

Compal Confidential

M/B Schematics Document

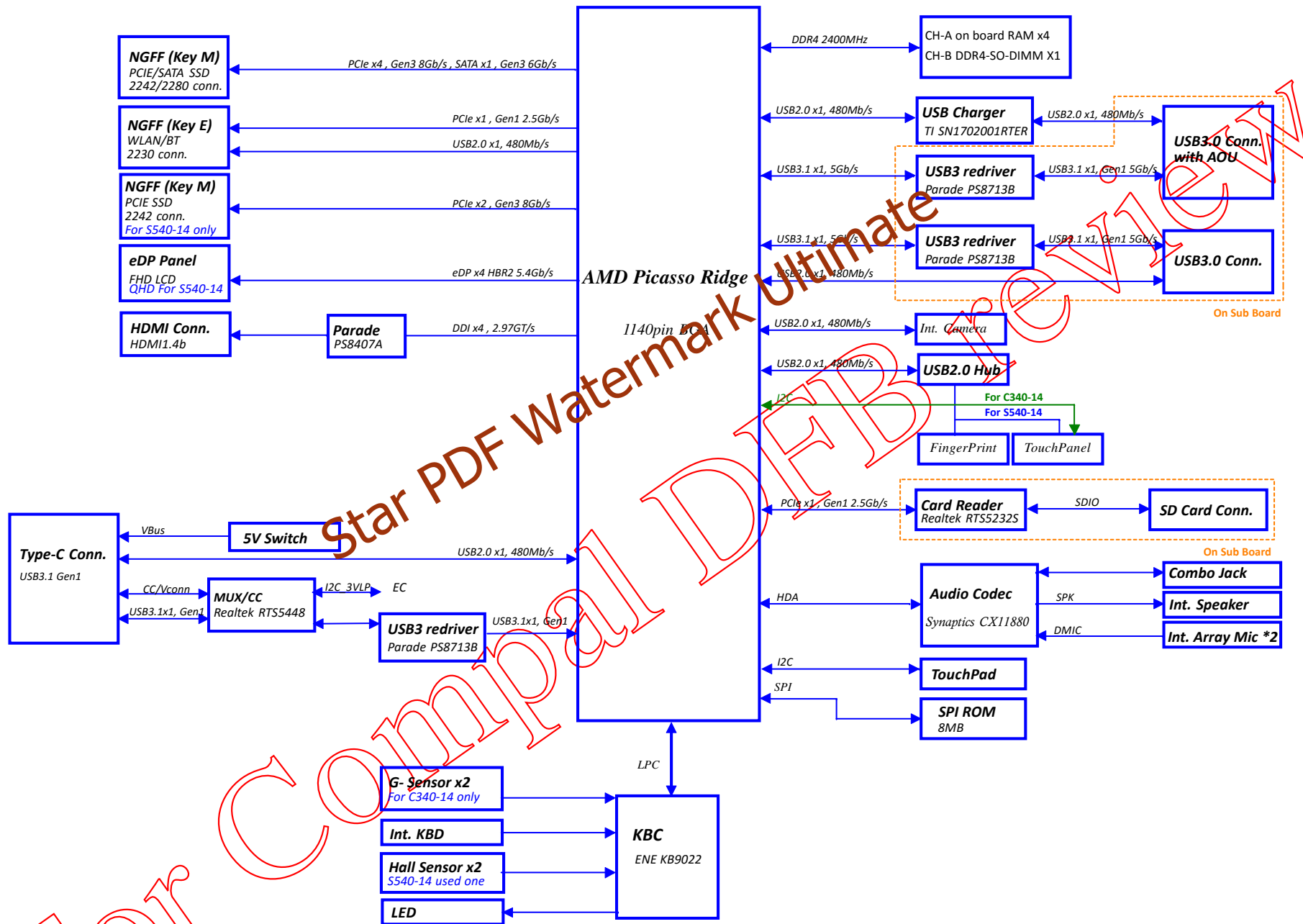
AMD Picasso FP5 APU with DDR4

EL4C2/EL452

LA-H091P

Rev : 1.0
2018-12-20

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size B	Document Number	Rev 1.0
				Date:	Thursday, December 20, 2018	Sheet 1 of 41



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Discontinued Date	2018/08/25	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 REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. ANY VIOLATION OF THIS POLICY WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.				Cover Page	
				LA-H091P	
				Rev. 1.4	

Voltage Rails

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

SMBUS Control Table

	SOURCE	APU	BATT	KB9022	SODIMM	WLAN	G-sensor	THM-sensor
EC_SMB_CK1 EC_SMB_DA1	KB9022 +3VALW	X	V +3VALW	V +3VALW	X	X	X	X
EC_SMB_CK2 EC_SMB_DA2	KB9022 +3VS	V +1.8VS	X	V +3VALW	X	X	X	V +3VS
EC_SMB_CK4 EC_SMB_DA4	KB9022 +3VS	X	X	X	X	X	V +3VS	

EC SM Bus1 address

Device	Address	HEX
Smart Battery	0001 011x b	16H
Charger	0001 0010 b	12H

EC SM Bus2 address

Device	Address	HEX
APU	1001 100X b	98H
G-SEN (M/B)	0001 1000 b	18H
G-SEN (S/B)	0001 1001 b	19H
Thermal sensor	1001 101x b	9AH

APU I2C Bus address

Port	Device	Address	HEX
I2C 1	G-sensor (Reserve)		
I2C 2	DDR so-DIMM	1010 001Xb	A2H
	Touch Panel (Wacom)		0X0A
I2C 3	Touch Pad (Synaptics)		\$2C
	Touch Pad (Elan)		0X15
	G-sensor		

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

CPU

UC1
SA0000C7640
S IC RYZEN7 YM3700C4T4MFG 2.2G BGA 1140 APU
APU_R7@
UC1
SA0000CCR20
S IC RYZEN5 YM3500C4T4MFG 2G BGA 1140 APU
APU_R5@

PCB

ZZZ
DA8001H5010
PCB 2GB LA-H091P REV1 M/B 3, A,2
ZZZ 45@
RO0000003HM
HDMI Logo

EMC X4E

ZZZ
X4EAF738L51
SMT EMC FOR EE AH091 EL
X4EUMA@

DDR IC6

ZZZ
K7680638L51
Hynix 1G onboard RAM
X76DDR4H@

ZZZ
K7680638L52
Micron 1G onboard RAM
X76DDR4M@

ZZZ
K7680638L53
Samsung 1G onboard RAM
X76DDR4S@

BOM Structure Table

BOM Structure	Item	BOM Structure	Item
RAVEN7@	RAVEN7 CPU	X76GL@	O2 Card Reader
RAVEN5@	RAVEN5 CPU	X76RT@	Realtek Card Reader
RAVEN3@	RAVEN3 CPU	HDT@	For HDT Device used
X76DDR4H@	Onboard RAM HYNIX	FP@	Finger Print Component
X76DDR4M@	Onboard RAM MICRON	KBL@	Keyboard Backlight
X76DDR4S@	Onboard RAM SAMSUNG	@	Unpop
X76GRAM@	Onboard RAM couple cap	SDP@	SDR SDP Component
X4EUMA@	EMC component for UMA	DDP@	SDR DDP Component
ME@	ME part	C340@	C340 SBU
EMI@	EMI pop component	S540@	S540 SKU
@EMI@	EMI pop component	G_SEN@	G-sensor Component
ESD@	ESD pop component	QHD@	QHD panel component
@ESD@	ESD Unpop component	L5@	Level shift Component
20V_Prot@	20V protection circuit		
X76_PIC@	Pericom USB re-driver		
X76_PPE@	Parade USB re-driver		
X76_TI@	TI USB re-driver		
PA@	Pericom USB re-driver couple cap		
PE@	Parade USB re-driver couple cap		
TI@	TI USB re-driver couple cap		
RF@	RF pop component		
@RF@	RF Unpop component		

GPP Port Table

Port	Device
GPP0	CardReader (PCIe)
GPP1	WLAN (PCIe)
GPP2	
GPP3	SSD x 2 (PCIe)
GPP4	
GPP5	SSD x 4 (PCIe)
GPP6	
GPP7	

DisplayPort Table

Port	Device
0	eDP
1	HDMI
3	
2	

USB3.0 Port Table

Port	Device
0	Type C Right
1	USB3.0 Left-1
2	USB3.0 Left-2
3	
4	

USB2.0 Port Table

Port	Device
0	Type C Right
1	USB3.0 Left-1
2	USB3.0 Left-2
3	Camera
4	USB Hub
5	NGFF_BT
4~1	Touch Screen
4~2	Finger Print
4~3	
4~4	

Power Sequence

Boot

Shut
Down

EC Pin 110 Input

EC Pin 112 Output

AC Plug

EC Pin 114 Input

EC Pin 100 Output

EC Pin 122 Output

EC Pin 123 Input

EC Pin 6 Input

EC Pin 95 Output

EC Pin 116 Output

EC Pin 98 Output

EC Pin 121 Output

EC Pin 32 Output

EC Pin 13 Input

VCIN1_AC_IN
+3VLP
EC_ON
+5VALW
+3VALW
3V/5VALW_PG
+1.8VALW
+0.8VALW

ON/OFF#
EC_RSMRST#
RTC_CLK
PBTN_OUT#
PM_SLP_S5#
PM_SLP_S3#
SYSON
+2.5V
+1.2V
SUSP#
0.8VS_PWR_EN
+5VS
+3VS
+1.8VS
+0.8VS
+0.6VS
VR_ON
+APU_CORE
+APU_CORE_SOC
VGATE
PCH_PWROK
APU_PWRGD
PLT_RST#
PCIE_RST#
APU_RST#
CLK_PCIE

VCIN1_AC_IN
+3VLP
EC_ON
+5VALW
+3VALW
3V/5VALW_PG
+1.8VALW
+0.8VALW

ON/OFF#
EC_RSMRST#
RTC_CLK
PBTN_OUT#
PM_SLP_S5#
PM_SLP_S3#
SYSON
+2.5V_MEM
+1.2V_DDR
SUSP#
0.8VS_PWR_EN
+5VS
+3VS
+1.8VS
+0.8VS
+0.6VS
VR_ON
+APU_CORE
+APU_CORE_SOC
VGATE
PCH_PWROK
APU_PWRGD
PLT_RST#
PCIE_RST#
APU_RST#
CLK_PCIE

Star PDF Watermark Ultimate

For Compal DEB review

T1_Min : 10ms

T2 : 15ms-26ms

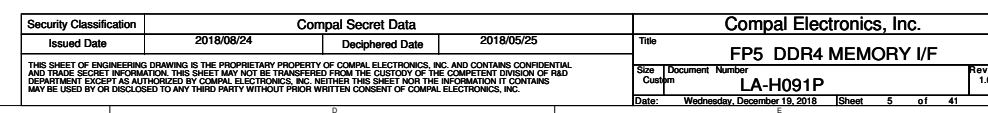
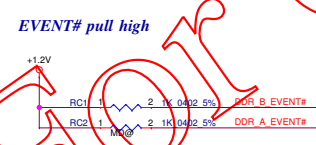
T3 : 30us-64us

T5_Min : 1ms

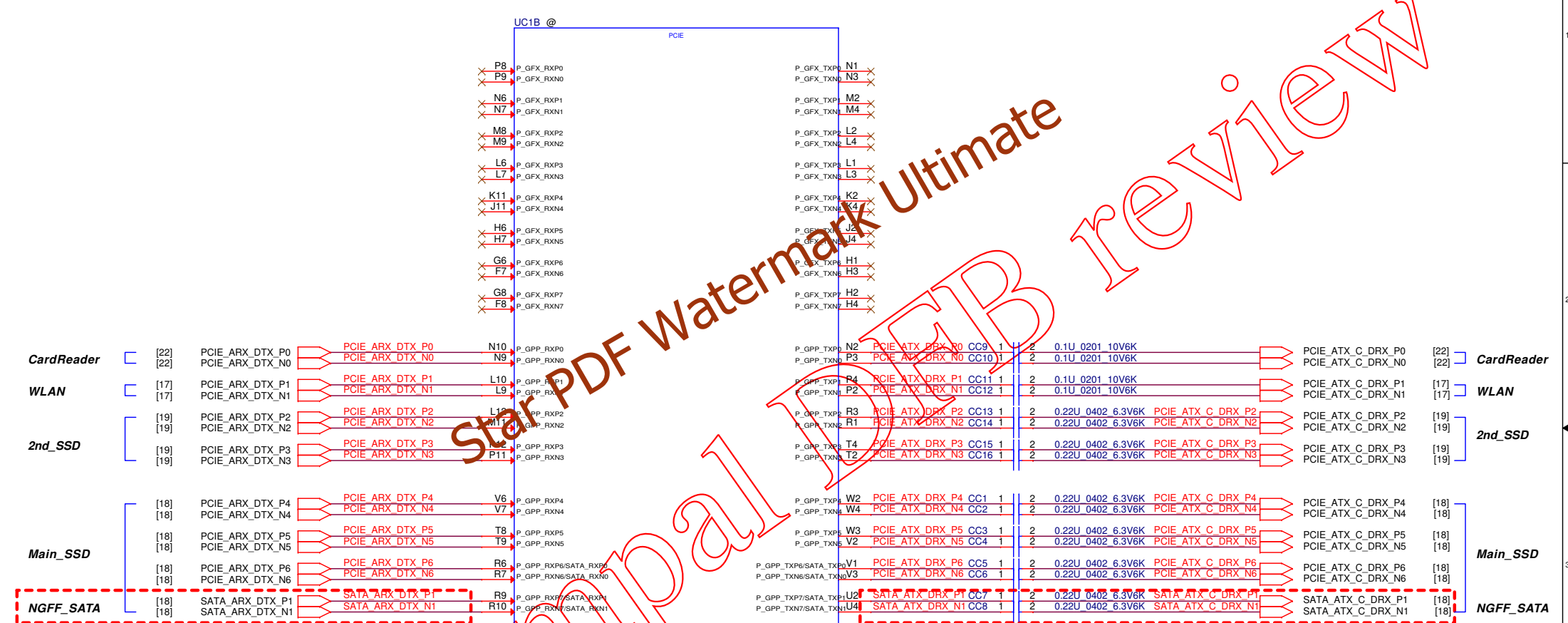
T8 : 15ms-17ms

T9 : 12ms-14.6ms

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2018/08/24		Deciphered Date	
		2018/05/25		Title	
				Power Sequence	
				Size	
				Document Number	
				LA-H091P	
				Rev	
				1.0	
				Date: Monday, December 17, 2018	
				Sheet 4 of 41	

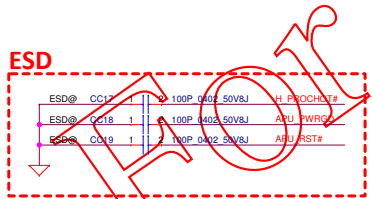
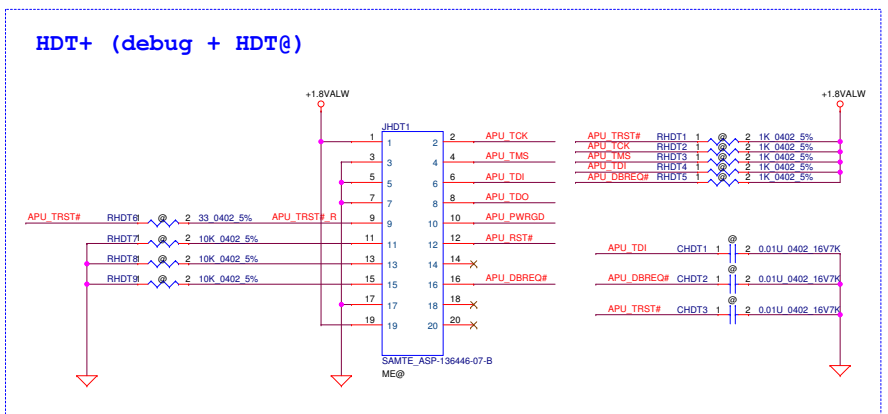
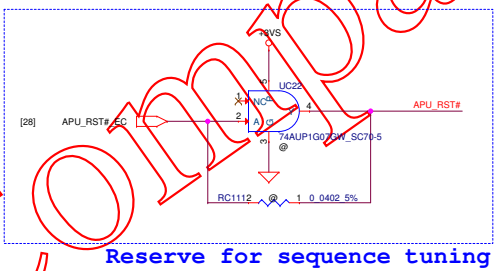
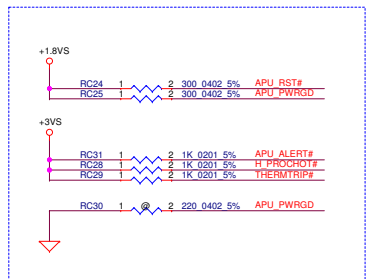
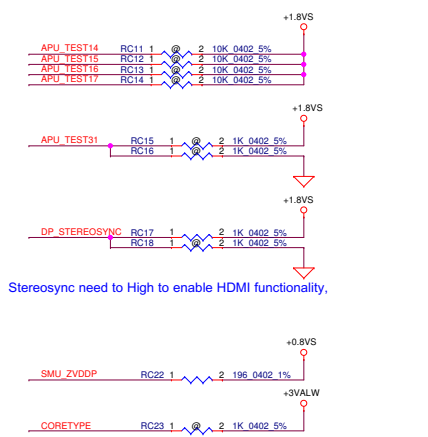
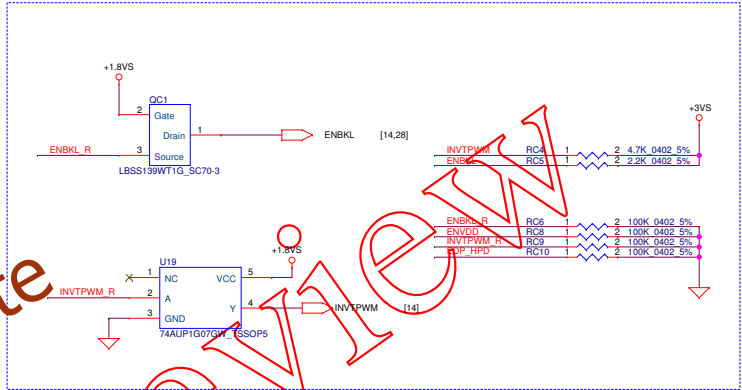
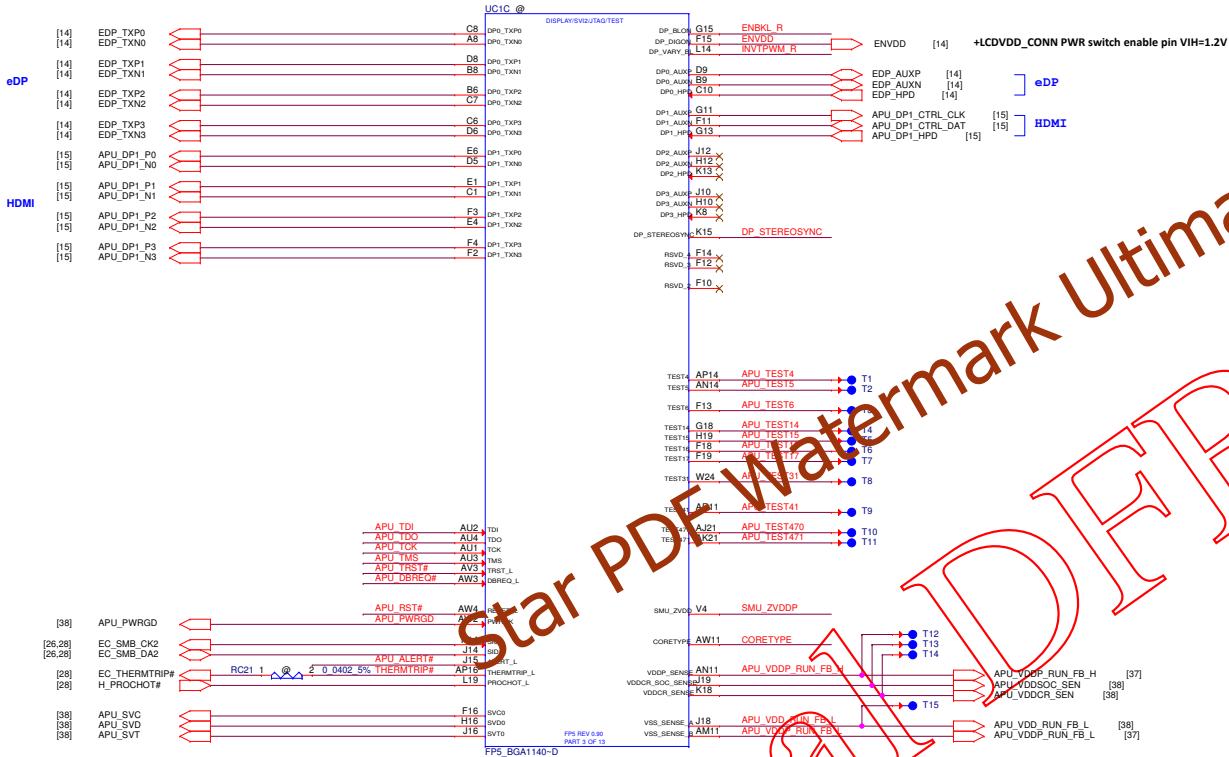


Main Func = CPU

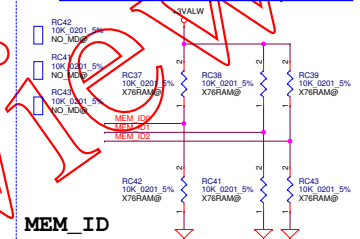
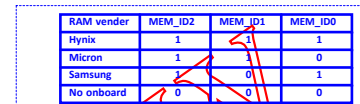


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				FP5 PCIE/UMI	
				Size Custom	Document Number LA-H091P
Date: Monday, December 17, 2018		Sheet 6 of 41		Rev 1.0	

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



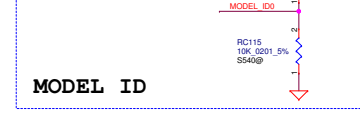
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				FP5 DISP/MISC/HDT	
				Size	Number
				Cusum	Rev
				LA-H091P	1.0
				Date	Wednesday, December 19, 2018
				Sheet	7 of 41



MODEL ID0	Detect
S540	0
C340	1

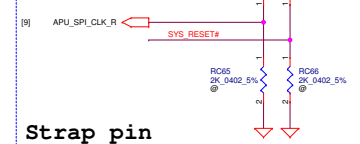
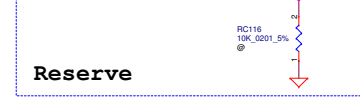
RC112
10K_0201_5%
C340@

+3VS
cu



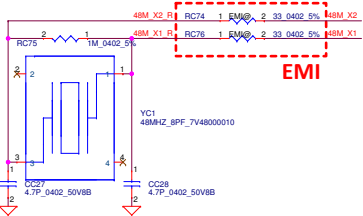
MODEL_ID1	Detect
	0
	1

RC113
10K_0201_5%
+3VS
Cd
MODEL_ID1

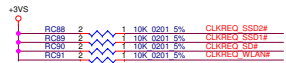
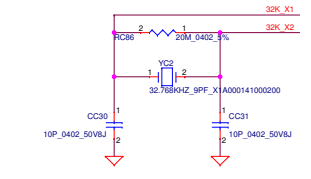


STRAP	DEFINITION
SPI_CLK	1 : Use 48MHz Crystal Clock and Generate both internal and external clocks (Default) 0 : Use 100MHz PCIe clock as reference clock and generate internal clocks only
SYS_RST#	1 : Normal reset mode (Default) 0 : short reset mode

48MHz CRYSTAL



32.768KHz CRYSTAL



- USB3.1 Type-C
- USB3.1 Type-A port1
- USB3.1 Type-A port2
- Camera
- USB2.0 Hub
- NGFF_BT

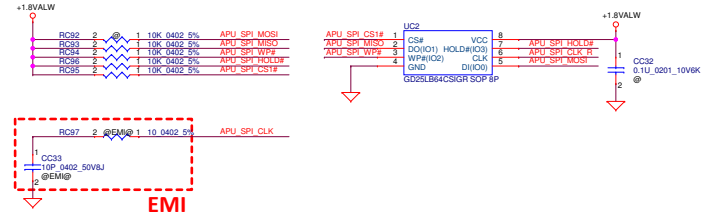


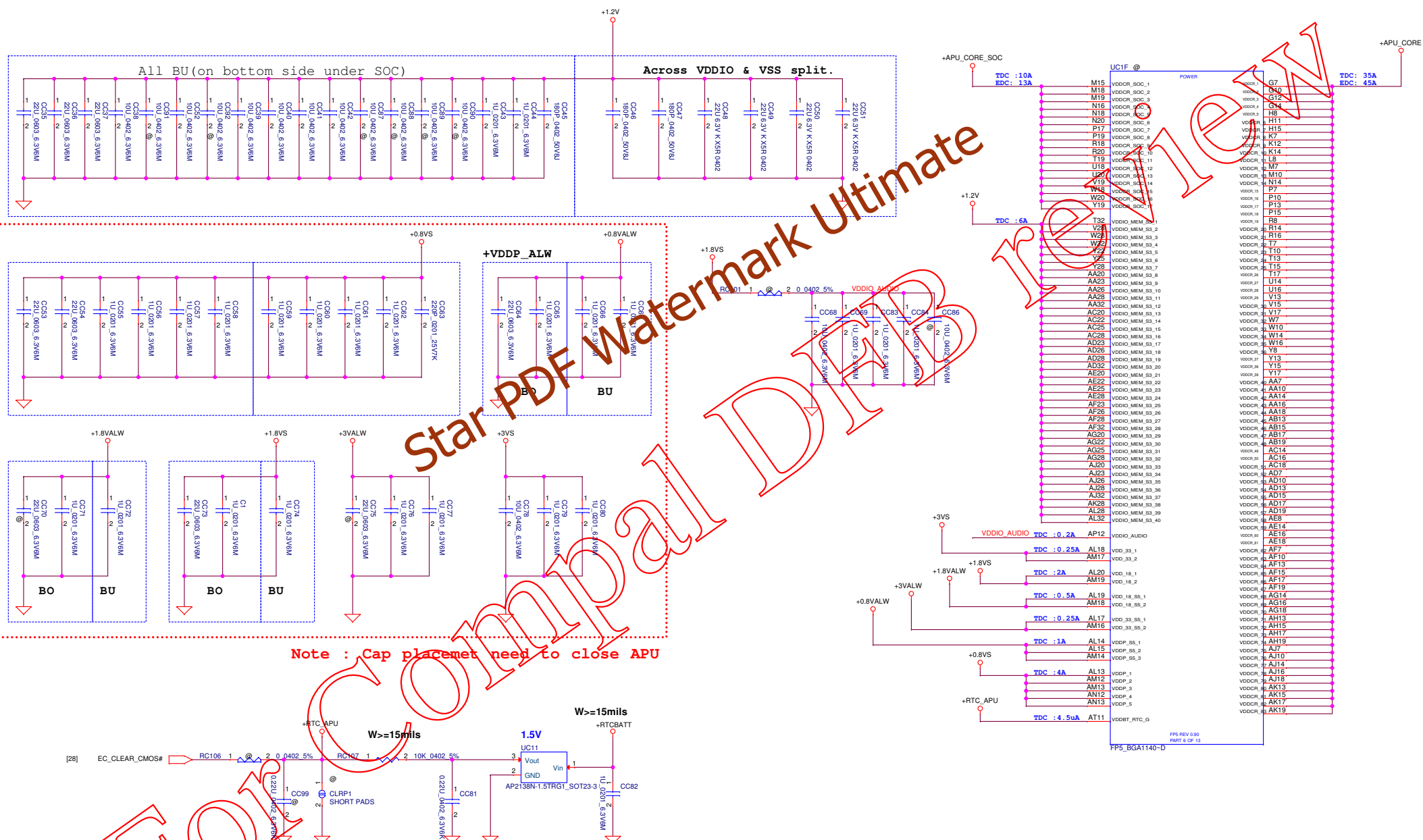
TYPEC Right

Type-A left port1

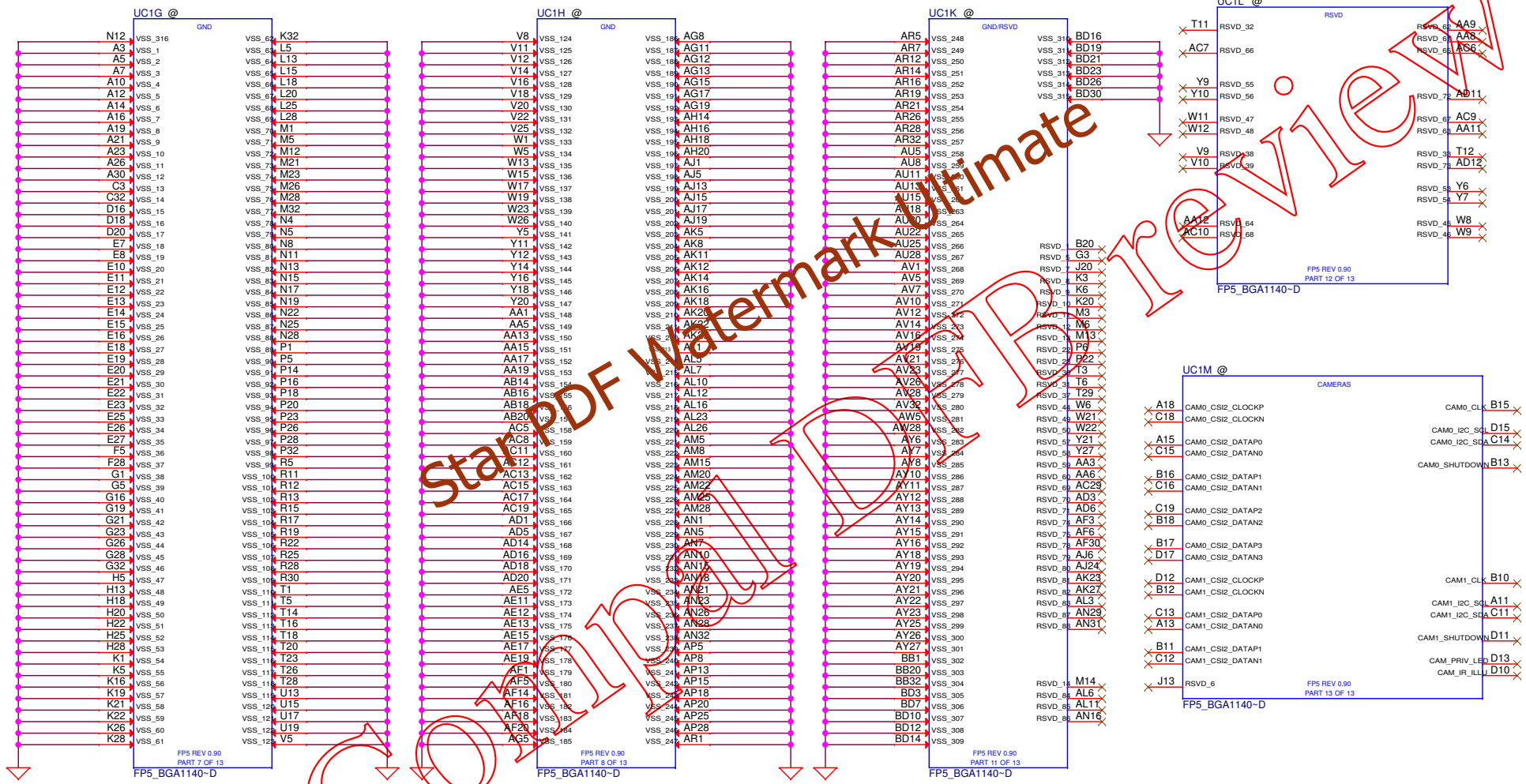
Type-A left port2

8MB SPI ROM



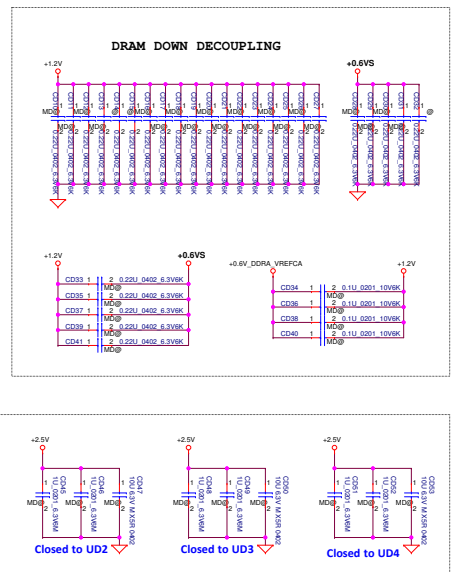
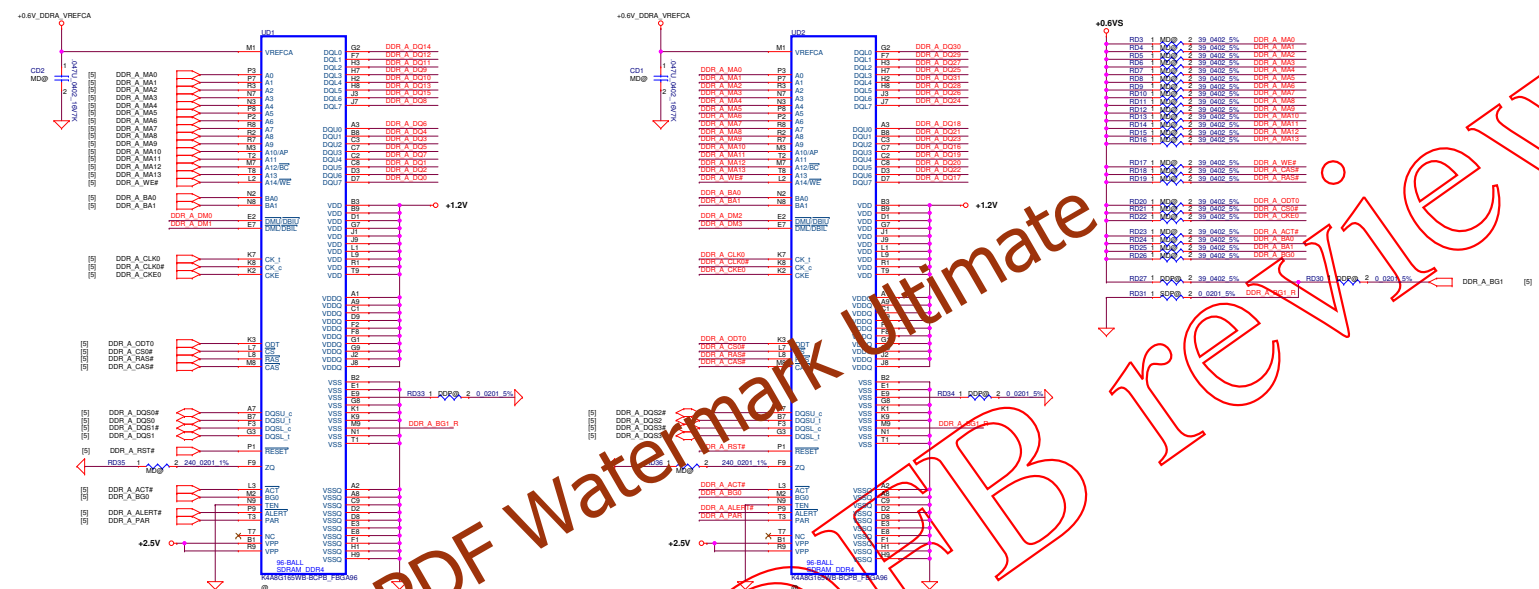
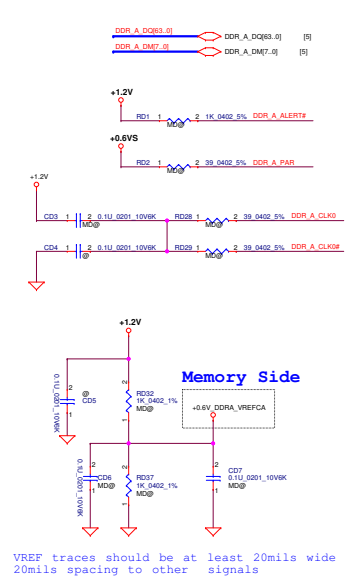


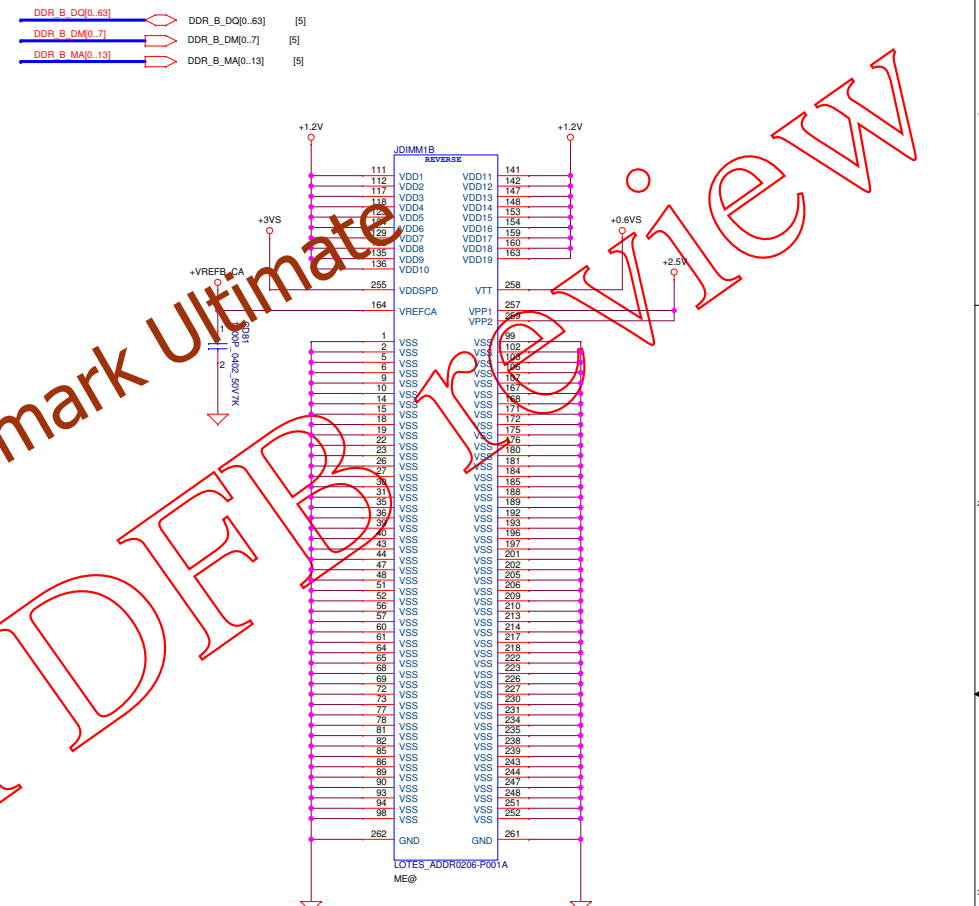
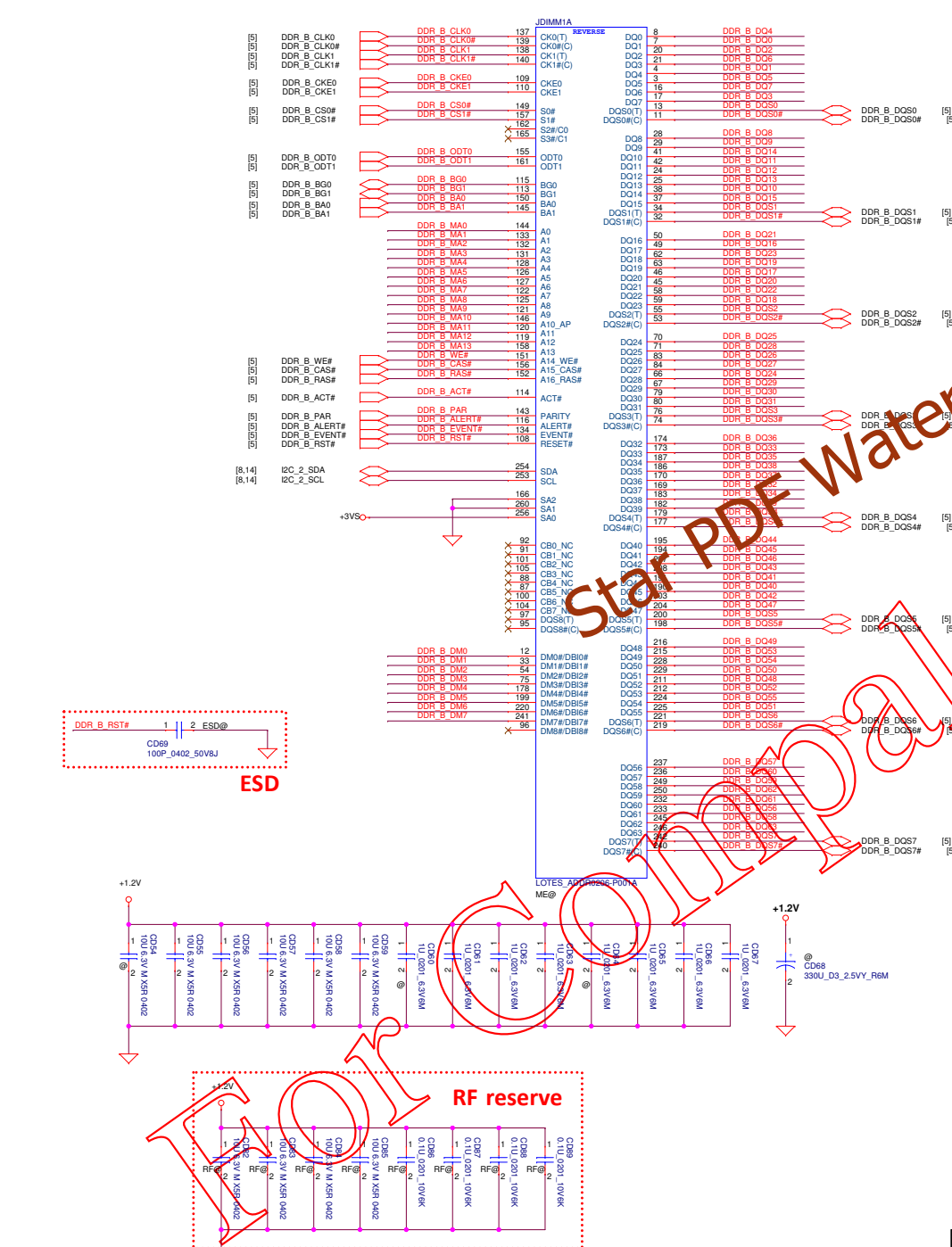
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	FP4 PWR
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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
				Document Number Custom	1.0
				Date:	Monday, December 17, 2018
				Sheet	10 of 41



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	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.				FP5 GND	
Size	B	Document	Number	Rev	
LA-H091P		1.0		Date:	
Monday, December 17, 2018		Sheet		11 of 41	

Memory Down

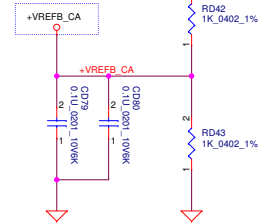




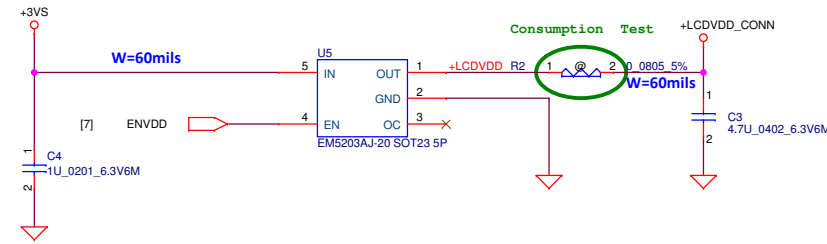
Layout Note:
Place near JDIMM1.257,259

Layout Note:
Place near JDIMM1.258

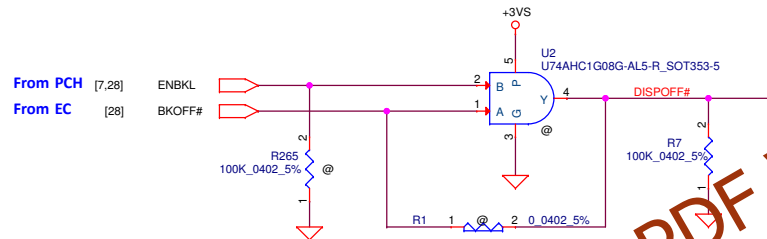
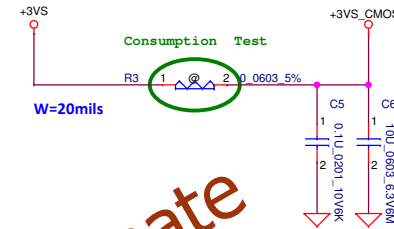
DIMM Side



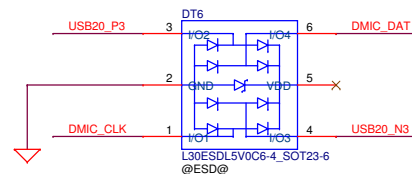
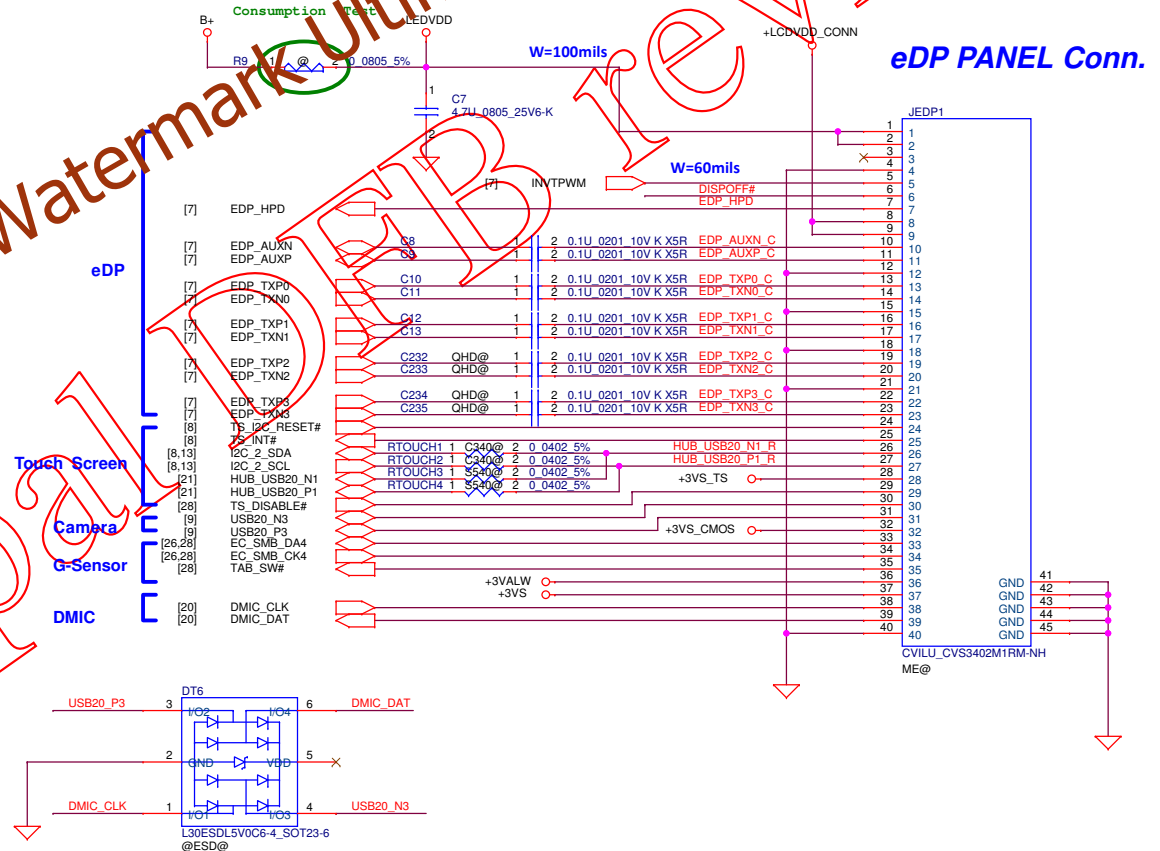
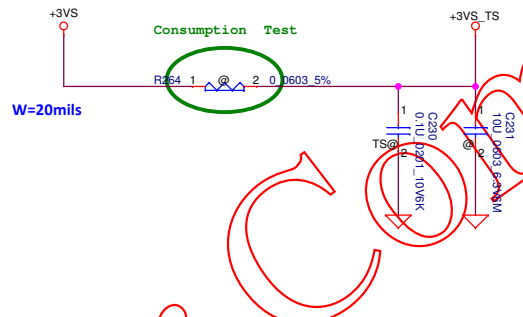
LCD Power Circuit



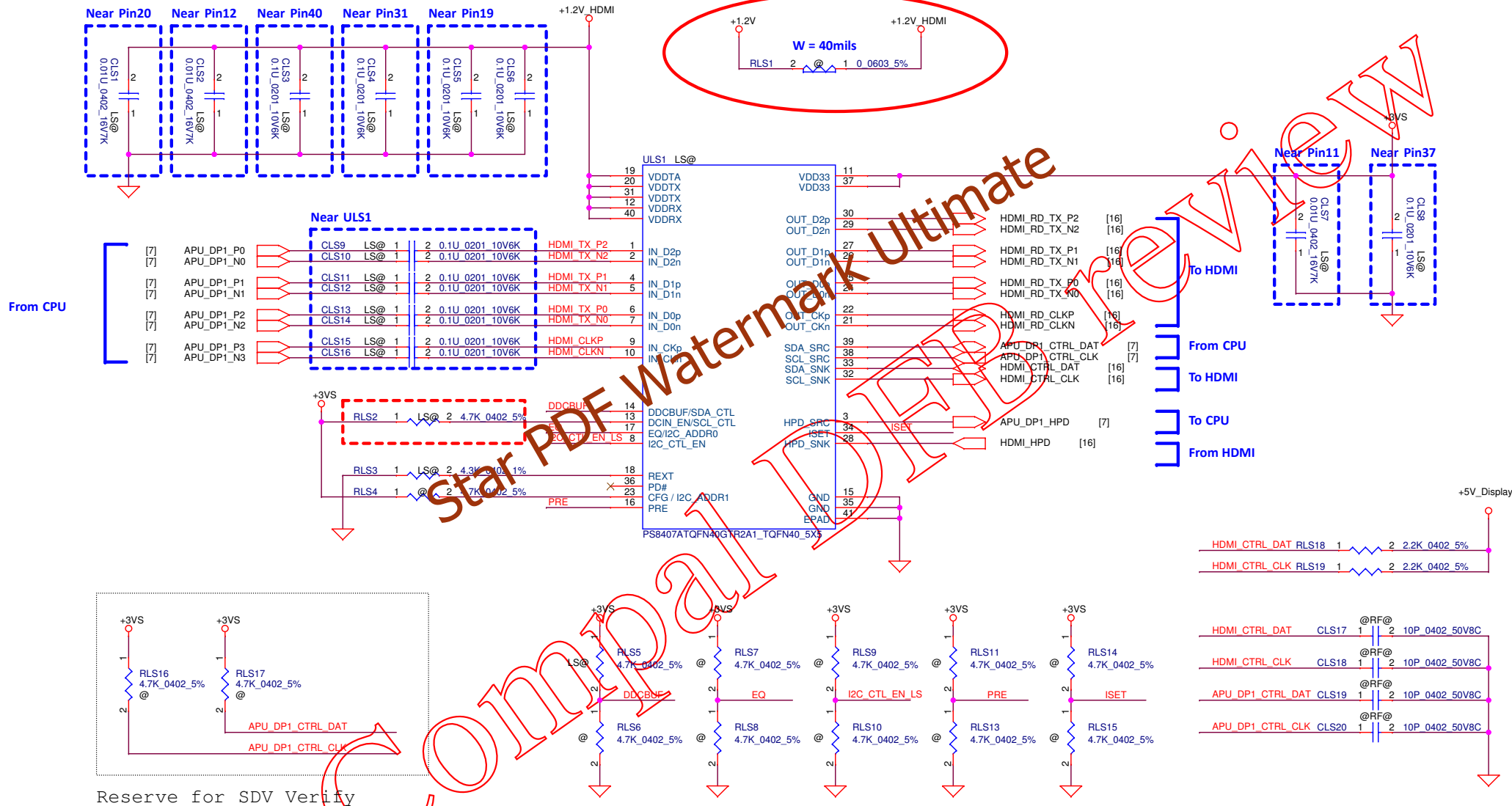
Camera



Touch Screen



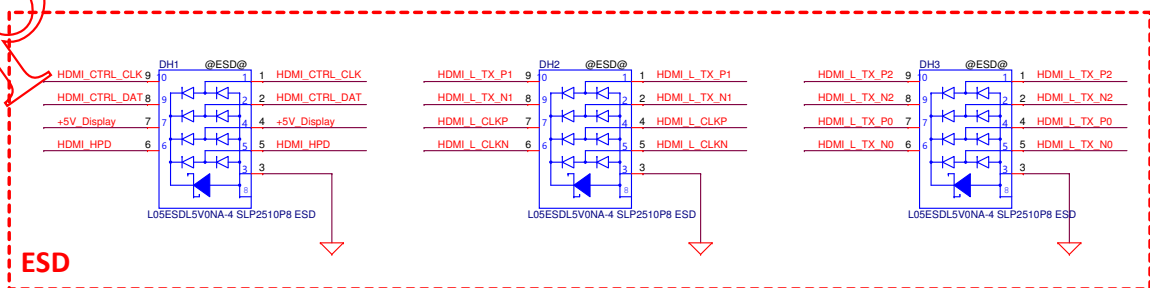
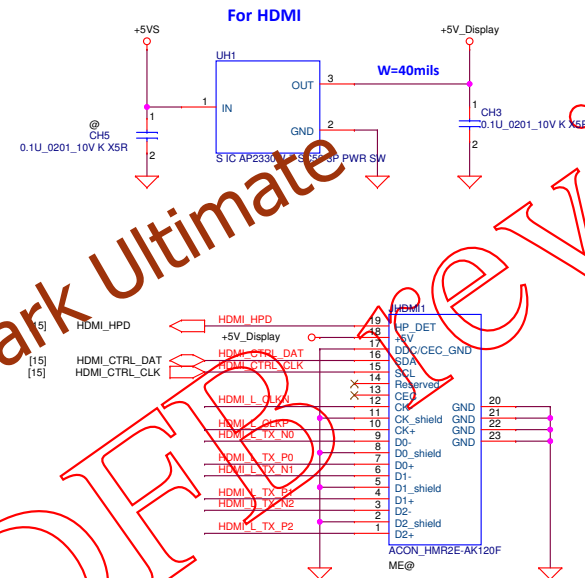
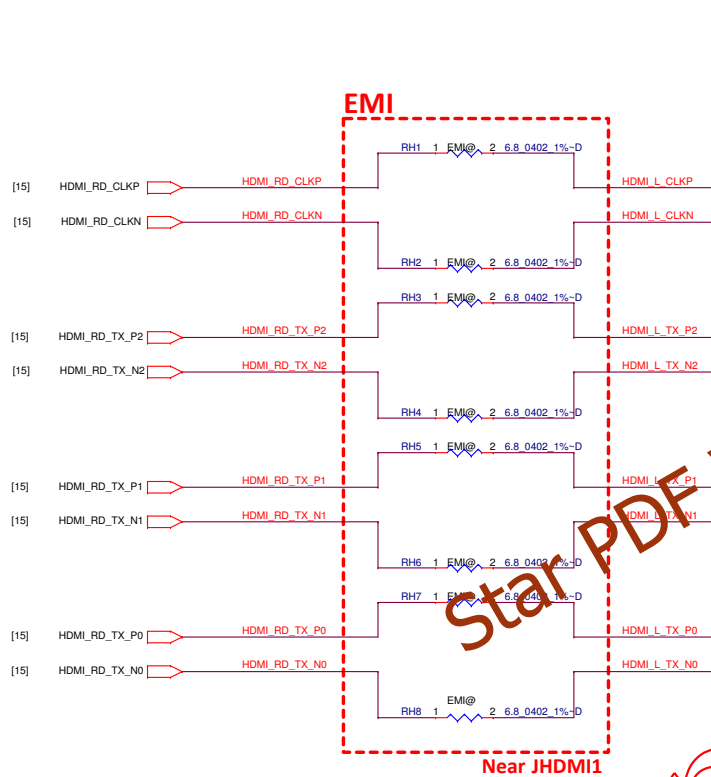
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				eDP/CAMERA	
Size		Document Number		Rev	
Custom		LA-H091P		1.0	
Date:		Monday, December 17, 2018		Sheet 14 of 41	



Reserve for SDV Verify

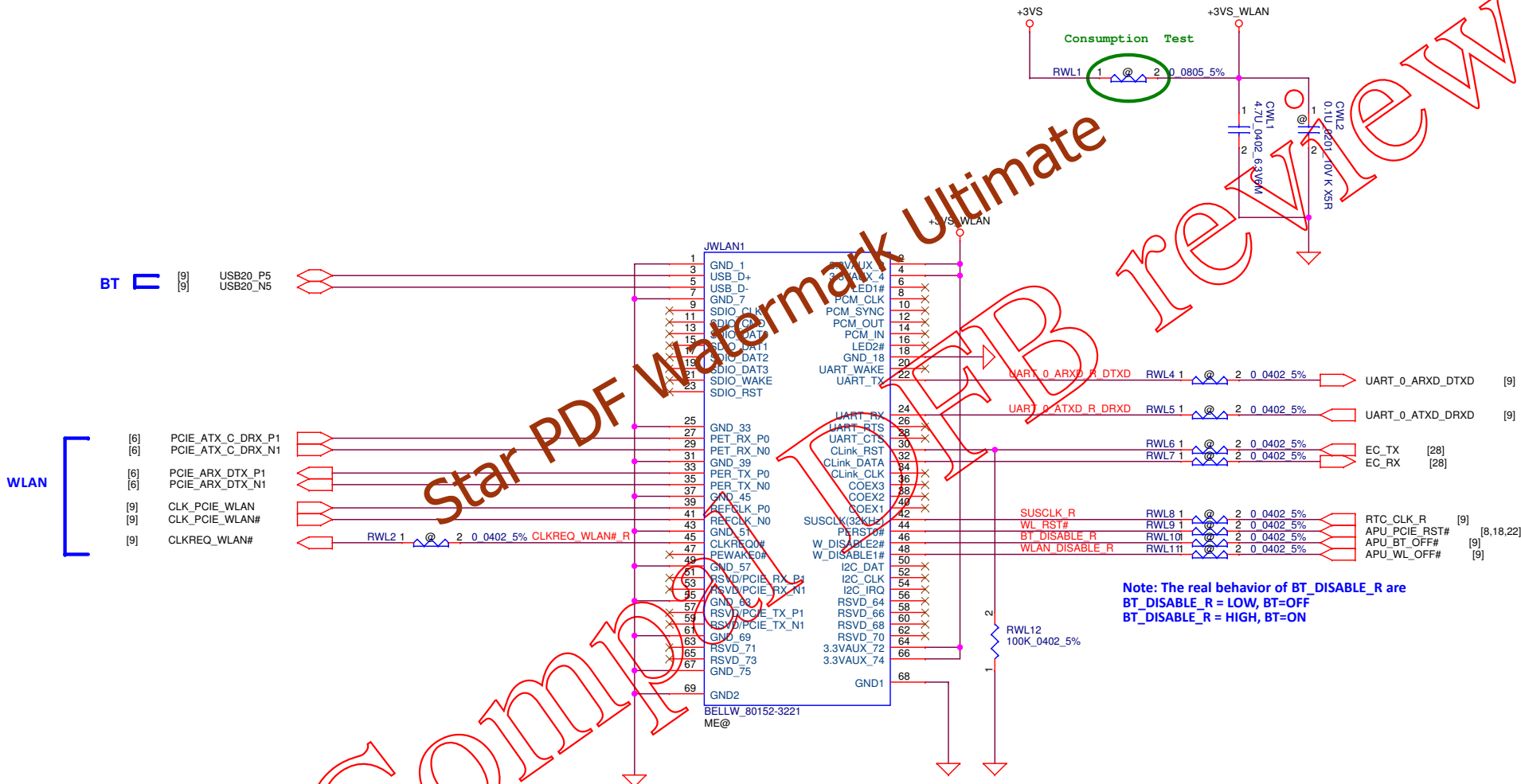
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				HDMI Level shifter_PS8407A	
Size B	Document Number	LA-H091P		Rev	1.0
Date:	Monday, December 17, 2018	Sheet	15 of 41		

HDMI



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2018/08/24		2018/05/25		HDMI	
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-H091P		1.0	
Date: Monday, December 17, 2018		Sheet 16 of 41			

NGFF - WLAN / BT (E- KEY)



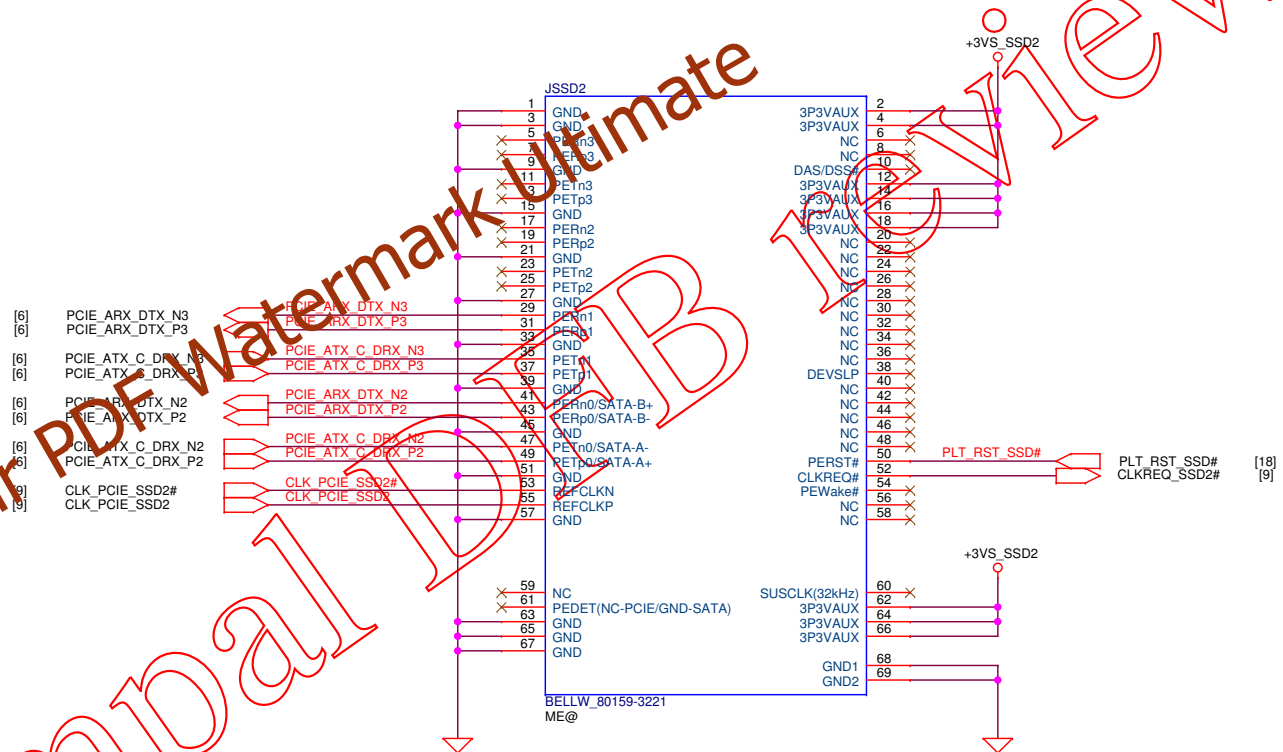
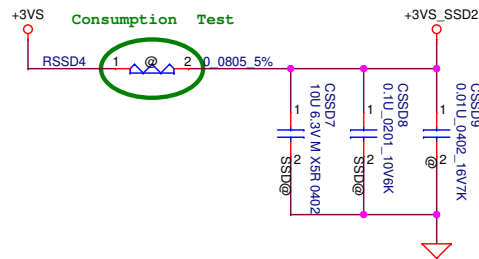
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2018/08/24		Title	
		Deciphered Date		WLAN/BT Card	
				Size	
				Document Number	
				LA-H091P	
				Rev	
				1.0	
				Date:	
				Monday, December 17, 2018	
				Sheet	
				17 of 41	

NGFF for SSD co-lay SATA M.2 (M-KEY)



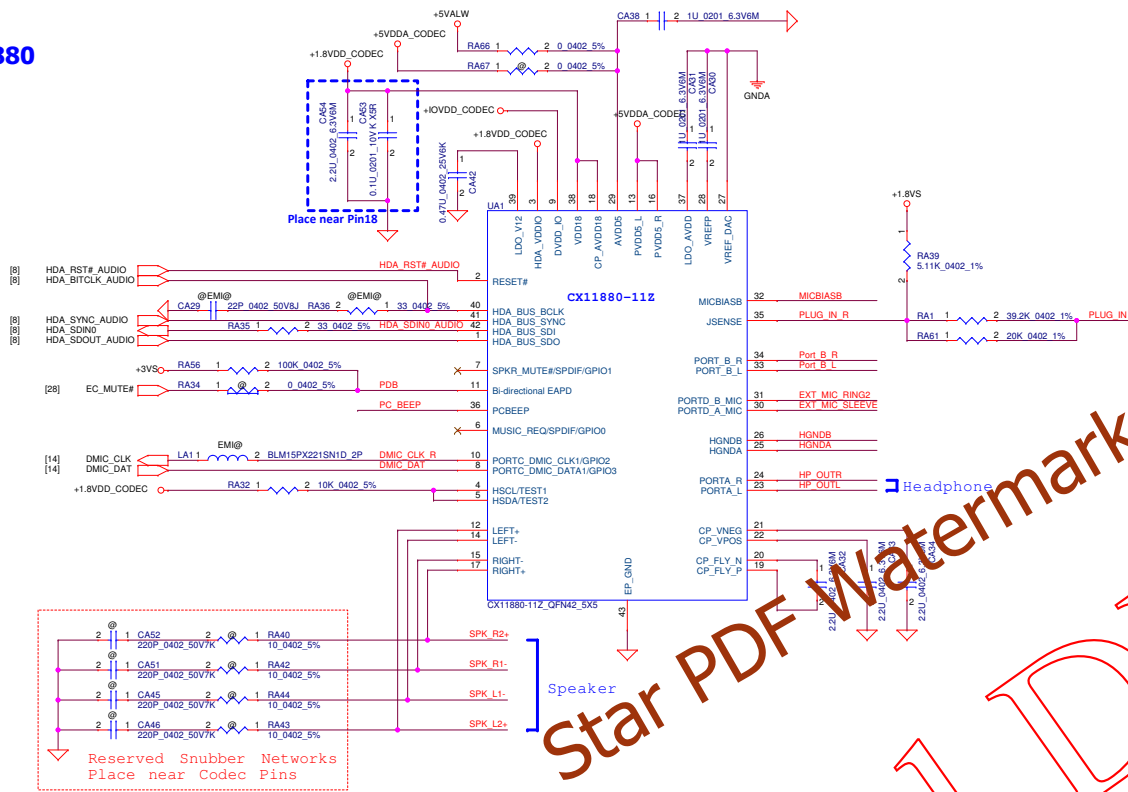
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				M.2 SSD/HDD	
Size		Document Number		Rev	
3		LA-H091P		1.0	
Date:		Monday, December 17, 2018		Sheet	18 of 41

NGFF for 2nd_SSD (M-KEY)

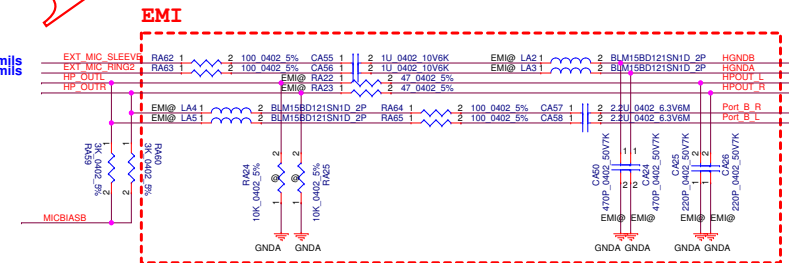
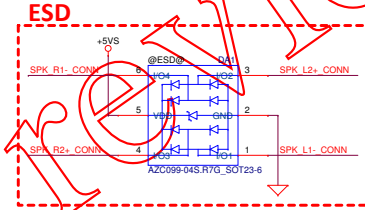
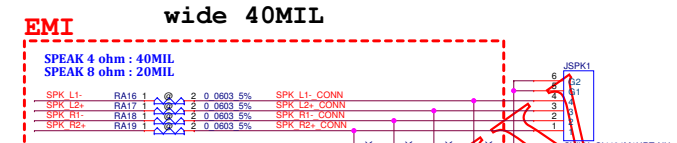


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				M.2 2nd SSD	
				Size	Document Number
				LA-H091P	
				Date:	Monday, December 17, 2018
				Sheet	19 of 41
				Rev	1.0

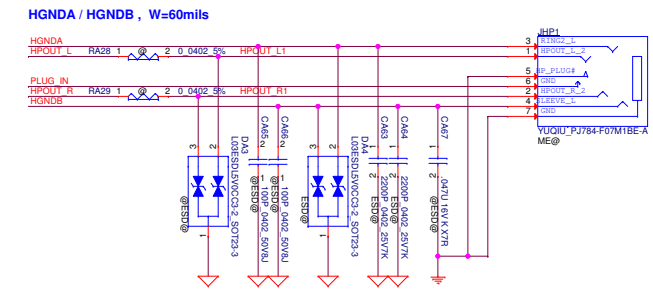
CX11880



Speaker

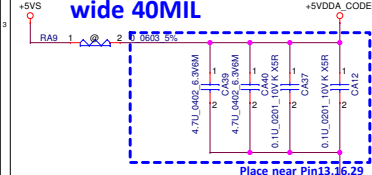


Combo Jack (Normal Open)

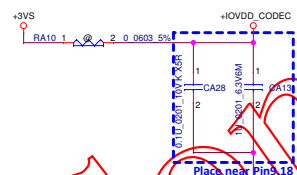


+5VS --> +5VDDA_CODED

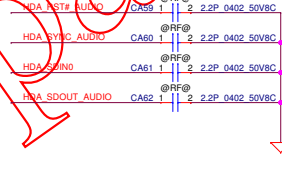
wide 40MIL



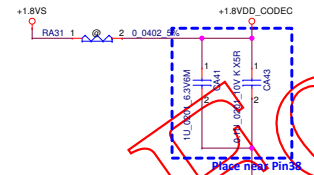
+3VS --> +IOVDD_CODED



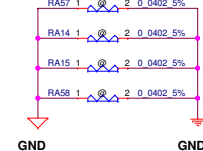
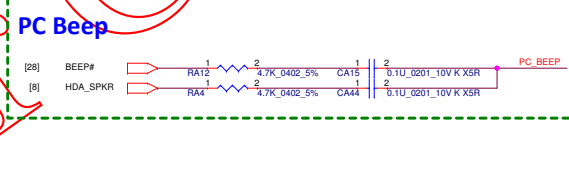
RF request



+1.8VS --> +1.8VDD_CODED

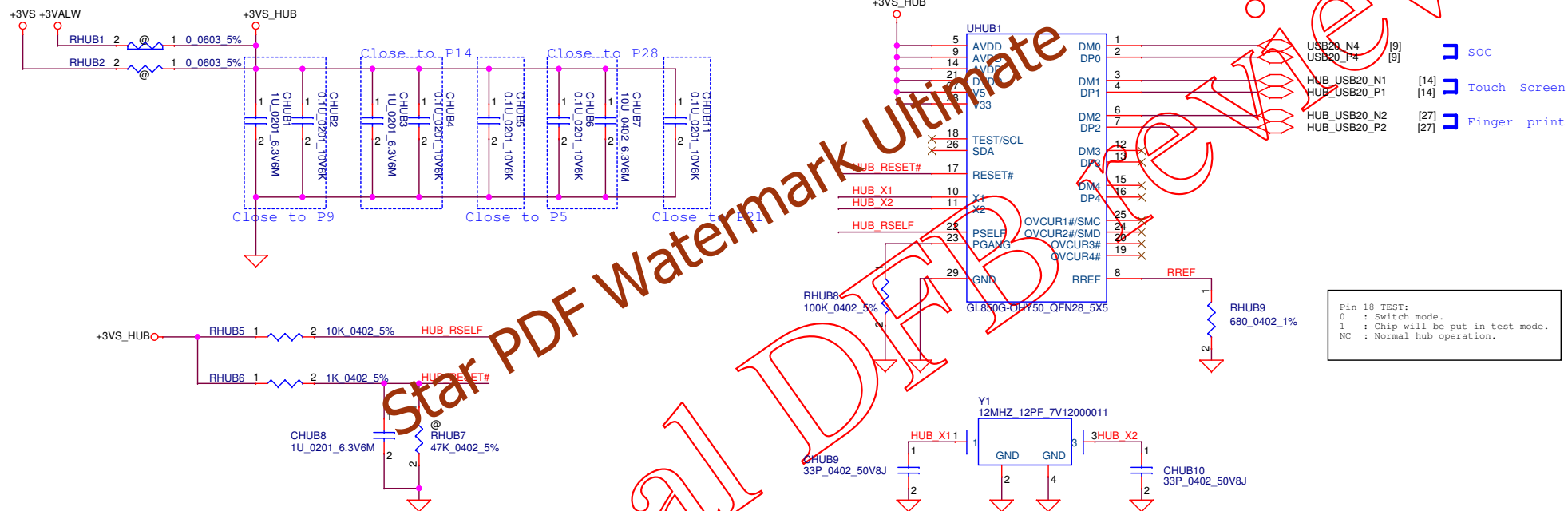


PC Beep



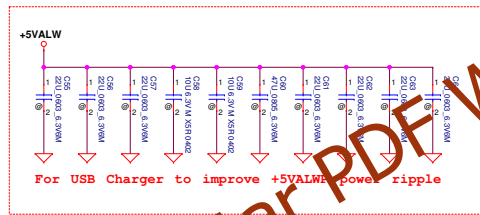
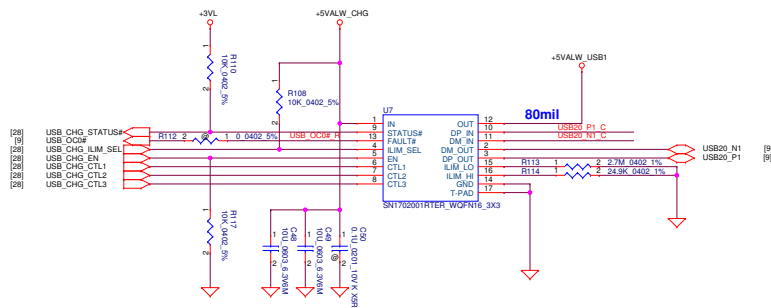
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	HD Audio Codec CX11880
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-H091P
				Date	Monday, December 17, 2018
				Sheet	20 of 41

USB20 HUB

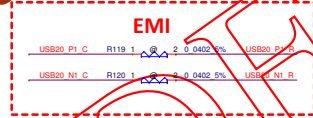
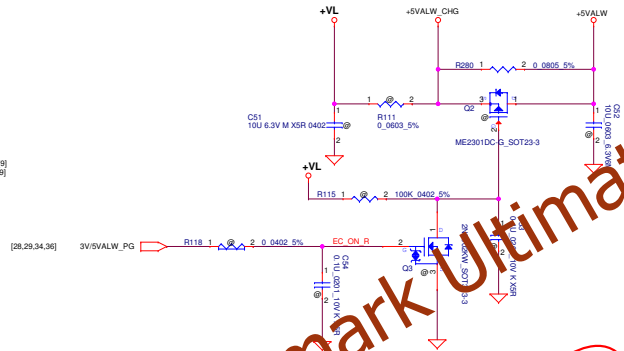


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				USB20 Hub	
Size	Document	Number	Rev	LA-H091P	
Date:	Monday, December 17, 2018			Sheet	21 of 41

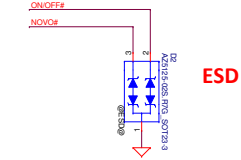
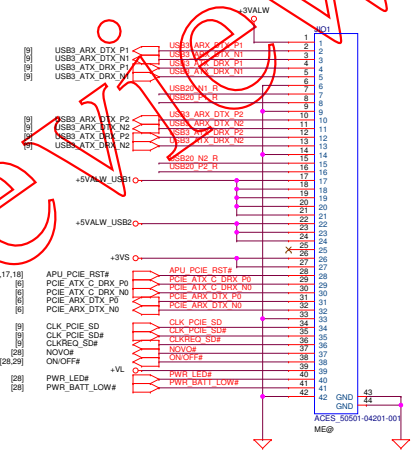
USB3.0_Port (AUO_Port)



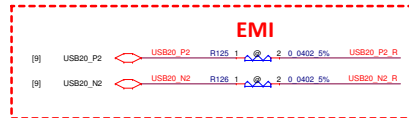
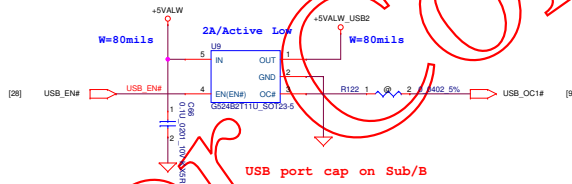
USB Charge switch



IO CONN

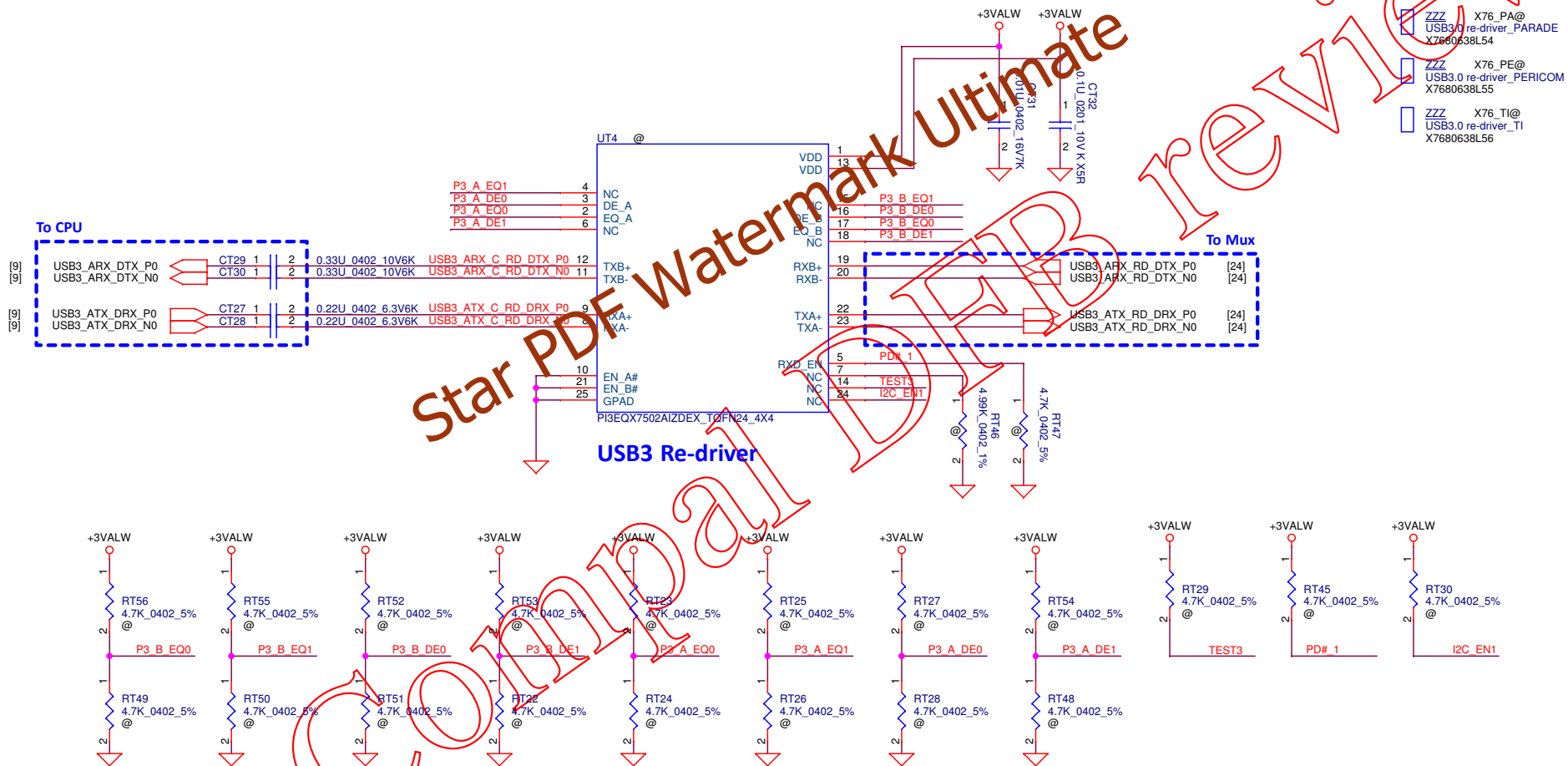


USB3.0_Port (Non AUO_Port)



Type-C USB3.1_Port

TI @	<input type="checkbox"/> UT4 TI@ SN65LPV512RGER	<input type="checkbox"/> RI48 TI@ 0_0402_5%	<input type="checkbox"/> RI26 TI@ 0_0402_5%	<input type="checkbox"/> RT22 TI@ 0_0402_5%	<input type="checkbox"/> RT50 TI@ 0_0402_5%	<input type="checkbox"/> RT51 TI@ 0_0402_5%
PA@	<input type="checkbox"/> UT4 PA@ PS8713BTQFN24GTR2-A2	<input type="checkbox"/> RI25 PA@ 4.7K_0402_5%				
PE@	<input type="checkbox"/> UT4 PE@ P3EQX7502AIZDEX TQFN24	<input type="checkbox"/> RI49 PE@ 4.7K_0402_5%	<input type="checkbox"/> RT24 PE@ 4.7K_0402_5%	<input type="checkbox"/> RT28 PE@ 4.7K_0402_5%		



Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title Type-C USB3.1 Re-driver		
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 B	Document Number LA-H091P	Rev 1.0
				Date Monday, December 17, 2018	Sheet 23	of 41

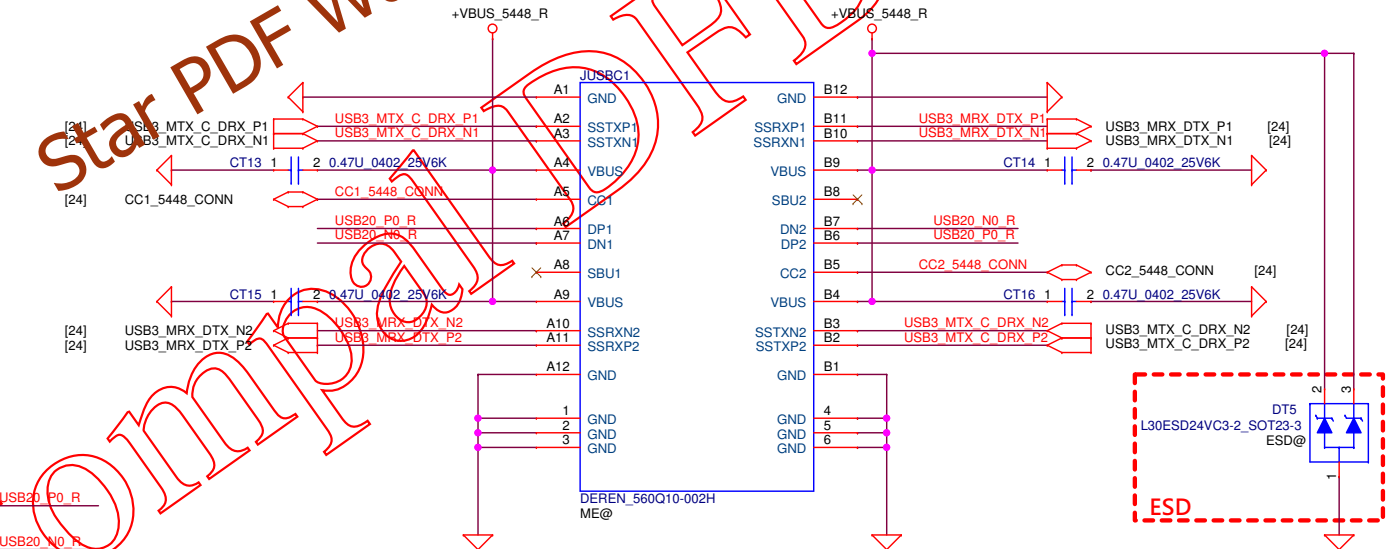
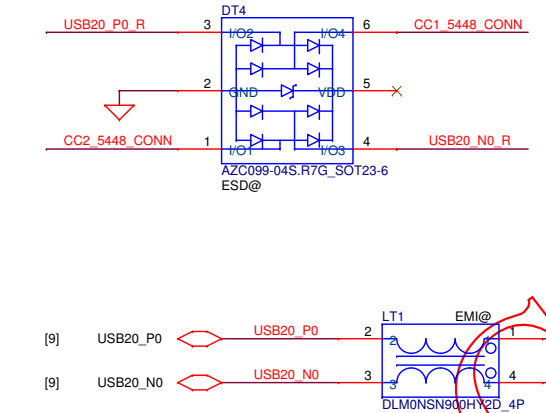
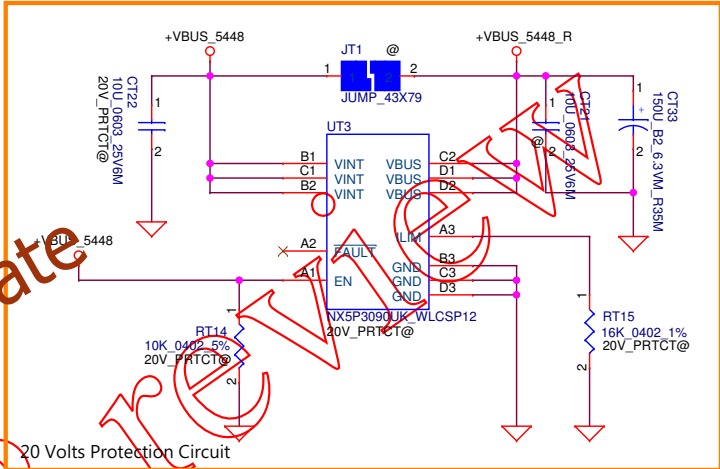
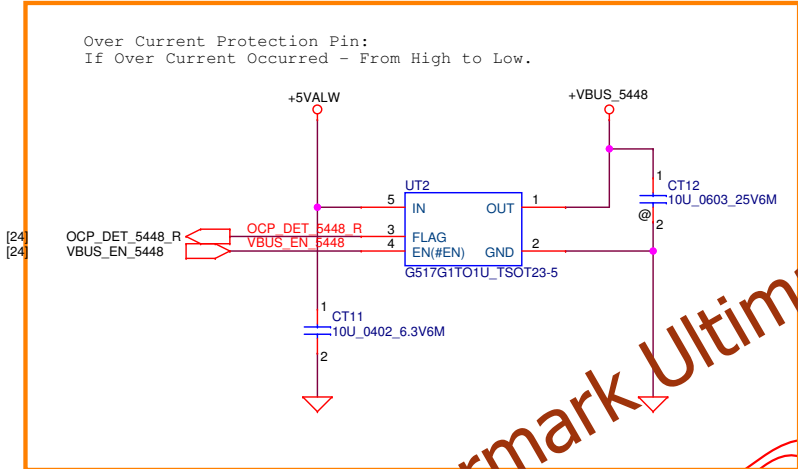
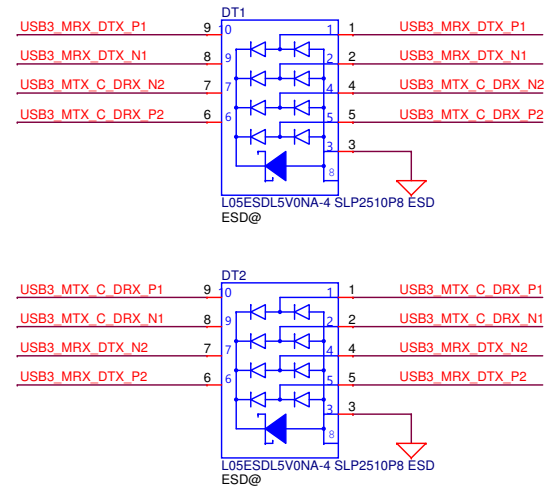
	M1	M0	Note
Rp:900mA	0	1	RT4/RT13 mount,RT12/RT5don't mount
Rp:1.5A	1	0	RT12/RT5 mount,RT4/RT13don't mount
Rp:3.0A	1	1	RT12/RT13mount,RT4/RT5 don't mount

	M1	M0	Note
Rp:900mA	0	1	RT4/RT13 mount,RT12/RT5don't mount
Rp:1.5A	1	0	RT12/RT5 mount,RT4/RT13don't mount
Rp:3.0A	1	1	RT12/RT13mount,RT4/RT5 don't mount

Power switch enable pin	Note
Low Active	RT7/RT10 mount
High Active	RT10 mount, RT7 don't mount

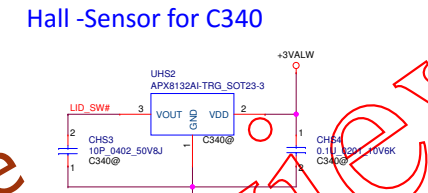
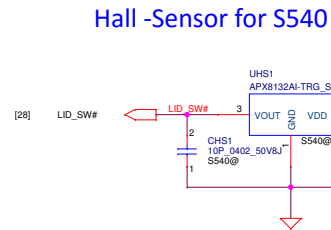
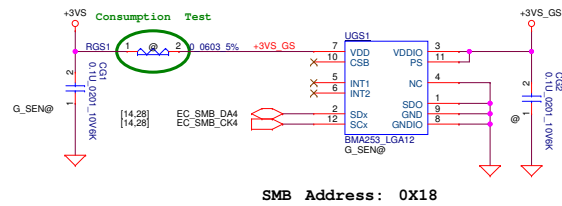
Power switch OCP pin	Note
Low Active	RT8/RT11 mount
High Active	RT11 mount, RT8 don't mount

ESD COMPONENTS

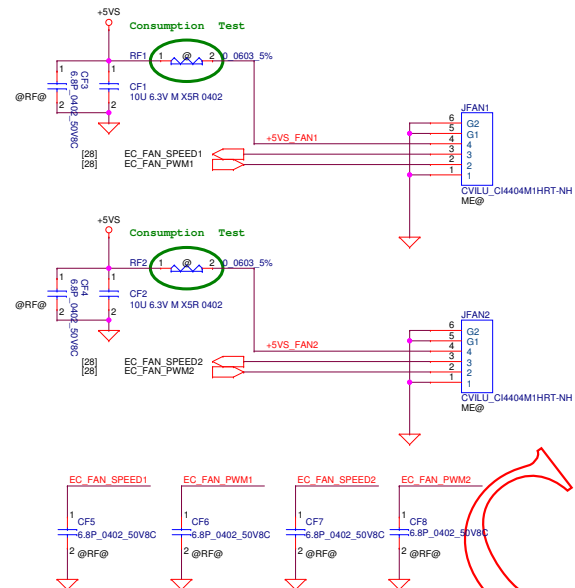


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Type-C RTS5448 CONN	
Size B	Document Number	LA-H091P		Rev	1.0
Date: Wednesday, December 19, 2018		Sheet	25	of	41

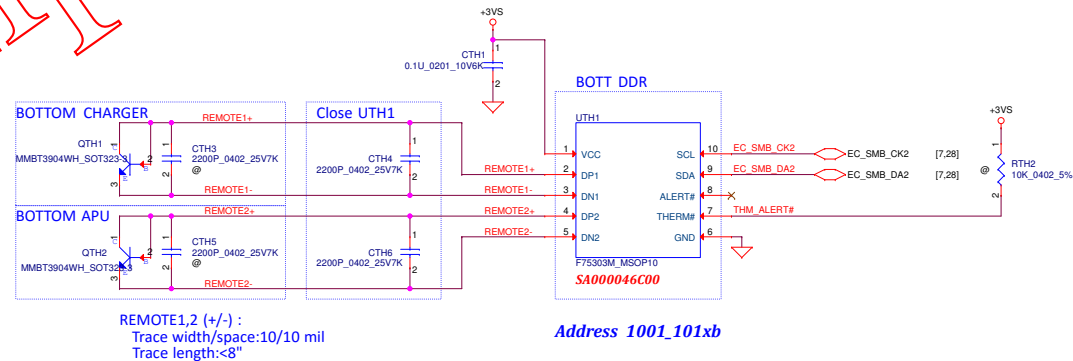
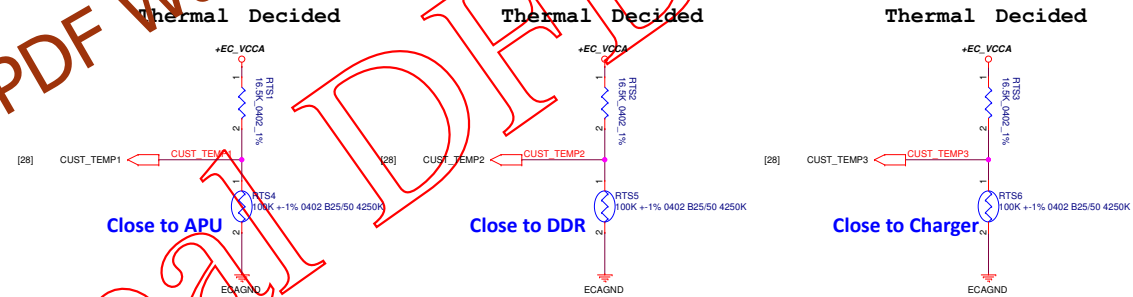
LID



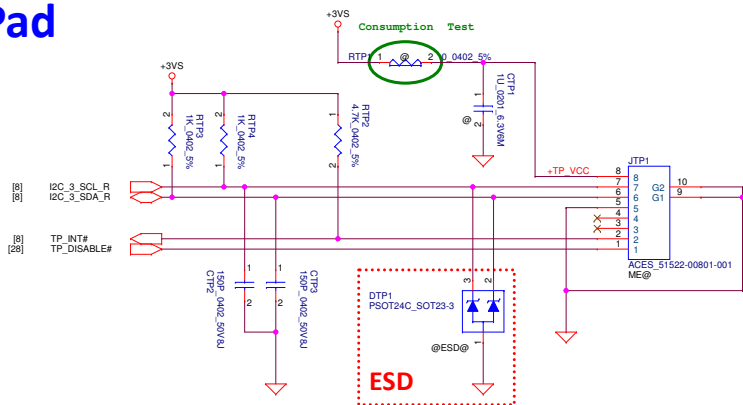
FAN Conn



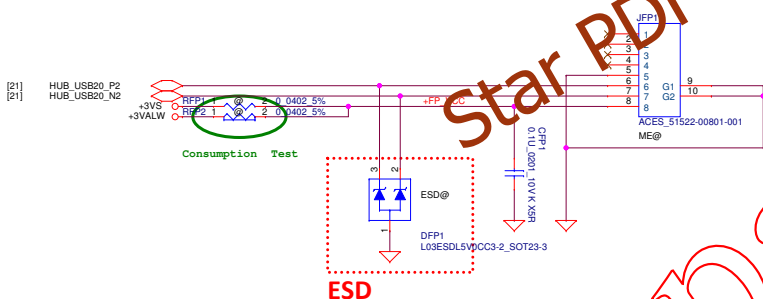
Thermistor



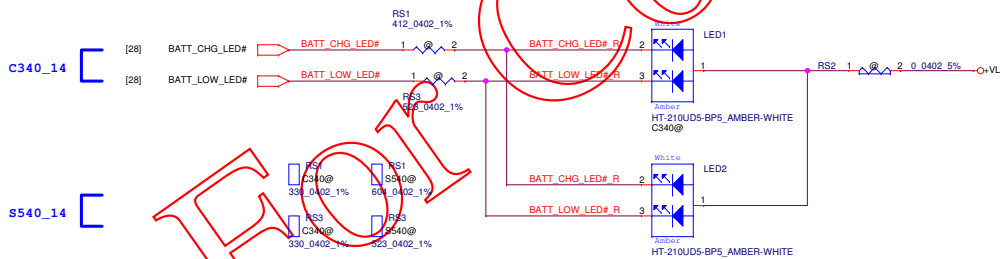
Touch Pad



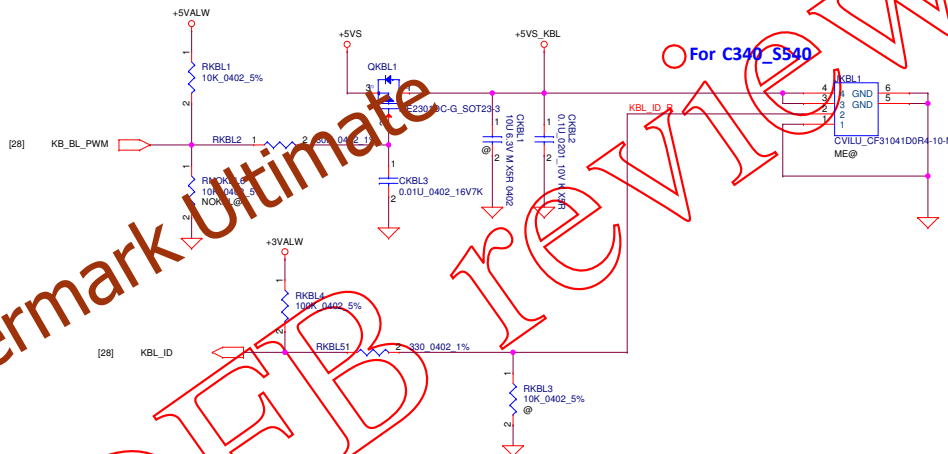
Finger Printer



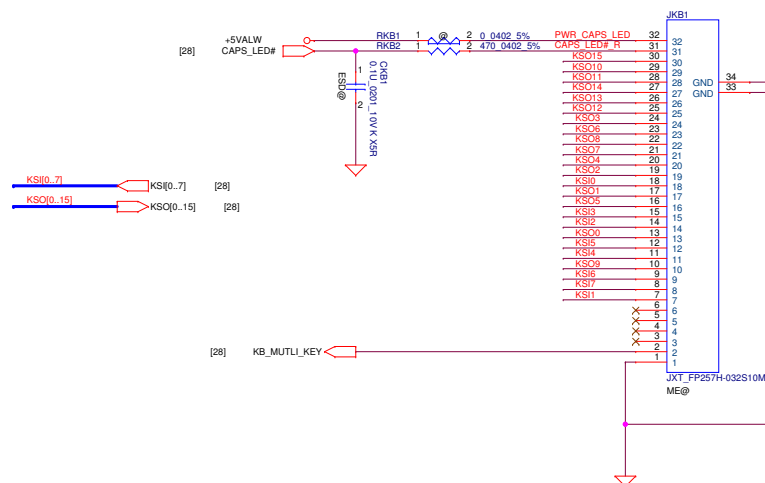
LED



Keyboard Backlight

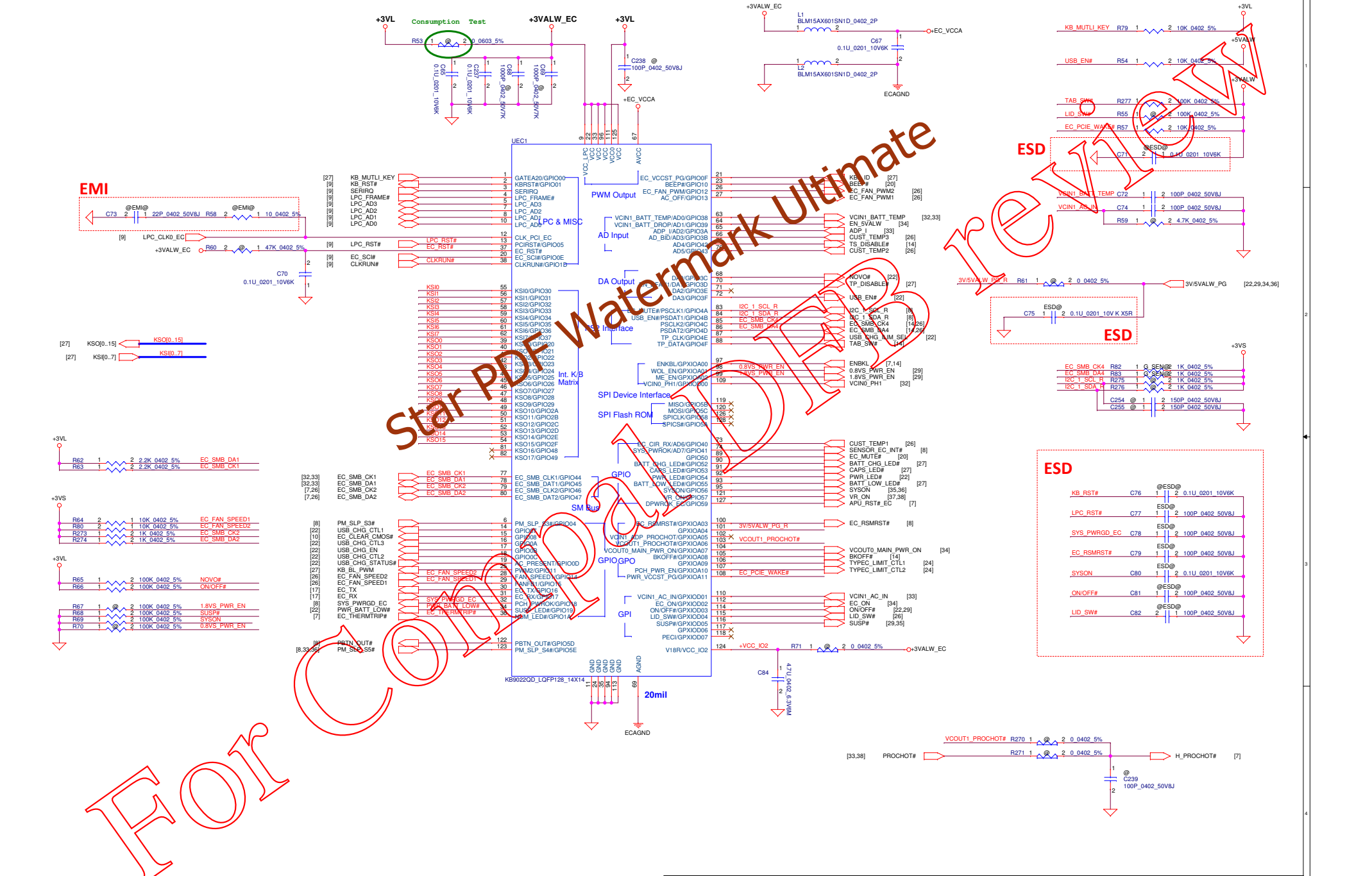


Keyboard Conn



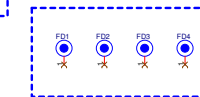
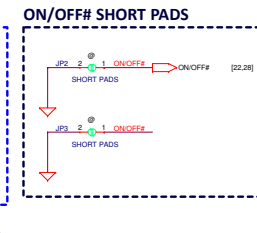
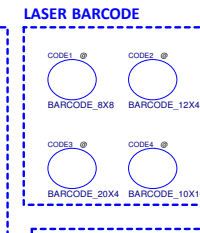
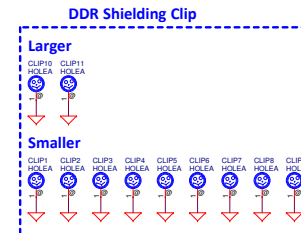
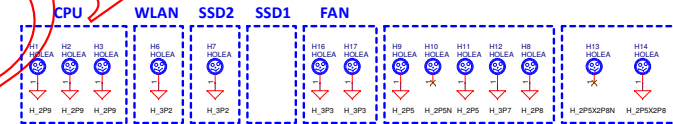
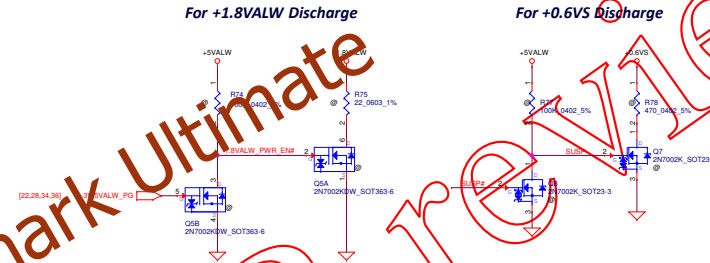
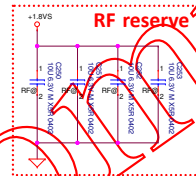
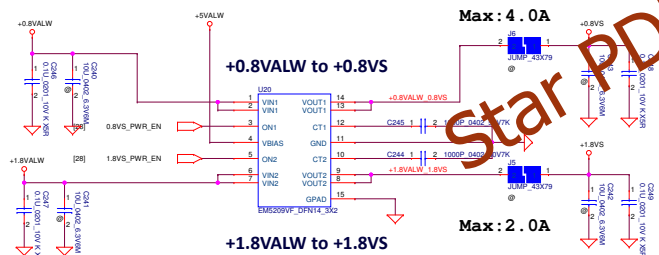
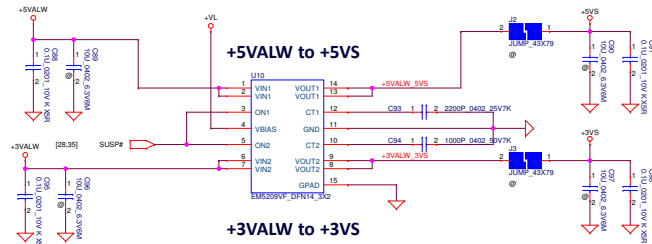
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				KBD/FP/TP/LED
Size	C	Document Number	LA-H091P	Rev 1.0
Date:	Monday, December 17, 2018	Sheet	27	of 41

Embedded Controller



DC to DC

Discharge Circuit

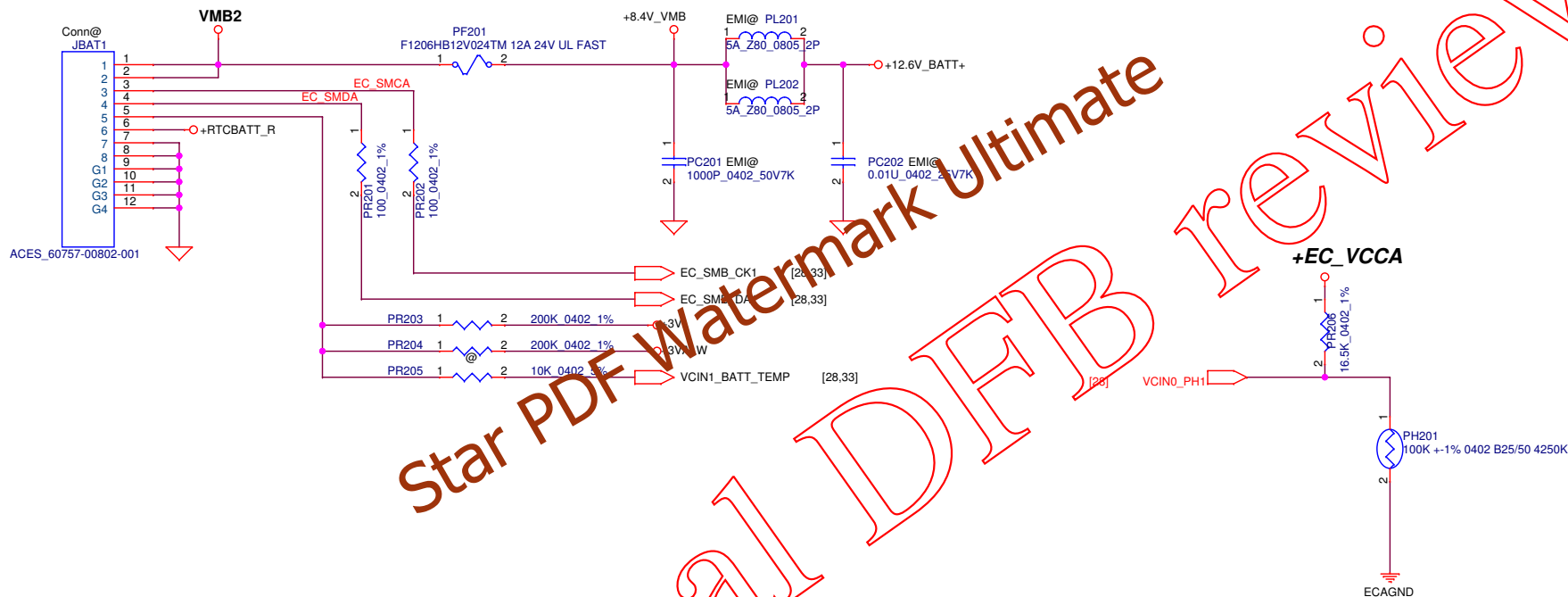


Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2018/06/24	Deciphered Date	2018/05/25
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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 DC/DC Interface Rev 1.0
Size	Document Number	LA-H091P	Rev
1/28	Monday, December 17, 2018	15:28:28	28 01 41

Star PDF Watermark Ultimate

For Compal DEB review

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/08/24	Deciphered Date	2018/05/25	Title	
<div>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.</div>				Reserve	
				Size	Document Number
				Custom	LA-H091P
Date		Monday, December 17, 2018		Sheet	30 of 41



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

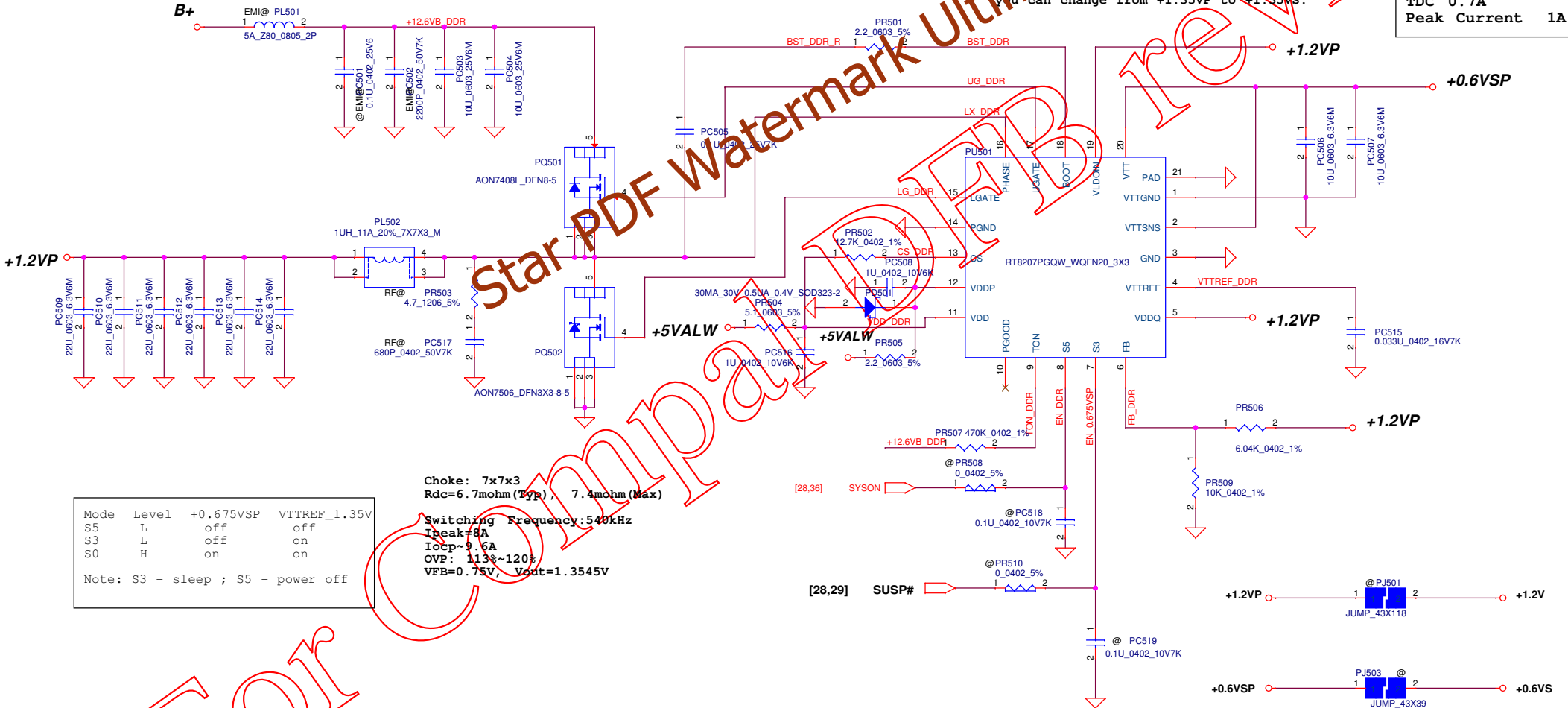
Security Classification		Compal Secret Data		Title	
Issued Date	2018/05/04	Deciphered Date	2018/05/25	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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	1.0
Date: Monday, December 17, 2018				Sheet	32 of 41

Module model information

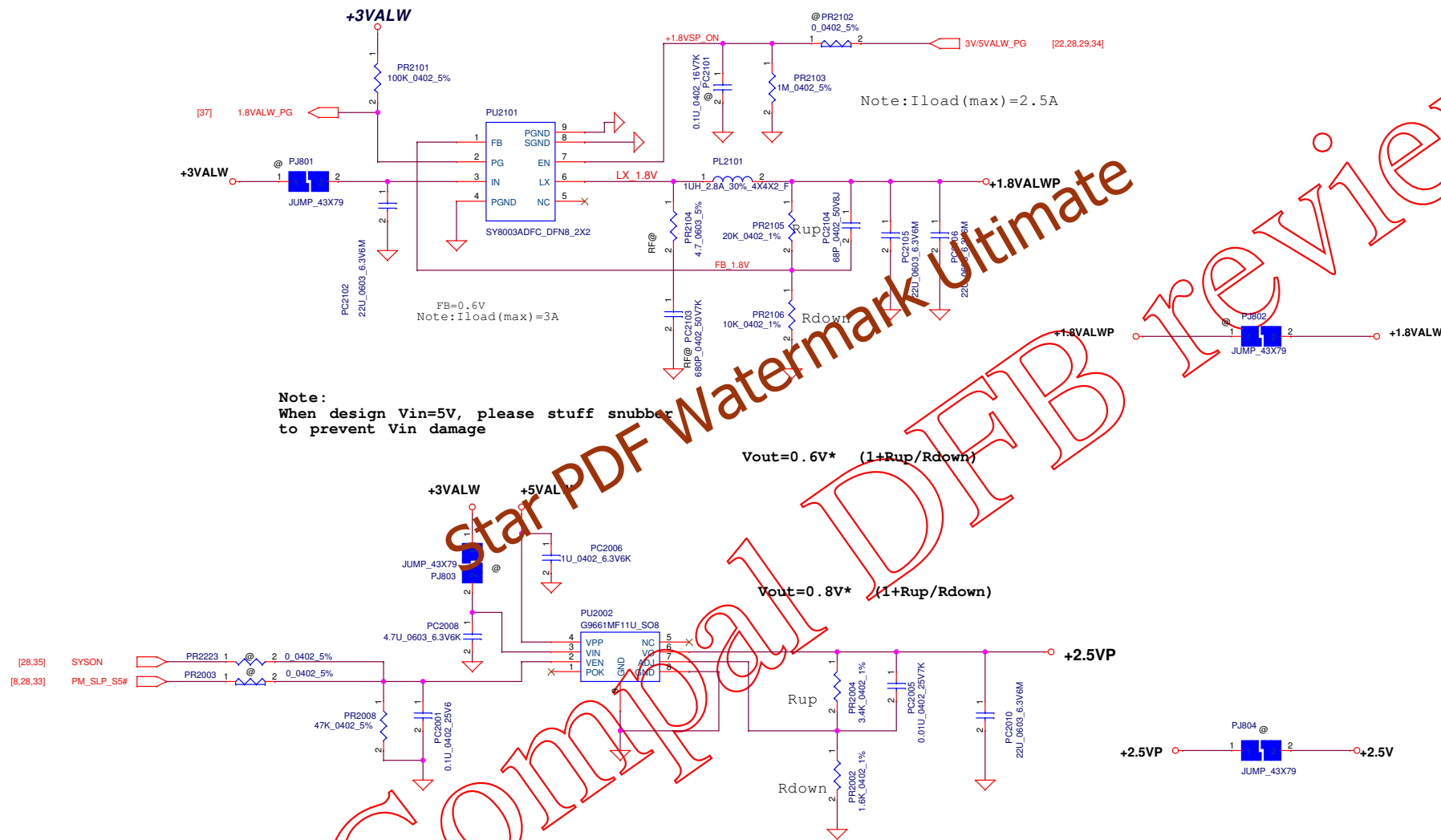
RT8207P_single_V3.mdd For Single layer
RT8207P_dual_V3.mdd For Dual layer

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

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



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/05/04	Deciphered Date	2018/05/25	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.				1.2VP/0.6VSP	
Size	Document	Number	Custom	Rev	1.0
Date:	Monday, December 17, 2018			Sheet	35 of 41

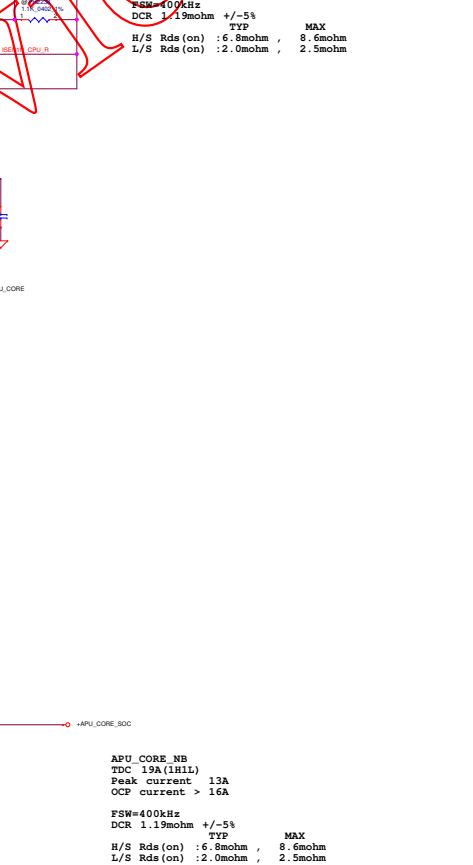
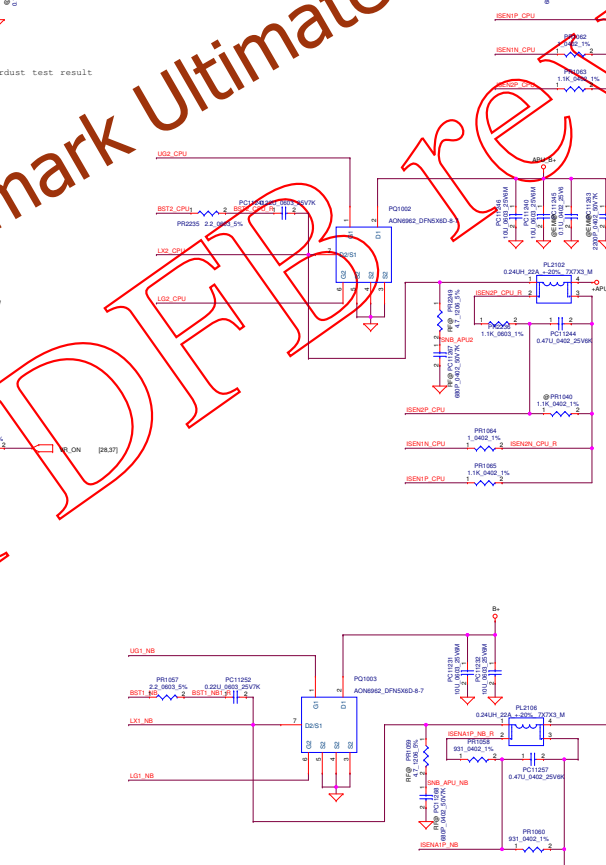
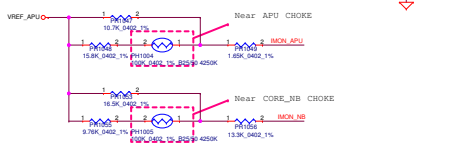


Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2018/05/04		Deciphered Date		2018/05/25		Title		+1.8VALW/+2.5V_G9661	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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		LA-G241P		1.0	
Date:						Monday, December 17, 2018		Sheet		36 of 41	

SY8286_V2_single.mdd
SY8286_V2_dual.mdd

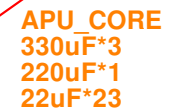


Security Classification		Compal Secret Data		Compal Electronics, Inc. +10VALW SY8286RAC	
Issued Date	2018/05/04	Deciphered Date	2018/05/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Rev
				Document Number	1/
Date: Monday, December 17, 2018		Sheet 37 of 41			



Security Classification	Compul Secret Data			
Issued Date	2018/05/04	Deciphered Date	2018/05/25	Title RT3622ACGOW
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE OFFICE OF THE COMPETENT DIVISION OF PAID DEPARTMENT OF COMMERCE AS AUTHORIZED BY COMMERCE SECRETARY. THIS SHEET MAY NOT BE REPRODUCED, COPIED, REPRODUCED, OR USED IN ANY MANNER OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPUL ELECTRONICS, INC.			Rev 1.0	
USA# Monday, December 17, 2018			Page 38 of 41	

+APU_CORE_SOC



Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2018/05/04	Deciphered Date	2018/05/25	Title +APU_CORE 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	LA-H091P	1.0
Date: Monday, December 17, 2018		Sheet		39	of	41

EE PIR List for SIV phase

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	18/08/08	13	Re-connect DDR_B_CS0# to Pin149 and DDR_B_CS1# to Pin157.	Fix DDR S0-DIMM can't recognized issue
2	18/08/29	20	Swap SPK signal L/R for SPK module	For audio request
3	18/08/29	21	Change 12MHz cap from 20pF to 33pF	For crystal EA result fine tuning
4	18/08/29	9	Change 48MHz cap from 6.8pF to 4.7pF	For crystal EA result fine tuning
5	18/08/29	26	Add thermal sensor circuit	For thermal request\
6	18/08/29	25	Combine Type-C CC signal into DT4	For ESD request
7	18/08/29	29	Change 0.8VS/1.8VS solution from single to dual load switch	For EA fine tune
8	18/08/29	20	Reserve 4pcs 2.2pF cap. on audio HDA bus (RST#,SYNC,SDIN,SDOUT)	For RF request
9	18/08/29	7	Change RC17 to mount and RC18 to un-mount on DP_STEREOSYNC	For HDMI PWM enable
10	18/09/13	27	Change RTP3,RTP4 from 10K to 1K , CTP2,CTP3 to 150pF	For EA fine tune

EE PIR List for SIT phase

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	18/10/29	28	Swap EC FAN1 PWM/SPEED & FAN2 PWM/SPEED trace	For Thermal request
2	18/10/29	26	RF required Reserve FAN PWM/Speed couple cap : CF3~CF8	For RF request
3	18/10/29	20	Supplier required modify AVDD power domain, +5VS to +5VALW	Follow Supplier suggestion
4	18/10/29	20	ESD required reserve HGND/HDNDB couple cap : CA63~CA66	For ESD EA test request

Version change list (P.I.R. List)

Page 1 of 1 for
PWR

Item	Reason for change	PG#	Modify List	Date	Phase
1	Based on AMD SDLE test	P38	Change PR1046 to 54.9k ohm	2018/08/23	For SIV
2	Based on AMD SDLE test	P38	Change PR1053 to 21.5k ohm	2018/08/23	For SIV
3	Based on AMD SDLE test	P38	Change PR1055 to 4.87k ohm	2018/08/23	For SIV
4	Based on AMD SDLE test	P38	Change PR1056 to 28.7k ohm	2018/08/23	For SIV
5	Based on AMD SDLE test	P38	Change PR2226 to 261k ohm	2018/08/23	For SIV

Star PDF Watermark Ultimate

For Compal DEB review

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/05/04	Deciphered Date	2018/05/25	Title	
<small>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.</small>				PIR (PWR)	
				Size	Document Number
				Custom	LA-XXXXP
Date: Monday, December 17, 2018				Sheet	41 of 41