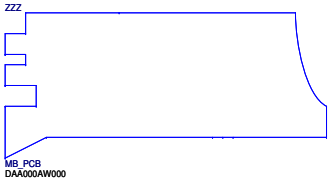
MODEL NAME : *AAZ80*
PCB NO : *LA-C881P*
BOM P/N : *TBD*



	R1	R3	R3	R3
CPN	DAA000AW010	DAA000AW011	DAA000AW012	DAA000AW013

Dell/Compal Confidential

Schematic Document

Dino2 (Skylake ULT)

2015-09-16

Rev: 1.0 (A00)

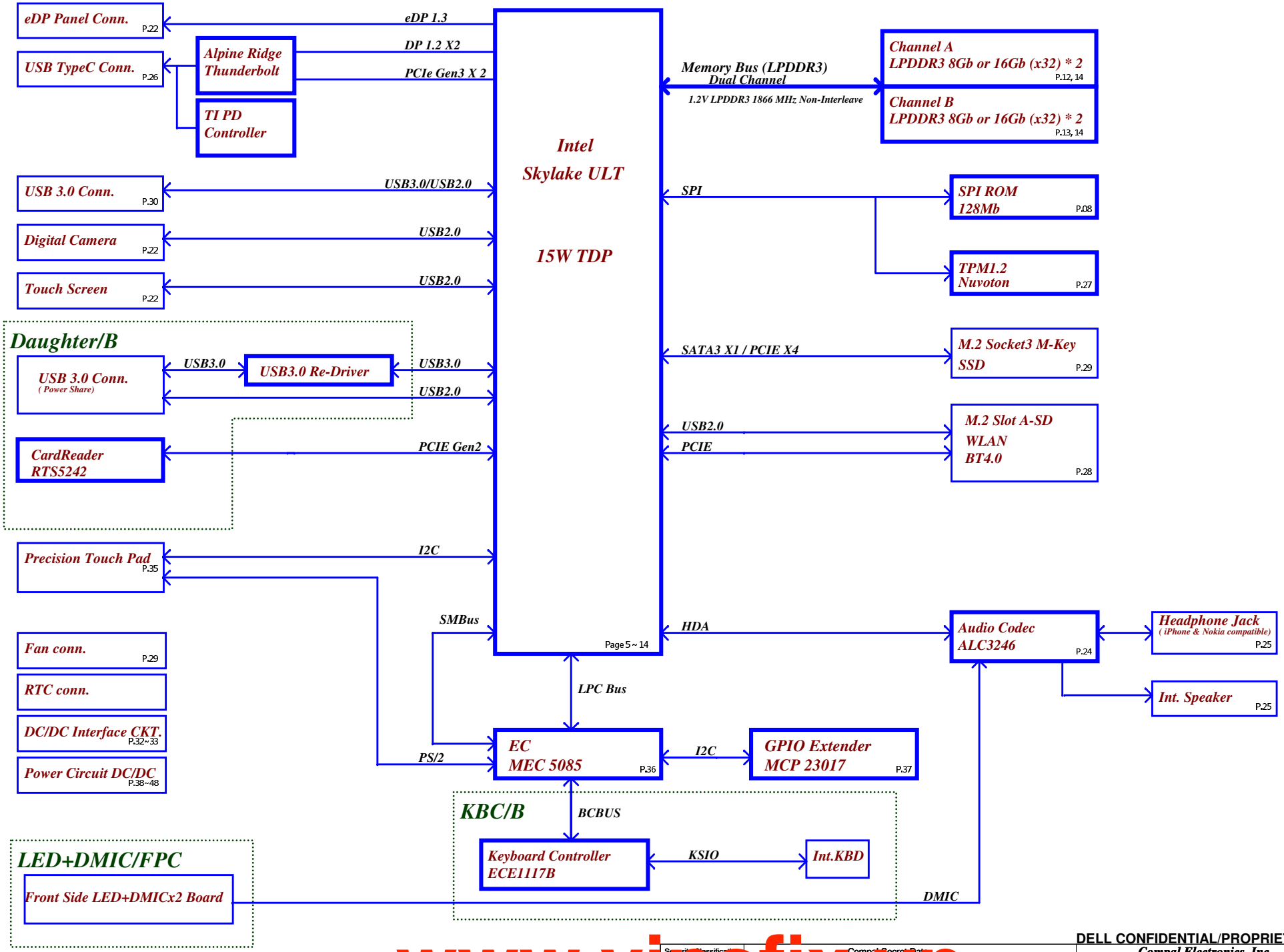
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: *P01-Cover Page*

Size	Document Number	Rev
	LA-C881P	1.0

Date: Wednesday, October 14, 2015 Sheet 1 of 59



Title: P02-Block Diagram
Size: | Document Number: LA-C881P | Rev: 0.6
Date: Tuesday, October 13, 2015 | Sheet 2 of 59

2+2 CPU Option

UCPU1 QJKR_2+2@	UCPU1 QJKP_2+2@	UCPU1 QJKM_2+2@	UCPU1 QJKK_2+2@	UCPU1 QJKH_2+2@
SA000092N1L	SA000092O1L	SA000092T1L	SA000092P1L	SA000092U1L
FJ806620193110 4 QJKR	FJ8066201930409 QJKP	FJ8066201924931 QJKM	FJ8066201930408 QJKK	FJ8066201924950 QJKH
UCPU1 SR2EU_2+2@	UCPU1 SR2EY_2+2@	UCPU1 SR2F0_2+2@	UCPU1 SR2EZ_2+2@	UCPU1 SR2F1_2+2@
SA000092N4L	SA000092O3L	SA000092T3L	SA000092P3L	SA000092U9L
FJ806620193110 4 SR2EU	FJ8066201930409 SR2EY	FJ8066201924931 SR2F0	FJ8066201930408 SR2EZ	FJ8066201924950 SR2F1

2+3 CPU Option

UCPU1 QK1Q_2+3@	UCPU1 QK2S_2+3@
SA00009CL0L	SA00009E81L
FH8066202496511 QK1Q	FJ8066202496507 QK2S
UCPU1 QK1P_2+3@	UCPU1 QK20_2+3@
SA00009E80L	SA00009E70L
FJ8066202496507 QK1P	FJ8066202499208 QK20

AR Option

UT1 AR_QSJN@	
SA000090N3L	
DSL6340 QSJN B1	
UT1 AR_SLL42@	
SA000090N5L	
DSL6340 SLL42 B1	

DRAM Option

DRAM Config Option

					MEM_CONFIG0	MEM_CONFIG1	MEM_CONFIG2	MEM_CONFIG3	MEM_CONFIG4
Micron 4G/1866	UD19 M4G_1866@	UD20 M4G_1866@	UD21 M4G_1866@	UD22 M4G_1866@	RH144 M4G_1866@	RH139 M4G_1866@	RH145 M4G_1866@	RH151 M4G_1866@	RH147 M4G_1866@
	SA00008PF1L	SA00008PF1L	SA00008PF1L	SA00008PF1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	EDF8132A3MA-JD-F-R A31!	EDF8132A3MA-JD-F-R A31!	EDF8132A3MA-JD-F-R A31!	EDF8132A3MA-JD-F-R A31!	10K_0402_5%	10K_0402_5%	10K_0402_5%	10K_0402_5%	10K_0402_5%
Micron 8G/1866	UD19 M8G_1866@	UD20 M8G_1866@	UD21 M8G_1866@	UD22 M8G_1866@	RH129 M8G_1866@	RH150 M8G_1866@	RH145 M8G_1866@	RH151 M8G_1866@	RH147 M8G_1866@
	SA00008Q11L	SA00008Q11L	SA00008Q11L	SA00008Q11L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	EDFA232A2MA-JD-F-R A31!	EDFA232A2MA-JD-F-R A31!	EDFA232A2MA-JD-F-R A31!	EDFA232A2MA-JD-F-R A31!	10K_0402_5%	10K_0402_5%	10K_0402_5%	10K_0402_5%	10K_0402_5%
Hynix 4G/1866	UD19 H4G_1866@	UD20 H4G_1866@	UD21 H4G_1866@	UD22 H4G_1866@	RH129 H4G_1866@	RH139 H4G_1866@	RH149 H4G_1866@	RH151 H4G_1866@	RH147 H4G_1866@
	SA00008G61L	SA00008G61L	SA00008G61L	SA00008G61L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	H9CCNNN8GTMLAR-NUD A31!	H9CCNNN8GTMLAR-NUD A31!	H9CCNNN8GTMLAR-NUD A31!	H9CCNNN8GTMLAR-NUD A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Hynix 8G/1866	UD19 H8G_1866@	UD20 H8G_1866@	UD21 H8G_1866@	UD22 H8G_1866@	RH144 H8G_1866@	RH139 H8G_1866@	RH149 H8G_1866@	RH151 H8G_1866@	RH147 H8G_1866@
	SA00008FJ1L	SA00008FJ1L	SA00008FJ1L	SA00008FJ1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	H9CCNNNBJTMLAR-NUD A31!	H9CCNNNBJTMLAR-NUD A31!	H9CCNNNBJTMLAR-NUD A31!	H9CCNNNBJTMLAR-NUD A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Samsung 4G/1866	UD19 S4G_1866@	UD20 S4G_1866@	UD21 S4G_1866@	UD22 S4G_1866@	RH144 S4G_1866@	RH150 S4G_1866@	RH149 S4G_1866@	RH151 S4G_1866@	RH147 S4G_1866@
	SA00008PQ1L	SA00008PQ1L	SA00008PQ1L	SA00008PQ1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	K4E8E304EE-EGCF A31!	K4E8E304EE-EGCF A31!	K4E8E304EE-EGCF A31!	K4E8E304EE-EGCF A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Samsung 8G/1866	UD19 S8G_1866@	UD20 S8G_1866@	UD21 S8G_1866@	UD22 S8G_1866@	RH129 S8G_1866@	RH139 S8G_1866@	RH145 S8G_1866@	RH146 S8G_1866@	RH152 S8G_1866@
	SA00008QV1L	SA00008QV1L	SA00008QV1L	SA00008QV1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	K4E6E304EE-EGCF A31!	K4E6E304EE-EGCF A31!	K4E6E304EE-EGCF A31!	K4E6E304EE-EGCF A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Mircon 16G/1866	UD19 M16G_1866@	UD20 M16G_1866@	UD21 M16G_1866@	UD22 M16G_1866@	RH144 M16G_1866@	RH150 M16G_1866@	RH145 M16G_1866@	RH151 M16G_1866@	RH147 M16G_1866@
	SA00008QW1L	SA00008QW1L	SA00008QW1L	SA00008QW1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	EDFB232A1MA-JD-F-R A31!	EDFB232A1MA-JD-F-R A31!	EDFB232A1MA-JD-F-R A31!	EDFB232A1MA-JD-F-R A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Samsung 16G/2133	UD19 S16G_2133@	UD20 S16G_2133@	UD21 S16G_2133@	UD22 S16G_2133@	RH129 S16G_2133@	RH150 S16G_2133@	RH145 S16G_2133@	RH151 S16G_2133@	RH152 S16G_2133@
	SA00008VV1L	SA00008VV1L	SA00008VV1L	SA00008VV1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	K4EBE304EB-EGCG A31!	K4EBE304EB-EGCG A31!	K4EBE304EB-EGCG A31!	K4EBE304EB-EGCG A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Samsung 16G/1866	UD19 S16G_1866@	UD20 S16G_1866@	UD21 S16G_1866@	UD22 S16G_1866@	RH144 S16G_1866@	RH139 S16G_1866@	RH145 S16G_1866@	RH146 S16G_1866@	RH152 S16G_1866@
	SA00008X11L	SA00008X11L	SA00008X11L	SA00008X11L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	K4EBE304EB-EGCF A31!	K4EBE304EB-EGCF A31!	K4EBE304EB-EGCF A31!	K4EBE304EB-EGCF A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D
Hynix 16G/1866	UD19 H16G_1866@	UD20 H16G_1866@	UD21 H16G_1866@	UD22 H16G_1866@	RH129 H16G_1866@	RH150 H16G_1866@	RH149 H16G_1866@	RH151 H16G_1866@	RH147 H16G_1866@
	SA00008YT1L	SA00008YT1L	SA00008YT1L	SA00008YT1L	SD028100280	SD028100280	SD028100280	SD028100280	SD028100280
	H9CCNNNCLTMLAR-NUD A31!	H9CCNNNCLTMLAR-NUD A31!	H9CCNNNCLTMLAR-NUD A31!	H9CCNNNCLTMLAR-NUD A31!	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D	10K_0402_5%~D

Compal Electronics, Inc.

Title: P03-BoM Option

Size: Document Number: Rev: 0.6

Date: Tuesday, October 13, 2015 Sheet 3 of 59

Board ID Table for AD channel

RE79	CE54	REV
240K	4700p	X00
130K	4700p	X01
62K	4700p	X02
33K	4700p	X03
8.2K	4700p	X04
4.3K	4700p	A00
2K	4700p	
1K	4700p	

BOARD_ID rise time is measured from 5%~68%.

	SKU	PTT	TPM2.0
Dino2	Vpro+CS	Disable	Enable
	nVpro+CS	Enable	None

SMBUS Control Table

	SOURCE	23017	BATTERY	Charger	PD	5085	XDP	Audio	Touch Pad
I2C1A_CLK I2C1A_DATA	MEC5085	V							
I2C1C_CLK I2C1C_DATA	MEC5085		V						
I2C1G_CLK I2C1G_DATA	MEC5085			V					
I2C2A_CLK I2C2A_DATA	MEC5085				V				
PCH_SML0CLK PCH_SML0DATA	PCH								
PCH_SML1CLK PCH_SML1DATA	PCH					V			
SMBCLK SMBDATA	PCH						V		
I2C0_CLK I2C0_DATA	PCH								
I2C1_CLK I2C1_DATA	PCH								V

	USB PORT#	DESTINATION
PCH USB 2.0 Port Mapping	1	External USB3(On IOB)
	2	External USB3(On MB)
	3	NGFF CARD WLAN
	4	Touch Panel
	5	Camera
	6	
	7	
PCH USB 3.0 Port Mapping	1	External USB3(On IOB)
	2	External USB3(On MB)

	DDI PORT#	DESTINATION
PCH DDI Port Mapping	1	Alpine Ridge
	2	Alpine Ridge

	DIFFERENTIAL CLK#	DESTINATION	PCI EXPRESS PORT#	DESTINATION
CLK	CLKOUT_PCIE0	Alpine Ridge	Lane 1	Alpine Ridge
	CLKOUT_PCIE1	NGFF CARD WLAN	Lane 2	Alpine Ridge
	CLKOUT_PCIE2		Lane 3	
	CLKOUT_PCIE3	M.2 SSD / PCIe	Lane 4	
	CLKOUT_PCIE4		Lane 5	NGFF CARD WLAN
	CLKOUT_PCIE5	Card Reader	Lane 6	Card Reader
	FLEX CLK#	DESTINATION	Lane 7	
	CLKOUT_LPC_0	EC LPC	Lane 8	
	CLKOUT_LPC_1	Debug	Lane 9	M.2 SSD
			Lane 10	M.2 SSD
			Lane 11	M.2 SSD
			Lane 12 / SATA 2	M.2 SSD

SATA PORT#	DESTINATION
SATA-0	
SATA-1A	
SATA-1B	
SATA-2	M.2 SSD

Symbol Note :

: means Digital Ground

: means Analog Ground

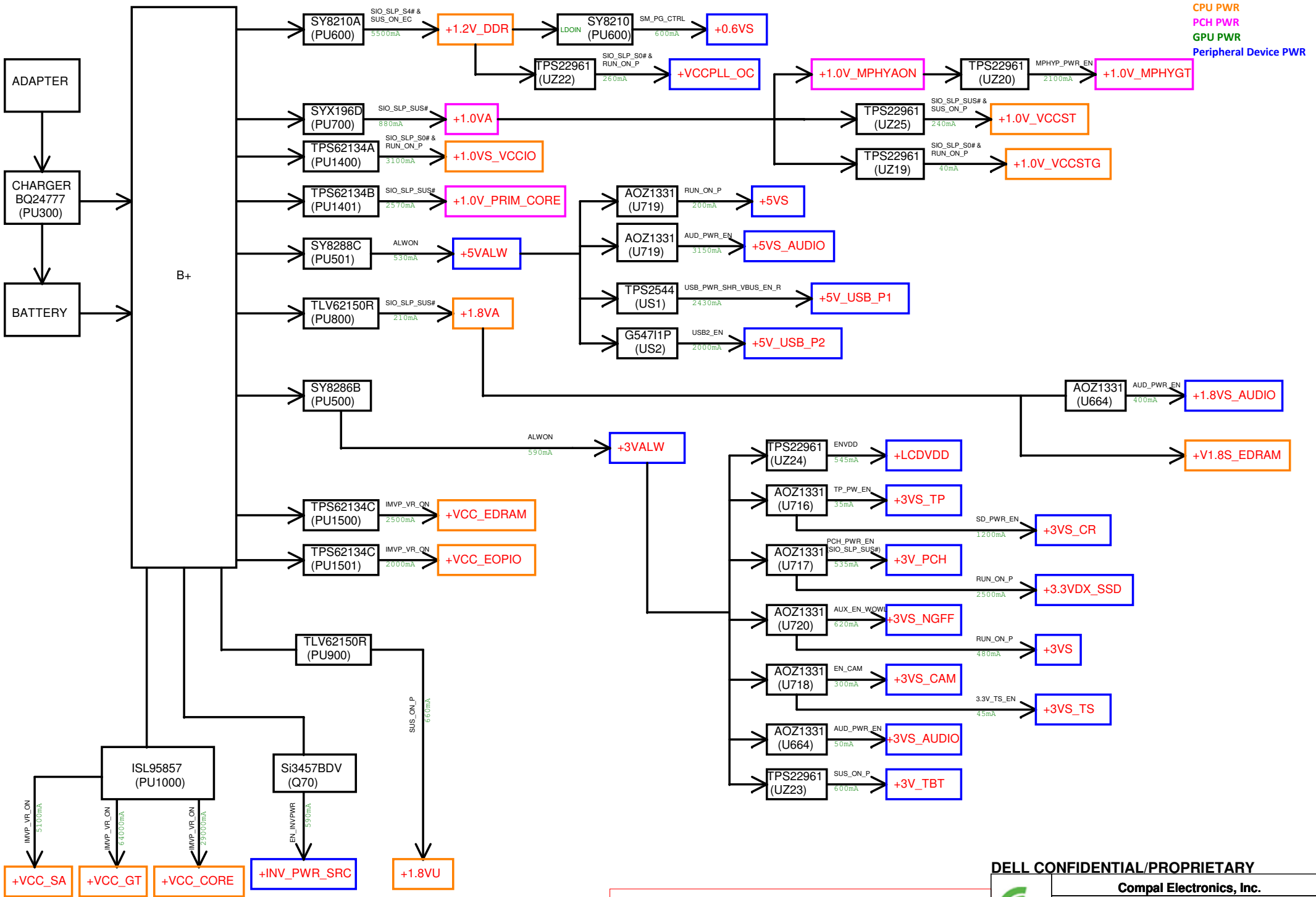
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P04-Notes List

Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 4 of 59

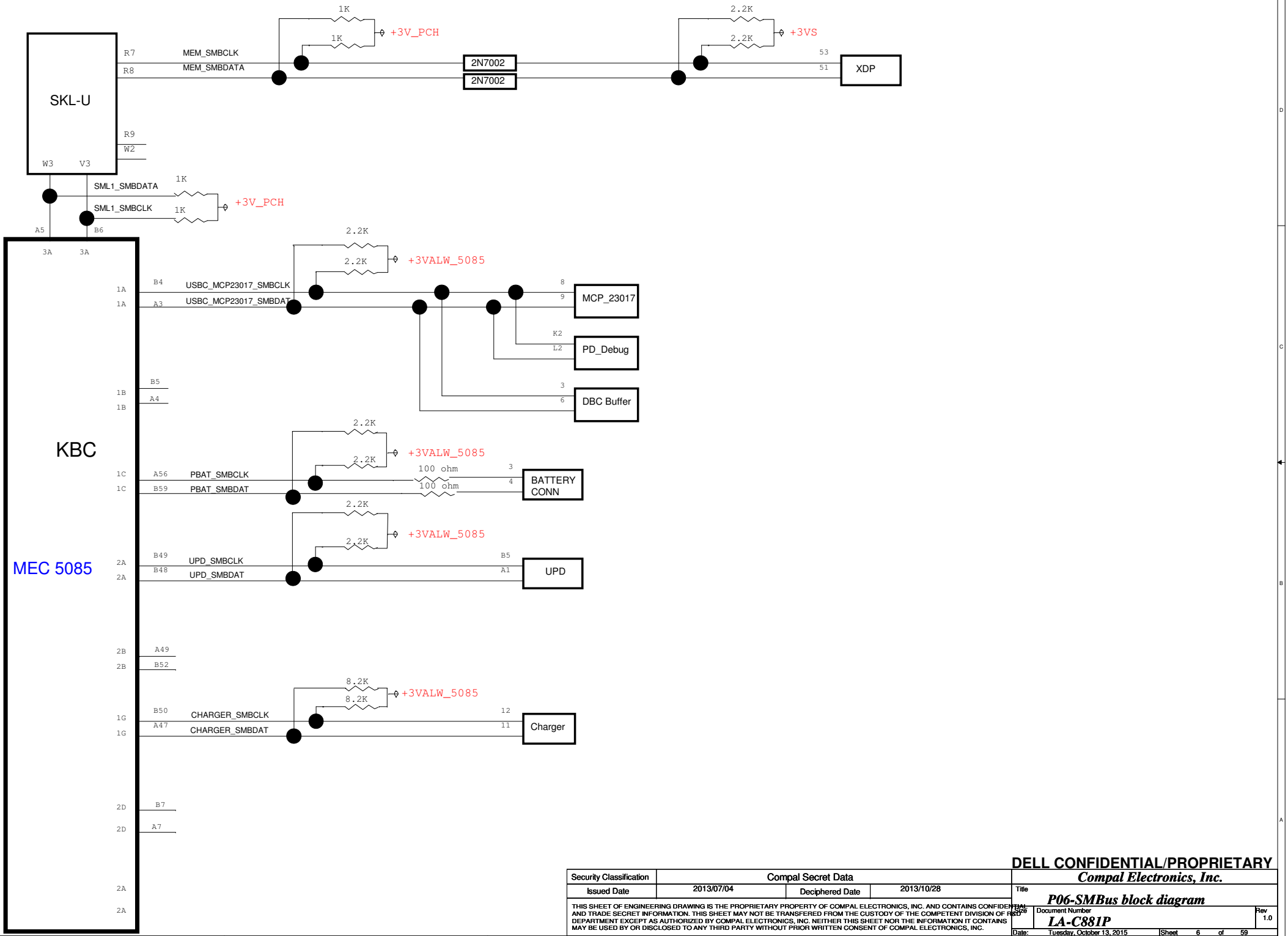


Compal Electronics, Inc.

Title: P05-Power rails

Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 5 of 59



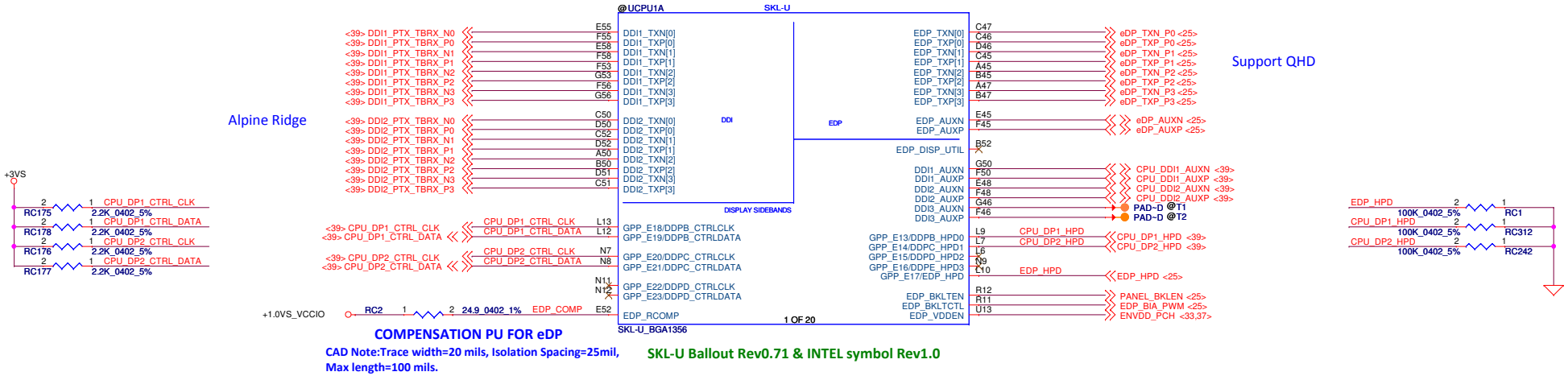
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

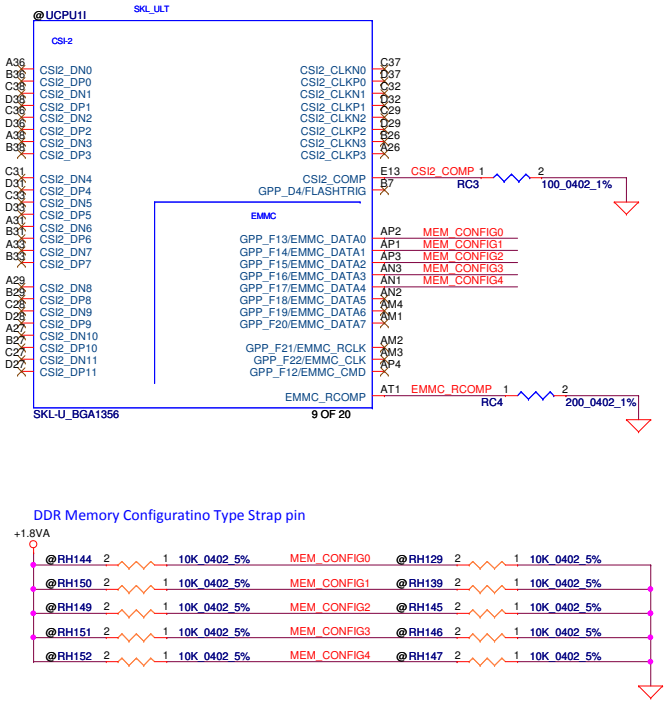
Compal Electronics, Inc.

Title: P06-SMBus block diagram

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 6 of 59





DDR Memory Configuratino Type Strap pin

GPIO Pin	Pin Name		Micron 4G	Micron 8G	Mircon 16G	Hynix 4G	Hynix 8G	Hynix 16G	Samsung 4G	Samsung 8G	Samsung 16G
GPP_D5	MEM_CONFIG0	1600 Mbps	0	1	0	1	0	1	0	1	0
GPP_D6	MEM_CONFIG1		0	0	1	1	0	0	1	1	0
GPP_D7	MEM_CONFIG2		0	0	0	0	1	1	1	1	0
GPP_D8	MEM_CONFIG3		0	0	0	0	0	0	0	0	1
GPP_D9	MEM_CONFIG4		0	0	0	0	0	0	0	0	0

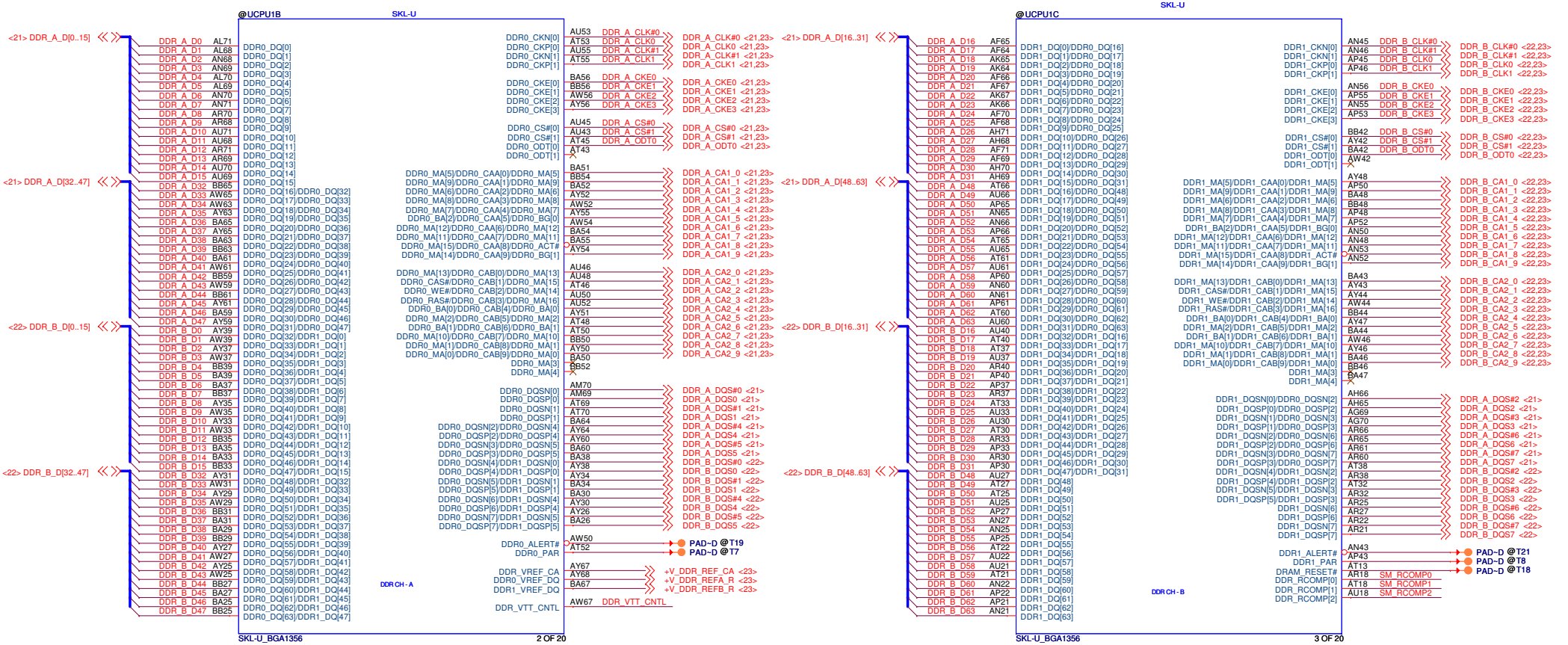
GPIO Pin	Pin Name		Micron 4G	Micron 8G	Mircon 16G	Hynix 4G	Hynix 8G	Hynix 16G	Samsung 4G	Samsung 8G	Samsung 16G
GPP_D5	MEM_CONFIG0	1866 Mbps	1	0	1	0	1	0	1	0	1
GPP_D6	MEM_CONFIG1		0	1	1	0	0	1	1	0	0
GPP_D7	MEM_CONFIG2		0	0	0	1	1	1	1	0	0
GPP_D8	MEM_CONFIG3		1	1	1	1	1	1	1	0	0
GPP_D9	MEM_CONFIG4		0	0	0	0	0	0	0	1	1

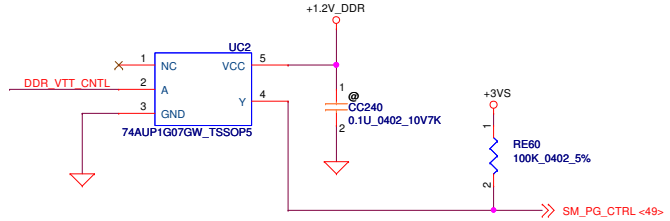
GPIO Pin	Pin Name		Micron 4G	Micron 8G	Mircon 16G	Hynix 4G	Hynix 8G	Hynix 16G	Samsung 4G	Samsung 8G	Samsung 16G
GPP_D5	MEM_CONFIG0	2133 Mbps	0	1	0	1	0	1	0	1	0
GPP_D6	MEM_CONFIG1		1	1	0	0	1	1	0	0	1
GPP_D7	MEM_CONFIG2		0	0	1	1	1	1	0	0	0
GPP_D8	MEM_CONFIG3		0	0	0	0	0	0	1	1	1
GPP_D9	MEM_CONFIG4		1	1	1	1	1	1	1	1	1

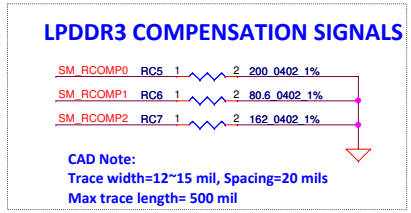
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Title	P07-MCP(1/14)DDI,EDP,CSI2,EMMC		
Size	Document Number		Rev
	LA-C881P		1.0
Date:	Tuesday, October 13, 2015	Sheet	7 of 59

LPDDR3, Ballot for side by side(Non-Interleave)







Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: *P08-MCP(2/14)LPDDR3*

Size | Document Number: *LA-C881P* | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 8 of 59

SPI_MOSI= SPI_IO0
SPI_MISO= SPI_IO1
PCH EDS R0.7 p.235~236

@UCPU1E

SKL-U

SPI - FLASH

SPI0_CLK
SPI0_MISO
SPI0_MOSI
SPI0_IO2
SPI0_IO3
SPI0_CS0#
SPI0_CS1#
SPI0_CS2#

SPI - TOUCH

GPP_D1/SPI1_CLK
GPP_D2/SPI1_MISO
GPP_D3/SPI1_MOSI
GPP_D21/SPI1_IO2
GPP_D22/SPI1_IO3
GPP_D0/SPI1_CS#

C LINK

CL_CLK
CL_DATA
CL_RST#

GPP_A0/RCIN#
GPP_A6/SERIRQ

SMBUS, SMLINK

GPP_C0/SMBCLK
GPP_C1/SMBDATA
GPP_C2/SMBALERT#
GPP_C3/SML0CLK
GPP_C4/SML0DATA
GPP_C5/SML0ALERT#
GPP_C6/SML1CLK
GPP_C7/SML1DATA
GPP_B23/SML1ALERT#/PCHHOT#

LPC

GPP_A1/LAD0/ESPI_IO0
GPP_A2/LAD1/ESPI_IO1
GPP_A3/LAD2/ESPI_IO2
GPP_A4/LAD3/ESPI_IO3
GPP_A5/LFRAME#/ESPI_CS#
GPP_A14/SUS_STAT#/ESPI_RESET#

GPP_A9/CLKOUT_LPC0/ESPI_CLK
GPP_A10/CLKOUT_LPC1
GPP_A8/CLKRUN#

SKL-U_BGA1356

5 OF 20

<15> PCH_SPI_DO_XDP
<15> PCH_SPI_DO2_XDP
RC10 1K_0402_1%
RC11 1K_0402_1%
PCH_SPI_CLK
PCH_SPI_SO
PCH_SPI_SI
PCH_SPI_IO2
PCH_SPI_IO3
PCH_SPI_CS0#
<28> PCH_SPI_CS2#
<28> TPM_PIRQ#
<24> MEDIACARD_IRQ#
<29> CL_CK
<29> CL_DAT
<29> CL_RST#
<37> SIO_RCIN#
<37> IRQ_SERIRQ
R7 MEM_SMBCLK
R8 MEM_SMBDATA
R10 PCH_SMB_ALERT#
W1 GPP_C5
W3 SML1_SMBCLK
V3 SML1_SMBDAT
AM7 GPP_B23
SML1_SMBCLK <37>
SML1_SMBDAT <37>
LPC_AD0 <37>
LPC_AD1 <37>
LPC_AD2 <37>
LPC_AD3 <37>
LPC_FRAME# <37>
CLKRUN# <37>
PCI_CLK_LPC0
PCI_CLK_LPC1
CLKRUN#
RC18 22_0402_5%
RC22 22_0402_5%
CLK_PCI_MEC <37>
CLK_LPC_DEBUG <37>

+3V_PCH
RC13 10K_0402_5% MEDIACARD_IRQ#
+3VS
RC16 10K_0402_5% SIO_RCIN#
RC21 10K_0402_1% IRQ_SERIRQ

+3VS
QC2A DMN66D0LDW-7_SOT363-6
MEM_SMBCLK
DDR_XDP_SMBCLK
DDR_XDP_SMBCLK <15>
QC2B DMN66D0LDW-7_SOT363-6
MEM_SMBDATA
DDR_XDP_SMBDAT
DDR_XDP_SMBDAT <15>

+3VS
DDR_XDP_SMBDAT 2.2K_0402_5% RN19
DDR_XDP_SMBCLK 2.2K_0402_5% RN20
CLKRUN# 8.2K_0402_5% RC27

+3V_PCH
MEM_SMBCLK RC12 1K_0402_5%
MEM_SMBDATA RC14 1K_0402_5%
SML1_SMBCLK RC15 1K_0402_5%
SML1_SMBDAT RC17 1K_0402_5%

128Mb Flash ROM
UH8
W25Q128FVSIQ_SO8
/CS
DO(IO1)
/WP(IO2)
GND
VCC
/HOLD(IO3)
CLK
DI(IO0)
PCH_SPI_CS0#
SPI_SO_VROM
SPI_IO2_VROM
SPI_IO3_VROM
SPI_CLK_VROM
SPI_SI_VROM
+3V_PCH
CC9 0.1U_0402_25V6

RP5
SPI_SI_VROM
SPI_CLK_VROM
PCH_SPI_SI
PCH_SPI_CLK
<28> PCH_SPI_CLK_TPM
<28> PCH_SPI_SI_TPM
33_8P4R_5%

RP6
<28> PCH_SPI_SO_TPM
SPI_SO_VROM
SPI_IO2_VROM
SPI_IO3_VROM
PCH_SPI_SO
PCH_SPI_IO2
PCH_SPI_IO3
33_8P4R_5%

CLK_PCI_MEC 12P_0402_50V8J CC4
CLK_LPC_DEBUG 12P_0402_50V8J CC5

Reserve for RF

+3V_PCH
@RH59 1K_0402_5%~D PCH_SPI_IO2
@RH58 1K_0402_5%~D PCH_SPI_IO3
@RH56 1K_0402_5%~D PCH_SPI_IO3

9/5 MOW
Option 1: Implement a 1 kOhm pull-down resistor on the signal and de-populate the required 1 kOhm pull-up resistor(MOW WW5).
In this case, customers must ensure that the SPI
flash device on the platform has HOLD functionality disabled by default.

Note that the pull down resistor on SPI0_IO3 is only needed for SKL U/Y platforms with ES and SKL S/H platforms with pre-ES1/ES1 samples(MOW WW9).

SPI_CLK_VROM
33P_0402_50V8J @RC29
33P_0402_50V8J @CC8

+3V_PCH
PCH_SMB_ALERT# RC23 8.2K_0402_5%

TLS CONFIDENTIALITY	
HIGH	ENABLE
LOW(DEFAULT)	DISABLE

+3V_PCH
GPP_C5 @RC25 10K_0402_5%

EC interface	
HIGH	ESPI
LOW(DEFAULT)	LPC

+3V_PCH
GPP_B23 @RC26 4.7K_0402_5%

EXI BOOT STALL BYPASS	
HIGH	ENABLE
LOW(DEFAULT)	DISABLE

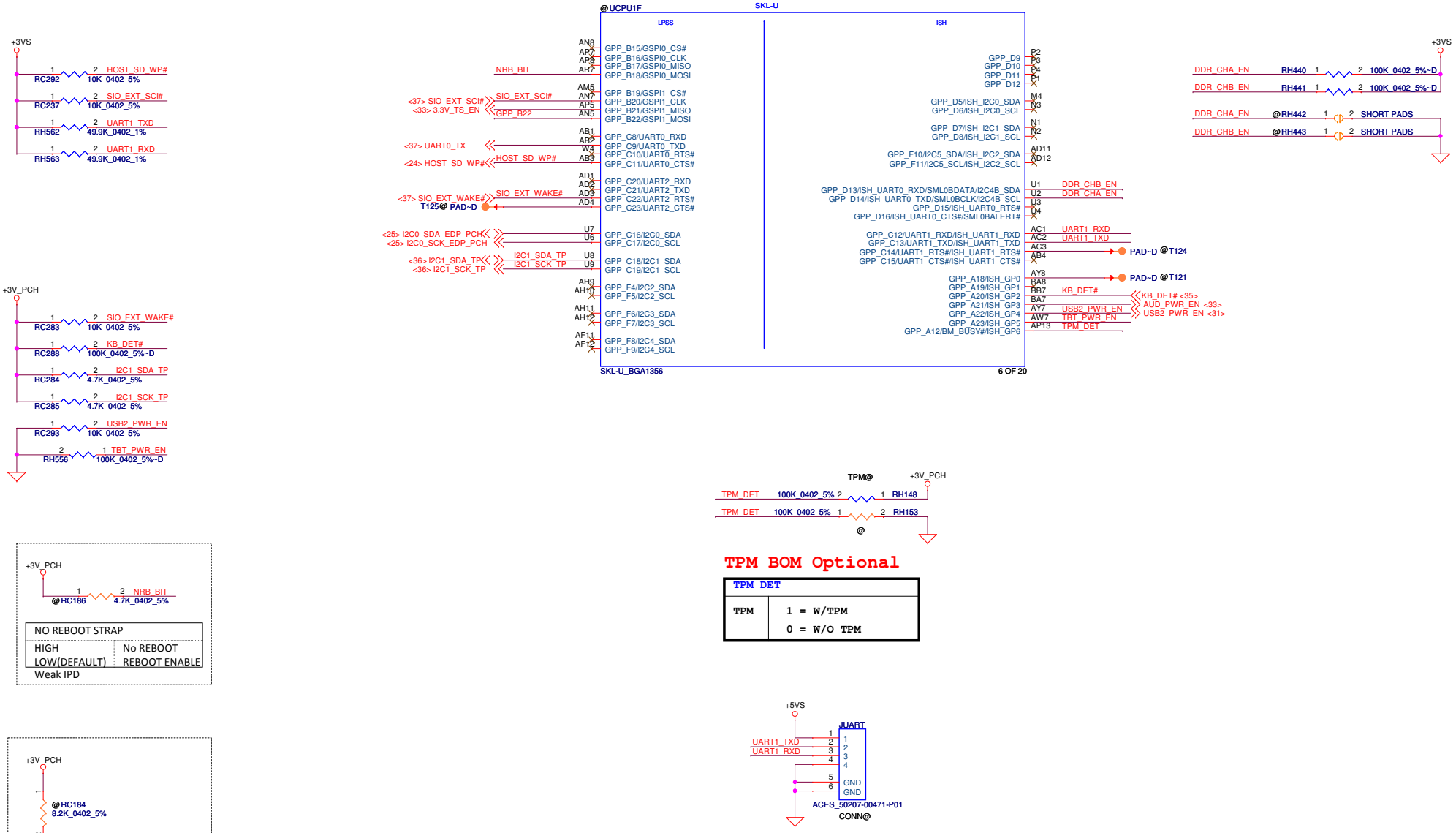
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P09-MCP(3/14)SPI,SMB,LPC

Size: C | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 9 of 59



DELL CONFIDENTIAL/PROPRIETARY

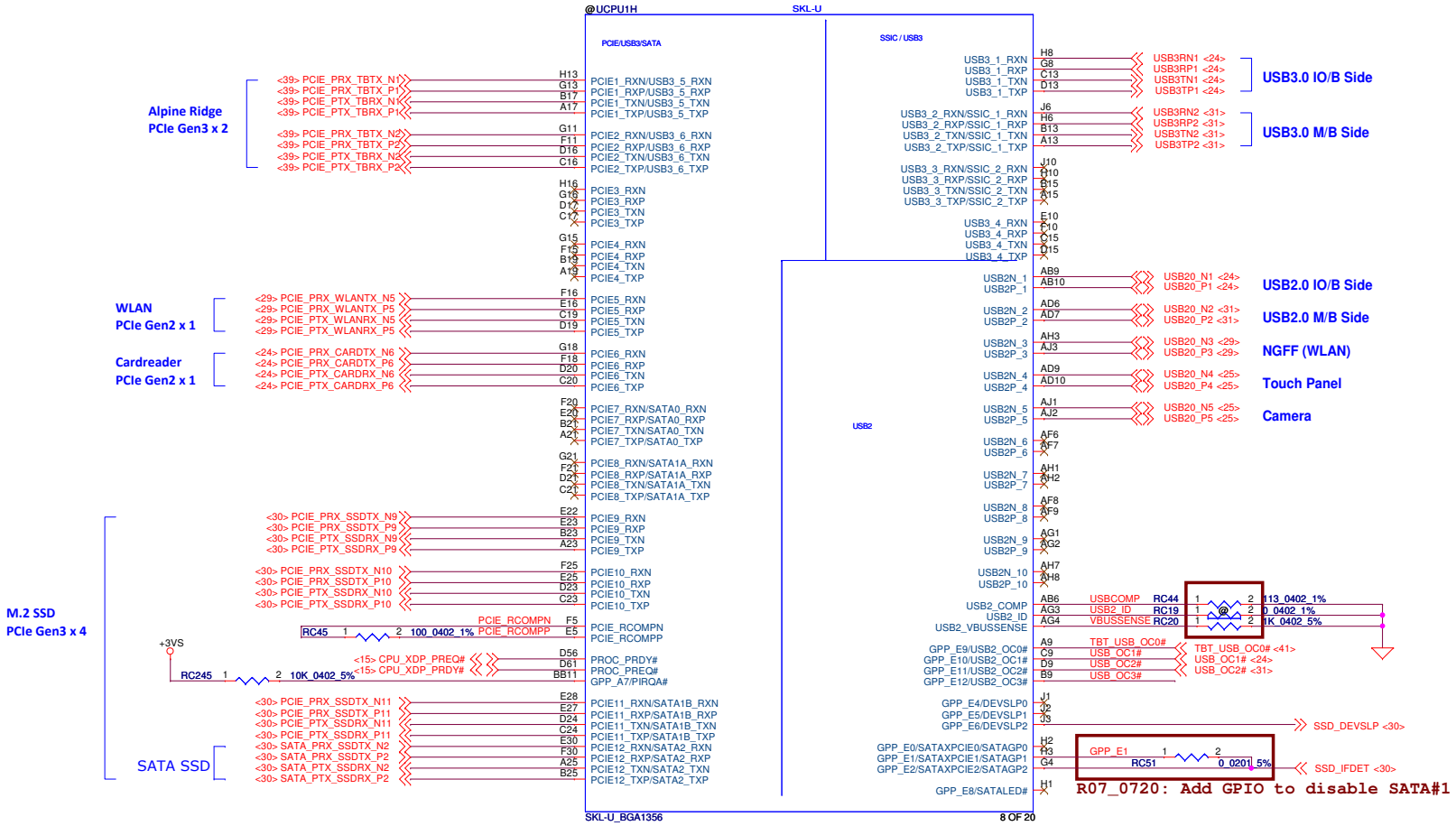
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

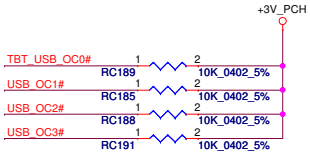
Compal Electronics, Inc.

Title: P10-MCP(4/14)GSPI,I2C,UART,ISH

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 10 of 59





DELL CONFIDENTIAL/PROPRIETARY

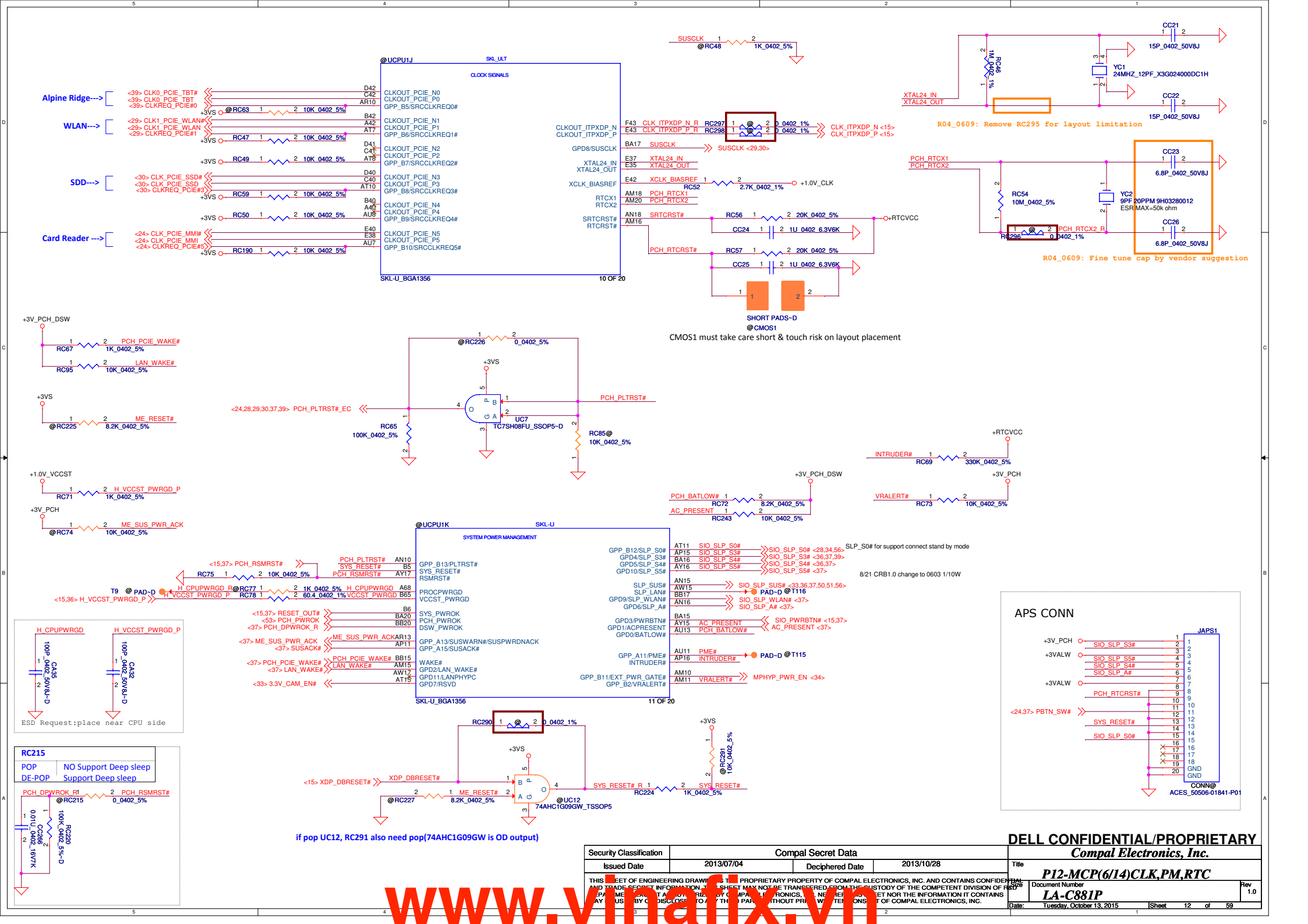
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P11-MCP(5/14)PCIE,USB,SATA

Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 11 of 59

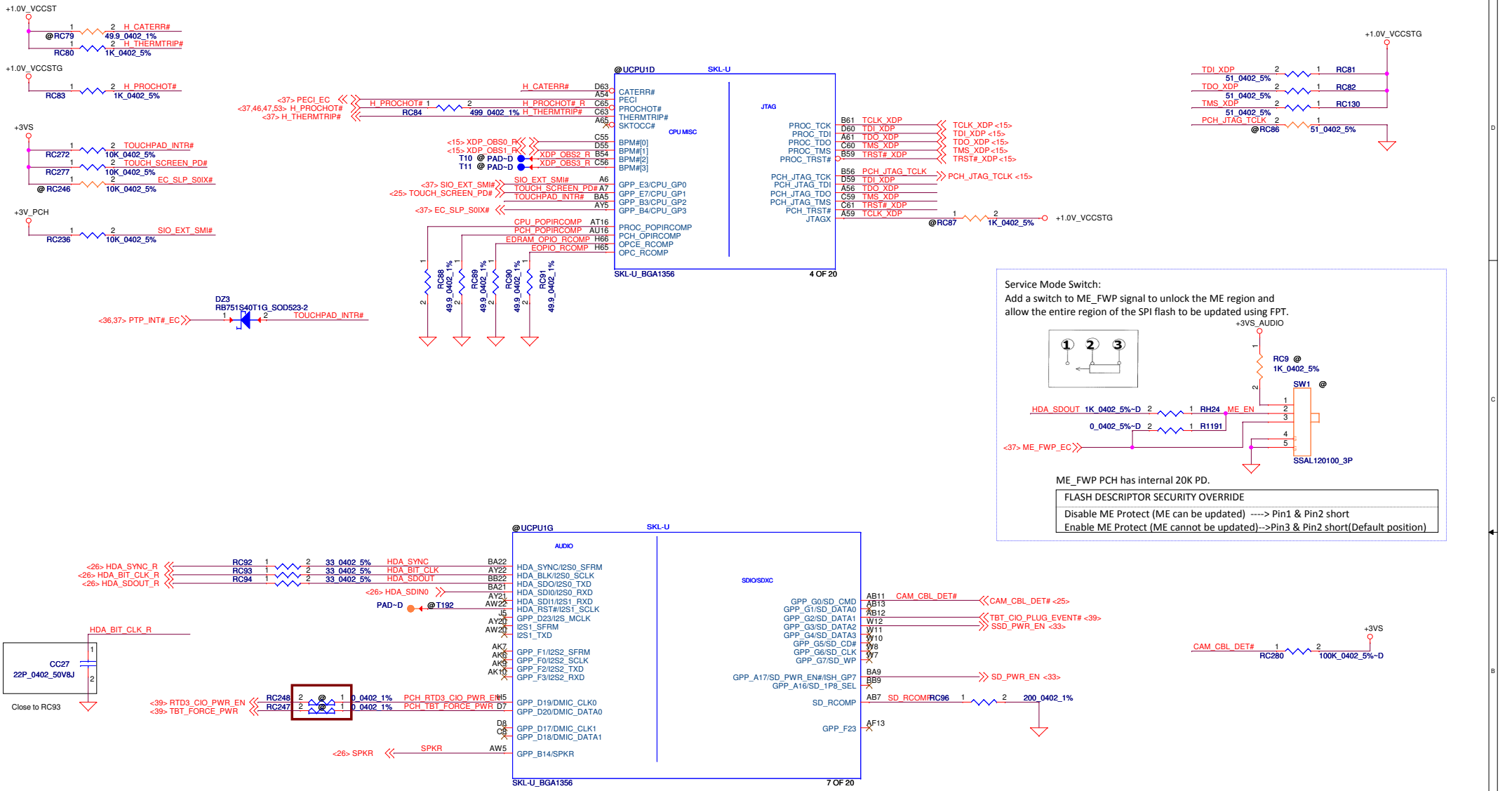


Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

DELL CONFIDENTIAL/PROPRIETARY

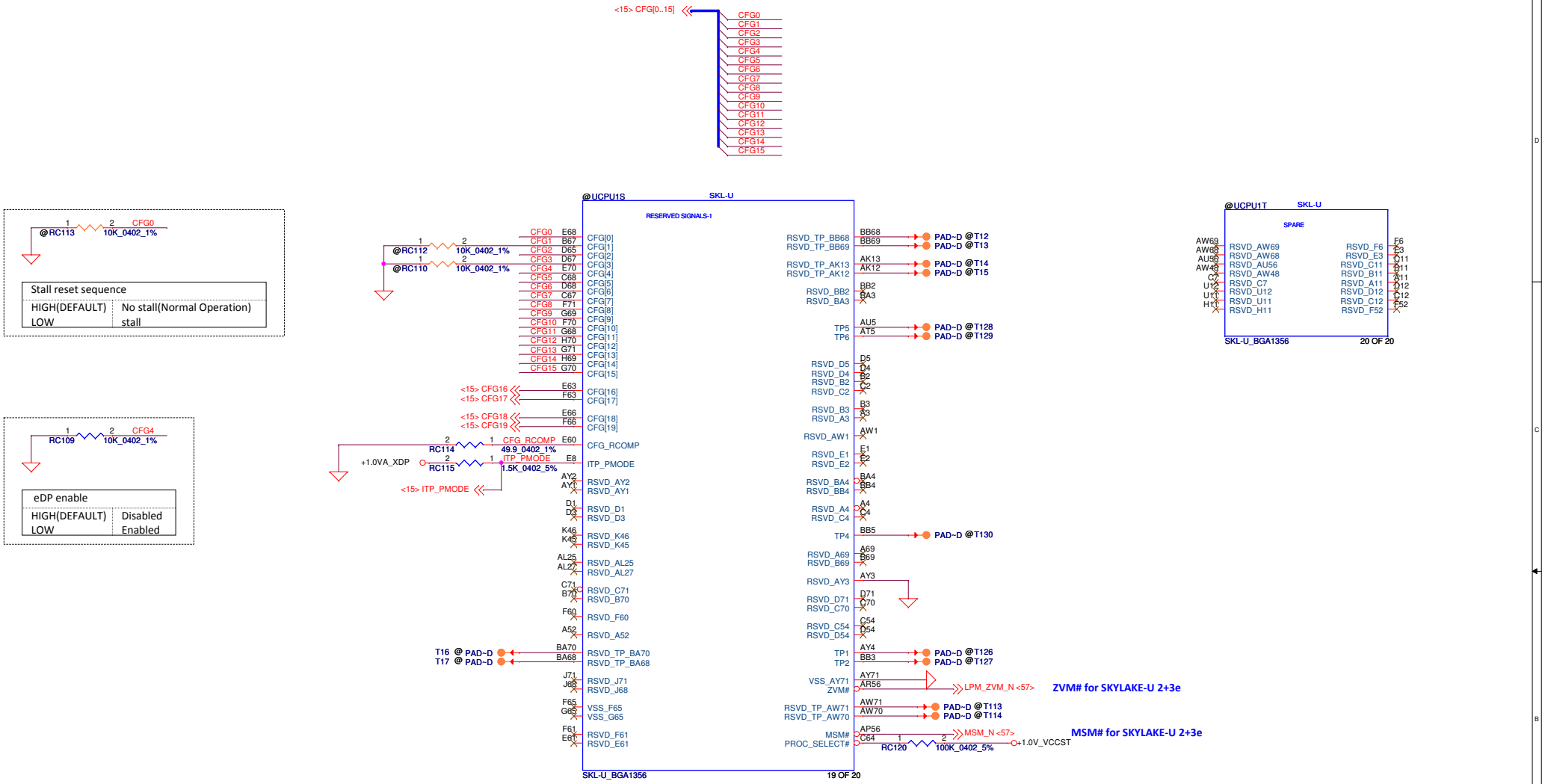
Compal Electronics, Inc.

Title	P12-MCP(6/14)CLK,PM,RTC
Size	Document Number: LA-C881P
Rev	1.0
Date:	Tuesday, October 13, 2015
Sheet	12 of 59



Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Title	P13-MCP(7/14)MISC,JTAG,HDA,SDIO		
Size	Document Number LA-C881P		Rev 1.0
Date: Tuesday, October 13, 2015		Sheet 13 of 59	

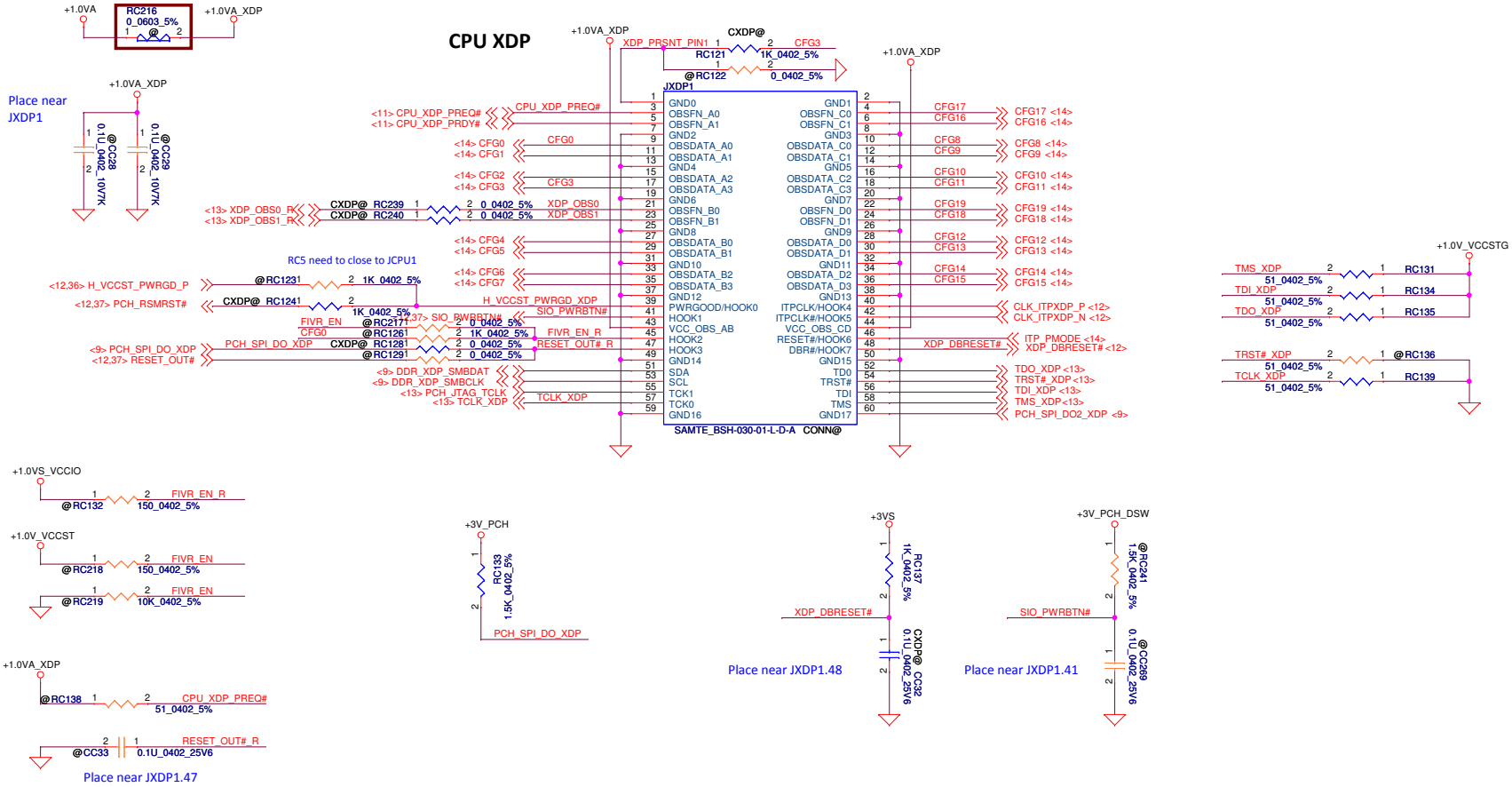


Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Title: P14-MCP(8/14)CFG,RSVD

Size: C | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 14 of 59



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P15-MCP(9/14)XDP

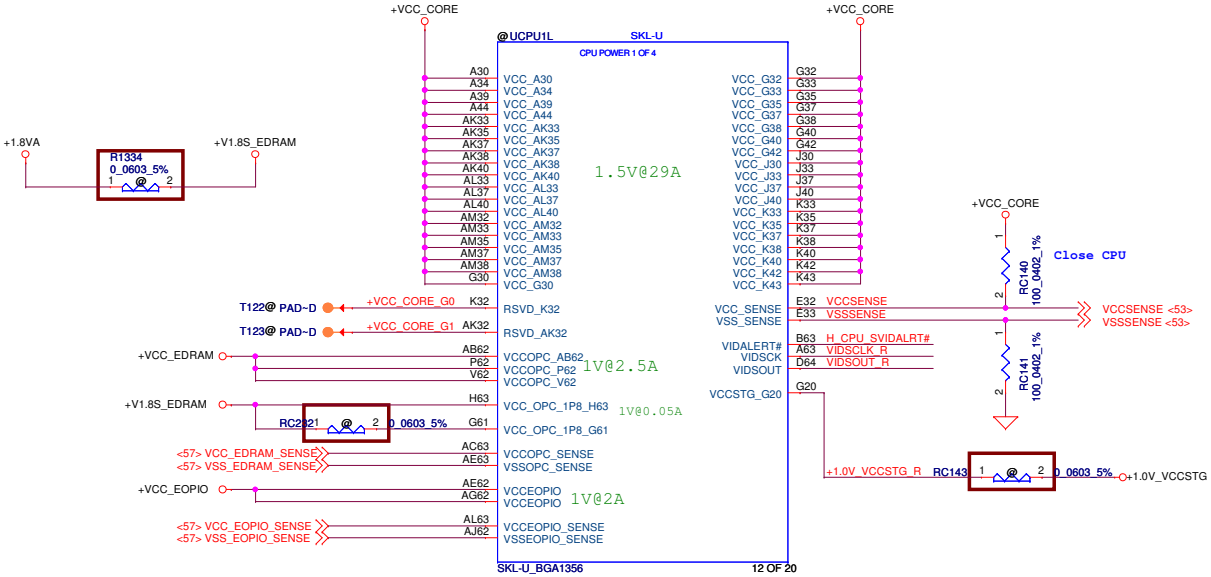
Size: Document Number: LA-C881P Rev: 1.0

Date: Tuesday, October 13, 2015 Sheet 15 of 59

PSC(Primary side cap) : Place as close to the package as possible
BSC(Backside cap) : Place on secondary side, underneath the package

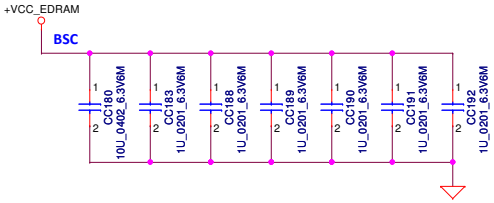
Component placement order:
Package edge > 0402 caps > 0805 caps > Bulk caps >Power source

+VCC_CORE: 0.55~1.5V, 29A
+VCC_EDRAM: 1V, 2.5A
+V1.8S_EDRAM: 1.8V, 50mA
+VCC_EOPIO: 0.8~1V, 2A

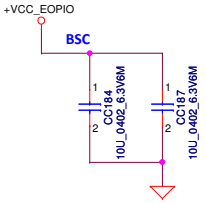


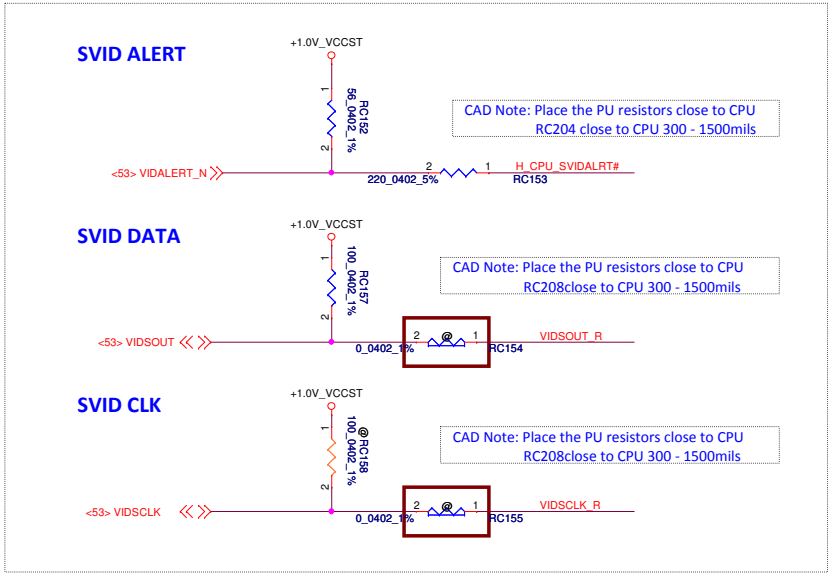
VCCOPC,VCCOPC_1P8,VCCEOPIO for SKYLAKE-U 2+3e
(w/ on package cache)

+VCC_EDRAM Decoupling Requirment
Back Side (underneath the package):
10U_0402*1 pcs + 1U_0201*6 pcs



+VCC_EOPIO Decoupling Requirment
Back Side (underneath the package):
10U_0402*2 pcs





Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

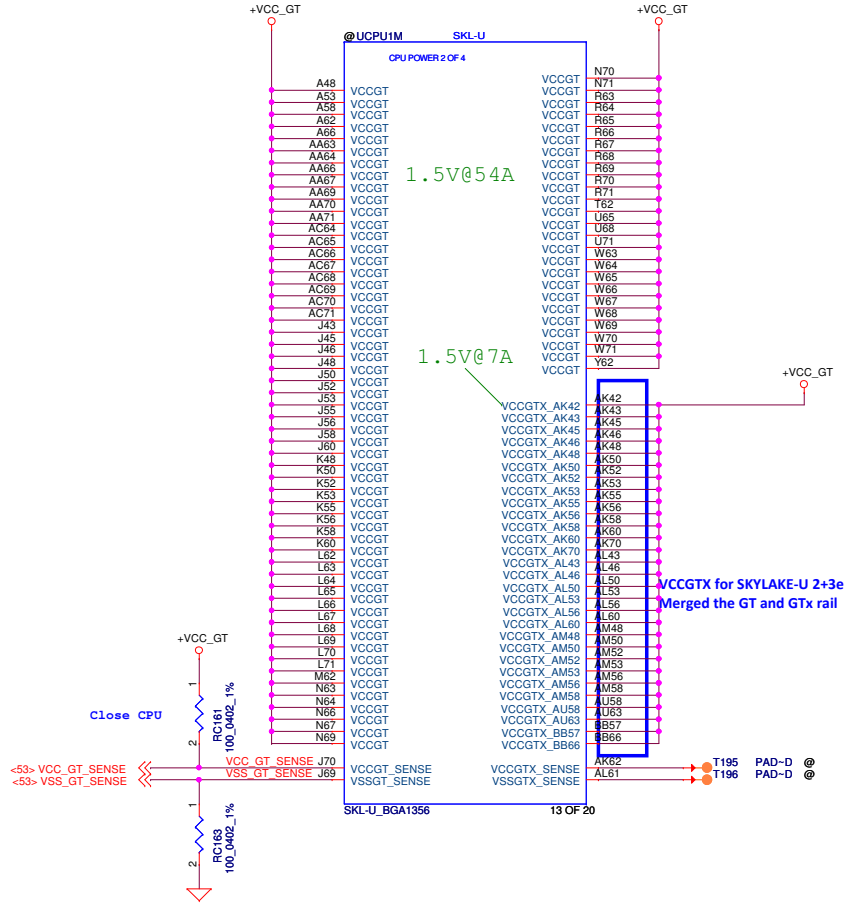
Compal Electronics, Inc.

Title: P16-MCP(10/14)PWR-VCC CORE

Size: Document Number: LA-C881P Rev: 1.0

Date: Tuesday, October 13, 2015 Sheet 16 of 59

+VCCGT: 0.55~1.5V, 54A
+VCCGTX : 0.55~1.5V, 7A



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

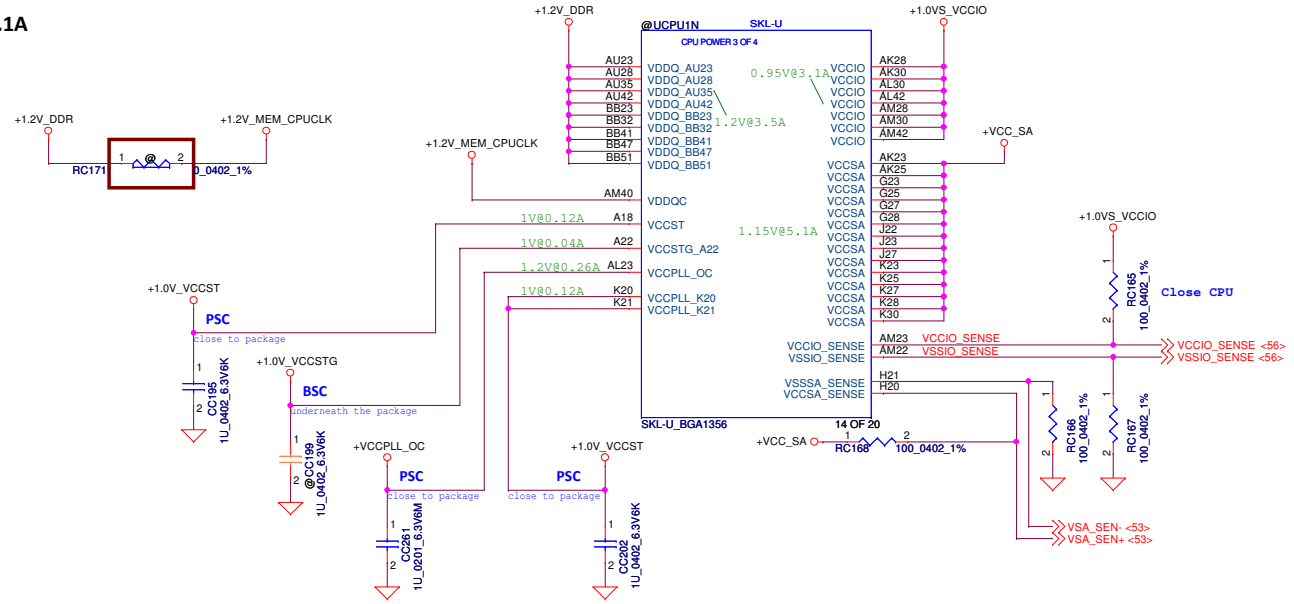
Compal Electronics, Inc.

Title: *P17-MCP(11/14)PWR-VCCGT*

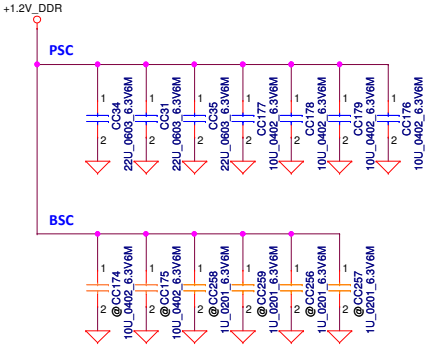
Size: Document Number: *LA-C881P* Rev: 1.0

Date: Tuesday, October 13, 2015 Sheet 17 of 59

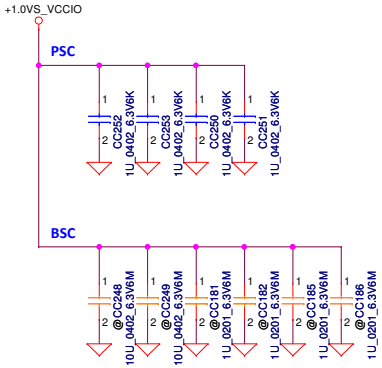
+1.2V_DDR: 1.2V, 3.5A
+1.0V_VCCST: 1V, 120mA; VCCPLL: 1V, 120mA
+1.0V_VCCSTG: 1V, 40mA
+VCCPLL_OC: 1.2V, 260mA
+1.0VS_VCCIO: 0.85~0.95V, 3.1A
+VCC_SA: 1.15V, 5.1A



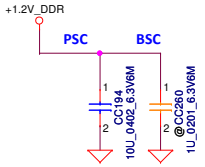
+1.2_DDR Decoupling Requirment
Back Side (underneath the package):
10U_0402*2 pcs + 1U_0201*4 pcs (@)
Primary Side (close to package):
10U_0402*4 pcs + 22U_0603*3 pcs



+1.0VS_VCCIO Decoupling Requirment
Back Side (underneath the package):
10U_0402*2 pcs + 1U_0201*4 pcs (@)
Primary Side (close to package):
1U_0402*4 pcs



+1.2V_MEM_CPUCLK (VDDQC) Place on CPU
Back Side (underneath the package):
1U_0201*1 pcs (@)
Primary Side (close to package):
10U_0402 * 1 pcs



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

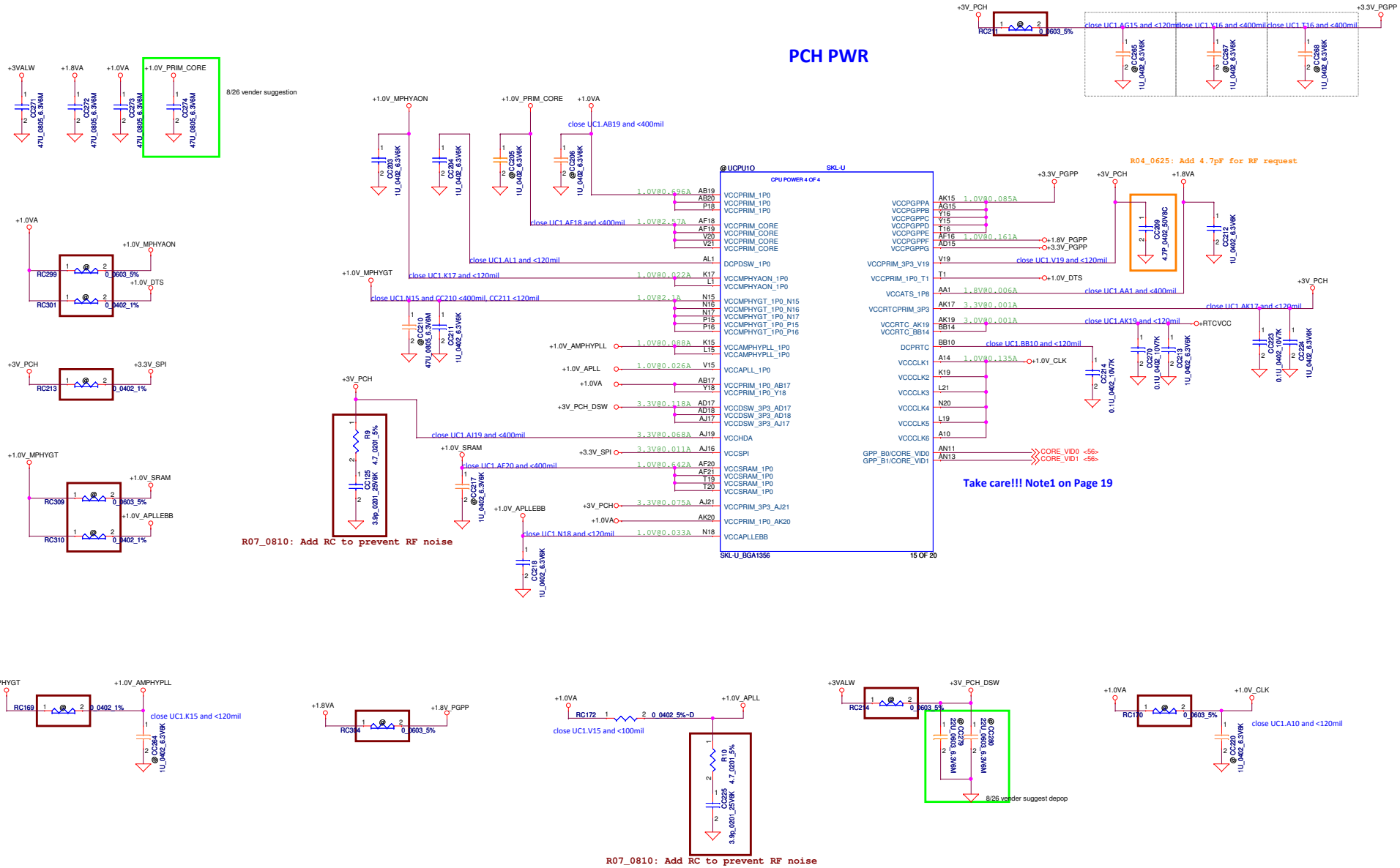
Compal Electronics, Inc.

Title: P18-MCP(12/14)PWR-VCCIO,MEM

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 18 of 59

PCH PWR



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

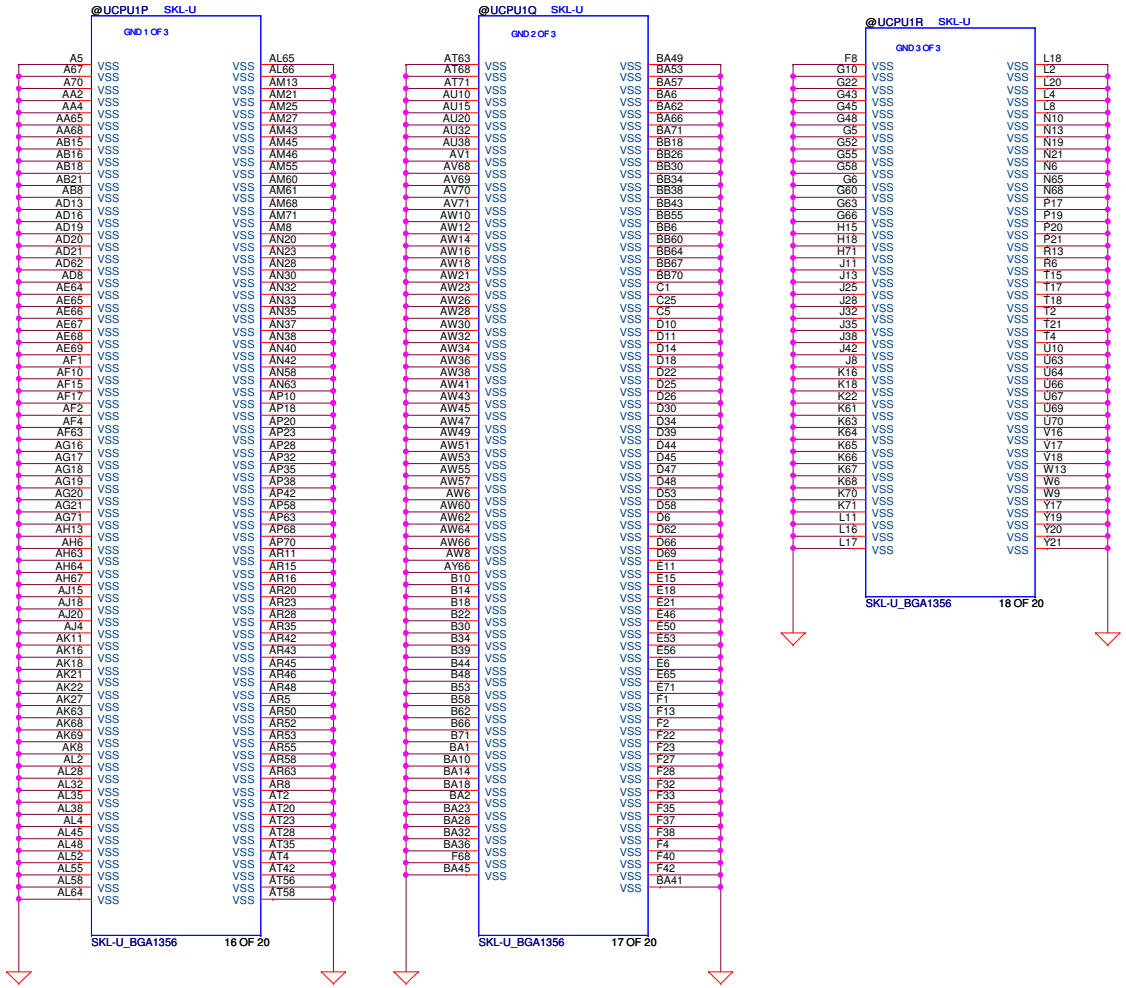
Title: P19-MCP(13/14)PCH PWR

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 19 of 59

Note1: VCCPRIM_CORE Implementation with PCH CORE_VID Recommendation

R1: PR408,PR411 ; R2: PR417,PR418 ; R3,PR419,PR420 ; R4: PR423 ; R5: PR424



DELL CONFIDENTIAL/PROPRIETARY

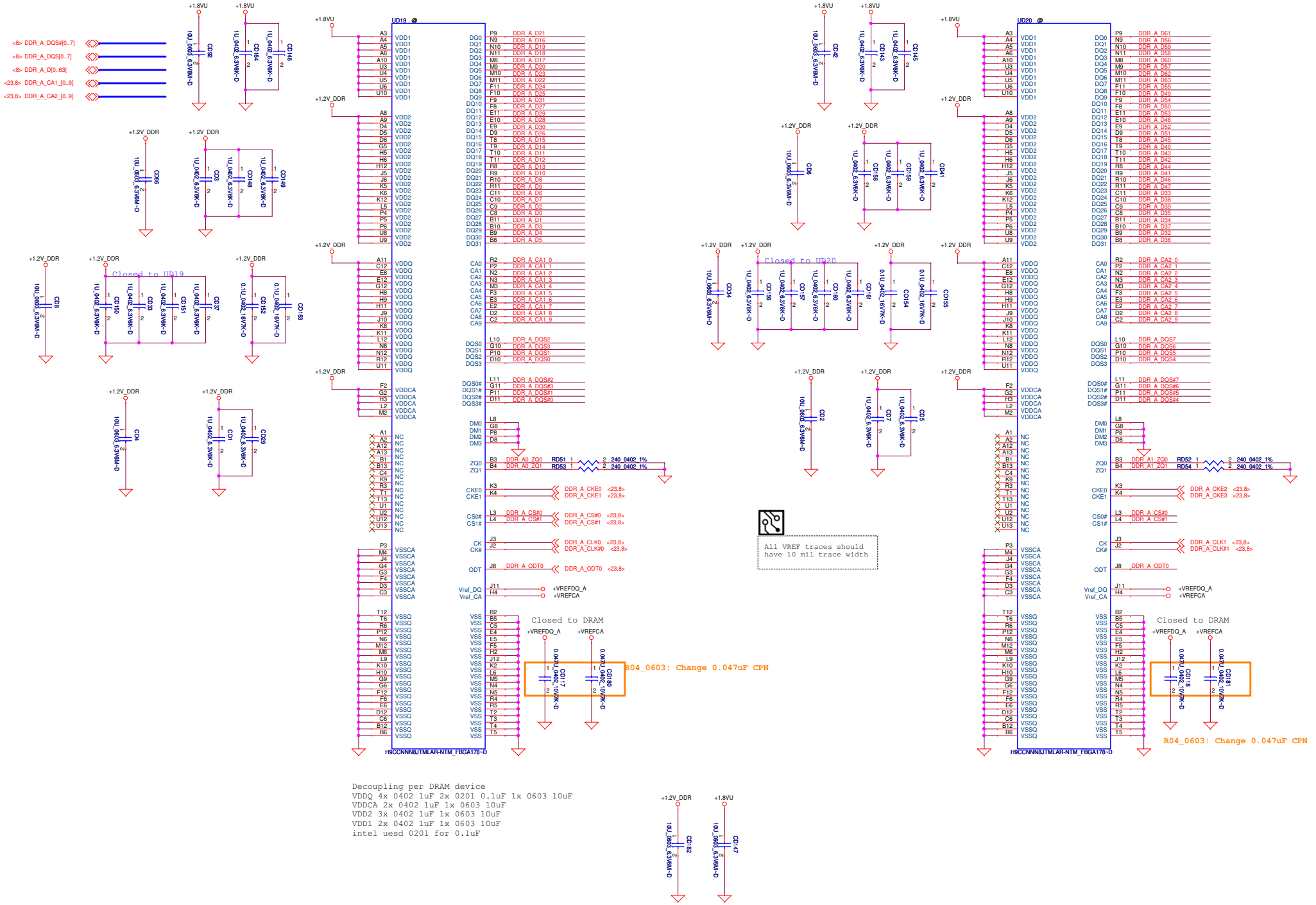
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P20-MCP(14/14)VSS

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 20 of 59



DELL CONFIDENTIAL/PROPRIETARY

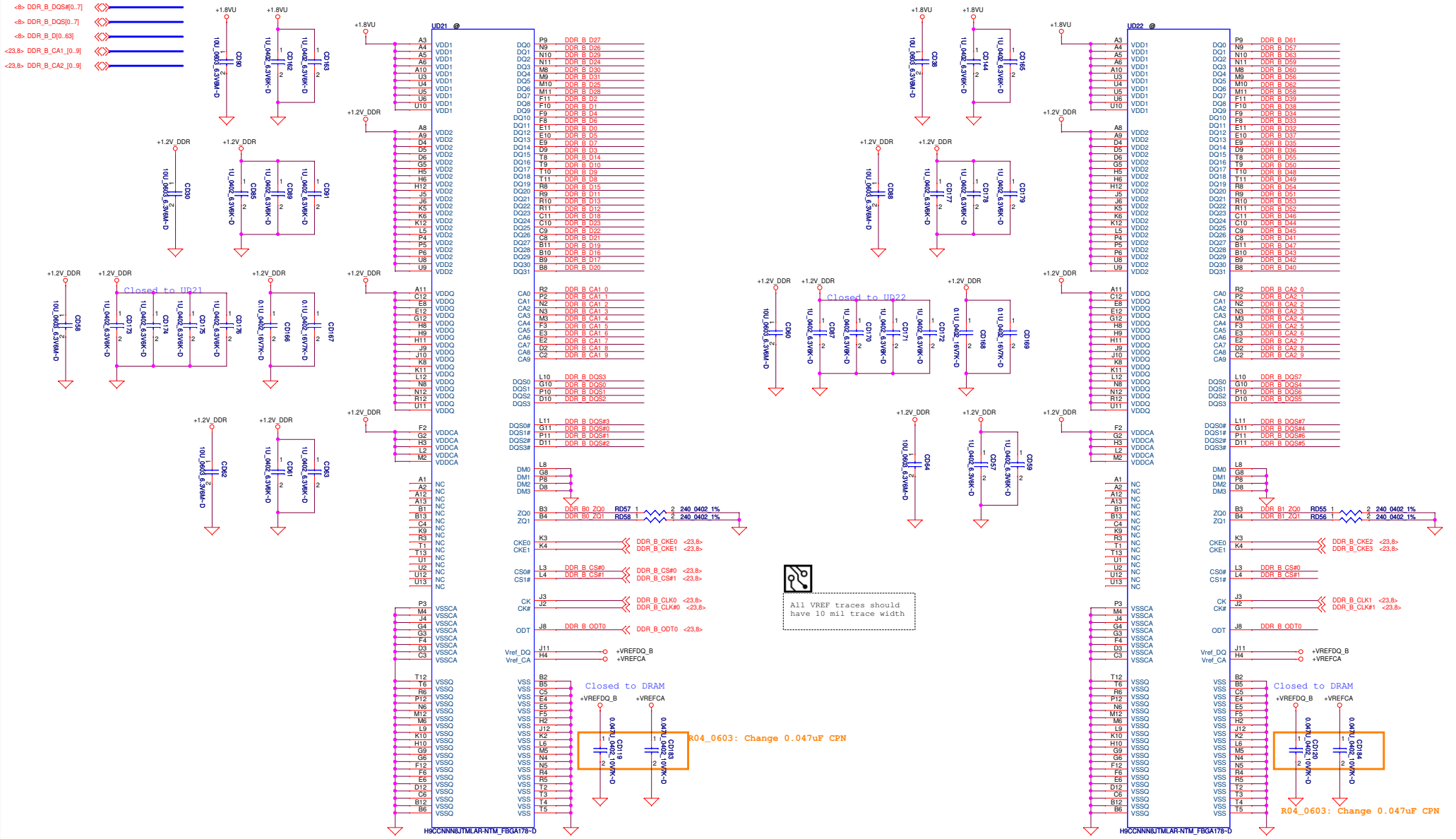
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P21-DDRIII Channel A

Size: | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 21 of 59



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

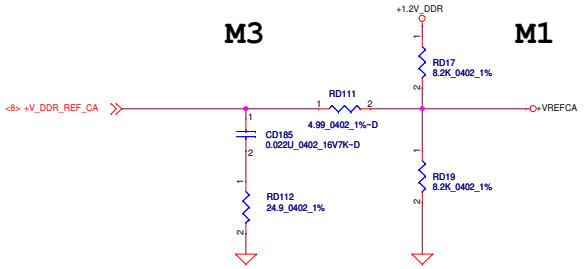
Compal Electronics, Inc.

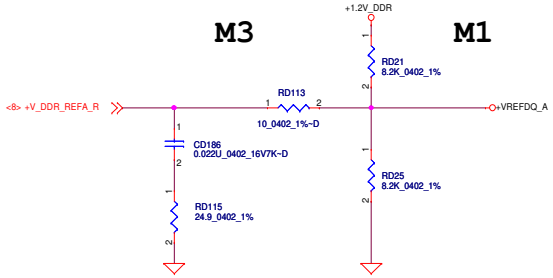
Title: P22-DDRIII Channel B

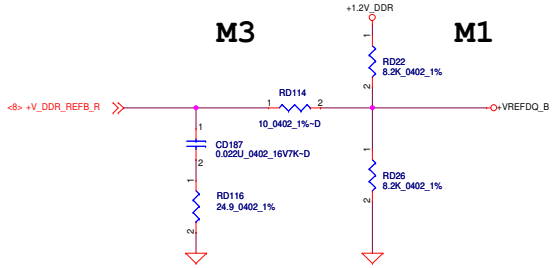
Size: | Document Number: LA-C881P | Rev: 1.0

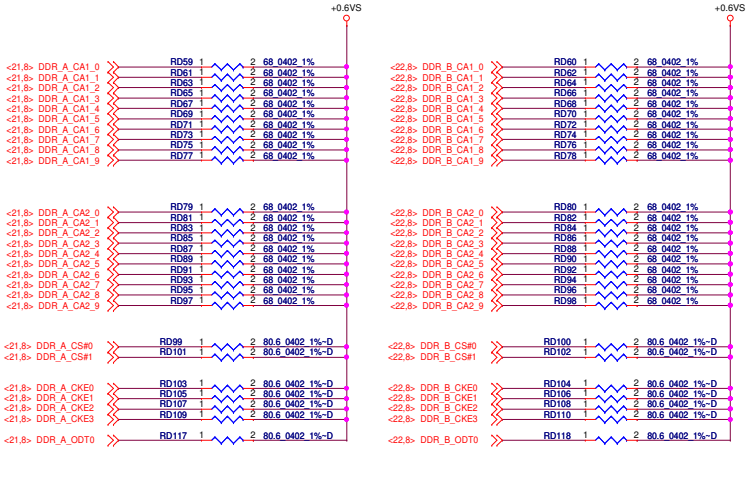
Date: Tuesday, October 13, 2015 | Sheet 22 of 59

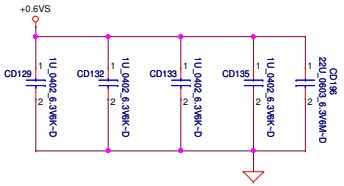
VREF traces should be at least 20 mils wide
with 20 mils spacing to other signals/planes.

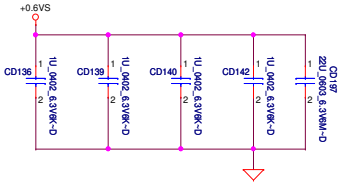


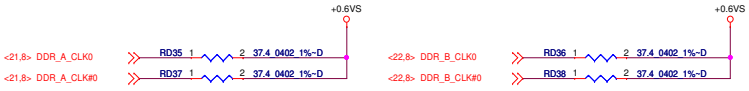


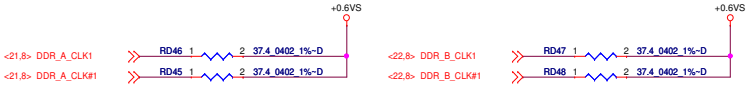












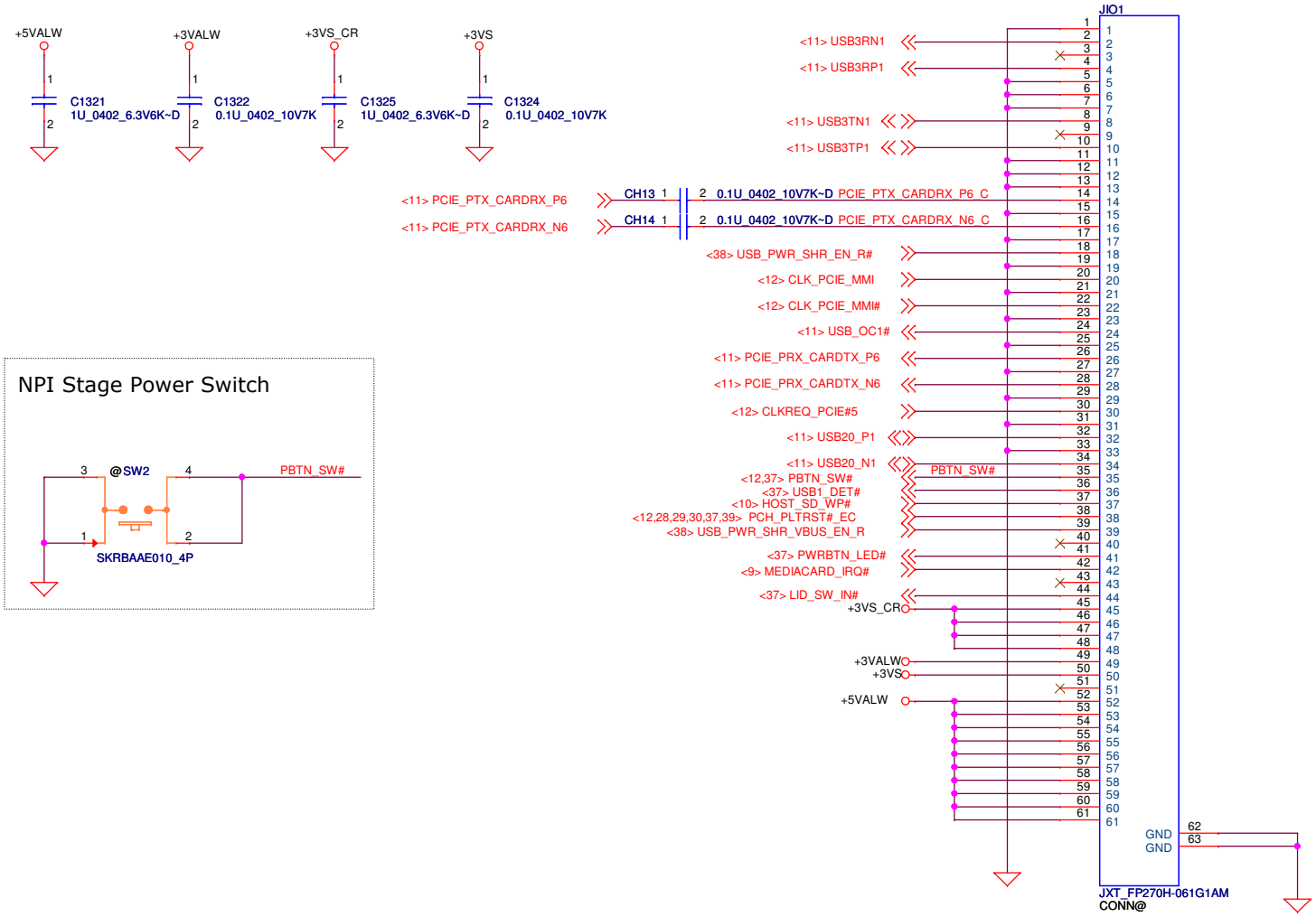
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P23-DDRIII Vref & Termination

Size	Document Number	Rev
	LA-C881P	1.0

Date: Tuesday, October 13, 2015 | Sheet 23 of 59



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

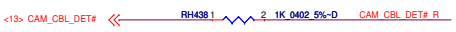
Compal Electronics, Inc.

Title: ***P24-BTB CONN***

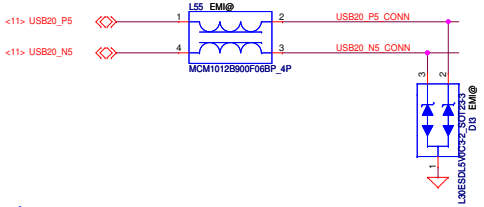
Size | Document Number: ***LA-C881P*** | Rev: 1.0

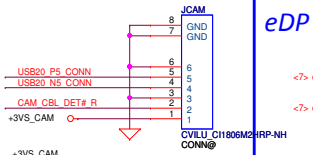
Date: Tuesday, October 13, 2015 | Sheet 24 of 59

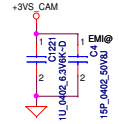
Camera + Touch Screen



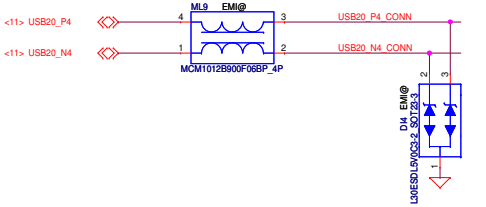
Camera

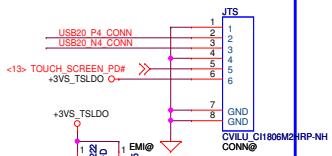


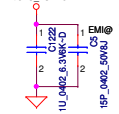




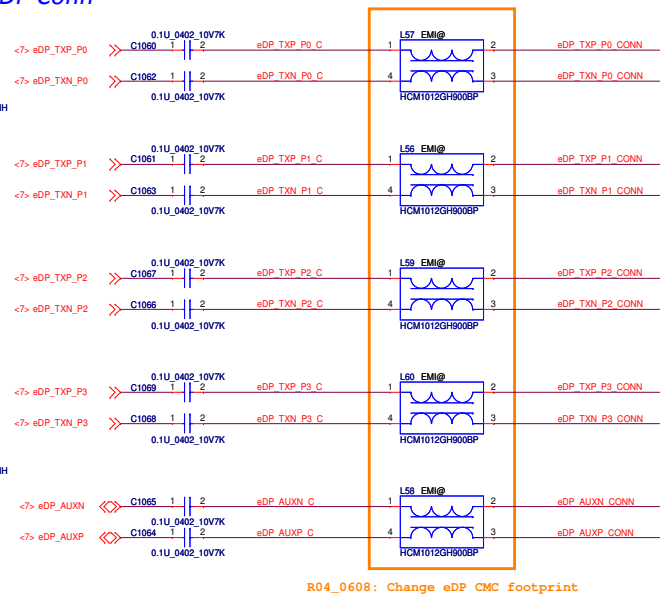
Touch Screen



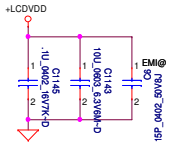


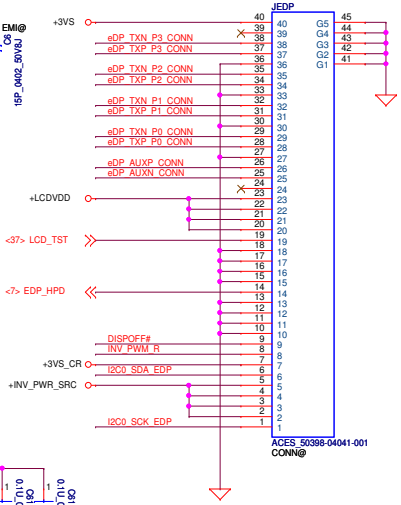


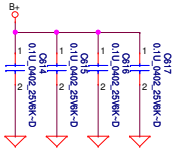
eDP Conn



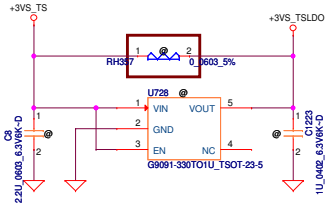
R04_0608: Change eDP CMC footprint



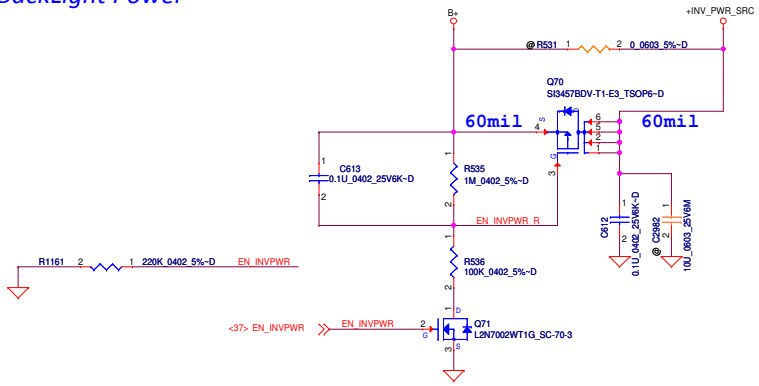




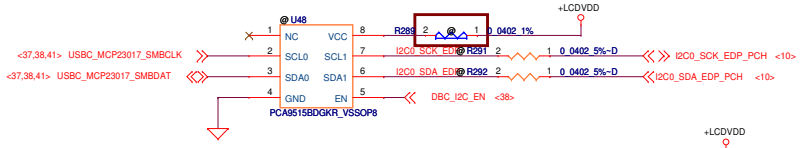
Touch Screen LDO



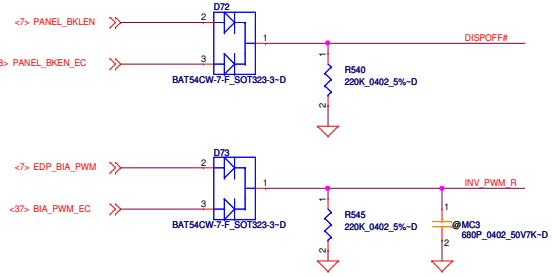
eDP BackLight Power



DBC delay schematic



BackLight PWM Control



Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

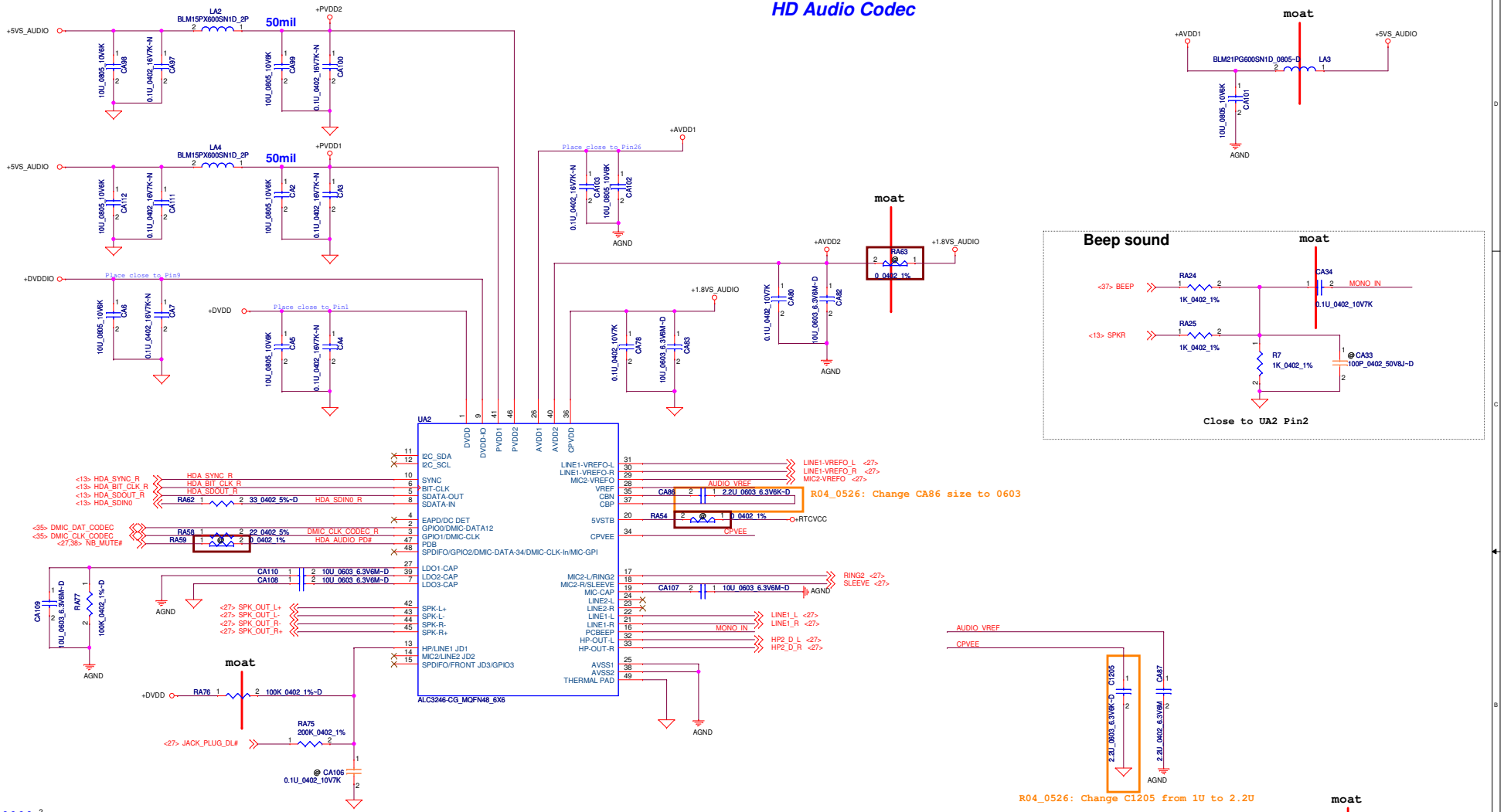
Compal Electronics, Inc.

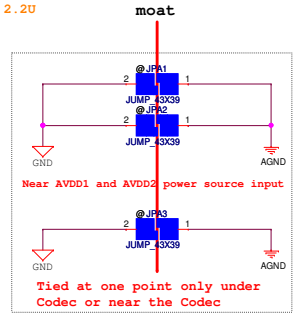
Title: P25-eDP/ Camera CONN

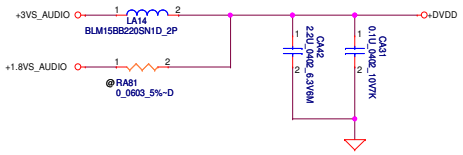
Size: | Document Number: LA-C881P | Rev: 1.0

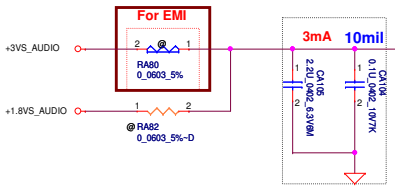
Date: Tuesday, October 13, 2015 | Sheet 25 of 59

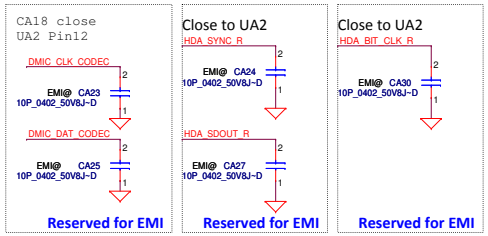
HD Audio Codec











DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

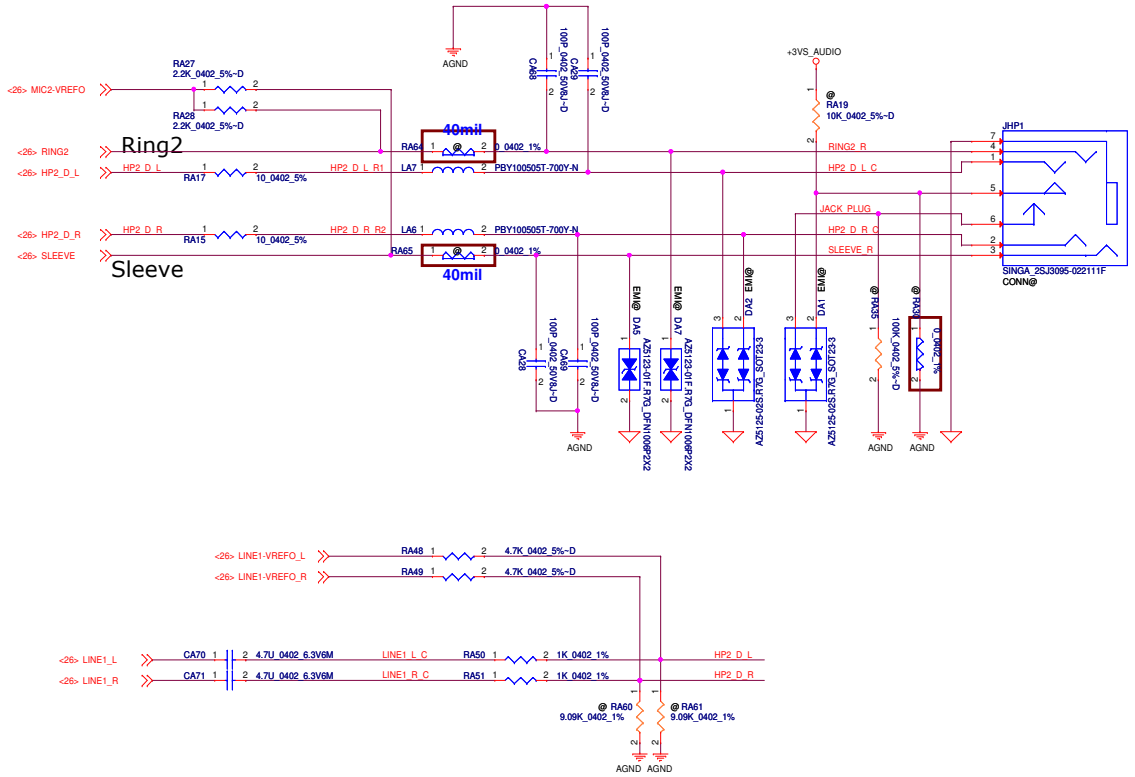
Compal Electronics, Inc.

Title: P26-Audio Codec

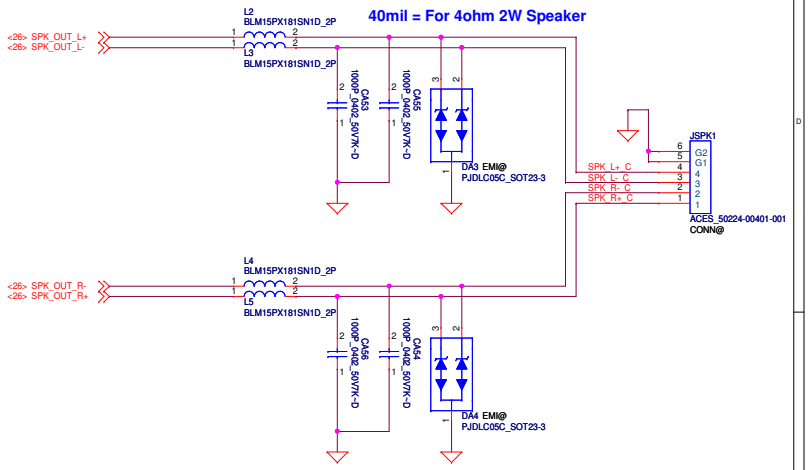
Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 26 of 59

Universal Audio Jack

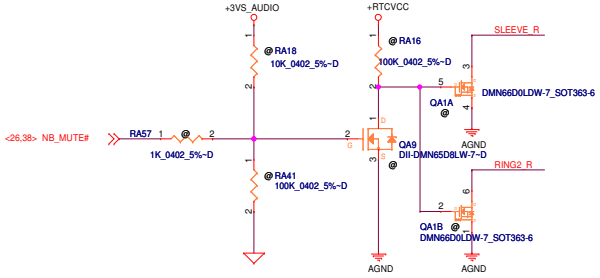


Int. Speaker Conn.

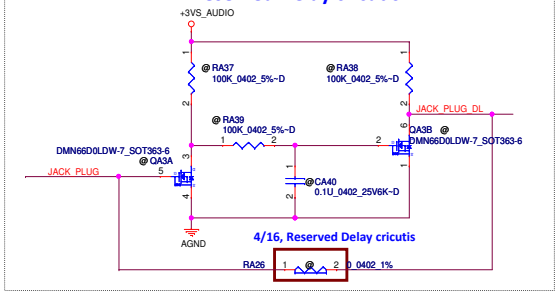


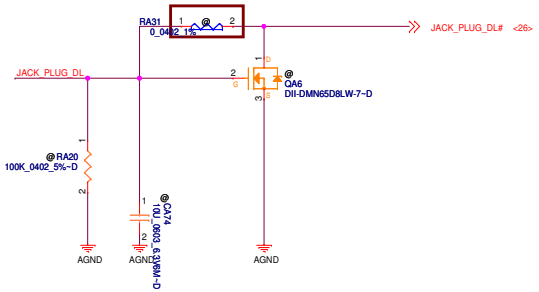
Prevent S3/S4/S5 Background Noise.

ALC3234/3246 has already integrated this grounding circuit inside the pin20



Reserved Delay cricutis





Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P27-Audio Jack / Speaker

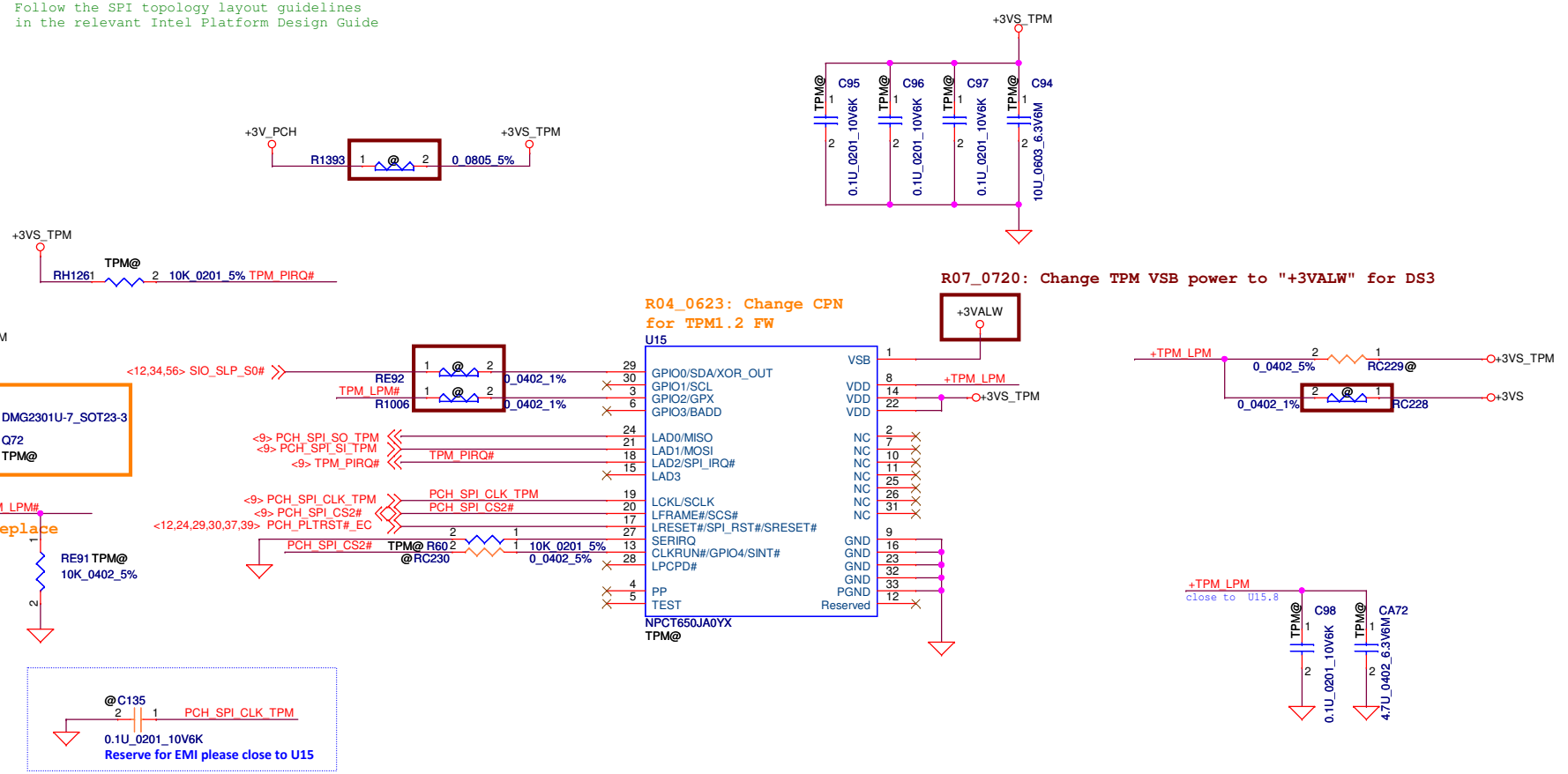
Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 27 of 59

TPM

NOTE:
Follow the SPI topology layout guidelines
in the relevant Intel Platform Design Guide

NOTE:
Place 0.1 uF capacitors as close as
possible to the device power pins



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

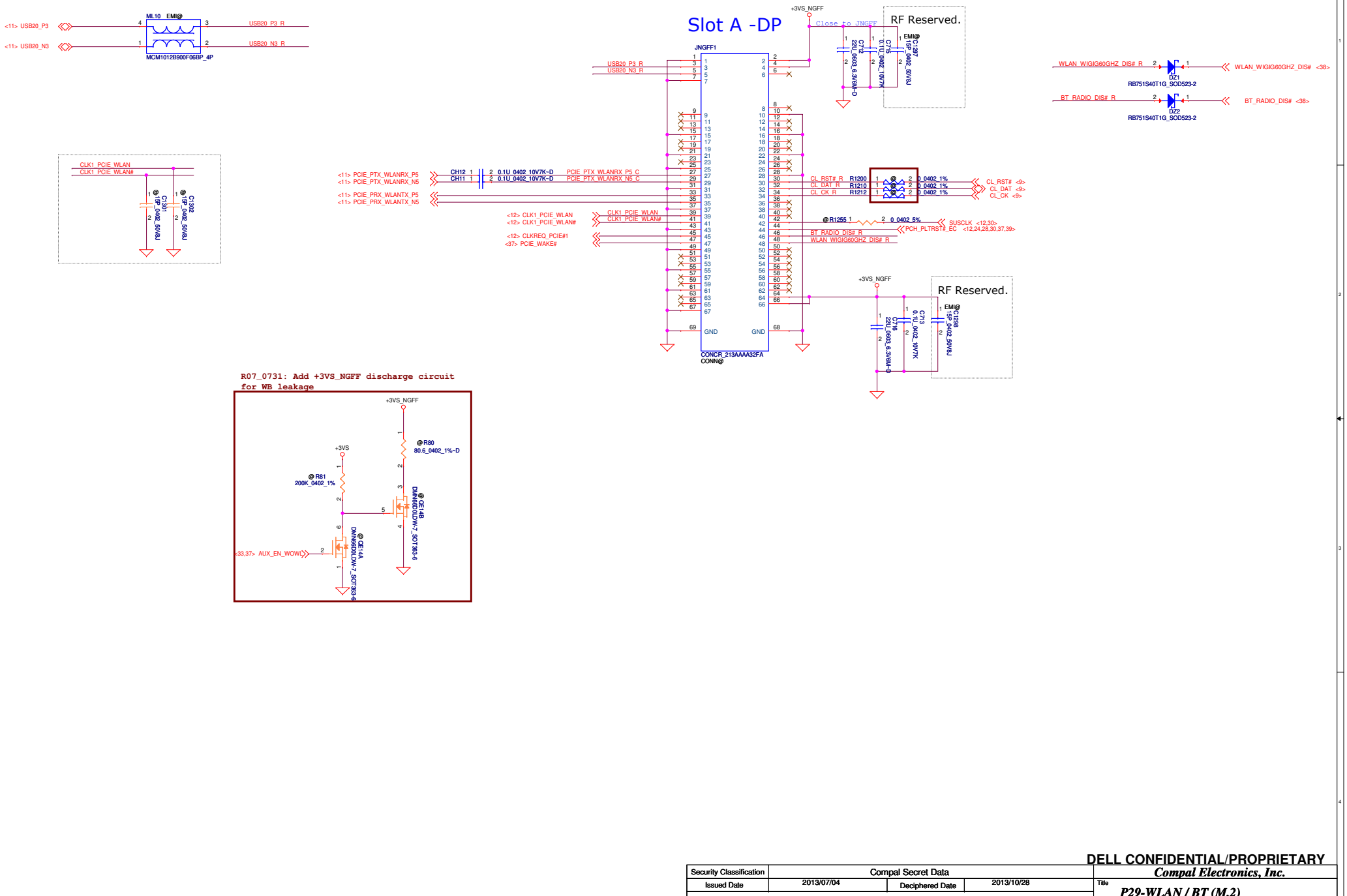
Compal Electronics, Inc.

Title: *P28-TPM*

Size: | Document Number: *LA-C881P* | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 28 of 59

M.2 Slot-A Key-A (WLAN)



R07_0731: Add +3VS_NGFF discharge circuit for WB leakage

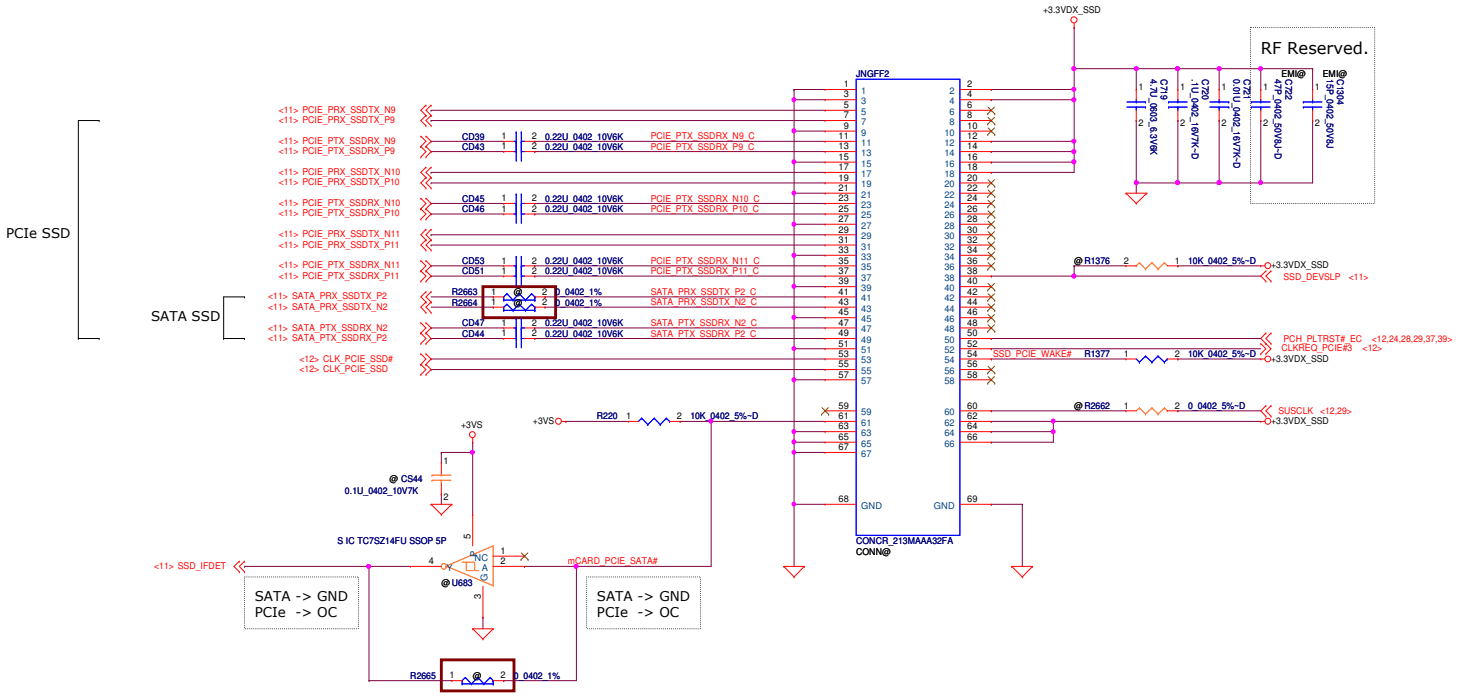
DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

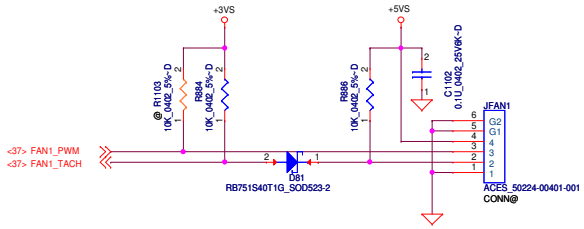
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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	P29-WLAN / BT (M.2)		
Size	Document Number		Rev
	LA-C881P		1.0
Date:	Tuesday, October 13, 2015	Sheet	29 of 59

M.2 Slot-C Key-M (SSD)



FAN

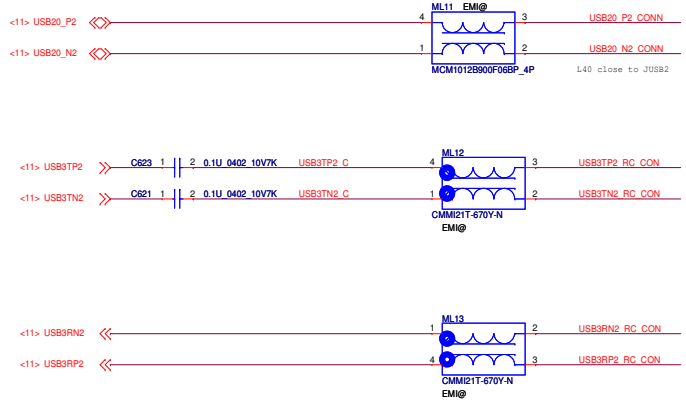


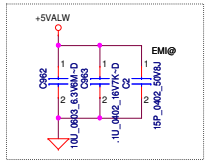
DELL CONFIDENTIAL/PROPRIETARY

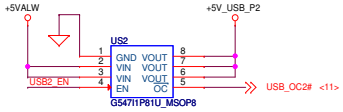
Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2013/07/04	Deciphered Date	2013/10/28
Title	P30-SSD(M.2) / FAN		
Size C	Document Number LA-C881P		Rev 1.0
Date: Tuesday, October 13, 2015	Sheet 30 of 59		

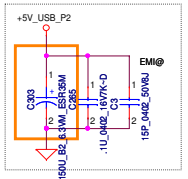
USB IO Port

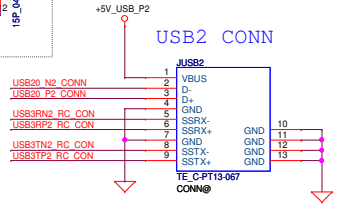
R03_0429: Change from SGA00004E10 to SGA00004E00

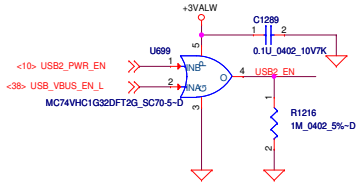


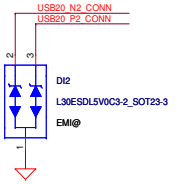


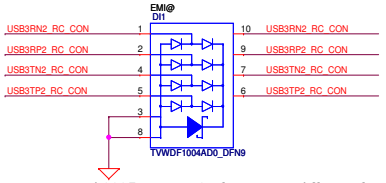






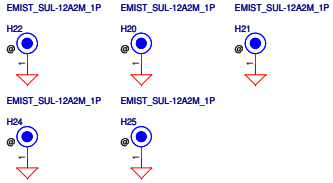






Hank0225: Note, PCB footprint is different from TVWDF1004AD0_DFN9, but it's compatible.

USB3.0 Shielding Clip



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

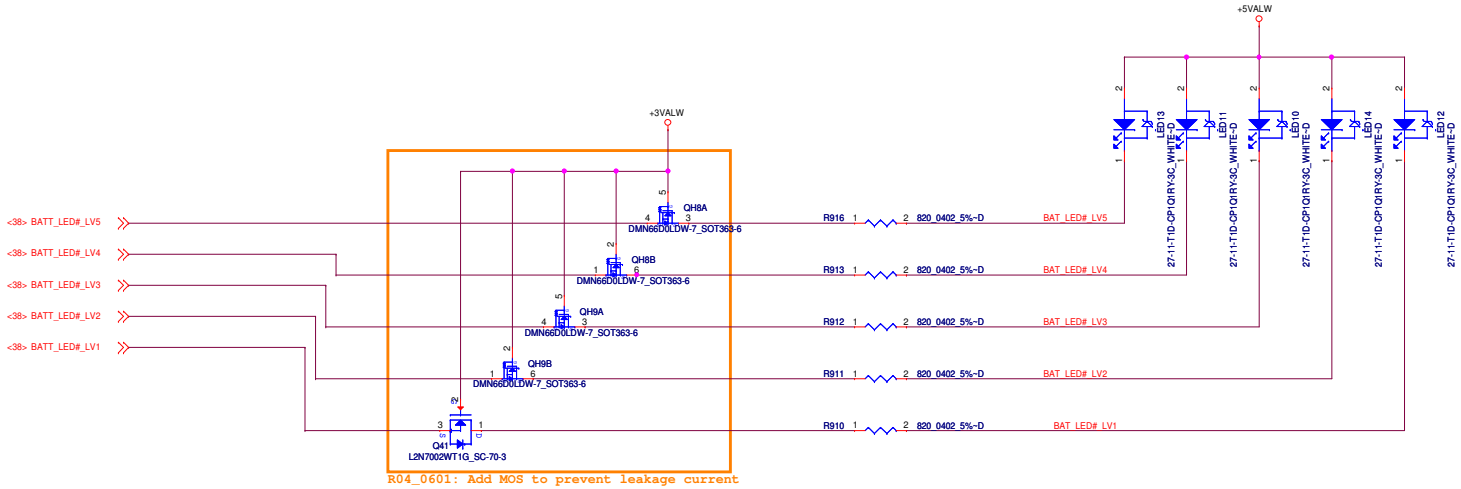
Compal Electronics, Inc.

Title: P31-USB 3.0 IO CONN

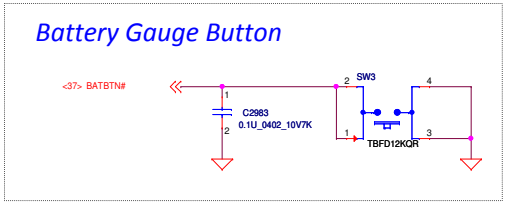
Size	Document Number	Rev
	LA-C881P	1.0

Date: Tuesday, October 13, 2015 Sheet 31 of 59

Battery Gauge LED



Battery Gauge Button



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

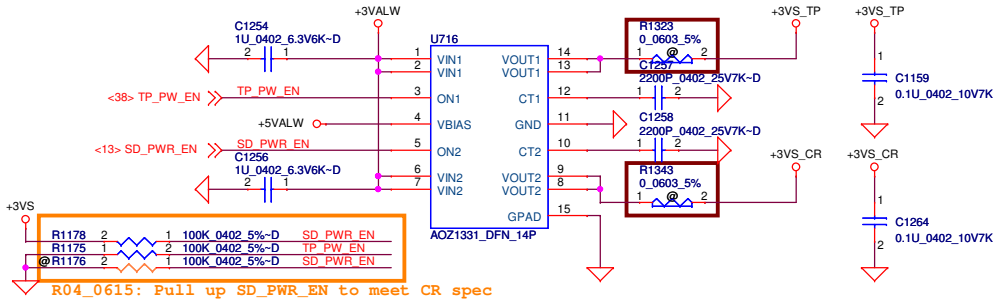
Compal Electronics, Inc.

Title: P32-BAT LED

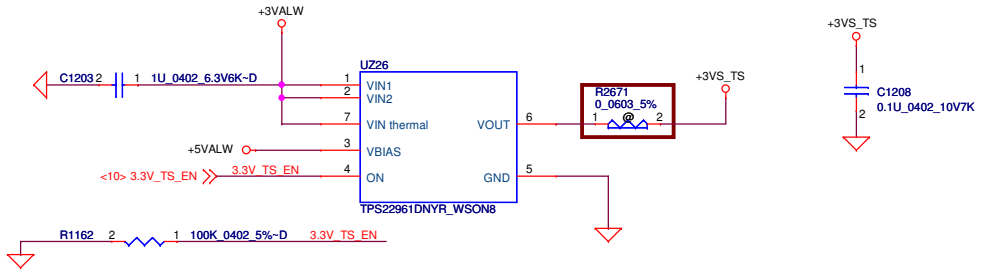
Size	Document Number	Rev
	LA-C881P	1.0

Date: Tuesday, October 13, 2015 Sheet 32 of 59

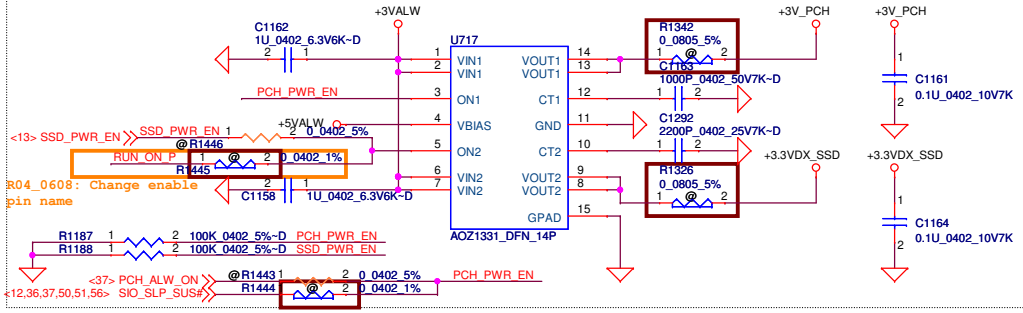
Touch Pad, Card Reader Load Switch



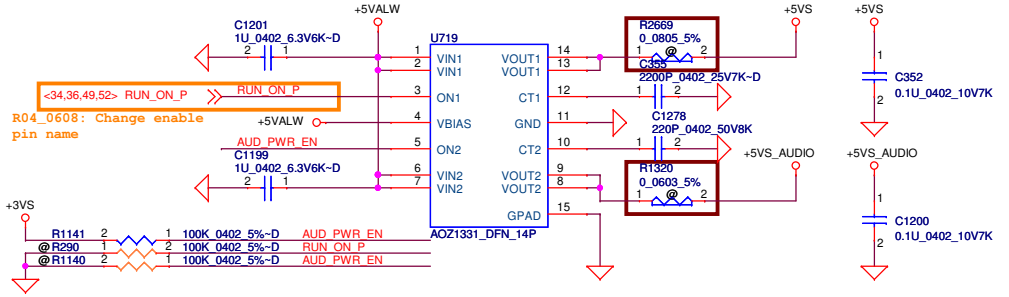
Touch Screen Load Switch



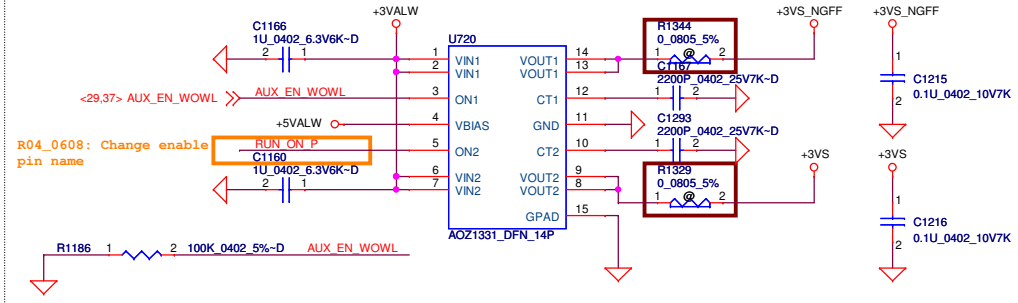
Deeper Sleep, SSD Load Switch



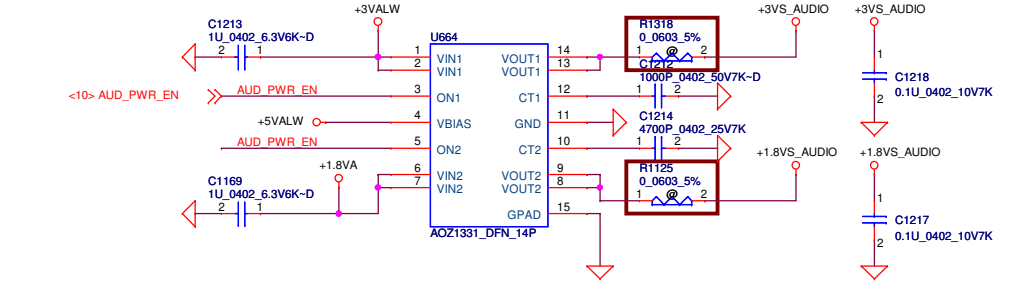
5V_Run, 5V_Audio Load Switch



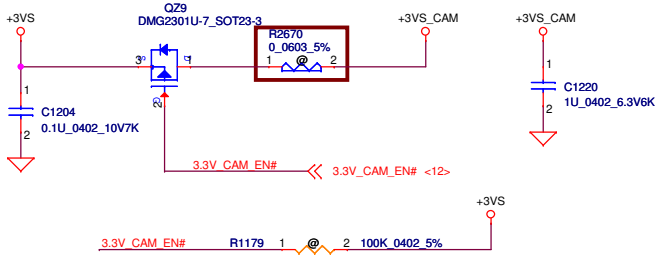
WiFi, 3V_RUN Load Switch



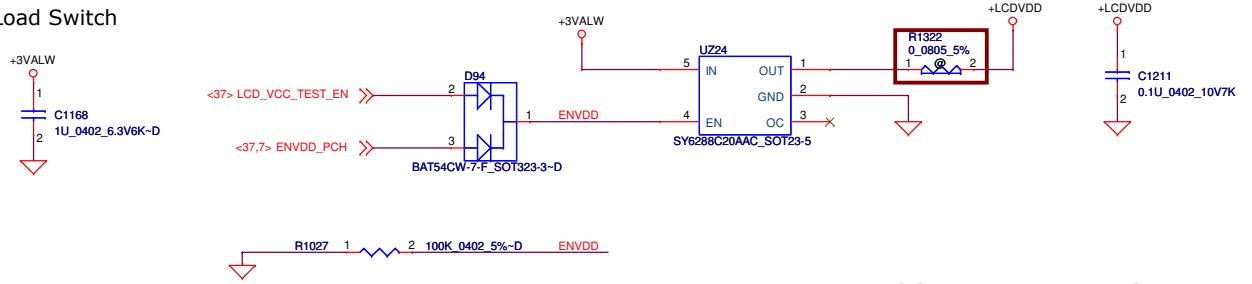
3V_Audio, 1.8V_Audio Load Switch



Camera



LCD Load Switch



Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

DELL CONFIDENTIAL/PROPRIETARY

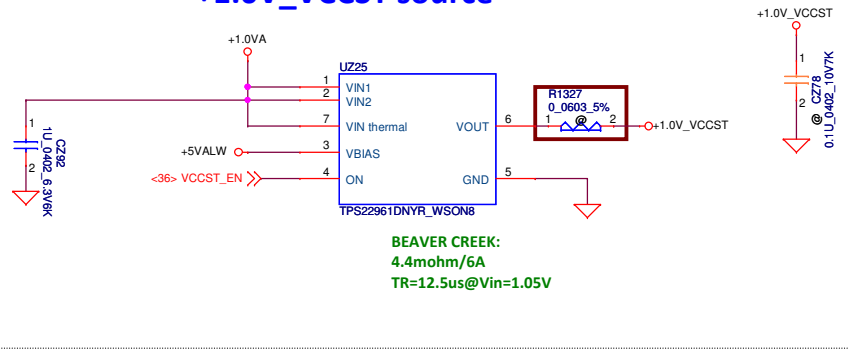
Compal Electronics, Inc.

Title: *P33-DC/DC Interface 1*

Size | Document Number: *LA-C881P* | Rev: 1.0

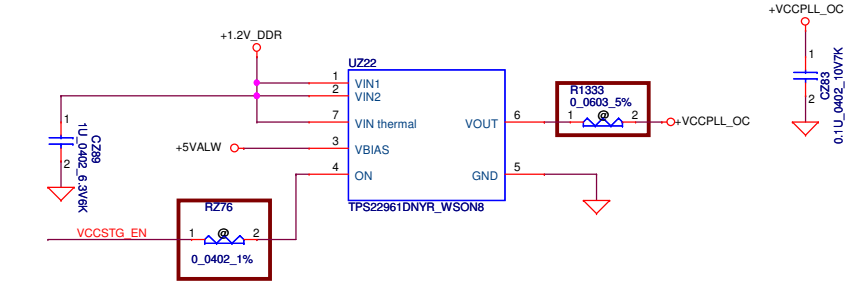
Date: Tuesday, October 13, 2015 | Sheet 33 of 59

+1.0V_VCCST source

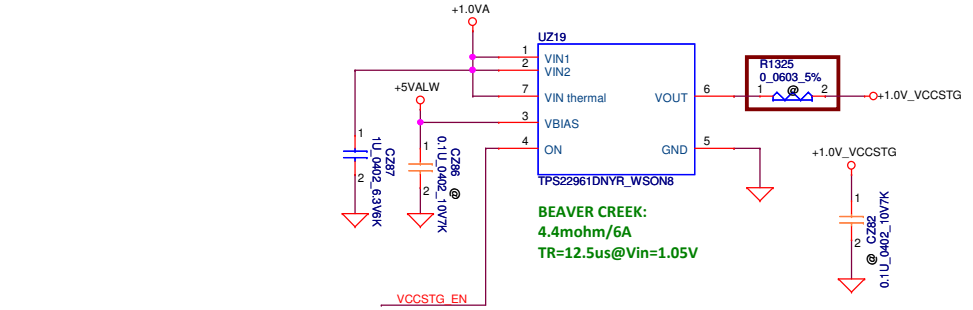


BEAVER CREEK:
4.4mohm/6A
TR=12.5us@Vin=1.05V

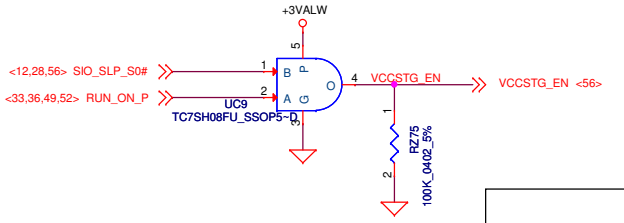
+VCCPLL_OC source



+1.0V_VCCSTG source

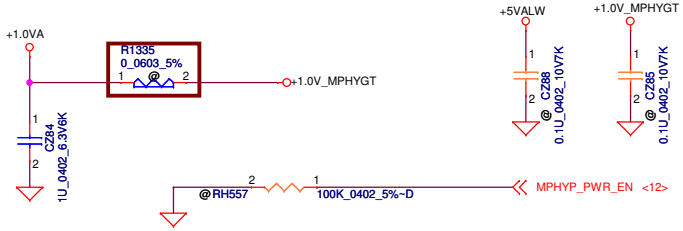


BEAVER CREEK:
4.4mohm/6A
TR=12.5us@Vin=1.05V

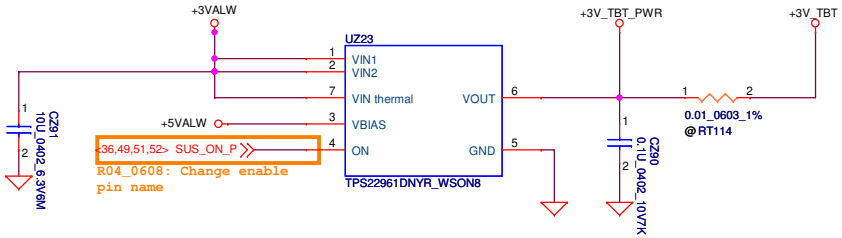


	S0	S0Ix	S3
SIO_SLP_S0#	high	low	low
RUN_ON_EC	high	high	low

+1.0V_MPHYGT source



TBT Power circuits



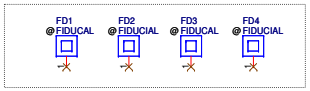
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

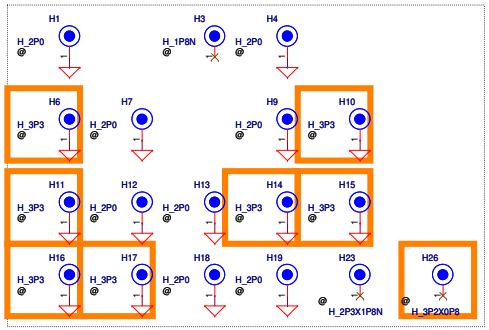
Compal Electronics, Inc.

Title: P34-DC/DC Interface 2

Size | Document Number: LA-C881P | Rev: 1.0

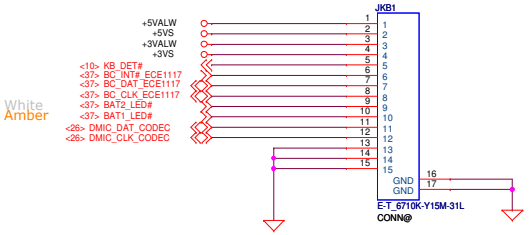
Date: Tuesday, October 13, 2015 | Sheet 34 of 59

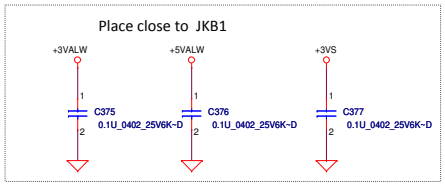




R06_0822: Stand off screw hole change form 3.2mm to 3.3 mm.
R06_0826: Add H26 for SSD bracket.

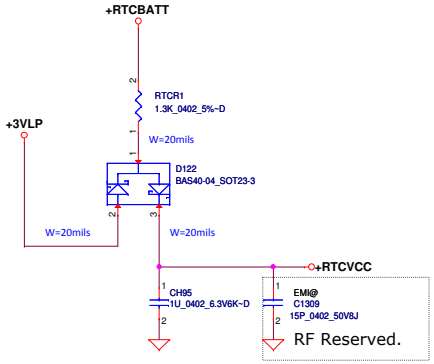
Keyboard Controller board + DMIC

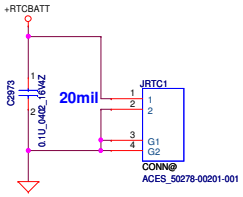


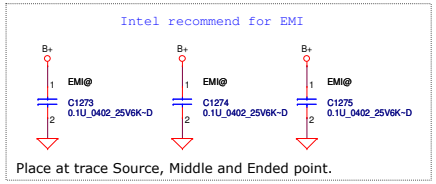


RTC Battery With Charge Function

RTC Battery Conn







DELL CONFIDENTIAL/PROPRIETARY

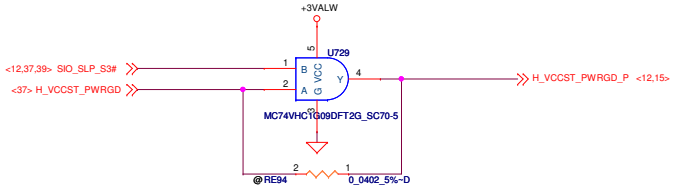
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

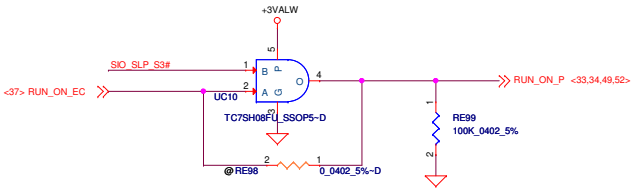
Compal Electronics, Inc.

Title: P35-SCREWH/KB/RTC

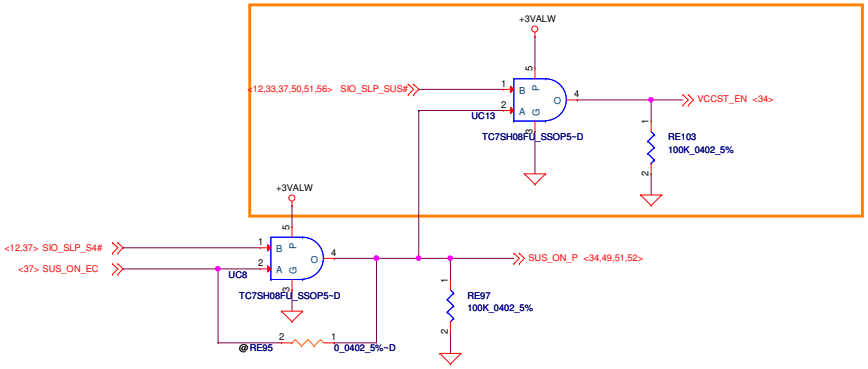
Size: | Document Number: LA-C881P | Rev: 1.0

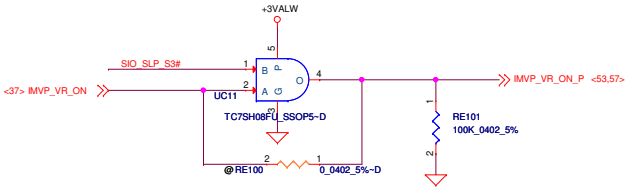
Date: Tuesday, October 13, 2015 | Sheet 35 of 59



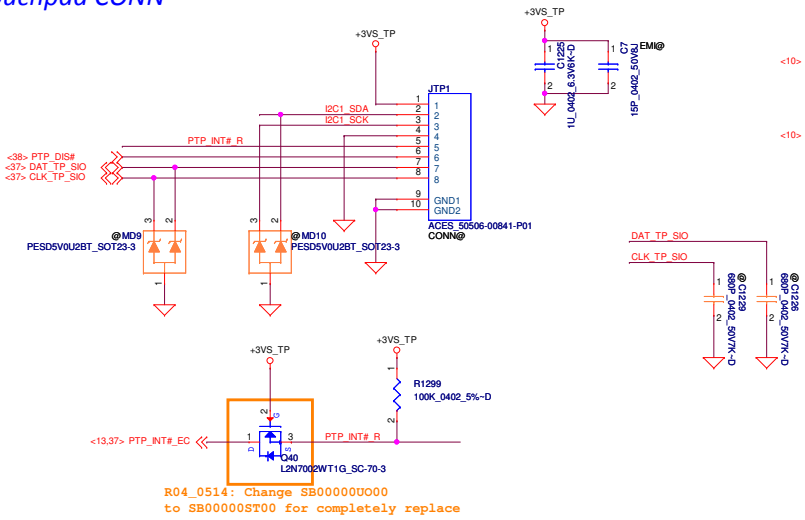


R04_0604: Add VCCST enable condition for deep S3 power state & sequence

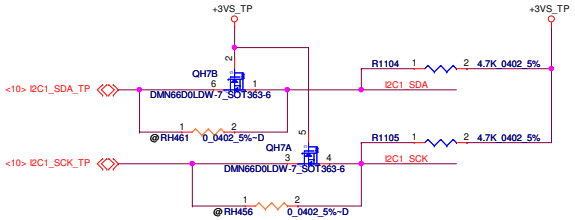




Touchpad CONN

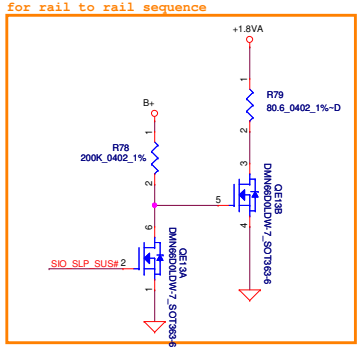


R04_0514: Change SB00000U000
to SB00000ST00 for completely replace



+1.8VA Discharge

R04_0612: Add +1.8VA discharge circuit
for rail to rail sequence

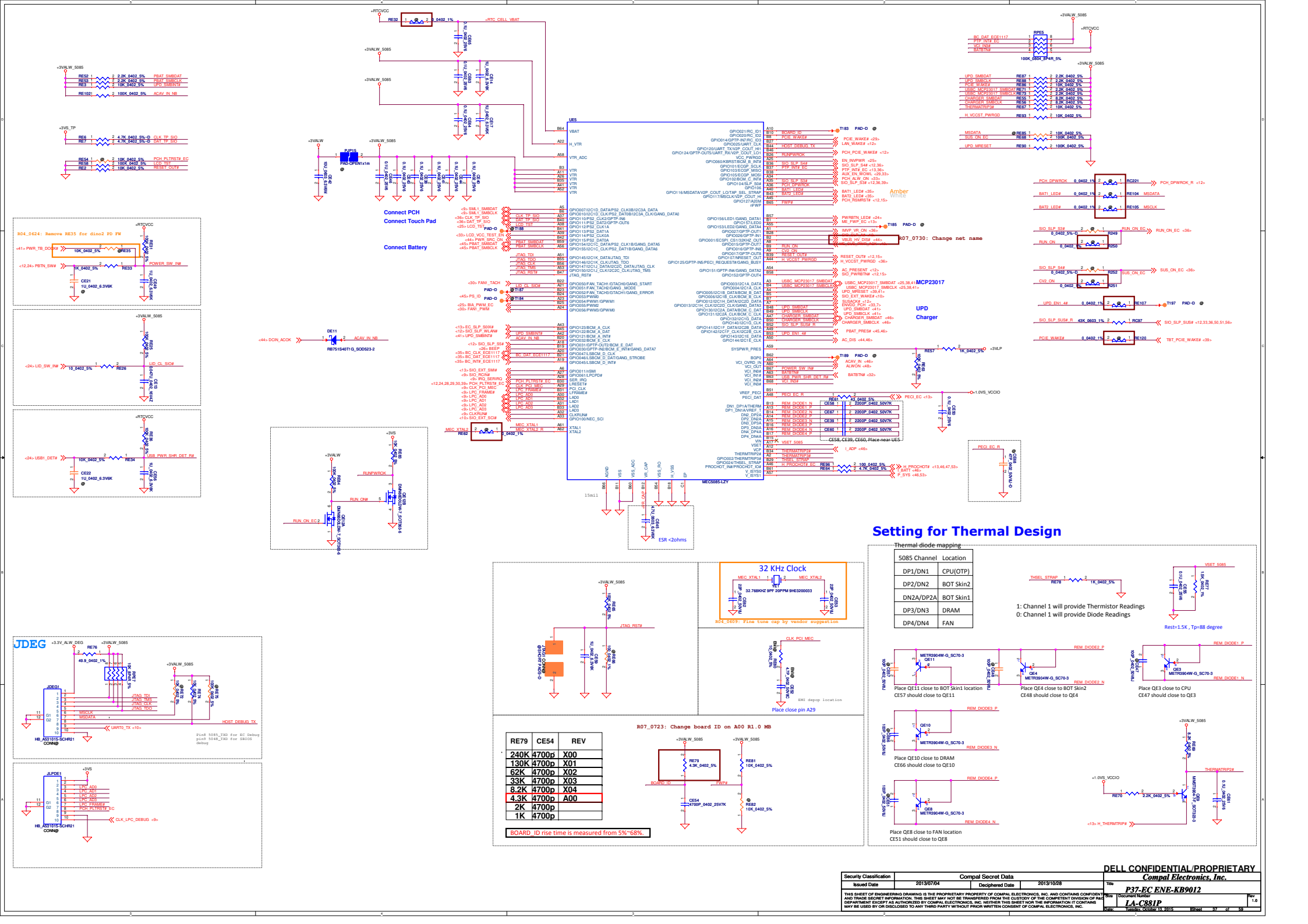


Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title	*P36-TP/PWERGD/LID*		
Size	Document Number *LA-C881P*		Rev 1.0
Date: Tuesday, October 13, 2015	Sheet 36 of 59		



5085 Channel	Location
DP1/DN1	CPU(OTP)
DP2/DN2	BOT Skin2
DN2A/DP2A	BOT Skin1
DP3/DN3	DRAM
DP4/DN4	FAN

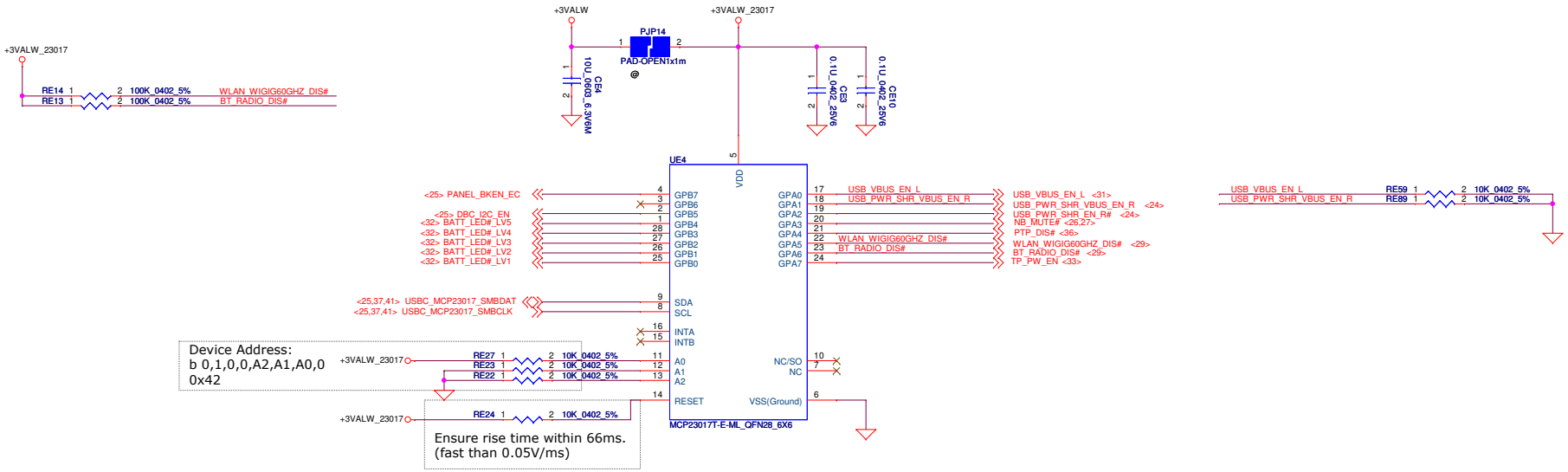
RE79	CE54	REV
240K	4700p	X00
130K	4700p	X01
62K	4700p	X02
33K	4700p	X03
8.2K	4700p	X04
4.3K	4700p	A00
2K	4700p	
1K	4700p	

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Security Classification	Compal Secret Data	
Issued Date	2013/07/04	Deciphered Date 2013/10/28

Title	P37-EC ENE-KB9012	
Size	Document Number: LA-C681P	Rev 1.0
Date: Tuesday, October 13, 2015	Sheet 37 of 59	



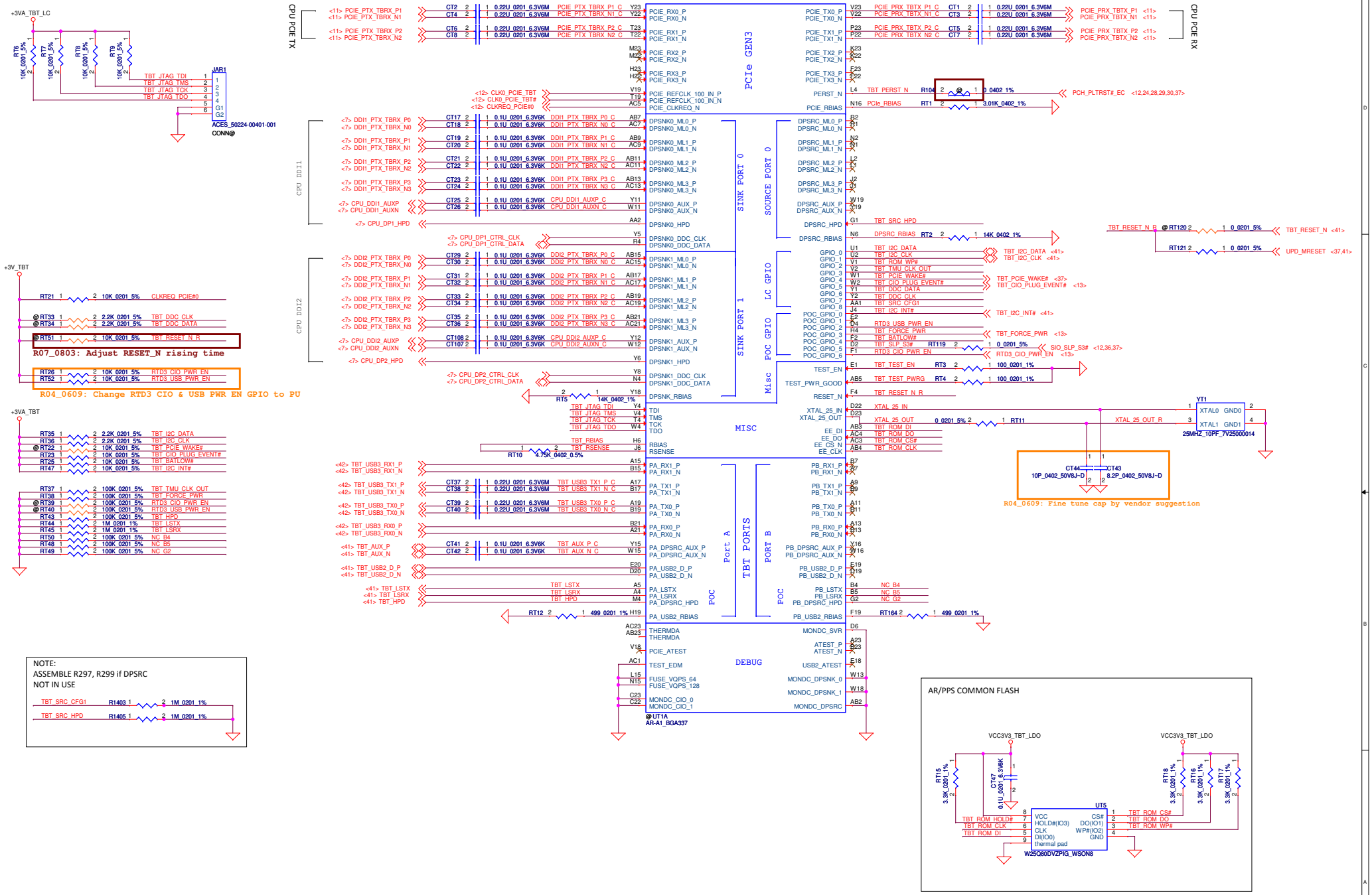
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2013/10/28

Compal Electronics, Inc.

Title: P38-MCP23017

Size | Document Number: LA-C881P | Rev: 1.0

Date: Tuesday, October 13, 2015 | Sheet 38 of 59



Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2012/07/25

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.

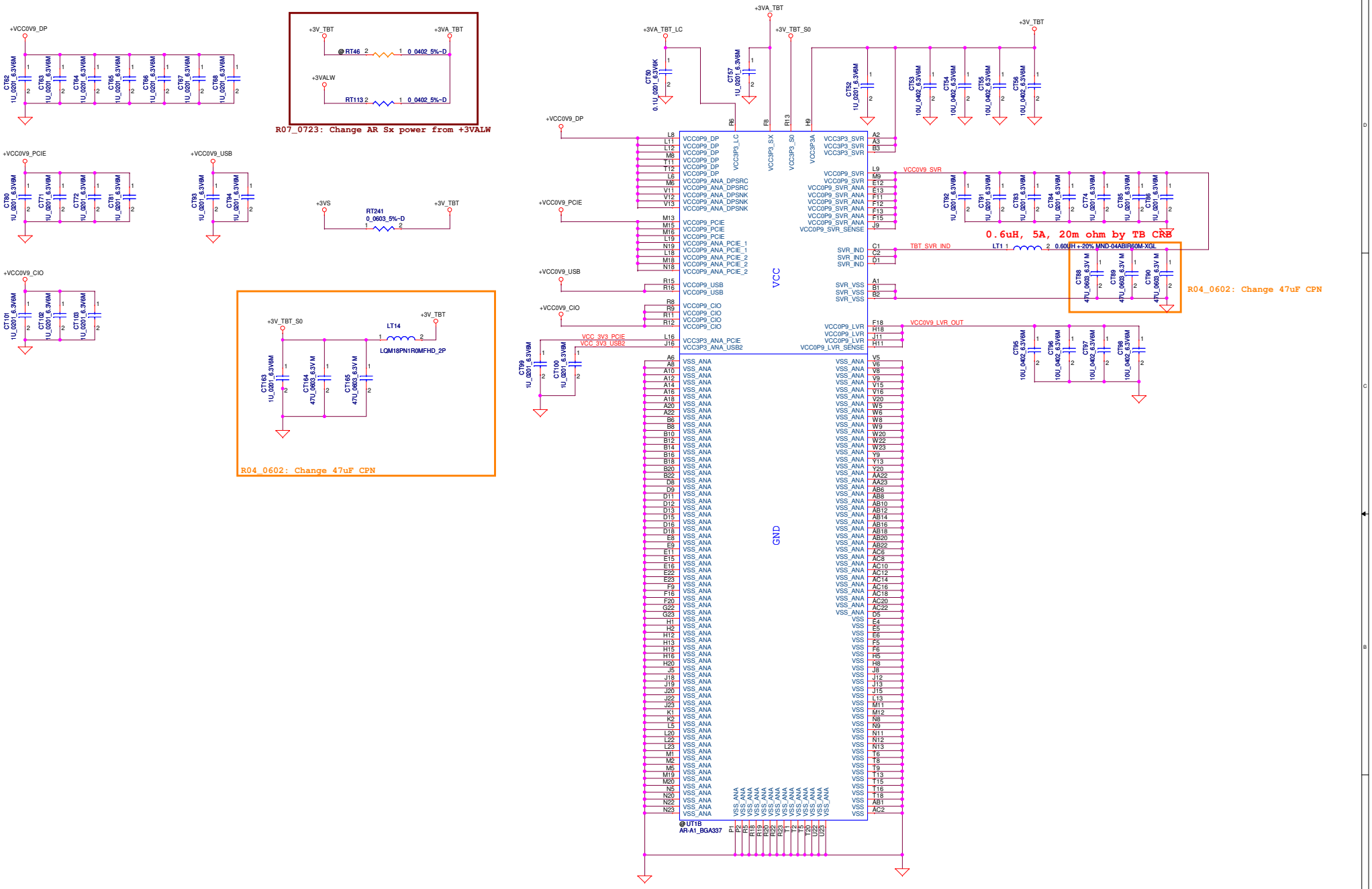
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: *P39-AR_TBT (1/2) DP / PCIE*

Size	Document Number	Rev
C	*LA-C881P*	1.0

Date: Tuesday, October 13, 2015 | Sheet 39 of 59



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2012/07/25

Compal Electronics, Inc.

Title: P40-AR_TBT (2/2) PWR / VSS

Size	Document Number	Rev
C	LA-C881P	1.0

Date: Tuesday, October 13, 2015 Sheet 40 of 59

R07_0720: Change "VCC5V0_SYS" to "+5VALW"

R07_0720: Change PD to MP CPN

R04_0612: Change PD ROM CPN to SA00005I940

DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2012/07/25

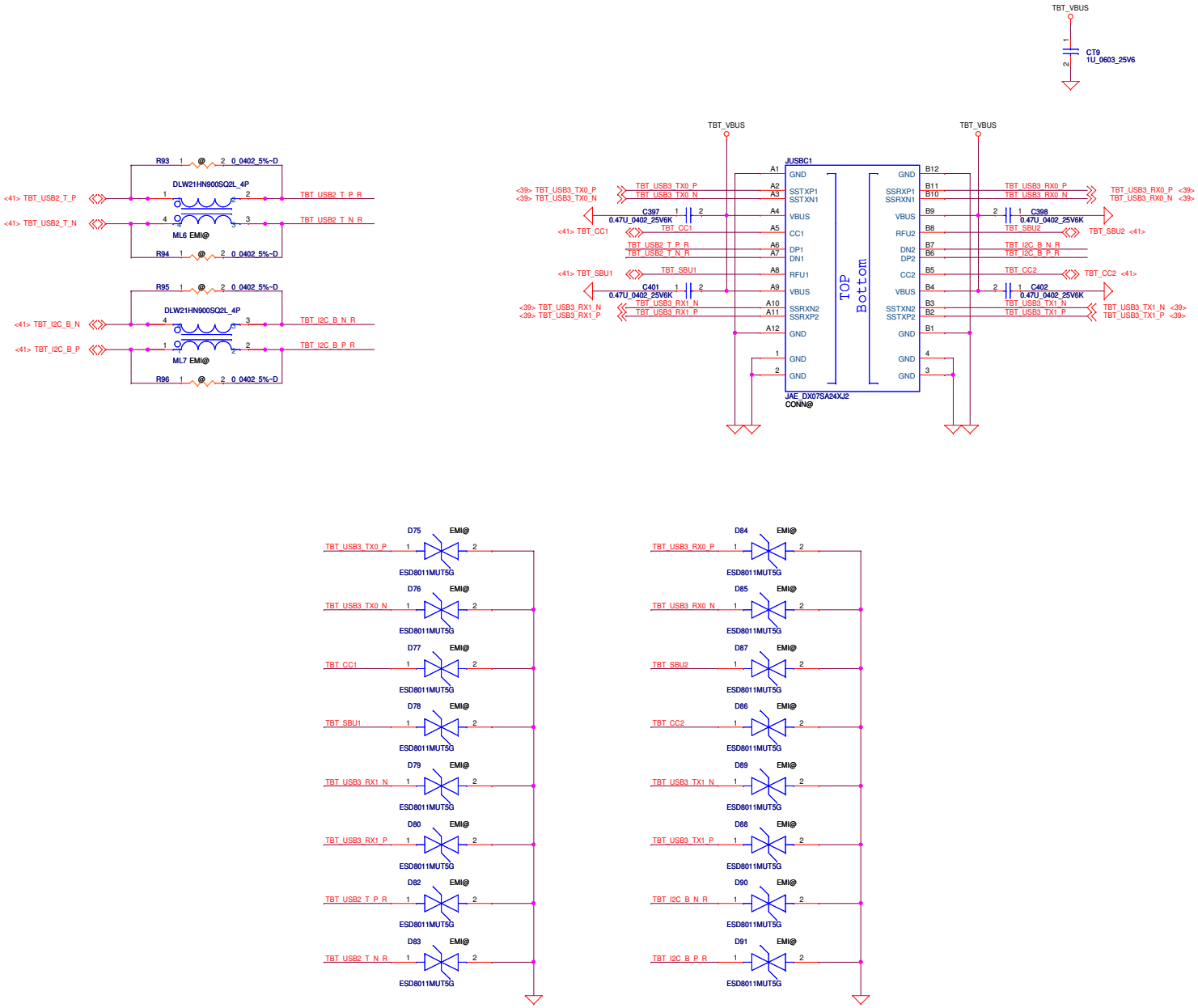
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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
P41-PD CONTROL

Size
Document Number
LA-C881P
Rev
1.0

Date: Tuesday, October 13, 2015 Sheet 41 of 59



DELL CONFIDENTIAL/PROPRIETARY

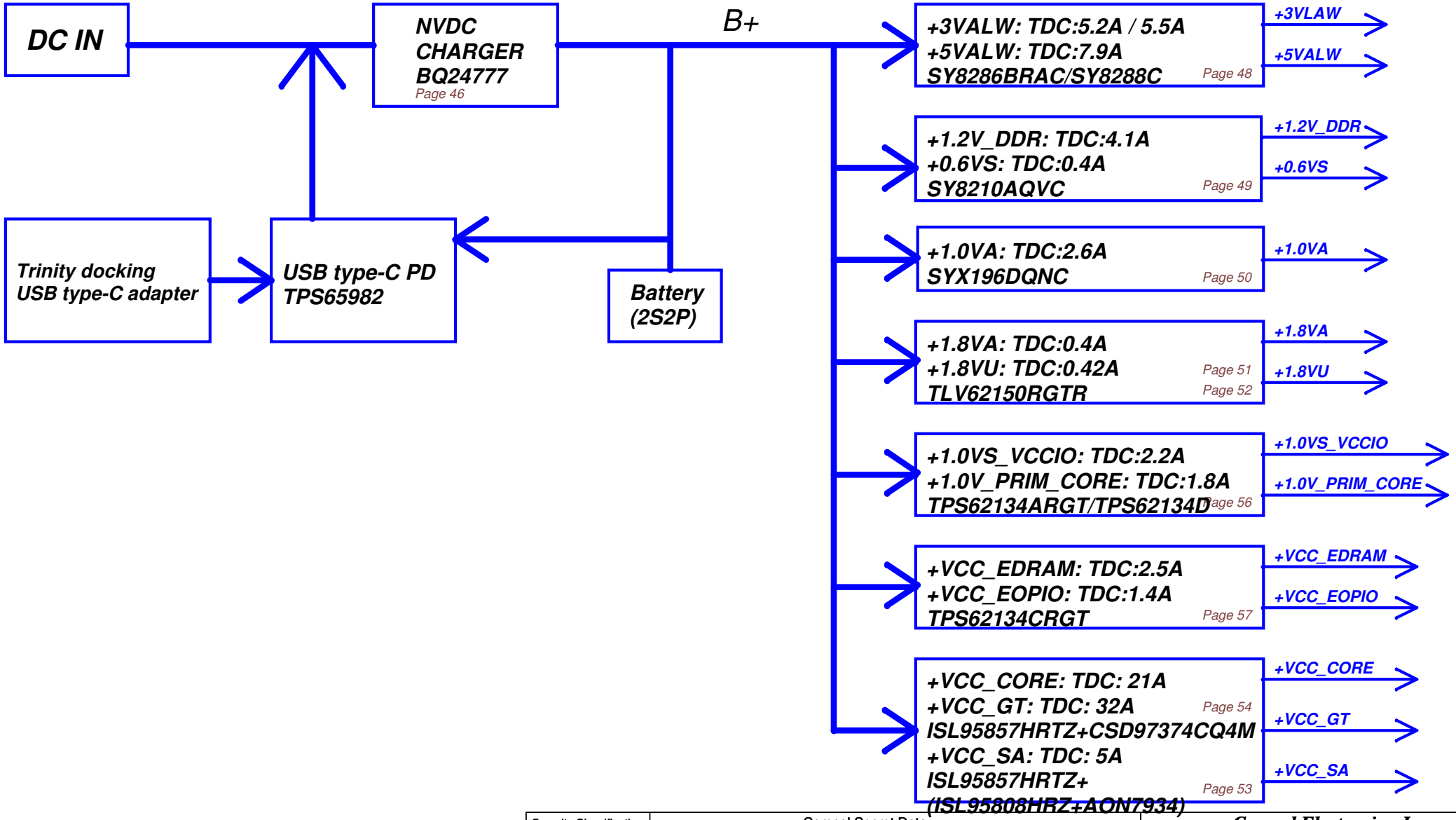
Security Classification	Compal Secret Data		
Issued Date	2013/07/04	Deciphered Date	2012/07/25

Compal Electronics, Inc.

Title: P42-PD USB TYPE-C

Size	Document Number	Rev
C	LA-C881P	1.0

Date: Tuesday, October 13, 2015 Sheet 42 of 59



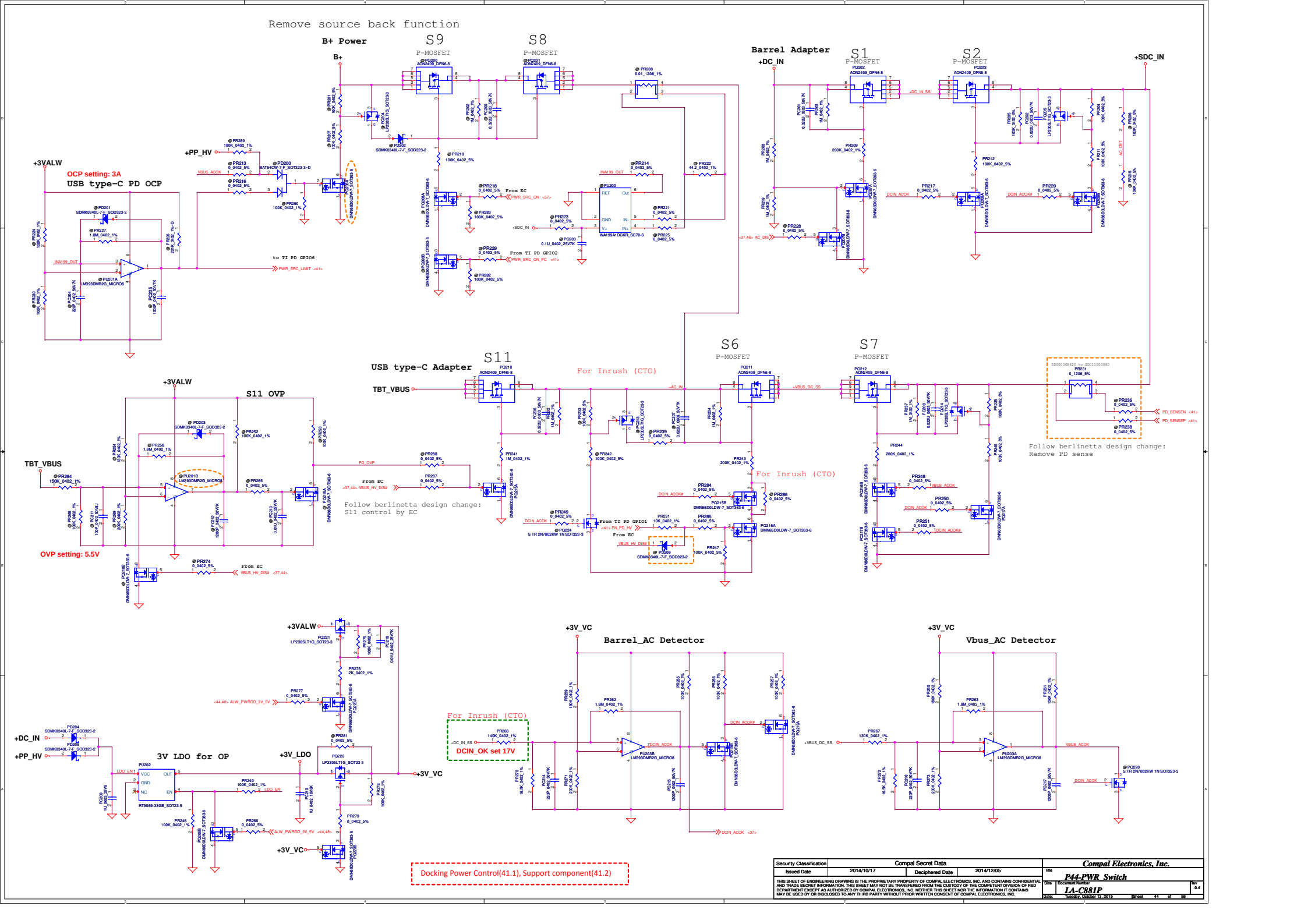
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P42-PWR_Block_Diagram

Size | Document Number: LA-C881P | Rev: 0.4

Date: Tuesday, October 13, 2015 | Sheet 43 of 59

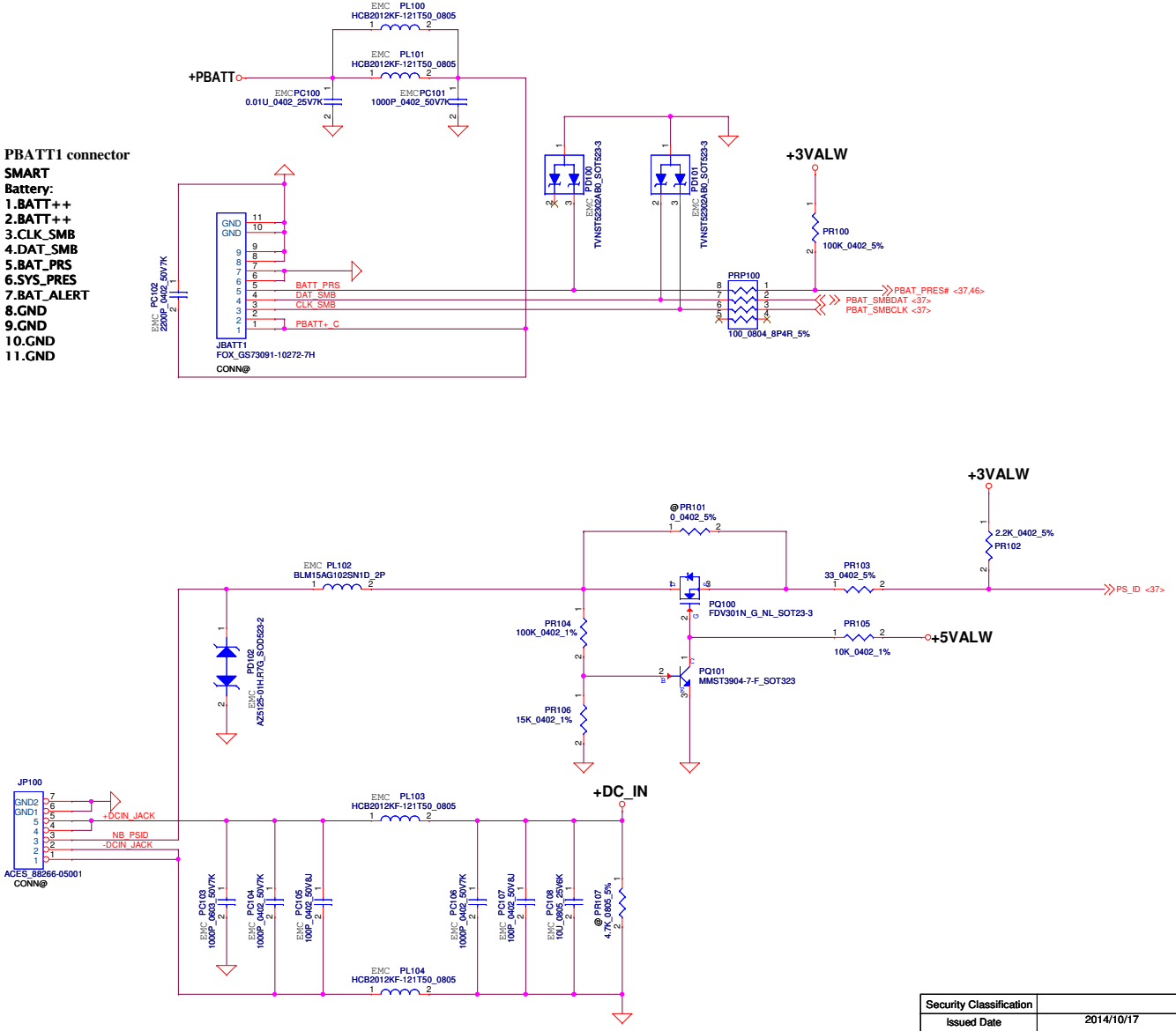


Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

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.

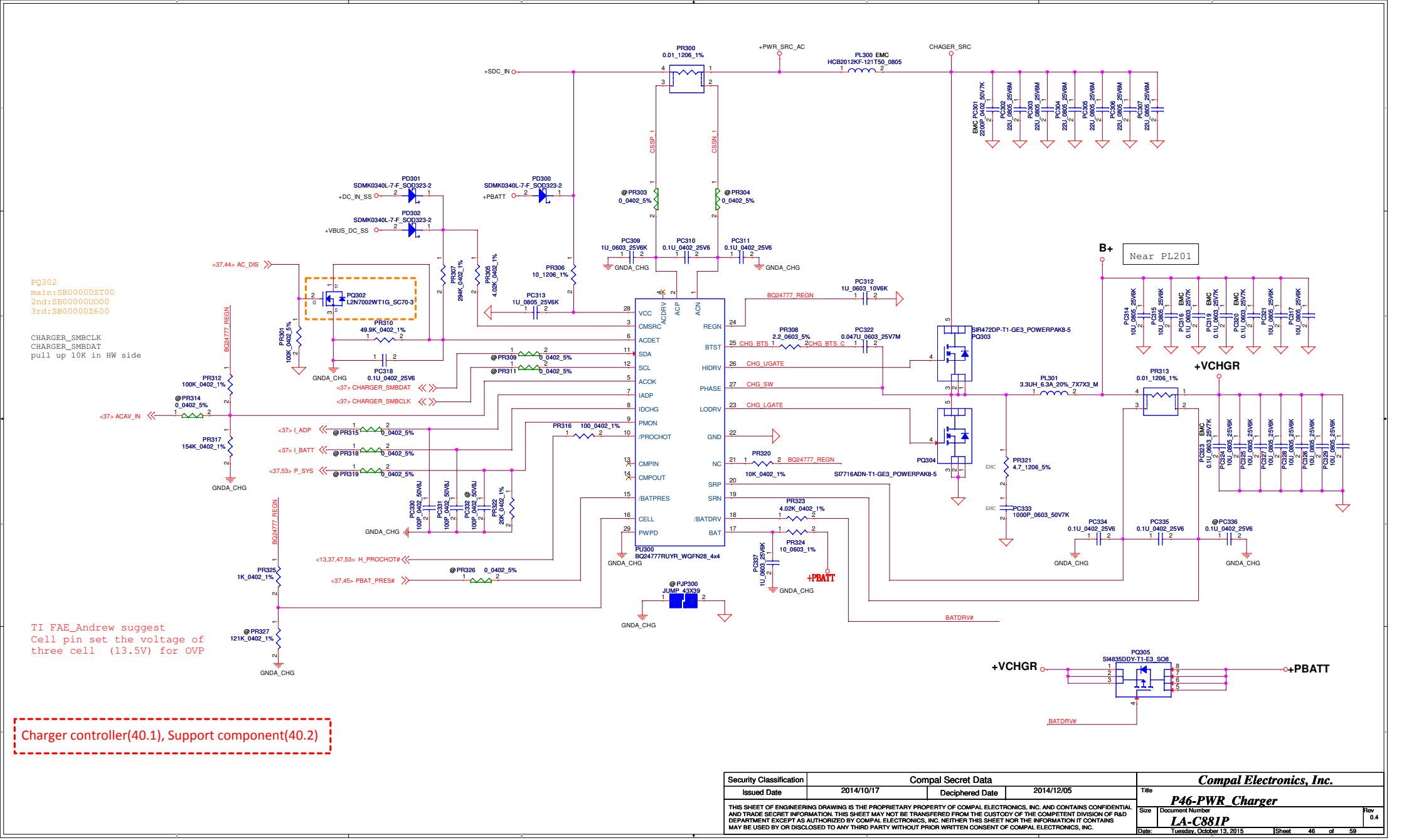
Compal Electronics, Inc.	
Title	P44-PWR_Switch
Size	Document Number: LA-C881P
Rev	0.4
Date:	Tuesday, October 13, 2015
Sheet	44 of 59

PBATT1 connector
SMART
Battery:
1.BATT++
2.BATT++
3.CLK_SMB
4.DAT_SMB
5.BAT_PRS
6.SYS_PRES
7.BAT_ALERT
8.GND
9.GND
10.GND
11.GND



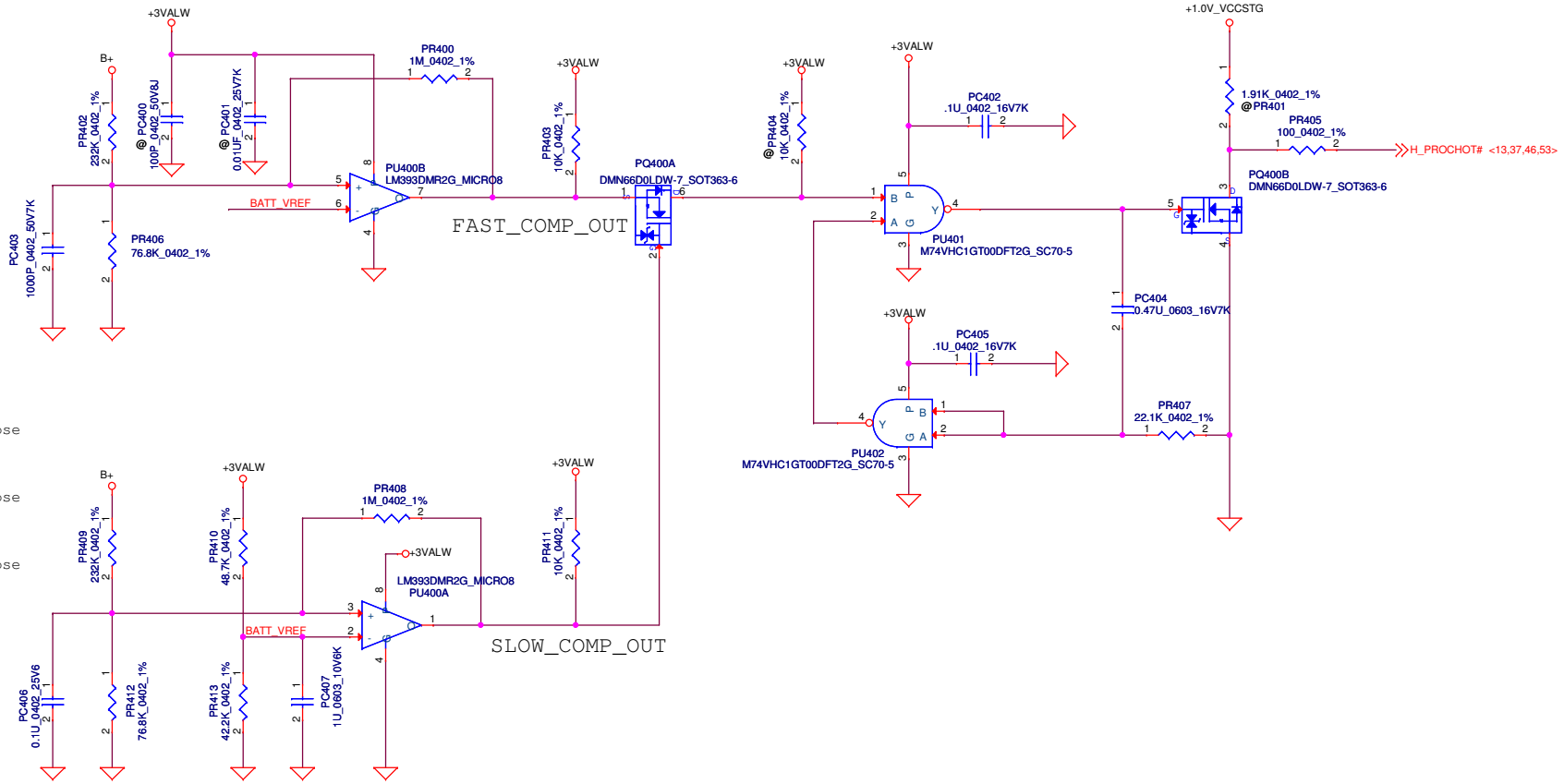
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.			
Title: PWR45_DCIN/BATT CONN			
Size	Document Number: LA-C881P		Rev: 0.4
Date: Tuesday, October 13, 2015		Sheet 45 of 59	



Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.	
Title	P46-PWR_Charger
Size	Document Number: LA-C881P
Rev	0.4
Date:	Tuesday, October 13, 2015
Sheet	46 of 59



PU404_Main source
PQ409A open at 3/5V_B+ below 5.73V
and 3/5V_B+ recover 6.05V PA409A close

PU404_2nd_source
PQ409A open at 3/5V_B+ below 5.72V
and 3/5V_B+ recover 6.05V PA409A close

PU404_3rd_source
PQ409A open at 3/5V_B+ below 5.73V
and 3/5V_B+ recover 6.04V PA409A close

Component (37.1)

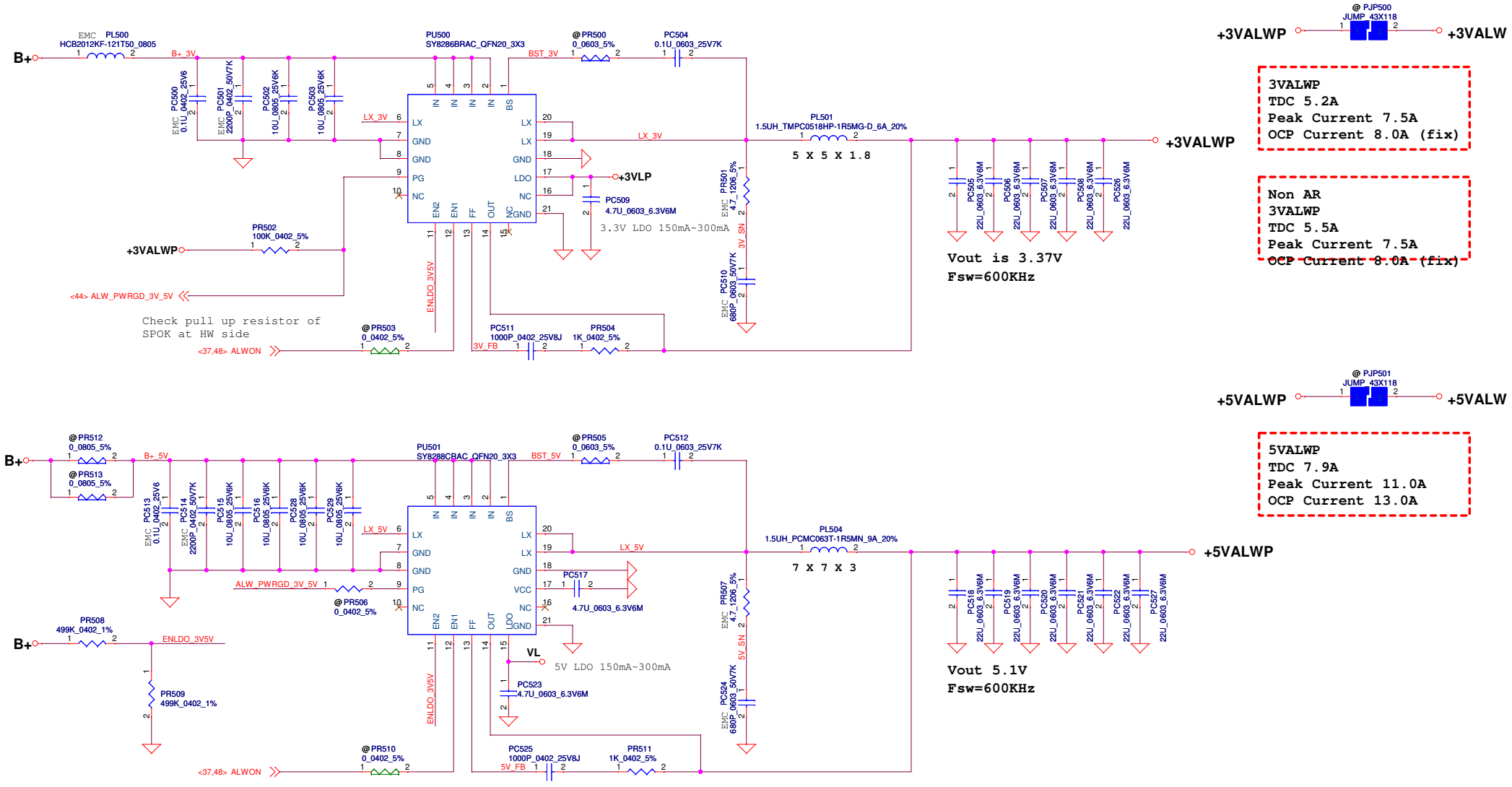
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P47-PWR_BATT low voltage detect

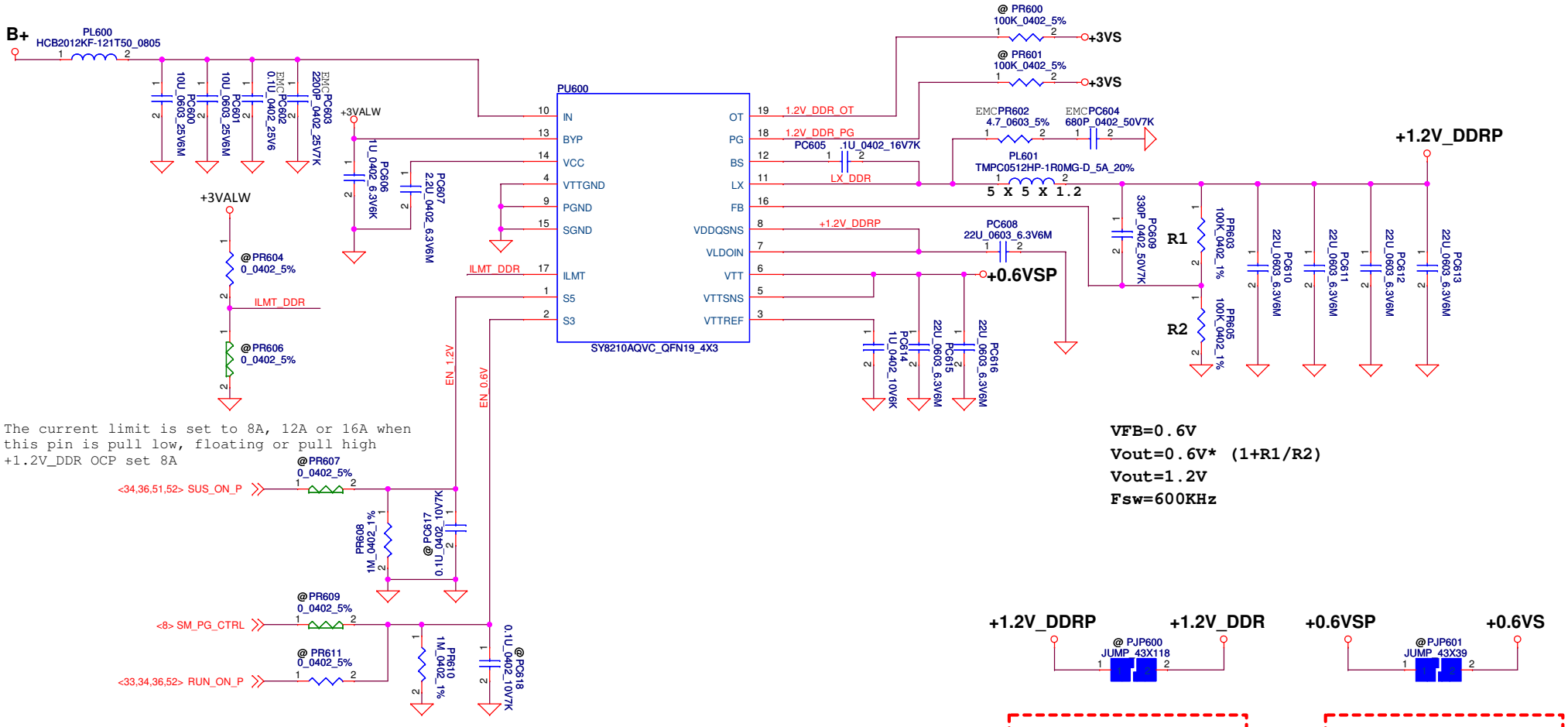
Size | Document Number: LA-C881P | Rev: 0.4

Date: Tuesday, October 13, 2015 | Sheet 47 of 59



Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.			
Title	P48-PWR_+3VALW_+5VALW		
Size	Document Number		Rev
	LA-C881P		0.4
Date:	Tuesday, October 13, 2015	Sheet	48 of 59



The current limit is set to 8A, 12A or 16A when this pin is pull low, floating or pull high
+1.2V_DDR OCP set 8A

VFB=0.6V
Vout=0.6V* (1+R1/R2)
Vout=1.2V
Fsw=600KHz

Mode	S3	S5	VOUT	VTT
Normal	H	H	on	on
Stadby	L	H	on	off
Shutdown	L	L	off	off

Note: S3 - sleep ; S5 - power off

+1.2V_DDRP +1.2V_DDR
@PJP600 JUMP_43X118

+0.6VSP +0.6VS
@PJP601 JUMP_43X39

+1.2V_DDR
TDC 4.1A
Peak Current 5.8A
OCP Current 8A

0.6Volt +/- 5%
TDC 0.4A
Peak Current 0.6A
OCP Current 2A (fix)

DDR controller(35.3), Support component(35.4)

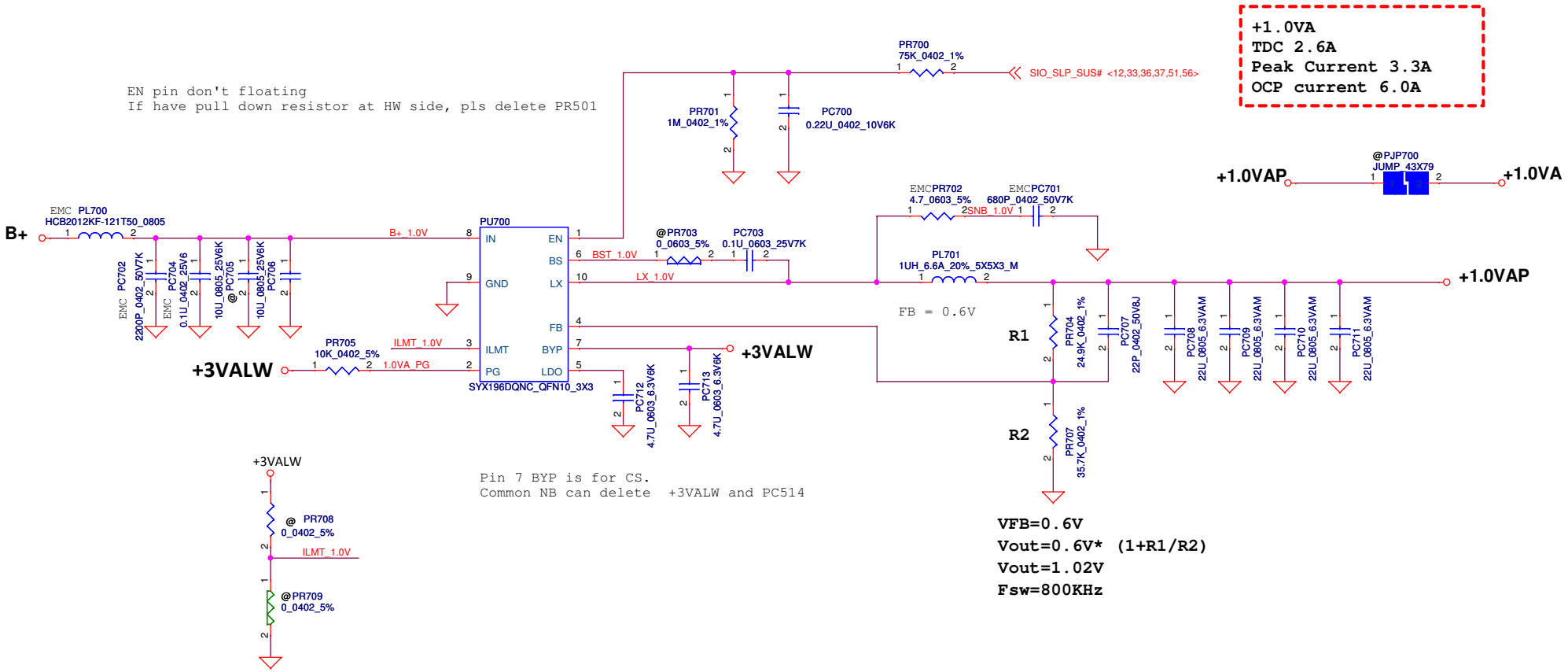
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P49-PWR_+1.2V_DDR/0.6VS

Size | Document Number: LA-C881P | Rev: 0.4

Date: Tuesday, October 13, 2015 | Sheet 49 of 59



1.05V controller(35.5), Support component(35.6)

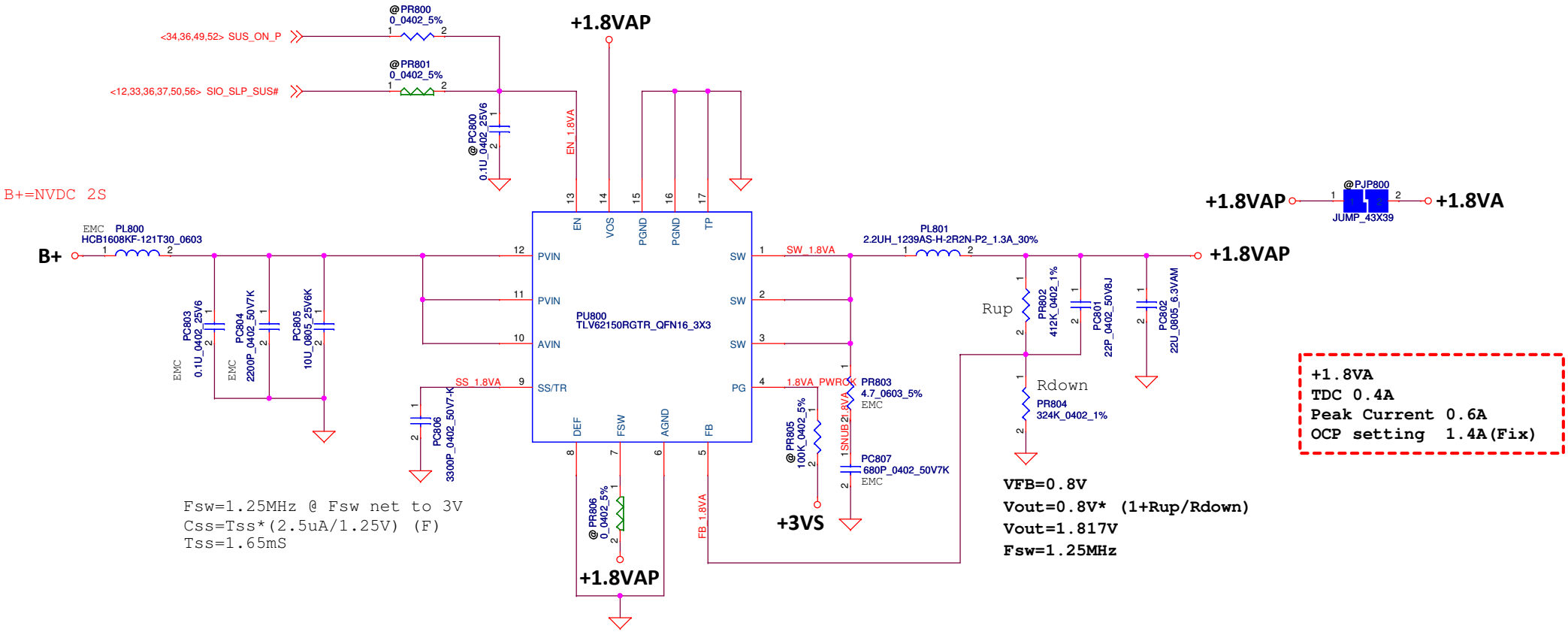
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P50-PWR_+1.0VA

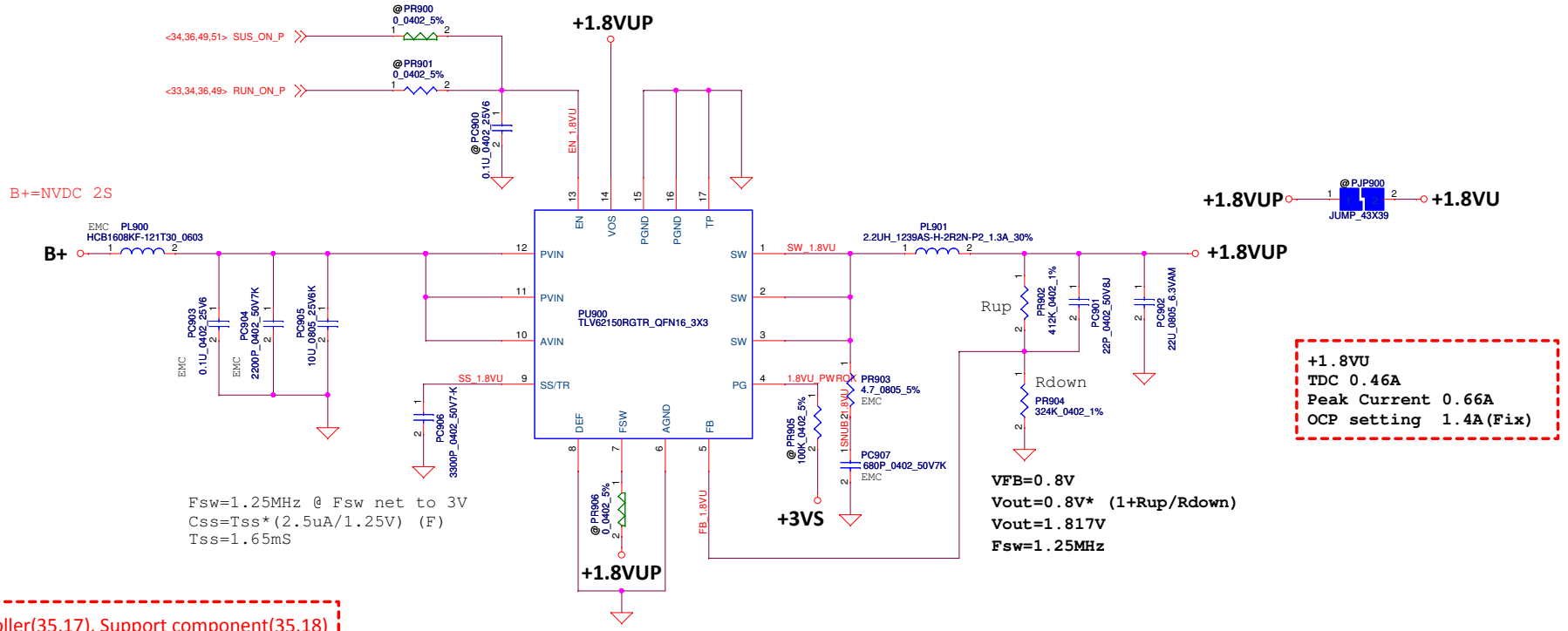
Size | Document Number: LA-C881P | Rev: 0.4

Date: Tuesday, October 13, 2015 | Sheet 50 of 59



Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

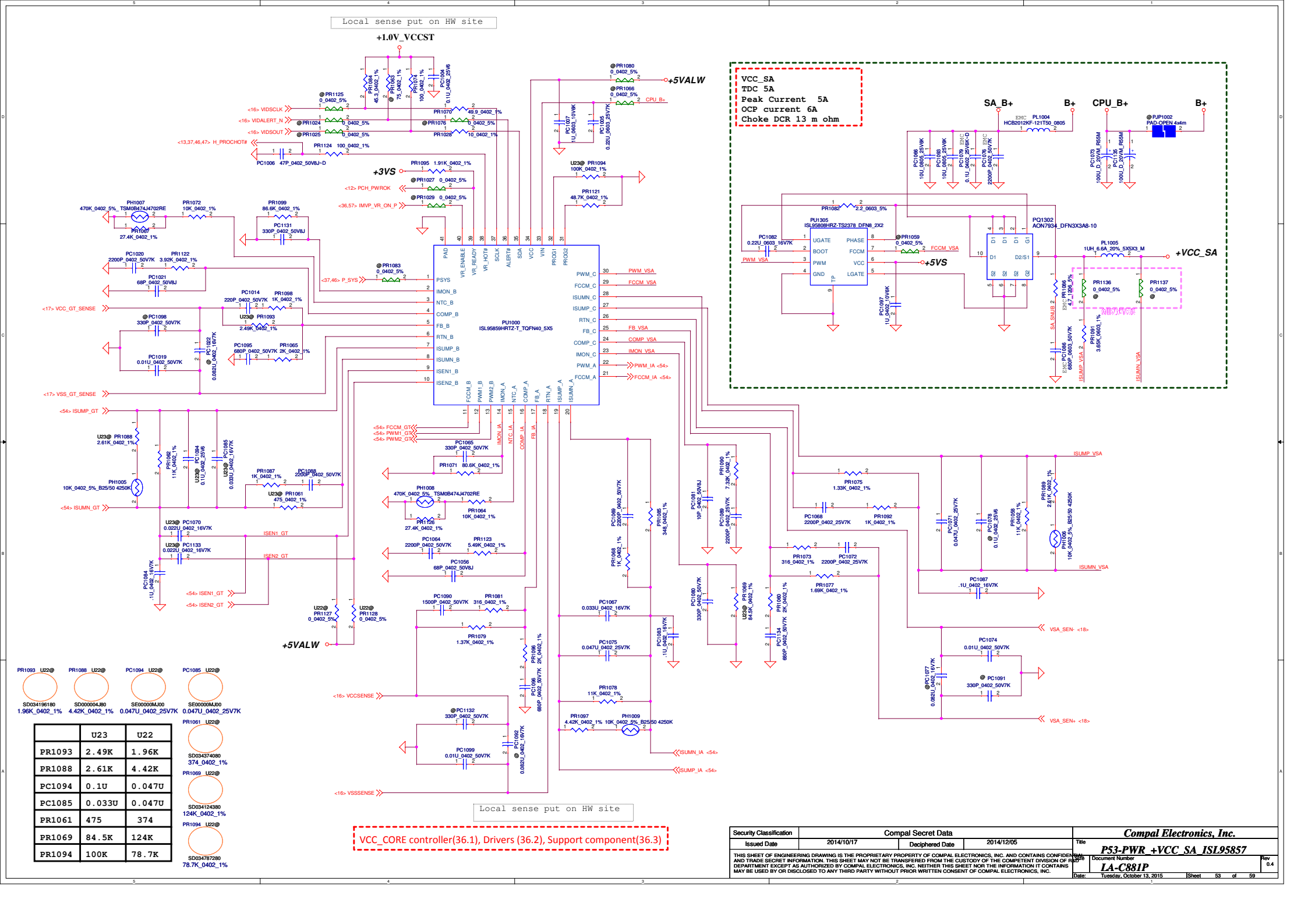
Compal Electronics, Inc.			
Title: P51-PWR_+1.8VS			
Size	Document Number: LA-C881P		Rev: 0.4
Date: Tuesday, October 13, 2015	Sheet 51 of 59		



1.8VU controller(35.17), Support component(35.18)

Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.		
Title: P52-PWR_+1.8VU		
Size	Document Number: LA-C881P	Rev: 0.4
Date: Tuesday, October 13, 2015	Sheet 52 of 59	



	U23	U22
PR1093	2.49K	1.96K
PR1088	2.61K	4.42K
PC1094	0.1U	0.047U
PC1085	0.033U	0.047U
PR1061	475	374
PR1069	84.5K	124K
PR1094	100K	78.7K

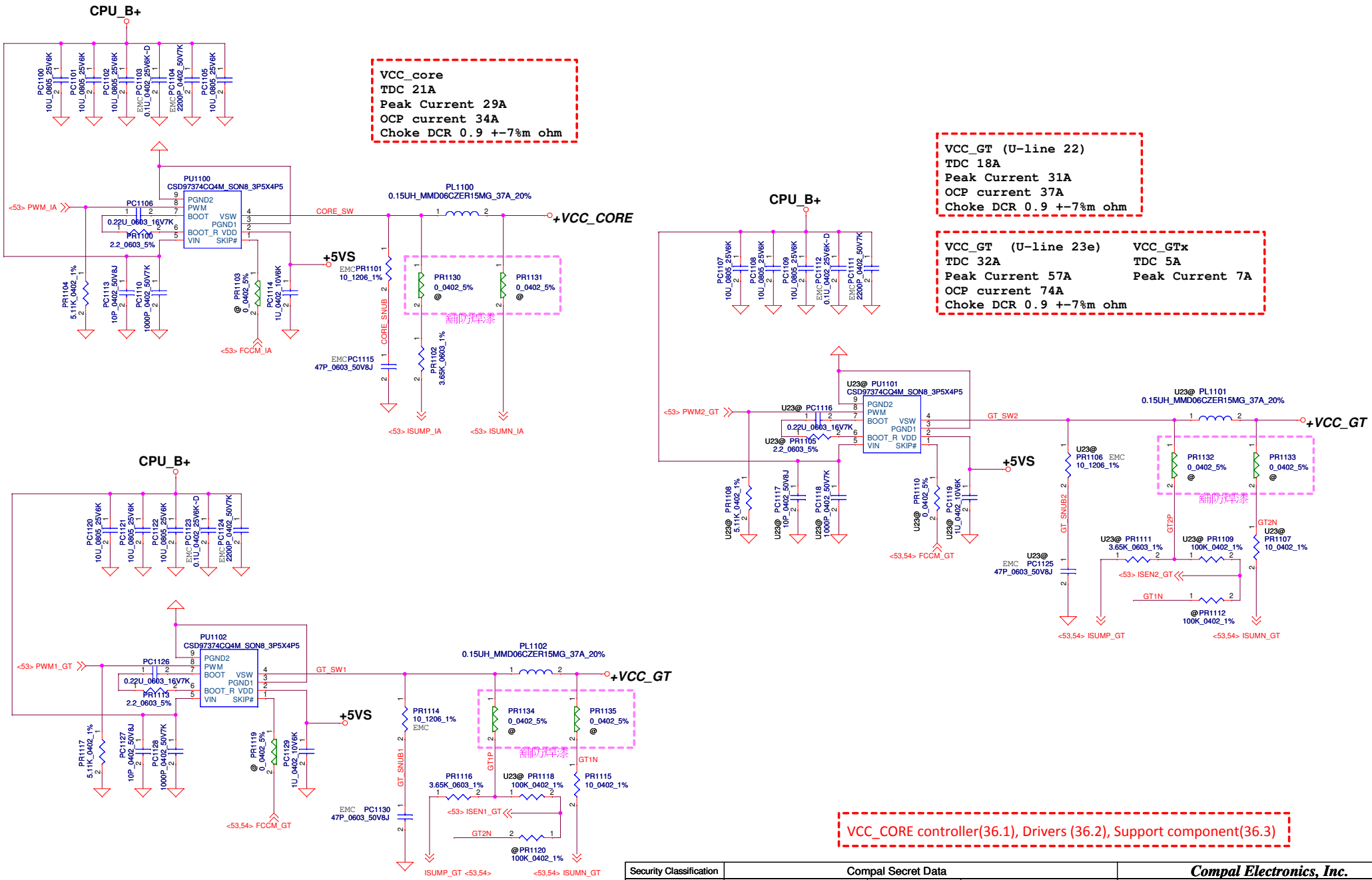
Security Classification	Compal Secret Data
Issued Date	2014/10/17
Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P53-PWR_+VCC_SA_ISL95857

Size: D | Document Number: LA-C881P | Rev: 0.4

Date: Tuesday, October 13, 2015 | Sheet 53 of 59



Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

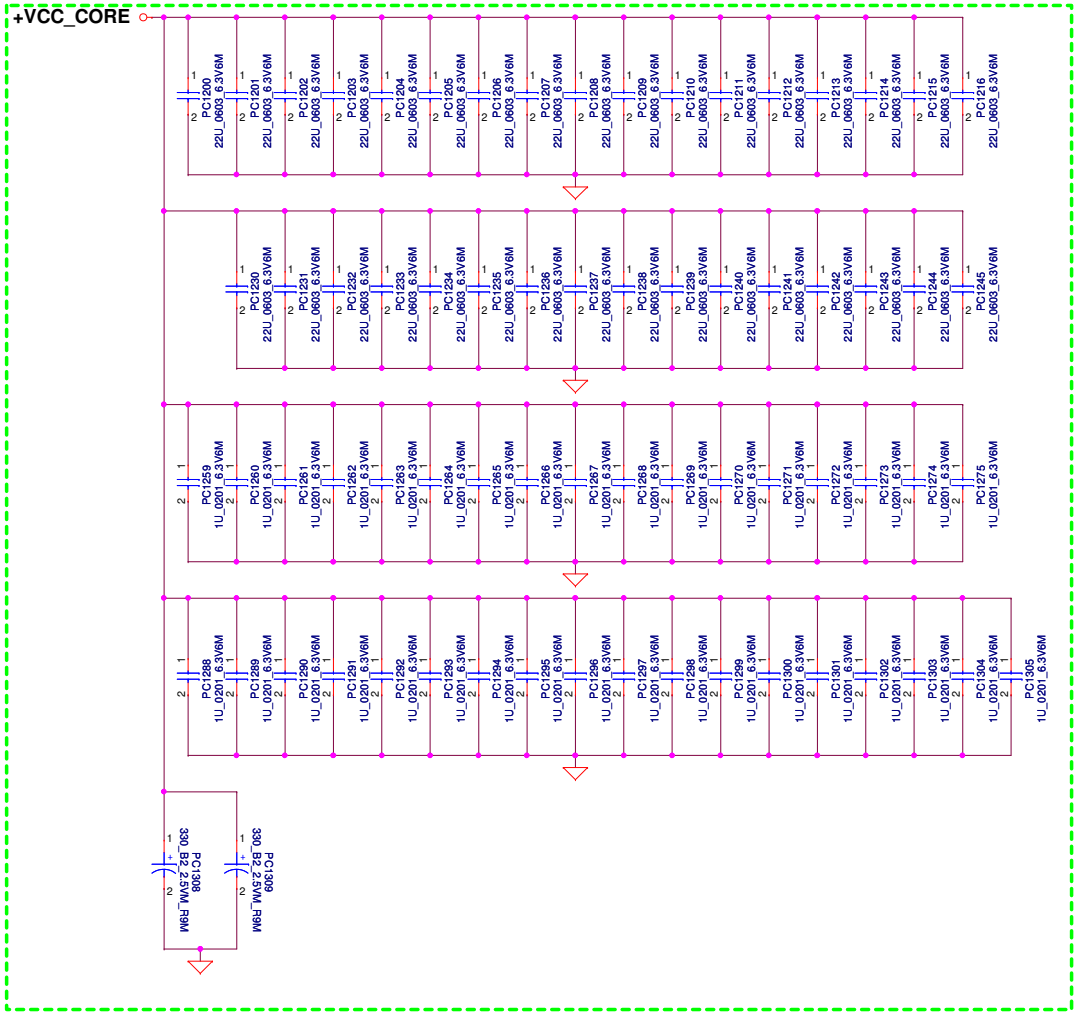
Title: **P54-PWR_+VCC_CORE/GT**

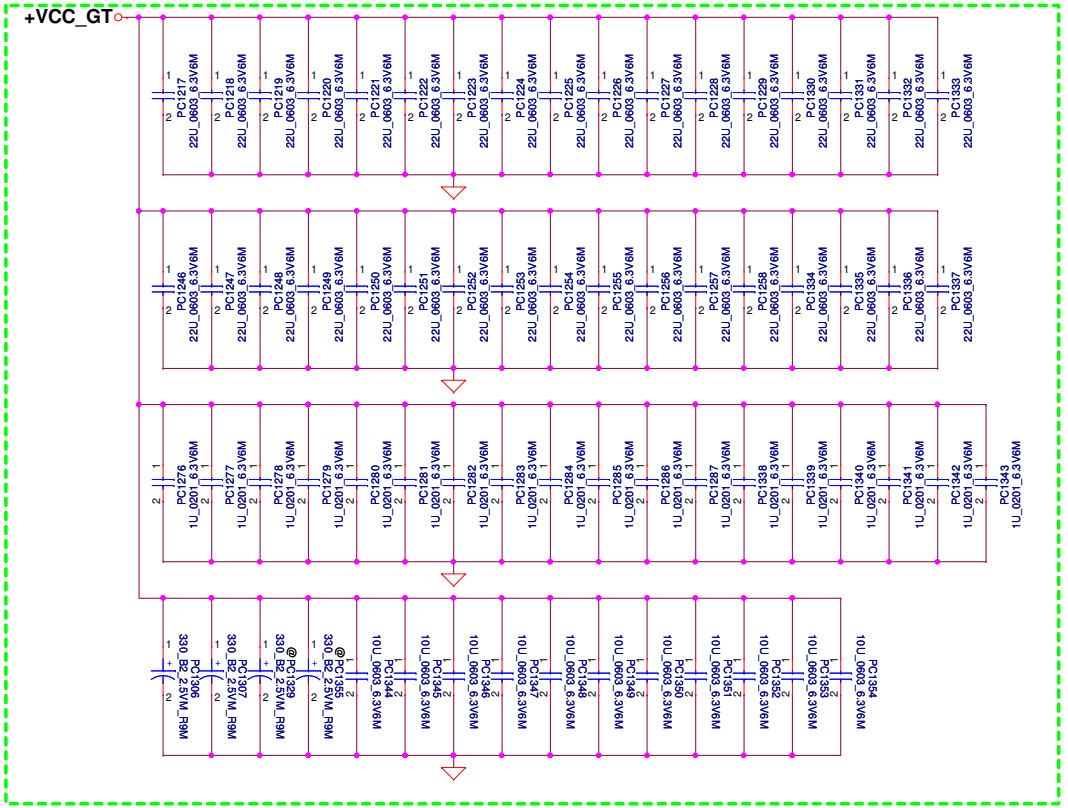
Size | Document Number: **LA-C881P** | Rev: 0.4

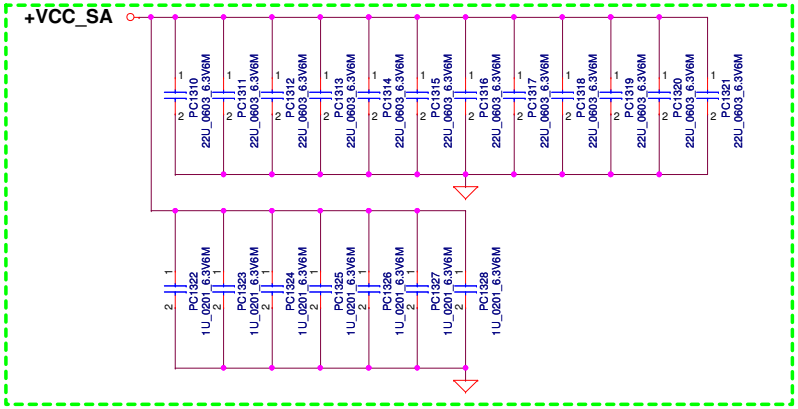
Date: Tuesday, October 13, 2015 | Sheet 54 of 59

VCC_CORE Place on CPU
TOP Side.
22U_0603 * 26 pcs +1U_0201*33 pcs
Bottom Side.
330u_D2*2 pcs + 22U_0603 * 7 pcs + 1U_0201 *2

VCC_GT Place on CPU
TOP Side.
22U_0603 * 34 pcs +10U_0603*11 pcs +1U_0201*18 pcs
Bottom Side.
330u_B2*4 pcs







VCC_SA Place on CPU
TOP Side.
22U_0603 * 10 pcs + 1U_0201*7 pcs
Bottom Side.
22U_0603 * 2 pcs

VCC_CORE output cap(36.4), VCC_GT output cap(36.5), VCC_SA output cap(36.6)

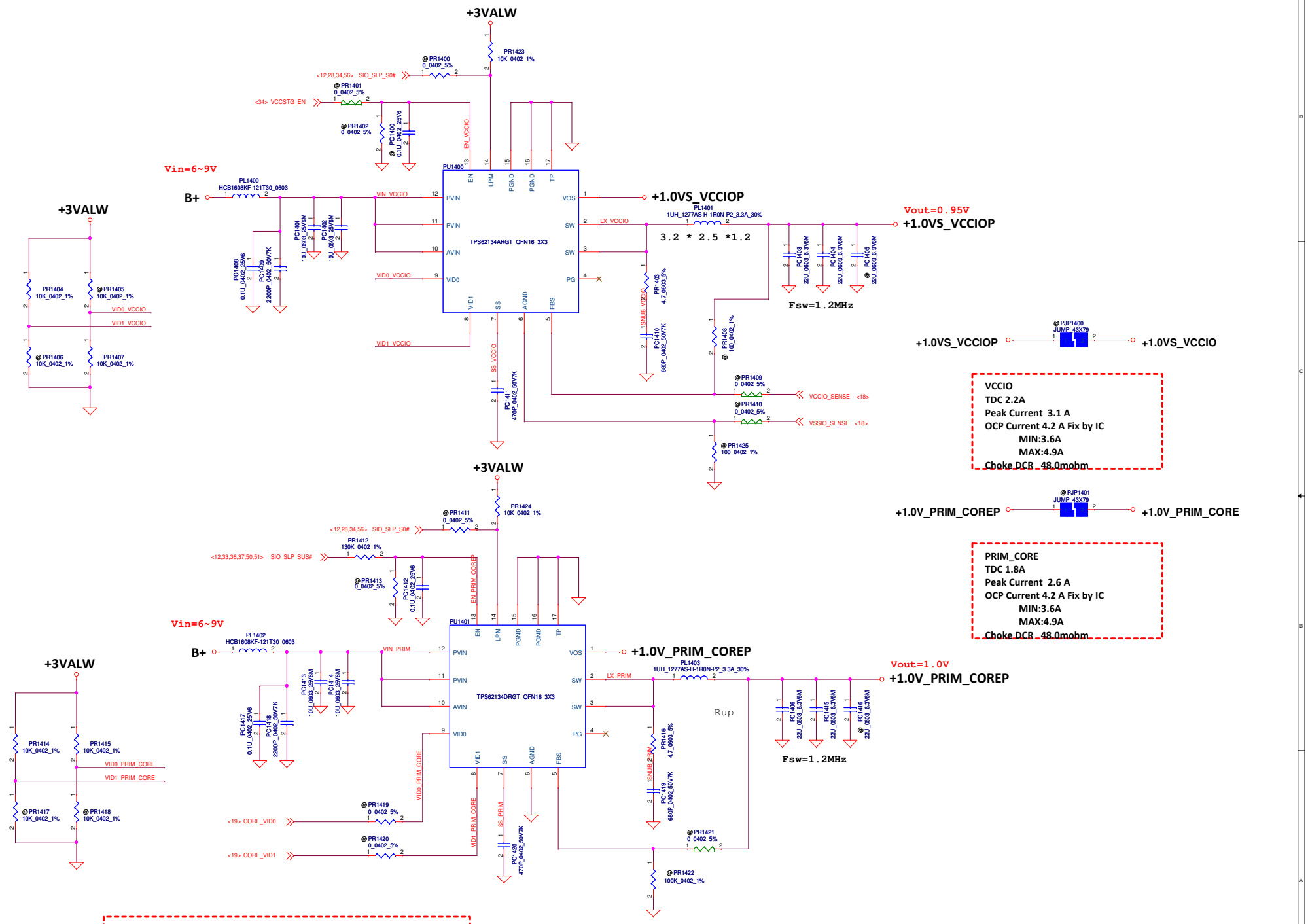
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.

Title: P55-PWR_CPU BACK SIDE MLCC

Size: B | Document Number: LA-C881P | Rev: 0.4

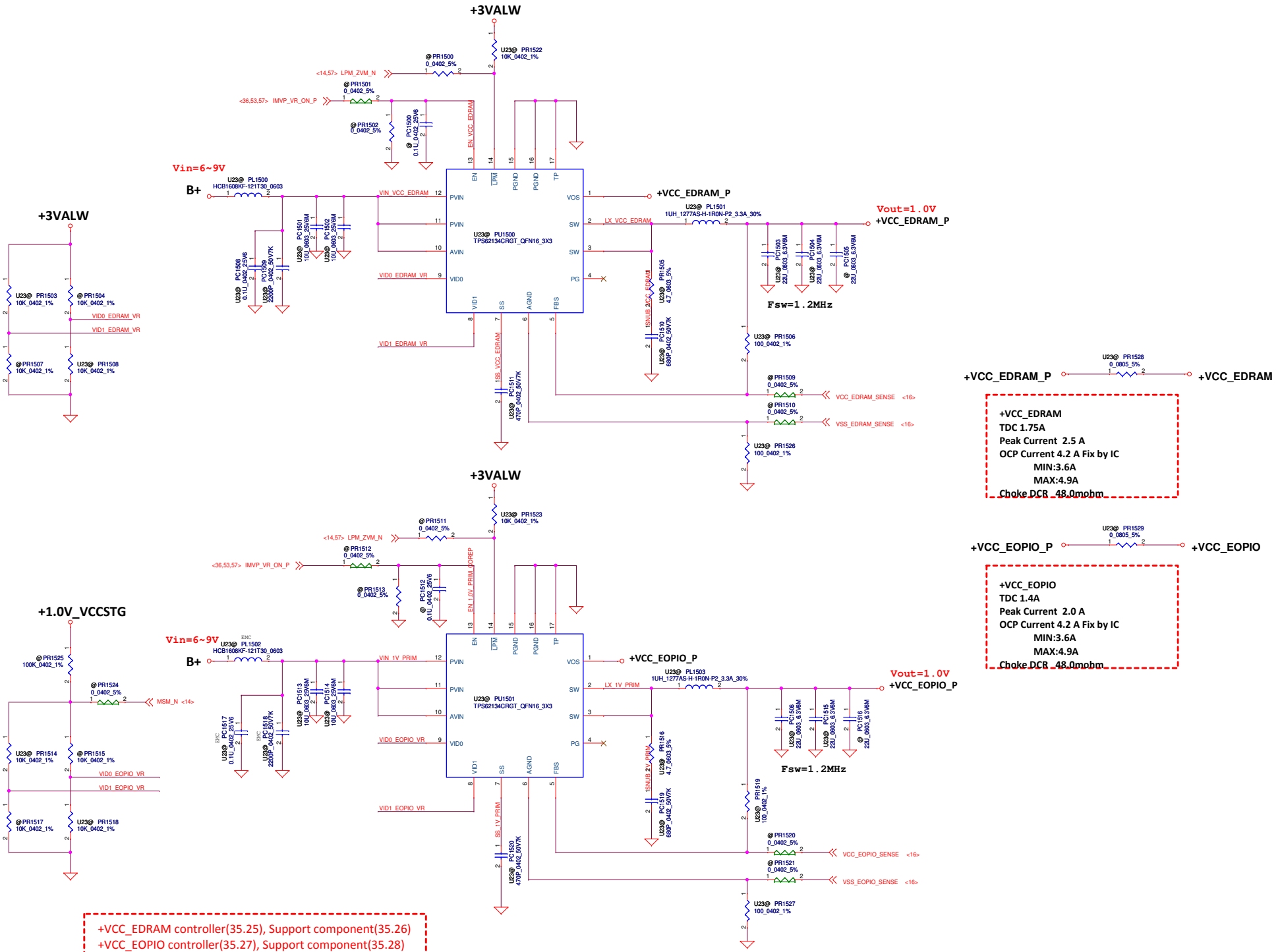
Date: Tuesday, October 13, 2015 | Sheet 55 of 59



+1.0VS_VCCIOP controller(35.21), Support component(35.22)
+1.0V_PRIM_CORE controller(35.23), Support component(35.24)

Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.			
Title	P56-PWR_VCCIO/PRIM_CORE		
Size	Document Number		Rev
	LA-C881P		0.4
Date:	Tuesday, October 13, 2015	Sheet	56 of 59



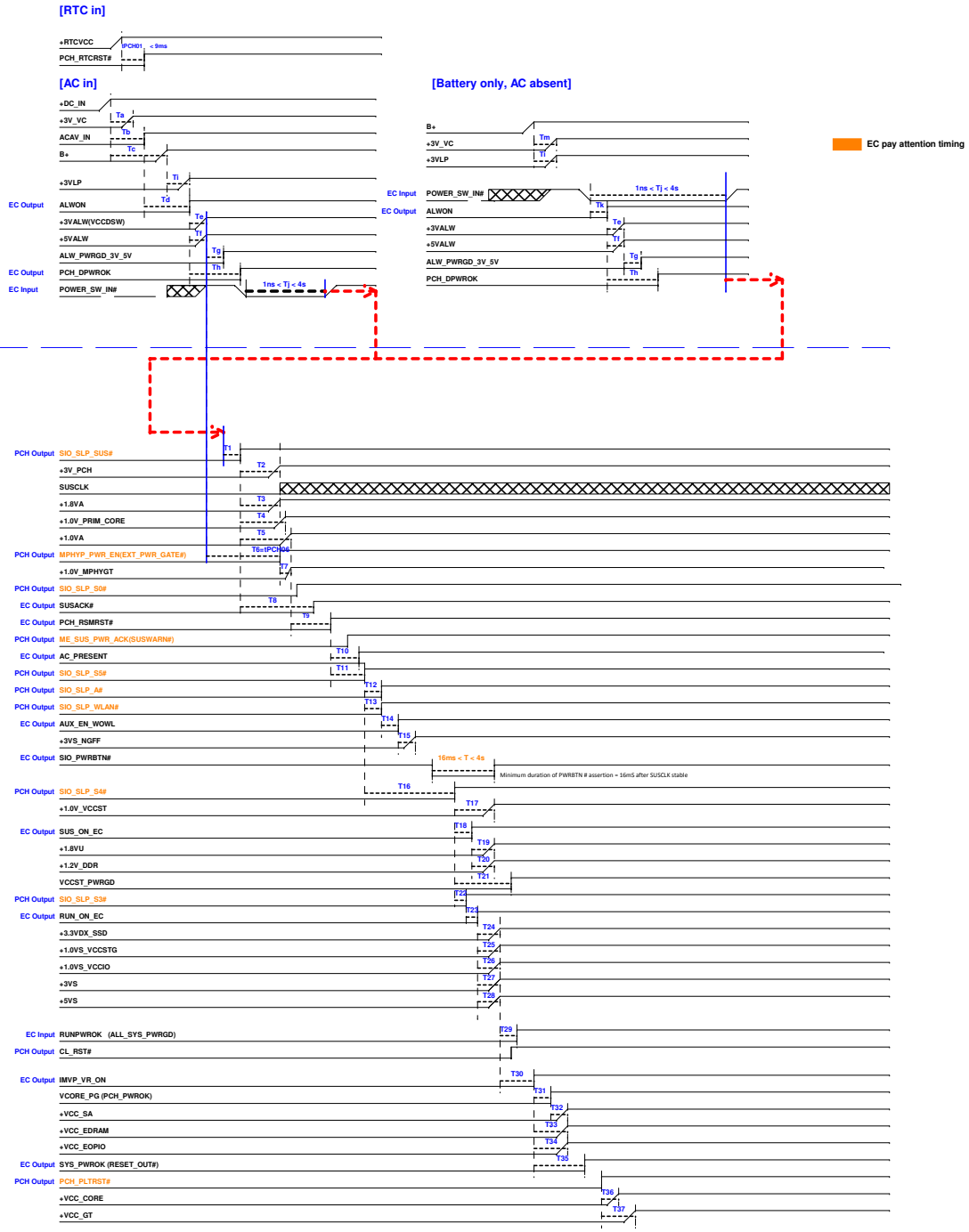
Security Classification	Compal Secret Data		
Issued Date	2014/10/17	Deciphered Date	2014/12/05

Compal Electronics, Inc.			
Title	P57-PWR_VCC_EDRAM/EOPIO		
Size	Document Number		Rev
	LA-C881P		0.4
Date:	Tuesday, October 13, 2015	Sheet	57 of 59

Version Change List (P. I. R. List)

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	P44	PQ206A	2015/09/15	Henry Chen		PQ206A change to POP	
2	P44	PU201B	2015/09/15	Henry Chen		PU201B change to NC	
3	P44	PD206	2015/09/15	Henry Chen		PD206 change to NC	
4	P44	PR236, PR238	2015/09/15	Henry Chen		PR236, PR238 change to NC	

Discrete Power On Sequence



[AC in]

ITEM	Measure Point			Time
Ta	+DC_IN	To	+3V_VC	
Tb	+DC_IN	To	ACAV_IN	
Tc	+DC_IN	To	B+	
Td	ACAV_IN	To	ALWON	
Te	ALWON	To	+3VALW	
Tf	ALWON	To	+5VALW	
Tg	+3VALW	To	ALW_PWRGD_3V_5V	
Th	ALWON	To	PCH_DPWROK	
Ti	B+	To	+3VLP	
Tj	POWER_SW_IN#	To	POWER_SW_IN#	

[Battery only, AC absent]

ITEM	Measure Point			Time
Te	ALWON	To	+3VALW	
Tf	ALWON	To	+5VALW	
Tg	+3VALW	To	ALW_PWRGD_3V_5V	
Th	ALWON	To	PCH_DPWROK	
Ti	B+	To	+3VLP	
Tj	POWER_SW_IN#	To	POWER_SW_IN#	
Tk	POWER_SW_IN#	To	ALWON	
Tm	B+	To	+3V_VC	

ITEM	Measure Point			Time
T1	+3VALW	To	SIO_SLP_SUS#	
T2	SIO_SLP_SUS#	To	+3V_PCH	
T3	SIO_SLP_SUS#	To	+1.8VA	
T4	SIO_SLP_SUS#	To	+1.0V_PRIM_CORE	
T5	SIO_SLP_SUS#	To	+1.0VA	
T6	+3VALW	To	MPHYP_PWR_EN	
T7	MPHYP_PWR_EN	To	+1.0V_MPHYGT	
T8	SIO_SLP_SUS#	To	SUSACK#	
T9	+1.0VA	To	PCH_RSMRST#	
T10	PCH_RSMRST#	To	AC_PRESENT	
T11	PCH_RSMRST#	To	SIO_SLP_S5#	
T12	SIO_SLP_S5#	To	SIO_SLP_A#	
T13	SIO_SLP_S5#	To	SIO_SLP_WLAN#	
T14	SIO_SLP_WLAN#	To	AUX_EN_WOWL	
T15	AUX_EN_WOWL	To	+3VS_NGFF	
T16	SIO_SLP_S5#	To	SIO_SLP_S4#	
T17	SIO_SLP_S4#	To	+1.0V_VCCST	
T18	SIO_SLP_S4#	To	SUS_ON_EC	
T19	SUS_ON_EC	To	+1.8VU	
T20	SUS_ON_EC	To	+1.2V_DDR	
T21	SIO_SLP_S4#	To	VCCST_PWRGD	
T22	SIO_SLP_S4#	To	SIO_SLP_S3#	
T23	SIO_SLP_S3#	To	RUN_ON_EC	
T24	RUN_ON_EC	To	+3.3VDX_SSD	
T25	RUN_ON_EC	To	+1.0VS_VCCSTG	
T26	RUN_ON_EC	To	+1.0VS_VCCIO	
T27	RUN_ON_EC	To	+3VS	
T28	RUN_ON_EC	To	+5VS	
T29	+3VS	To	RUNPWROK	
T30	+3VS	To	IMVP_VR_ON	
T31	IMVP_VR_ON	To	VCORE_PG (PCH_PWROK)	
T32	VCORE_PG (PCH_PWROK)	To	+VCC_SA	
T33	IMVP_VR_ON	To	+VCC_EDRAM	
T34	IMVP_VR_ON	To	+VCC_EOPIO	
T35	IMVP_VR_ON	To	SYS_PWROK (RESET_OUT#)	
T36	PCH_PLTRST#	To	+VCC_CORE	
T37	PCH_PLTRST#	To	+VCC_GT	

Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2011/05/02	Deciphered Date	2013/10/28
Title	P59-Power Up Sequence		
Size	Document Number	Rev	
	LA-C881P	0.4	
Date: Tuesday, October 29, 2013	Sheet 38 of 39		