

# Compal Confidential

## Tigger AMD M/B LA-A521P Schematics Document

AMD APUTemash FT3+DDR3

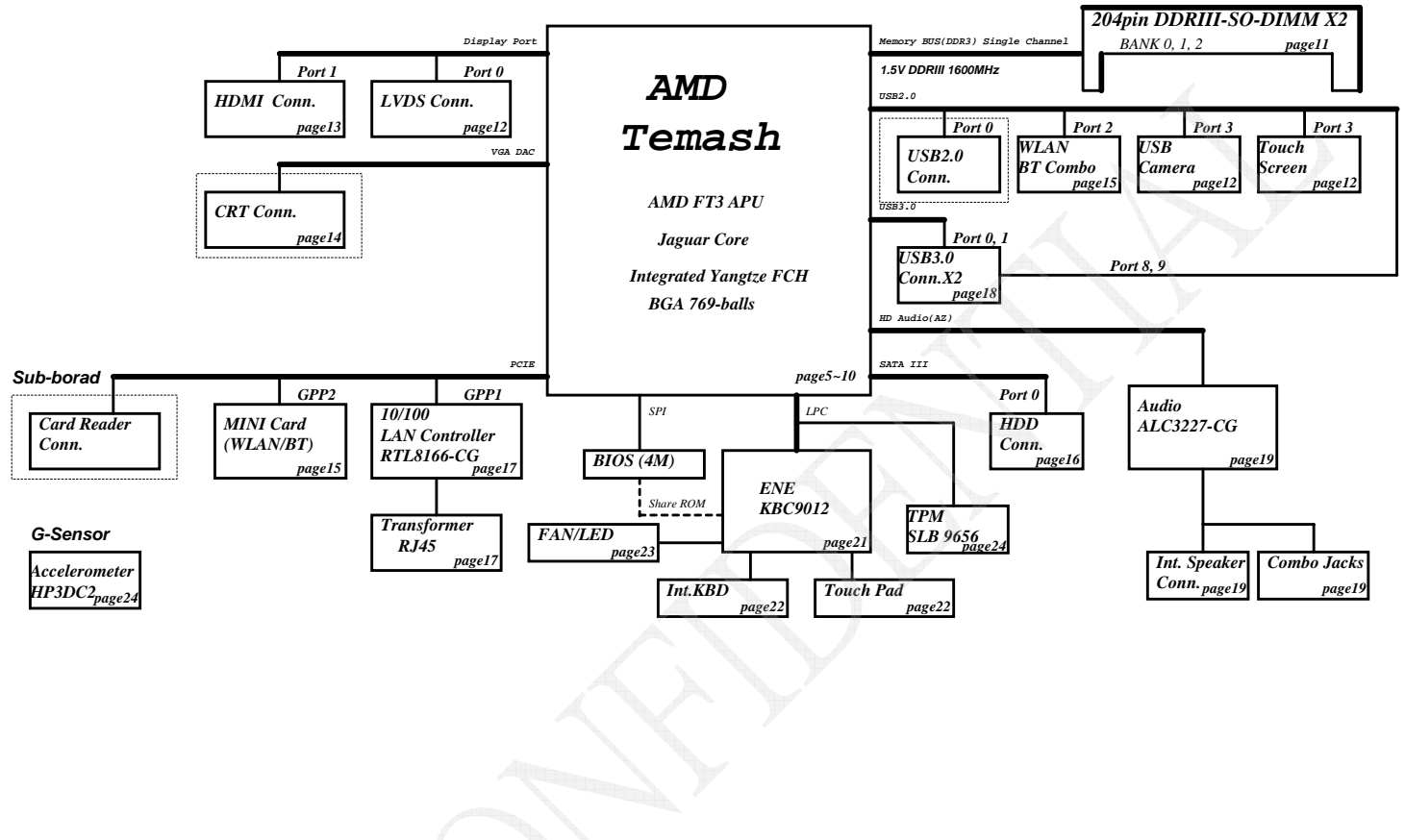
2013-05-24

REV:1.0

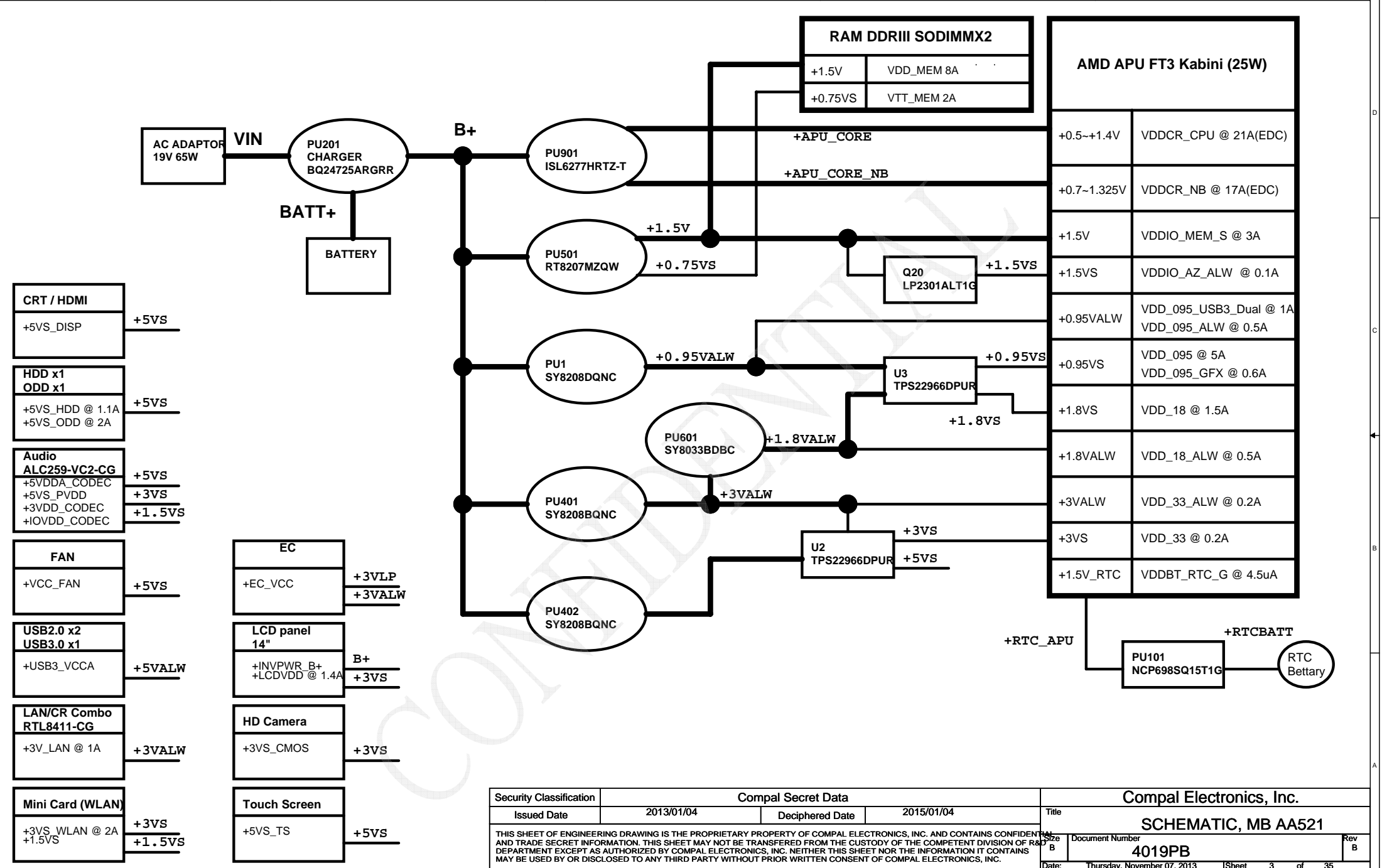
Security Classification	Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				4019PB	B
				Date: Thursday, November 07, 2013	Sheet 1 of 35

# Compal Confidential

Model Name : AMD Temash



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title
				SCHEMATIC, MB AA521
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 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 4019PB
				Rev B
				Date: Thursday, November 07, 2013 Sheet 2 of 35



RAM DDRIII SODIMMX2	
+1.5V	VDD_MEM 8A
+0.75VS	VTT_MEM 2A

AMD APU FT3 Kabini (25W)	
+0.5~+1.4V	VDDCR_CPU @ 21A(EDC)
+0.7~1.325V	VDDCR_NB @ 17A(EDC)
+1.5V	VDDIO_MEM_S @ 3A
+1.5VS	VDDIO_AZ_ALW @ 0.1A
+0.95VALW	VDD_095_USB3_Dual @ 1A VDD_095_ALW @ 0.5A
+0.95VS	VDD_095 @ 5A VDD_095_GFX @ 0.6A
+1.8VS	VDD_18 @ 1.5A
+1.8VALW	VDD_18_ALW @ 0.5A
+3VALW	VDD_33_ALW @ 0.2A
+3VS	VDD_33 @ 0.2A
+1.5V_RTC	VDDBT_RTC_G @ 4.5uA

<b>CRT / HDMI</b>	
+5VS_DISP	+5VS
<b>HDD x1 ODD x1</b>	
+5VS_HDD @ 1.1A +5VS_ODD @ 2A	+5VS
<b>Audio ALC259-VC2-CG</b>	
+5VDDA_CODEC	+5VS
+5VS_PVDD	+3VS
+3VDD_CODEC	+1.5VS
+IOVDD_CODEC	
<b>FAN</b>	
+VCC_FAN	+5VS
<b>USB2.0 x2 USB3.0 x1</b>	
+USB3_VCCA	+5VALW
<b>LAN/CR Combo RTL8411-CG</b>	
+3V_LAN @ 1A	+3VALW
<b>Mini Card (WLAN)</b>	
+3VS_WLAN @ 2A +1.5VS	+3VS +1.5VS

<b>EC</b>	
+EC_VCC	+3VLP +3VALW
<b>LCD panel 14"</b>	
+INVPWR_B+ +LCDVDD @ 1.4A	B+ +3VS
<b>HD Camera</b>	
+3VS_CMOS	+3VS
<b>Touch Screen</b>	
+5VS_TS	+5VS

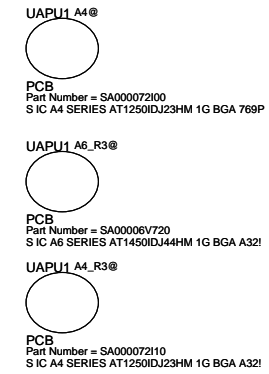
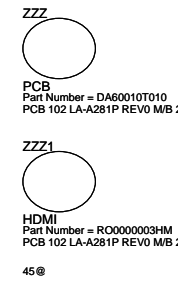
Security Classification	Compal Secret Data	
Issued Date	2013/01/04	Deciphered Date
		2015/01/04
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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	SCHEMATIC, MB AA521
Document Number	4019PB
Date: Thursday, November 07, 2013	Sheet 3 of 35

### Voltage Rails

Power Plane	Description	S0	S3	S5
VIN	Adapter power supply (19V)	ON	ON	ON
B+	AC or battery power rail for power circuit.	ON	ON	ON
+APU_CORE	Core voltage for APU	ON	OFF	OFF
+APU_CORE_NB	Voltage for On-die VGA of APU	ON	OFF	OFF
+0.95VALW	0.95V always on power rail	ON	OFF	OFF
+0.95VS	0.95V switched power rail	ON	OFF	OFF
+1.8VALW	1.8V always on power rail	ON	ON	ON*
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+1.5V	1.5V power rail for APU and DDR	ON	ON	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+0.75VS	0.75V switched power rail for DDR terminator	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	OFF
+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
+RTC_APU	RTC power			

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



### Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 1%				
Ra	100K +/- 1%				
Board ID	Rb	VAD_BID min	VAD_BID typ	VAD_BID max	EC AD
0	0	0.000 V	0.000 V	0.300 V	0x00 - 0x0B
1	12K +/- 1%	0.347 V	0.354 V	0.360 V	0x0C - 0x1C
2	15K +/- 1%	0.423 V	0.430 V	0.438 V	0x1D - 0x26
3	20K +/- 1%	0.541 V	0.550 V	0.559 V	0x27 - 0x30
4	27K +/- 1%	0.691 V	0.702 V	0.713 V	0x31 - 0x3B
5	33K +/- 1%	0.807 V	0.819 V	0.831 V	0x3C - 0x46
6	43K +/- 1%	0.978 V	0.992 V	1.006 V	0x47 - 0x54
7	56K +/- 1%	1.169 V	1.185 V	1.200 V	0x55 - 0x64

### BOARD ID Table

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

### SMBus List

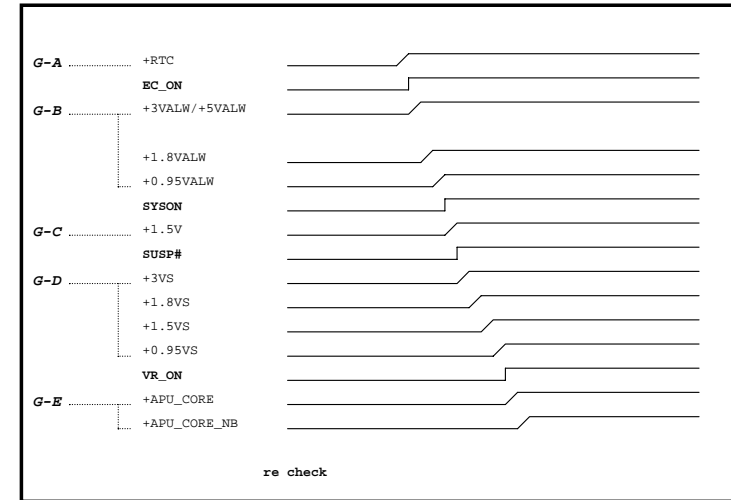
EC SMBus Port1 (+3VALW)			EC SMBus Port2 (+3VS)		
Device	Address	HEX	Device	Address	HEX
Smart Battery	0001 011X b	16H	SB-TSI (APU)	1001 100X b	98H

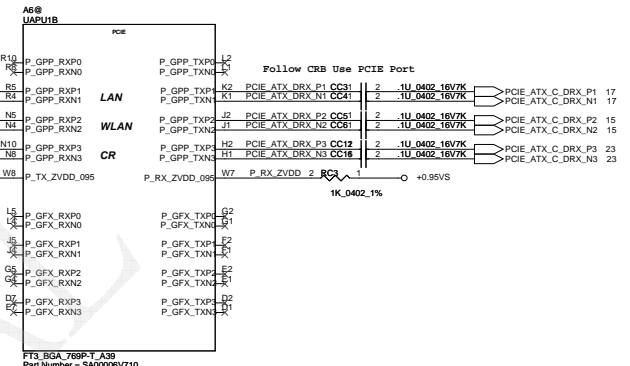
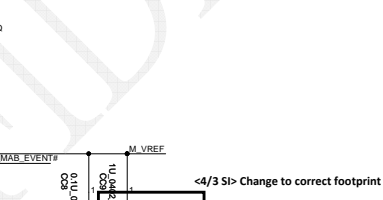
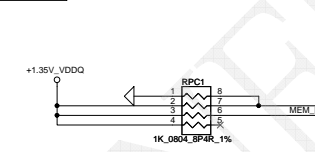
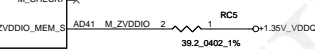
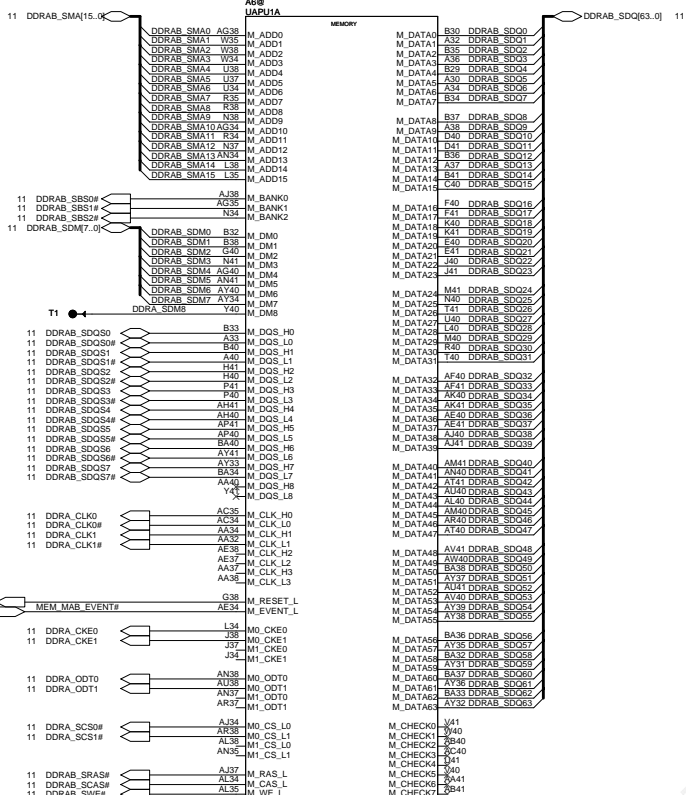
APU SMBus Port0 (+3VS)			APU SMBus Port1(+3VALW)		
Device	Address	HEX	Device	Address	HEX
DDR DIMM2	1010 000Xb	A0H			
DDR DIMM1	1010 001Xb	A2H			
Mini Card (DNI)					

### BOM Structure Table

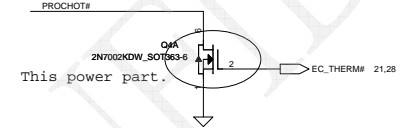
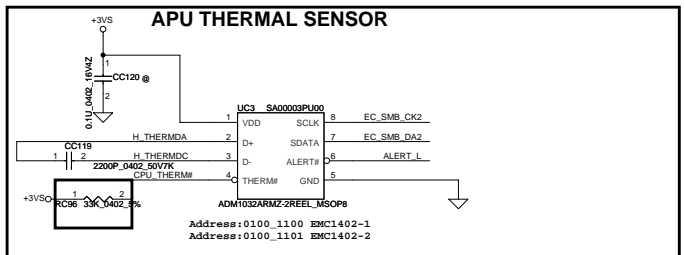
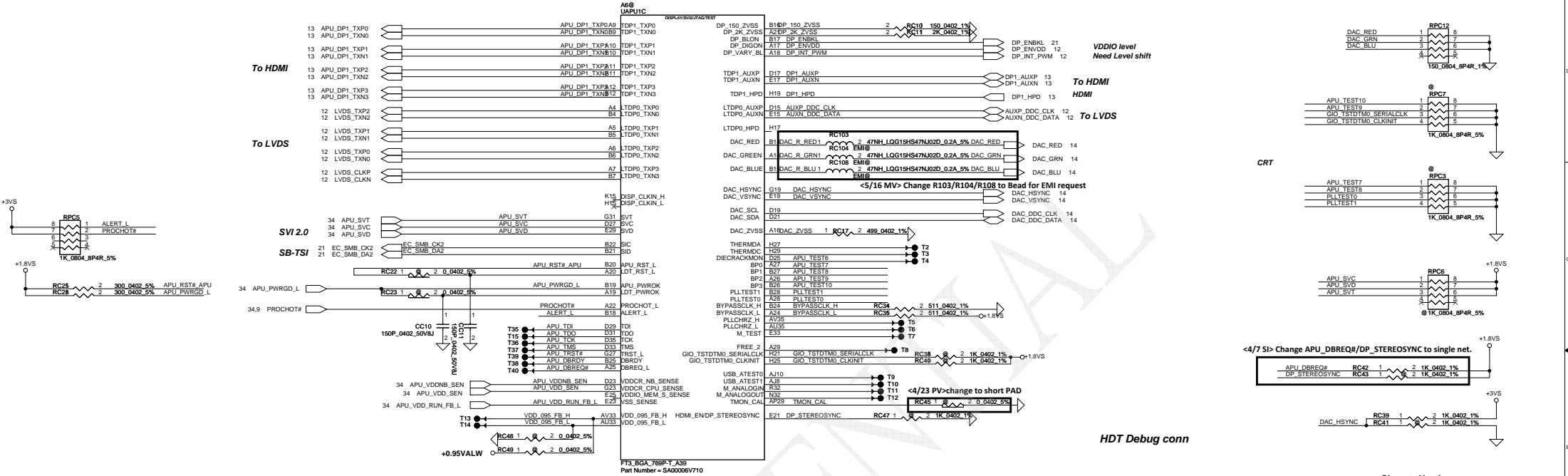
BOM Structure	BTO Item
@	Unpop
CONN@	Connector Part Control by ME
EMI@	EMI pop component
@EMI@	EMI unpop component
ESD@	ESD pop component
@ESD@	ESD Unpop component
eDP@	eDP Panel
LVDS@	LVDS Panel
AL@	Auto Load EC ROM
DB@	Debug only, remove at MP

### APU POWER SEQUENCE

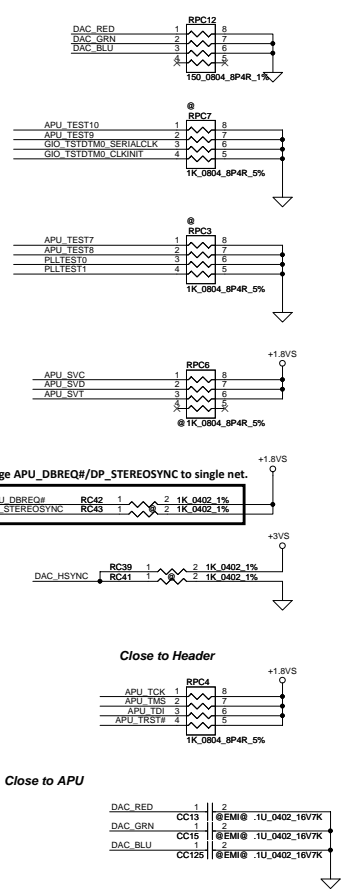


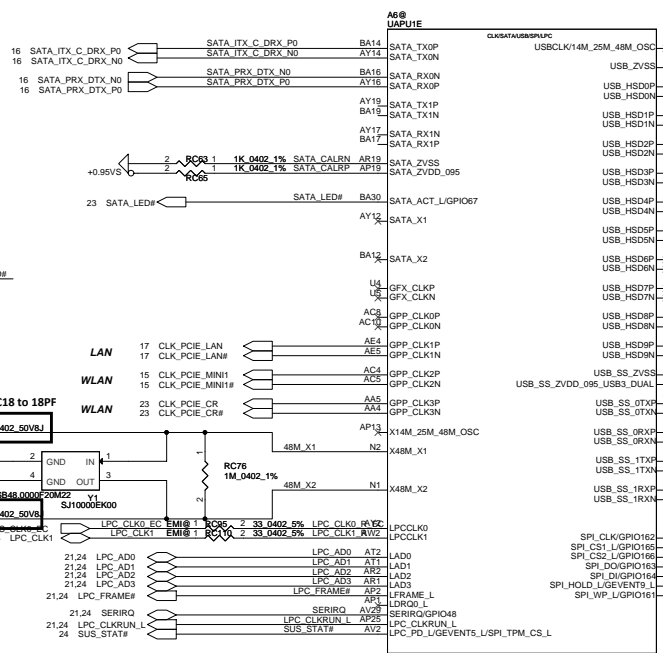


Security Classification	Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	SCHEMATIC, MB AA521
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT 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.				
Document Number			Rev	
4019PB			B	
Date	Thursday, November 07, 2013	Sheet	5	of 35

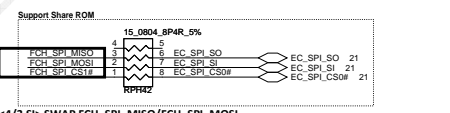
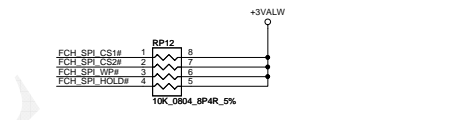
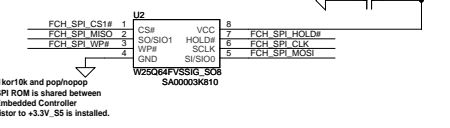


Security Classification	Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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 <b>4019PB</b>
Date: Thursday, November 07, 2013				Sheet 6 of 35



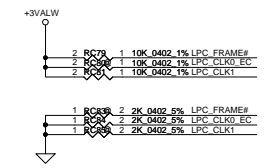


### 4MB SPI ROM & Non-share ROM.



### STRAPS OF APU

	LPC_FRAME#	LPC_CLK0_EC	LPC_CLK1	GEVENT2_L	RTC_CLK
H	SPI ROM (DEFAULT)	BOOT FAIL TIMER ENABLED	CLKGEN ENABLE (DEFAULT)	1.8V SPI ROM	NORMAL POWER UP/RESET TIMING (DEFAULT)
L	LPC ROM	BOOT FAIL TIMER DISABLED (DEFAULT)	CLKGEN DISABLED	3.3V SPI ROM (DEFAULT)	FAST POWER UP/RESET TIMING FOR SIMULATION

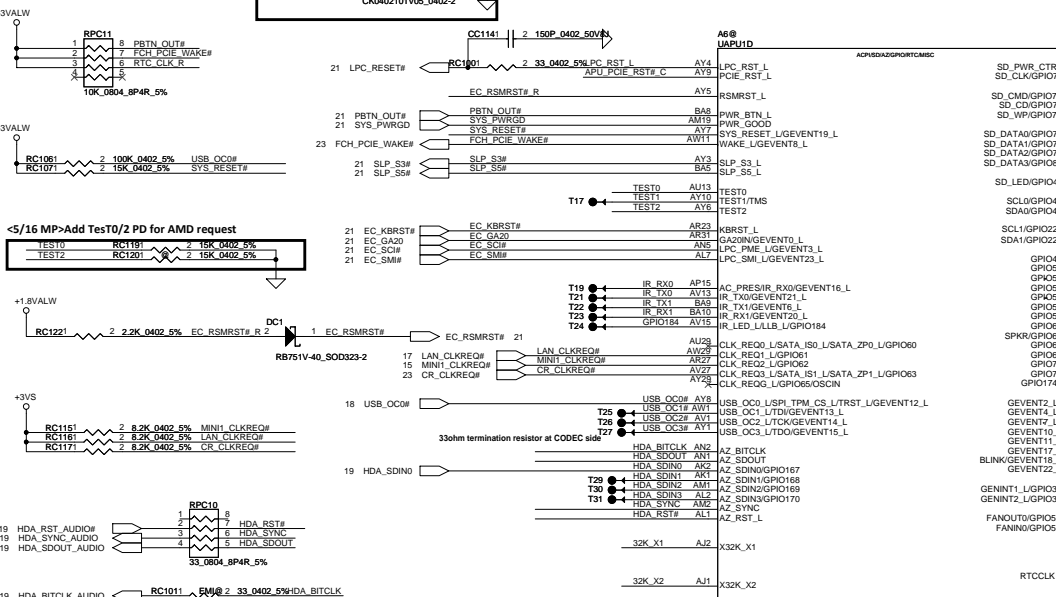
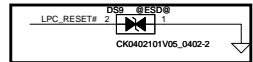


Security Classification	Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE 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 <b>4019PB</b> Date: Thursday, November 07, 2013   Sheet 7 of 35

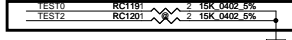




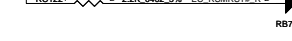
<4/28 PV> Reserve varistor close CC114 for ESD request



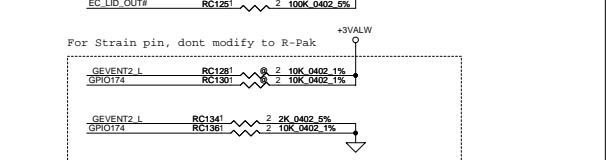
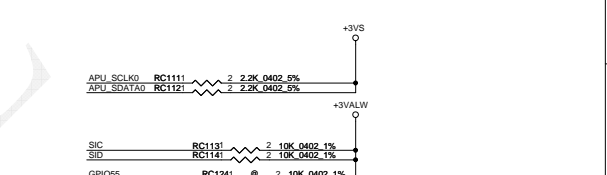
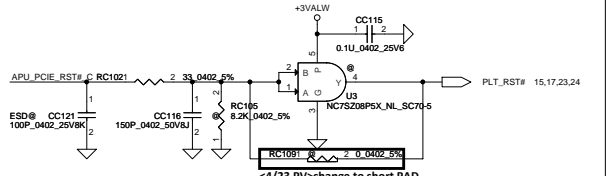
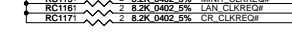
<5/16 MP> Add Test0/2 PD for AMD request



<4/23 PV> change to short PAD



<4/8 Si> Change 15P to 18P for RTC issue



Part Number = 5A00006V710

Security Classification	Compal Secret Data	Deciphered Date	2015/07/08	Title	Compal Electronics, Inc.
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Document Number	SCHEMATIC, MB AA521
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 THE 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.					
Date	Thursday, November 07, 2013	Sheet	9	of	35

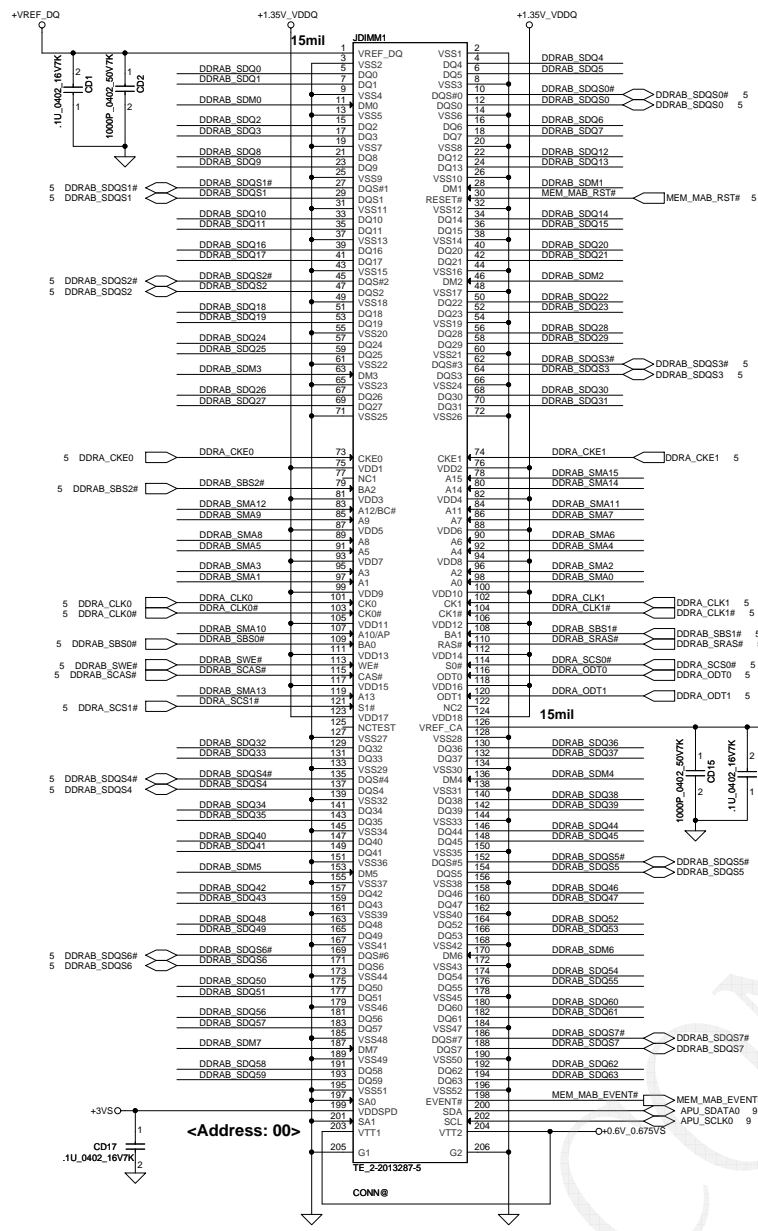
Panel ENBKL

Panel ENVDD

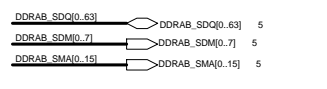
Panel PWM

CONFIDENTIAL

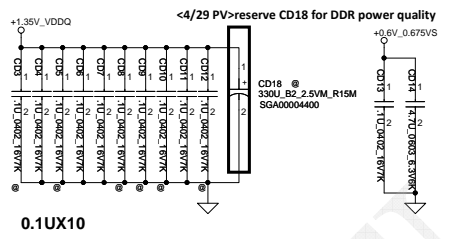
Security Classification	Compal Secret Data		Title
Issued Date	2013/02/26	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE 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 4019PB
Date: Thursday, November 07, 2013			Rev B
Sheet 10 of 35			



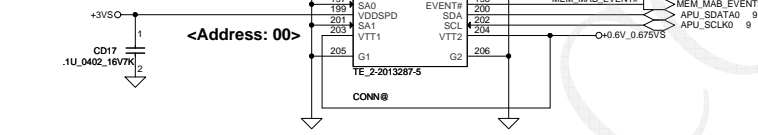
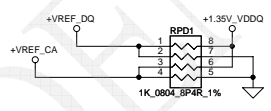
**DIMM\_A H:4mm Reverse**



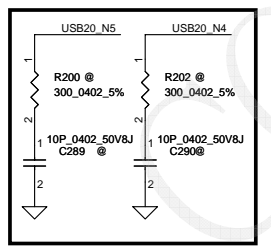
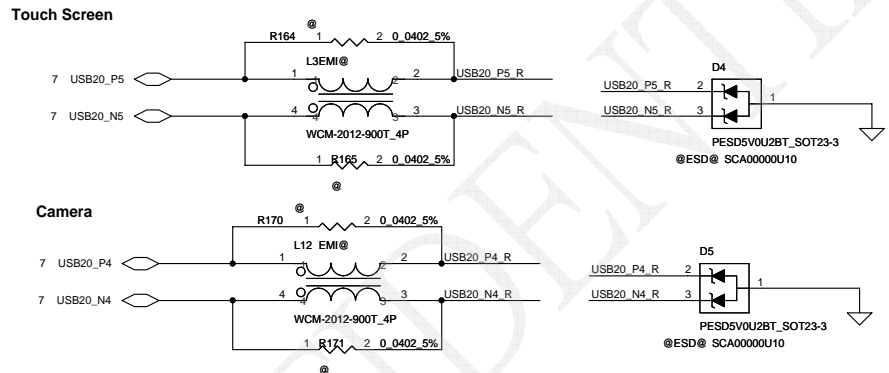
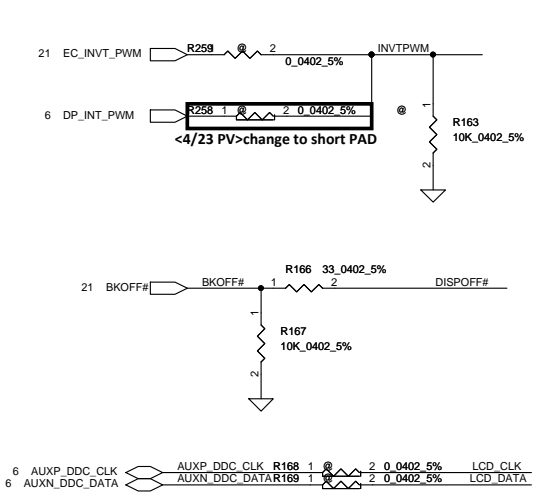
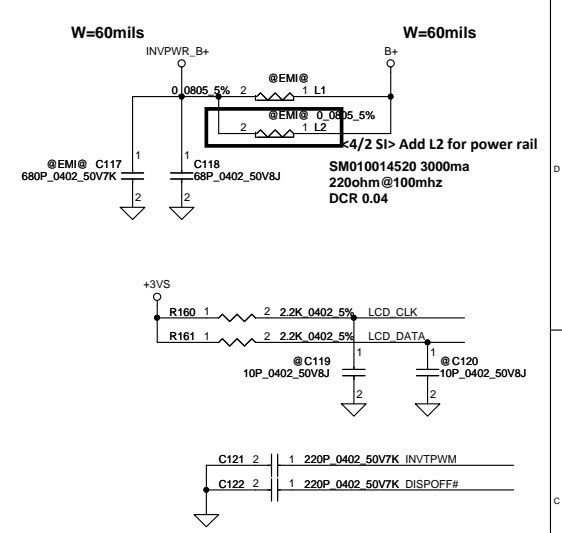
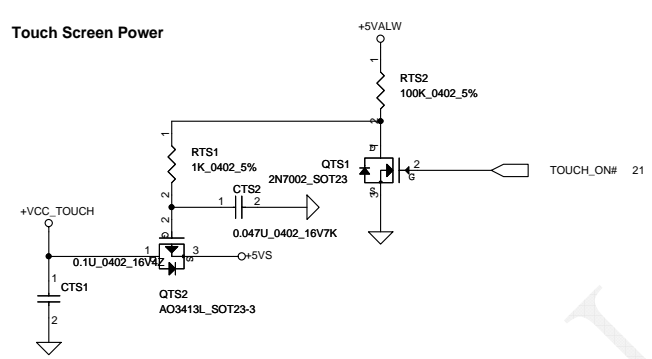
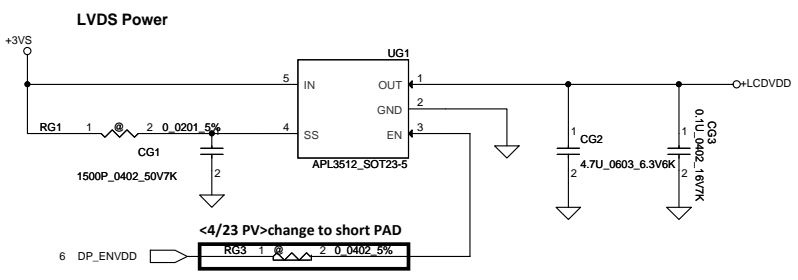
**+1.35V\_VDDQ +0.675VS OF DIMM1**



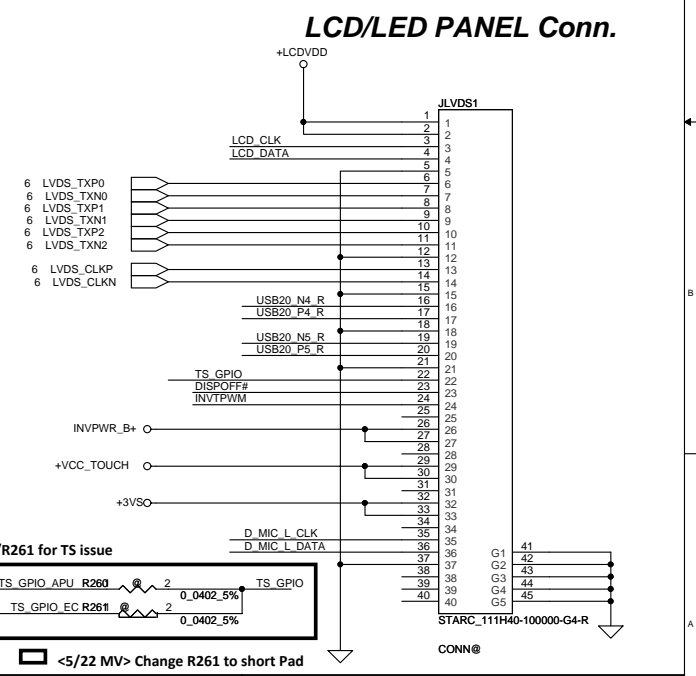
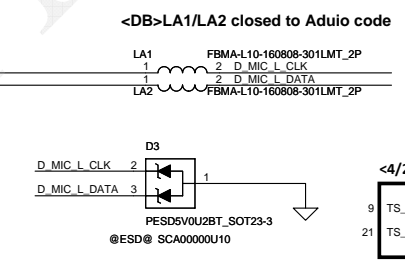
**VREF for DIMM1,2**



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	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.				
Title	SCHEMATIC, MB AA521		Size	Document Number
				4019PB
Date:	Thursday, November 07, 2013	Sheet	11	of 35

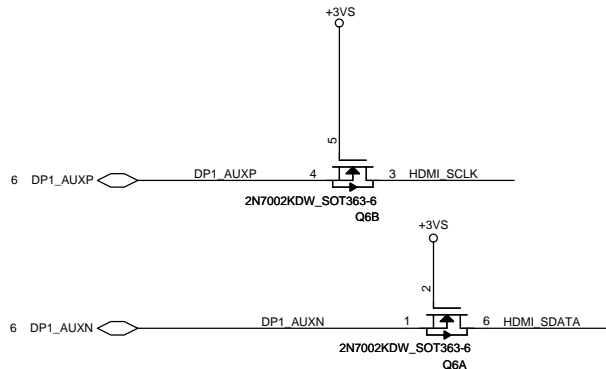


03/14 for AMD issue workaround



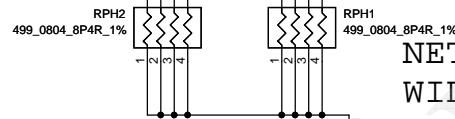
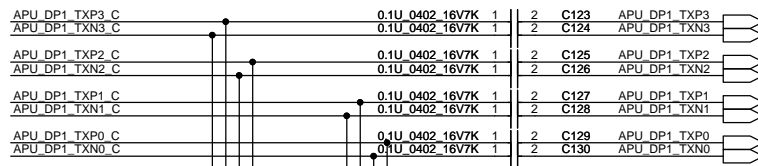
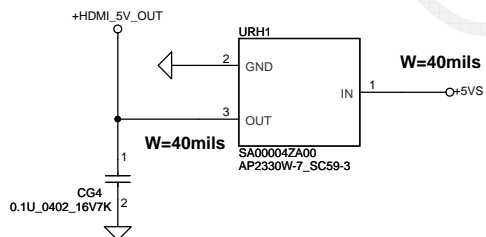
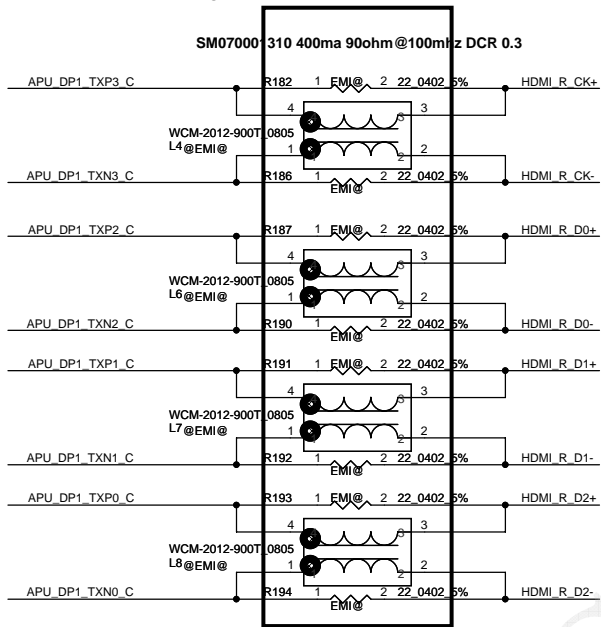
Security Classification	Compal Secret Data		Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Size		Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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.				Date:		Thursday, November 07, 2013
				Sheet		12 of 35
				Rev		B

Compal Electronics, Inc.  
SCHEMATIC, MB AA521  
LA-8711P

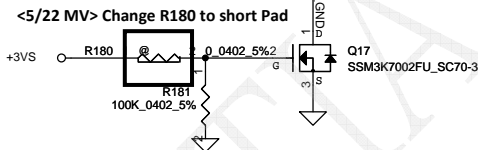


5V PULL UP IN CONNECTER SIDE

<5/22 MV> Change R182/R186/R187/R190/R191/R192/R193/R194 for EMI request

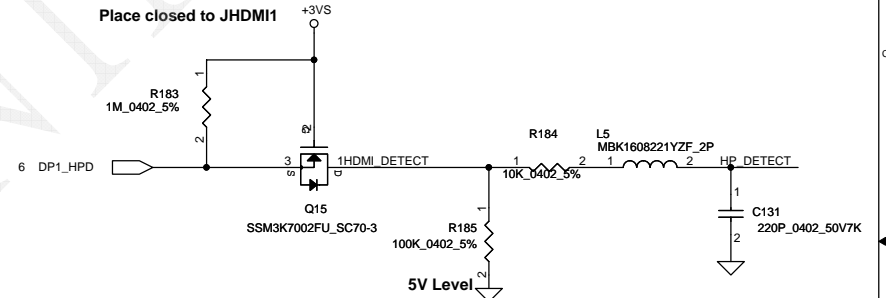
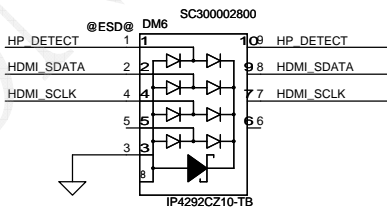
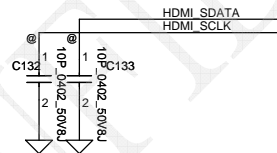
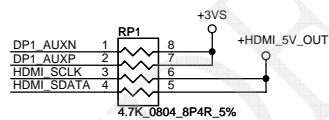


NET: HDMIRES\_GND  
WIDTH>20 mils

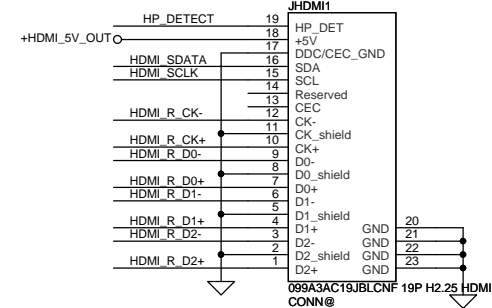


<5/22 MV> Change R180 to short Pad

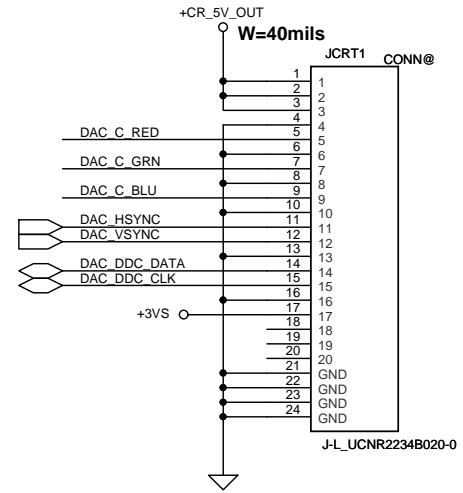
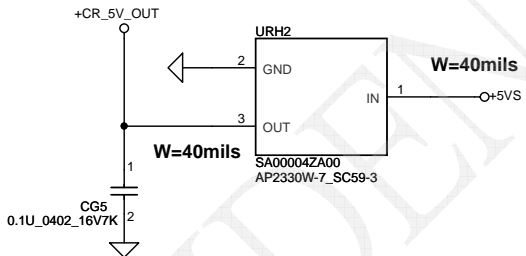
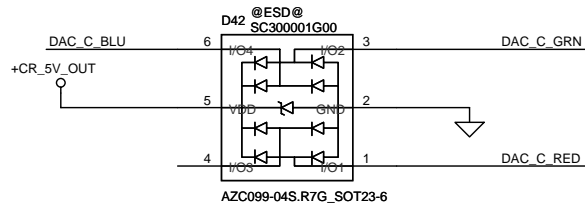
Place closed to JHDMI1



HDMI Conn.  
<Si>Jon : Change footprint to  
CONCR\_099A3AC19JBLCNF\_19P-T

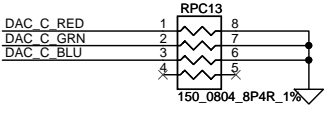
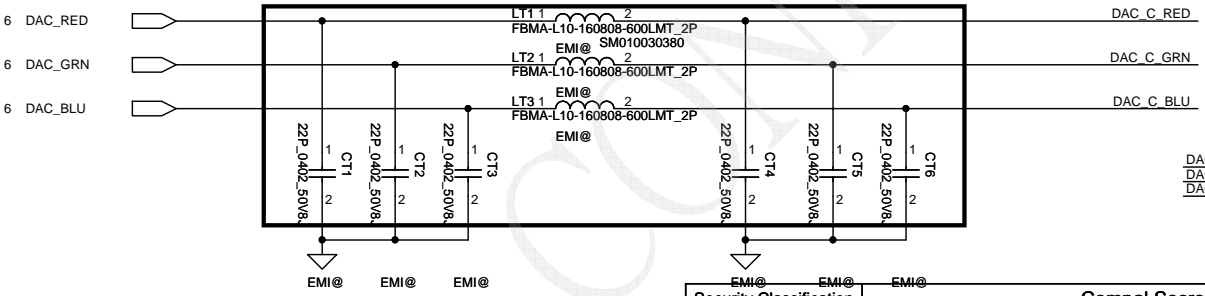


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title <b>SCHEMATIC, MB AA521</b>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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 <b>4019PB</b>	Rev <b>B</b>
Date:	Thursday, November 07, 2013	Sheet	13	of 35	

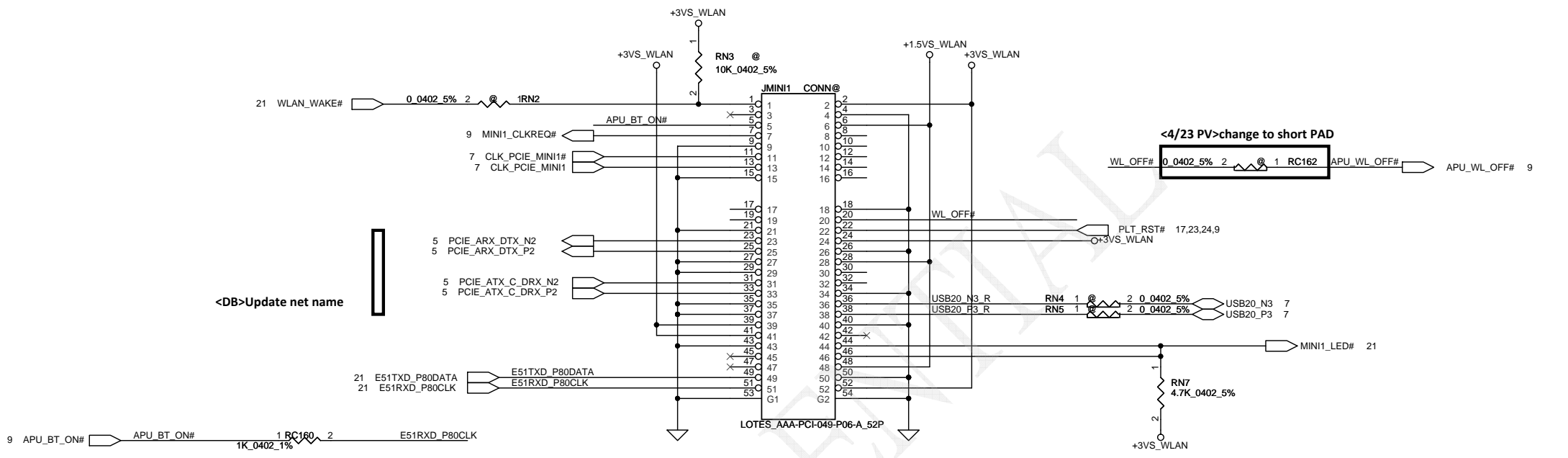


- 6 DAC\_HSYNC
- 6 DAC\_VSYNC
- 6 DAC\_DDC\_DATA
- 6 DAC\_DDC\_CLK

<5/16 MV> Change CT1/CT2/CT3/CT4/CT5/CT6 to 22P and LT1, LT2, LT3 to Bead for EMI request

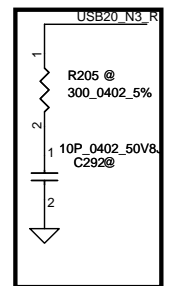
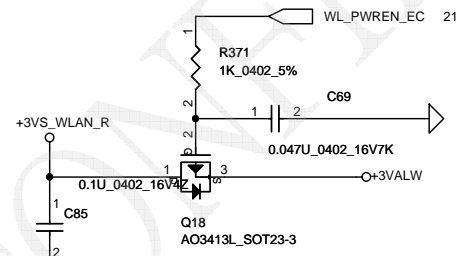
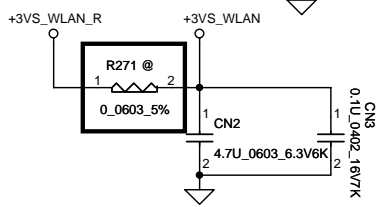
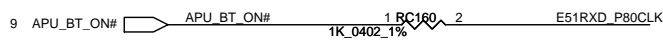


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	SCHMATIC, MB AA521
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	4019PB
Date:	Thursday, November 07, 2013	Sheet	14	of	35



<DB>Update net name

<4/23 PV>change to short PAD

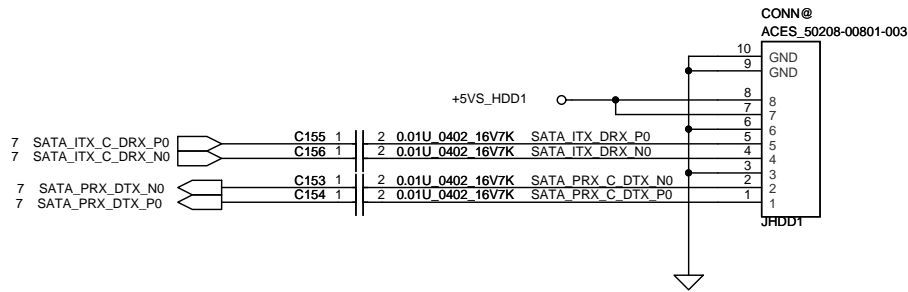
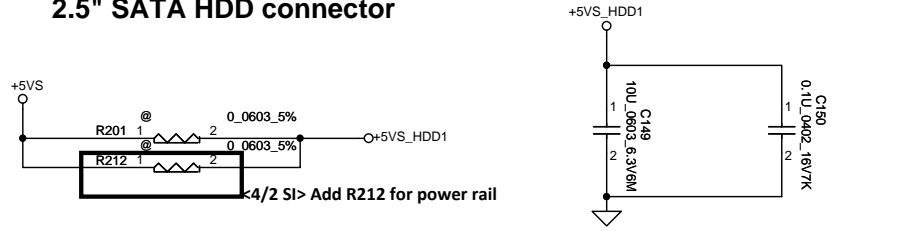


03/14 for AMD issue workaround

<5/22 MV> Change RC86, RC87, RC92, RC91 to short Pad

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		SCHEMATIC, MB AA521	
2013/02/26		2015/07/08		4019PB	
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.					
Date:	Thursday, November 07, 2013	Sheet	15	of	35

# 2.5" SATA HDD connector

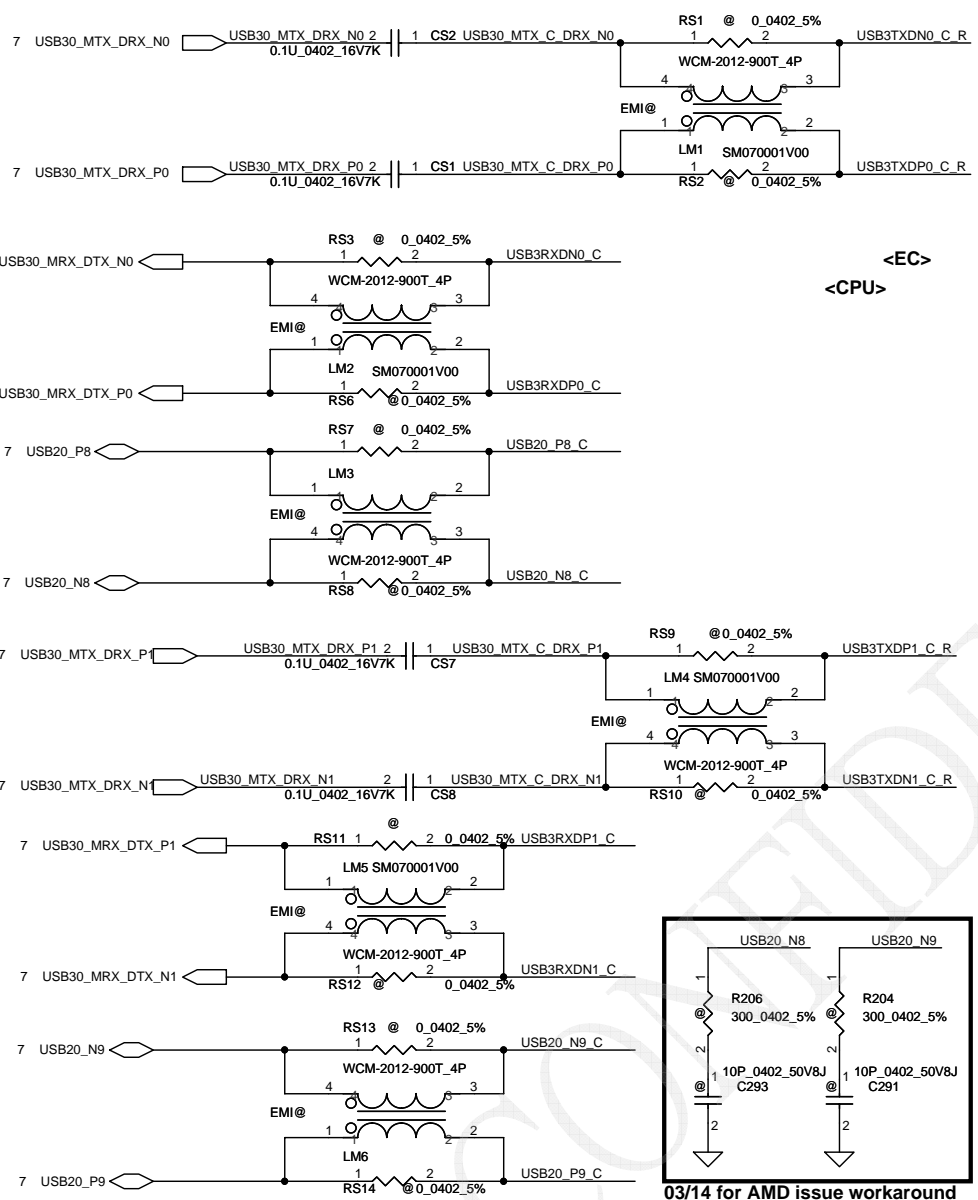


CONFIDENTIAL

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	SCHEMATIC, MB AA521
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	Rev B
				4019PB	
Date:	Thursday, November 07, 2013	Sheet	16	of	35



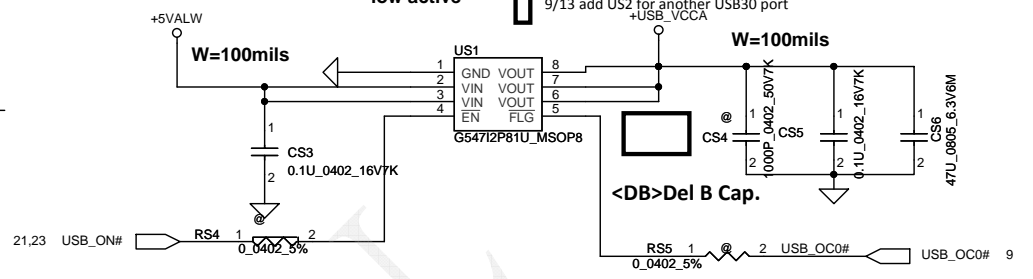




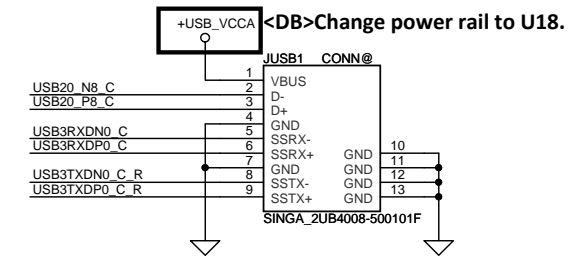
03/14 for AMD issue workaround

<EC>  
<CPU>

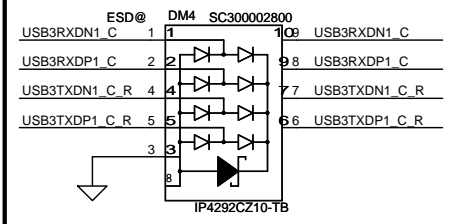
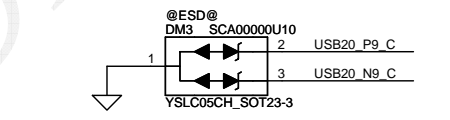
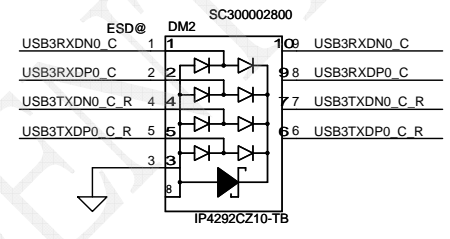
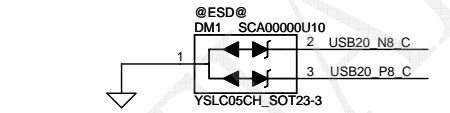
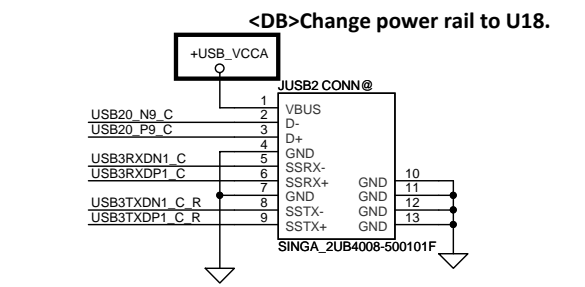
USB3.0 need support 2.5A  
change USB PWR SW SA00003TV00  
low active



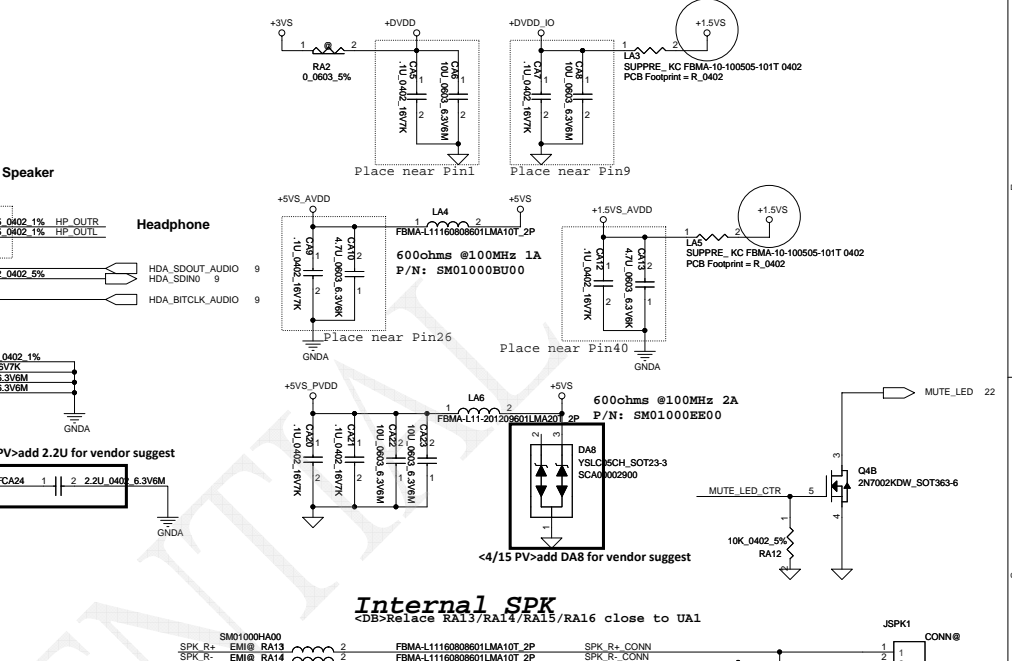
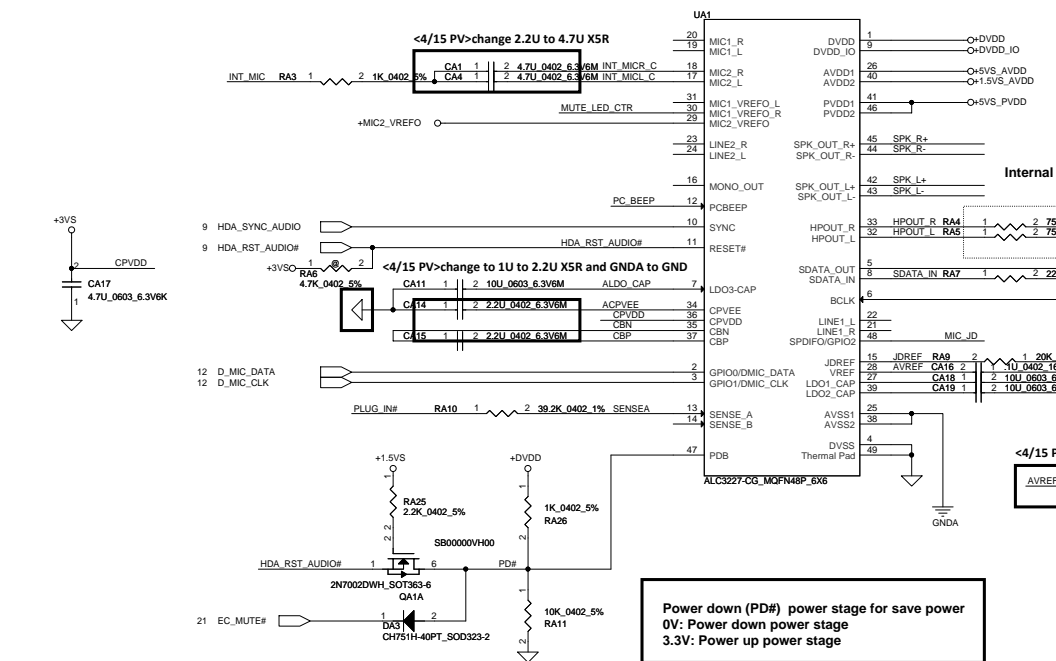
<DB>Update footprint to DC233008M10.  
USB2.0/USB3.0 port 1



USB2.0/USB3.0 port 2

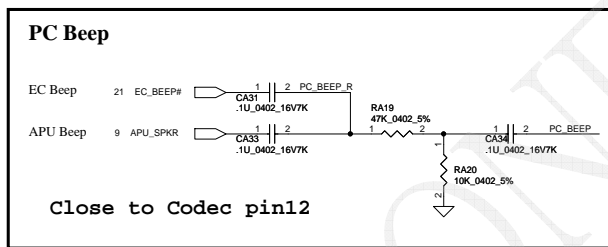


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	SCHEMATIC, MB AA521	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.				Part Number	4019PB	
Date:	Thursday, November 07, 2013	Sheet	18	of	35	

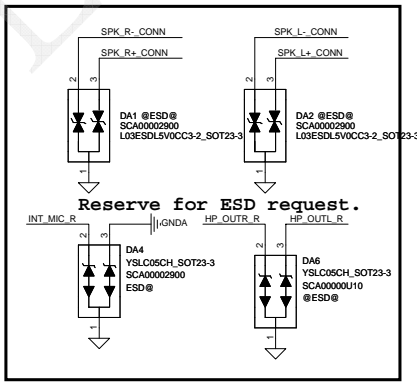


Power down (PD#) power stage for save power  
 0V: Power down power stage  
 3.3V: Power up power stage

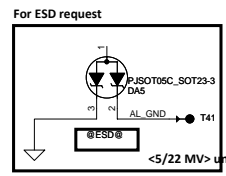
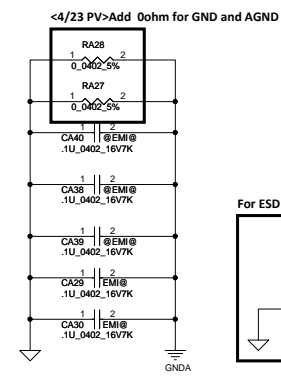
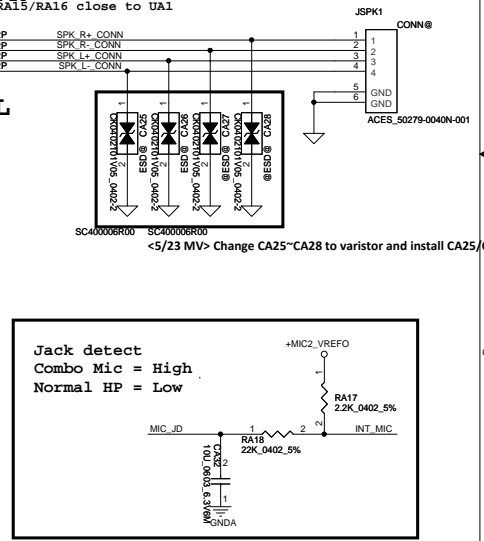
**Internal SPK**  
 <DB>Relace RA13/RA14/RA15/RA16 close to UA1



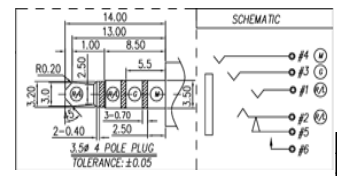
Close to Codec pin12



**COMBO AUDIO JACK**



<S/22 MV> Install DA5 for ESD request



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2013/01/04	Deciphered Date	2015/01/04
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.			Title
			<b>SCHEMATIC, MB AA521</b>
Size	Document Number	Rev	B
C	<b>4019PB</b>		
Date:	Thursday, November 07, 2013	Sheet	19 of 35

**SPK Conn.**

SM_DET	BIOS setup	Speaker Type	BOM
1	S&M option	Harman/Kardon	269@
0		Non Harman	259@

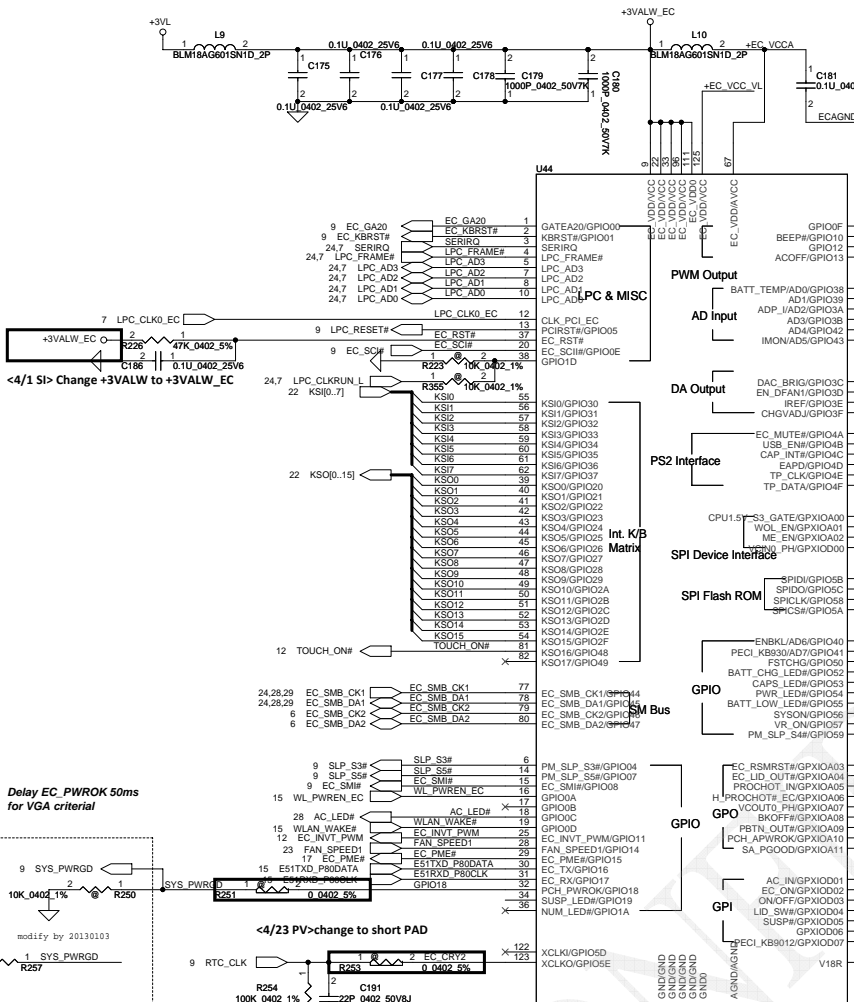
Non-Harman detection		
SPK_DET	0	ONKYO
	1	Non-Brand

**HeadPhone/LINE Out JACK**

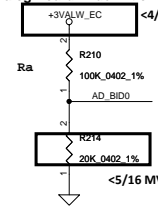
**MIC/LINE IN JACK**

CONFIDENTIAL

Security Classification	Compal Secret Data			<i>Compal Electronics, Inc.</i>		
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title		
<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 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.</small>				Document Number		Rev
				Date: Thursday, November 07, 2013		Sheet

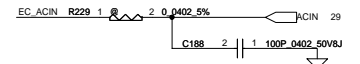


Analog Board ID definition

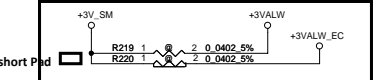
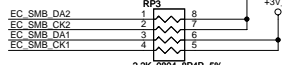
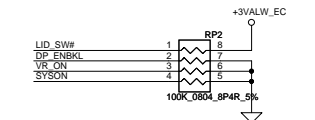
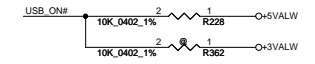
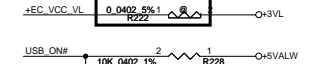


	DB	SI	PV	MV
Board ID	0 ohm	12K ohm	15K ohm	20K ohm
Project ID	100k ohm	100k ohm	100k ohm	100k ohm

<5/16 MV> Change R214 to 20K for MV build

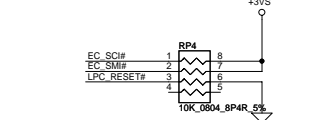


<4/3 SI> Change R222 to short Pad

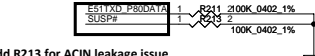


<5/22 MV> Change R220 to short Pad

<4/8 SI> Co-aly SMBus to +3V\_SM for Battery issue



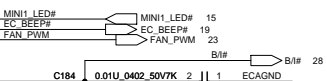
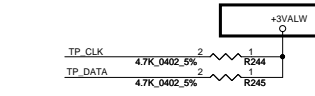
<4/7 SI> add R213 for ACIN leakage issue



<4/7 SI> add R230 for VLDT\_EN# pull high



<4/1 SI> Change +3V to +3VALW



<4/24 PV> remove SM\_PG\_CTRL

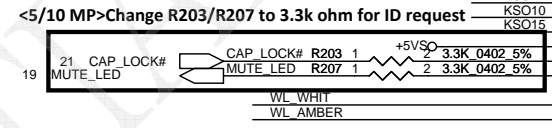
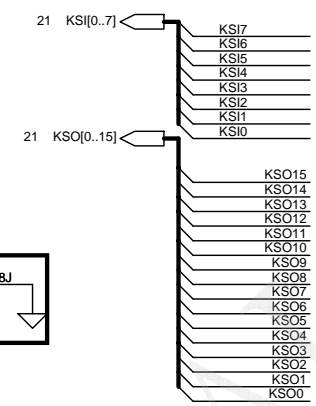
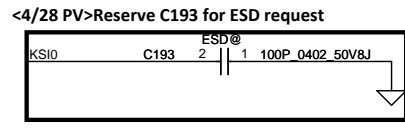
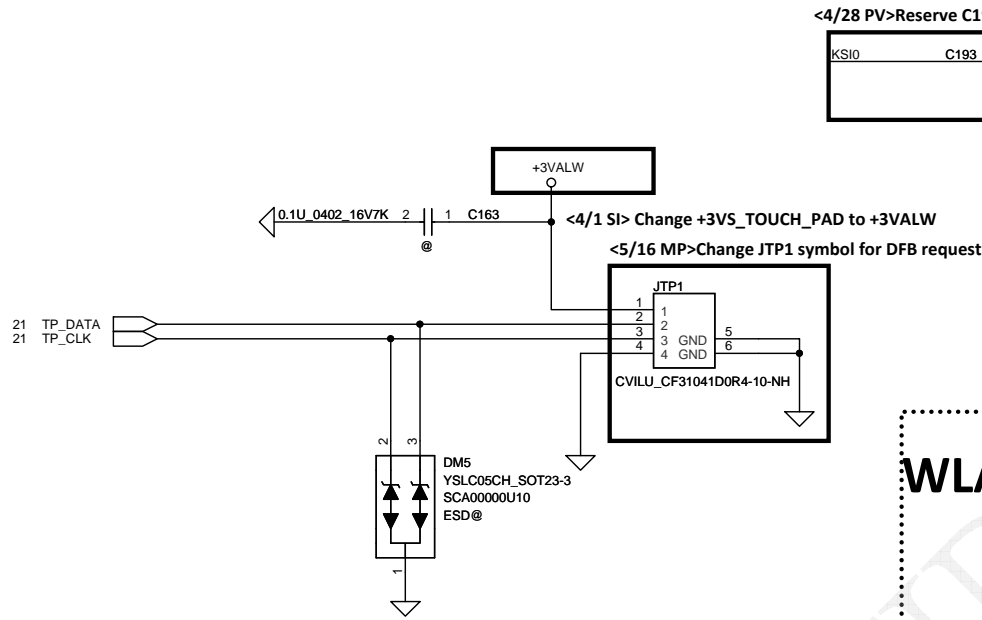
<4/3 SI> Change VLDT\_EN# to Low Active

<4/26 PV> add TS\_GPIO\_EC for TS issue clarify

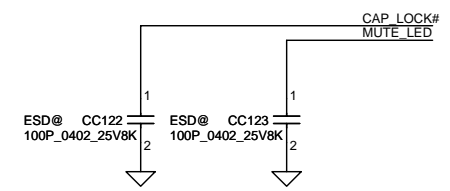
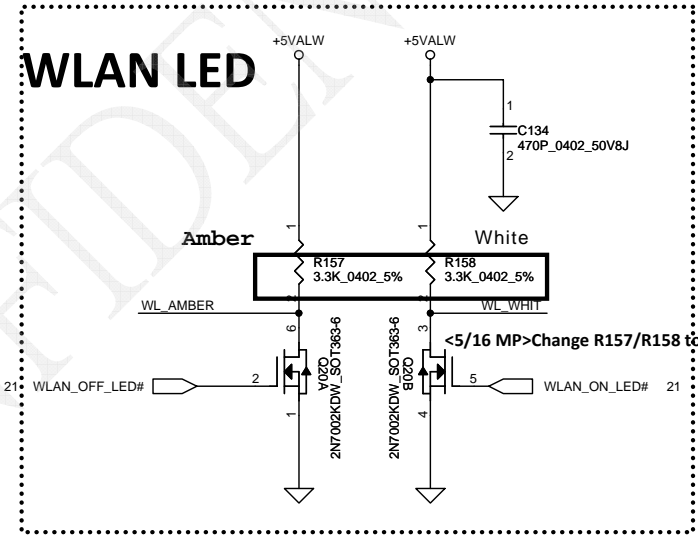
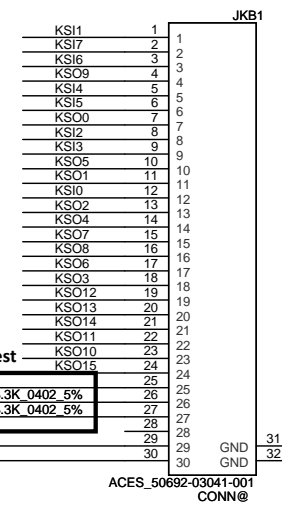
Delay SUSP# 10ms

<4/3 SI> remove prohot#\_EC for EC request

### Touch pad conn

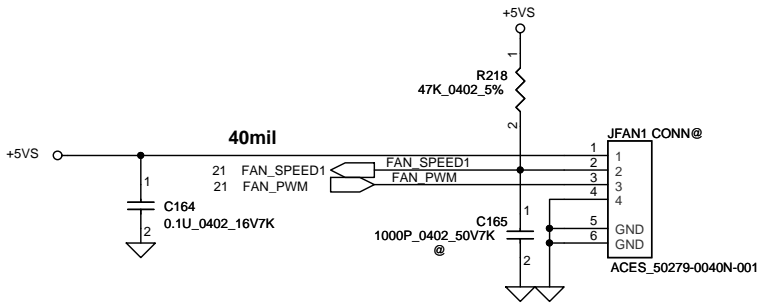


### Keyboard conn

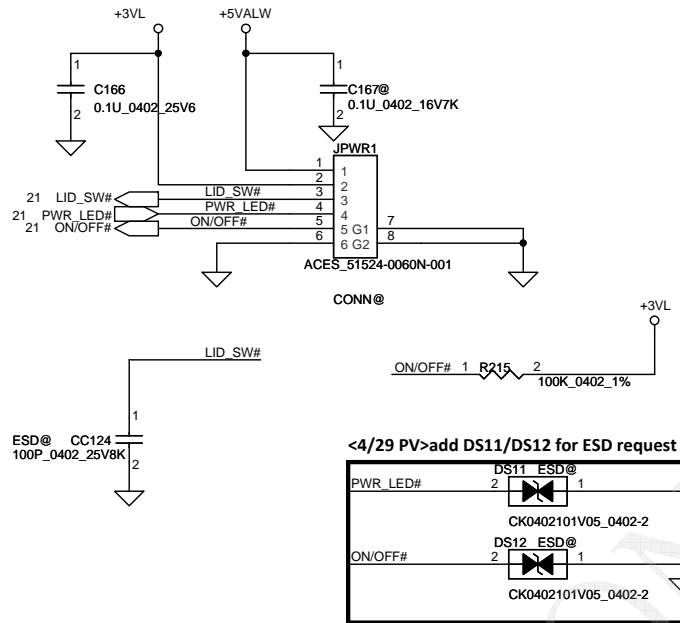


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	SCHMATIC, MB AA521
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.					
Rev B	Document Number	4019PB	Rev B	Date:	Thursday, November 07, 2013
	Sheet	22	of	35	

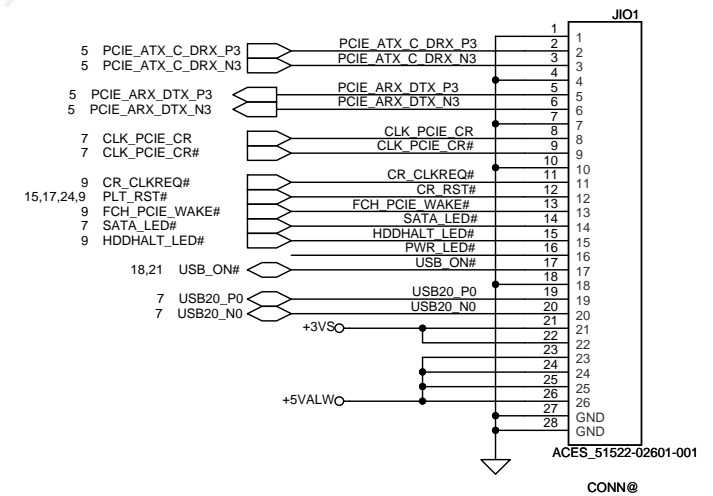
### FAN conn



### Power Button Connector

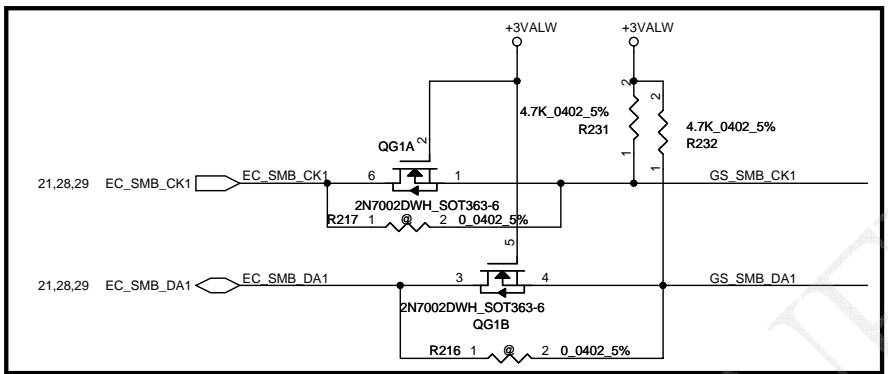
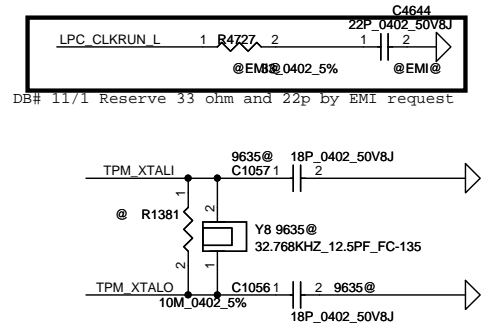
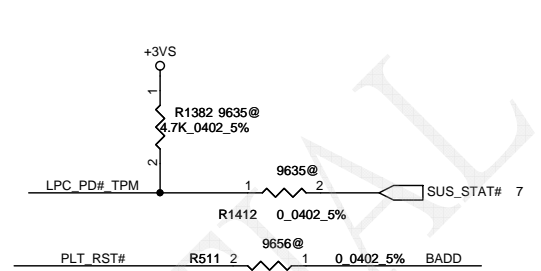
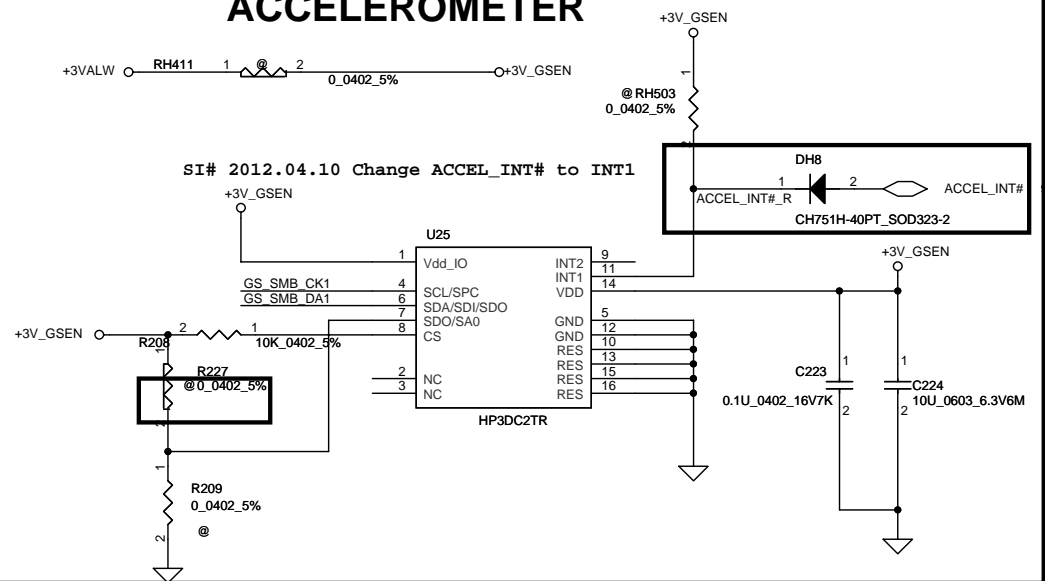


### Card reader/USB IO Connector

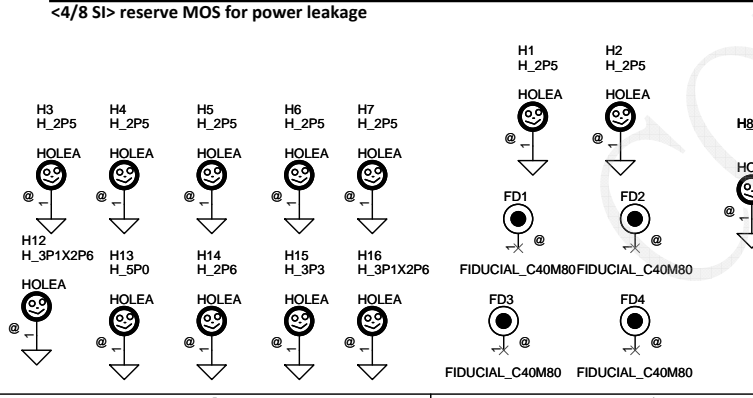
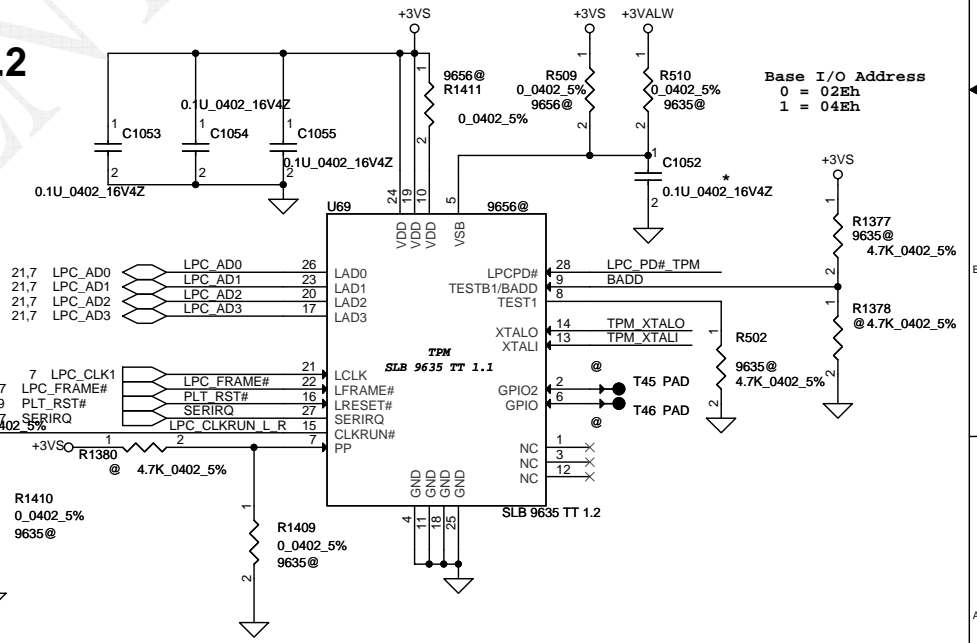


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATIC, MB AA521
Part Number	Document Number	Rev		
	4019PB	B		
Date:	Thursday, November 07, 2013	Sheet	23	of 35

# ACCELEROMETER

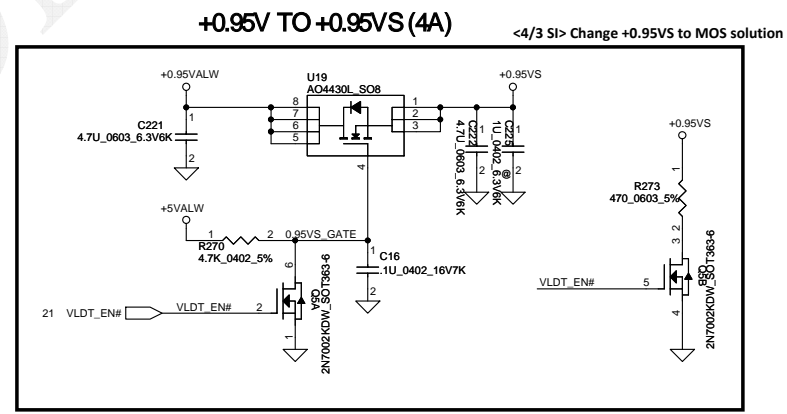
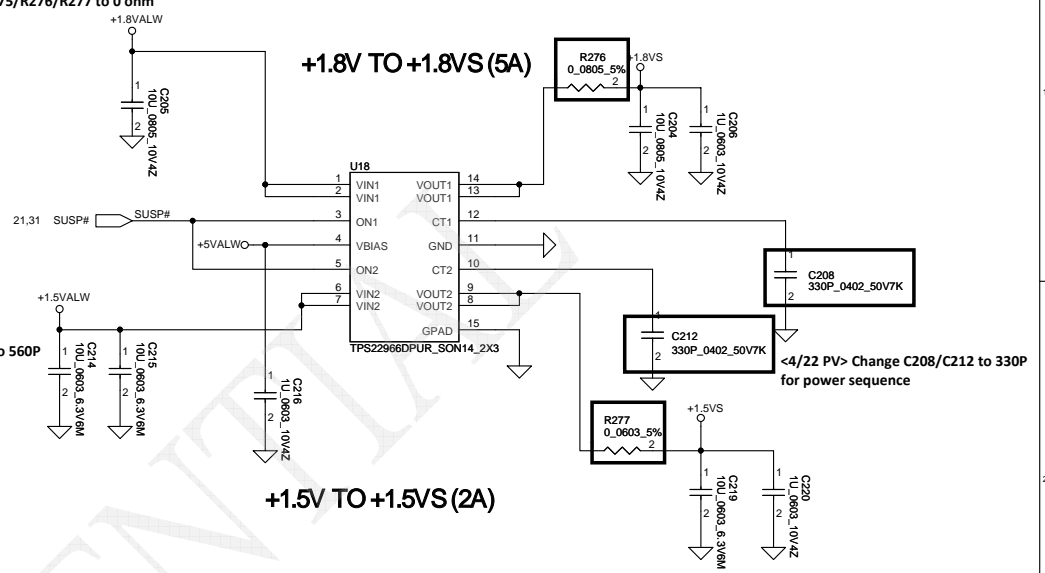
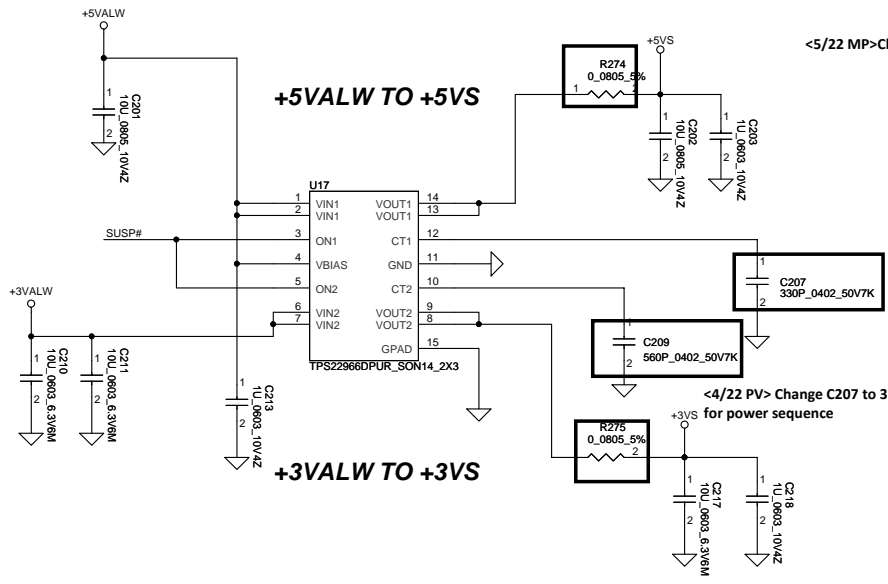


## TPM1.2

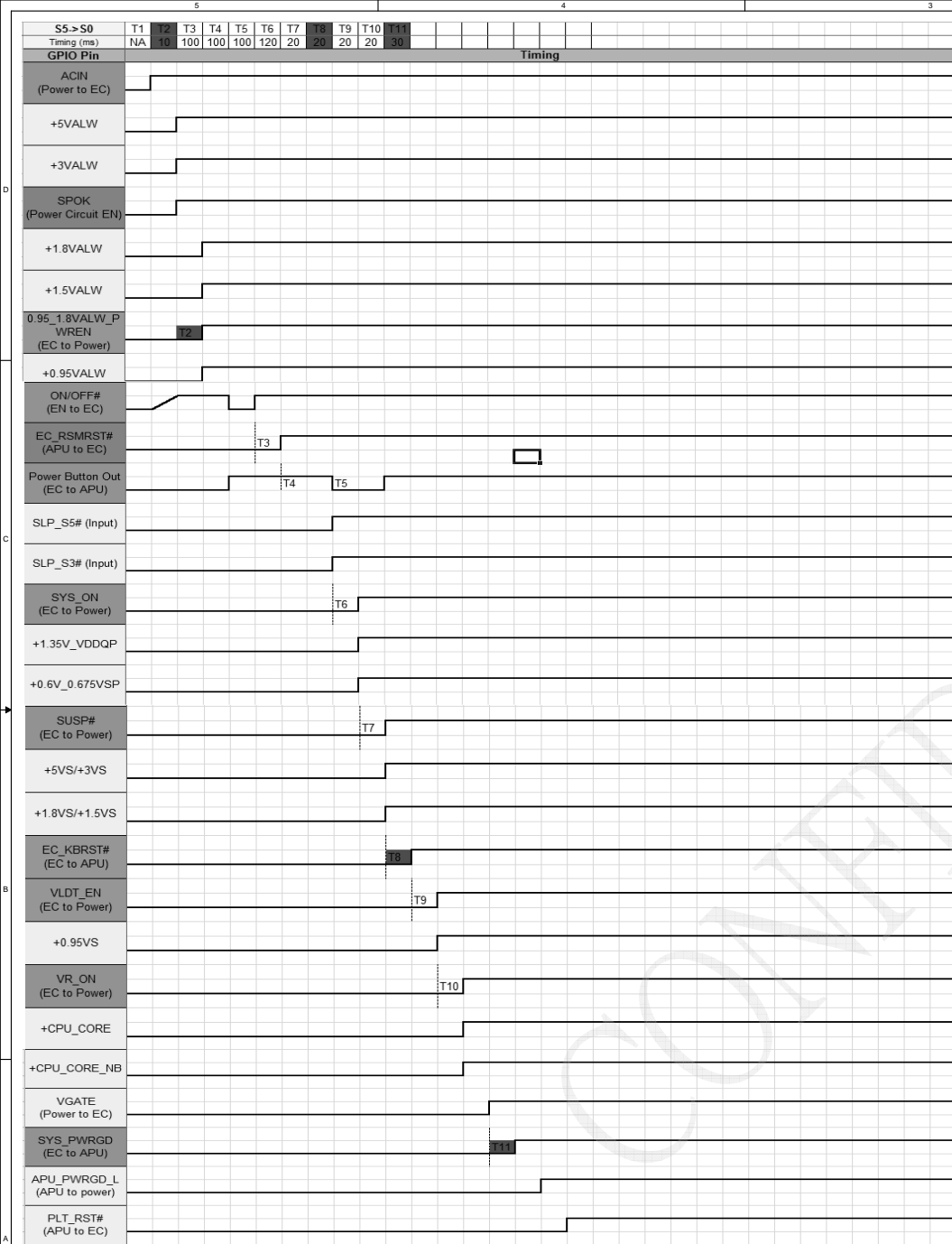


Security Classification		Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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.				SCHEMATIC, MB AA521	
Date: Thursday, November 07, 2013				Sheet	24 of 35





Security Classification		Compal Secret Data		Title	
Issued Date	2013/02/26	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 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
				4019PB	B
				Date: Thursday, November 07, 2013	Sheet 25 of 35

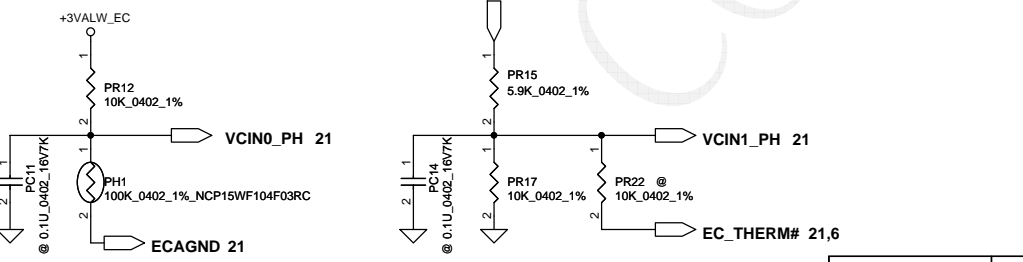
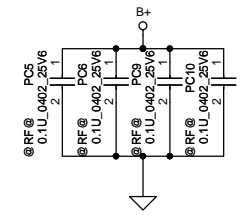
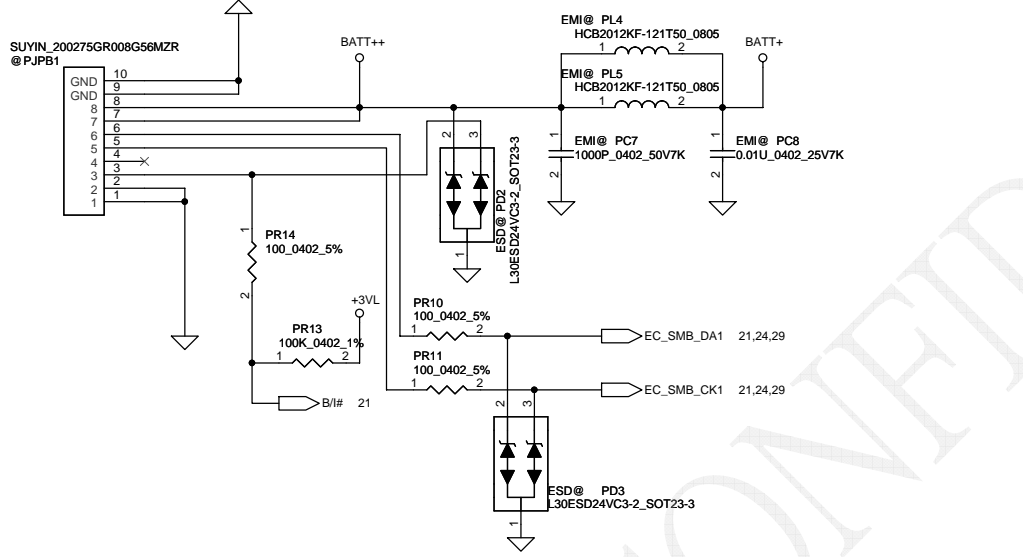
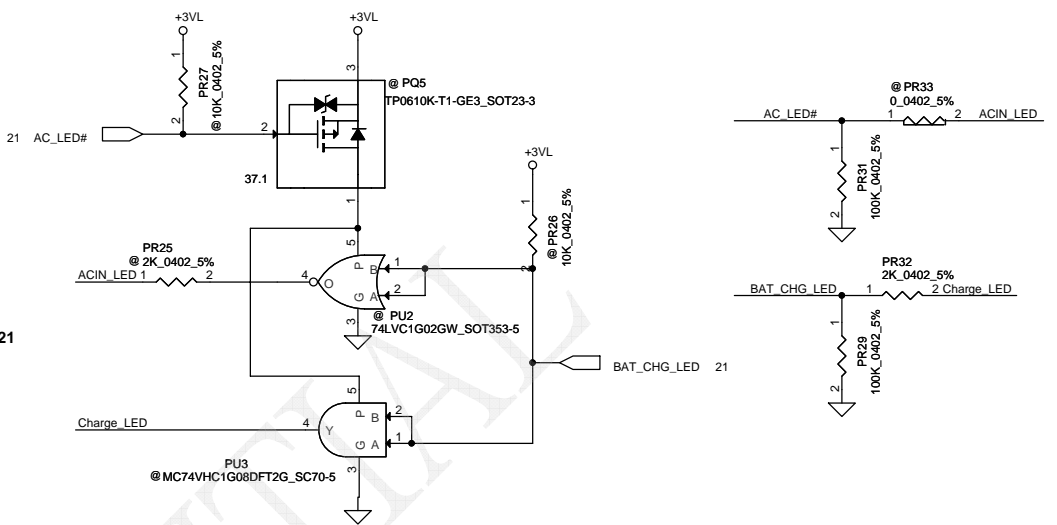
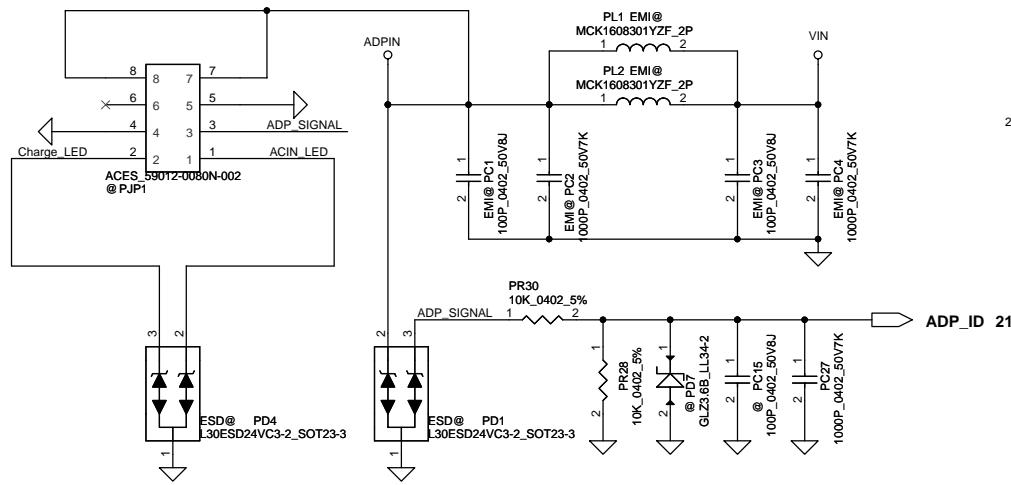


CONFIDENTIAL

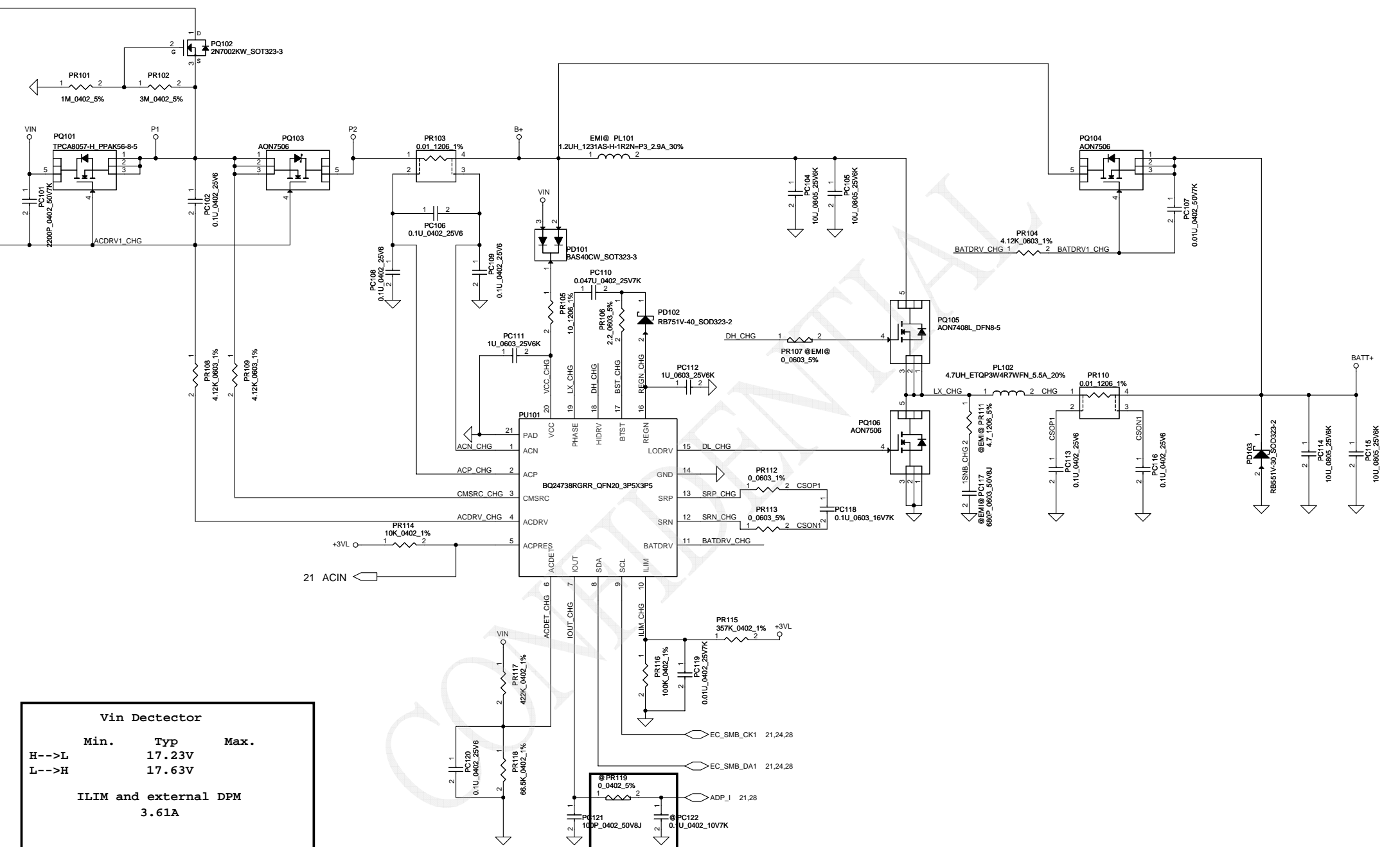
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				Custom	B
				4019PB	
Date:				Thursday, November 07, 2013	Sheet 26 of 35

CONFIDENTIAL

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/02/26	Deciphered Date	2015/07/08	Title	SCHEMATIC, MB AA521
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	B
				Date:	Thursday, November 07, 2013
				Sheet	27 of 35



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Title	SCHMATIC, MB AA521
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	Rev	B		
4019PB			Date:	Thursday, November 07, 2013	Sheet 28 of 35



**Vin Detector**

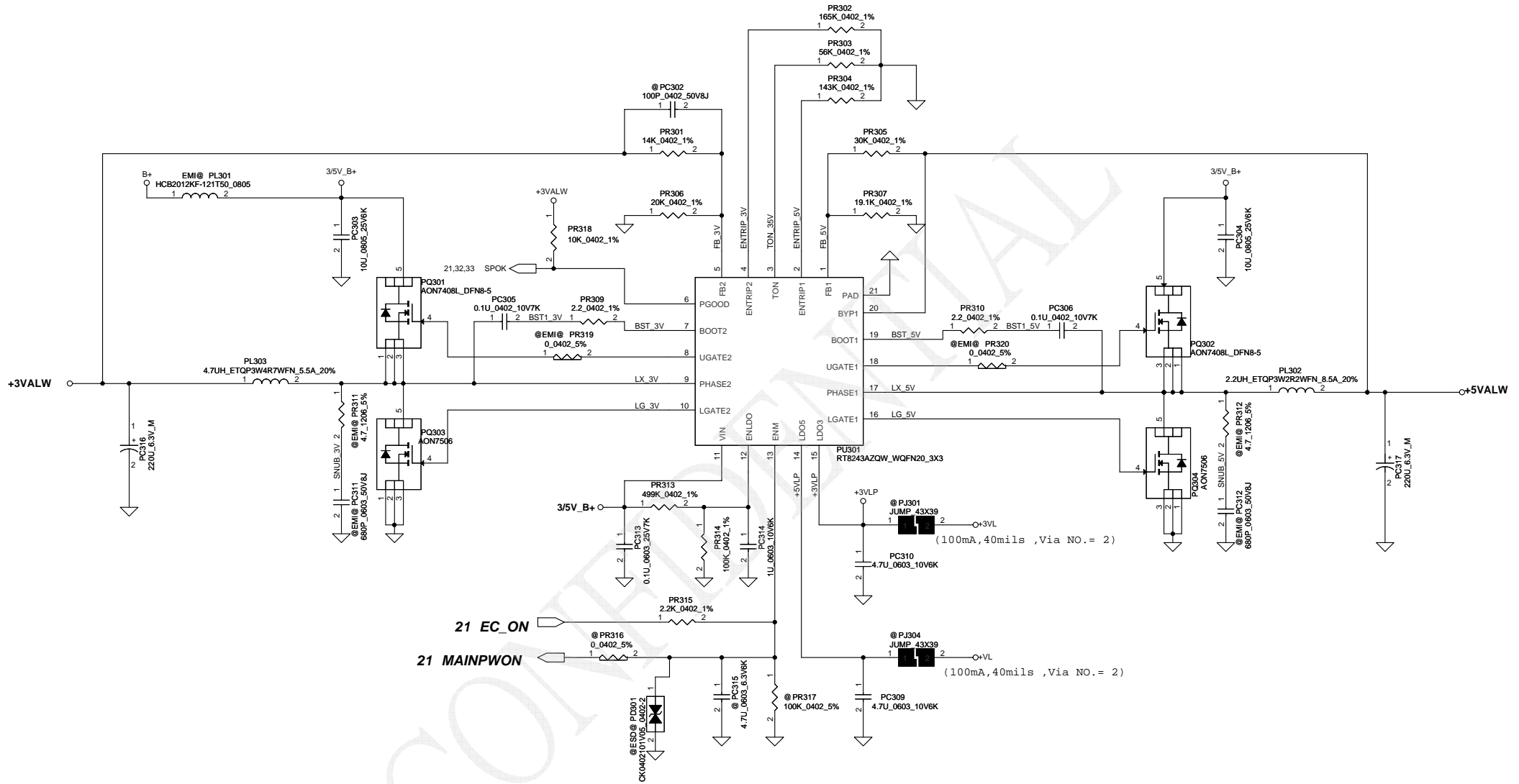
Min.	Typ	Max.
H-->L	17.23V	
L-->H	17.63V	

**ILIM and external DPM**

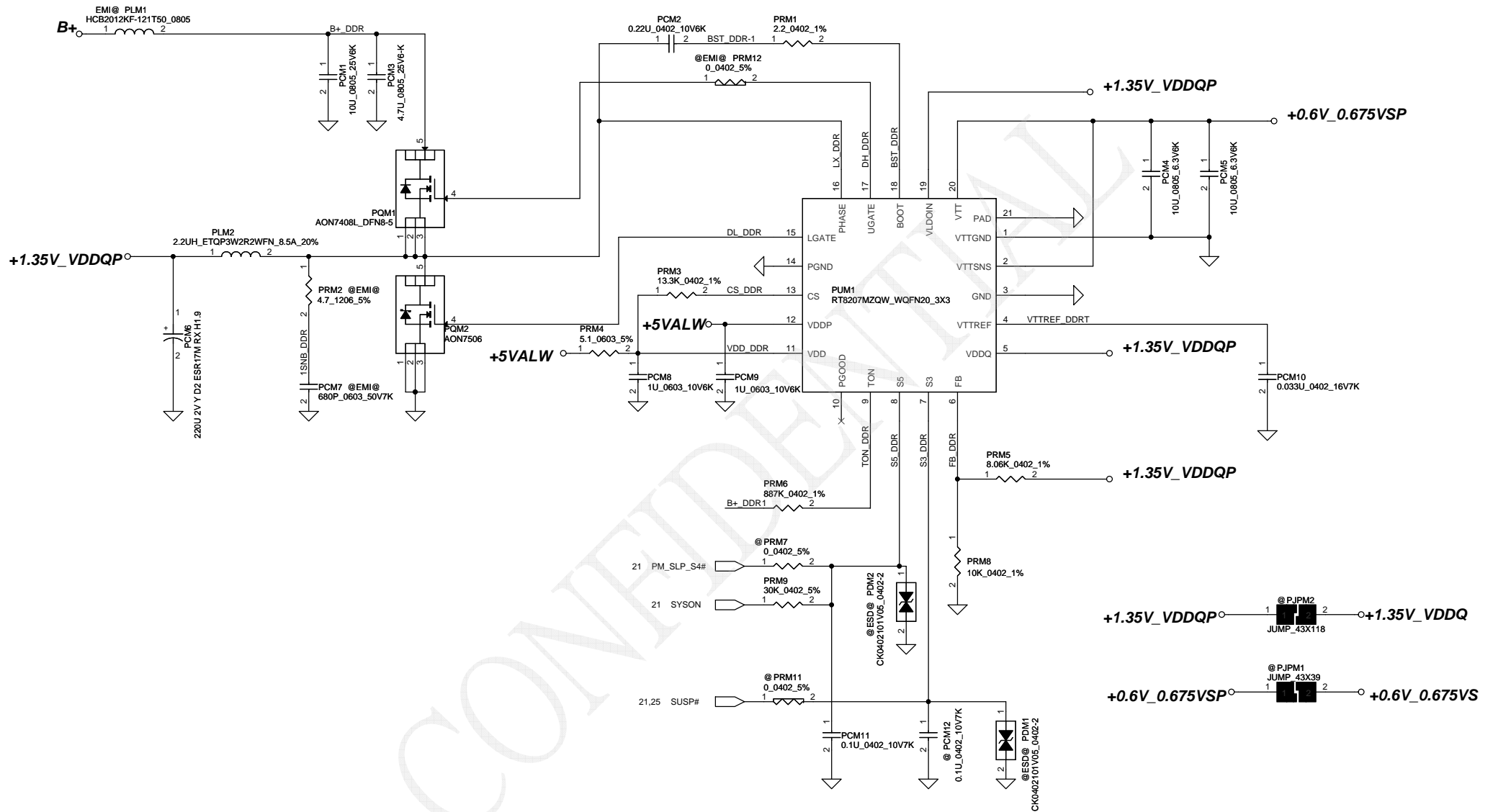
3.61A

Please locate the RC  
Near EC chip  
2011-02-22

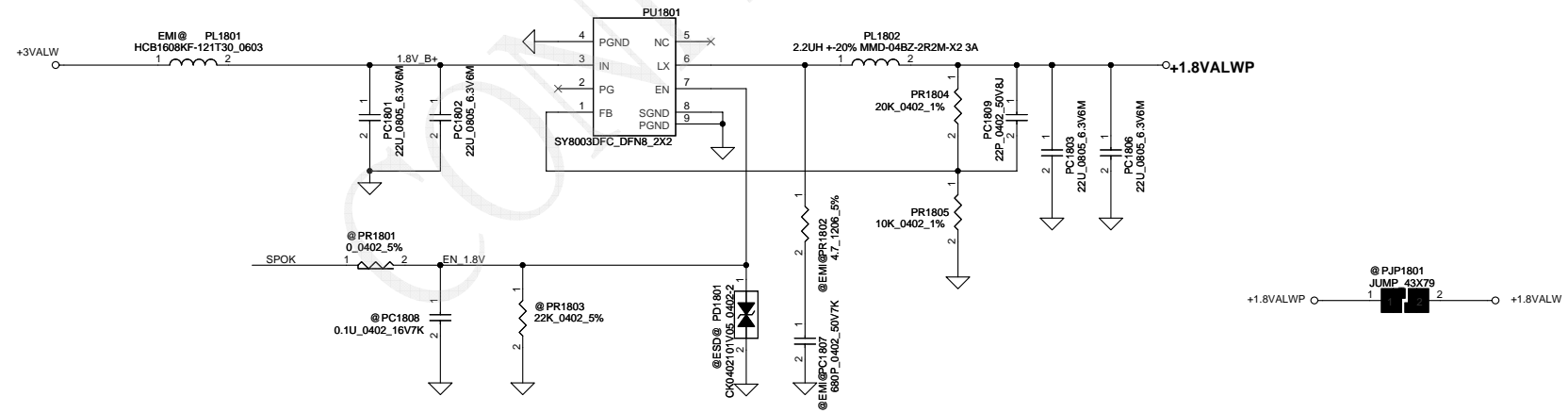
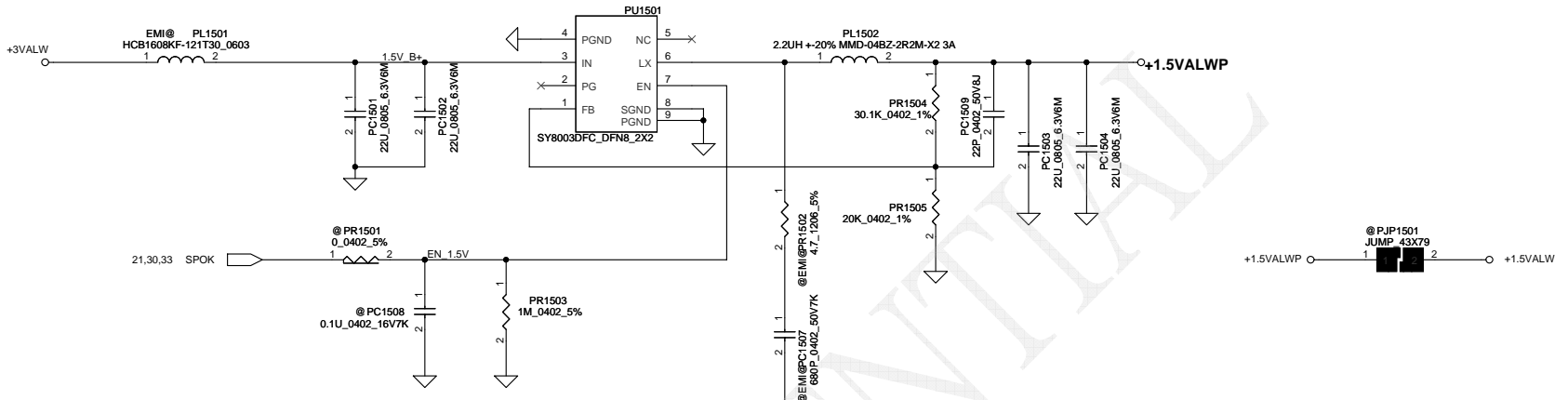
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Title	<b>SCHEMATIC, MB AA521</b>
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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	<b>4019PB</b>
Date:		Sheet	29	of	35



Security Classification	Compal Secret Data		Title	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	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
				4019PB
Date:				Rev B
Sheet 30 of 35				

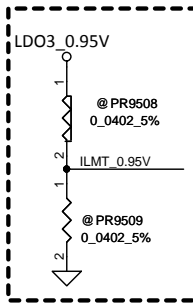
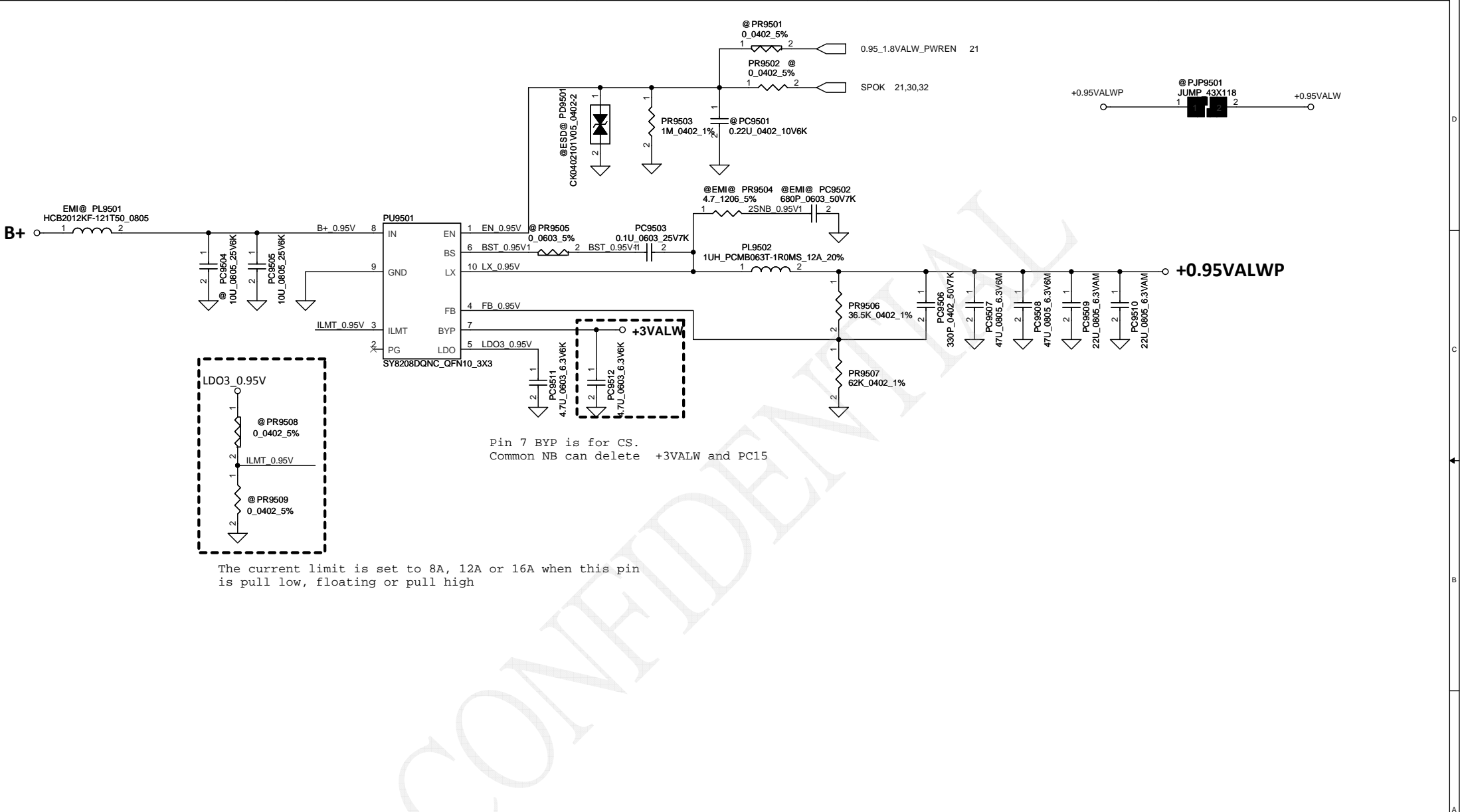


Security Classification		Compal Secret Data		Title	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Size	Rev
				Document Number	B
				4019PB	
				Date:	Thursday, November 07, 2013
				Sheet	31 of 35



Security Classification	Compal Secret Data		Title	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	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.				Schematic, MB AA521 Document Number <b>4019PB</b>
Date:		Sheet	32	of 35

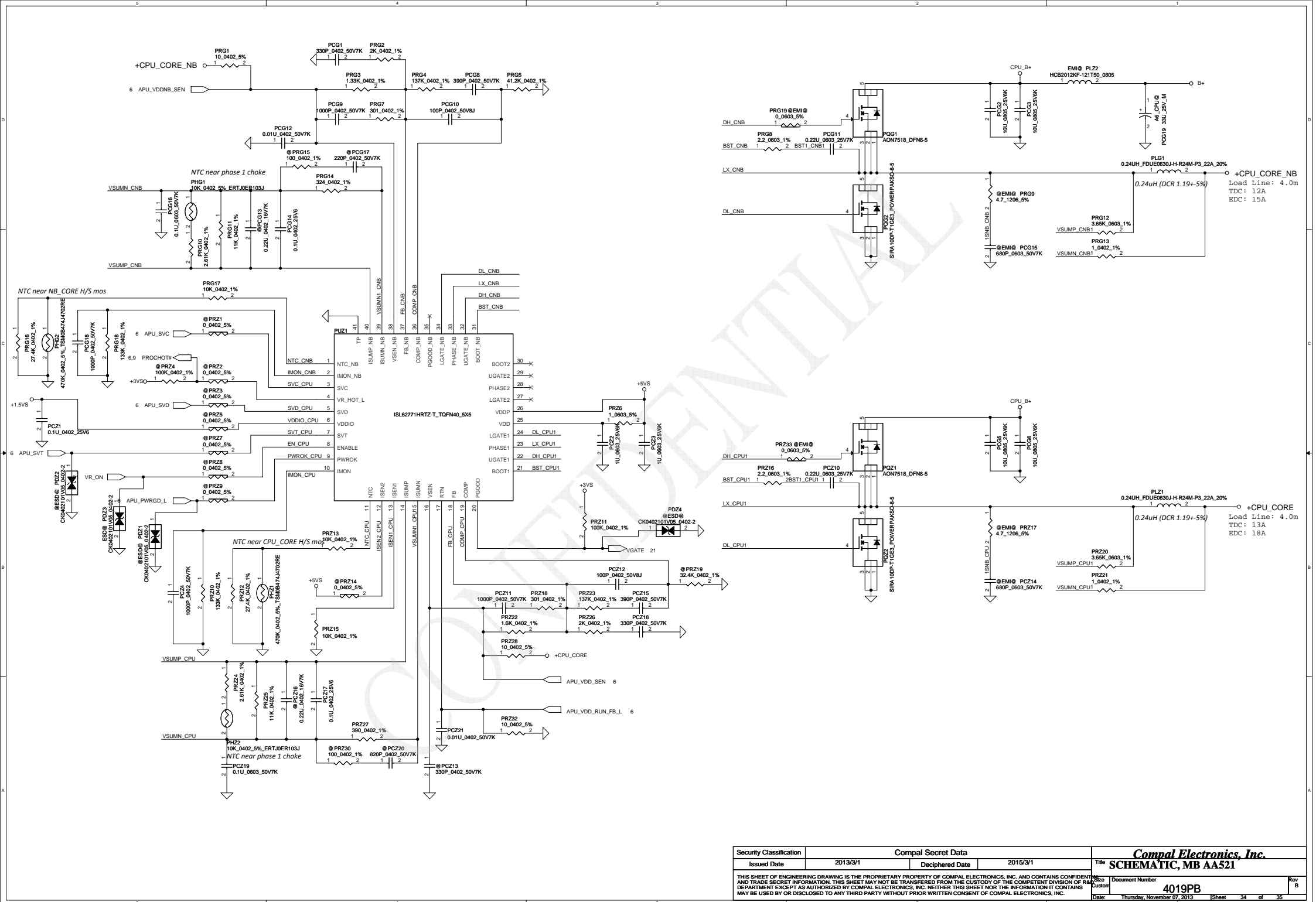




Pin 7 BYP is for CS.  
 Common NB can delete +3VALW and PC15

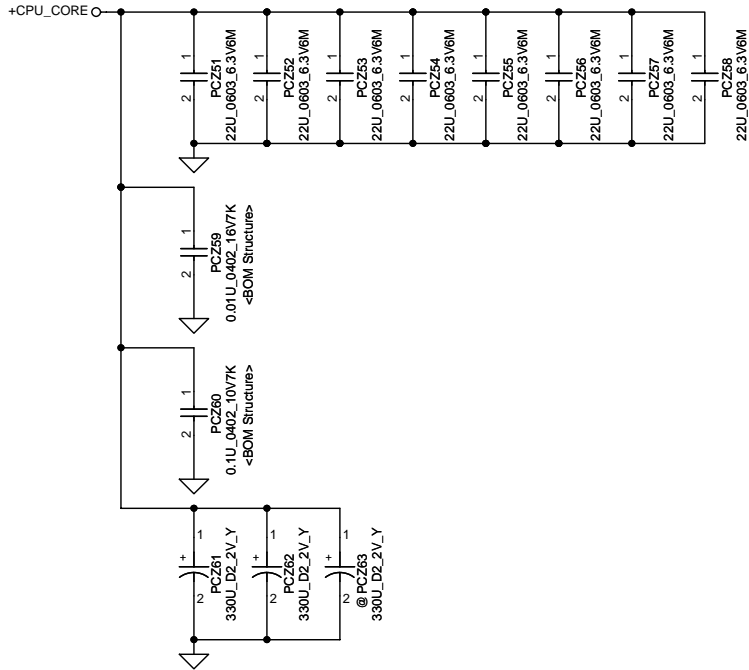
The current limit is set to 8A, 12A or 16A when this pin is pull low, floating or pull high

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Title	SCHEMATIC, MB AA521
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	4019PB
				Date:	Thursday, November 07, 2013
				Sheet	33 of 35

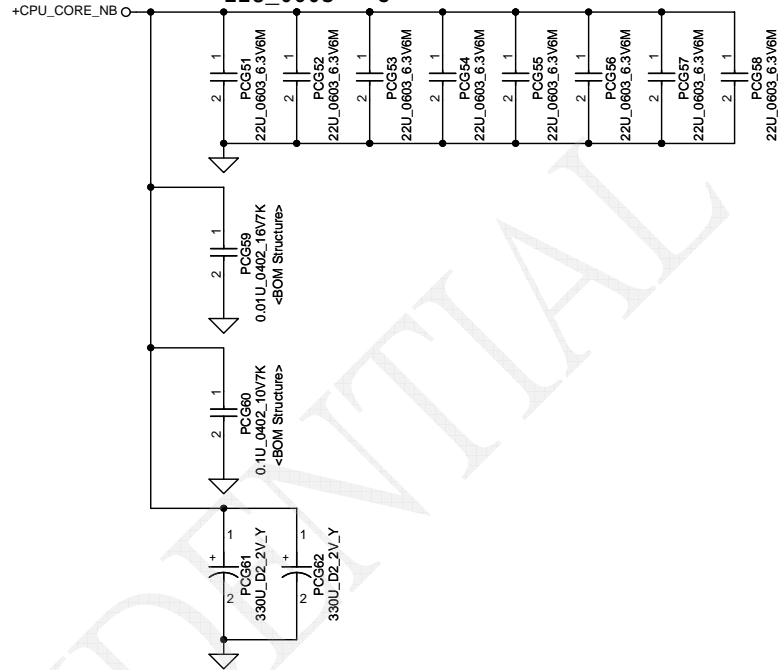


Security Classification		Compal Secret Data		Title	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Compal Electronics, Inc. SCHEMATIC, MB AA521	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.					
Revision	Custom	Document Number	4019PB		Rev B
Date:	Thursday, November 07, 2013	Sheet	34	of	35

22U\_0603 \* 8



22U\_0603 \* 8



CONFIDENTIAL

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/3/1	Deciphered Date	2015/3/1	Title	SCHMATIC, MB AA521
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	4019PB
				Date:	Thursday, November 07, 2013