

# Compal Confidential

## YOGA 730 13.3" UMA M/B Schematics Document

Intel KabyLake R Processor with DDR4 Memory Down

Only UMA Design

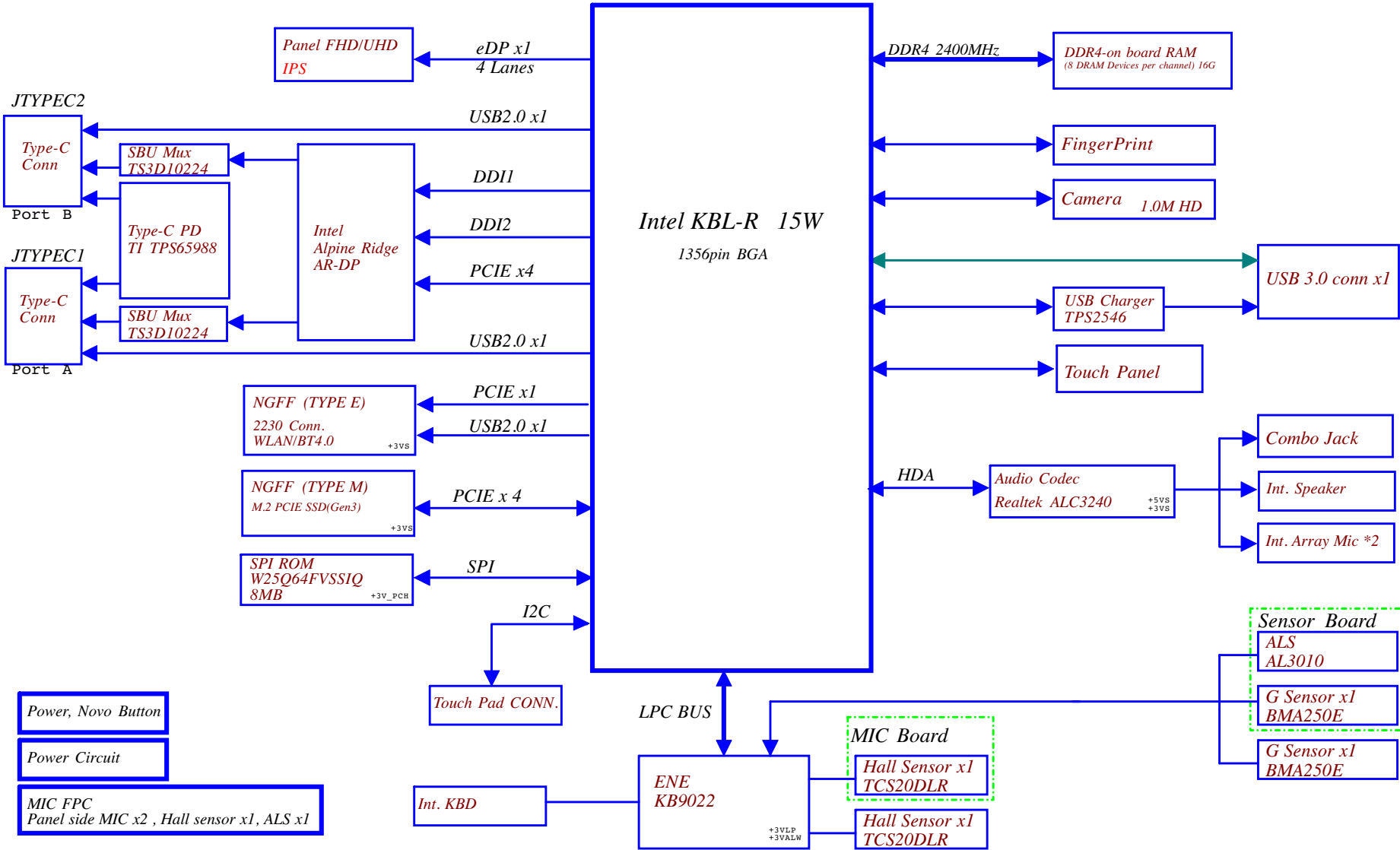
2017-12-05

**LA-F571P**

**REV: 1.0**

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title Cover Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size C	Document Number LA-F571P
				Date: Tuesday, December 05, 2017	Rev 1.0
				Sheet 1 of 45	

# KabyLake-R



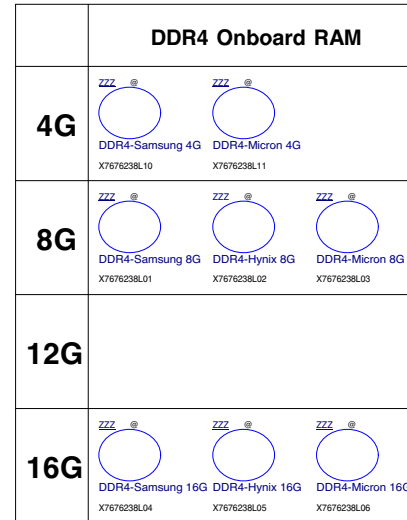
power plane State	B+	+5VALW +3VALW +1.8VALW +1.0VALW	+1.2V +2.5V	+5VS +3VS +1.0VS_VCCOPC +VCCCORE +VCCGT +1.0V_VCCST +1.0VS_VCCIO +1.8VS +0.6VS
S0	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Device	Address	Device	Address
Smart Battery	0001 011x 16h	GPU	1001 111x 9Eh

Device	Address
Touch Pad	

	SOURCE	PD	BATT	CHARGER	TP	PCH
EC_SMB_CK1 EC_SMB_DA1	NPCE388 +3VALW	V +3VALW	V +3VALW	V +19V_VIN	X	X
EC_SMB_CK2 EC_SMB_DA2	NPCE388 +3VS	X	X	X	X	V +3VS
PCH_SMB_CLK PCH_SMB_DATA	PCH +3VS	X	X	X	V +3VS	X

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

[illegible]

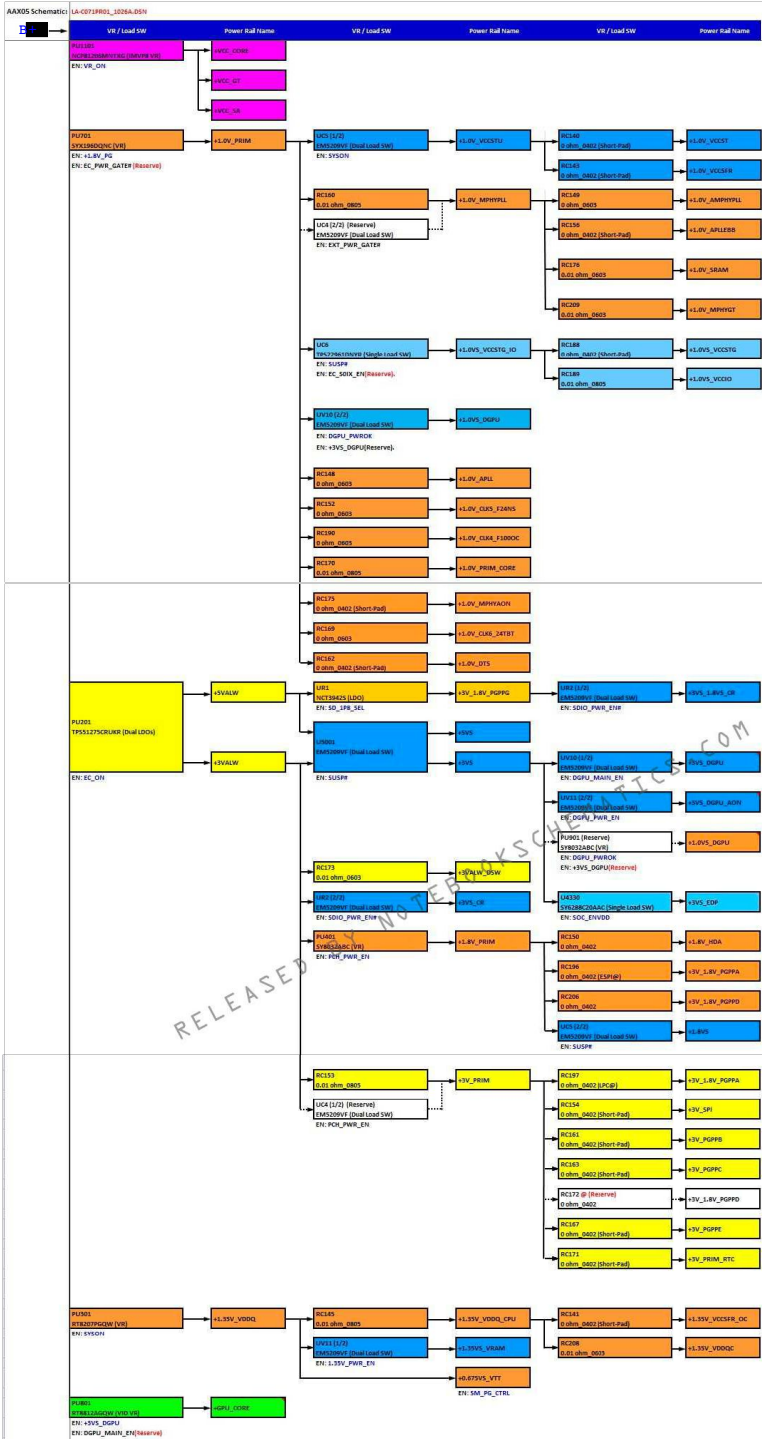
Port	
1	
2	USB2/3 (Charger)
3	USB2 (Type-C) (JTYPEC1)
4	USB2 (Type-C) (JTYPEC2)
5	Camera
6	Finger print
7	NGFF WLAN+BT
8	

Port	
1	
2	USB2/3
3	USB3 (Type-C) (JTYPECT1)
4	USB3 (Type-C) (JTYPECT1)
5	
6	

Port	Lane	
1	1	Thunderbolt
2	2	
3	3	
4	4	
5	1	
6	1	NGFF WLAN+BT
7	1	SSD
8	2	
9	3	
10	2	
11	1	
12	0	

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	Notes List
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-F571P	
				Date	Wednesday, November 22, 2017
				Sheet	3 of 45

## CIZY3 -PowerMap\_KBL-U42\_DDR4\_Volume\_NON CS]

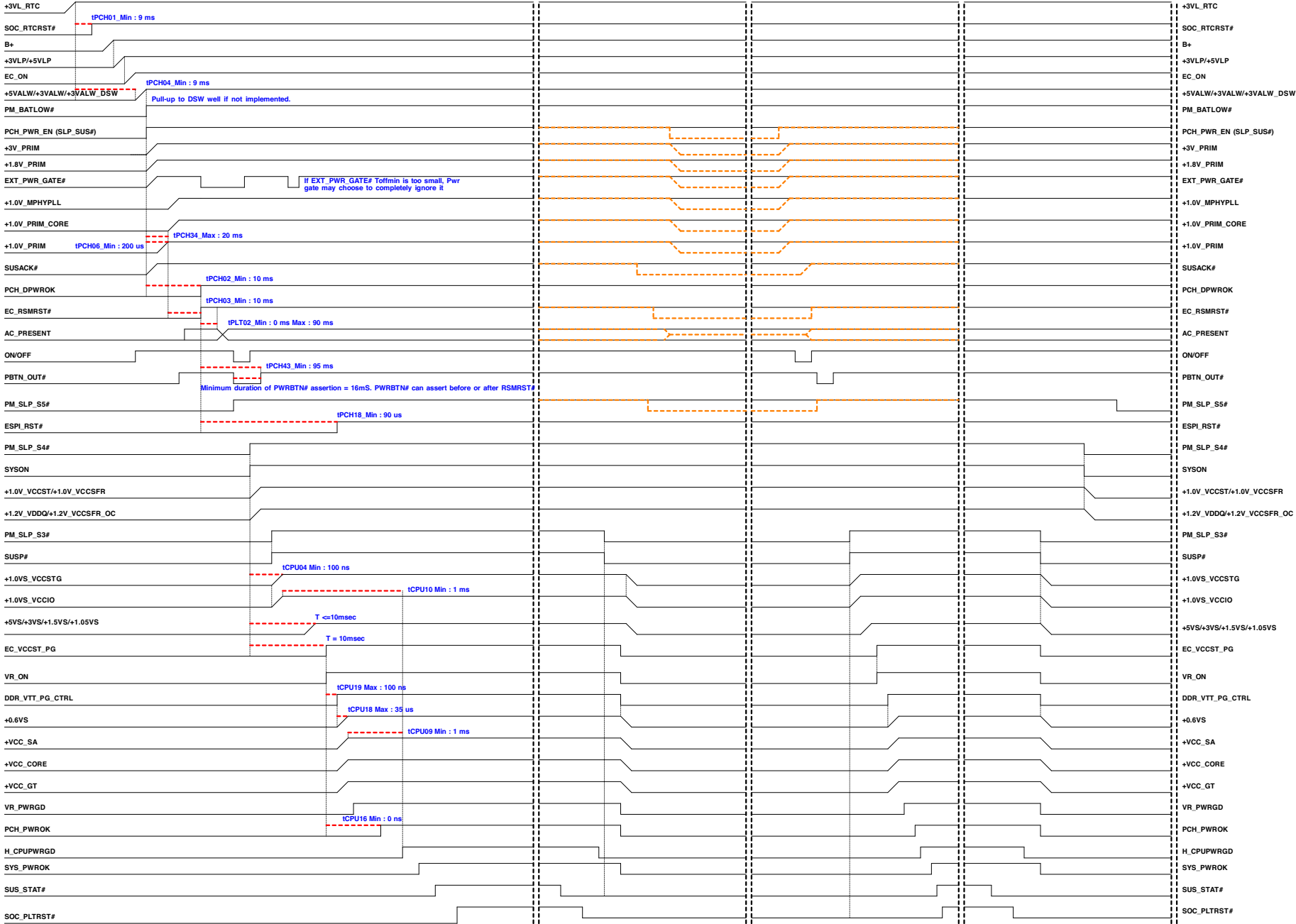
[illegible]

G3→S0

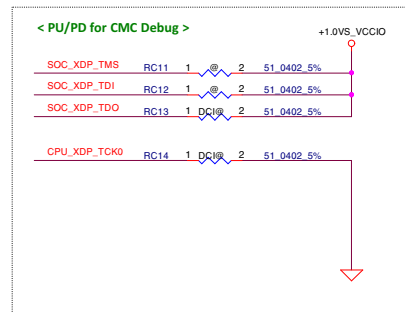
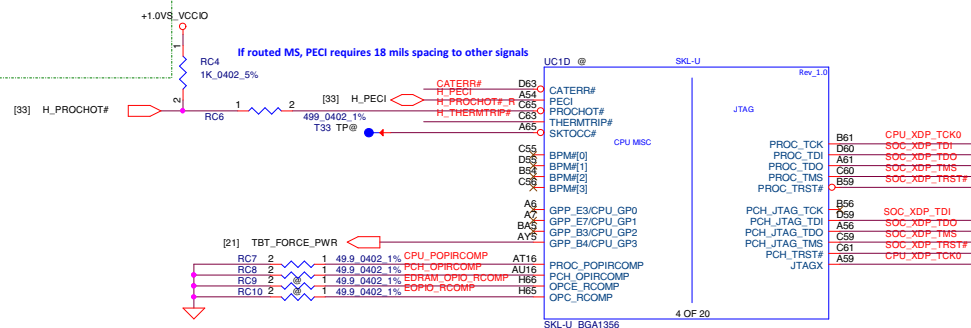
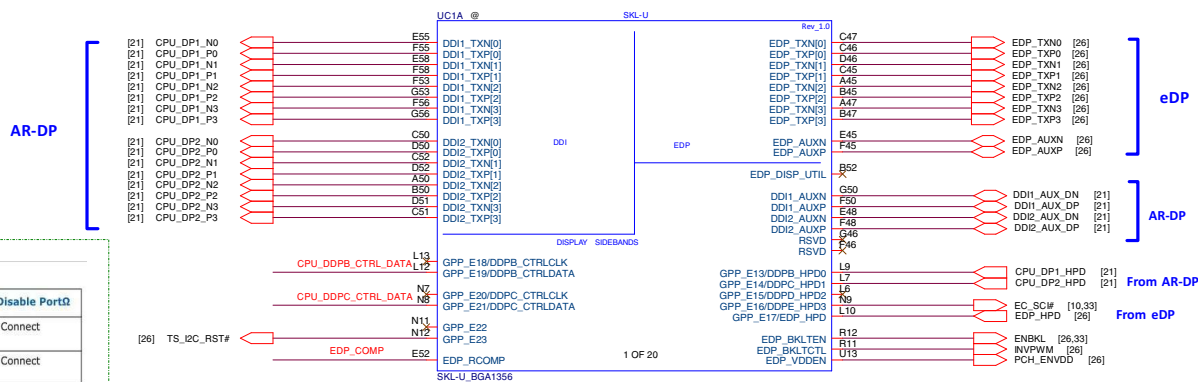
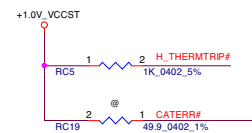
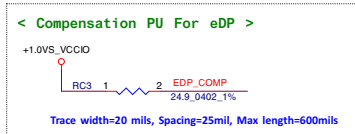
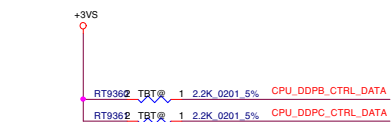
S0→S3/DS3

S0/DS3→S0

S0→S5



Port	Strap	How to Enable PortΩ	How to Disable PortΩ
Port 1	DDPB_CTRLDATA	Pull up to 3.3V with 2.2K ohm ±5% resistor	No Connect
Port 2	DDPC_CTRLDATA	Pull up to 3.3V with 2.2K ohm ±5% resistor	No Connect

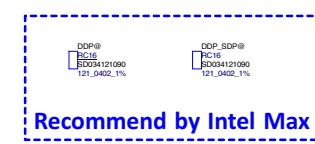
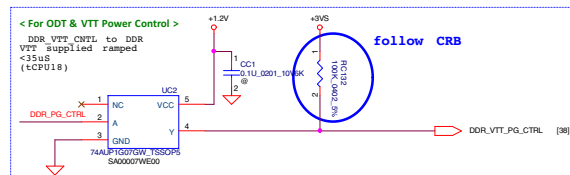
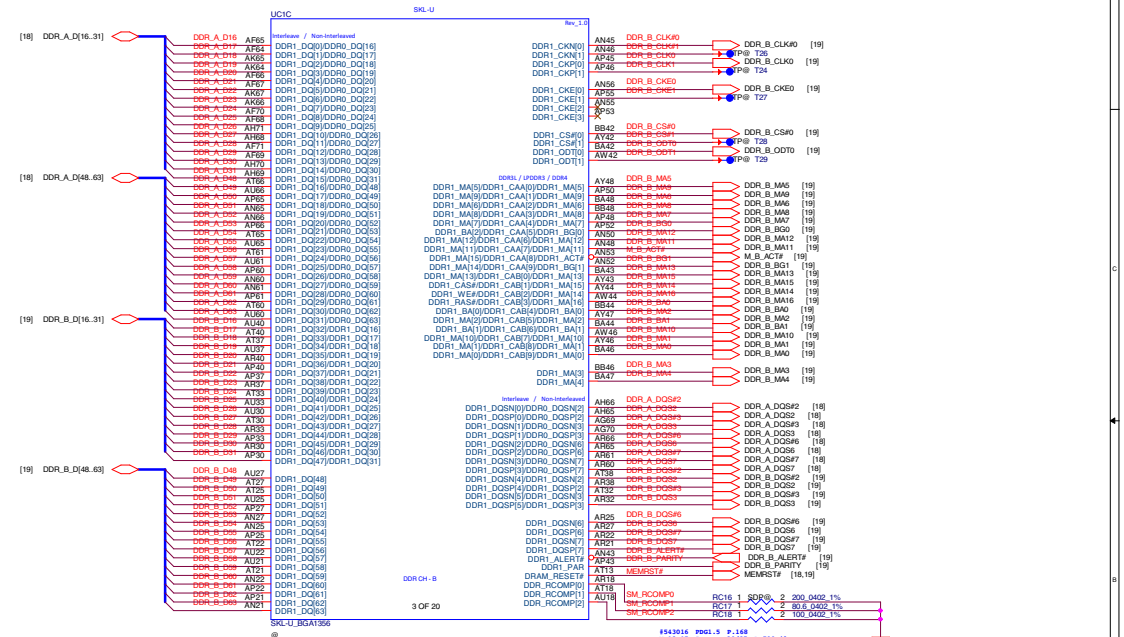
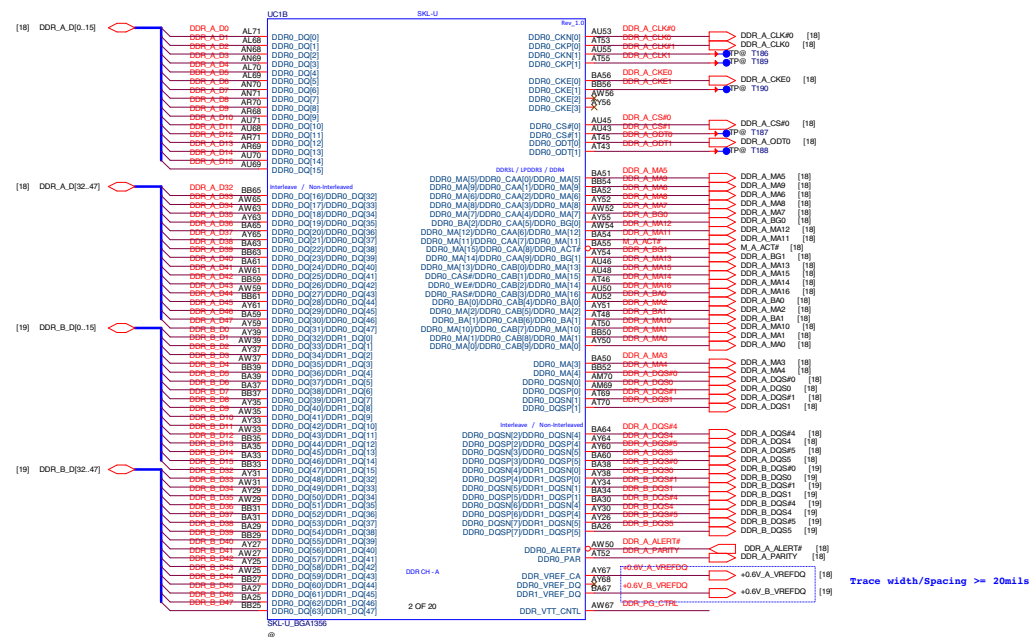


UC1  
SA0000AWB50  
Intel i5-8250U  
i5@

UC1  
SA0000AWC50  
Intel i7-8550U  
i7@

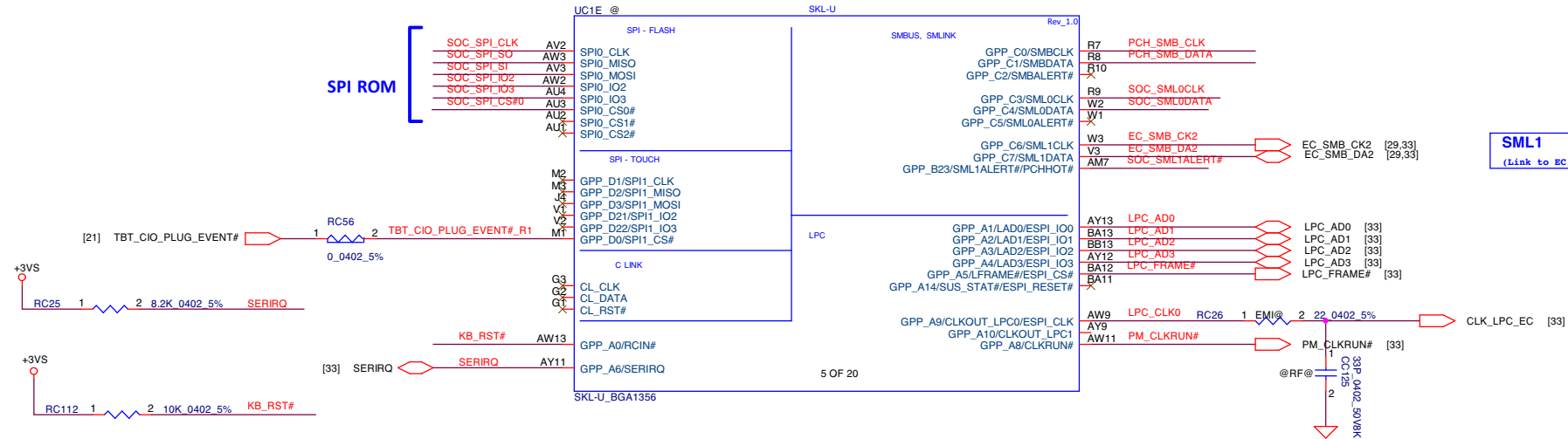
Security Classification	Compal Secret Data			<b>Compal Electronics, Inc.</b> <b>SKL-U(1/12)DDI,EDP,MISC,CMC</b>		
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	<b>LA-F571P</b>	1.0
				Date:	Wednesday, November 29, 2017	Sheet 6 of 45

## Non- Interleaved Memory



Security Classification	Compul Secret Data		Title		Compul Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17			
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM COMPUL ELECTRONICS, INC. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM COMPUL ELECTRONICS, INC.			Size	Document Number	Rev	
			Customer	LA-F571P	1.0	
			Date:	Wednesday, November 26, 2017	Sheet	7 of 46

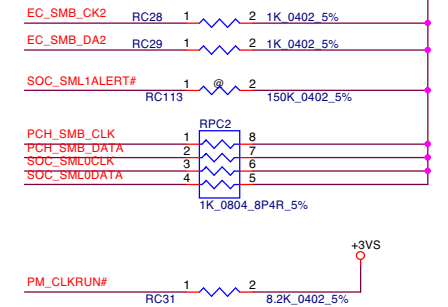
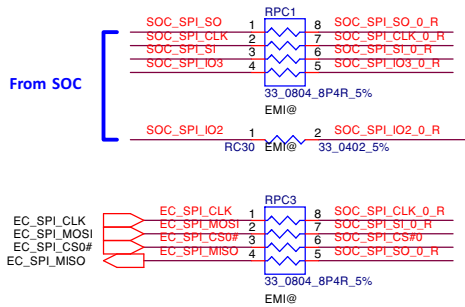
# SPI ROM



SML0ALERT# (Internal Pull Down):  
eSPI or LPC  
0 = LPC is selected for EC ==> Default  
1 = eSPI is selected for EC

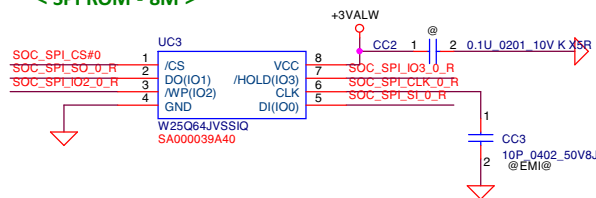
SML1  
(Link to EC,Thermal IC)

## RPC1, RPC3 and RC30 are close to UC3



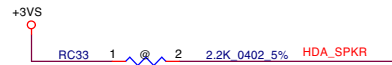
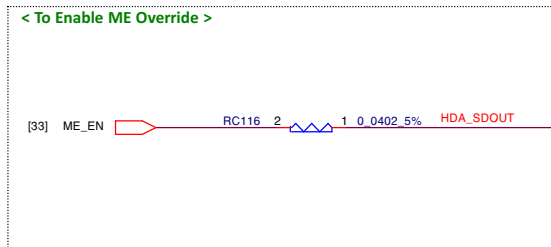
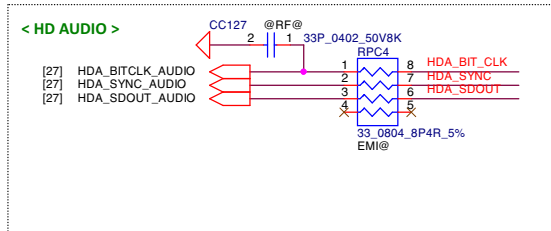
Follow 543016\_SKL\_U\_Y\_PDG\_2\_0

## < SPI ROM - 8M >

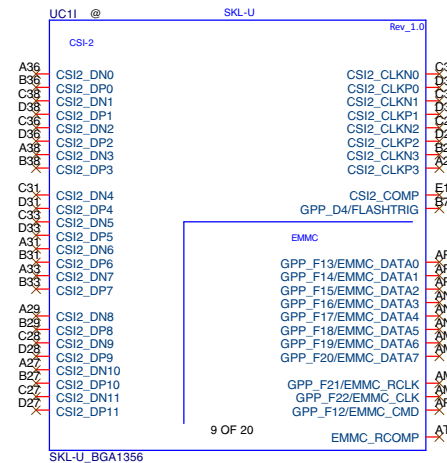
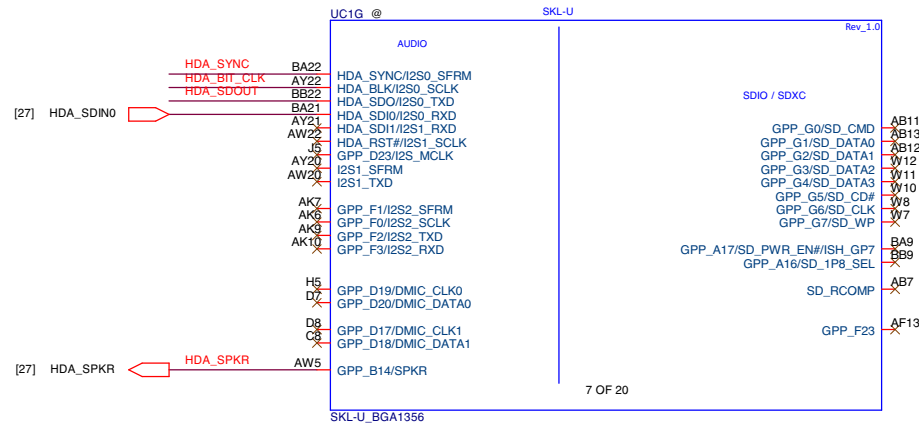


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	SKL-U(3/12)SPI,SMB,LPC,ESPI
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	1.0
Date:	Wednesday, November 29, 2017	Sheet	8 of 45	LA-F571P	

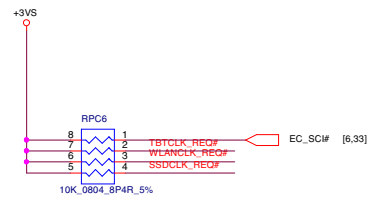




SPKR (Internal Pull Down):  
TOP Swap Override  
0 = Disable TOP Swap mode. ==> Default  
1 = Enable TOP Swap Mode.



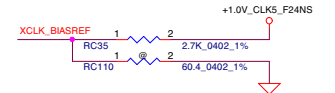
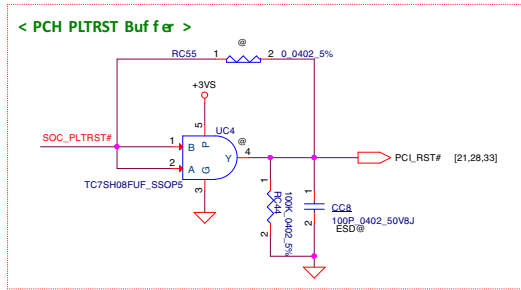
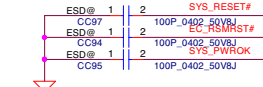
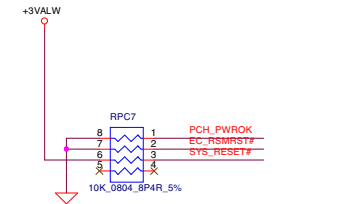
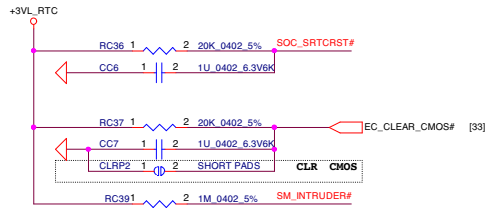
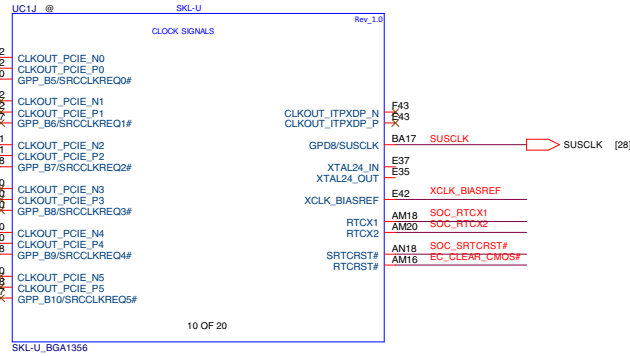
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	SKL-U(4/12)HDA,EMMC,SDIO,CSI2
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-F571P
				Date:	Wednesday, November 29, 2017
				Sheet	9 of 45
				Rev	1.0



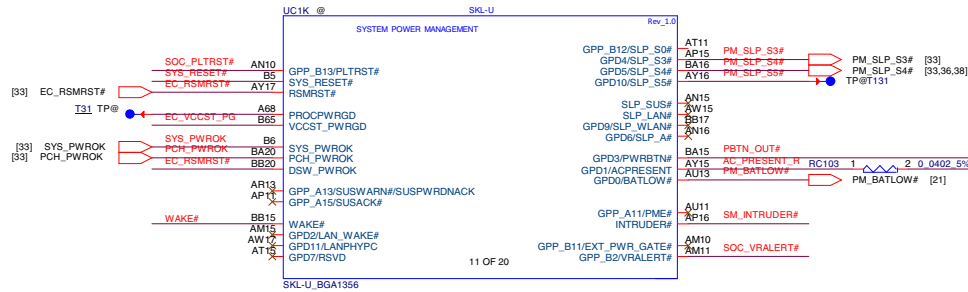
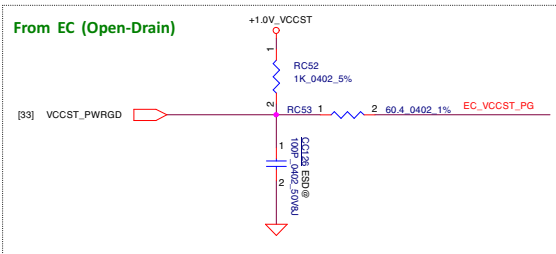
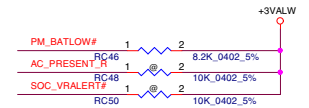
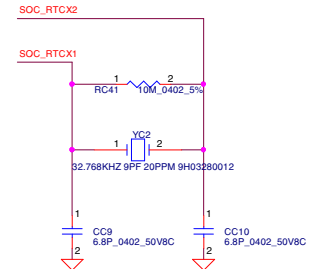
AR-DP [21] CLK\_PCIE\_TBT#  
[21] CLK\_PCIE\_TBT#  
[21] TBTCLK\_REQ#

NGFF WL+BT (KEY E) [28] CLK\_PCIE\_WLAN#  
[28] CLK\_PCIE\_WLAN#  
[28] WLANCLK\_REQ#

SSD [28] CLK\_PCIE\_SSD#  
[28] CLK\_PCIE\_SSD#  
[28] SSDCLK\_REQ#



Follow 546765\_2014W48\_SkyLake\_M0W\_Rev\_1.0  
Stuff 2.7k ohm(RC35) PU for SkyLake-U  
Stuff 60.4 ohm(RC110) PD for CannonLake-U



GSPiO\_MOSI (Internal Pull Down):

No Reboot

0 = Disable No Reboot mode. ==> Default

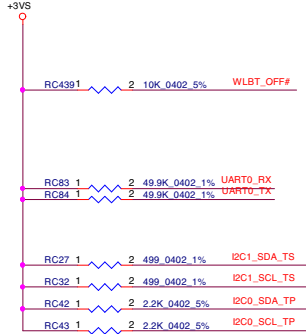
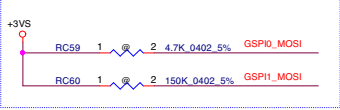
1 = Enable No Reboot Mode. (PCH will disable the TCO Timer system reboot feature). This funct i onis us d f u when running ITP/XDP.

GSPi1\_MOSI (Internal Pull Down):

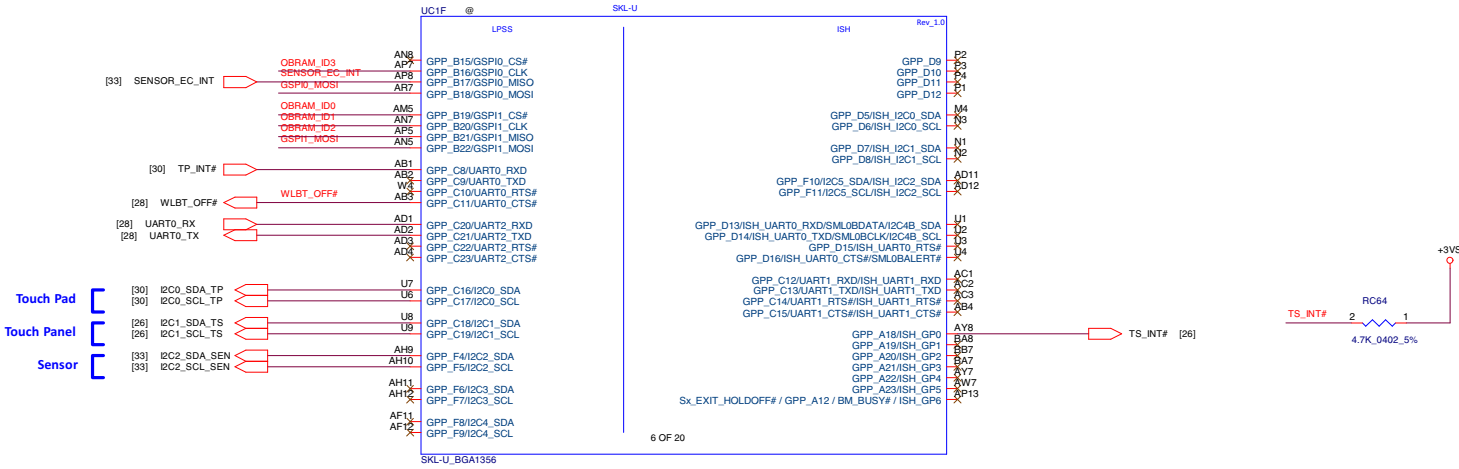
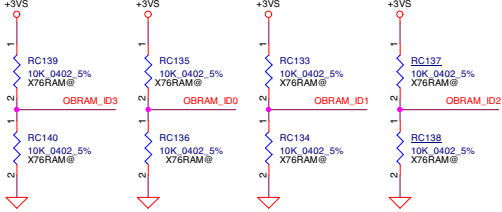
Boot BIOS Strap Bit

0 = SPI Mode ==> Default

1 = LPC Mode



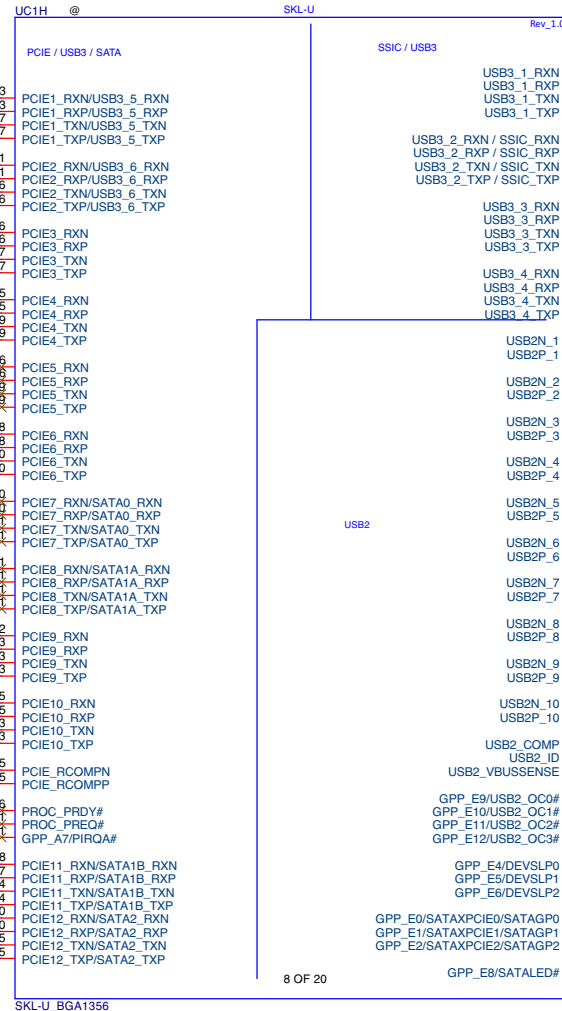
Capacity	RAM vendor	GGP_B16	GGP_B19	GGP_B20	GGP_B21
		OBRAM_ID3	OBRAM_ID0	OBRAM_ID1	OBRAM_ID2
4GB	Samsung K4A8G165WC-BCTD	0	0	0	0
	Micron MT40A512M16LY-075:E	0	0	0	1
	N/A	0	0	1	0
8GB	Samsung K4A8G165WC-BCTD	0	0	1	1
	Micron MT40A512M16LY-075:E	0	1	0	0
	Hynix H5AN8G6NAFR-UHC	0	1	0	1
16GB	Samsung K4AAG165WB-MCTD	0	1	1	0
	Micron MT40A1G16WBU-083E:B	0	1	1	1
	Hynix H5ANAG6NAMR-UHC	1	0	0	0
8GB 2400 MHz	Samsung K4A8G165WC-BCRC	1	0	0	1
	Micron MT40A512M16JY-083E:B	1	0	1	0
16GB 2400 MHz	Samsung K4AAG165WB-MCRC	1	0	1	1
	N/A	1	1	0	0
	N/A	1	1	0	1



AR-DP

NGFF WLAN+BT

SSD



When PCIE8/SATA1A is used as SATA Port 1 (ODD), then  
PCIE11/SATA1B (M.2 SSD) cannot be used as SATA Port 1.

USB3.0

USB3.0(Charger)

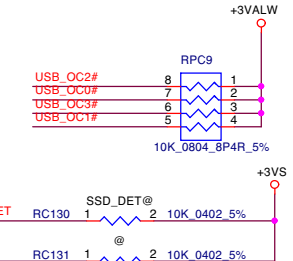
Type C port A

Type C port B

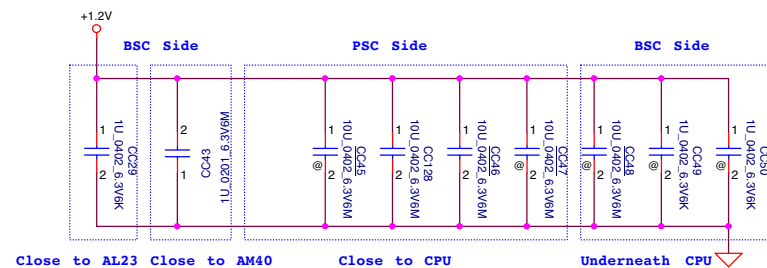
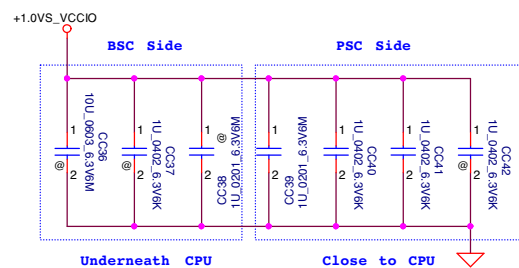
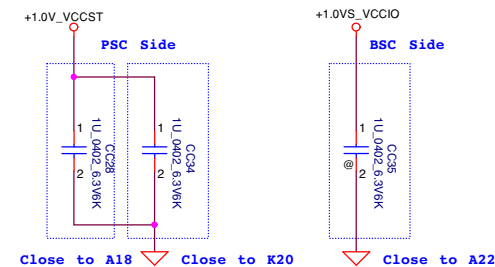
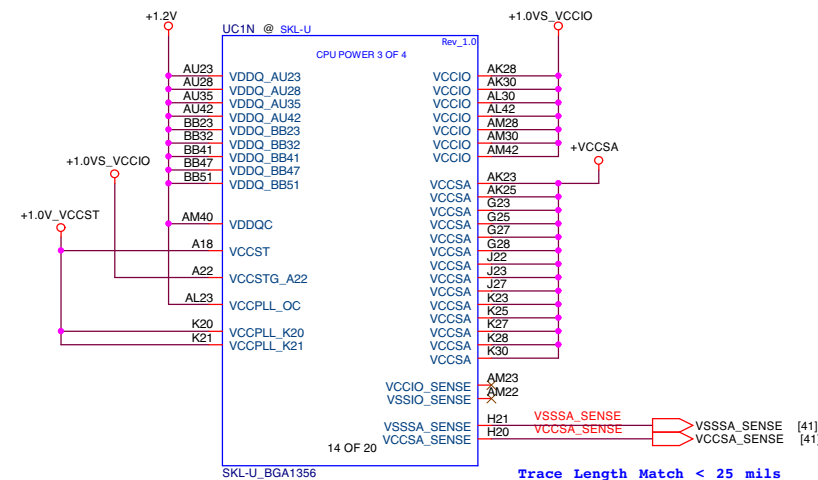
Camera

FP

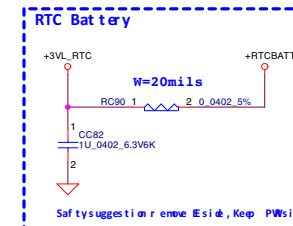
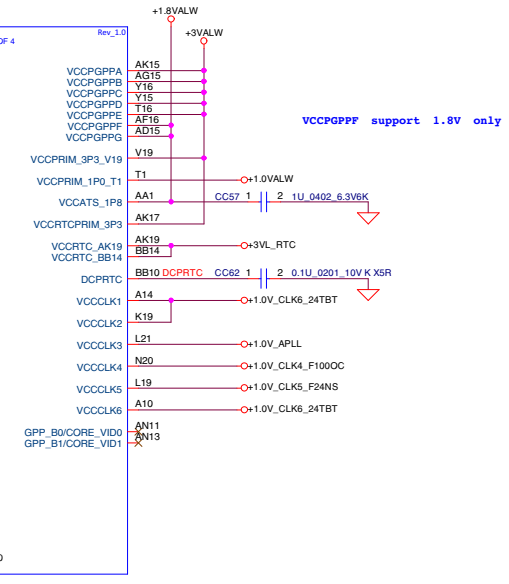
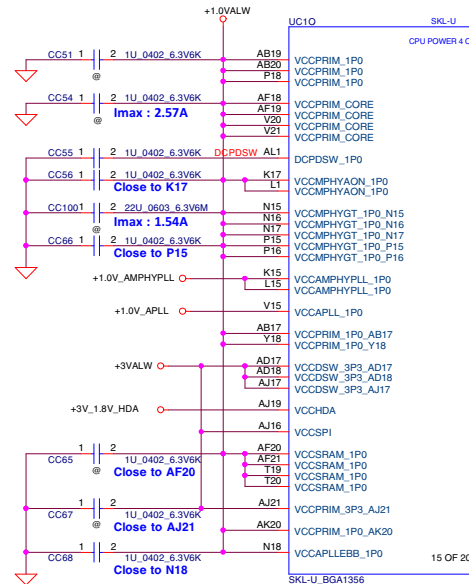
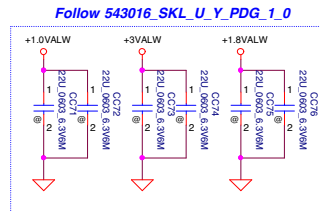
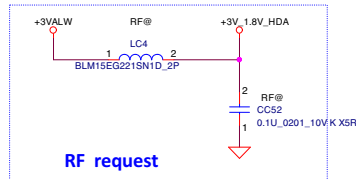
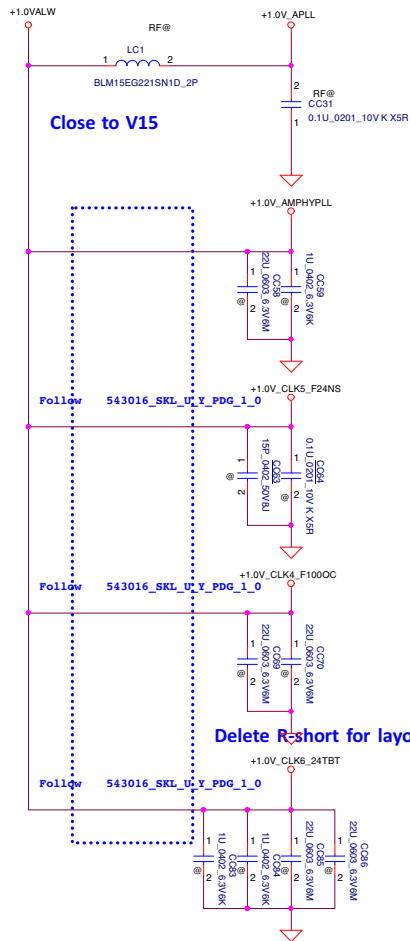
NGFF WLAN+BT



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	SKL-U(7/12)PCIE,USB,SATA
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-F571P
				Date:	Wednesday, November 29, 2017
				Sheet	12 of 45
				Rev	1.0

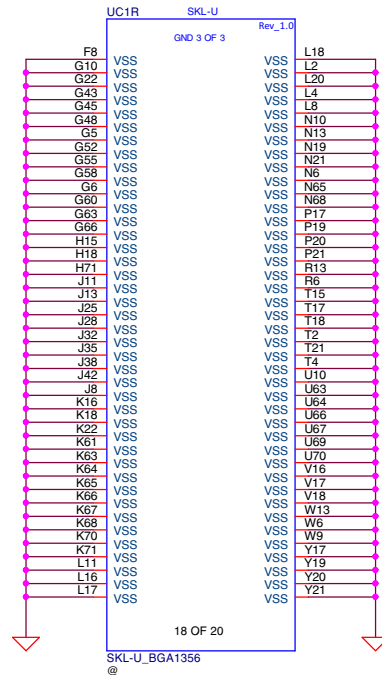
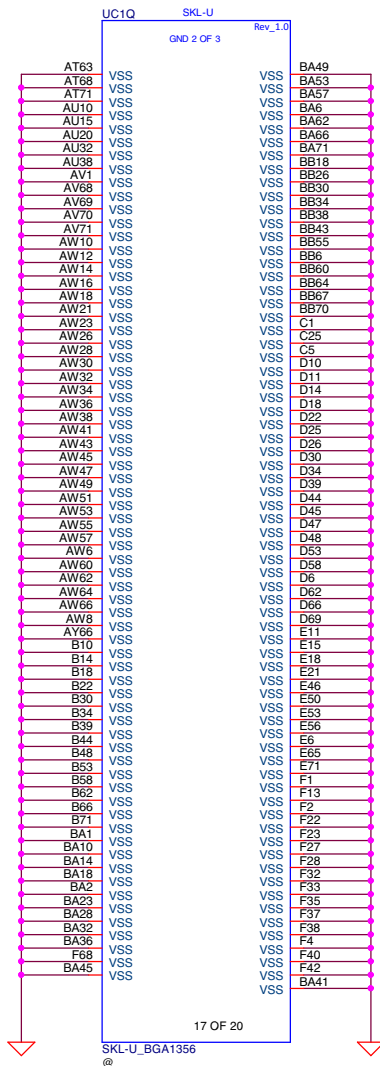
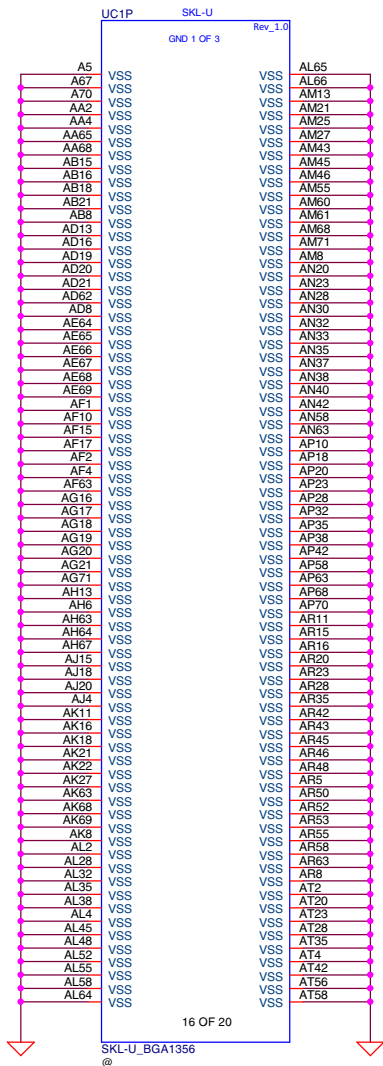


Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				<b>SKL-U(8/12)Power</b>	
				Size	Rev
				Custom	1.0
				<b>LA-F571P</b>	
Date:		Wednesday, November 29, 2017		Sheet	13 of 45



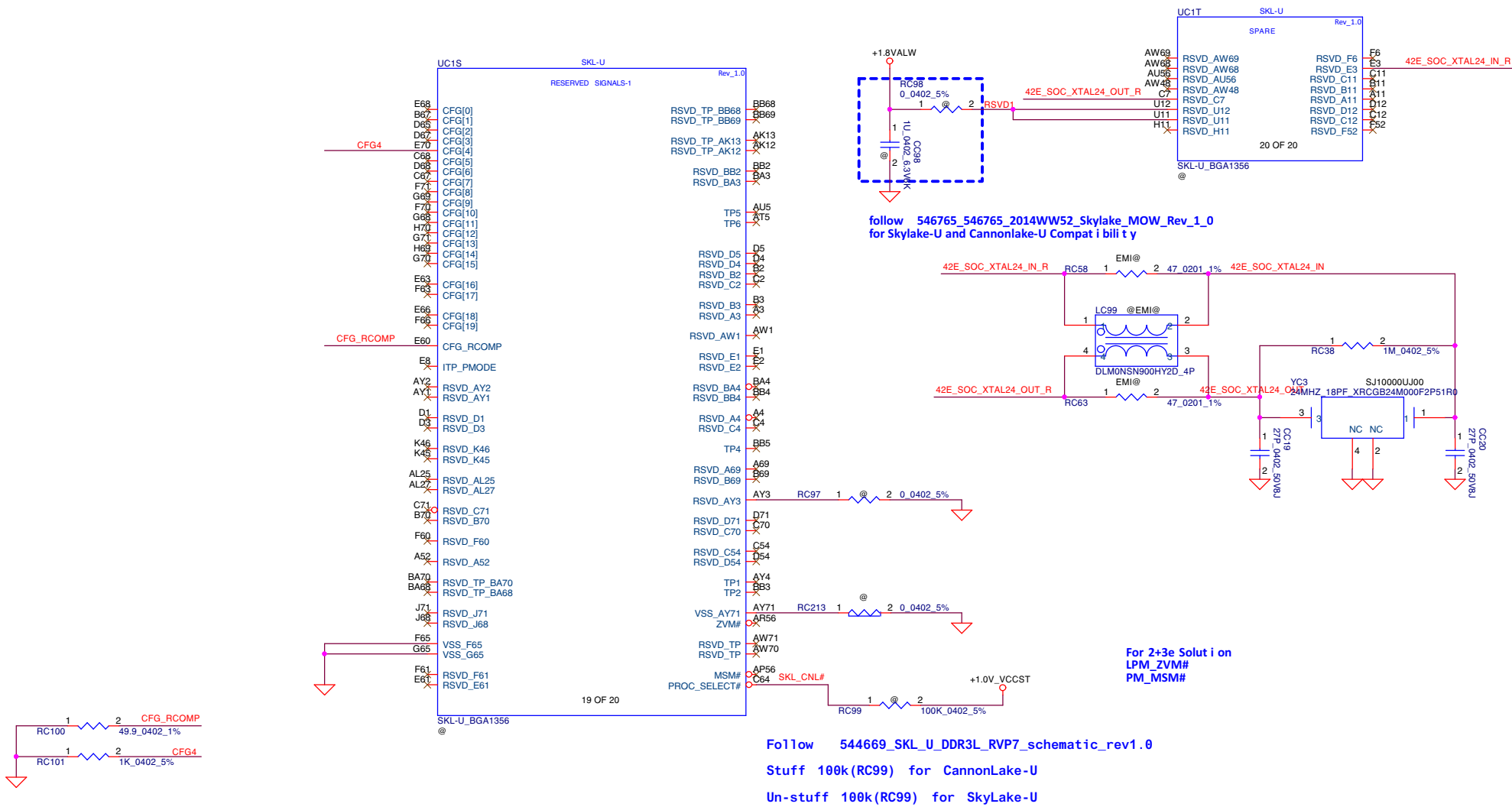
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date:	Wednesday, November 29, 2017
				Sheet	14 of 45
				Rev	1.0
				LA-F571P	





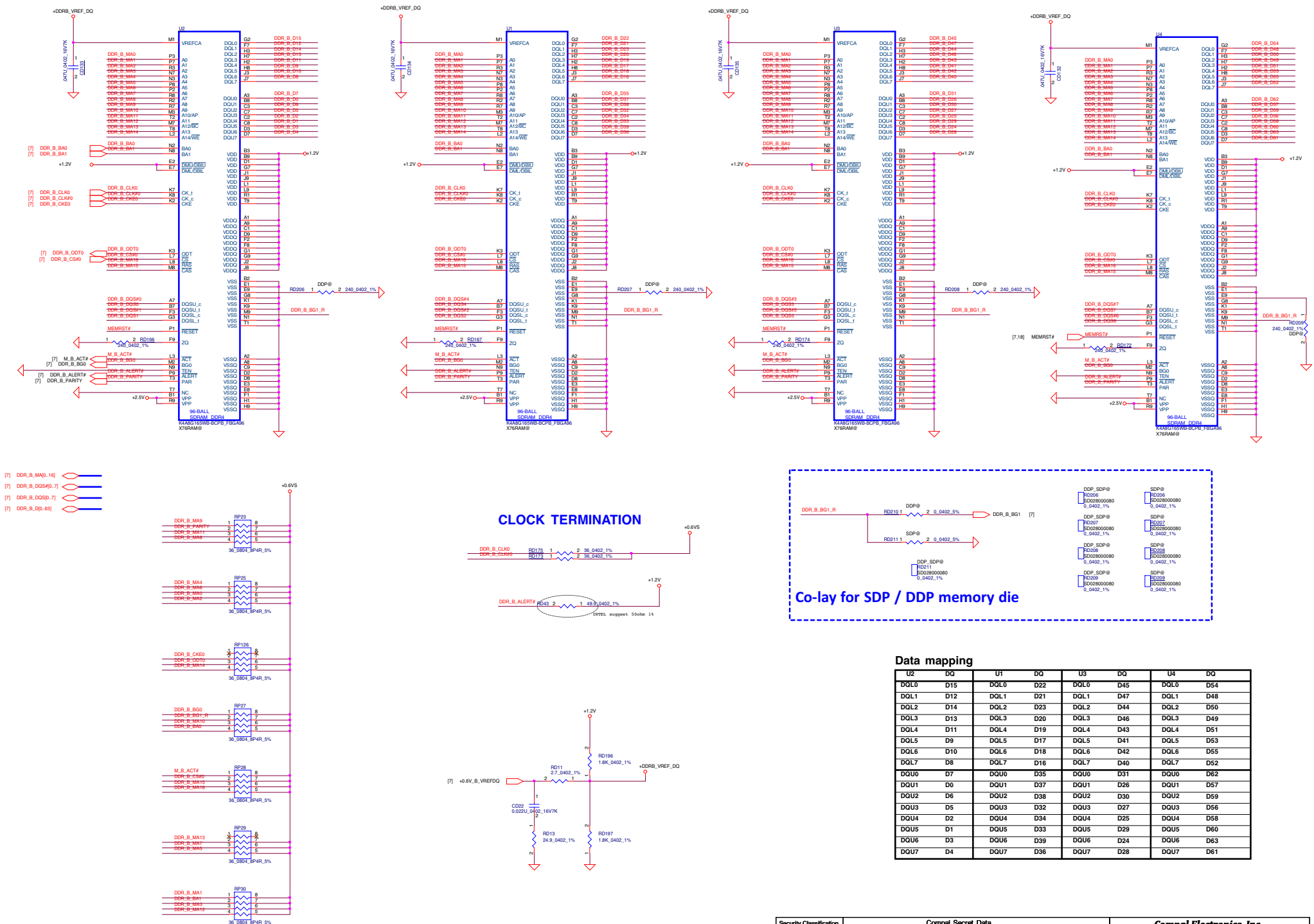
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SKL-U(11/12)GND	
Size		Document Number		Rev	
Custom		LA-F571P		1.0	
Date:		Wednesday, November 29, 2017		Sheet 16 of 45	





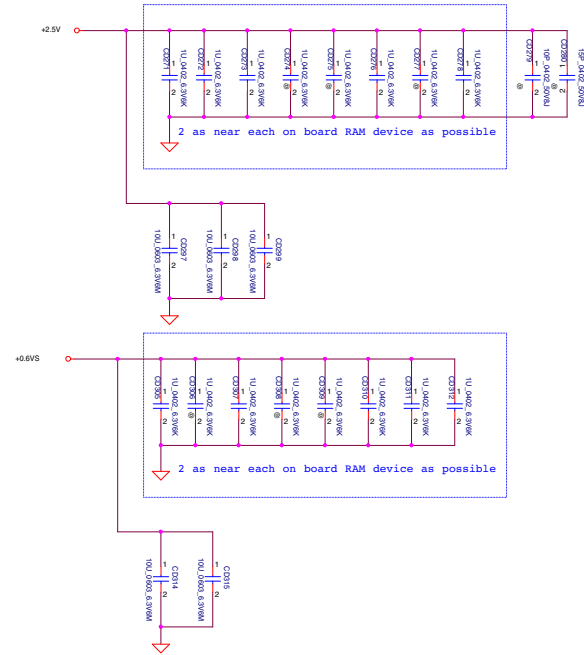
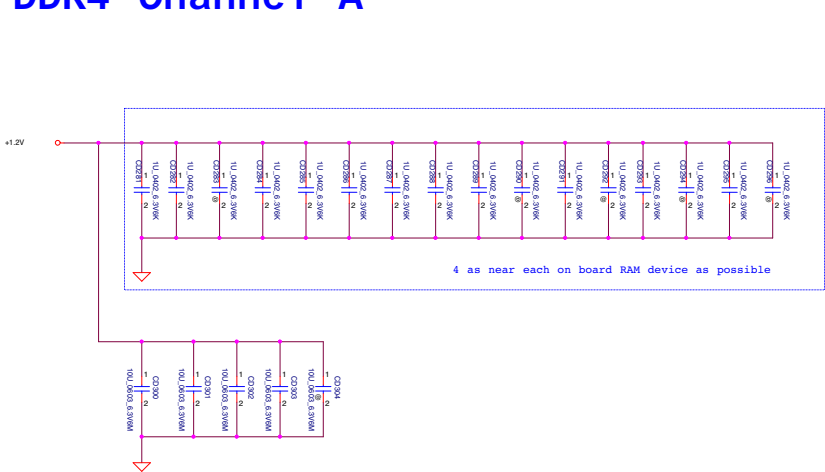
Display Port Presence Strap	
CFG4	1 : Disabled; No Physical Display Port at attached Embedded Display Port
	0 : Enabled; An external Display Port device is connected to the Embedded Display Port



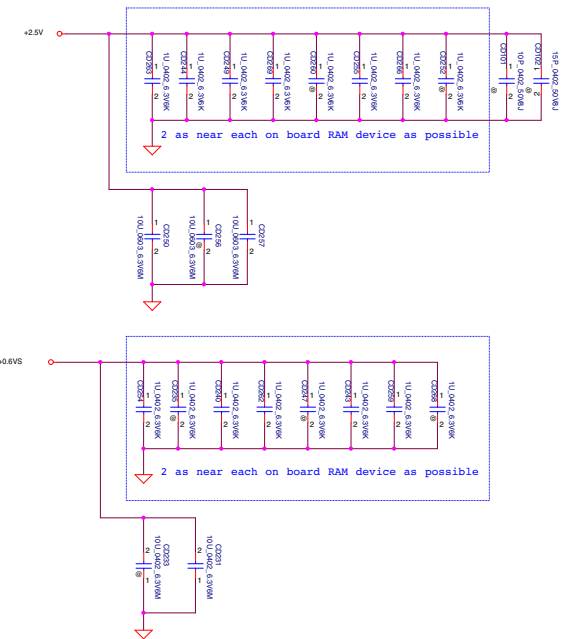
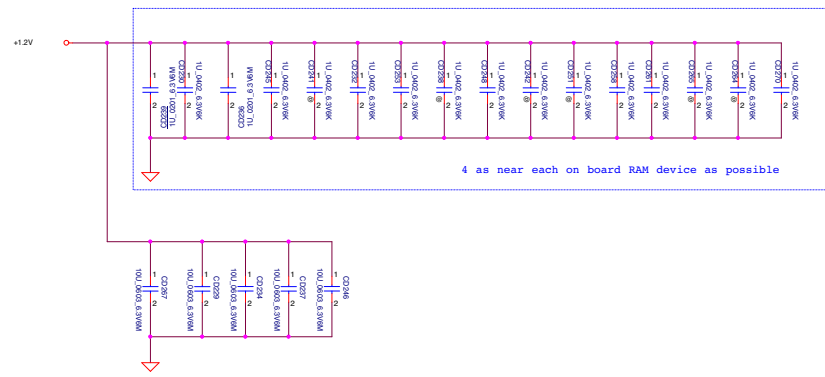


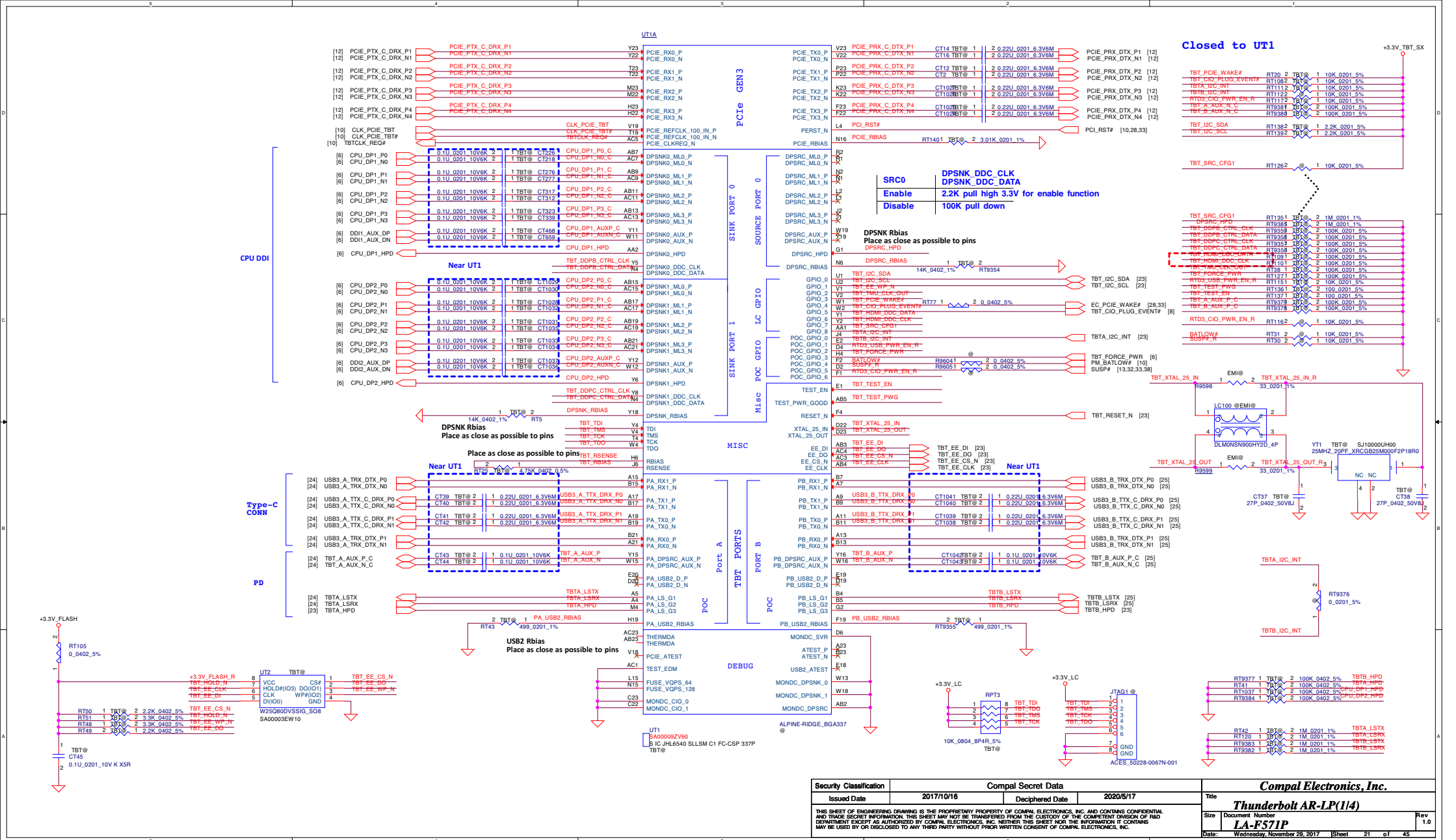
U2	D0	U1	D0	U3	D0	U4	D0
DQ0	D15	DQ0	D22	DQ0	D45	DQ0	D54
DQ1	D12	DQ1	D21	DQ1	D47	DQ1	D48
DQ2	D14	DQ2	D23	DQ2	D44	DQ2	D50
DQ3	D13	DQ3	D20	DQ3	D46	DQ3	D49
DQ4	D11	DQ4	D19	DQ4	D43	DQ4	D51
DQ5	D9	DQ5	D17	DQ5	D41	DQ5	D53
DQ6	D10	DQ6	D18	DQ6	D42	DQ6	D55
DQ7	D8	DQ7	D16	DQ7	D40	DQ7	D52
DQ0	D7	DQ0	D35	DQ0	D31	DQ0	D62
DQ1	D0	DQ1	D37	DQ1	D26	DQ1	D57
DQ2	D6	DQ2	D38	DQ2	D30	DQ2	D59
DQ3	D5	DQ3	D32	DQ3	D27	DQ3	D56
DQ4	D2	DQ4	D34	DQ4	D25	DQ4	D58
DQ5	D1	DQ5	D33	DQ5	D29	DQ5	D60
DQ6	D3	DQ6	D39	DQ6	D24	DQ6	D63
DQ7	D4	DQ7	D36	DQ7	D28	DQ7	D61

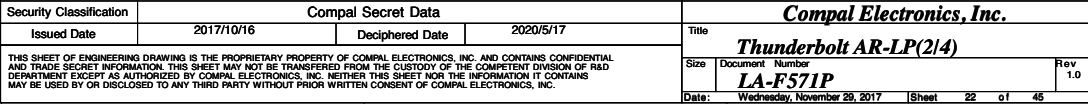
DDR4 Channel1 A



DDR4 Channel1 B

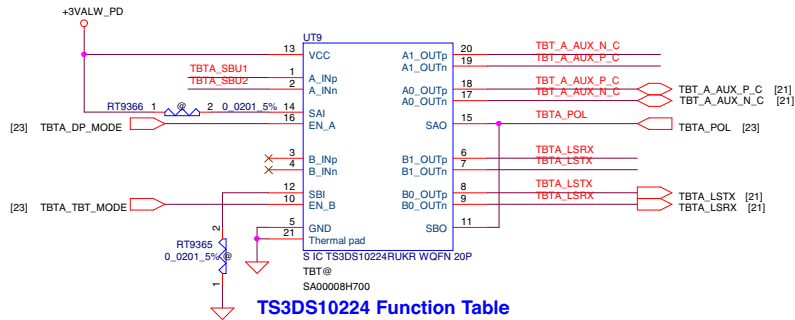
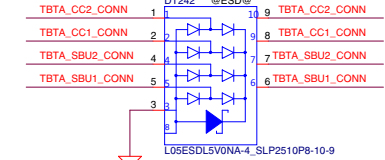
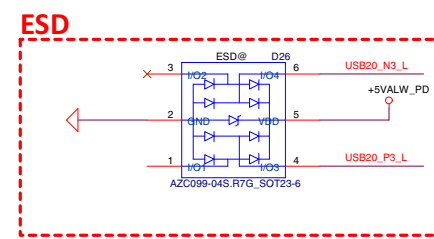
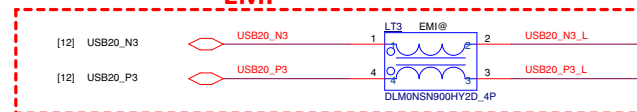
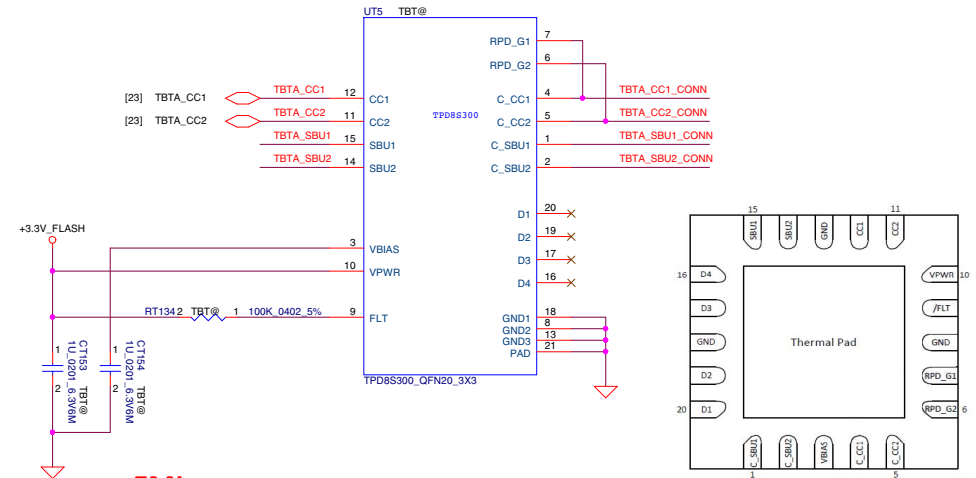
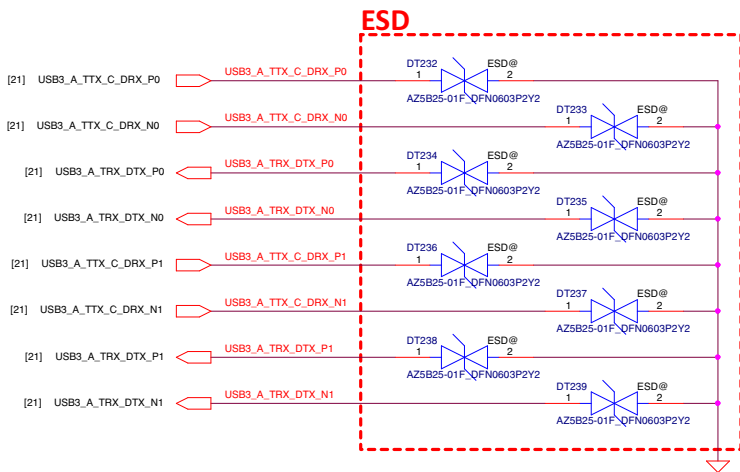












TS3DS10224 Function Table

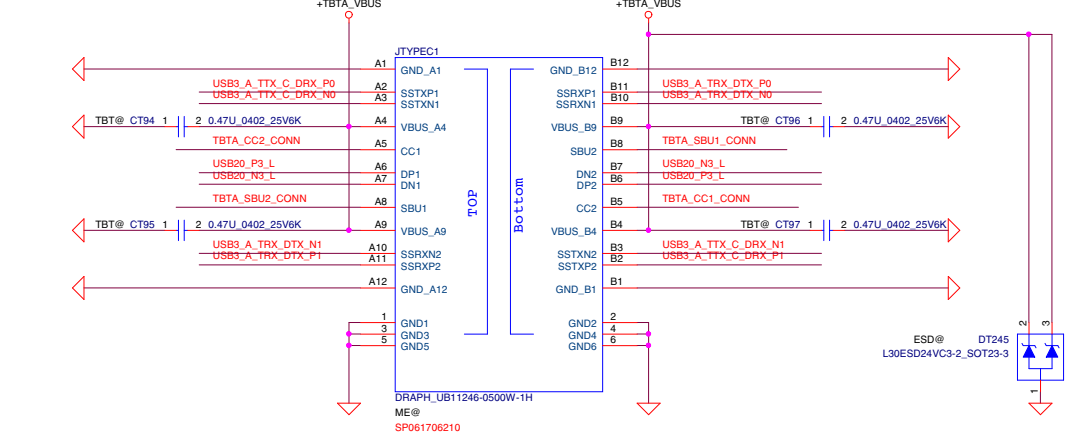
		(ENA)		(ENB)		(SAO/SBO)			
SBU1	SBU2	PA DP Mode	PA TBT Mode	PA POL	OUTA0	OUTA1	OUTB0	OUTB1	
Hi-Z	Hi-Z	0	0	X	Hi-Z	Hi-Z	Hi-Z	Hi-Z	
AUX_P	AUX_N	1	0	0	INA	Hi-Z	Hi-Z	Hi-Z	
AUX_N	AUX_P	1	0	1	Hi-Z	INA	Hi-Z	Hi-Z	
LSTX	LSRX	0	1	0	Hi-Z	Hi-Z	INA	Hi-Z	
LSRX	LSTX	0	1	1	Hi-Z	Hi-Z	Hi-Z	INA	

ENA	ENB	OUTA0	OUTA1	OUTB0	OUTB1
0	0	Hi-Z	Hi-Z	Hi-Z	Hi-Z
0	1	Hi-Z	Hi-Z	EN	EN
1	0	EN	EN	Hi-Z	Hi-Z
1	1	EN	EN	EN	EN

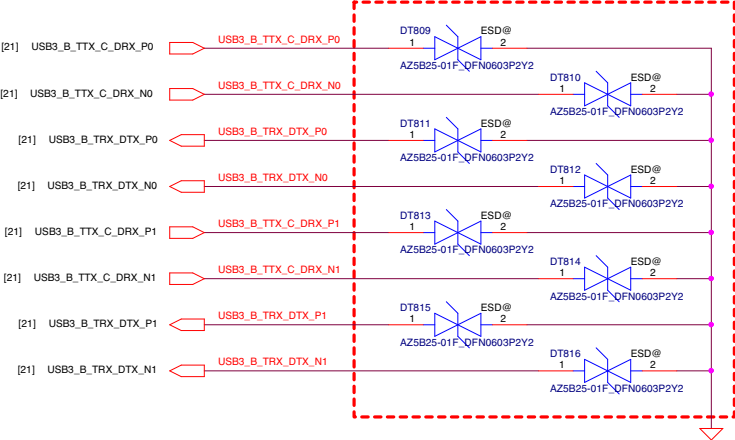
  

SAI/SAO/SBI/SBO	OUTA0	OUTA1	OUTB0	OUTB1
1 0 0 0	INA	Hi-Z	INA	Hi-Z
1 1 0 1	Hi-Z	INA	Hi-Z	INA

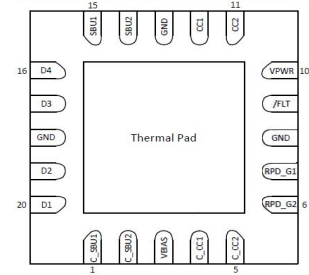
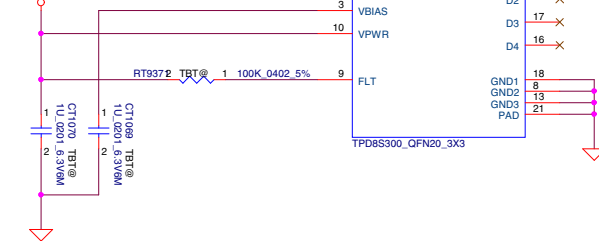




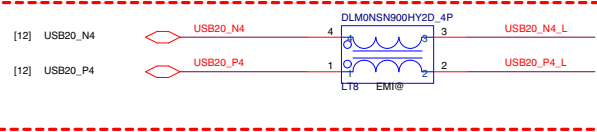
# ESD



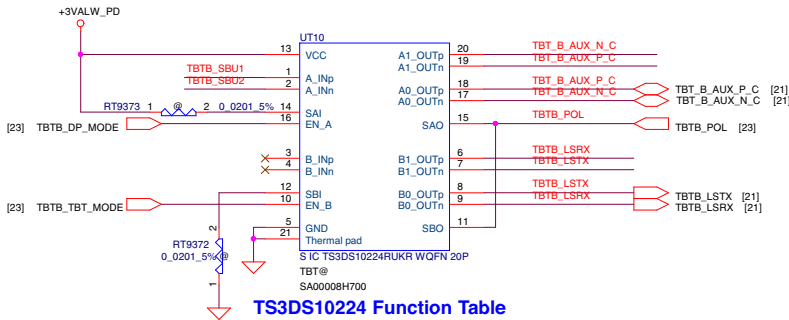
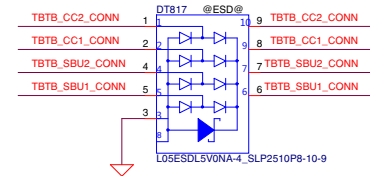
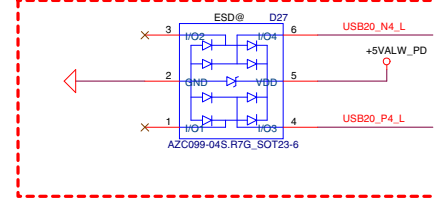
+3.3V\_FLASH



# EMI



# ESD



TS3DS10224 Function Table

(ENA)		(ENB)		(SAO/SBO)		OUTA0		OUTA1		OUTB0		OUTB1	
SBU1	SBU2	PA DP Mode	PA TBT Mode	PA POL	PA SBO	OUTA0	OUTA1	OUTB0	OUTB1	OUTA0	OUTA1	OUTB0	OUTB1
Hi-Z	Hi-Z	0	0	X	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z
AUX_P	AUX_N	1	0	0	INA	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z
AUX_N	AUX_P	1	0	1	Hi-Z	INA	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z
LSTX	LSRX	0	1	0	Hi-Z	Hi-Z	INA	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z
LSRX	LSTX	0	1	1	Hi-Z	Hi-Z	INA	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z

ENA	ENB	OUTA0	OUTA1	OUTB0	OUTB1	SAI/SAO/SBI/SBO	OUTA0	OUTA1	OUTB0	OUTB1
0	0	Hi-Z	Hi-Z	Hi-Z	Hi-Z	1 0 0 0	INA	Hi-Z	INA	Hi-Z
0	1	Hi-Z	Hi-Z	EN	EN	1 1 0 1	Hi-Z	INA	Hi-Z	INA
1	0	EN	EN	Hi-Z	Hi-Z					
1	1	EN	EN	EN	EN					

Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date		2017/10/16		Deciphered Date		2020/5/17		Title		USB3.1 TypeC	
Size		Document Number		Date		Wednesday, November 29, 2017		Sheet		25 of 45	
1		LA-F571P		Rev		1.0					

**LED Power Circuit**

**W=60mils**

**+3VS**

**W=60mils**

**C1250**  
10µ0402\_6.3V6K

**U109**  
GS016KD1U SOT23

**EN**

**OUT**

**GND**

**OC**

**+LCDVDD**

**R311**  
0.0805\_5%

**C1258**  
4.7µ0402\_6.3V6K

**[6] PCH\_ENVDD**

**R120**  
100K\_0402\_5%

**+LCDVDD\_CONN**

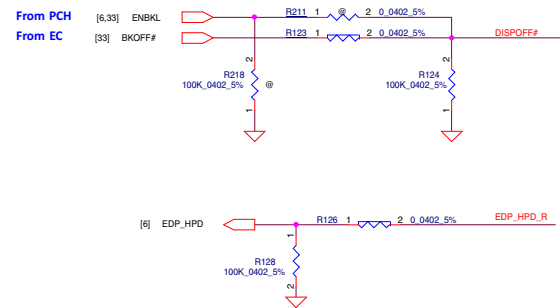
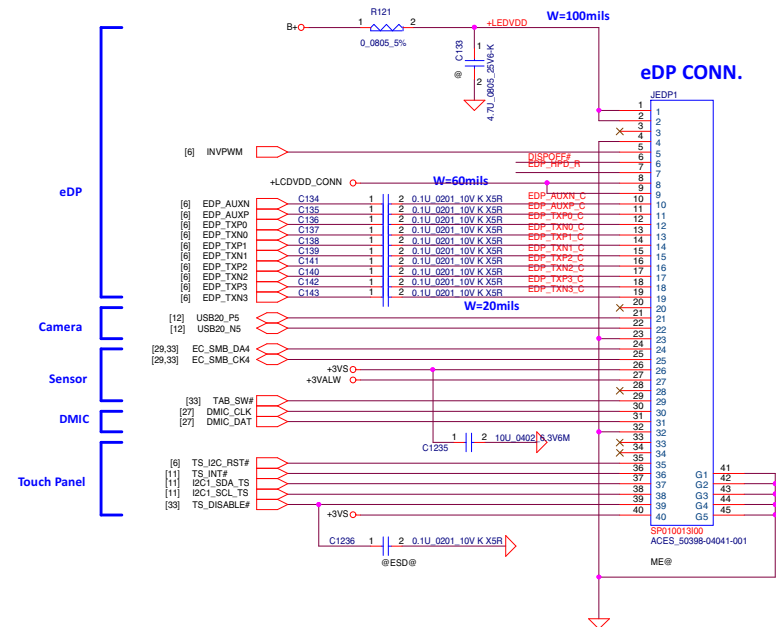
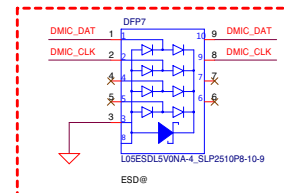


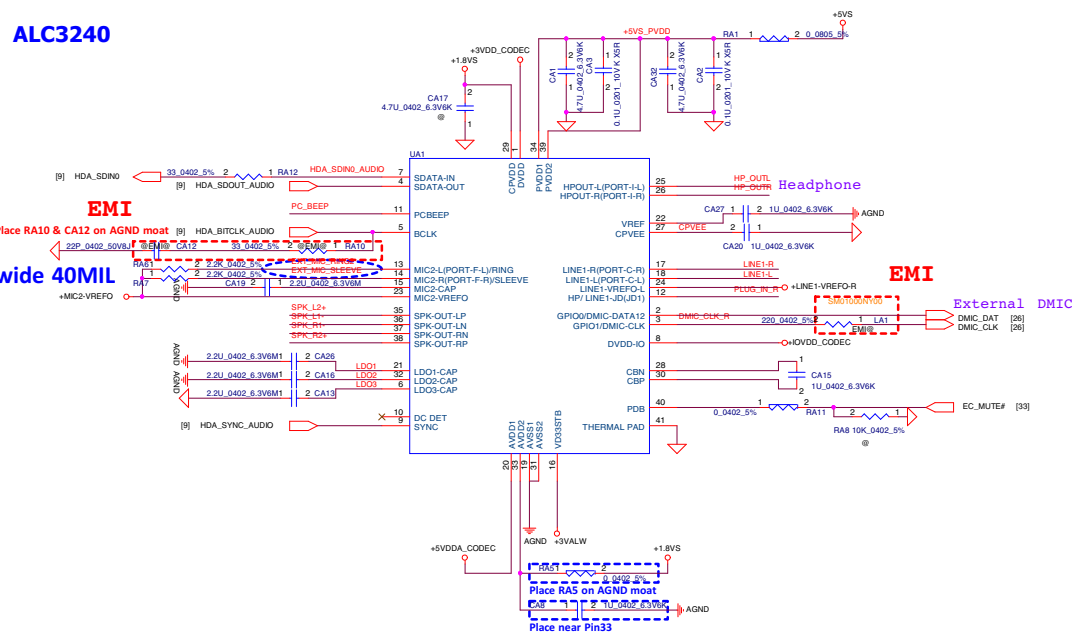
Figure 10 shows the pin connections for the C232 and C233 components. The connections are as follows:

- DISPOFF#**: Pin 1 is connected to C232 (6.8P\_0402\_50V8C) RF@. Pin 2 is connected to C233 (6.8P\_0402\_50V8C) RF@.
- EDP\_HP\_D\_R**: Pin 1 is connected to C232 (6.8P\_0402\_50V8C) RF@. Pin 2 is connected to C233 (6.8P\_0402\_50V8C) RF@.
- TAB\_SW#**: Pin 1 is connected to C235 (6.8P\_0402\_50V8C) RF@. Pin 2 is connected to C236 (6.8P\_0402\_50V8C) RF@.
- TS\_I2C\_RST#**: Pin 1 is connected to C236 (6.8P\_0402\_50V8C) RF@. Pin 2 is connected to C237 (6.8P\_0402\_50V8C) RF@.
- TS\_INT#**: Pin 1 is connected to C237 (6.8P\_0402\_50V8C) RF@. Pin 2 is connected to C238 (6.8P\_0402\_50V8C) RF@.

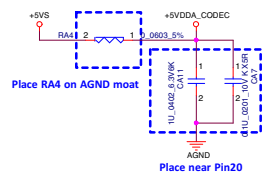


Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>eDP / Camera</b>	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D AUTHORITY EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR BY DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
					LA-F571P
				Date	Wednesday, November 23, 2017
				Sheet	26 of 45
				Rev	1.0

## ALC3240



**+5VS → +5VDDA\_CODEC**



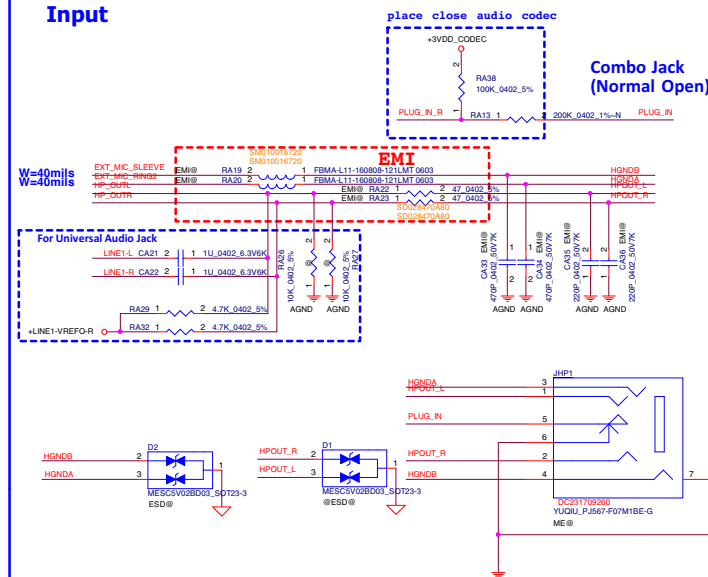
Each Platf or mPo wer Net Support list:

		+1.5VS	+1.8VS	+3VS	+5VS	+3VALW
		1.5V(S0)	1.8V(S0)	3.3V(S0)	5V(S0)	3.3V(S0-S5)
Intel	Broadwell	V	X	V	V	V
Intel	Skylake	X	V	V	V	V

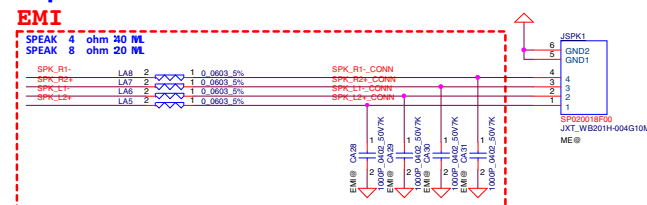
**Each Platf or m HDA li nk Vdt age Support ( R n 8):**

	3.3V	1.5V
Intel Broadwell	V (default)	V
Intel Skylake	V (default)	V

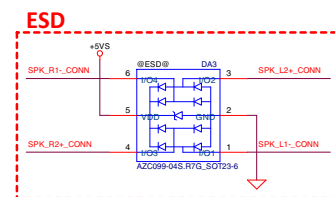
## Input



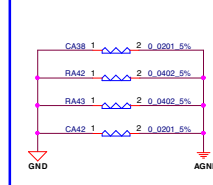
## Output



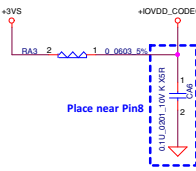
ESD protection needs to be placed near connector side



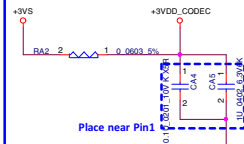
## EMI



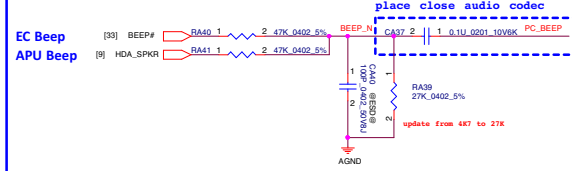
## +3VS → +1 OVDD\_CODEQ



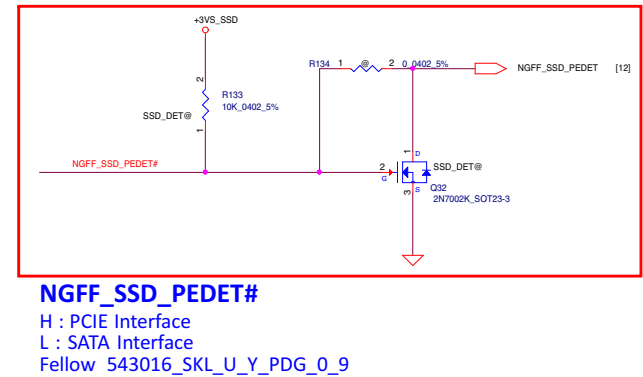
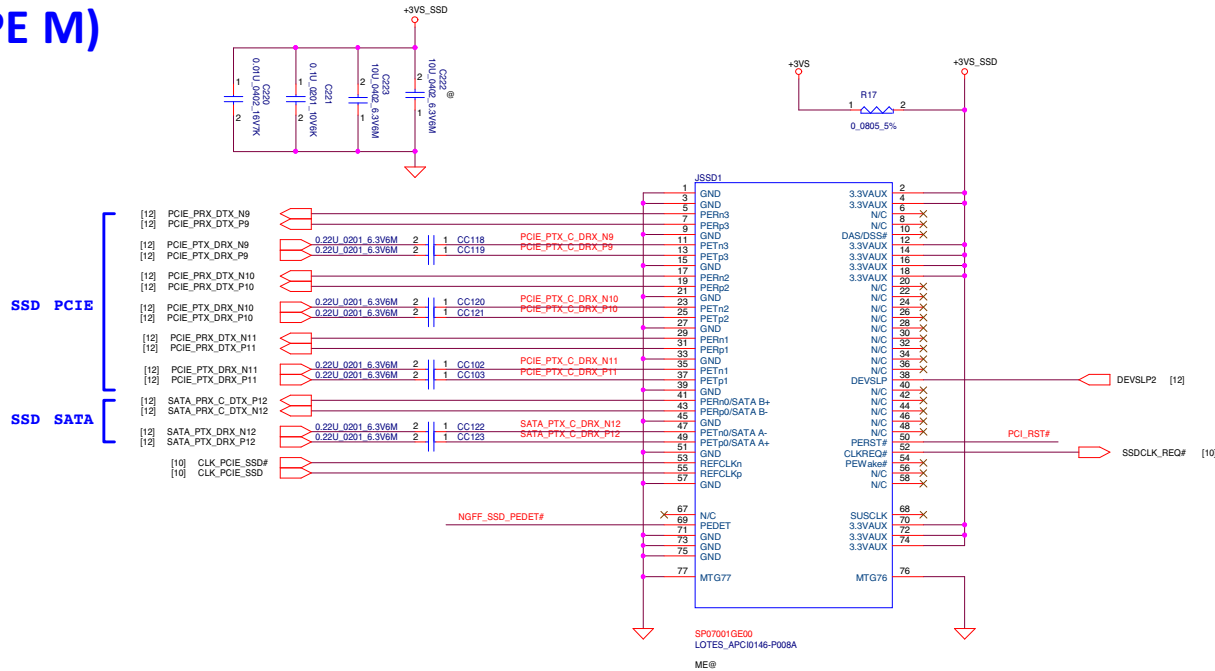
**+3VS → +3VDD\_CODEC**



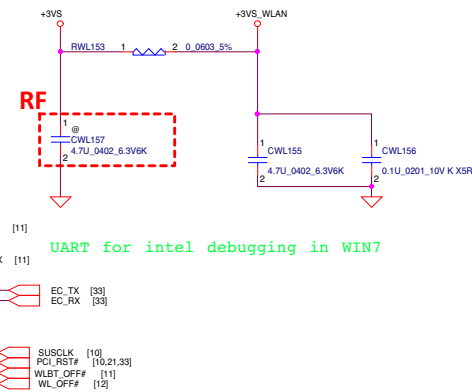
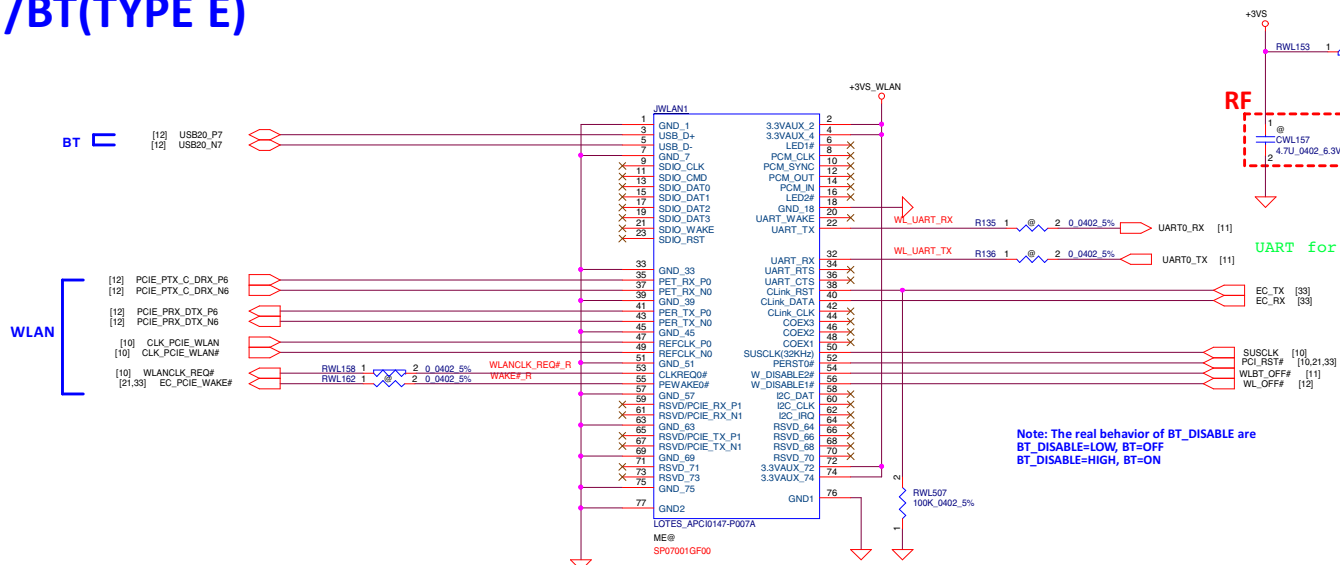
## PC Beep



# SSD(TYPE M)



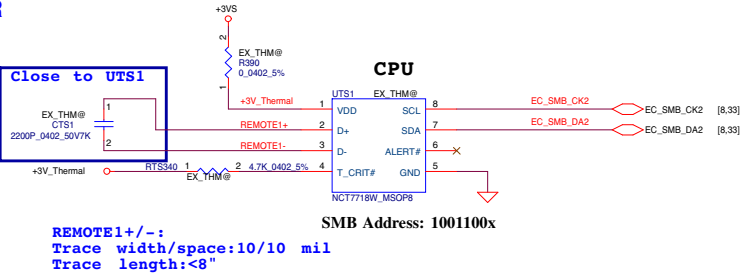
# NGFF WLAN /BT(TYPE E)



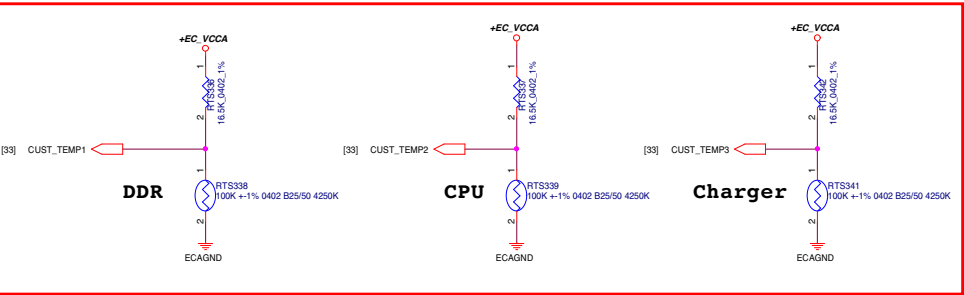
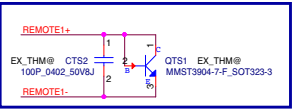
Note: The real behavior of BT\_DISABLE are  
BT\_DISABLE=LOW, BT=OFF  
BT\_DISABLE=HIGH, BT=ON

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				NGFF SSD/WLAN
Size	C	Document Number	LA-F571P	Rev 1.0
Date:	Wednesday, November 29, 2017	Sheet	28	of 45

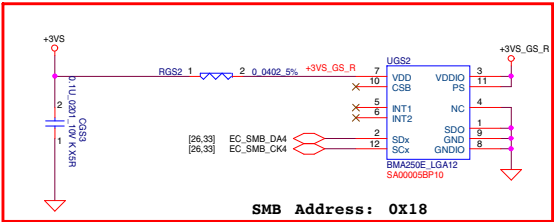
THERMISTOR



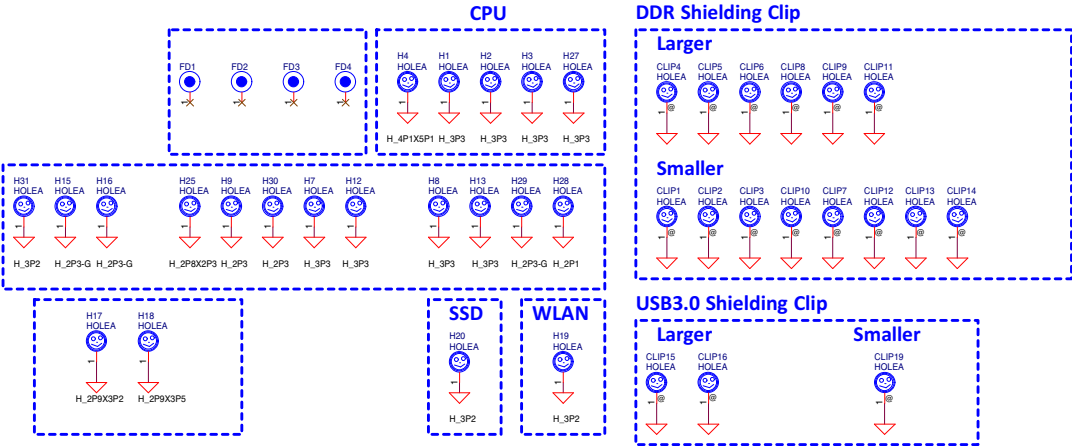
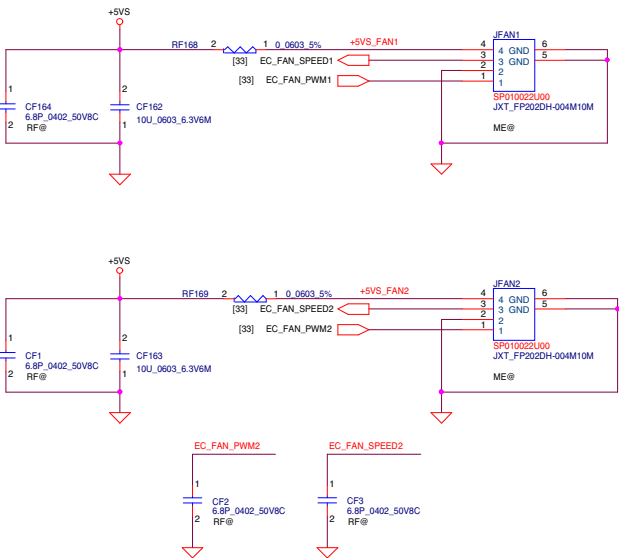
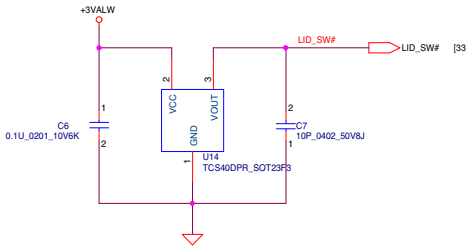
DDR



G-Sensor

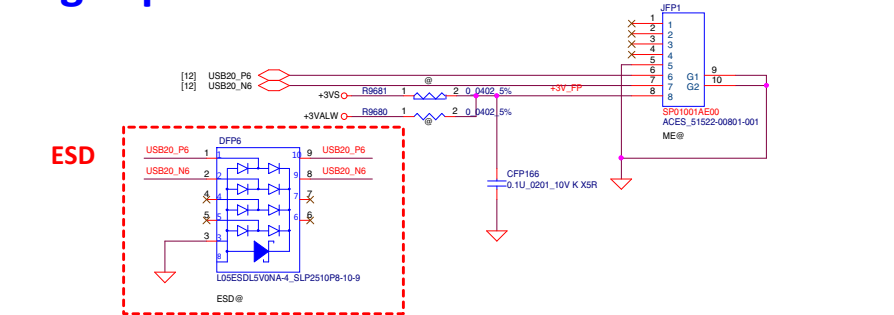


Hall Sensor

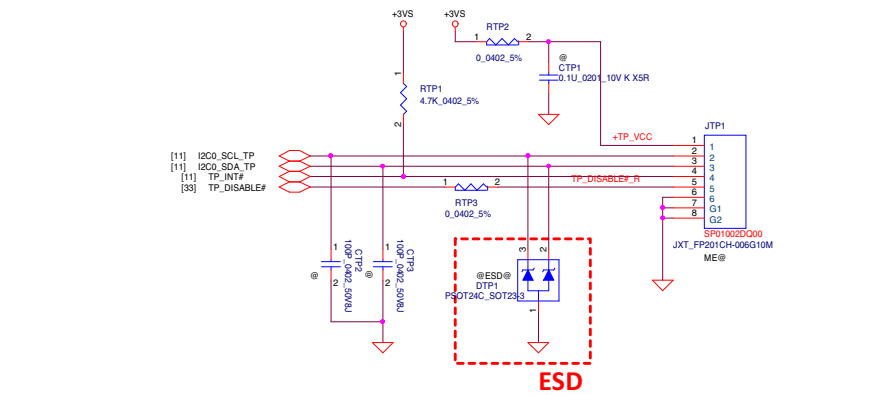


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				FAN / Thermal Sensor
Size	Document Number	LA-F571P		Rev 1.0
Date: Wednesday, November 28, 2017		Sheet 29 of 45		

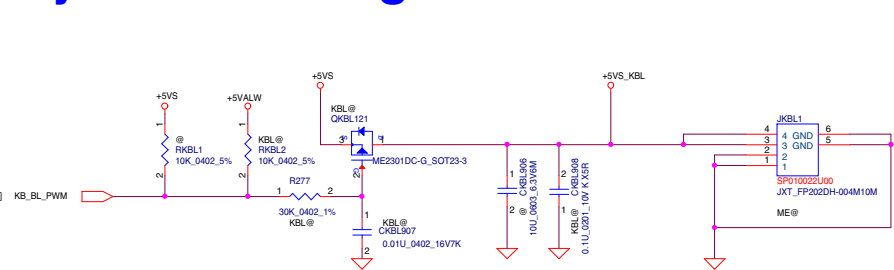
Finger printer



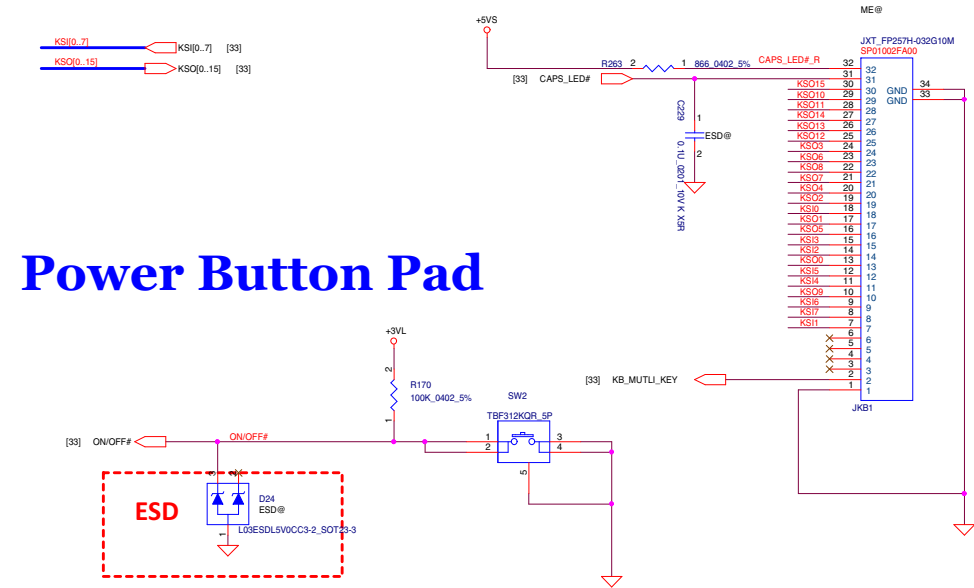
Touch Pad



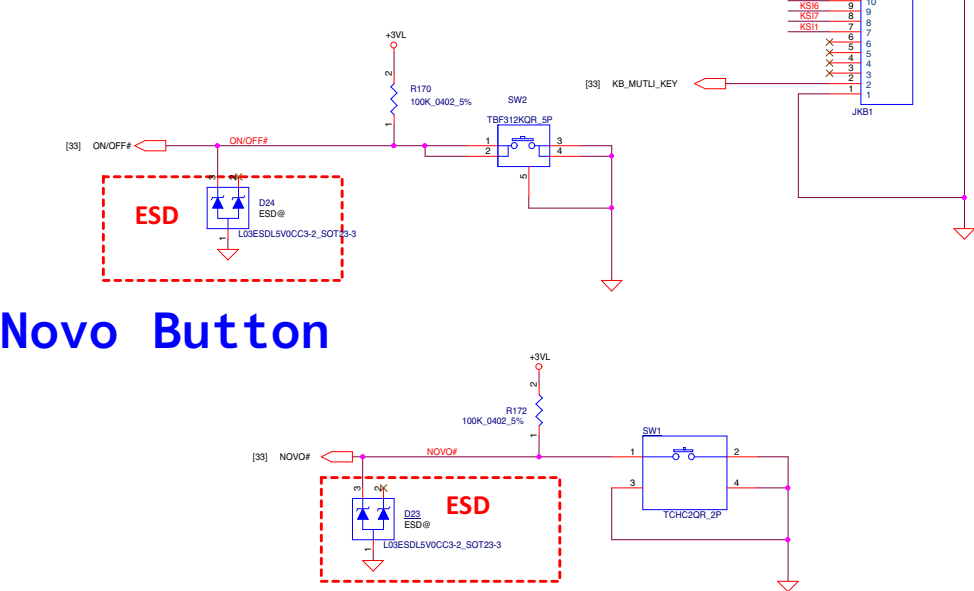
Keyboard Backlight



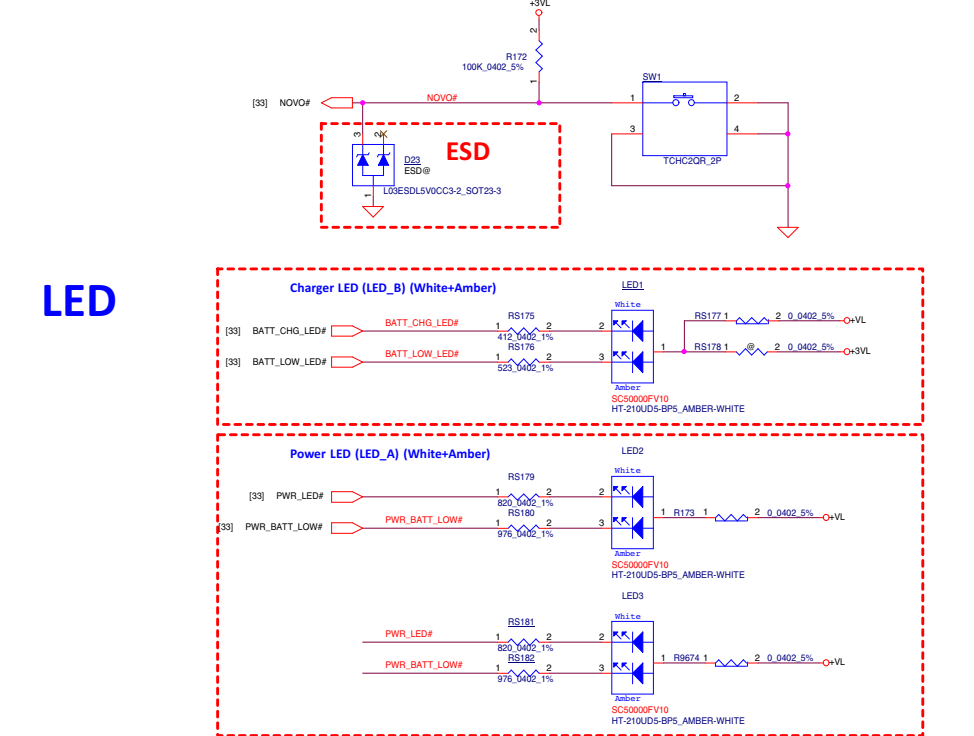
Keyboard



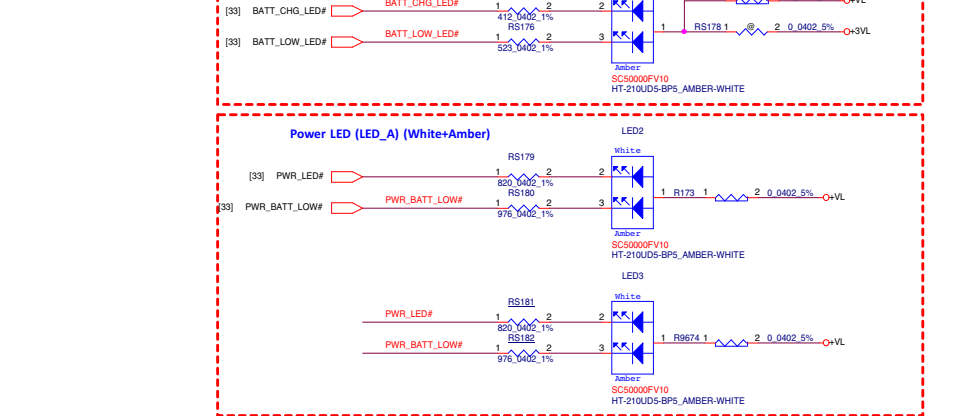
Power Button Pad



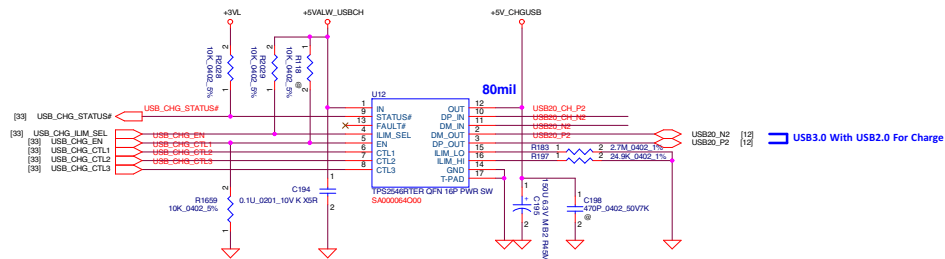
Novo Button



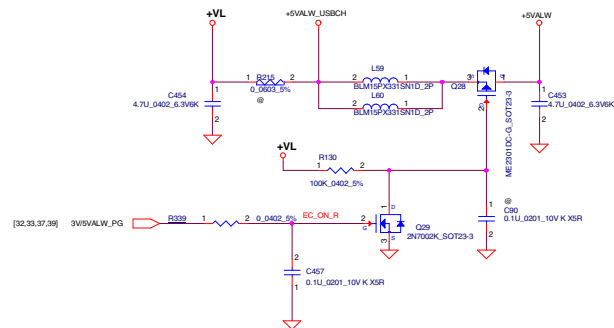
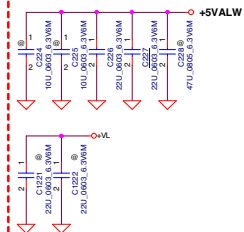
LED



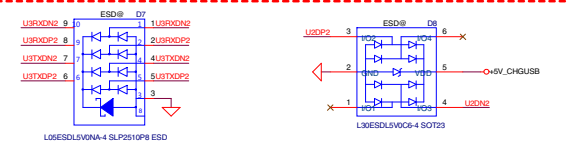
## USB Charger



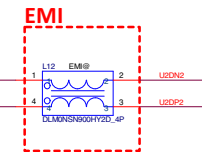
Down USB charger Iout ripple  
must under 20mA on DC S5



**ESD**

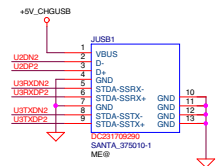


## USB3.0\_Port

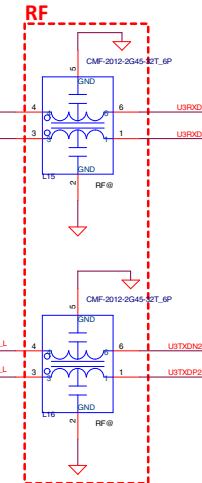


USB3.0 CONN (for charger)

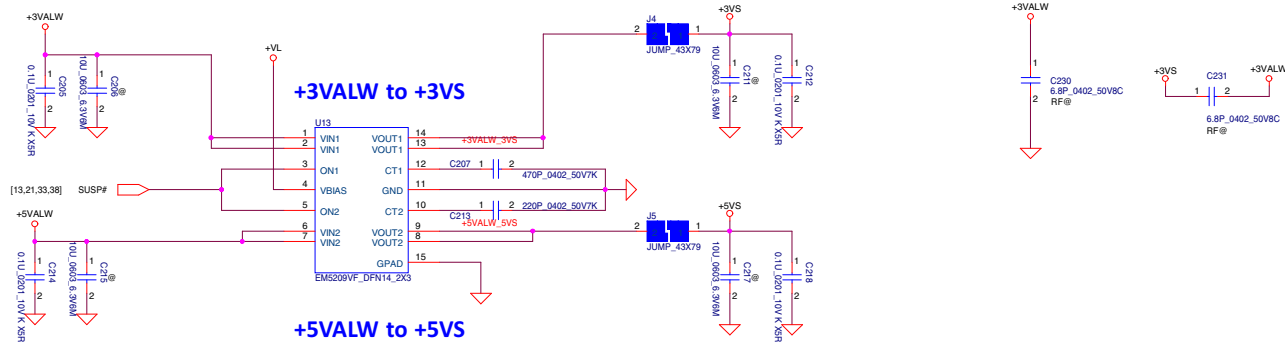
W=80mils



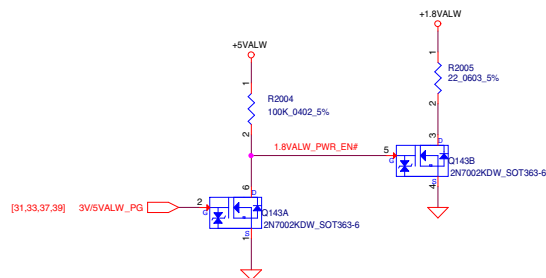
Place TX AC coupling Cap (C168,169). Close to connector



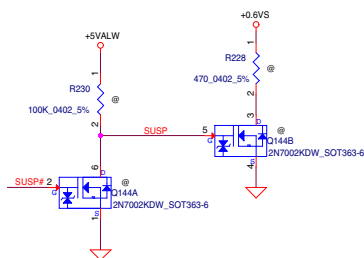
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT IS TO BE KEPT IN STRICTLY CONFIDENTIAL AND NOT BE DISCLOSED TO ANY OTHER PERSON OR ORGANIZATION WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. IT IS TO BE USED ONLY FOR THE PURPOSES 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.			Doc Number	Rev
Date	LA-F571P		1	1.0
Date	Wednesday, November 26, 2017		Sheet	31 of 45



**For +1.8VALW Discharge**

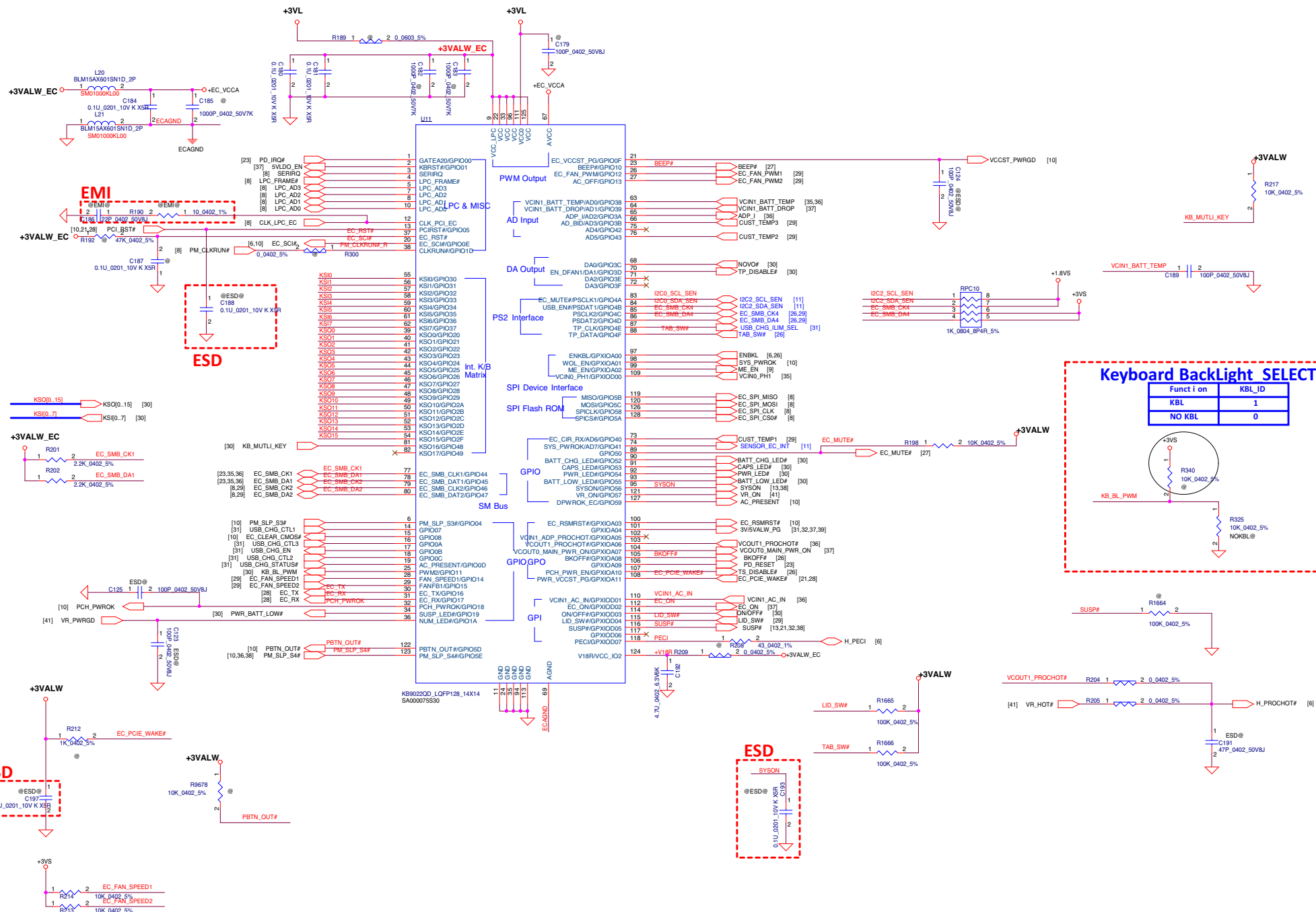


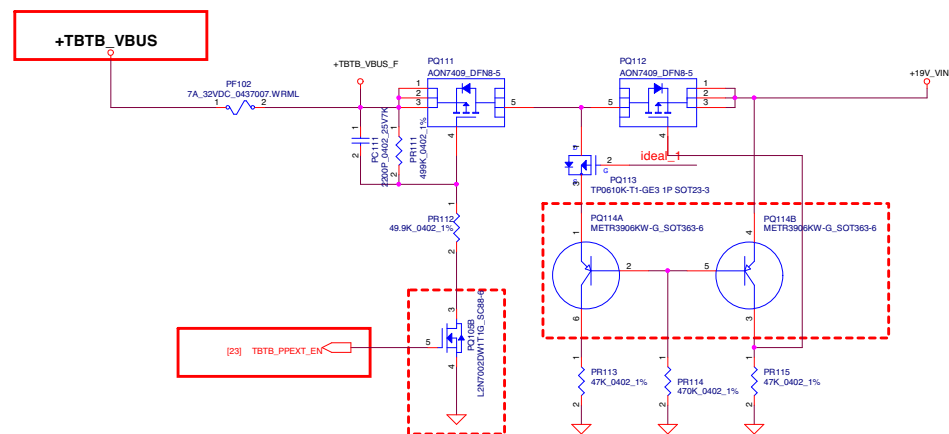
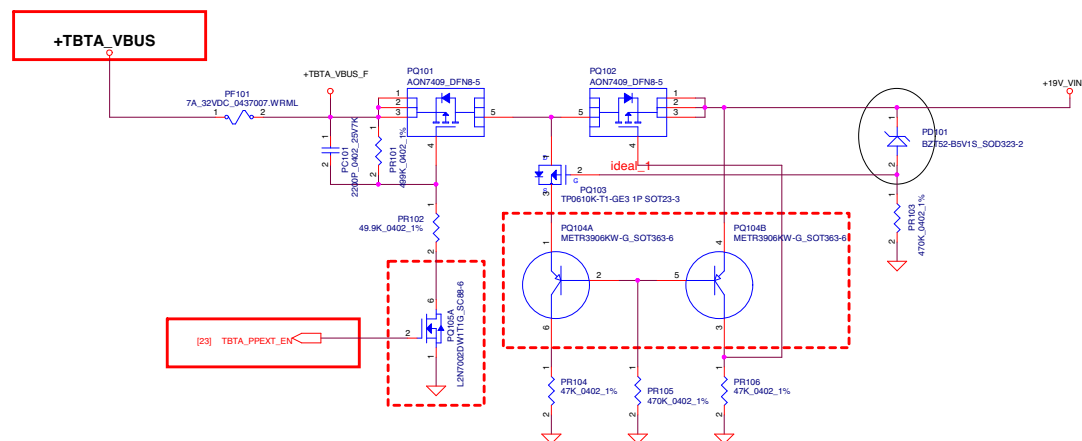
**For +0.6VS Discharge**



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2017/10/16	Deciphered Date	2020/5/17	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				DC to DC
Size	C	Document Number	LA-F571P	Rev
Date:	Wednesday, November 29, 2017	Sheet	32	of 45







Security Classification	Compal Secret Data		Title		Compal Electronics, Inc.	
Issued Date	2016/06.23	Deciphered Date	2017/06.23	TYPE-C IN		
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, TRANSMITTED, OR DISCLOSED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
THIS SHEET OF INFORMATION IS THE PROPERTY OF COMPAL ELECTRONICS, INC. WITHOUT THIS SHEET THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Custom	LA-E5513P	1.0
				Date:	Wednesday, November 28, 2017	Sheet 34 of 45





## Module model information

SY8286B\_V3\_single.mdd  
SY8286B\_V3\_dual.mdd

Check pull up resistor of SPOK at HW side

EN1 and EN2 don't be floating.  
EN :H>0.8V ; L<0.4V

Fsw : 600K Hz

## Module model information

SY8286C\_V3\_single.mdd  
SY8286C\_V3\_dual.mdd

2 Cell battery : Cin=10uF\*2pcs  
3 Cell ~ 4 Cell battery : Cin=10uF\*1pcs

EN1 and EN2 don't be floating.  
EN :H>0.8V ; L<0.4V

Fsw : 600K Hz

Trigger = 6.1V

+19VB\_5V

VCIN1\_BATT\_DROP [33]

0.1U\_0402\_5V6

10K\_0402\_1%

+3VALWP

Vout is 3.234V~3.366V

TDC=6A

Iocp=8A

+3VALWP

JUMP\_43X118

+3VLP

JUMP\_43X39

+3VL

Vout is 4.998V~5.202V

Ipeak=11.5A

Iocp=12A

+5VALWP

JUMP\_43X118

+5VALW

+5VLP

JUMP\_43X39

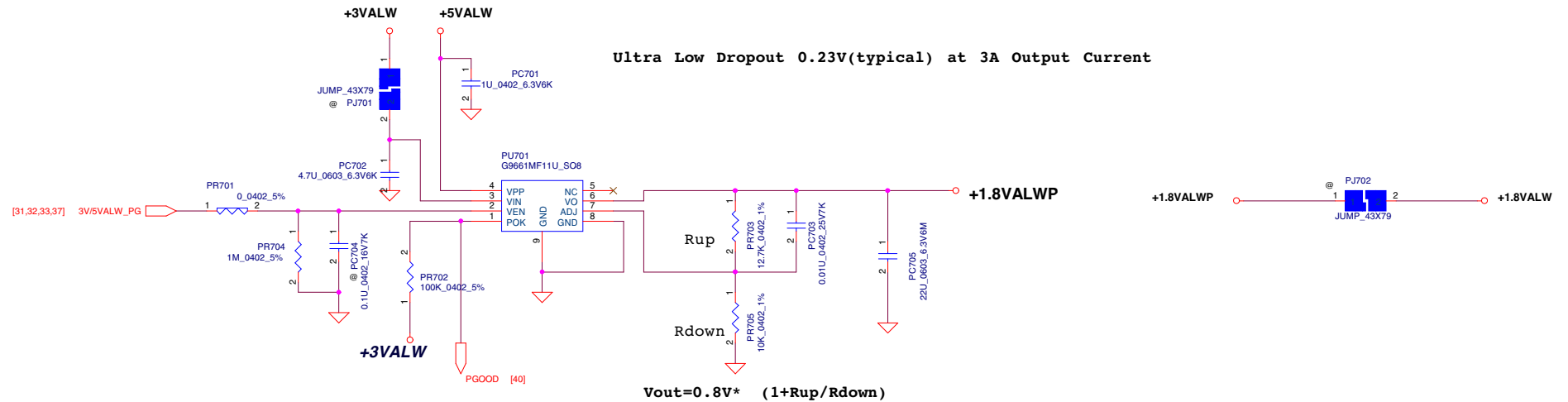
+VL

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/06/23	Deciphered Date	2017/06/23	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size
				Custom
				Document Number
				Rev
				1.0
				Date
				Wednesday, November 29, 2017
				Sheet
				37 of 45



# Module model information

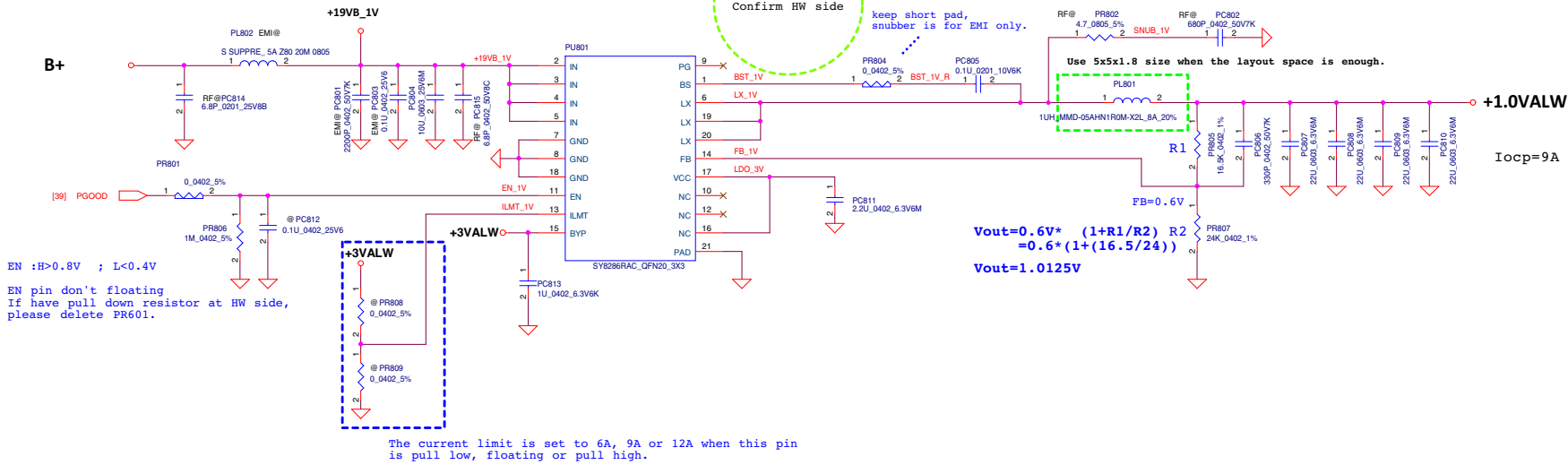
APL5930\_V2.mdd



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2016/06/23	Deciphered Date	2017/06/23	Title	APL5930
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Size Document Number
					Rev 1.0
					Date: Wednesday, November 29, 2017 Sheet 39 of 45

# Module model information

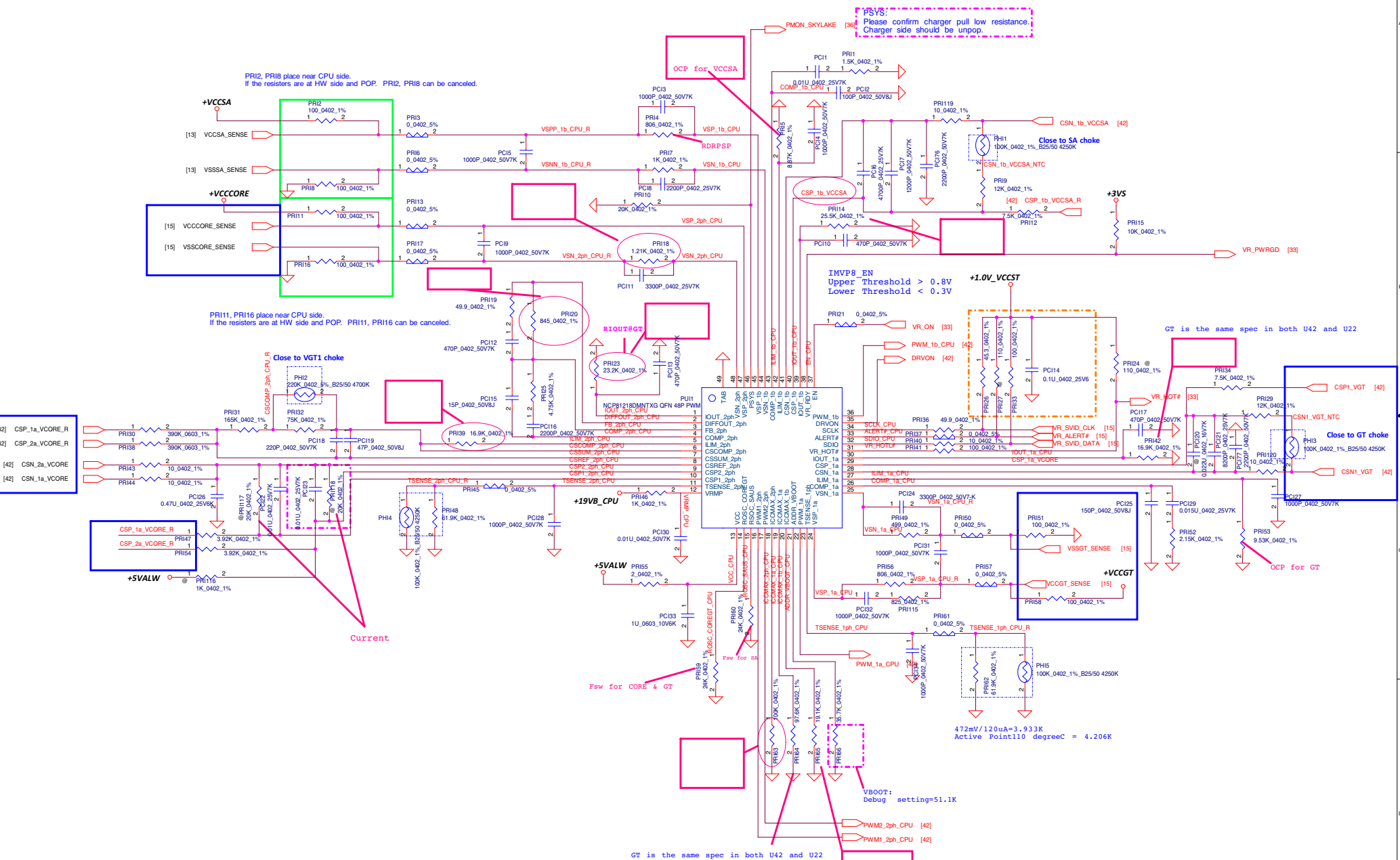
SY8286\_V1\_single.mdd  
SY8286\_V1\_dual.mdd



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2016/06/23	Deciphered Date	2017/06/23	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SY8286	
Size	Document Number	Rev		1.0	
Date:	Wednesday, November 29, 2017	Sheet	40	of	45



## CPU CORE



Title			
NCP81218(U22&U42)			
Size	Document Number		Rev 1.0
Date:	Wednesday, November 29, 2017	Sheet 41 of 45	

CPU POWER STAGES

