

Model Name : Scala_CAS
Compal Project Name : GH51Z/GH71Z
File Name : LA-K851P

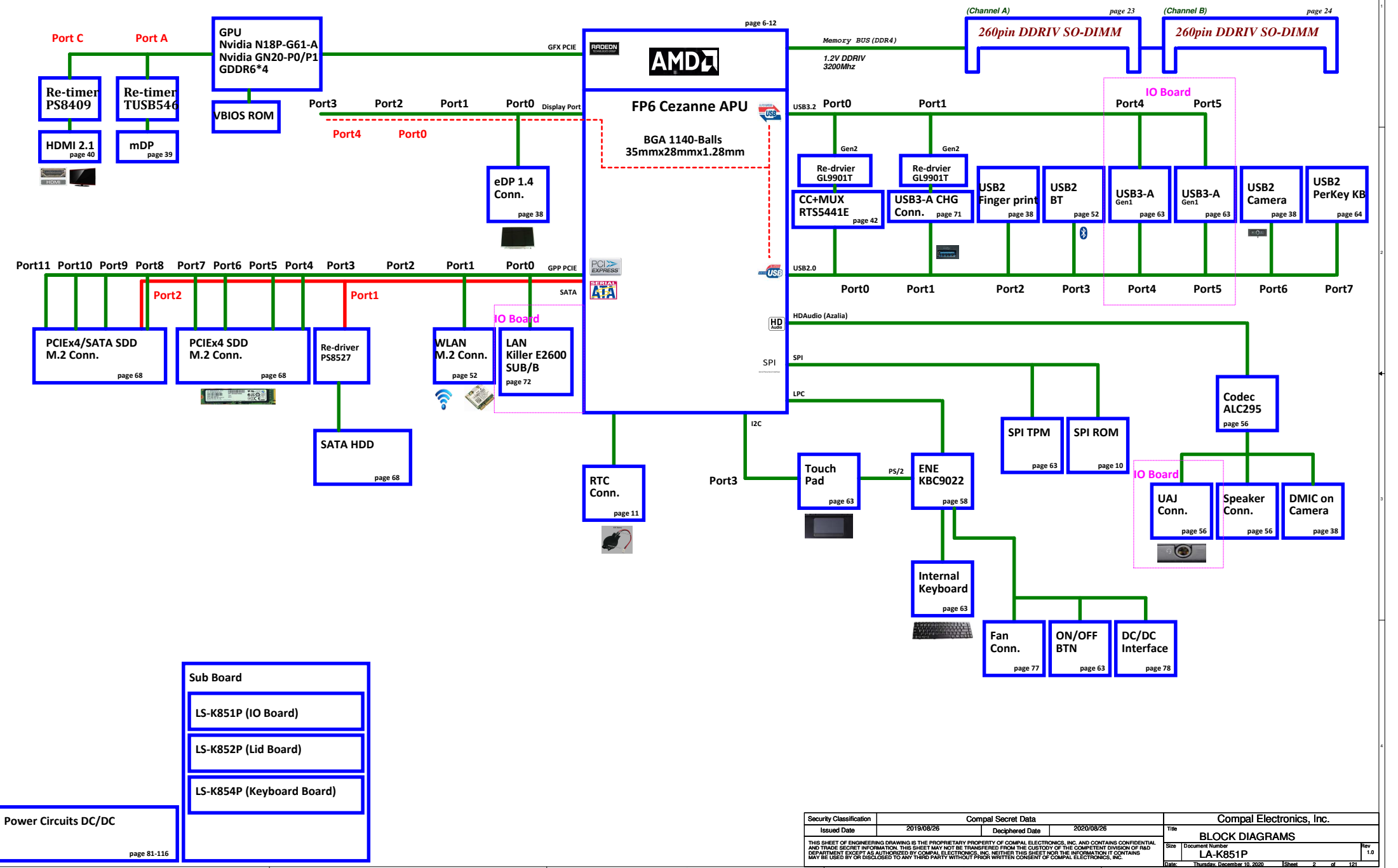
Compal Confidential

GH51Z MB Schematics Document

AMD Cezanne (FP6) Platform

LA-K851P REV:1A
2020-12-10

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title COVER PAGE		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. Shared with Compal				Size	Document Number	Rev
					LA-K851P	1.0
				Date:	Thursday, December 10, 2020	Sheet 1 of 121



Voltage Rails

Power Plane	Description	S0	S3	S5
+19V_VIN	Adapter power supply (19V)	ON	ON	ON
+19VB	AC or battery power rail for power circuit.	ON	ON	ON
+APU_CORE	Core voltage for APU	ON	OFF	OFF
+APU_CORE_SOC	Voltage for On-die VGA of APU	ON	OFF	OFF
+0.75VALW	0.75V always on power rail	ON	ON	OFF
+0.75VS	0.75V switched power rail	ON	OFF	OFF
+1.8VALW	1.8V always on power rail	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+1.8V	1.8V power rail for APU and DDR	ON	ON	OFF
+1.2V	1.2V power rail for APU and DDR	ON	ON	OFF
+MEM_VDDQ	1.1V/0.6V switched power rail for LPDDR4/4x	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	AC-ON DC-OFF
+5VS	5V switched power rail	ON	OFF	OFF
+RTC_APU	RTC power	ON	ON	ON
+TP_VCC	3.3V Touch Pad power	ON	ON	OFF
+TS_PWR	3.3V Touch Screen Power	ON	ON	OFF
+FP_VCC	3.3V Finger Print power	ON	ON	OFF

APU SMBus/I2C Address Table

Master	Device	Address[7:1]	Address [7:0]	
			Write	Read
I2C Port 0 (+1.8VS)				
I2C Port 1 (+1.8VS)	G-Sensor (Reserver)	0001 1000b 18h	0011 0000b 30h	0011 0001b 31h
I2C Port 2 (+3VS)				
SBMUS Port 0 (+3VS)	JDIMM1	0101 0000b 50h	1010 0000b A0h	1010 0001b A1h
	JDIMM2	0101 0001b 51h	1010 0010b A2h	1010 0011b A3h
I2C_3_SCL (+3VALW)	PTP (Synaptics)	0010 1100b 2Ch	0101 1000b 58h	0101 1001b 59h
	PTP (ELAN)	0001 1111b 15h	0011 1110b 3Eh	0011 1111b 3Fh
SMBUS Port 1 (+3VALW)				

EC SMBus Address Table

EC_SMB_CK1 (+EC_VCC)	Smart Battery	0000 1011b 0Bh	0001 0110b 16h	0001 0111b 17h
	Charger IC	0000 1001b 09h	0001 0010b 12h	0001 0011b 13h
EC_SMB_CK2 (+EC_VCC)	APU Temp.	0100 1100b 4Ch	1001 1000b 98h	1001 1001b 99h
	GPU Temp.	1001 1110b 9Eh		
	Thermal Sensor Temp. (UF1)	1001 101xb		
	Thermal Sensor Temp. (UF2)	1001 0000b 90h		
EC_SMB_CK3 (+5VS)	RGB KB Driver IC	1100 0000b C0h		
ESB_CLK (+EC_VCC)	KC3810	1100 0000b C0h		

BOARD ID Table

Board ID	PCB Revision
0	Rev 0.1
1	Rev 1.0
2	Rev 1A
3	
4	Rev 0.1 + RGB KB
5	Rev 1.0 + RGB KB
6	Rev 1A + RGB KB
7	

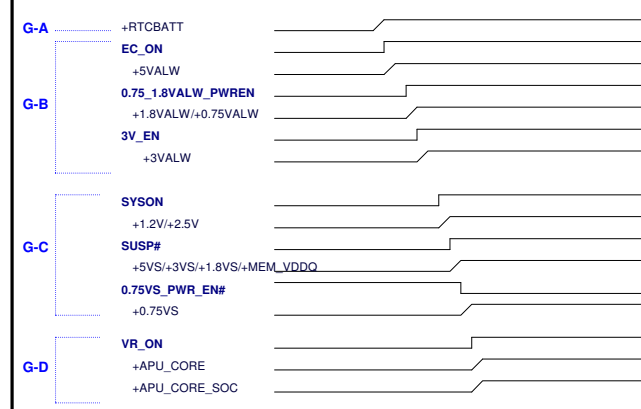
BOM Structure Table

[illegible]

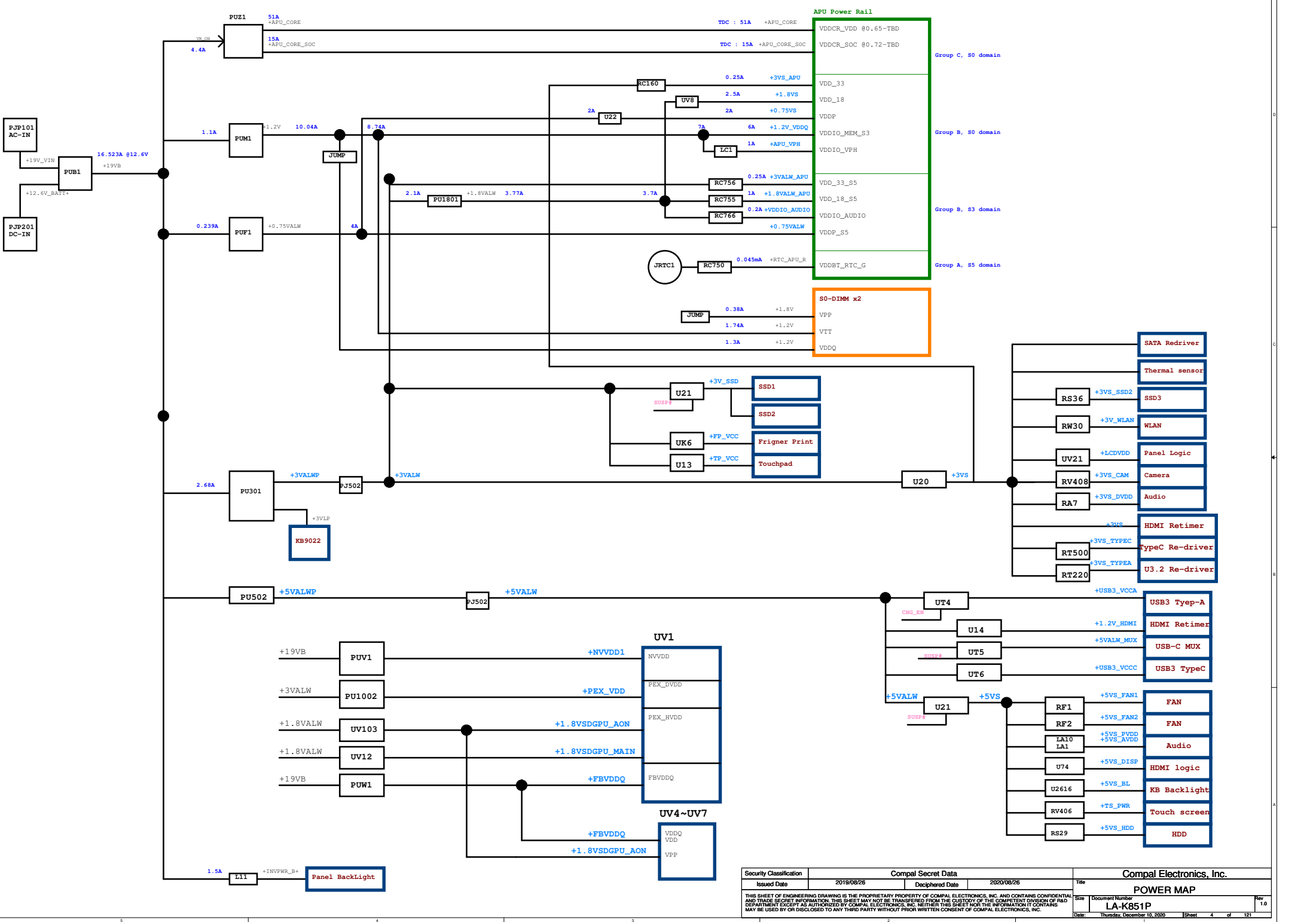
Board ID / SKU ID Table for AD channel

Vcc	3.3V				
Ra	100K +/- 1%				
Board ID	Rb	V min	V typ	V max	EC AD
0	0		0.000V	0.300V	0x00 - 0x0B
1	12K +/- 1%	0.347V	0.354V	0.360V	0x0C - 0x1C
2	15K +/- 1%	0.423V	0.430V	0.438V	0x1D - 0x26
3	20K +/- 1%	0.541V	0.550V	0.559V	0x27 - 0x30
4	27K +/- 1%	0.691V	0.702V	0.713V	0x31 - 0x3B
5	33K +/- 1%	0.807V	0.819V	0.831V	0x3C - 0x46
6	43K +/- 1%	0.978V	0.992V	1.006V	0x47 - 0x54
7	56K +/- 1%	1.169V	1.185V	1.200V	0x55 - 0x64
8	75K +/- 1%	1.398V	1.414V	1.430V	0x65 - 0x76
9	100K +/- 1%	1.634V	1.650V	1.667V	0x77 - 0x87
10	130K +/- 1%	1.849V	1.865V	1.881V	0x88 - 0x96
11	160K +/- 1%	2.015V	2.031V	2.046V	0x97 - 0xA3
12	200K +/- 1%	2.185V	2.200V	2.215V	0xA4 - 0xAD
13	240K +/- 1%	2.316V	2.329V	2.343V	0xAE - 0xB7
14	270K +/- 1%	2.395V	2.408V	2.421V	0xB8 - 0xC0
15	330K +/- 1%	2.521V	2.533V	2.544V	0xC1 - 0xC9
16	430K +/- 1%	2.667V	2.677V	2.687V	0xCA - 0xD3
17	560K +/- 1%	2.791V	2.800V	2.808V	0xD4 - 0xDC
18	750K +/- 1%	2.905V	2.912V	2.919V	0xDD - 0xEE
19	NC	3.000V	3.300V		0xED - 0xFF

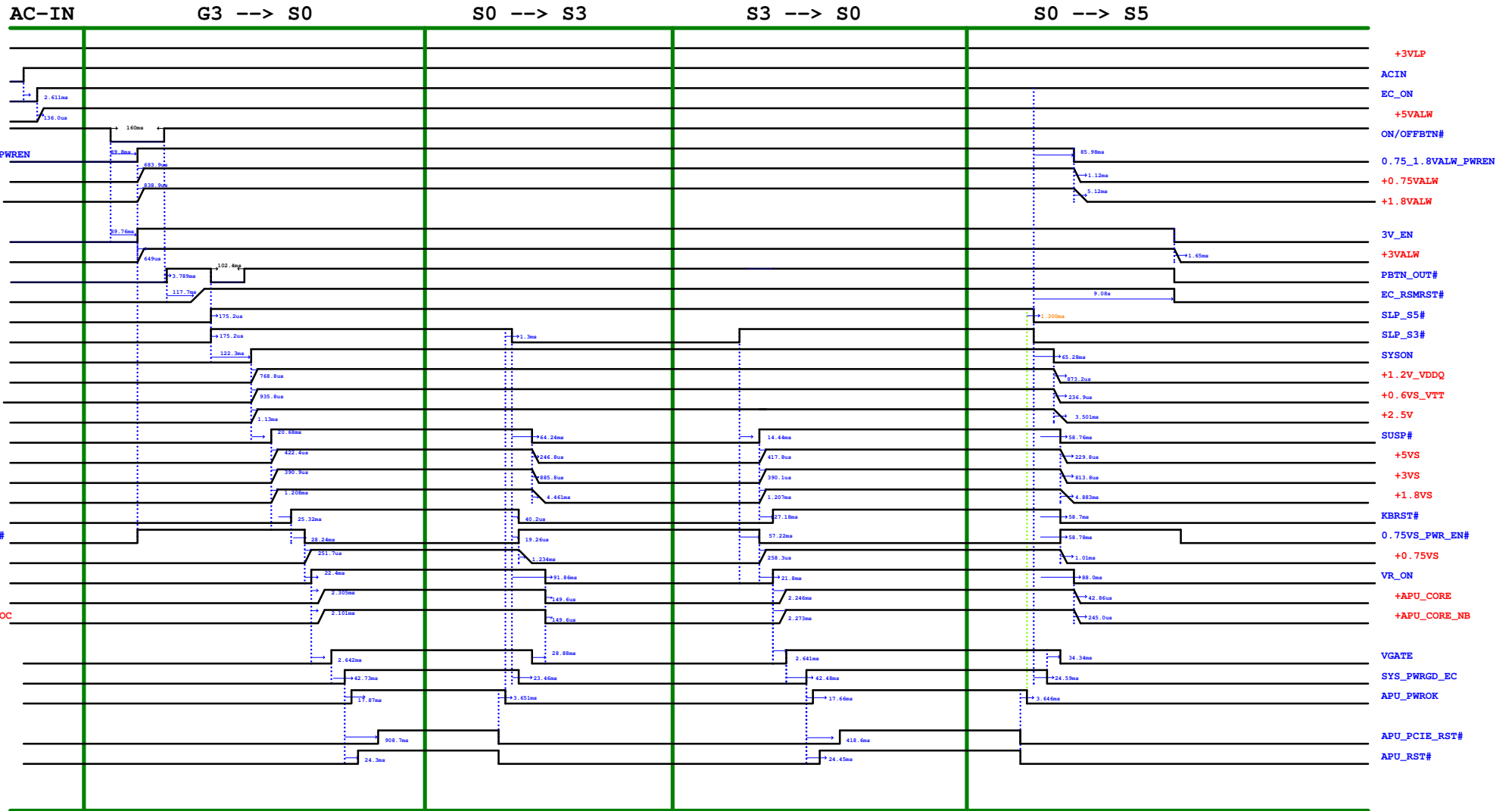
POWER SEQUENCE



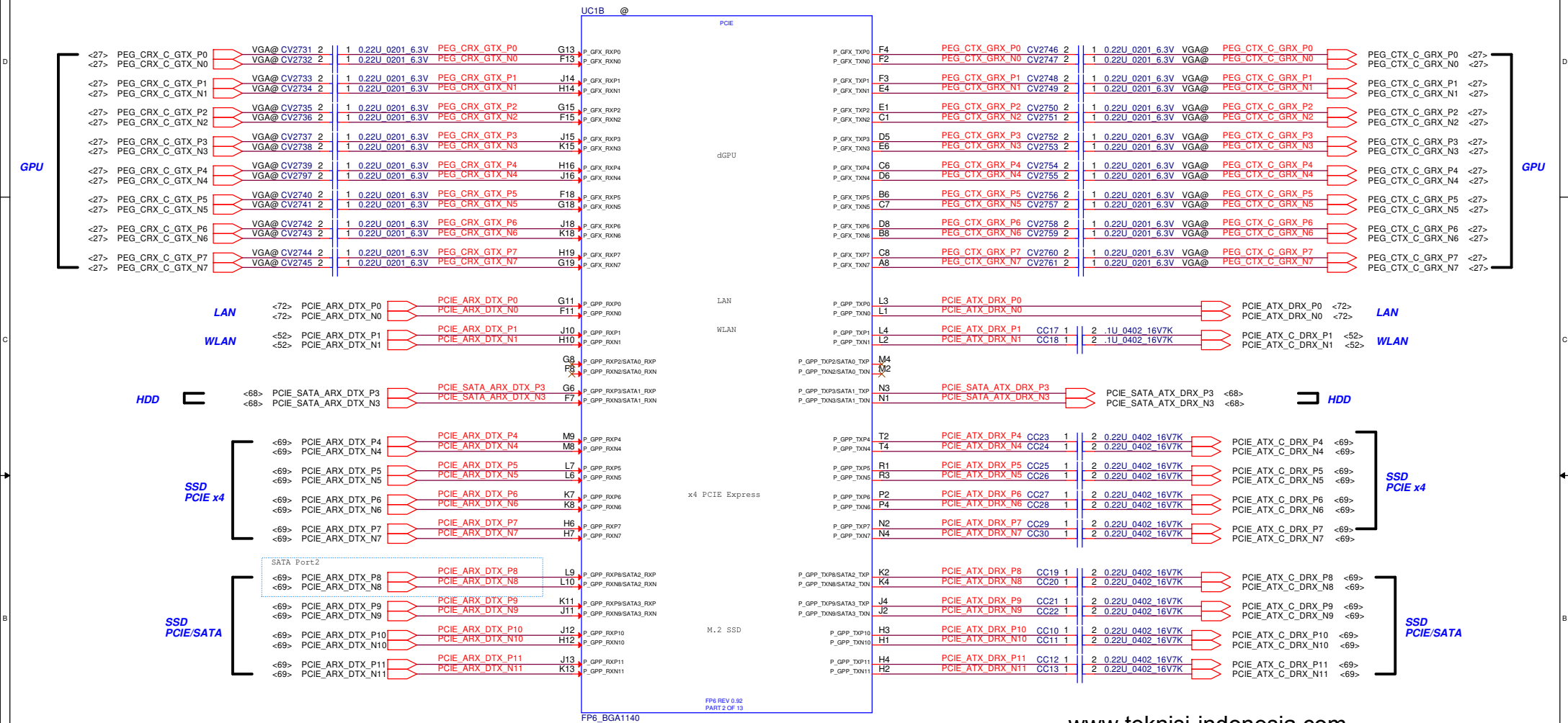
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	NOTES LIST	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					LA-K851P	1.0
Date:	Thursday, December 10, 2020	Sheet	3	of	121	



Power Sequence

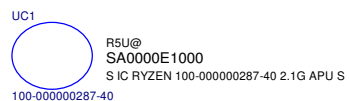
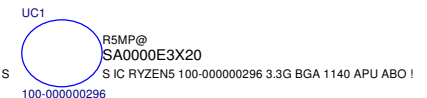
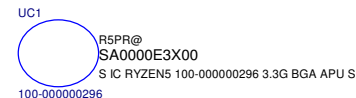
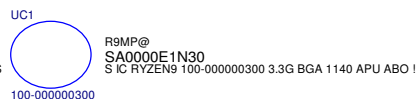
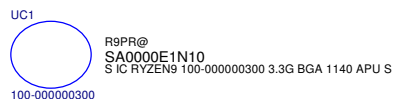
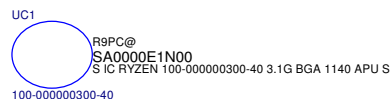


Main Func = CPU



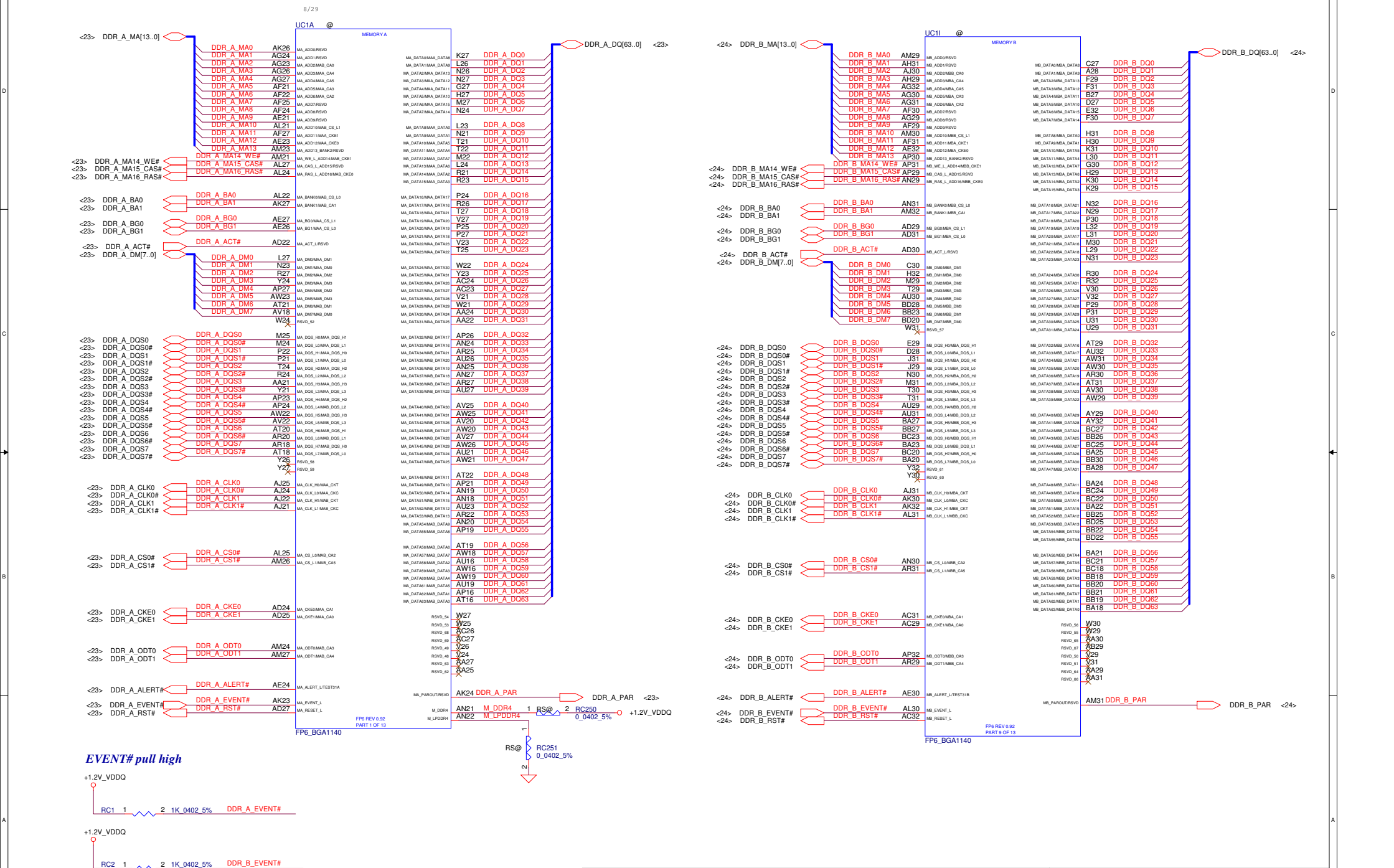
www.teknisi-indonesia.com

APU PN Table



Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title FP6 (1/7) PEG/PCIE/SATA		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				LA-K851P		1.0
Date:				Thursday, December 10, 2020	Sheet	6 of 121

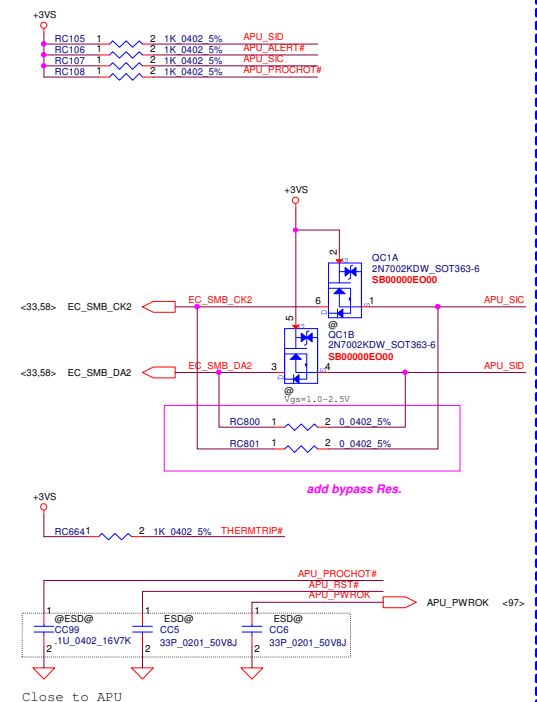
Main Func = CPU



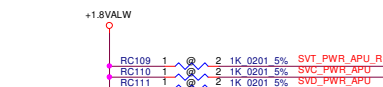
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2019/04/30	Deciphered Date	2020/04/30	Title	FP6 (2/7) DDR4	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					LA-K851P	1.0
				Date:	Thursday, December 10, 2020	Sheet 7 of 121

Main Func = CPU

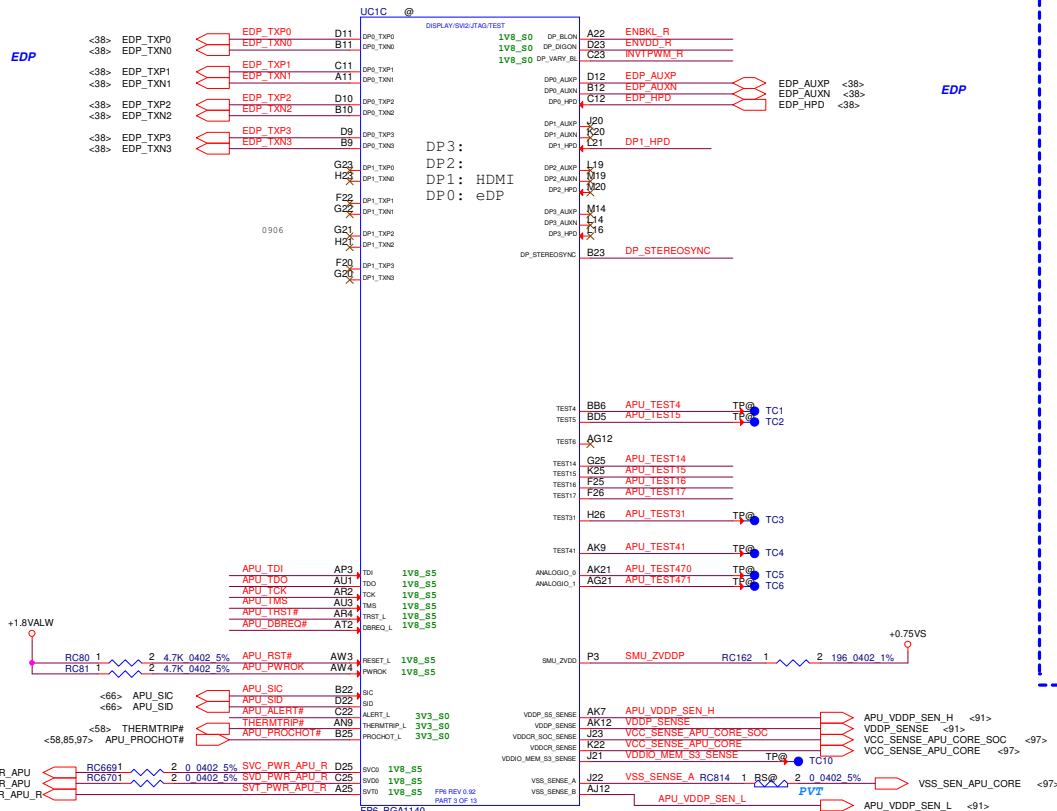
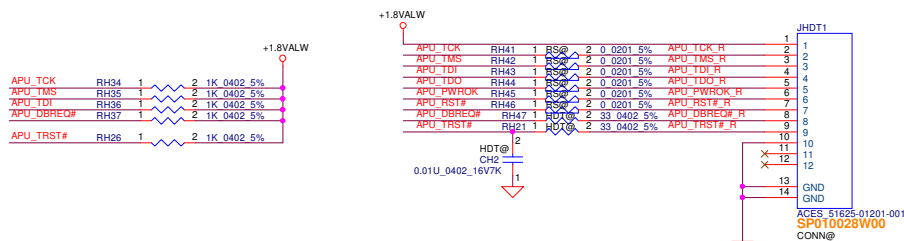
EC/THERM



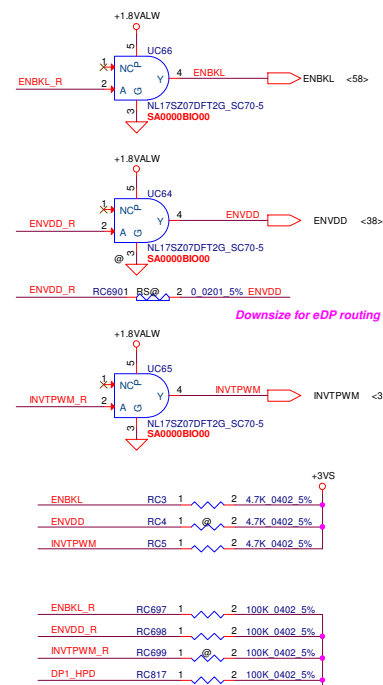
SVID



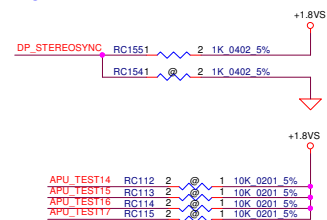
AMD DEBUG



DISP

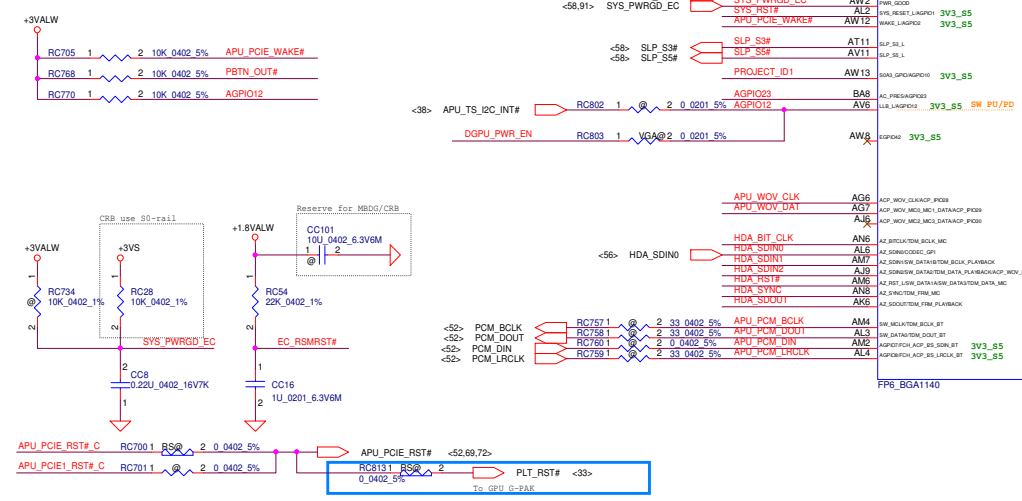


TESTPOINT

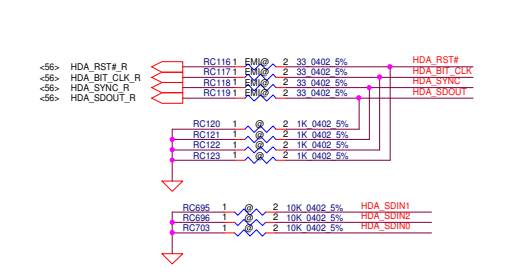


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	FP6 (3/7) DISP/MISC/HDT	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEVELOPMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					LA-K851P	1.0
				Date:	Thursday, December 10, 2020	Sheet 8 of 121

ACPI

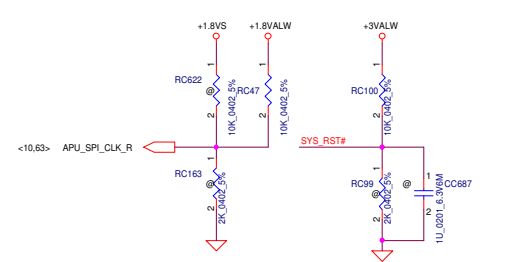


HDA

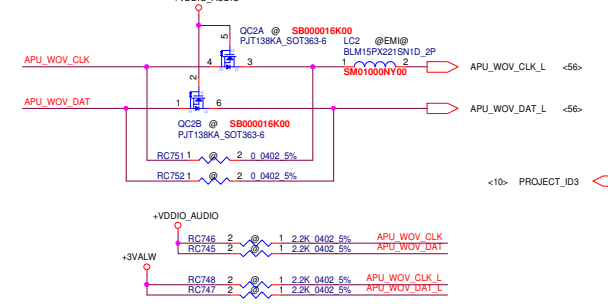


Strap Pin

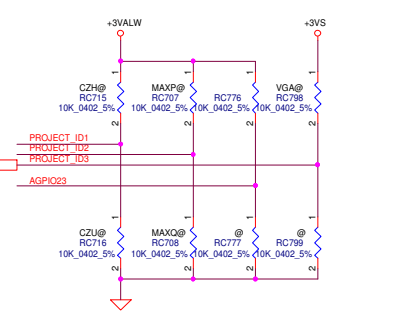
	APU_SPI_CLK_R	SYS_RST#
H	USE 48MHz CRYSTAL CLOCK (Default)	NORMAL RESET MODE (Default)
L	USE 100MHz PCIE CLOCK AS REFERENCE CLOCK	SHORT RESET MODE



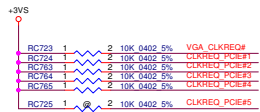
APU WOV (Reserve)



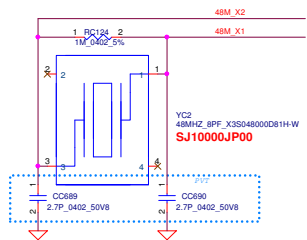
Project ID



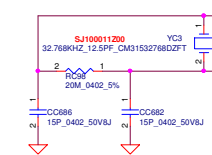
	Project_ID1 (AGP1010)	Project_ID2 (AGP1011)	AGP1023	Project_ID3 (AGP1014)
H	Cezanne-H	MAX-P GPU	Gaming	GTK GPU
L	Cezanne-U	MAX-Q GPU	Aspire 7	RTX GPU



48MHz CRYSTAL



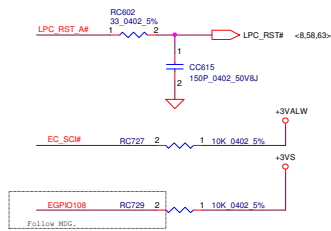
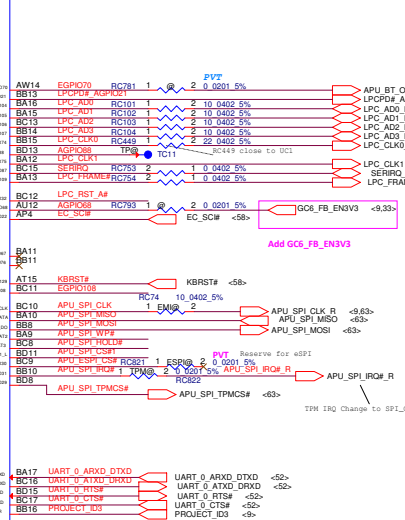
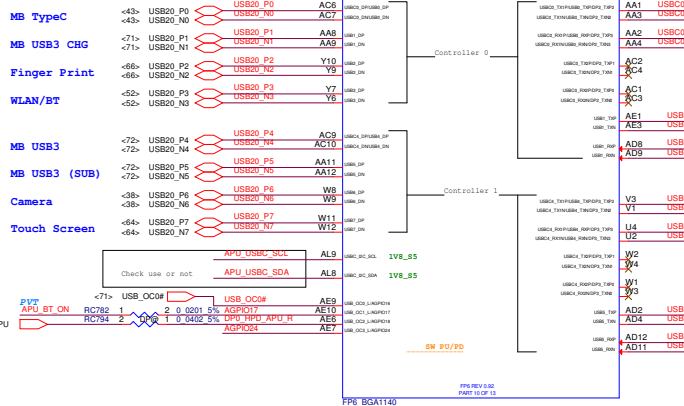
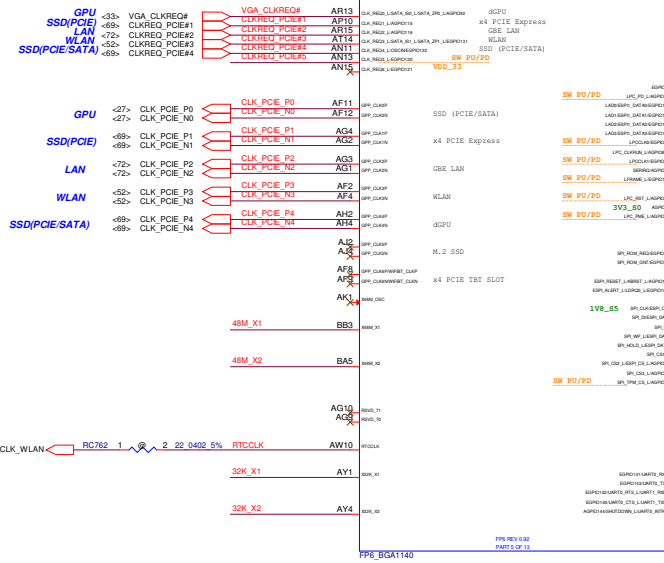
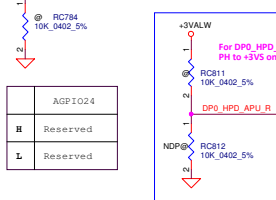
32.768KHz CRYSTAL



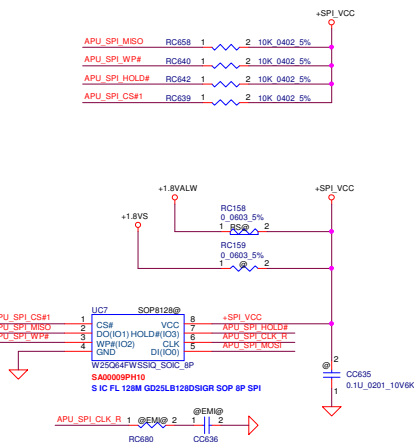
USB Function



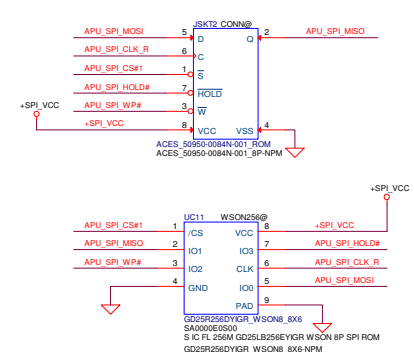
Reserve



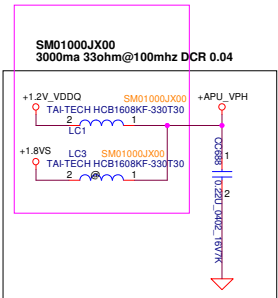
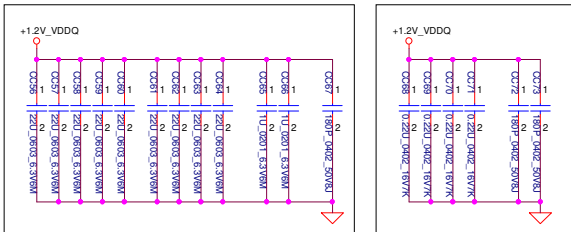
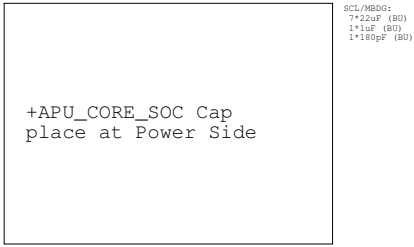
16MB SPI ROM



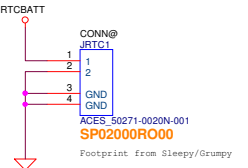
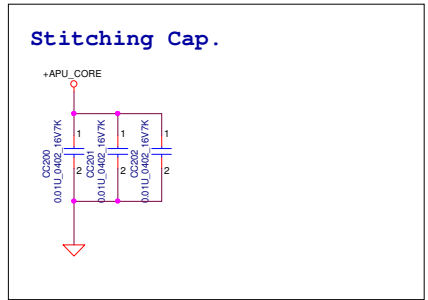
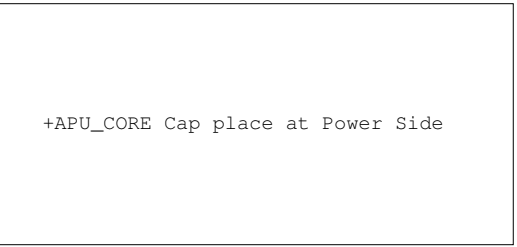
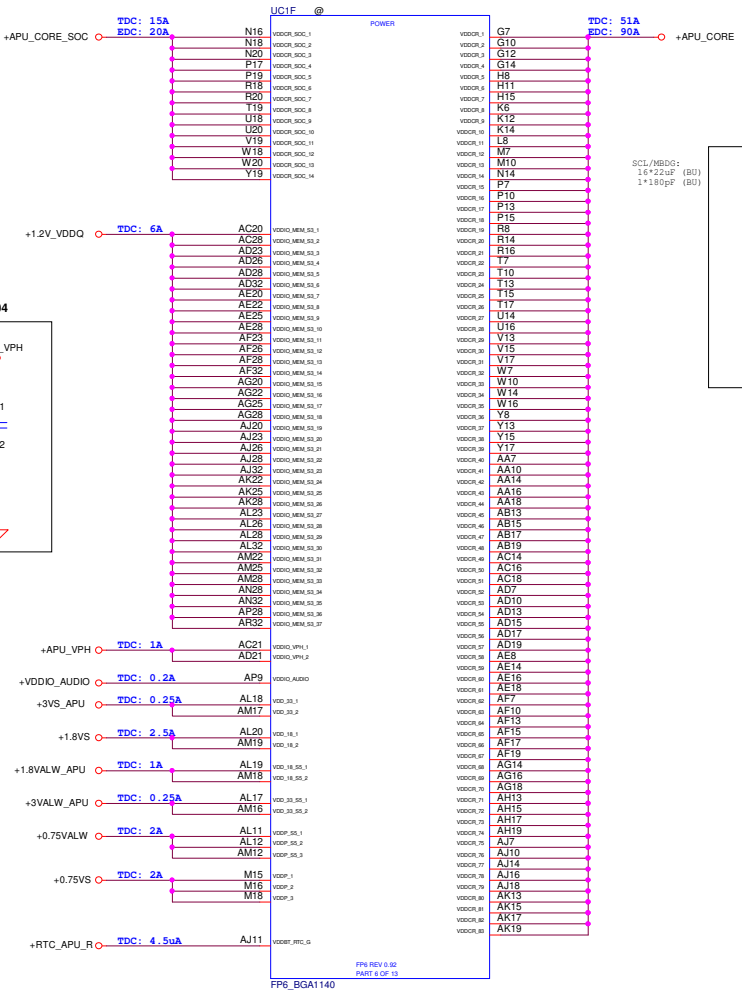
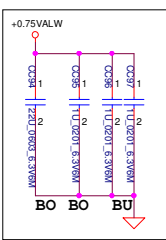
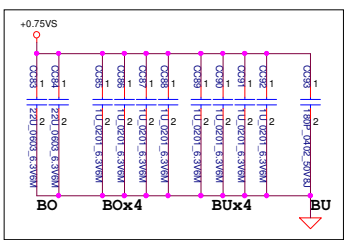
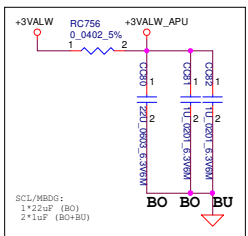
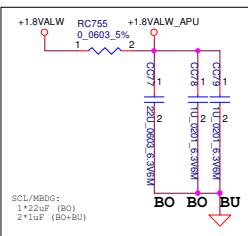
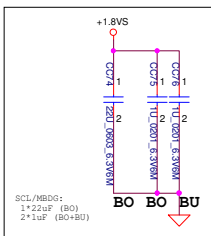
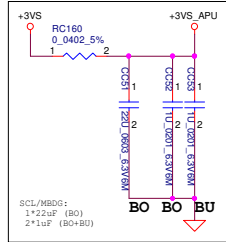
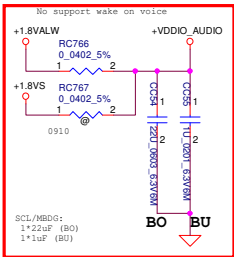
WS0N 8*6 JSKT2, UC11 cover solder mask 10/29 PVT



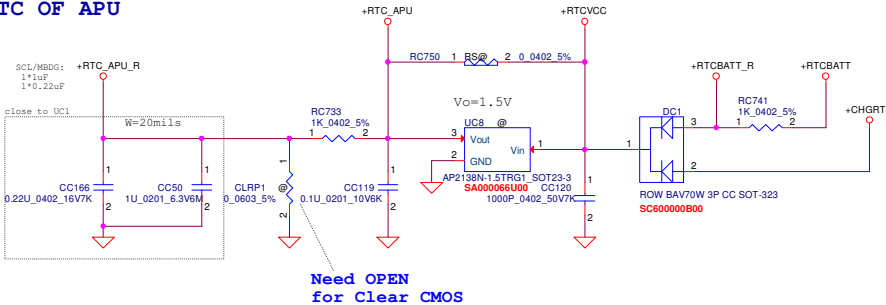
Main Func = CPU



All BU(on bottom side under SOC) ACROSS VDDIO AND VSS SPLIT

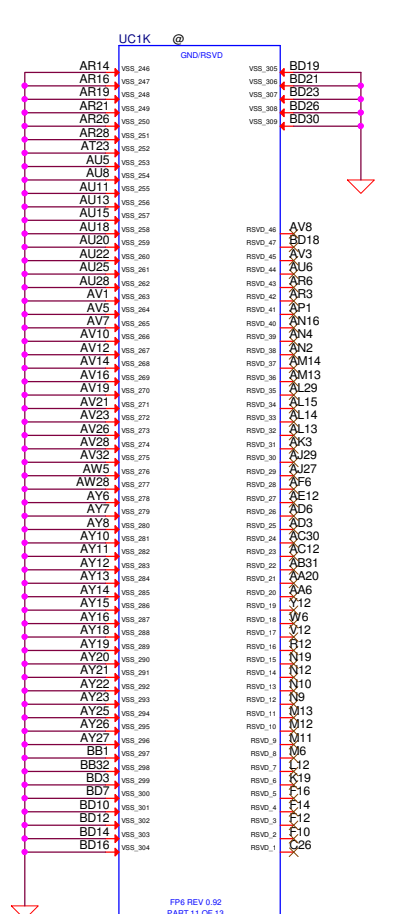
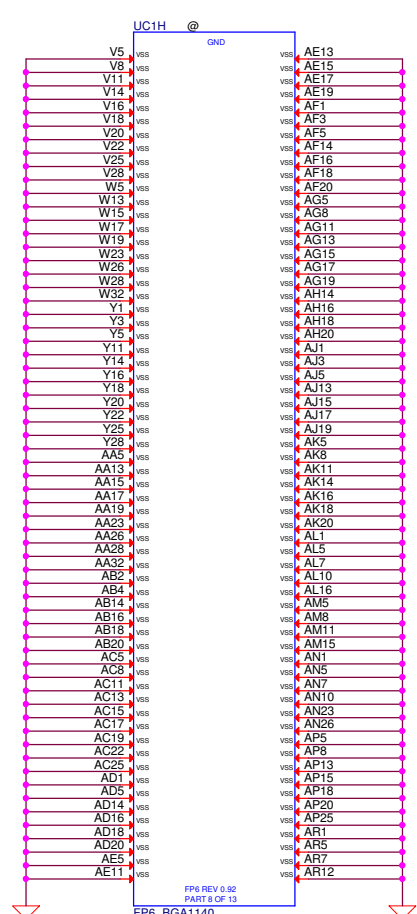
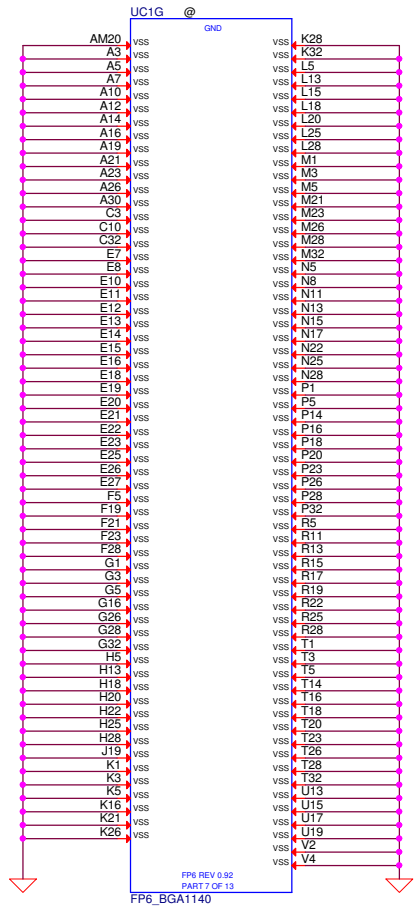


RTC OF APU

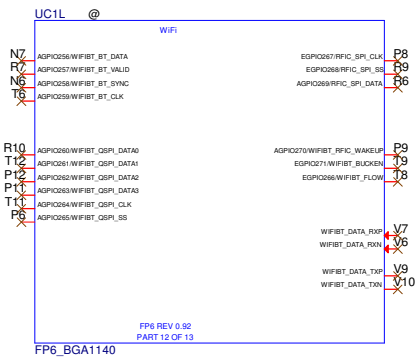
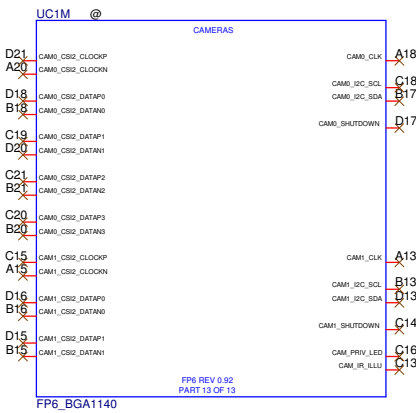


Security Classification		Compal Secret Data		Title	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	FP6 (6/7) PWR	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF ROAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-K851P	Rev 1.0
Date:		Thursday, December 10, 2020		Sheet	11 of 121

Main Func = CPU



teknisi-indonesia



Security Classification		Compal Secret Data		Title	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				FP6 (7/7) GND/RSVD/CSI	
Size		Document Number		Rev	
		LA-K851P		1.0	
Date:		Thursday, December 10, 2020		Sheet 12 of 121	

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 13 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 14 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 15 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 16 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 17 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 18 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date		2019/08/26	Deciphered Date		2020/08/26	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title		
				Reserve		
				Size	Document Number	Rev
					LA-K851P	1.0
				Date:	Thursday, December 10, 2020	Sheet 19 of 121

www.teknisi-indonesia.com

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 20 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 21 of 121			

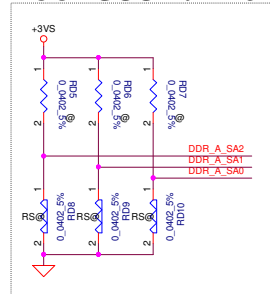
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 22 of 121			

Reverse Type

2-3A to 1 DIMMs/channel

Address : A0

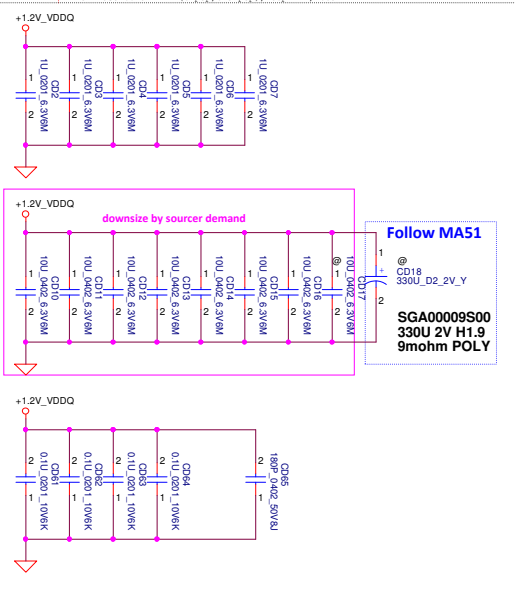


Layout Note:
Place near JDIMM1

Note:
Check voltage tolerance of VREF_DQ at the DIMM socket

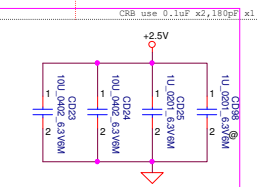
DDR4 support Even Parity check in DRAMs.

CRB use 0.1uF x12 (6 pop, 6 unpop), 180pF x1, 100pF x2

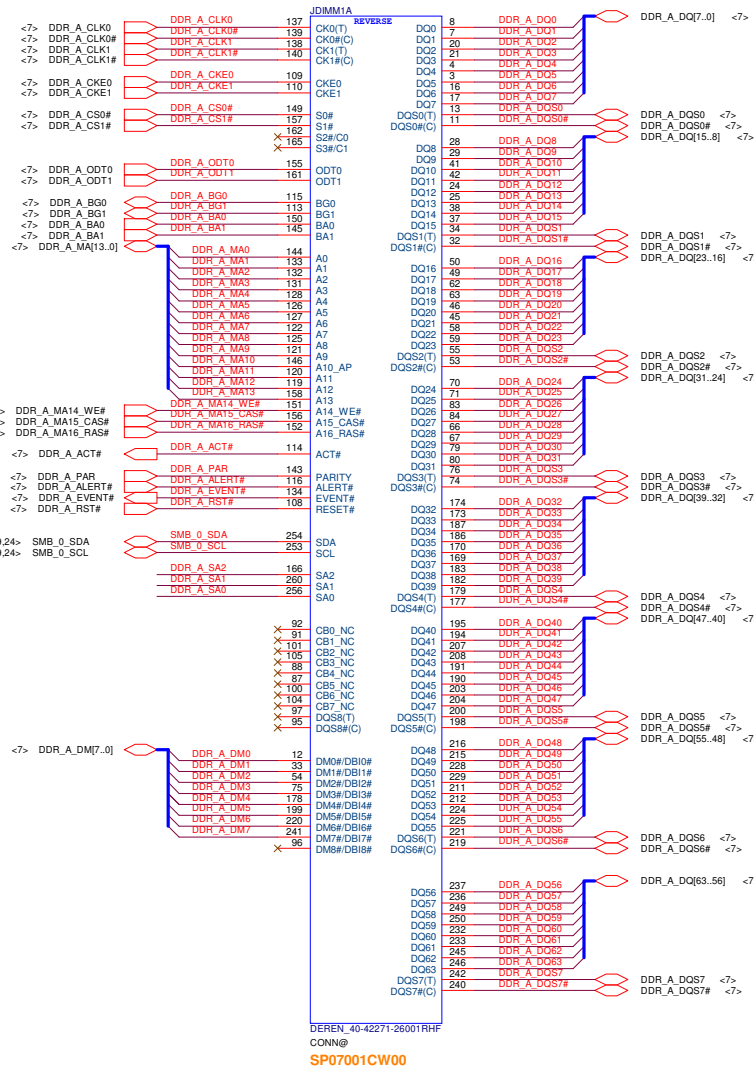
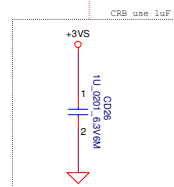


Layout Note:
Place near JDIMM1.257,259

Layout Note:
Place near JDIMM1.255



downsize by sourcer demand



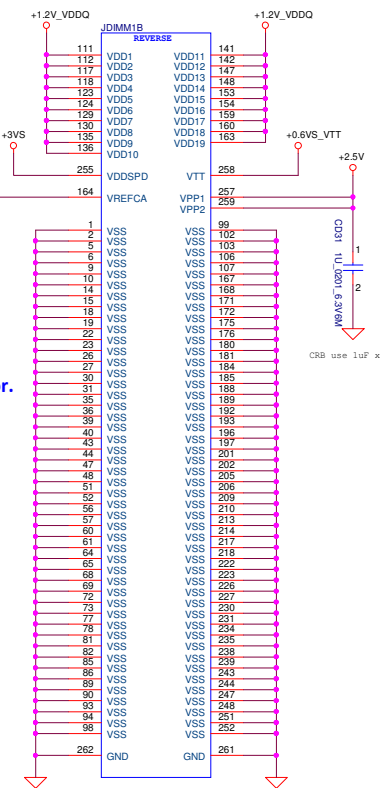
DEREN_40-42271-26001RHF
CONN@
SP07001CW00

Follow CRB design

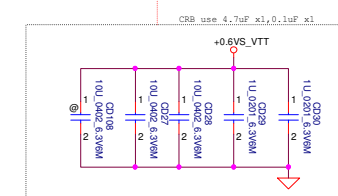
15mil

PC sample = 1.5K
others = 1k ohm

Place near to SO-DIMM connector.



Layout Note:
Place near JDIMM1.258



Security Classification		Compal Secret Data		Title	
Issued Date	2019/04/30	Deciphered Date	2020/04/30	DDR4 DIMMA	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-K851P	Rev 1.0
				Date: Thursday, December 10, 2020	Sheet 23 of 121

Compal Electronics, Inc.

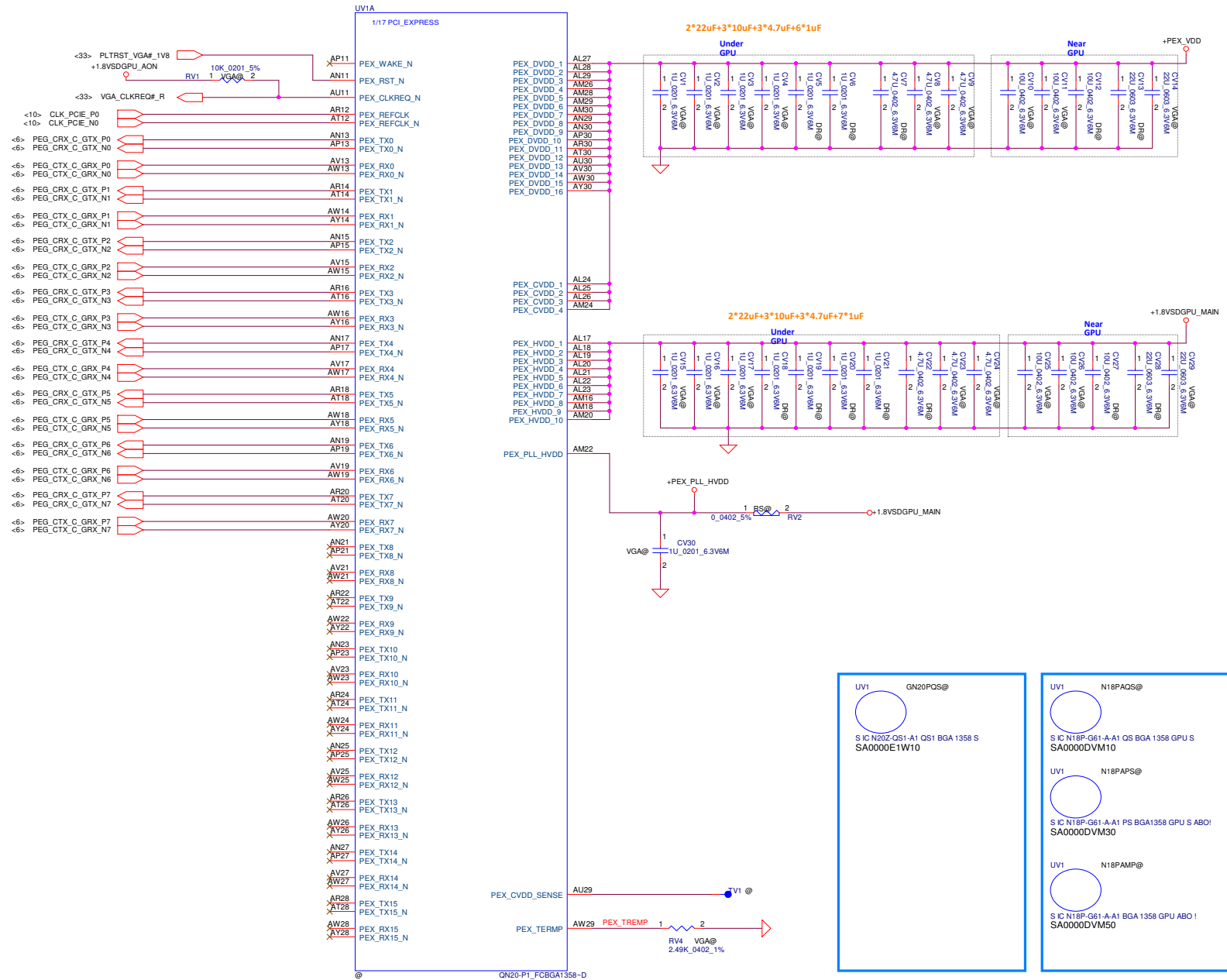
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 25 of 121			

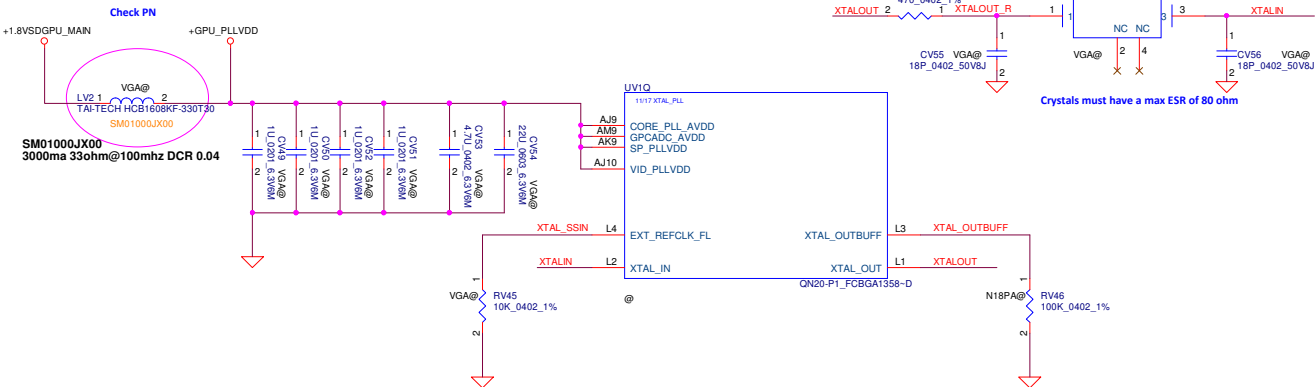
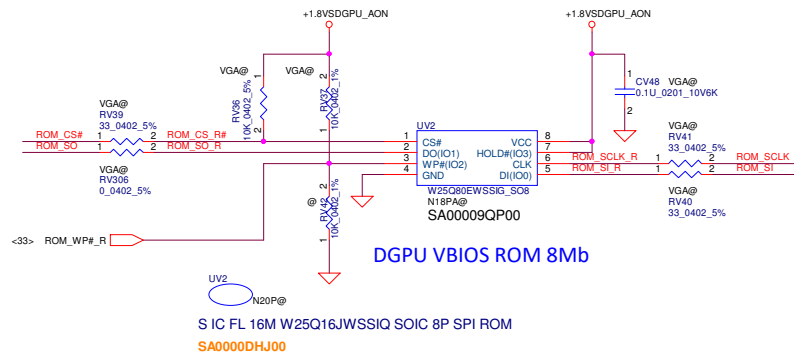
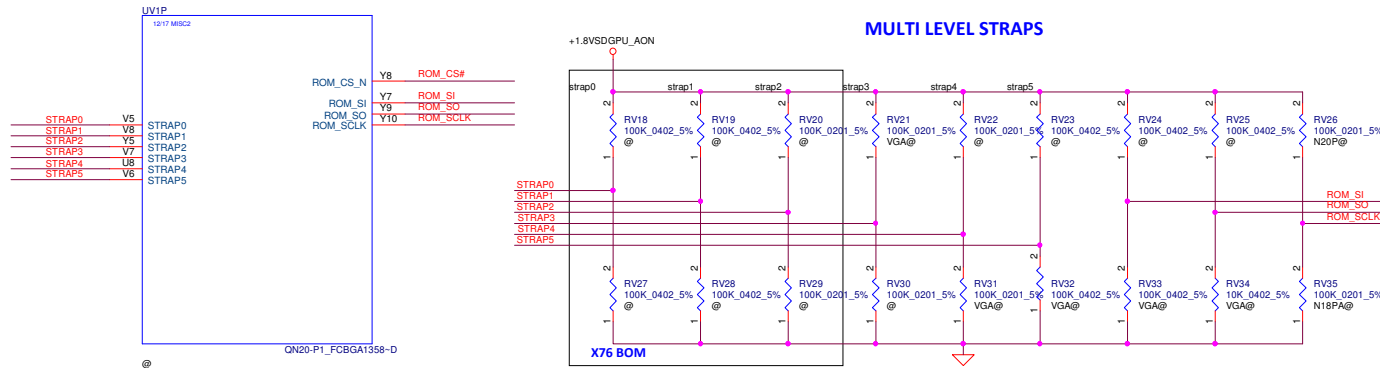
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 26 of 121			

N18PA / N20P
PCIe GEN4 x8



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date		2019/09/20		Deciphered Date		2020/09/20		Title		N18P(1/11)-G61A/N20P PEG	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size		Document Number		Rev		Date		Thursday, December 10, 2020	
LA-K851P		1.0		Sheet		27		of		121	



N18P-G61-A

Table 11.3 RAMCFG

Strap Pins see Note			RAMCFG Setting Number
STRAP2	STRAP1	STRAP0	(see Memory RVL for memory configs corresponding to these numbers)
L	L	L	0 (0x0000)
L	L	H	1 (0x0001)
L	H	L	2 (0x0002)
L	H	H	3 (0x0003)
H	L	L	4 (0x0004)

Table 11.5 SMB ALT_ADDR, DEVID_SEL, PCIE_CFG, VGA_DEVICE

Strap Pins See Note			Functions Selected by This Strapping			
STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
L	L	L	0	0	0	0
L	L	H	0	0	0	1
L	H	L	0	0	1	0
L	H	H	0	0	1	1
H	L	L	0	1	0	0
H	L	H	0	1	0	1

ROM_SO_ (10K)	ROM_SI	ROM_SCLK	Strap5	Strap4	Strap3	Strap2	Strap1	Strap0
L	L	L	L	L	H	RVL	RVL	RVL

SAMSUNG (000)	MICRON (001)	HYNIX (010)
<input type="checkbox"/> SAM4G@ RV27 100K_0402_5% SD028100380	<input type="checkbox"/> SAM4G@ RV28 100K_0402_5% SD028100380	<input type="checkbox"/> SAM4G@ RV29 100K_0201_5% SD043100380
<input type="checkbox"/> MIC4G@ RV18 100K_0402_5% SD028100380	<input type="checkbox"/> MIC4G@ RV28 100K_0402_5% SD028100380	<input type="checkbox"/> MIC4G@ RV29 100K_0201_5% SD043100380
<input type="checkbox"/> HYN4G@ RV27 100K_0402_5% SD028100380	<input type="checkbox"/> HYN4G@ RV19 100K_0402_5% SD028100380	<input type="checkbox"/> HYN4G@ RV29 100K_0201_5% SD043100380

GN20P-P0/P1

ZZZ X76SAMGN20@ ALT. GROUP PARTS SAM VRAM 4G GH51Z X76901BOL20	ZZZ X76MICGN20@ ALT. GROUP PARTS MIC VRAM 4G GH51Z X76xxx	ZZZ X76HYNGN20@ ALT. GROUP PARTS HYN VRAM 4G GH51Z X76901BOL19
--	---	--

Table 9.3 RAMCFG

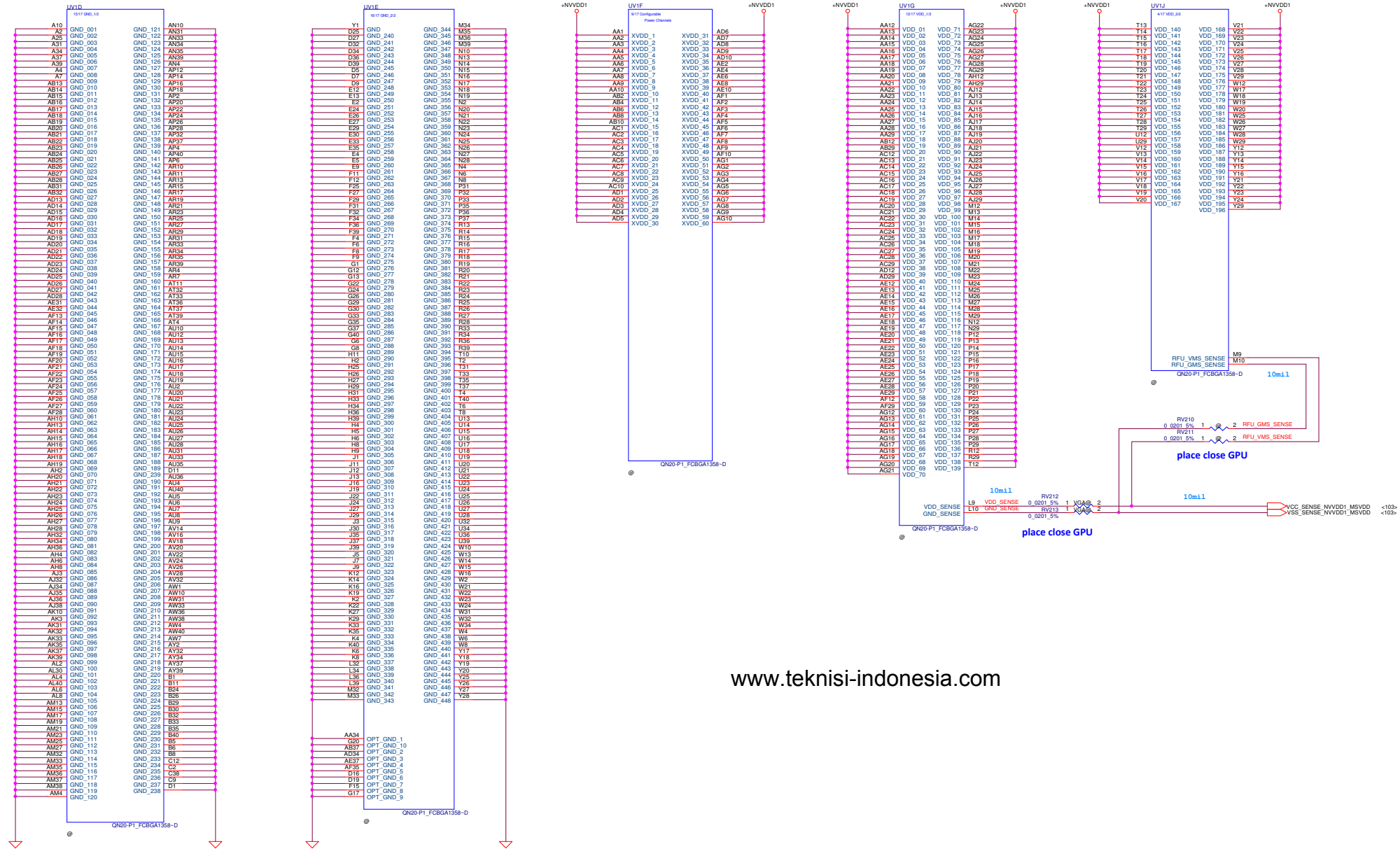
Strap Pins see Note			RAMCFG Setting Number
STRAP2	STRAP1	STRAP0	(see Memory RVL for memory configs corresponding to these numbers)
L	L	L	0 (0x0000)
L	L	H	1 (0x0001)
L	H	L	2 (0x0002)
L	H	H	3 (0x0003)

Table 9.5 SMB ALT_ADDR, DEVID_SEL, PCIE_CFG, VGA_DEVICE

Strap Pins See Note			Functions Selected by This Strapping			
STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
L	L	L	0	0	0	0
L	L	H	0	0	0	1
L	H	L	0	0	1	0
L	H	H	0	0	1	1
H	L	L	0	1	0	0
H	L	H	0	1	0	1

ROM_SO_ (10K)	ROM_SI	ROM_SCLK	Strap5	Strap4	Strap3	Strap2	Strap1	Strap0
L	L	H	L	L	H	RVL	RVL	RVL

Security Classification		Compal Secret Data		Title	
Issued Date	2019/09/20	Deciphered Date	2020/09/20	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF ROAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				LA-K851P	Rev 1.0
Date:	Thursday, December 10, 2020	Sheet	29	of	121



www.teknisi-indonesia.com

Check layout for port connection.

DP

DP0_AUXN RV184 1 DP0 2 100K 0402 5%

DP0_AUXP RV185 1 DP0 2 100K 0402 5%

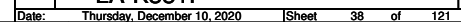
Re-name HDMI signal 08/11

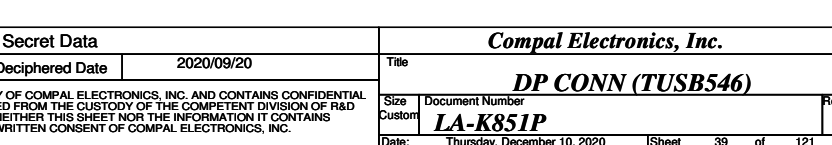
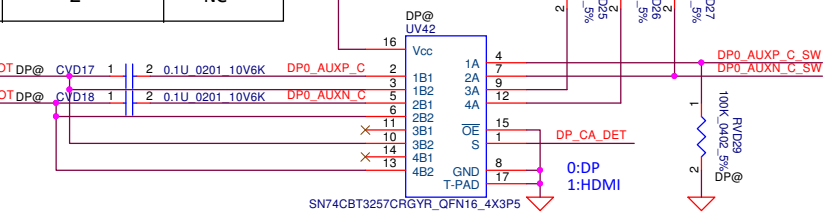
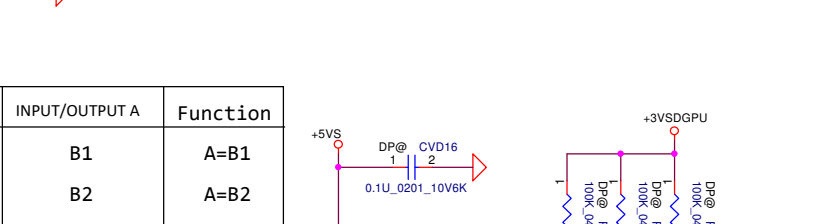
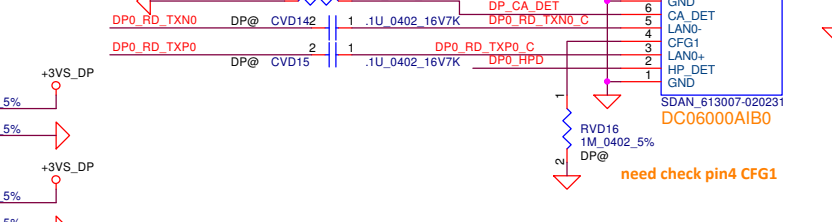
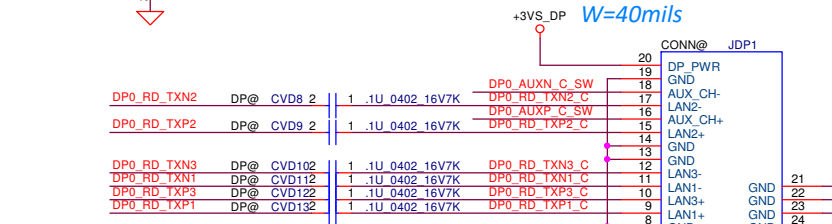
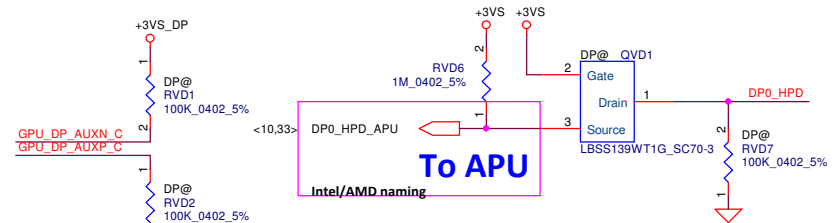
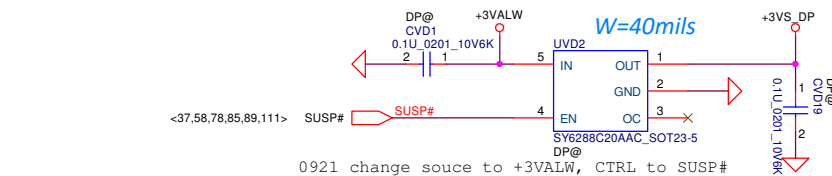
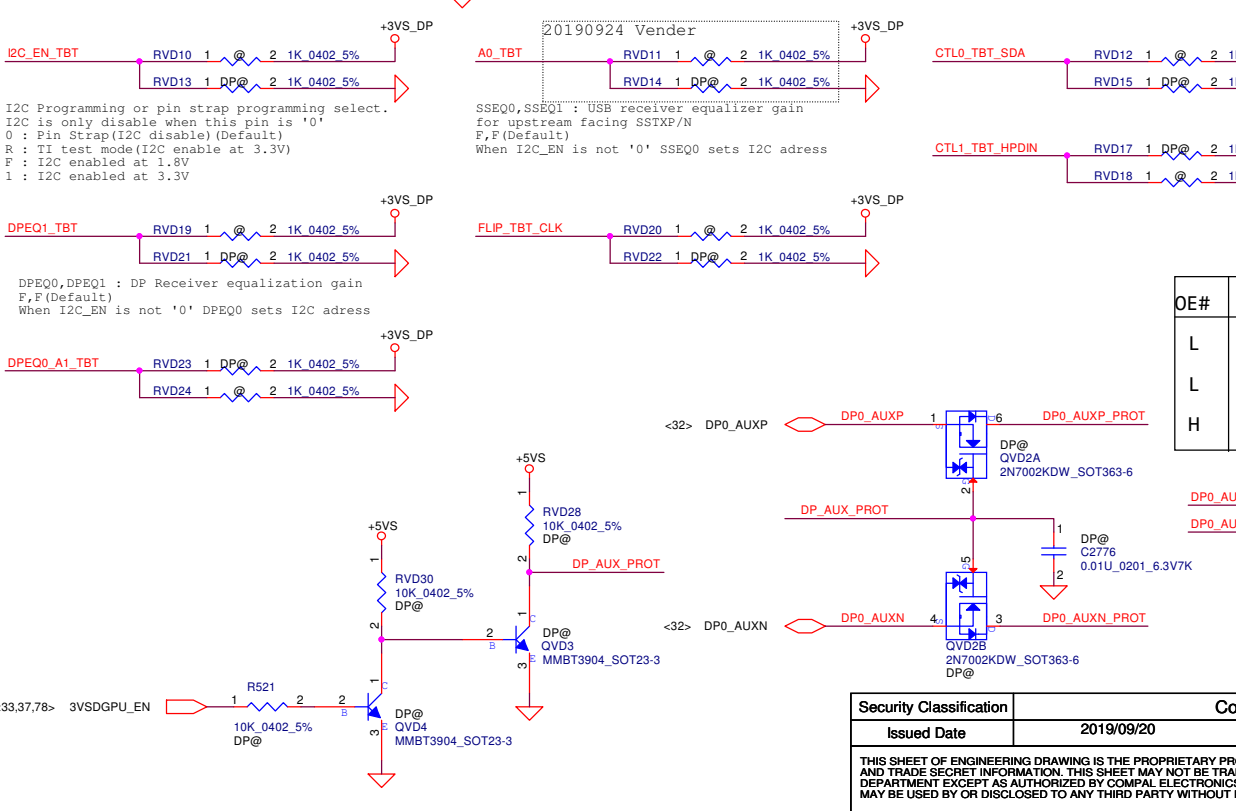
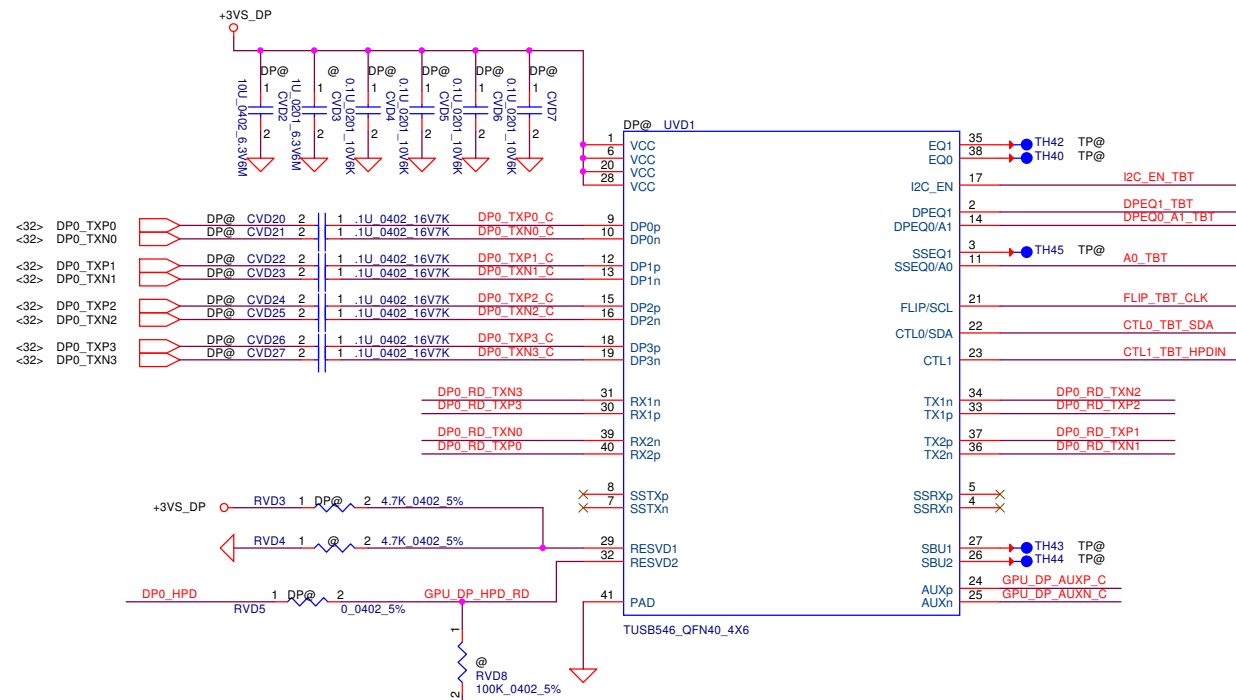
HDMI 2.1

Check connection to re-timer.

Security Classification	Compal Secret Data			Title	
Issued Date	2019/09/20	Deciphered Date	2020/09/20	N18P(8/11)-Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	1A
				Document Number	LA-K851P
				Date:	Thursday, December 10, 2020
				Sheet	32 of 121

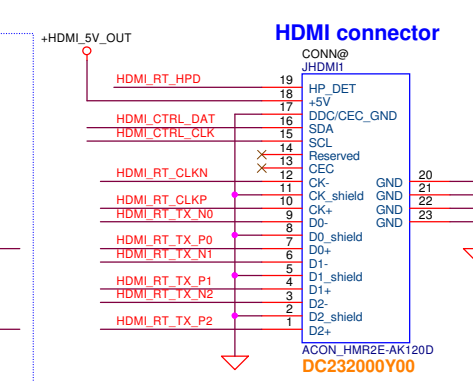
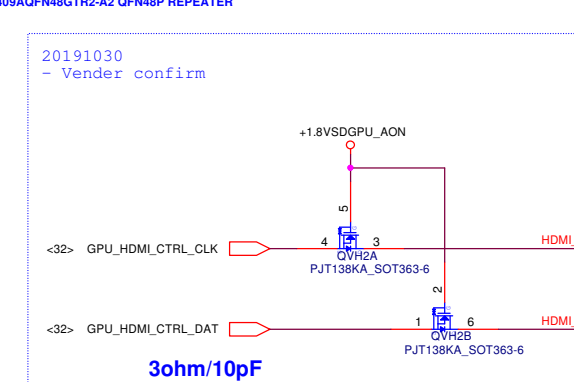
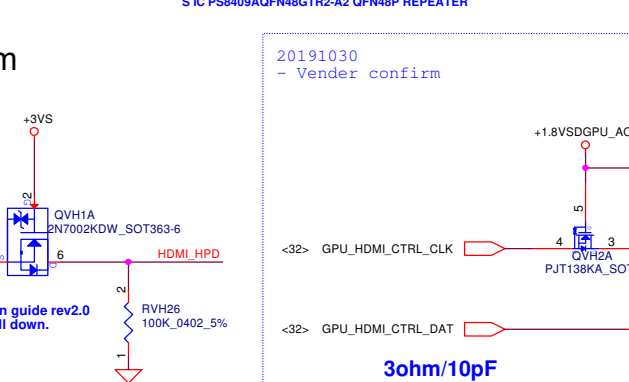
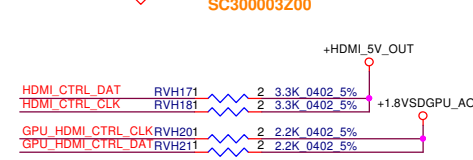
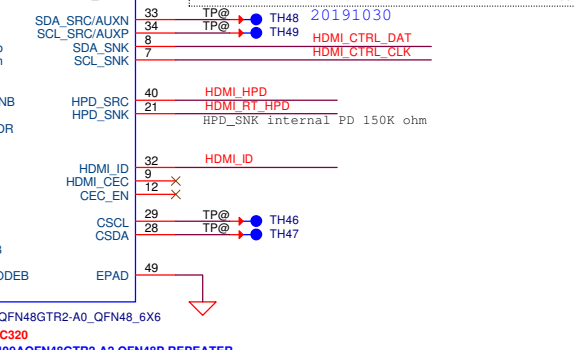
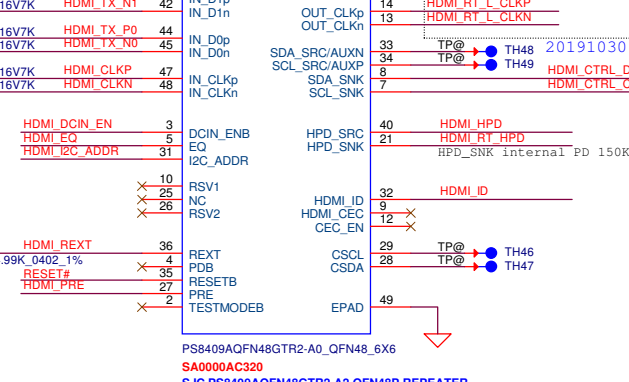
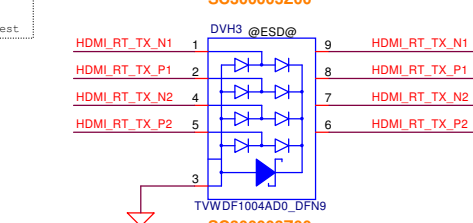
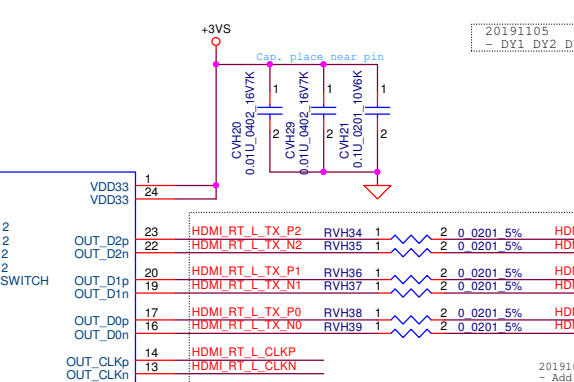
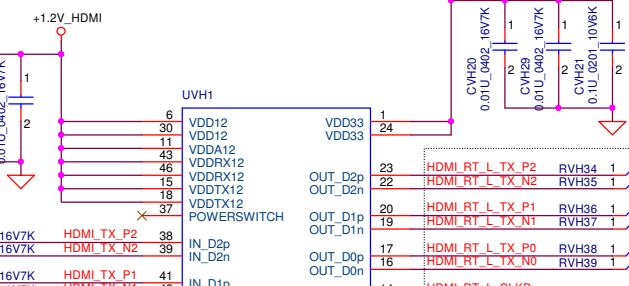
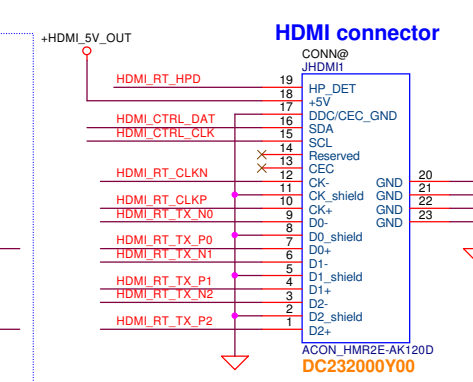
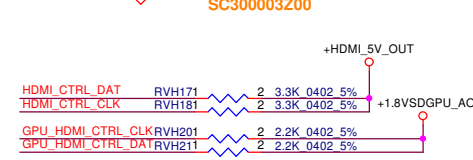
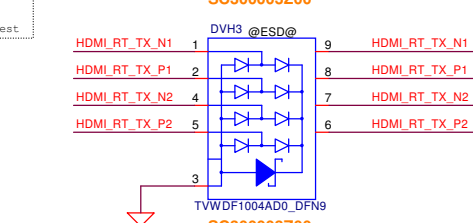
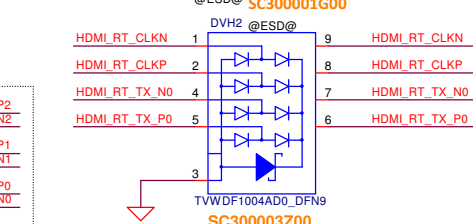
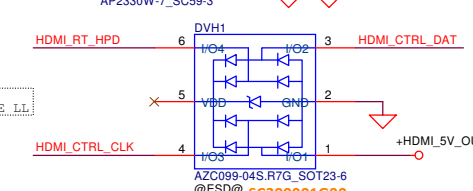
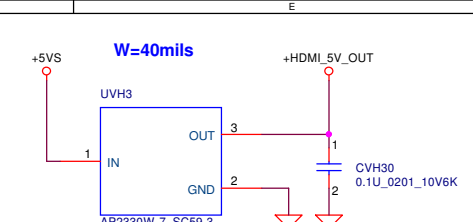
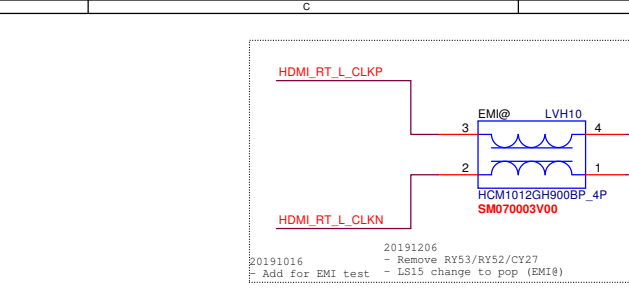
Security Classification	Compel Secret Data		Title	
Issued Date	2019/09/20	Deciphered Date	2020/09/20	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. ANY UNAUTHORIZED REPRODUCTION OR DISSEMINATION OF THIS SHEET IS STRICTLY PROHIBITED. THE CONTENTS OF THIS SHEET ARE NOT TO BE RELEASED TO THE PUBLIC OR TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			<i>N18P(9/11)-G61A/N20P GPIO/GPAK</i> <i>LA-K851P</i>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. ANY UNAUTHORIZED REPRODUCTION OR DISSEMINATION OF THIS SHEET IS STRICTLY PROHIBITED. THE CONTENTS OF THIS SHEET ARE NOT TO BE RELEASED TO THE PUBLIC OR TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Date: <u>Thursday, December 10, 2020</u> Sheet <u>33</u> of <u>121</u>	





OE#	S	INPUT/OUTPUT A	Function
L	L	B1	A=B1
L	H	B2	A=B2
H	X	Z	NC

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/09/20	Deciphered Date	2020/09/20	Title	DP CONN (TUSB546)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-K851P
				Date	Thursday, December 10, 2020
				Sheet	39 of 121

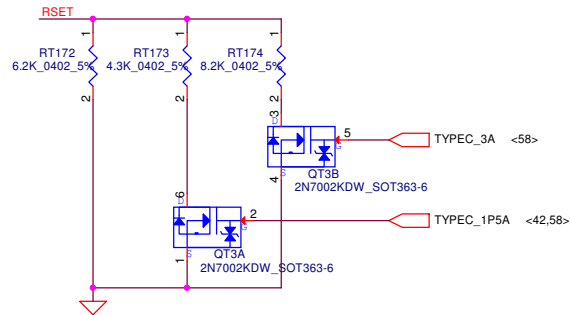
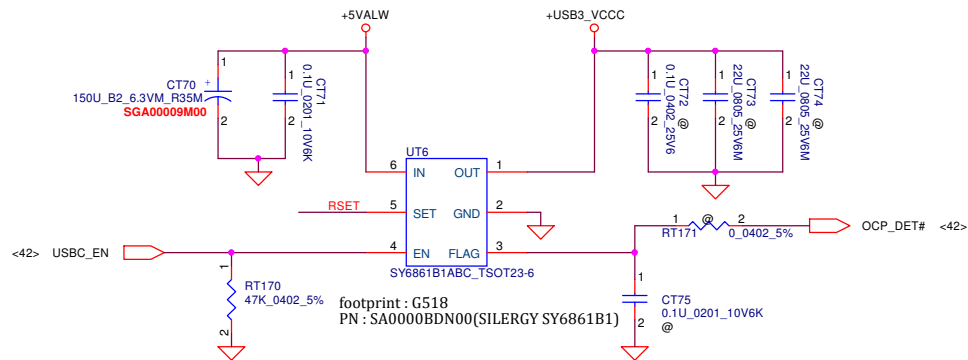


20191030
- Vender confirm

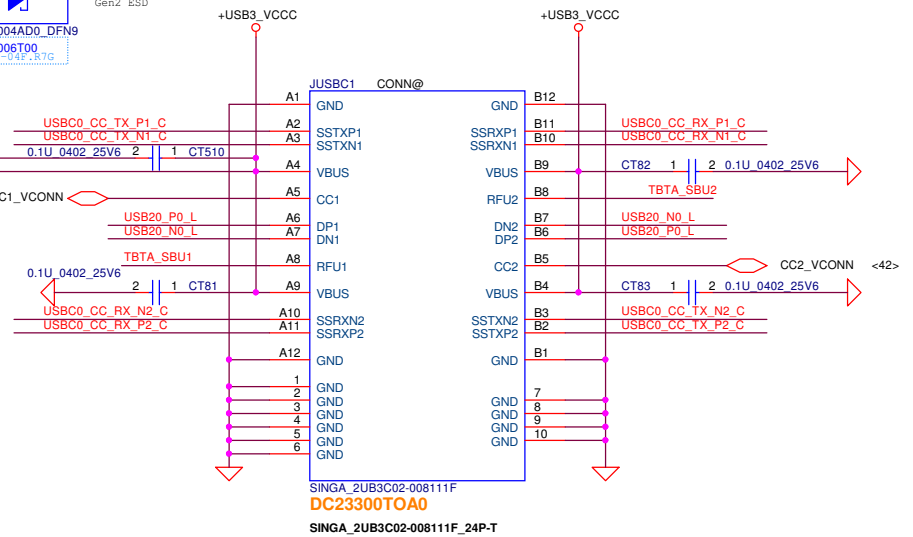
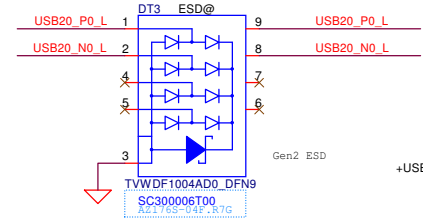
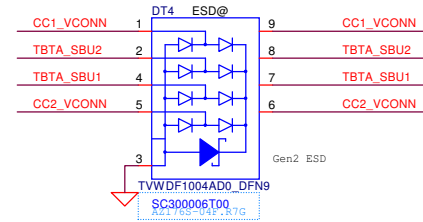
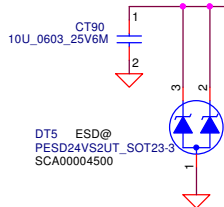
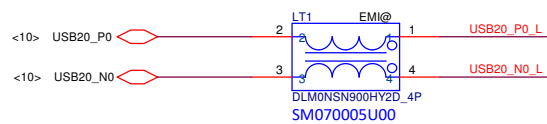
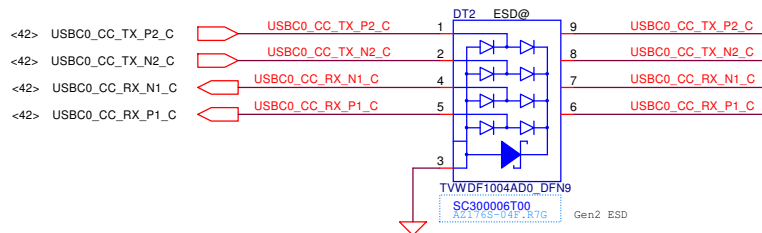
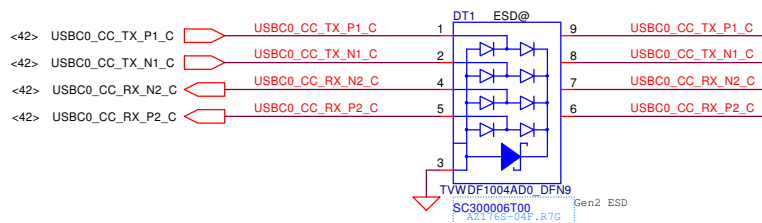
Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2019/09/20	Deciphered Date		2020/09/20				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED OR THE CUSTODY OF THE COMPLETE DRAWING DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title		HDMI CONN.			
				Size		Document Number		Rev	
				Customer		LA-K851P		1A	
				Date:		Thursday, December 10, 2020		Sheet 40 of 121	
				C		D		E	

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 41 of 121			



SILERGY SY6861B1 MOS Current Limit				
TYPEC_1P5A	TYPEC_3A	RSET(kΩ)	MODE	limit point
L	L	6.2	0.9A	1.09A
L	H	3.53	1.5A	1.92A
H	L	2.54	2A	2.67A
*H	H	1.94	3A	3.5A



CC1_VCONN & CC2_VCONN need 20mil trace width.

Security Classification		Compal Secret Data		Title	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	TypeC Conn.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-K851P	
				Date	Thursday, December 10, 2020
				Sheet	43 of 121

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 44 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 45 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 46 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 47 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 48 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 49 of 121			

www.teknisi-indonesia.com

Reserve

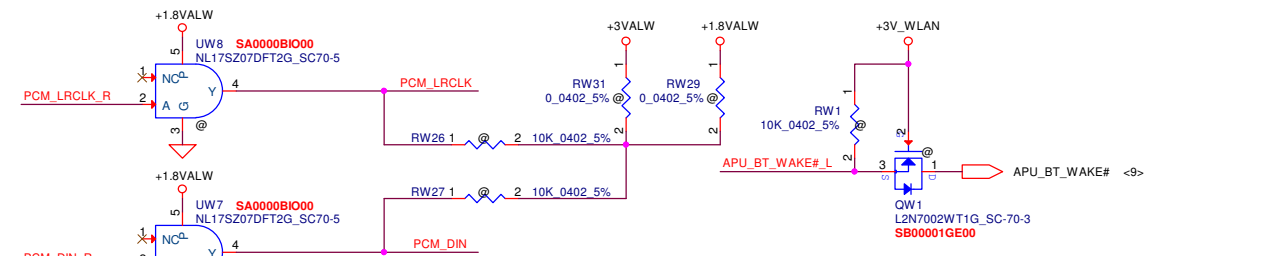
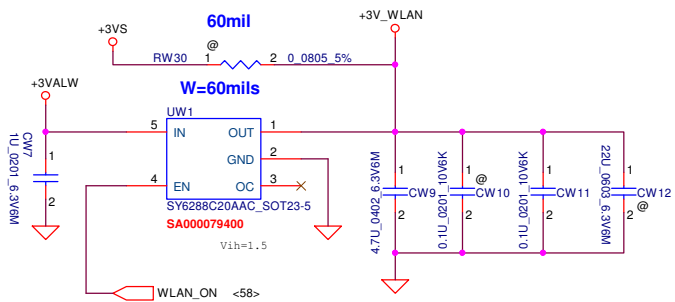
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 50 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2019/08/26	Deciphered Date	2020/08/26	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Reserve			Rev
		Document Number			1.0
		LA-K851P			
Date: Thursday, December 10, 2020		Sheet		51	of 121

Wireless LAN

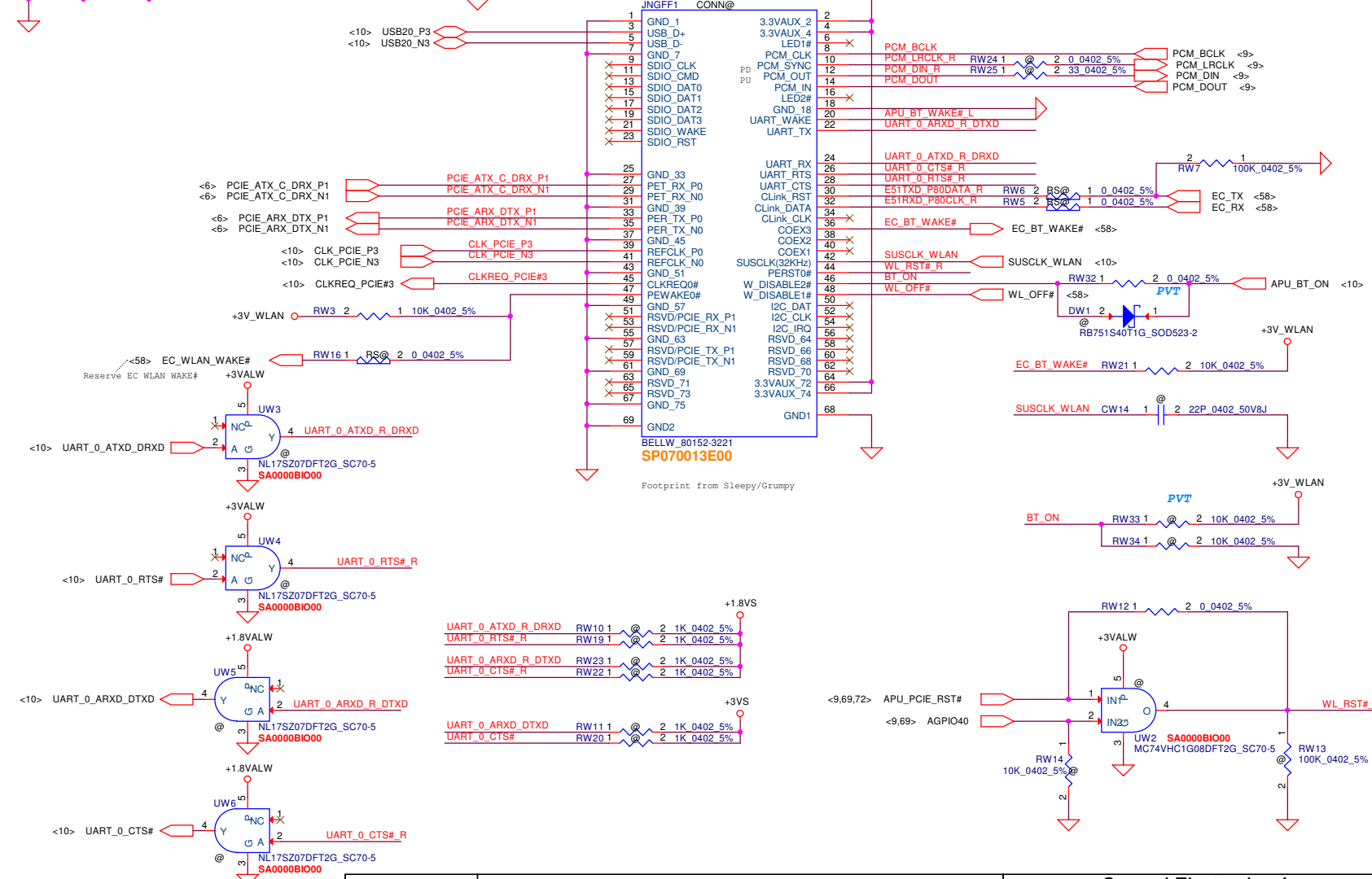
0912



KEY E

NGFF WL+BT (KEY E)

74	1.3V	GND	75
72	1.3V	RESERVED/REFCLKN1	73
70	UIM_Power_SRC(GPIO)/PEWake#	RESERVED/REFCLKP1	71
68	UIM_Power_SINK/CLKREQ#	GND	69
66	UIM_SWP/PERST#	Reserved/PERn1	67
64	RESERVED	Reserved/PERp1	65
62	ALERT# (I/O/3.3)	Reserved/PETn1	61
60	IDC CLK (I/O/3.3)	Reserved/PETp1	59
58	IDC DATA (I/O/3.3)	GND	57
56	WL_DISABLE#1 (O/I/3.3V)	PEWake# (O/I/3.3V)	55
54	Reserved/WT_DISABLE#2 (O/I/3.3V)	CLKREQ# (O/I/3.3V)	53
52	PERST# (O/I/3.3V)	GND	51
50	SUSCLK(32KHz) (O/I/3.3V)	REFCLKN0	49
48	COEX1 (I/O/1.8V)	REFCLKP0	47
46	COEX2 (O/I/1.8V)	GND	45
44	COEX3 (O/I/1.8V)	PERn0	43
42	VENDOR DEFINED	PERp0	41
40	VENDOR DEFINED	GND	39
38	VENDOR DEFINED	PETn0	37
36	UART RTS (O/I/1.8V)	PETp0	35
34	UART CTS (I/O/1.8V)	GND	33
32	UART Tx (O/I/1.8V)	GND	31
30	UART Rx (I/O/1.8V)	SDIO Reserve (I/O/1.8V)	29
28	UART Wake# (I/O/3.3V)	SDIO DAT0 (O/I/1.8V)	27
26	GND	SDIO DAT1 (O/I/1.8V)	25
24	LED#2 (I/CO)	SDIO DAT2 (O/I/1.8V)	23
22	PCM_OUT/IS25 SD_OUT (O/I/1.8V)	SDIO CMD (O/I/1.8V)	21
20	PCM_SYNC/IS25 VAS (O/I/1.8V)	SDIO CLK (O/I/1.8V)	19
18	PCM_CLK/IS25 SCK (O/I/1.8V)	GND	17
16	LED#1 (I/CO)	USB_D-	15
14	1.3V	USB_D+	13
12	1.3V	GND	11
10	1.3V	GND	9
8	1.3V	GND	7
6	1.3V	GND	5
4	1.3V	GND	3
2	1.3V	GND	1



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	M.2 KEY-E (WLAN)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-K851P	
				Date	Thursday, December 10, 2020
				Sheet	52 of 121

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 53 of 121			

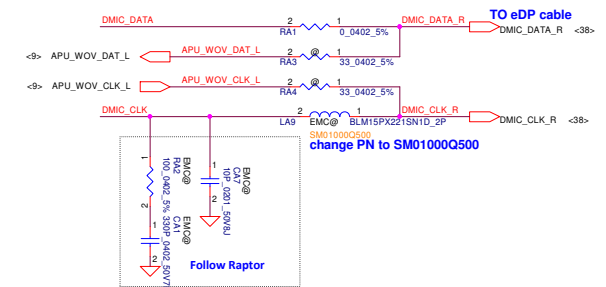
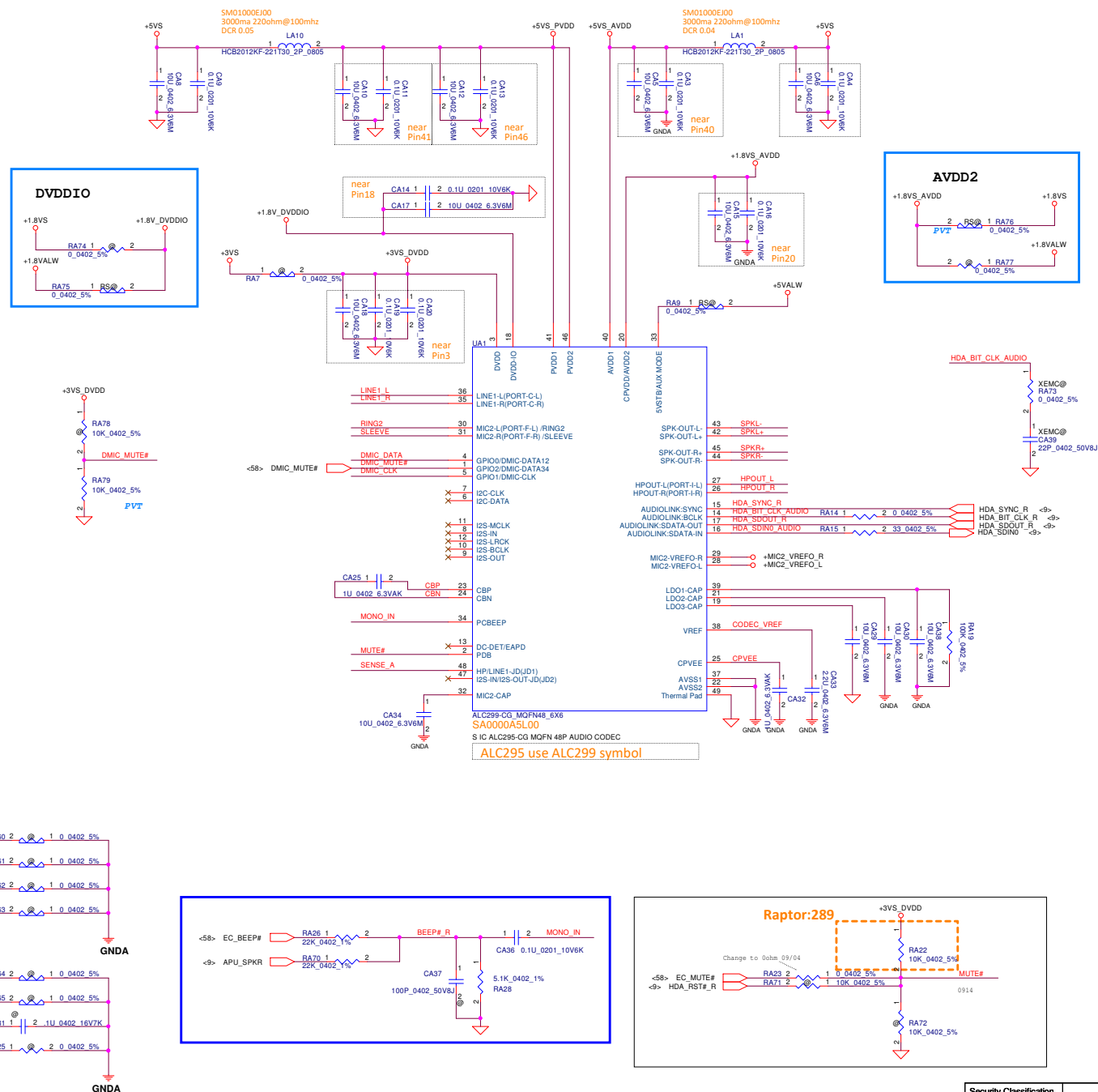
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 54 of 121			

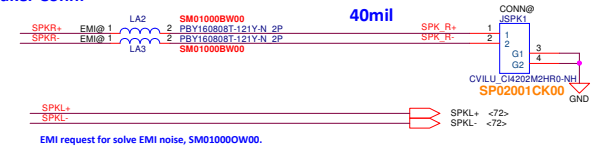


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 55 of 121			

HD Audio Codec

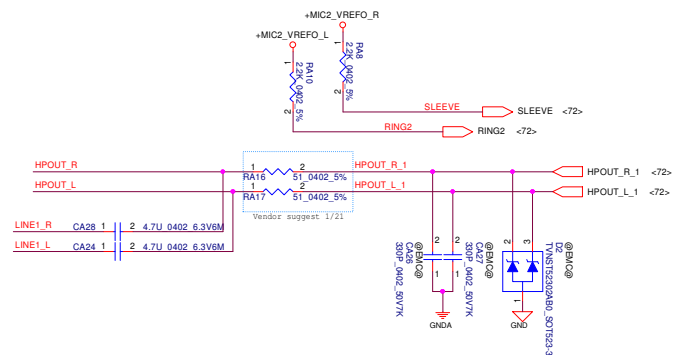


Int. Speaker Conn.

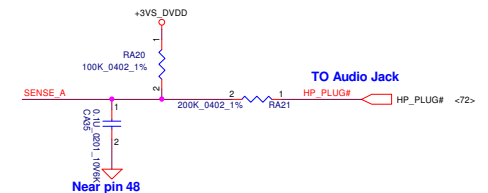


teknisi-indonesia

Headphone Out



JACK Detect

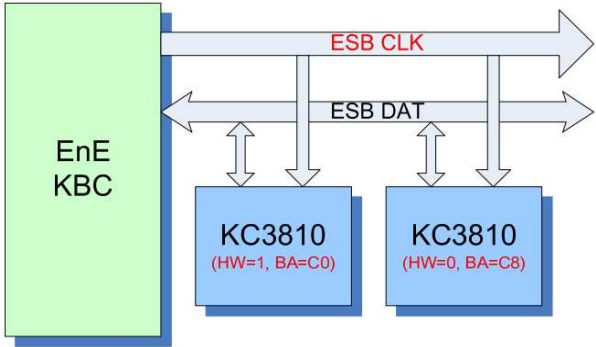
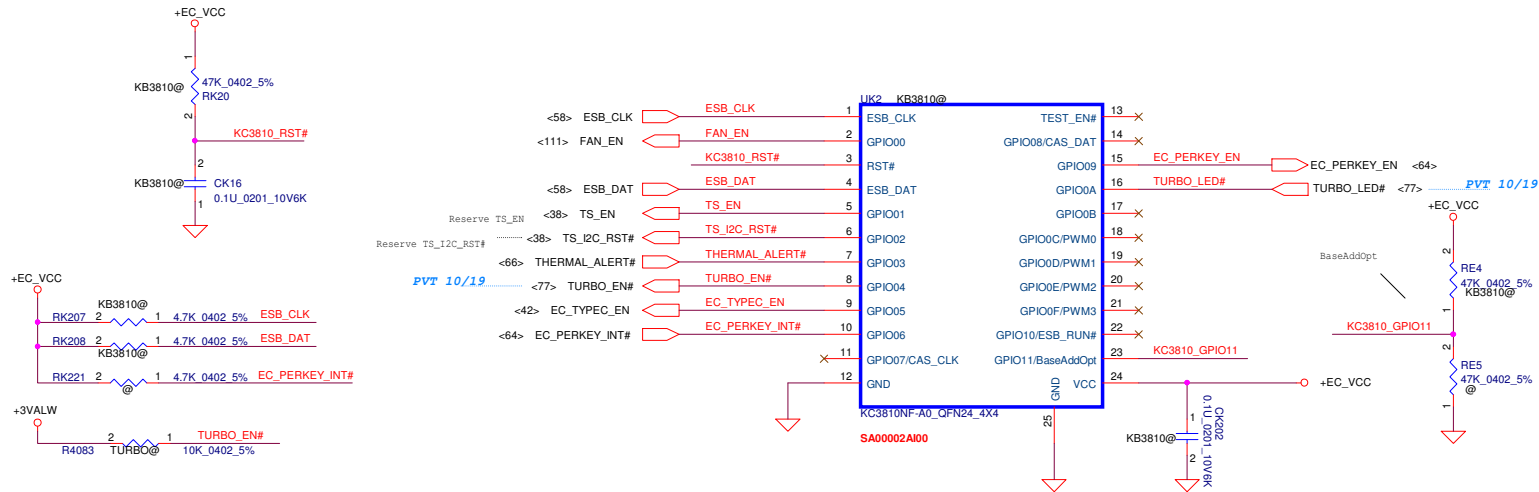


JD1	
HP-JD	LINE1-
200K	100K

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	HDA CODEC (ALC295)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					LA-K851P	1.0
				Date:	Thursday, December 10, 2020	Sheet 56 of 121

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 57 of 121			



Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 60 of 121			

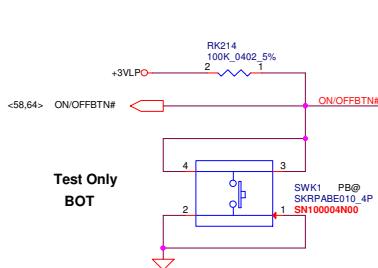
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 61 of 121			

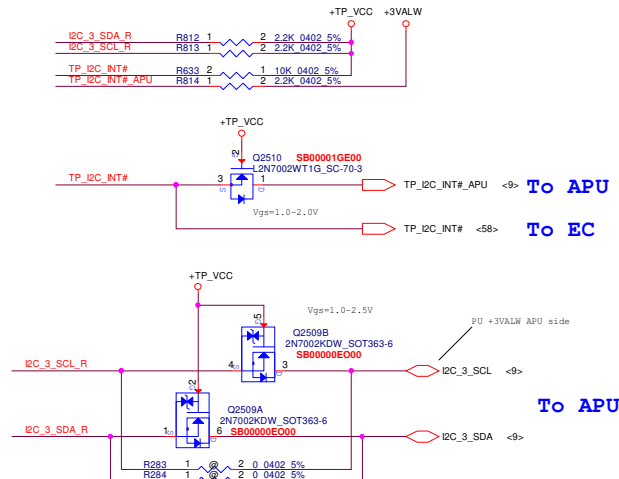
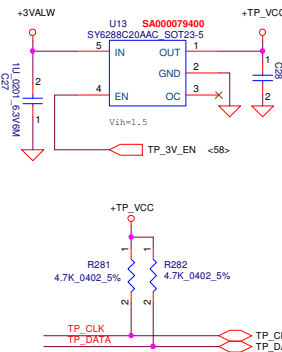
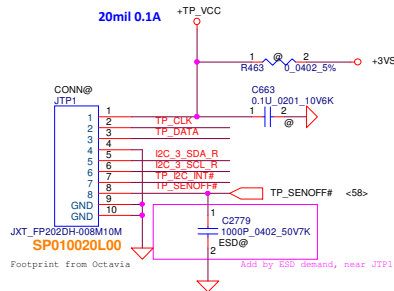
Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 62 of 121			

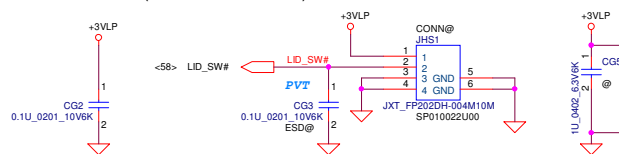
ON/OFF BTN



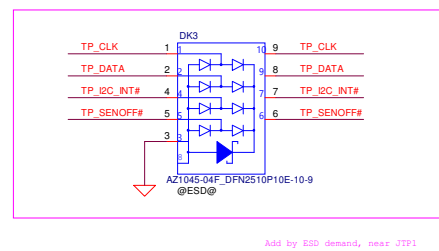
TP/B Conn.



Lid Switch (Hall Effect Switch)



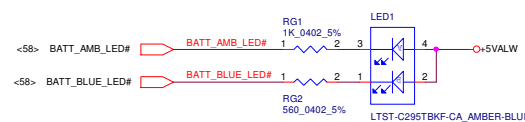
TPM



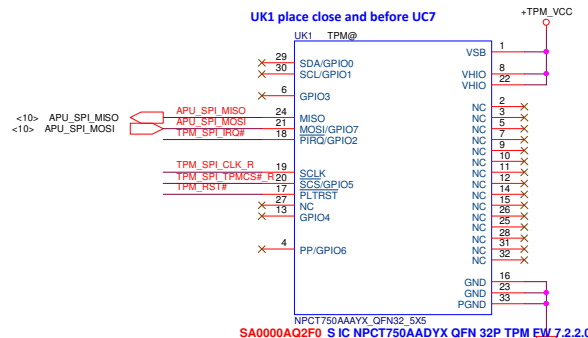
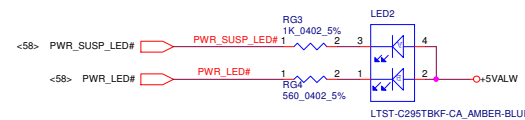
www.teknisi-indonesia.com

LED

Battery LED

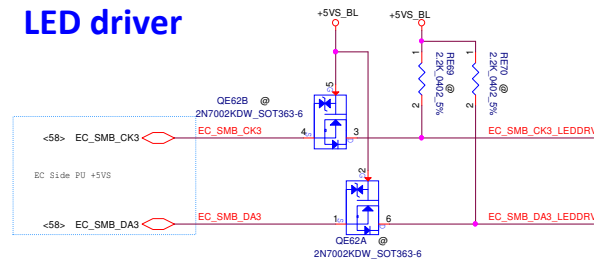


Power LED

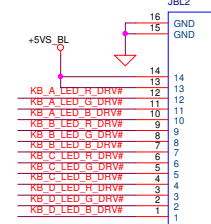
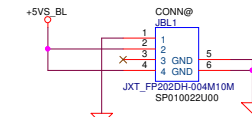
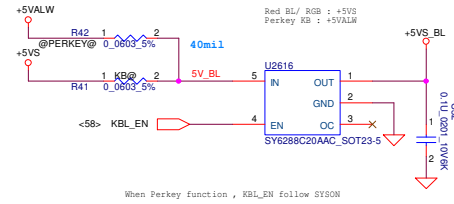


Security Classification			Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/26		Deciphered Date	2020/08/26		Title	KB/TP/TPM/LID	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						Size	Document Number	Rev
							LA-K851P	1.0
						Date:	Thursday, December 10, 2020	Sheet 63 of 121

LED driver

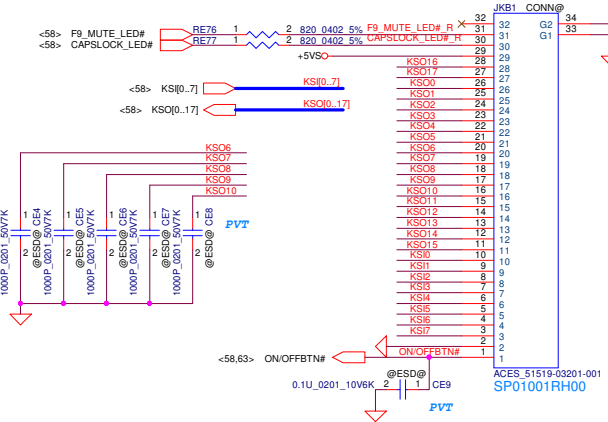


KB BackLight



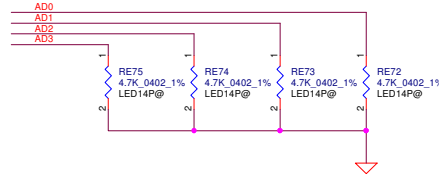
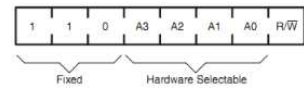
CONN@
JBL1
JBL2
KB A LED R_DRV#
KB A LED G_DRV#
KB A LED B_DRV#
KB B LED R_DRV#
KB B LED G_DRV#
KB B LED B_DRV#
KB C LED R_DRV#
KB C LED G_DRV#
KB C LED B_DRV#
KB D LED R_DRV#
KB D LED G_DRV#
KB D LED B_DRV#

KB Conn.

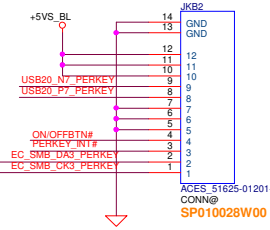
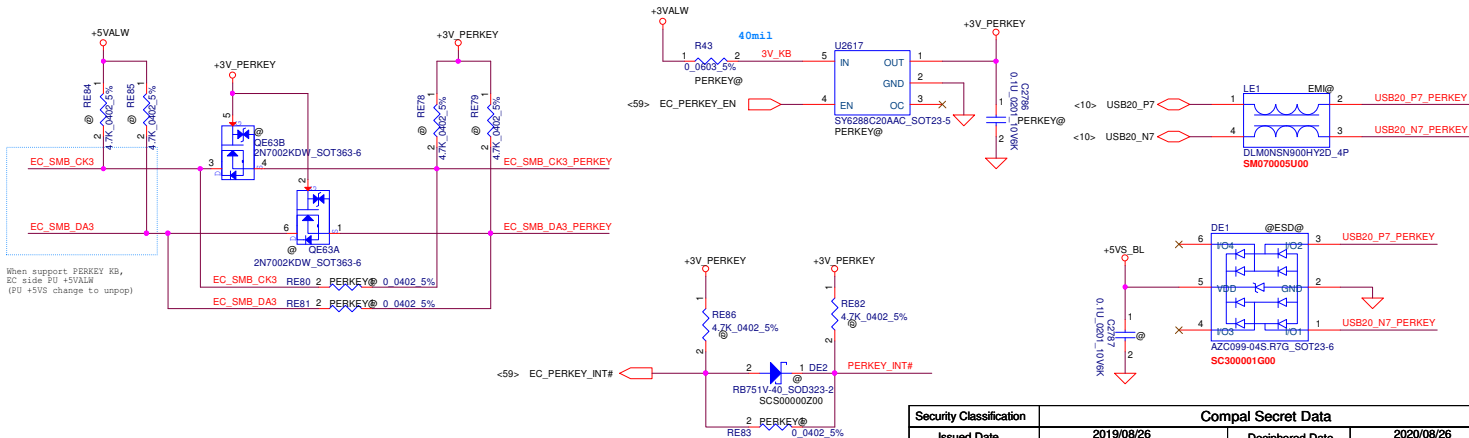


set RE7 to 10k / output = 1.875mA

Raptor: NC for 59116F



Per Key Conn.

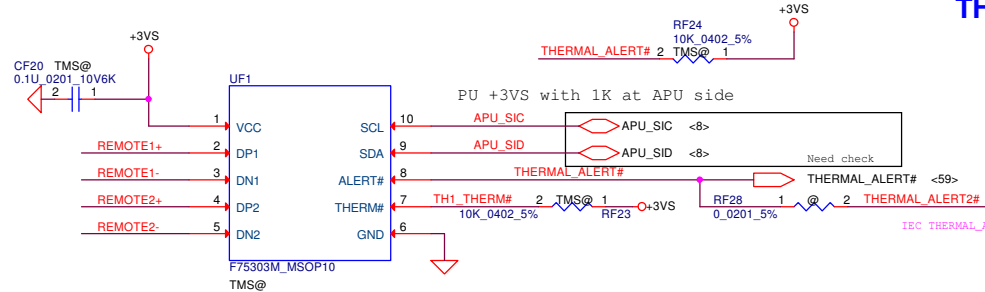
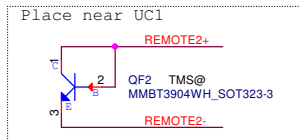
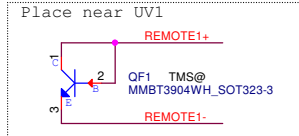
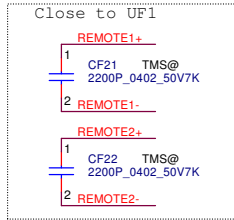


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	KB/Backlight/RGB
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-K851P	Rev 1.0
				Date:	Thursday, December 10, 2020
				Sheet	64 of 121

Reserve

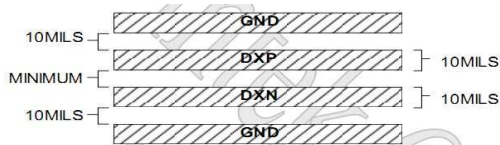
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/09/20	Deciphered Date	2020/09/20	Title	Reserve
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-K851P	1.0
Date: Thursday, December 10, 2020				Sheet	65 of 121

THERMAL SENSOR

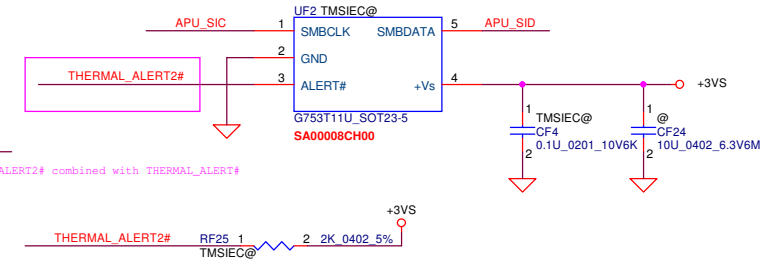


Part Number	SMBus Address
F75303M	1001_101xb

REMOTE1,2 (+/-):
Trace length: <8"



THERMAL IEC



The G753 has the following SMBus slave address:

	A6	A5	A4	A3	A2	A1	A0
G753	1	0	0	1	0	0	0

The G753 also responds to the SMBus Alert Response slave address (see the Alert Response Address section).

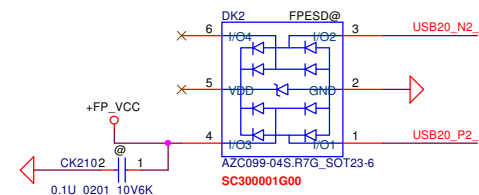
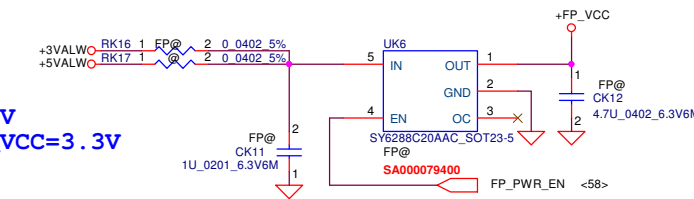
ALERT# point hardware power-on setting

The default value could be set after power up 100ms by different pull-up resistor of ALERT# pin:

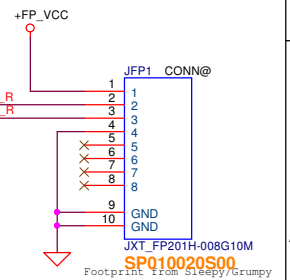
PULL-UP RESISTOR	TEMPERATURE (°C)
2kΩ	75
7.5kΩ	90
10.5kΩ	100
14kΩ	105
18.7kΩ	110

Finger Print

Power Source Check
EGIS ETU801 +FP_VCC=5V
ELAN SA464K-2200 +FP_VCC=3.3V



PIN	SA464K-2200
1	+FP_VCC (3V)
2	D+
3	D-
4	GND
5	NC
6	NC
7	NC
8	NC



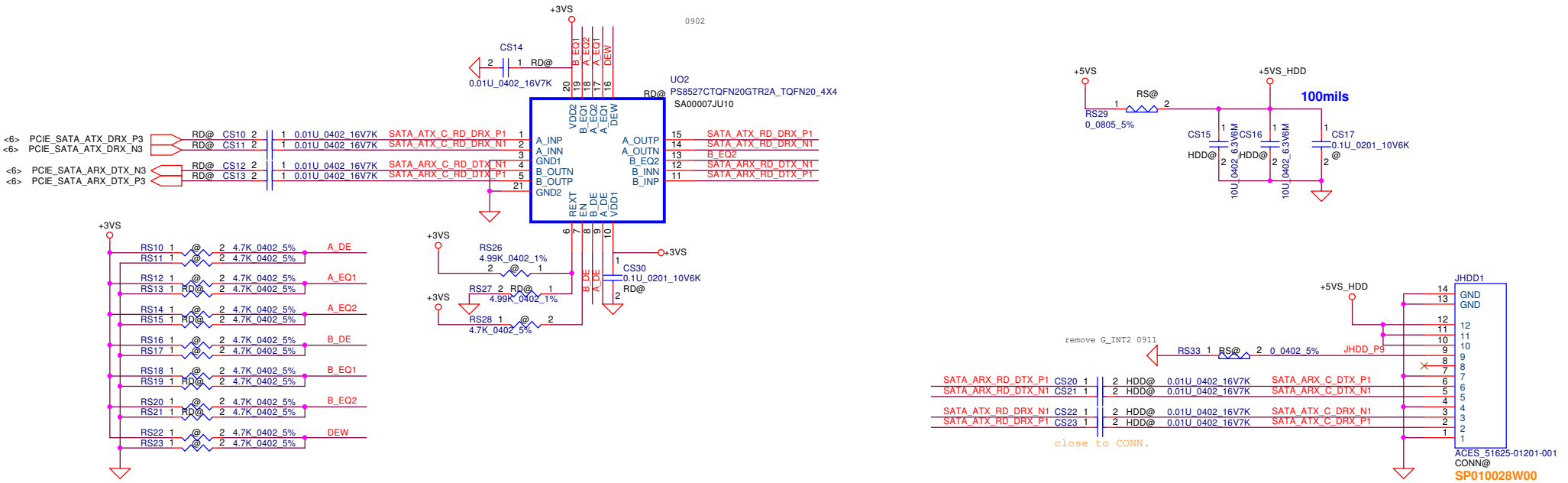
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date		2019/08/26		Deciphered Date		2020/08/26		Title		Thermal sensor	
Size		Document Number		LA-K851P		Rev		1.0			
Date		Thursday, December 10, 2020		Sheet		66		of		121	

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

Reserve

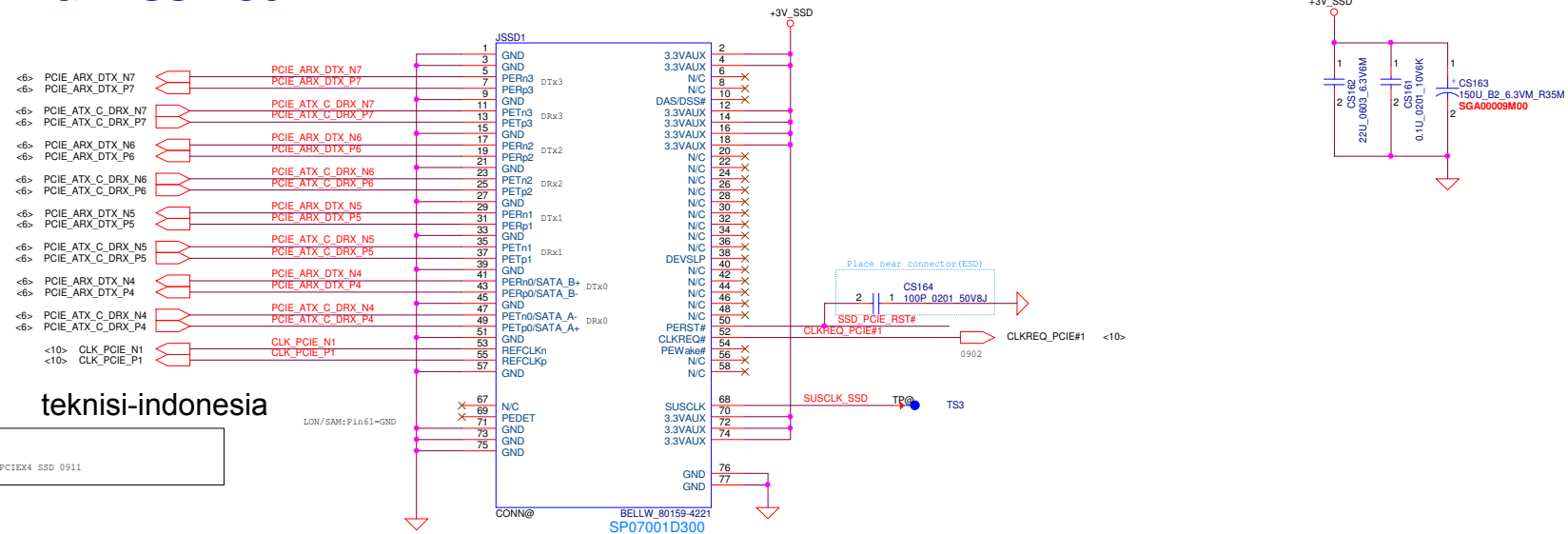
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 67 of 121			

SATA Re-Driver

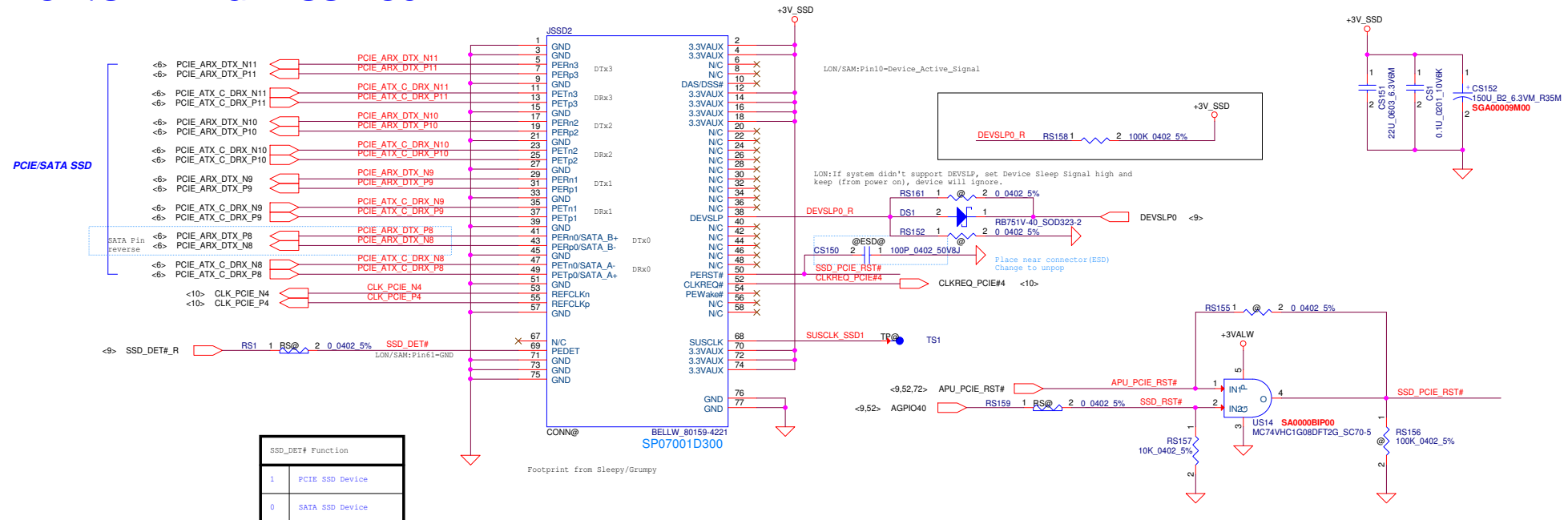


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title SATA HDD	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Document Number LA-K851P	Rev 1.0
Date Thursday, December 10, 2020		Sheet 68		of 121	

PCIEx4 NGFF SSD Conn.



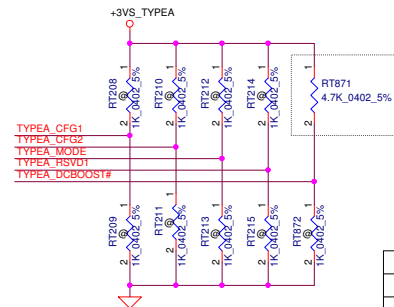
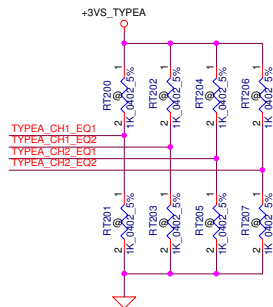
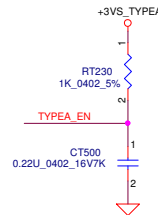
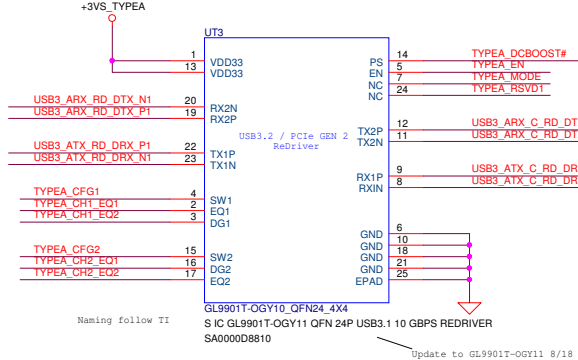
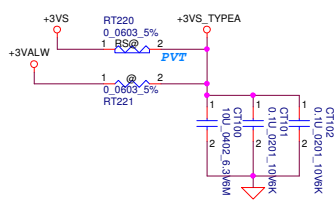
PCIE/SATA NGFF SSD Conn.



Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	M.2 SSD	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				LA-K851P		1.0
				Date:	Thursday, December 10, 2020	Sheet 69 of 121

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 70 of 121			



2	3	4	15	17	16	14
SW1	EQ1	DG1	SW2	EQ2	DG2	PS
F	F	F	F	F	F	H

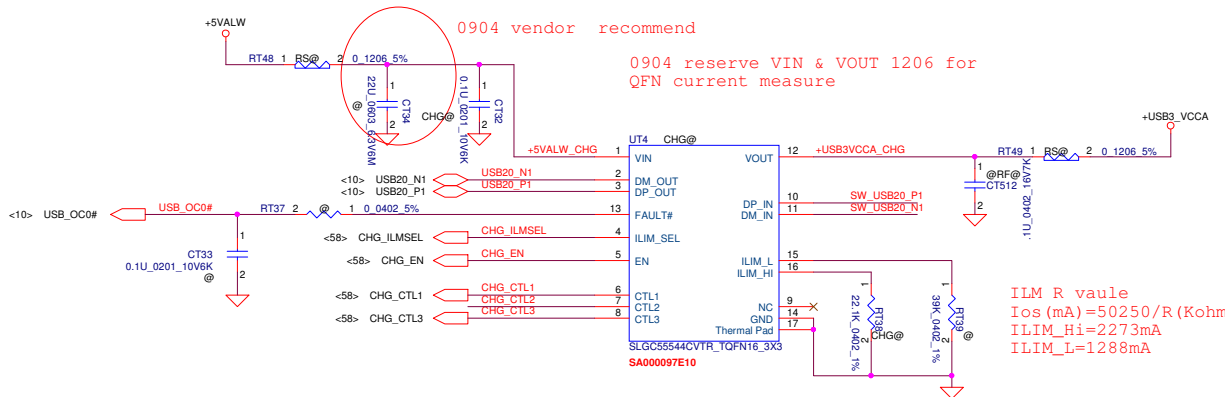
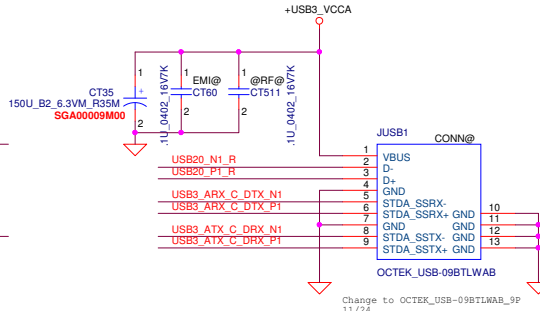
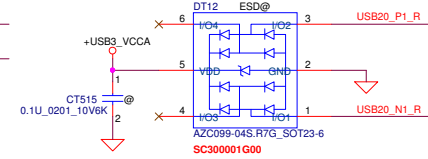
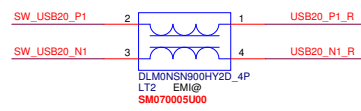
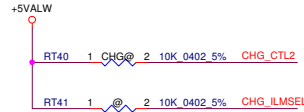
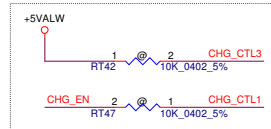
To Conn.	USB3_ATX_RD_DRX_P1	CT104	1	2	0.22U_0402_16V7K	USB3_ATX_C_DRX_P1	1	9
	USB3_ATX_RD_DRX_N1	CT103	1	2	0.22U_0402_16V7K	USB3_ATX_C_DRX_N1	2	8
	USB3_ARX_RD_DTX_P1	CT105	1	2	0.33U_0402_10V6K	USB3_ARX_C_DTX_P1	4	7
	USB3_ARX_RD_DTX_N1	CT106	1	2	0.33U_0402_10V6K	USB3_ARX_C_DTX_N1	5	6

USB3.0 Conn.

USB Host Charger Truth Table

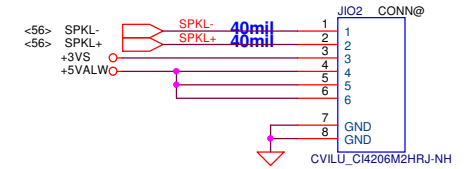
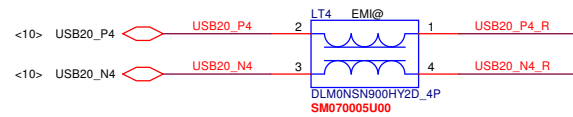
CTL2	CTL3	ILIM_SEL	MODE	Current Limit Setting	Note
1	0	1	SDP1-OFF	ILIM_H	Port power off
1	0	1	SDP1	ILIM_H	Data Lines Connected
1	1	1	DCP Auto	ILIM_H	Data Lines Disconnected
1	1	1	CDP	ILIM_H	Data Lines Connected

CHG_EN	CTL1
0	0
1	0
1	0
1	1

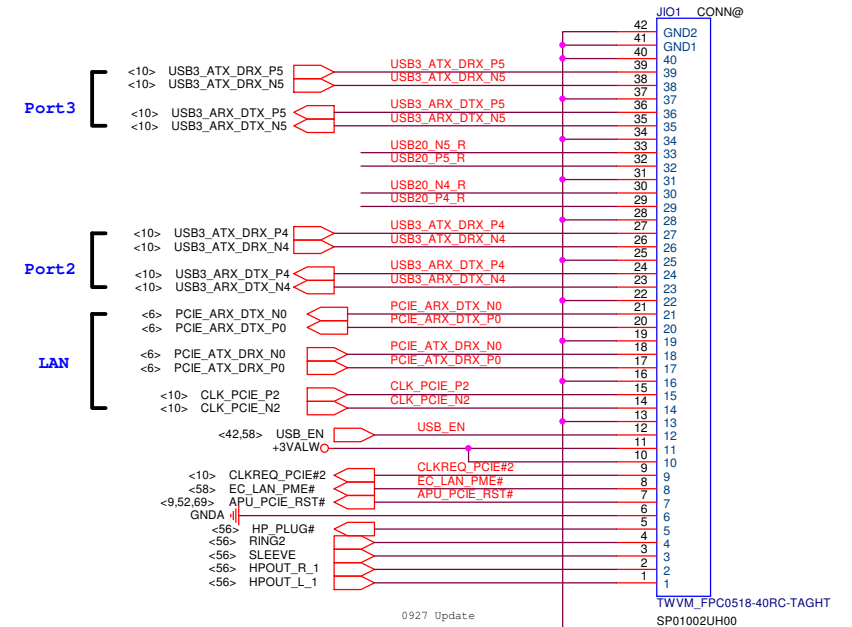
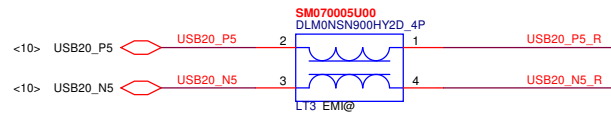


Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2019/08/26				Deciphered Date			
2020/08/26				Title				USB3.0 CHARGER			
Size				Document Number				LA-K851P			
Date				Thursday, December 10, 2020				Sheet			
71				of				121			

USB3.0 (Port 2)



USB3.0 (Port 3)



Security Classification		Compal Secret Data		Title	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	IO Board	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date	Thursday, December 10, 2020
				Sheet	72 of 121
				Rev	1.0

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 73 of 121			

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 74 of 121			

Reserve

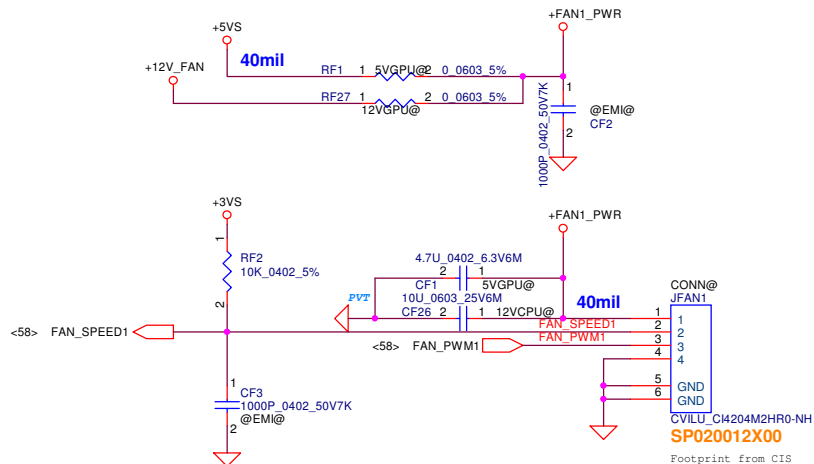
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 75 of 121			

Reserve

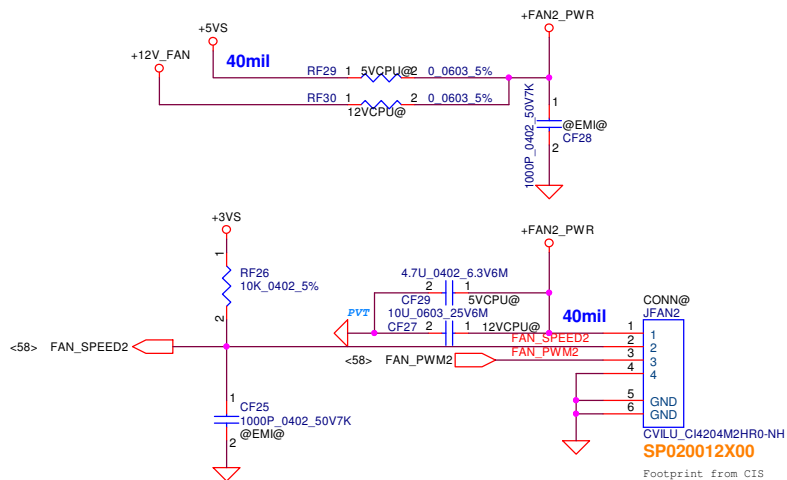
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 76 of 121			

FAN Conn

GPU Side

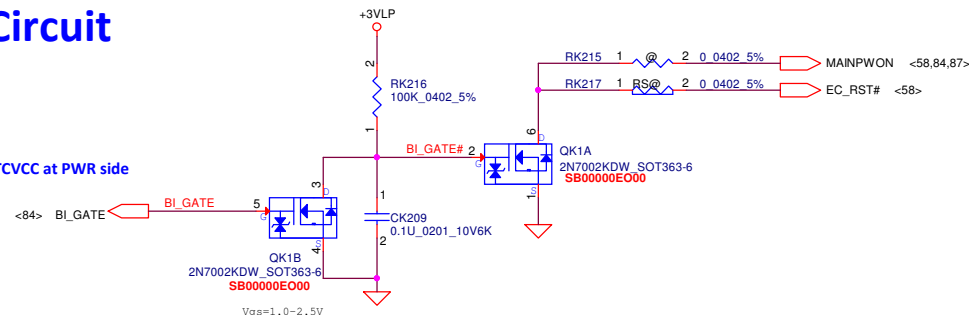


CPU Side

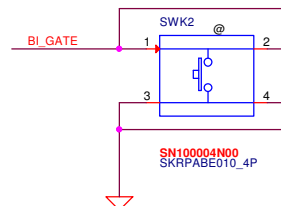


Reset Circuit

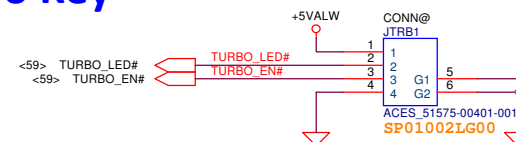
BI_GATE PH to +RTCVCC at PWR side



Reset Button

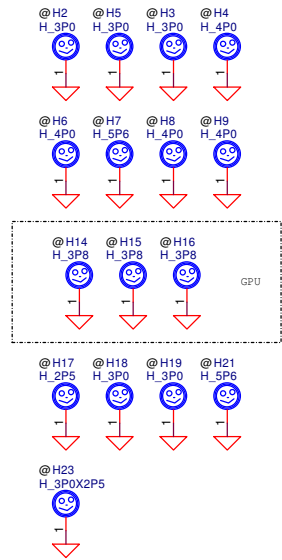


Turbo Key

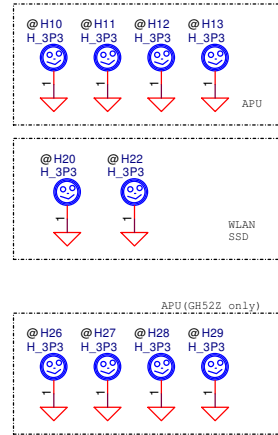


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title	FAN/BATT RESET_DEGUB SW
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date	Thursday, December 10, 2020
				Sheet	77 of 121
				Rev	1.0

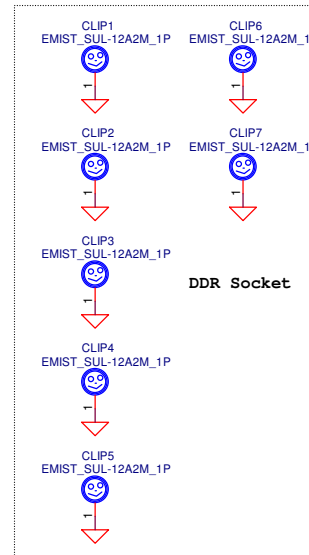
Screw Hole



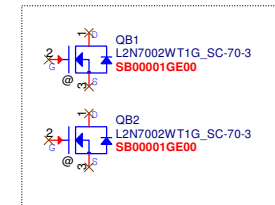
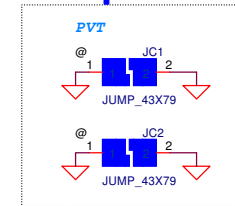
Stand OFF



CLIP



Jumper



ZZZ 45@
ROYALTY HDMI W/LOGO+HDCP
RO0000003HM

ZZZ DA01@
PCB 3AT LA-K851P REV0 MB 4 S
DAA00000000

ZZZ DA10@
PCB 3AT LA-K851P REV1 MB 3
DAA00000010

ZZZ DA1A@
PCB 3AT LA-K851P REV1A MB 3
DAA0000001A

ZZZ DAZ10@
PCB GH51Z LA-K851P LS-K851P/K852P/K854P
DAZ3AT00100

ZZZ DAZ1A@
PCB GH51Z LA-K851P LS-K851P/K852P/K854P
DAZ3AT00101

Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2019/08/26		Deciphered Date		2020/08/26		Title	
										Reserve	
										Size	
										Document Number	
										LA-K851P	
										Date	
										Thursday, December 10, 2020	
										Sheet	
										79 of 121	
										Rev	
										1.0	

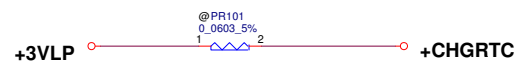
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Reserve

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/26	Deciphered Date	2020/08/26	Title Reserve	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size LA-K851P	Rev 1.0
Date: Thursday, December 10, 2020		Sheet 80 of 121			

Reserve Page

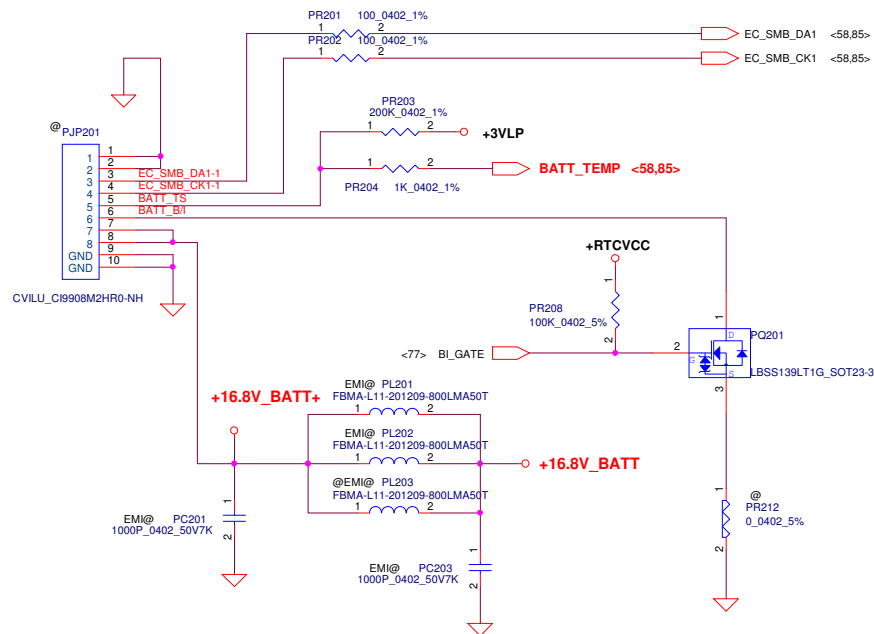
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GH51Z LA-K851P	1A
				Date: Thursday, December 10, 2020	Sheet 81 of 121



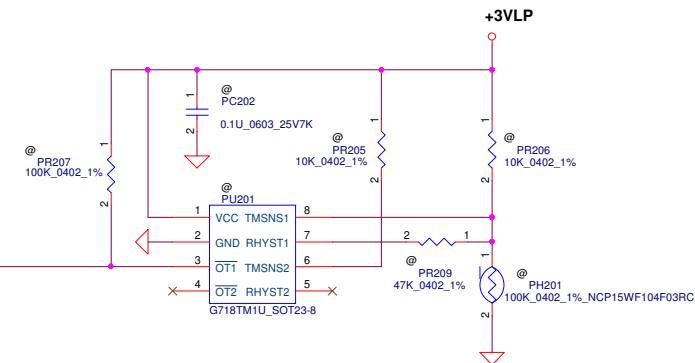
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXERCISED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				DCIN		
				Size	Document Number	Rev
				Custom	GH51Z LA-K851P	1A
Date:				Thursday, December 10, 2020	Sheet	82 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	83 of 121



<58,77,87> MAINPWON

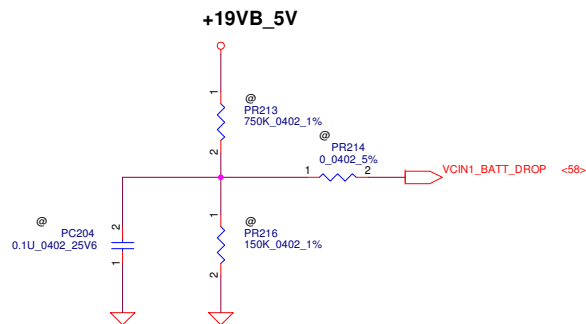


For KB9022 OTP	Active	Recovery
VCIN0_PH (V)	92C, 1V	56C, 2V
PH202 (ohm)	7.3092K	26.11K

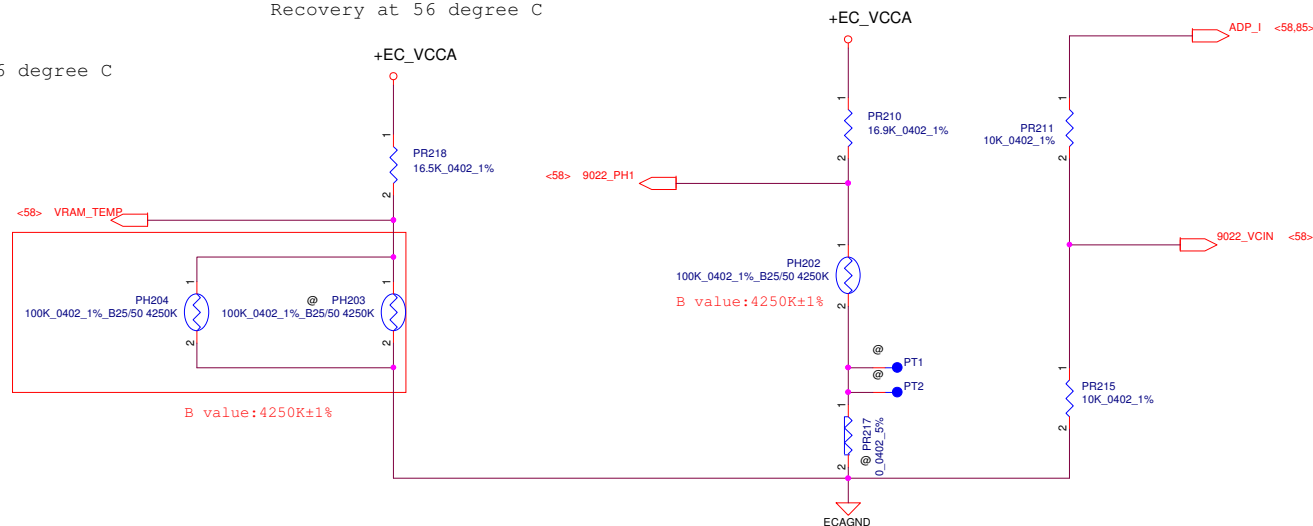
For KB9012 sense 20mΩ	Active	Recovery
SR 45W	58.5W, 0.61V	58.5W, 0.61V
BR 65W	84.5W, 0.61V	84.5W, 0.61V

2013/10/02
Add for ENE9022 Battery Voltage drop detection. Recovery at 56 degree C
Connect to ENE9022 pin64 AD1.

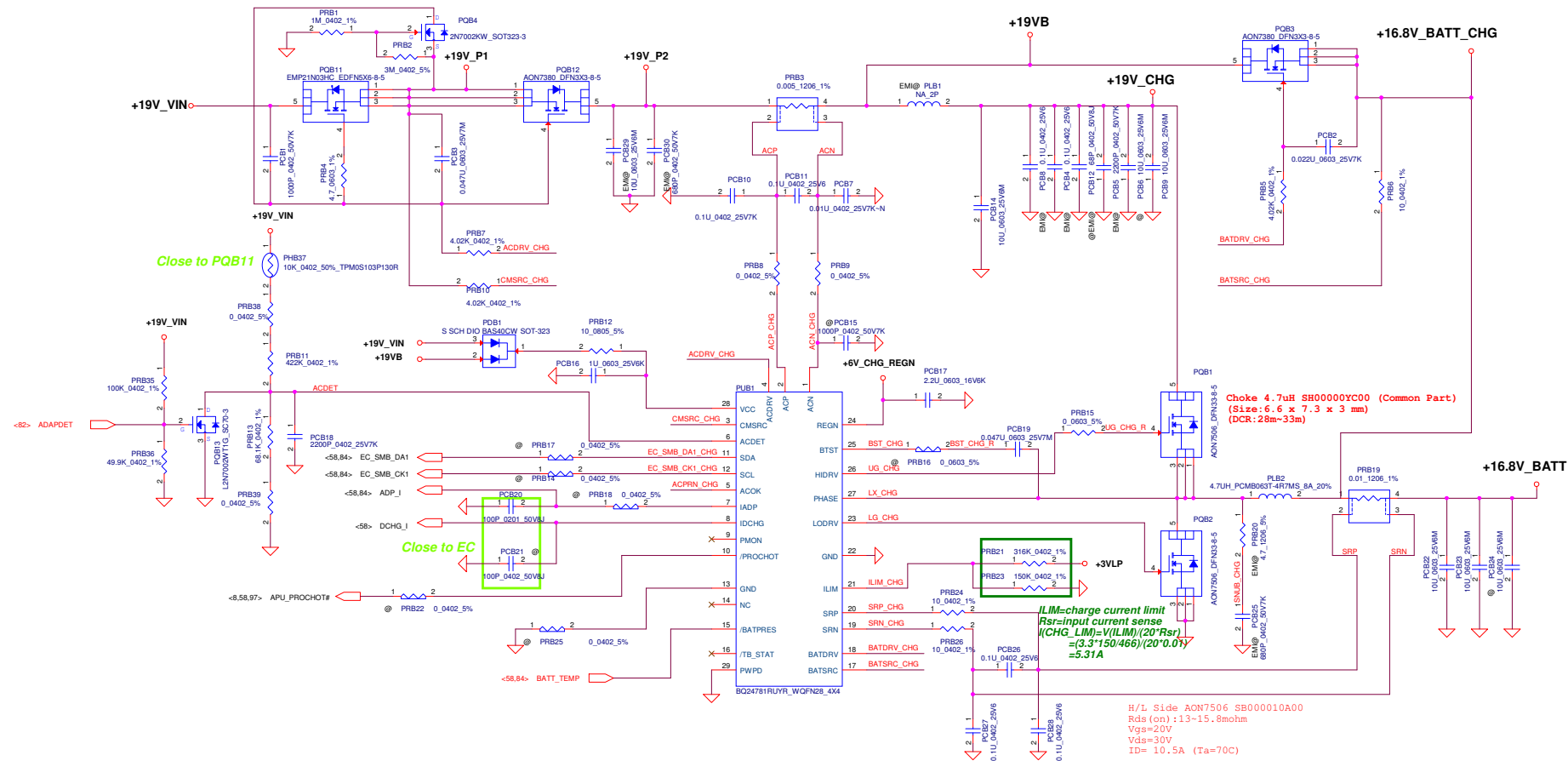
Reserve for 2-cell design



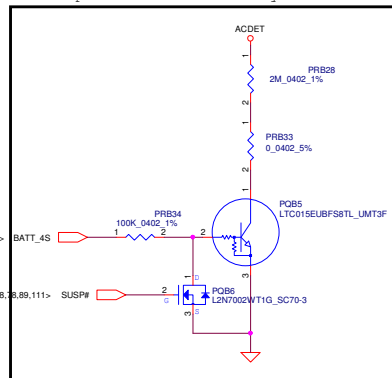
PH202 under CPU bottom side :
CPU thermal protection at 96 degree C (shutdown)
Recovery at 56 degree C



Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2019/08/30		Deciphered Date		2020/08/30		Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								BATTERY CONN / OTP			
								A Size	Document Number		Rev
								Custom	GH51Z LA-K851P		1A
Date:								Thursday December 10 2020		Sheet 84 of 121	



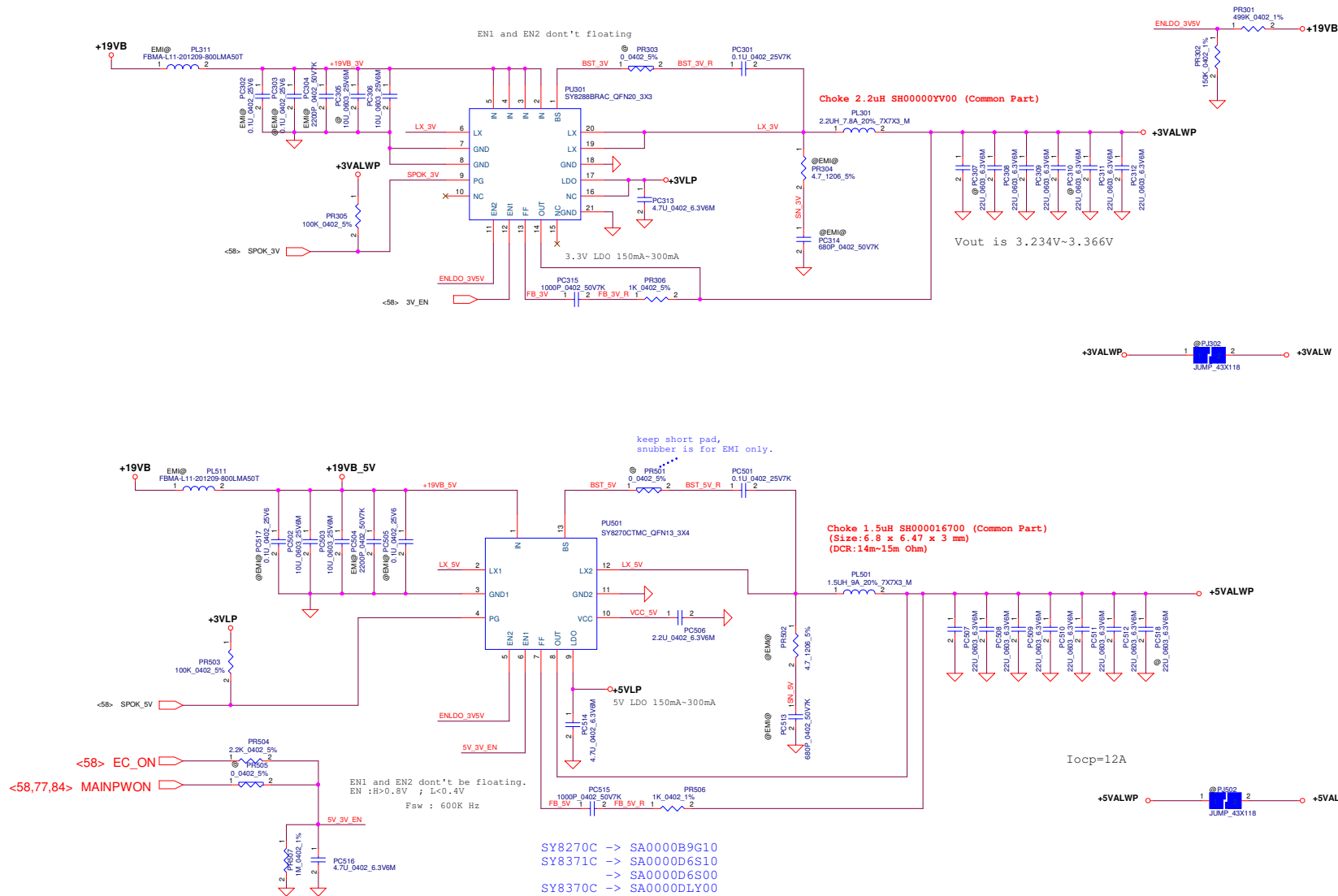
For 4S per cell 4.35V battery



www.teknisi-indonesia.com

Reserve Page

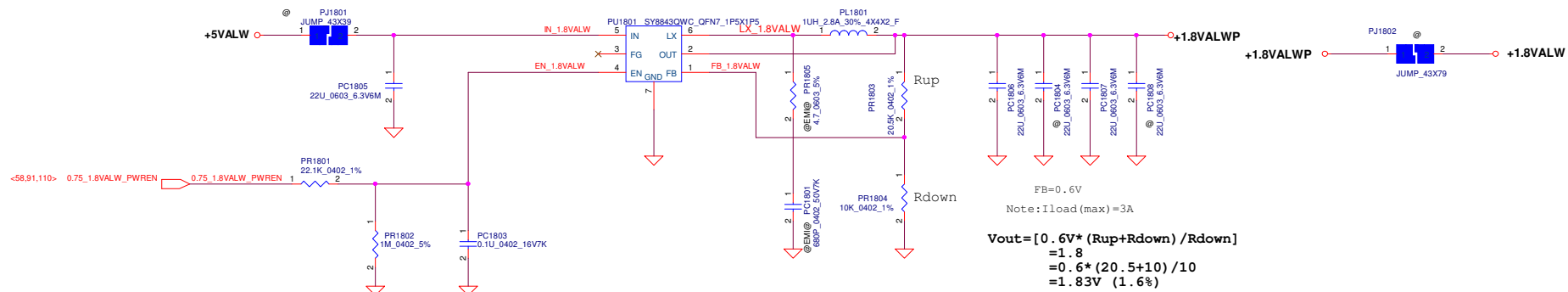
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	GH51Z LA-K851P
				Date:	Thursday, December 10, 2020
				Sheet	86 of 121
				Rev	1A



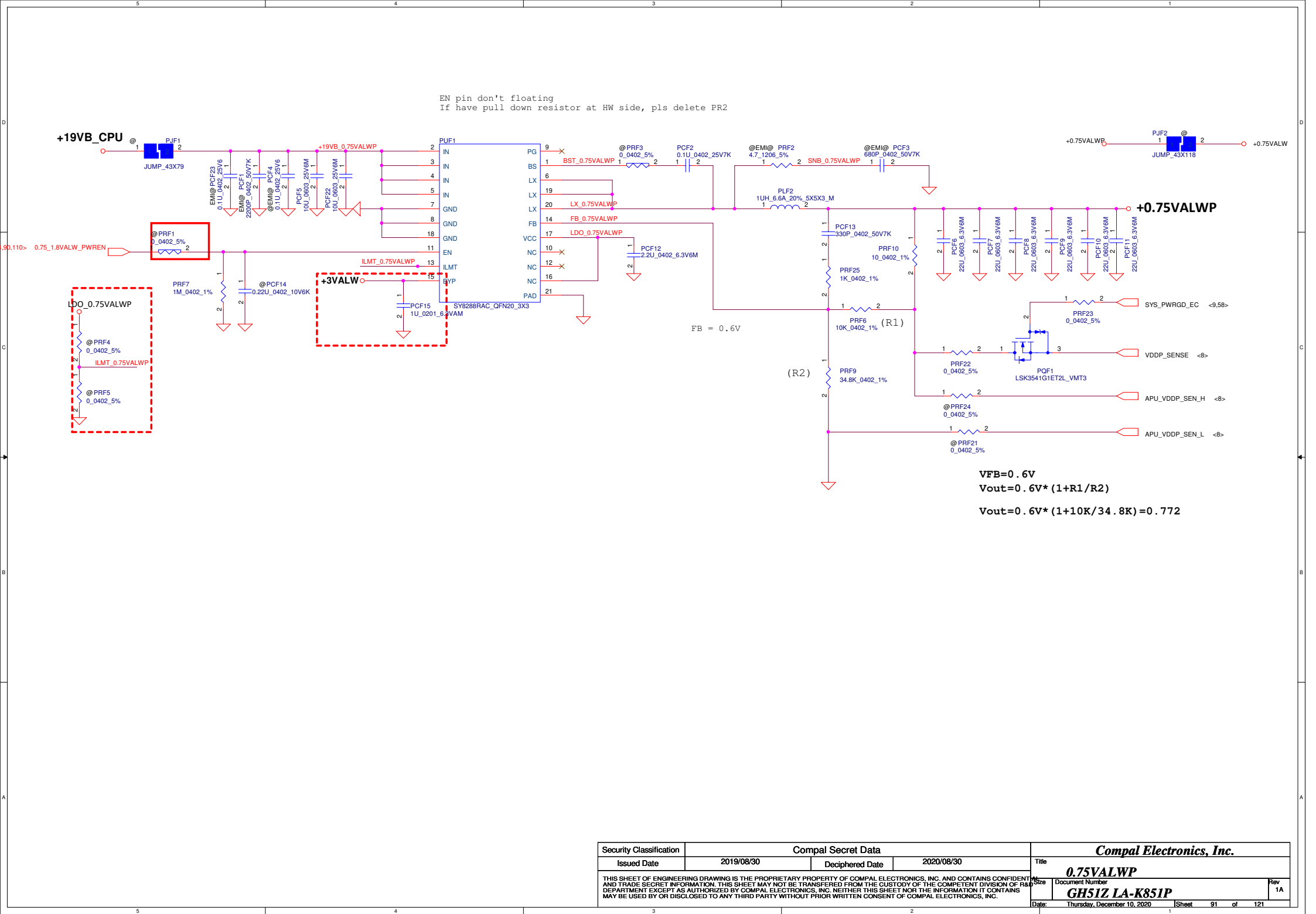
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2019/08/30				Deciphered Date			
2020/08/30				Title				+3VALW/+5VALW			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number				Rev			
Date: Thursday, December 10, 2020				Sheet 87 of 121				1A			

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	88 of 121



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	1.8VALW
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Rev
				Custom	1A
				Date:	Thursday, December 10, 2020
				Sheet	90 of 121



Reserve Page

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 92 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet 93 of 121	Rev 1A

Reserve Page

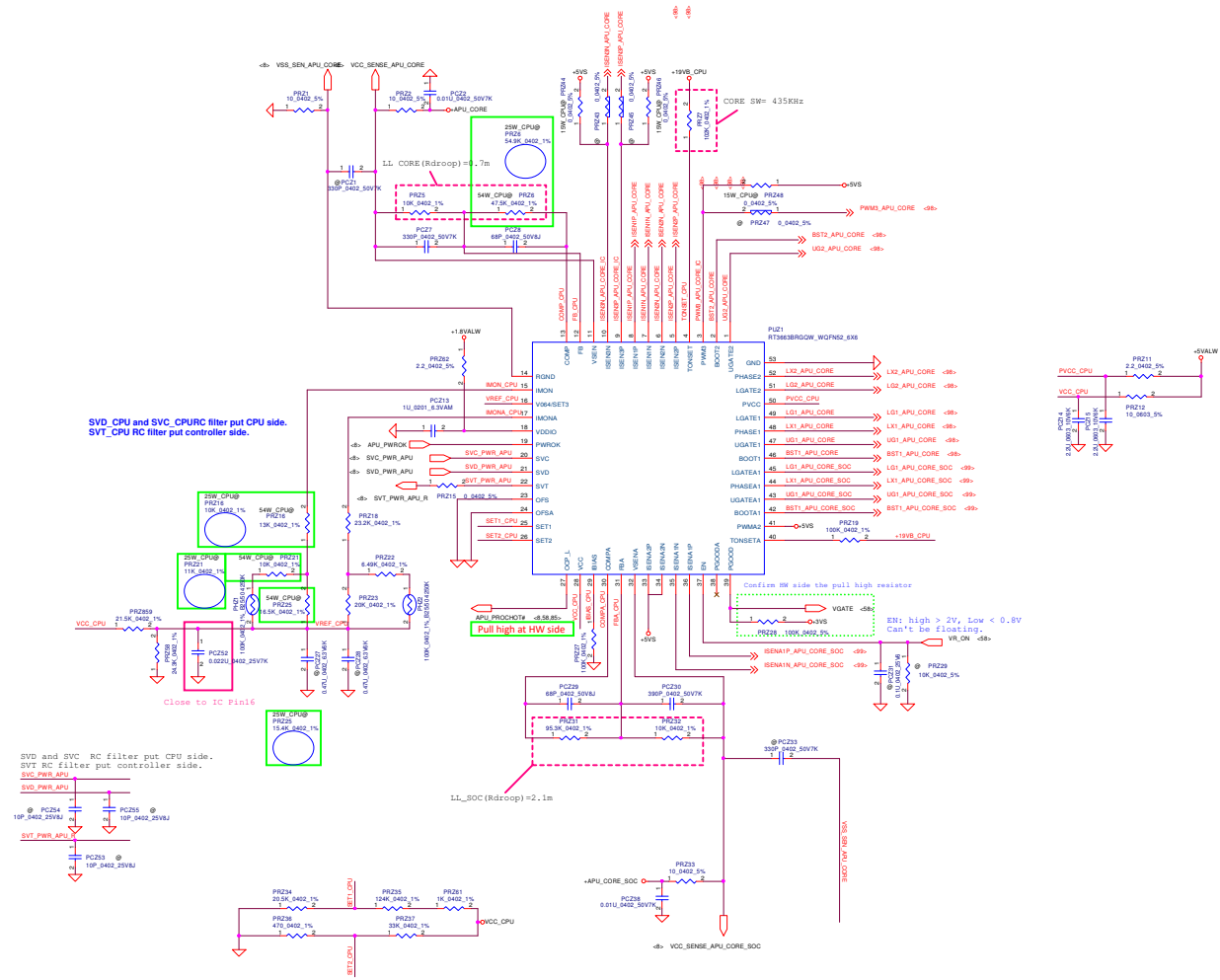
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 94 of 121

Reserve Page

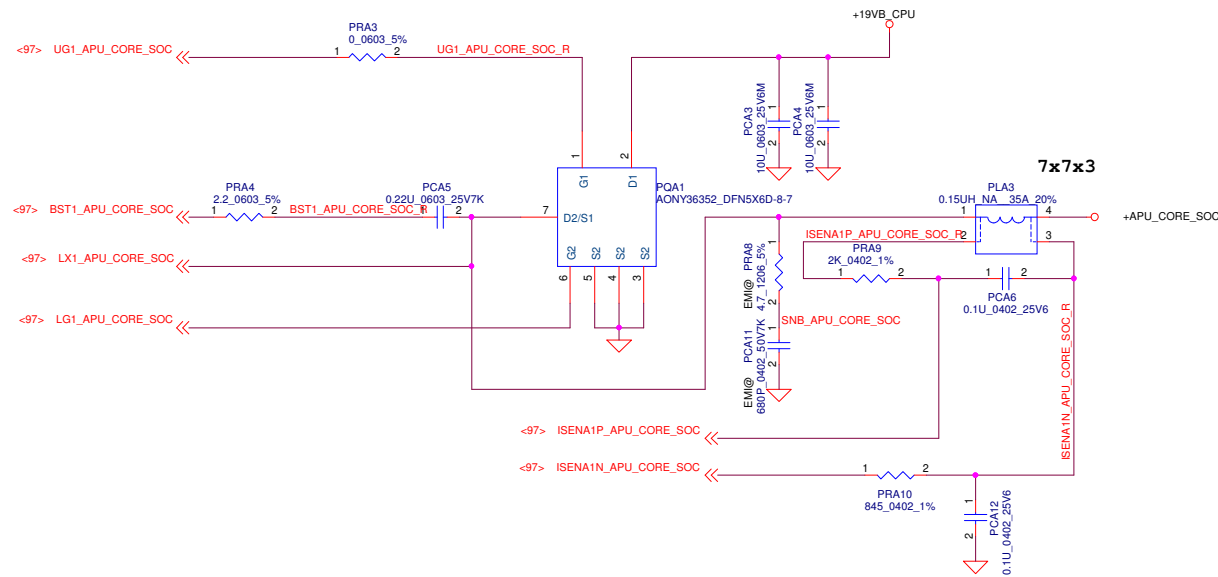
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 95 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GHS1Z LA-K851P	1A
				Date: Thursday, December 10, 2020	Sheet 96 of 121



Security Classification		Compul Secret Data		Compul Electronics, Inc.	
Issued Date	2018/08/30	Discontinued Date	2020/08/30	Ver	1A
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MUST BE KEPT UNDER THE CUSTODY OF THE COMPANY IT GENERATED AND MAY NOT BE USED BY OR FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF COMPUL ELECTRONICS, INC.				+APU CORE GH51Z LA-K85IP	
Date		Thursday, December 18, 2020		Sheet	87 of 121



+APU_CORE_SOC

TDC 15A (45W & 54W)
EDC 20A (45W & 54W)
Max Loadstep 15A (45W & 54W)

TDC 13A (25W)
EDC 17A (25W)
Max Loadstep 13A (25W)

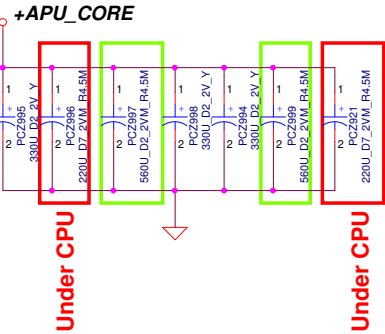
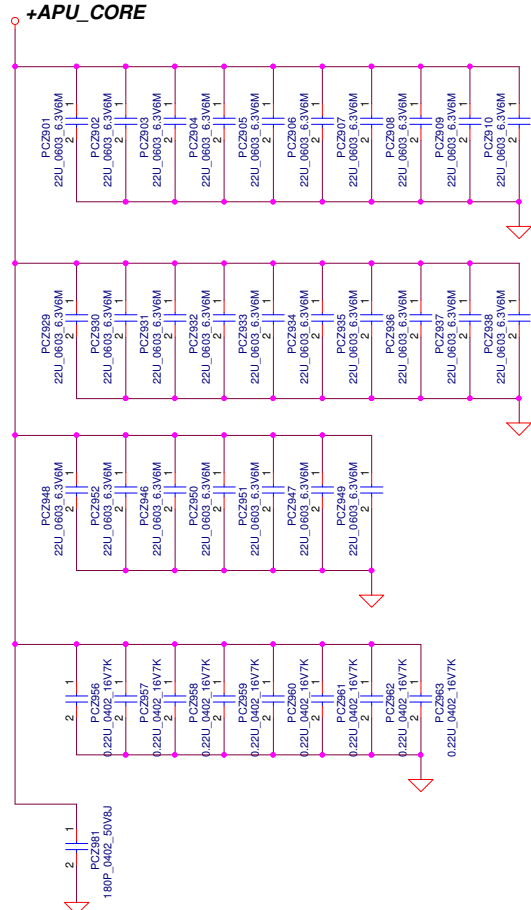
OCp current 28A (45W & 54W)
OCp current 28A (25W)

Load line -2.1mV/A
DCR 0.9mohm +/-5%

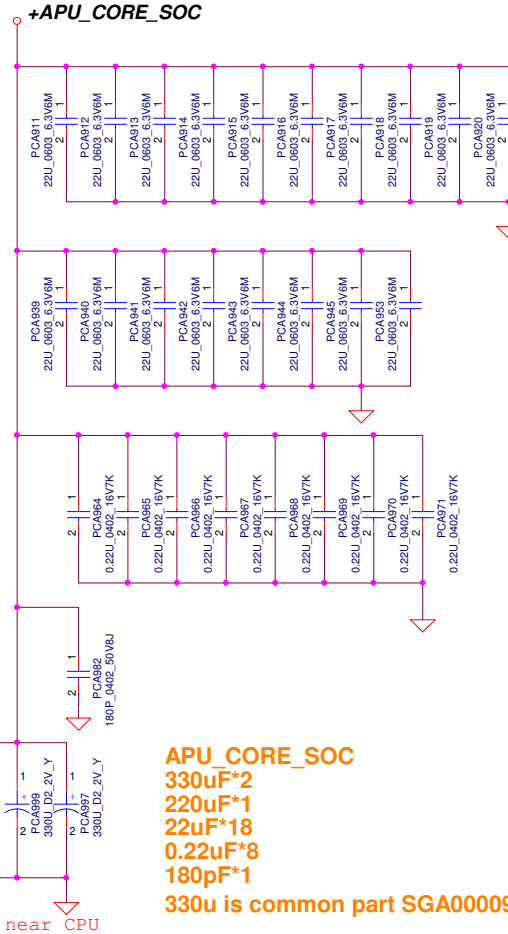
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	APU CORE SOC Stage
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	1A
				Document Number	GH51Z LA-K851P
				Date:	Thursday, December 10, 2020
				Sheet	99 of 121

Reserve Page

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 100 of 121



APU_CORE
 560uF*2
 330uF*3
 220uF*2
 22uF*27
 0.22uF*8
 180pF*1
 330u is common part SGA00009S00



Under CPU

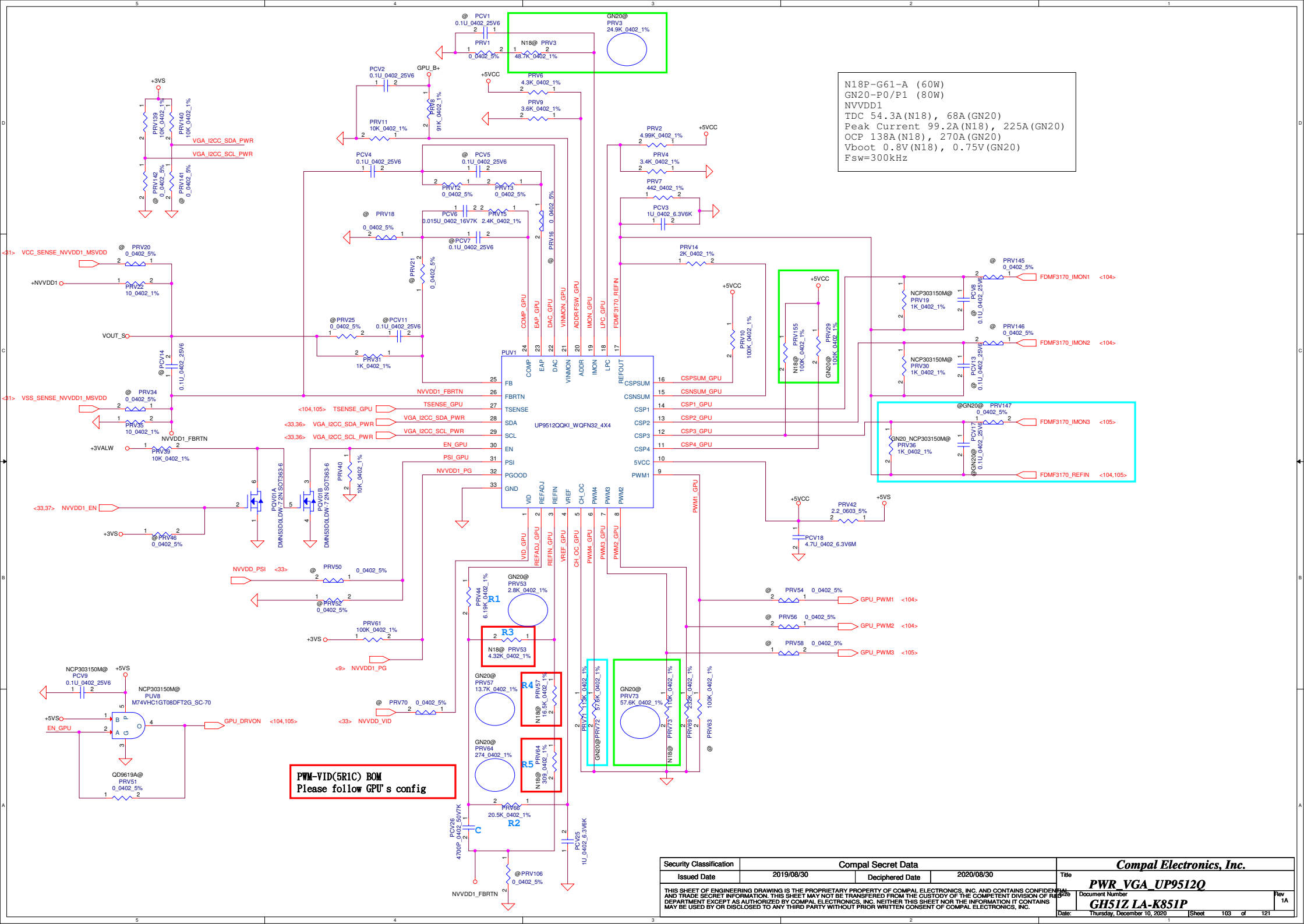
near CPU

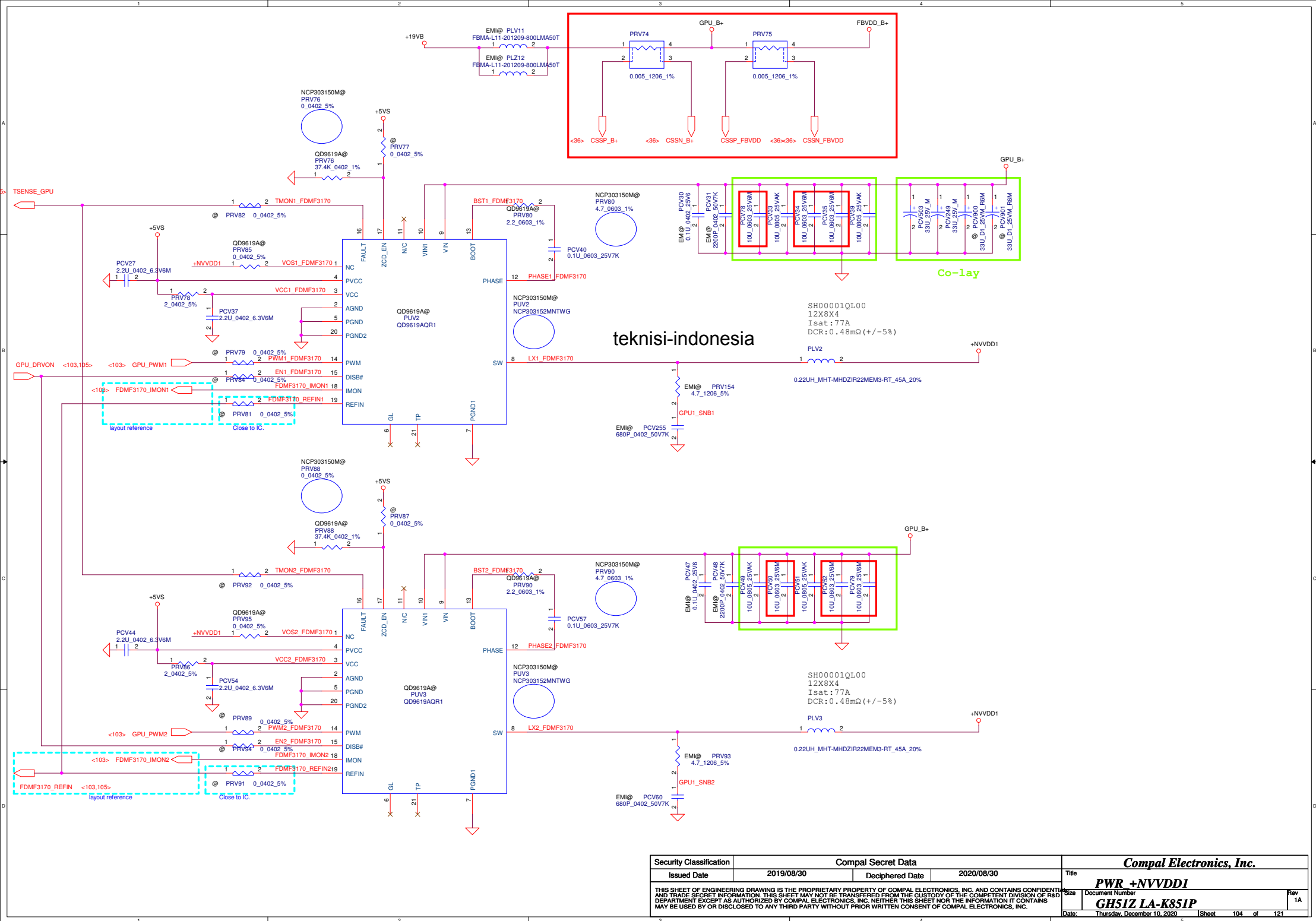
APU_CORE_SOC
 330uF*2
 220uF*1
 22uF*18
 0.22uF*8
 180pF*1
 330u is common part SGA00009S00

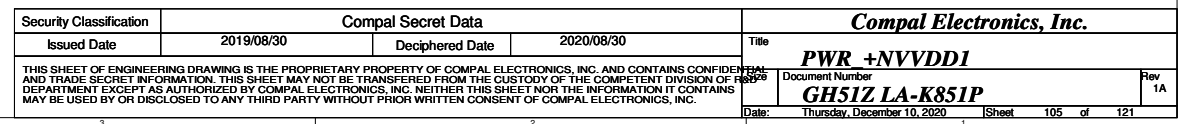
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	CPU Cap	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 101 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GH51Z LA-K851P	1A
				Date: Thursday, December 10, 2020	Sheet 102 of 121



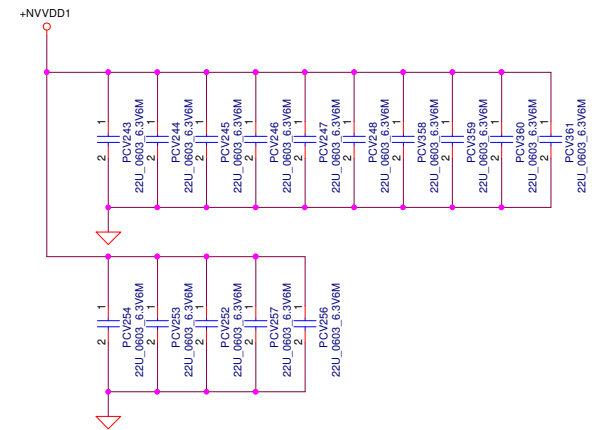
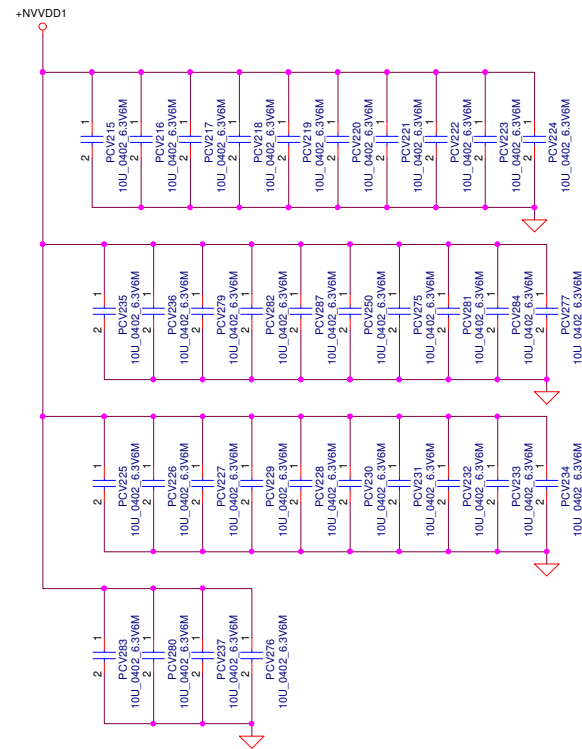
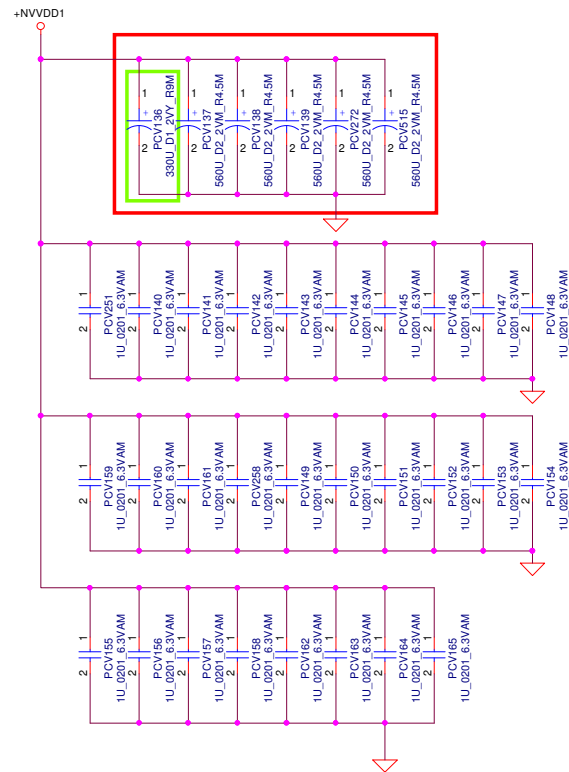




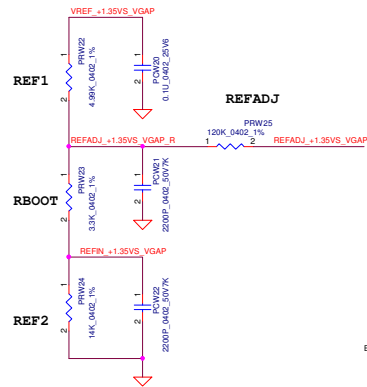
Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	106 of 121

```
+NVVDD1
560uF X 6
22uF_0603 X 15
10uF_0402X 34
1uF_0201 X 28 (13+15)
```

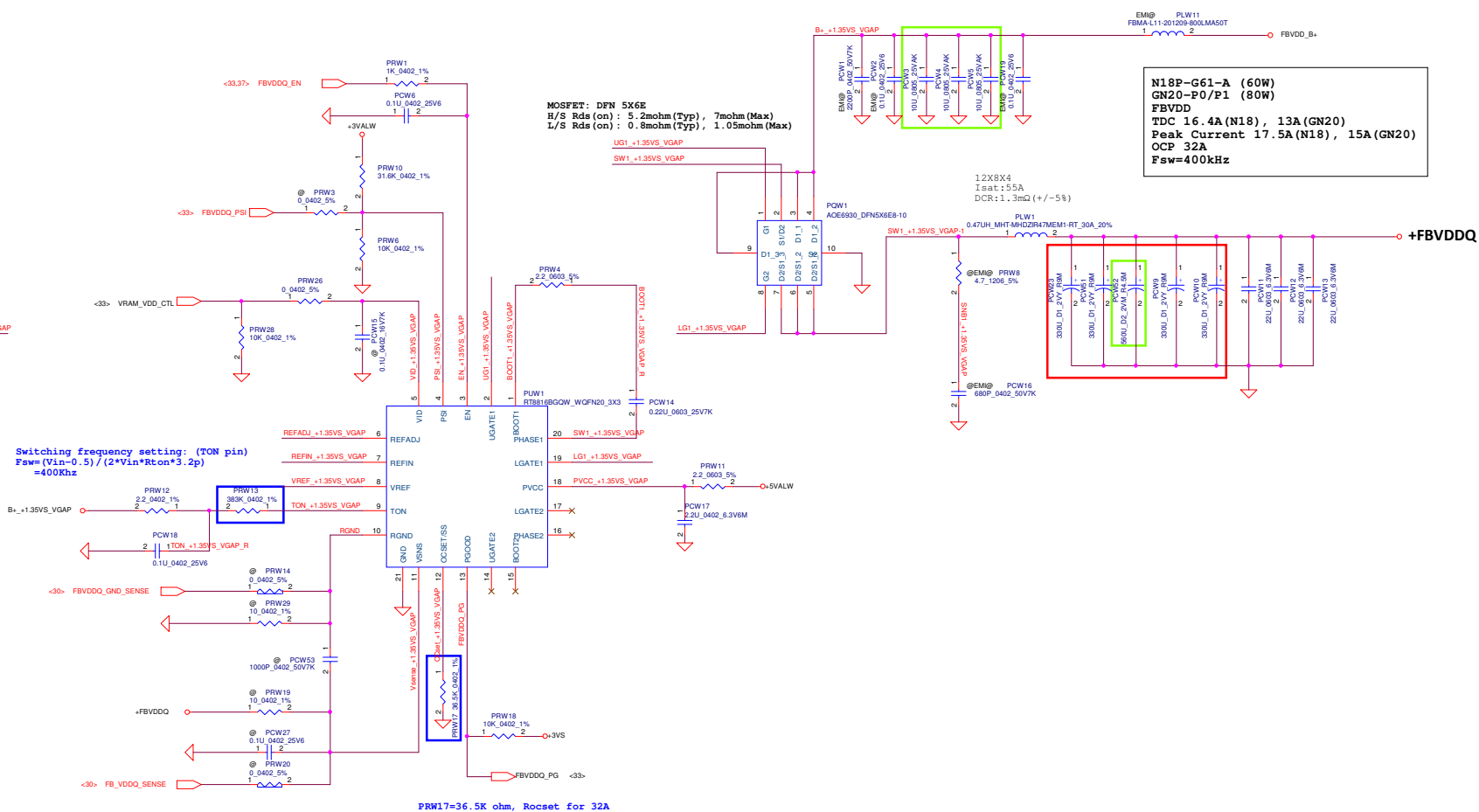


Security Classification		Compal Secret Data		Compal Electronics, Inc.			
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	PWR VGA DECOUPLING		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev	
					GH51Z LA-K851P	1A	
				Date:	Thursday, December 10, 2020	Sheet 107 of 121	



Micron & Samesung VRAM
 When, VRAM_VDD_CTL=High
 Vboot=1.25V
 When, VRAM_VDD_CTL=Low
 Vboot=1.2V

Switching frequency setting: (TON pin)
 $F_{sw} = (V_{in} - 0.5) / (2 \cdot V_{in} \cdot R_{ton} \cdot 3.2p)$
 $= 400kHz$

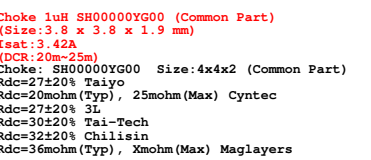
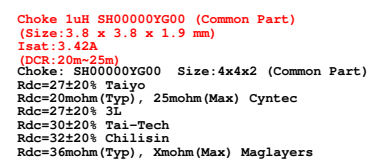


N18P-G61-A (60W)
GN20-P0/P1 (80W)
FBVDD
TDC 16.4A (N18), 13A (GN20)
Peak Current 17.5A (N18), 15A (GN20)
OCp 32A
Fsw=400kHz

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	PWR +VRAM
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	GH51Z LA-K851P
				Date	Thursday, December 10, 2020
				Sheet	108 of 121

Reserve Page

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					GH51Z LA-K851P	1A
				Date:	Thursday, December 10, 2020	Sheet 109 of 121



Security Classification		Compal Secret Data		Compal Electronics, Inc. +PEX VDD / +1.8VSDGPU	
Issued Date		Deciphered Date		Title +PEX VDD / +1.8VSDGPU	
2019/08/30		2020/08/30		Size C Document Number GH51Z LA-K851P	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 1A	
				Date: Thursday, December 10, 2020 Sheet 110 of 121	

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	112 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GH51Z LA-K851P	1A
Date: Thursday, December 10, 2020				Sheet	113 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Deciphered Date	2020/08/30	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	114 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	Reserve
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GH51Z LA-K851P	1A
Date: Thursday, December 10, 2020				Sheet	115 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	116 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Reserve Page	
				Document Number	
				GH51Z LA-K851P	
Date: Thursday, December 10, 2020				Sheet	117 of 121

Reserve Page

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Title	Reserve Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF HSPD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				GH51Z LA-K851P	1A
				Date: Thursday, December 10, 2020	Sheet 118 of 121

Item	Fixed Issue	Reason for change	PG#	Modify List	Date	Phase
01	Design Update	Solution change	98,99	PRZ24,PRZ40,PRZ55,PRA8 change from un-pop to 4.7 1206 5% (SD001470B80). PCZ26,PCZ43,PCZ49,PCA11 change from un-pop to 680P_0402_50V (SE074681K80).	2020/09/15	A
02	Design Update	Solution change	107,108	PCV136 change from 560uF_D2_2V (SGA00006J00) to 330uF_D2_2V (SGA00009S00). PCW52 change from 330uF_D2_2V (SGA00009S00) to 560uF_D2_2V (SGA00006J00).	2020/10/07	C
03	Design Update	SDLE test result	91,97	Add location PRF25, and pop 1K_0402_1% (SD034100180) PRF23 change from un-pop to pop 0ohm_0402_5% (SD028000080), and connect from "VR_ON" to "SYS_PWRGD_EC". PRZ31 change from 82.5K_0402_1% (SD000002780) to 95.3K_0402_1% (SD034953280). PCZ30 change from 330P_0402_50V (SE074331K80) to 390P_0402_50V (SE074391K80).	2020/10/16	C
04	Design Update	DFB request	90	PC1804 change from pop to un-pop. PC1807 change from unpop to pop 22U_0603_6.3V (SE00000M000).	2020/10/19	C
05	Design Update	Solution change	104	Add location PCV900 PCV901, and un-pop 33U_D1_25VM_R6M (SGA0000A400).	2020/10/20	C
06	Design Update	Sequence fine tune	90	PR1801 change from 10K_0402_1% (SD034100280) to 22.1K_0402_1% (SD034221280).	2020/10/20	C
07	Design Update	Part ount reduce	85	PRB18 and PRB22 change from 0_0402_5% (SD028000080) to R-short.	2020/10/29	C
08	Design Update	Solution change	82,85	PC101 and PCB20 change from 100pF_0402_50V_NPO (SE071101J80) to 100pF_0201_50V_NPO (SE00000SE00).	2020/10/30	C
09	Design Update	Delete 10 pin battery con.	84	Delete location PJP202 PL203 change from pop bead (SM01000U600) to un-pop	2020/11/03	C
10	Design Update	Solution change	91,97	PCF15 and PCZ13 change from 1U_6.3V_0201_X5R (SE00000UC00) to 1U_6.3V_0201_X5R_X6S (SE00001HM00).	2020/11/04	C
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Security Classification	Compal Secret Data		Title		Compal Electronics, Inc.	
Issued Date	2020/07/07	Deciphered Date	2020/09/20	Size	Document Number	Rev
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Custom	GHS1Z LA-K851P	1A
				Date	Thursday, December 10, 2020	Sheet

Item	Fixed Issue	Reason for change	PG#	Modify List	Date	Phase
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

HW Schematic chang list (P.I.R)

[illegible]

Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2019/08/26	Deciphered Date		2020/08/26	Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						HW-P.I.R page1			
						Size	Document Number		Rev
						LA-K851P		1A	
Date:		Thursday, December 10, 2020		Sheet	121	of 121			