Compal Confidential

VAWGA/B Schematics Document

AMD "Kabini" Platform

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

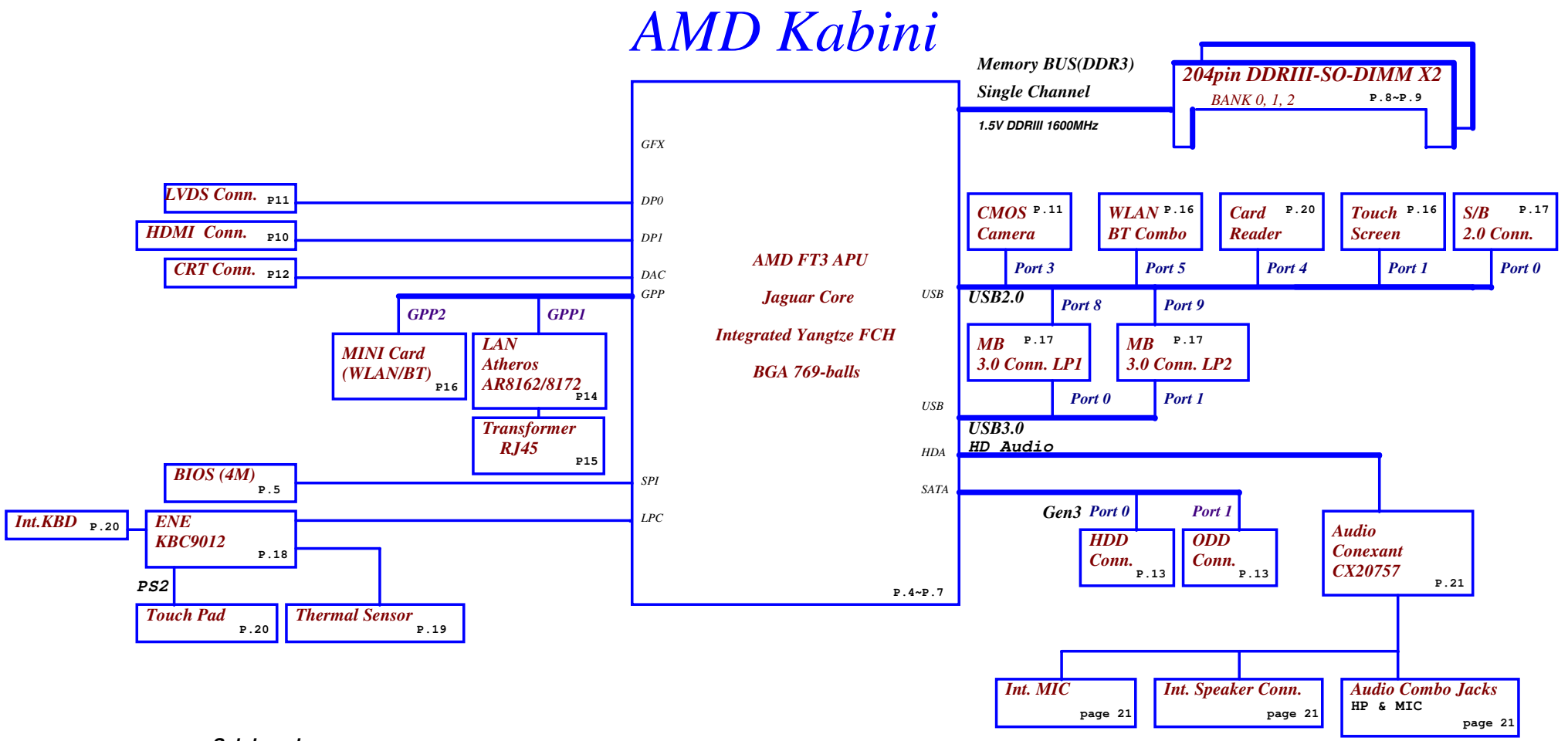
LA-9912P REV: 1.0

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 TRANSFERED 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: B / Document Number: VAWGA/GB / Rev: 1.0
				Date: Monday, April 01, 2013 / Sheet 1 of 37

Compal Confidential

Model Name : VAWGA/B



Sub-borad

15"

14"

- IO/B LS9633P page 20
- ODD/B LS9634P page 13
- Power/B LS9631P page 20
- LED/B LS9635P page 20
- USB/B LS9632P page 17

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 TRANSFERED 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: BLOCK DIAGRAMS

Size: B | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 2 of 37

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	

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 +/- 5%			
R1562	100K +/- 5%			
Board ID	R1564	V_{AD_BID} min	V_{AD_BID} typ	V_{AD_BID} max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	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

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@	CardReadear 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" componect
15@	for 15" componect
PX@	Common VGA circuit
CMOS@	CMOS Camera part
HDMI@	HDMI part
EMIGASP@	Gastube
8162@	Ateros AR8162 LAN Chip
8172@	Ateros 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	8	LEFT USB3.0
		1	9	LEFT USB3.0

EC SM Bus1 address

Device	Address	HEX
Smart Battery	0001 011X b	16H

EC SM Bus2 address

Device	Address	HEX
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		Compal Electronics, Inc.
Issued Date	2012/04/22	Deciphered Date 2015/04/22	Title: NOTES LIST
Size: B	Document Number: VAWGA/GB		Rev: 1.0
Date: Monday, April 01, 2013	Sheet 3 of 37		

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 TRANSFERED 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.

HDMI & LVDS should be reverse in KABINI:
APU TX0 to Connector TX2 ; APU TX1 to Connector TX1
APU TX2 to Connector TX0 ; APU TX3 to Connector CLK

UAPUA — MEMORY

UAPUC — DISPLAY/SVID/JTAG/TEST

HDMI

LVDS

CRT

PU +3VS

PU +1.8VS

PU +1.8VS + PD

PD

HDT+

MEMORY VREF

For HDMI Need

RP11, RP6 will @ when MP

A6 PR KABINI AM5200IAJ44HM 2G BGA769P APU

A4 PR KABINI AM5000IBJ44HM 1.5G BGA 769P APU

E2 PR KABINI EM3000IBJ23HM 1.65G BGA 769P APU

E1 PR KABINI EM2100ICJ23HM 1G BGA769P APU

X2 ES2 KABINI ZMA5B076J2360 1.65G BGA CPU

E1 PC 2M101082J2361 1G BGA 769P

X5 ES2 ZM201079J4460 2G BGA 769P

Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

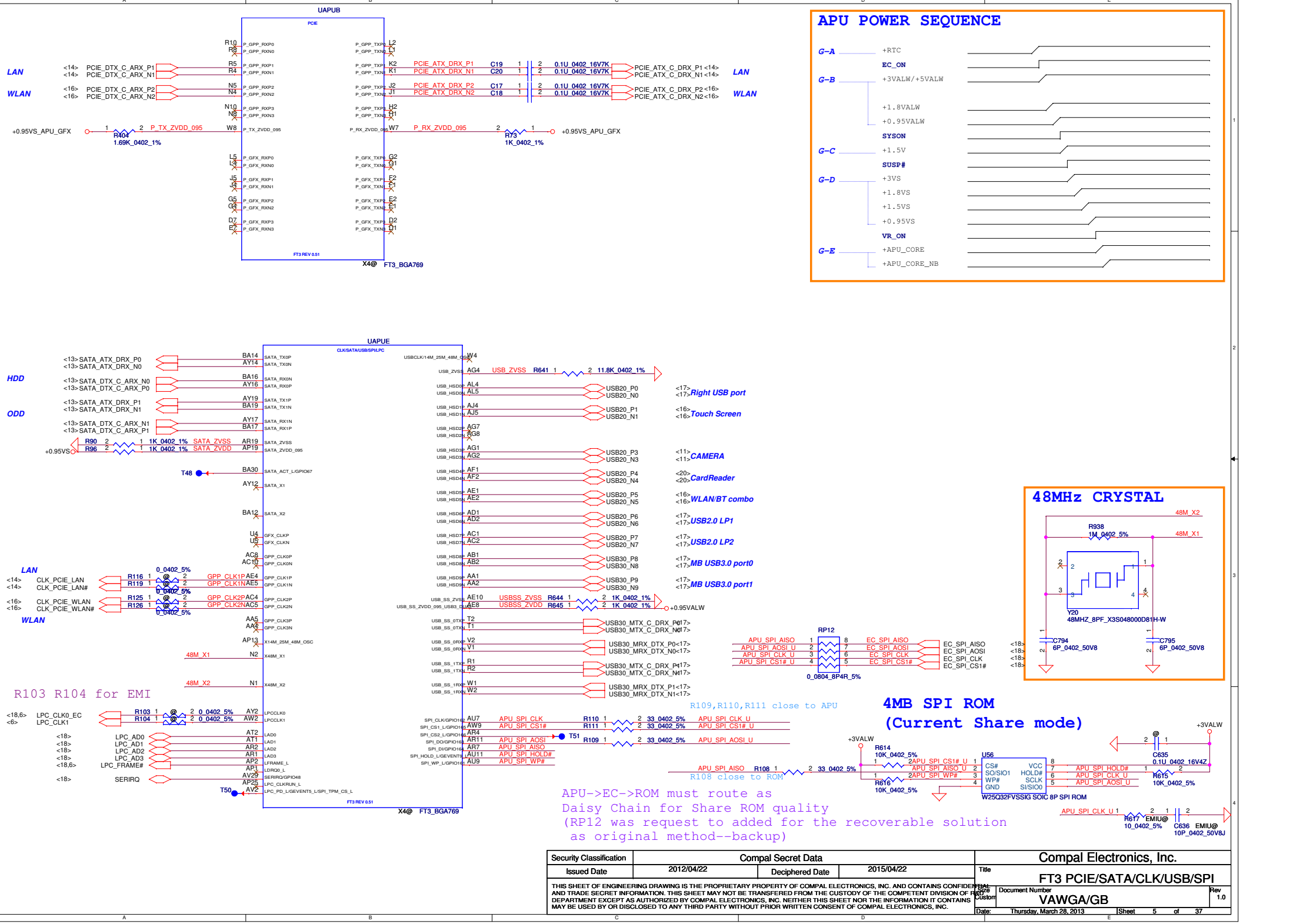
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: FT3 DDR3/DISP/MISC//HDT+

Size: B25 Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Monday, April 01, 2013 | Sheet 4 of 37



Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

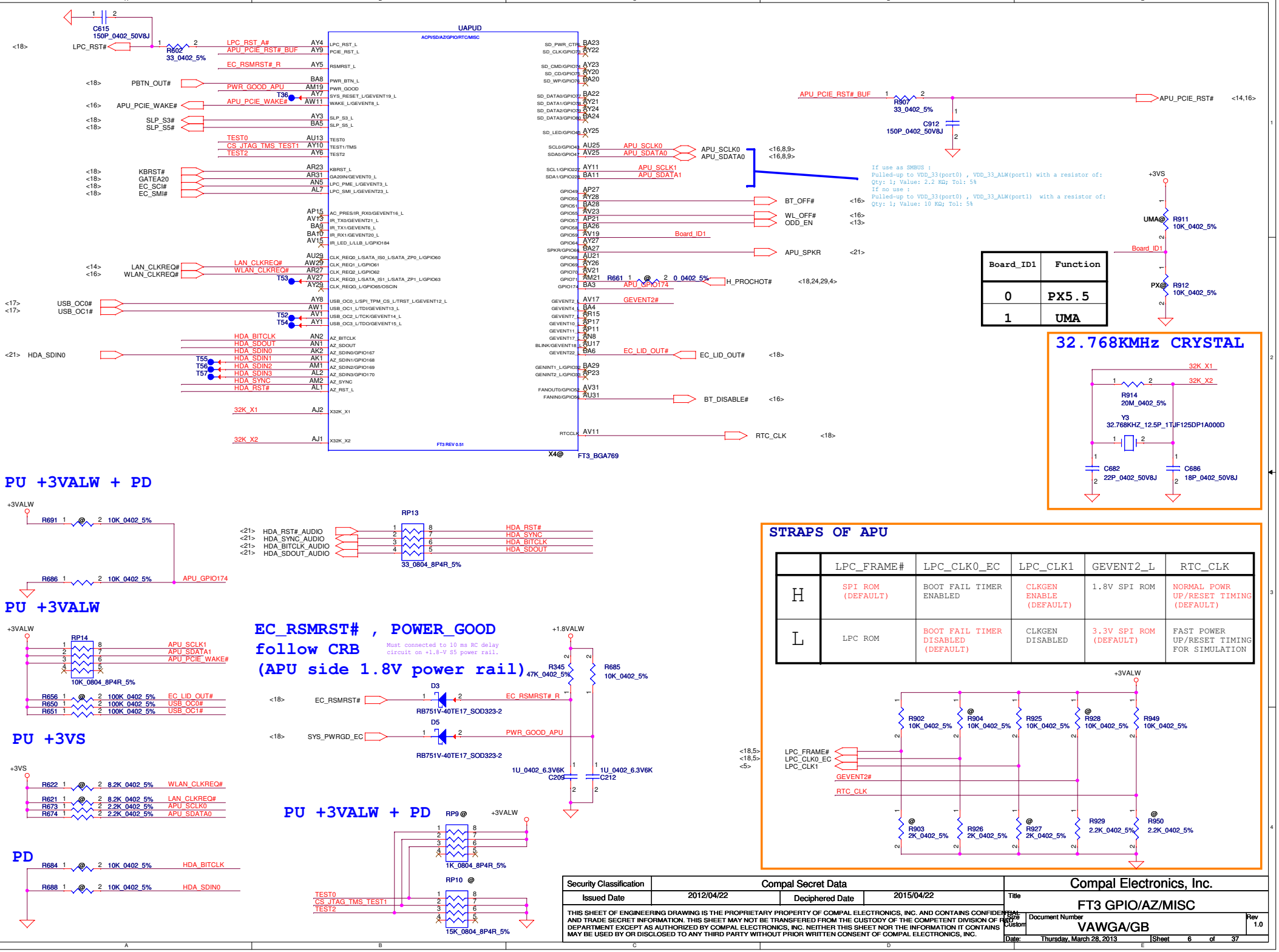
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: FT3 PCIE/SATA/CLK/USB/SPI

Size	Document Number	Rev
Custom	VAWGA/GB	1.0

Date: Thursday, March 28, 2013 Sheet 5 of 37



Board_ID1	Function
0	PX5.5
1	UMA

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 POWR 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		
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 TRANSFERED 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: FT3 GPIO/AZ/MISC

Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 6 of 37

CORE POWER OF APU

+APU_CORE

VDDCR_CPU

C175 C180 C181 C182 C183 C184 C185 C187 C188 C189 C190

RTC OF APU

VDDBT_RTC_G

+RTCBATT

+RTCBATT_R

W=20mils

R93 10K_0402_5%

C166 0.22U_0402_10V6K

CLRP1 J@ SHORT PADS

Need OPEN

for Clear CMOS

INTEGRATED GPU POWER OF APU

+APU_CORE_NB

VDDCR_NB

C200 C201 C202 C190 C191 C193 C194 C197

+3VALW/+3VS OF APU

+3VALW

+3VS

+3VALW_APU

R582 0_0603_5%

C249 C257 C252 C253

VDD_33

VDD_33_ALW

+1.5V/+1.5VS OF APU

VDDIO_AZ_ALW

(Could be S0 or S5 power rail)

+1.5V

VDDIO_MEM_S

PLANE SPLIT

+1.5VS

C824 C825 C949 C823 C826 C827 C828 C829 C830 C832 C211 C210 C208 C207 C230 C231 C258 C259

C161 C235 C234 C255 C232

+0.95VALW/+0.95VS OF APU

VDD_095_GFX

+0.95VS

VDD_095

L22 FBMA-L11-201209-121LMA50T_0805

+0.95VS_APU_GFX

C835 C834 C198 C199 C205 C204 C206 C260 C213 C836 C203

+0.95VALW

C837 C838 C216 C214 C221 C218

C220 C217 C219 C222

VDD_095_USB3_DUAL

VDD_095_ALW

+1.8VALW/+1.8VS OF APU

VDD_18

+1.8VS

C833 C236 C237 C238 C239 C240 C233

+1.8VALW

C160 C244 C250 C246 C243 C245

VDD_18_ALW

UAPUF

POWER

+1.5V J35 L32 L37 N35 R31 R37 U32 U35 W31 W32 W37 AA31 AA35 AC32 AC37 AE31 AE35 AG32 AG37 AJ35 AL32 AL37 AR35

VDDIO_MEM_S_1 … VDDIO_MEM_S_23

+APU_CORE

VDDCR_CPU_1 … VDDCR_CPU_26

L21 L23 L25 L27 L29 N21 N23 N27 R21 R23 R27 U21 U23 U27 W21 W23 W27 AA21 AA23 AA27 AC21 AC23 AC27 AE21 AE23 AE27

+APU_CORE_NB

VDDCR_NB_1 … VDDCR_NB_21

L13 L17 N11 N13 N17 R11 R13 R17 U13 U17 W13 W17 AA13 AA17 AC13 AC17 AE15 AE17 AE19 AG17 AG21

+1.5VS AL10 AL11 VDDIO_AZ_ALW_1 VDDIO_AZ_ALW_2

+1.8VALW B1 B2 VDD_18_ALW_1 VDD_18_ALW_2

+3VALW_APU AL13 AM13 VDD_33_ALW_1 VDD_33_ALW_2

+0.95VALW AR5 AU4 AV7 AW5 VDD_095_USB3_DUAL_1 … VDD_095_USB3_DUAL_4

+0.95VALW AE11 AE13 AJ11 AJ13 VDD_095_ALW_1 … VDD_095_ALW_4

+RTCBATT_R AN4 VDDBT_RTC_G

+1.8VS A2 A3 B3 C3 VDD_18_1 … VDD_18_4

+3VS AM15 AM17 VDD_33_1 VDD_33_2

+0.95VS AG23 AG27 AJ21 AJ27 AL21 AL23 AL27 AM23 AM25 VDD_095_1 … VDD_095_9

+0.95VS_APU_GFX U10 W10 AA10 VDD_095_GFX_1 … VDD_095_GFX_3

FT3 REV 0.51

X4@ FT3_BGA769

UAPUG

GND

A8 A13 A23 A31 A35 A39 B8 B13 B23 B31 B39 C1 C2 C5 C7 C9 C11 C13 C15 C17 C19 C21 C23 C25 C27 C29 C31 C33 C35 C37 C39 C41 D9 D11 D13 E3 E4 E9 E11 E13 E27 E31 E35 E38 E39 G3 G7 G11 G13 G15 G17 G21 G25 G29 G35 G37 G39 G41 H11 H13 H23 H31

VSS_1 … VSS_62

J3 J7 J8 J39 K11 K13 K17 K19 K21 K23 K25 K27 K29 K31 L3 L7 L8 L10 L11 L15 L19 L31 L39 L41 M1 M2 N3 N7 N15 N19 N25 N29 N31 N39 P1 P2 R3 R7 R15 R19 R25 R29 R39 R41 U1 U2 U3 U7 U8 U11 U15 U19 U25 U29 U31 U39 W3 W5 W11 W15 W19 W25

VSS_63 … VSS_124

FT3 REV 0.51

X4@ FT3_BGA769

UAPUH

GND

W29 W39 W41 Y1 Y2 AA3 AA7 AA8 AA11 AA15 AA19 AA25 AA29 AA39 AC3 AC7 AC11 AC15 AC19 AC25 AC29 AC31 AC39 AC41 AE3 AE7 AE25 AE29 AE32 AE39 AG3 AG5 AG10 AG11 AG13 AG15 AG19 AG25 AG29 AG31 AG39 AG41 AH1 AH2 AJ3 AJ7 AJ15 AJ17 AJ19 AJ23 AJ25 AJ29 AJ31 AJ32 AJ39 AL3 AL8 AL15 AL17 AL19 AL25 AL29

VSS_125 … VSS_186

AL39 AL41 AM11 AM27 AM31 AN3 AN7 AN39 AP31 AR3 AR13 AR17 AR21 AR25 AR29 AR39 AR41 AU1 AU2 AU3 AU15 AU19 AU23 AU27 AU39 AV9 AW3 AW7 AW13 AW15 AW17 AW19 AW21 AW23 AW25 AW27 AW31 AW33 AW35 AW37 AW39 AW41 AY13 AY15 AY18 AY30 BA2 BA7 BA13 BA15 BA18 BA21 BA25 BA31 BA35 BA39 A15 AL31 AM29

VSSBG_DAC VBURN PSEN

FT3 REV 0.51

X4@ FT3_BGA769

Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

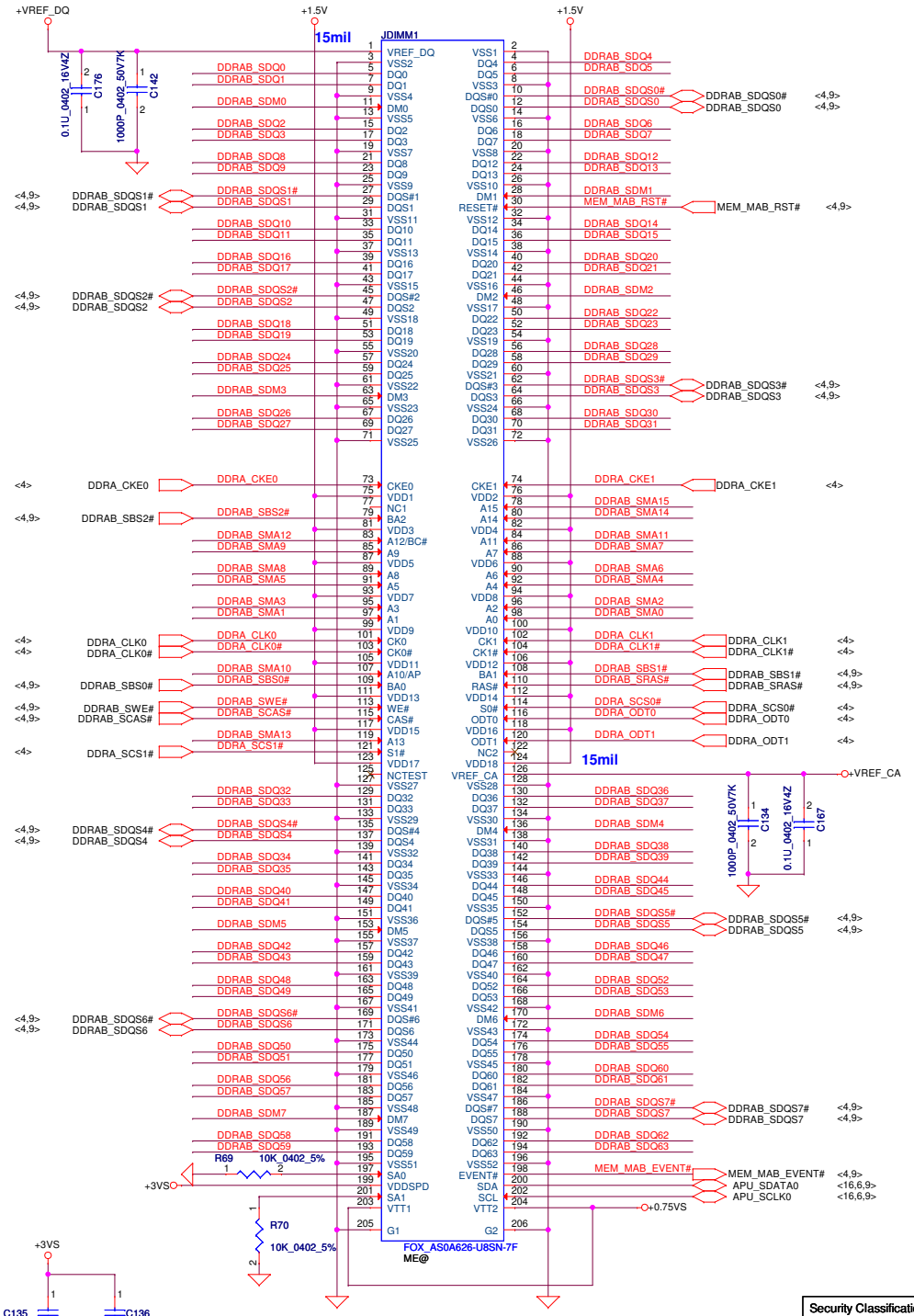
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: FT3 PWR/GND

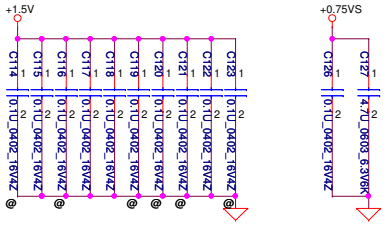
Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 7 of 37

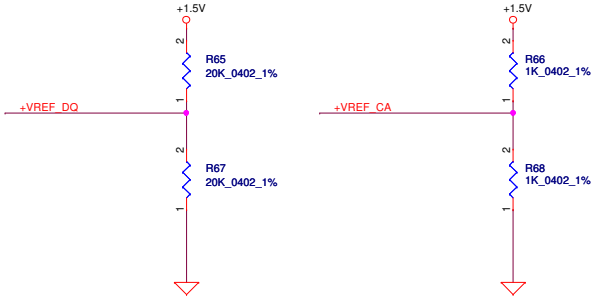


DDRAB_SDQ[0..63] → DDRAB_SDQ[0..63] <4,9>
DDRAB_SDM[0..7] → DDRAB_SDM[0..7] <4,9>
DDRAB_SMA[0..15] → DDRAB_SMA[0..15] <4,9>

+1.5V/+0.75VS OF DIMM1



VREF for DIMM1,2



DIMM_A H:8mm

<Address: 00>

Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

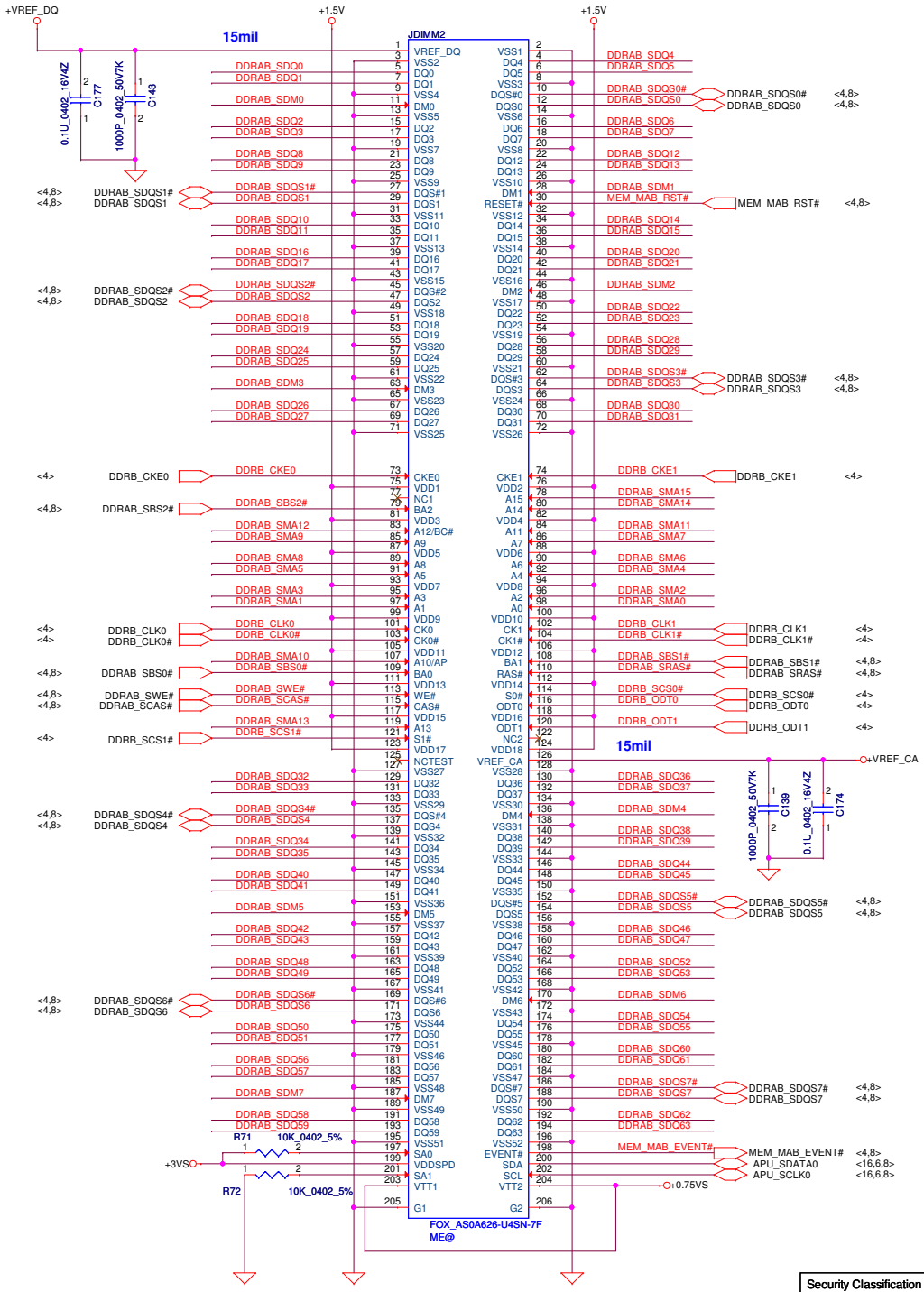
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: DDR3 SODIMM-I Socket

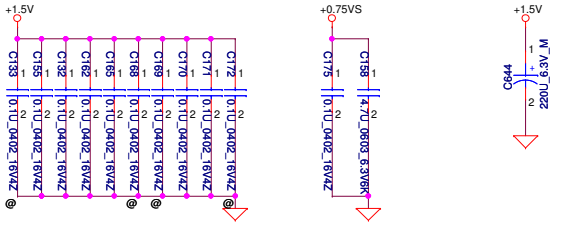
Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 8 of 37



DDRAB_SDQ[0..63] — DDRAB_SDQ[0..63] <4,8>
DDRAB_SDM[0..7] — DDRAB_SDM[0..7] <4,8>
DDRAB_SMA[0..15] — DDRAB_SMA[0..15] <4,8>

+1.5V/+0.75VS OF DIMM2



DIMM_B H:4mm

<Address: 10>

Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

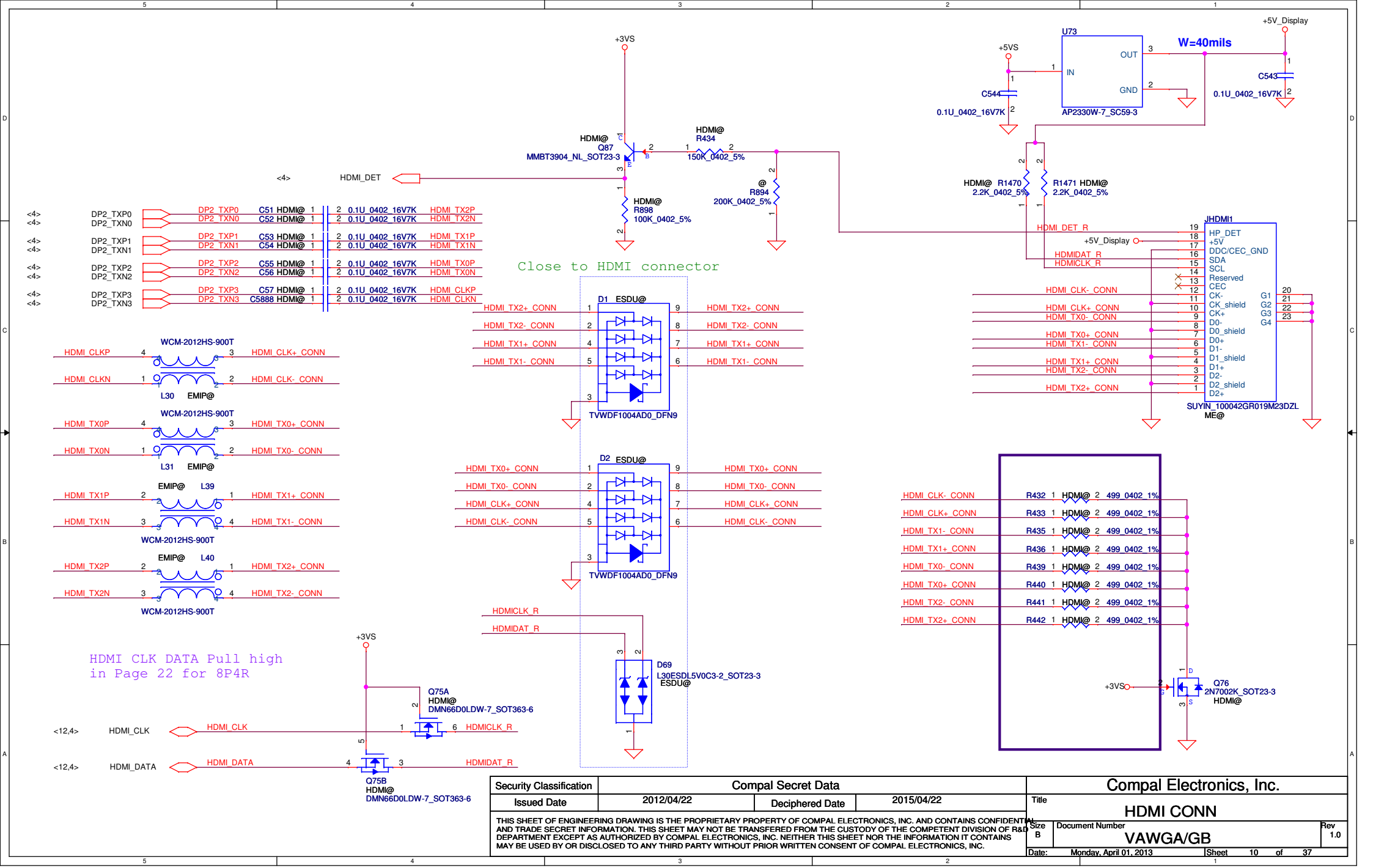
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: DDR3 SODIMM-II Socket

Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 9 of 37



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 TRANSFERED 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.

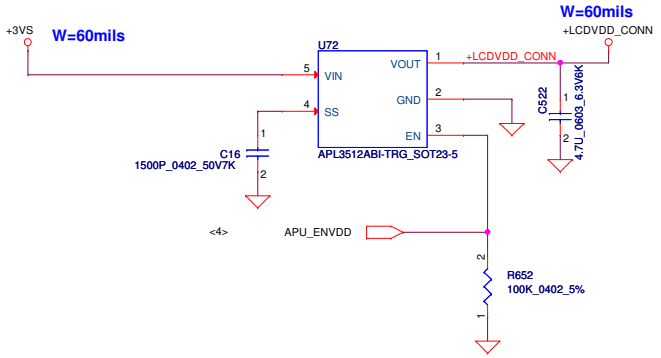
Compal Electronics, Inc.

Title: HDMI CONN

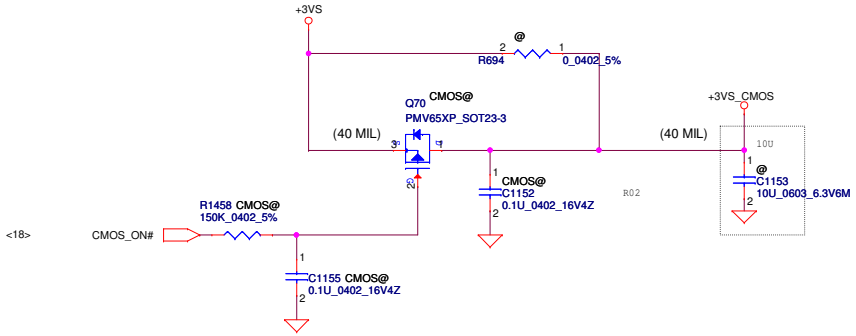
Size	Document Number	Rev
B	VAWGA/GB	1.0

Date: Monday, April 01, 2013 Sheet 10 of 37

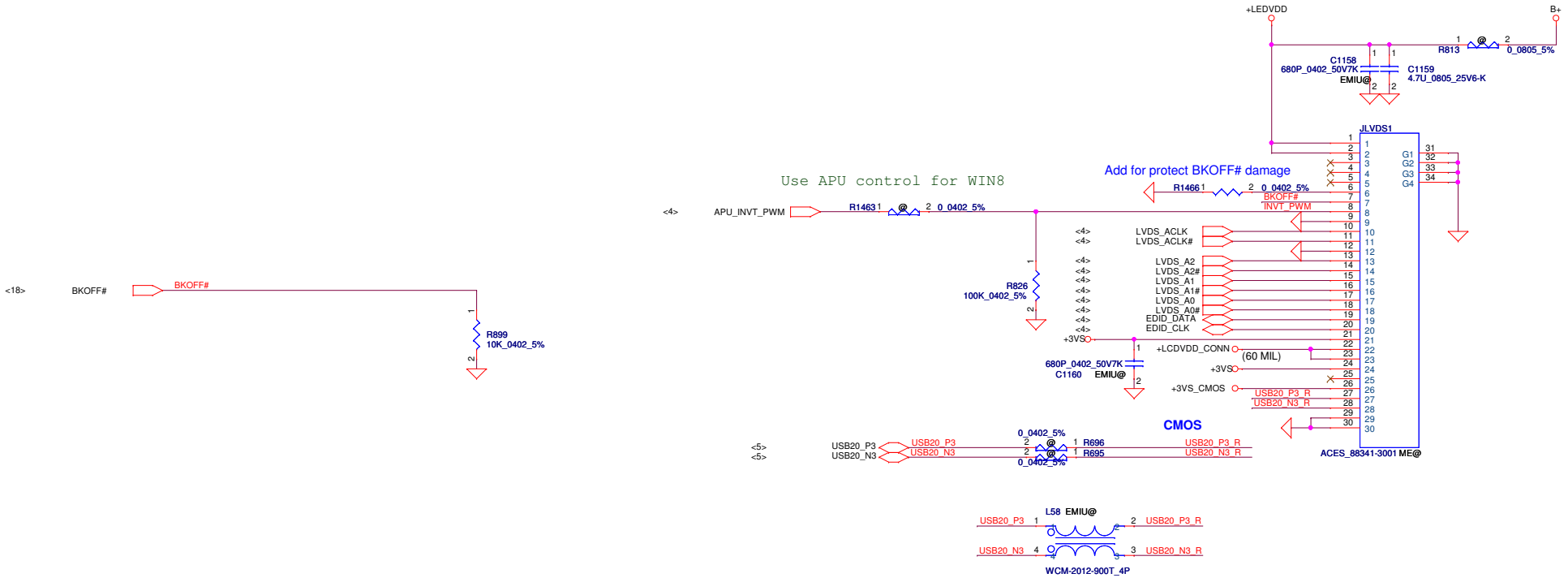
LCD POWER CIRCUIT



CMOS Camera



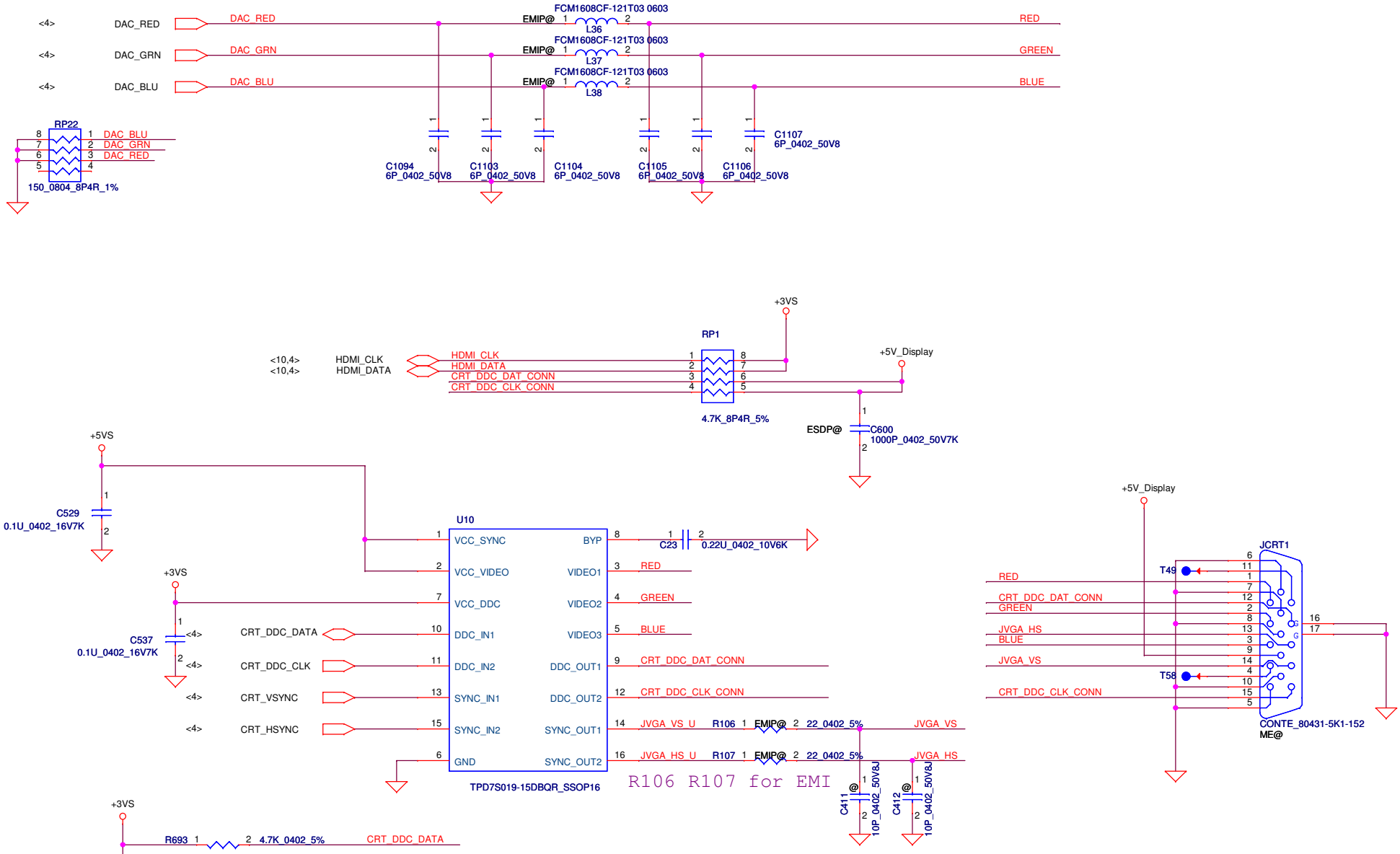
VGA LCD/PANEL BD. Conn.



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2012/04/22	Deciphered Date 2015/04/22	Title: LVDS CONN / Camera

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 TRANSFERED 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 B	Document Number VAWGA/GB		Rev 1.0
Date: Thursday, March 28, 2013	Sheet 11 of 37		



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 TRANSFERED 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.

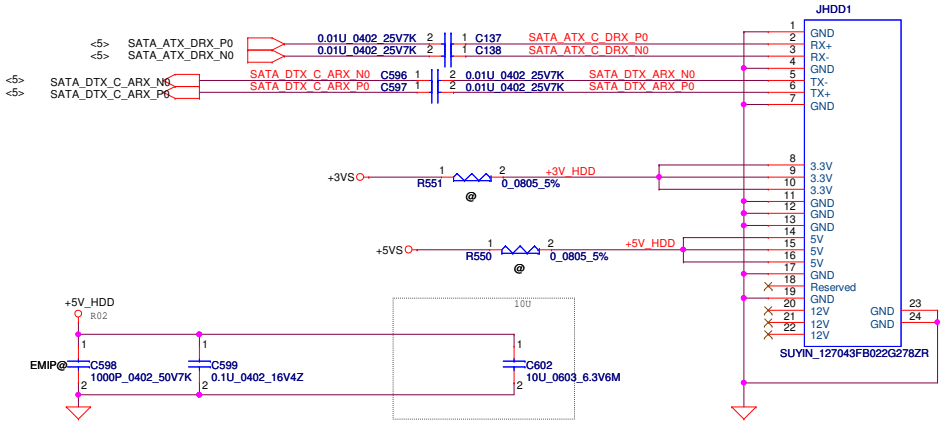
Compal Electronics, Inc.

Title: CRT CONN

Size	Document Number	Rev
B	VAWGA/GB	1.0

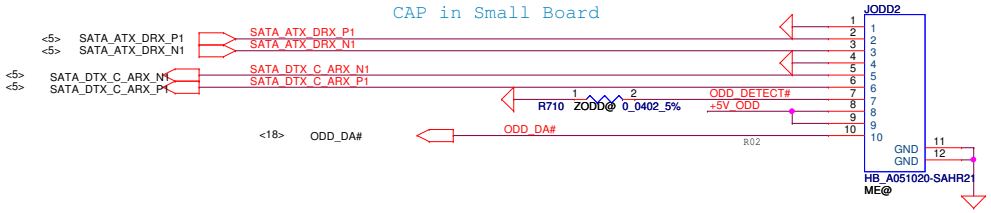
Date: Thursday, March 28, 2013 Sheet 12 of 37

SATA HDD Conn.



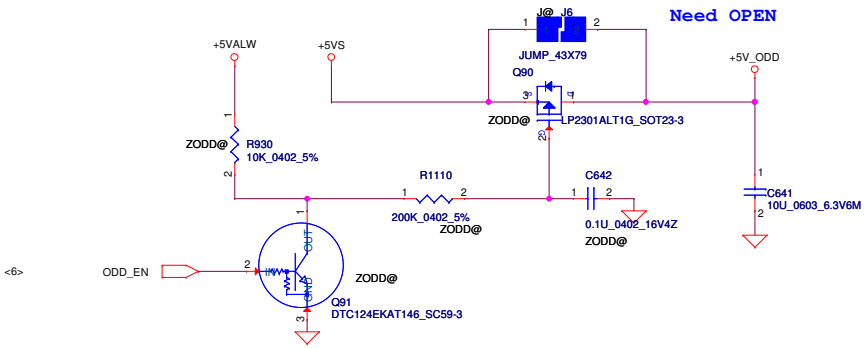
FOR 15"

SATA ODD FFC Conn.



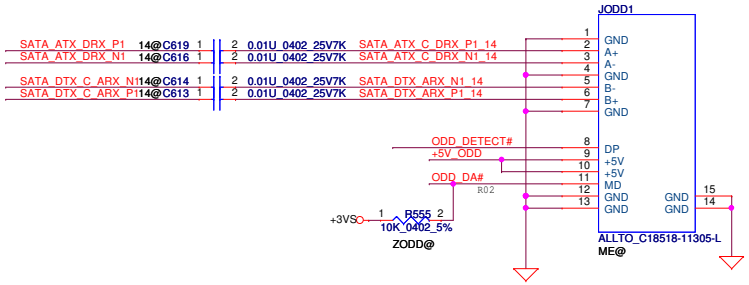
Co-lay

ODD Power Control



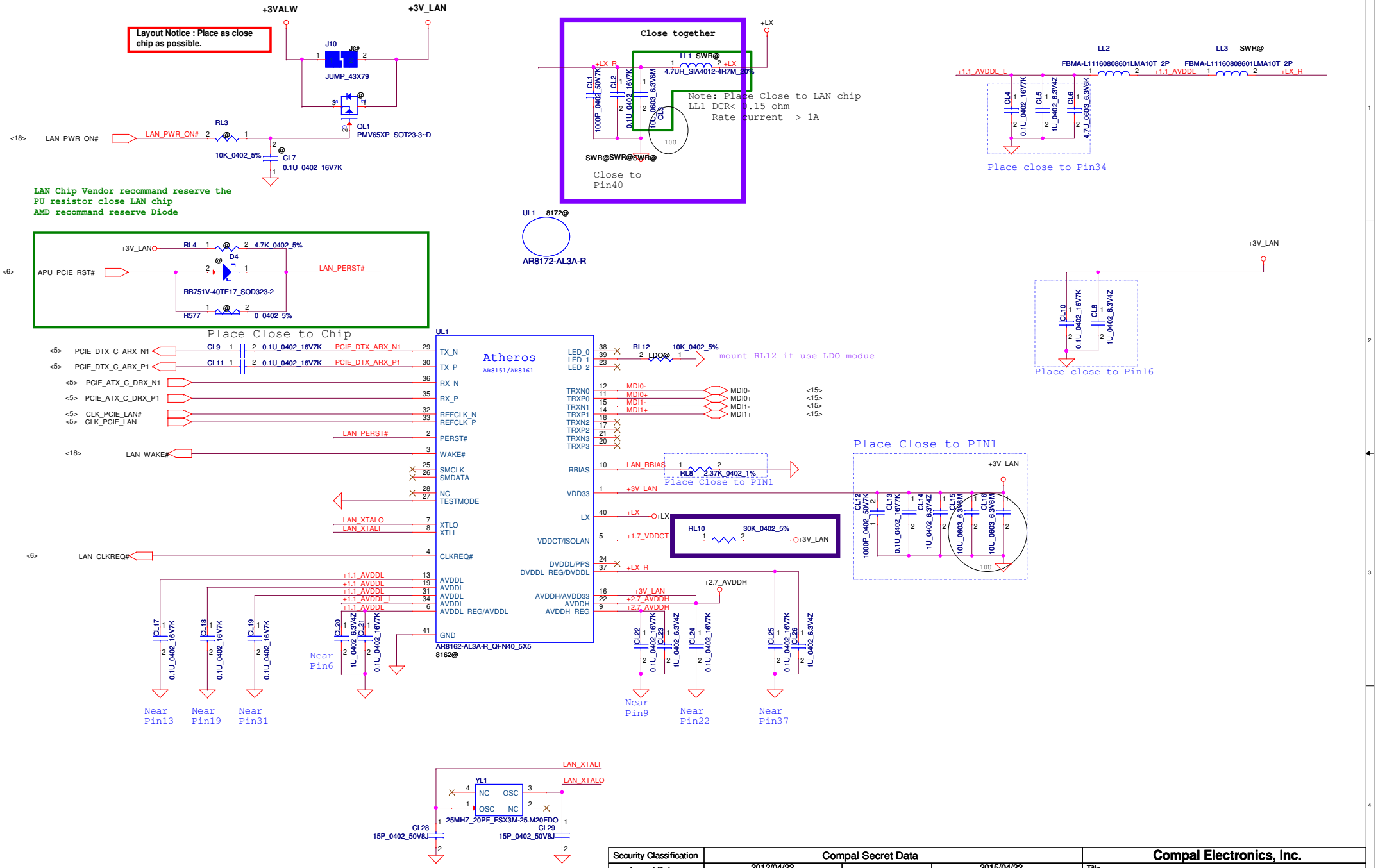
FOR 14"

SATA ODD Conn.



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2012/04/22	Deciphered Date 2015/04/22	Title HDD/ODD/FAN/SCREW
			Size B · Document Number VAWGA/GB · Rev 1.0
			Date: Thursday, March 28, 2013 · Sheet 13 of 37

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 TRANSFERED 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.



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 TRANSFERED 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.

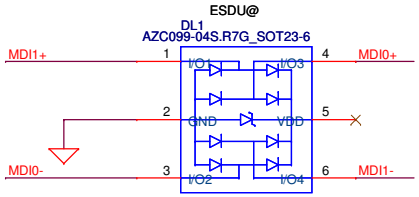
Title: LAN-AR8151

Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

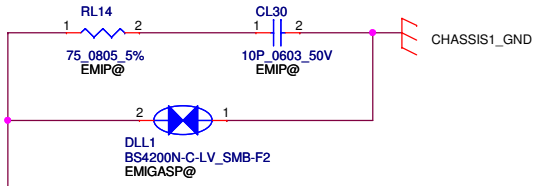
Date: Thursday, March 28, 2013 | Sheet 14 of 37

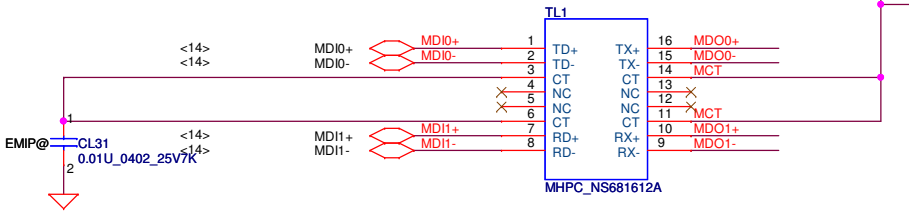
Place Close to TL1

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

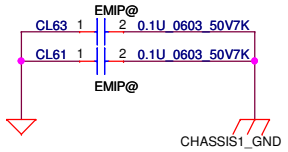


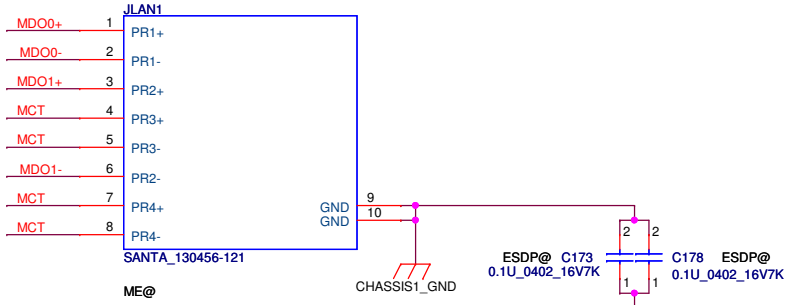
Reserve gas tube for EMI go rural solution





Place Close to TL1





Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

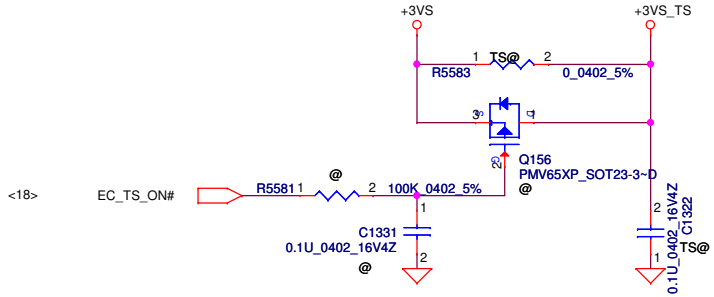
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

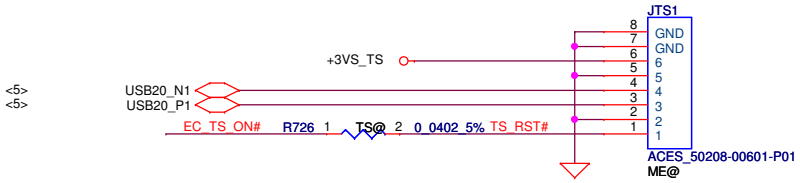
Compal Electronics, Inc.

Title: LAN_Transformer

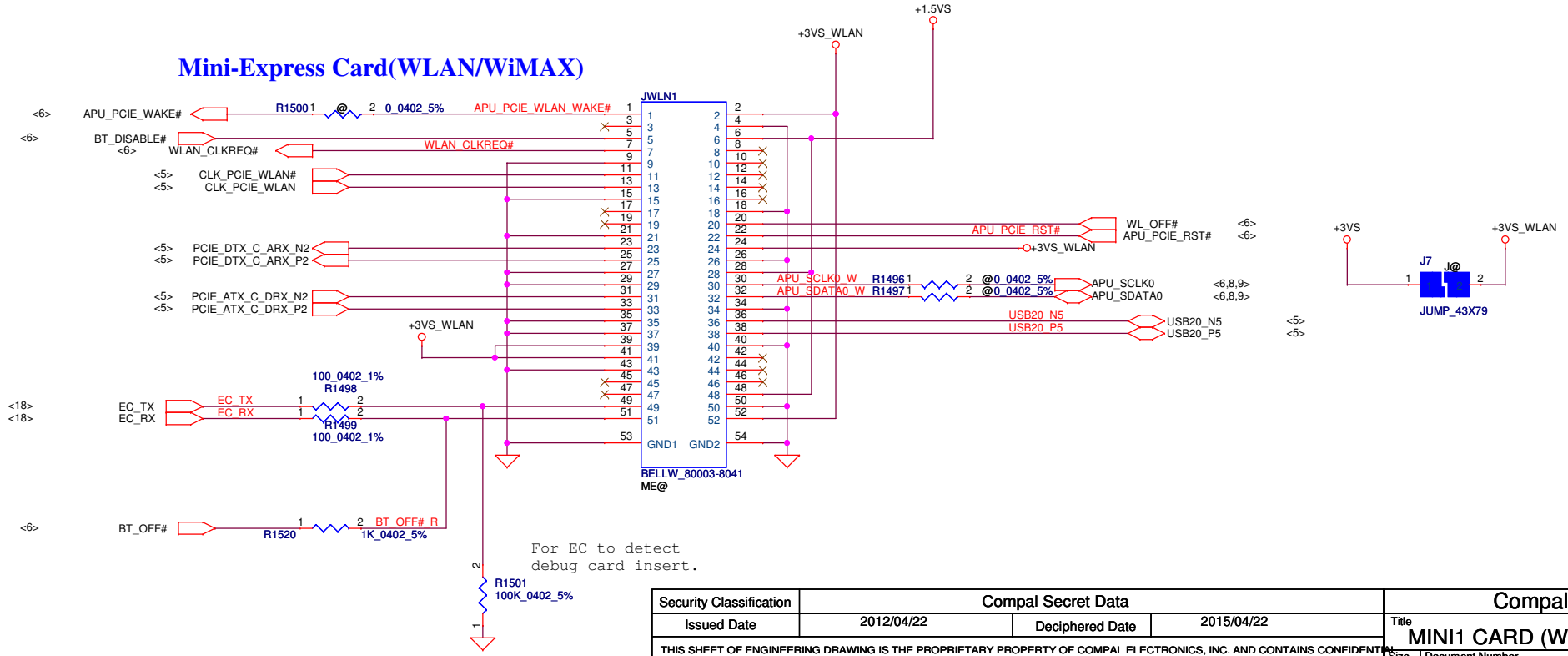
Size: B | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 15 of 37





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 TRANSFERED 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.

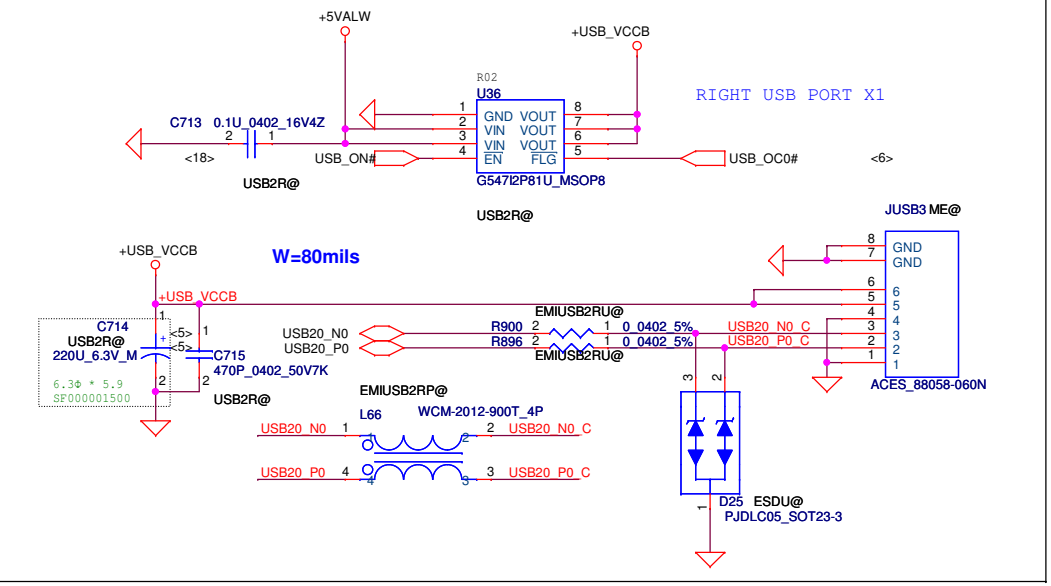
Compal Electronics, Inc.

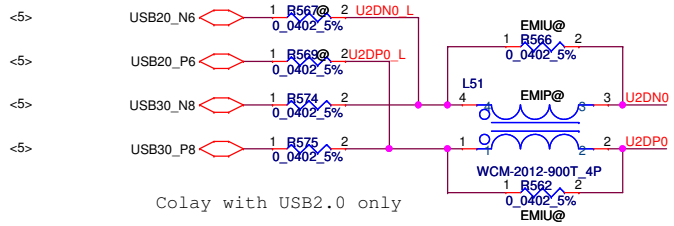
Title: MINI1 CARD (WLAN) / MINI2 CARD (Option)

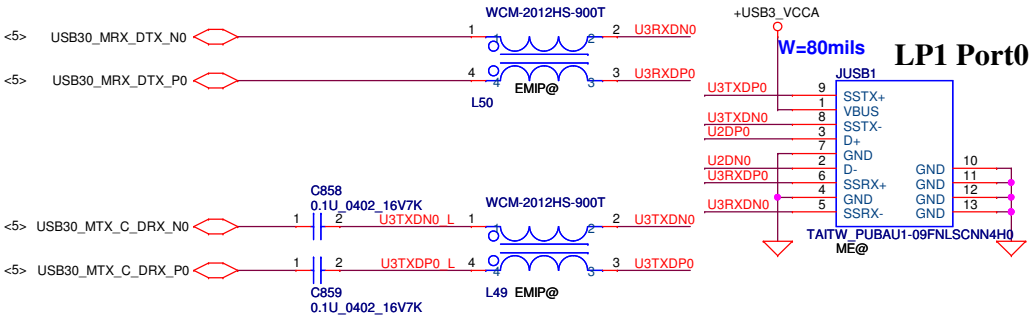
Size	Document Number	Rev
B	VAWGA/GB	1.0

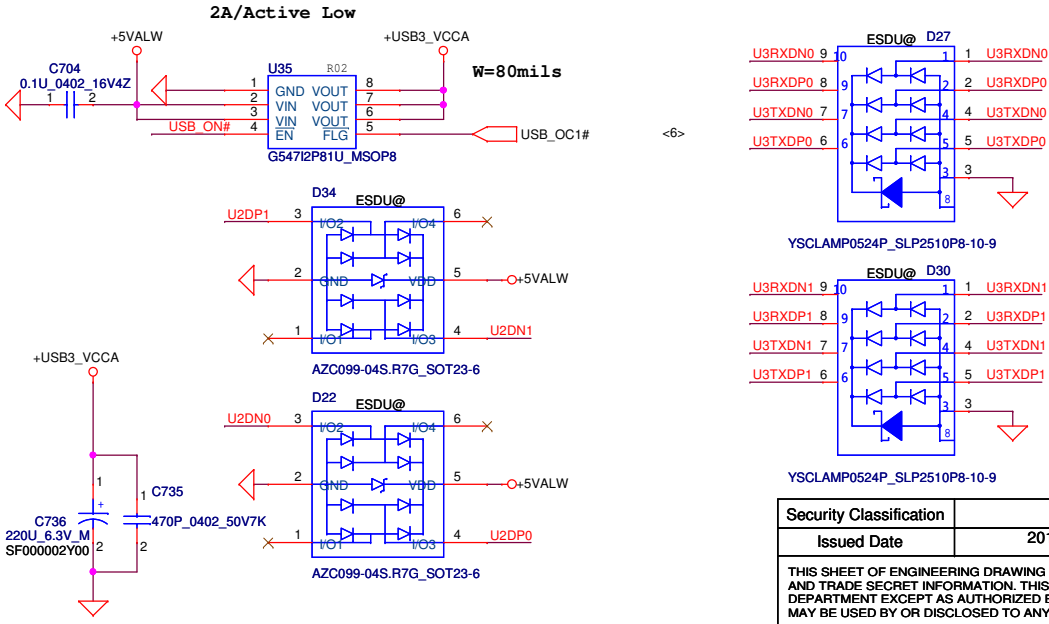
Date: Thursday, March 28, 2013 Sheet 16 of 37

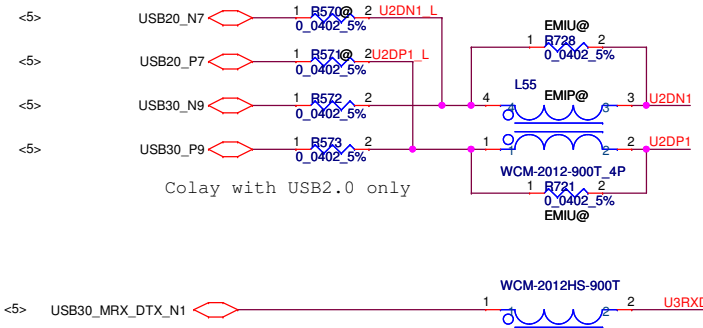
Right Ext.USB Conn.

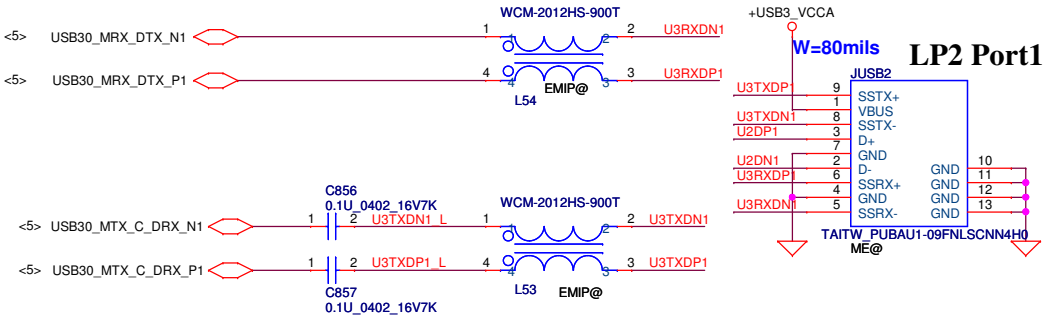












Security Classification	Compal Secret Data			
Issued Date	2012/04/22	Deciphered Date	2015/04/22	

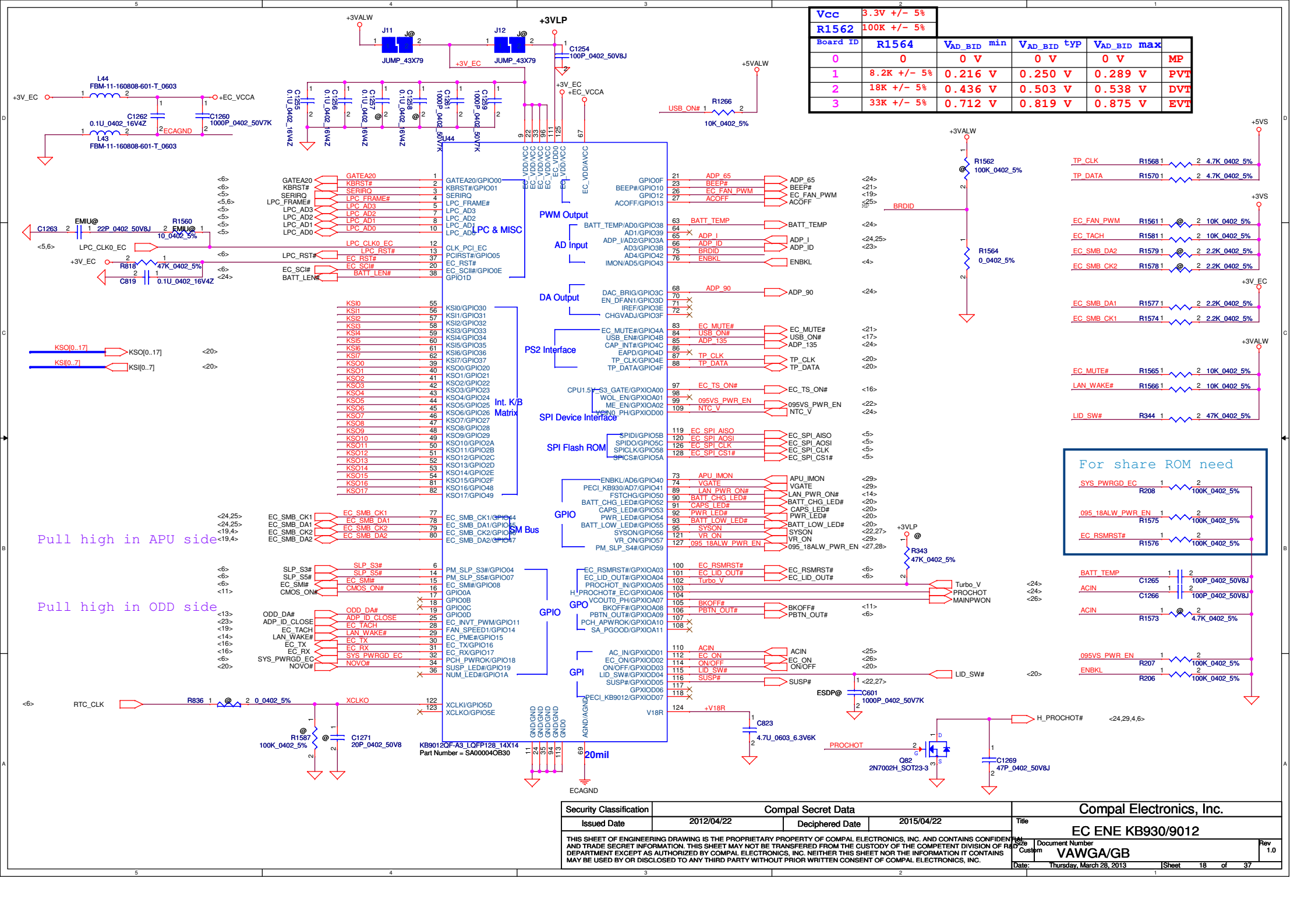
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.

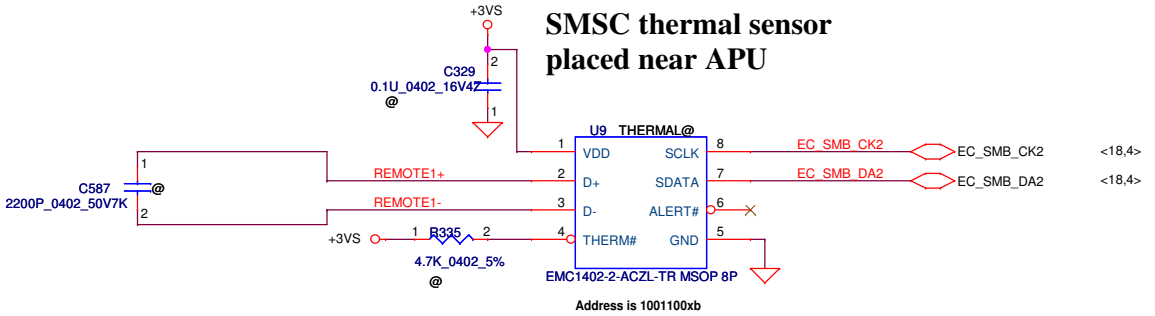
Title: USB2.0 / USB3.0 / BT

Size	Document Number	Rev
B	VAWGA/GB	1.0

Date: Thursday, March 28, 2013 Sheet 17 of 37

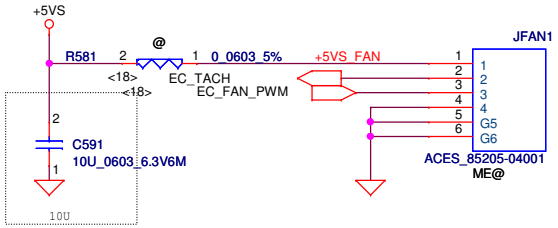

Vcc 3.3V +/- 5%
R1562 100K +/- 5%
Board ID | R1564 | VAD_BID min | VAD_BID typ | VAD_BID max
0 | 0 | 0 V | 0 V | 0 V | MP
1 | 8.2K +/- 5% | 0.216 V | 0.250 V | 0.289 V | PVT
2 | 18K +/- 5% | 0.436 V | 0.503 V | 0.538 V | DVT
3 | 33K +/- 5% | 0.712 V | 0.819 V | 0.875 V | EVT
KB9012QF-A3_LQFP128_14X14
Part Number = SA00004OB30
20mil
LPC & MISC
PWM Output
AD Input
DA Output
PS2 Interface
Int. K/B Matrix
SPI Device Interface
SPI Flash ROM
SM Bus
GPIO
GPO
GPI
Pull high in APU side
Pull high in ODD side
For share ROM need
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 TRANSFERED 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: EC ENE KB930/9012
Size: Custom
Document Number: VAWGA/GB
Rev: 1.0
Date: Thursday, March 28, 2013
Sheet 18 of 37

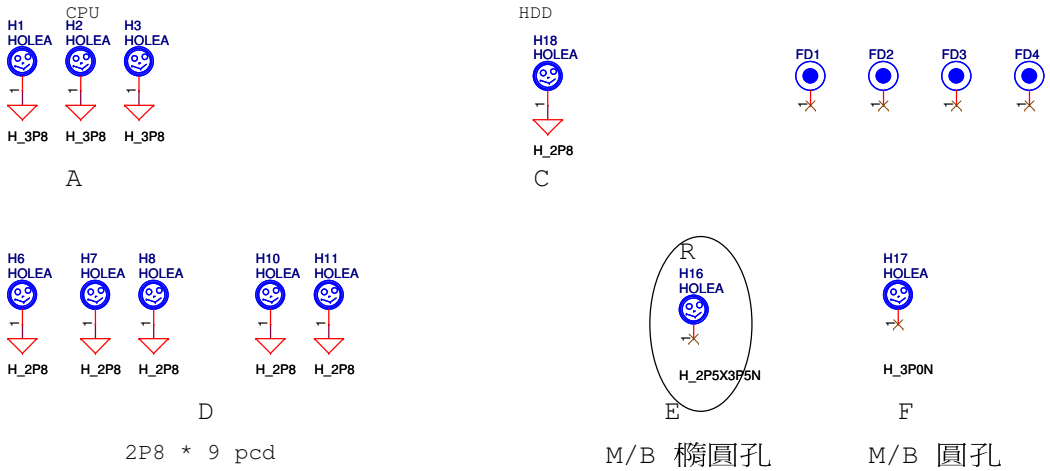
SMSC thermal sensor placed near APU



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

FAN1 Conn





Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

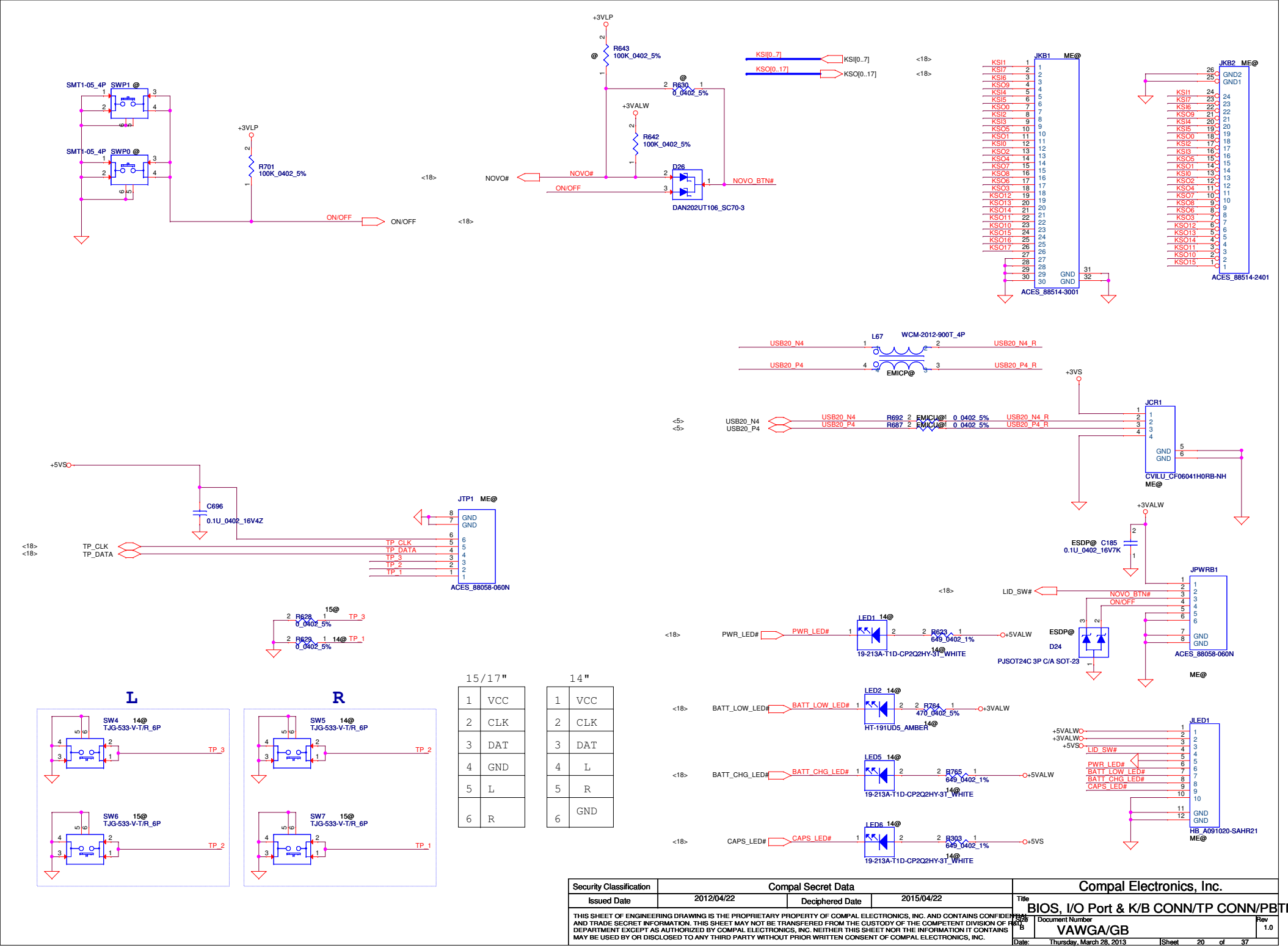
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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,Ltd.

Title: **Fintek-Thermal IC/FAN/screw**

Size: B | Document Number: **VAWGA/GB** | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 19 of 37



15/17"

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

14"

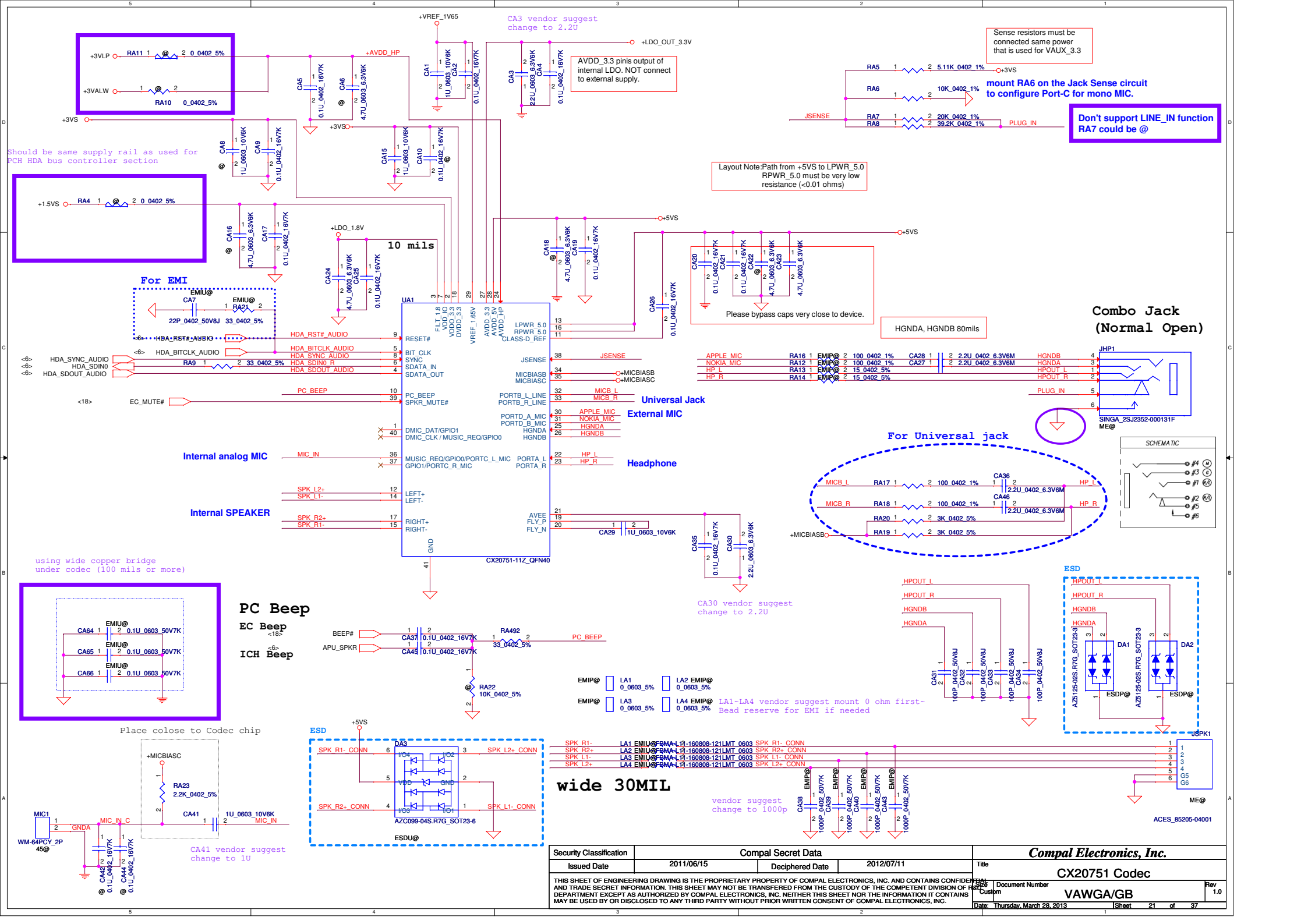
1	VCC
2	CLK
3	DAT
4	L
5	R
6	GND

Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2012/04/22	Deciphered Date	2015/04/22

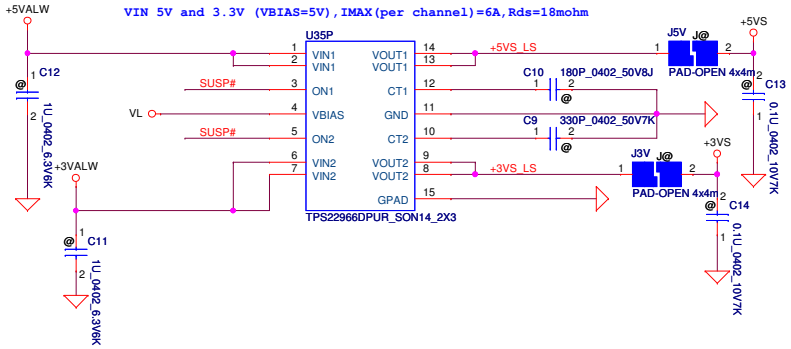
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: BIOS, I/O Port & K/B CONN/TP CONN/PBTN

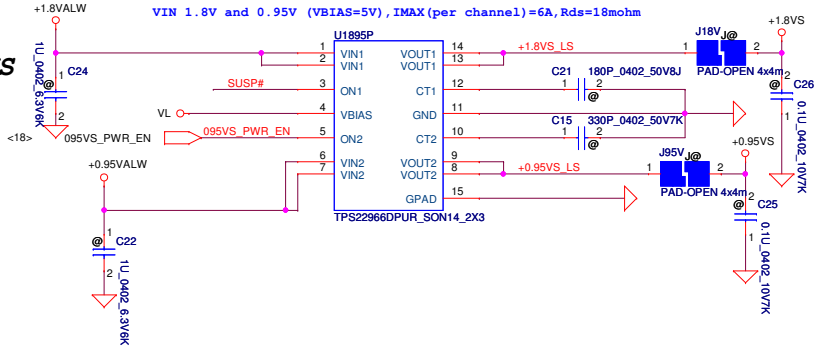
Size: B	Document Number: VAWGA/GB		Rev: 1.0
Date: Thursday, March 28, 2013		Sheet 20 of 37	

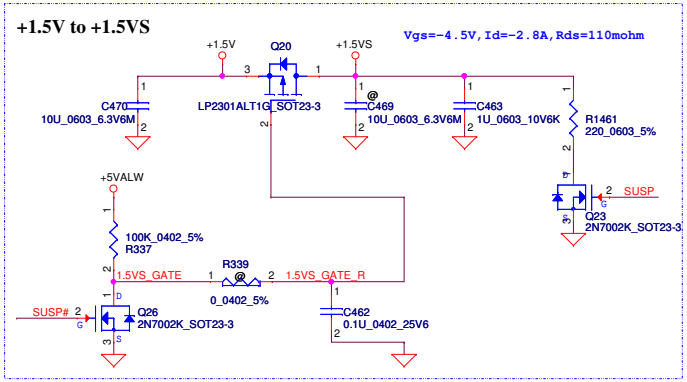

+VREF_1V65
CA3 vendor suggest change to 2.2U
+LDO_OUT_3.3V
AVDD_3.3 pinis output of internal LDO. NOT connect to external supply.
Sense resistors must be connected same power that is used for VAUX_3.3
mount RA6 on the Jack Sense circuit to configure Port-C for mono MIC.
Don't support LINE_IN function RA7 could be @
Should be same supply rail as used for PCH HDA bus controller section
Layout Note:Path from +5VS to LPWR_5.0 RPWR_5.0 must be very low resistance (<0.01 ohms)
10 mils
For EMI
Please bypass caps very close to device.
HGNDA, HGNDB 80mils
Combo Jack (Normal Open)
UA1
CX20751-11Z_QFN40
Universal Jack
External MIC
Headphone
Internal analog MIC
Internal SPEAKER
For Universal jack
SCHEMATIC
using wide copper bridge under codec (100 mils or more)
PC Beep
EC Beep
ICH Beep
CA30 vendor suggest change to 2.2U
ESD
Place colose to Codec chip
CA41 vendor suggest change to 1U
wide 30MIL
vendor suggest change to 1000p
LA1~LA4 vendor suggest mount 0 ohm first~ Bead reserve for EMI if needed
Security Classification
Compal Secret Data
Issued Date
2011/06/15
Deciphered Date
2012/07/11
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 TRANSFERED 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
CX20751 Codec
Size
Custom
Document Number
VAWGA/GB
Rev
1.0
Date: Thursday, March 28, 2013
Sheet 21 of 37

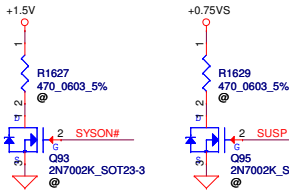
+5VALW TO +5VS
+3VALW TO +3VS
Load switch

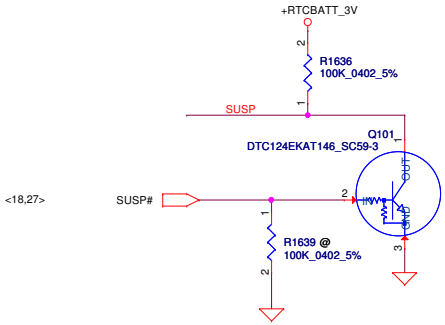


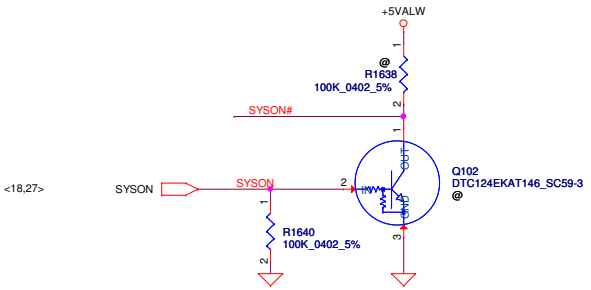
+1.8VALW TO +1.8VS
+0.95VALW TO +0.95VS
Load switch











Security Classification	Compal Secret Data		
Issued Date	2012/04/22	Deciphered Date	2015/04/22

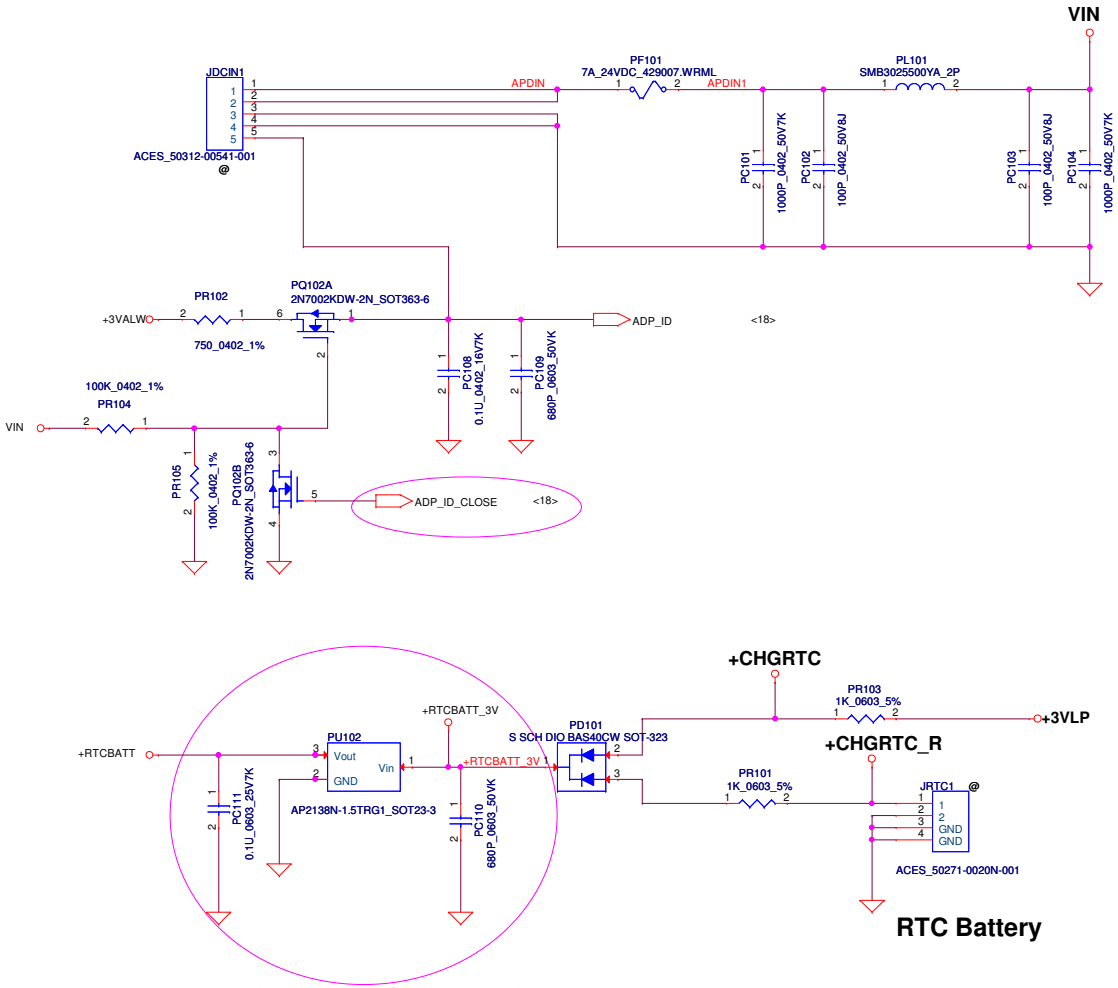
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: DC Interface

Size	Document Number	Rev
B	VAWGA/GB	1.0

Date: Thursday, March 28, 2013 | Sheet 22 of 37



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

Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

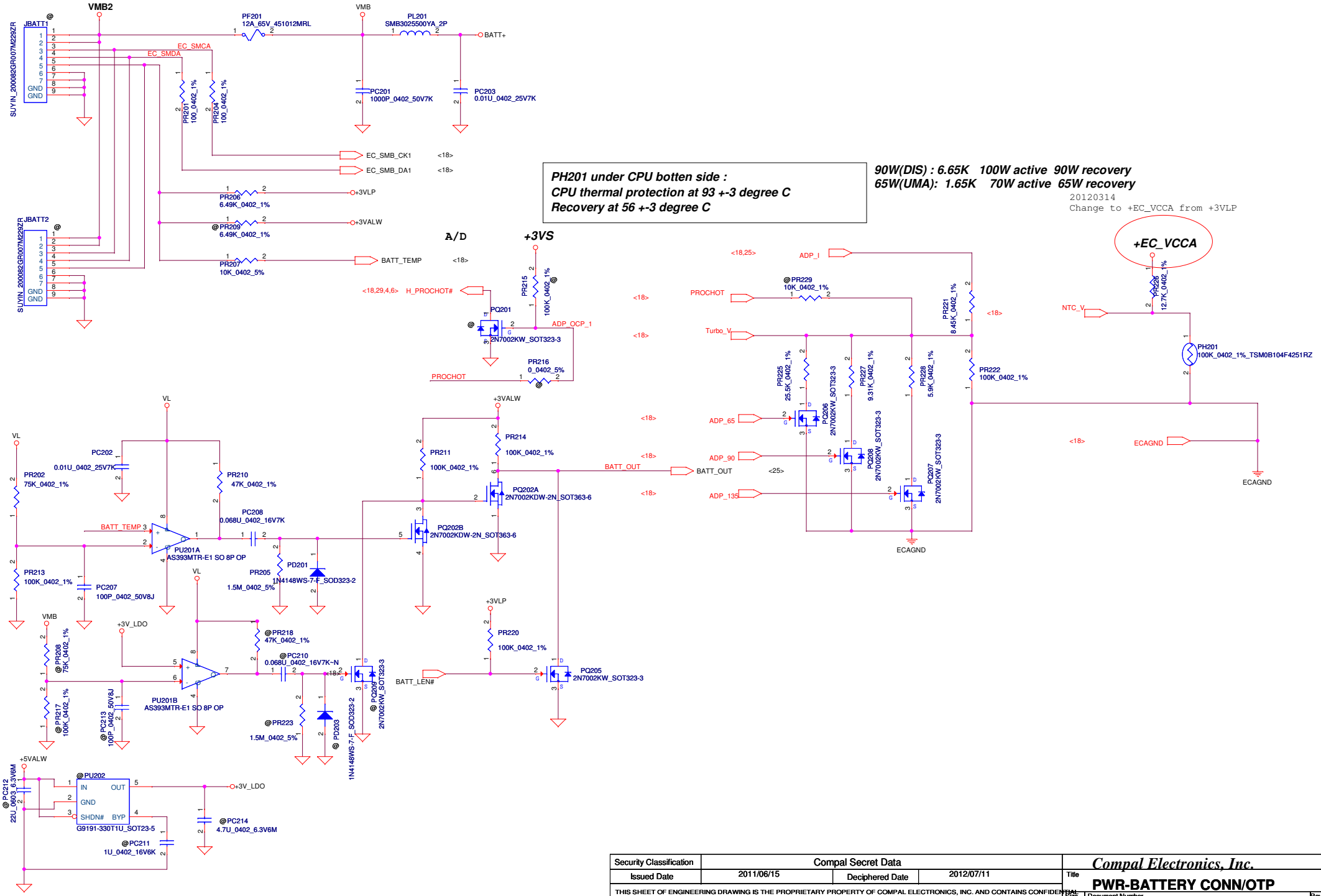
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: **PWR-DCIN / RTC Battery**

Size: Custom | Document Number: **VAWGA/B** | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 23 of 37



Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

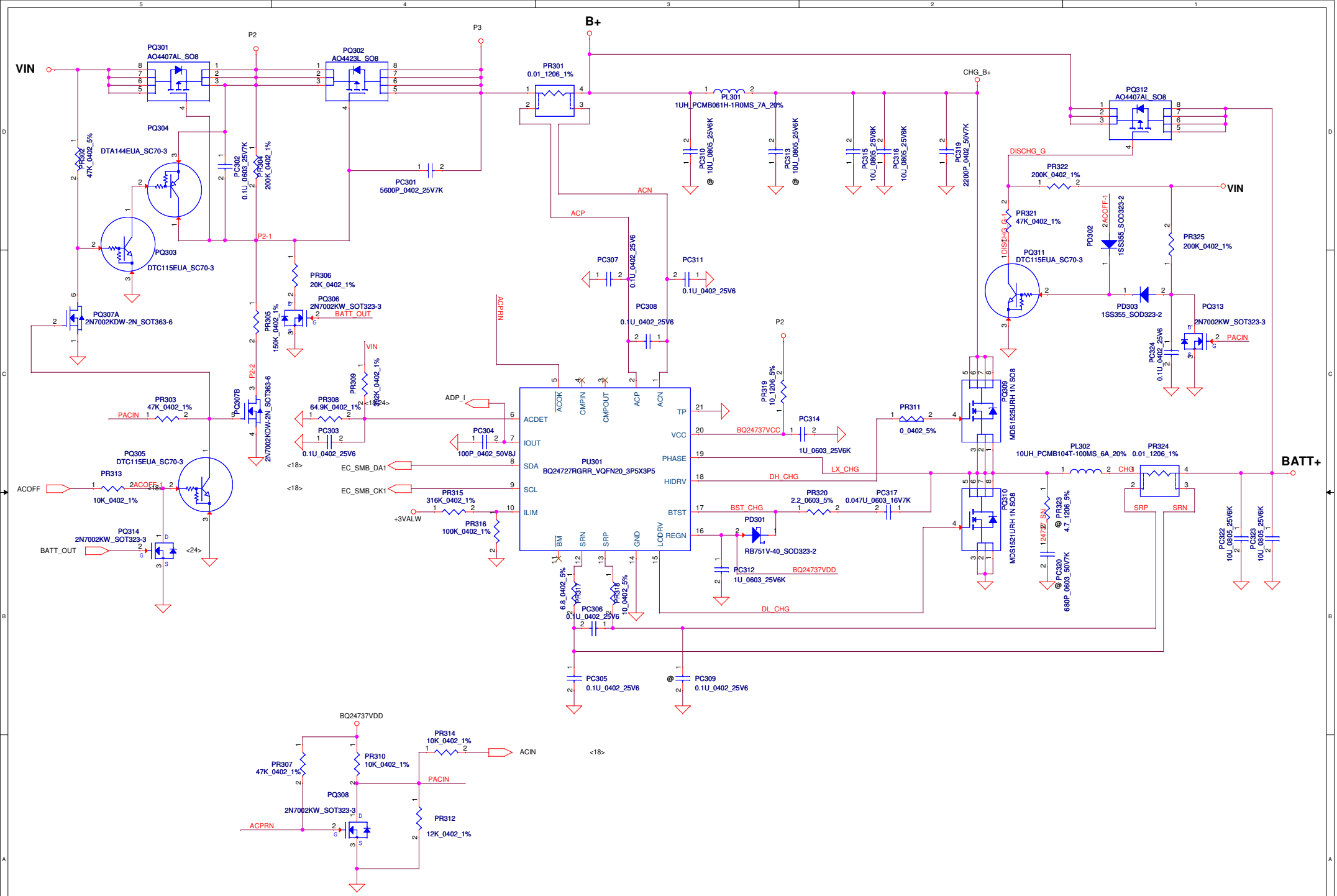
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PWR-BATTERY CONN/OTP

Size: Custom | Document Number: VAWGA/B | Rev: 1.0

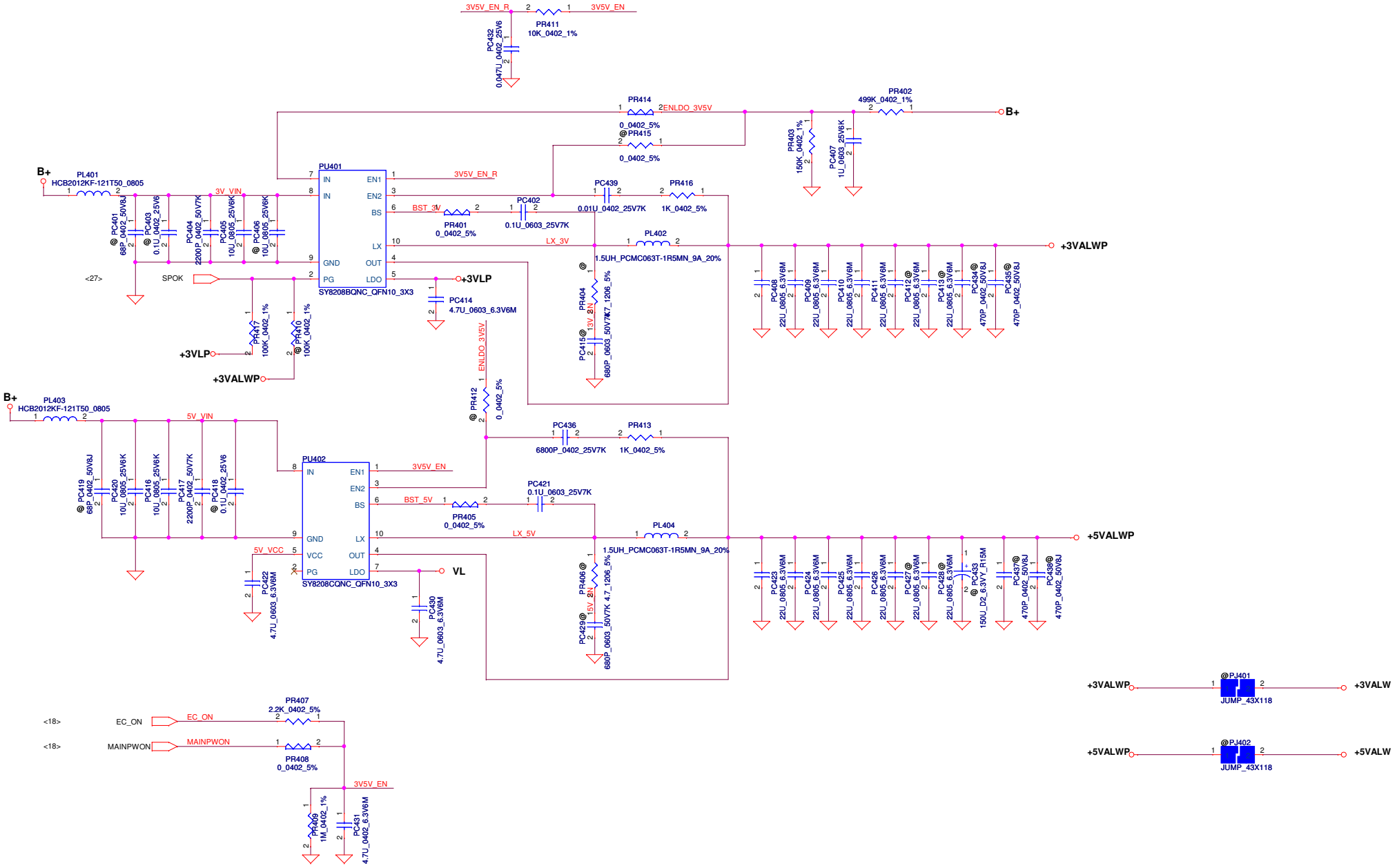
Date: Thursday, March 28, 2013 | Sheet 24 of 37



Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

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 TRANSFERED 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	PWR-CHARGER
Size	Document Number: VAWGA/B
Rev	1.0
Date:	Thursday, March 28, 2013
Sheet	25 of 37



Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

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 TRANSFERED 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.

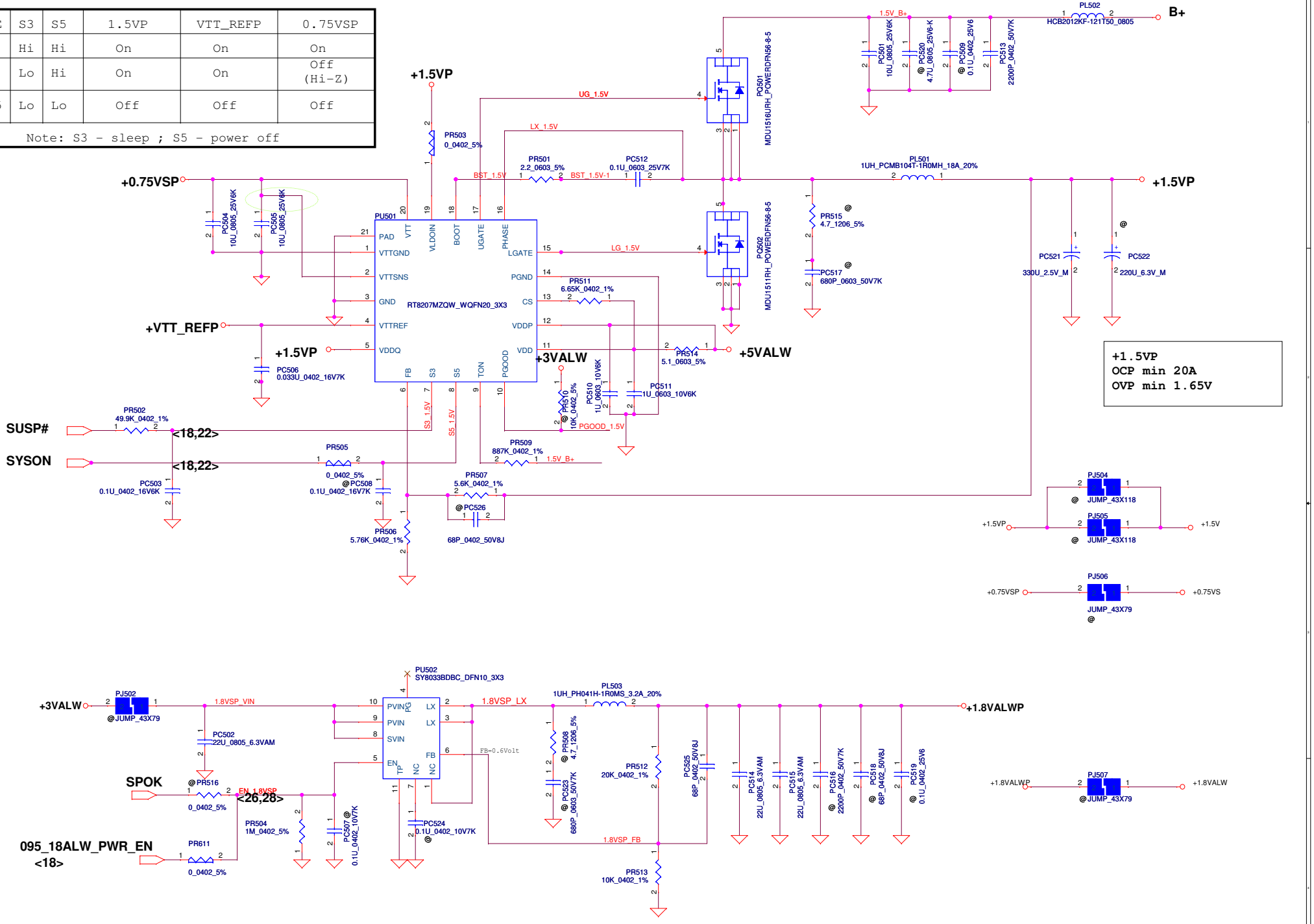
Compal Electronics, Inc.

Title: PWR-3VALWP/5VALWP

Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 26 of 37

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					



Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

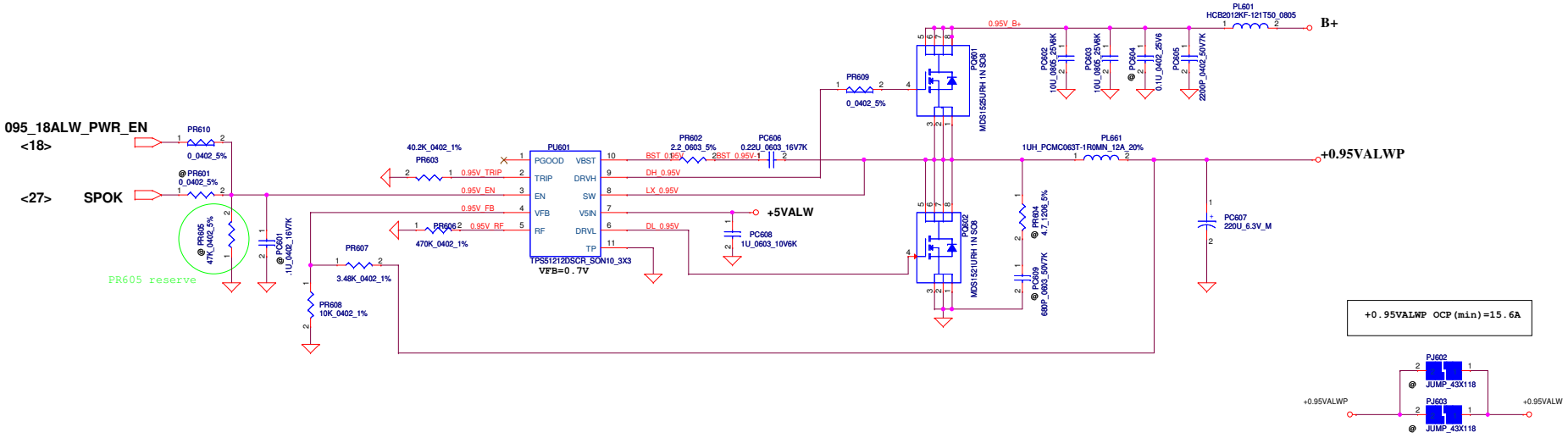
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PWR-+1.5VP/+1.8VALWP

Size: Custom | Document Number: VAWGA/GB | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 27 of 37



Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

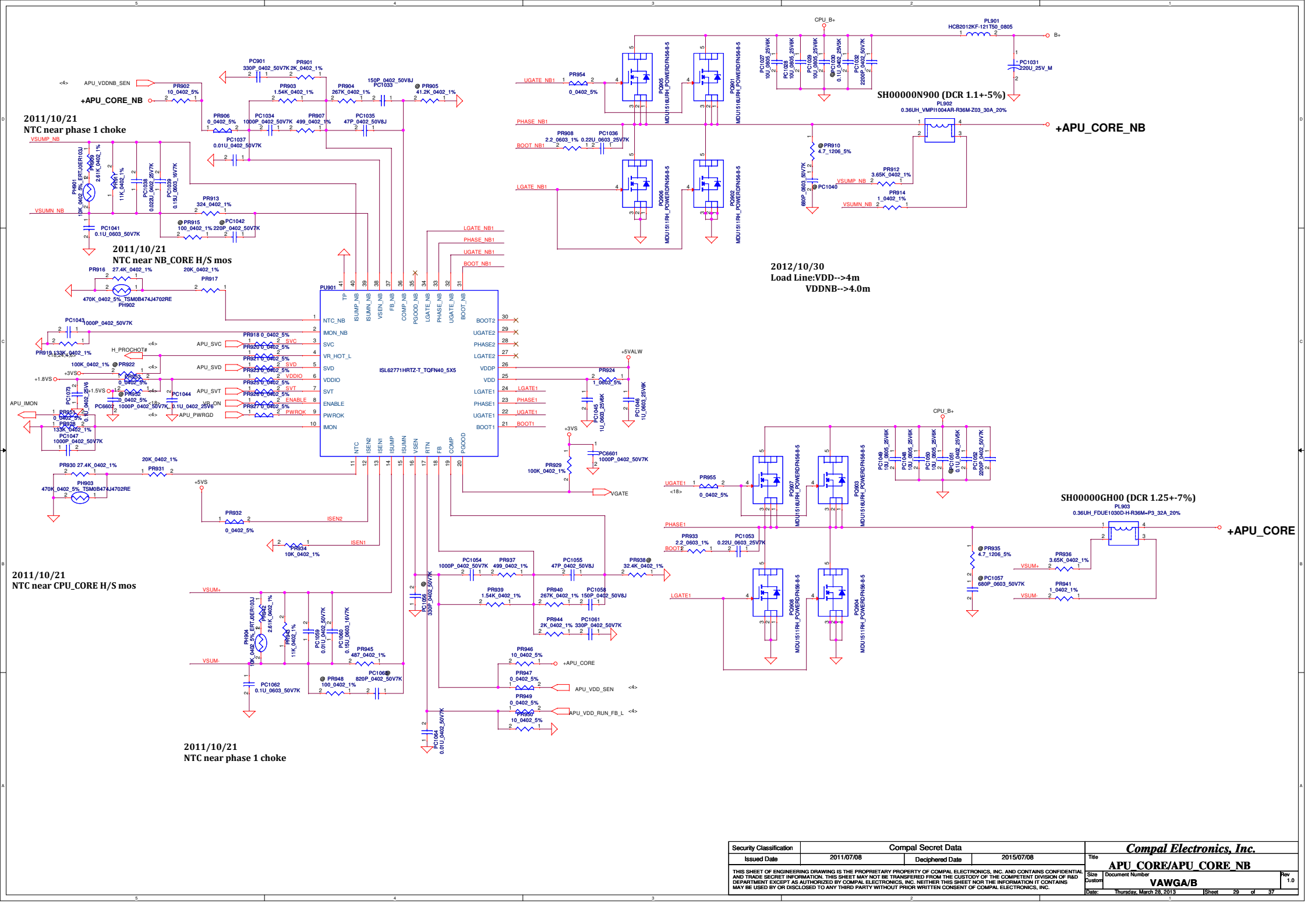
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: **PWR-+0.95VALWP**

Size	Document Number	Rev
C	VAWGA/B	1.0

Date: Thursday, March 28, 2013 | Sheet 28 of 37

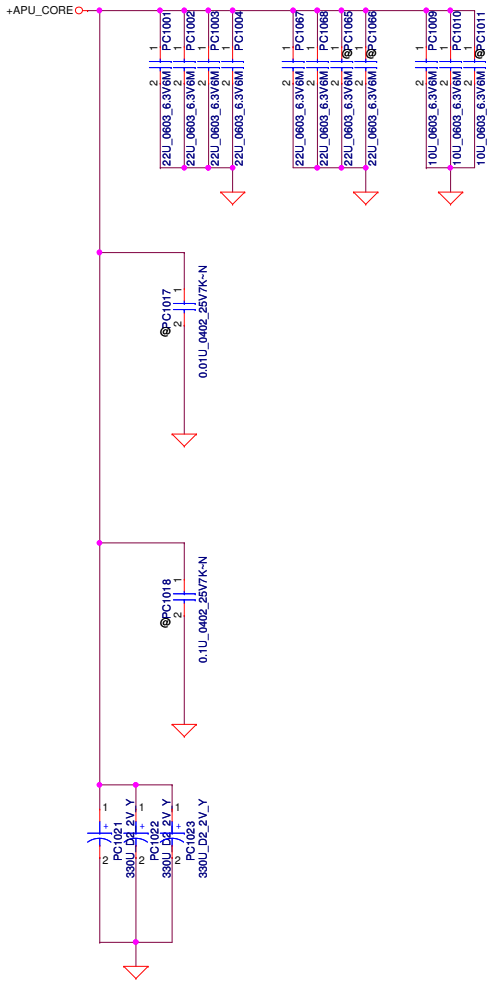


Security Classification	Compal Secret Data		
Issued Date	2011/07/08	Deciphered Date	2015/07/08

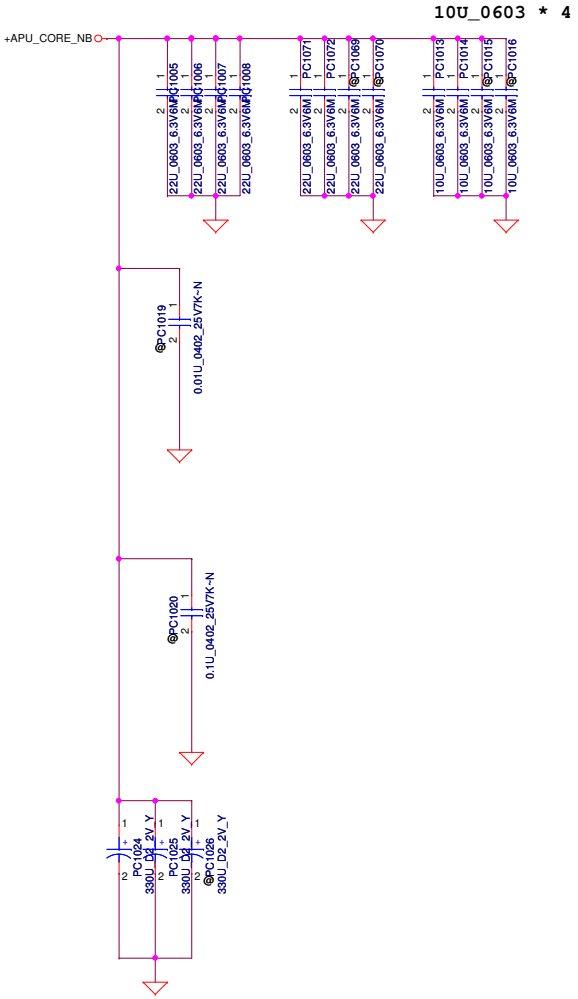
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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	APU_CORE/APU_CORE_NB		
Size: Custom	Document Number: VAWGA/B		Rev: 1.0
Date: Thursday, March 28, 2013	Sheet 29 of 37		

10U_0603 *3



10U_0603 * 4



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 TRANSFERED 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: PWR-PROCESSOR DECOUPLING

Size: Custom	Document Number: VAWGA/B	Rev: 1.0
Date: Thursday, March 28, 2013	Sheet 30 of 37	

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

Item	Reason for change	PG#	Modify List	Date	Phase
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

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 TRANSFERED 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.

Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

Compal Electronics, Inc.

Title: PIR (PWR)

Size: Custom | Document Number: C38-G series Chief River Schematic | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 31 of 37

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

Item	Reason for change	PG#	Modify List	Date	Phase
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

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 TRANSFERED 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: PIR (PWR)

Size: Custom | Document Number: C38-G series Chief River Schematic | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 32 of 37

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

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

Security Classification | Compal Secret Data
Issued Date | 2011/06/15 | Deciphered Date | 2012/07/11

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 TRANSFERED 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.

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

Item	Reason for change	PG#	Modify List	Date	Phase
1	For EMI request	20	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 ZiZi noise	21	Change AVDD_HP from +3VS to +3VLP	02/02	PVT
4	For follow KABINI latest CRB	04	@ R576,C164,C342	02/02	PVT
5	For APU control PWM only	11	Delete R1465	02/02	PVT
6	For Corret Net-name to prevet confuse	04 11	Change TL_INVT_PWM, TL_ENVDD to APU_INVT_PWM, APU_ENVDD	02/02	PVT
7	For Reserve DDC CLK DATA pull high	12	Add R693, R697	02/02	PVT
8	For Common Intel project	20	Change R623,R765,R303 to 620ohm	02/02	PVT
9	For Common Intel project	13	Reserve R551	02/02	PVT
10	For reduce BOM	21	Delete RA3, and Change RA4 to short-pad	02/05	PVT
11	For reduce BOM	16	Change R1498,R1499 from 0 ohm to 100 ohm	02/05	PVT
12	For reduce BOM	11	Change R1463 from 0 ohm to short-pad	02/06	PVT
13	For better audio precision performance	21	Change CA27,CA28 from 1U to 2.2U	02/08	PVT
14	For reduce BOM & layout concern	07	Delete C195	02/16	PVT
15	For test point request	12	Add T49, T58 on JCRT1	02/18	PVT
16	For ESD request	15	Add C173, C178	02/18	PVT
17	For reduce BOM	05	Change R116, R119, R125, R126 to short-pad	02/18	PVT
18	For Crystal timming	06	Change C682 from 18P to 22P	02/20	PVT
19	For ESD request	20	Change D24 from ESDU@ to ESDP@, Part number from SCA00000E00 to SCA00001G00	02/23	PVT
20	For EMI request	11 17 20	Change L58,L51,L55,L66,L67 from SM070000K00 to SM070000Z00	02/23	PVT
21					
22					
23					

Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

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 TRANSFERED 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.

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

Item	Reason for change	PG#	Modify List	Date	Phase
1	For Common Intel project	20	Change R623,R765,R303 to 649ohm	03/05	PreMP
2	For Reduce BOM	05	Change R103, R104 to short-pad	03/11	PreMP
3	For Reduce BOM	11	Change R696, R695, R813 to short-pad	03/11	PreMP
4	For Reduce BOM	13	Change R550 to short-pad	03/11	PreMP
5	For Reduce BOM	18	Change R1564 to short-pad	03/11	PreMP
6	For Reduce BOM	19	Change R581 to short-pad	03/11	PreMP
7	For Reduce BOM	21	Change RA11 to short-pad	03/11	PreMP
8	For Reduce BOM	22	Change R339 to short-pad	03/11	PreMP
9	For Reduce BOM	07	Change R582 to short-pad	03/11	PreMP
10	For ESD require	20	Add C185	03/25	PreMP
11	For Module Design	12	Change R693, R697 from 10k to 4.7k	03/25	PreMP
12	For ESD require	04	Add C195	03/26	PreMP
13	For Reduce BOM	04	@ RP11	03/26	PreMP
14	For Board ID	18	@ R1562 and change R1564 to 0ohm	03/28	PreMP
15					
16					
17					

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 TRANSFERED 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.

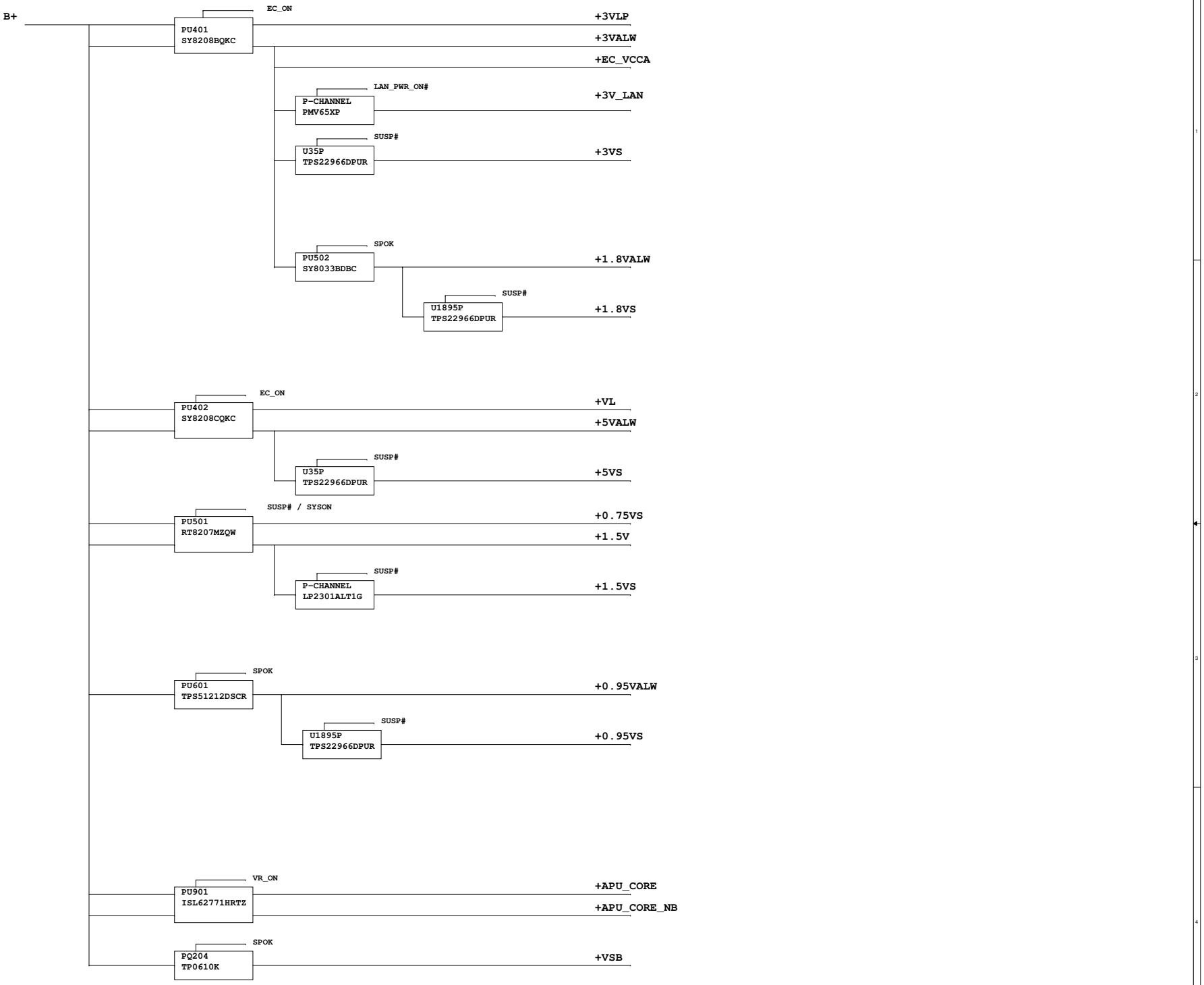
Security Classification	Compal Secret Data		
Issued Date	2011/06/15	Deciphered Date	2012/07/11

Compal Electronics, Inc.

Title: PIR (PWR)

Size: Custom | Document Number: C38-G series Chief River Schematic | Rev: 1.0

Date: Thursday, March 28, 2013 | Sheet 35 of 37



Security Classification	Compal Secret Data		
Issued Date		Deciphered Date	

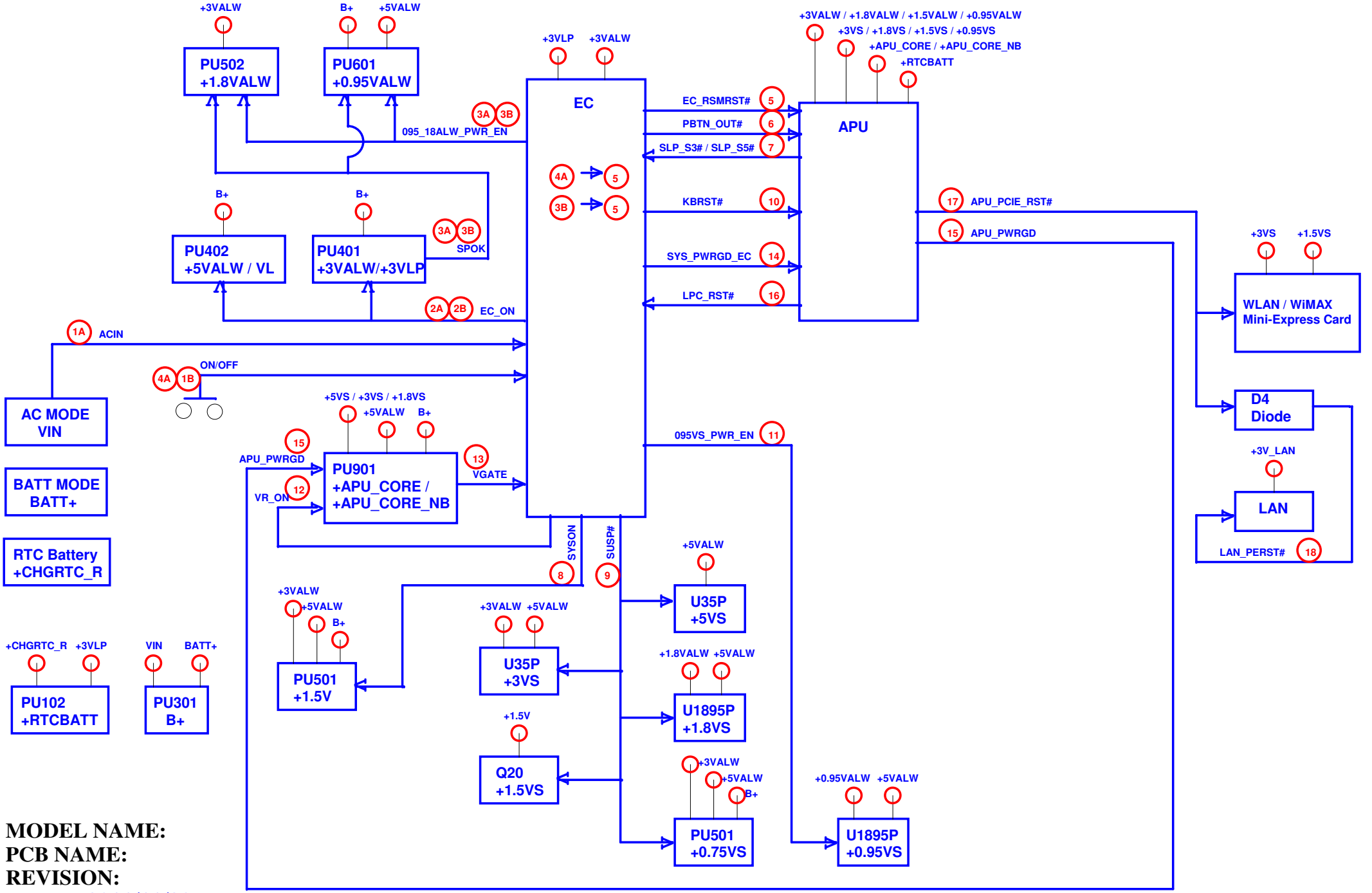
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: **Power Map**

Size	Document Number	Rev
Custom	VAWGA/GB	1.0

Date: Thursday, March 28, 2013 | Sheet 36 of 37



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

COMPAL CONFIDENTIAL

Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date		Deciphered Date	Title: Power sequence
Size: Custom	Document Number		Rev: 1.0
Date:		Sheet of	

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 TRANSFERED 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.