

# Compal Confidential

**JE50/HM50/SJV50\_BZ**

**P5WE6/P5WH6/P5WS6 Schematics Document**

**AMD Brazos**

**Brazos with Zacate / Hudson M1 / Seymour XT**

**DIS only / UMA only / PX Muxless / PX Muxless with BACO**

**2010-11-16**

**LA-7092P REV: 1.0**



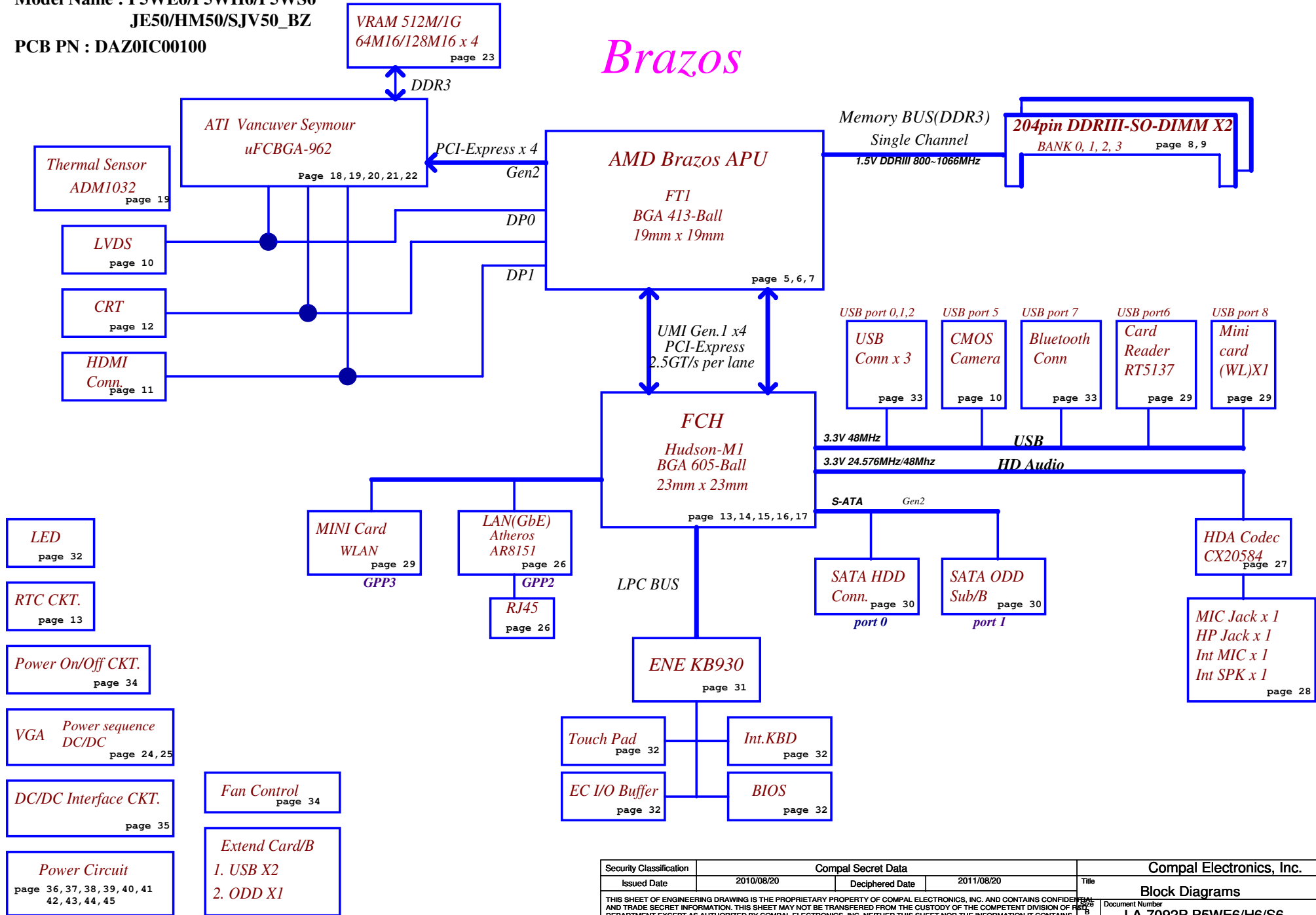
Part Number = DAZ0IC00100

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Issued Date	2010/08/20	Deciphered Date	2011/08/20	Title	Cover Page	
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Model Name : P5WE6/P5WH6/P5WS6  
 JE50/HM50/SJV50\_BZ  
 PCB PN : DAZ01C00100

## Brazos



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## Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+VSB	VSB always on power rail	ON	ON	ON*
+3VALW	3.3V always on power rail	ON	ON	ON*
+5VALW	5V always on power rail	ON	ON	ON*
+1.1VALW	1.1V always on power rail	ON	ON	ON*
+APU_CORE	Core voltage for CPU (0.7-1.2V)	ON	OFF	OFF
+APU_CORE_NB	1.0V switched power rail	ON	OFF	OFF
+1.5V	1.5V power rail for CPU VDDIO and DDRIII	ON	ON	OFF
+0.75VS	0.75VS switched power rail for DDR terminator	ON	OFF	OFF
+1.05VS	1.05V switched power rail for APU VDD10	ON	OFF	OFF
+1.1VS	1.1VS switched power rail	ON	OFF	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VS	5V switched power rail	ON	OFF	OFF
+VGA_CORE	Core voltage for GPU	ON	OFF	OFF
+3VSG	3.3V switched power rail for GPU	ON	OFF	OFF
+1.8VSG	1.8V switched power rail for GPU	ON	OFF	OFF
+1.5VSG	1.5V switched power rail for GPU	ON	OFF	OFF
+1.0VSG	1.0V switched power rail for GPU	ON	OFF	OFF
+3V_LAN	3.3V power rail for LAN	ON	ON	ON
+RTCVCC	RTC power	ON	ON	ON

Note : ON\* means that this power plane is ON only with AC power available, otherwise it is OFF.

## EC SM Bus1 address

Device	Address	HEX	Device	Address	HEX
			ADM1032 (GPU)	1001-101xb	9AH

## SM Bus Controller 0

(FCH\_SMB1 - FCH\_SMB4, SMB\_ALERT#)

Device	Address	HEX
APU SIC/SID (FCH_SMB3)		
H_THERMTRIP# (FCH_ALERT#)		

## SM Bus Controller 1

(FCH\_SMB0)

Device	Address	HEX
DDR DIMM1 (FCH_SMB0)	1001-000xb	90
DDR DIMM2 (FCH_SMB0)	1001-001xb	92
WLAN (FCH_SMB0)		

STATE	SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON		HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1 (Power On Suspend)		LOW	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)		LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)		LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)		LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

## Board ID / SKU ID Table for AD channel

Board ID	Rb / Rd / Rf	V <sub>AD_BID min</sub>	V <sub>AD_BID typ</sub>	V <sub>AD_BID max</sub>
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

## BOARD ID Table

Board ID	PCB Revision
0	w/ X'tal X1
1	wo/ X'tal X1
2	
3	
4	
5	
6	
7	

## Project ID Table

Board ID	PCB Revision
0	
1	
2	
3	
4	
5	
6	
7	

## BOARD ID Table

Board ID	PCB Revision
0	
1	
2	
3	
4	
5	
6	
7	

## Project ID Table

Board ID	PCB Revision
0	
1	
2	
3	
4	
5	
6	
7	

## BTO Option Table

BTO Item	BOM Structure
Display from APU	UMA@
Display from VGA	DISO@
Use VGA	VGA@
Muxless w/BACO	BACO@
Muxless wo/BACO	WOBACO@
Muxless	PX@
w/Vancouver Serise	VAN@
w/Manhattan Serise	MAN@
Bluetooth	BT@
AR8151	8151@
Seymour	Seymour@
wo/Muxless	WOPX@
wo/VGA	WOVGA@
APU 1.5G	15G@
APU 1.6G	16G@

\*UMA only : UMA@ BT@ 8151@ WOVGA@ WOPX@

VGA Chip SEL:      APU Chip SEL:  
 1. Seymour@ + Van@      1. 16G@  
 2. Robson@ + Man@      2. 15G@

\*DIS only : VGA@ DISO@ WOBACO@ BT@ 8151@ WOPX@

\*Muxless w/BACO : UMA@ VGA@ PX@ BACO@ BT@ 8151@

Muxless wo/BACO : UMA@ VGA@ PX@ WOBACO@ BT@ 8151@

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## Power-Up/Down Sequence

- All the ASIC supplies must fully reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred.
- VDDR3 should ramp-up before or simultaneously with VDDC.
- For LVDS, DPx\_VDD10 should ramp-up before DPx\_VDD18 and the PCIe Reference clock should begin before DPx\_VDD18. For power-down, DPx\_VDD18 should ramp-down before DPx\_VDD10.
- The external pull-ups on the DDC/AUX signals (if applicable) should ramp-up before or after both VDDC and VDD\_CT have ramped up.
- VDDC and VDD\_CT should not ramp-up simultaneously. (e.g., VDDC should reach 90% before VDD\_CT starts to ramp-up (or vice versa).)

VDDR3(3.3VSG)

PCIE\_VDDC(1.0V)

VDDR1(1.5VSG)

VDDC/VDDCI(1.12V)

VDD\_CT(1.8V)

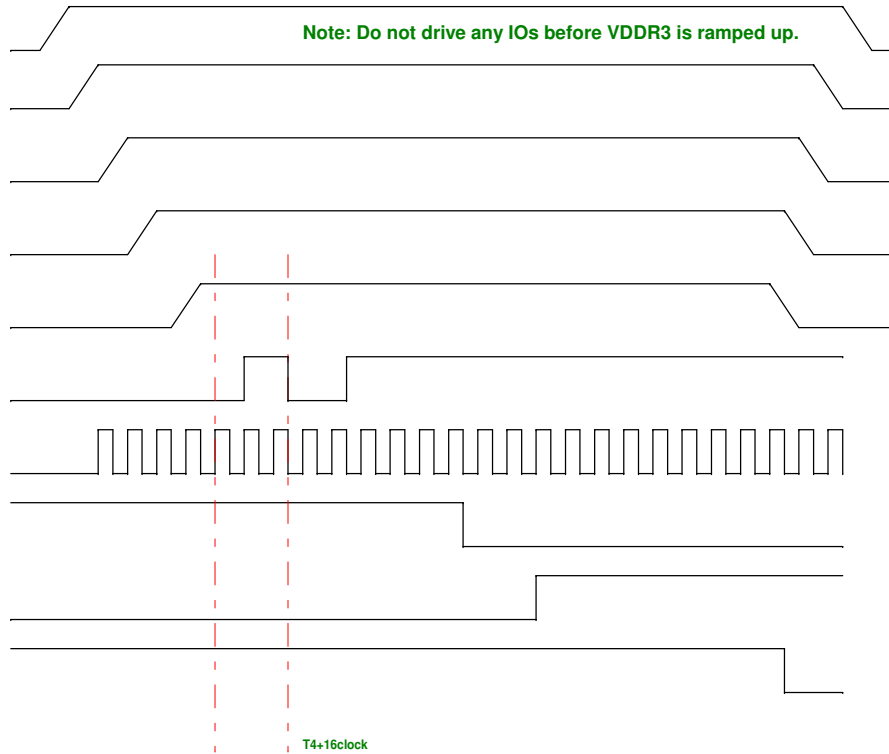
PERSTb

REFCLK

Straps Reset

Straps Valid

Global ASIC Reset



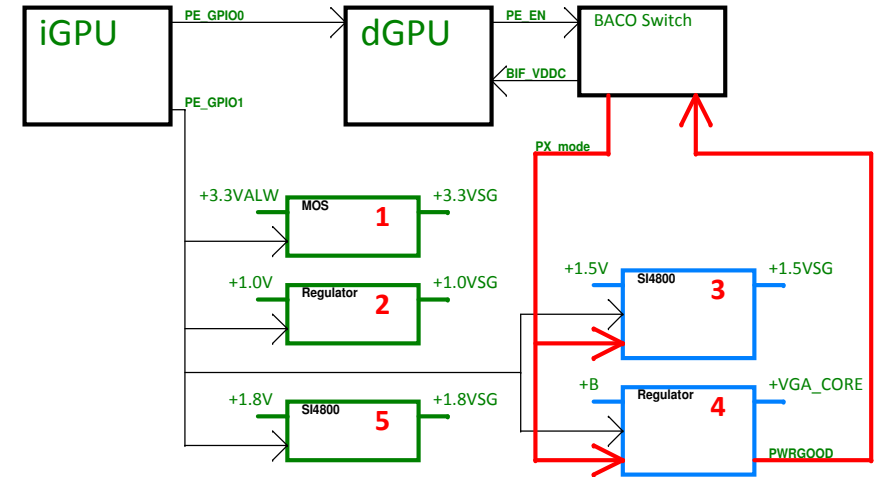
## Without BACO option :

PE\_GPIO0 : Low -> Reset dGPU ; High ->Normal operation  
 PE\_GPIO1 : Low -> dGPU Power OFF ; High -> dGPU Power ON

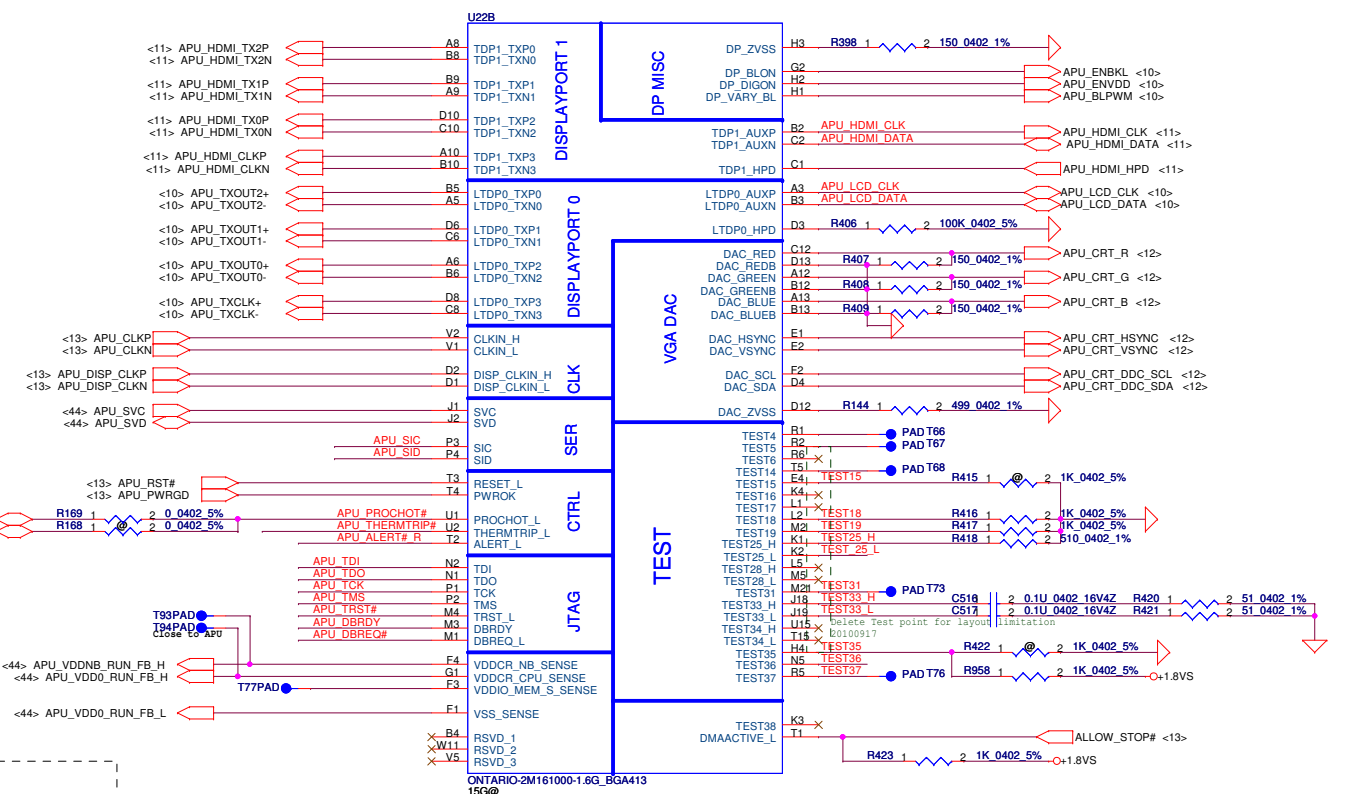
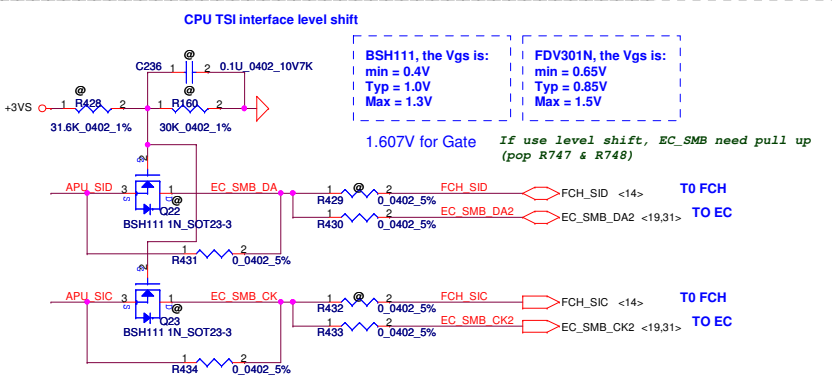
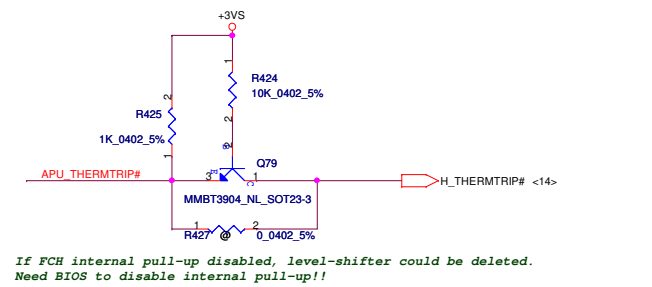
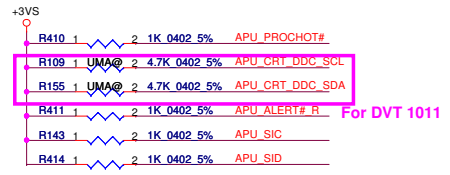
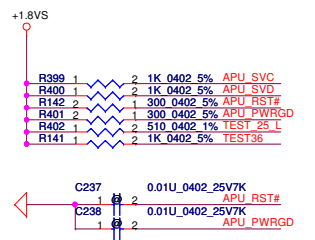
## BACO option :

PE\_GPIO0 : High ->Normal operation (dGPU is not reseton BACO mode)  
 PE\_GPIO1 : Low -> dGPU Power OFF ; High -> dGPU Power ON (always High)

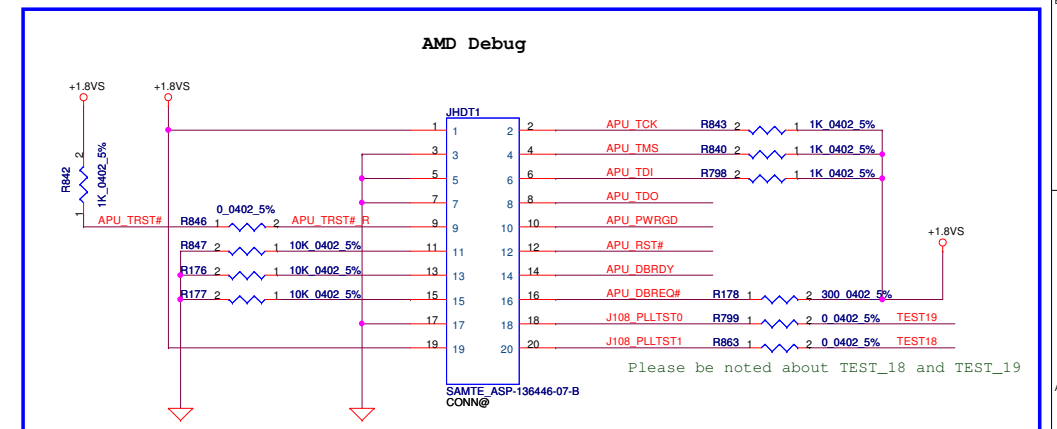
dGPU Power Pins	Voltage	PX 3.0	BACO Mode	Max current
PCIE_PVDD, PCIE_VDDR, TSVDD, VDDR4, VDD_CT, DPE_PVDD, DP[F:E]_VDD18, DP[D:A]_PVDD, DP[D:A]_VDD18, AVDD, VDD1DI, A2VDDQ, VDD2DI, DPLL_PVDD, MPV18, and SPV18	1.8V	OFF	ON	1679mA
DP[F:E]_VDD10, DP[D:A]_VDD10, DPLL_VDDC, and SPV10	1.0V	OFF	ON	575mA
PCIE_VDDC	1.0V	OFF	ON	2A
VDDR3 , and A2VDD	3.3V	OFF	ON	190mA
BIF_VDDC (current consumption = 55mA@1.0V, in BACO mode)	Same as VDDC	OFF	ON Same as PCIE_VDDC	70mA
VDDR1	1.5V	OFF	OFF	2.8A
VDDC/VDDCI	1.12V	OFF	OFF	12.9A



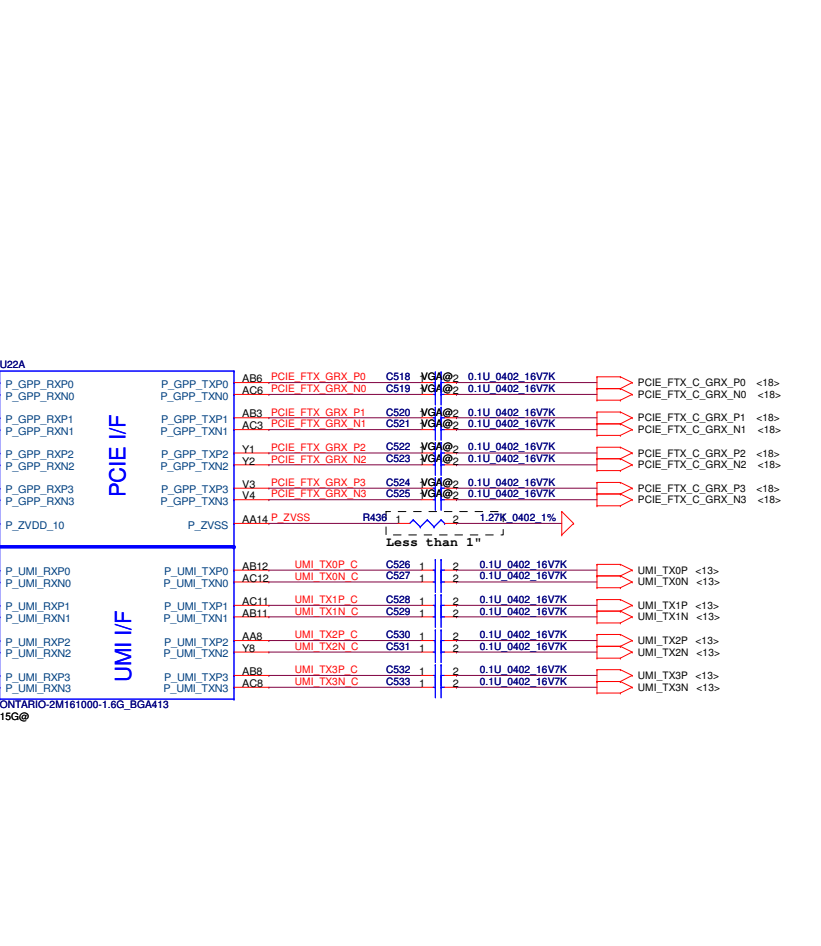
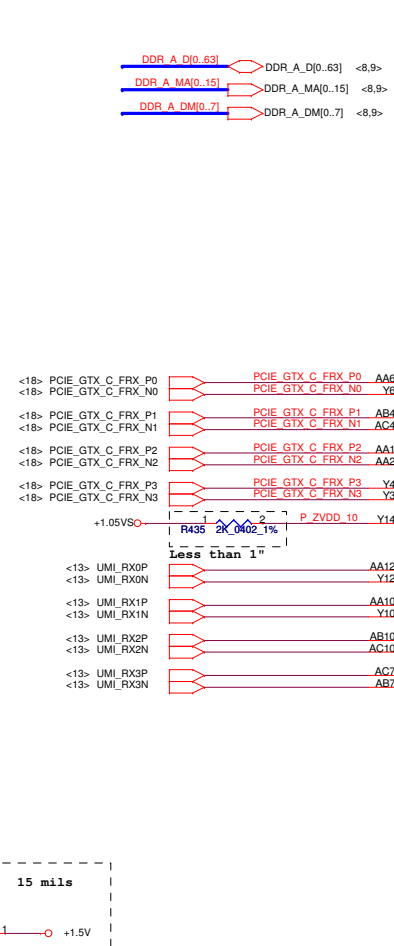
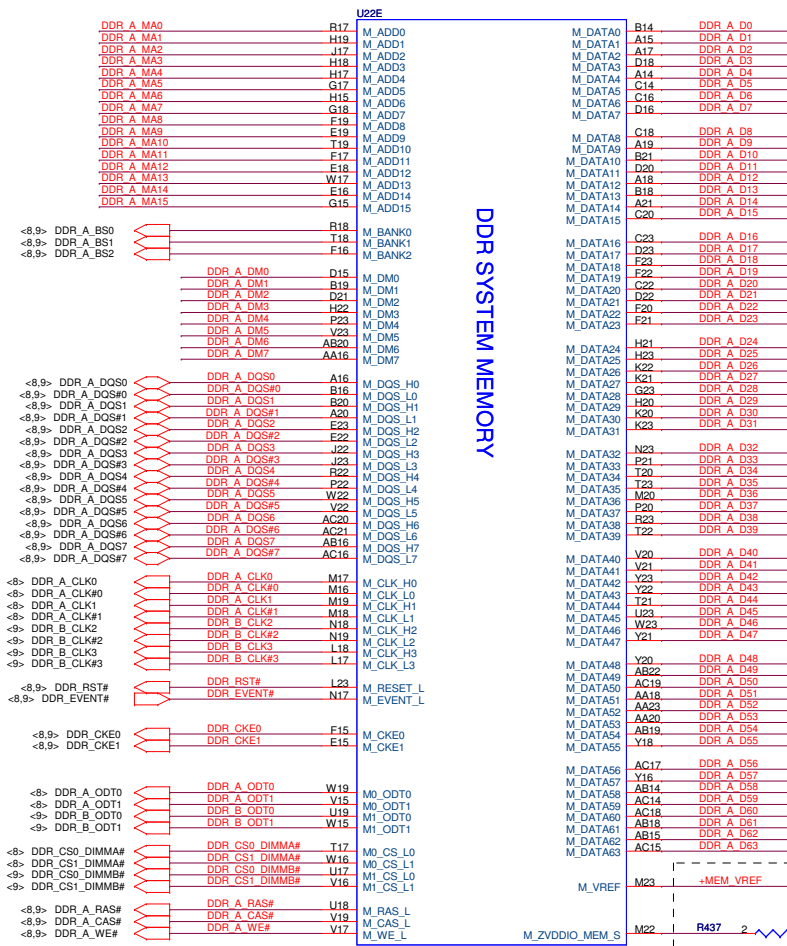
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APU : SA00004D060 (S IC ZACATE 2M151132B1240 1.5G BGA)  
APU : SA000046G80 (S IC ZACATE 2M161232B2240 1.6G BGA)

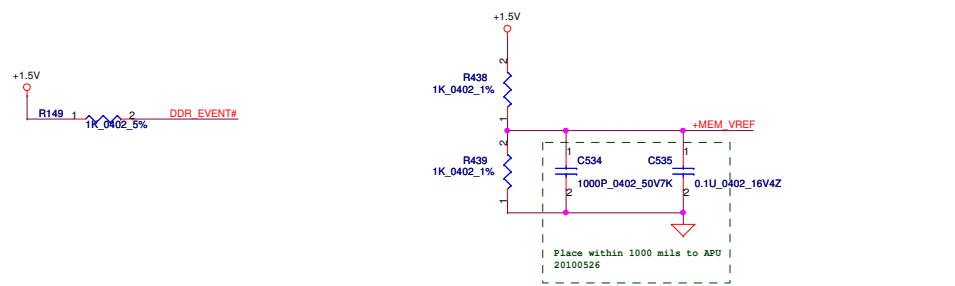


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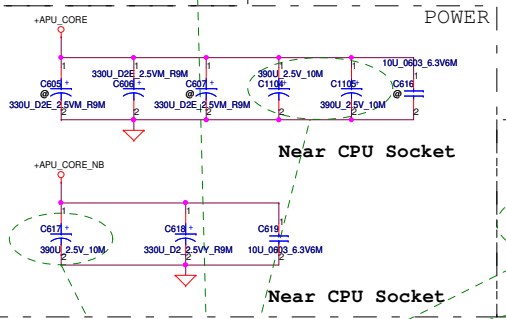
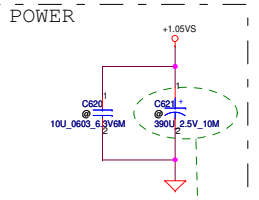
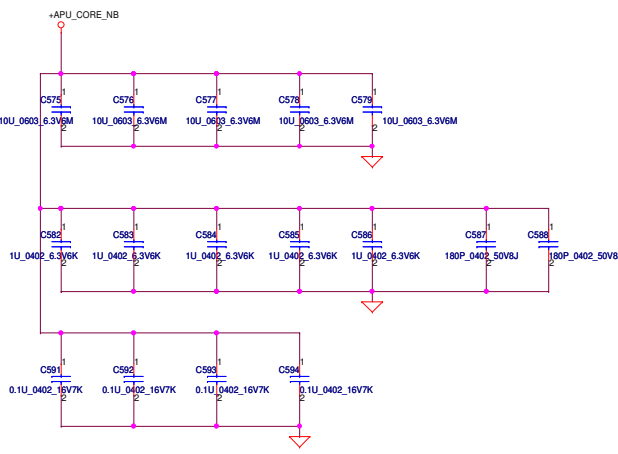
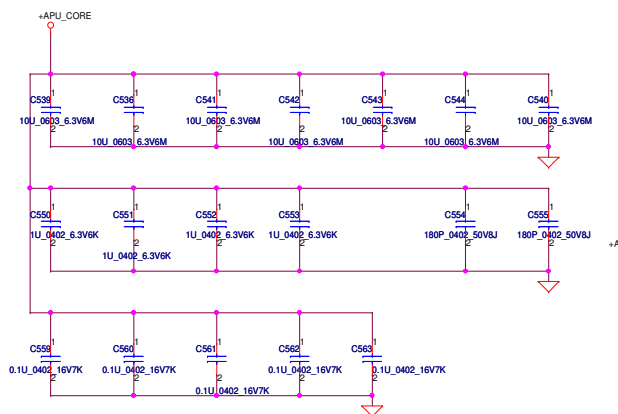


DDR SYSTEM MEMORY

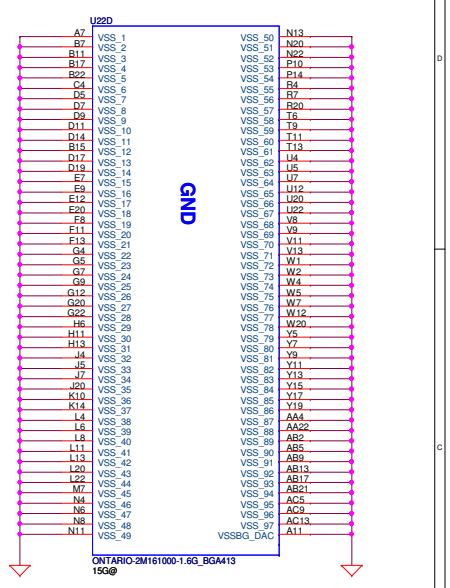
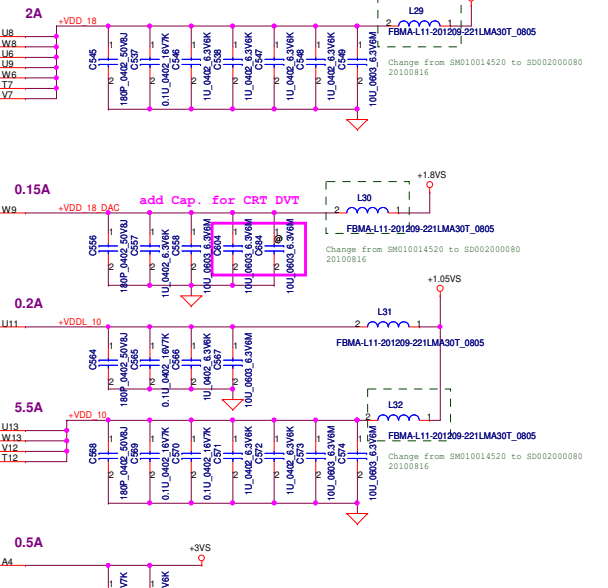
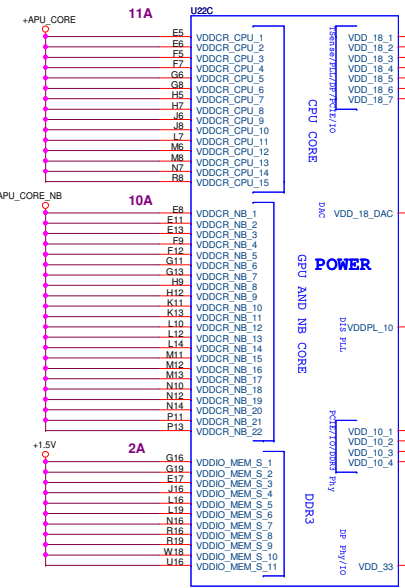
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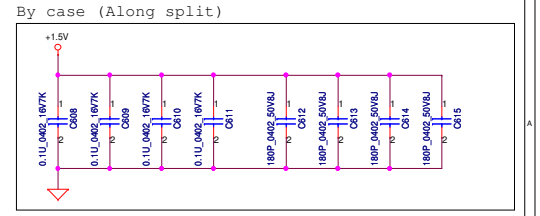


(390uF\_2.5V\_6.3x5.7\_ESR10m) \*1=(SF000002000)

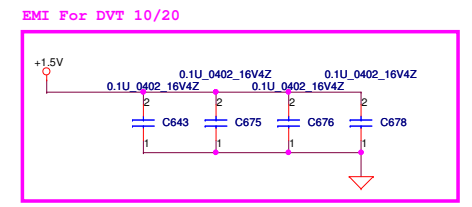
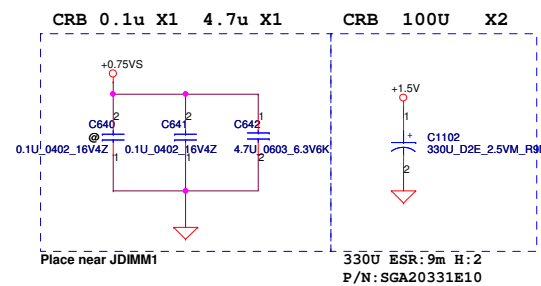
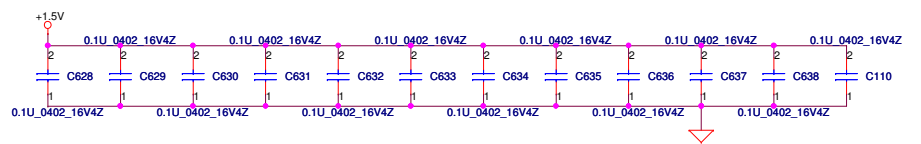
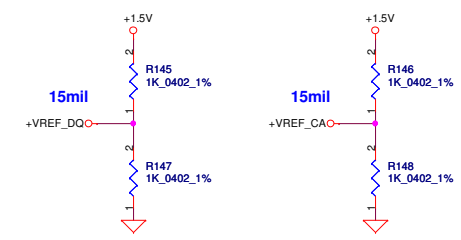
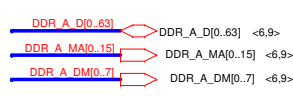
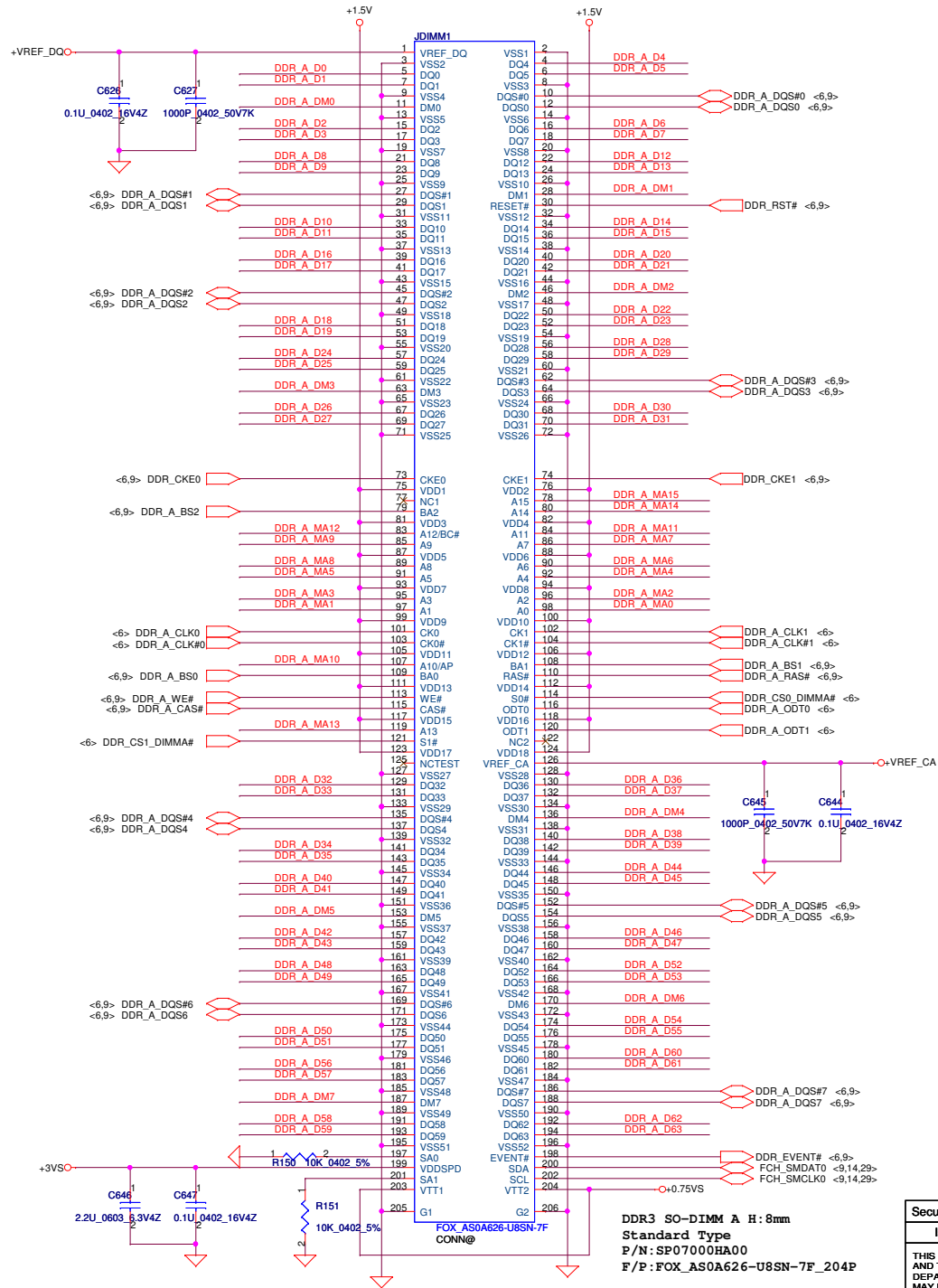


**Power Cap. Summary**

- APU**
  - S POLY C 330U 2.5V M D2E TPE LESR9M H1.8 ---->+APU\_CORE (Qty : 3) Unpop:2
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+APU\_CORE (Qty : 2)
  - S POLY C 330U 2.5V Y D2 LESR9M EEF5 H1.9 ---->+APU\_CORE\_NB (Qty : 1)
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+APU\_CORE\_NB (Qty : 1)
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+1.5V (Qty : 1)
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+1.05VS (Qty : 1)
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+1.8VS (Qty : 1)
- DDR3 Socket**
  - S POLY C 330U 2V M X LESR6M SX H1.9 ---->+1.5V (Qty : 1)
- FCH**
  - S POLY C 330U 2.5V Y D2 LESR9M EEF5 H1.9 ---->+1.1VS (Qty : 1) UMA unpop
- GPU**
  - S POLY C 330U 2V M X LESR6M SX H1.9 ---->+VGA\_CORE (Qty : 2) Unpop:1
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+VGA\_CORE (Qty : 1)
  - S A-P\_CAP 390U 2.5V M 6.3X5.7 LESR10M VU ---->+1.5VSG (Qty : 1)
- USB**
  - S A-P\_CAP 220U 6.3V M C45 R17M SVPE H4.4 ---->+USB\_VCCA (Qty : 1)





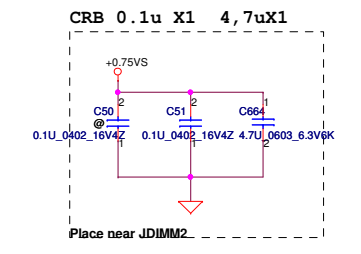
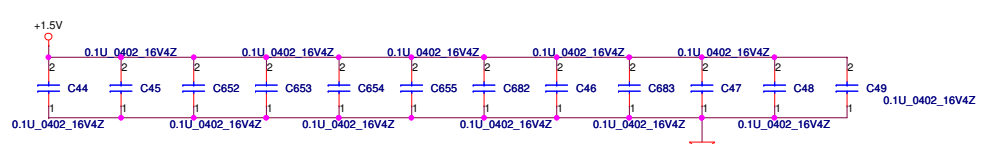
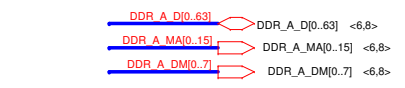
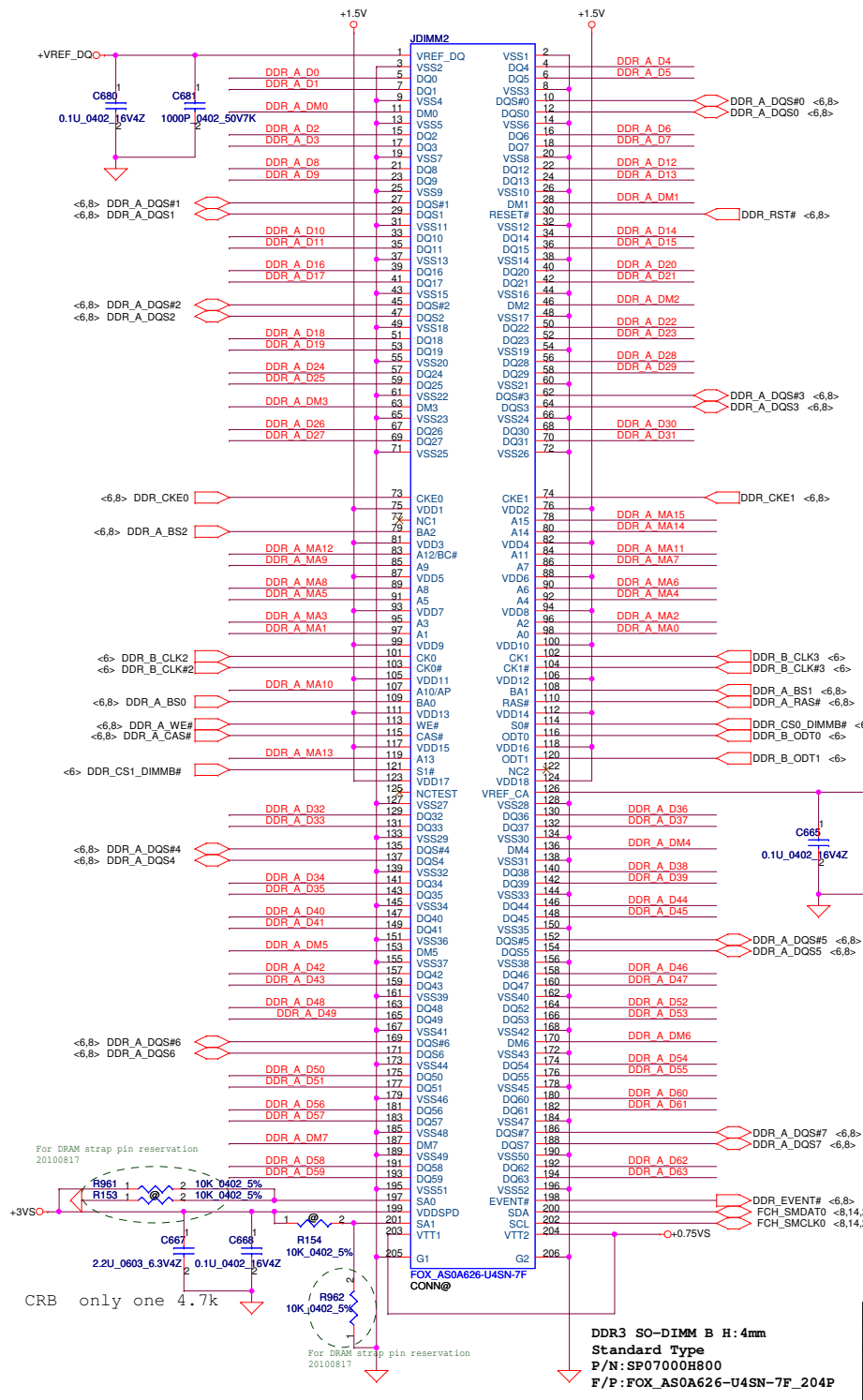


DDR3 SO-DIMM-A H: 8mm  
Standard Type  
P/N: SP07000HA00  
P/P: FOX\_AS0A626-U8SN-7F\_204P

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Title <b>DDR3 SODIMM-I Socket</b>		Compal Electronics, Inc.	
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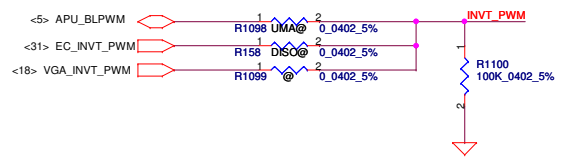
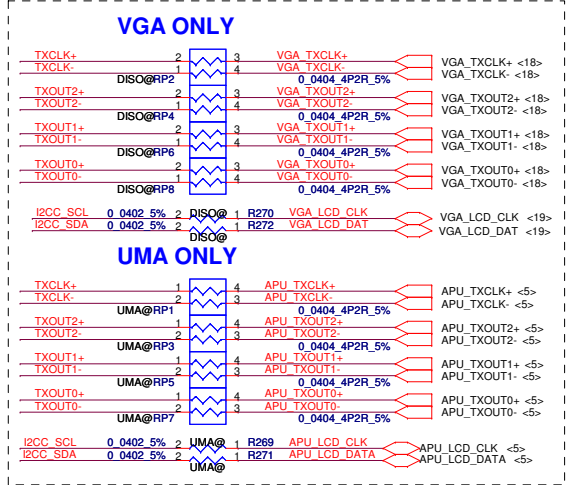
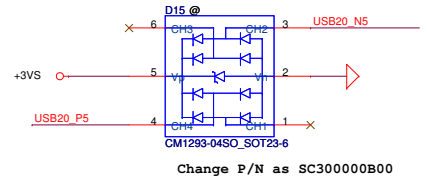
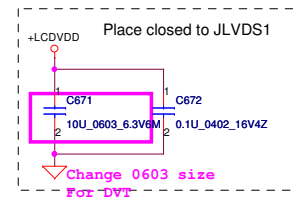
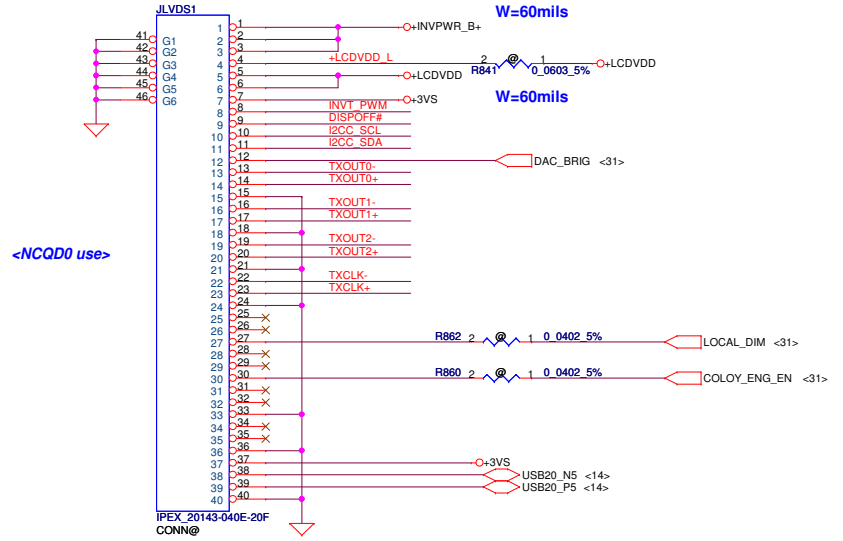
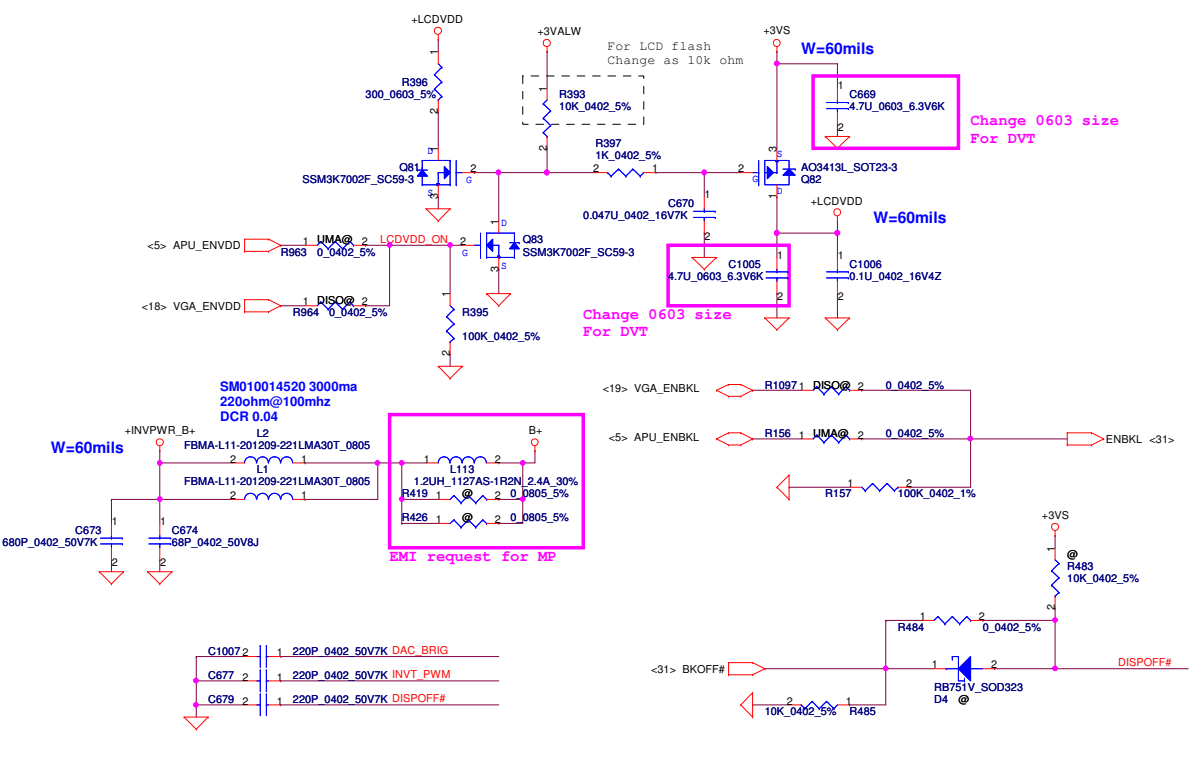




Security Classification		Compal Secret Data		Title	
Issued Date	2010/08/20	Deciphered Date	2011/08/20	DDR3 SODIMM-II Socket	
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Document Number	LA-7092P P5WE6/H6/S6	Revision	1.0	Date	Wednesday, November 24, 2010
			Sheet	9	of 47

# LCD POWER CIRCUIT

# LCD/LED PANEL Conn.

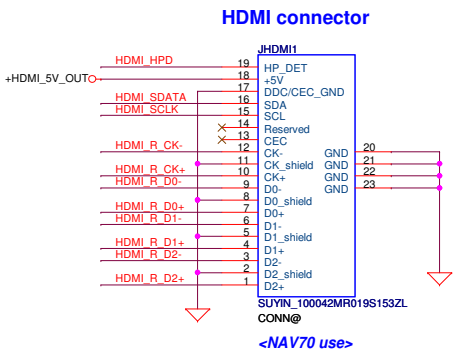
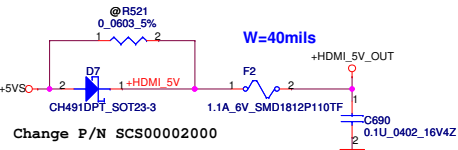
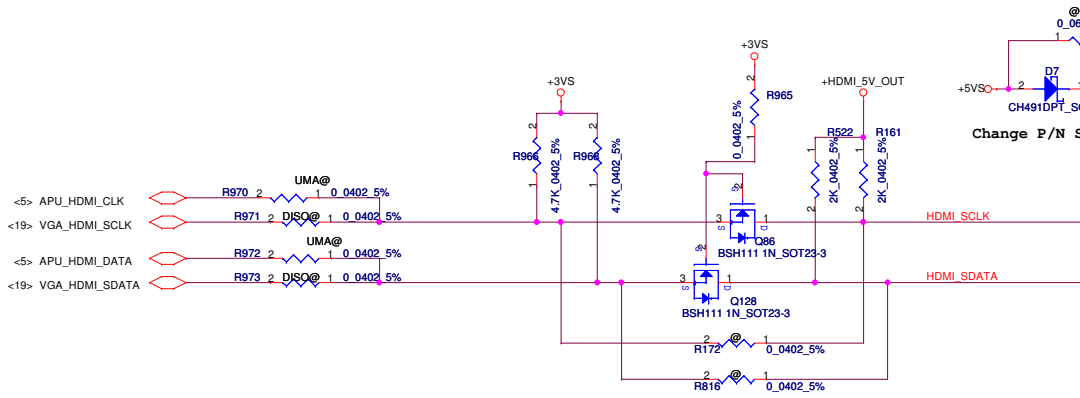


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Issued Date	2010/08/20	Deciphered Date	2011/08/20	LVDS/CAMERA
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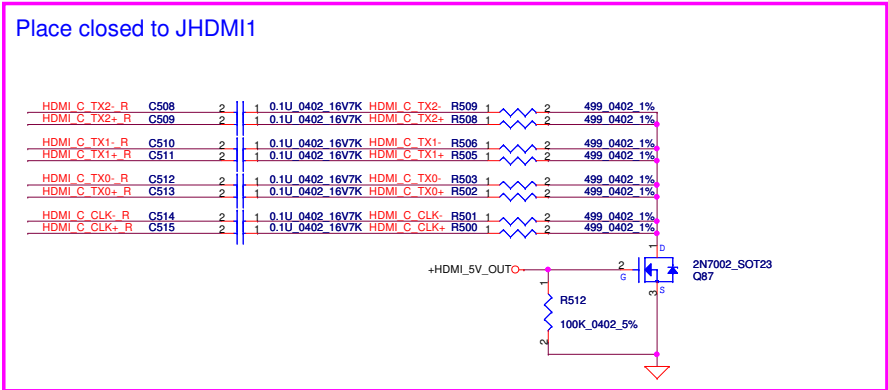
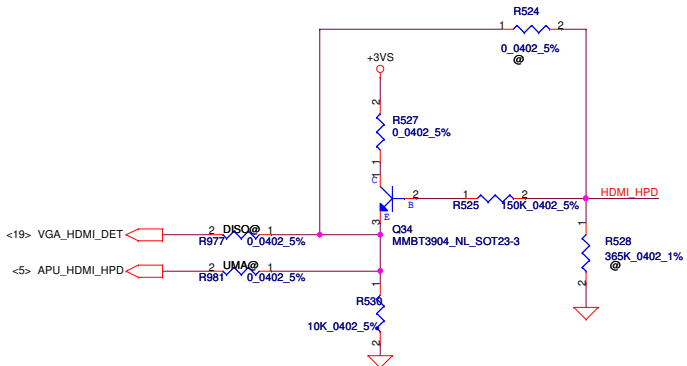
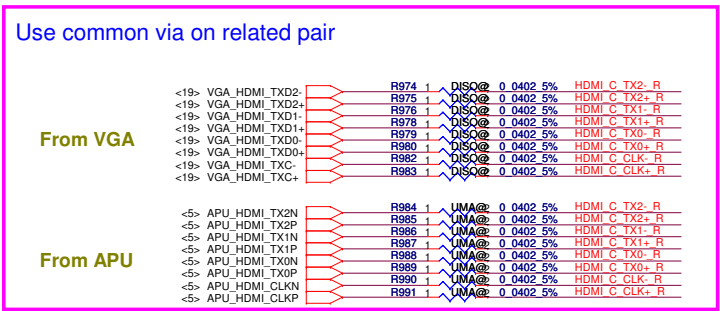
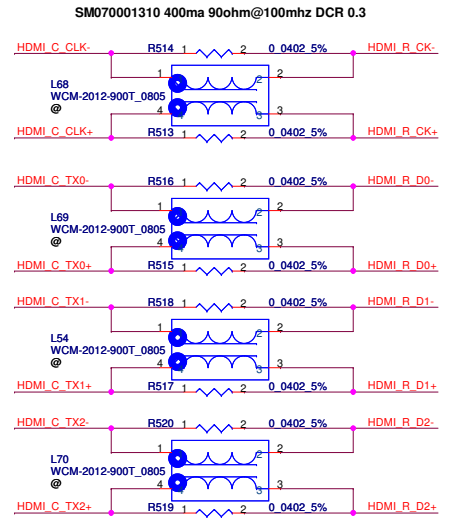
Compal Electronics, Inc.

LA-7092P P5WE6/H6/S6

Rev 1.0

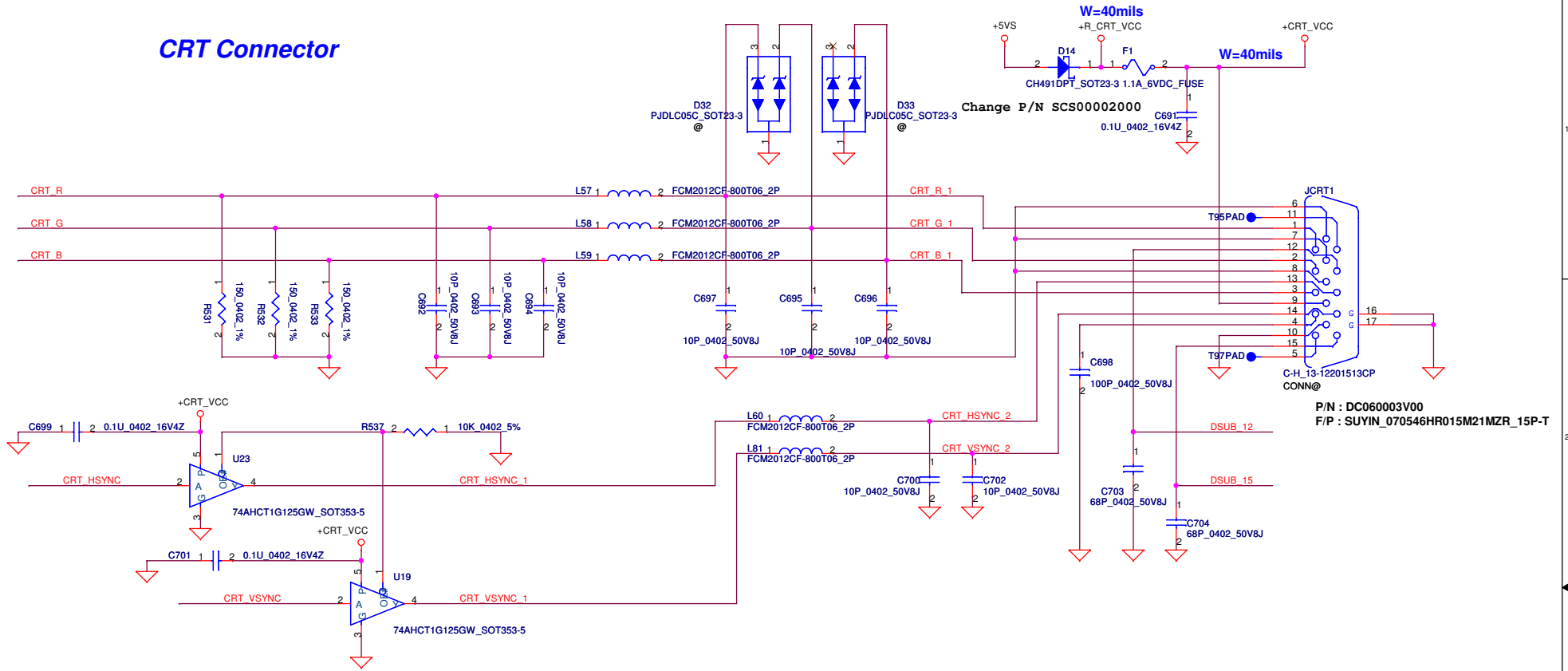


Place closed to JHDMI1



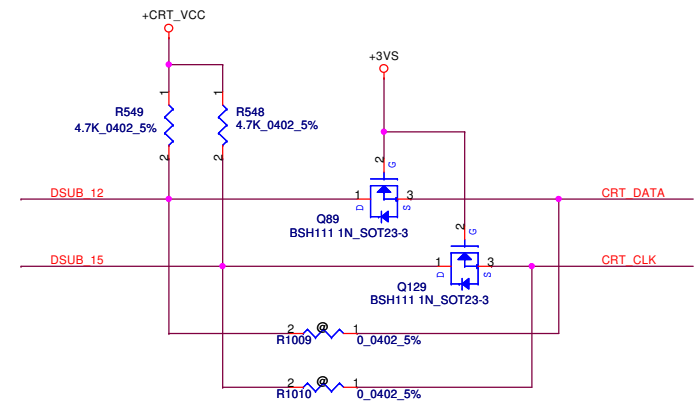
Security Classification	Compal Secret Data		Title		Compal Electronics, Inc.	
Issued Date	2010/08/20	Deciphered Date	2011/08/20	HDMI Connector		
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# CRT Connector



P/N : DC060003V00  
F/P : SUYIN\_070546HR015M21MZR\_15P-T

## Close to Conn side



### Use common via on related pair

#### From APU

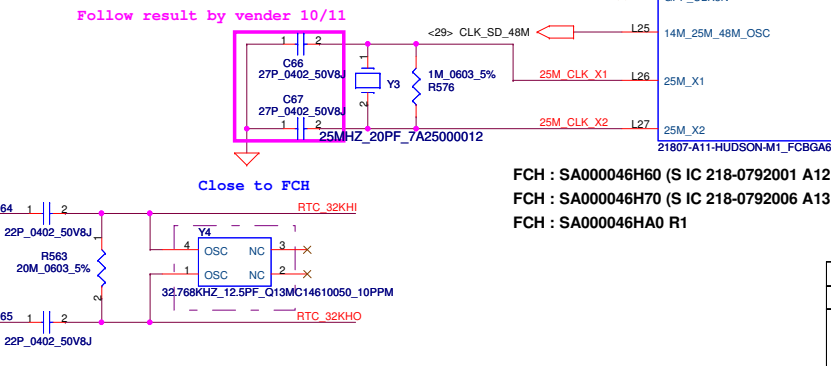
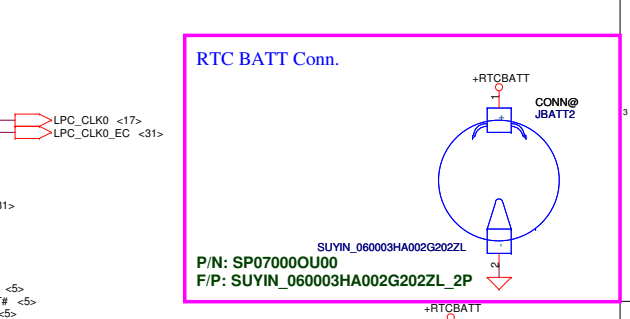
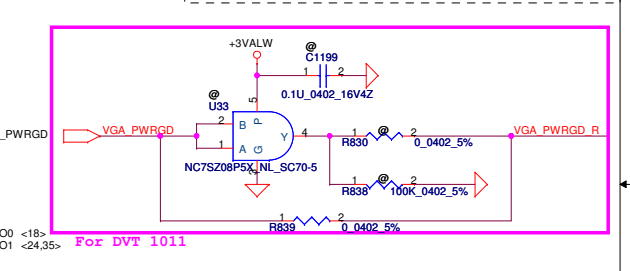
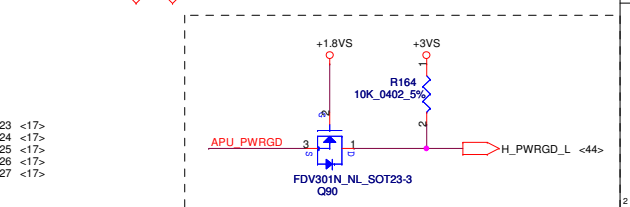
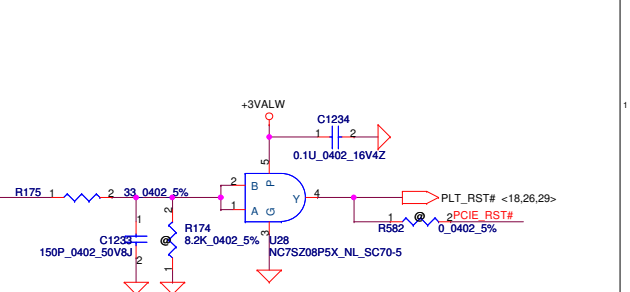
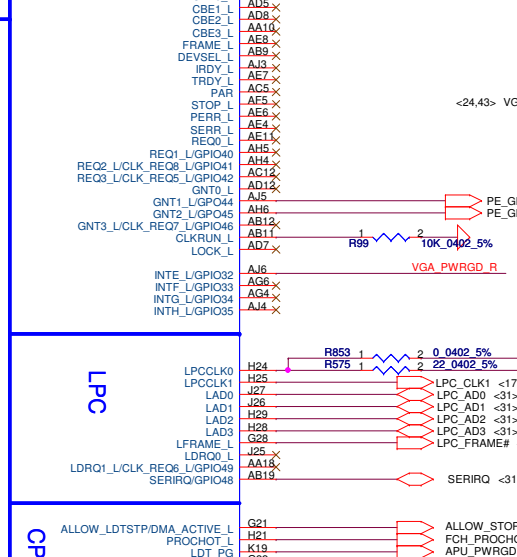
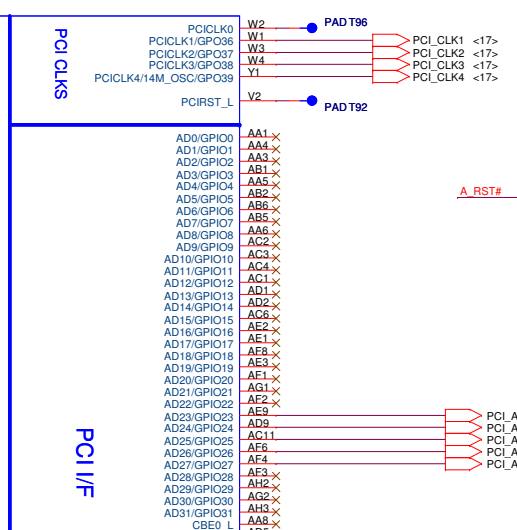
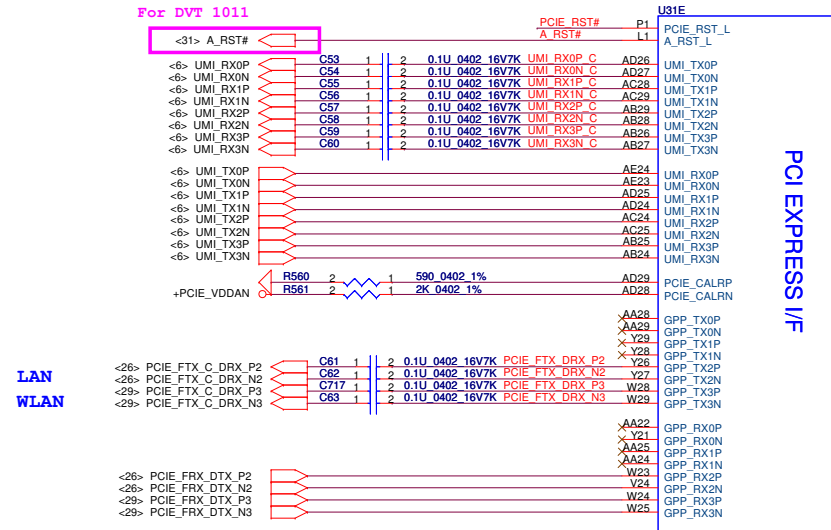
<5>	APU_CRT_R	APU_CRT_R	R995	2	UMA@	1	0.0402_5%	CRT_R
<5>	APU_CRT_G	APU_CRT_G	R996	2	UMA@	1	0.0402_5%	CRT_G
<5>	APU_CRT_B	APU_CRT_B	R997	2	UMA@	1	0.0402_5%	CRT_B
<5>	APU_CRT_HSYNC	APU_CRT_HSYNC	R998	2	UMA@	1	0.0402_5%	CRT_HSYNC
<5>	APU_CRT_VSYNC	APU_CRT_VSYNC	R999	2	UMA@	1	0.0402_5%	CRT_VSYNC
<5>	APU_CRT_DDC_SDA	APU_CRT_DDC_SDA	R1000	2	UMA@	1	0.0402_5%	CRT_DATA
<5>	APU_CRT_DDC_SCL	APU_CRT_DDC_SCL	R1001	2	UMA@	1	0.0402_5%	CRT_CLK

#### From VGA

<19>	VGA_CRT_R	VGA_CRT_R	R1002	2	DISO@	1	0.0402_5%	CRT_R
<19>	VGA_CRT_G	VGA_CRT_G	R1003	2	DISO@	1	0.0402_5%	CRT_G
<19>	VGA_CRT_B	VGA_CRT_B	R1004	2	DISO@	1	0.0402_5%	CRT_B
<19>	VGA_CRT_HSYNC	VGA_CRT_HSYNC	R1005	2	DISO@	1	0.0402_5%	CRT_HSYNC
<19>	VGA_CRT_VSYNC	VGA_CRT_VSYNC	R1006	2	DISO@	1	0.0402_5%	CRT_VSYNC
<19>	VGA_CRT_DATA	VGA_CRT_DATA	R1007	2	DISO@	1	0.0402_5%	CRT_DATA
<19>	VGA_CRT_CLK	VGA_CRT_CLK	R1008	2	DISO@	1	0.0402_5%	CRT_CLK

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Issued Date	2010/08/20	Deciphered Date	2011/08/20	CRT Connector	
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Customer	Document Number	Date		LA-7092P P5WE6/H6/S6	1.0
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For DVT 1011



FCH : SA000046H60 (S IC 218-0792001 A12 HUDSON-M1 FCBGA 605P)

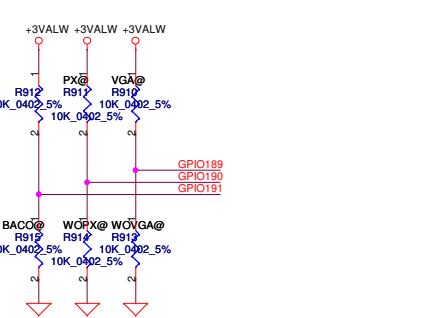
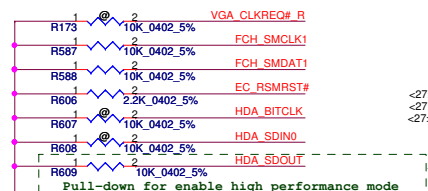
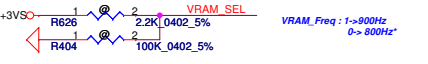
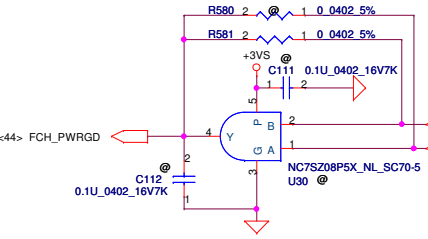
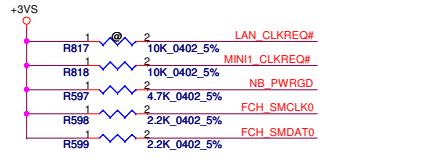
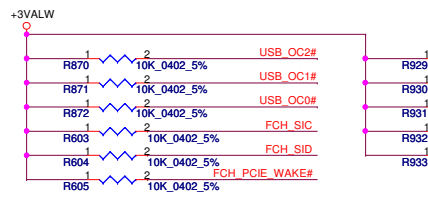
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FCH : SA000046HA0 R1

Security Classification	Compal Secret Data	
Issued Date	2010/08/20	Deciphered Date
		2011/08/20

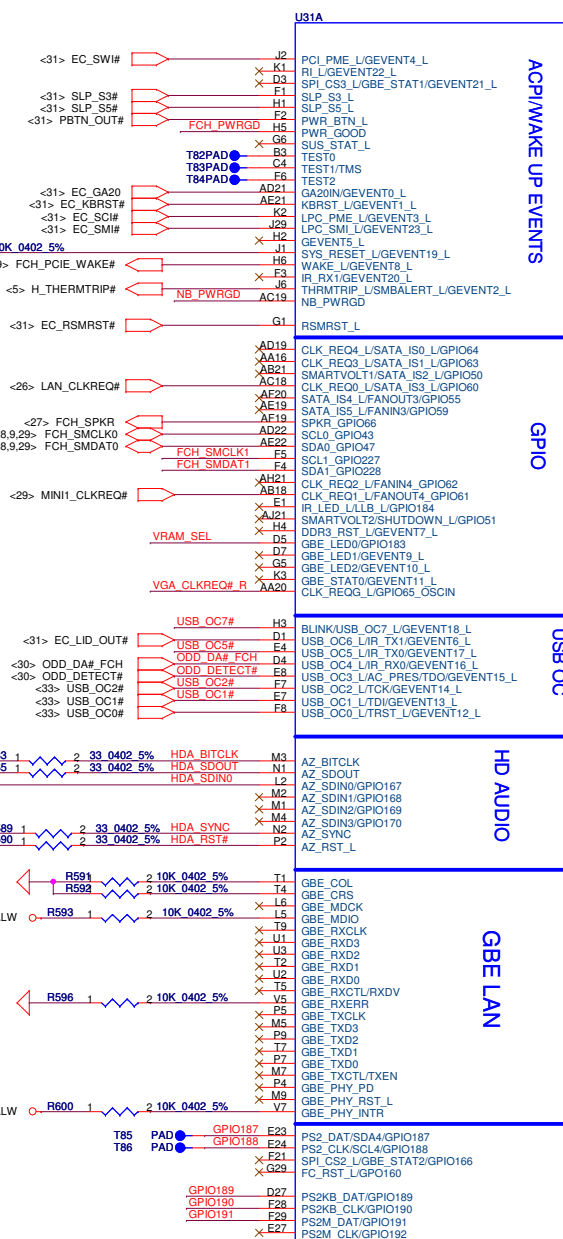
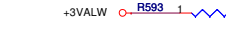
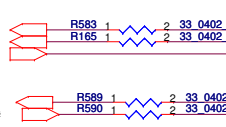
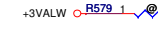
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Compal Electronics, Inc.	
FCH PCIE/PCI/ACPI/LPC/RTC	
Document Number	LA-7092P P5WE6/H6/S6
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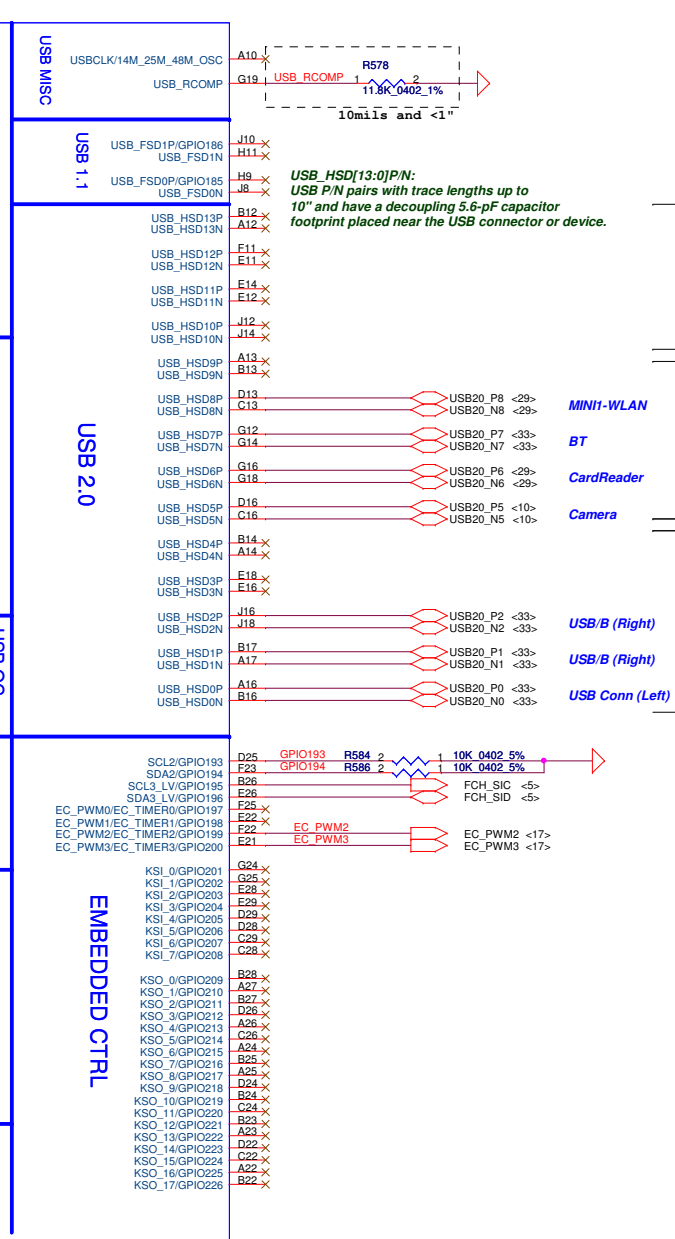


SKU_ID (GPIO189)	SKU_ID: 1->VGA* 0->UMA
PX_FN (GPIO190)	PX_Function: 1->PX Enable* 0->PX Disable
PX_SEL (GPIO191)	PX_SEL: 1->PX 3.0* 0->PX 4.0

GPIO	189	190	191
UMA	0	0	1
DISO	1	0	1
PX3.0	1	1	1
PX4.0	1	1	0



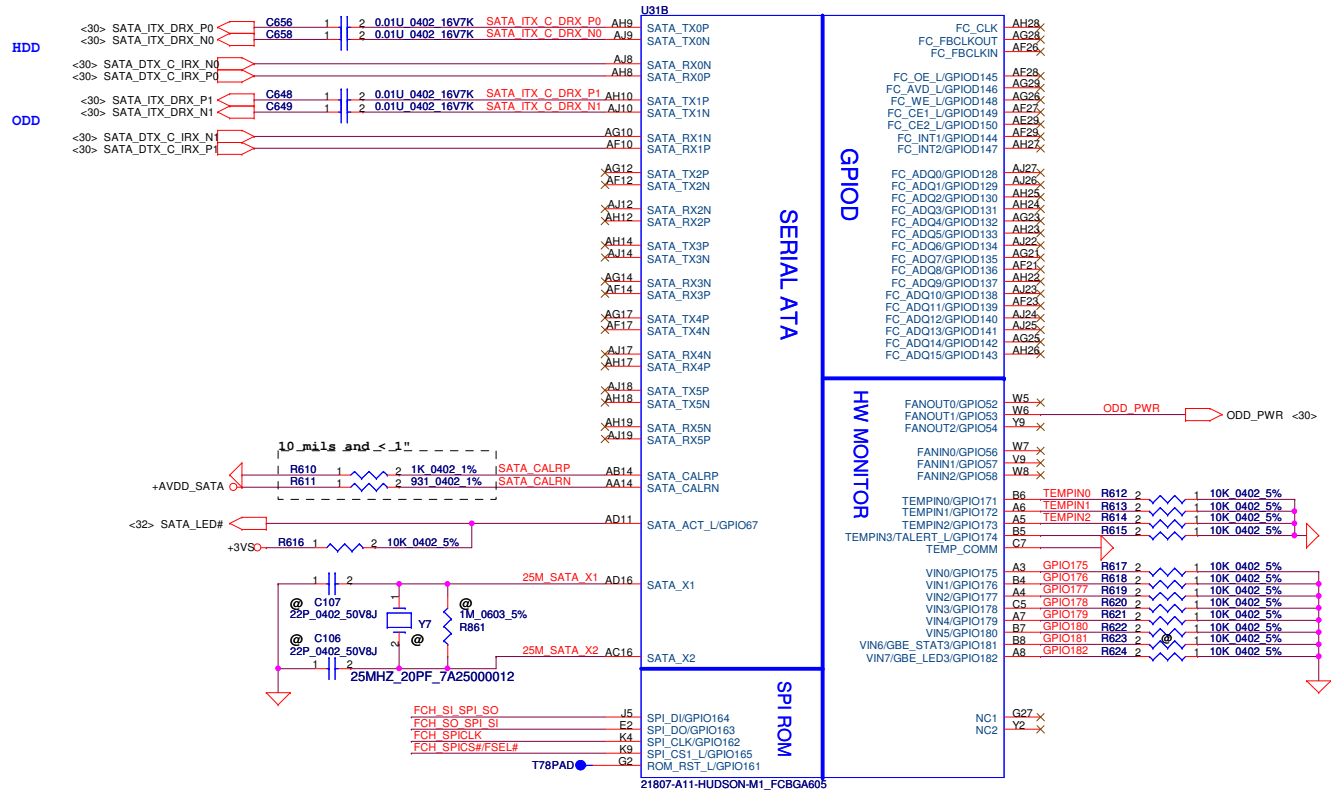
21807-A11-HUDSON-M1\_FCBGA605



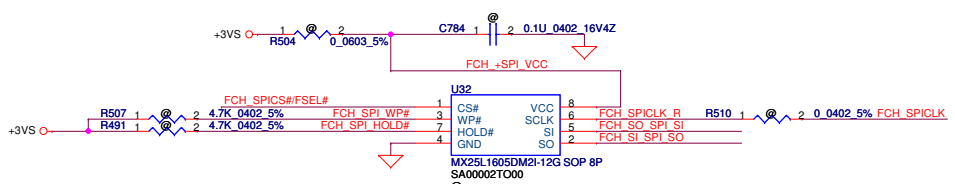
USB\_HSD13[0:P/N]:  
USB P/N pairs with trace lengths up to 10" and have a decoupling 5.6-pF capacitor footprint placed near the USB connector or device.

Root  
Mini1-WLAN  
BT  
CardReader  
Camera  
USB/B (Right)  
USB/B (Right)  
USB Conn (Left)  
Root  
EHCI CTL  
DEV 19, Fn 2  
Root  
EHCI CTL  
DEV 18, Fn 2  
<Support Wakeup>

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Issued Date	2010/08/20	Deciphered Date	2011/08/20	FCH HDA/USB/ACPI
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Document Number	LA-7092P P5WE6/H6/S6	Rev	1.0	Wednesday, November 24, 2010 14 of 47



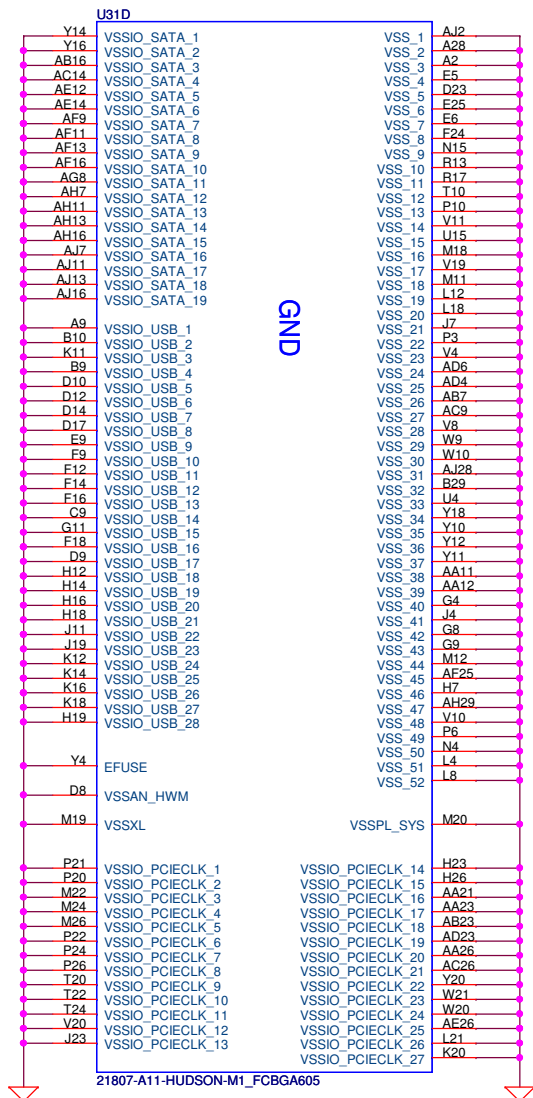
VIN6/GBE\_STAT3/GPIO181  
Enable integrated pull-down/up and leave unconnected



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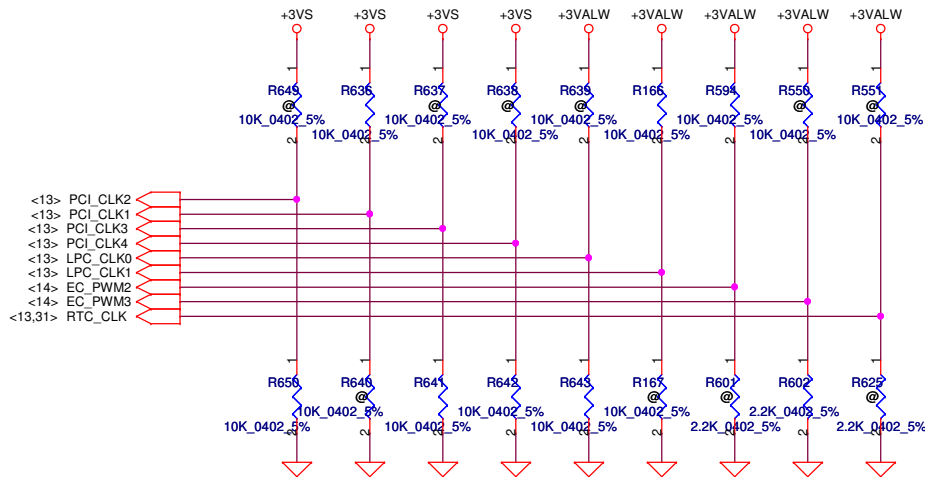


21807-A11-HUDSON-M1\_FCBGA605

# REQUIRED STRAPS

Check Internal PU/PD

PULL HIGH	PCI_CLK2	PCI_CLK1	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	RTC_CLK	EC_PWM2 EC_PWM3
	WATCHDOG TIMER ENABLE	ALLOW PCIE GEN2 DEFAULT	USE DEBUG STRAP	NON Fusion CLOCK Mode	Internal EC ENABLE	Internal CLKGEN Mode DEFAULT	S5 PLUS MODE DISABLED DEFAULT	LPC ROM (H,L) DEFAULT
PULL LOW	WATCHDOG TIMER DISABLE DEFAULT	FORCE PCIE GEN1	IGNORE DEBUG STRAP	Fusion CLOCK Mode	Internal EC DISABLE	External CLKGEN Mode	S5 PLUS MODE ENABLED	SPI ROM(L,H)



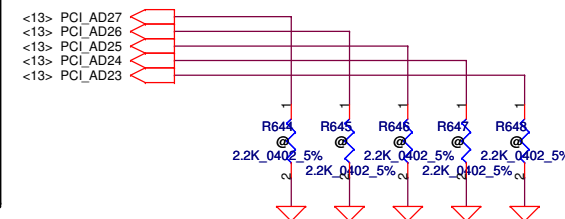
# DEBUG STRAPS

FCH M1 HAS 15K INTERNAL PU FOR PCI\_AD[27:23]

PULL HIGH	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23 Enable ROM Straps
	USE internal PLL generated PLL CLK DEFAULT	ILA AUTORUN Disabled DEFAULT	Selects FC PLL DEFAULT	Disable I2C ROM DEFAULT	Required Setting DEFAULT
PULL LOW	BYPASS PCI PLL	ILA AUTORUN Enabled	FC PLL bypassed	Getting Value from I2C EPROM	Reserved

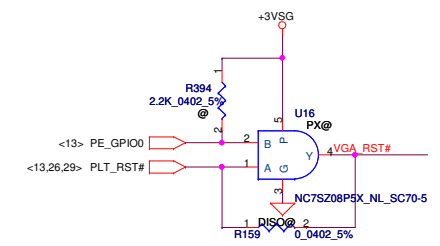
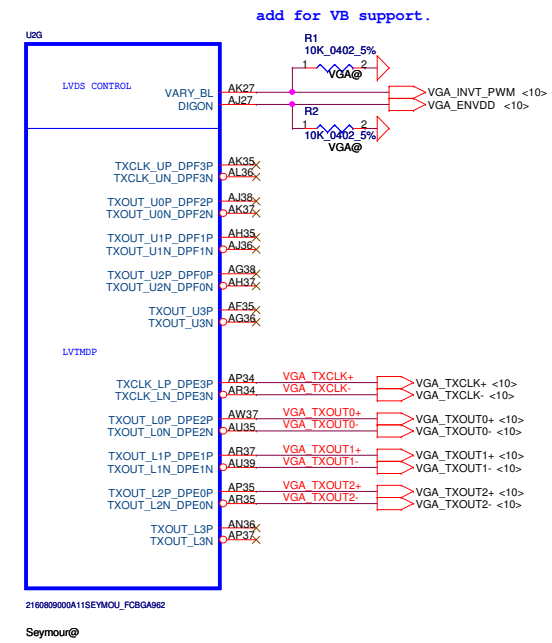
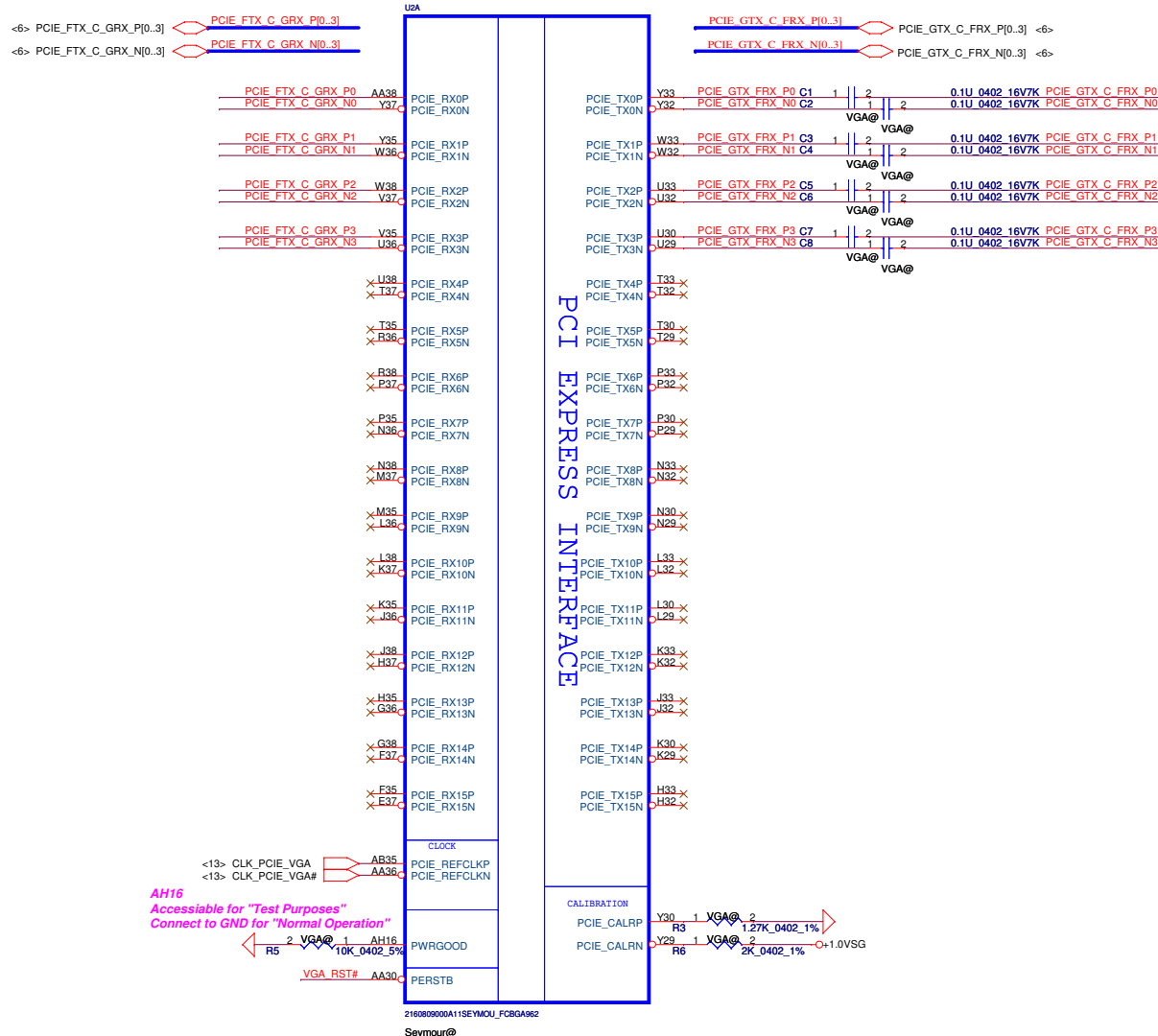
Check AD29,AD28 strap function

check default



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Date: Wednesday, November 24, 2010				Sheet	17 of 47

# GFX PCIE LANE REVERSAL



Seymour XT P/N: SA000047H10 (S IC 216-0809000 A11 SEYMOUR XT M2)  
 Robson XT P/N: SA00004DR20 (S IC 216-0774211 A11 Robson XT M2)

U2 Robson@  
 Robson XT-M2 A11  
 Robson A11 (SA00004DR20)

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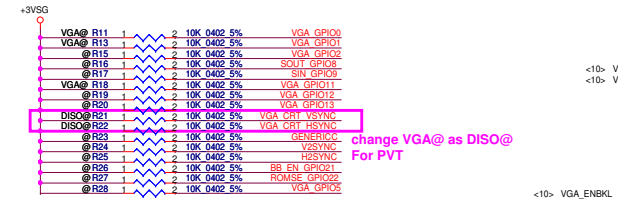
Strap Name	Setting	Pin Straps Description <all internal PD>
VIP_DEVICE_EN (GENLK_VSYNC)	0	VIP Device Strap Enable description to the software driver 0: Driver will ignore the value sampled on VHAD_0 during reset 1: VHAD_0 to determine whether or not a VIP slave device
VGA_DIS	0	VGA Disable determines 0: VGA Controller capacity enabled 1: The device will not be recognized as the system's VGA controller
TX_PWRS_ENB	1	Transmitter Power Saving Enable 0: 50% Tx output swing for mobile mode 1: full Tx output swing (Default setting for Desktop)
TX_DEEMPH_EN	1	PCI Express Transmitter De-emphasis Enable 0: Tx de-emphasis disabled for mobile mode 1: Tx de-emphasis enabled (Default setting for desktop)
CONFIG[2] CONFIG[1] CONFIG[0]	001	a) If BIOS_ROM_EN = 1, then Config[3:0] defines memory apertures the ROM type. 128 MB 000 b) If BIOS_ROM_EN = 0, then Config[2:0] defines the primary memory aperture size. 256 MB 001 64 MB 010
BIOS_ROM_EN	GPIO22	Enable external BIOS ROM device 0: Disable, 1: Enable
AUD[1] AUD[0]	HSVNC VSYNC	00: No audio function; 10: Audio for DisplayPort only; 01: Audio for DisplayPort and HDMI if adapter is detected; 11: Audio for both DisplayPort and HDMI
BIF_GEN2_EN	GPIO2	0: Advertises the PCIe device as 2.5 GT/s capable at power-on 1: Advertises the PCIe device as 5.0 GT/s capable at power-on 5.0 GT/s capability will be controlled by software
RESERVED	DNI	Internal use only. THIS PAD HAS AN INTERNAL PULL-DOWN AND MUST BE 0 V AT RESET. The pad may be left unconnected

Don't have this strap on Whistler and Seymour

NC on Park, Robson and Seymour

NC on Park and Robson

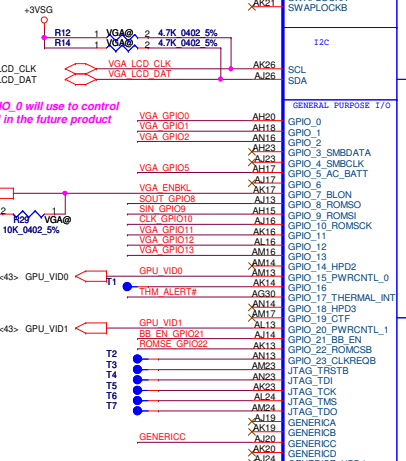
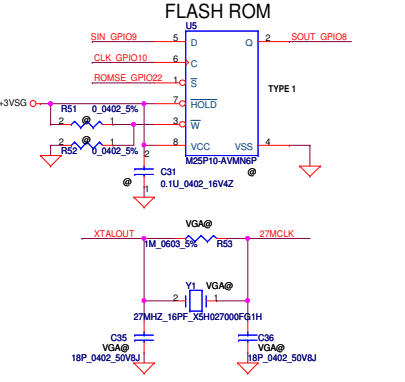
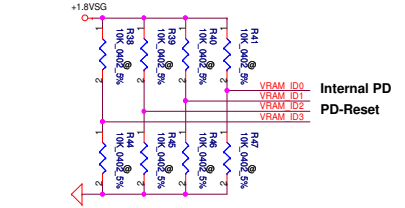
NC on Park, Robson and Seymour



change VGA@ as DIS0@ For PVT

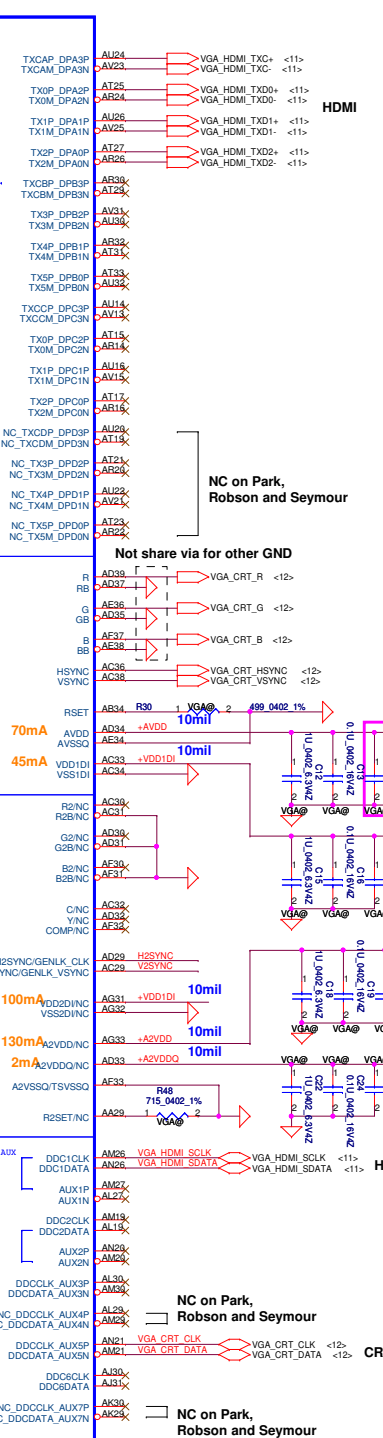
GPIO\_0 will use to control PSI in the future product

VRAM	Location	VRAM_ID3	VRAM_ID2	VRAM_ID1	VRAM_ID0
Samsung SA00004GS10 G-die K4W1G1646G-BC11	0	0	1	1	1
Hynix SA000032420 Orion-die H5TQ1G63BFR-12C	1	1	0	0	0
Hynix SA000041840 Vega-die H5TQ1G63DFR-11C	1	1	1	0	0



NC on Park

AL31 Manhattan/Vancouver is NC, Boardway is ADC input(0-1V) use measure regulator current or temperature



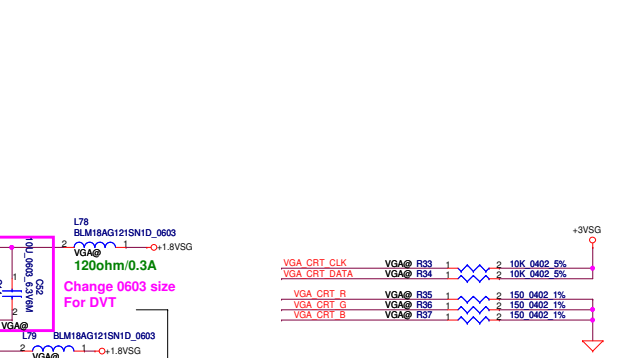
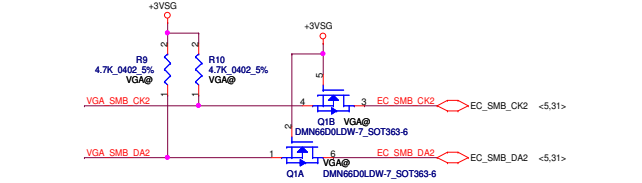
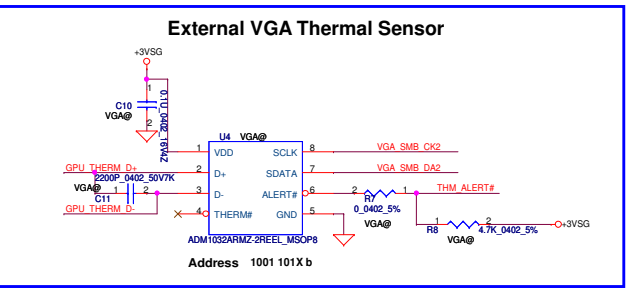
NC on Park, Robson and Seymour

Not share via for other GND

NC on Park, Robson and Seymour

NC on Park, Robson and Seymour

NC on Park, Robson and Seymour



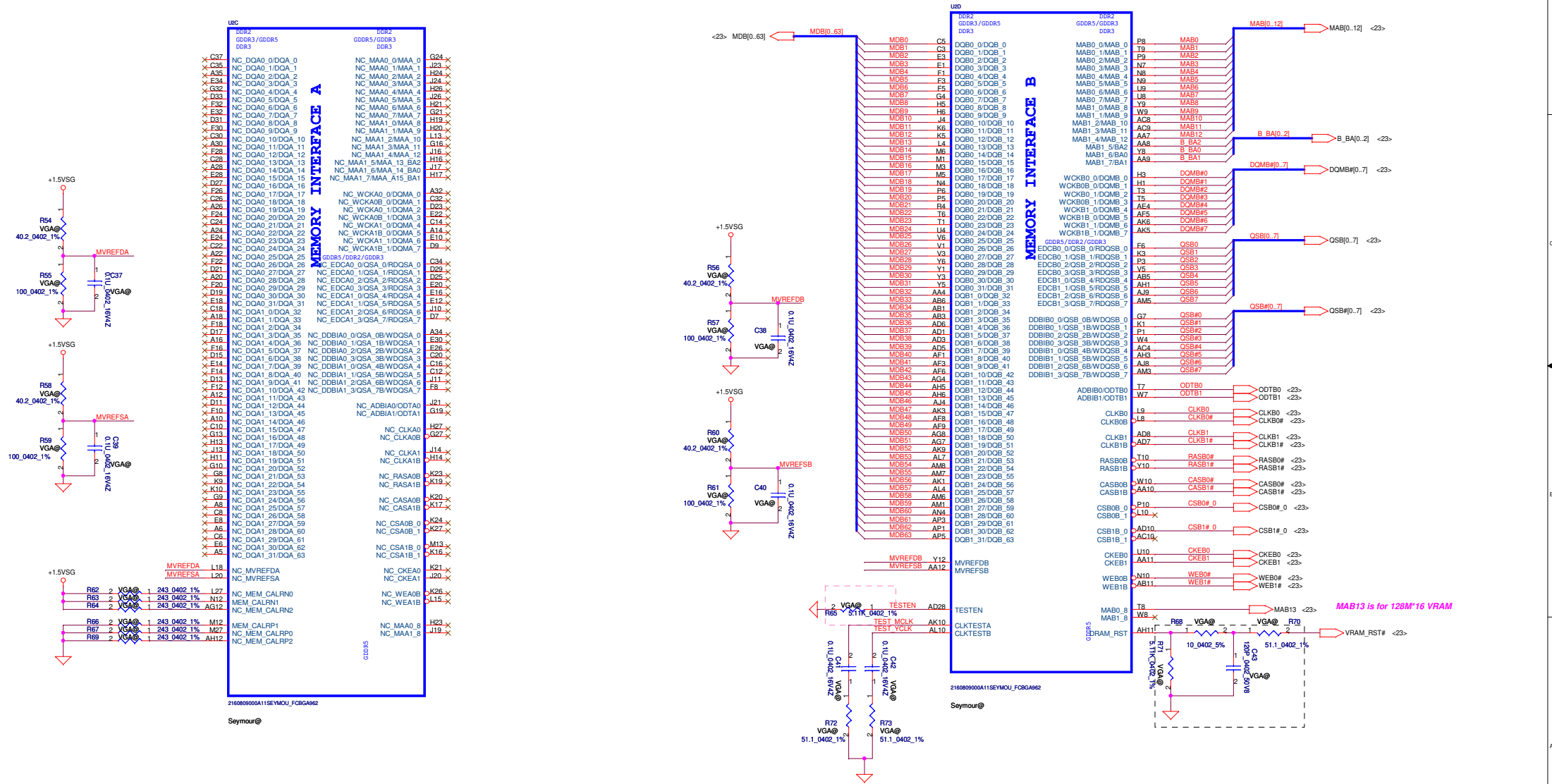
NC on Whistler and Seymour

In Whistler and Seymour, change to GENLK\_CLK, GENLK\_VSYNC for Global Swap Lock on multiple GPUs

Except A2VSSQ change to TSVSSQ, others are NC on Whistler and Seymour

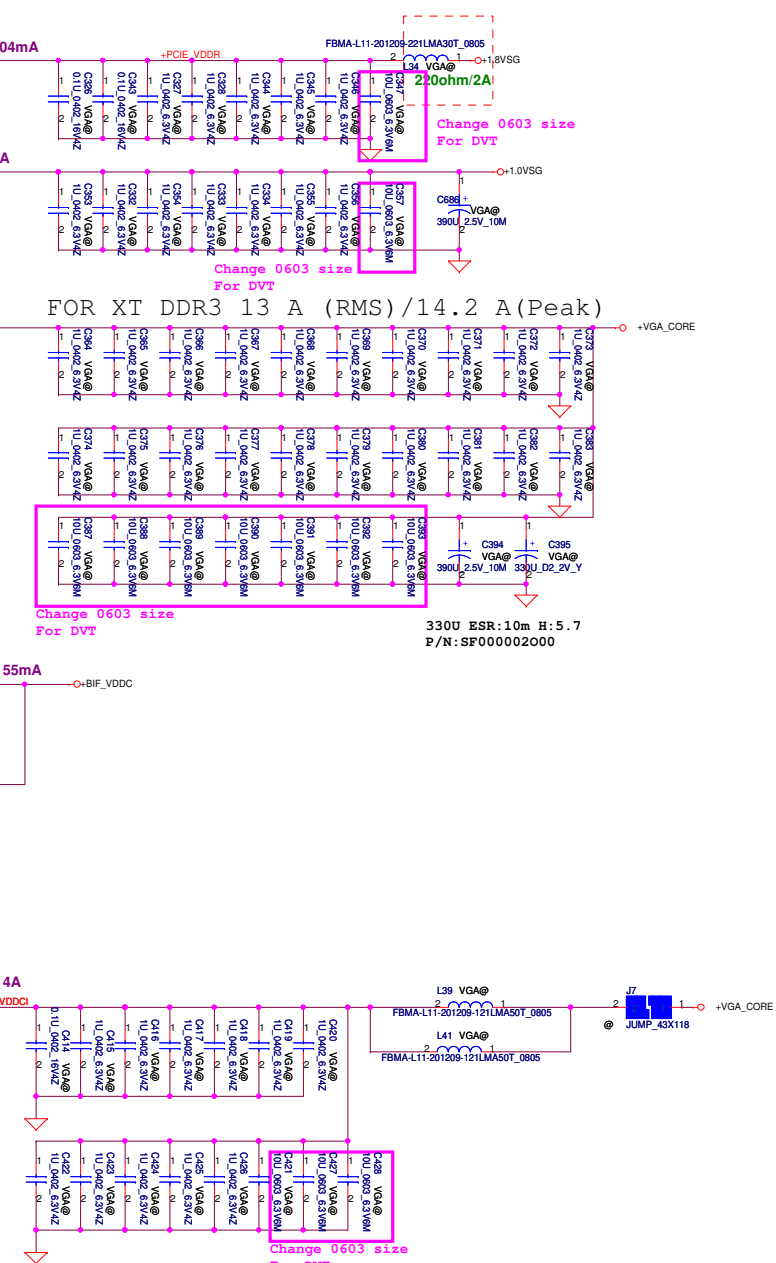
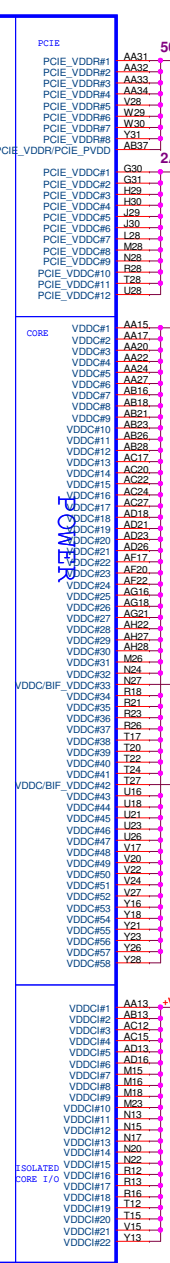
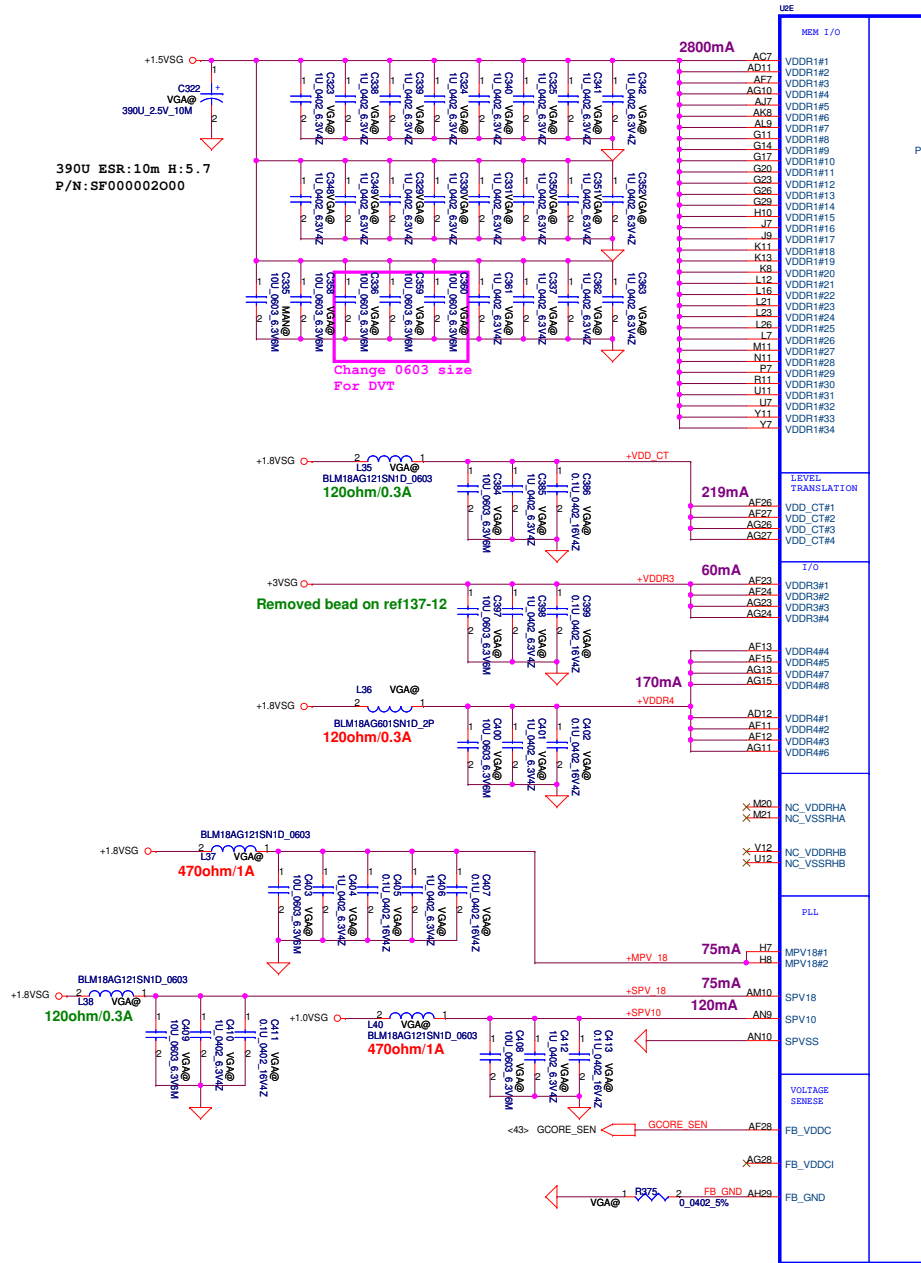
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Issued Date	2010/08/20	Deciphered Date	2011/08/20	Title	Vancouver Strape/DP/HDMI/CRT
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# Robson, Seymour only support single channel memory (channel B only)



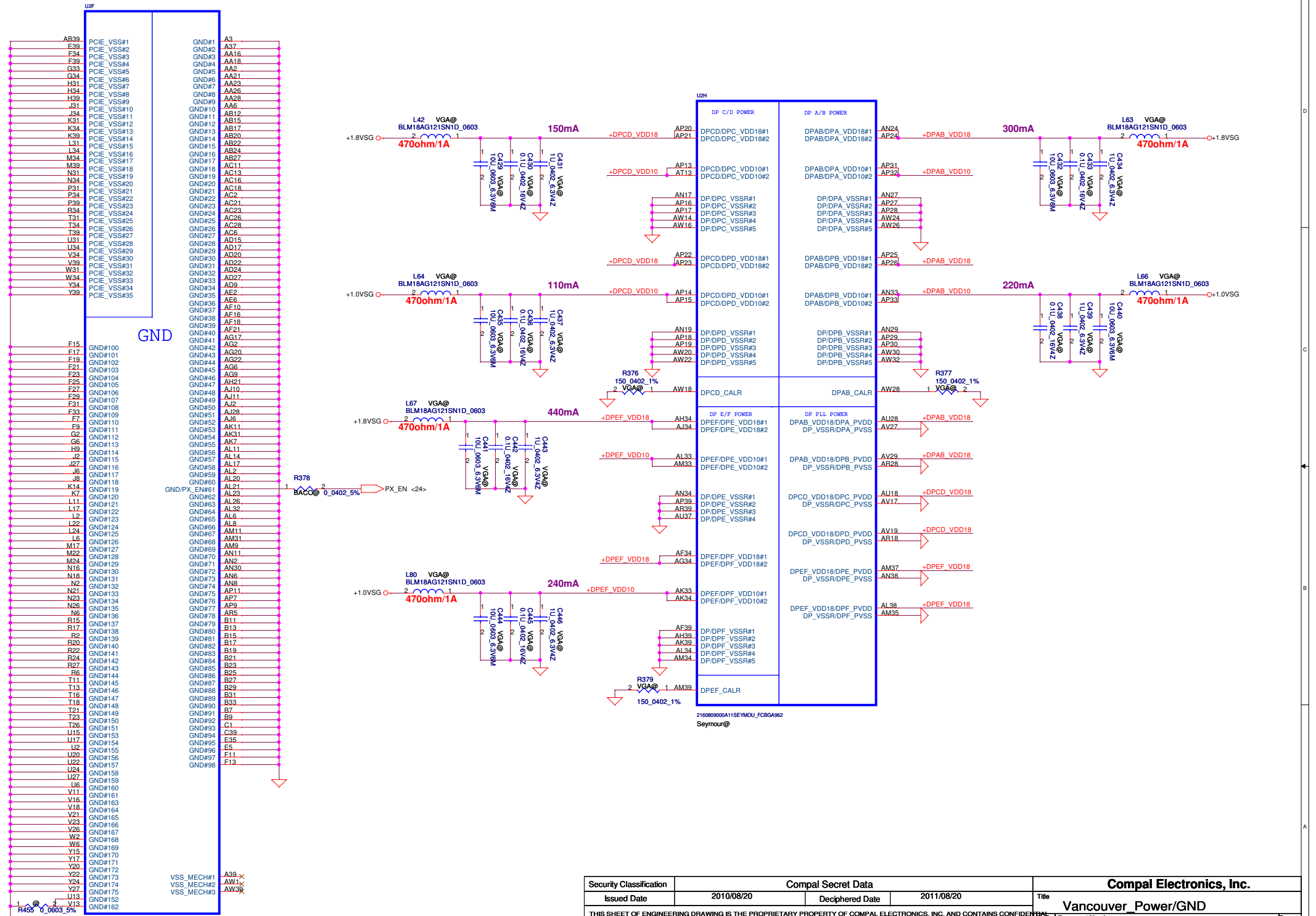
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Issued Date	2010/08/20	Deciphered Date	2011/08/20	Vancouver_Memory
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21608000A11SEVM0U\_FCBGA62  
Seymour@

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		LA-7092P P5WE6/H6/S6		1.0	
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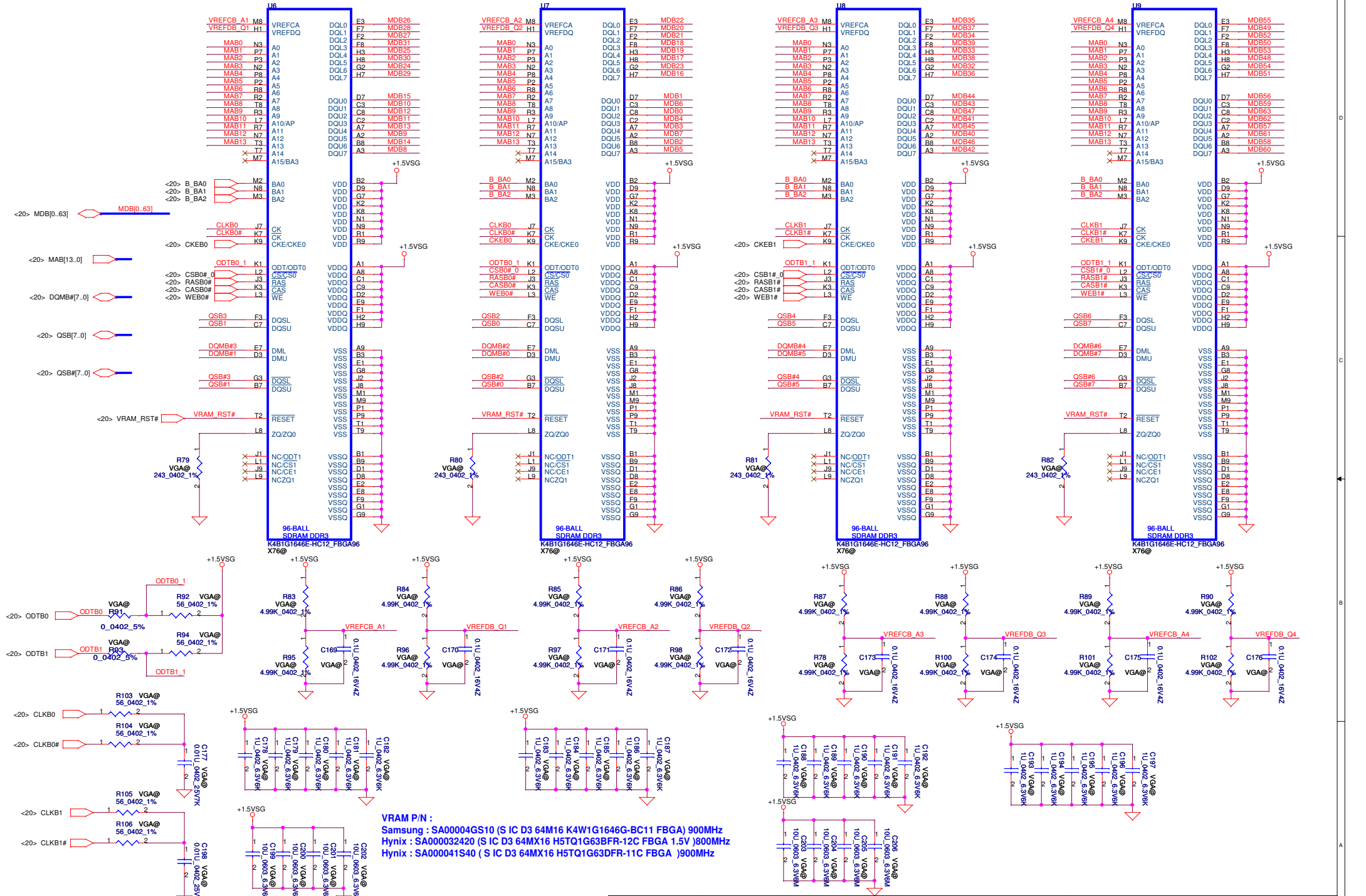


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Seymour@

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Issued Date	2010/08/20	Deciphered Date	2011/08/20	Title	
				Vancouver Power/GND	
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				LA-7092P P5WE6/H6/S6	1.0
				Date: Wednesday, November 24, 2010	Sheet 22 of 47

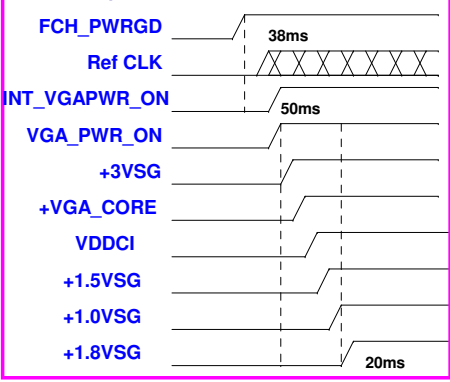
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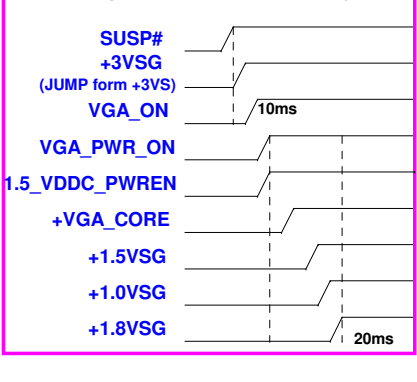


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				<b>VRAM DDR3 / Channel B</b>
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**Power Sequence of Granville**



**Power Sequence of Whistler and Seymour**



**VGA Muxless and Dis only Status Mapping table**

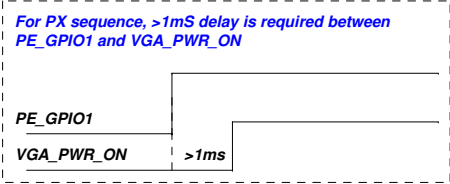
	Dis only	Muxless High performance GPU	Muxless Power-saving GPU
VGA_PWR_ON	1	1	0
1.5_VDDC_PWREN	1	1	0
+3.3VSG	ON	ON	OFF
+1.8VSG	ON	ON	OFF
+1.0VSG	ON	ON	OFF
+VGA_CORE	ON	ON	OFF
+1.5VSG	ON	ON	OFF
+BIF_VDDC	+VGA_CORE	+VGA_CORE	OFF

**VGA Muxless with BACO Status Mapping table**

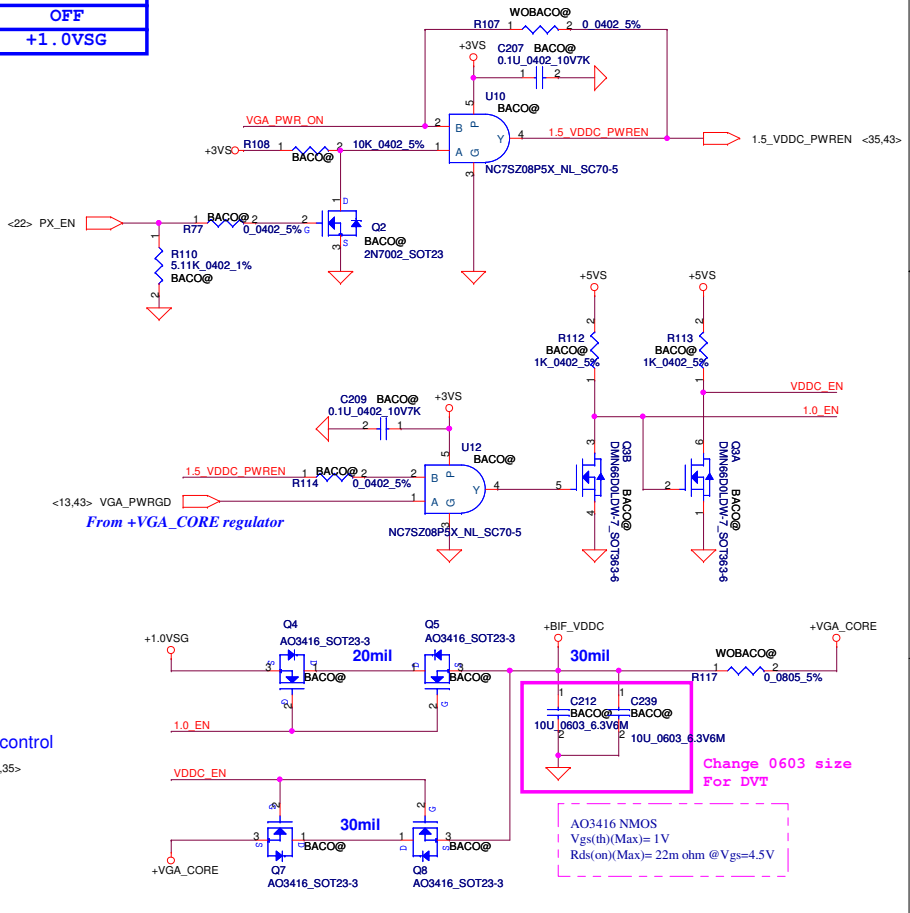
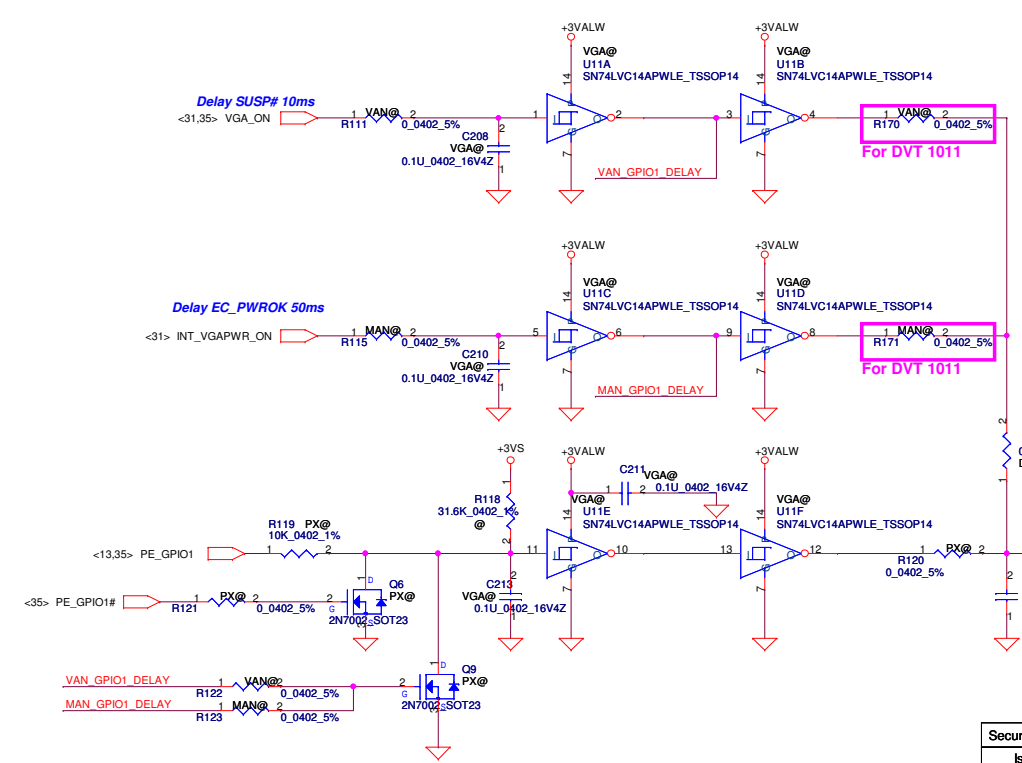
	Normal mode	BACO mode
PX_EN	0	1
1.5_VDDC_PWREN	1	0
VDDC_EN	1	0
1.0_EN	0	1
+3.3VSG	ON	ON
+1.8VSG	ON	ON
+1.0VSG	ON	ON
+VGA_CORE	ON	OFF
+1.5VSG	ON	OFF
+BIF_VDDC	+VGA_CORE	+1.0VSG

**VGA Power Enable Signal Mapping table**

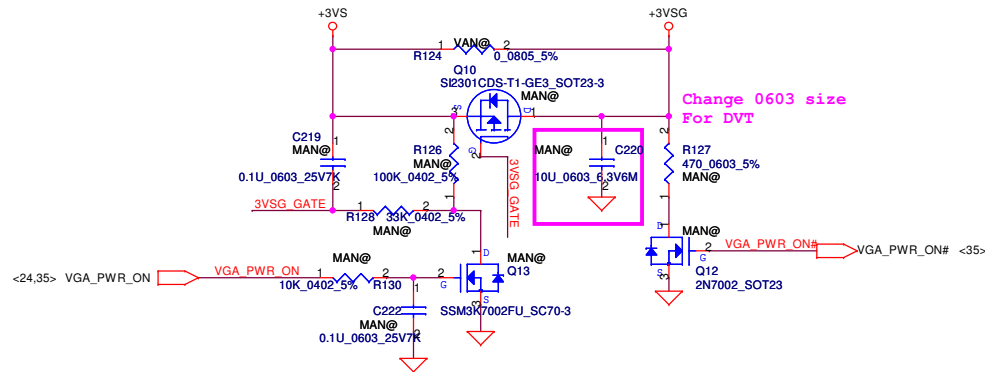
	Graville	Whistler and Seymour
VGA_PWR_ON source signal	INT_VGAPWR_ON	VGA_ON
+3.3VSG	VGA_PWR_ON	SUSP#
+1.8VSG	VGA_PWR_ON	VGA_PWR_ON
+1.0VSG	VGA_PWR_ON	VGA_PWR_ON
+VDDCI	VGA_PWR_ON	Combine with +VGA_CORE
+VGA_CORE	VGA_PWR_ON	1.5_VDDC_PWREN
+1.5VSG	VGA_PWR_ON	1.5_VDDC_PWREN



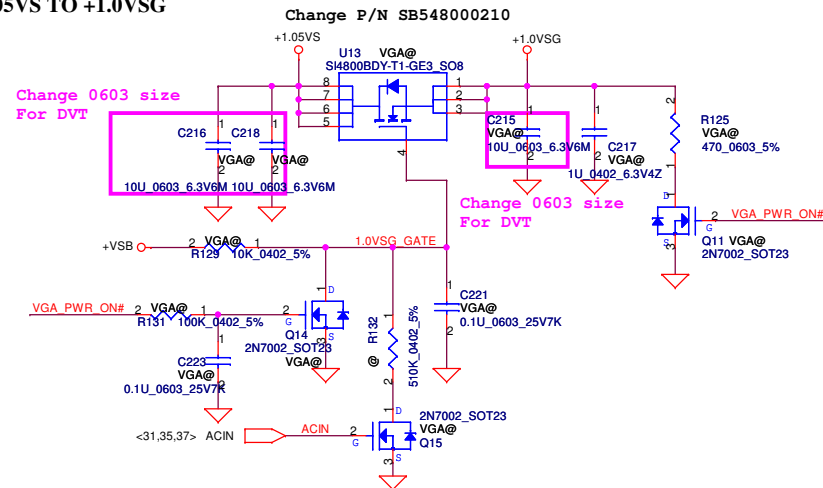
**VGA Power ON Circuit**



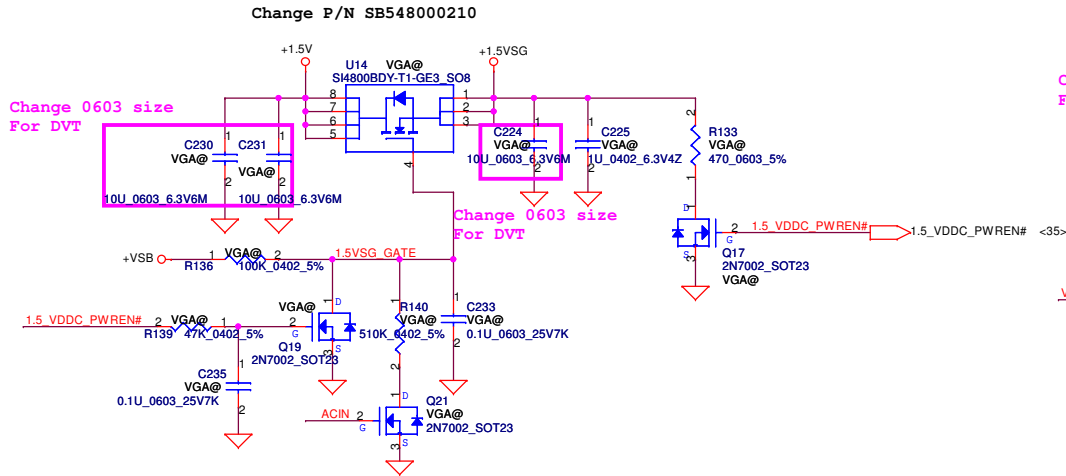
**+3.3VS TO +3.3VSG**



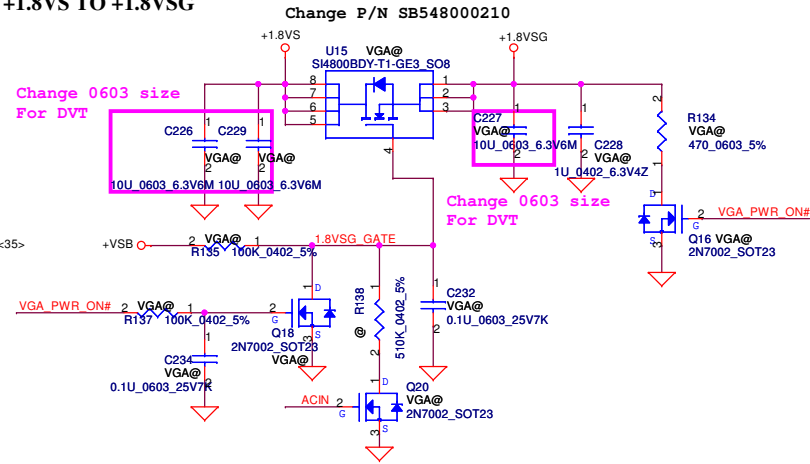
**1.05VS TO +1.0VSG**



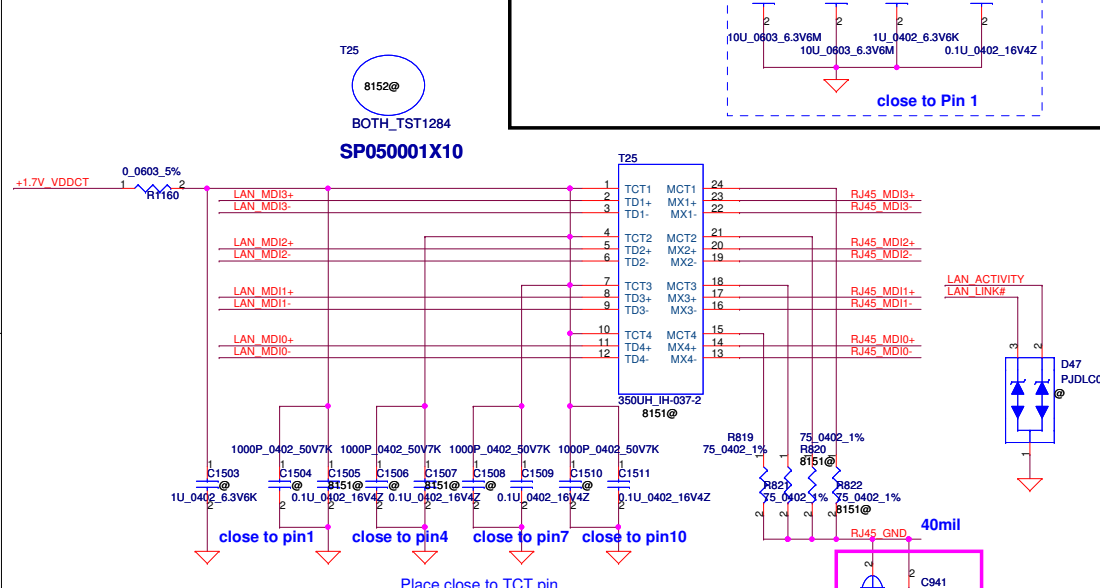
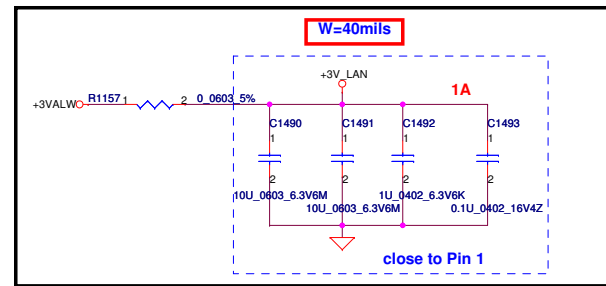
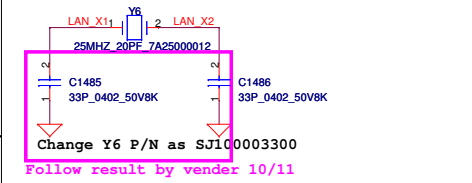
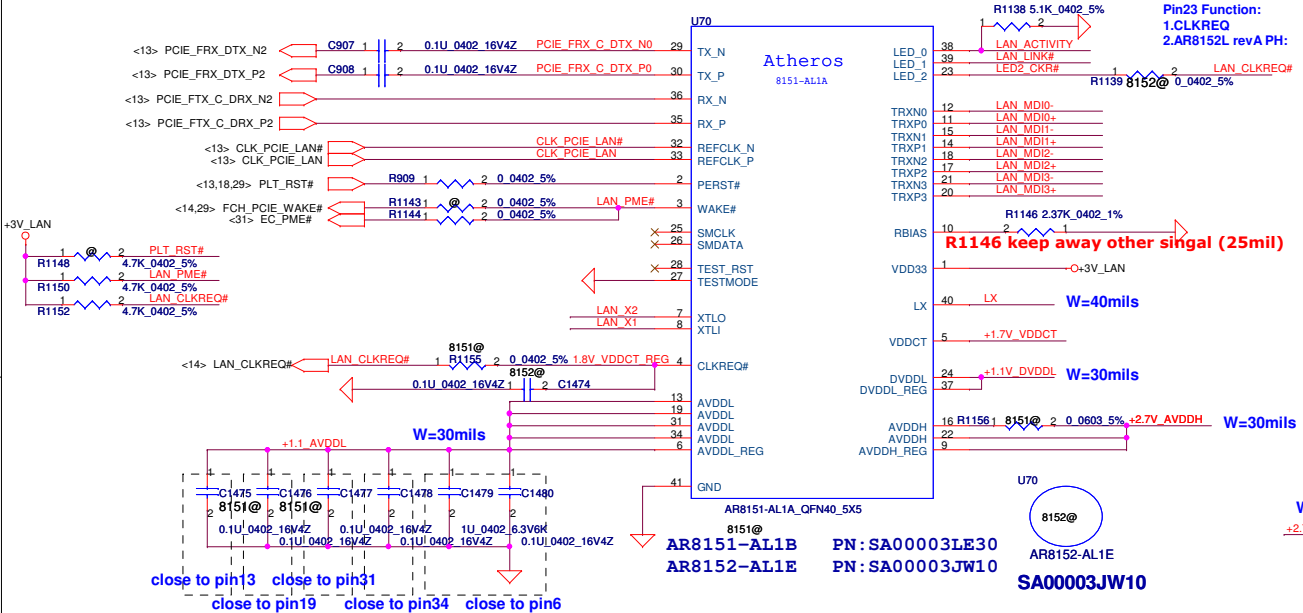
**+1.5V TO +1.5VSG**



**+1.8VS TO +1.8VSG**

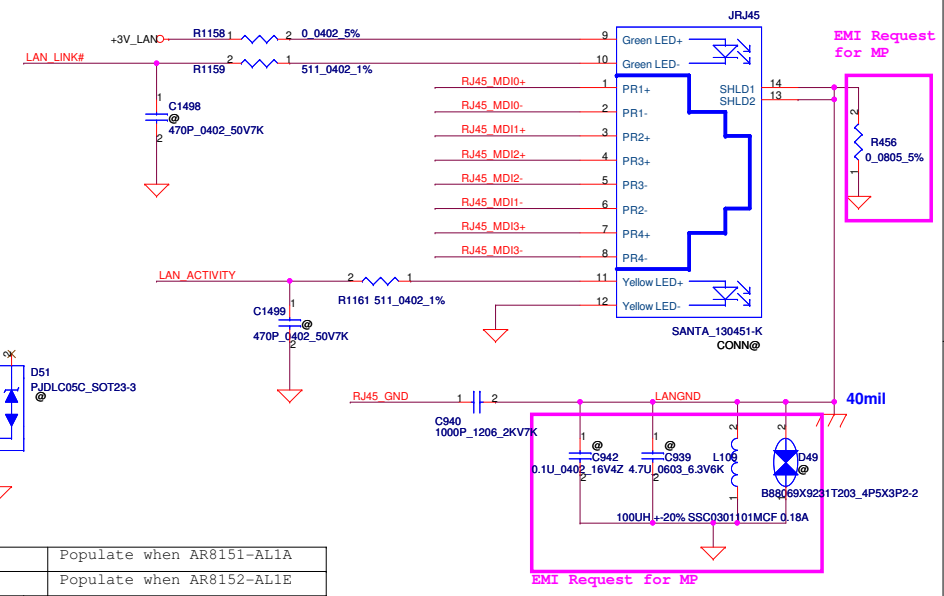
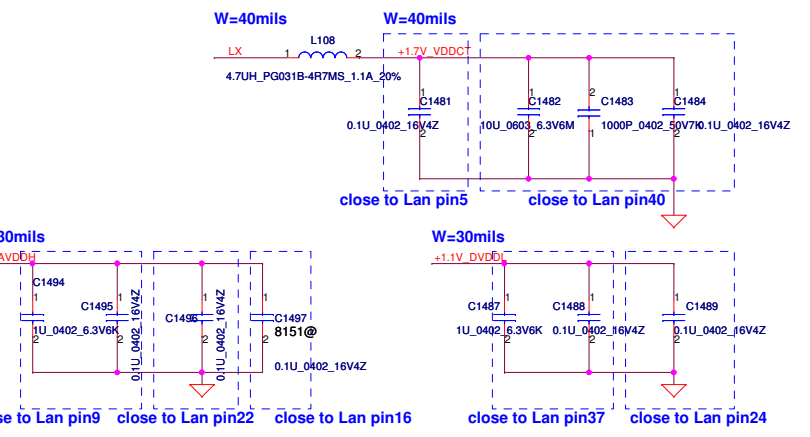


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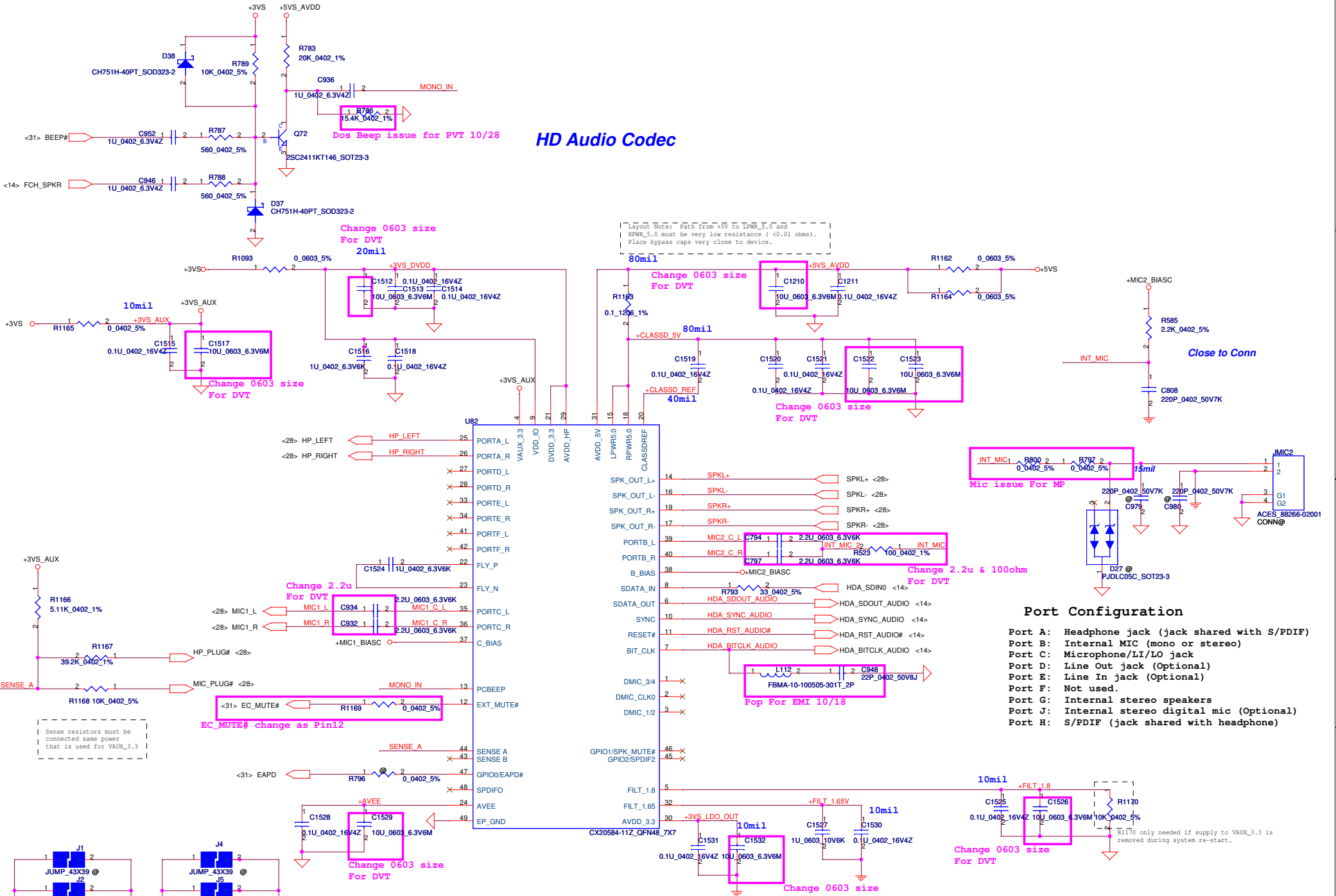


8151@	Populate when AR8151-AL1A
8152@	Populate when AR8152-AL1E

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## HD Audio Codec



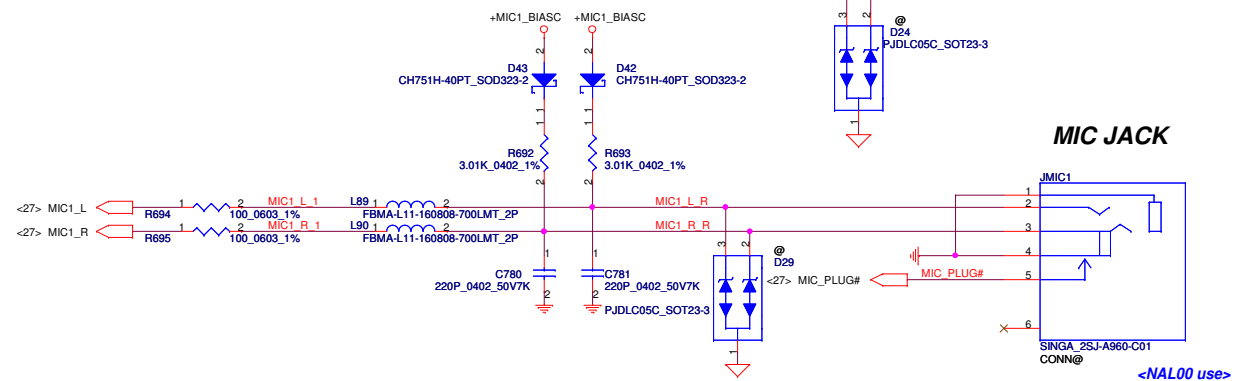
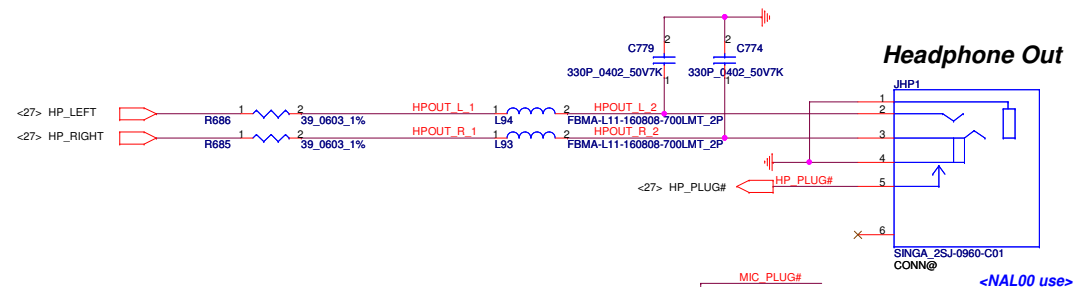
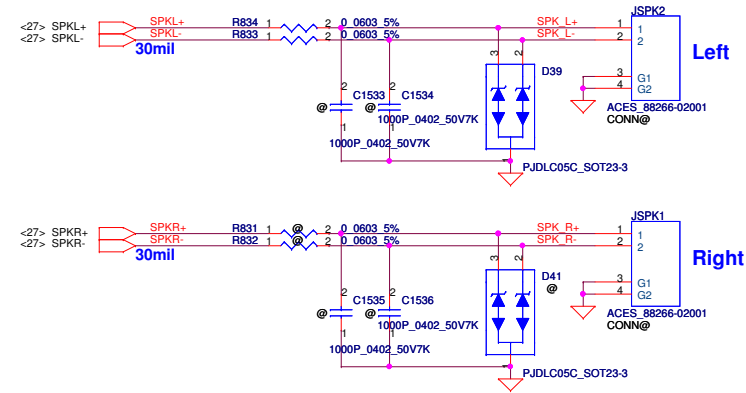
### Port Configuration

- Port A: Headphone jack (jack shared with S/PDIF)
- Port B: Internal MIC (mono or stereo)
- Port C: Microphone/LI/LO jack
- Port D: Line Out jack (Optional)
- Port E: Line In jack (Optional)
- Port F: Not used.
- Port G: Internal stereo speakers
- Port J: Internal stereo digital mic (Optional)
- Port H: S/PDIF (jack shared with headphone)

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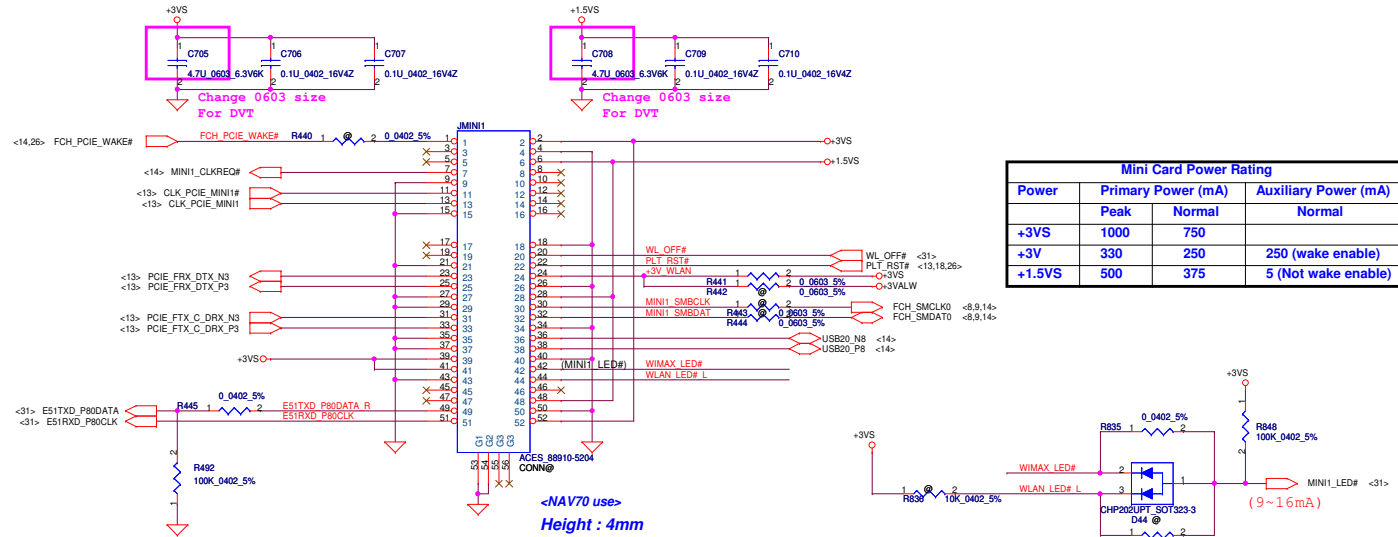
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Title	Document Number	Rev
<b>LA-7092P P5WE6/H6/S6</b>		1.0
Date: <span style="float: right;">Wednesday, November 24, 2010</span>		Sheet <span style="float: right;">27</span> of <span style="float: right;">47</span>

# Int. Speaker Conn.

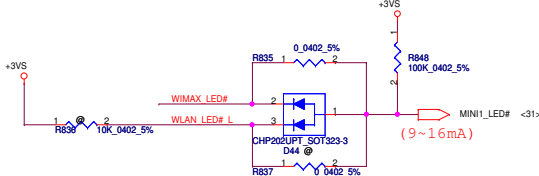


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# Mini-Express Card for WLAN

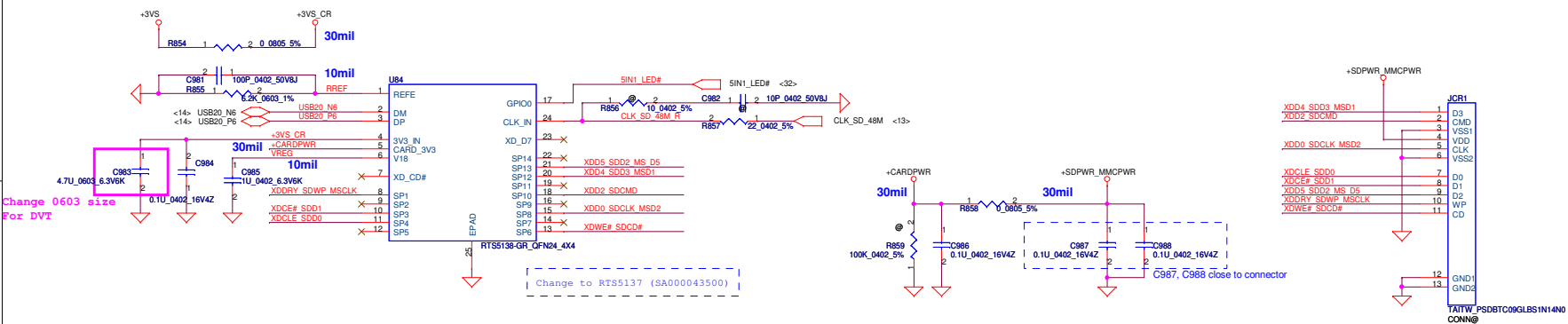


Mini Card Power Rating			
Power	Primary Power (mA)		Auxiliary Power (mA)
	Peak	Normal	Normal
+3VS	1000	750	
+3V	330	250	250 (wake enable)
+1.5VS	500	375	5 (Not wake enable)



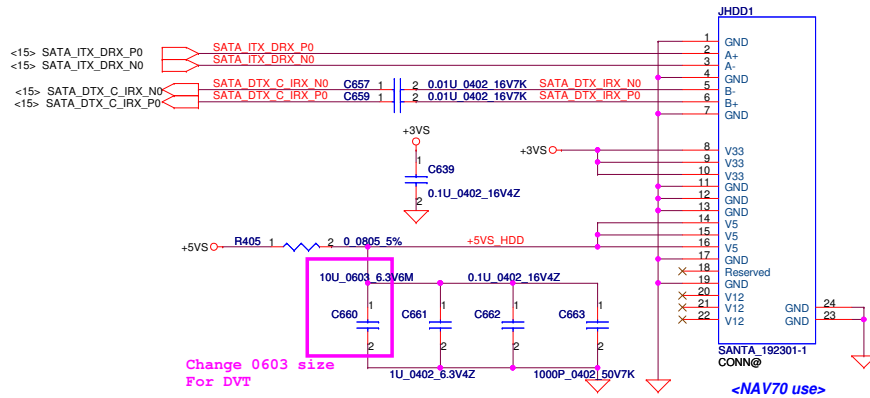
# Card Reader RTS5138 / RTS5137 (only SD+MMC function)

# Card Reader Connector

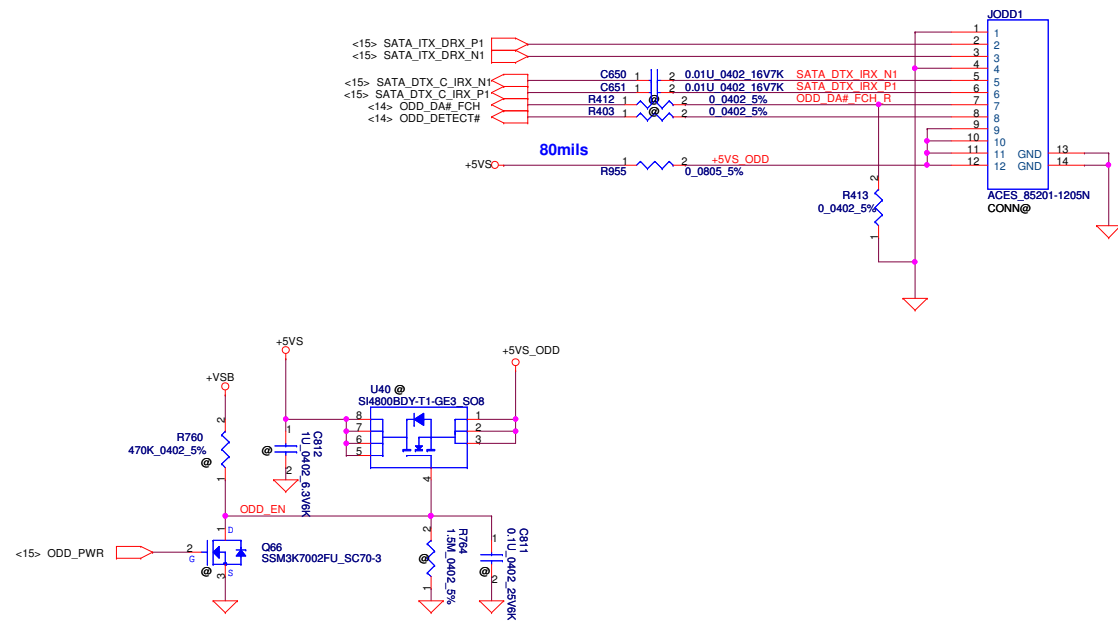




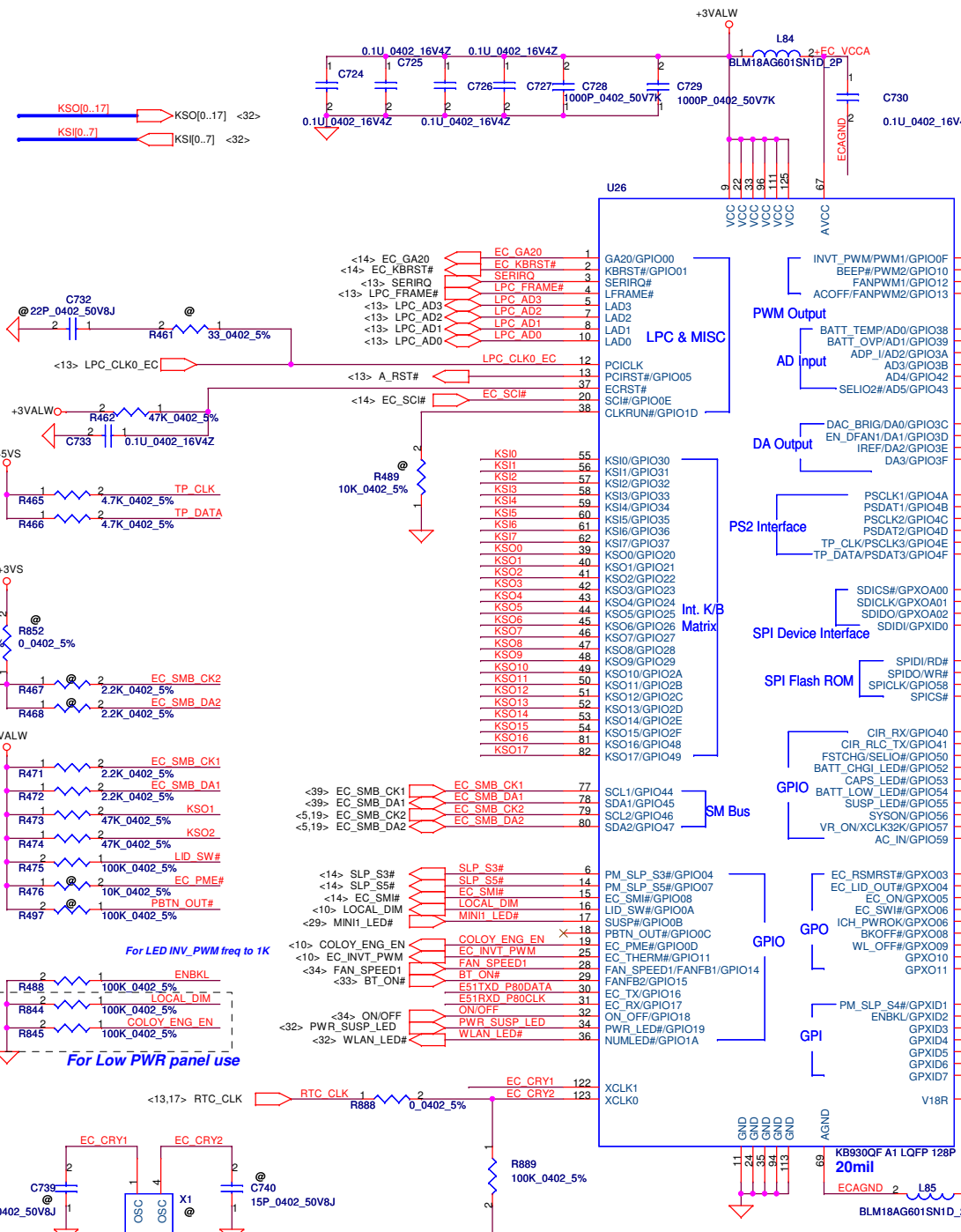
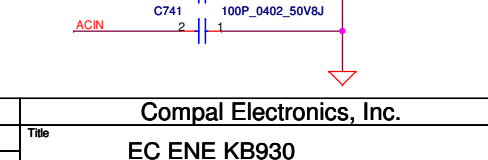
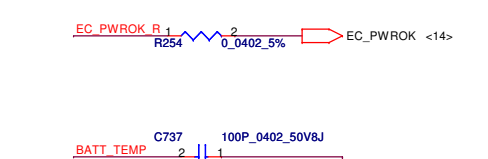
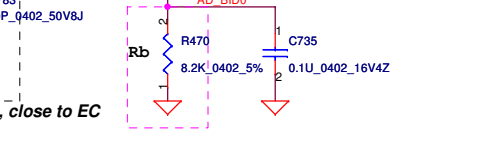
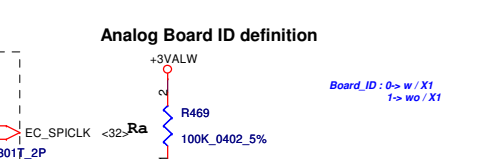
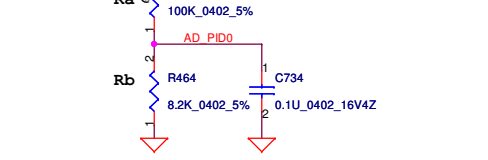
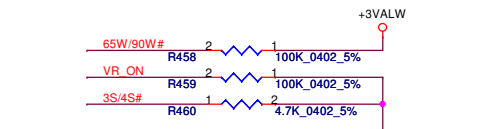
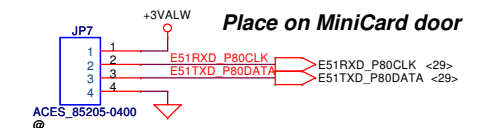
### SATA HDD Conn.



### SATA ODD FFC Conn.

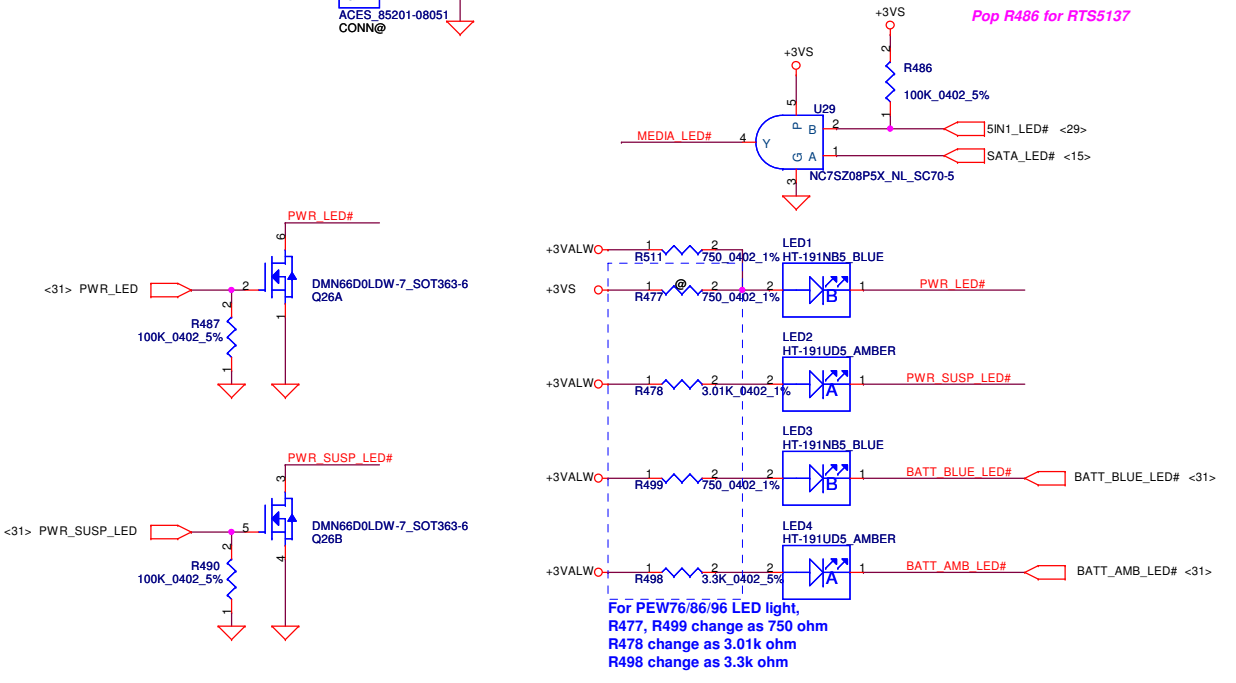
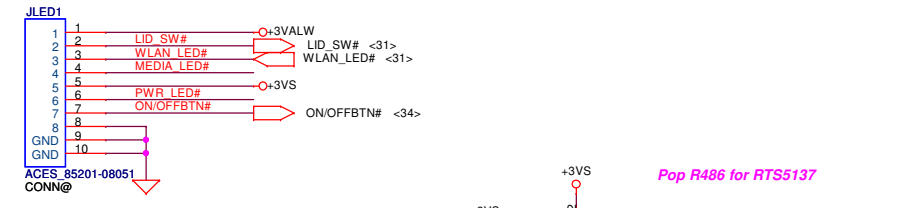
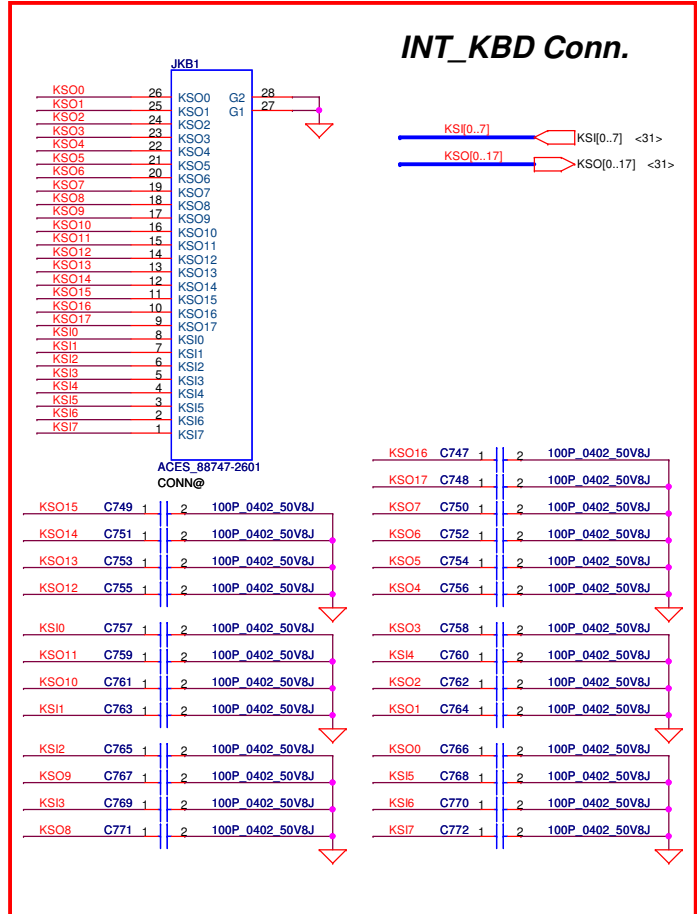
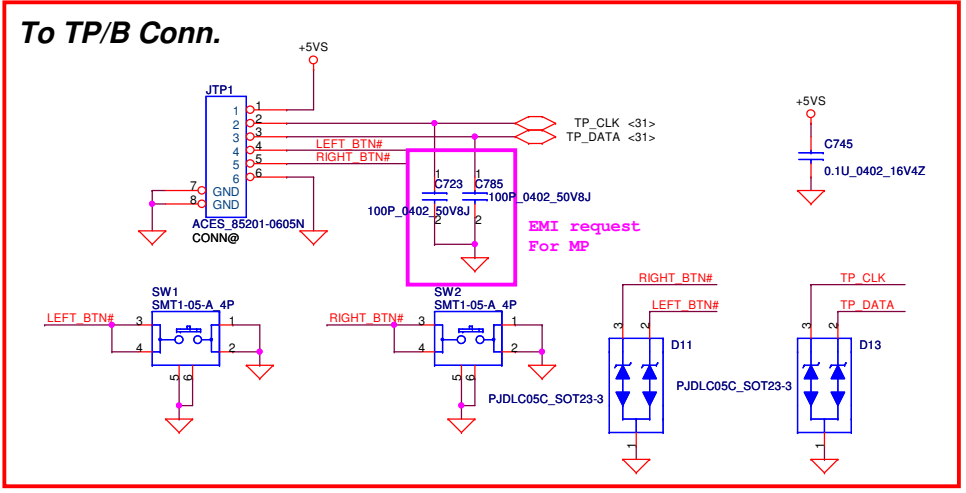
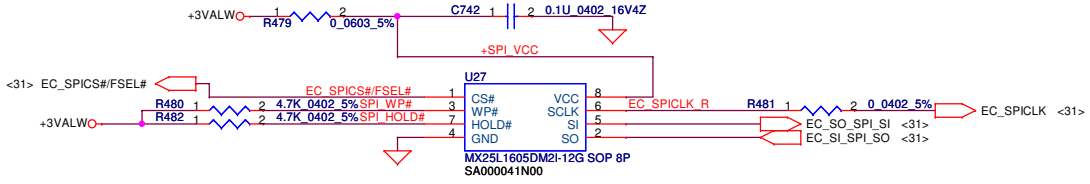


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				Rev 1.0

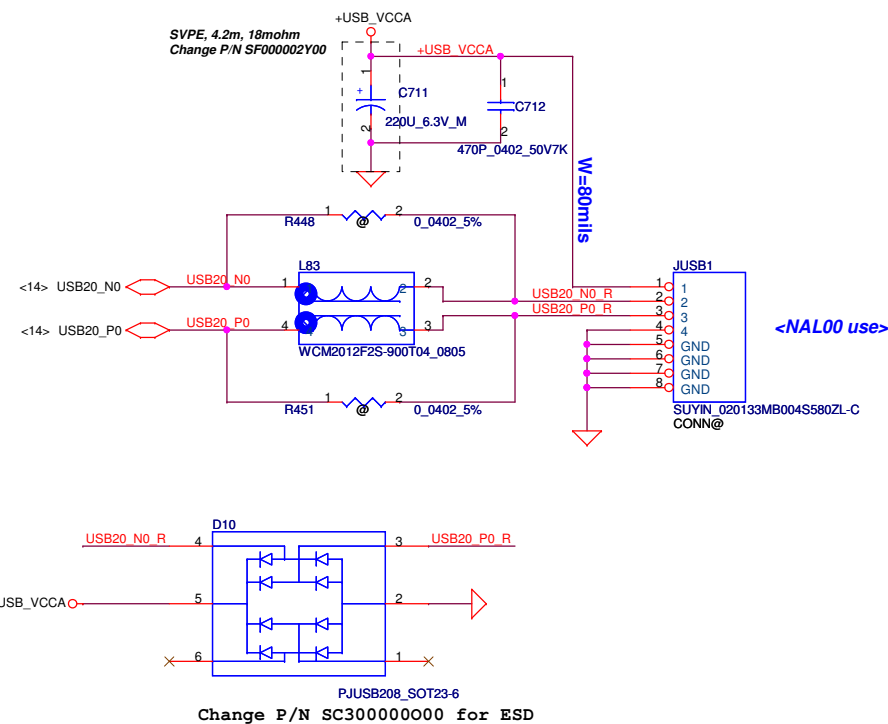
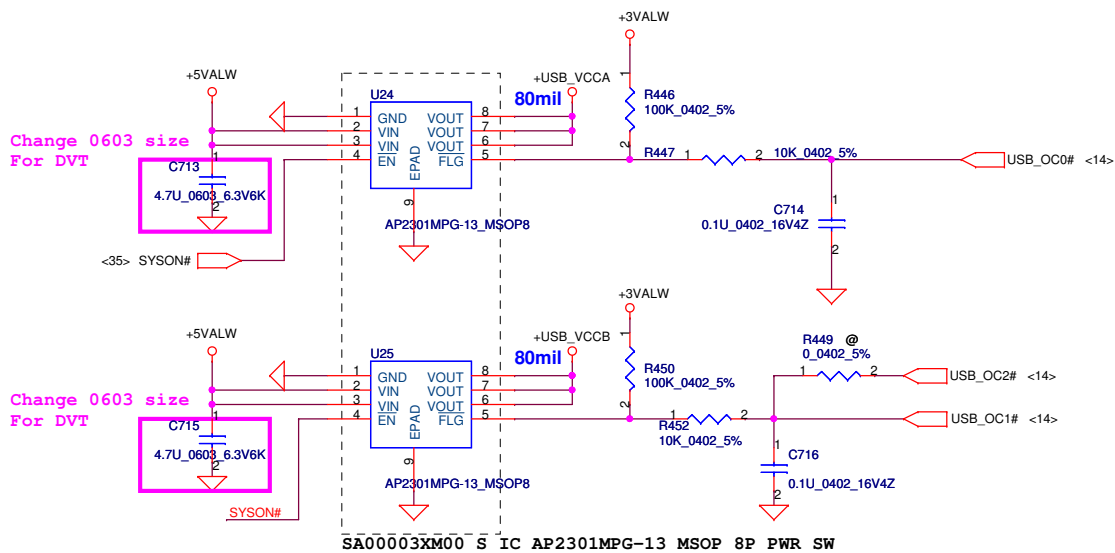


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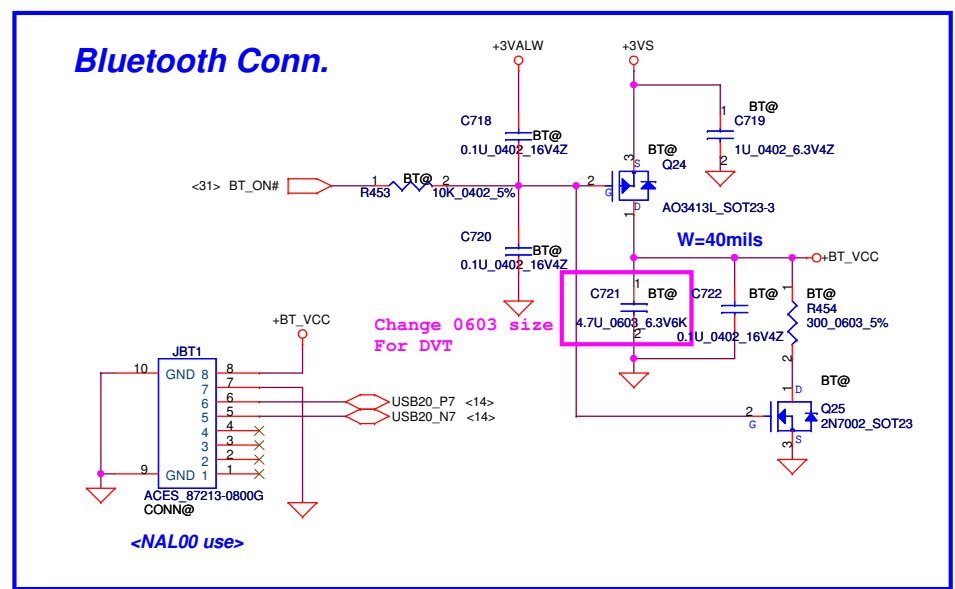
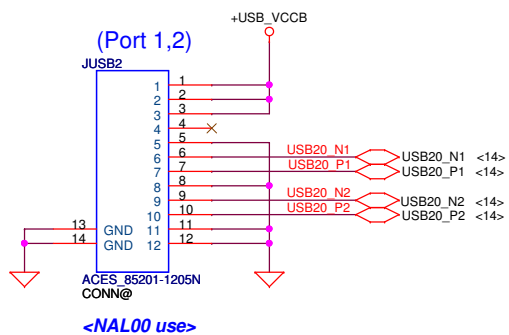
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Size B	Document Number: LA-7092P P5WE6/H6/S6	Rev 1.0	
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Size	Document Number	Date		Sheet	Rev
B	LA-7092P P5WE6/H6/S6	Wednesday, November 24, 2010		32	1.0
				of	47

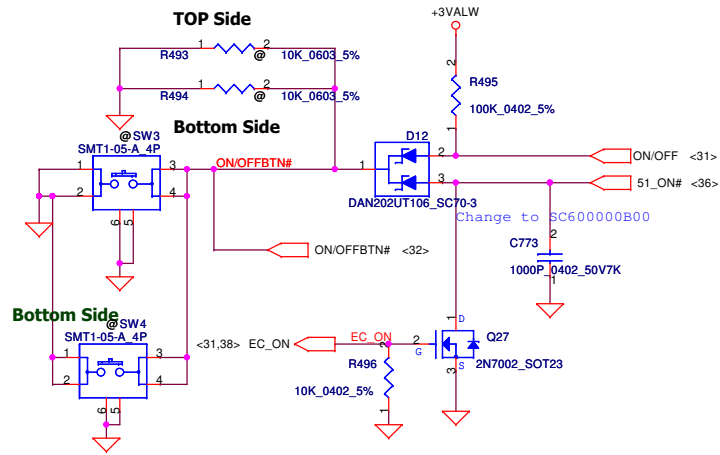


**To USB/B Connector**

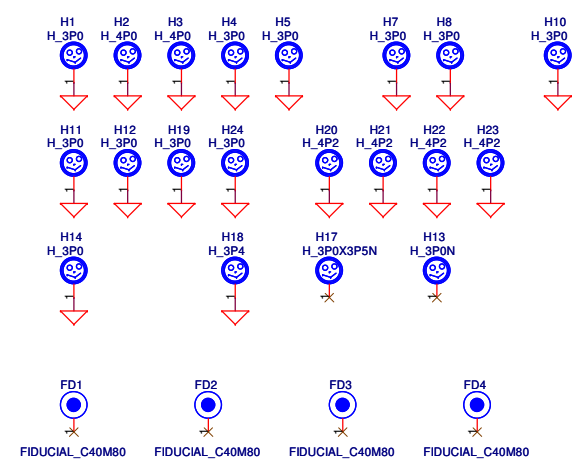
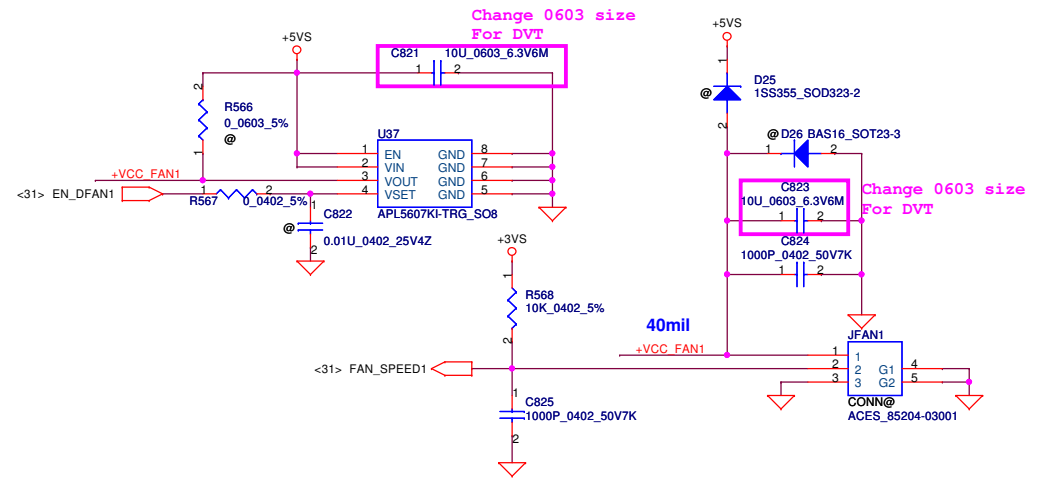


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File	Document Number	Rev			
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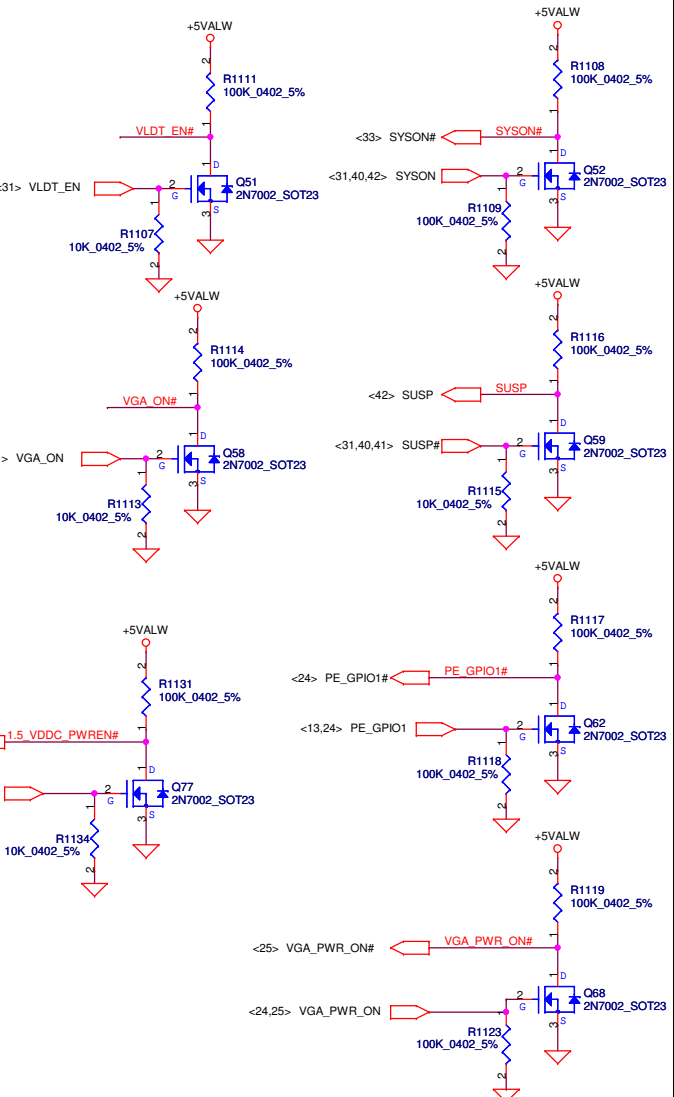
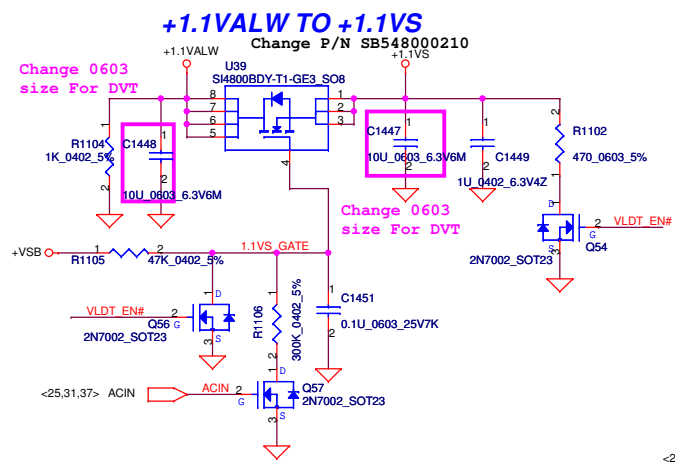
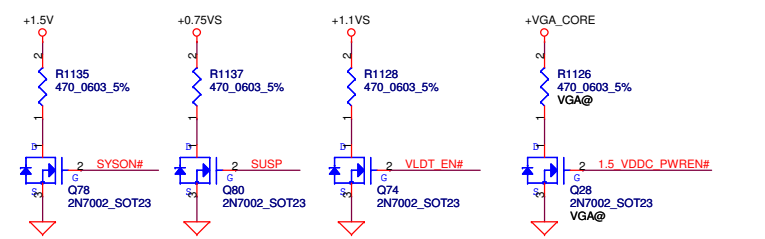
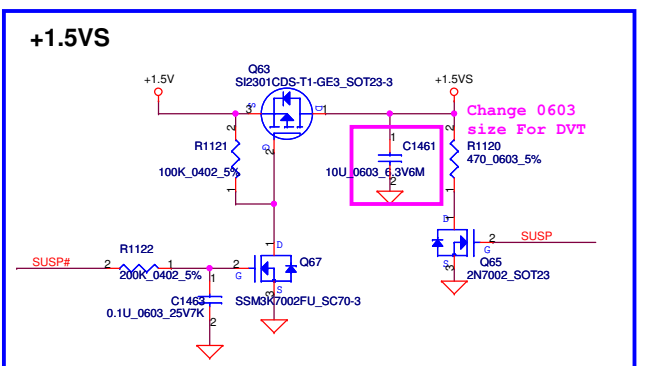
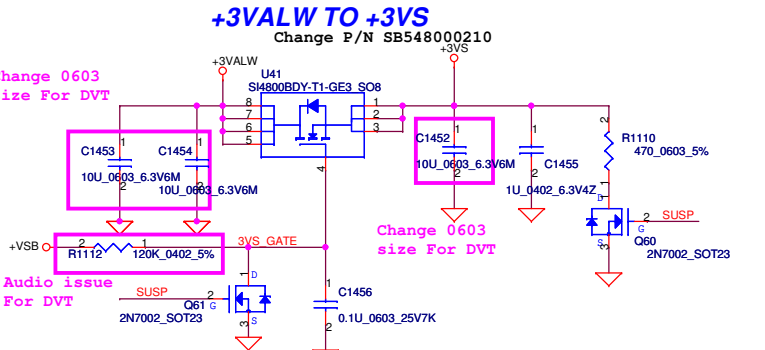
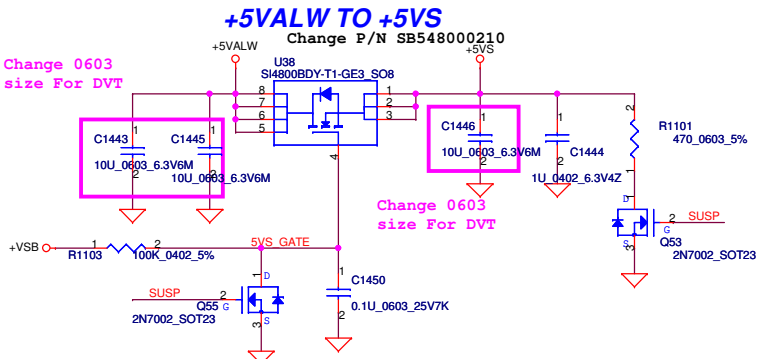
ON/OFF switch **Power Button**



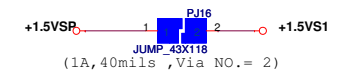
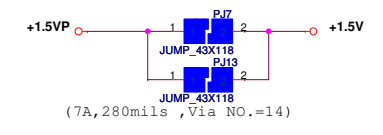
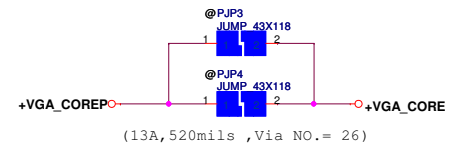
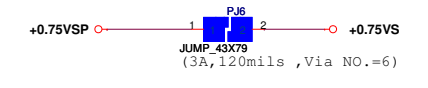
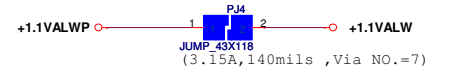
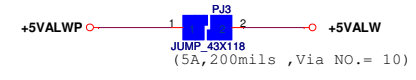
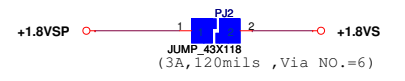
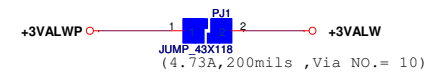
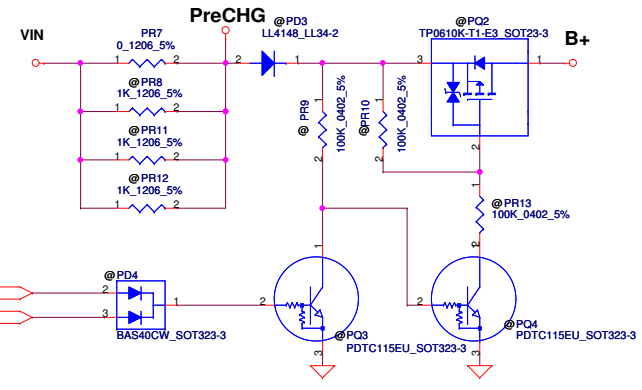
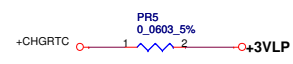
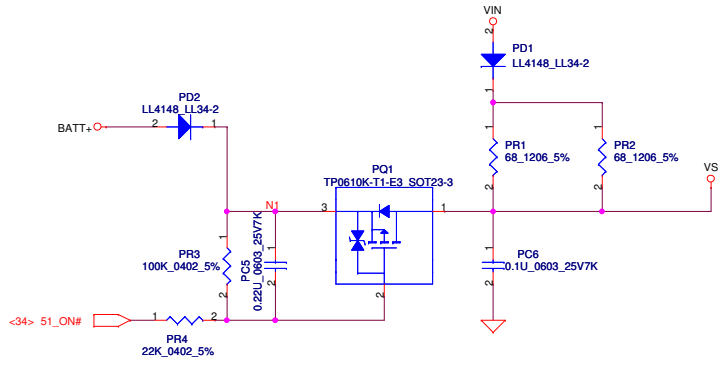
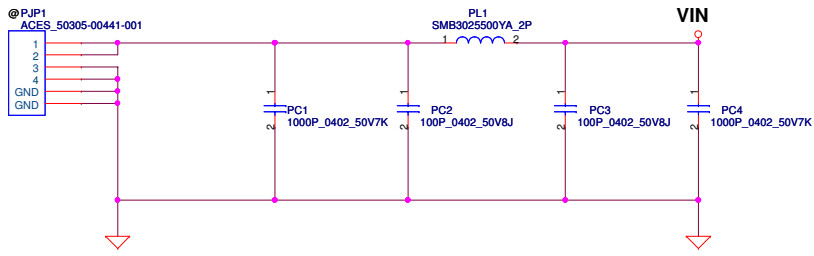
FAN1 Conn



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				DC Interface	
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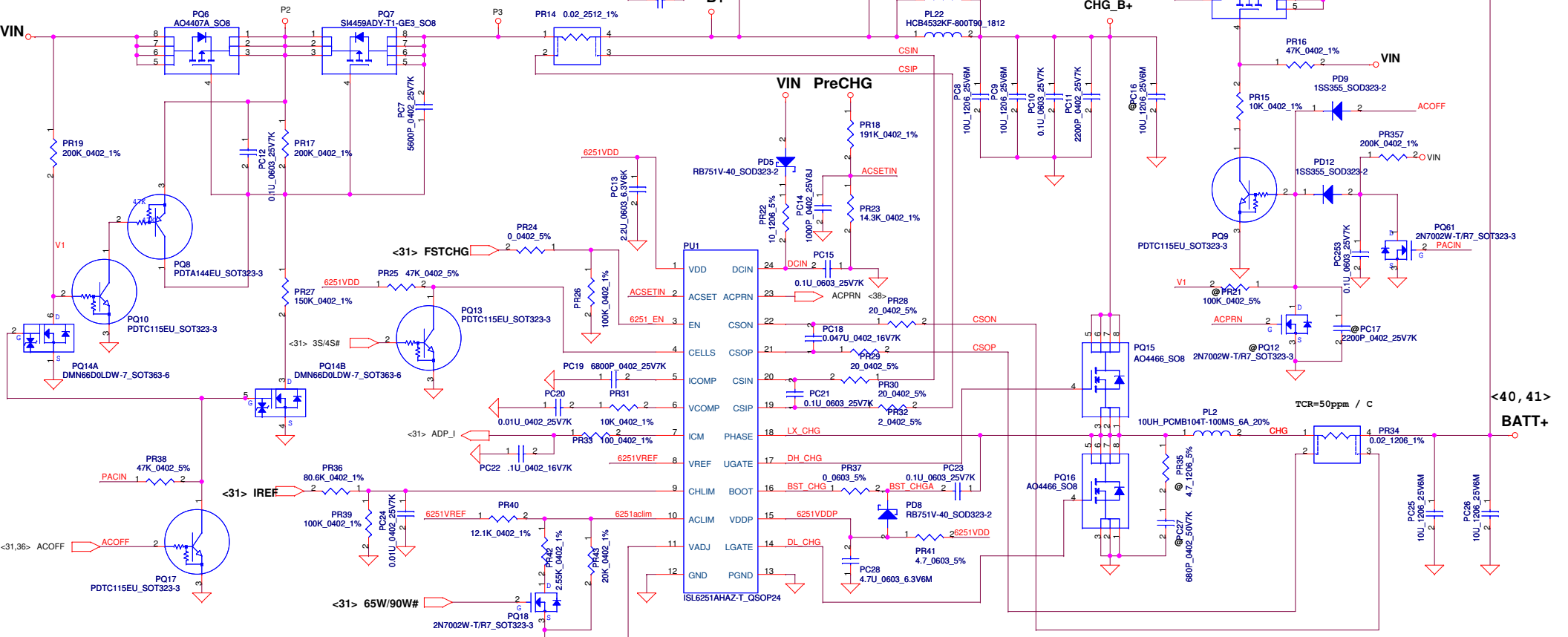
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Iada=0~4.74A (90W/19V=4.736A)

CP = 85%\*Iada ; CP = 4.07A

ADP\_I = 19.9\*Iadapter\*Rsense



**CP mode**  
 $I_{input} = (1/0.02) (0.05 * V_{ac1m} / 2.39 + 0.05)$   
 where  $V_{ac1m} = 1.502V$ ,  $I_{input} = 4.07A$

BATT Type	Charging Voltage (0x15)	CV mode
Normal 3S LI-ON Cells	12600mV	12.60V

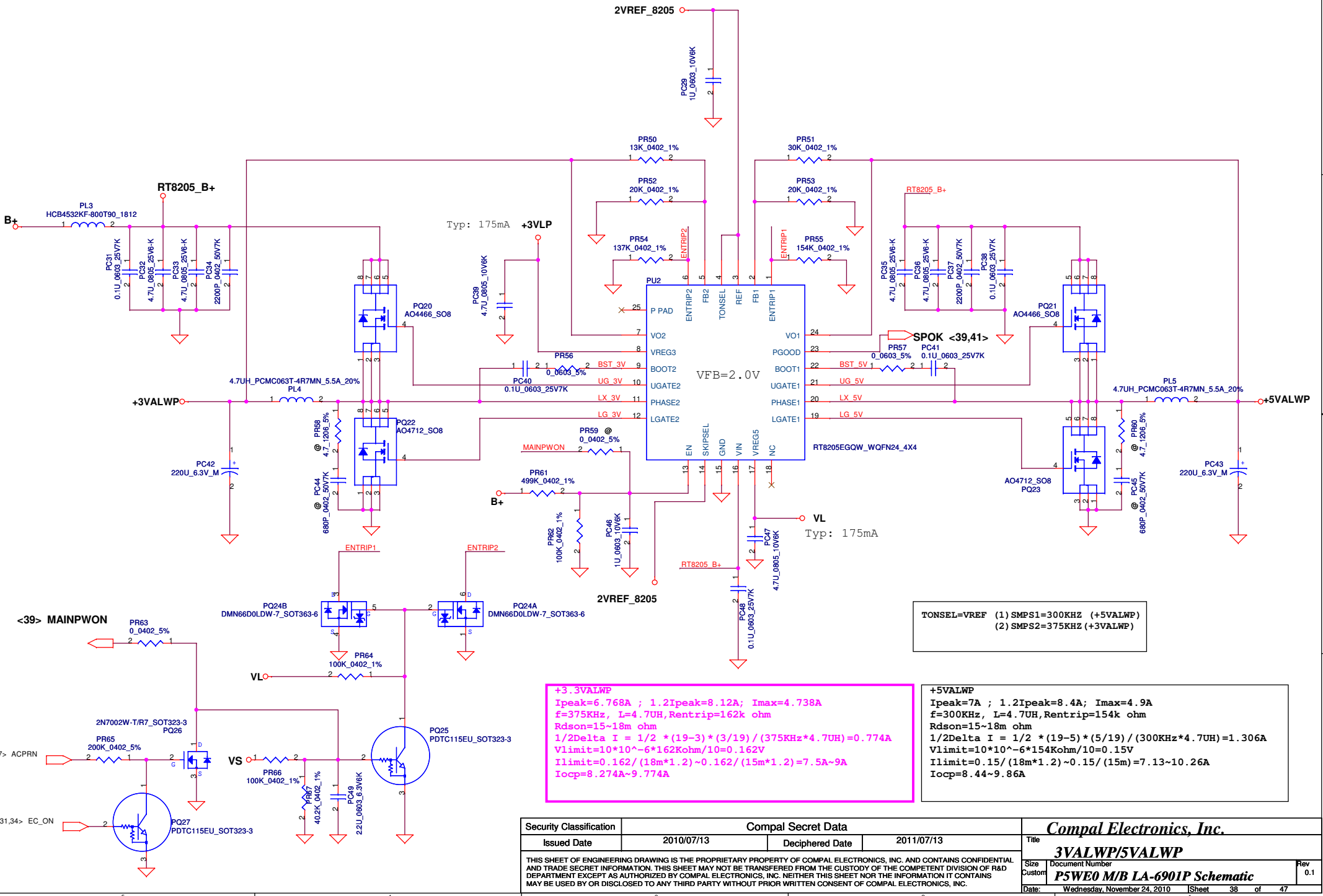
CC=0.6~4.48A
IREF=0.7224*Icharge
IREF=0.43V~3.24V

Ki  
 $V_{chlim} = I_{ref} * (PR374 / (PR372 + PR374))$   
 $= I_{ref} * (100K / (80.6K + 100K))$   
 $= I_{ref} * 0.5537$   
 $I_{charge} = (165mV / PR369) * (V_{chlim} / 3.3V)$   
 $= (165m / 20m) * (1 / 3.3V) * I_{ref} * 0.5537$   
 $= 1.3842 * I_{ref}$   
 $I_{ref} = 0.7224 * I_{charge} \Rightarrow Ki = 0.7224$

Kv  
 $R_{internal} = 514K$   $R_{ec} = 3K$   $R_1 = PR379 = 15.4K$   $R_2 = PR381 = 31.6K$   
 $R = 514K // 31.6K // (15.4K + 3K) = 11.372K$   
 $r = 514K // 514K // 31.6K = 28.14K$   
 $V_{cell} = 0.175 * V_{adj} + 3.99V$   
 $4.2V = 0.175 * V_{adj} + 3.99V \Rightarrow V_{adj} = 1.2V$   
 $V_{adj} = V_{ref} * (R / (R + 514K)) + CALIBRATE * (r / (r + 514K))$   
 $1.1483 = CALIBRATE * 0.6046 \Rightarrow CALIBRATE = 1.899$   
 $1.899 = (4.2 - (V_{cell} + A * 0.175)) * Kv = (4.2 - (4.2 + A * 0.175)) * Kv$   
 $A = V_{ref} * (R / (R + 514K)) = 0.052$   
 $Kv = 9.451$

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Compal Electronics, Inc.	
Title	<b>PWR-CHARGER</b>
Document Number	<b>P5WE0 M/B LA-6901P Schematic</b>
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**+3.3VALWP**  
 $I_{peak}=6.768A$  ;  $1.2I_{peak}=8.12A$ ;  $I_{max}=4.738A$   
 $f=375KHz$ ,  $L=4.7UH$ ,  $R_{entrip}=162k\ ohm$   
 $R_{dson}=15\sim 18m\ ohm$   
 $1/2\Delta I = 1/2 * (19-3) * (3/19) / (375KHz * 4.7UH) = 0.774A$   
 $V_{limit}=10 * 10^{-6} * 162Kohm / 10 = 0.162V$   
 $I_{limit}=0.162 / (18m * 1.2) \sim 0.162 / (15m * 1.2) = 7.5A \sim 9A$   
 $I_{ocp}=8.274A \sim 9.774A$

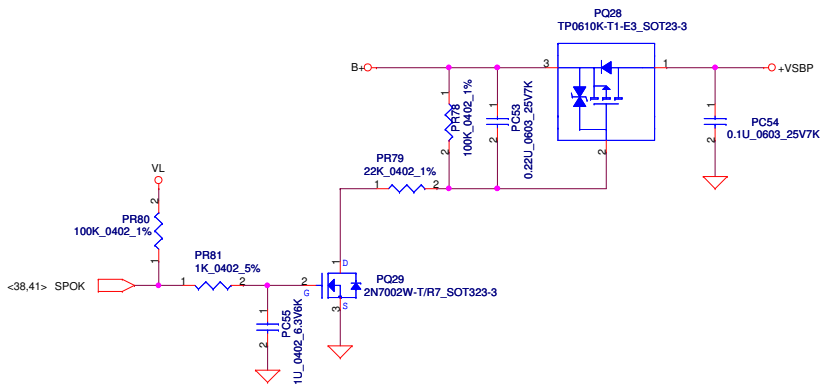
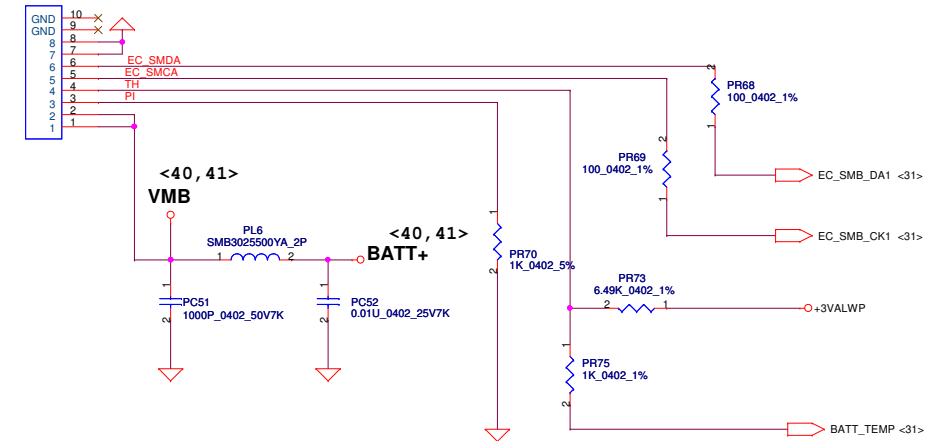
**+5VALWP**  
 $I_{peak}=7A$  ;  $1.2I_{peak}=8.4A$ ;  $I_{max}=4.9A$   
 $f=300KHz$ ,  $L=4.7UH$ ,  $R_{entrip}=154k\ ohm$   
 $R_{dson}=15\sim 18m\ ohm$   
 $1/2\Delta I = 1/2 * (19-5) * (5/19) / (300KHz * 4.7UH) = 1.306A$   
 $V_{limit}=10 * 10^{-6} * 162Kohm / 10 = 0.15V$   
 $I_{limit}=0.15 / (18m * 1.2) \sim 0.15 / (15m) = 7.13 \sim 10.26A$   
 $I_{ocp}=8.44 \sim 9.86A$

TONSEL=VREF (1) SMPS1=300KHZ (+5VALWP)  
 (2) SMPS2=375KHZ (+3VALWP)

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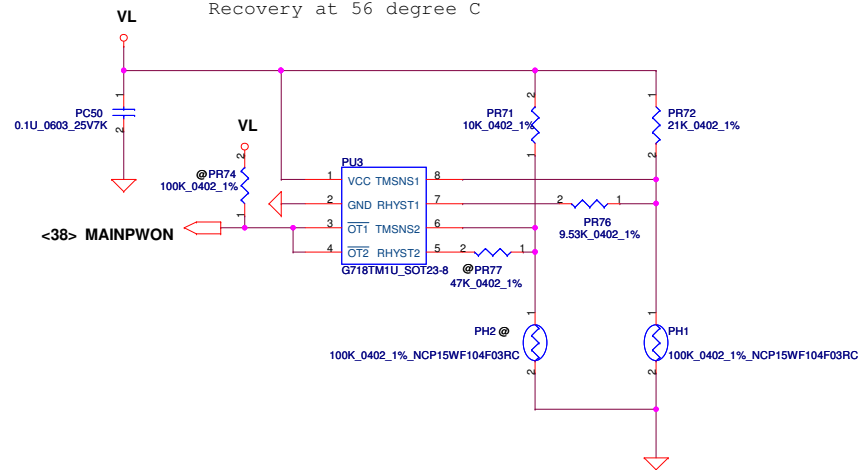
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PJP2  
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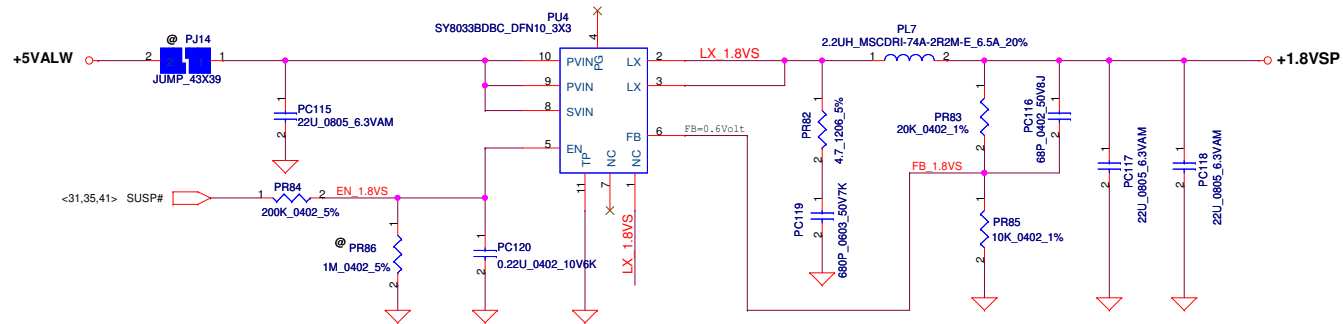


PH1 under CPU botten side :

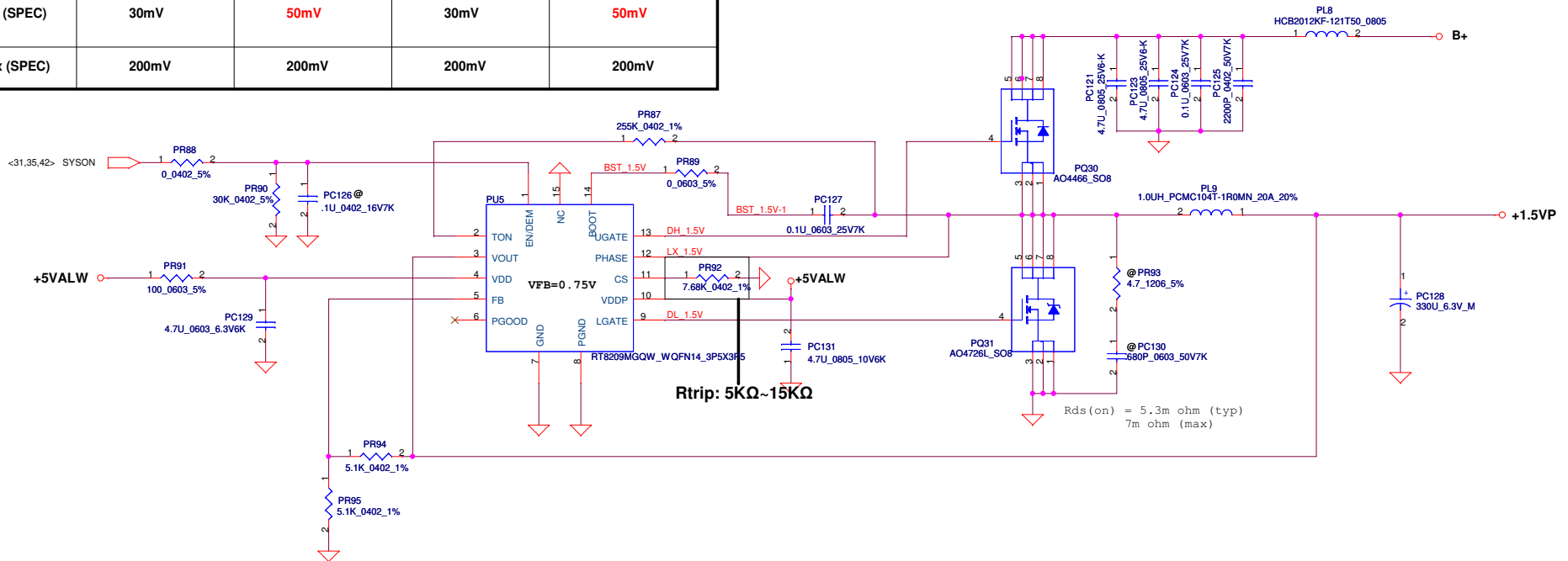
CPU thermal protection at 92 degree C  
Recovery at 56 degree C



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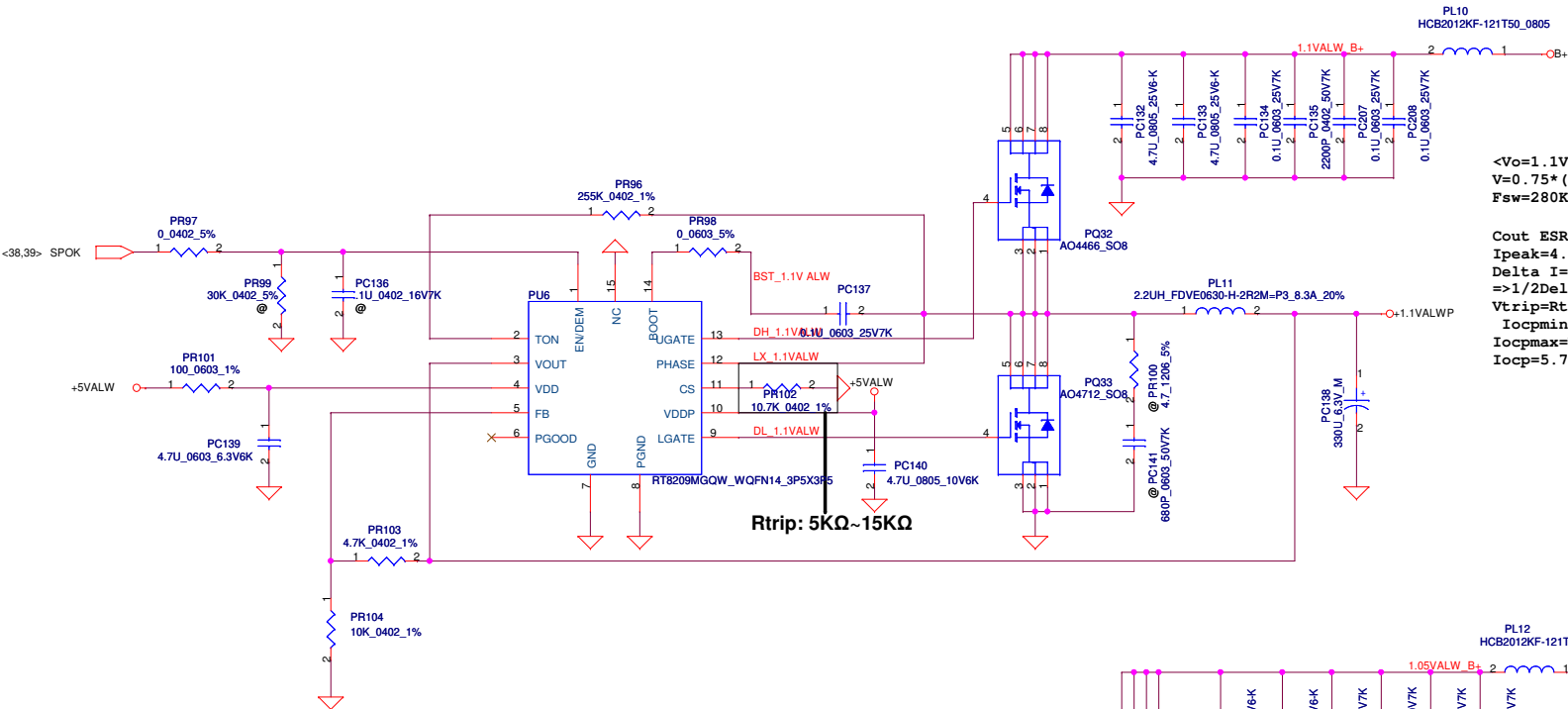
	G5603	RT8209B	TPS51117	RT8209M
Temperature Compensated	-1180ppm/°C	1600ppm/°C	4500ppm/°C	4800ppm/°C
Vtrip_min (SPEC)	30mV	50mV	30mV	50mV
Vtrip_max (SPEC)	200mV	200mV	200mV	200mV



<Vo=1.5V> VFB=0.75V  
 $V_o = 0.75 * (1 + 10K/10K) = 1.5V$   
 $F_{sw} = 280KHz$

$C_{out} ESR = 17 \text{ mohm}$   $R_{ds(on)(max)} = 7 \text{ mohm}$   $R_{ds(on)(typ)} = 5.3 \text{ mohm}$   
 $I_{peak} = 9.45A$ ,  $I_{max} = 6.615A$   
 $\Delta I = ((19 - 1.5) * (1.5/19)) / (L * F_{sw}) = 4.93A$   
 $\Rightarrow 1/2 \Delta I = 2.467A$   
 $V_{trip} = R_{trip} * 10uA = 0.0768$   
 $I_{ocpmin} = V_{trip} / (R_{ds(on)(max)} * 1.2) + \Delta I / 2 = 11.61A$   
 $I_{ocpmax} = V_{trip} / (R_{ds(on)(typ)} * 1.2) + \Delta I / 2 = 14.54A$   
 $I_{ocp} = 11.61A - 14.54A$

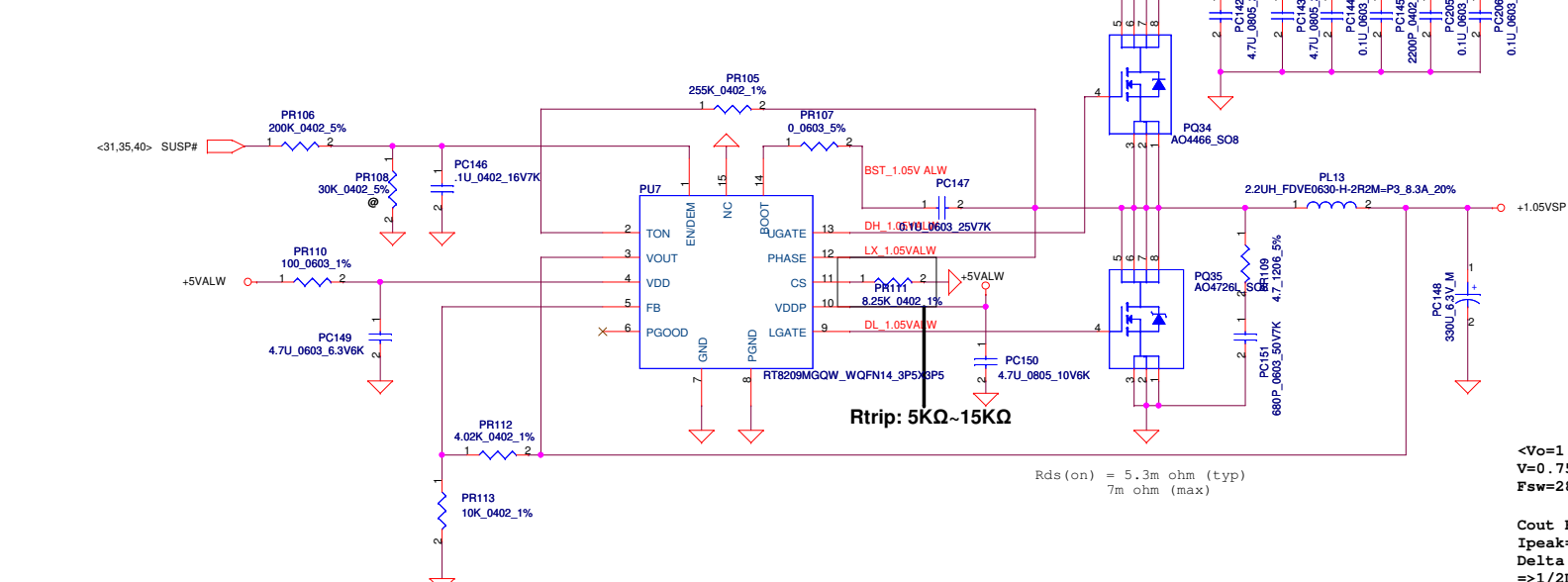
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Issued Date	2010/01/25	Deciphered Date	2009/04/28	Title		
				1.8VSP/1.5VP		
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<Vo=1.1V> VFB=0.75V  
 V=0.75\*(1+4.7K/10K)=1.1V  
 Fsw=280KHz

Cout ESR=17 mohm Rds(on)(max)=18 mohm Rds(on)(typ)=15 mohm  
 Ipeak=4.5A, Imax=3.15A  
 $\Delta I = ((19-1.1) * (1.1/19)) / (L * Fsw) = 1.68A$   
 $\Rightarrow 1/2 \Delta I = 0.84A$   
 $V_{trip} = R_{trip} * 10\mu A = 0.107$   
 $I_{ocpmin} = V_{trip} / (R_{ds(on)(max)} * 1.2) + \Delta I / 2 = 5.79A$   
 $I_{ocpmax} = V_{trip} / (R_{ds(on)(typ)} * 1.2) + \Delta I / 2 = 6.78A$   
 $I_{ocp} = 5.79A \sim 6.78A$

Rtrip: 5KΩ~15KΩ



<Vo=1.05V> VFB=0.75V  
 V=0.75\*(1+4.02K/10K)=1.05V  
 Fsw=280KHz

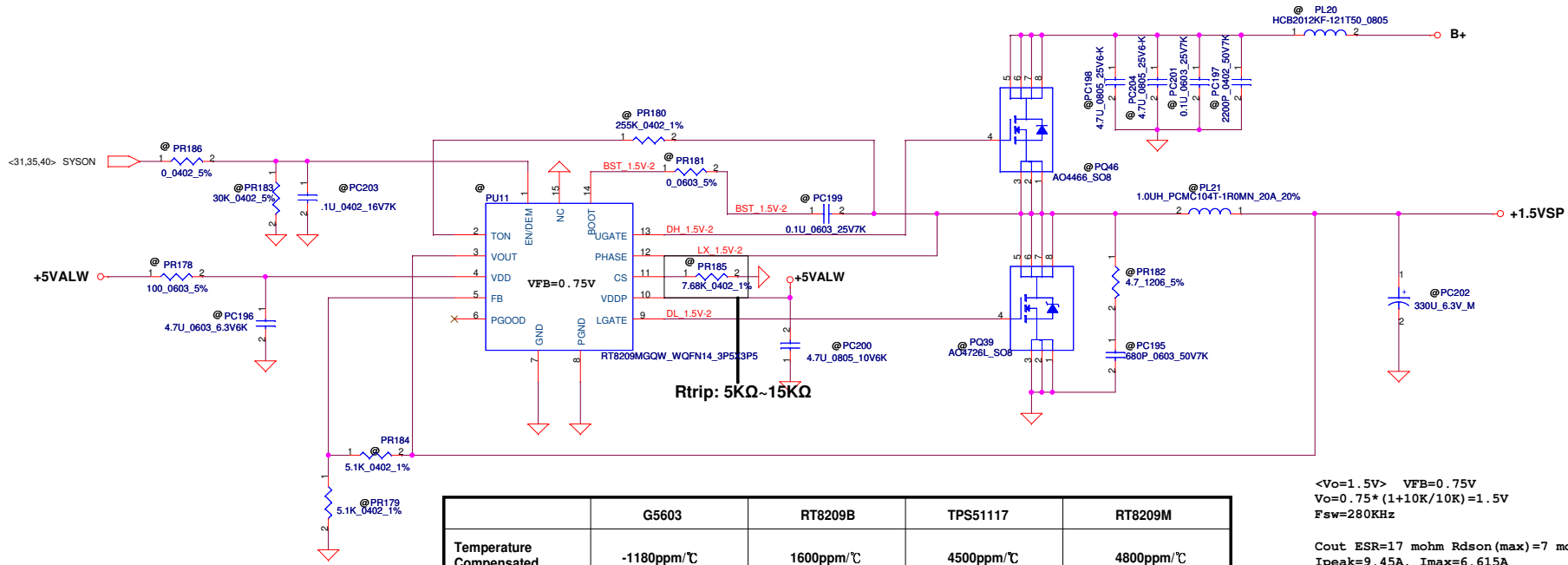
Cout ESR=17 mohm Rds(on)(max)=7 mohm Rds(on)(typ)=5.3 mohm  
 Ipeak=8.7A, Imax=6.09A  
 $\Delta I = ((19-1.05) * (1.05/19)) / (L * Fsw) = 1.61A$   
 $\Rightarrow 1/2 \Delta I = 0.81A$   
 $V_{trip} = R_{trip} * 10\mu A = 0.0825$   
 $I_{ocpmin} = V_{trip} / (R_{ds(on)(max)} * 1.2) + \Delta I / 2 = 10.63A$   
 $I_{ocpmax} = V_{trip} / (R_{ds(on)(typ)} * 1.2) + \Delta I / 2 = 13.78A$   
 $I_{ocp} = 10.63A \sim 13.78A$

Rds(on) = 5.3m ohm (typ)  
 7m ohm (max)

Rtrip: 5KΩ~15KΩ

	G5603	RT8209B	TPS51117	RT8209M
Temperature Compensated	-1180ppm/°C	1600ppm/°C	4500ppm/°C	4800ppm/°C
Vtrip_min (SPEC)	30mV	50mV	30mV	50mV
Vtrip_max (SPEC)	200mV	200mV	200mV	200mV

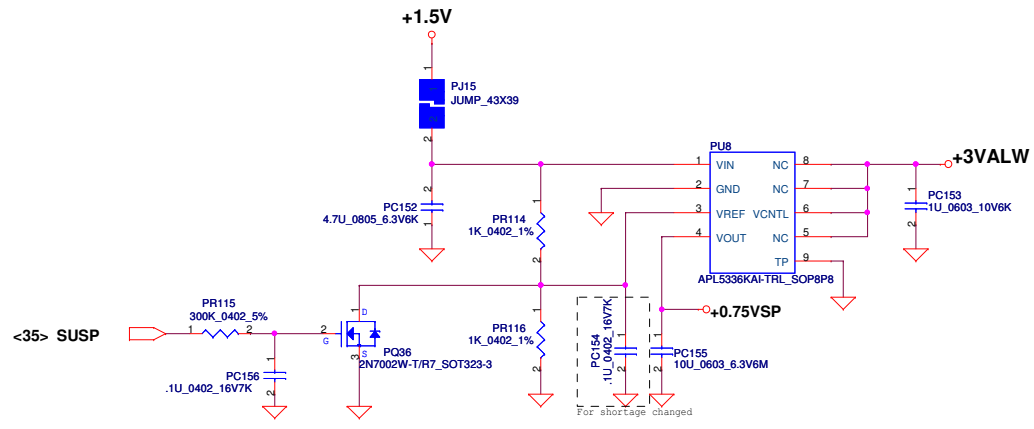
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Issued Date	2010/01/25	Deciphered Date	2009/04/28	Title	1.1VALWP/1.05VSP		
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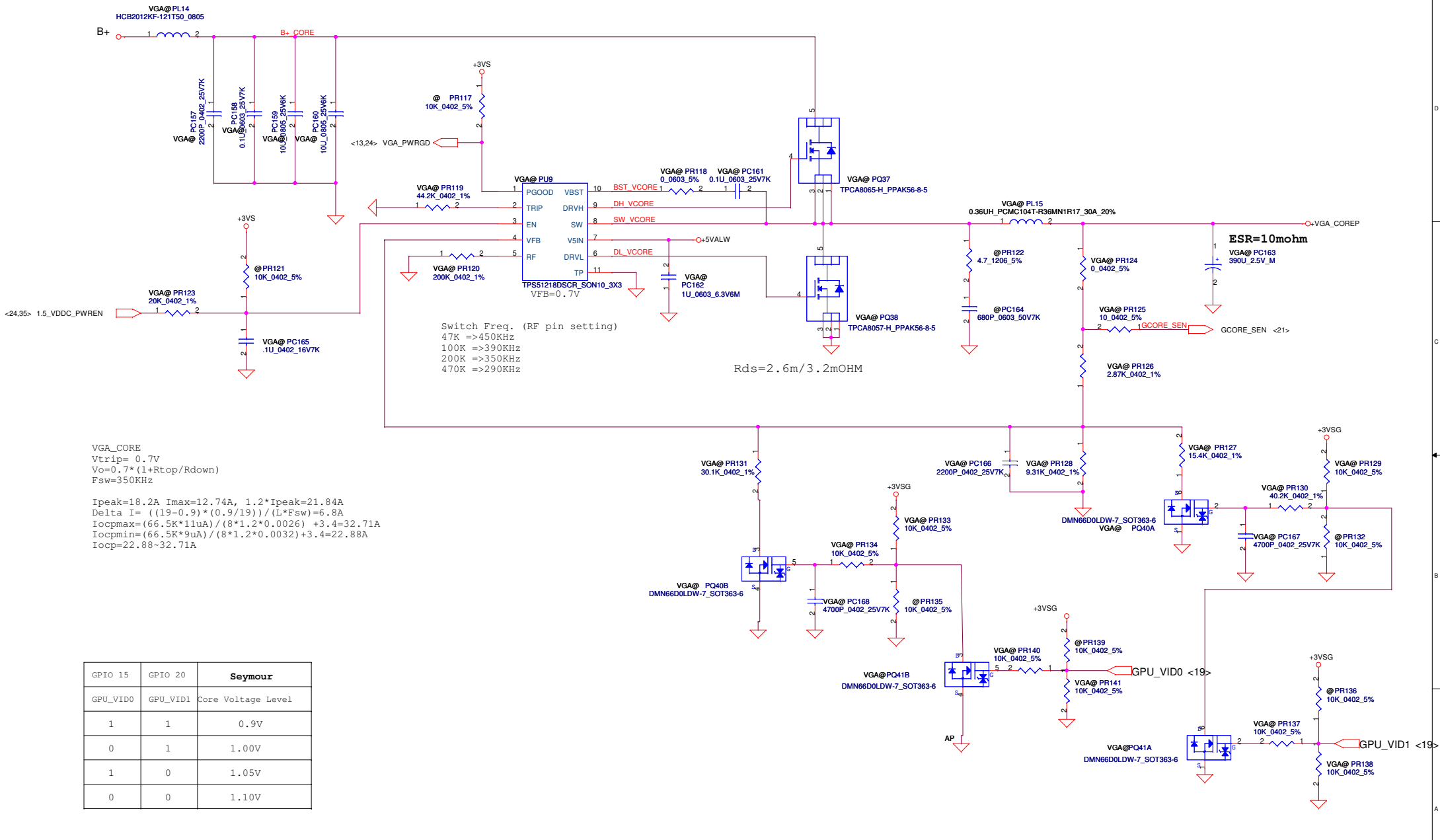


	G5603	RT8209B	TPS51117	RT8209M
Temperature Compensated	-1180ppm/°C	1600ppm/°C	4500ppm/°C	4800ppm/°C
Vtrip_min (SPEC)	30mV	50mV	30mV	50mV
Vtrip_max (SPEC)	200mV	200mV	200mV	200mV

$V_o = 1.5V$     $V_{FB} = 0.75V$   
 $V_o = 0.75 * (1 + 10K / 10K) = 1.5V$   
 $F_{sw} = 280KHz$

$C_{out} ESR = 17 \text{ mohm}$     $R_{ds(on)}(max) = 7 \text{ mohm}$     $R_{ds(on)}(typ) = 5.3 \text{ mohm}$   
 $I_{peak} = 9.45A$ ,    $I_{max} = 6.615A$   
 $\Delta I = ((19 - 1.5) * (1.5 / 19)) / (L * F_{sw}) = 4.93A$   
 $\Rightarrow 1/2 \Delta I = 2.467A$   
 $V_{trip} = R_{trip} * 10\mu A = 0.0768$   
 $I_{ocpmin} = V_{trip} / (R_{ds(on)}(max) * 1.2) + \Delta I / 2 = 11.61A$   
 $I_{ocpmax} = V_{trip} / (R_{ds(on)}(typ) * 1.2) + \Delta I / 2 = 14.54A$   
 $I_{ocp} = 11.61A \sim 14.54A$





VGA\_CORE  
 Vtrip= 0.7V  
 Vo=0.7\*(1+Rtop/Rdown)  
 Fsw=350KHz

Ipeak=18.2A Imax=12.74A, 1.2\*Ipeak=21.84A  
 Delta I= ((19-0.9)\*(0.9/19))/(L\*Fsw)=6.8A  
 Iocpmax=(66.5K\*11uA)/(8\*1.2\*0.0026) +3.4=32.71A  
 Iocpmin=(66.5K\*9uA)/(8\*1.2\*0.0032)+3.4=22.88A  
 Iocp=22.88-32.71A

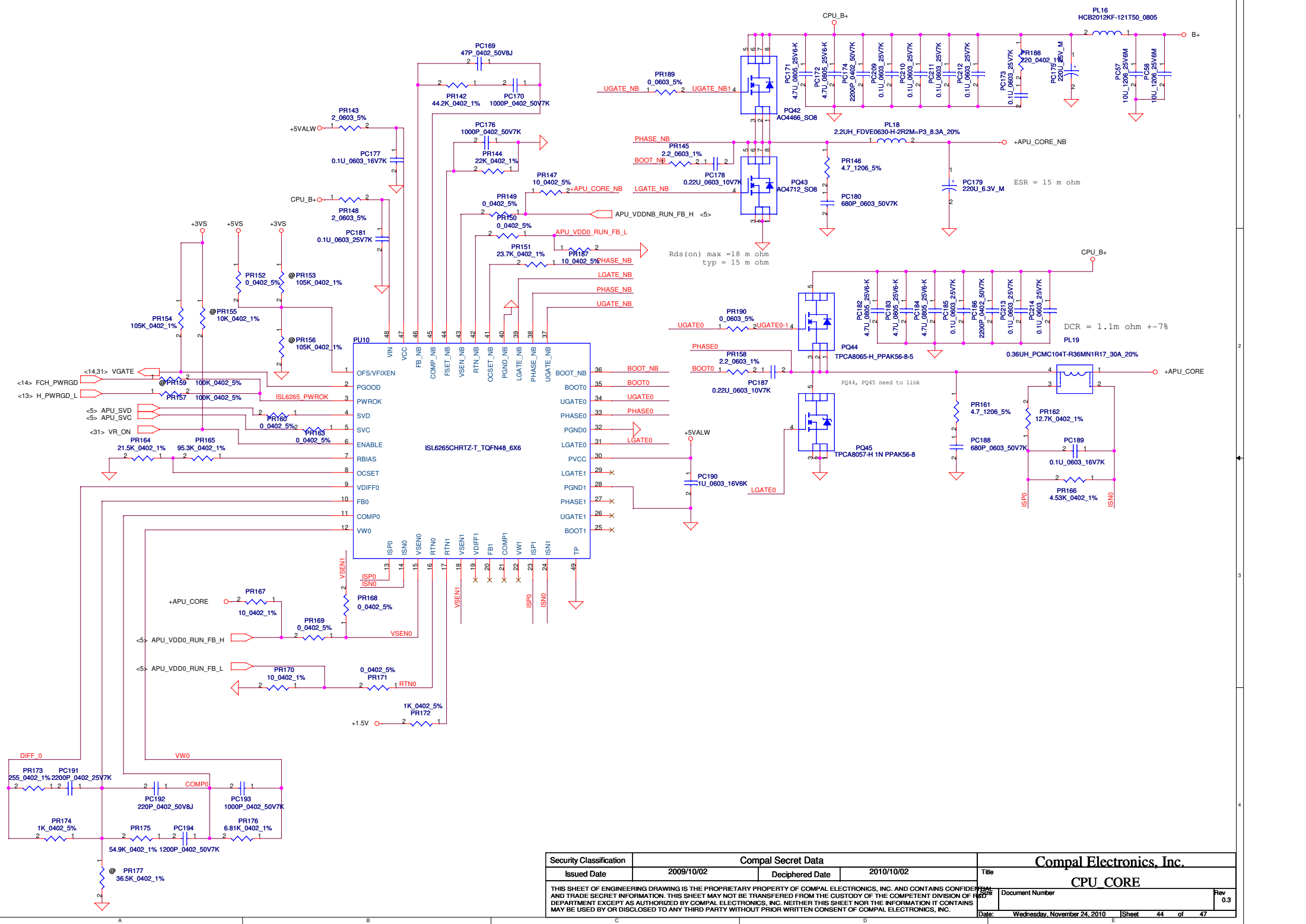
Switch Freq. (RF pin setting)  
 47K =>450KHz  
 100K =>390KHz  
 200K =>350KHz  
 470K =>290KHz

Rds=2.6m/3.2mOHM

GPIO 15	GPIO 20	Seymour
GPU_VID0	GPU_VID1	Core Voltage Level
1	1	0.9V
0	1	1.00V
1	0	1.05V
0	0	1.10V

Security Classification		Compal Secret Data		Title	
Issued Date	2010/07/13	Deciphered Date	2011/07/13	+VGA COREP	
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Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2009/10/02	Deciphered Date	2010/10/02	CPU_CORE	
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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	0.75VSP EN RC value	HW adjust timing	0.1	42	Change PR115 from SD028000080 to SD028300380(S RES 1/16W 300K +-5% 0402) Add PC156 SE076104880(S CER CAP .1U 16V K X7R 0402)	2010/09/24	DVT
2	1.8VSP EN RC value	HW adjust timing	0.1	40	Change PR84 from SD028000080 to SD028200380(S RES 1/16W 200K +-5% 0402) Add PC120 SE095224K00(S CER CAP 0.22U 10V K X5R 0402)	2010/09/24	DVT
3	1.05VSP EN RC value	HW adjust timing	0.1	41	Change PR106 from SD028000080 to SD028200380(S RES 1/16W 200K +-5% 0402) Add PC146 SE076104880(S CER CAP .1U 16V K X7R 0402)	2010/09/24	DVT
4	VGA_COREP EN RC value	HW adjust timing	0.1	43	Change PR123 from SD034100280 to SD034200280(S RES 1/16W 20K +-1% 0402)	2010/09/24	DVT
5	change BOM structure	1.5VSP change BOM structure to VGA@ for cost down of UMA	0.1	42	Change PU11, PL21, PQ39, PQ46, PR178, PR179, PR180, PR181, PR184, PR185, PR186, PC196, PC197, PC198, PC199, PC200, PC201, PC202, PC204 BOM structure to VGA@ del PL20 SM01000C000(S SUPPRE_TAI-TECH HCB2012KF-121T50 0805)	2010/10/05	DVT
6	Adjust APU_CORE_NB OCP	Adjust APU_CORE_NB OCP to 15A	0.1	44	Change PR151 from SD034110280 to SD034237280(S RES 1/16W 23.7K +-1% 0402)	2010/10/07	DVT
7	Add input choke in charger circuit.	Add input choke for EMI ISN test in charger circuit.	0.1	37	Change PL17 from SM010018710 to SH000001Y00(S COIL 1.2UH +-30% 1231AS-H-1R2N-P3 2.9A)	2010/10/18	DVT
8	Add snubber	Add snubber in APU_COREP and APU_CORE_NB circuit.	0.1	44	Add PR146, PR161 SD001470B80(S RES 1/4W 4.7 +-5% 1206) Add PC180, PC188 SE025681K80(S CER CAP 680P 50V K X7R 0603) Add PR188 SD034220080(S RES 1/16W 220 +-1% 0402)	2010/10/18	DVT
9	Add snubber and input Cup.	Add snubber and input Cup. in 1.05VSP circuit.	0.1	41	Add PR161 SD001470B80(S RES 1/4W 4.7 +-5% 1206) Add PC188 SE025681K80(S CER CAP 680P 50V K X7R 0603) Add PC205, PC206 SE042104K80(S CER CAP .1U 25V K X7R 0603)	2010/10/18	DVT
10	Add input Cup.	Add input Cup. in 1.1VALWP circuit for EMI test.	0.1	41	Add PC207, PC208 SE042104K80(S CER CAP .1U 25V K X7R 0603)	2010/10/18	DVT
11	Add input Cup.	Add input Cup. and H/S gate resistance in CPU_COREP circuit for EMI ISN test.	0.1	44	Add PC209, PC210, PC211, PC212 SE042104K80(S CER CAP .1U 25V K X7R 0603) Add PC57, PC58 SE142106M80(S CER CAP 10U 25V N X5R 1206 H1.7) Add PR189, PR190 SD013000080(S RES 1/10W 0 +-5% 0603)	2010/10/19	DVT
12	Adjust VGA_COREP VID value	Adjust VGA_COREP VID value	0.1	43	Change PR128 from SD034100280 to SD034931180(S RES 1/16W 9.31K +-1% 0402) Change PR127 from SD034200280 to SD034154280(S RES 1/16W 15.4K +-1% 0402) Change PR131 from SD000009K00 to SD034301280(S RES 1/16W 30.1K +-1% 0402)	2010/10/21	DVT
13	change BOM structure	1.5VSP change BOM structure to @ for cost down	0.1	42	Change PU11, PL21, PQ39, PQ46, PR178, PR179, PR180, PR181, PR184, PR185, PR186, PC196, PC197, PC198, PC199, PC200, PC201, PC202, PC204 BOM structure to @ del PL20 SM01000C000(S SUPPRE_TAI-TECH HCB2012KF-121T50 0805)	2010/10/21	DVT
14	change main source	change main source for reduce source	0.1	42	Change PQ36 from SB000009610 to SB000006800(S TR 2N7002W 1/R7 1N SOT-323)	2010/10/26	DVT
15	Adjust VGA_COREP VID timing	Adjust VGA_COREP VID timing to avoid OVP.	0.1	43	Change PR130 from SD028100280 to SD034402280(S RES 1/16W 40.2K +-1% 0402)	2010/11/01	DVT
16	Delete precharge circuit	Delete precharge circuit to avoid adapter UVP.	0.1	36	del PR8, PR11, PR12 SD001100180(S RES 1/4W 1K +-5% 1206) del PD3 SC100001Y80(S DIO LL4148 LL-34 PANJIT) del PR9, PR10, PR13 SD028100380(S RES 1/16W 100K +-5% 0402) change PR7 SD001100180 to SD011000080(S RES 1/4W 0 +-5% 1206)	2010/11/01	DVT

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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Delete precharge circuit	Delete precharge circuit to avoid adapter UVP.	0.1	36	del P02 SB906100210(S TR TP0610K-T1-E3 1P SOT23) del P03, P04 SB301150200(S TR PDTC115EU NPN SOT323) del PD4 SCS00001200(S SCH DIO BAS40CW SOT-323)	2010/11/01	DVT
2	Delete precharge 連動 circuit	Delete precharge 連動 circuit to avoid adapter UVP.	0.1	37	change PQ7 SB00000DL00 to SB00000I600(S TR SI4459ADY-T1-GE3 1P SO8)	2010/11/01	DVT
3	Delete precharge 連動 circuit	Delete precharge 連動 circuit to avoid adapter UVP.	0.1	37	del PR21 SD034100380(S RES 1/16W 100K +-1% 0402) del PC17 SE075222K80(S CER CAP 2200P 25V K X7R 0402) del PQ12 SB000006800(S TR 2N7002W T/R7 1N SOT-323)	2010/11/01	DVT
4	Delete precharge 連動 circuit	Delete precharge 連動 circuit to avoid adapter UVP.	0.1	37	Add PR357 SD034200380(S RES 1/16W 200K +-1% 0402) add PC253 SE042104K80(S CER CAP .1U 25V K X7R 0603) add PQ61 SB000006800(S TR 2N7002W T/R7 1N SOT-323)	2010/11/01	DVT
5	Delete precharge 連動 circuit	Delete precharge 連動 circuit to avoid adapter UVP.	0.1	37	Add PD9, PD12 SC100001K00(S DIO 1SS355 SOD323 T/R-5K)	2010/11/01	DVT
6	Add input Cup.	Add input Cup. in CPU_COREP circuit for EMI ISN test.	0.1	44	Add PC213, PC214 SE042104K80(S CER CAP .1U 25V K X7R 0603)	2010/11/12	PVT
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PHASE	PAGE	Modification list	PURPOSE
0.1	P08	First release	Base on PEW96, change platform (NB, CPU-->APU, SB820-->FCH)
0.2	P--	C220, C336, C347, C357, C359, C360, C387, C388, C389, C390, C391, C392, C393, C421, C427, C428, C1461 change 0603 size	Follow Standard Part 0805-->0603
0.2	P--	C721 C669, C1005, C705, C708, C713, C715, C736, C794, C797, C932, C934, C983 change 0603 size	Follow Standard Part 0805-->0603
0.2	P--	C215, C216, C218, C224, C226, C227, C229, C230, C231, C660, C671, C821, C823, C1210, C1517, C1522, C1526, C1529, C1532, C1512, C1523, C1443, C1445, C1446, C1447, C1448, C1452, C1453, C1454 change 0603 size	Follow Standard Part 0805-->0603
0.2	P35	R1122 change as 200k ohm, C1463 change as 0.1UF	Adjust sequence
0.2	P5	Add R109, R155	Pull up 4.7k ohm for CRT EDIE
0.2	P16	Unpop R632, C744, C69, C746; Pop R633	+VDDIO_18_FC Tie to GND for Nun-share ROM
0.2	P16	Add R635; Unpop R634	AMD suggestion for +VDDIO_AZ
0.2	P24	Add R170, R171	For DISO BOM option
0.2	P13	Add U33, C1199, R830, R838, R839	For VGA_PWRGD
0.2	P13	Remove C52, R557	For A_RST#
0.2	P27	EC_MUTE# change as 12 PIN form 46 PIN in Codec	For External Mute Fail issue
0.2	P16	C113, C77, C743, C96 change 0603 size and add C121, C105, C108, C109	22uF cap. change two 10uF cap. 0603 size
0.2	P19	C14 change 0603 size and add C52	22uF cap. change two 10uF cap. 0603 size
0.2	P13	C66, C67 change 27pF	Follow suggestion by TXC result
0.2	P26	C1485, C1486 change 33pF	Follow suggestion by TXC result
0.2	P33	C711 Change as SF000003I00	Material shortage
0.2	P9	Add C643, C675, C676, C678	For DDR3 moat issue
0.2	P26	Remove C939 ; Reserve C941, D48, D49, D51, L109	For LAN
0.2	P7	Add C604, C684	For CRT Monitor issue
0.3	P--	C212, C623 change 0603 size ; add C628, C685	Follow Standard Part 0805-->0603
0.3	P27	R786 change as 15k ohm	Dos Beep issue
0.3	P19	change R21, R22 as DISO#	Device Menage Audio issue
1.0	P27	Add R797, R800	Mic noise issue
1.0	P26,10	Reverse C939, C942, R456, R419, R426	for EMI ISN solution
1.0	P32	Add C753, C785	for EMI request

Change footprint : For cost down purpose to change parts  
20100812

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