MODEL NAME : Maple
PCB NO : DA8000WL000 LA-B012PR01

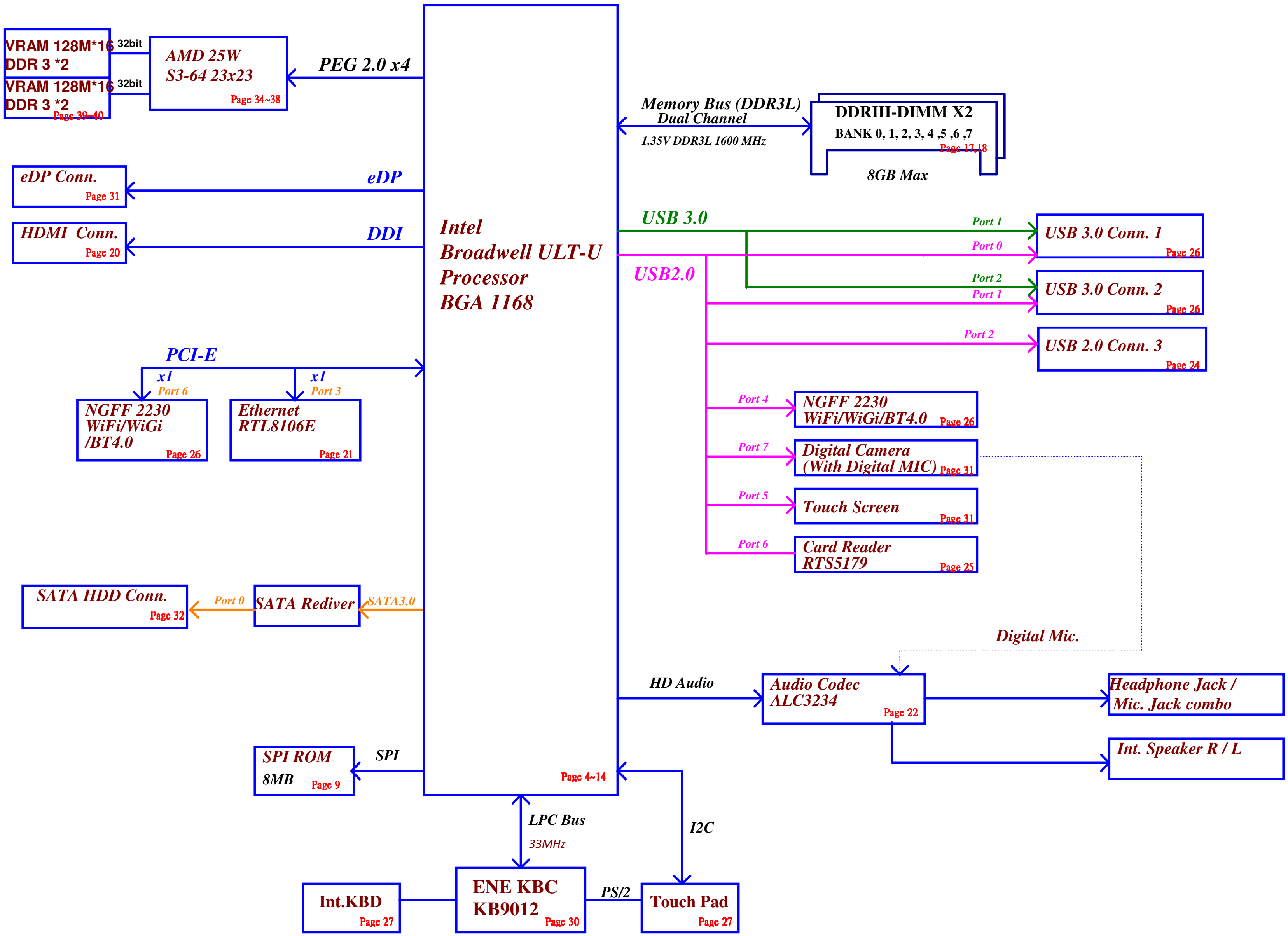
Dell / Compal Confidential

Schematic Document

Intel Shark Bay ULT
Maple 14"/15" Value
UMA / DIS AMD 25W/S3+DDR3x4

2014-01-21 Rev: 1.0

Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: MCP(1,2/19) eDP,XDP,MISC
				Size: Document Number: LA-B012P Rev: 1.0
				Date: Tuesday, August 05, 2014 Sheet 1 of 55



Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title	MCP(1,2/19) eDP,XDP,MISC	
Size	Document Number LA-B012P	Rev 1.0
Date: Tuesday, August 05, 2014	Sheet 2 of 55	

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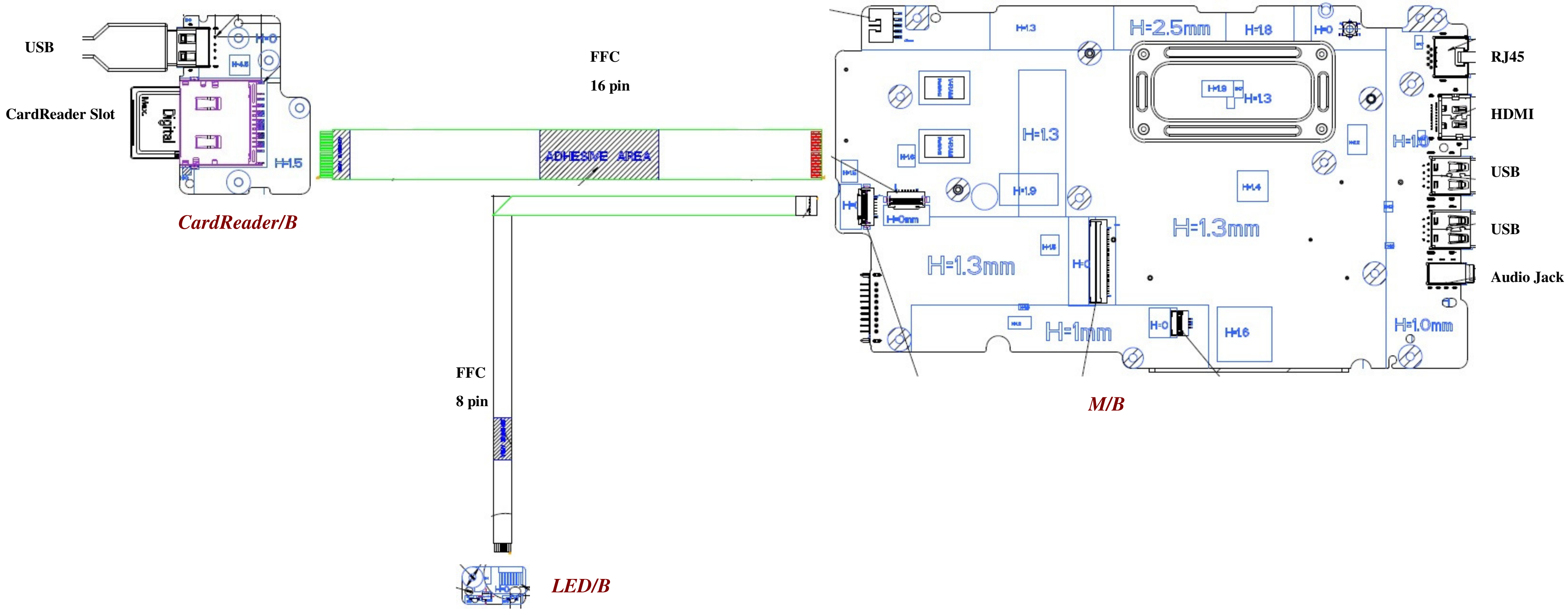
File Name : LA-B012P



Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: MCP(1,2/19) eDP,XDP,MISC
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				Date: Tuesday, August 05, 2014; Sheet 3 of 55

Board ID Table for AD channel

Vcc	3.3V +/- 1%
Ra	100K +/- 1%

Board ID	Rb	V_{AD_BID} min	V_{AD_BID} typ	V_{AD_BID} max	EC AD3
0	0	0.000V	0.000V	0.300V	0x00 - 0x0B
1	12K +/- 1%	0.347V	0.354V	0.360V	0x0C - 0x1C
2	15K +/- 1%	0.423V	0.430V	0.438V	0x1D - 0x26
3	20K +/- 1%	0.541V	0.550V	0.559V	0x27 - 0x30
4	27K +/- 1%	0.691V	0.702V	0.713V	0x31 - 0x3B
5	33K +/- 1%	0.807V	0.819V	0.831V	0x3C - 0x46
6	43K +/- 1%	0.978V	0.992V	1.006V	0x47 - 0x54
7	56K +/- 1%	1.169V	1.185V	1.200V	0x55 - 0x64
8	75K +/- 1%	1.398V	1.414V	1.430V	0x65 - 0x76
9	100K +/- 1%	1.634V	1.650V	1.667V	0x77 - 0x87
10	130K +/- 1%	1.849V	1.865V	1.881V	0x88 - 0x96
11	160K +/- 1%	2.015V	2.031V	2.046V	0x97 - 0xA3
12	200K +/- 1%	2.185V	2.200V	2.215V	0xA4 - 0xAD
13	240K +/- 1%	2.316V	2.329V	2.343V	0xAE - 0xB7
14	270K +/- 1%	2.395V	2.408V	2.421V	0xB8 - 0xC0
15	330K +/- 1%	2.521V	2.533V	2.544V	0xC1 - 0xC9
16	430K +/- 1%	2.667V	2.677V	2.687V	0xCA - 0xD3
17	560K +/- 1%	2.791V	2.800V	2.808V	0xD4 - 0xDC
18	750K +/- 1%	2.905V	2.912V	2.919V	0xDD - 0xE6
19	NC	3.000V	3.300V	3.300V	0xE7 - 0xFF

HSW BOARD ID Table

Board ID	UMA	DIS(JET)	DIS(Topaz)
0	SSI		
1		SSI	
2			SSI
3	PT		
4		PT	
5			PT
6	ST		
7		ST	
8			ST
9	1.0		
10		1.0	
11			1.0

BDW BOARD ID Table

Board ID	UMA	DIS(JET)	DIS(Topaz)
0	Pre-SSI		
1		Pre-SSI	
2			Pre-SSI
3	SSI		
4		SSI	
5			SSI
6	PT		
7		PT	
8			PT
9	ST		
10		ST	
11			ST
12	1.0		
13		1.0	
14			1.0

SMBUS Control Table

	SOURCE	BATT	Charger	VGA	DIMM	XDP	Thermal Sensor	FFS
EC_SMB_CK1 EC_SMB_DA1	KB9012	V	V					
EC_SMB_CK2 EC_SMB_DA2	KB9012			V			V	
SMBCLK SMBDATA	ULT				V	V		V
SML0CLK SML0DATA	ULT							
SML1CLK SML1DATA	ULT							

Link

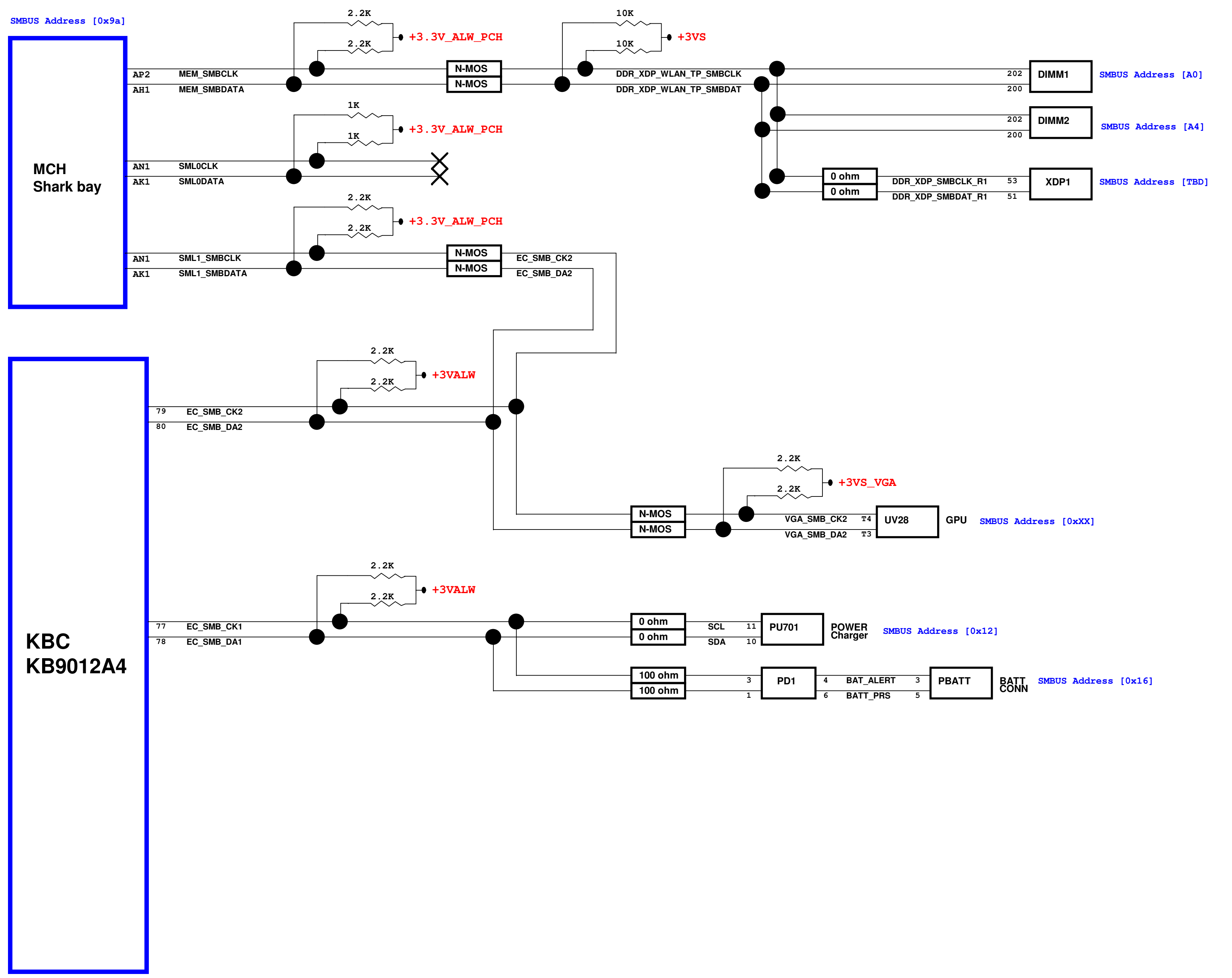
ULT		
	USB3.0	
	Port1	USB connector 1
	Port2	USB connector 2
	Port3	
	Port4	
	USB2.0	
	Port0	USB connector 1
	Port1	USB connector 2
	Port2	USB connector 3 (D/B)
	Port3	
	Port4	MINI Card (WLAN)
	Port5	Touch Screen Panel
	Port6	Card Reader
	Port7	Camera
	PCI EXPRESS	
	Lane 1	
	Lane 2	
	Lane 3	10/100 LAN
	Lane 4	MINI Card (WLAN)
	Lane 5	PEG (AMD JET/TOBAZ)
	Lane 6	
	SATA	
	SATA0	HDD
	SATA1	
	SATA2	
	SATA3	

CLOCK SIGNAL	
CLKOUT_PCIE0	
CLKOUT_PCIE1	
CLKOUT_PCIE2	10/100 LAN
CLKOUT_PCIE3	MINI Card (WLAN)
CLKOUT_PCIE4	dGPU
CLKOUT_PCIE5	

Symbol Note :

: means Digital Ground

: means Analog Ground



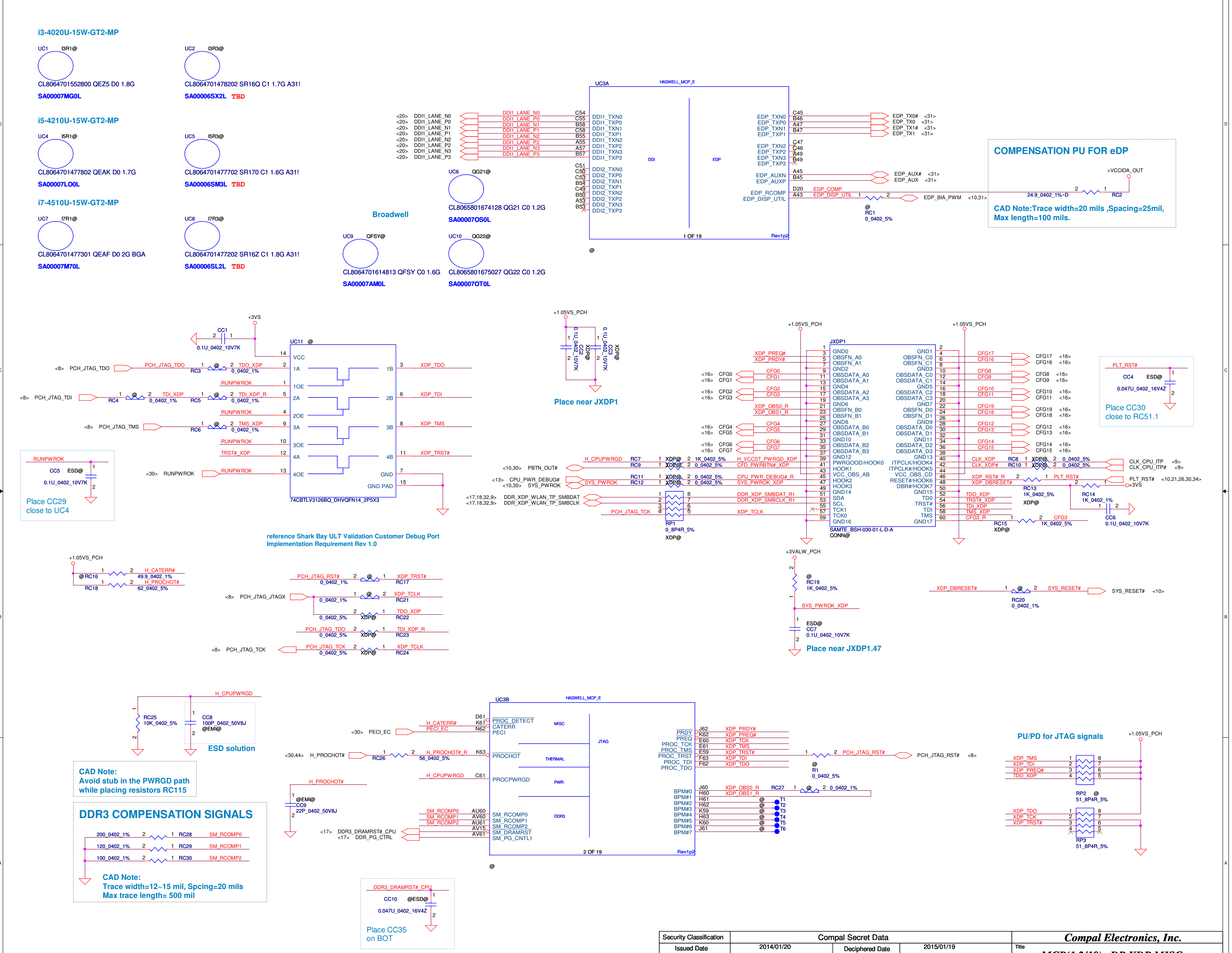
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: *MCP(1,2/19) eDP,XDP,MISC*

Size: A3 | Document Number: *LA-B012P* | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 5 of 55



Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

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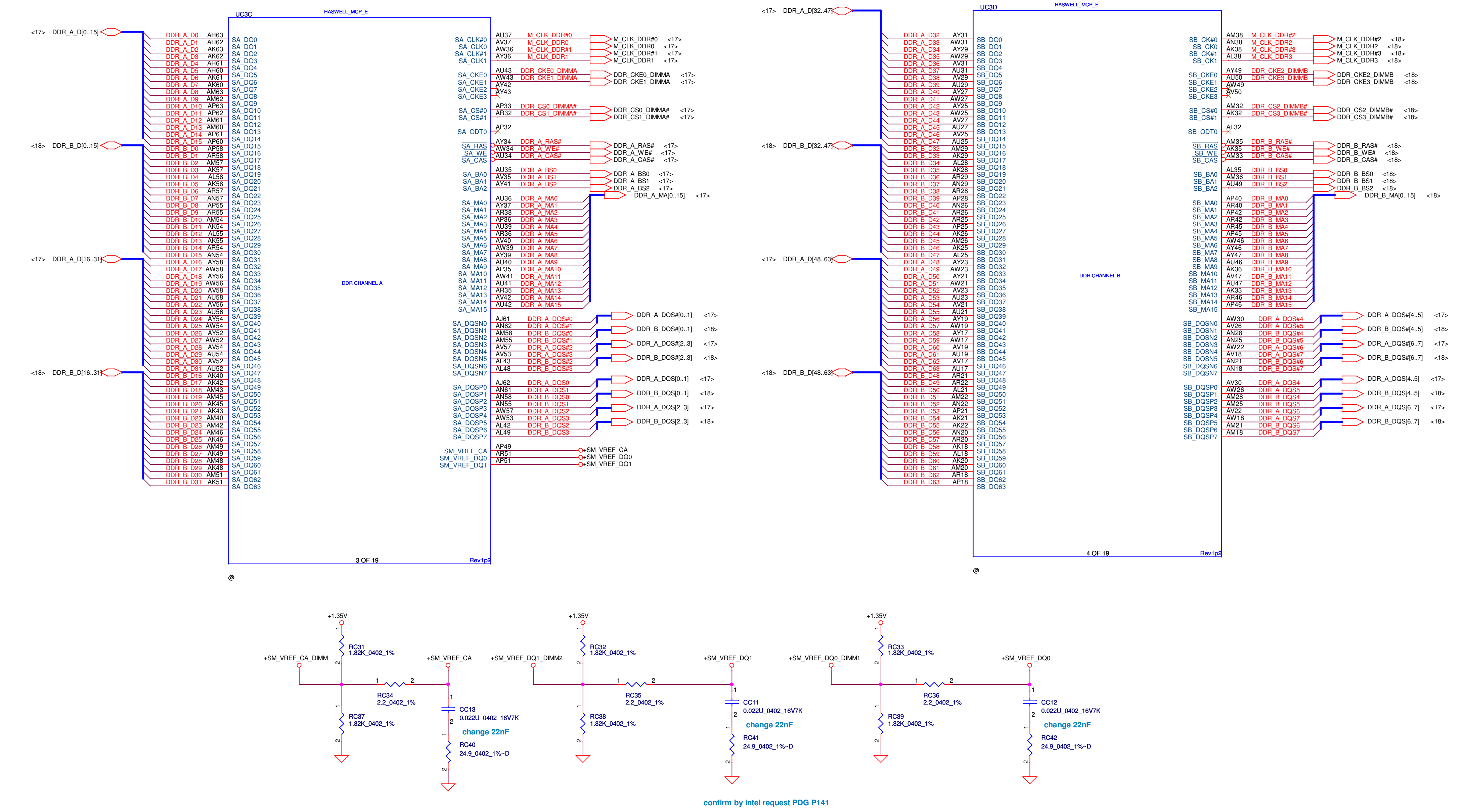
Compal Electronics, Inc.

Title: *MCP(1,2/19) eDP,XDP,MISC*

Size | Document Number: *LA-B012P* | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 6 of 55

Interleaved Memory

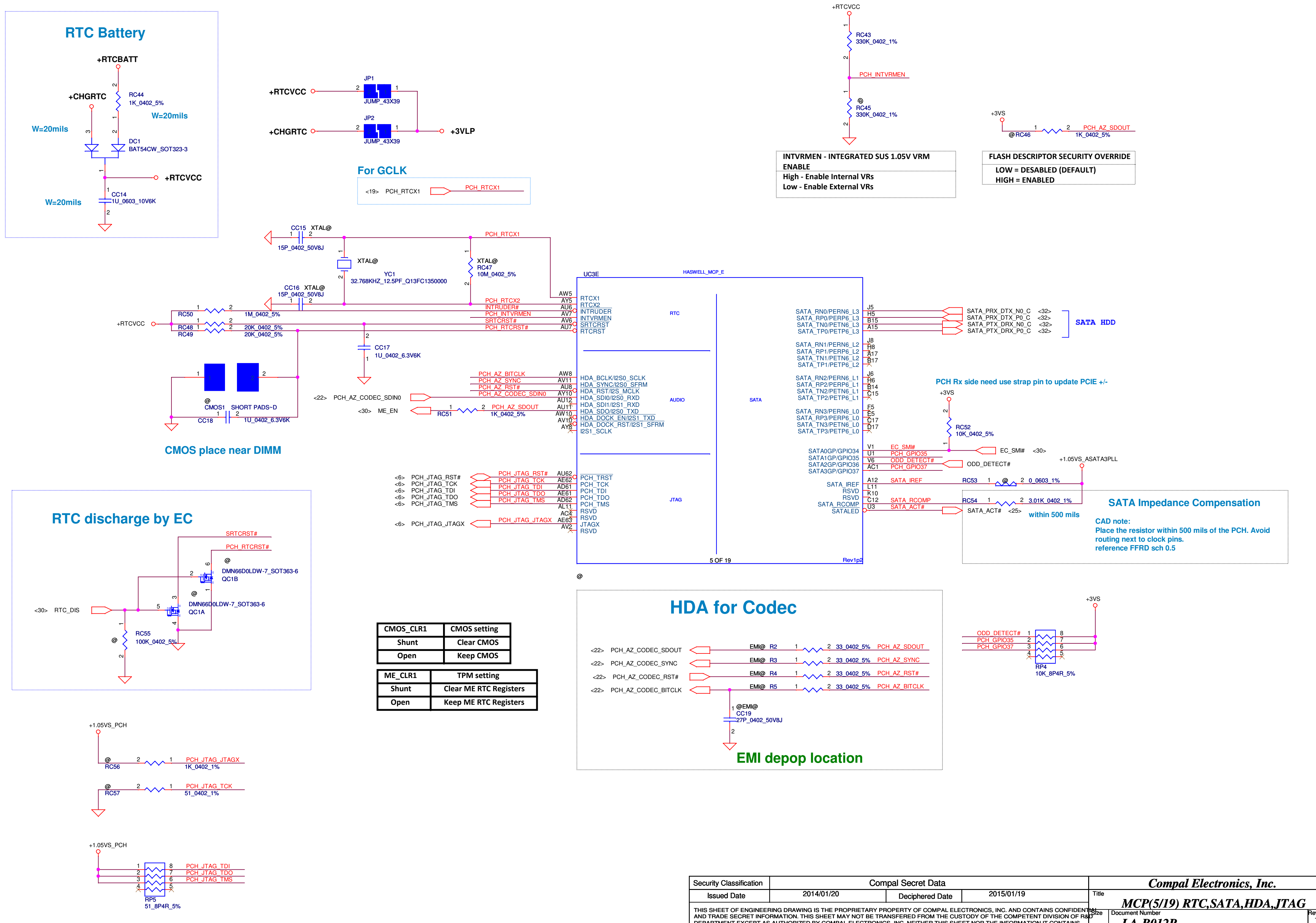


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: MCP(3,4/19) DDR3

Size | Document Number: LA-B012P | Rev: 1.0



CMOS_CLR1	CMOS setting
Shunt	Clear CMOS
Open	Keep CMOS

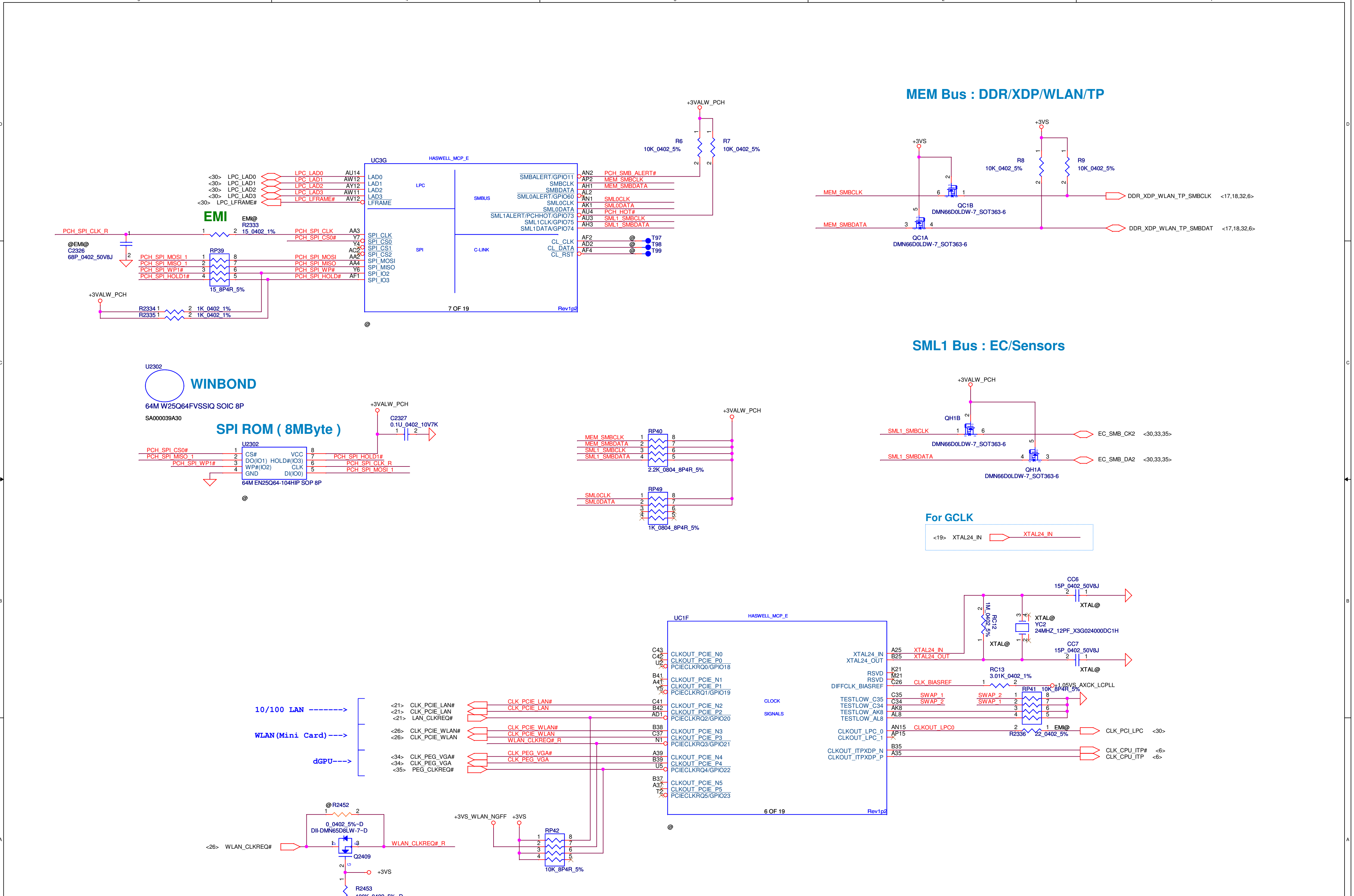
ME_CLR1	TPM setting
Shunt	Clear ME RTC Registers
Open	Keep ME RTC Registers

Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: *MCP(5/19) RTC,SATA,HDA,JTAG*

Size | Document Number: *LA-B012P* | Rev 1.0



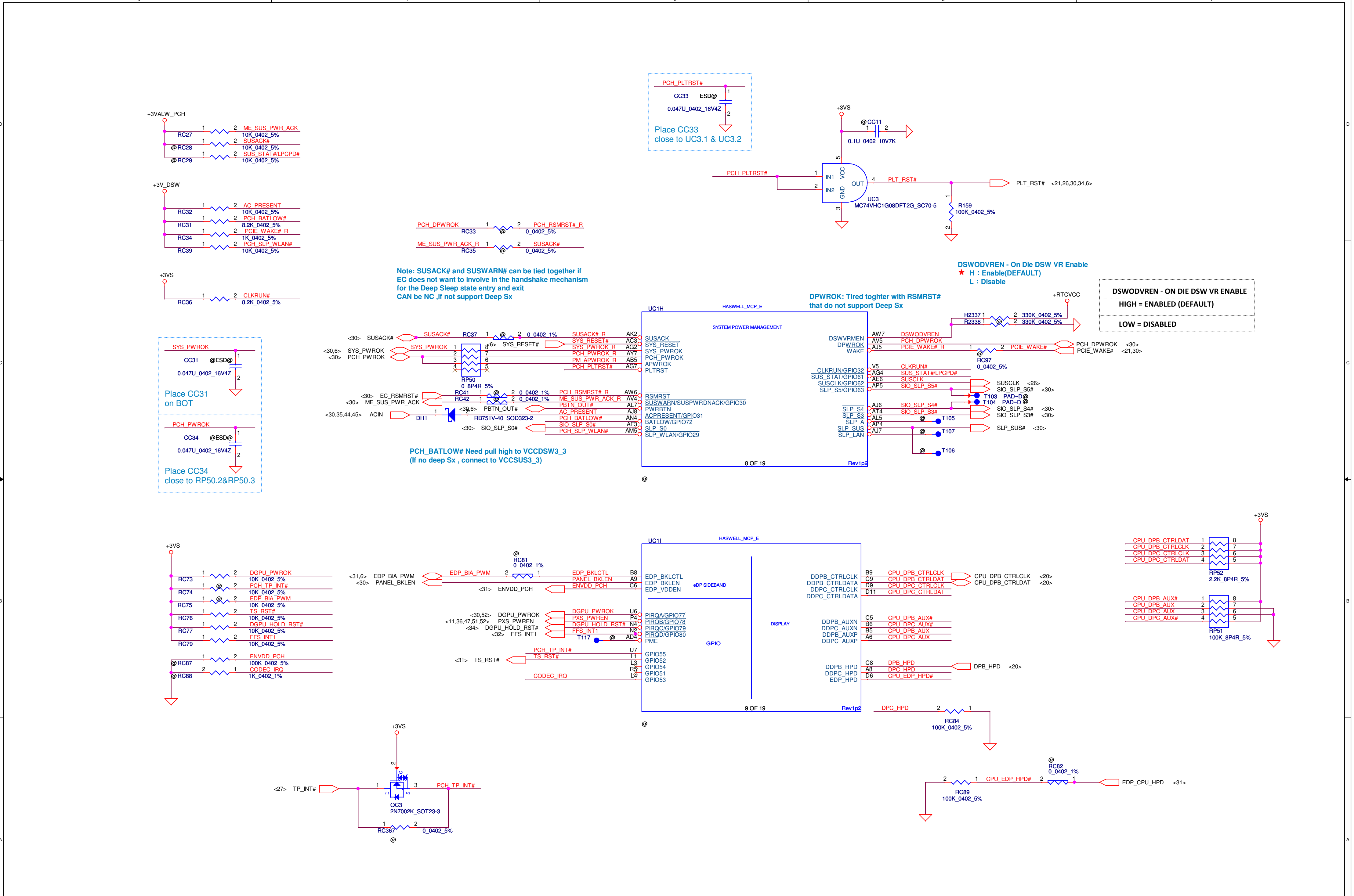
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: MCP(6,7/19) CLK,SMB,SPI,LPC

Size | Document Number: LA-B012P | Rev: 1.0

Date: Tuesday, August 05, 2014 | Sheet 9 of 55

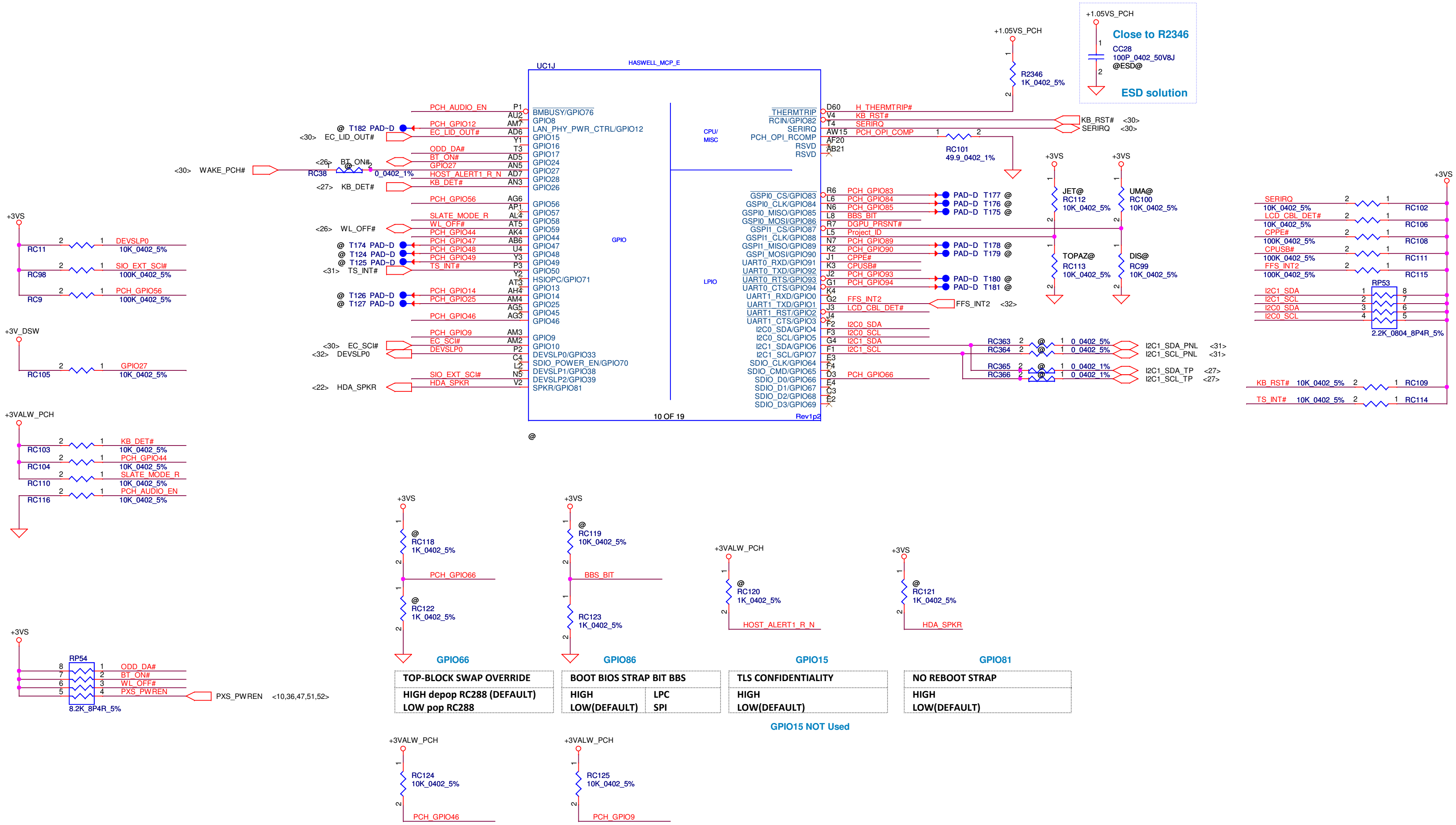


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: MCP(8,9/19) DDI,EDP,GPIO

Size | Document Number: LA-B012P | Rev: 1.0



TOP-BLOCK SWAP OVERRIDE
HIGH depop RC288 (DEFAULT)
LOW pop RC288

BOOT BIOS STRAP BIT BBS	
HIGH	LPC
LOW(DEFAULT)	SPI

TLS CONFIDENTIALITY
HIGH
LOW(DEFAULT)

GPIO15 NOT Used

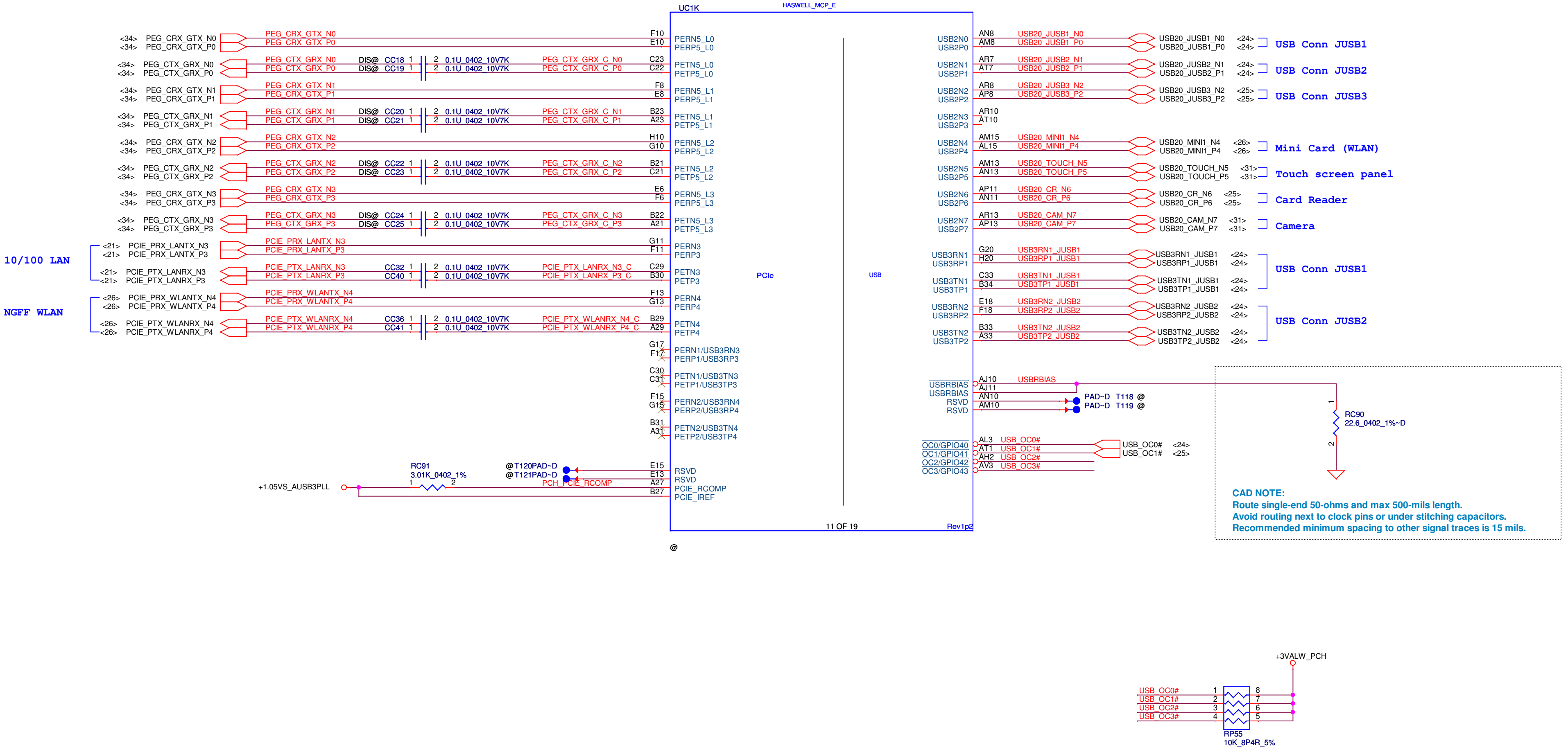
NO REBOOT STRAP
HIGH
LOW(DEFAULT)

Security Classification	Compal Secret Data	
Issued Date	2014/01/20	Deciphered Date 2015/01/19

Compal Electronics, Inc.

Title: **MCP(10/19) GPIO,LPIO,MISC**

Size | Document Number: **LA-B012P** | Rev 1.0



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Issued Date	2014/01/20	Deciphered Date	2015/01/19

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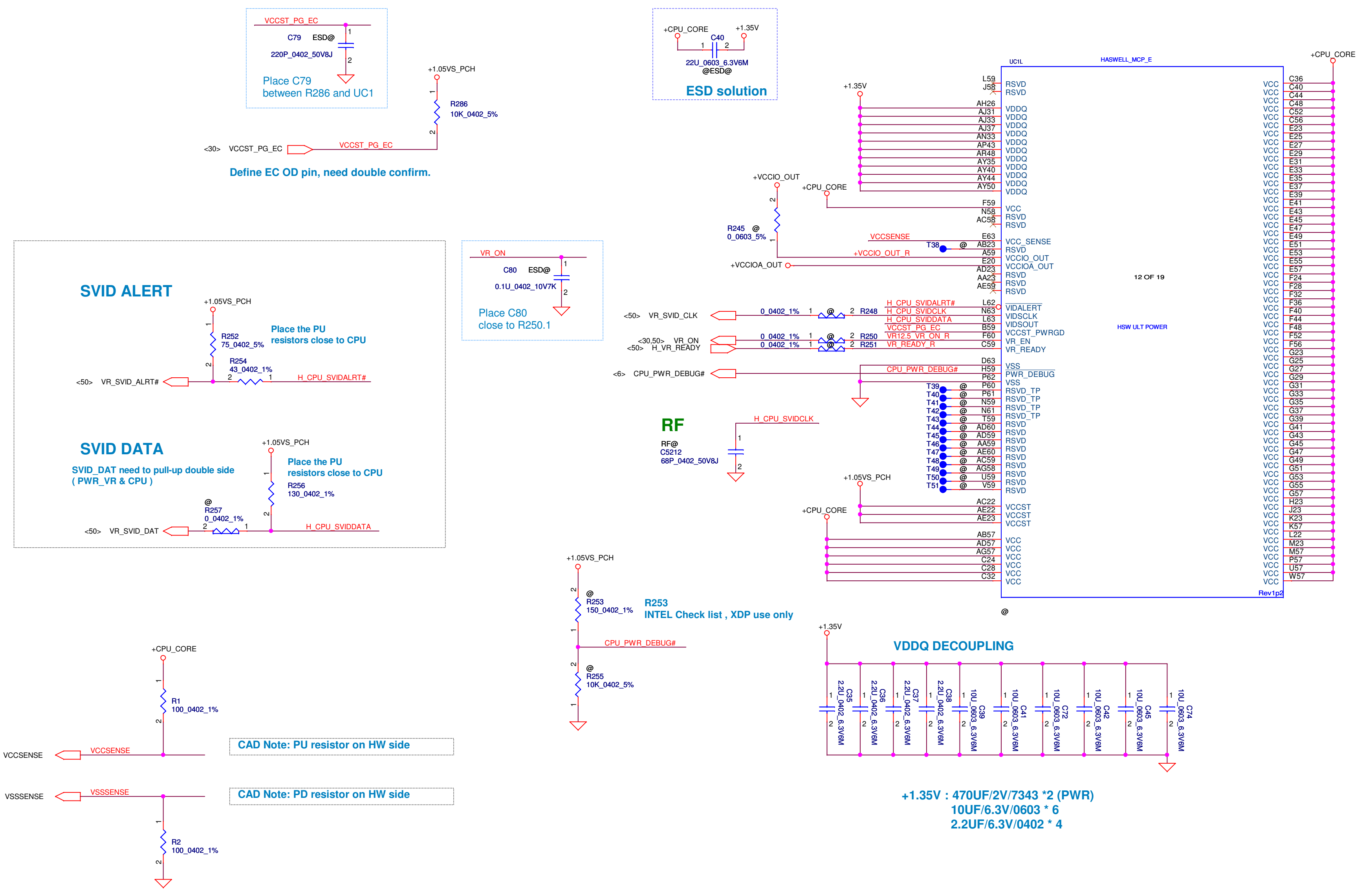
Compal Electronics, Inc.

Title: **MCP(11/19) PCIE,USB**

Size | Document Number: **LA-B012P** | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 12 of 55



Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

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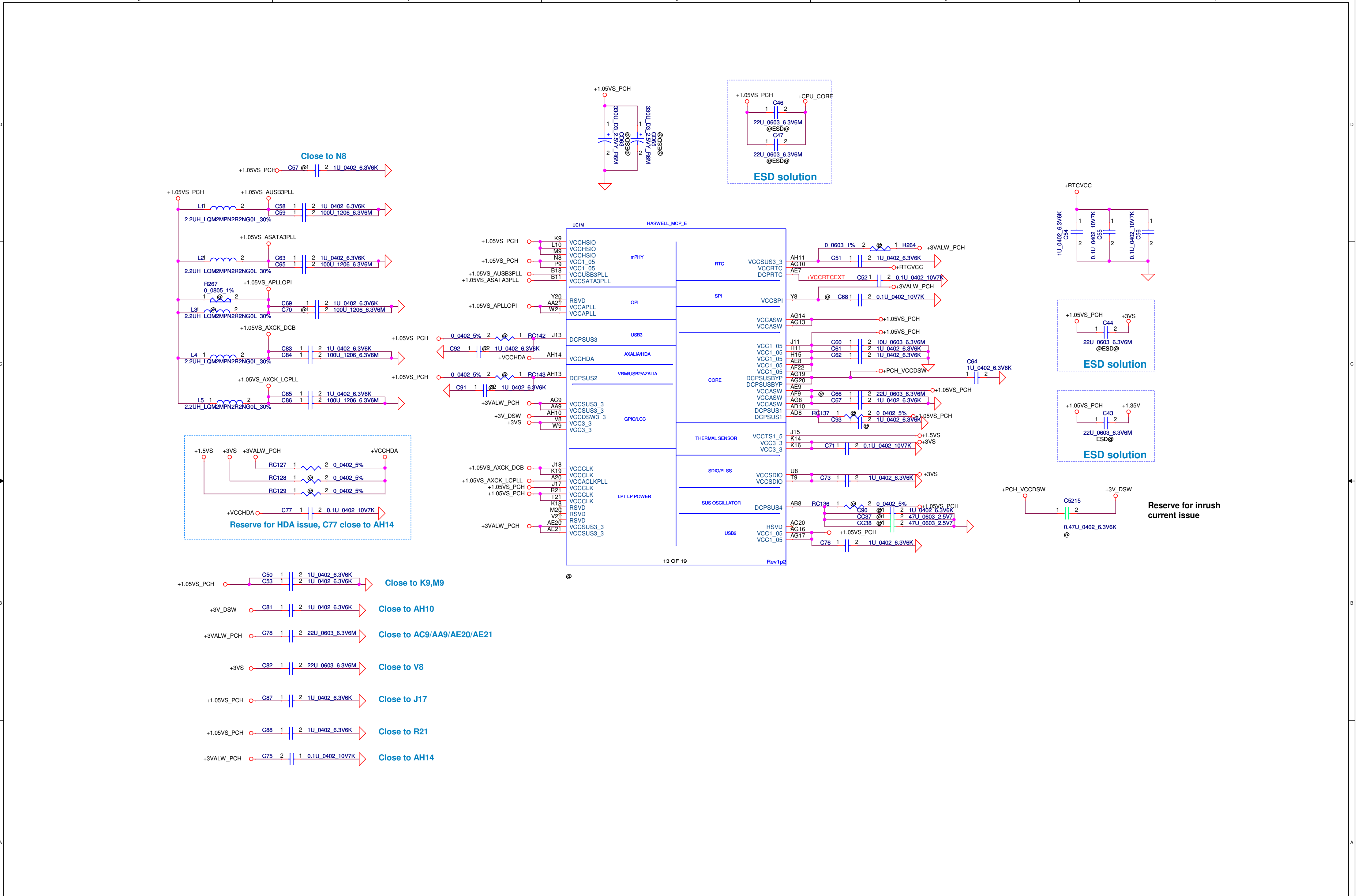
Compal Electronics, Inc.

Title: *MCP(12/19) Power*

Size | Document Number: *LA-B012P* | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 13 of 55



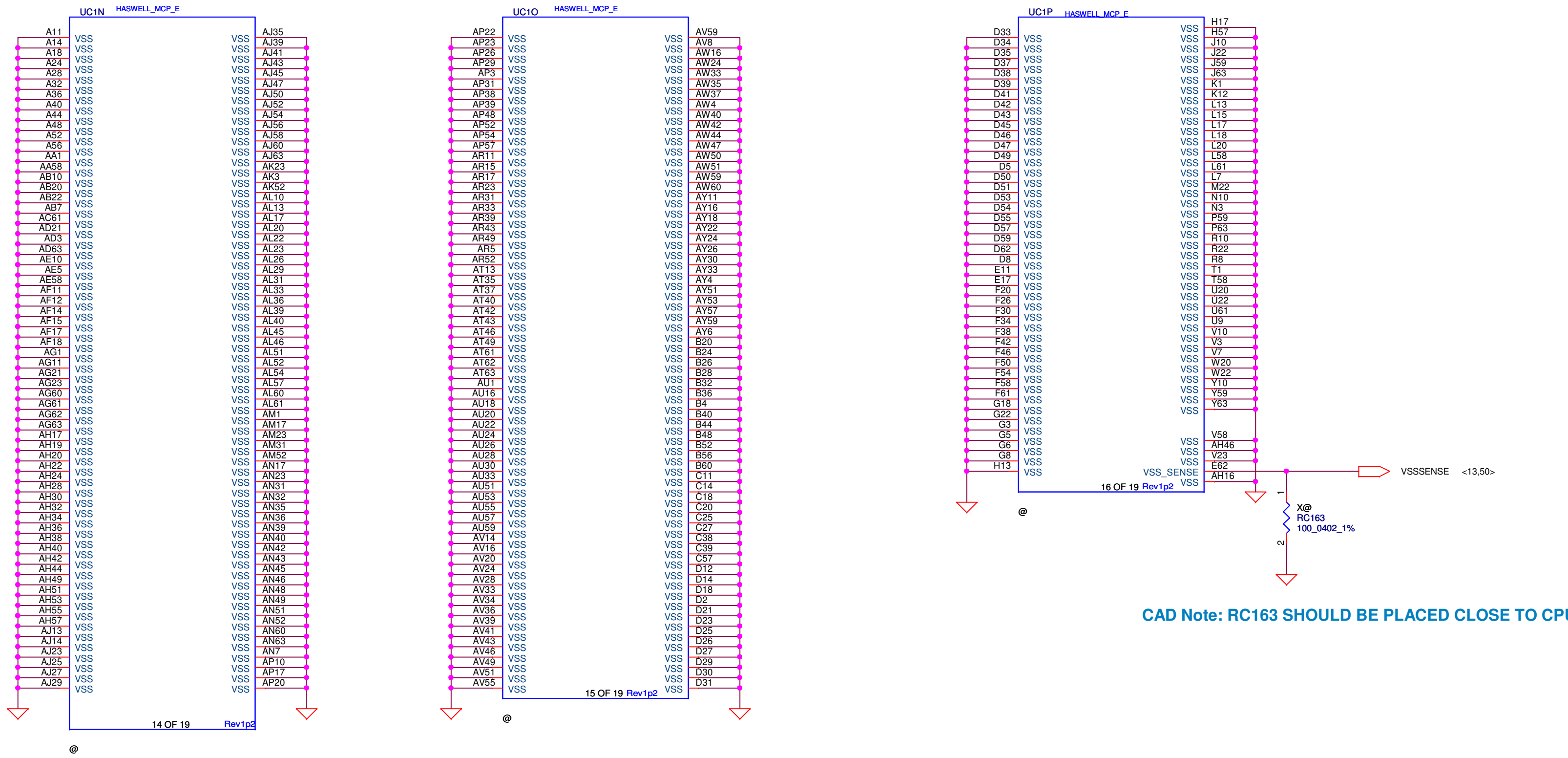
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: *MCP(13/19) Power*

Size | Document Number: *LA-B012P* | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 14 of 55



CAD Note: RC163 SHOULD BE PLACED CLOSE TO CPU

Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: MCP(14,15,16/19) VSS
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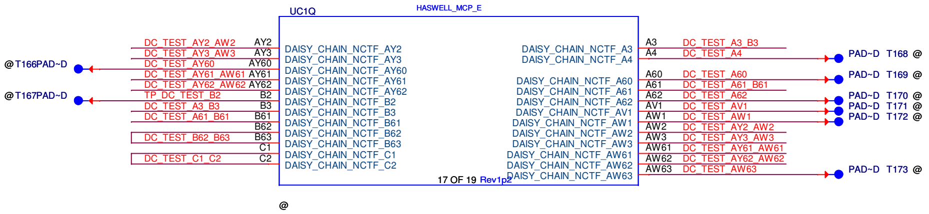
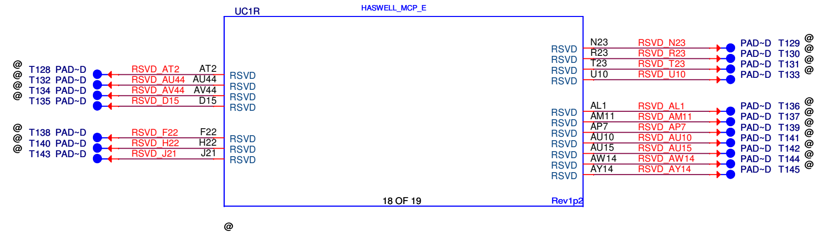
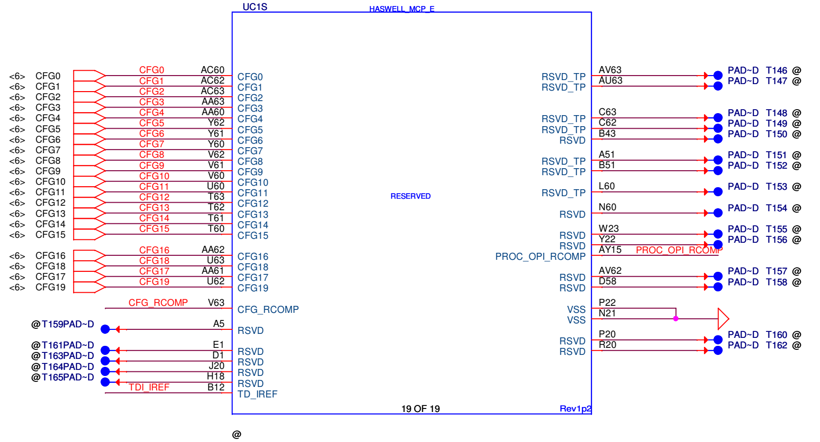
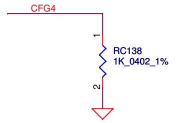
				Date: Tuesday, August 05, 2014 / Sheet 15 of 55







CFG STRAPS for CPU



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

Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: MCP(17,18,19/19) CFG,RSVD
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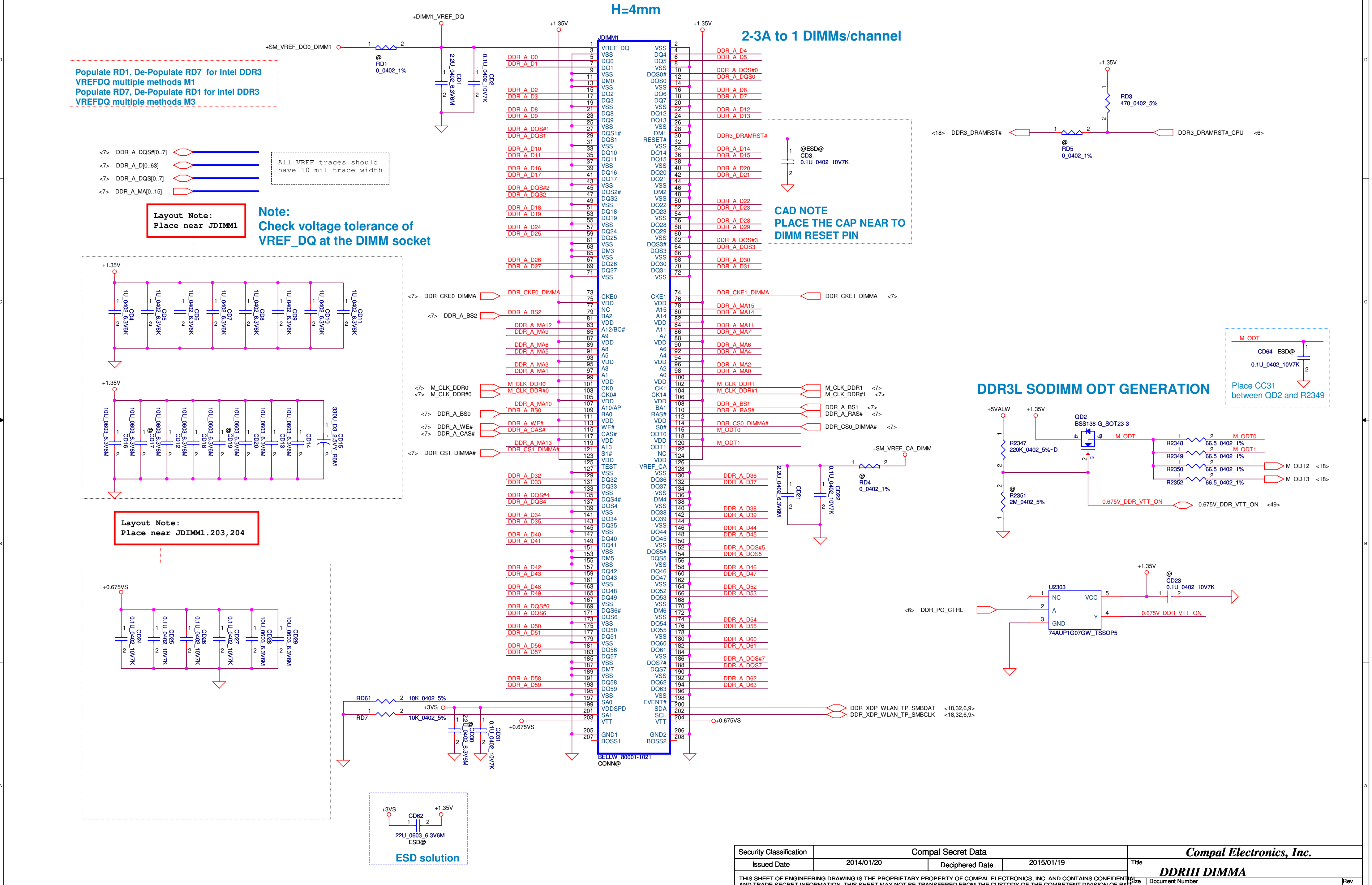


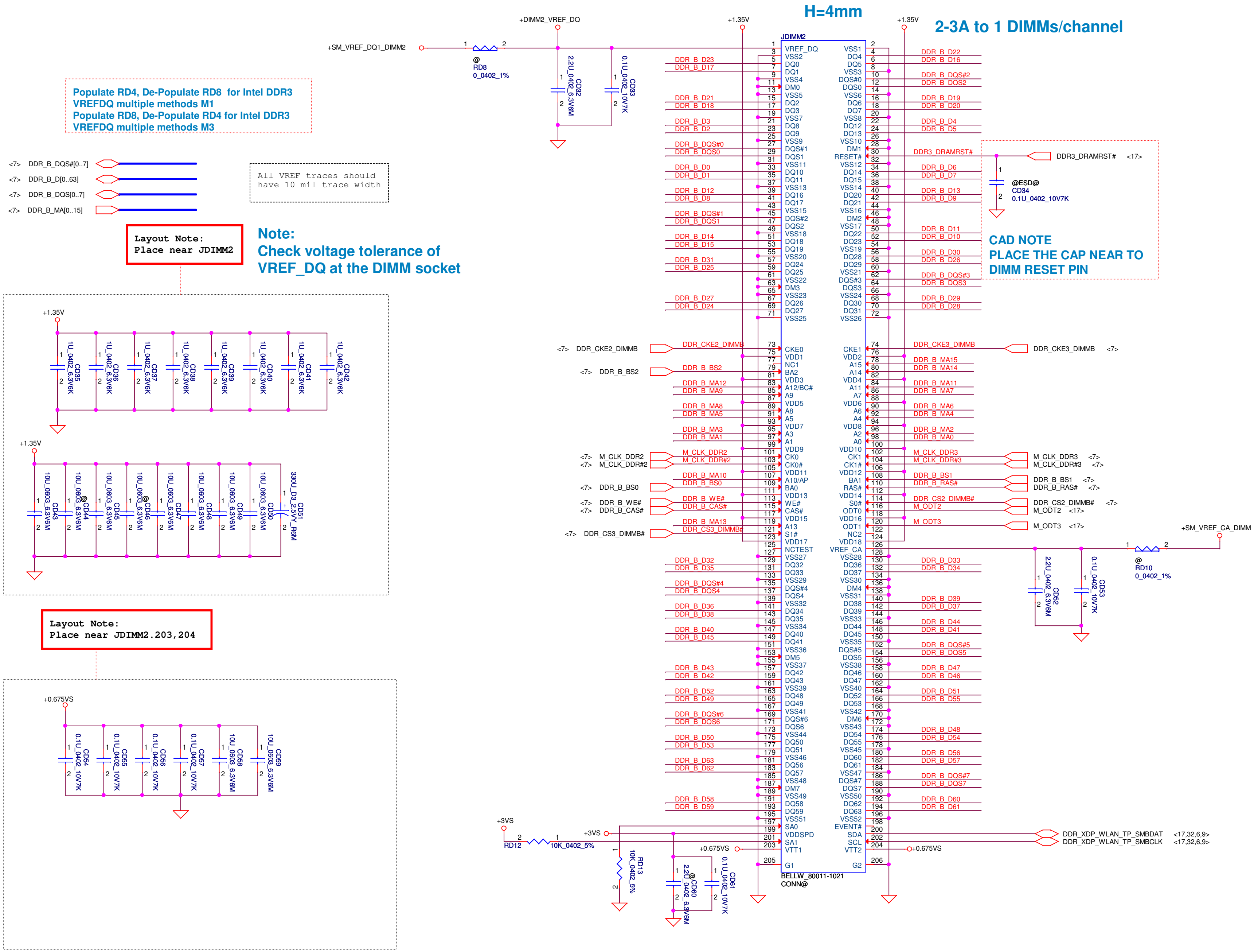
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: DDRIII DIMMA

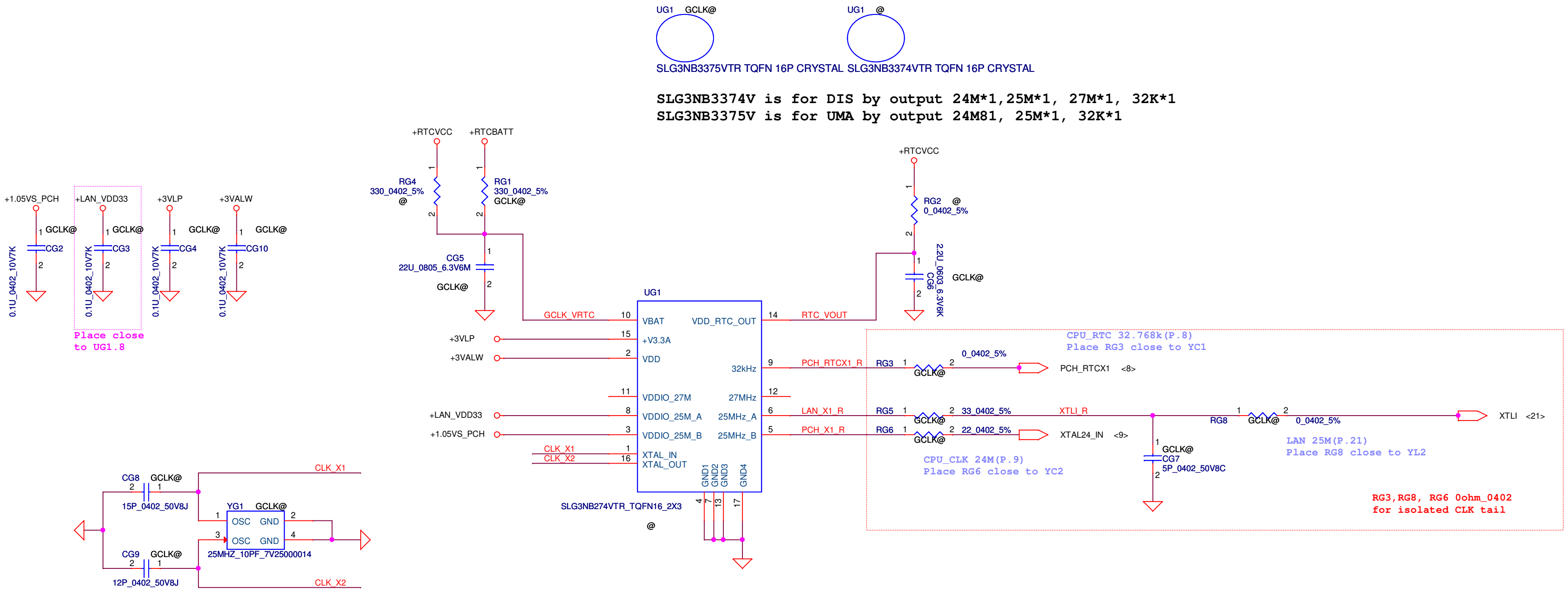
Size | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 |



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date 2015/01/19	Title: DDRIII DIMMB

Size: | Document Number: LA-B012P | Rev: 1.0



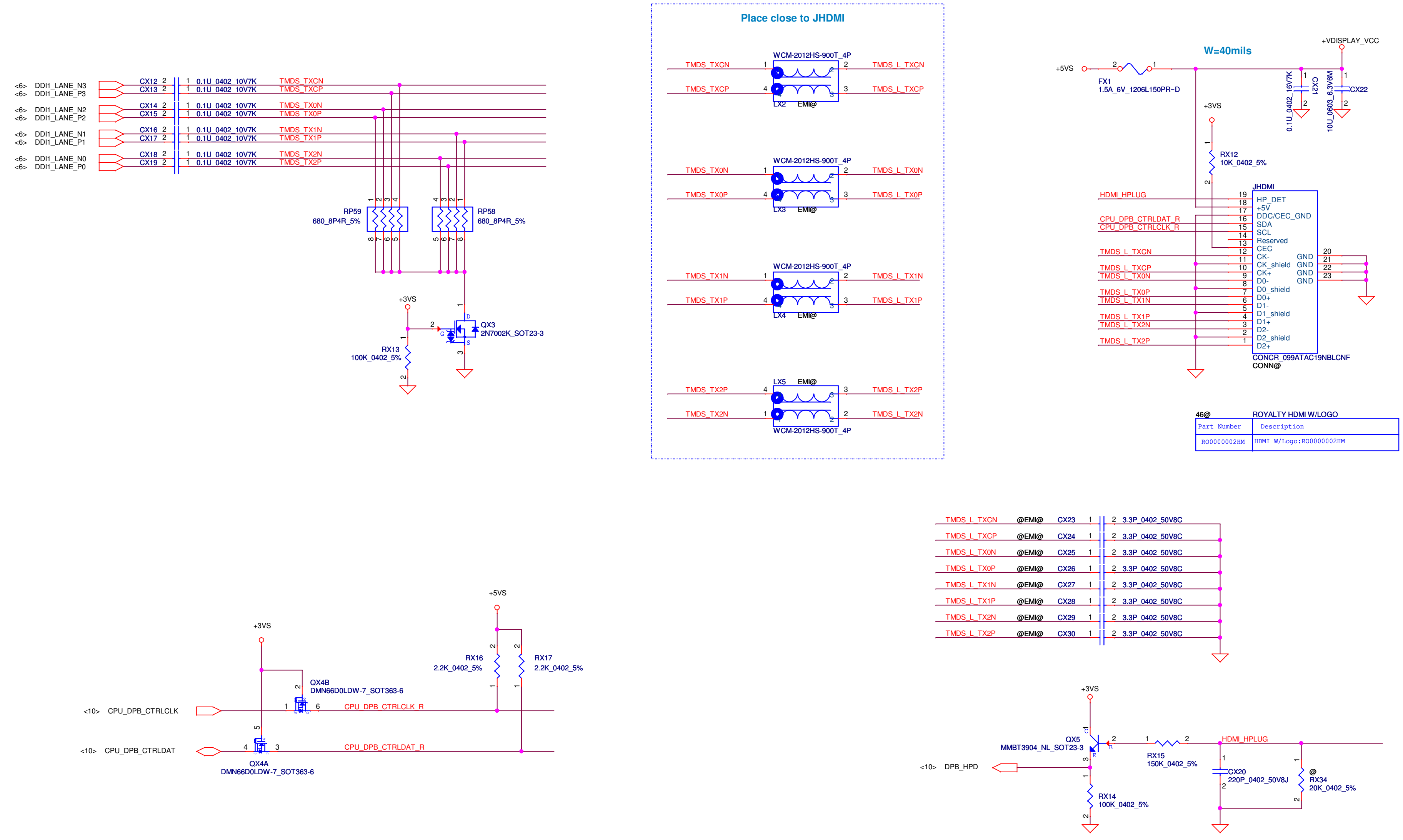
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: **Green CLK**

Size | Document Number: **LA-B012P** | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 19 of 55

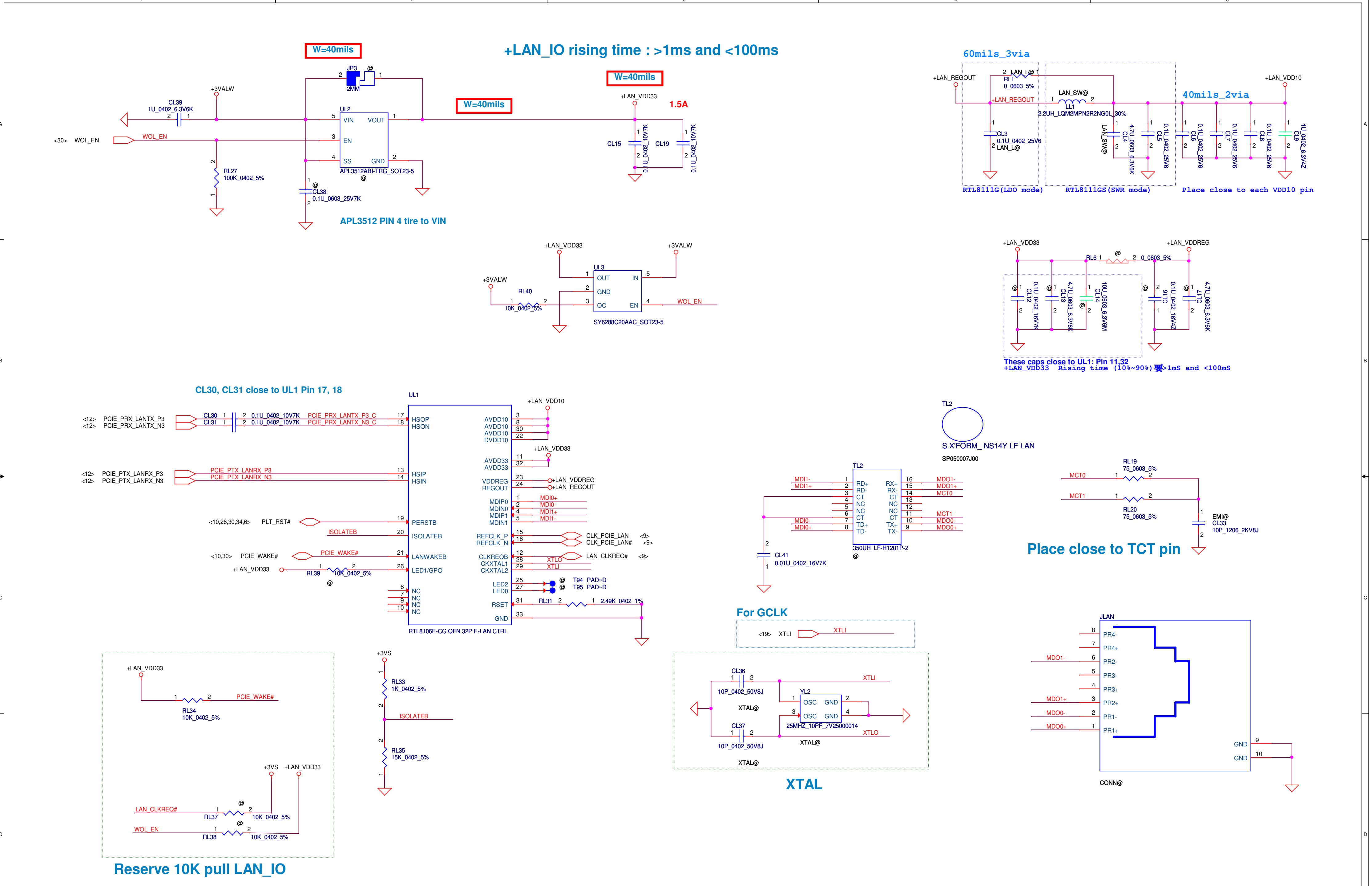


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: **HDMI**

Size | Document Number: **LA-B012P** | Rev 1.0

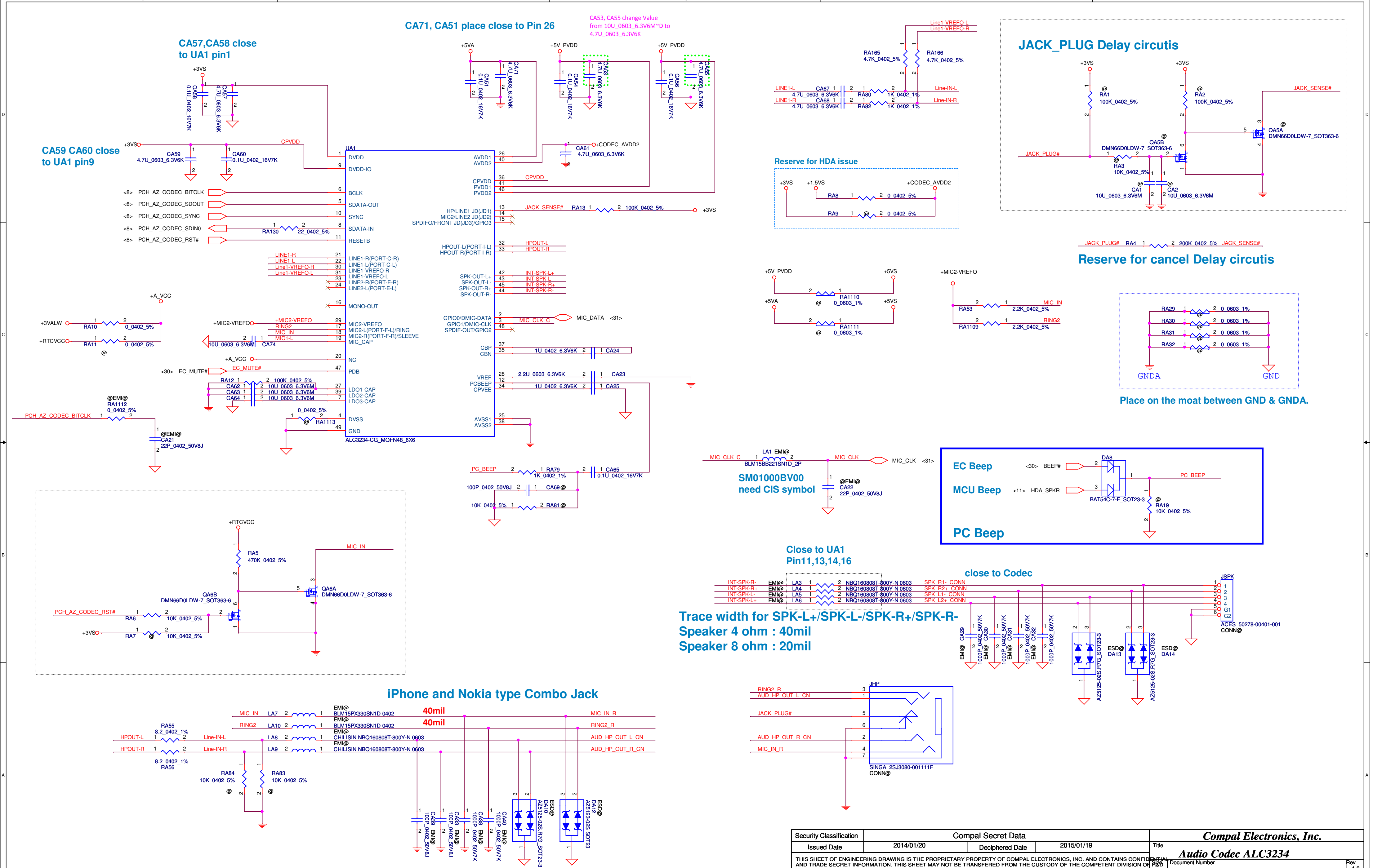


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: LAN RTL8106EUS

Size	Document Number	Rev
Custom	LA-B012P	1.0



Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: Audio Codec ALC3234
				Size: Custom Document Number: LA-B012P Rev: 1.0
				Date: Tuesday, August 05, 2014 Sheet 22 of 55

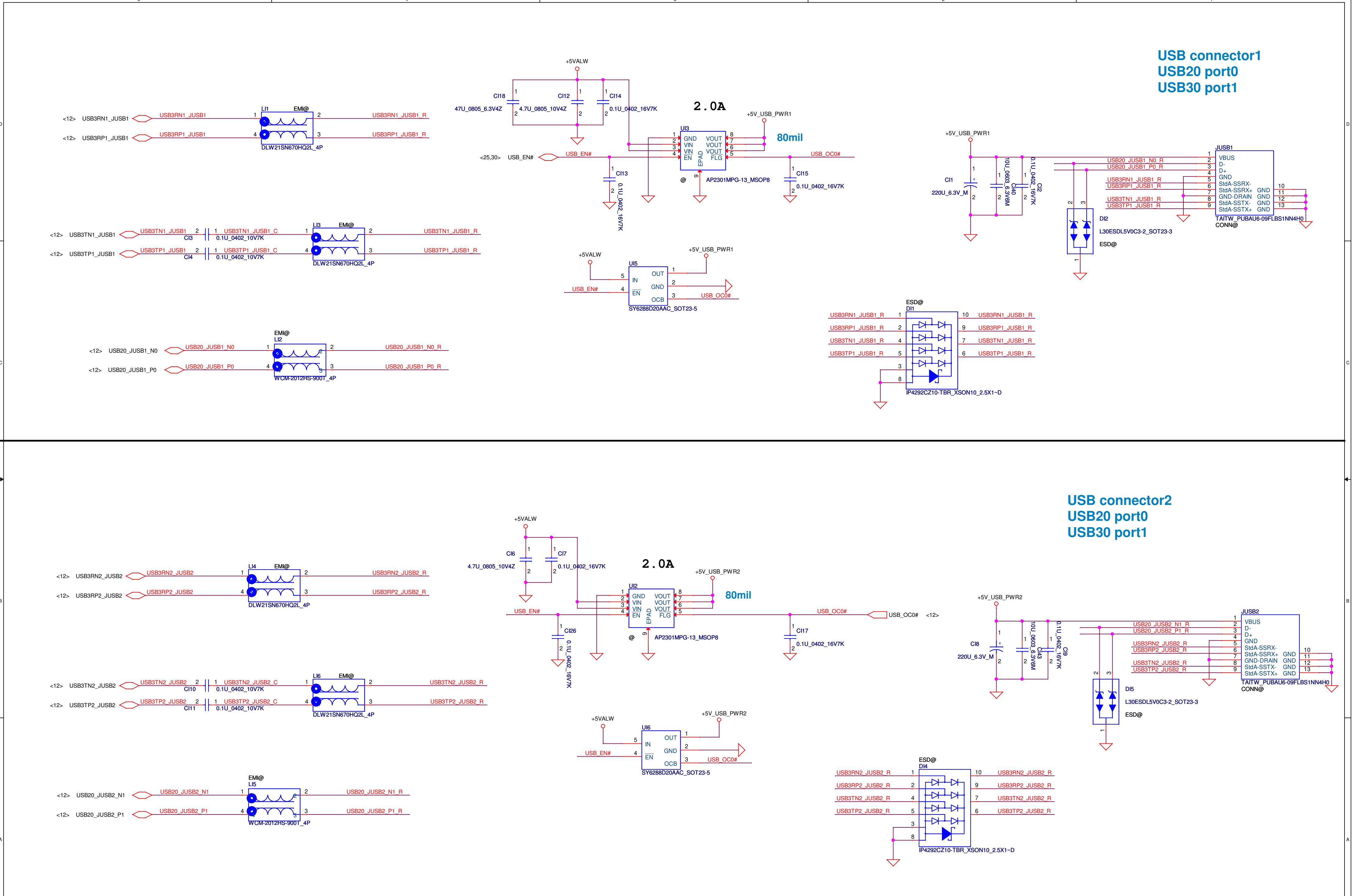
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title

Reserved Page

Size	Document Number	Rev
	LA-B012P	1.0



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date 2015/01/19	Title: USB3.0

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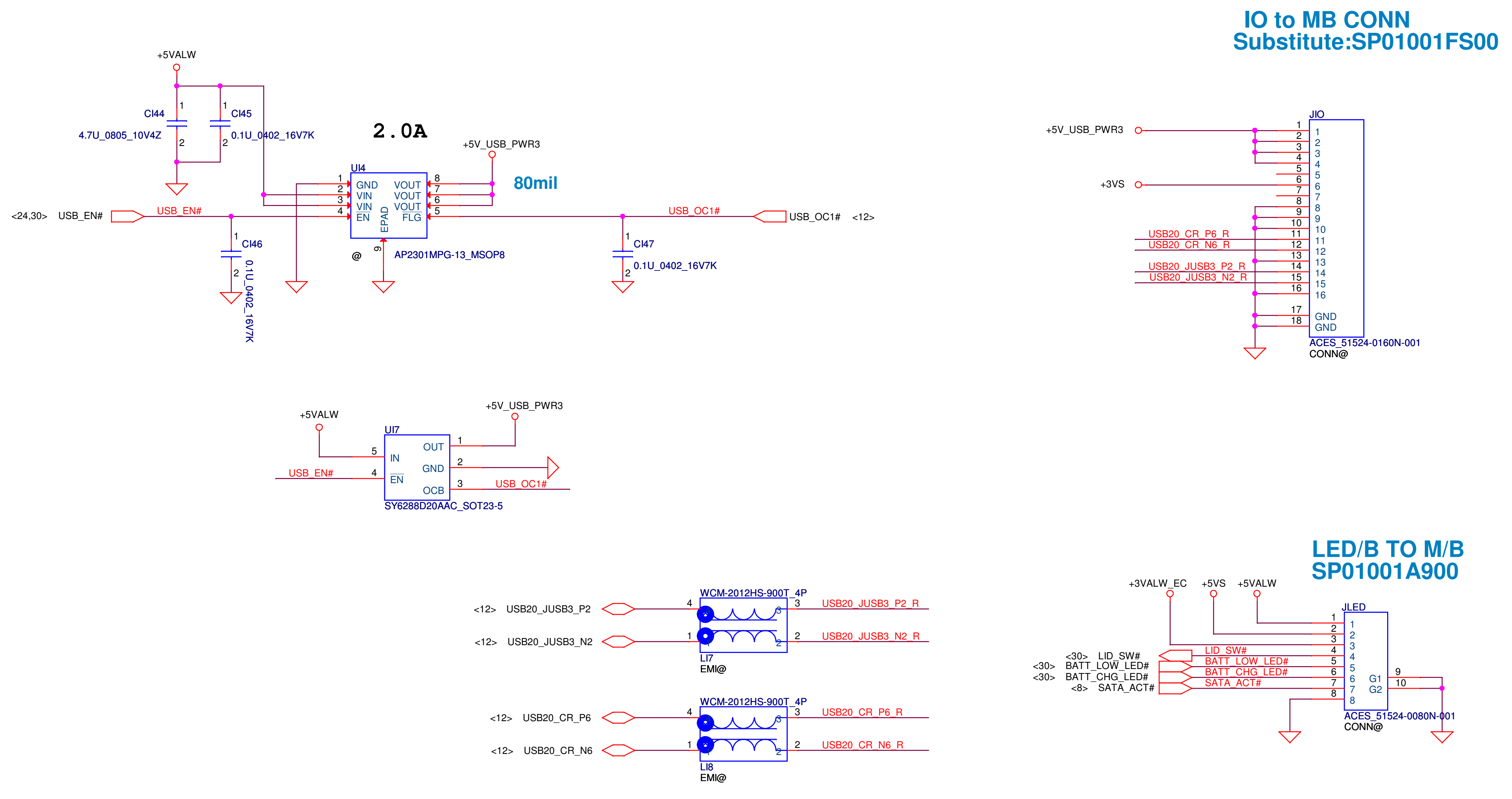
Date: Tuesday, August 05, 2014 | Sheet 24 of 55

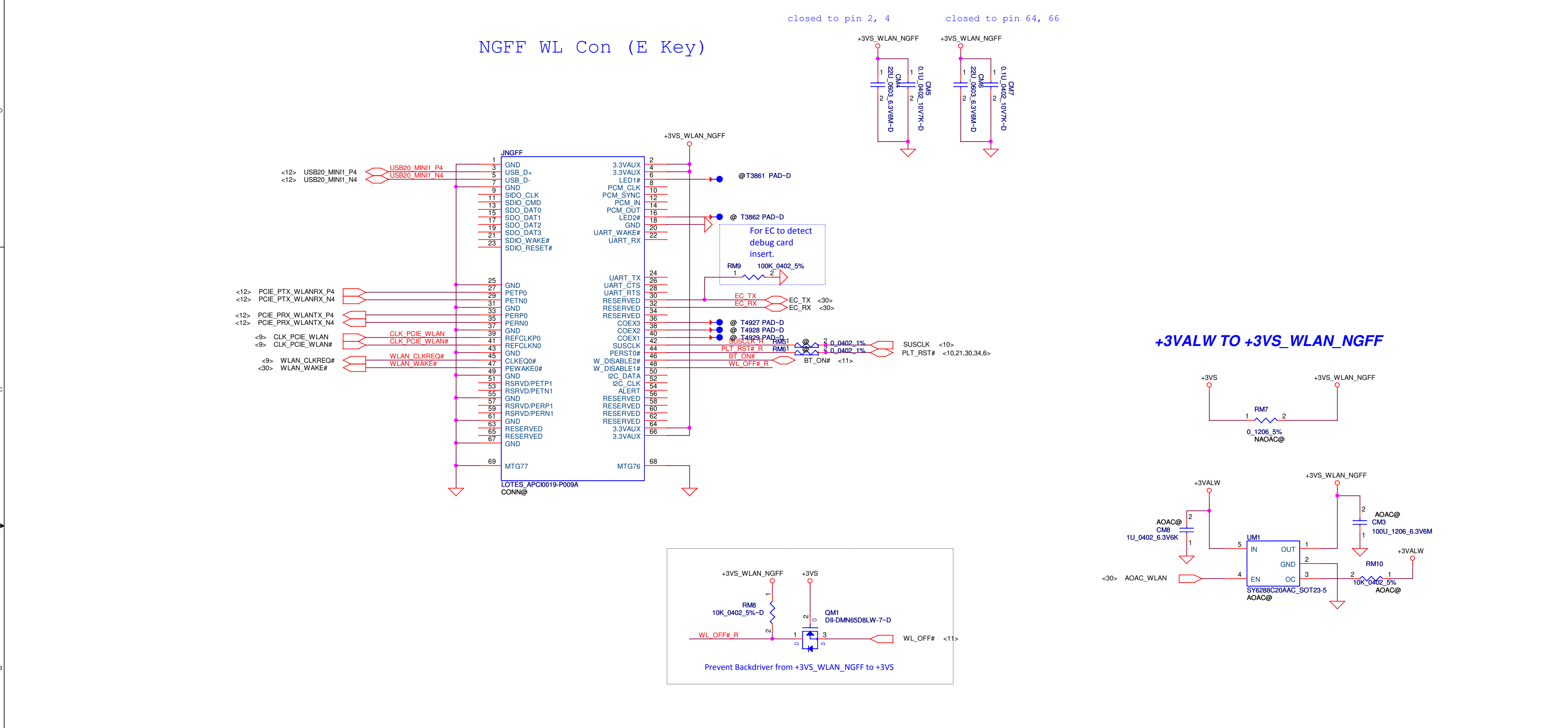


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Title: IO/B, LED/B

Size: B | Document Number: LA-B012P | Rev: 1.0

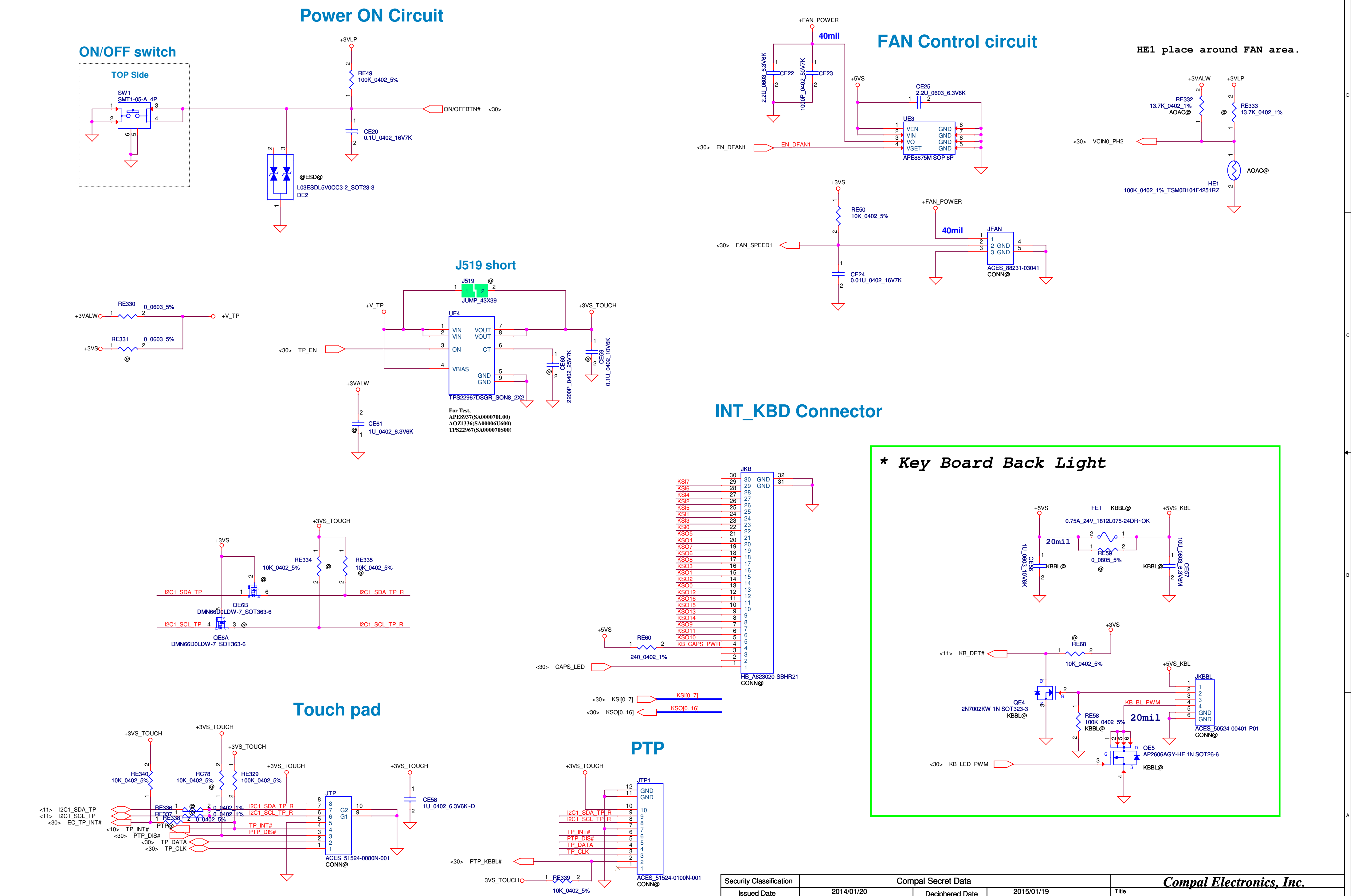
Date: Tuesday, August 05, 2014 |



Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: NGFF WLAN

Size | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 26 of 55



Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

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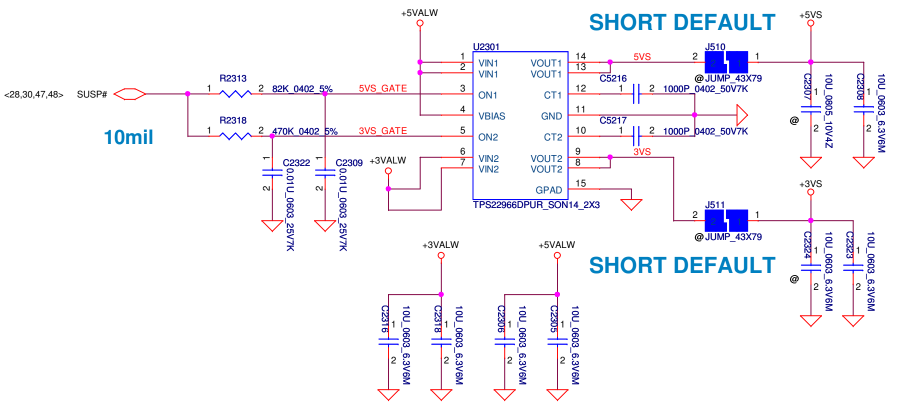
Compal Electronics, Inc.

Title: FAN / TP / PWR SW / KBBL

Size | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 27 of 55

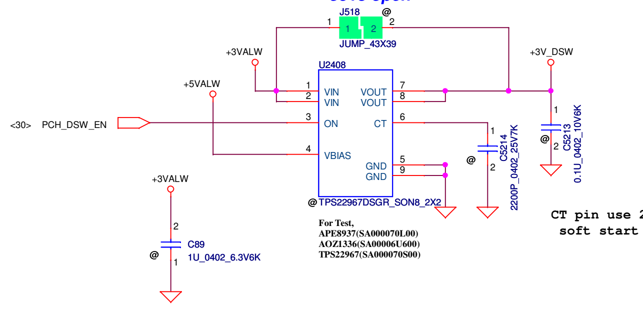
+5VS and +3VS switch



+3VALW TO +3V_DSW

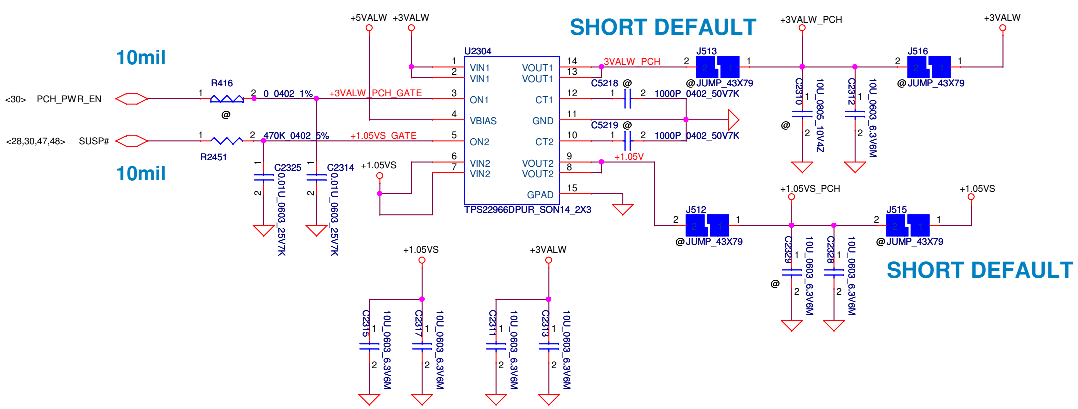
+3V_DSW have soft start sequence: +3V_DSW stable > +3VALW_PCH > 0ms

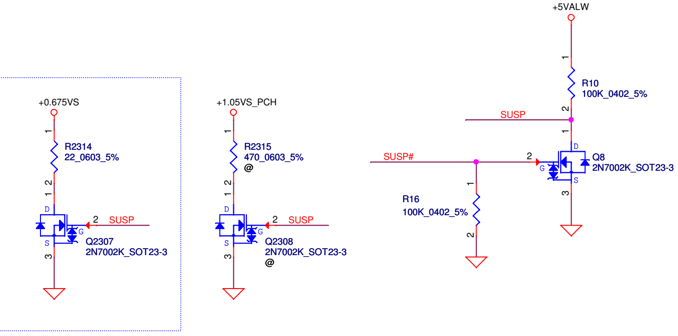
J518 open



CT pin use 2200pf for soft start tuning

+3VALW_PCH switch





For Intel S3 Power Reduction

Screw Hole

H1 H_2P8N @
H20 H_2P8N @
H21 H_2P8N @
H22 H_2P8X3P3N @
H23 H_2P8X4P8N @

H2 H_2P8 @
H3 H_2P8 @
H4 H_2P8 @
H5 H_2P8 @
H6 H_2P8 @
H7 H_2P8 @
H8 H_2P8 @
H9 H_2P8 @

H10 H_3P0 @

H11 H_2P8 @
H12 H_2P8 @

H13 H_3P6 @
H14 H_3P6 @
H15 H_3P6 @
H16 H_3P6 @

CPU bracket

H17 H_3P3 @
H18 H_3P3 @

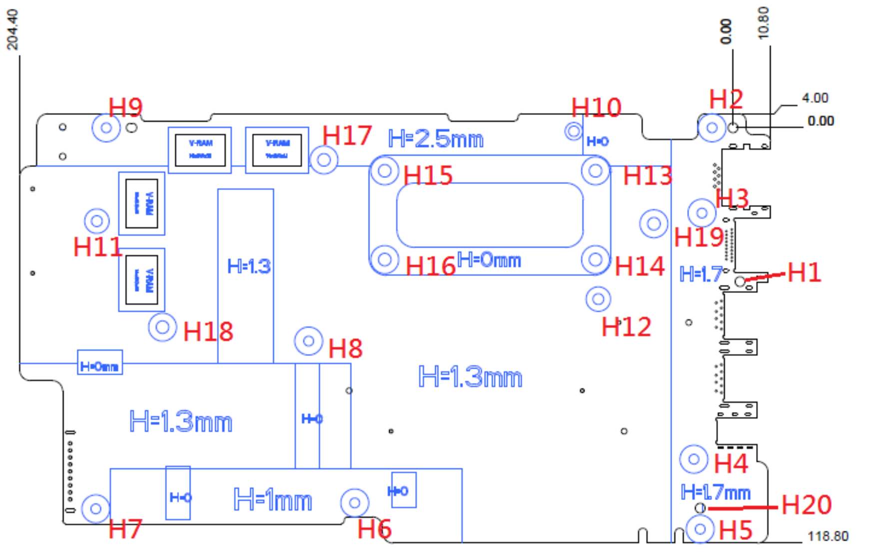
VGA stand-off

H19 H_3P3 @

NGFF stand-off

FD1 @FIDUCAL
FD2 @FIDUCIAL
FD3 @FIDUCAL
FD4 @FIDUCIAL

ZZZ
PCB 13P LA-B011P REV0 M/B
DA60013U000



SCALE 1.000

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Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: Screw Hole
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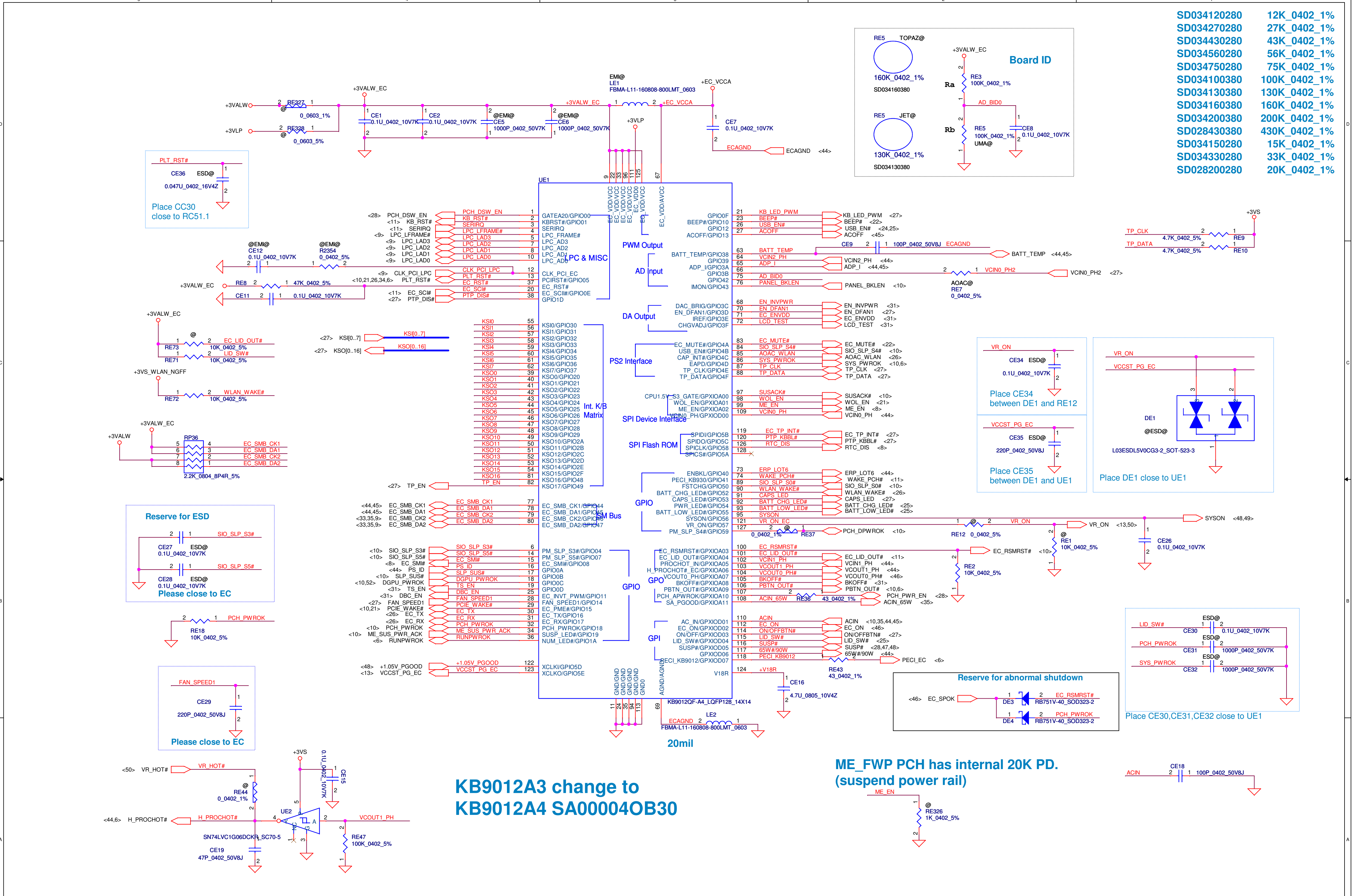
				Date: Tuesday, August 05, 2014; Sheet 29 of 55



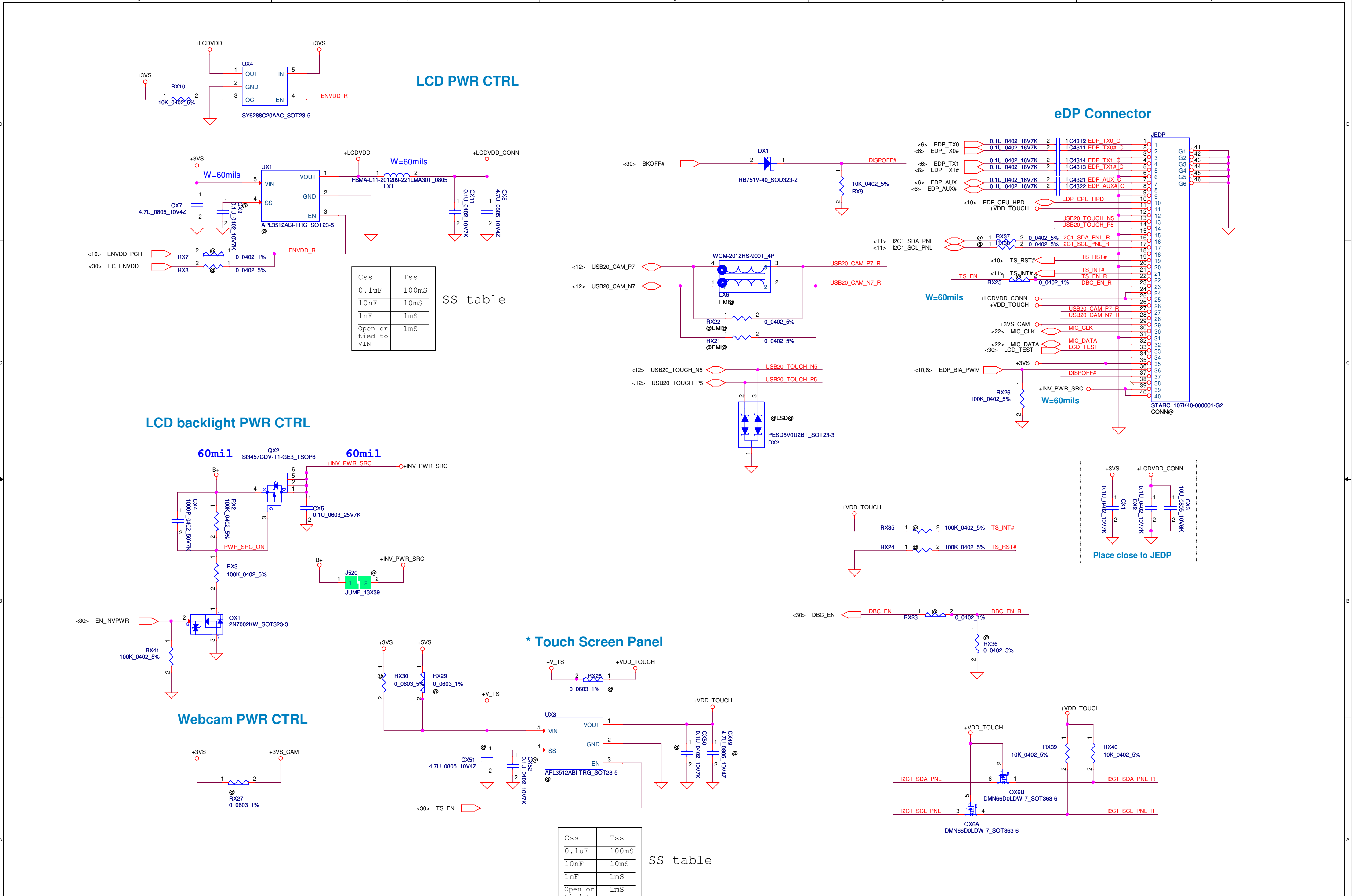
SD034120280	12K_0402_1%
SD034270280	27K_0402_1%
SD034430280	43K_0402_1%
SD034560280	56K_0402_1%
SD034750280	75K_0402_1%
SD034100380	100K_0402_1%
SD034130380	130K_0402_1%
SD034160380	160K_0402_1%
SD034200380	200K_0402_1%
SD028430380	430K_0402_1%
SD034150280	15K_0402_1%
SD034330280	33K_0402_1%
SD028200280	20K_0402_1%

Security Classification	Compal Secret Data	
Issued Date	2014/01/20	Deciphered Date 2015/01/19

Compal Electronics, Inc.

Title: EC ENE-KB9012

Size | Document Number: LA-B012P | Rev 1.0



Css	Tss
0.1uF	100mS
10nF	10mS
1nF	1mS
Open or tied to VIN	1mS

SS table

Css	Tss
0.1uF	100mS
10nF	10mS
1nF	1mS
Open or tied to VIN	1mS

SS table

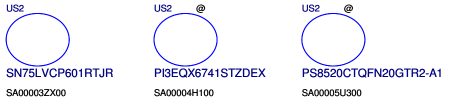
Security Classification	Compal Secret Data	
Issued Date	2014/01/20	Deciphered Date 2015/01/19

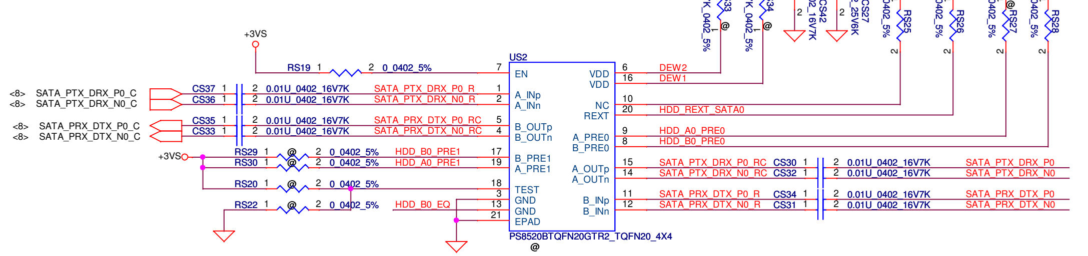
Compal Electronics, Inc.

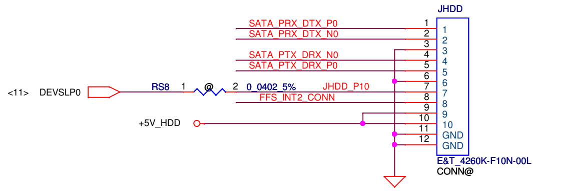
Title: eDP / webcam / TouchScreen

Size | Document Number: LA-B012P | Rev 1.0

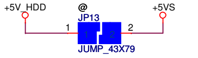
SATA HDD Connector



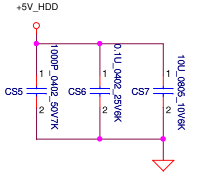


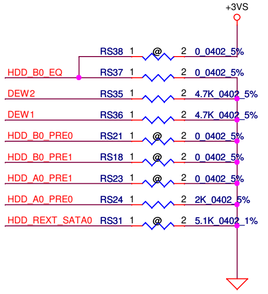


+5V_HDD Source



SHORT DEFAULT





Pin 20:
PARADE PS8250B:
Depop RS26

PERICOM PI3EQX6741ST:
Pop RS26

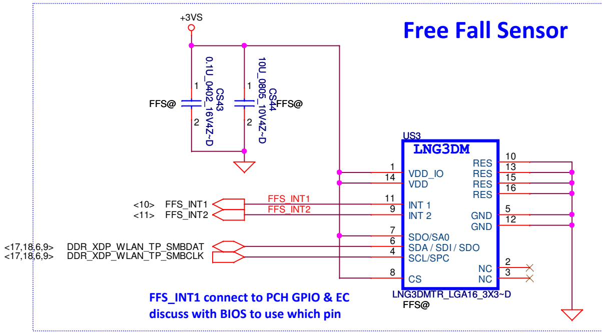
ASMEDIA ASM1466:
Pop RS26

Pin 9:
PARADE PS8250B:
Depop RS24.

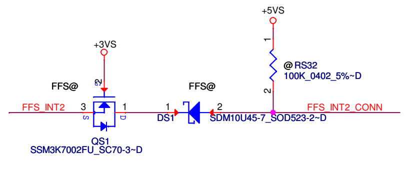
PERICOM PI3EQX6741ST:
Depop RS24

ASMEDIA ASM1466:
Pop RS24 to pull down

Free Fall Sensor



FFS_INT1 connect to PCH GPIO & EC
discuss with BIOS to use which pin

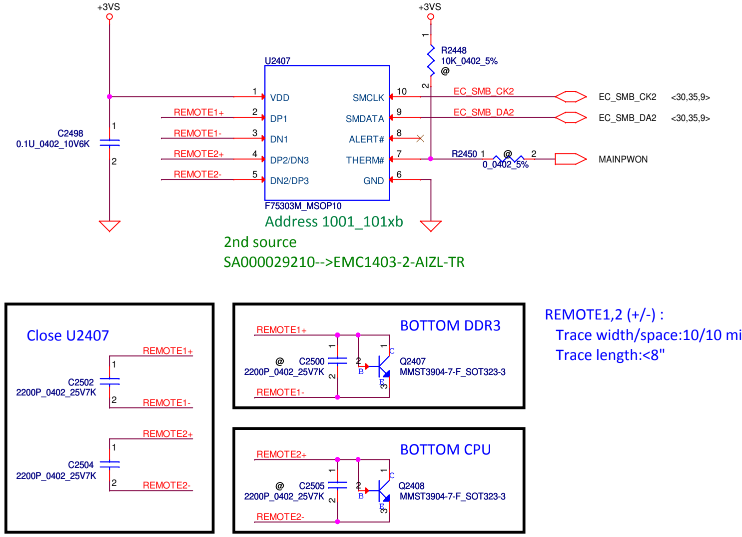


Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title	HDD	
Size	Document Number: LA-B012P	Rev 1.0
Date: Tuesday, August 05, 2014	Sheet 32 of 55	

Fintek thermal sensor
placed near by TOP DDR3



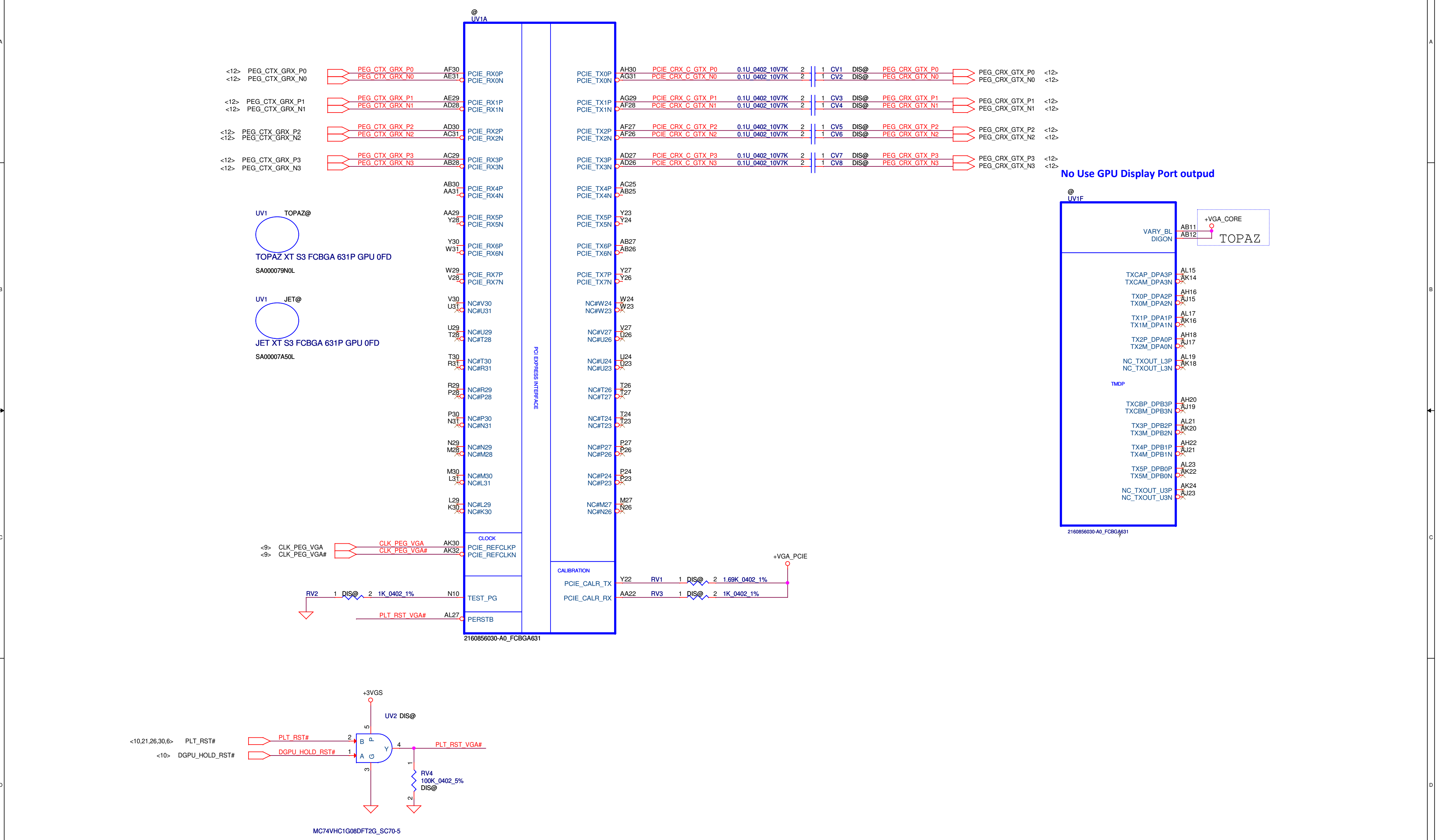
REMOTE1,2 (+/-) :
Trace width/space:10/10 mil
Trace length:<8"

Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: **Thermal Sensor**

Size | Document Number: **LA-B012P** | Rev 1.0



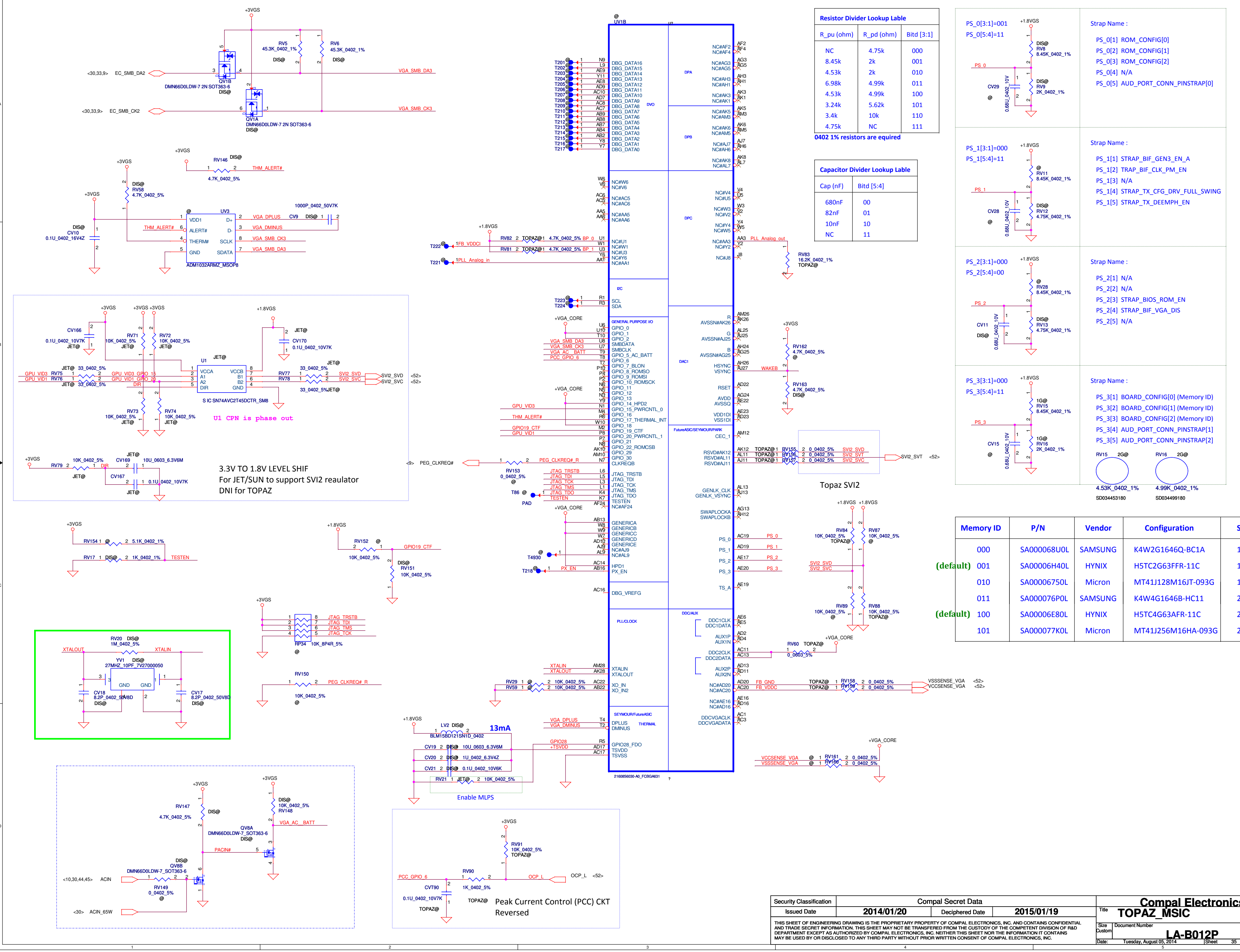
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: **TOPAZ_PCIE/DP**

Size: Custom | Document Number: **LA-B012P** | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 34 of 55



Resistor Divider Lookup Lable

R_pu (ohm)	R_pd (ohm)	Bitd [3:1]
NC	4.75k	000
8.45k	2k	001
4.53k	2k	010
6.98k	4.99k	011
4.53k	4.99k	100
3.24k	5.62k	101
3.4k	10k	110
4.75k	NC	111

0402 1% resistors are equired

Capacitor Divider Lookup Lable

Cap (nF)	Bitd [5:4]
680nF	00
82nF	01
10nF	10
NC	11

PS_0[3:1]=001
PS_0[5:4]=11

Strap Name :
- PS_0[1] ROM_CONFIG[0]
- PS_0[2] ROM_CONFIG[1]
- PS_0[3] ROM_CONFIG[2]
- PS_0[4] N/A
- PS_0[5] AUD_PORT_CONN_PINSTRAP[0]

PS_1[3:1]=000
PS_1[5:4]=11

Strap Name :
- PS_1[1] STRAP_BIF_GEN3_EN_A
- PS_1[2] TRAP_BIF_CLK_PM_EN
- PS_1[3] N/A
- PS_1[4] STRAP_TX_CFG_DRV_FULL_SWING
- PS_1[5] STRAP_TX_DEEMPH_EN

PS_2[3:1]=000
PS_2[5:4]=00

Strap Name :
- PS_2[1] N/A
- PS_2[2] N/A
- PS_2[3] STRAP_BIOS_ROM_EN
- PS_2[4] STRAP_BIF_VGA_DIS
- PS_2[5] N/A

PS_3[3:1]=000
PS_3[5:4]=11

Strap Name :
- PS_3[1] BOARD_CONFIG[0] (Memory ID)
- PS_3[2] BOARD_CONFIG[1] (Memory ID)
- PS_3[3] BOARD_CONFIG[2] (Memory ID)
- PS_3[4] AUD_PORT_CONN_PINSTRAP[1]
- PS_3[5] AUD_PORT_CONN_PINSTRAP[2]

RV15 2G@ 4.53K_0402_1% SD034453180
RV16 2G@ 4.99K_0402_1% SD034499180

	Memory ID	P/N	Vendor	Configuration	Size
	000	SA000068U0L	SAMSUNG	K4W2G1646Q-BC1A	1GB
(default)	001	SA00006H40L	HYNIX	H5TC2G63FFR-11C	1GB
	010	SA00006750L	Micron	MT41J128M16JT-093G	1GB
	011	SA000076P0L	SAMSUNG	K4W4G1646B-HC11	2GB
(default)	100	SA00006E80L	HYNIX	H5TC4G63AFR-11C	2GB
	101	SA000077K0L	Micron	MT41J256M16HA-093G	2GB

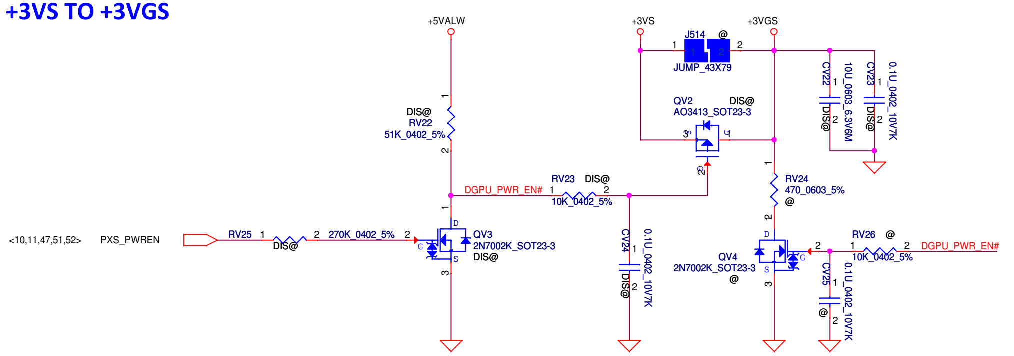
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: TOPAZ_MSIC

Size: Custom | Document Number: LA-B012P | Rev: 1.0

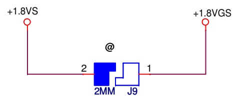
+3VS TO +3VGS



+1.35VS_VGA TO +1.35V_MEM_GFX

SHORT DEFAULT

+1.8VS TO +1.8VGS

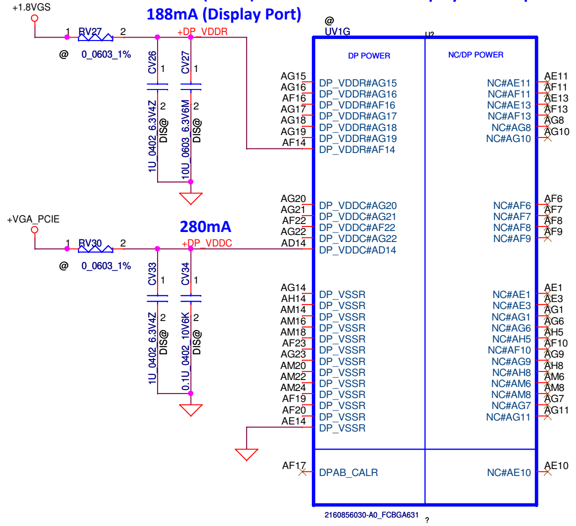


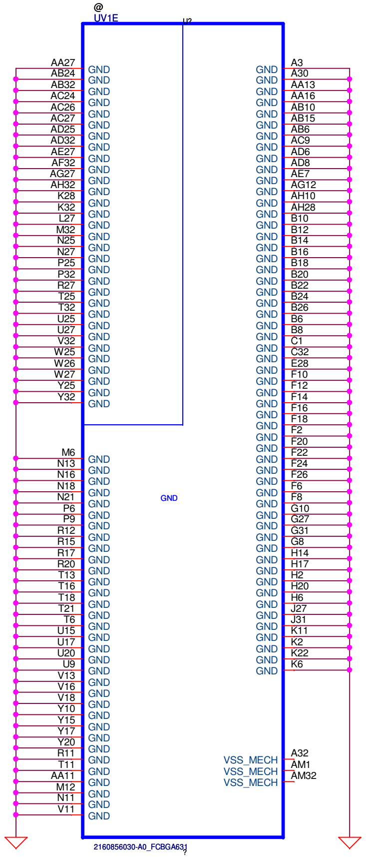
SHORT DEFAULT

370mA (HDMI)
188mA (Display Port)

No Use GPU Display Port outpud

280mA





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Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: **TOPAZ_Power/GND**

Size: Custom | Document Number: **LA-B012P** | Rev 1.0

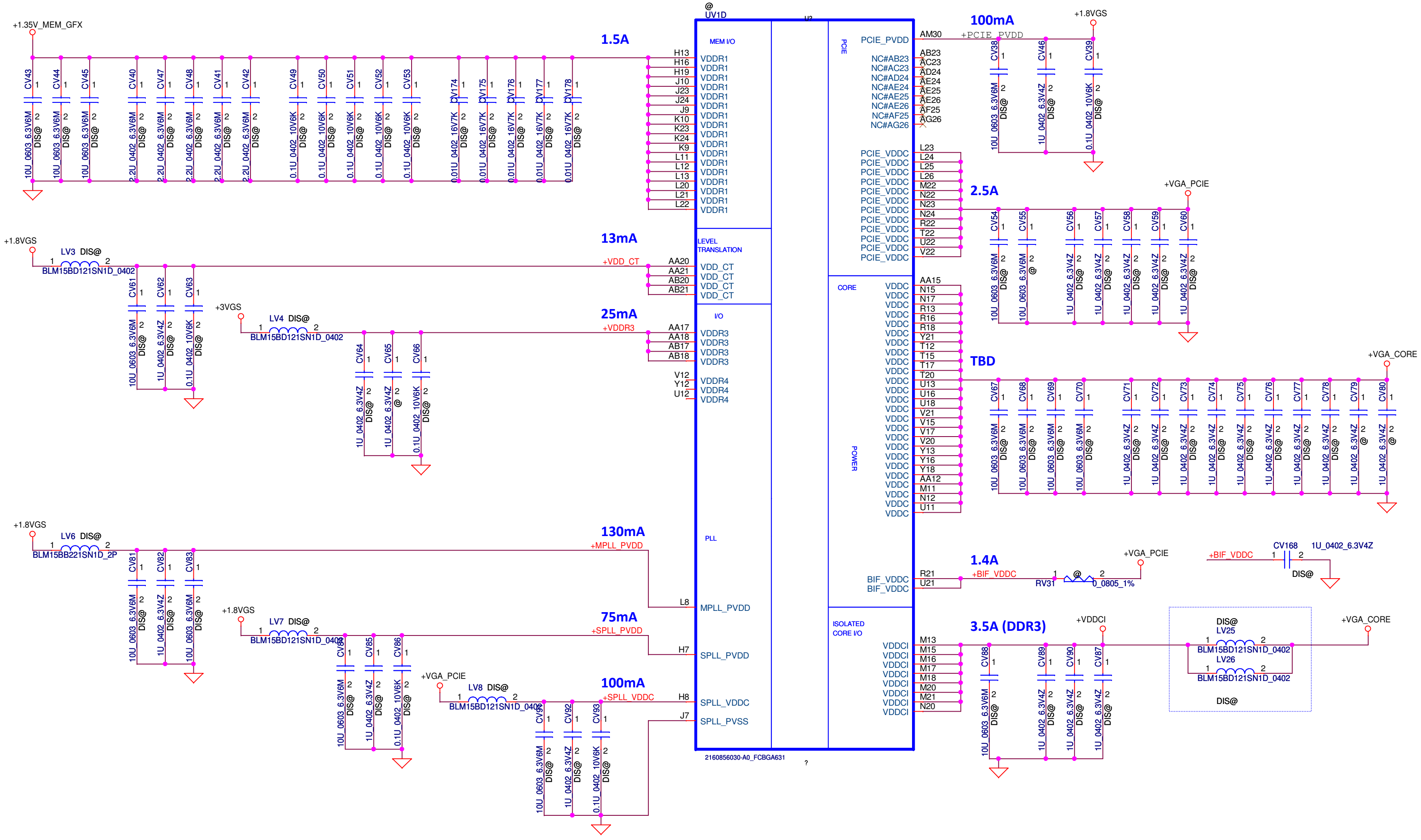
+VGA_CORE	10uF	1uF	0.1uF
VDDC TBD	5 (1@)	10 (2@)	0
VDDCI 3.5A	1	3	0

+VGA_PCIE	10uF	1uF	0.1uF
PCIE_VDDC 2.5A	2 (1@)	5 (1@)	0
BIF_VDDC 1.4A	0	1	0
SPLL_VDDC 100mA	1	1	1

+1.35V_MEM_GFX	10uF	2.2uF	0.1uF	0.01uF
VDDR1 1.5A	3	5	5	5

+1.8VGS	10uF	1uF	0.1uF
PCIE_PVDD 100mA	1	1	1
MPLL_PVDD 130mA	1	1	1
SPLL_PVDD 75mA	1	1	1
VDDR4 (300mA)	0	0	0
VDD_CT 13mA	1	1	1
+TSVDD 13mA	1	1	1
+DP_VDDR	0	0	0
+DP_VDDC	0	0	0

+3VGS	10uF	1uF	0.1uF
VDDR3 25mA	0	2 (1@)	1



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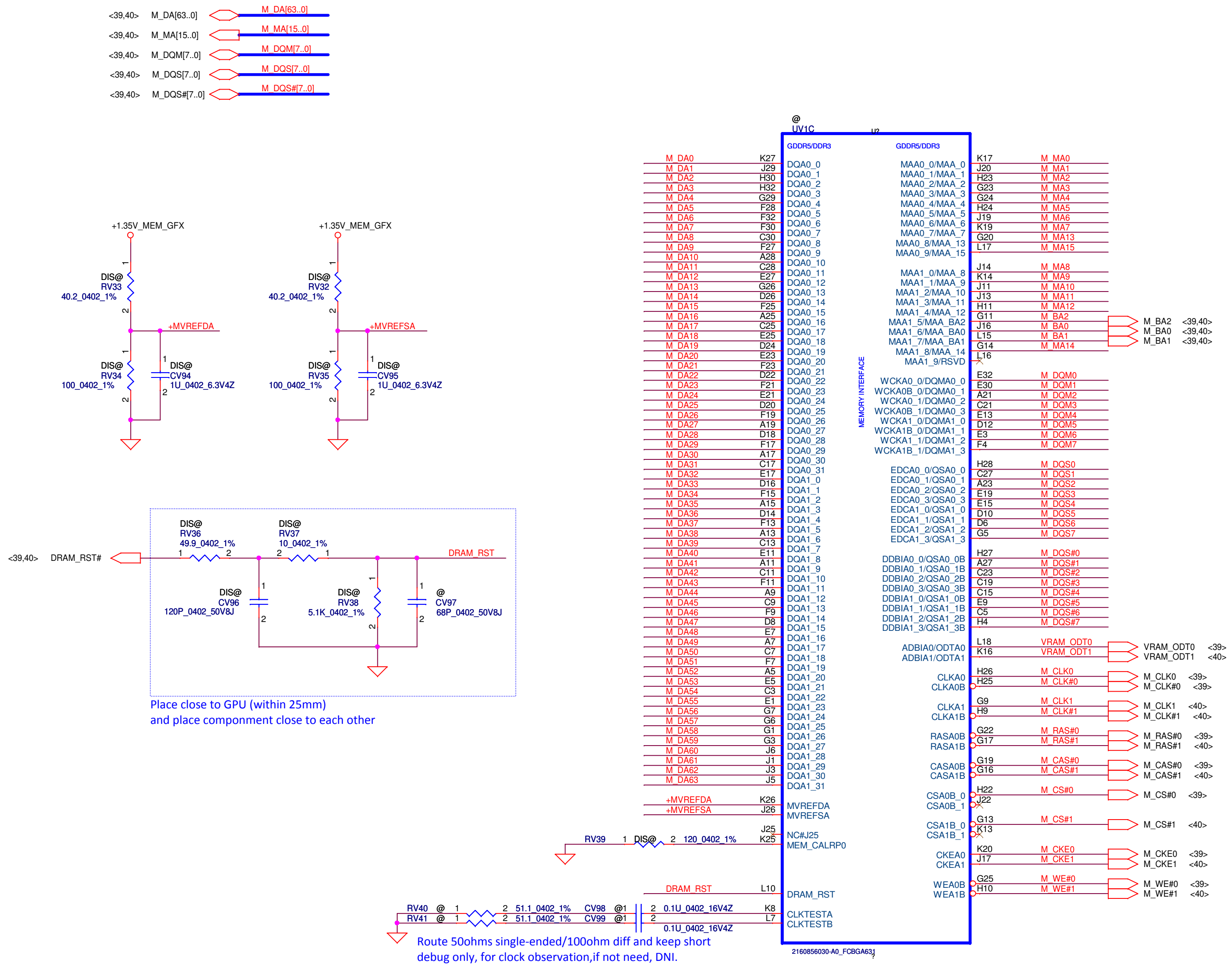
Title: TOPAZ_Power

Size: Custom | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 37 of 55



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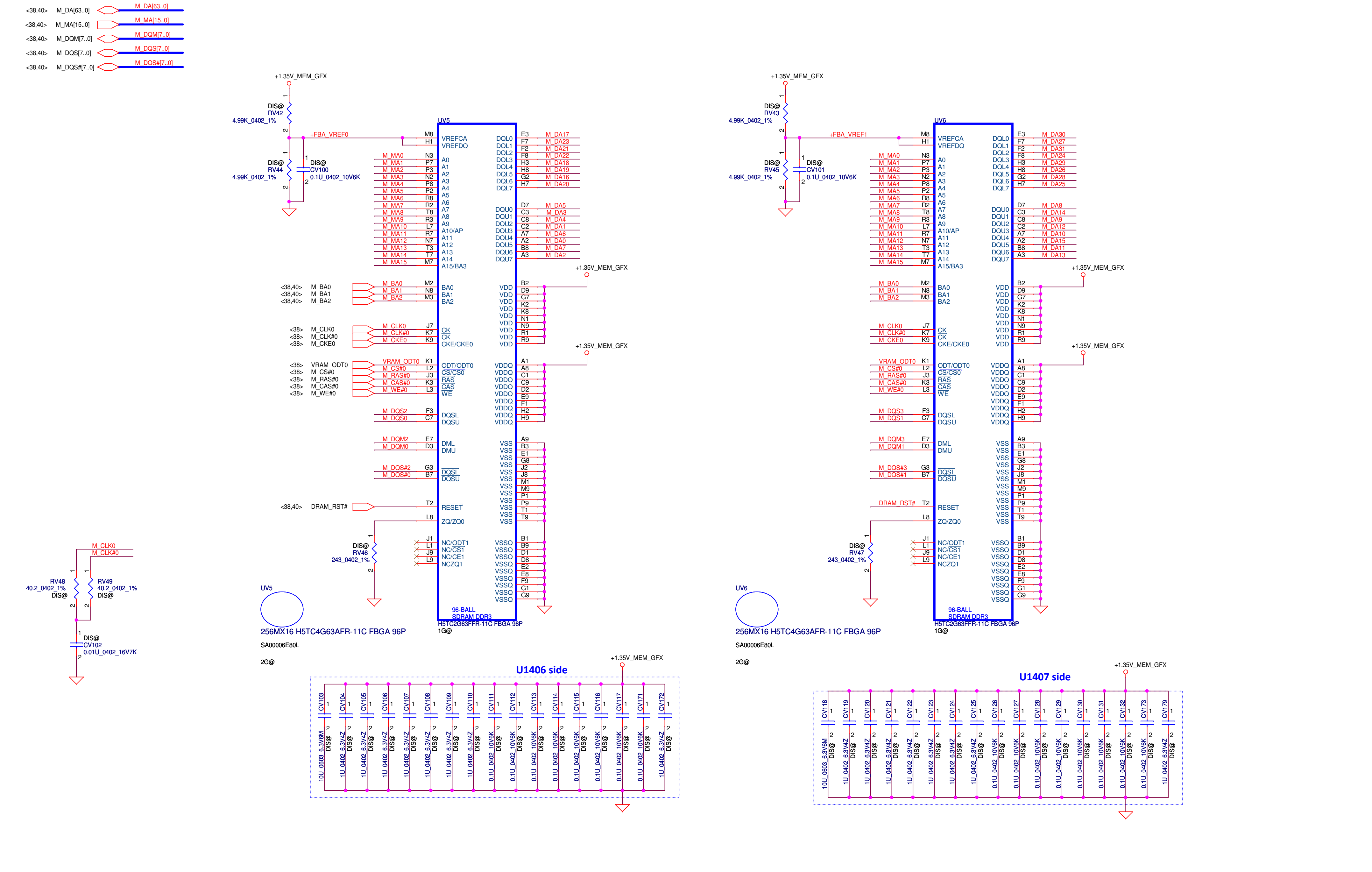
Compal Electronics, Inc.

Title: TOPAZ_MEM

Size: Custom | Document Number: LA-B012P | Rev: 1.0

Date: Tuesday, August 05, 2014 | Sheet 38 of 55

Memory Partition A - Lower 32 bits



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Issued Date	2014/01/20	Deciphered Date 2015/01/19	Title: TOPAZ VRAM A Lower
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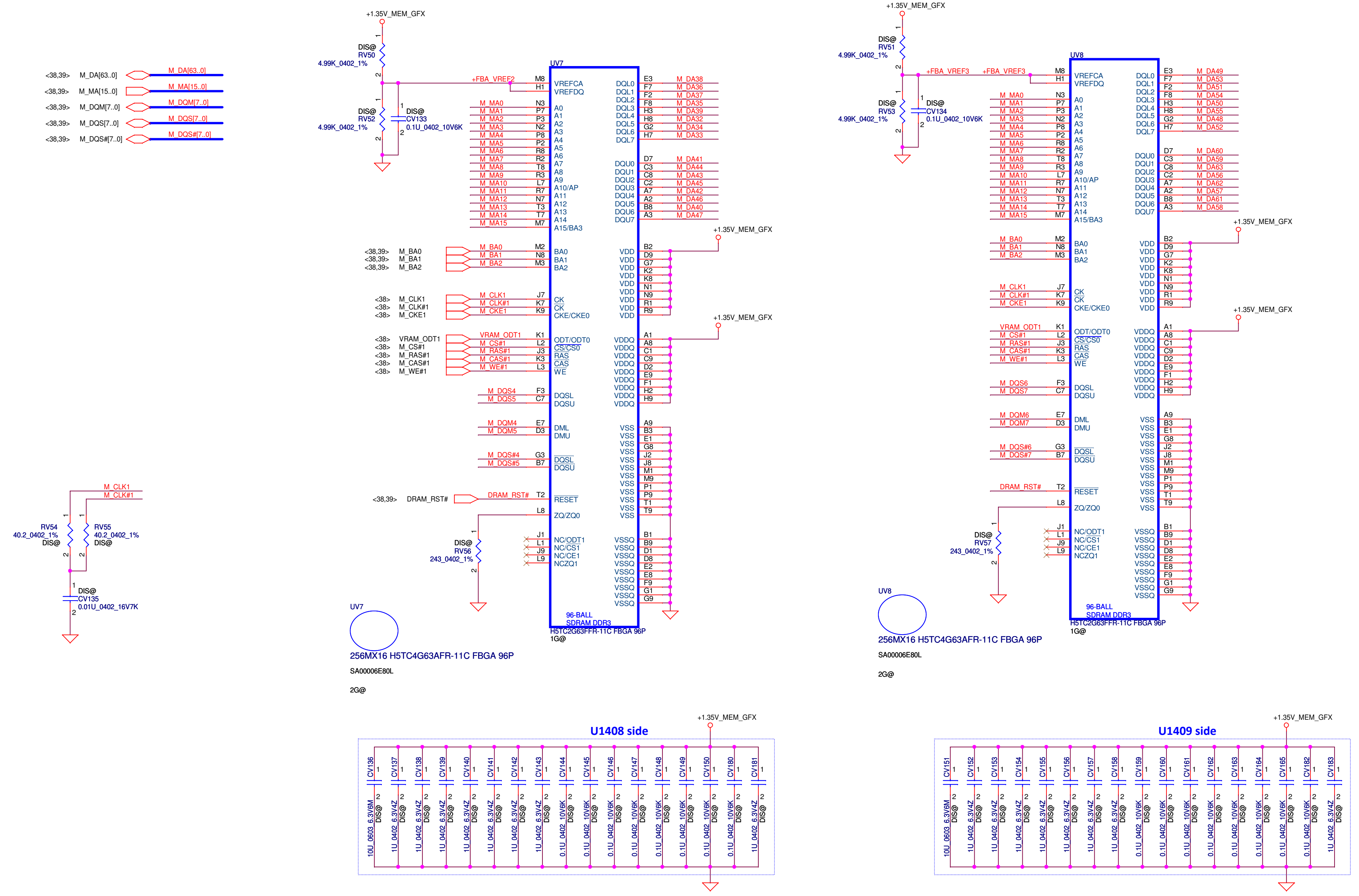
			Date: Tuesday, August 05, 2014; Sheet 39 of 55

Memory Partition A - Upper 32 bits



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Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: TOPAZ_VRAM A Upper
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				Date: Tuesday, August 05, 2014; Sheet 40 of 55

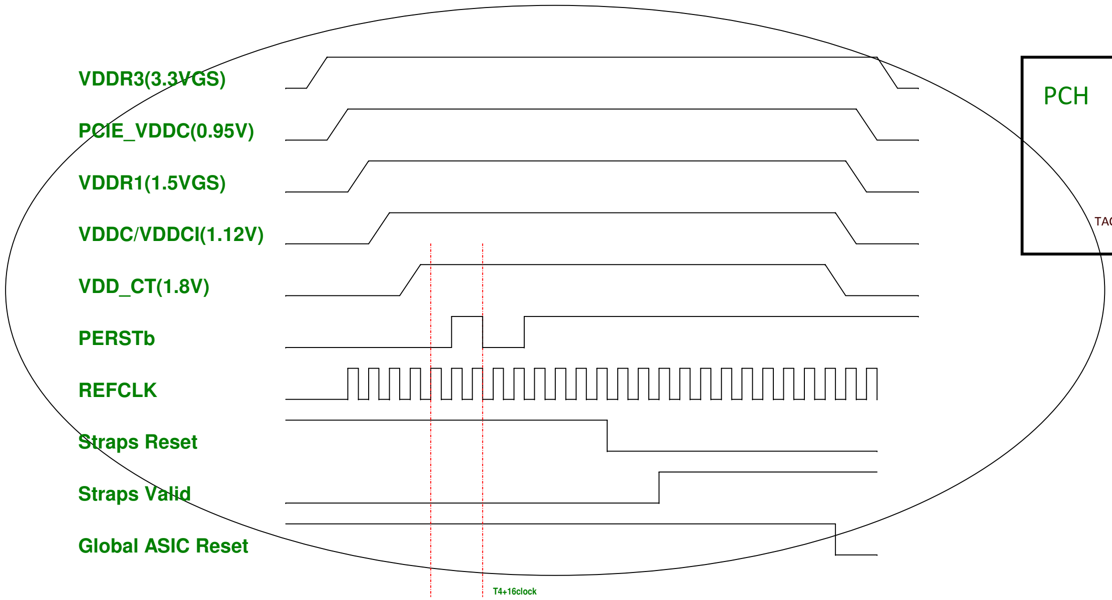
Power-Up/Down Sequence

1. All the ASIC supplies must reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred. The maximum slew rate on all rails is 50 mV/μs.

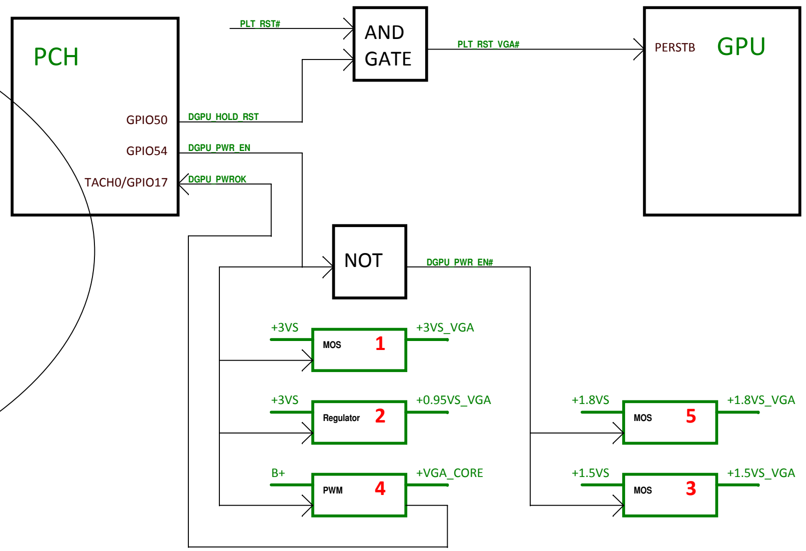
2. The external pull ups on the DDC/AUX signals (if applicable) should ramp up before or after both VDDC and VDD_CT have ramped up.

3. VDDC and VDD_CT should not ramp up simultaneously. For example, VDDC should reach 90% before VDD_CT starts to ramp up (or vice versa).

4. For power down, reversing the ramp-up sequence is recommended.



CPU part



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Compal Electronics, Inc.

Title
Reserved Page

Size | Document Number ***LA-B012P*** | Rev 1.0

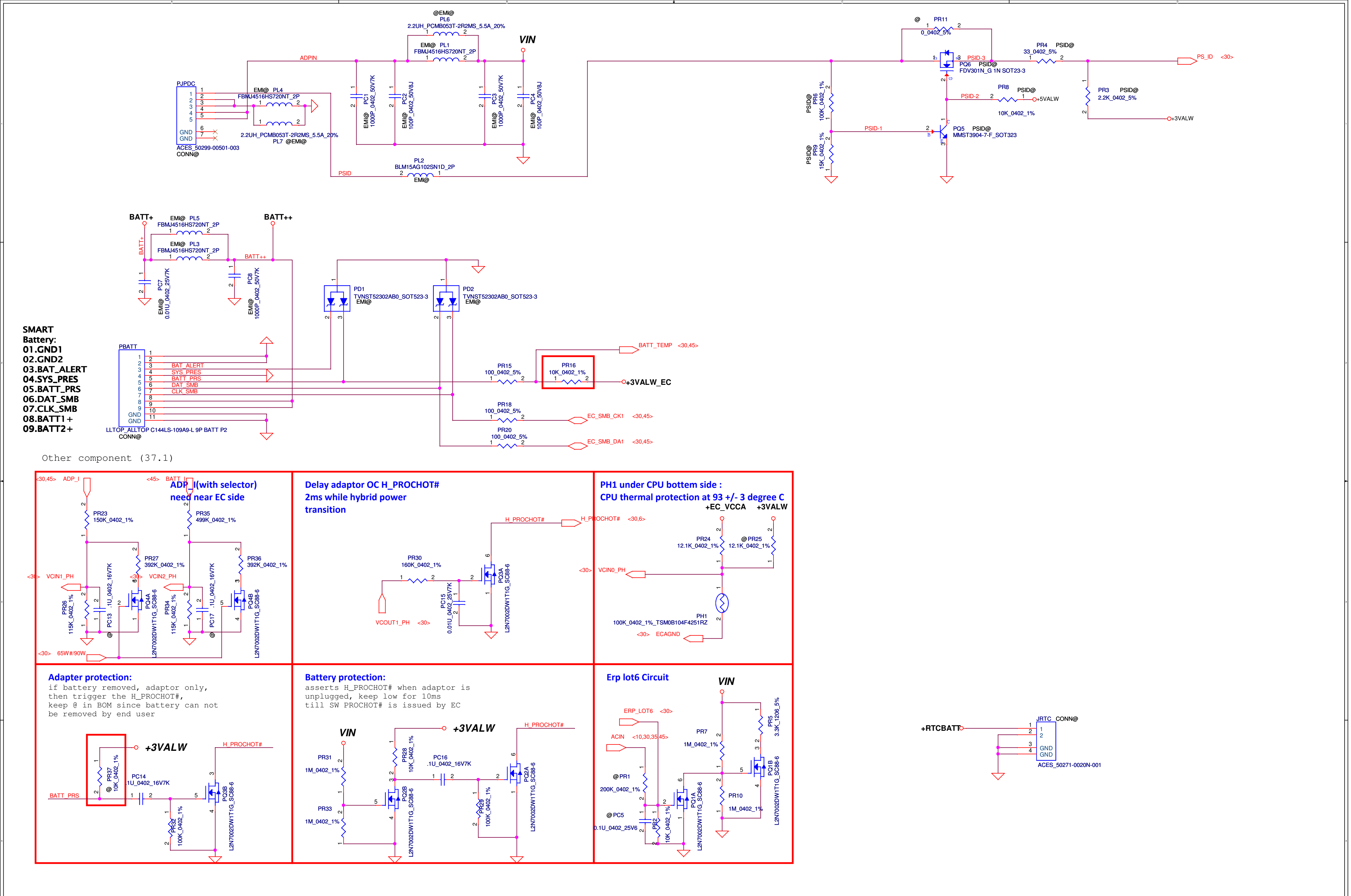
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title

Reserved Page

Size	Document Number	Rev
	LA-B012P	1.0



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date 2015/01/19	Title: PWR_DCIN/BATT CONN/OTP

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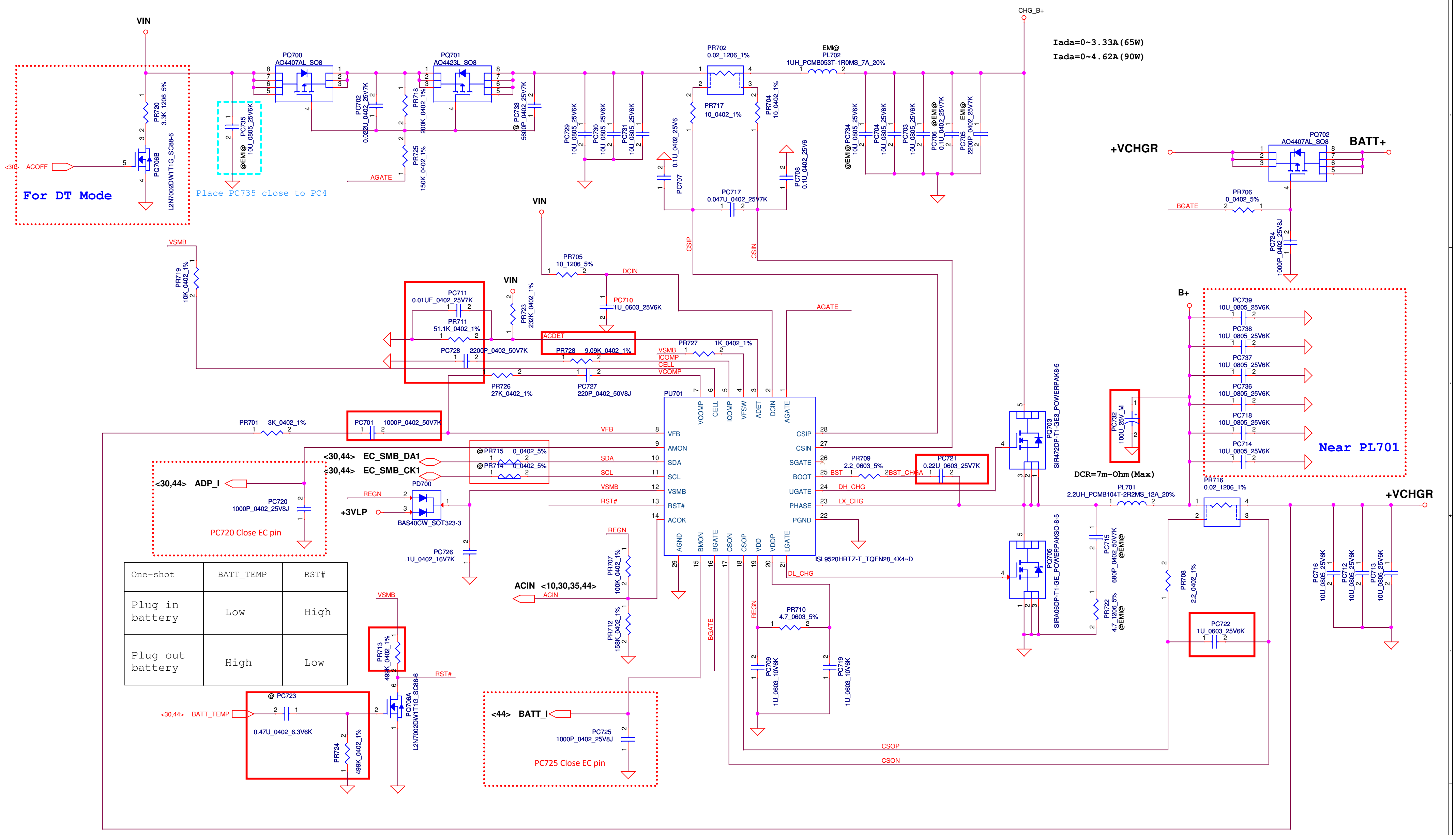
Size | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 | Sheet 44 of 55



One-shot	BATT_TEMP	RST#
Plug in battery	Low	High
Plug out battery	High	Low

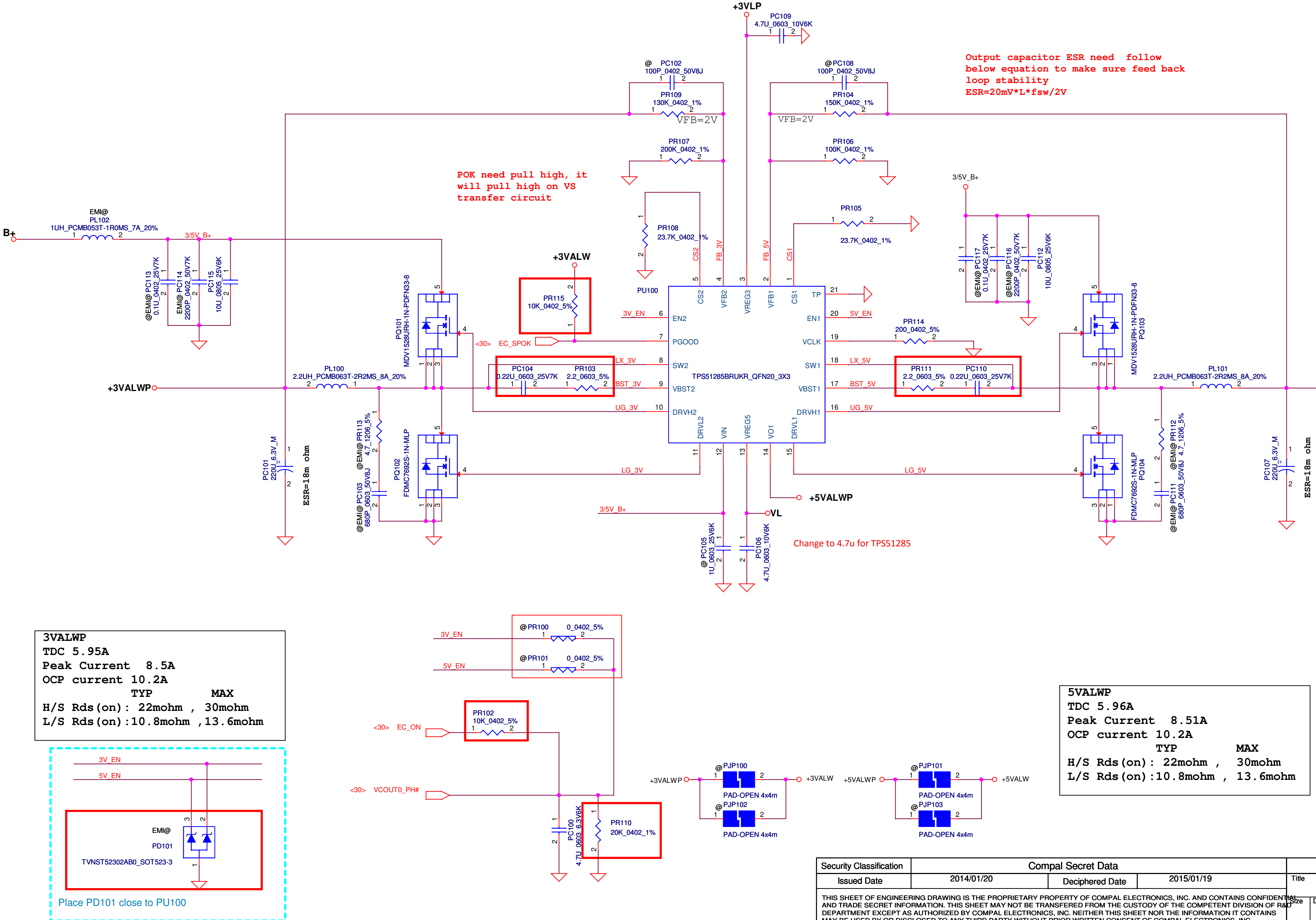
2S2P : CV = 8.4V CC = 3.9A
3S1P : CV = 12.6V CC = 2A

Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: PWR_CHARGER

Size | Document Number: LA-B012P | Rev 1.0



Output capacitor ESR need follow below equation to make sure feed back loop stability
ESR=20mV*L*fsw/2V

```
3VALWP
TDC 5.95A
Peak Current  8.5A
OCP current 10.2A
             TYP         MAX
H/S Rds(on): 22mohm , 30mohm
L/S Rds(on):10.8mohm ,13.6mohm
```

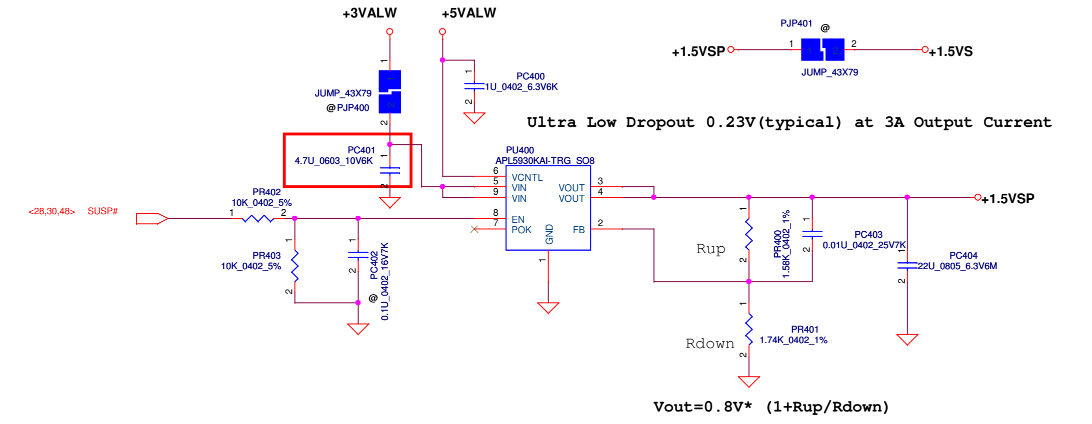
```
5VALWP
TDC 5.96A
Peak Current  8.51A
OCP current 10.2A
             TYP         MAX
H/S Rds(on): 22mohm ,  30mohm
L/S Rds(on):10.8mohm , 13.6mohm
```

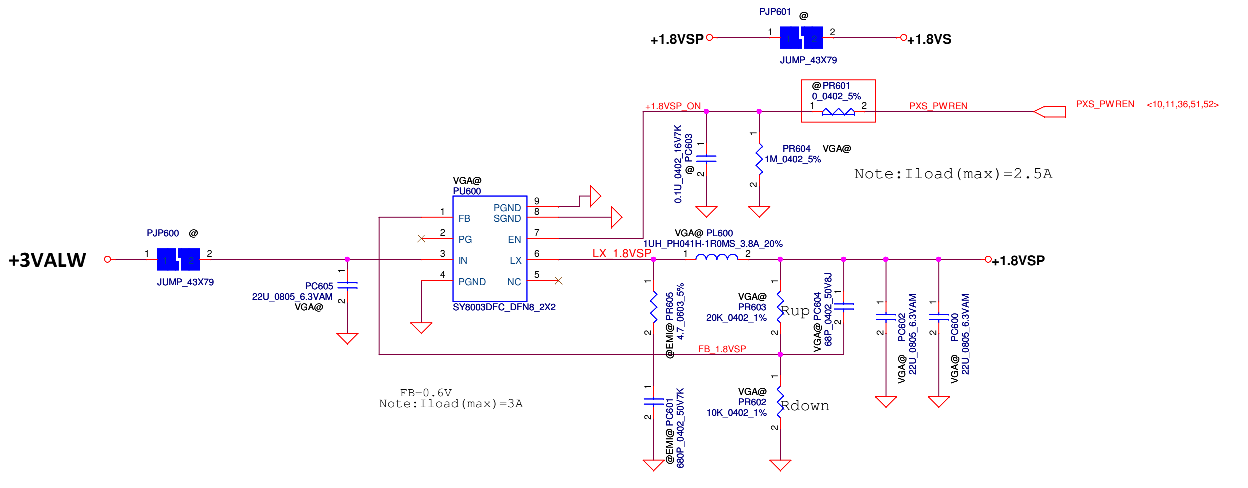
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: *PWR_3.3VALWP/5VALWP*

Size | Document Number: *LA-B012P* | Rev 1.0





Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

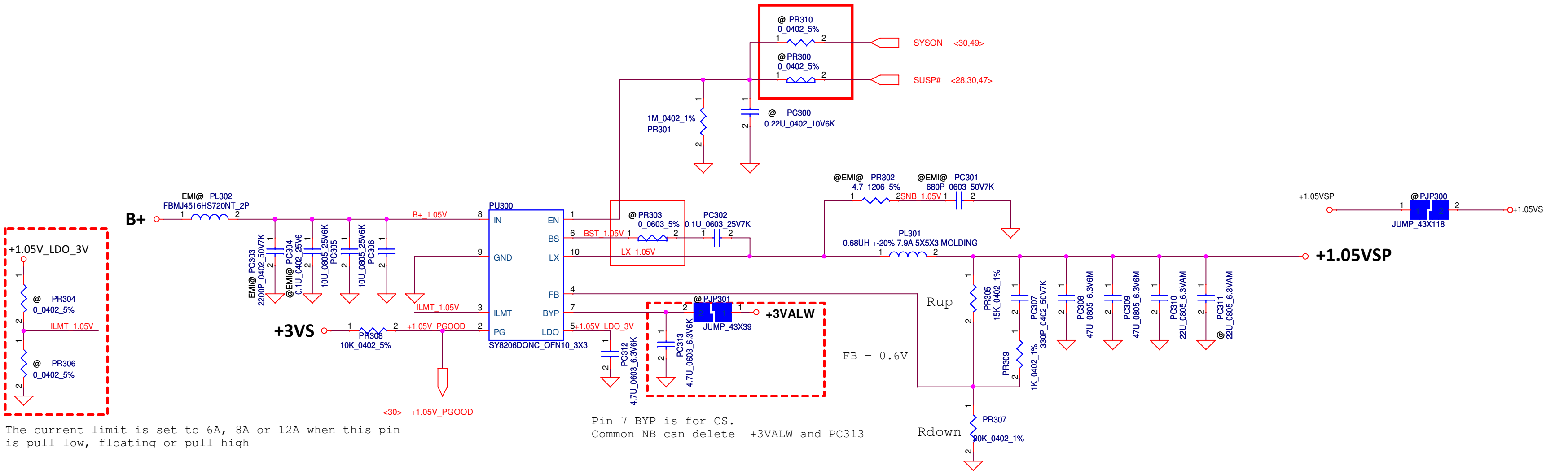
Compal Electronics, Inc.

Title: *PWR_1.5VSP / 1.8VSP*

Size | Document Number: *LA-B012P* | Rev 1.0

Date: Tuesday, August 05, 2014 |

EN pin don't floating
If have pull down resistor at HW side, pls delete PR301



VFB=0.6V
Vout=0.6V* (1+Rup/Rdown)
Vout=1.05V

+1.05VSP
TDC 5A
Peak Current 6.6A
OCP current 8A

Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: PWR_+VCCIO

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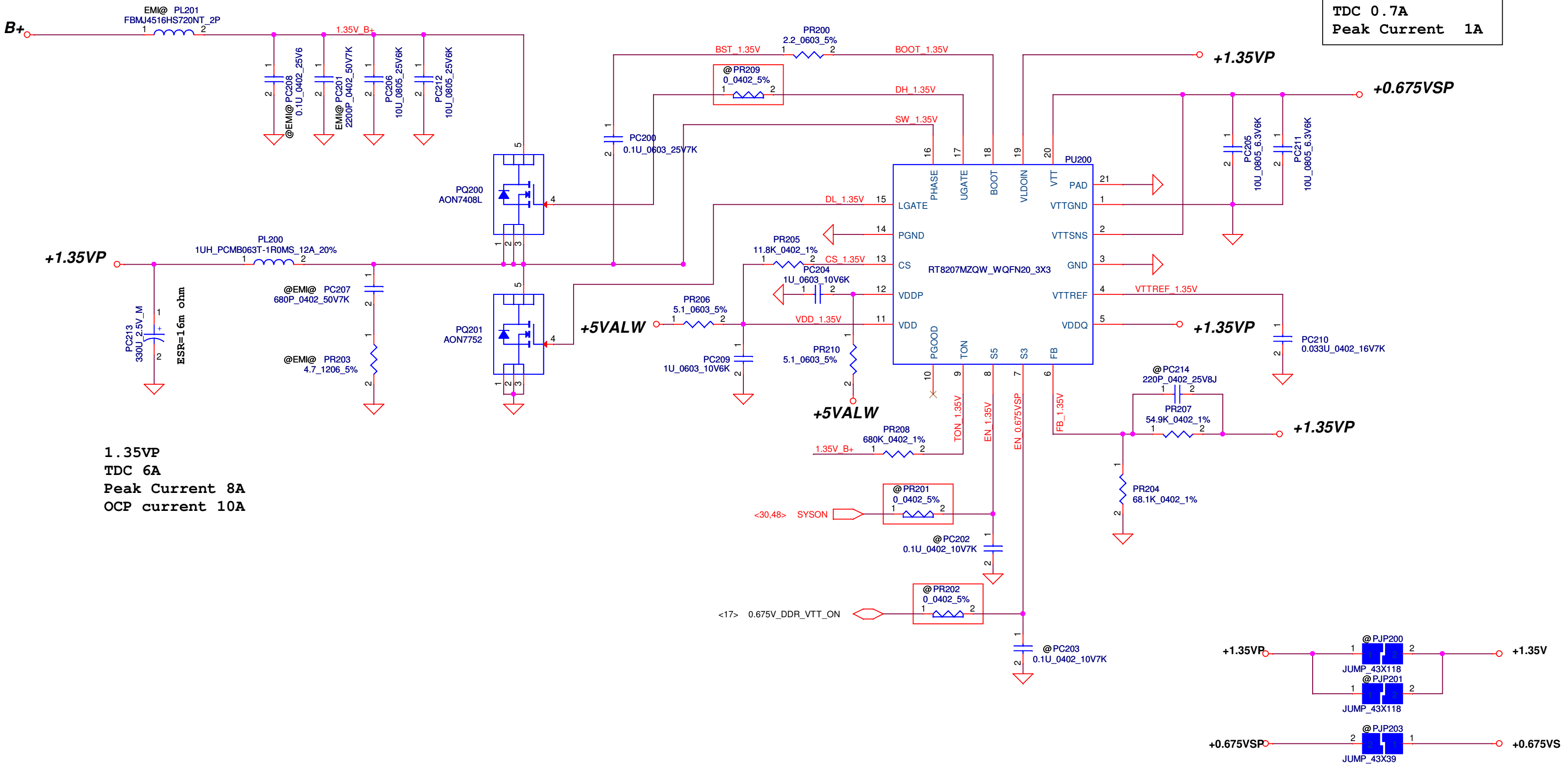
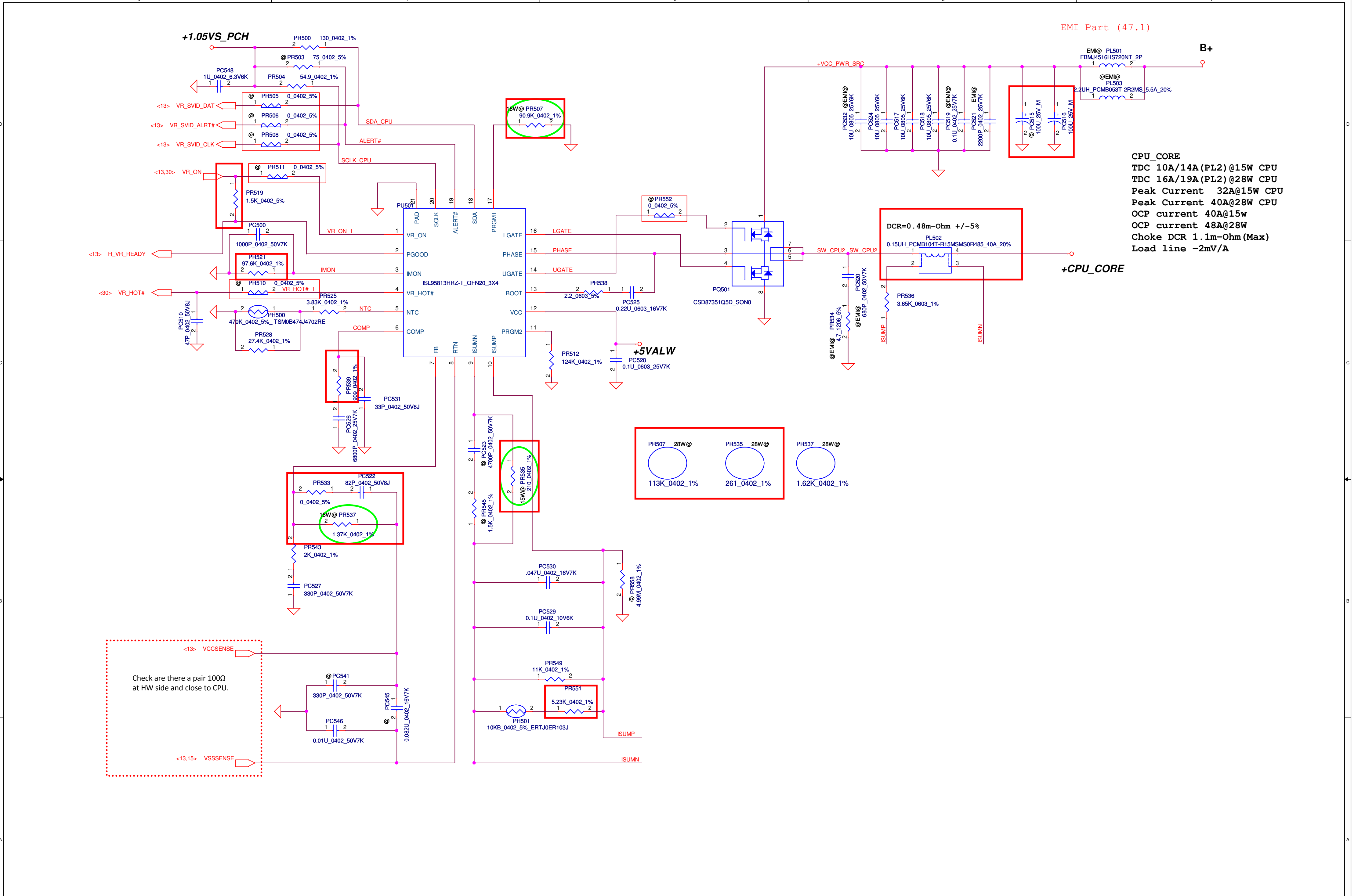
Date: Tuesday, August 05, 2014 | Sheet 48 of 55



0.675Volt +/- 5%
TDC 0.7A
Peak Current 1A

1.35VP
TDC 6A
Peak Current 8A
OCP current 10A

Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: PWR_+1.35VP/0.675VSP
				Size / Document Number: LA-B012P / Rev 1.0
				Date: Tuesday, August 05, 2014 / Sheet 49 of 55



Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

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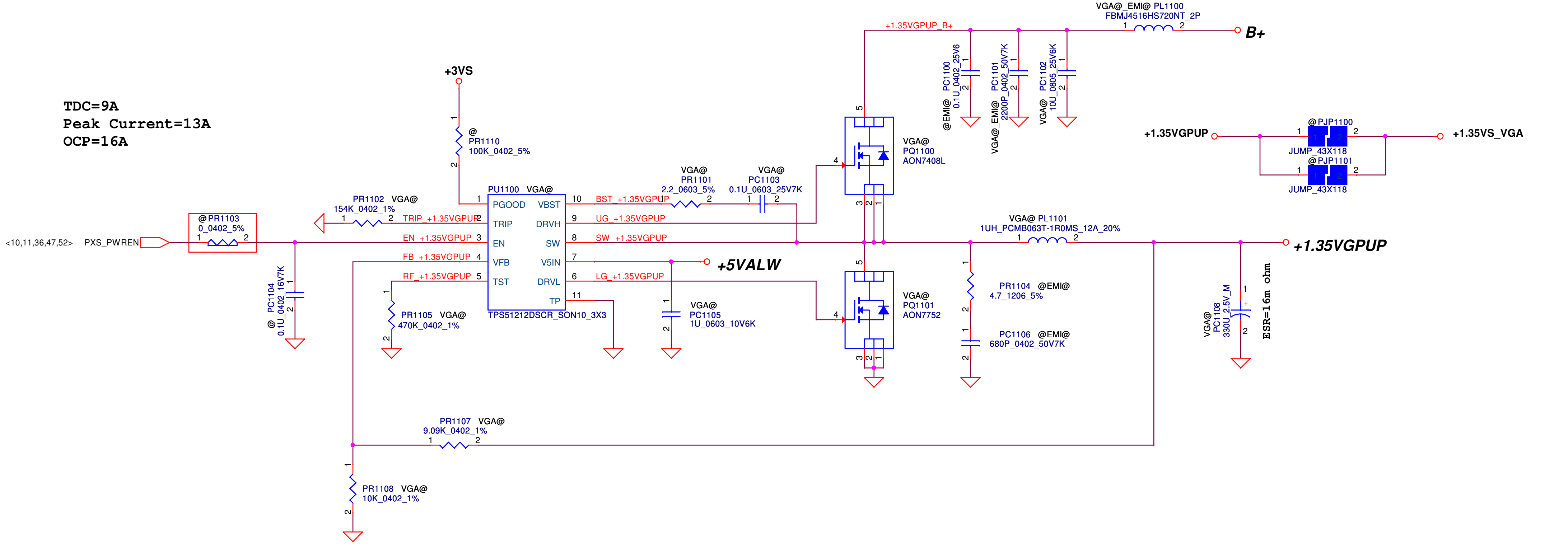
Compal Electronics, Inc.

Title: PWR_VCORE

Size | Document Number: LA-B012P | Rev 1.0

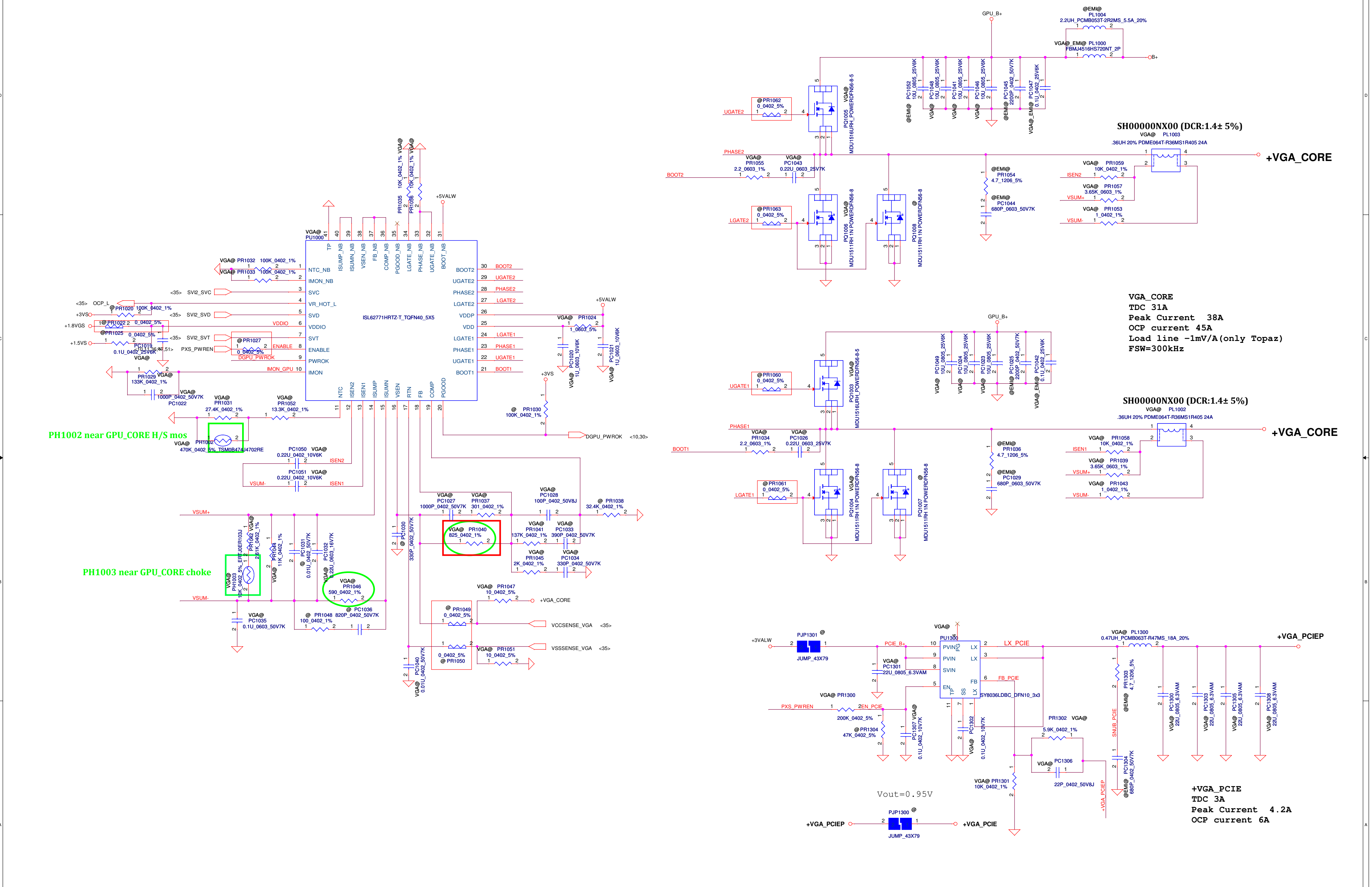
Date: Tuesday, August 05, 2014 | Sheet 50 of 55



Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: PWR_+1.35VGPU

Size | Document Number: LA-B012P | Rev 1.0

Date: Tuesday, August 05, 2014 |



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date 2015/01/19	Title: PWR_VGA_CORE/PCIE

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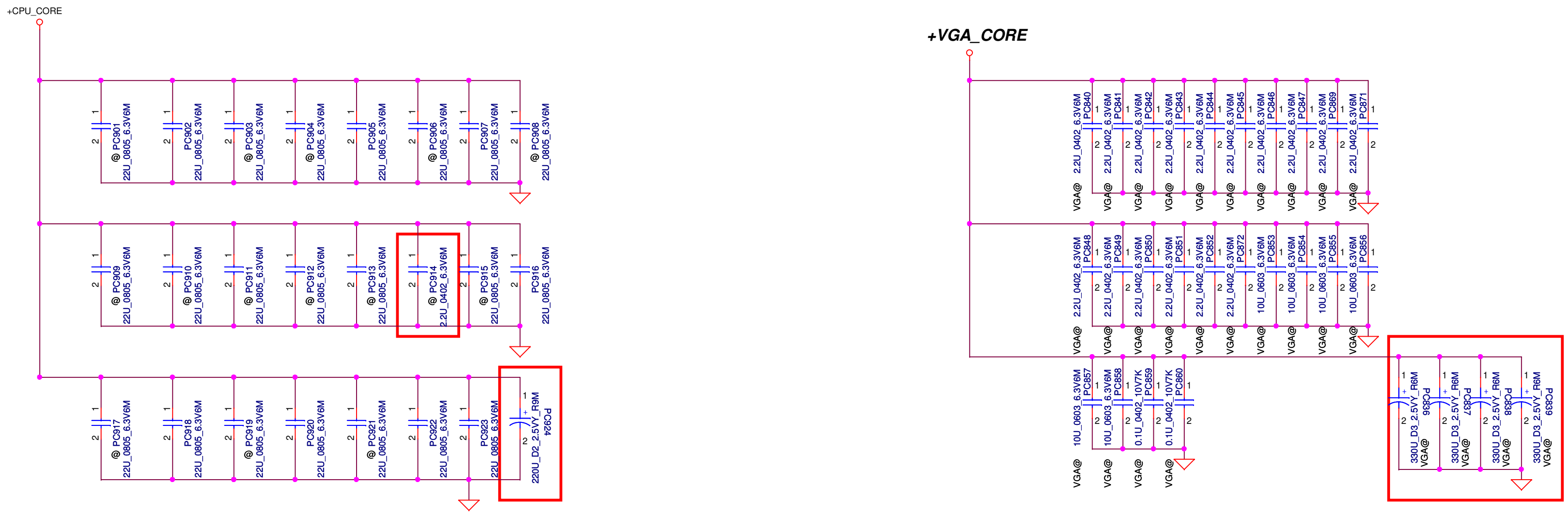
Size: Custom | Document Number: LA-B012P | Rev: 1.0

Date: Tuesday, August 05, 2014 | Sheet 52 of 55



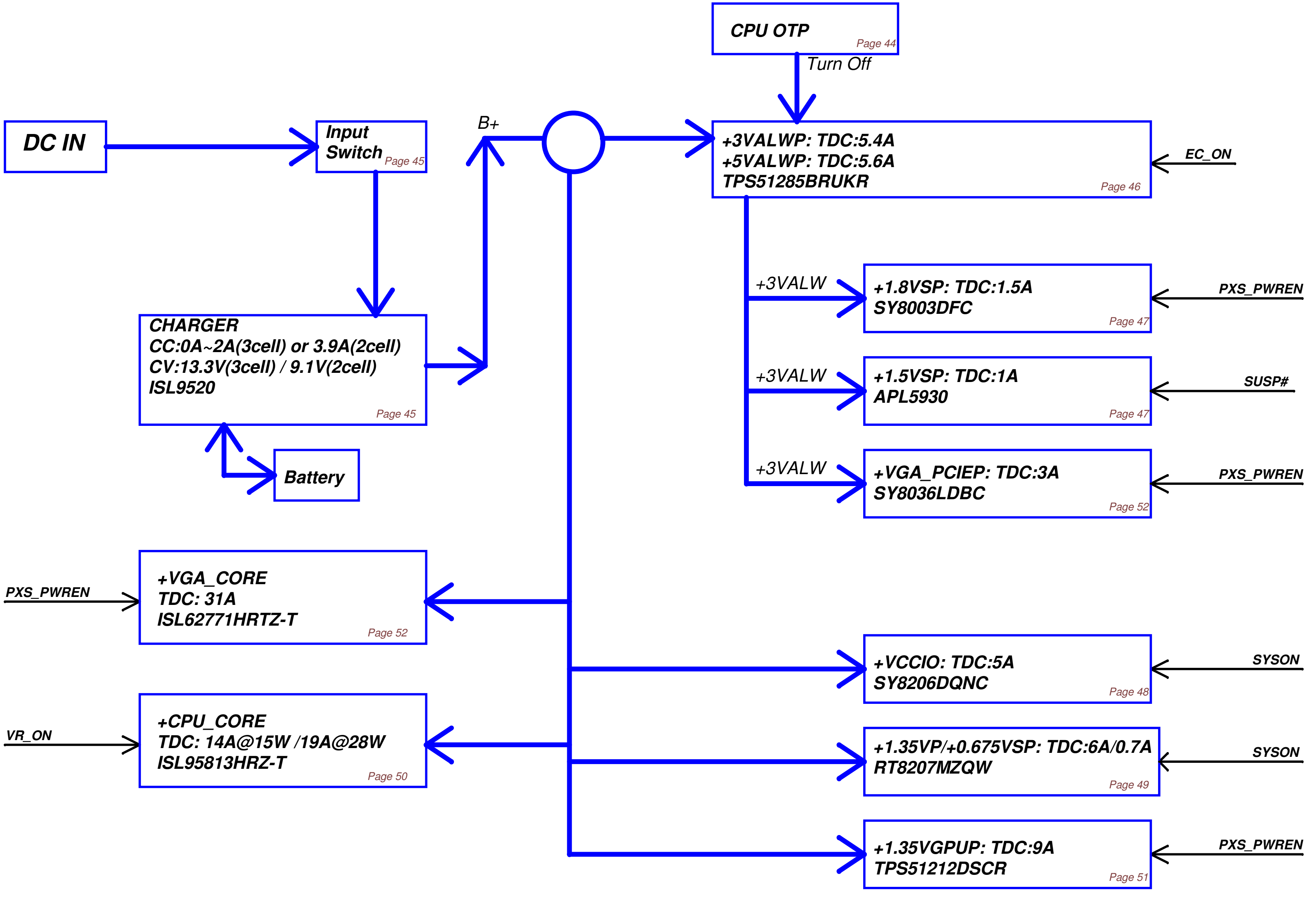
Security Classification	Compal Secret Data		
Issued Date	2014/01/20	Deciphered Date	2015/01/19

Compal Electronics, Inc.

Title: *PWR_PROCESSOR DECOUPLING*

Size | Document Number: *LA-B012P* | Rev: 1.0

Power block



Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2014/01/20	Deciphered Date	2015/01/19	Title: PWR_POWER BLOCK DIAGRAM
				Size / Document Number: LA-B012P / Rev: 1.0
				Date: Tuesday, August 05, 2014 / Sheet 54 of 55

Version Change List (P. I. R. List)   Page 1

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	44	DCIN/BATT CONN/OTP	13/10/24	Morris	design change	change PR16 from 100K to 10K add PR37 10K	0.2
2	45	CHARGER	13/10/24	Morris	design change	change PC711 from 1000pF to 0.01uF change PR711 from 49.9K to 51.1K change PR713 from 10K to 499K change PR724 from 100K to 499K change PC721 from 0.047u to 0.22u change PC722 from 0.1u to 1u add PC732 100u	0.2
3	46	3.3VALWP/5VALWP	13/10/24	Morris	design change for solve can't root issue	change PC104 from 0.1u to 0.22u change PC110 from 0.1u to 0.22u change PR102 from 2.2K to 10K add PR110 20K	0.2
4	50	VCORE	13/10/24	Morris	adjust CPU parameter	change PR507(15W@) from 90.9K to 169K change PR519 from 1.91K to 10K change PR521 from 95.3K to 97.6K change PR539 from 8.06K to 909 change PC515,PC516 from SF000005100 to SF000004M00 change PL502 from SH00000NM00 to SH00000PQ00 change PR535(15W@) from 340 to 210 change PR537 from 1.27K to 1.37K change PR535(28W@) from 432 to 261 change PR507(28W@) from 113K to 205K change PR551 from 2.61K to 5.23K add PC522 82pF add PR533 0-ohm	0.2
6	52	VGA_CORE/PCIE	13/10/24	Morris	design change from vendor change LL	change PR1040 from 1.24K to 825	0.2
7	53	PROCESSOR DECOUPLING	13/10/24	Morris	adjust CPU parameter	change PC924 from SGA20331E10 to SGA00009800 remove PC901,PC903,PC904,PC906,PC908,PC909,PC910,PC911,PC912,PC913,PC914,PC915,PC917,PC919,PC921	0.2
8	45	CHARGER	13/10/28	Morris	design change for plug out battery shut down issue	change PC723 from 0.01uF to 0.47uF change PR728 from 0 to 9.09K change PC728 from 4700pF to 2200pF change PC701 from 220pF to 1000pF	0.2
9	46	3.3VALWP/5VALWP	13/12/12	Morris	design change from EE request	add PR115 10K-ohm	0.3
10	50	VCORE	13/12/12	Morris	design change from Intel recommend	change PR519 from 10K to 1.5K	0.3
11	48	+VCCIO	13/12/13	Morris	design change from EE request	delete PR310 and add PR300 0-ohm	0.3
12	50	VCORE	14/01/20	Morris	adjust CPU parameter	change PR507(15W@) from 169K to 90.9K change PR507(28W@) from 205K to 113K	1.0
13	53	PROCESSOR DECOUPLING	14/02/13	Morris	design change from thermal request	change PC836 PC837 PC838 PC839 from SGA20331E10 to SGA00006A00	1.0