

Compal Confidential

Model Name : V5WE2/T2 (EA/EG)

File Name : LA-9532P

Compal Confidential

EA50 UMA M/B Schematics Document

Intel Shark Bay ULT (Hasswell + Lynx PointLP)

2013-04-18

REV:1.0

ZZZ

Part Number	Description
DAZ0VR00200 V5WE2_PCB	PCB V5WE2 LA-9532P LS-9531P/9532P/9533P

ZZZ1



HDMI ROYALTY
ROYALTY HDMI W/LOGO+HDCP
RQ0000003HM
45@

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Issued Date	2012/07/10	Deciphered Date	2013/07/10	Title	Cover Page
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				V5WE2 M/B LA-9532P Schematic	0.2
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Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
BATT+	Battery power supply (12.6V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+0.675VS	+0.675VSP to +0.675VS switched power rail for DDR terminator	ON	OFF	OFF
+1.35V	+1.35VP to +1.35V power rail for DDRIIIIL	ON	ON	OFF
+1.5VS	+1.5V to +1.5VS switched power rail	ON	OFF	OFF
+1.8VS	+3VS to 1.8V switched power rail to CPU	ON	OFF	OFF
+3VALW	+3VALW always on power rail	ON	ON	ON*
+3VLP	B+ to +3VLP power rail for suspend power	ON	ON	ON
+3VS	+3VALW to +3VS power rail	ON	OFF	OFF
+5VALW	+5VALWP to +5VALW power rail	ON	ON	ON*
+5VS	+5VALW to +5VS switched power rail	ON	OFF	OFF
+VSB	+VSBP to +VSB always on power rail for sequence control	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON
+1.05VS_VTT	+1.05VSP to +1.05VS_VTT switched power rail for cpu	ON	OFF	OFF

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

Device	Address	Device	Address
Smart Battery	0001_011X b	On Board Thermal Sensor	1001_101xb

Device			Address	
ChannelA	DIMM0	A0	1010 000X	JDIMM1(SPD)

PCB P/N	DA60000XR00 : PCB 0VR LA-9532P REV0 M/B	
EVT BOM config	9012@ ; AMIC@ ; CHR@ ; BL@ ; EMC@ ; AOAC@	11/1 Del XDP@
DVT BOM config	9012@ ; BL@ ; EMC@ ; EDP@ (L01~L04)	
	9012@ ; BL@ ; EMC@ ; TL@ (L05)	
PVT BOM config	9012@ ; EMC@ ; EDP@ ; 1ROM@ ; IOAC@	
PreMP BOM config	9012@ ; EMC@ ; EDP@ ; 1ROM@ ; IOAC@	

43 Level	Description
4319LWBOL01	SMT MB A9532 V5WE2 UMA I7 QDA7 HDMI
4319LWBOL02	SMT MB A9532 V5WE2 UMA I5 QDJB HDMI
4319LWBOL03	SMT MB A9532 V5WE2 UMA I5 QDJ7 HDMI
4319LWBOL04	SMT MB A9532 V5WE2 UMA I5 QDJ9 HDMI
4319LWBOL05	SMT MB A9532 V5WE2 UMA I5 QDJB LVDS HDMI
4319LWBOL06	SMT MB A9532 V5WE2 UMA WO/CPU HDMI
4319LWBOL07	SMT MB A9532 V5WE2 UMA I5 QEA4 HDMI
4319LWBOL08	SMT MB A9532 V5WE2 UMA I5-4200 HDMI
4319LWBOL09	SMT MB A9532 V5WE2 UMA I3-4010 HDMI
4319LWBOL10	SMT MB A9532 V5WE2 UMA I5-4250 HDMI
4319LWBOL21	SMT MB A9532 V5WC2 UMA I5-4200 HDMI
4319LWBOL22	SMT MB A9532 V5WC2 UMA I3-4010 HDMI

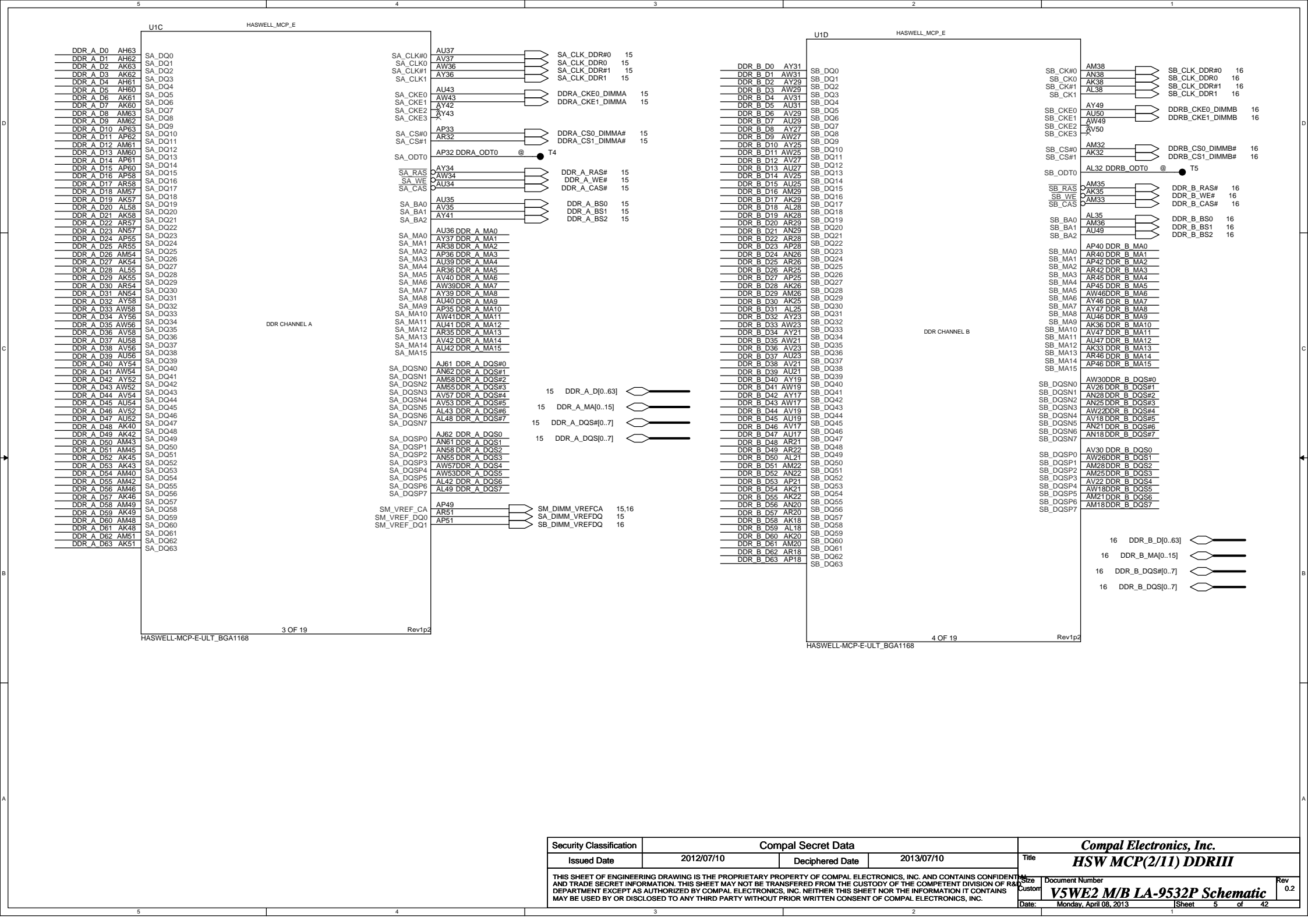
Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 5%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

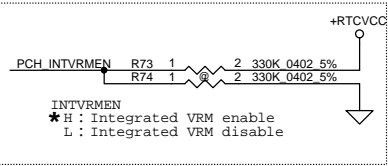
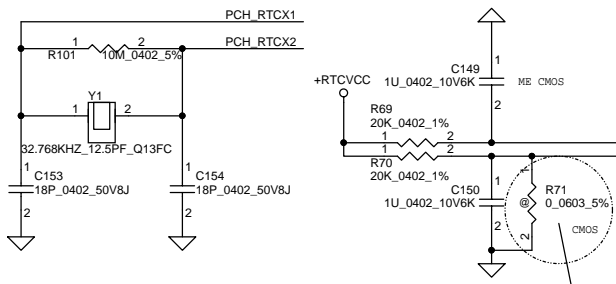
Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	0.4
4	1.0
5	
6	
7	

USB 3.0	Port	
XHCI	1	USB Port(Left 3.0)
	2	
	3	
	4	

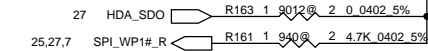
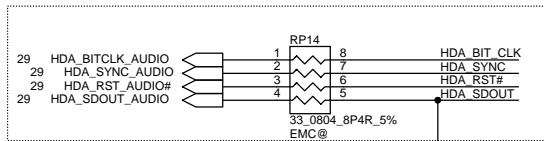
BTO Option Table	
BTO Item	BOM Structure
EC 9012	9012@
EC 940	940@
Unpop	@
TPM Circuit	TPM@
eDP mode	EDP@
eDP to LVDS	TL@
Connector	CONN@
G-Sensor	GSEN@
XDP (Debug Port)	XDP@
KB Backlight	BL@
Debug Only	DEG@
MEC requirement	EMC@
MEC requirement unpop	XEMC@
GPU_Select	VGA@
reserve 3.5V MOS	35V@
BIOS 8M Solution	1ROM@
BIOS 4+2M Solution	2ROM@
IOAC Function	IOAC@
Touch screen Function	TS@

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				Customer	V5WE2 M/B LA-9532P Schematic	
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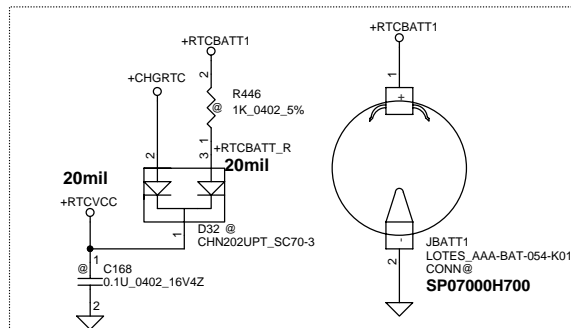




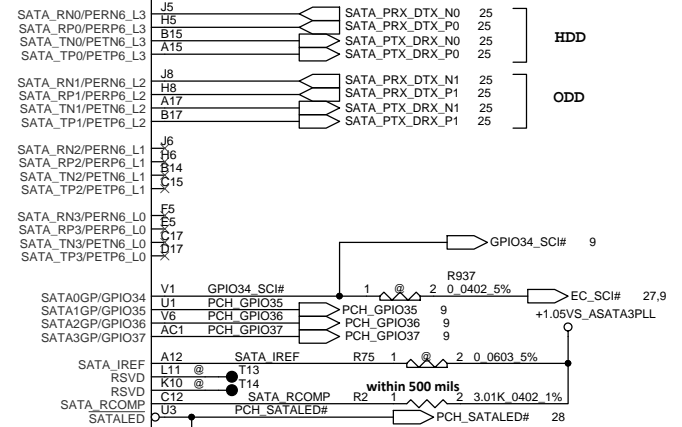
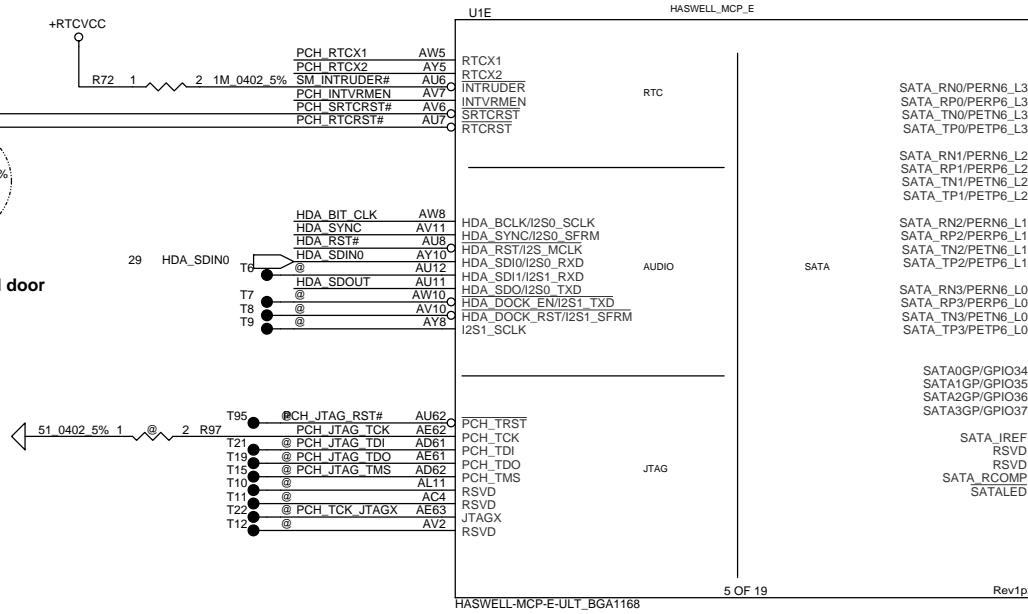
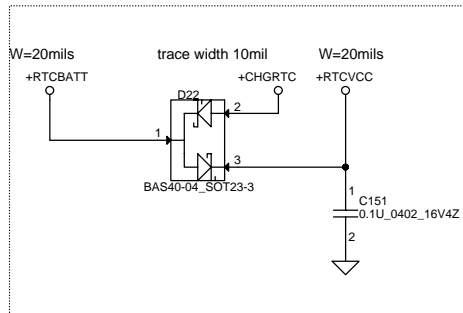
HDA for AUDIO



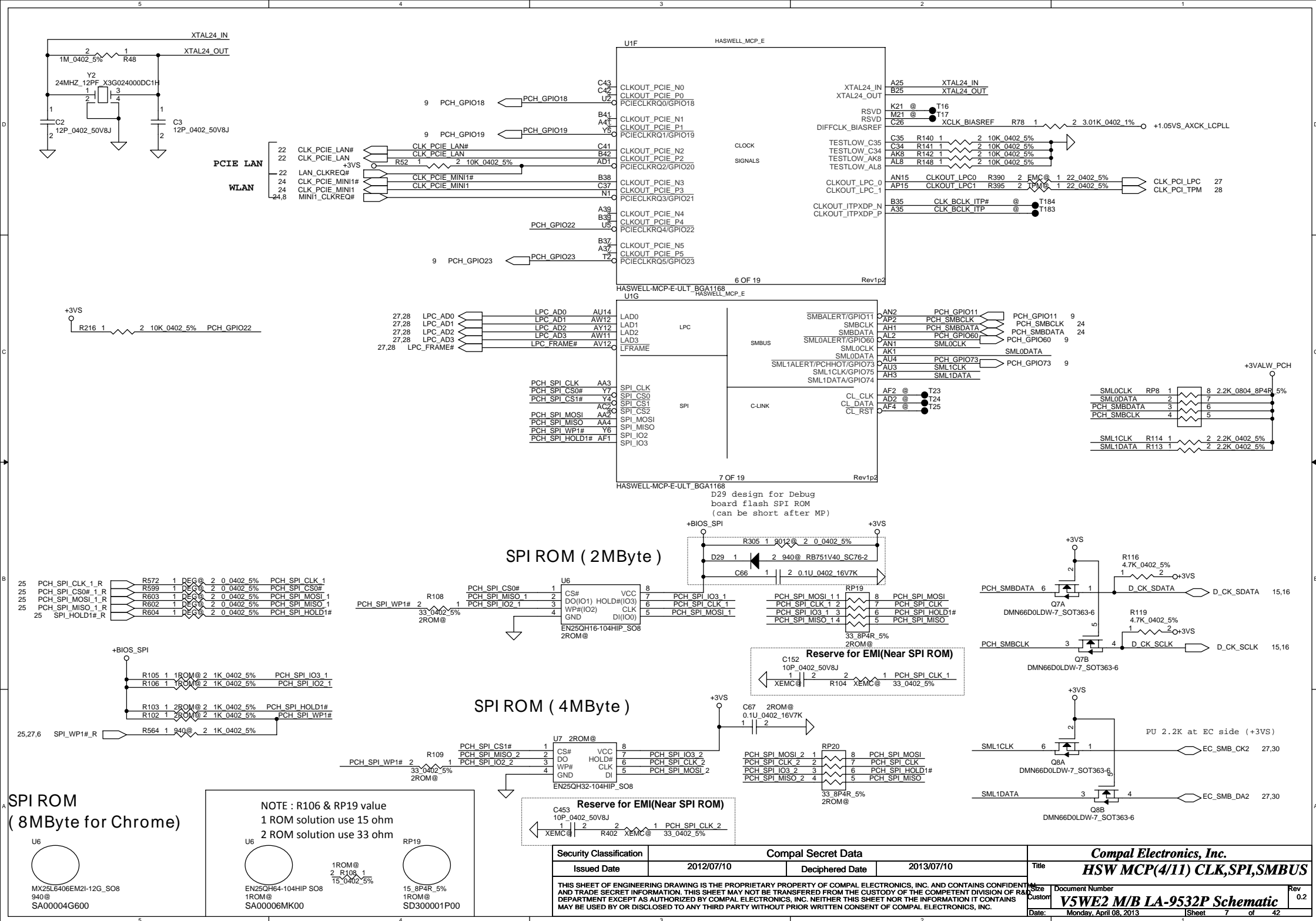
ME Debug

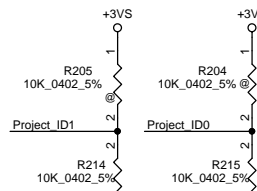
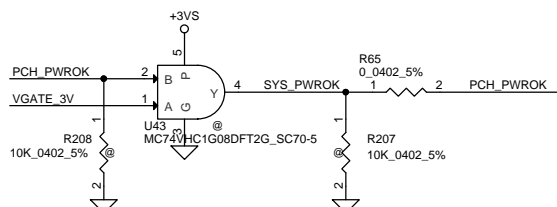
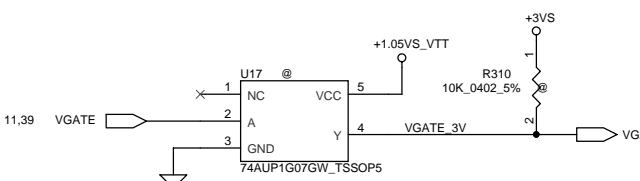
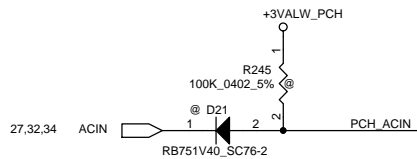
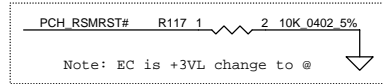
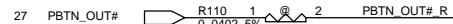
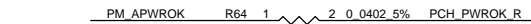
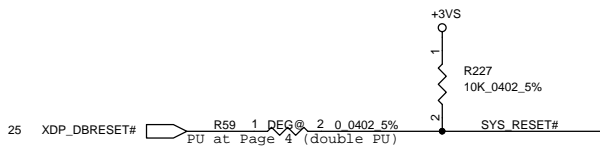


Reserve only

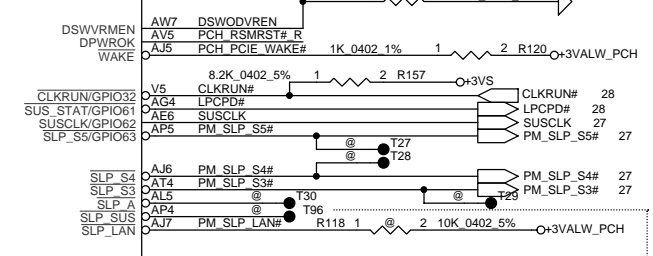
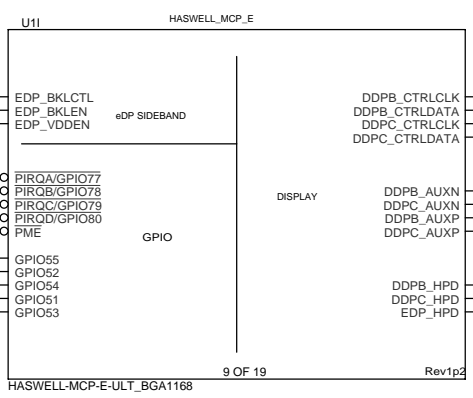
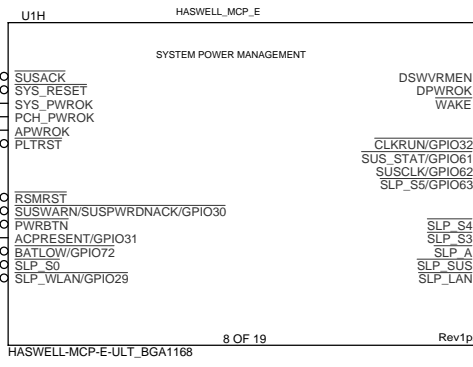
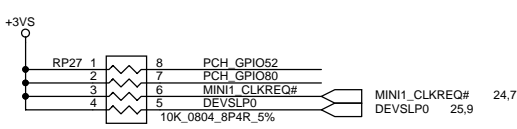
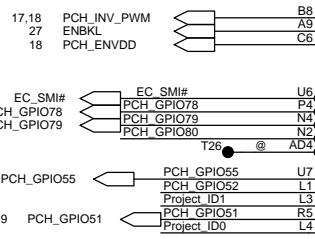
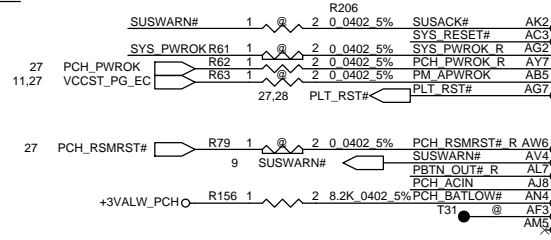


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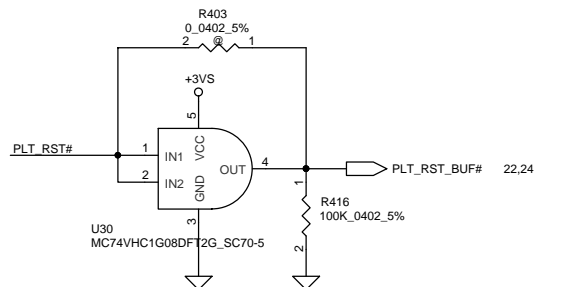
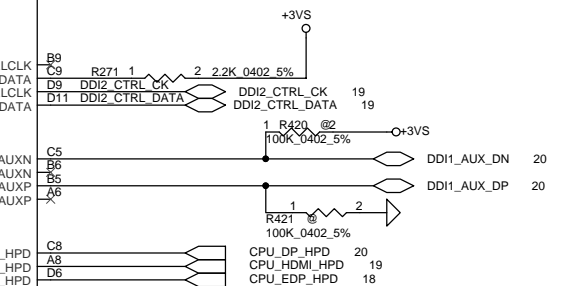


Project ID	Project_ID1 GPIO54	Project_ID0 GPIO53
*V5WE2/T2	0	0
Reserved	0	1
Reserved	1	0
Reserved	1	1

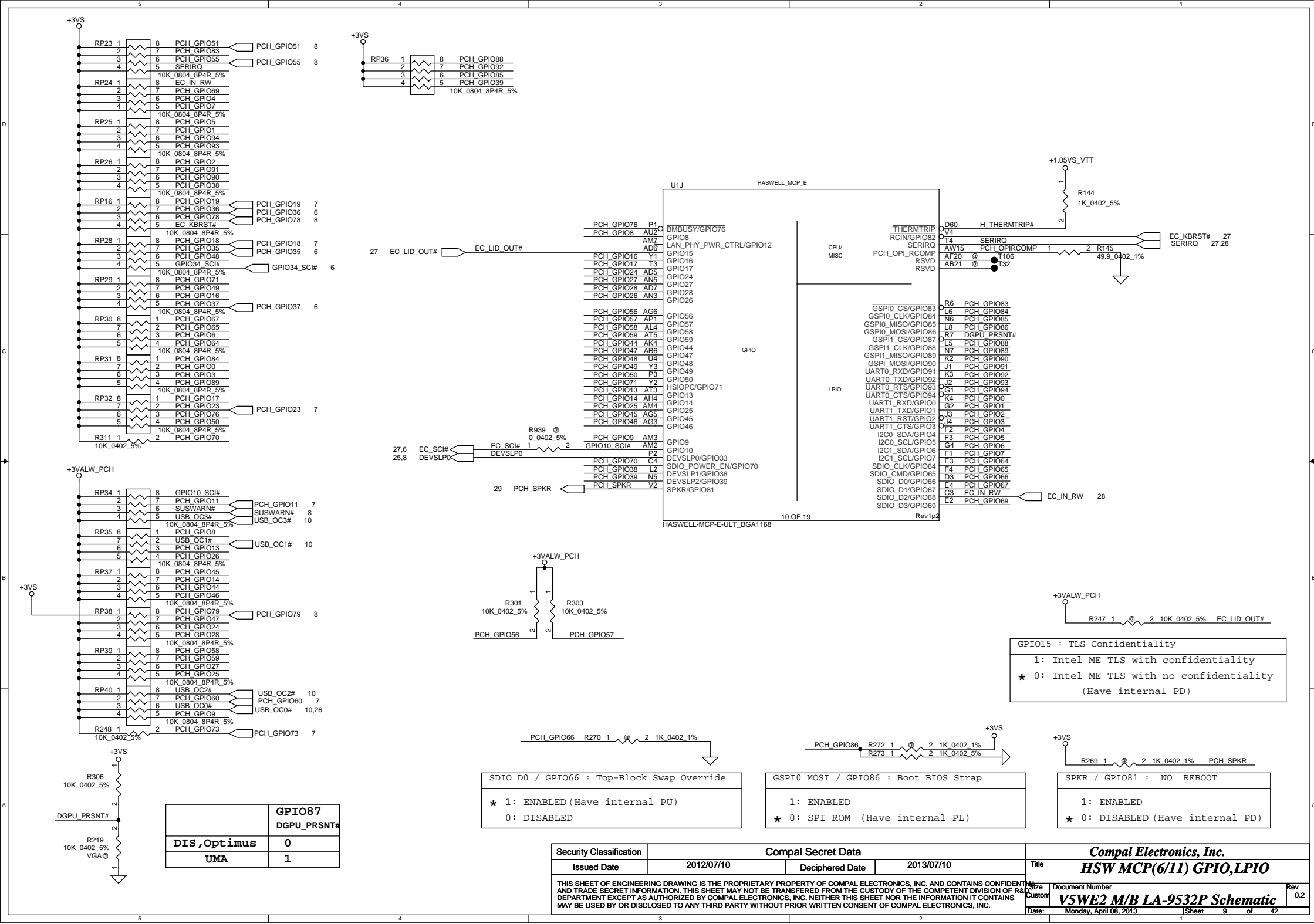


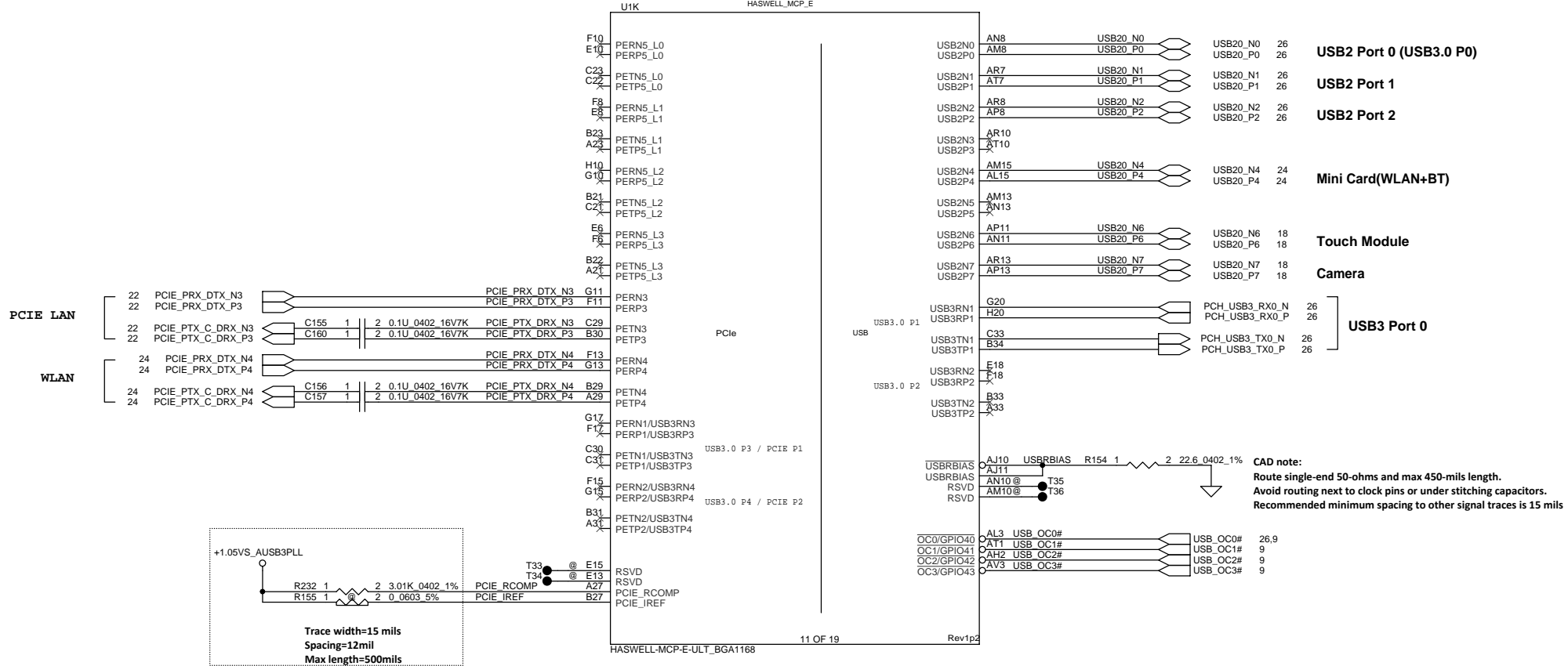
DDPB_CTRLDATA: Port B Detected
DDPC_CTRLDATA: Port C Detected

* 1: Port B or C is detected
0: Port B or C is not detected
(Have internal PD)

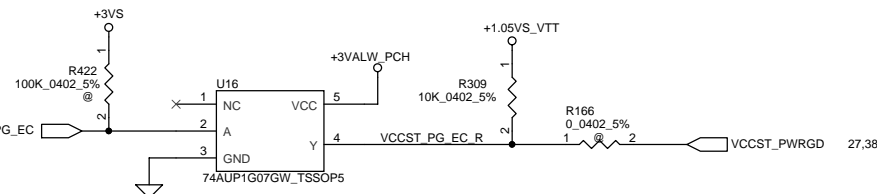


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					HSW MCP(7/11) PCIE,USB	
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Place the PU resistors close to CPU

R171 75_0402_1%

R172 43_0402_1%

39 VR_ALERT#

2 1 H CPU SVIDALRT#

Place the PU resistors close to CPU

R173
130_0402_1%

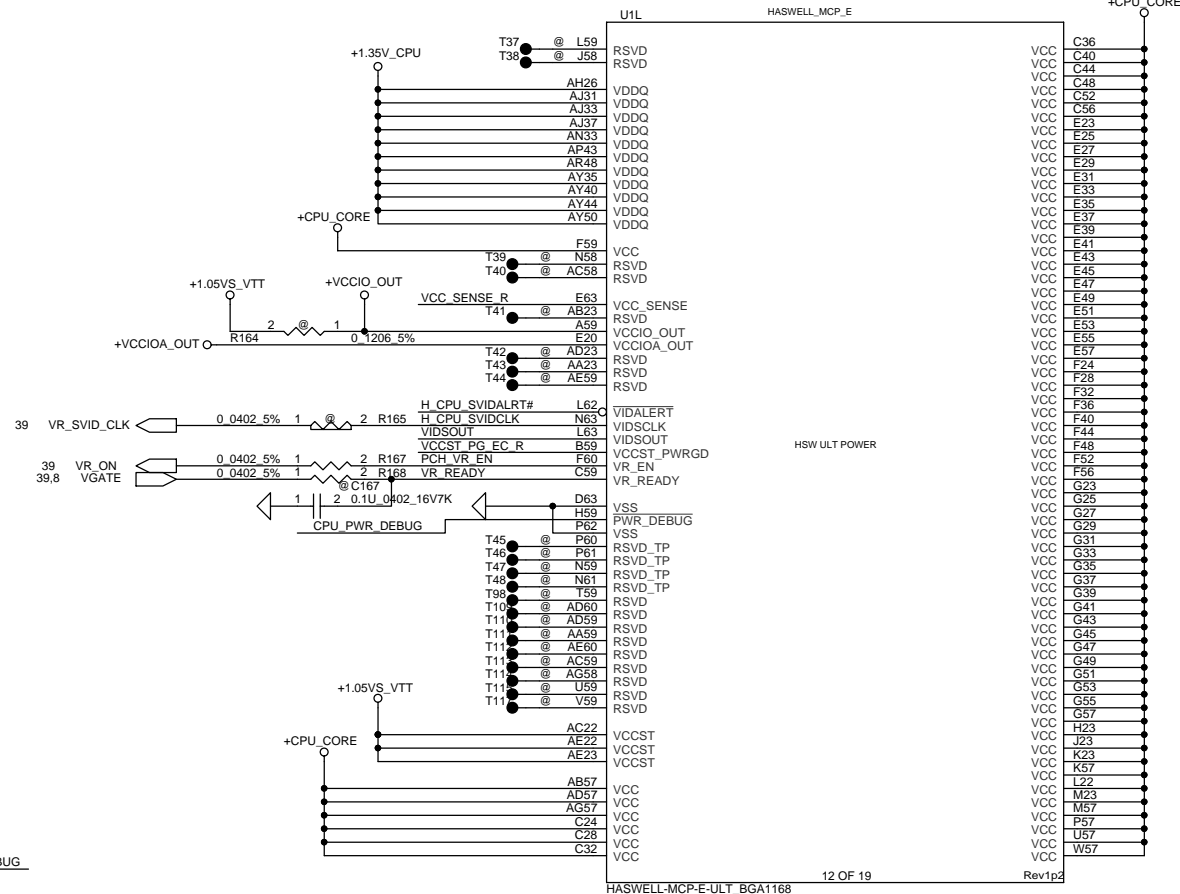
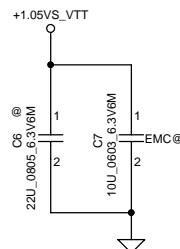
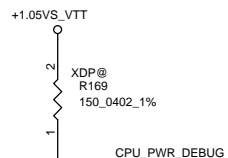
R174
0_0402_5%

R175
130_0402_1%

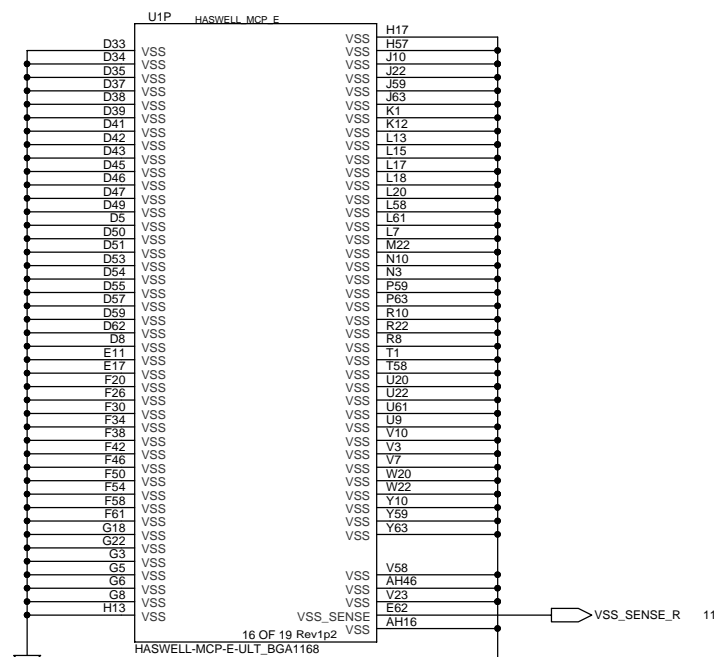
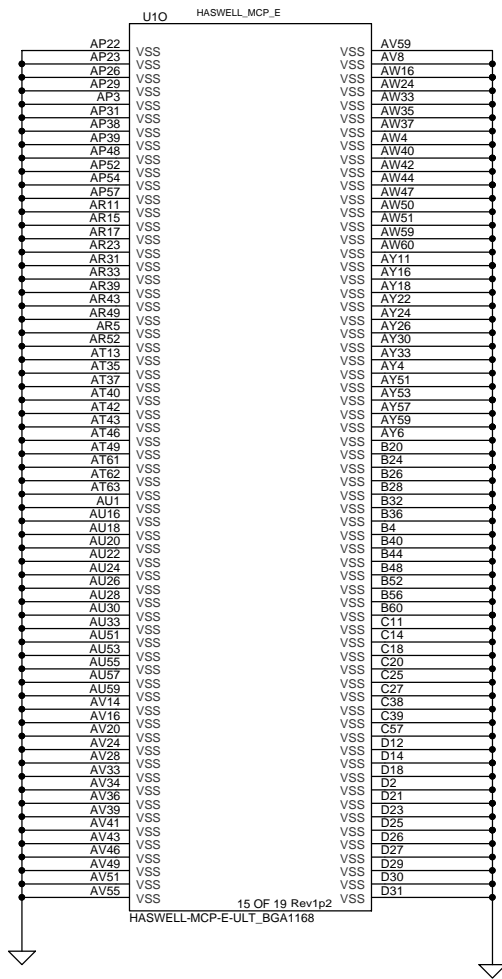
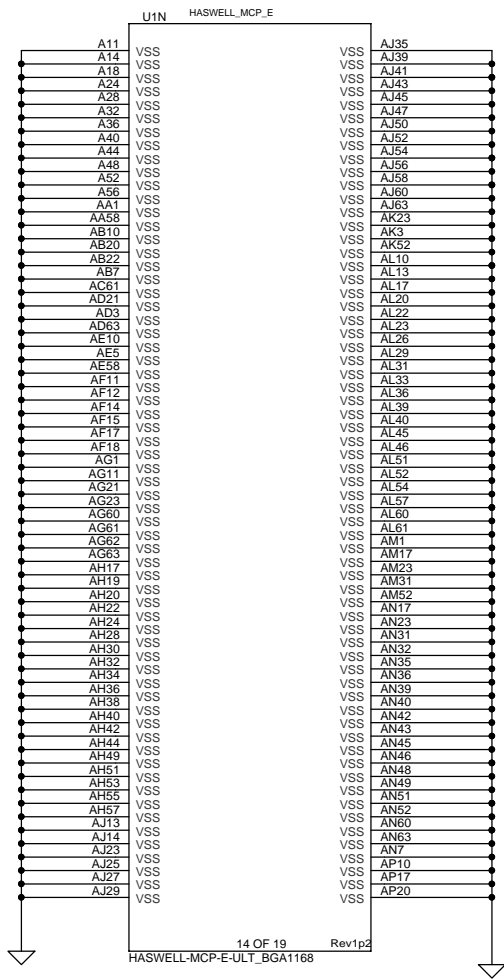
39 VR_SVID_DATA

VBIOSOUT

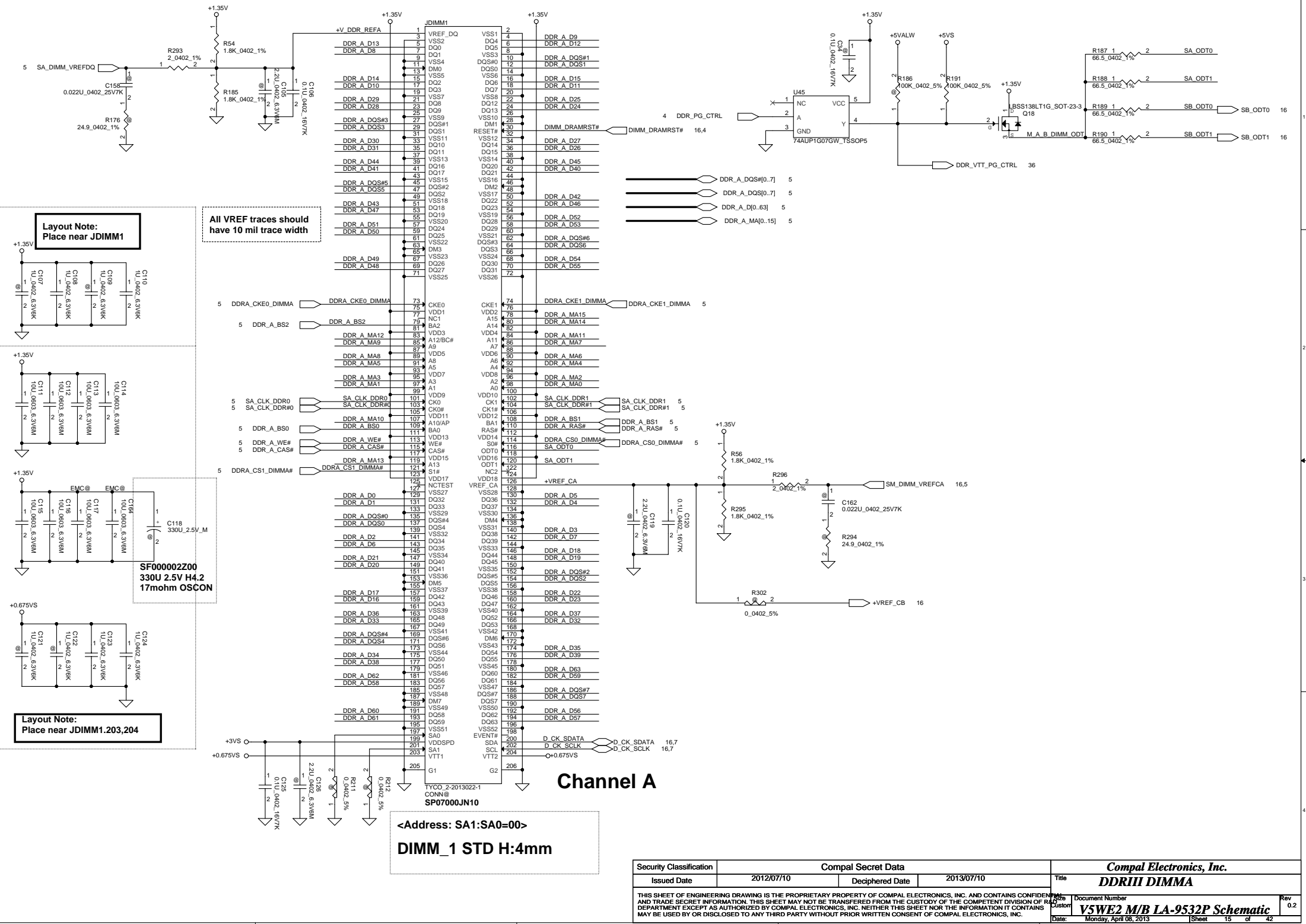
VBIOS_VTT



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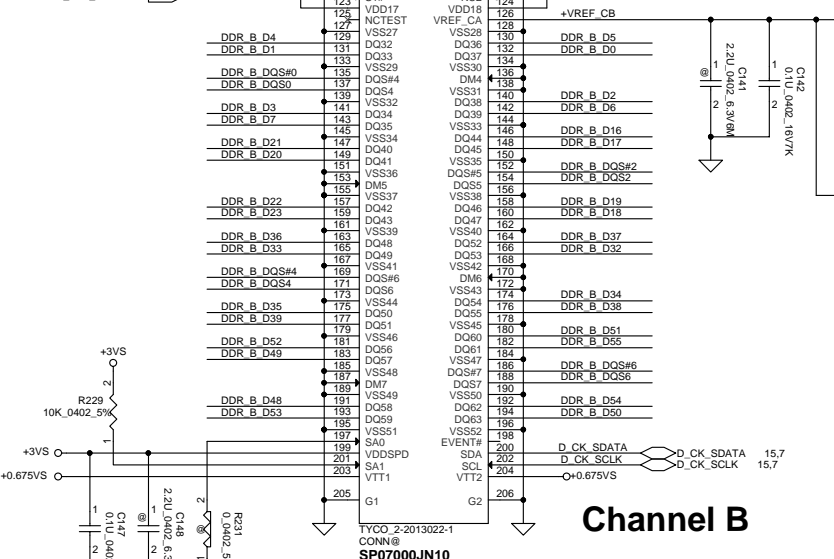


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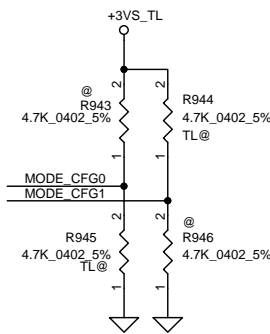
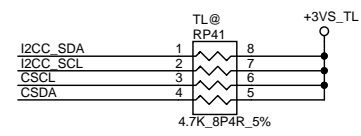
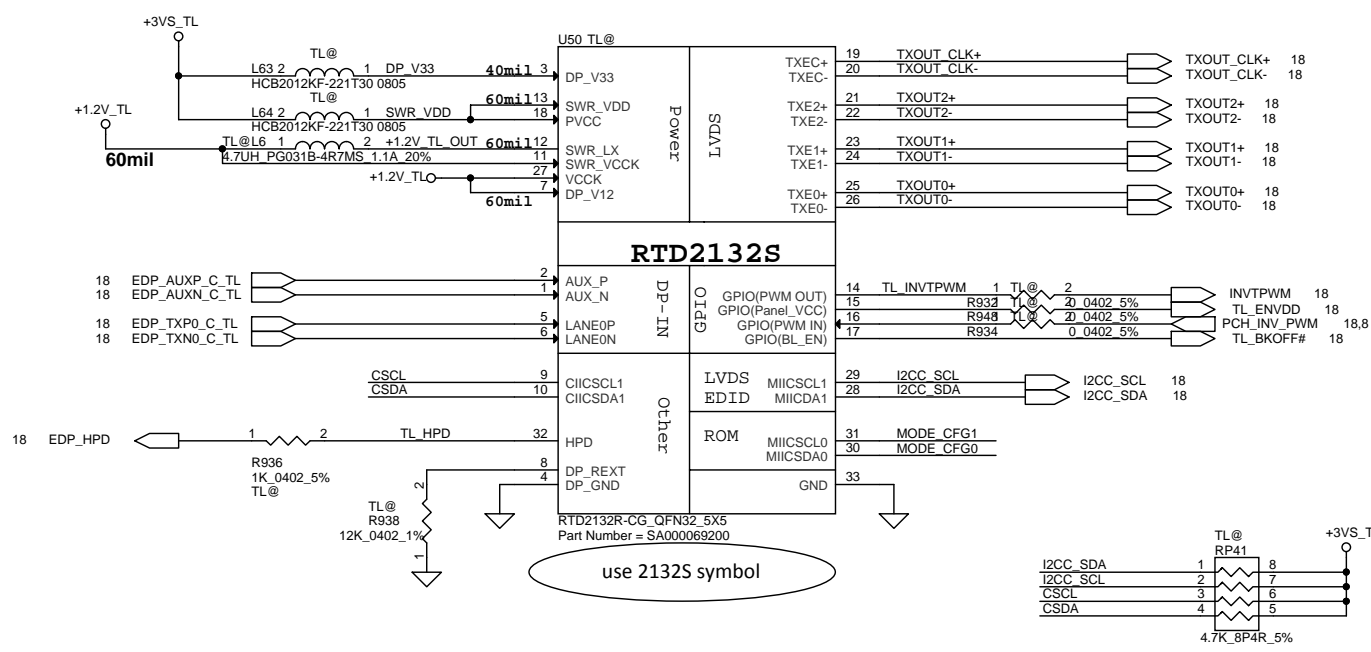
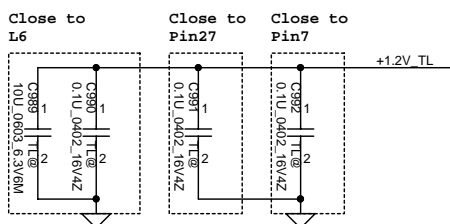
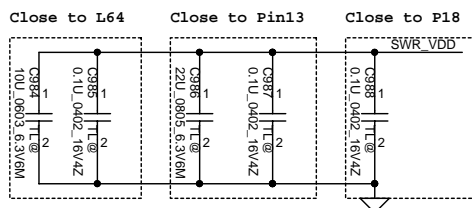
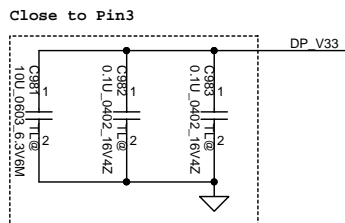
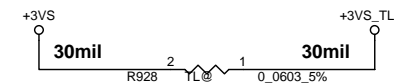




Signal	Pin	Internal Label	Internal Label	Value
CKE1	74	DDR B_CKE1_DIMMB	DDR_B_CKE1_DIMMB	5
VDD1	76			
A15	78	DDR B_MA15		
A14	80	DDR B_MA14		
VDD4	82			
A7	84	DDR B_MA11		
VDD6	86	DDR B_MA7		
A6	88			
A4	90	DDR B_MA6		
VDD8	92	DDR B_MA4		
A2	94			
A0	96	DDR B_MA2		
VDD10	98	DDR B_MA0		
A10	100			
VDD10	102	SB_CLK_DDR1	SB_CLK_DDR1	5
CK1	104	SB_CLK_DDR#1	SB_CLK_DDR#1	5
CK1	106			
VDD12	108	DDR B_BS1	DDR_B_BS1	5
BA1	110	DDR B_RAS#	DDR_B_RAS#	5
RAS#	112			
VDD14	114	DDR B_CS0_DIMMB#	DDR_B_CS0_DIMMB#	5
S0	116	SB_ODT0	SB_ODT0	15
ODT	118			
VDD16	120	SB_ODT1	SB_ODT1	15
ODT	122	NC2		



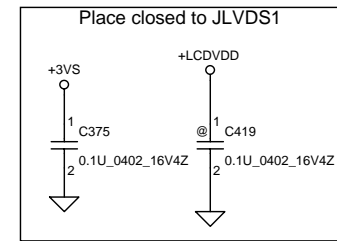
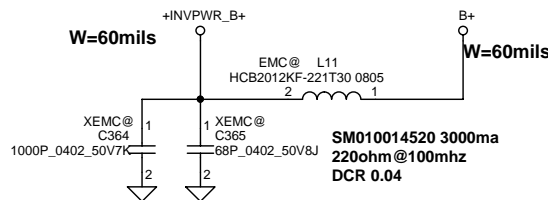
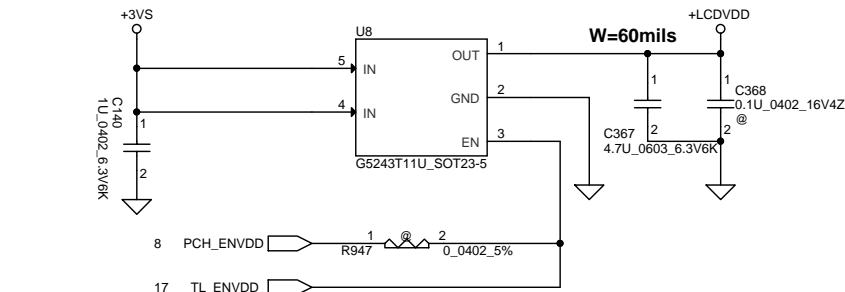
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				Date V5WE2 M/B LA-9531P Schematic Monday, April 08, 2013	0. 16 of 42	



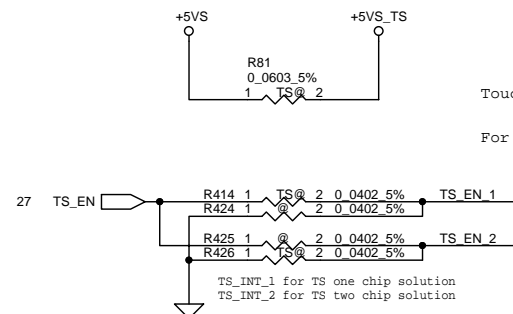
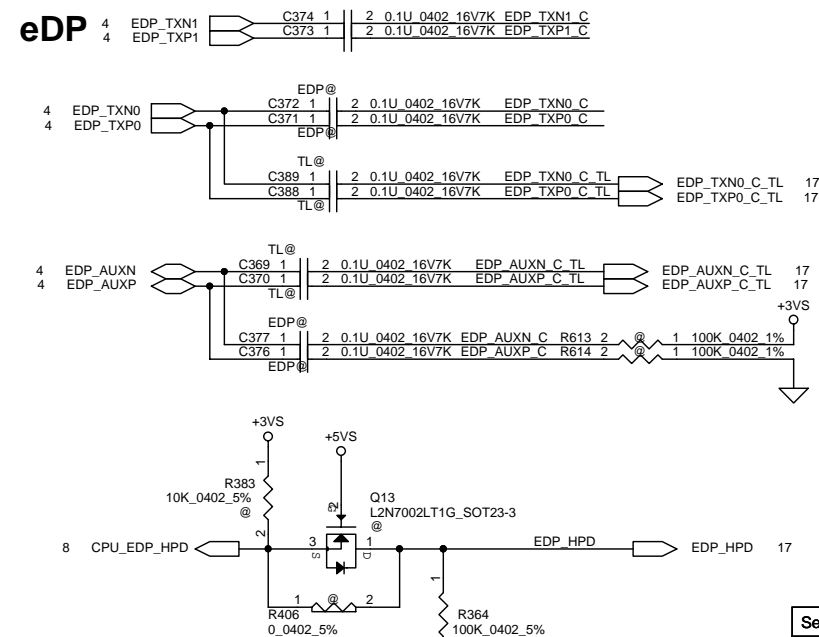
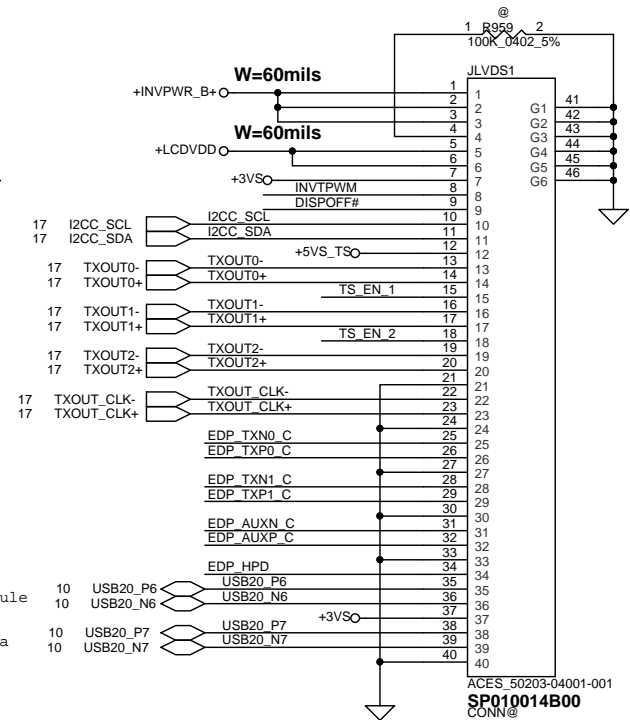
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	0	1
MODE_CFG1(PIN31)	0	EP MODE
	1	ROM ONLY MODE

Security Classification		Compal Secret Data			
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	
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				Document Number	
				V5WE2 M/B LA-9532P Schematic	
Date: Monday, April 08, 2013				Sheet	17 of 42

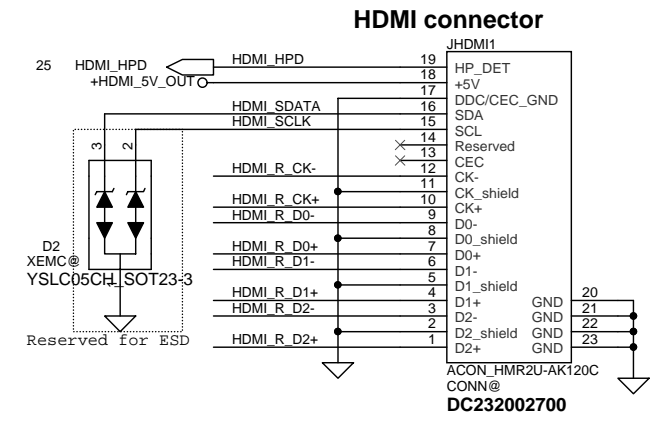
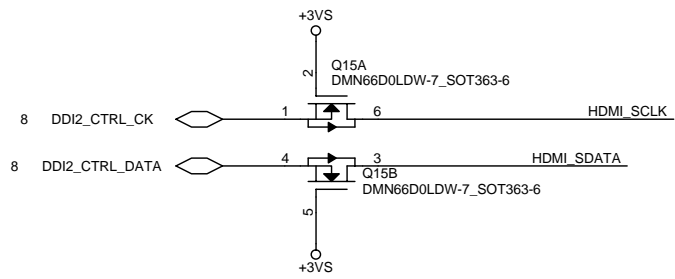
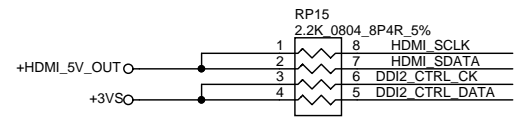
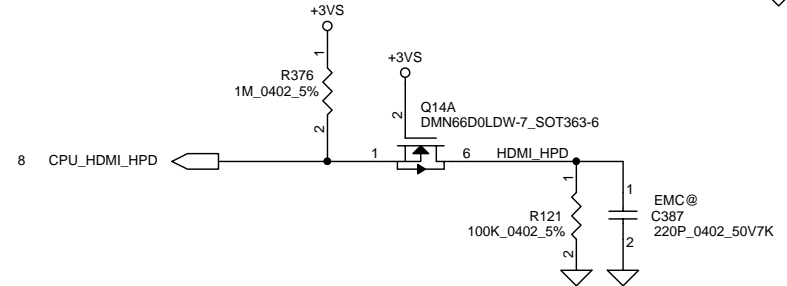
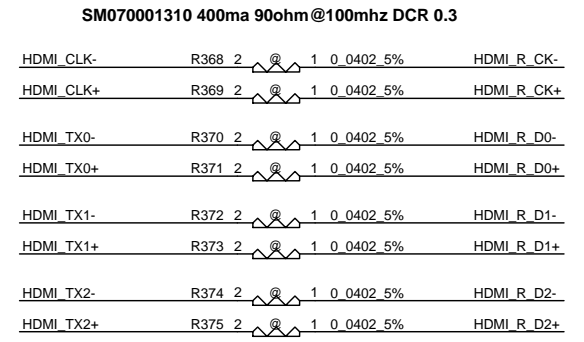
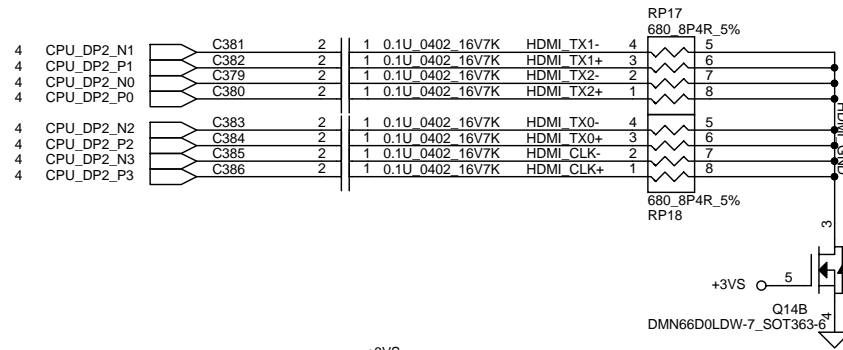
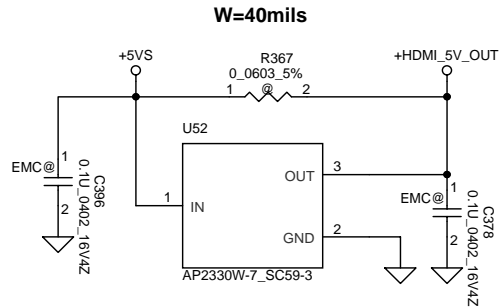
LCD POWER CIRCUIT



LCD/ LED PANEL Conn.



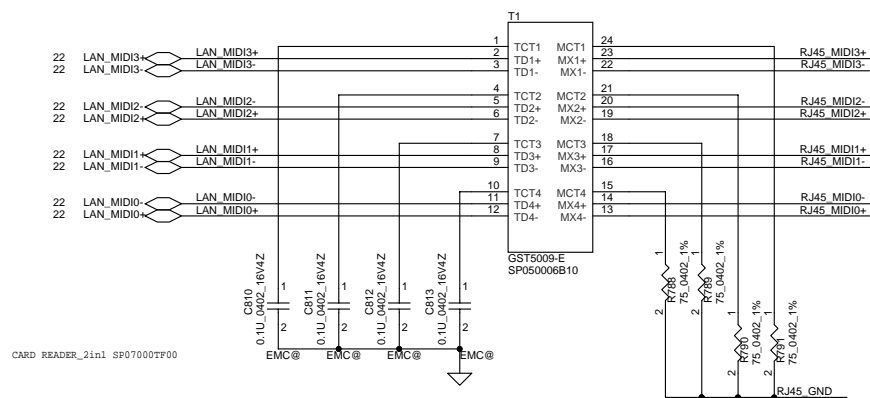
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2012/07/10				Deciphered Date			
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Date: Monday, April 08, 2013				V5WE2 M/B LA-9532P Schematic				Rev 0.2			
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Date		Monday, April 08, 2013		Sheet 19 of 42	
Size		Document Number		Rev	
Custom		V5WE2 M/B LA-9532P Schematic		0.2	



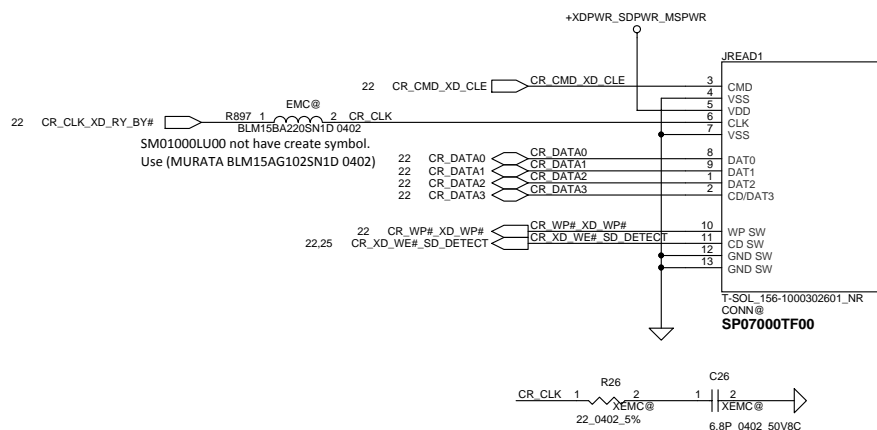
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/07/10	Deciphered Date	2013/07/10	Title	Broadcom BCM57785	
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				1	V5WE2 M/B LA-9532P Schematic	0.2
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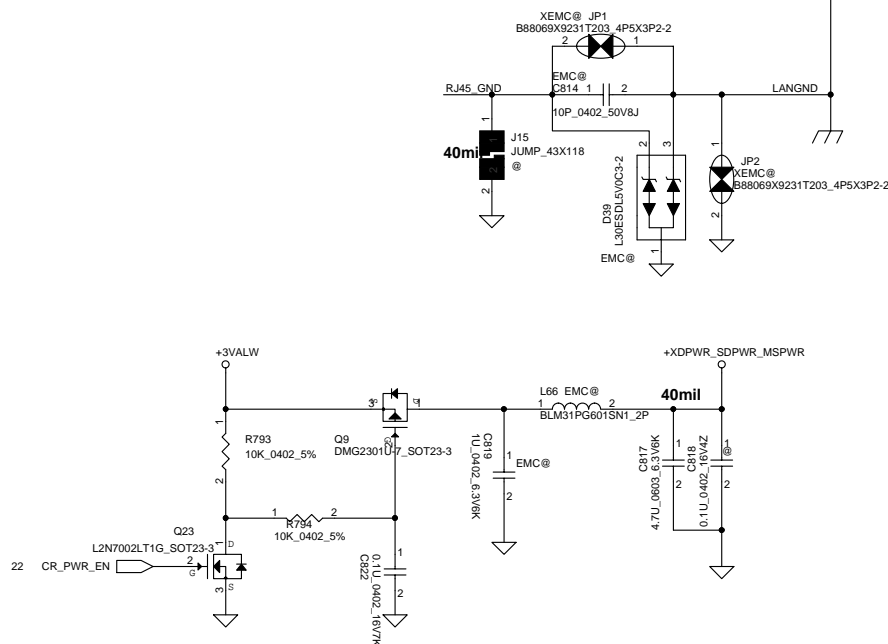
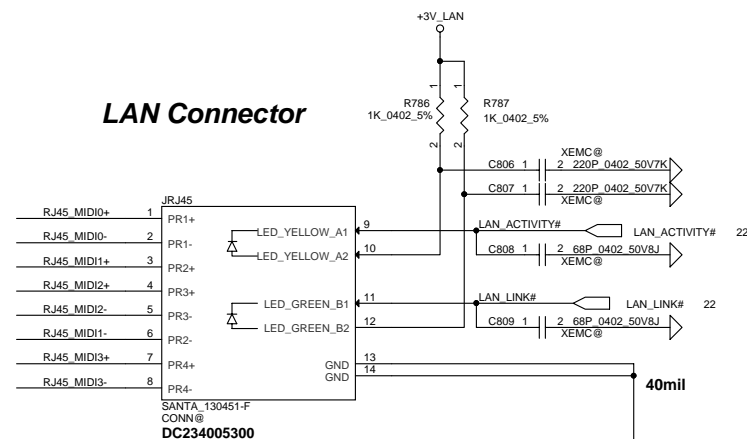
Place close to TCT pin

BOTTHAND: S X'FORM_ GST5009-E LF LAN, SP050006B10
TIMAG:S X'FORM_ IH-160 LAN , SP050006F00

Card Reader Connector

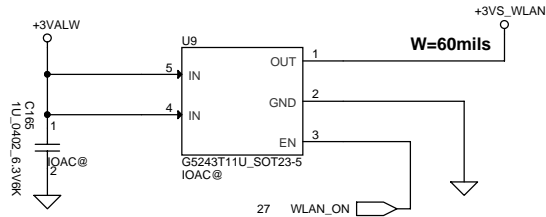
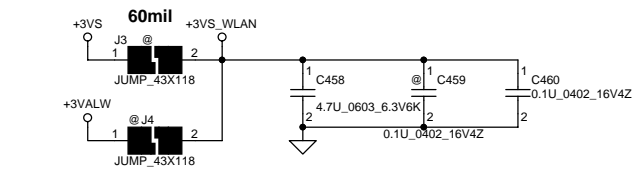


LAN Connector

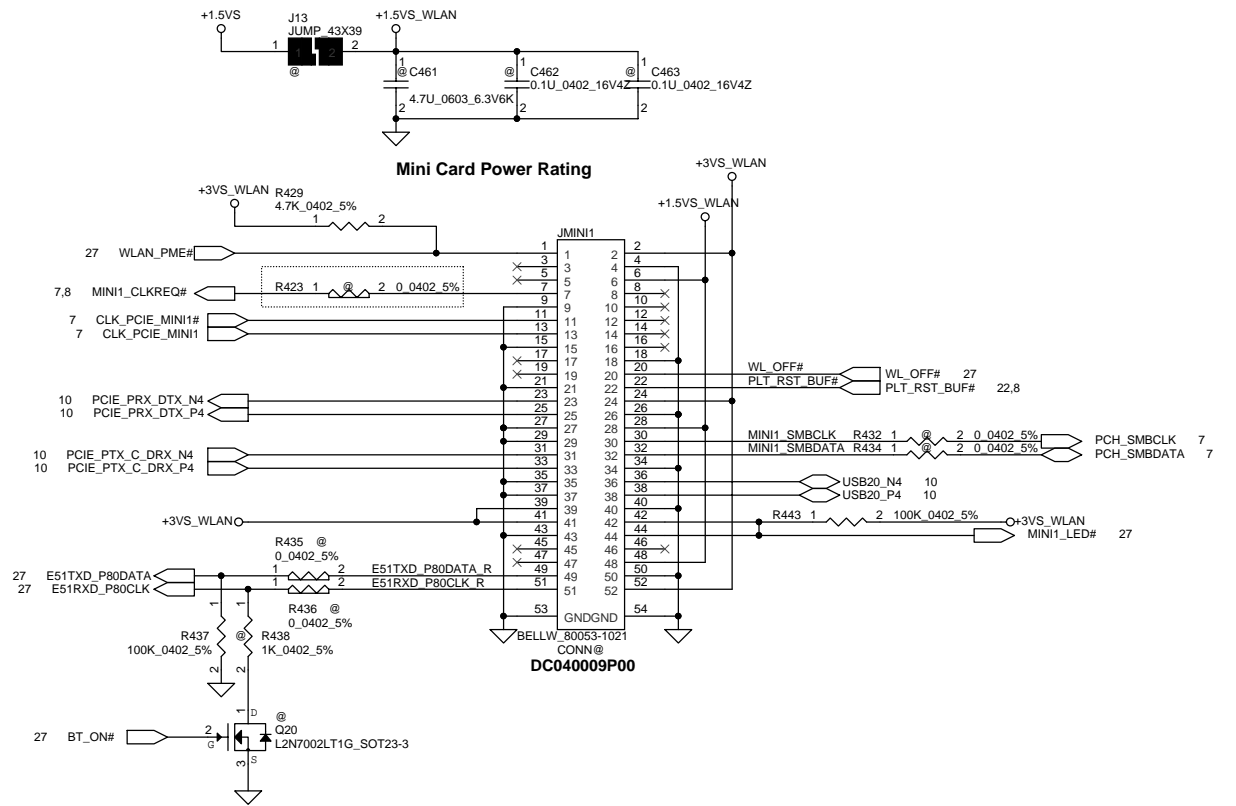


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Issued Date				2012/07/10				Title			
				Deciphered Date				2013/07/10			
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								Document Number			
								V5WE2 M/B LA-9532P Schematic			
								Rev			
								0.2			
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For Wireless LAN

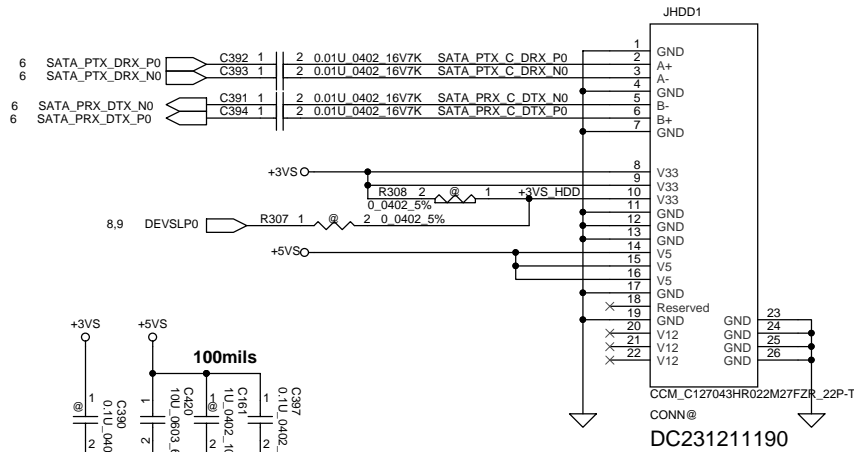


For DVT2 verify IOAC function

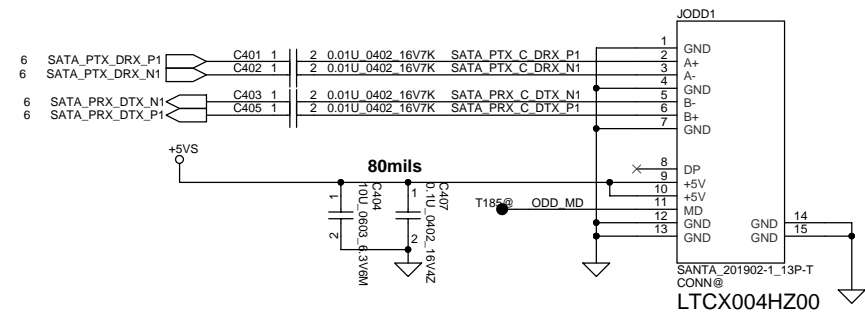


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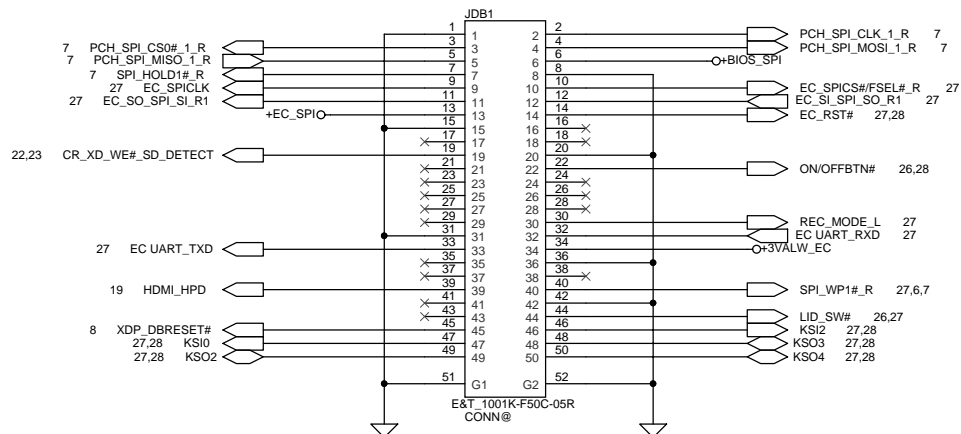
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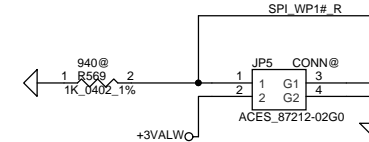
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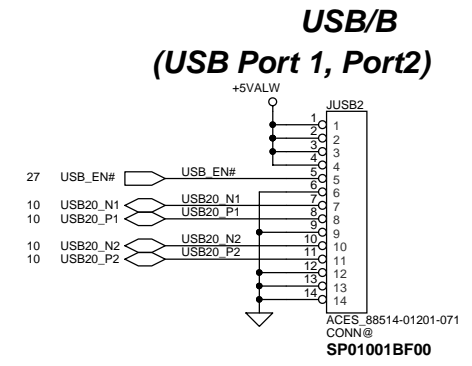
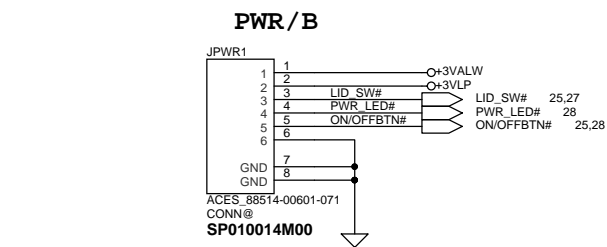
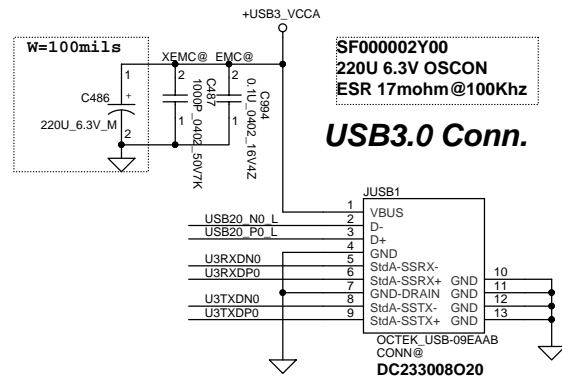
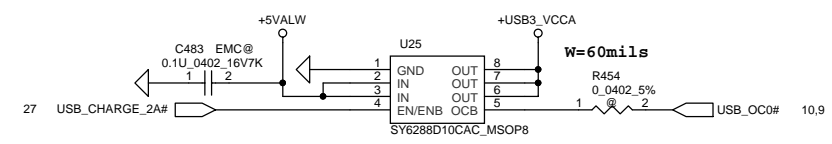
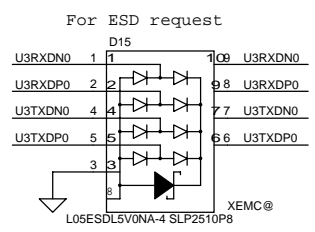
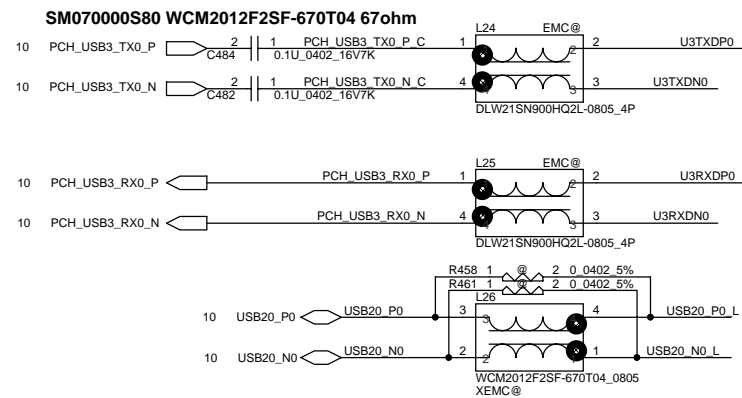
Debug Board



Kill SW

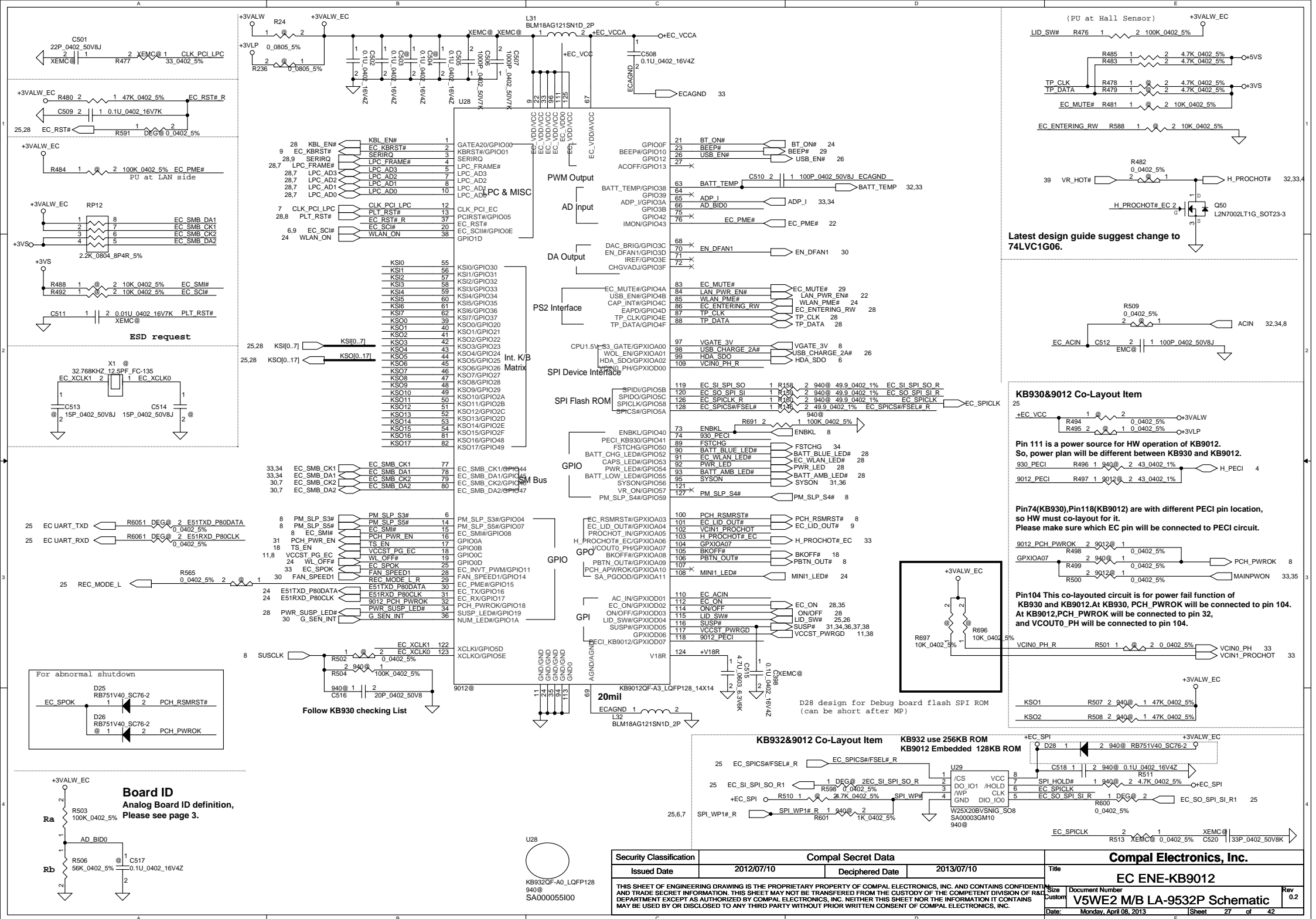


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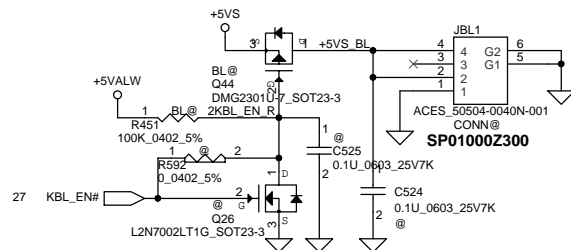
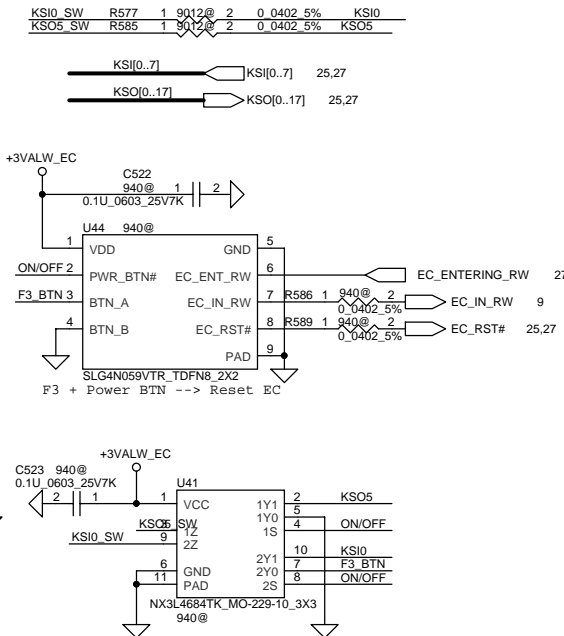


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				Custom	V5WE2 M/B LA-9532P Schematic
				Date:	Monday, April 08, 2013
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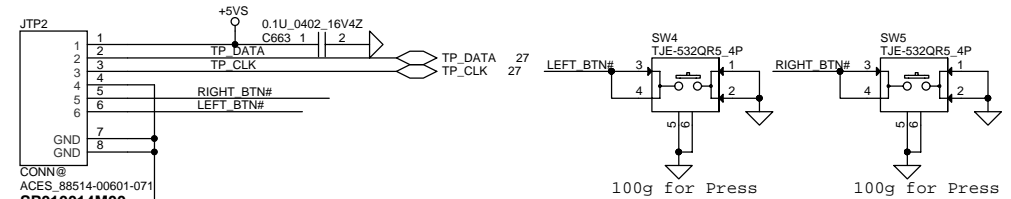
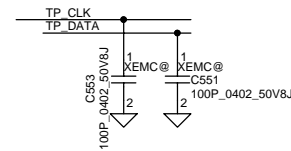
WWW.AliSaler.Com



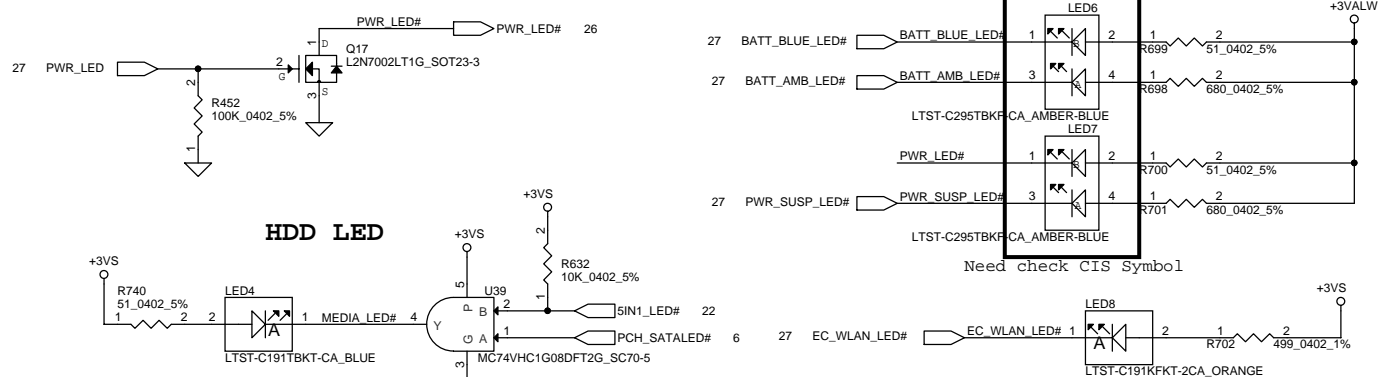
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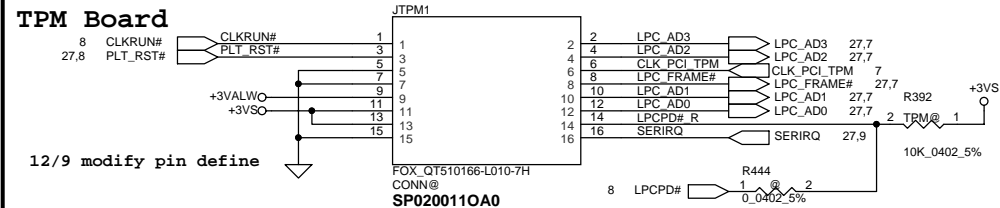
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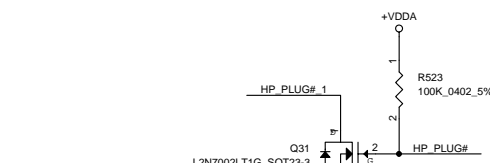
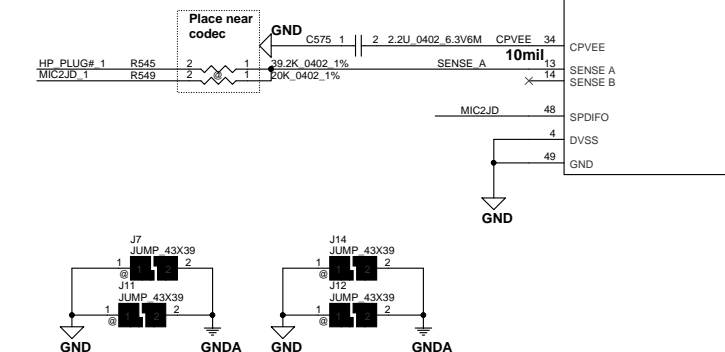
LED



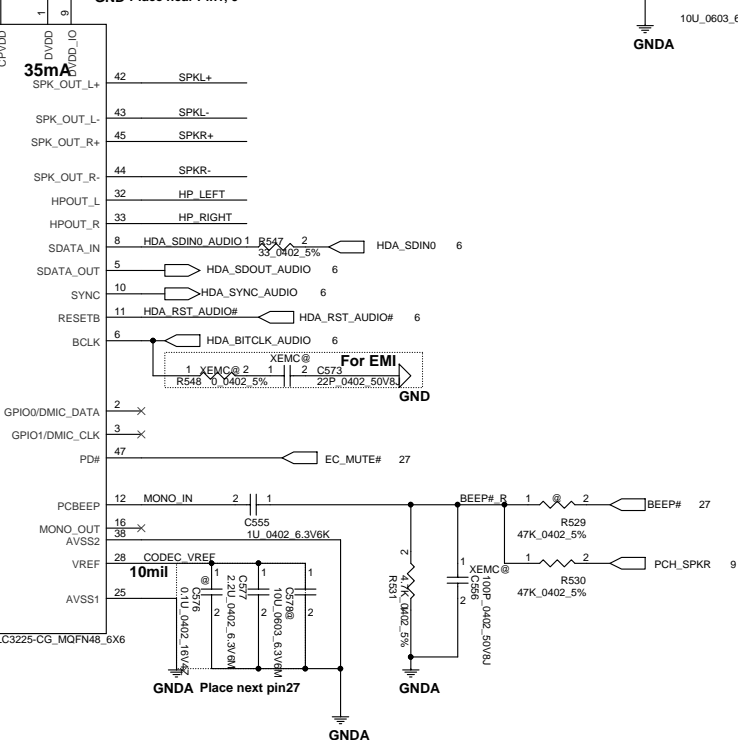
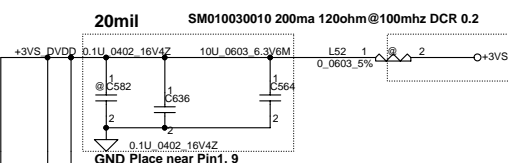
12/9 modify pin define



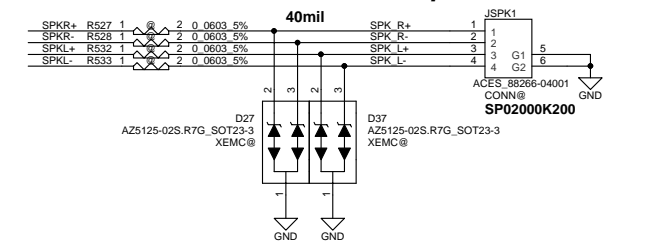
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Issued Date	2012/07/10	Deciphered Date	2013/07/10	Title	KB & TP & TPM Connector & LED	
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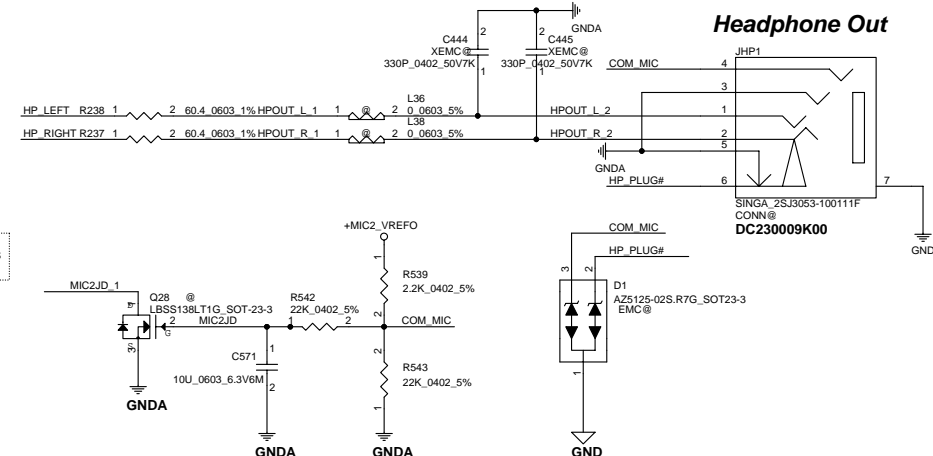
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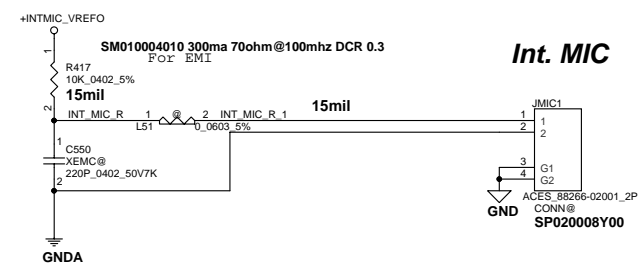
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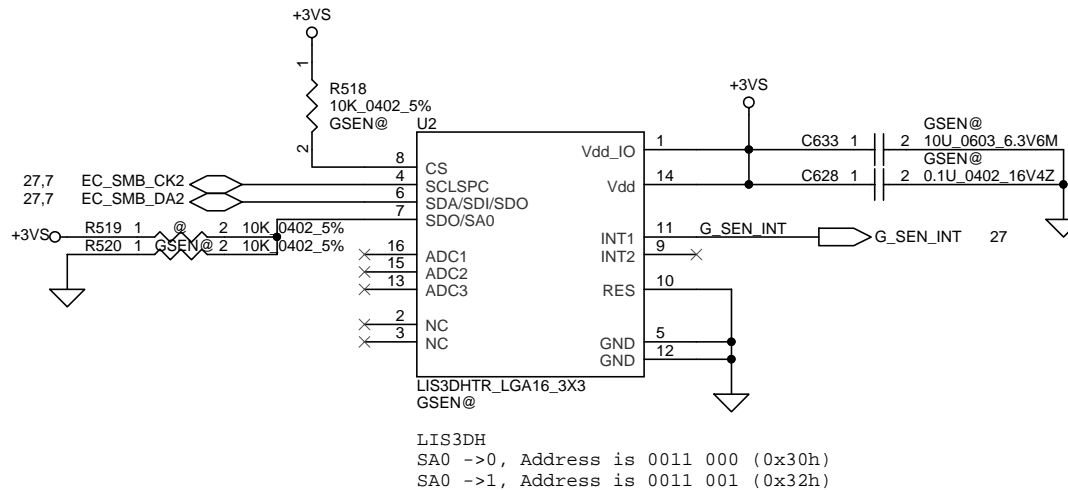
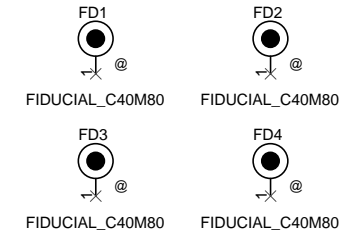
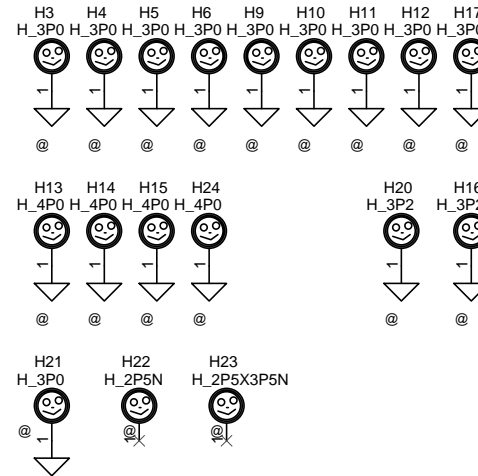
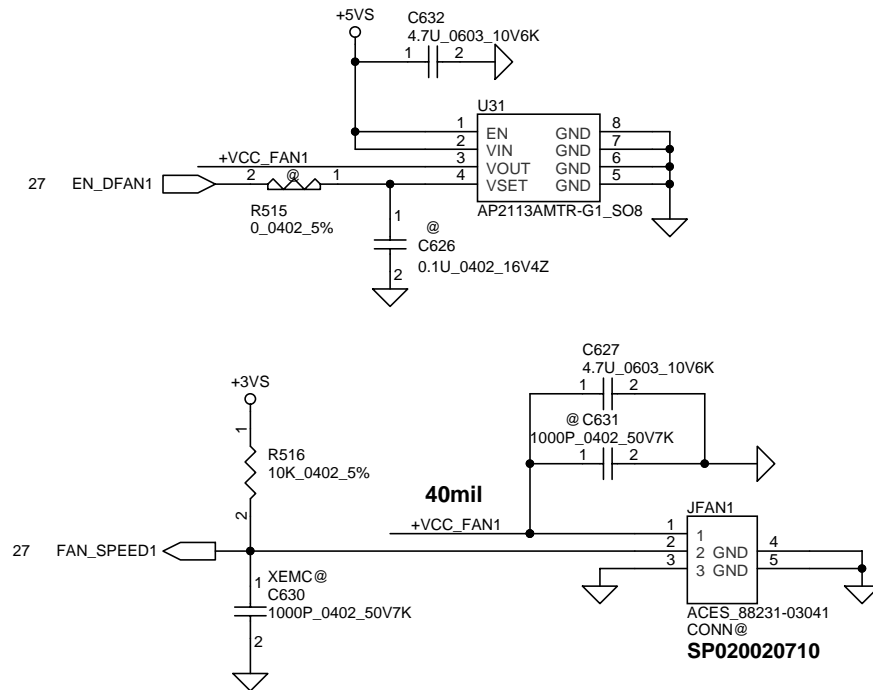
Headphone Out



Int. MIC

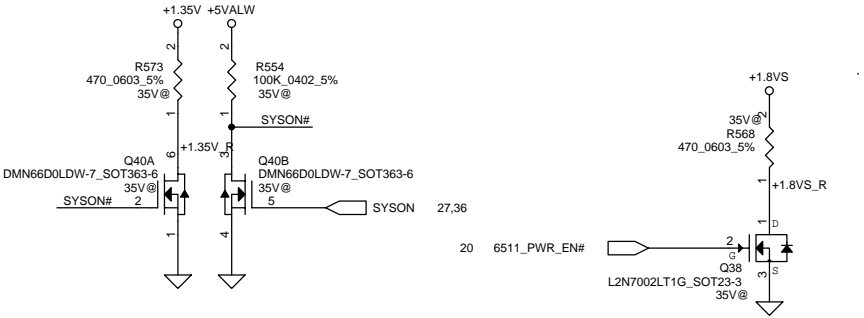
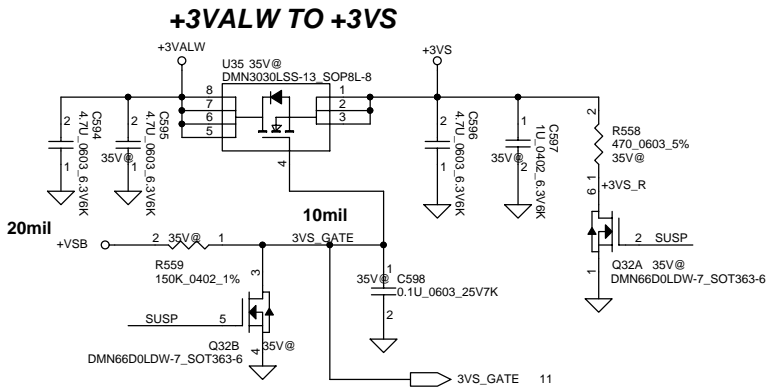
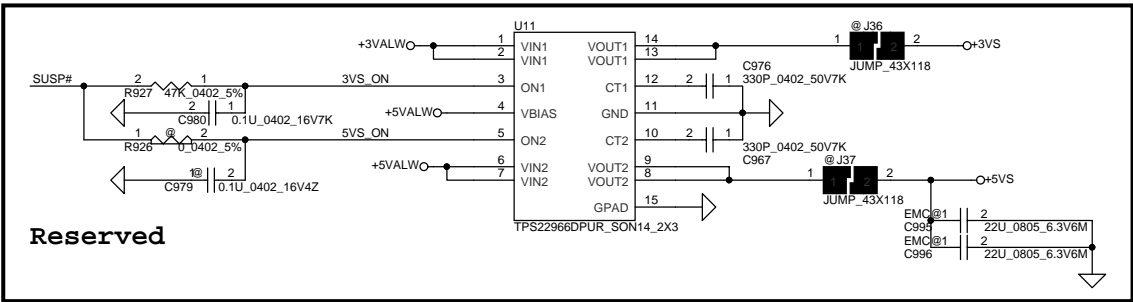
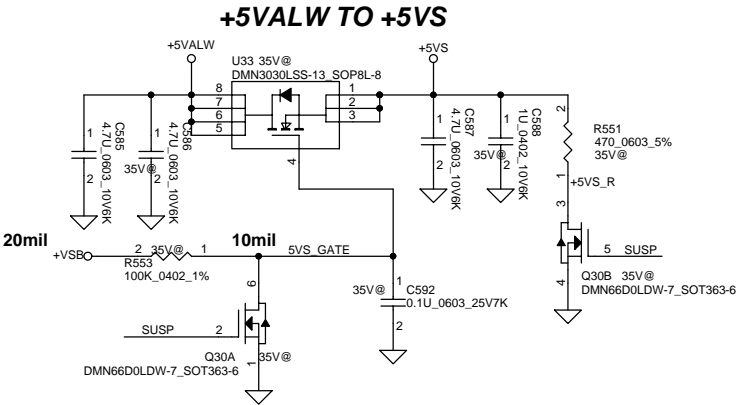


FAN1 Conn

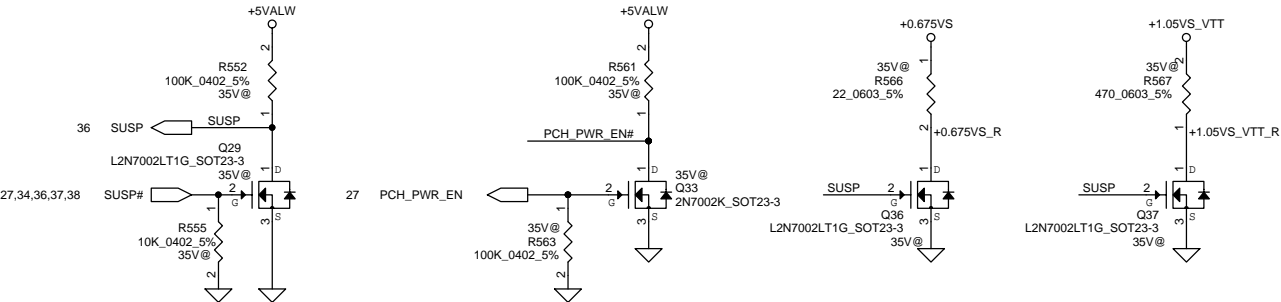
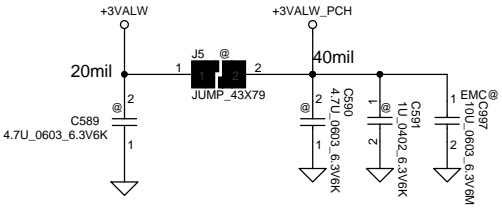


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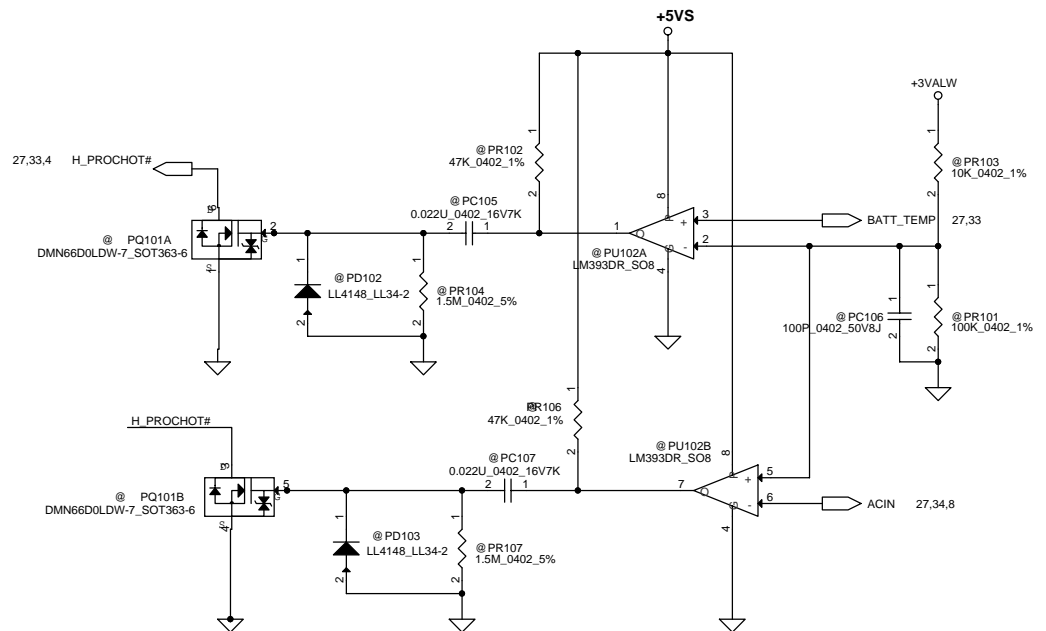
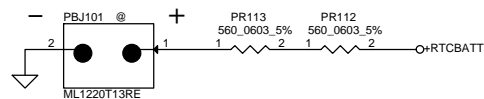
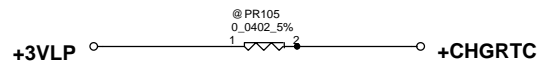
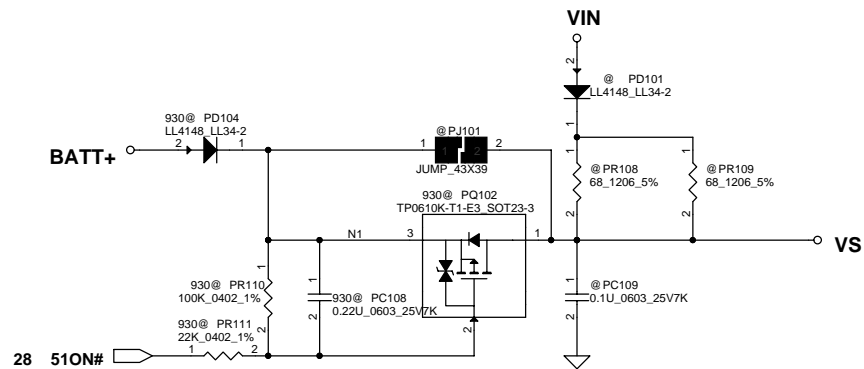
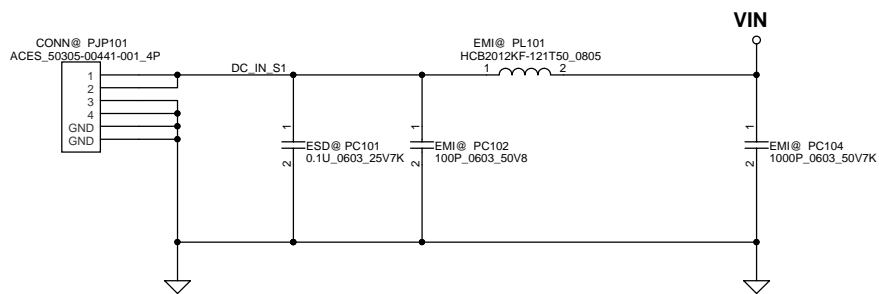
Normal Platform (Not support M-STATE and Deep Sleep)



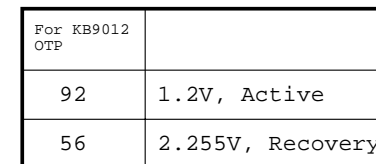
+3VALW TO +3VALW(PCH AUX Power)
Short J5 for PCH VCCSUS3.3



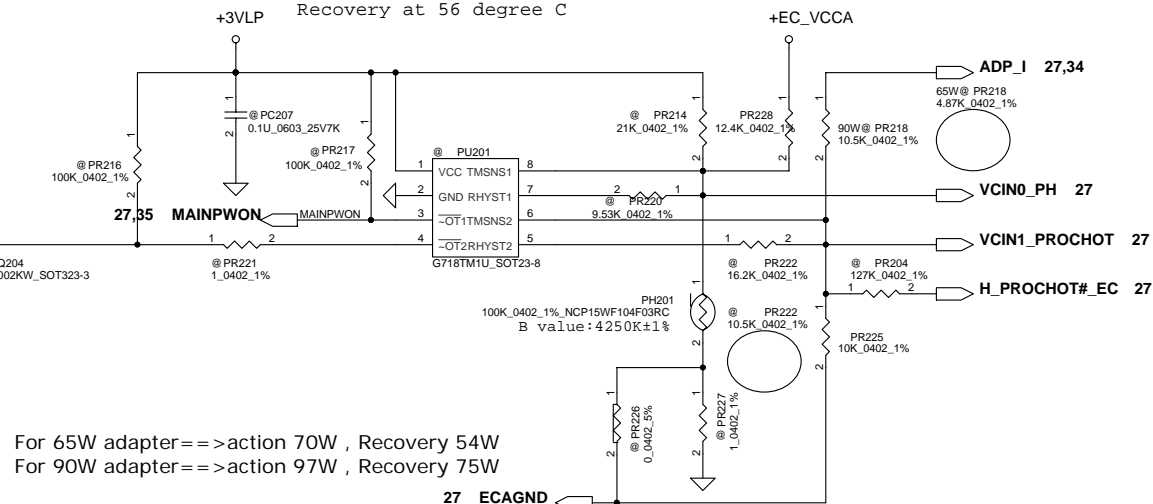
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Issued Date	2012/07/10	Deciphered Date	2013/07/10	Title		
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Issued Date	2012/07/10	Deciphered Date	2013/07/10	Title	DCIN
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				Rev	0.2



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PH201 under CPU botten side :
CPU thermal protection at 92 degree C ( shutdown )
CPU Recovery at 56 degree C
```

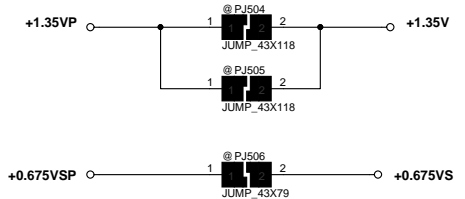


For 65W adapter==>action 70W , Recovery 54W
For 90W adapter==>action 97W , Recovery 75W

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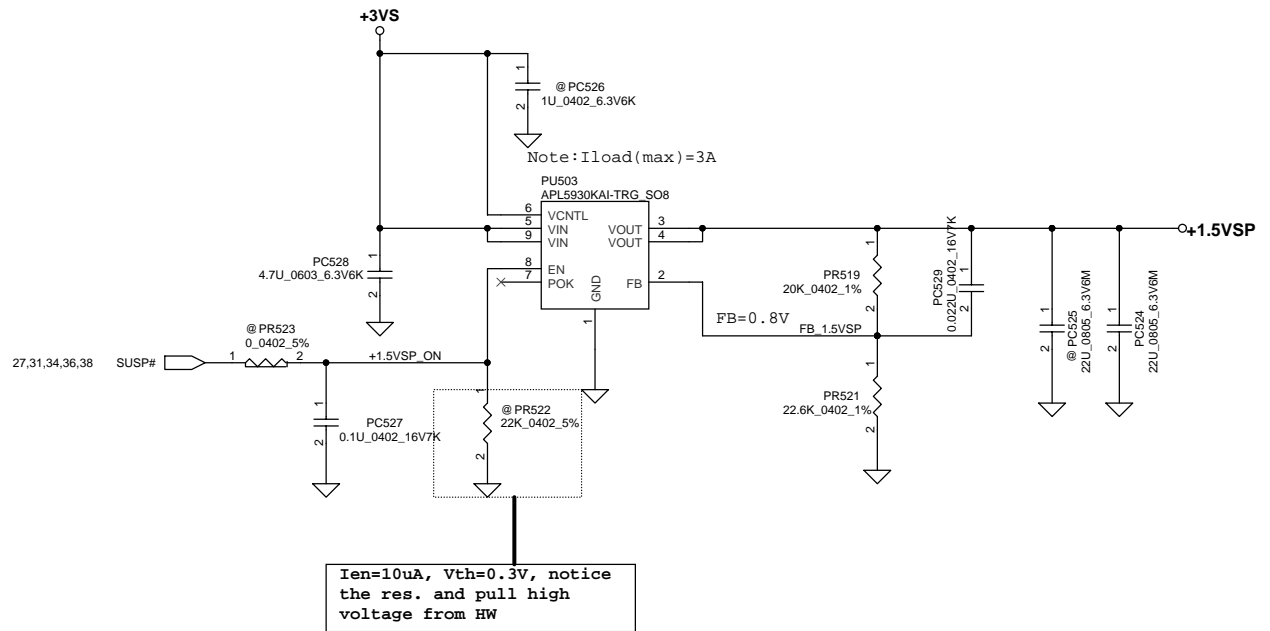
+0.675VSP—



Note: S3 - sleep ; S5 - power off

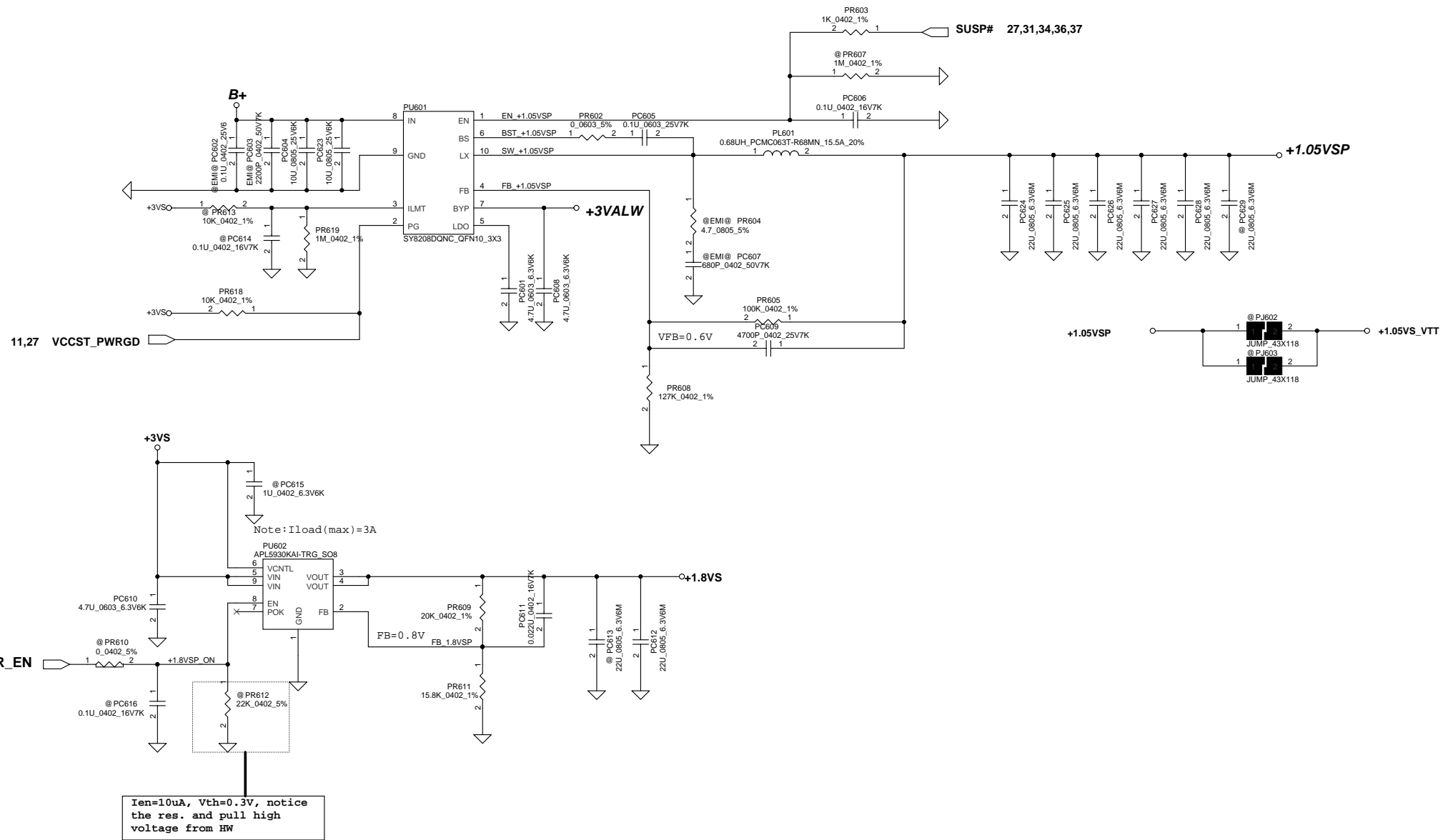
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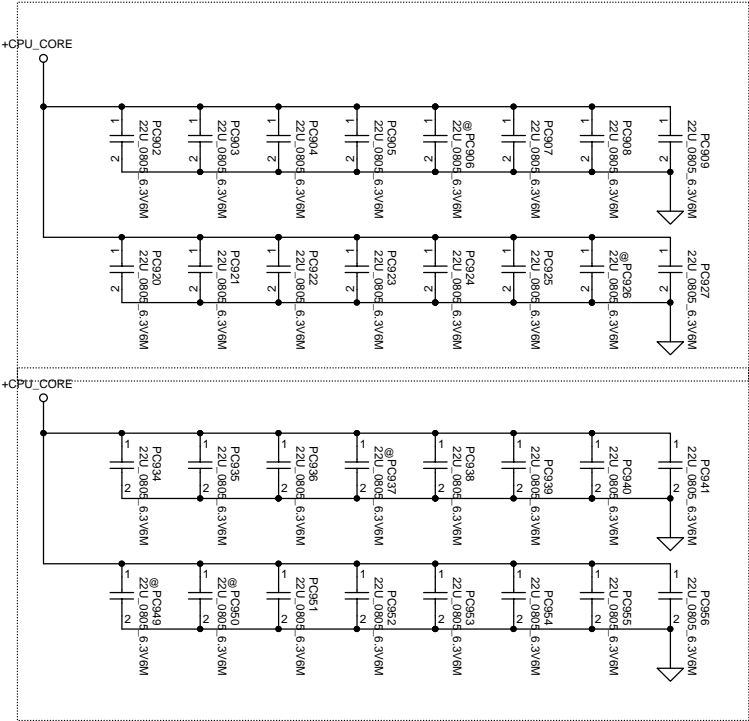
+1.05VSP Ipeak=5.36A ; Imax=3.752A ; 1.2Ipeak=6.432
Delta I=0.xxxxA>1/2Delta I=0.xxxxA,F= 800K Hz(typ)



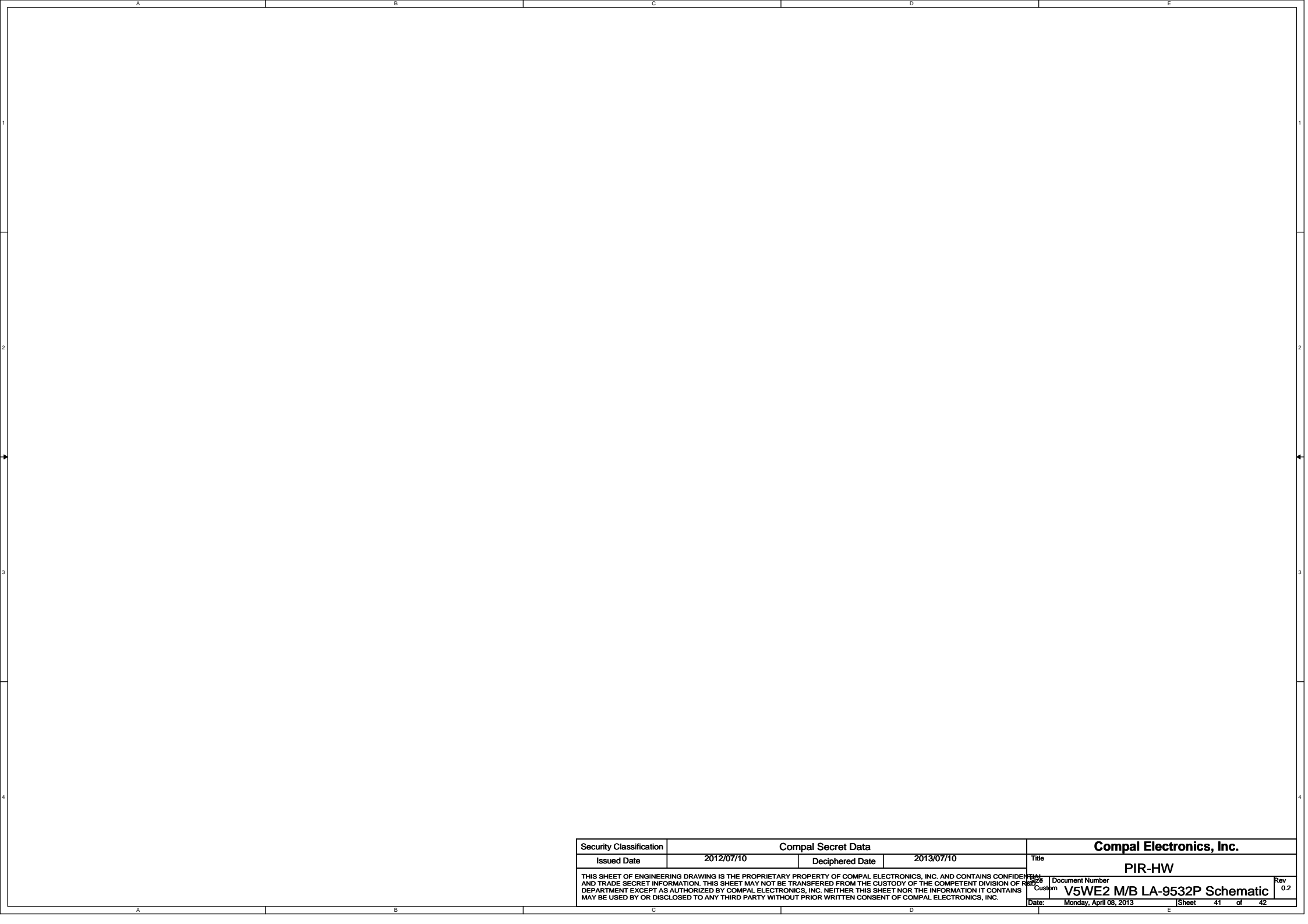
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								+1.05VSP/1.8VSP	
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PWR Rule
CPU DCLL=1.5m ohm dedign 330uF/9m *0, 22uF *30

22u *27, @*5



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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Module Design	Module Design change 3/5V solution		3/5V		11/13	DVT
2		Change RTC type to non-charge		31	Un-pop PR112, PR113	11/13	DVT
3	TPS51622 update to ES2.1	Compensation modify		39	Change PR701 to 2.2, PR703 to 270K, PR727 to 3.48K Un-pop PC742	11/16	DVT
4	EMI request	Cut-in EMI solution		EMI	Add PR313, PC316, PR714, PC714, PC749	11/20	DVT
5	EMI request	EMI confirm remove		EMI	Delete PL102, PC103, PC101, PL202, PC201 and PL703	11/26	DVT
6	Costdown			35	Change PL402, PL403 from 5x5x3 to 7x7x3	12/13	DVT2
7		SY8208B/C update		35	Add PR411, PR413	12/22	DVT2
8	+1.05V ripple close upper and mean too low	Adjust output voltage and add Cff		36	Add PC609 into 4700P Change PR608 from 133K to 127K	12/22	DVT2
9		Improve CPU transient character		40	Unpop PC926	01/09	DVT2
10		Tune sequence		35	Change PC428 from 4700p to 10n, PC427 from 0.047u to 6.8n	02/04	PVT
11		0 ohm reduce			Change PR507, PR513, PR523 to R-pad	02/22	PVT
12		Provide 3/5V PG signal to EC		35	Add PR416	02/22	PVT
13	ESD request			32	Add PC101 into 0.1uF	02/26	PVT
14	ESD request			36	Add PC521, PR503, PC507	02/26	PVT
12							
13							
14							
15							
16							
17							

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