

COMPAL CONFIDENTIAL

MODEL NAME : EDI73

PCB NO : DA8001G1000

BOM P/N : 431AE131L01

WHL-U+MEC1416

2018-10-30

REV : 1.0 (A00)

@ : Un-pop Component

DIS@ : GPU Support

N3@/V3@ : Inspiron/Vostro

WHL@/CNL@ : WHL/CNL

10W@/12P5W@:WHL 10W/12.5W

BASE@/PREM@ : Pentium,Celeron/i3,i5,i7

EXO@/TOPAZ@ : R17M-M1-30/R17M-M2-50

EC@ : EC Support

JP@/PJP@ : JUMP

100@/1000@: Lan

EMI@/ESD@/RF@ : EMI, ESD and RF Component

@EMI@/@ESD@/@RF@ : EMI, ESD and RF Un-POP Component

CMC@ : XDP Component

CONN@ : Connector Component

KBBL@ : KB Backlight

TPM@/FTPM@ : HW TPM/SW TPM

750_CTPM@:750 and china TPM

ST_CTPM@:ST and china TPM

CTPM@:China TPM

FFS@ : Free Fall Sensor

TYPEC@ : TypeC

TYPEC@EMI@/TYPEC@ESD@: EMI, ESD ,TypeC Component

M1_30@/M2_50@ : R17M-M1-30/R17M-M2-50

2G_G5@/2G_H@/2G_S@/2G_M@ : VRAM type

PCB@/PCB_R1@/PCB_R3_G@/PCB_R3_T@/PCB_R3_H@/PCB_R3_TM@: PCB MB

CPU R1

UC1
SA0000C6R0L
WHL_2.1G_QS@
S IC A31 FJ8068404064702 QQK9 W0 2.1G

UC1
SA0000C6Q0L
WHL_1.6G_QS@
S IC A31 FJ8068404064604 QQTG W0 1.6G

UC1
SA0000C6P0L
WHL_1.8G_QS@
S IC A31 FJ8068404064403 QQK6 W0 1.8G

UC1
SA0000C6Q1L
WHL_I5_12P5@
S IC A31 FJ8068404064604 QQTH W0 1.6G

UC1
SA0000C6R1L
WHL_I3_12P5@
S IC A31 FJ8068404064702 QQKA W0 2.1G

CPU R3

UC1
SA0000C6R3L
WHL_2.1G_R3@
S IC FJ8068404064702 SRD1V W0 2.1G A31

UC1
SA0000C6Q3L
WHL_1.6G_R3@
S IC FJ8068404064604 SREJQ W0 1.6G A31

UC1
SA0000C6P2L
WHL_1.8G_R3@
S IC FJ8068404064405 SREJP W0 1.8G A31

UC1
SA0000C6Q5L
I5_12P5_R3@
S IC FJ8068404064604 SREJR W0 1.6G FCBGA 1528 A31

UC1
SA0000C6R5L
I3_12P5_R3@
S IC FJ8068404064702 SRD1W W0 2.1G FCBGA 1528 A31

Layout Dell logo



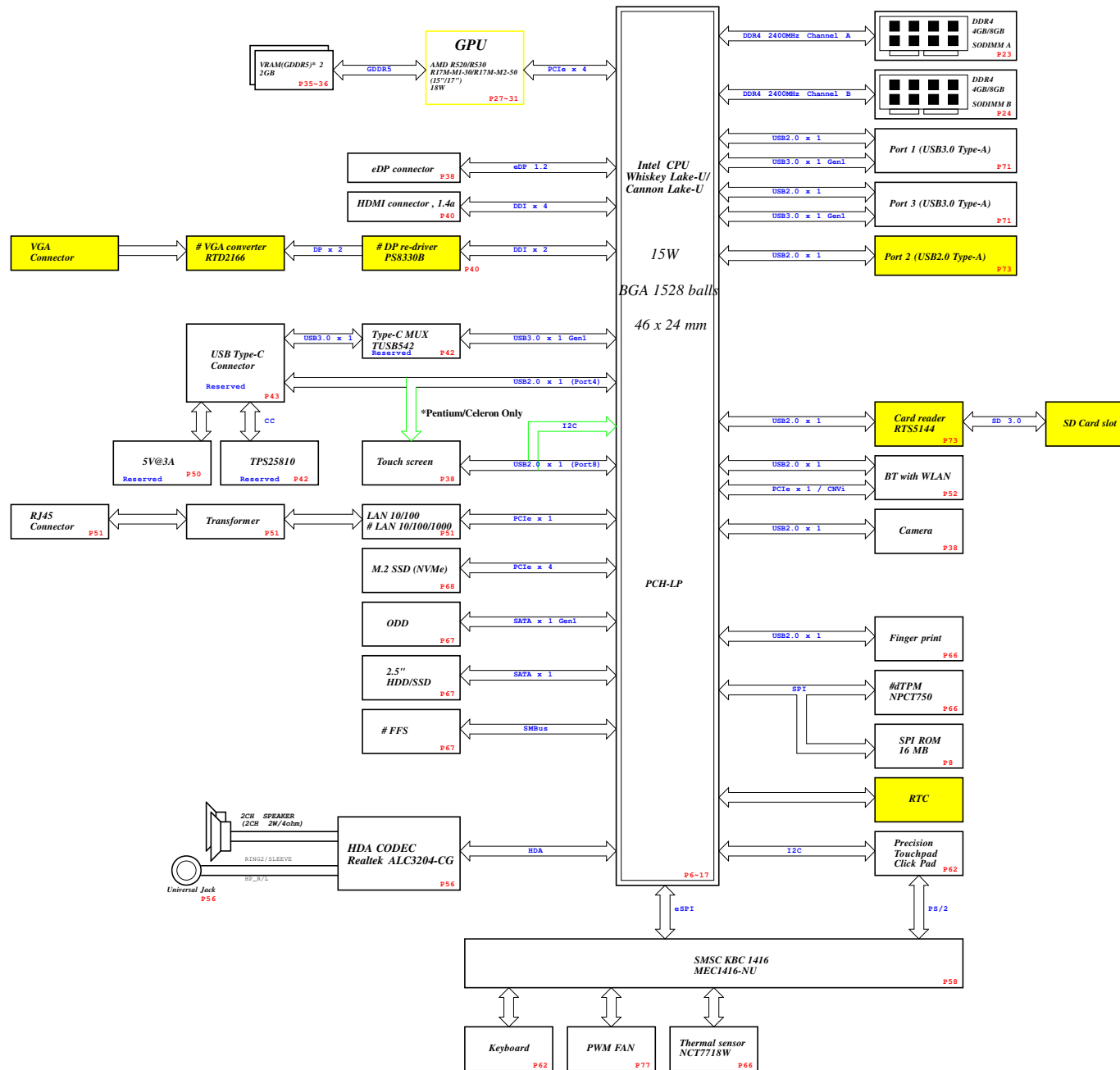
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REV: X01
PWB: 9HTP8

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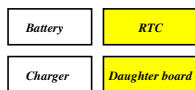
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WHL_1.6G_ES2@
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Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Title	
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Block Diagram



----> V3 only



Security Classification	Compal Secret Data			Site	Compal Electronics, Inc. Block Diagram
	2018/04/01	Declassified Date	2019/04/01		
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Date: 2018/05/01					Rev. 0

State \ Signal	SLP S3F	SLP S4F	SLP S5F	ALWAYS PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3 (Suspend to RAM) / M3	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M3	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M3	LOW	LOW	LOW	ON	OFF	OFF	OFF
G3	OFF	OFF	OFF	OFF	OFF	OFF	OFF
DS3	—	—	—	—	—	—	—

USB 2.0	DESTINATION
1	USB2.0 port1
2	USB2.0 Port, IO/B
3	USB2.0 port2
4*	TypeC
5	Finger printer
6	Camera
7	Card reader , IO/B
8*	Touch screen
9	WWAN (Reserved)
10	BT

Power Plane	Description	S0	S3	S4/S5
+19V_ADPIN	Adapter power supply	N/A	N/A	N/A
+174V_BATT++	Battery power supply	N/A	N/A	N/A
+19VB	AC or battery power rail for System	N/A	N/A	N/A
+RTC_CELL	RTC power	ON	ON	ON
+3VALW_DSW	3VALW power for PCH DSW rails	ON	ON	ON
+5VALW	System +5V always on power rail	ON	ON	ON*
+3VALW	System +3V always on power rail	ON	ON	ON*
+1.8V PRIM	System +1.8V always on power rail	ON	ON	ON*
+1.0V PRIM	System +1.0V always on power rail	ON	ON	ON*
+1.2V_DDR	DDR4 +1.2V power rail	ON	ON	OFF
+2.5V_MEM	DDR4 +2.5V power rail	ON	ON	OFF
+0.6V_DDR_VTT	DDR +0.6V power rail for DDR terminator	ON	OFF	OFF
+VCCST	+1.05 VCCST power rail	ON	ON	OFF
+VCCSTG_ST	+1.05 VCCSTG power rail	ON	OFF	OFF
+VCCIO	+1.05 VCCIO power rail	ON	OFF	OFF
+VCC_CORE	Core voltage for CPU	ON	OFF	OFF
+VCC_GT	Sliced graphics power rail	ON	OFF	OFF
+VCC_SA	System Agent power rail	ON	OFF	OFF
+3VLP	System +3VLP power rail for suspend power	ON	ON	ON
+3VALW_PCH	3VALW power for PCH suspend rails	ON	ON	ON*
+5VS	System +5VS power rail	ON	OFF	OFF
+3VS	System +3VS power rail	ON	OFF	OFF
+1.35V_MEM_GFX	+1.35V power rail for GPU	ON	OFF	OFF
+3VG5	+3V power rail for GPU	ON	OFF	OFF
+1.8VG5	+1.8V power rail for GPU	ON	OFF	OFF
+0.95VSDGPU	+0.95V power rail for GPU	ON	OFF	OFF

Note: ON* means that this power plane is ON only with AC power available, otherwise it is OFF

Board ID & Model ID Table

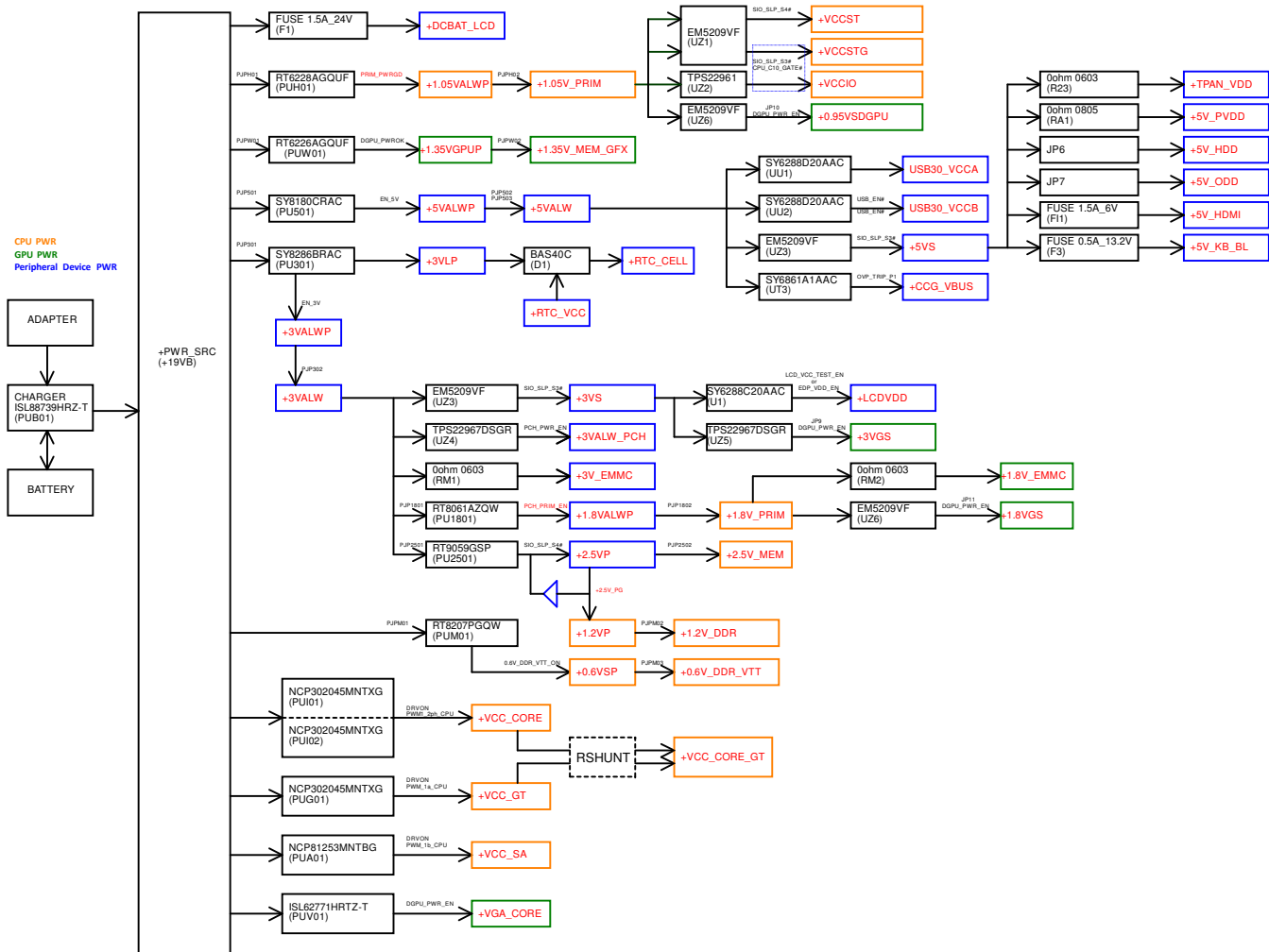
#	Pull-down	Pull-up	Voltage	Board ID
1	100	10.0	3.000	EVT
2	100	17.8	2.801	DVT1
3	100	27.0	2.598	DVT2
4	100	37.4	2.402	
5	100	49.9	2.201	Pilot
6	100	64.9	2.001	
7	100	82.5	1.808	
8	100	107.0	1.594	
9	100	154.0	1.299	
10	100	200.0	1.100	

USB3.0	PCI-E	SATA	DESTINATION
USB3.0-1	PCI-E-1		USB3.0 port1
USB3.0-2	PCI-E-2		WWAN (Reserved)
USB3.0-3	PCI-E-3		USB3.0 port2
USB3.0-4	PCI-E-4		TypeC
USB3.0-5	PCI-E-5		GPU
USB3.0-6	PCI-E-6		GPU
	PCI-E-7		GPU
	PCI-E-8		GPU
	PCI-E-9		LOM
	PCI-E-10		WLAN
	PCI-E-11	SATA-0	SATA HDD
	PCI-E-12	SATA-1A	SATA HDD
	PCI-E-13		NVME SSD
	PCI-E-14		NVME SSD
	PCI-E-15	SATA-1B	NVME SSD
	PCI-E-16	SATA-2	NVME SSD

Flex I/O Lane	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
High Speed I/O (HSIO) Type and Lane	HSIO1, Gen1/Gen2 #1	HSIO1, Gen1/Gen2 #2	HSIO1, Gen1/Gen2 #3	HSIO1, Gen1/Gen2 #4	HSIO1, Gen1/Gen2 #5	HSIO1, Gen1/Gen2 #6	PCIe #7	PCIe #8	PCIe #9	PCIe #10	PCIe #11	PCIe #12	PCIe #13	PCIe #14	PCIe #15	PCIe #16
																SATA 2
																SATA 1b
																GbE
																GbE
																SATA 1a
																SATA 0
																GbE
																GbE
Intel® RST Support	No Support					No Support					Yes					Yes

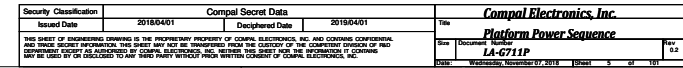
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Issued Date	2018/04/01	Decompanded Date	2018/04/01	Notes List	
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Date			Wednesday, November 28, 2018	Sheet	3 of 101

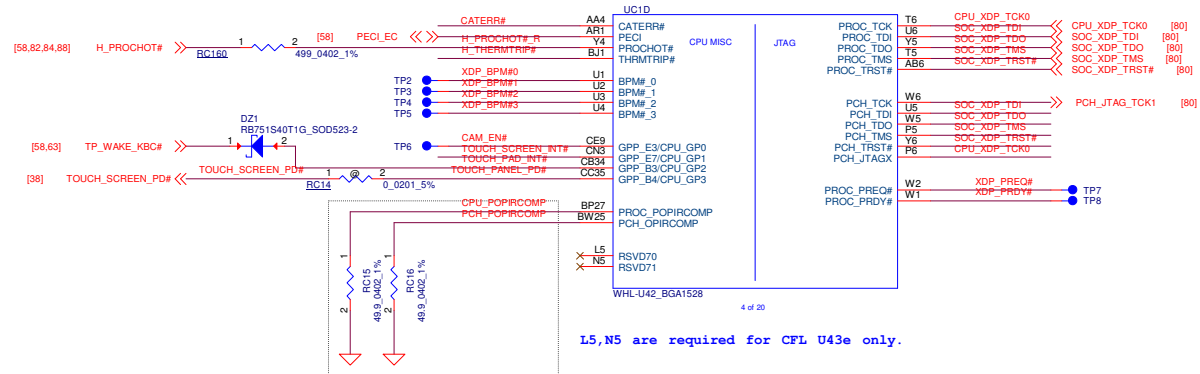
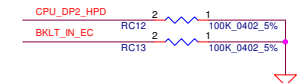
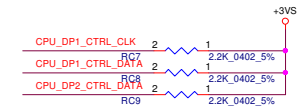
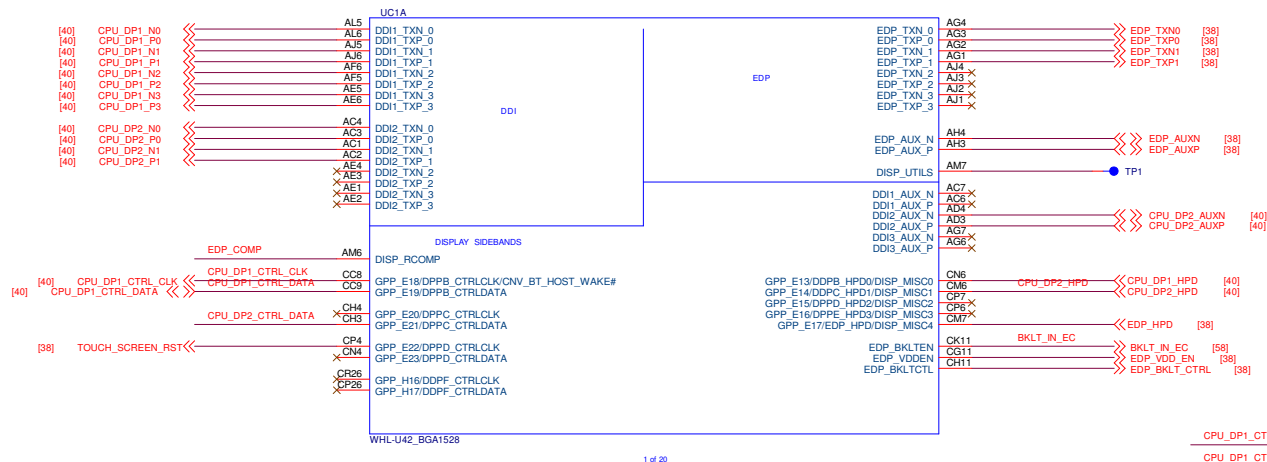
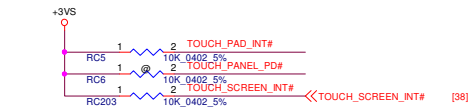
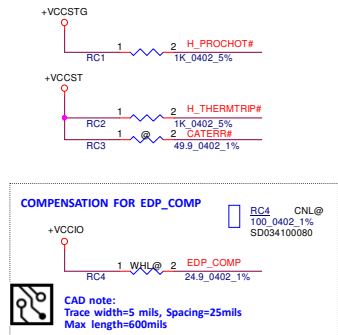
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Doc No	LA-6711P		Rev	0.0	
Date	Wednesday, November 07, 2018	Drawn	4	Of	101

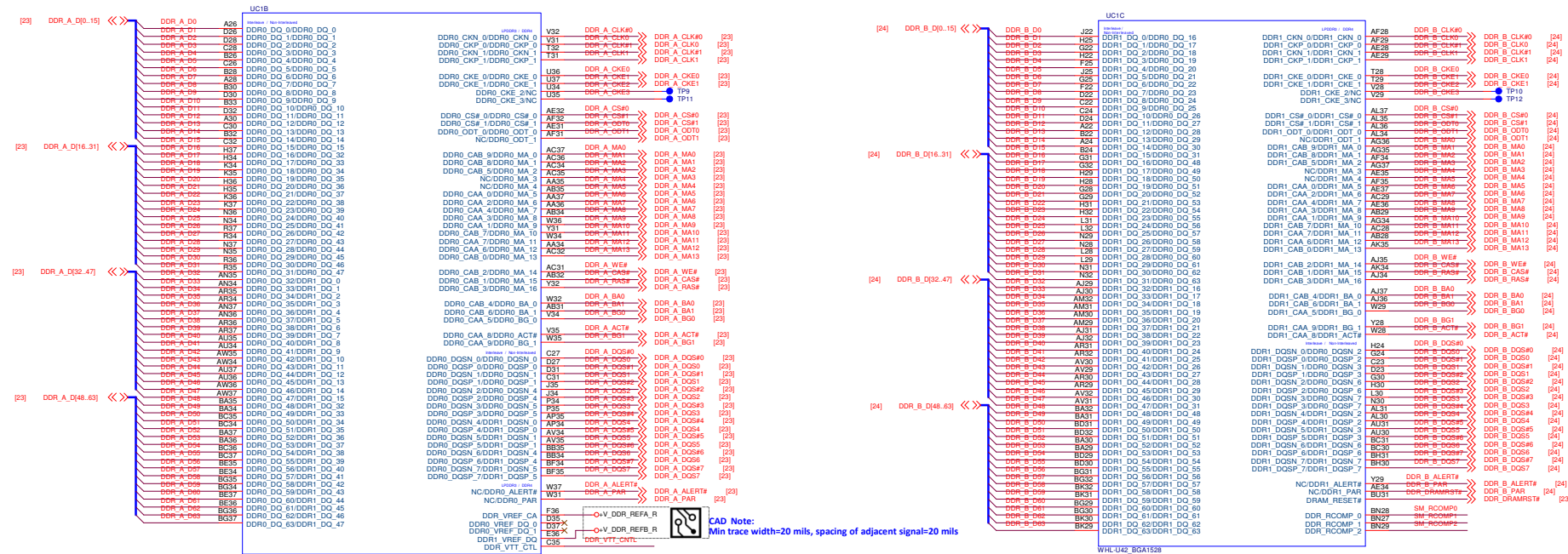
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COMPENSATION FOR OPORCOMP
CAD Note:
Min trace width=10 mils, Max trace length=500 mils

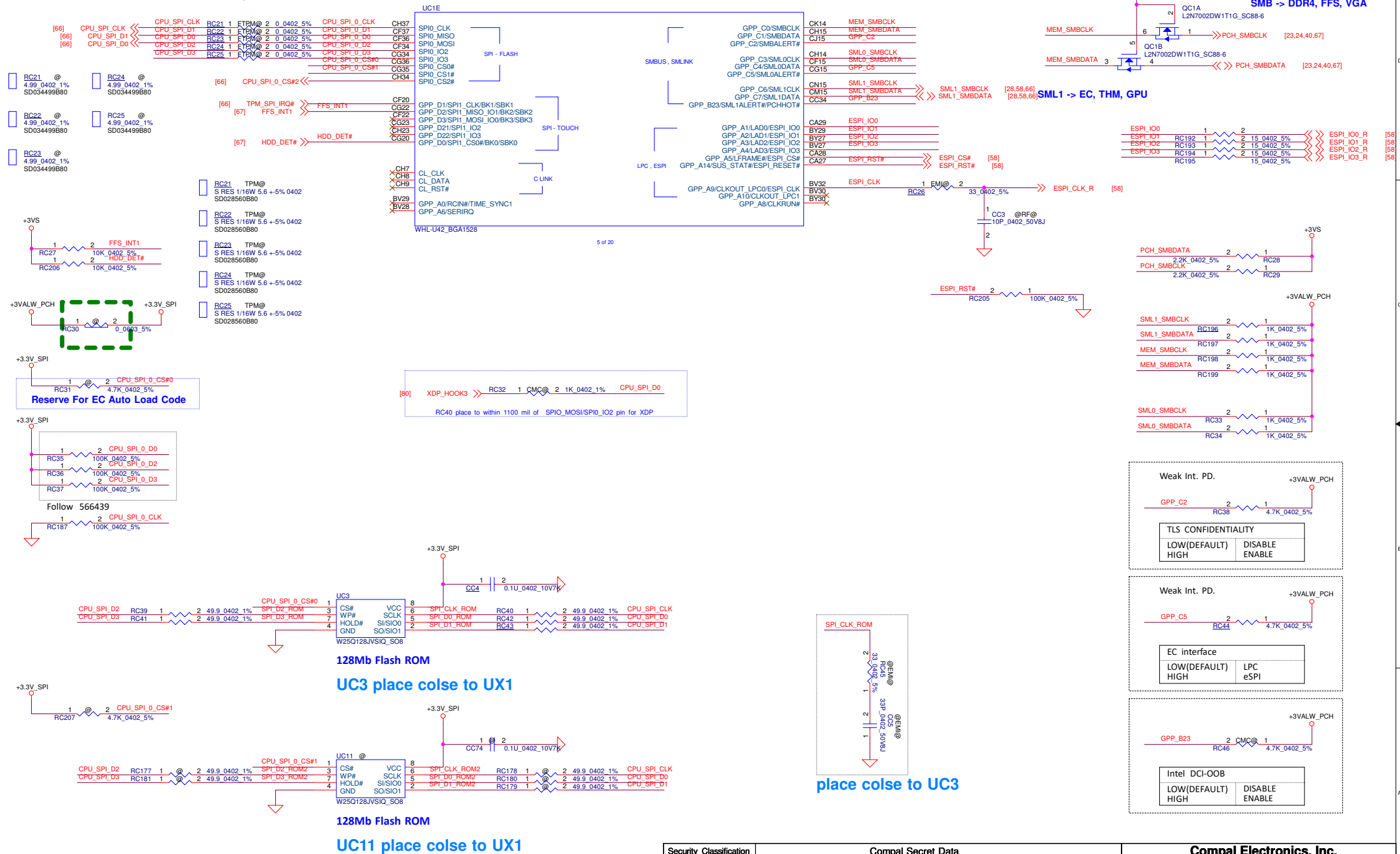
DDR4 Interleaved Memory



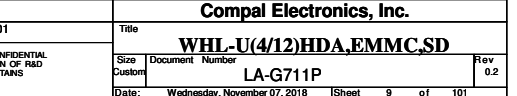
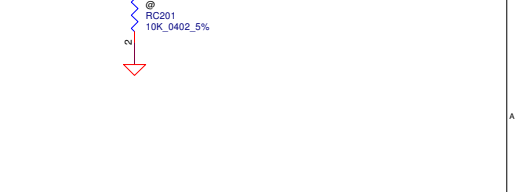
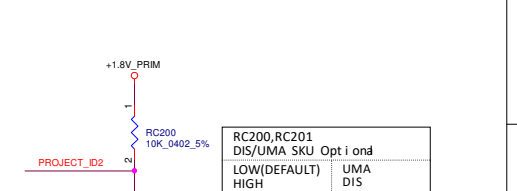
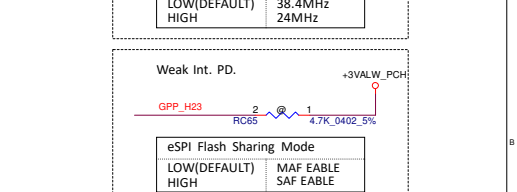
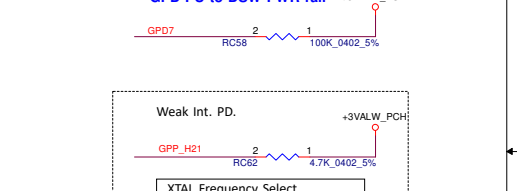
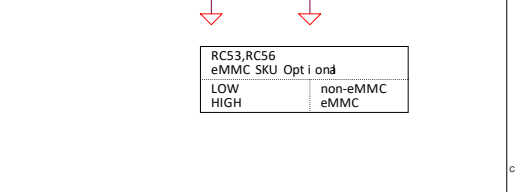
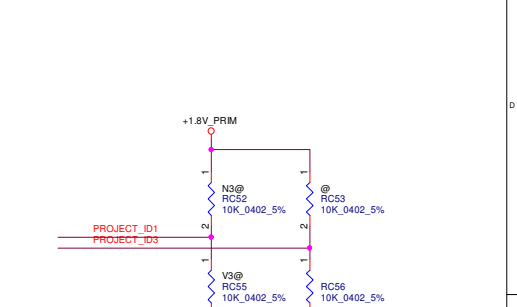
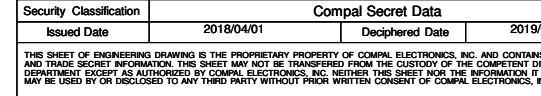
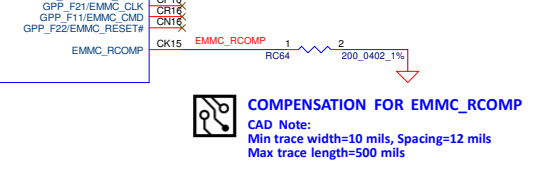
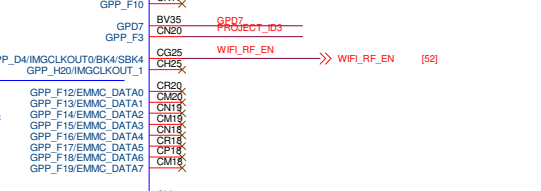
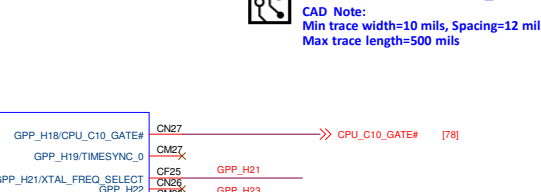
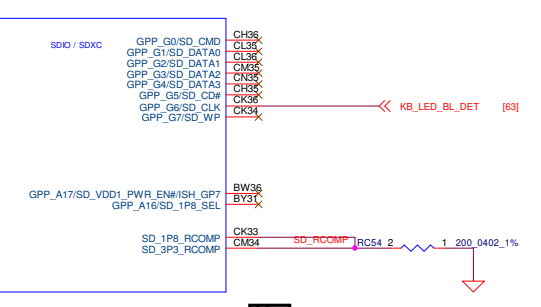
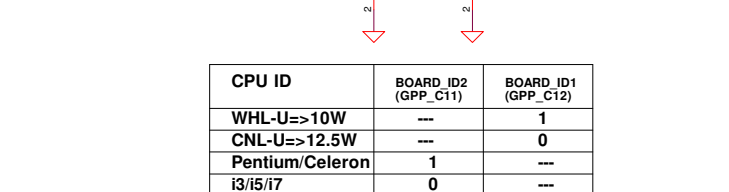
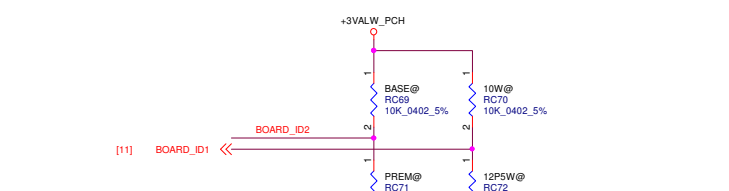
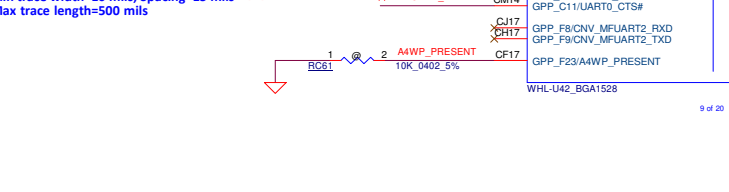
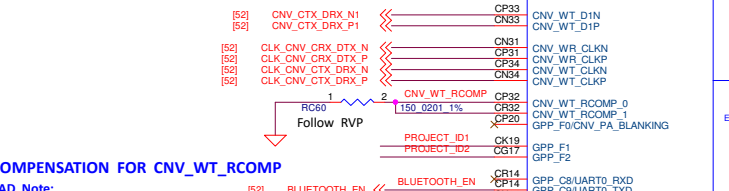
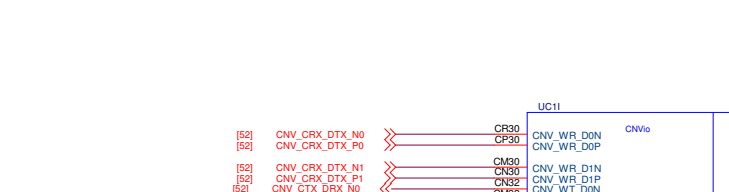
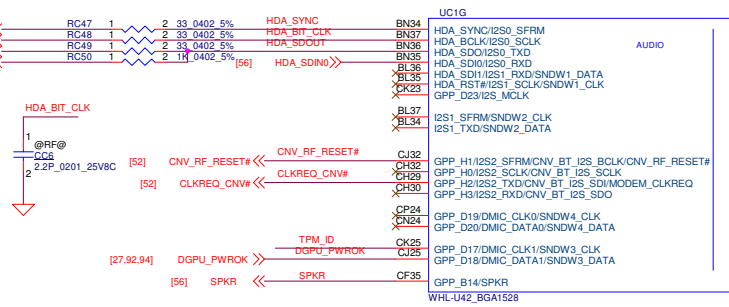
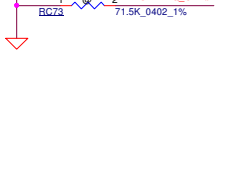
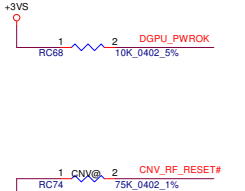
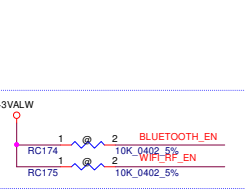
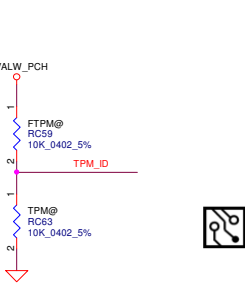
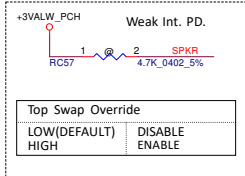
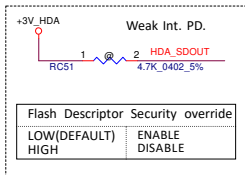
DDR4 COMPENSATION SIGNALS



RC21~RC25 place colse to Device



ME_FWP
LOW= ENABLE--> ME lock can't update ME
HIGH= DISABLE--> ME lock can update ME



COMPENSATION FOR CNV_WT_RCOMP
CAD Note:
Min trace width=10 mils, Spacing=15 mils
Max trace length=500 mils

COMPENSATION FOR SD_RCOMP
CAD Note:
Min trace width=10 mils, Spacing=12 mils
Max trace length=500 mils

COMPENSATION FOR EMMC_RCOMP
CAD Note:
Min trace width=10 mils, Spacing=12 mils
Max trace length=500 mils

CPU ID	BOARD_ID2 (GPP_C11)	BOARD_ID1 (GPP_C12)
WHL-U=>10W	---	1
CNL-U=>12.5W	---	0
Pentium/Celeron i3/i5/i7	1	---
	0	---

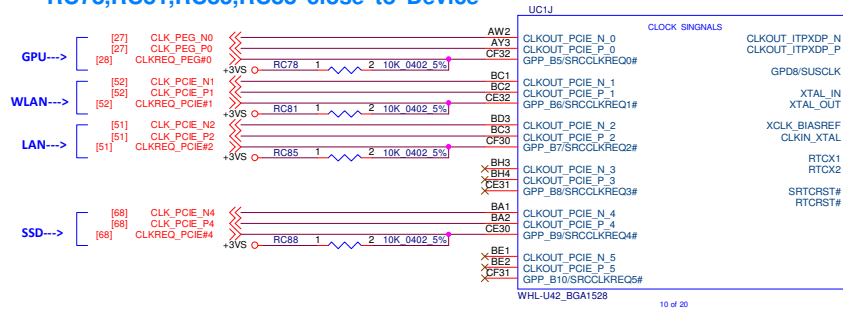
RC53,RC56	emMC SKU Opt i on d
LOW	non-emMC
HIGH	emMC

XTAL Frequency Select	
LOW(DEFAULT)	38.4MHz
HIGH	24MHz

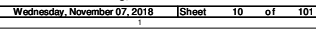
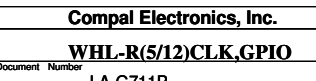
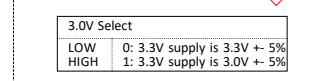
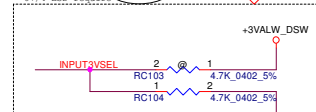
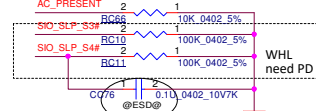
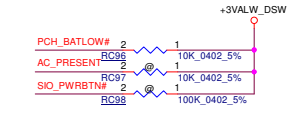
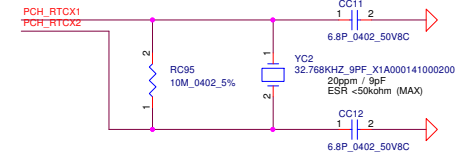
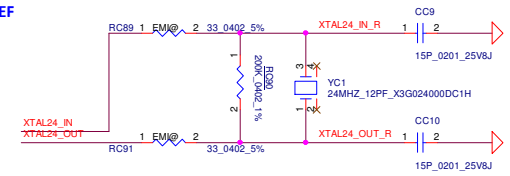
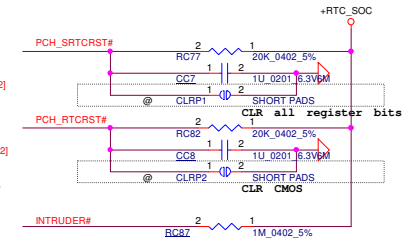
eSPI Flash Sharing Mode	
LOW(DEFAULT)	MAF EABLE
HIGH	SAF EABLE

RC200,RC201	DIS/UMA SKU Opt i on d
LOW(DEFAULT)	UMA
HIGH	DIS

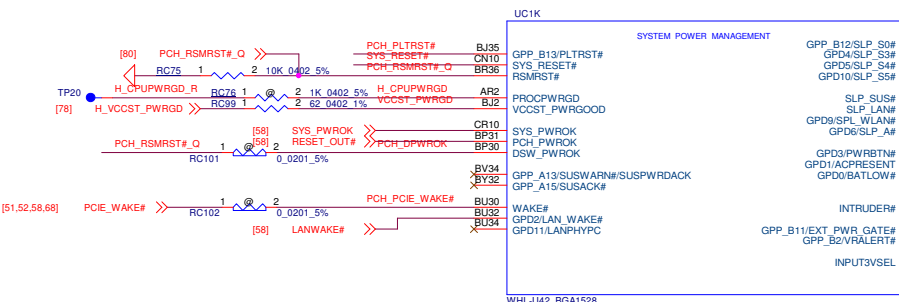
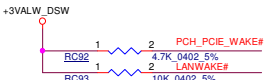
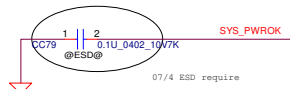
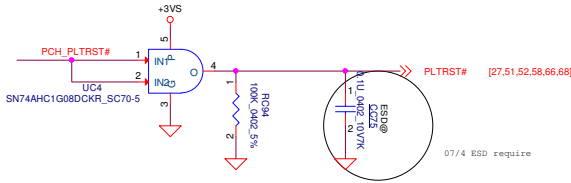
RC78,RC81,RC85,RC88 close to Device



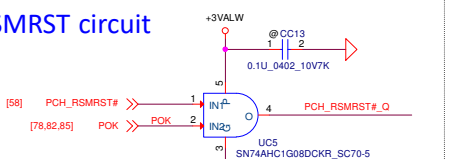
COMPENSATION FOR XCLK_BIASREF
CAD Note:
 Min trace width=10 mils, Spacing=15 mils
 Max trace length=1000 mils

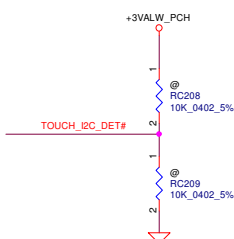
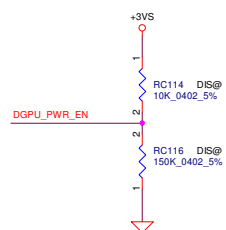
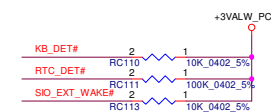
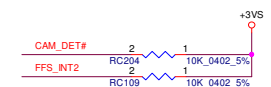
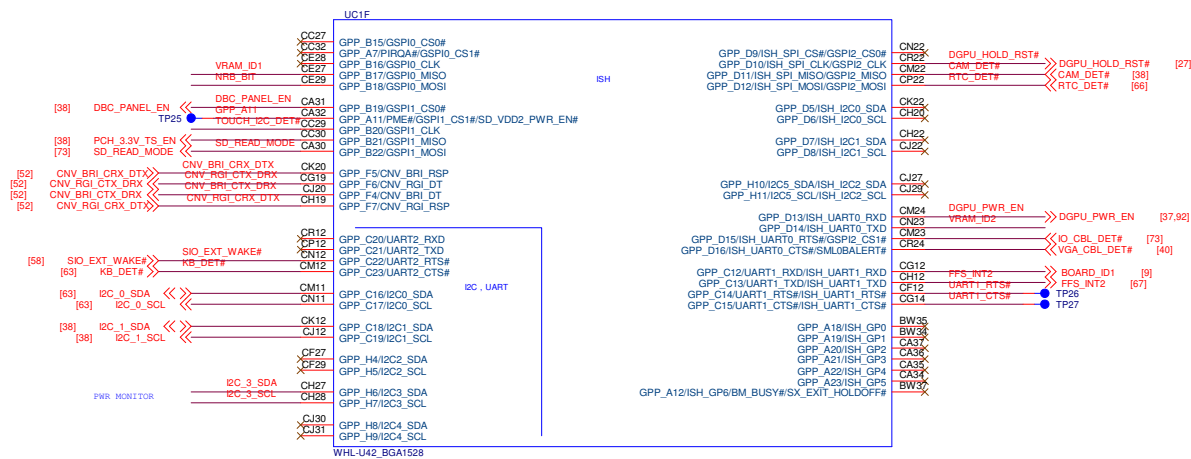
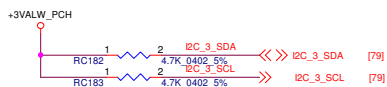
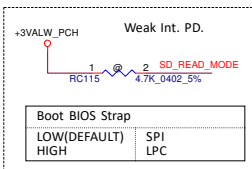
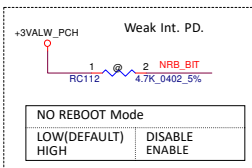
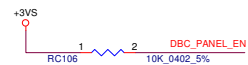


PCH_PLTRST#

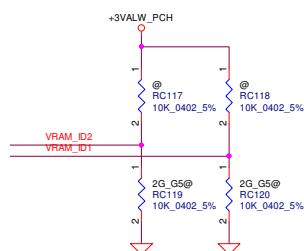


RSMRST circuit

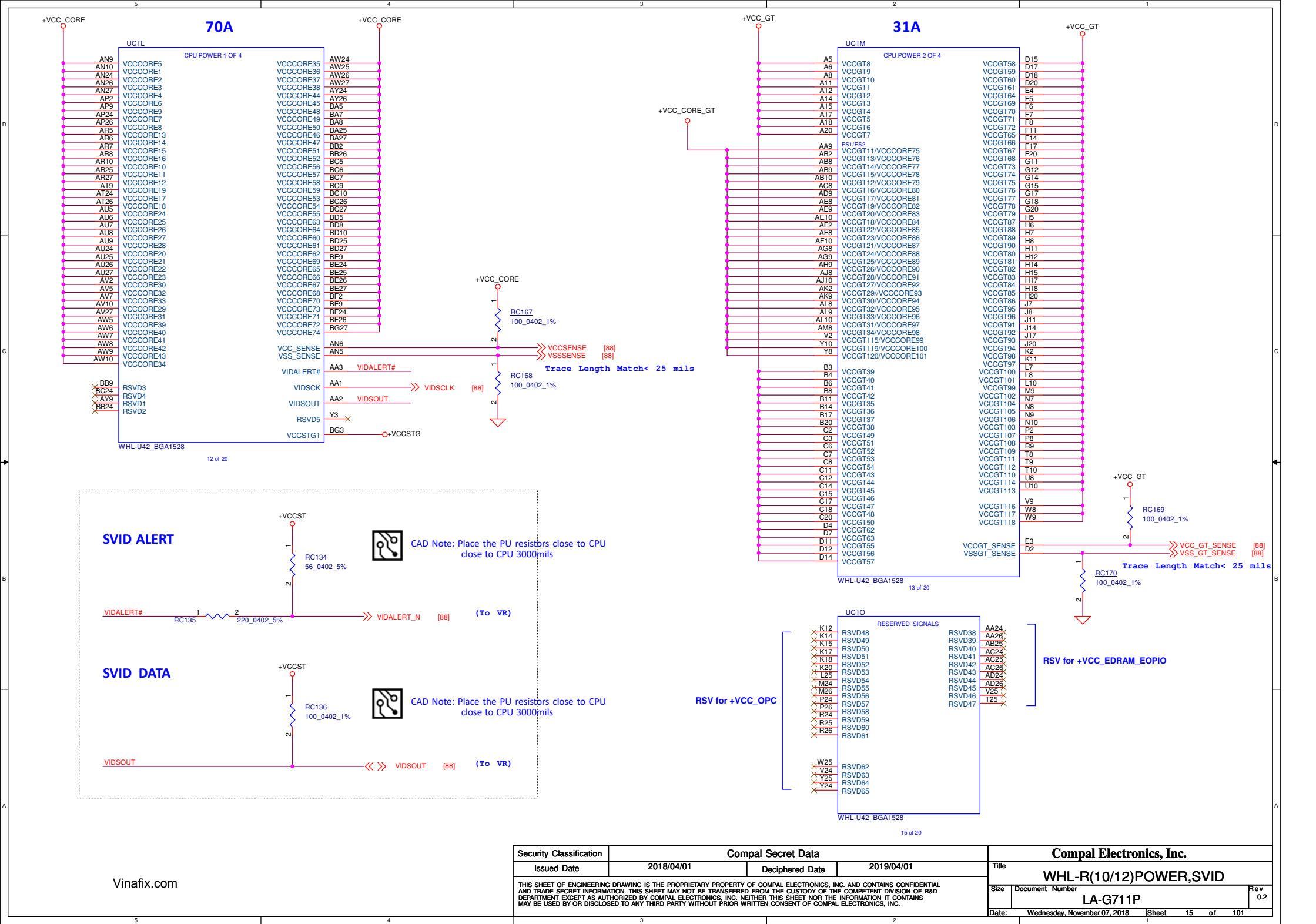


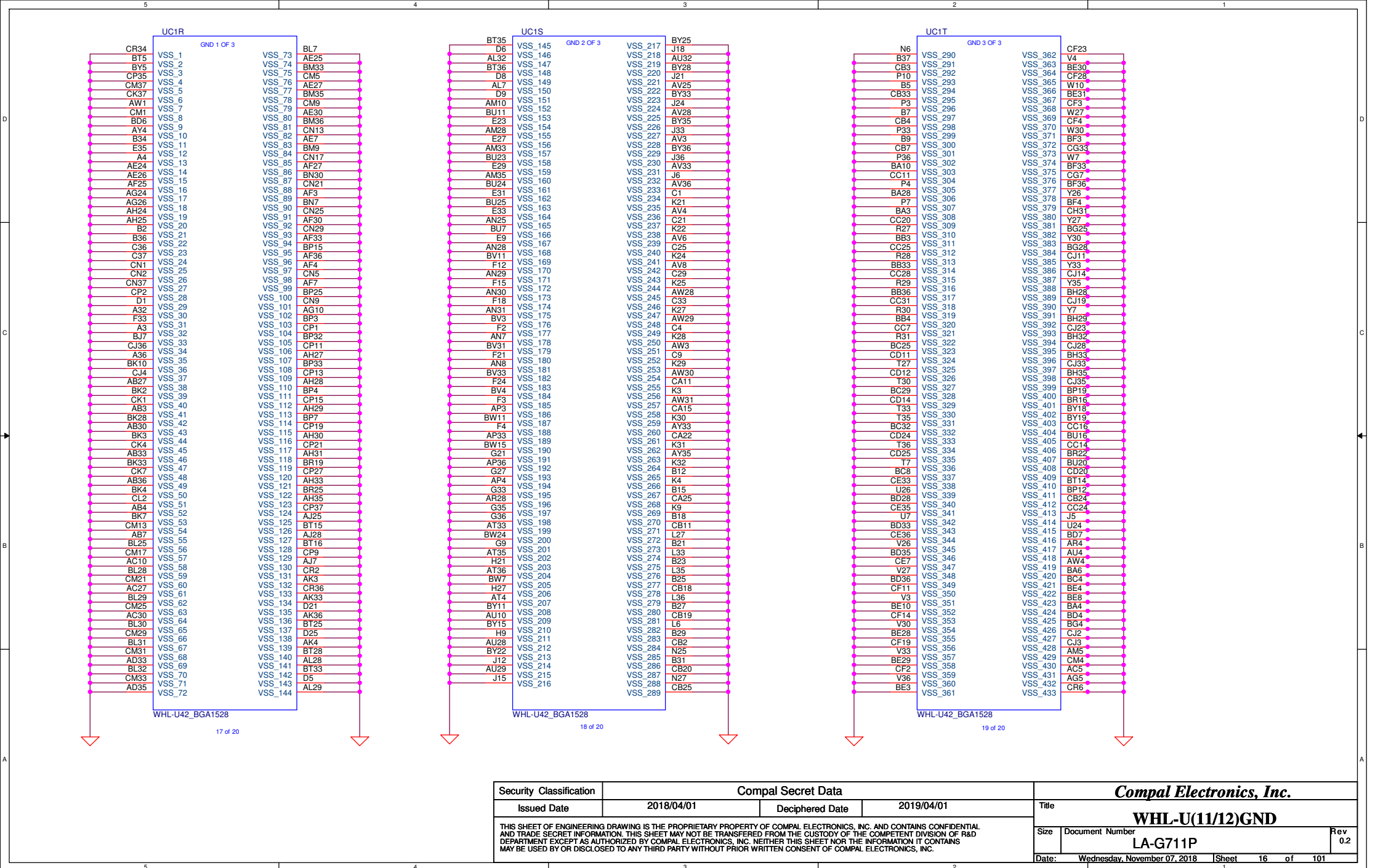


RC208,RC209	
Touch panel interface	
LOW	I2C
HIGH	USB



VRAM ID (PCBA VRAM Size Config.)	VBios_ID2 (GPP_CN23)	VBios_ID1 (GPP_CE27)
2G GDDR5	0	0
Reserved	0	1
Reserved	1	0
Reserved	1	1





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						Size	Document Number			Rev	
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RC137

1

@

2

CFG0

1K_0402_1%

Reset sequence after PCU PLL is locked

CFG0	1 : (DEFAULT) Normal Operation No Stall 0 : Stall
------	--

RC138

1

@

2

CFG2

1K_0402_1%

PCI Express Static Lane Reversal For All PEG Ports

CFG2	1 : (DEFAULT) Normal Operation 0 : Lane Reversal
------	---

RC140

1

2

CFG4

1K_0402_1%

Display Port Presence Strap

CFG4	0 : Enabled; An external Display Port device is connected to the Embedded Display Port 1 : Disabled; No Physical Display Port attached to Embedded Display Port
------	--

RC141

1

@

2

CFG6

1K_0402_1%

RC142

1

@

2

CFG5

1K_0402_1%

PCI Express Bifurcation

CFG[6:5]	— 00 = 1x8 2x4 PCI Express* — 01 = reserved — 10 = 2x8 PCI Express* — 11 = 1x16 PCI Express*
----------	---

RC143

1

@

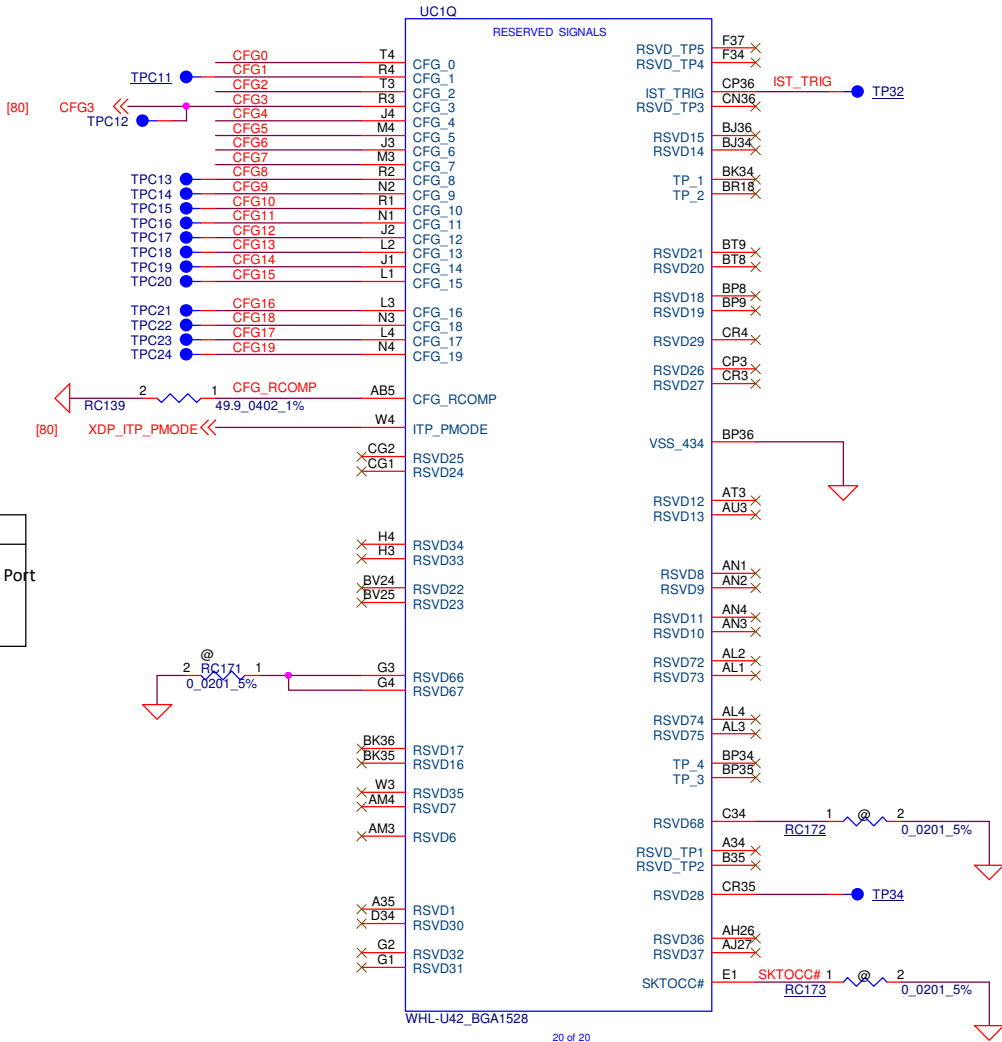
2

CFG7

1K_0402_1%

PEG Training

CFG7	1 : (default) PEG Train immediately following RESET# de-assertion 0 : PEG Wait for BIOS for training.
------	--



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				LA-G711P	
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				Rev	0.2

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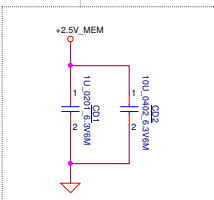
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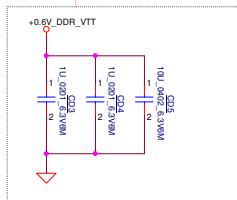
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Main Func = DDR

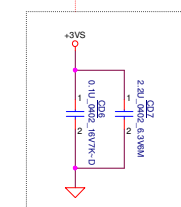
Layout Note:
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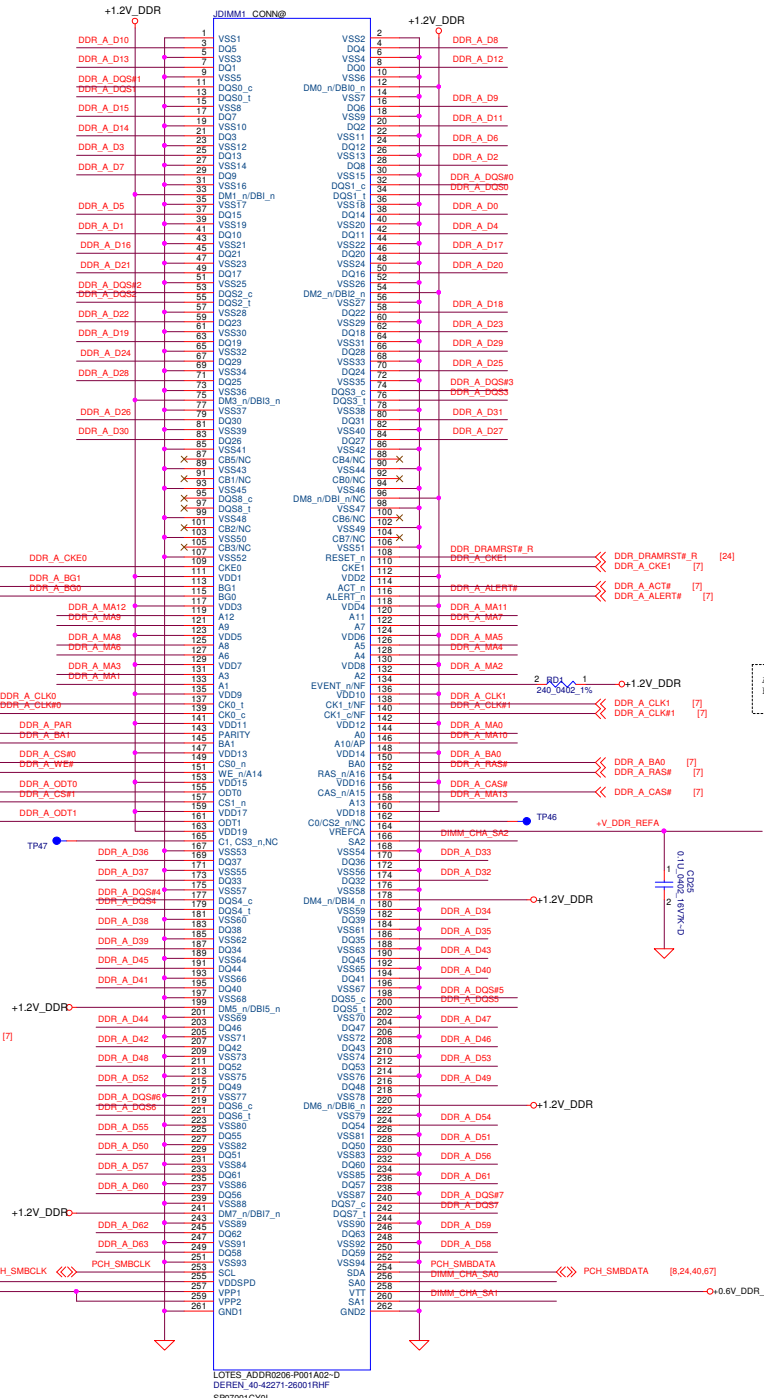
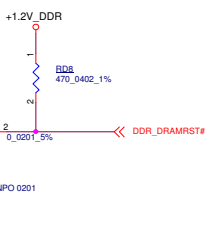
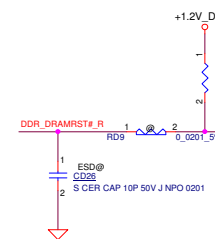
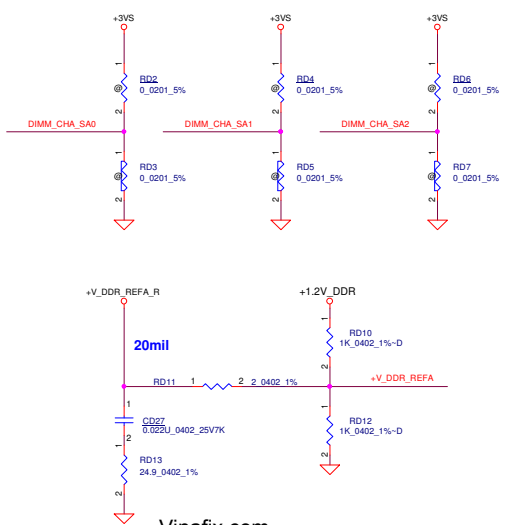
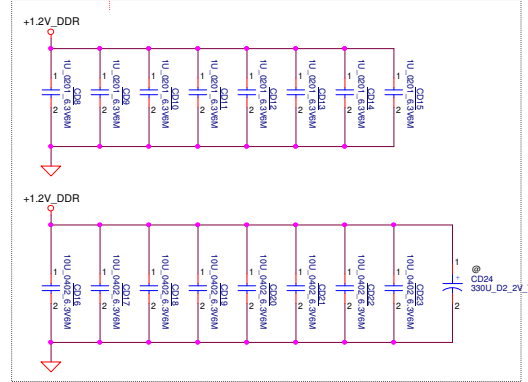
Layout Note:
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Layout Note:
Place near JDIMM1.255



Layout Note:
Place near JDIMM1



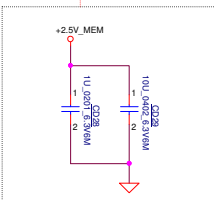
All VREF traces should
have 10 mil trace width

Vinafix.com

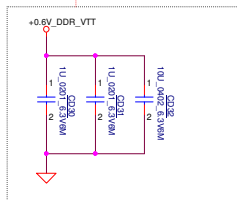
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Main Func = DDR

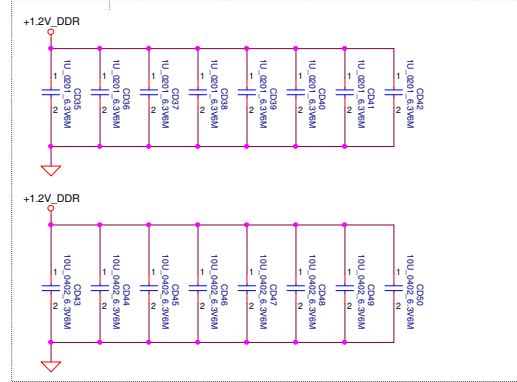
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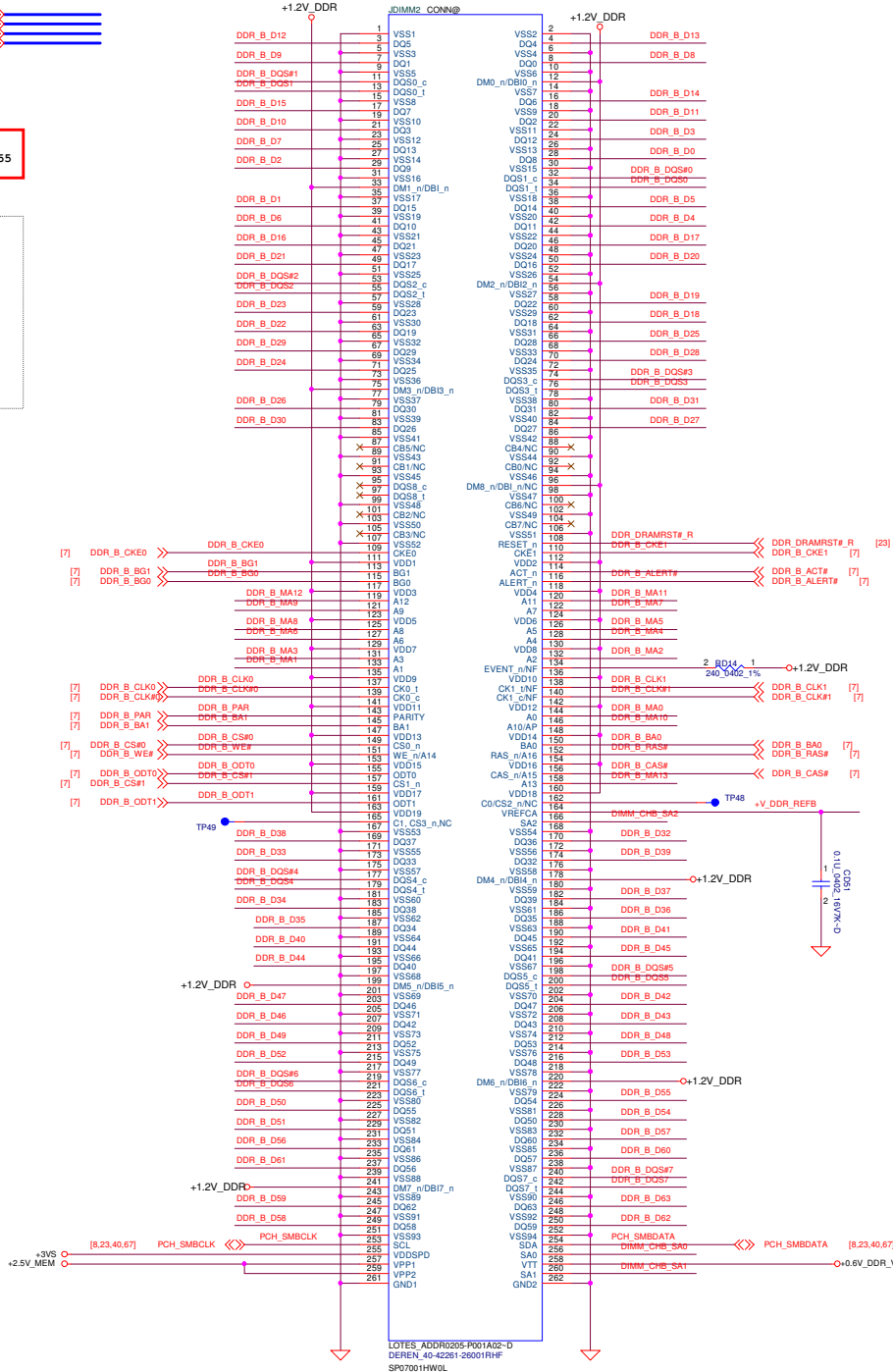
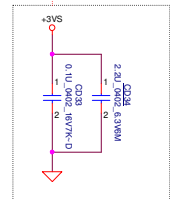
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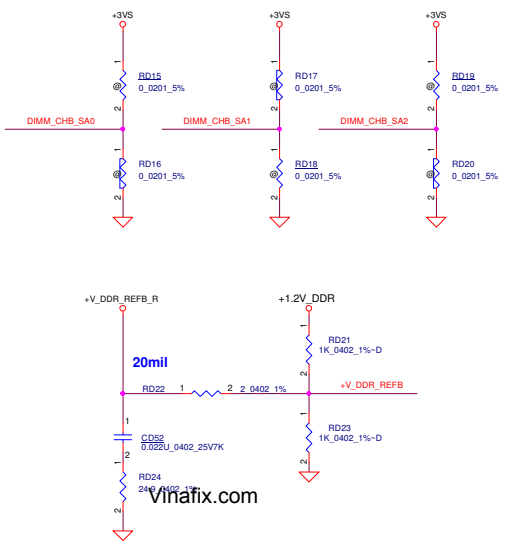
Layout Note:
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Layout Note:
Place near JDIMM2.255



All VREF traces should
have 10 mil trace width



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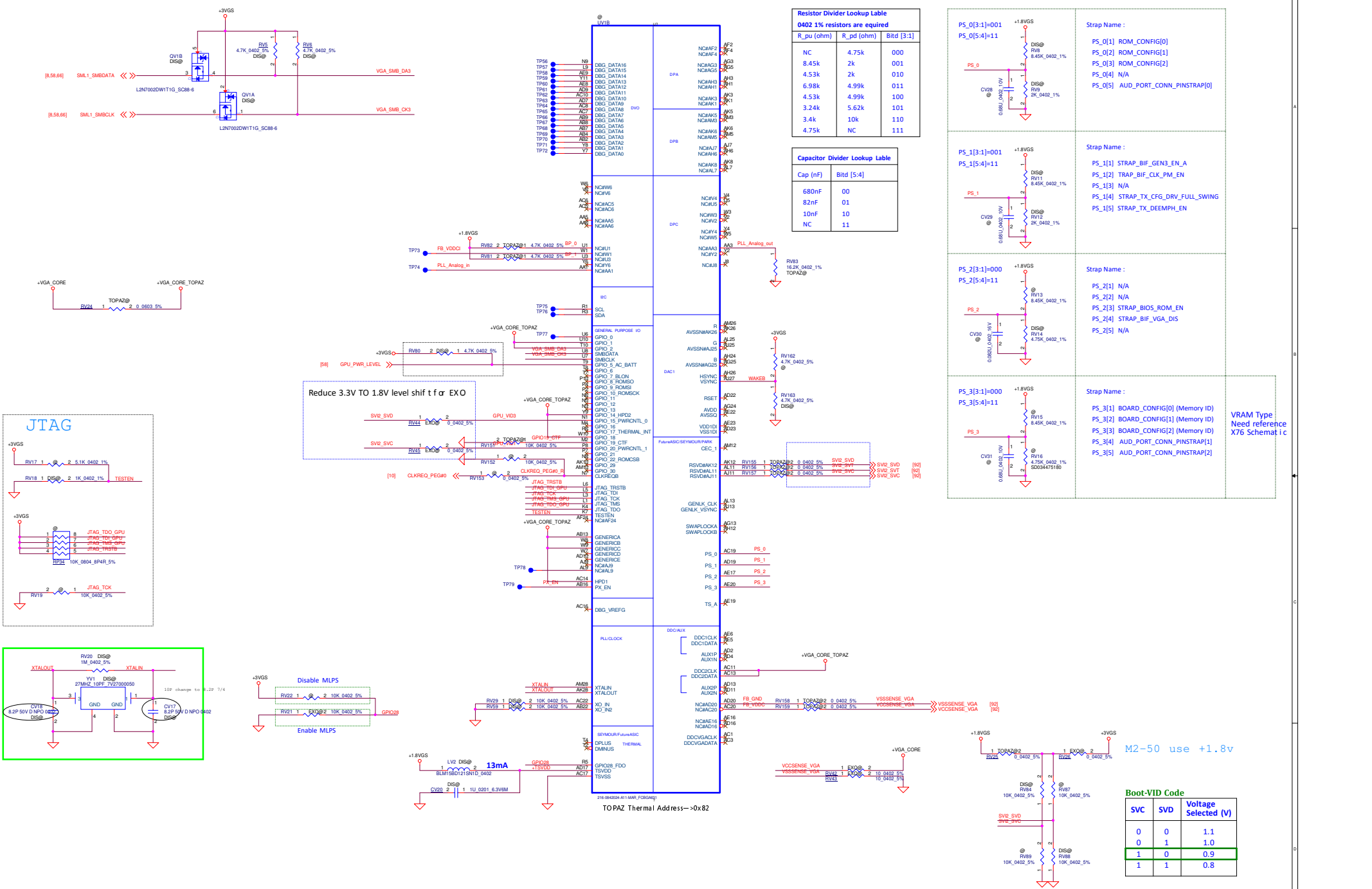
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Resistor Divider Lookup Table			
0402 1% resistors are equied			
R_pu (ohm)	R_pd (ohm)	Bitd [3:1]	
NC	4.75k	000	
8.45k	2k	001	
4.53k	2k	010	
6.98k	4.99k	011	
4.53k	4.99k	100	
3.24k	5.62k	101	
3.4k	10k	110	
4.75k	NC	111	

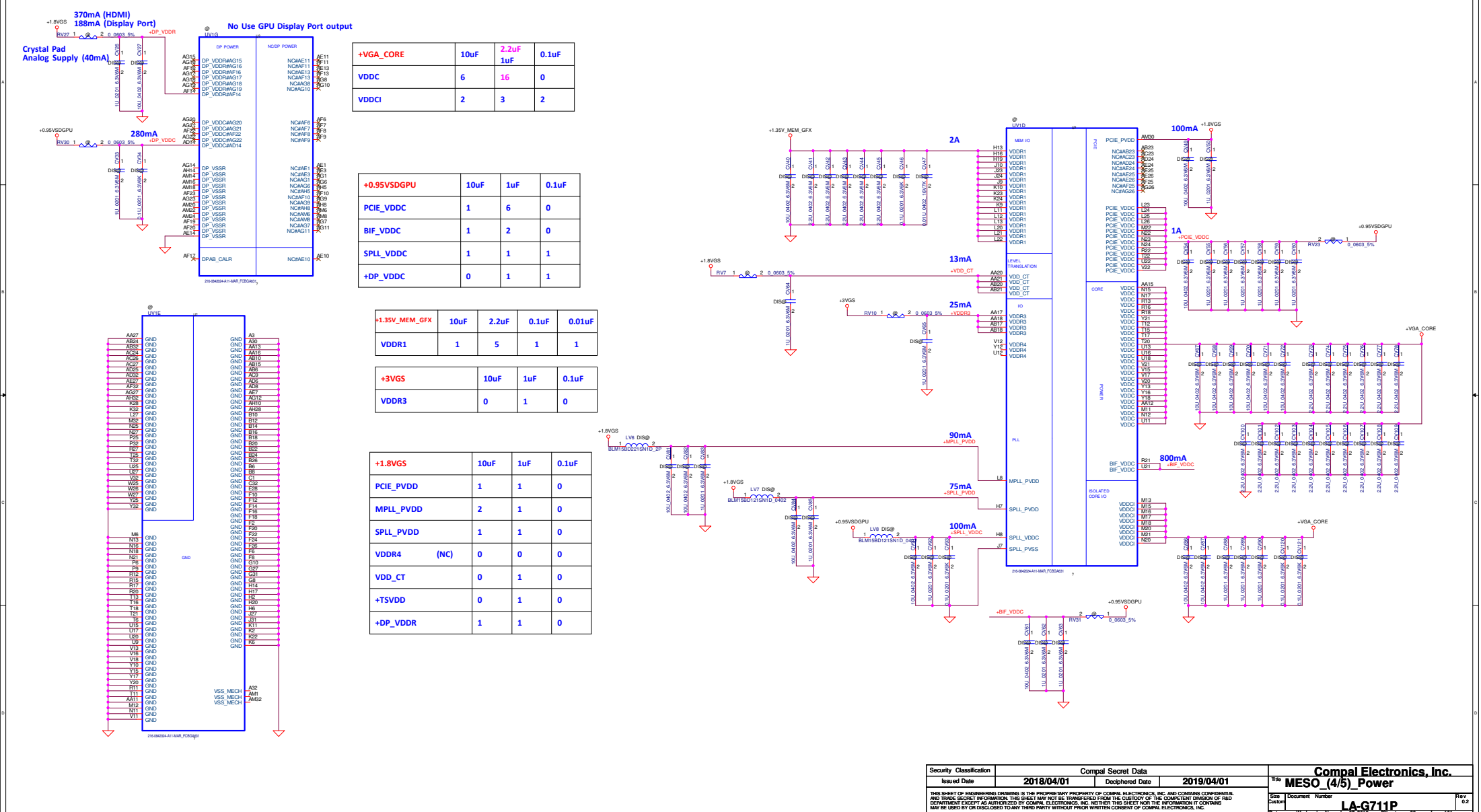
Capacitor Divider Lookup Table	
Cap (nF)	Bitd [5:4]
680nF	00
82nF	01
10nF	10
NC	11

	Strap Name : PS_0[1] ROM_CONFIG[0] PS_0[2] ROM_CONFIG[1] PS_0[3] ROM_CONFIG[2] PS_0[4] N/A PS_0[5] AUD_PORT_CONN_PINSTRAP[0]
	Strap Name : PS_1[1] STRAP_BIF_GEN3_EN_A PS_1[2] TRAP_BIF_CLK_PM_EN PS_1[3] N/A PS_1[4] STRAP_TX_CFG_DRV_FULL_SWING PS_1[5] STRAP_TX_DEEMPH_EN
	Strap Name : PS_2[1] N/A PS_2[2] N/A PS_2[3] STRAP_BIOS_ROM_EN PS_2[4] STRAP_BIF_VGA_DIS PS_2[5] N/A
	Strap Name : PS_3[1] BOARD_CONFIG[0] (Memory ID) PS_3[2] BOARD_CONFIG[1] (Memory ID) PS_3[3] BOARD_CONFIG[2] (Memory ID) PS_3[4] AUD_PORT_CONN_PINSTRAP[1] PS_3[5] AUD_PORT_CONN_PINSTRAP[2]

VRAM Type
Need reference
X76 Schematic

M2-50 use +1.8v

Boot-VID Code		
SVC	SVD	Voltage Selected (V)
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8



- Power-Up/Down Sequence**
1. All the ASIC supplies must reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred. The maximum slew rate on all rails is 50 mV/ μ s.
 2. It is recommended that the 3.3-V rail ramp up first.
 3. It is recommended that the 0.95-V rail reach at least 90% of its nominal value no later than 2 ms from the start of VDDC ramping up.
 4. The power rails that are shared with other components on the system should be gated for the dGPU so that when the dGPU is powered down (for example AMD PowerXpress? idle state), all the power rails are removed from the dGPU. The gate circuits must meet the slew rate requirement (such as 50 mV/ μ s).
 5. VDDC and VDD_CT should not ramp up simultaneously. For example, VDDC should reach 90% before VDD_CT starts to ramp up (or vice versa).
 6. For power down, reversing the ramp-up sequence is recommended.

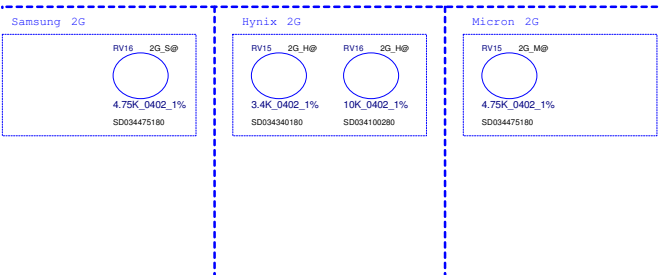
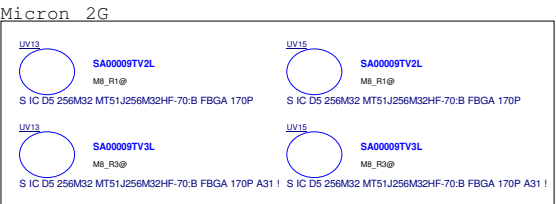
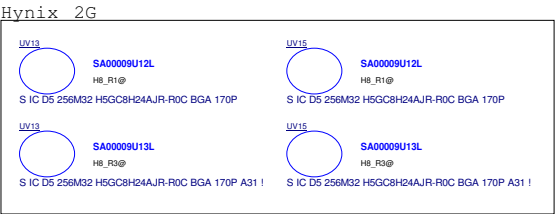
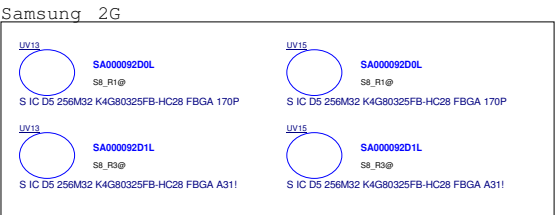
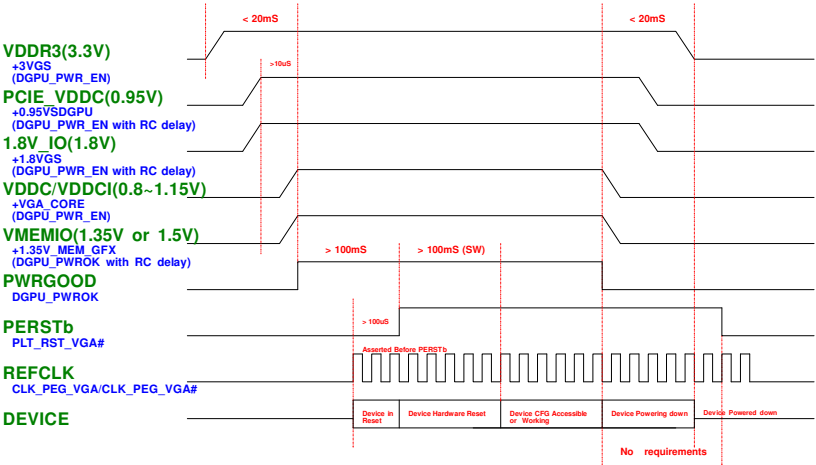


Table 3–21 Resistor Divider Lookup T.

R _{pu} (Ω)	R _{pd} (Ω)	Bits [3:1]
NC	4750	000
8450	2000	001
4530	2000	010
6980	4990	011
4530	4990	100
3240	5620	101
3400	10000	110
4750	NC	111

Note: 0402 1% resistors are required.

For AMD R17M-M1-30 VRAM

Memory ID	8Gb R3 P/N	Vendor	Configuration	Size
000	SA000092D1L	SAMSUNG	S IC D5 256M32 K4G80325FB-HC28 FBGA A31!	2GB
110	SA00009U13L	Hynix	S IC D5 256M32 H5GC8H24AJR-ROC BGA 170P A31 !	2GB
111	SA00009TV3L	Micron	S IC D5 256M32 MT51J256M32HF-70:B FBGA 170P A31 !	2GB

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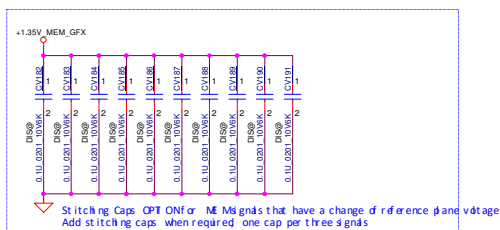
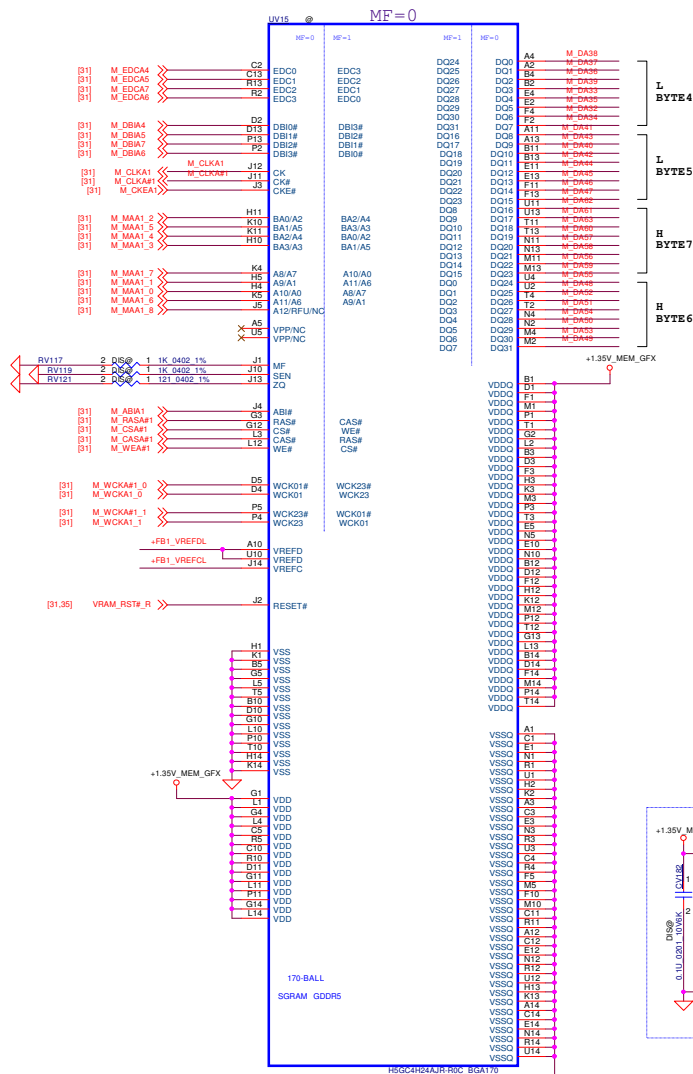
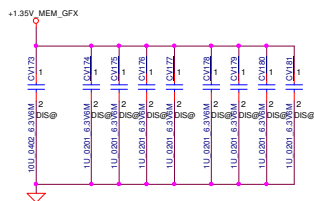
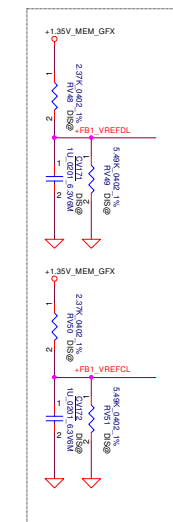
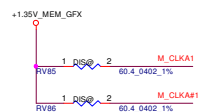
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Main Function:

Reserve

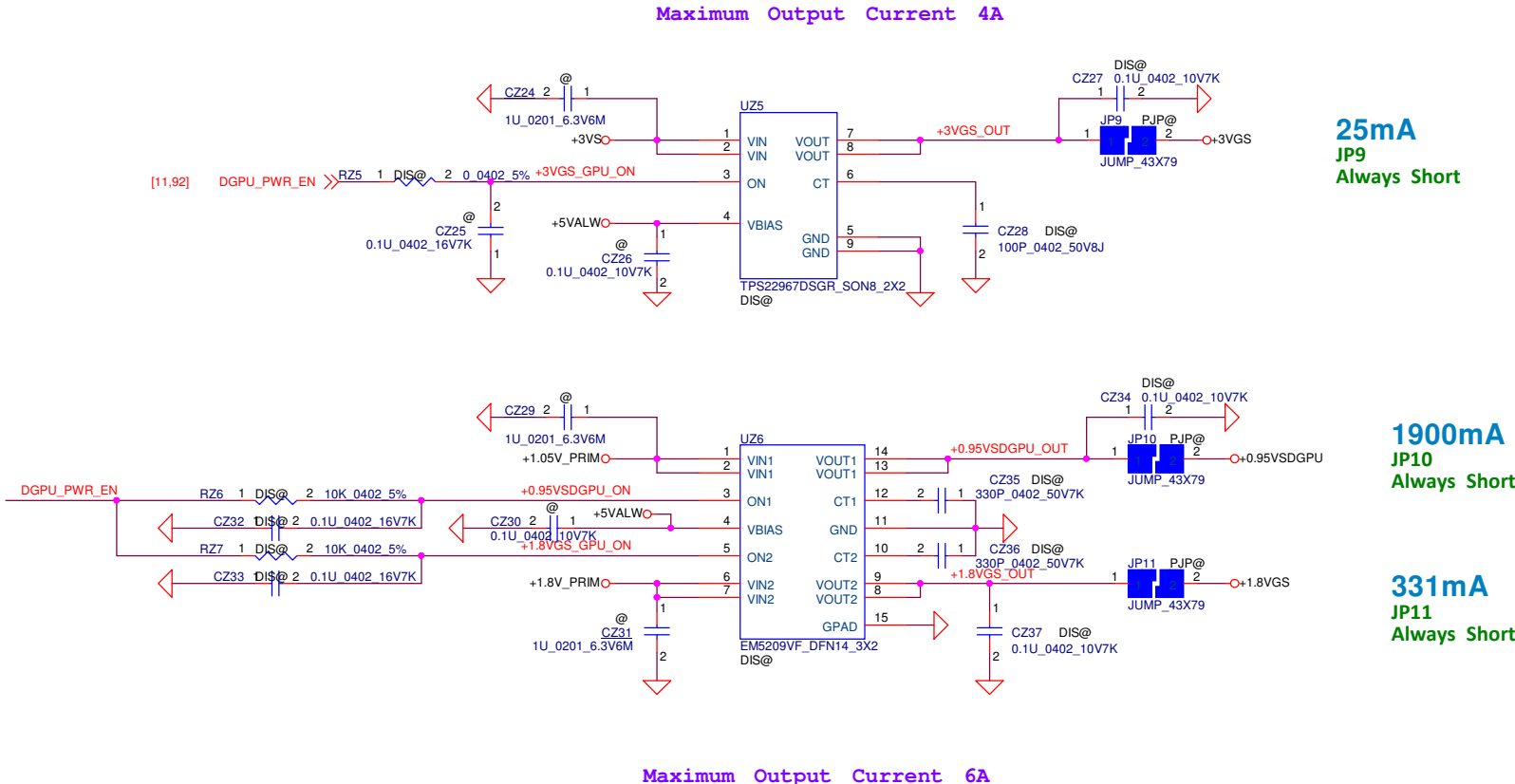
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Issued Date	2018/04/01	Deciphered Date	2019/04/01	<i>Compal Electronics, Inc.</i>	
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Main Func = GDDR5



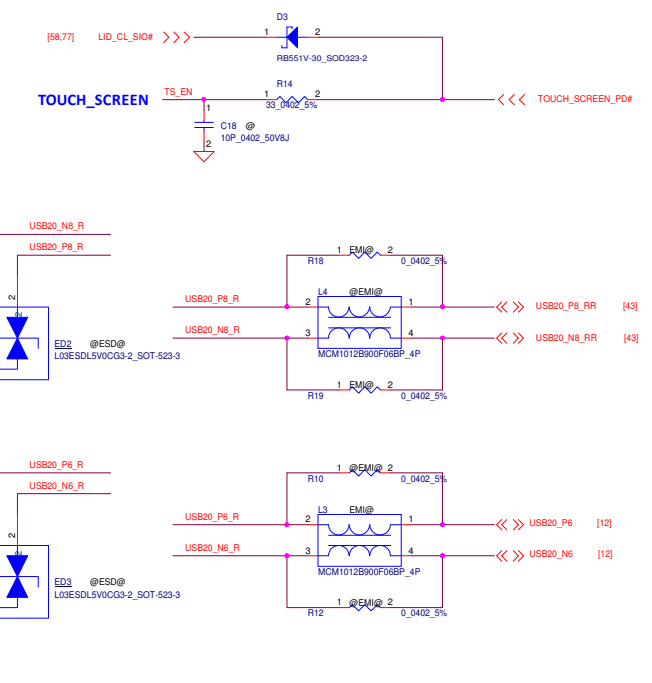
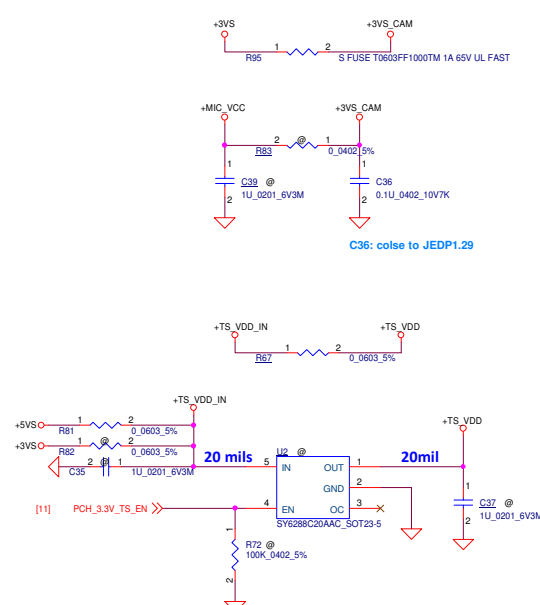
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+3V/+0.95V/+1.8V for GPU



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2
Main Func = CAM&MIC, TS

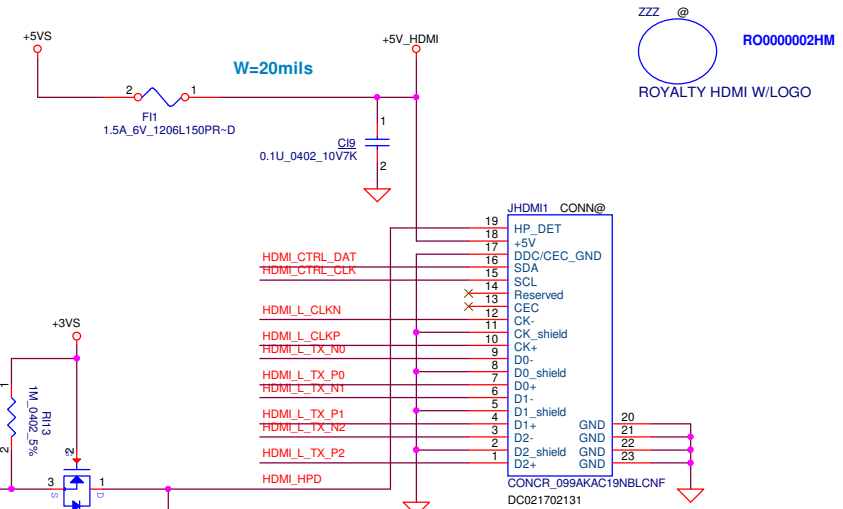
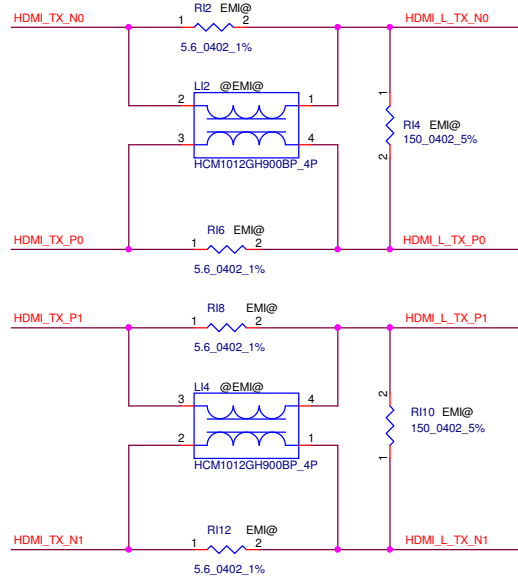
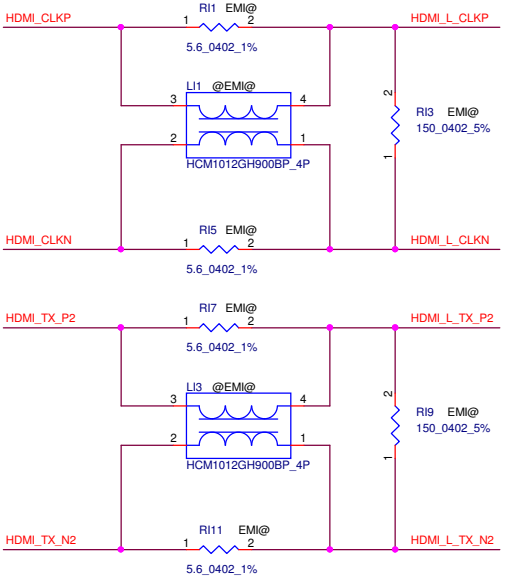
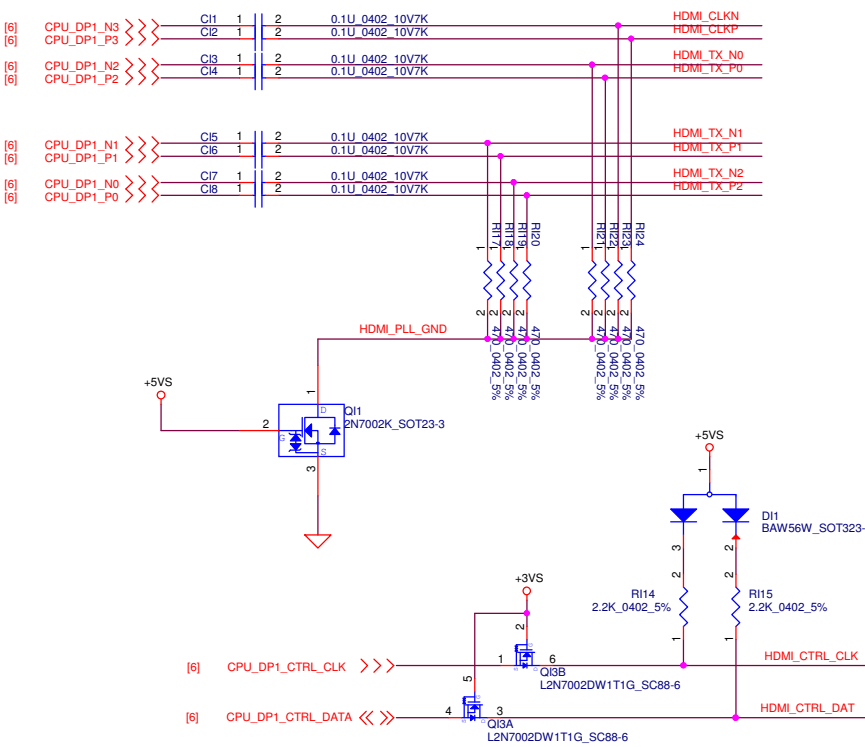


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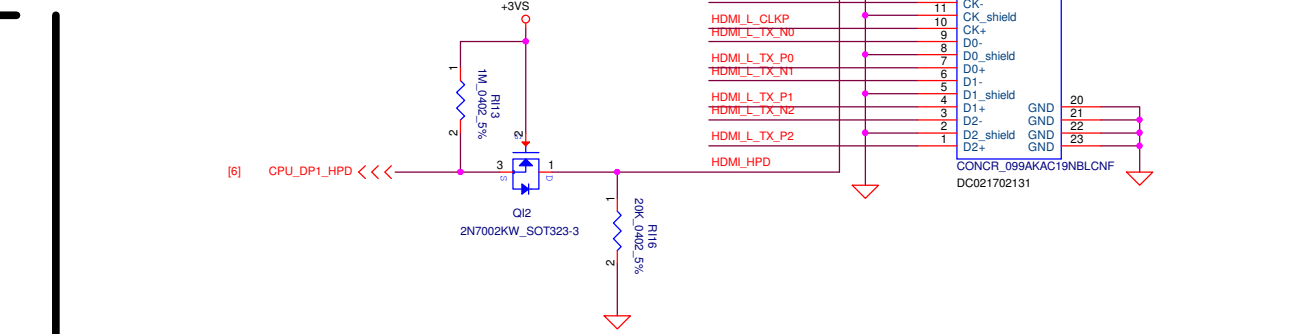
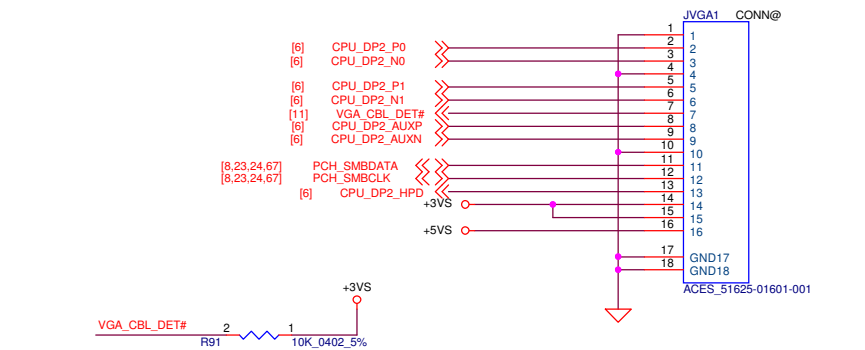
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Main Func = HDMI



Main Func = VGA



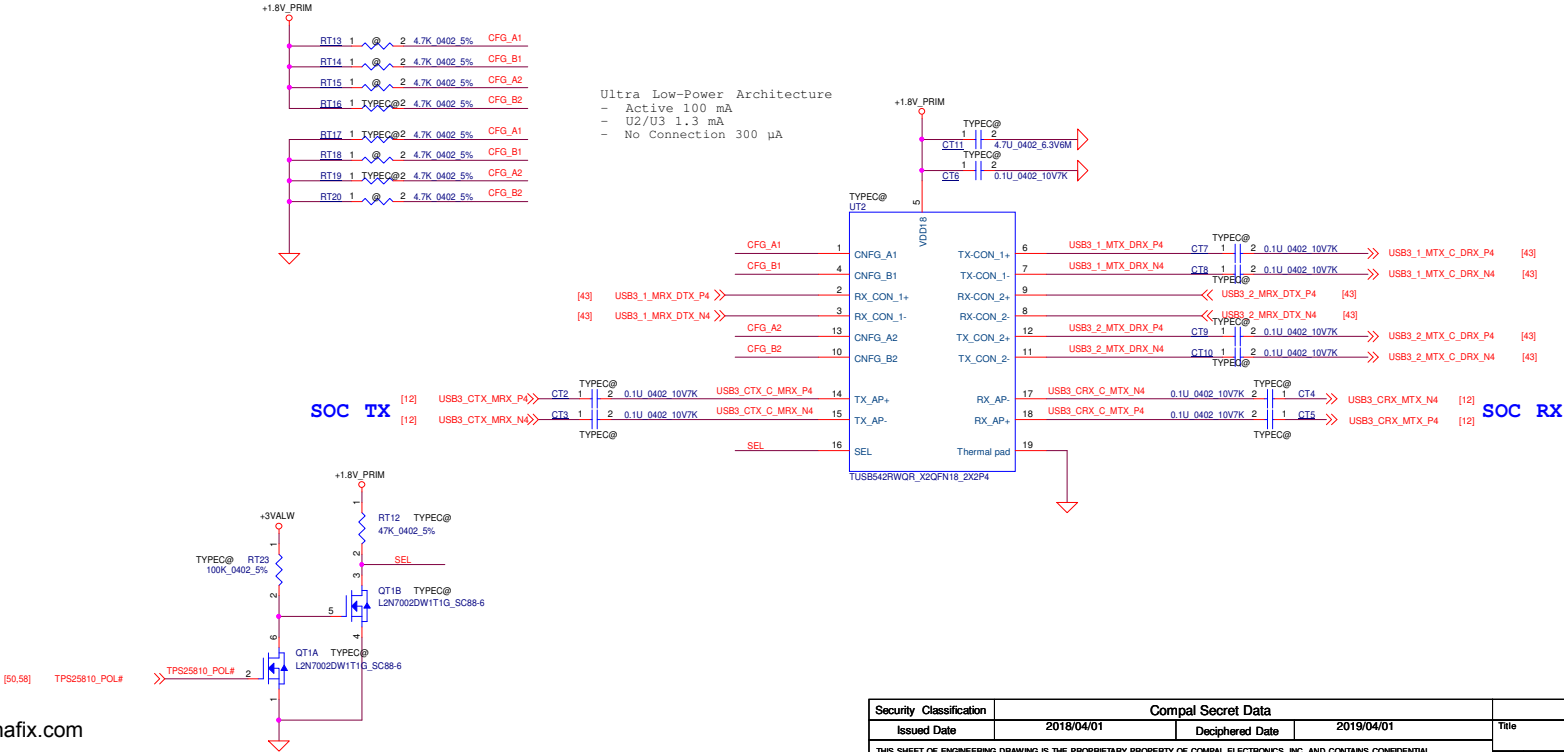
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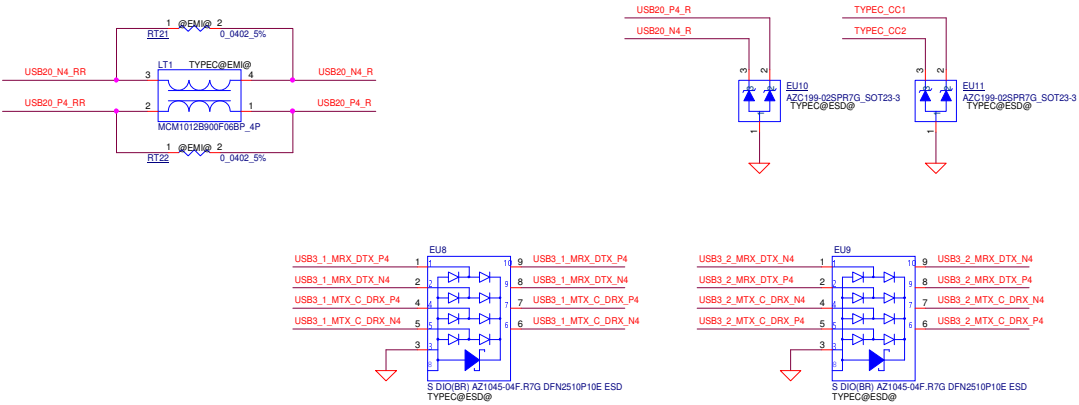
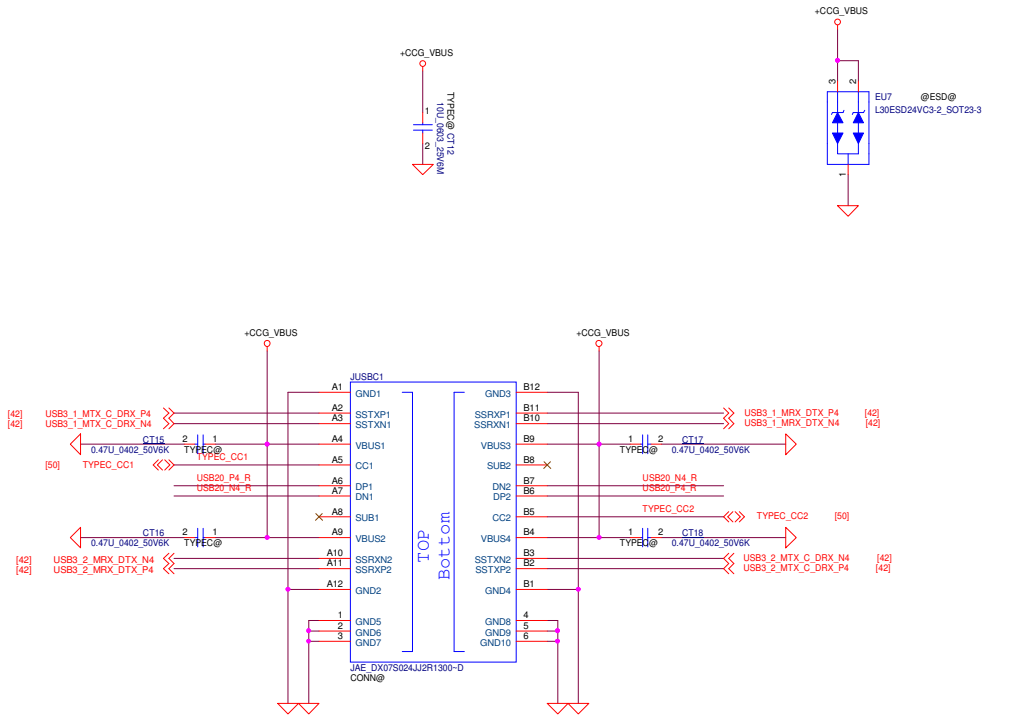
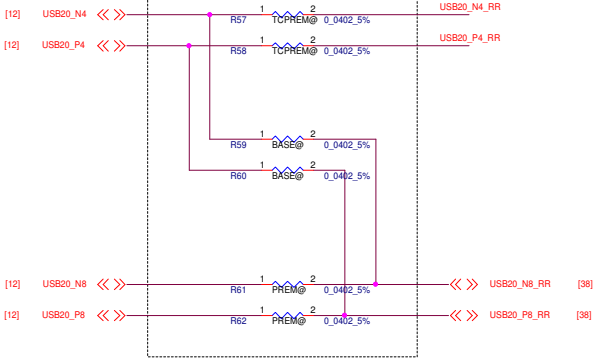
Main Func = Typec MUX



Vinafix.com

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BASE PCH using P4 for touch screen



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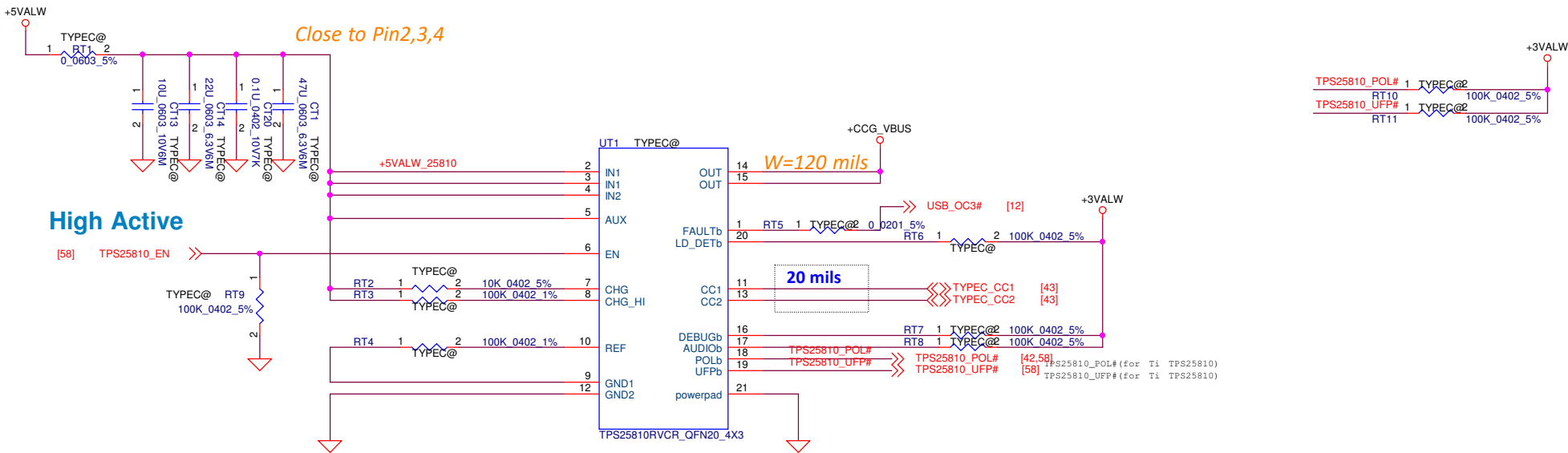
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Main Function: TYPE-C_Power Path

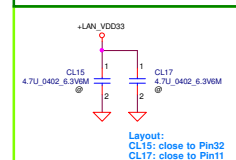
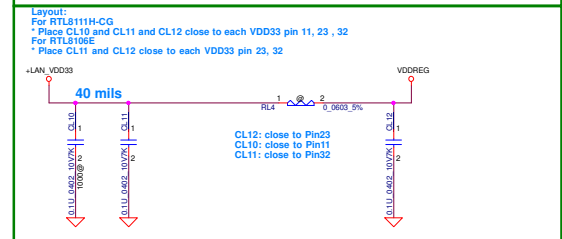
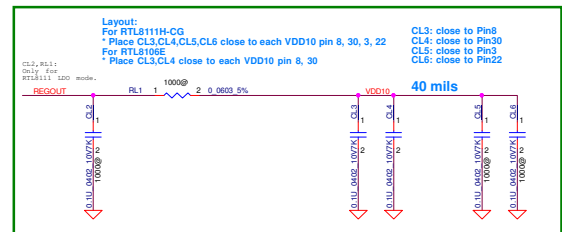
Main Func = Power Switch

5V@3A

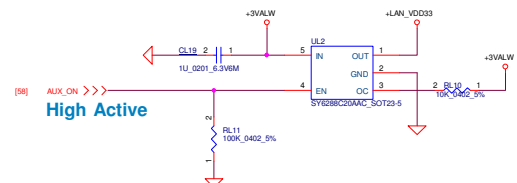
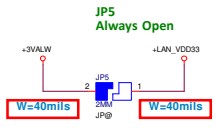


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Main Func = LAN



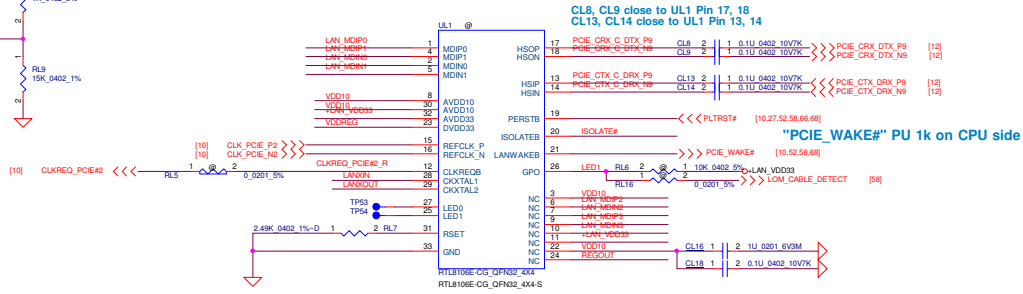
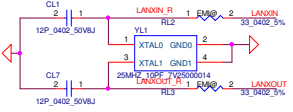
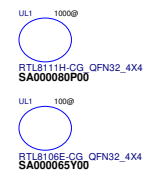
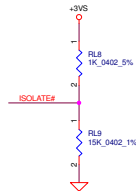
+LAN_VDD33 Rising time (10%~90%) need >0.5mS and <100mS.



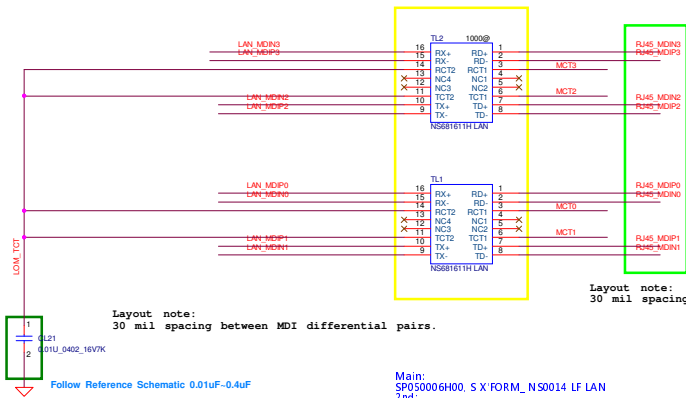
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RTL8106E-CG (071.08106.0003)	LDO	X	X	X	X	X	O

LAN CHIP 10/100/1000

RTL8111H-CG	RTL8106E-CG
SA050080P0	SA050065Y00
L20 mode	L20 mode
10/100/1000M	10/100M

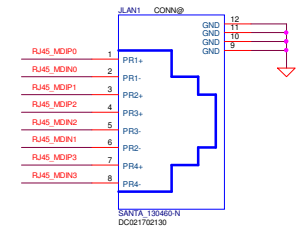
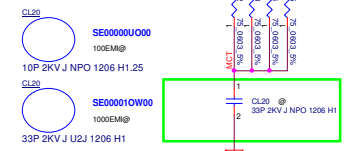


Main Func = LAN LAN Transformer 10/100M x2



TL1 TOP, TL2 BOT

Layout note:
30 mil spacing between MDI differential pairs.



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Main Function: WIGIG / WIDI

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Main Function:

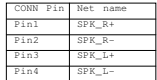
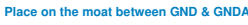
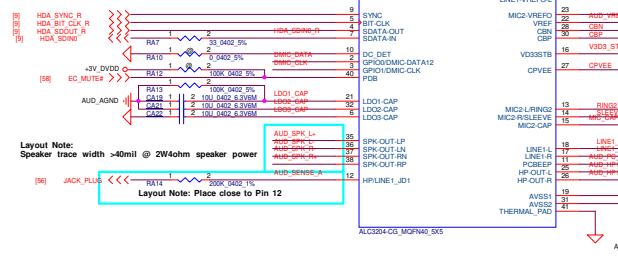
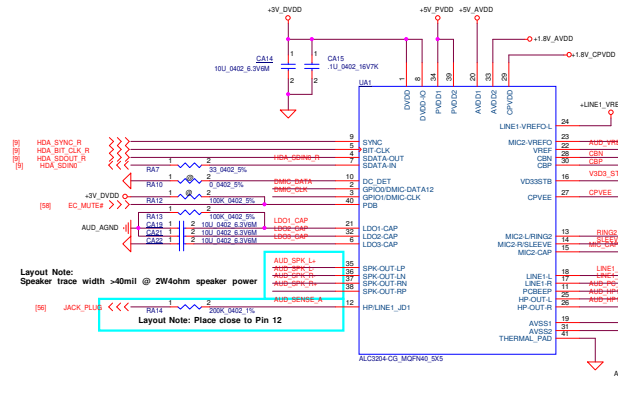
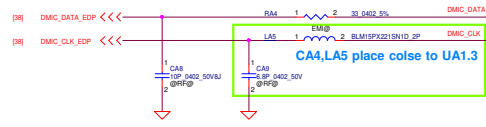
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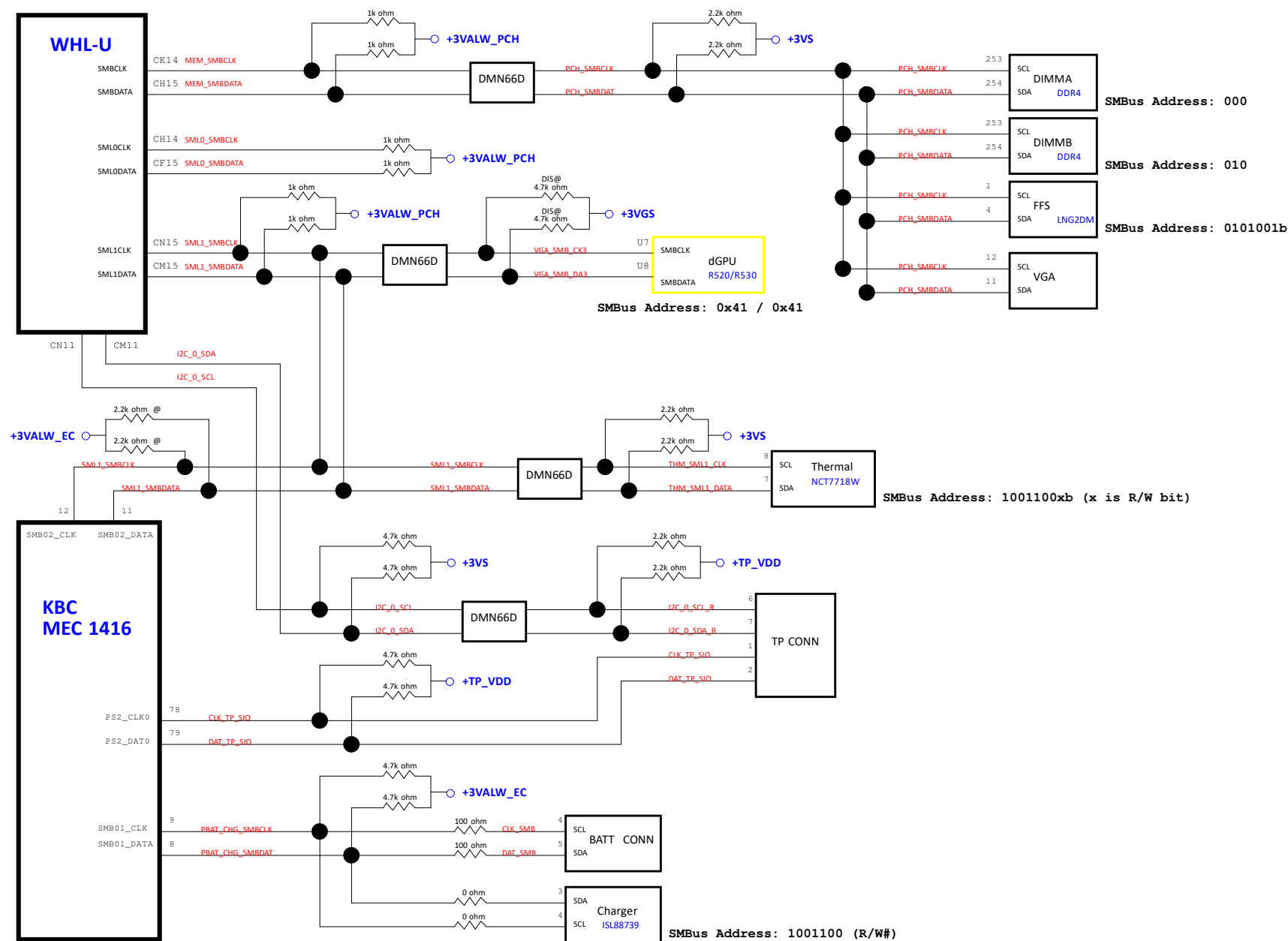
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					LA-G711P	0.2
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Main Function:

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				Size	Document Number	Rev
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Main Function: SMB/I2C Block Diagrams



Main Function:

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					LA-G711P	0.2
				Date:	Wednesday, November 07, 2018	Sheet 62 of 101

Main Function:

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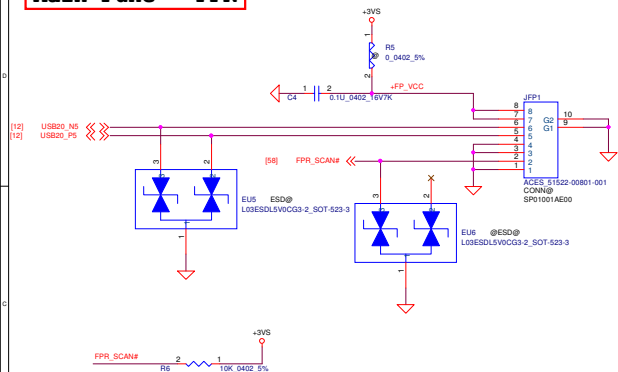
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				Size	Rev
				Document Number	0.2
				LA-G711P	
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Main Function:

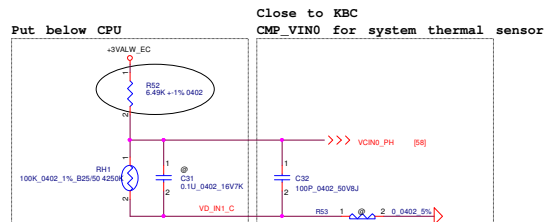
Reserve

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				Size	Document Number	Rev
					LA-G711P	0.2
				Date:	Wednesday, November 07, 2018	Sheet 65 of 101

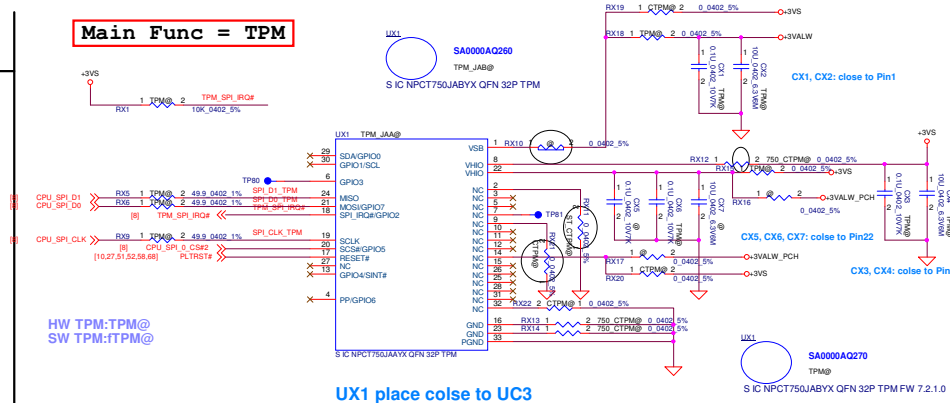
Main Func = FPR



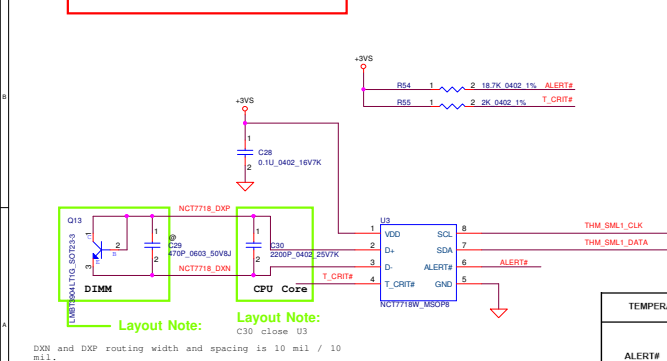
Main Func = OTP



Main Func = TPM

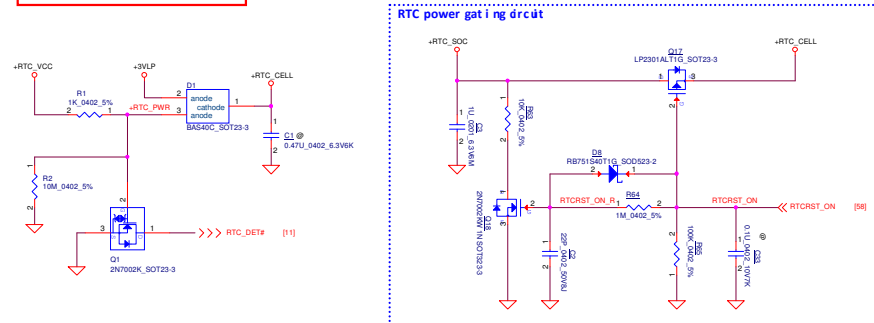


Main Func = Thermal



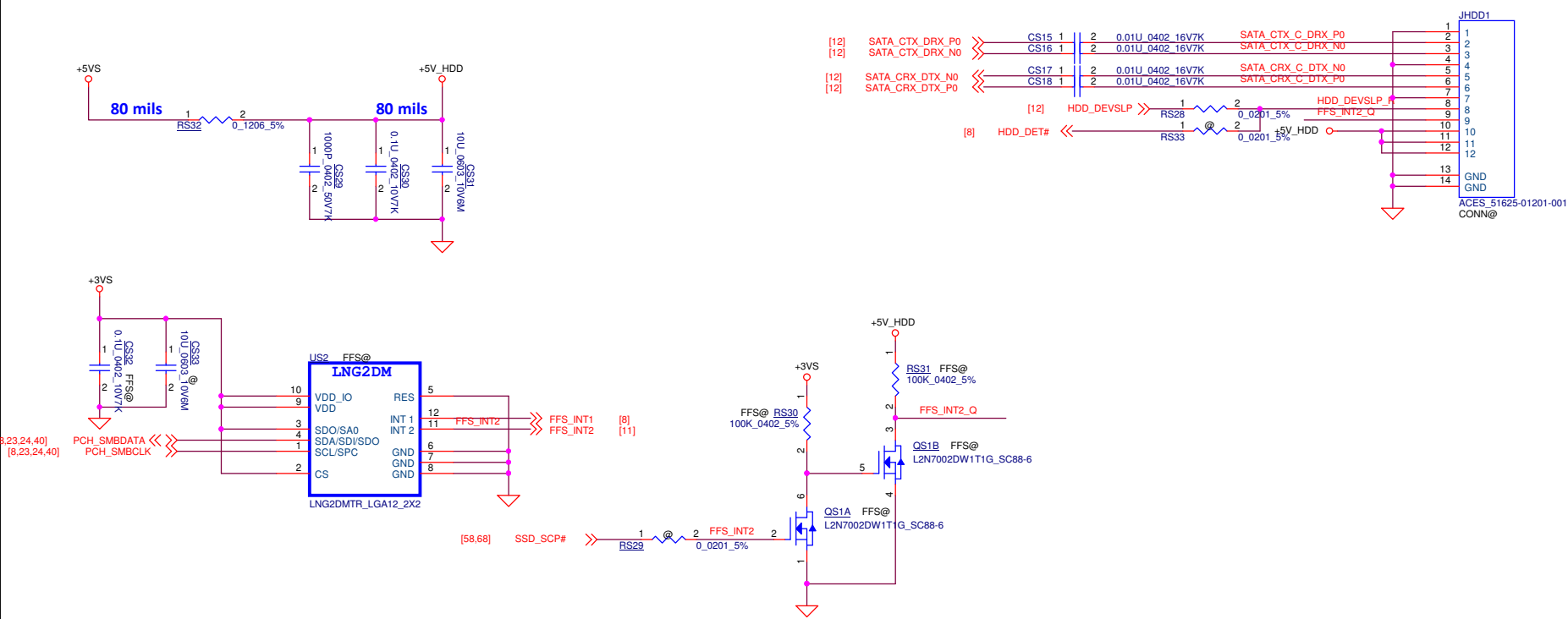
TEMPERATURE (°C)	T_CRIT#				
	2KΩ	7.5KΩ	10.5KΩ	14KΩ	18.7KΩ
2KΩ	77	87	97	107	117
7.5KΩ	79	89	99	109	119
10.5KΩ	81	91	101	111	121
14KΩ	83	93	103	113	123
18.7KΩ	85	95	105	115	125

Main Func = RTC



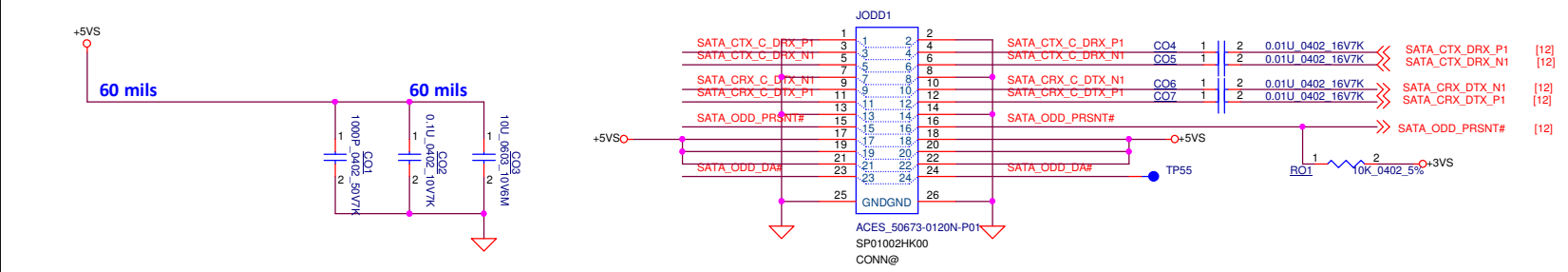
Security Classification	Compal Secret Data		Title	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	TPM/RTC/Screw hole
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Size Document Number				LA-0711P
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Main Func = HDD&FFS



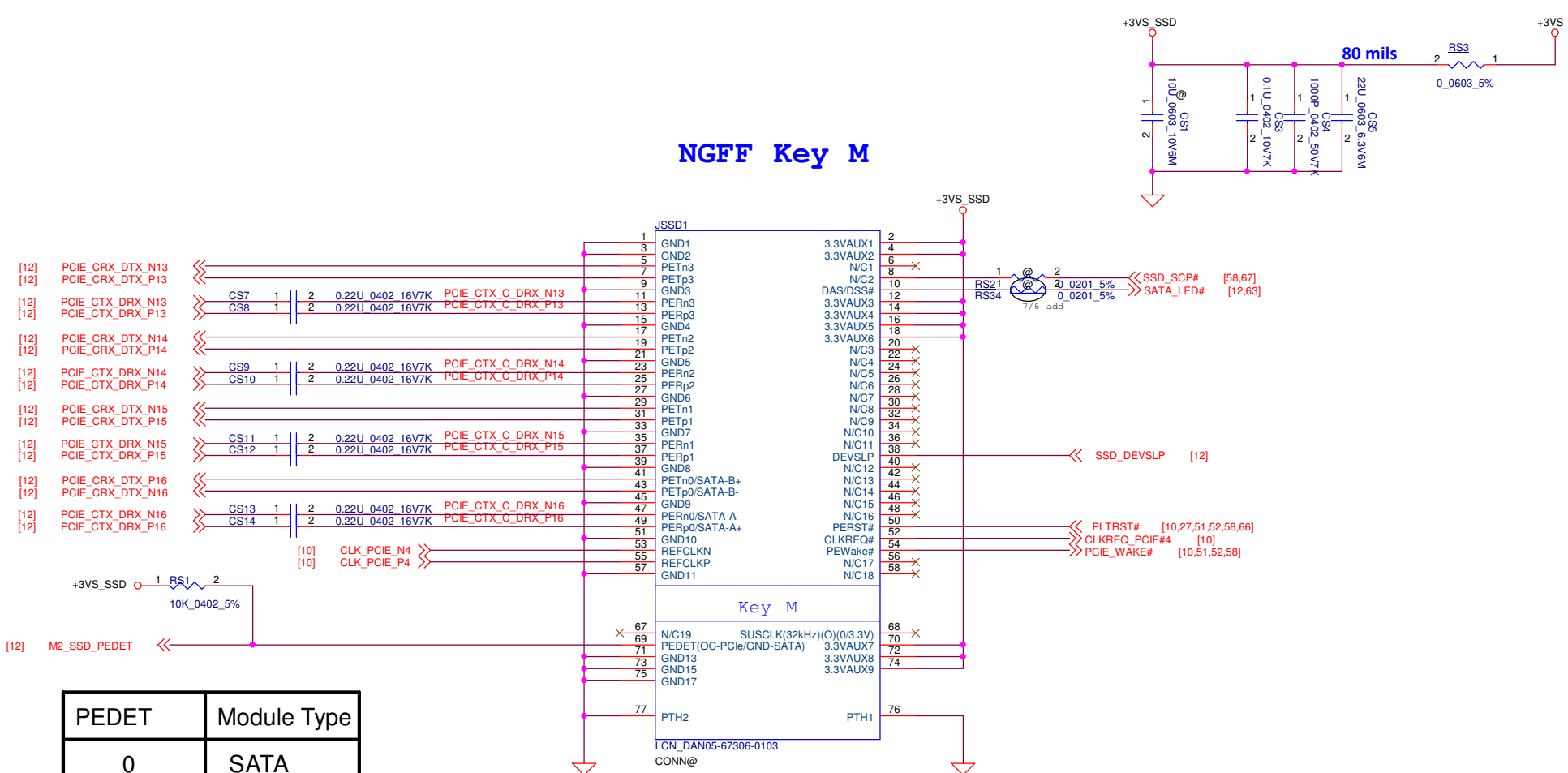
CONN		FFC
GND	S1	1
A+	S2	2
A-	S3	3
GND	S4	4
B-	S5	5
B+	S6	6
GND	S7	7
DEVSLP	P3	8
5V	P7	10
5V	P8	11
5V	P9	12
GND	P10	
Device Activity	P11	9

Main Func = ODD



CONN		FFC
GND	S1	1
A+	S2	2
A-	S3	3
GND	S4	4
B-	S5	5
B+	S6	6
GND	S7	7
PRSENT	P1	8
5V	P2	9
5V	P3	10
Attention	P4	12
GND	P5	
GND	P6	

NGFF Key M



Main Func = eMMC

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				Size	Document Number	Rev
					LA-G711P	0.2
				Date:	Wednesday, November 07, 2018	Sheet 69 of 101

Main Function:

Reserve

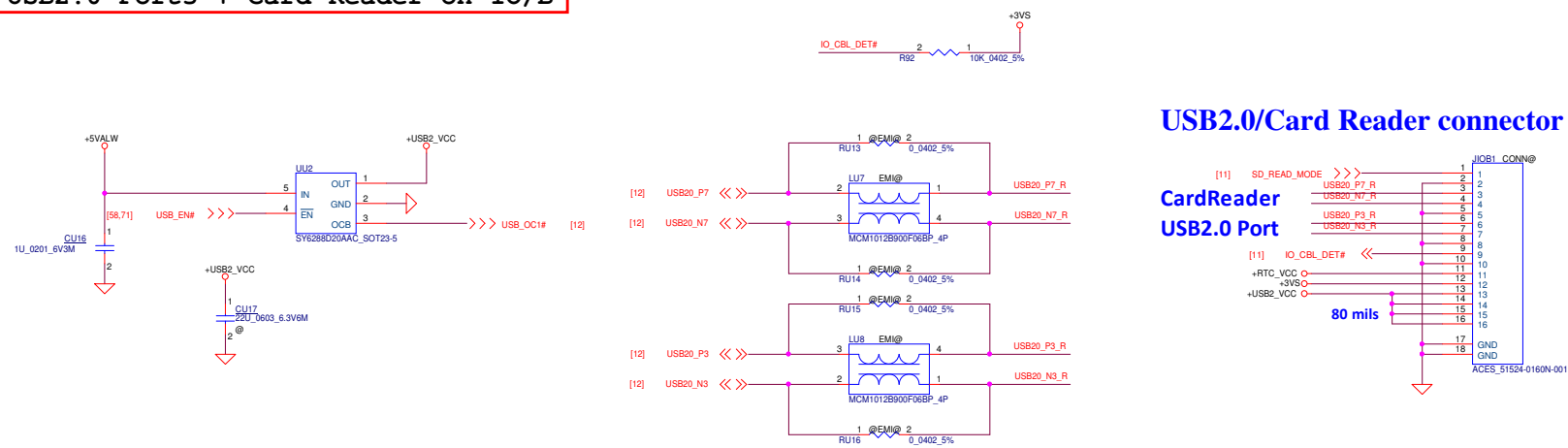
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Title	
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				Size	Rev
				Document Number	0.2
				LA-G711P	
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				Size	Rev
				Document Number	0.2
				LA-G711P	
Date:		Wednesday, November 07, 2018		Sheet	72 of 101

Main Func = USB2.0 Port3 + Card Reader on IO/B



Main Function:

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				Date:	Wednesday, November 07, 2018
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				Size	Rev
				Document Number	0.2
				LA-G711P	
Date:		Wednesday, November 07, 2018		Sheet	75 of 101

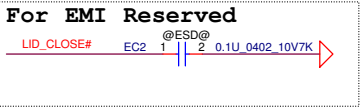
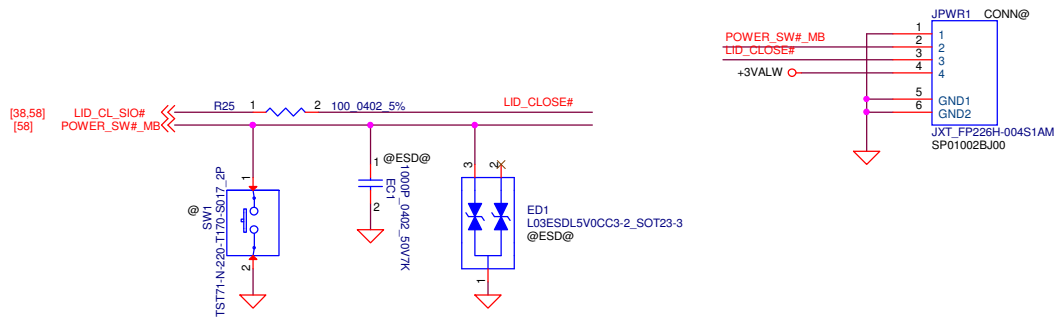
Main Function:

Reserve

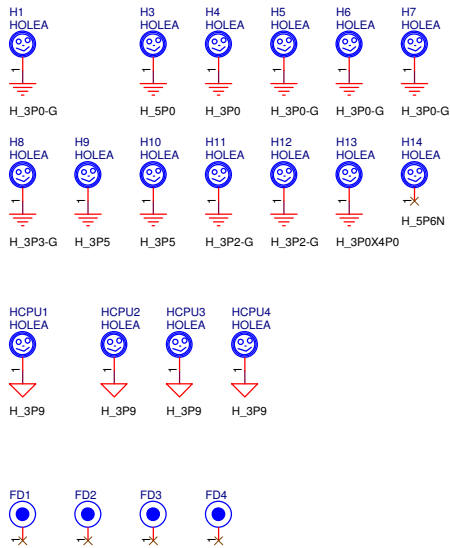
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				Size	Document Number	Rev
					LA-G711P	0.2
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Main Func = Power BTN

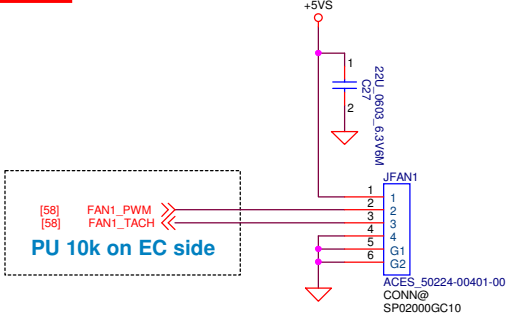
Low actived from KBC GPIO



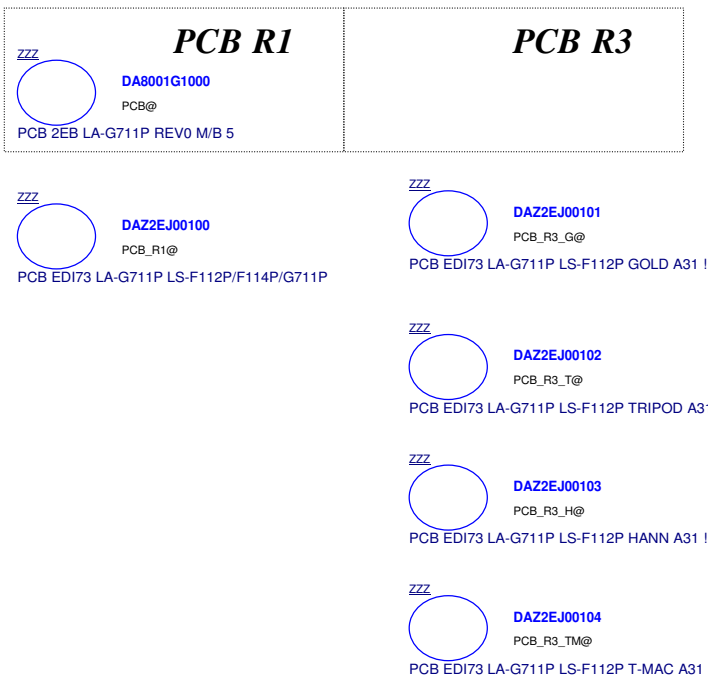
Screw hole/FD



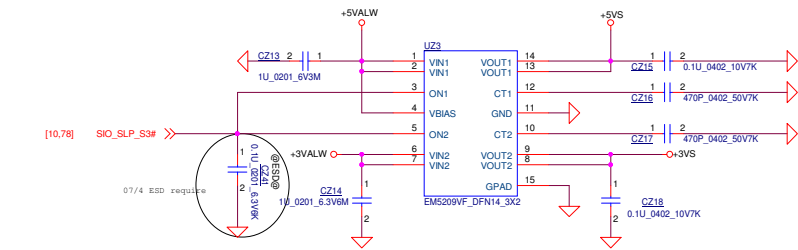
FAN



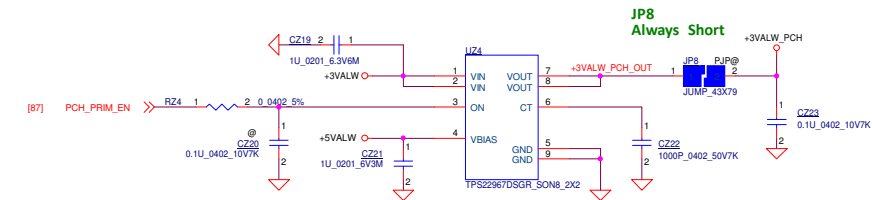
PCB PN



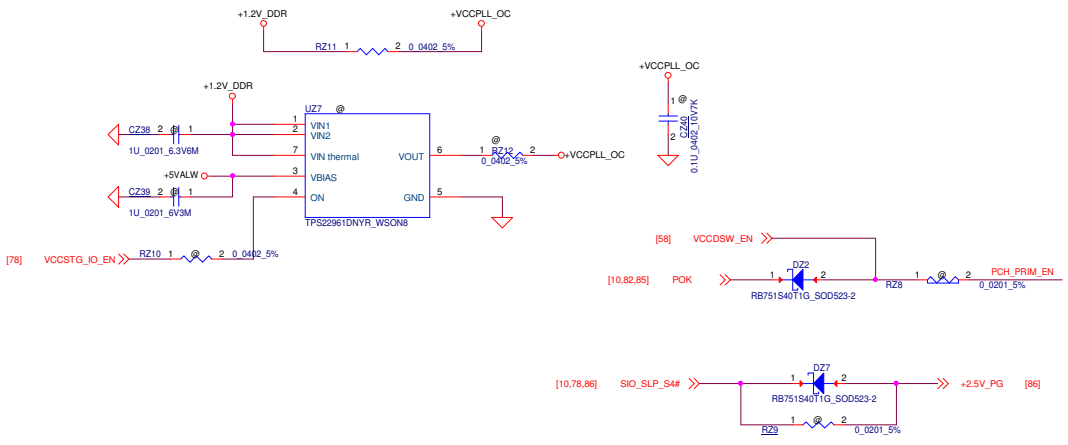
+5VS/+3VS for System



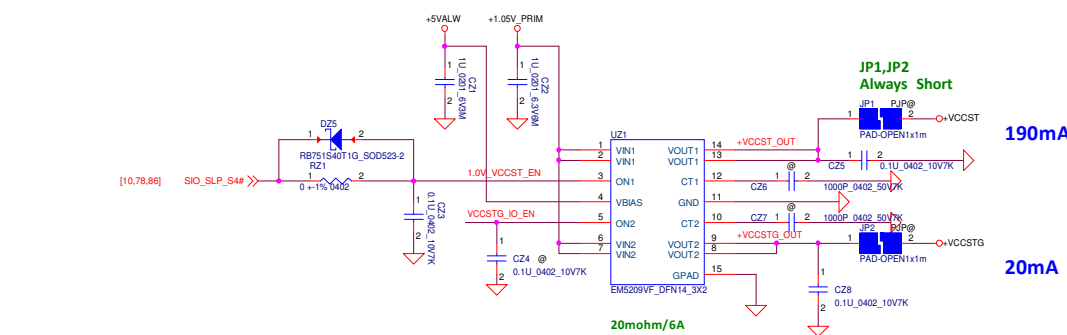
+3VALW_PCH for System



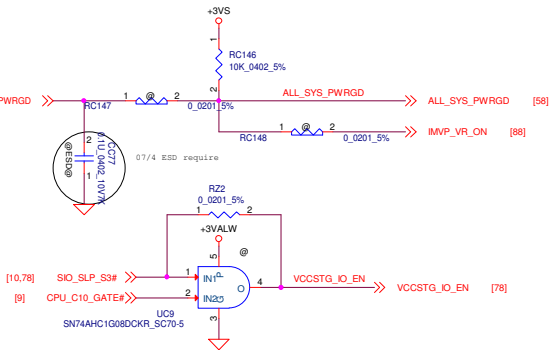
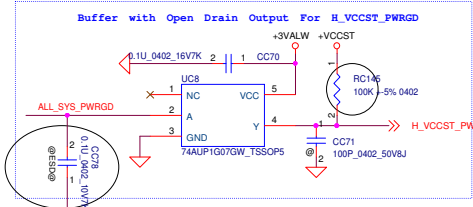
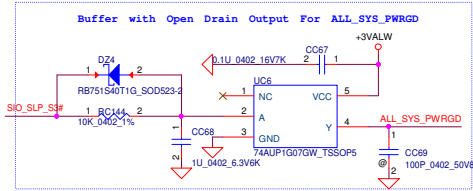
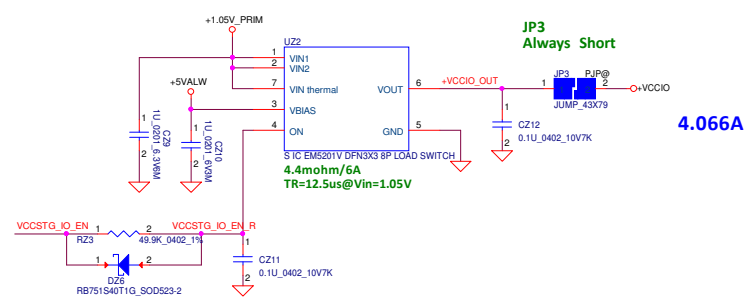
+VCCPLL_OC source



+1.05V_PRIM TO +VCCST /+VCCSTG

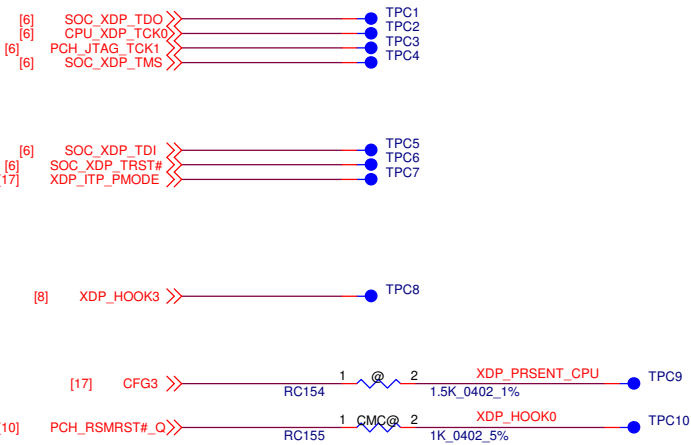
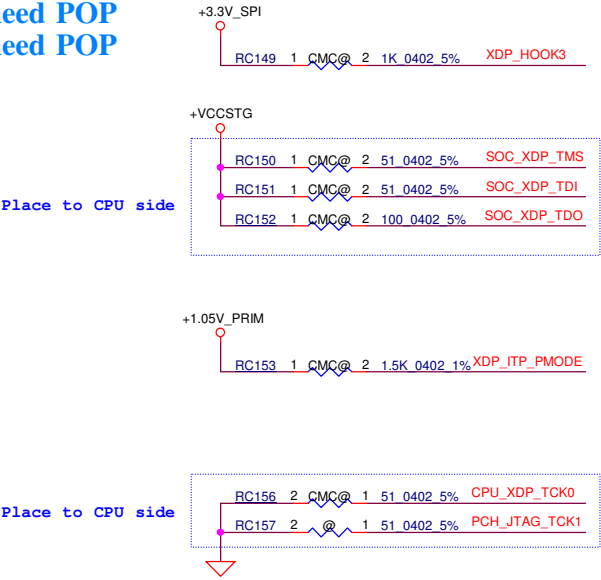


+1.05V_PRIM TO +VCCIO



PortConnector Less Routing Topology


Follow KBL DCI Link
RC152 need POP
RC156 need POP



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				Size	Rev
				Document Number	0.2
				LA-G711P	
				Date:	Wednesday, November 07, 2018
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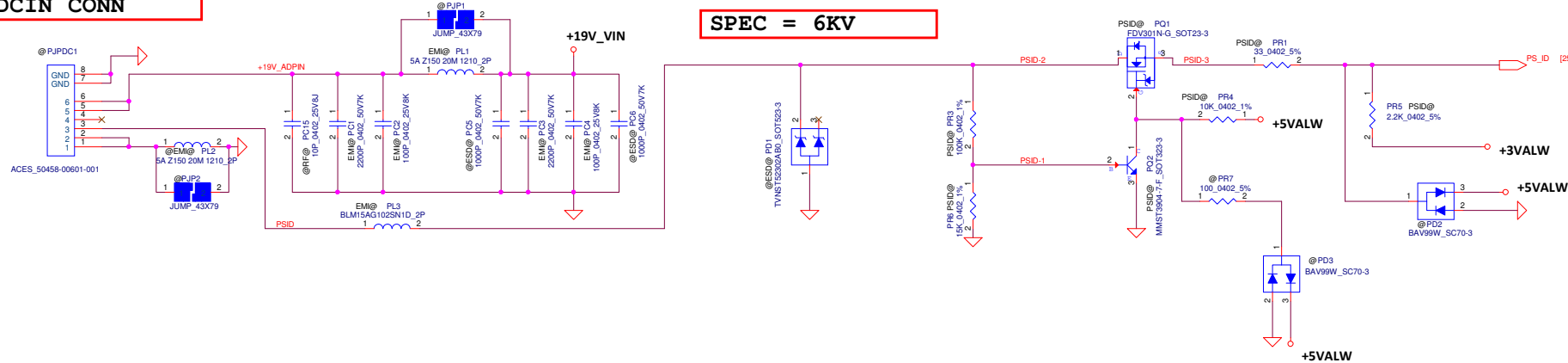
Reserve

DELL CONFIDENTIAL/PROPRIETARY

		Compal Electronics, Inc.	
Title		Reserve for PWR	
Size	Document Number		Rev 0.1
Date: Friday, November 23, 2018	Sheet 81	of 100	

Main Func = DCIN CONN

SPEC = 6KV



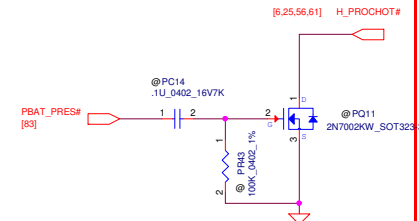
Bat tery Bat S de

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+
SPO21412220

ACES_50458-01001-P01_10P-T

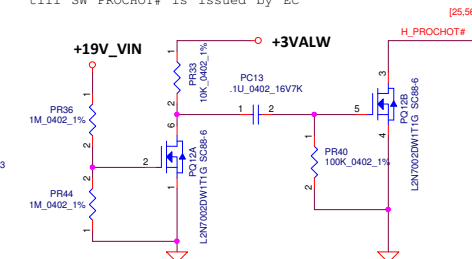
Adapter protection

if battery removed, adaptor only,
then trigger the H_PROCHOT#,
keep e in BOM since battery can not
be removed by end user

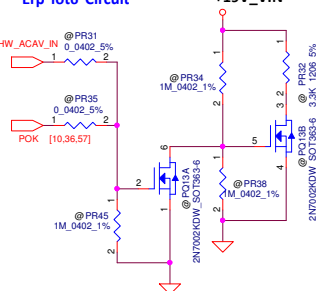


Battery protection

asserts H_PROCHOT# when adaptor is
unplugged, keep low for 10ms
till SW PROCHOT# is issued by EC



Erp lot6 Circuit



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Compal Electronics, Inc.

PWR_DCIN CONN

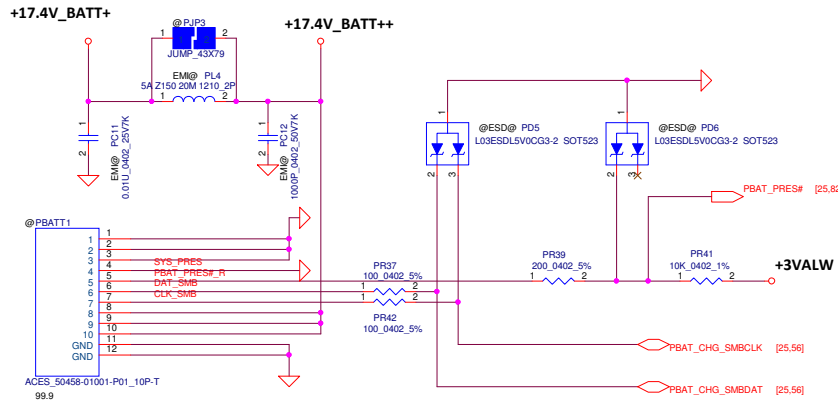
Security Classification	Compal Secret Data		Title	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Size
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Main Func = BATT CONN

Battery Bat Side

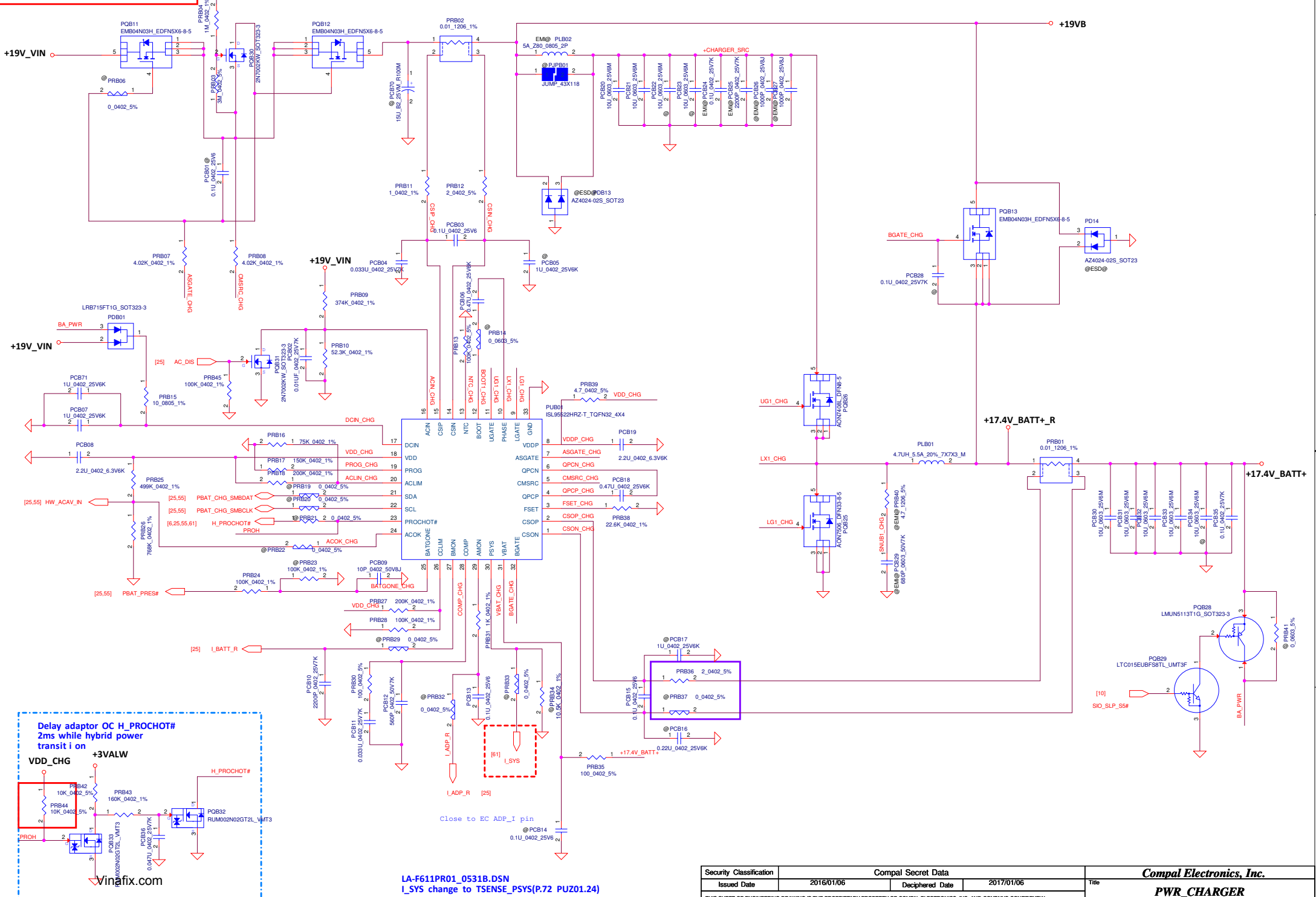
PIN1 GND
PIN2 GND
PIN3 GND
PIN4 SYS_PRES
PIN5 BATT_PRS
PIN6 DAT_SMB
PIN7 CLK_SMB
PIN8 Bat t+
PIN9 Bat t+
PIN10 Bat t+
SP021412220

ACES_50458-01001-P01_10P-T



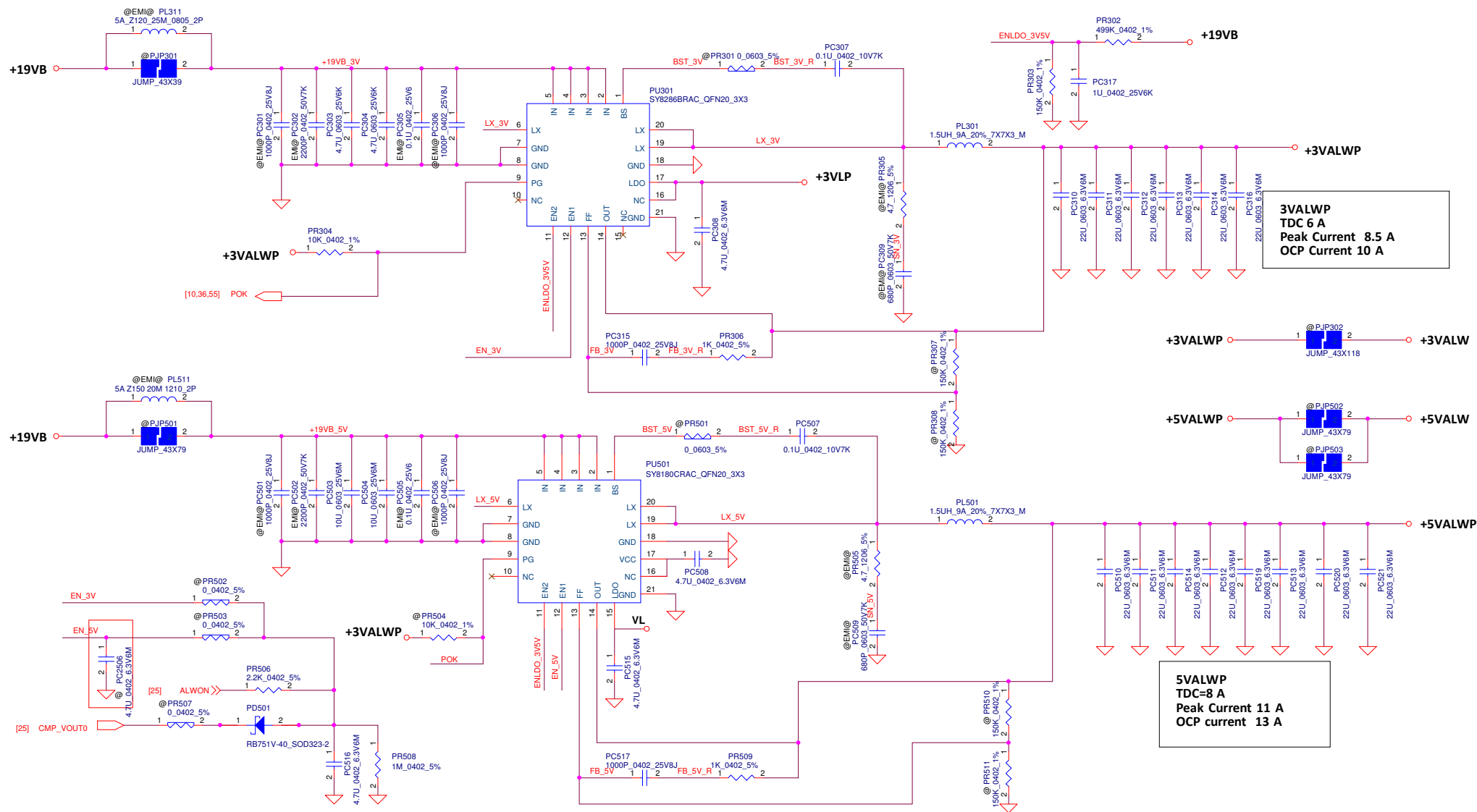
Security Classification	Compal Secret Data			Title	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Size	Document Number
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Main Func = CHARGER



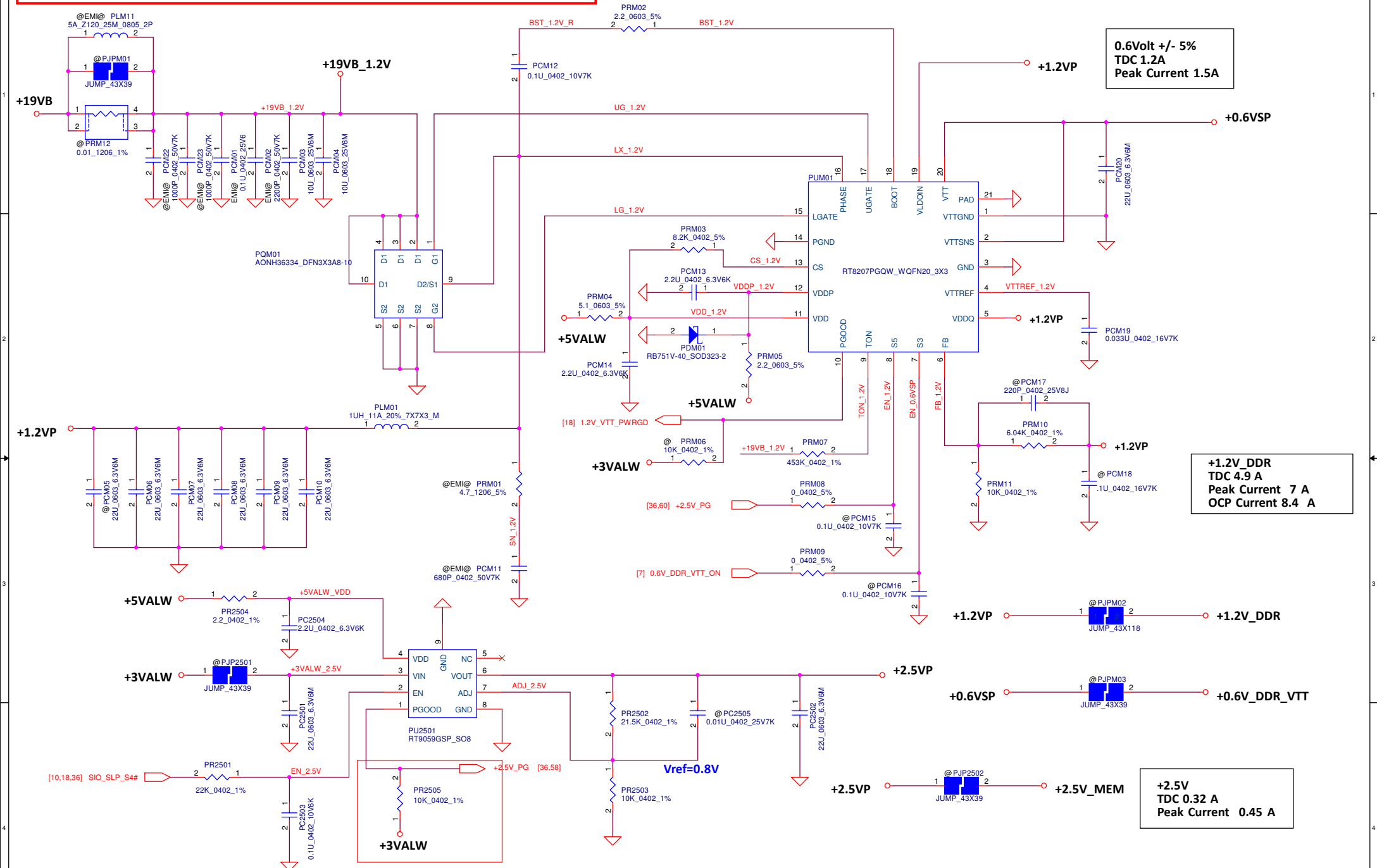
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Issued Date	2016/01/06	Deciphered Date	2017/01/06	Title		
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				Size	Document Number	Rev
					LA-F71UP	0.1
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Main Func = 3.3VALWP/5VALWP



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Size		Document Number		Rev	
Date		Friday, November 23, 2018		Sheet 85 of 100	

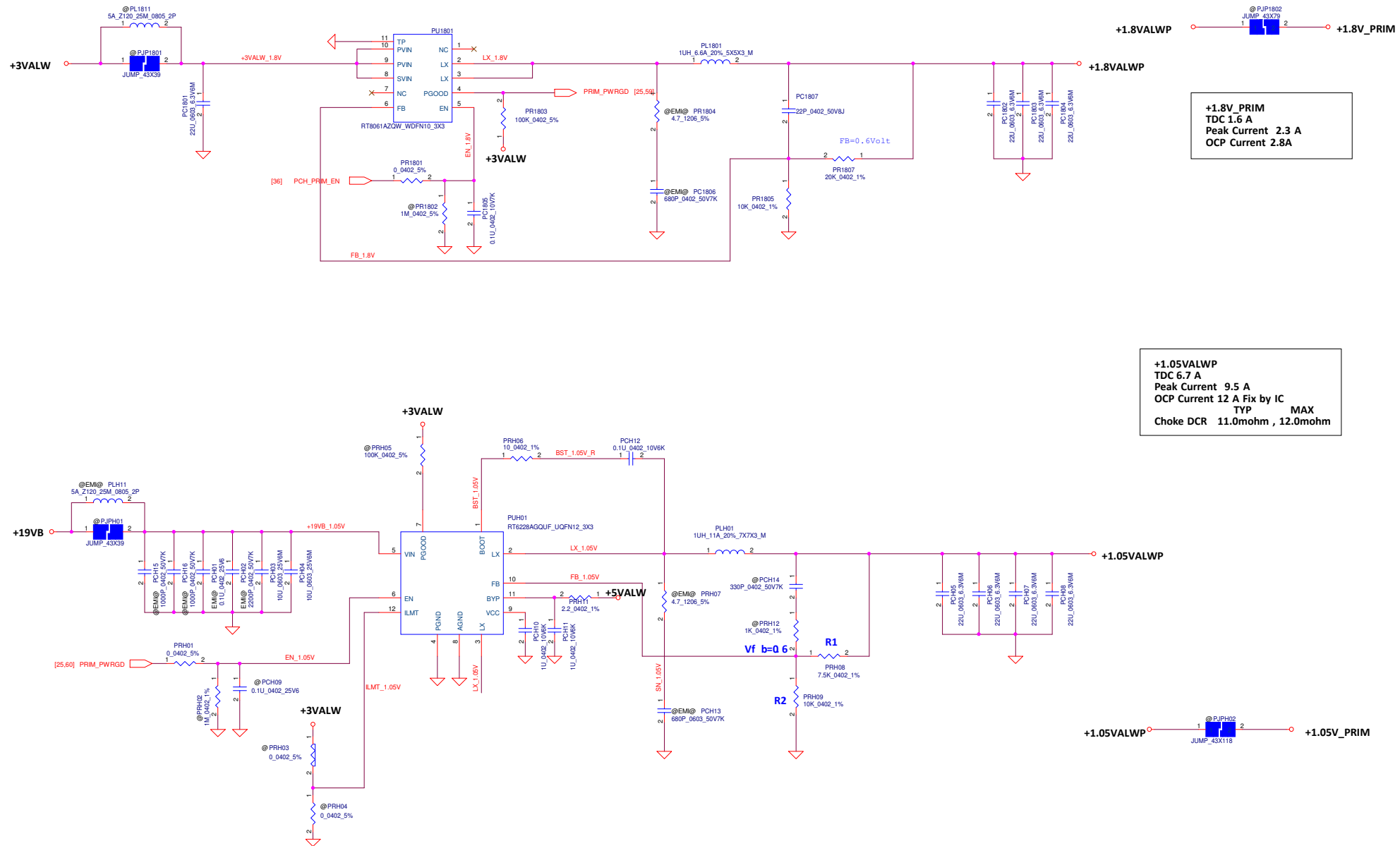
Main Func = +1.2V_DDR/+0.6V_DDR_VTT/+2.5VP



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				Document Number	0.1
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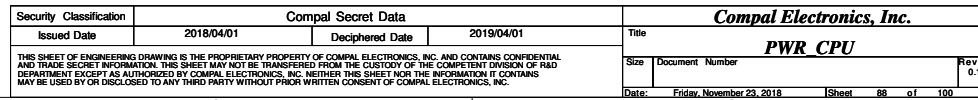
Main Func = +1.8VALWP /+1.05VALWP



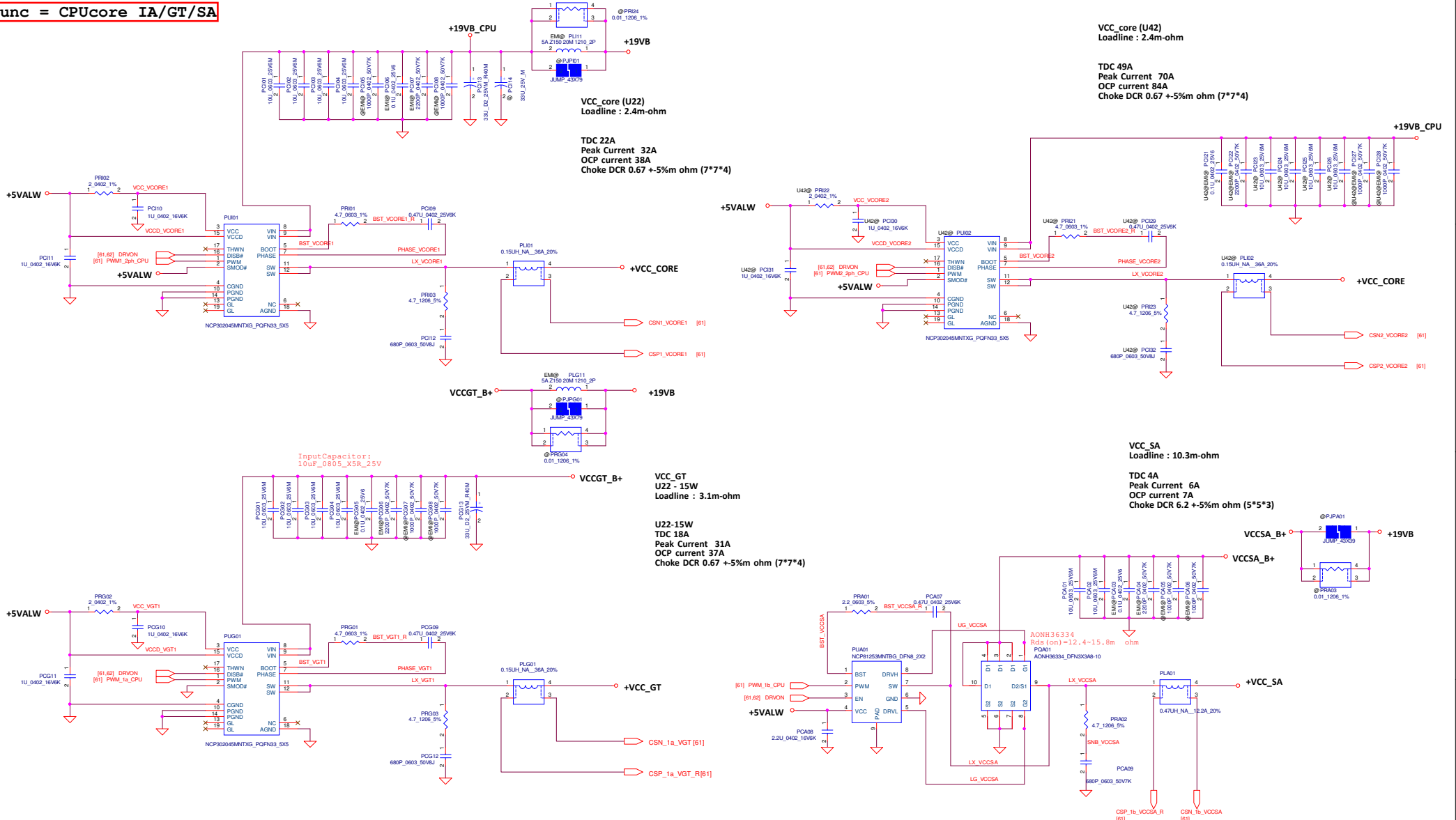
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Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Title	PWR +1.8VALWP / +1.05VALWP
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				Date:	Friday, November 23, 2018
				Rev	0.1

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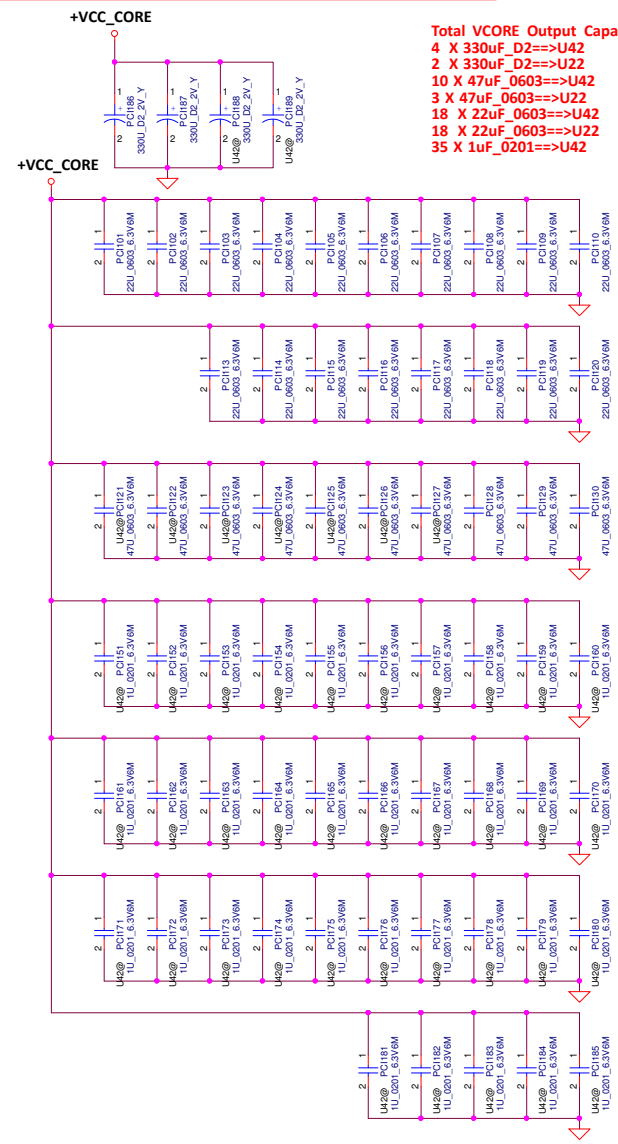


Main Func = CPUcore IA/GT/SA

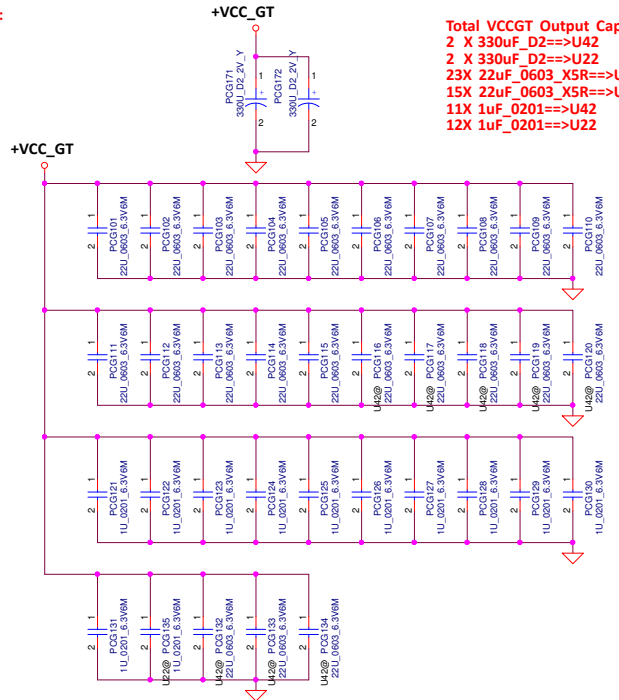


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2018/04/01	Deciphered Date	2019/04/01	Title	
				PWR CPUcore IA/GT/SA	
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				Rev	0.1
				Date:	Friday, November 23, 2018
				Sheet	88 of 100

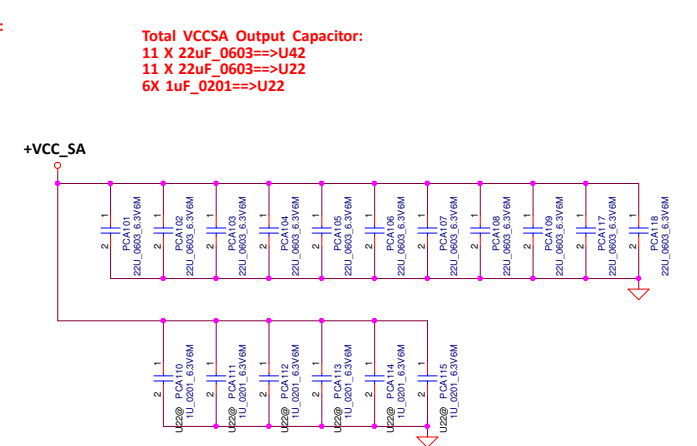
Main Func = CPU / VGA / SA MLCC



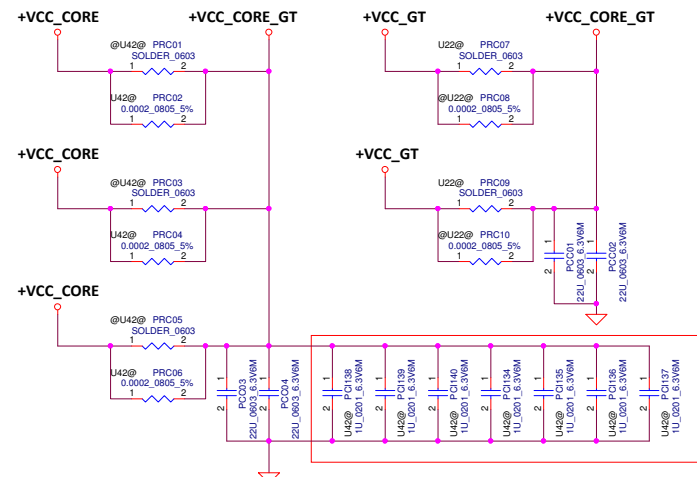
Total VCORE Output Capacitor:
4 X 330uF_D2==>U42
2 X 330uF_D2==>U22
10 X 47uF_0603==>U42
3 X 47uF_0603==>U22
18 X 22uF_0603==>U42
18 X 22uF_0603==>U22
35 X 1uF_0201==>U42




Total VCCGT Output Capacitor:
2 X 330uF_D2==>U42
2 X 330uF_D2==>U22
23X 22uF_0603_X5R==>U42
15X 22uF_0603_X5R==>U22
11X 1uF_0201==>U42
12X 1uF_0201==>U22



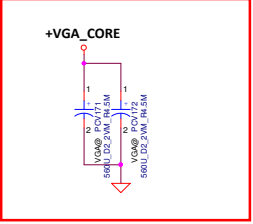
Total VCCSA Output Capacitor:
11 X 22uF_0603==>U42
11 X 22uF_0603==>U22
6X 1uF_0201==>U22



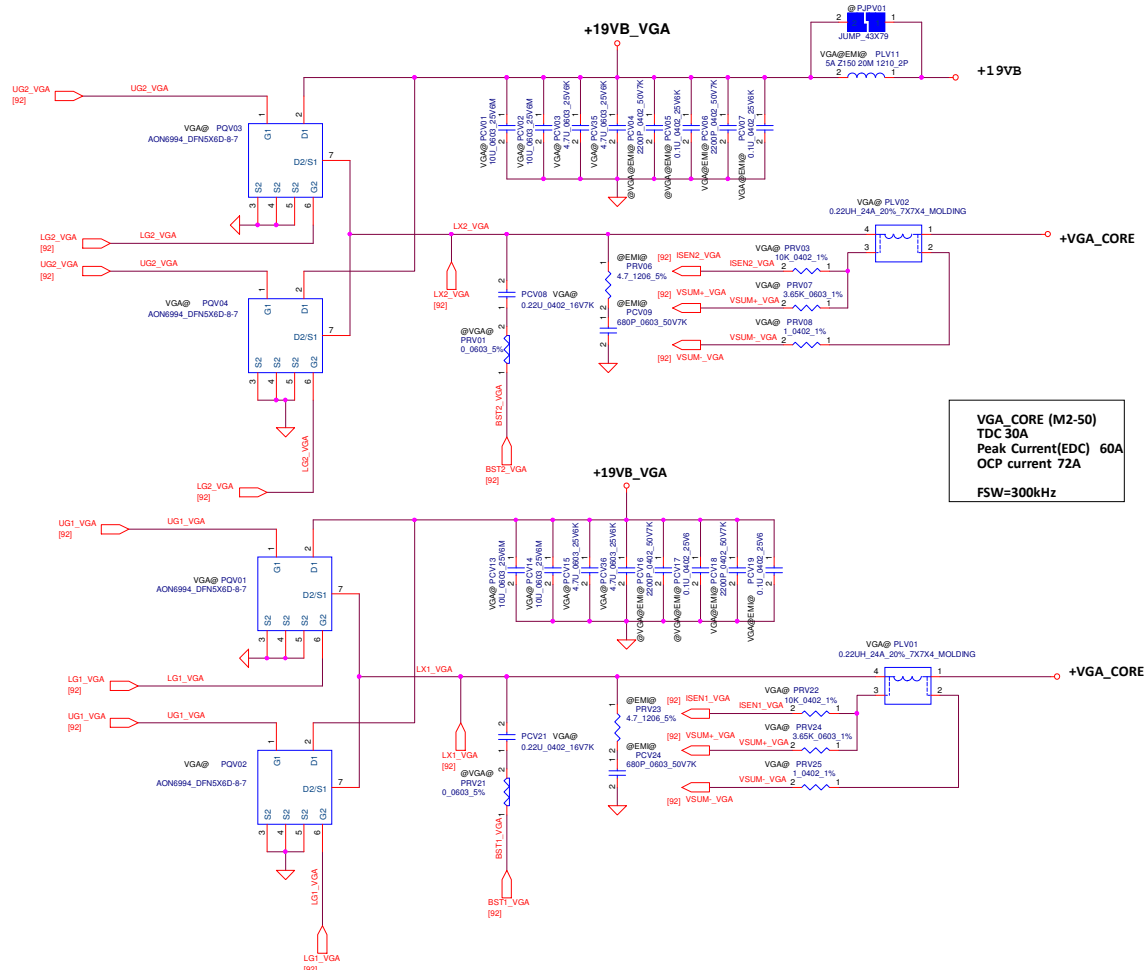
			
File Compal Electronics, Inc.			
Size Reserve for PWR			
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Main Func = VGA CORE

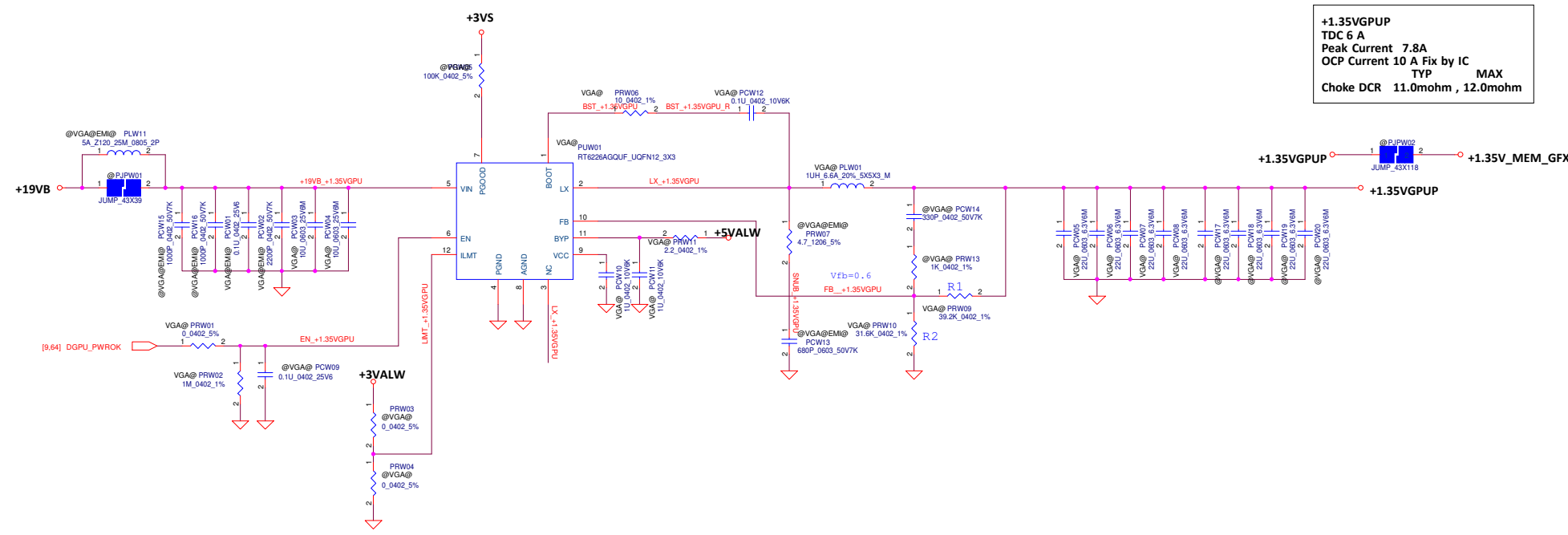


For VGACORE




VGA_CORE (M2-50)
TDC 30A
Peak Current(EDC) 60A
OCP current 72A
FSW=300kHz

Main Func = +1.35VGPUP




Reserve

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Reserve

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Reserve


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Version Change List (P. I. R. List)

Item	Page #	Date	Request Owner	Issue Description	Solution Description	Rev.
1.	P84-PWR_CHARGER	2018 06/12	Compal	Vendor suggest	Change the PRB11 from 20hm to 10hm	X01
2.	P84-PWR_CHARGER	2018 06/12	Compal	Downsize	Change the PCB06 and PCB18 to 0.47U_0402	X01
3.	P84-PWR_CHARGER	2018 06/12	Compal	Vendor suggest	Change the PCB11 to 0.33U	X01
4.	P89-PWR_CPU_Stage	2018 06/14	Compal	Downsize	PCA07, PCG09, PCI09, PCI29 change to 0.47U_0402	X01
5.	P92-PWR_VGA_CORE(ISL62771)	2018 06/14	Compal	Downsize	Change PCV30 to 0.15U_0402 Change PCV32 to 0.1U_0402	X01
6.	P86-PWR_1.2V_DDR	2018 07/05	Compal	Factory suggest	Change the PDM01 to SCS00000Z00	X01
7.	P83-BATT_CONN	2018 07/05	Compal	ESD request	Change the PD5,PD6 to SCA00002A00	X01
8.	P84-PWR_CHARGER	2018 07/09	Compal	Modify for AC detect	Change the PRB10 from 47K to 52.3K	X01
9.	P90-PWR_CPU MLCC	2018 07/09	Compal	Change for PI simulat i on	move PCI134,PCI135,PCI136,PCI137,PCI138, PCI139,PCI140 to +VCC_CORE_GT	X01
10.	P84-PWR_CHARGER	2018 07/11	Compal	Factory request	Add PCB71, PCB07 change to 1U_0402	X01
11.	P92-PWR_VGA_CORE	2018 07/17	Compal	Downsize	Change the PCV30 to SE000011G00 0.15U 16V	X01
12.	P88-PWR_CPU	2018 07/17	Compal	Change for CPU EA test	Change the PRZ25, PRZ29 to SD014100380 100K Change the PRZ23 to SD034255200 25.5K	X01

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DVT1 EE change list

Design Change								
Item	Date	Page	Part reference	Change description	Reason	Schematic	Bom	LAYOUT
Based on 05/15								
1	2018/5/17	8		Add RC207, CPU_SPI_0_CS#1	For 2nd ROM	Y	N	Y
2	2018/5/17	66		Del JP7, short +5VS and +5VS_ODD	Optimal B+ routing.	Y	N	Y
3	2018/5/17	14		CC52,CC48,CC51,C5 change to 0402	meet purchase requirement	Y	Y	Y
4	2018/5/17	29		CV73-CV78, CV100-CV109 change to 0402	meet purchase requirement	Y	Y	Y
5	2018/5/17	71		del CU3,CU8 CU4,CU9 IU change to 4.7U	meet purchase requirement	Y	Y	Y
6	2018/5/20			Del CS6,CU3,CU8; CU13,CU16,C8,C35,C39 change to 0201,CT1 change to 0603	MLCC downsize	Y	Y	Y
7	2018/5/25			Del C34,R68,R69,R70,R71; U2 change Footprint	For 17" Touch	Y	N	Y
8	2018/6/4	38		Connect U1,CC30 to R72, Add RC208,RC209	For 17" Touch	Y	N	Y
9	2018/6/4			C27,CT14,CU10,CU11,CU5,CU6,CU17 change to 0603	MLCC downsize	Y	N	Y
10	2018/6/4	31		CV161,CV162,CV163,CV164,CV165,CV166,CV167,CV168,CV169,CV170,CV182,CV183,CV184,CV185,CV186,CV187,CV188,CV189,CV190,CV191,CL16 change to 0201	MLCC downsize	Y	Y	Y
11	2018/6/13	56		CA16 change to 0402	MLCC downsize	Y	Y	Y
12	2018/7/4	65		add Rx10-14	co-lay ST TPM	Y	N	Y
13	2018/7/4			add CC75(pop),CZ41,C676,CC77,CC78,CC79	For ESD requirement	Y	Y	Y
14	2018/7/6	65		add Rx15-RX19	co-lay China TPM	Y	N	Y

Design Change								
Item	Date	Page	Part reference	Change description	Reason	Schematic	Bom	Layout
Based on 07/16								
1	2018/8/14	66	RX20,RX21,RX22	reserve 0 ohm 0402	reserve for china TPM	Y	N	Y
2	2018/8/15	38	R96	reserve 0 ohm 0201	disconnct B+	Y	N	Y
3			EU1,EU3,EU8,EU9	SC3000Q2C00=>SC300001Y00	ESD require	Y	Y	N
4		71	RE1	SD034178280=>SD034270280 17.8K change to 27K	EC board ID	Y	Y	N
5			CC54,CC57		fixed 1.05 OV(P/BITS382716)	Y	Y	N
6			UZ2	SA00007XR00=>SA00008R600(Vccio load switch)	fixed 1.05 OV(P/BITS382716)	Y	Y	N
7				Remove Typec configuration	Dell PCR	N	Y	N
8			CC64,CC52,CC59,CC17,CC15,CC18,CC19	0402 1u =>0201 1u	MLCC downsize	Y	Y	Y
9			R52	7.15K =>6.49K	Fixed OTP issue(BITS383003)	Y	Y	N