

PROJECT NAME : NFL-C 15 CTL51
PCB NO : LA-E841P

Compal Confidential

Schematic Document

AMD Stoney Ridge
AMD R17M-M1-30/70

<http://www.repair1.ru/>

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/06/10	Deciphered Date	2015/06/30	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.			Size	Document Number
			NFL-C CTL51 LA-E841P	
			Date	Thursday, March 09, 2017
			Sheet	1 of 48
			Rev	0.1

2014-06-20 Rev: 0.1

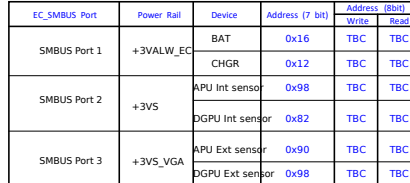
@ is NO SMT part (empty)
short@ : short pad , don't pop.
@EMI@,@ESD@,@RF@ : Reserve , don't pop.

PX@ : GPU BOM conf i g.

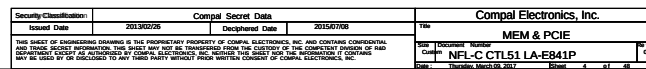
USB3.0 Port	USB2.0 Port	DESTINATION
X	0	USB 2.0 (SB)
X	1	TO SATA
X	2	TS
X	3	BT
0	4	Camera
1	5	USB 3.0 (MB)
2	6	USB 3.0 (MB)
3	7	Card Reader

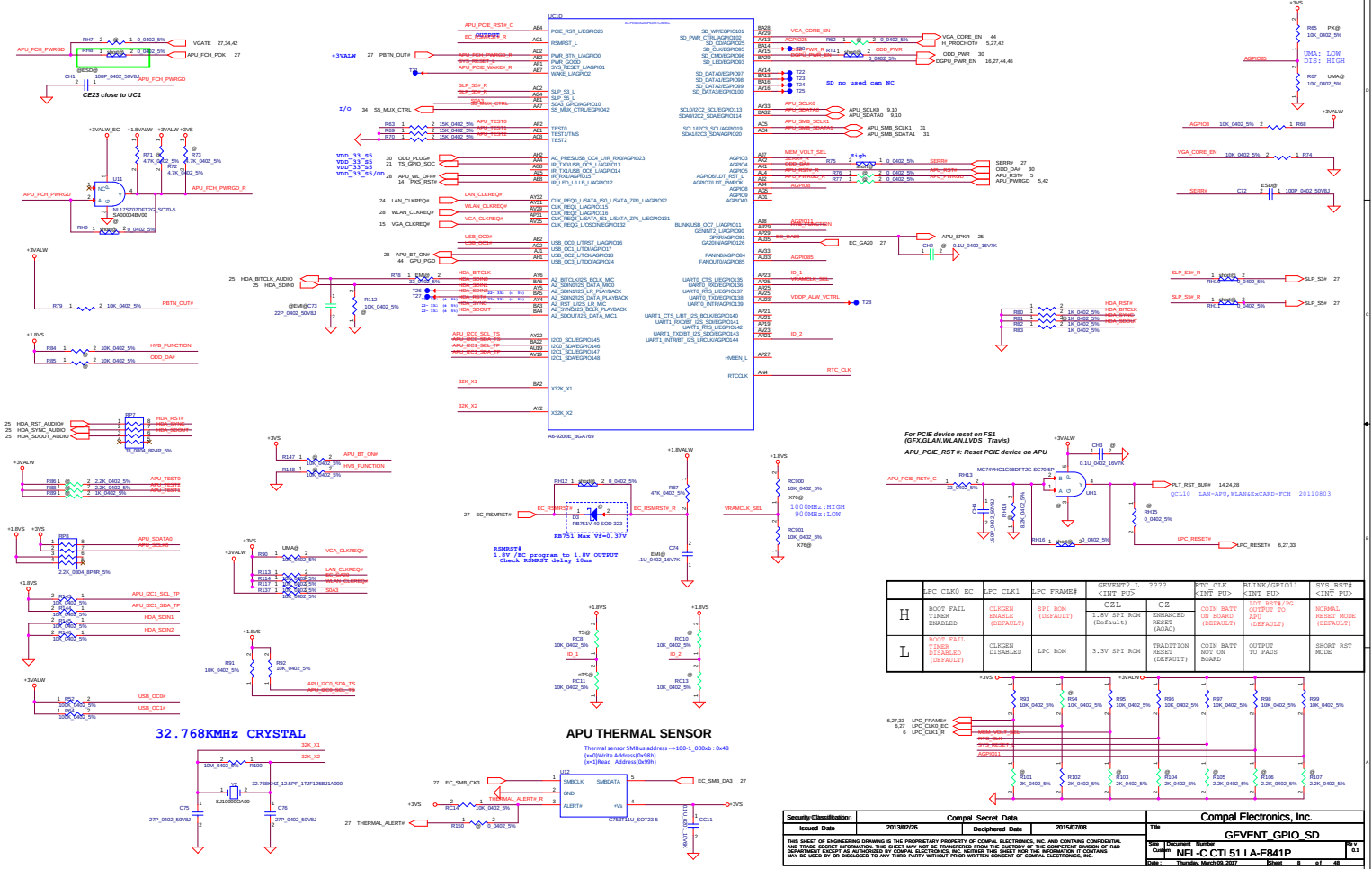
PCI-E Port	DESTINATION
0	LAN
1	
2	WLAN
3	

SATA Port	DESTINATION
0	HDD
1	SSD



Security Classification			Compal Secret Data			Compal Electronics, Inc.		
Issued Date			2011/06/29			Title		
Deciphered Date			2011/06/29			Notes List		
<p>This sheet of engineering drawings is the PROPRIETARY PROPERTY OF COMPAL ELECTRONICS INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR DISCLOSED TO THE EXTENT OF THE CONFIDENTIALITY OF THE INFORMATION CONTAINED HEREIN WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS INC. IF THIS SHEET IS REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>						<p>Rev. 0.1</p>		
<p>Quantity</p>			<p>Document Number</p>			<p>NFL-C CTL51 LA-E841P</p>		

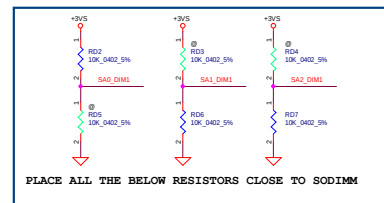




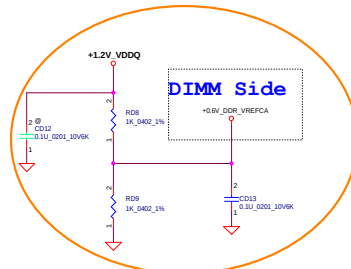
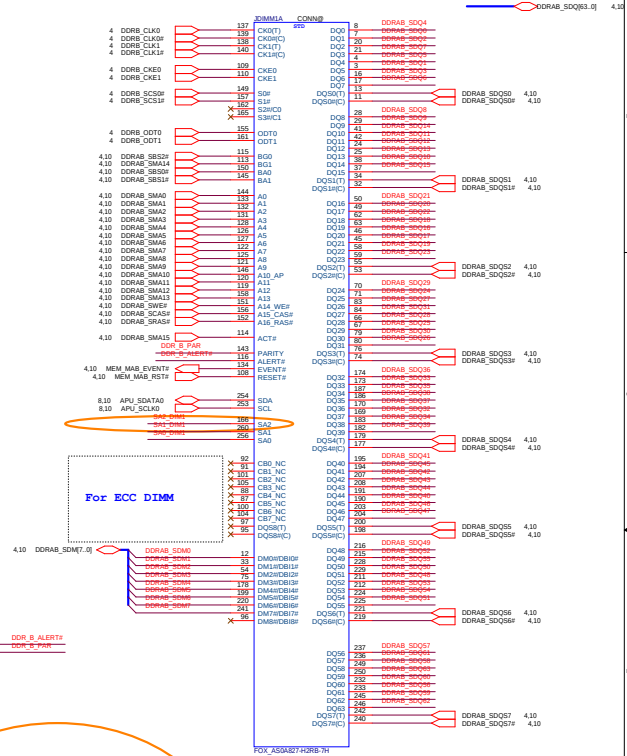
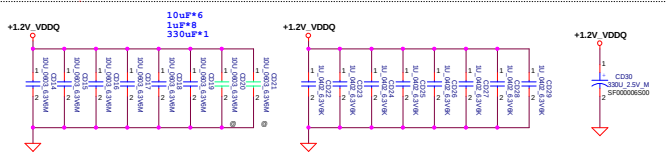
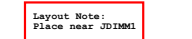
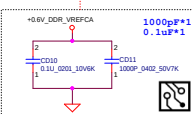
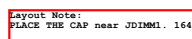
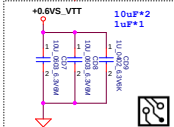
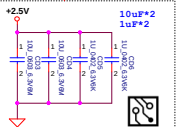
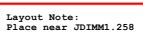
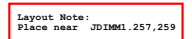
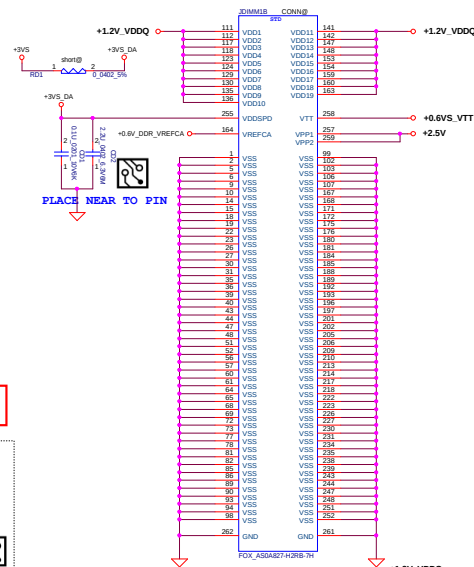
	LPC_CLK0_EC	LPC_CLK1	LPC_FRAMES	GRVNTLS_L 7777	INTV_CLR CINTV_P0	BLINK/GETOII CINTV_P0	STS_RPTS CINTV_P0
H	ROOF FAIL TIMES DISABLED	CLGDS ENABLE (DEFAULT)	SPT ROM (DEFAULT)	1.6V SPT ROM (DEFAULT)	ENHANCED REPT (ACN)	COIN RPT ON BOARD (DEFAULT)	LSIT RPTGS CINTV_P0 (DEFAULT)
L	ROOF FAIL TIMES DISABLED (DEFAULT)	CLGDS DISABLED	LPC ROM	3.3V SPT ROM (DEFAULT)	TRADITION REPT ON BOARD (DEFAULT)	COIN RPT NOT ON BOARD	LSIT RPTGS CINTV_P0 (DEFAULT)

Security Classification:	Compal Secret Data		Compal Electronics, Inc.	
Issued Date:	2013/02/26	Deciphered Date:	2015/07/08	Title
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPERTY OF COMPANY OF CAMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED OR THE CUSTODY OF THE COMPANY'S DRAWING OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPANY ELECTRONICS, INC. WITHOUT THE SHEET NOT BE THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPANY ELECTRONICS, INC.</p>			<p>Doc# Document Number</p> <p>Doc# NF1-C MLT51 LA-E841P</p> <p>Date: Thursday, March 13, 2014</p> <p>Sheet 1 of 1</p>	

Stoney JDIMM1 REVERSE TYPE

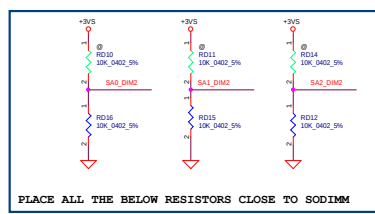


SPD ADDRESS FOR CHANNEL B :
SA0 = 1; SA1 = 0; SA2 = 0.



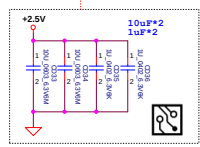
Security Classification	Compel Secret Data		Title		Compel Electronics, Inc.	
Issued Date	2015/08/03	Deciphered Date	2015/12/31	Doc ID		P11-DDRR CHR: JDIMM1
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM COMPAL ELECTRONICS, INC. THIS SHEET MAY BE USED BY OR ON BEHALF OF ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	A4	
				Rev	01	
				Date	Thurs, Mar 05 2016 9:41 AM	

Stoney JDIMM2 STD

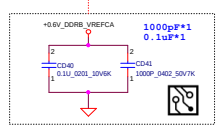


SPD ADDRESS FOR CHANNEL A :
SA0 = 0; SA1 = 0; SA2 = 0.

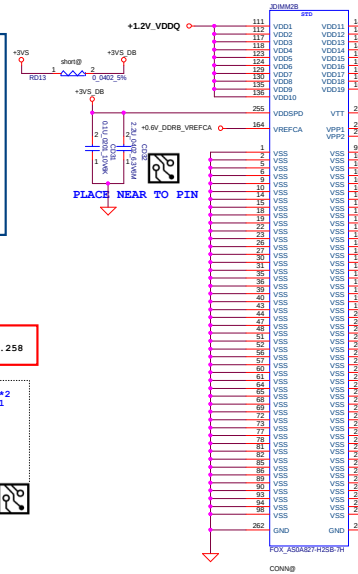
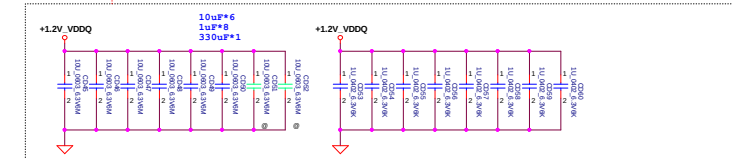
Layout Note:
Place near JDIMM2.257,259



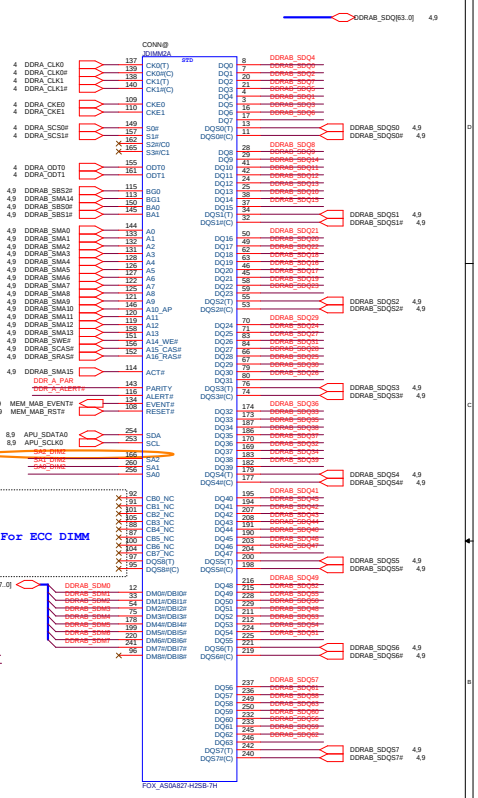
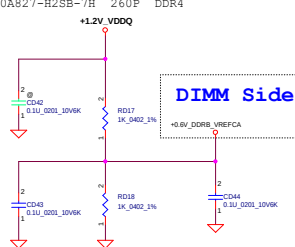
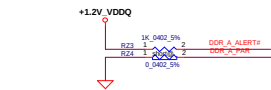
Layout Note:
PLACE THE CAP WITHIN 200 MILS FROM THE JDIMM2



Layout Note:
Place near JDIMM2



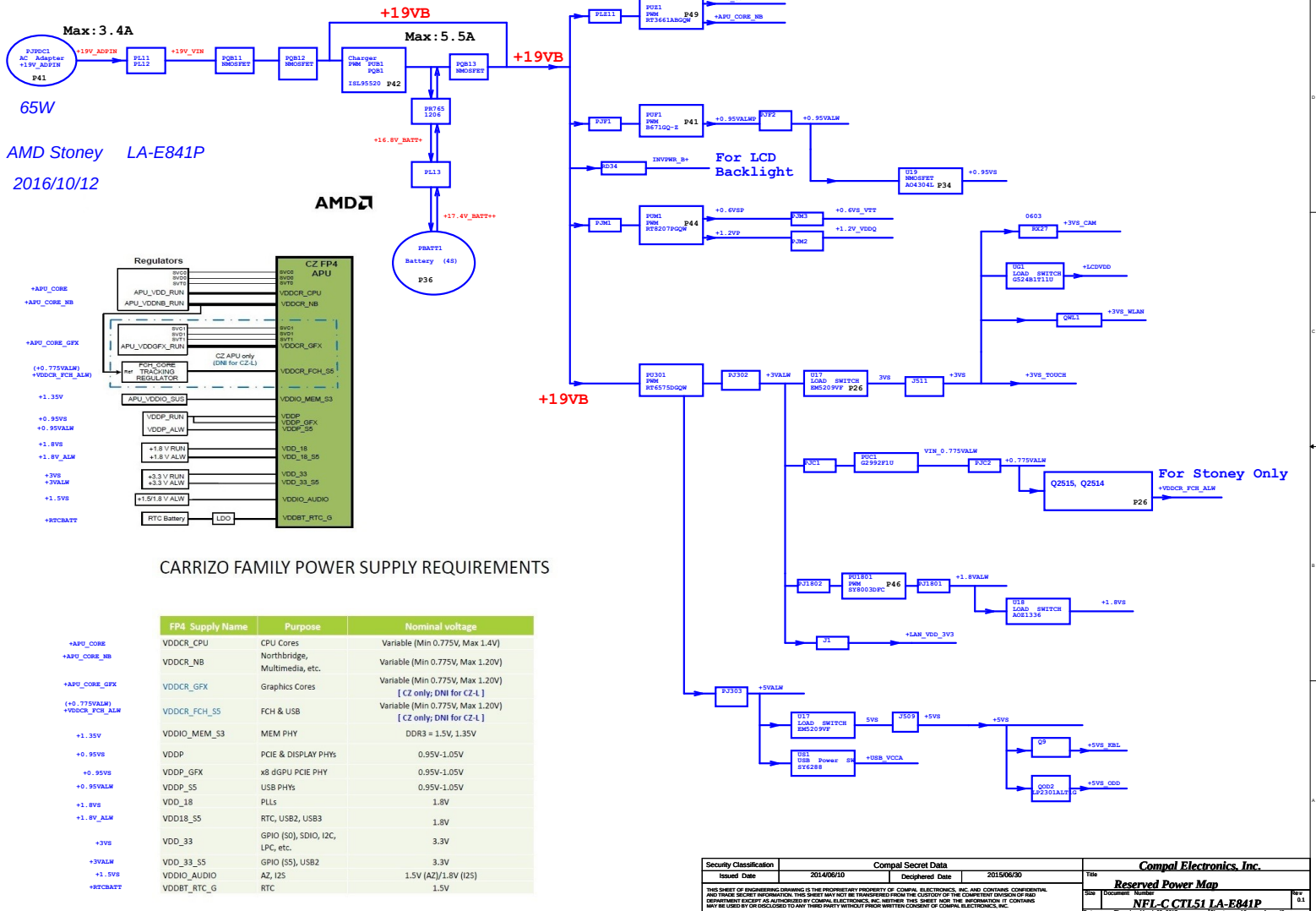
Part Number: LTCX0069FA0
Part Value: S SOCKET FOX AS0A827-H2SB-7H 260P DDR4



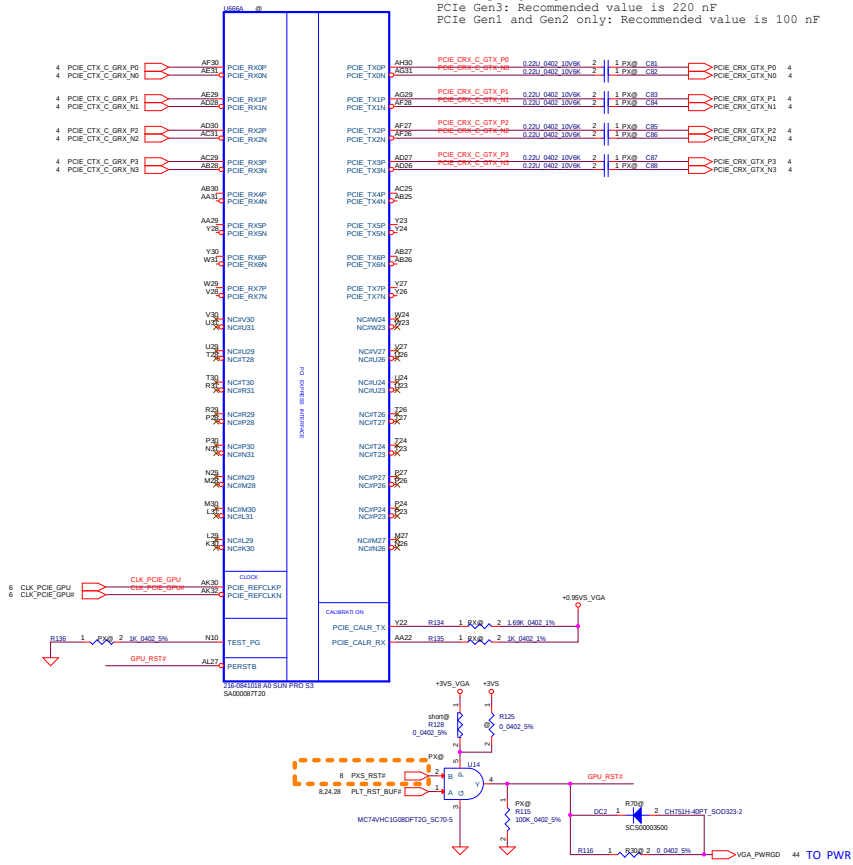
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2015/06/03	Deciphered Date	2015/12/31	Title	P12-DDR4 CHA: JDIMM2
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Rev	6.1
Date: Thursday, March 26, 2017				Sheet	35 of 46

Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date		Deciphered Date		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				
				Size	Document Number		Rev	
				LA-D712P		0.1		
				Date:	Thursday, March 09, 2017		Sheet	11

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date	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	Rev
			Document Number	0.1
			NFL-C CTL51 LA-E841P	
Date: Thursday, March 09, 2017			Sheet	12 of 48

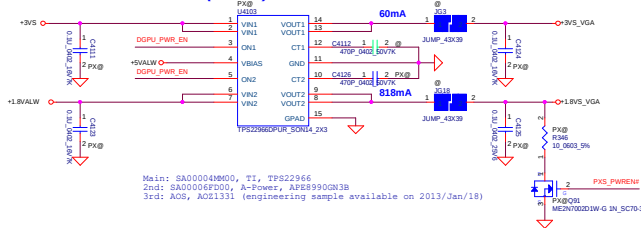


AC Coupling Capacitor
PCIe Gen3: Recommended value is 220 nF
PCIe Gen1 and Gen2 only: Recommended value is 100 nF

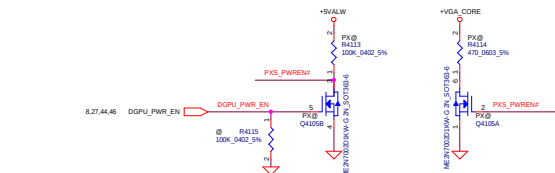
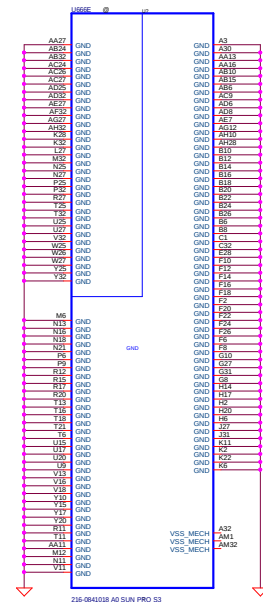
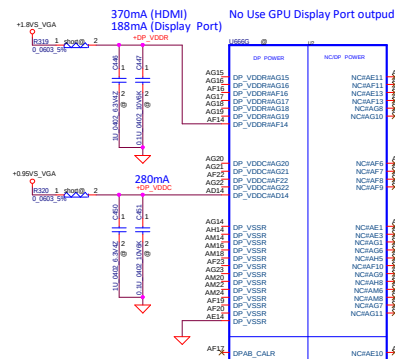
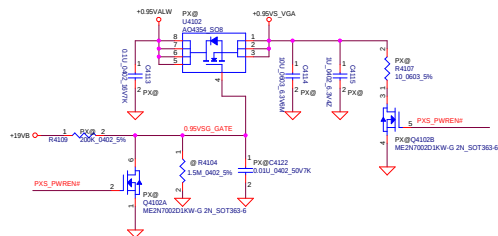


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2015/09/01	Deciphered Date	2017/09/01	Title	SUN_PCIE/DP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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	NFL-C CTI 51 LA-E841P
				Date	Thursday, March 09, 2017

+3VS to +3VS_VGA (25mA)
+1.8VALW to +1.8VS_VGA (311mA)

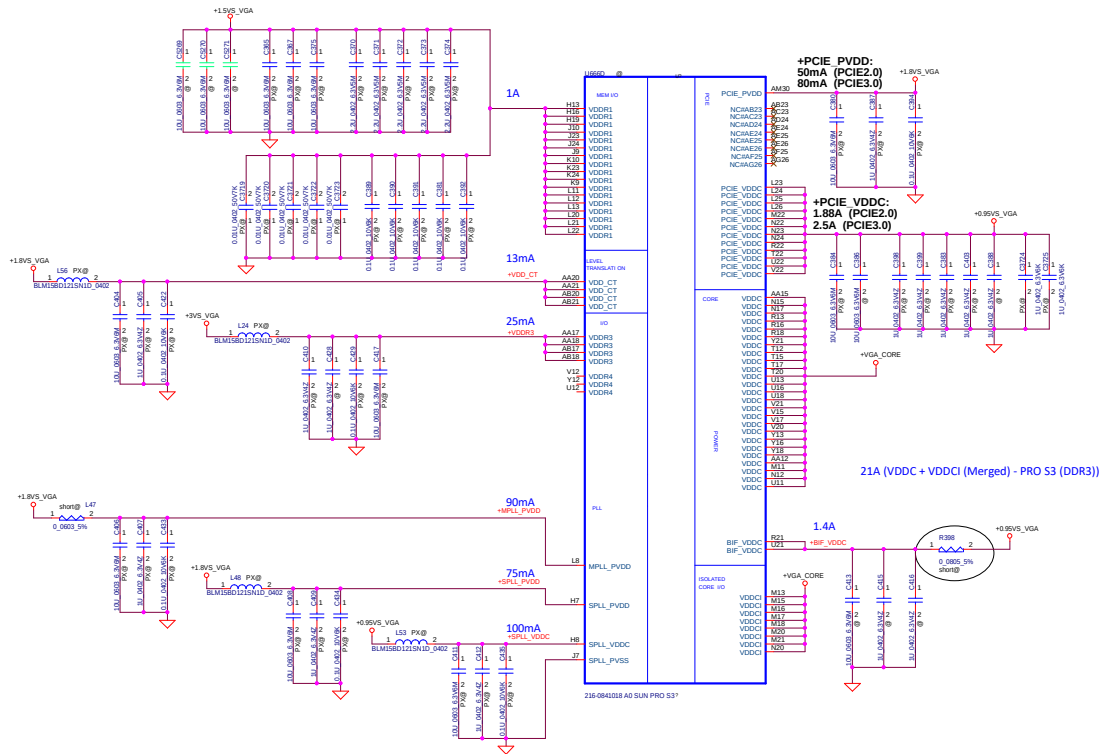


+0.95VALW to +0.95VSG (4.016A)



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/01/11	Deciphered Date	2013/12/31	Title	
				SUN Power/GND	
				Rev	
				NFI-C CT151 LA-E841P	
				Date	
				2013/01/11	
				Page	
				1	

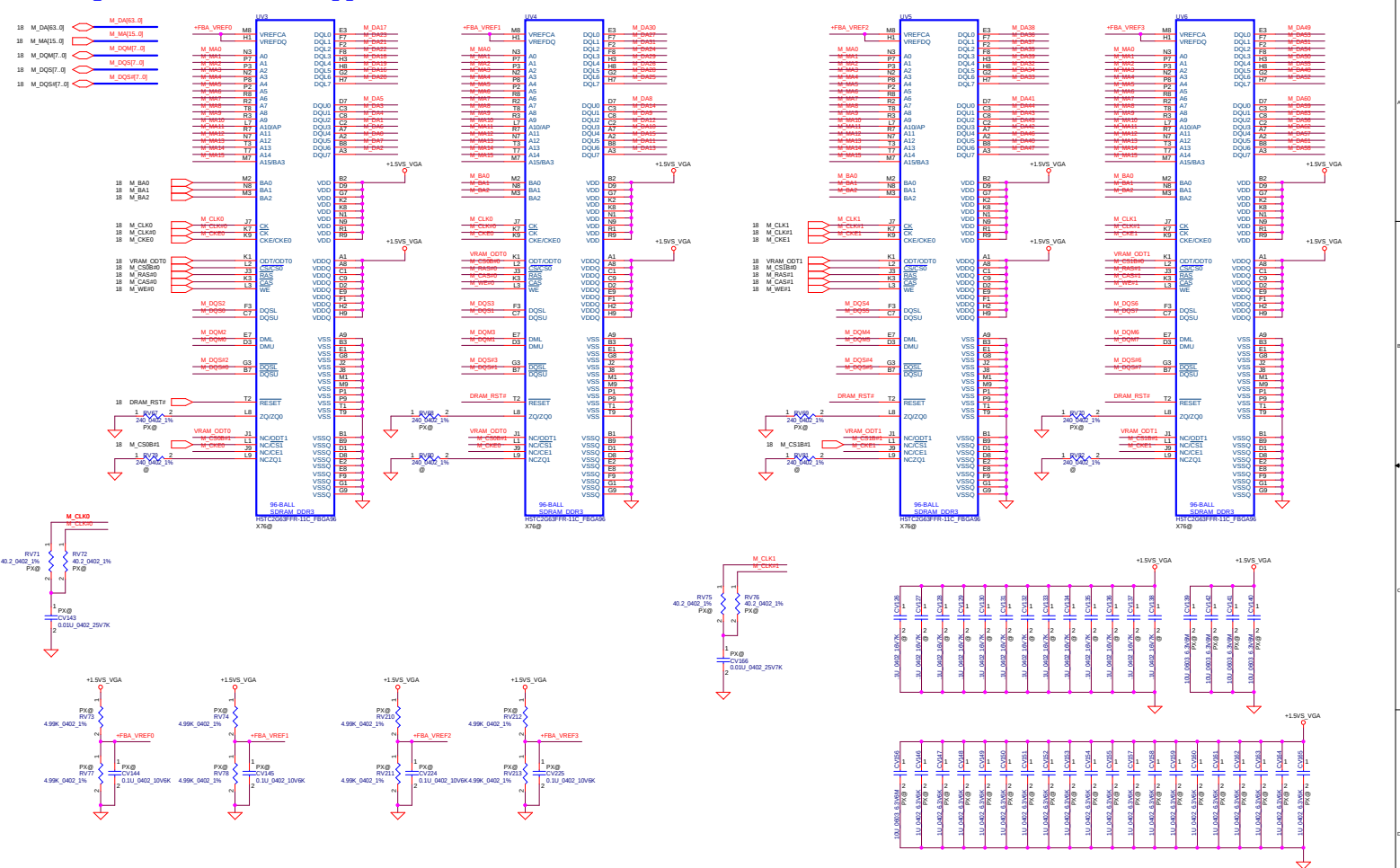
+VGA_CORE	10uF	1uF	0.1uF
VDDC	TBD	5 (1@)	10 (2@)
VDDCI	3.5A	1	3
+0.95VS_VGA	10uF	1uF	0.1uF
PCIe_VDDC	2.5A	2 (1@)	5 (1@)
BIF_VDDC	1.4A	0	0
SPLL_VDDC	100mA	1	1
+1.5VS_VGA	10uF	1uF	0.1uF
VDDR1	1.5A	3	5
+1.8VS_VGA	10uF	1uF	0.1uF
PCIe_PVDD	100mA	1	1
MPLL_PVDD	130mA	1	1
SPLL_PVDD	75mA	1	1
VDDR4 (300mA)	0	0	0
VDD_CT	13mA	1	1
+TSVDD	13mA	1	1
+DP_VDDR	0	0	0
+DP_VDDC	0	0	0
+3VS_VGA	10uF	1uF	0.1uF
VDDR3	25mA	0	2 (1@)



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/01/11	Deciphered Date	2013/12/31	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 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.				SUN Power
Rev	0	Document	Number	Rev
0	0	0	0	0
NFI-C C1151 LA-E841P				Rev
Date				0

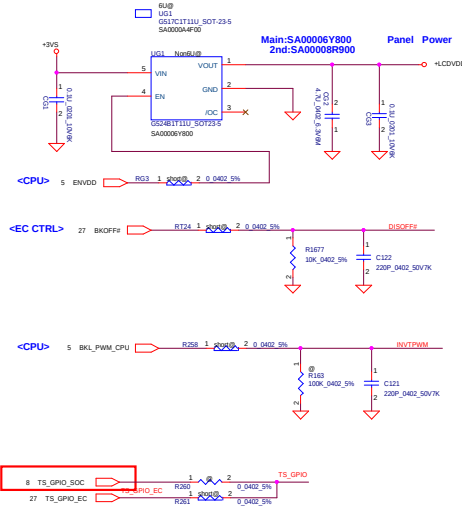
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.
Issued Date	2013/01/11	Deciphered Date	2013/12/31	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF NAO TO ANY OTHER PERSON AUTHORIZED BY COMPAL ELECTRONICS, INC. TO RECEIVE THE INFORMATION. IT CONTAINS NO INFORMATION THAT COULD BE USED OR USED BY DISCLOSURE TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Size	11x17
			Location	NE-C CPT 51 LA-F841
			Date	Thursday, March 14, 2013

Memory Partition A - Upper 32 bits

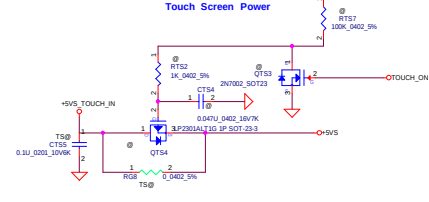
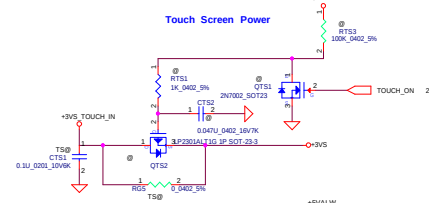
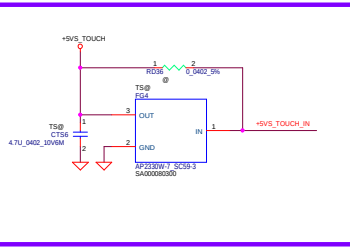
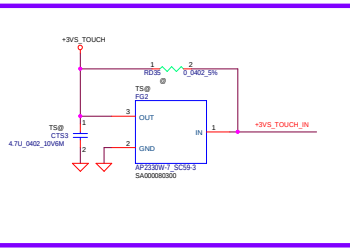
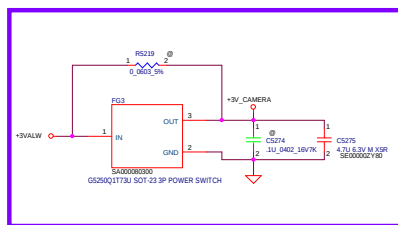
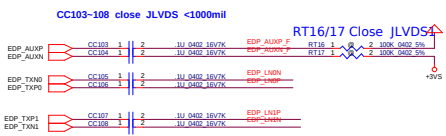
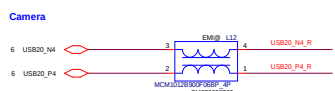
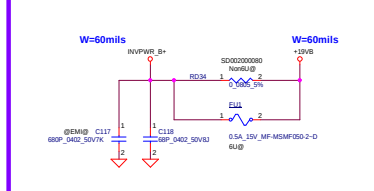
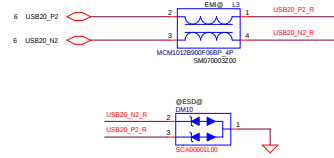


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/01/11	Deciphered Date	2013/12/31	Title	SUN_VRAM A Upper
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	Docu	1	Rev	1
Rev	1	Docu	1	Rev	1
Rev	1	Docu	1	Rev	1

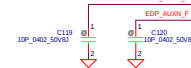
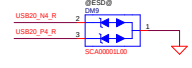
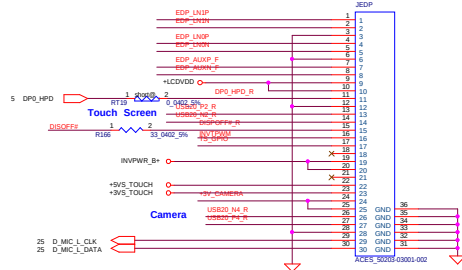
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		SUN VRAM A Lower	
2013/01/11		2013/12/31		Rev	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF INAO 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.				NFI-C C1151 LA-E841P	
Date				Thursday, March 06, 2014	



Touch Screen

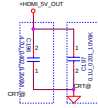
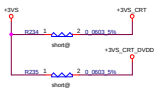


LCD/LED PANEL Conn.

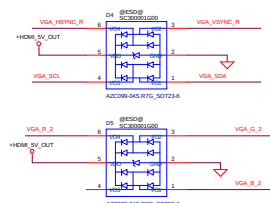
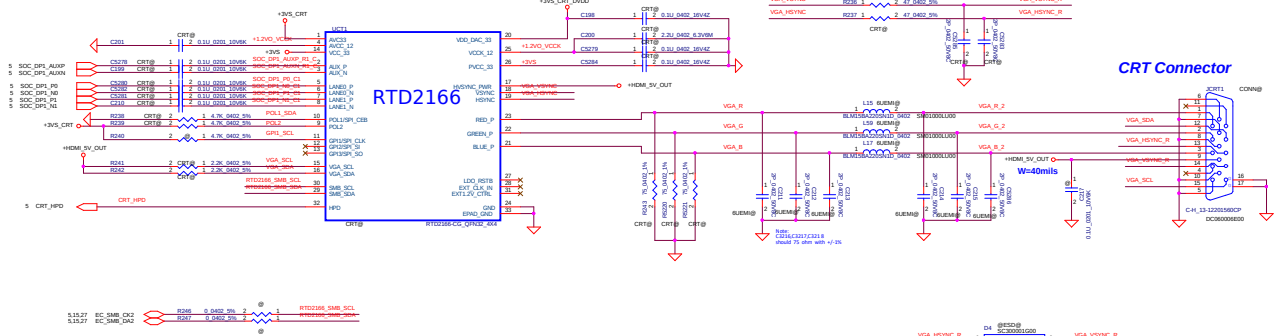


Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		eDP	
2015/09/01		2017/09/01		Rev 5.1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF AND 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.		Date		Friday, March 31, 2017	
				Sheet 21 of 48	

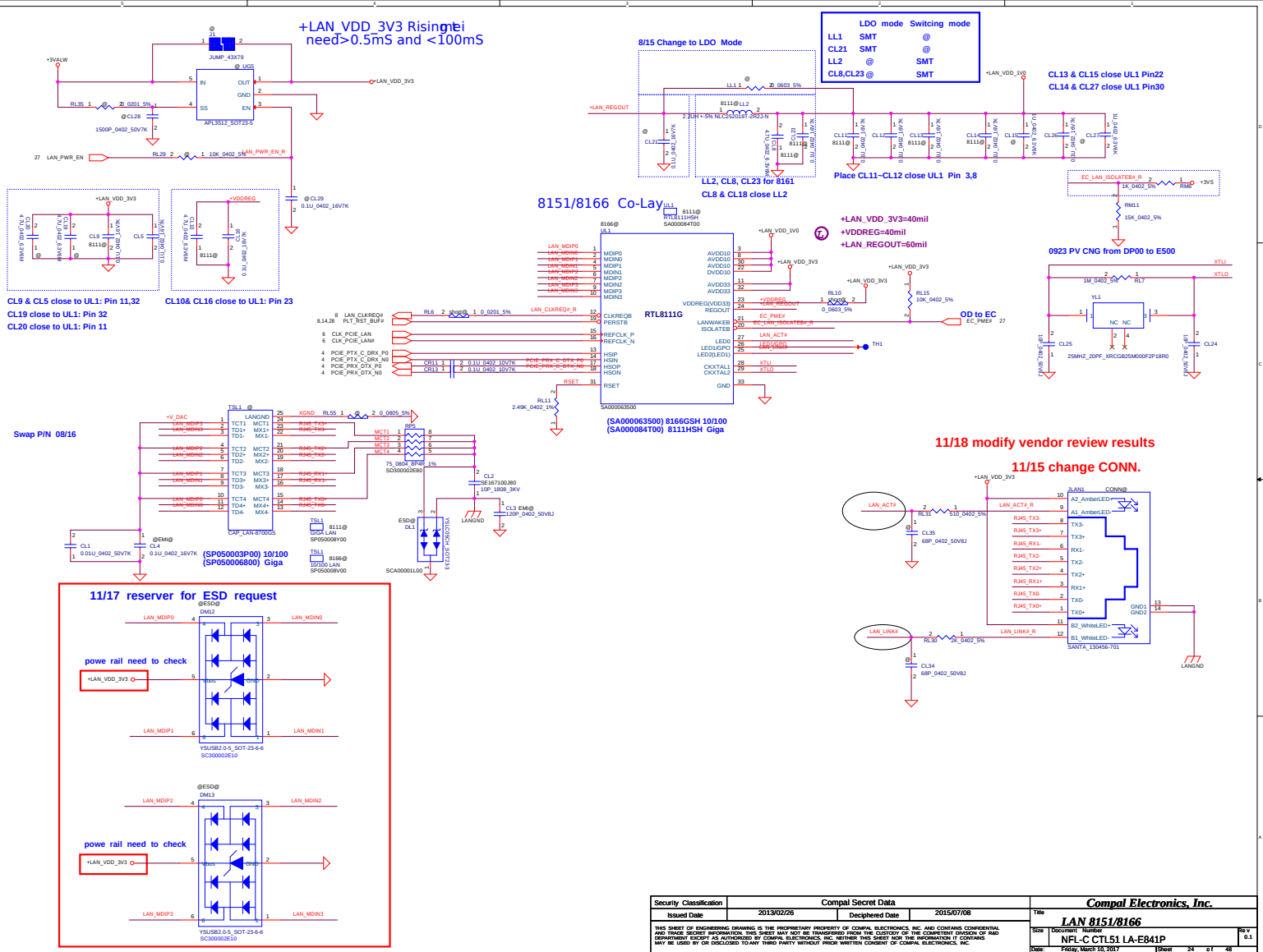
DP to CRT converter



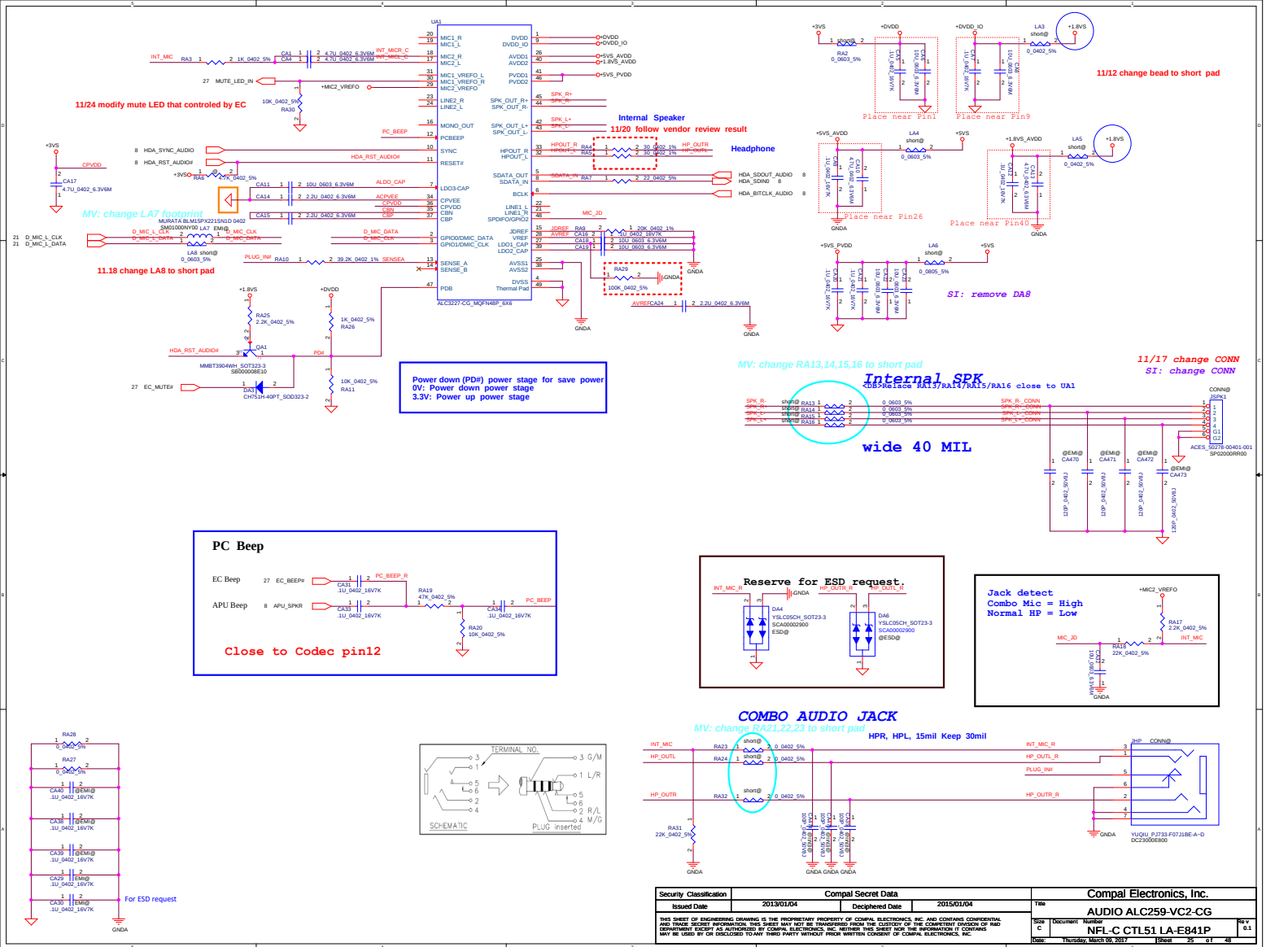
Note: C3001,C3008,C3009,
C3010,C3011,C3012,C3013
need to place to Chip

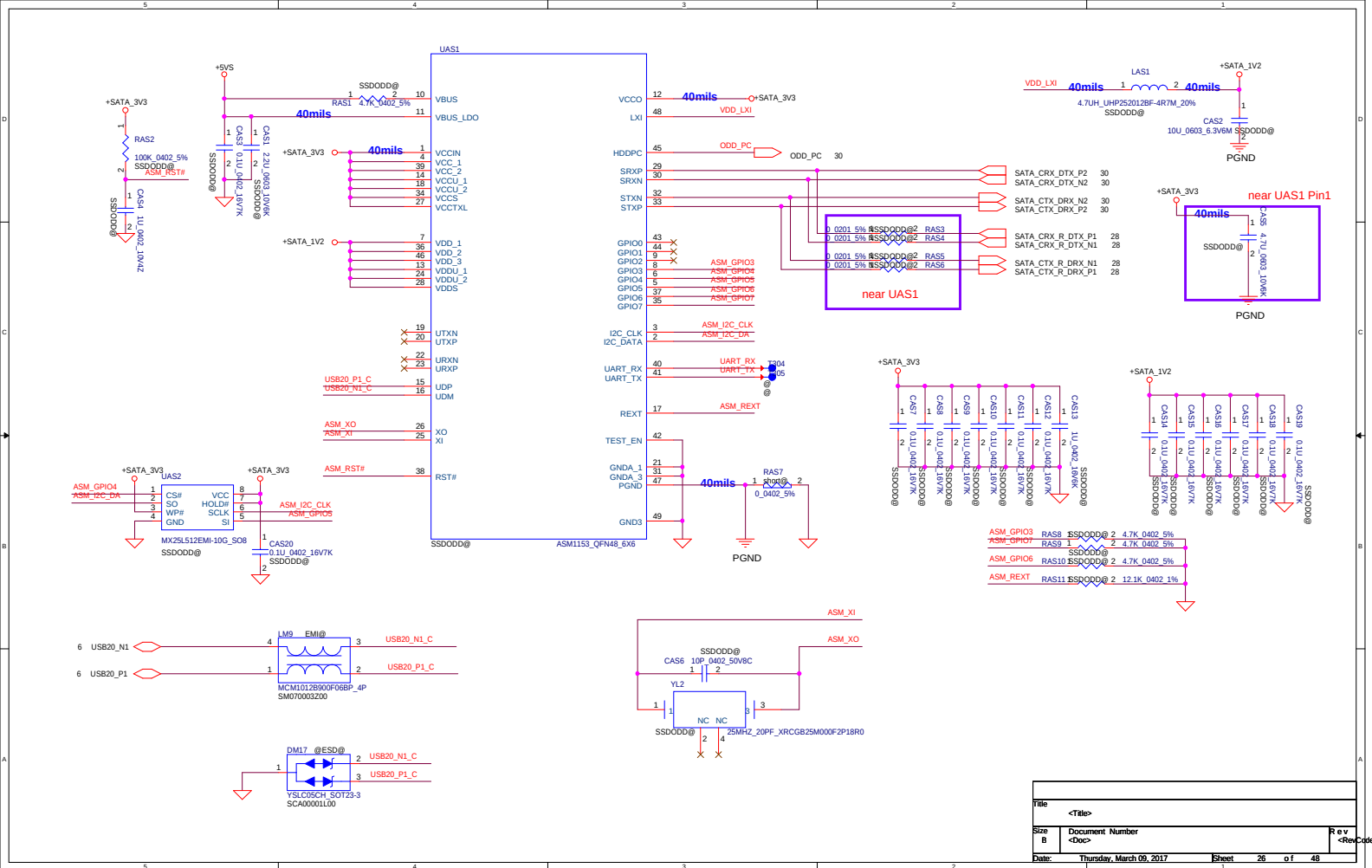


Security Classification	Compal Secret Data	Compal Electronics, Inc.
Issued Date	2015/09/01	Disciplined Date
2017/09/01		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.		
Drawn	Checked	Rev
Compal	NFL-C CTL51 LA-E841P	01
Rev	Rev	Rev
01	01	01

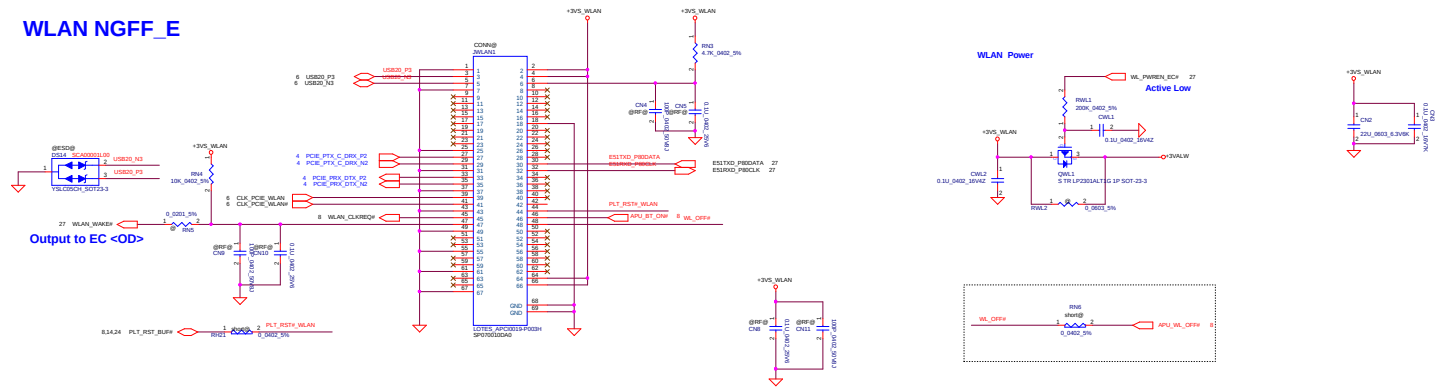


Security Classification	Compul Secret Data		Title		Compul Electronics, Inc.	
Issued Date	2013/02/28	Deciphered Date	2015/07/08	LAN 815/8166		
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. THIS SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT PERMISSION IN WRITING FROM COMPUL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPUL ELECTRONICS, INC.				Size	NPL-C CT151-IA-E841P	
				Date	March 10, 2017	Sheet 24 of 41

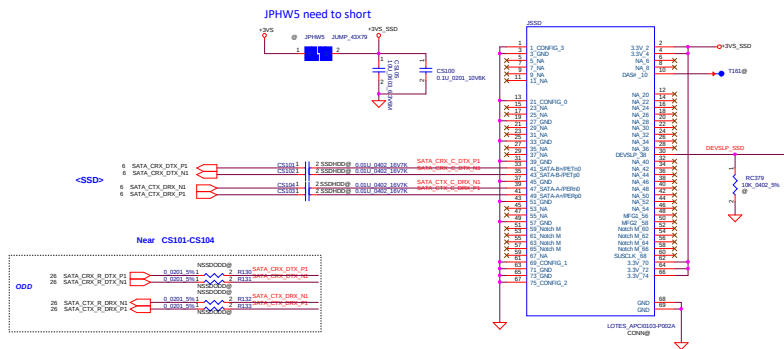




WLAN NGFF_E

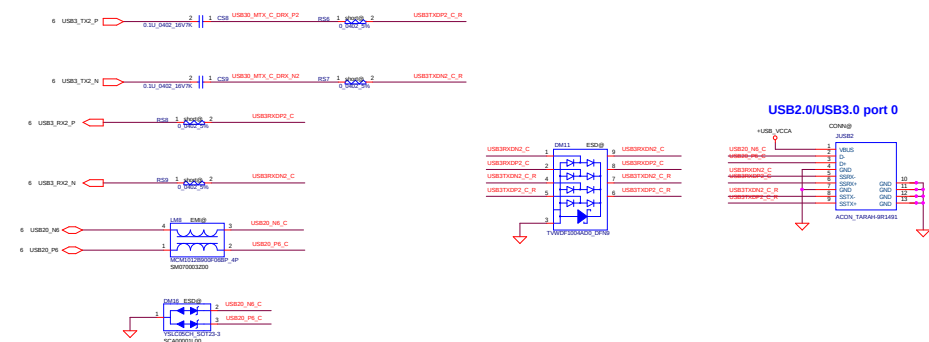
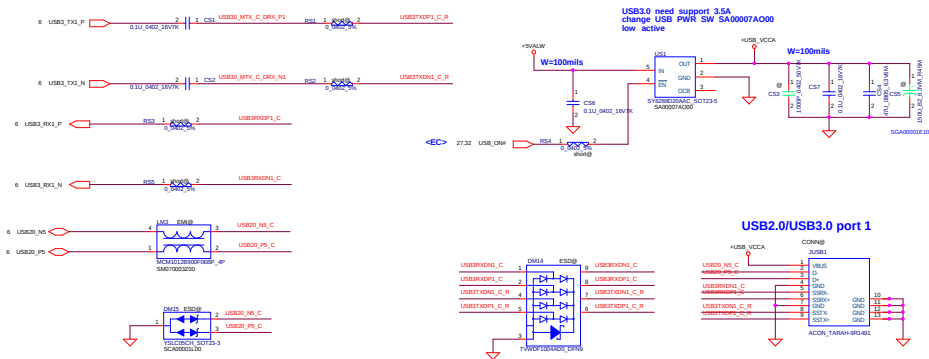


SSD



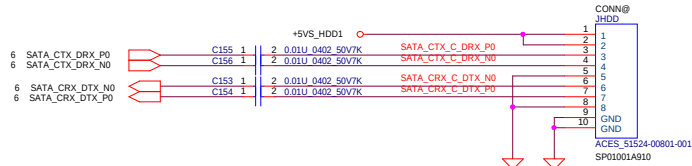
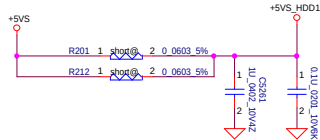
Security Classification		Control Secret Data		Compal Electronics, Inc.	
Issued Date		Declassified Date		Title	
20130205		20150708		WLAN	
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET SHALL NOT BE DISSEMINATED TO THE CUSTOMER OR THE CUSTOMER'S END USER WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. AS AUTHORIZED BY COMPAL ELECTRONICS, INC. REGARDS THIS SHEET NOT THE INFORMATION IT CONTAINS MAY BE USED OR REPRODUCED IN ANY MANNER WITHOUT PRIOR WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.</p>				Rev	
				01	
Date		Therminator		Date	
March 08, 2017		2017		2017	

USB3.0 port x 2

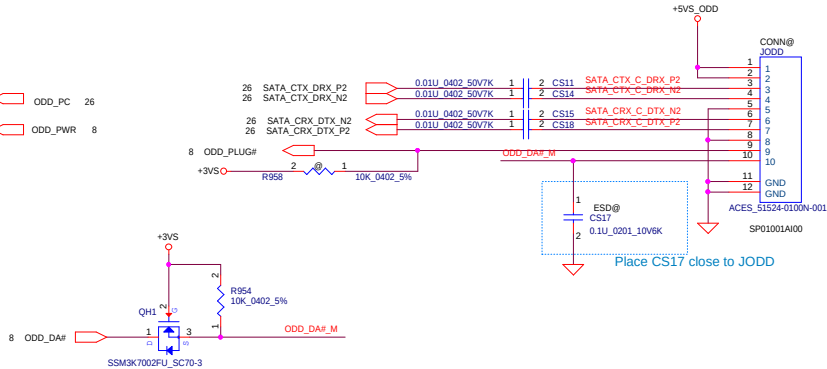
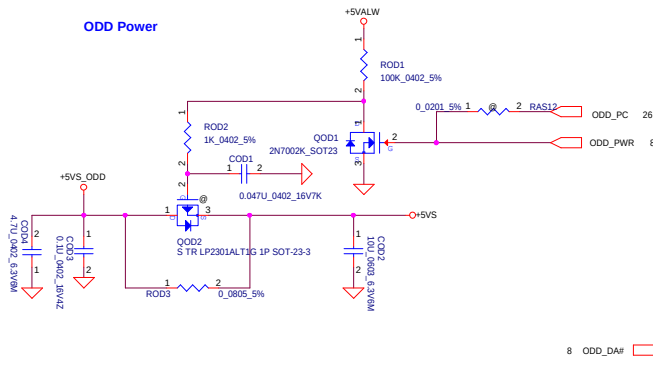


Security Classification	Compal Secret Data		Title	
Issued Date	2013/02/26	Deciphered Date	2015/07/06	
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM COMPAL ELECTRONICS, INC. ANY REPRODUCTION OR DISCLOSURE TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			<p>USB 3.0/2.0 conn</p>	
<p>Doc Name</p>			<p>Rev</p>	
<p>Compal</p>			<p>01</p>	
<p>Date</p>			<p>2013/03/20</p>	
<p>Part No.</p>			<p>29</p>	
<p>Rev</p>			<p>01</p>	

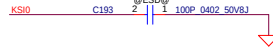
2.5" SATA HDD connector



ODD Power

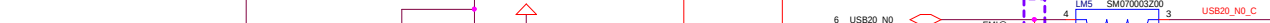
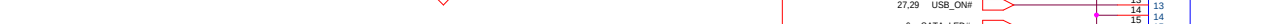


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2015/09/01	Deciphered Date	2017/09/01	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				ODD/SATA Conn	
Size		Document Number		Rev	
B		NFL-C CTL51 LA-E841P		0.1	
Date		Thursday, March 09, 2017		Sheet	
				30 of 48	



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.

A	B	C	D	E
---	---	---	---	---



Microcontroller pin connections for USB20 module:

- Pin 1: GND
- Pin 2: VCC
- Pin 3: GND
- Pin 4: VCC
- Pin 5: GND
- Pin 6: VCC
- Pin 7: GND
- Pin 8: VCC
- Pin 9: GND
- Pin 10: VCC
- Pin 11: GND
- Pin 12: VCC
- Pin 13: GND
- Pin 14: VCC
- Pin 15: GND
- Pin 16: VCC
- Pin 17: GND
- Pin 18: VCC
- Pin 19: GND
- Pin 20: VCC
- Pin 21: GND
- Pin 22: VCC
- Pin 23: GND
- Pin 24: VCC
- Pin 25: GND
- Pin 26: VCC
- Pin 27: GND
- Pin 28: VCC
- Pin 29: GND
- Pin 30: VCC
- Pin 31: GND
- Pin 32: VCC
- Pin 33: GND
- Pin 34: VCC
- Pin 35: GND
- Pin 36: VCC
- Pin 37: GND
- Pin 38: VCC
- Pin 39: GND
- Pin 40: VCC
- Pin 41: GND
- Pin 42: VCC
- Pin 43: GND
- Pin 44: VCC
- Pin 45: GND
- Pin 46: VCC
- Pin 47: GND
- Pin 48: VCC
- Pin 49: GND
- Pin 50: VCC
- Pin 51: GND
- Pin 52: VCC
- Pin 53: GND
- Pin 54: VCC
- Pin 55: GND
- Pin 56: VCC
- Pin 57: GND
- Pin 58: VCC
- Pin 59: GND
- Pin 60: VCC
- Pin 61: GND
- Pin 62: VCC
- Pin 63: GND
- Pin 64: VCC
- Pin 65: GND
- Pin 66: VCC
- Pin 67: GND
- Pin 68: VCC
- Pin 69: GND
- Pin 70: VCC
- Pin 71: GND
- Pin 72: VCC
- Pin 73: GND
- Pin 74: VCC
- Pin 75: GND
- Pin 76: VCC
- Pin 77: GND
- Pin 78: VCC
- Pin 79: GND
- Pin 80: VCC
- Pin 81: GND
- Pin 82: VCC
- Pin 83: GND
- Pin 84: VCC
- Pin 85: GND
- Pin 86: VCC
- Pin 87: GND
- Pin 88: VCC
- Pin 89: GND
- Pin 90: VCC
- Pin 91: GND
- Pin 92: VCC
- Pin 93: GND
- Pin 94: VCC
- Pin 95: GND
- Pin 96: VCC
- Pin 97: GND
- Pin 98: VCC
- Pin 99: GND
- Pin 100: VCC

Microstrip layout for a 100 ohm microstrip line. The layout shows a top layer with a 40 mil wide microstrip line. The bottom layer is connected to GND1. The layout is labeled with dimensions and component values.

The schematic diagram illustrates the connection of the TPM2.0 module (U5) to the LPC1114 microcontroller. The module is a 28-pin TSSOP package. The connections are as follows:









- Power Supply:**
 - +3VS:** Connected to pin 26 (VDD) via resistor R26 (0.402 5%).
 - +3VS_TPM:** Connected to pins 5 (VDD), 6 (VDD), 19 (VDD), and 24 (VDD).
- Signal Connections:**
 - LPC_ADO0 (6.27):** Connected to pin 26 (LAD0).
 - LPC_ADO1 (6.27):** Connected to pin 29 (LAD1).
 - LPC_ADO2 (6.27):** Connected to pin 20 (LAD2).
 - LPC_ADO3 (6.27):** Connected to pin 17 (LAD3).
 - LPC_FRAME# (6.8.27):** Connected to pin 22 (LFRAME#).
 - LPC_RESET# (6.8.27):** Connected to pin 16 (LRESET#).
 - SERIRQ (6.27):** Connected to pin 27 (SERIRQ).
 - LPC_CLK1 (6):** Connected to pin 21 (LCLK).
- Ground Connections:**
 - Pin 4:** GND.
 - Pin 11:** GND.
 - Pin 18:** GND.
 - Pin 25:** GND.
- Other Connections:**
 - Pin 1:** Connected to +3VS_TPM via resistor R27 (4.7K 0.402 5%).
 - Pin 2:** Connected to +3VS_TPM via resistor R29 (4.7K 0.402 5%).
 - Pin 3:** Connected to +3VS_TPM via resistor R31 (4.7K 0.402 5%).
 - Pin 7:** Connected to +3VS_TPM via resistor R28 (0.402 5%).
 - Pin 10:** Connected to +3VS_TPM via resistor R26 (0.402 5%).
 - Pin 12:** Connected to +3VS_TPM via resistor R27 (4.7K 0.402 5%).
 - Pin 13:** Connected to +3VS_TPM via resistor R29 (4.7K 0.402 5%).
 - Pin 14:** Connected to +3VS_TPM via resistor R31 (4.7K 0.402 5%).
 - Pin 15:** Connected to +3VS_TPM via resistor R28 (0.402 5%).
 - Pin 16:** Connected to +3VS_TPM via resistor R26 (0.402 5%).
 - Pin 17:** Connected to +3VS_TPM via resistor R27 (4.7K 0.402 5%).
 - Pin 18:** Connected to +3VS_TPM via resistor R29 (4.7K 0.402 5%).
 - Pin 19:** Connected to +3VS_TPM via resistor R31 (4.7K 0.402 5%).
 - Pin 20:** Connected to +3VS_TPM via resistor R28 (0.402 5%).
 - Pin 21:** Connected to +3VS_TPM via resistor R26 (0.402 5%).
 - Pin 22:** Connected to +3VS_TPM via resistor R27 (4.7K 0.402 5%).
 - Pin 23:** Connected to +3VS_TPM via resistor R29 (4.7K 0.402 5%).
 - Pin 24:** Connected to +3VS_TPM via resistor R31 (4.7K 0.402 5%).
 - Pin 25:** Connected to +3VS_TPM via resistor R28 (0.402 5%).
 - Pin 26:** Connected to +3VS_TPM via resistor R26 (0.402 5%).
 - Pin 27:** Connected to +3VS_TPM via resistor R27 (4.7K 0.402 5%).
 - Pin 28:** Connected to +3VS_TPM via resistor R29 (4.7K 0.402 5%).

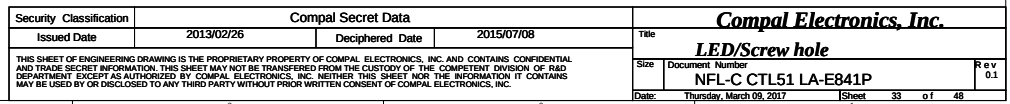
VGA

H6 H7
H_5P0 H_5P0
H0LEA H0LEA

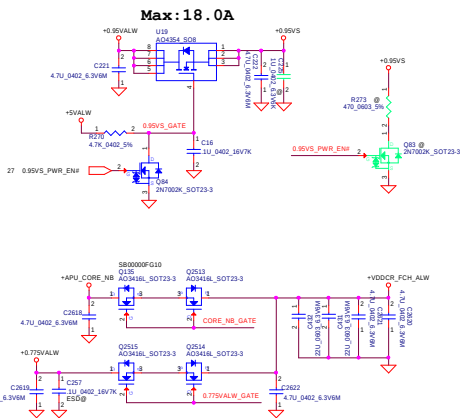
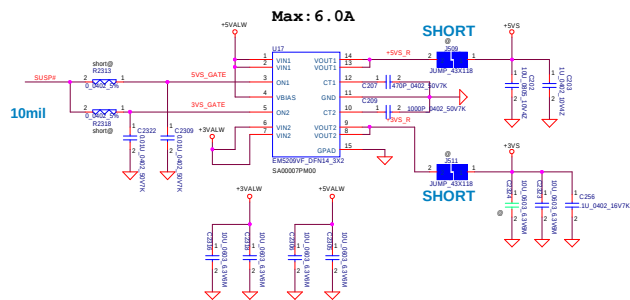
Diagram illustrating two VGA pins, H6 and H7, both labeled H_5P0 and H0LEA. Each pin is represented by a blue circle with a smiley face, a red triangle pointing down, and a red circle with a crosshair.

CPU

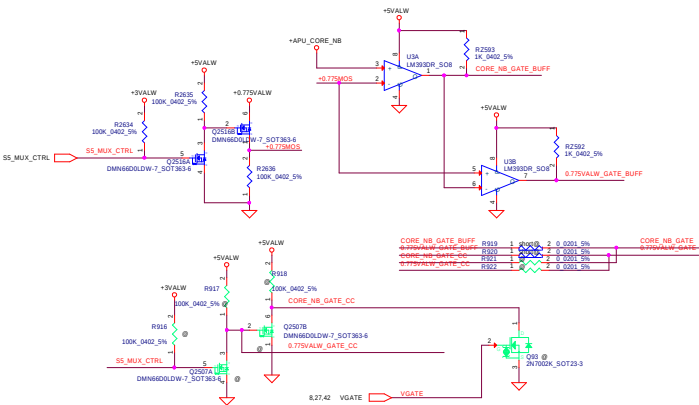
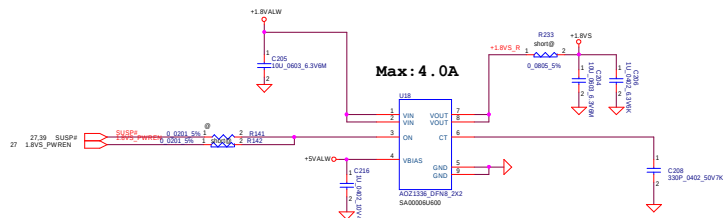
H1 H_SP0	H2 H_SP0	H3 H_SP0	H4 H_SP0
			
			



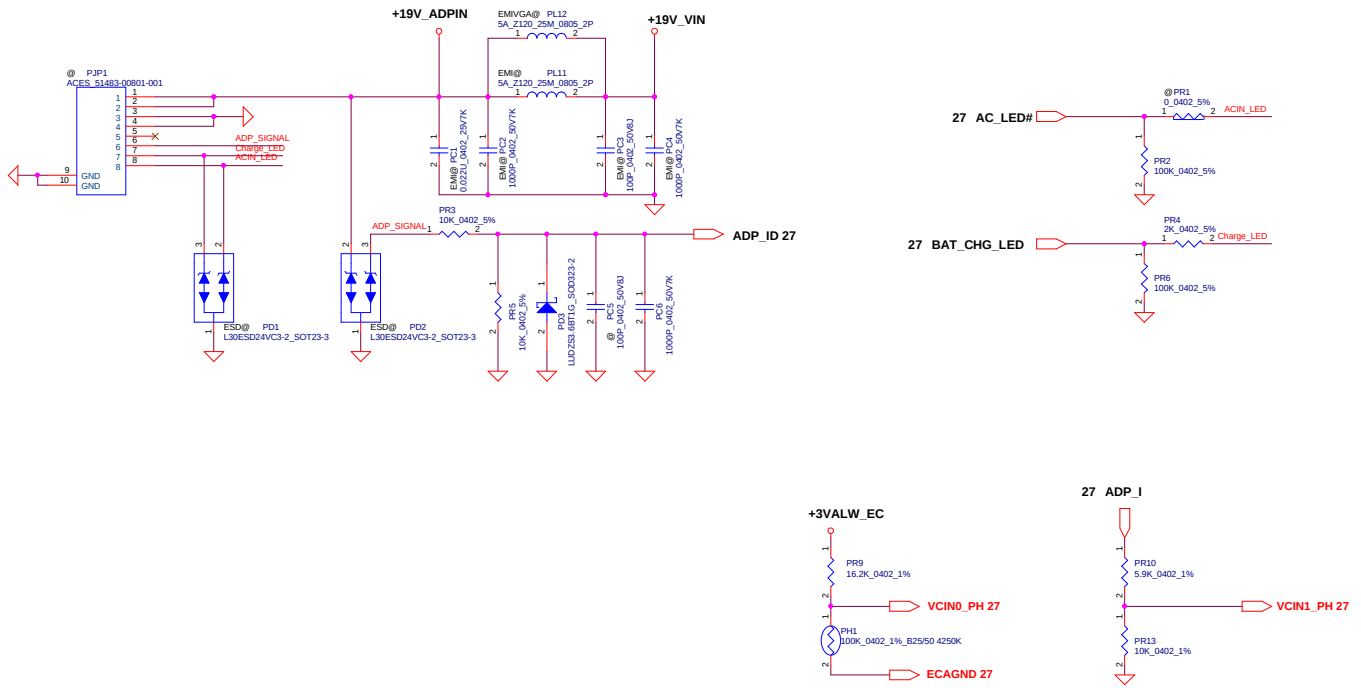
+5VS and +3VS switch



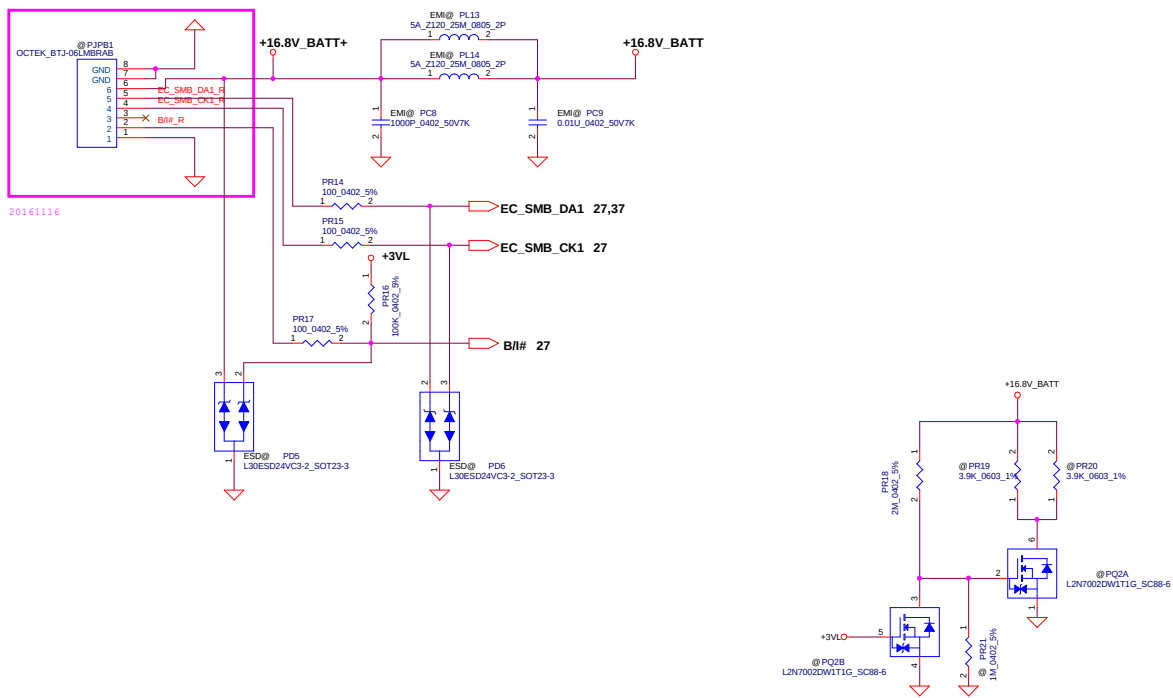
+1.8V TO +1.8VS (5A)



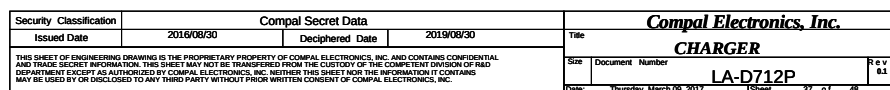
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2014/06/10		2015/06/30		DC/DC Interface	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.					
Rev		Rev			
0.1		0.1			
Date		Thursday, March 29, 2017 15:00 54 1 8			

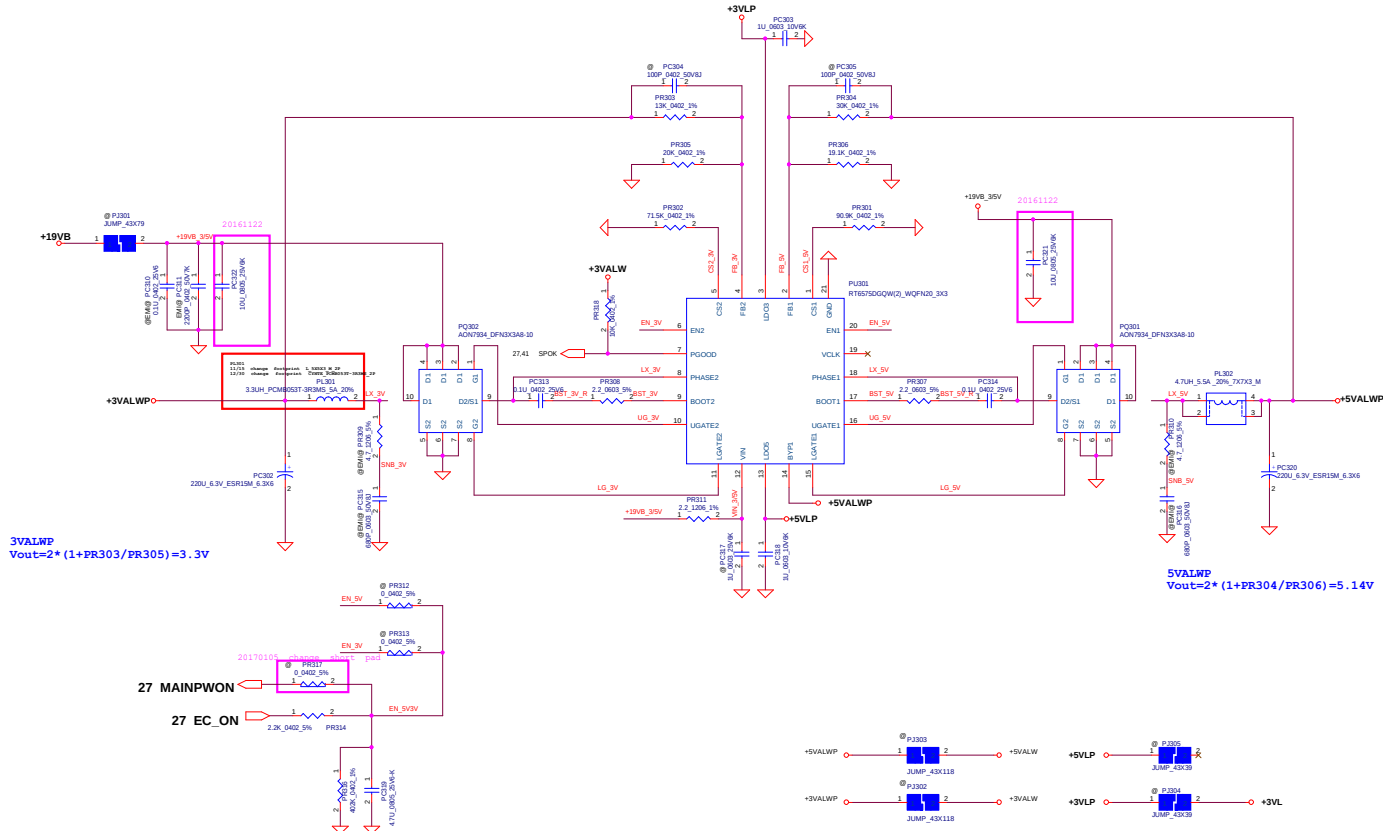


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/08/30	Deciphered Date	2019/08/30	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				DC Conn
Size	Document	Number	Rev	0.1
Date	Thursday, March 09, 2017	Sheet	36 of 48	

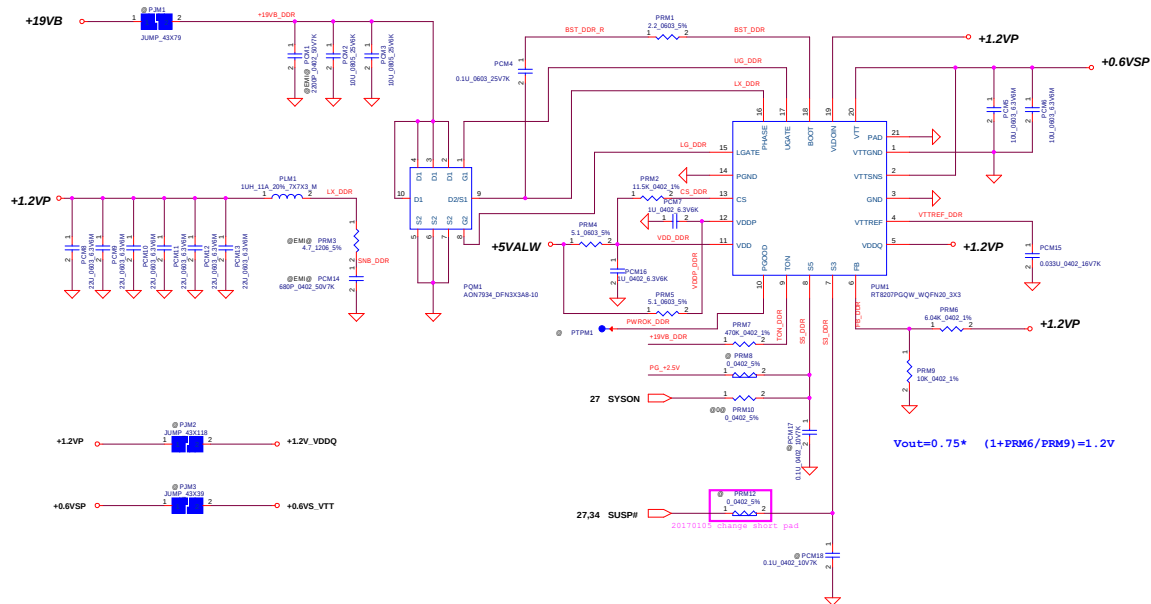


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/08/30	Deciphered Date	2019/08/30	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				BATT Conn
Size	Document	Number	LA-D712P	Rev
Date	Thursday, March 09, 2017	Sheet	36	of 48

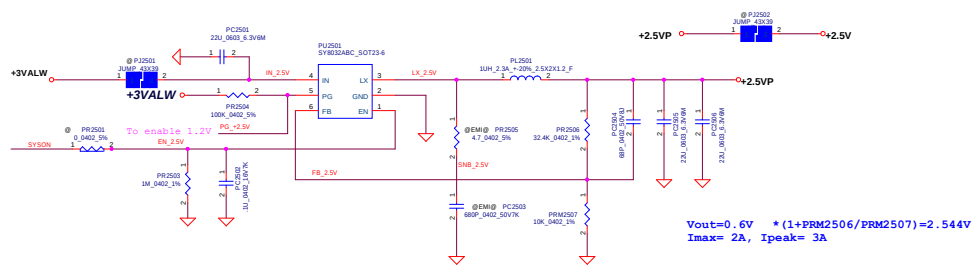




Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/09/01	Deciphered Date	2019/09/01	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT WITHOUT AUTHORIZATION 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.				3VALW/5VALW	
				Size	Document Number
Date		Thursday, March 06, 2017	Sheet	38	of 48



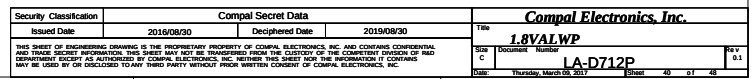
$$V_{out} = 0.75 * (1 + \text{PRM6}/\text{PRM9}) = 1.2V$$

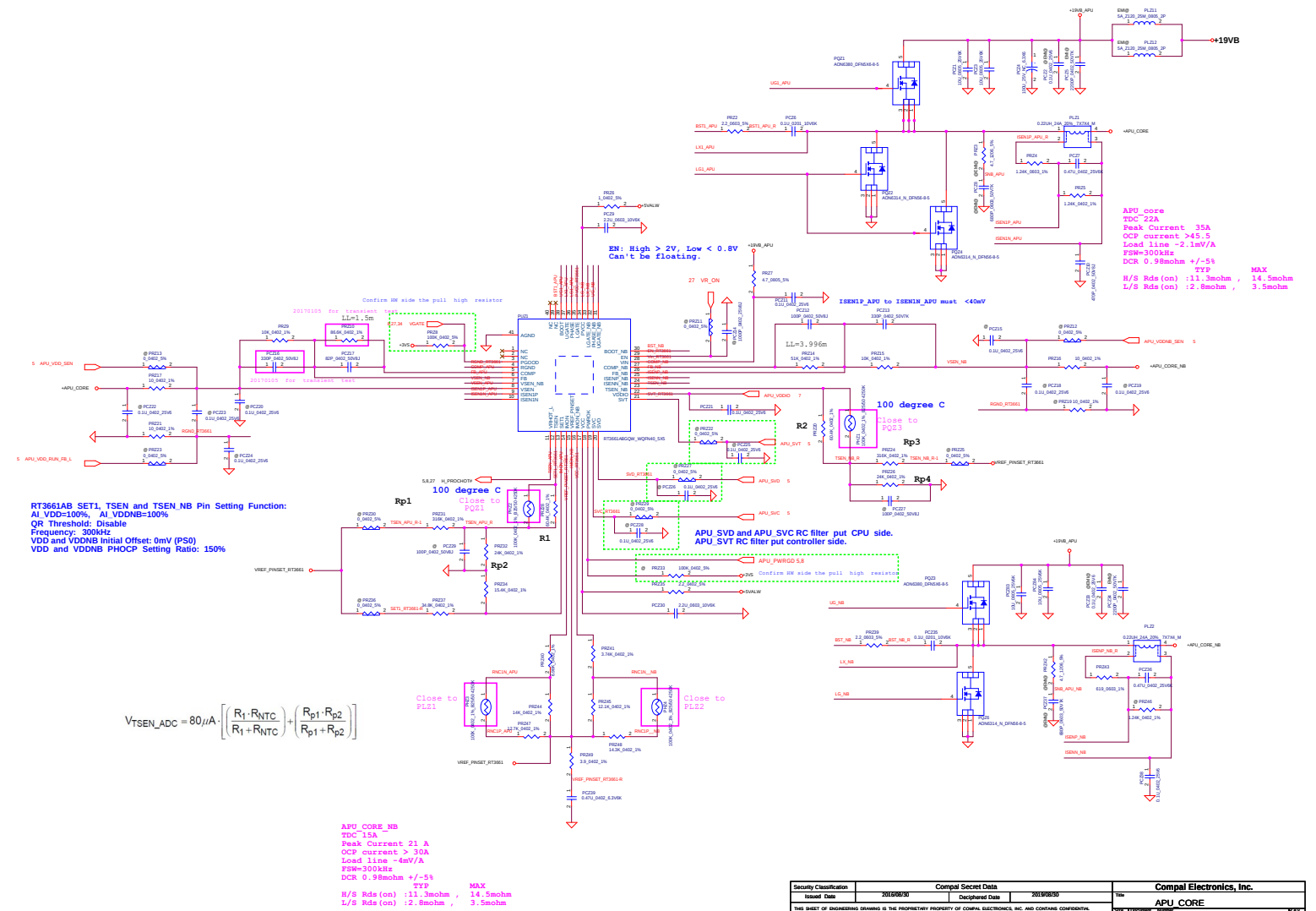


$$V_{out} = 0.6V * (1 + \text{PRM2506}/\text{PRM2507}) = 2.544V$$

$I_{max} = 2A, I_{peak} = 3A$

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/09/01	Deciphered Date	2019/09/01	Title	1.2VP/0.6VSP/2.5V
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MUST NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Size	0.1
				Document Number	
				Date	Thursday, March 18, 2017
				Sheet	39 of 48





RT3661AB SET1, TSEN and TSEN_NB Pin Setting Function:
AI_VDD=100%, AI_VDDNB=100%
OR Threshold: Disable
Frequency: 300kHz
VDD and VDDNB Initial Offset: 0mV (PS0)
VDD and VDDNB PHOCF Setting Ratio: 150%

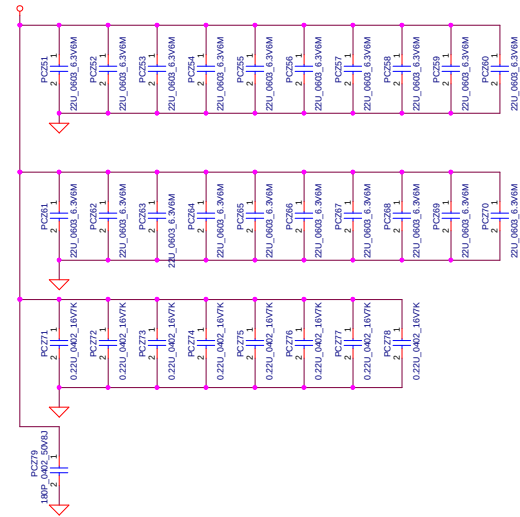
$$V_{tsen_adc} = 80\mu A \left[\frac{R_1 \cdot R_{ntc}}{R_1 + R_{ntc}} + \left(\frac{R_{p1} \cdot R_{p2}}{R_{p1} + R_{p2}} \right) \right]$$

APU_CORE_NB
TDC=1.5A
Peak Current 21 A
OCF current > 30A
Load line = 4mV/A
FEM=300kHz
DCR 0.98mohm +/-5%
TYP MAX
H/S Rds(on) :11.3mohm , 14.5mohm
L/S Rds(on) :2.8mohm , 3.5mohm

APU_core
TDC=22A
Peak Current 30A
OCF current >45.5
Load line =2.1mV/A
FEM=300kHz
DCR 0.98mohm +/-5%
TYP MAX
H/S Rds(on) :11.3mohm , 14.5mohm
L/S Rds(on) :2.8mohm , 3.5mohm

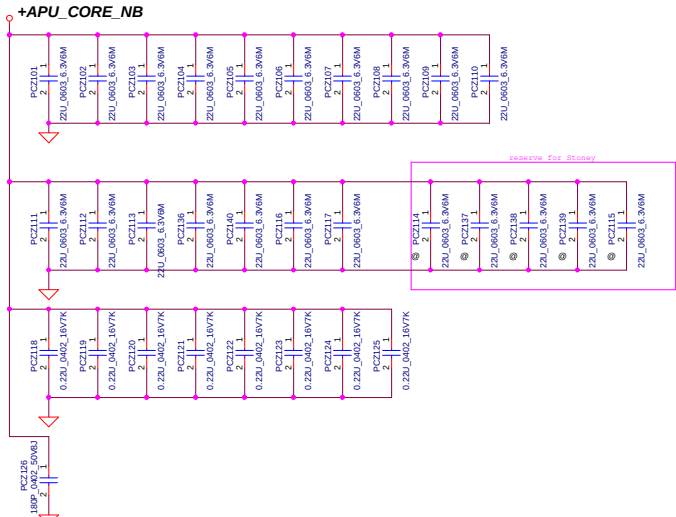
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2019/08/30	Discontinued Date	2019/08/30	Rev	1
THIS DOCUMENT IS UNCLASSIFIED AND NOT REPRODUCED WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				APU CORE	1
THIS DOCUMENT IS UNCLASSIFIED AND NOT REPRODUCED WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				LA-D712P	1

+APU_CORE

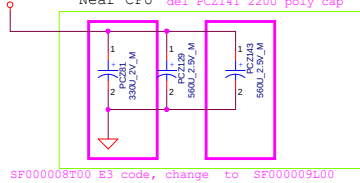


+APU_CORE

+APU_CORE_NB

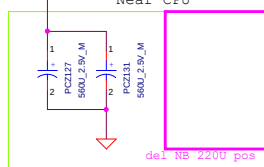


+APU_CORE



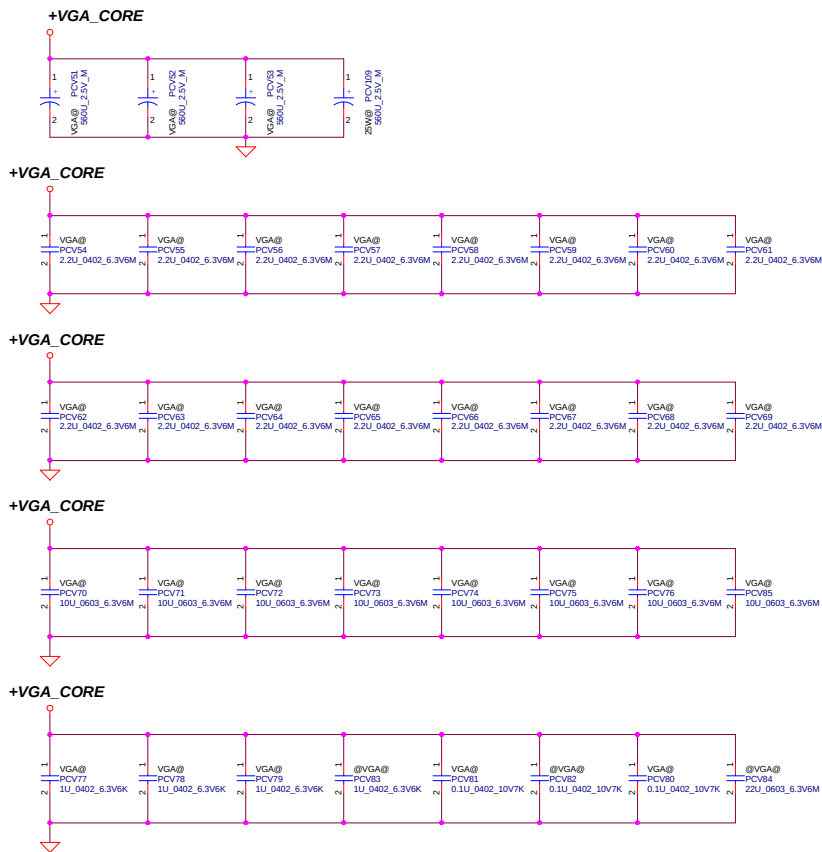
SF000008T00 E3 code, change to SF000009L00

+APU_CORE_NB



del NB 220U pos cap 20170105

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/08/30	Deciphered Date	2019/08/30	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.				PROCESSOR DECOUPLING
Size	Document	Number	LA-D712P	Rev
Custm				0.1
Date	Thursday, March 05, 2017	Sheet	48	of 48

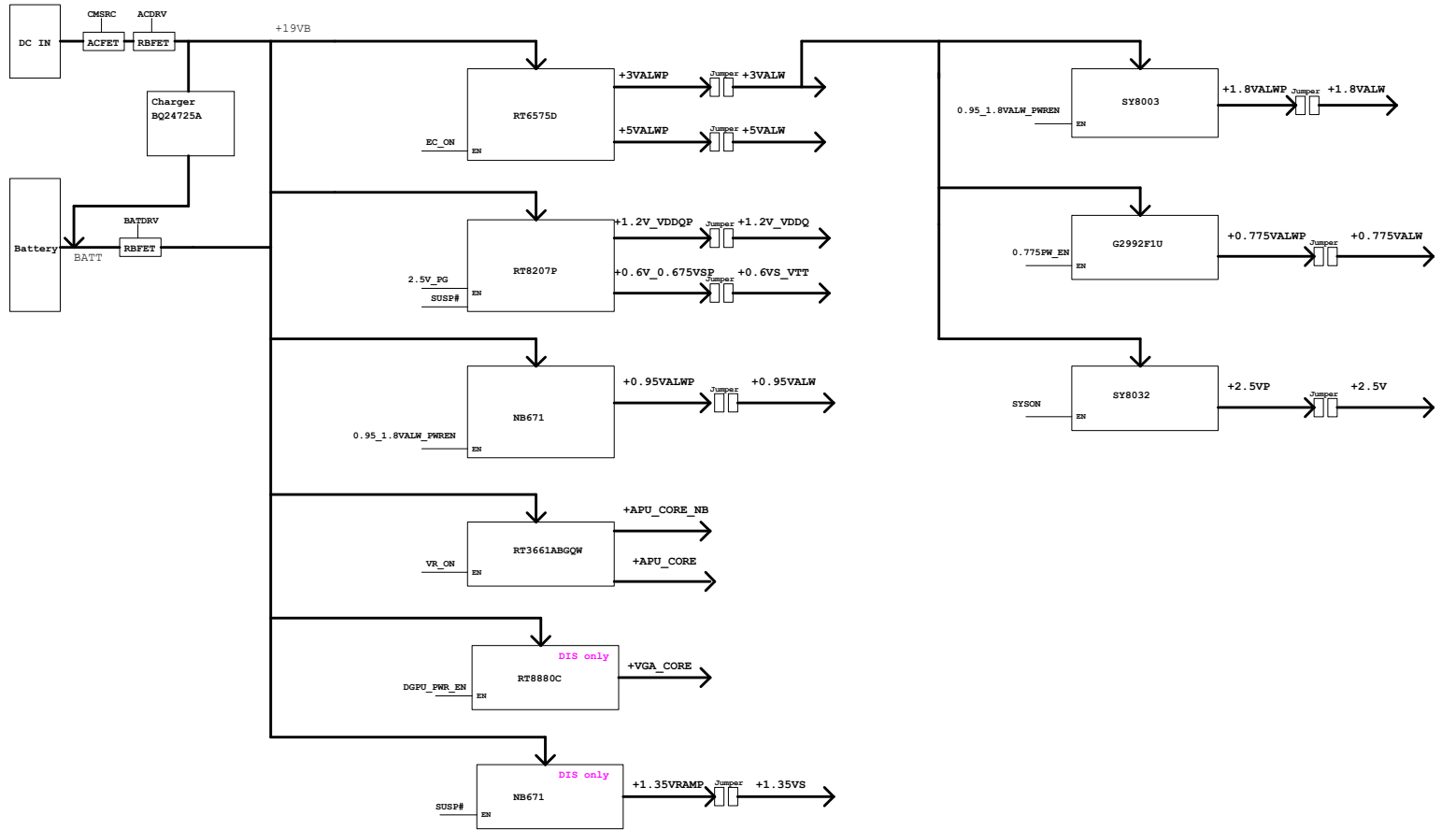


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/08/30	Deciphered Date	2019/08/30	Title	VGA CHIP DECOUPLING
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	0.1
Date:	Thursday, March 05, 2017	Sheet	45	of	48

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

Item	Date	Page	Reason for change	Modify List	Phase
1	11/22	P38	layout placement	delete cap 0805 4.7U*2 (.PC323,PC324) Change cap 0805 4.7U -> 0805 10U*2 (PC321, PC322)	SI
2	11/15	P46	減減減減減減	Location PLW2 change to PLW1 material SH00000Z200 change to SH00000YE00	SI
3	11/15	P44	layout placement	Add PRV81, PRV83, PRV84 for RT3663	SI
4	11/23	P44 P46	Issue debug	Add PDV1 and PDW1 for VGA power down sequence	SI
5	11/25	P36	update Battery connector	update Battery connector	SI
6	0105	P43	for transient test	add 560u for DIS & update BOM for UMA PCZ141	SI
7	0105	P42	for transient test	PR210 64.9K --> 86.6K PCZ16 270P --> 330P	PV
8	0105	P43	for transient test	PR210 64.9K --> 86.6K PCZ16 270P --> 330P	PV
9	0105	P44	change short pad	PR1801/ PR2501/ PRF4 PRM8/ PRM12/ PRV79/PRW1	PV
10	0105	P37	materialstorage	20161206 change to AON6426 (MDU eop) 20170105 change to AON6366 (AON6426 x1 code)	PV
11	0105	P41	follow AMD spec	resave 0.775V	PV
12	0105	P38	DFX request change footprint	PL301 11/15 change footprint L 5X5X3 M 2P 12/30 change footprint CYNTE_PCMB053T-3R3MS 2P	PV

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size	Document Number
				B	LA-D712P
				Date:	Thursday, March 09, 2017
				Sheet	47 of 48
				Rev	0.1



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/08/30	Decomposed Date	2019/08/30	Power Block Diagram	
This document is classified as Secret and is for internal use only. It contains information that is not to be disclosed to the public. It is the property of Compal Electronics, Inc. and is to be controlled and managed in accordance with the company's security policy. It is to be destroyed when it is no longer needed.				Rev	0.1
				Thursday, March 09, 2017	48