MODEL NAME : ***RANGER 17***
PCB NO : ***LA-9331P***
BOM P/N : ***4619KL31L01***

Compal Confidential

RANGER 17

Schematic Document

Rev: X00

2012-06-22

@ : Nopop Component

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

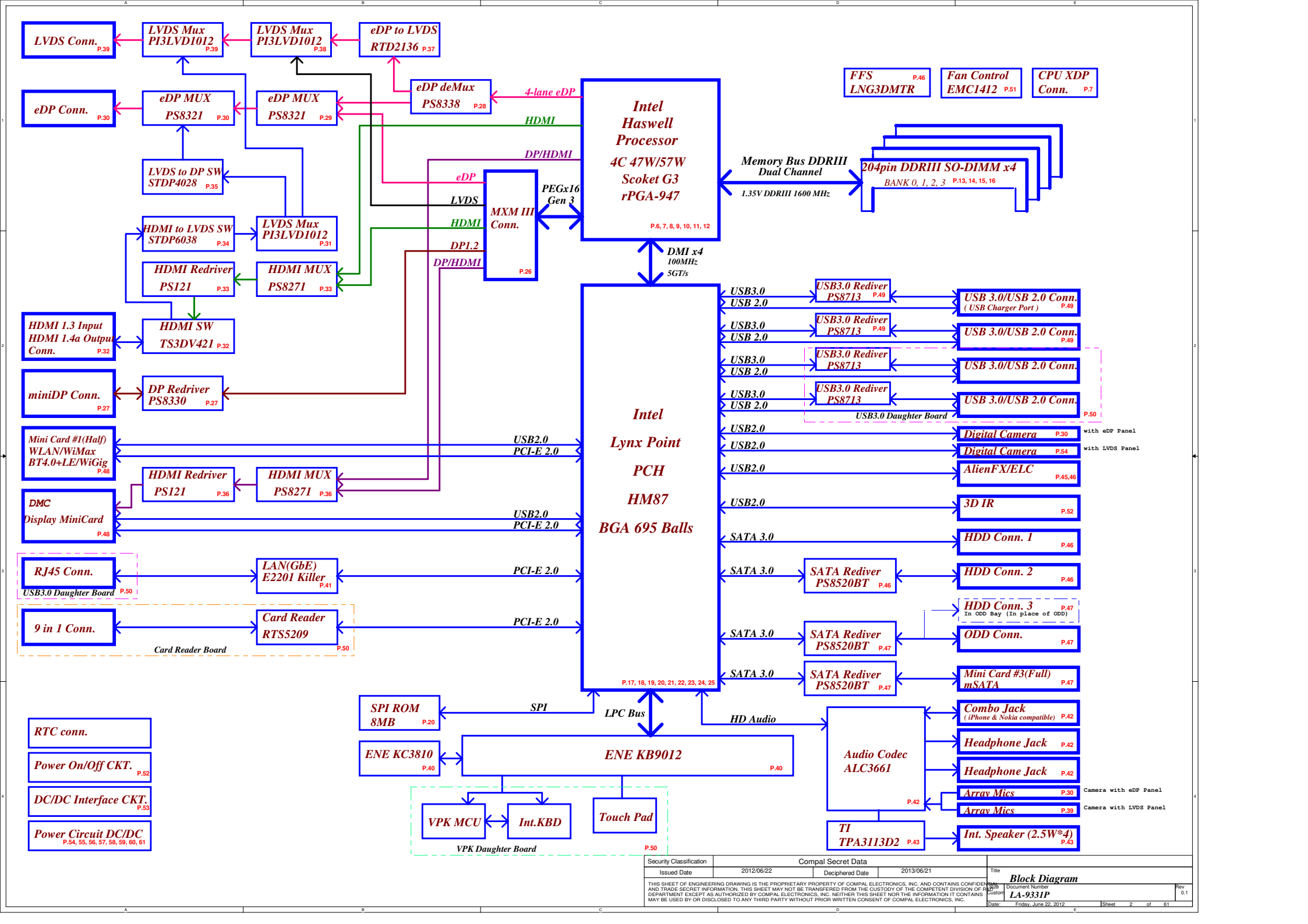
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size: Custom | Document Number: *LA-9331P* | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 1 of 61



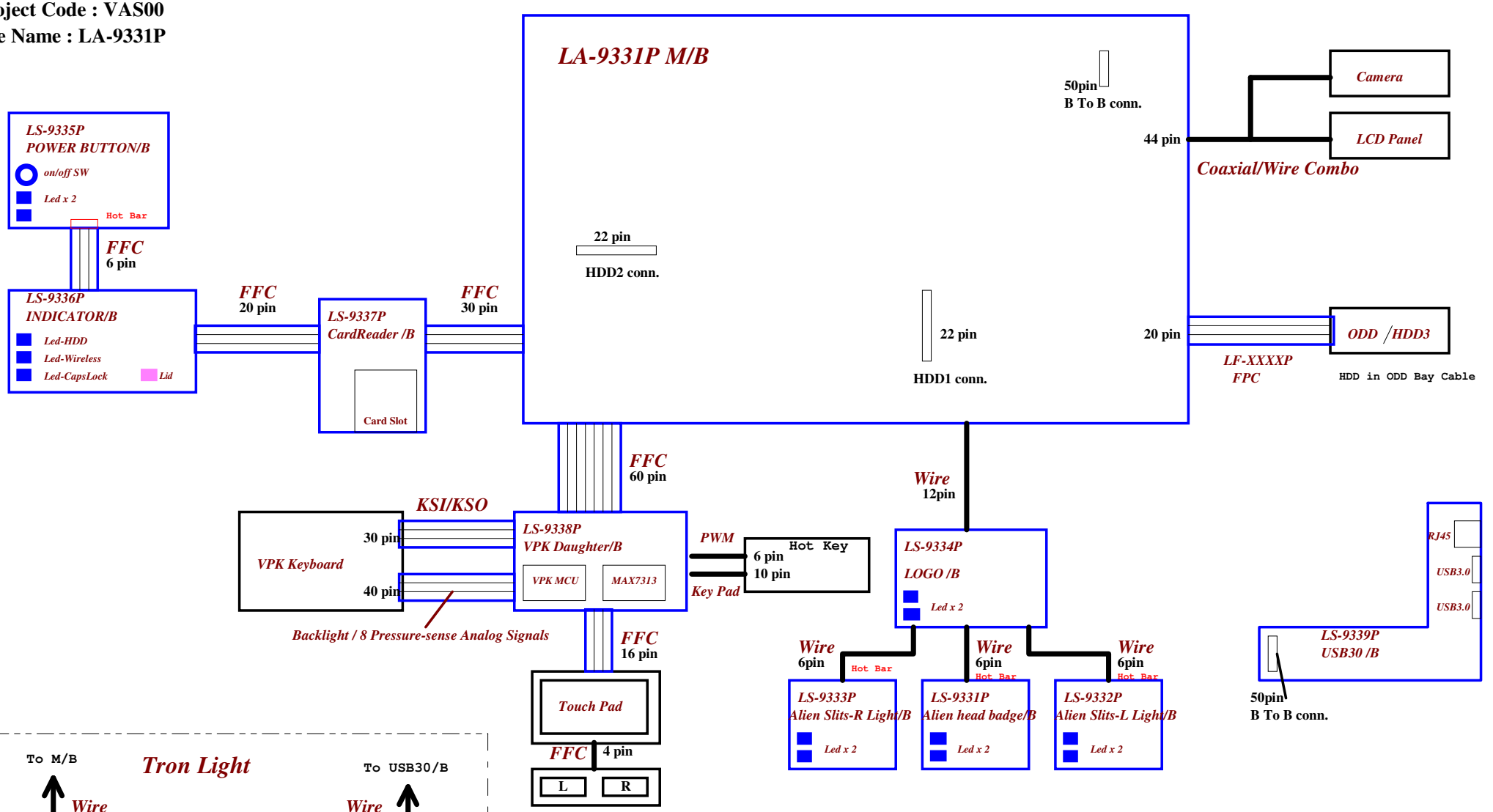
Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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	Block Diagram		
Size	Document Number		Rev
Custom	LA-9331P		0.1
Date:	Friday, June 22, 2012	Sheet	2 of 61

Compal Confidential

Project Code : VAS00
File Name : LA-9331P



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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

Compal Electronics, Inc.			
Title: Block Diagram			
Size	Document Number		Rev 0.1
Date: Friday, June 22, 2012	Sheet 3 of 61		

Board ID Table for AD channel

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

Board ID	Rb	V_{AD_BID} min	V_{AD_BID} typ	V_{AD_BID} max	EC AD3
0	0	0 V	0 V	0.155 V	0x00-0x0C
1	8.2K +/- 5%	0.168 V	0.250 V	0.362 V	0x0D-0x1C
2	18K +/- 5%	0.375 V	0.503 V	0.621 V	0x1D-0x30
3	33K +/- 5%	0.634 V	0.819 V	0.945 V	0x31-0x49
4	56K +/- 5%	0.958 V	1.185 V	1.359 V	0x4A-0x69
5	100K +/- 5%	1.372 V	1.650 V	1.838 V	0x6A-0x8E
6	200K +/- 5%	1.851 V	2.200 V	2.420 V	0x8F-0xBB
7	NC	2.433 V	3.300 V	3.300 V	0xBC-0xFF

BOARD ID Table

Board ID	PCB Revision
0	0.1 (SSI)
1	0.2 (PT)
2	0.3 (ST)
3	0.4 (QT)
4	1.0 (MP)
5	
6	
7	

USB 3.0 PORT	Connetion
1	JUSB1 (Left side)
2	JUSB2 (Left side)
3	NA
4	NA
5	JUSB3 (Right side)
6	JUSB4 (Right side)

	USB PORT#	DESTINATION
USB2.0	0	JUSB1(USB3.0 P1)
	1	JUSB2(USB3.0 P2)
	2	JUSB3(USB3.0 P5)
	3	JUSB4(USB3.0 P6)
	4	JMINI1 (WLAN)
	5	JMINI2 (DMC)
	6	AlienFX/ELC
	7	IR SENSOR
	8	None
	9	None
	10	None
	11	eDP CAMERA
	12	LVDS CAMERA
	13	VPK K/B

POWER STATES

State \ Signal	SLP S3#	SLP S4#	SLP S5#	S4 STATE#	SLP M#	ALWAYS PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3 (Suspend to RAM) / M-OFF	LOW	HIGH		HIGH	LOW	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	LOW	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

PM TABLE

State \ power plane	+5VALW +3VALW +3VLP +3V_PCH	+1.35V +1.05V	+5VS +3VS +1.5VS +1.05VS +0.675VS +3VMXM +5VMXM +VCC_CORE +1.35V_CPU_VDDQ
S0	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC don't exist	OFF	OFF	OFF

Symbol Note :

: means Digital Ground

: means Analog Ground

	DIFFERENTIAL	DESTINATION	FLEX CLOCKS	DESTINATION
CLK	CLKOUT_PCIE0	MINI CARD-1 WLAN	CLKOUTFLEX0	None
	CLKOUT_PCIE1	MINI CARD-2 DMC	CLKOUTFLEX1	None
	CLKOUT_PCIE2	10/100/1G LAN	CLKOUTFLEX2	None
	CLKOUT_PCIE3	CARD READER	CLKOUTFLEX3	None
	CLKOUT_PCIE4	None		
	CLKOUT_PCIE5	None		
	CLKOUT_PCIE6	None		
	CLKOUT_PCIE7	None		
	CLKOUT_PEG_A	MXM		

CLKOUT	DESTINATION
PCI0	PCH_LOOPBACK
PCI1	EC
PCI2	80port debug card
PCI3	None
PCI4	None

SATAIII	DESTINATION
SATA0	HDD1
SATA1	HDD2
SATA2	ODD
SATA3	mSATA
SATA4/PCIE LANE1	MINI CARD-1 WLAN
SATA5/PCIE LANE2	MINI CARD-2 DMC

PCI EXPRESS	DESTINATION
Lane 1/USB3.0 Port 3	None
Lane 2/USB3.0 Port 4	None
Lane 3	10/100/1G LAN
Lane 4	CARD READER
Lane 5	None
Lane 6	None
Lane 7	None
Lane 8	None

SMBUS Control Table

	SOURCE	WLAN	DMC	BATT	DIMM	6038	4028	Thermal Sensor	FFS	2136	VPK MCU	MXM	XDP	Charger	TP	mSATA
EC_SMB_CK1 EC_SMB_DA1	KB9012			V								V		V		
EC_SMB_CK2 EC_SMB_DA2	KB9012					V	V	V		V	V					
PCH_SML0CLK PCH_SML0DATA	PCH															
PCH_SML1CLK PCH_SML1DATA	PCH															
MEM_SMBCLK MEM_SMBDATA	PCH		V		V				V				V		V	V

Link

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

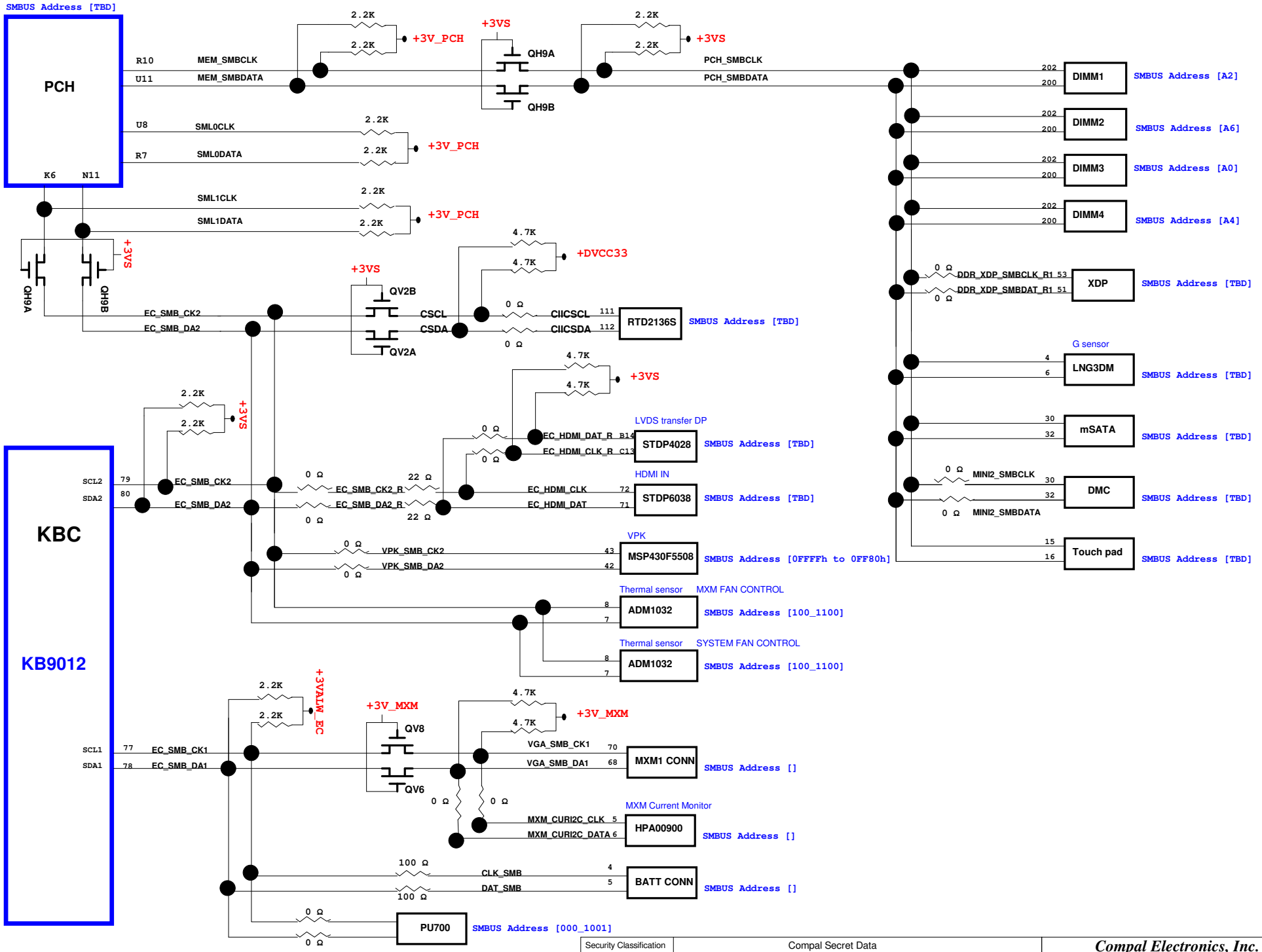
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 4 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: SMBus block diagram

Size	Document Number	Rev
Custom	LA-9331P	0.1

Date: Friday, June 22, 2012 Sheet 5 of 61

+VCOMP_OUT

PEG_COMP 24.9_0402_1%~D 2 1 RC2

CAD Note:
Trace width=12 mils ,Spacing=15mil
Max length= 400 mils.

PEG_GTX_HRX_P[0..15] <29>
PEG_GTX_HRX_N[0..15] <29>
PEG_HTX_C_GRX_P[0..15] <29>
PEG_HTX_C_GRX_N[0..15] <29>

Haswell rPGA EDS
JCPU1A

<17> DMI_CRX_PTX_N0	DMI_CRX_PTX_N0	D21	DMI_RXN_0	PEG_RCOMP	E23	PEG_COMP					
<17> DMI_CRX_PTX_N1	DMI_CRX_PTX_N1	C21	DMI_RXN_1	PEG_RXN_0	M29	PEG_GTX_C_HRX_N0	CC1	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N0
<17> DMI_CRX_PTX_N2	DMI_CRX_PTX_N2	B21	DMI_RXN_2	PEG_RXN_1	K28	PEG_GTX_C_HRX_N1	CC2	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N1
<17> DMI_CRX_PTX_N3	DMI_CRX_PTX_N3	A21	DMI_RXN_3	PEG_RXN_2	M31	PEG_GTX_C_HRX_N2	CC3	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N2
				PEG_RXN_3	L30	PEG_GTX_C_HRX_N3	CC4	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N3
<17> DMI_CRX_PTX_P0	DMI_CRX_PTX_P0	D20	DMI_RXP_0	PEG_RXN_4	M33	PEG_GTX_C_HRX_N4	CC5	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N4
<17> DMI_CRX_PTX_P1	DMI_CRX_PTX_P1	C20	DMI_RXP_1	PEG_RXN_5	L32	PEG_GTX_C_HRX_N5	CC13	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N5
<17> DMI_CRX_PTX_P2	DMI_CRX_PTX_P2	B20	DMI_RXP_2	PEG_RXN_6	M35	PEG_GTX_C_HRX_N6	CC6	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N6
<17> DMI_CRX_PTX_P3	DMI_CRX_PTX_P3	A20	DMI_RXP_3	PEG_RXN_7	L34	PEG_GTX_C_HRX_N7	CC7	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N7
				PEG_RXN_8	E29	PEG_GTX_C_HRX_N8	CC8	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N8
<17> DMI_CTX_PRX_N0	DMI_CTX_PRX_N0	D18	DMI_TXN_0	PEG_RXN_9	D28	PEG_GTX_C_HRX_N9	CC9	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N9
<17> DMI_CTX_PRX_N1	DMI_CTX_PRX_N1	C17	DMI_TXN_1	PEG_RXN_10	E31	PEG_GTX_C_HRX_N10	CC10	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N10
<17> DMI_CTX_PRX_N2	DMI_CTX_PRX_N2	B17	DMI_TXN_2	PEG_RXN_11	D30	PEG_GTX_C_HRX_N11	CC11	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N11
<17> DMI_CTX_PRX_N3	DMI_CTX_PRX_N3	A17	DMI_TXN_3	PEG_RXN_12	E35	PEG_GTX_C_HRX_N12	CC12	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N12
				PEG_RXN_13	D34	PEG_GTX_C_HRX_N13	CC14	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N13
<17> DMI_CTX_PRX_P0	DMI_CTX_PRX_P0	D17	DMI_TXP_0	PEG_RXN_14	E33	PEG_GTX_C_HRX_N14	CC15	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N14
<17> DMI_CTX_PRX_P1	DMI_CTX_PRX_P1	C18	DMI_TXP_1	PEG_RXN_15	E32	PEG_GTX_C_HRX_N15	CC16	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_N15
<17> DMI_CTX_PRX_P2	DMI_CTX_PRX_P2	B18	DMI_TXP_2	PEG_RXP_0	L29	PEG_GTX_C_HRX_P0	CC17	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P0
<17> DMI_CTX_PRX_P3	DMI_CTX_PRX_P3	A18	DMI_TXP_3	PEG_RXP_1	L28	PEG_GTX_C_HRX_P1	CC18	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P1
				PEG_RXP_2	L31	PEG_GTX_C_HRX_P2	CC19	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P2
				PEG_RXP_3	K30	PEG_GTX_C_HRX_P3	CC20	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P3
				PEG_RXP_4	L33	PEG_GTX_C_HRX_P4	CC21	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P4
				PEG_RXP_5	K32	PEG_GTX_C_HRX_P5	CC22	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P5
				PEG_RXP_6	L35	PEG_GTX_C_HRX_P6	CC23	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P6
				PEG_RXP_7	K34	PEG_GTX_C_HRX_P7	CC24	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P7
				PEG_RXP_8	F29	PEG_GTX_C_HRX_P8	CC25	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P8
				PEG_RXP_9	E28	PEG_GTX_C_HRX_P9	CC26	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P9
				PEG_RXP_10	F31	PEG_GTX_C_HRX_P10	CC27	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P10
				PEG_RXP_11	E30	PEG_GTX_C_HRX_P11	CC28	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P11
				PEG_RXP_12	F35	PEG_GTX_C_HRX_P12	CC29	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P12
				PEG_RXP_13	E34	PEG_GTX_C_HRX_P13	CC30	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P13
				PEG_RXP_14	F33	PEG_GTX_C_HRX_P14	CC31	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P14
				PEG_RXP_15	D32	PEG_GTX_C_HRX_P15	CC32	1	2	0.22U 0402 16V7K~D	PEG_GTX_HRX_P15
				PEG_TXN_0	H35	PEG_HTX_GRX_N0	CC33	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N0
				PEG_TXN_1	H34	PEG_HTX_GRX_N1	CC34	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N1
				PEG_TXN_2	J33	PEG_HTX_GRX_N2	CC35	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N2
				PEG_TXN_3	H32	PEG_HTX_GRX_N3	CC36	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N3
				PEG_TXN_4	J31	PEG_HTX_GRX_N4	CC37	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N4
				PEG_TXN_5	G30	PEG_HTX_GRX_N5	CC38	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N5
				PEG_TXN_6	C33	PEG_HTX_GRX_N6	CC39	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N6
				PEG_TXN_7	B32	PEG_HTX_GRX_N7	CC40	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N7
				PEG_TXN_8	B31	PEG_HTX_GRX_N8	CC41	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N8
				PEG_TXN_9	A30	PEG_HTX_GRX_N9	CC42	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N9
				PEG_TXN_10	B29	PEG_HTX_GRX_N10	CC43	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N10
				PEG_TXN_11	A28	PEG_HTX_GRX_N11	CC44	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N11
				PEG_TXN_12	B27	PEG_HTX_GRX_N12	CC45	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N12
				PEG_TXN_13	A26	PEG_HTX_GRX_N13	CC46	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N13
				PEG_TXN_14	B25	PEG_HTX_GRX_N14	CC47	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N14
				PEG_TXN_15	A24	PEG_HTX_GRX_N15	CC48	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_N15
				PEG_TXP_0	J35	PEG_HTX_GRX_P0	CC49	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P0
				PEG_TXP_1	G34	PEG_HTX_GRX_P1	CC50	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P1
				PEG_TXP_2	H33	PEG_HTX_GRX_P2	CC51	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P2
				PEG_TXP_3	G32	PEG_HTX_GRX_P3	CC52	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P3
				PEG_TXP_4	H31	PEG_HTX_GRX_P4	CC53	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P4
				PEG_TXP_5	H30	PEG_HTX_GRX_P5	CC54	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P5
				PEG_TXP_6	B33	PEG_HTX_GRX_P6	CC55	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P6
				PEG_TXP_7	A32	PEG_HTX_GRX_P7	CC56	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P7
				PEG_TXP_8	C31	PEG_HTX_GRX_P8	CC57	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P8
				PEG_TXP_9	B30	PEG_HTX_GRX_P9	CC58	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P9
				PEG_TXP_10	C29	PEG_HTX_GRX_P10	CC59	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P10
				PEG_TXP_11	B28	PEG_HTX_GRX_P11	CC60	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P11
				PEG_TXP_12	C27	PEG_HTX_GRX_P12	CC61	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P12
				PEG_TXP_13	B26	PEG_HTX_GRX_P13	CC62	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P13
				PEG_TXP_14	C25	PEG_HTX_GRX_P14	CC63	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P14
				PEG_TXP_15	B24	PEG_HTX_GRX_P15	CC64	1	2	0.22U 0402 16V7K~D	PEG_HTX_C_GRX_P15

DMI
PEG
FDI

<17> FDI_CSYNC
<17> FDI_INT

RC3 2 1 0_0402_5%~D FDI_CSYNC_R H29
RC87 2 1 0_0402_5%~D FDI_INT_R J29

FDI_CSYNC
FDI_INT

1 OF 9
INTEL_HASWELL_HASWELL

CONN@

Near MXM Connector

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

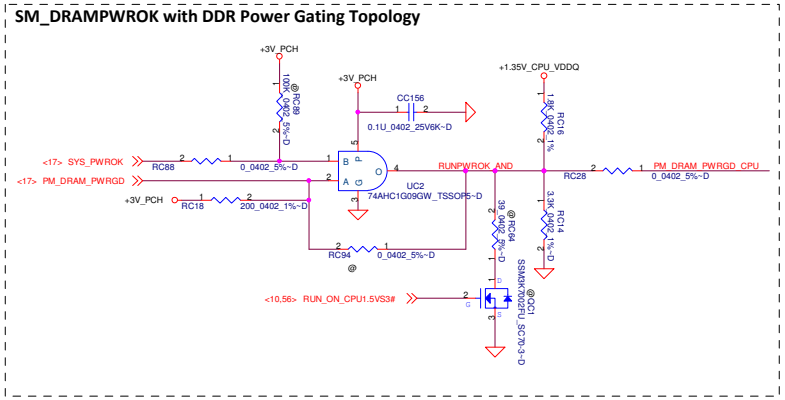
Compal Electronics, Inc.

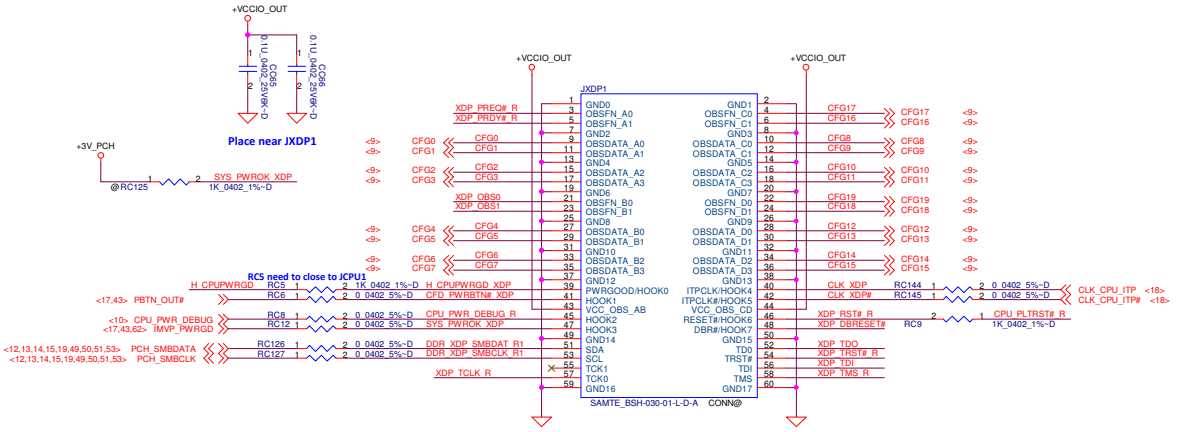
Title: **CPU (1/7) DMI,PEG**

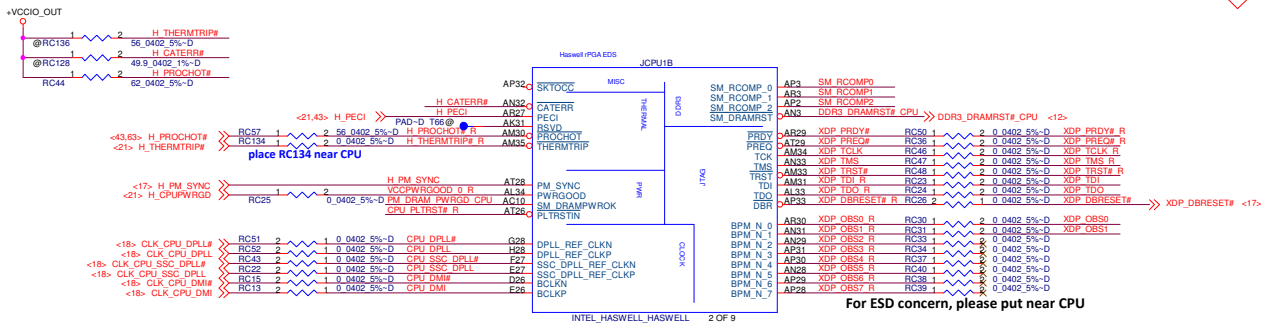
Size: Custom | Document Number: **LA-9331P** | Rev: 0.1

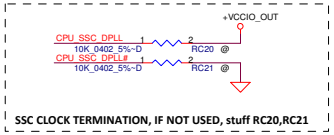
Date: Friday, June 22, 2012 | Sheet 6 of 61

SM_DRAMPWROK with DDR Power Gating Topology

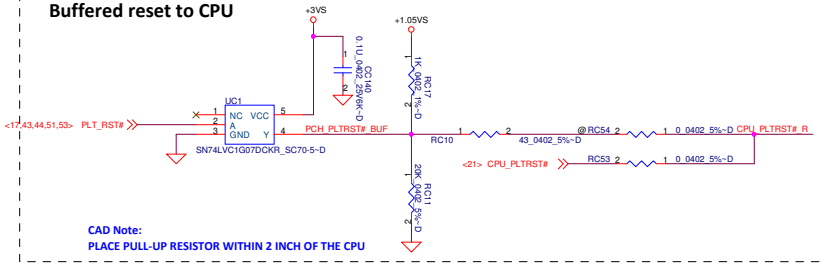


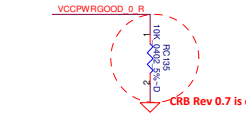






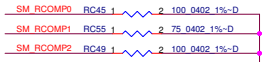
Buffered reset to CPU





CAD Note:
Avoid stub in the PWRGD path
while placing resistors RC25 & RC130

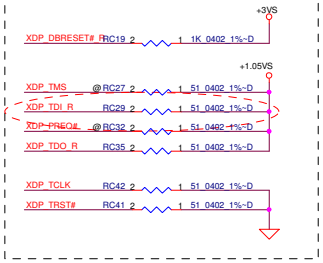
DDR3 COMPENSATION SIGNALS



CAD Note:
Trace width=12~15 mil, Spcing=20 mils
Max trace length= 500 mil

CRB Rev 0.7 no pull up

PU/PD for JTAG signals



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

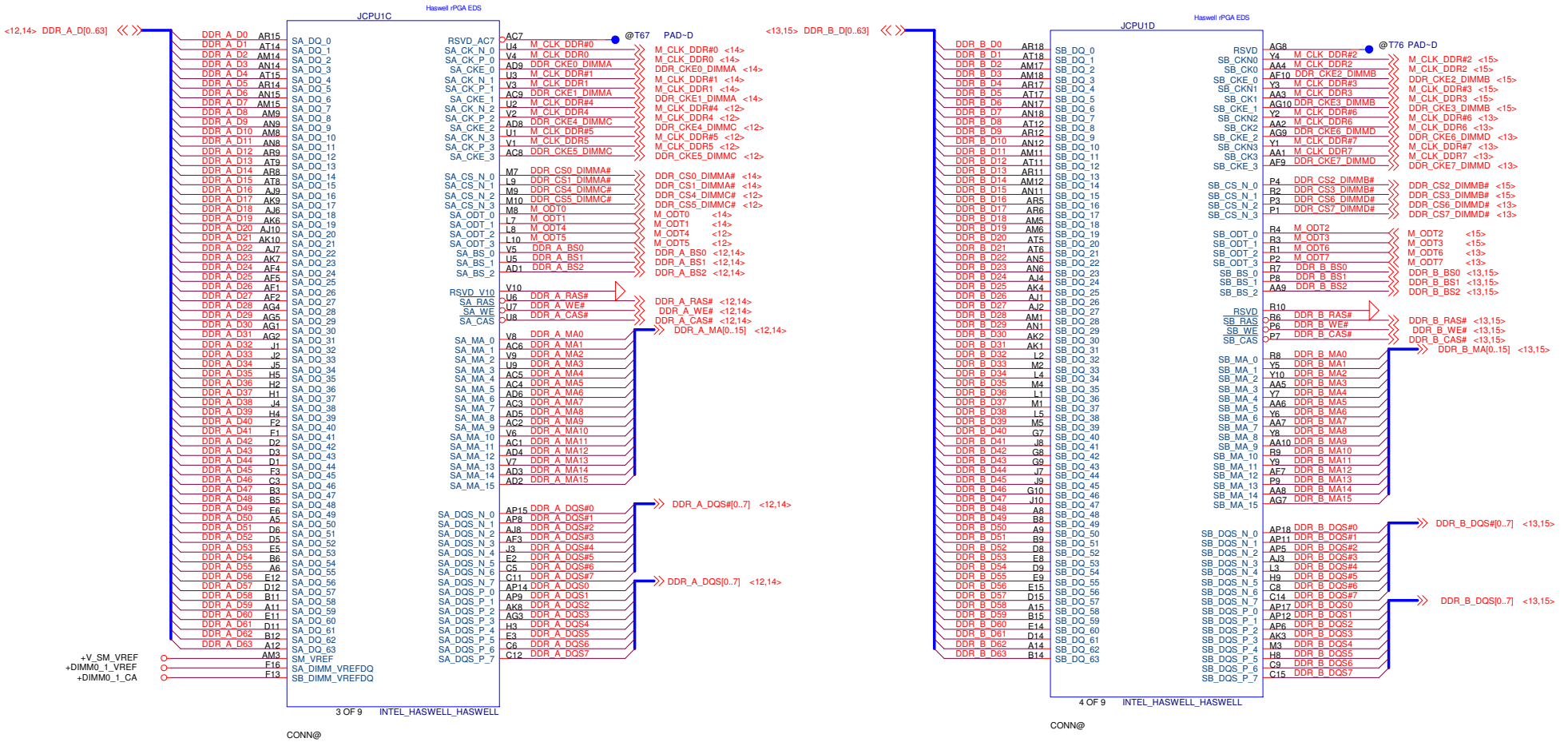
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: CPU (2/7) PM,XDP,CLK

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 7 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

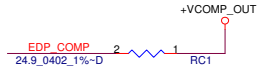
Compal Electronics, Inc.

Title: **CPU (3/7) DDRIII**

Size	Document Number	Rev
Custom	LA-9331P	0.1

Date: Friday, June 22, 2012 Sheet 8 of 61

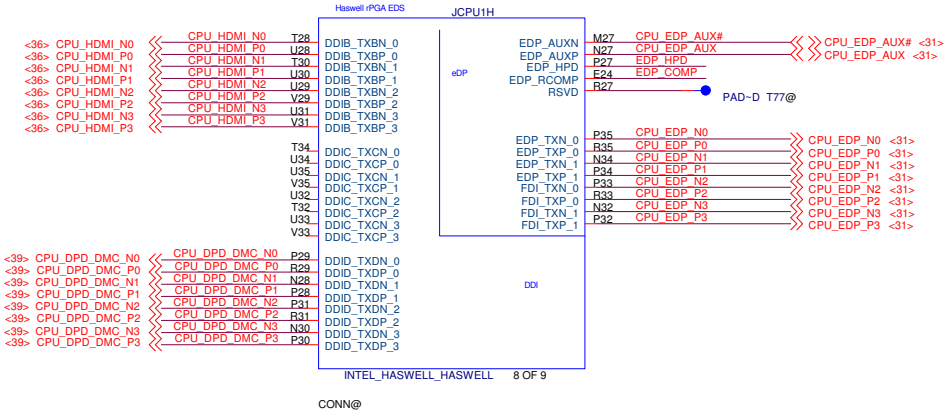
COMPENSATION PU FOR eDP



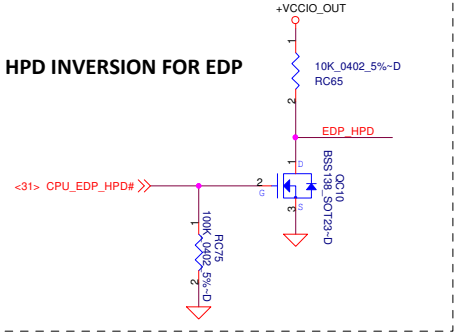
CAD Note:Trace width=20 mils ,Spacing=25mil, Max length=100 mils.

HDMI

DMC



HPD INVERSION FOR EDP



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

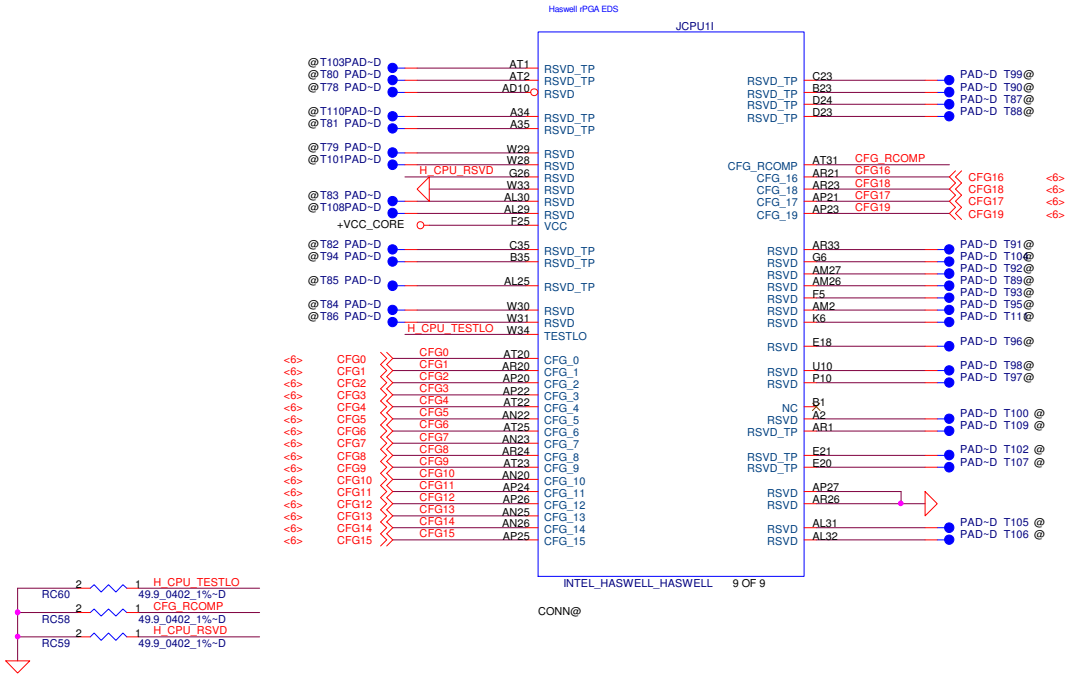
Compal Electronics, Inc.

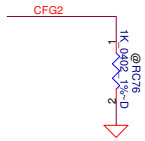
Title: CPU (4/7) FDI,eDP,DDI

Size: Custom | Document Number: LA-9331P | Rev: 0.1

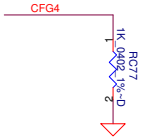
Date: Friday, June 22, 2012 | Sheet 9 of 61

CFG STRAPS for CPU

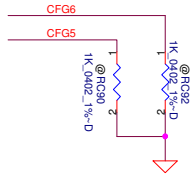




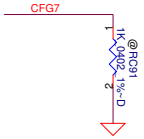
PEG Static Lane Reversal - CFG2 is for the 16x	
CFG2	1:(Default) Normal Operation; Lane # definition matches socket pin map definition 0:Lane Reversed



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	2012/06/22	Deciphered Date	2013/06/21

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.

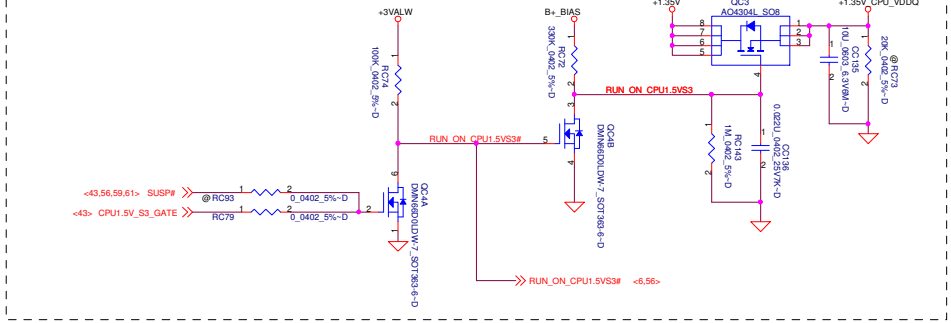
Compal Electronics, Inc.

Title: CPU (5/7) RSVD,CFG

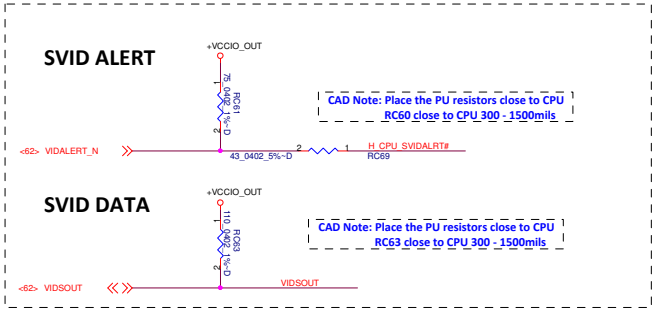
Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 10 of 61

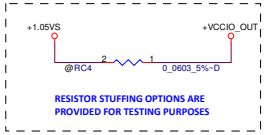
+1.35V_CPU_VDDQ Source



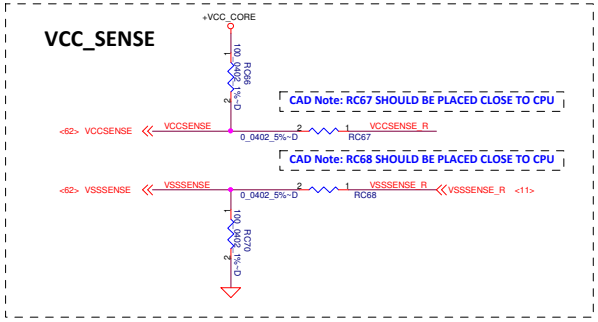
SVID ALERT



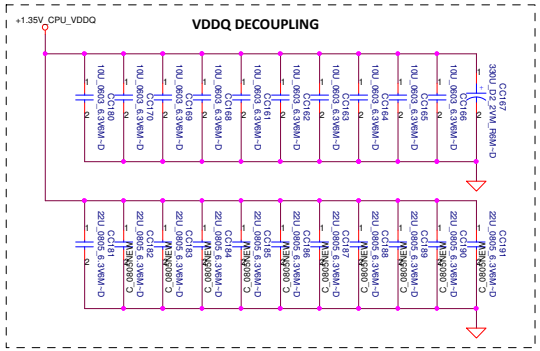
SVID DATA

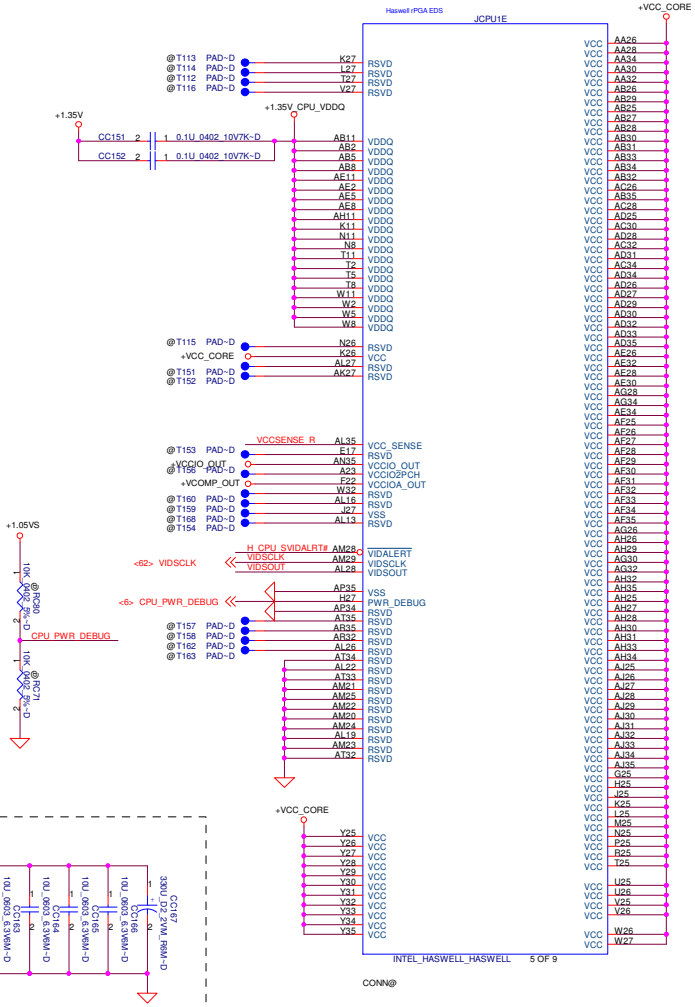


VCC_SENSE



VDDQ DECOUPLING





Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

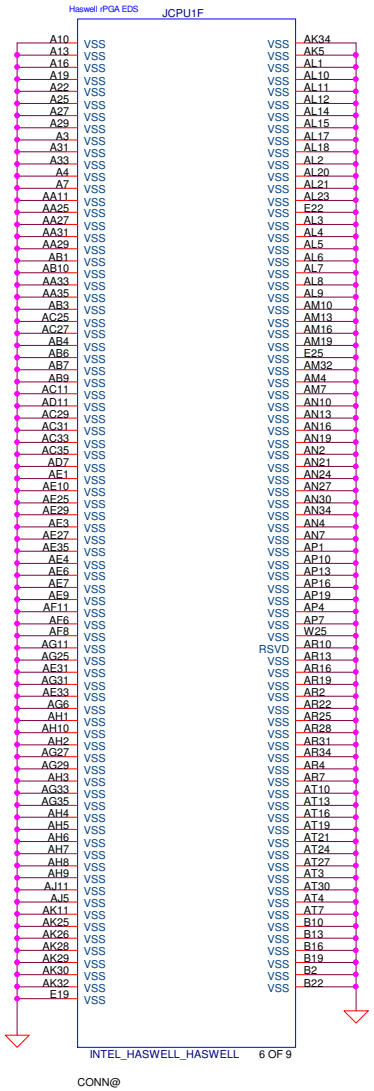
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

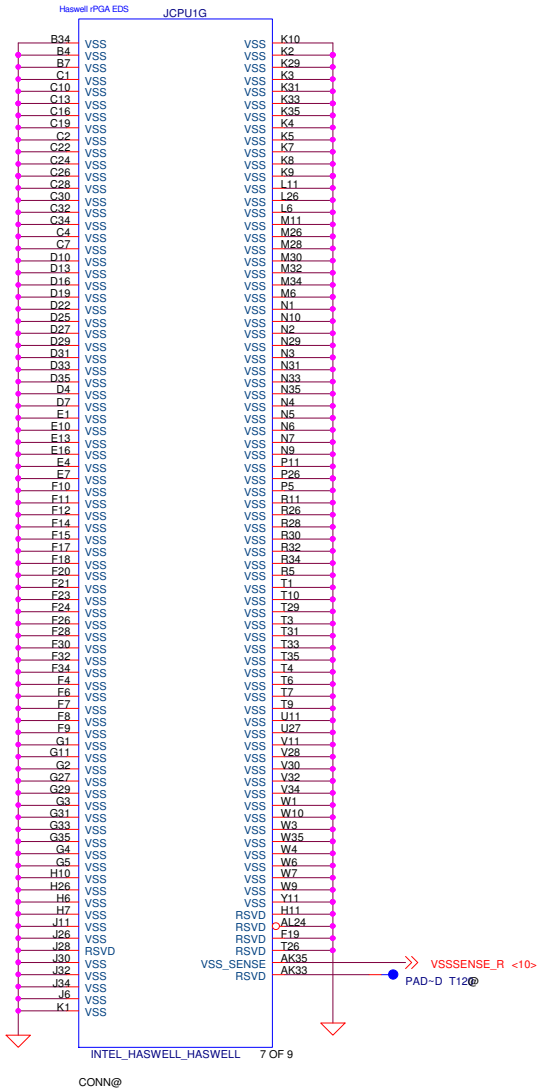
Compal Electronics, Inc.

Title: CPU (6/7) PWR

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 11 of 61





Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

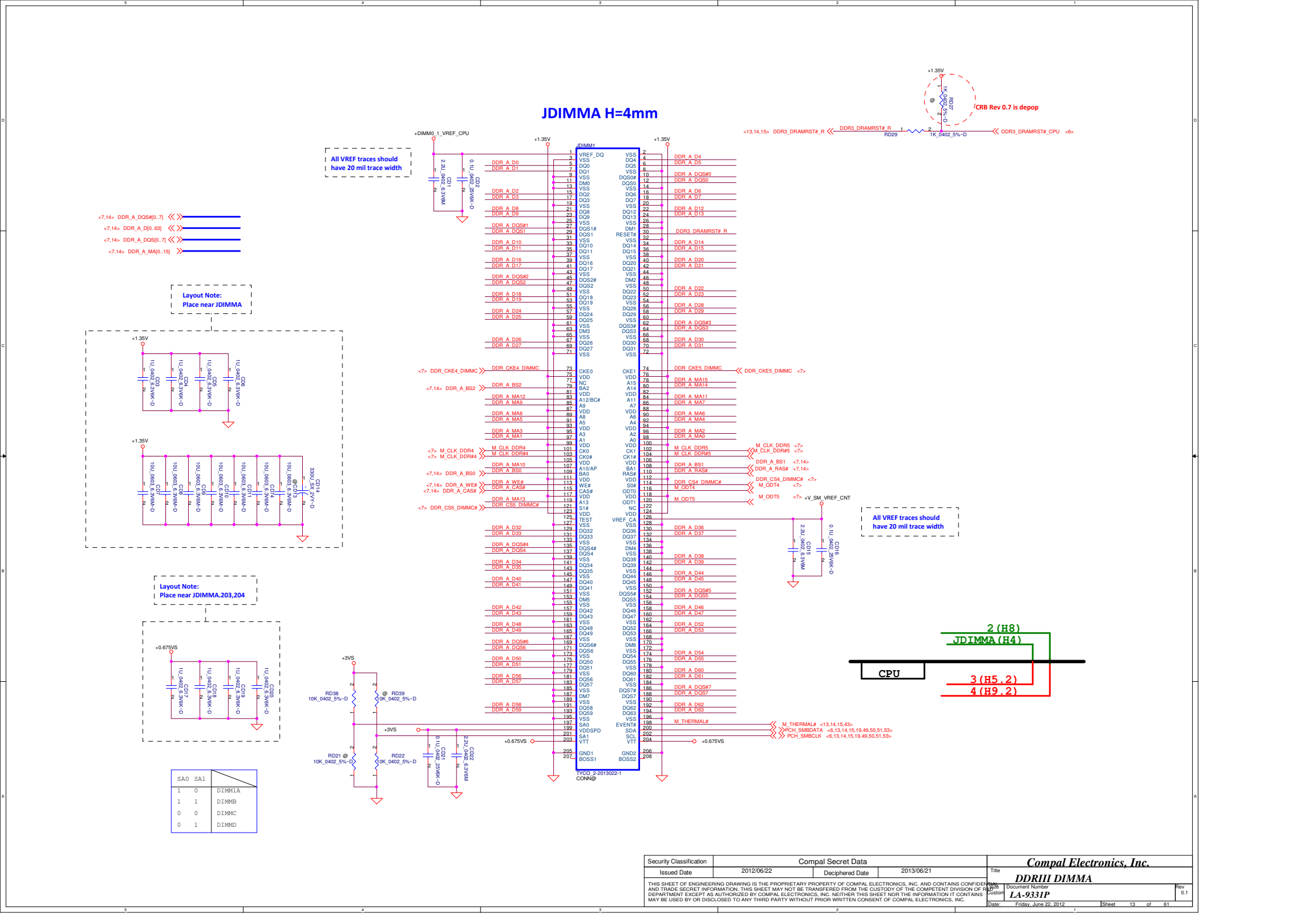
Compal Electronics, Inc.

Title: CPU (7/7) VSS

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 12 of 61

JDIMMA H=4mm



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

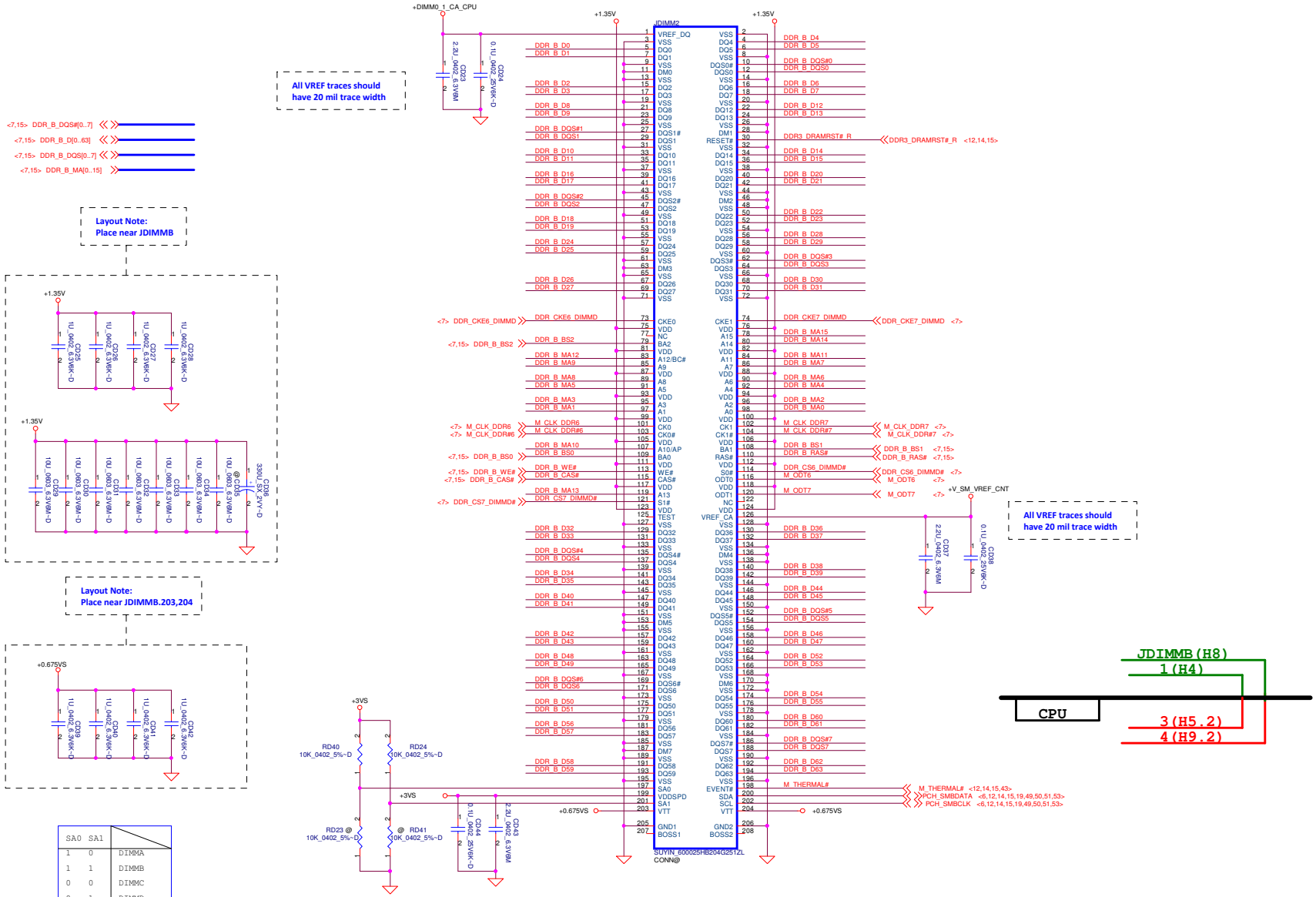
Compal Electronics, Inc.

Title: DDRIII DIMMA

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 13 of 61

JDIMMB H=4mm



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

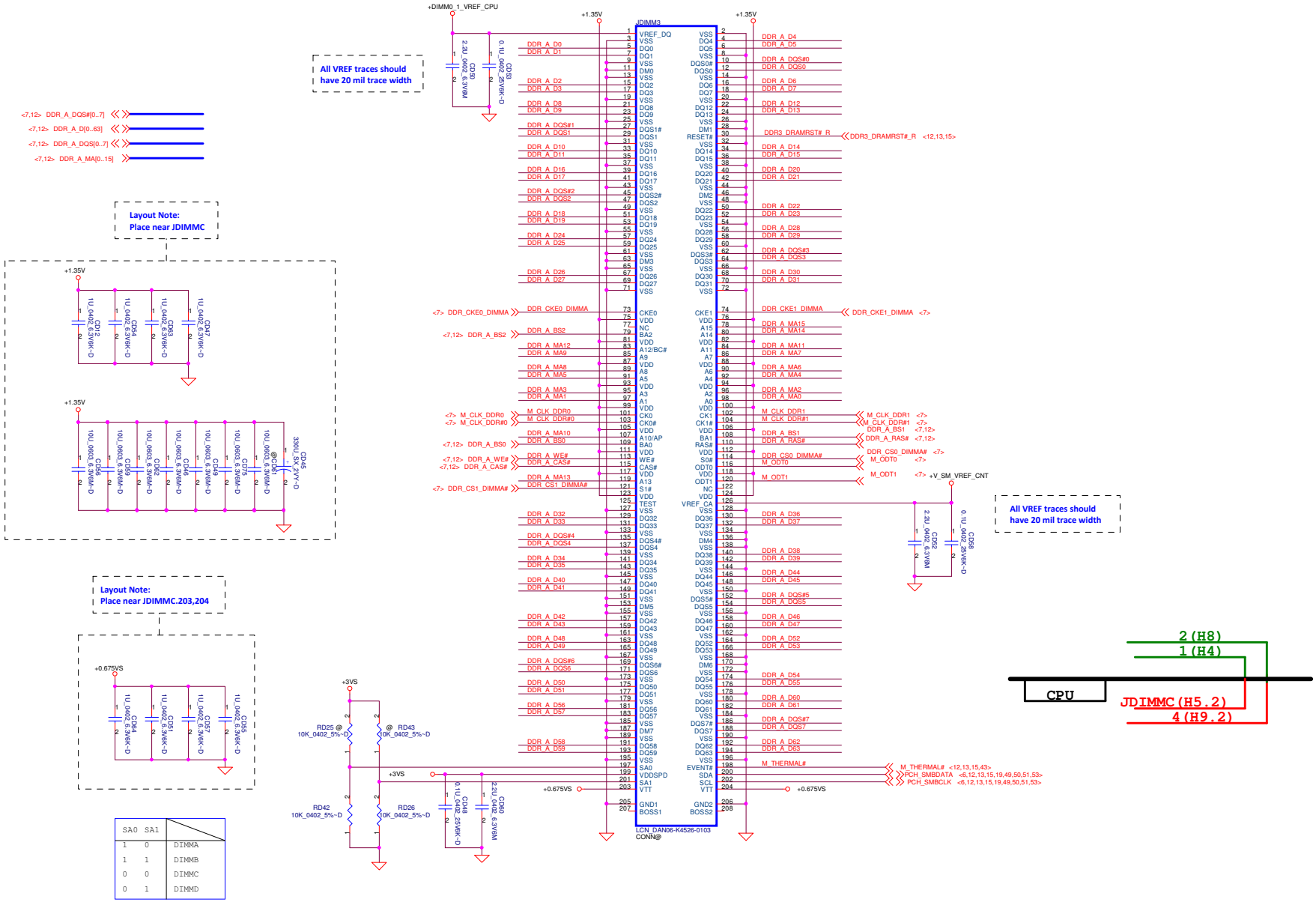
Compal Electronics, Inc.

Title: DDRIII DIMMB

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 14 of 61

JDIMMC H=5.2mm



SA0	SA1	
1	0	DIMMA
1	1	DIMMB
0	0	DIMMC
0	1	DIMMD

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

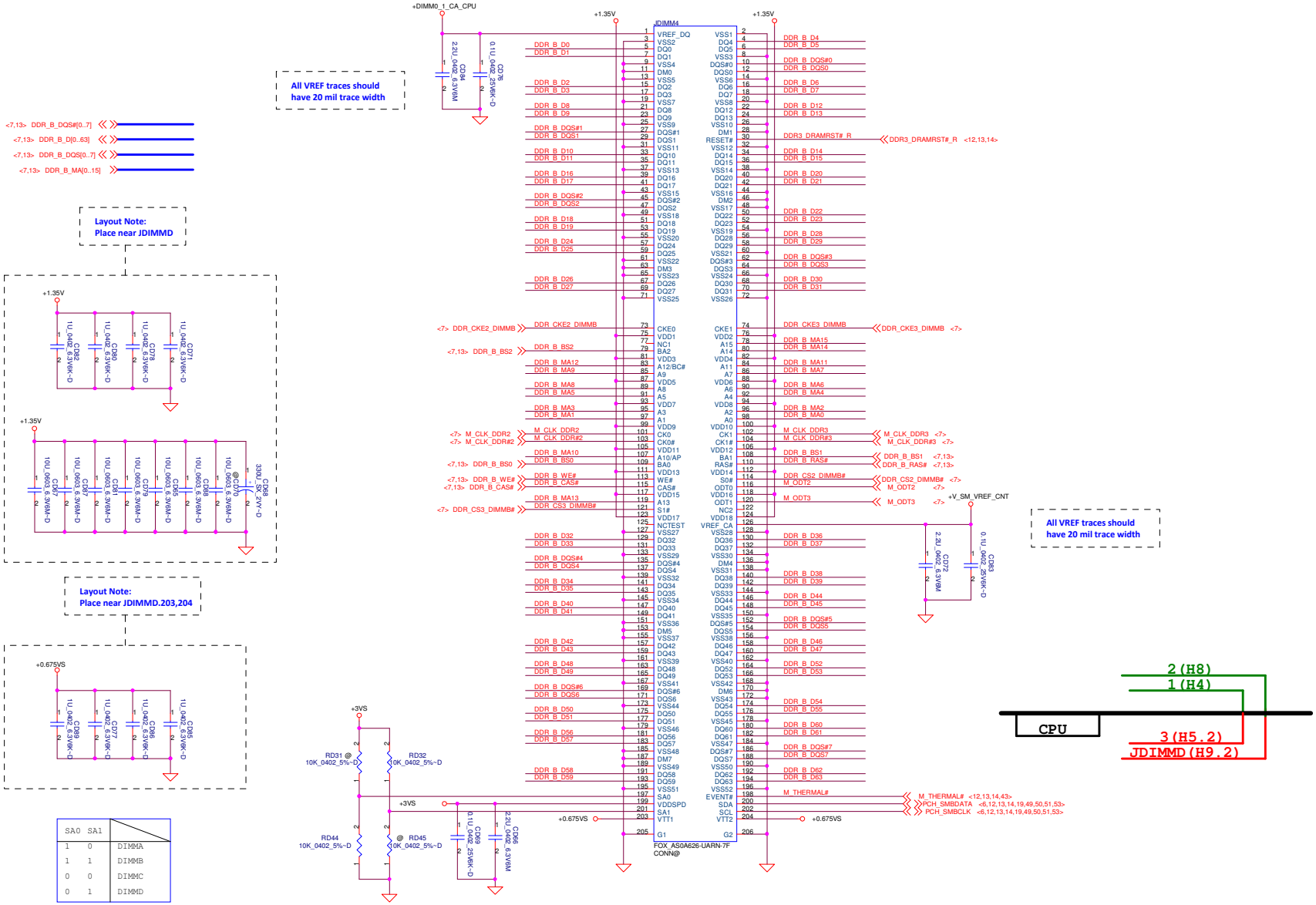
Compal Electronics, Inc.

Title: DDRIII DIMMC

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 15 of 61

JDIMMD H=9.2mm



SA0	SA1	
1	0	DIMMA
1	1	DIMMB
0	0	DIMMC
0	1	DIMMD

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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 DIMMD

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 16 of 61

+RTC_CELL
RH38 330K_0402_1%~D
PCH_INTVRMEN
RH39 @ 330K_0402_1%~D

INTVRMEN - INTEGRATED SUS 1.05V VRM ENABLE
High - Enable Internal VRs
Low - Enable External VRs

+3VS
@RH35 HDA_SPKR 10K_0402_5%~D

+3V_PCH
@RH287 PCH_AZ_SDOUT 1K_0402_1%~D

NO REBOOT STRAP
DISABLED WHEN LOW (DEFAULT)
ENABLED WHEN HIGH

FLASH DESCRIPTOR SECURITY OVERRIDE
LOW = DESABLED (DEFAULT)
HIGH = ENABLED

+3VS
RH355 PCH_GPIO33 100K_0402_5%~D

CMOS_CLR1	CMOS setting
Shunt	Clear CMOS
Open	Keep CMOS

ME_CLR1	TPM setting
Shunt	Clear ME RTC Registers
Open	Keep ME RTC Registers

CH2 18P_0402_50V8J~D
PCH_RTCX1_R RH286 0_0402_5%~D PCH_RTCX1
YH1 32.768KHZ_12.5PF_Q13FC1350000~D
RH2 10M_0402_5%~D
CH3 18P_0402_50V8J~D

+RTC_CELL
RH22 20K_0402_5%~D
RH11 1M_0402_5%~D
RH23 20K_0402_5%~D

@ME1 SHORT PADS~D
CH5 1U_0402_6.3V6K~D
@CMOS1 SHORT PADS~D
CH4 1U_0402_6.3V6K~D
CMOS place near DIMM

UH1A LPT_PCH_M_EDS

RTCX1	B5	
RTCX2	B4	PCH_RTCX2
SRTCRST#	B9	SRTCRST#
INTRUDER#	A8	INTRUDER#
INTVRMEN	G10	PCH_INTVRMEN
RTCRST#	D9	PCH_RTCRST#
HDA_BCLK	B25	PCH_AZ_BITCLK
HDA_SYNC	A22	PCH_AZ_SYNC
SPKR	AL10	HDA_SPKR <45>
HDA_RST#	C24	PCH_AZ_RST#
HDA_SDI0	L22	PCH_AZ_CODEC_SDIN0 <45>
HDA_SDI1	K22	
HDA_SDI2	G22	
HDA_SDI3	F22	
HDA_SDO	A24	PCH_AZ_SDOUT <43>
DOCKEN#/GPIO33	B17	PCH_GPIO33
HDA_DOCK_RST#/GPIO13	C22	DP_PCH_HPD <30>
JTAG_TCK	AB3	PCH_JTAG_TCK
JTAG_TMS	AD1	PCH_JTAG_TMS
JTAG_TDI	AE2	PCH_JTAG_TDI
JTAG_TDO	AD3	PCH_JTAG_TDO
TP25	F8	PCH_TP25
TP22	C26	
TP20	AB6	

RH50 1K_0402_1%~D
RH289 0_0402_5%~D @T122 PAD~D
RH284 100_0402_1%~D
RH285 100_0402_1%~D
RH287 100_0402_1%~D

SATA_RXN_0 / SATA_RXP_0	BC8 / BE8	SATA_PRX_DTX_N0 / SATA_PRX_DTX_P0
SATA_TXN_0 / SATA_TXP_0	AW8 / AY8	SATA_PTX_DRX_N0 / SATA_PTX_DRX_P0
SATA_RXN_1 / SATA_RXP_1	BC10 / BE10	SATA_PRX_DTX_N1 / SATA_PRX_DTX_P1
SATA_TXN_1 / SATA_TXP_1	AV10 / AW10	SATA_PTX_DRX_N1 / SATA_PTX_DRX_P1
SATA_RXN_2 / SATA_RXP_2	BB9 / BD9	SATA_ODD_PRX_DTX_N2 / SATA_ODD_PRX_DTX_P2
SATA_TXN_2 / SATA_TXP_2	AY13 / AW13	SATA_ODD_PTX_DRX_N2 / SATA_ODD_PTX_DRX_P2
SATA_RXN_3 / SATA_RXP_3	BC12 / BE12	MSATA_PRX_DTX_N3 / MSATA_PRX_DTX_P3
SATA_TXN_3 / SATA_TXP_3	AR13 / AT13	MSATA_PTX_DRX_N3 / MSATA_PTX_DRX_P3
SATA_RXN4/PERN1 / SATA_RXP4/PERP1	BD13 / BB13	PCIE_PRX_WLANTX_N1 / PCIE_PRX_WLANTX_P1
SATA_TXN4/PETN1 / SATA_TXP4/PETP1	AV15 / AW15	PCIE_PTX_WLANRX_N1 / PCIE_PTX_WLANRX_P1
SATA_RXN5/PERN2 / SATA_RXP5/PERP2	BC14 / BE14	PCIE_PRX_WANTX_N2 / PCIE_PRX_WANTX_P2
SATA_TXN5/PETN2 / SATA_TXP5/PETP2	AP15 / AR15	PCIE_PTX_WANRX_N2 / PCIE_PTX_WANRX_P2
SATA_RCOMP	AY5	SATA_COMP
SATALED#	AP3	PCH_SATALED# <48>
SATA0GP/GPIO21	AT1	PCH_GPIO21
SATA1GP/GPIO19	AU2	BBS_BIT0_R
SATA_IREF	BD4	SATA_IREF 0_0402_5% RH41 +1.5VS
TP9	BA2	PAD~D T161@
TP8	BB2	PAD~D T155@

LYNXPOINT_BGA695 1 OF 11

HDD1 (Master)
HDD2 (Slave)
ODD/HDD3 Bay
mSATA
MiniWLAN (Mini Card 1)
MiniDMC (Mini Card 2)

+3VS
PCH_GPIO21 10K_0402_5%~D RH30
BBS_BIT0_R 4.7K_0402_5%~D RH52
PCH_SATALED# 10K_0402_5%~D RH55

HDA_SYNC Isolation Circuit

+5VS
PCH_AZ_SYNC_Q
QH8 SSM3K7002FU_SC70-3~D
PCH_AZ_SYNC
RH31 1M_0402_5%~D

+3V_PCH
RH288 0_0402_5%~D
RH59 51_0402_1%~D PCH_JTAG_TCK
+3.3V_ALW_PCH_JTAG RH44 @ 210_0402_1%~D PCH_JTAG_TMS
RH45 @ 210_0402_1%~D PCH_JTAG_TDI
RH46 @ 210_0402_1%~D PCH_JTAG_TDO

RTC Battery

+RTCBATT
+3VLP
RH34 1K_0402_5%
W=20mils
DH1 BAT54CW_SOT323-3
+RTC_CELL
CH12 1U_0603_10V6K

HDA for Codec

<45> PCH_AZ_CODEC_SDOUT	RH29	PCH_AZ_SDOUT 33_0402_5%~D
<45> PCH_AZ_CODEC_SYNC	RH56	PCH_AZ_SYNC_Q 33_0402_5%~D
<45> PCH_AZ_CODEC_RST#	RH27	PCH_AZ_RST# 33_0402_5%~D
<45> PCH_AZ_CODEC_BITCLK	RH26	PCH_AZ_BITCLK 33_0402_5%~D

@CH101 27P_0402_50V8J~D

SATA Impedance Compensation

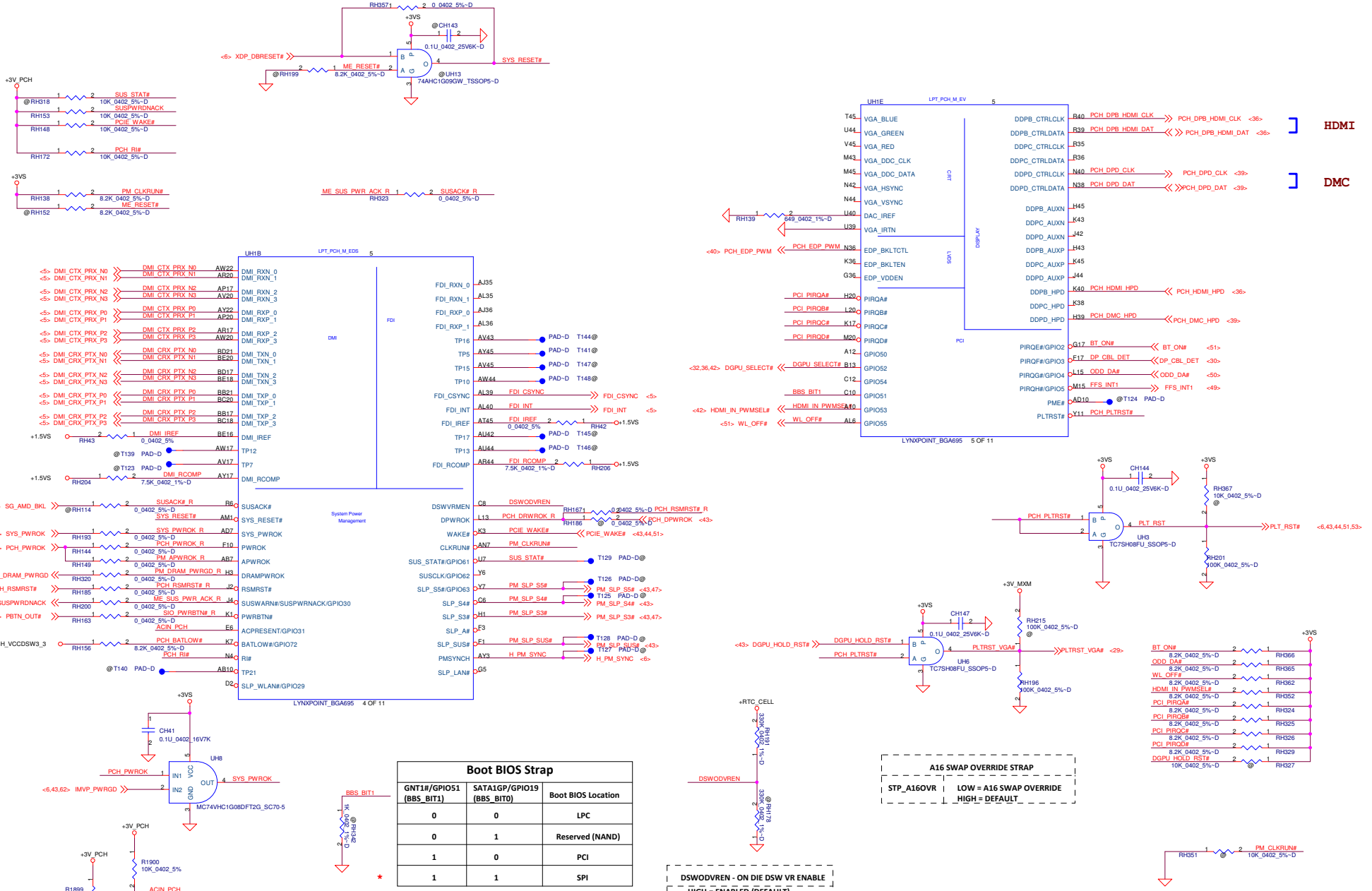
+1.5VS
SATA_COMP 7.5K_0402_1%~D RH40

CAD note:
Place the resistor within 500 mils of the PCH. Avoid routing next to clock pins.

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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 (1/9) RTC,HDA,SATA,XDP
Size: Custom
Document Number: LA-9331P
Rev: 0.1
Date: Friday, June 22, 2012
Sheet 17 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

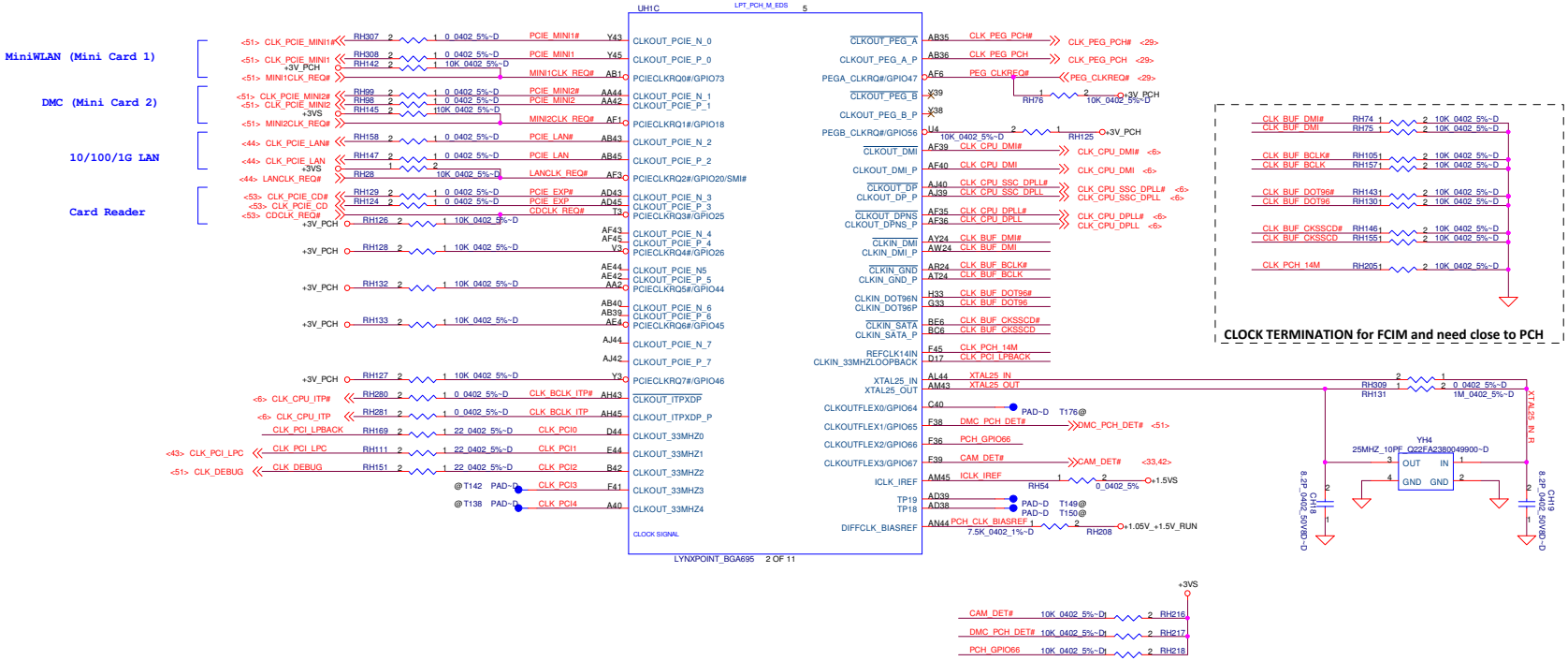
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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 (2/9) DMI,FDI,PM,DP,CRT

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 18 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

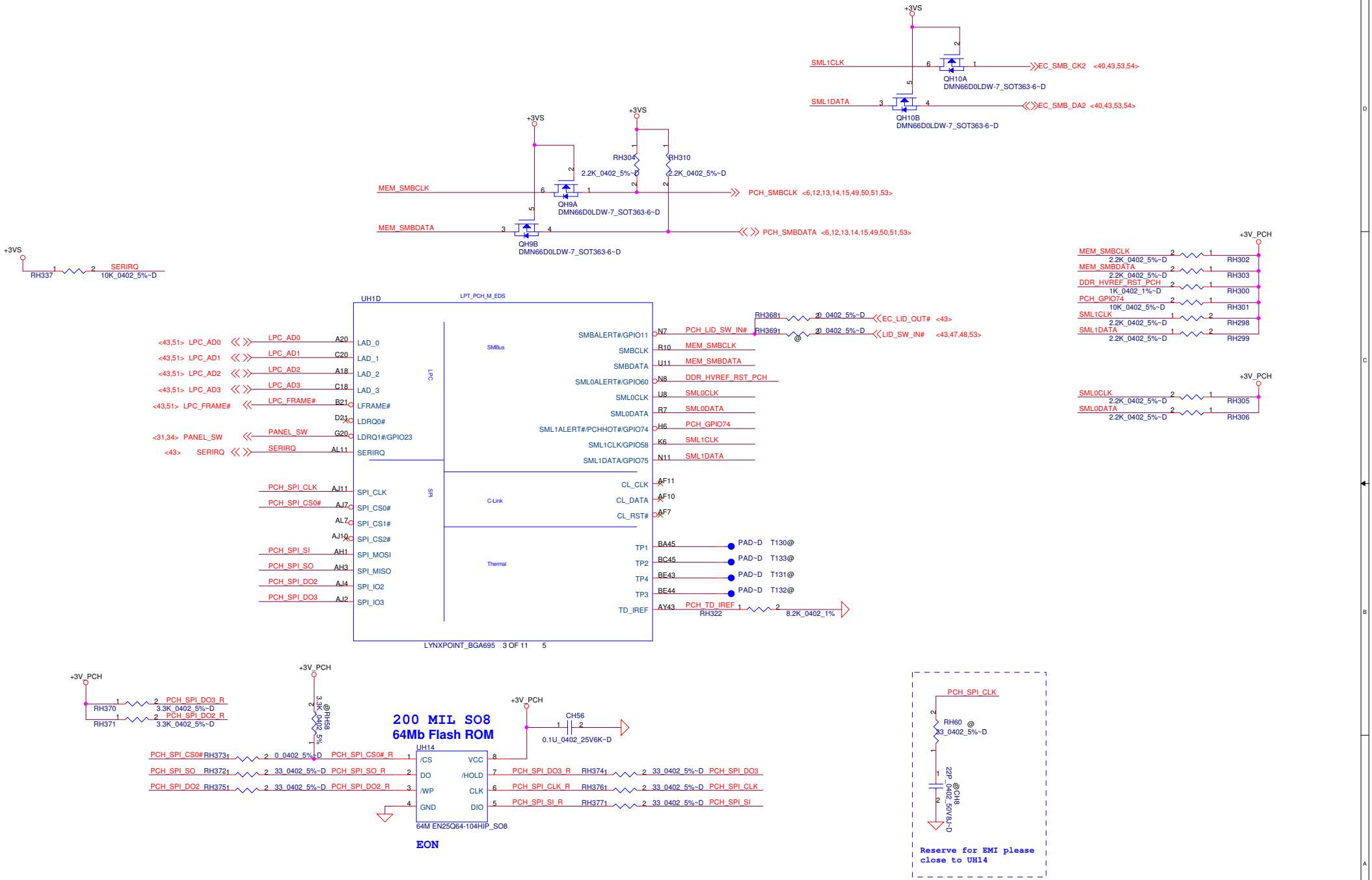
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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 (3/9) CLK

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 19 of 61



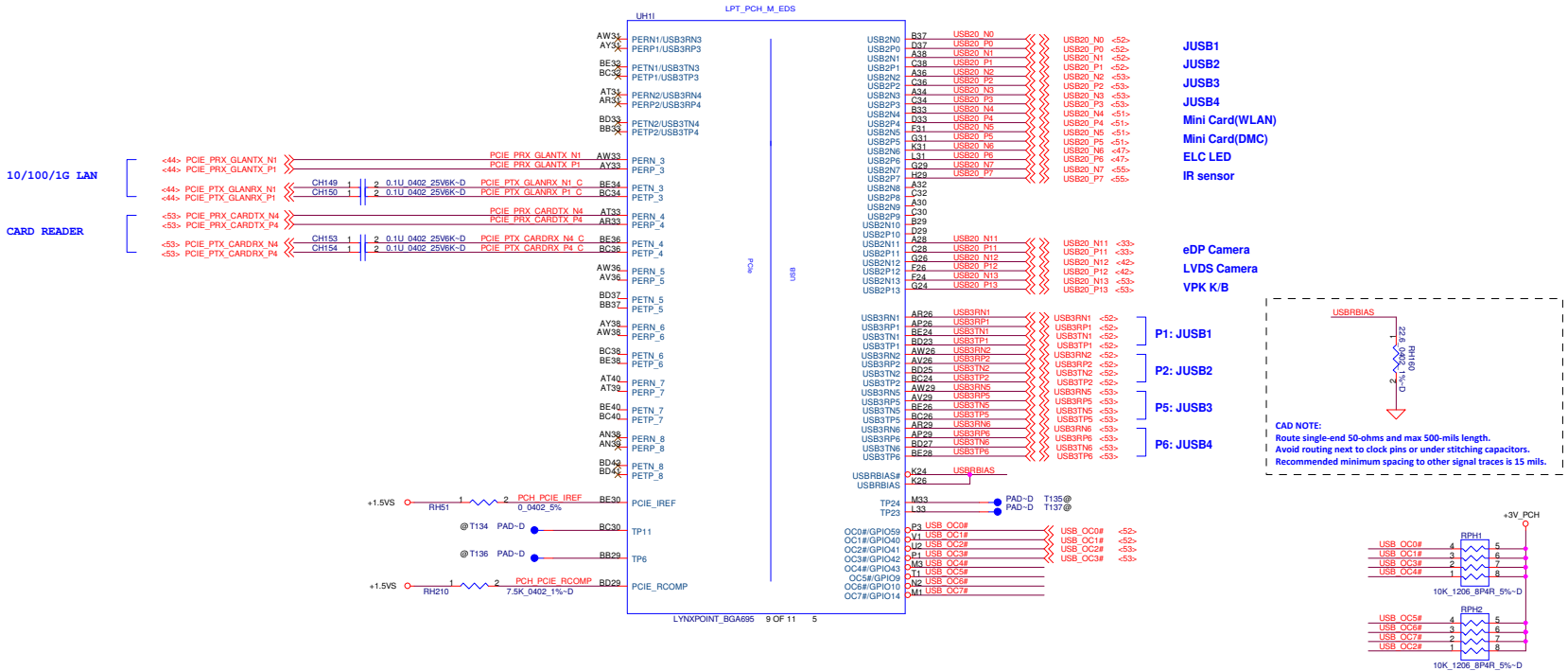
Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: **PCH (4/9) SPI, SMBUS,LPC**

Size	Document Number	Rev
Custom	LA-9331P	0.1

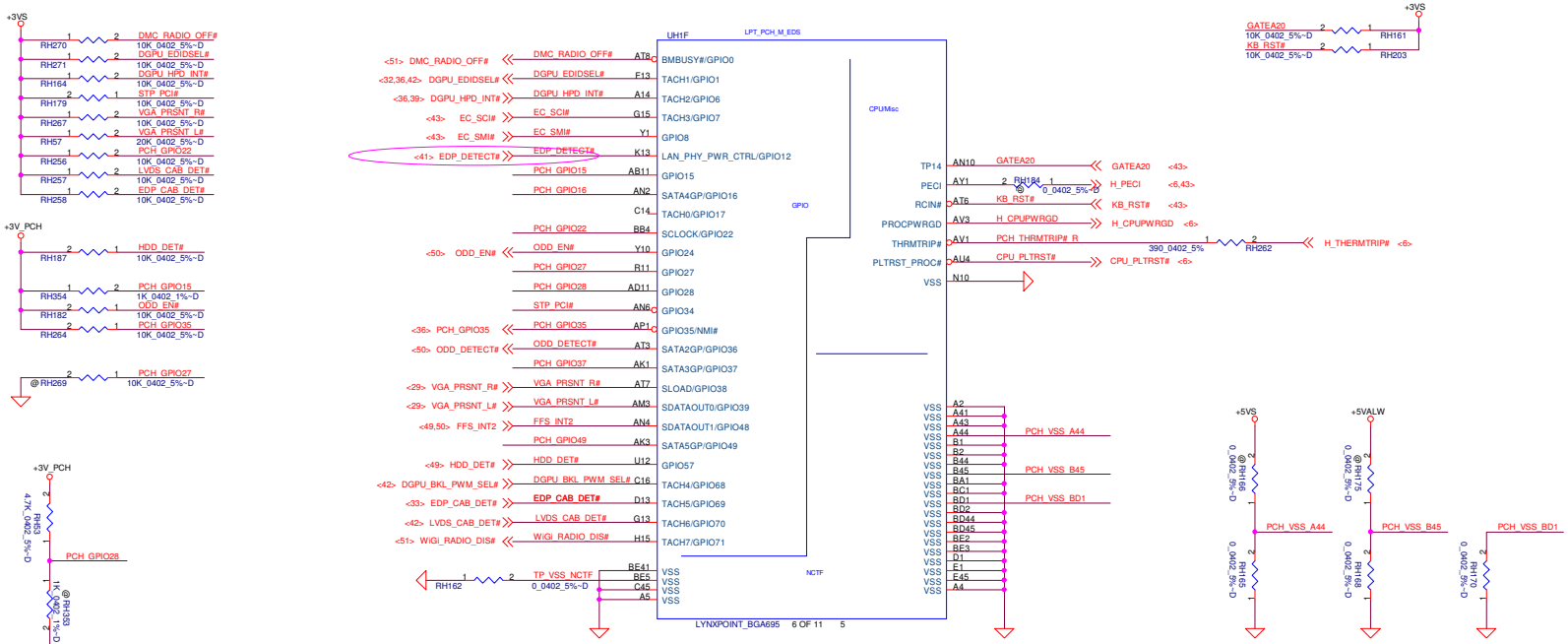
Date: Friday, June 22, 2012 Sheet 20 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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) PCIE,USB			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 21 of 61		



Config	GPIO16,49
USB X4,PCIEX8,SATAX6	11
* USB X6,PCIEX8,SATAX4	01

Fixed Signals				Muxed Signals		Fixed Signals						Muxed Signals		Fixed Signals			
USB3 1	USB3 2	USB3 5	USB3 6	PCIE 1 (00)	PCIE 2 (00)	PCIE 3	PCIE 4	PCIE 5	PCIE 6	PCIE 7	PCIE 8	SATA 4 (00)	SATA 5 (00)	SATA 0	SATA 1	SATA 2	SATA 3
				USB3 3 (01)	USB3 4 (01)							PCIE 1 (01)	PCIE 2 (01)				

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

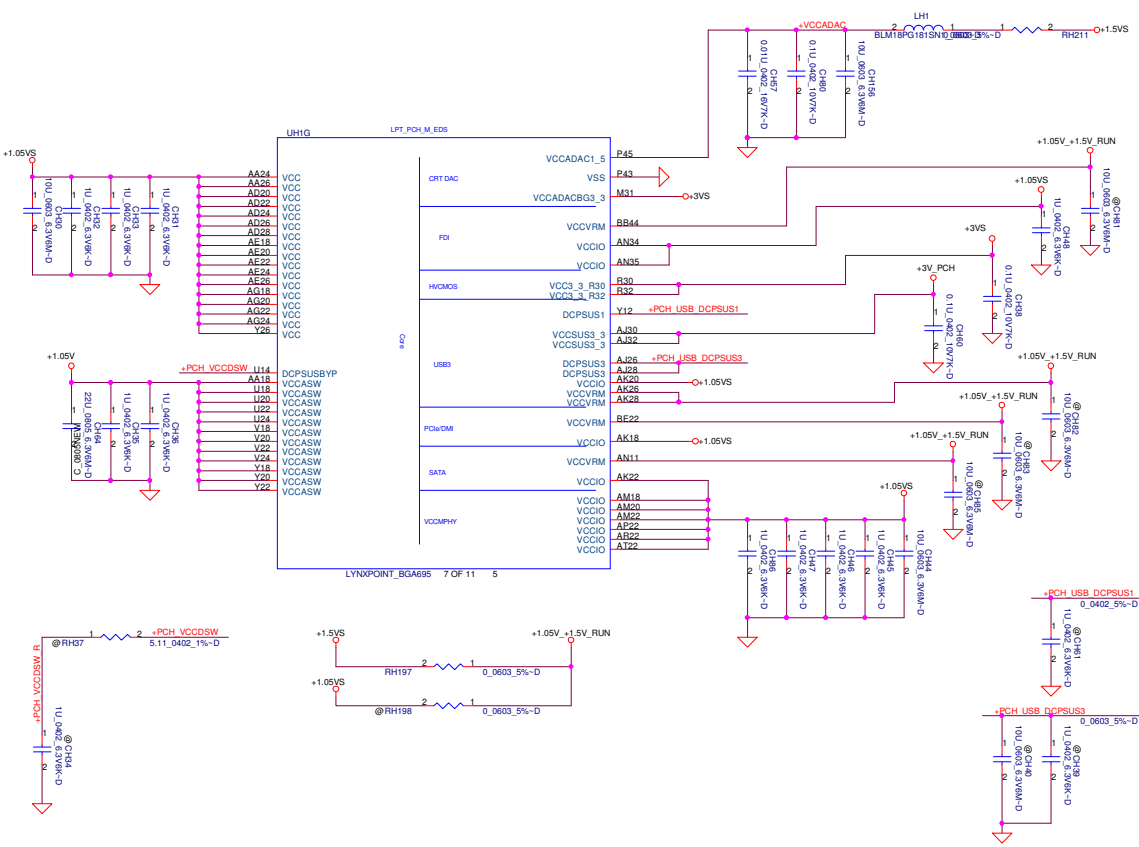
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 22 of 61



PCH Power Rail Table

Voltage Rail	Voltage	S0 Iccmax Current (A)
VCC	1.05V	1.29 A
VCCIO	1.05V	3.629 A
VCCADAC1_5	1.5V	0.070 A
VCCADAC3_3	3.3V	0.0133 A
VCCCLK	1.05V	0.306 A
VCCCLK3_3	3.3V	0.055 A
VCCVRM	1.5V	0.179 A
VCC3_3	3.3V	0.133 A
VCCASW	1.05V	0.67 A
VCCSUSHDA	3.3V	0.01 A
VCCSPI	3.3V	0.022 A
VCCSUS3_3	3.3V	0.261 A
VCCDSW3_3	3.3V	0.015 A
V_PROC_IO	1.05V	0.004 A

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

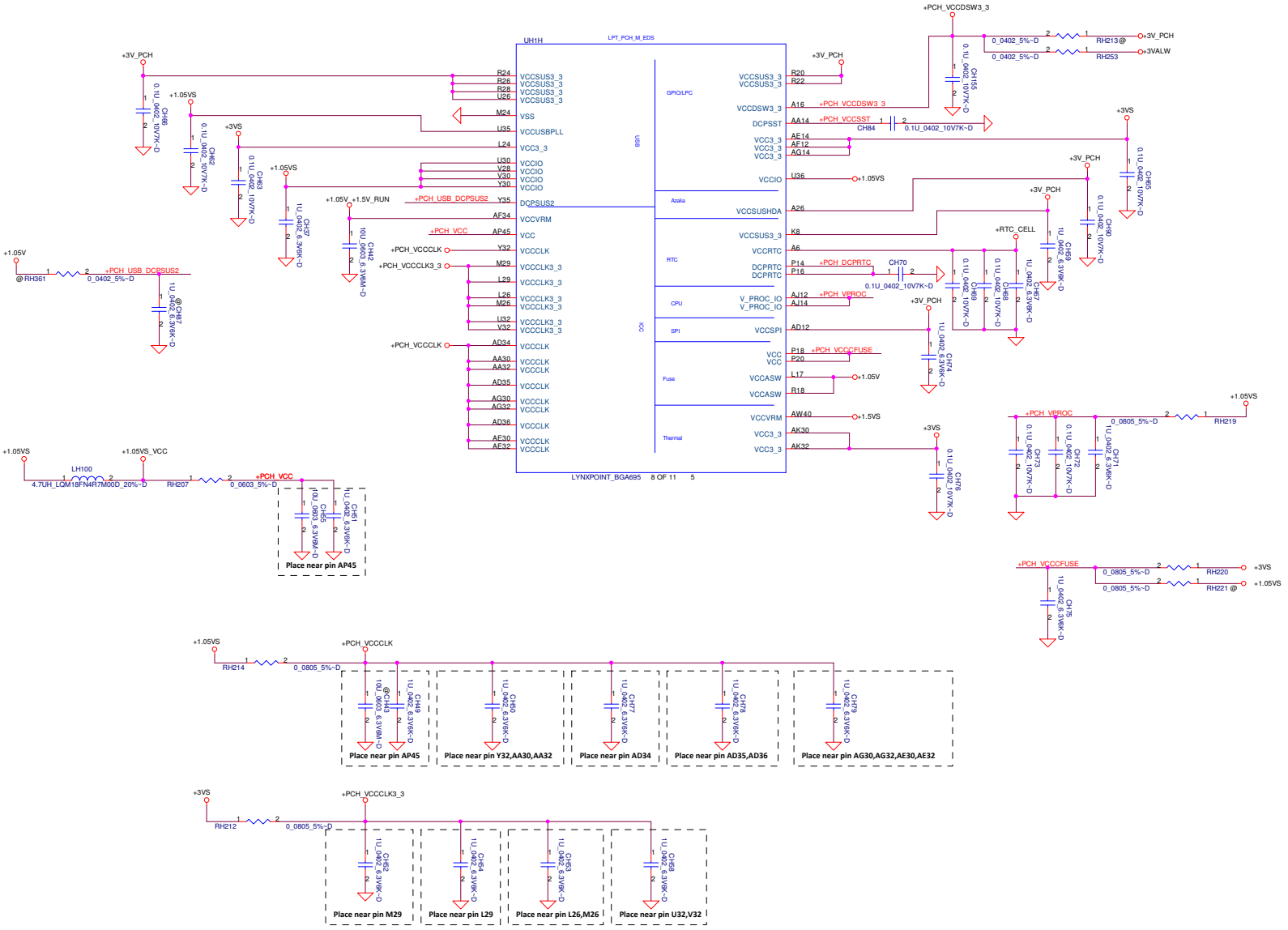
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 23 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

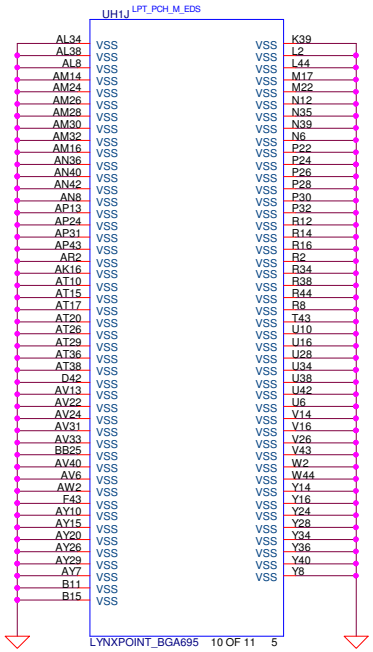
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

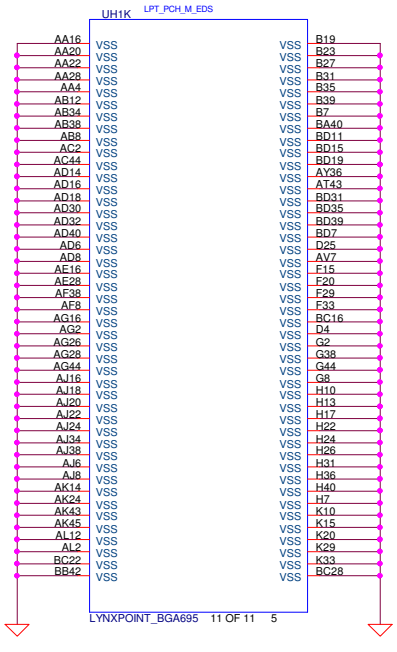
Compal Electronics, Inc.

Title: **PCH (8/9) Power**

Size: Custom | Document Number: **LA-9331P** | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 24 of 61





Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

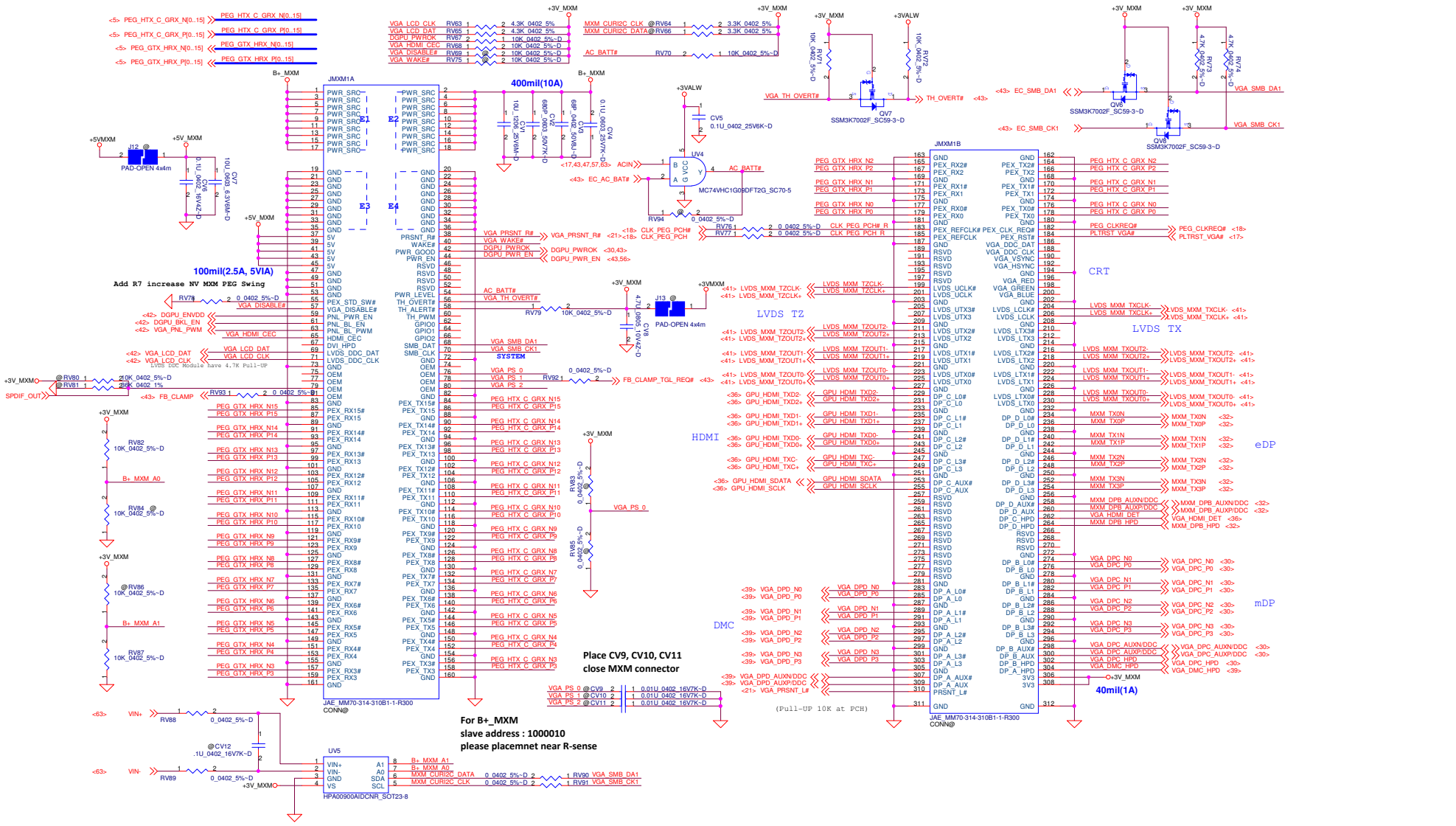
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
Custom	LA-9331P	0.1

Date: Friday, June 22, 2012 Sheet 25 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

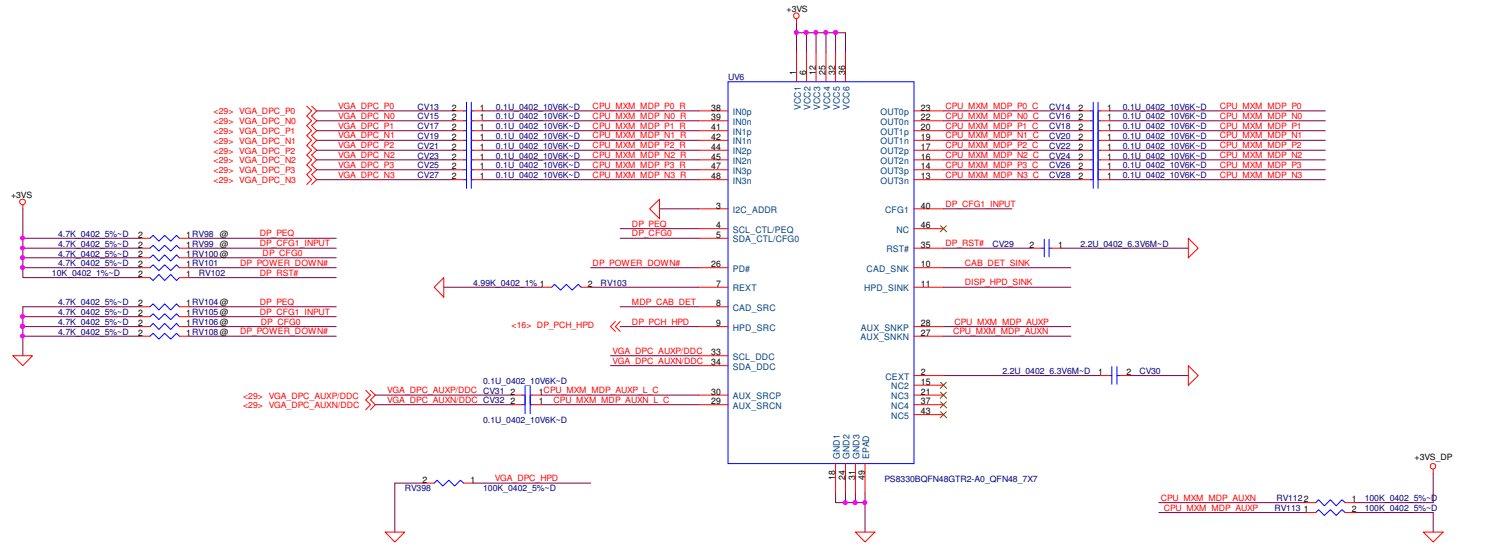
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

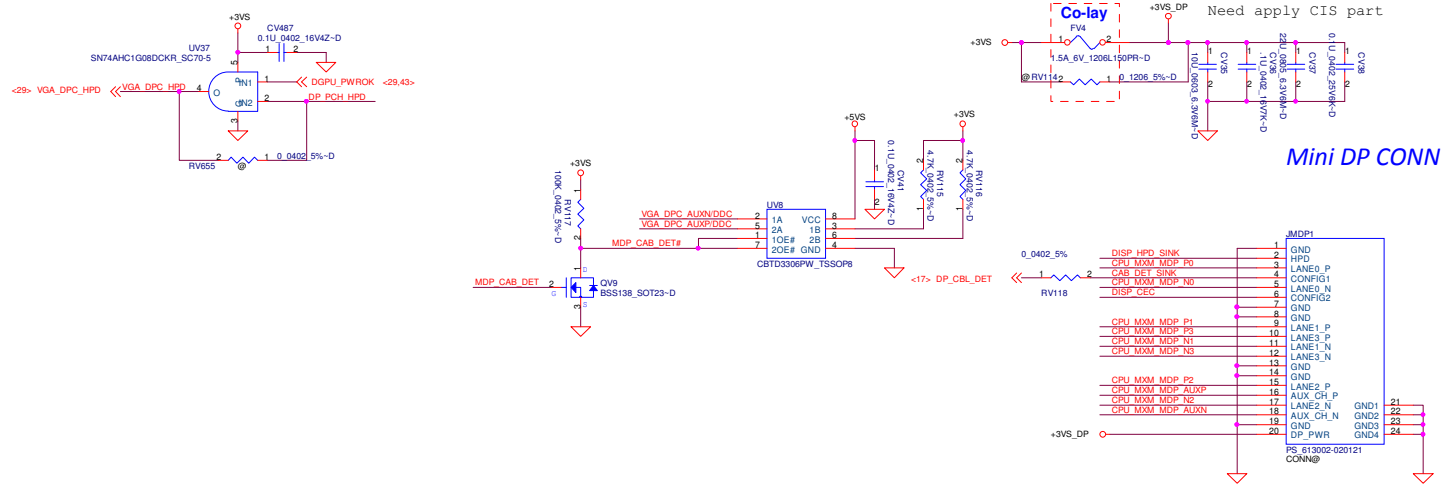
Title: **MXMIII Connector**

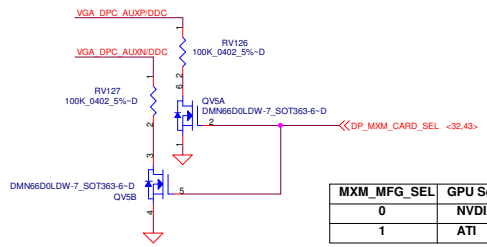
Size: Custom	Document Number: LA-9331P	Rev: 0.1
Date: Friday, June 22, 2012	Sheet 26 of 61	

DP Redriver



Mini DP CONN





MXM_MFG_SEL	GPU Source
0	NVDIA
1	ATI

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

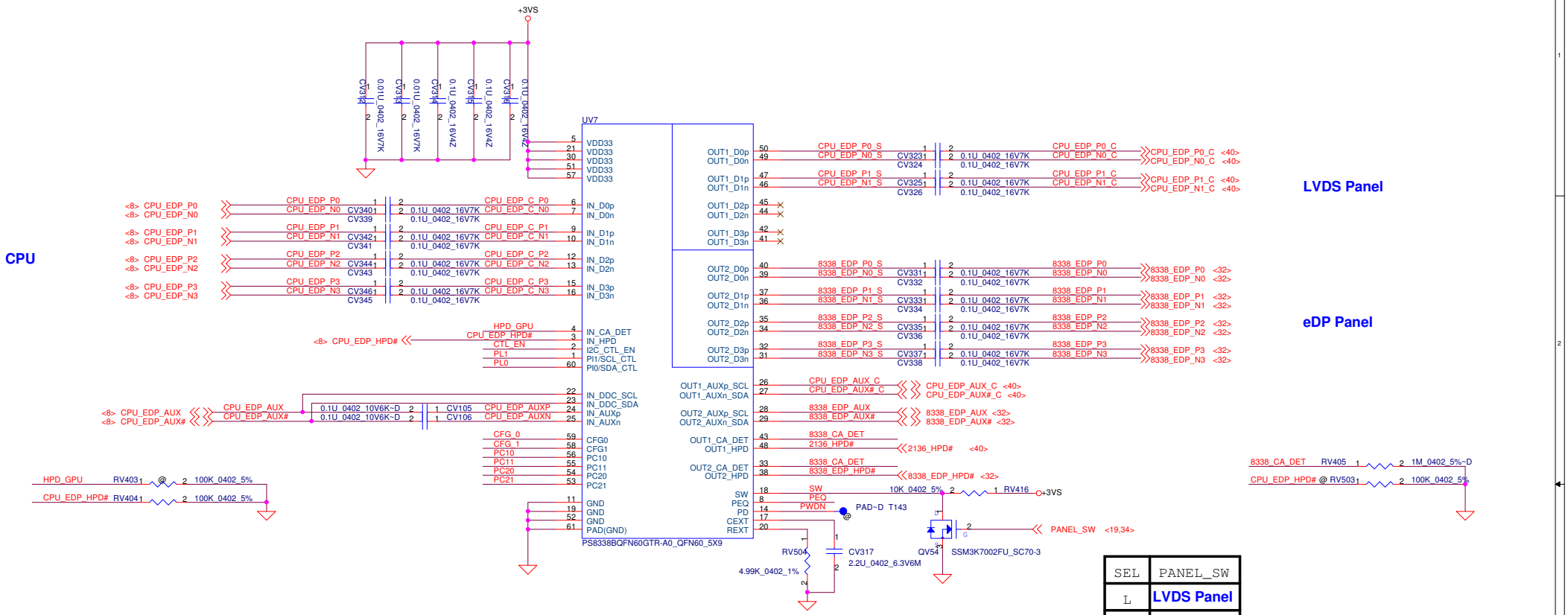
Compal Electronics, Inc.

Title: Mini DP/Thunder Bolt power

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 27 of 61

CPU to EDP & LVDS MUX

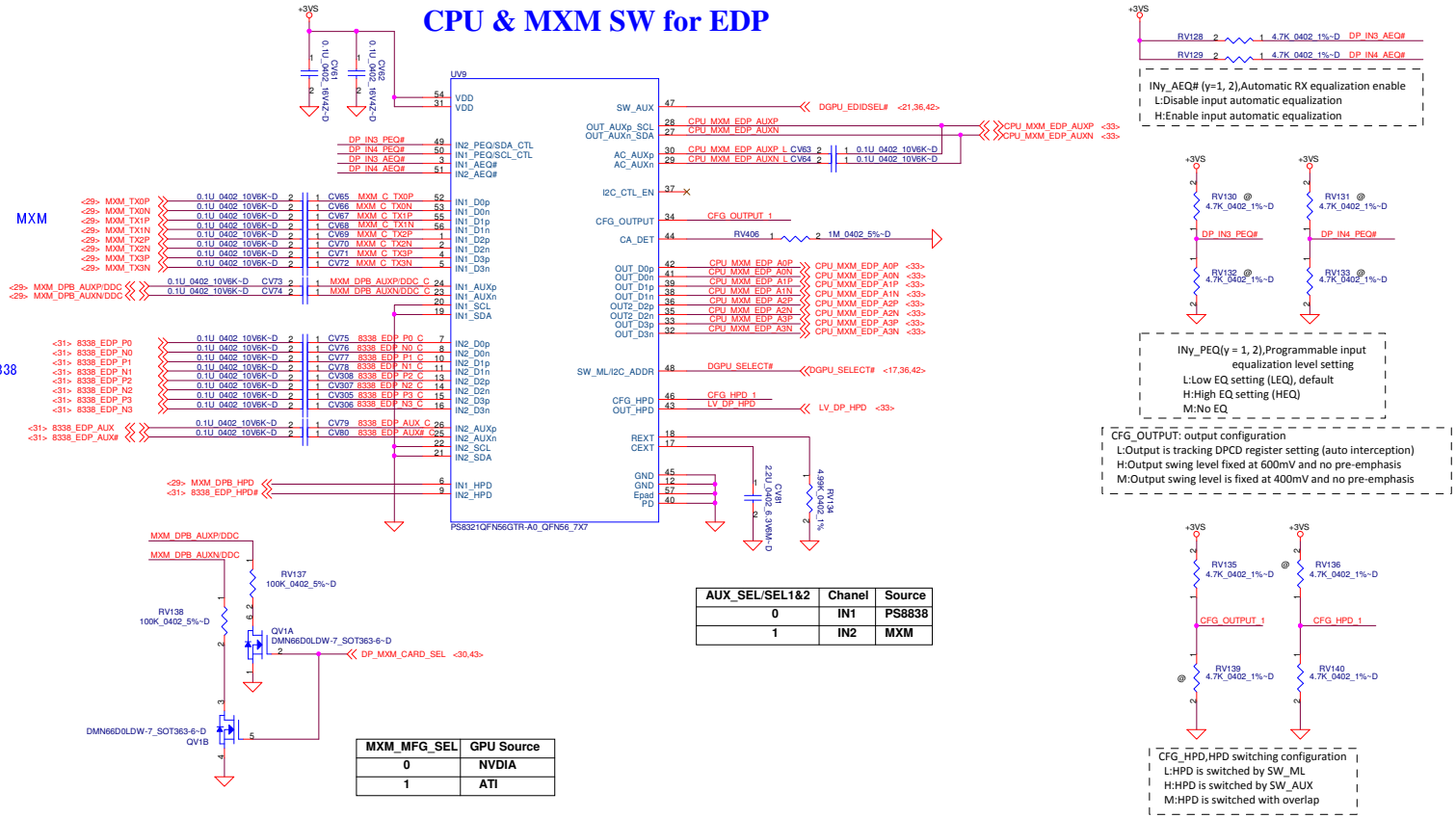


Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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	CPU to EDP & LVDS MUX		
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 28 of 61		

CPU & MXM SW for EDP



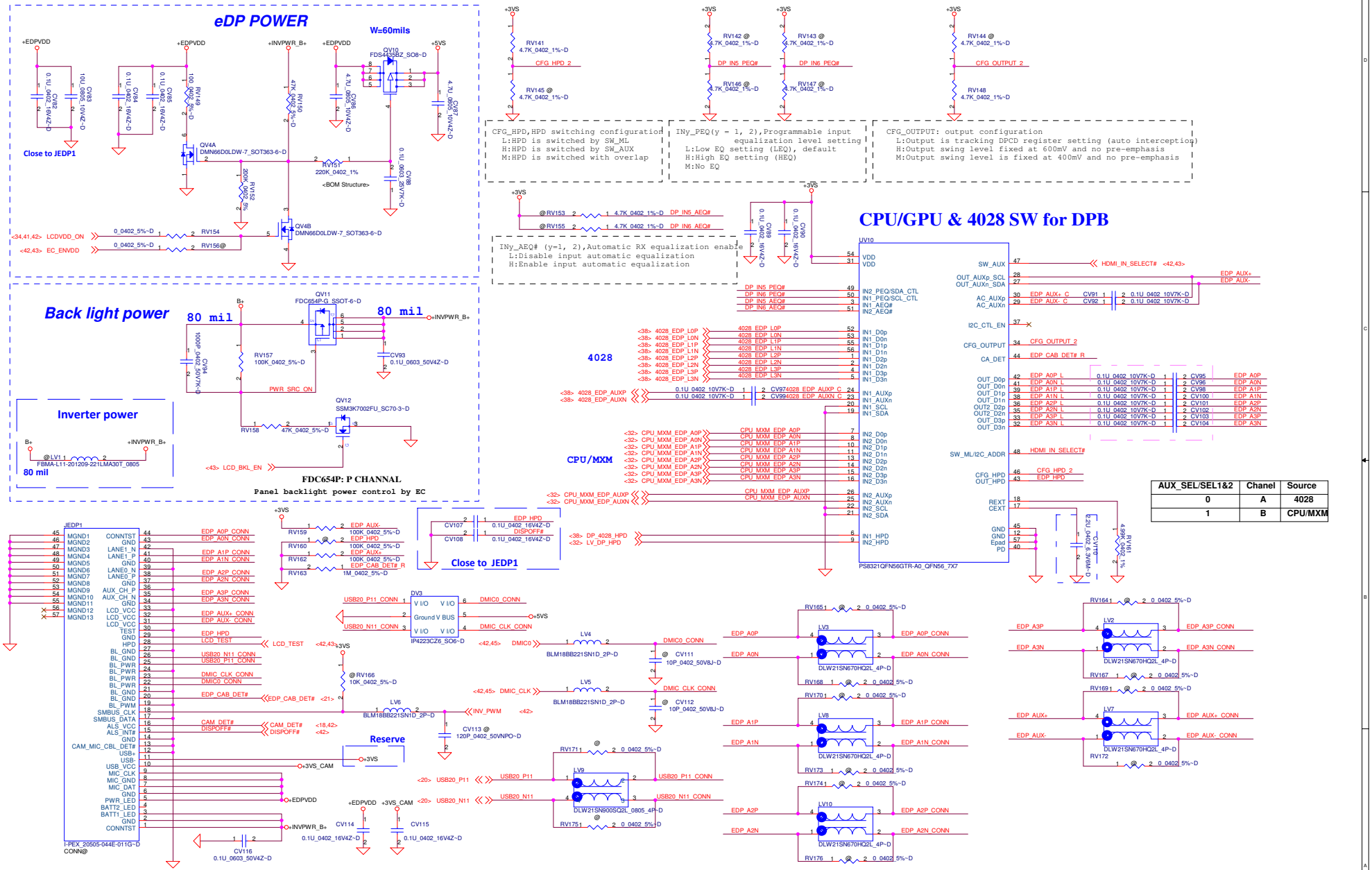
AUX_SEL/SEL1&2	Chanel	Source
0	IN1	PS8838
1	IN2	MXM

MXM_MFG_SEL	GPU Source
0	NVDIA
1	ATI

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: eDP SW-CPU & MXM			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 29 of 61		



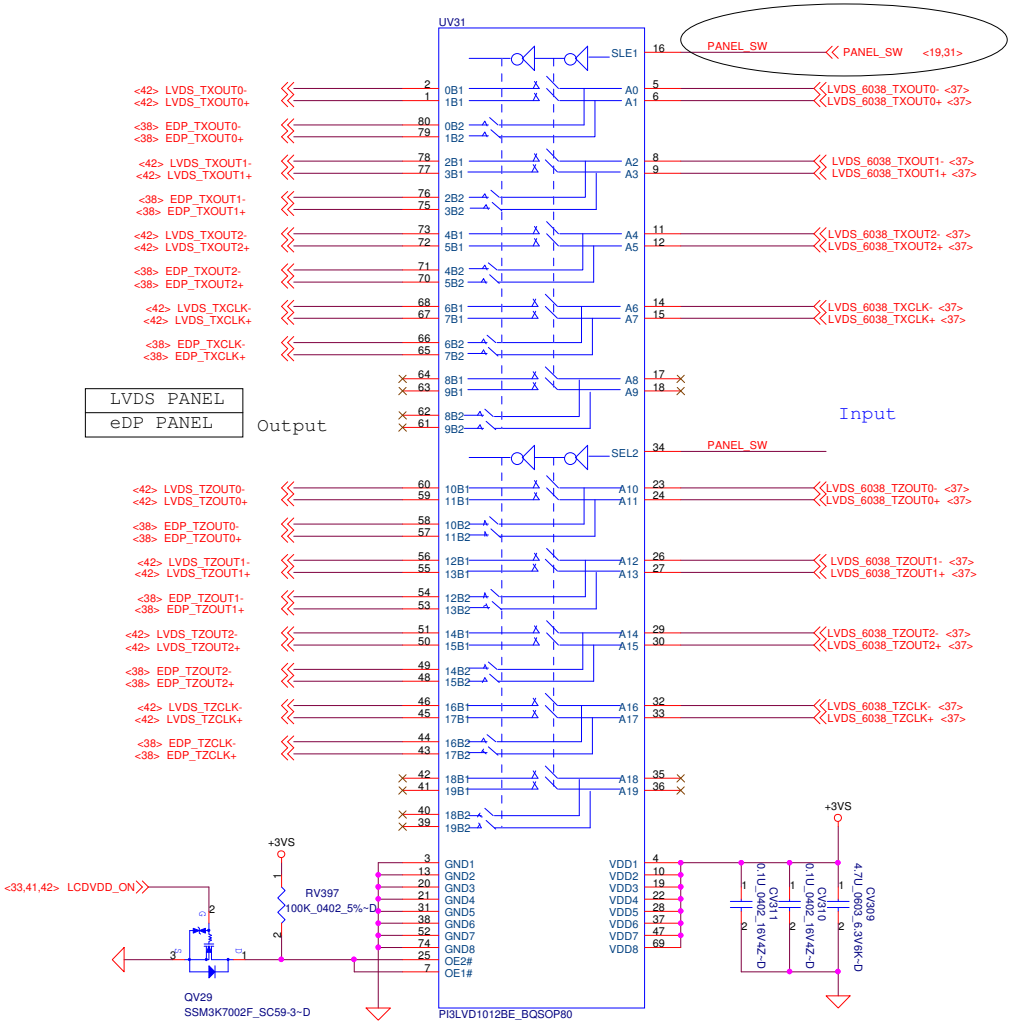
AUX_SEL/SEL1&2	Chanel	Source
0	A	4028
1	B	CPU/MXM

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: eDP SW-eDP CONN			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 30 of 61		

STDP6038 to EDP & LVDS MUX



PANEL_SW	Y
L	LVDS
H	eDP

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

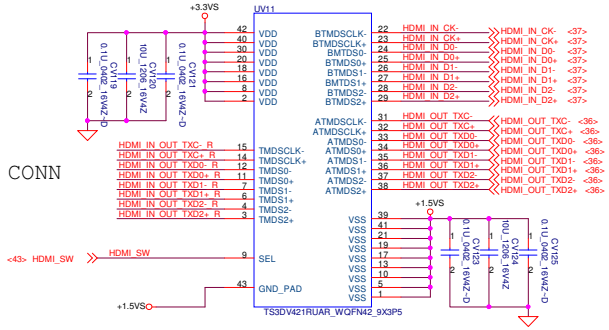
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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	STDP6038 to EDP & LVDS MUX		
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 31 of 61		

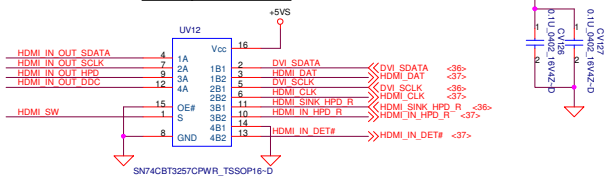
HDMI CONN

STDP6038

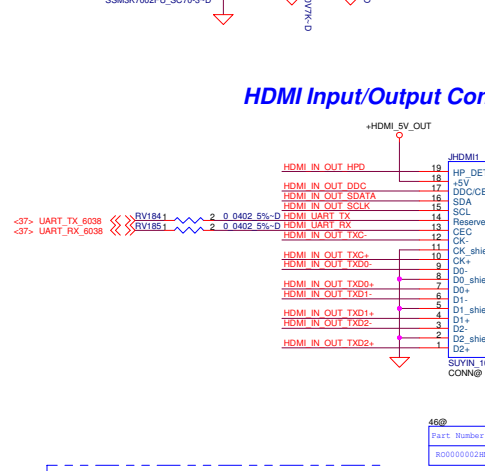
CPU/MXM



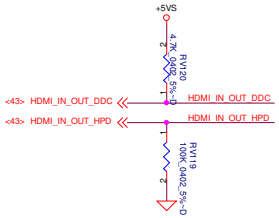
SEL	OUTPUT
L	A
H	B

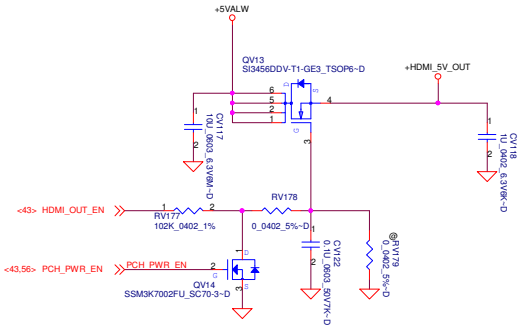


SEL	OUTPUT
L	B1
H	B2

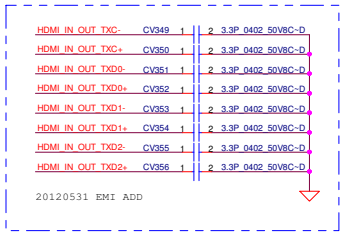


Reserve for EMI please close to JHDMI2





HDMI Input/Output Connector



46@ ROYALTY HDMI W/LOGO

Part Number	Description
RO0000002HM	HDMI W/Logo:RO0000002HM

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

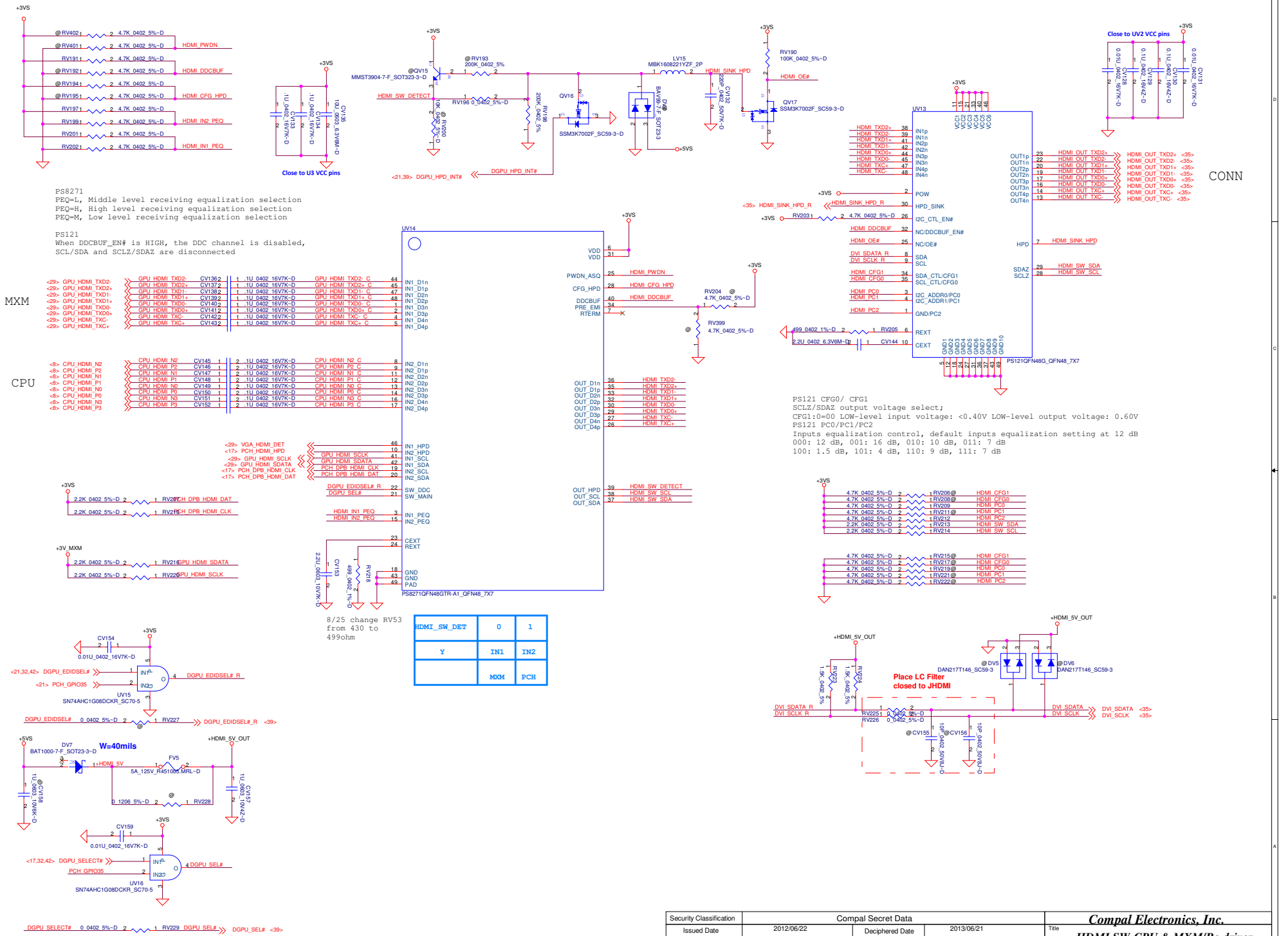
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.

Title: HDMI In/Out SW/Connector

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 32 of 61

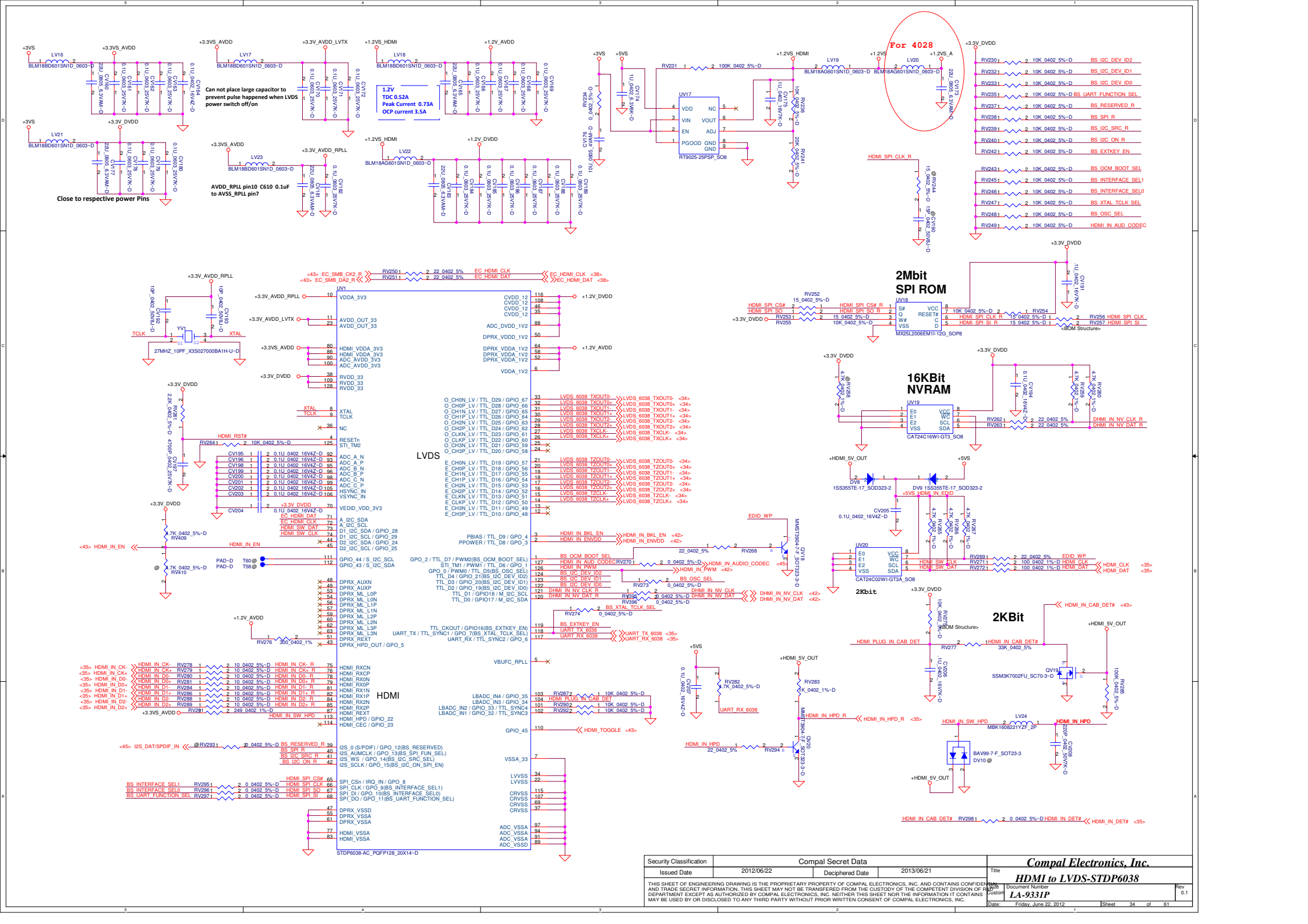


HDMI_SW_DET	0	1
Y	IN1	IN2
	MXM	PCH

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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

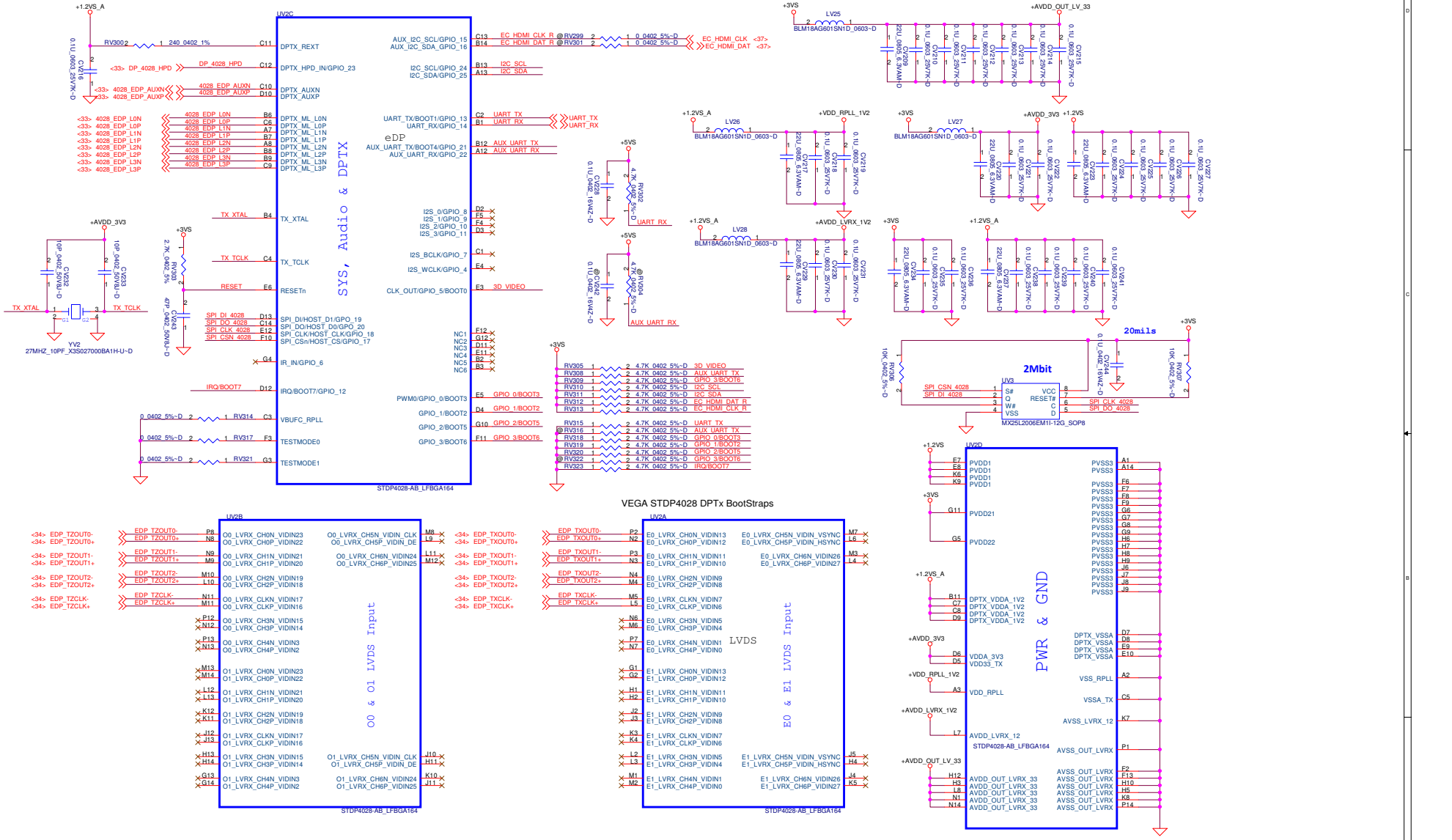
Compal Electronics, Inc.			
Title: HDMI SW-CPU & MXM/Re-driver			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 33 of 61		



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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

Compal Electronics, Inc.			
Title: HDMI to LVDS-STDP6038			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 34 of 61		



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: **LVDS to eDP-STDP4028**

Size: Custom	Document Number: LA-9331P	Rev: 0.1
Date: Friday, June 22, 2012	Sheet 35 of 61	

PCH/GPU AUX&LANE SW for DPB

MXM

CPU

SEL	Y
0	IN1
1	IN2

PS121 CFG0/ CFG1
SCLZ/SDAZ output voltage select;
CFG1:0=00 LOW-level input voltage: <0.40V LOW-level output voltage: 0.60V
PS121 PC0/PC1/PC2
Inputs equalization control, default inputs equalization setting at 12 dB
000: 12 dB, 001: 16 dB, 010: 10 dB, 011: 7 dB
100: 1.5 dB, 101: 4 dB, 110: 9 dB, 111: 7 dB

Place LC Filter closed to JHDMI

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

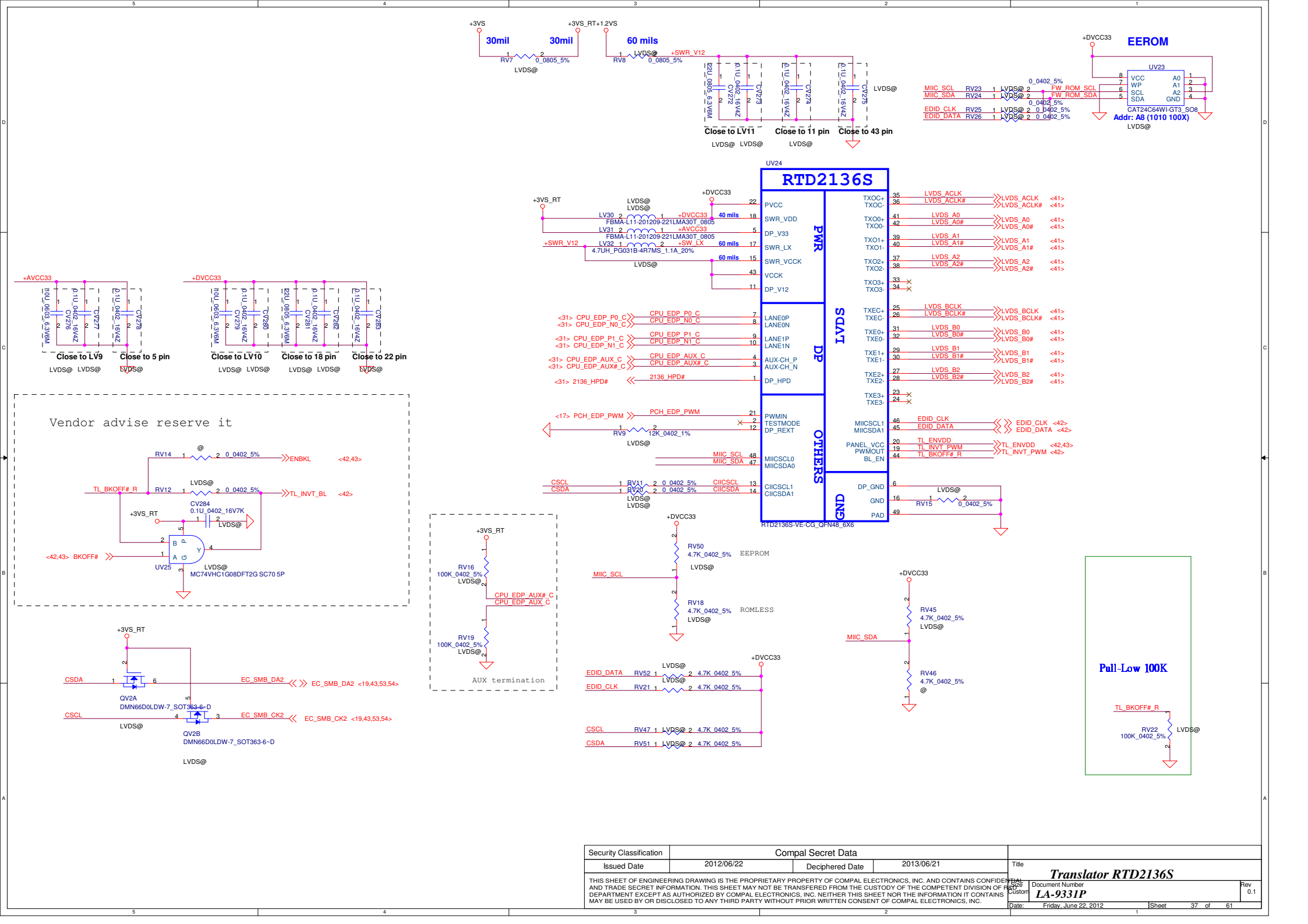
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 36 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

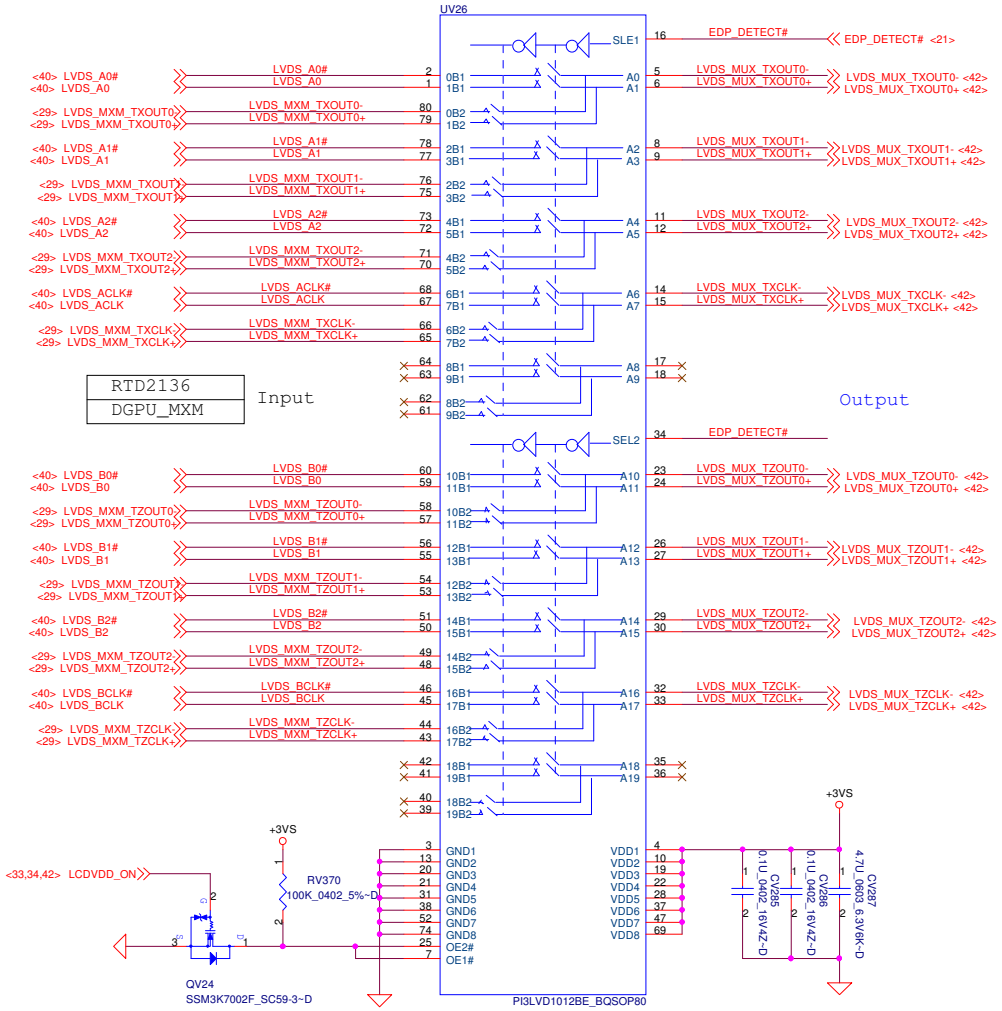
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: *Translator RTD2136S*

Size: Custom | Document Number: *LA-9331P* | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 37 of 61

STDP6038 SW STDP4028 PCH/GPU AUX for LVDS



SEL	Y
L	RTD2136
H	DGPU_MXM

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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: LVDS SW- 1 to 2 & GPU/PCH

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 38 of 61

LCD Backlight Selector

PCH/GPU MUX & 6038 MUX SW for LVDS

S1	S0	1A 2A	Y
0	0	1B1 2B1	HDMI IN (D)
0	1	1B2 2B2	DSC
1	0	1B3 2B3	HDMI IN (I)
1	1	1B4 2B4	UMA

LCD DDC Selector

S1	S0	1A 2A	Y
0	0	1B1 2B1	HDMI IN (D)
0	1	1B2 2B2	DSC
1	0	1B3 2B3	HDMI IN (I)
1	1	1B4 2B4	UMA

CPU/MXM(MUX)	Input
HDMI IN(1:2)	

SEL	Y
L	B1
H	B2

LCD POWER

S1	S0	1A 2A	Y
0	0	1B1 2B1	HDMI IN
0	1	1B2 2B2	DSC
1	0	1B3 2B3	HDMI IN
1	1	1B4 2B4	UMA

EN_CAM control circuit

LVDS Conn.

W=60mils

W=80mils

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWINGS AND SPECIFICATIONS CONTAINS CONFIDENTIAL, TRADE SECRET, AND OTHER PROPRIETARY INFORMATION OF DELL. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

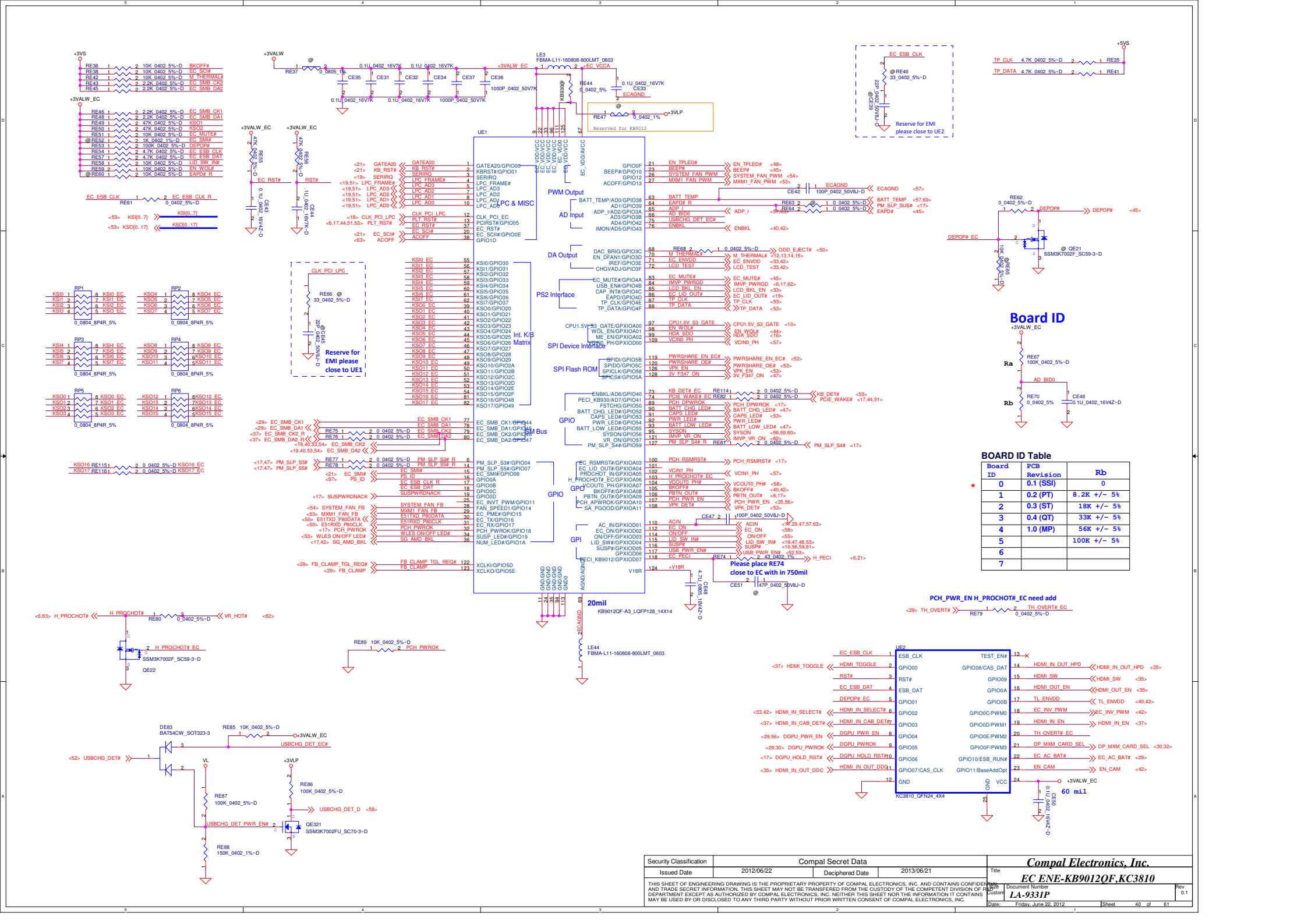
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: LVDS SW- 6038/SYSTEM & CONN

Size: | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 39 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

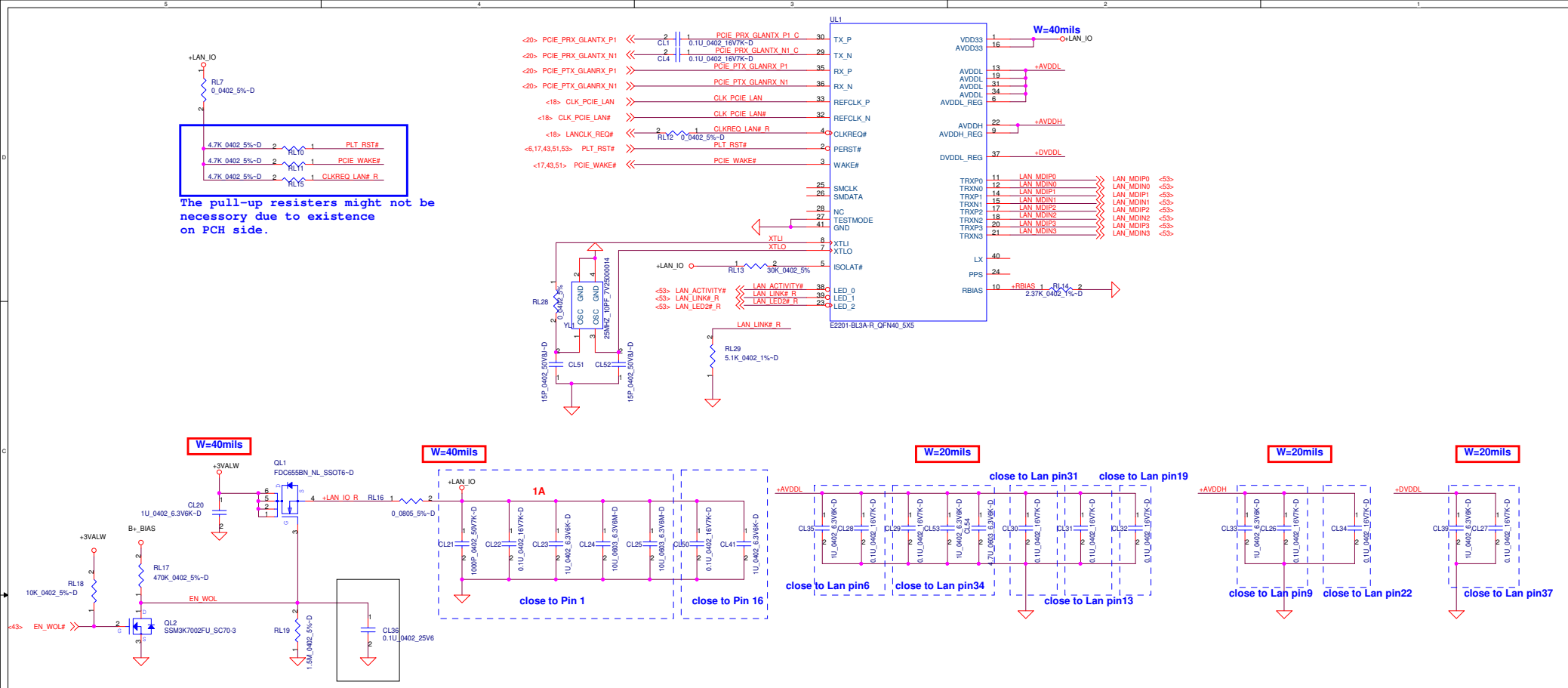
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.

Title: **EC ENE-KB9012QF,KC3810**

Size	Document Number	Rev
Custom	LA-9331P	0.1

Date: Friday, June 22, 2012 | Sheet 40 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

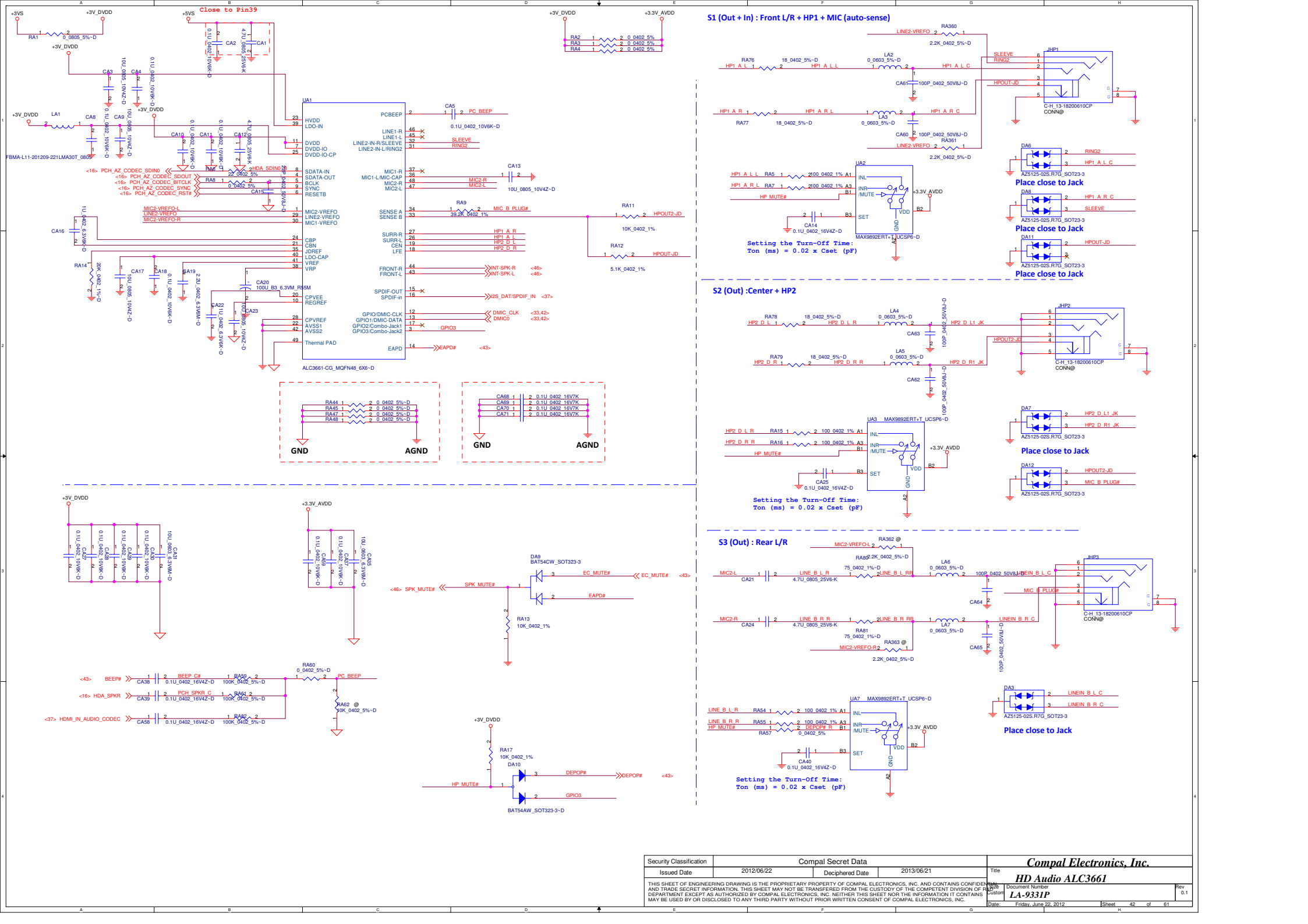
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: GLAN AR8151 AL1A/ RJ45

Size	Document Number	Rev
	LA-9331P	0.1

Date: Friday, June 22, 2012 | Sheet 41 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

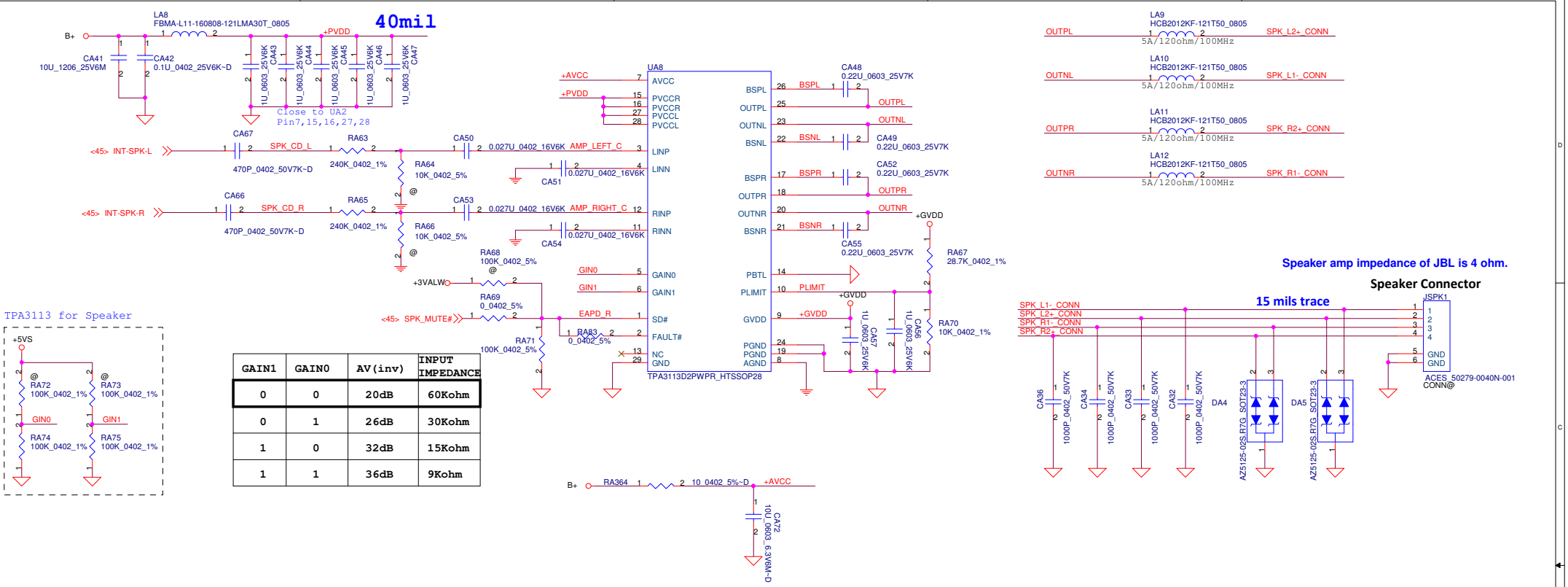
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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: HD Audio ALC3661

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 42 of 61



GAIN1	GAIN0	AV(inv)	INPUT IMPEDANCE
0	0	20dB	60Kohm
0	1	26dB	30Kohm
1	0	32dB	15Kohm
1	1	36dB	9Kohm

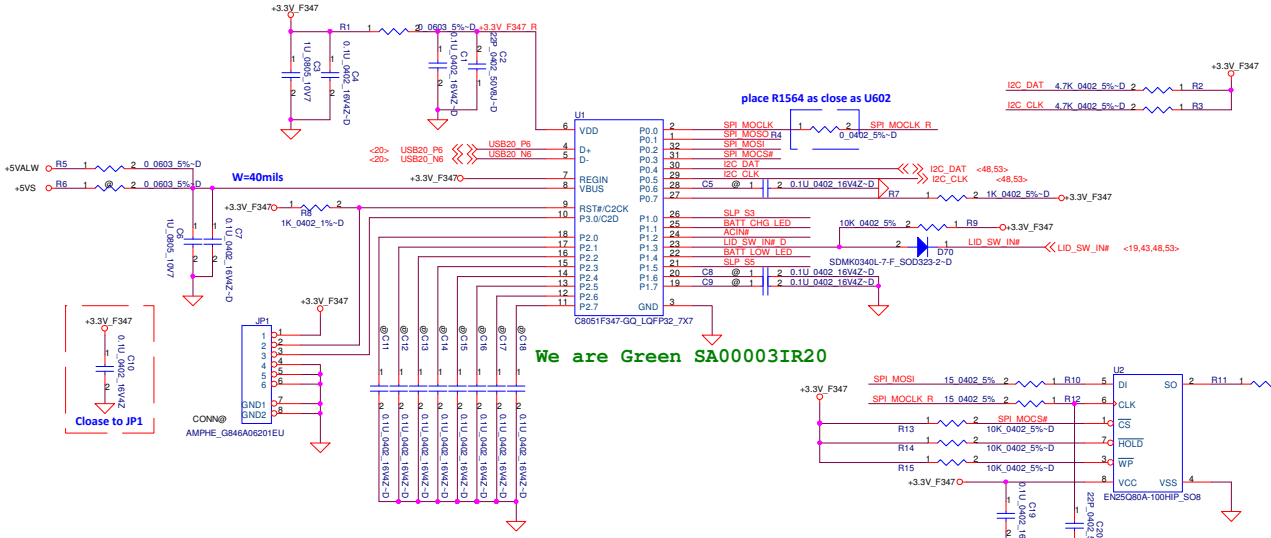
Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

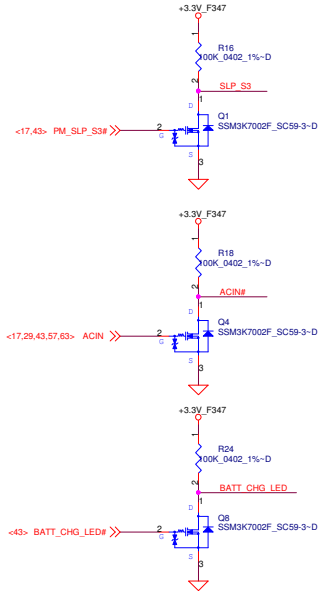
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size	Document Number	Rev
Custom	*LA-9331P*	0.1

Date: Friday, June 22, 2012 Sheet 43 of 61





DEVICE	SMBUS ADDRESS
MAXIM - LED	0100 000b
MAXIM - GPIO	0100 001b
I2C EEPROM	1010 000b

+3.3V_F347 behavior

	STATE			
	S0	S3	S4	S5
AC IN	ON	ON	ON	ON
BAT only	ON	ON	OFF	OFF

AC mode battery full in S5:turn off ELC controller

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

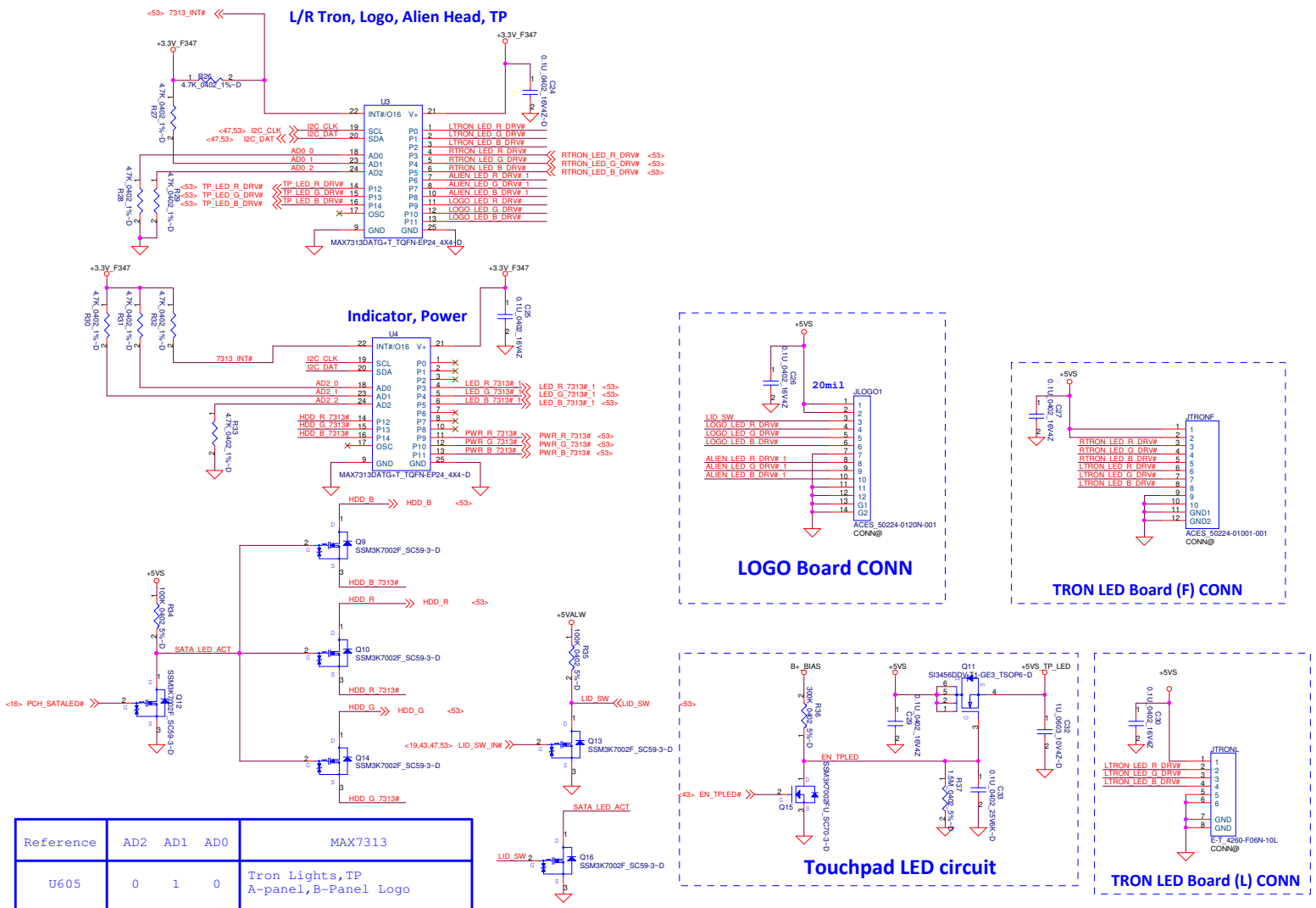
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 44 of 61



Reference	AD2	AD1	AD0	MAX7313
U605	0	1	0	Tron Lights,TP A-panel,B-Panel Logo
U608	0	1	1	Power Button, Media and Status LED Color
U?	1	0	0	Button, Indicator Brightness

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

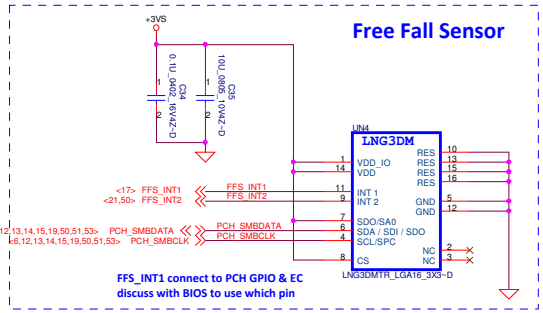
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

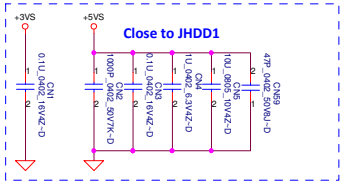
Compal Electronics, Inc.

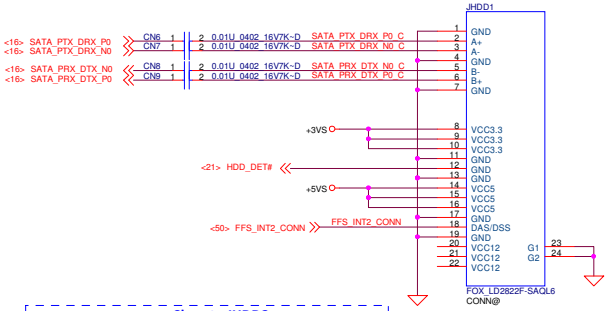
Title: ELC (2)

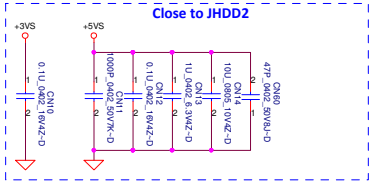
Size: Custom | Document Number: LA-9331P | Rev: 0.1

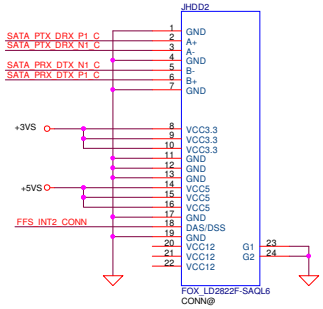
Date: Friday, June 22, 2012 | Sheet 45 of 61

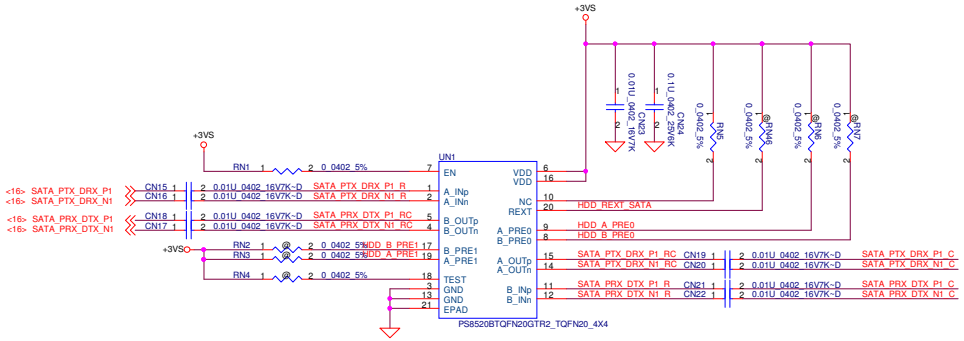


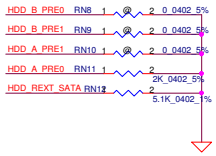












Pin 20:
PARADE PS8250B:
Reserve RN46, Mount RN12

PERICOM PI3EQX6741ST:
Mount RN46, Reserve RN12

ASMEDIA ASM1466:
Mount RN46, Reserve RN12

Pin 9:
PARADE PS8250B:
Reserve RN11.

PERICOM PI3EQX6741ST:
Reserve RN11

ASMEDIA ASM1466:
Mount RN11 to pull down

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

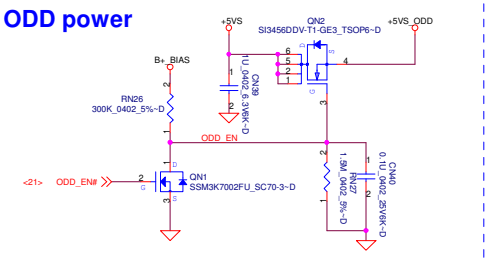
Compal Electronics, Inc.

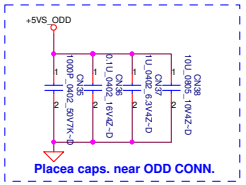
Title: SATA HDD1 & HDD2/FFS

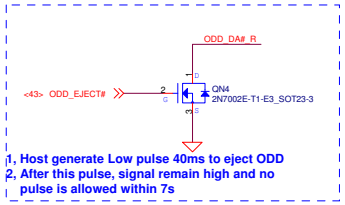
Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 46 of 61

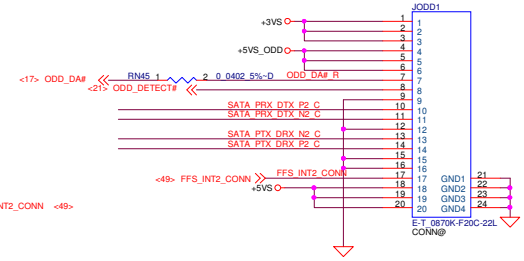
ODD power

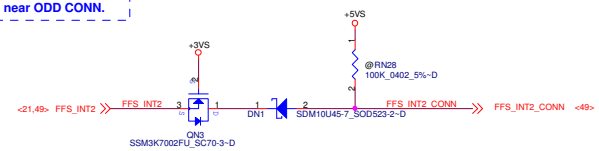




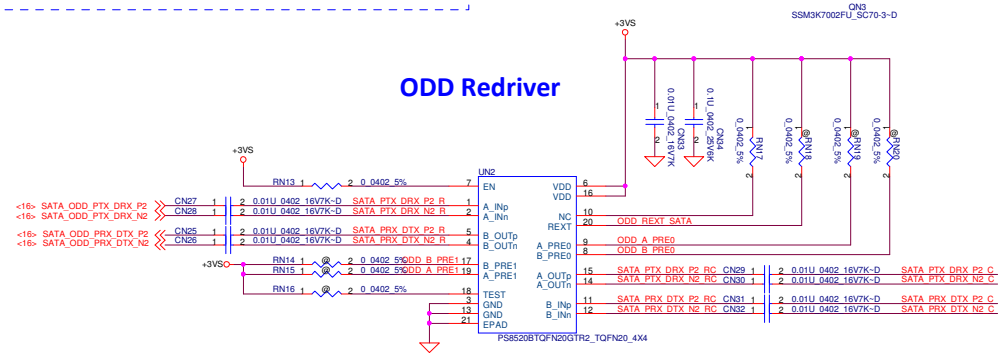


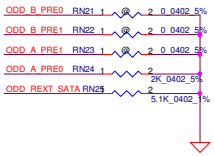
SATA ODD Conn.





ODD Redriver





Pin 20:
PARADE PS8250B:
Reserve RN18, Mount RN25

PERICOM PI3EQX6741ST:
Mount RN18, Reserve RN25

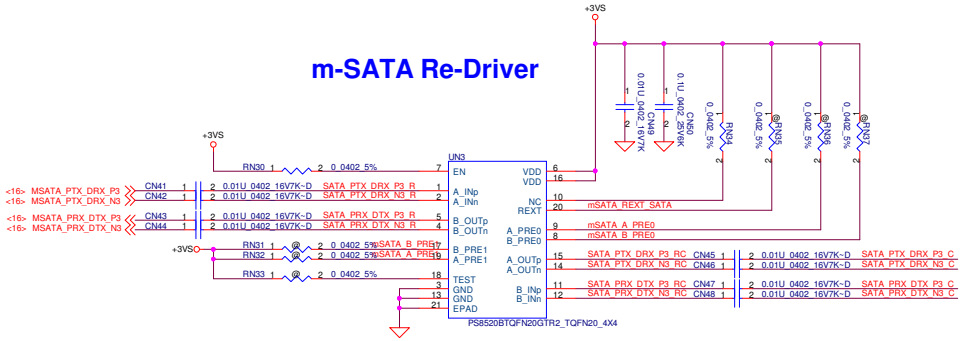
ASMEDIA ASM1466:
Mount RN18, Reserve RN25

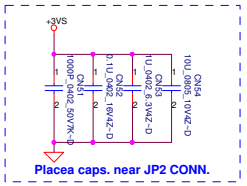
Pin 9:
PARADE PS8250B:
Reserve RN24.

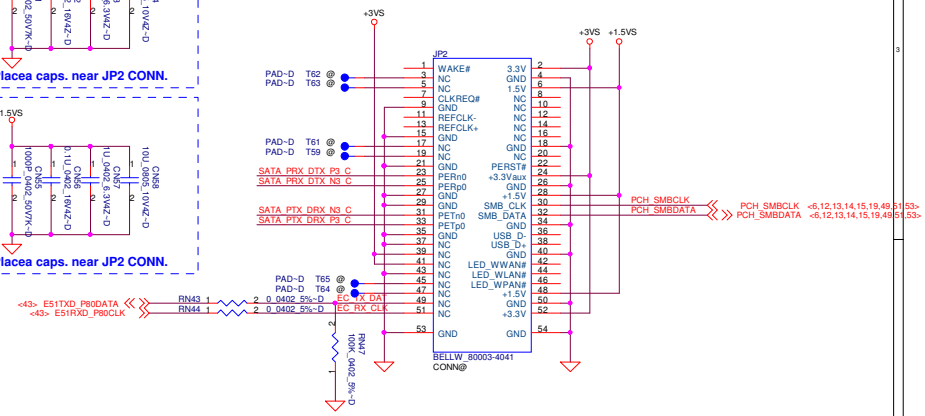
PERICOM PI3EQX6741ST:
Reserve RN24

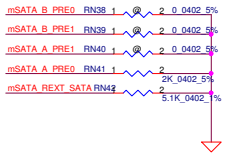
ASMEDIA ASM1466:
Mount RN24 to pull down

m-SATA Re-Driver









Pin 20:
PARADE PS8250B:
Reserve RN35, Mount RN42

PERICOM PI3EQX6741ST:
Mount RN35, Reserve RN42

ASMEDIA ASM1466:
Mount RN35, Reserve RN42

Pin 9:
PARADE PS8250B:
Reserve RN41.

PERICOM PI3EQX6741ST:
Reserve RN41

ASMEDIA ASM1466:
Mount RN41 to pull down

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

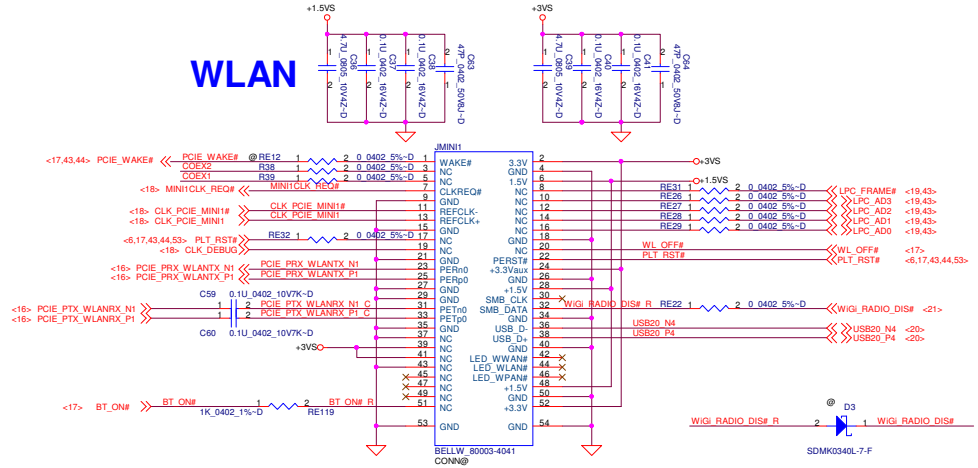
Compal Electronics, Inc.

Title: SATA ODD/mSATA

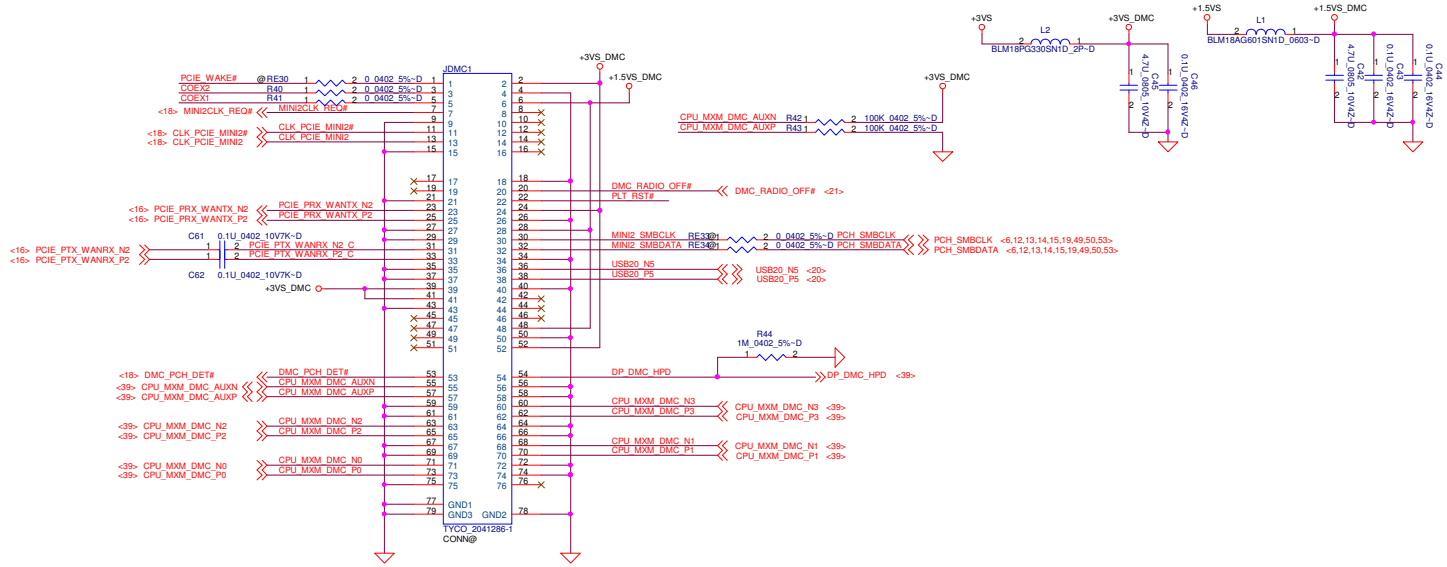
Size: Custom | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 47 of 61

WLAN



Display Mini Card (DMC)



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

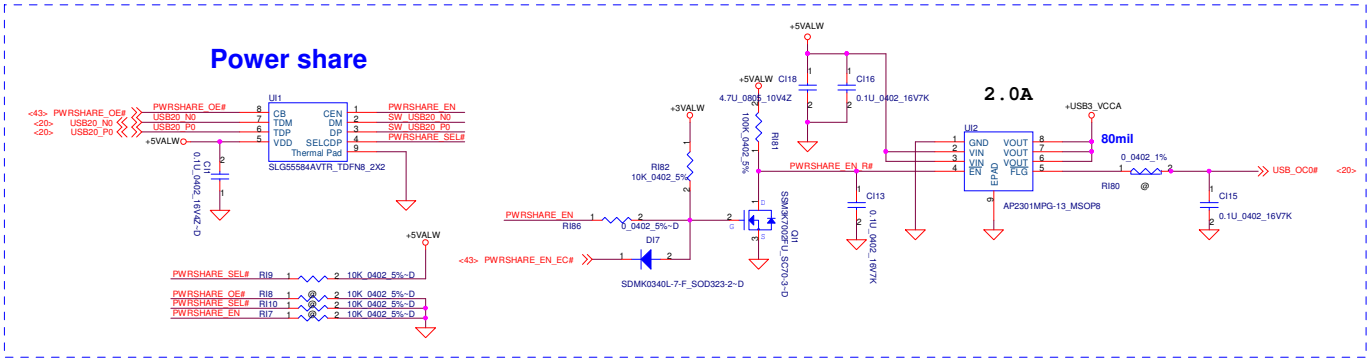
Compal Electronics, Inc.

Title: Mini Card -WLAN/DMC/BT

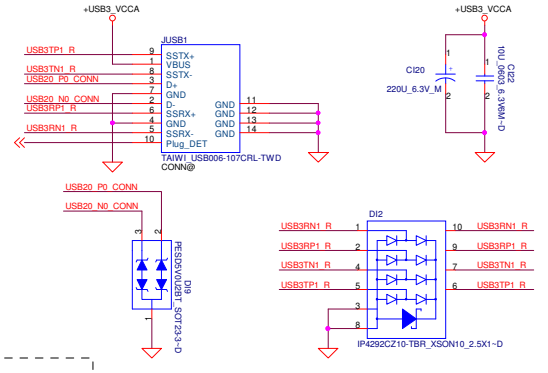
Size: Custom | Document Number: LA-9331P | Rev: 0.1

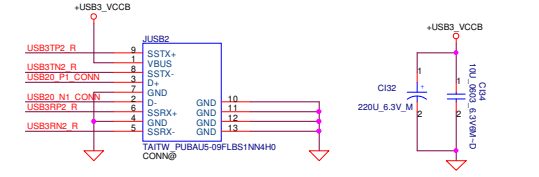
Date: Friday, June 22, 2012 | Sheet 48 of 61

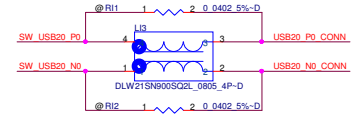
Power share

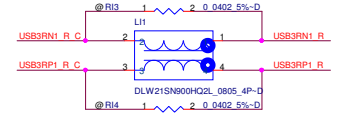


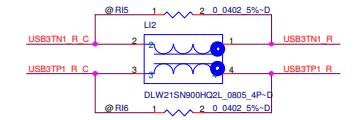
USB CONN

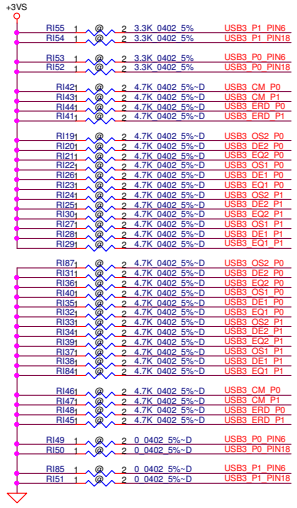










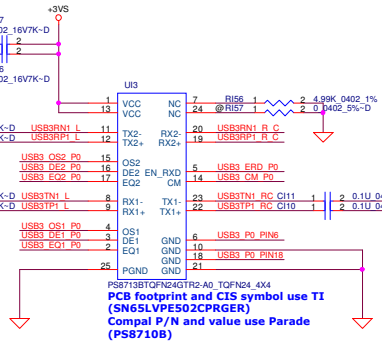


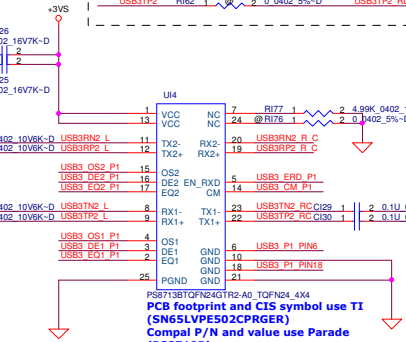
Vendor pin	PS8710B (default)	TI
pin15	AEQ1	OS2
pin16	ADE0	DE2
pin17	AEQ0	EQ2
pin4	BEQ1	OS1
pin3	BDE0	DE1
pin2	BEQ0	EQ1
pin5	PD	EN_RXD
pin14	TEST	CM
pin18	ADE1	
pin6	BDE1	

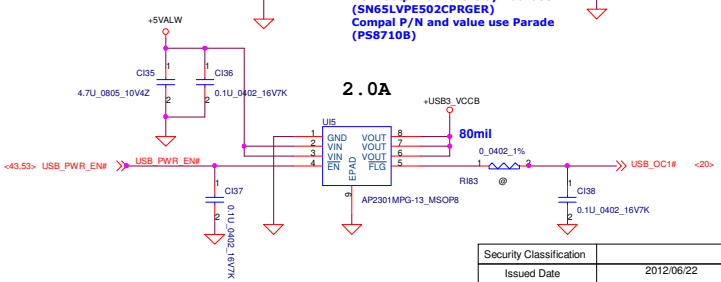
[Parade suggest]
PS8710 AEQ0,BEQ0 adjust 7db,
REXT use 3.3 K well get btter test result.

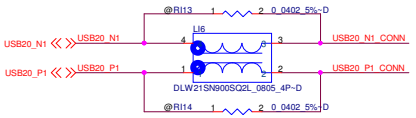
SN65LVPE502
EN==
1:normal operation(default)
0:sleep mode
CM==
0:normal operation(default)
1:Compliance test mode

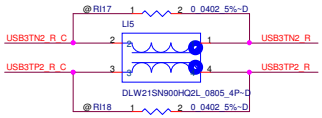
PS8710
[A(B)_DE1, A(B)_DE0] ==
LL: 3.5dB de-emphasis
LH: No de-emphasis
HL: 7dB de-emphasis
HH: 5dB with boost output swing
[A(B)_EQ1, A(B)_EQ0] ==
LL: reserved
LH: program EQ for channel loss up to 7dB
HL: program EQ for channel loss up to 14.5dB
HH: program EQ for channel loss up to 11.5dB
TEST ==
L: Normal operation (default)
H: Test mode enable

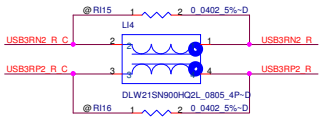












Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

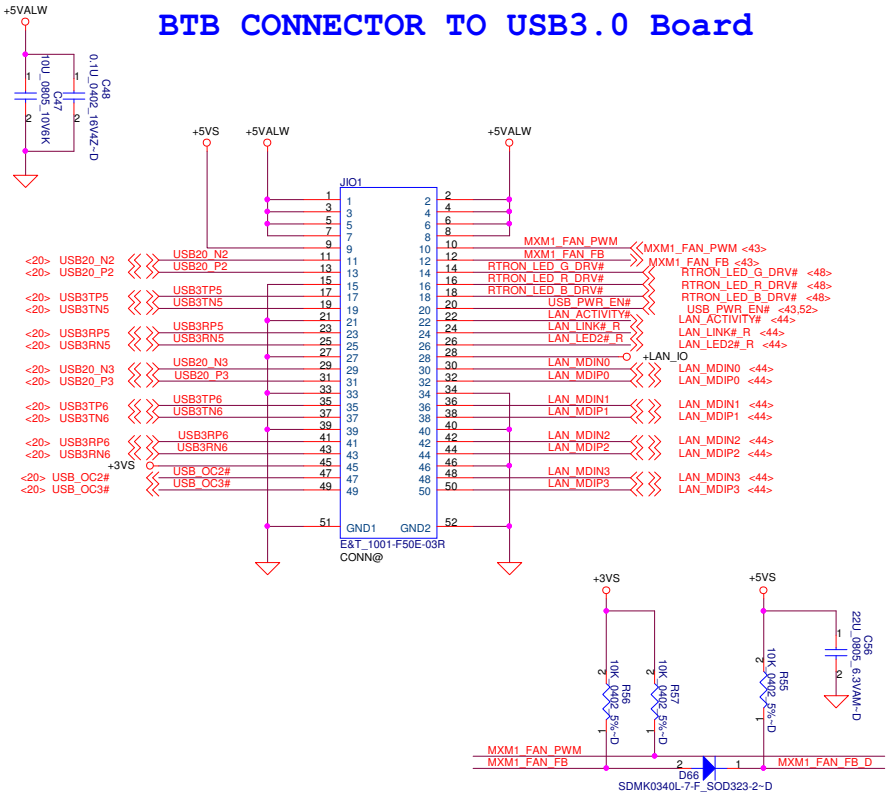
Compal Electronics, Inc.

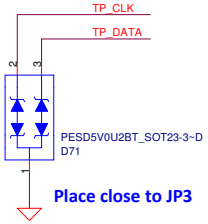
Title: **USB 3.0/2.0 x2 (left side)**

Size: Custom | Document Number: **LA-9331P** | Rev: 0.1

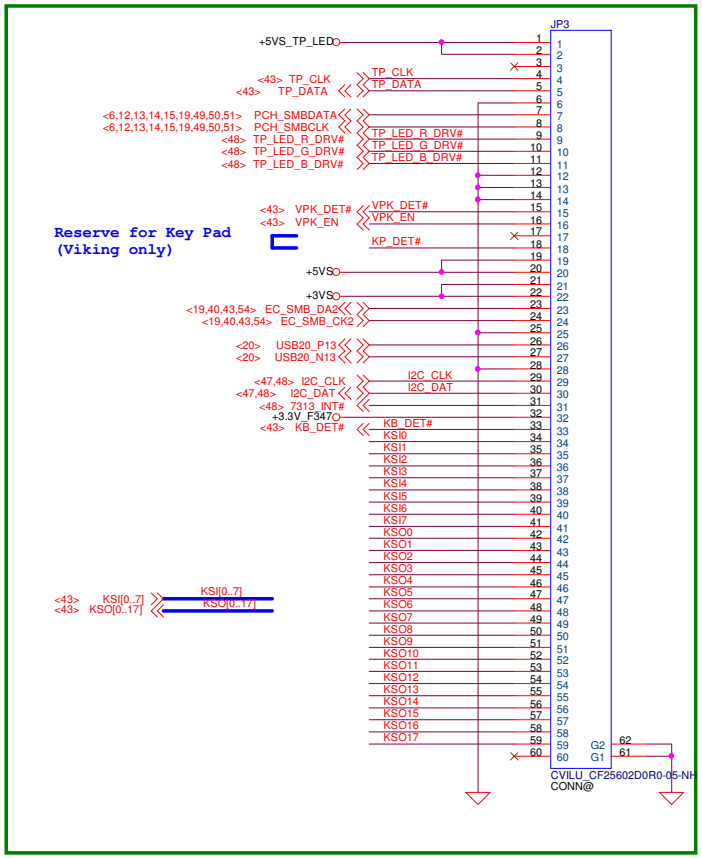
Date: Friday, June 22, 2012 | Sheet 49 of 61

BTB CONNECTOR TO USB3.0 Board

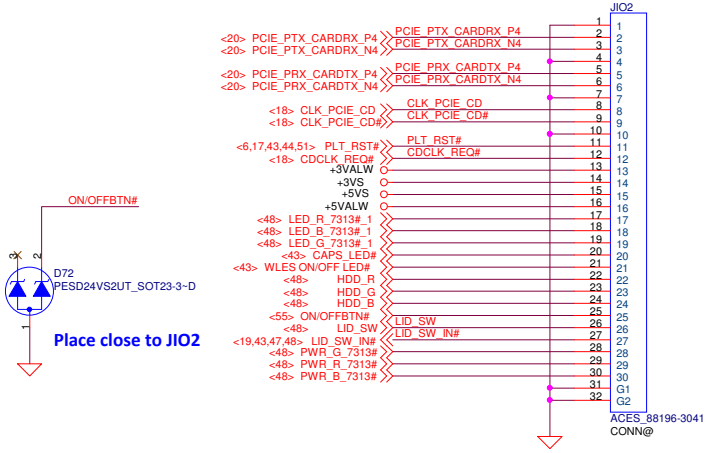




60 pin FFC connector To MB



30pin Connector to CardReader

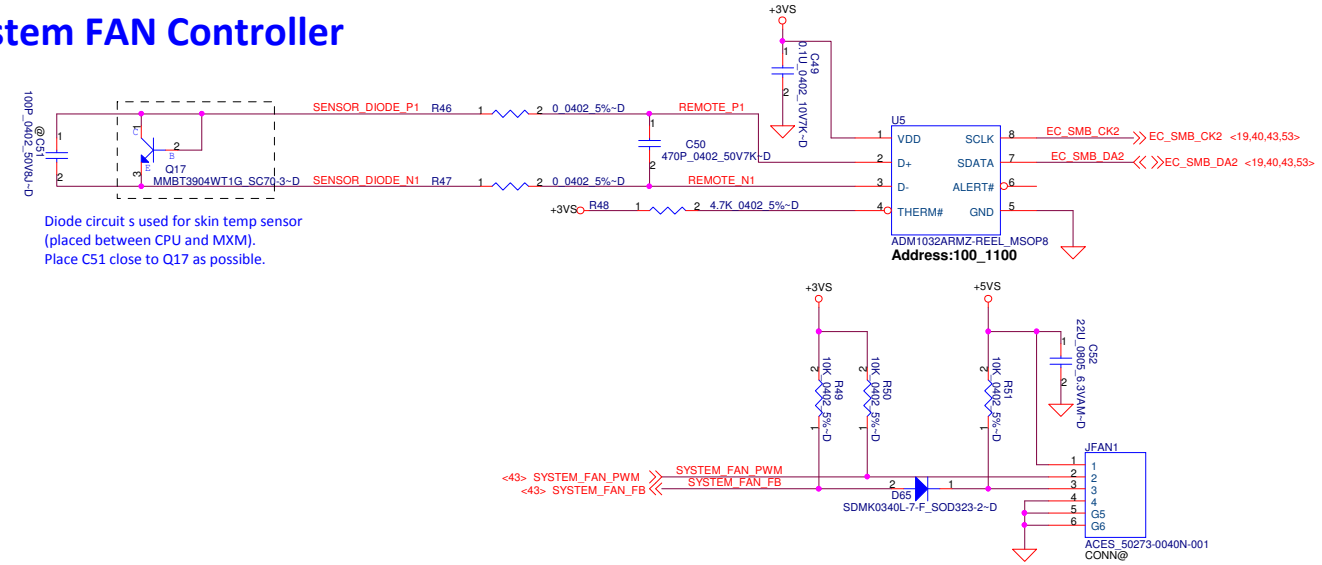


Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

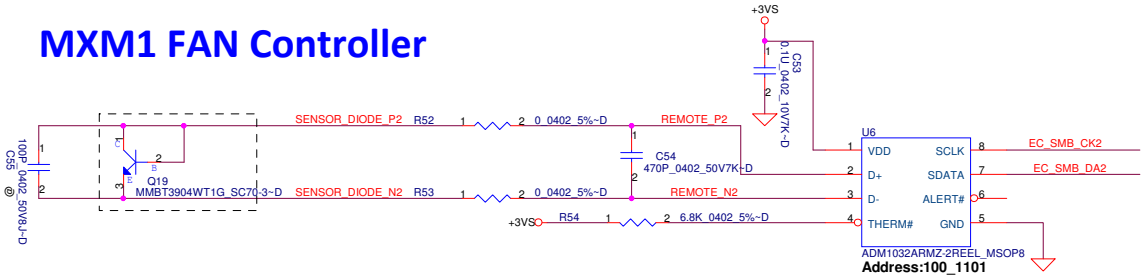
Title	IO BTB CONN		
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet 50 of 61		

System FAN Controller



Diode circuit s used for skin temp sensor
(placed between CPU and MXM).
Place C51 close to Q17 as possible.

MXM1 FAN Controller



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

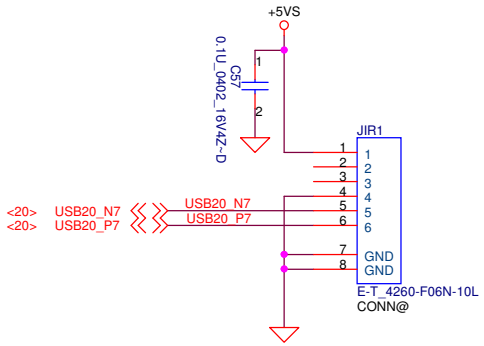
Compal Electronics, Inc.

Title: **Thermal Sensor & FAN**

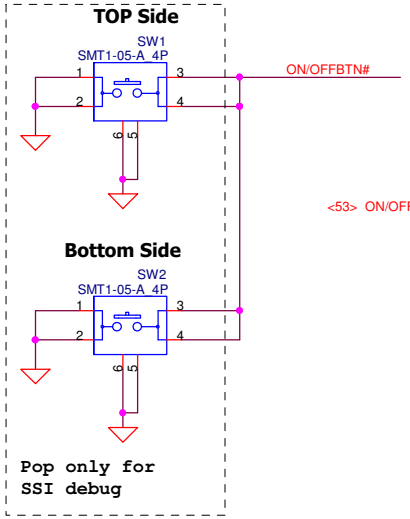
Size	Document Number	Rev
Custom	LA-9331P	0.1

Date: Friday, June 22, 2012 Sheet 51 of 61

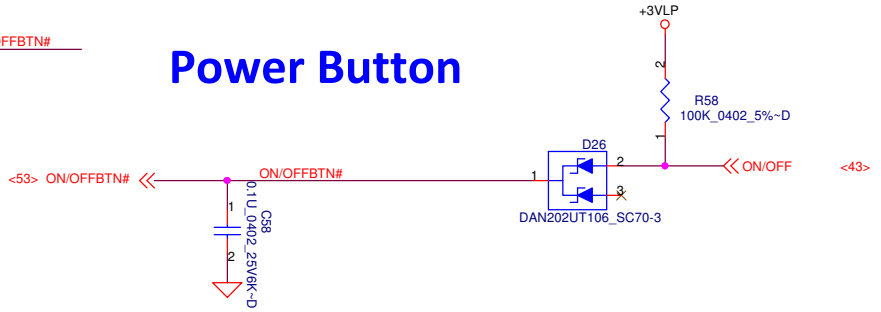
IR SENSOR connector

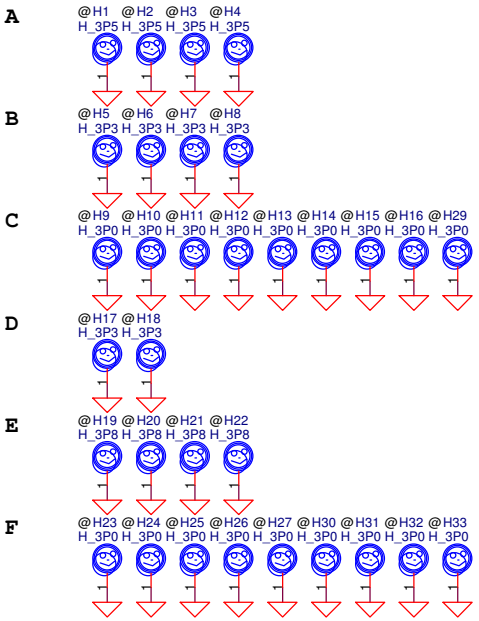


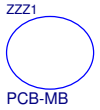
ON/OFF switch

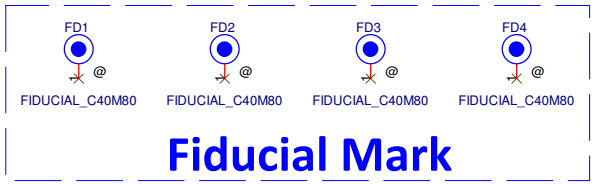


Power Button









Fiducial Mark

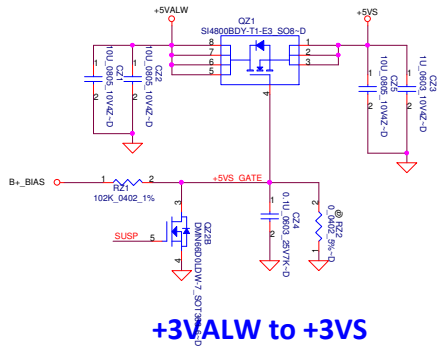
Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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.

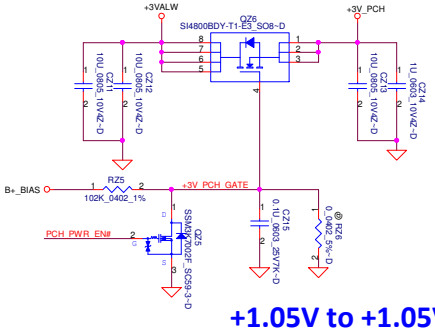
Title	KB & Power Button & IR		
Size B	Document Number LA-9331P		Rev 0.1
Date: Friday, June 22, 2012	Sheet 52 of 61		

DC to DC

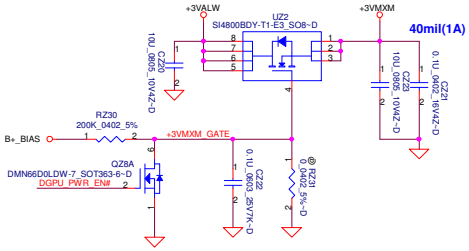
+5VALW to +5VS



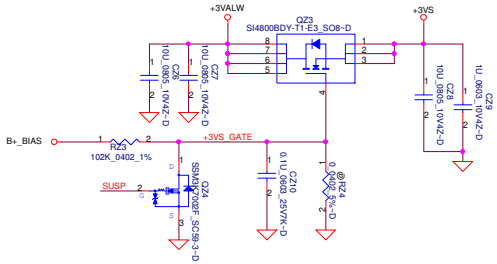
+3VALW to +3V_PCH



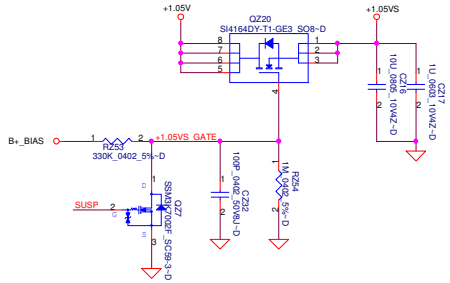
+3VALW to +3VMXM Transfer



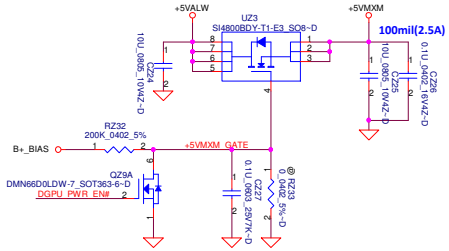
+3VALW to +3VS



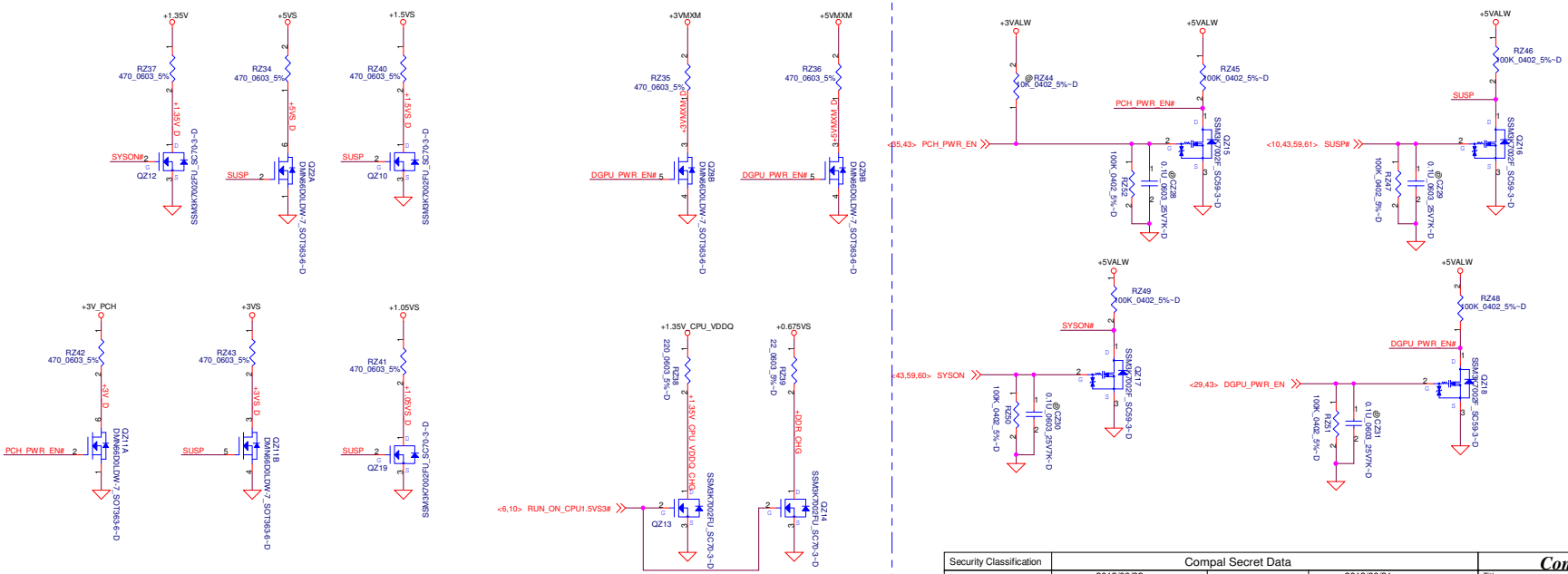
+1.05V to +1.05VS



+5VALW to +5VMXM



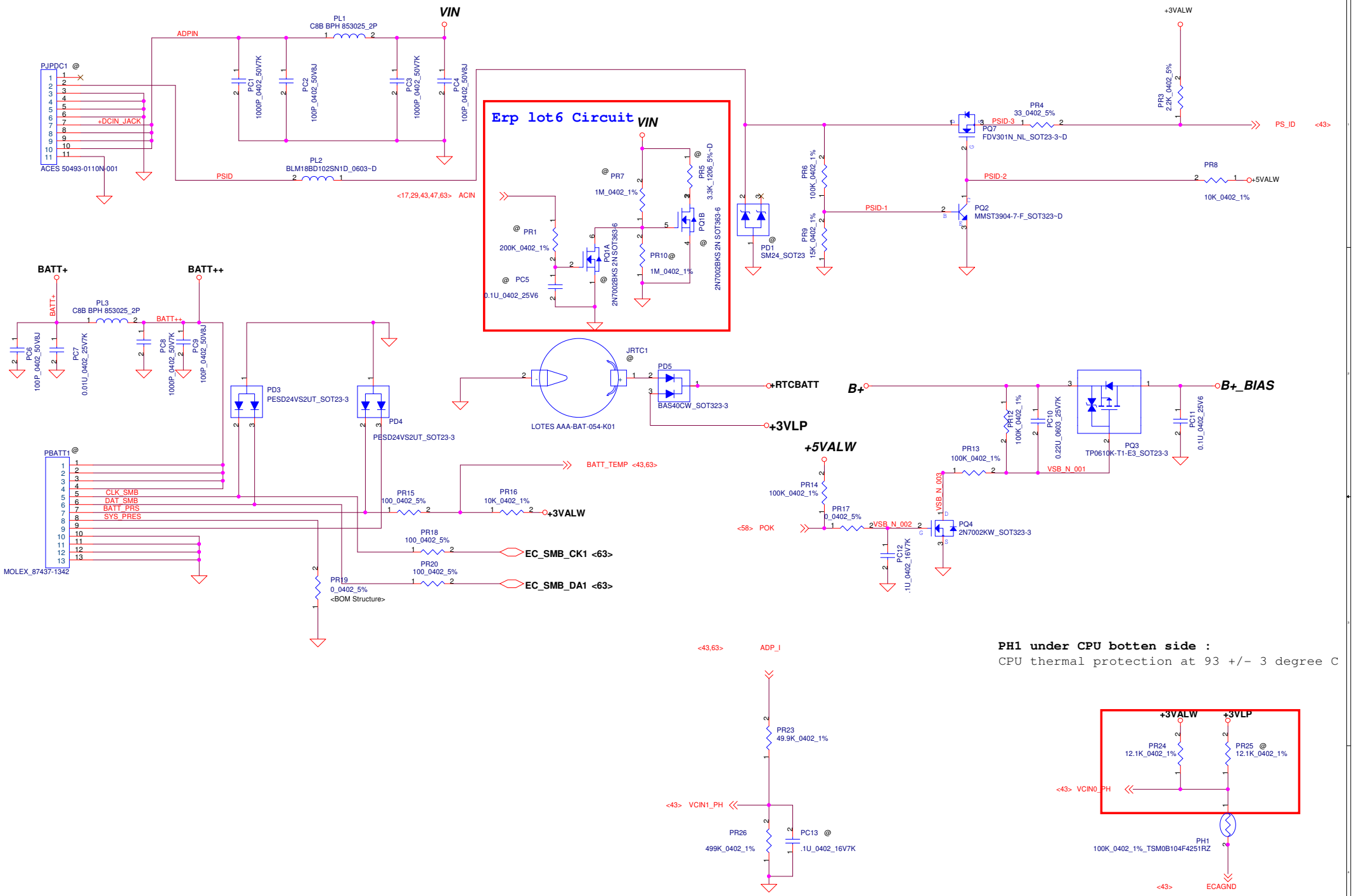
Discharge Circuit



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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/DC Interface			
Size: Custom	Document Number: LA-9331P		Rev: 0.1
Date: Friday, June 22, 2012	Sheet: 53 of 61		

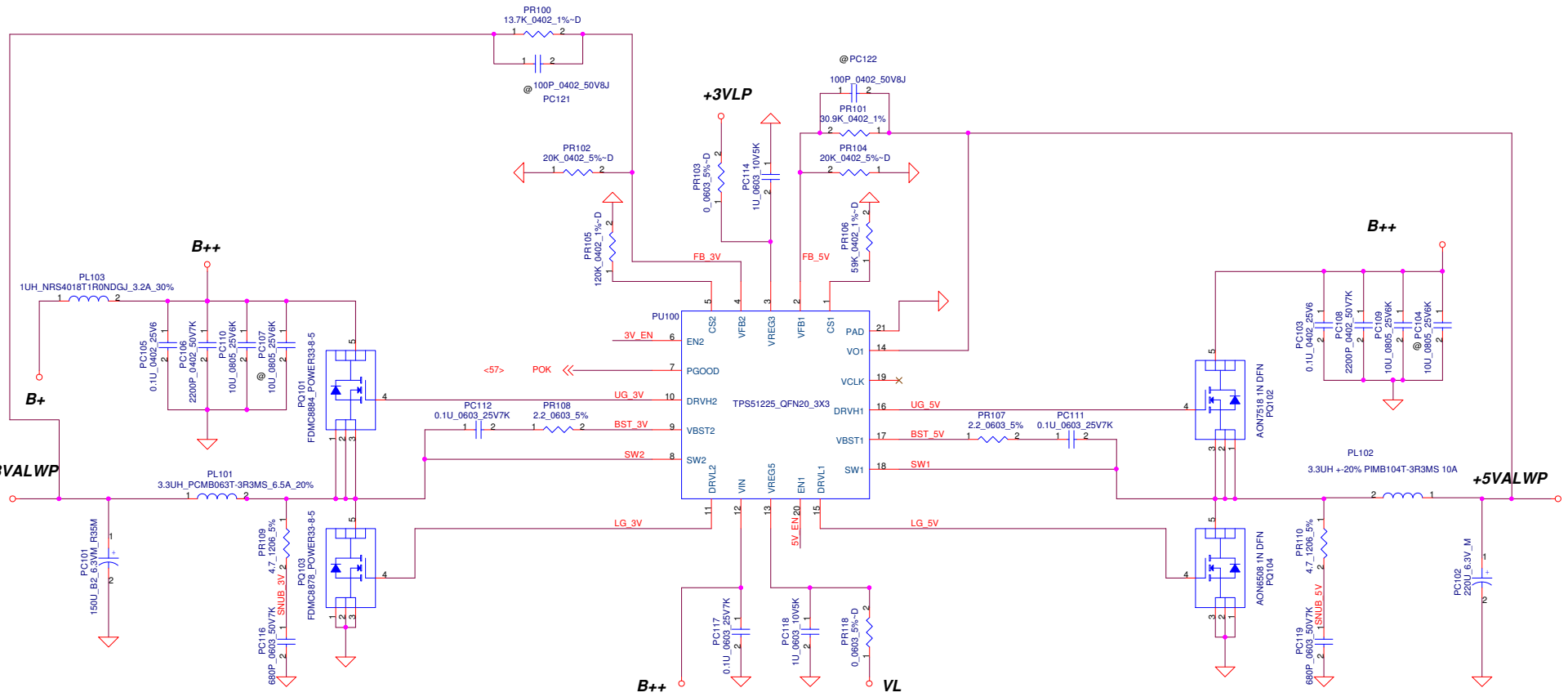


PH1 under CPU botten side :
CPU thermal protection at 93 +/- 3 degree C

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

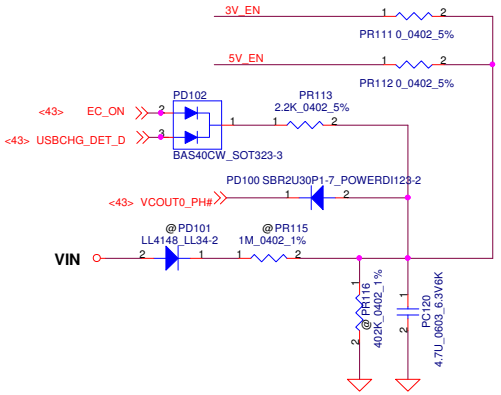
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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 / BATT CONN / OTP
Size	Document Number: LA-9331P
Rev	0.1
Date:	Friday, June 22, 2012
Sheet	54 of 61



3VALWP
TDC 6.08A
Peak Current 8.11A
OCP current 9.73A

	TYP	MAX
H/S Rds(on)	:22mohm ,	30mohm
L/S Rds(on)	:12.1mohm ,	17mohm



5VALWP
TDC 10.64A
Peak Current 14.19A
OCP current 17.03A

	TYP	MAX
H/S Rds(on)	11.2mohm ,	14mohm
L/S Rds(on)	:3.7mohm ,	5mohm

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

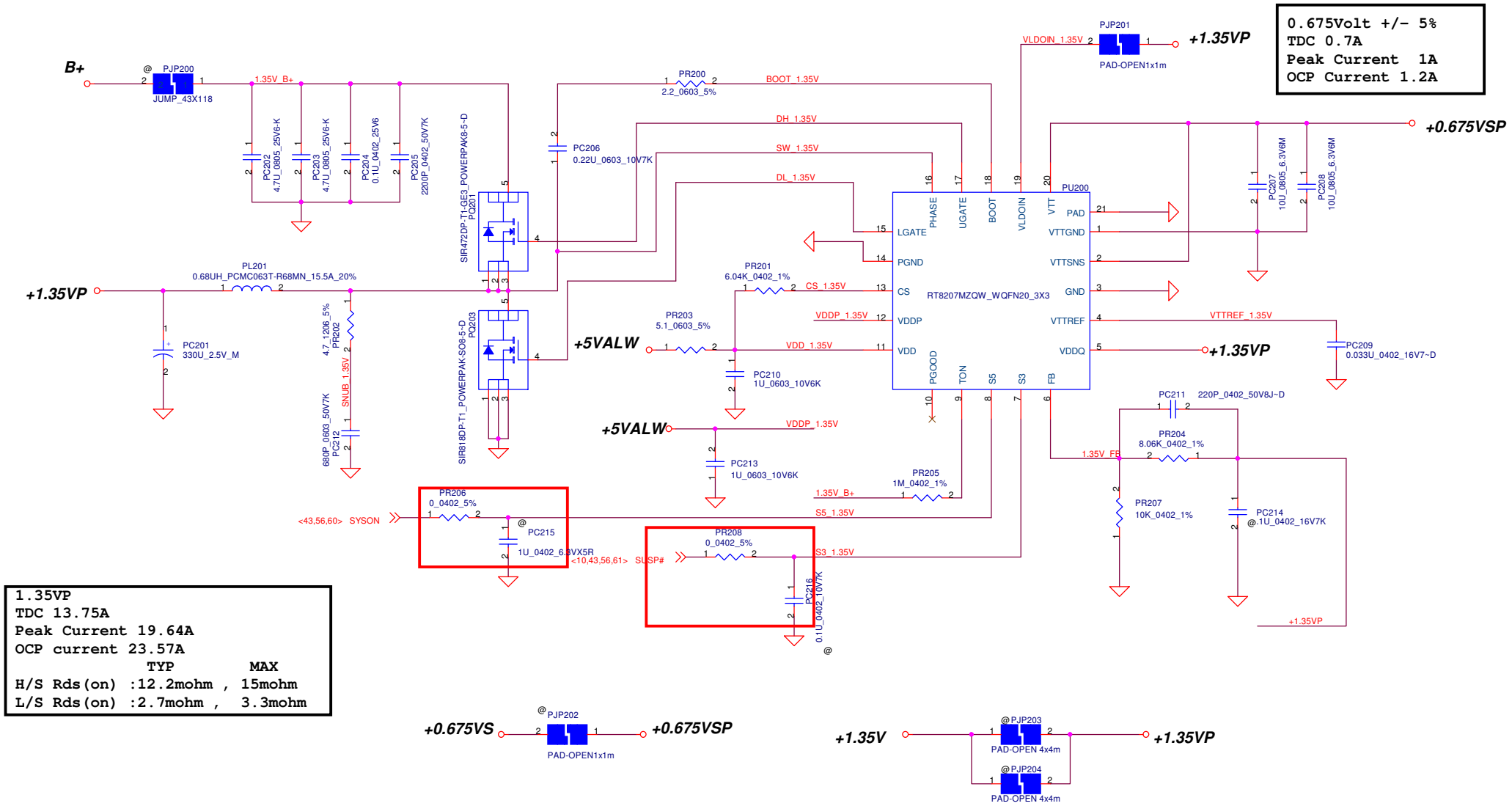
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.

Title: PWR-3VALWP/5VALWP

Size: B | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 55 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

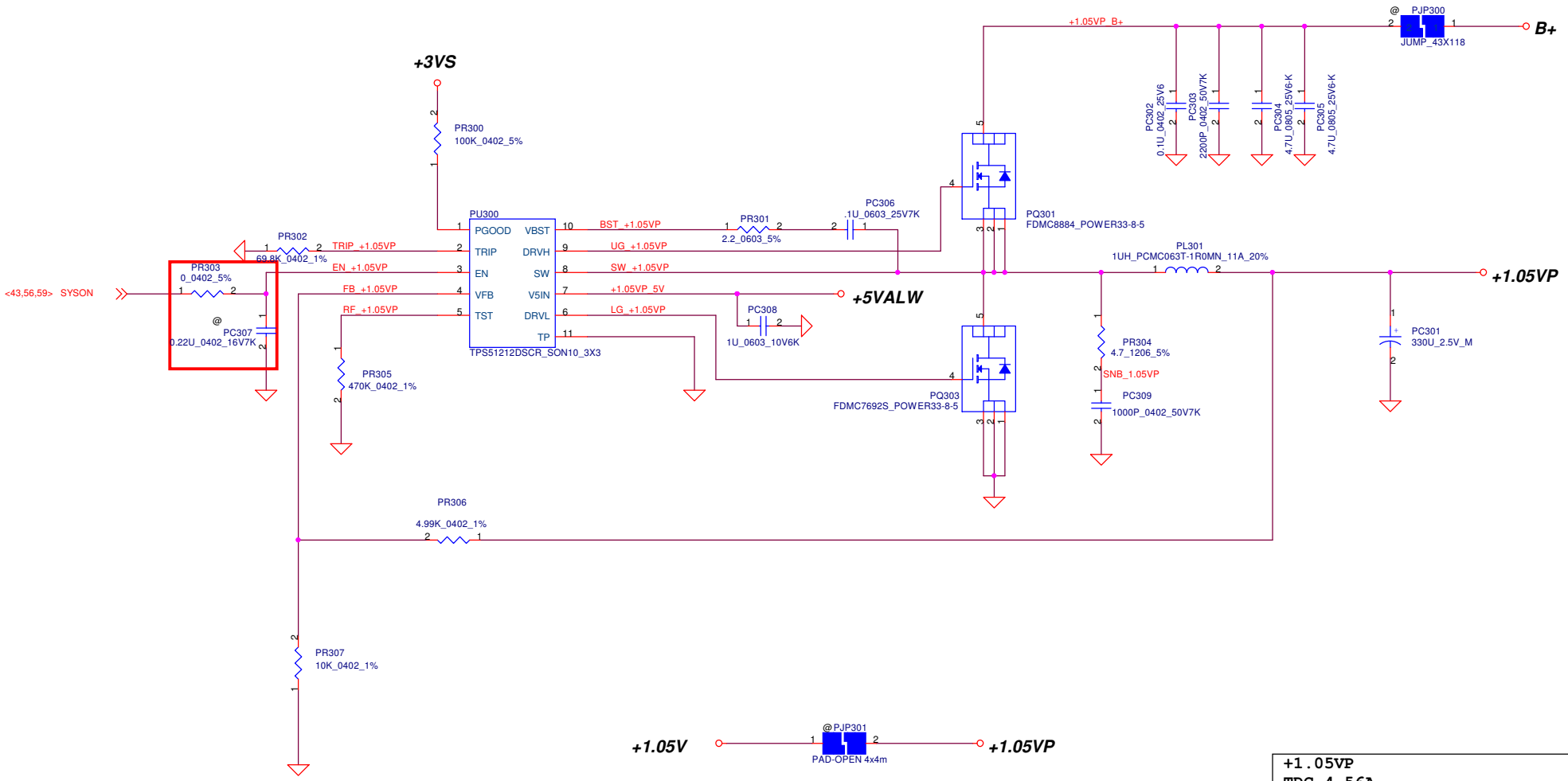
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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-1.35VP/0.675VSP

Size | Document Number: LA-9331P | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 56 of 61



	TYP	MAX
+1.05VP		
TDC 4.56A		
Peak Current 6.51A		
OCP current 7.81A		
H/S Rds(on)	22mohm	30mohm
L/S Rds(on)	10.8mohm	13.6mohm

Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

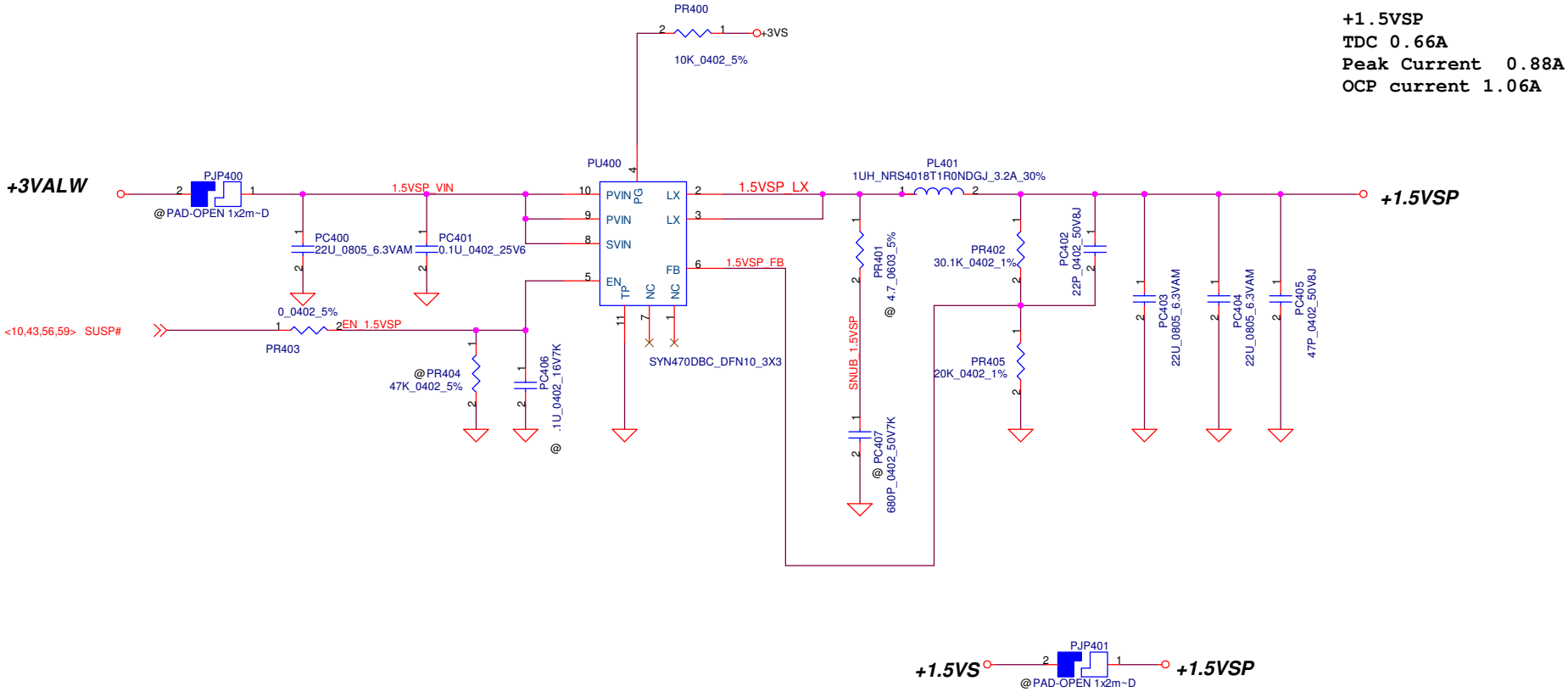
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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-+1.05VP

Size | Document Number: LA-9331P | Rev: 0.1

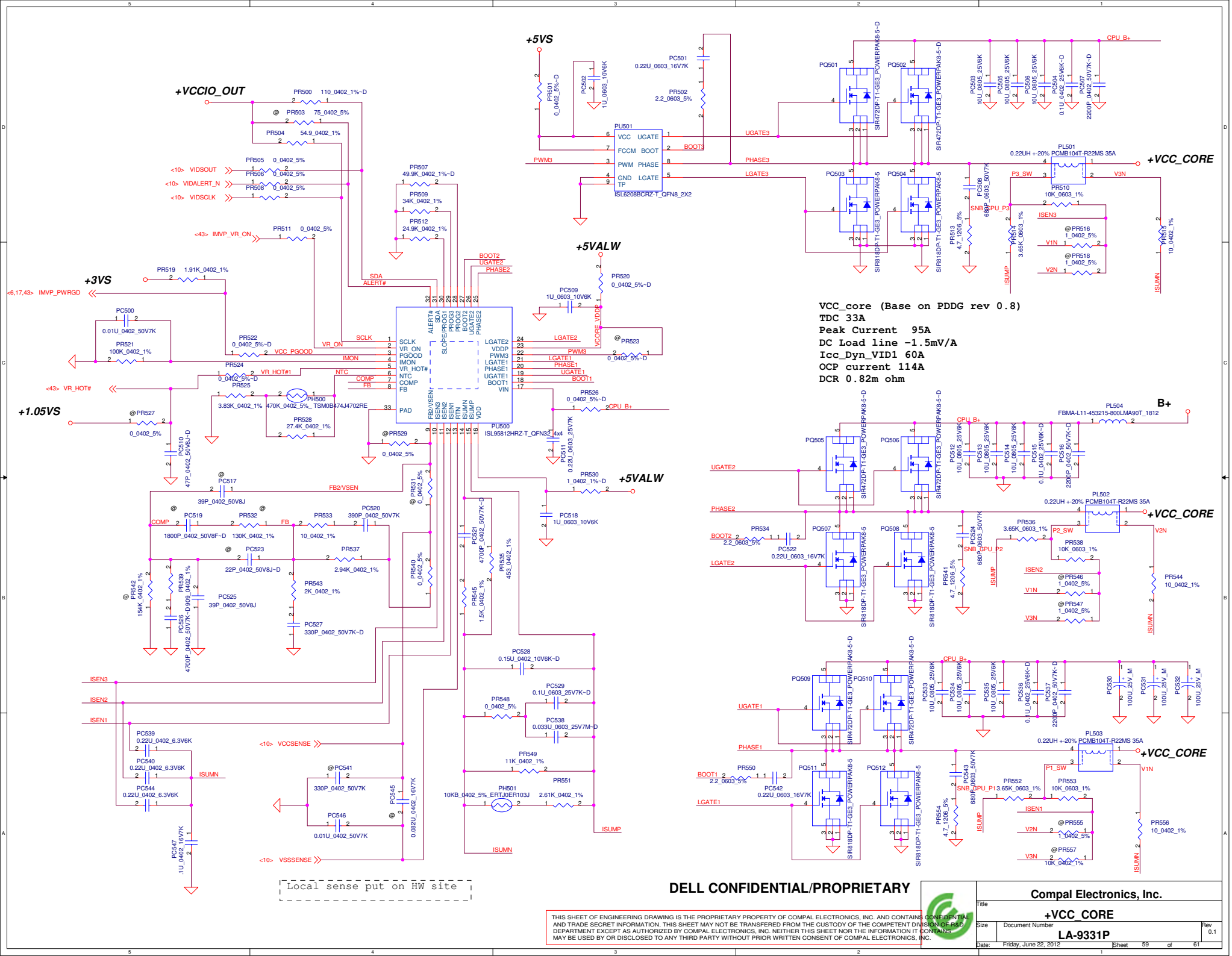
Date: Friday, June 22, 2012 | Sheet 57 of 61

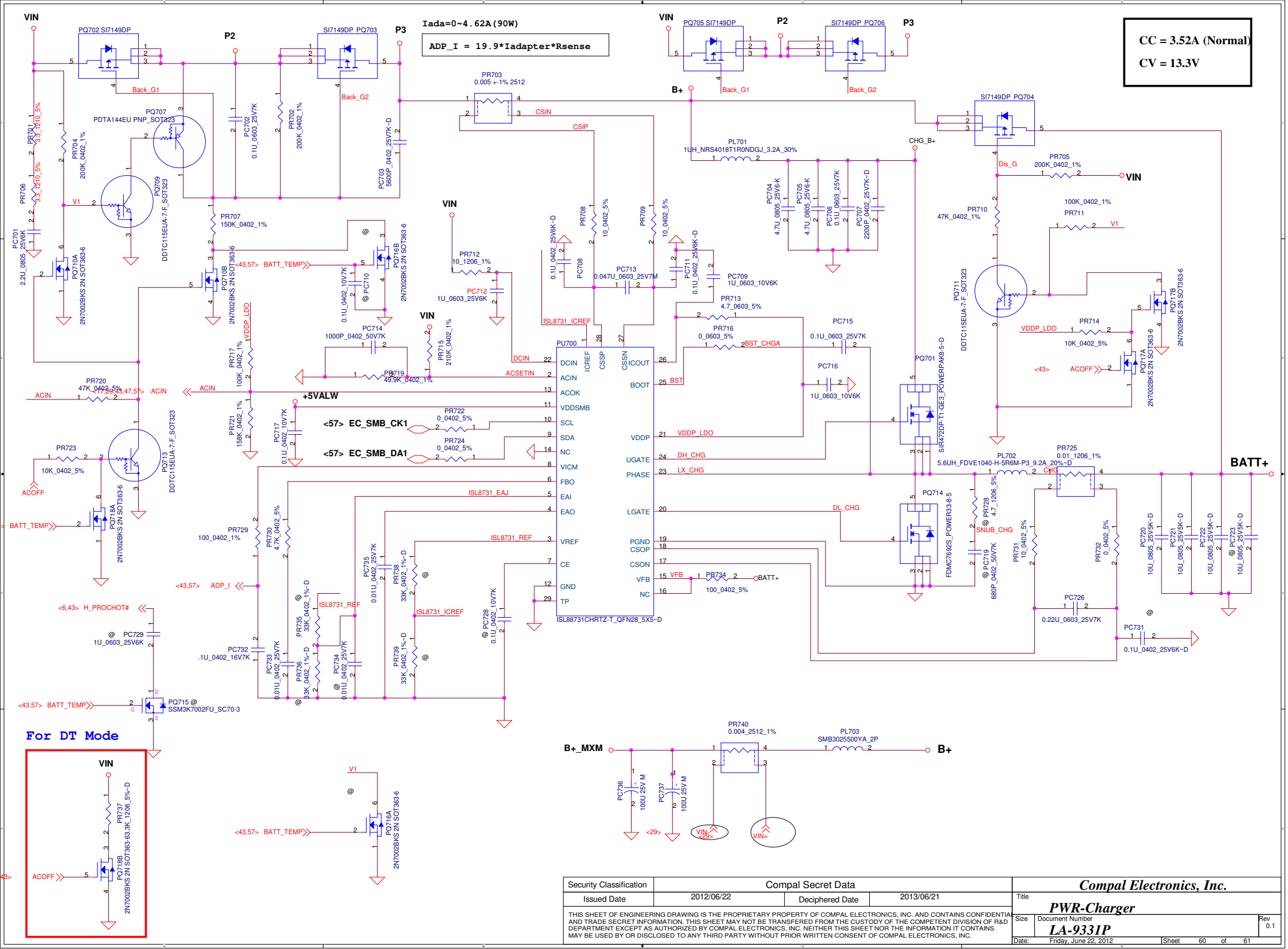


DELL CONFIDENTIAL/PROPRIETARY

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-1.5VSP		
Size	Document Number: LA-9331P	Rev: 0.1
Date: Friday, June 22, 2012	Sheet 58 of 61	


+VCCIO_OUT
+3VS
+1.05VS
+5VS
+5VALW
+VCC_CORE
B+
PU501
ISL6208BCRZ-T_QFN8_2X2
PU500
ISL95812HRZ-T_QFN32_4x4
PQ501
PQ502
PQ503
PQ504
PQ505
PQ506
PQ507
PQ508
PQ509
PQ510
PQ511
PQ512
SIR472DP-T1-GE3_POWERPAK8-5-D
SIR818DP-T1-GE3_POWERPAK8-5
PL501
PL502
PL503
PL504
0.22UH +-20% PCMB104T-R22MS 35A
FBMA-L11-453215-800LMA90T_1812
VCC_core (Base on PDDG rev 0.8)
TDC 33A
Peak Current 95A
DC Load line -1.5mV/A
Icc_Dyn_VID1 60A
OCP current 114A
DCR 0.82m ohm
Local sense put on HW site
DELL CONFIDENTIAL/PROPRIETARY
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
+VCC_CORE
Size
Document Number
LA-9331P
Rev
0.1
Date: Friday, June 22, 2012
Sheet 59 of 61



Security Classification	Compal Secret Data		
Issued Date	2012/06/22	Deciphered Date	2013/06/21

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

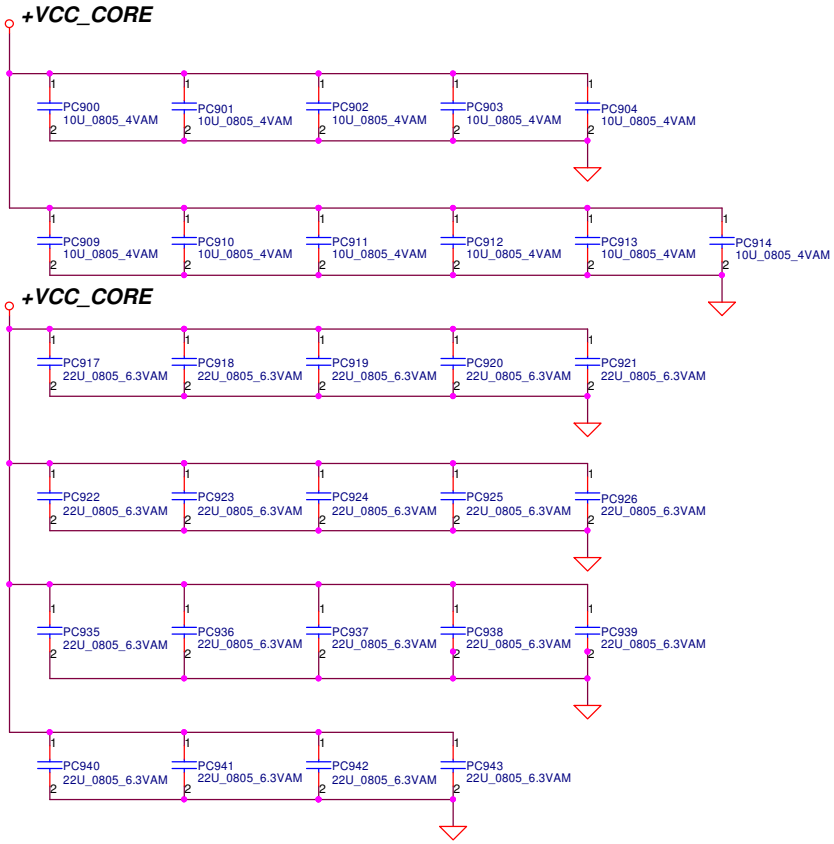
Compal Electronics, Inc.

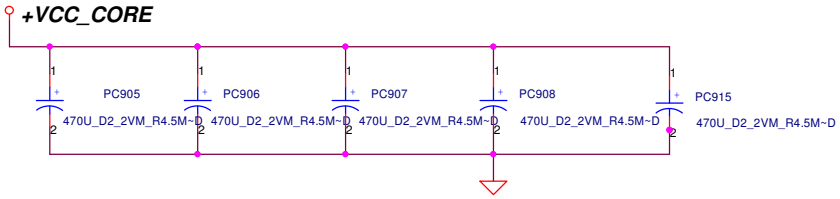
Title: **PWR-Charger**

Size | Document Number: **LA-9331P** | Rev: 0.1

Date: Friday, June 22, 2012 | Sheet 60 of 61

Based on PDDG rev 0.8 Table 5-1.





DELL CONFIDENTIAL/PROPRIETARY

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 DECOUPLING
Size	Document Number: LA-9331P
Rev	0.1
Date: Friday, June 22, 2012	Sheet 61 of 61