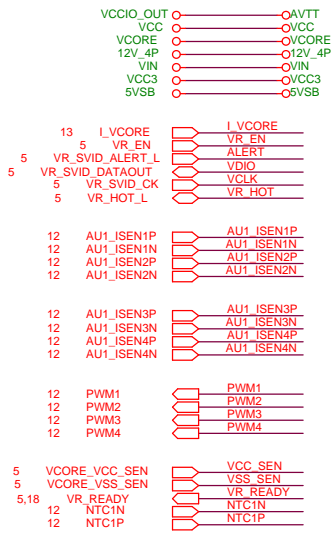


### DIMM\_VREF\_DQ Circuit



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## External Connection



106A for ICCMAX=2.2V

Voltage Divider/Current Injection

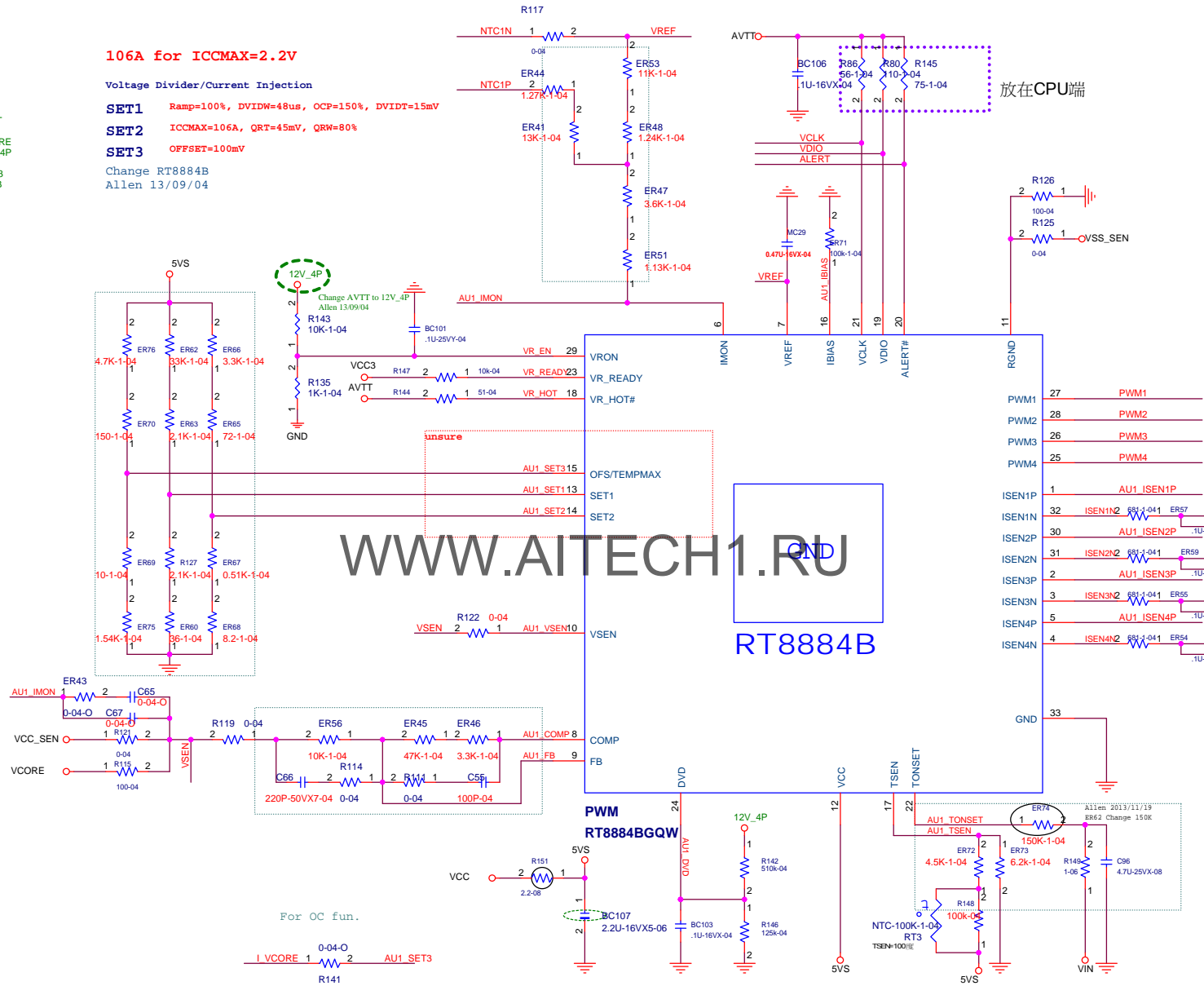
SET1 Ramp=100%, DVIDW=48us, OCP=150%, DVIDT=15mV

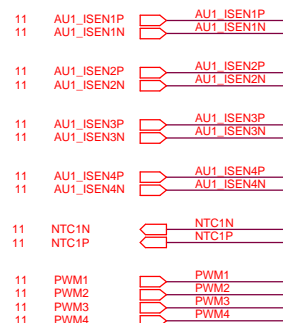
SET2 ICCMAX=106A, QRT=45mV, QRW=80%

SET3 OFFSET=100mV

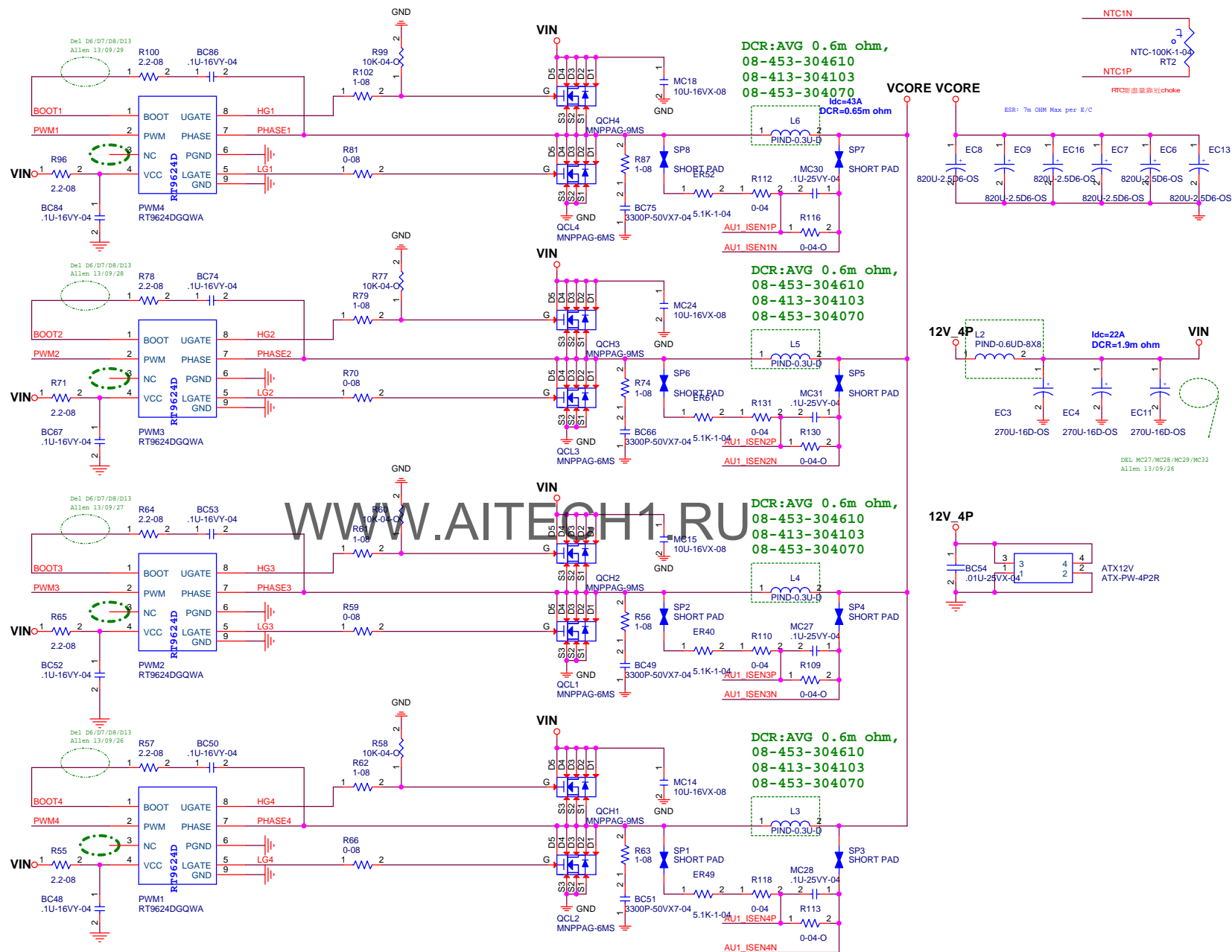
Change RT8884B

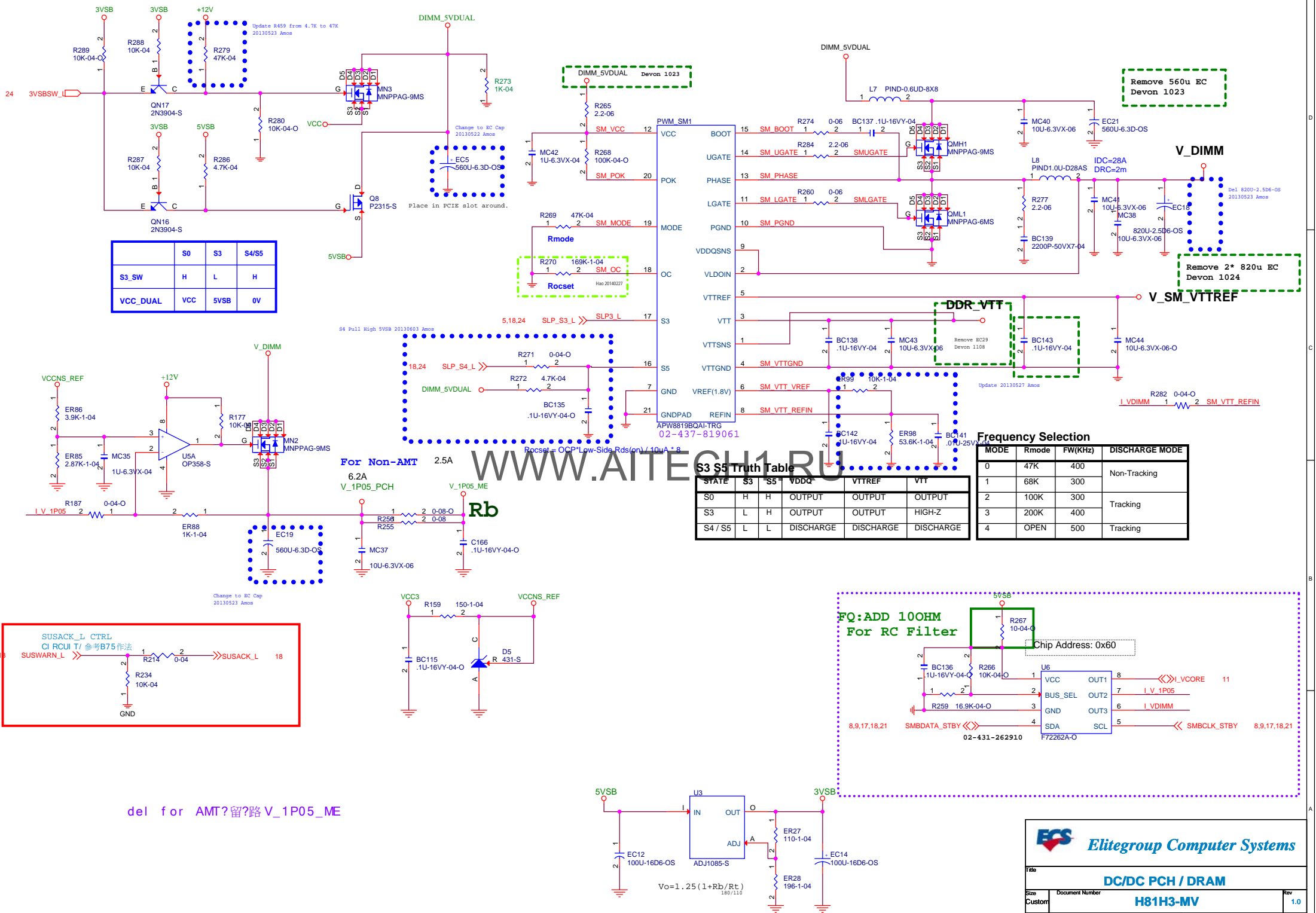
Allen 13/09/04





Change Choke  
3 PHASE Change to 4 PHASE  
RT9624D 第三PIN不接  
Allen 13/11/19





	S0	S3	S4/S5
S3_SW	H	L	H
VCC_DUAL	VCC	5VSB	0V

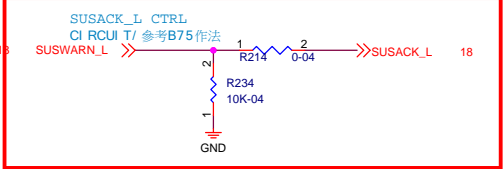
For Non-AMT  
6.2A  
V\_1P05\_PCH

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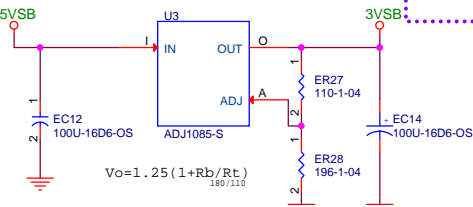
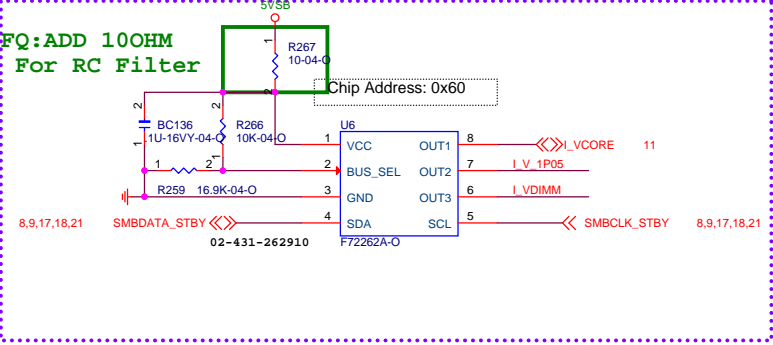
STATE	S3	S5	VDDQ	VTTREF	VTT
S0	H	H	OUTPUT	OUTPUT	OUTPUT
S3	L	H	OUTPUT	OUTPUT	HIGH-Z
S4 / S5	L	L	DISCHARGE	DISCHARGE	DISCHARGE

Frequency Selection

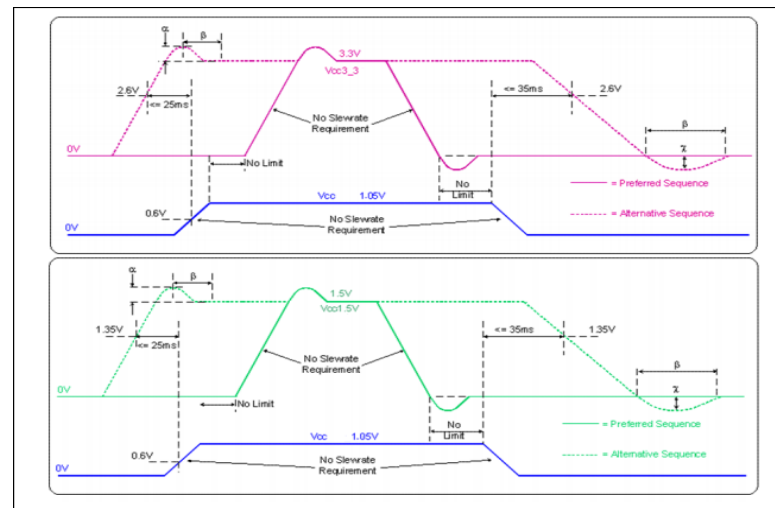
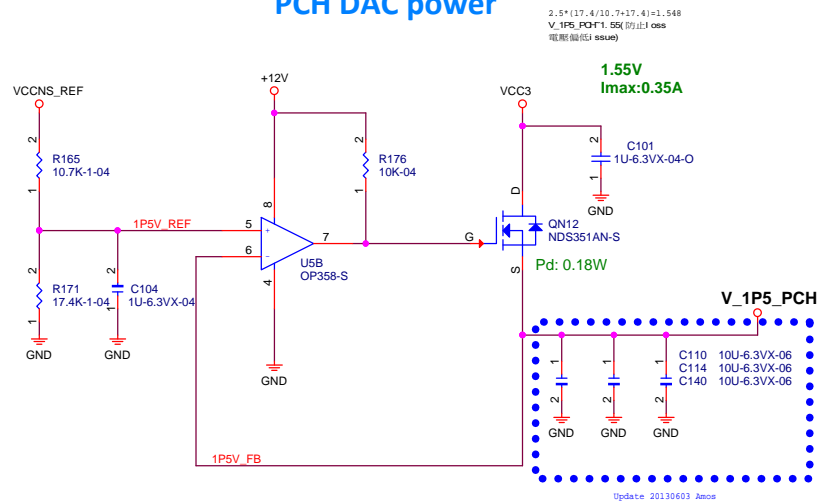
MODE	Rmode	FW(KHz)	DISCHARGE MODE
0	47K	400	Non-Tracking
1	68K	300	
2	100K	300	Tracking
3	200K	400	
4	OPEN	500	Tracking



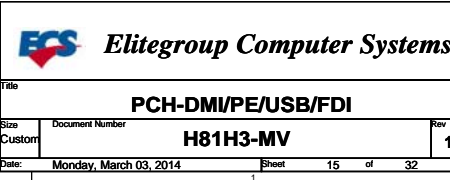
del for AMT?留?路 V\_1P05\_ME



# PCH DAC power

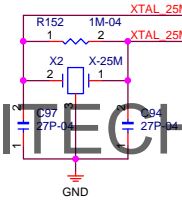
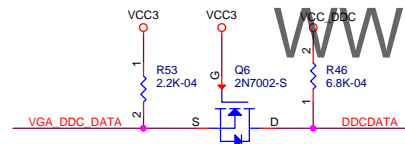
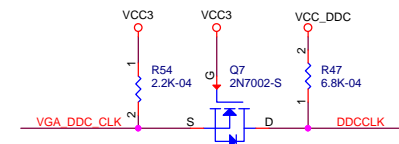
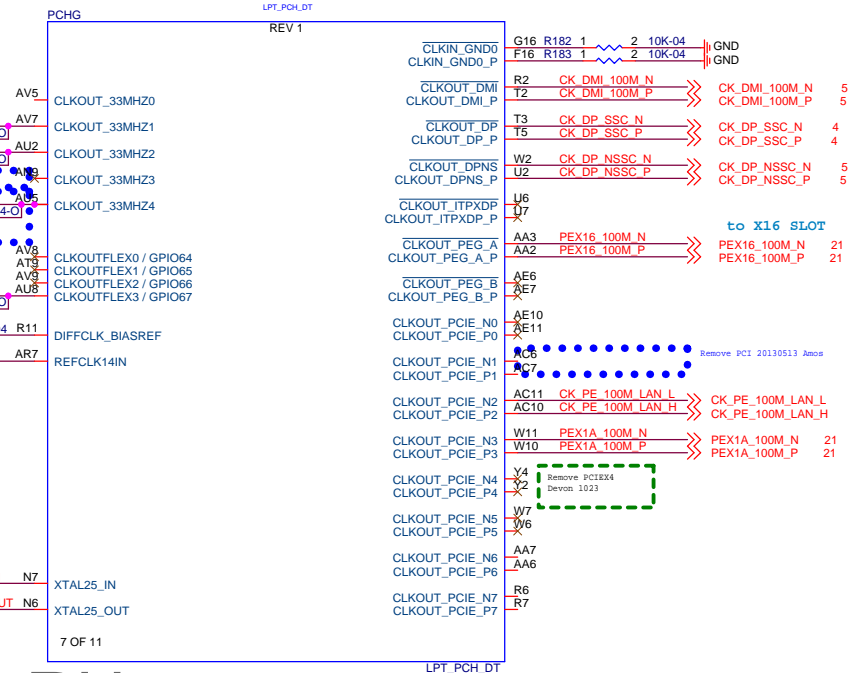
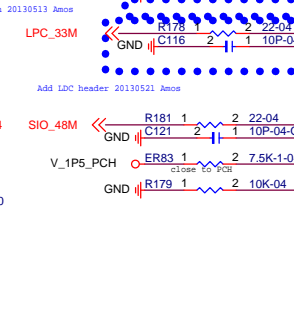
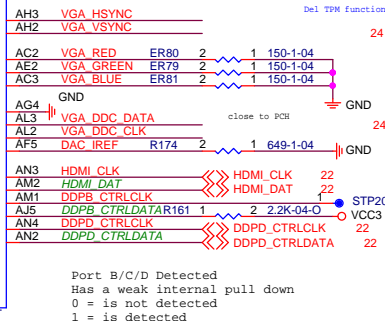
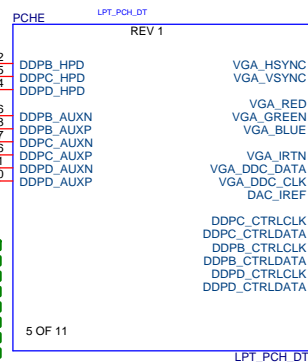
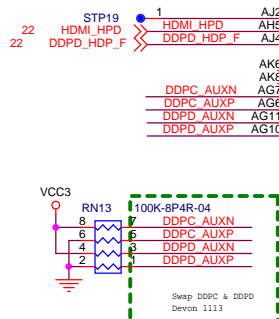


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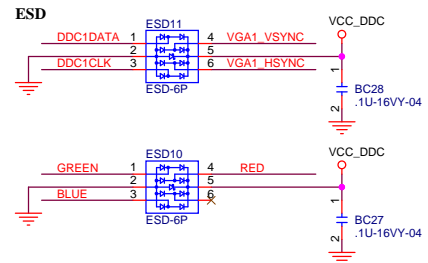
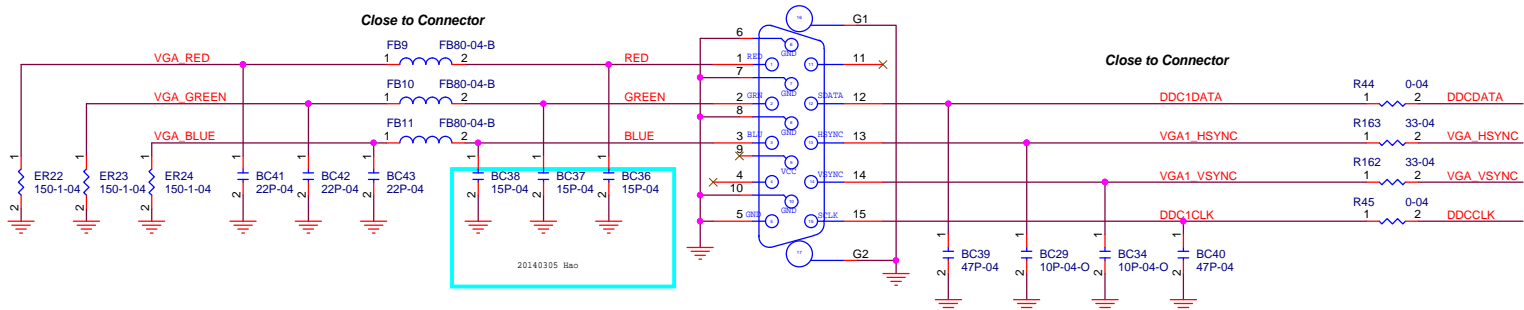
NC DDPC\_AUXN,AUXP.  
Devon 1023



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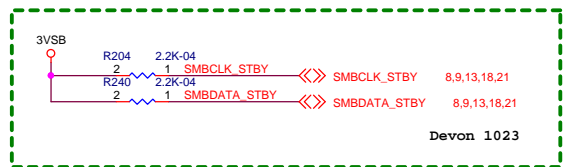
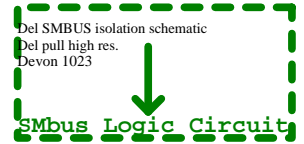
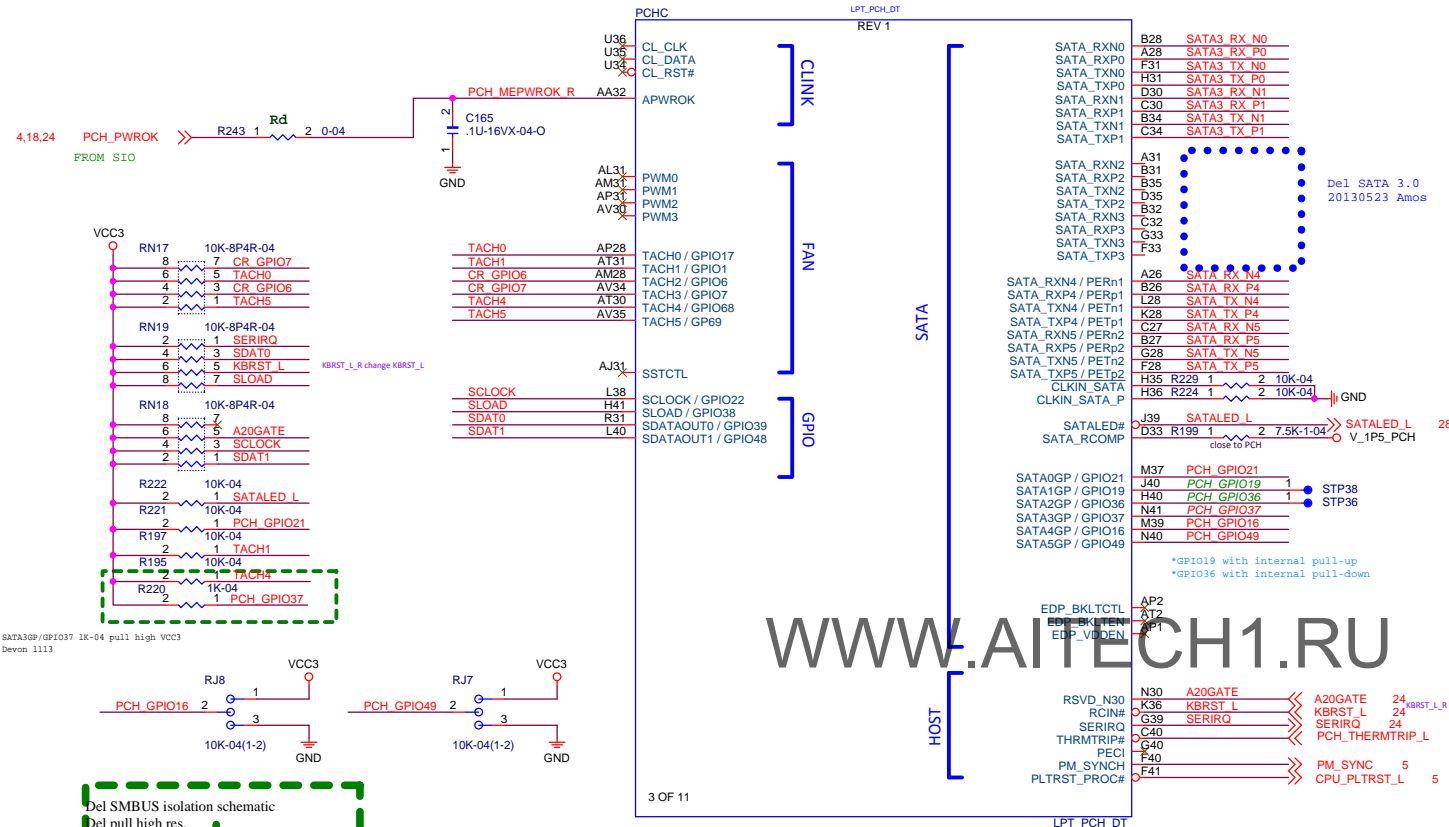
VGA

VGA CONN-VGA-HRBL



Elitegroup Computer Systems

DEL AMT sku

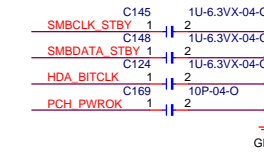
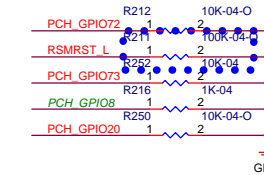
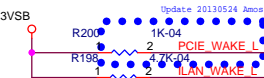
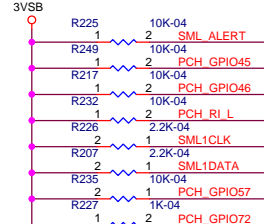
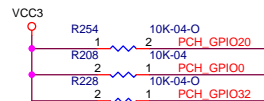


Del SATA 3.0 20130523 Amos

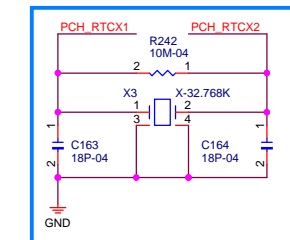
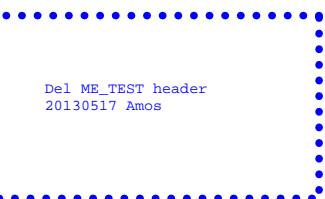
Update SATA 3.0 20130514 Amos

SATA3.0 -->SATA2.0  
Footprint change to SATA7P-M-HUANXUN\_1  
Devon 1018

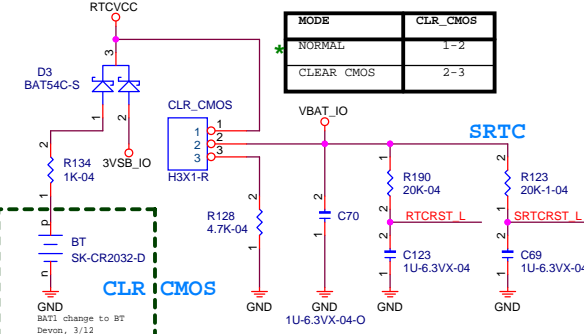
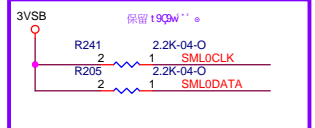
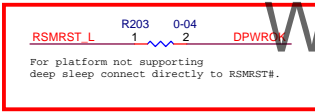
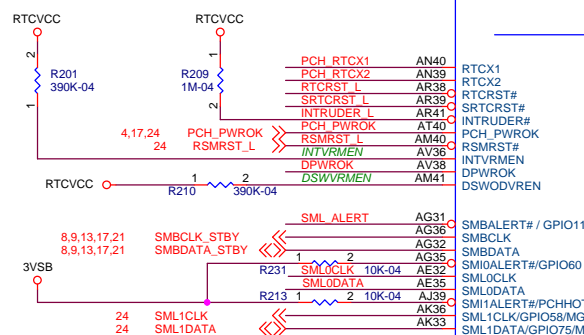
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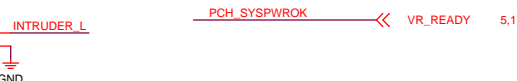
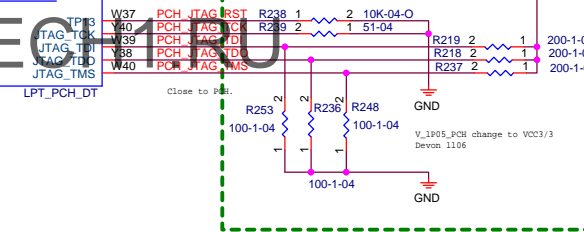
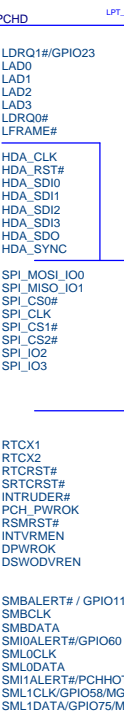
HDA\_BCLK\_R C136 22P DELETE



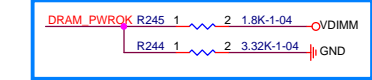
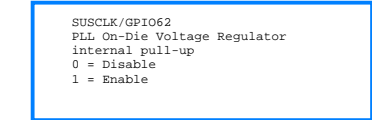
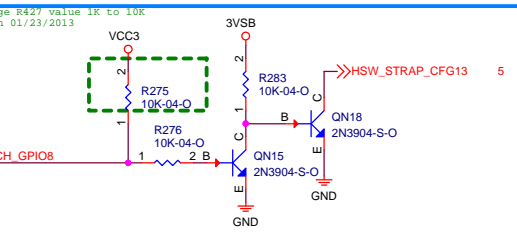
PCH Xtal



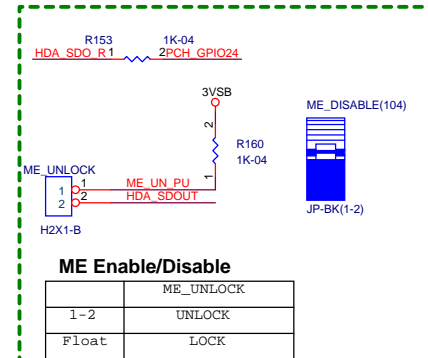
CLR\_CMOS



### HSW Strap CFG13 for overclk

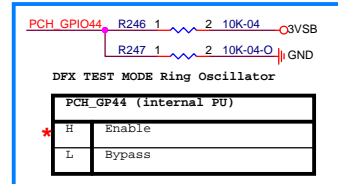


To be changed value for HSW(A0)/LPT

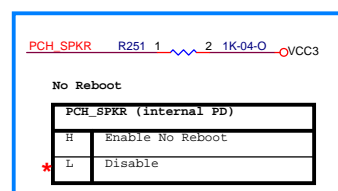


ME Enable/Disable	
ME_UNLOCK	1-2
UNLOCK	Float
LOCK	LOCK

Devon 2012/01/07  
Reserve software type function

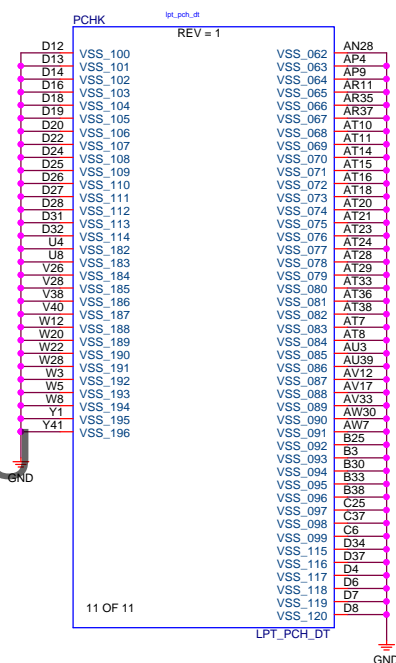
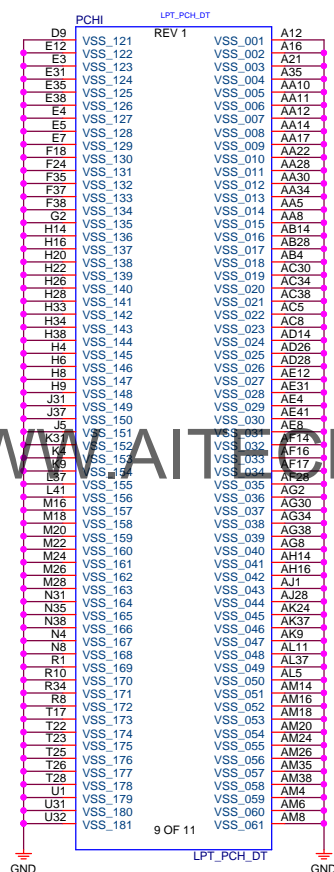
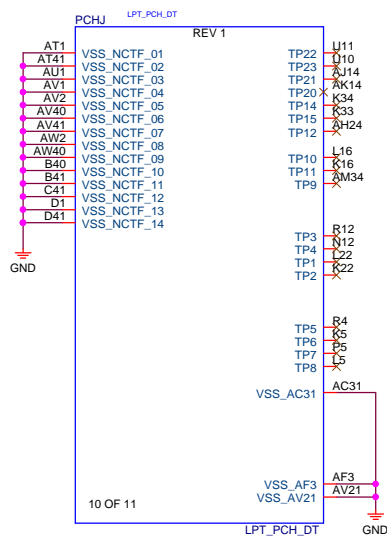


DFX TEST MODE Ring Oscillator	
PCH_GP44 (internal PU)	
H	Enable
L	Bypass



No Reboot	
PCH_SPKR (internal PD)	
H	Enable No Reboot
L	Disable





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PCI-E X16 Slot SPEC.:  
+VCC3/S0/3A  
+V12/S0/5.5A  
+3VSB/0.375A

PCI-E X1 Slot SPEC.:  
+VCC3/S0/3A  
+V12/S0/0.5A  
+3VSB/0.375A

8,9,13,17,18 SMBCLK\_STBY  
8,9,13,17,18 SMBDATA\_STBY

18,25 PCIE\_WAKE\_L < PCIE\_WAKE\_L

4 PEG\_TX\_P0 < PEG\_TX\_P0  
4 PEG\_TX\_N0 < PEG\_TX\_N0

4 PEG\_TX\_P1 < PEG\_TX\_P1  
4 PEG\_TX\_N1 < PEG\_TX\_N1

4 PEG\_TX\_P2 < PEG\_TX\_P2  
4 PEG\_TX\_N2 < PEG\_TX\_N2

4 PEG\_TX\_P3 < PEG\_TX\_P3  
4 PEG\_TX\_N3 < PEG\_TX\_N3

4 PEG\_TX\_P4 < PEG\_TX\_P4  
4 PEG\_TX\_N4 < PEG\_TX\_N4

4 PEG\_TX\_P5 < PEG\_TX\_P5  
4 PEG\_TX\_N5 < PEG\_TX\_N5

4 PEG\_TX\_P6 < PEG\_TX\_P6  
4 PEG\_TX\_N6 < PEG\_TX\_N6

4 PEG\_TX\_P7 < PEG\_TX\_P7  
4 PEG\_TX\_N7 < PEG\_TX\_N7

4 PEG\_TX\_P8 < PEG\_TX\_P8  
4 PEG\_TX\_N8 < PEG\_TX\_N8

4 PEG\_TX\_P9 < PEG\_TX\_P9  
4 PEG\_TX\_N9 < PEG\_TX\_N9

4 PEG\_TX\_P10 < PEG\_TX\_P10  
4 PEG\_TX\_N10 < PEG\_TX\_N10

4 PEG\_TX\_P11 < PEG\_TX\_P11  
4 PEG\_TX\_N11 < PEG\_TX\_N11

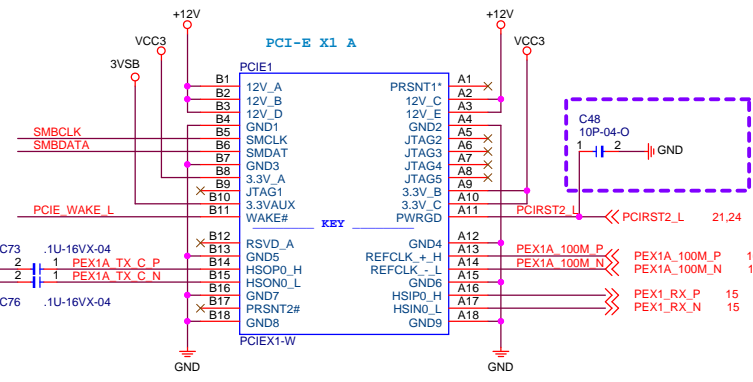
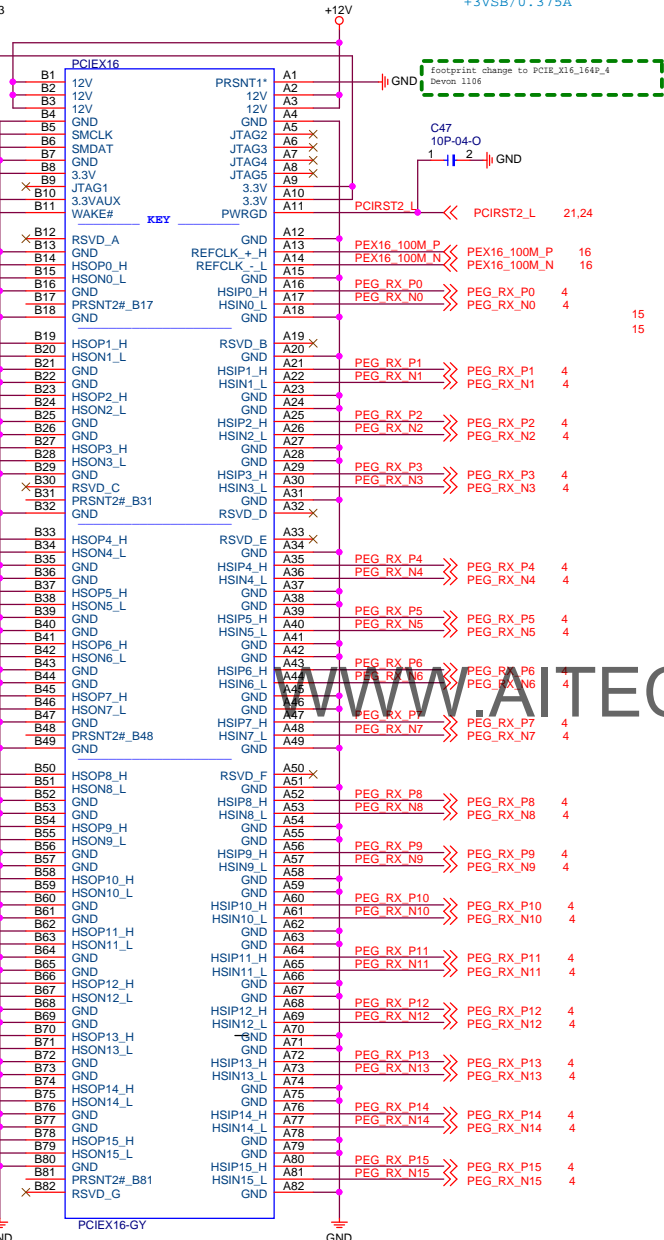
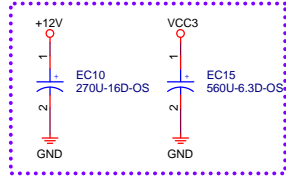
4 PEG\_TX\_P12 < PEG\_TX\_P12  
4 PEG\_TX\_N12 < PEG\_TX\_N12

4 PEG\_TX\_P13 < PEG\_TX\_P13  
4 PEG\_TX\_N13 < PEG\_TX\_N13

4 PEG\_TX\_P14 < PEG\_TX\_P14  
4 PEG\_TX\_N14 < PEG\_TX\_N14

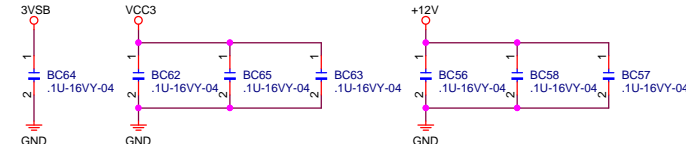
4 PEG\_TX\_P15 < PEG\_TX\_P15  
4 PEG\_TX\_N15 < PEG\_TX\_N15

Checklist:  
180-265nF



Add PCIEX1 20130513 Amos

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**Elitegroup Computer Systems**

**Slot PCI-EX16 / PCI-EX1**

**H81H3-MV**

Rev. 1.0

Monday, March 03, 2014

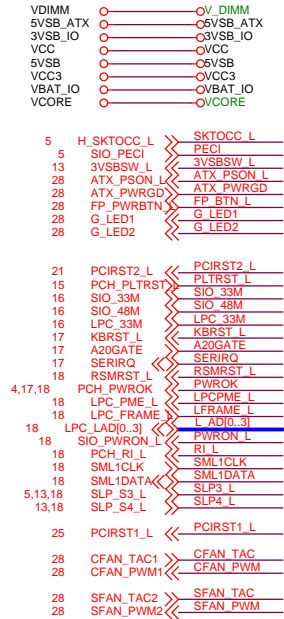




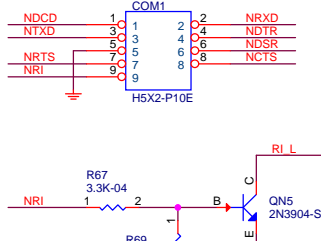




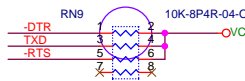
## External Connection



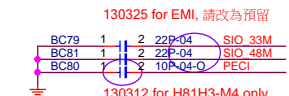
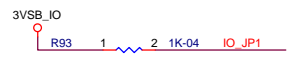
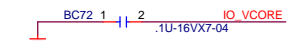
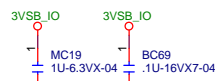
## COM Header



130328 vendor suggest 預留



CLOSE TO PIN11

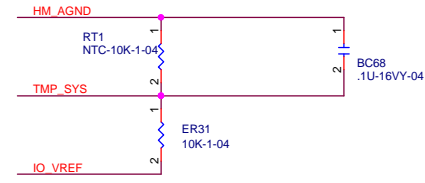


130312 for H81H3-M4 only

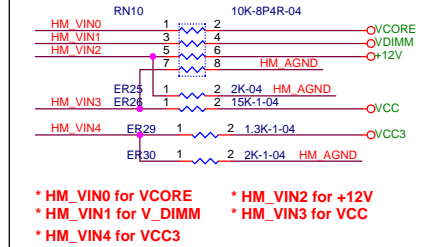
## IT8772 Power-On Strapping Options

Symbol	Value	Description
JP1	D5W_EUP_SEL	1 EUP(default)
Pin-23		0 D5W
JP2	WDT_EN	1 Disable WDT to reset PWROK(default)
Pin-57		0 Enable WDT to reset PWROK
JP3	FAN_CTL_SEL	1 EC Index 6Bh/73h default = 80h
Pin-59		0 EC Index 6Bh/73h default = 00h
JP4	K8PWR_EN	1 Disable K8 Power Sequence(default)
Pin-61		0 Enable K8 Power Sequence
JP8	RSMRST_SEL	1 RSMRST# output detected by 3VSB
Pin-31		0 RSMRST# output detected by SYS_3VSB

## SYSTEM THERMAL

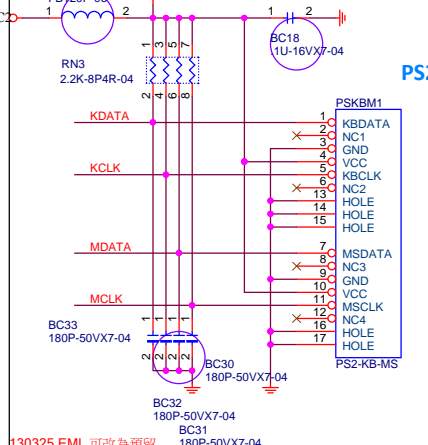


## Voltage Monitor

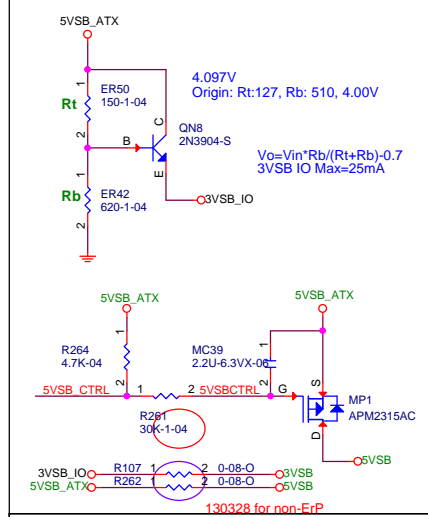


\* HM\_VIN0 for VCORE  
\* HM\_VIN1 for V\_DIMM  
\* HM\_VIN2 for +12V  
\* HM\_VIN3 for VCC  
\* HM\_VIN4 for VCC3

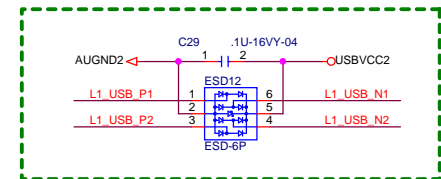
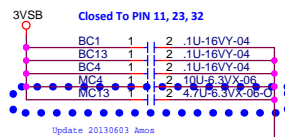
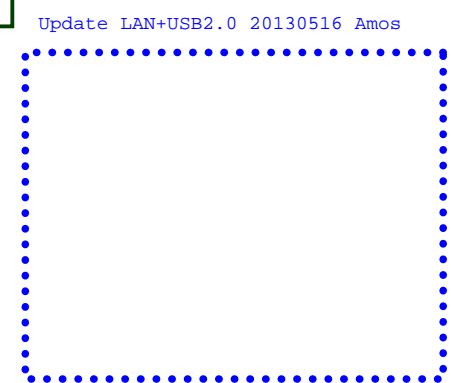
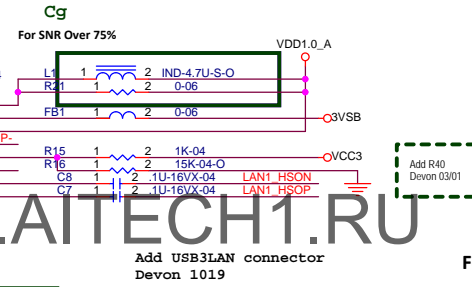
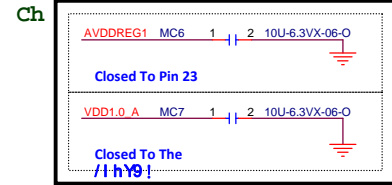
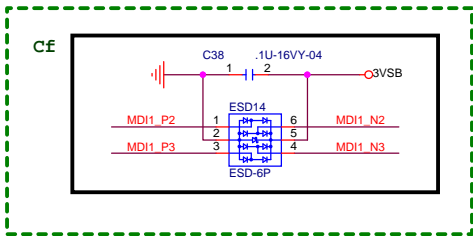
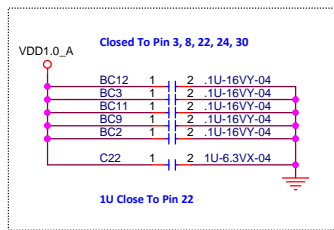
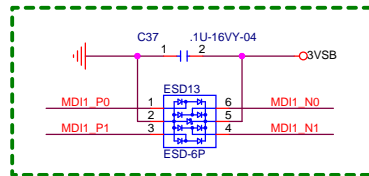
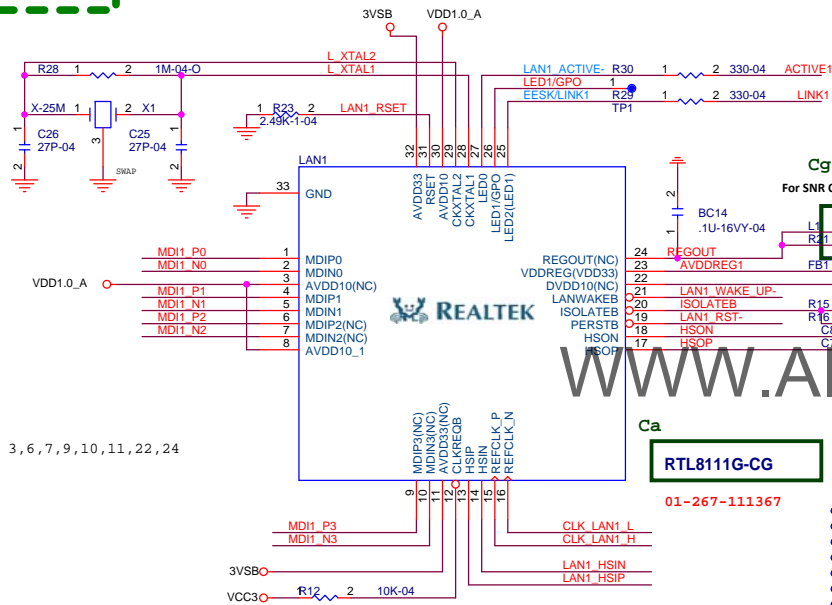
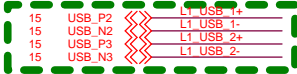
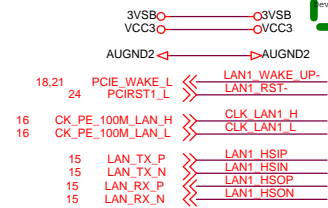
130326 for H81H3-M4 EMI only, 130325 EMI, 可改為預留



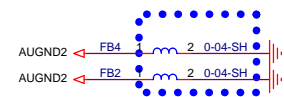
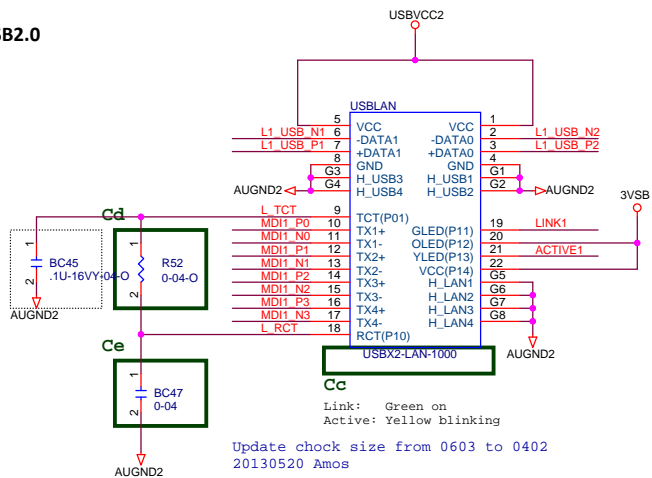
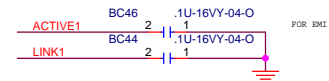
## ErP



Change USBVCC2 to USBVCC1  
Devon 1115



Update LAN+USB2.0 20130516 Amos



	RTL8111GS-CG (SWR mode) 1000M	RTL8111G-CG (LDO mode) 1000M	RTL8106E-CG (LDO mode) 10/100M
Ca	RTL8111GS	RTL8111G	RTL8106E
Cb	None	None	None
Cc	USB2-LAN-1000	USB2-LAN-1000	USB2-LAN-100
Cd	X	X	V
Ce	0-04	0-04	.01U-25VX-04
Cf	V	V	X
Cg	L	R	X
Ch	V	X	X

**DEFAULT**

5VSB ○ ——— ○ 5VSB

VCC ○ ——— ○ VCC

+12V ○ ——— ○ +12V

VCC3 ○ ——— ○ VCC3

18 HDA\_RST\_L >> AZ\_RST-

19 HDA\_BITCLK >> AZ\_BIT\_CLK

20 HDA\_SYNC >> AZ\_SYNC

21 HDA\_SDIN0 << AZ\_SDAIN


22 HDA\_SDOUT >> AZ\_SDOUT

AGND AUGND

Update from 10U-16VX-08 to 10U-6V3X5-08  
20130523 Amos

Pin	ALC662 VD	VT1705CE
3	REG VREF	GPIO1
4	GPIO1	DVSS
25	LDO OUTPUT	LDO VIN
29	LDO VIN	OPTION CAP
33	LINE1 VREF	LDO OUTPUT
37	FRONT VREF ?	NC
38	LDO OUTPUT	LDO VIN
45	DMIC DATA	NC
46	DMIC CLK	NC

Location	ALC662 VD	VT1705CE
Ca	ALC662-VD0-GR	VT1705CE
Cb	20K-1-04	5.1K-1-04
Cc	V	X
Cd	2.2K-04	3.3K-04
Ce	75-04	16-04
Cf	X	V
Cg	X	V
Ch	V	X
CI	V	X

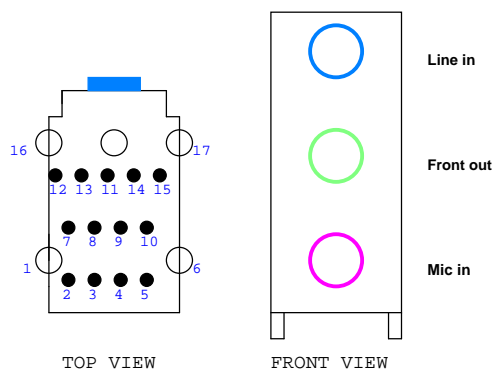
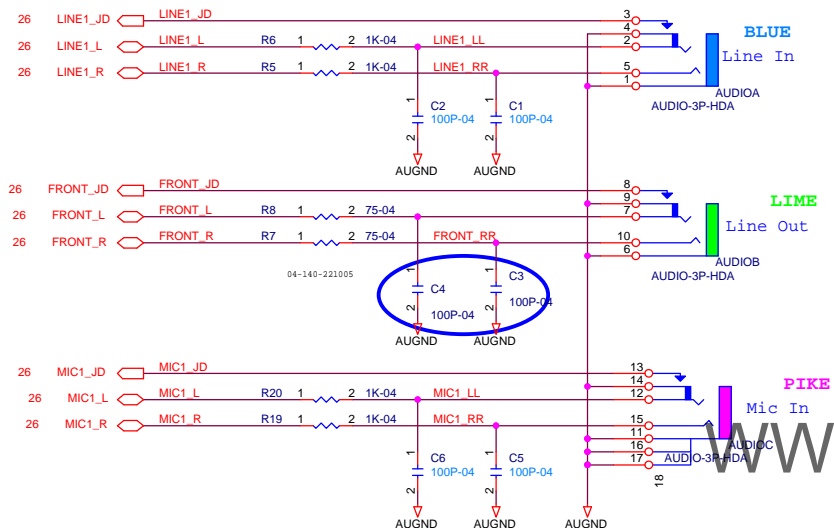
 <b><i>Elitegroup Computer Systems</i></b>			
Title			
<b>ALC662(CHIP)</b>			
Size	Document Number		Rev
Custom	<b>H81H3-MV</b>		<b>1.0</b>
Date:	Monday, March 03, 2014	Sheet	26 of 32

## External Connection

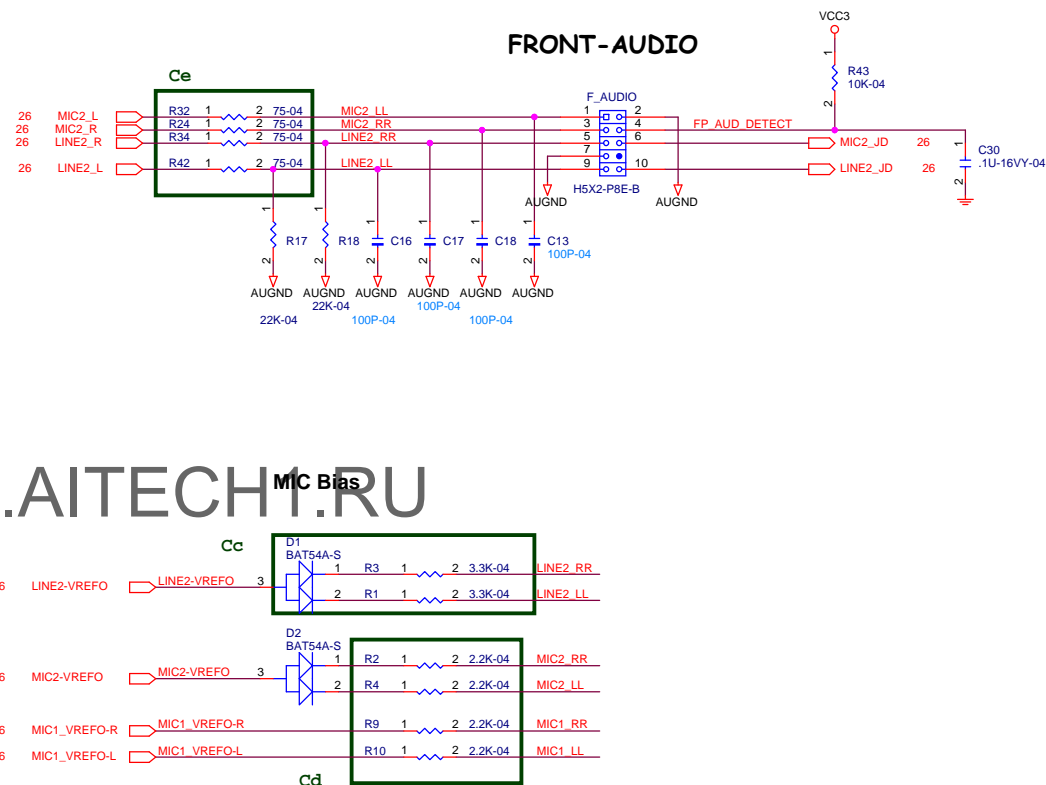
18 FP\_AUD\_DETECT << FP\_AUD\_DETECT

\* HDPANEL\_DETECT connect to SIO or SB GPIO for AC97 Panel support

## REAR-AUDIO Non re-tasking for rear panel

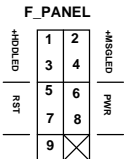
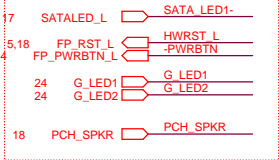


## FRONT-AUDIO

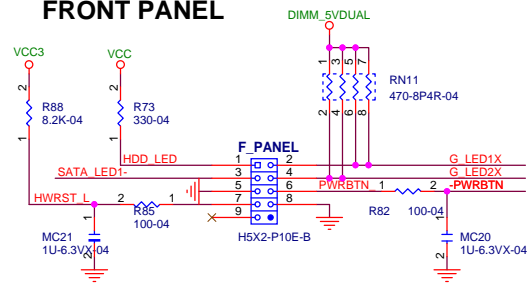


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External Connection

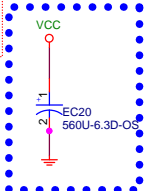
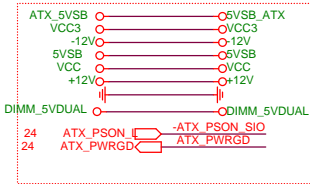


FRONT PANEL

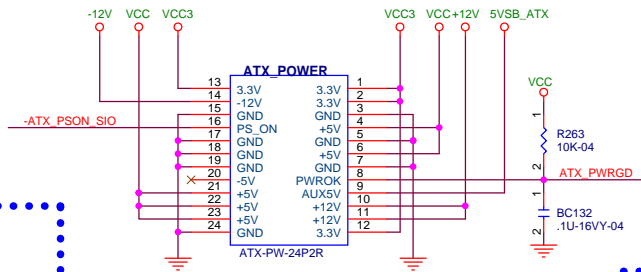


POWER CONNECTOR

External Connection



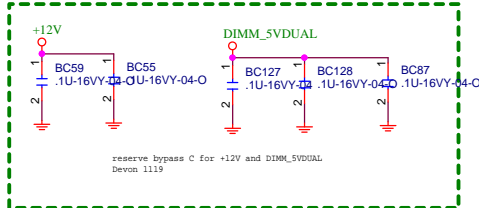
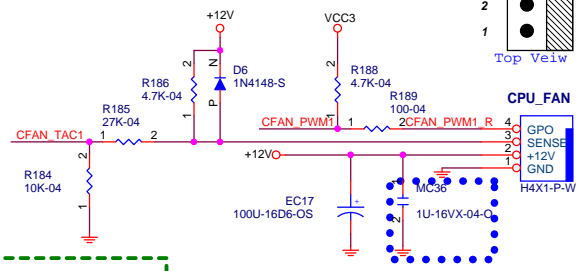
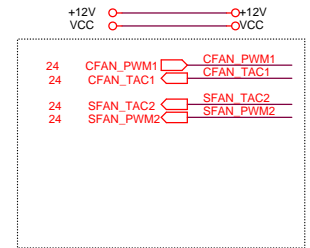
Change to EC Cap 20130522 Amos



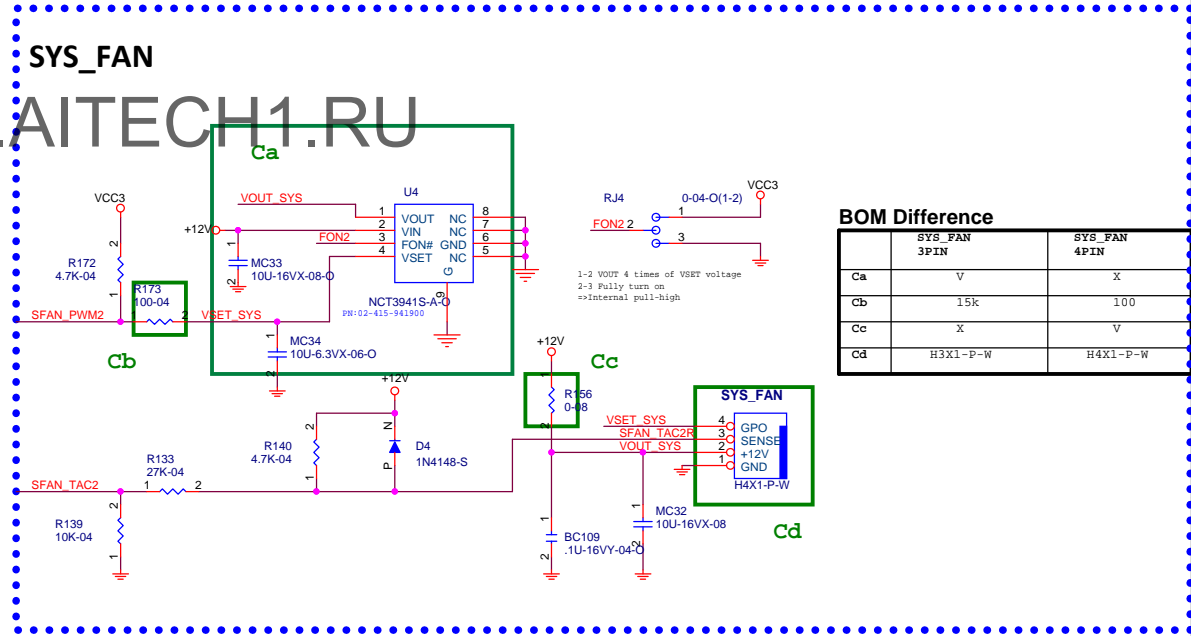
FAN

Kent 1016

External Connection



SYS\_FAN



BOM Difference

	SYS_FAN 3PIN	SYS_FAN 4PIN
Ca	V	X
Cb	15k	100
Cc	X	V
Cd	H3X1-P-W	H4X1-P-W

Elitegroup Computer Systems

Title: F\_PANEL / FAN / PWR CONN

Size: Document Number: H81H3-MV Rev: 1.0

Date: Monday, March 03, 2014 Sheet: 28 of 32

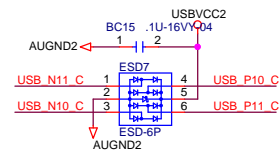
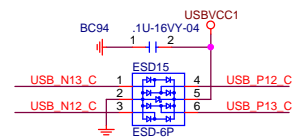
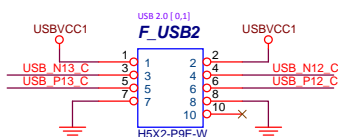
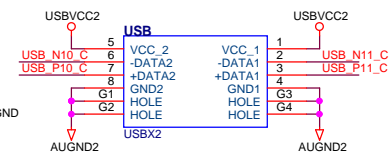
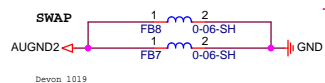
Update USB2.0 20130516 Amos

15 USB\_P11 USB P11  
15 USB\_N11 USB N11

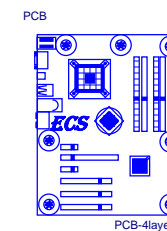
15 USB\_P10 USB P10  
15 USB\_N10 USB N10

15 USB\_P8 USB P8  
15 USB\_N8 USB N8

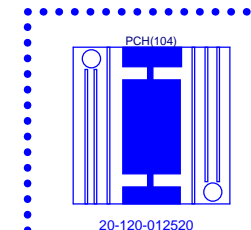
15 USB\_P9 USB P9  
15 USB\_N9 USB N9



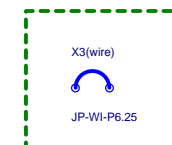
Layer 1: TOP	<input type="text"/>
Layer 2: PWR	<input type="text"/>
Layer 3: GND	<input type="text"/>
Layer 4: BOTTOM	<input type="text"/>



Update Heat sink 20130520 Amos

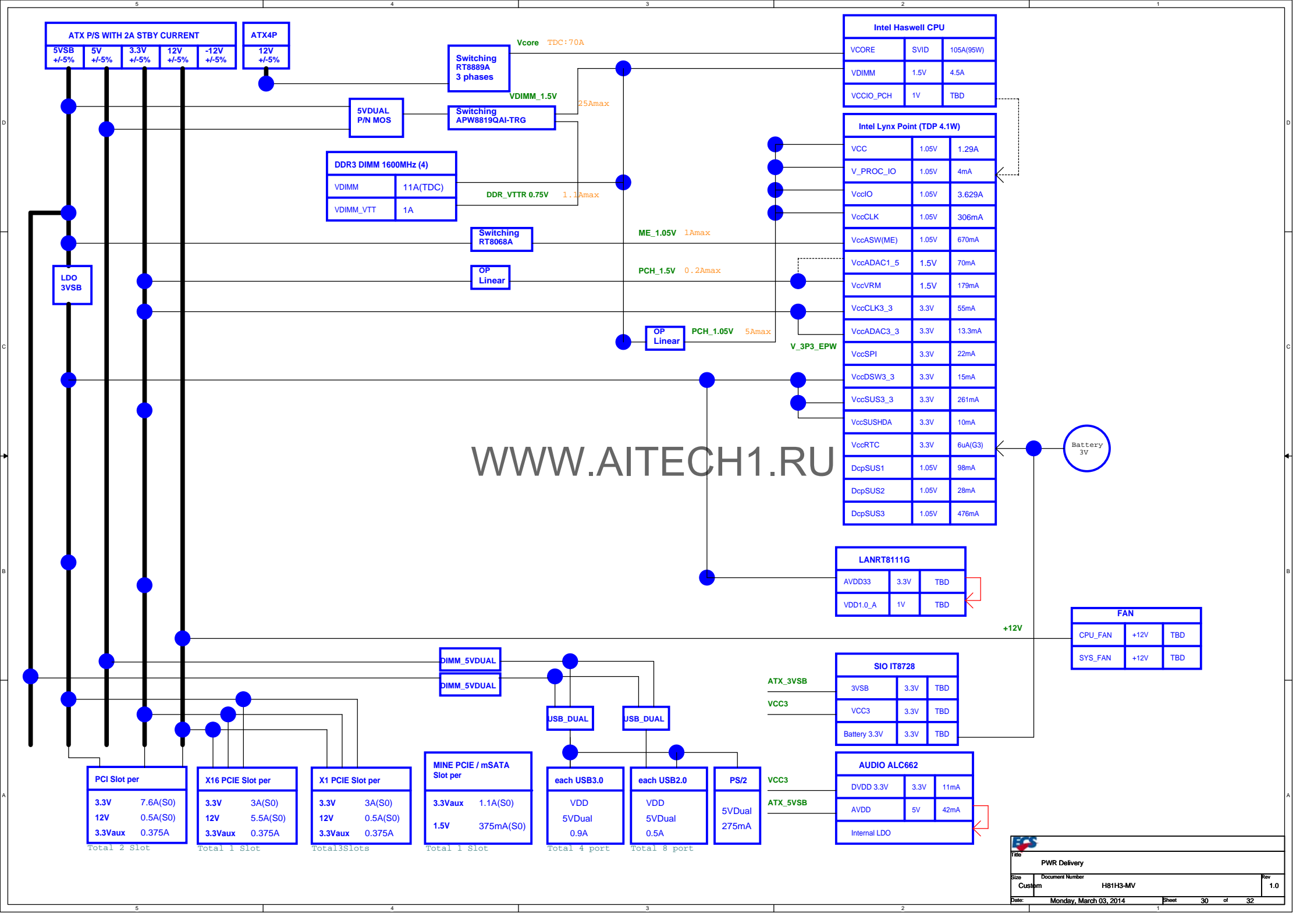


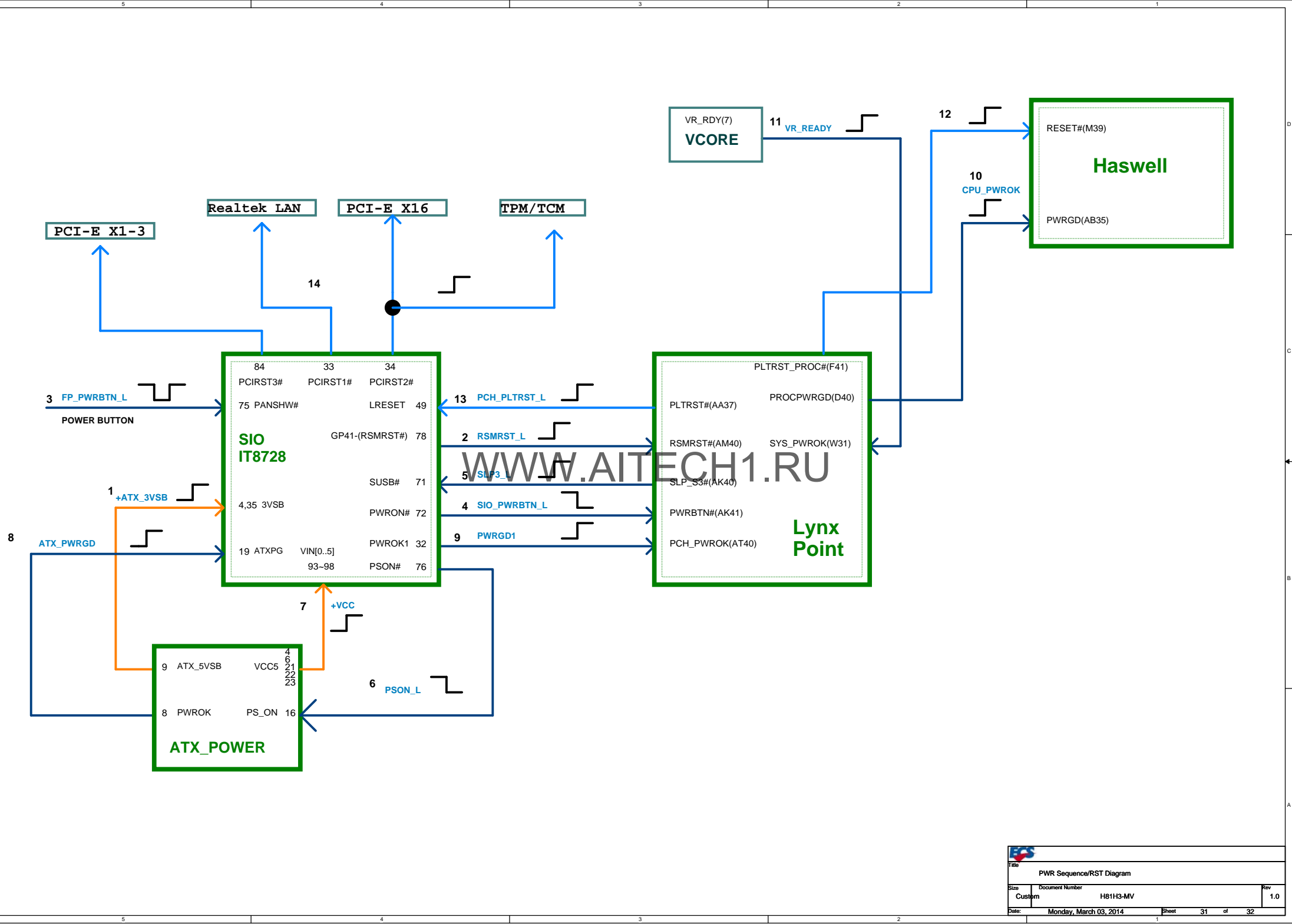
**PCB STACK:** L1:TOP  
L2:PWR  
L3:GND  
L4:BOTTOM

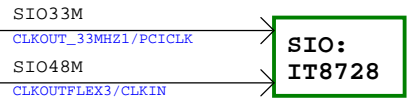
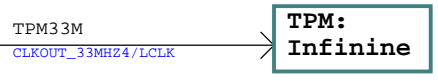
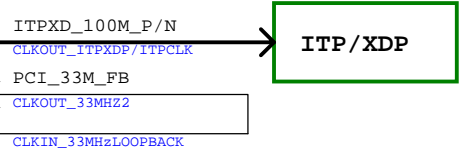
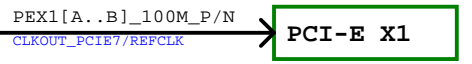
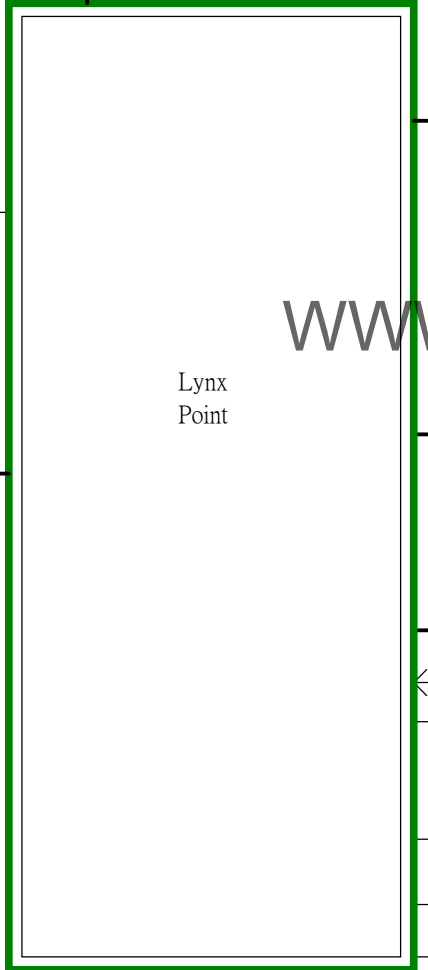
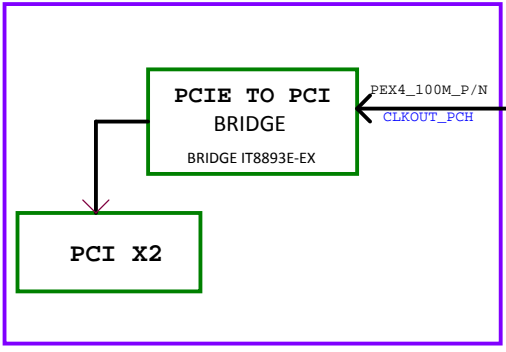
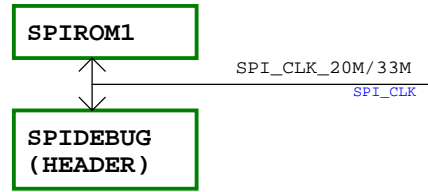
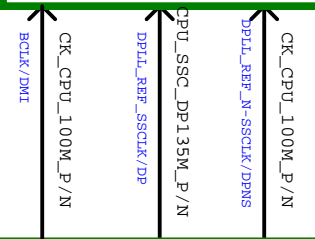
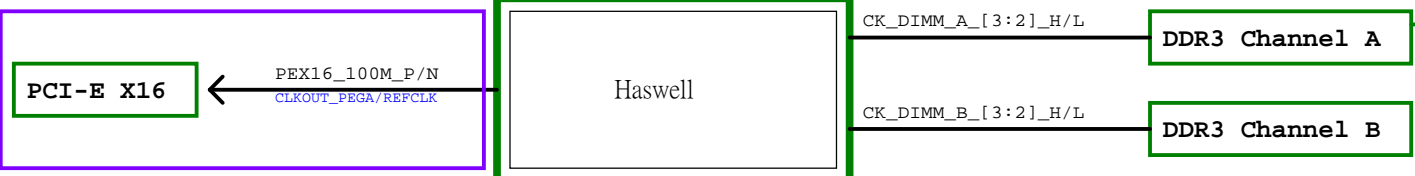


Del TPM function 20130513 Amos









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