

Compal Confidential

EL432/EL532

M/B Schematic Documents

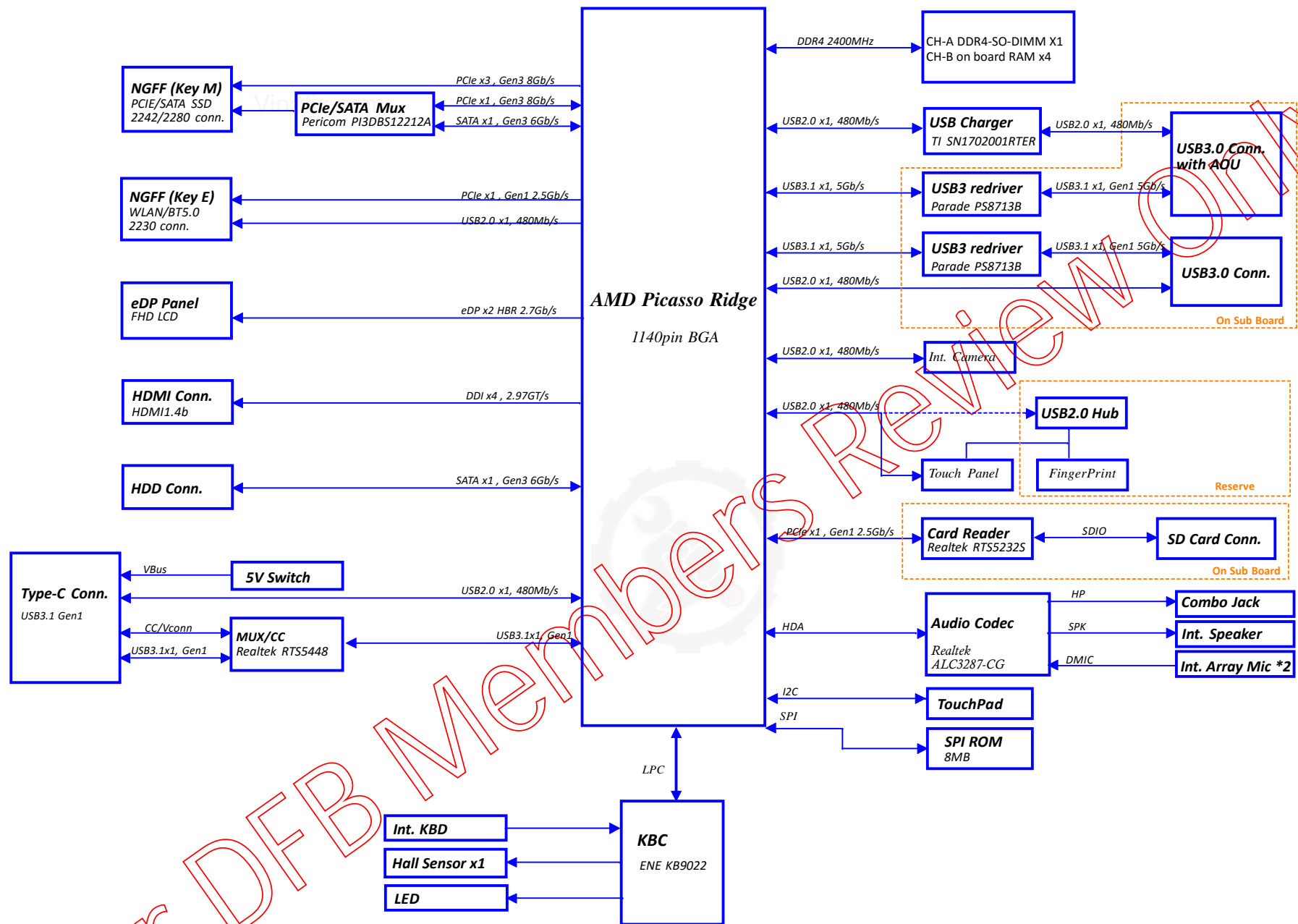
AMD Picasso FP5 APU with DDR4

LA-H131P

2018-11-05

Rev : 0.4

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/11/05	Deciphered Date	2019/11/05	Title	Cover Page
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Voltage Rails

Power Plane	Description	S0	S3	S5
VIN	Adapter power supply	ON	ON	ON
B+	AC or battery power rail for power circuit.	ON	ON	ON
+APU_CORE	Core voltage for APU	ON	OFF	OFF
+APU_CORE_SOC	Core voltage for APU	ON	OFF	OFF
+RTC_APU	RTC power	ON	ON	ON
+3VALW	3.3V always on power rail	ON	ON	ON
+3VS	3.3V switched power rail	ON	OFF	OFF
+1.8VALW	1.8V always on power rail	ON	ON	ON
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+0.8VALW	0.95V always on power rail	ON	ON	ON
+0.8VS	0.95V switched power rail	ON	OFF	OFF
+1.2V_DDR	1.2V power rail for APU and DDR	ON	ON	OFF
+2.5V_MEM	2.5V power rail for DDR	ON	ON	OFF
+0.6VS_VTT	0.6V switched power rail for DDR terminator	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON
+5VS	5V switched power rail	ON	OFF	OFF

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

BOM STRUCTURE	DESCRIPTION
14@	14" Only Components
15@	15" Only Components
OBR@	On Board RAM SKU Only
NO_OBR@	No On Board RAM SKU Only
SDP@	Memory Down - SDP Package
DDP@	Memory Down - DDP Package
SINGLE_MIC@	MIC Select Strap (1 MIC)
MULTI_MIC@	MIC Select Strap (2 MIC)
KBL@	Keyboard Backlight

BOM STRUCTURE

BOM STRUCTURE	DESCRIPTION
Ryzen5_PR@	Ryzen5 CPU (PR Sample)
Ryzen7_PR@	Ryzen7 CPU (PR Sample)
45@	HDMI Logo
14_DAZ_R0@	14" DAZ (Rev0 PCB)
15_DAZ_R0@	15" DAZ (Rev0 PCB)
X4E@	43J X4E Level
X76RAM@	On Board RAM X76 Resistors
S4G_MD@	On Board RAM (Samsung 4GB)
H4G_MD@	On Board RAM (Hynix 4GB)
M4G_MD@	On Board RAM (Micron 4GB)
HDT@	HDT Debugging
EMI@	EMI Components
ESD@	ESD Components
RF@	RF Components
TS@	Touch Screen

BOM STRUCTURE	DESCRIPTION
Ryzen3_PC@	Ryzen3 CPU (PC Sample)
Ryzen3_PR@	Ryzen3 CPU (PR Sample)
Ryzen5_PC@	Ryzen5 CPU (PC Sample)
Ryzen7_ES@	Ryzen7 CPU (ES Sample)
Ryzen7_PC@	Ryzen7 CPU (PC Sample)
@	Un-Mount Components
@EMI@	EMI Un-Mount Components
@ESD@	ESD Un-Mount Components
20V_PRTCP@	5445 EXT Voltage Protection
FP@	Finger Printer (Reserved)
ME@	ME Components
EX_THM@	Thermal Sensor
HUB@	USB2.0 HUB
DA_R0@	14" DAZ (Rev0 PCB)
DA_R1@	15" DAZ (Rev1 PCB)
14_DAZ_R1@	14" DAZ (Rev1 PCB)
15_DAZ_R1@	15" DAZ (Rev1 PCB)
RDE@	USB3.0 Re-Driver BOM
TI@	TI Re-Driver Only
PARADE@	Parade Re-Driver Only
PERICOM@	Pericom Re-Driver Only
X76_TI@	TI Re-Driver X76 Level
X76_PARADE@	Parade Re-Driver X76 Level
X76_PERICOM@	Pericom Re-Driver X76 Level

SMBUS Control Table

	SOURCE	APU	BATT	EC	SODIMM	WLAN
EC_SMB_CK1 EC_SMB_DA1	9022 +3VALW	X	V +3VALW	V +3VALW	X	X
APU_SCLK0 APU_SDATA0	APU +3VS	X	X	X +3VS		X
EC_SMB_CK2 EC_SMB_DA2	9022 +3VS	V +1.8VS	X	V +3VALW	X	X

EC SM Bus1 address

EC SM Bus2 address

Device	Address	HEX	Device	Address	HEX
Smart Battery	0001 011x b	16H	APU	1001 100X b	98H
Charger	0001 0010 b	12H			

APU SM Bus address

SM Bus 0	Device	Address	HEX
	DDR DIMM1	1010 001Xb	A2H

APU I2C Bus address

I2C 3	Device	Address
	Touch Pad (Synaptics)	\$2C
	Touch Pad (Elan)	0X15

USB3.0 Port (USB_0)

PORT	FUNCTION
0	Type-C
1	Sub/B USB3.0 Type-A
2	Sub/B USB3.0 Type-A
3	
4	

USB2.0 Port

PORT	FUNCTION
0	Type-C
1	Sub/B USB3.0 Type-A
2	Sub/B USB3.0 Type-A
3	Camera
4	USB2.0 Hub
5	Bluetooth

USB2.0 Hub

PORT	FUNCTION
1	Touch Screen
2	Finger Printer

GPP Port

PORT	FUNCTION
GPP0	
GPP1	SDD (PCIe x4)
GPP2	
GPP3	
GPP4	Card Reader (PCIe x1)
GPP5	WLAN (PCIe x1)
GPP6	SDD (SATA x1)
GPP7	HDD (SATA x1)

Display Port

PORT	FUNCTION
0	eDP
1	HDMI

PCB

ZZZ DA_R0@ Rev0 PCB DA6022G0000	ZZZ 14_DAZ_R0@ Rev0 DAZ_14 DA22GH60100	ZZZ 15_DAZ_R0@ Rev0 DAZ_15 DA22G000100
ZZZ DA_R1@ Rev1 PCB DA6022G0100	ZZZ 14_DAZ_R1@ Rev1 DAZ_14 DA22GH60101	ZZZ 15_DAZ_R1@ Rev1 DAZ_15 DA22G000101

ON BOARD RAM * 4

ZZZ H4G_MD@ X76 HYNIX 4GB MD X7604H4G01	ZZZ M4G_MD@ X76 MICRON 4GB MD X7604M4G01	ZZZ S4G_MD@ X76 SAMSUNG 4GB MD X7604S4G01
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HDMI Logo

ZZZ 45@ HDMI Logo RC0000000000

CARD READER (SUB BOARD)

*Main Source - Realtek
*Substitute - Genesys

X4E

ZZZ X4E@ X4E EMC X4EAF03SL01

CPU

UC1 Ryzen7_ES@ S IC RYZEN7 2M370SC4T4MF8 2.2G QS APU SA0000C7610	UC1 Ryzen7_PC@ S IC RYZEN7 2M370SC4T4MF8 2.2G QS APU SA0000C7620	UC1 Ryzen3_PC@ S IC RYZEN3 2M320SC4T20FG 2.5G QS APU SA0000C0500
UC1 Ryzen5_PR@ S IC RYZEN5 2M350SC4T4MF8 2G BGA1140 APU SA0000C0R00	UC1 Ryzen7_PR@ S IC RYZEN7 2M370SC4T4MF8 2.2G QS APU SA0000C7620	UC1 Ryzen3_PR@ S IC RYZEN3 2M320SC4T20FG 2.5G BGA 1140 APU SA0000C0500

TYPE1

TYPE2

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Power Sequence

Boot

Shut
Down

EC Pin 110 Input

EC Pin 112 Output

AC Plug

EC Pin 114 Input

EC Pin 100 Output

EC Pin 122 Output

EC Pin 123 Input

EC Pin 6 Input

EC Pin 95 Output

EC Pin 116 Output

EC Pin 99 Output

EC Pin 121 Output

EC Pin 36 Input

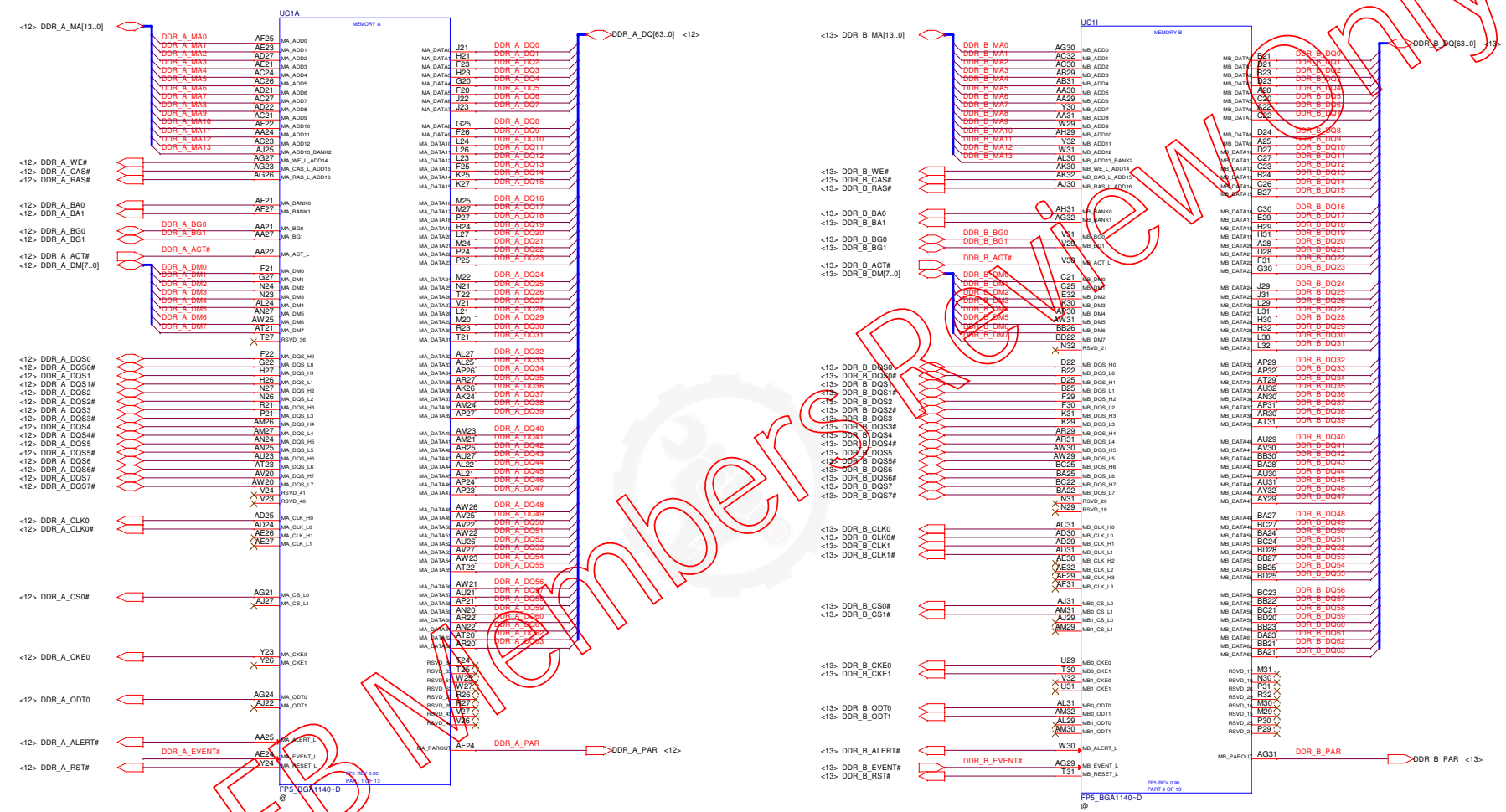
EC Pin 32 Output

EC Pin 13 Input

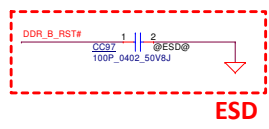
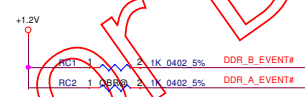


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EVENT# pull high

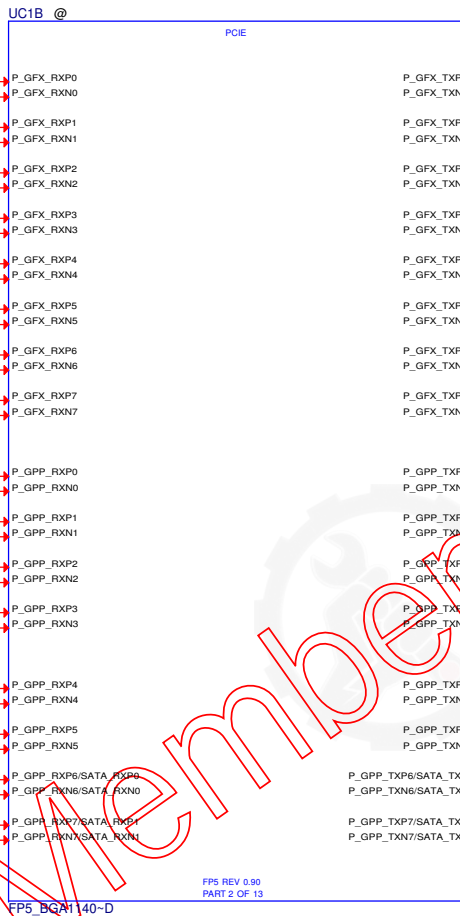


ESD

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Main Func = CPU

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PCIE_ARX_DTX_P0	N10	P_GPP_RXP0	N2	PCIE_ATX_DRX_P0	CC1	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_P0
PCIE_ARX_DTX_N0	N9	P_GPP_RXN0	P3	PCIE_ATX_DRX_N0	CC2	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_N0
PCIE_ARX_DTX_P1	L10	P_GPP_RXP1	P4	PCIE_ATX_DRX_P1	CC3	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_P1
PCIE_ARX_DTX_N1	L9	P_GPP_RXN1	P2	PCIE_ATX_DRX_N1	CC4	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_N1
PCIE_ARX_DTX_P2	L12	P_GPP_RXP2	R3	PCIE_ATX_DRX_P2	CC5	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_P2
PCIE_ARX_DTX_N2	M11	P_GPP_RXN2	R1	PCIE_ATX_DRX_N2	CC6	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_N2
PCIE_ARX_DTX_P3	P12	P_GPP_RXP3	T4	PCIE_ATX_DRX_P3	CC7	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_P3
PCIE_ARX_DTX_N3	P11	P_GPP_RXN3	T2	PCIE_ATX_DRX_N3	CC8	1	2	0.22U	0402	6.3V6K	PCIE_ATX_C_DRX_N3

CardReader

<20> PCIE_ARX_DTX_P4	PCIE_ARX_DTX_P4	V6	P_GPP_RXP4	W2	PCIE_ATX_DRX_P4	CC9	1	2	0.1U	0201	10V6K	PCIE_ATX_C_DRX_P4	<20>
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WLAN

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NGFF_SATA

<17> SATA_ARX_DTX_P0	SATA_ARX_DTX_P0	R6	P_GPP_RXP6/SATA_RXP0	V1	SATA_ATX_DRX_P0							SATA_ATX_DRX_P0	<17>
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SATA HDD

<19> SATA_ARX_DTX_P1	SATA_ARX_DTX_P1	R9	P_GPP_RXP7/SATA_RXP1	U2	SATA_ATX_DRX_P1							SATA_ATX_DRX_P1	<19>
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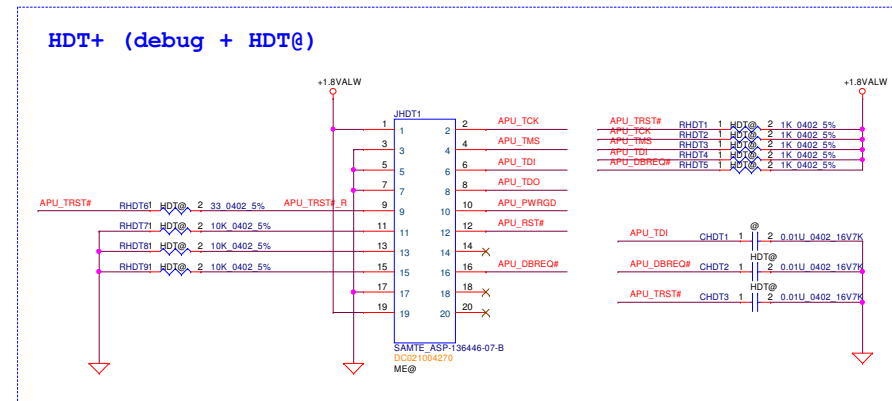
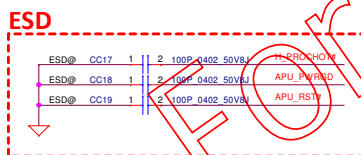
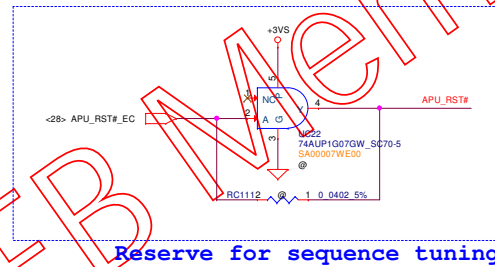
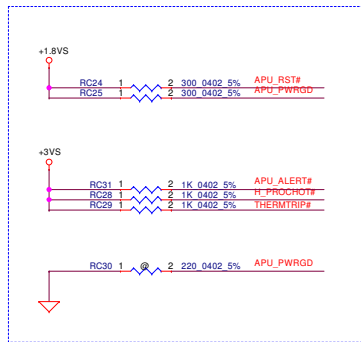
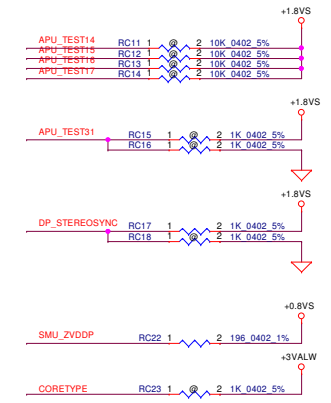
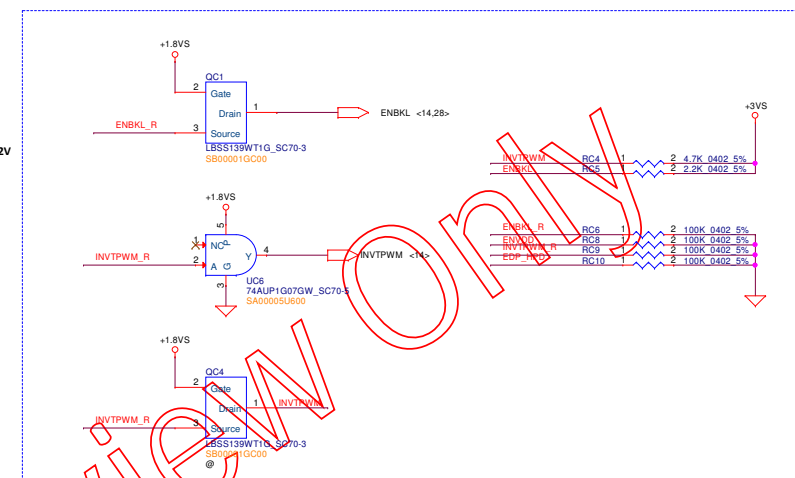
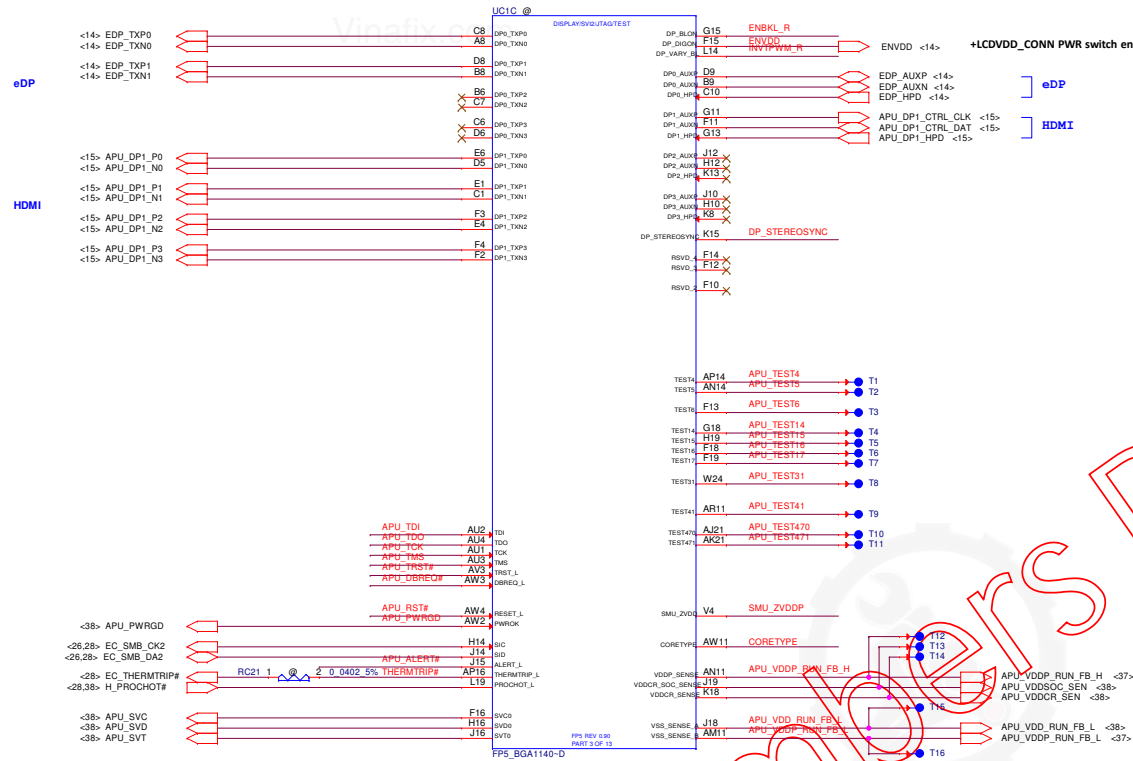
Main_SSD

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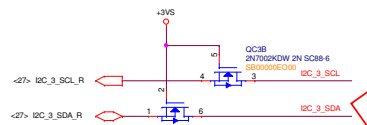
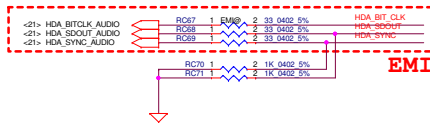
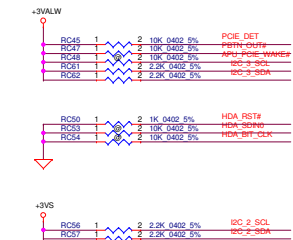
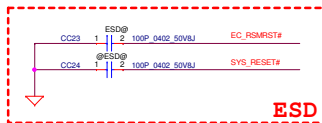
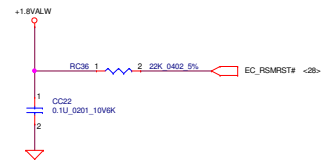
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DP0:  eDP
DP1:  HDMI
DP2:  N/A
DP3:  N/A
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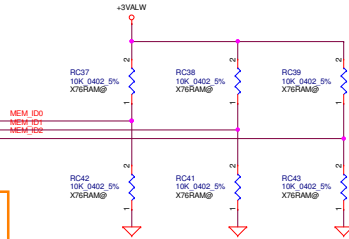


Capacity	Description	X76	PART NUMBER (R1)	PART NUMBER (R3)
4GB	WITHOUT ON-BOARD RAM	N/A	N/A	N/A
	SAMSUNG 2666MHz (K4A8G165WC-BCTD)	X7680438L53	SA0000B6F00	SA0000B6F10
	MICRON 2666MHz (MT40A512M16LY-075:E)	X7680438L52	SA0000ARD20	SA0000ARD30
	HYNIX 2666MHz (H5AN8G6NCJR-VKC)	X7680438L51	SA0000BMN00	SA0000BMN10
	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A

Capacity	Description	AGPIO11 MEM_ID1	AGPIO9 MEM_ID1	AGPIO6 MEM_ID0
4GB	WITHOUT ON-BOARD RAM	0	0	0
	N/A	0	0	1
	N/A	0	1	0
	N/A	0	1	1
	SAMSUNG 2666MHz (K4A8G165WC-BCTD)	1	0	1
	MICRON 2666MHz (MT40A512M16LY-075:E)	1	1	0
	HYNIX 2666MHz (H5AN8G6NCJR-VKC)	1	1	1



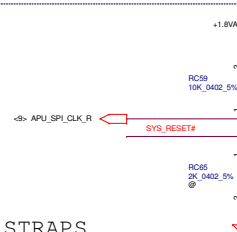
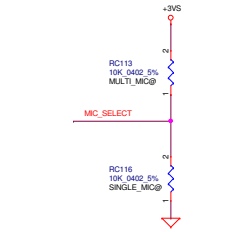
No On Board Ram Straps (NO_OBR#)



ON BOARD RAM ID

Function	MODEL ID (AGPIO9)
S340-14	0
S340-15	1

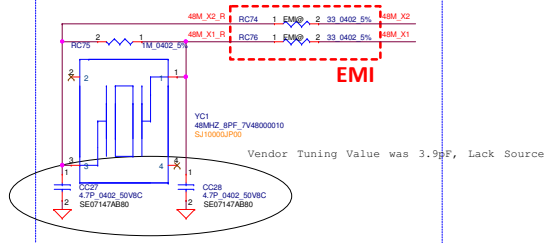
Function	MIC_SELECT (AGPIO84)
1 MIC	0
2 MIC	1



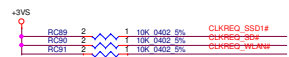
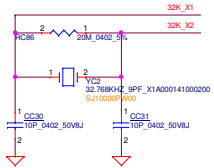
STRAPS

STRAPS	DEFINITION
SPI_CLK	1: Use 48MHz Crystal Clock and Generate both internal and external clocks (Default) 0: Use 100MHz PCIe clock as reference clock and generate internal clocks only
SYS_RST#	1: Normal reset mode (Default) 0: short reset mode

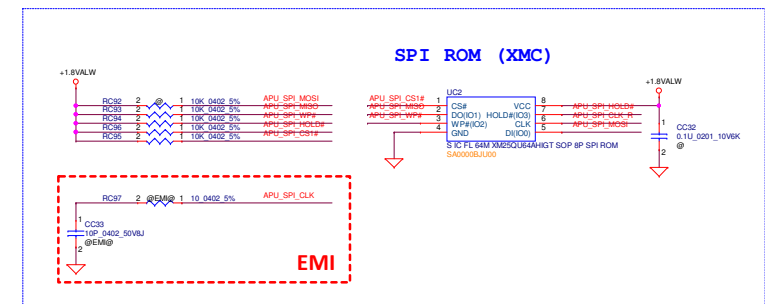
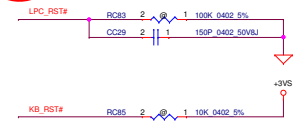
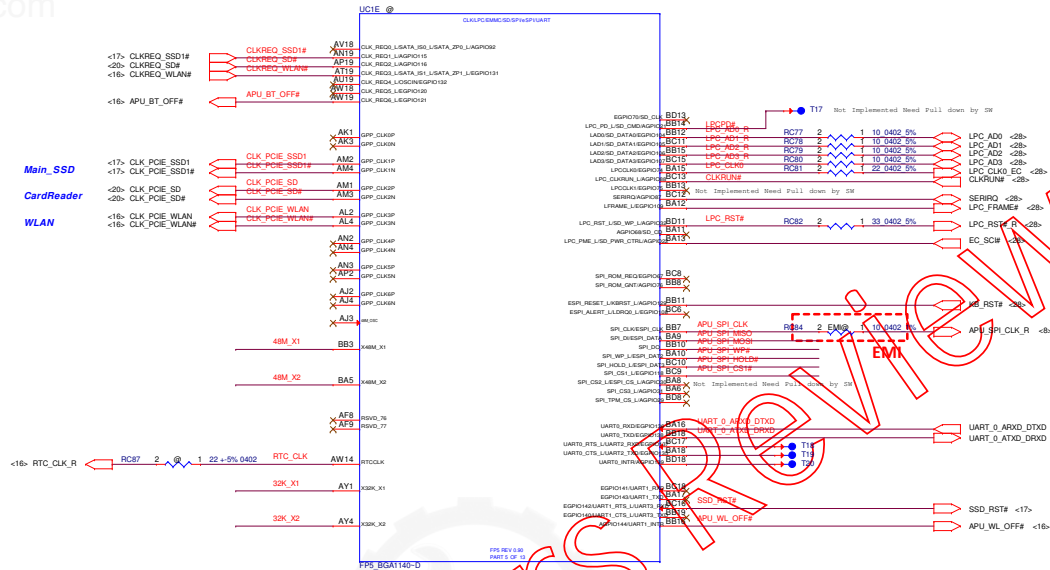
48MHz CRYSTAL



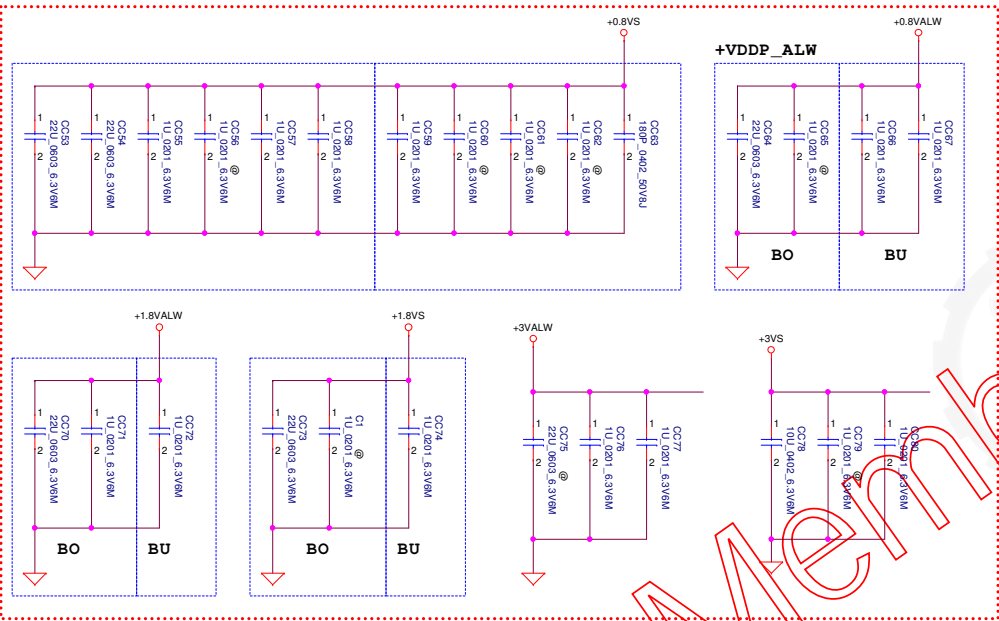
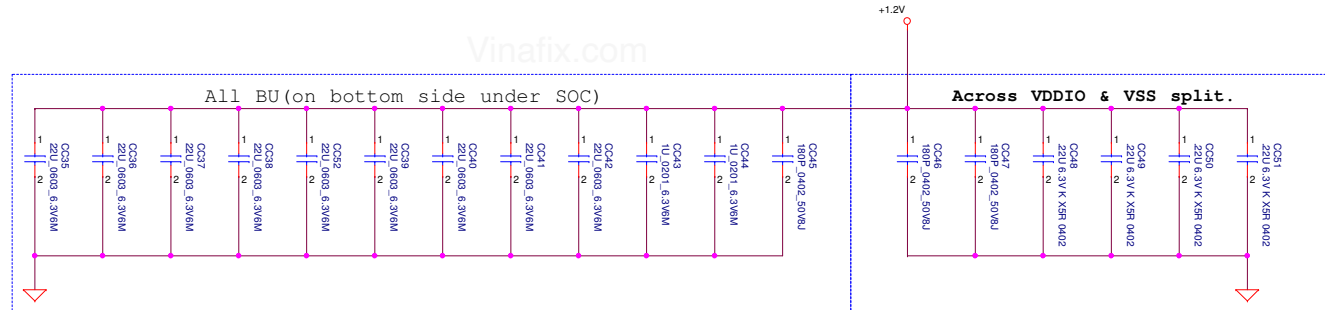
32.768KHz CRYSTAL



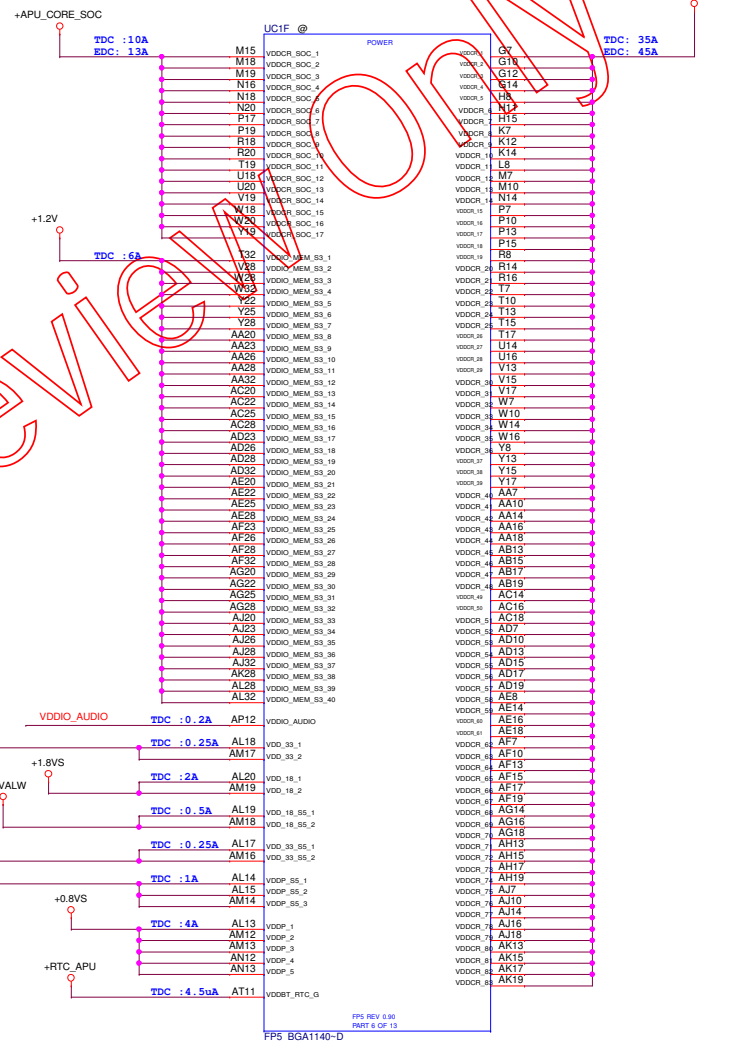
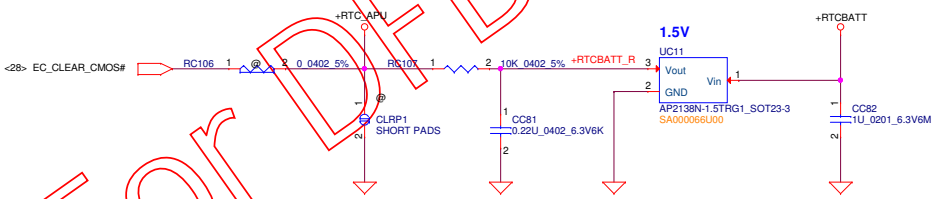
- ```
USB3.1 Type-C ☐
USB3.1 Type-A Port 1 ☐
USB3.1 Type-A Port 2 ☐
Camera ☐
USB2.0 Hub ☐
NGFF_BT ☐
```



Vinafix.com

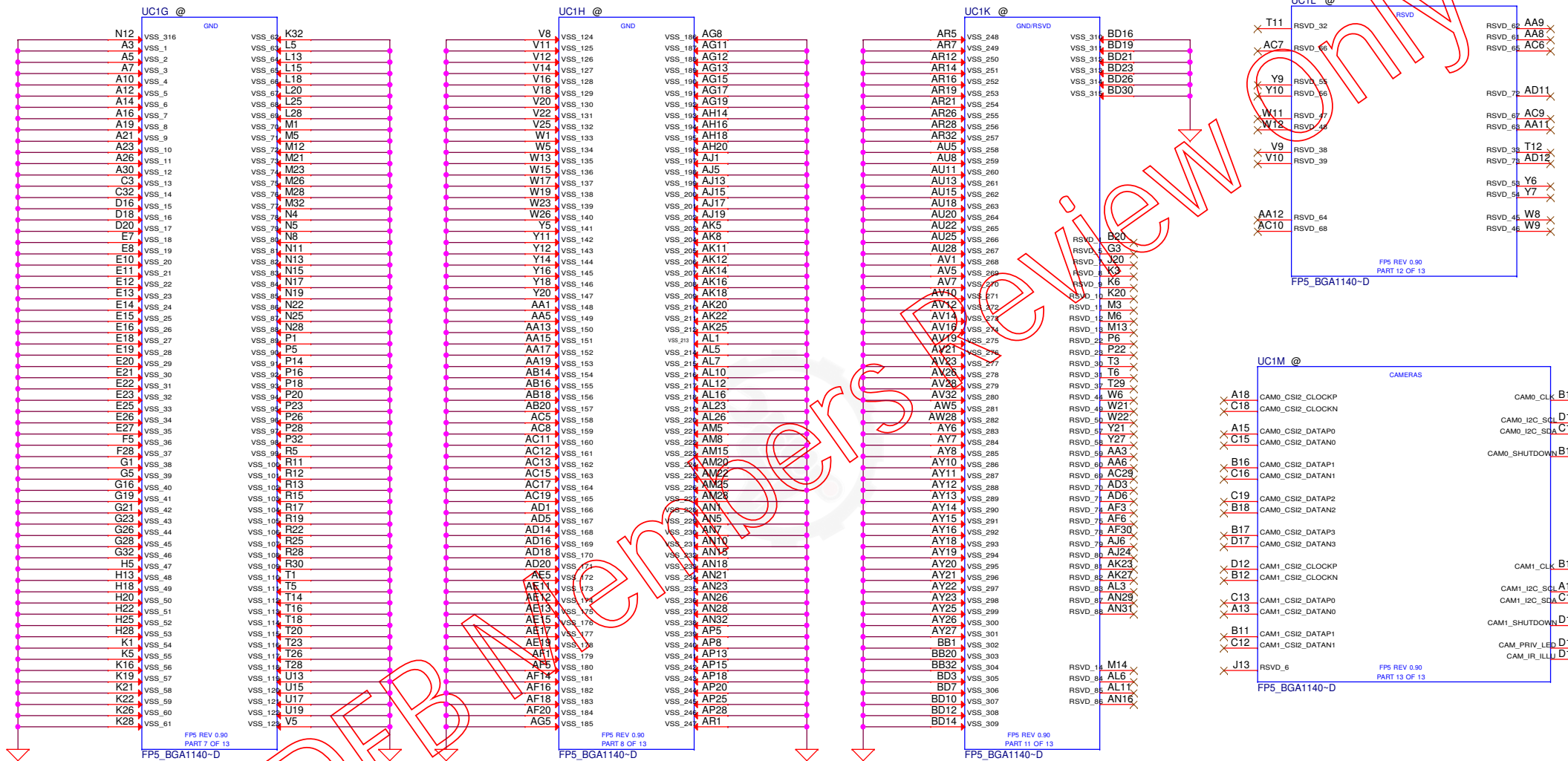


Note : Cap placemet need to close APU



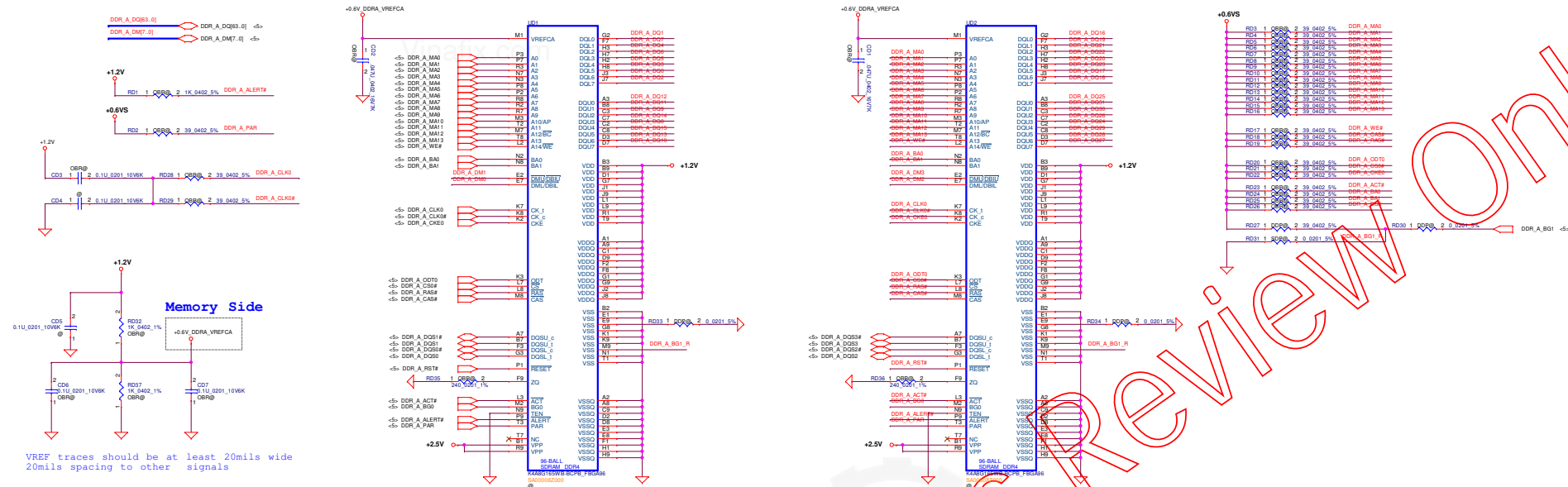
Main Func = CPU

Vinafix.com

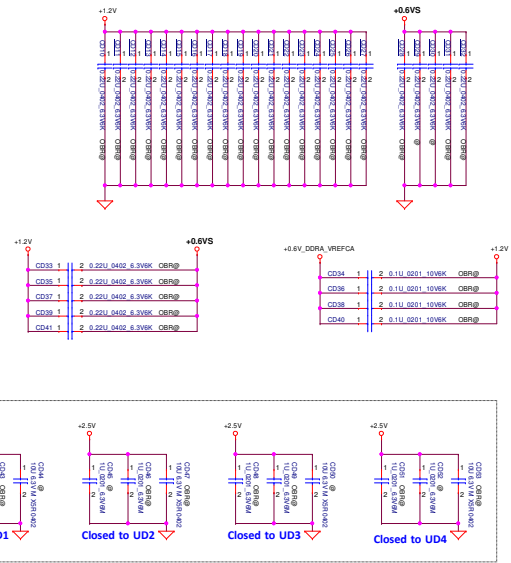


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                   | 0.4                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Number                   | LA-H131P                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Monday, November 05, 2018 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 11 of 46                  |

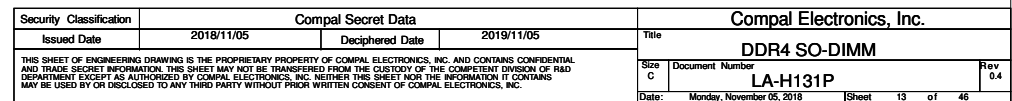
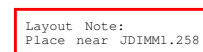
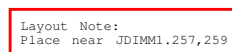
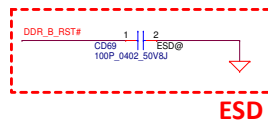
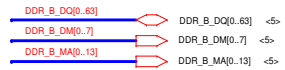
DDR4 - MEMORY DOWN (MEMORY CHANNEL A, x16 x4 PCS)



DRAM DOWN DECOUPLING

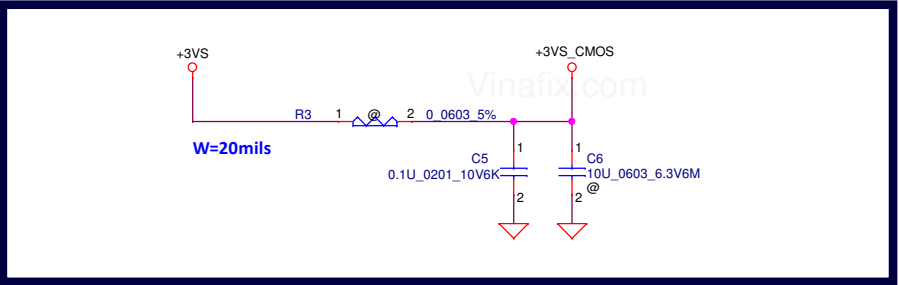


## DDR4 - SO-DIMM (MEMORY CHANNEL B)

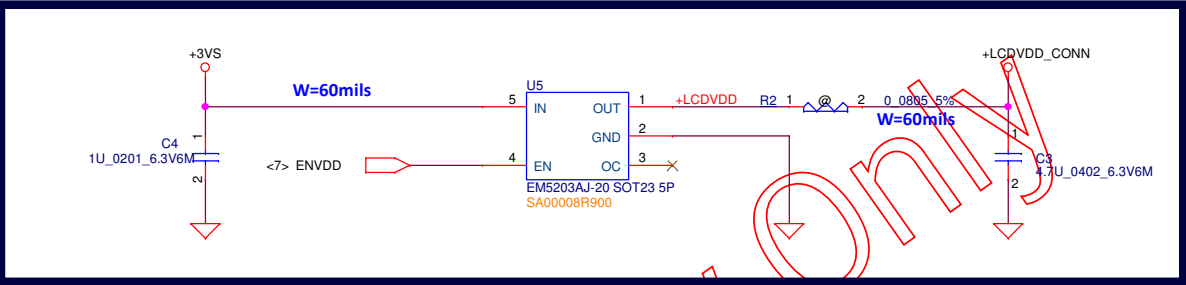




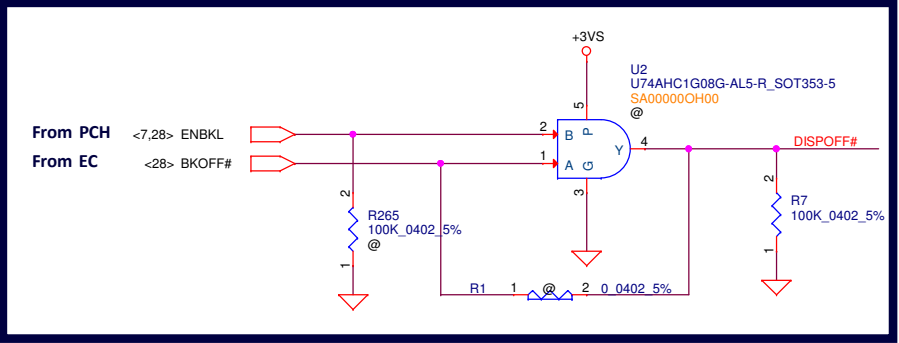
CAMERA POWER CIRCUIT



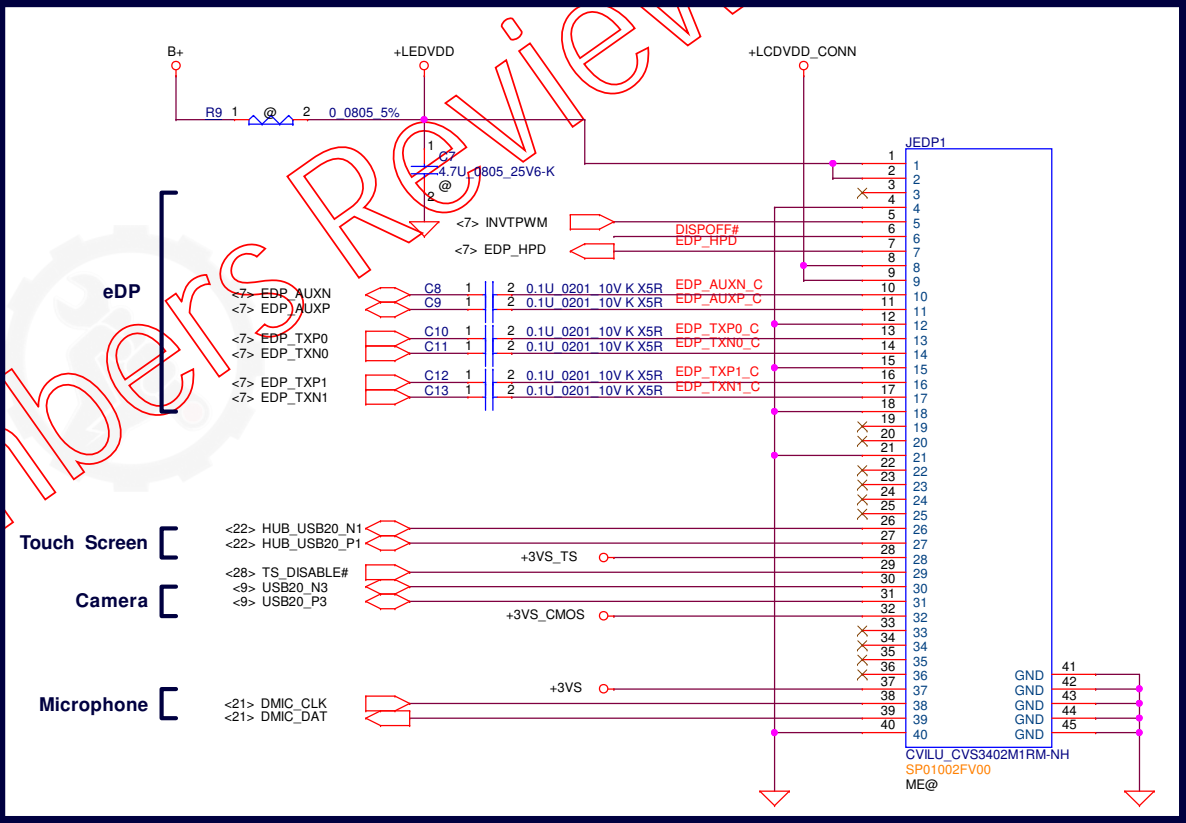
LCD POWER SWITCH



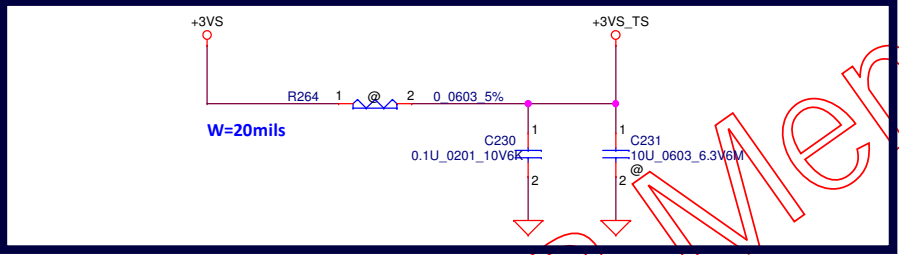
DISPLAY OFF



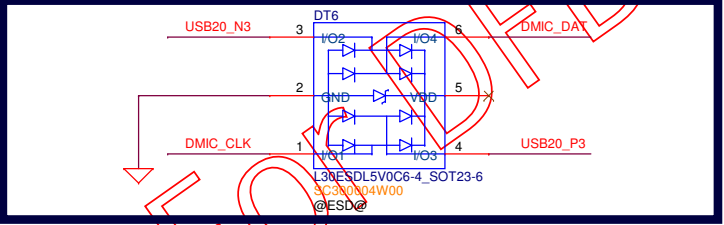
EDP CONNECTOR



TOUCH SCREEN POWER CIRCUIT

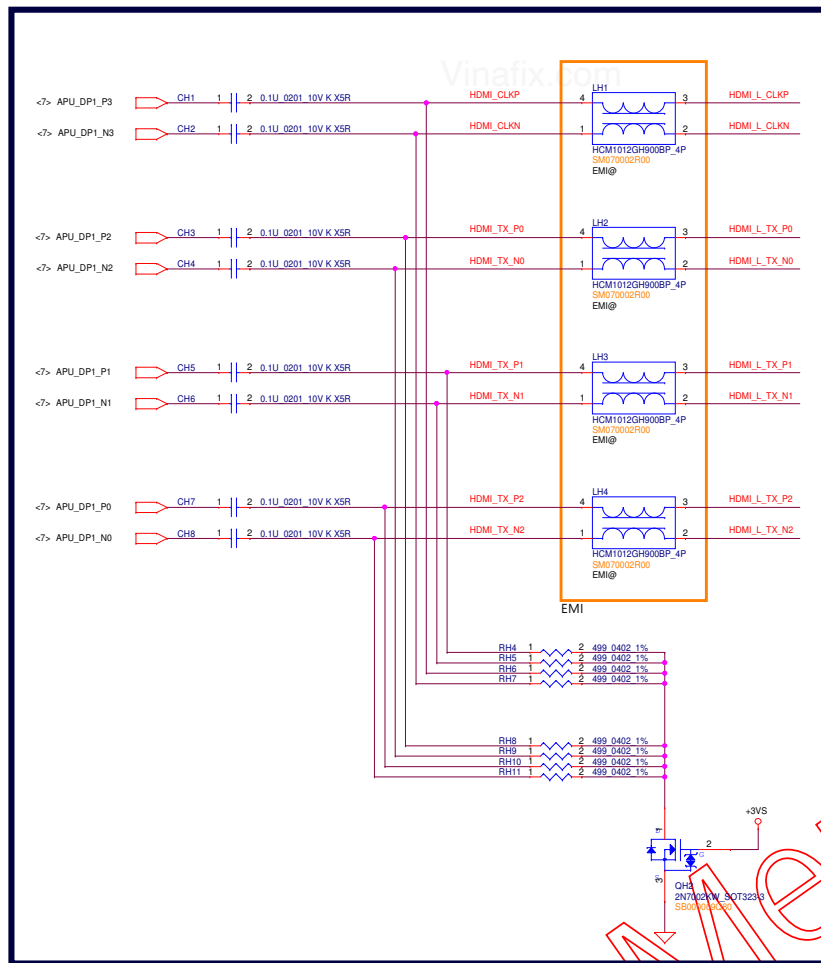


ESD COMPONENTS

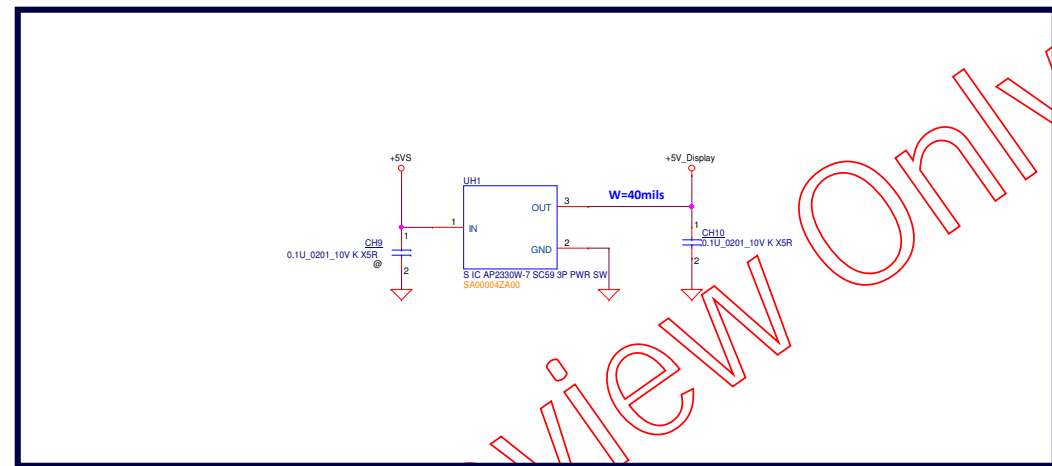


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |            |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------|---------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title      |         |
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| Date: Monday, November 05, 2018                                                                                                                                                                                                                                                                                                                                                                                                                               |            | Sheet 14 of 46     |            | LA-H131P   |         |

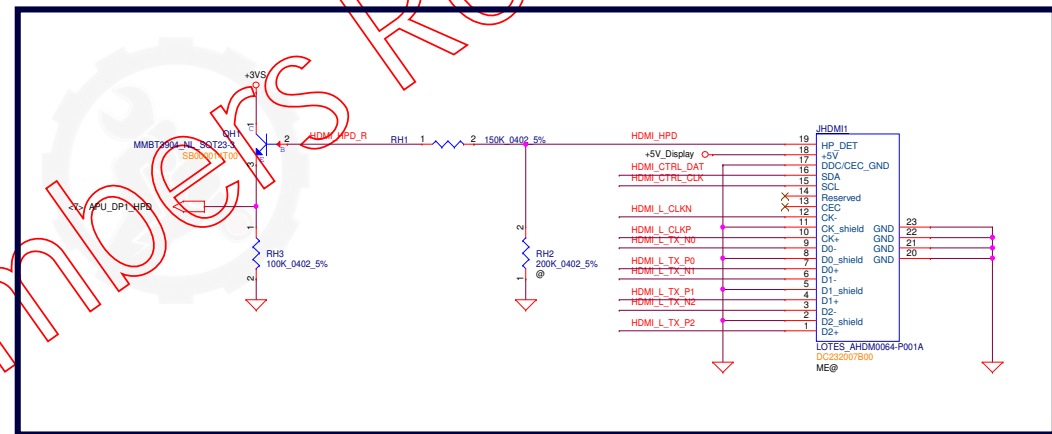
## HDMI DIFFERENTIAL SIGNALS



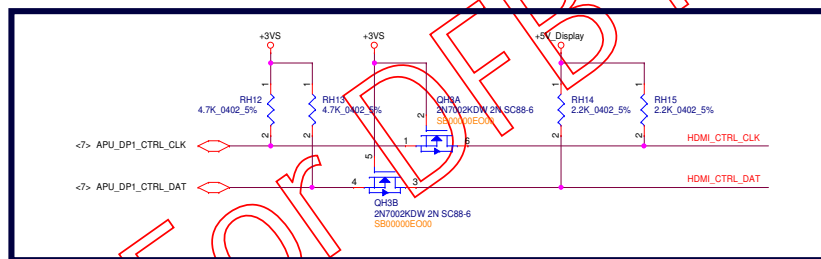
## HDMI POWER CIRCUIT



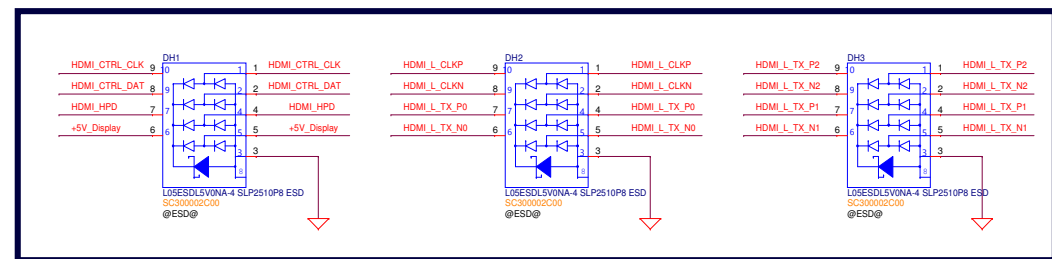
## HDMI CONNECTOR



## AUX LEVEL SHIFTER



## ESD COMPONENTS

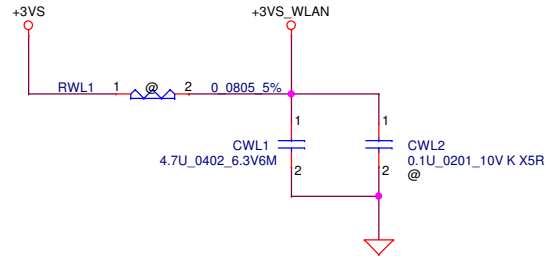


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Title      |                          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05         | Deciphered Date | 2019/11/05 | Compal Electronics, Inc. |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Document Number          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | LA-H131P                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Rev                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | 0.4                      |
| Date: Monday, November 05, 2018                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet 15 of 46           |

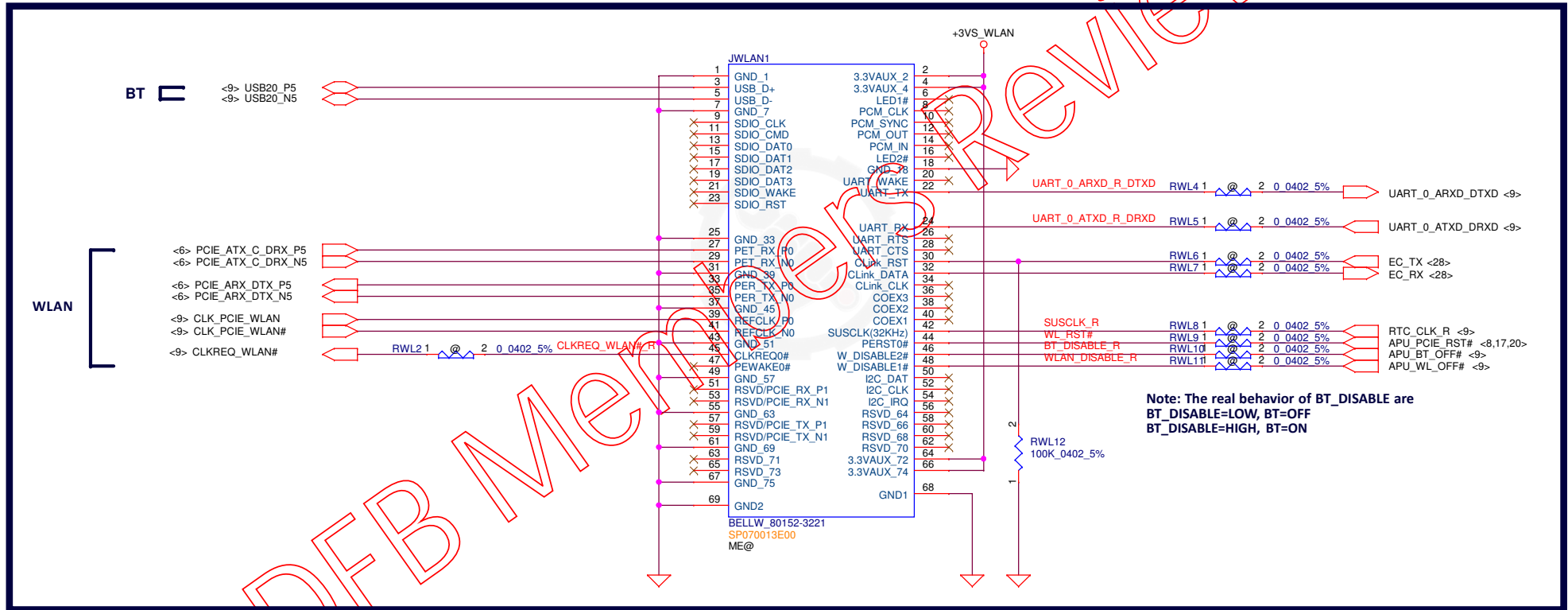


# WLAN POWER CIRCUIT

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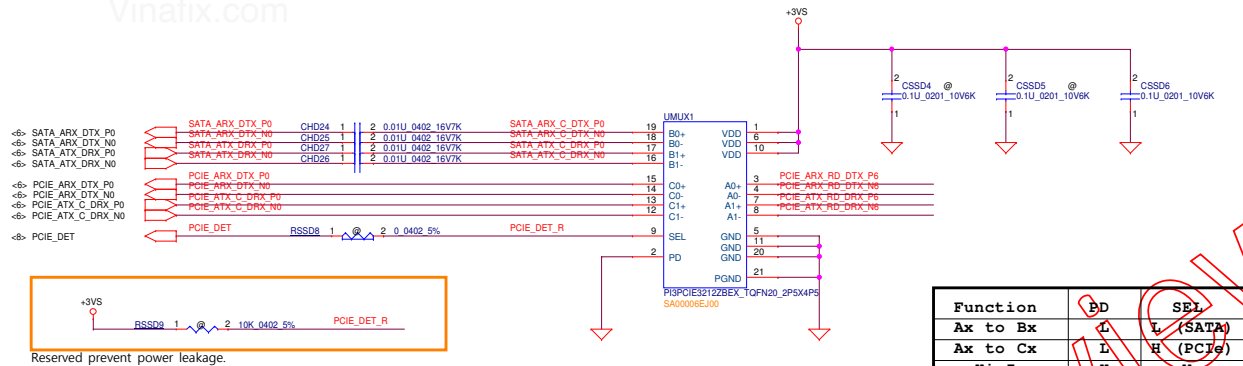


## NGFF - WLAN / BT CONNECTOR (KEY-E)

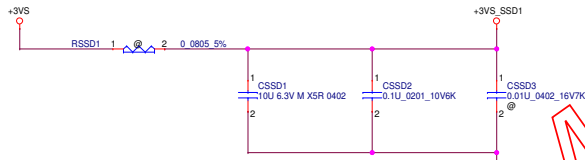


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|---------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size                     | Document Number           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | LA-H131P                 |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Monday, November 05, 2018 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 16 of 46                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.4                       |

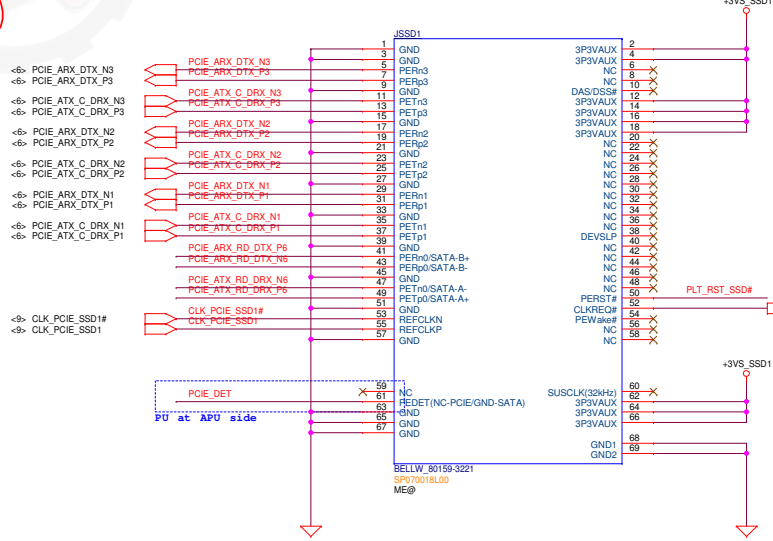
PCIE / SATA MUX (PERICOM PI3PCIE3212ZBEX)



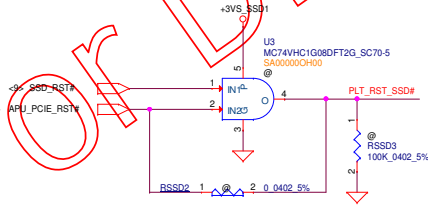
SSD POWER CIRCUIT



NGFF - SSD CONNECTOR (KEY-M)



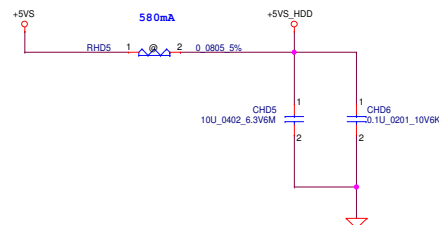
PCIE RESET



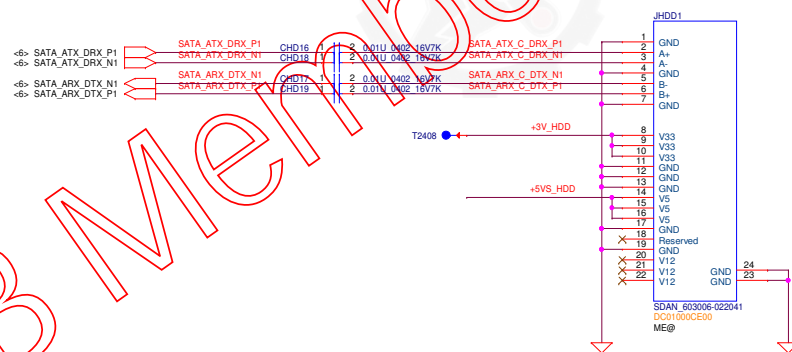
For DFB Members Review Only

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|---------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05 | Deciphered Date    | 2019/11/05 | Title                    | Reserved                  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Monday, November 05, 2018 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 18 of 46                  |

## HDD POWER CIRCUIT

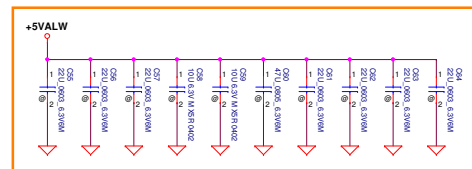
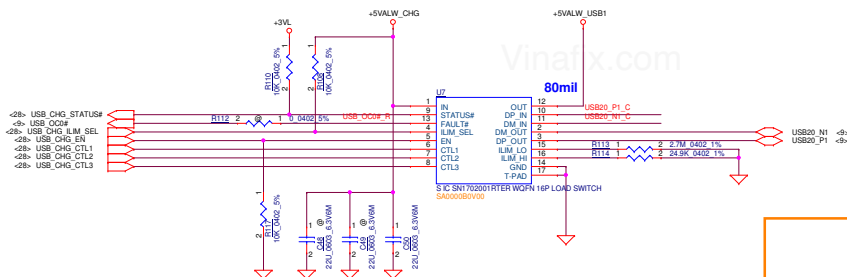


## HDD CONNECTOR

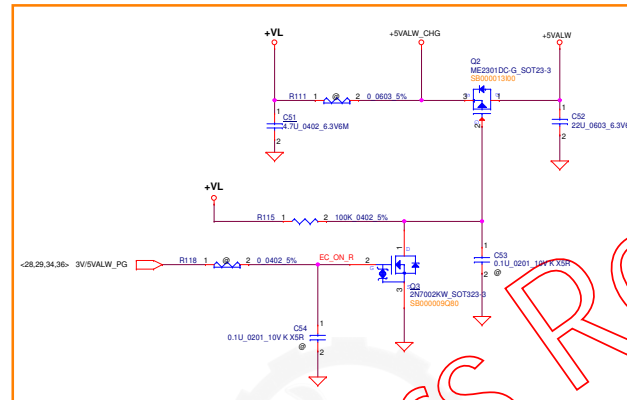


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                 |                          |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|--------------------------|-------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                 | Compal Electronics, Inc. |       |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number           | Rev             |                          |       |
| C                                                                                                                                                                                                                                                                                                                                                                                                                                                             | LA-H131P                  | 0.4             |                          |       |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet           | 19                       | of 46 |

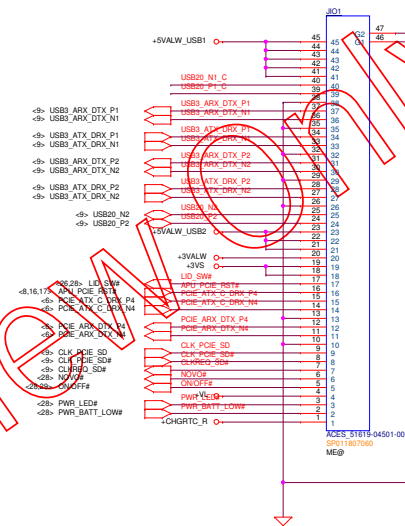
## IO Connector



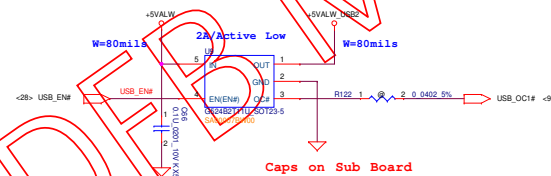
Improve +5VALW Power Ripple



### USB Charger Power Switches

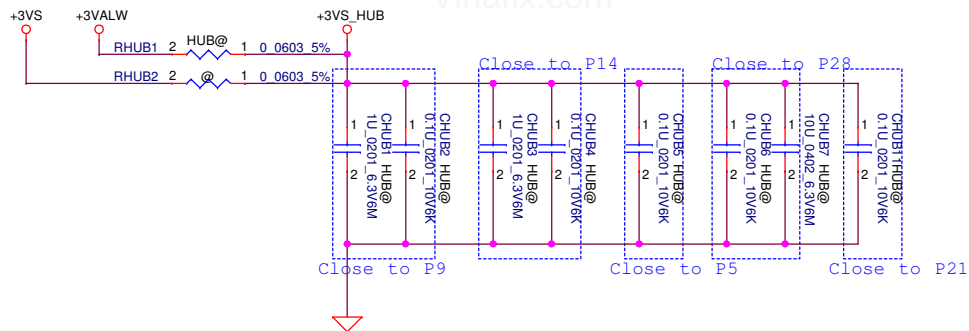


## USB Power Switch For Sub Board USB3.0 Connector (Non-AOU Port)

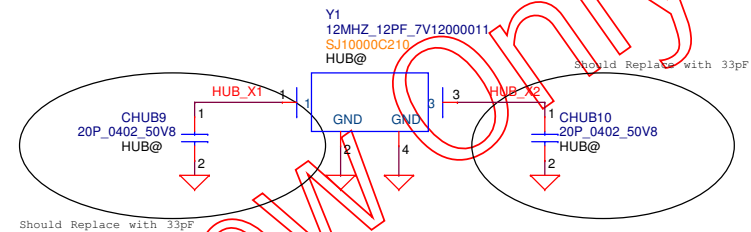




# USB HUB POWER CIRCUIT



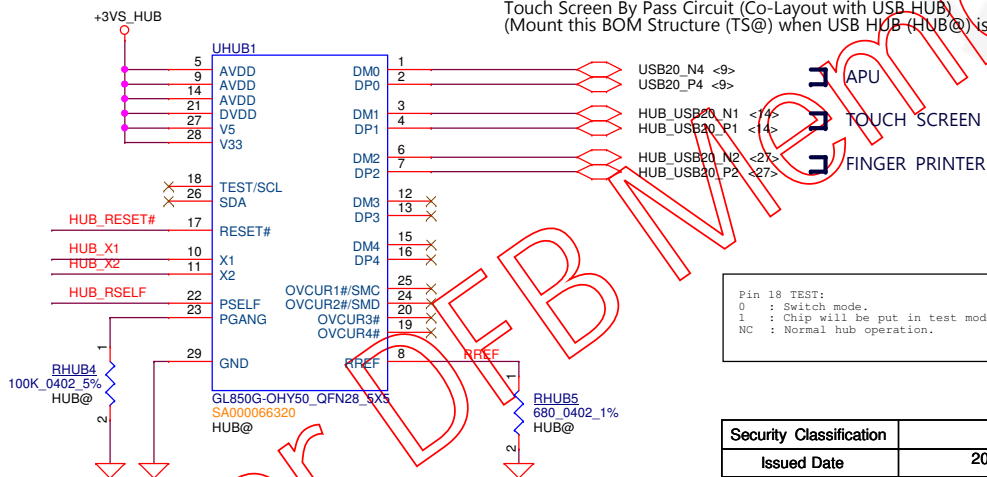
# CRYSTAL (12 MHz)



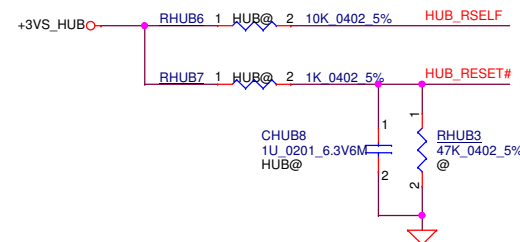
# USB 2.0 HUB (GENESYS GL850G-OHY50)

|             |          |                 |              |
|-------------|----------|-----------------|--------------|
| USB20_TS_N1 | RHUB10 1 | TS@ 2 0 0201 5% | USB20_N4     |
| USB20_TS_P1 | RHUB11 1 | TS@ 2 0 0201 5% | USB20_P4     |
| USB20_TS_N1 | RHUB12 1 | TS@ 2 0 0201 5% | HUB_USB20_N1 |
| USB20_TS_P1 | RHUB13 1 | TS@ 2 0 0201 5% | HUB_USB20_P1 |

Touch Screen By Pass Circuit (Co-Layout with USB\_HUB)  
(Mount this BOM Structure (TS@) when USB\_HUB (HUB@) is not used)



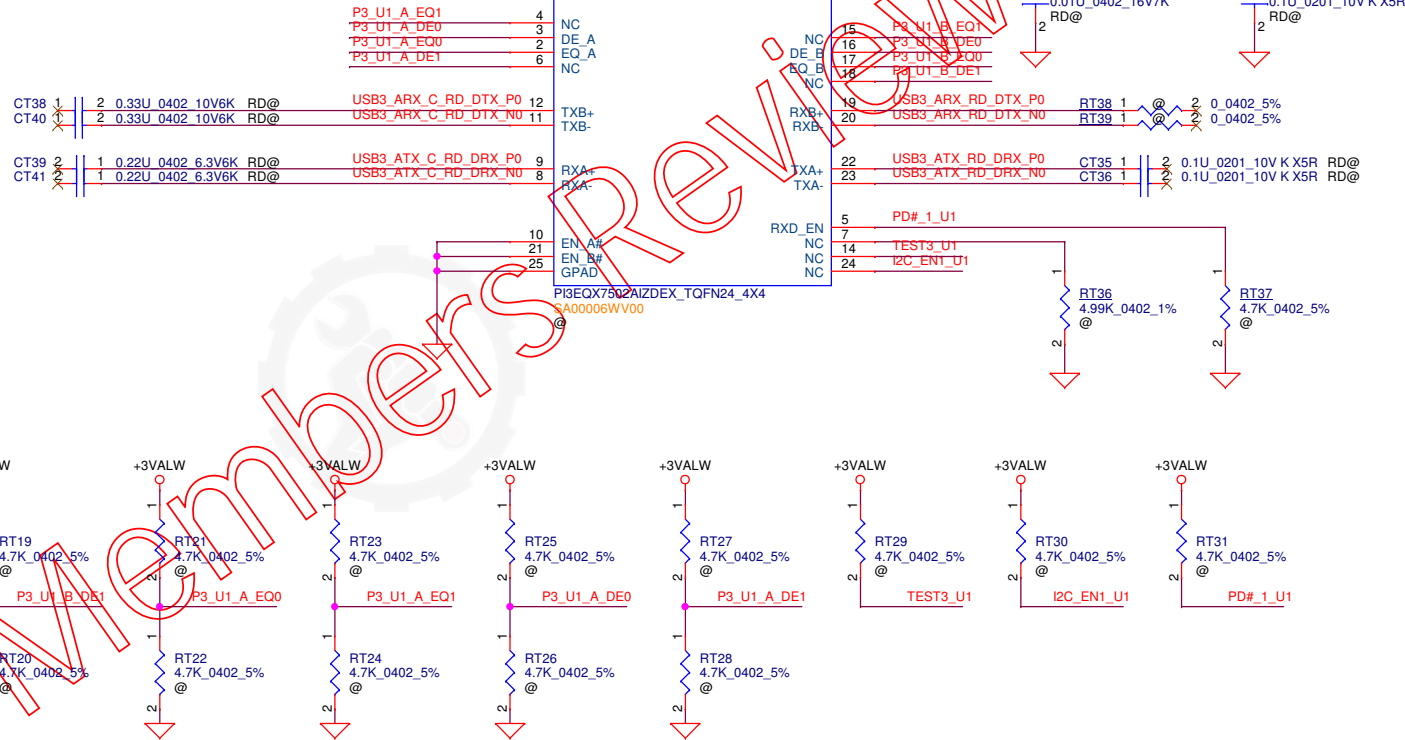
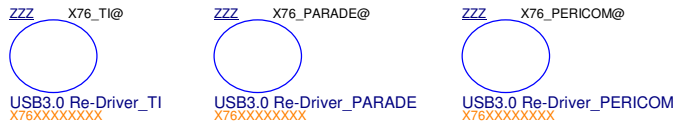
# HUB MISC.



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.        |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Document Number                 | 0.4            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | LA-H131P                        |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Monday, November 05, 2018 | Sheet 22 of 46 |

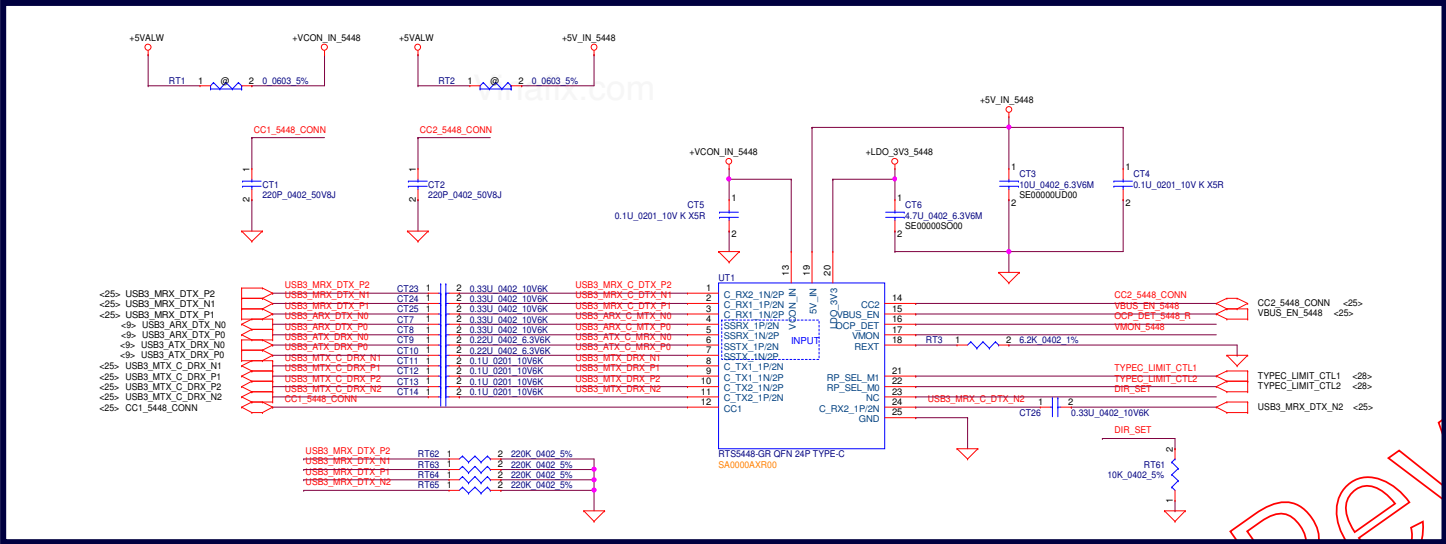


|          |                                                        |                               |                               |                               |                          |                          |
|----------|--------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------|--------------------------|
| TI@      | UT4 TI@<br>SN65LVP512RGER<br>SA00008M500               | RT28 TI@<br>0_0402_5%         | RT20 TI@<br>0_0402_5%         | RT33 TI@<br>4.7K_0402_5%      | RT35 TI@<br>4.7K_0402_5% | RT18 TI@<br>4.7K_0402_5% |
| PARADE@  | UT4 PARADE@<br>PS8713BTQFN24GTR2-A2<br>SA00005OR30     | RT23 PARADE@<br>4.7K_0402_5%  |                               |                               |                          |                          |
| PERICOM@ | UT4 PERICOM@<br>P13EQX7502AIZDEX TQFN24<br>SA00006WV00 | RT33 PERICOM@<br>4.7K_0402_5% | RT22 PERICOM@<br>4.7K_0402_5% | RT26 PERICOM@<br>4.7K_0402_5% |                          |                          |

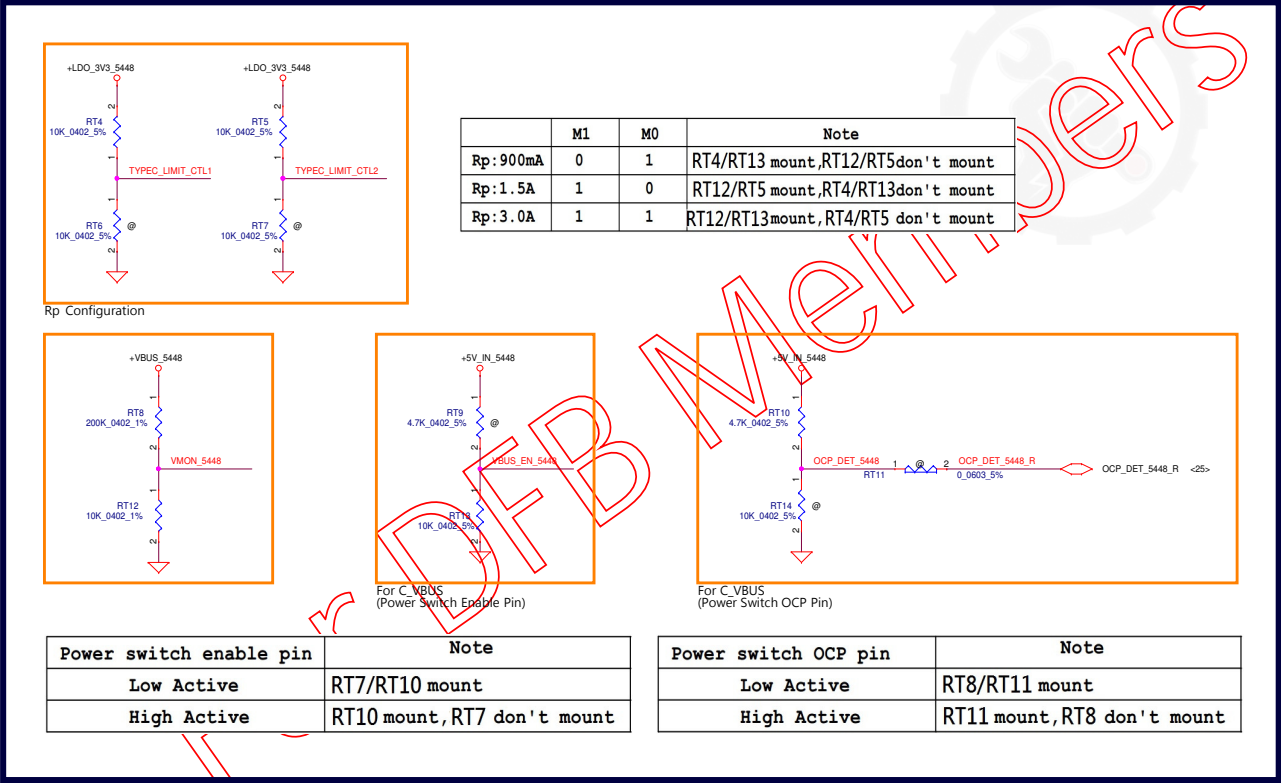


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                 |                          |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|--------------------------|-------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                 | Compal Electronics, Inc. |                         |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05                | Deciphered Date | 2019/11/05               | Title                   |
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| Size B                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Document Number           | LA-H131P        |                          | Rev 0.4                 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet           | 23                       | of 46                   |

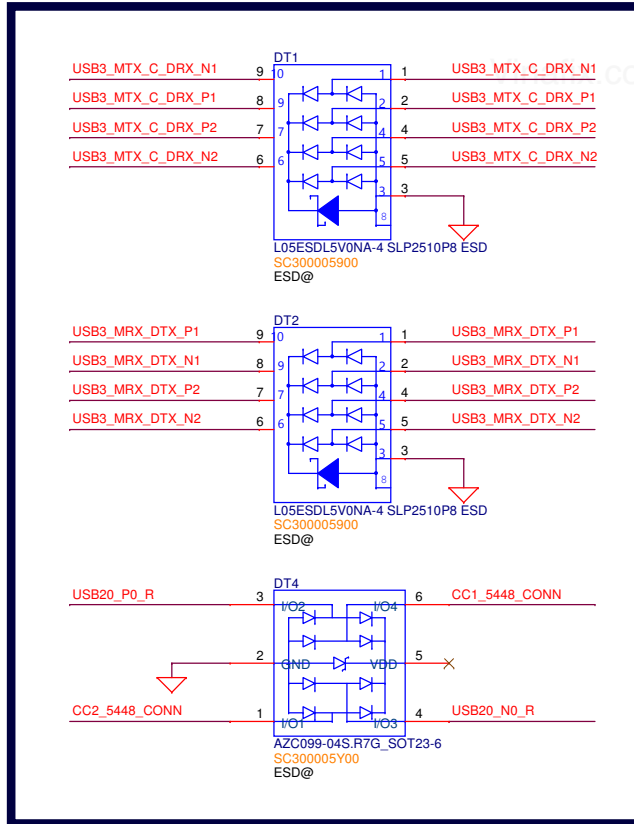
TYPE-C - CC+MUX (RTS5448-GR)



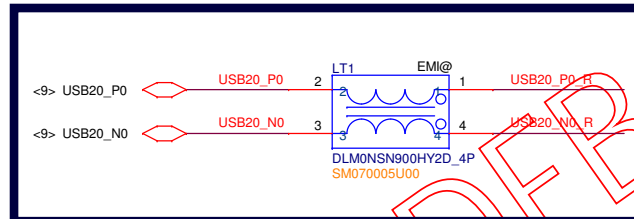
MUX MISC.



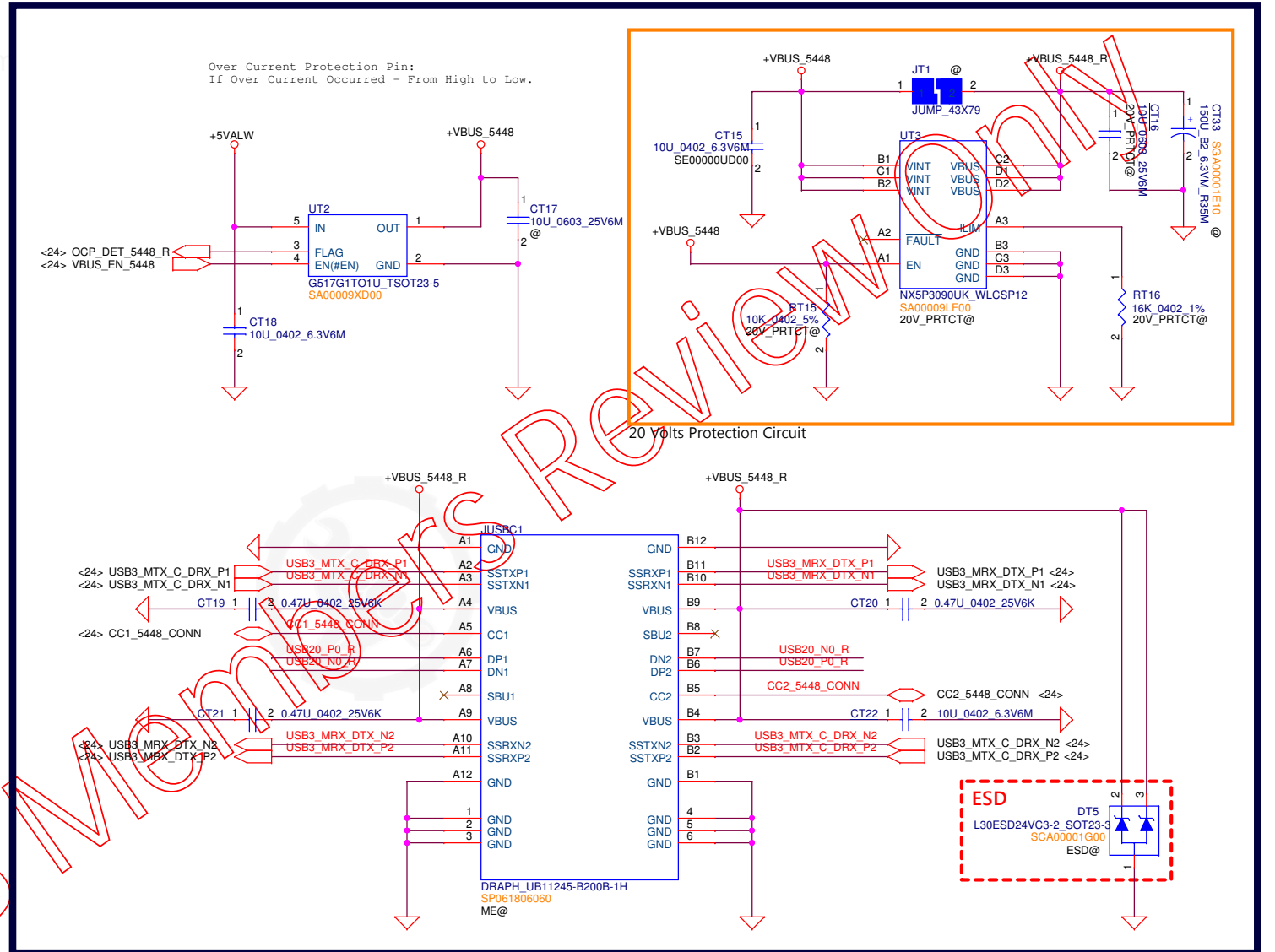
## ESD COMPONENTS



## USB2.0

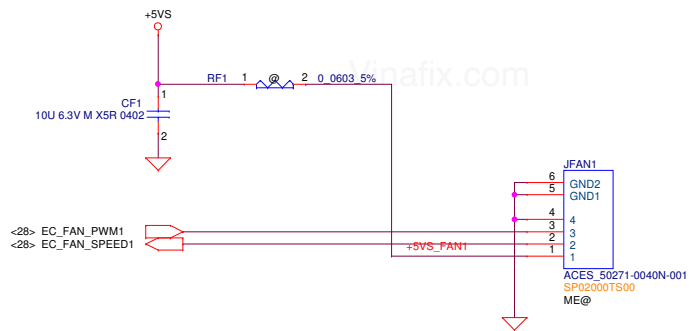


## TYPE-C CONNECTOR

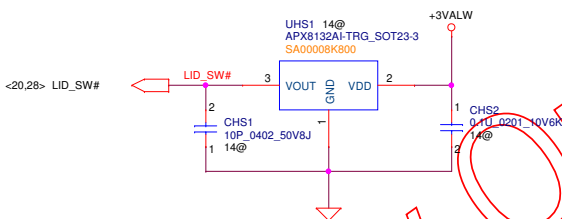


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.        |                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Monday, November 05, 2018 | Sheet 25 of 46           |

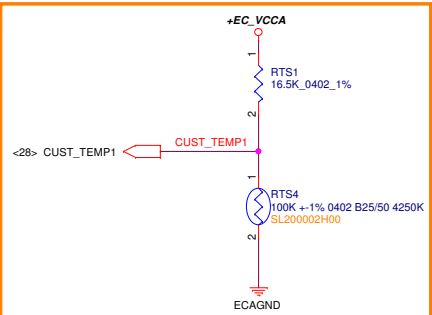
FAN



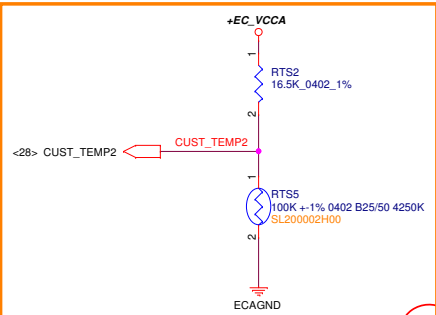
LID



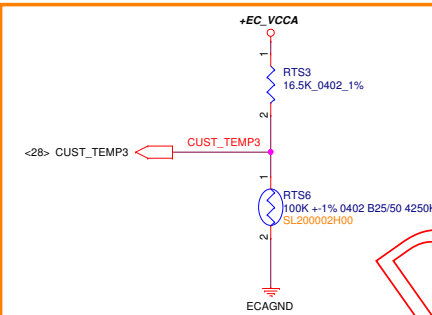
THERMISTOR



Close to APU

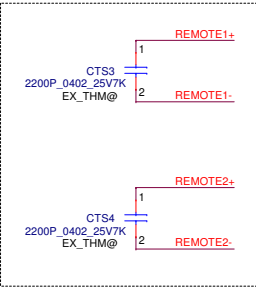
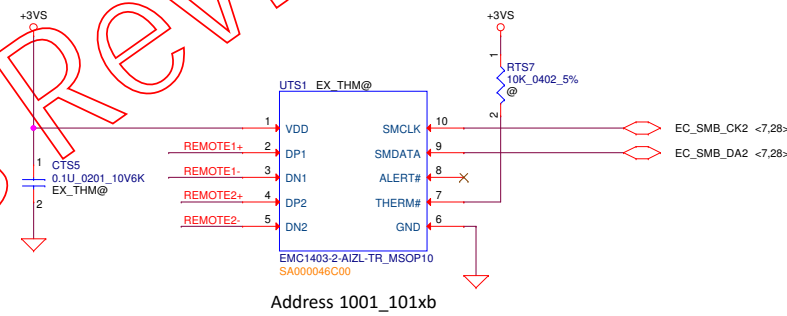


Close to DDR

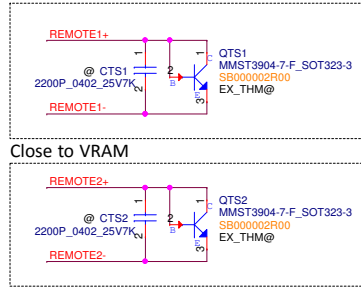


Close to Charger

THERMAL SENSOR



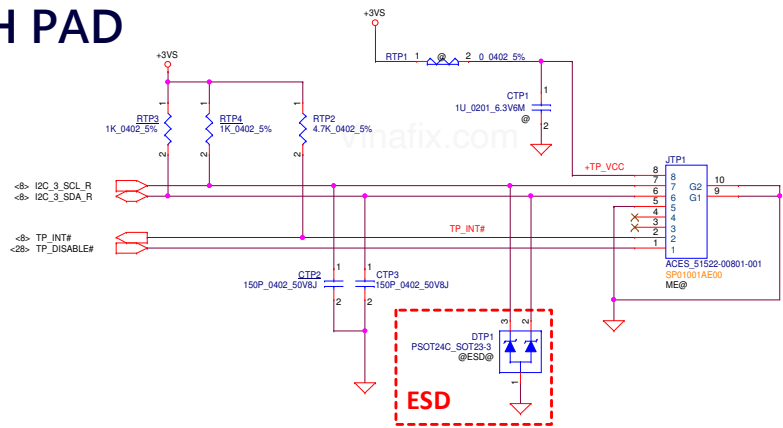
Close to UTS1



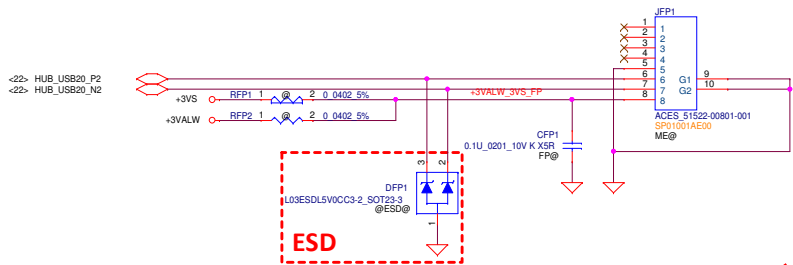
Close to Charger CHOKE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                 |            |                          |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|------------|--------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                 |            | Compal Electronics, Inc. |     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                    | Document Number | LA-H131P   | Rev                      | 0.4 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet           | 26         | of                       | 46  |

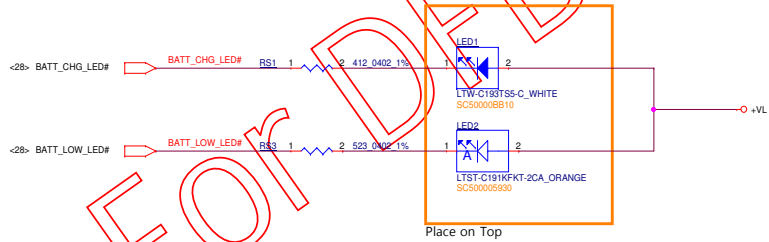
TOUCH PAD



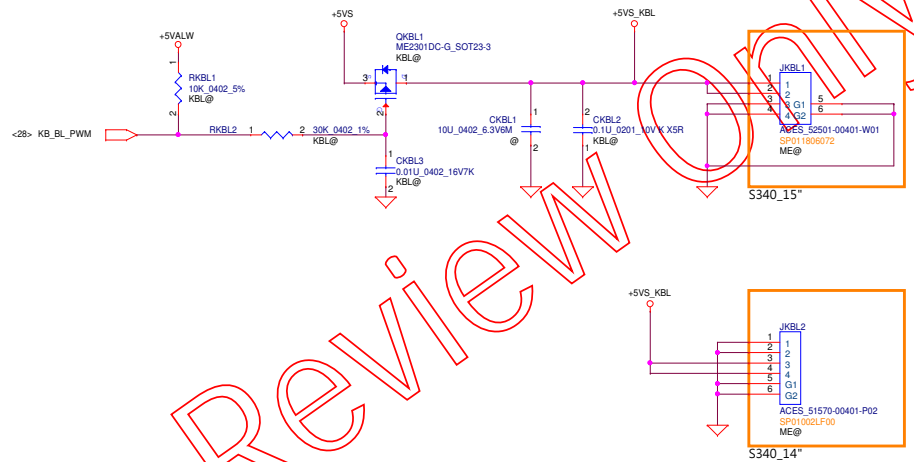
FINGER PRINTER (RESERVED)



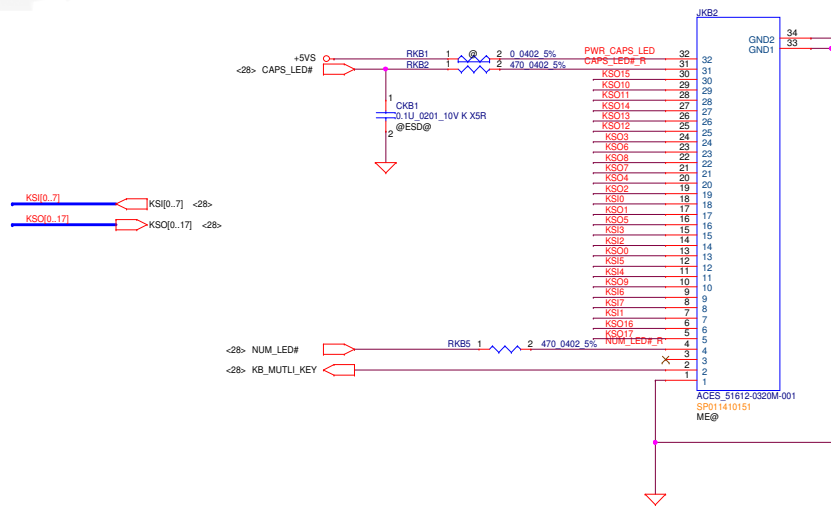
BATTERY LED



KEYBOARD BACKLIGHT

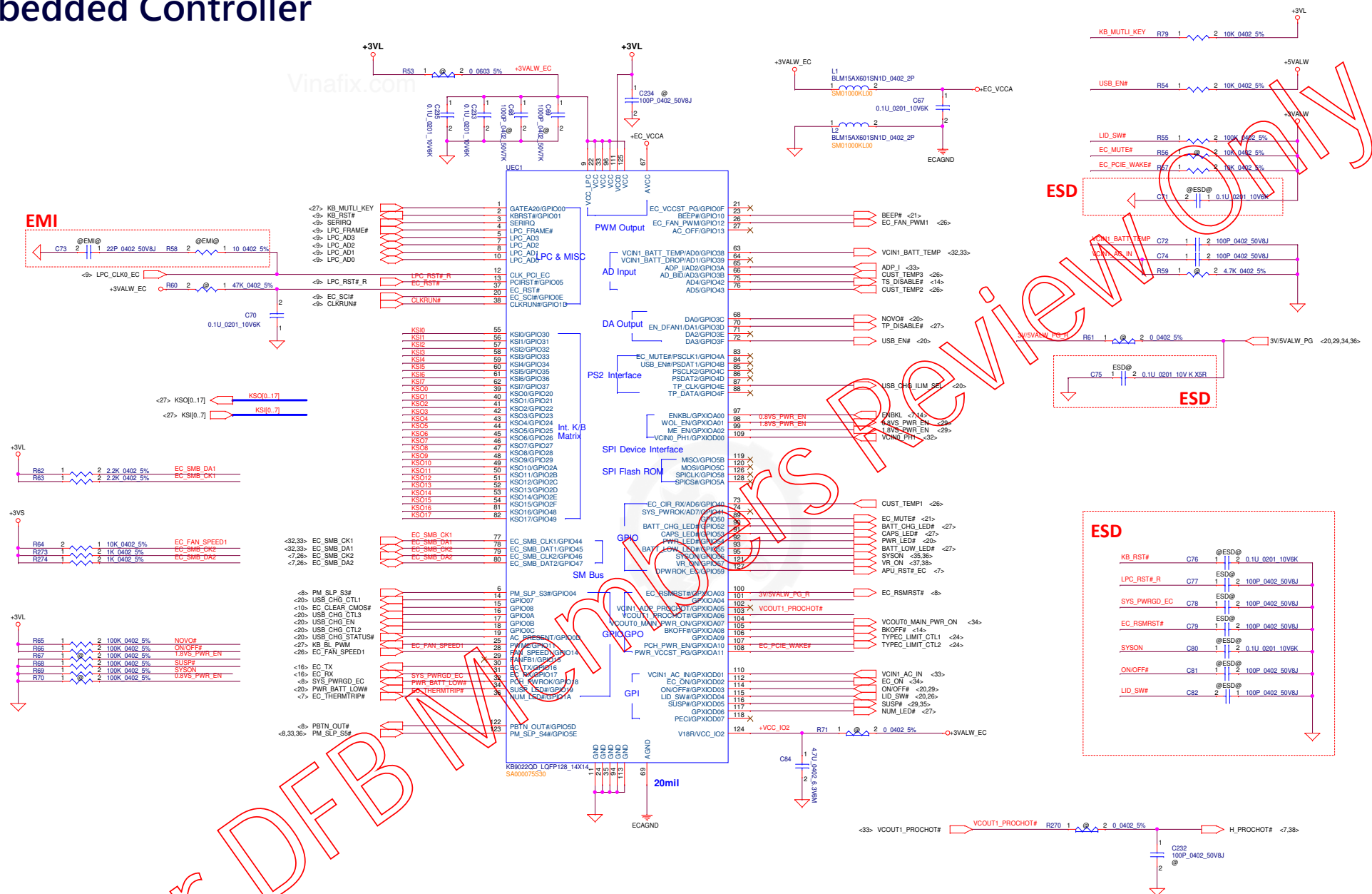


KEYBOARD



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                 |                           |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b> |                           |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                           | Monday, November 05, 2018 | Sheet 27 of 46 |

## Embedded Controller



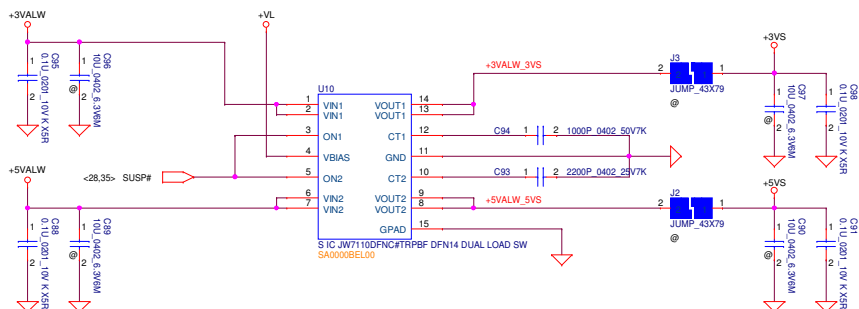
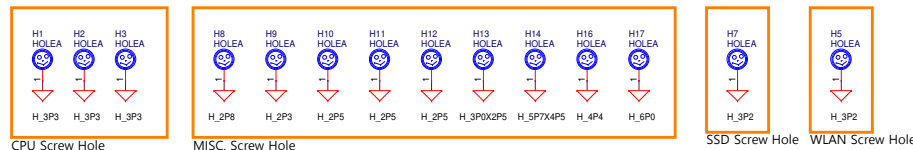


Figure 10 displays the pin connections for the CC100 and CC104. The connections are as follows:

- CC83:** +1.8VS, 0.1U, 0201\_10V6K, RF@
- CC84:** +VL, 0.1U, 0201\_10V6K, RF@
- CC85:** +3VS, 0.1U, 0201\_10V6K, RF@
- CC86:** +1.8VS, 0.1U, 0201\_10V6K, RF@
- CC87:** +5VALW, 0.1U, 0201\_10V6K, RF@
- CC88:** +3VS, 0.1U, 0201\_10V6K, RF@
- CC89:** +3VALW, 0.1U, 0201\_10V6K, RF@
- CC90:** +5VALW, 0.1U, 0201\_10V6K, RF@
- CC91:** +1.8VS, 0.1U, 0201\_10V6K, RF@
- CC92:** +1.8VALW, 0.1U, 0201\_10V6K, RF@
- CC93:** +1.8VS, 0.1U, 0201\_10V6K, RF@
- CC94:** +3VALW, 0.1U, 0201\_10V6K, RF@
- CC95:** +VL, 0.1U, 0201\_10V6K, RF@
- CC96:** +3VALW, 0.1U, 0201\_10V6K, RF@
- CC98:** +19VB\_CHG, 0.1U, 0201\_10V6K, @RF@
- CC99:** LX\_DDR, 0.1U, 0201\_10V6K, @RF@
- CC100:** +5VALW, 10P, 0402\_50V8J, @RF@
- CC101:** +3VALW, 10P, 0402\_50V8J, @RF@
- CC102:** +3VS, 0.1U, 0201\_10V6K, @RF@
- CC103:** +5VS, 0.1U, 0201\_10V6K, @RF@
- CC104:** +19VB\_3V, 10P, 0402\_50V8J, @RF@

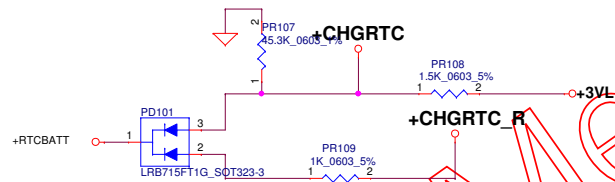
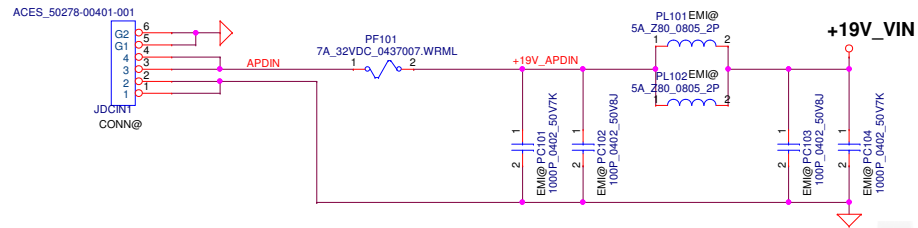


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| Date: Monday, November 05, 2018                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 | Sheet                    | 29 of 46                 |

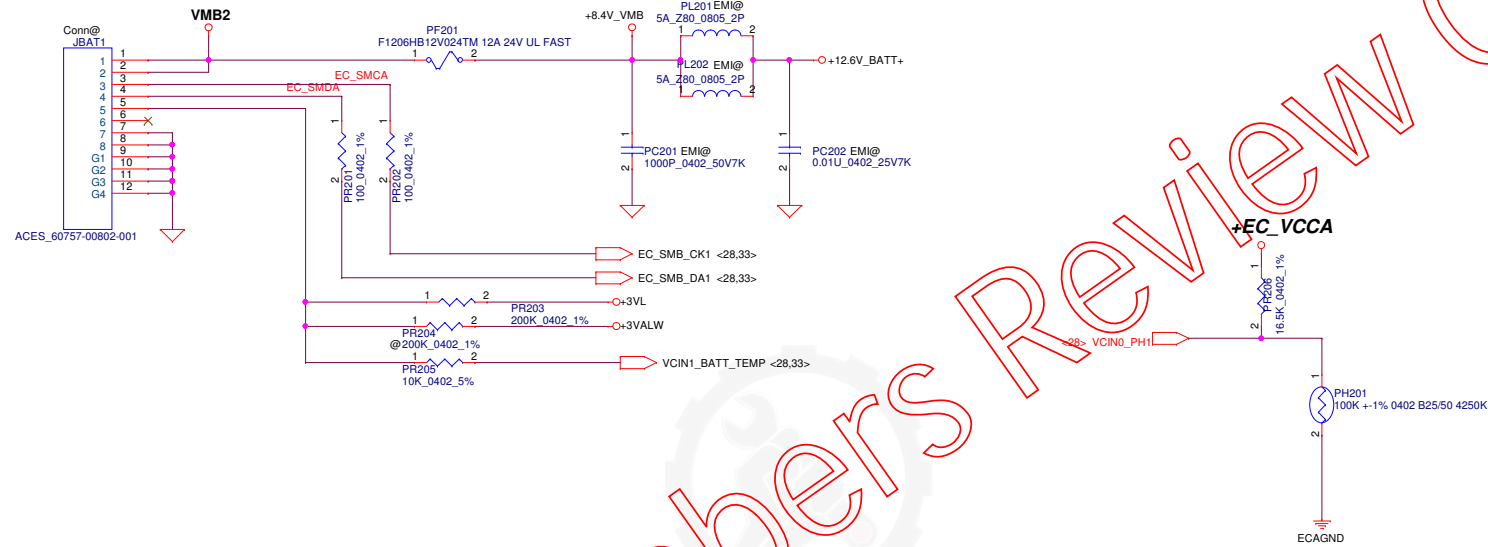


For DFB Members Review Only

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                    |            |                          |          |
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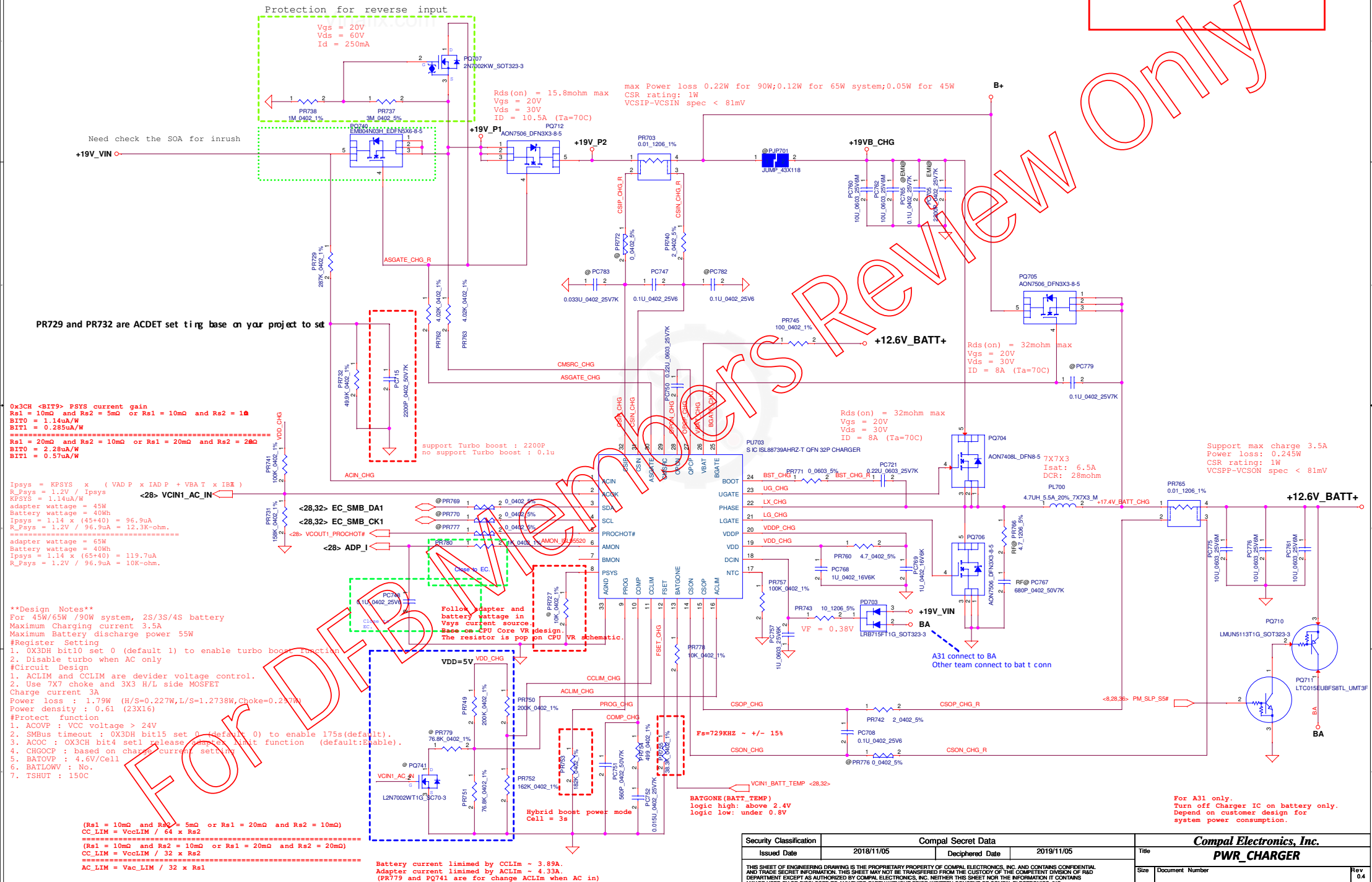


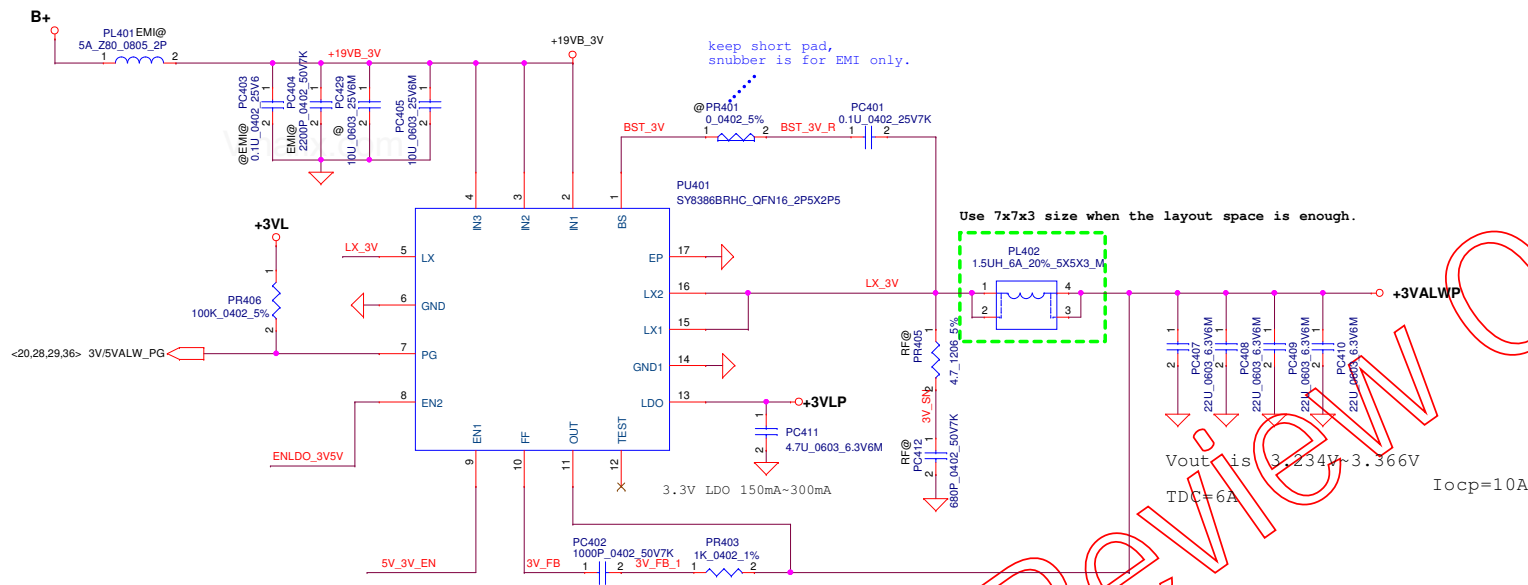
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 31 of 46                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.4                       |



PH201 under CPU bottom side :  
CPU thermal protection at 93 +-3 degree C  
Recovery at 56 +-3 degree C

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 32 of 46                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.4                       |



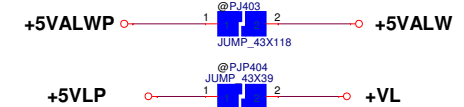
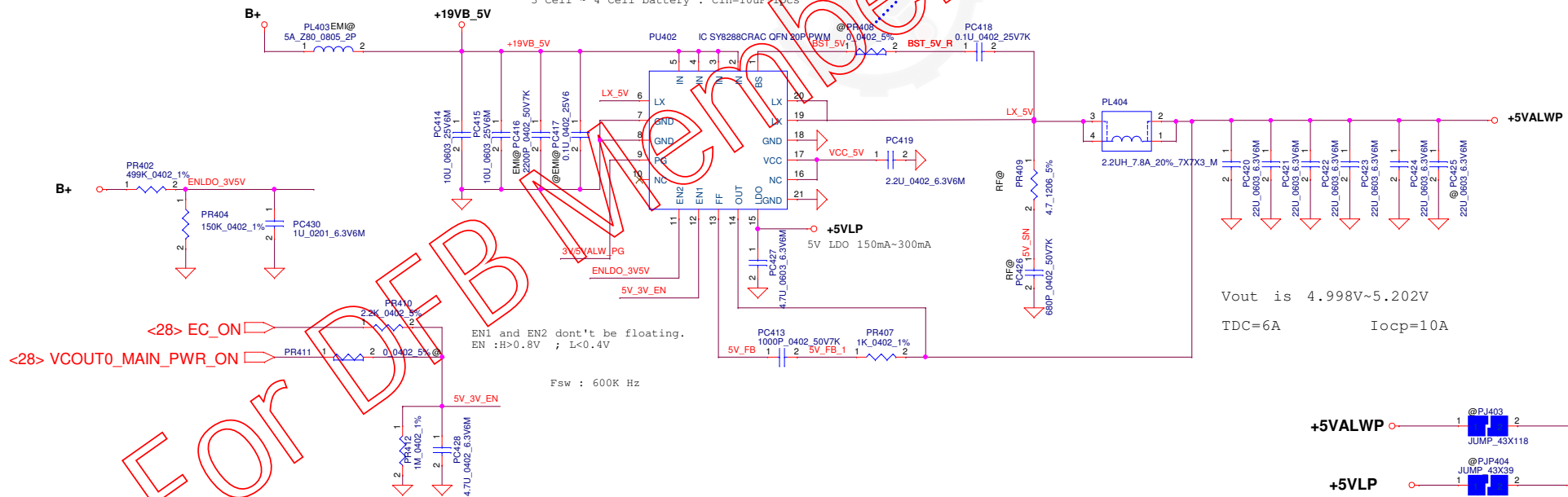
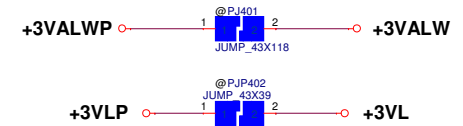


Check pull up resistor of SPOK at HW side

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



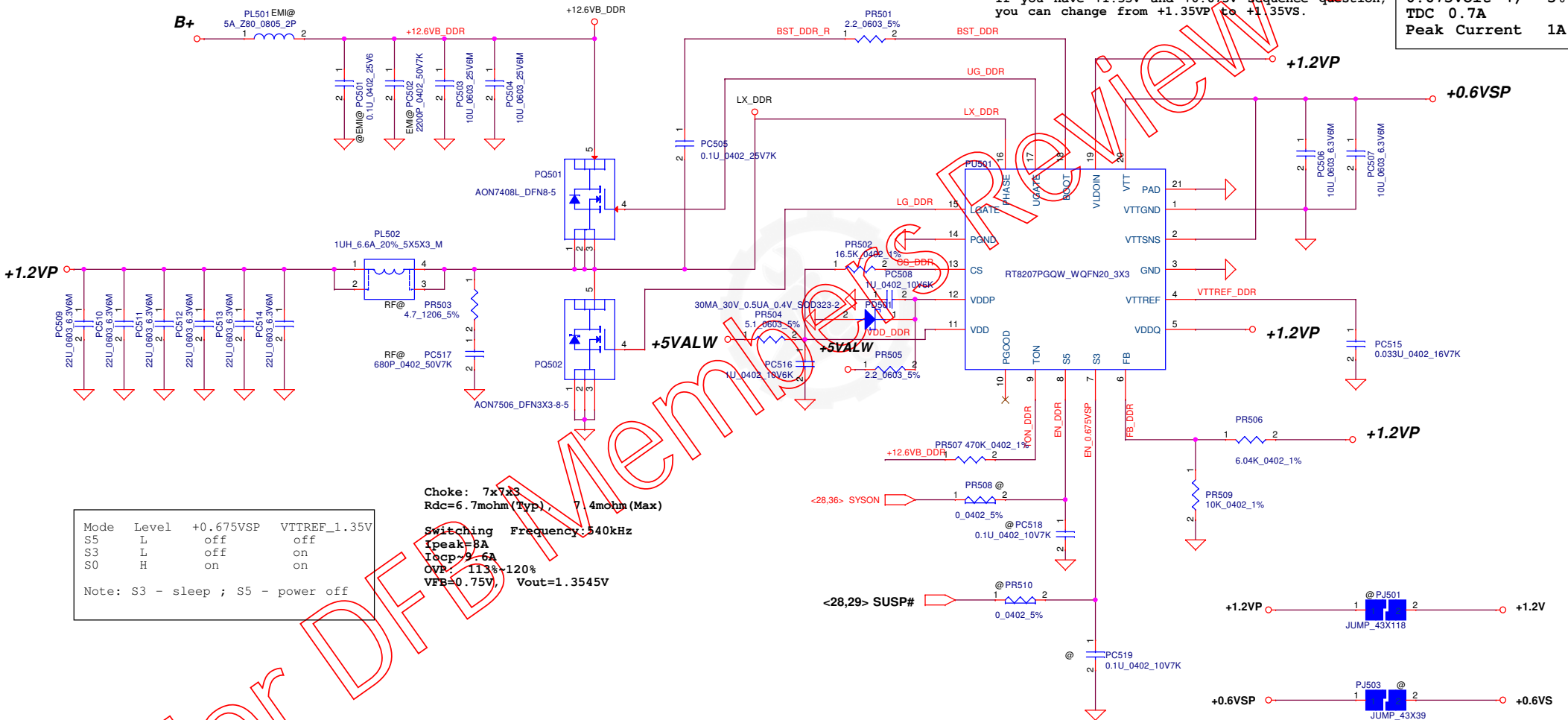
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.  |  |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document   | Number             | Rev        | Date                      |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    | 0.4        | Monday, November 05, 2018 |  |  |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | 34                 | of         | 46                        |  |  |

# Module model information

RT8207P\_single\_V3.mdd For Single layer  
RT8207P\_dual\_V3.mdd For Dual layer

Pin19 need pull separate from +1.35VP.  
If you have +1.35V and +0.675V sequence question,  
you can change from +1.35VP to +1.35VS.

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

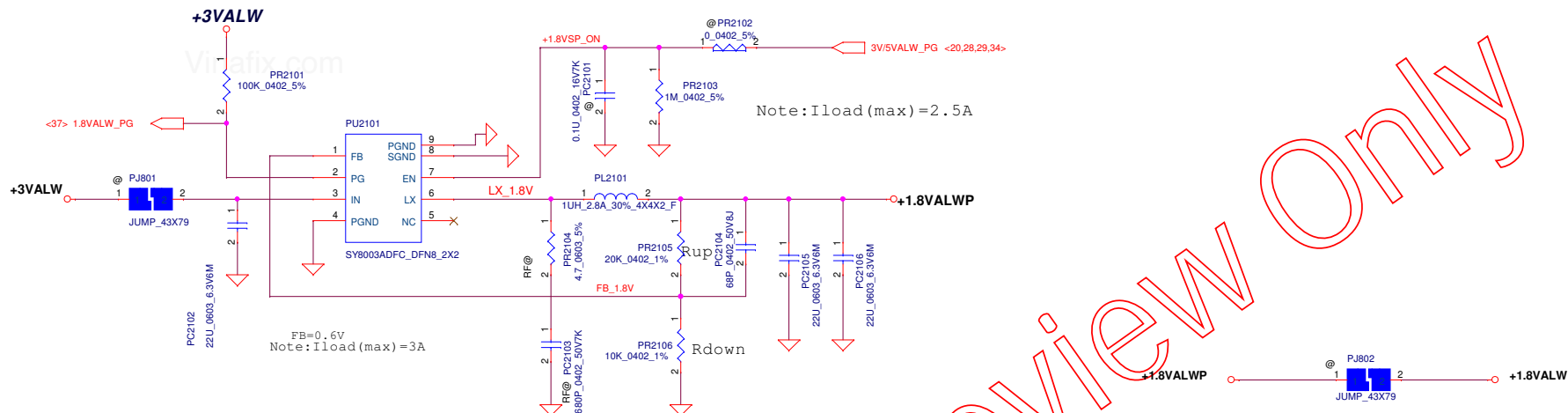


Choke: 7x7x3  
Rdc=6.7mohm(Typ), 7.4mohm(Max)

Switching Frequency: 540kHz  
Ipeak=8A  
Iocp=9.6A  
OVP=113%~120%  
VFB=0.75V, Vout=1.3545V

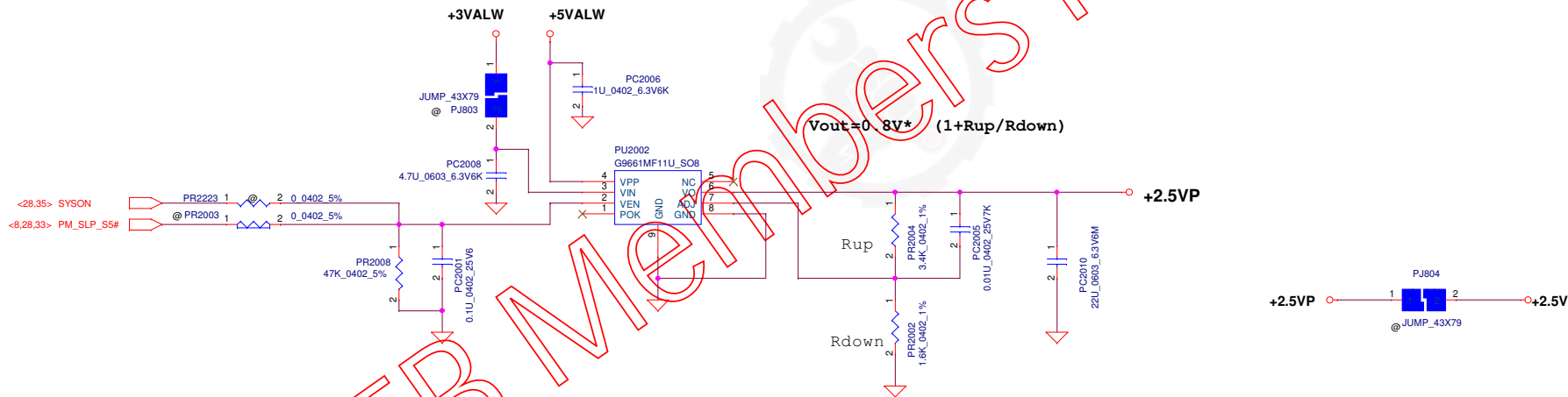
Mode Level +0.675VSP VTTREF\_1.35V  
S5 L off off  
S3 L off on  
S0 H on on  
Note: S3 - sleep ; S5 - power off

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            |                          |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|------------|--------------------------|-------|
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document                  | Number             | Custom     | Rev                      | 0.4   |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 |                    | Sheet      | 35                       | of 46 |



Note:  
When design Vin=5V, please stuff snubber  
to prevent Vin damage

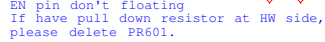
$$V_{out} = 0.6V * (1 + R_{up}/R_{down})$$



$$V_{out} = 0.8V * (1 + R_{up}/R_{down})$$

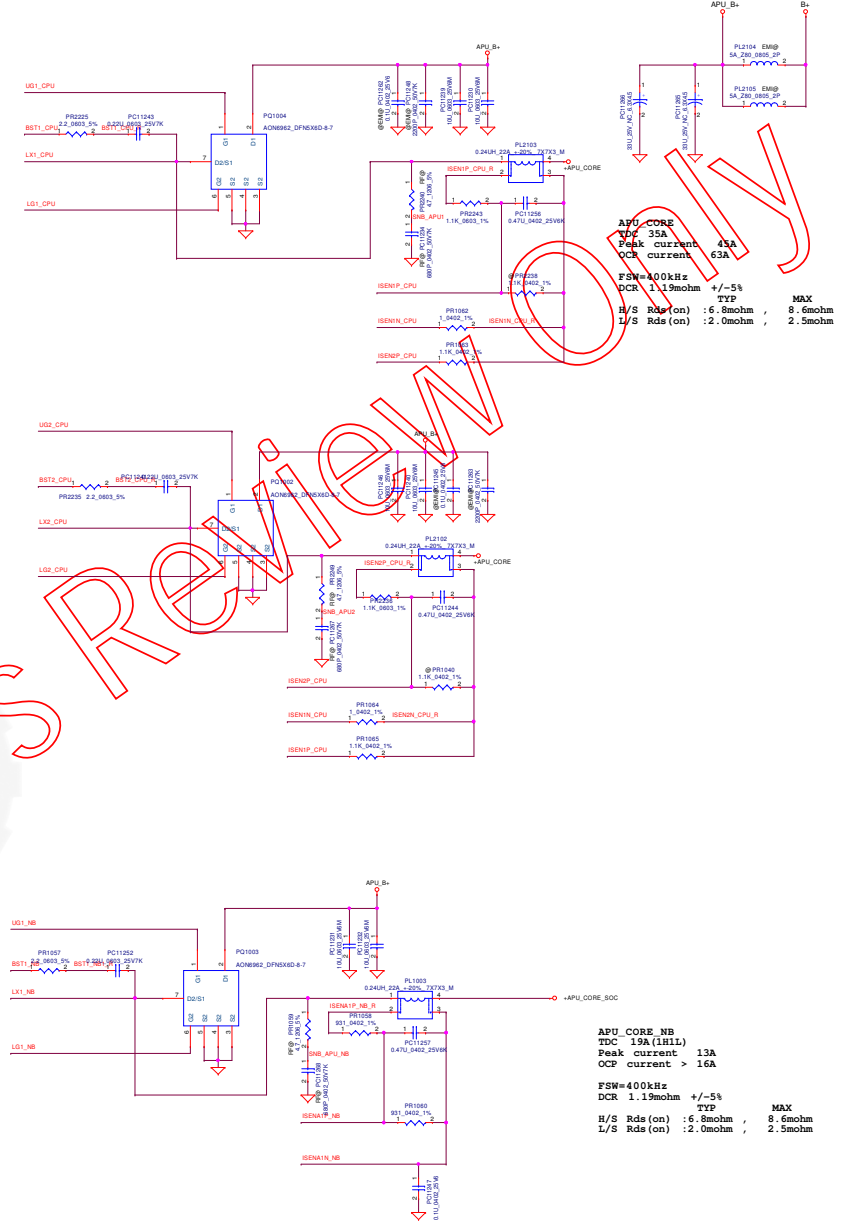
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05 | Deciphered Date    | 2019/11/05 | Title                    | +1.8VALW/+2.5V_G9661      |
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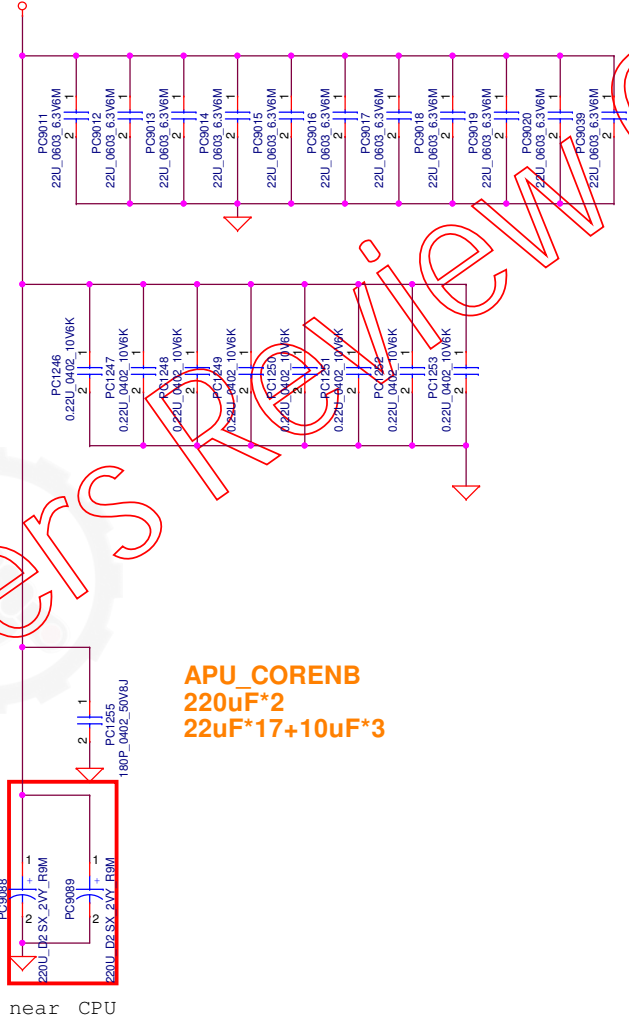
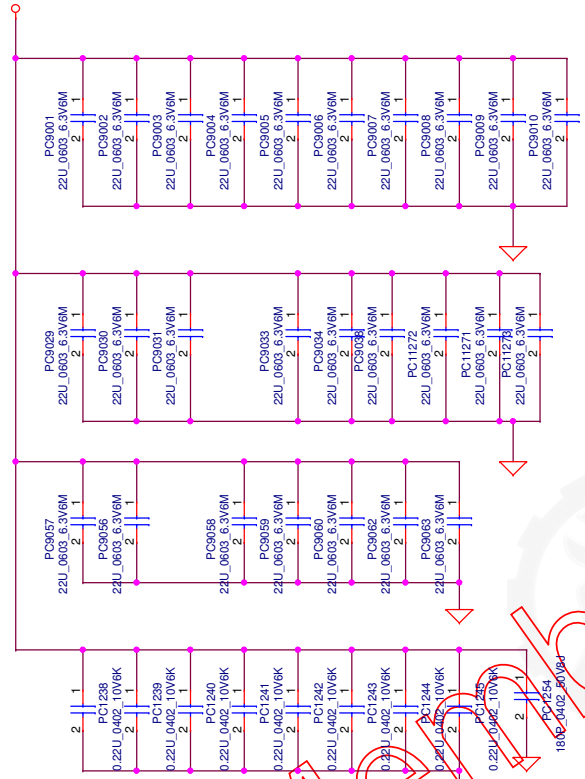
The current limit is set to 6A, 9A or 12A when this pin is pull low, floating or pull high.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                                              |                           |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b><br><b>+0.9VALW SY8386RAC</b> |                           |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | C                                                            |                           | 0.4            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                                                        | Monday, November 05, 2018 | Sheet 37 of 46 |



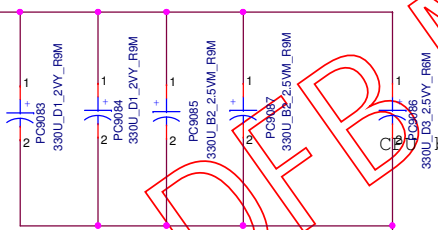
|                                                                                                                                                                                                                                                                                                                                   |                    |                 |                                                                                       |           |
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| Security Classification                                                                                                                                                                                                                                                                                                           | Compul Secret Data |                 |  |           |
| Issued Date                                                                                                                                                                                                                                                                                                                       | 2018/11/05         | Deciphered Date | 2019/11/05                                                                            |           |
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| Date: Monday, November 26, 2018                                                                                                                                                                                                                                                                                                   |                    |                 | Sheet: 38                                                                             | of: 64    |

## +APU\_CORE\_SOC



APU\_CORE  
330uF\*3  
220uF\*1  
22uF\*23

back side



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            |                          |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|------------|--------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data |            | Compal Electronics, Inc. |                 |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05                | Deciphered Date    | 2019/11/05 | Title                    | +APU_CORE Cap   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            | Custom                   | LA-H31P         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            | Rev                      | 0.4             |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet              | 39         | of                       | 46              |

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for PWR

For DFB Members

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                           |                           |                 |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------|---------------------------|-----------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.  |                           |                 |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05 | Deciphered Date    | 2019/11/05 | Title<br><b>PIR (PWR)</b> |                           |                 |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                    |                           | <b>LA-XXXXP</b> | 0.4            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                     | Monday, November 05, 2018 |                 | Sheet 40 of 46 |

| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Reason for change | PG#  | Modify List                                                                    | Date            | Phase                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|--------------------------------------------------------------------------------|-----------------|--------------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   | 21   | Change JHP1 symbol                                                             | 2018/07/03      | EVT                      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   | 21   | CA25.2,UAUDIO1.22,UAUDIO1.37 change to AGND                                    | 2018/07/03      |                          |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Layout request    | 25   | Swape DT1 pin define                                                           | 2018/07/03      |                          |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Common part       |      | UC6,U7,Q3,CD74,CD1,CD2,CD8,CD9,C92,C101,CD10~CD41,C99,Y1 chager to common part | 2018/07/04      |                          |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   | 20   | Swape JIO1 pin define                                                          | 2018/07/04      |                          |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Layout request    | 20   | Delete D2, R109                                                                | 2018/07/04      |                          |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EMI request       | 25   | LT1 change to common part                                                      | 2018/07/05      |                          |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Thermal request   | 26   | Delete RTS6,RTS3                                                               | 2018/07/05      |                          |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                             | AMD disign guide  | 24   | CT7~CT10 change value                                                          | 2018/07/05      |                          |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 25   | Add CT33                                                                       | 2018/07/09      |                          |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 25   | Change JUSBC1 symbol                                                           | 2018/07/10      |                          |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 27   | Delete DFP2                                                                    | 2018/07/10      |                          |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 20   | U7 change PN to SA0000B0V00                                                    | 2018/07/11      |                          |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |      | JIO1 change to 45 pin                                                          | 2018/07/12      |                          |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 28   | R67 link to GND, R67,R70 un-pop                                                | 2018/07/12      |                          |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 8    | Delete RC114,RC117                                                             | 2018/07/12      |                          |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 8    | TP_INT# change to AGPIO85                                                      | 2018/07/12      |                          |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | 8,27 | Add T21~T24,RC117,RC118,QC3,RTP3,RTP4                                          | 2018/07/12      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   | 17   | JSSD1 PCIE pin define                                                          | 2018/07/16      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      | QC3 change to common part                                                      | 2018/07/16      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      | Change LED                                                                     | 2018/07/16      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      | CT33 change PN                                                                 | 2018/07/16      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      | SATA_ARX_C_DTX_N1,SATA_ARX_C_DTX_P1 swap                                       | 2018/07/16      |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      | Add J2,J3                                                                      | 2018/07/17      |                          |
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      | Compal Secret Data                                                             |                 | Compal Electronics, Inc. |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      | 2018/11/05                                                                     | Deciphered Date | 2019/11/05               |
| Title                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |      | HW PIR                                                                         |                 |                          |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |      | Document Number                                                                | Rev             |                          |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |      | LA-H131P                                                                       | 0.4             |                          |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |      | Monday, November 05, 2018                                                      | Sheet           | 41 of 46                 |
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| Item | Reason for change | PG#                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Modify List                                                         | Date                      | Phase |
|------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------|-------|
| 1    | Vinafix.com       | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add RTS3,RTS6                                                       | 2018/07/17                | EVT   |
| 2    |                   | 21                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Swap U10 pin define                                                 | 2018/07/17                | EVT   |
| 3    |                   | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove R119, R120, R125, R126. (EMI By-Pass Resistor, USB2.0)       | 2018/07/18                | EVT   |
| 4    |                   | 27                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add Net Name - +TP_VCC, +3VALW_3VS_FP                               | 2018/07/18                | EVT   |
| 5    |                   | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove CC34                                                         | 2018/07/18                | EVT   |
| 6    |                   | 29                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add U19 related circuits.                                           | 2018/07/18                | EVT   |
| 7    |                   | 29                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Modify screw hole H5, H7, H14                                       | 2018/07/18                | EVT   |
| 8    |                   | 21                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove CA12, RA22, RA23. (Codec)                                    | 2018/07/19                | EVT   |
| 9    |                   | 21                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add net name +5VDDA_CODEC_5VSTB                                     | 2018/07/19                | EVT   |
| 10   |                   | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace power rail of USB Charger's power ripple caps to +5VALW.    | 2018/07/19                | EVT   |
| 11   |                   | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace C51 from 22uF to 4.7uF. (USB Charger)                       | 2018/07/19                | EVT   |
| 12   |                   | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add BOM Structure TS@ for R264.                                     | 2018/07/19                | EVT   |
| 13   |                   | 22                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove +3VS_DVDD, replace with +3VS_HUB. (UHUB1.21, 27 / CHUB11.1)  | 2018/07/19                | EVT   |
| 14   |                   | 22                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove RHUB3, RHUB4.                                                | 2018/07/19                | EVT   |
| 15   |                   | 27                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RFP1, CFP1 -> FP@, DFP1 -> @ESD@                                    | 2018/07/20                | EVT   |
| 16   |                   | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace JHDMI1 Symbol (DC232007B00)                                 | 2018/07/20                | EVT   |
| 17   |                   | 29                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove Clip8                                                        | 2018/07/20                | EVT   |
| 18   |                   | 17                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Replace JSSD1 Symbol (SP070018L00), Pin Count different with before | 2018/07/20                | EVT   |
| 19   |                   | 22                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RHBU3~5 -> RHUB3~5, RHBU1 -> RHUB6, RHBU2 -> RHUB7                  | 2018/07/20                | EVT   |
| 20   |                   | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QC3.2 / QC3.5 -> From +3VALW to +3VS                                | 2018/07/20                | EVT   |
| 21   |                   | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Swap JIO1 USB3 Pin Define (TX/RX, P/N) -> Total 8 Traces            | 2018/07/20                | EVT   |
| 22   |                   | 17                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove BOM Structure "SSD@"                                         | 2018/07/20                | EVT   |
| 23   |                   | 17                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add RSSD4~7                                                         | 2018/07/20                | EVT   |
| 24   |                   | 29                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remove +0.6VS / +0.8VS Discharge Circuits.                          | 2018/07/23                | EVT   |
|      |                   | Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                     | Compal Secret Data        |       |
|      |                   | Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                     | Deciphered Date           |       |
|      |                   | 2018/11/05                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                     | 2019/11/05                |       |
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|      |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                     | HW PIR                    |       |
|      |                   | Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                     | Document Number           |       |
|      |                   | Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                     | LA-H131P                  |       |
|      |                   | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                     | Monday, November 05, 2018 |       |
|      |                   | Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                     | 42 of 46                  |       |
|      |                   | Rev                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                     | 0.4                       |       |

| Item | Reason for change | PG# | Modify List                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Date                     | Phase                      |
|------|-------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| 1    | Vinafix.com       | 17  | Add RSSD8, RSSD9                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/07/23               | EVT                        |
| 2    |                   | 29  | Replace Clip9 with Clip8 (Remove Clip9)                                                                                                                                                                                                                                                                                                                                                                                                                       | 2018/07/23               | EVT                        |
| 3    |                   | 15  | Swap DH2, DH3 nets to reduce via                                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/07/23               | EVT                        |
| 4    |                   | 22  | Replace Y1 Part Number. (to SJ10000C210)                                                                                                                                                                                                                                                                                                                                                                                                                      | 2018/07/23               | EVT                        |
| 5    |                   | 29  | Add CC83 ~ CC96 (RF By Pass / Cross Moat Caps)                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/07/23               | EVT                        |
| 6    |                   | 27  | Replace Keyboard Power Rail from +5VALW to +5VS                                                                                                                                                                                                                                                                                                                                                                                                               | 2018/07/24               | EVT                        |
| 7    |                   | 8   | Re-Name MODEL ID0 / ID1 with MODEL_ID / MIC_SELECT                                                                                                                                                                                                                                                                                                                                                                                                            | 2018/07/25               | EVT                        |
| 8    |                   | 8   | Update Memory ID Matrix                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2018/07/25               | EVT                        |
| 9    |                   | 3   | Update Note List Page                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/07/25               | EVT                        |
| 10   |                   | 19  | Remove T2408 BOM Structure (TP@)                                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/07/25               | EVT                        |
| 11   |                   | 29  | Pop CC83~CC96 (RF@)                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/07/25               | EVT                        |
| 12   |                   | 14  | Remove R264, C230 BOM Structure (TS@)                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/07/25               | EVT                        |
| 13   |                   | 21  | DA1.4 / DA1.6 Pin Swap                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/07/26               | EVT                        |
| 14   |                   | 15  | Swap DH1.4 / 7 to DH1.5 / 6                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/07/26               | EVT                        |
| 15   |                   | 20  | Update U7 Part Description (USB Charger)                                                                                                                                                                                                                                                                                                                                                                                                                      | 2018/07/27               | EVT                        |
| 16   |                   | 25  | Update JUSBC1 footprint with DRAPH_UB11245-B200B-1H_24P-S                                                                                                                                                                                                                                                                                                                                                                                                     | 2018/07/27               | EVT                        |
| 17   |                   | 9   | Replace ROM (UC2) Part Number to SA00008K400                                                                                                                                                                                                                                                                                                                                                                                                                  | 2018/08/06               | EVT                        |
| 18   |                   | 27  | Replace CTP1 from 0402 to 0201 (EVT Gerber Keep 0402)                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/08/06               | EVT                        |
| 19   |                   | 27  | Replace CTP1 from 0201 to 0402                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/08/08               | EVT2                       |
| 20   |                   | 13  | JDIMM1.162, 1.165 -> 1.149, 1.157                                                                                                                                                                                                                                                                                                                                                                                                                             | 2018/08/08               | EVT2                       |
| 21   |                   | 21  | Replace RA13, RA14 footprint from 0603 to 0402                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/08/09               | DVT                        |
| 22   |                   | 27  | Replace CTP1 from 0402 to 0201                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/08/09               | DVT                        |
| 23   |                   | 25  | Replace CT33 part number with SGA00001E10                                                                                                                                                                                                                                                                                                                                                                                                                     | 2018/08/10               | DVT                        |
| 24   |                   | 29  | Add screw hole H16, H17                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2018/08/16               | DVT                        |
|      |                   |     | Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data       |                            |
|      |                   |     | Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05               | Deciphered Date 2019/11/05 |
|      |                   |     | Compal Electronics, Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                            |
|      |                   |     | Title HW PIR                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                          |                            |
|      |                   |     | Size Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Document Number LA-H131P | Rev 0.4                    |
|      |                   |     | Date: Monday, November 05, 2018 Sheet 43 of 46                                                                                                                                                                                                                                                                                                                                                                                                                |                          |                            |
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| Item | Reason for change | PG#  | Modify List                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Date                      | Phase                      |
|------|-------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------|
| 1    | Vinafix.com       | 29   | Change Clip2 to small size                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2018/08/16                | DVT                        |
| 2    |                   | 26   | Add UHS1, CHS1, CHS2 for LID switch                                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/08/16                | DVT                        |
| 3    |                   | 17   | Delete RSSD4~RSSD7 for PCIE/SATA MUX debug                                                                                                                                                                                                                                                                                                                                                                                                                    | 2018/08/20                | DVT                        |
| 4    | Support type2 APU | 9,24 | Change typeC USB3 to port0                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2018/08/20                | DVT                        |
| 5    |                   | 22   | Reserve RHUB10~RHUB13 for touch scerrn co-lay                                                                                                                                                                                                                                                                                                                                                                                                                 | 2018/08/20                | DVT                        |
| 6    | Power request     | 7,37 | VSS_SENSE_B conntector to 1.8VALW                                                                                                                                                                                                                                                                                                                                                                                                                             | 2018/08/21                | DVT                        |
| 7    | Audio request     | 21   | Swap SPK pin define                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/08/21                | DVT                        |
| 8    |                   | 28   | R55 change to 15@                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2018/08/23                | DVT                        |
| 9    |                   | 26   | Reserve Thermal Sensor. (UTS1 and related circuits)                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/08/23                | DVT                        |
| 10   |                   | 21   | Swap HGND A& HGND B                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/08/25                | DVT                        |
| 11   | HDMI issue        | 07   | RC17 change to mount RC18 to un-mount                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/08/28                | DVT                        |
| 12   |                   |      | RC117/RC118/RTP1/RF1/R3/RHD5/R53/R111/<br>R264/RA12/RWL1/RSSD1 Change to R-short                                                                                                                                                                                                                                                                                                                                                                              | 2018/08/28                | DVT                        |
| 13   |                   | 29   | Del U8/C85/C86/C87/J1/R72/C92/U18/C99/C100/C101/R73/J4                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/08/31                | DVT                        |
| 14   |                   | 27   | Del RKB3/RKB4                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2018/08/31                | DVT                        |
| 15   |                   | 27   | Add JKBL2 for KBL 14"/15" co-lay                                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/09/02                | DVT                        |
| 16   | ESD Request       | 5    | Reserve CC97                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2018/09/06                | DVT                        |
| 17   |                   | 22   | Replace USB2.0 HUB from Port0 to Port4                                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/09/06                | DVT                        |
| 18   |                   | 25   | Replace USB2.0 Type-C from Port4 to Port0                                                                                                                                                                                                                                                                                                                                                                                                                     | 2018/09/06                | DVT                        |
| 19   |                   | 28   | R55 -> Always Pop (No matter 14" or 15")                                                                                                                                                                                                                                                                                                                                                                                                                      | 2018/09/06                | DVT                        |
| 20   |                   | 29   | Replace CLIP12 with bigger size                                                                                                                                                                                                                                                                                                                                                                                                                               | 2018/09/06                | DVT                        |
| 21   |                   | 29   | Modify H8 / H9 screw hole size                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/09/06                | DVT                        |
| 22   |                   | 27   | Replace RFP1 with R-Short                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2018/09/06                | DVT                        |
| 23   |                   | 17   | Remove RSSD4~7                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/09/06                | DVT                        |
| 24   |                   | 26   | Add BOM Structure 14@ for 14" LID Switch (UHS1)                                                                                                                                                                                                                                                                                                                                                                                                               | 2018/09/07                | DVT                        |
|      |                   |      | Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                            |
|      |                   |      | Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05                | Deciphered Date 2019/11/05 |
|      |                   |      | Compal Electronics, Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                            |
|      |                   |      | Title                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                            |
|      |                   |      | HW PIR                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                            |
|      |                   |      | Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number           | Rev                        |
|      |                   |      | Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LA-H131P                  | 0.4                        |
|      |                   |      | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet 44 of 46             |
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| Item | Reason for change      | PG# | Modify List                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Date                      | Phase                      |
|------|------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------|
| 1    | Vinafix.com            | 22  | Add BOM Structure HUB@                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/09/07                | DVT                        |
| 2    |                        | 8   | Add BOM Structure NO_OBR@                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2018/09/07                | DVT                        |
| 3    |                        | 12  | Add BOM Structure OBR@                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/09/07                | DVT                        |
| 4    |                        | 20  | Un-Mount C48 / C49                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2018/09/07                | DVT                        |
| 5    |                        | 25  | Un-Mount CT33 / Replace CT22 from 0.47uF to 10uF                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/09/07                | DVT                        |
| 6    |                        | 29  | Mount C244, C245                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2018/09/07                | DVT                        |
| 7    | Cost Down Item         | 10  | Un-Mount CC56, CC60, CC61, CC62, CC65, CC79, CC75, C1                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/09/07                | DVT                        |
| 8    | Cost Down Item         | 17  | Un-Mount CSSD4, CSSD5                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/09/07                | DVT                        |
| 9    | Cost Down Item         | 13  | Un-Mount CD76, CD79                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2018/09/07                | DVT                        |
| 10   | Cost Down Item         | 12  | Un-Mount CD29, CD30, CD44, CD45, CD50, CD52                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/09/07                | DVT                        |
| 11   | Cost Down Item         | 13  | Replace CD55, CD58, CD59, CD65, CD66, CD67 with NO_OBR@                                                                                                                                                                                                                                                                                                                                                                                                       | 2018/09/07                | DVT                        |
| 12   |                        | 8   | MODEL_ID -> RC112 (15@) / RC115 (14@)                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/09/07                | DVT                        |
| 13   | Fine Tune Crystal Caps | 9   | CC27/CC28 -> Replace with 4.7pF (Vendor Suggestion: 3.9pF)                                                                                                                                                                                                                                                                                                                                                                                                    | 2018/09/11                | DVT                        |
| 14   | Fine Tune Crystal Caps | 9   | CC30/CC31 -> Replace with 10pF                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/09/11                | DVT                        |
| 15   | Fine Tune Crystal Caps | 22  | CHUB9 / CHUB10 -> Replace with 33pF (Not Replace it Yet)                                                                                                                                                                                                                                                                                                                                                                                                      | 2018/09/11                | DVT                        |
| 16   |                        | 21  | DA3 / DA4 -> Replace with SCA00004300                                                                                                                                                                                                                                                                                                                                                                                                                         | 2018/09/11                | DVT                        |
| 17   |                        | 27  | Replace RTP3 / RTP4 with 1K Ohm                                                                                                                                                                                                                                                                                                                                                                                                                               | 2018/09/14                | DVT                        |
| 18   |                        | 27  | Replace CTP2 / CTP3 with 150pF                                                                                                                                                                                                                                                                                                                                                                                                                                | 2018/09/14                | DVT                        |
| 19   |                        | 3   | Add DAZ and PR APU P/N, Modify DA BOM Structure                                                                                                                                                                                                                                                                                                                                                                                                               | 2018/10/03                | PVT                        |
| 20   |                        | 28  | Replace KB_MUTLI_KEY - Pull Up +3VALW to +3VL                                                                                                                                                                                                                                                                                                                                                                                                                 | 2018/10/03                | PVT                        |
| 21   |                        | 29  | Update CC94 cross moat caps power rail                                                                                                                                                                                                                                                                                                                                                                                                                        | 2018/10/08                | PVT                        |
| 22   |                        |     | 0 Ohm to R-Short -> R2, R9, RSSD2, RC64                                                                                                                                                                                                                                                                                                                                                                                                                       | 2018/10/08                | PVT                        |
| 23   | ESD Request            | 25  | Remove DT3, Combine CC1/CC2 to DT4                                                                                                                                                                                                                                                                                                                                                                                                                            | 2018/10/18                | PVT                        |
| 24   | ESD Request            | 21  | Add C246 (PLUG_IN)                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2018/10/18                | PVT                        |
|      |                        |     | Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                            |
|      |                        |     | Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05                | Deciphered Date 2019/11/05 |
|      |                        |     | Compal Electronics, Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                            |
|      |                        |     | Title                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                            |
|      |                        |     | HW PIR                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                            |
|      |                        |     | Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number           | Rev                        |
|      |                        |     | Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LA-H131P                  | 0.4                        |
|      |                        |     | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, November 05, 2018 | Sheet 45 of 46             |
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| Item | Reason for change | PG# | Modify List                                                            | Date       | Phase |
|------|-------------------|-----|------------------------------------------------------------------------|------------|-------|
| 1    | Vinafix.com       | 5   | RC2 -> OBR@                                                            | 2018/10/18 | PVT   |
| 2    |                   | 29  | Add 6x6 Laser Barcode Area                                             | 2018/10/19 | PVT   |
| 3    | ESD Request       | 21  | Remove C246, Rename it to CA30 (0.1uF), Reserve CA31                   | 2018/10/22 | PVT   |
| 4    |                   | 25  | DT4 Pin1 & 6 Swap                                                      | 2018/10/23 | PVT   |
| 5    |                   | 27  | Swap JKBL1 Pin Define                                                  | 2018/10/24 | PVT   |
| 6    | ESD Request       | 21  | CA16 / CA17 - 470pF to 1000pF, Remove CA31 & RA24 (Replace with CA30)  | 2018/10/26 | PVT   |
| 7    |                   | 7   | JHDT1 Footprint add "-NPM" -> SAMTE_ASP-136446-07-B_20P-T-NPM          | 2018/10/29 | PVT   |
| 8    | RF Request        | 29  | Reserve CC98 ~ CC104 By-Pass Caps                                      | 2018/10/29 | PVT   |
| 9    | ESD Request       | 13  | Pop CD69                                                               | 2018/10/29 | PVT   |
| 10   |                   | 9   | Replace ROM (UC2) Main Source with SA0000BJU00 (XMC)                   | 2018/10/30 | PVT   |
| 11   |                   | 29  | Replace Dual Load Switch (U10, U19) Main Source with SA0000BEL00       | 2018/10/30 | PVT   |
| 12   |                   | 29  | Replace Small Clip Footprint (EMIST_SUL-15A3M_1P) - x8 PCS             | 2018/10/30 | PVT   |
| 13   |                   | 29  | CC99 / CC102 / CC103 Replace with 0201, CC99 Power Replace with LX_DDR | 2018/10/30 | PVT   |
| 14   |                   | 23  | Add Type-C USB3.0 Re-Driver Related Circuit (RT17~39, CT34~41, UT4)    | 2018/10/31 | PVT   |
| 15   |                   | 29  | Replace CC98 with 0201 footprint                                       | 2018/11/01 | PVT   |
| 16   |                   | 23  | Modily BOM Structure of USB3 Re-Driver                                 | 2018/11/01 | PVT   |
| 17   |                   | 7   | Reserve QC4                                                            | 2018/11/01 | PVT   |
| 18   |                   | 25  | Mount CT15                                                             | 2018/11/05 | PVT   |
| 19   |                   |     |                                                                        |            |       |
| 20   |                   |     |                                                                        |            |       |
| 21   |                   |     |                                                                        |            |       |
| 22   |                   |     |                                                                        |            |       |
| 23   |                   |     |                                                                        |            |       |
| 24   |                   |     |                                                                        |            |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                    |                             |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.           |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2018/11/05         | Deciphered Date | 2019/11/05 | Title<br>HW PIR                    |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:<br>Monday, November 05, 2018 | Rev<br>0.4                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet<br>46                        | of<br>46                    |