

COMPAL CONFIDENTIAL

MODEL NAME : Loki-G 15/17  
MB PCB PN : DAA000FC010  
PWR/B PCB PN : DA4002L3010  
IO/B PCB PN : DA6001XF010

ZZZ

PCB R1

DAA000FC010

PCB@

UC1

CPU R1

SA0000BPJ1L

i5@

UC1

SA0000BPZ1L

i7@

UC1

CPU R3

SA0000BPJ2L

i5@

UC1

SA0000BPZ2L

i7@

Dell/Compal Confidential  
Schematic Document

COFFEE LAKE H  
N17P-G0/G1  
Loki-G 15/17

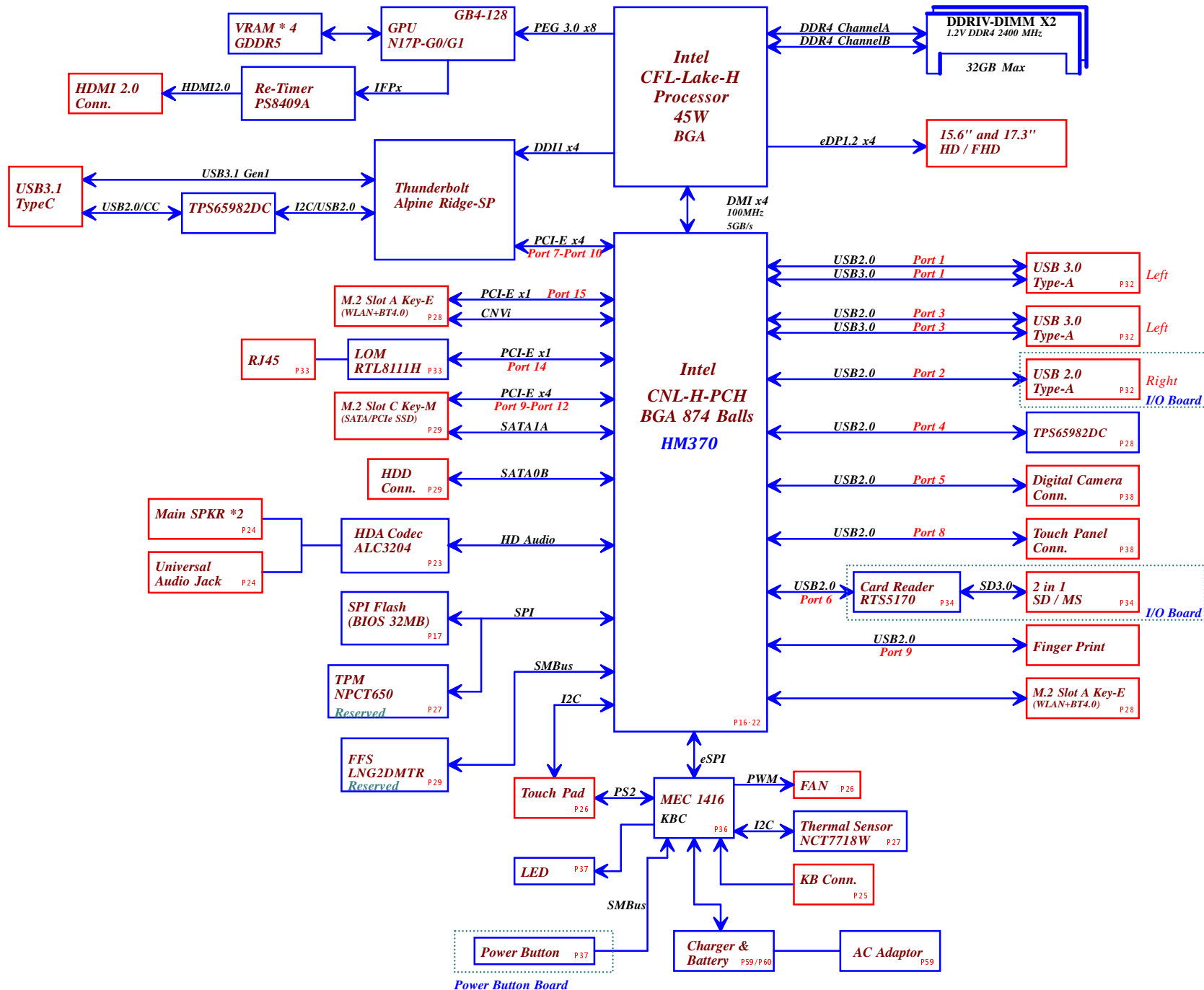
2018-03-22  
REV : 1.0 (A00)

Layout Dell logo



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REV: X00  
PWB: 9HTP8

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128M\*32 x4 =2G  
256M\*32 x4 =4G

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Board ID	Resistor
X00	100K
X01	17.8K
X02	27K
X03	37.4K
A00	49.9K

HSIO port Allocation

USB3	DESTINATION
1	USB JUSB1 (Left Side)
2	None
3	USB JUSB3 (Left Side)
4	None
5	None
6	None

USB2	DESTINATION
1	USB JUSB1 (Left Side)
2	USB JUSB2 (I/O)
3	USB JUSB3 (Left Side)
4	TYPE-C PD
5	CAMERA
6	Card Reader (I/O)
7	BT & CNVi BRI
8	Touch Screen
9	Finger Print
10	None
11	None
12	None
13	None
14	None

PCI EXPRESS	DESTINATION	USB3	DESTINATION
Lane 1	None	7	None
Lane 2	None	8	None
Lane 3	None	9	None
Lane 4	None	10	None
Lane 5	None		
Lane 6	None		
Lane 7	None		
Lane 8	None		
Lane 9	NGFF - NVMe SSD		
Lane 10		SATA	DESTINATION
Lane 11		0a	None (NVMe)
Lane 12		1a	NGFF - SSD
Lane 13		None (HDD)	0b
Lane 14	LAN	1b	None (LAM)
Lane 15	NGFF - WLAN	2	None (WLAN)
Lane 16	None	3	None
Lane 17	None	4	None
Lane 18	None	5	None
Lane 19	None	6	None
Lane 20	None	7	None
Lane 21	Alpine Ridge - SP		
Lane 22			
Lane 23			
Lane 24			

Table 1-7. PCH HSIO Detail (SKU 9-11 of 11)

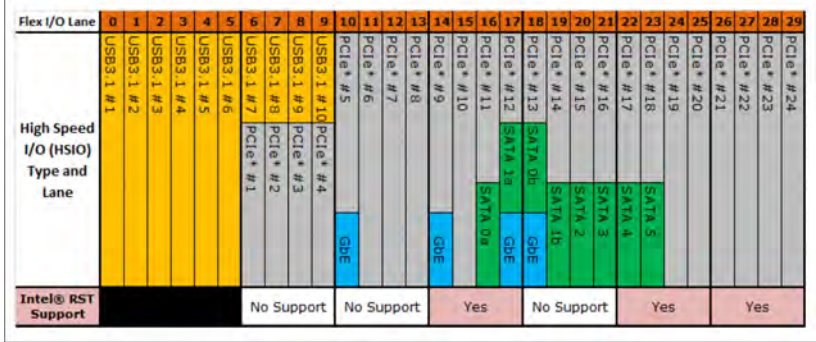
Flex I/O Lane	SKU		
	HM370	QM370	CM246
0	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
1	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
2	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
3	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
4	USB3.1 Gen1	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
5	USB3.1 Gen1	USB3.1 Gen1/Gen2	USB3.1 Gen1/Gen2
6	USB3.1 Gen1	USB3.1 Gen1	USB3.1 Gen1, PCIe*
7	USB3.1 Gen1	USB3.1 Gen1	USB3.1 Gen1, PCIe*
8	N/A	USB3.1 Gen1	USB3.1 Gen1, PCIe*
9	N/A	USB3.1 Gen1	USB3.1 Gen1, PCIe*
10	GbE	PCIe*, GbE	PCIe*, GbE
11	N/A	PCIe*	PCIe*
12	N/A	PCIe*	PCIe*
13	N/A	PCIe*	PCIe*
14	PCIe*, GbE	PCIe*, GbE	PCIe*, GbE
15	PCIe*	PCIe*	PCIe*
16	PCIe*, SATA 0A	PCIe*, SATA 0A	PCIe*, SATA 0A
17	PCIe*, GbE, SATA 1A	PCIe*, GbE, SATA 1A	PCIe*, GbE, SATA 1A
18	PCIe*, GbE, SATA 0B	PCIe*, GbE, SATA 0B	PCIe*, GbE, SATA 0B
19	PCIe*, SATA 1B	PCIe*, SATA 1B	PCIe*, SATA 1B
20	PCIe*	PCIe*	PCIe*, SATA 2
21	PCIe*	PCIe*	PCIe*, SATA 3
22	PCIe*, SATA 4	PCIe*, SATA 4	PCIe*, SATA 4
23	PCIe*, SATA 5	PCIe*, SATA 5	PCIe*, SATA 5
24	PCIe*	PCIe*	PCIe*, SATA 6
25	PCIe*	PCIe*	PCIe*, SATA 7
26	PCIe*	PCIe*	PCIe*
27	PCIe*	PCIe*	PCIe*
28	PCIe*	PCIe*	PCIe*
29	PCIe*	PCIe*	PCIe*

DDI	DESTINATION
1	Alpine Ridge
2	Alpine Ridge
3	HDMI2.0 LSPCON PS175

CLK_PCIE	DESTINATION	CLK_REQ	DESTINATION
0	TBT-AR	0	TBT-AR
1	None	1	None
2	None	2	None
3	None	3	None
4	None	4	None
5	None	5	None
6	None	6	None
7	GPU	7	GPU
8	None	8	None
9	NGFF - SSD	9	NVMe
10	None	10	None
11	None	11	None
12	None	12	None
13	None	13	None
14	LAN	14	LAN
15	WLAN	15	WLAN

13.2.1 Coffee Lake PCH-H

Figure 13-1. High Speed I/O (HSIO) Lane Multiplexing in PCH-H



Symbol Note :

↓ : means Digital Ground

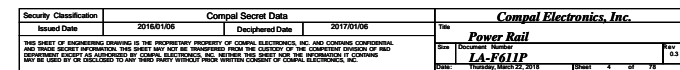
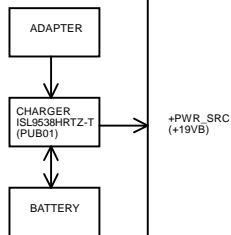
⏏ : means Analog Ground

eSPI Virtual Wires (VW) (Sheet 1 of 2)

Virtual Wire	PCH Pin Direction	Reset Control	Pin Retained in PCH (For Use by Other Components)
SUS_STAT#	Output	ESPI_RESET#	No
SUS_PWRDN_ACK	Output	ESPI_RESET#	No
PLTRST#	Output	ESPI_RESET#	Yes
PME#	Input	ESPI_RESET#	No
WAKE#	Input	ESPI_RESET#	No
SMI#	Input	PLTRST#	N/A
SCI#	Input	PLTRST#	N/A
RCIN#	Input	PLTRST#	No
SLP_A#	Output	ESPI_RESET#	Yes

eSPI Virtual Wires (VW) (Sheet 2 of 2)

Virtual Wire	PCH Pin Direction	Reset Control	Pin Retained in PCH (For Use by Other Components)
SLP_S3#/SLP_S4#/ SLP_SS#/SLP_LAN#/ SLP_WLAN#	Output	DSW_PWROK	Yes





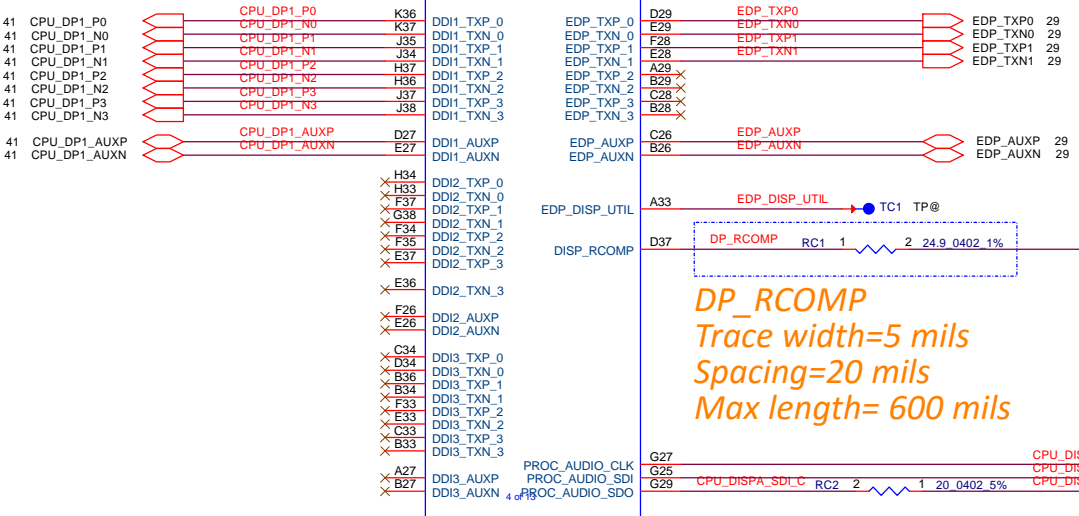
Main Func = CPU

TBT-AR

UC1  
CFL\_H@  
CFL-H\_BGA1440  
SA011703151

CFL\_H\_SOC

UC1D



eDP

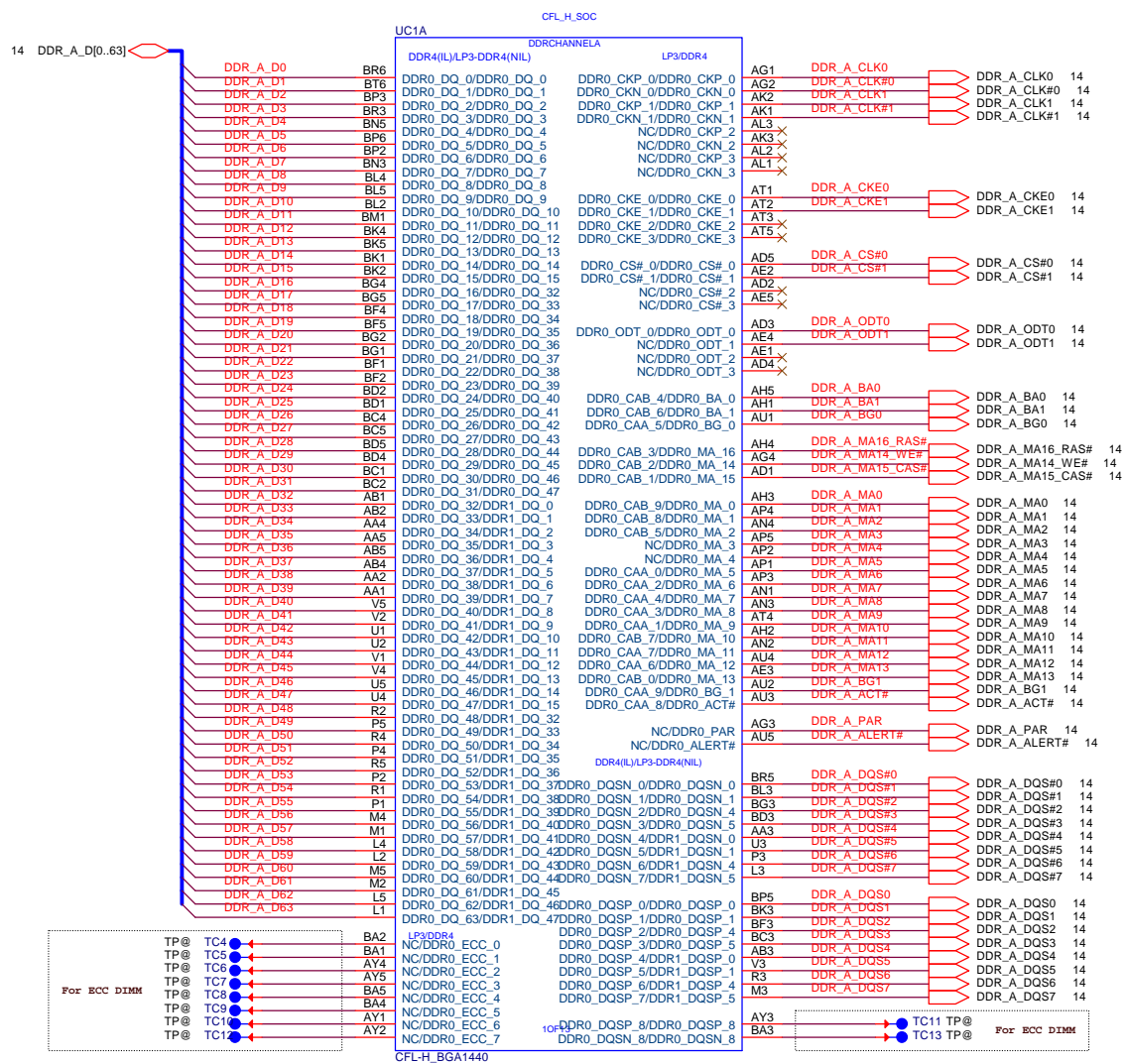
+VCCIO  
Check OK

DP\_RCOMP  
Trace width=5 mils  
Spacing=20 mils  
Max length= 600 mils

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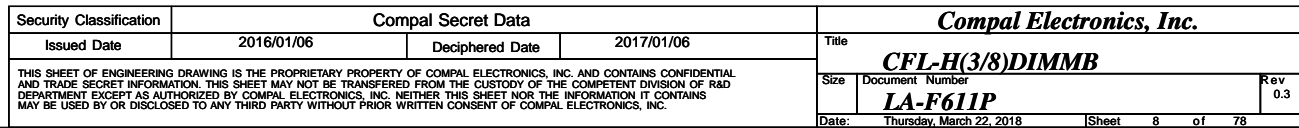
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Main Func = CPU



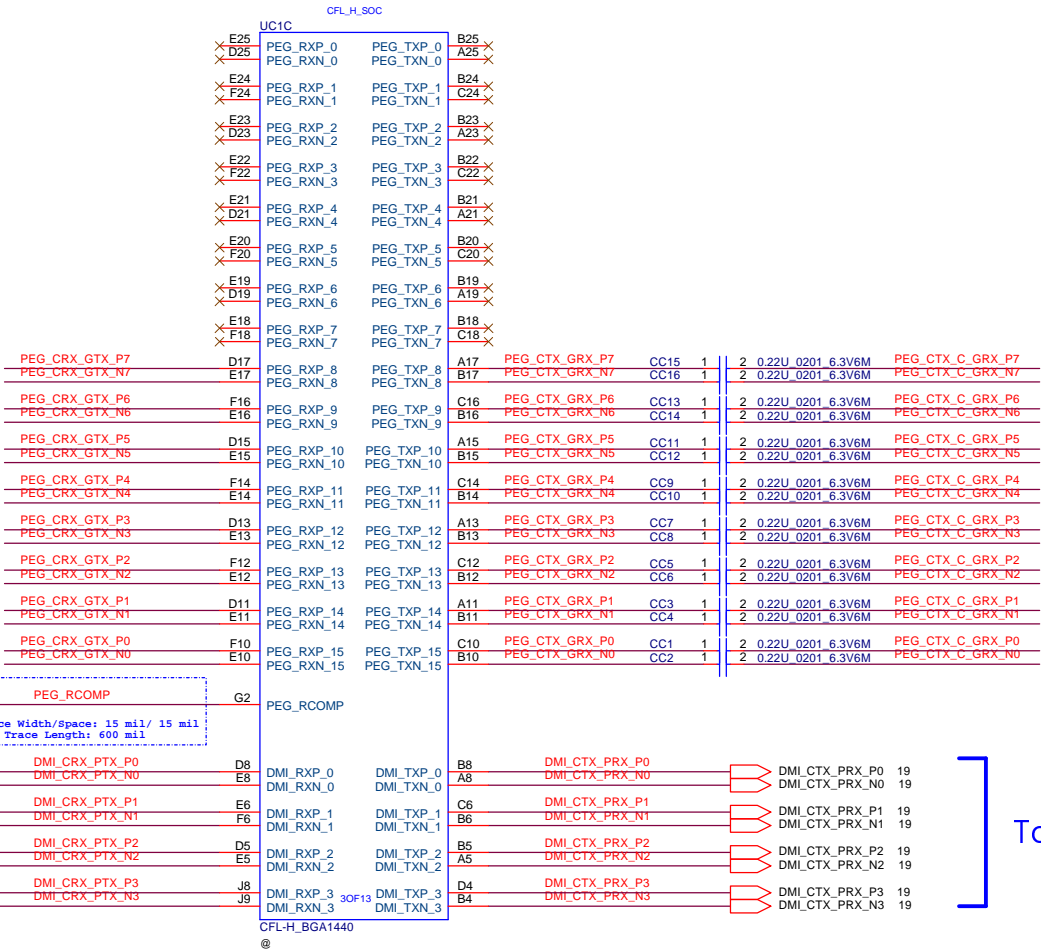
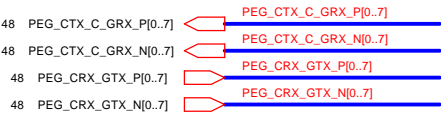


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Main Func = CPU



+VCCIO

RC9 1 2 24.9 0402 1%

PEG\_RCOMP

Trace Width/Space: 15 mil/ 15 mil  
Max Trace Length: 600 mil

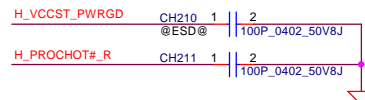
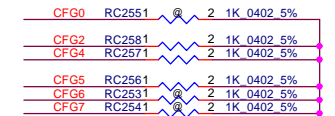
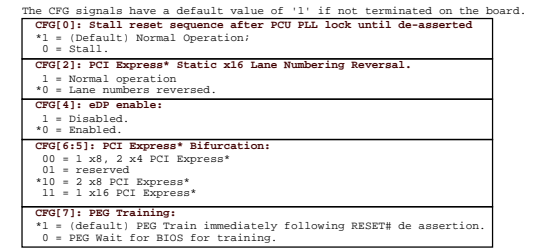
From PCH

To PCH

PEG\_RCOMP  
Trace width=15 mils  
Spacing=15 mils  
Max length= 600 mils

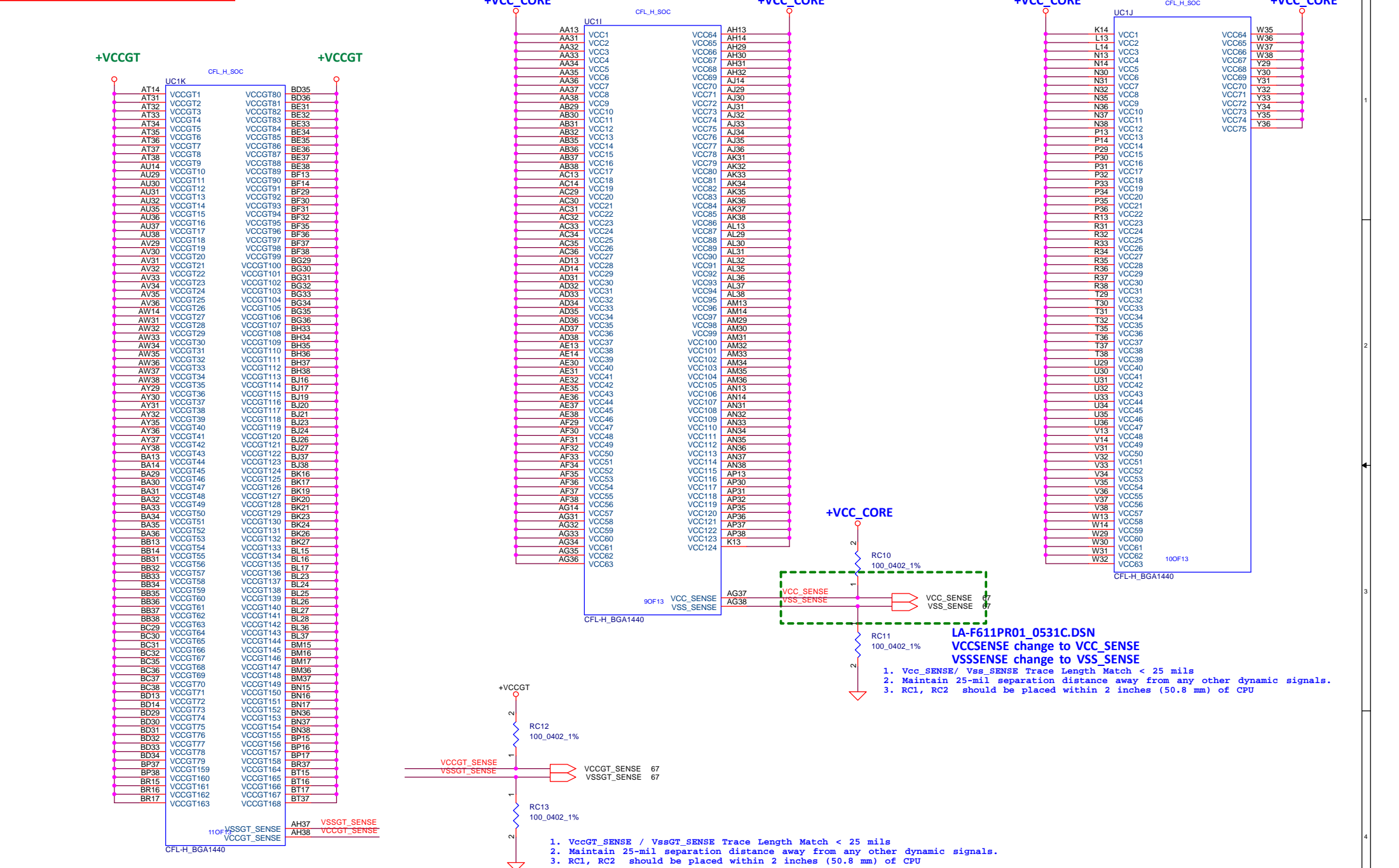
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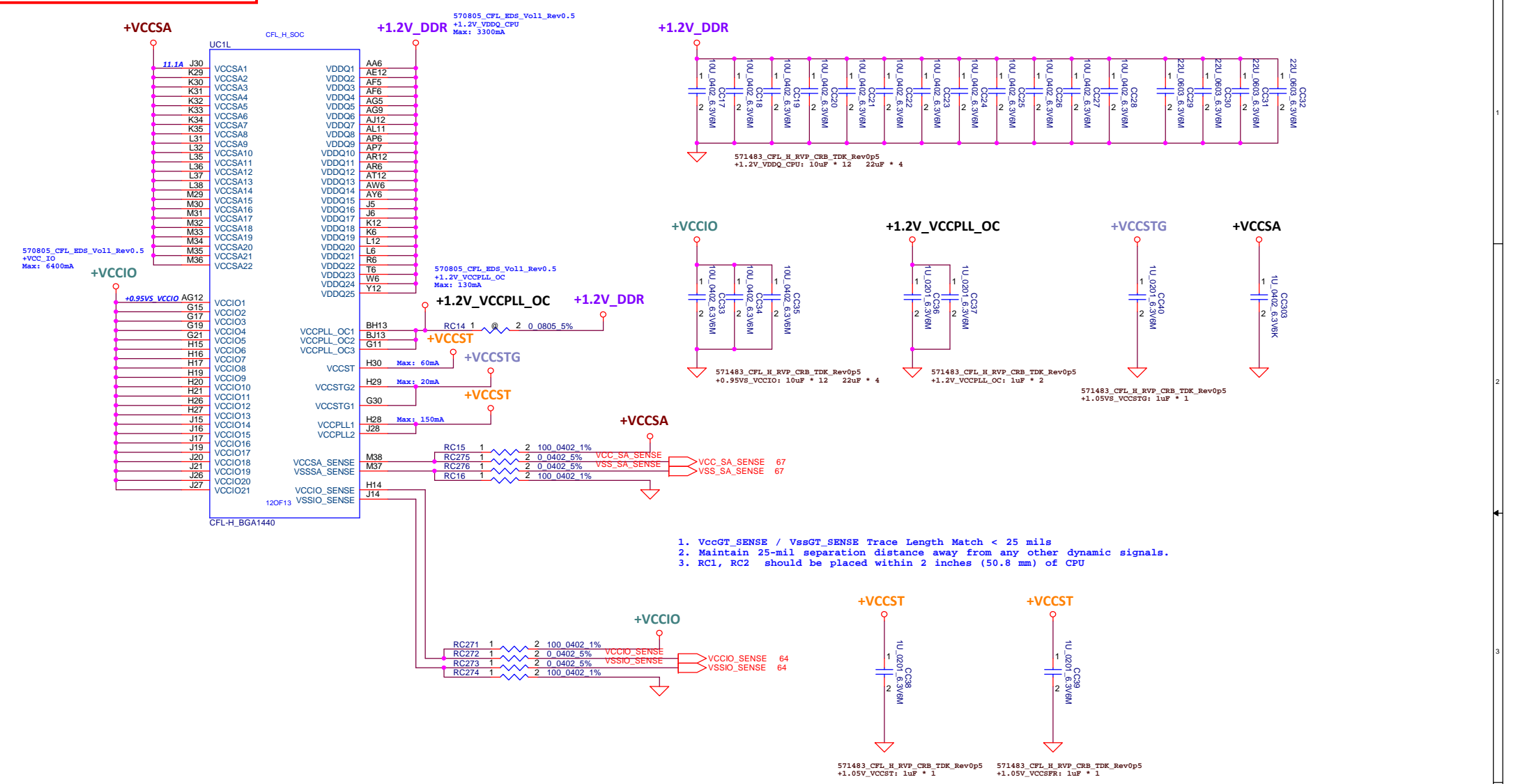
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Main Func = CPU



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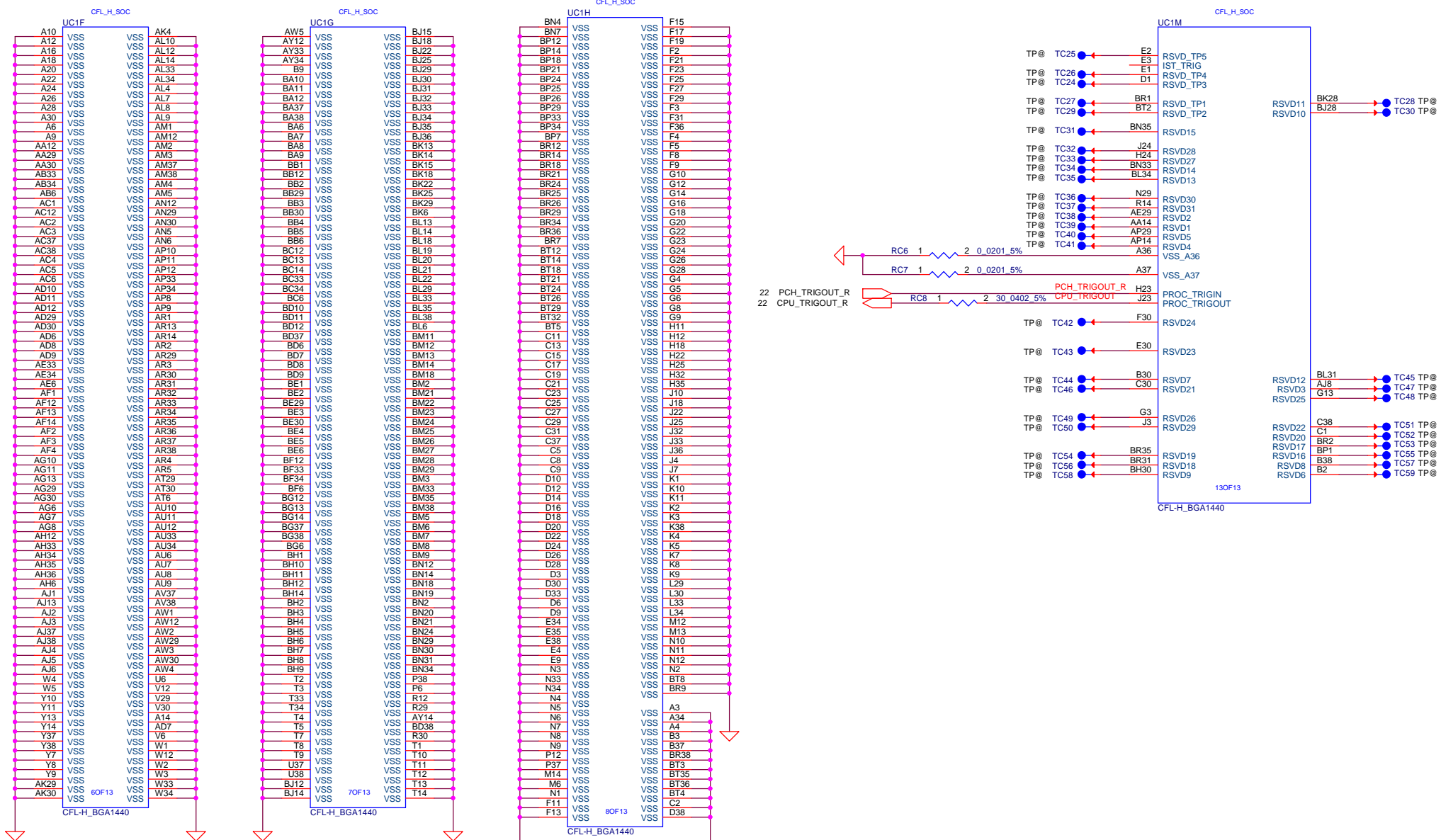
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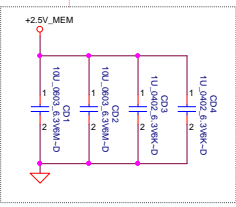
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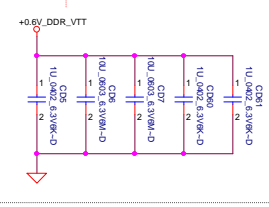
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7 DDR\_A\_D0..63  
7 DDR\_A\_MA0..13  
7 DDR\_A\_DQS0..7  
7 DDR\_A\_DQS0..7

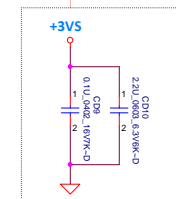
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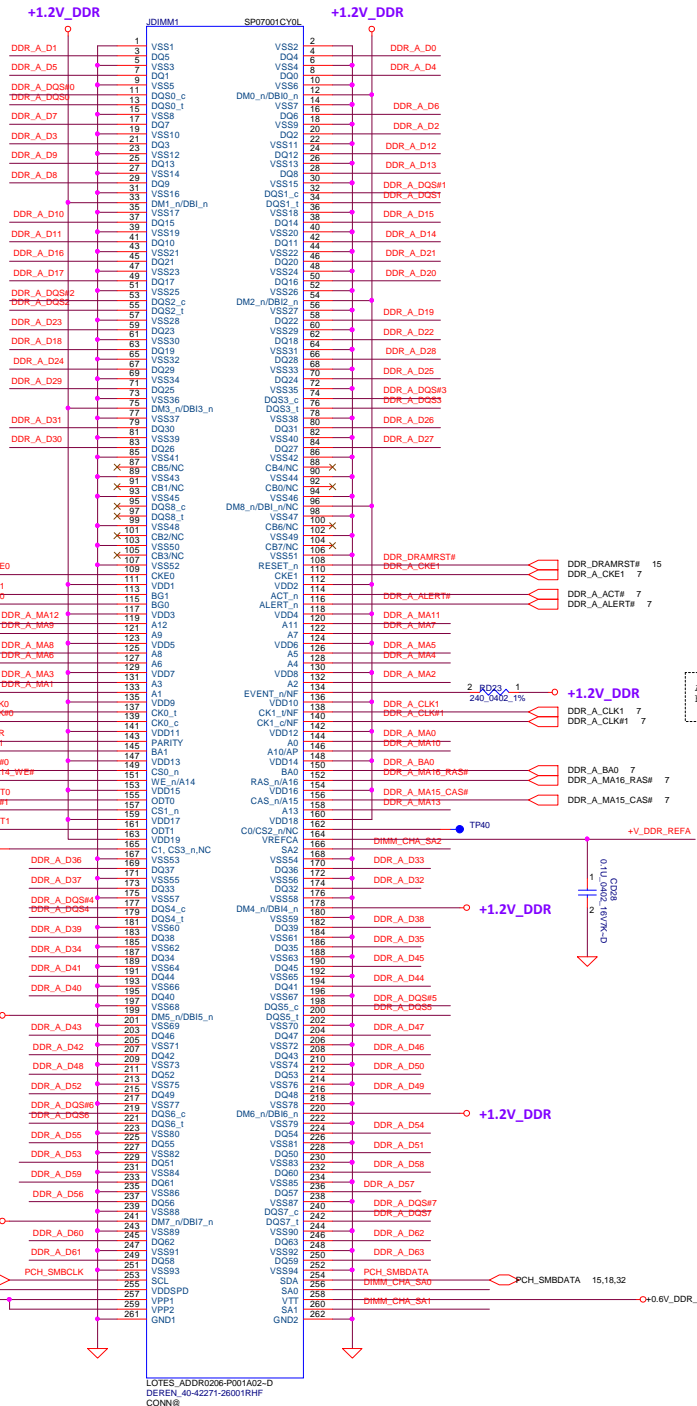
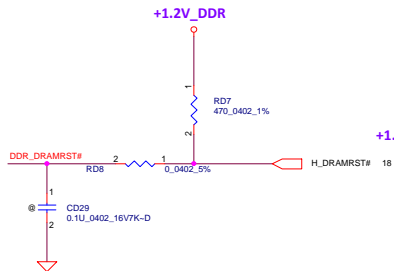
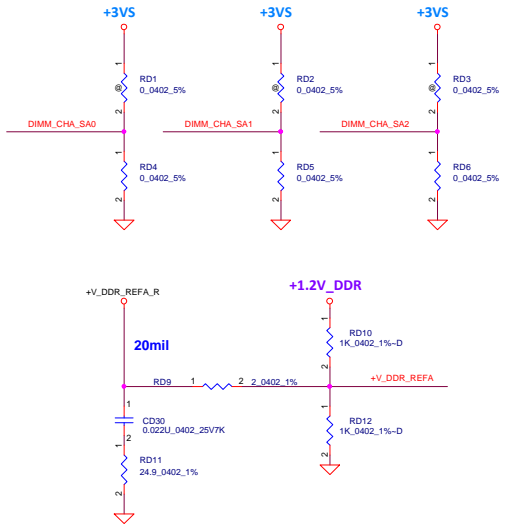
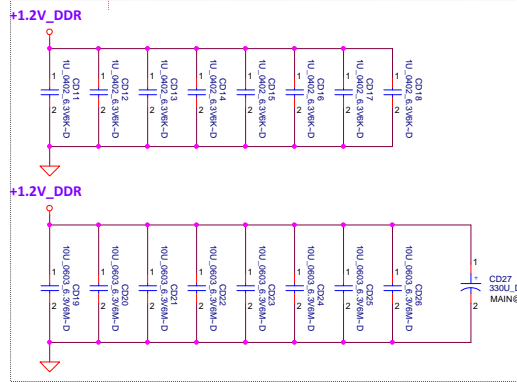
Layout Note:  
Place near JDIMM1.258



Layout Note:  
Place near JDIMM1.255



Layout Note:  
Place near JDIMM1



All VREF traces should  
have 10 mil trace width



Main Func = DDR

Layout Note:  
Place near JDIMM2.258

Layout Note:  
Place near JDIMM2.257,259

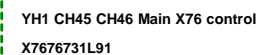
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Layout Note:  
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All VREF traces should have 10 mil trace width

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YH2 CH47 CH48 Main X76 control  
X7676731L74



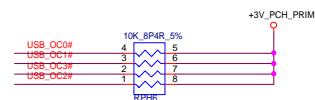
Co-lay with UH4



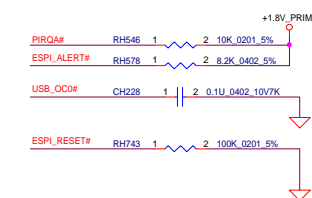
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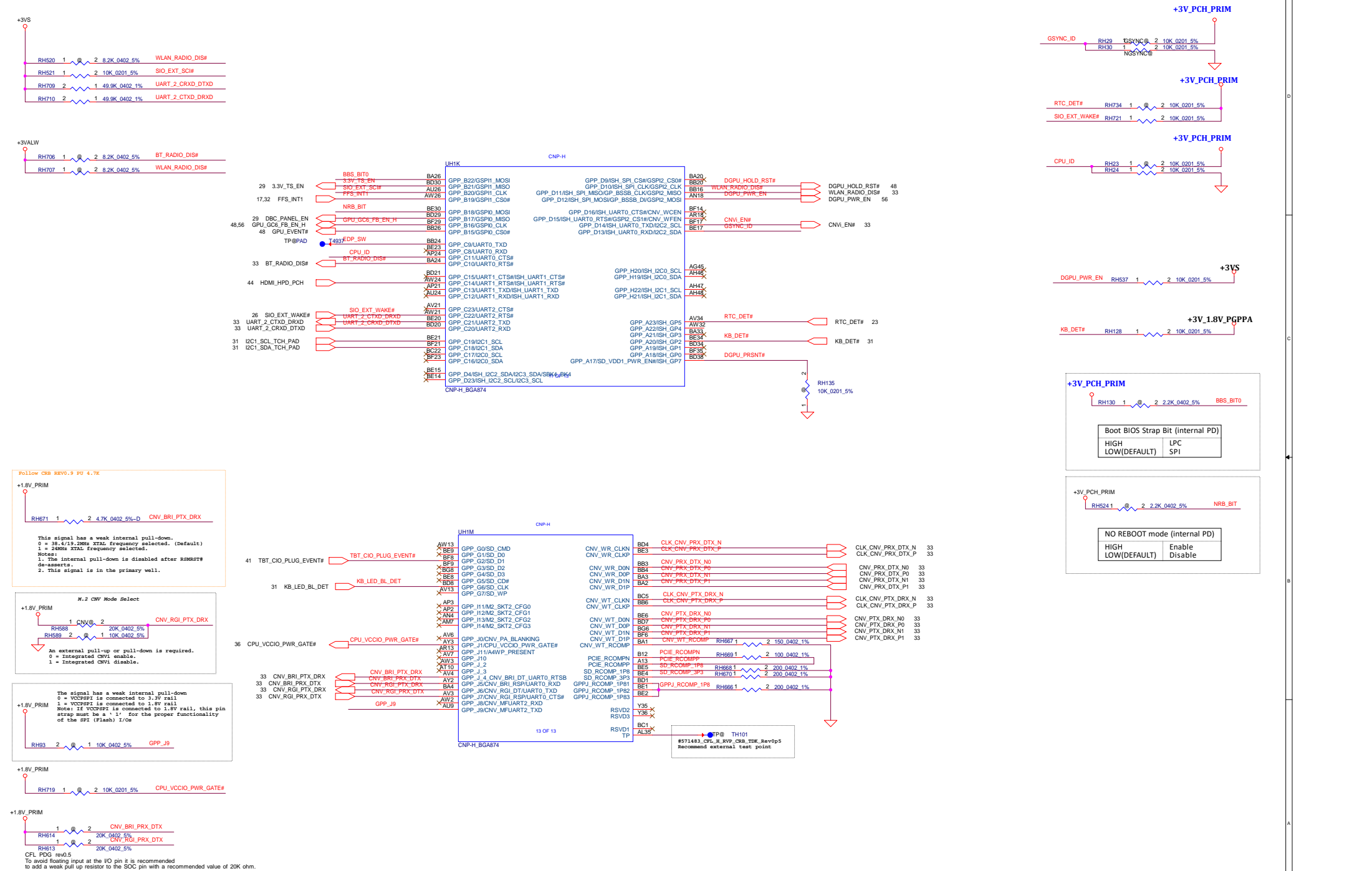
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 RH12  
 100K\_0201\_5%  
 GPD\_7  
 RH705  
 10K\_0201\_5%  
 X'tal Input:  
 High: Differential  
 Low: Single ended



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Main Func = PCH

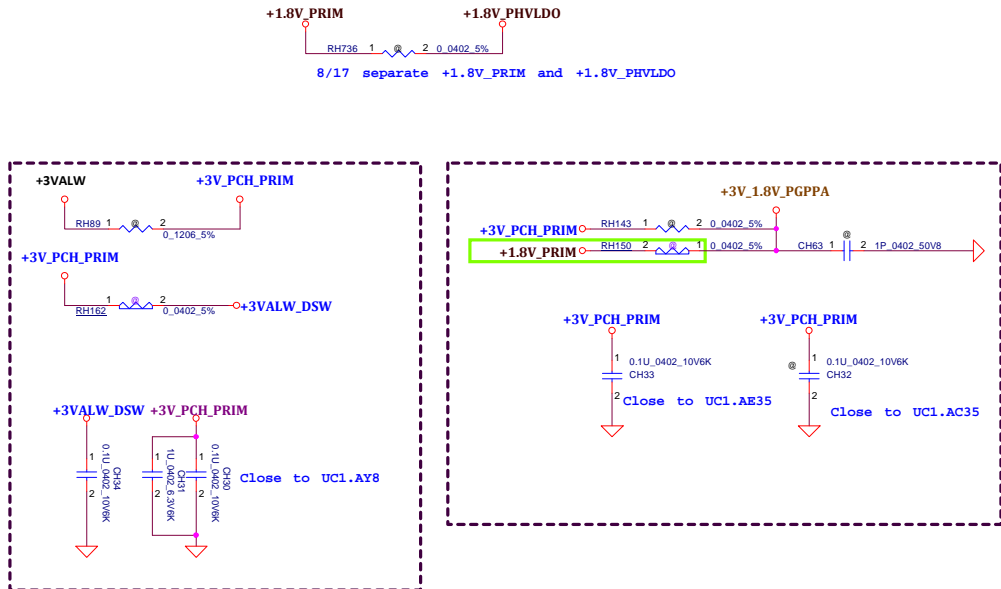
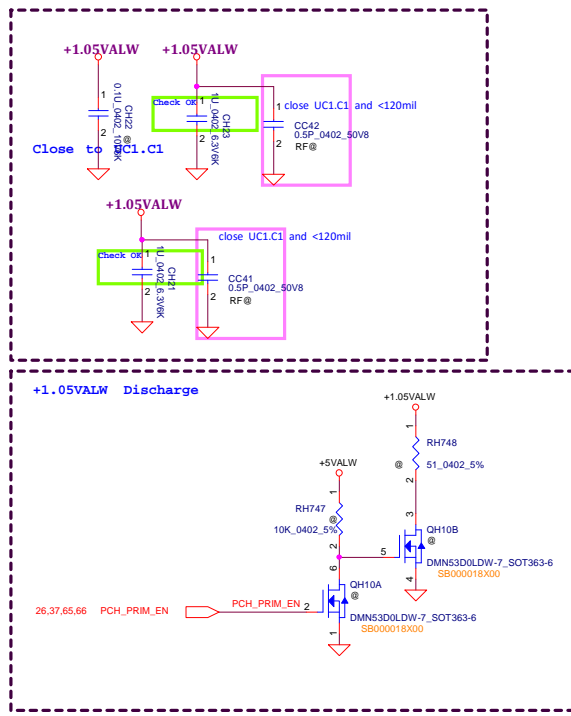
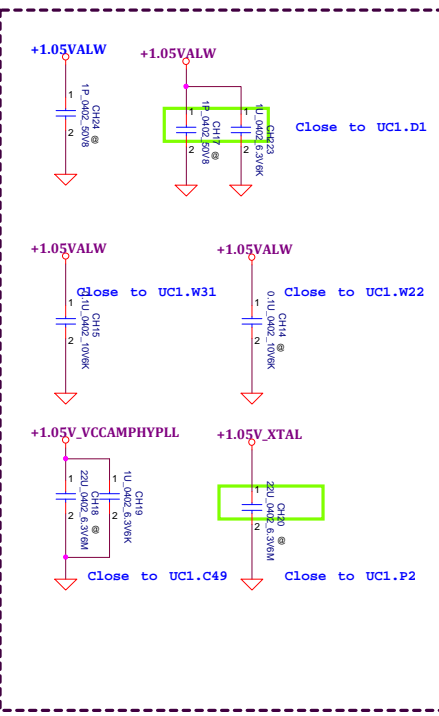
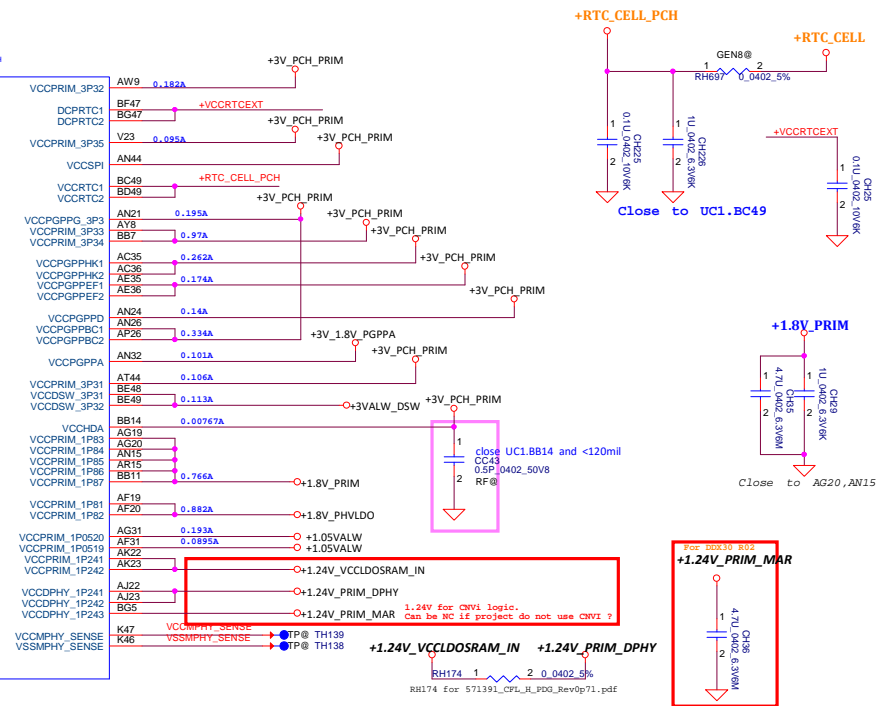
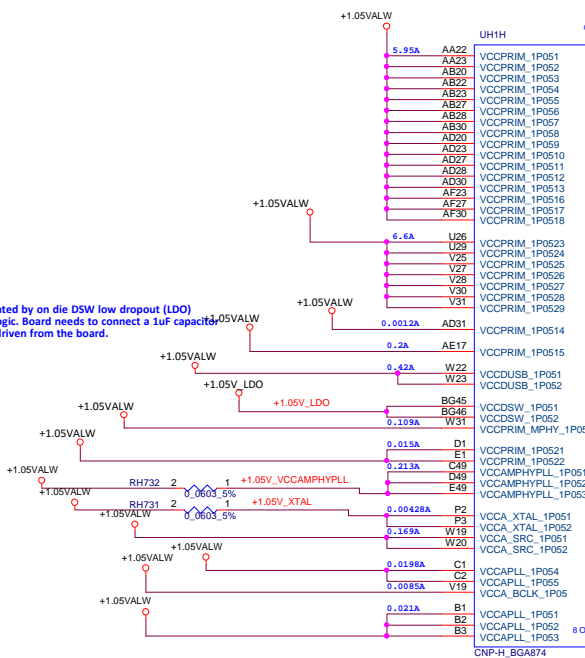
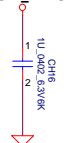




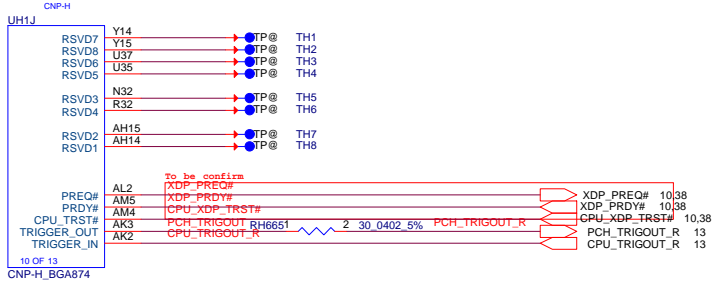
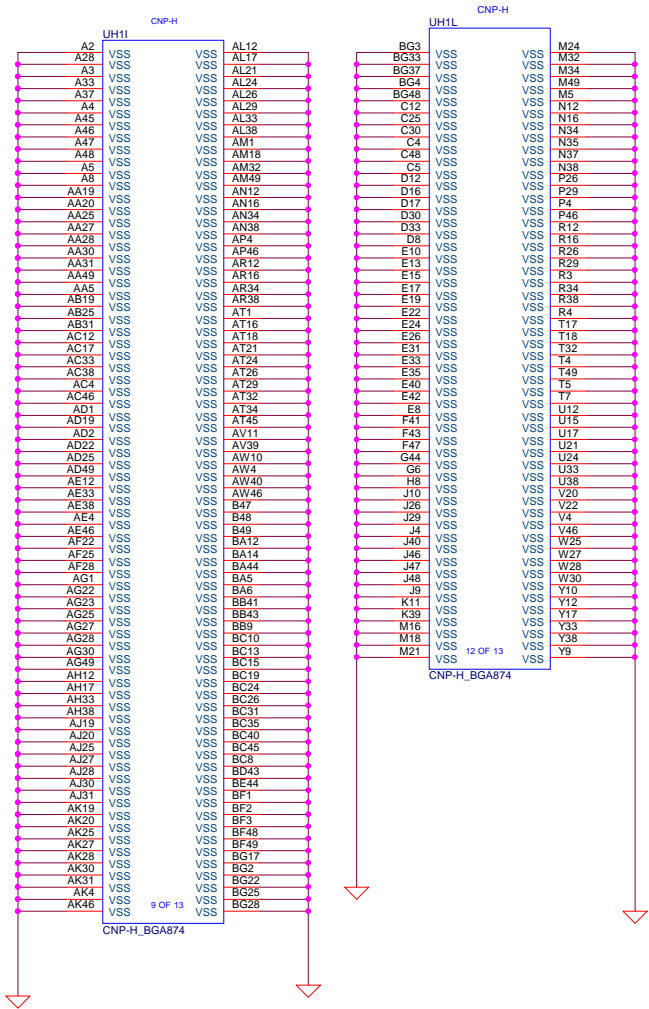
+1.05VALW      +1.05VALW



### +1.05V LDO

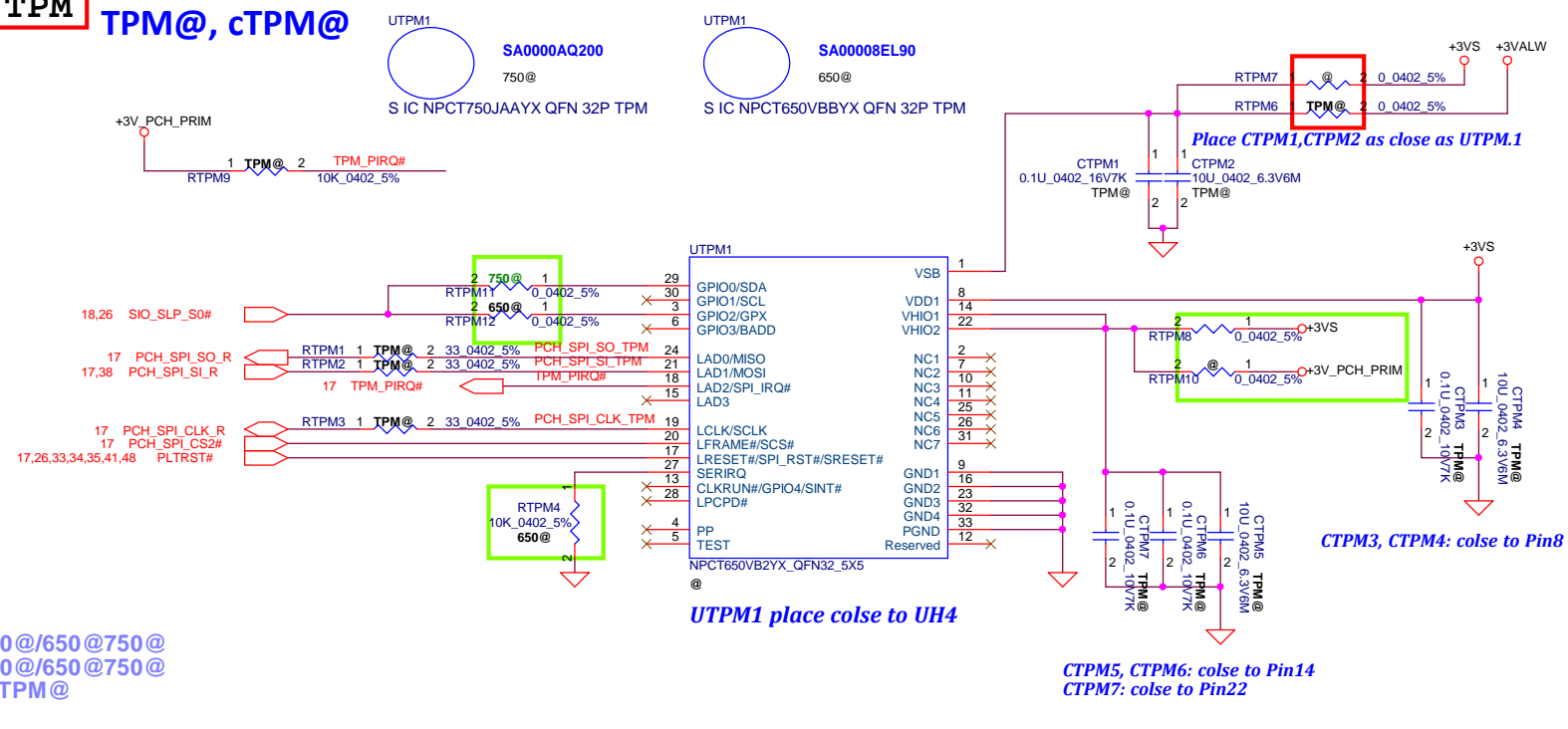


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Main Func = TPM

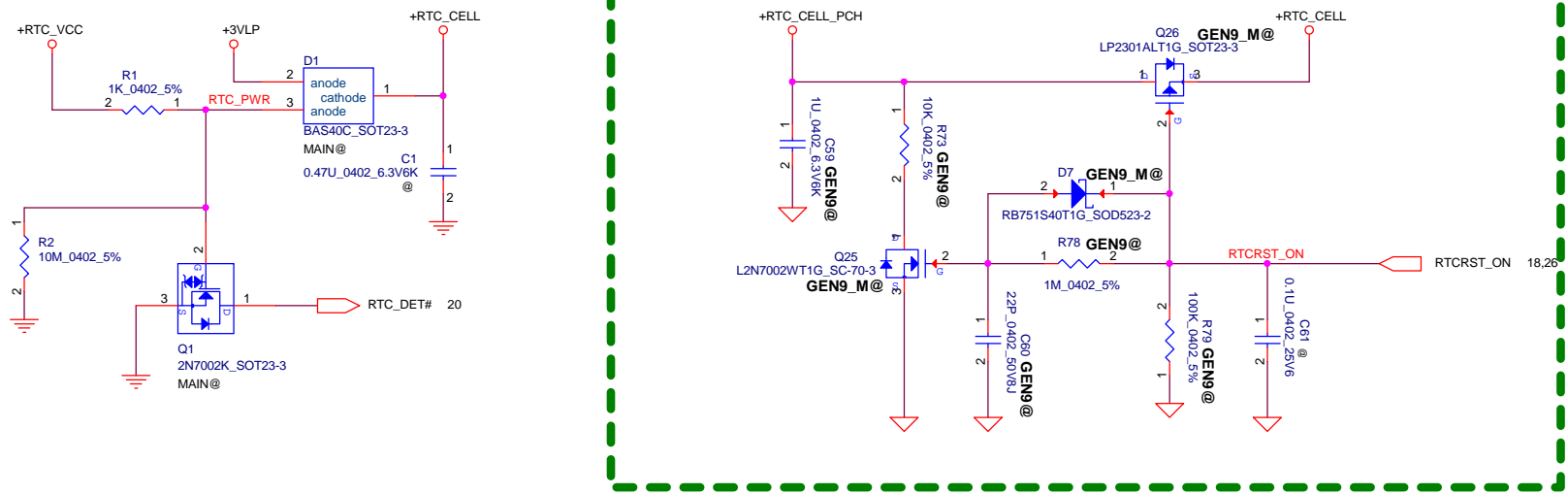
TPM@, cTPM@



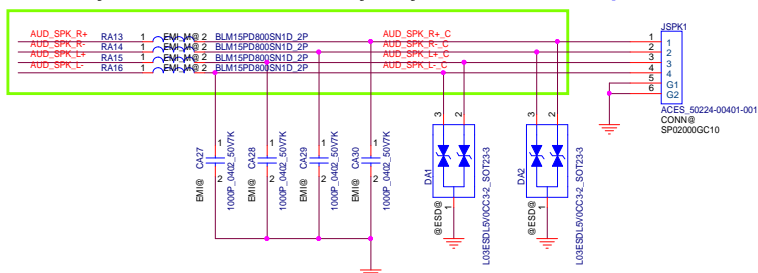
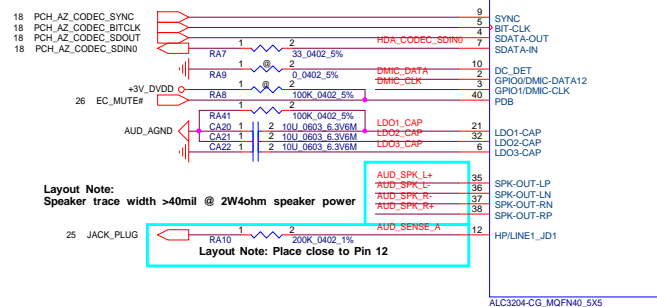
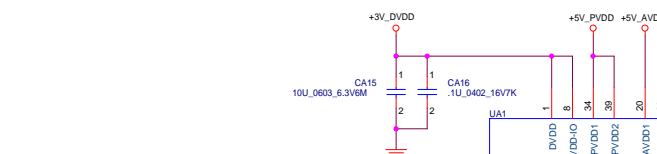
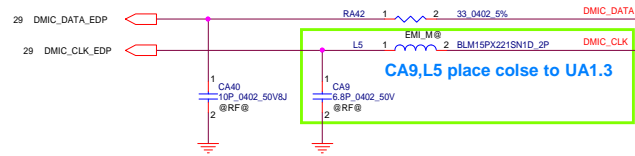
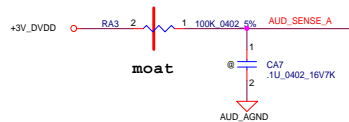
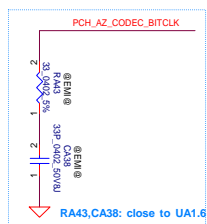
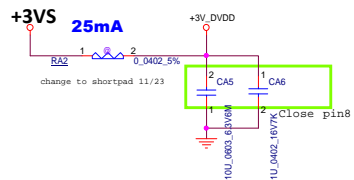
NPCT650:TPM@/650@/650@750@  
NPCT750:TPM@/750@/650@750@  
ChinaTPM:TPM@/cTPM@  
SW TPM:fTPM@

Main Func = RTC

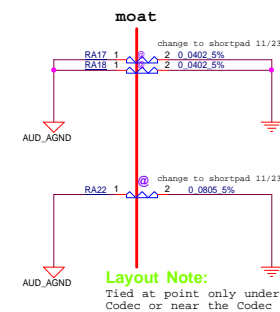
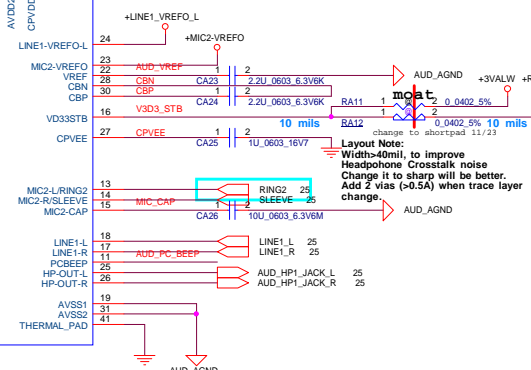
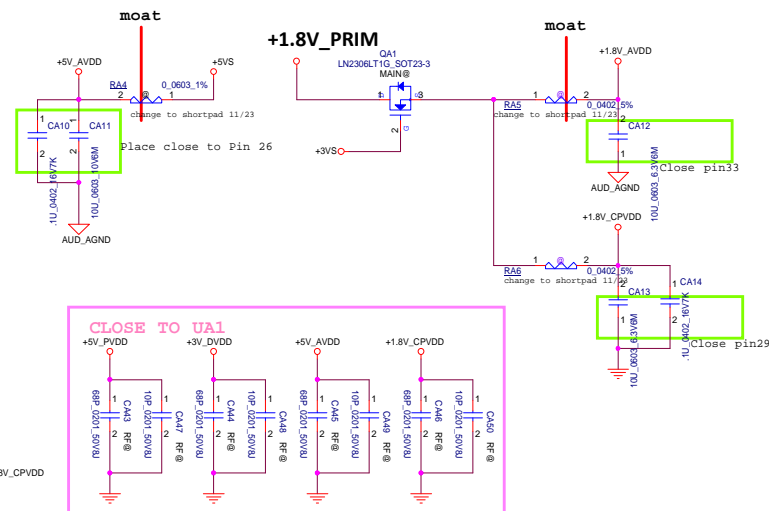
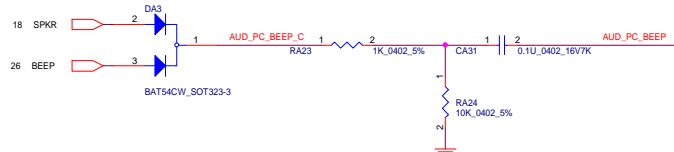
GEN9@



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								Size		Document Number		Rev	
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CONN Pin	Net name
Pin1	SPK_R+
Pin2	SPK_R-
Pin3	SPK_L+
Pin4	SPK_L-



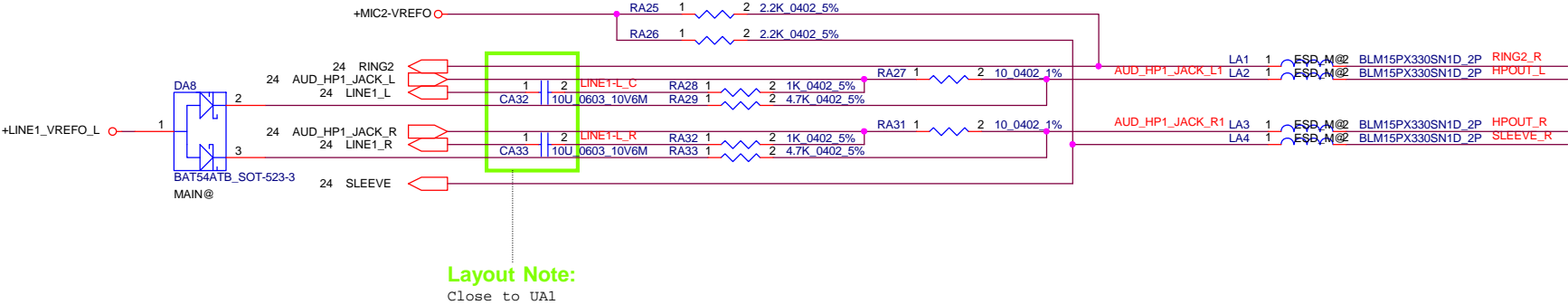
Place on the moat between GND & GNDA.

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				Audio Codec ALC3204		
				Size	Document Number	Rev
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Date:				Thursday, March 22, 2018	Sheet	24 of 78

Main Func = Audio Jack

ESD@

Universal Jack  
(Global Headset Jack + mic phone in + line in support)

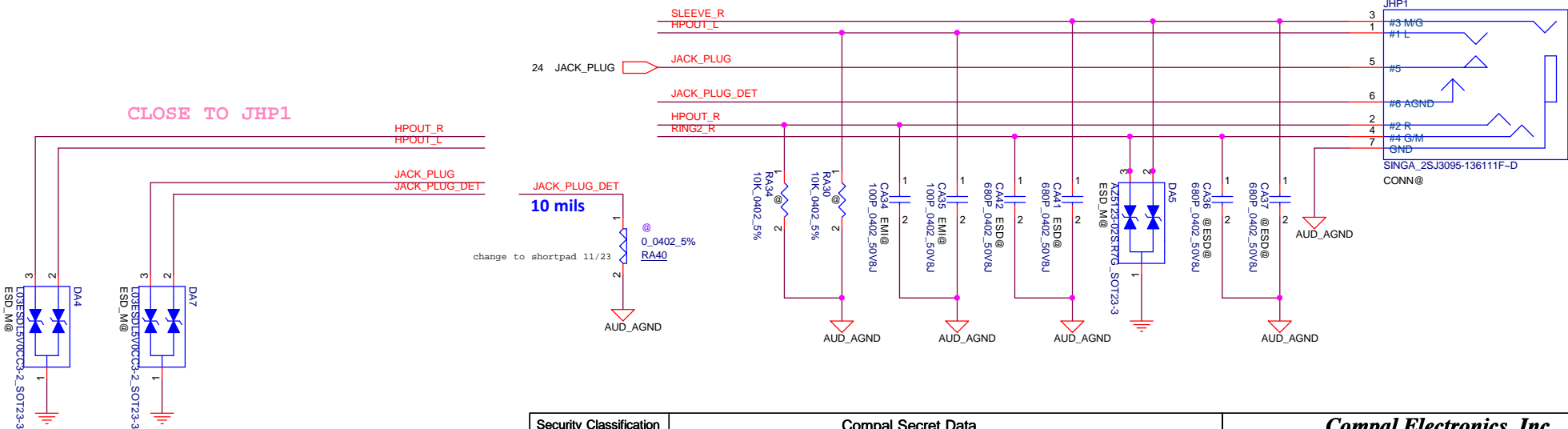


Layout Note:  
Close to UA1

Main Func = Audio Jack

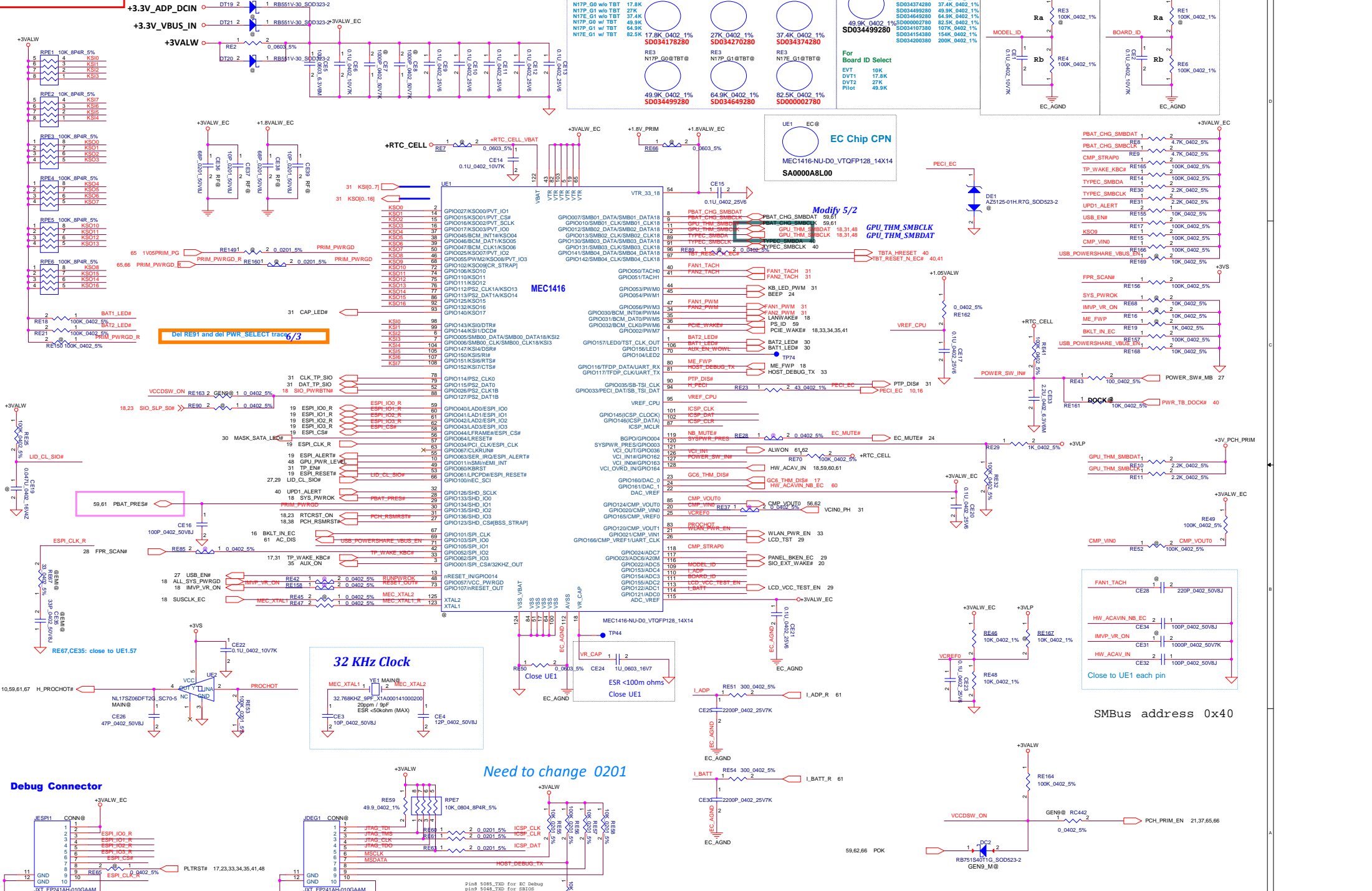
EMI@, @ESD@, ESD@

Universal Jack  
(Global Headset Jack + mic phone in + line in support)



Security Classification		Compal Secret Data		Title	
Issued Date	2016/01/06	Deciphered Date	2017/01/06	Audio Jack	
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				Rev	0.3

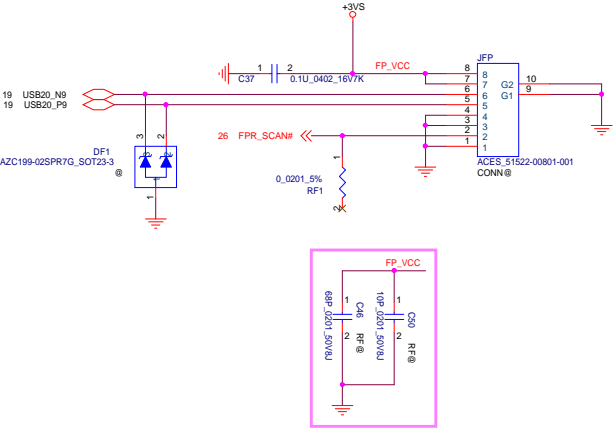
Main Func = EC





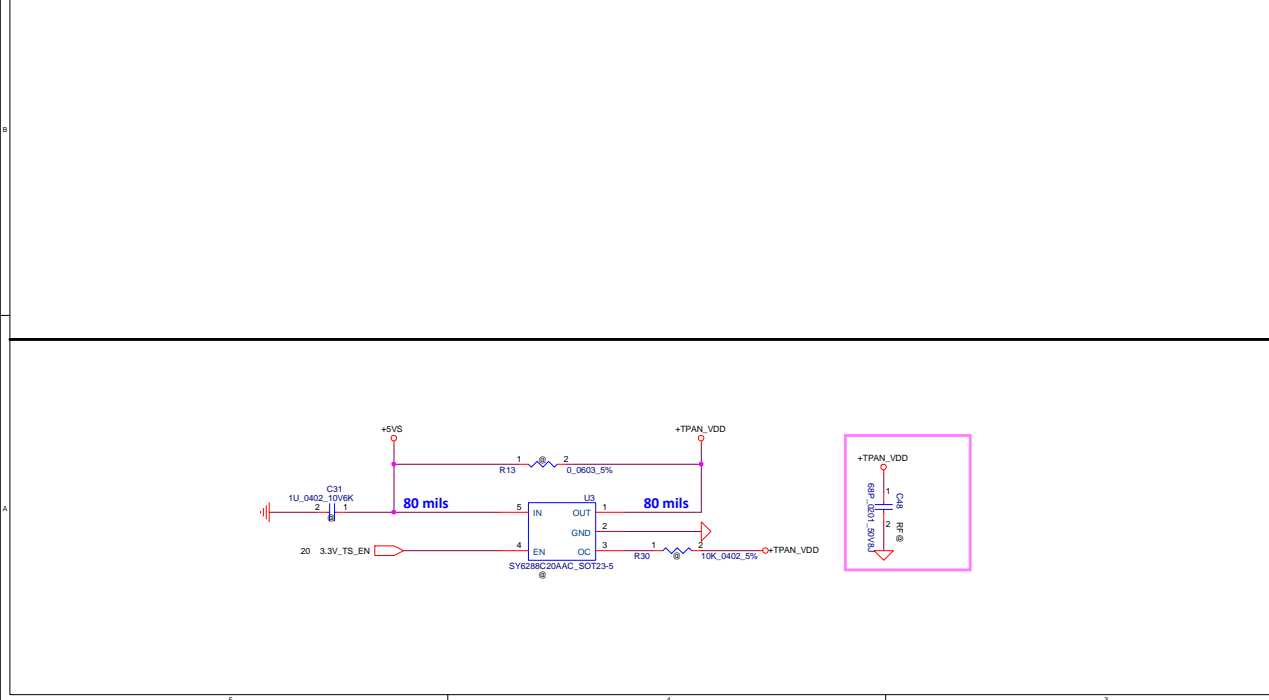
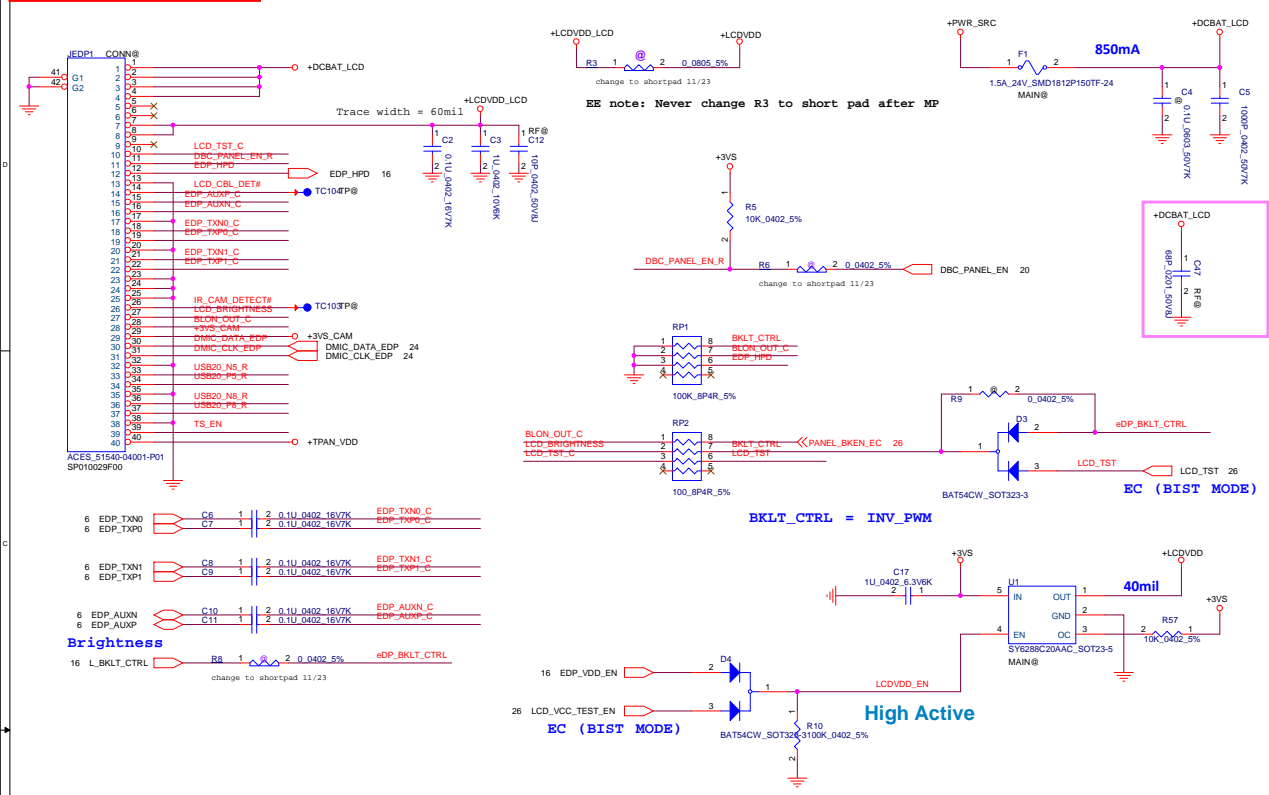


Main Func = Finger Printer

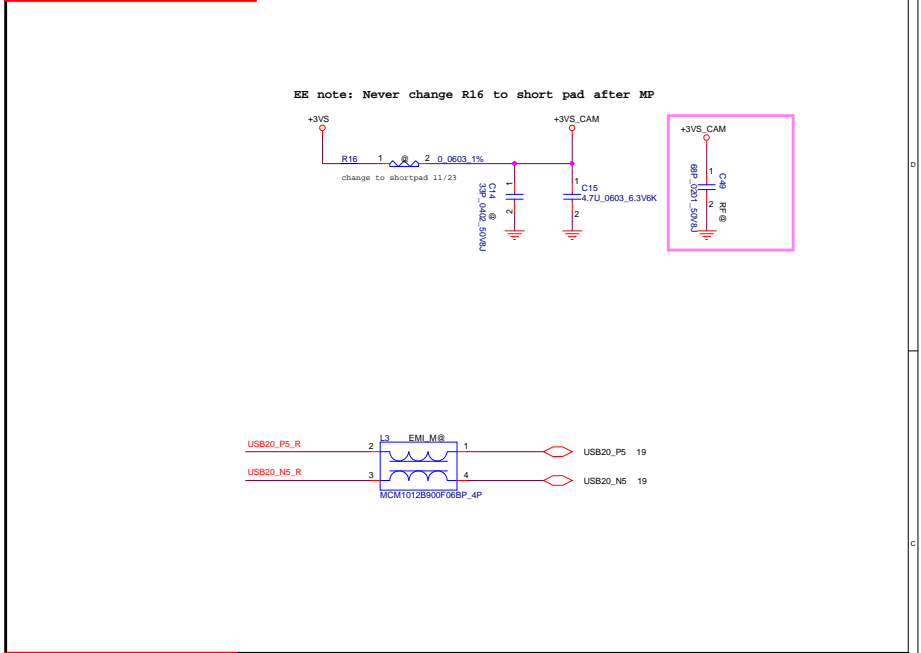


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				Size	Document Number	Rev
					LA-F611P	0.3
Date: Thursday, March 22, 2018				Sheet	28	of 78

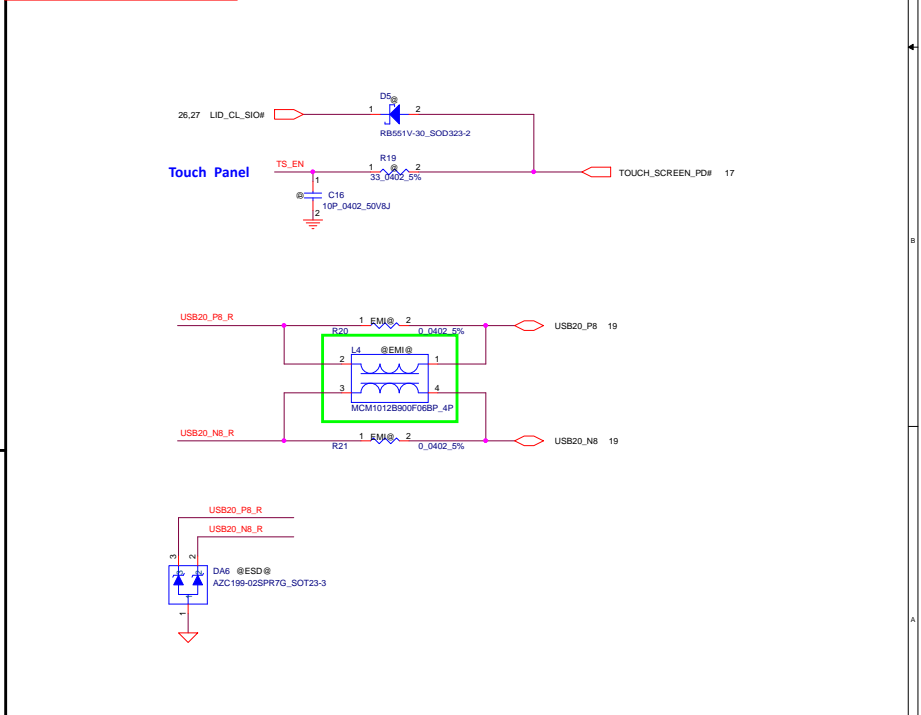
Main Func = LCD



Main Func = CAM



Main Func = TS



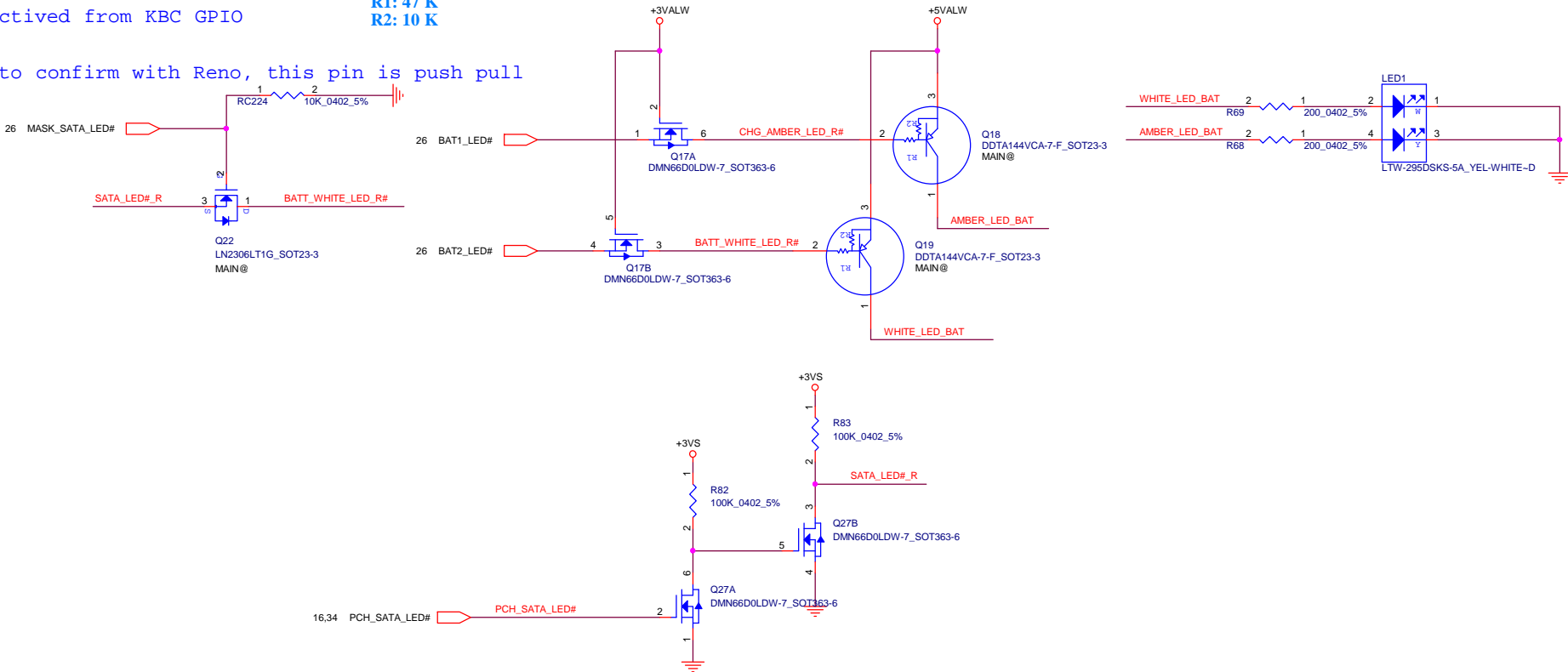
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2016/01/06	Deciphered Date	2017/01/06	Title	LCD/Camera/Mic
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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
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Main Func = Battery LED

Low active from KBC GPIO

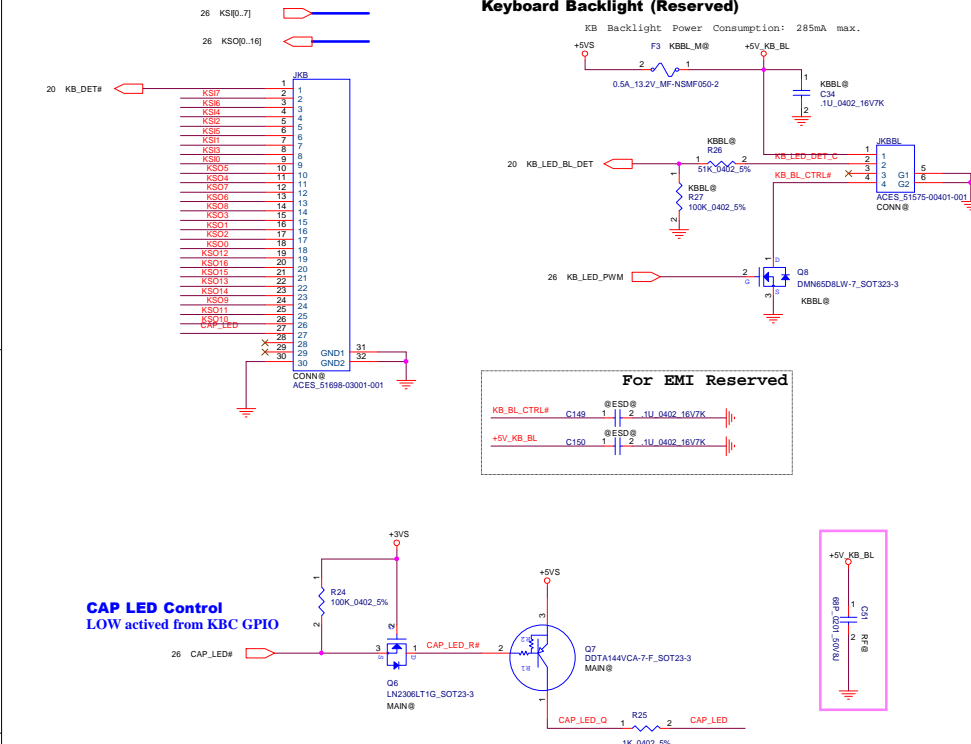
BJT  
R1: 47 K  
R2: 10 K

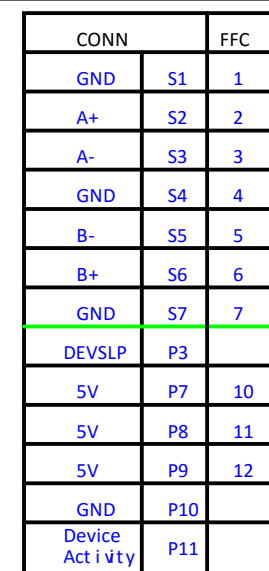
Need to confirm with Reno, this pin is push pull



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Size		Document Number		Rev	
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Main Func = K

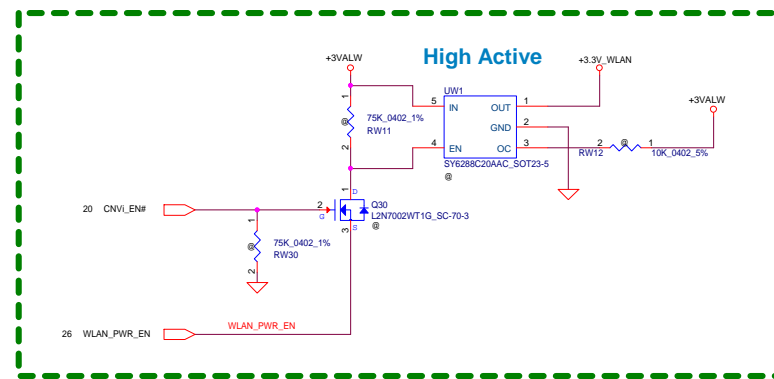
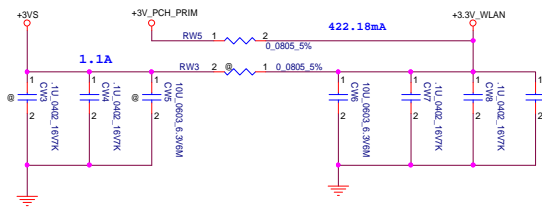




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Issued Date	2016/01/06	Deciphered Date	2017/01/06	Title	<b>HDD/FFS</b>	
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				<b>LA-F611P</b>		
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# Main Func = WLAN / CNVi

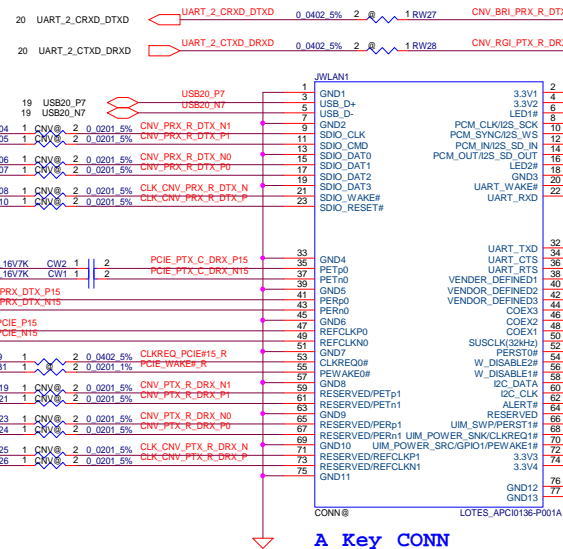


## Reserved for NGFF Debug Card

CNVi Rx

PCIe X1  
(link to PCIe Port 14)

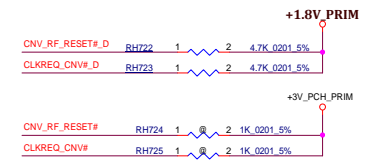
CNVi Tx



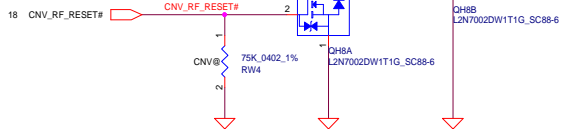
+3.3V\_WLAN

+3.3V\_WLAN

A Key CONN

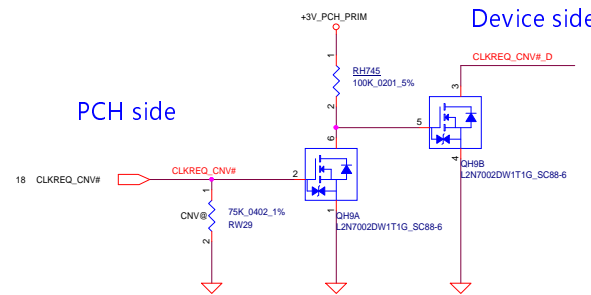


PCH side



Device side

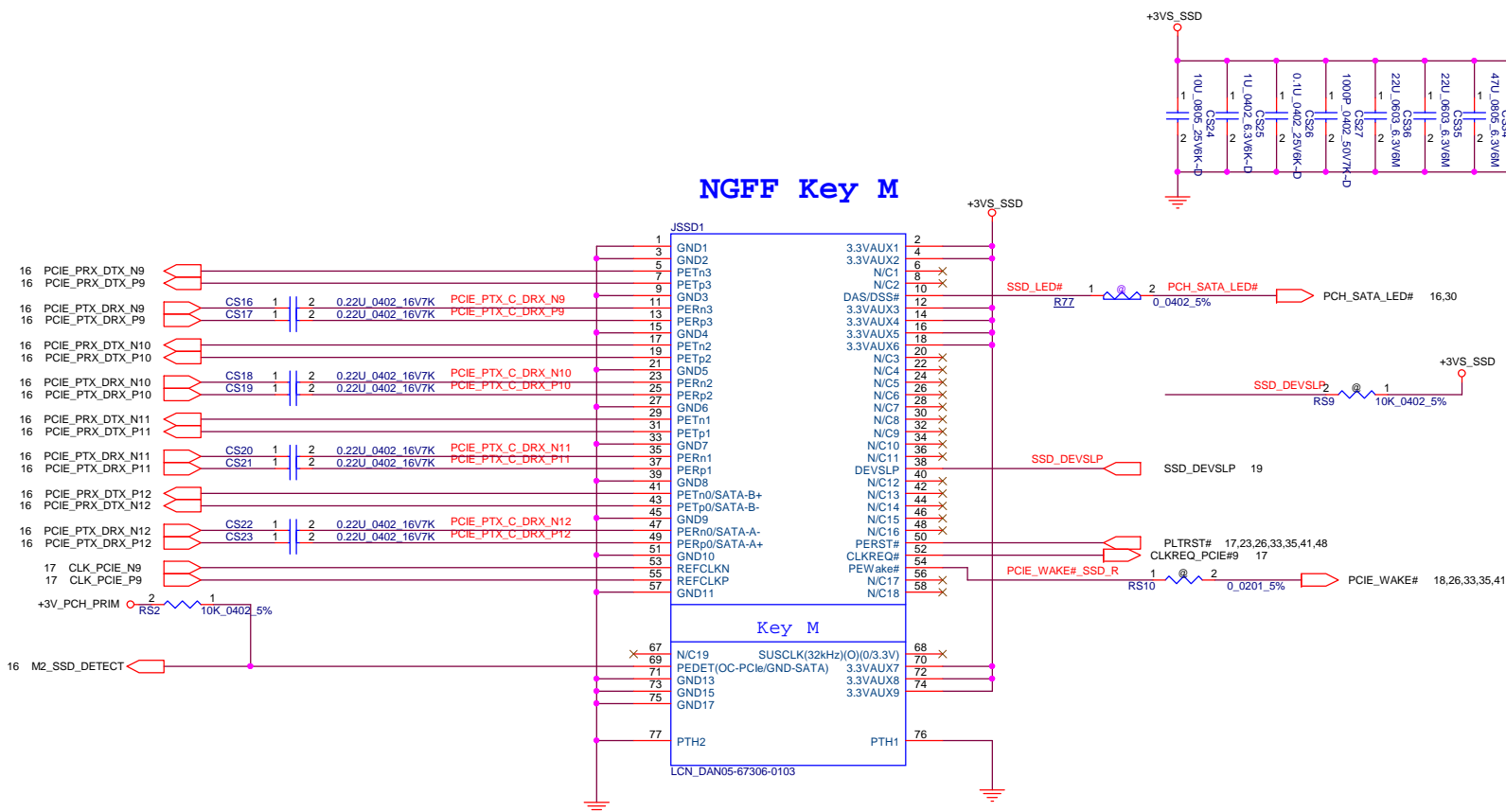
PCH side



Device side

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				Size Document Number
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Update OK



PEDET	Module Type
0	SATA
1	PCIE

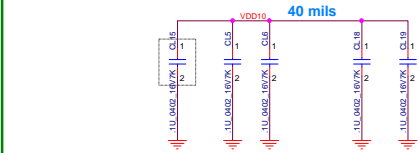
Update OK

**LAN Chip (10/100/1000M & 10/100M co-layout)**

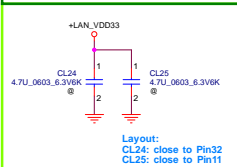
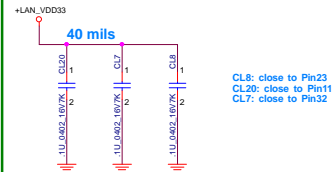
Layout:  
For RTL8111H-CG  
\* Place CL5,CL6,CL18,CL19 close to each VDD10 pin 8, 30, 3, 22  
For RTL8106E  
\* Place CL5,CL6 close to each VDD10 pin 8, 30

CL15,RL1:

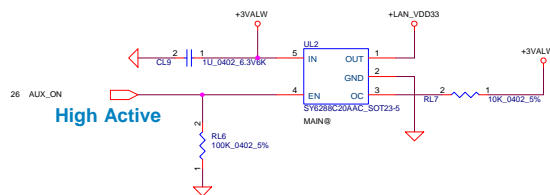
CL5: close to Pin8  
CL6: close to Pin30  
CL18: close to Pin3  
CL19: close to Pin22



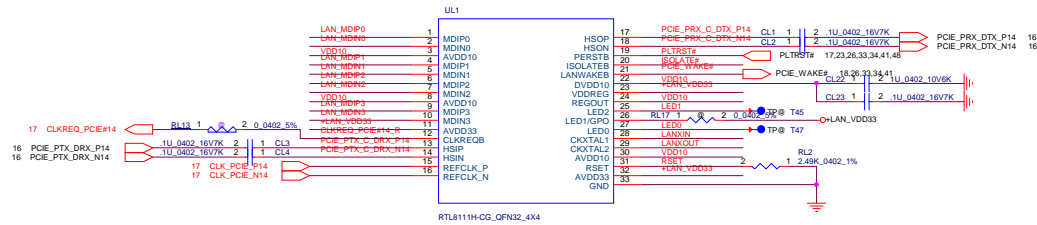
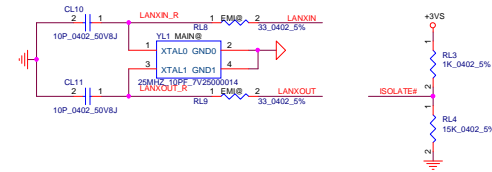
Layout:  
 For RTL8111H-CG  
 \* Place CL20 and CL7 and CL8 close to each VDD33 pin 11, 32 ,23  
 For RTL8106E  
 \* Place CL7 and CL8 close to each VDD33 pin 23, 32



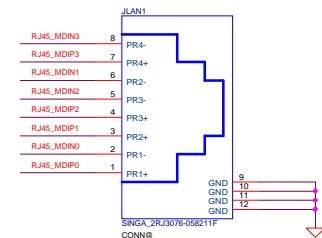
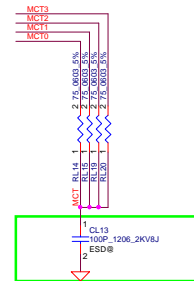
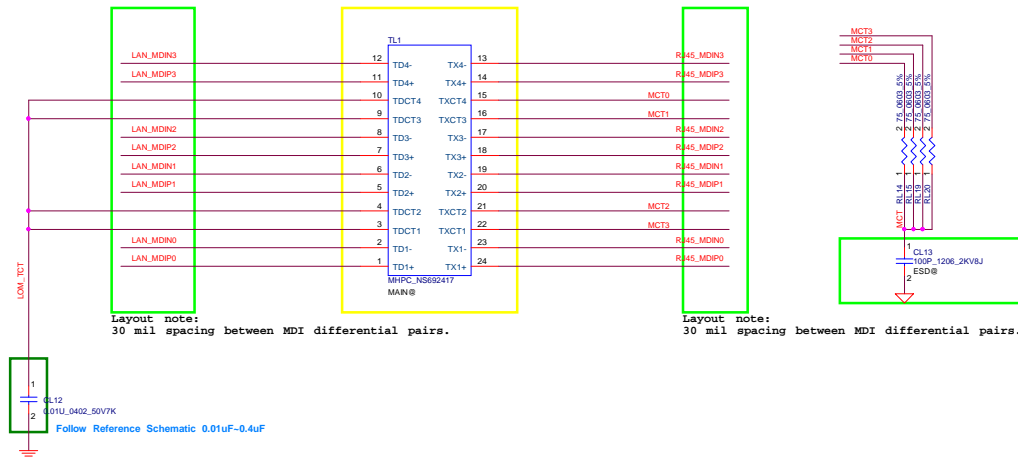
**+LAN\_VDD33 Rising time (10%~90%) need >0.5mS and <100mS.**



RTL8111H-CG	RTL8106E-CG
SA000080P00	SA000065Y00
LDO mode	LDO mode
10/100/1000M	10/100M



### LAN TransFormer (10/100/1000M & 10/100M co-layout)

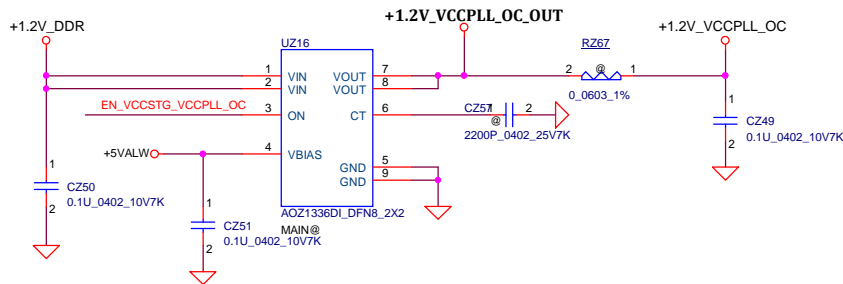


	1.0V Source	RL1	CL15	CL18	CL19	CL20	CL8
RTL8111H-CG RTL8111G-CGT (71.08111.U03)	LDO	O	O	O	O	O	X
RTL8106E-CG (071.08106.0003)	LDO	X	X	X	X	X	O

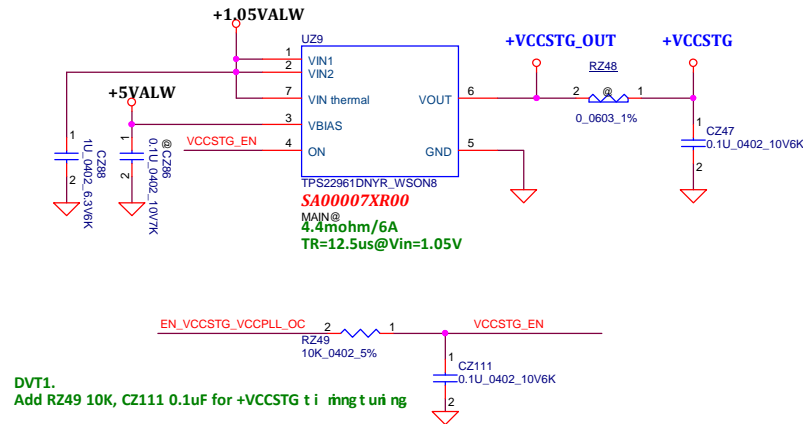
# Main Func = DC/DC

## +VCCPLL\_OC Load Switch

H-Processor Line - Quad Core GT2  
Max : 130 mA

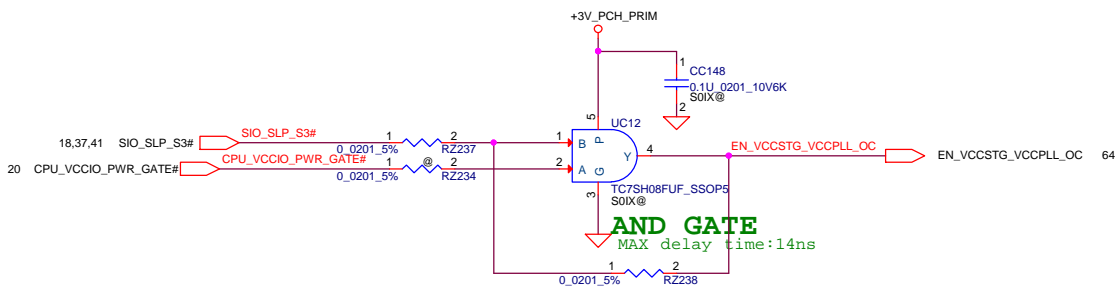


## +VCCSTG Load Switch



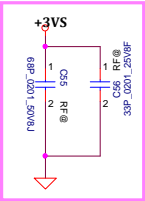
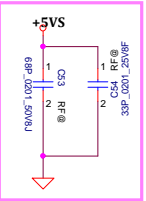
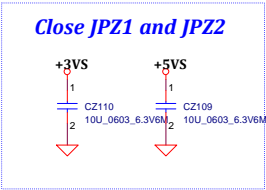
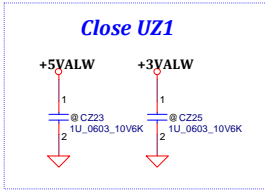
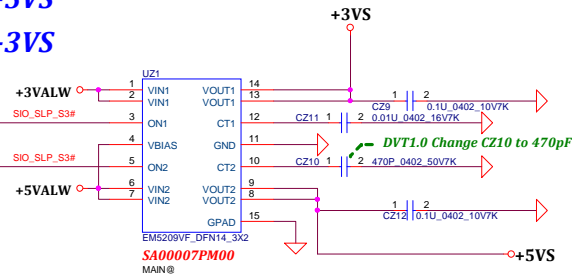
## Power Gating by Modern Standby Control

+1.05VALW TO +1.0VS\_VCCSTG

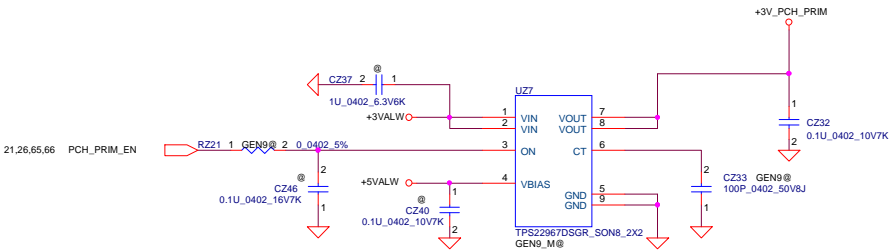


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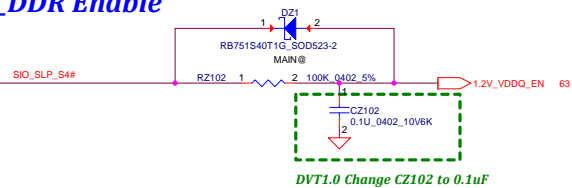
+5VALW to +5VS  
+3VALW to +3VS



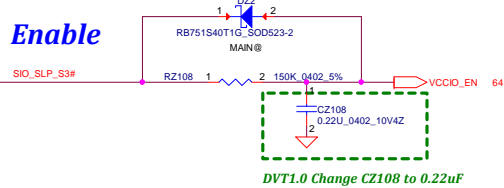
+3V\_PCH\_PRIM Load Switch



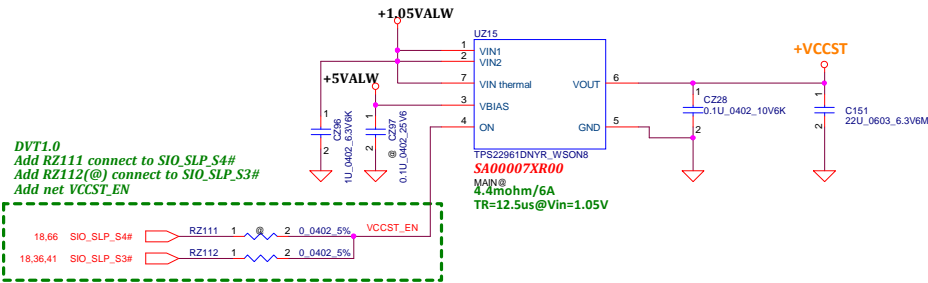
+1.2V\_DDR Enable



+VCCIO Enable

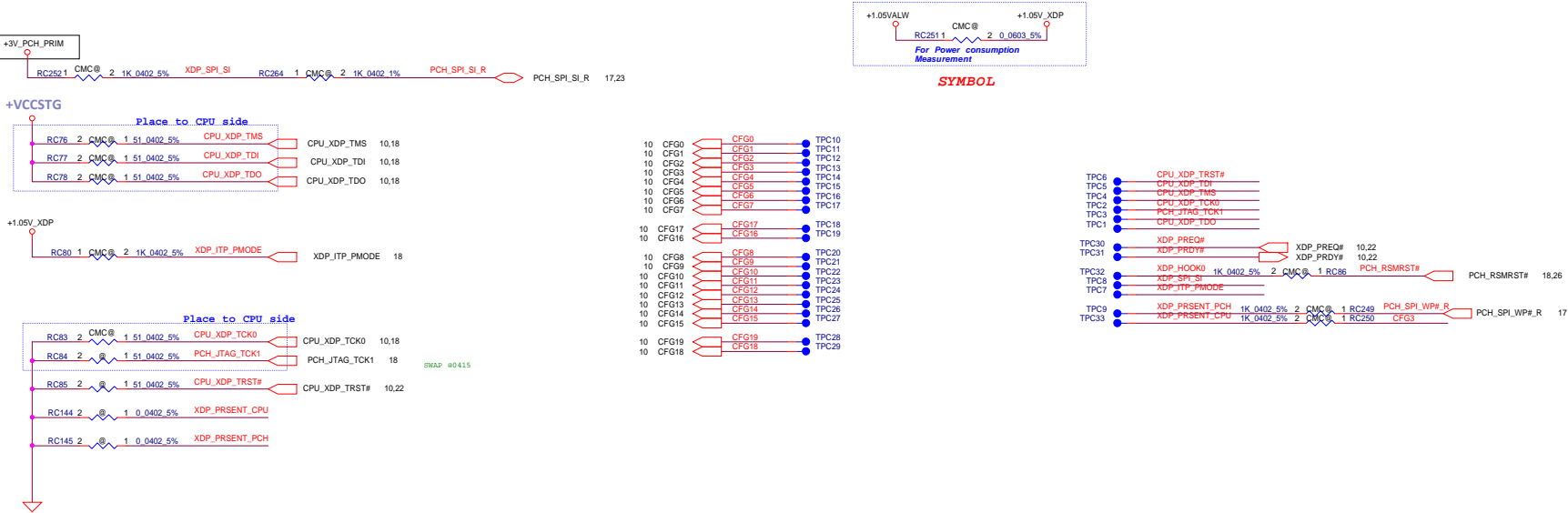


+VCCST Load Switch



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PRIMARY CMC CONN.



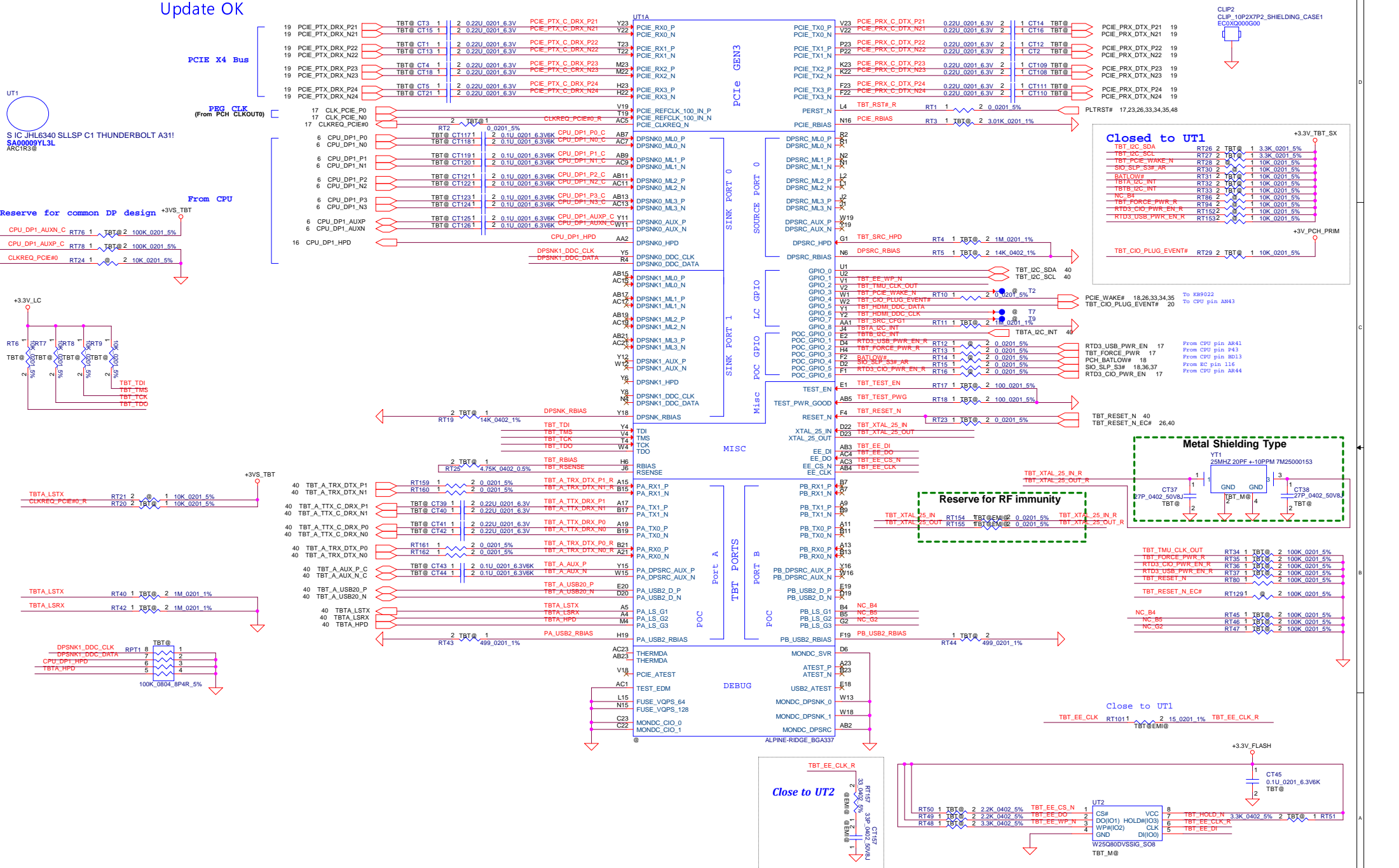
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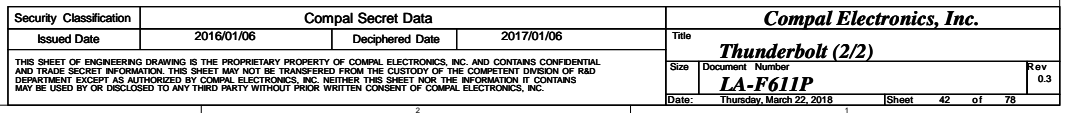


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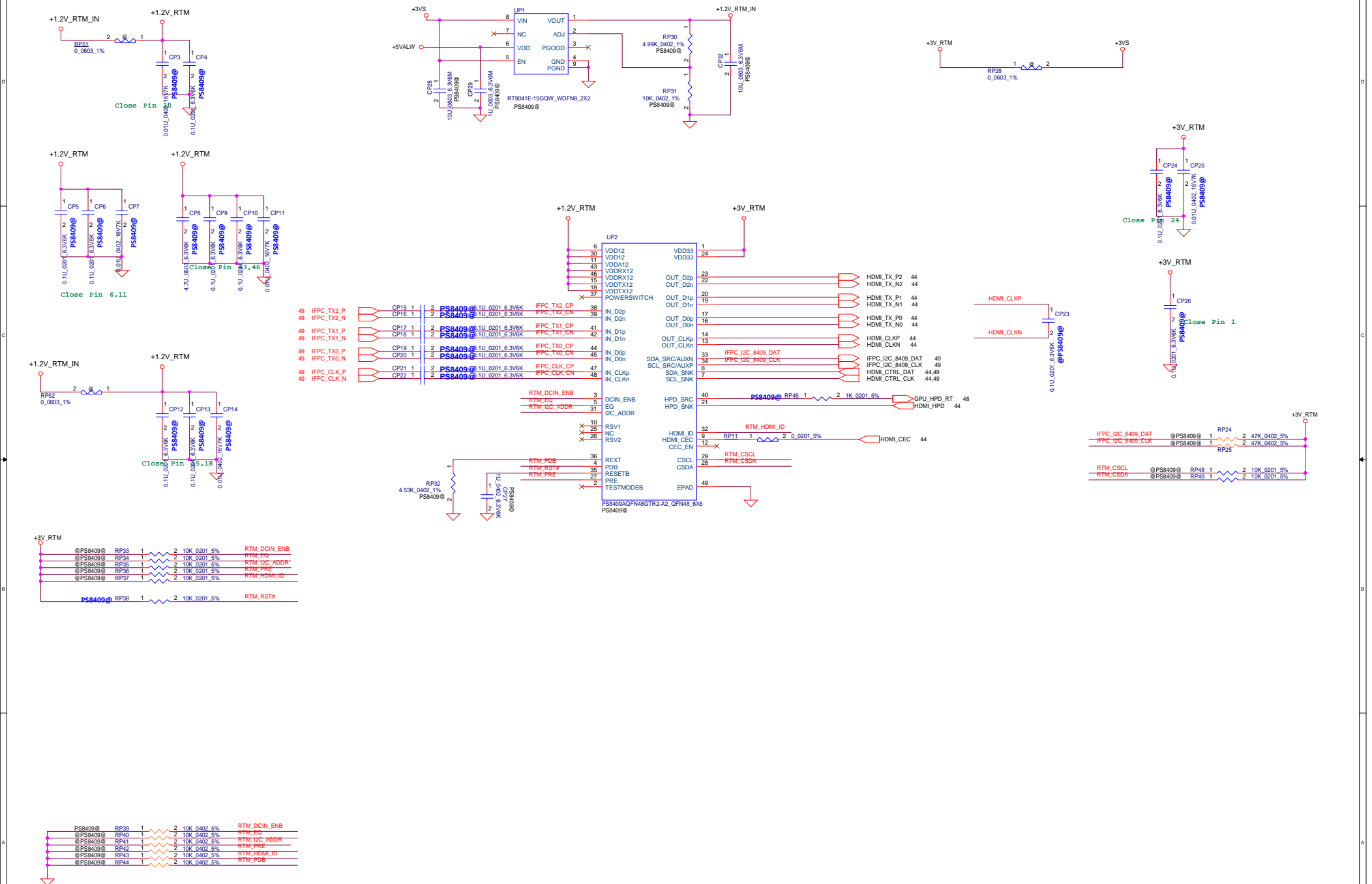
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					<i>LA-F611P</i>	0.3
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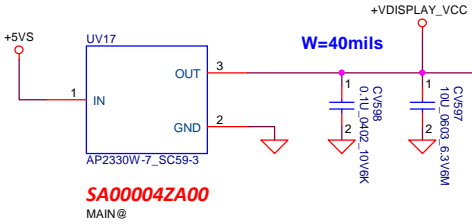
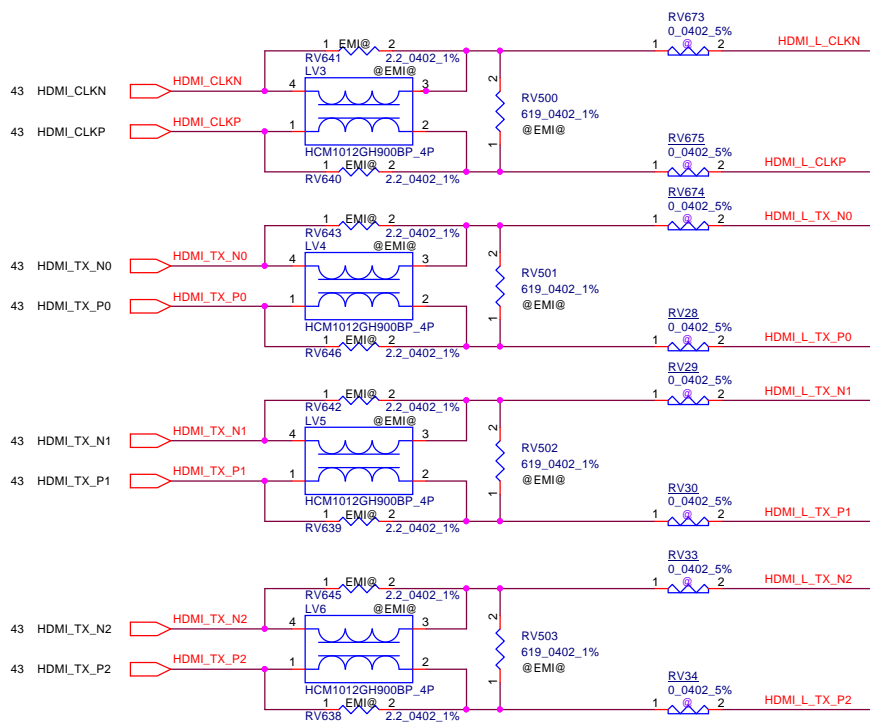


# Main Func = Retimer



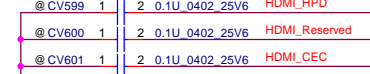
Main Func = HDMI

Place close to JHDMI1

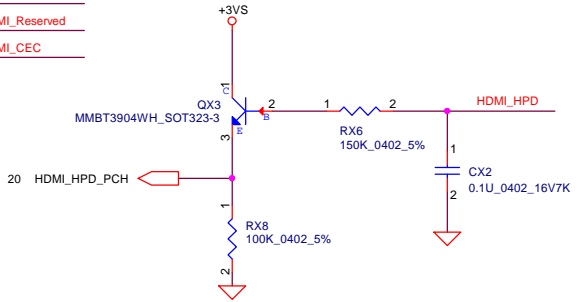


W=40mils

For EMI Reserve



Close to JHDMI



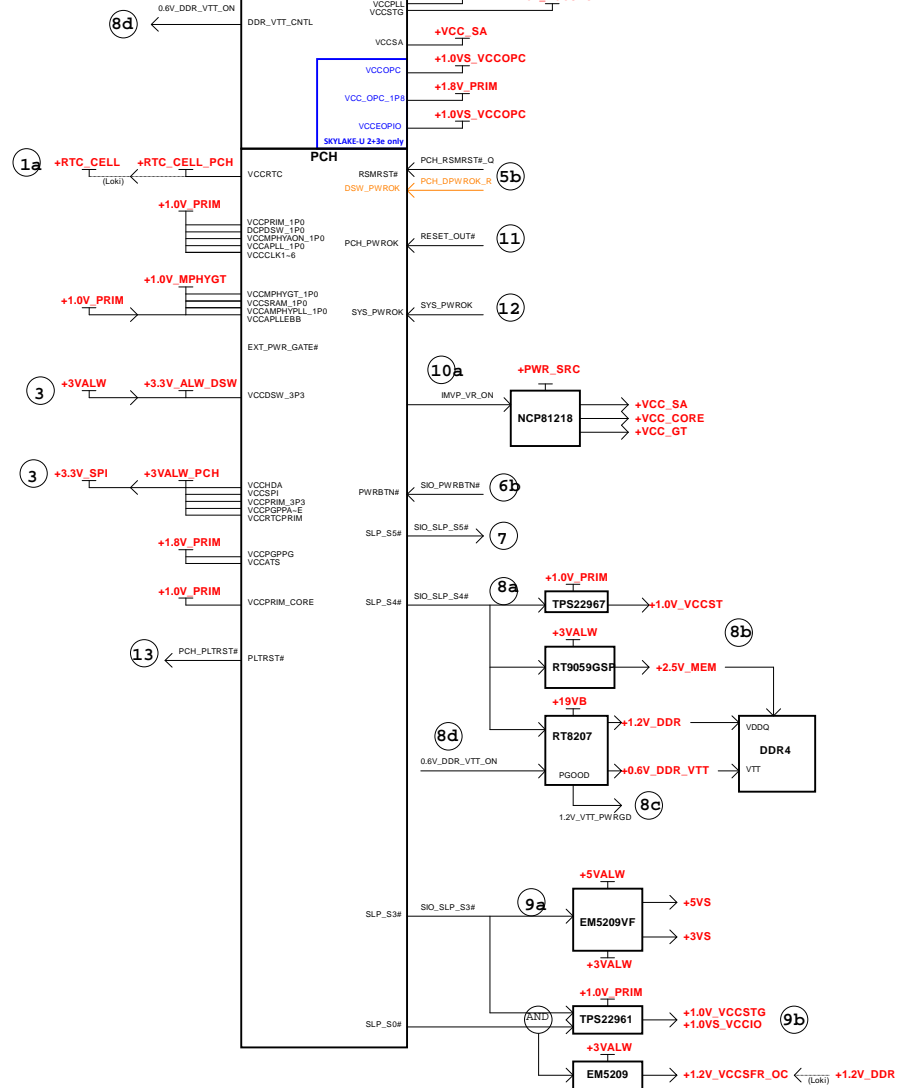
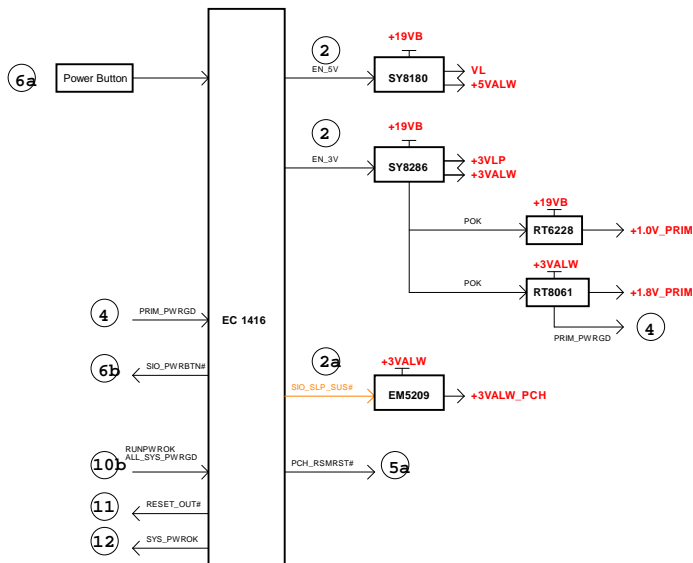
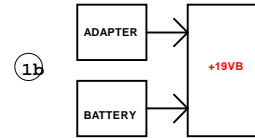
HDMI conn

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				Rev	0.3





# Timing Diagram for S5 to S0 mode



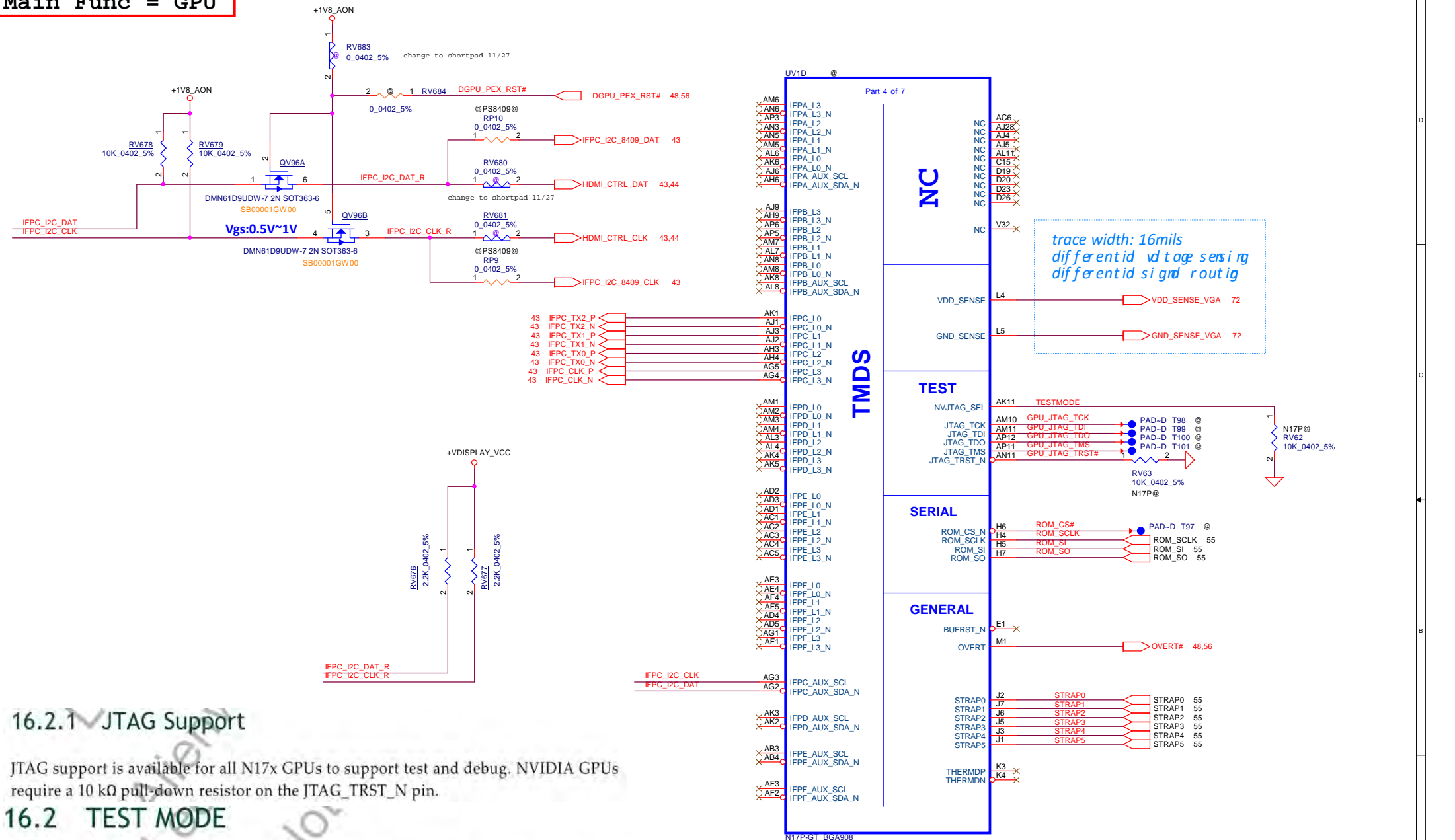
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		2017/01/06		Title	
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				Date	
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46		of		71	

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Main Func = GPU



16.2.1 JTAG Support

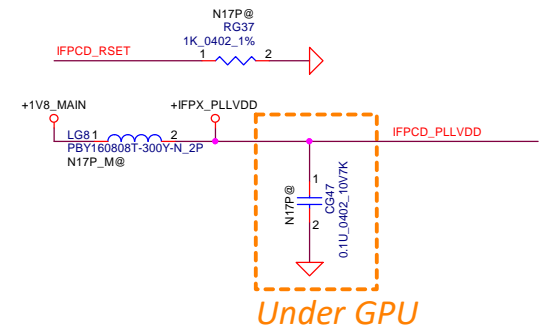
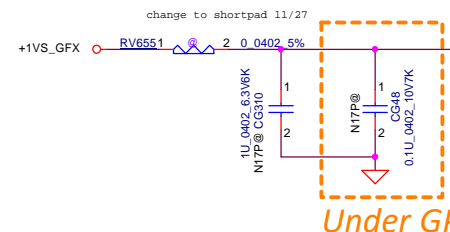
JTAG support is available for all N17x GPUs to support test and debug. NVIDIA GPUs require a 10 kΩ pull-down resistor on the JTAG\_TRST\_N pin.

16.2 TEST MODE

By default, pull-down the TESTMODE pin (pin name is NVJTAG\_SEL in some N17x pinouts) to GND with a 10 kΩ resistor. For ICT/boundary scan requirements, contact your NVIDIA AE.

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Size		Document Number		Rev	
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3		2				



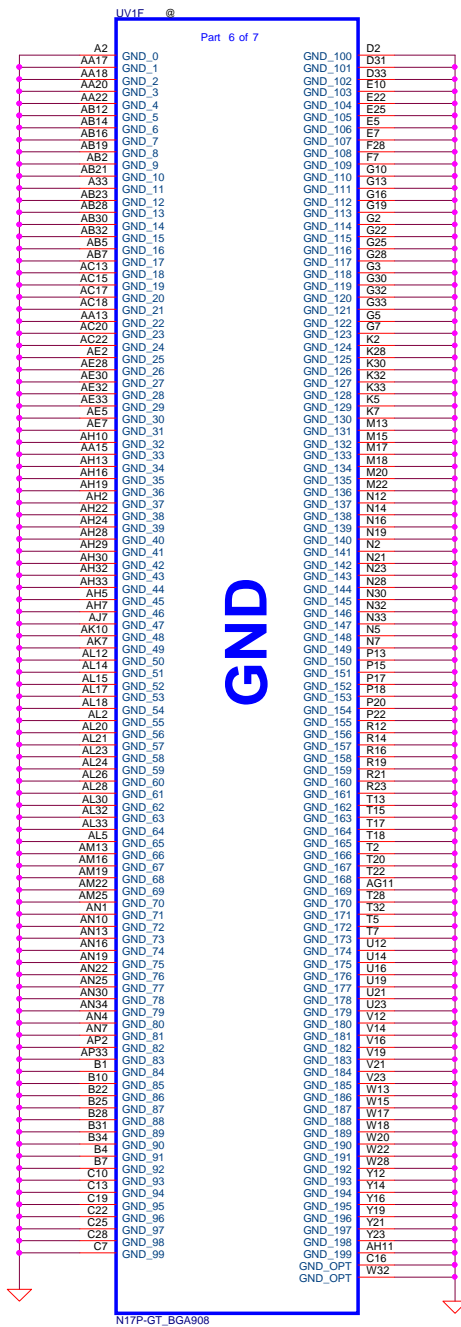
**Main Func = GPU**

**POWER**

**GND**

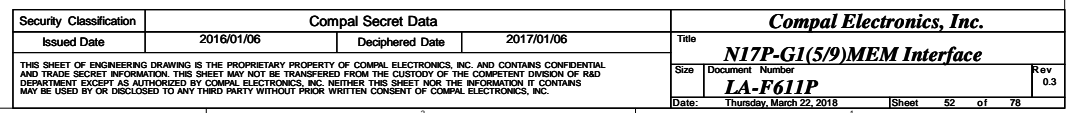
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Security Classification	Compal Secret Data			Title	
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				LA-F611P	Rev 0.3
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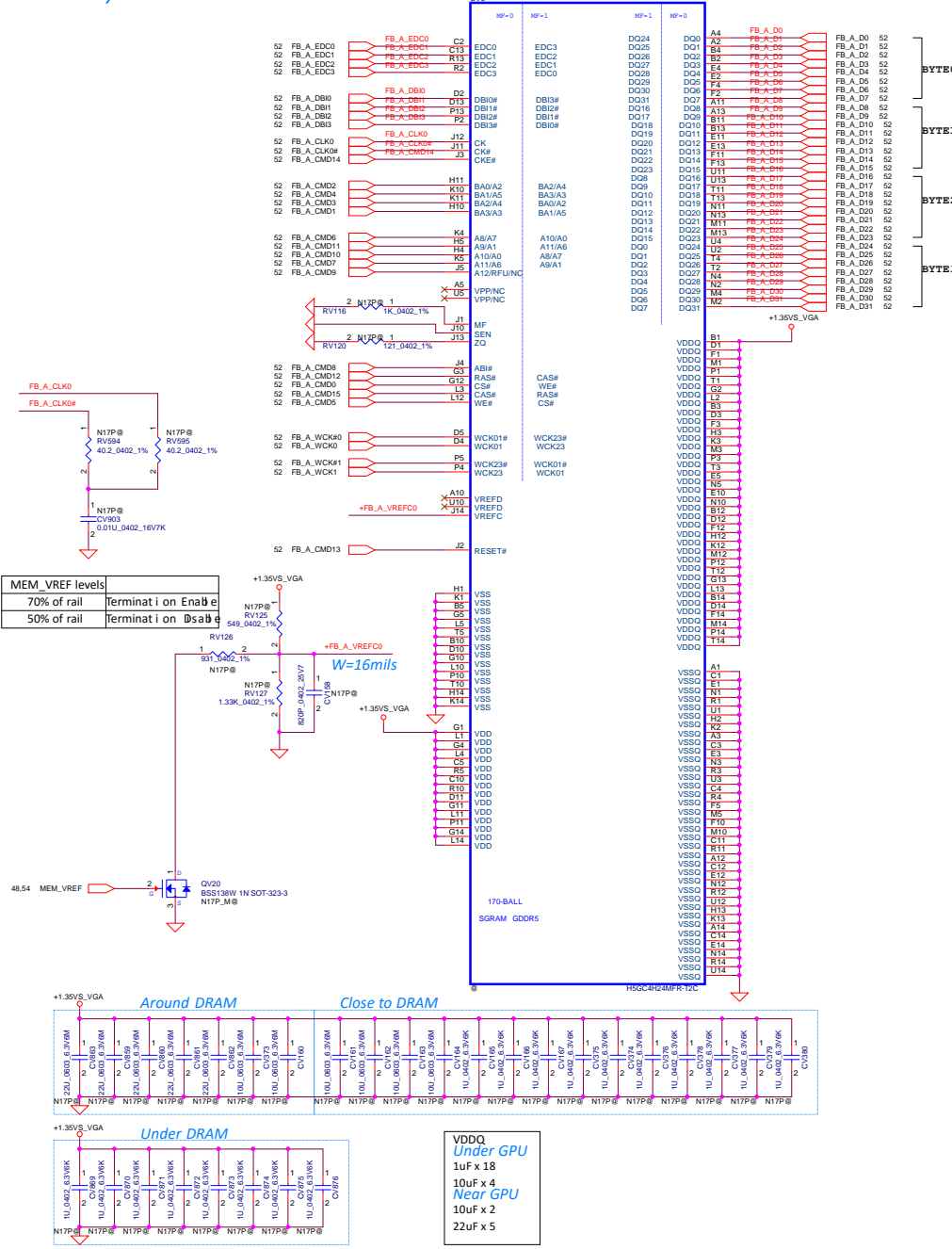
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				Size	Document Number			Rev	
				LA-F611P				0.3	
				Date:	Thursday, March 22, 2018	Sheet	51	of	78



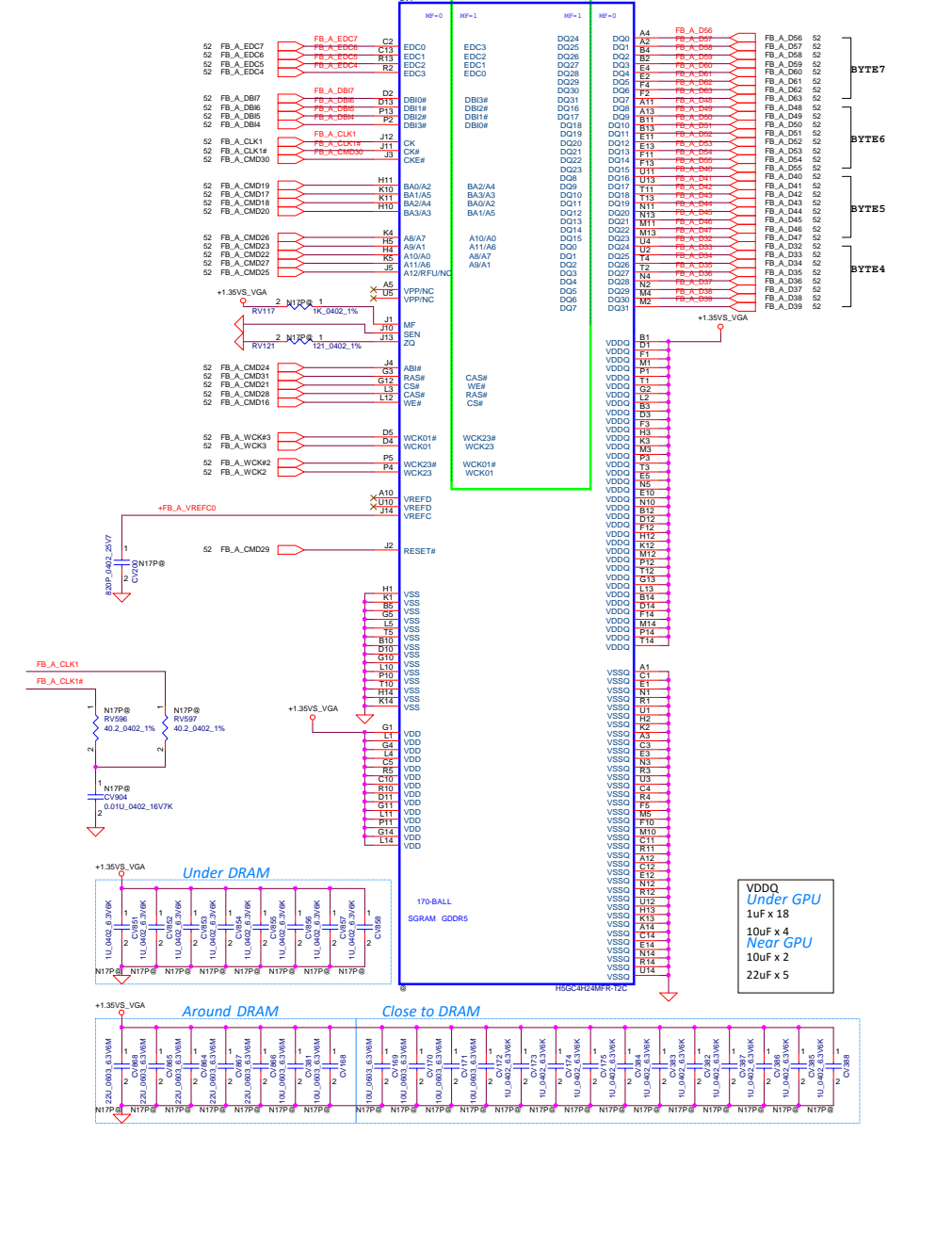


Memory Partition A- Lower 32 bit

MF=0



MF=1

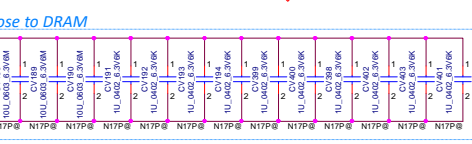
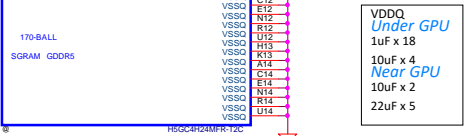
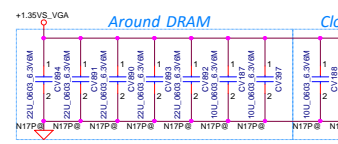
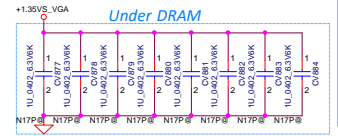
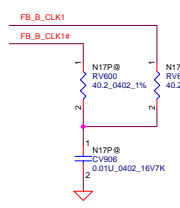
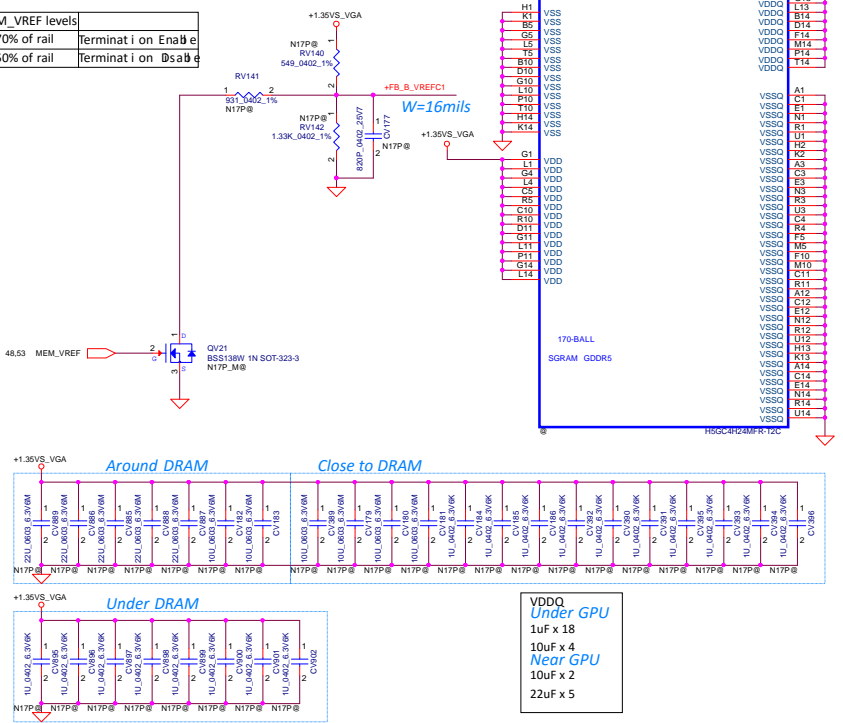


Memory Partition A- Lower 32bit

MF=0

MF=1

MEM_VREF levels	
70% of rail	Termination on Enable
50% of rail	Termination on Disable



VDDQ Under GPU  
1uF x 18  
10uF x 4  
Near GPU  
10uF x 2  
22uF x 5

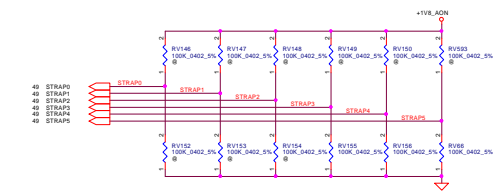


Table 5.2 RAMCFG

Strap Pins <sup>Note 1</sup>			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)
H	L	H	5 (0x0005)
H	H	L	6 (0x0006)
H	H	H	7 (0x0007)
L	L	M	8 (0x0008)
L	M	L	9 (0x0009)
L	M	H	10 (0x000A)
L	H	M	11 (0x000B)
M	L	L	12 (0x000C)
M	L	H	13 (0x000D)

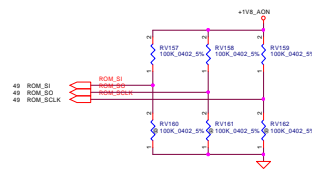
Table 5.5 SMB\_ALT\_ADDR, DEVID\_SEL, PCIE\_CFG, VGA\_DEVICE

Strap Pins <sup>Note 1</sup>			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
H	H	L	0	1	1	0
H	H	H	0	1	1	1
L	L	M	1	0	0	0
L	M	L	1	0	0	1
L	M	H	1	0	1	0
L	H	M	1	0	1	1
M	L	L	1	1	0	0
M	L	H	1	1	0	1
M	H	L	1	1	1	0
M	H	H	1	1	1	1

Table 5.3 N17P-G1-G1 G20R5 Recommended Memories

Memory Density	Memory Configuration	Manufacturer Part Number	Size	Speed	Package	Pin	Notes
8 Gb	128Mb/128	Samsung K4G8E2P30-HEC5	8 Gb	1.25V	SO-DIMM	260	Production ready
		Samsung K4G8E2P30-HEC5	8 Gb	1.25V	SO-DIMM	260	Substitution allowed with memory
		Hyundai HY57U28602P-20-A	8 Gb	1.25V	SO-DIMM	260	Production ready
		Hyundai HY57U28602P-20-A	8 Gb	1.25V	SO-DIMM	260	Substitution allowed with memory
4 Gb	128Mb/128	Hyundai HY57U28602P-20-A	4 Gb	1.25V	SO-DIMM	260	Production ready
		Hyundai HY57U28602P-20-A	4 Gb	1.25V	SO-DIMM	260	Substitution allowed with memory
		Hyundai HY57U28602P-20-A	4 Gb	1.25V	SO-DIMM	260	Production ready
		Hyundai HY57U28602P-20-A	4 Gb	1.25V	SO-DIMM	260	Substitution allowed with memory

SMB_ALT_ADDR	Single GPU
Low	High
DEVID_SEL	Original Device ID
Low	High
VGA_DEVICE	3D Device
Low	High
PCIE_CFG	Normal signal swing
Low	High

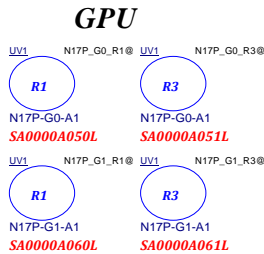




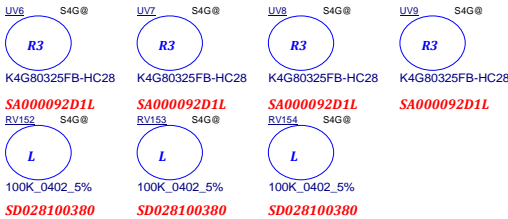


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PCB NO : LA-F611P

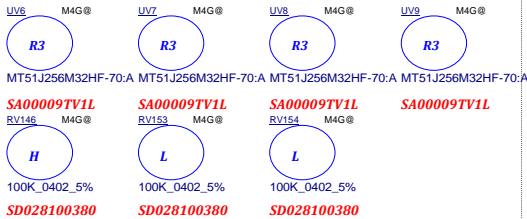
Bom  
Structure



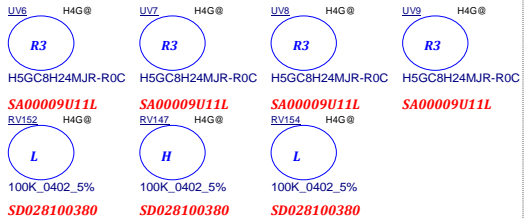
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Samsung 4G



X76 : M4G@ X76XXXXXLXX  
Micron 4G



X76 : H4G@ X76XXXXXLXX  
Hynix 4G



Samsung 4G

Ref. RVL first	VRAM Config		
RVL Config	STRAP2	STRAP1	STRAP0
0	L	L	L

Micron 4G

Ref. RVL first	VRAM Config		
RVL Config	STRAP2	STRAP1	STRAP0
1	L	L	H

Hynix 4G

Ref. RVL first	VRAM Config		
RVL Config	STRAP2	STRAP1	STRAP0
2	L	H	L

Table 5.2 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)
H	L	H	5 (0x0005)
H	H	L	6 (0x0006)
H	H	H	7 (0x0007)
L	L	M	8 (0x0008)
L	M	L	9 (0x0009)
L	M	H	10 (0x000A)
L	H	M	11 (0x000B)
M	L	L	12 (0x000C)
M	L	H	13 (0x000D)

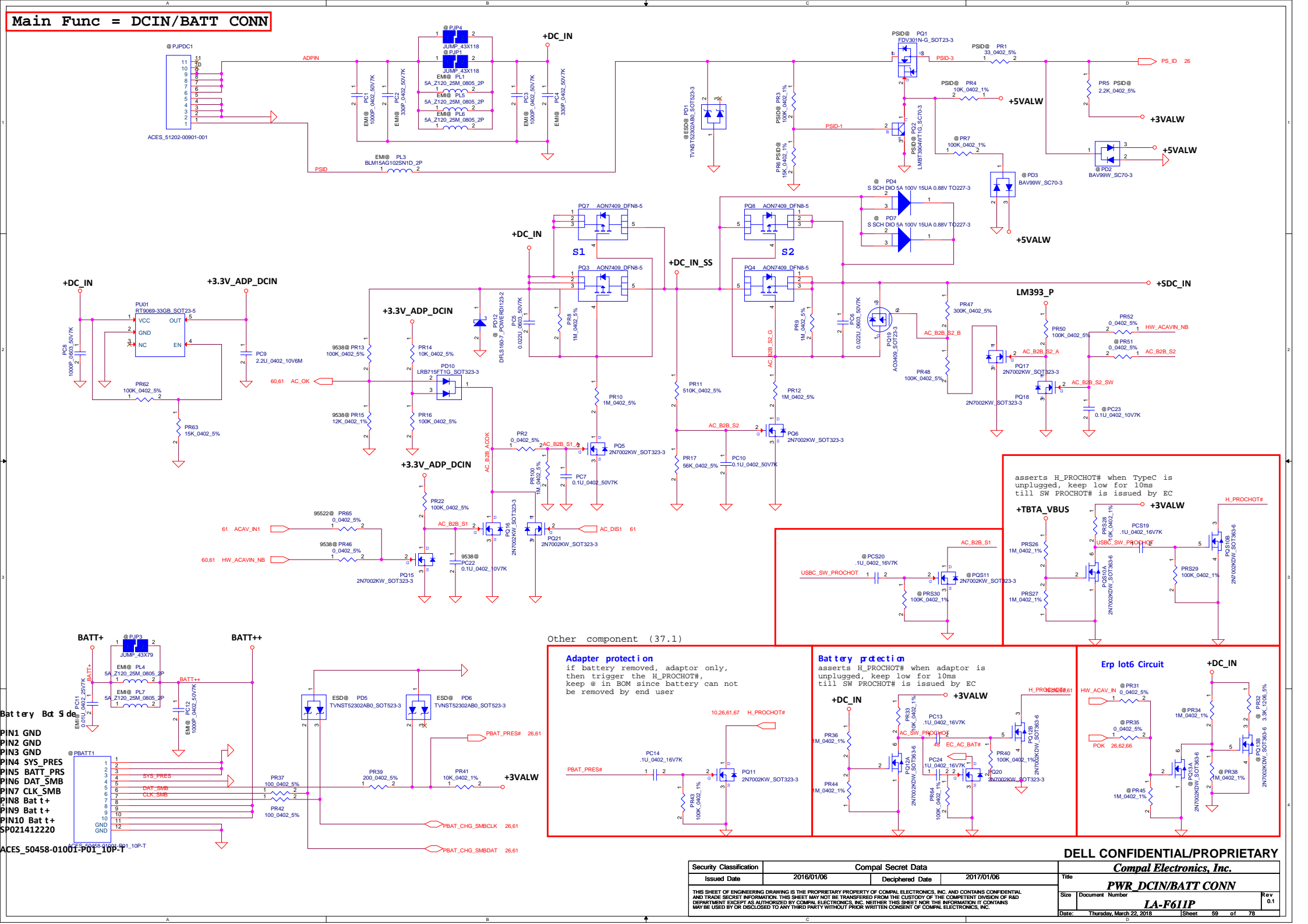
Table 3. N17P-G0/-G1 GDDR5 Recommended Memories

Memory Density	Allowed Memory Configuration	FBVDD/Q	Vendor	Manufacturer Part Number	Die Revision	Strap	Memory Speed Grade	Date Code Alert	Qual Plan	Status
8 Gb	256Mx32	1.35V and 1.5V <sup>1</sup>	Samsung	K4G80325FB-HC28	B-die	0x0	Gbps	N/A	Full	Production ready
			Samsung	K4G80325FB-HC25	B-die	0x0	Gbps	N/A	N/A	Substitution allowed with waiver <sup>2</sup>
			Micron	MT51J256M32HF-70-A	A-die	0x1	Gbps	N/A	Full	Production ready
			Micron	MT51J256M32HF-80A	A-die	0x1	Gbps	N/A	N/A	Substitution allowed with waiver <sup>2</sup>
			Hynix	H5GC8H24MJR-R0C	M-die	0x2	Gbps	N/A	Full	Post production ready
			Hynix	H5GC8H24MJR-R4C	M-die	0x2	Gbps	N/A	N/A	Substitution allowed with waiver <sup>2</sup>
4 Gb	128Mx32	1.35V and 1.5V <sup>1</sup>	Samsung	K4G41325FE-HC28	E-die	0x7	Gbps	N/A	Full	Production ready
			Samsung	K4G41325FE-HC25	E-die	0x7	Gbps	N/A	N/A	Substitution allowed with waiver <sup>2</sup>
			Hynix	H5GC4H24AJR-R0C	A-die	0x6	Gbps	N/A	Full	Production ready
			Hynix	H5GC4H24AJR-R4C	A-die	0x6	Gbps	N/A	N/A	Substitution allowed with waiver <sup>2</sup>

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Main Func = DCIN/BATT CONN



Other component (37.1)

Adapter protection

if battery removed, adaptor only, then trigger the H\_PROCHOT#, keep @ in BOM since battery can not be removed by end user

Battery protection

asserts H\_PROCHOT# when adaptor is unplugged, keep low for 10ms till SW\_PROCHOT# is issued by EC

Erp lot6 Circuit

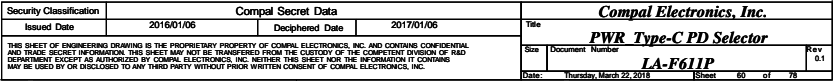
Battery Bt Side

- PIN1 GND
- PIN2 GND
- PIN3 GND
- PIN4 SYS\_PRES
- PIN5 BATT\_PRS
- PIN6 DAT\_SMB
- PIN7 CLK\_SMB
- PIN8 Bat t+
- PIN9 Bat t+
- PIN10 Bat t+
- SP021412220

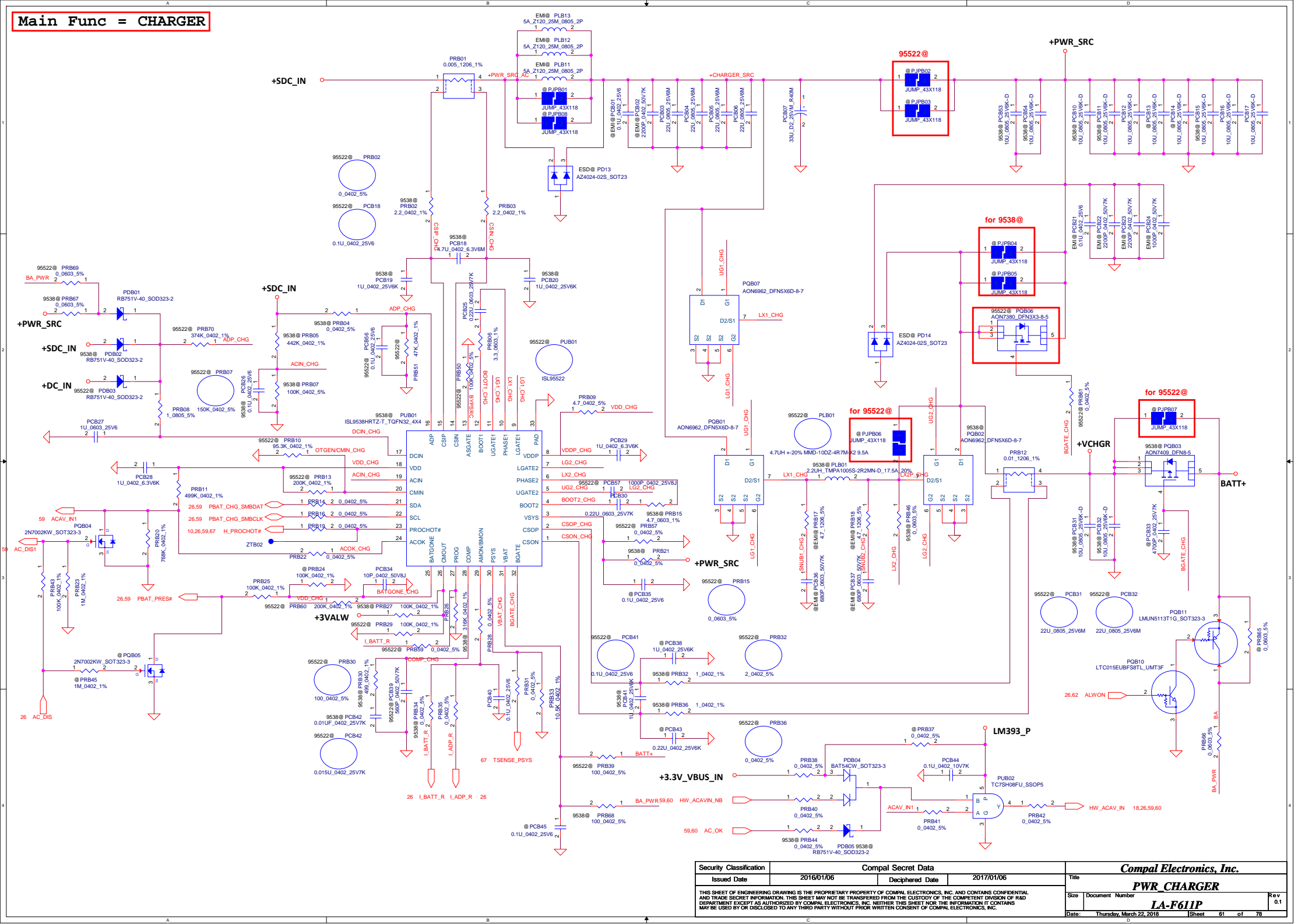
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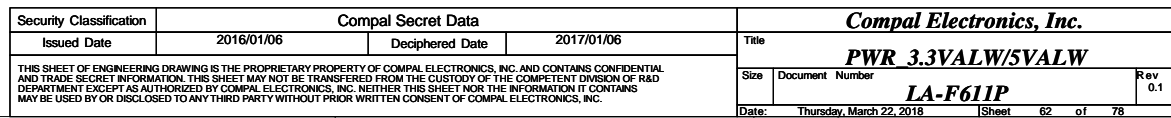


**Main Func = CHARGER**

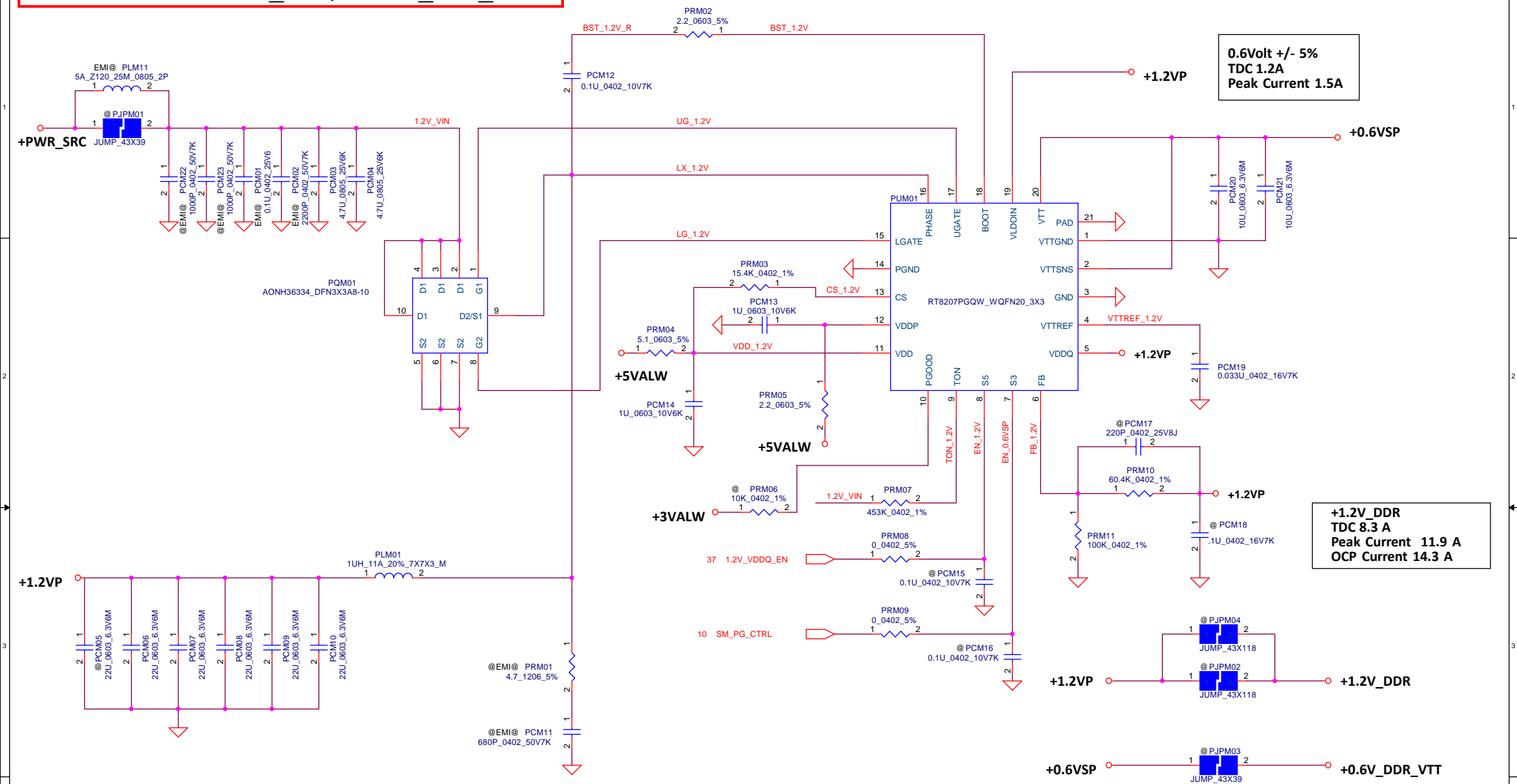


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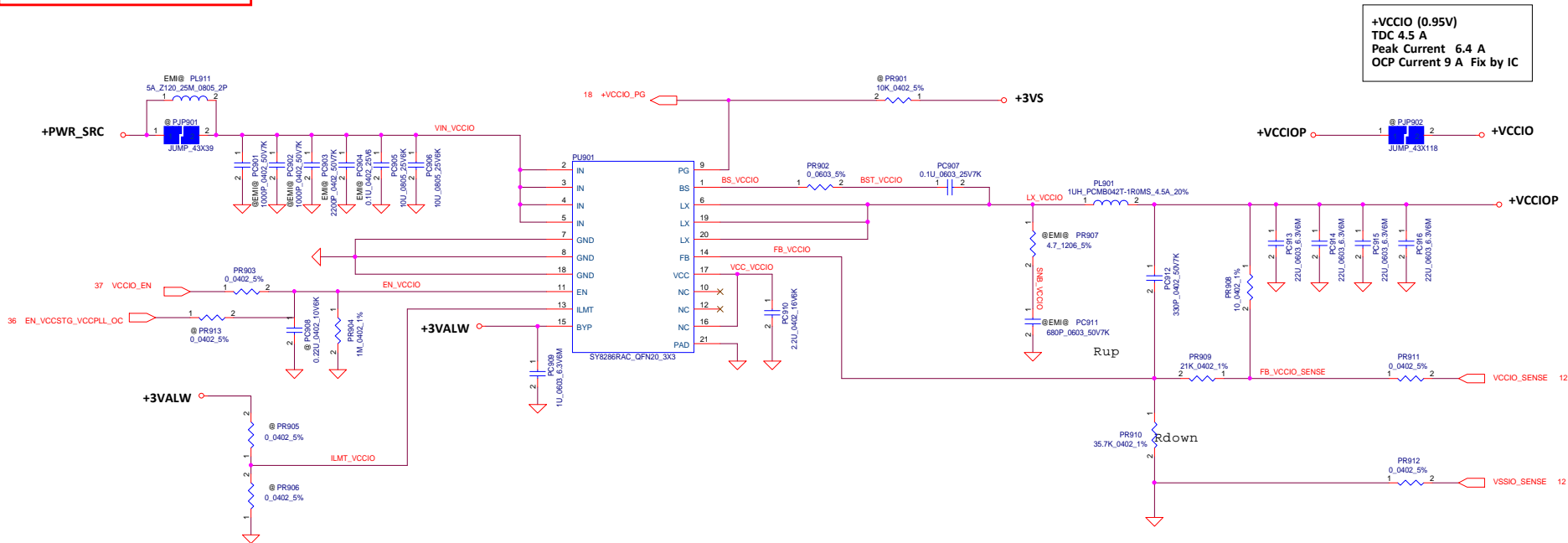


**Main Func = 1.2V\_DDR/+0.6V\_DDR\_VTT**



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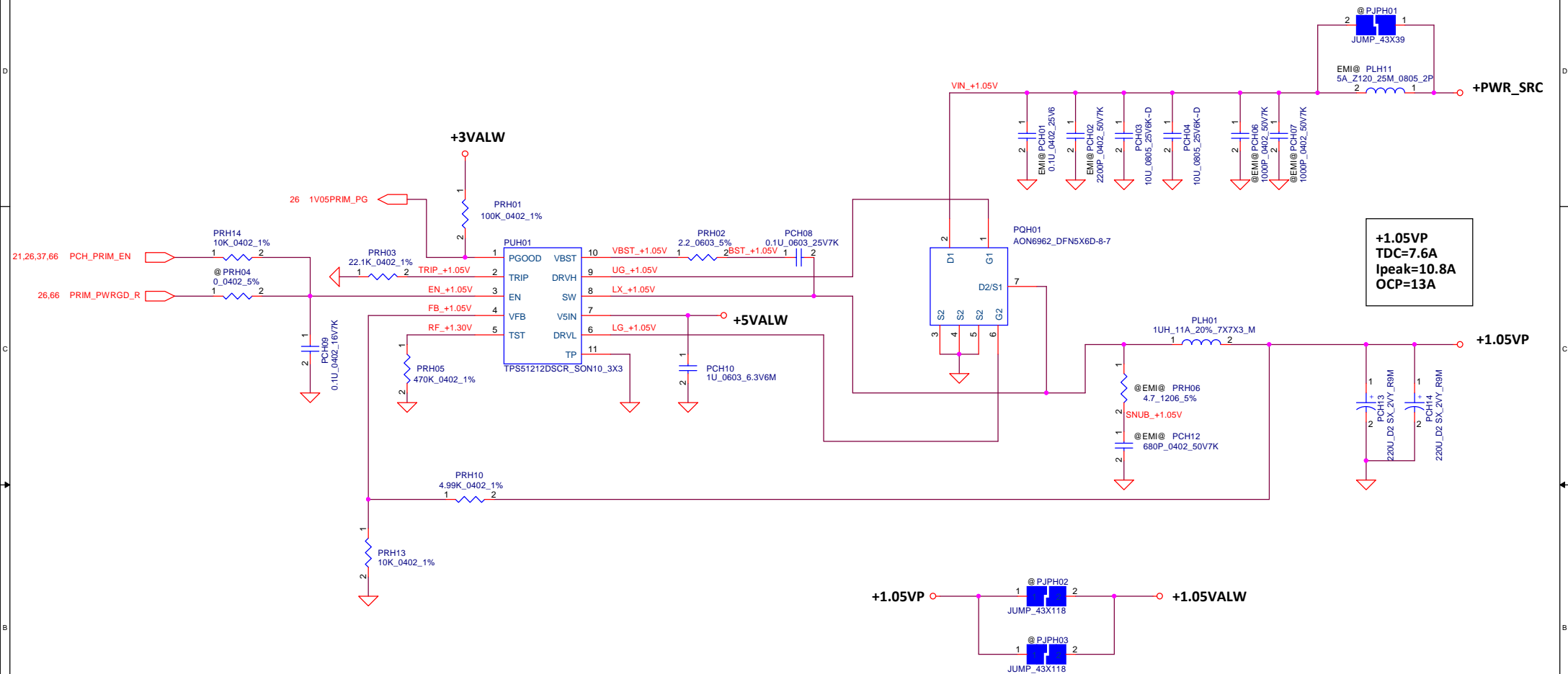
Main Func = VCCIO



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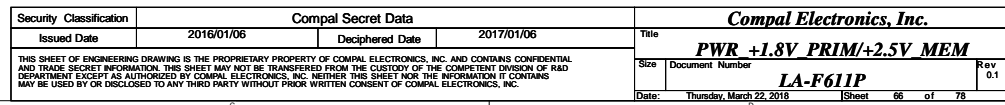
Main Func = 1.05VALW



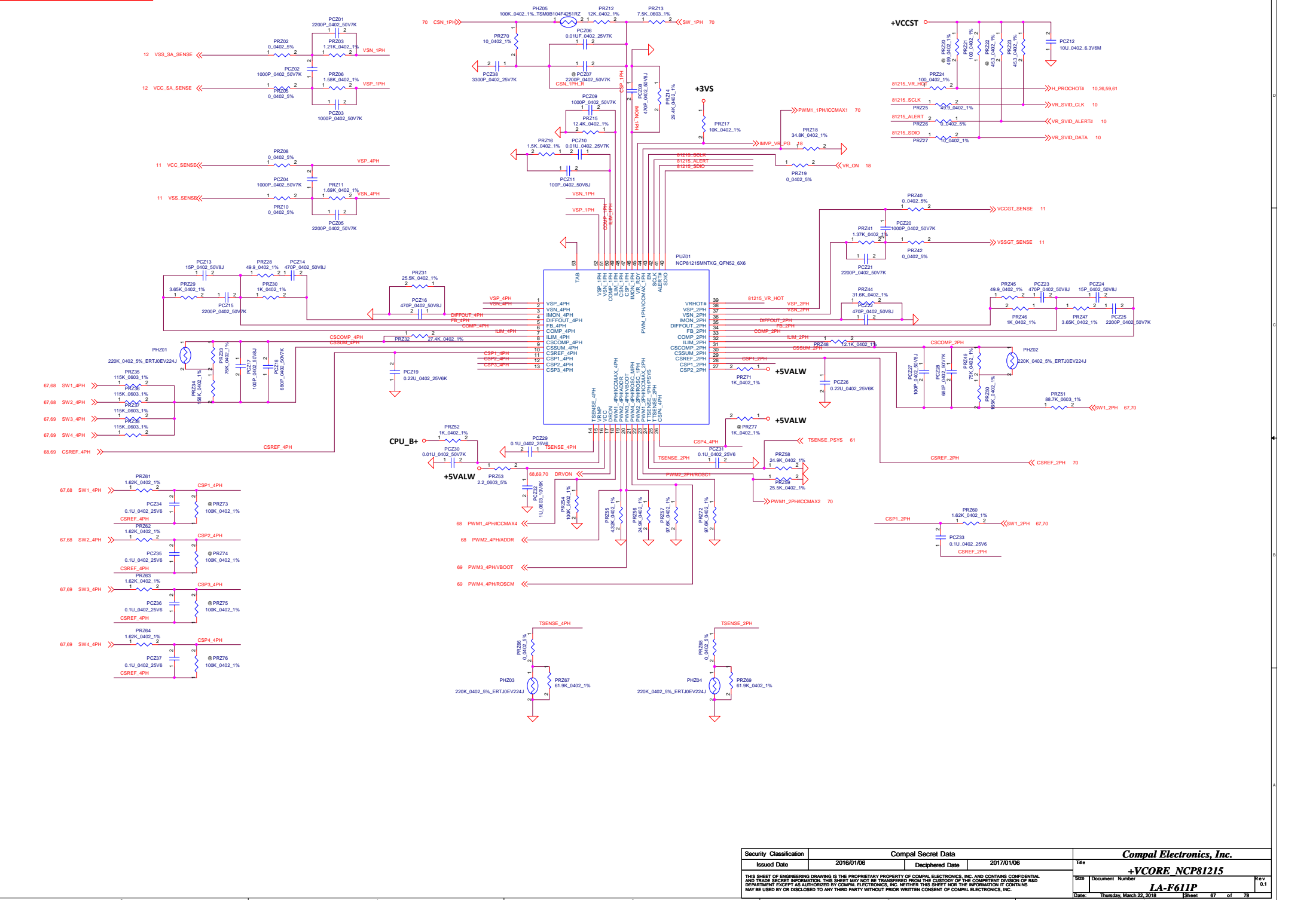
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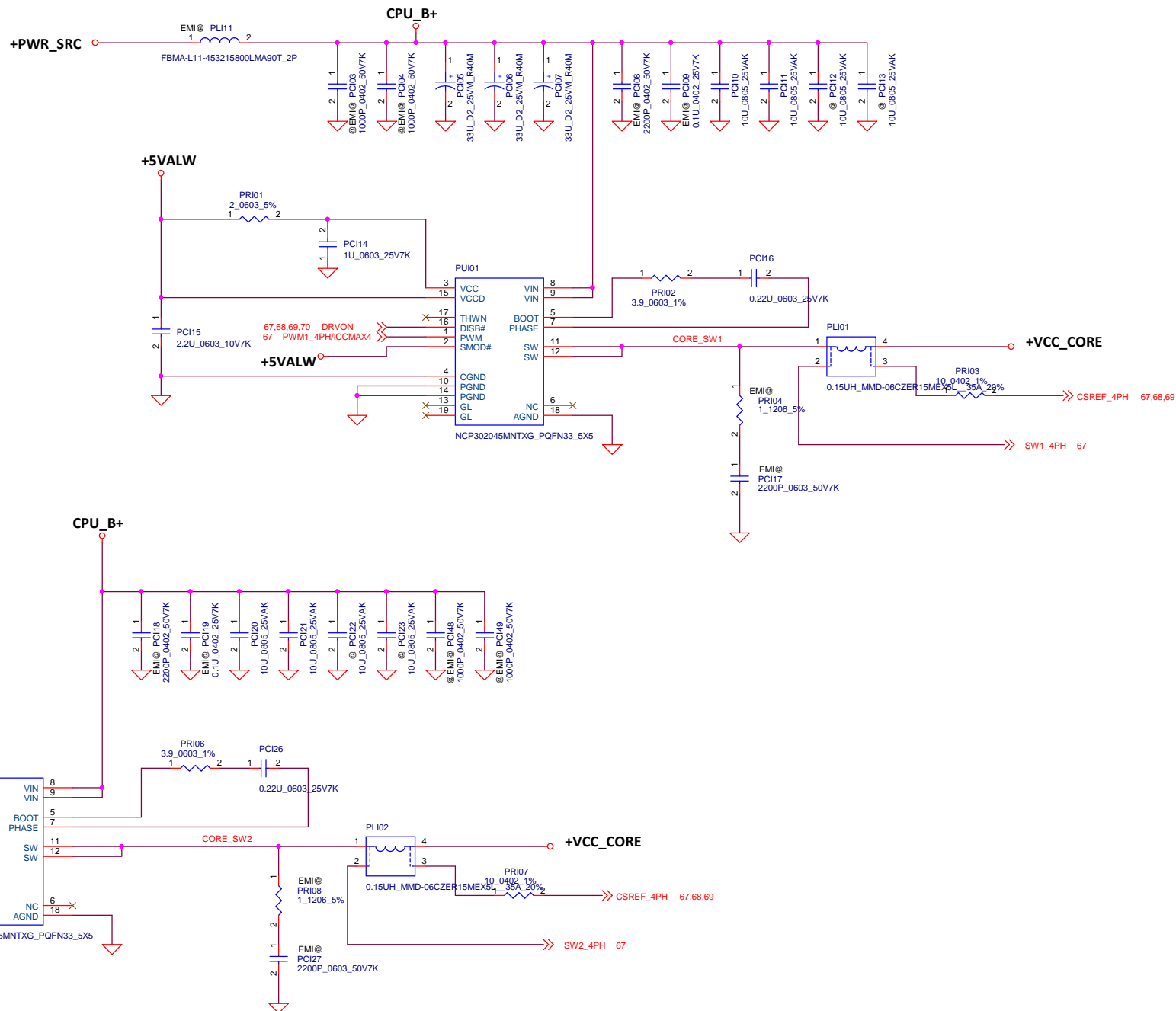
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Main Func = VCORE

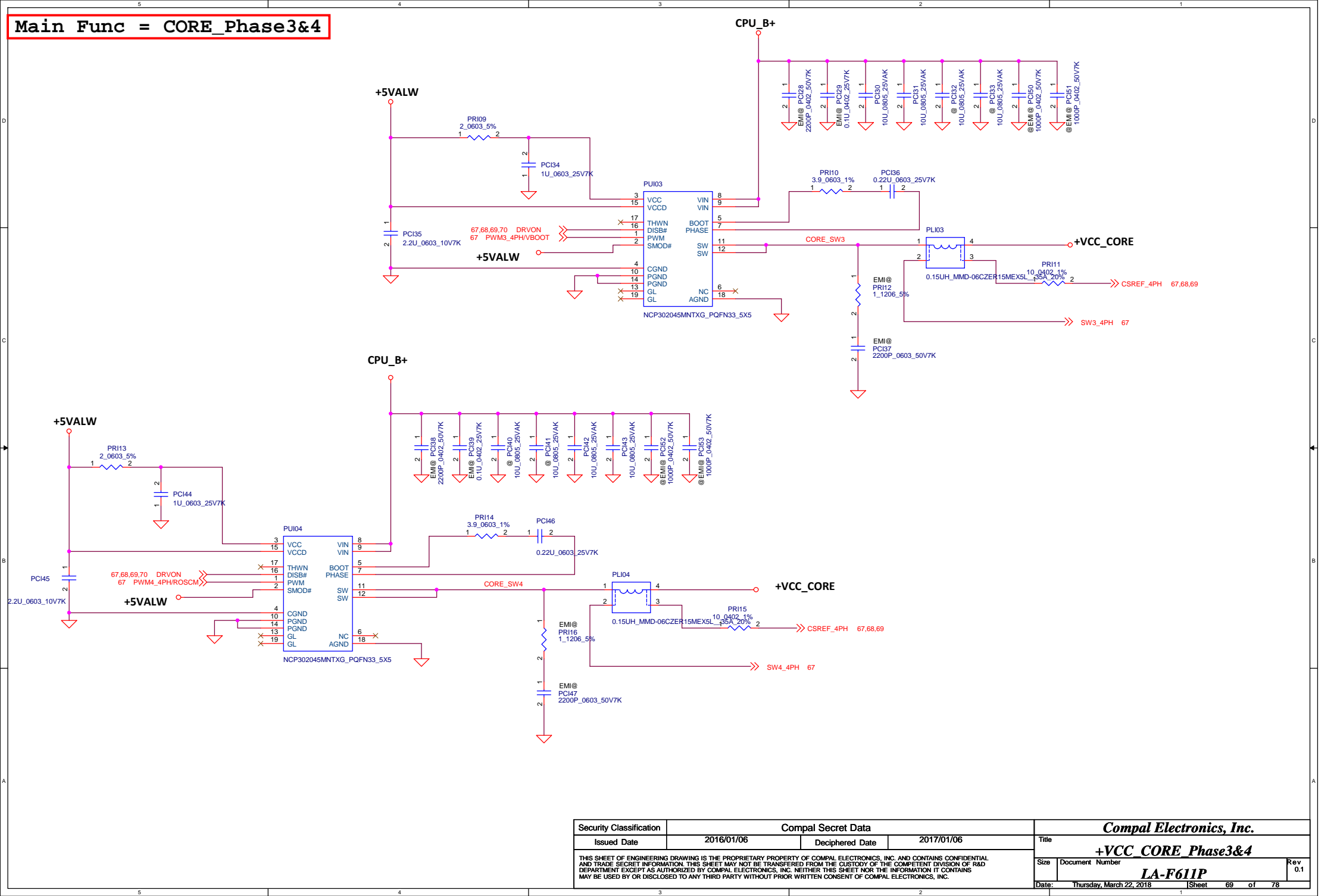


+VCC\_CORE  
TDC PL2 :80A  
Peak Current 128A  
OCP Current 154A  
DCR 0.9mohm +/-5%  
Load Line 1.8mV/A



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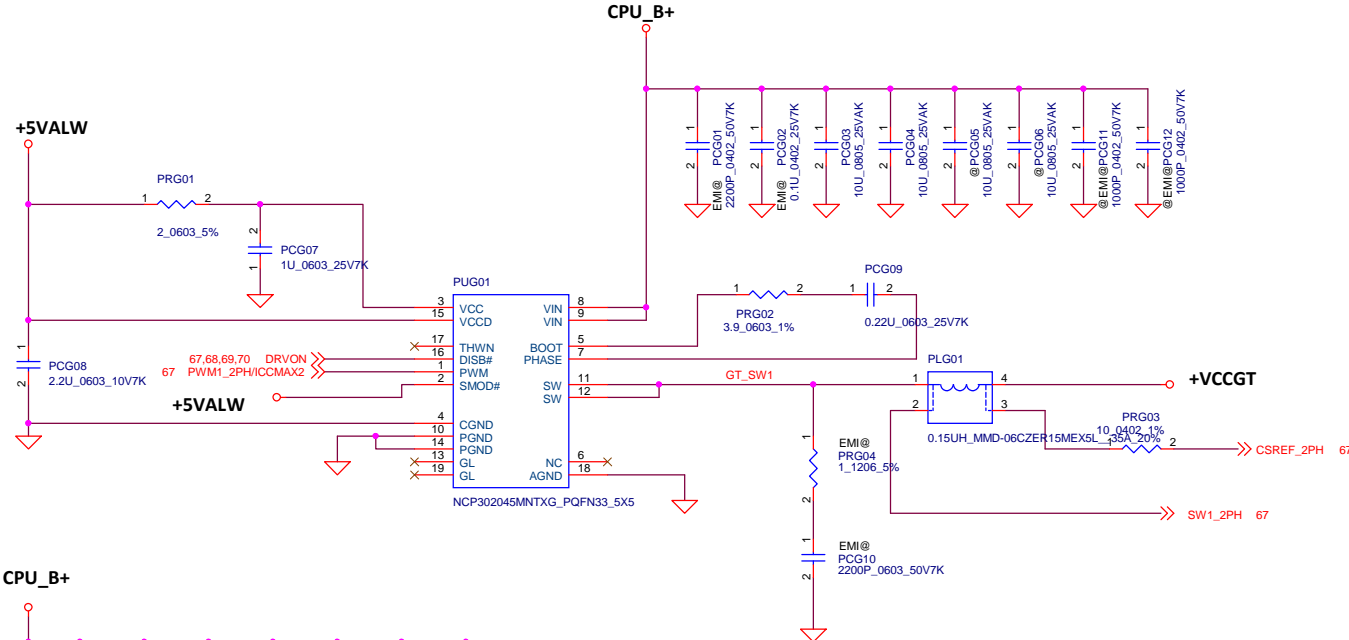
Main Func = CORE\_Phase3&4



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Main Func = VCCGT/+VCCSA

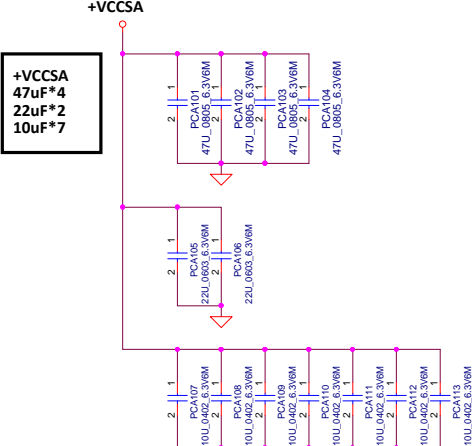
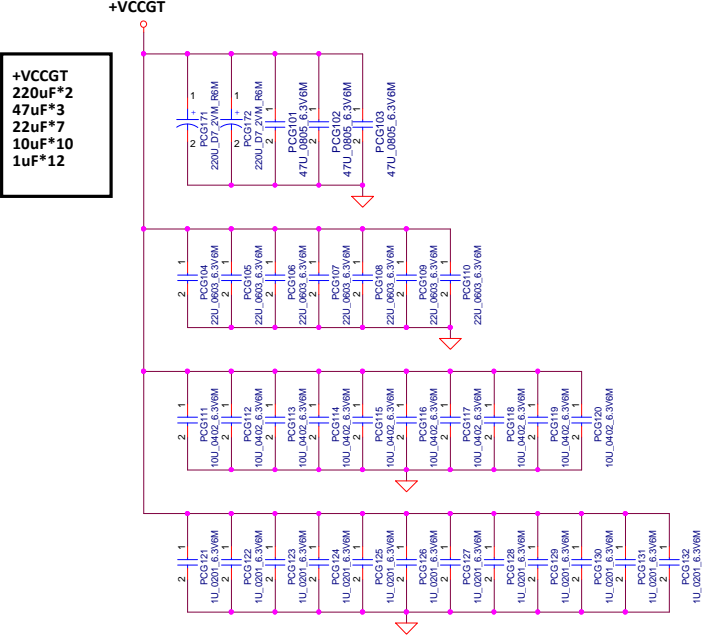
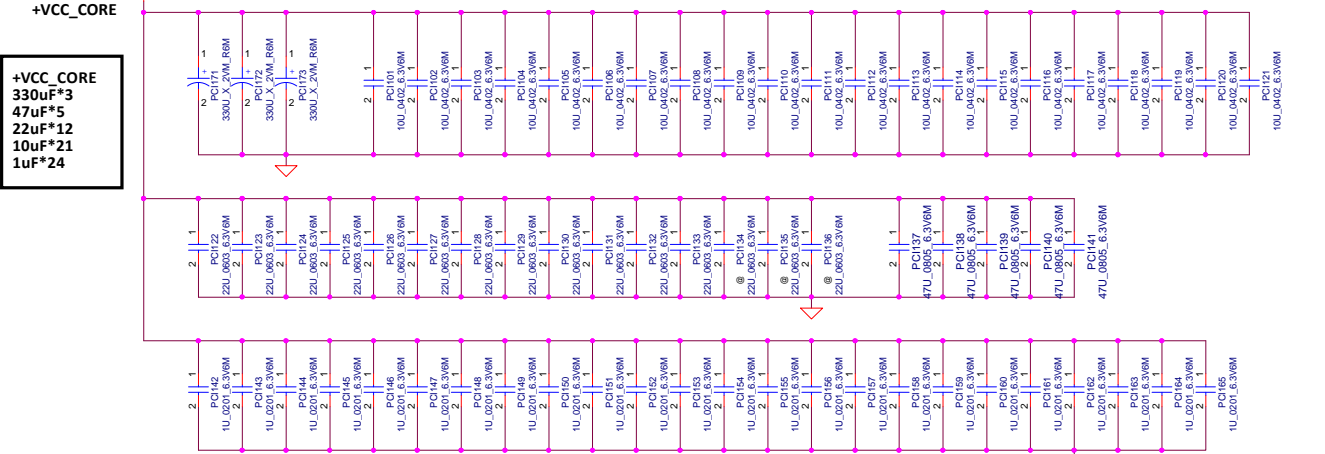
+VCCGT  
TDC PL2 :25A  
Peak Current 32A  
OCP Current 39A  
DCR 0.9mohm +/-5%  
Load Line 2.7mV/A



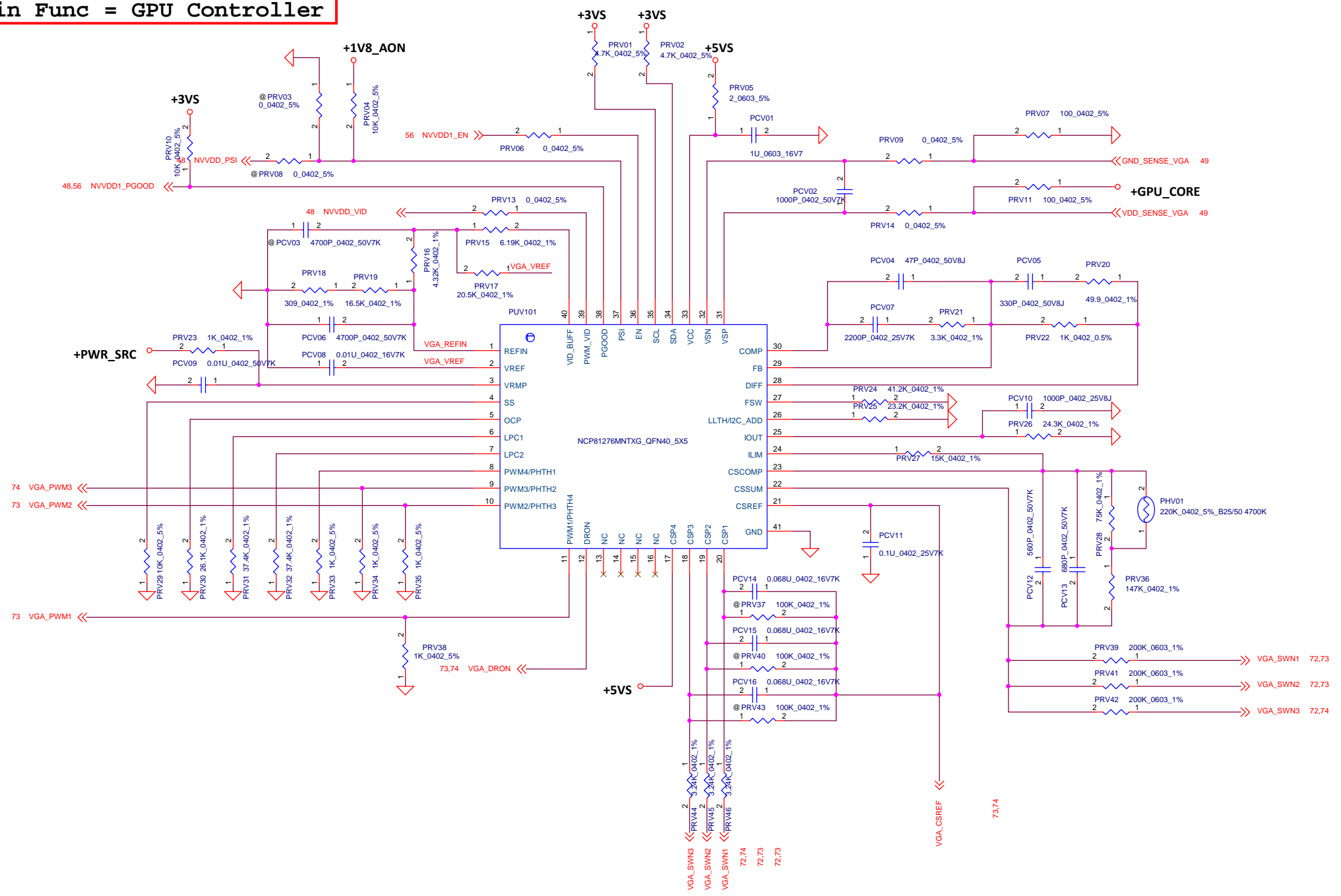
+VCCSA  
TDC PL2 :10A  
Peak Current 11A  
OCP Current 13A  
DCR 6.2mohm +/-5%  
Load Line 10.3mV/A

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Main Func = PWR\_CPU DECOUPLING



Main Func = GPU Controller

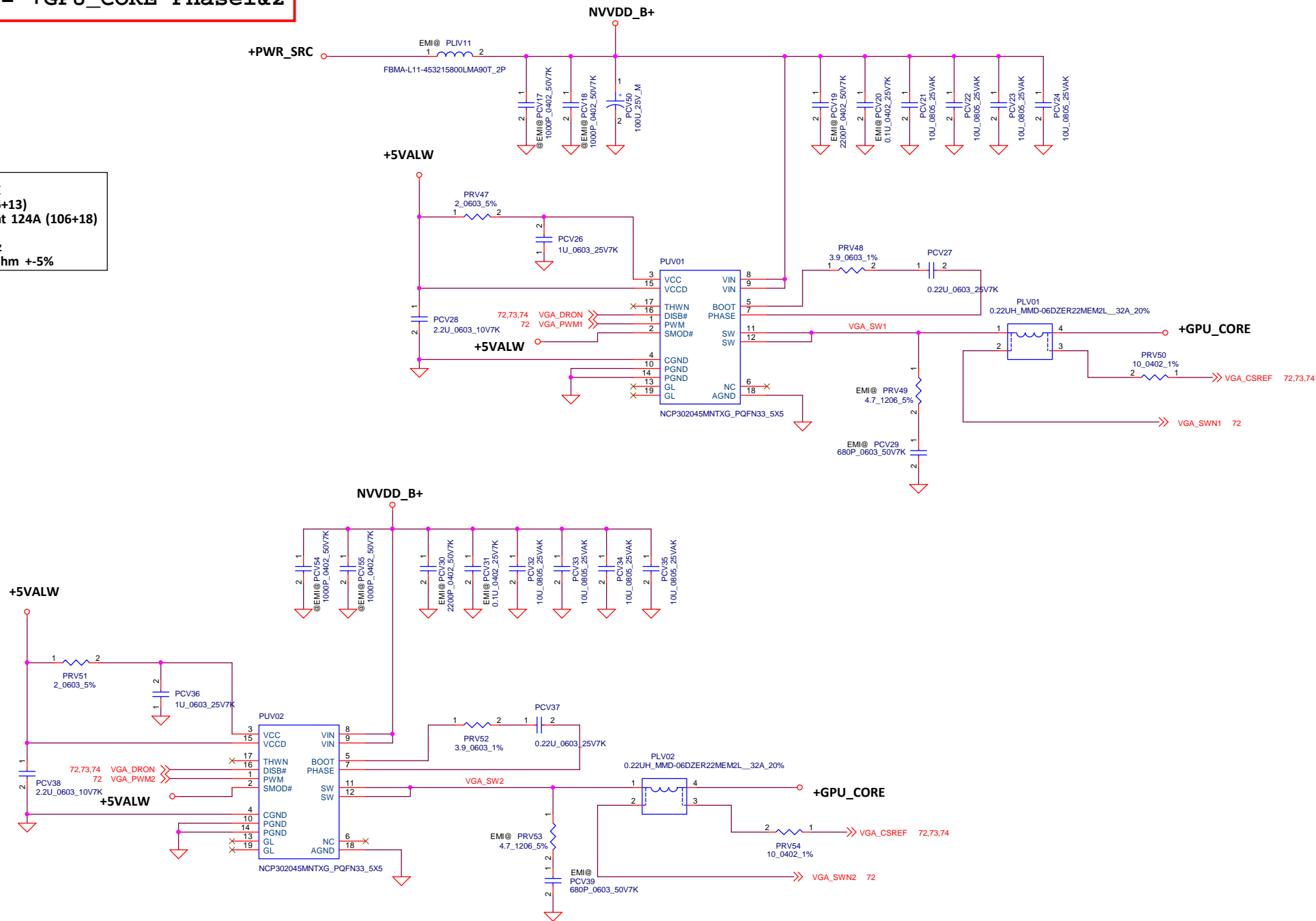


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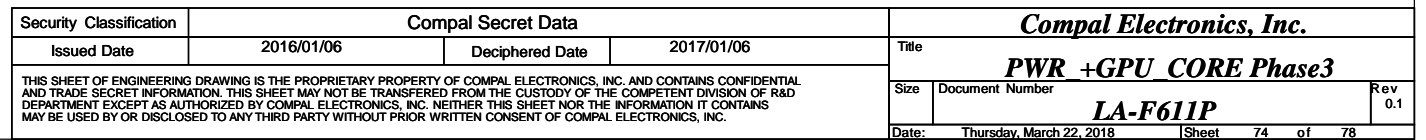
# Main Func = +GPU\_CORE Phase1&2

**+GPU\_CORE**  
TDC 59A (46+13)  
Peak Current 124A (106+18)  
OCP=149A  
Fsw=305KHz  
DCR:0.98mohm +-5%



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										<b>PWR +GPU CORE Phase1&amp;2</b>	
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# Main Func = VGA DECOUPLING

+GPU\_CORE

+GPU\_CORE (NVVDD)  
470uF X 2  
330uF X 1  
22uF\_0805 X 7  
10uF\_0603 X 9  
4.7uF\_0603 X 16  
1uF\_0402 X 8

For NV N17P latest spec

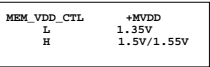
+GPU\_CORE

+GPU\_CORE (NVVDDS)  
470uF X 1  
330uF X 1  
22uF\_0805 X 3  
10uF\_0603 X 7  
4.7uF\_0603 X 2  
1uF\_0402 X 5

For NV N17P latest spec

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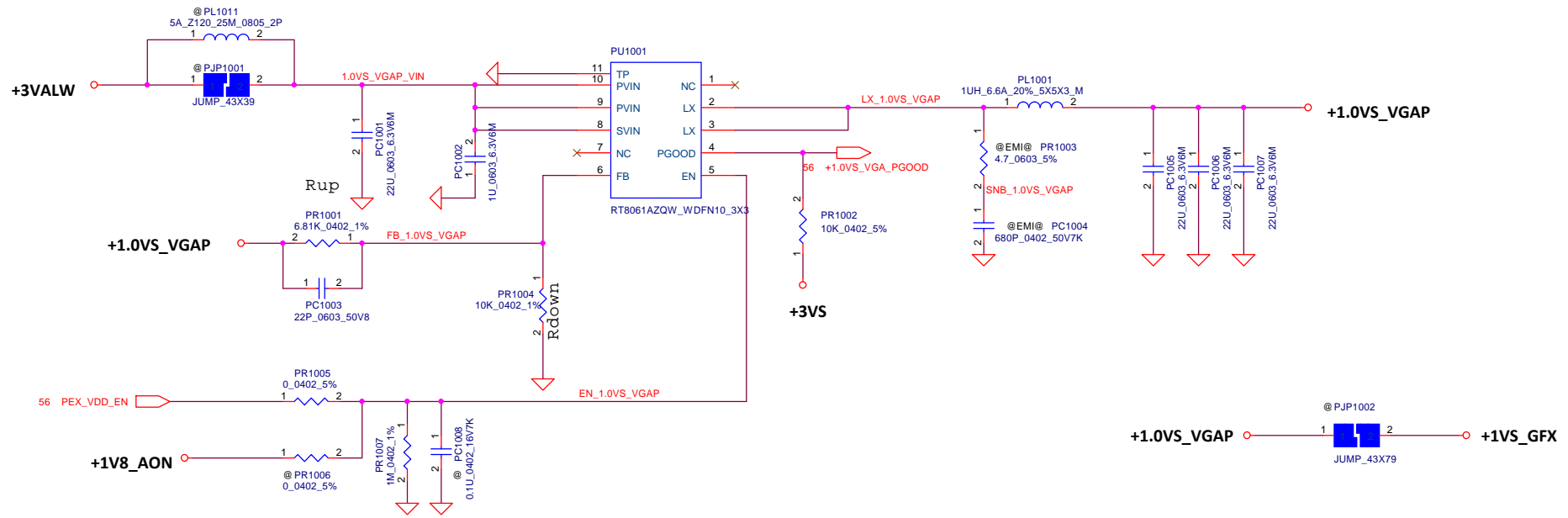
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Main Func = 1VS\_GFX

+1VS\_GFX  
TDC 0.88A  
Peak Current 1.1A  
OCP current 4A



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