



PCB  
M/B  
DAZ@



LA-7072P  
M/B  
DA@



LS-7072P  
LED/B  
DA@



LS-7073P  
TP/B  
DA@

11/18  
LA-7072P P/N from DA60000LA00 to DA60000LA10  
LS-7072P P/N from DA40000Z300 to DA40000Z310  
LS-7073P P/N from DA40000Z400 to DA40000Z410

11/22  
LS-7073P P/N from DA40000Z410 to DA20000Z410

11/18 ZZZ2 for DAZ P/N:DAZ0IV00101

# Compal Confidential

## P0VE6 LA7072P Schematics Document

### AMD Ontario Processor with DDRIII + Hudson M1

10.1" M/B

2010-11-18

Rev : 1.0

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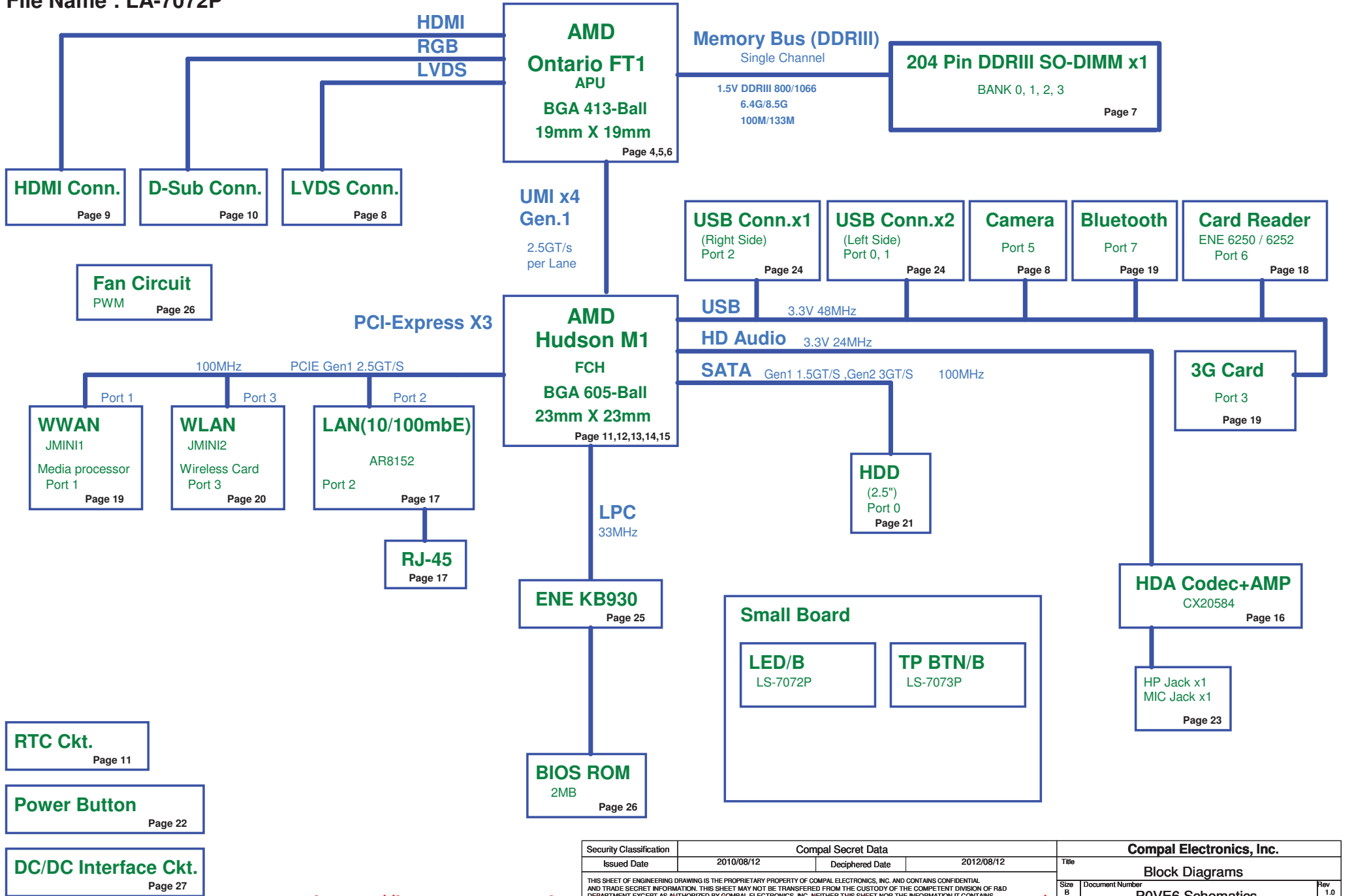
<http://laptop-motherboard-schematic.blogspot.com/>

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Model Name : P0VE6 / P0VH6

File Name : LA-7072P

## Brazos Platform



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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
+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 NB VDDC & VGA	ON	OFF	OFF
+1.1VS	1.1VS switched power rail	ON	OFF	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+1.1VALW	1.1V always on power rail	ON	ON	ON*
+3VS	3.3V switched power rail	ON	OFF	OFF
+1.5VS	1.5VS switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+VSB	VSB always on power rail	ON	ON	ON*
+RTCBATT	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

## EC SM Bus2 address

Device	Address	HEX	Device	Address	HEX
Smart Battery	0001-011xb	16H	SB-TSI	1001-100xb	98H

## 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

## BOM Structure

HDMI@ : HDMI function  
 BT@ : BT function  
 CONN@ : Conneters  
 45@ : 45 Level  
 3G@ : 3G function  
 3G\_MP@: 3G & Media processor function  
 CHARGE@: Charge BATT  
 NONCHARGE@: nonCharge BATT

## FCH Hudson-M1 USB Port List

USB1.1	
Port0	NC
Port1	NC
USB2.0	
Port0	Right USB2
Port1	Right USB3
Port2	Left USB1
Port3	WWAN
Port4	SIM
Port5	USB Camera
Port6	CardReader
Port7	BT
Port8	WiMax
Port9	NC
Port10	NC
Port11	NC
Port12	NC
Port13	NC

## Brazos PCIE Port List

	PCIE0	
APU	PCIE1	NC
	PCIE2	
	PCIE3	
FCH	PCIE0	NC
	PCIE1	WWAN
	PCIE2	LAN
	PCIE3	WLAN

## FCH Hudson-M1 SATA Port List

SATA0	HDD
SATA1	NC
SATA2	NC
SATA3	NC
SATA4	NC
SATA5	NC

## Board ID / SKU ID Table for AD channel

Vcc	+3VALW				
Ra	100K +/- 5%				
Board ID	Rb	V <sub>AD_BID</sub> min	V <sub>AD_BID</sub> typ	V <sub>AD_BID</sub> max	PCB Revision
0	0	0 V	0 V	0 V	0.1
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V	0.2
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	

## SMBUS Control Table

	Source	BATT	DIMM	MINI Card	LCD DDC ROM	HDMI DDC ROM	APU
EC_SMB_CK1 EC_SMB_DA1	KB930	V					
EC_SMB_CK2 EC_SMB_DA2	KB930						V
HDMI_DATA HDMI_CLK	APU FT1					V	
EDID_DATA EDID_CLK	APU FT1				V		
FCH_SMDAT0 FCH_SMCLK0	FCH M1		V	V			

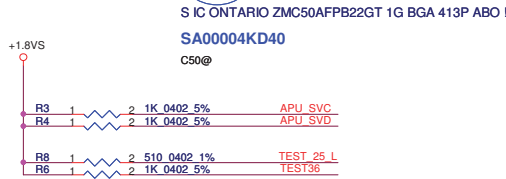
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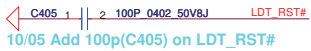
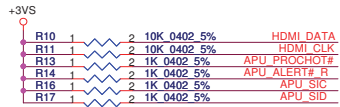
10/08 Add U1(C50@) SA00004BM30 S IC ONTARIO ZM101034B2238 1G BGA ABO!

10/08 Change U1 P/N to SA00004DF20 S IC ONTARIO ZM121034B1238 1.2G BGA ABO!

R9	R352	Display
mount	@	LVDS
@	mount	eDP



11/29 Change U1 from SA00004BM80 to SA00004KD40



10/05 Add 100p(C405) on LDT\_RST#

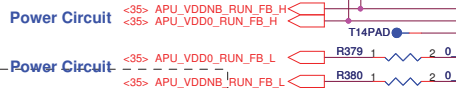


9/9 Change R24 from @ to mount R26 from mount to @

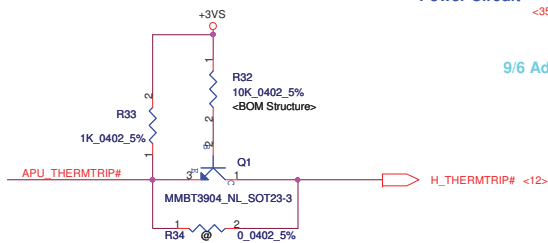
9/15 Change R24 from mount to @



Connection to EC, FCH input need to pull-down



9/6 Add R379, R380 for APU\_VDDNB\_RUN\_FB\_L

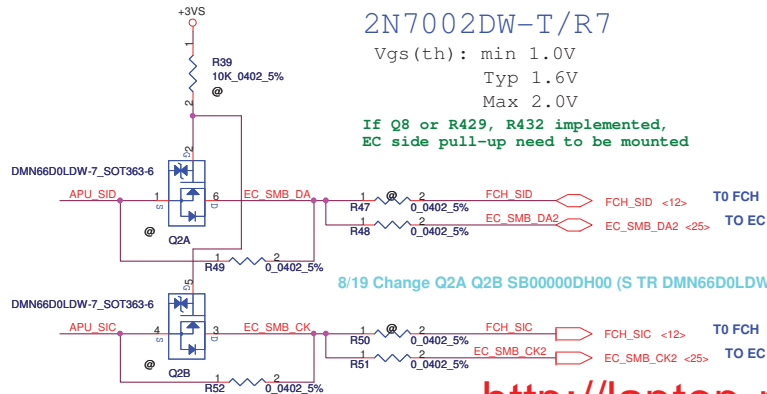


If FCH internal pull-up disabled, level-shifter could be deleted. Need BIOS to disable internal pull-up!!

### 2N7002DW-T/R7

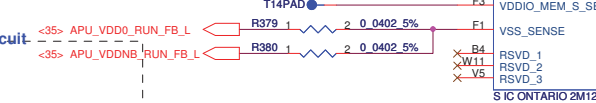
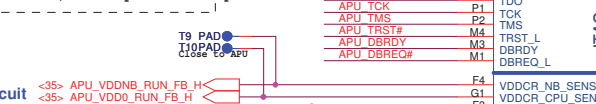
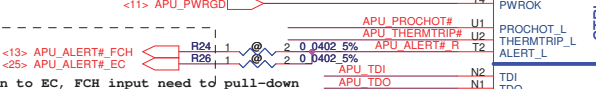
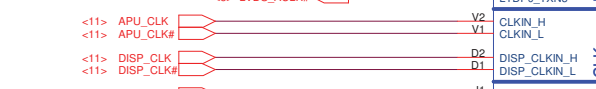
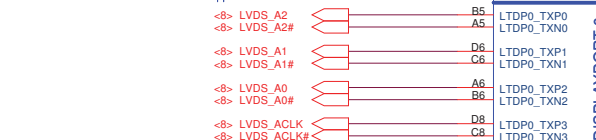
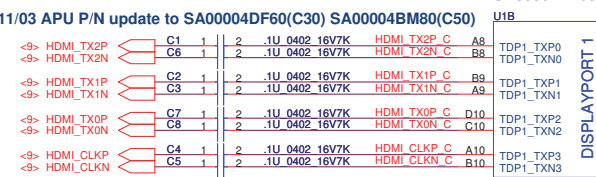
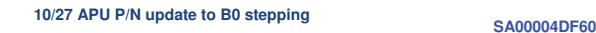
Vgs(th): min 1.0V  
Typ 1.6V  
Max 2.0V

If Q8 or R429, R432 implemented, EC side pull-up need to be mounted

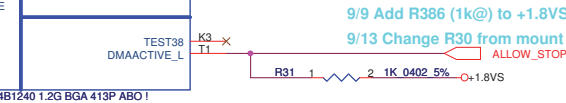
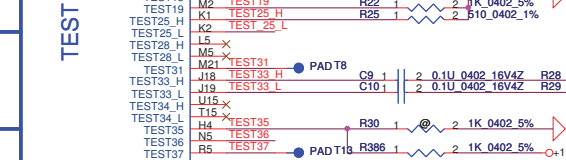
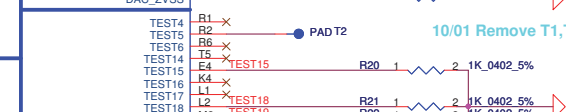
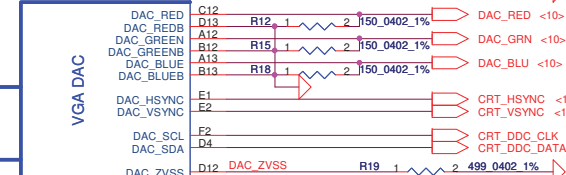
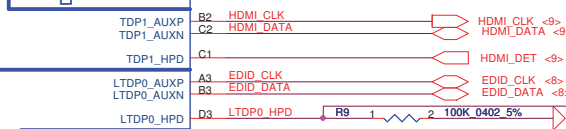
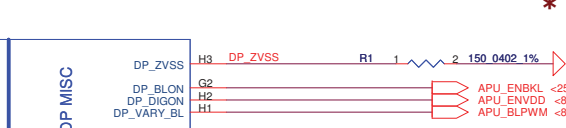


8/19 Change Q2A Q2B SB00000DH00 (S TR DMN66D0LDW-7 2N SOT363-6)

<http://laptop-motherboard-schematic.blogspot.com/>



8/31 Change U1 P/N to SA00004DF00 S IC ONTARIO ZM121034B1240 1.2G BGA 413P ABO!

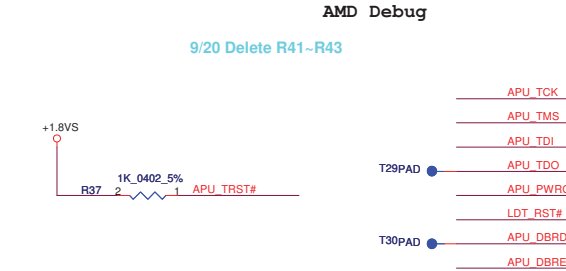


8/31 Change U1 P/N to SA00004DF00 S IC ONTARIO ZM121034B1240 1.2G BGA 413P ABO!

9/17 Remove JHDT1 R40, R44, R45, R46, Add T26-T32

9/20 Delete R41-R43

### AMD Debug

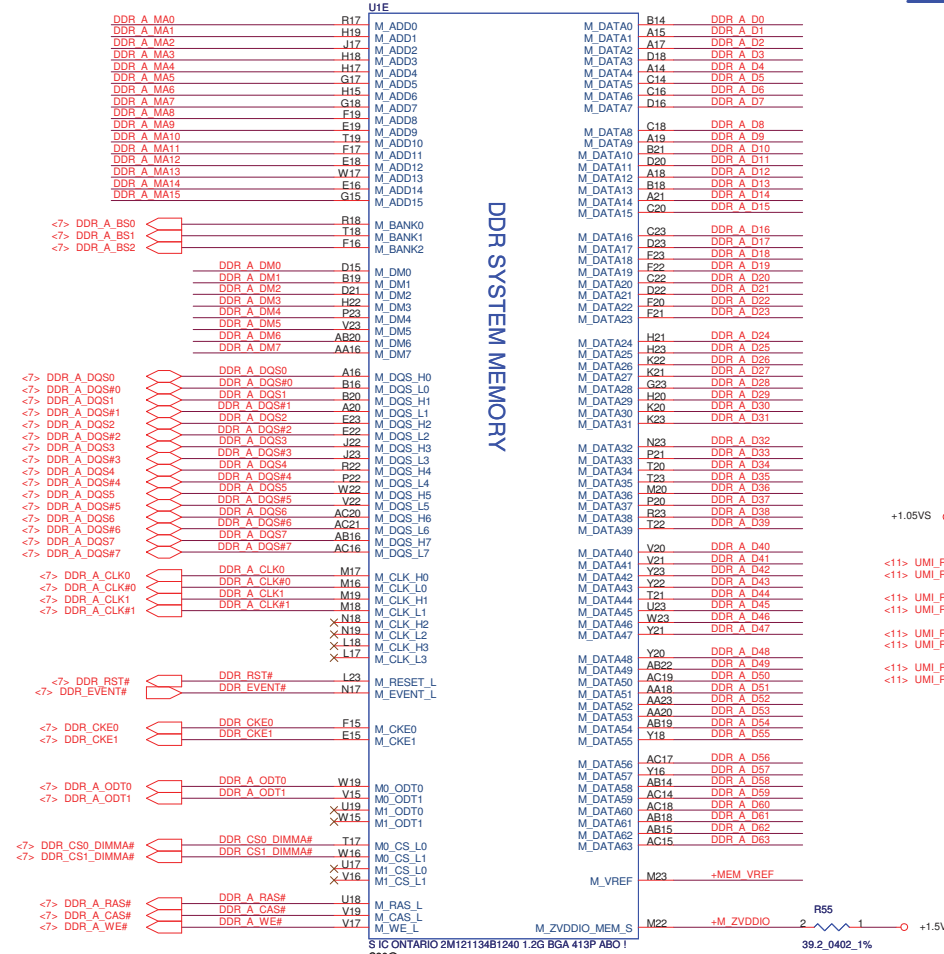


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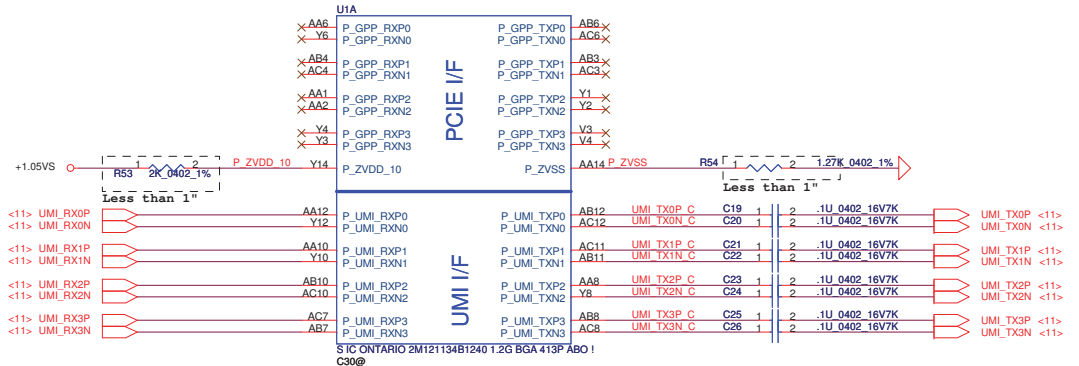
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FT1 CTRL/DP/CRT		
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DDR A D[0..63] <-> DDR\_A\_D[0..63] <->  
 DDR A MA[0..15] <-> DDR\_A\_MA[0..15] <->  
 DDR A DM[0..7] <-> DDR\_A\_DM[0..7] <->

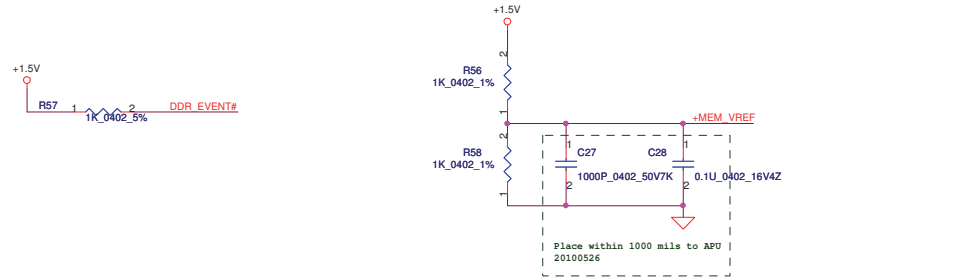


DDR SYSTEM MEMORY

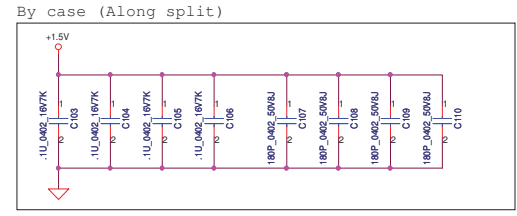
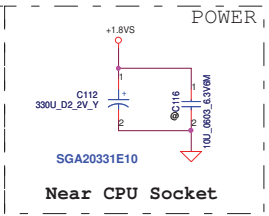
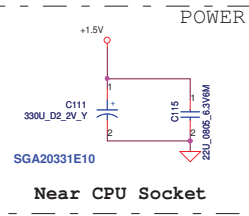
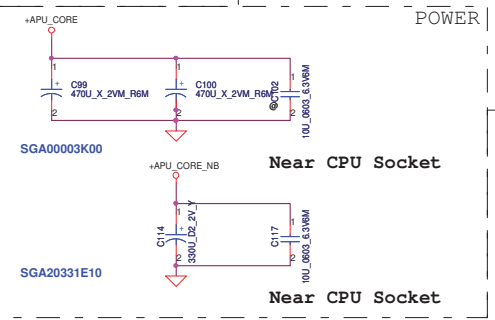
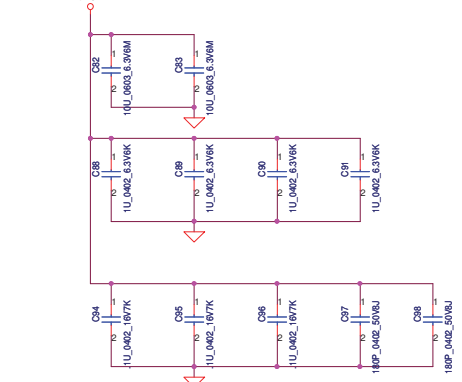
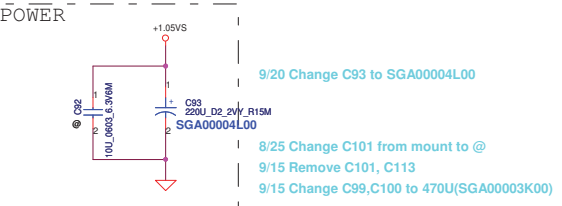
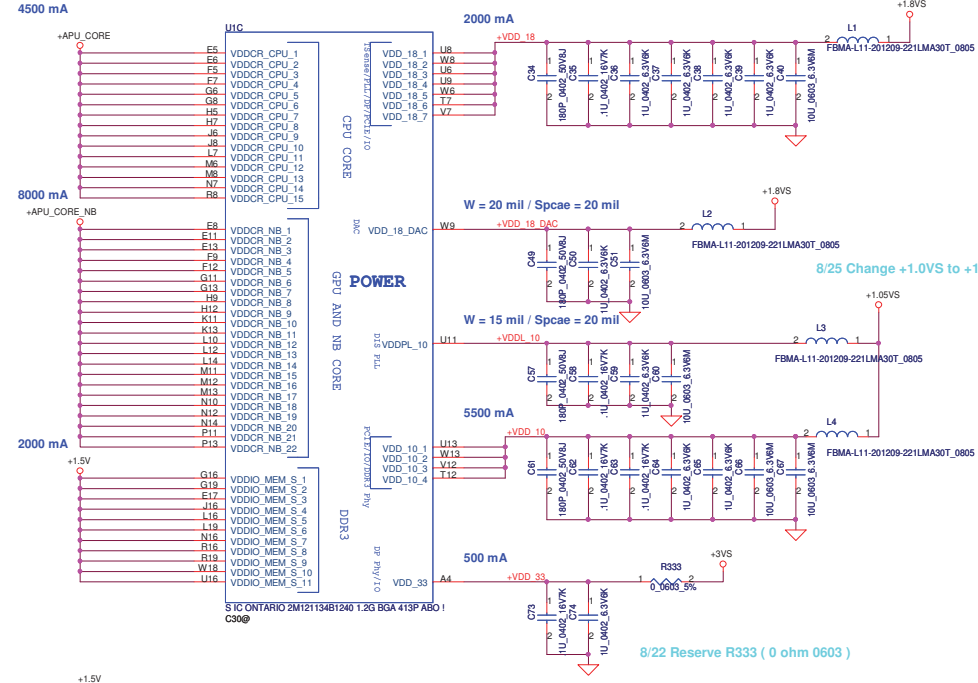
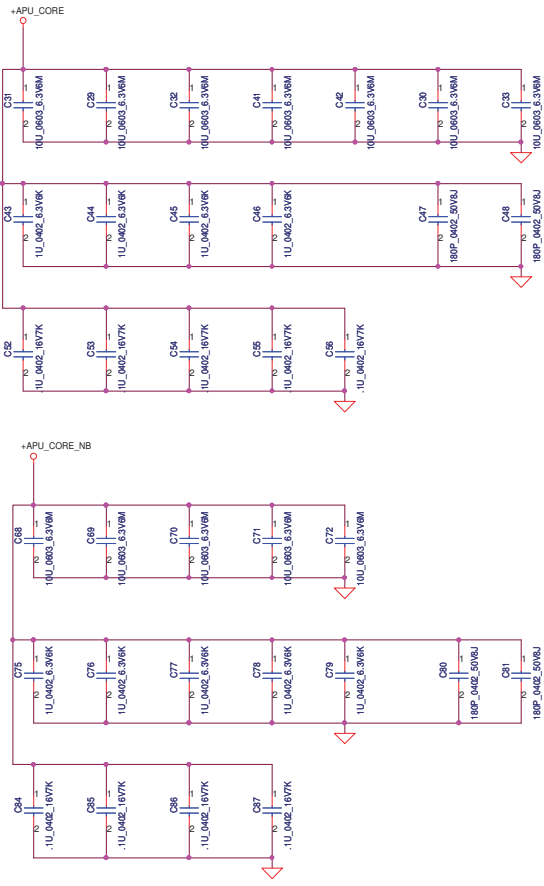
8/22 Delete C11-C18 (No VGA)  
 9/6 Change PCI-E from FCH to APU  
 9/6 Update PCI-E port List  
 9/15 Change PCI-E from APU to FCH



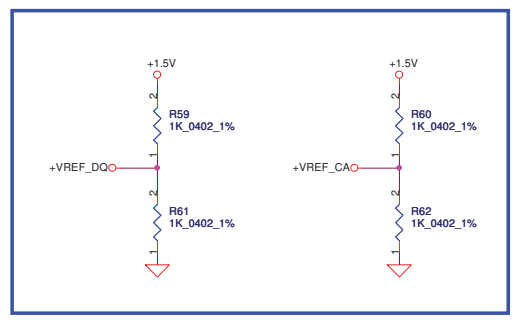
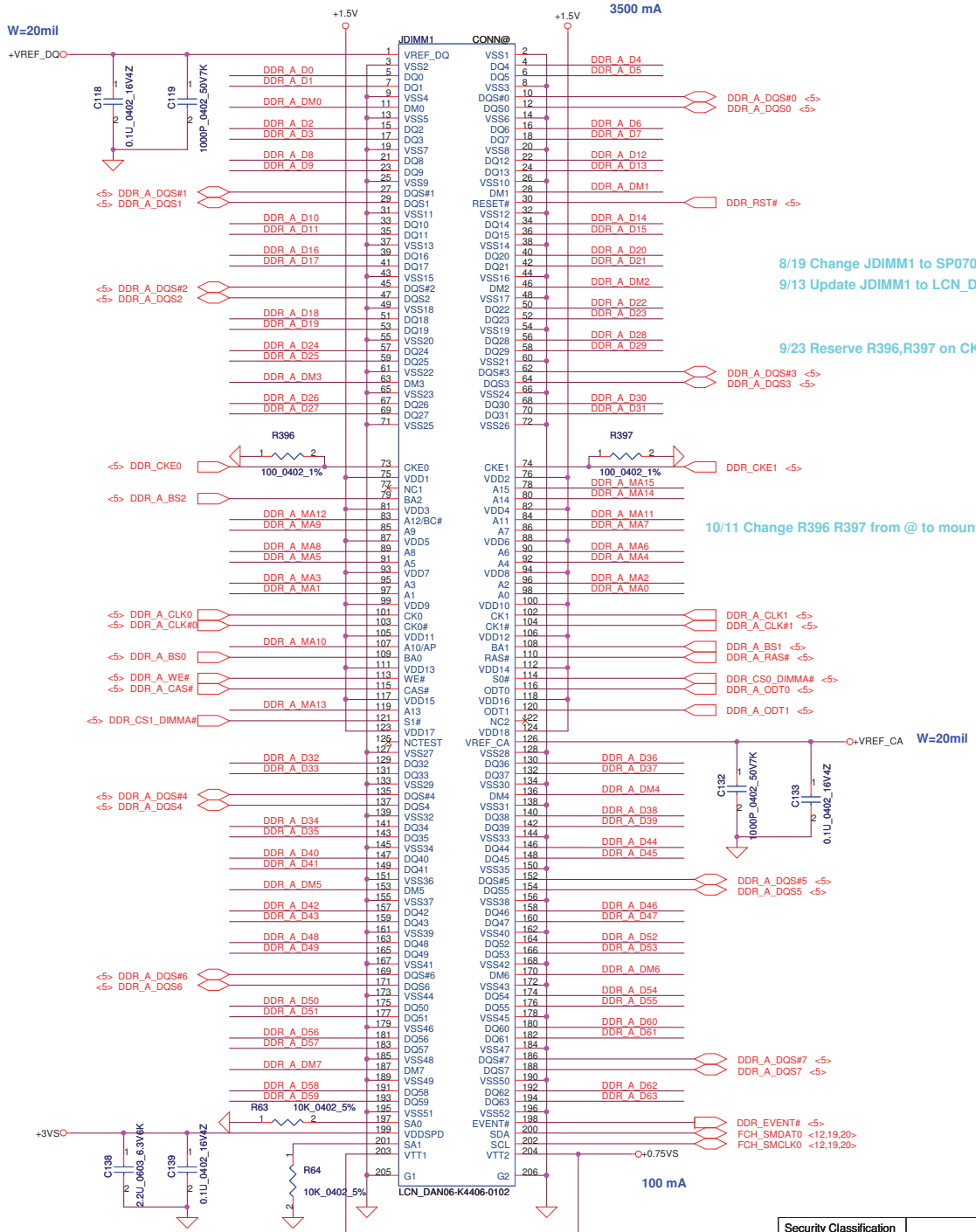
9/11 Delete DDR Signal link to JDIMM2



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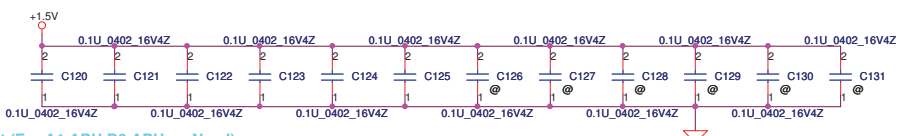


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P0VE6 Schematics				1.0
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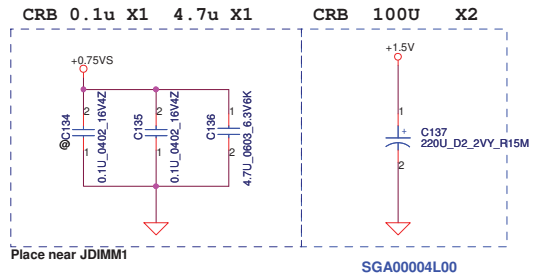
8/19 Change JDIMM1 to SP07000LT00(LCN\_DAN06-K4406-0103\_204P)  
 9/13 Update JDIMM1 to LCN\_DAN06-K4406-0102\_204P

9/23 Reserve R396,R397 on CKE0 & CKE1(S3 hang Issue)



10/11 Change R396 R397 from @ to mount (For A1 APU,B0 APU no Need)

9/11 Change C137 to SGA00004L00



8/25 Change C137 from poly-cap to E-cap (SF000002Y00)  
 8/25 Reserve C381 E-cap (SF000002Y00) on +1.5V

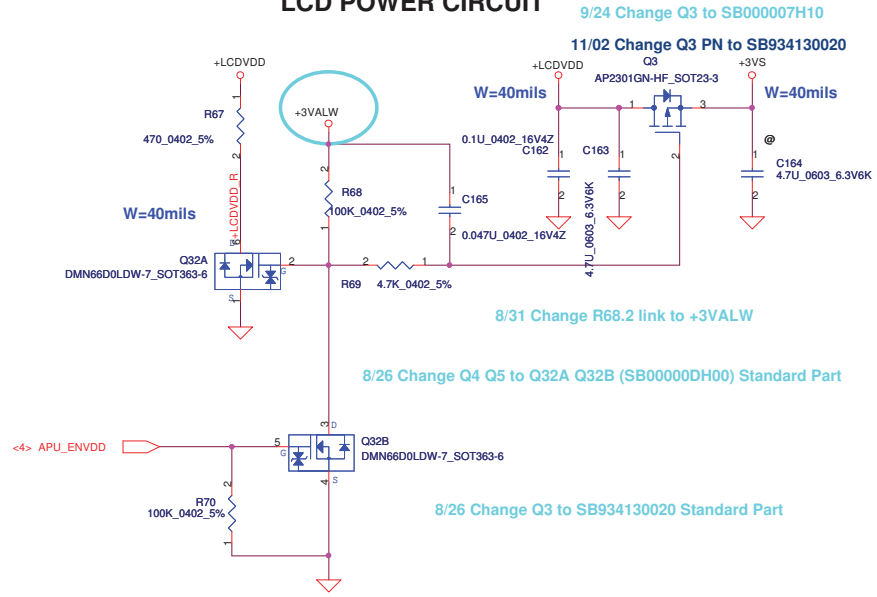
9/11 Remove C381

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				DDR3 SODIMM-I Socket	
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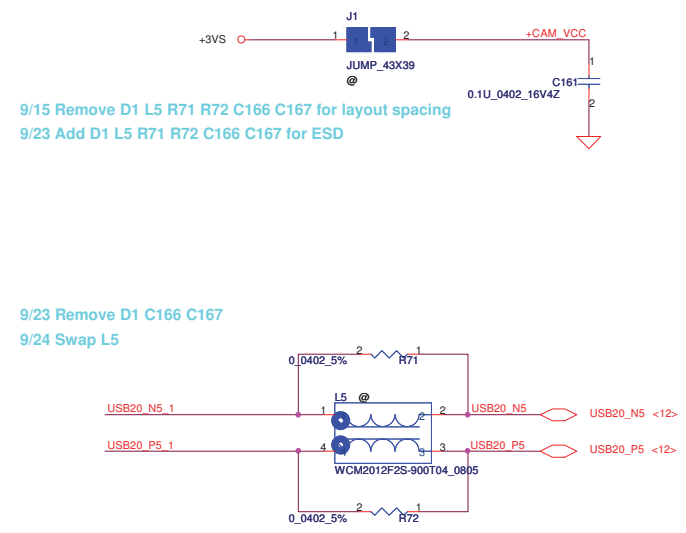
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### LCD POWER CIRCUIT

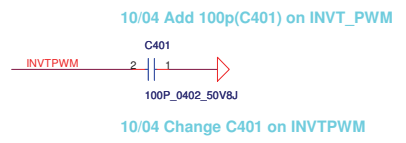
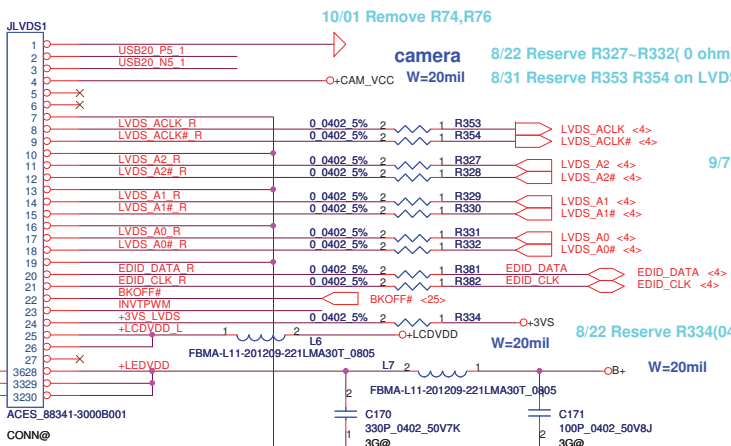


### About Camera



### CMOS & LCD/PANEL BD. Conn.

8/25 JLVDS1.5 change to INT\_MIC0 JLVDS1.6 change to GNDA  
 8/31 Update JLVDS1 Pin definition Delete R74 R76  
 9/13 Update LVDS Pin definition, Add R74,R76  
 9/13 Add Net Name +3VS\_DMIC



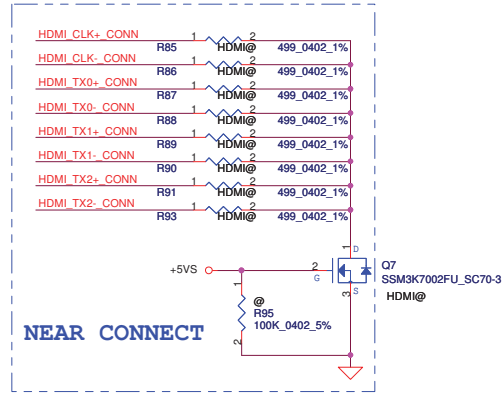
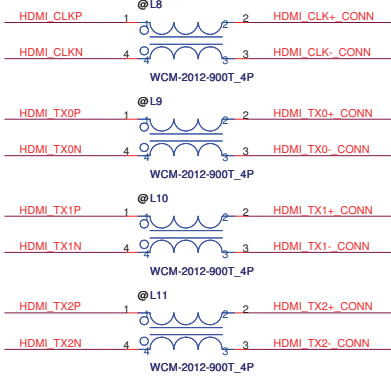
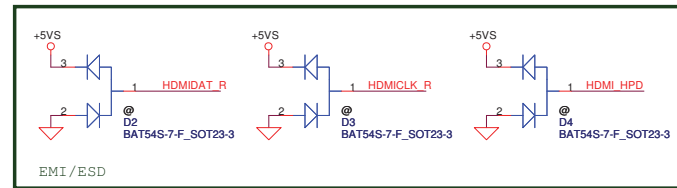
\*

Display	LVDS	eDP
R331	0 ohm	0.1uF
R332	0 ohm	0.1uF
R381	0 ohm	0.1uF
R382	0 ohm	0.1uF
R383	@	100k ohm
R73	2.2k ohm	@
R75	2.2k ohm	100k ohm

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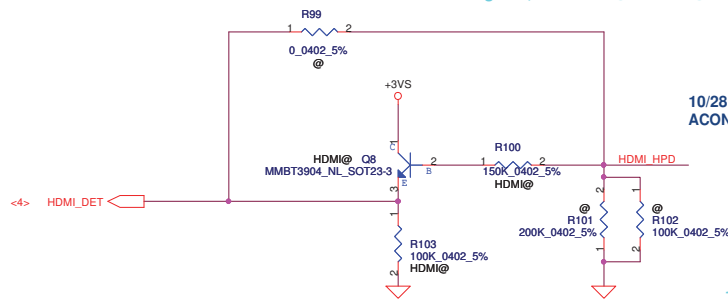


<->	HDMI_CLKP	R77	1	HDMI@	2	0.0402_5%	HDMI_CLK+_CONN
<->	HDMI_CLKN	R78	1	HDMI@	2	0.0402_5%	HDMI_CLK-_CONN
<->	HDMI_TX0P	R79	1	HDMI@	2	0.0402_5%	HDMI_TX0+_CONN
<->	HDMI_TX0N	R80	1	HDMI@	2	0.0402_5%	HDMI_TX0-_CONN
<->	HDMI_TX1P	R81	1	HDMI@	2	0.0402_5%	HDMI_TX1+_CONN
<->	HDMI_TX1N	R82	1	HDMI@	2	0.0402_5%	HDMI_TX1-_CONN
<->	HDMI_TX2P	R83	1	HDMI@	2	0.0402_5%	HDMI_TX2+_CONN
<->	HDMI_TX2N	R84	1	HDMI@	2	0.0402_5%	HDMI_TX2-_CONN



8/26 Change Q7 to SB000009610 Standard Part

9/20 Change R99 from HDMI@ to @  
9/20 Change Q8, R100 from @ to HDMI@



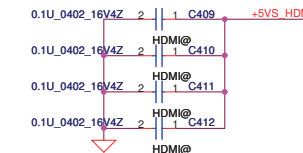
10/27 Change D5 P/N from SC1B491D000 to SCS00003H00

10/27 Change F2 P/N from SP04301P120 to SP040001B00

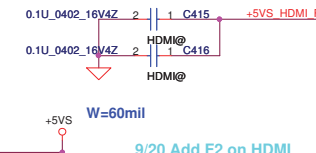
10/28 Change JHDMI1 footprint from ACON\_HMR2E-AK120D\_19P-T to ACON\_HMR2E-AK120D\_19P-S

10/07 Update JHDMI1 footprint from ACON\_HMR2E-AK120D\_19P to ACON\_HMR2E-AK120D\_19P-T

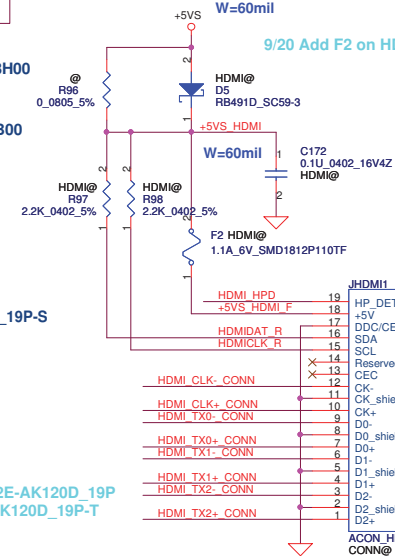
10/29 Add C409~C412(0.1U) on +5VS\_HDMI



10/29 Add C415~C416(0.1U) on +5VS\_HDMI\_F



9/20 Add F2 on HDMI



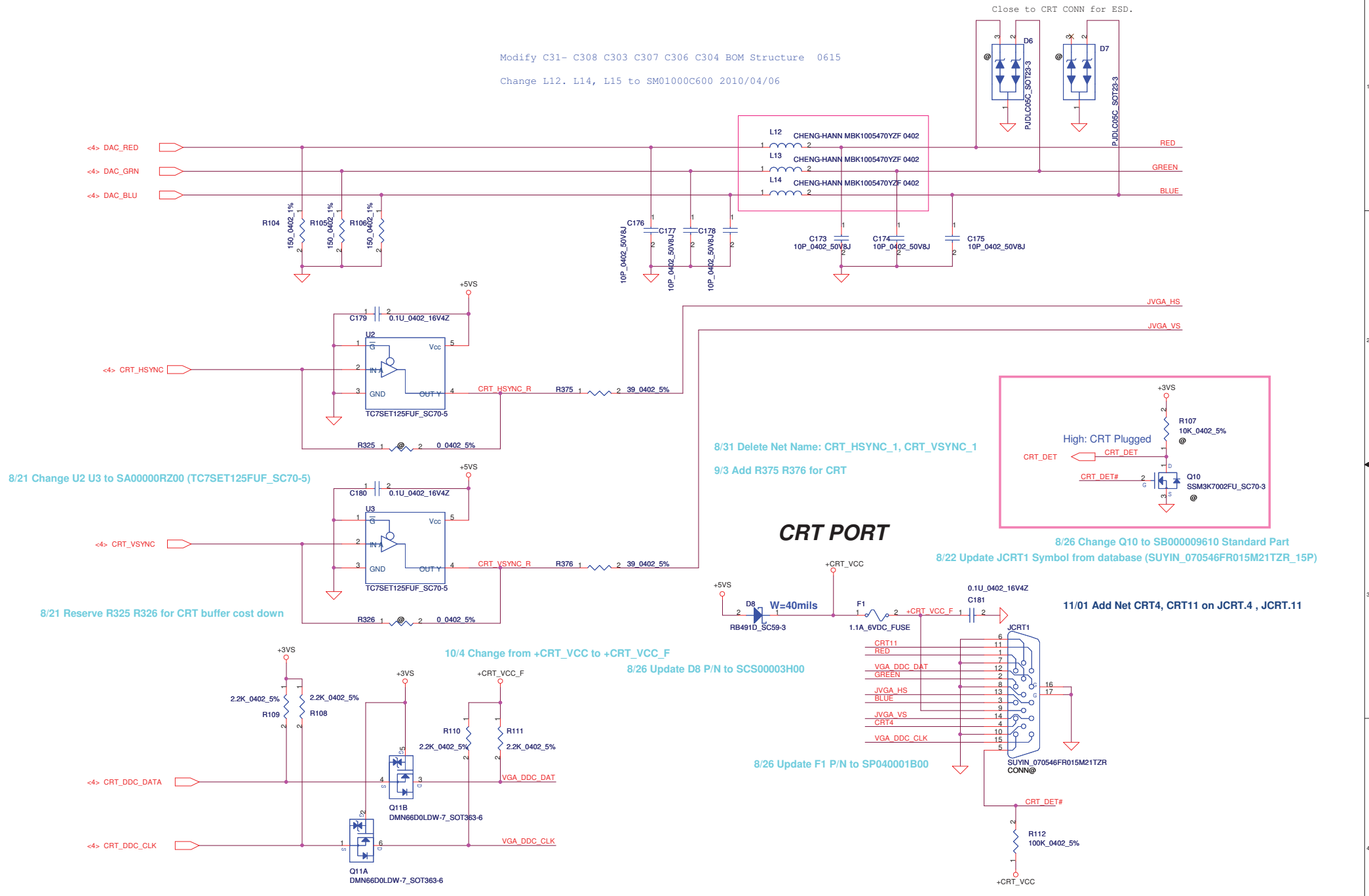
8/23 Update JHDMI1 Symbol (SUYIN\_100042GR019S268ZR\_19P-T)

8/23 Update JHDMI1 Symbol (SUYIN\_100042GR019M23DZL\_19P-T)

9/7 Update JHDMI1 Symbol (ACON\_HMR2E-AK120D\_19P)

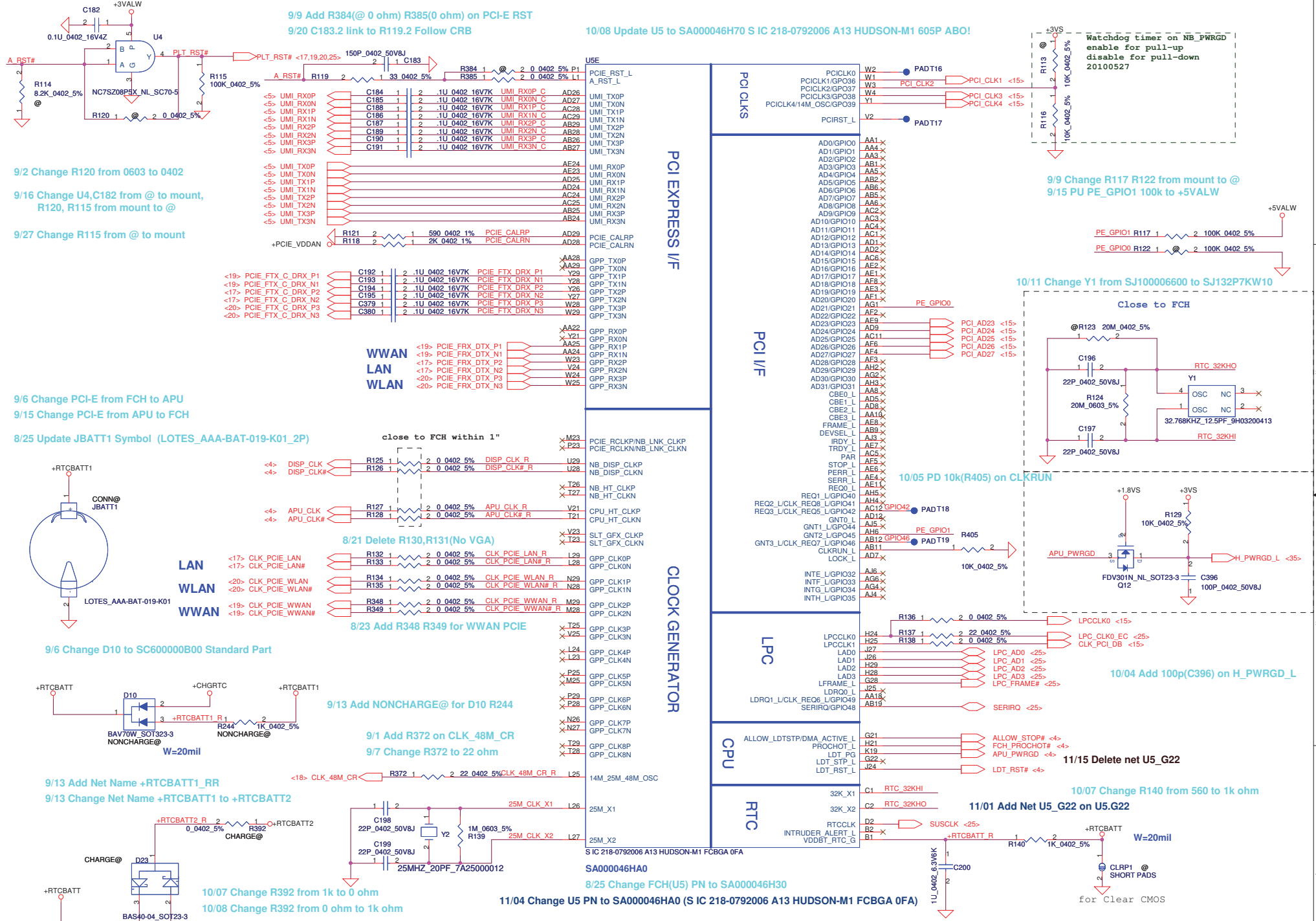
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2010/08/12	Deciphered Date	2012/08/12	Title		
				HDMI Connector		
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Modify C31- C308 C303 C307 C306 C304 BOM Structure 0615  
 Change L12, L14, L15 to SM01000C600 2010/04/06



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				CRT PORT
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			Document Number	Rev 1.0
			P0VE6 Schematics	
			Date: Wednesday, November 17, 2010	Sheet 10 of 36

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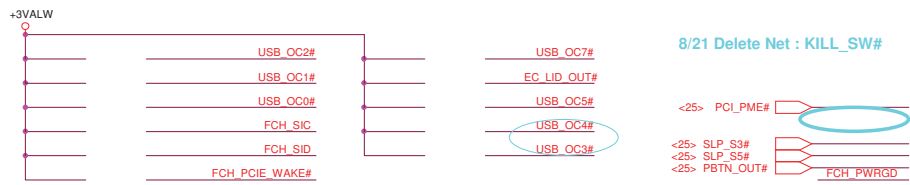


Security Classification	Compal Secret Data	
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		2012/08/12

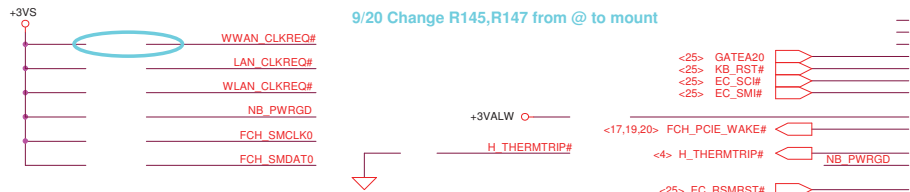
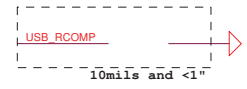
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Compal Electronics, Inc.		
FCH PCIE/PCI/ACPI/LPC/RTC		
Title	Document Number	Rev
	POVE6 Schematics	1.0
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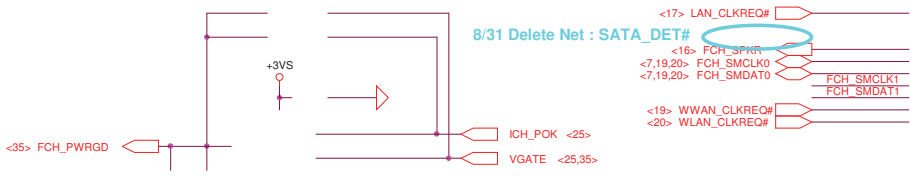


8/21 Delete Net : KILL\_SW#



9/20 Change R145,R147 from @ to mount

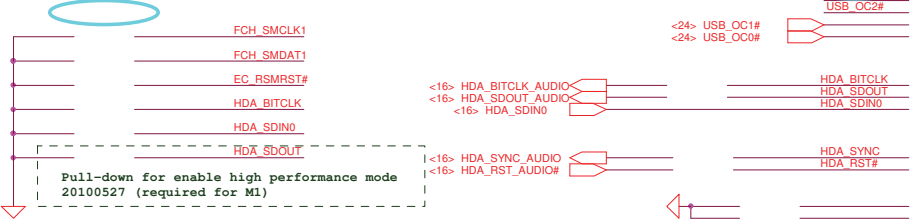
8/31 Pull up 10k(R359) to +3VS on WWAN\_CLKREQ#



8/31 Delete Net : SATA\_DET#

10/04 Add 100p(C397) on FCH\_PWRGD

9/6 Change ODD\_DA#\_FCH to USB\_OC4#  
9/6 Change ODD\_DETECT# to USB\_OC3#

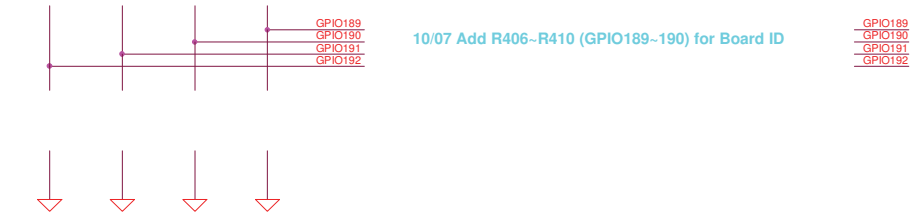


8/22 Delete Net : R161 R162

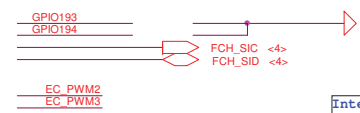
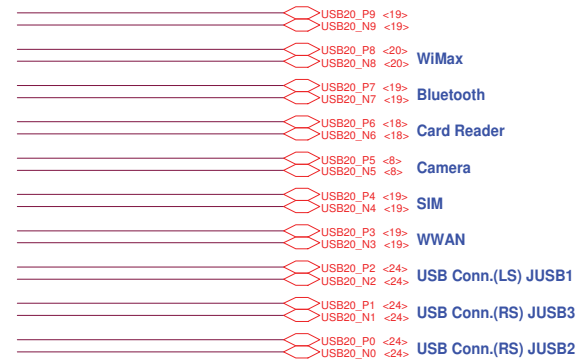
Pull-down for enable high performance mode 20100527 (required for M1)

+3VALW +3VALW +3VALW +3VALW

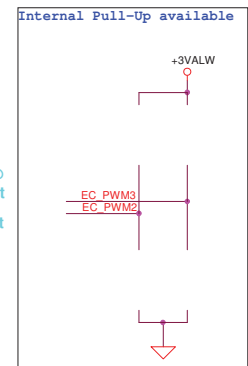
10/07 Add R406-R410 (GPIO189-190) for Board ID



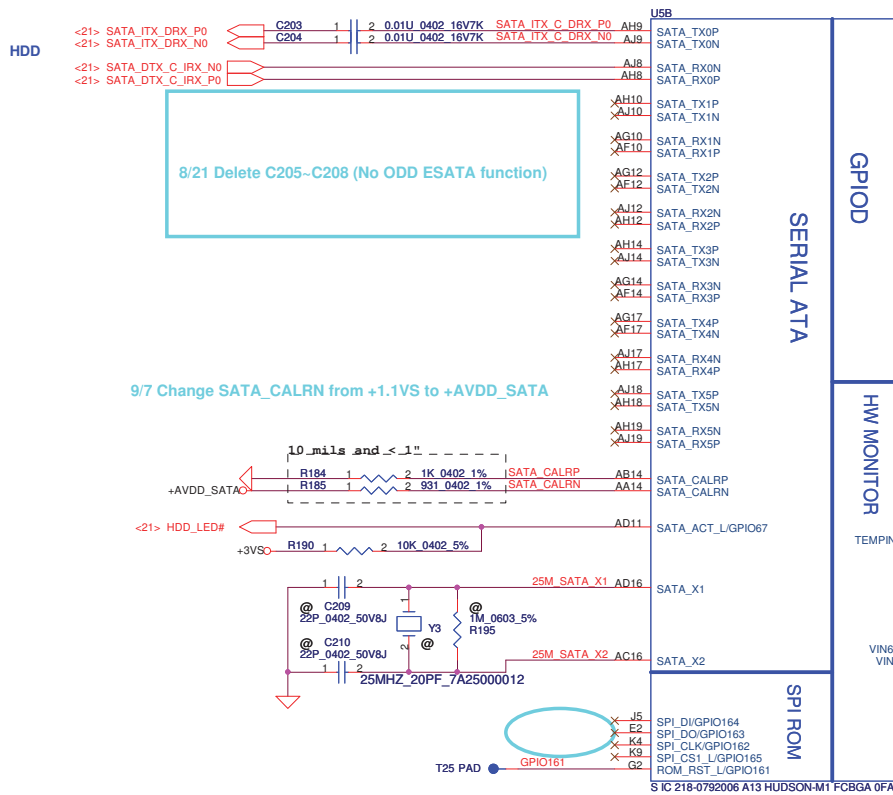
9/15 Update USB Port List  
9/1 Update USB Port List  
8/23 USB port8 link to SIM



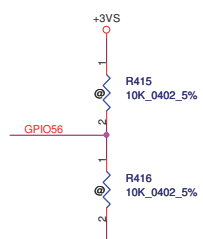
8/31 Change R182 from mount to @  
Change R183 from @ to mount  
9/15 Change R178 from @ to mount



EC_PWM3	EC_PWM2	ROM TYPE
NC	L	SPI ROM
NC	NC	Reserved
L	L	Reserved
L	H	LPC ROM *



11/01 Add Net U5\_AE29 on U5.AE29  
 11/15 Delete net U5\_AE29



10/29 Add R415(@), R416(@) on GPIO56

9/9 Change R189 from mount to @  
 9/15 Change R189 from @ to mount

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

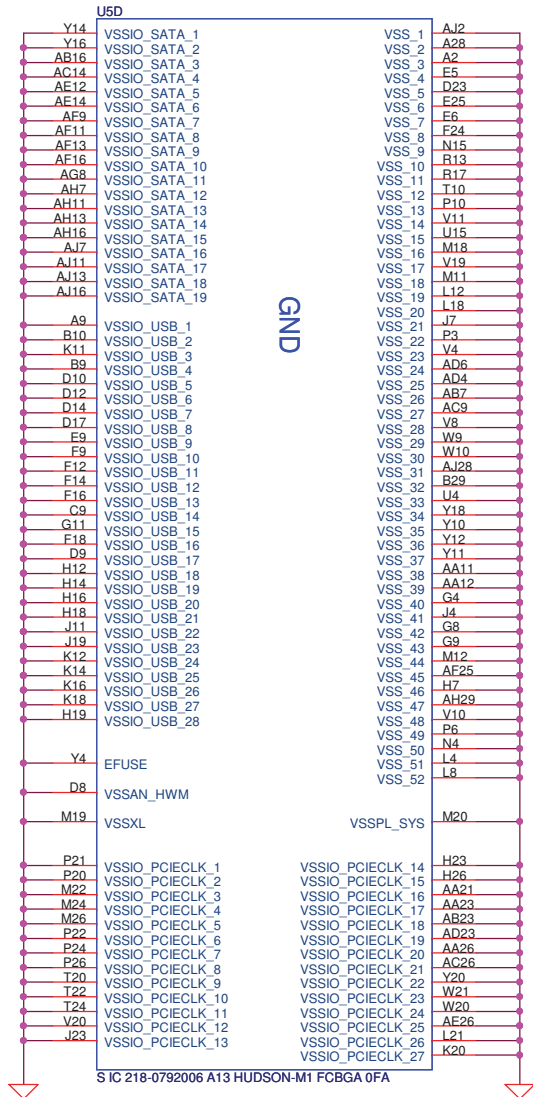
10/05 Add 100p(C406) on APU\_ALERT#\_FCH

8/31 remove FCH SPI ROM

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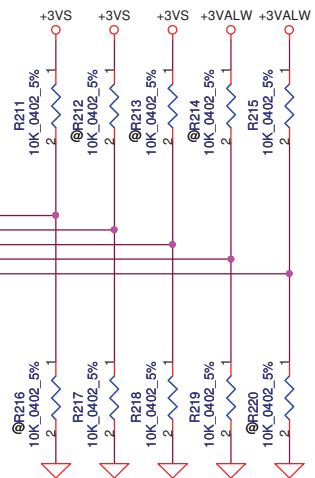


# REQUIRED STRAPS

Check Internal PU/PD

	PCI_CLK1	PCI_CLK3	PCI_CLK4	LPC_CLK0	CLK_PCI_DB				
<b>PULL HIGH</b>	ALLOW PCIE GEN2 *	USE DEBUG STRAP	Reserved	internal EC ENABLE	Internal CLKGEN Mode *				
<b>PULL LOW</b>	FORCE PCIE GEN1	IGNORE DEBUG STRAP *	CLKGEN Mode Internal *	internal EC DISABLE *	External CLKGEN Mode				

- <1> PCI\_CLK1
- <1> PCI\_CLK3
- <1> PCI\_CLK4
- <1> LPCCLK0
- <1> CLK\_PCI\_DB



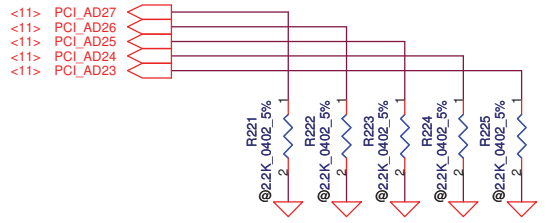
9/13 Change R211 from mount to @, R216 from @ to mount  
9/13 Change R211 from @ to mount, R216 from mount to @

# DEBUG STRAPS

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

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

Check AD29,AD28 strap function      check default

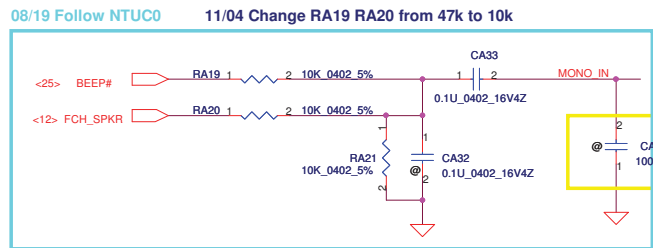


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Size B	Document Number	P0VE6 Schematics		Rev	1.0
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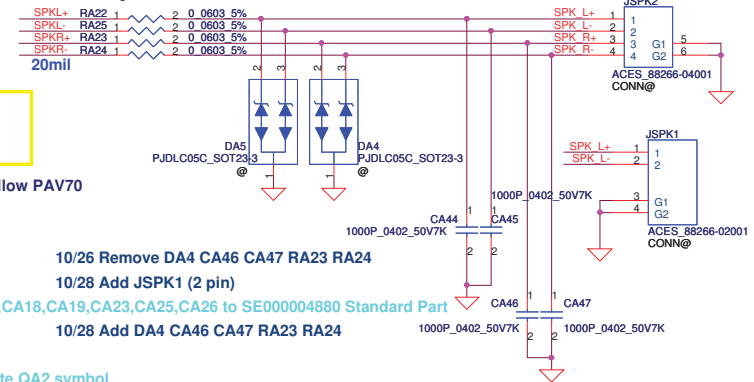


# Port Configuration

- 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)



# Int. Speaker Conn.



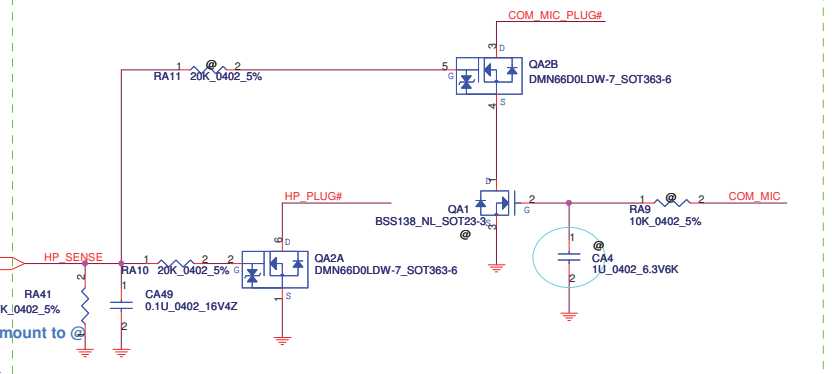
08/21 Follow PAV70

- 10/26 Remove DA4 CA46 CA47 RA23 RA24
- 10/28 Add JSPK1 (2 pin)
- 10/28 Add DA4 CA46 CA47 RA23 RA24

08/25 Change CA5,CA8,CA11,CA13,CA17,CA18,CA19,CA23,CA25,CA26 to SE000004880 Standard Part

9/6 Update QA2 symbol  
Combo Jack

11/17 Change RA11, RA9, CA4, QA1 from mount to @



10/26 Remove SPKR+ SPKR- function

11/17 Change CA40,CA41,RA16 from mount to @

9/1 Add CA49 RA41 on HP\_SENSE

10/28 Reserve CA57 CA58 for EMI

08/31 Reserve CA48(22P) on HDA\_SDOOUT\_AUDIO

11/01 Change CA57, CA58 from @ to mount

Layout Note: close to UA1

9/6 UA1 Pin 1 link to GNDA

9/7 Change UA1 Pin1 to GND

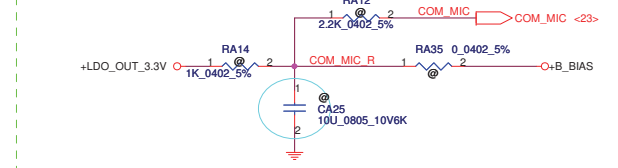
9/13 Add RA49 for DMIC

10/01 Remove RA50,R52

9/13 Remove Analog MIC circuit

11/17 Change RA12,RA14,CA25 from mount to @

Combo Jack



40 mil

9/25 Add RA54-RA56

20 mil

60 mil

10/11 Change RA40 to 0 ohm (1206)

10/12 Change RA40 to 0.1 ohm (1206)

60 mil

10/26 Remove SPKR+ SPKR- function

11/17 Change CA40,CA41,RA16 from mount to @

9/1 Add CA49 RA41 on HP\_SENSE

10/28 Reserve CA57 CA58 for EMI

08/31 Reserve CA48(22P) on HDA\_SDOOUT\_AUDIO

11/01 Change CA57, CA58 from @ to mount

Layout Note: close to UA1

9/6 UA1 Pin 1 link to GNDA

9/7 Change UA1 Pin1 to GND

9/13 Add RA49 for DMIC

10/01 Remove RA50,R52

9/13 Remove Analog MIC circuit

11/17 Change RA12,RA14,CA25 from mount to @

Combo Jack

08/25 Change CA1,CA2,CA3,CA4 to SE00000K80 Standard Part

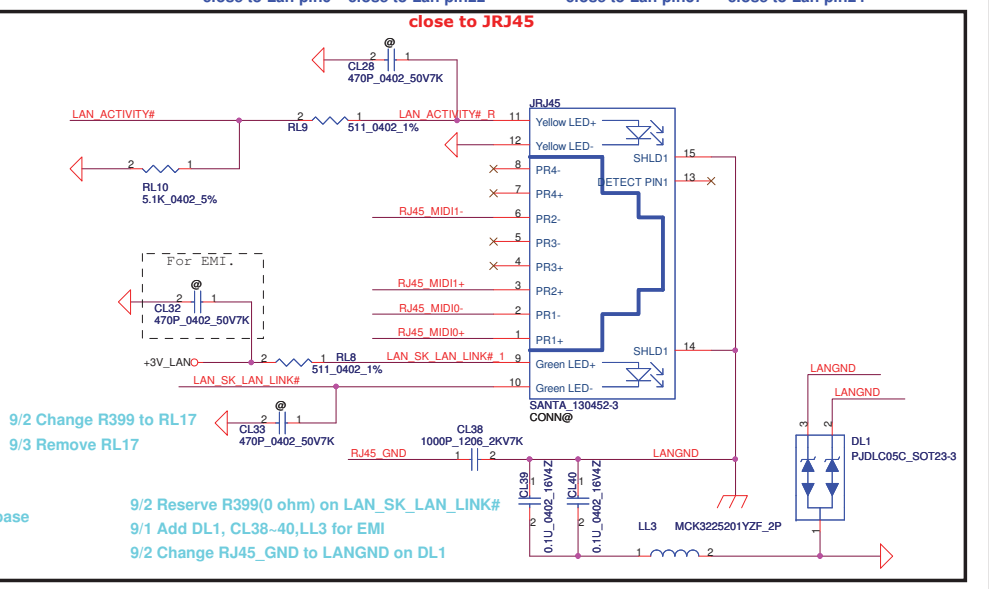
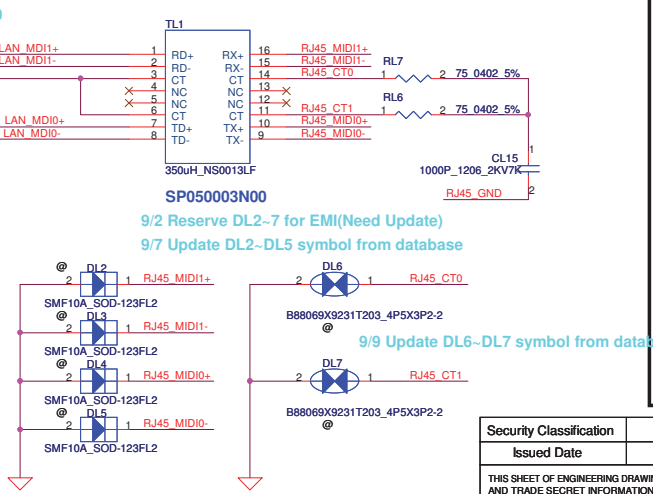
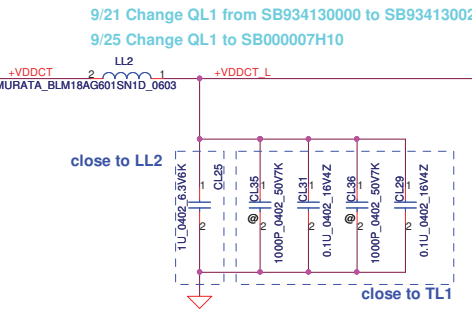
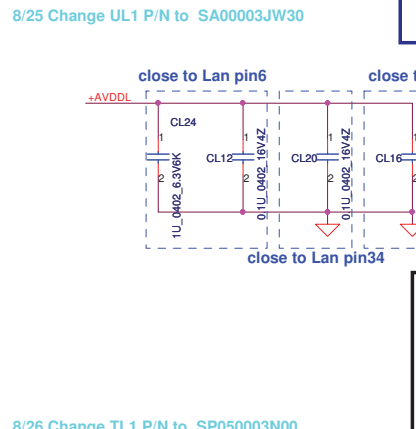
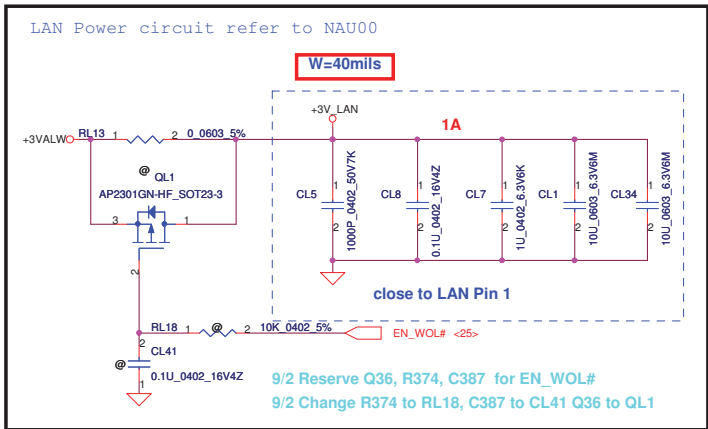
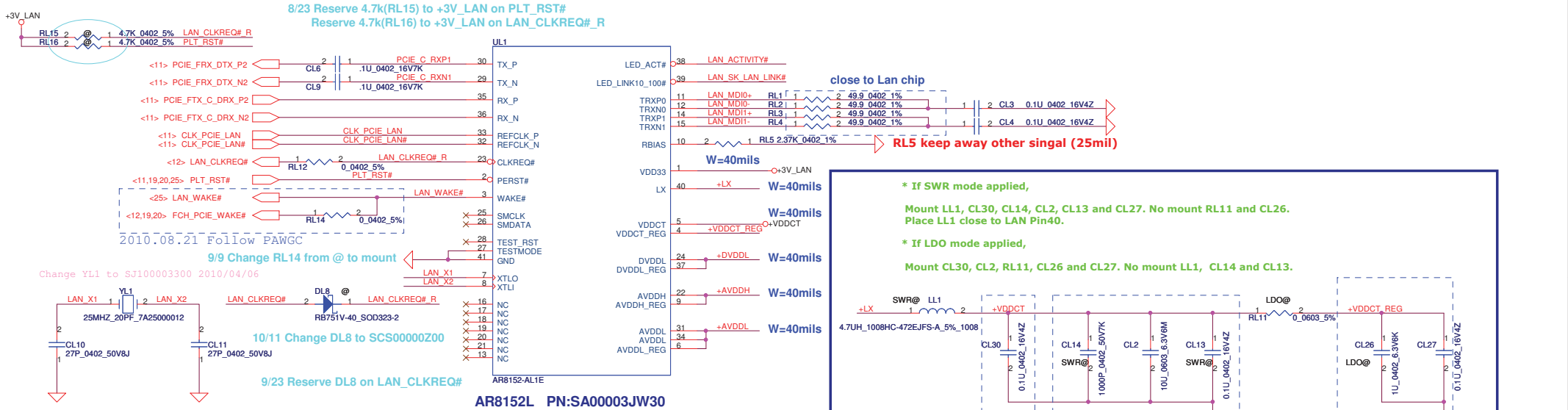
SA000034010

08/25 Add UA1 PN:SA000034010

10/11 Update UA1 PN:SA000034020

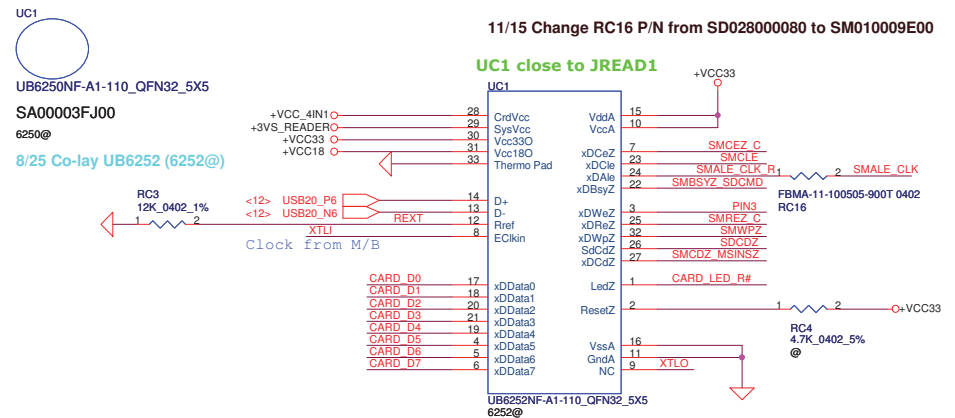
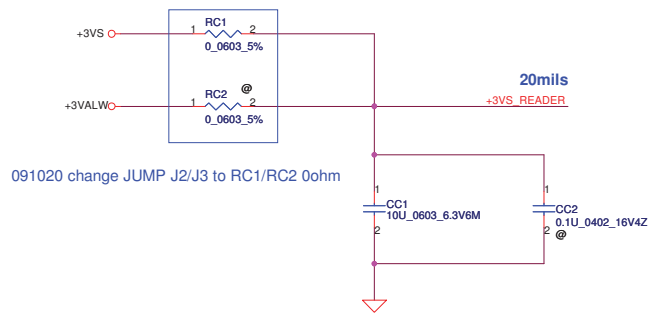
10/12 Update UA1 PN:SA000034010

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Size	Document Number	P0VE6 Schematics		Rev 1.0	
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AR8152	Pin No.	PU/PD	Description
LED[0]	38	L	un-overclocking
		H	overclocking
LED[1]	39	L	LDO mode
		H	SWR mode

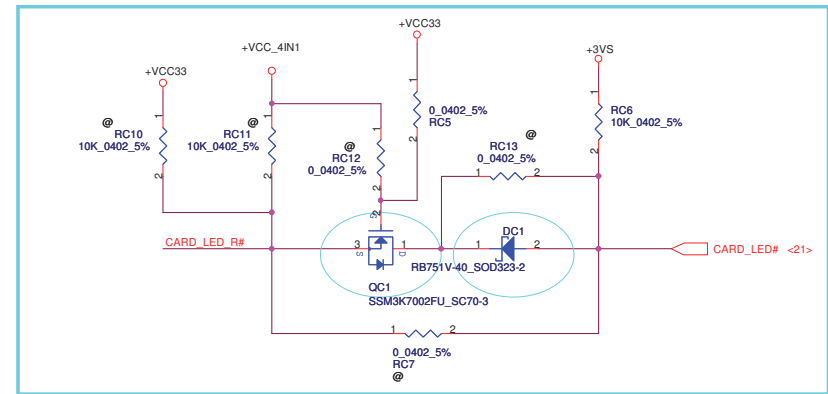
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/08/12	Deciphered Date	2012/08/12	Title	LAN AR8152
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8/26 Change UC1 to UB6252 (SA00003K010)

If use external crystal (YC1), UC1 will change to UB6252

8/24 Card\_LED# Follow PAV70

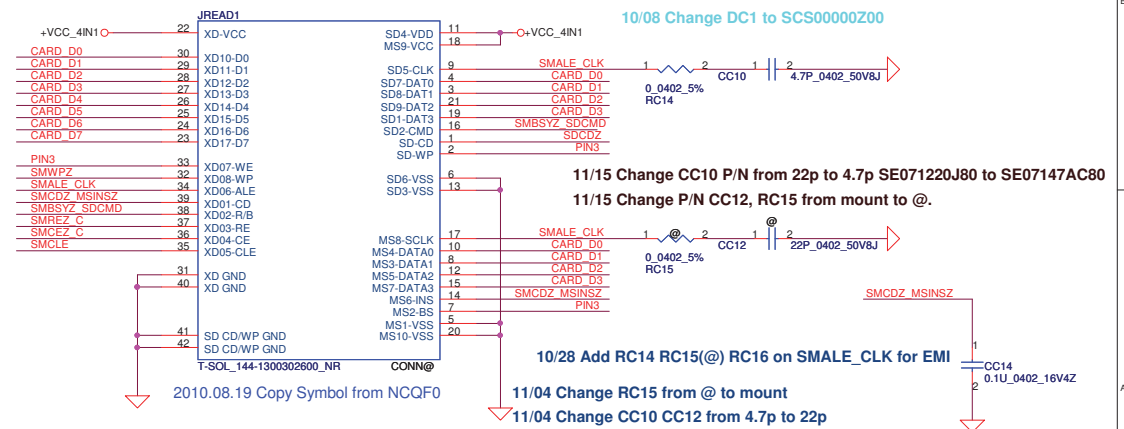


8/26 Change DC1 to SCS00002G00 Standard Part

8/26 Change QC1 to SB000009510 Standard Part

10/08 Change DC1 to SCS00000Z00

### Card Reader Connector



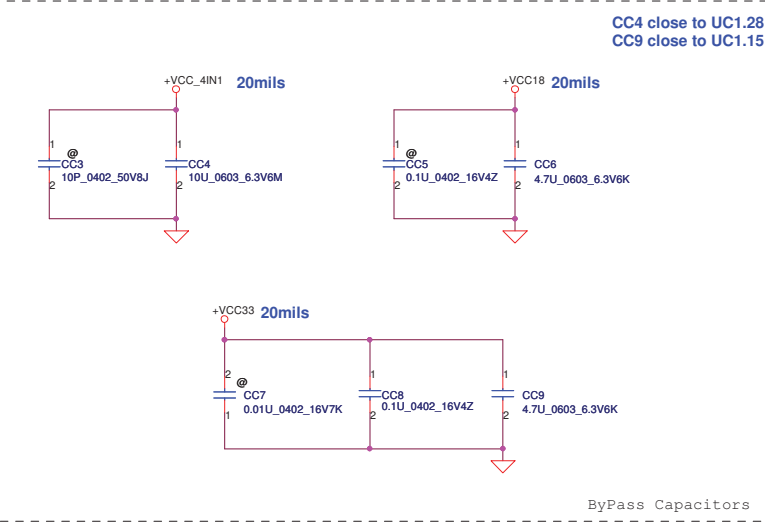
11/15 Change CC10 P/N from 22p to 4.7p SE071220J80 to SE07147AC80

11/15 Change P/N CC12, RC15 from mount to @

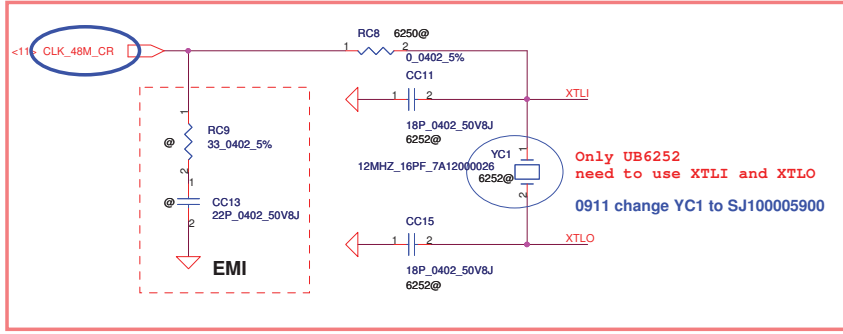
10/28 Add RC14 RC15(@) RC16 on SMALE\_CLK for EMI

11/04 Change RC15 from @ to mount

11/04 Change CC10 CC12 from 4.7p to 22p

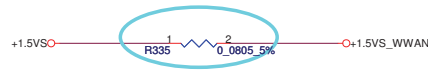


ByPass Capacitors



9/2 Change CC11 CC15 from 27P to 18P

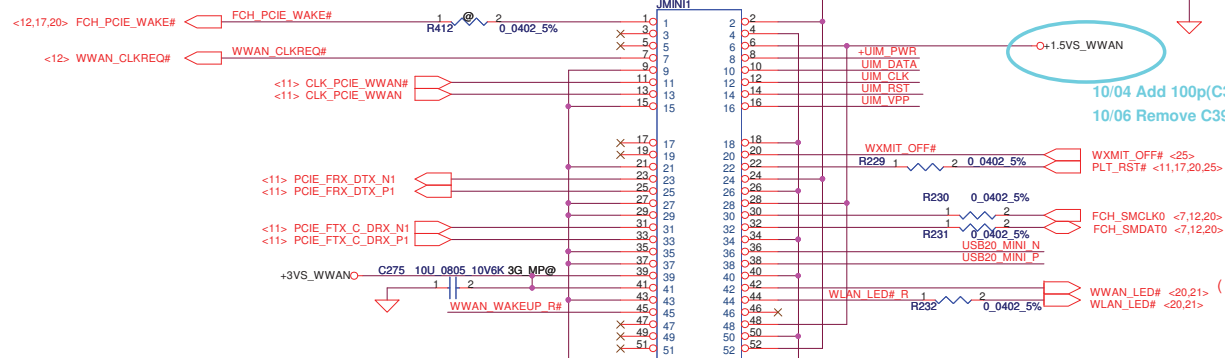
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8/22 Reserve R335 (0 ohm 0805) Add net +1.5VS\_WWAN  
 8/25 Change C269,C275 to SE000004880 Standard Part

Change JMINI1 to FOX\_AS0B246-S50U-7F\_52P-T 06/29  
 10/27 Add R412 (0 ohm) on FCH\_PCOE\_WAKE#

9/2 Change ICH\_PCIE\_WAKE# to FCH\_PCIE\_WAKE#



9/9 Remove D9

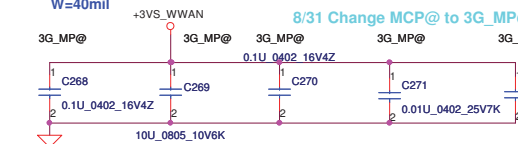
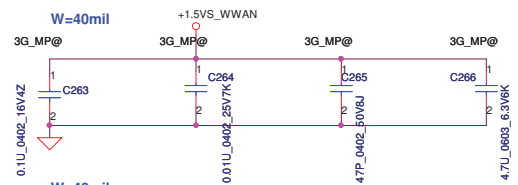
10/31 Add R417~R420 for co-lay USB port3 & port9

11/01 Change R417 R418 from mount to @  
 Change R419 R420 from mount to @ SW request (P0VE6-0045)

9/1 Change R234 from mount to @

Modify 05/11  
 Reserve for SIM card does not meet rise time and pull-up is needed.

8/22 Update JP1 Symbol from database (TAITW\_PMPAT7-08GLBS1N14H0\_9P)



10/04 Add 100p(C402) on BT\_ON#

9/3 Reserver +3VALW for BT (R378 R374)  
 9/25 Change Q13 to SB000007H10

**BT MODULE CONN**

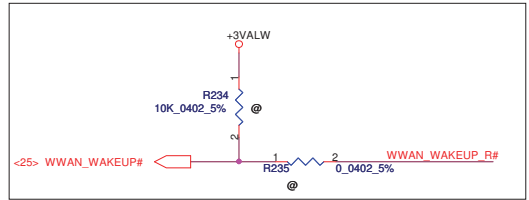
11/02 Change Q3 PN to SB934130020

8/26 Change Q13 to SB934130020 Standard Part

10/04 Add 100p(C398) on UIM\_RST  
 10/06 Remove C398

9/1 Change R230 R231 from NON3G@ to mount

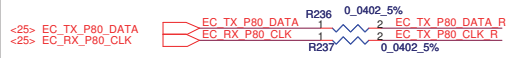
8/22 Update JBT1 Symbol from database (ACES\_88266-04001\_4P)



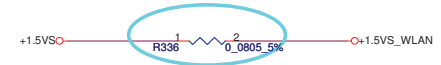
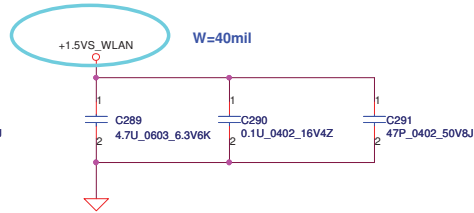
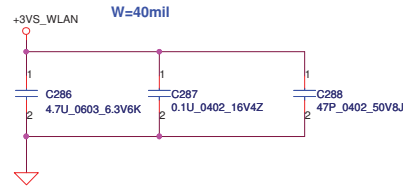
10/06 Change C278 to 100p

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# Mini-Express Card for WWAN

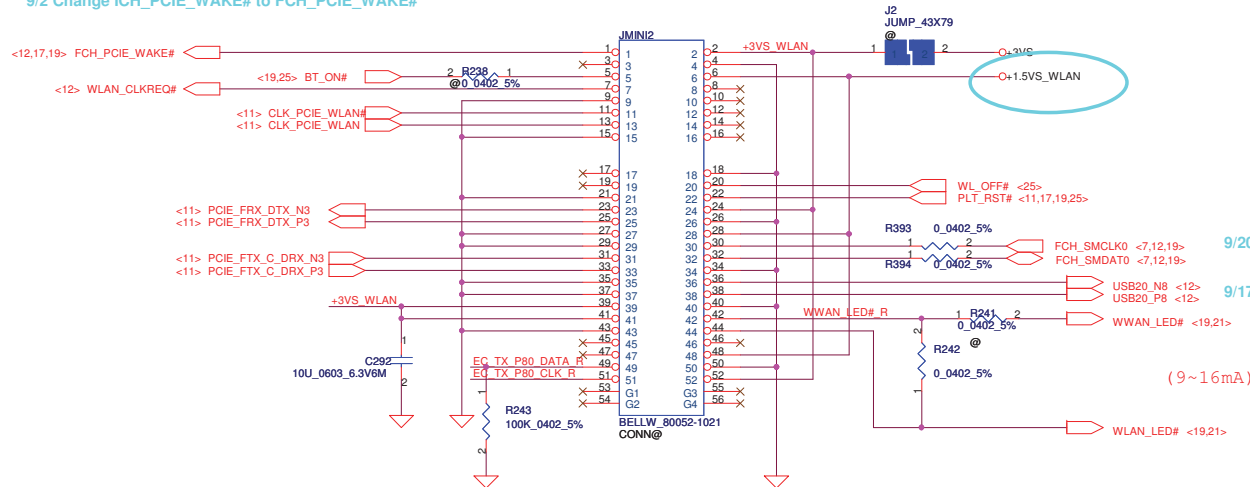


# Mini-Express Card for WLAN



8/22 Reserve R336 (0 ohm 0805) Add net +1.5VS\_WLAN

9/2 Change ICH\_PCIE\_WAKE# to FCH\_PCIE\_WAKE#



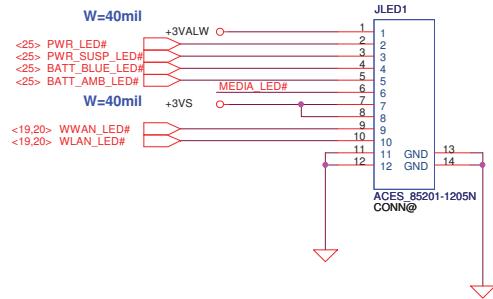
9/20 Add R393 R394 for SMBus

9/17 Remove R239,R240

- 5/12 Update WLAN connector (the same as KAV60)
- 6/1 Revised 37、39、41、42、43 to NC
- 6/12 Update connector to DC040006S00
- 6/26 Update JMINI1 footprint
- 7/01 update pin 23,25,31,33

Compal Electronics, Inc.			
Title	WLAN		
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### LED PCB CONN

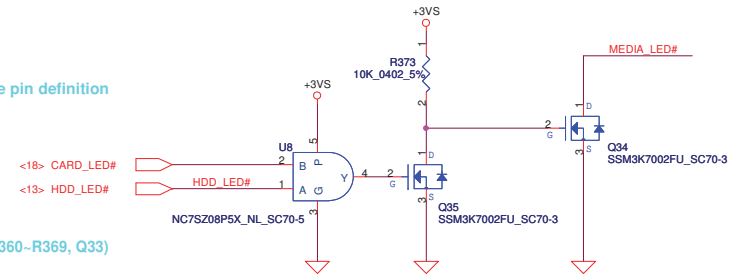


8/22 Update JP2 Symbol from database (ACES\_85201-1605N\_16P)  
 8/24 Update JLED1 Symbol from database (ACES\_85201-1205N\_12P) & Update pin definition

9/1 Add LED Circuit (LED2-4(SC597UDB000)LED5(SC5191NB000), R360-R369, Q33)  
 9/1 Change All LED power to 5V

9/9 Change LED2-4 footprint to LED\_HT-297DQ-GQ\_4P

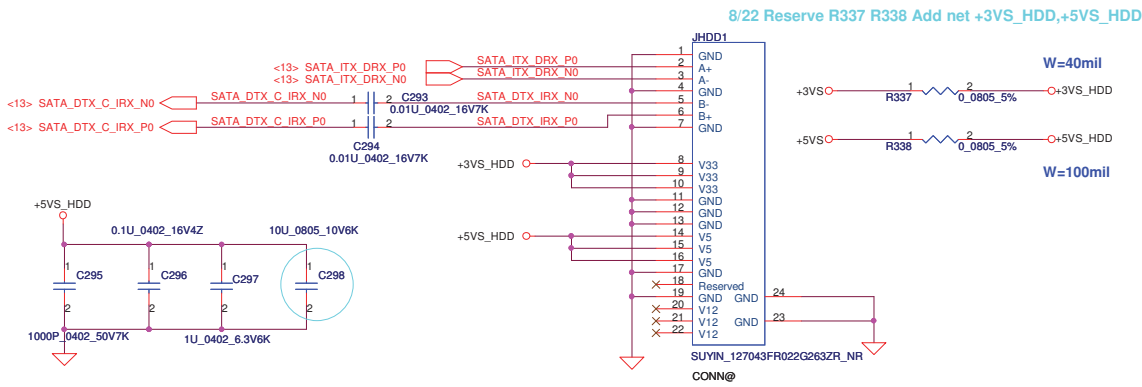
9/11 Remove LED portion



9/1 Add R373, Q34, Q35 for MEDIA\_LED#

9/1 Change Q33 to SB000009610(SSM3K7002FU\_SC70-3)

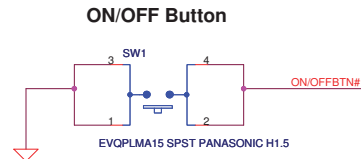
### SATA HDD Conn.



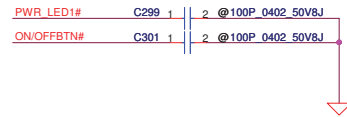
8/22 Reserve R337 R338 Add net +3VS\_HDD,+5VS\_HDD

8/22 Change C298 from 10U 6.3V to 10U 10V

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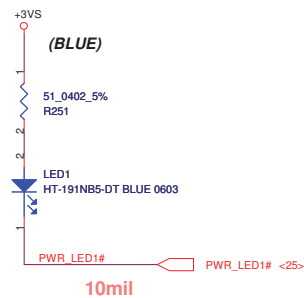
### FOR EMI



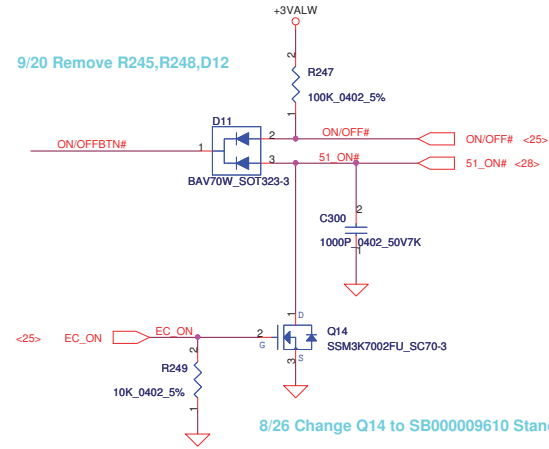
9/6 Change D13 from mount to @  
10/05 Remove D13

9/1 Remove LED2 LED3 circuit, Change 70@ to mount

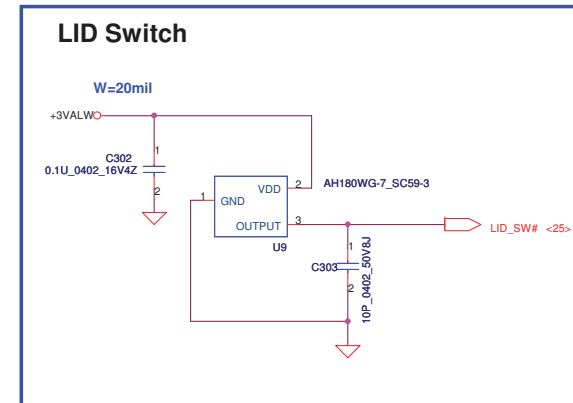
9/20 Add LED2 LED3 Circuit  
9/21 Remove LED2 LED3 Circuit



8/26 Change D11 to SC600000B00 Standard Part

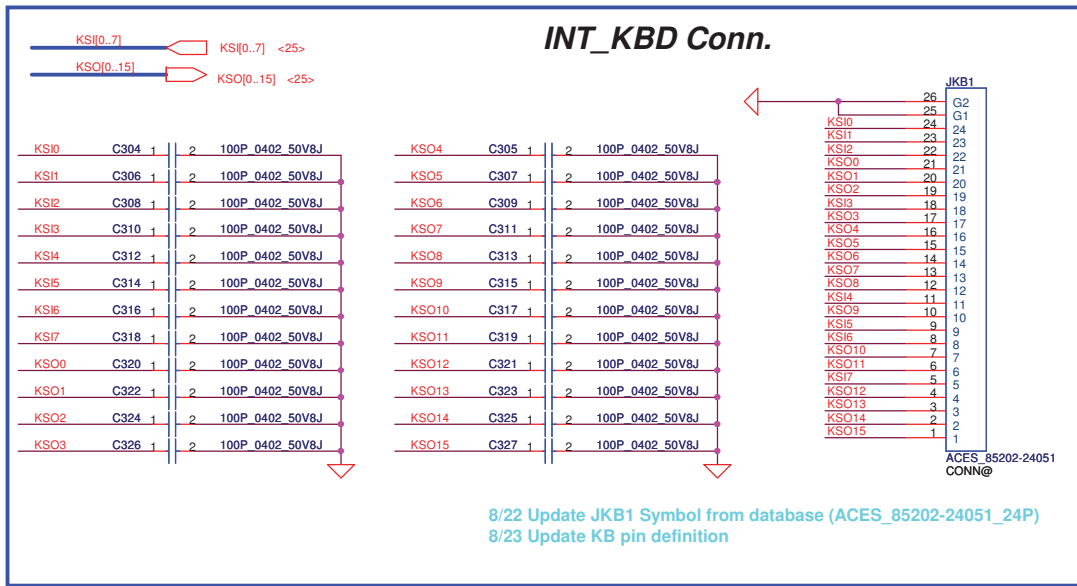


9/24 Change U9 to SA00001TC00

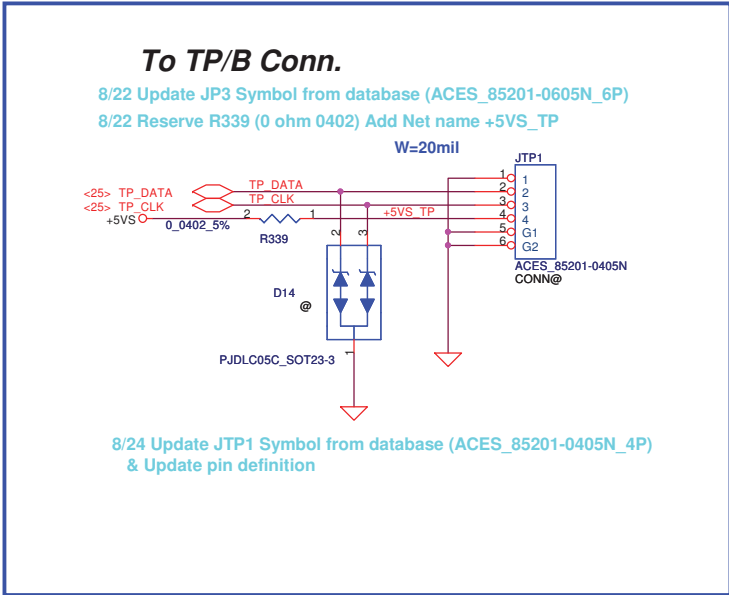


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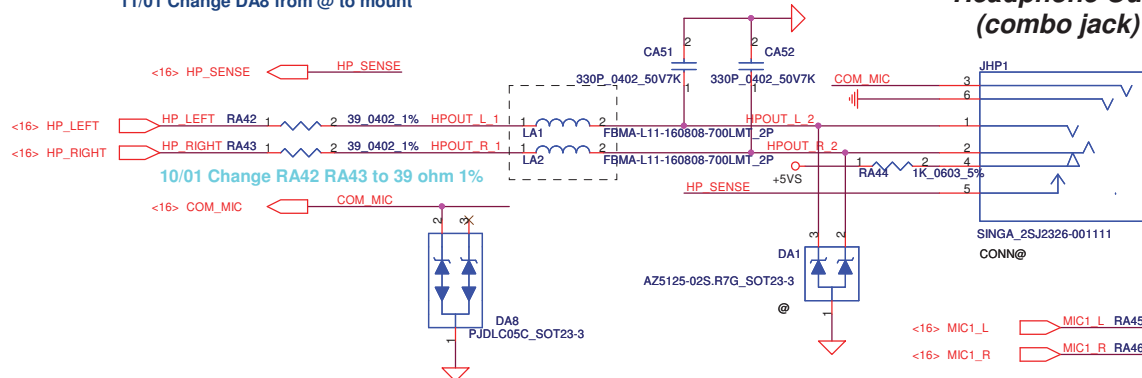


8/22 Update JKB1 Symbol from database (ACES\_85202-24051\_24P)  
 8/23 Update KB pin definition



8/24 Update JTP1 Symbol from database (ACES\_85201-0405N\_4P)  
 & Update pin definition

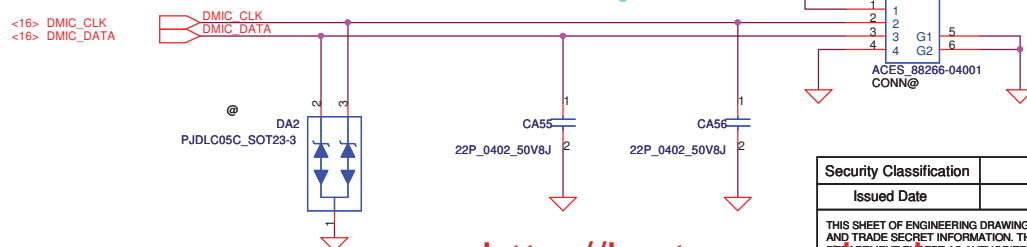
11/01 Change DA8 from @ to mount



10/01 Change RA42 RA43 to 39 ohm 1%

10/29 Reserve DA8(SCA00001100) on COM\_MIC

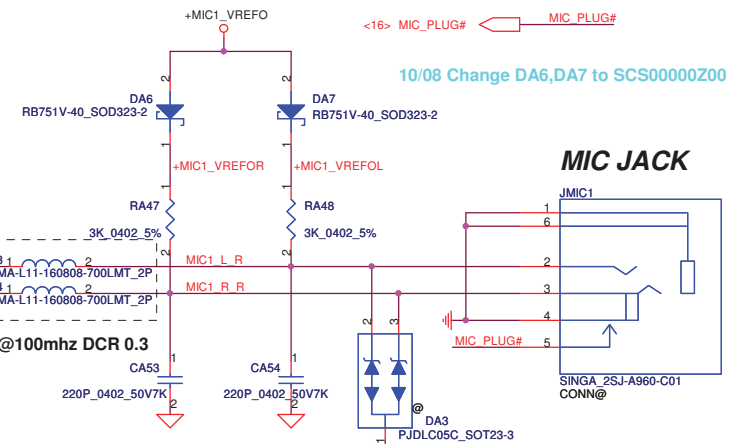
9/13 Change AMIC to DMIC



10/06 Change Jacks GND to GNDA

9/28 Change Jacks AGND to GND

9/13 Combine LS-7071PR01\_USB\_0908.DSN Audio Jack Portion



10/08 Change DA6, DA7 to SCS00000Z00

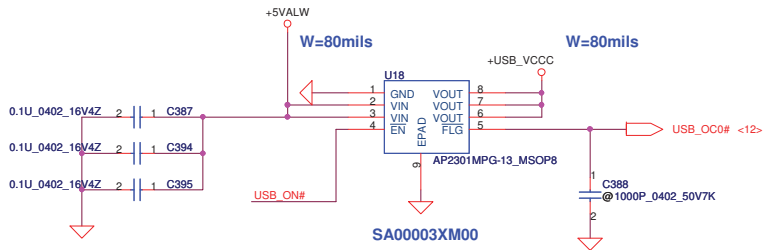
9/14 Update JMIC1 to DC230007700(SUYIN\_010030HR006G129R\_6P)

9/17 Update JMIC1 to DC230004K00(SINGA\_2SJ-A960-C01\_6P)

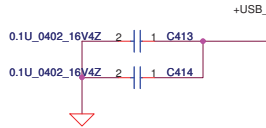
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
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				KB Conn/TP/CR Conn
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9/1 Add R370 R371 for OC circuit

9/15 remove R370 R371 for OC circuit



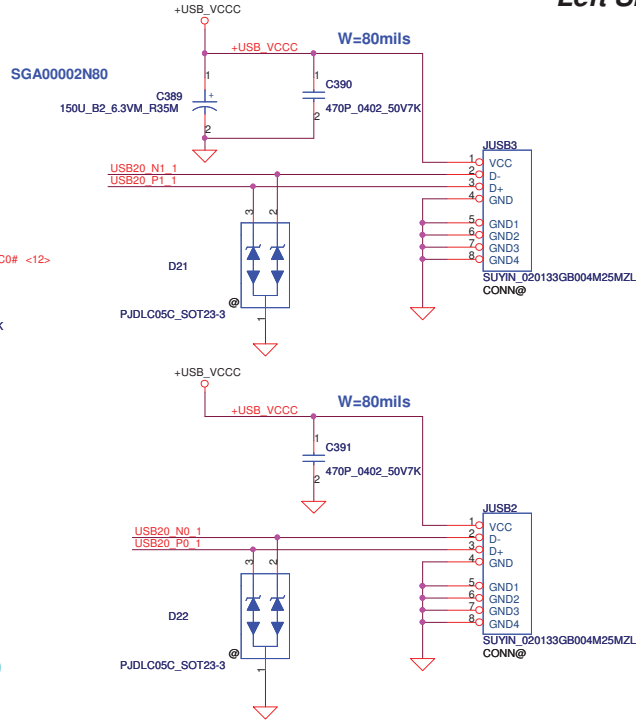
9/11 Combine USB/B circuit



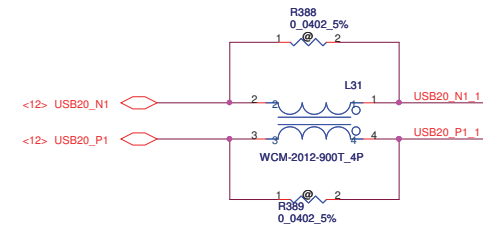
10/29 Add C413-C414(0.1U) on +USB\_VCC

9/11 Change C340 C389 to SGA00002N80  
9/24 Change U11, U18 to SA00003XM00

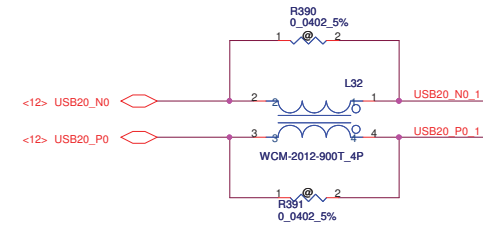
### USB Charge Follow PAWGC 8/25 Remove Charge USB Circuit



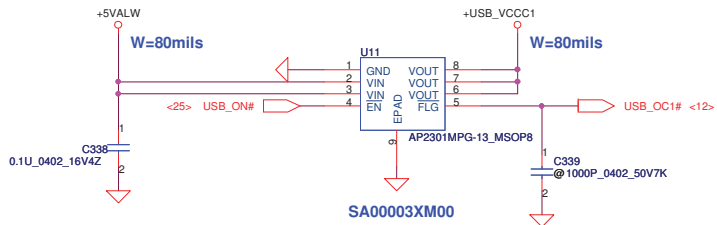
### Left Side USB CONN.



9/28 Swap L31 L32

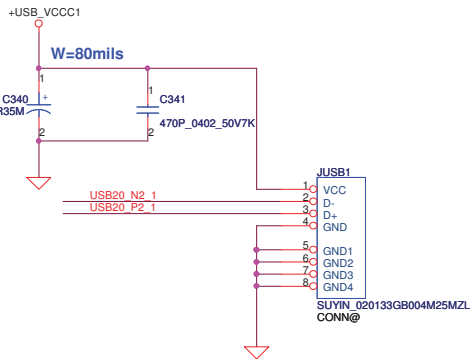


10/28 Change R388, R389, R390, R391, R257, R258 from mount to un-mount  
10/28 Change L28, L31, L32 (SM070000K00) from un-mount to mount  
9/27 Change L28, L31, L32 to SM070000K00



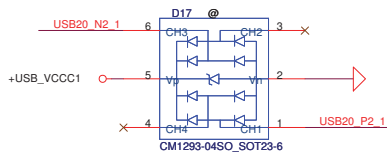
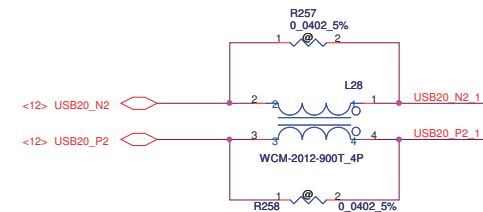
8/25 Change C340 from poly-cap to E-cap (SF000011500)

SGA00002N80



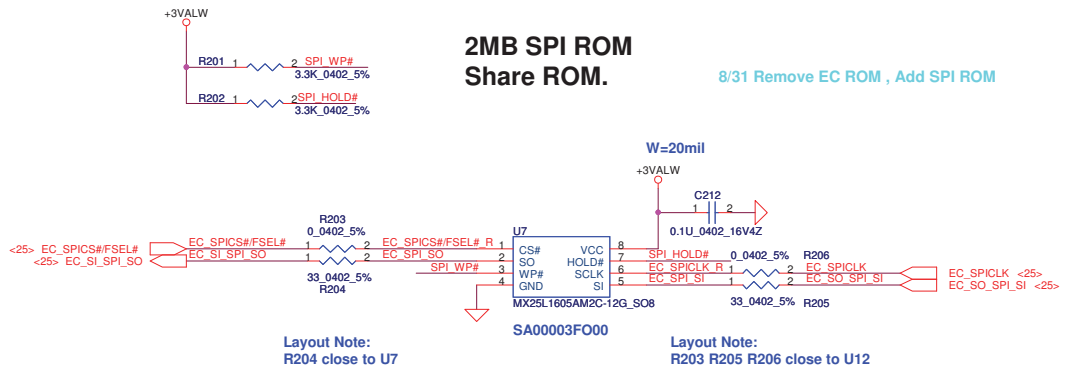
### Right Side USB CONN.

9/28 Swap L28



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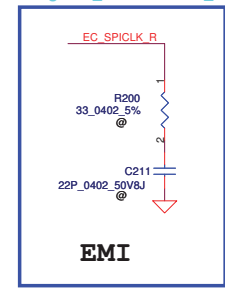




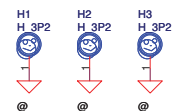
Layout Note:  
R204 close to U7

Layout Note:  
R203 R205 R206 close to U12

9/2 Change EC\_SPICLK to EC\_SPICLK\_R

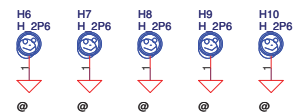


3P2 x 3 (APU)



9/15 Update the Screw Hole  
9/20 Add H20 (H\_3P4X3P2N)

2P6 x 5



10/07 Change H13 from GND to LANGND  
10/07 Change H13 from LANGND to GND

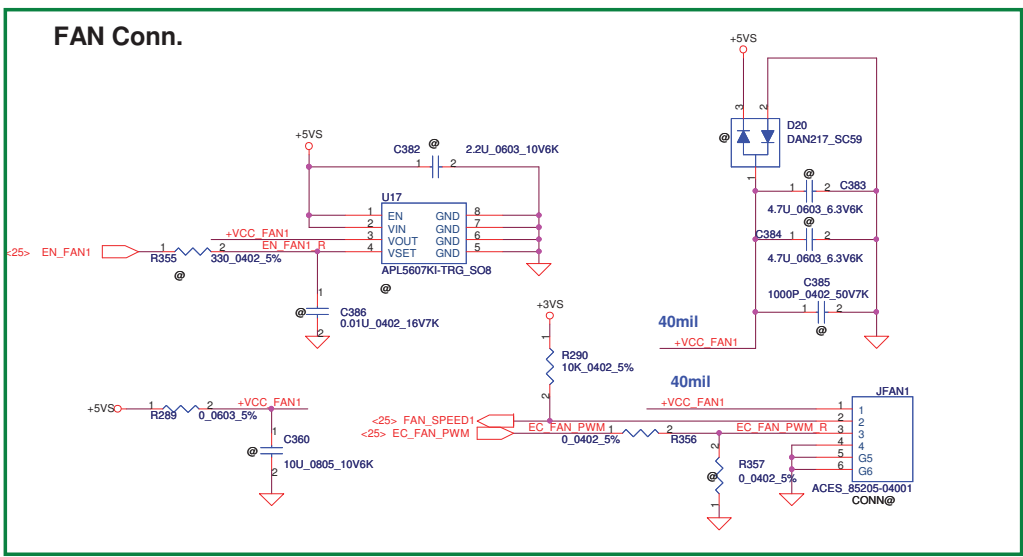
3P2N x 1



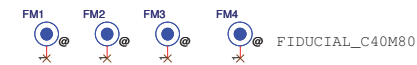
3P3N x 1



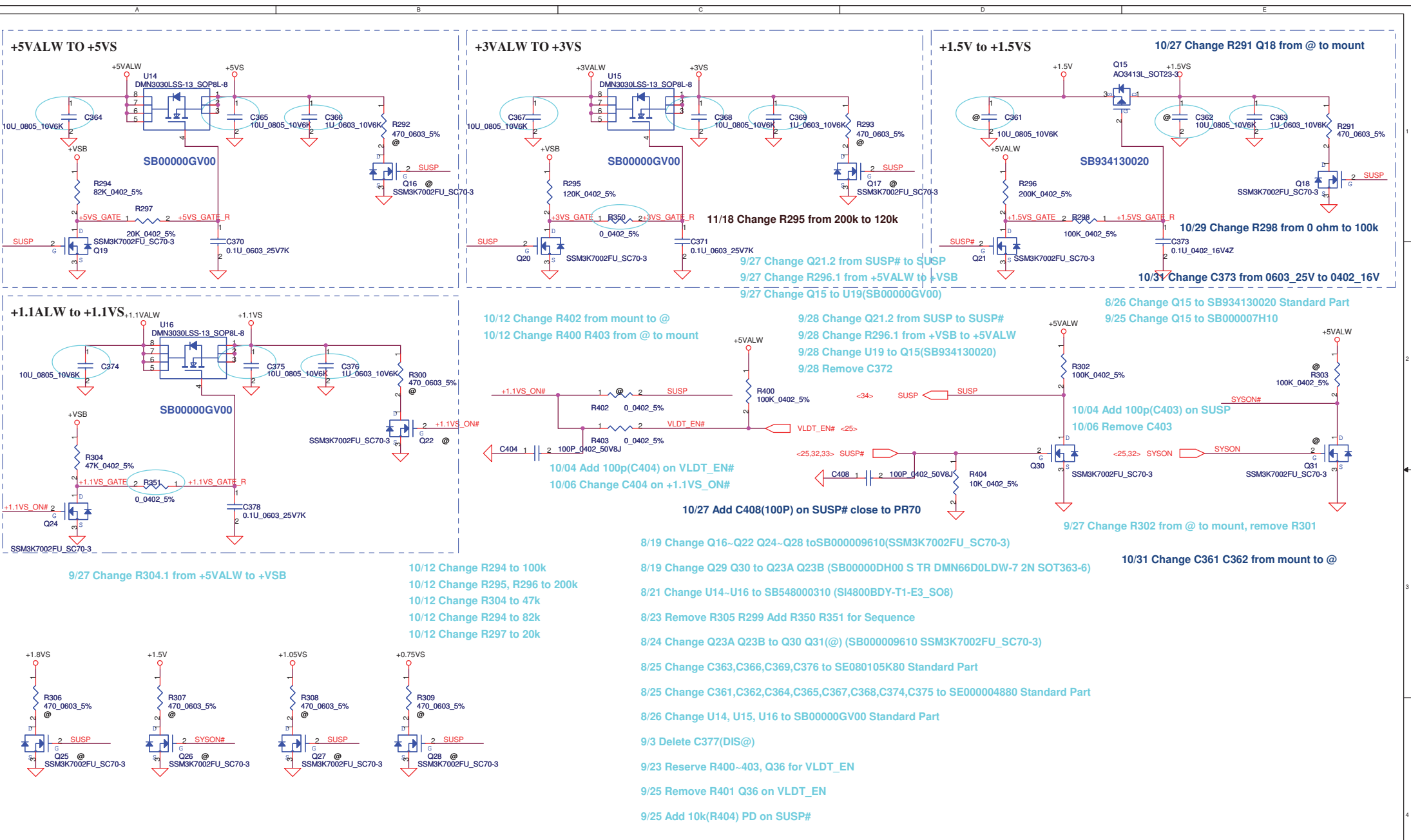
### FAN Conn.



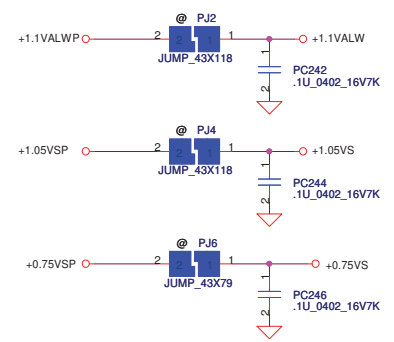
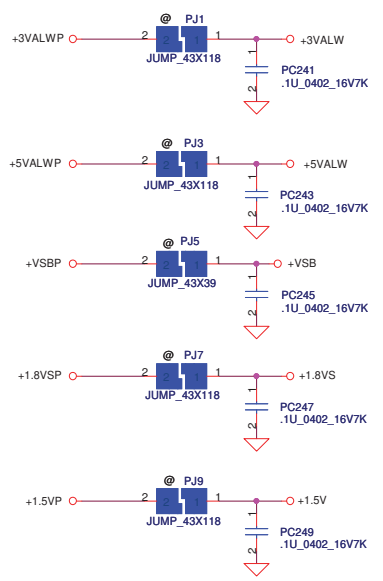
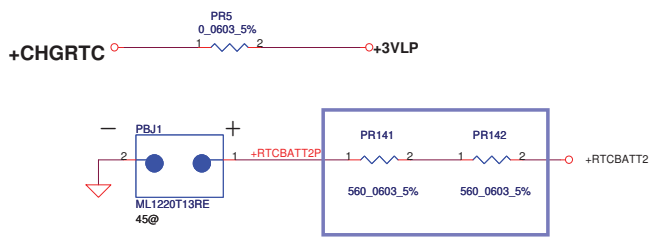
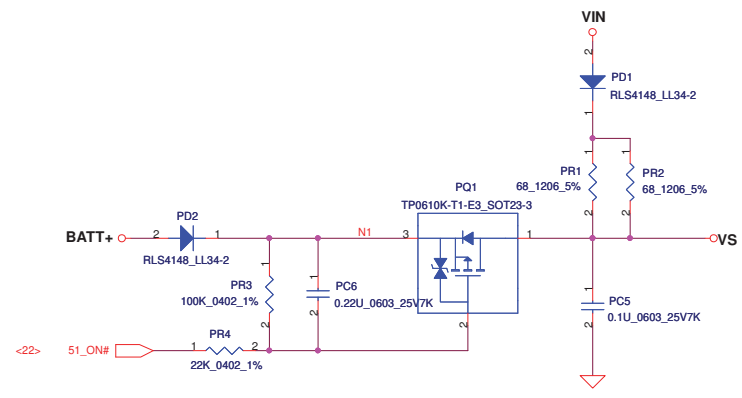
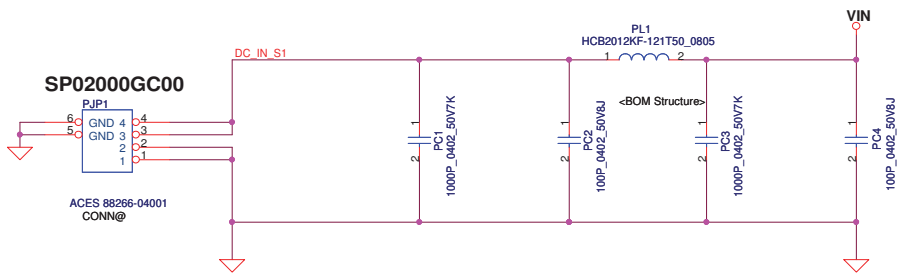
8/24 Update JFAN1 Symbol from database (ACES\_85205-03001\_3P) & Update pin definition  
8/24 Delete R290  
8/25 Update JFAN1 Symbol from database (ACES\_85205-04001\_4P) & Update pin definition  
8/25 Add R290 10k pull-up tp +3VS  
8/31 Reserve U17,C382-C386, R355-R357, D20 (Fan Drive Circuit)



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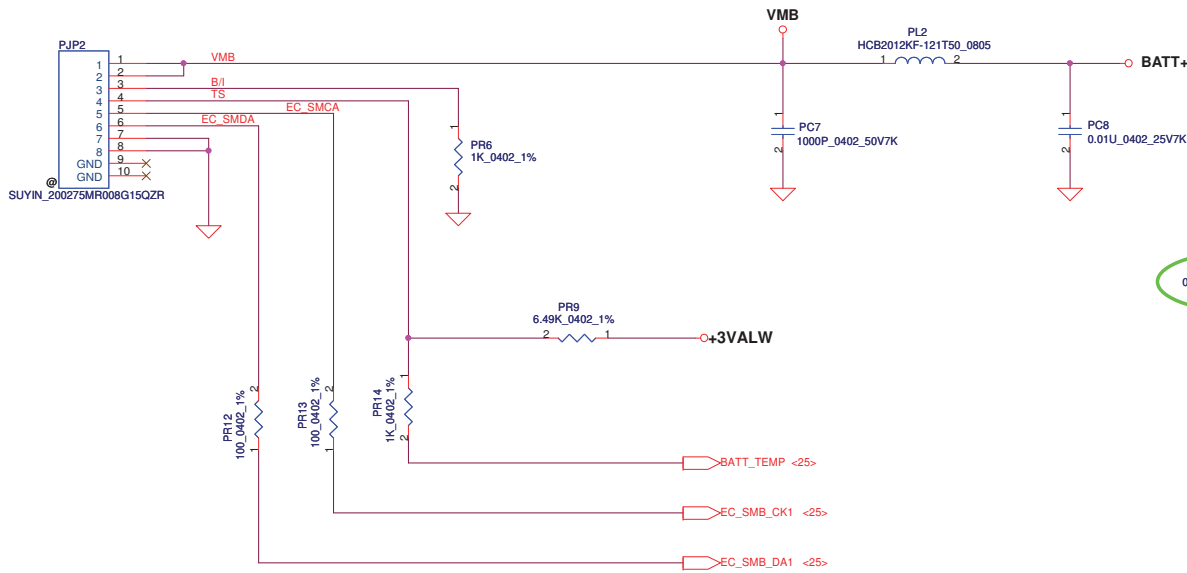


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				DC Interface		
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				Custom	P0VE6 Schematics	1.0
				Date:	Thursday, November 18, 2010	Sheet 27 of 36

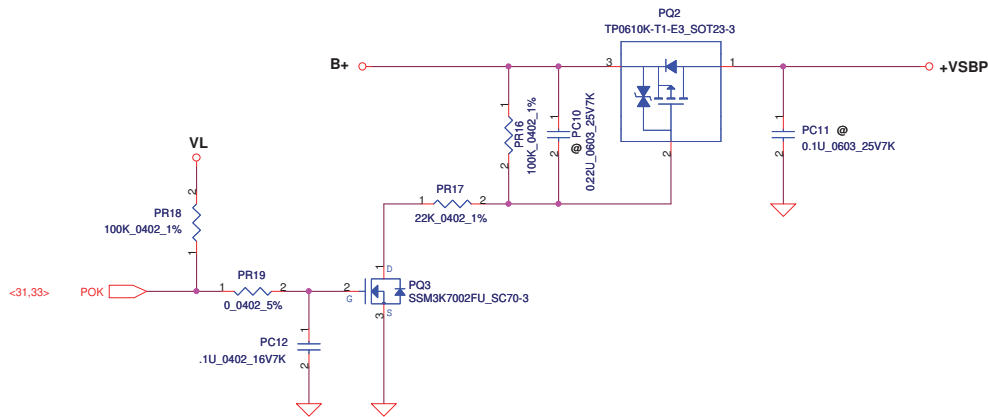
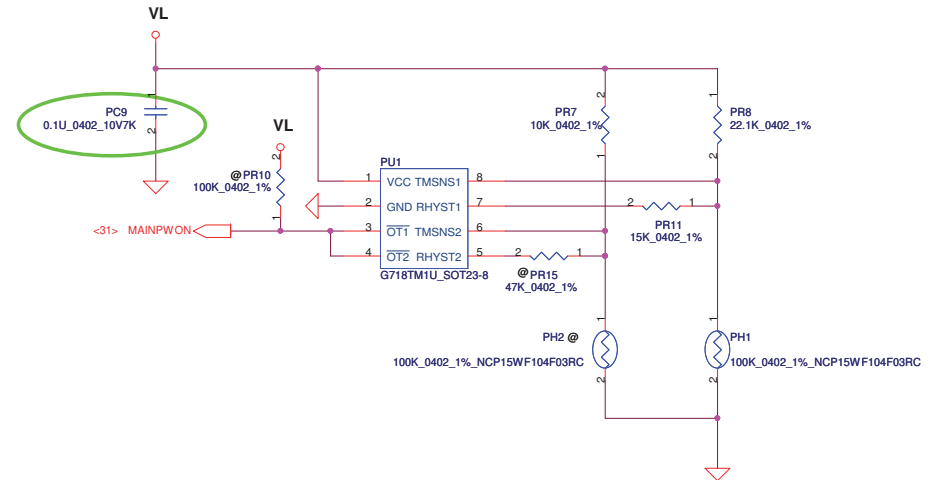


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				DCIN/VIN DECTOR	
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<http://laptop-motherboards.com/>



PH1 under CPU bottom side :  
 CPU thermal protection at 92 degree C  
 Recovery at 72 degree C



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				Rev 1.0
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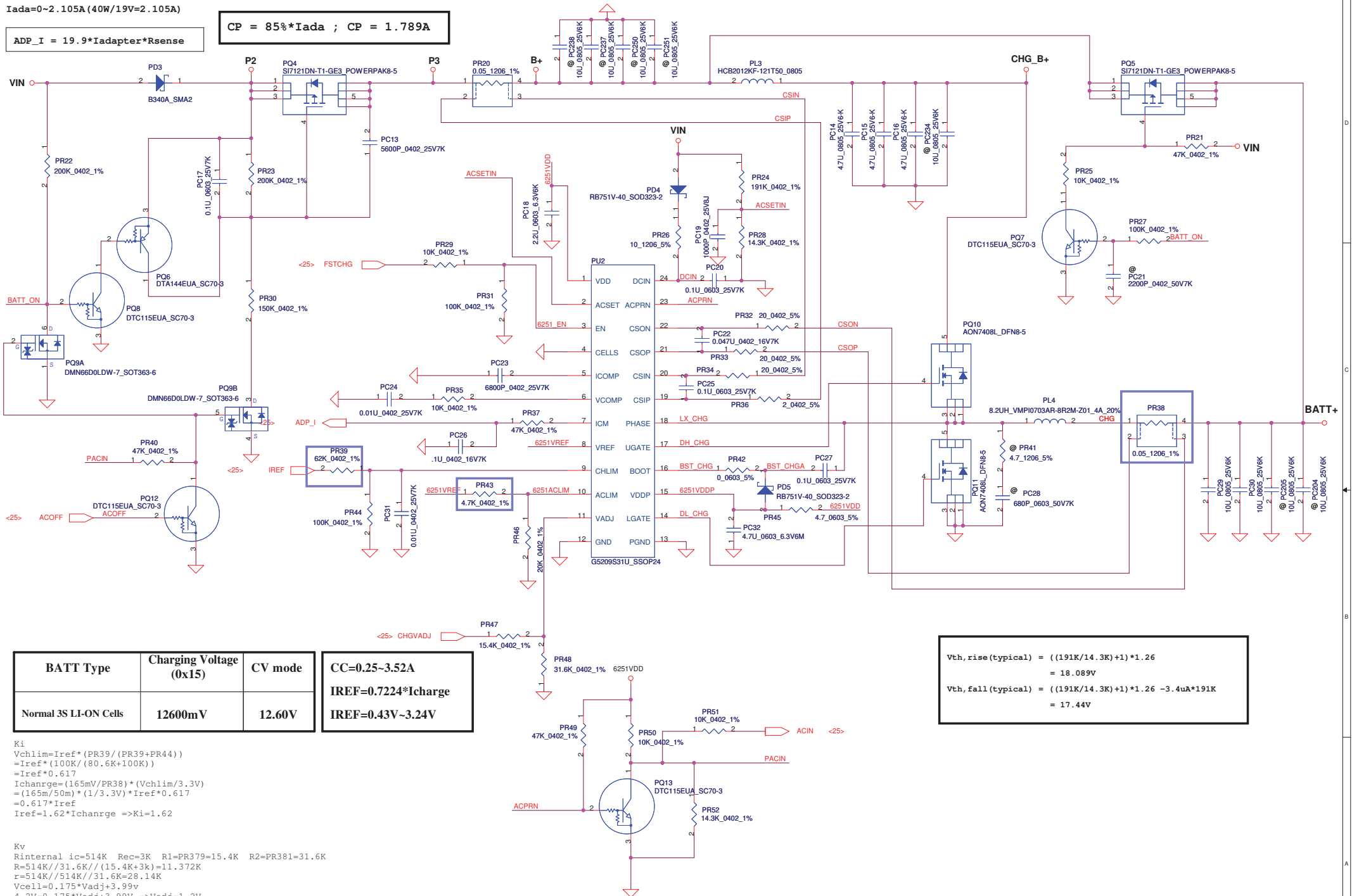
<http://laptop-motherboardshards.com/>



Iada=0~2.105A (40W/19V=2.105A)

ADP\_I = 19.9\*Iadapter\*Rsense

CP = 85%\*Iada ; CP = 1.789A



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

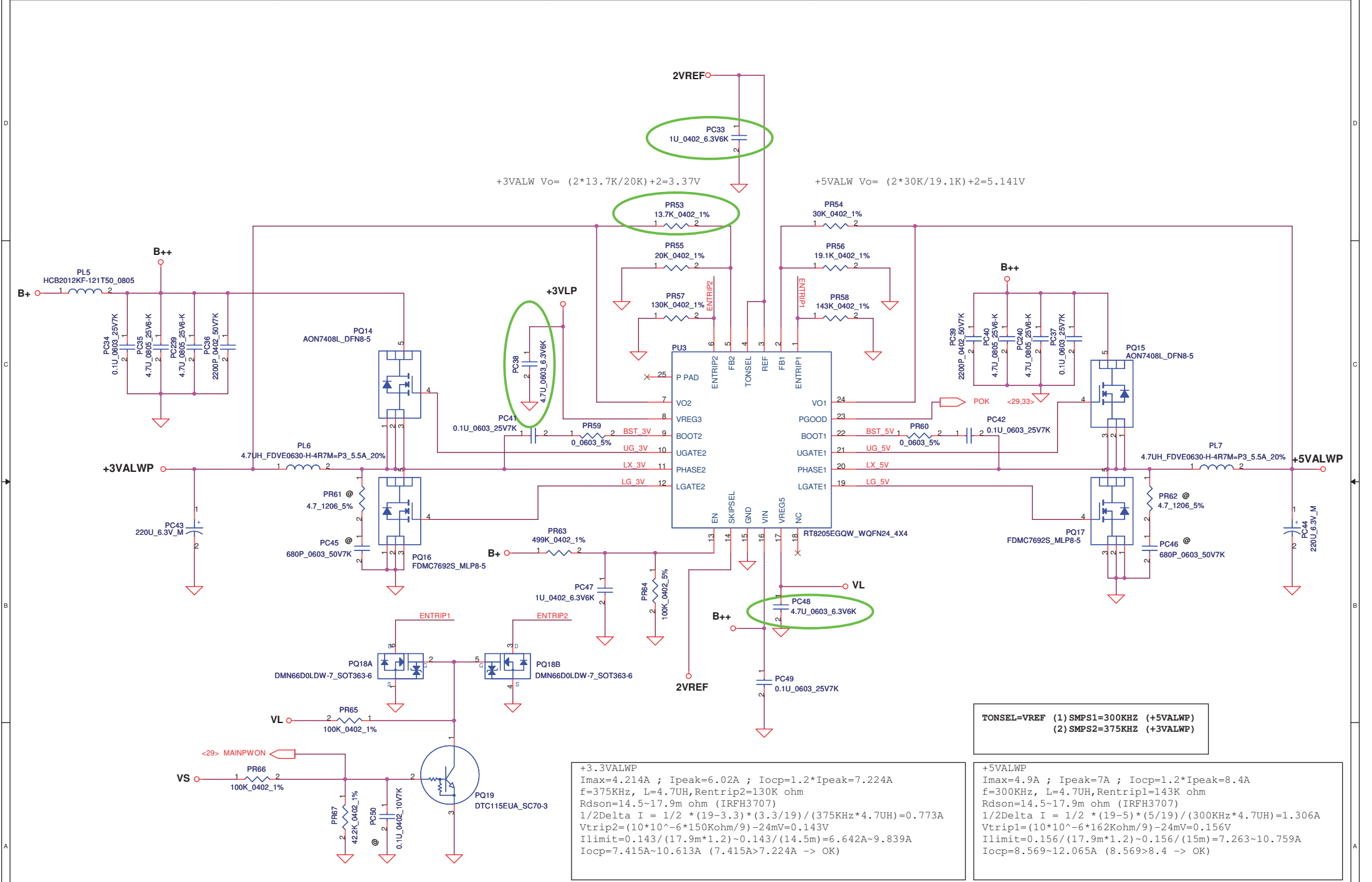
CC=0.25~3.52A
IREF=0.7224*Icharge
IREF=0.43V~3.24V

Vth, rise (typical) = ((191K/14.3K)+1)\*1.26 = 18.089V  
 Vth, fall (typical) = ((191K/14.3K)+1)\*1.26 - 3.4uA\*191K = 17.44V

Ki  
 Vchlim=Iref\*(PR39/(PR39+PR44))  
 =Iref\*(100K/(80.6K+100K))  
 =Iref\*0.617  
 Icharge=(165mV/PR38)\*(Vchlim/3.3V)  
 =(165m/50m)\*(1/3.3V)\*Iref\*0.617  
 =0.617\*Iref  
 Iref=1.62\*Icharge => Ki=1.62

Kv  
 Rinternal ic=514K Rec=3K R1=PR379=15.4K R2=PR381=31.6K  
 R=514K/31.6K/(15.4K+3K)=11.372K  
 r=514K/514K/31.6K=28.14K  
 Vcell=0.175\*Vadj+3.99v  
 4.2V=0.175\*Vadj+3.99V => Vadj=1.2V  
 Vadj=Vref\*(R/(R+514K))+CALIBRATE\*(r/(r+514K))  
 1.1483=CALIBRATE\*0.6046 => CALIBRATE=1.899  
 1.899=(4.2-(Vcell+A\*0.175))\*Kv=(4.2-(4.2+A\*0.175))\*Kv  
 A=Vref\*(R/(R+514K))=0.052  
 Kv=9.451

<http://laptop-motherboard.com>



$+3VALW V_o = (2 * 13.7K / 20K) + 2 = 3.37V$

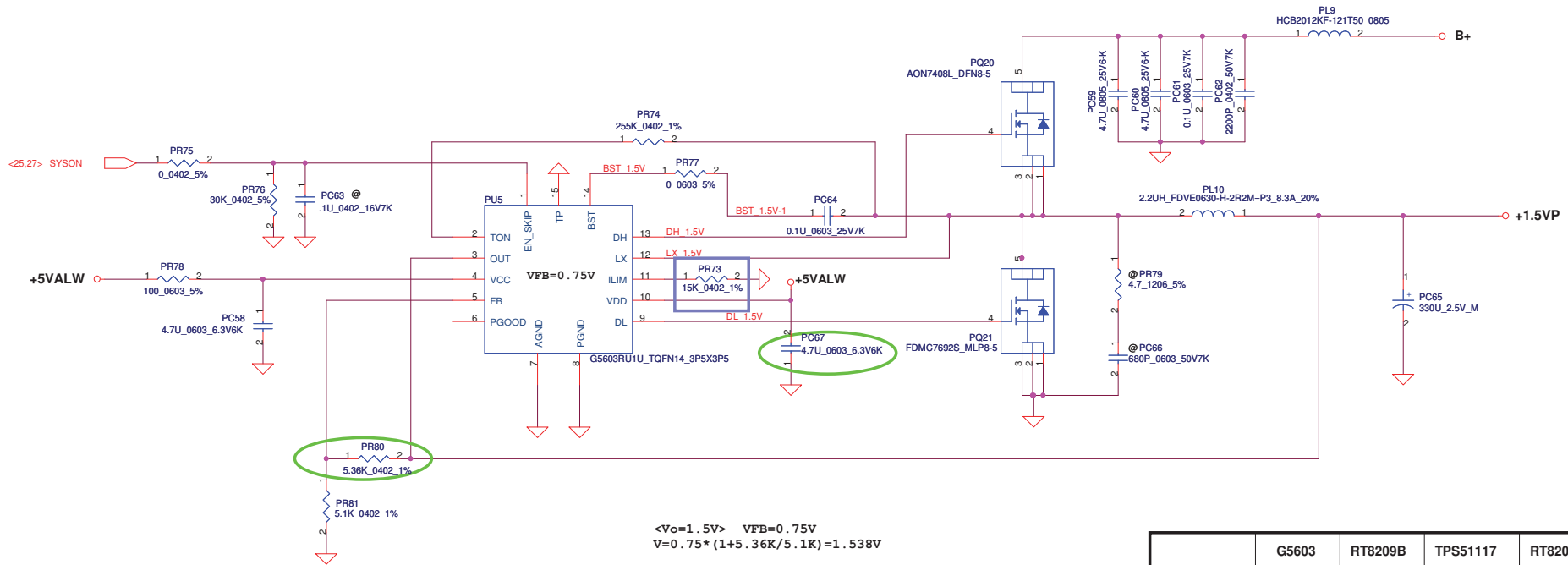
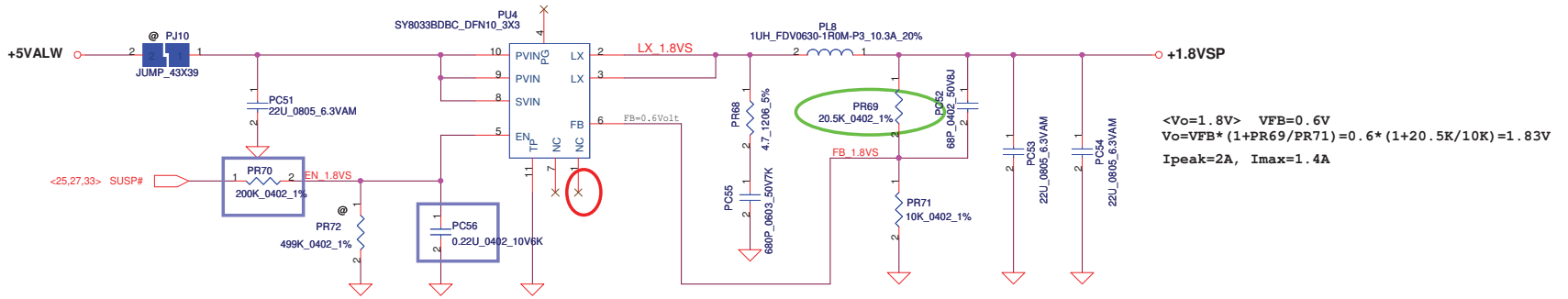
$+5VALW V_o = (2 * 30K / 19.1K) + 2 = 5.141V$

**+3.3VALWP**  
 $I_{max} = 4.214A$  ;  $I_{peak} = 6.02A$  ;  $I_{ocp} = 1.2 * I_{peak} = 7.224A$   
 $f = 375KHz$ ,  $L = 4.7UH$ ,  $R_{entrip2} = 130K \text{ ohm}$   
 $R_{dson} = 14.5 \sim 17.9m \text{ ohm}$  (IRFH3707)  
 $1/2\Delta I = 1/2 * (19 - 3.3) * (3.3 / 19) / (375KHz * 4.7UH) = 0.773A$   
 $V_{trip2} = (10 * 10^{-6} * 150Kohm / 9) - 24mV = 0.143V$   
 $I_{limit} = 0.143 / (17.9m * 1.2) \sim 0.143 / (14.5m) = 6.642A \sim 9.839A$   
 $I_{ocp} = 7.415A \sim 10.613A$  ( $7.415A > 7.224A \rightarrow OK$ )

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

**+5VALWP**  
 $I_{max} = 4.9A$  ;  $I_{peak} = 7A$  ;  $I_{ocp} = 1.2 * I_{peak} = 8.4A$   
 $f = 300KHz$ ,  $L = 4.7UH$ ,  $R_{entrip1} = 143K \text{ ohm}$   
 $R_{dson} = 14.5 \sim 17.9m \text{ ohm}$  (IRFH3707)  
 $1/2\Delta I = 1/2 * (19 - 5) * (5 / 19) / (300KHz * 4.7UH) = 1.306A$   
 $V_{trip1} = (10 * 10^{-6} * 162Kohm / 9) - 24mV = 0.156V$   
 $I_{limit} = 0.156 / (17.9m * 1.2) \sim 0.156 / (15m) = 7.263A \sim 10.759A$   
 $I_{ocp} = 8.569 \sim 12.065A$  ( $8.569 > 8.4 \rightarrow OK$ )

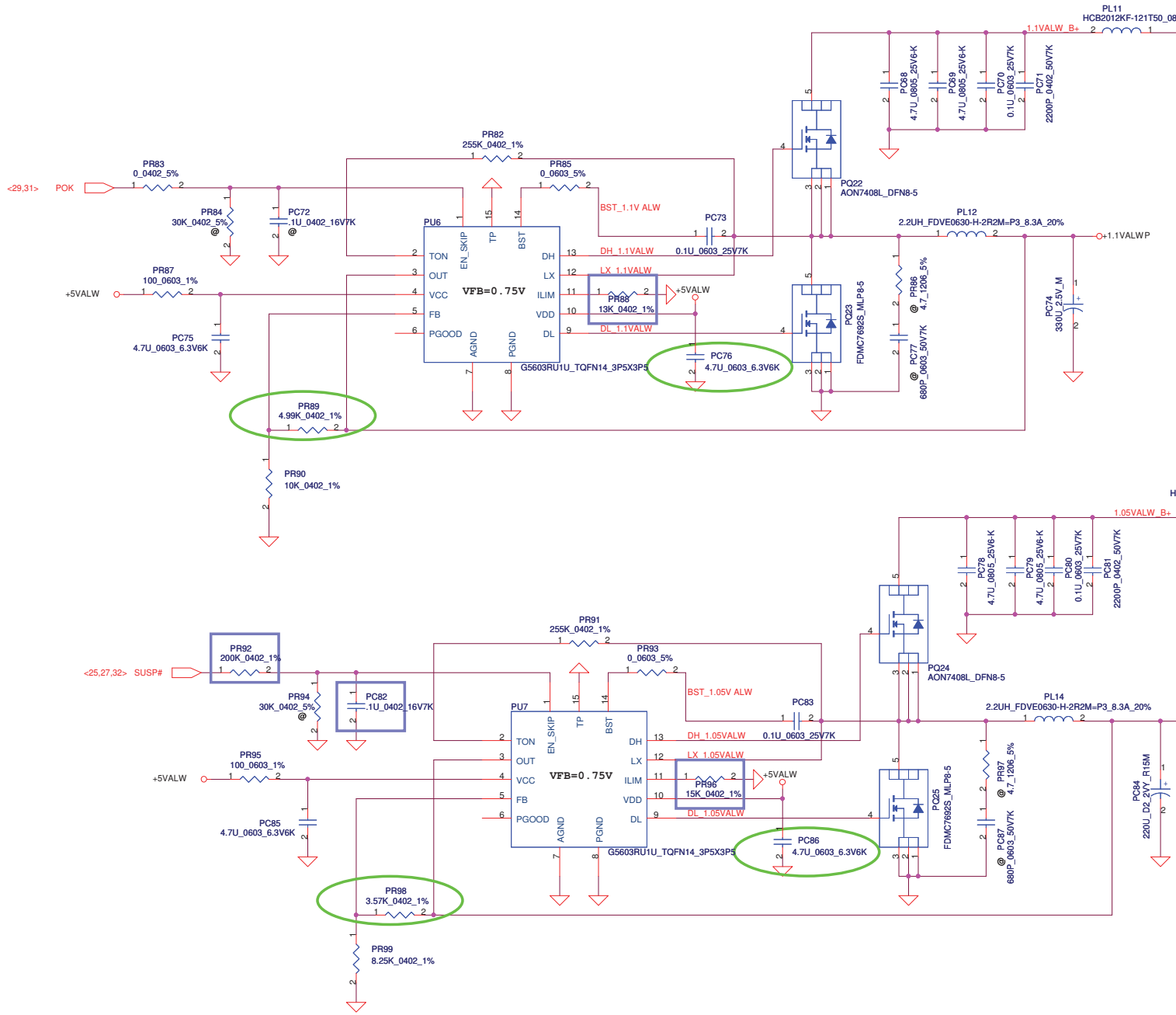
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Issued Date	2010/08/12	Deciphered Date	2012/08/12	Title	
				3VALWP/5VALWP	
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Cout ESR=25m ohm  
 Rdson (max)=17.9 mohm Rdson (typ)=14.5 mohm. (IRFH3707)  
 Ipeak=6.5A, Imax=4.55A, Iocp > 7.8A

	G5603	RT8209B	TPS51117	RT8209M
OCP setting	6.821A	7.235A	8.000A	8.178A

	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=1.1V> VFB=0.75V  
 $V=0.75 * (1 + 4.99K/10K) = 1.124V$

Cout ESR=25m ohm  
 Rdson(max)=17.9 mohm Rdson(typ)=14.5 mohm. (IRFH3707)  
 Ipeak=4.02A, Imax=2.814A, Iocp > 4.824A

	G5603	RT8209B	TPS51117	RT8209M
OCP setting	5.799A	6.183A	6.845A	6.976A

<Vo=1.05V> VFB=0.75V  
 $V=0.75 * (1 + 3.57K/8.25K) = 1.074V$

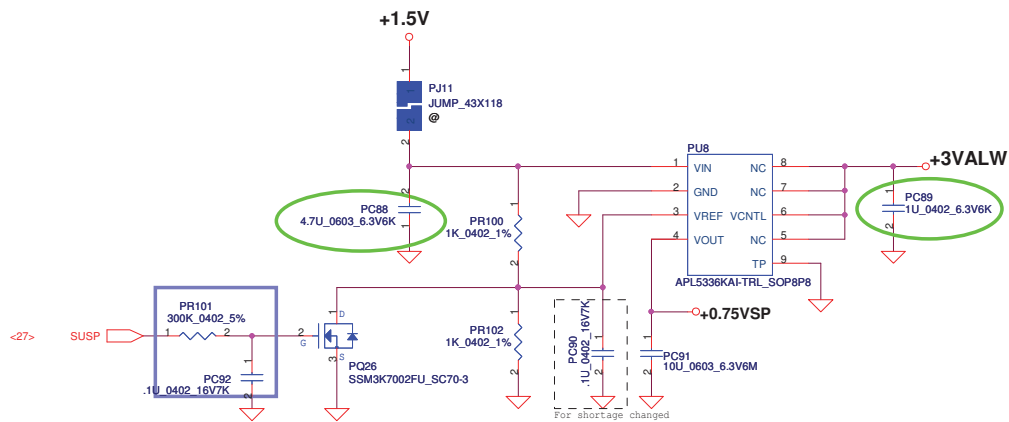
Cout ESR=25m ohm  
 Rdson(max)=17.9m ohm Rdson(typ)=14.5 mohm. (IRFH3707)  
 Ipeak=5.5A, Imax=3.85A, Iocp > 6.6A

	G5603	RT8209B	TPS51117	RT8209M
OCP setting	6.524A	7.003A	7.768A	7.881A

	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

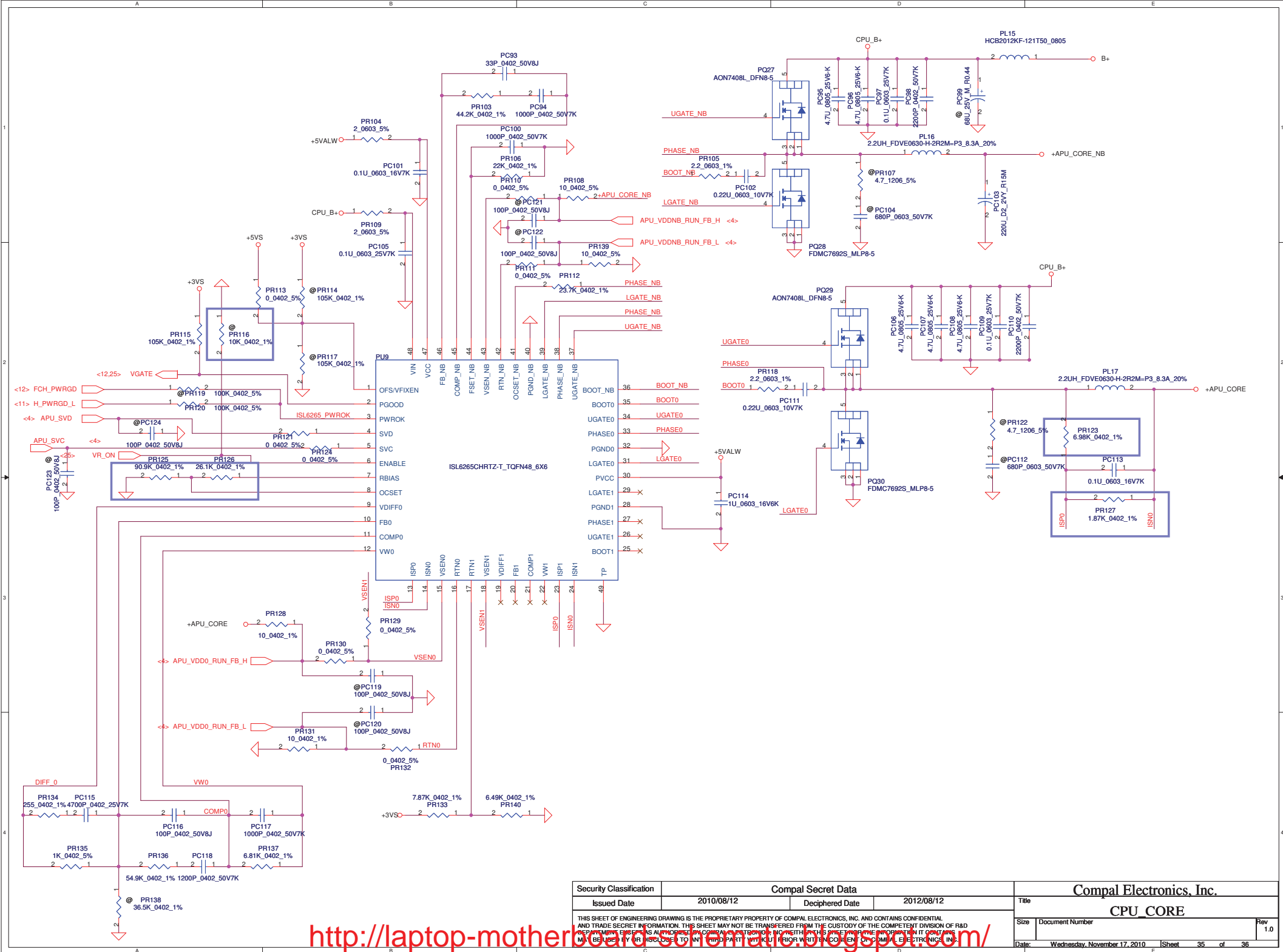
<http://laptop-motherboard.com/forums/showthread.php?p=100000>

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Issued Date	2010/08/12	Deciphered Date	2012/08/12	Title <b>0.75VSP</b>		
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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1		Modify CP point for 40W adapter (40W*0.85=34W)	1	30	Change PR43 from SD034249280 (S RES 1/16W 24.9K +-1% 0402) to SD034470180 (S RES 1/16W 4.7K +-1% 0402)	20101011	EVT
2		Modify Outpot current sensor follow PAV70 design	1	30	Change PR38 from SD012200D80 (S RES 1/2W 0.02 +-1% 1206) to SD00000CI10 (S RES 1/2W 0.05 +-1% 1206 )	20101011	EVT
3		Modify KI =1.62 follow PAV70 design	1	30	Change PR39 from SD034309380 (S RES 1/16W 309K +-1% 0402) to SD034620280 (S RES 1/16W 62K +-1% 0402)	20101011	EVT
4		Modify 1.5V OCP (there is only one dimm for 10.1")	1	32	Change PR73 from SD034787180 (S RES 1/16W 7.87K +-1% 0402) to SD034150280 (S RES 1/16W 15K +-1% 0402)	20101011	EVT
5		Modify 1.1V OCP for G5603	1	33	Change PR88 from SD034100280 (S RES 1/16W 10K +-1% 0402) to SD034130280 (S RES 1/16W 13K +-1% 0402)	20101011	EVT
6		Modify 1.05V OCP for G5603	1	33	Change PR96 from SD034140280 (S RES 1/16W 14K +-1% 0402) to SD034150280 (S RES 1/16W 15K +-1% 0402)	20101011	EVT
7		Modify +APU CORE OCP setting	1	35	Change PR123 to 6.98K ohm , PR127 to 1.87K ohm, PR125 to 90.9K ohm, PR126 to 26.1K ohm	20101011	EVT
8		+APU CORE power sequence concern	1	35	change PR116 to non-pop	20101011	EVT
9		Modify RTC schematic	1	28	add PR141 & PR142 =560 ohm	20101011	EVT
10		Modify SY8033B Enable pin pull down resistor	1	32	Change PR72 to non-pop	20101011	EVT
11		Modify 1.8VS power sequence	1	32	Change PR70 to 200K ohm , add PC56 =0.22uF	20101012	EVT
12		Modify 1.05VSP power sequence	1	33	Change PR92 to 200K ohm , add PC82 =0.1uF	20101012	EVT
13		Modify 0.75VSP power sequence	1	34	Change PR101 to 300K ohm , add PC92 =0.1uF	20101012	EVT
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Issued Date	2010/08/12	Deciphered Date	2012/08/12	Title	
				PIR (PWR)	
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