

Compal Confidential

Huayra UMA (QCL51) Schematics Document

AMD Comal Platform

AMD Trinity APU / Hudson FCH / ATI Thames XT M2

Muxless/UMA / PX 5.0

2012-01-04

LA-8714P REV: 0.3

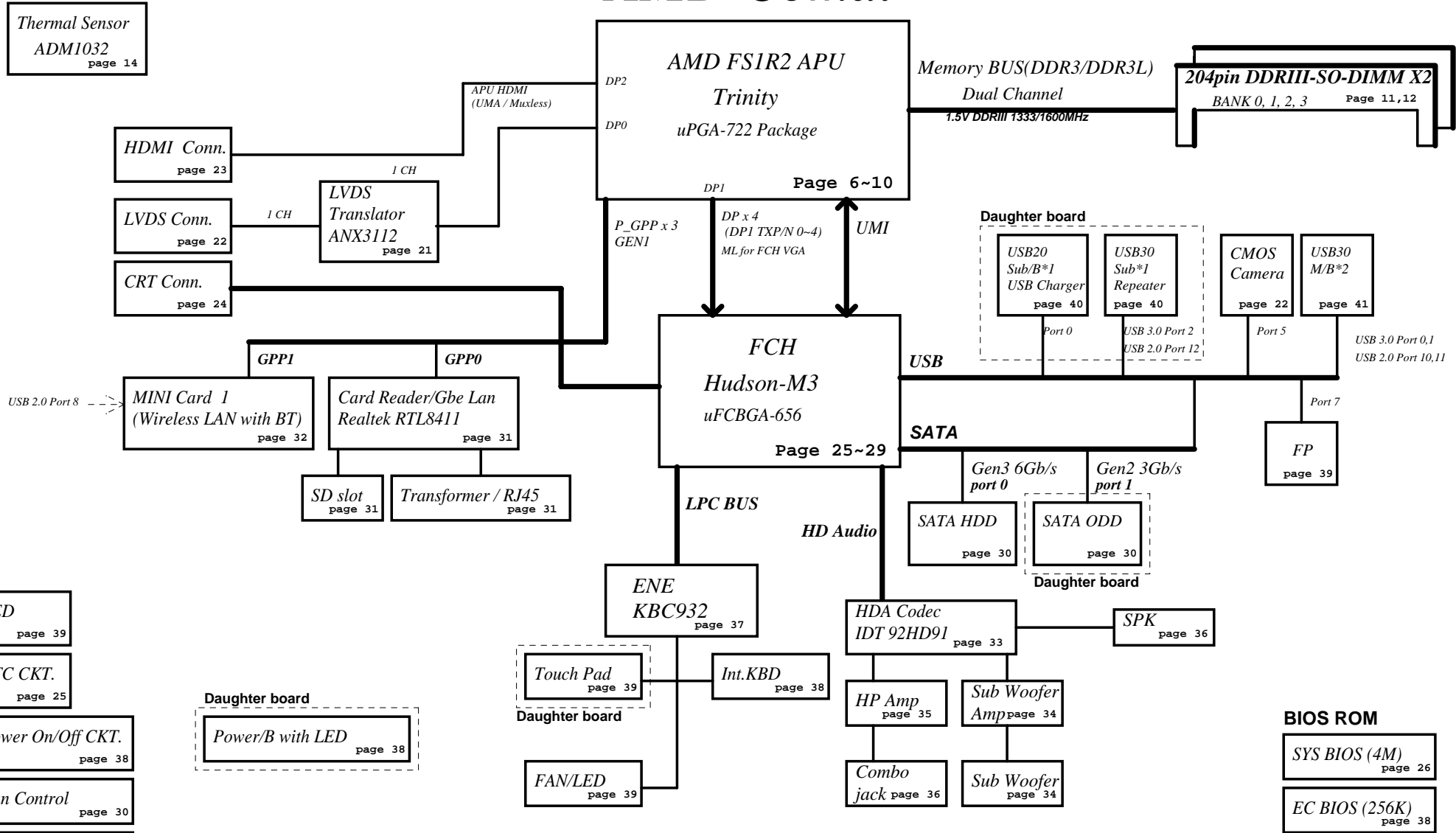
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	4019IF	Rev A
				Date:	Tuesday, January 10, 2012	Sheet 1 of 54

Compal Confidential

Model Name : QCL51 AMD

Board Name : LA-8714P

AMD Comal



- LED page 39
- RTC CKT. page 25
- Power On/Off CKT. page 38
- Fan Control page 30
- DC/DC Interface CKT. page 42
- Power Circuit page 44-56

Daughter board
Power/B with LED page 38

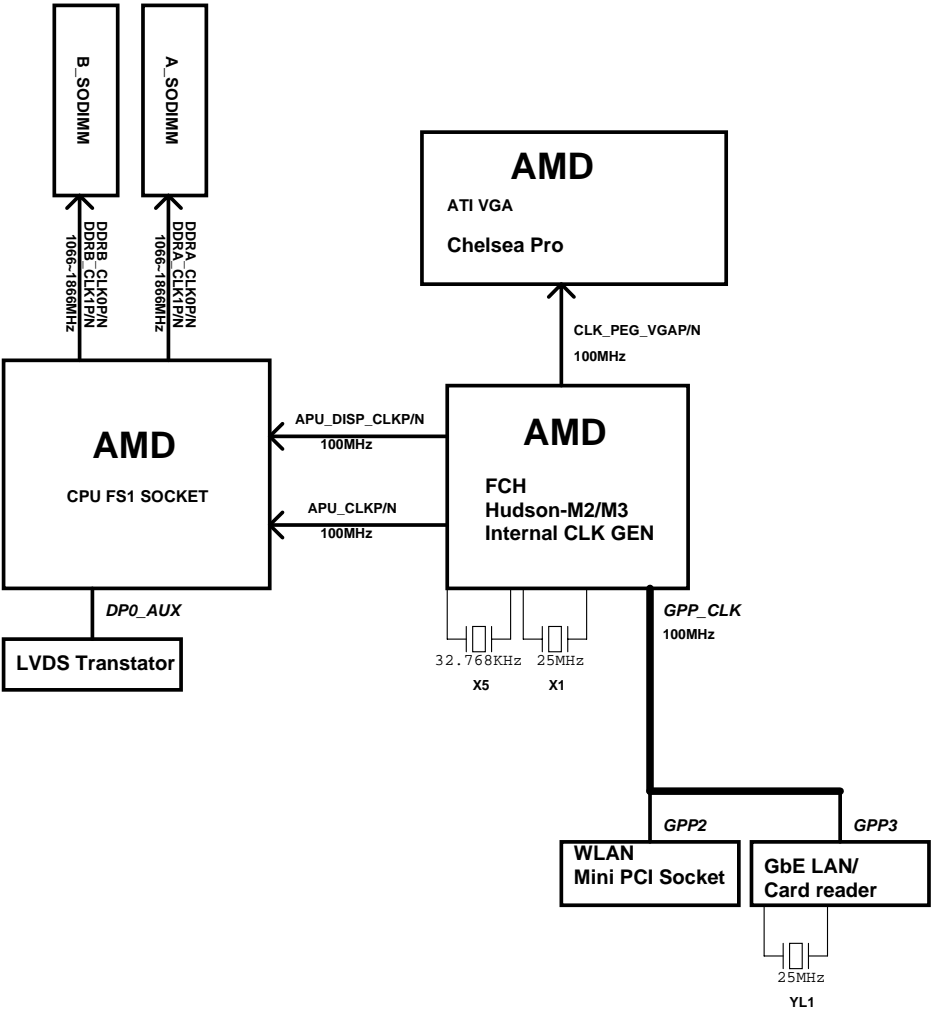
Daughter board
Touch Pad page 39

Daughter board
USB20 Sub/B*1 USB Charger page 40
USB30 Sub*1 Repeater page 40

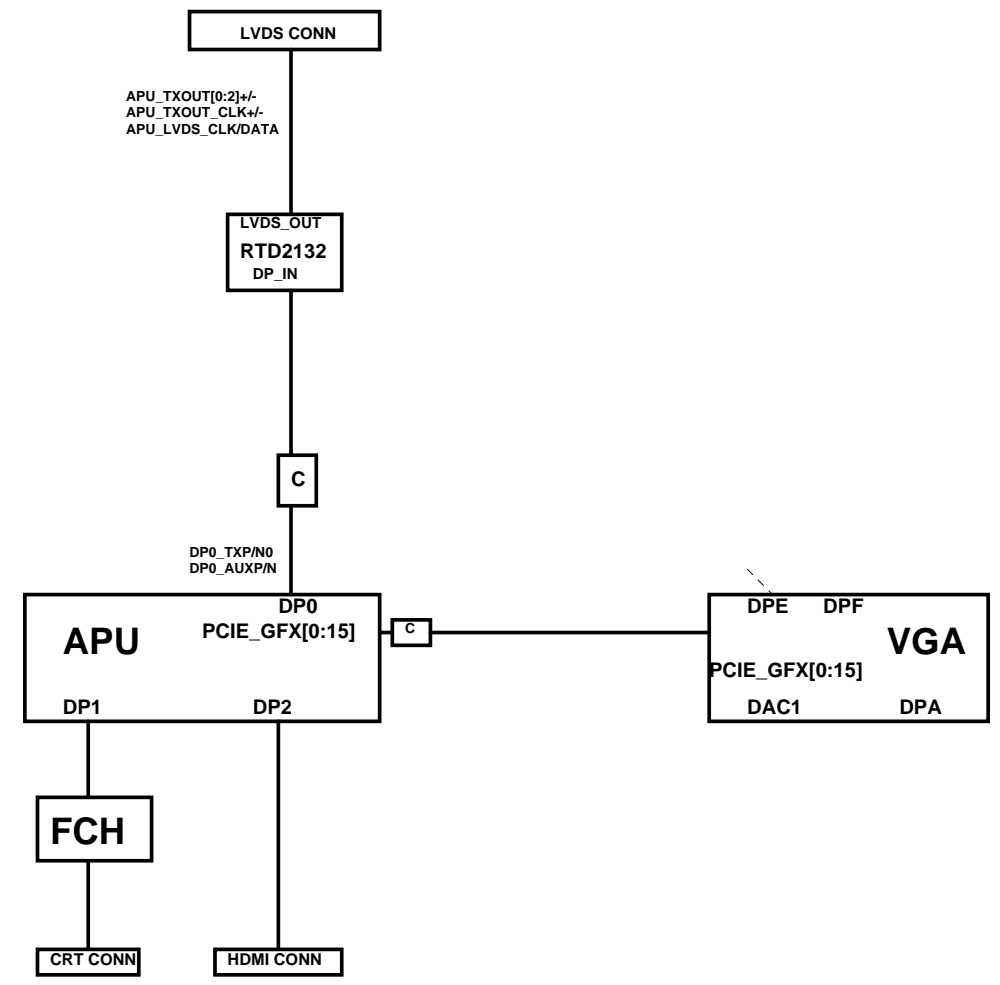
Daughter board
SATA HDD page 30
SATA ODD page 30

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	2 of 54

CLOCK DISTRIBUTION



DISPLAY OUTPUT



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	4019IF
				Date:	Tuesday, January 10, 2012
				Sheet	3 of 54
				Rev	A

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	ON	OFF	OFF
+APU_CORE_NB	Voltage for On-die VGA of APU	ON	OFF	OFF
+VGA_CORE	0.95-1.2V switched power rail	ON	OFF	OFF
+VDDCI	0.95-1.2V switched power rail	ON	OFF	OFF
+0.75VS	0.75V switched power rail for DDR terminator	ON	ON	OFF
+0.935VGS	0.935V switched power rail for VGA	ON	OFF	OFF
+1.1ALW	1.1V switched power rail for FCH	ON	ON	ON*
+1.1VS	1.1V switched power rail for FCH	ON	OFF	OFF
+1.2VS	1.2V switched power rail for APU	ON	OFF	OFF
+1.5V	1.5V power rail for CPU VDDIO and DDR	ON	ON	OFF
+1.5V_PCIE	1.5V switched power rail	ON	OFF	OFF
+1.8VGS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V for CPU_VDDA	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+LAN_VDD_3V3	3.3V power rail for LAN	ON	ON	ON
+3VS	3.3V 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*
+RTCVCC	RTC power	ON	ON	ON

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

x = 1 is read cmd, x= 0 is write cmd.

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts

EC SM Bus1 address

EC SM Bus2 address

Device	Address	HEX	Device	Address	HEX
Smart Battery	0001 011X b	16H	ADI ADM1032 (GPU)	1001 101X b	9AH
			SB-TSI (APU)	1001 100X b	98H
			LVDS TR	1010 100X b	A8H
			VGA Internal Thermal	1000 001X b	82H

FCH (S0)

SM Bus 0 address

FCH (S0~S5)

SM Bus 1 address

Device	Address	HEX	Device	Address	HEX
DDR DIMM1	1010 000X b	A0	Touch pad		
DDR DIMM2	1010 001X b	A2			
Amplifier					

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

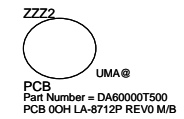
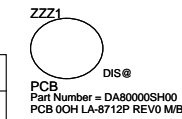
Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rb	100K +/- 5%			
Board ID	Ra / Rb	V _{AD_BID} min	V _{AD_BID} typ	V _{AD_BID} max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	1.8K +/- 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

BOM Option Table

BOM Structure	Description	DIS	PX@ DIS@ Tha@
PX@	PX function	UMA	UMA@
DIS@			
UMA@			
Tha@			

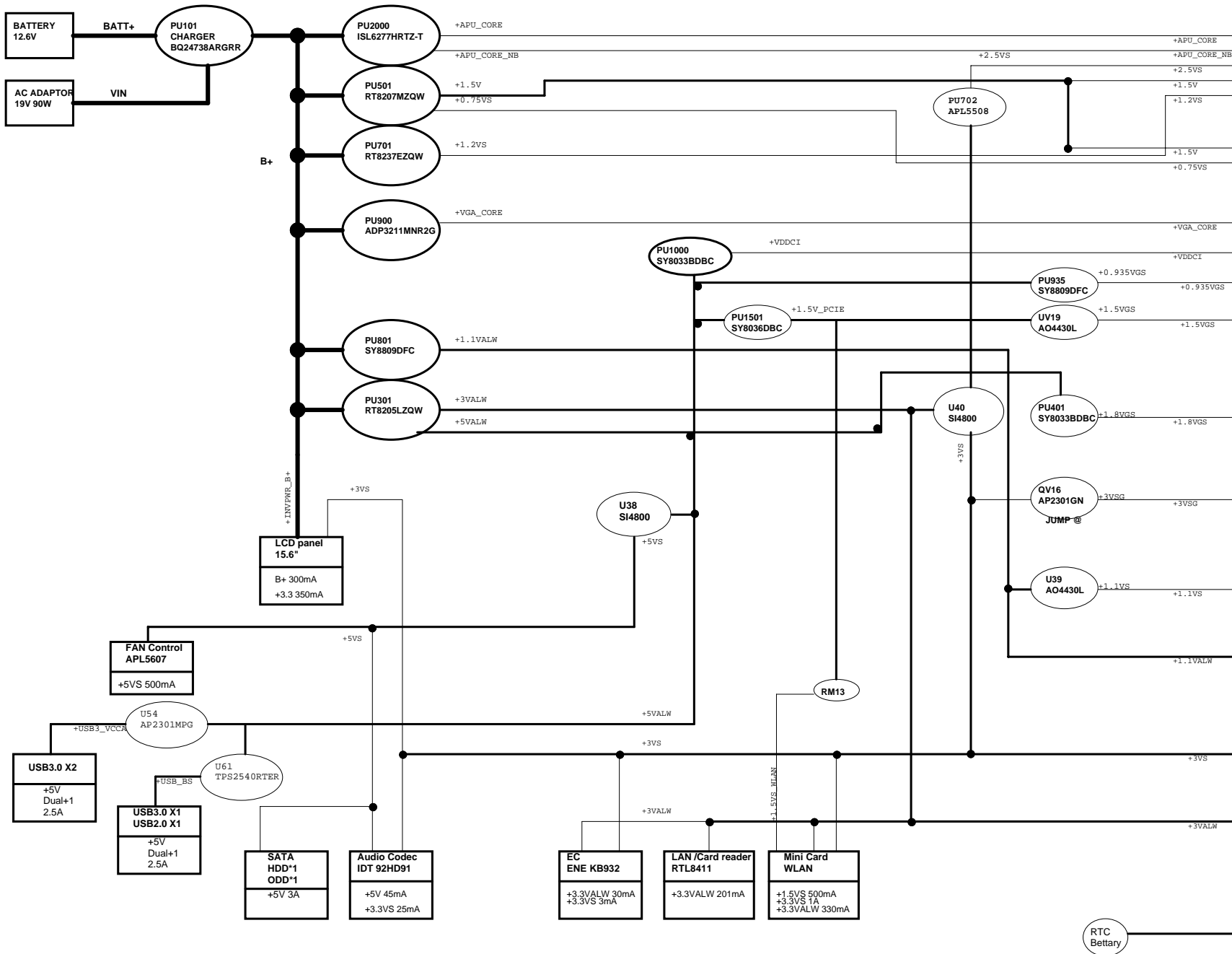
BOM Config



BOARD ID Table

Board ID	PCB Revision
0	DB
1	SI

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				4019IF
Date: Tuesday, January 10, 2012				Rev A
Sheet 4 of 54				



AMD APU FS1R2	
0.7-1.475V	VDD CORE 60A
0.7-1.475V	VDDNB 44A
+2.5VS	VDDA 0.5A
+1.5V	VDDIO 3.2A
+1.2VS	VDDR 8.5A

RAM DDRIII SODIMMx2	
+1.5V	VDD_MEM 4A
+0.75VS	VTT_MEM 0.5A

VGA ATI Chelsea Pro	
0.85-1.1V	VDDC 28A
0.9-1.0V	VDDCI 4.6A
+0.935VGS	DPLL_VDDC: 125 mA SPV10: 100 mA PCI_VDDC: 1100 mA DP[A,E]_VDD10: 880 mA
+1.5VGS	VDDR1: 1200 mA
+1.8VGS	PLL_PVDD: 75 mA TSVDD: 5 mA AVDD: 70 mA VDD1DI: 45 mA VDD_CT: 17 mA PCI_VDDR: 440 mA DP[A,F]_VDD18: 990 mA SPV18: 50 mA MPV18: 150 mA
+3VGS	VDDR3: 60 mA

VRAM 512/1GB/2GB 64M / 128Mx16 * 4 / 8	
+1.5VGS	2.4 A

FCH AMD Hudson M3	
+1.1VS	VDDPL_11_DAC: 7 mA VDDAN_11_ML: 226 mA VDDCR_11: 1007 mA VDDAN_11_CLK: 340 mA VDDAN_11_PCIE: 1088 mA VDDAN_11_SATA: 1337 mA
+1.1VALW	VDDAN_11_USB_S: 140 mA VDDCR_11_USB_S: 42 mA VDDAN_11_SSUSB_S: 282 mA VDDCR_11_SSUSB_S: 424 mA VDDCR_11_S: 187 mA VDDPL_11_SYS: 70 mA VDDCR_11_GBE_S: 63 mA
+3VS	VDDIO_33_PCIEP: 102 mA VDDPL_33_SYS: 47 mA VDDPL_33_DAC: 20 mA VDDPL_33_ML: 12 mA VDDAN_33_DAC: 30 mA VDDPL_33_PCIE: 11 mA VDDPL_33_SATA: 12 mA VDDPL_33_USB_S: 14 mA
+3VALW	VDDPL_33_SSUSB_S: 11 mA VDDIO_AZ_S: 26 mA VDDAN_33_USB_S: 470 mA VDDIO_33_S: 59 mA VDDXL_33_S: 5 mA VDDAN_33_HMM_S: 12 mA VDDIO_GBE_S: 145 mA VDDIO_33_GBE_S: 2 mA
GND	VDDIO_33_GBE_S VDDCR_11_GBE_S VDDIO_GBE_S
RTC BAT	VDDBT_RTC_G

GPU

GPU

GLAN/Card reader
WLAN

GLAN/Card reader
WLAN

UMI

UMI

JCPU1A
PCI EXPRESS

AB8	P_GFX_RXP0	P_GFX_TXP0	AB2
AB7	P_GFX_RXN0	P_GFX_TXN0	AB1
AA9	P_GFX_RXP1	P_GFX_TXP1	AA3
AA8	P_GFX_RXN1	P_GFX_TXN1	AA2
AA5	P_GFX_RXP2	P_GFX_TXP2	Y5
AA6	P_GFX_RXN2	P_GFX_TXN2	Y4
YZ	P_GFX_RXP3	P_GFX_TXP3	Y2
YZ	P_GFX_RXN3	P_GFX_TXN3	Y1
W9	P_GFX_RXP4	P_GFX_TXP4	W3
W8	P_GFX_RXN4	P_GFX_TXN4	W2
W5	P_GFX_RXP5	P_GFX_TXP5	V5
W6	P_GFX_RXN5	P_GFX_TXN5	V4
V8	P_GFX_RXP6	P_GFX_TXP6	V2
V7	P_GFX_RXN6	P_GFX_TXN6	V1
U9	P_GFX_RXP7	P_GFX_TXP7	U3
U8	P_GFX_RXN7	P_GFX_TXN7	U2
U5	P_GFX_RXP8	P_GFX_TXP8	T5
U6	P_GFX_RXN8	P_GFX_TXN8	T4
T8	P_GFX_RXP9	P_GFX_TXP9	T1
TZ	P_GFX_RXN9	P_GFX_TXN9	T1
R9	P_GFX_RXP10	P_GFX_TXP10	R3
R8	P_GFX_RXN10	P_GFX_TXN10	R2
R5	P_GFX_RXP11	P_GFX_TXP11	P5
R6	P_GFX_RXN11	P_GFX_TXN11	P4
P8	P_GFX_RXP12	P_GFX_TXP12	P2
P7	P_GFX_RXN12	P_GFX_TXN12	P1
N9	P_GFX_RXP13	P_GFX_TXP13	N3
N8	P_GFX_RXN13	P_GFX_TXN13	N2
N5	P_GFX_RXP14	P_GFX_TXP14	M5
N6	P_GFX_RXN14	P_GFX_TXN14	M4
M8	P_GFX_RXP15	P_GFX_TXP15	M2
M7	P_GFX_RXN15	P_GFX_TXN15	M1

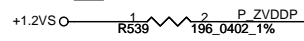
GRAPHICS

GPP

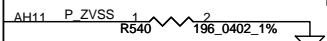
UMI

31	PCIE_DTX_C_FRX_P0	AE5	P_GPP_RXP0	P_GPP_TXP0	AD5	PCIE_FTX_DRX_P0	C950	1	2	.1U 0402 16V7K	PCIE_FTX_C_DRX_P0	31
31	PCIE_DTX_C_FRX_N0	AE6	P_GPP_RXN0	P_GPP_TXN0	AD4	PCIE_FTX_DRX_N0	C951	1	2	.1U 0402 16V7K	PCIE_FTX_C_DRX_N0	31
32	PCIE_DTX_C_FRX_P1	AD7	P_GPP_RXP1	P_GPP_TXP1	AD2	PCIE_FTX_DRX_P1	C952	1	2	.1U 0402 16V7K	PCIE_FTX_C_DRX_P1	32
32	PCIE_DTX_C_FRX_N1	AD7	P_GPP_RXN1	P_GPP_TXN1	AD1	PCIE_FTX_DRX_N1	C953	1	2	.1U 0402 16V7K	PCIE_FTX_C_DRX_N1	32

25	UMI_MTX_C_FRX_P0	AG8	P_UMI_RXP0	P_UMI_TXP0	AG2	UMI_FTX_MRX_P0	C956	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_P0	25
25	UMI_MTX_C_FRX_N0	AG9	P_UMI_RXN0	P_UMI_TXN0	AG3	UMI_FTX_MRX_N0	C957	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_N0	25
25	UMI_MTX_C_FRX_P1	AG6	P_UMI_RXP1	P_UMI_TXP1	AG4	UMI_FTX_MRX_P1	C958	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_P1	25
25	UMI_MTX_C_FRX_N1	AG5	P_UMI_RXN1	P_UMI_TXN1	AE5	UMI_FTX_MRX_N1	C959	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_N1	25
25	UMI_MTX_C_FRX_P2	AE7	P_UMI_RXP2	P_UMI_TXP2	AE1	UMI_FTX_MRX_P2	C960	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_P2	25
25	UMI_MTX_C_FRX_N2	AE8	P_UMI_RXN2	P_UMI_TXN2	AE2	UMI_FTX_MRX_N2	C961	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_N2	25
25	UMI_MTX_C_FRX_P3	AE8	P_UMI_RXP3	P_UMI_TXP3	AE2	UMI_FTX_MRX_P3	C962	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_P3	25
25	UMI_MTX_C_FRX_N3	AE9	P_UMI_RXN3	P_UMI_TXN3	AE3	UMI_FTX_MRX_N3	C963	1	2	.1U 0402 16V7K	UMI_FTX_C_MRX_N3	25



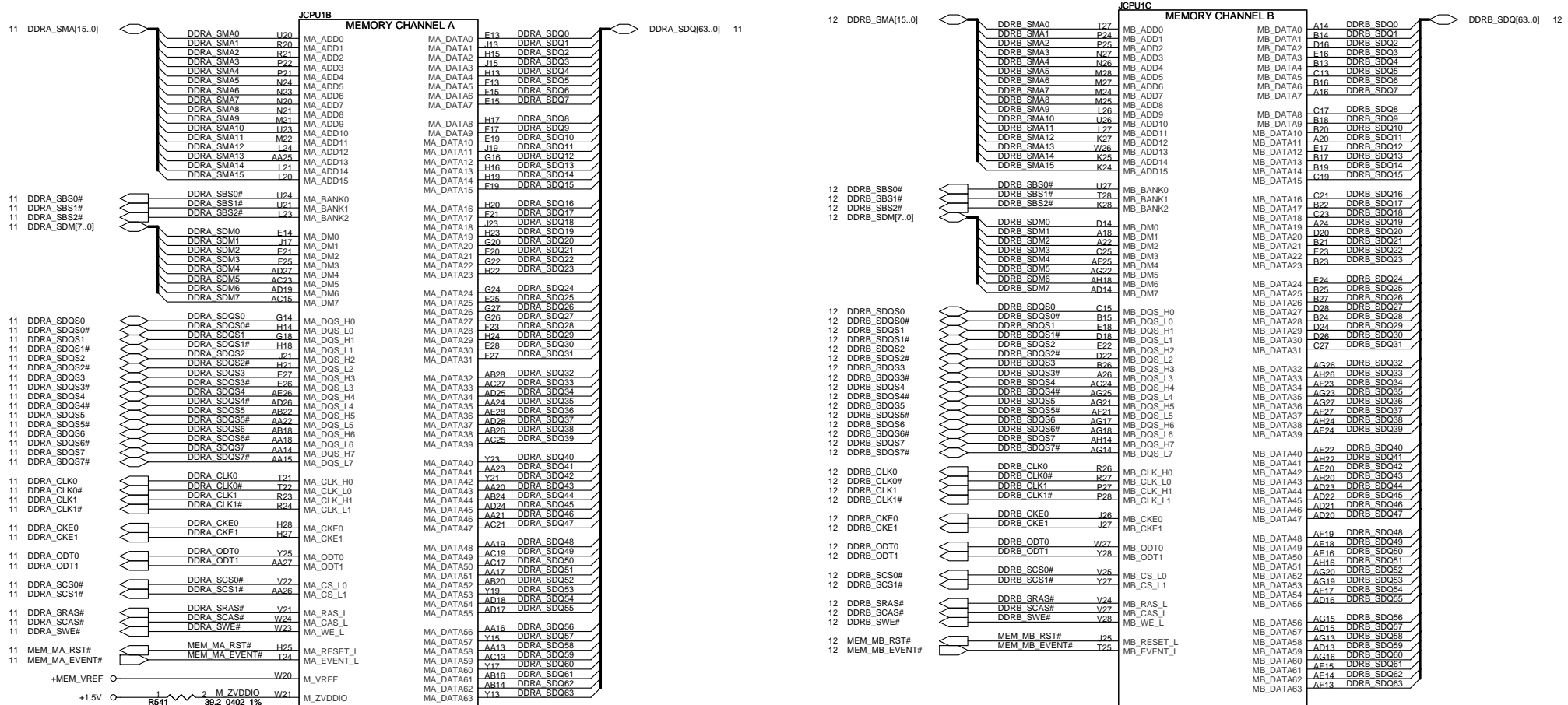
P_ZVDDP W/S=8/12 mil, <3000mil



P_ZVSS W/S=8/12 mil, <3000mil

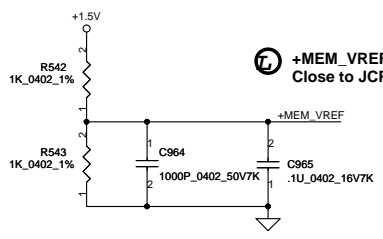
OTES ACA-ZIF-109-P12-A_FS1R2
CONN@

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F	Rev A
Date:	Tuesday, January 10, 2012	Sheet	6	of	54	

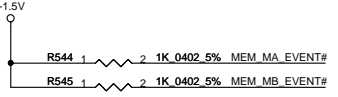


OTES_ACA-ZIF-109-P12-A_FS1R2 CONN@

0.75V reference voltage

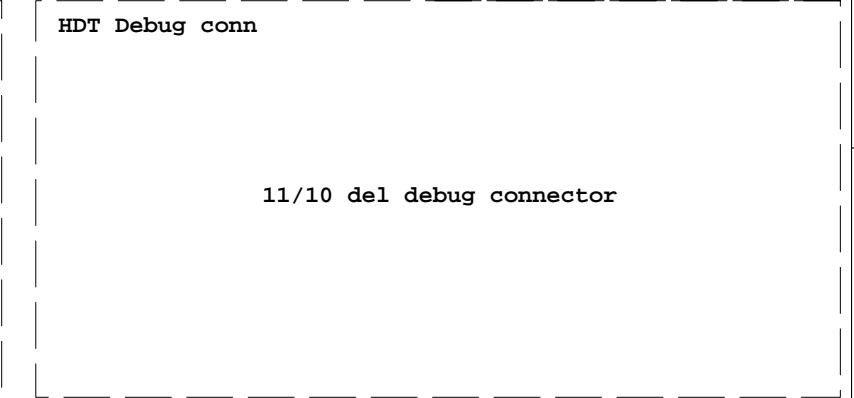
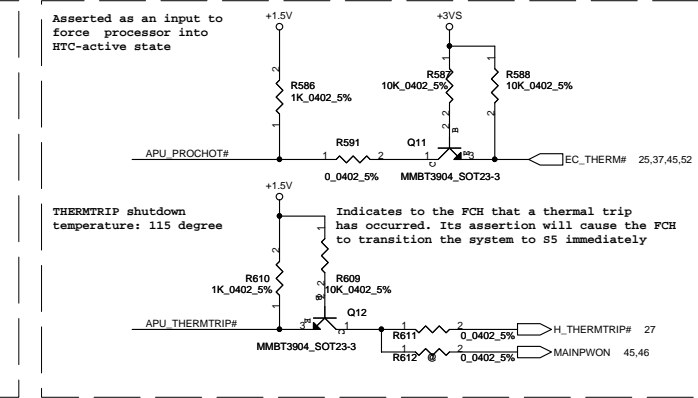
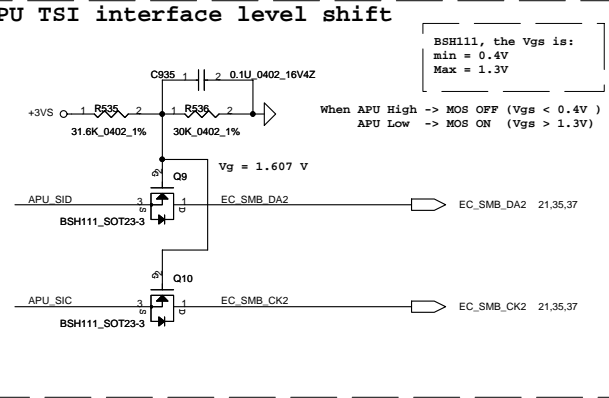
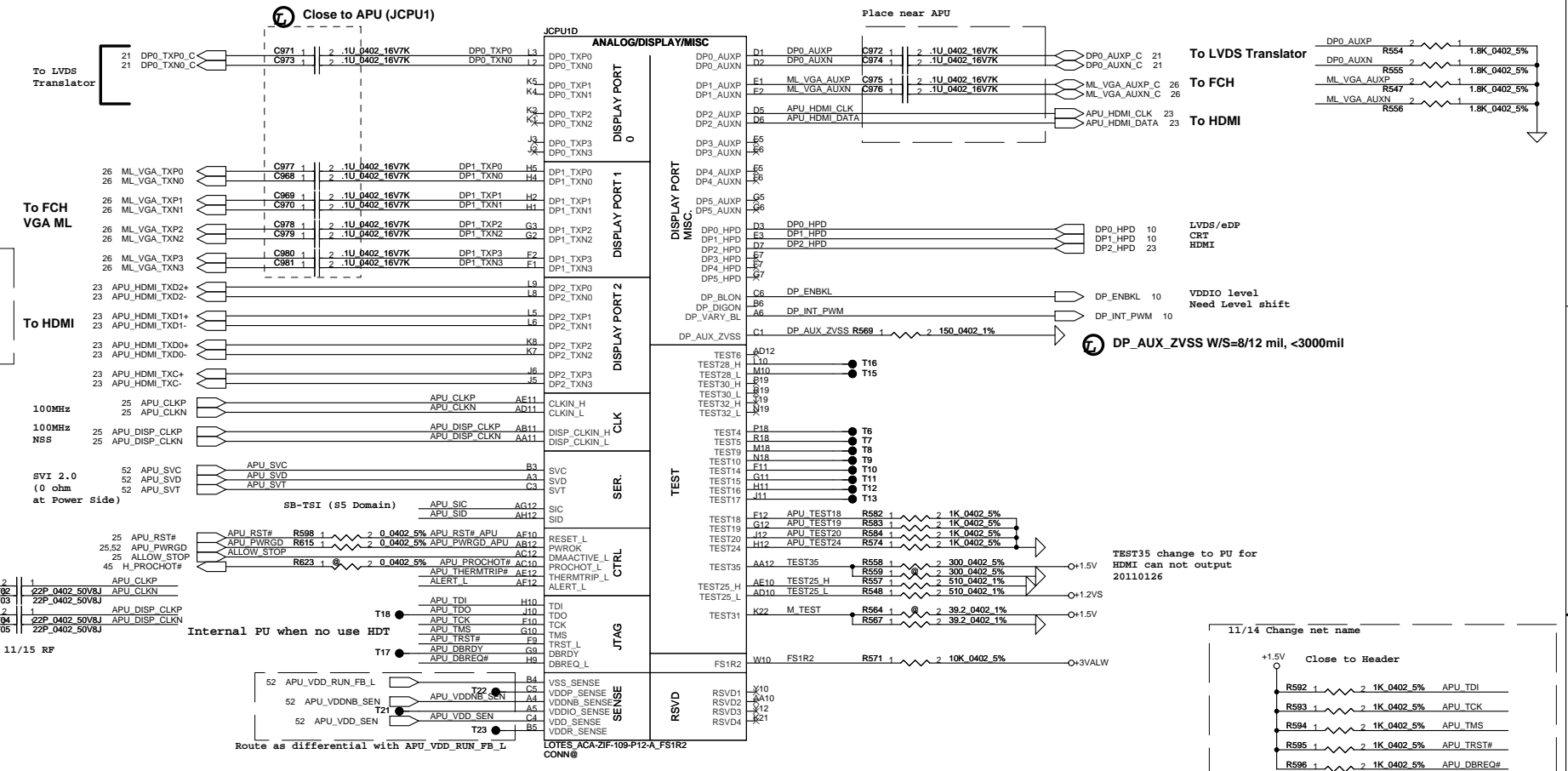
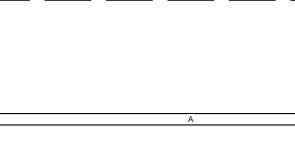
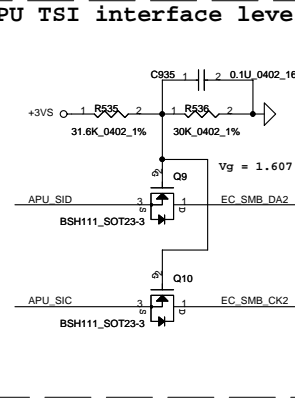
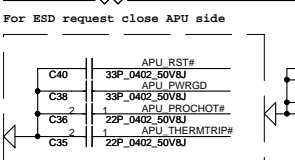
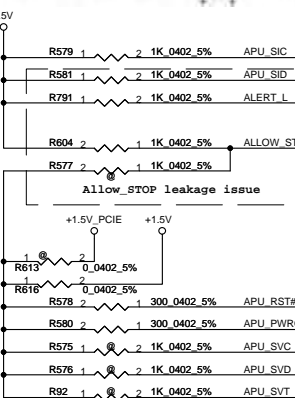
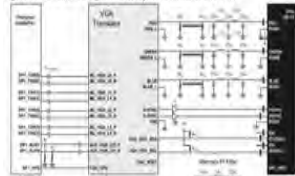


EVENT# pull high



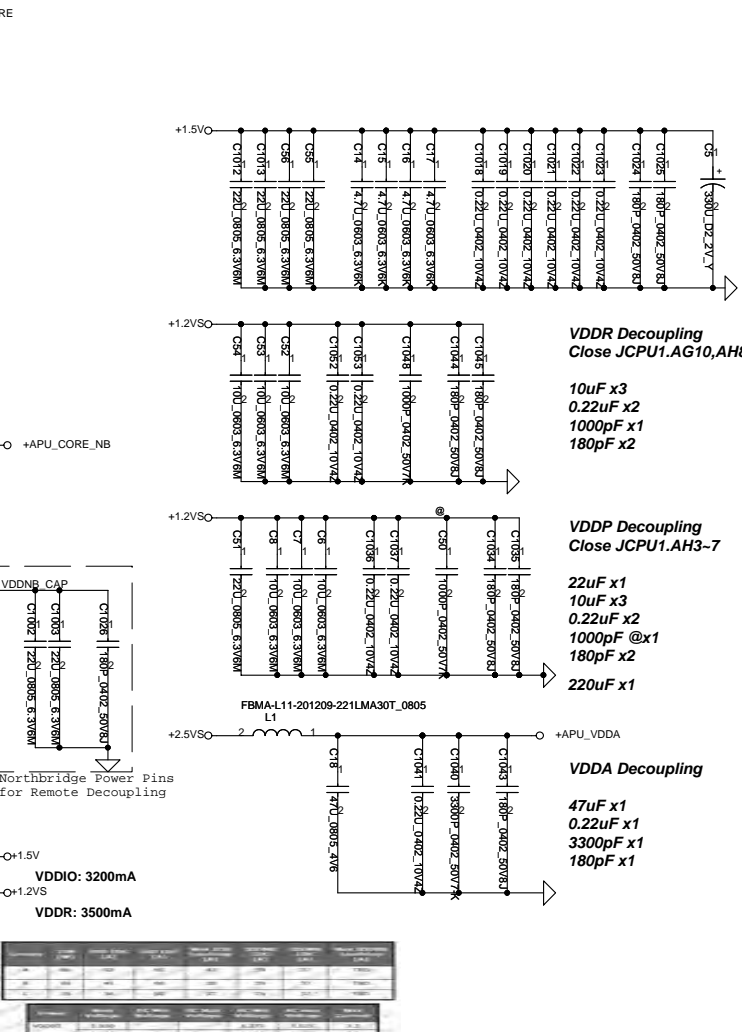
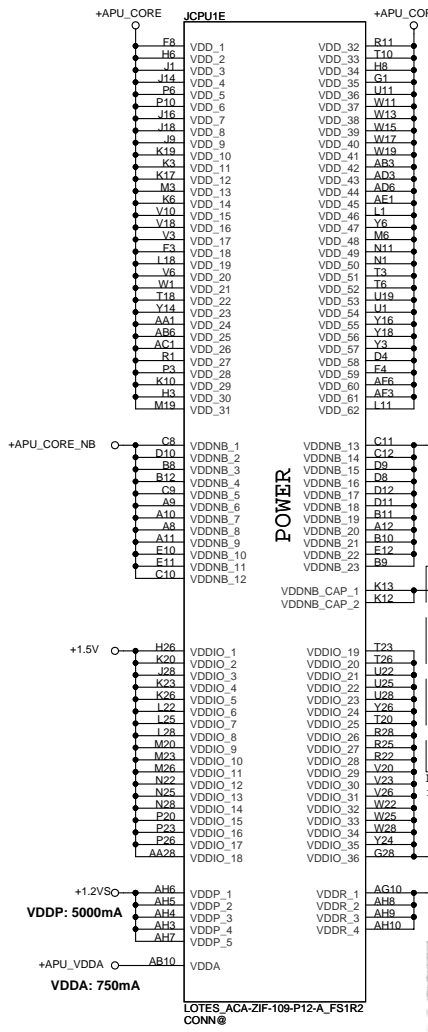
Security Classification	Compal Secret Data			Title	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RICHMOND ELECTRONIC DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
				Documment Number	Rev
				40191F	A
				Date:	Sheet
				Tuesday, January 10, 2012	7 of 54

Figure 44: Schematic Diagram—DisplayPort, Transistor and VGA



Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Schematics, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number	4019IF	
			Date:	Tuesday, January 10, 2012	Sheet 8 of 54

Power Name	Consumption
VDD +CPU_CORE	60A
VDDNB +CPU_CORE_NB	37A
VDDIO +1.5V	3.2A
VDDP / VDDR +1.2VS	5A / 3.5A
VDDA +2.5VS	0.75A



+CPU_CORE_NB Decoupling

- 330uF x2
- 22uF x2 @ x2
- 10uF x1
- 0.22uF x2
- 180pF x3

+1.5V / VDDIO Decoupling

- 330uF x1
- 22uF x4
- 4.7uF x4
- 0.22uF x6
- 180pF x1 @x1

VDDR Decoupling
Close JCPU1.AG10,AH8,AH9,AH10

- 10uF x3
- 0.22uF x2
- 1000pF x1
- 180pF x2

VDDP Decoupling
Close JCPU1.AH3-7

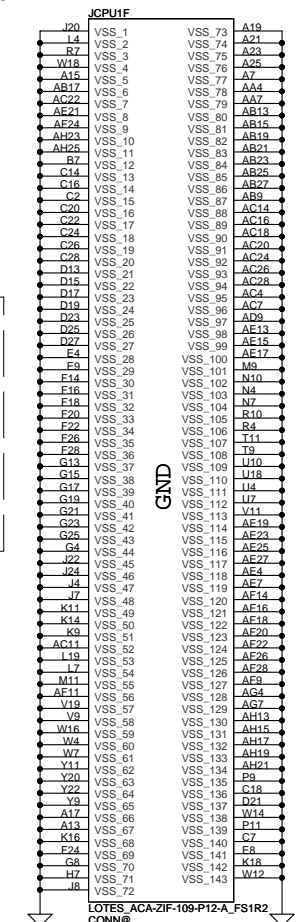
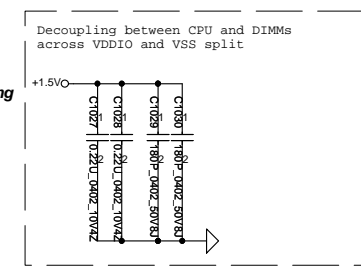
- 22uF x1
- 10uF x3
- 0.22uF x2
- 1000pF @x1
- 180pF x2
- 220uF x1

VDDA Decoupling

- 47uF x1
- 0.22uF x1
- 3300pF x1
- 180pF x1

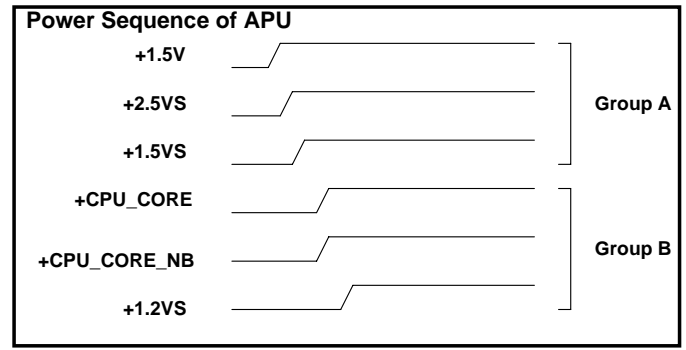
+CPU_CORE Decoupling

- 330uF x 4 @ x1
- 22uF x 10
- 0.22uF x2
- 0.01uF x3
- 180pF x2 @ x1



Decoupling Caps.

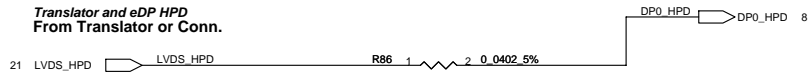
Pop / @	330uF	220uF	47uF	22uF	10uF	4.7uF	0.22uF	0.01uF	3300pF	1nF	180pF
Pumori 2.0	0	19/11	7	5	17	3	1	1 / 1	13/3		
Comal	7 / 2	1	1	19/11	7	4	17	3	1	1 / 1	14/2
P5WS5	7 / 2	1	1	13	3	8	19	3	1	4	16



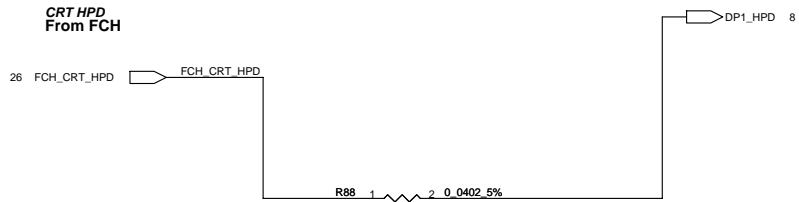
Security Classification	Compal Secret Data			Title		Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	SHEMATICS, MB A8714				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE COMPANY TO ANY OTHER DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	A			
Date:				Tuesday, January 10, 2012	Sheet	9	of	54

HPD

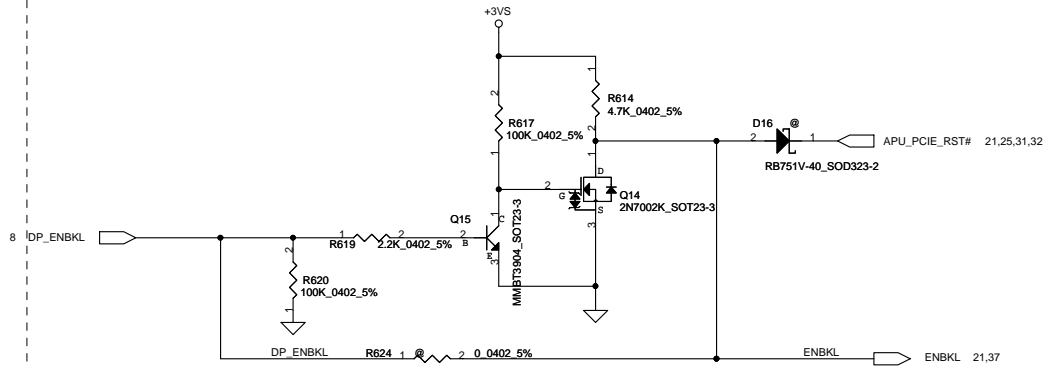
Translator and eDP HPD
From Translator or Conn.



CRT HPD
From FCH

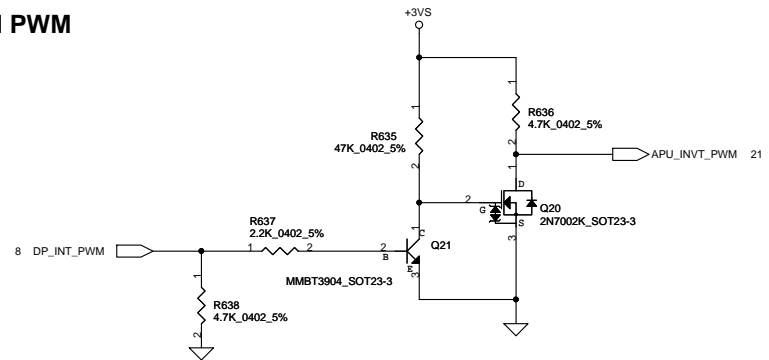


Panel ENBKL

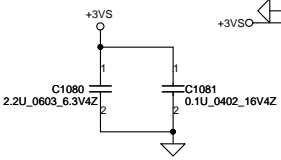
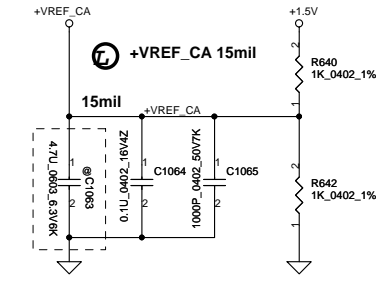
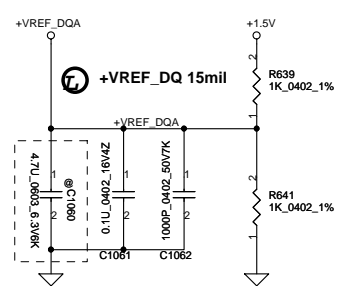
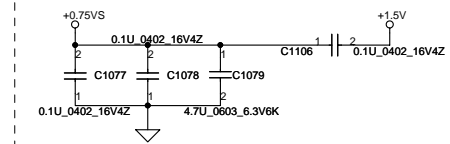
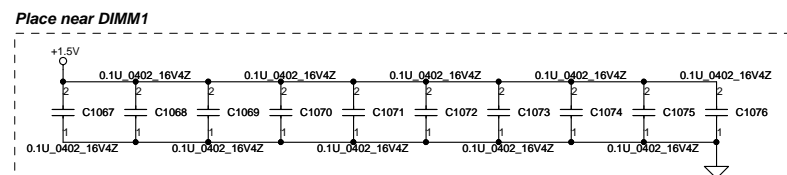
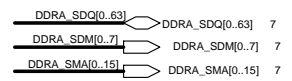
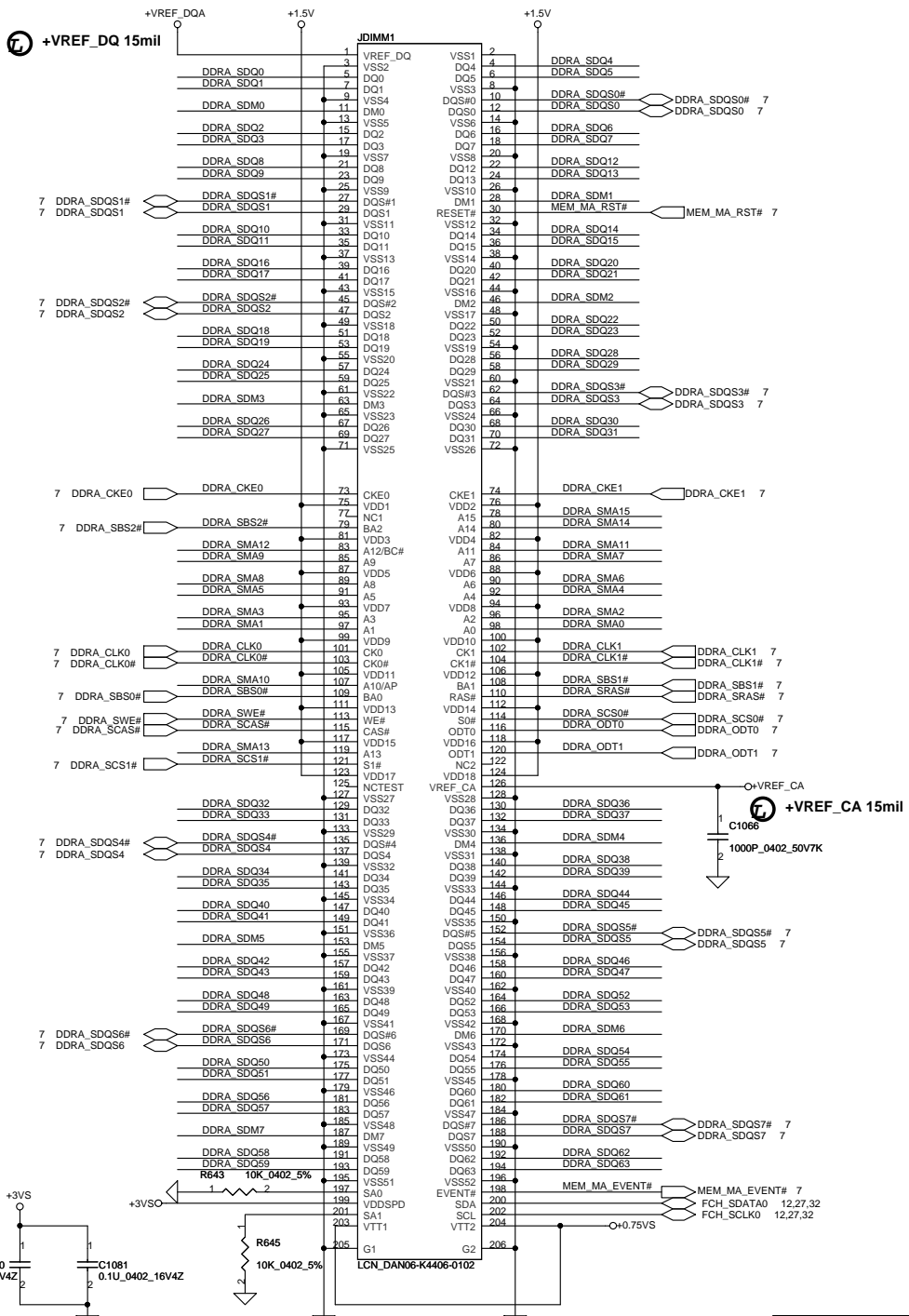


eDP Panel ENVDD

Panel PWM

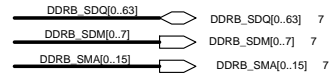
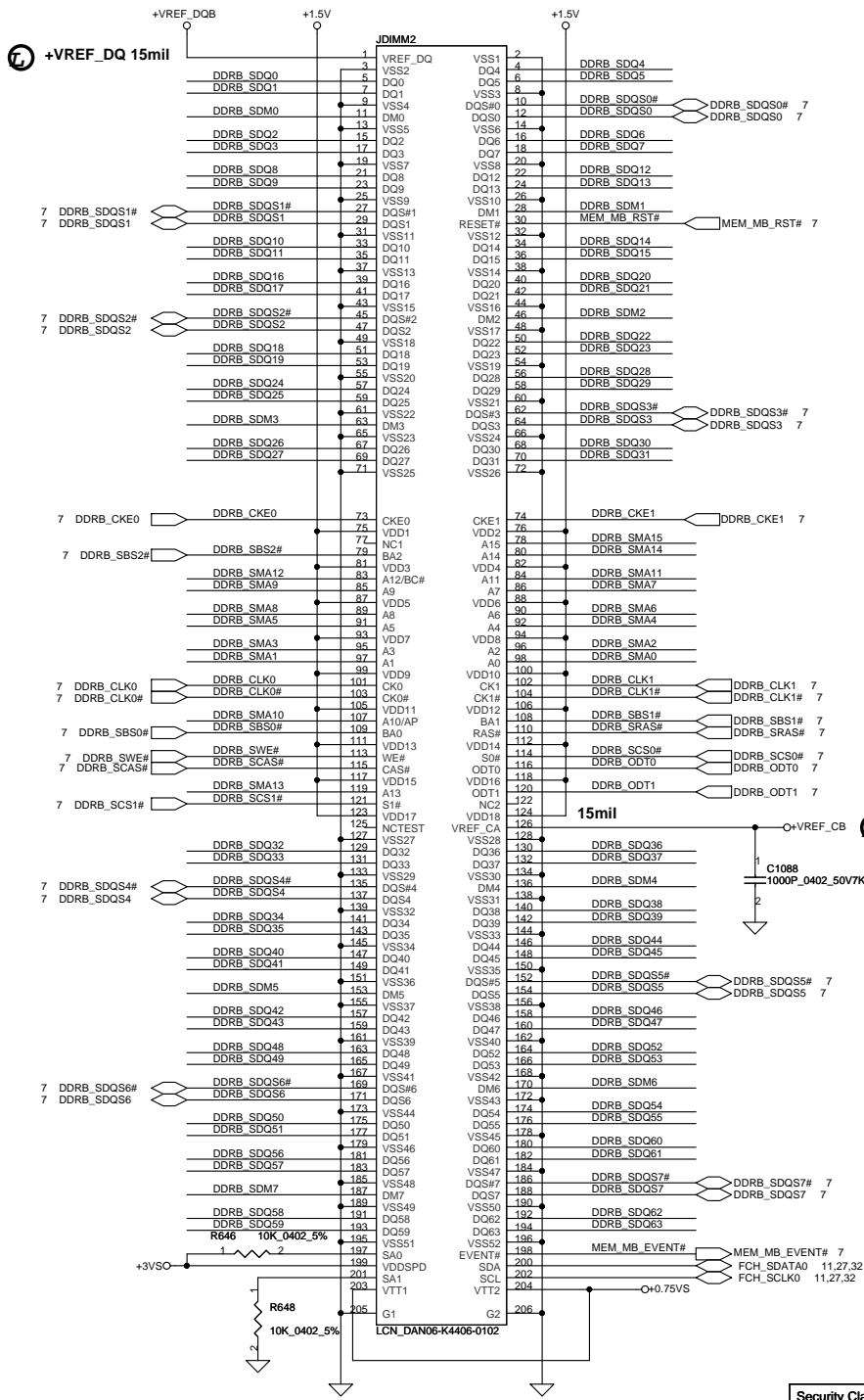


Security Classification	Compal Secret Data			Title	SCHEMATICS, MB A8714	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Revision	4019IF	Rev A
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Date:	Tuesday, January 10, 2012	Sheet 10 of 54

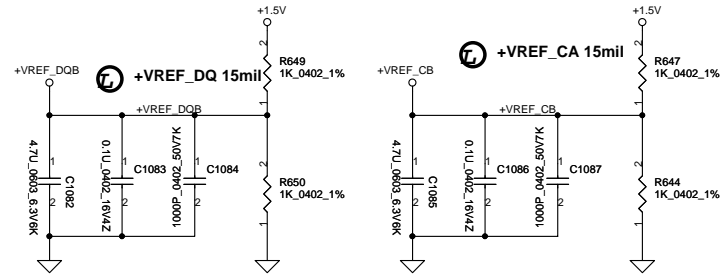
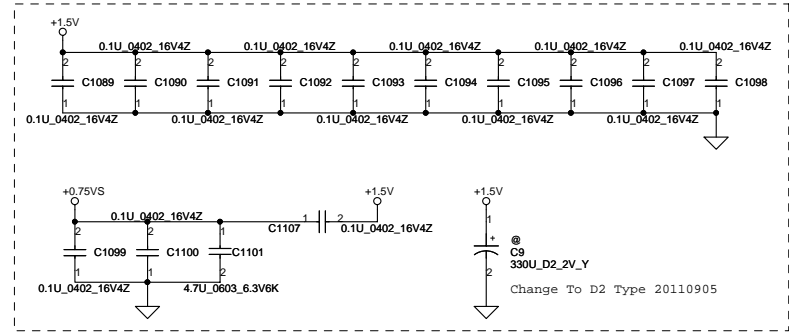


DIMM_A REV H:4mm
 <Address: 00>

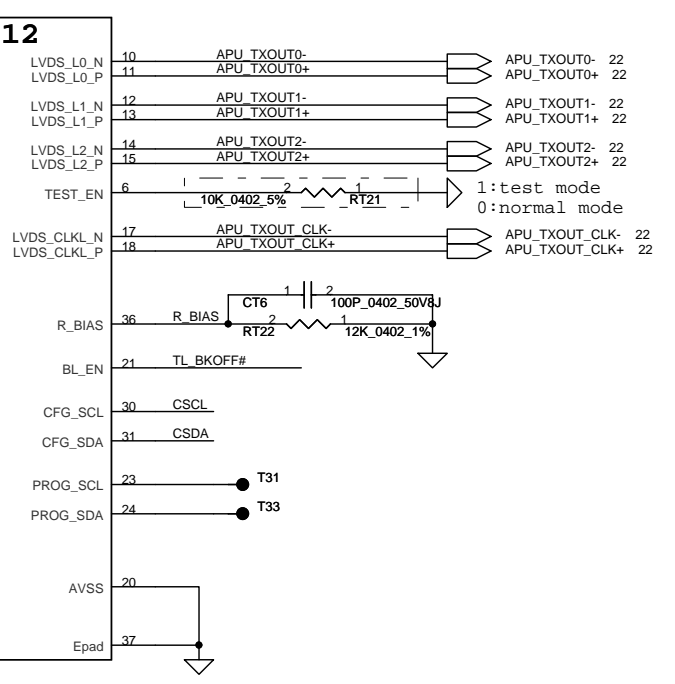
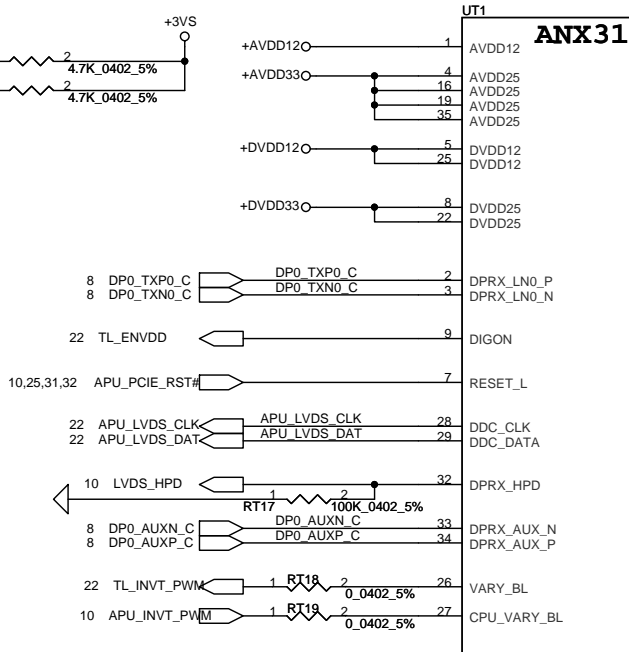
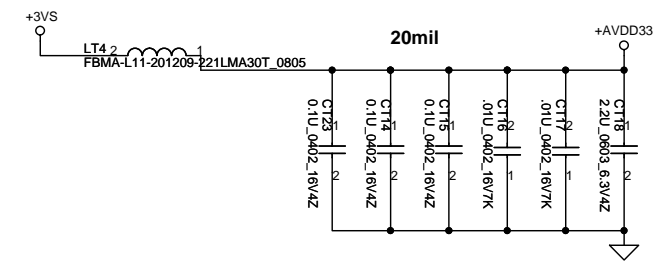
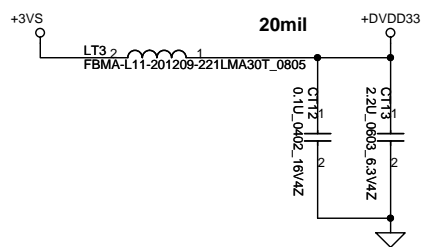
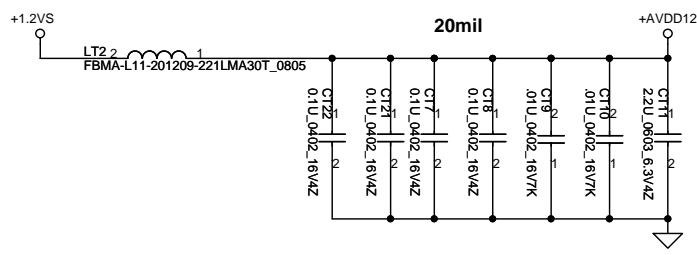
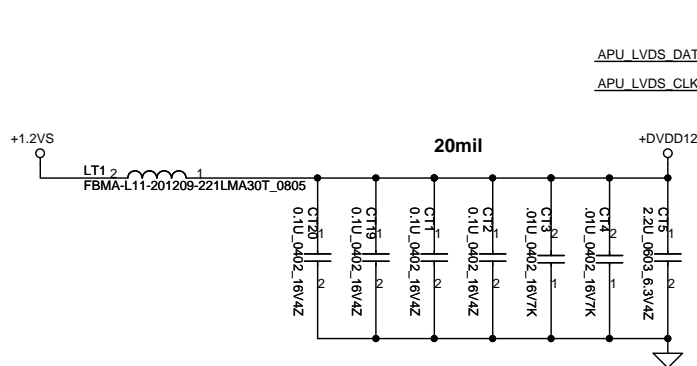
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				40191F	A
				Date:	Sheet
				Tuesday, January 10, 2012	11 of 54



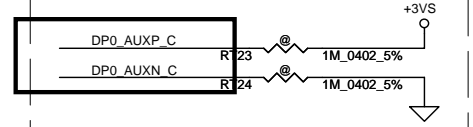
Place near DIMM2



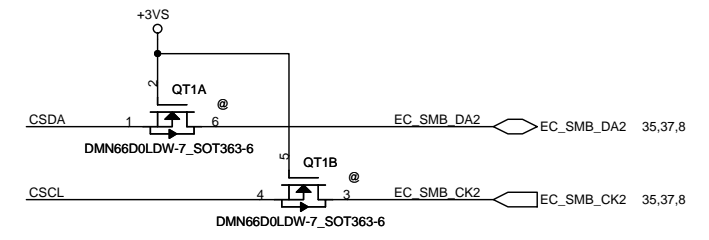
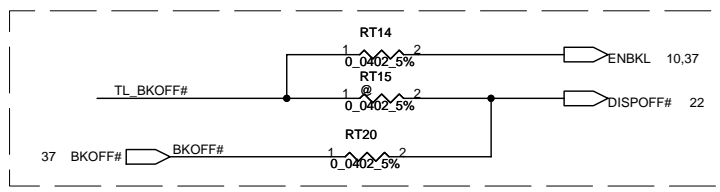
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	SCHEMATICS, MB A8714	
				Customer	4019IF	
				Date:	Tuesday, January 10, 2012	Sheet 12 of 54



12/01 Swap DPO_AUXP_C/DPO_AUXN_C for vender guideline

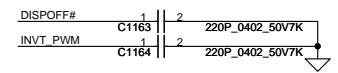
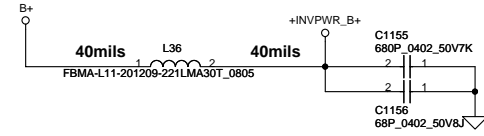
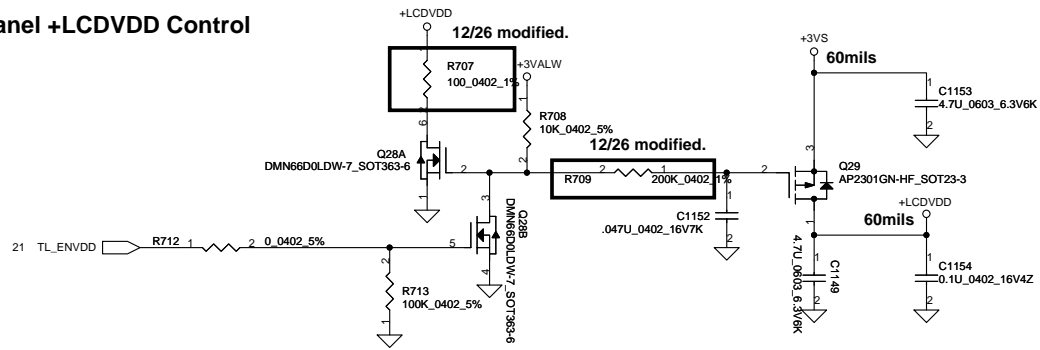


Place via on each trace bus and let resistor very close the via

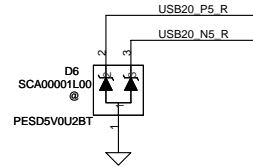
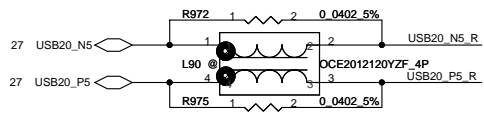
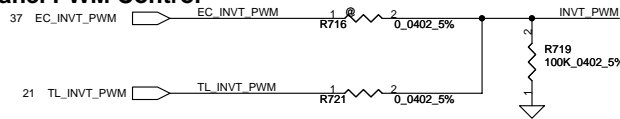


Security Classification	Compal Secret Data			Title	SCHEMATICS, MB A8714
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Rev A
Date:	Tuesday, January 10, 2012	Sheet	21	of	54

Panel +LCDVDD Control

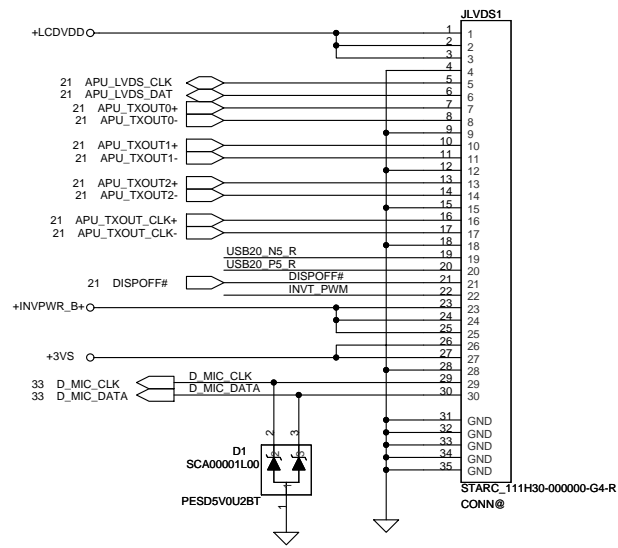


Panel PWM Control



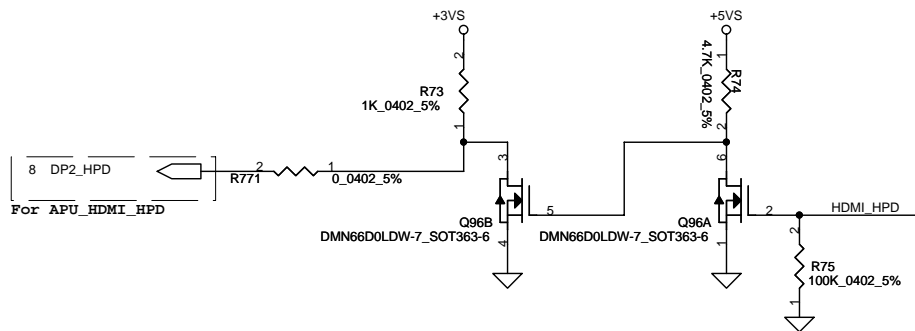
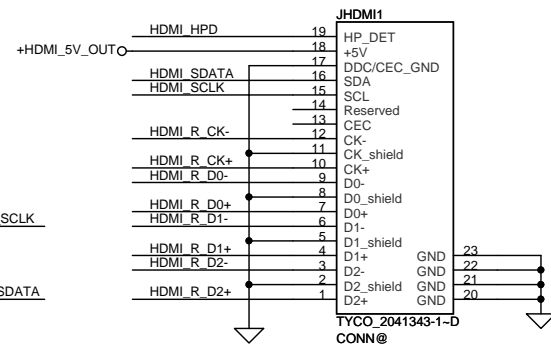
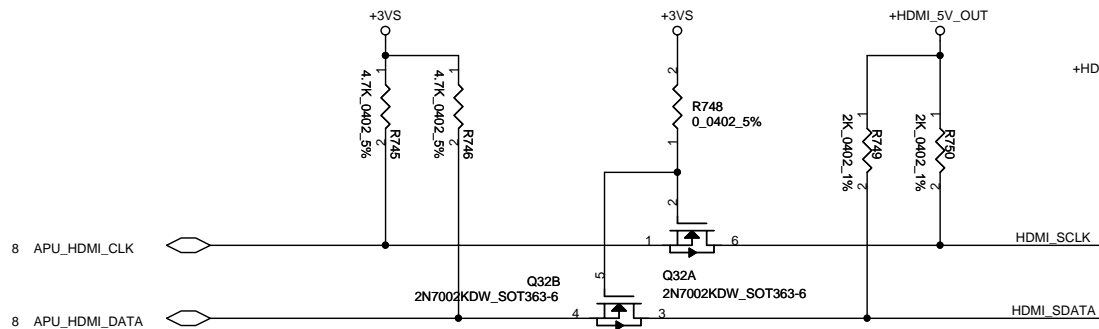
<Translator LVDS Output>

LVDS Connector

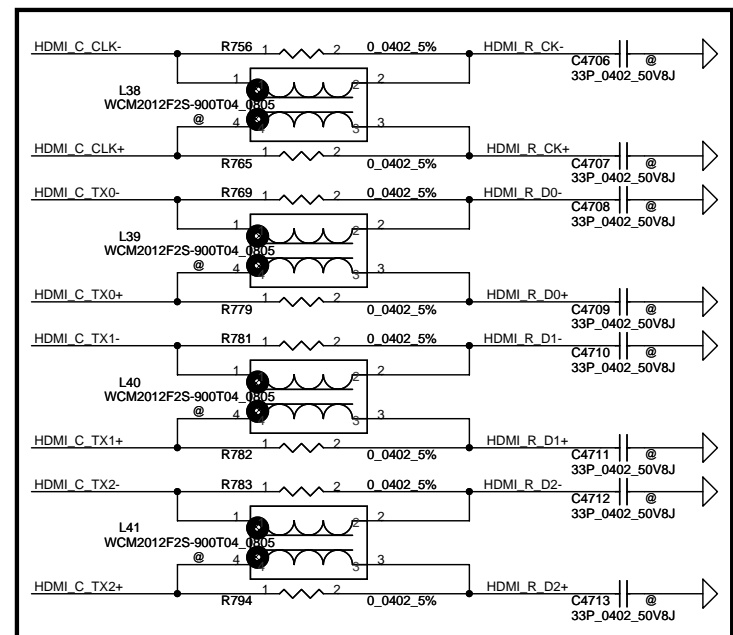


no updated.
11/10 follow QCL50

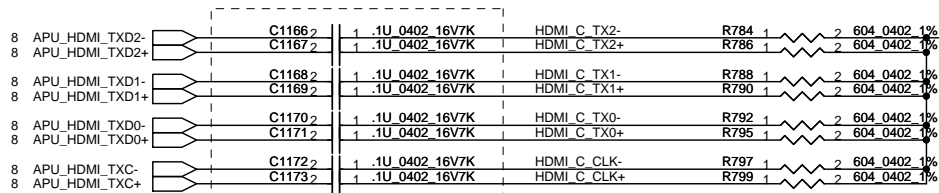
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
Customer				40191F
Date:				Tuesday, January 10, 2012
Sheet				22 of 54
Rev				A



12/7 Swap signals for routing smoothly

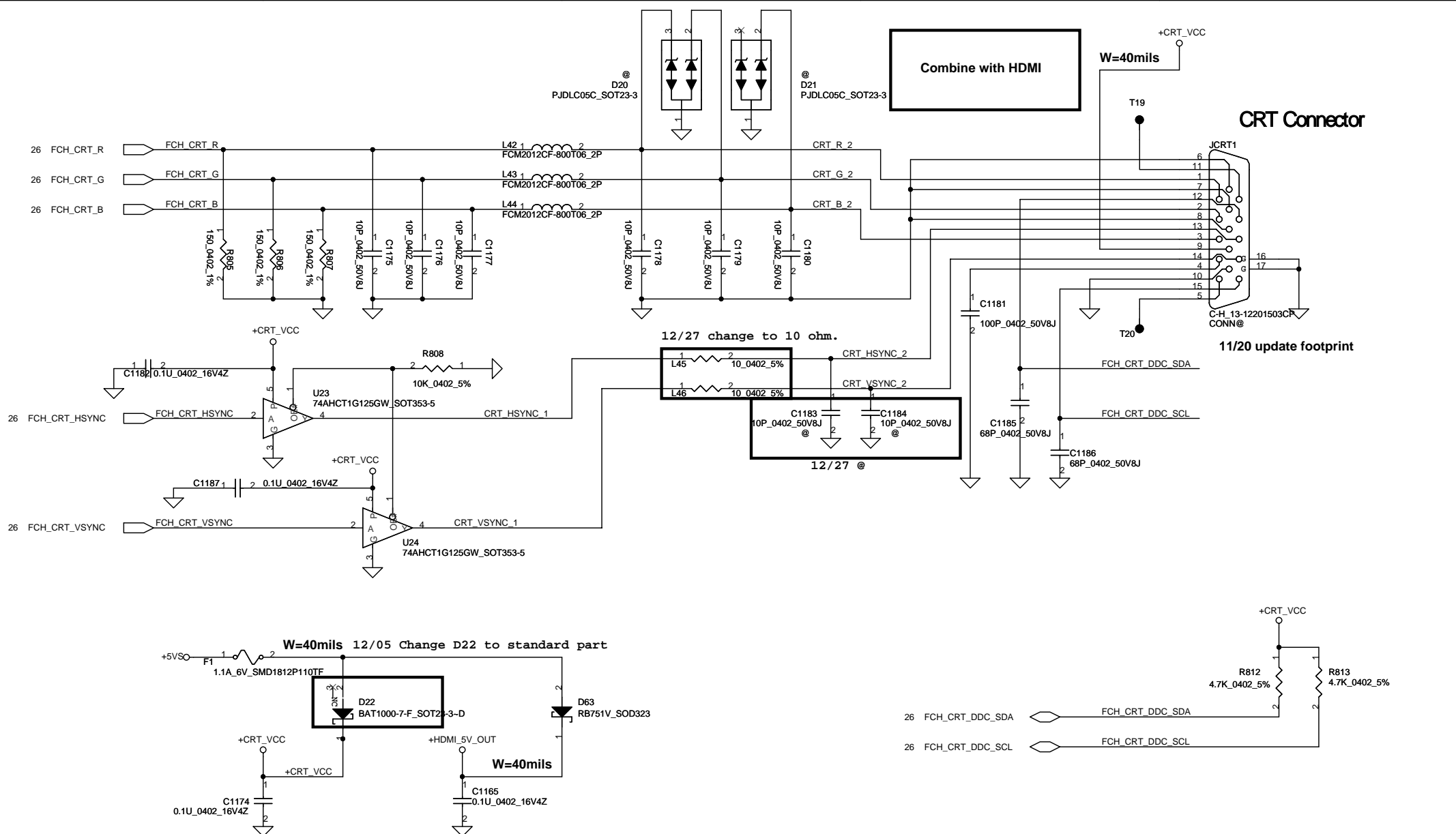


Close to HDMI conn

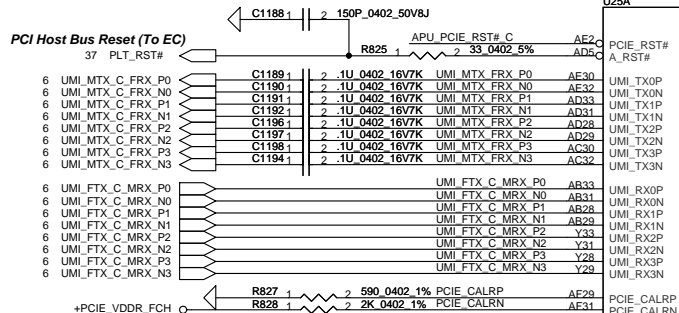


From APU

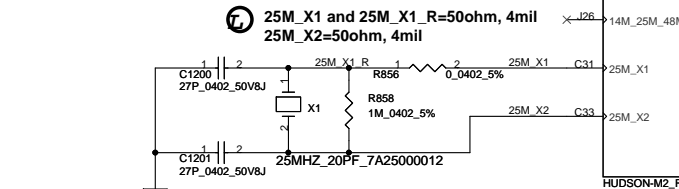
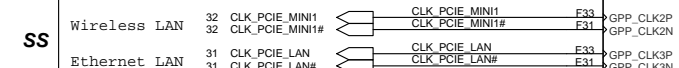
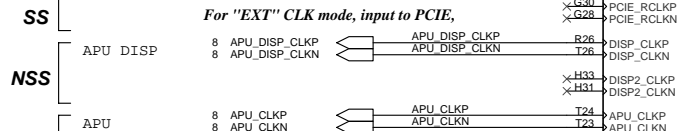
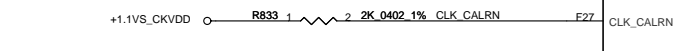
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				B	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	23 of 54



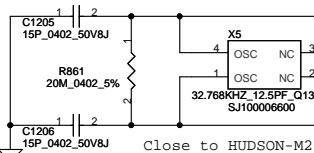
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number 4019IF
Date: Tuesday, January 10, 2012				Rev A
			Sheet 24 of 54	



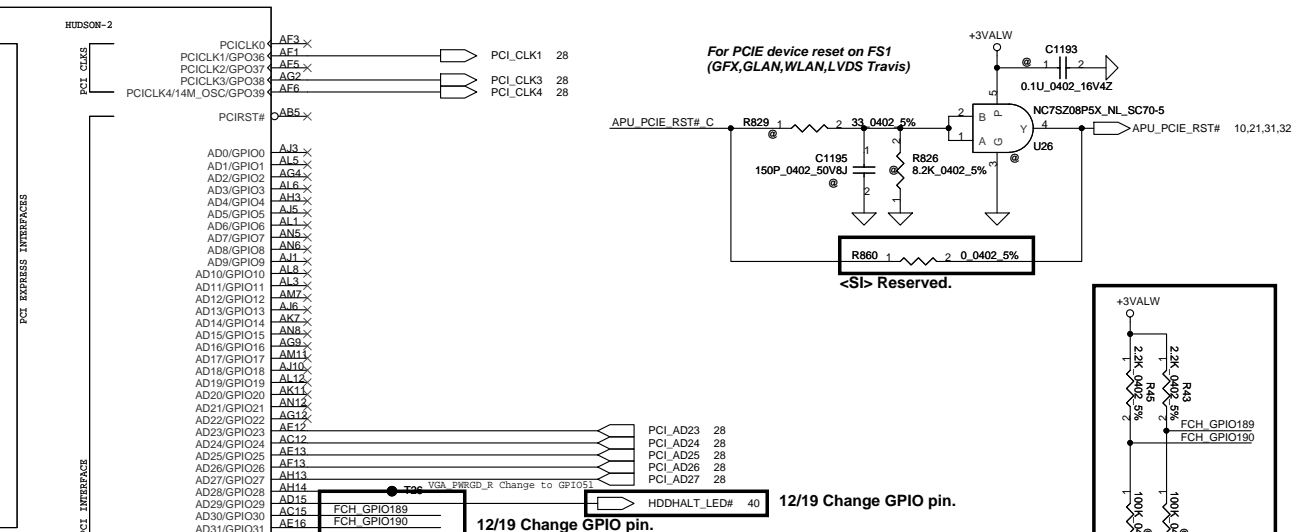
PCI_ECALPRN R=50ohm, 4mil, <1000mil
 PCI_ECALRN R=50ohm, 4mil, <1000mil



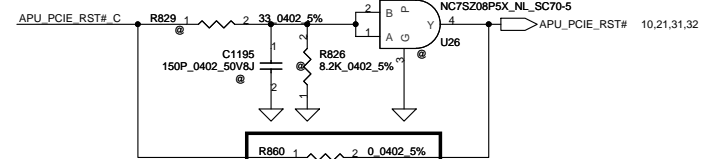
C1205, C1206
 Change for G3
 RTC timing issue
 <improve amplitude>



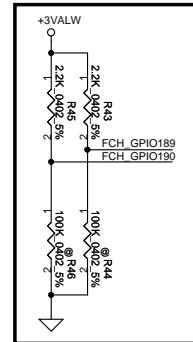
32K_X1=50ohm, 4mil, <1500mil
 32K_X2=50ohm, 4mil, <1500mil



For PCIe device reset on FS1 (GFX, GLAN, WLAN, LVDS Travis)



<SI> Reserved.



DIS is High
 DIS is High

Project SKU ID	L(N)	H(Y)
GPIO189 (use VGA)	R44	R43
GPIO190 (use PX)	R46	R45

12/19 Change GPIO pin.

12/19 Change GPIO pin.

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

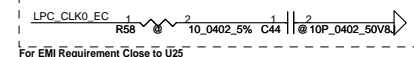
12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

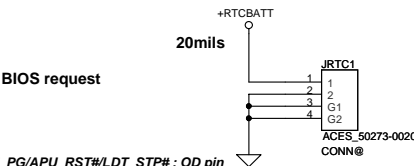
12/01 change to INTH for BIOS request

12/19 add PH to +3VS.

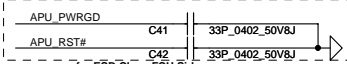
12/01 change to INTH for BIOS request



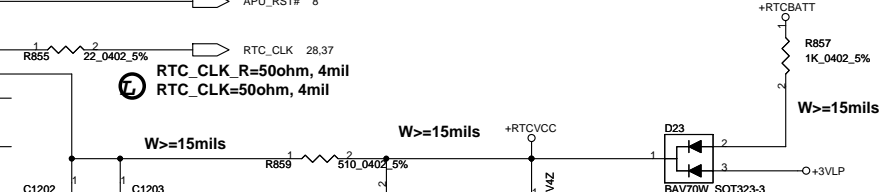
For EMI Requirement Close to U25



APU_PG/APU_RST#/LDT_STP#: OD pin
 DMA_ACTIVE#: INVD, 0.8V threshold
 PROCHOT#: IN, 0.8V threshold
 LDT_STP: No use, NC
 DMA active. The FCH drives the DMA_ACTIVE# to APU to notify DMA activity. This will cause the APU to reestablish the UMI link quicker.



tor ESD Close FCH Side



RTC_CLK R=50ohm, 4mil
 RTC_CLK=50ohm, 4mil

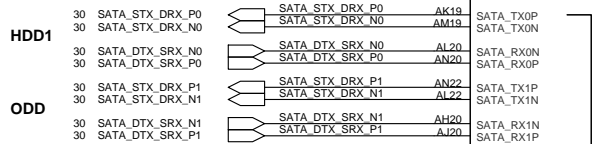
W>=15mils

W>=15mils

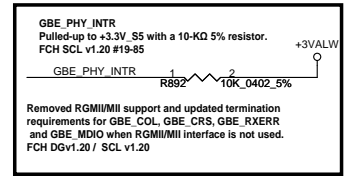
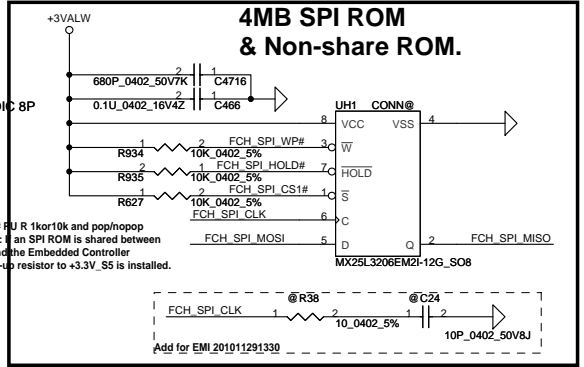
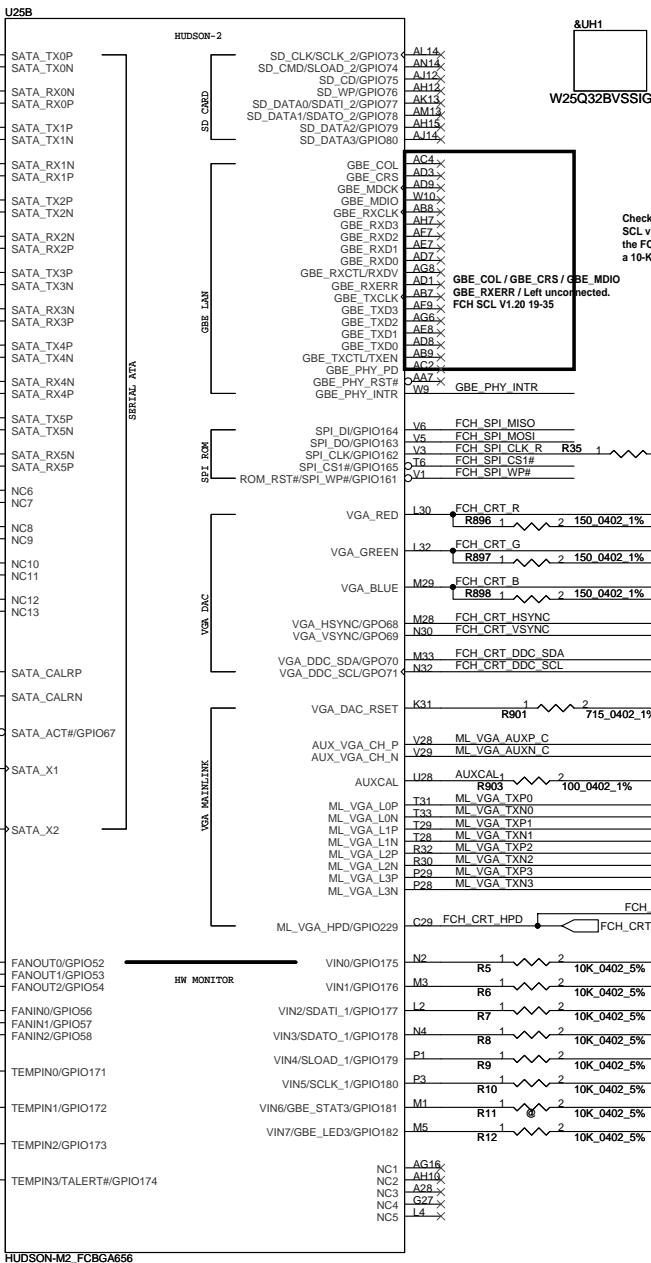
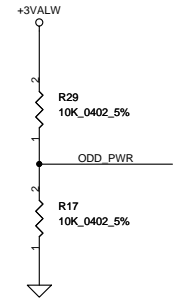
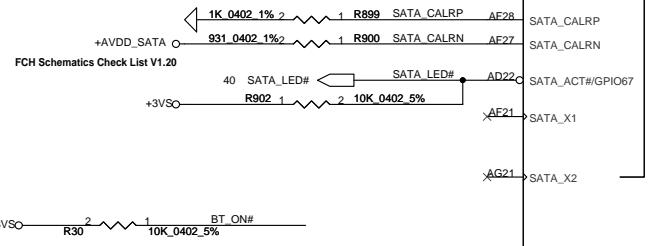
J1 for Clear CMOS Under RAM door

D23 close to U25 (FCH)

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				40191F
				Rev A
				Date: Tuesday, January 10, 2012
				Sheet 25 of 54



SATA_CALRP=35ohm,<1000mil
SATA_CALRN=35ohm,<1000mi



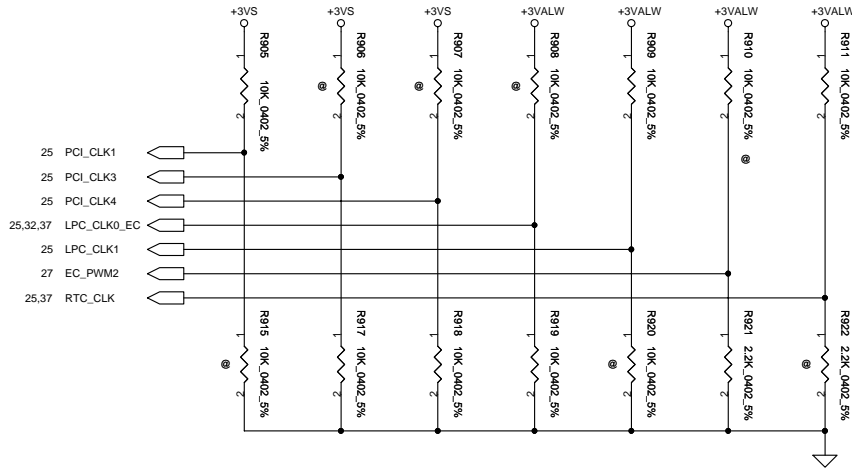
AUXCAL <1000mil

Security Classification	Compal Secret Data		Title
Issued Date	2011/07/08	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number 40191F Rev A
Date: Tuesday, January 10, 2012			Sheet 26 of 54

STRAP PINS

Change to SPI

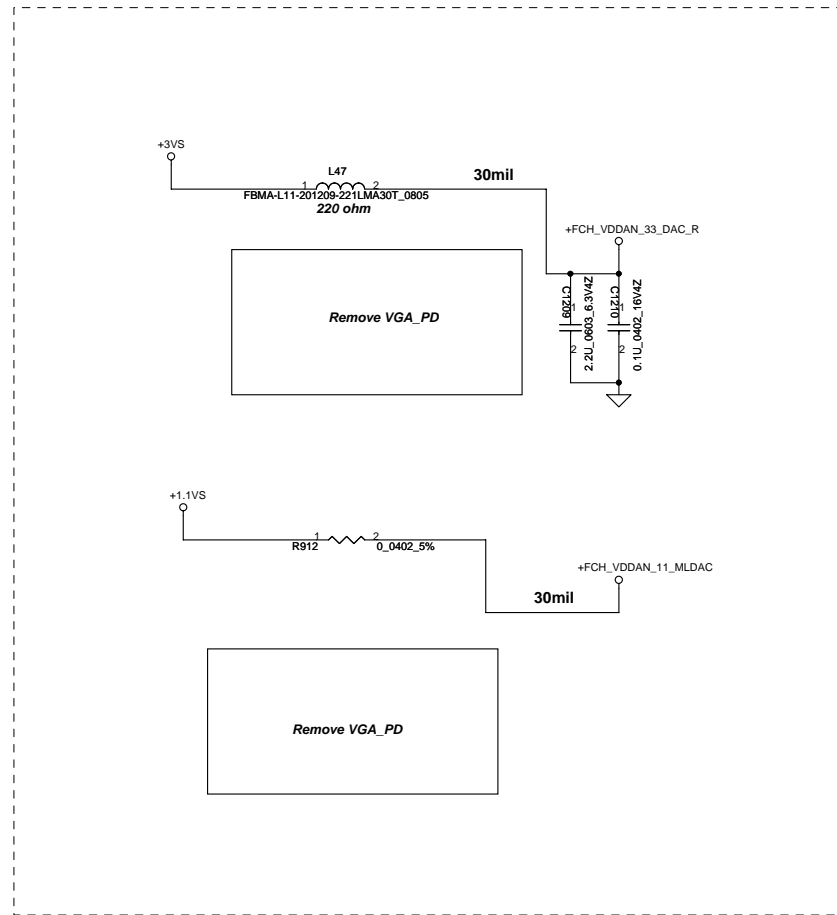
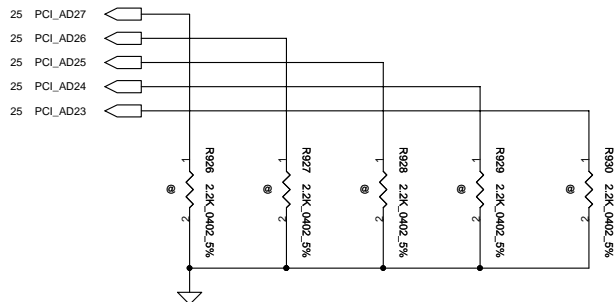
	PCI_CLK1	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	RTC_CLK
PULL HIGH	ALLOW PCIE GEN2 DEFAULT	USE DEBUG STRAPS	NON_FUSION CLOCK MODE	EC ENABLED	CLKGEN ENABLED DEFAULT	LPC ROM	S5 PLUS MODE DISABLED DEFAULT
PULL LOW	FORCE PCIE GEN1	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLE	SPI ROM DEFAULT	S5 PLUS MODE ENABLED



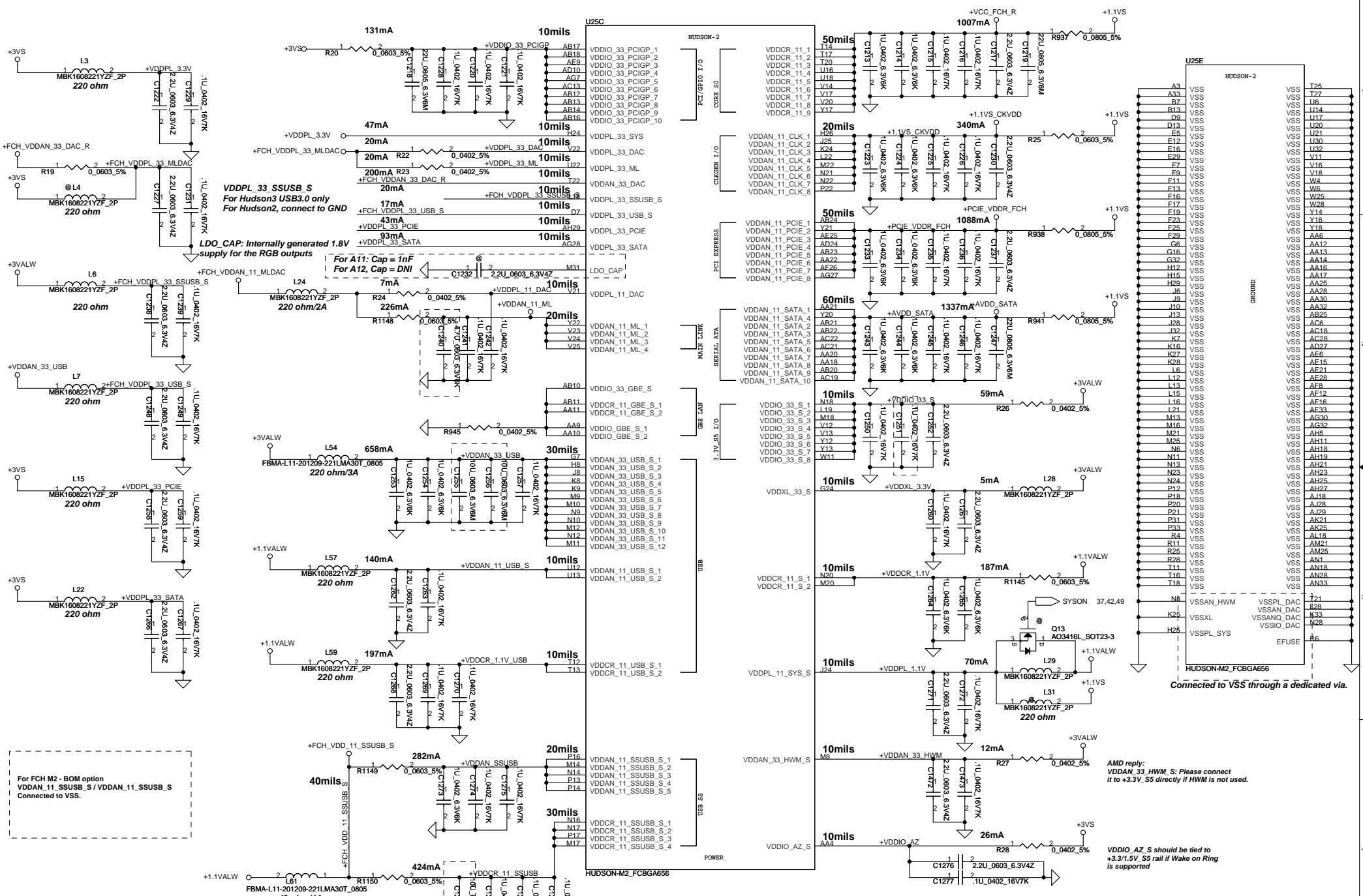
DEBUG STRAPS

FCH HAS 15K INTERNAL PU FOR PCI_AD[27:23]

	PCI_AD27	PCI_AD25	PCI_AD24	PCI_AD23
No external R	USE PCI PLL DEFAULT	Normal REFCLK termination DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	Inverted REFCLK termination	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	4019IF
Date:	Tuesday, January 10, 2012			Rev	A
				Sheet	28 of 54

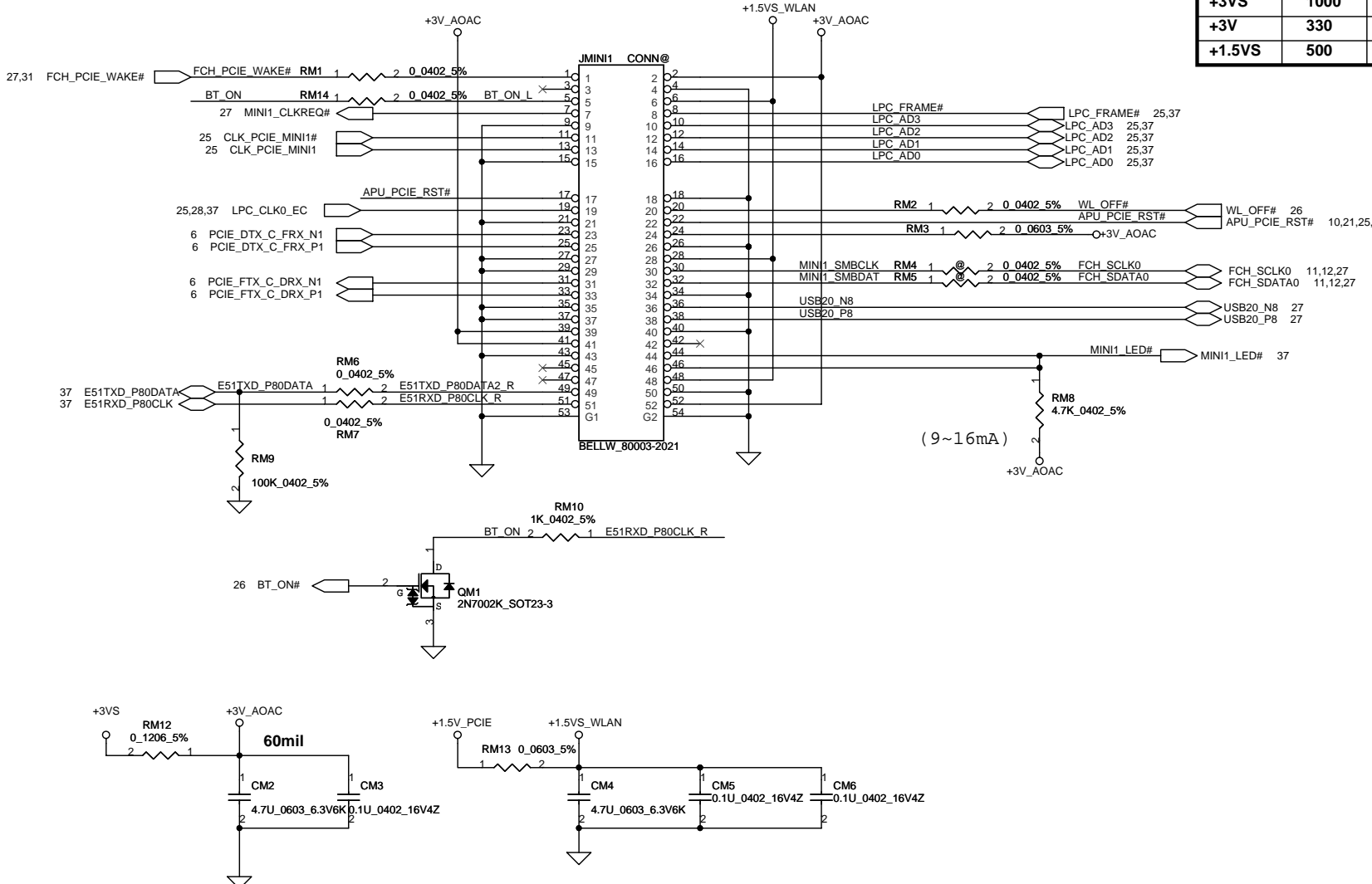


Security Classification	Compal Secret Data		Title
Issued Date	2011/07/08	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			
Document Number	40191F		Rev A
Date:	Tuesday, January 10, 2012	Sheet	29 of 54

Compal Electronics, Inc.

SCHEMATICS, MB A8714

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)

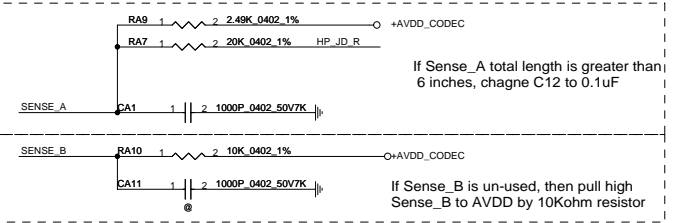
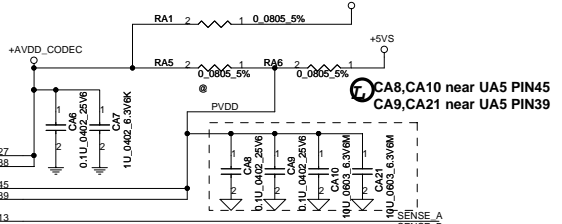
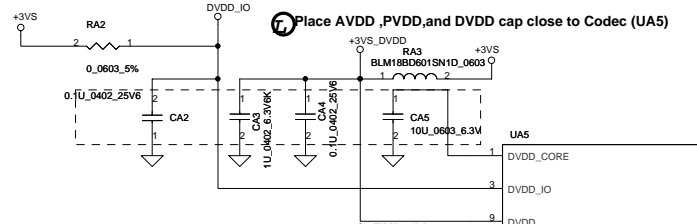
(9~16mA)

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
Date:	Tuesday, January 10, 2012	Sheet	32	of	54

Notes:
 Keep PVDD supply and speaker traces routed on the DGND plane.
 Keep away from AGND and other analog signals

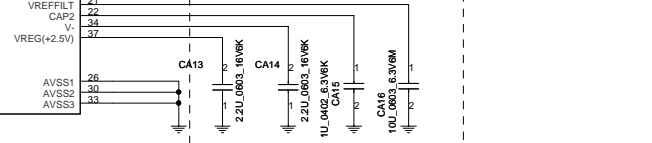
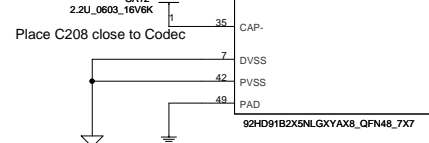
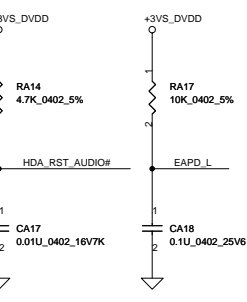
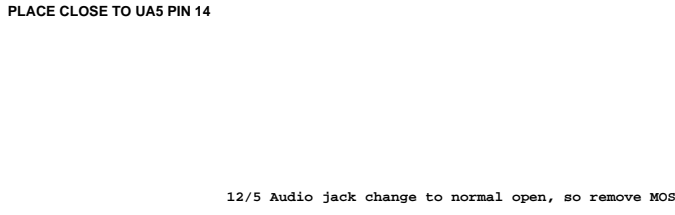
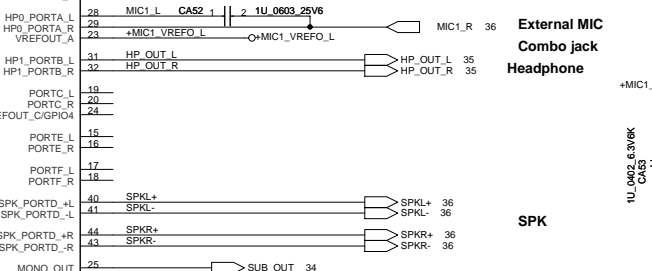
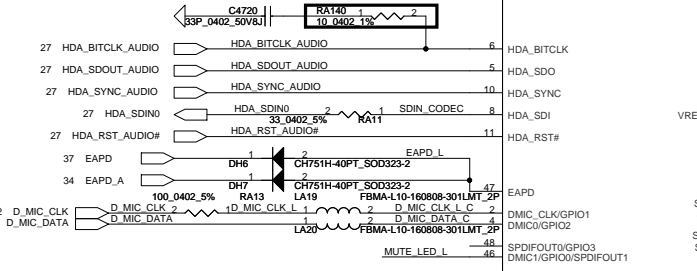
Place AVDD, PVDD, and DVDD cap close to Codec (UA5)

PLACE CLOSE TO UA5 PIN 13



1/3 EMI add

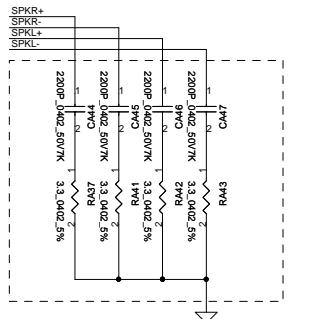
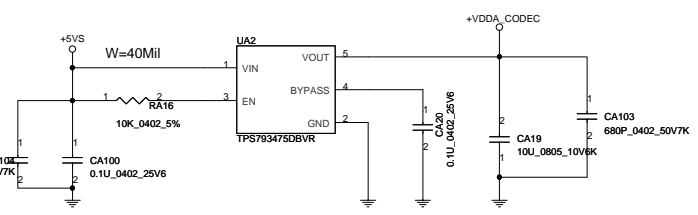
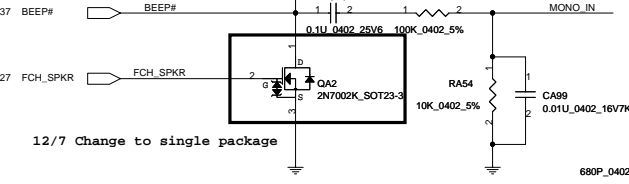
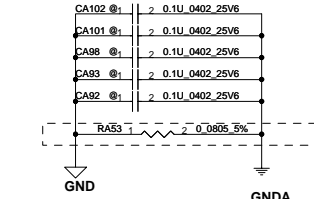
PLACE CLOSE TO UA5 PIN 14



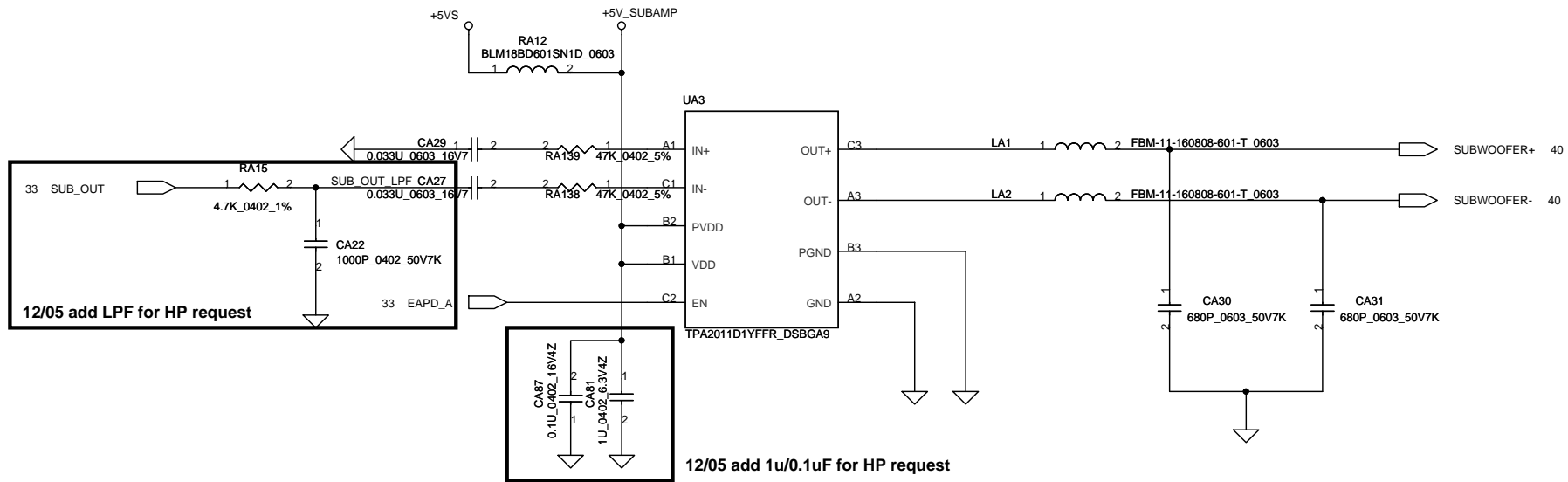
C209, C210, CA87, CA89 close to Codec (UA5)

Need confirmed.

Close to Audio Codec (UA5)



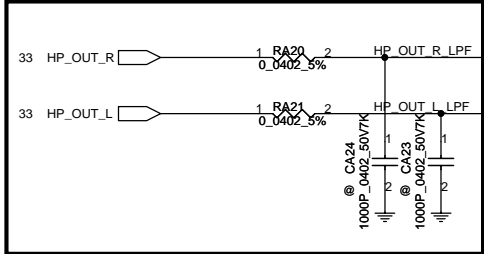
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/29	Deciphered Date	2011/06/29	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev
Customer Document Number				LA-8551P
Date: Tuesday, January 10, 2012				Sheet 33 of 54



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/06/29	Deciphered Date	2011/06/29	Title	SCHMATIC, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RESEARCH AND DEVELOPMENT DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-8551P
				Date:	Tuesday, January 10, 2012
				Sheet	34 of 54

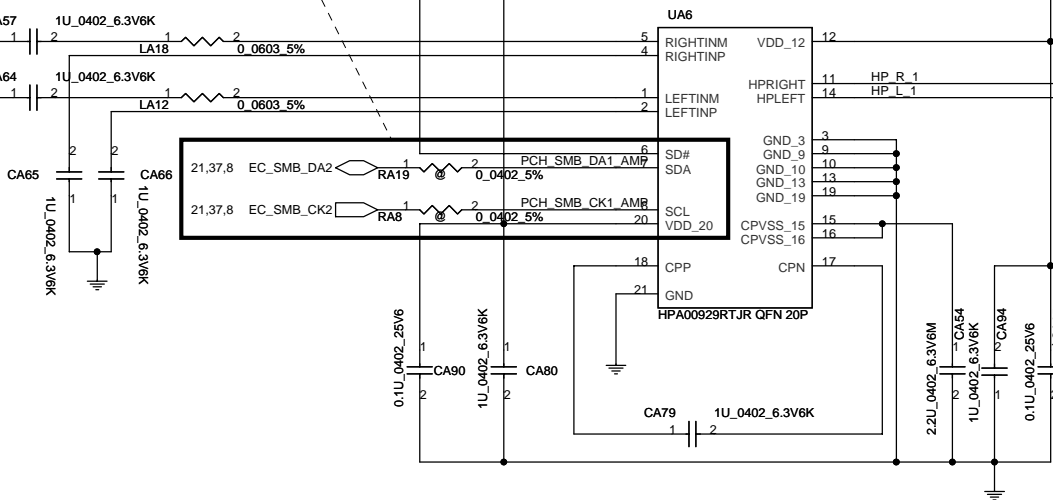
Headphone amplifier

12/05 Add LPF for HP requirement

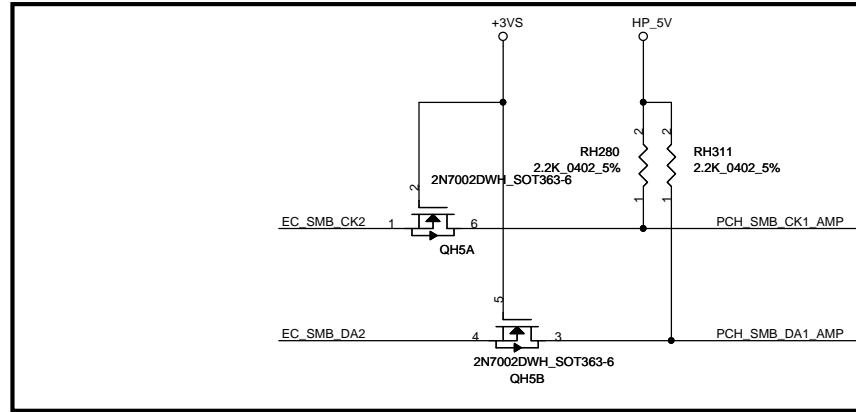


<SI> BOM update :RA20,RA21 4.7K-->0
CA24,CA23 SMT-->@

12/05 Connect HP AMP SMBus to EC

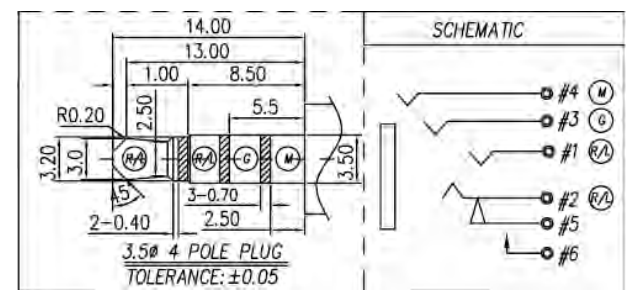
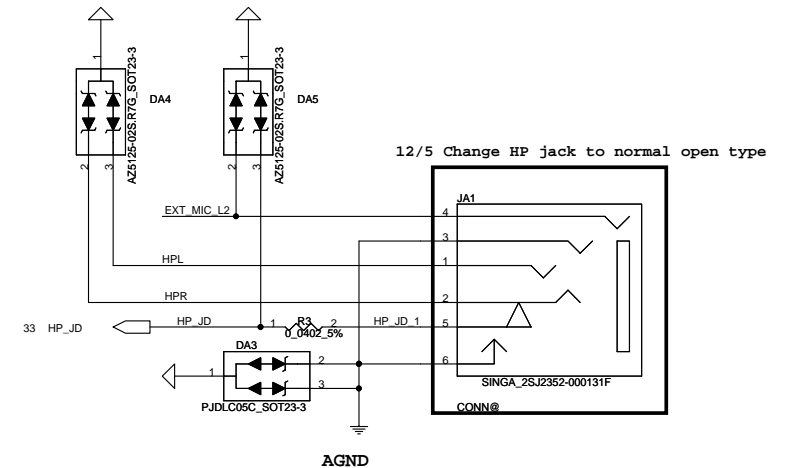
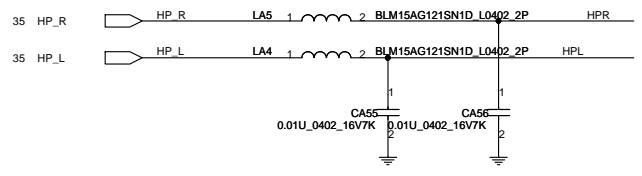
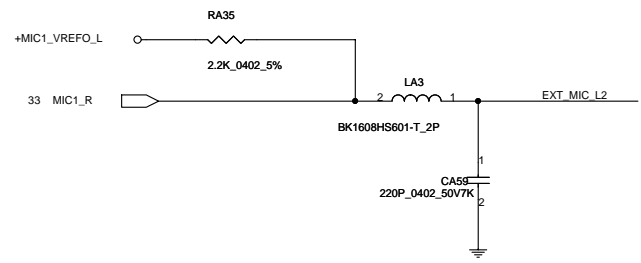
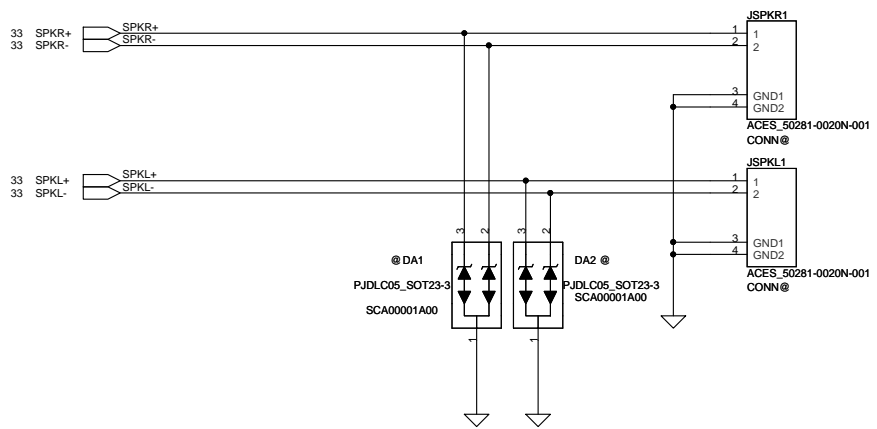


12/05 Reserve level shift Connect to EC

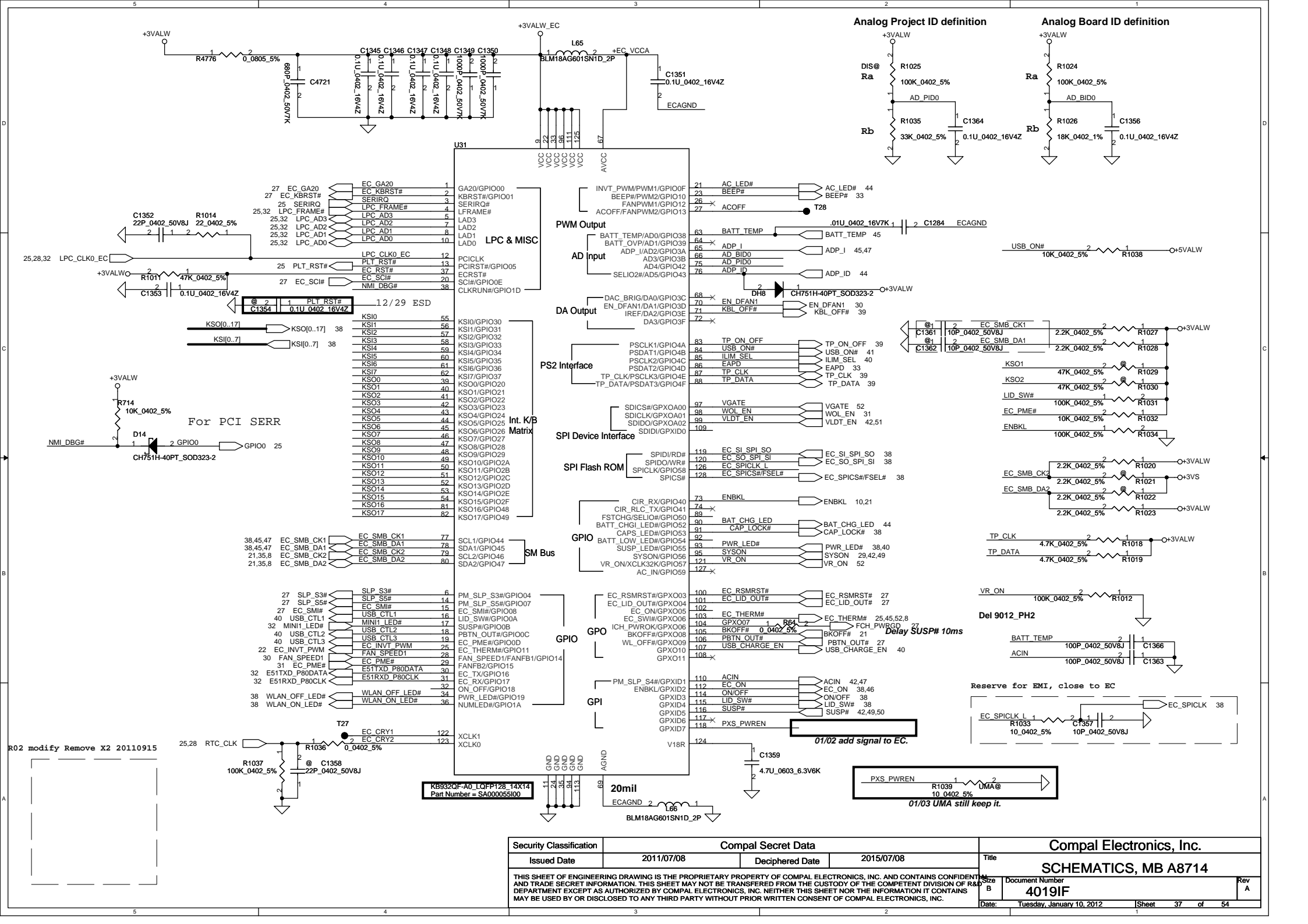


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/29	Deciphered Date	2011/06/29	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS, MB A8714	
				Document Number	Rev A
				Date: Tuesday, January 10, 2012	Sheet 35 of 54

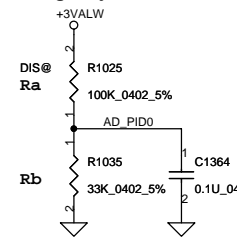
SPK conn



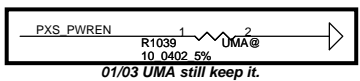
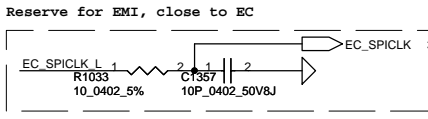
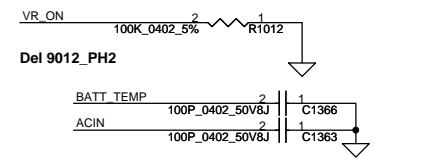
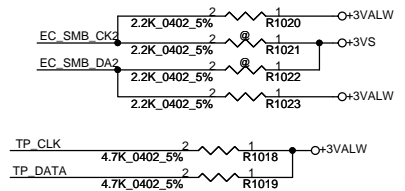
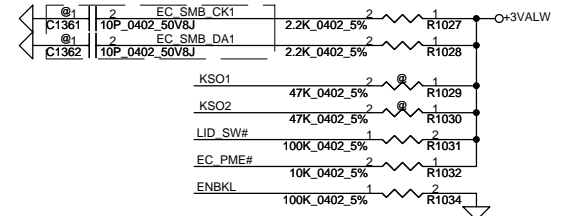
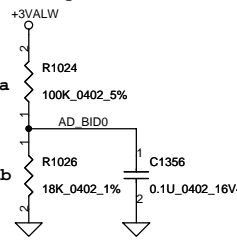
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/04/07	Deciphered Date	2012/10/21	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				40191F
				Date: Tuesday, January 10, 2012
				Sheet 36 of 54



Analog Project ID definition



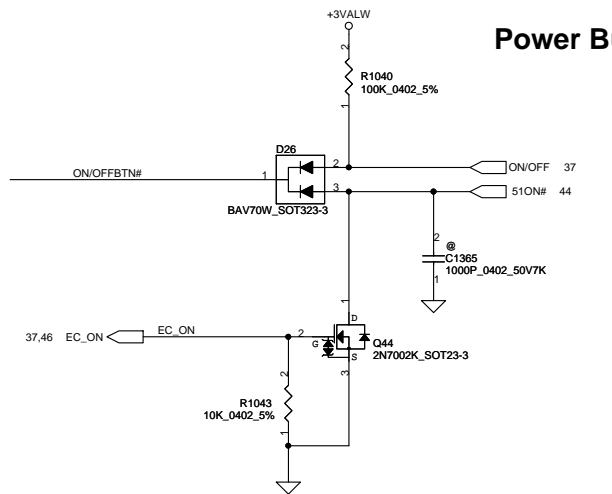
Analog Board ID definition



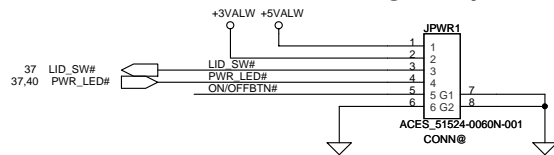
Security Classification		Compal Secret Data	
Issued Date	2011/07/08	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

Compal Electronics, Inc.			
Title SCHEMATICS, MB A8714			
Document Number	40191F		Rev A
Date	Tuesday, January 10, 2012	Sheet	37 of 54

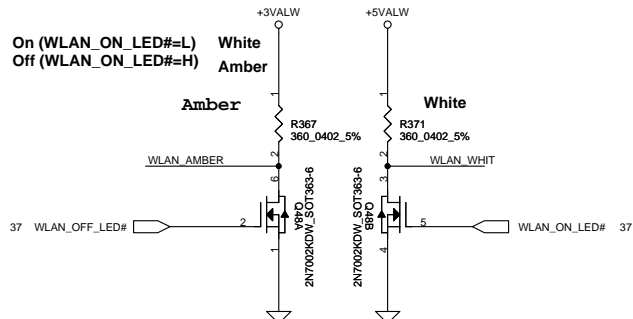
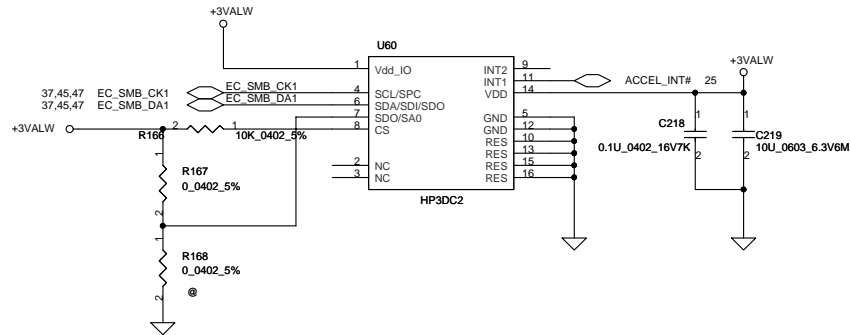
Power Button



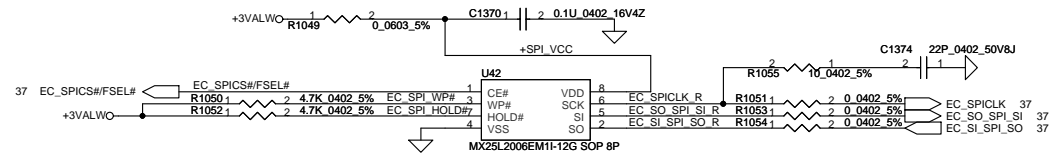
POWER/B



ACCELEROMETER

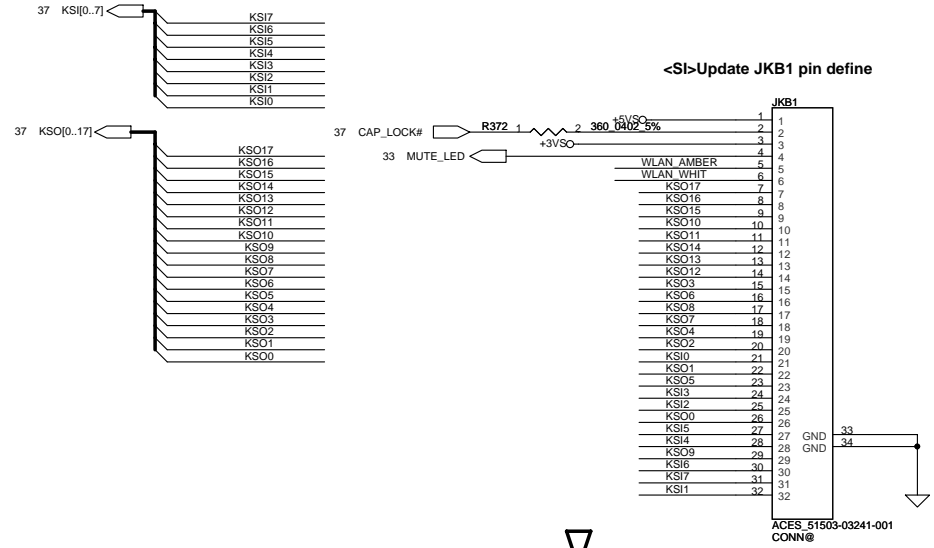


EC BIOS ROM

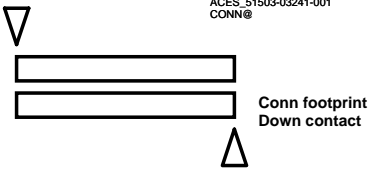


KB conn

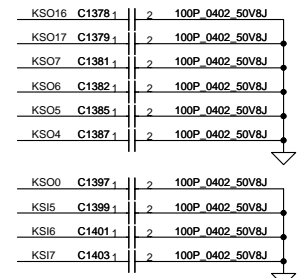
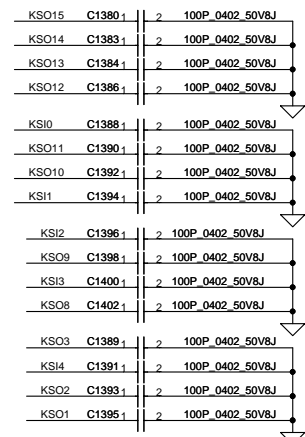
<SI>Update JKB1 pin define



Membrane Down contact

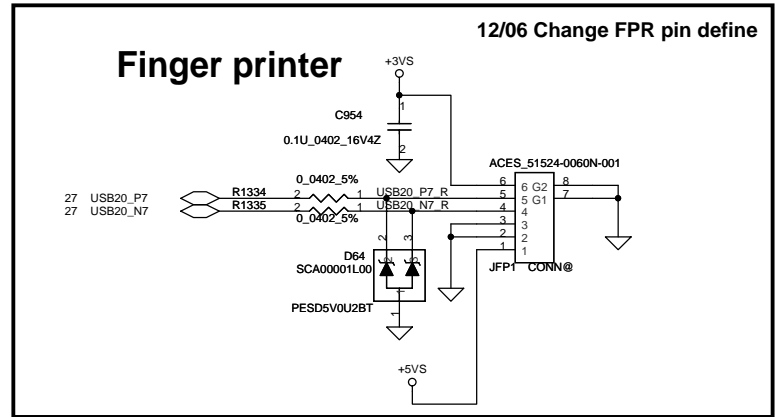
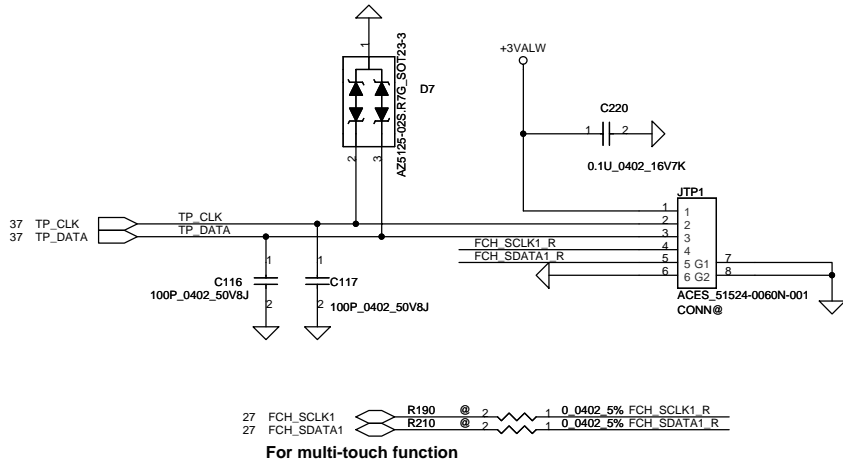


The KB pin define must opposite

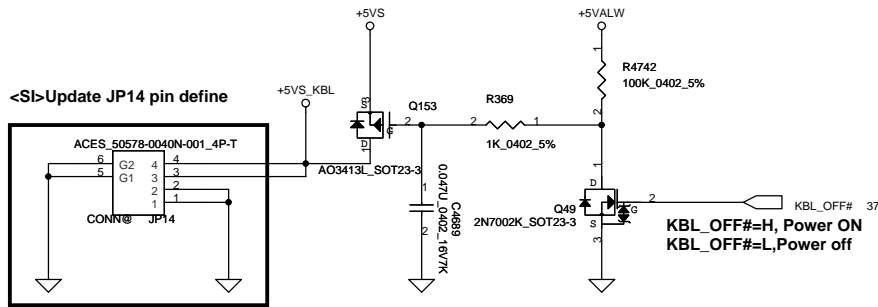


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS, MB A8714	
				Document Number	Rev A
				40191F	
				Date:	Tuesday, January 10, 2012
				Sheet	38 of 54

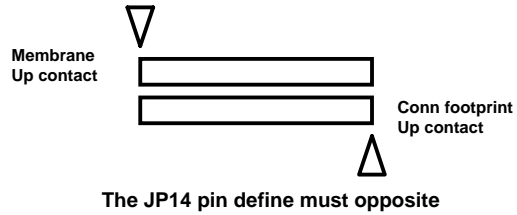
TP Conn



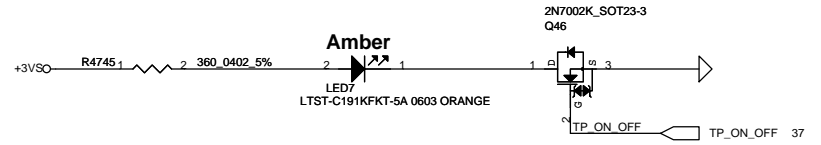
Keyboard backlight Conn



12/06 Change keyboard back light conn



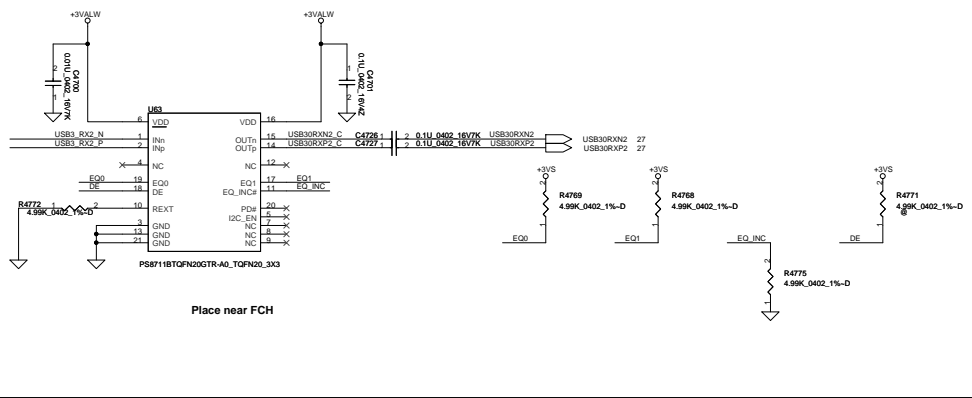
T/P On/Off LED



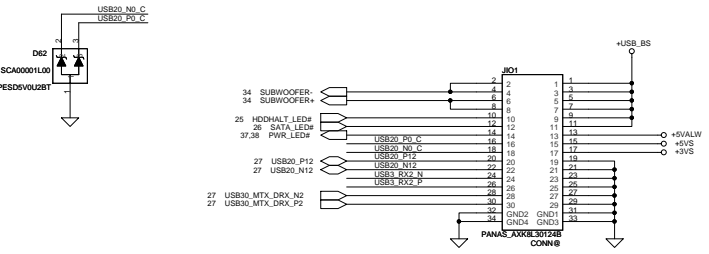
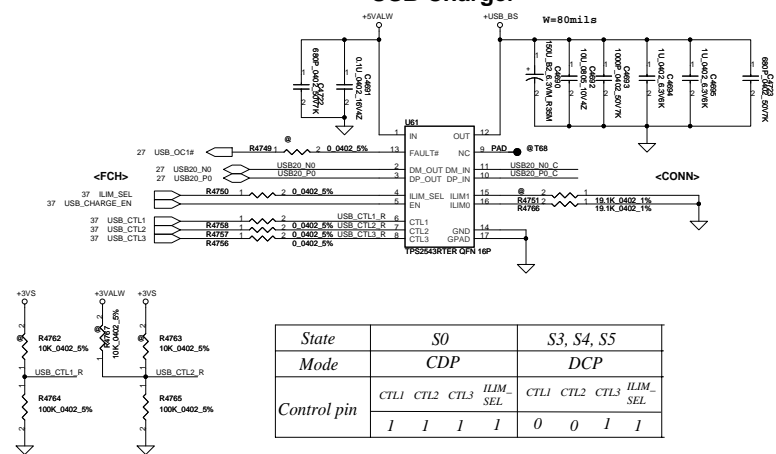
EC pin

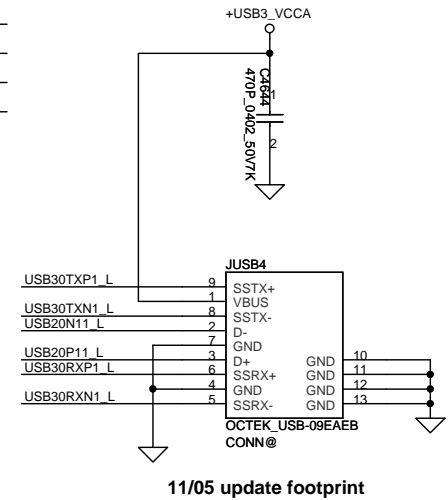
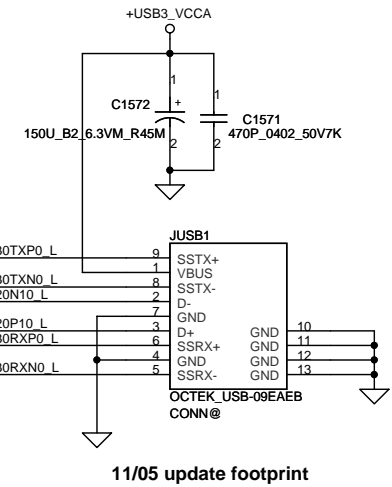
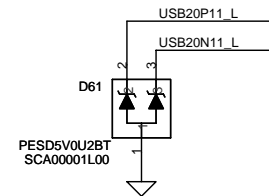
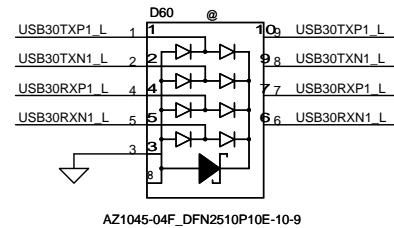
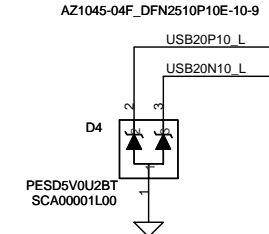
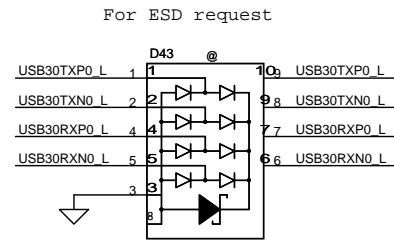
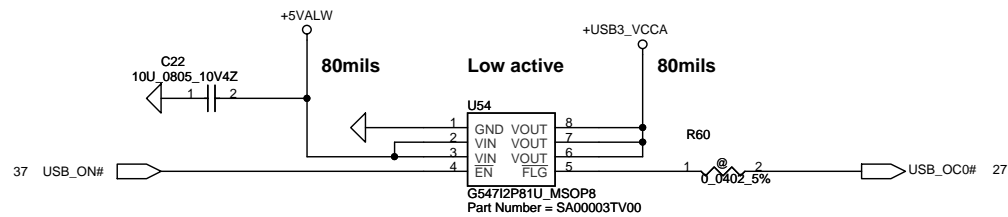
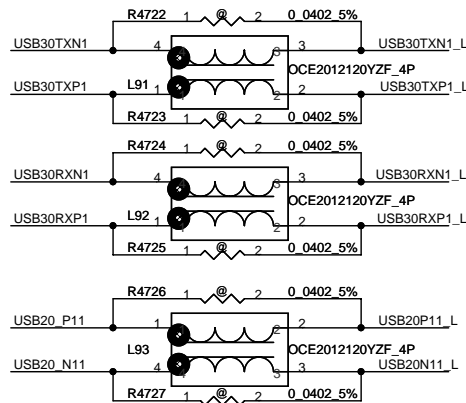
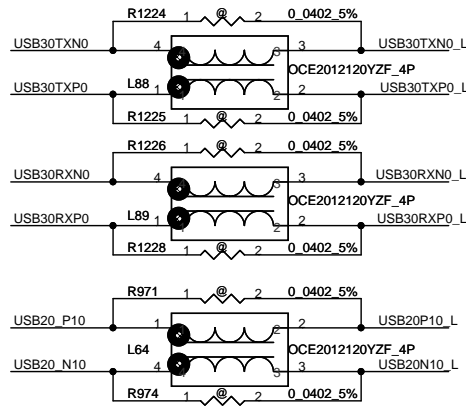
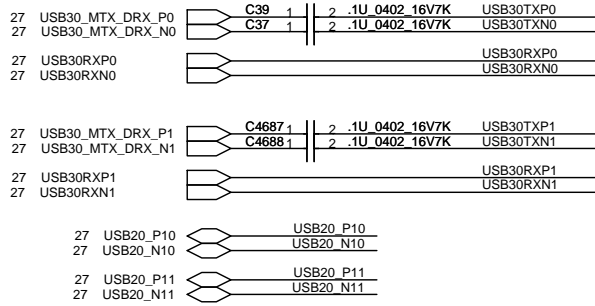
Security Classification	Compal Secret Data		Title	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RESEARCH AND DEVELOPMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				40191F
Date: Tuesday, January 10, 2012				Rev A
Sheet 39 of 54				

USB3.0 Repeater



USB Charger





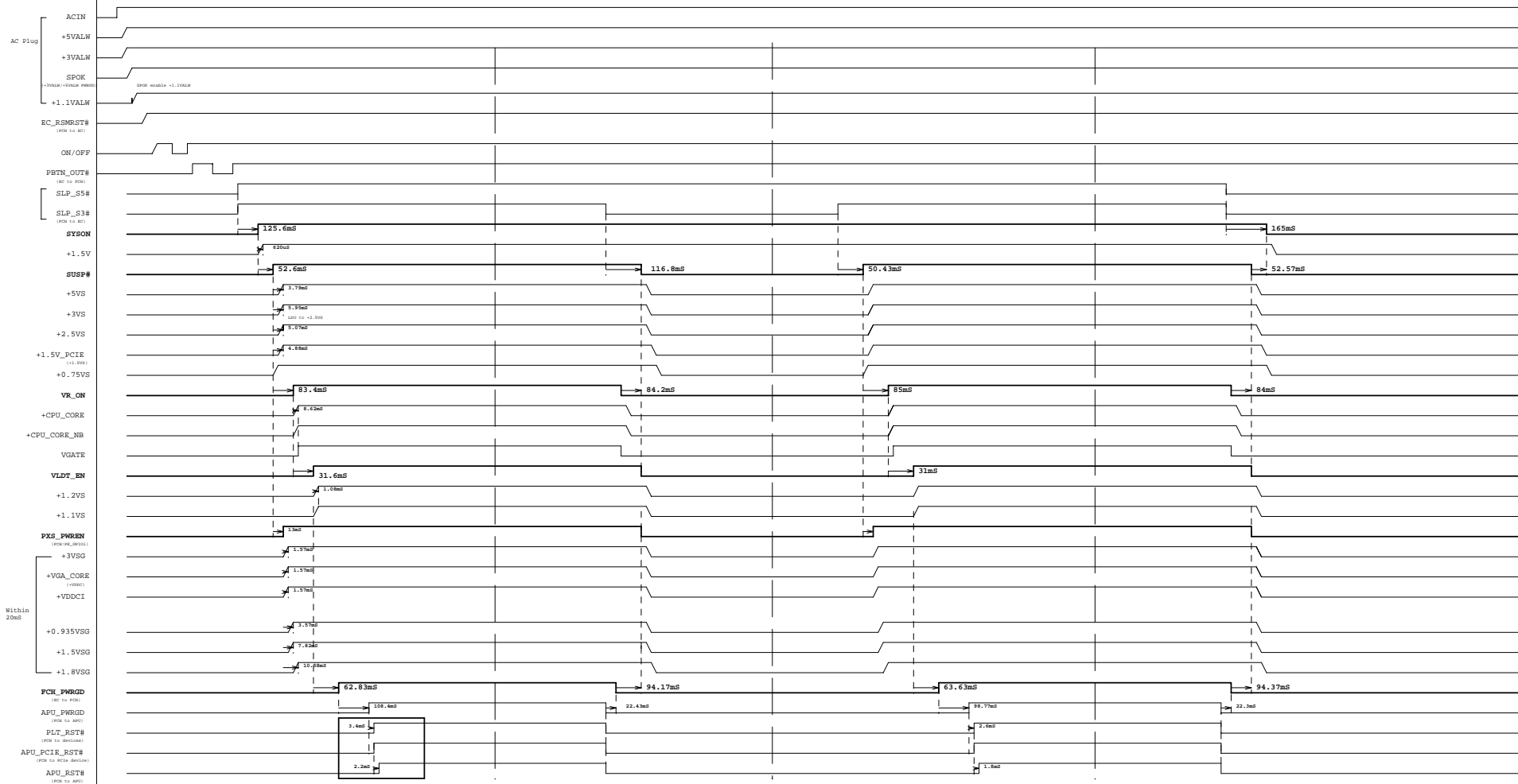
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F	Rev A
Date:	Tuesday, January 10, 2012	Sheet	41 of 54			

Boot

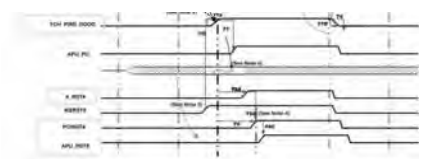
Enter S3

S3 Resume

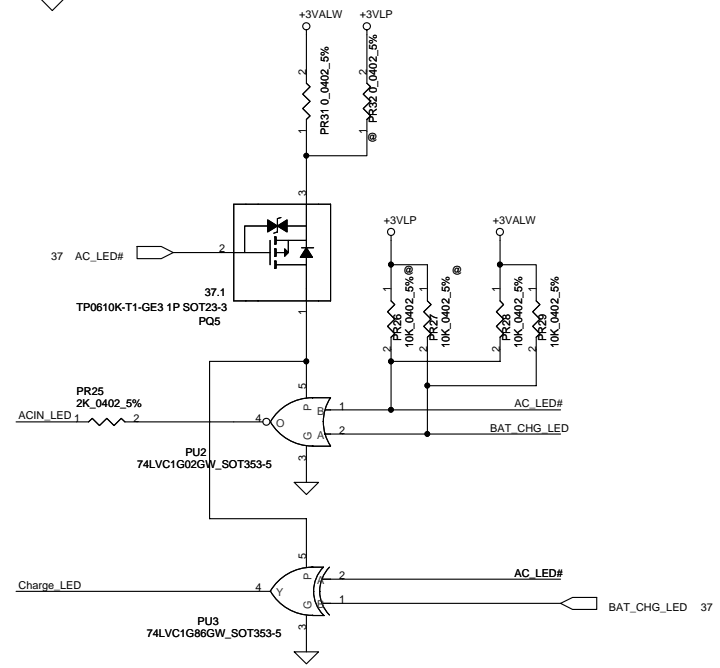
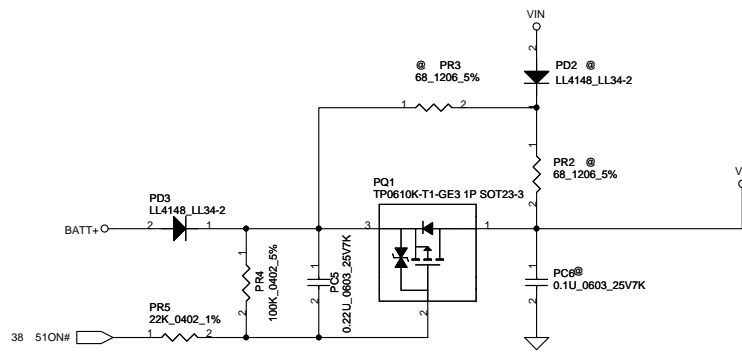
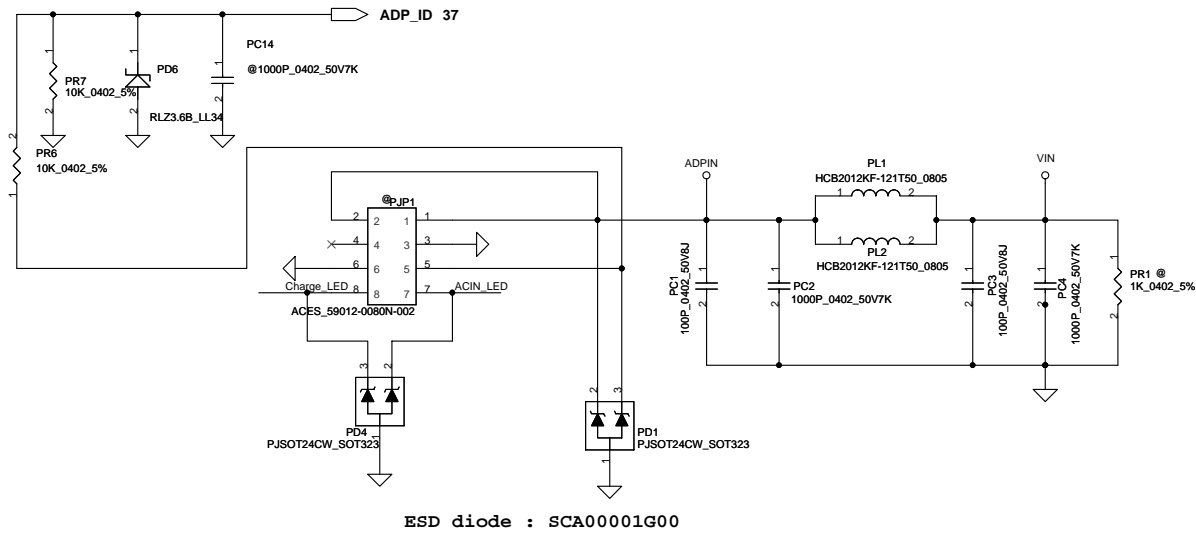
Shut Down



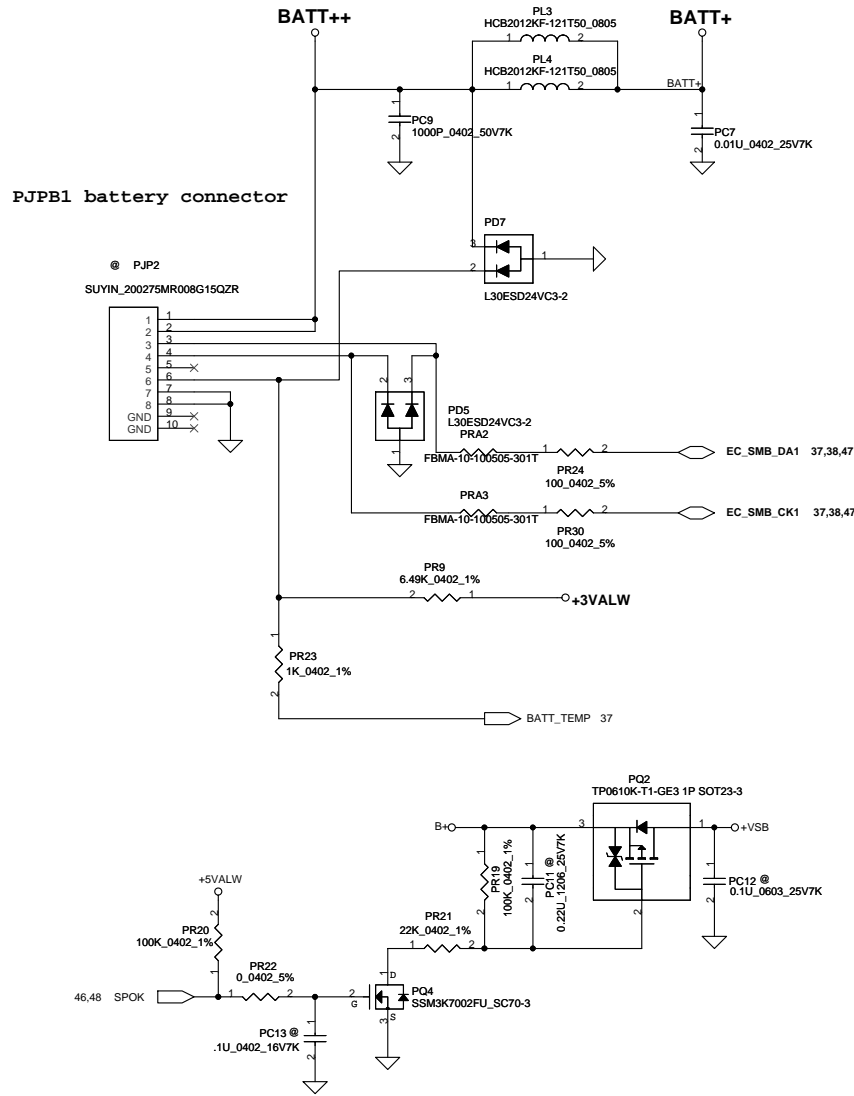
Within 20ms



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	20150708	Designated Date	20150708	File	SCHEMATICS_MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. NO PORTION MAY BE REPRODUCED FROM THIS SHEET OR THE SUBSTANTIATION THEREOF IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.					
Project Number	40191F	Revision	1	Sheet	21 of 21
Appr	Yongbin Jang	Design	Yongbin Jang	Drawn	Yongbin Jang



Security Classification		Compal Secret Data		Title	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				40191F	A
Date: Tuesday, January 10, 2012				Sheet	44 of 54



For KB930 --> Keep PU1 circuit
(Vth = 0.825V)

PH1 under CPU bottom side :
CPU thermal protection at 90 +/-3 degree C
Recovery at 56 +/-3 degree C

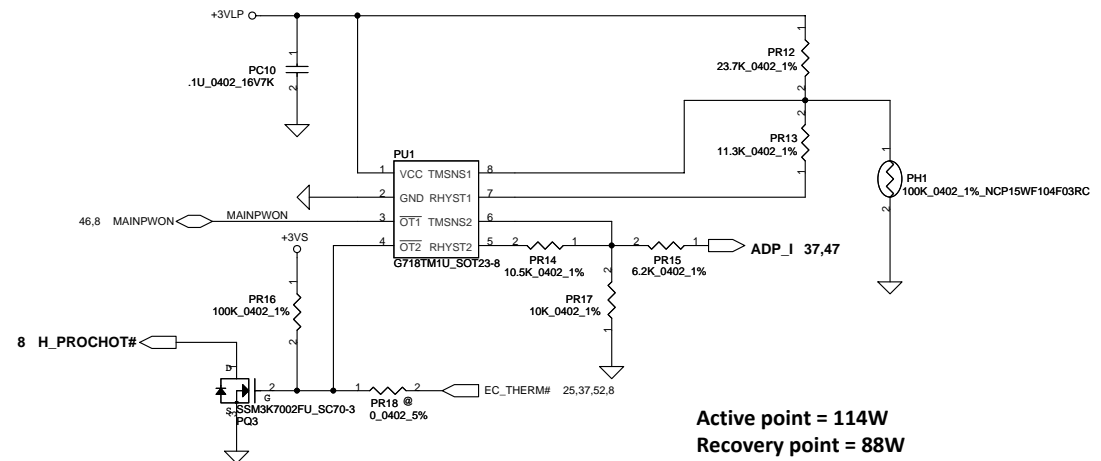
$$R_{set} = 3 * R_{tmh}$$

$$R_{hyst} = (R_{set} * R_{tml}) / (3 * R_{tml} - R_{set})$$

$$R_{tmh} \text{ at } 90C = 7.8K, R_{tml} \text{ at } 56C = 26.1K$$

$$R_{set} = 3 * 7.8K = 23.4K \implies 23.7K$$

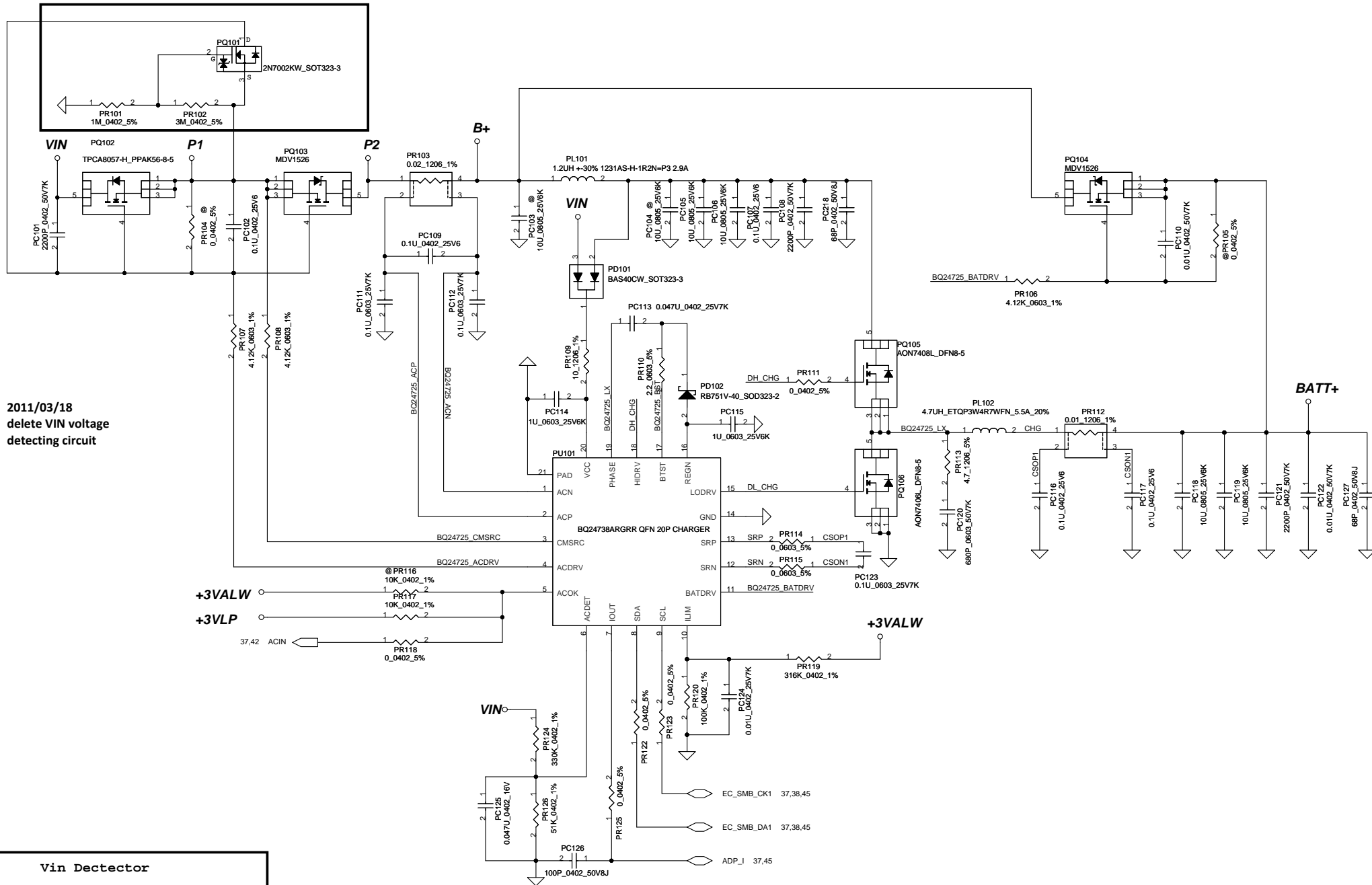
$$R_{hyst} = (23.4K * 26.1K) / (3 * 26.1K - 23.4K) = 11.12K \implies 11.3K$$



Active point = 114W
Recovery point = 88W

Security Classification	Compal Secret Data		Title	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev A
Date: Tuesday, January 10, 2012				Sheet 45 of 54

for reverse input protection



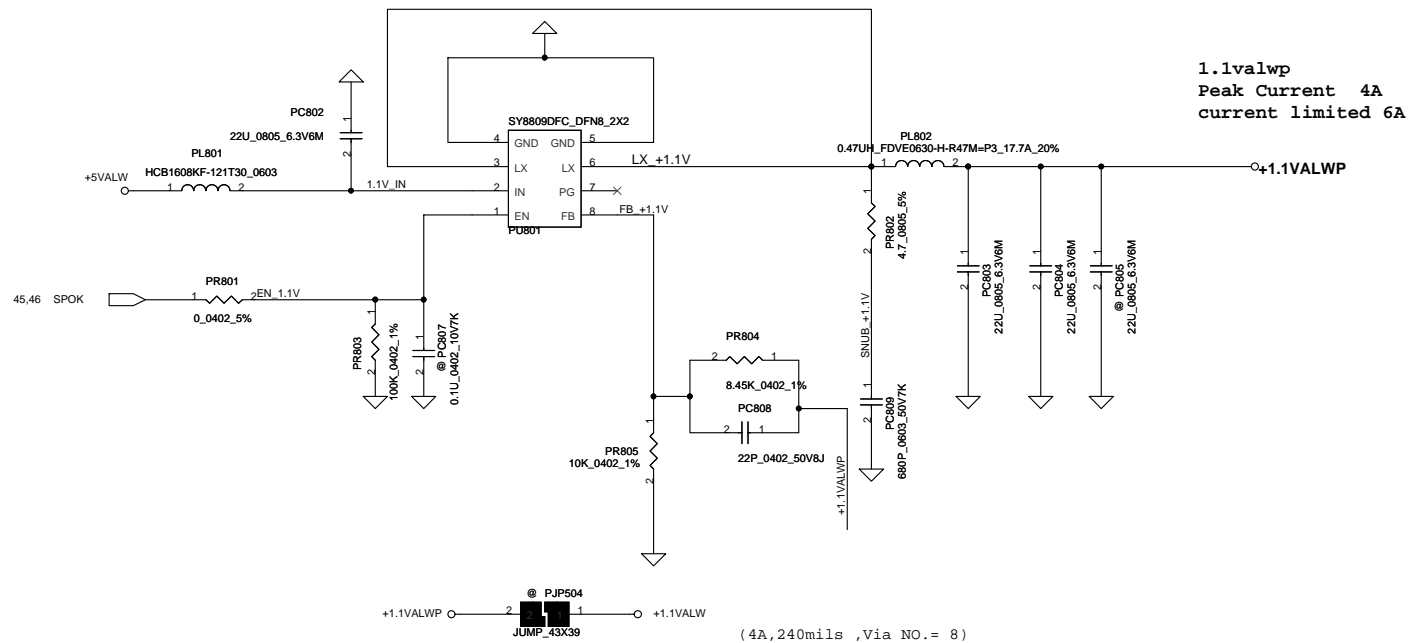
2011/03/18
delete VIN voltage
detecting circuit

Vin Detector

	Min.	Typ	Max.
H-->L		17.33V	
L-->H		16.98V	

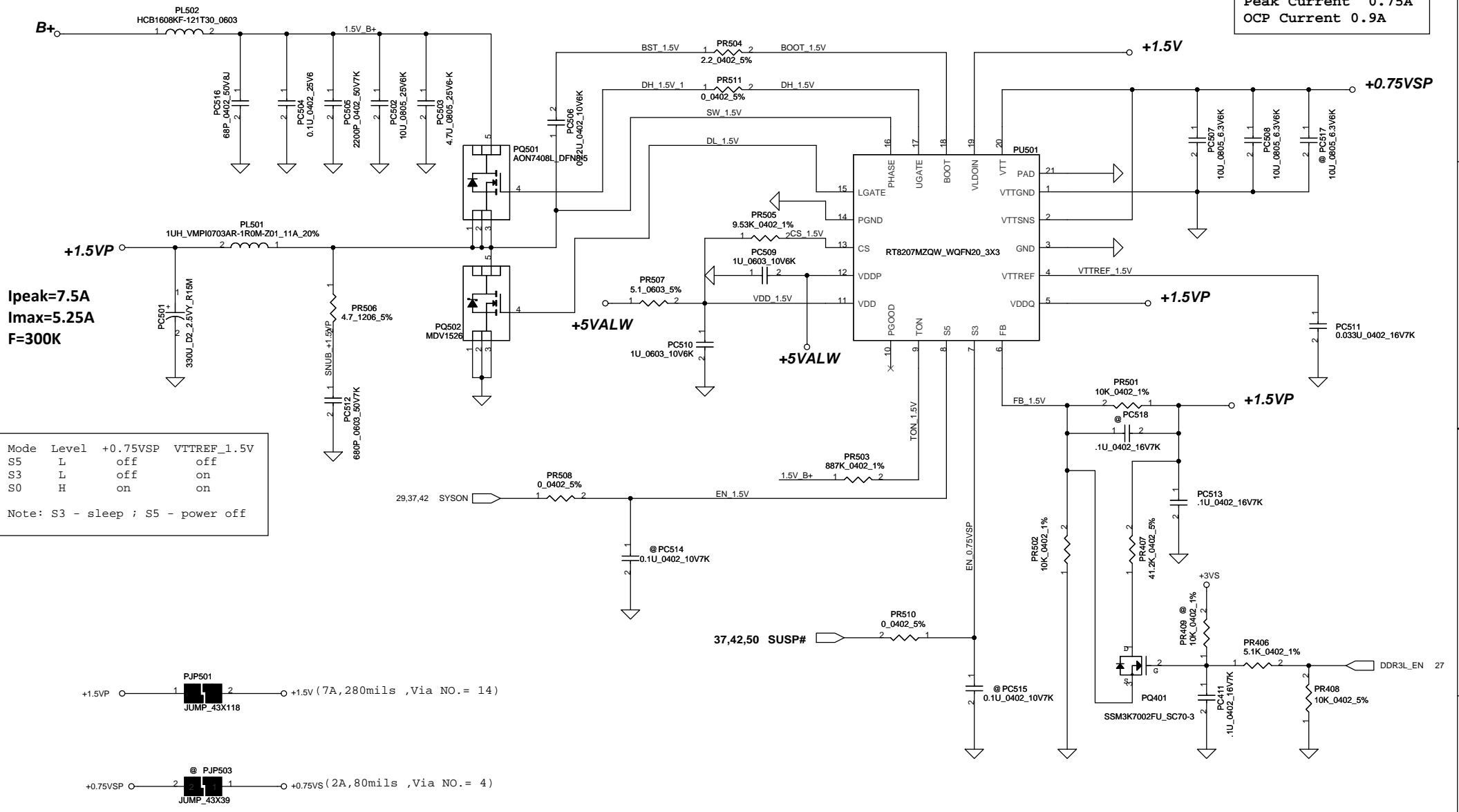
ILIM and external DPM
4.36A

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-8712P
Date:	Tuesday, January 10, 2012	Sheet	47	of	54



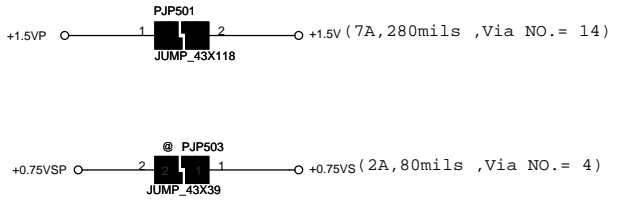
Security Classification	Compal Secret Data		Title	
Issued Date	2011/07/29	Deciphered Date	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number	Rev
			LA-8712P	A
			Date: Tuesday, January 10, 2012	Sheet 48 of 54

0.75Volt +/- 5%
 TDC 0.525A
 Peak Current 0.75A
 OCP Current 0.9A



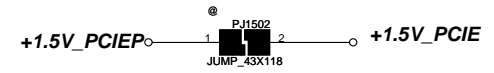
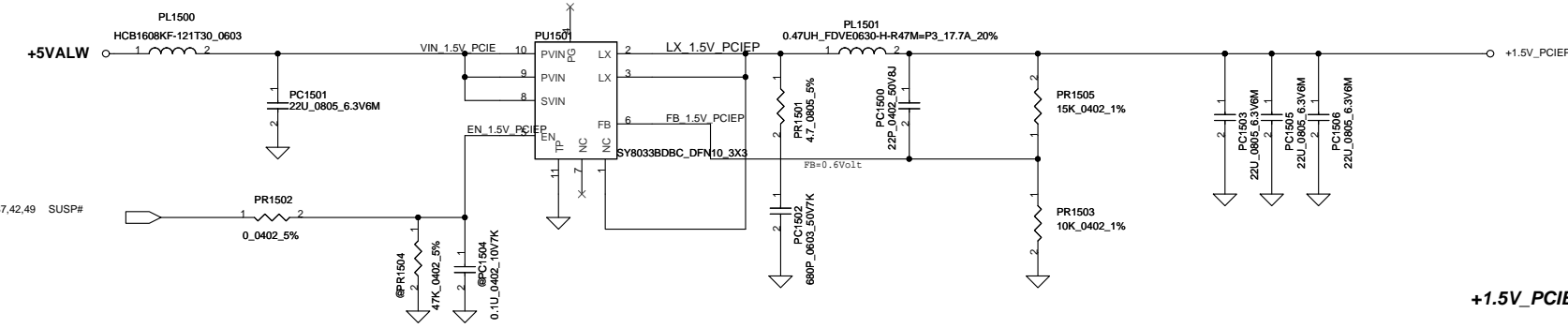
I_{peak}=7.5A
 I_{max}=5.25A
 F=300K

Mode Level +0.75VSP VTTREF_1.5V
 S5 L off off
 S3 L off off
 S0 H on on
 Note: S3 - sleep ; S5 - power off



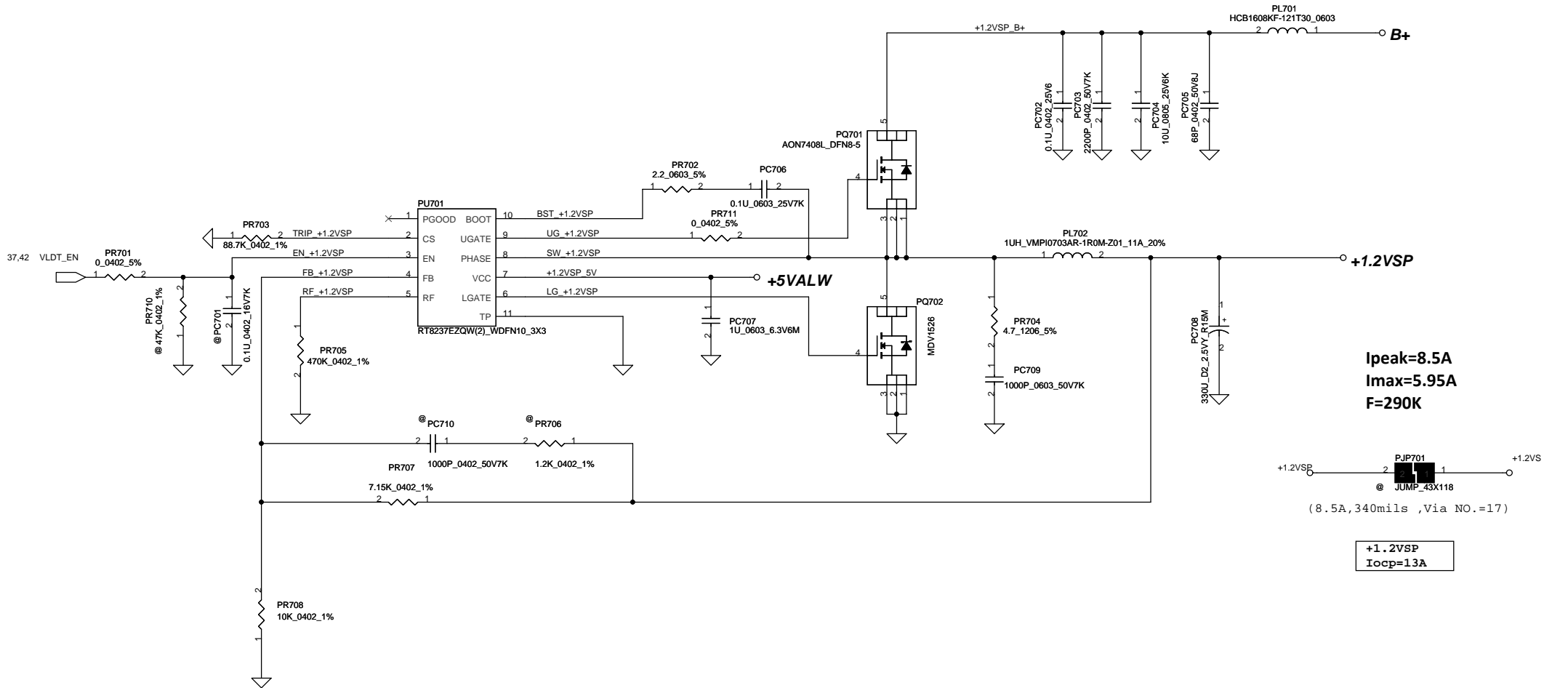
Security Classification		Compal Secret Data		Title	
Issued Date	2011/07/29	Deciphered Date	2012/07/29	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				Custom	A
				LA-8714P	
Date: Tuesday, January 10, 2012				Sheet	49 of 54

1.5VPCIEP
 Peak Current 6A
 OCP current 6A



(6A,240mils ,Via NO.= 12)

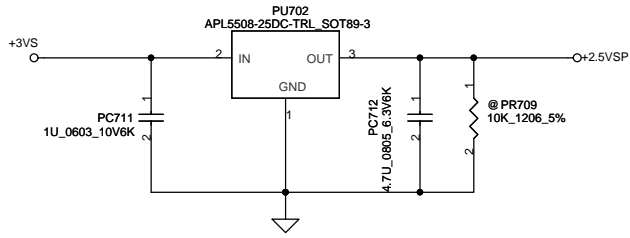
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/08/16	Deciphered Date	2012/08/15	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	50 of 54
				Rev	A



I_{peak}=8.5A
I_{max}=5.95A
F=290K

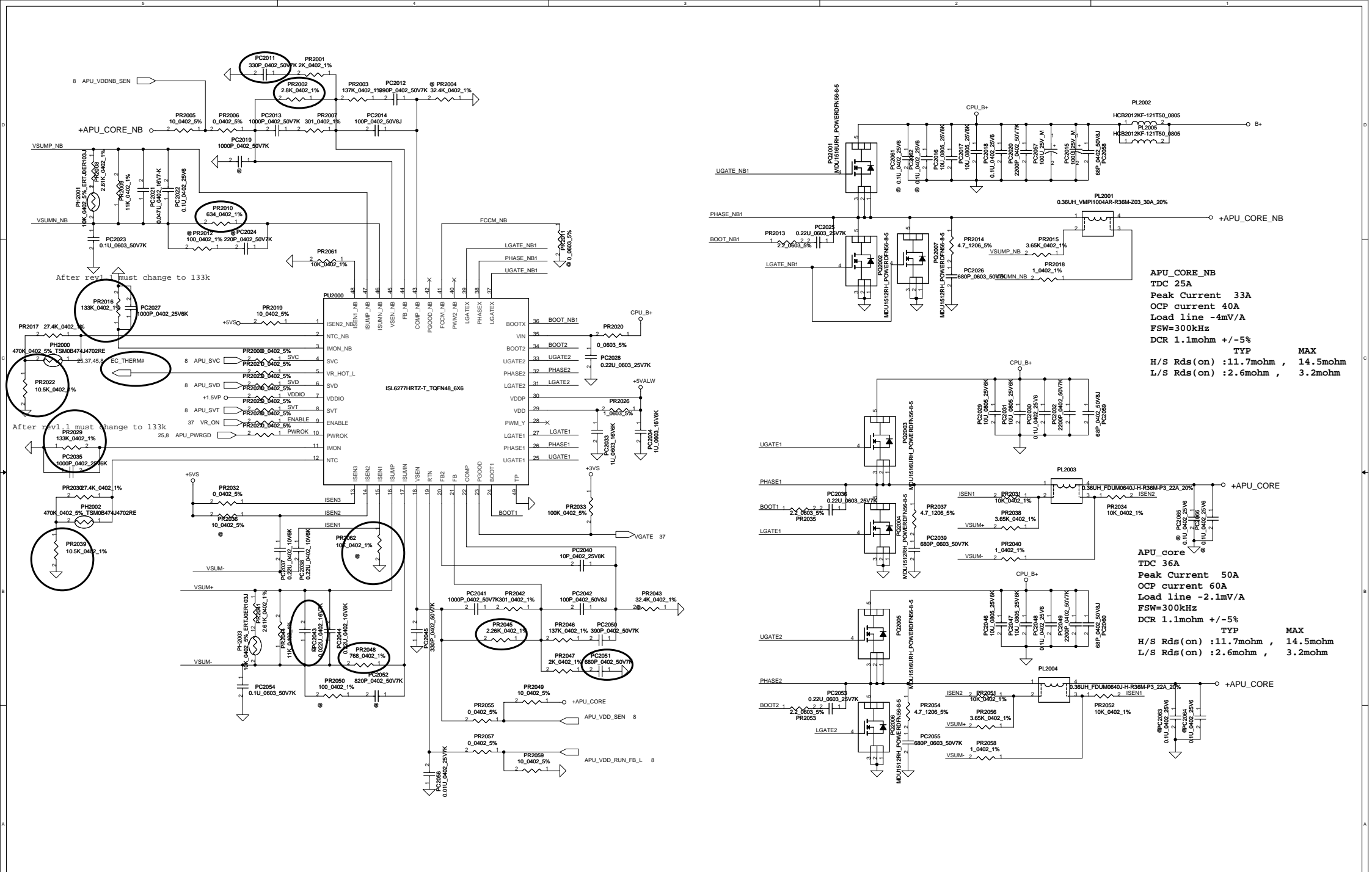
+1.2VSP ———— **PJP701** ———— +1.2VS
 @ JUMP_43X118
 (8.5A, 340mils, Via NO.=17)

+1.2VSP
I_{ocp}=13A



+2.5VSP ———— **PJP702** ———— +2.5VS
 @ JUMP_43X39
 (0.75A, 40mils, Via NO.=22)

Security Classification	Compal Secret Data		Title	
Issued Date	2011/07/29	Deciphered Date	Compal Electronics, Inc. SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number	Rev
			LA-8712P	A
Date:	Tuesday, January 10, 2012	Sheet	51	of 54



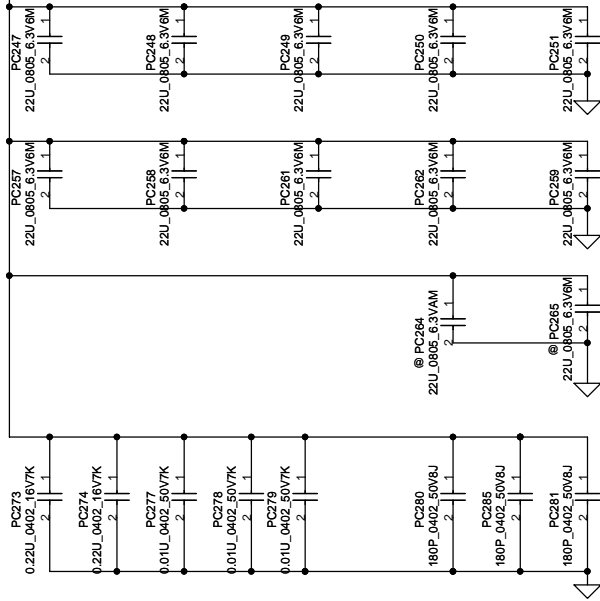
APU_CORE_NB
 TDC 25A
 Peak Current 33A
 OCP current 40A
 Load line -4mV/A
 FSW=300kHz
 DCR 1.1mohm +/-5%
 TYP MAX
 H/S Rds(on) : 11.7mohm , 14.5mohm
 L/S Rds(on) : 2.6mohm , 3.2mohm

APU_core
 TDC 36A
 Peak Current 50A
 OCP current 60A
 Load line -2.1mV/A
 FSW=300kHz
 DCR 1.1mohm +/-5%
 TYP MAX
 H/S Rds(on) : 11.7mohm , 14.5mohm
 L/S Rds(on) : 2.6mohm , 3.2mohm

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/04/18	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>					
Doc No	Document Number	Rev	A	Date	Tuesday, January 10, 2012
Sheet	82	of	54		

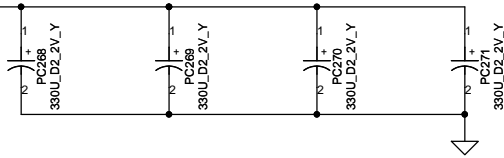
+APU_CORE

+APU_CORE



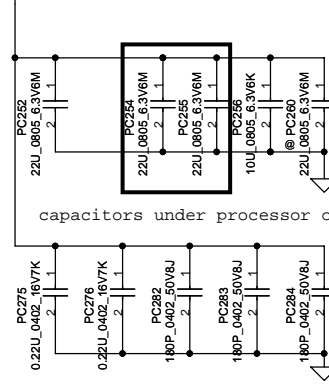
+APU_CORE

Local



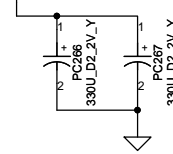
+APU_CORE_NB

+APU_CORE_NB



+APU_CORE_NB

Local



Security Classification	Compal Secret Data		Title	
Issued Date	2011/07/29	Deciphered Date	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Document Number	Rev
			LA-8714P	A
Date: Tuesday, January 10, 2012			Sheet	53 of 54

NO DATE	PAGE	MODIFICATION LIST	PURPOSE
DB-2(12/2)	P44-PWR-DCIN / Vin Detector	Change to PJP1 pine define	DC-IN jack buy and sale define does not change
DB-2(12/8)	P45-PWR-BATTERY CONN	Pin 7 power source change +3VLP to +3VALW	EC command
DB-2(12/8)	P52-PWR-+1.5VPCIE/0.935V	PC11506 loaction change to PC1156	CIC SMT command
DB-2(12/12)	P52-PWR-+1.5VPCIE/1V	Change PR9352 11.3K to 13.3K (0.935V to 1V)	HW comand
DB-2(12/13)	P50-PWR-1.1VALWP	Add PR803 =10K	SY8809 enbale pin issue

Security Classification		Compal Secret Data		Title	
Issued Date	2005/06/01	Deciphered Date	2006/06/01	Compal Electronics, Inc.	
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Size	Document Number
					4019IF
Date:				Tuesday, January 10, 2012	Sheet 54 of 54

www.s-manuals.com