

# Compal Confidential

## VAWGA/B Schematics Document

AMD "Kabini" Platform

AMD 25W APU With Jaguar Core and Integrated Yangtze FCH + ATI Sun

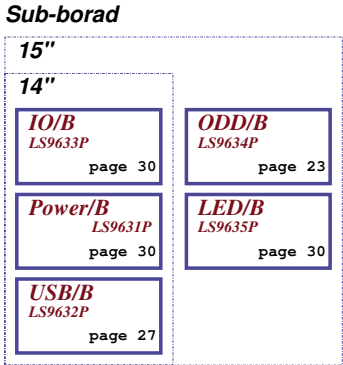
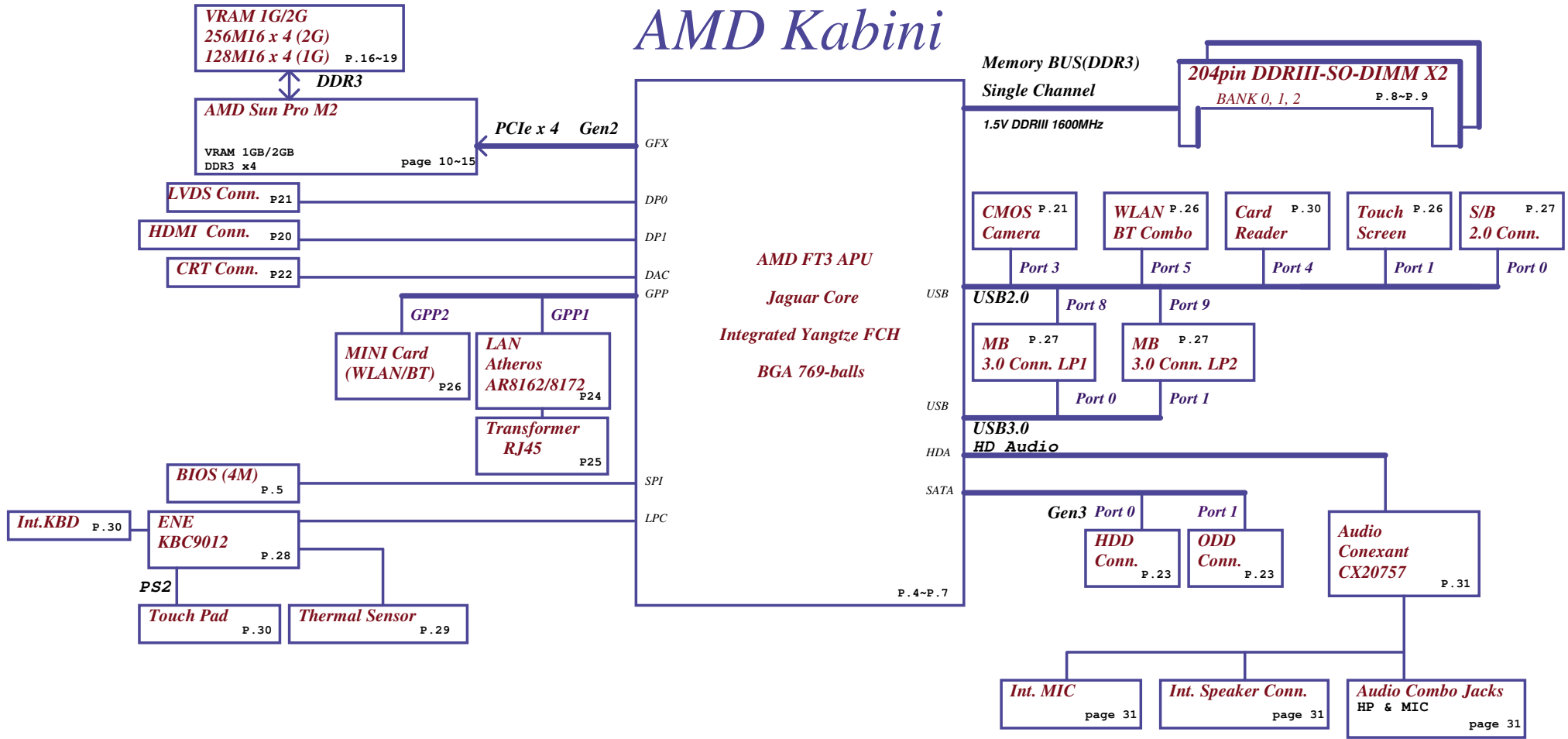
LA-9911P REV: 1.0

2013-04-01

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	Title	COVER PAGE
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 FACTORY 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	VAWGA/GB
				Date:	Monday, April 01, 2013
				Sheet	1 of 48
				Rev	1.0

# Compal Confidential

Model Name : VAWGA/B



### 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
+VGA_CORE	0.95-1.2V switched power rail	ON	OFF	OFF
+VDDCI	0.95-1.2V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	OFF
+3VS	3.3V 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
+0.95VALW	0.95V always on power rail	ON	OFF	OFF
+0.95VS	0.95V 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
+3VGS	3.3V switched power rail for VGA	ON	OFF	OFF
+1.8VGS	1.8V switched power rail for VGA	ON	OFF	OFF
+1.5VGS	1.5V switched power rail for VGA	ON	OFF	OFF
+0.95VGS	0.95V switched power rail for VGA	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
+RTC_APU	RTC power	ON	ON	ON
+0.75VS	0.75V switched power rail for DDR terminator	ON	OFF	OFF

### BOARD ID Table

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

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

Vcc	3.3V +/- 5%				
R1562	100K +/- 5%				
Board ID	R1564	V <sub>AD_BID</sub> min	V <sub>AD_BID</sub> typ	V <sub>AD_BID</sub> max	
0	0	0 V	0 V	0 V	
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V	
2	18K +/- 5%	0.436 V	0.503 V	0.538 V	
3	33K +/- 5%	0.712 V	0.819 V	0.875 V	
4	56K +/- 5%	1.036 V	1.185 V	1.264 V	
5	100K +/- 5%	1.453 V	1.650 V	1.759 V	
6	200K +/- 5%	1.935 V	2.200 V	2.341 V	
7	NC	2.500 V	3.300 V	3.300 V	

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

### USB OC MAPPING

OC#	USB Port	
0	USB20 port0	
1	USB20 port1,2,8,9	USB30 port0,1
2		
3		

### BOM Structure Table

BOM Structure	BTO Item
A6@	A6 R3 BGA APU
A4@	A4 R3 BGA APU
E2@	E2 R3 BGA APU
E1@	E1 R3 BGA APU
E1PC@	E1 PC BGA APU
X4@	X4 ES2 BGA APU
X5@	X5 ES2 BGA APU
X2@	X2 ES2 BGA APU
EMICU@	CardReader EMI Un pop
EMICP@	CardReader EMI pop
EMIUSB2RU@	Right USB2.0 port EMI un pop
EMIUSB2RP@	Right USB2.0 port EMI pop
USB2R@	Right USB2.0 port component
SUN@	SUN PRO GPU (R3 compal part)
MARS@	MARS XT GPU (R1 compal part)
14@	for 14" component
15@	for 15" component
PX@	Common VGA circuit
CMOS@	CMOS Camera part
HDMI@	HDMI part
EMIGASP@	Gastube
8162@	Atheros AR8162 LAN Chip
8172@	Atheros AR8172 LAN Chip
SWR@	LAN Switching mode
LDO@	LAN LDO mode
THERMAL@	Lenovo Thermal Sensor
ME@	ME part
UMA@	UMA part
@	Unpop
ZODD@	Zero Power ODD part
TS@	Touch Screen
EMIP@	EMI pop component
EMIU@	EMI Un pop component
ESDP@	ESD pop component
ESDU@	ESD Un pop component

### SMBUS Control Table

	SOURCE	VGA	BATT	KB9012	SODIMM	WLAN WWAN	Thermal Sensor	FCH	APU	RTD2132
SMB_EC_CK1 SMB_EC_DA1	KB9012 +3VALW	X	V +3VALW	X	X	X	X	X	X	X
APU_SCLK0 APU_SDATA0	APU +3VS	X	X	X	V +3VS	V +3VS	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB9012 +3VS	V +3VS	X	X	X	X	V +3VS	X	V +3VS	X

### APU PCIE PORT LIST

Port	Device
0	
1	LAN
2	WLAN
3	

### USB Port Table

USB 2.0	USB 3.0	Port	3 External USB Port
		0	RIGHT USB
		1	Touch Screen
		2	
		3	Camera
		4	CardReader
		5	WLAN/BT Combo
		6	LEFT USB (for colay)
		7	LEFT USB (for colay)
	XHCI	0	LEFT USB3.0
	XHCI	1	LEFT USB3.0

EC SM Bus1 address			EC SM Bus2 address		
Device	Address	HEX	Device	Address	HEX
Smart Battery	0001 011X b	16H	Thermal Sensor	1001 101X b	9AH
			SB-TSI (APU)	1001 100X b	98H
			VGA Internal Thermal	1000 001X b	82H

### APU SM Bus address

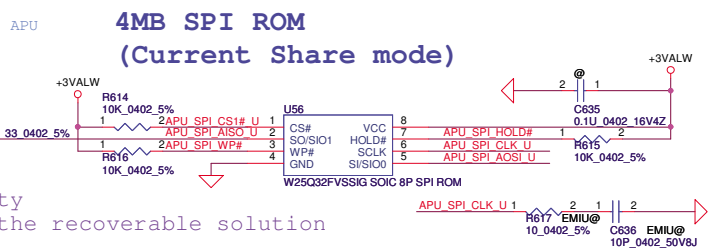
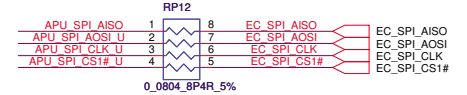
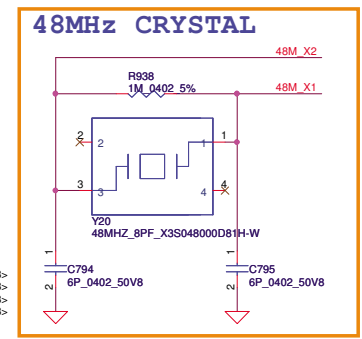
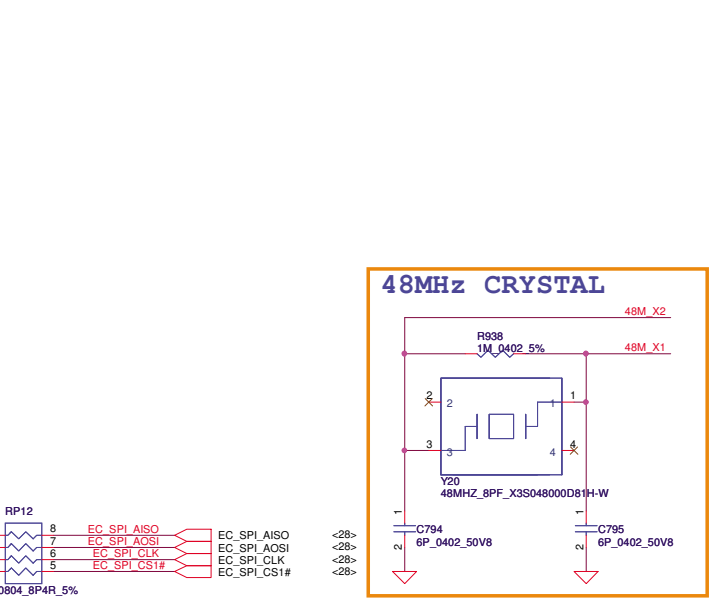
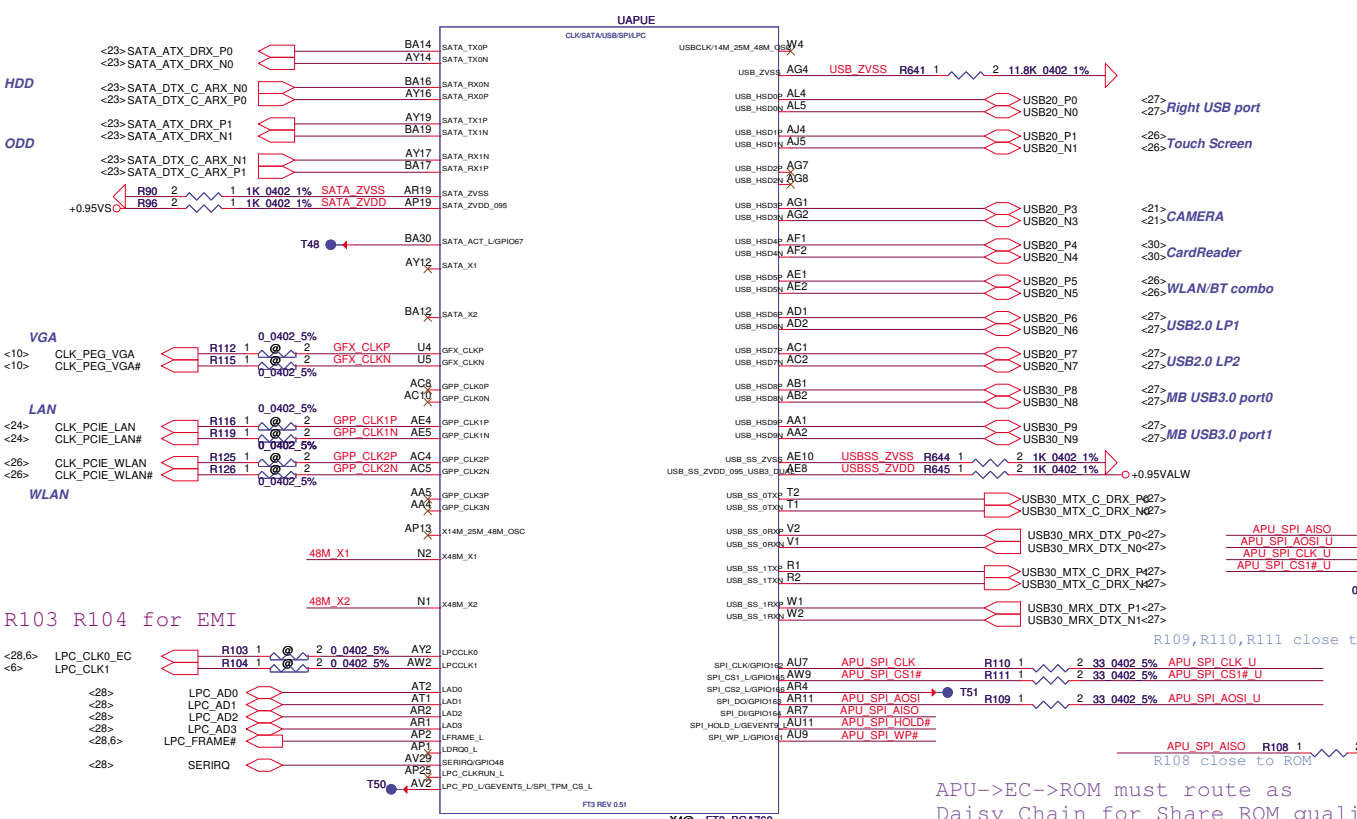
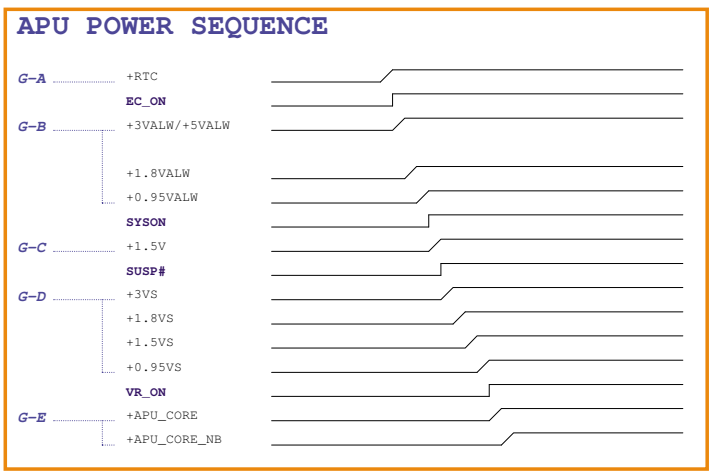
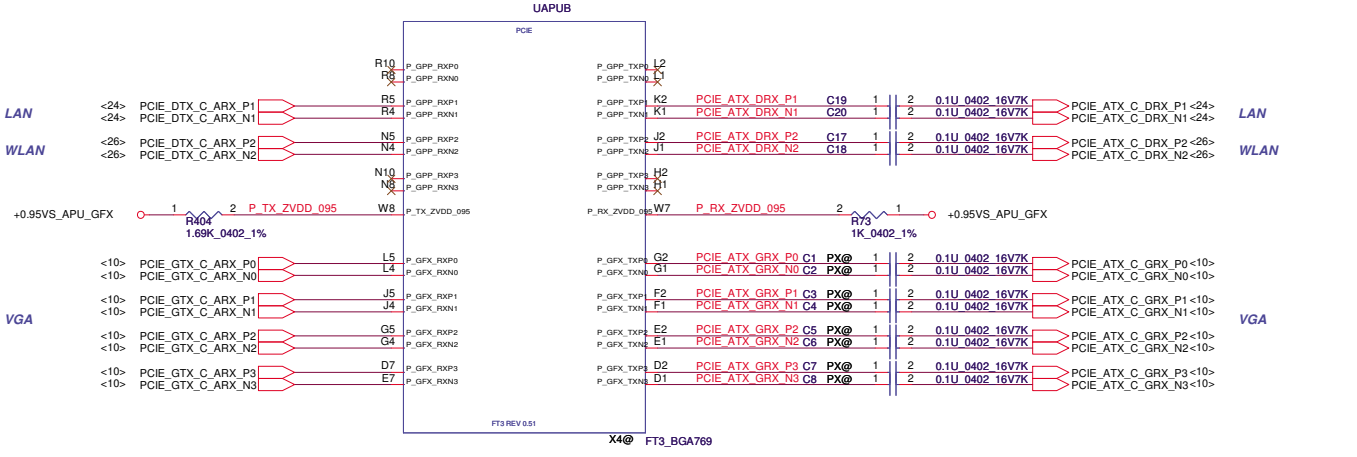
Device	Address	HEX
DDR DIMM1	1010 000Xb	A0H
DDR DIMM2	1010 001Xb	A2H

Security Classification	Compal Secret Data		Title	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	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 FACTORY B 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 1.0
Date: Monday, April 01, 2013				Sheet 3 of 48

### NOTES LIST

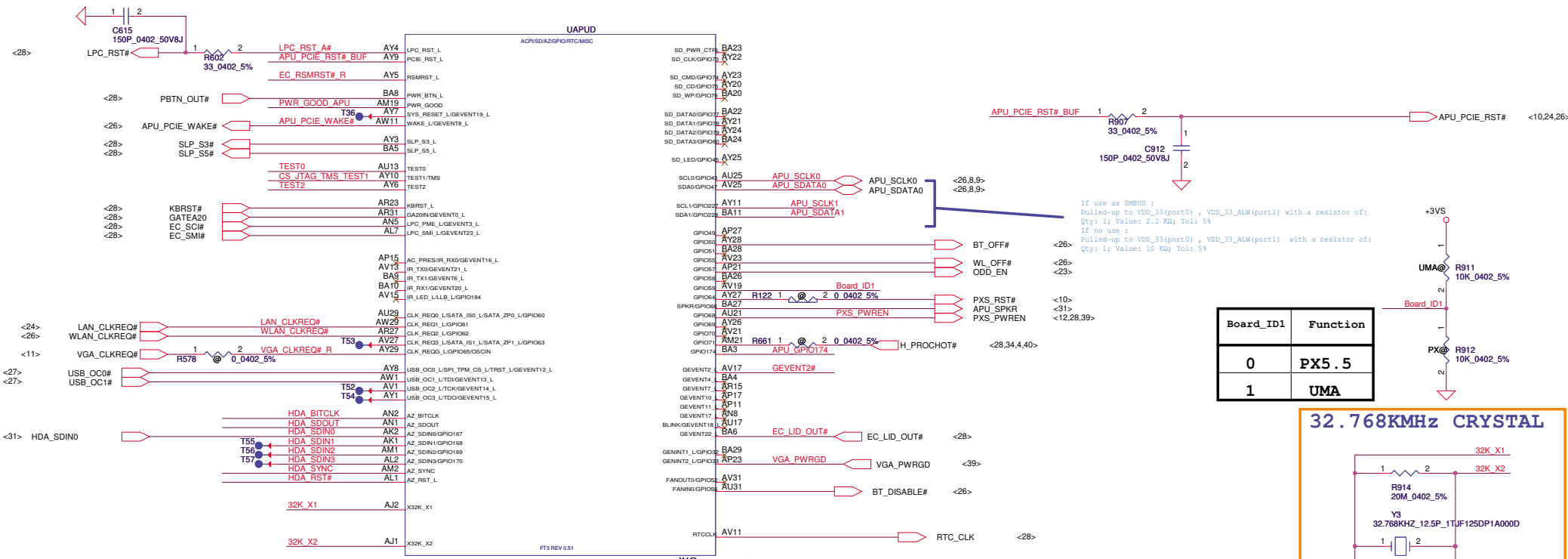
VAWGA/GB



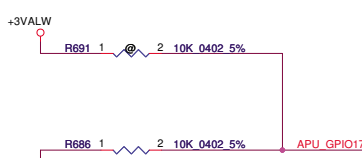


APU->EC->ROM must route as Daisy Chain for Share ROM quality (RP12 was request to added for the recoverable solution as original method--backup)

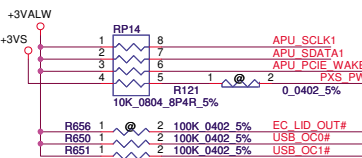
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	FT3 PCIE/SATA/CLK/USB/SPI	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED, REPRODUCED, COPIED, OR DISCLOSED TO ANY OTHER 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 1.0
				Customer	VAWGA/GB
				Date:	Thursday, March 28, 2013
				Sheet	5 of 48



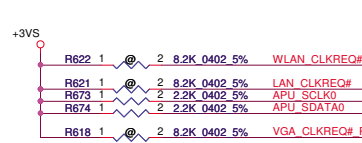
**PU +3VALW + PD**



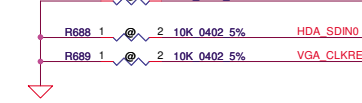
**PU +3VALW**



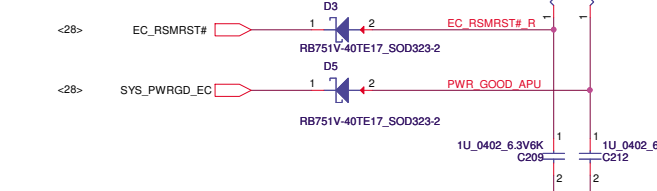
**PU +3VS**



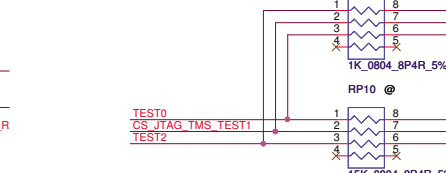
**PD**



**EC\_RSMRST# , POWER\_GOOD follow CRB (APU side 1.8V power rail)**

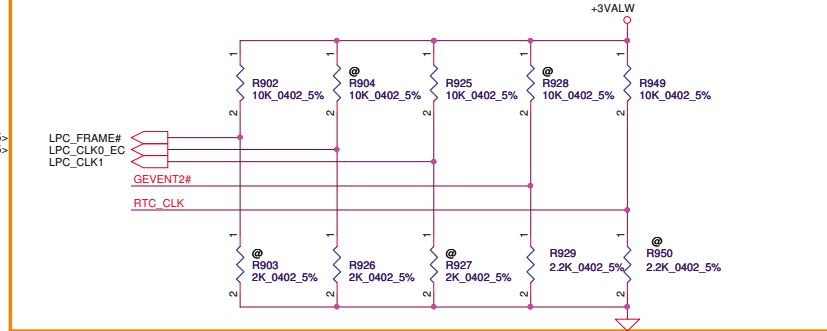


**PU +3VALW + PD**

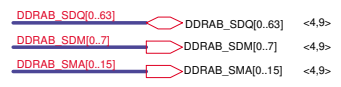
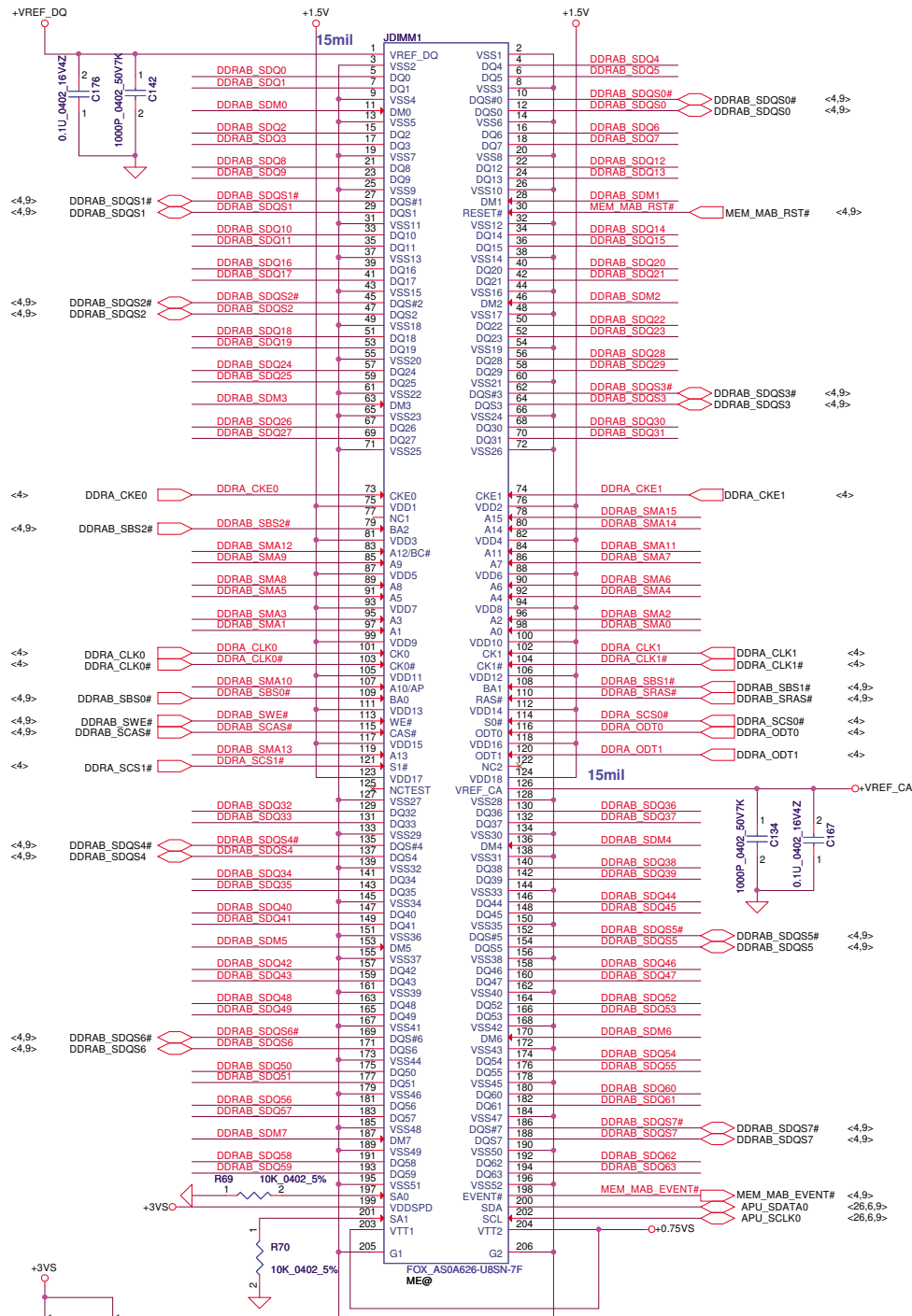


**STRAPS OF APU**

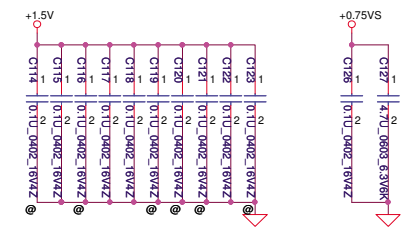
	LPC_FRAME#	LPC_CLK0_EC	LPC_CLK1	GEVENT2_L	RTC_CLK
H	SPI ROM (DEFAULT)	BOOT FAIL TIMER ENABLED	CLKGEN ENABLE (DEFAULT)	1.8V SPI ROM	NORMAL POWER UP/RESET TIMING (DEFAULT)
L	LPC ROM	BOOT FAIL TIMER DISABLED (DEFAULT)	CLKGEN DISABLED	3.3V SPI ROM (DEFAULT)	FAST POWER UP/RESET TIMING FOR SIMULATION



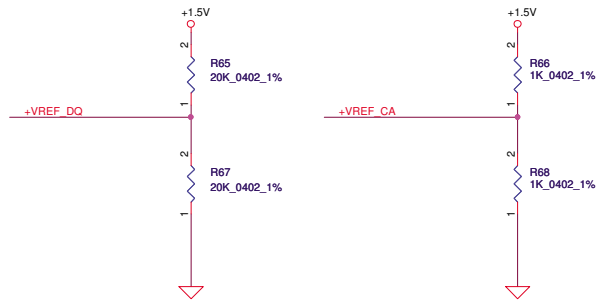




**+1.5V/+0.75VS OF DIMM1**



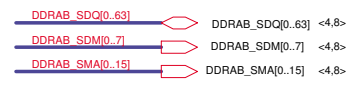
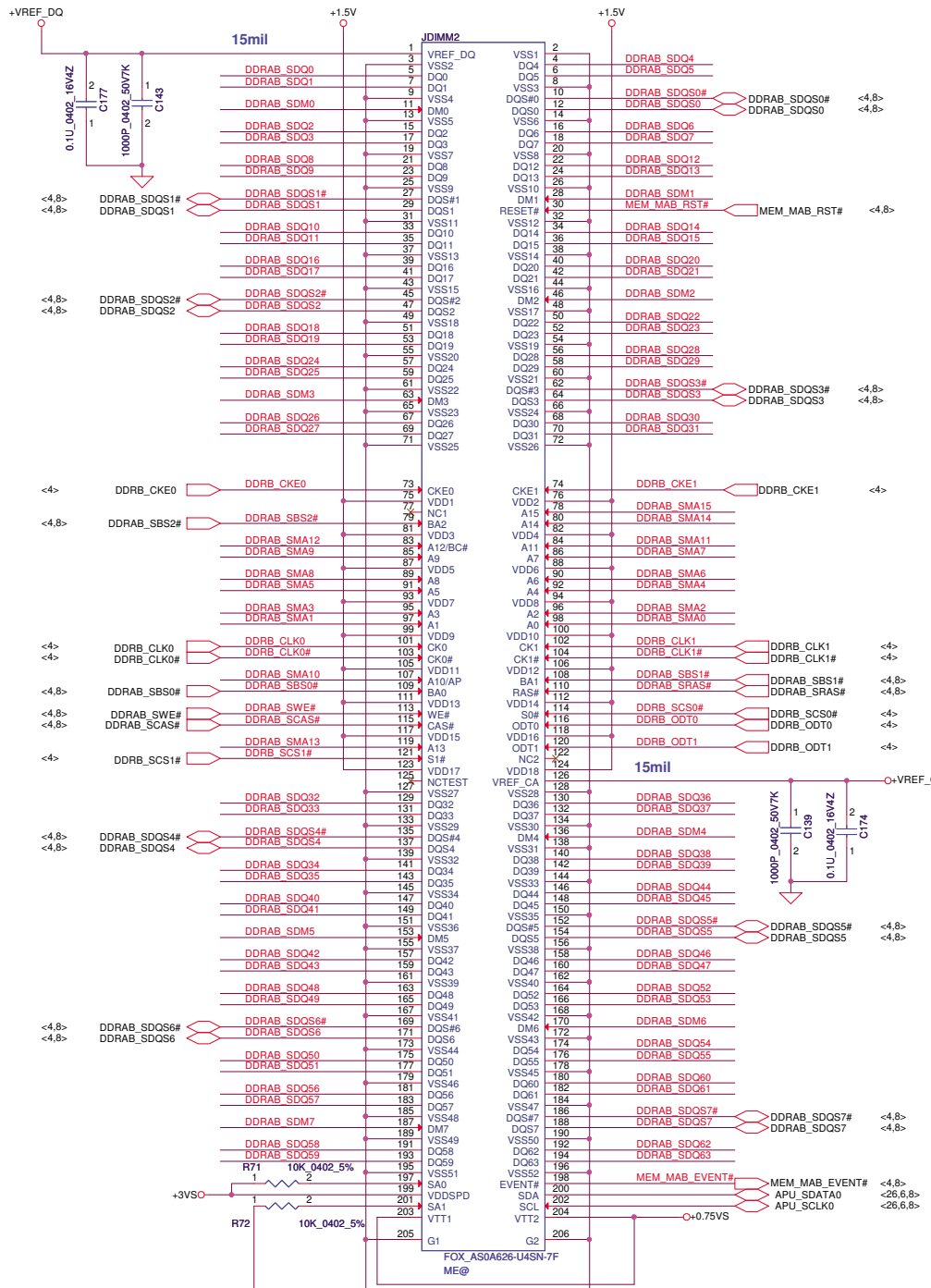
**VREF for DIMM1, 2**



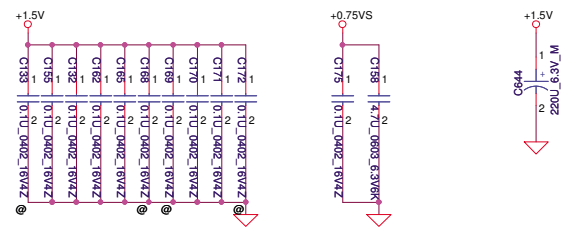
**DIMM\_A H:8mm**  
 <Address: 00>

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	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 FACTORY CUSTOMER 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 1.0
				Date: Thursday, March 28, 2013	
				Sheet 8 of 48	



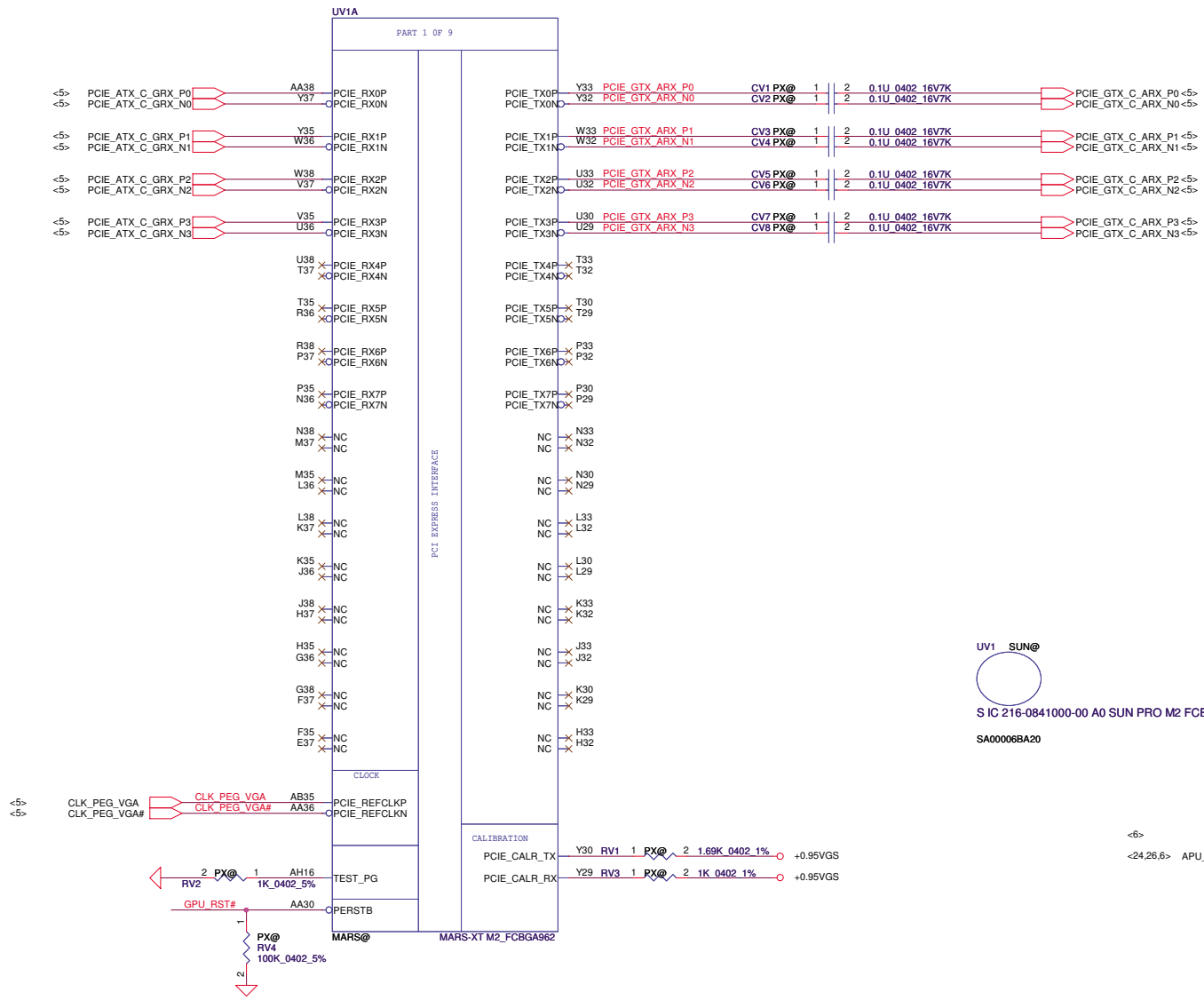


**+1.5V/+0.75VS OF DIMM2**

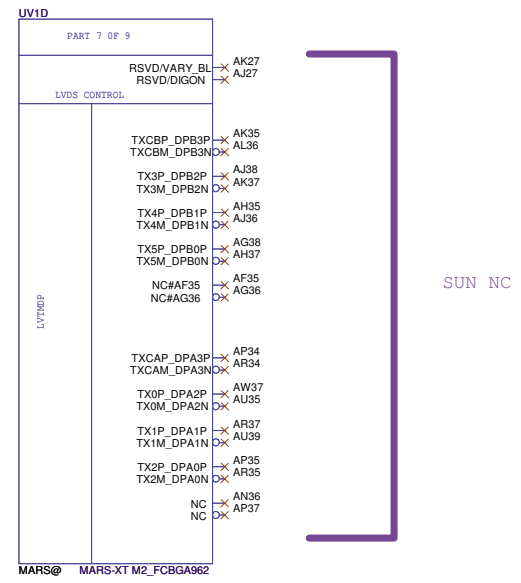


**DIMM\_B H:4mm**  
 <Address: 10>

Security Classification		Compal Secret Data		Title	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	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 FOX M				Document Number	Rev 1.0
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.				Customer	VAWGA/GB
				Date:	Thursday, March 28, 2013
				ISheet	9 of 48



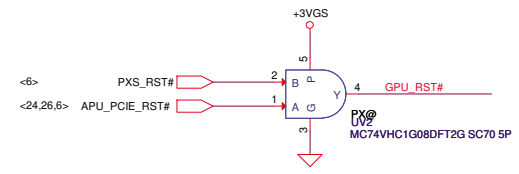
### LVDS Interface



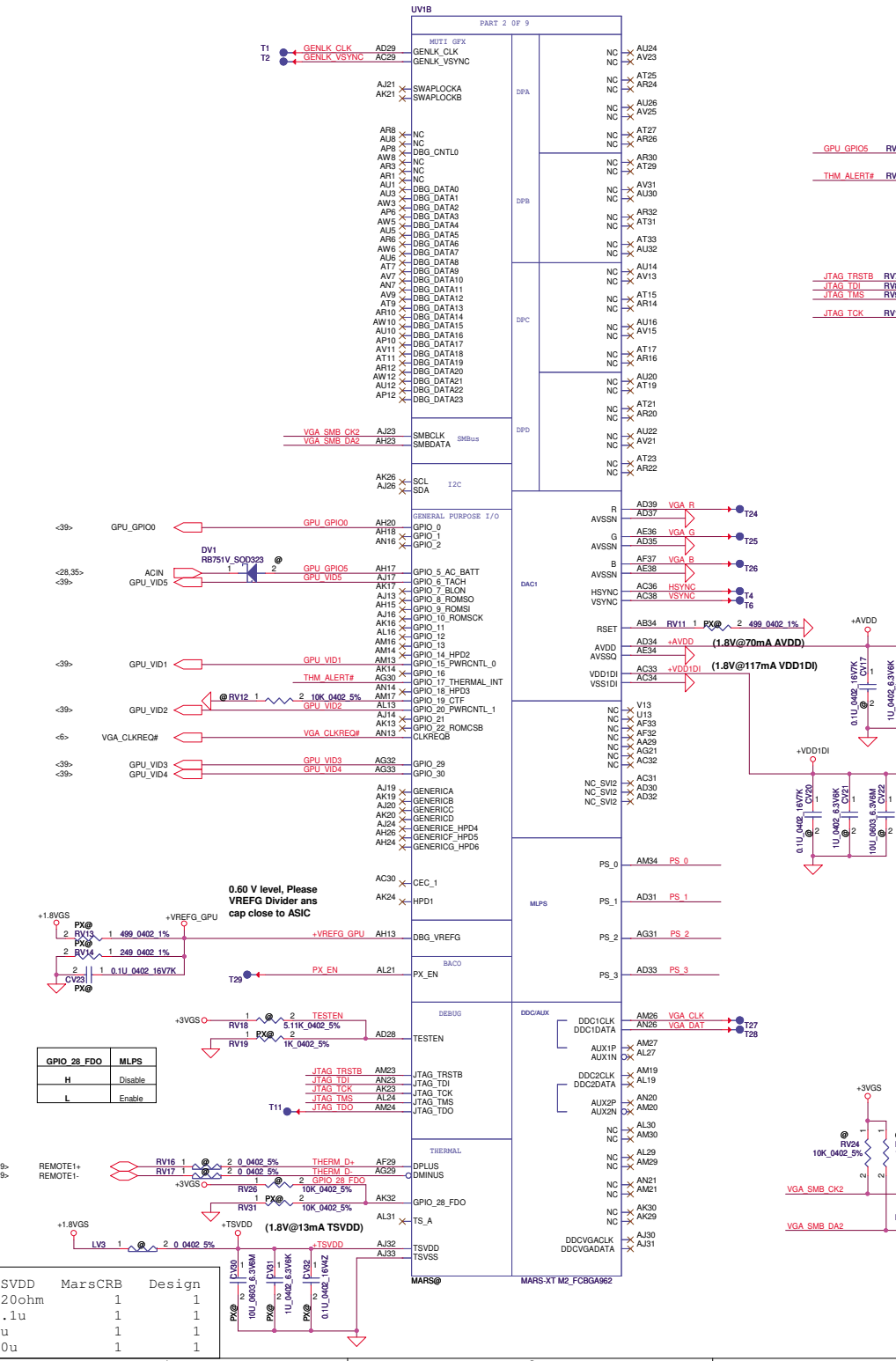
UV1 SUN@

SIC 216-0841000-00 A0 SUN PRO M2 FCBGA 962P C38

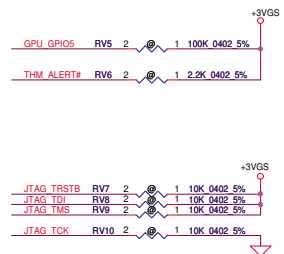
SA00006BA20



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/07/03	Deciphered Date	2013/07/03	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 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
				Customer	1.0
				Date	Monday, April 01, 2013
				Sheet	10 of 48



### STRAPS



AVDD	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1

VDD1DI	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1

### CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

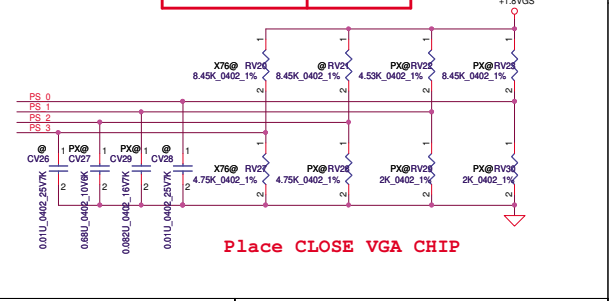
RECOMMENDED SETTINGS  
 0 = DO NOT INSTALL RESISTOR  
 1 = INSTALL 10K RESISTOR  
 X = DESIGN DEPENDANT  
 NA = NOT APPLICABLE

STRAPS	MLPS	DESCRIPTION OF DEFAULT SETTINGS	Default Setting
TX_PWRS_ENB	PS_1[4]	Transmitter Power Savings Enable 0:50% Tx output swing 1:Full Tx output swing	1
TX_DEEMPH_EN	PS_1[5]	PCIe Transmitter De-emphasis Enable 0:Tx de-emphasis disabled 1:Tx de-emphasis enabled	0
BIF_GEN3_EN_A	PS_1[1]	PCIe Gen3 Enable (NOTE:RESERVED FOR Thames/Seymour and should be strapped to 0) 0:GEN3 not support at power-on 1:GEN3 supported at power-on	0
BIF_VGA_DIS	PS_2[4]	VGA control 0:VGA controller capacity enabled 1:VGA controller capacity disabled (for multi-GPU)	0
ROMIDCFG[2:0]	PS_0[3..1]	Serial ROM type or Memory Aperture Size Select If PS_2[3]-4, defines memory aperture size If PS_2[3]-1, defines ROM type 100 - 512Kbit M2SP05A (ST) 101 - 1Mbit M2SP10A (ST) 110 - 2Mbit M2SP20 (ST) 111 - 4Mbit M2SP40 (ST) 101 - 8Mbit M2SP90 (ST) 100 - 512Kbit Pm2SLV010 (Chingis) 101 - 1Mbit Pm2SLV010 (Chingis)	001 256MB
BIOS_ROM_EN	PS_2[3]	Enable external BIOS ROM device 0:Disabled 1:Enabled	0
AUD[1]	NA	00 - No audio function 01 - Audio for DP only 10 - Audio for DP and HDMI if dongle is detected 11 - Audio for both DP and HDMI	NC
AUD[0]	NA	HDMI must only be enabled on systems that are legally entitled. It is the responsibility of the system designer to ensure that the system is entitled to support this feature.	NC
CEC_DIS	PS_0[4]	Reserved for future ASIC	1
RESERVED	PS_1[3]	Reserved	0
RESERVED	PS_1[2]	Reserved	1
RESERVED	NA	Reserved	NA
RESERVED	NA	Reserved (for Thames/Whistler/Seymour only)	NA
AUD_PORT_CONN_PINSTRAP[2]	PS_3[5]	STRAPS TO INDICATE THE NUMBER OF AUDIO CAPABLE DISPLAY OUTPUTS 111 = 0 usable endpoints 110 = 1 usable endpoints 101 = 2 usable endpoints 100 = 3 usable endpoints 011 = 4 usable endpoints 010 = 5 usable endpoints 001 = 6 usable endpoints 000 = all endpoints are usable	111
AUD_PORT_CONN_PINSTRAP[1]	PS_3[4]		
AUD_PORT_CONN_PINSTRAP[0]	PS_0[5]		

### MLPS Strap

MLPS	Bits[5:4]	Bits[3:1]	Capacitor	R_pu	R_pd
PS_0[5:1]	1 1	0 0 1	NC	4.5K	2K
PS_1[5:1]	0 1	0 1 0	82 nF	8.45K	2K
PS_2[5:1]	0 0	0 0 0	680 nF	NC	4.75K
PS_3[5:1]	1 1	X X X	NC	X	X

Mapping to VRAM type please refer to page 45



Place CLOSE VGA CHIP

GPIO 28 FDO	MLPS
H	Disable
L	Enable

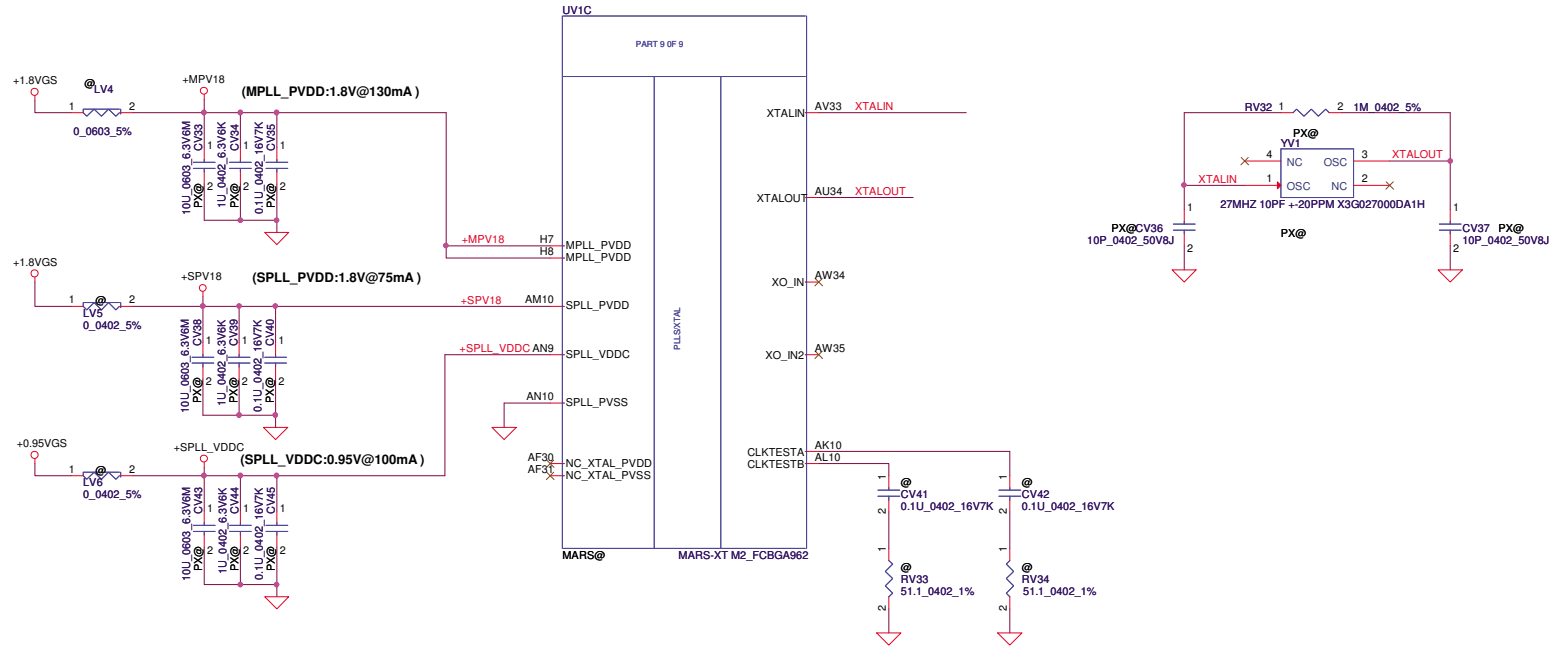
TSVDD	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1

Security Classification		Compal Secret Data		Title	
Issued Date	2012/07/03	Deciphered Date	2013/07/03	ATI MarsXTX M2 Main MSIC	
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. WITHIN 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 C	Document Number VAWGA/GB
Date	Thursday, March 28, 2013	Sheet	11	of	48

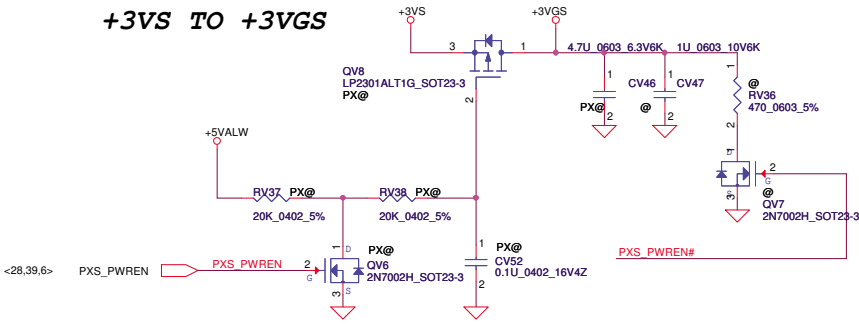
MPLL_PVDD	MarsCRB	Design
220ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1

SPLL_PVDD	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1

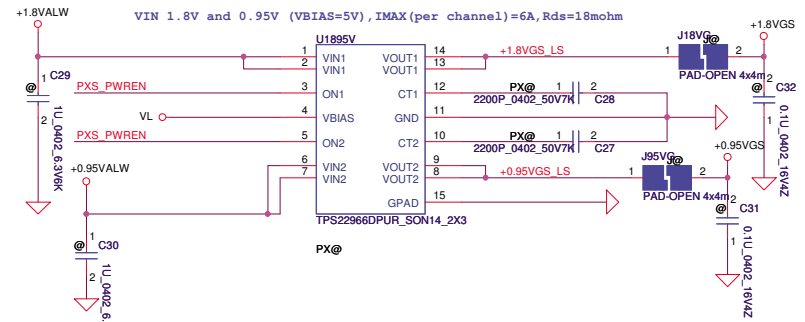
SPLL_VDDC	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	1
10u	1	1



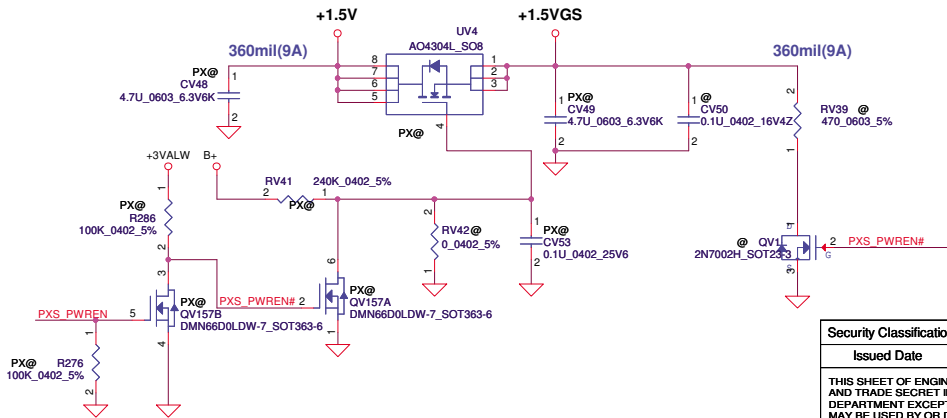
**+3VS TO +3VGS**



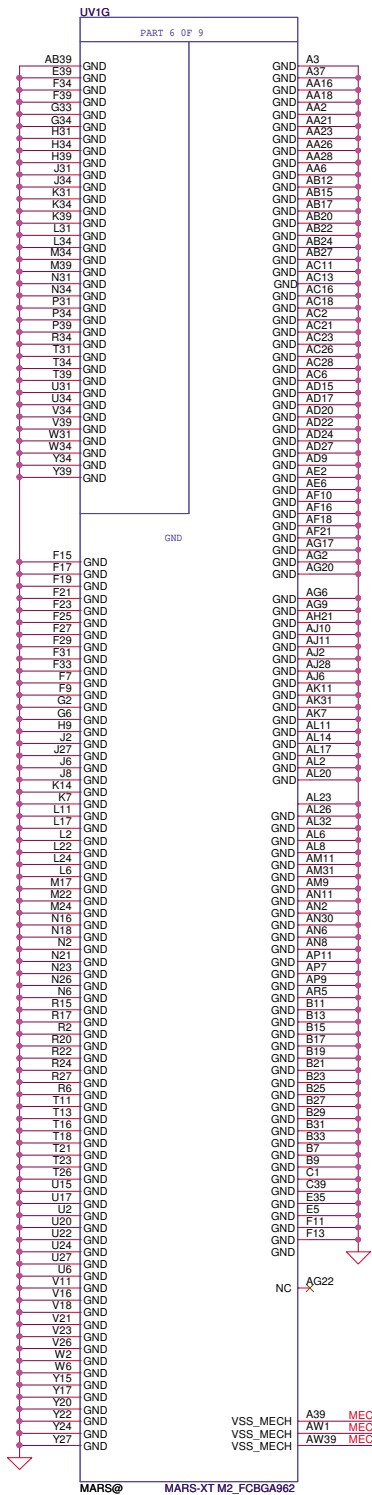
**+1.8VALW TO +1.8VGS  
+0.95VALW TO +0.95VGS  
Load switch**



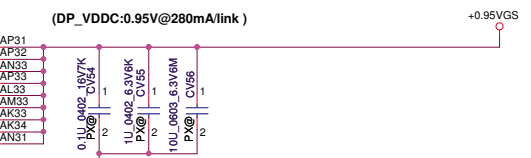
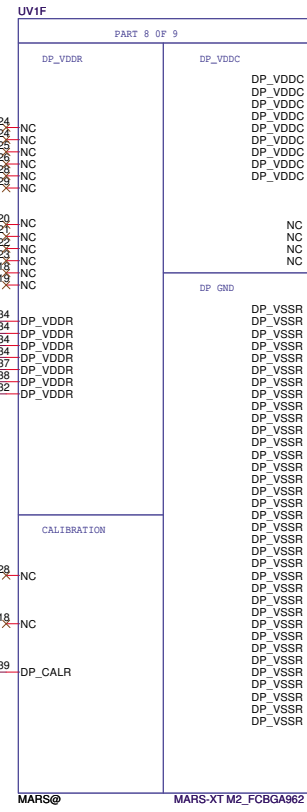
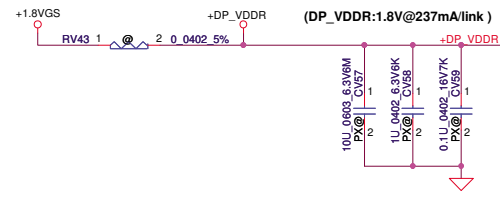
**+1.5V TO +1.5VGS**



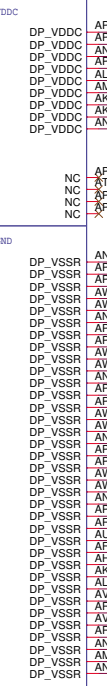
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/07/03	Deciphered Date	2013/07/03	AT1 MarsXTX_M2_BACO POWER	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF FACTORY CUSTOMER 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, March 28, 2013				Sheet	12 of 48



DP_VDDR	MarsCRB	Design
0.1u	1	1
1u	1	1
10u	1	1

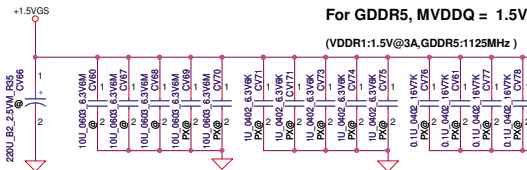


DP_VDDC	MarsCRB	Design
0.1u	1	1
1u	1	1
10u	1	1



Security Classification	Compal Secret Data	
Issued Date	2012/07/03	Deciphered Date 2013/07/03
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 FEDERAL 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.	
ATI MarsXTX M2_PWR_GND	
Document Number	VAWGA/GB
Date: Thursday, March 28, 2013	Sheet 13 of 48

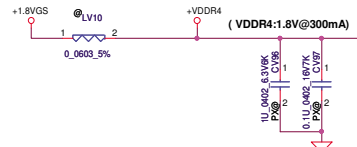
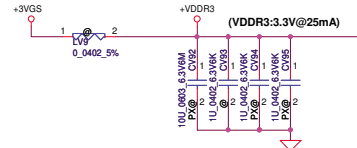
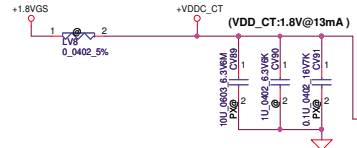


VDDR1	MarsCRB	Design
0.01u	5	0
0.1u	5	5
1u	0	5
2.2u	5	0
10u	3	5
220u	0	1

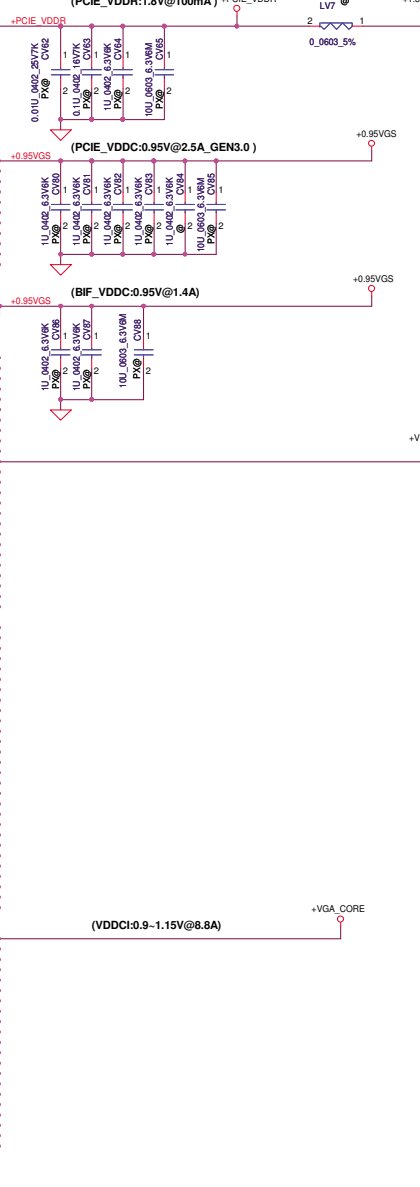
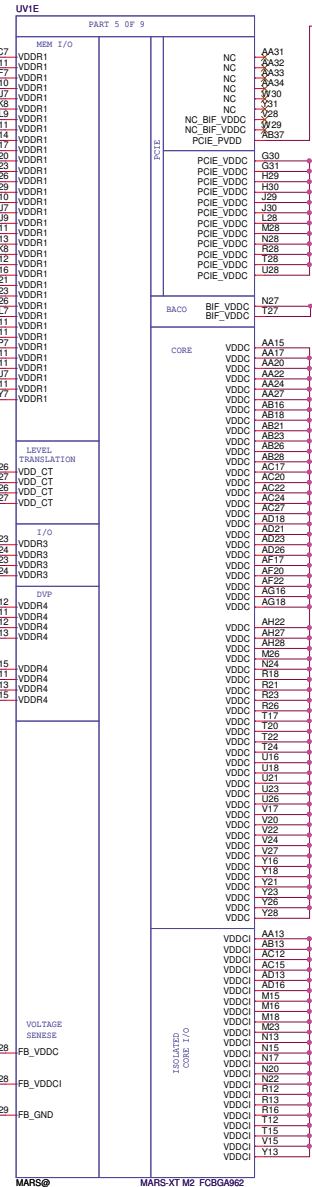
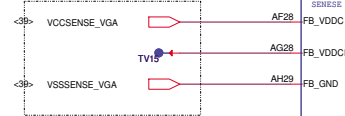
VDD_CT	MarsCRB	Design
120ohm	1	1
0.1u	1	1
1u	1	3
10u	1	1

VDDR3	MarsCRB	Design
120ohm	1	0
0.1u	1	0
1u	2	3
10u	0	1

VDDR4	MarsCRB	Design
220ohm	1	1
0.1u	1	1
1u	1	1
10u	1	0



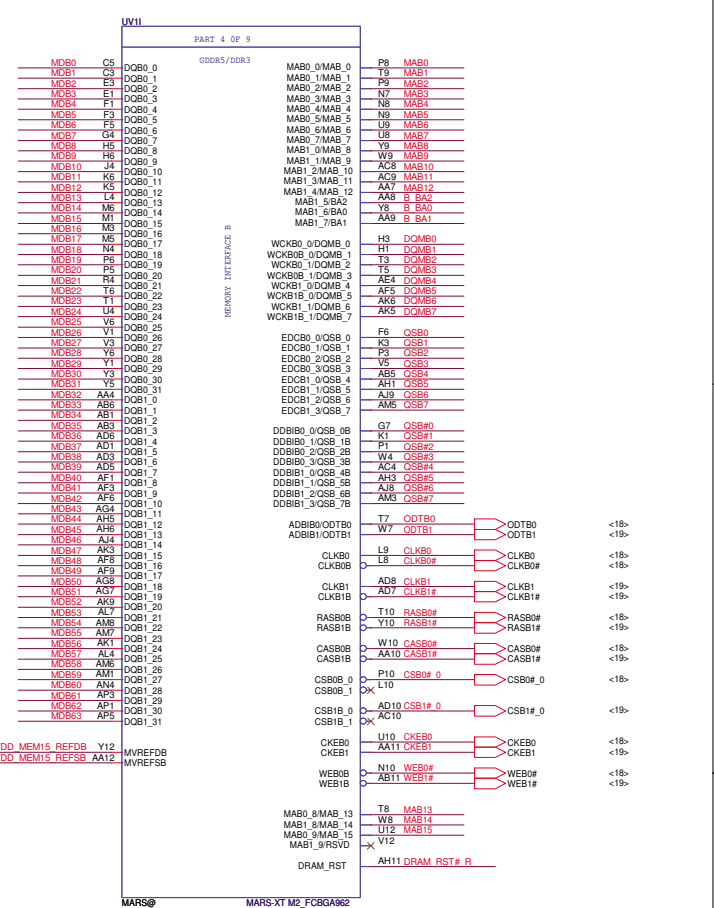
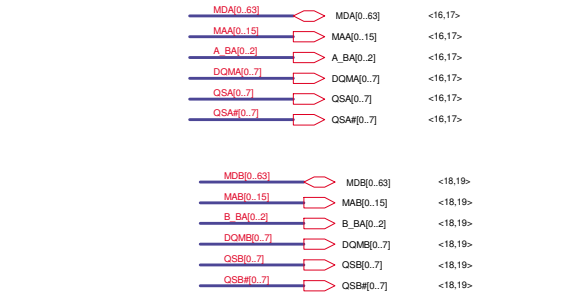
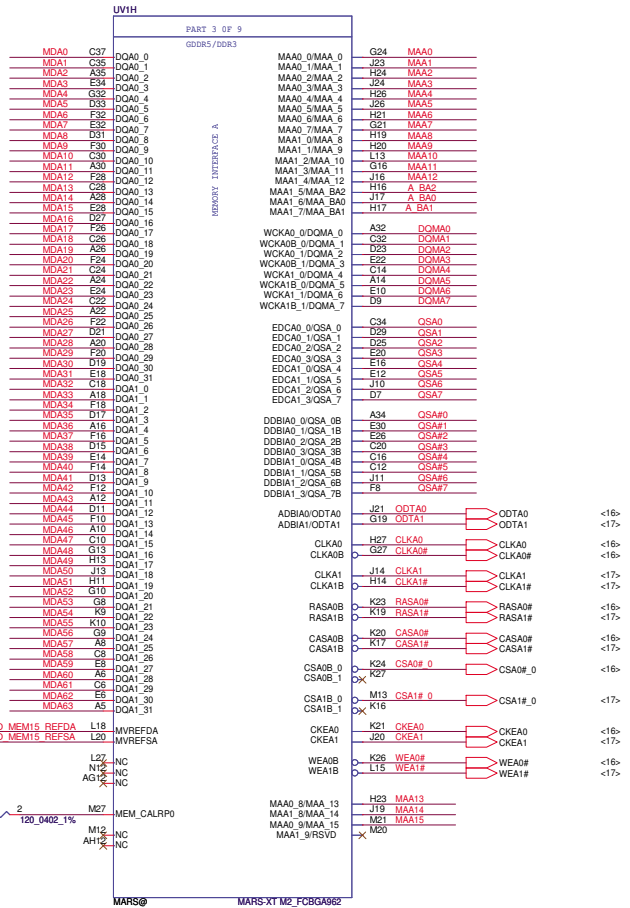
Route as differential pair



PCIE_VDDR	MarsCRB	Design
0.1u	0	2
1u	2	3
10u	1	1

PCIE_VDDC	MarsCRB	Design
1u	7	5
10u	2	1

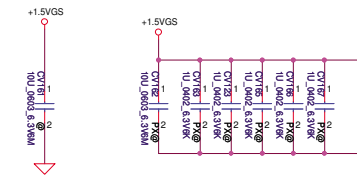
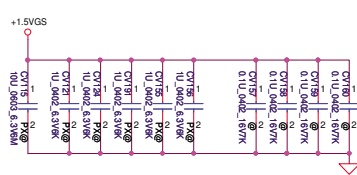
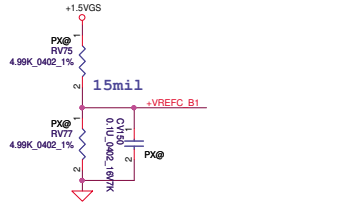
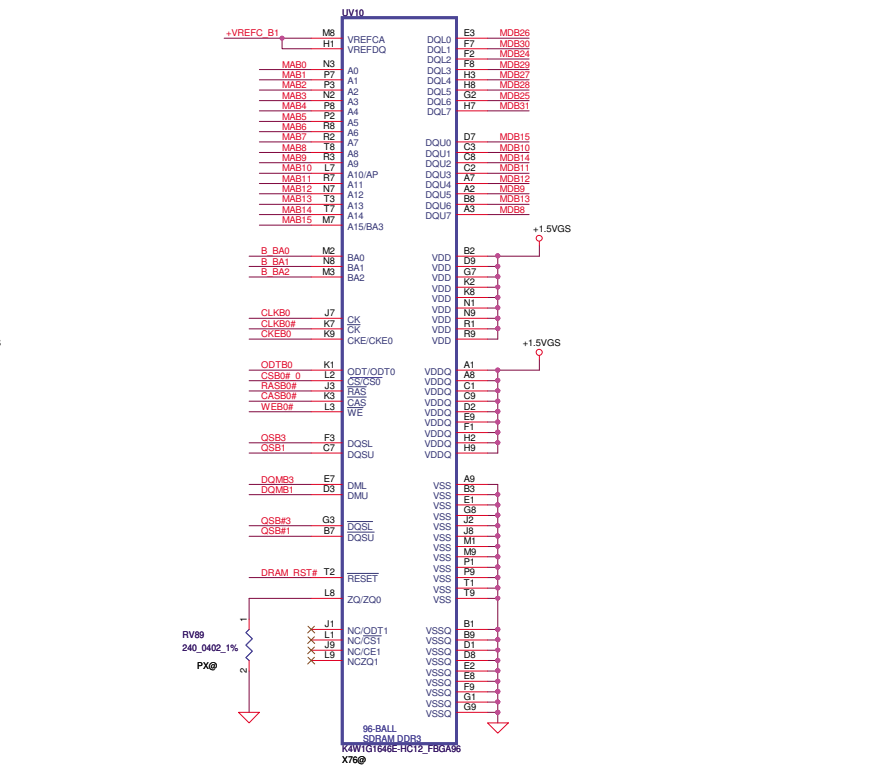
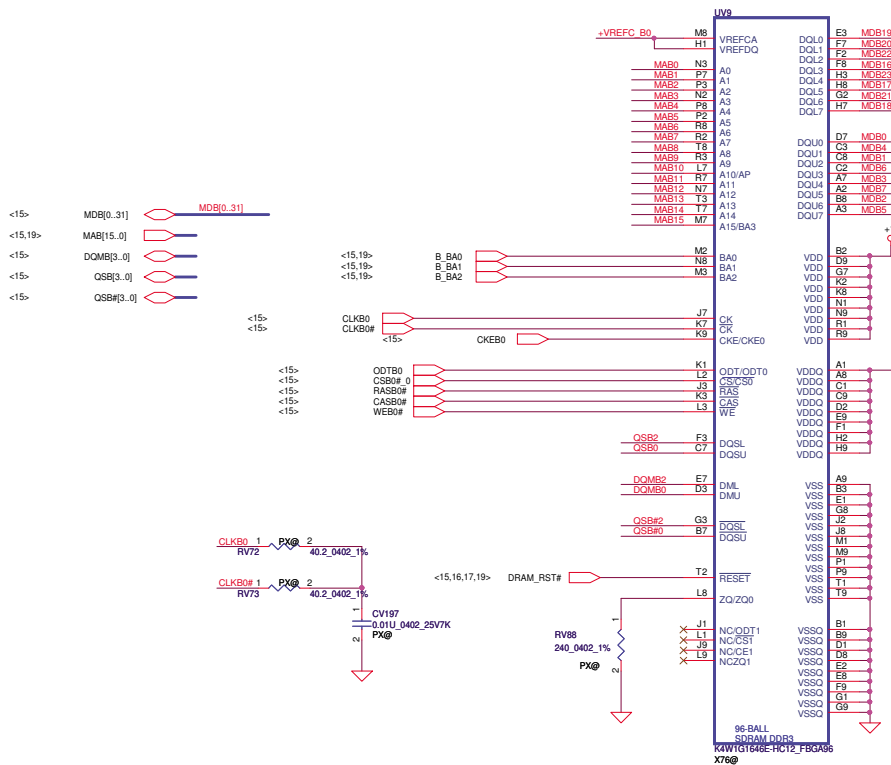
VGA\_CORE Cap in power side sheet





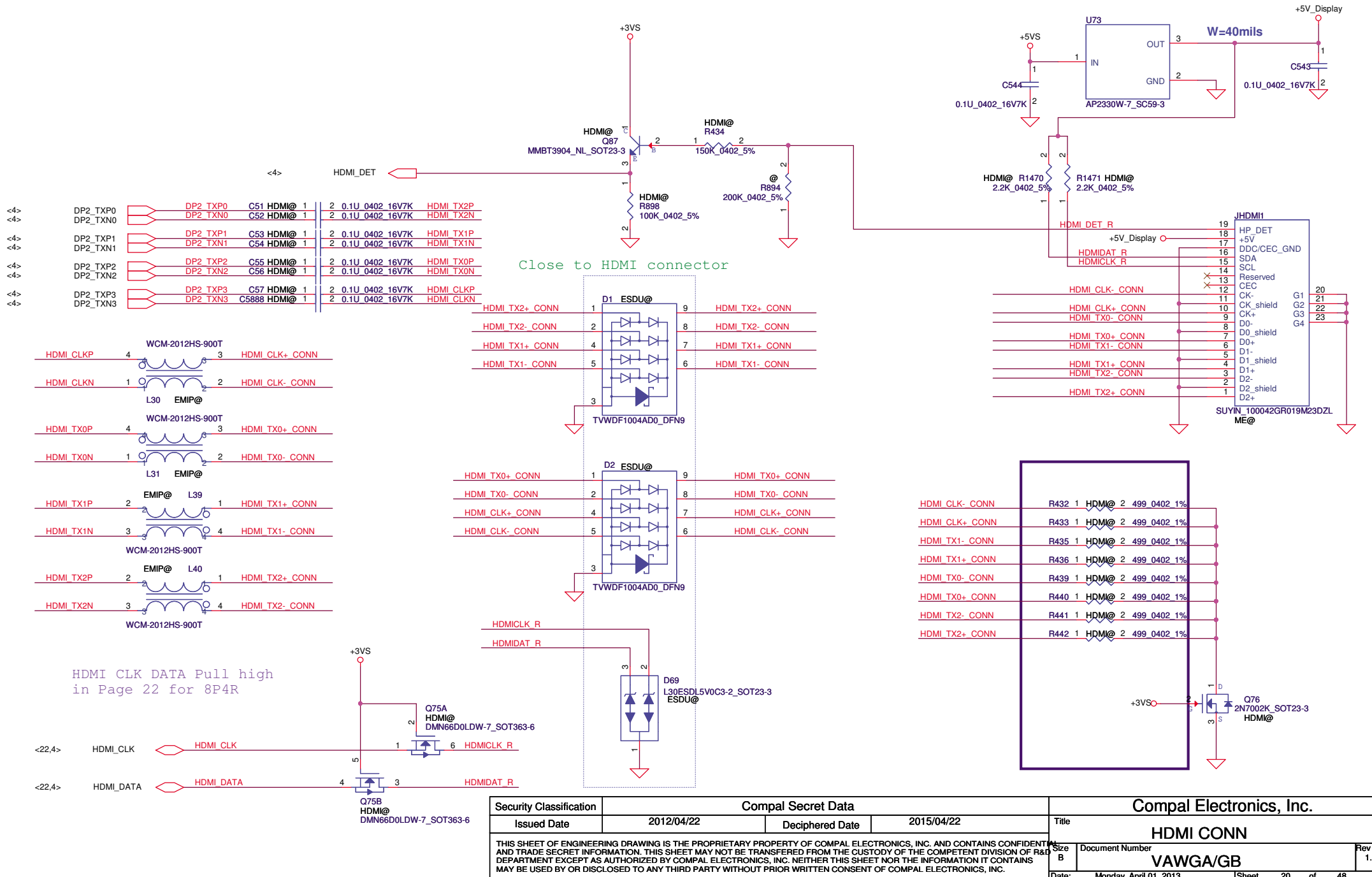






Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2010/08/25	Deciphered Date	2012/08/25	ATI Whistler M2 VRAM B	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAD 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
			C	VAWGA/GB	1.0
			Date:	Thursday, March 28, 2013	Sheet 18 of 48





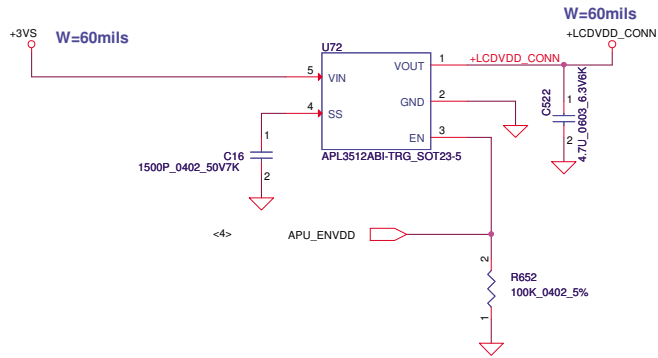
<4>	DP2_TXP0	DP2_TXN0	C51 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX2P
<4>	DP2_TXP1	DP2_TXN1	C53 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX1P
<4>	DP2_TXP2	DP2_TXN2	C55 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX0P
<4>	DP2_TXP3	DP2_TXN3	C57 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_CLKP
<4>	DP2_TXN0	DP2_TXN0	C52 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX2N
<4>	DP2_TXN1	DP2_TXN1	C54 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX1N
<4>	DP2_TXN2	DP2_TXN2	C56 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_TX0N
<4>	DP2_TXN3	DP2_TXN3	C5888 HDMI@ 1	2	0.1U_0402_16V7K	HDMI_CLKN

Close to HDMI connector

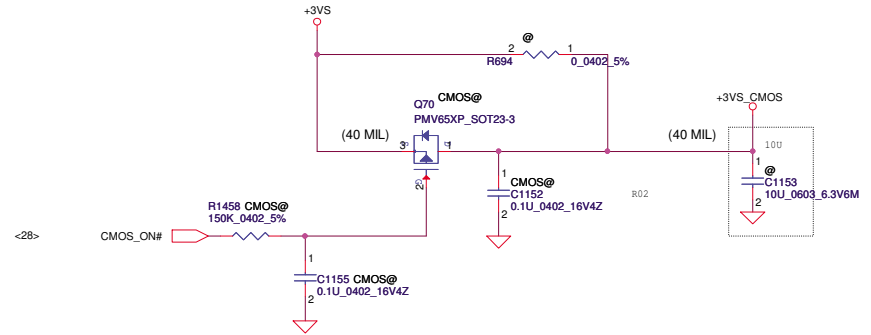
HDMI CLK DATA Pull high in Page 22 for 8P4R

Security Classification		Compal Secret Data		Title		Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	HDMI CONN			
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	VAWG/GB	1.0	
				Date:	Monday, April 01, 2013	Sheet	20 of 48

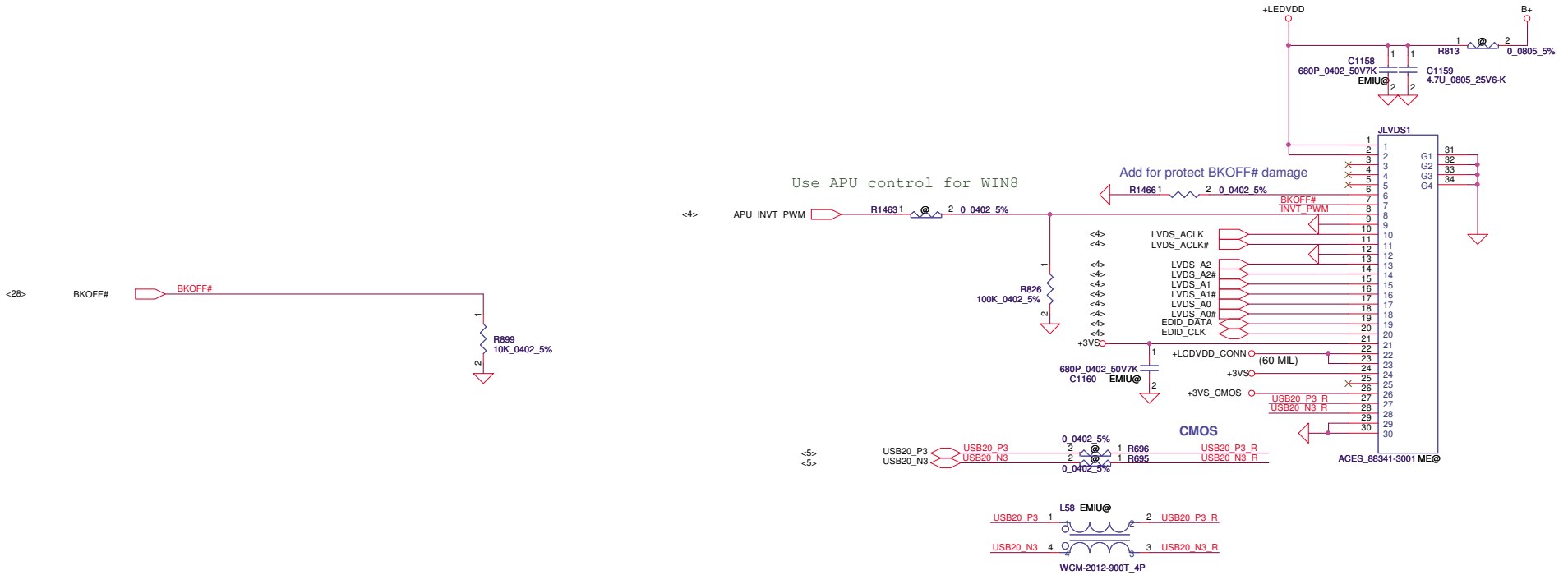
# LCD POWER CIRCUIT



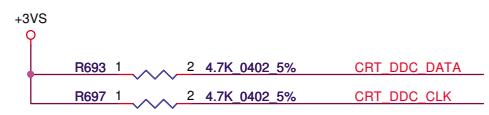
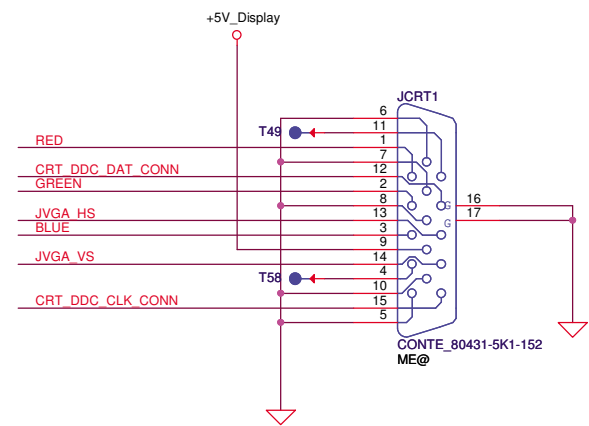
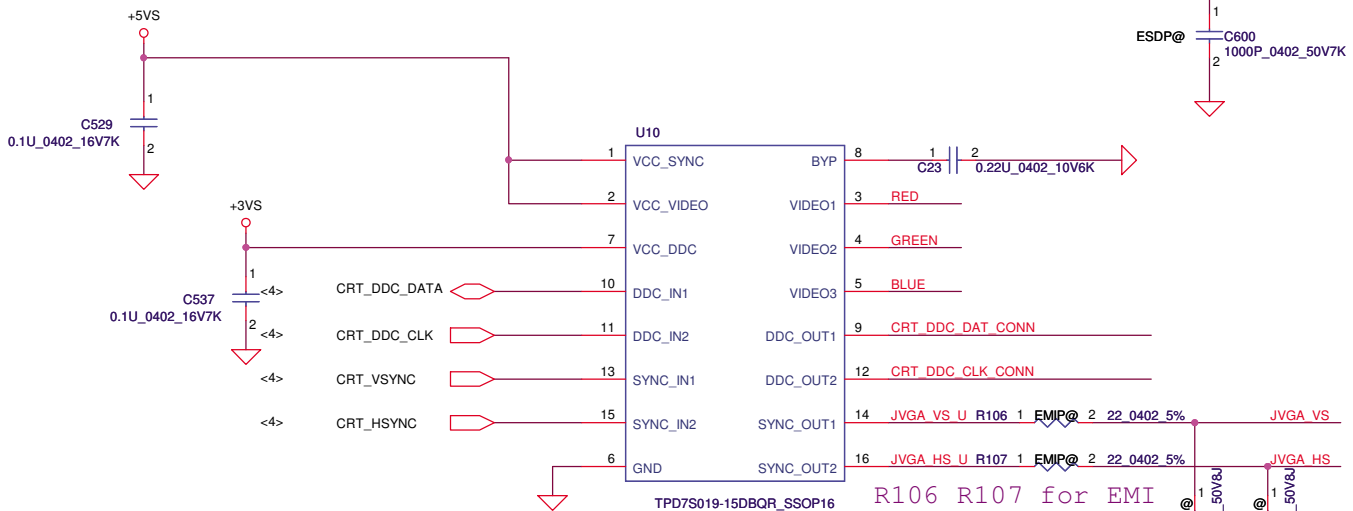
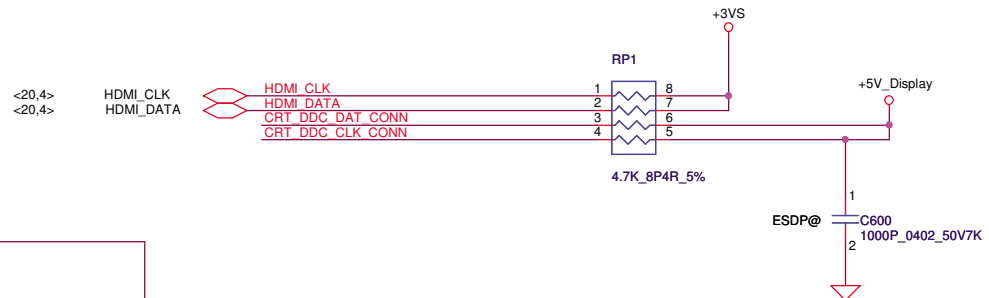
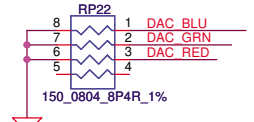
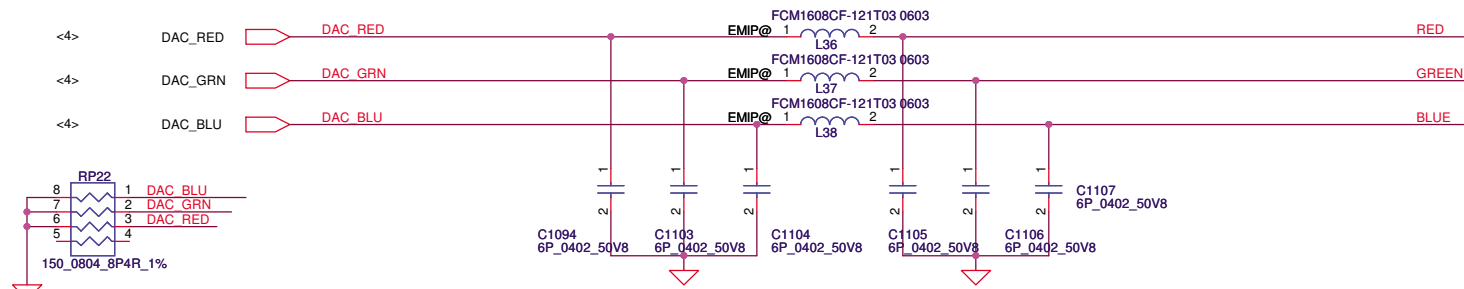
# CMOS Camera



# VGA LCD/PANEL BD. Conn.



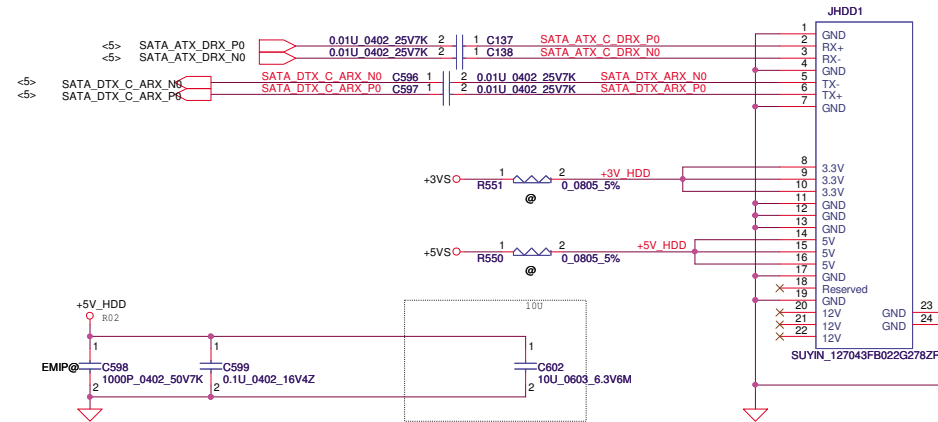
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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	Rev
				14VWA/G/B	1.0
Date: Thursday, March 28, 2013				Sheet	21 of 48



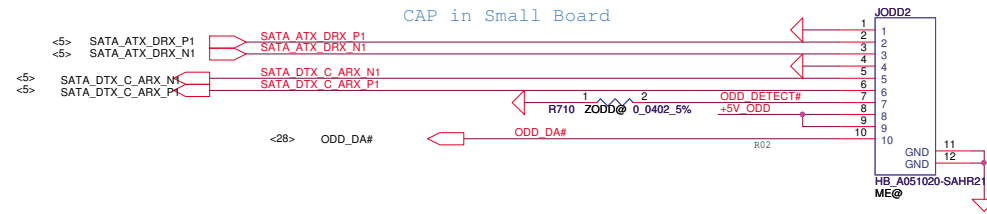
Security Classification	Compal Secret Data	
Issued Date	2012/04/22	Deciphered Date
		2015/04/22
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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	CRT CONN	
Size	Document Number	Rev
B	VAWGA/GB	1.0
Date:	Thursday, March 28, 2013	Sheet
		22 of 48

### SATA HDD Conn.

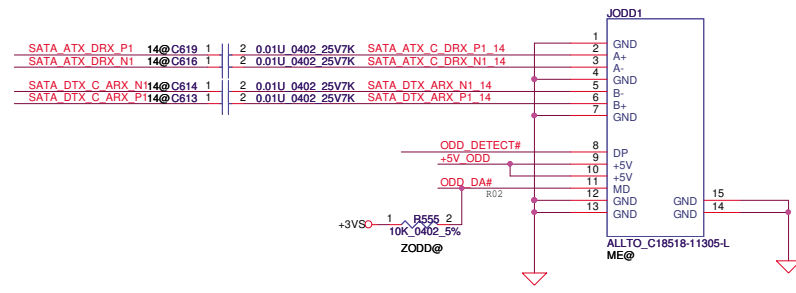


### FOR 15" SATA ODD FFC Conn.

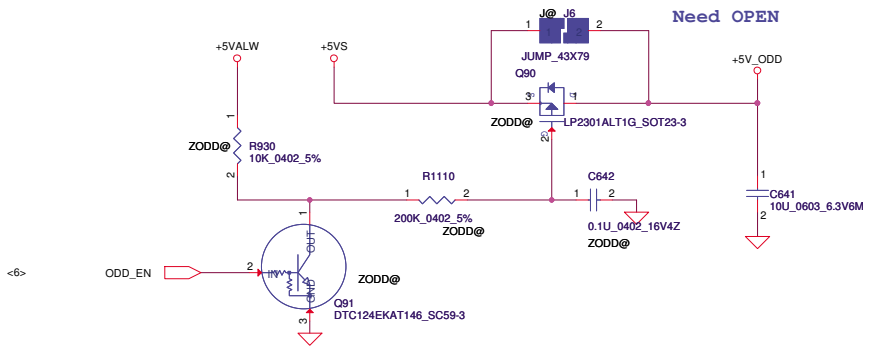


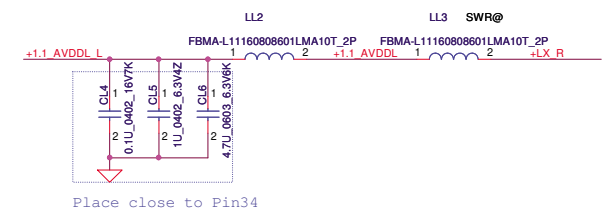
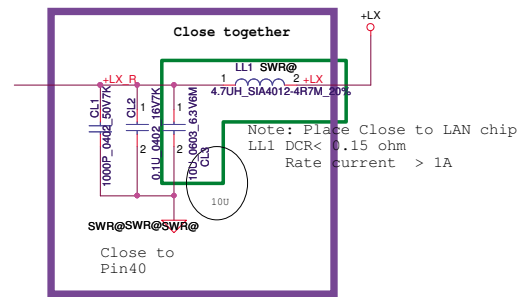
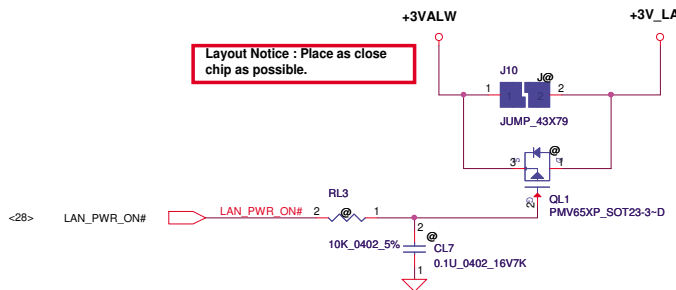
Co-layer

### FOR 14" SATA ODD Conn.

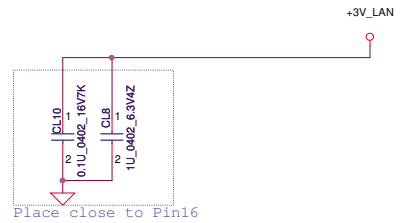
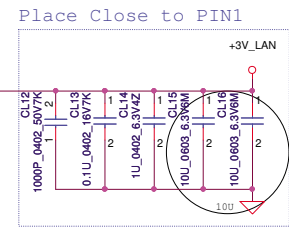
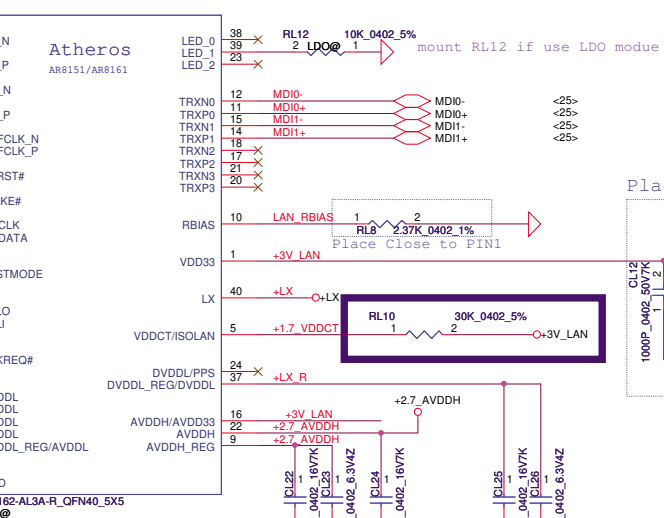
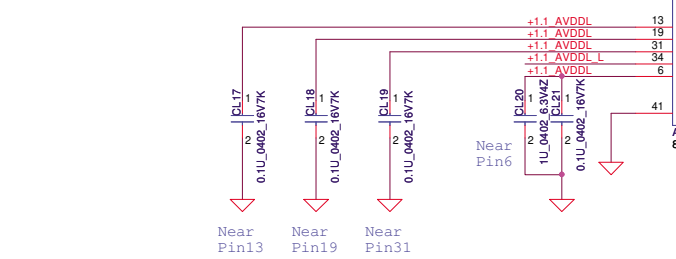
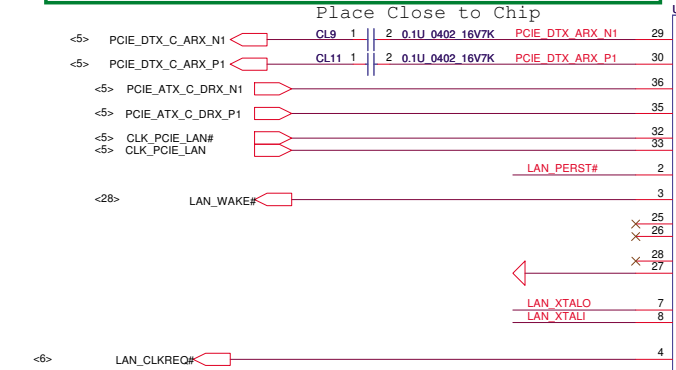
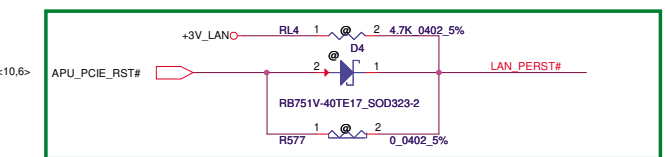


### ODD Power Control





LAN Chip Vendor recommend reserve the PU resistor close LAN chip  
AMD recommend reserve Diode

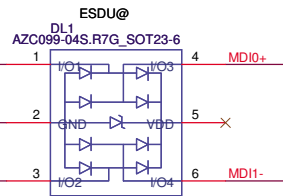


Security Classification	Compal Secret Data		Title	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	LAN-AR8151
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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 1.0
Customer	VAWGA/GB			Date: Thursday, March 28, 2013
Sheet	24	of	48	

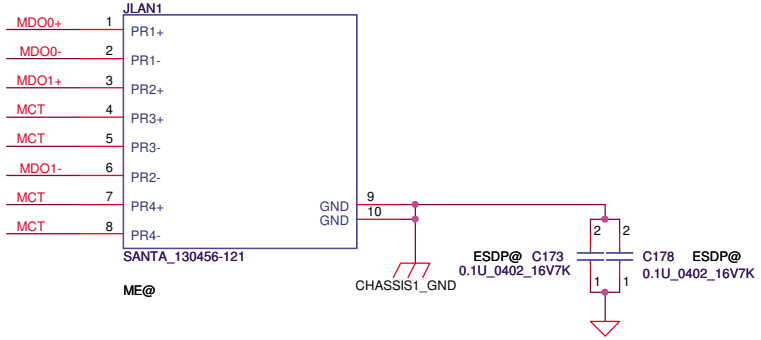
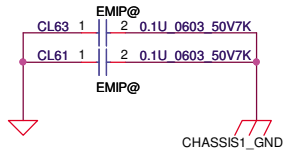
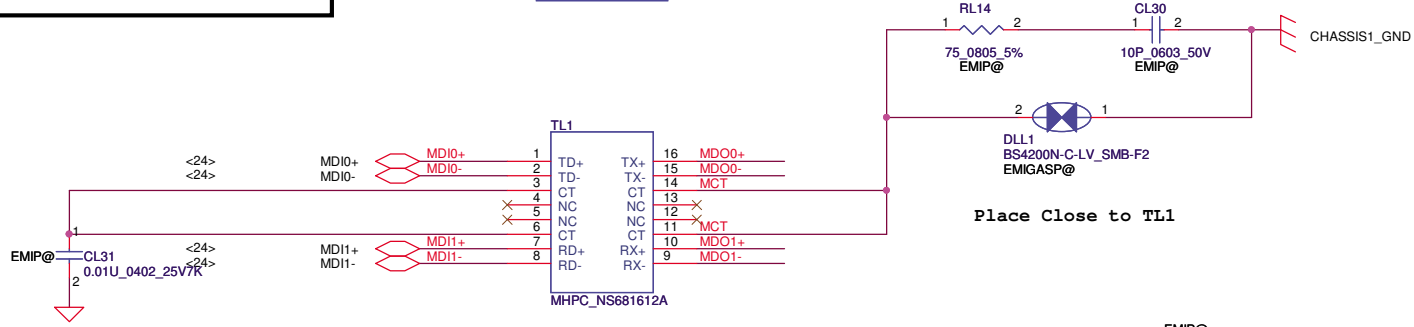


**DL1**  
 1'S PN:SC300001G00  
 2'S PN:SC300002E00

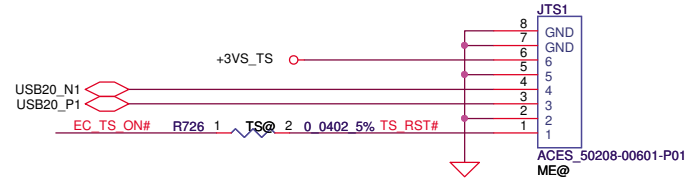
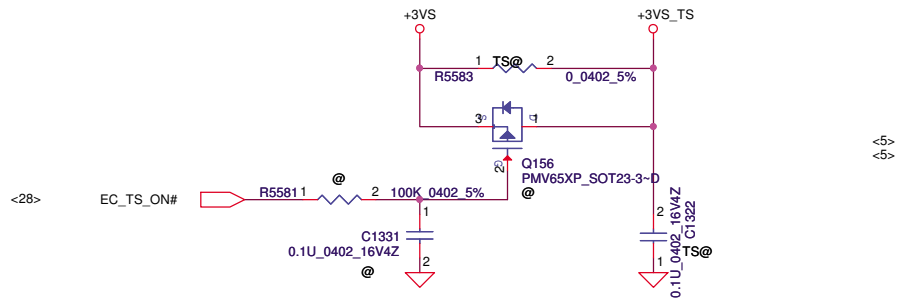
Place Close to TL1



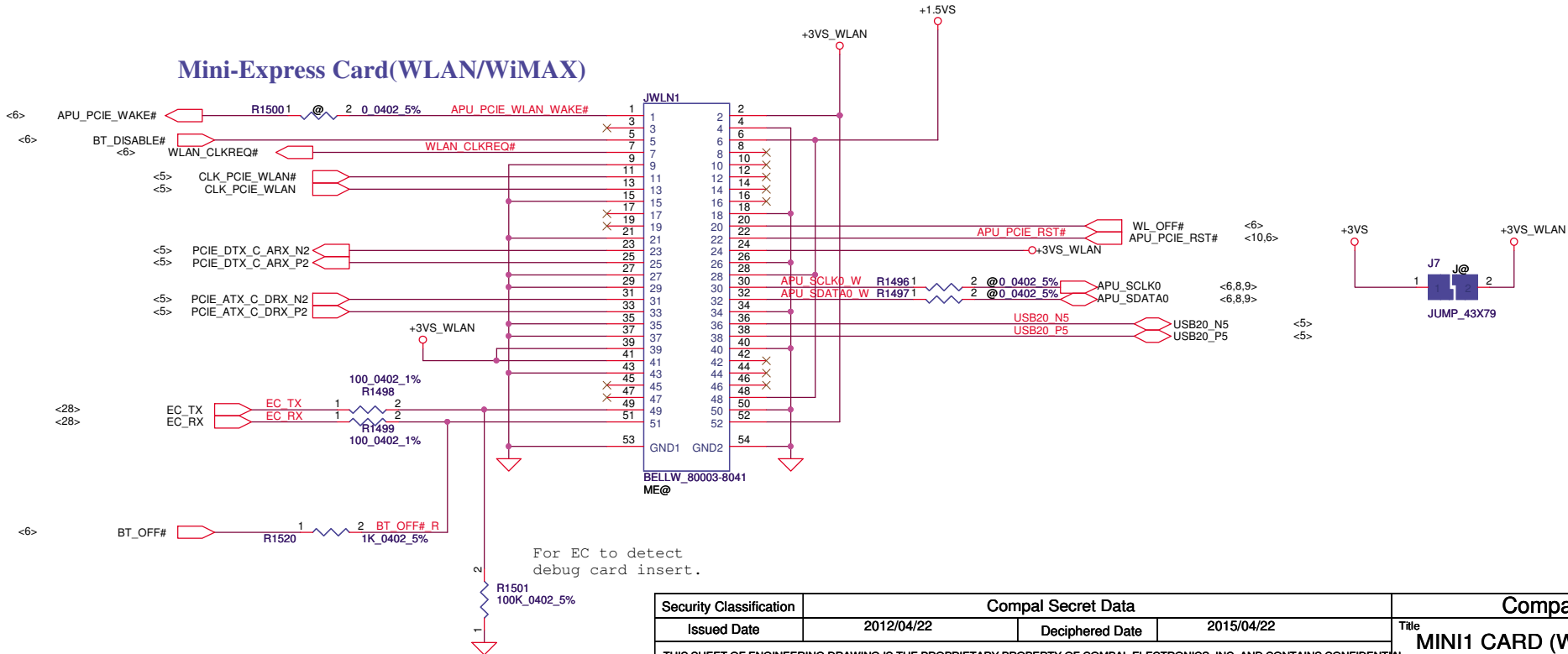
Reserve gas tube for EMI go rural solution



Security Classification		Compal Secret Data		Title	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	LAN_Transformer	
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	1.0
				Sheet	25 of 48
				Date:	Thursday, March 28, 2013



### Mini-Express Card(WLAN/WiMAX)

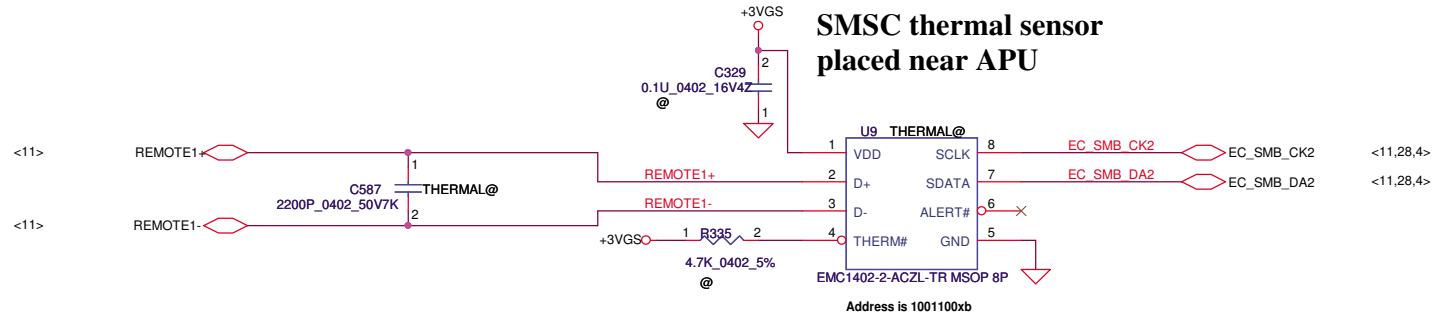


Security Classification	Compal Secret Data	
Issued Date	2012/04/22	Deciphered Date
		2015/04/22
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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	MINI1 CARD (WLAN) / MINI2 CARD (Option)	
Size	Document Number	Rev
B	VAWGA/GB	1.0
Date:	Thursday, March 28, 2013	Sheet 26 of 48

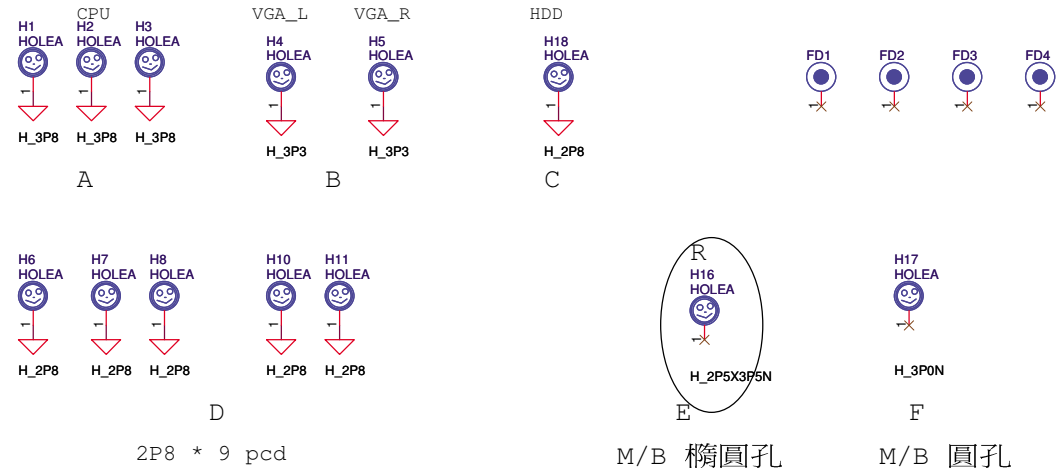
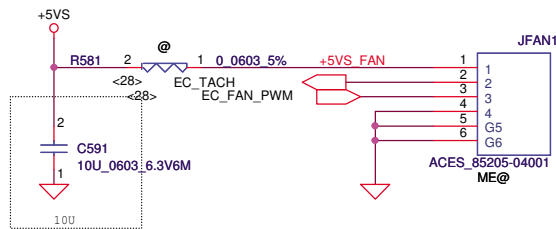




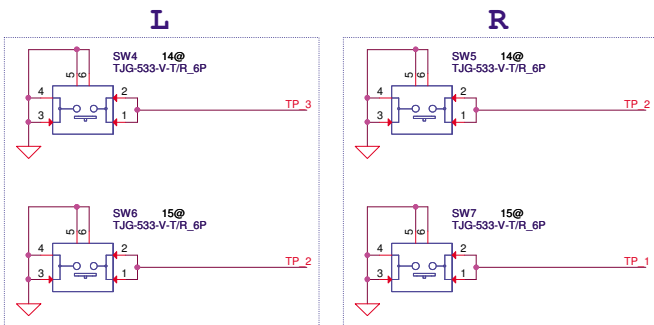
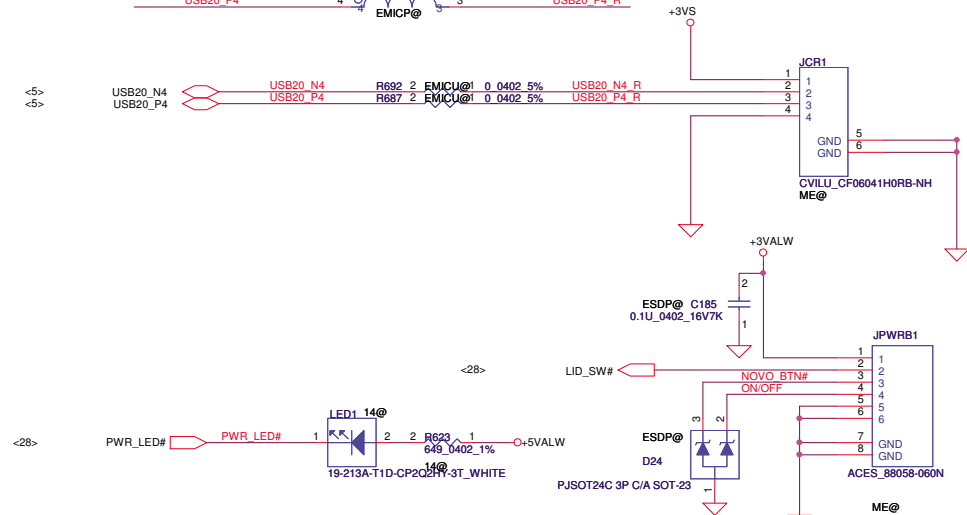
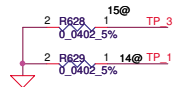
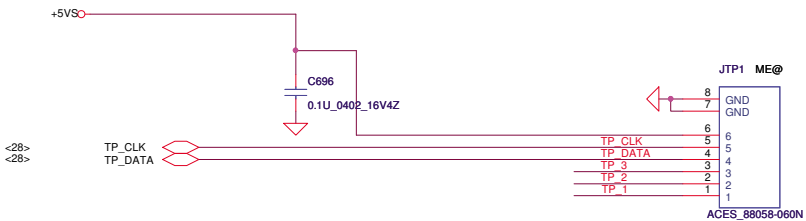
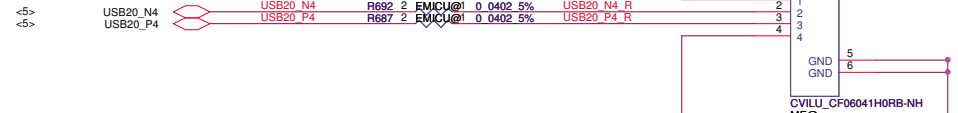
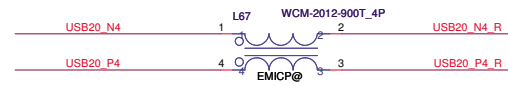
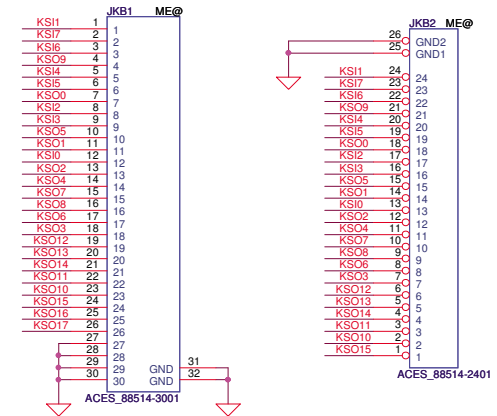
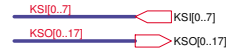
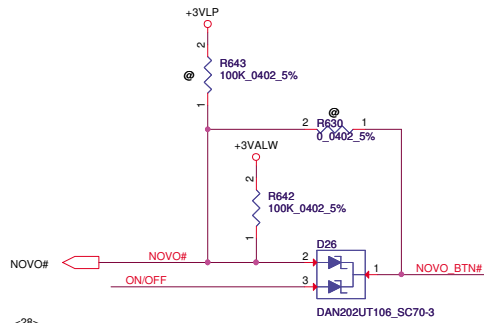
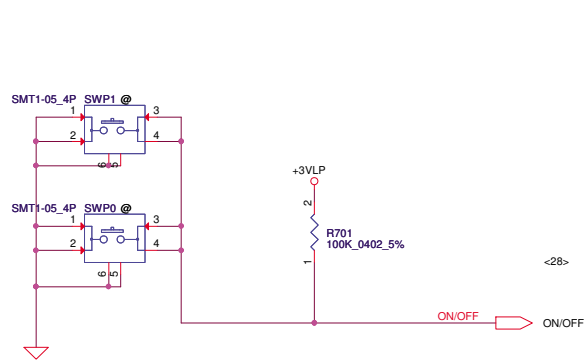


REMOTE1, 2+/-:  
Trace width/space: 10/10 mil  
Trace length: <8"

**FAN1 Conn**



Security Classification	Compal Secret Data			<b>Compal Electronics, Ltd.</b>	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	Title	<b>Fintek-Thermal IC/FAN/screw</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.				Size	Document Number
					<b>VAWGA/GB</b>
				Date: Thursday, March 28, 2013	Sheet 29 of 48
				Rev	1.0

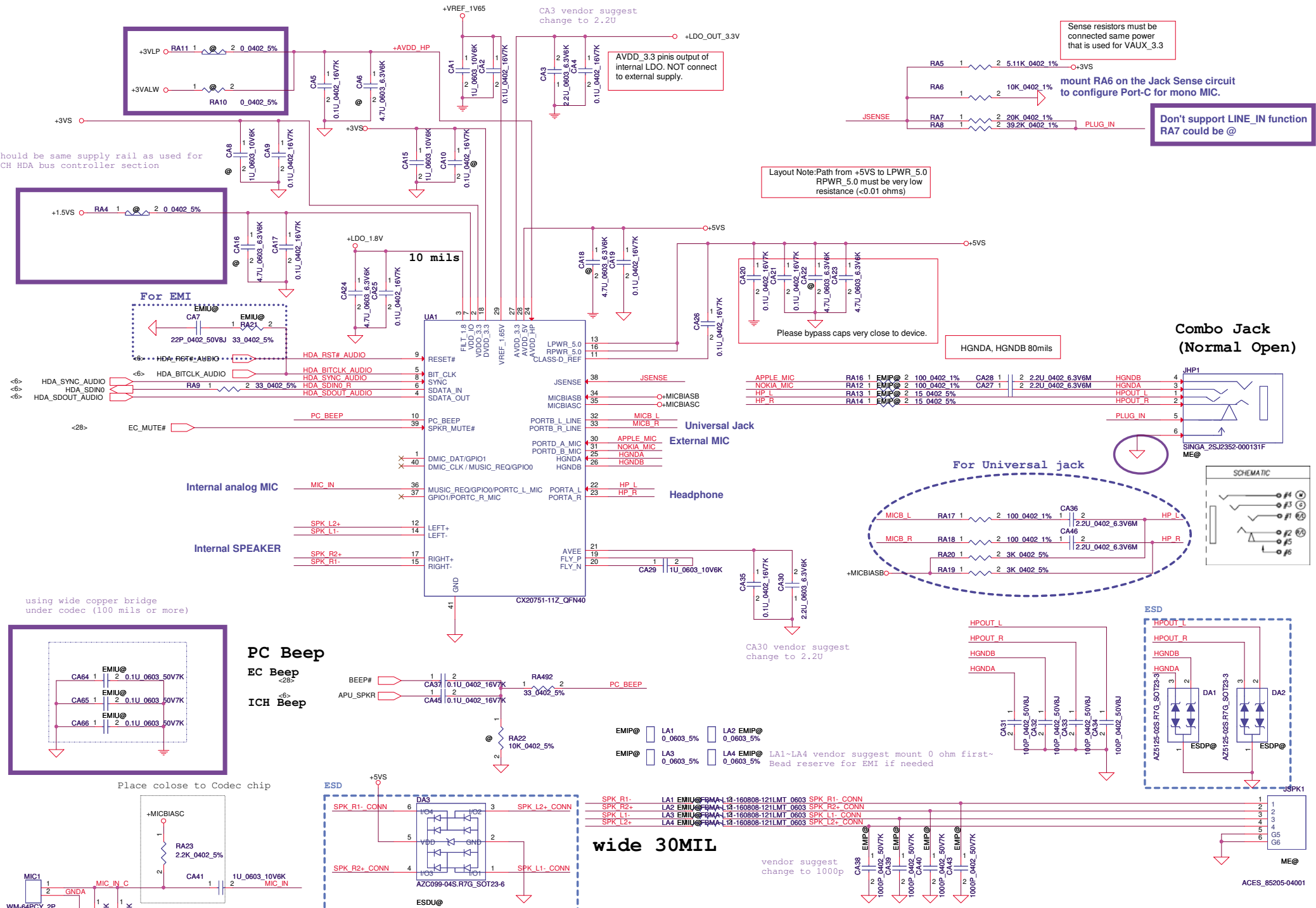


15/17"

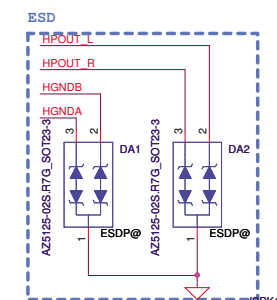
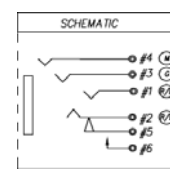
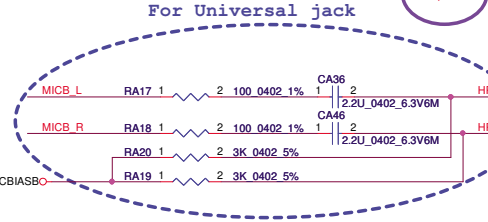
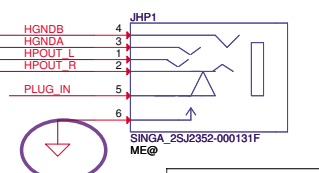
1	VCC
2	CLK
3	DAT
4	GND
5	L
6	R

14"

1	VCC
2	CLK
3	DAT
4	L
5	R
6	GND

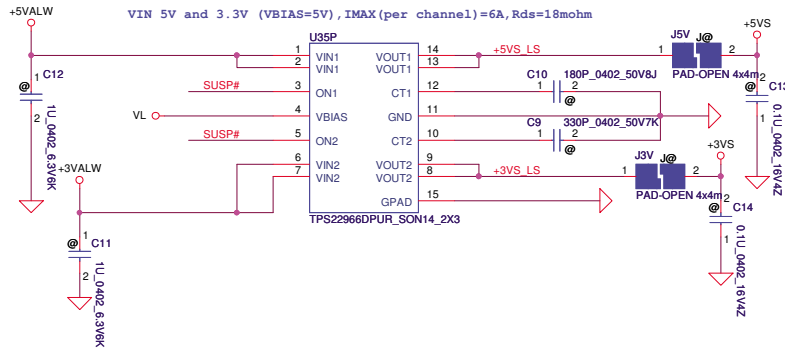


**Combo Jack (Normal Open)**

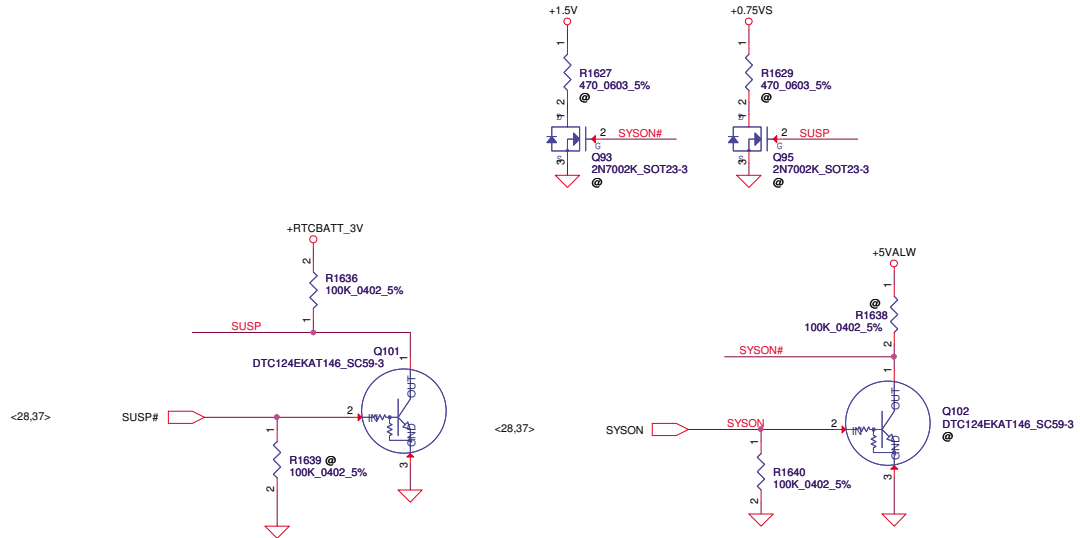
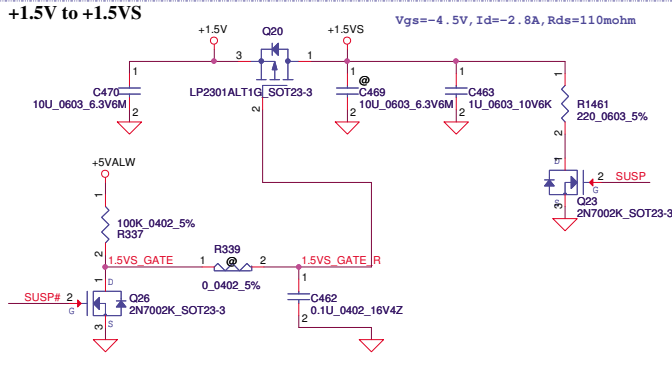
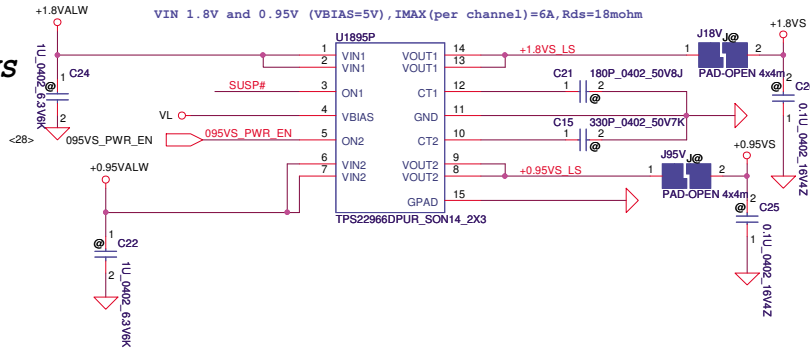


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED 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
				VAWGA/GB	1.0
Date: Thursday, March 28, 2013				Sheet	31 of 48

**+5VALW TO +5VS**  
**+3VALW TO +3VS**  
**Load switch**

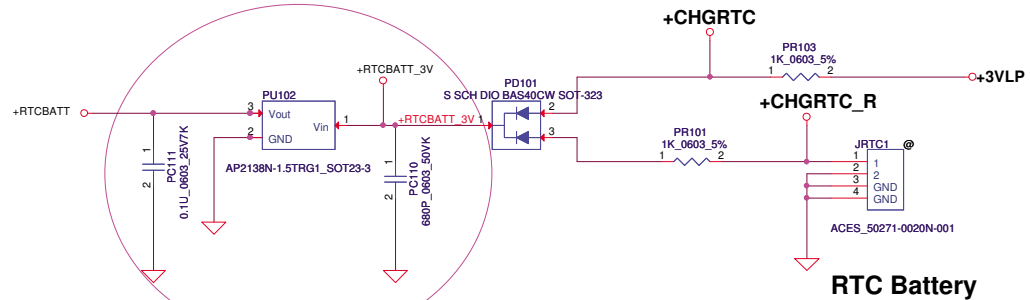
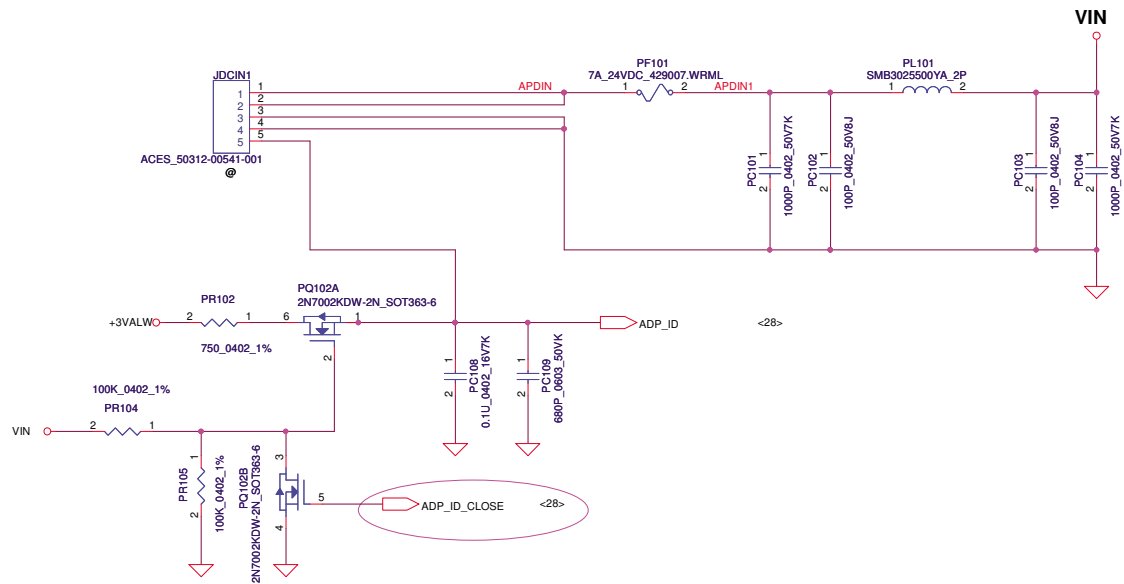


**+1.8VALW TO +1.8VS**  
**+0.95VALW TO +0.95VS**  
**Load switch**



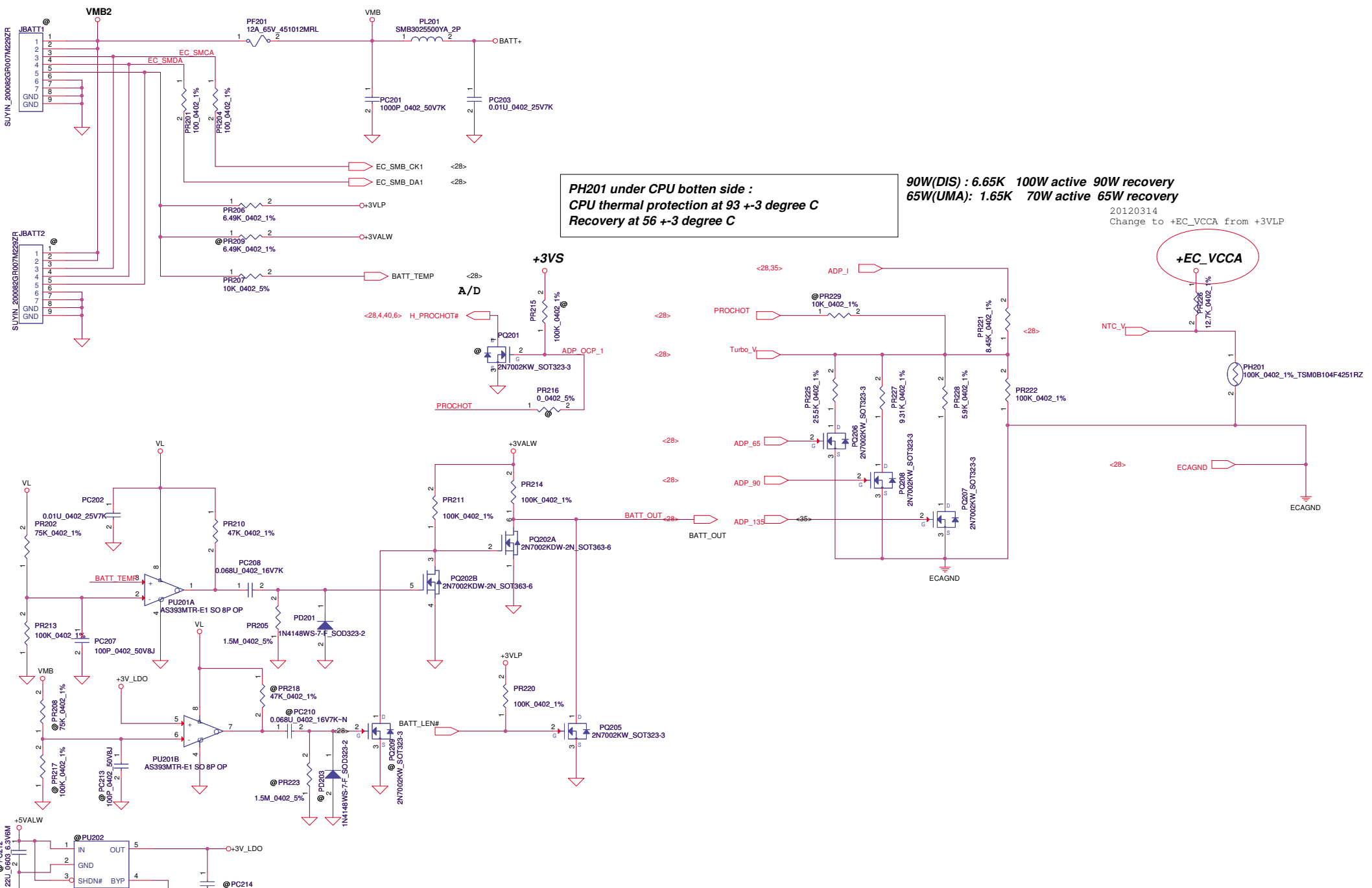
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2012/04/22	Deciphered Date	2015/04/22	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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	
				DC Interface	
				VAVGA/GB	
				Date:	Thursday, March 28, 2013
				Sheet	32 of 48
				Rev	1.0





Need use +3.3V transfer to +1.5V LDO to APU side for Kaibini

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	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 FACTORY CUSTOMER 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.				PWR-DCIN / RTC Battery	
				Document Number	Rev
				VAWGA/B	1.0
				Date: Thursday, March 28, 2013	Sheet 33 of 48



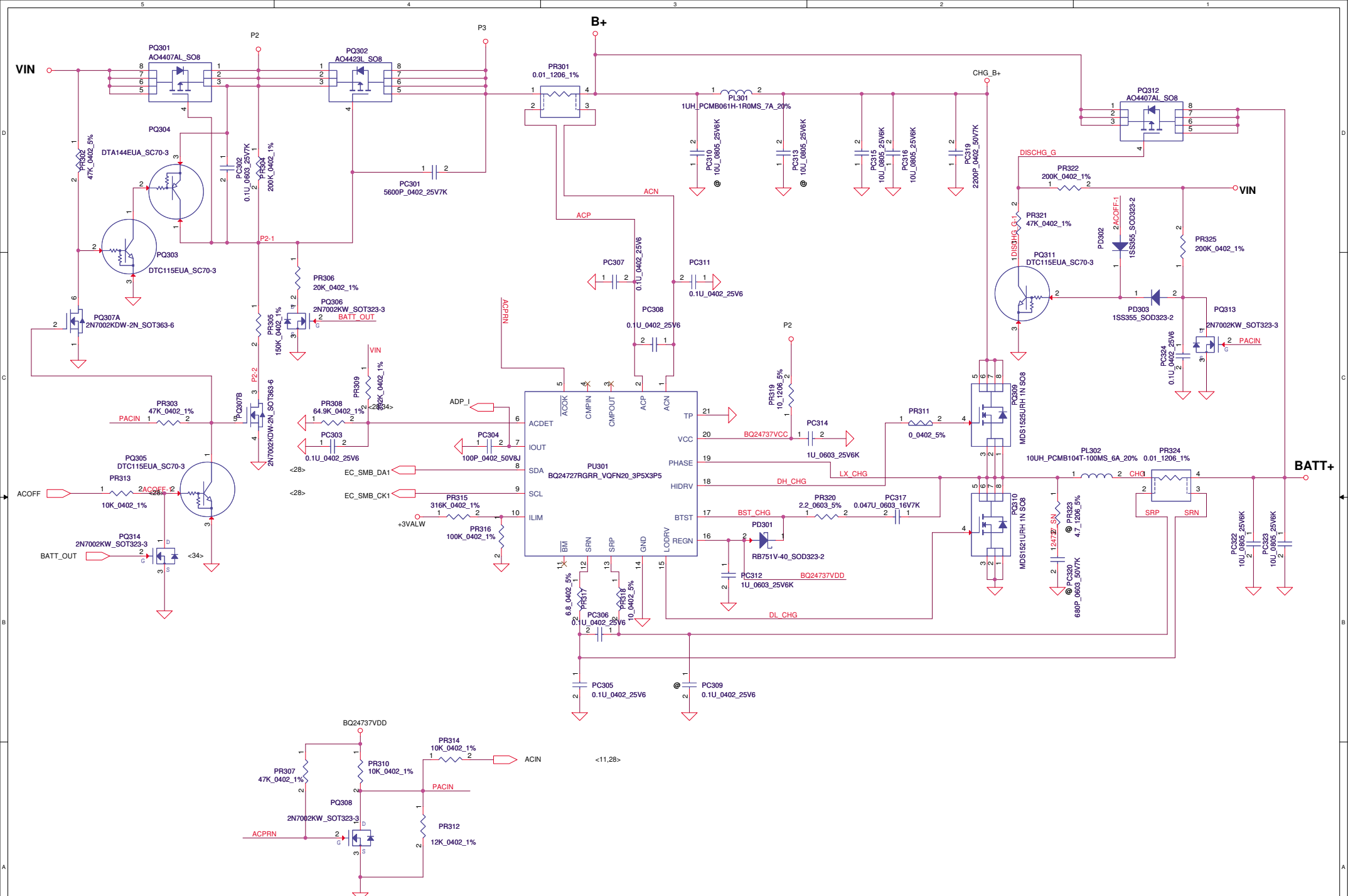
**PH201 under CPU bottom side :**  
**CPU thermal protection at 93 +3 degree C**  
**Recovery at 56 +3 degree C**

**90W(DIS) : 6.65K 100W active 90W recovery**  
**65W(UMA) : 1.65K 70W active 65W recovery**

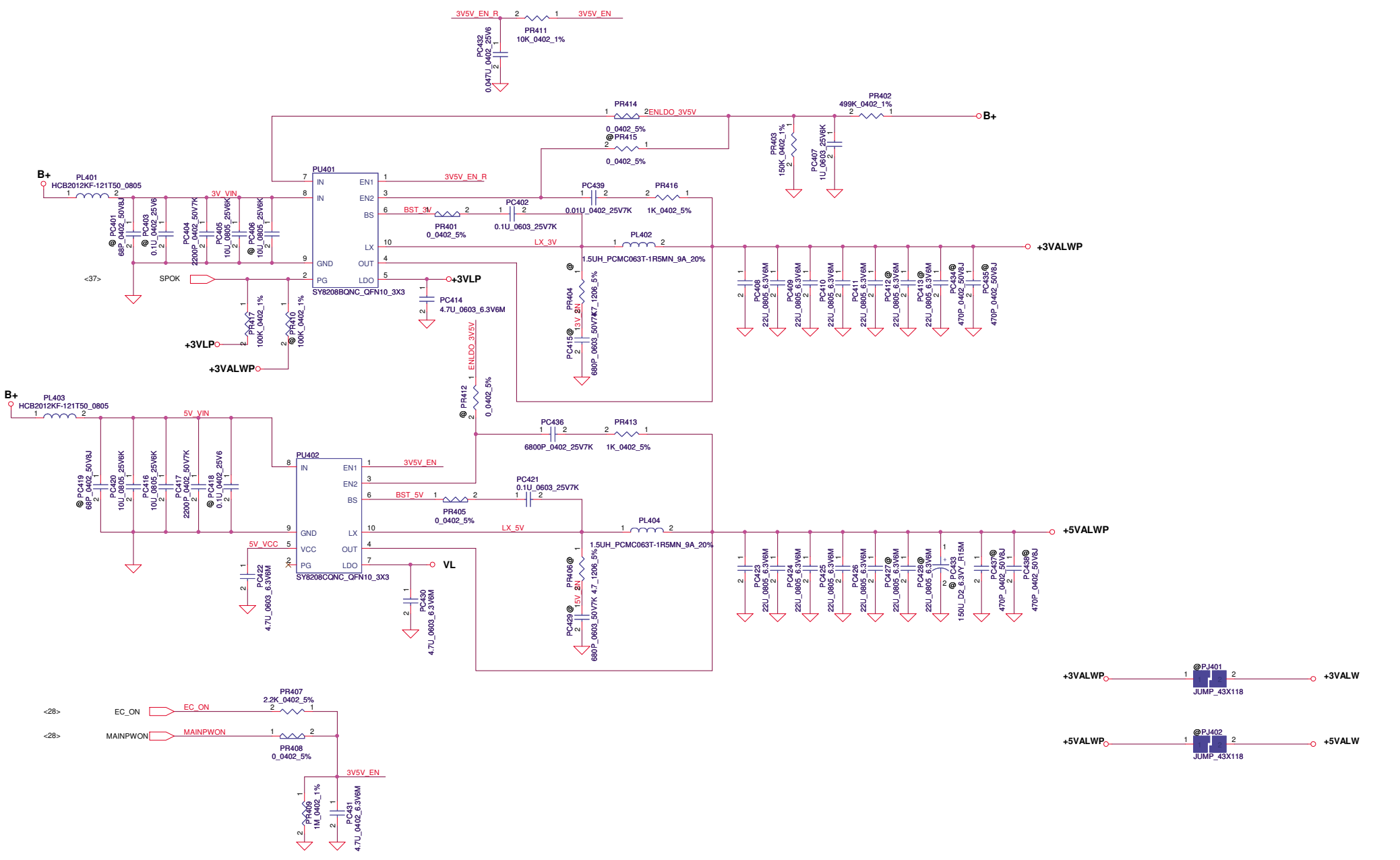
20120314  
 Change to +EC\_VCCA from +3VLP

**+EC\_VCCA**

Security Classification		Compal Secret Data		Title	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	PWR-BATTERY CONN/OTP	
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 FACTORY 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 1.0
Date: Thursday, March 28, 2013				Sheet	34 of 48



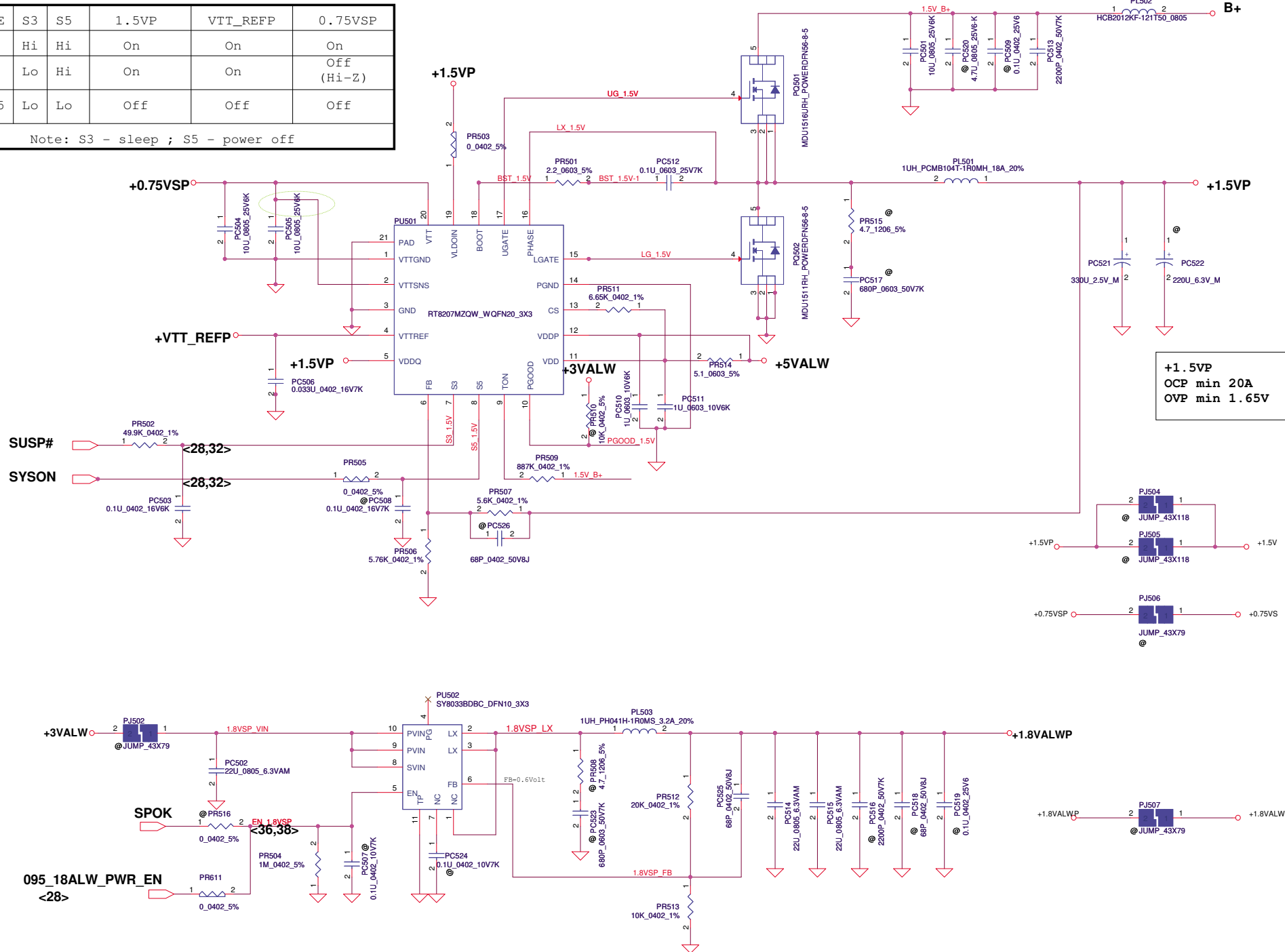
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	Title	PWR-CHARGER
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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
				VAWG/B	
				Date	Thursday, March 28, 2013
				Sheet	35 of 48



Security Classification		Compal Secret Data		Title	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	PWR-3VALWP/5VALWP	
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.					
Customer				Document Number	Rev
Date: Thursday, March 28, 2013				VAWGA/GB	1.0
Sheet				36	of 48

STATE	S3	S5	1.5VP	VTT_REFP	0.75VSP
S0	Hi	Hi	On	On	On
S3	Lo	Hi	On	On	Off (Hi-Z)
S4/S5	Lo	Lo	Off	Off	Off

Note: S3 - sleep ; S5 - power off



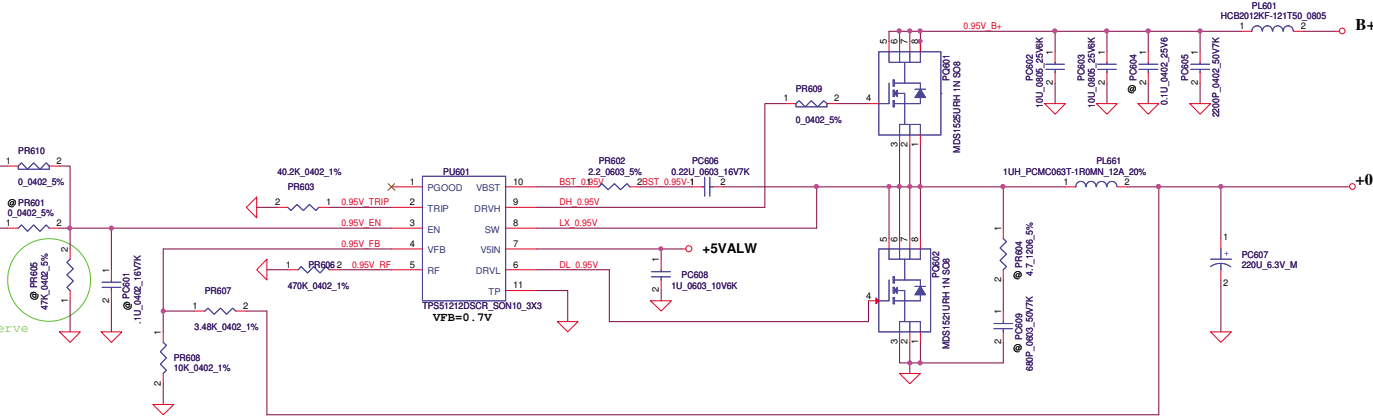
095\_18ALW\_PWR\_EN

<28>

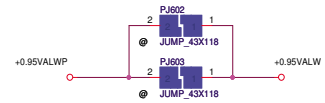
<37>

SPOK

PR605 reserve

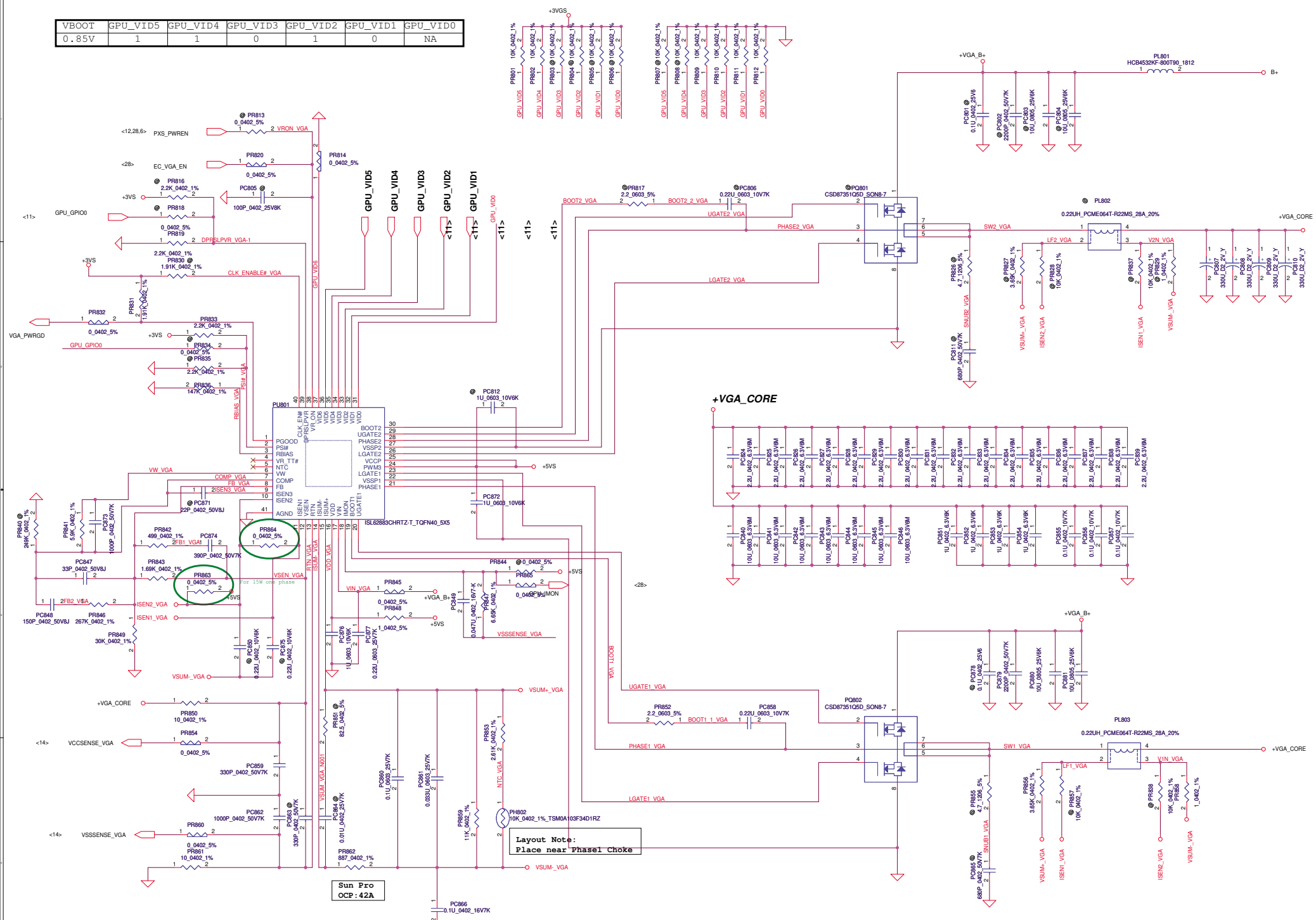


+0.95VALWP OCP (min)=15.6A



Security Classification		Compal Secret Data		Title	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	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	Document Number
				2	VAWGA/B
				Date:	Thursday, March 28, 2013
				Sheet	38 of 48
				Rev	1.0

VBOOT	GPU_VID5	GPU_VID4	GPU_VID3	GPU_VID2	GPU_VID1	GPU_VID0
0.85V	1	1	0	1	0	NA

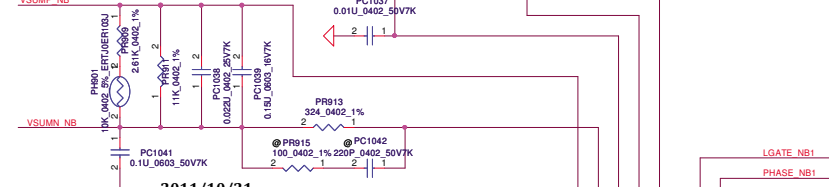


Layout Note:  
Place near Phase1 Choke

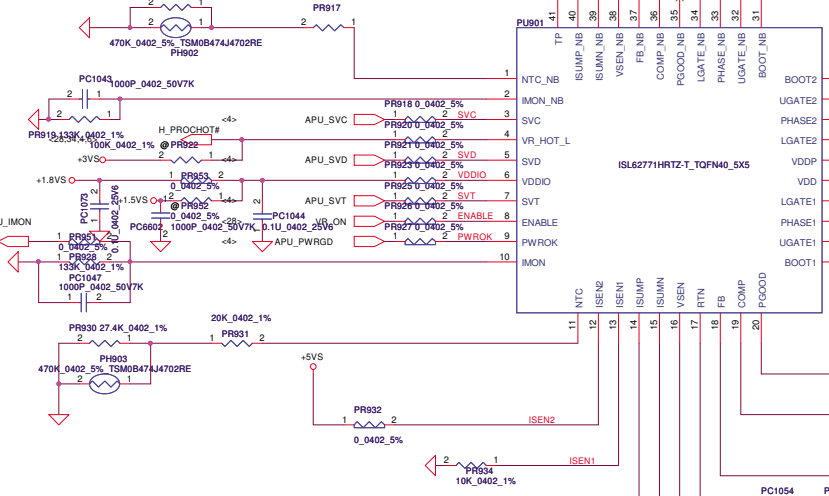
Sun Pro  
OCP: 42A

Security Classification	Compal Secret Data		Date		2012/07/11		Title		Compal Electronics, Inc.	
Issued Date	2011/06/15		Deciphered Date		2012/07/11		Size		PWR-VGA_CORE	
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, March 28, 2013 Sheet 39 of 48										

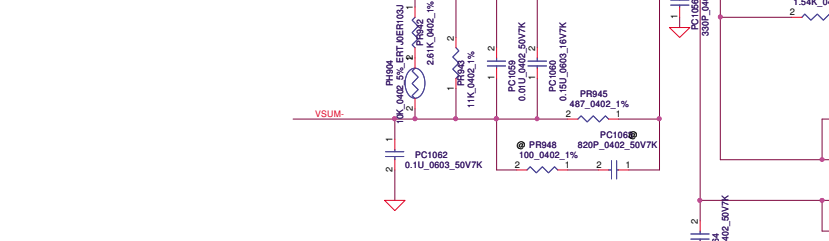
2011/10/21  
NTC near phase 1 choke



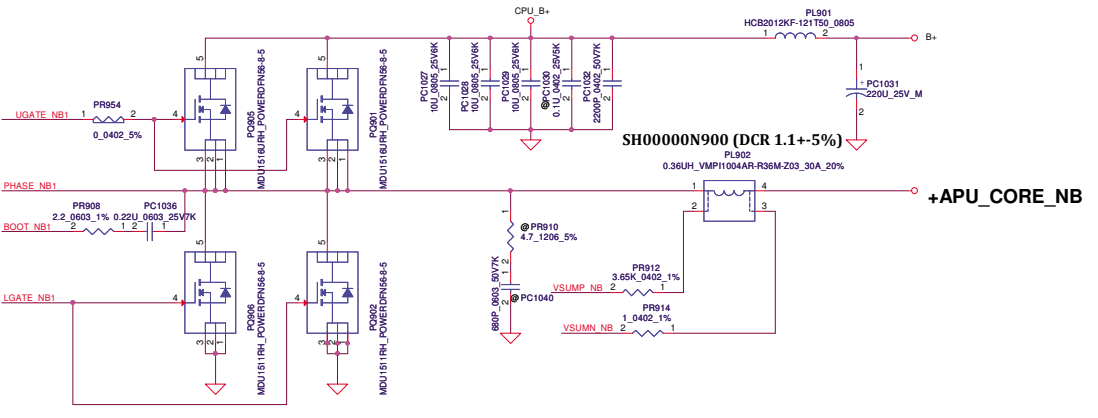
2011/10/21  
NTC near NB\_CORE H/S mos



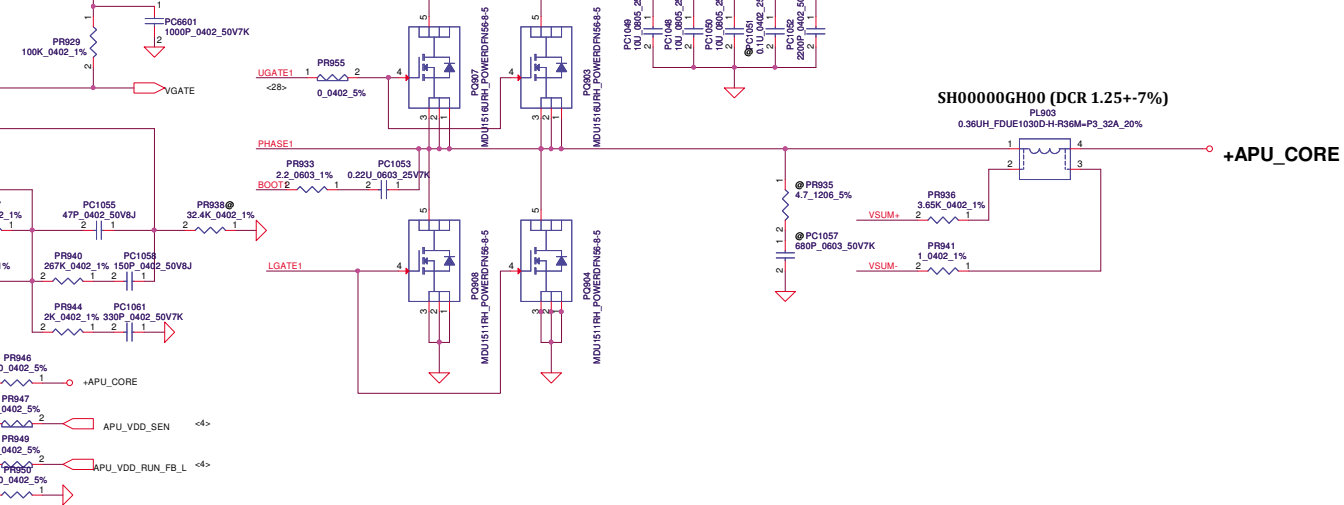
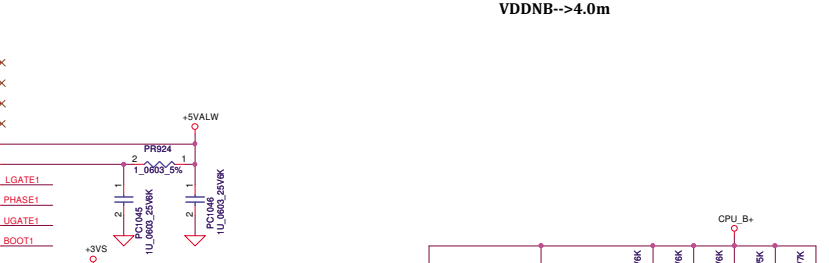
2011/10/21  
NTC near CPU\_CORE H/S mos



2011/10/21  
NTC near phase 1 choke

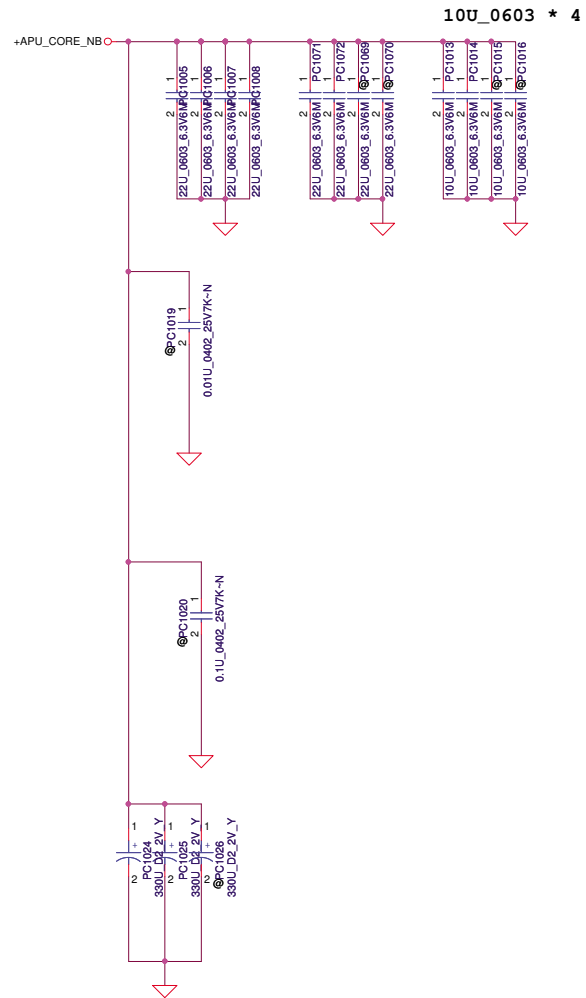
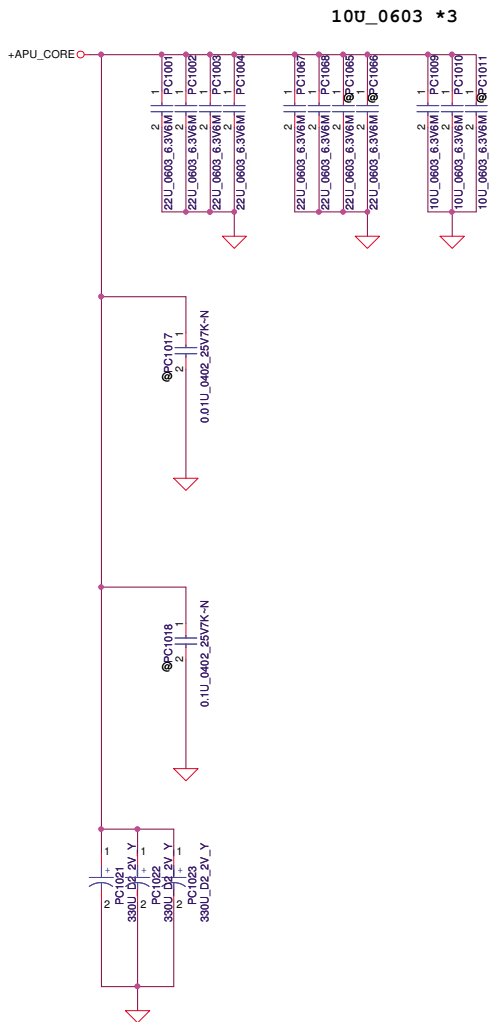


2012/10/30  
Load Line: VDD-->4m  
VDDNB-->4.0m



Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	APU CORE/APU CORE NB	
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.
			4-sheet	VAWG/A/B	1.0
			Date:	Thursday, March 28, 2013	Sheet 40 of 48





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.	
<b>PWR-PROCESSOR DECOUPLING</b>	
Document Number	VAWGA/B
Date	Thursday, March 28, 2013
Sheet	41 of 48
Rev	1.0

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

Item	Reason for change	PG#	Modify List	Date	Phase
1	For share rom	28	Change SYS_PWRGD_EC from pin 86 to pin 32	12/17	DVT
2	For 095VS_PWR_EN pull down	28	Add R207	12/17	DVT
3	For VBIAS first raise up	12, 32	Change U1895V, U35P, U1895P VBIAS from +5VALW to VL	12/17	DVT
4	For follow VIWGP design	27	Change JUSB3 pin define	12/18	DVT
5	For Audio Precision	31	Change CA36, CA46 from 1U to 2.2U	12/21	DVT
6	For SYS_PWRGD_EC pull down	28	Add R208	12/24	DVT
7	For share rom	28	Change R1575, R1576 to 100K	12/24	DVT
8	For reserve EC +3VL	28 05	Add J11, J12 and modify +3VALW to +3V_EC	12/24	DVT
9	For share ROM	05	modify ROM net-name & resistor value	12/24	DVT
10	For common VIWGP design	22	modify R106, R107 to 22ohm	12/24	DVT
11	For power S3 reduction	28	Change EC_INVT_PWM to ADP_ID_CLOSE	12/25	DVT
12	For common VIWGP design	23	Change JODD1 symbol	12/27	DVT
13	For reserve wake on wlan function	26	Add R1500	12/27	DVT
14	For 1.5VS discharge	32	Change R339 to 0ohm, mount Q23 & R1461	12/29	DVT
15	For AMD suggest	4	Change R576 to 0ohm	12/29	DVT
16	For VGA sequence	12	Delete R123 & C40, change C28, C27 to 2200P	12/29	DVT
17	For +3VALW APU Power Consumption	7	Add R582	01/03	DVT
18	For ESD request	22 28 40	Add C600, C601, PC6601, PC6602	01/03	DVT
19	For no support DC wake & LID function	28	Pull high only SMB & RST use +3V_EC, other use +3VALW	01/04	DVT
20	For reserve cost down experiment	30	Add R630, R643	01/04	DVT
21	For Common VIWGP	30	Change SW4, SW5, SW6, SW7 footprint	01/04	DVT
22	For instant plug/unplug AC has beep sound	31	@RA22	01/04	DVT
23	For Crystal Capactance fine tune	5 6 12	Modify C794, C795, C682, C686, CV36, CV37 value	01/09	DVT

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	Title	PIR (PWR)
<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&amp;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	Rev
				Customer	C38-G series Chief River Schematic <sup>1.0</sup>
				Date:	Thursday, March 28, 2013
				Sheet	43 of 48

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

Item	Reason for change	PG#	Modify List	Date	Phase
1	For EMI request	30	Change L67 to EMICP@, Change R692,R687 to EMICU@	02/02	PVT
2	For Share ROM recoverable solution as original method	05	Add RP12	02/02	PVT
3	For BIOS post time	06	Pull high PXS_PWREN to +3VS by RP14	02/02	PVT
4	For ZiZi noise	31	Change AVDD_HP from +3VS to +3VLP	02/02	PVT
5	For follow KABINI latest CRB	04	@ R576,C164,C342	02/02	PVT
6	For APU control PWM only	21	Delete R1465	02/02	PVT
7	For Corret Net-name to prevet confuse	04 21	Change TL_INV_T_PWM, TL_ENVDD to APU_INV_T_PWM, APU_ENVDD	02/02	PVT
8	For Reserve DDC CLK DATA pull high	22	Add R693, R697	02/02	PVT
9	For Common Intel project	30	Change R623,R765,R303 to 620ohm	02/02	PVT
10	For Common Intel project	23	Reserve R551	02/02	PVT
11	For reduce BOM	31	Delete RA3, and Change RA4 to short-pad	02/05	PVT
12	For reduce BOM	26	Change R1498,R1499 from 0 ohm to 100 ohm	02/05	PVT
13	For reduce BOM	11 12 13 14	Change RV43, LV1, LV2, LV3, LV4, LV5, LV6, RV16, RV17, LV7, LV8, LV9, LV10 to short-pad	02/05	PVT
14	For better location	14 18 19	CV72 <-> CV171 ; CV60 <-> CV70 ; CV154 <-> CV191	02/05	PVT
15	For reduce BOM	21	Change R1463 from 0 ohm to short-pad	02/06	PVT
16	For better audio precision performance	31	Change CA27,CA28 from 1U to 2.2U	02/08	PVT
17	For reduce BOM & layout concern	07	Delete C195	02/16	PVT
18	For test point request	22	Add T49, T58 on JCRT1	02/18	PVT
19	For ESD request	25	Add C173, C178	02/18	PVT
20	For reduce BOM	05	Change R112, R115, R116, R119, R125, R126 to short-pad	02/18	PVT
21	For Crystal timing	06	Change C682 from 18P to 22P	02/20	PVT
22	For ESD request	30	Change D24 from ESDU@ to ESDP@, Part number from SCA00000E00 to SCA00001G00	02/23	PVT
23	For EMI request	21 27 30	Change L58,L51,L55,L66,L67 from SM070000K00 to SM070000Z00	02/23	PVT

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	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.				Size	Rev
				Customer	1.0
				C38-G series Chief River Schematic	
				Date:	Thursday, March 28, 2013
				Sheet	44 of 48

Item	Reason for change	PG#	Modify List	Date	Phase
1	For Common Intel project	30	Change R623,R765,R303 to 649ohm	03/05	PreMP
2	For VGA Clock Request	06	Reserve R578,R689	03/05	PreMP
3	For Reduce BOM	05	Change R103, R104 to short-pad	03/11	PreMP
4	For Reduce BOM	21	Change R696, R695, R813 to short-pad	03/11	PreMP
5	For Reduce BOM	23	Change R550 to short-pad	03/11	PreMP
6	For Reduce BOM	28	Change R1564 to short-pad	03/11	PreMP
7	For Reduce BOM	29	Change R581 to short-pad	03/11	PreMP
8	For Reduce BOM	31	Change RA11 to short-pad	03/11	PreMP
9	For Reduce BOM	32	Change R339 to short-pad	03/11	PreMP
10	For Reduce BOM	06	Change R121 to short-pad	03/11	PreMP
11	For Reduce BOM	07	Change R582 to short-pad	03/11	PreMP
12	For ESD require	30	Add C185	03/25	PreMP
13	For Module Design	22	Change R693, R697 from 10k to 4.7k	03/25	PreMP
14	For ESD require	04	Add C195	03/26	PreMP
15	For Reduce BOM	04	@ RP11	03/26	PreMP
16	For Board ID	28	@ R1562 and change R1564 to 0ohm	03/28	PreMP
17					

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2012/07/11	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.				PIR (PWR)	
Size	Custom	Document Number		Rev	
				C38-G series Chief River Schematic <sup>1.0</sup>	
Date:	Thursday, March 28, 2013			Sheet	45 of 48

### Mars XT VRAM STRAP

Vendor	PS_3[2]	PS_3[1]	PS_3[0]	R_pu	R_pd
K4W2G1646E-BC1A SA000068U00	0	0	0	RV20 NC	RV27 4.75K
MT41J128M16JT-093G:K SA000067500	0	0	1	RV20 8.45K	RV27 2K
H5TQ2G63DFR-N0C SA000065300	0	1	0	RV20 4.53K	RV27 2K
H5TC2G63FFR-11C SA00006H400	1	0	0	RV20 4.53K	RV27 4.99K
K4W1G1646G-BC11 SA00004GS00	0	1	1	RV20 6.98K	RV27 4.99K
H5TQ1G63EFR-11C SA000041SB0	1	1	1	RV20 4.75K	RV27 NC

MS2G@ X7646738L01  
 MM2G@ X7646738L02  
 OLDMH2G@ X7646738L09  
 NEWMH2G@ X7646738L10  
 MS1G@ X7646738L03  
 MH1G@ X7646738L04

### SUN PRO VRAM STRAP

Vendor	PS_3[2]	PS_3[1]	PS_3[0]	R_pu	R_pd
K4W4G1646B-BC11 SA000068R00	0	0	0	RV20 NC	RV27 4.75K
MT41K256M16HA-107G:E SA000065D00	0	0	1	RV20 8.45K	RV27 2K
H5TQ4G63MFR-11C SA00006DG00	0	1	0	RV20 4.53K	RV27 2K
K4W2G1646E-BC1A SA000068U00	0	1	1	RV20 6.98K	RV27 4.99K
MT41J128M16JT-093G:K SA000067500	1	1	0	RV20 3.4K	RV27 10K
H5TC2G63FFR-11C SA00006H400	1	0	0	RV20 4.53K	RV27 4.99K
H5TQ2G63DFR-N0C SA000065300	1	1	1	RV20 4.75K	RV27 NC

SS2G@ X7646738L05  
 SM2G@ X7646738L06  
 SH2G@ TBD  
 SS1G@ X7646738L07  
 SM1G@ X7646738L08  
 NEWSH1G@ X7646738L13  
 OLDSH1G@ X7647538L01

### Power-Up/Down Sequence

"Mars" has the following requirements with regards to power-supply sequencing to avoid damaging the ASIC:

- All the ASIC supplies must reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred. The maximum slew rate on all rails is 50 mV/ $\mu$ s.
- The external pull ups on the DDC/AUX signals (if applicable) should ramp up before or after both VDDC and VDD\_CT have ramped up.
- VDDC and VDD\_CT should not ramp up simultaneously. For example, VDDC should reach 90% before VDD\_CT starts to ramp up (or vice versa).
- For power down, reversing the ramp-up sequence is recommended.

VDDR3(3.3VGS)

PCIE\_VDDC(0.95VGSV)

VDDR1(1.5VGS)

VDDC/VDDC1(1.12V)

VDD\_CT(1.8V)

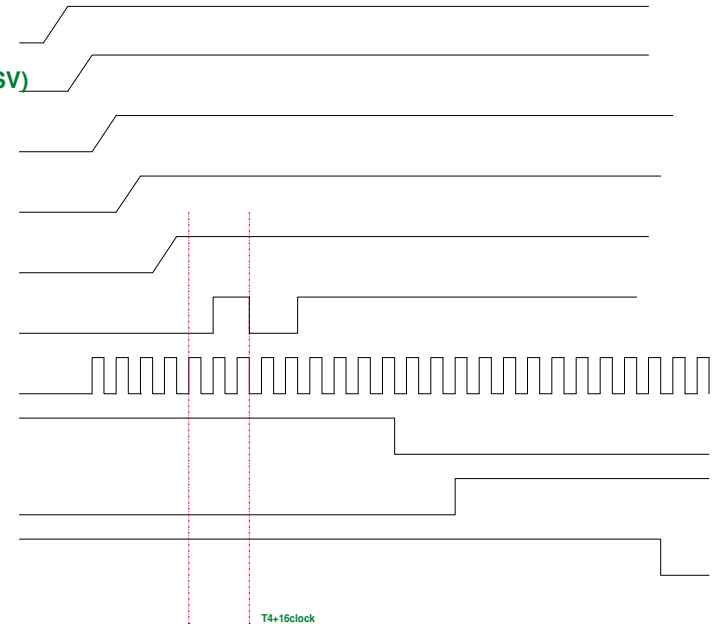
PERStb

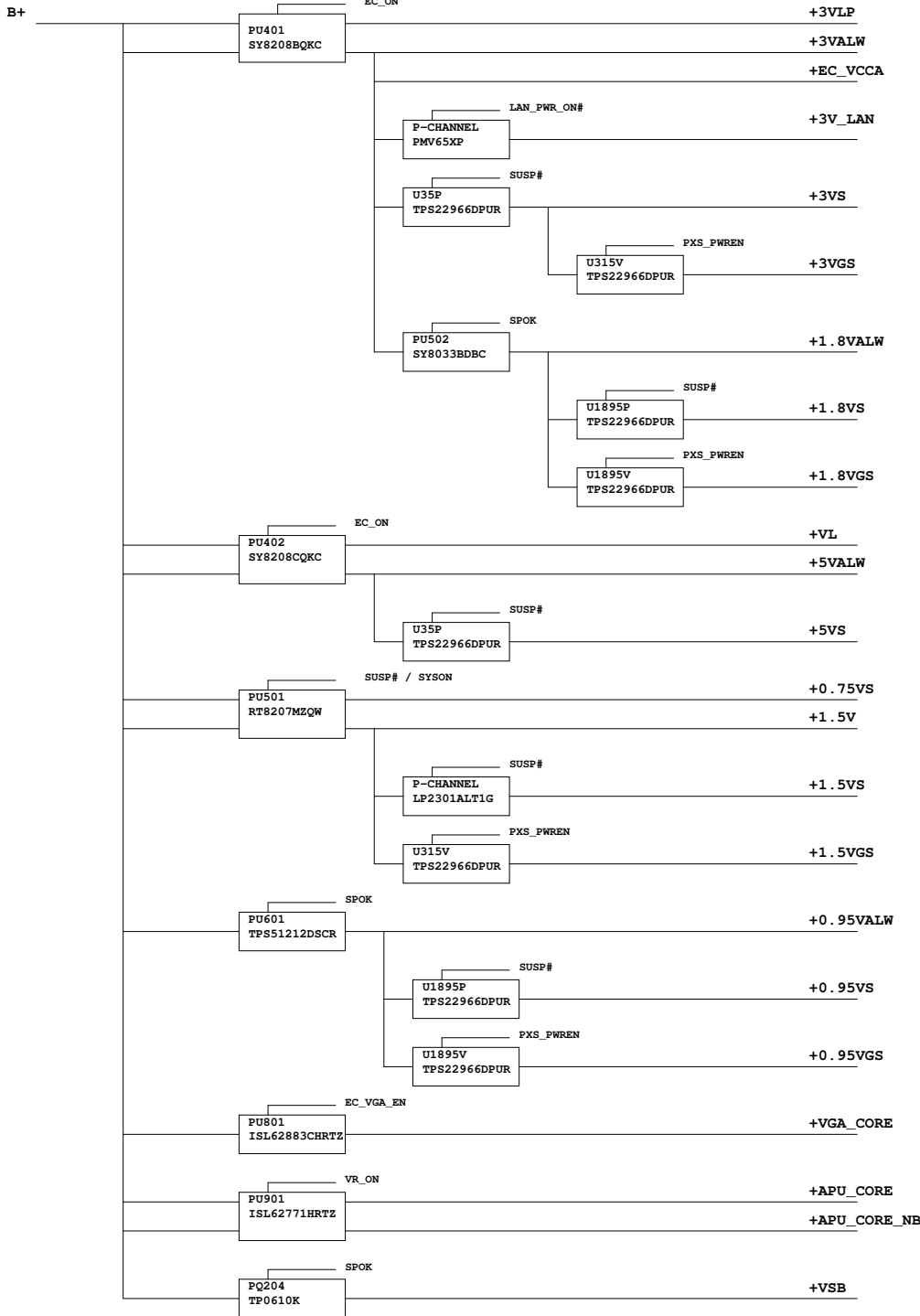
REFCLK

Straps Reset

Straps Valid

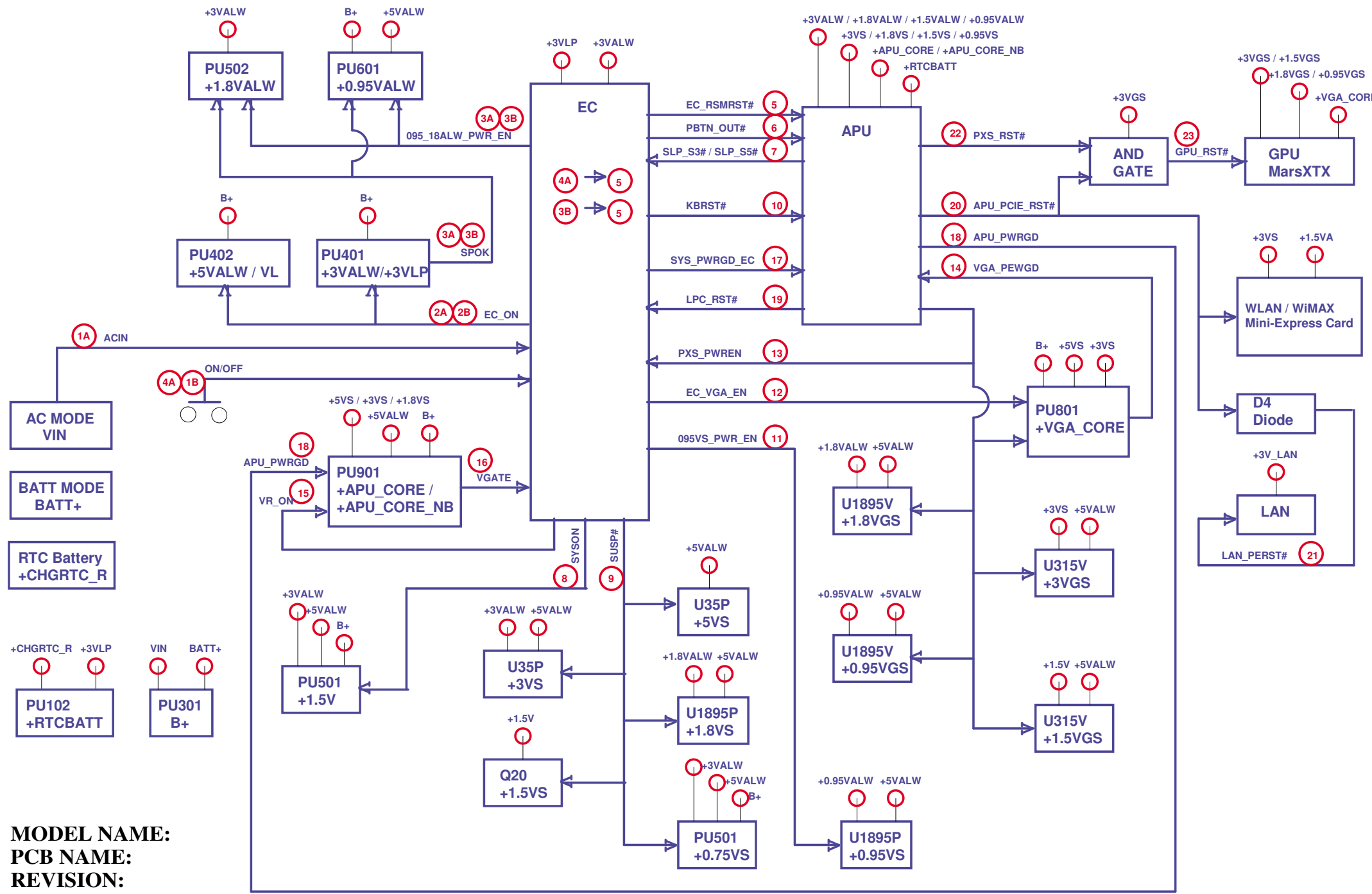
Global ASIC Reset





Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		Date	
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	Rev
				VAWGA/GB	1.0
Date: Thursday, March 28, 2013				Sheet	47 of 48

**Compal Electronics, Inc.**  
**Power Map**



MODEL NAME:  
 PCB NAME:  
 REVISION:  
 DATE: 2011/11/23

**COMPAL CONFIDENTIAL**

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		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 FACTORY 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.			Customer	Document Number
Date:		Sheet	1	Rev 1.0