Compal Confidential

PIQY0 M/B Schematics Document

Intel Sandy Bridge Processor with DDRIII + Cougar Point PCH
nVIDIA N12P-GT

2010-12-30

REV:1.0

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: Cover Page		
Size: Custom	Document Number: PIQY0 LA6881P	Rev: 1.0
Date: Wednesday, January 05, 2011	Sheet 1 of 63	

Compal confidential
File Name : PIQY0

ZZZ1 DAZ0HA00100
ZZZ2 X7625738L01 X761G@
ZZZ3 X7625738L03 X762G@
ZZZ4 LS6881P DAZ@
ZZZ5 LS6882P DAZ@
ZZZ6 LS6883P DAZ@
ZZZ7 LA6881P DAZ@

POWER & ALS BOARD

CAP SENSOR & Slid bar BOARD

nVIDIA N12P-GT
VRAM 64*16 DDR3*8

PCI-E X16

Intel Sandy Bridge
Socket-rPGA988B
37.5mm*37.5mm

DDR3-SO-DIMM X2
BANK 0, 1, 2, 3
UP TO 8G

Dual Channel
DDR3-1066(1.5V)
DDR3-1333(1.5V)

100MHz 2.7GT/s
FDI *8
DMI *4

HDMI CONN
Passive level shift
CRT Connector
optimus 1.0
LVDS Connector
optimus 1.0

Intel Cougar Point
FCBGA 951
25mm*25mm

AZALIA
Audio Codec
RealTek ALC272/ALC5503
2Channel Speaker
Array Digital MIC
Audio Jacks
Stereo HeadPhone Output
Microphone Input

PCI Express Mini card Slot 1
WLAN/WiMAX
USB(WiMAX)
PCI-E(WLAN)

PCI Express Mini card Slot 2
SSD
SATA(SSD)

6*PCI-E BUS

14*USB2.0
CMOS Camera
BlueTooth CONN
USB PORT 2.0 x2(Left)
Option3.0 x2
WLAN/WiMAX
USB PORT 2.0 x1(Right)

6*SATA serial
(port0,1 support SATA3)

SPI ROM BIOS

LPC BUS

EC
ENE KB930

USB3.0
RENESAS UPD720200

Card Reader
Jmicro JMB389
SD/MMC/MS/XD

WLAN/WiMAX

Broadcom
BCM57781/57780
10/100/1G LAN

RJ45 CONN

Int.KBD
Touch Pad
SPI ROM

Thermal Sensor
EMC1403

ESATA HDD AND USB CONN (Right)
SATA3.0 HDD CONN
SATA3.0 HDD (SSD)
SATA ODD CONN

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: MB Block Diagram
Size: Custom | Document Number | Rev: 1.0
Date: Wednesday, January 05, 2011 | Sheet 2 of 63

Voltage Rails

State \ power plane	+B	+5VALW +3VALW	+1.5V	+5VS +3VS +1.5VS +VCCP +CPU_CORE +VGA_CORE +GFX_CORE +1.8VS +0.75VS +1.05VS
S0	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

SMBUS Control Table

	SOURCE	VGA	BATT	KB930	SODIMM	WLAN WWAN	Thermal Sensor	PCH
SMB_EC_CK1 SMB_EC_DA1	KB930 +3VALW	X	V +3VALW	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB930 +3VALW	X	X	X	X	X	X	V +3VS
SMBCLK SMBDATA	PCH +3VALW	X	X	X	V +3VS	V +3VS	X	X
SML0CLK SML0DATA	PCH +3VALW	X	X	X	X	X	X	X
SML1CLK SML1DATA	PCH +3VALW	V +3VS	X	V +3VS	X	X	V +3VS	X

EC SM Bus1 address

Device	Address
Smart Battery	0001 011X b

EC SM Bus2 address

Device	Address
Thermal Sensor EMC1403-2	1001_101xb

PCH SM Bus address

Device	Address
DDR DIMM0	1001 000Xb
DDR DIMM2	1001 010Xb

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

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%
Ra/Rc/Re	100K +/- 5%

Board ID	Rb / Rd / Rf	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

BOARD ID Table

Board ID	PCB Revision
0	0.1
1	
2	
3	
4	
5	
6	
7	

USB Port Table

USB 2.0	USB 1.1	Port	3 External USB Port
EHCI1	UHCI0	0	USB/Cable (Right Side)
		1	USB Port (Right Side COMBO)
	UHCI1	2	USB/B (Left Side)
		3	USB/B (Left Side)
	UHCI2	4	
		5	Camera
	UHCI3	6	
		7	
EHCI2	UHCI4	8	
		9	Mini Card(WLAN)
	UHCI5	10	
		11	
	UHCI6	12	
		13	Blue Tooth

BOM Structure Table

BTO Item	BOM Structure
UMA	
UMA Only	UMA_ONLY@
Optimus	OPTI@
VRAM	X76@
HDMI	HDMI@
Blue Tooth	BT@
USB3.0	USB30@
ESATA	ESATA@
USB Charger	USB_CHG@
No USB Charger	NO_CHG@
Unpop	@
Codec ALC272	272@
Codec ALC5503	5503@
LAN 57781	57781@
LAN 57780	57780@
Ventura Feature	VENTURA@
Camera	CMOS@

VRAM BOM Config

X761G@: X7625738L01 Samsung 1GB
Sub: X7625738L02 Hynix 1GB
X762G@: X7625738L03 Samsung 2GB
Sub: X7625738L04 Hynix 2GB

GPU BOM Config

N12P SKU: OPTI@
GS SKU: GS@
GT SKU: GT@

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

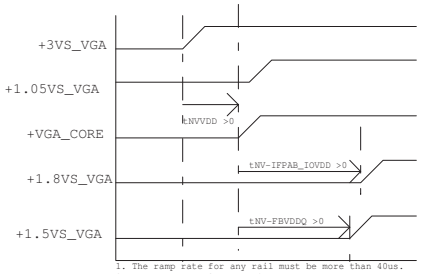
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
B	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 3 of 63



1. The ramp rate for any rail must be more than 40us.
2. +VGA_CORE <= +3VS_VGA +0.5V
3. +1.5VS_VGA <= +3VS_VGA +0.5V
4. Optimus follows power sequencing rules
   specified in discrete GPU design guide.

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

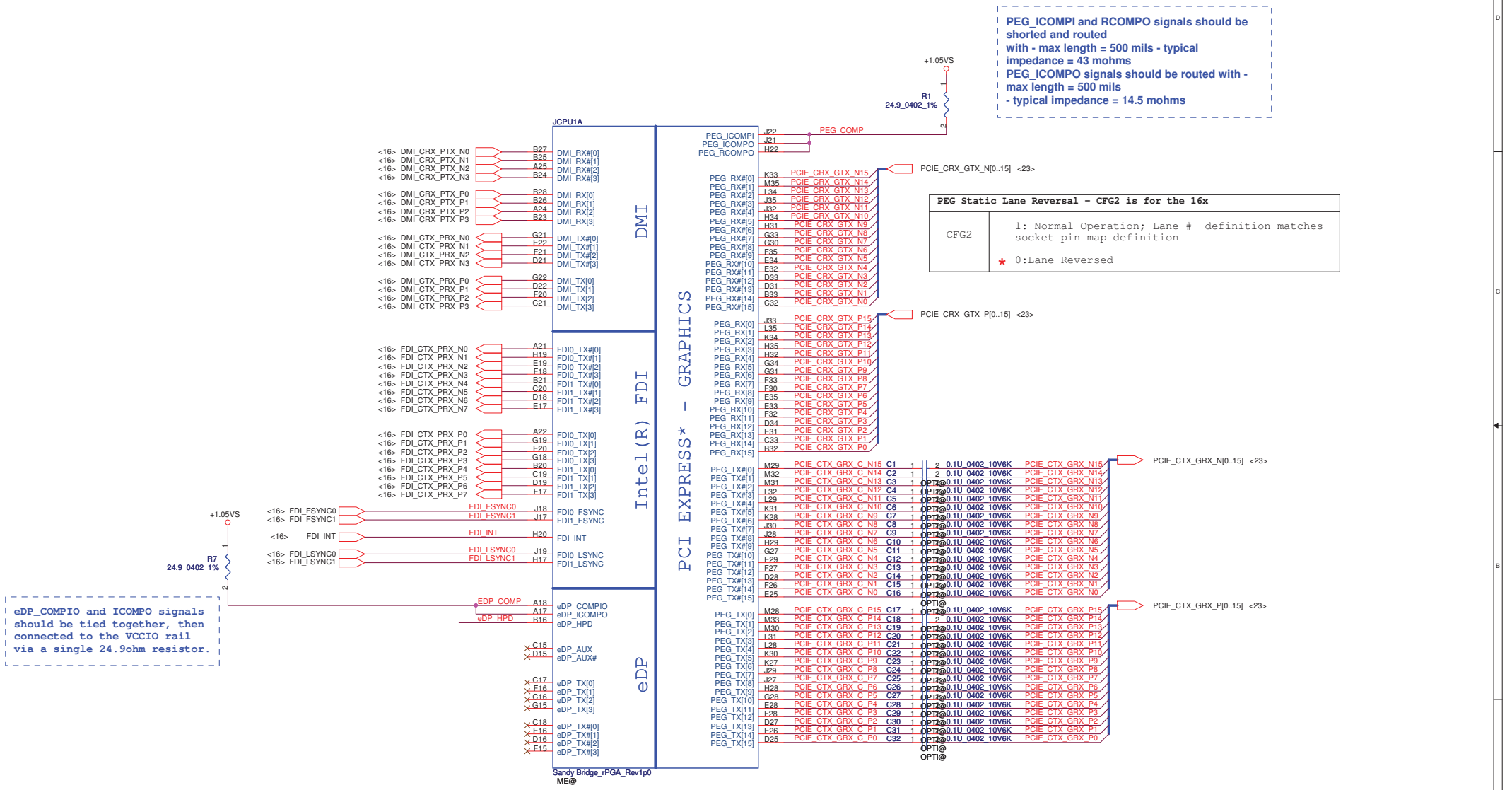
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 4 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

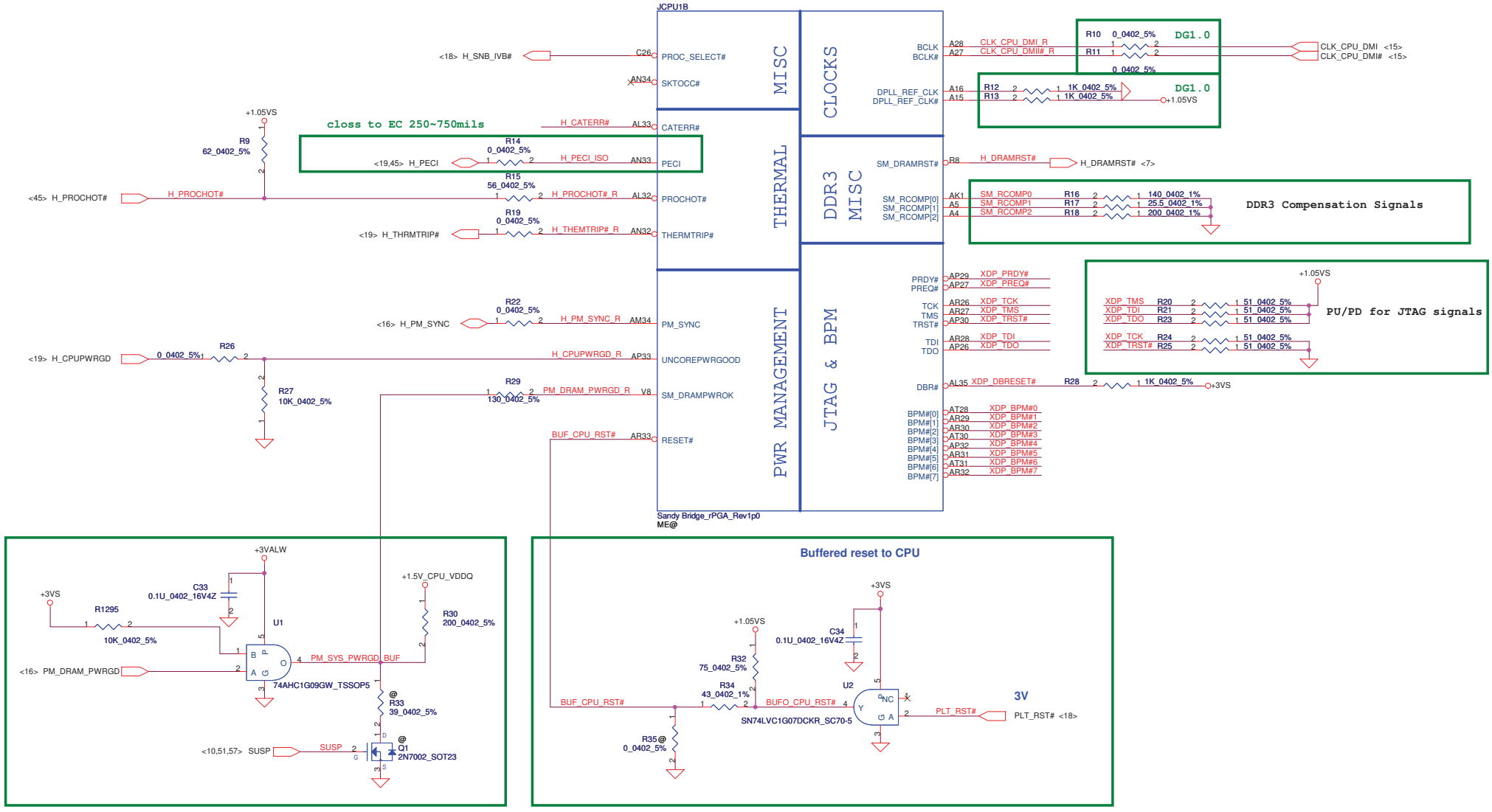
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PROCESSOR(1/7) DMI,FDI,PEG

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

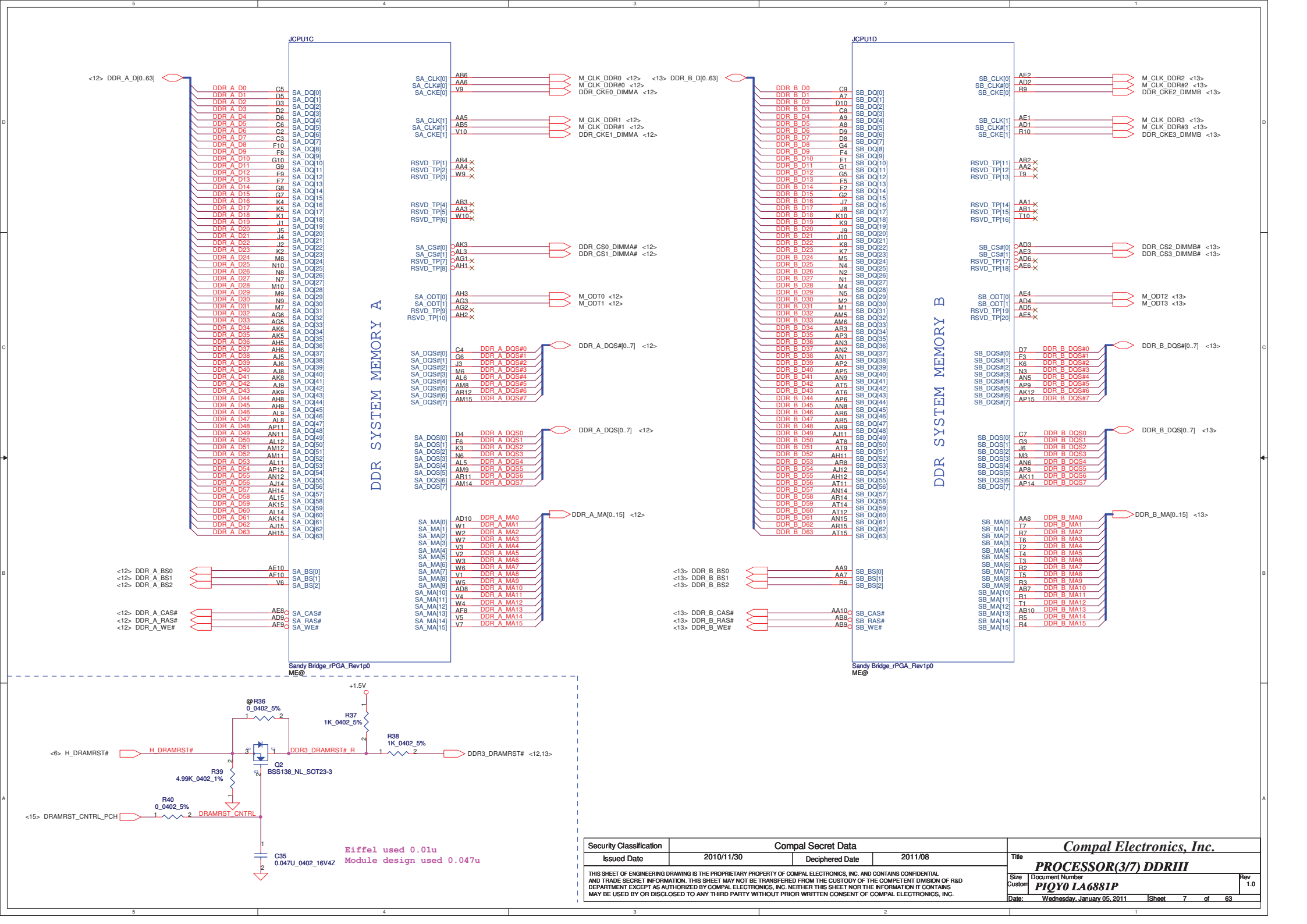
Date: Wednesday, January 05, 2011 | Sheet 5 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: PROCESSOR(2/7) PM,XDP,CLK			
Size: Custom	Document Number: PIQY0 LA6881P		Rev: 1.0
Date: Wednesday, January 05, 2011		Sheet 6 of 63	



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

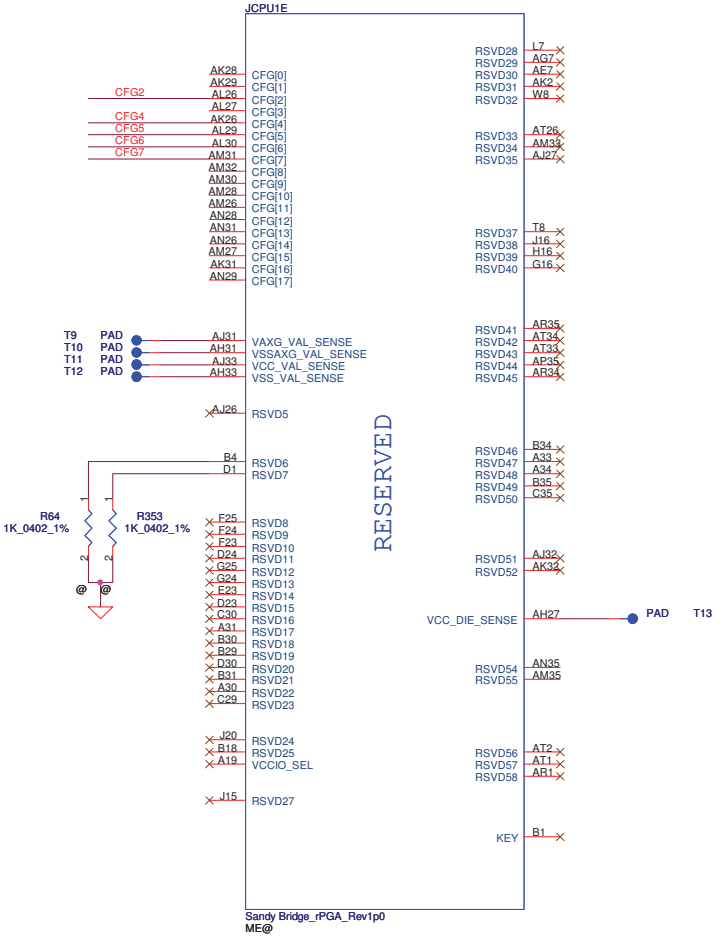
Compal Electronics, Inc.

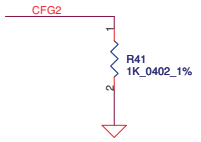
Title: PROCESSOR(3/7) DDRIII

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

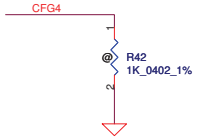
Date: Wednesday, January 05, 2011 Sheet 7 of 63

CFG Straps for Processor

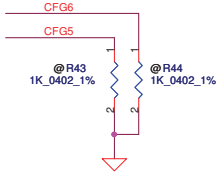




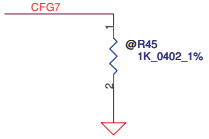
PEG Static Lane Reversal – CFG2 is for the 16x	
CFG2	1: Normal Operation; Lane # definition matches socket pin map definition * 0:Lane Reversed



Display Port Presence Strap	
CFG4	* 1 : Disabled; No Physical Display Port attached to Embedded Display Port 0 : Enabled; An external Display Port device is connected to the Embedded Display Port



PCIE Port Bifurcation Straps	
CFG[6:5]	*11: (Default) x16 – Device 1 functions 1 and 2 disabled 10: x8, x8 – Device 1 function 1 enabled ; function 2 disabled 01: Reserved – (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 – Device 1 functions 1 and 2 enabled



PEG DEFER TRAINING	
CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: PROCESSOR(4/7) RSVD,CFG

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 8 of 63

POWER

JCPU1F

QC=94A
DC=53A

+CPU_CORE

(6/16 change 10uF_0603_6.3V)*5

C36 10U_0805_6.3V6M
C37 10U_0805_6.3V6M
C38 10U_0805_6.3V6M
C39 10U_0805_6.3V6M
C40 10U_0805_6.3V6M
C48 10U_0603_6.3V6M
C49 10U_0603_6.3V6M
C50 10U_0603_6.3V6M
C51 10U_0603_6.3V6M
C52 10U_0603_6.3V6M
C53 @ 10U_0603_6.3V6M

+CPU_CORE

(22uF_0805_6.3V)*16

C66 22U_0805_6.3V6M
C67 22U_0805_6.3V6M
C68 22U_0805_6.3V6M
C70 22U_0805_6.3V6M
C71 22U_0805_6.3V6M
C74 22U_0805_6.3V6M
C75 22U_0805_6.3V6M
C76 22U_0805_6.3V6M
C77 22U_0805_6.3V6M
C78 22U_0805_6.3V6M
C79 22U_0805_6.3V6M
C80 22U_0805_6.3V6M
C81 22U_0805_6.3V6M
C82 22U_0805_6.3V6M
C83 22U_0805_6.3V6M
C84 22U_0805_6.3V6M
C85 @ 22U_0805_6.3V6M
C86 @ 22U_0805_6.3V6M
C87 @ 22U_0805_6.3V6M

+CPU_CORE

(330uF)*4

C88 330U_X_2VM_R8M
C89 330U_X_2VM_R8M
C90 330U_X_2VM_R8M
C91 330U_X_2VM_R6M

DUAL@ DUAL@ DUAL@ DUAL@

C88 470U_D2_2VM_R4.5M QUAD@
C89 470U_D2_2VM_R4.5M QUAD@
C90 470U_D2_2VM_R4.5M QUAD@
C91 470U_D2_2VM_R4.5M QUAD@

AG35 AG34 AG33 AG32 AG31 AG30 AG29 AG28 AG27 AG26
AF35 AF34 AF33 AF32 AF31 AF30 AF29 AF28 AF27 AF26
AD35 AD34 AD33 AD32 AD31 AD30 AD29 AD28 AD27 AD26
AC35 AC34 AC33 AC32 AC31 AC30 AC29 AC28 AC27 AC26
AA35 AA34 AA33 AA32 AA31 AA30 AA29 AA28 AA27 AA26
Y35 Y34 Y33 Y32 Y31 Y30 Y29 Y28 Y27 Y26
V35 V34 V33 V32 V31 V30 V29 V28 V27 V26
U35 U34 U33 U32 U31 U30 U29 U28 U27 U26
R35 R34 R33 R32 R31 R30 R29 R28 R27 R26
P35 P34 P33 P32 P31 P30 P29 P28 P27 P26

VCC1 VCC2 VCC3 VCC4 VCC5 VCC6 VCC7 VCC8 VCC9 VCC10
VCC11 VCC12 VCC13 VCC14 VCC15 VCC16 VCC17 VCC18 VCC19 VCC20
VCC21 VCC22 VCC23 VCC24 VCC25 VCC26 VCC27 VCC28 VCC29 VCC30
VCC31 VCC32 VCC33 VCC34 VCC35 VCC36 VCC37 VCC38 VCC39 VCC40
VCC41 VCC42 VCC43 VCC44 VCC45 VCC46 VCC47 VCC48 VCC49 VCC50
VCC51 VCC52 VCC53 VCC54 VCC55 VCC56 VCC57 VCC58 VCC59 VCC60
VCC61 VCC62 VCC63 VCC64 VCC65 VCC66 VCC67 VCC68 VCC69 VCC70
VCC71 VCC72 VCC73 VCC74 VCC75 VCC76 VCC77 VCC78 VCC79 VCC80
VCC81 VCC82 VCC83 VCC84 VCC85 VCC86 VCC87 VCC88 VCC89 VCC90
VCC91 VCC92 VCC93 VCC94 VCC95 VCC96 VCC97 VCC98 VCC99 VCC100

Sandy Bridge_rPGA_Rev1p0
ME@

PEG AND DDR

Cap quantity follow HR_PDDG_Rev07
22uF*7 NO-STUFF

18A

(22uF_0805_6.3V)*13

+1.05VS

VCCIO1 VCCIO2 VCCIO3 VCCIO4 VCCIO5 VCCIO6 VCCIO7 VCCIO8 VCCIO9 VCCIO10 VCCIO11 VCCIO12 VCCIO13 VCCIO14 VCCIO15 VCCIO16 VCCIO17 VCCIO18 VCCIO19 VCCIO20 VCCIO21 VCCIO22 VCCIO23 VCCIO24 VCCIO25 VCCIO26 VCCIO27 VCCIO28 VCCIO29 VCCIO30 VCCIO31 VCCIO32 VCCIO33 VCCIO34 VCCIO35 VCCIO36 VCCIO37 VCCIO38 VCCIO39 VCCIO40

AH13 AH10 AG10 AC10 Y10 U10 P10 L10 J14 J13 J12 J11 H14 H12 H11 G14 G13 G12 F14 F13 F12 F11 E14 E12 E11 D14 D13 D12 D11 C14 C13 C12 C11 B14 B12 A14 A13 A12 A11 J23

C41 C42 C43 C44 C54 C45 C46 C55 C56 C47 22U_0805_6.3V6M

C57 C58 C59 @ C60 @ C61 @ C62 @ C63 @ C64 @ C65 @ 22U_0805_6.3V6M

C922 330U_2.5V_M @
C69 330U_D2_2.5VY_R9M @
C72 330U_D2_2.5VY_R9M @
C918 330U_2.5V_M

CORE SUPPLY

SVID

+1.05VS

R46 75_0402_5%

VR_SVID_CLK series-resistors close to VR

VIDALERT# VIDSCLK VIDSOUT

AJ29 H_CPU_SVIDALRT# R47 43_0402_5%
AJ30 H_CPU_SVIDCLK R48 BOM Structure 0402_5%
AJ28 H_CPU_SVIDDAT R49 BOM Structure 0402_5%

VR_SVID_ALRT# <60>
VR_SVID_CLK <60>
VR_SVID_DAT <60>

R50 130_0402_5% +1.05VS

SENSE LINES

8/11 update: Add R1309, R1310.
PDDG1.21#439028

+CPU_CORE

R51 100_0402_1%

VCC_SENSE VSS_SENSE

AJ35 VCCSENSE_R R52 0_0402_5%
AJ34 VSSSENSE_R R53 0_0402_5%

VCCSENSE <60>
VSSSENSE <60>

+1.05VS R1313 10_0402_1%

VCCIO_SENSE VSSIO_SENSE

B10 VCCIO_SENSE
A10 VSSIO_SENSE

VCCIO_SENSE <58>

R1314 10_0402_1%

R54 100_0402_1%

@ R1309 27.4_0402_1%
R1310 27.4_0402_1%

Security Classification: Compal Secret Data
Issued Date: 2010/11/30 | Deciphered Date: 2011/08

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.

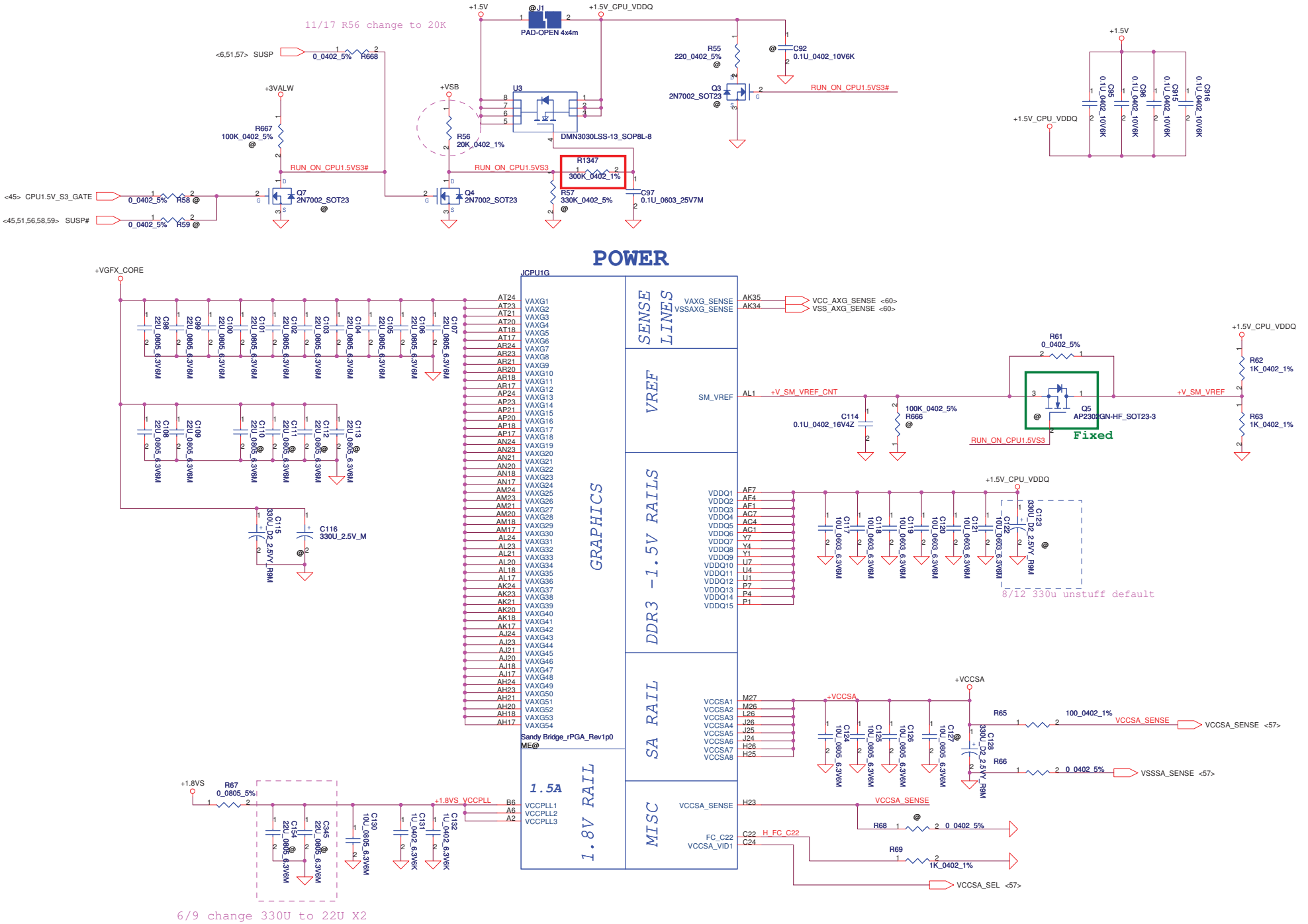
Compal Electronics, Inc.

Title: PROCESSOR(5/7) PWR,BYPASS

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 9 of 63

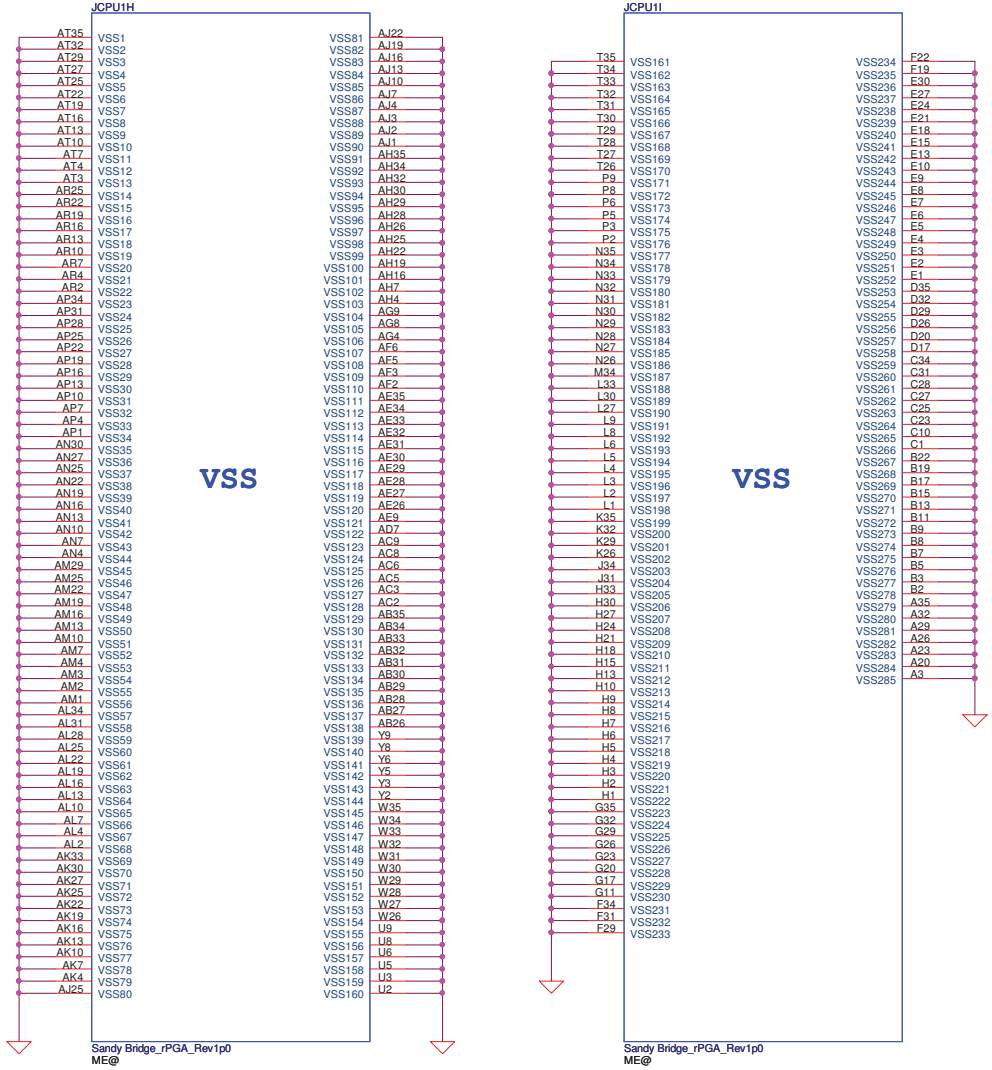
POWER



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

Title	PROCESSOR(6/7) PWR		
Size	Document Number		Rev
Custom	PIQY0 LA6881P		1.0
Date:	Wednesday, January 05, 2011	Sheet	10 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: PROCESSOR(7/7) VSS

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 11 of 63

DDR3 SO-DIMM A

JDIMM1

LCN_DAN06-K4526-0100

ME@

VDDQ(1.5V) =
3*330uf / 12m ohm (TOTAL FOR 2 SO-DIMMs)
6*0603 10uf (PER CONNECTOR)

VTT(0.75V) =
3*0805 10uf 4*0402 1uf

VREF =
1*0402 0.1uf 1*0402 2.2uf

VDDSPD (3.3V)=
1*0402 0.1uf 1*0402 2.2uf

Layout Note:
Place near DIMM

(10uF_0603_6.3V)*8

(0.1uF_402_10V)*4

Layout Note:
Place near DIMM

Layout Note:
Short to ground

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

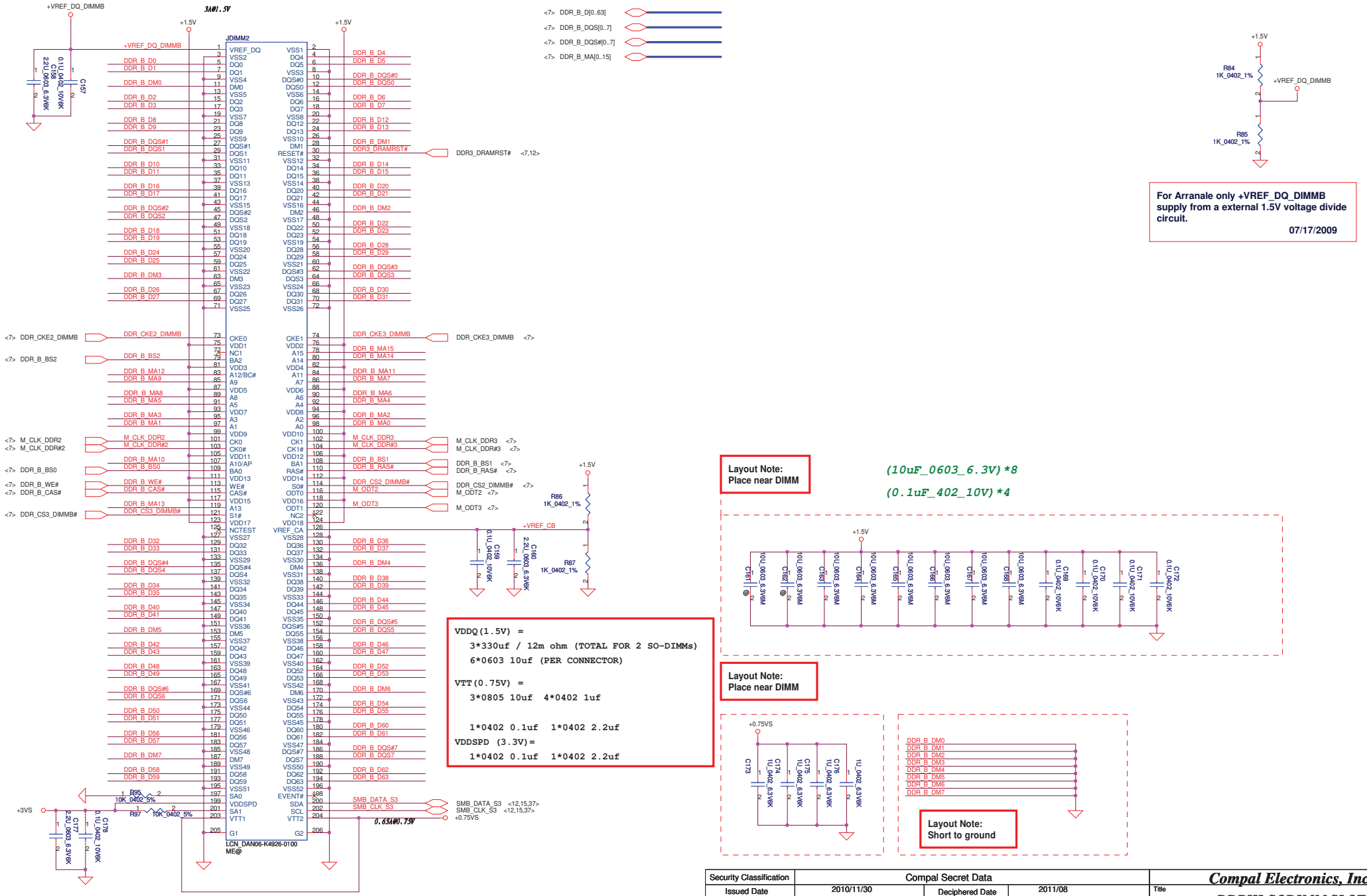
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: DDRIII-SODIMM SLOT1

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 12 of 63



For Arranale only +VREF_DQ_DIMMB supply from a external 1.5V voltage divide circuit.

07/17/2009

Layout Note:
Place near DIMM

(10uF_0603_6.3V)*8

(0.1uF_402_10V)*4

Layout Note:
Place near DIMM

Layout Note:
Short to ground

```
VDDQ(1.5V) =
  3*330uf / 12m ohm (TOTAL FOR 2 SO-DIMMs)
  6*0603 10uf (PER CONNECTOR)

VTT(0.75V) =
  3*0805 10uf  4*0402 1uf

  1*0402 0.1uf  1*0402 2.2uf
VDDSPD (3.3V)=
  1*0402 0.1uf  1*0402 2.2uf
```

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

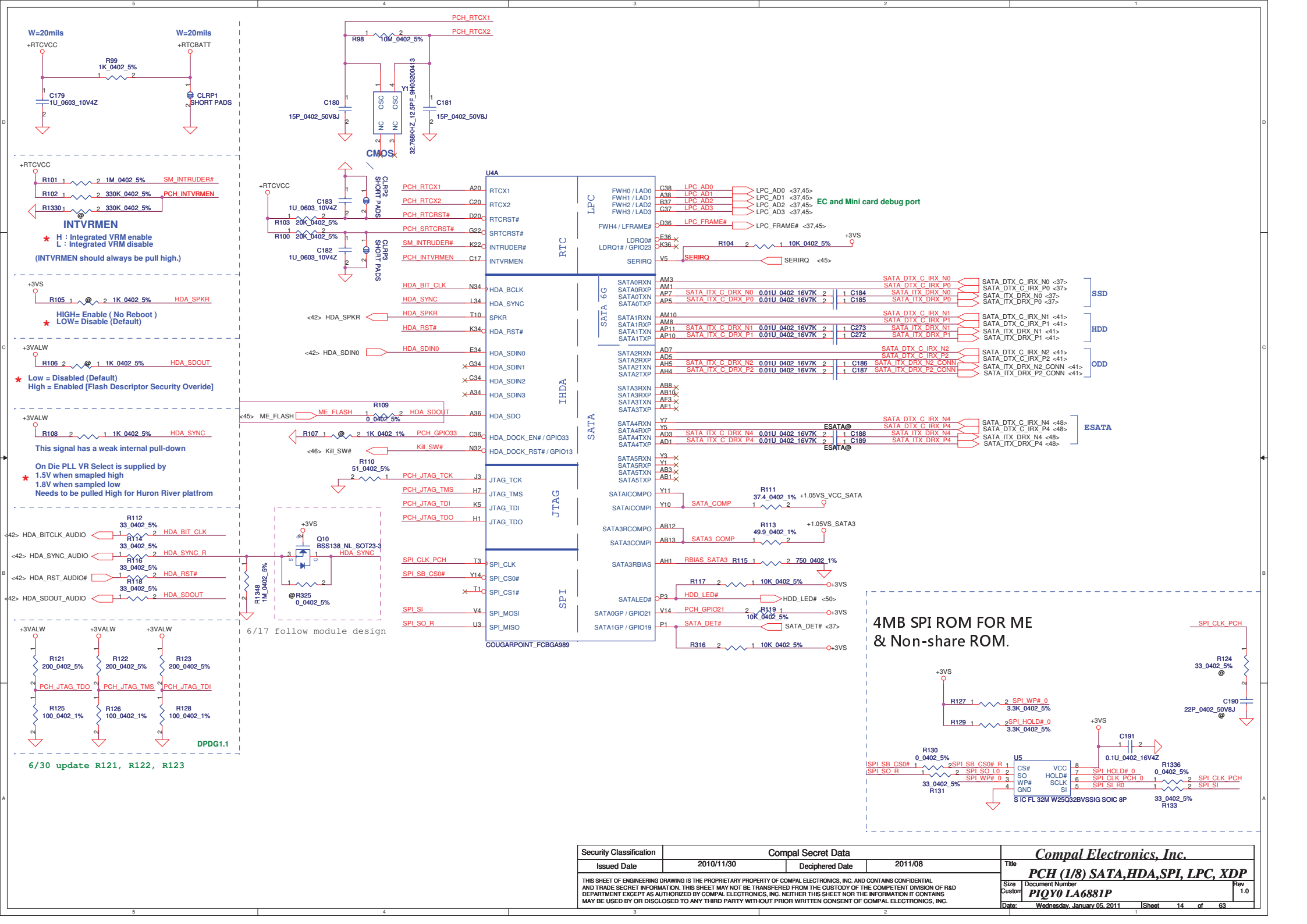
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: DDRIII-SODIMM SLOT2

Size | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 13 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

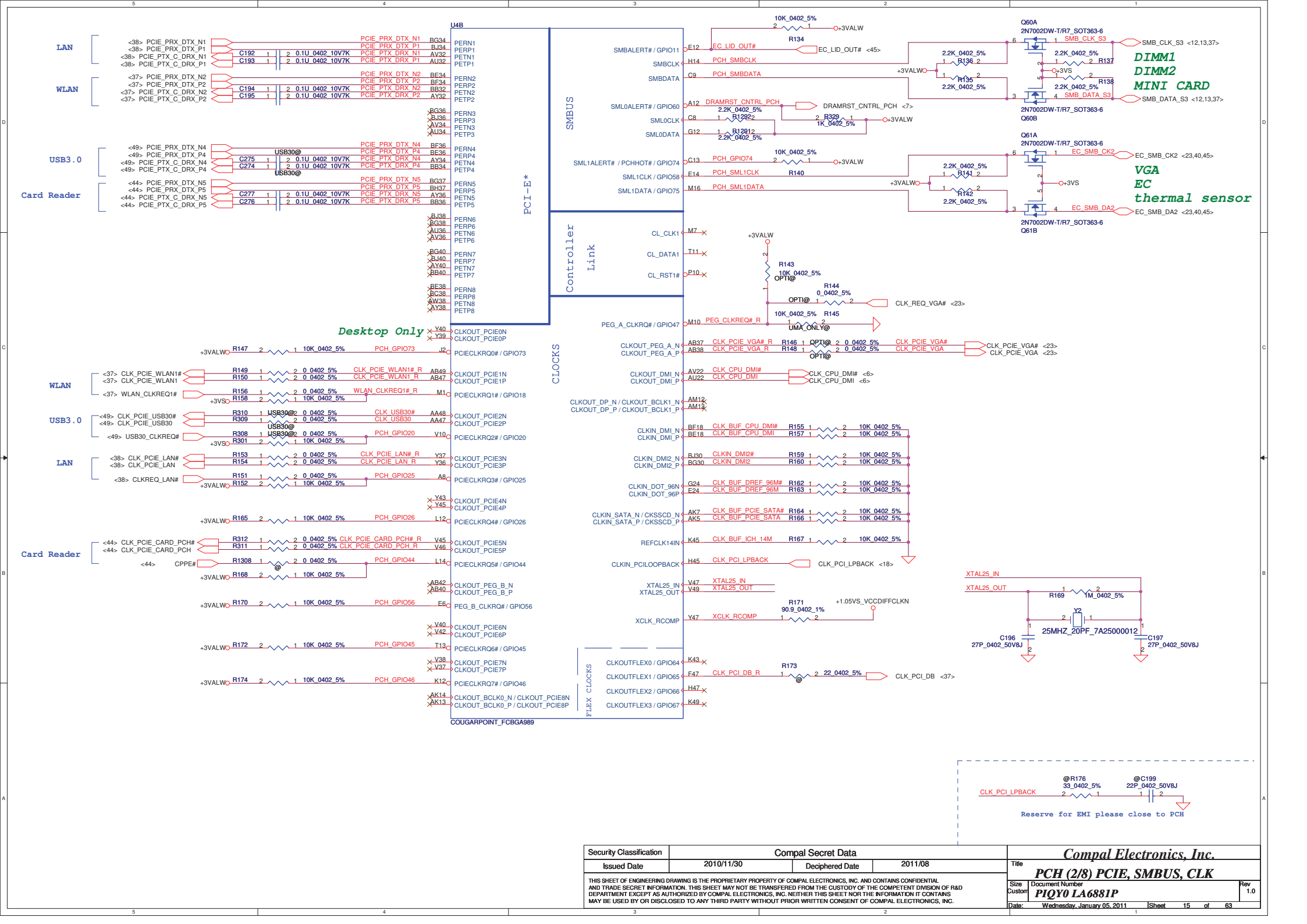
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.

Title: PCH (1/8) SATA,HDA,SPI, LPC, XDP

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 | Sheet 14 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

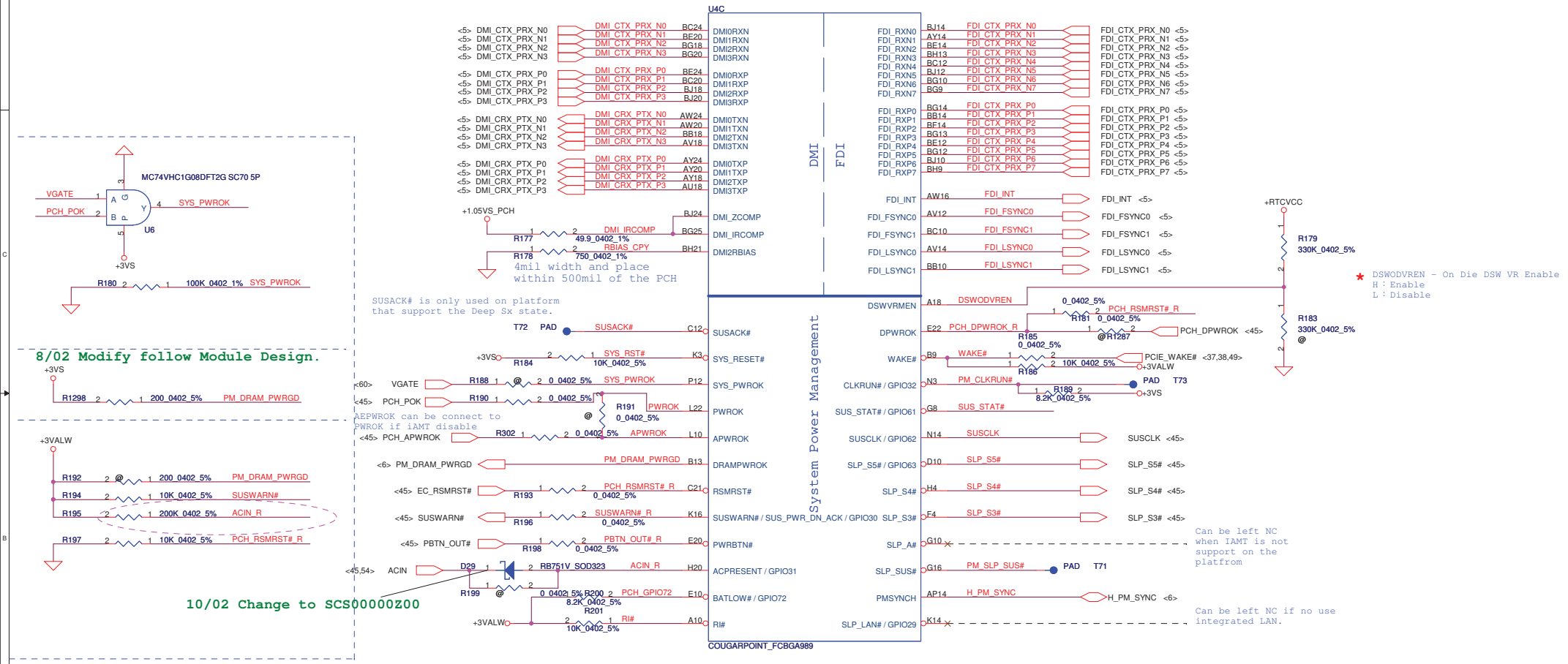
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PCH (2/8) PCIE, SMBUS, CLK

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 15 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

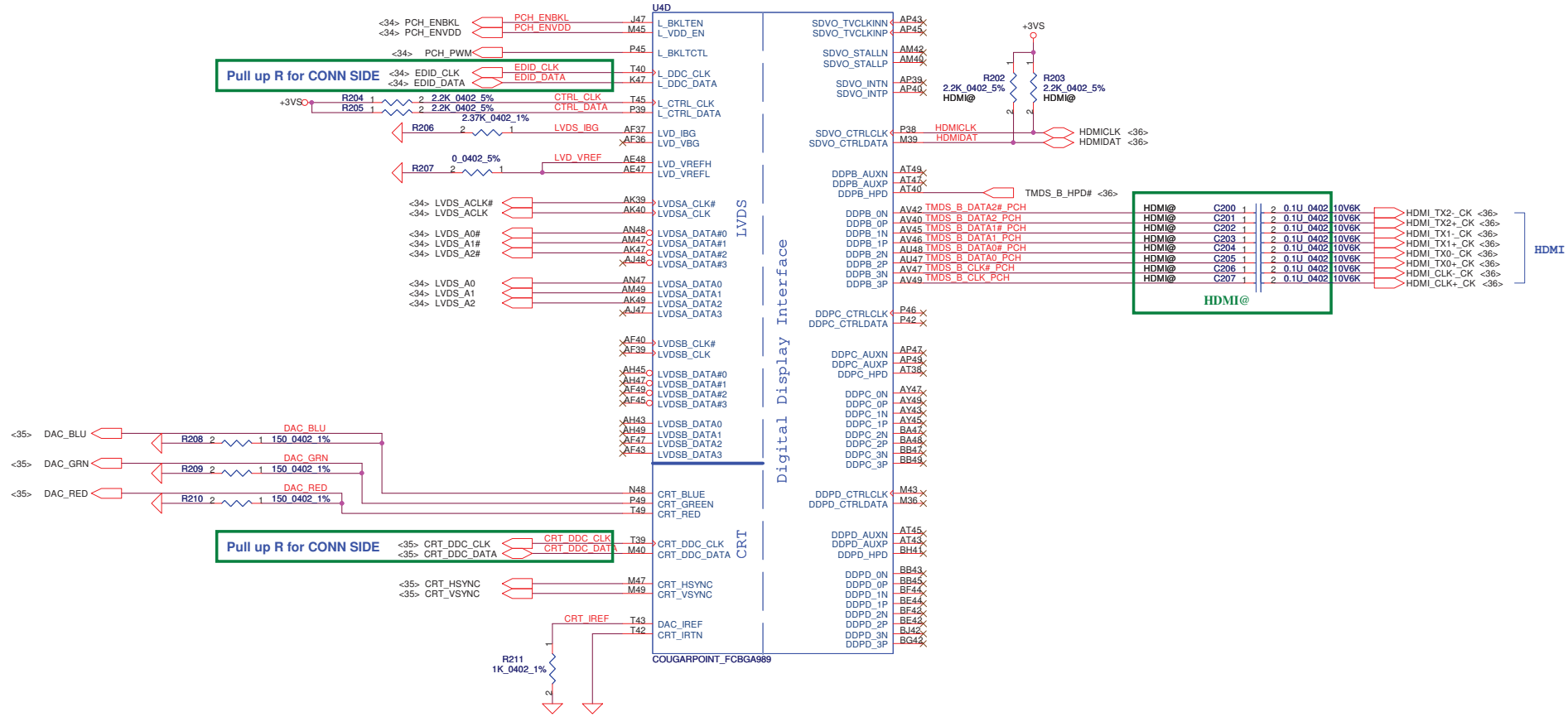
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PCH (3/8) DMI,FDI,PM,

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 16 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

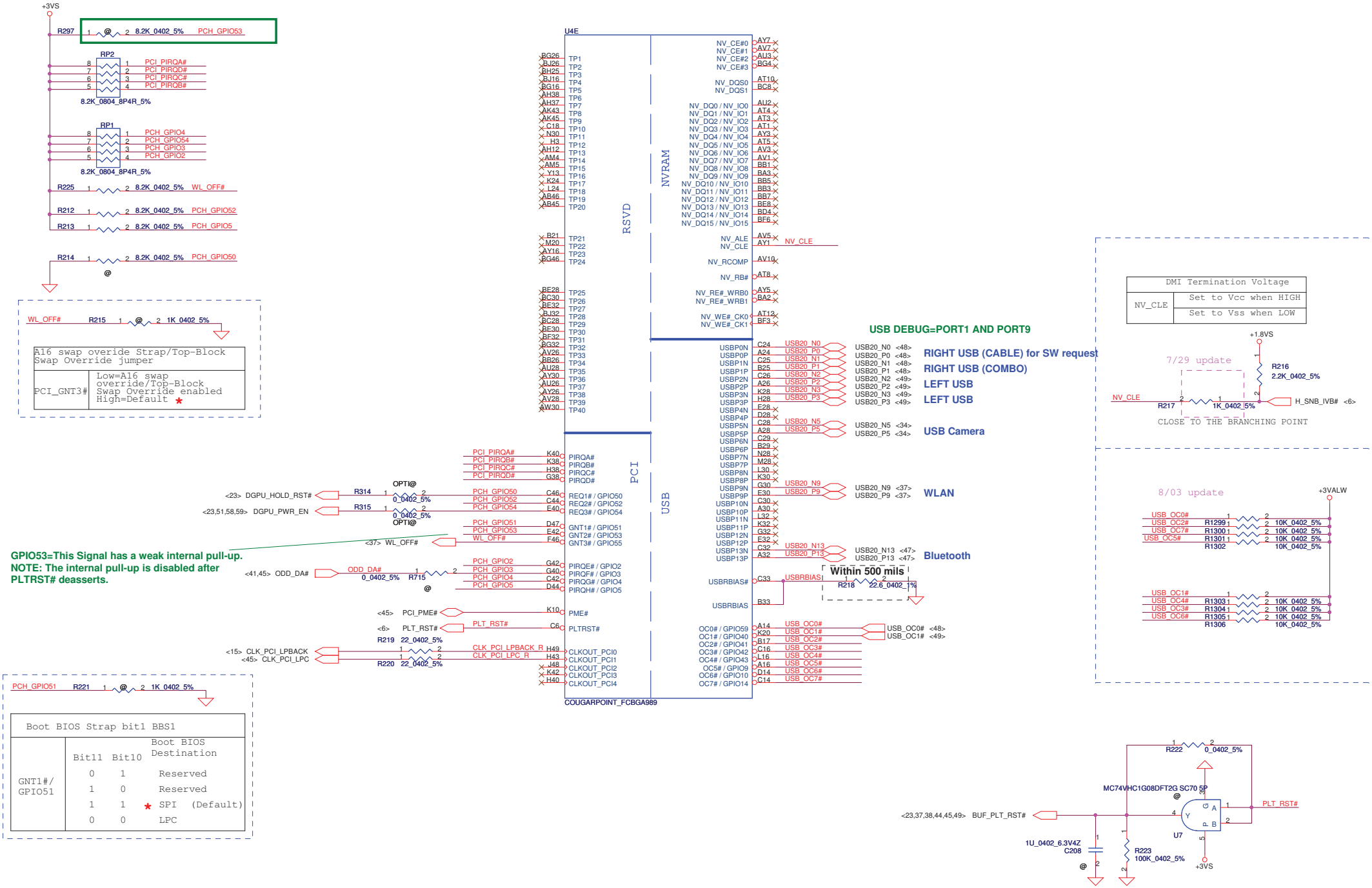
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PCH (4/9) LVDS,CRT,DP,HDMI

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

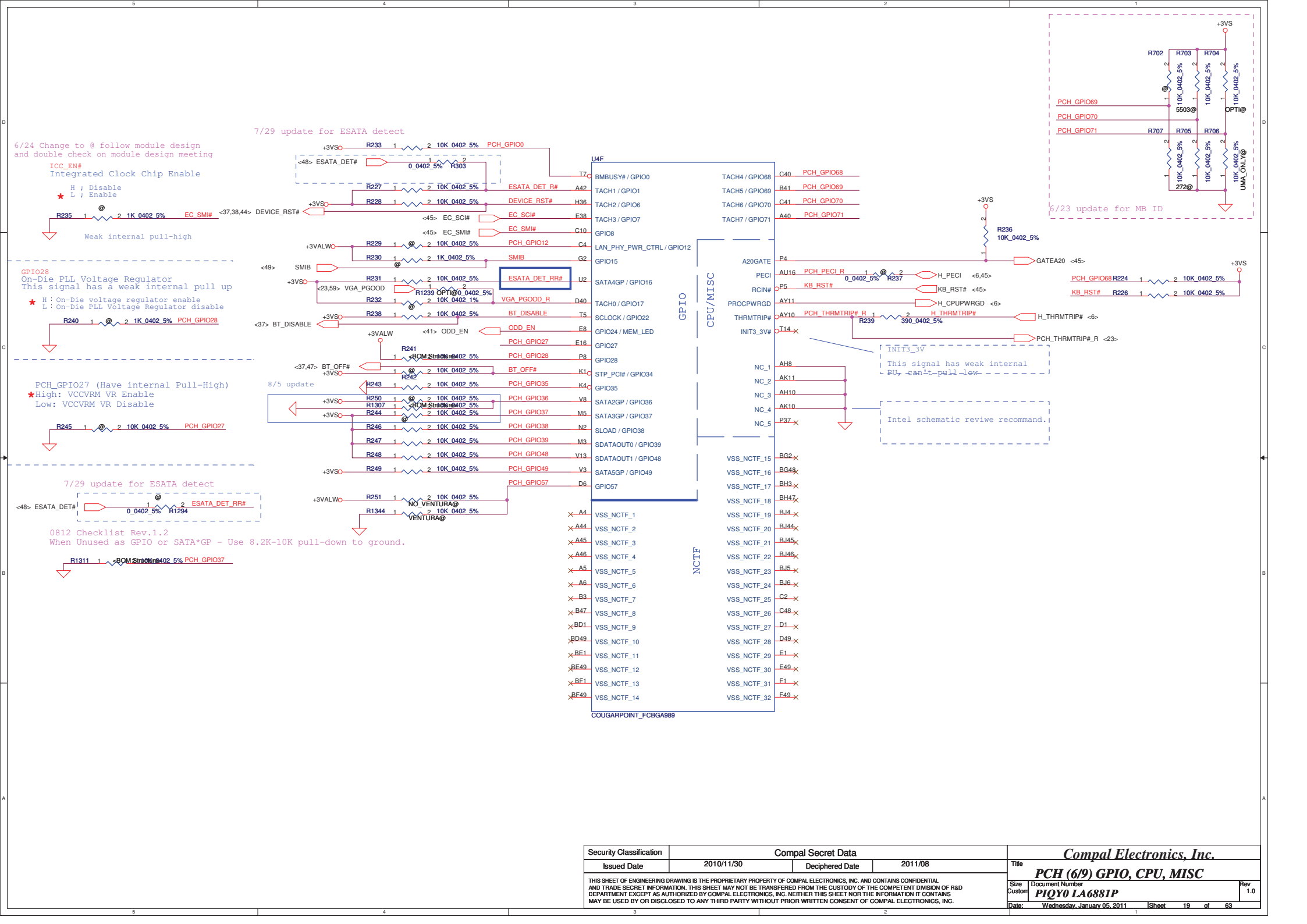
Date: Wednesday, January 05, 2011 | Sheet 17 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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	PCH (5/9) PCI, USB		
Size Custom	Document Number PIQY0 LA6881P		Rev 1.0
Date: Wednesday, January 05, 2011	Sheet 18 of 63		



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

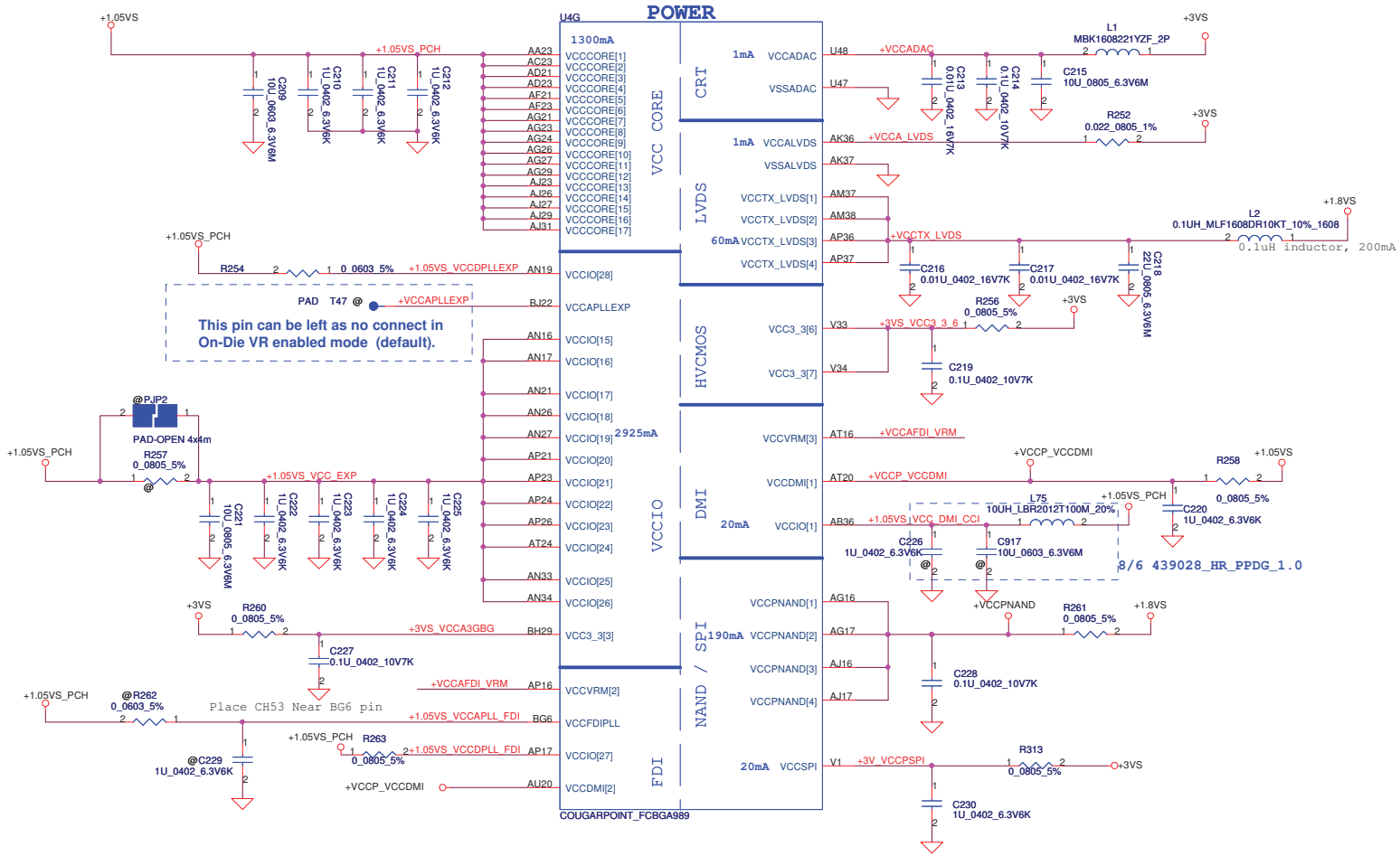
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: PCH (6/9) GPIO, CPU, MISC

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 19 of 63



PCH Power Rail Table		
Voltage Rail	Voltage	S0 Iccmax Current (A)
V_PROC_IO	1.05	0.001
V5REF	5	0.001
V5REF_Sus	5	0.001
Vcc3_3	3.3	0.266
VccADAC	3.3	0.001
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.3
VccDMI	1.05	0.042
VccIO	1.05	2.925
VccASW	1.05	1.01
VccSPI	3.3	0.02
VccDSW	3.3	0.003
VccpNAND	1.8	0.19
VccRTC	3.3	6 uA
VccSus3_3	3.3	0.119
VccSusHDA	3.3 / 1.5	0.01
VccVRM	1.8 / 1.5	0.16
VccCLKDMI	1.05	0.02
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	0.001
VccTX_LVDS	1.8	0.06

Intel HR_PDDG_1.21
1.5S rail. Default is to poppulate to enable VccVRM.

VCCVRM = 160mA detal waiting for newest spec

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: PCH (7/9) PWR

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 20 of 63

Have internal VRM

VCC3_3 = 266mA detal waiting for newest spec
VCCDMI = 42mA detal waiting for newest spec

POWER

U4J

COUGARPOINT_FCBGA989

USB

Clock and Miscellaneous

PCI/GPIO/LPC

SATA

CPU

MISC

RTC

HDA

11/25 0ohm deleted.

10/02 Change to SCS00000Z00.

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

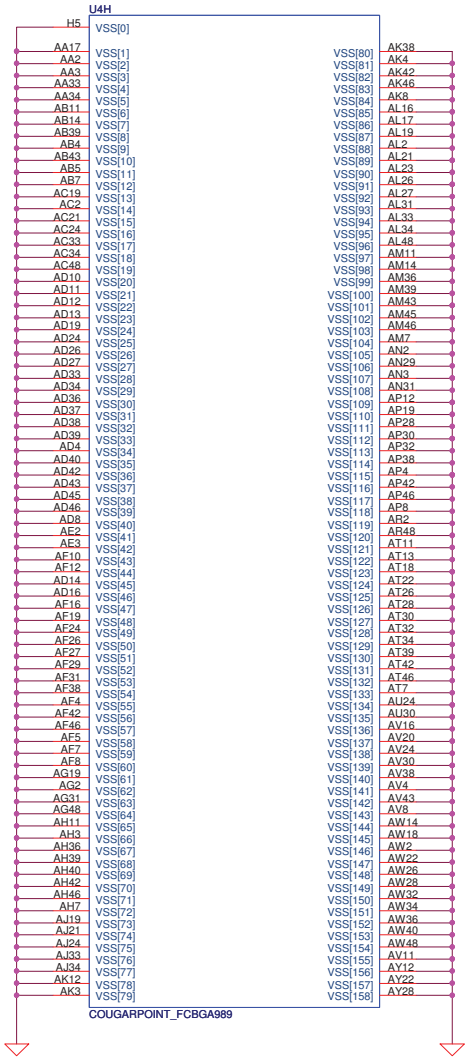
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

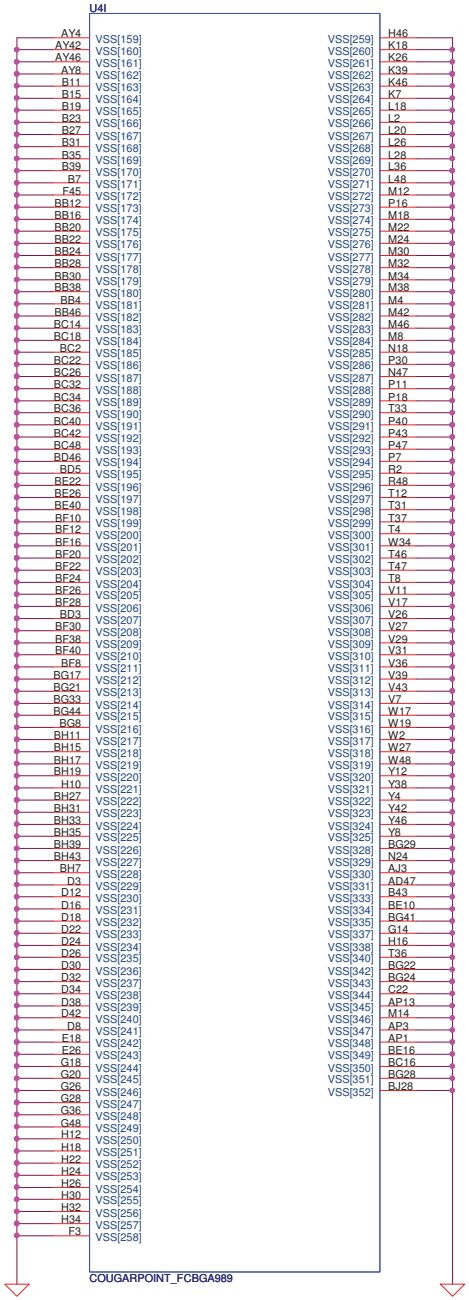
Compal Electronics, Inc.

Title: PCH (8/9) PWR

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 21 of 63





Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

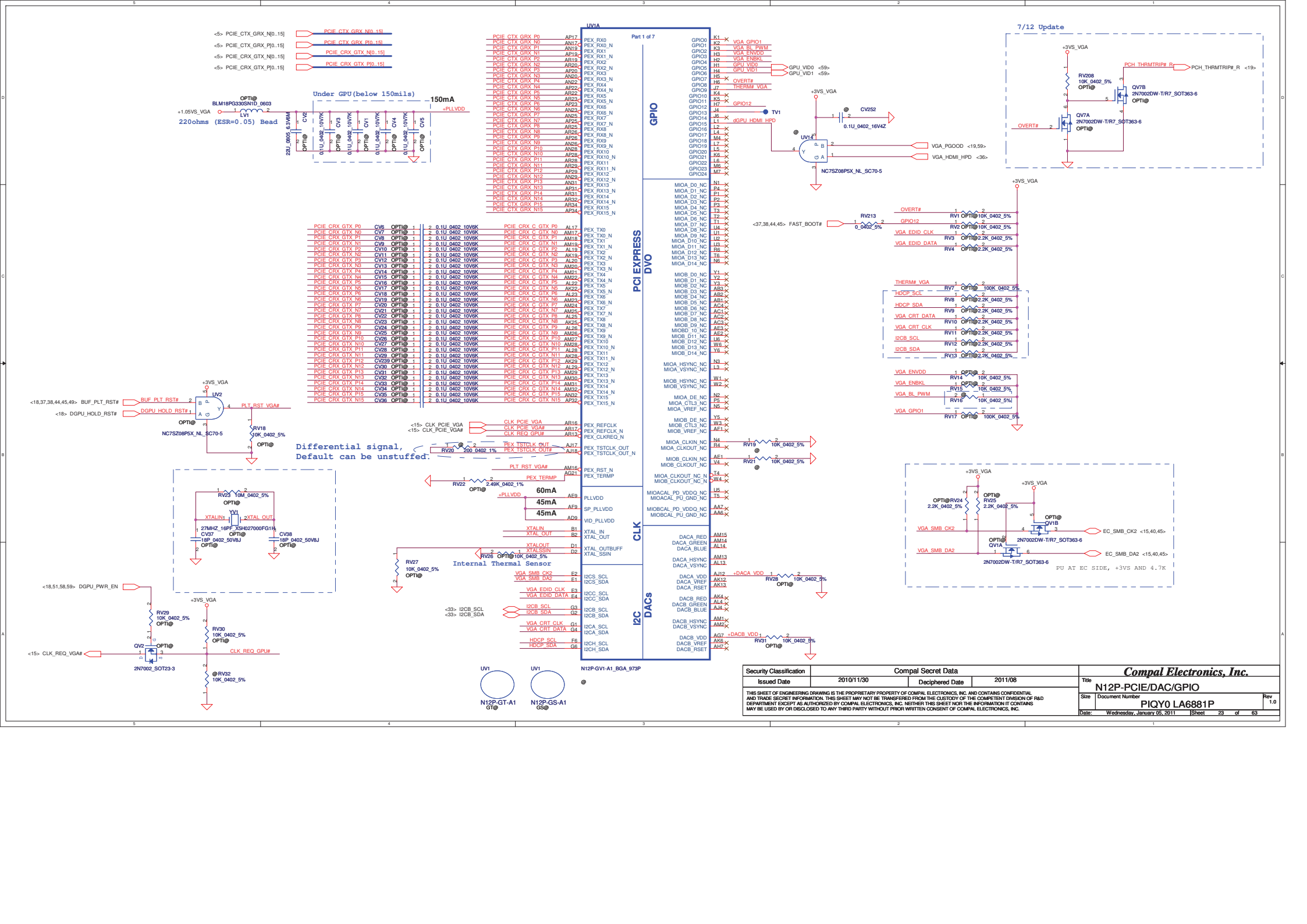
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

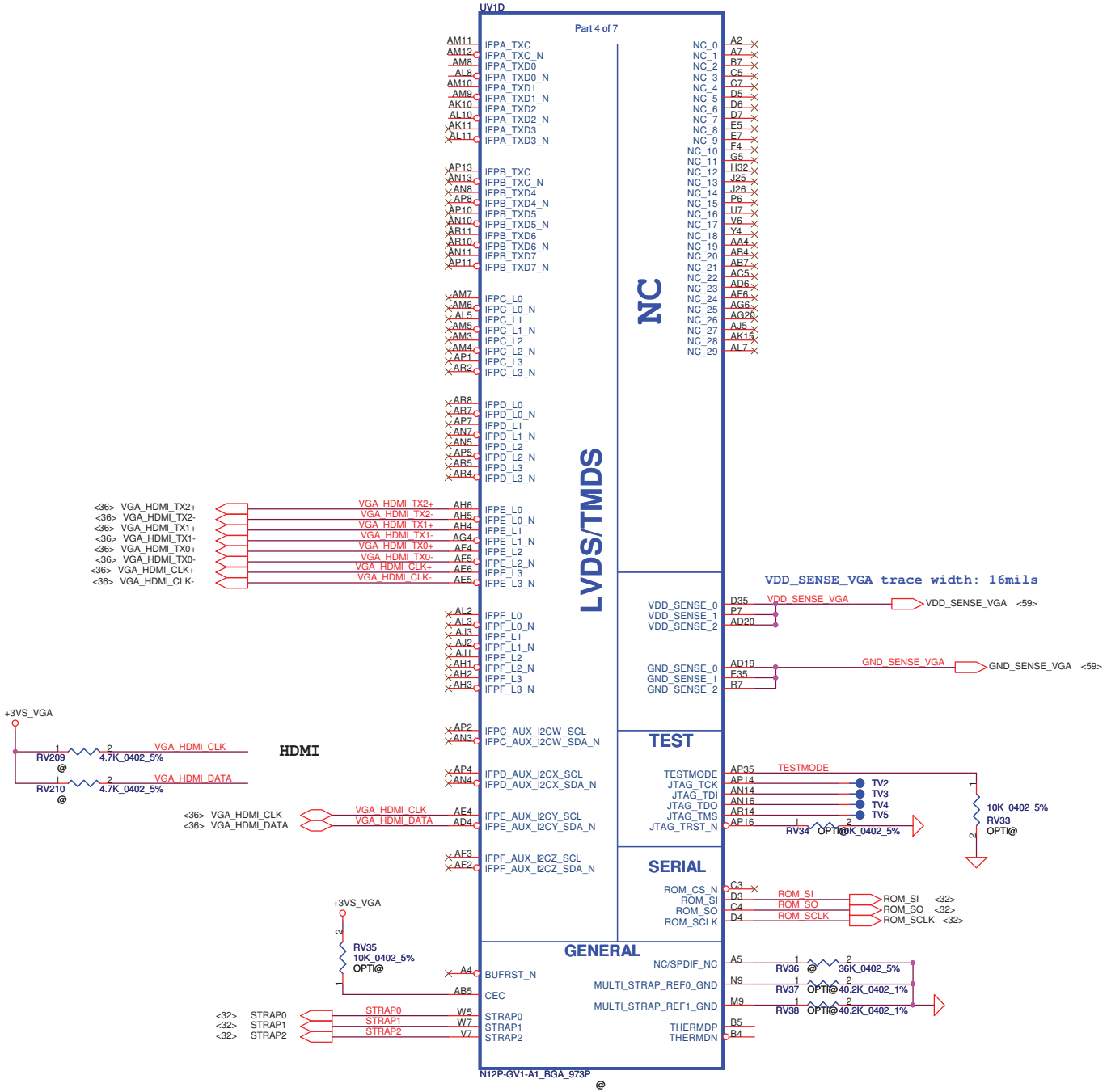
Compal Electronics, Inc.

Title: PCH (9/9) VSS

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 22 of 63


7/12 Update
UV1A
Part 1 of 7
GPIO
PCI EXPRESS DVO
CLK
I2C DACs
N12P-GV1-A1_BGA_973P
Under GPU(below 150mils)
150mA
220ohms (ESR=0.05) Bead
Differential signal,
Default can be unstuffed.
Internal Thermal Sensor
60mA
45mA
45mA
PU AT EC SIDE, +3VS AND 4.7K
NC7SZ08P5X_NL_SC70-5
2N7002_SOT23-3
2N7002DW-T/R7_SOT363-6
N12P-GT-A1
N12P-GS-A1
Security Classification
Compal Secret Data
Issued Date
2010/11/30
Deciphered Date
2011/08
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
N12P-PCIE/DAC/GPIO
Size
Document Number
PIQY0 LA6881P
Rev
1.0
Date: Wednesday, January 05, 2011
Sheet 23 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

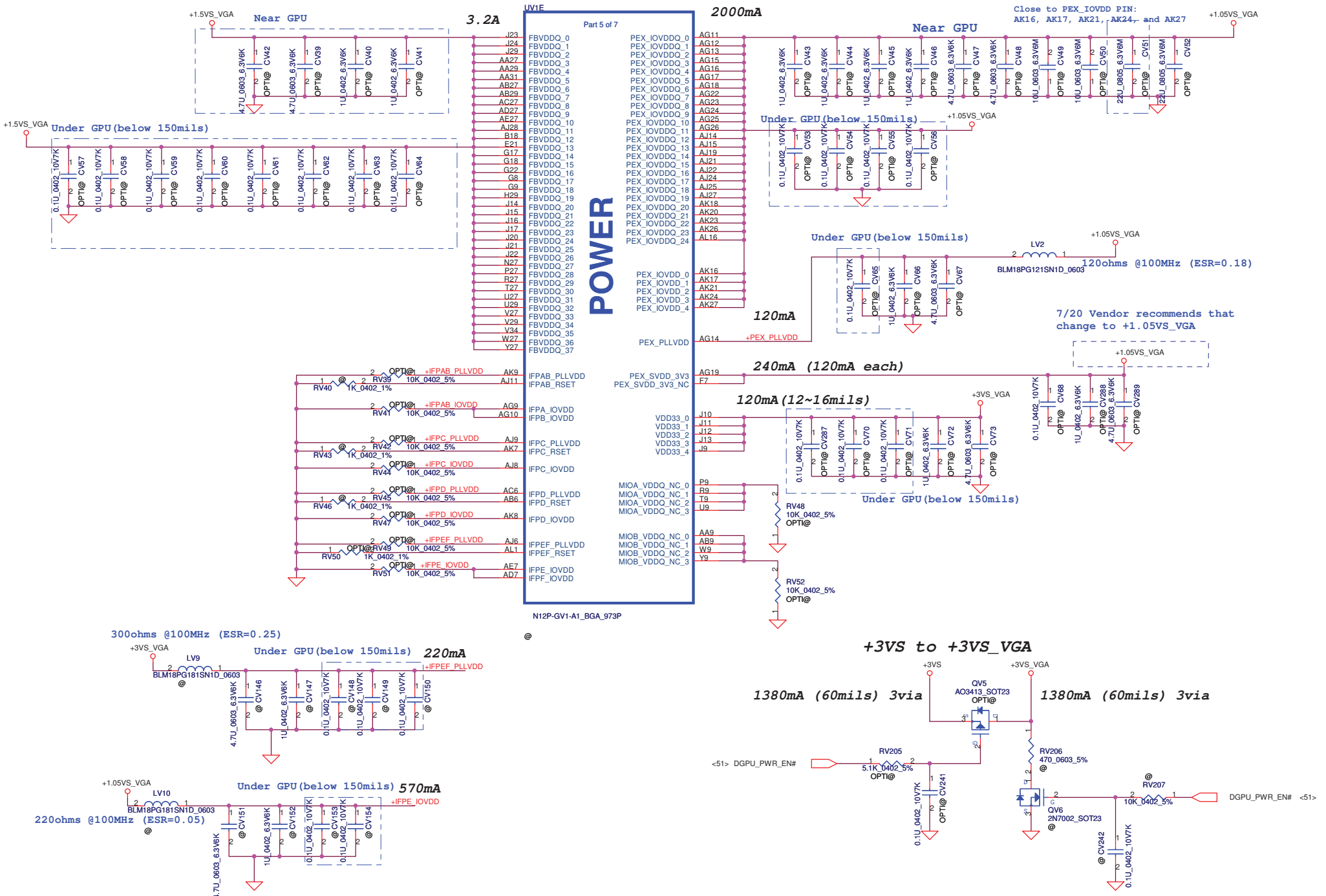
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: N12P-LVDS/HDMI/DP/THM

Size	Document Number	Rev
	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 | Sheet 24 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

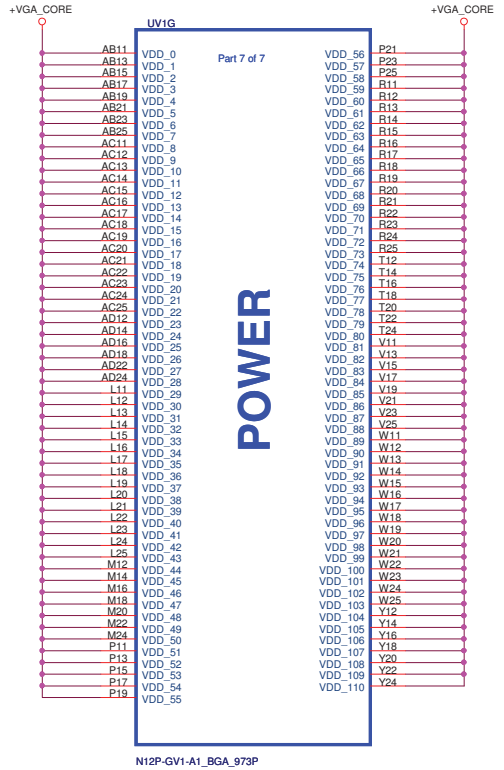
Compal Electronics, Inc.

Title: N12P-POWER

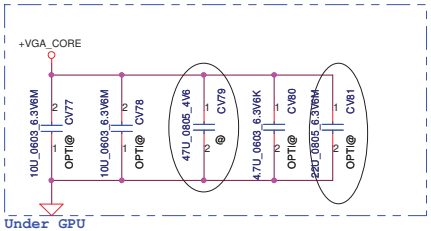
Size | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 25 of 63

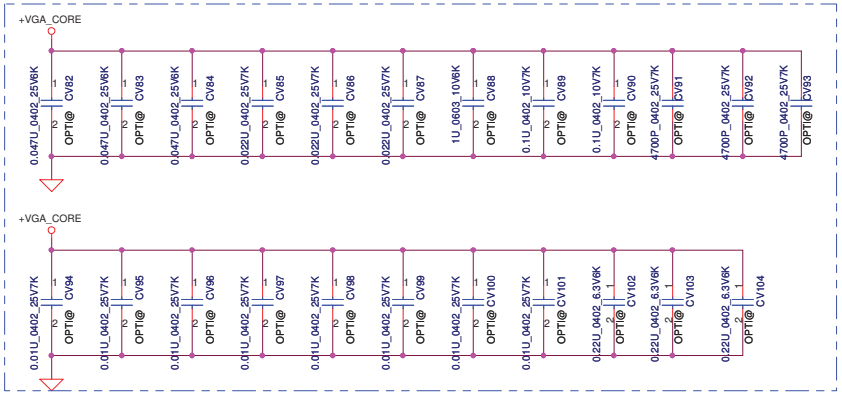
30.54A (41.02A Peak)

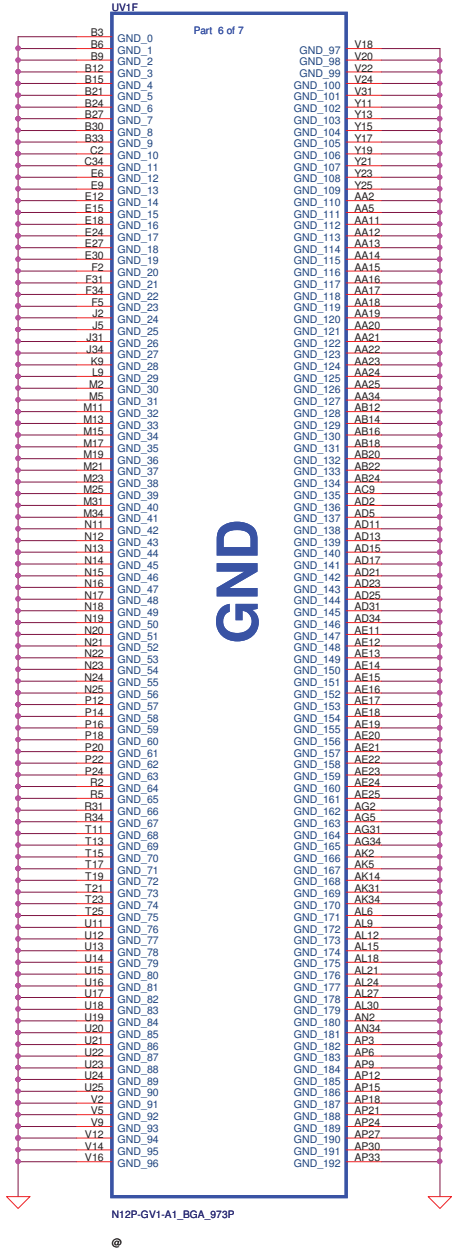


Near GPU



Under GPU





Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

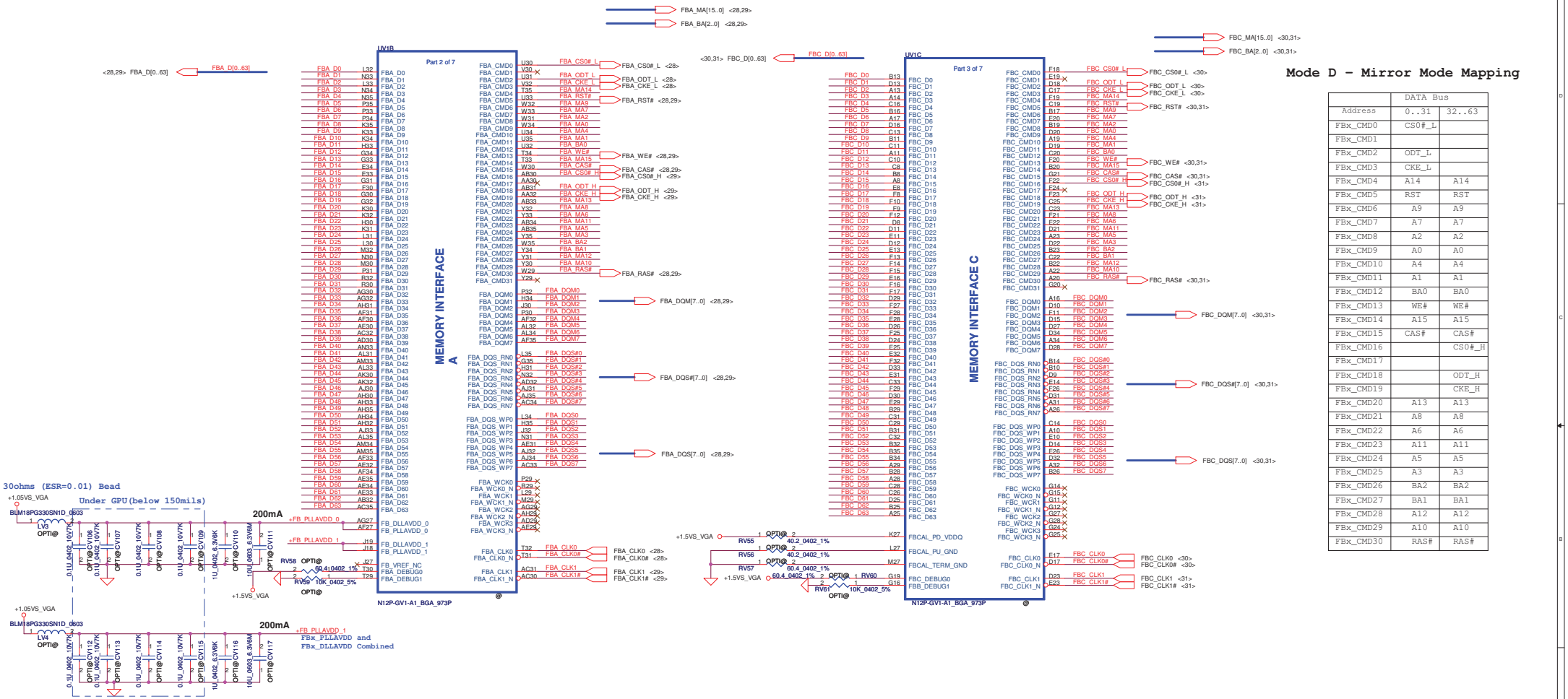
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: N12P-VGA CORE, GND

Size | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 26 of 63



Mode D - Mirror Mode Mapping

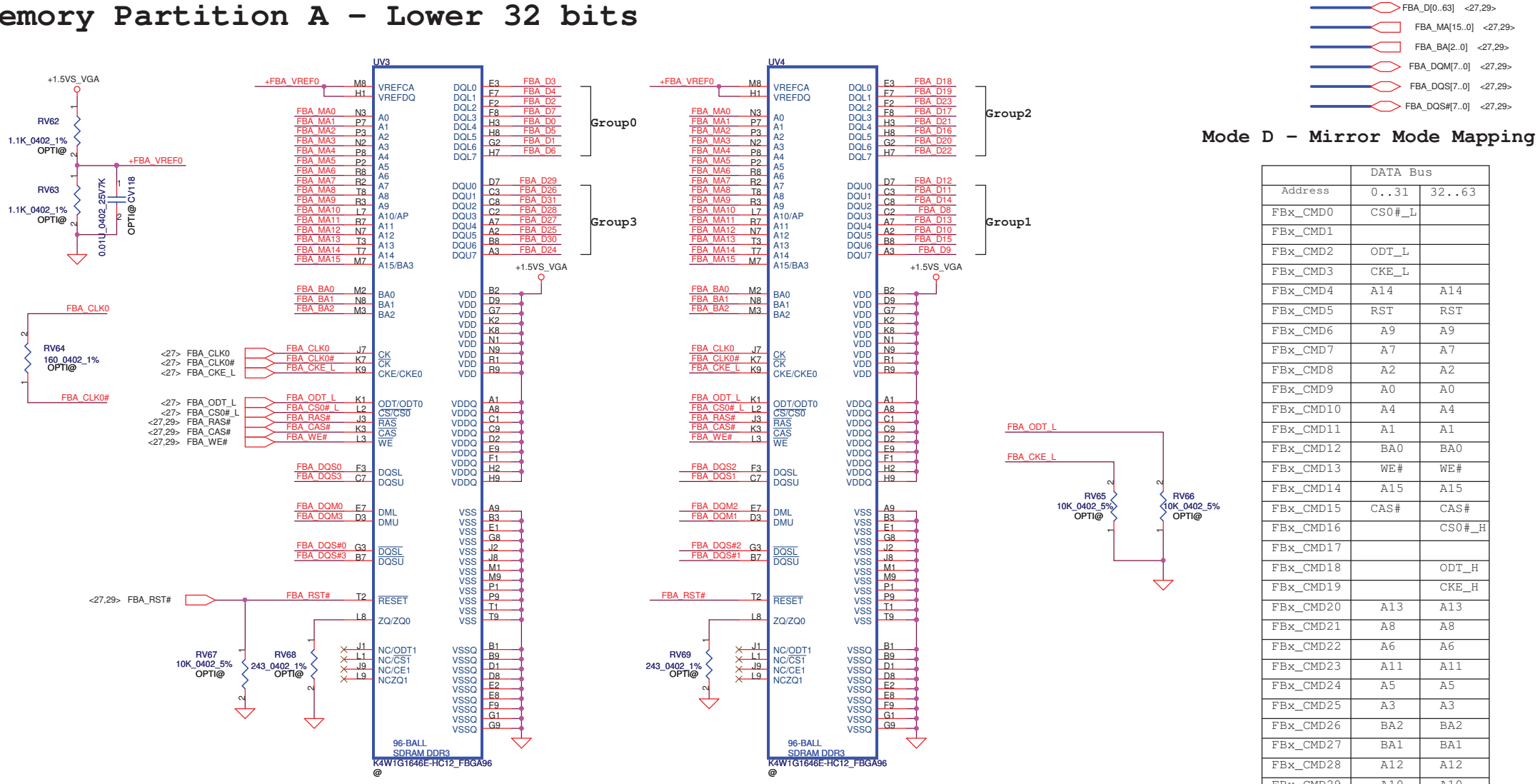
	DATA Bus	
Address	0..31	32..63
FBx_CMD0	CS0#_L	
FBx_CMD1		
FBx_CMD2	ODT_L	
FBx_CMD3	CKE_L	
FBx_CMD4	A14	A14
FBx_CMD5	RST	RST
FBx_CMD6	A9	A9
FBx_CMD7	A7	A7
FBx_CMD8	A2	A2
FBx_CMD9	A0	A0
FBx_CMD10	A4	A4
FBx_CMD11	A1	A1
FBx_CMD12	BA0	BA0
FBx_CMD13	WE#	WE#
FBx_CMD14	A15	A15
FBx_CMD15	CAS#	CAS#
FBx_CMD16		CS0#_H
FBx_CMD17		
FBx_CMD18		ODT_H
FBx_CMD19		CKE_H
FBx_CMD20	A13	A13
FBx_CMD21	A8	A8
FBx_CMD22	A6	A6
FBx_CMD23	A11	A11
FBx_CMD24	A5	A5
FBx_CMD25	A3	A3
FBx_CMD26	BA2	BA2
FBx_CMD27	BA1	BA1
FBx_CMD28	A12	A12
FBx_CMD29	A10	A10
FBx_CMD30	RAS#	RAS#

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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	N12P-MEM Interface		
Size	Document Number		Rev
	PIQY0 LA6881P		1.0
Date: Wednesday, January 05, 2011	Sheet 27 of 63		

Memory Partition A - Lower 32 bits



Mode D - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
FBx_CMD0	CS0#_L	
FBx_CMD1		
FBx_CMD2	ODT_L	
FBx_CMD3	CKE_L	
FBx_CMD4	A14	A14
FBx_CMD5	RST	RST
FBx_CMD6	A9	A9
FBx_CMD7	A7	A7
FBx_CMD8	A2	A2
FBx_CMD9	A0	A0
FBx_CMD10	A4	A4
FBx_CMD11	A1	A1
FBx_CMD12	BA0	BA0
FBx_CMD13	WE#	WE#
FBx_CMD14	A15	A15
FBx_CMD15	CAS#	CAS#
FBx_CMD16		CS0#_H
FBx_CMD17		
FBx_CMD18		ODT_H
FBx_CMD19		CKE_H
FBx_CMD20	A13	A13
FBx_CMD21	A8	A8
FBx_CMD22	A6	A6
FBx_CMD23	A11	A11
FBx_CMD24	A5	A5
FBx_CMD25	A3	A3
FBx_CMD26	BA2	BA2
FBx_CMD27	BA1	BA1
FBx_CMD28	A12	A12
FBx_CMD29	A10	A10
FBx_CMD30	RAS#	RAS#

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

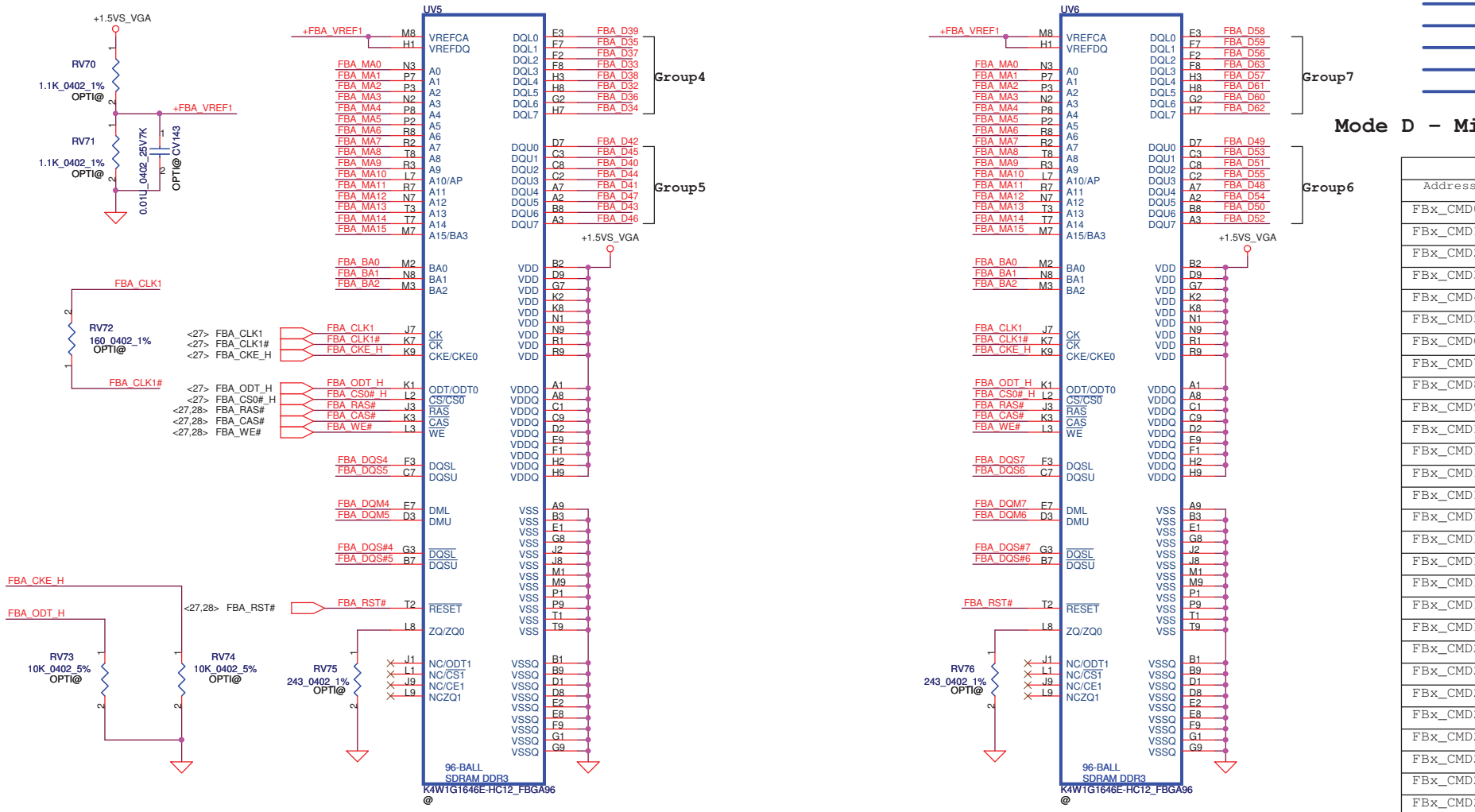
Compal Electronics, Inc.

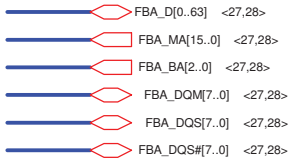
Title: N12P-VRAM A Lower

Size: | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 28 of 63

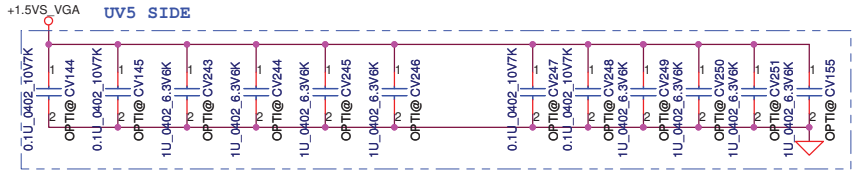
Memory Partition A - Upper 32 bits

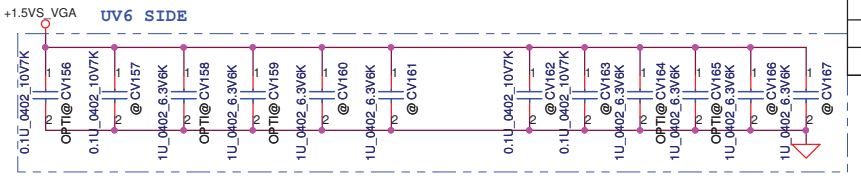




Mode D - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
FBx_CMD0	CS0#_L	
FBx_CMD1		
FBx_CMD2	ODT_L	
FBx_CMD3	CKE_L	
FBx_CMD4	A14	A14
FBx_CMD5	RST	RST
FBx_CMD6	A9	A9
FBx_CMD7	A7	A7
FBx_CMD8	A2	A2
FBx_CMD9	A0	A0
FBx_CMD10	A4	A4
FBx_CMD11	A1	A1
FBx_CMD12	BA0	BA0
FBx_CMD13	WE#	WE#
FBx_CMD14	A15	A15
FBx_CMD15	CAS#	CAS#
FBx_CMD16		CS0#_H
FBx_CMD17		
FBx_CMD18		ODT_H
FBx_CMD19		CKE_H
FBx_CMD20	A13	A13
FBx_CMD21	A8	A8
FBx_CMD22	A6	A6
FBx_CMD23	A11	A11
FBx_CMD24	A5	A5
FBx_CMD25	A3	A3
FBx_CMD26	BA2	BA2
FBx_CMD27	BA1	BA1
FBx_CMD28	A12	A12
FBx_CMD29	A10	A10
FBx_CMD30	RAS#	RAS#





Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

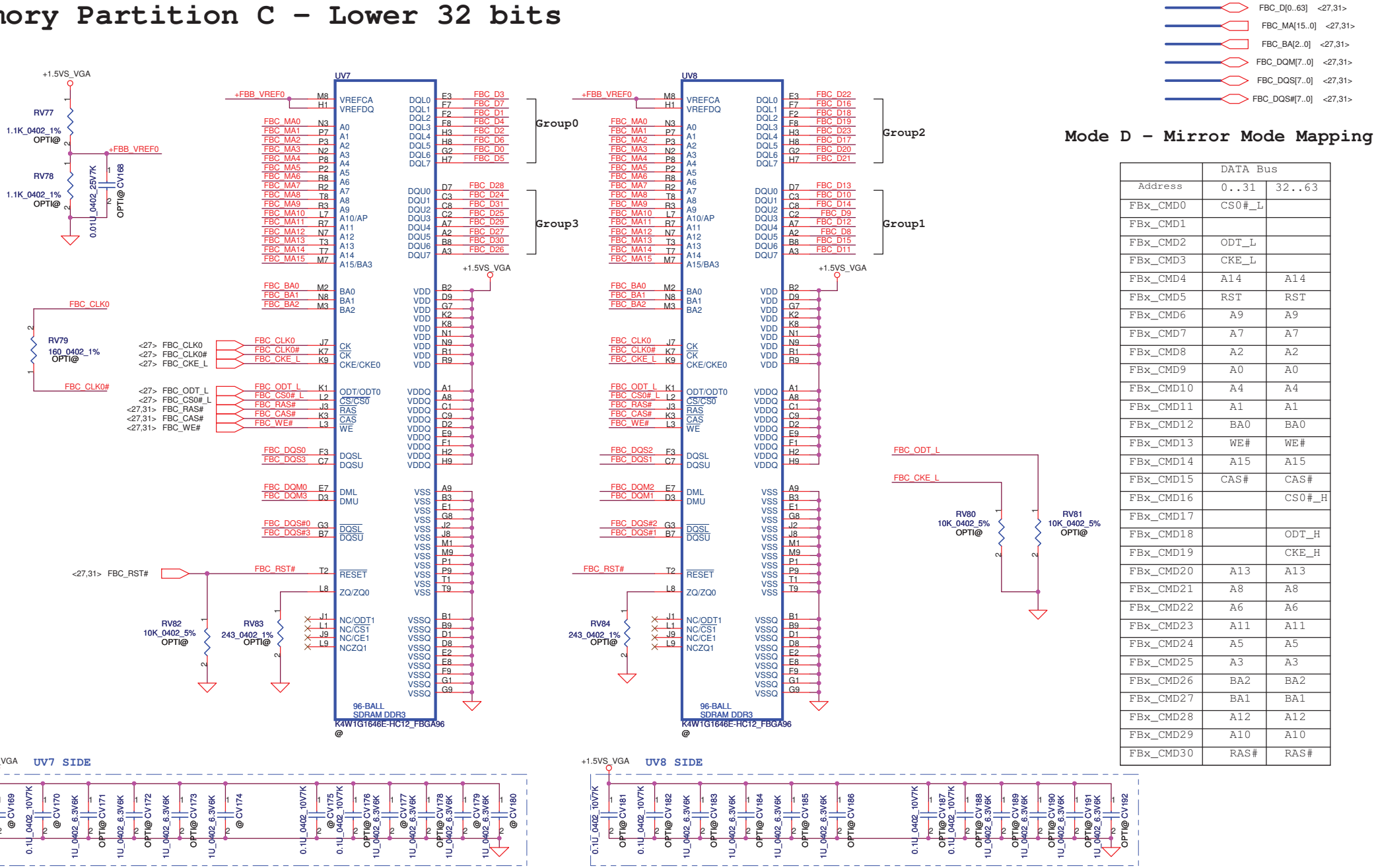
Compal Electronics, Inc.

Title: N12P-VRAM A Upper

Size | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 29 of 63

Memory Partition C - Lower 32 bits



Mode D - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
FBx_CMD0	CS0#_L	
FBx_CMD1		
FBx_CMD2	ODT_L	
FBx_CMD3	CKE_L	
FBx_CMD4	A14	A14
FBx_CMD5	RST	RST
FBx_CMD6	A9	A9
FBx_CMD7	A7	A7
FBx_CMD8	A2	A2
FBx_CMD9	A0	A0
FBx_CMD10	A4	A4
FBx_CMD11	A1	A1
FBx_CMD12	BA0	BA0
FBx_CMD13	WE#	WE#
FBx_CMD14	A15	A15
FBx_CMD15	CAS#	CAS#
FBx_CMD16		CS0#_H
FBx_CMD17		
FBx_CMD18		ODT_H
FBx_CMD19		CKE_H
FBx_CMD20	A13	A13
FBx_CMD21	A8	A8
FBx_CMD22	A6	A6
FBx_CMD23	A11	A11
FBx_CMD24	A5	A5
FBx_CMD25	A3	A3
FBx_CMD26	BA2	BA2
FBx_CMD27	BA1	BA1
FBx_CMD28	A12	A12
FBx_CMD29	A10	A10
FBx_CMD30	RAS#	RAS#

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	2010/11/30	Deciphered Date	2011/08

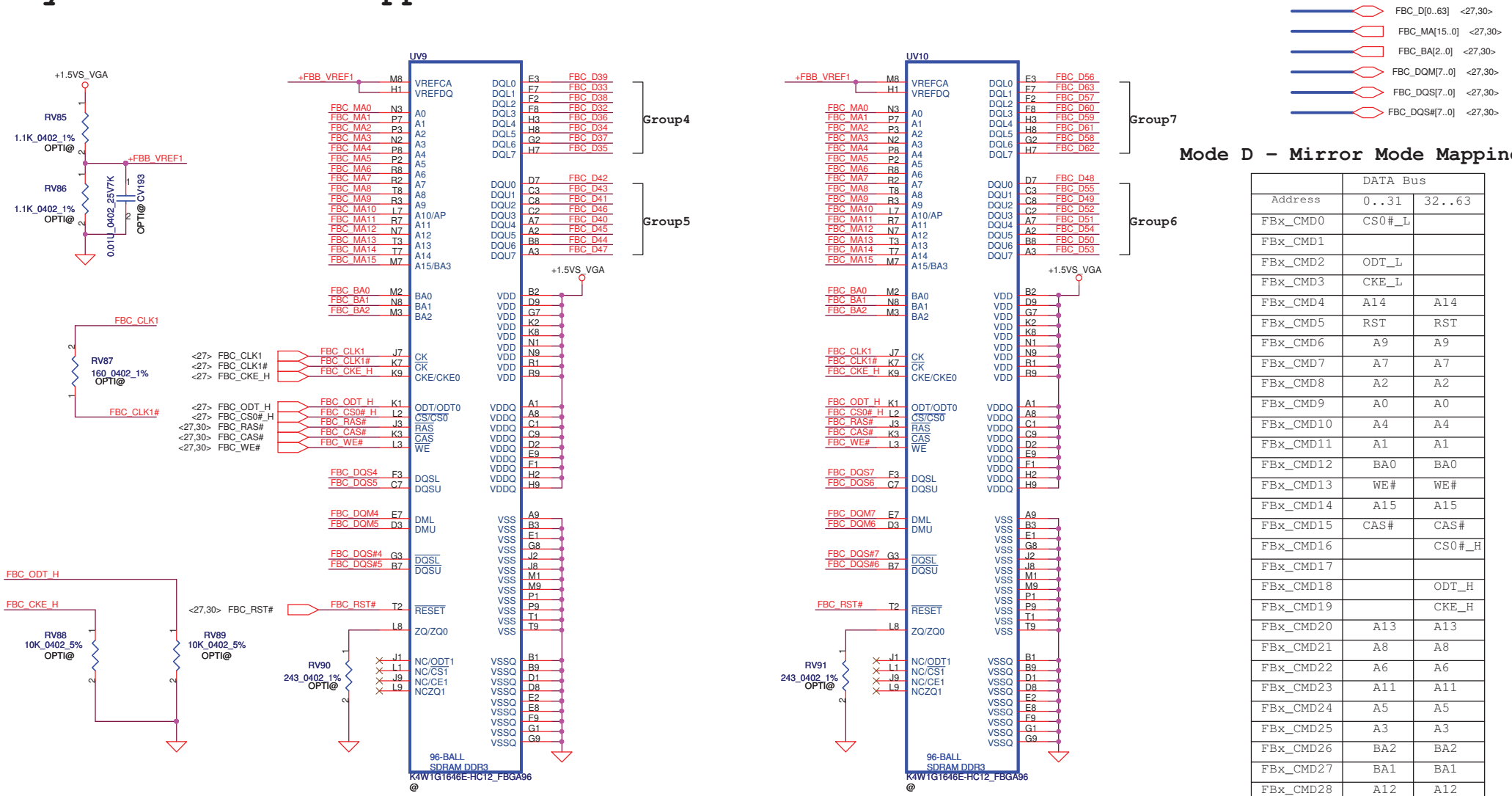
Compal Electronics, Inc.

Title: N12P-VRAM C Lower

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

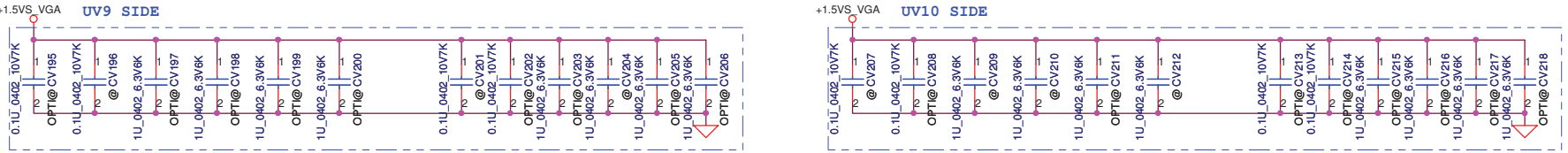
Date: Wednesday, January 05, 2011 | Sheet 30 of 63

Memory Partition C - Upper 32 bits



Mode D - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
FBx_CMD0	CS0#_L	
FBx_CMD1		
FBx_CMD2	ODT_L	
FBx_CMD3	CKE_L	
FBx_CMD4	A14	A14
FBx_CMD5	RST	RST
FBx_CMD6	A9	A9
FBx_CMD7	A7	A7
FBx_CMD8	A2	A2
FBx_CMD9	A0	A0
FBx_CMD10	A4	A4
FBx_CMD11	A1	A1
FBx_CMD12	BA0	BA0
FBx_CMD13	WE#	WE#
FBx_CMD14	A15	A15
FBx_CMD15	CAS#	CAS#
FBx_CMD16		CS0#_H
FBx_CMD17		
FBx_CMD18		ODT_H
FBx_CMD19		CKE_H
FBx_CMD20	A13	A13
FBx_CMD21	A8	A8
FBx_CMD22	A6	A6
FBx_CMD23	A11	A11
FBx_CMD24	A5	A5
FBx_CMD25	A3	A3
FBx_CMD26	BA2	BA2
FBx_CMD27	BA1	BA1
FBx_CMD28	A12	A12
FBx_CMD29	A10	A10
FBx_CMD30	RAS#	RAS#



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

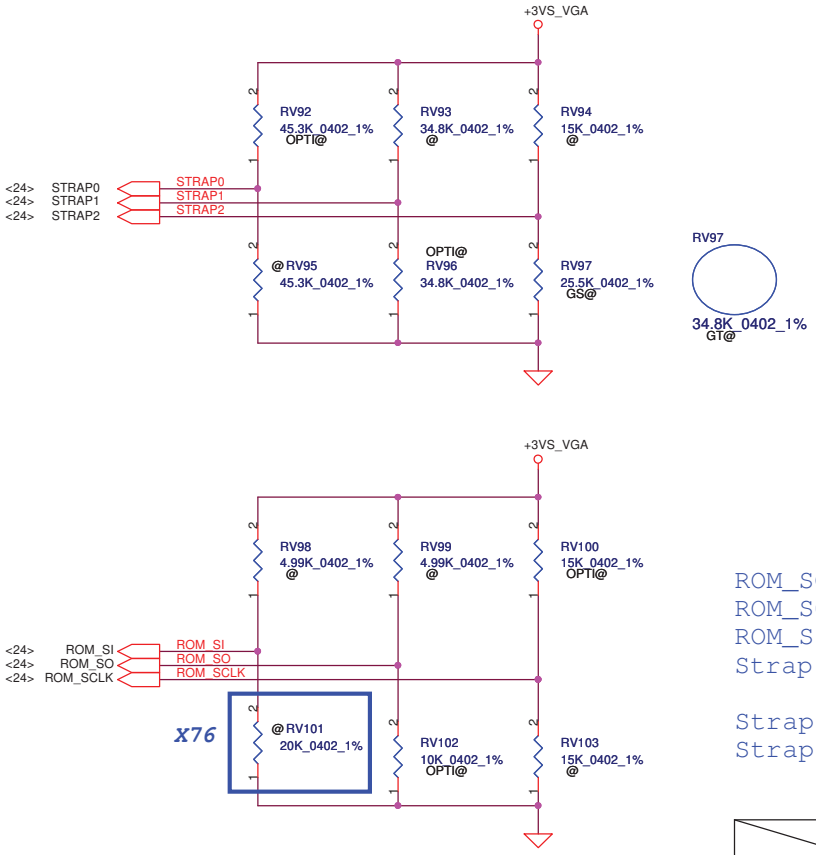
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: N12P-VRAM C Upper

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 31 of 63



Physical Strapping pin	Power Rail	Logical Strapping Bit3	Logical Strapping Bit2	Logical Strapping Bit1	Logical Strapping Bit0
ROM_SO	+3VS_VGA	XCLK_417	FB_0_BAR_SIZE	SMB_ALT_ADDR	VGA_DEVICE
ROM_SCLK	+3VS_VGA	PCI_DEVID[4]	SUB_VENDOR	SLOT_CLK_CFG	PEX_PLL_EN_TERM
ROM_SI	+3VS_VGA	RAM_CFG[3]	RAM_CFG[2]	RAM_CFG[1]	RAM_CFG[0]
STRAP2	+3VS_VGA	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]
STRAP1	+3VS_VGA	3GIO_PAD_CFG_ADR[3]	3GIO_PAD_CFG_ADR[2]	3GIO_PAD_CFG_ADR[1]	3GIO_PAD_CFG_ADR[0]
STRAP0	+3VS_VGA	USER[3]	USER[2]	USER[1]	USER[0]

Resistor Values	Pull-up to +3VS_VGA	Pull-down to Gnd
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

ROM_SO : PD-10K
ROM_SCLK : PH-15K
ROM_SI : PD20K (Samsung)
Strap 2 : N12P-GS, PD-25K,
N12P-GT, PD35K,
Strap 1 : PD-35K
Strap 0 : PH-45K

	DeviceID	ROM_SCLK	STRAP2
N12P-GS	0x0DF4	Pull up 15K	Pull down 25K
N12P-GT	0x0DF6	Pull up 15K	Pull down 35K

Hynix H5TQ1G63BFR-12C	64Mx16	0010	PD 15K	SA000041S30
	128Mx16	0110	PD 35K	SA00003YO00
Samsung K4W1G1646E-HC12	64Mx16	0011	PD 20K	SA000041T10
	128Mx16	0111	PD 45K	SA000047Q10

SUB_VENDOR	
0	No VBIOS ROM
1	BIOS ROM is present (Default)

XCLK_417	
0	277MHz (Default)
1	Reserved

FB_0_BAR_SIZE	
0	256MB (Default)
1	Reserved

USER Straps	
User[3:0]	
1000-1100	Customer defined

3GIO_PADCFG	
3GIO_PADCFG[3:0]	
0110	Notebook Default

PEX_PLL_EN_TERM	
0	Disable (Default)
1	Enable

SLOT_CLK_CFG	
0	GPU and MCH don't share a common reference clock
1	GPU and MCH share a common reference clock (Default)

SMBUS_ALT_ADDR	
0	0x9E (Default)
1	0x9C (Multi-GPU usage)

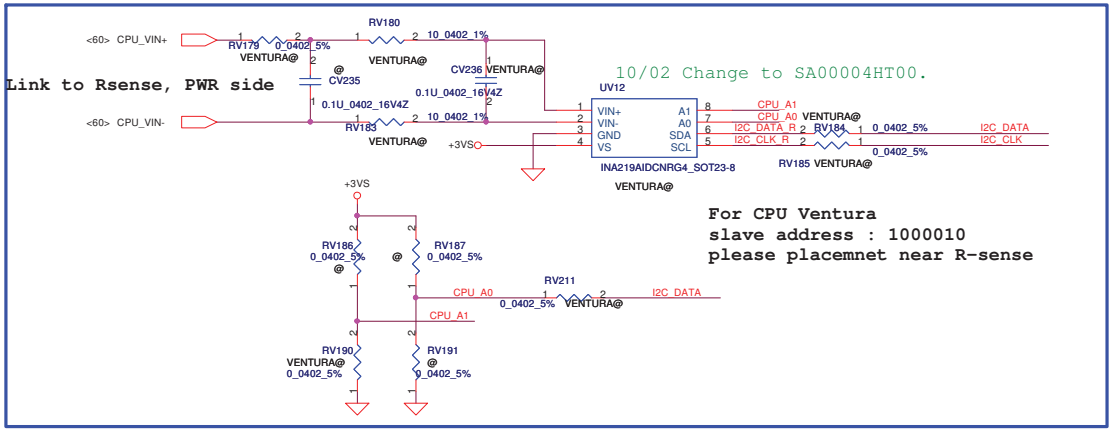
VGA_DEVICE	
0	3D Device (Class Code 302h)
1	VGA Device (Default)

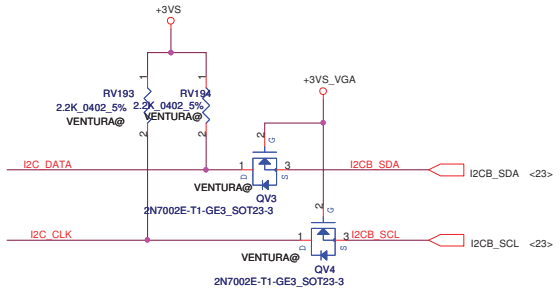
Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

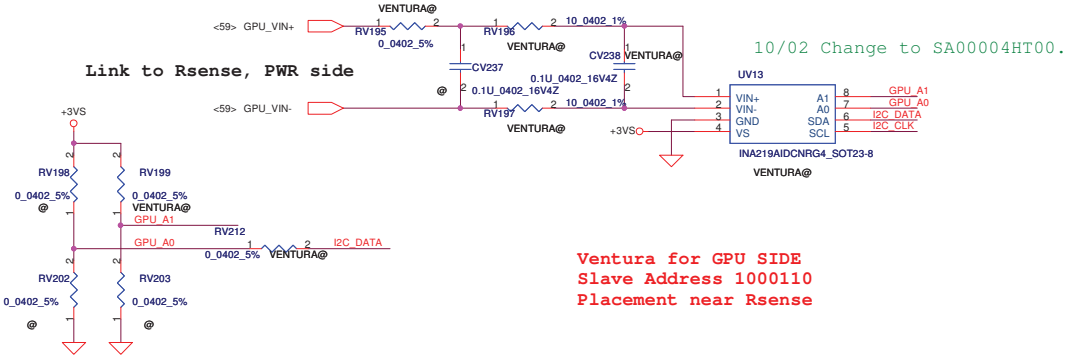
Compal Electronics, Inc.
Title: N12P_MISC
Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0
Date: Wednesday, January 05, 2011 | Sheet 32 of 63

TOP side (under inductor)





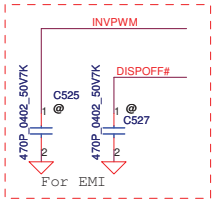
Link to GPU



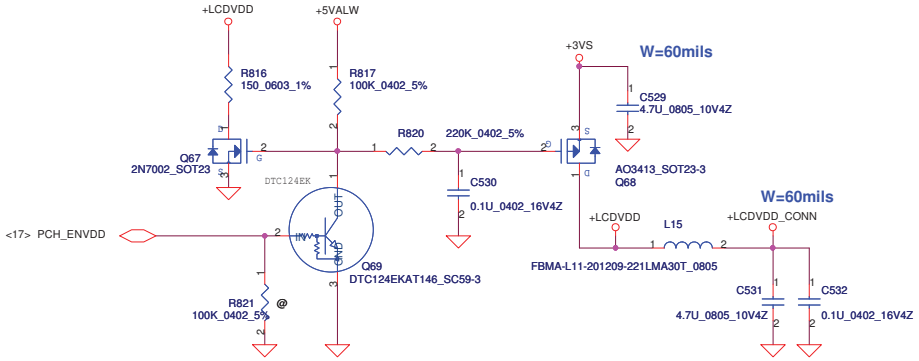
Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

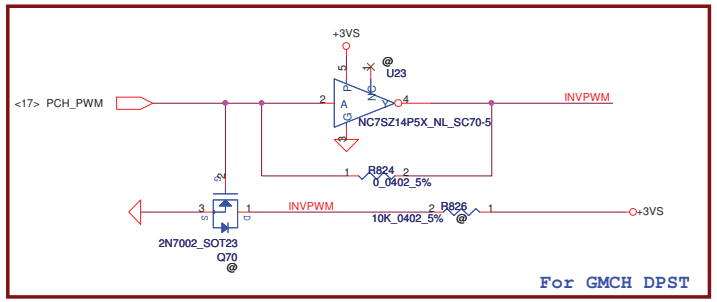
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

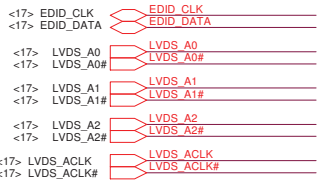
Compal Electronics, Inc.			
Title	N12P_VENTURA		
Size	Document Number		Rev
	PIQY0 LA6881P		1.0
Date: Wednesday, January 05, 2011	Sheet 33 of 63		

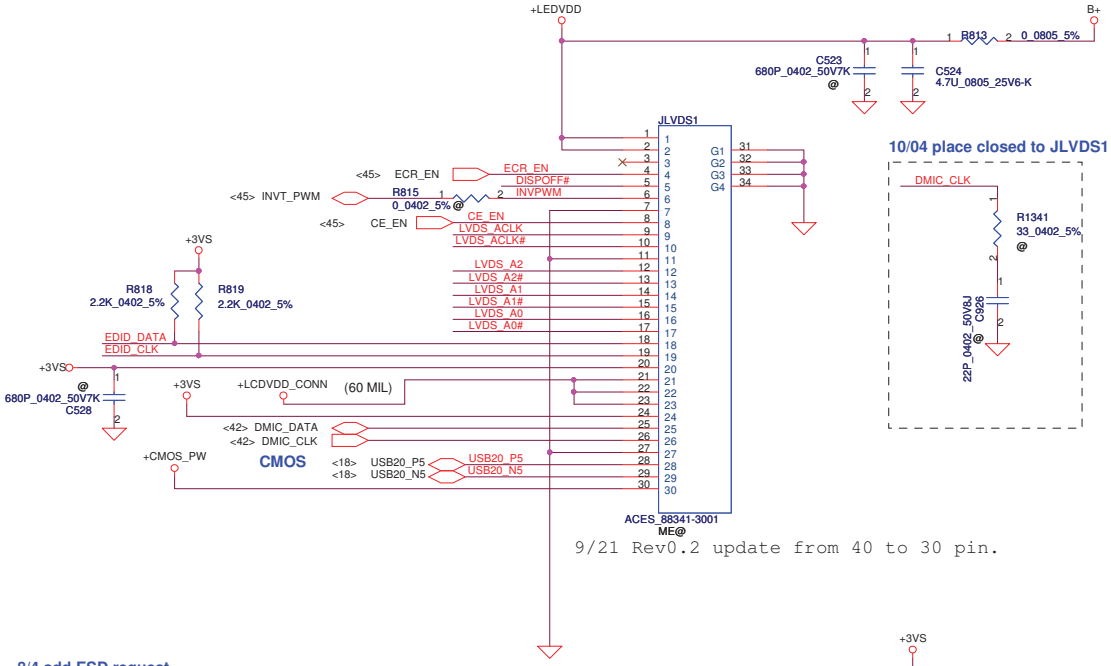


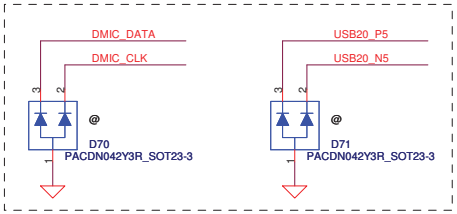
LCD POWER CIRCUIT

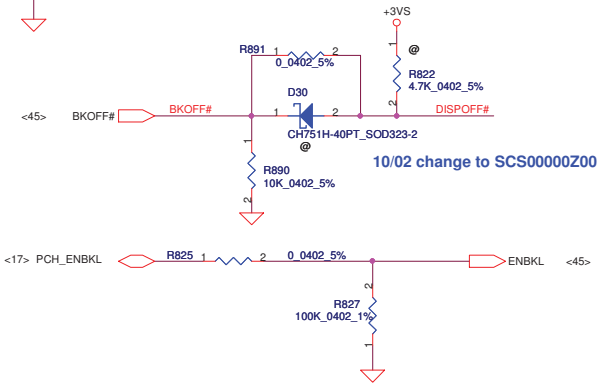


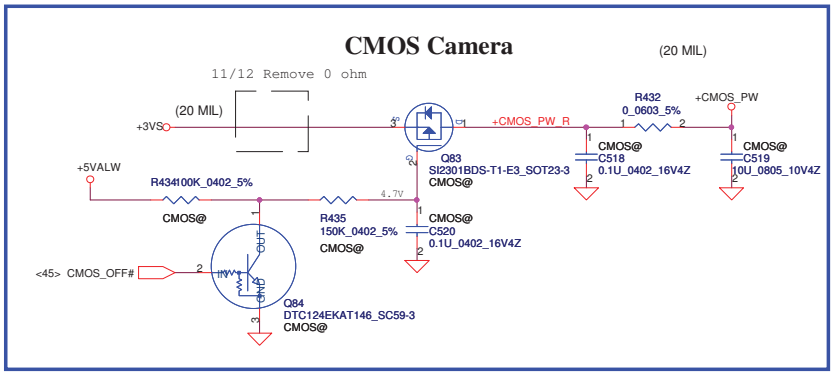










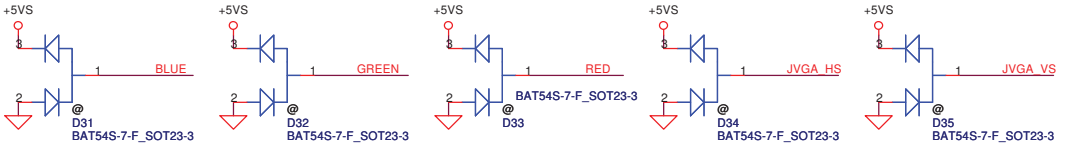


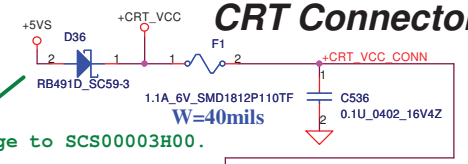
Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

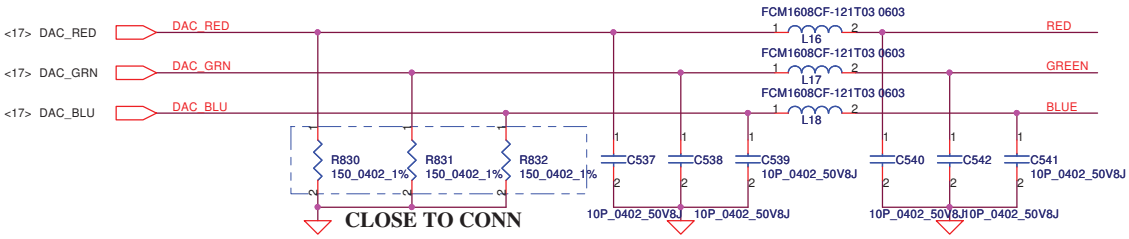
Title	*Compal Electronics, Inc.*		
	LVDS/CAMERA		
Size B	Document Number PIQY0 LA6881P		Rev 1.0
Date: Wednesday, January 05, 2011	Sheet 34 of 63		

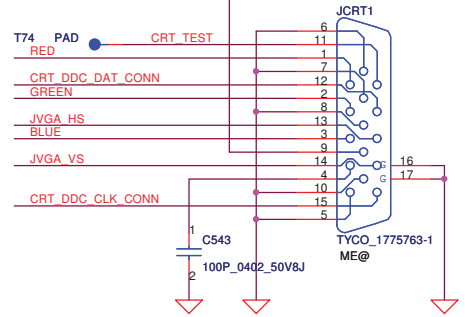
CRT Connector

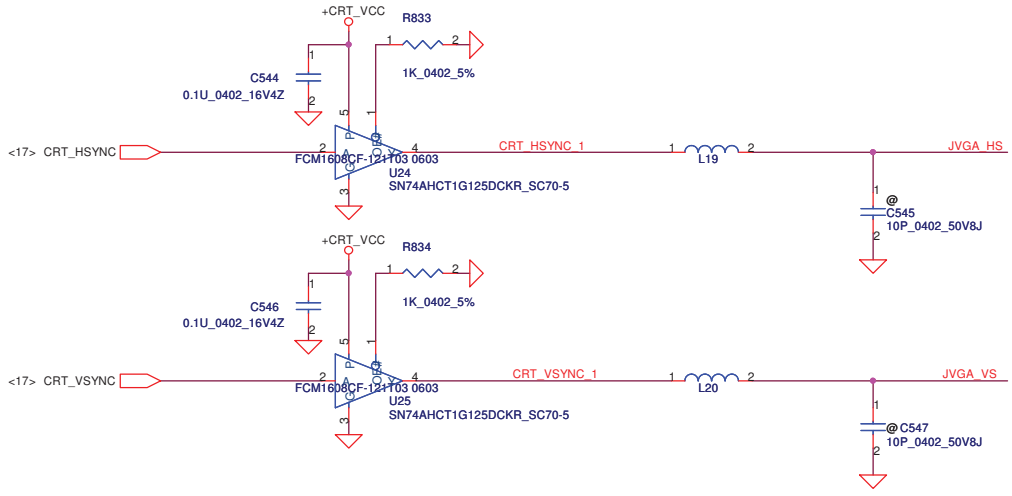


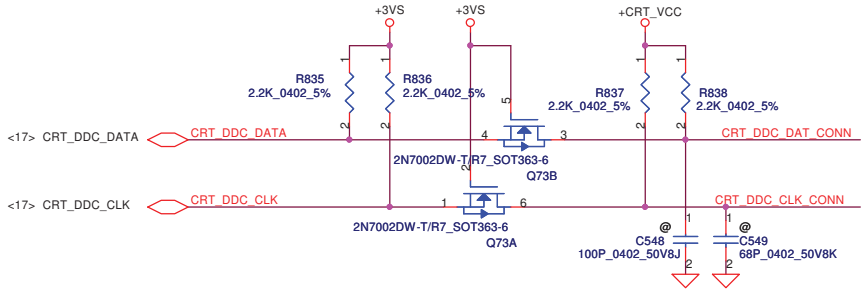


10/02 Change to SCS00003H00.









Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

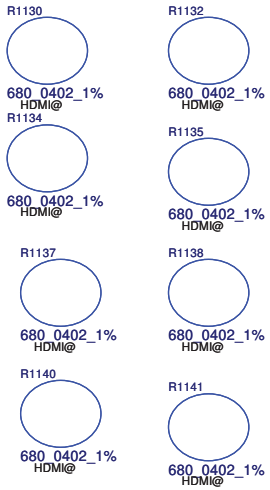
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

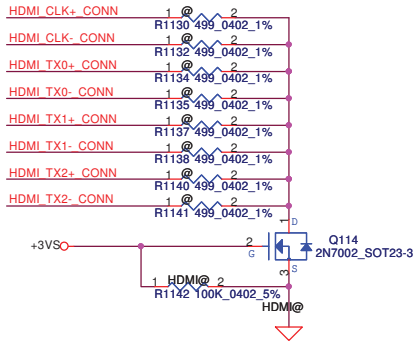
Compal Electronics, Inc.

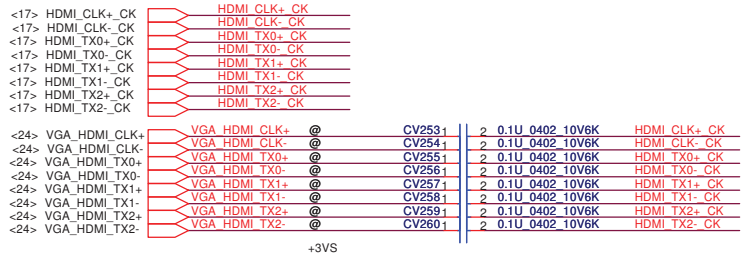
Title: CRT Connector

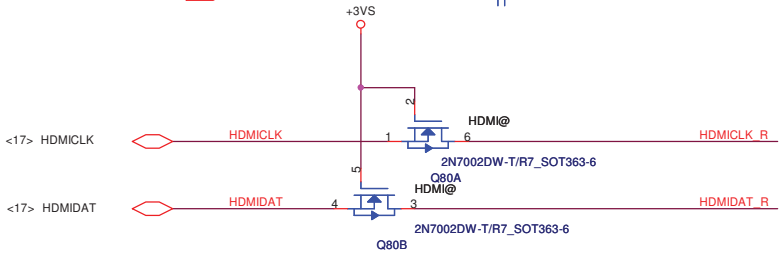
Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

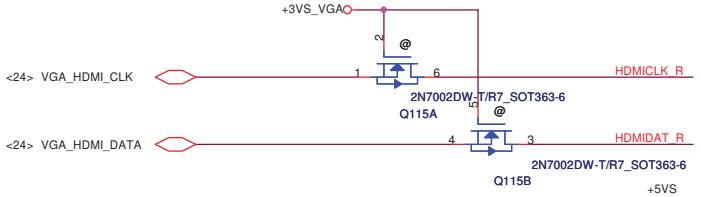
Date: Wednesday, January 05, 2011 Sheet 35 of 63



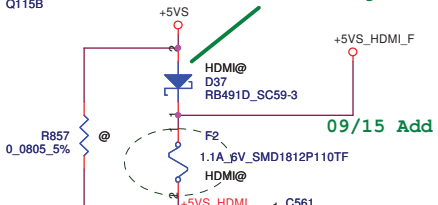




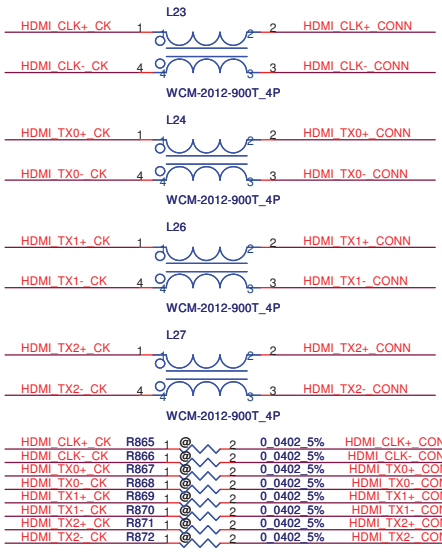


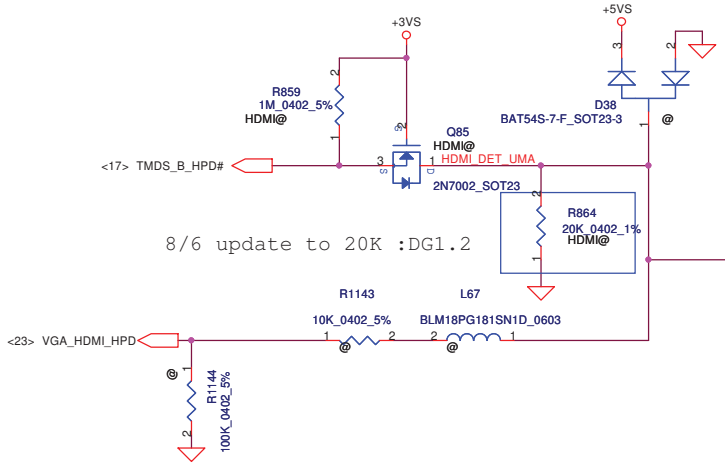


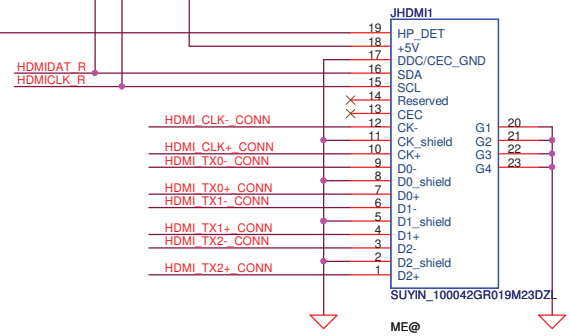
10/02 Change to SCS00003H00.



DVT, Change to SM070000I00 for EMI request.







Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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, Ltd.

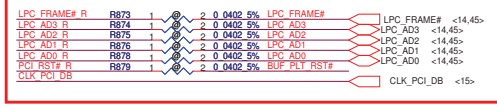
Title: HDMI CONN

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

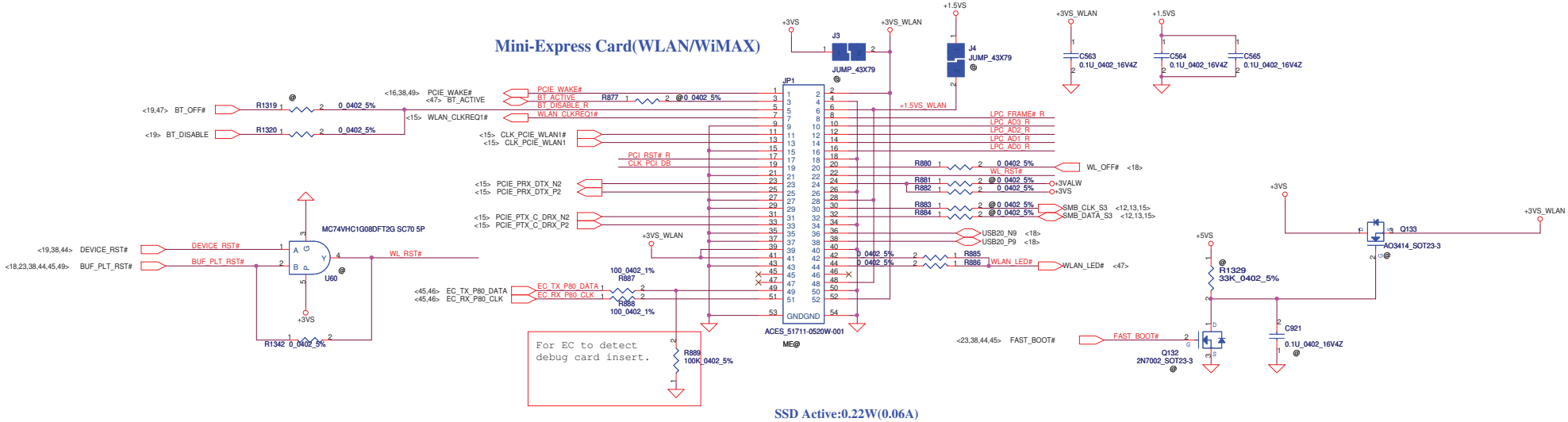
Date: Wednesday, January 05, 2011 Sheet 36 of 63

Mini-Express Card for WLAN/WiMAX(Half)
Mini-Express Card for SSD(Full)

Reserve for SW mini-pcie debug card.
Series resistors closed to KBC side.

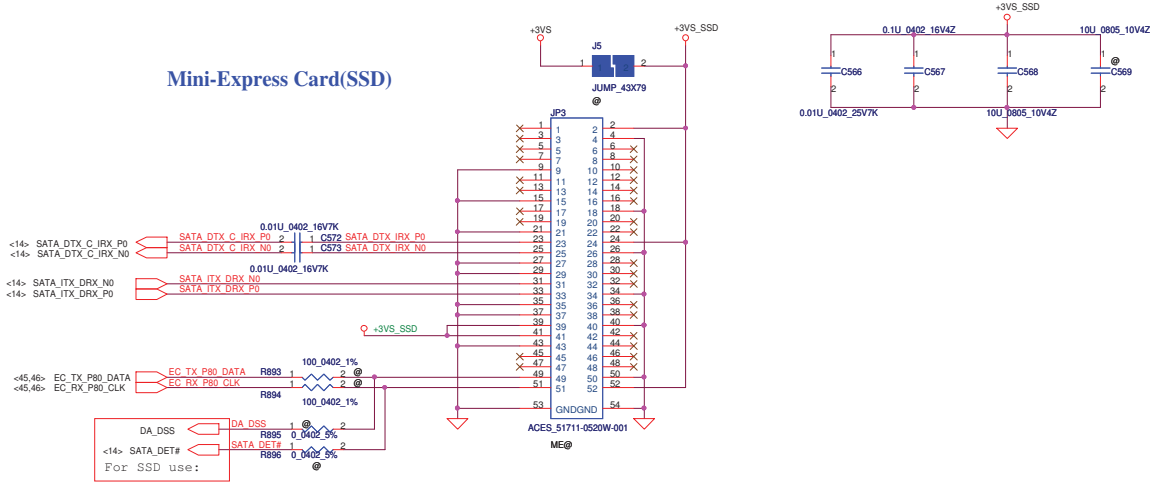


Mini-Express Card(WLAN/WiMAX)



SSD Active:0.22W(0.06A)

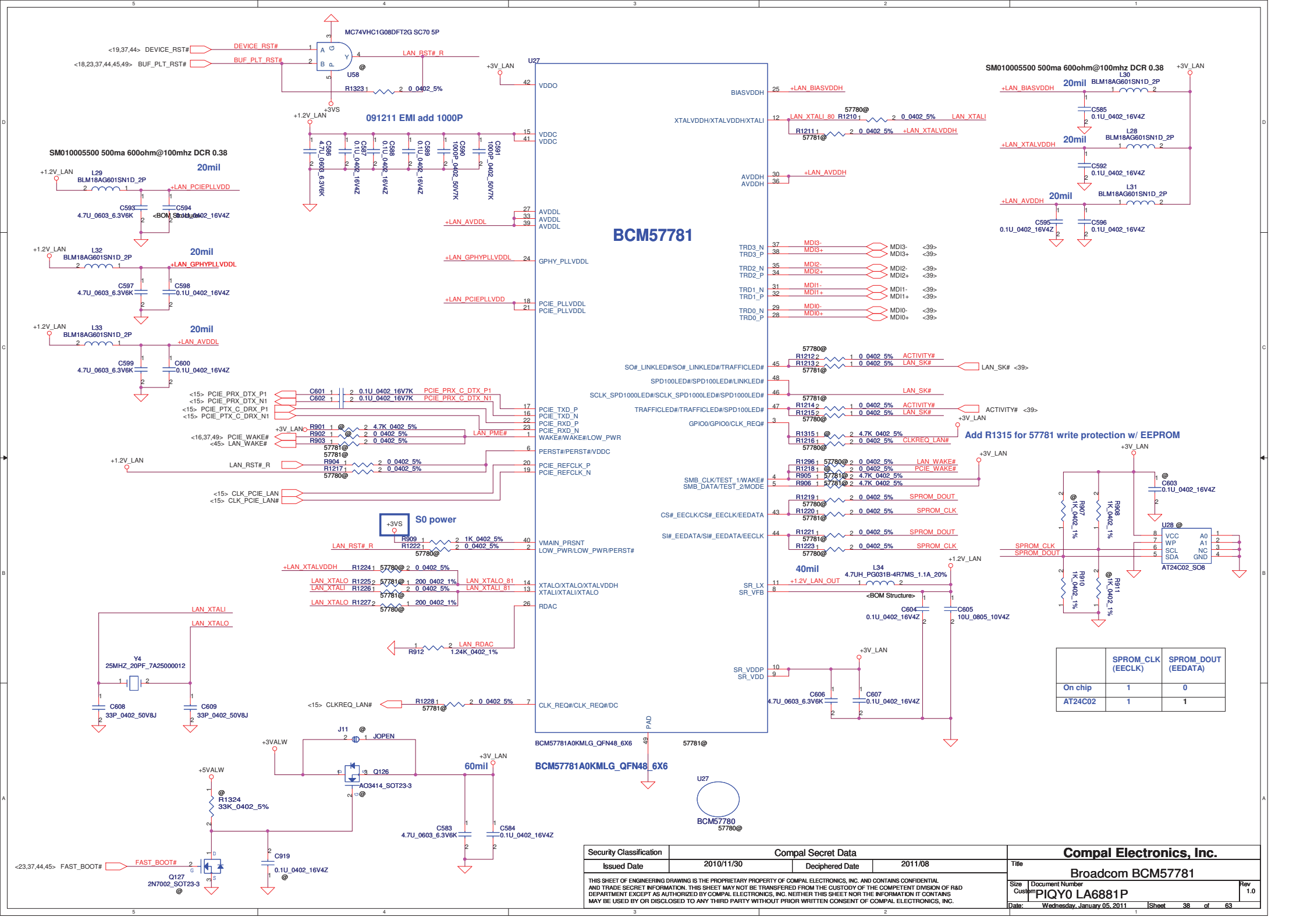
Mini-Express Card(SSD)



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: Mini-Card			
Size	Document Number: PIQY0 LA6881P		Rev: 1.0
Date: Wednesday, January 05, 2011		Sheet 37 of 63	



	SPROM_CLK (EECLK)	SPROM_DOUT (EEDATA)
On chip	1	0
AT24C02	1	1

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

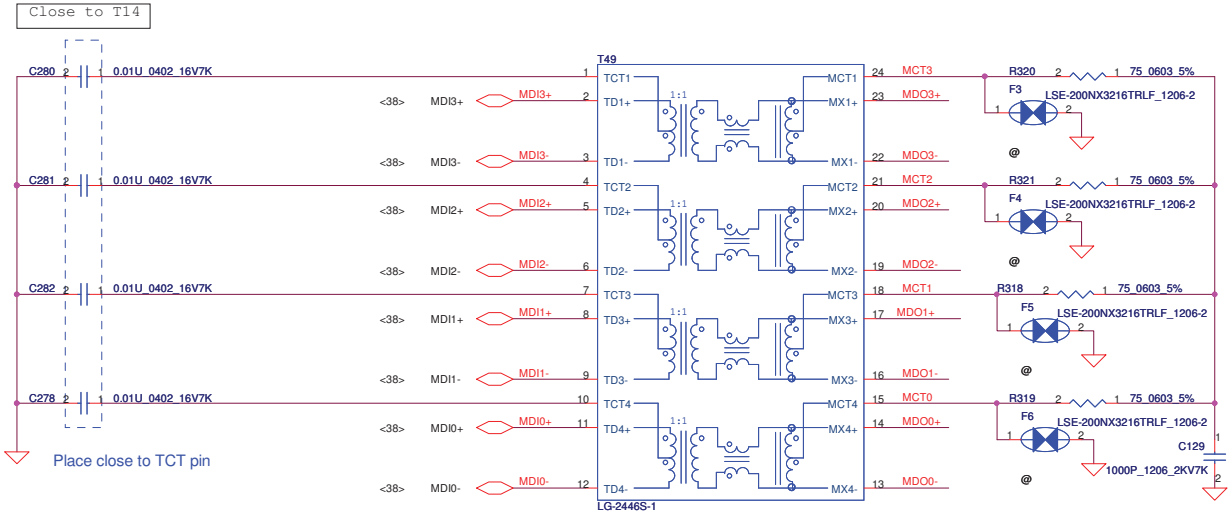
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

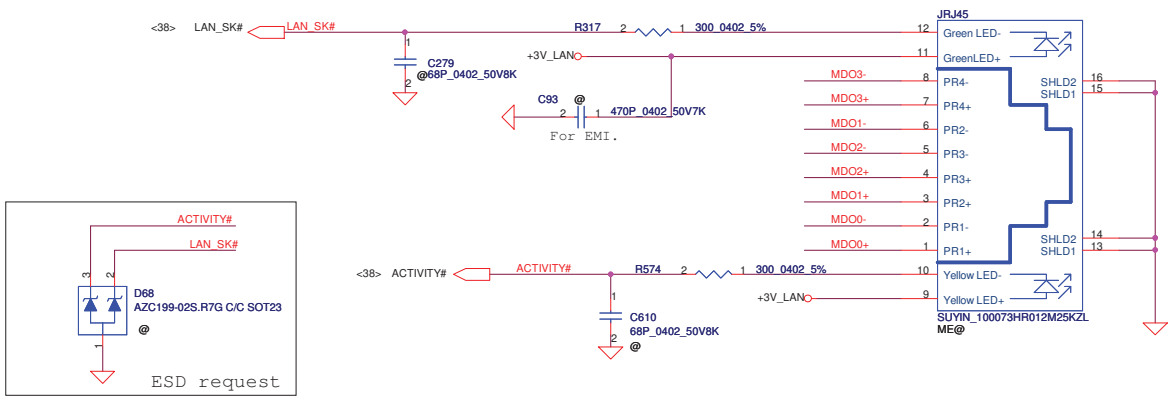
Title: Broadcom BCM57781

Size: Custom | Document Number: PIQY0 LA6881P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 38 of 63



RJ45 Conn.



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

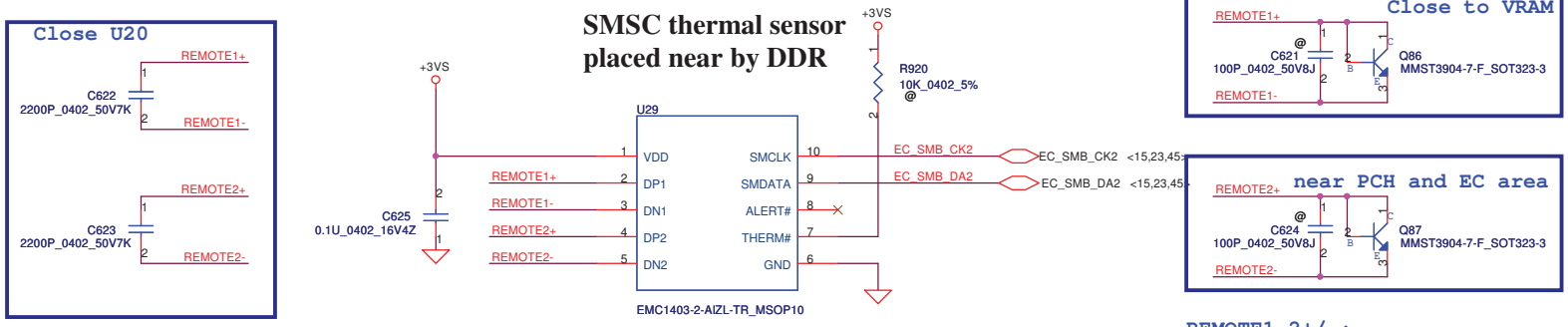
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: LAN Magnetic & RJ45

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

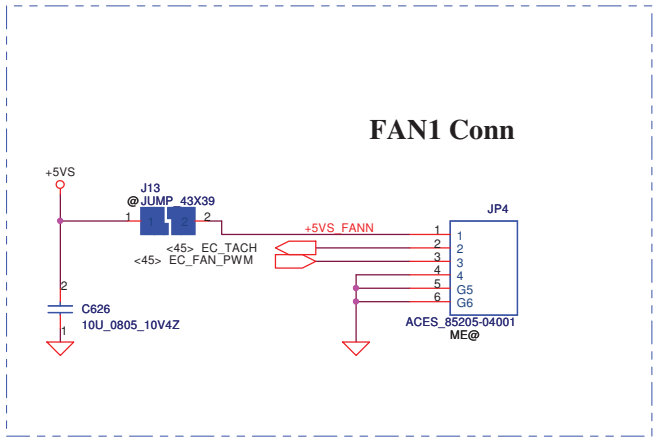
Date: Wednesday, January 05, 2011 Sheet 39 of 63



Address 1001_101xb

8/02 Change PN to SA000046C00, Fintek.

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



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

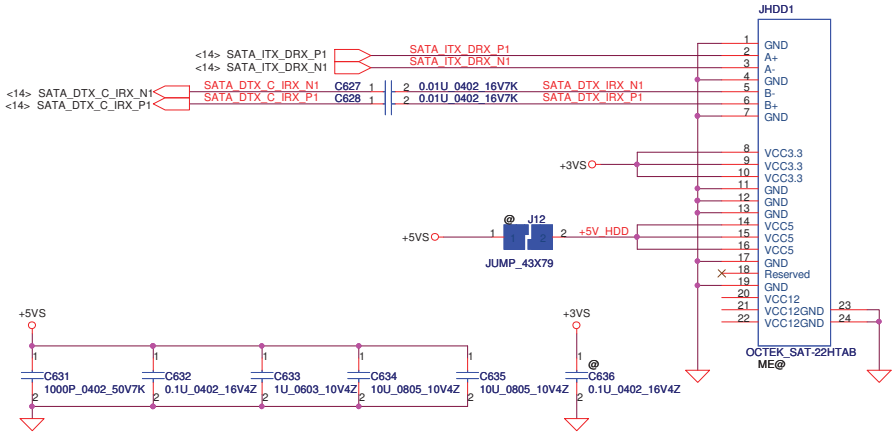
Compal Electronics,Ltd.

Title: **EMC1403_Thermal sensor/FAN**

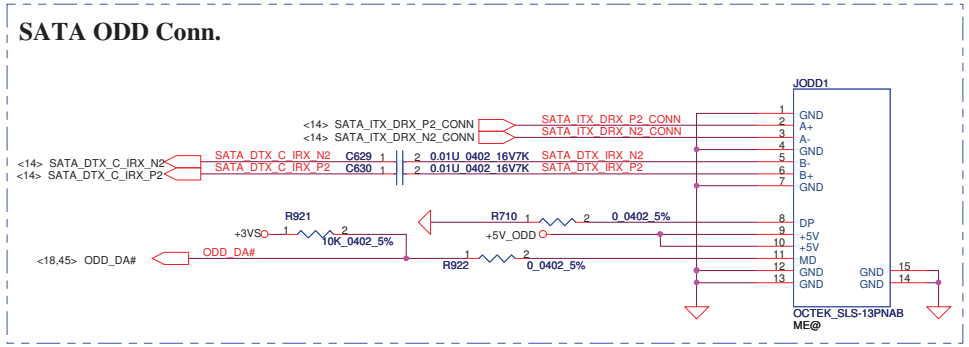
Size: Custom | Document Number: **PIQY0 LA6881P** | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 40 of 63

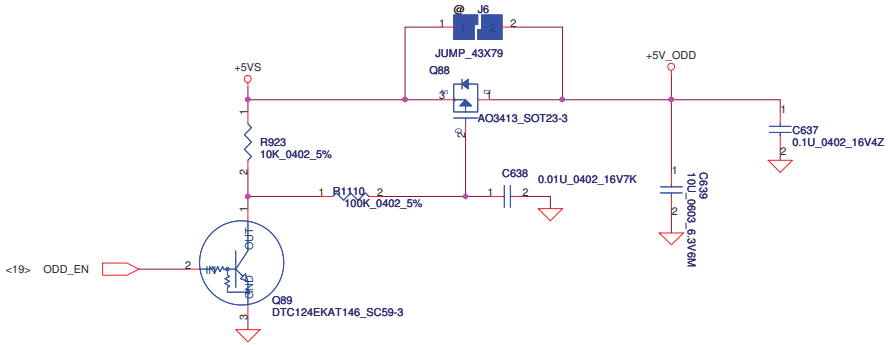
SATA HDD Conn.



SATA ODD Conn.



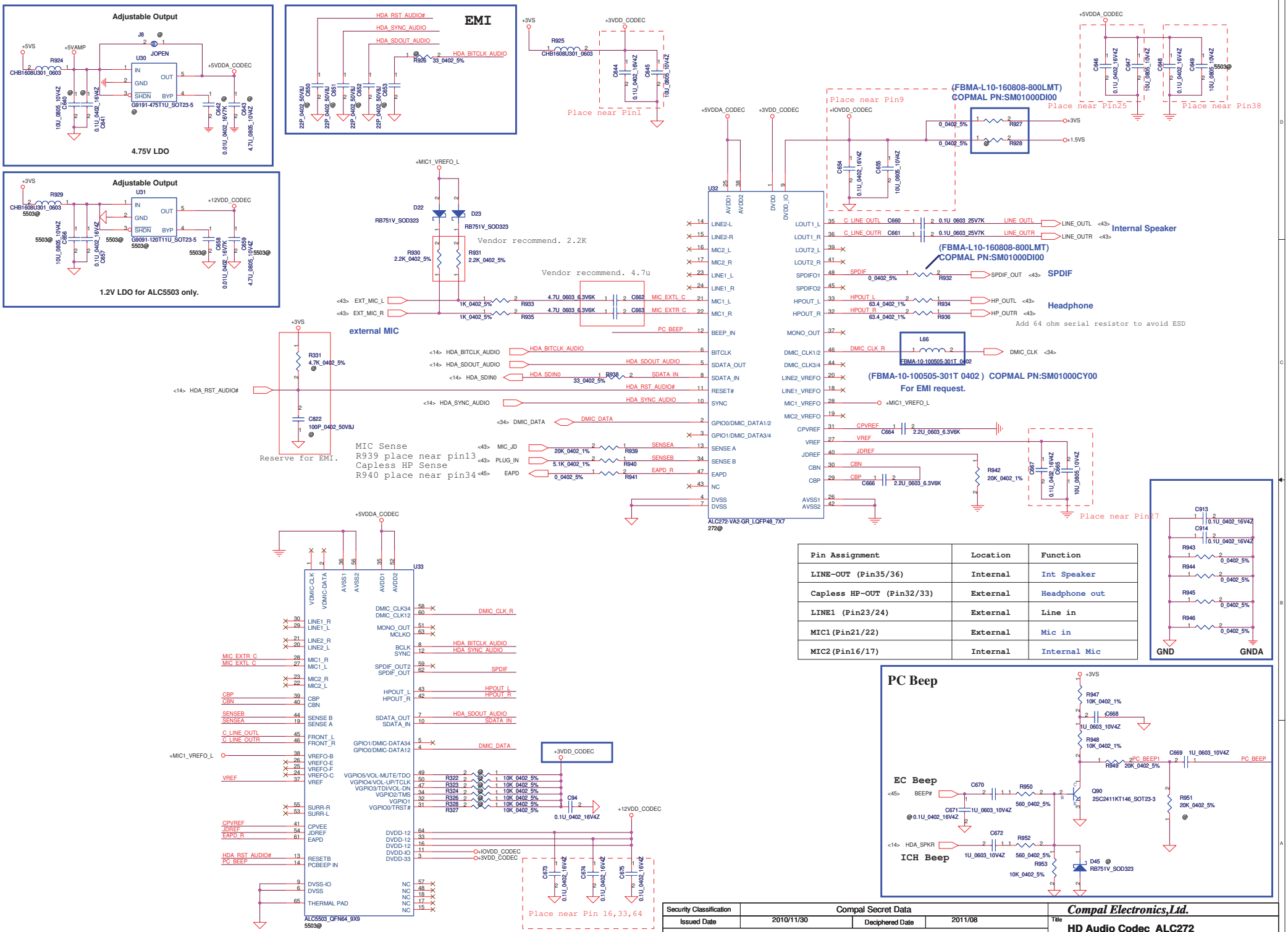
ODD Power Control



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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: HDD/ODD Connector			
Size: B	Document Number: PIQY0 LA6881P		Rev: 1.0
Date: Wednesday, January 05, 2011	Sheet 41 of 63		



Pin Assignment	Location	Function
LINE-OUT (Pin35/36)	Internal	Int Speaker
Capless HP-OUT (Pin32/33)	External	Headphone out
LINE1 (Pin23/24)	External	Line in
MIC1(Pin21/22)	External	Mic in
MIC2(Pin16/17)	Internal	Internal Mic

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

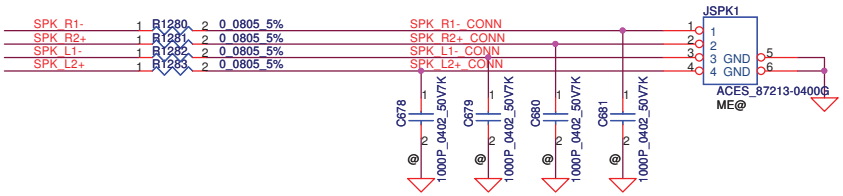
Compal Electronics,Ltd.

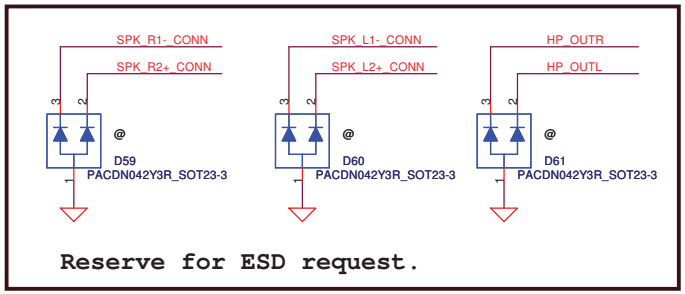
Title: HD Audio Codec_ALC272

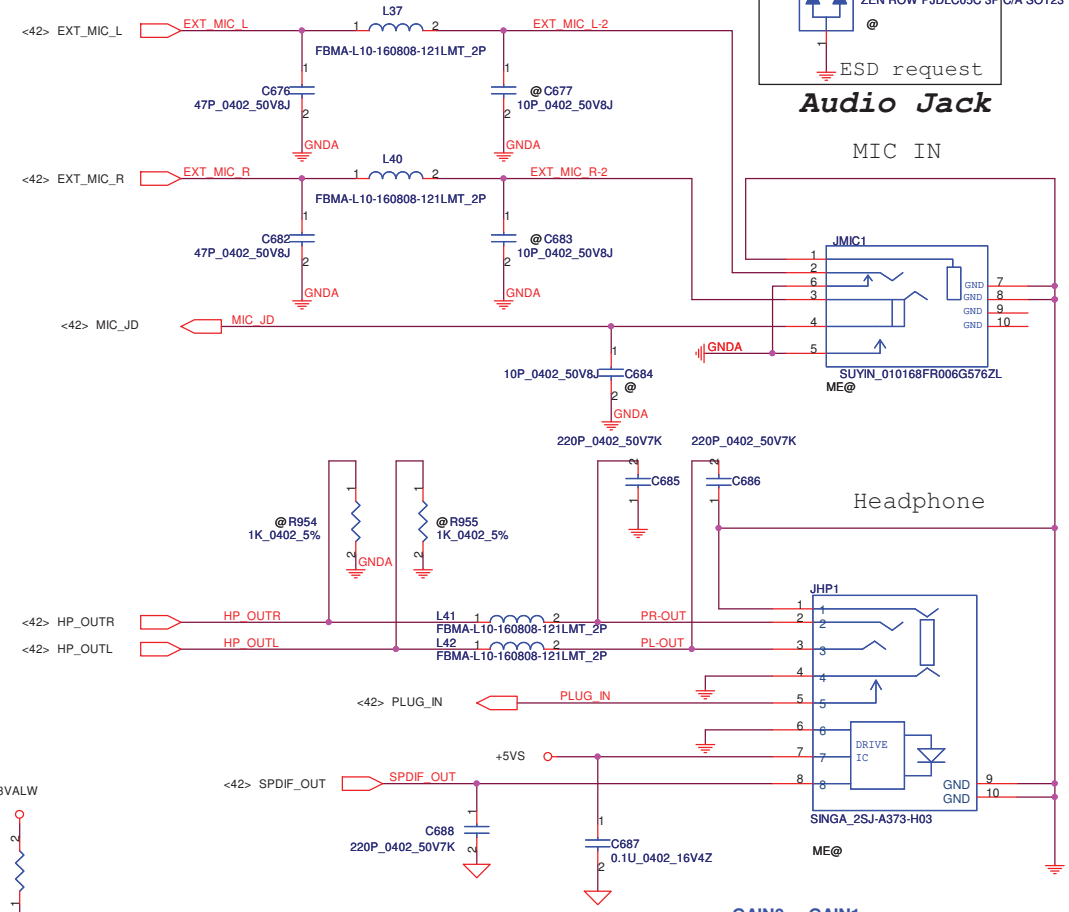
Size	Document Number	Rev
C	KIWB1/B2_LA4601P	1.0

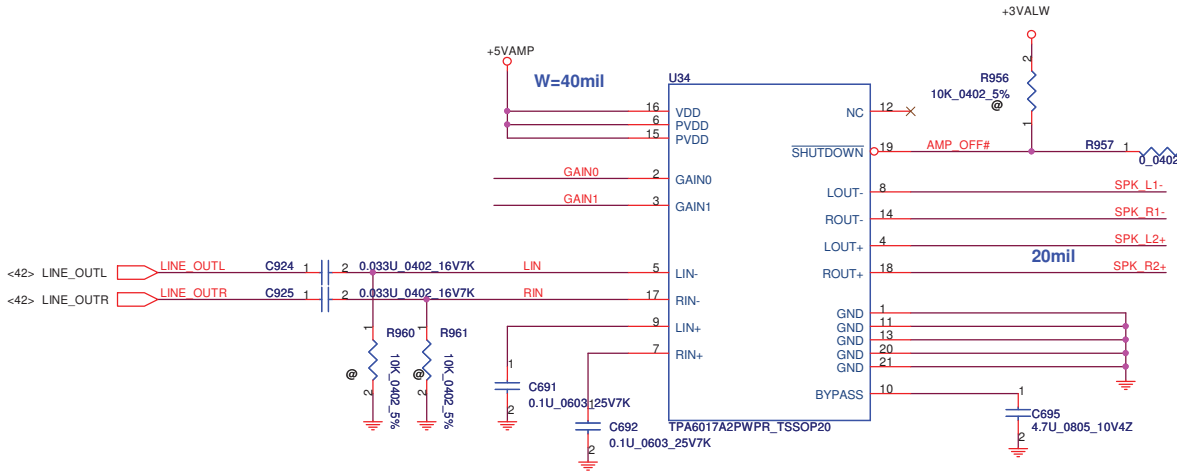
Date: Wednesday, January 05, 2011 Sheet 42 of 63

wide 20MIL

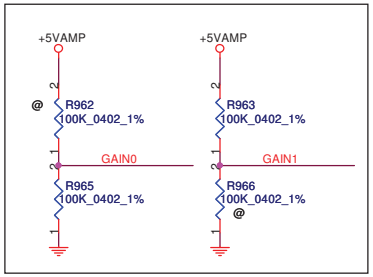








GAIN0	GAIN1	
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

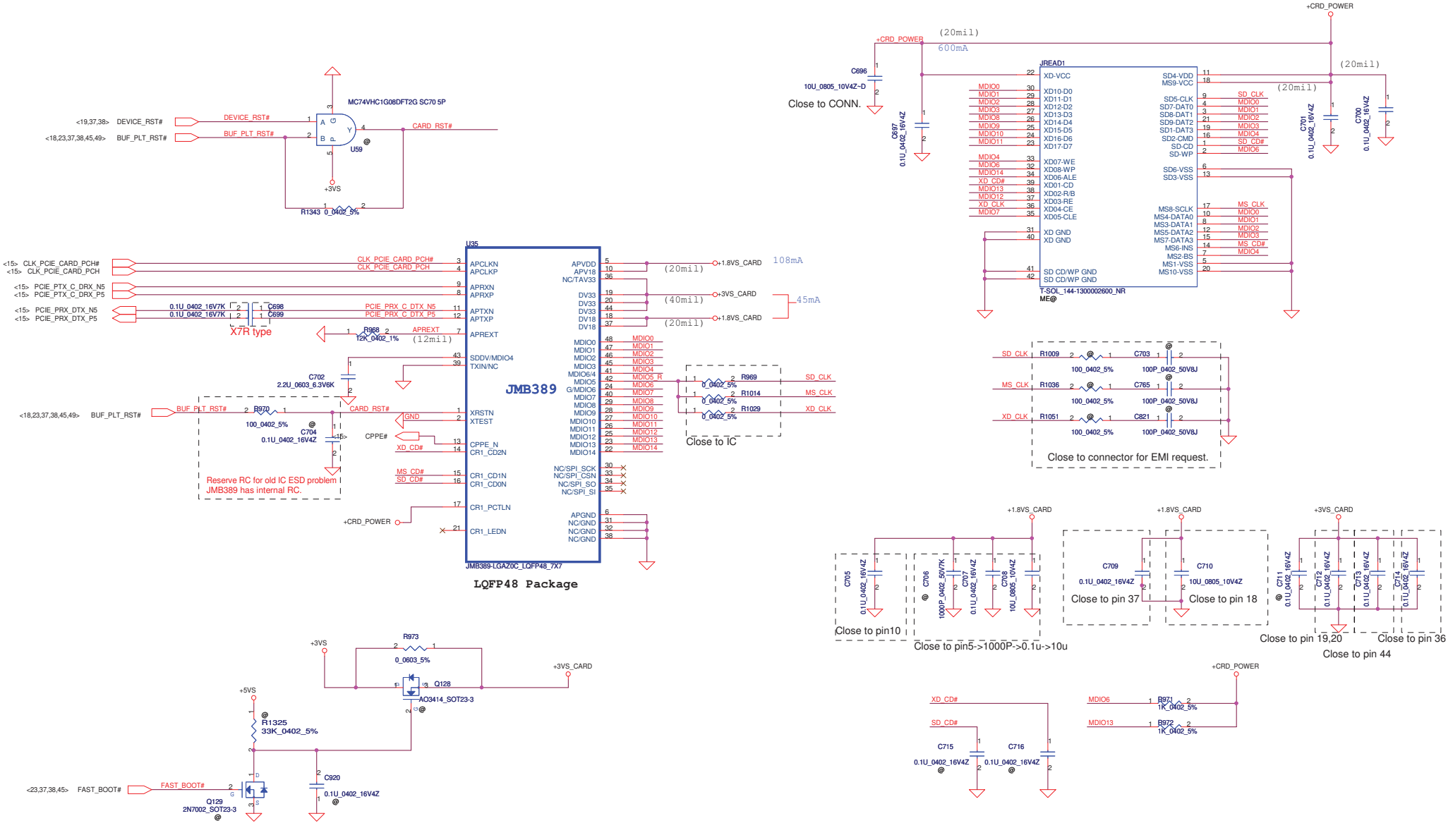
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Title: AMP,Audio speaker CONN

Size: Custom | Document Number: KIWB1/B2_LA4601P | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 43 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

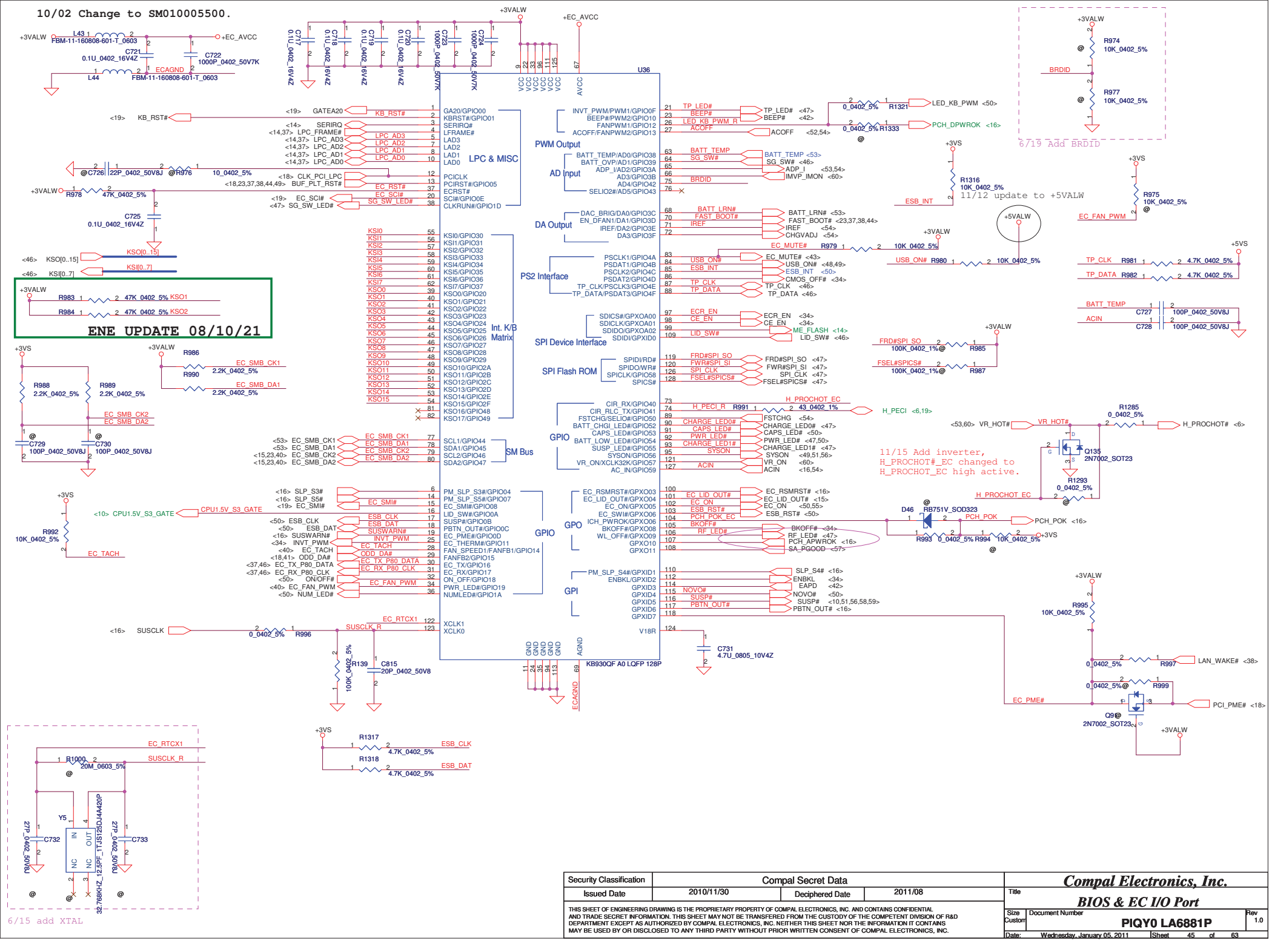
Compal Electronics, Inc.

Title: Carder JMB389

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 44 of 63

10/02 Change to SM010005500.



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

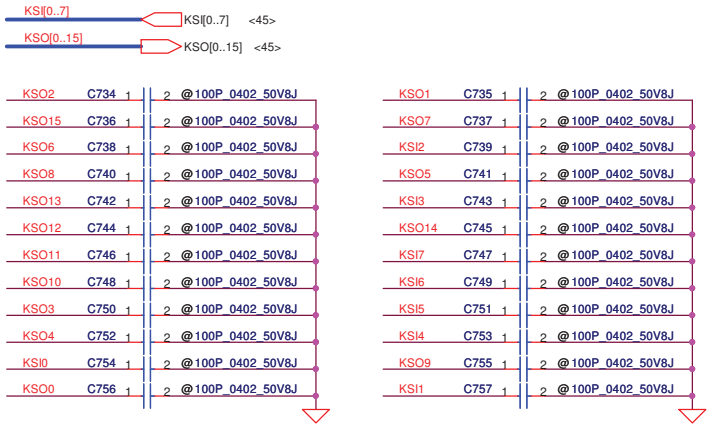
Compal Electronics, Inc.

Title: **BIOS & EC I/O Port**

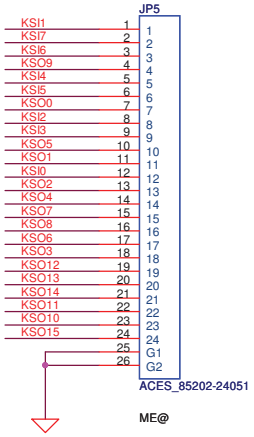
Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 | Sheet 45 of 63

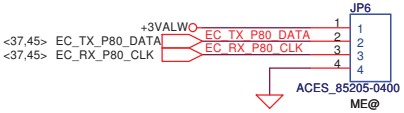
INT_KBD Conn.



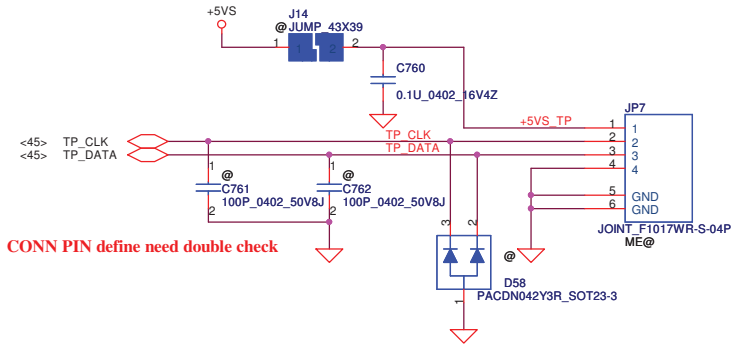
CONN PIN define need double check



EC DEBUG PORT

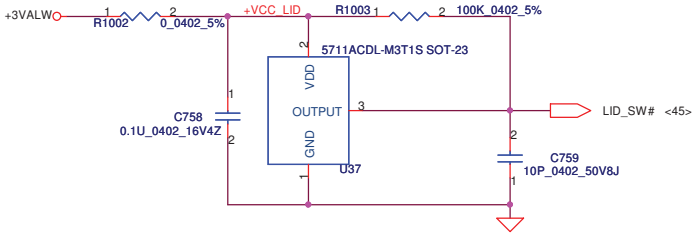


To TP/B Conn.

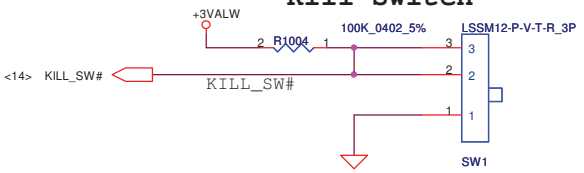


CONN PIN define need double check

Lid Switch

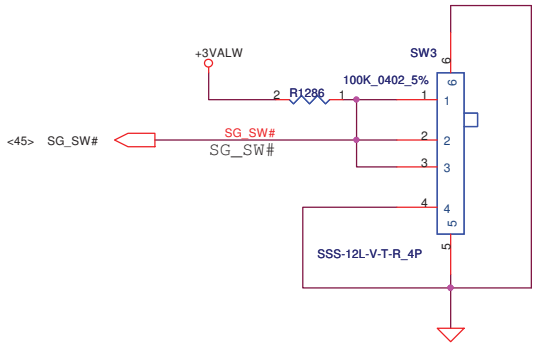


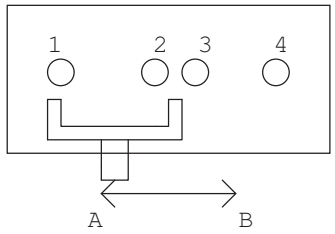
Kill Switch



Kill

STATUS	
1,2(LOW)	OFF
2,3(HI)	ON



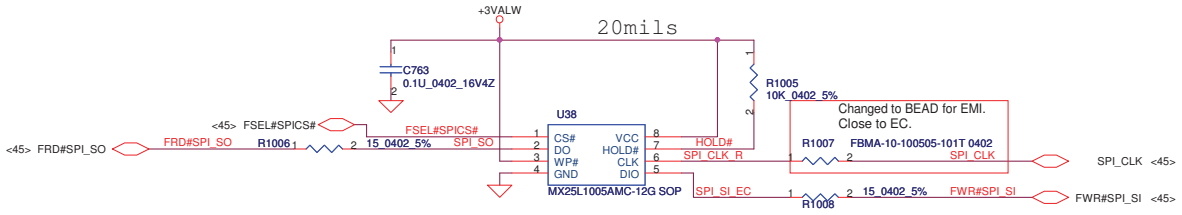


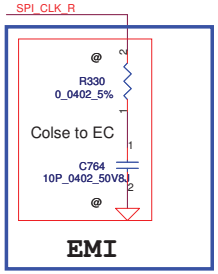
Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

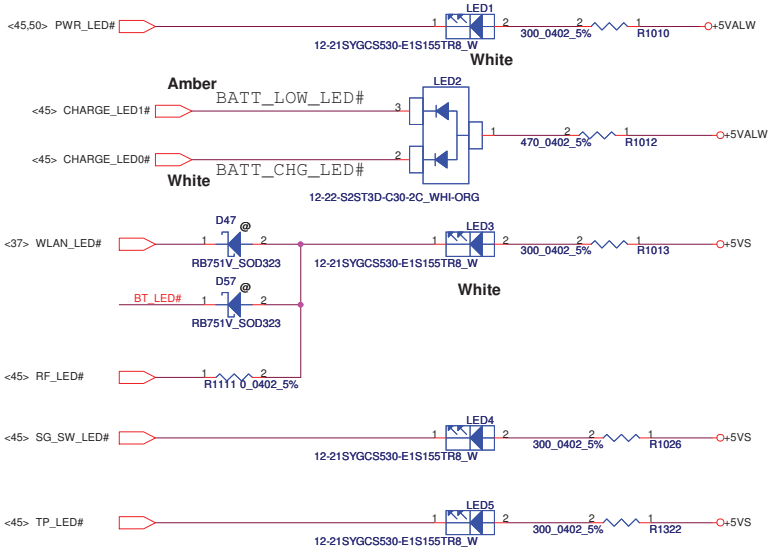
Compal Electronics, Inc.			
Title: KB /SW /LPC Debug Conn.			
Size: B	Document Number: PIQY0 LA6881P		Rev: 1.0
Date: Wednesday, January 05, 2011	Sheet 46 of 63		

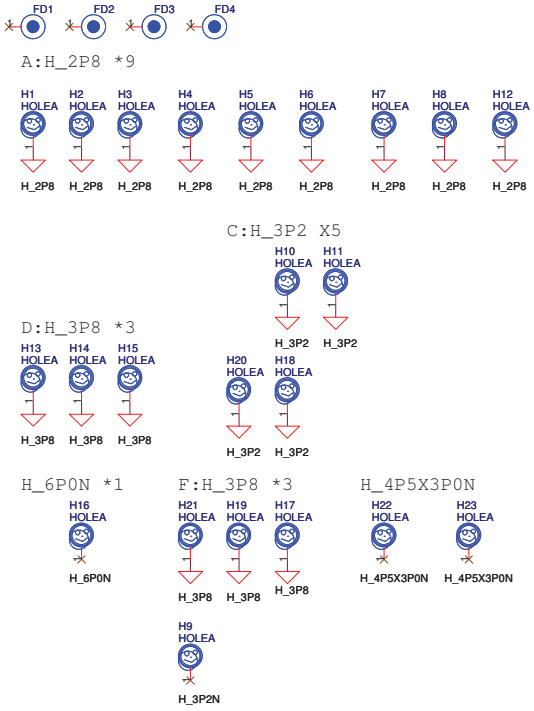
FOR EC 128KB SPI ROM
(150mil PACKAGE)
P/N : SA00002C100



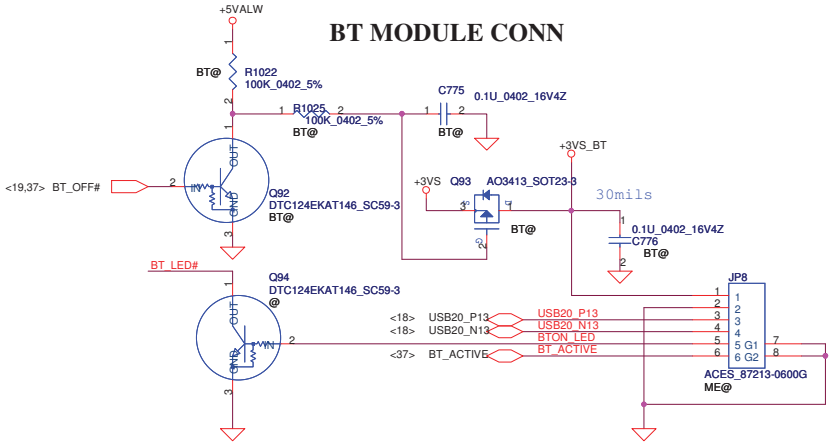


LED





BT MODULE CONN



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

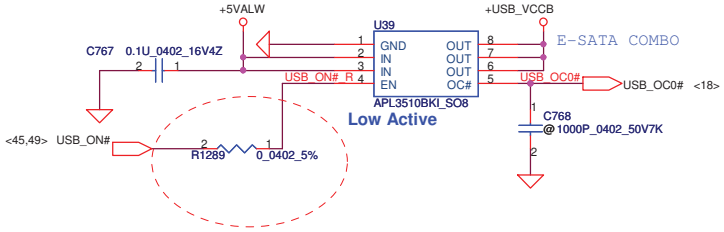
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

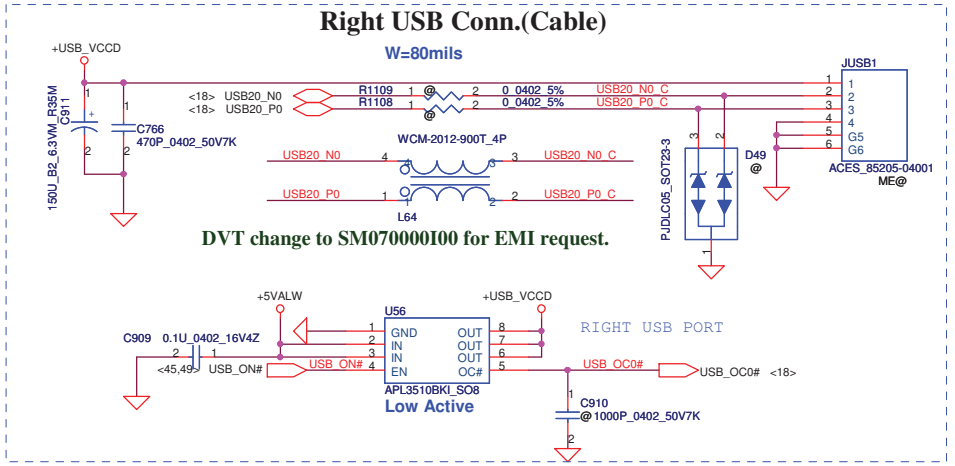
Compal Electronics, Inc.

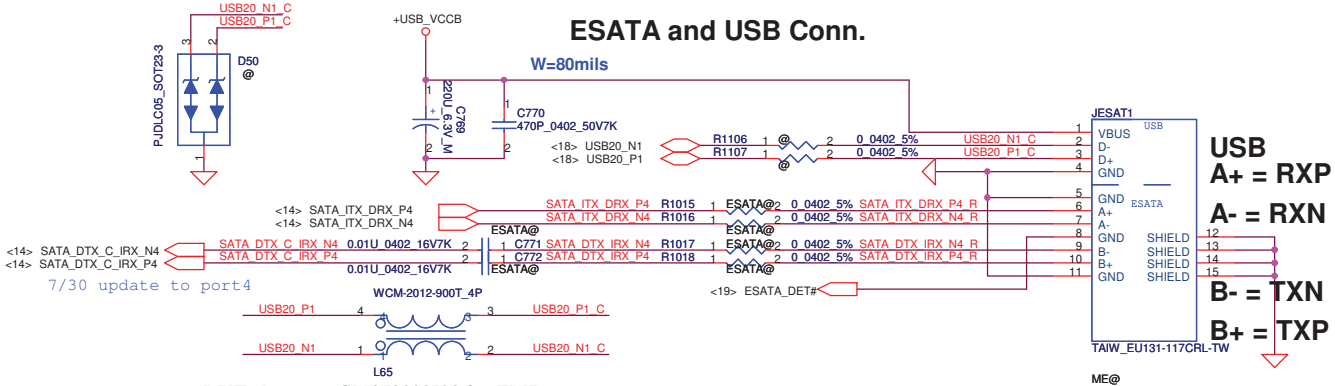
Title: **LED/EC SPI ROM/BT**

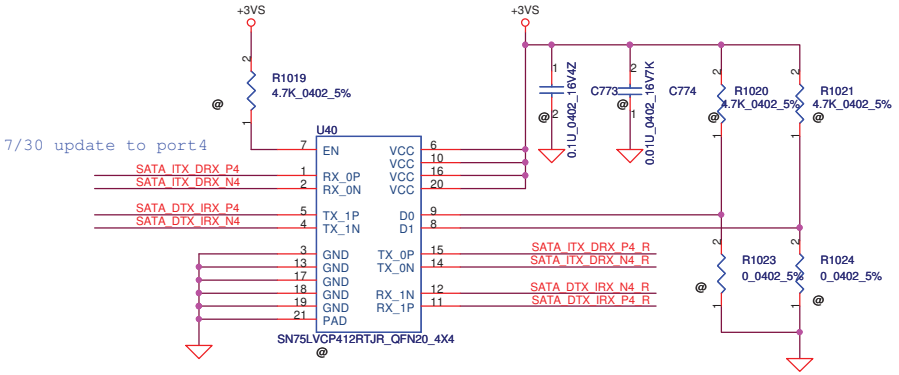
Size	Document Number	Rev
B	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 47 of 63









Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

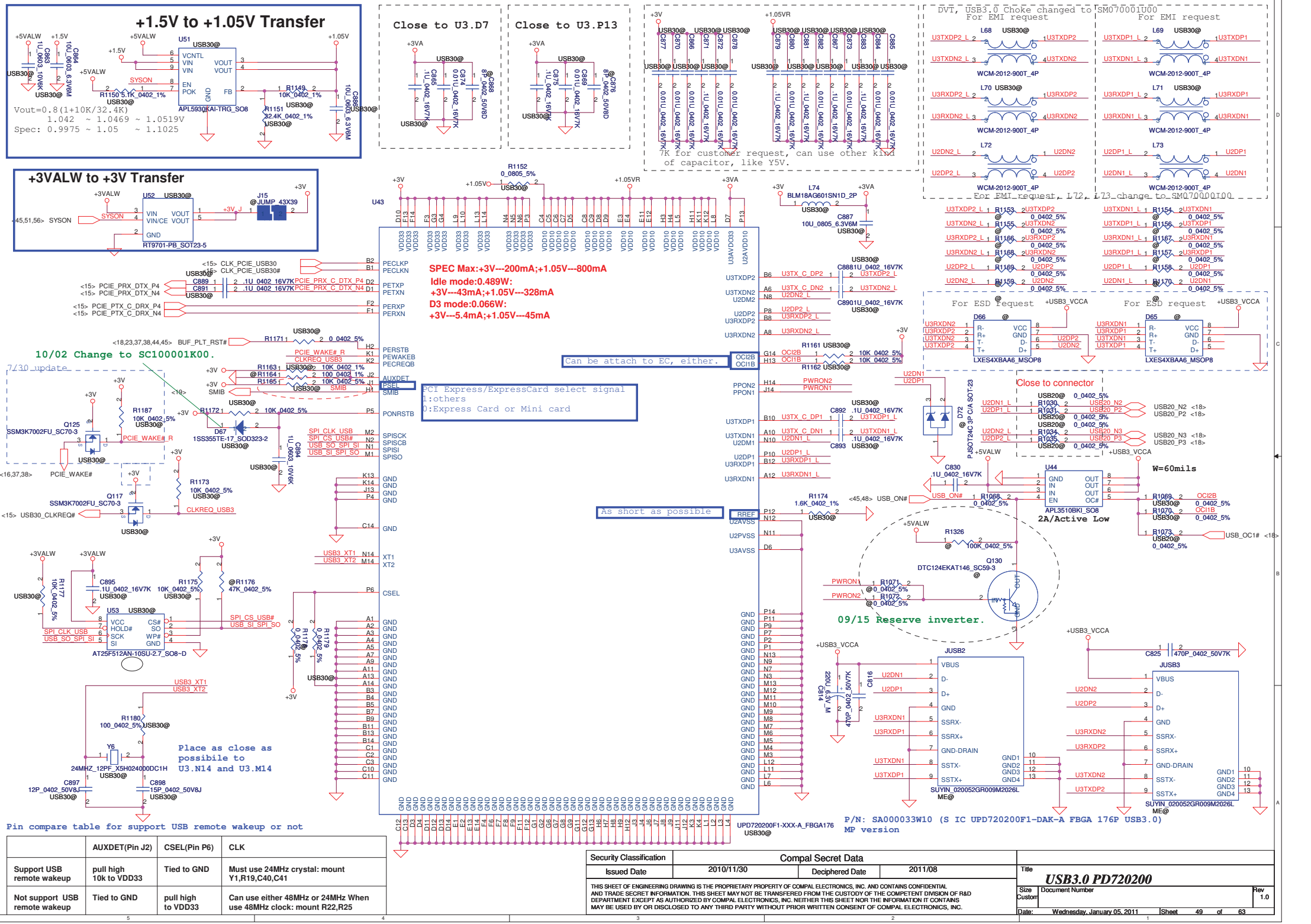
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 48 of 63



Pin compare table for support USB remote wakeup or not

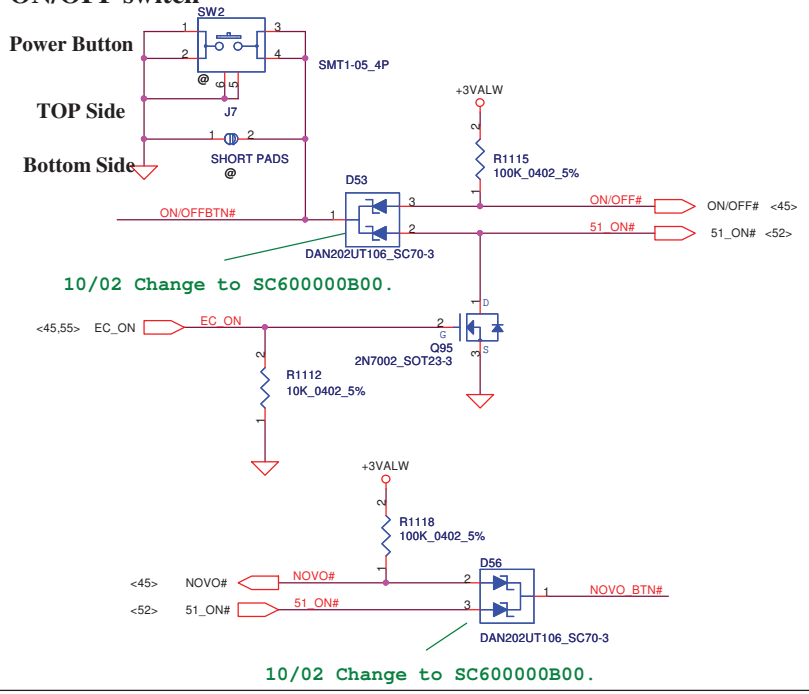
	AUXDET(Pin J2)	CSEL(Pin P6)	CLK
Support USB remote wakeup	pull high 10k to VDD33	Tied to GND	Must use 24MHz crystal: mount Y1,R19,C40,C41
Not support USB remote wakeup	Tied to GND	pull high to VDD33	Can use either 48MHz or 24MHz When use 48MHz clock: mount R22,R25

Security Classification: Compal Secret Data
Issued Date: 2010/11/30 Deciphered Date: 2011/08

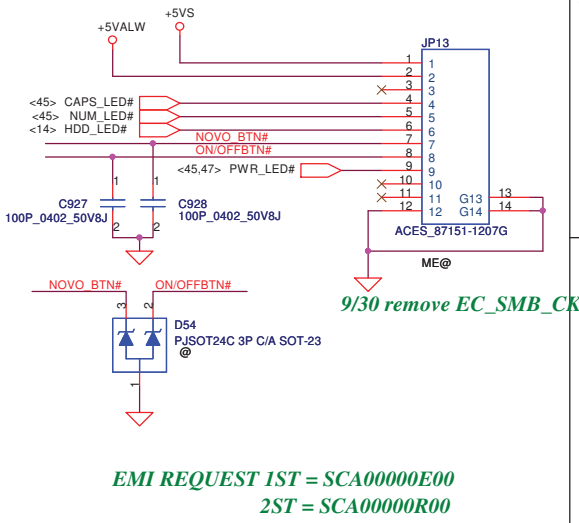
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Title: USB3.0 PD720200
Size: Custom | Document Number | Rev: 1.0
Date: Wednesday, January 05, 2011 | Sheet 49 of 63

ON/OFF switch



Power Bottom Board Conn. 10pin



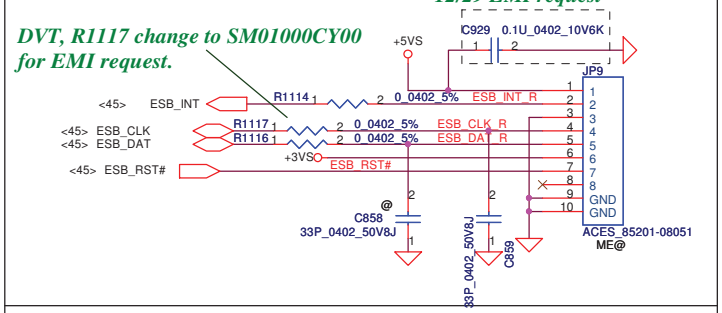
9/30 remove EC_SMB_CK2, EC_SMB_DA2

EMI REQUEST 1ST = SCA00000E00
2ST = SCA00000R00

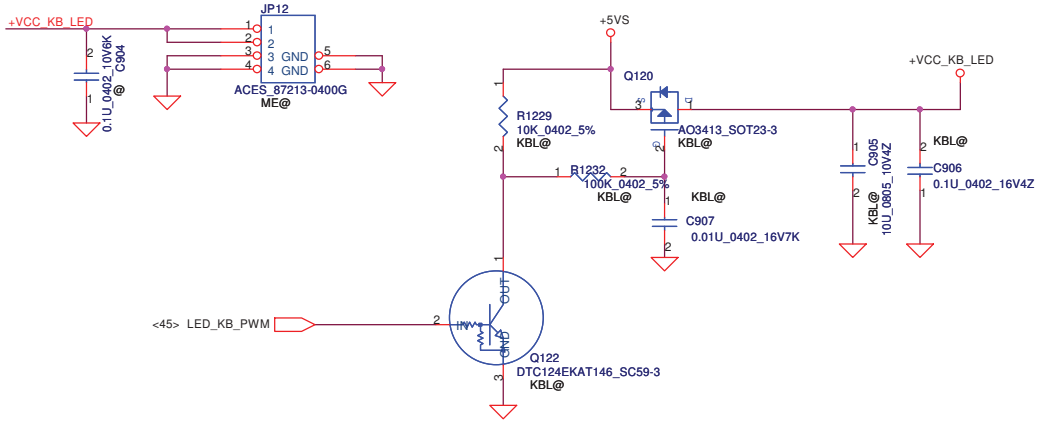
Silder Bar Board Mdule Conn. 6pin

12/29 EMI request

DVT, R1117 change to SM01000CY00 for EMI request.



KB Lighting CONN.4pin



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

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.

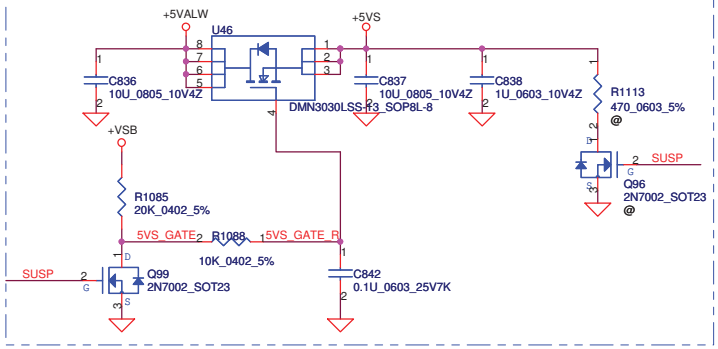
Compal Electronics,Ltd.

Title: **other IO connector**

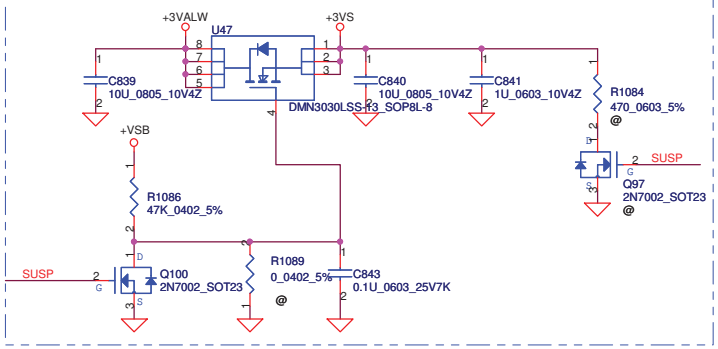
Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 | Sheet 50 of 63

+5VALW TO +5VS

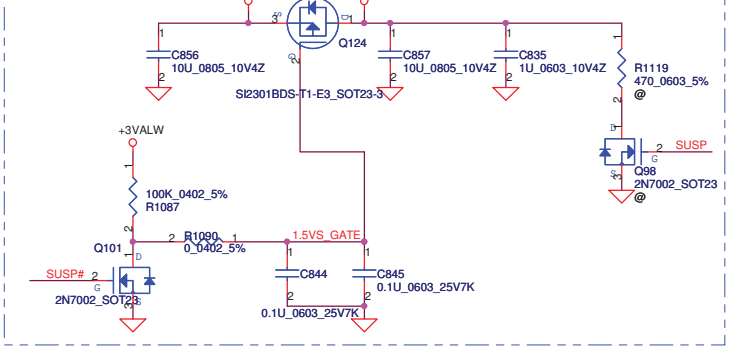


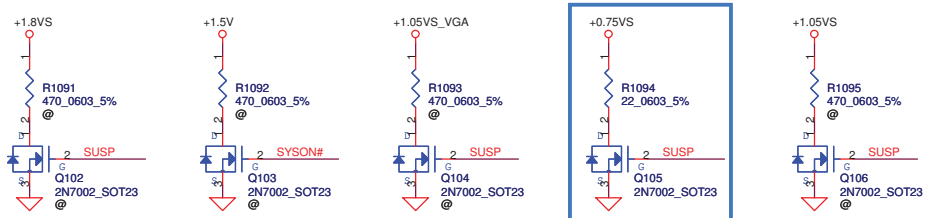
+3VALW TO +3VS



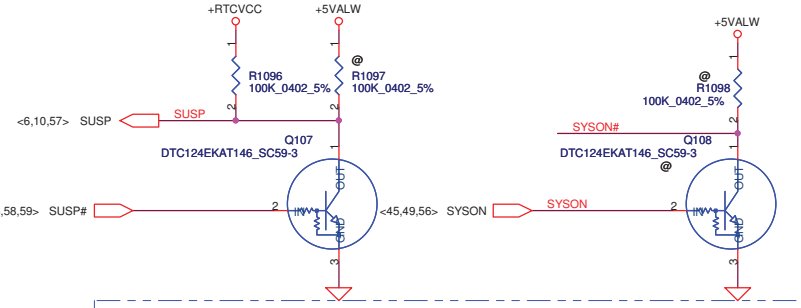
+1.5V to +1.5VS

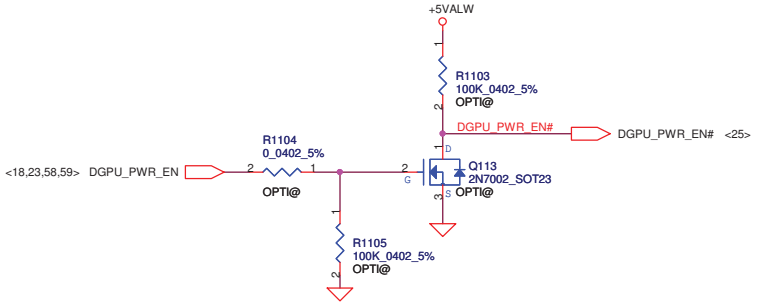
7/26 change SI4800 to SI2301



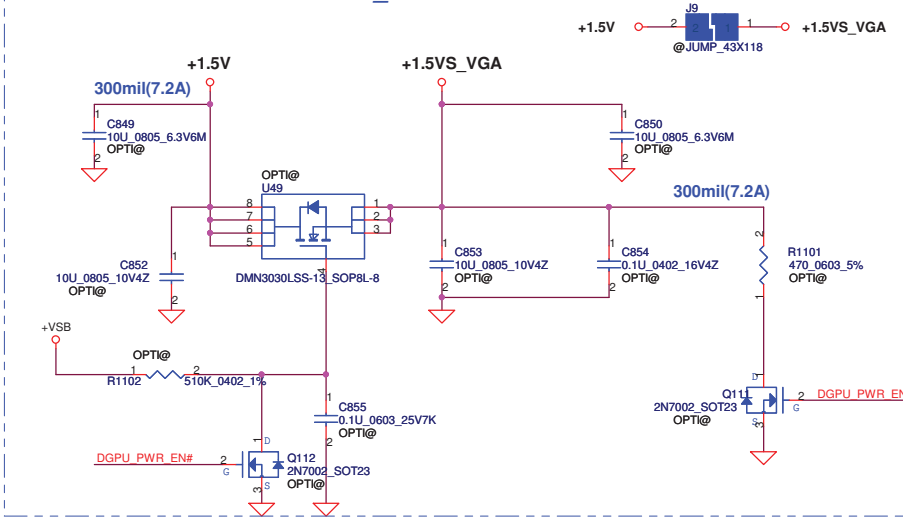


For Intel S3 Power Reduction.





+1.5V to +1.5VS_VGA Transfer



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2011/08

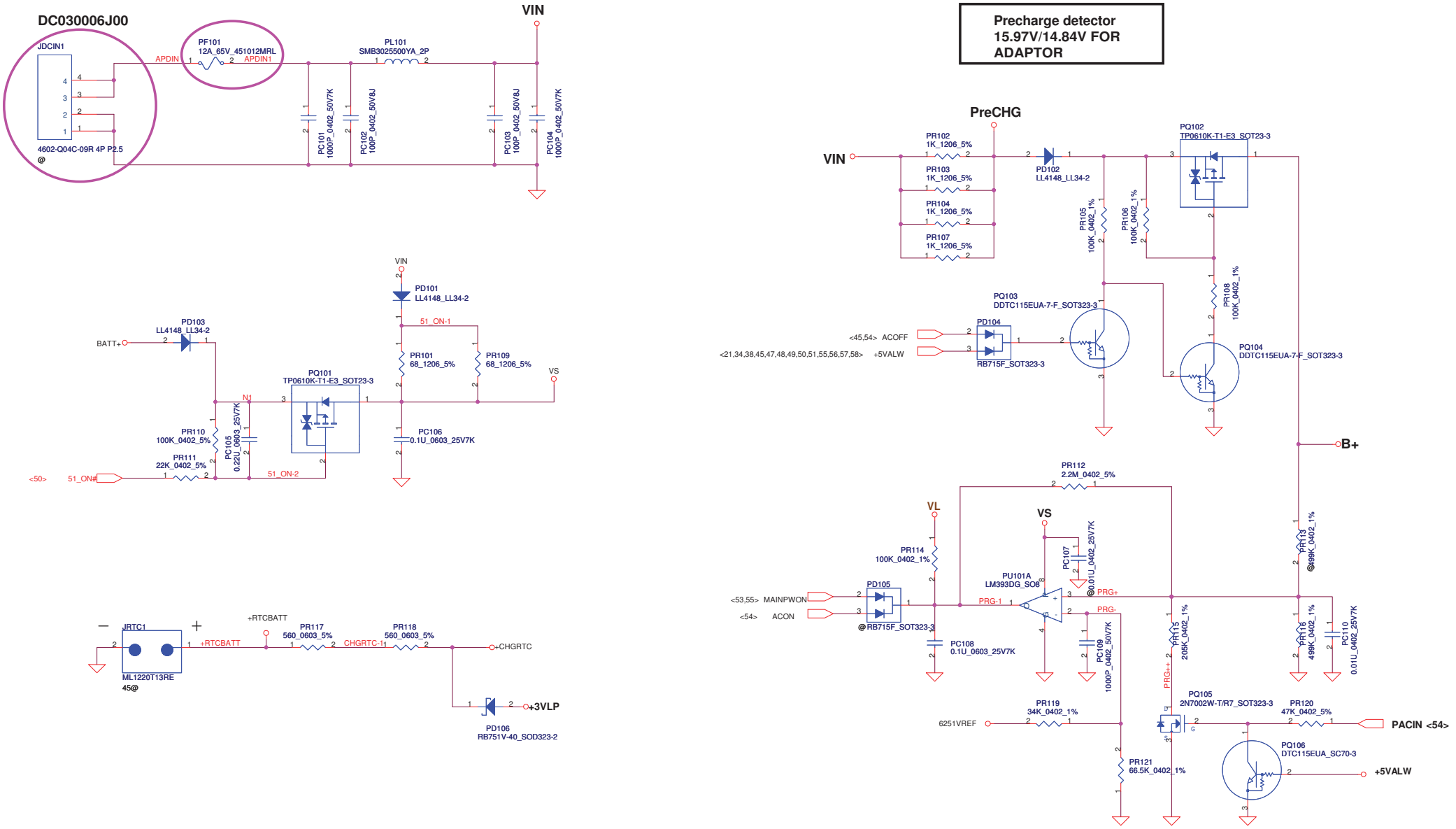
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 | Sheet 51 of 63



ACIN

Precharge detector	Min.	typ.	Max.
L-->H	14.991V	15.381V	15.782V
H-->L	13.860V	14.247V	14.621V

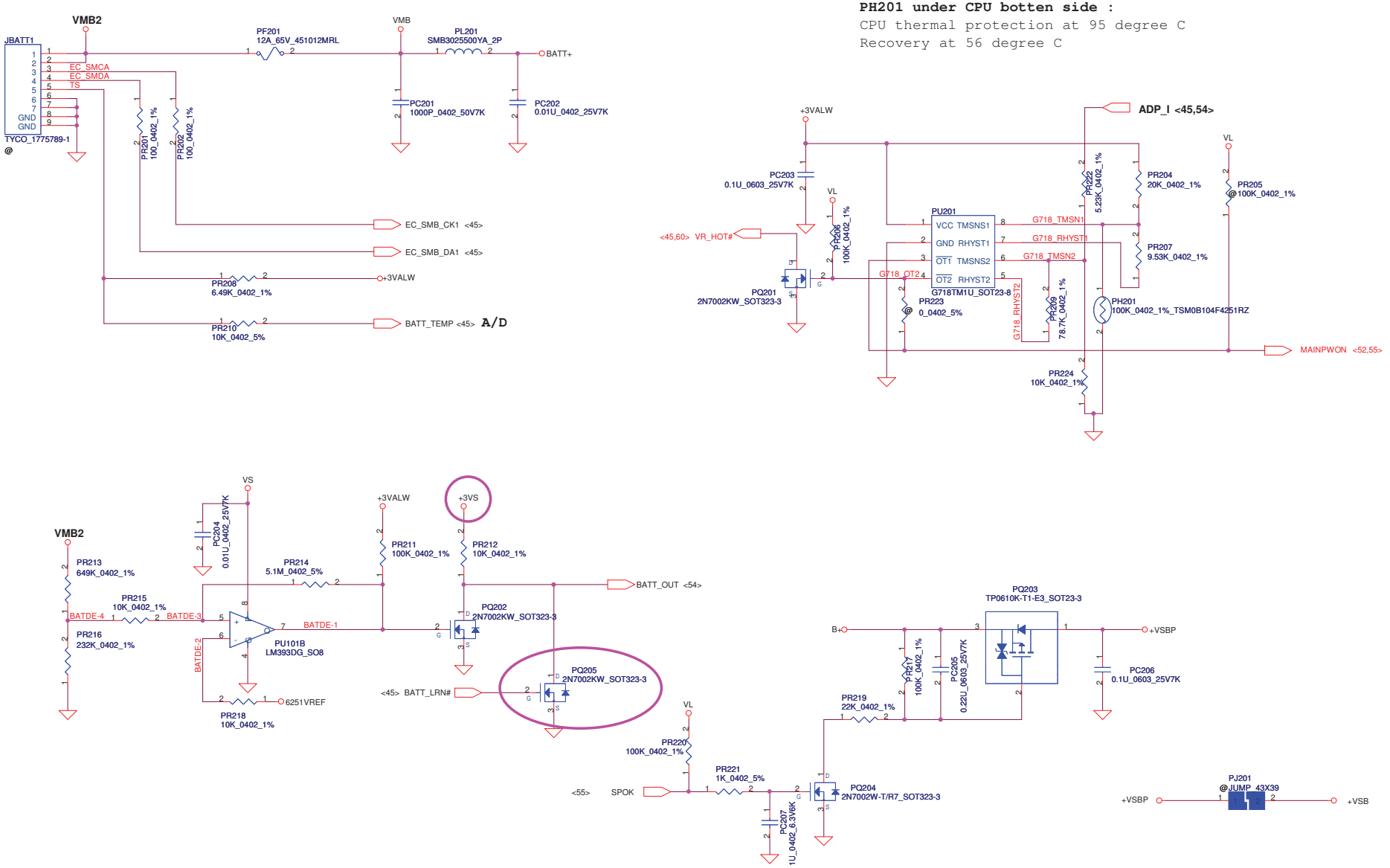
BATT ONLY

Precharge detector	Min.	typ.	Max.
L-->H	7.196V	7.349V	7.505V
H-->L	6.138V	6.214V	6.056V

Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

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.

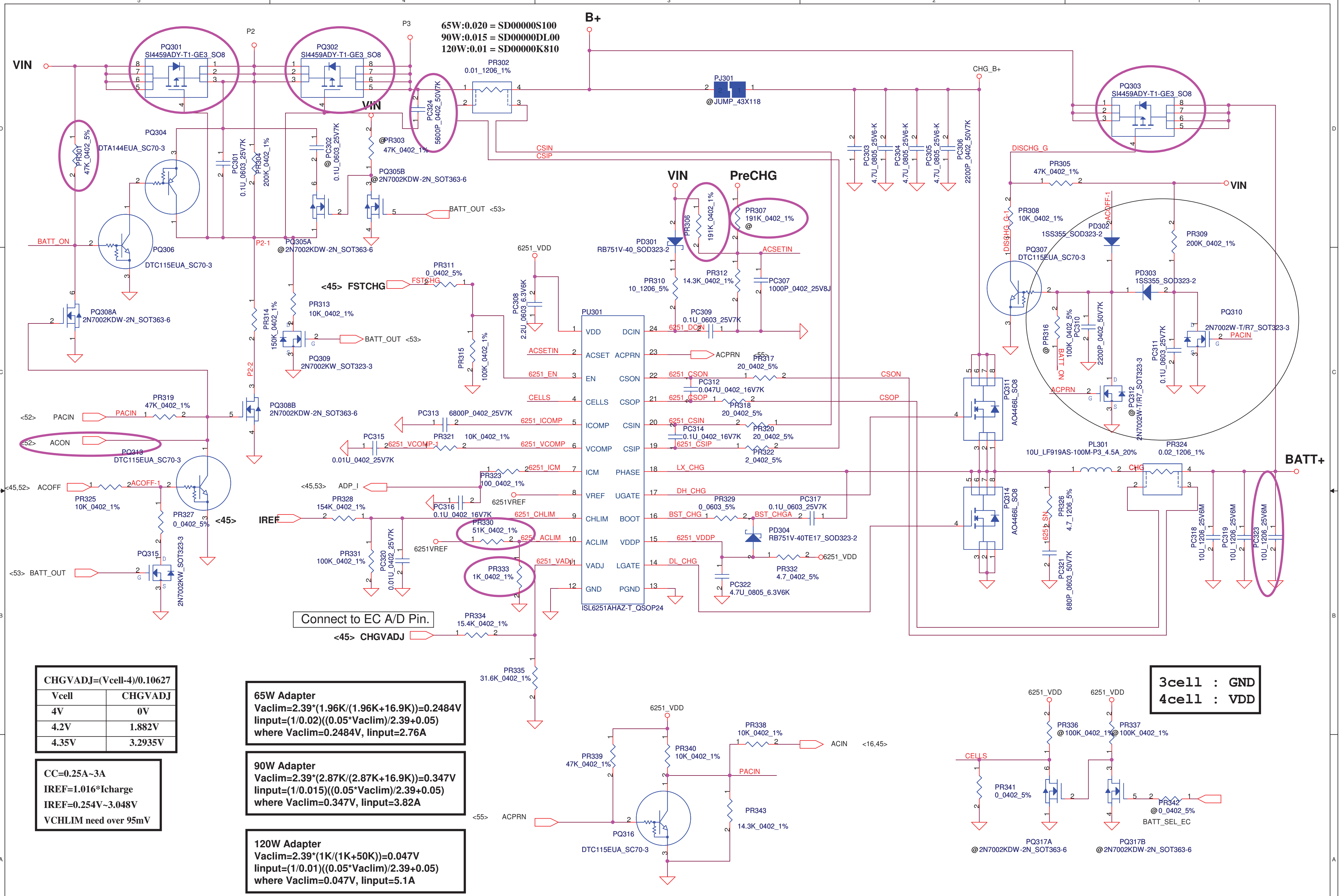
Compal Electronics, Inc.			
Title	PWR DCIN / Vin Detector /Pre-charge		
Size: Custom	Document Number: PIQY0/Y1		Rev: 1.0
Date: Wednesday, January 05, 2011	Sheet 52 of 63		



Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

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	Document Number	PIQY0/Y1	Rev 1.0
Custom			
Date:	Wednesday, January 05, 2011	Sheet	53 of 63



CHGVADJ=(Vcell-4)/0.10627	
Vcell	CHGVADJ
4V	0V
4.2V	1.882V
4.35V	3.2935V

CC=0.25A~3A
IREF=1.016*Icharge
IREF=0.254V~3.048V
VCHLIM need over 95mV

65W Adapter
Vaclim=2.39*(1.96K/(1.96K+16.9K))=0.2484V
Iinput=(1/0.02)((0.05*Vaclim)/2.39+0.05)
where Vaclim=0.2484V, Iinput=2.76A

90W Adapter
Vaclim=2.39*(2.87K/(2.87K+16.9K))=0.347V
Iinput=(1/0.015)((0.05*Vaclim)/2.39+0.05)
where Vaclim=0.347V, Iinput=3.82A

120W Adapter
Vaclim=2.39*(1K/(1K+50K))=0.047V
Iinput=(1/0.01)((0.05*Vaclim)/2.39+0.05)
where Vaclim=0.047V, Iinput=5.1A

65W : PR330=16.9K, PR333=1.96K
90W : PR330=16.9K, PR333=2.87K
120W : PR330=50K, PR333=1K

Security Classification	Compal Secret Data		
Issued Date	2010/01/13	Deciphered Date	2011/01/13

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.

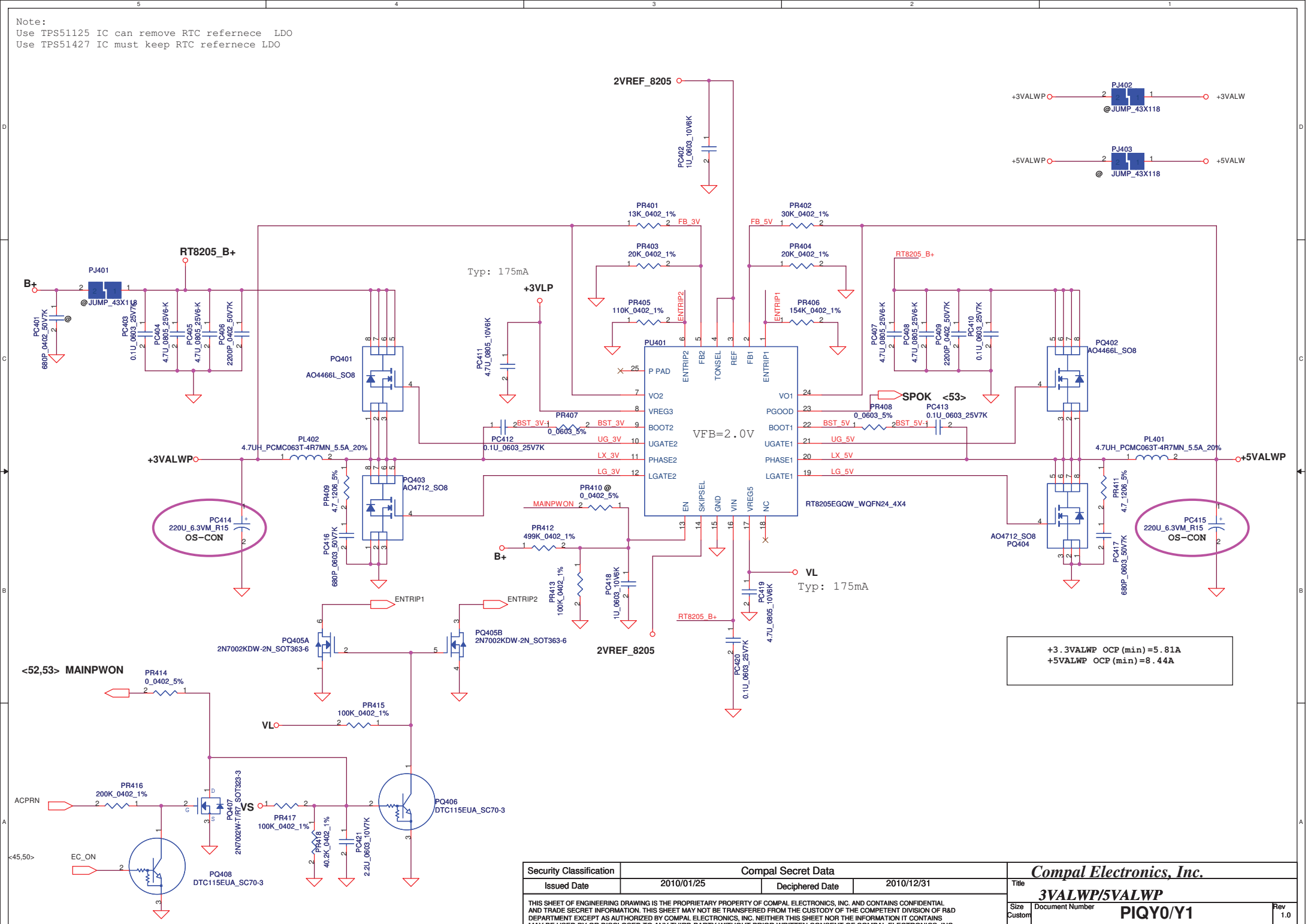
Compal Electronics, Inc.

Title: CHARGER

Size | Document Number: PIQY0/Y1 | Rev 1.0

Date: Wednesday, January 05, 2011 | Sheet 54 of 63

Note:
Use TPS51125 IC can remove RTC refernece LDO
Use TPS51427 IC must keep RTC refernece LDO



Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

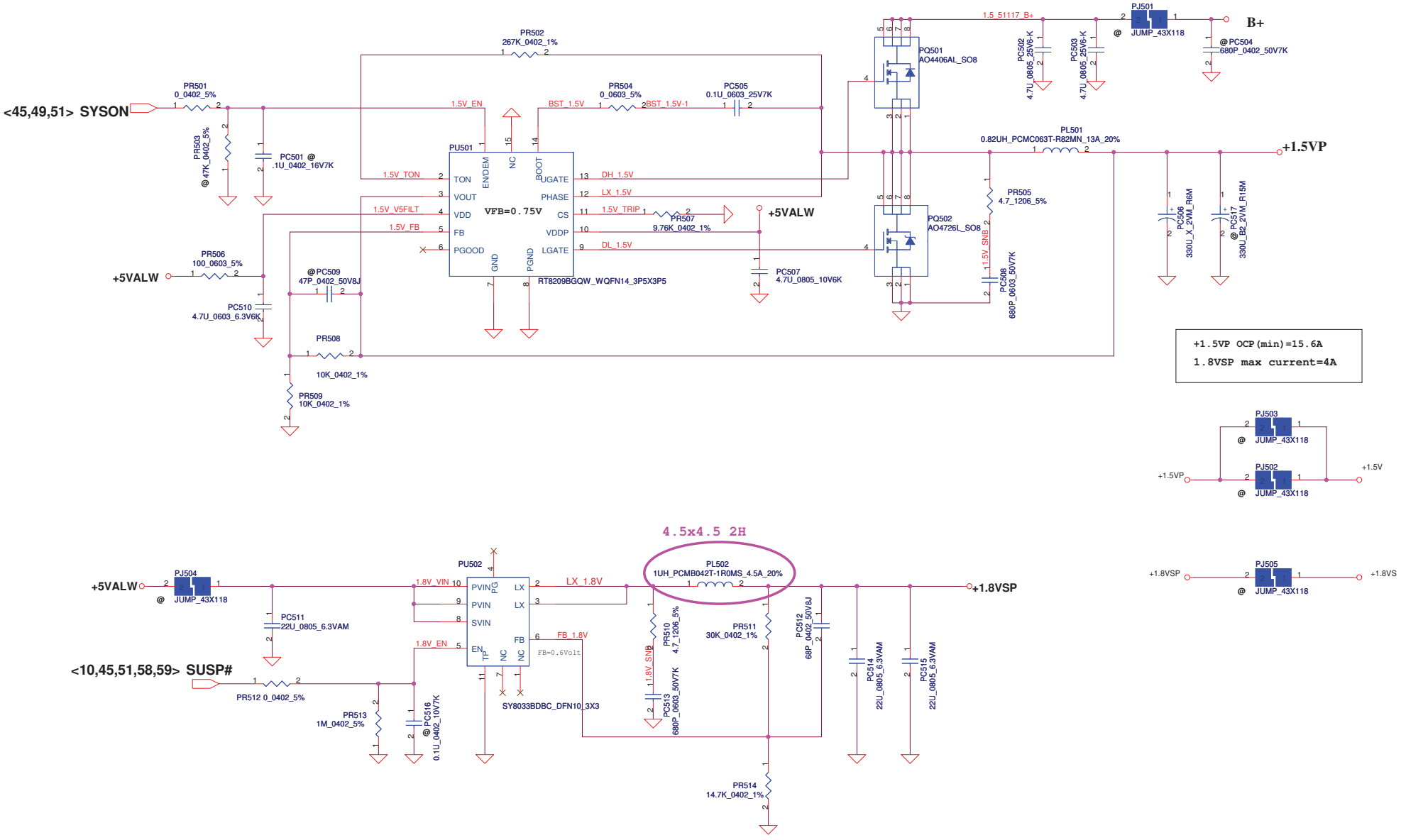
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: 3VALWP/5VALWP

Size	Document Number	Rev
Custom	PIQY0/Y1	1.0

Date: Wednesday, January 05, 2011 Sheet 55 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

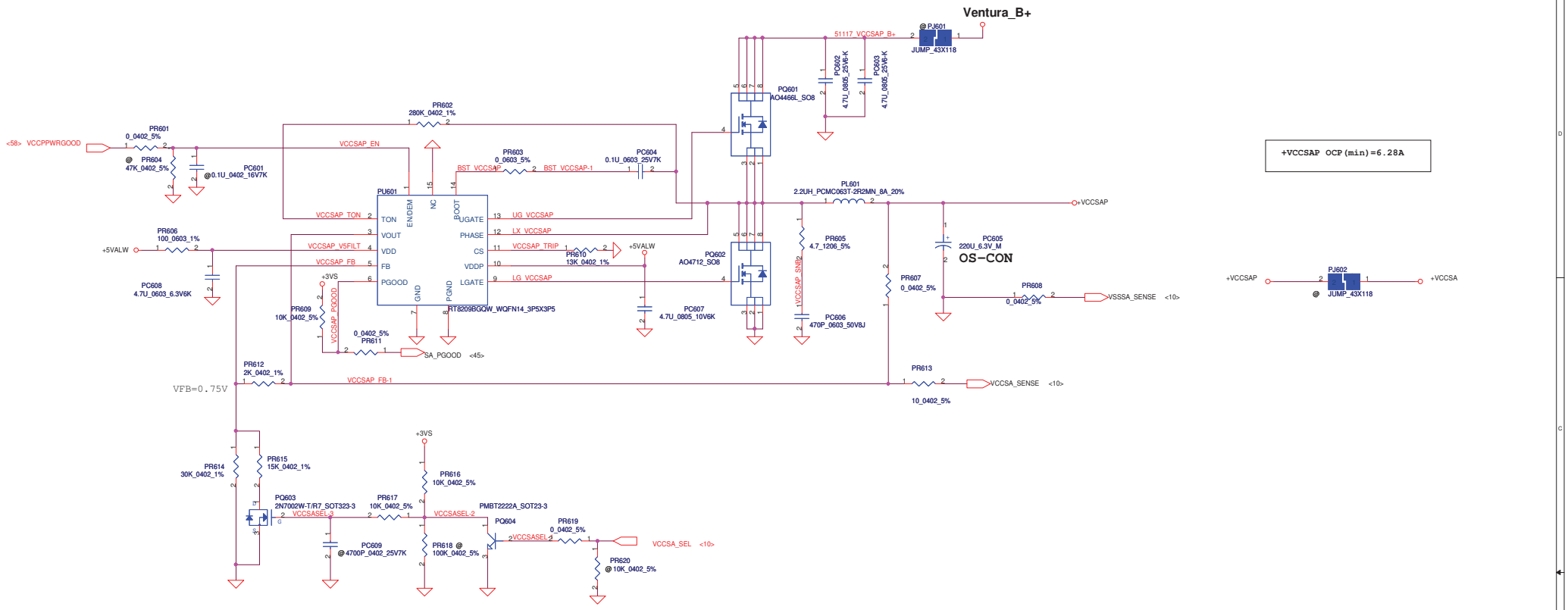
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
Custom	PIQY0/Y1	1.0

Date: Wednesday, January 05, 2011 | Sheet 56 of 63



VID[0]	VID[1]	VCCSA Vout	Require on 2011/ 2012 Required
0	0	0.9 V	Yes/Yes
0	1	0.8 V	Yes/Yes
1	1	0.75V	No/Yes
1	1	0.65V	No/Yes

Note:Use VCCSA_SEL to switch High & Low Level for VID[1]
(ie. VCCSA_SEL) due to the VID[0] is don't care for this setting.

Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

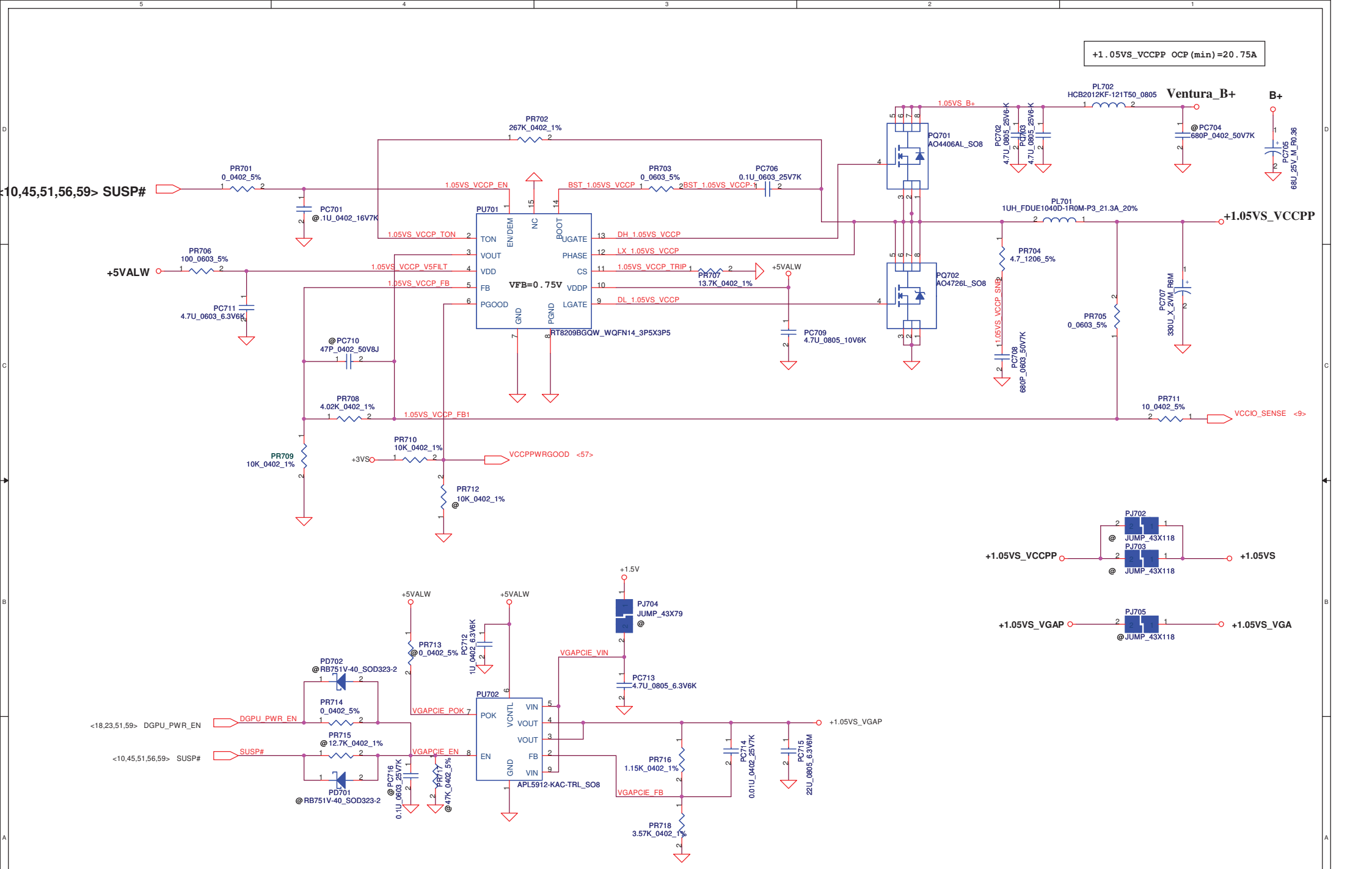
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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 +VCCSAP/+0.75VSP

Size	Document Number	Rev
C	PIQY0/Y1	1.0

Date: Wednesday, January 05, 2011 Sheet 57 of 63



Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

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 +1.05VS_VCCPP/1.05VS_VGA*

Size	Document Number	Rev
Custom	PIQY0/Y1	1.0

Date: Wednesday, January 05, 2011 | Sheet 58 of 63

GS: PR840,PR845,PR847,PR853
GT/GT1:PR843,PR844.PR846,PR854

N12P-GS

GPIO6	GPIO5	
GPU_VID1	GPU_VID0	VGA_CORE
0	0	1.0V
0	1	0.975V
1	1	0.825V

N12P-GT/GT1

GPIO6	GPIO5	
GPU_VID1	GPU_VID0	VGA_CORE
0	0	1.075V
0	1	0.925V
1	1	0.825V

PU801 ISL6264CRZ-T_QFN40_6X6

PQ801 PQ802 PQ803 PQ804 TPCA8030-H_SOP-ADV8-5

PQ806 PQ807 2N7002KW_SOT323-3

PQ805 PQ808 TPCA8028-H_SOP-ADVANCE8-5

PL801 HCB4532KF-800T90_1812

PL802 PL803 0.42UH_FDUE0640-R42M_20.2A_20%~D

7X7 4H_DCR=1.48mohm

B value=4300K

PH801 10K_0603_5%_TSM1A103J4302RE

Security Classification	Compal Secret Data		
Issued Date	2006/12/12	Deciphered Date	2007/12/12

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-VGA_CORE

Size: Custom | Document Number: PIQY0/Y1 | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 59 of 63

Alert# PU resister need close CPU,
so the PU resister in HW schematic.
but DAT and CLK need close PWM-IC,
so the PU resister in POWER schematic.

Parallel and tune length

change from 43P to 47P
for shortage problem
2010-03-15

PR936
QC:19.1K
DC:19.6K

PR956
QC:3.724K
DC:2.15K

QC: PC935
DC: PC933

PR959
QC:1.54K=120A
DC:887=70A

PR943
0 ohm =>98A (Vboot=0v)
590 ohm=>91A (Vboot=0v)

B value=4700K

B value=4700K

B value=4250K

Choke PN:SH00000JX00
DCR=1.33~1.396m ohm

Choke PN:SH00000JX00
DCR=1.33~1.396m ohm

Choke PN:SH00000JX00
DCR=1.33~1.396m ohm

Choke PN:SH00000JX00
DCR=1.33~1.396m ohm

*Iccmax in Turbo Mode for SV (35W) is 53A

+CPU_CORE

Icc-max=53A
Rdson=3.6~4.5m ohm
DCR=1.1m ohm
HW output cap:
(1)10U_0805_4V *10
(2)22U_0805_6.3V *15
(3)470U_D2_2V *4(ESR=4.5m ohm)

*OCP setting value=71.5A

+VGFX_COREP

Ipeak=26A , Imax=18.2A , 1.2Ipeak=31.2A
Rdson=3.6~4.5m ohm
DCR=1.1m ohm
HW output cap:
(1)22U_0805_6.3V *12
(2)470U_D2_2V *2(ESR=4.5m ohm)

*OCP setting value=37A

Security Classification	Compal Secret Data		
Issued Date	2010/01/25	Deciphered Date	2010/12/31

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 +CPU_CORE/+VGFX_CORE

Size: Custom | Document Number: PIQY0/Y1 | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 60 of 63

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	2009/01/06	Deciphered Date	2009/01/06

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: PIQY0/Y1 | Rev: 1.0

Date: Wednesday, January 05, 2011 | Sheet 61 of 63

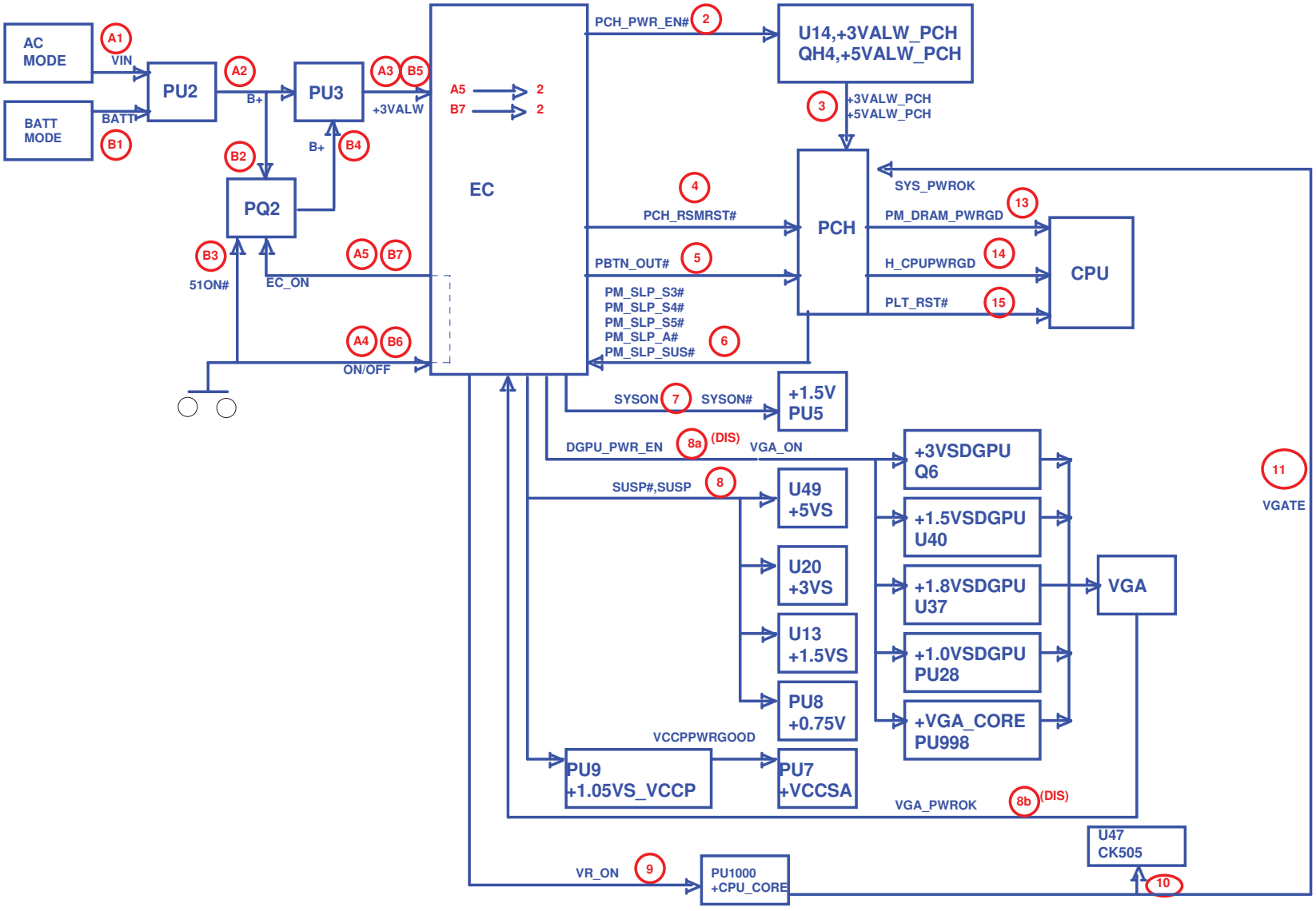
PIQY0 HW PIR List

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
				EVT TO DVT
1		P18	Reserve R297	Reserve pull down for PCH GPIO53.
2		P18	Exchange SATA port0 & port1	For fast boot function.
3		P50	Change KB light control circuit Delete U55,C908,R1233,R1235,R1236,1238,R1230,R1231,Q121	Change KB light control from PWM to on/off.
4		P36	Add F2 (poly-fuse)	For HDMI port diode protection.
5		P19	Stuff R303, unstuff R340	Change ESATA_DET# to GPIO1.
6		P49	Stuff R1068, reserve R1326, Q130	Reserve USB3.0 power swicth control inverter circuit.
~~7~~		~~P48~~	~~Add R1327~~	~~For CHG_ON# pull down.~~
8		P45	Stuff R996,R139,C815, unstuff R1000,C732,C733,Y5	Change EC CLK from crystal to SUSCLK.
9		P37	Add U60, Q132, C921, R1329, Q133, R1328	Add WLAN power switch circuit
10		P34	Modify JLVDS1	Modify connector from 40pin to 30pin.
11		P09	Add C922	Add C922 to place at CPU sdie.
12		P21	Add R1330	Add for INTVREN control
13		P41	Modify C639	Modify type from 0805 to 0603
14		P45	Modify TP_LED#, PCH_DPWROK and LED_KB_PWM link	Change LED_KB_PWM to U36. pin26 GPIO12.
15		P18	Delete EN_CARD_PW#, EN_WOL#	Add FAST_BOOT# to replace EN_CARD_PW# and EN_WOL#
16		P48		Remove USB charger function
17		P42	Change C660, C661 from 3300p to 0.1u	For 100Hz High Pass filter
18		P43	Replace R958, R959 to C924, C925 0.033u	For 100Hz High Pass filter
19		P14	Add one more SPI-ROM circuit	For dual BIOS function
20		P50	Remove EC_SMB_CK2, EC_SMB_DA2 link to JP13	Remove light sensor function
21		P14	Add Q134, R1345, R1346	Add for Fast boot SPI ROM selection by EC.
22		P34	Add R1341, C926	Added for EMI request
23		P37, P44	Add R1342,R1343	Added for WLAN and CARD reader Reset signal.
24		P19	Add R1344	Added for VENTURA detection.
				DVT TO PVT
1		P10	Add R1347, Change R56 to 20K,	Modify S3 1.5V reduction sequence.
2		P45	Add Q135	Modify PROCHOT control circuit.
			Modify R980 link to +5VALW	Change USB_ON PU power rail
				PVT TO SVT
1		P23,P45	FAST_BOOT#	Link FAST_BOOT# to VGA GPIO12
2		P50	Add C929	EMI Request
2		P14	Add R1348	INTEL Design Guide update

Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2009/01/06

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 (HW)		
Size: Custom	Document Number: LA-6882P	Rev: 1.0
Date: Wednesday, January 05, 2011	Sheet 62 of 63	



Security Classification	Compal Secret Data		
Issued Date	2010/11/30	Deciphered Date	2010/12/31

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 sequence

Size	Document Number	Rev
Custom	PIQY0 LA6881P	1.0

Date: Wednesday, January 05, 2011 Sheet 63 of 63

www.s-manuals.com