

MODEL NAME : ZIJI2  
PCB NO : LA-811P  
BOM P/N : xxxx



# Compal Confidential

## ZIJI2 Schematics Document

Intel Bay Trail

2014-06-03

REV: SOVP

BOM Structure Table

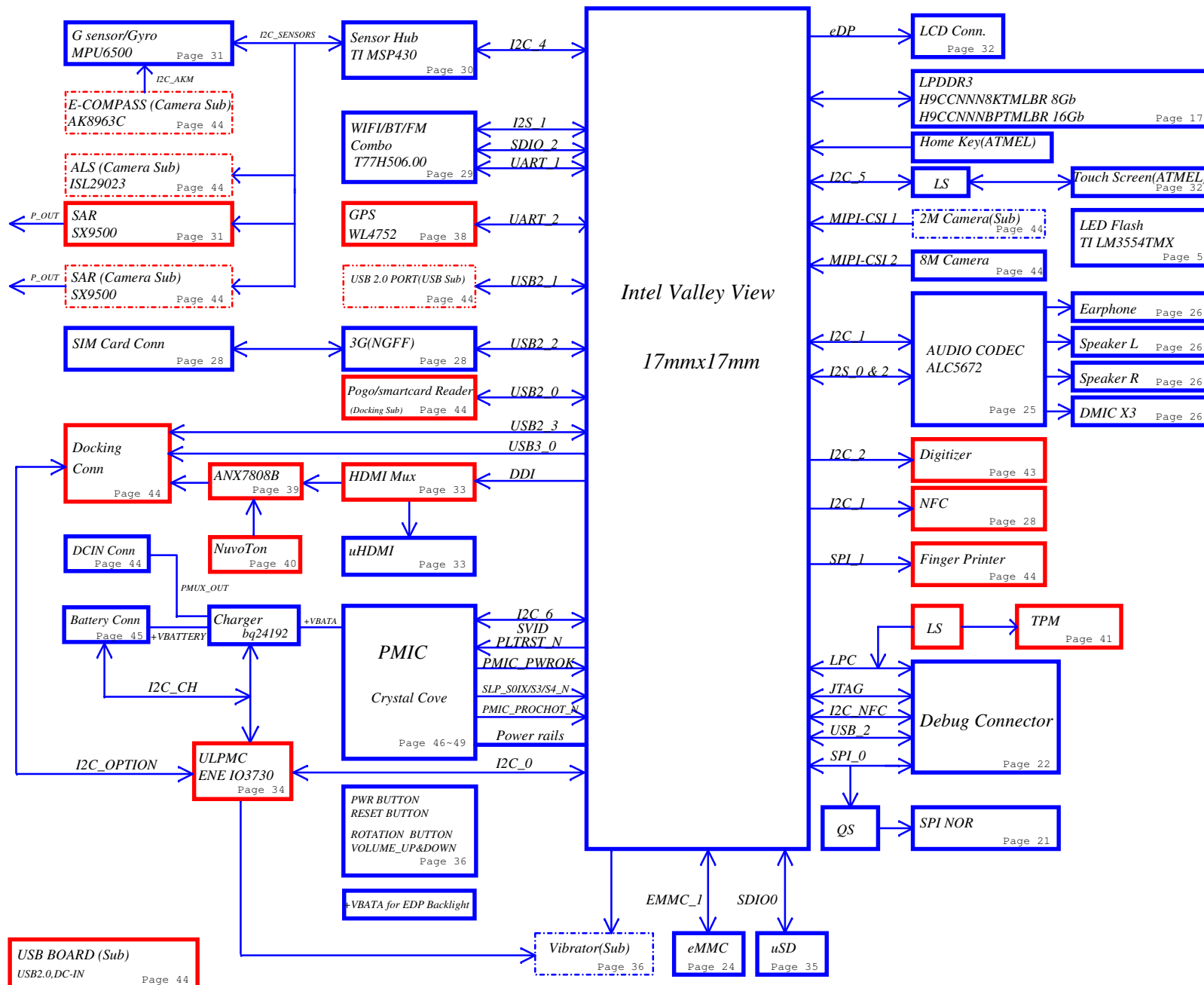
BTO Item	BOM Structure	ASM/NO ASM
@:Nopop Component	@	NO ASM
RF Reserved	@RF	NO ASM
3G WWAN SKU	3G@	ASM
WIFI Only SKU	WIFI@	ASM
EMI/ESD requirement	EMI@	ASM
RF requirement	RF@	ASM
Debug	DBG@	ASM
Debug	DBG@	NO ASM FOR SOVP, MP
Me conn	ME@	ASM
DIGI SKU	DIGI@	ASM
NFC SKU	NFC@	ASM

### Revision history

Version	Date	Description
SDV	2013/06/05	* Initial release
SDV-R	2013/07/22	
FVT-2	2013/08/06	
SIT	2013/11/08	
SVT	2013/12/28	
SOVP	2014/03/17	
SOVP_0520	2014/05/20	Cut in ECR 140520_01(Richtek PW IC rework)
SOVP_0603	2014/06/03	Cut in ECR 140603_01(Remove R527)

# Ella Bay Trail-T Block Diagram

LS-----Level Shifter



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The diagram illustrates the power distribution architecture for the ES121 device. It starts with input sources: +V12DC and +V12P0\_DOCK. +V12DC is connected to the Input SW Circuit and the Battery. +V12P0\_DOCK is connected to the Input SW Circuit. The Input SW Circuit outputs PMUX\_OUT to the CHARGER (BQ24192I) and +VBATTERY to the Battery. The Battery outputs +VBATTERY to the CHARGER. The CHARGER outputs +VBATA to the PMIC ROHM (BD2610GW) and the 5V Boost (TPS61253). The PMIC ROHM (BD2610GW) outputs +V\_VNN, +V\_VCC, +V1P0A, +V1P05S, +V1P8A, +VDDQ, +V3P3A, +V5P0S, and +V2P85S to the SOC. The PMIC ROHM also outputs +VBATA to the Panel Conn. and +V5P0S to the USB 2.0. The 5V Boost (TPS61253) outputs SPKVDD to the AUDIO CODEC and SPKVDD\_2 to the PMIC ROHM. The AUDIO CODEC outputs +V5P0S to the USB 2.0. The 5V Buck-Boost (BD8303) outputs +V5P0\_ACC to the 3V Buck-Boost (TPS63020), the 3V Buck-Boost (TPS63001), and the 3V Buck-Boost (TPS63060). The 3V Buck-Boost (TPS63020) outputs V\_MINCARD\_3V3 to the 3G Module. The 3V Buck-Boost (TPS63001) outputs +V3P3\_PA to the WiFi Module. The 3V Buck-Boost (TPS63060) outputs +EC\_VCC to the ULPMC (IO37370LGB1) and +EC\_VCC\_1P8A to the ULPMC. The ULPMC (IO37370LGB1) outputs +EC\_VCC\_1P8A to the ULPMC. The Smart Card Reader is connected to the Dock/Pogo. The Dock/Pogo is connected to the TPS2560DRCR. The TPS2560DRCR is connected to the 5V Buck-Boost (BD8303).

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graph LR
    V12DC[+V12DC] --> InputSW[Input SW Circuit]
    V12DC --> Battery[Battery]
    V12P0DOCK[+V12P0_DOCK] --> InputSW
    InputSW -- PMUX_OUT --> CHARGER[CHARGER BQ24192I]
    InputSW -- +VBATTERY --> Battery
    Battery -- +VBATTERY --> CHARGER
    CHARGER -- +VBATA --> PMIC[PMIC ROHM BD2610GW]
    CHARGER -- +VBATA --> 5VBoost[5V Boost TPS61253]
    PMIC -- +V_VNN --> SOC[SOC]
    PMIC -- +V_VCC --> SOC
    PMIC -- +V1P0A --> SOC
    PMIC -- +V1P05S --> SOC
    PMIC -- +V1P8A --> SOC
    PMIC -- +VDDQ --> SOC
    PMIC -- +V3P3A --> SOC
    PMIC -- +V5P0S --> SOC
    PMIC -- +V5P0S --> USB2[USB 2.0]
    PMIC -- +V2P85S --> eMMC[eMMC]
    PMIC -- +VBATA --> PanelConn[Panel Conn.]
    5VBoost -- SPKVDD --> Audio[AUDIO CODEC]
    5VBoost -- SPKVDD_2 --> PMIC
    Audio -- +V5P0S --> USB2
    BuckBoost5V[5V Buck-Boost BD8303] -- +V5P0_ACC --> BuckBoost3V1[3.3V Buck-Boost TPS63020]
    BuckBoost5V -- +V5P0_ACC --> BuckBoost3V2[3.3V Buck-Boost TPS63001]
    BuckBoost5V -- +V5P0_ACC --> BuckBoost3V3[3.3V Buck-Boost TPS63060]
    BuckBoost3V1 -- V_MINCARD_3V3 --> 3G[3G Module]
    BuckBoost3V2 -- +V3P3_PA --> WiFi[WiFi Module]
    BuckBoost3V3 -- +EC_VCC --> ULPMC[ULPMC IO37370LGB1]
    BuckBoost3V3 -- +EC_VCC_1P8A --> ULPMC
    SmartCard[Smart Card Reader] --> DockPogo[Dock/Pogo]
    DockPogo --> TPS2560[TPS2560DRCR]
    TPS2560 --> BuckBoost5V

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V0JV3 POWER SEQUENCE

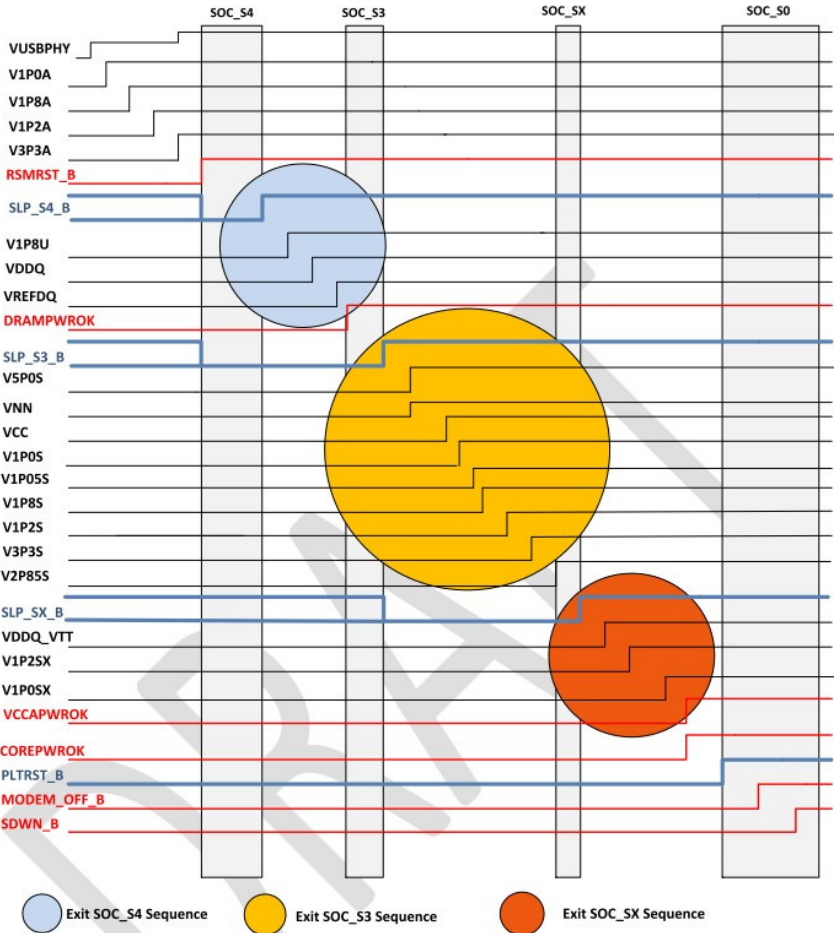


Figure 9: Cold Boot Power Sequencing Diagram

Voltage Rail ON/OFF On Various Power States

Num.	Voltage domain	Supply Module	PWR TYPE	S0	S0ix	S3	S4/5	G3
1	+VCC	VLV2	SVID BUCK	ON	OFF	OFF	OFF	OFF
2	+VNN	VLV2	SVID BUCK	ON	ON	OFF	OFF	OFF
3	+V1PoA	VLV2	BUCK	ON	ON	ON	ON	OFF
4	+V1Po5S	VLV2	BUCK	ON	ON	OFF	OFF	OFF
5	+V1P8A	VLV2	BUCK	ON	ON	ON	ON	OFF
6	+VDDQ	VLV2/DDR	BUCK	ON	ON	ON	OFF	OFF
7	+V3P3A	VLV2, Peripheral	BUCK-BOOST	ON	ON	ON	ON	OFF
8	+V2P85S	Peripheral	BUCK-BOOST	ON	ON	OFF	OFF	OFF
9	+V5PoS	Peripheral	BOOST	ON	ON	OFF	OFF	OFF
10	+VSDIO	Peripheral	FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
11	+VDDQ_VTT	DDR3	LDO	ON	OFF	OFF	OFF	OFF
12	+V1P2A	VLV2	LDO	ON	ON	ON	ON	
13	+VREF		LDO					
14	+VUSBPHY	Peripheral	FET SW	ON	ON	ON	ON	ON
15	+VSYS_U	Peripheral	EXT FET SW	ON/OFF	ON/OFF	ON	OFF	OFF
16	+VSYS_S		FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
17	+V1P2S		FET SW	ON	ON	OFF	OFF	OFF
18	+V1P2SX		FET SW	ON	OFF	OFF	OFF	OFF
19	+V1P8S	VLV2	FET SW	ON	ON	OFF	OFF	OFF
20	+V1P8SX		FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
21	+V2P85SX	Peripheral	FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
22	+V3P3U	Peripheral	EXT FET	ON/OFF	ON/OFF	ON	OFF	OFF
23	+VHDMI	Peripheral	FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
24	+V1P8U	Peripheral	EXT FET SW	ON	ON	ON	OFF	OFF
25	+V1PoS	VLV2	EXT FET SW	ON	ON	OFF	OFF	OFF
26	+V1PoSX	VLV2	EXT FET SW	ON	OFF	OFF	OFF	OFF
27	+V3P3S	VLV2	EXT FET SW	ON	ON	OFF	OFF	OFF
28	+VBUS	Peripheral	EXT SW	ON/OFF	ON/OFF	OFF	OFF	OFF
29	+VSYS_SX	Peripheral	EXT FET SW	ON/OFF	ON/OFF	OFF	OFF	OFF
30	+VREFDQ0		LDO	ON	ON	OFF	OFF	OFF
31	+VREFDQ1		LDO	ON	ON	ON	OFF	OFF

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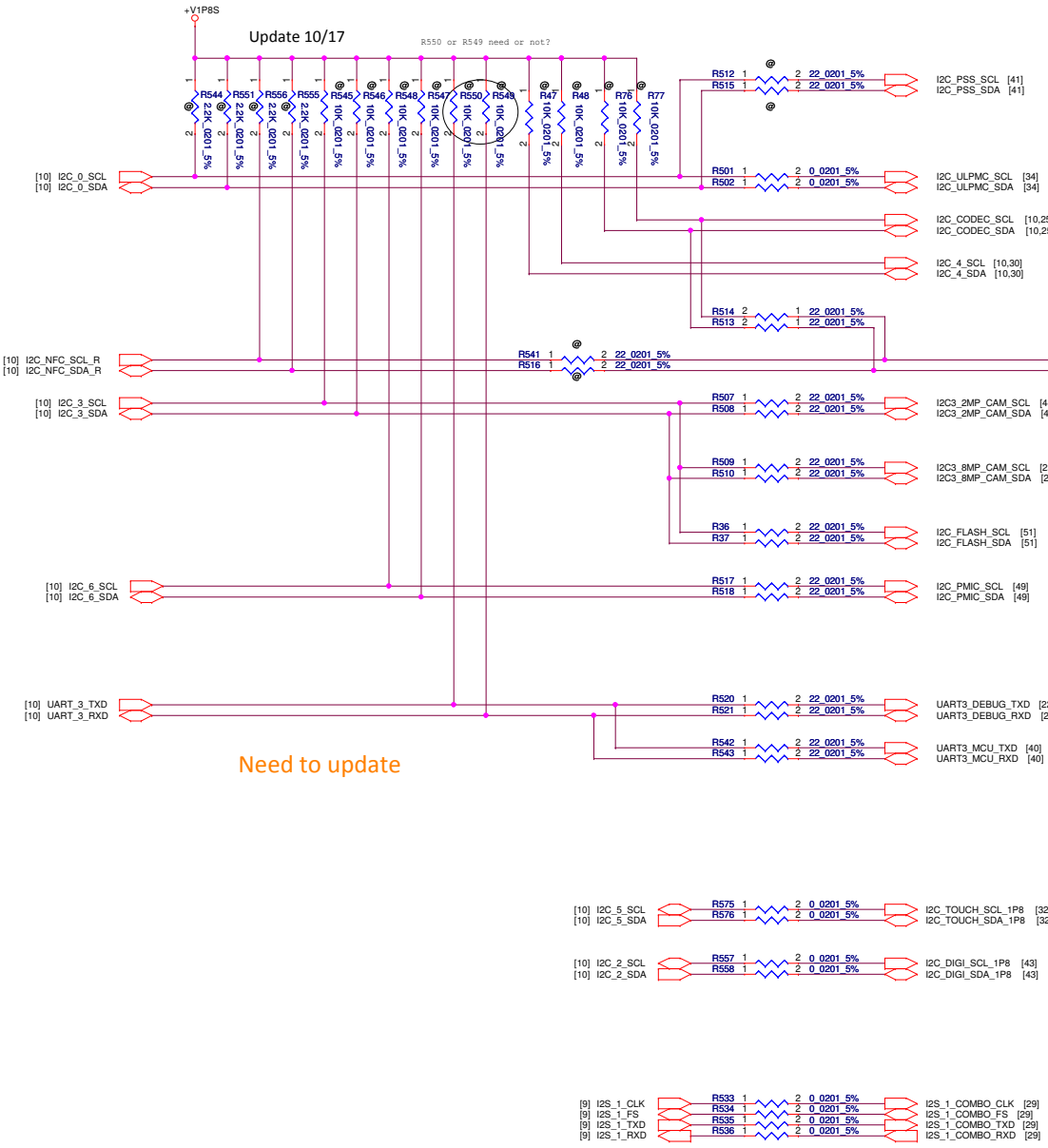
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I2C & I2S MAP



I2C Mapping	
I2C_0	ULPMC, PSS
I2C_1	Audio Codec
I2C_2	Digitizer
I2C_3	Camera
I2C_4	Sensor Hub
I2C_5	Touch Sensor
I2C_6	PMIC
I2C_NFC	NFC, Debug

	SOC Port#	ZIIJ2
USB3.0	0	
	DEV 0	
USB2.0	0	USB2.0 PORT:Cradle
	1	STD USB
	2	NGFF
	3	POGO
SDIO	1	W/L
	2	micro SD
I2S	0	CODEC
	1	BT
	2	CODEC

FOR Touch

FOR DIGITIZER

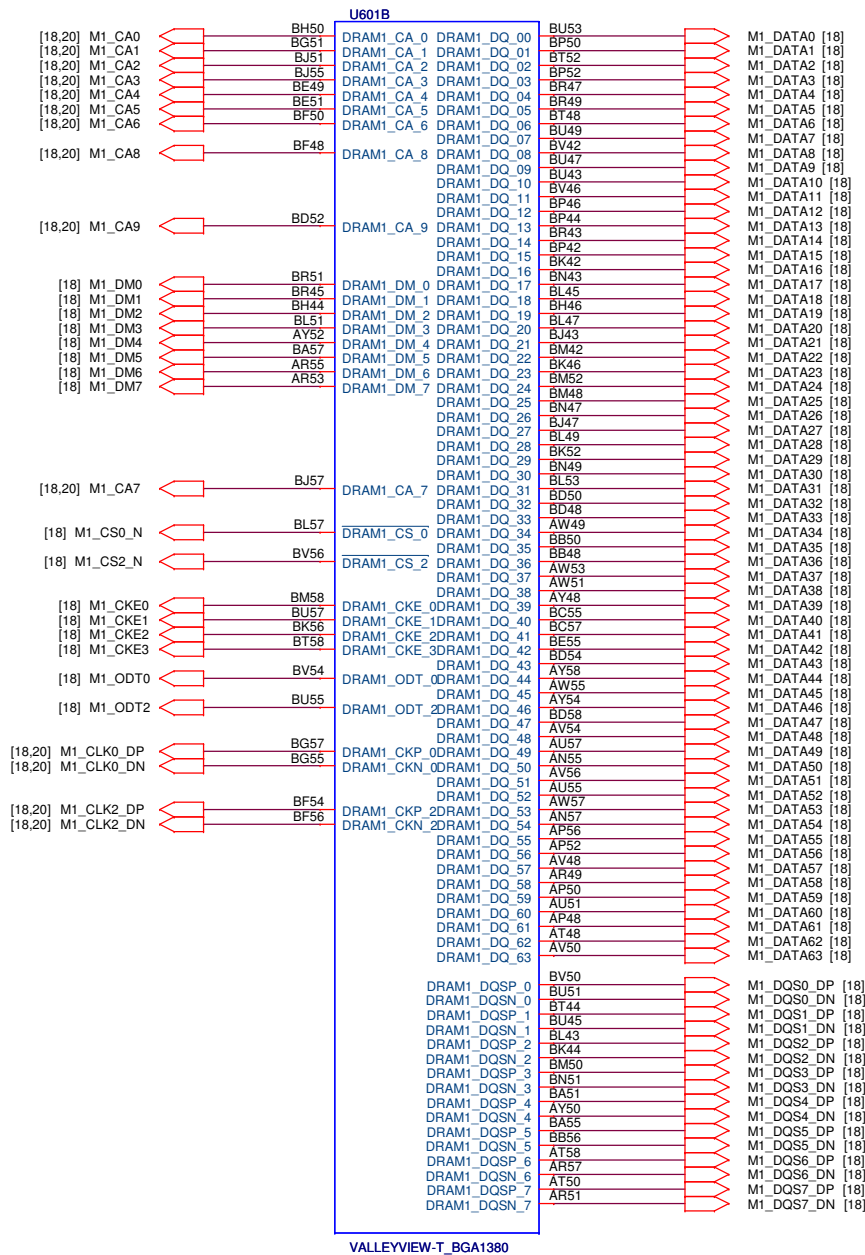
FOR BT

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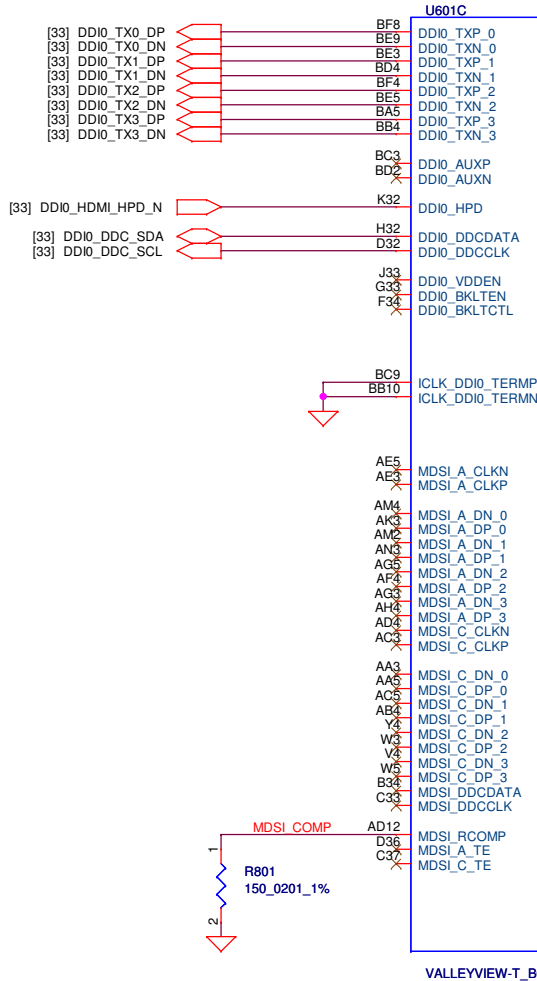
SOC:MEMORY



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# SOC: DISPLAY AND CAMERA

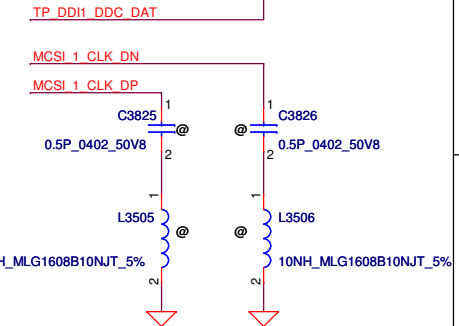
HDMI



VALLEYVIEW-T\_BGA1380

eDP

! Check !



8M CAMERA

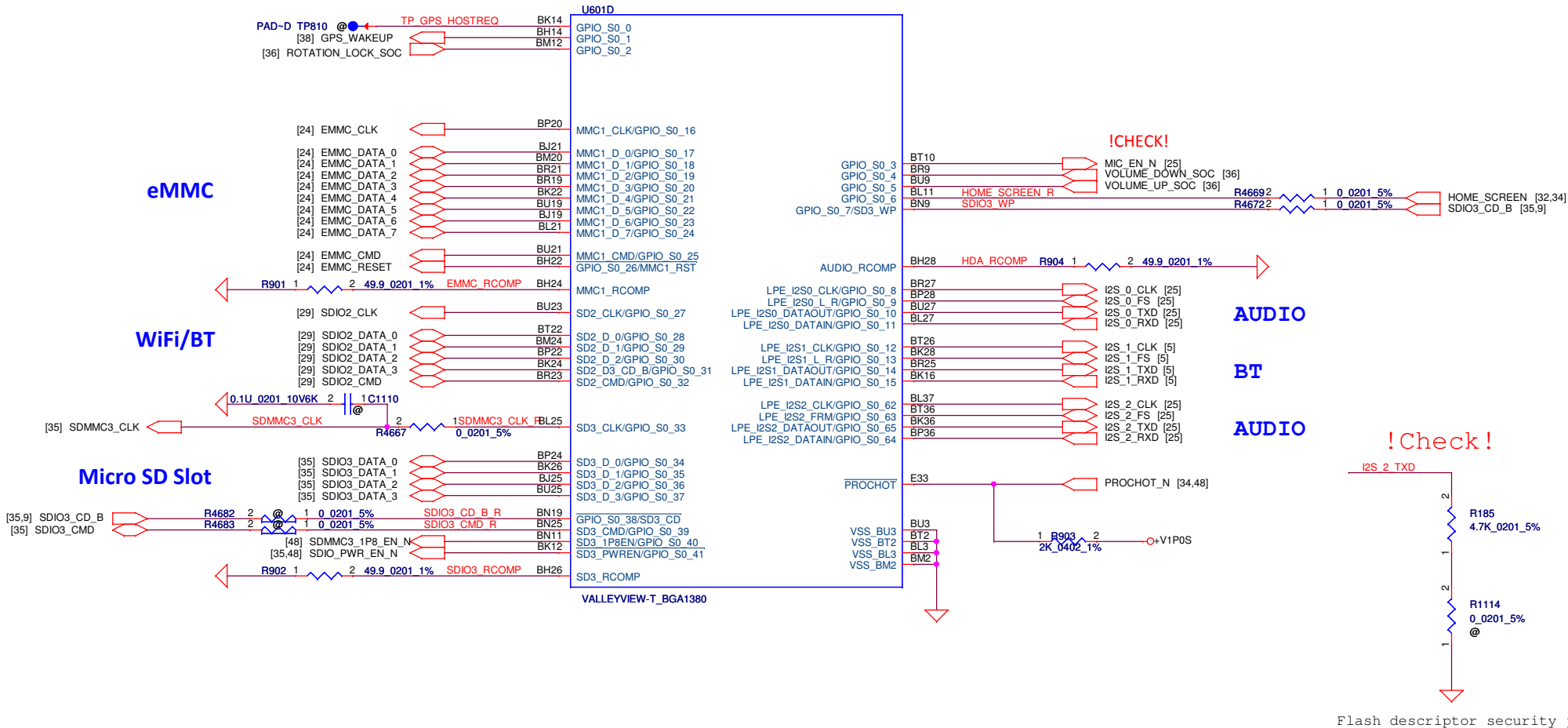
2M CAMERA (Sub)

Signal Name	Direction / Type	Description
MCSI_GPIO[00]	I/O	Output from shutter switch when its pressed halfway. This switch state is used to trigger the Auto focus LED for Xenon Flash or Torch mode for LED Flash
MCSI_GPIO[01]	I/O	Output from shutter switch when its pressed full way. This switch state is used to trigger Xenon flash or LED Flash
MCSI_GPIO[02]	I/O	Active high control signal to Xenon Flash to start charging the Capacitor
MCSI_GPIO[03]	I/O	Active low output from Xenon Flash to indicate that the capacitor is fully charged and is ready to be triggered
MCSI_GPIO[04]	I/O	Active high Xenon Flash trigger / Enables Torch Mode on LED Flash IC
MCSI_GPIO[05]	I/O	Enables Red Eye Reduction LED for Xenon / Triggers STROBE on LED Flash IC /
MCSI_GPIO[06]	I/O	Camera Sensor 0 Strobe Output to SoC to indicate beginning of capture / Active high signal to still camera to power down the device.
MCSI_GPIO[07]	I/O	Camera Sensor 1 Strobe Output to SoC to indicate beginning of capture / Active high signal to still camera to power down the device.
MCSI_GPIO[08]	I/O	Active high signal to video camera to power down the device.
MCSI_GPIO[09]	I/O	Active low output signal to reset digital still camera #0.
MCSI_GPIO[10]	I/O	Active low output signal to reset digital still camera #1
MCSI_GPIO[11]	I/O	Active low output signal to reset digital video camera

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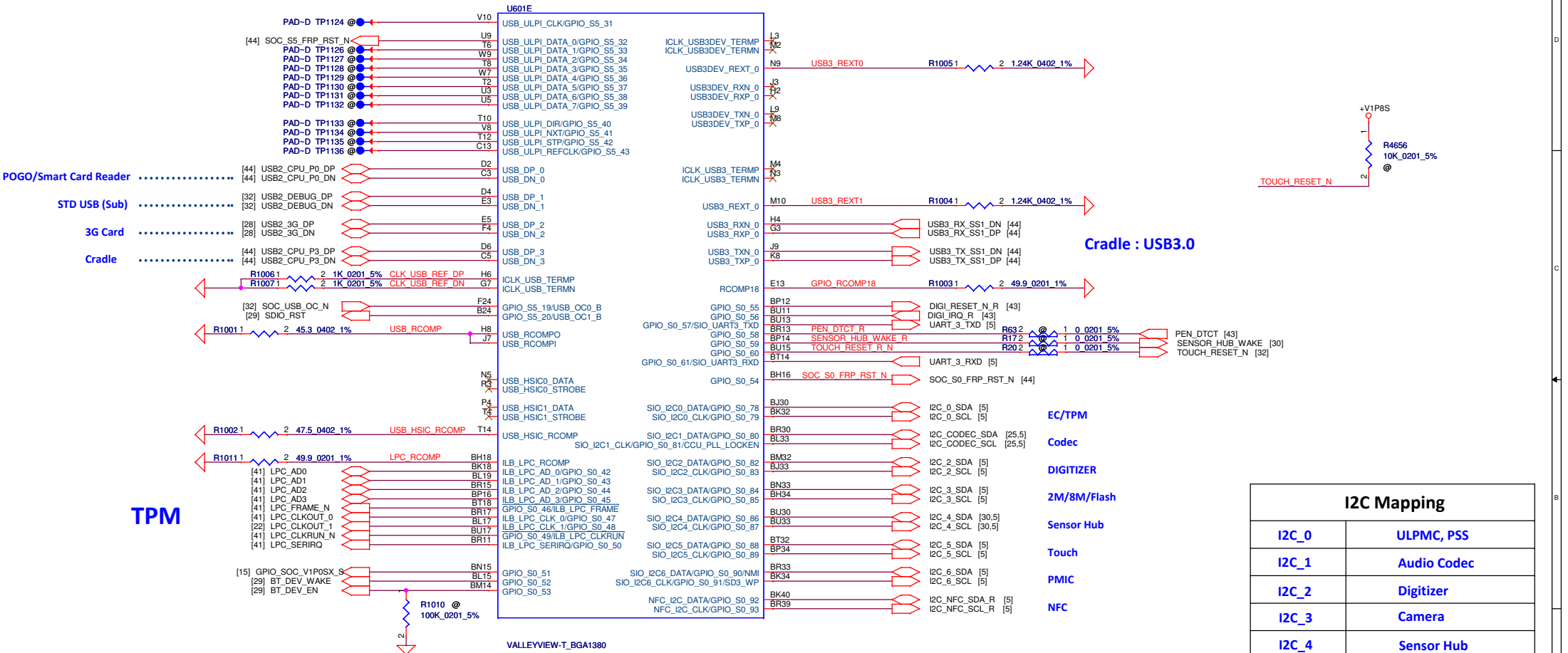
SOC:STORAGE AND AUDIO



Flash descriptor security jump

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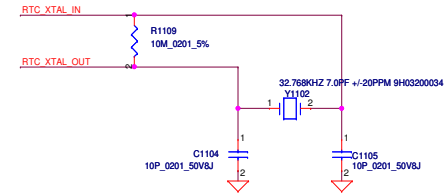
SOC:USB & I2C



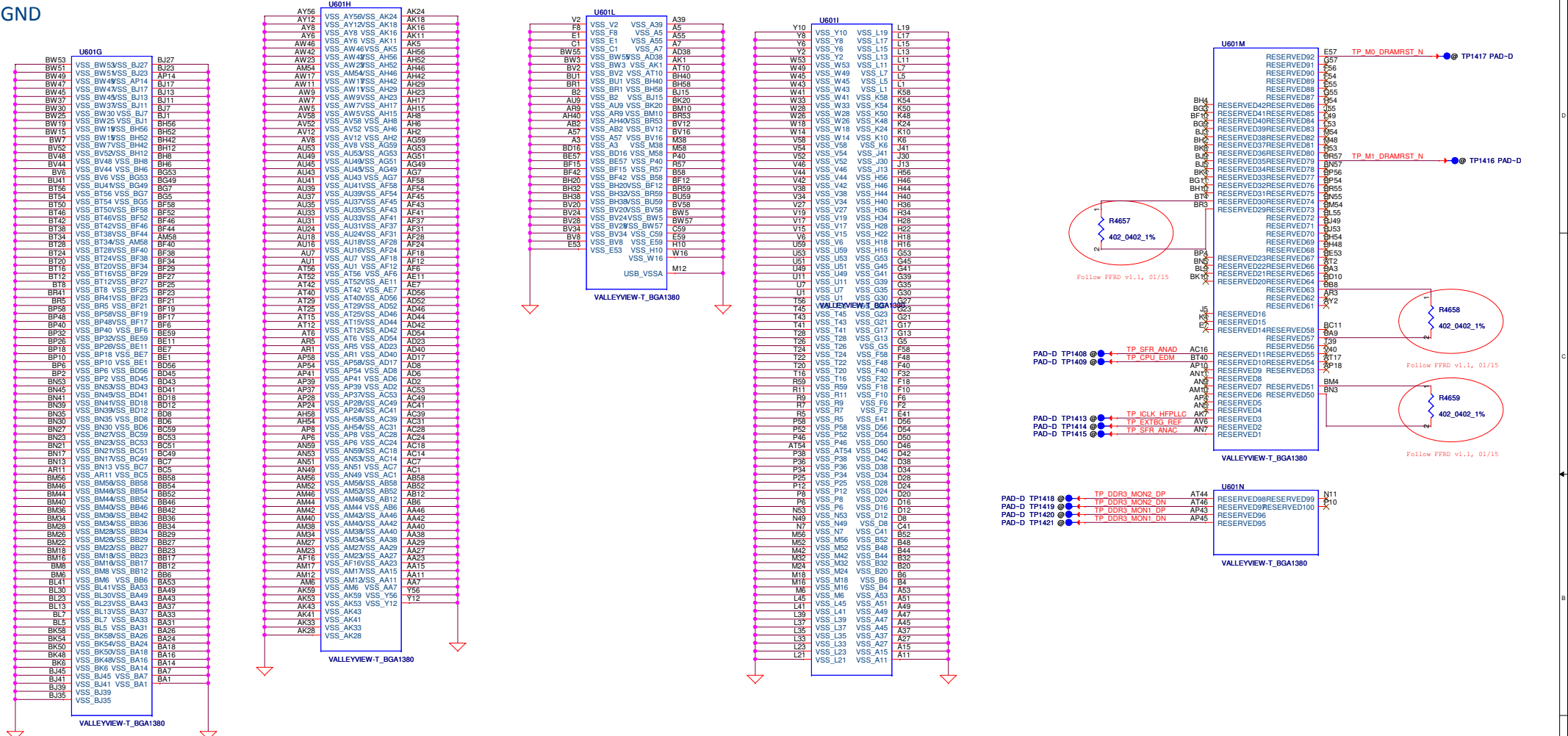
I2C Mapping	
I2C_0	ULPMC, PSS
I2C_1	Audio Codec
I2C_2	Digitizer
I2C_3	Camera
I2C_4	Sensor Hub
I2C_5	Touch Sensor
I2C_6	PMIC
I2C_NFC	NFC, Debug

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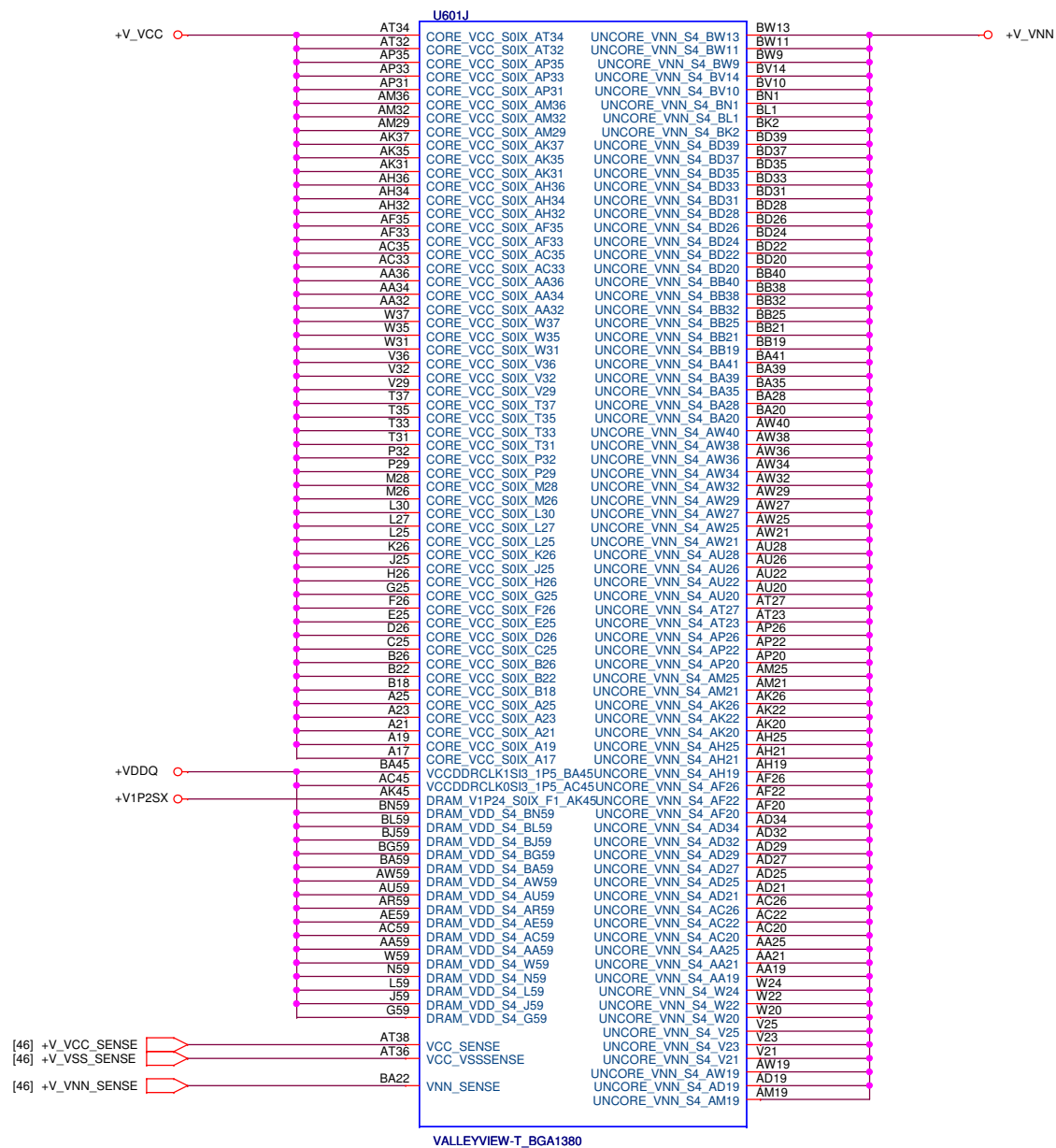
PMC_PLT_CLK Usage
CLK0 CAM 8MP 19.2MHz
CLK1 CAM 2MP 19.2MHz
CLK2 NC
CLK3 Audio 19.2/25MHz
CLK4 NC
CLK5 NC



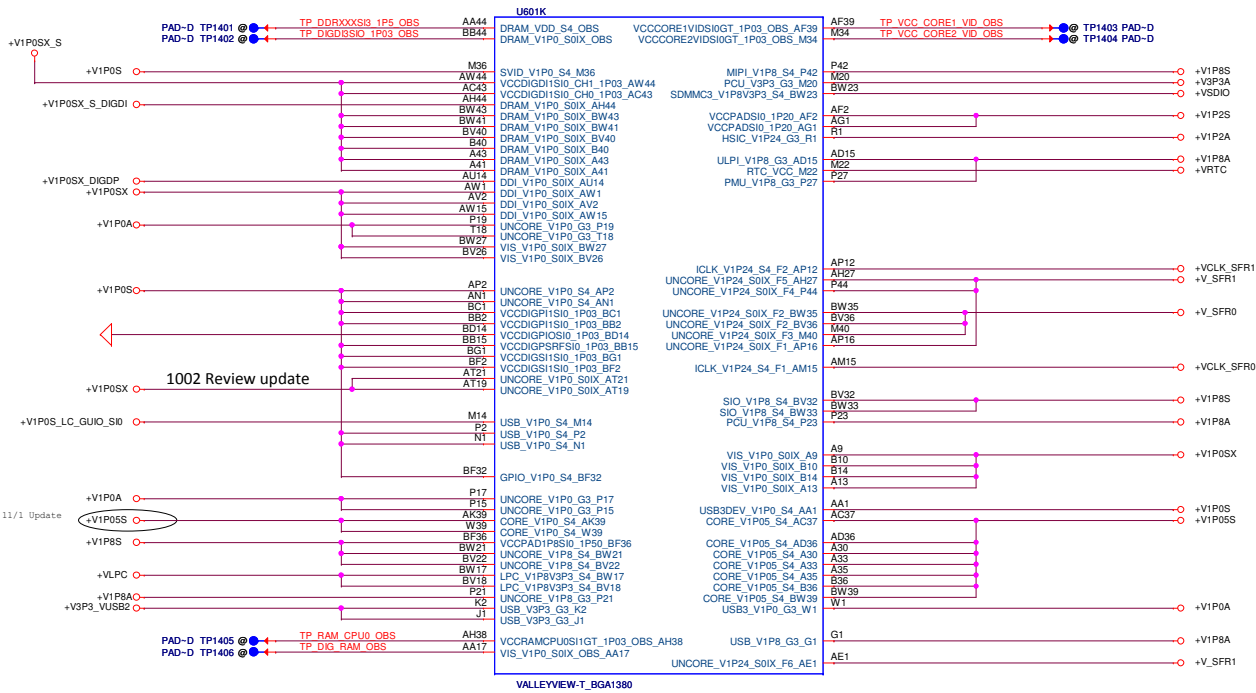
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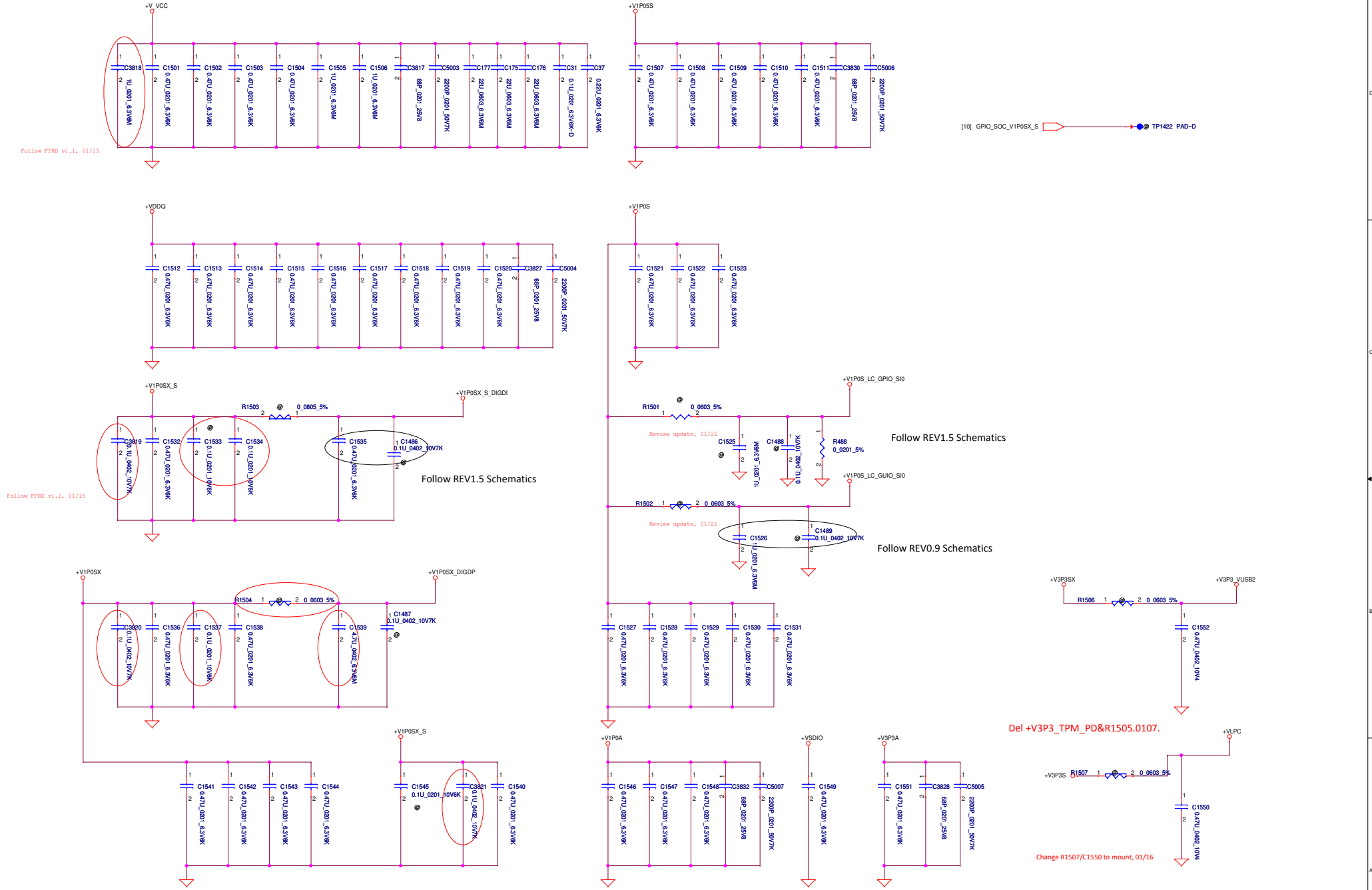


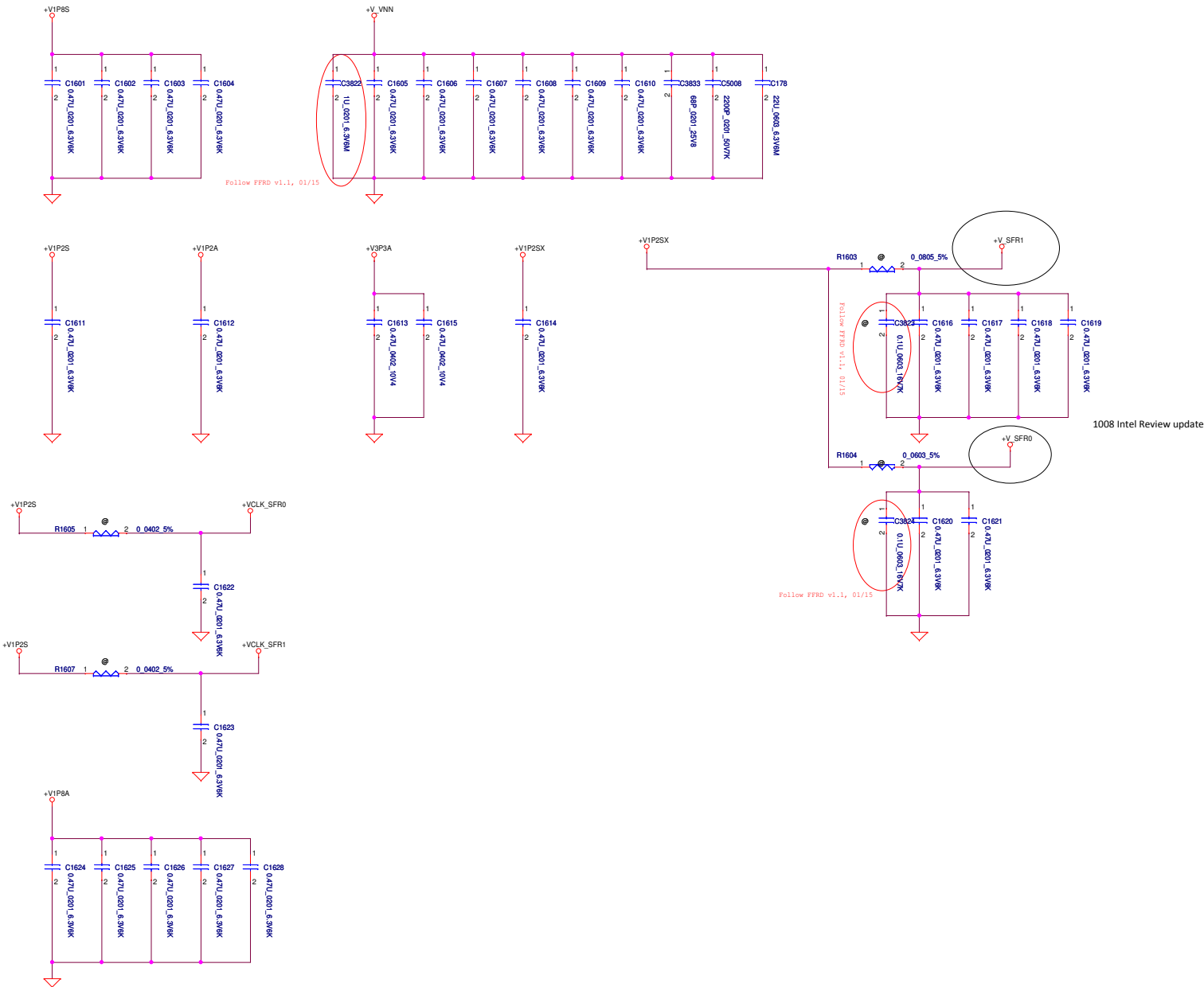
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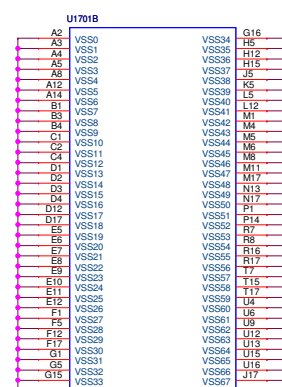
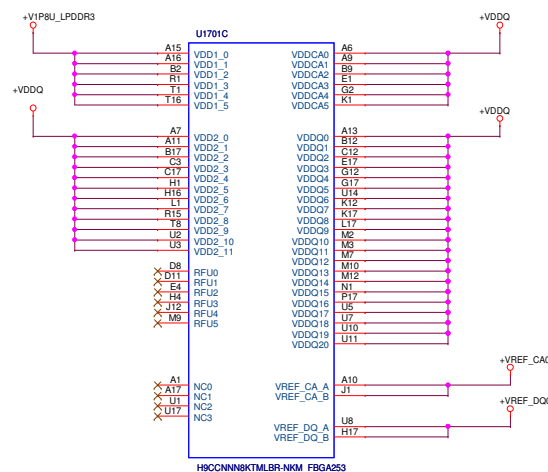
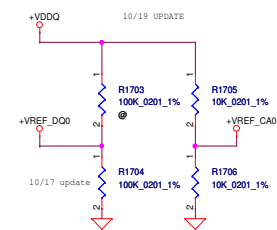
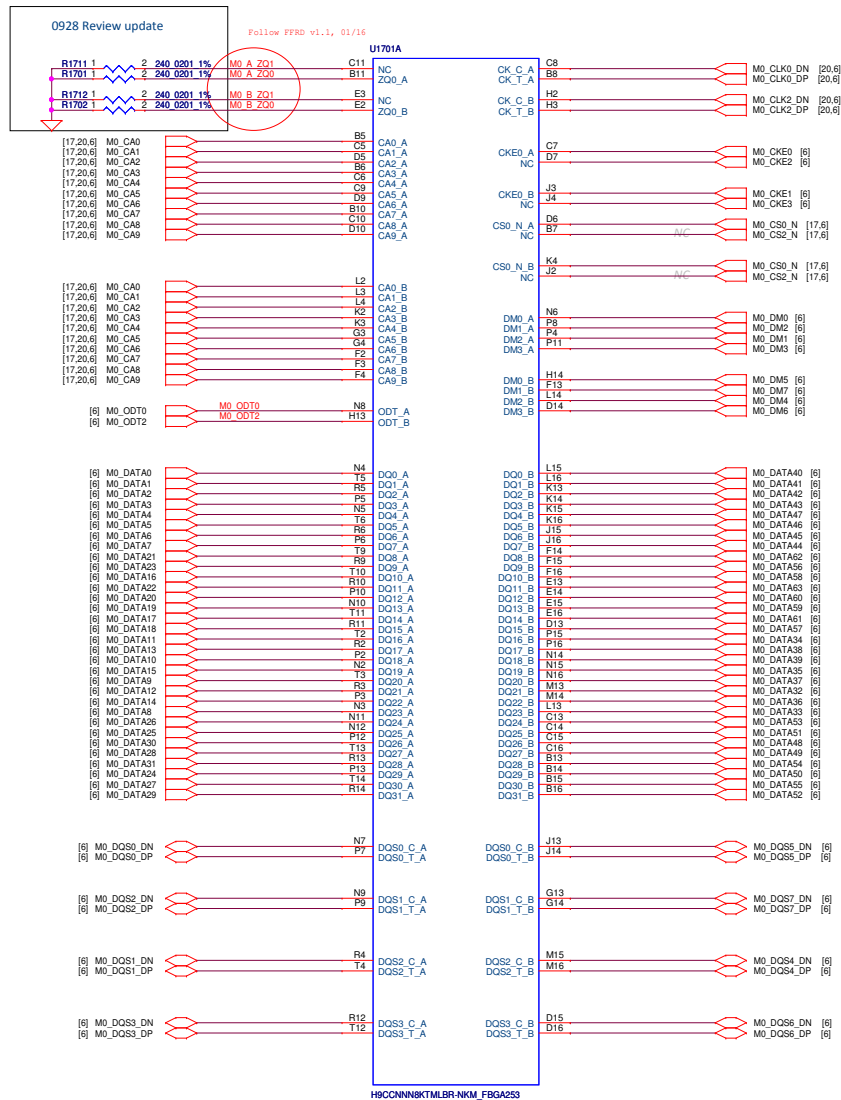
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SOC DECOUPLING



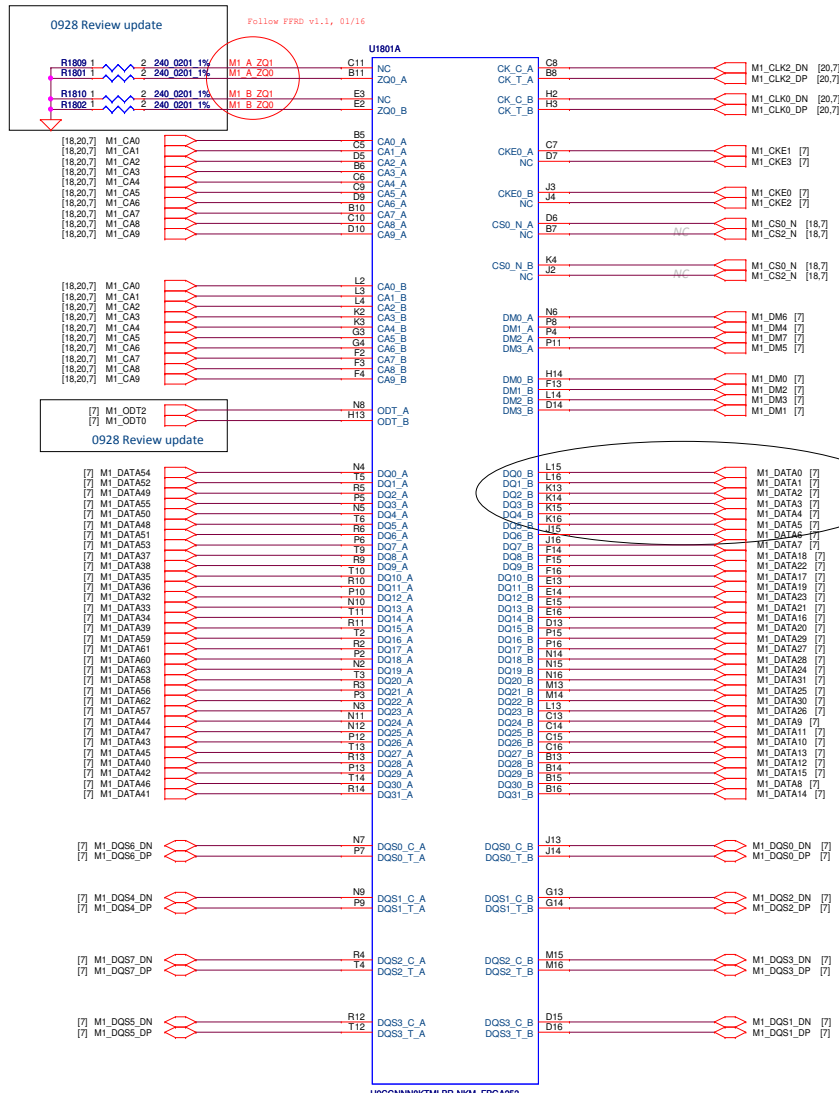






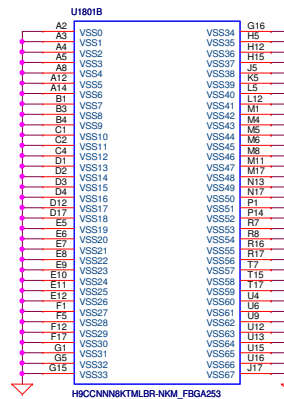
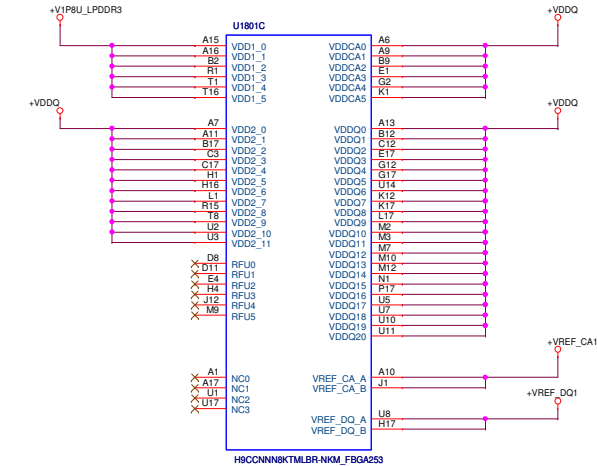
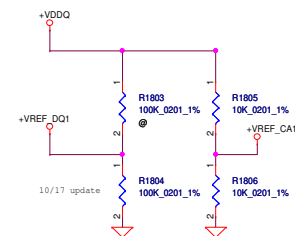
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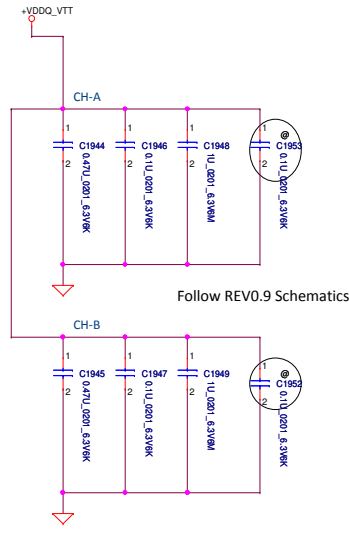
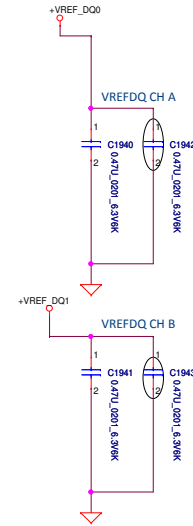
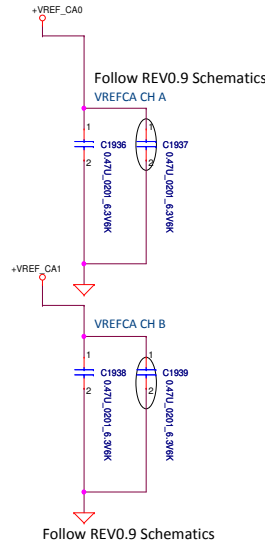
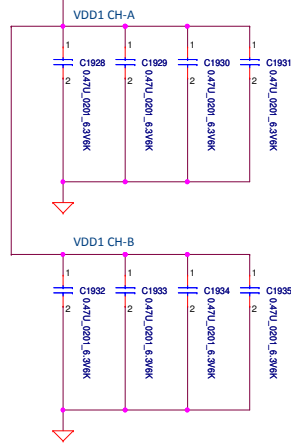
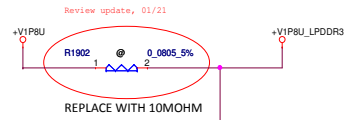
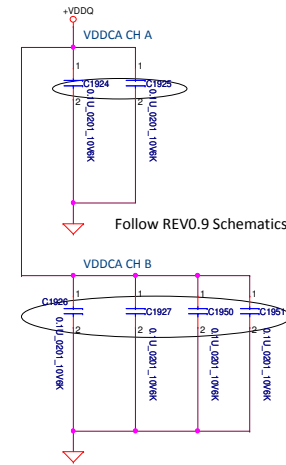
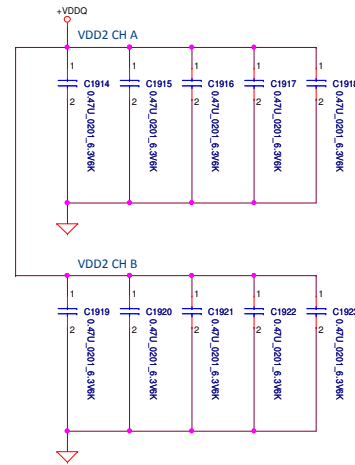
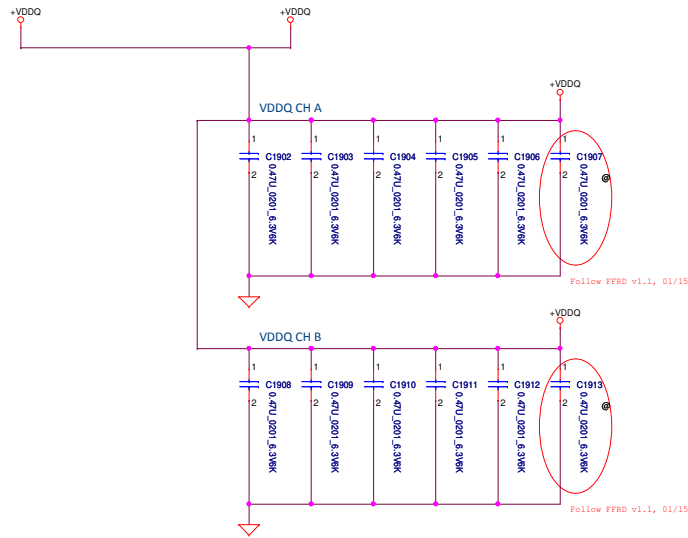
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								Size C	Document Number	Rev
									ELLA LA-A811P	0.1
								Date:	Wednesday, June 04, 2014	Sheet



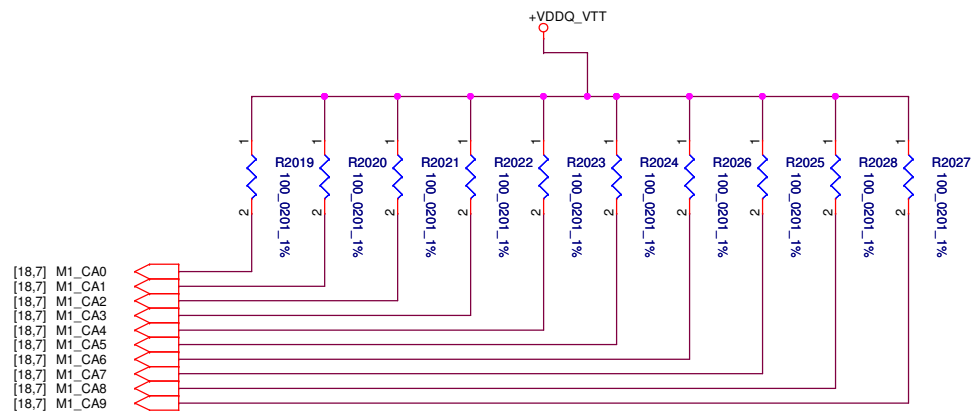
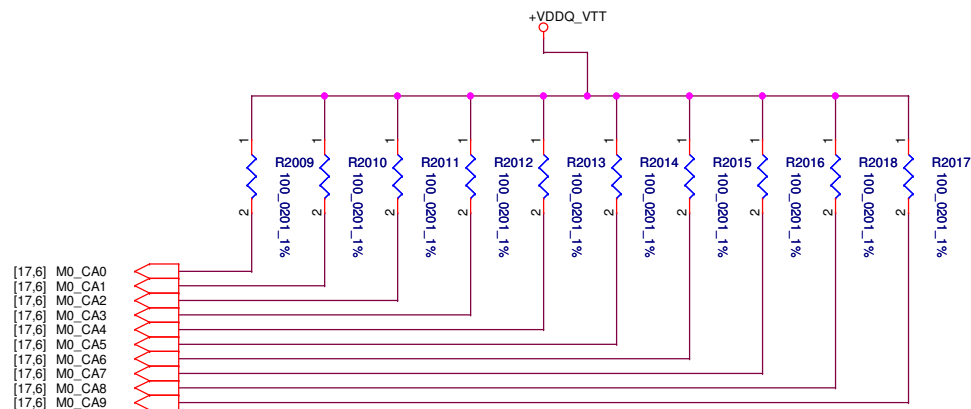
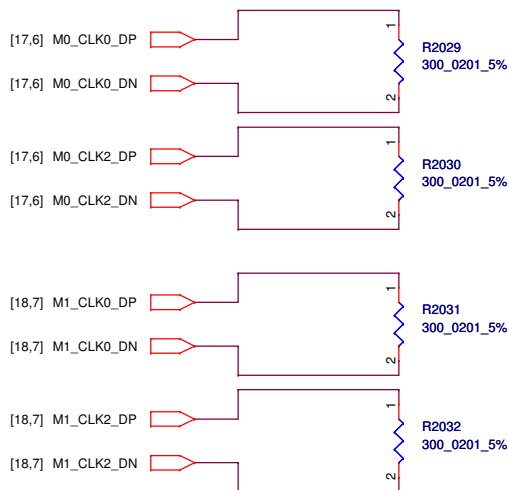
Change net name

Swap byte1

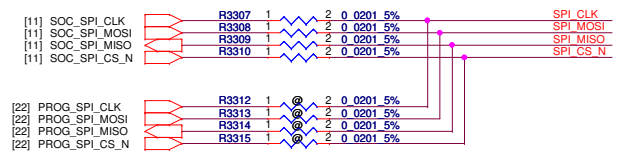
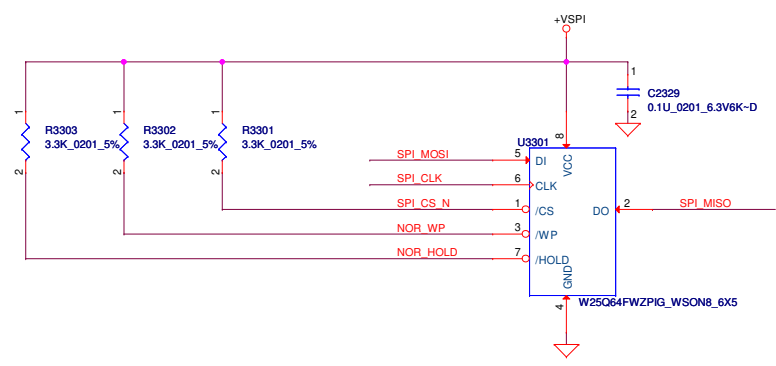
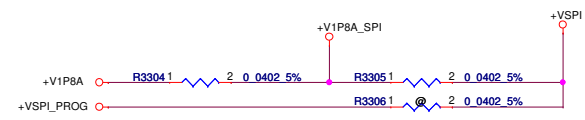
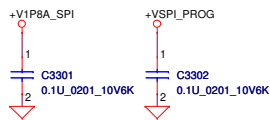




0928 Review update  
Remove seris termination for CKE

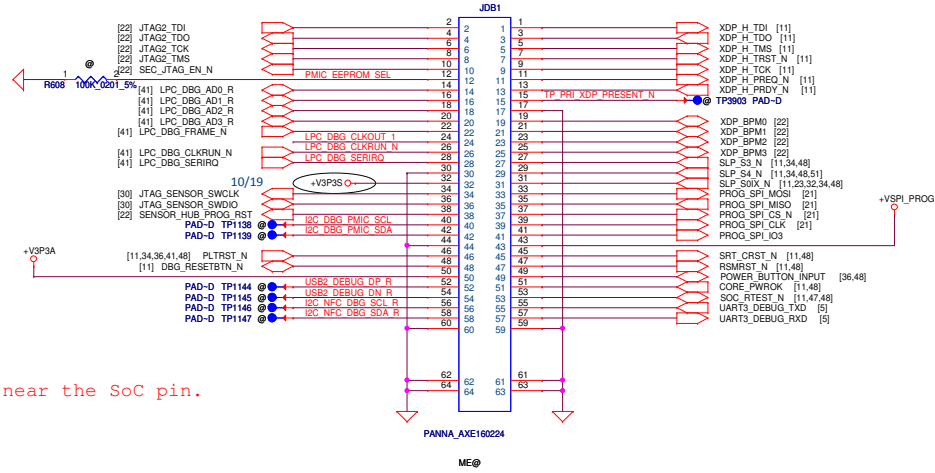


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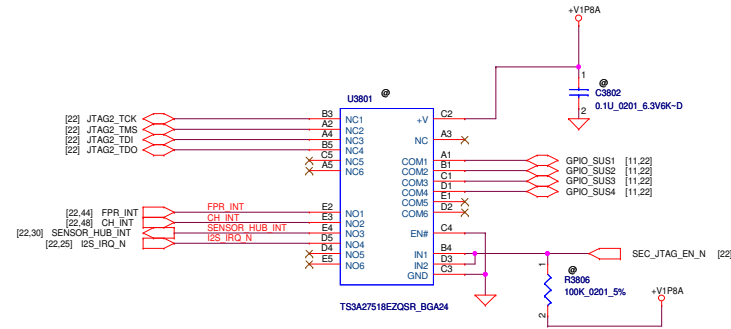
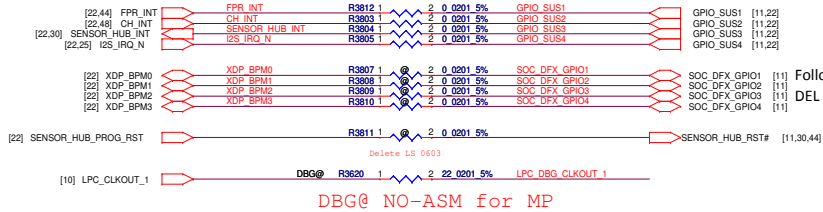
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/06/13	Deciphered Date	2006/03/01	Title	SPI NOR FLASH
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WW39.4 : CHANGED THE CONNECTIONS ON PIN 10 AND 12  
Follow REV1.2



Follow REV0.9 Schematics  
change net name

Follow REV0.9 Schematics, 0->22,  
DEL LPC\_DBG RESET R N



IN1	NC TO COM,	NO TO COM,
IN2	COM TO NC	COM TO NO
L	ON	OFF
H	OFF	ON







# Codec

(Lenovo) remove R4671 R4672, ensure impedance on it lower than 0.1ohm

Add layout notice:  
put jack as closer as possible to codec  
width of HP\_MIC\_OUT and HP\_MIC\_OUT2 at least 40mil

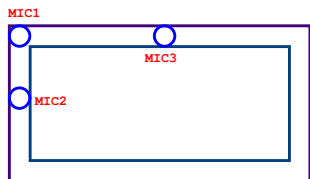
(Lenovo) change pin4 to DMIC\_DATA1\_C  
and pin5 to DMIC\_DATA2\_C 0608

DMIC\_DATA1\_C  
Left/right: Low

DMIC\_DATA1\_C  
Left/right: High  
on Subcard

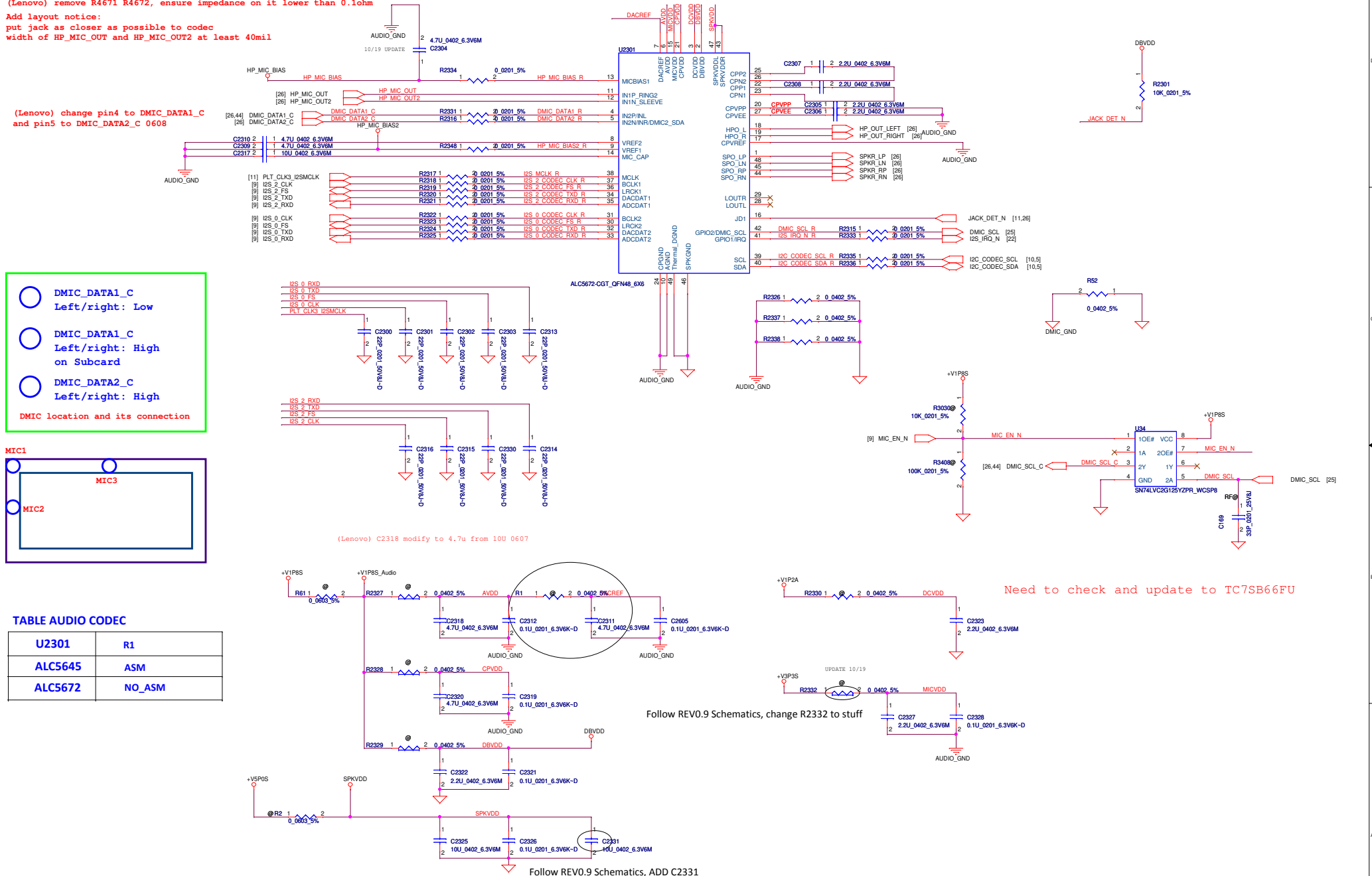
DMIC\_DATA2\_C  
Left/right: High

DMIC location and its connection

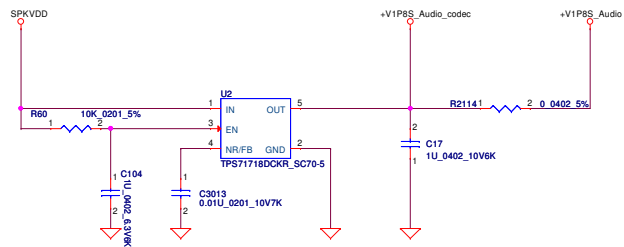


## TABLE AUDIO CODEC

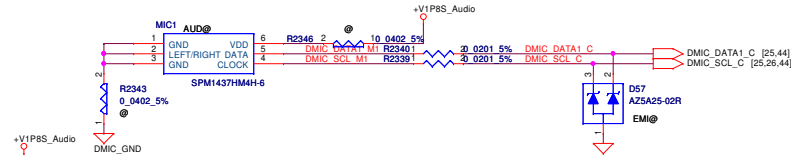
U2301	R1
ALC5645	ASM
ALC5672	NO_ASM



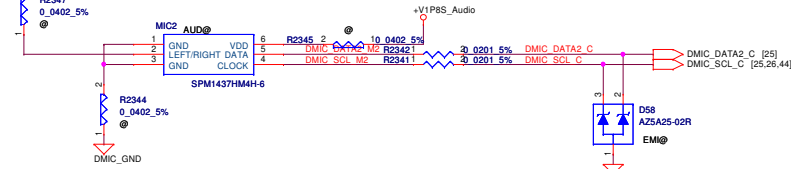
## Digital MIC Conn.



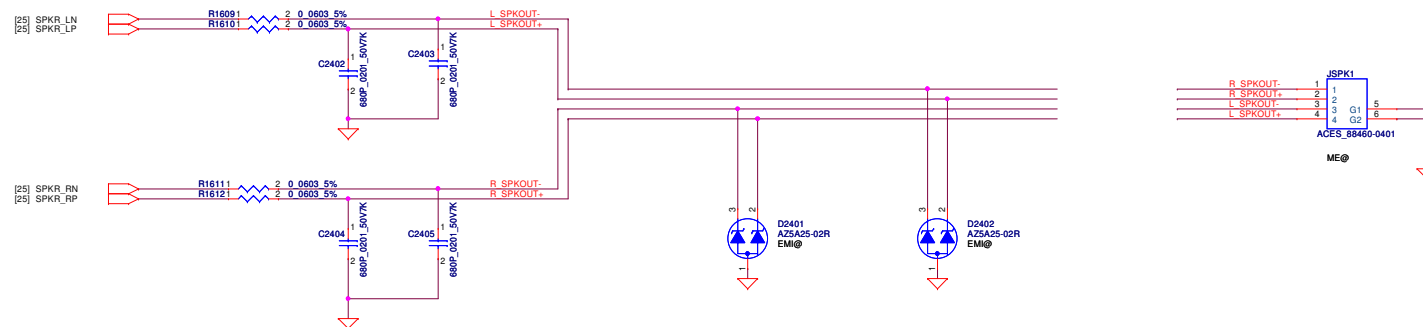
## Corner Front



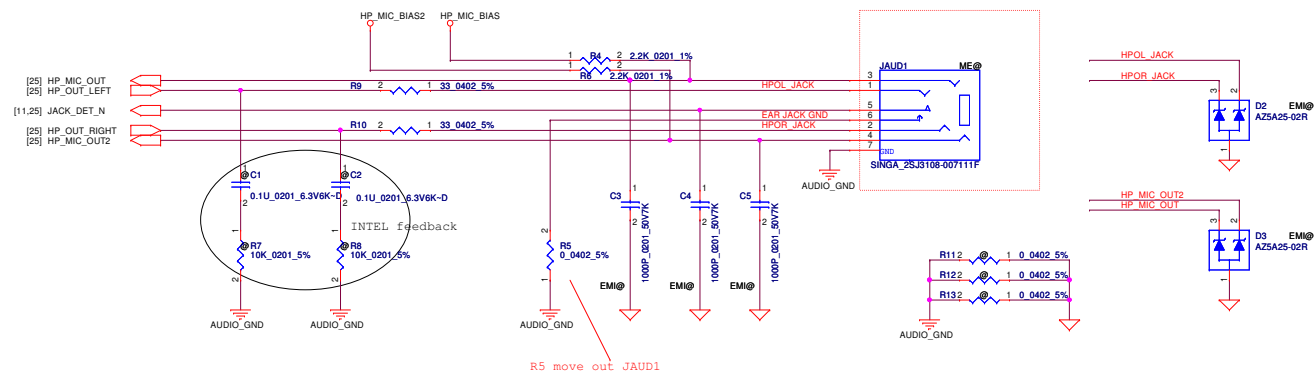
## Side Front



## SPEAKERS

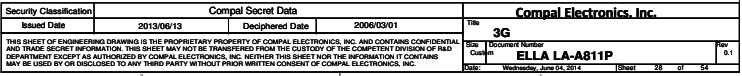


## Audio Jack Audio Jack need to confirm normal open



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## Accelarometer + GYROSCOPE

## PROXIMITY SENSOR

## Accelarometer + GYROSCOPE

## PROXIMITY SENSOR

SX9500 I2C Address Table

A1	A0	Address	
0	0	0x28	P-Sensor 1(MB)
0	1	0x29	
1	0	0x2A	P-Sensor 2(SUB CAM)
1	1	0x2B	

TABLE P-Sensor STRAP

Location	TWO P-Sensor (2PS@)	One P-SENSOR (1PS@)
R522	ASM	NO ASM
R500	NO ASM	ASM

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## Accelarometer + GYROSCOPE

## PROXIMITY SENSOR

SX9500 I2C Address Table

A1	A0	Address	
0	0	0x28	P-Sensor 1(MB)
0	1	0x29	
1	0	0x2A	P-Sensor 2(SUB CAM)
1	1	0x2B	

TABLE P-Sensor STRAP

Location	TWO P-Sensor (2PS@)	One P-SENSOR (1PS@)
R522	ASM	NO ASM
R500	NO ASM	ASM

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				Rev
				0.1
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				Sheet 31 of 54

## Accelarometer + GYROSCOPE

## PROXIMITY SENSOR

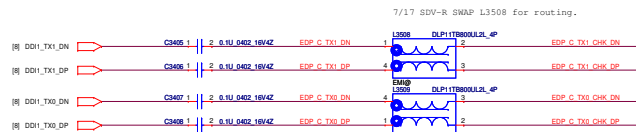
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## Accelarometer + GYROSCOPE

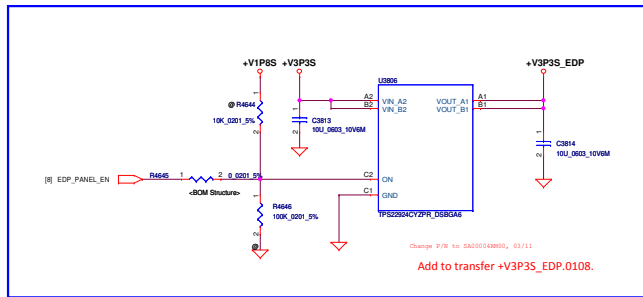
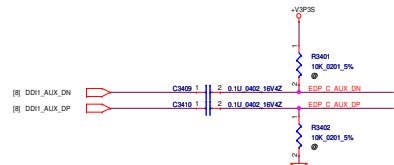
## PROXIMITY SENSOR

## Accelarometer + GYROSCOPE

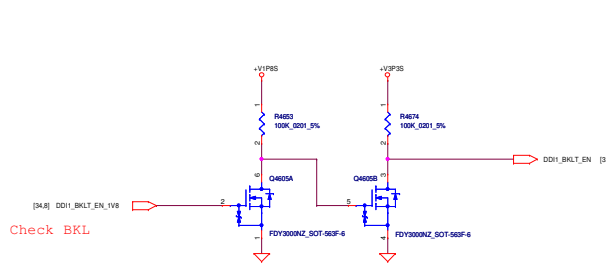
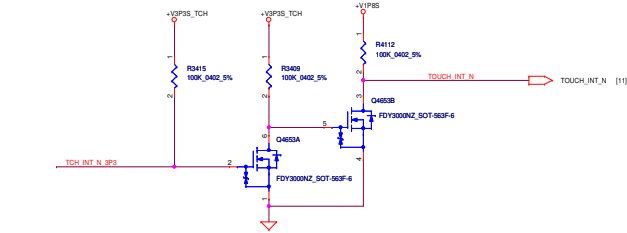
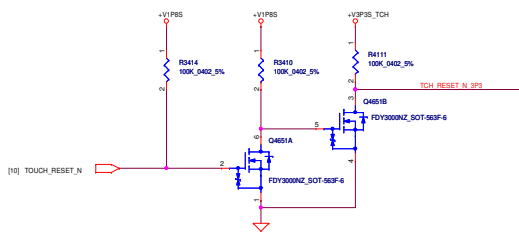
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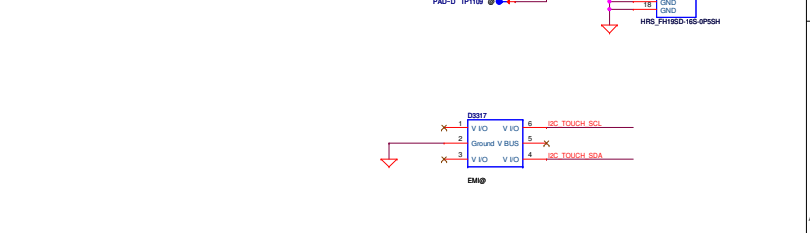
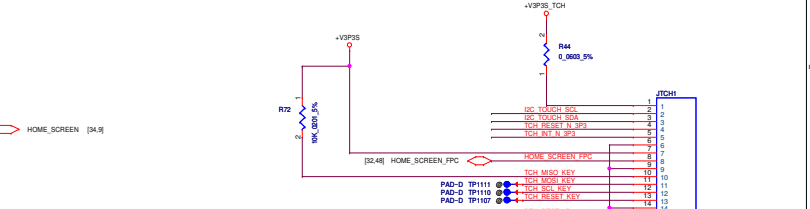
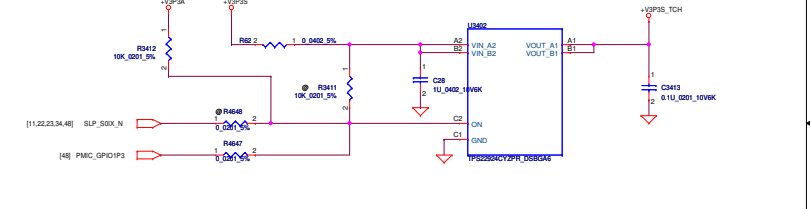
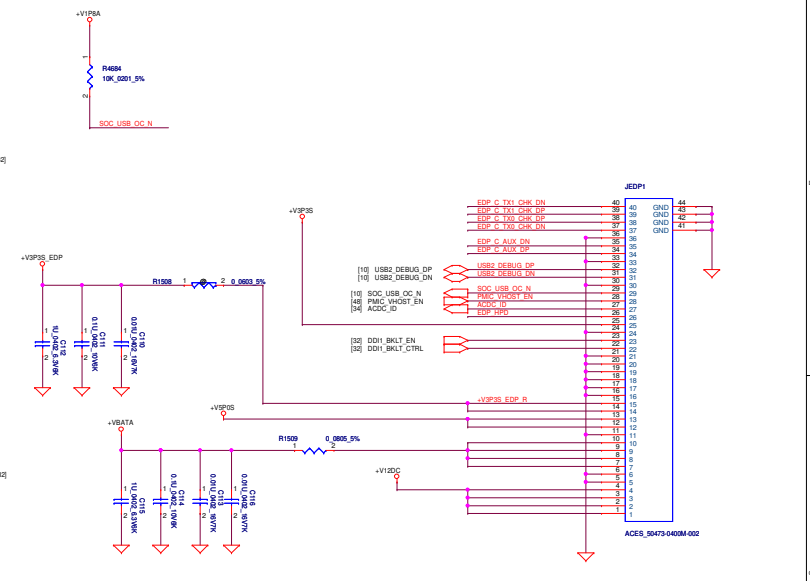
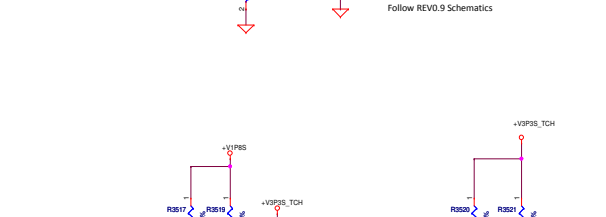
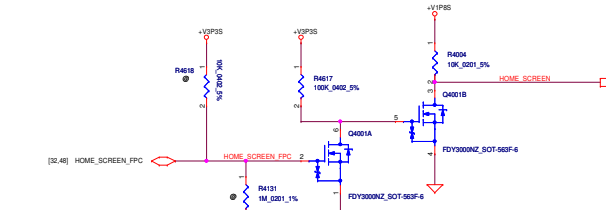
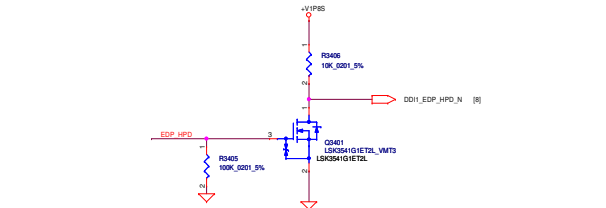
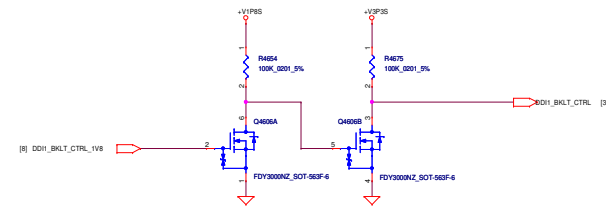
need check EMI



Change P/N to SA00048005, 03/11  
Add to transfer +V3P3S\_EDP.0108.

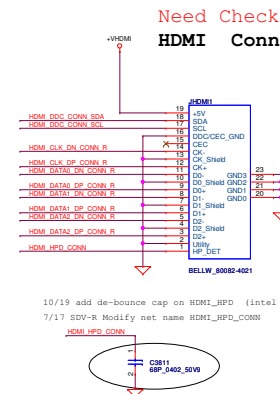
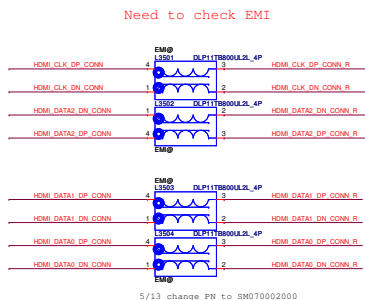
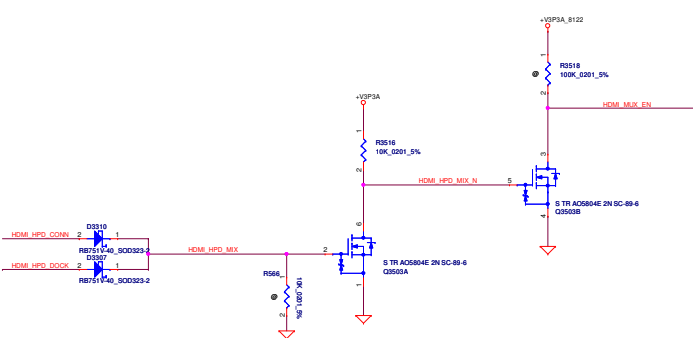
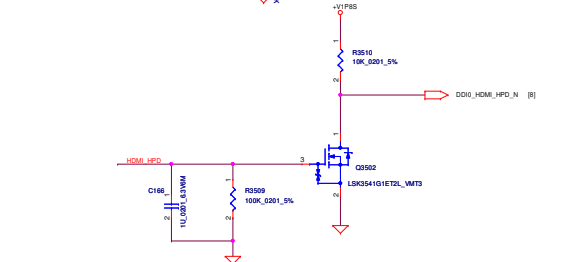
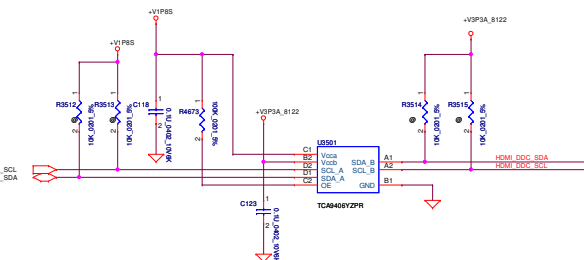
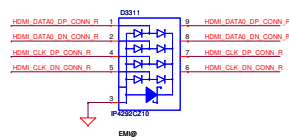
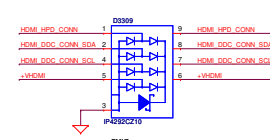
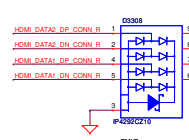
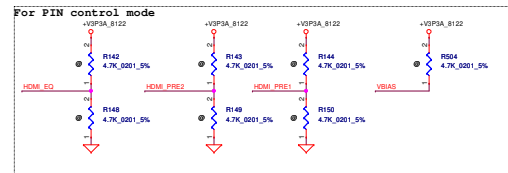
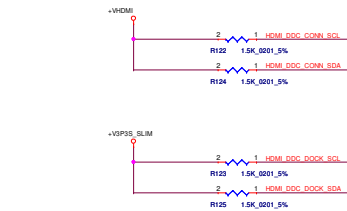
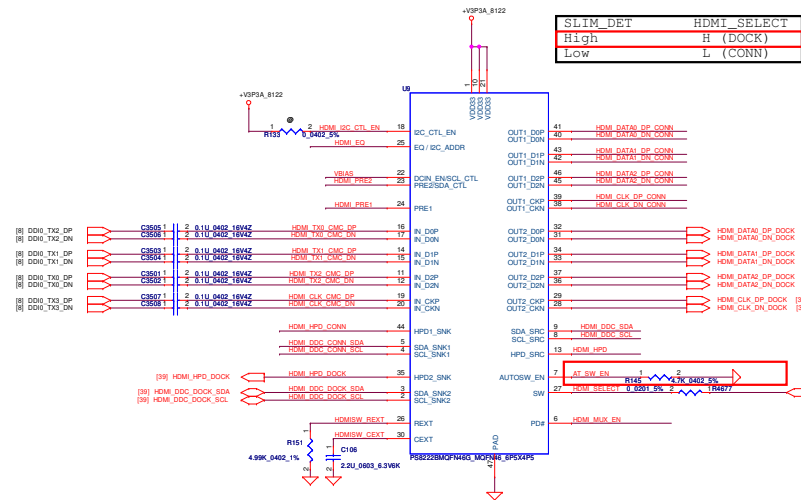
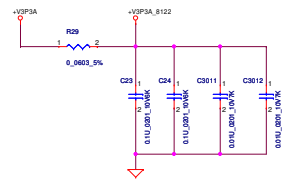


Check BKL



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Rev				01				eDP & TOUCH			
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Rev				01				ELLAL LA-A811P			
Rev				01				Date			
Rev				01				Wednesday, June 24, 2014			
Rev				01				Sheet			
Rev				01				35			
Rev				01				35			



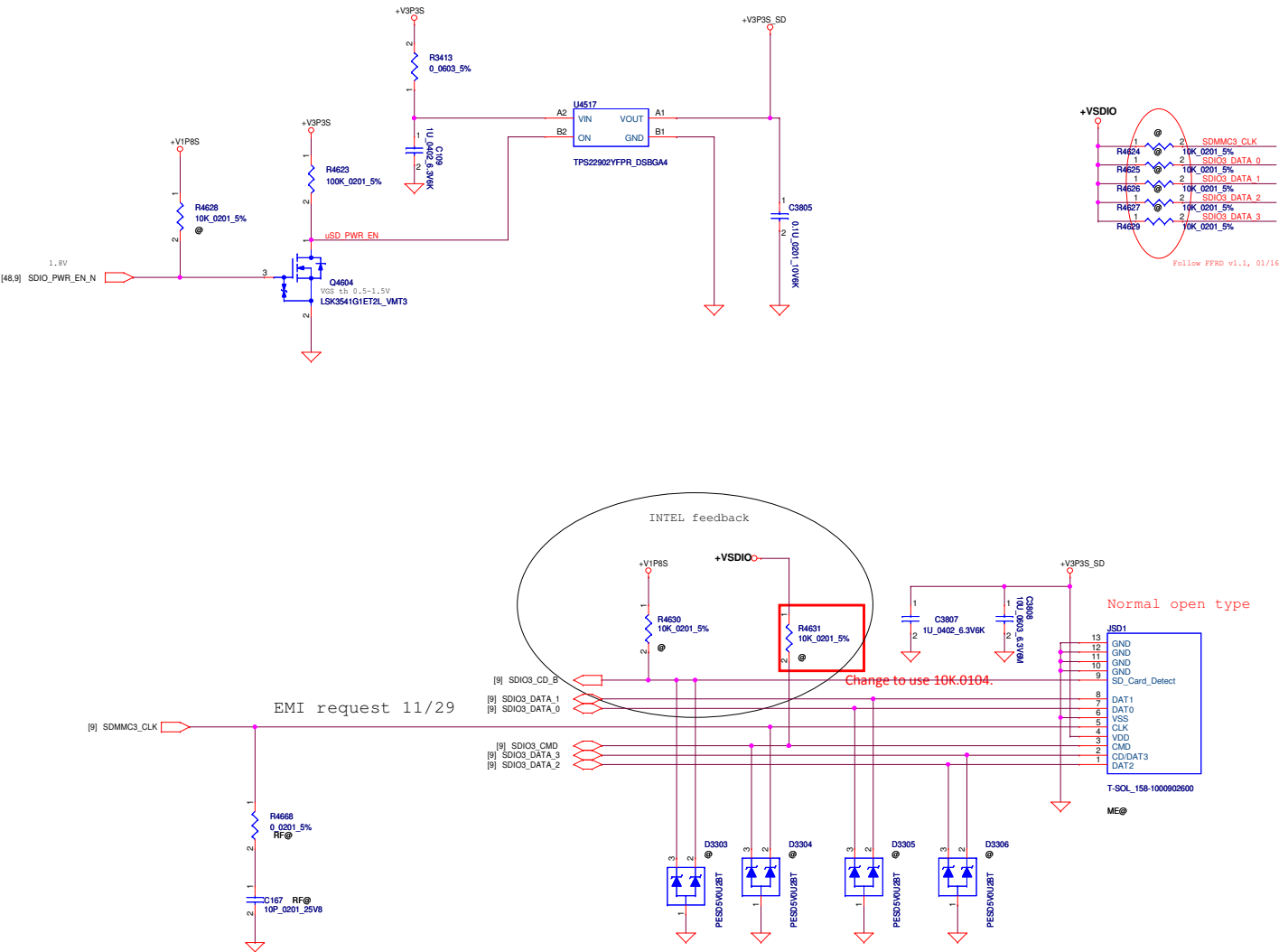




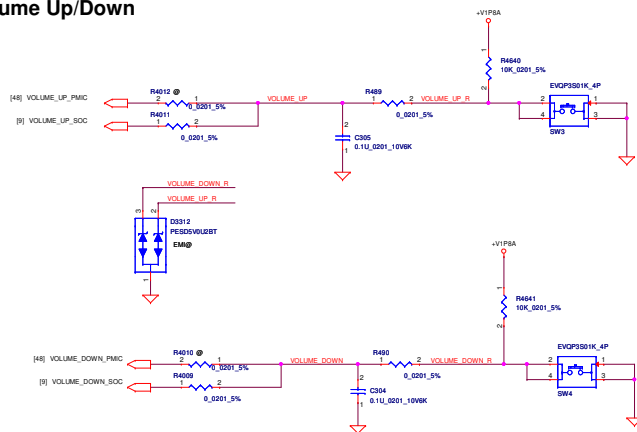
	BRDID0 (GPIO18)	BRDID1 (GPIO18)	BRDID2 (GPIO20)
SDV	0	0	0
SDV-R	0	1	1
	BRDID0 (GPIO2F)	BRDID1 (GPIO30)	BRDID2 (GPIO11)
FVT	0	0	1
FVT-2	1	1	0
SIT	0	1	0
(TBD)	1	1	1
SVT	1	0	0
SOVP	1	0	1

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Micro SD

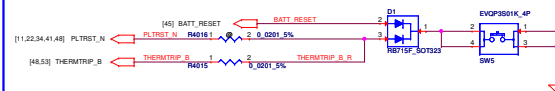


## Volume Up/Down

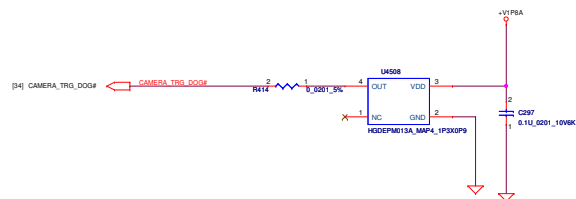


## Battery Reset

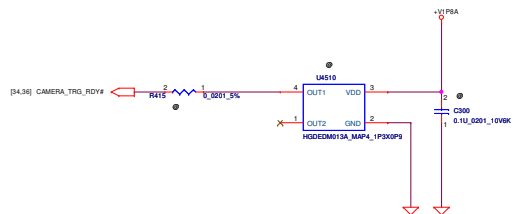
## Reset Button check



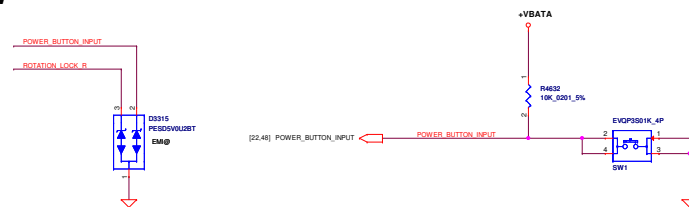
## DOG EAR detect



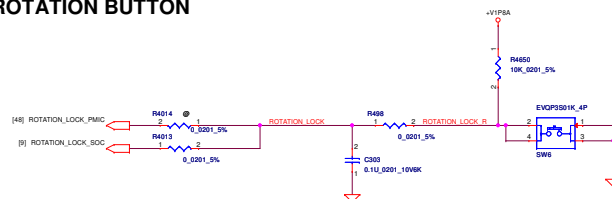
## COVER LID SENSOR



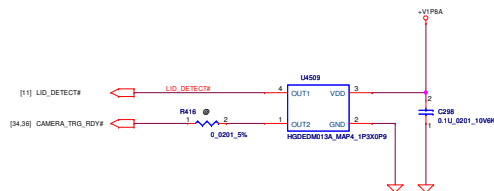
## Power SW

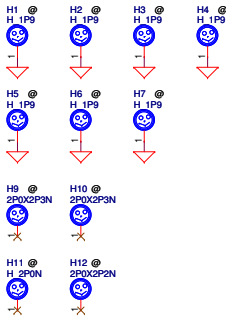
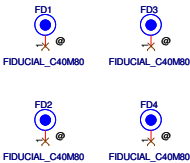
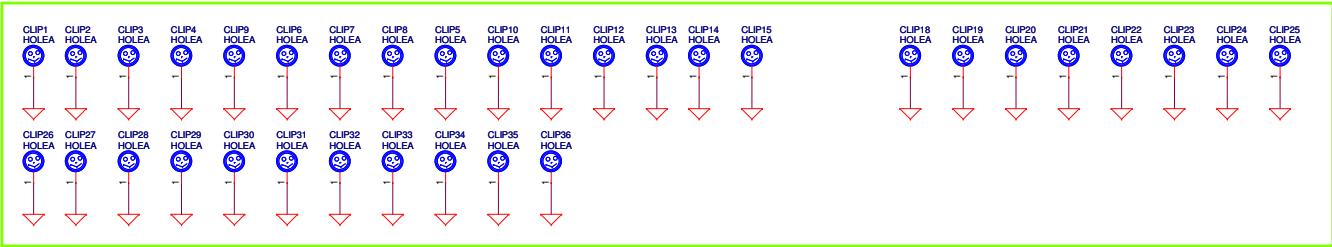


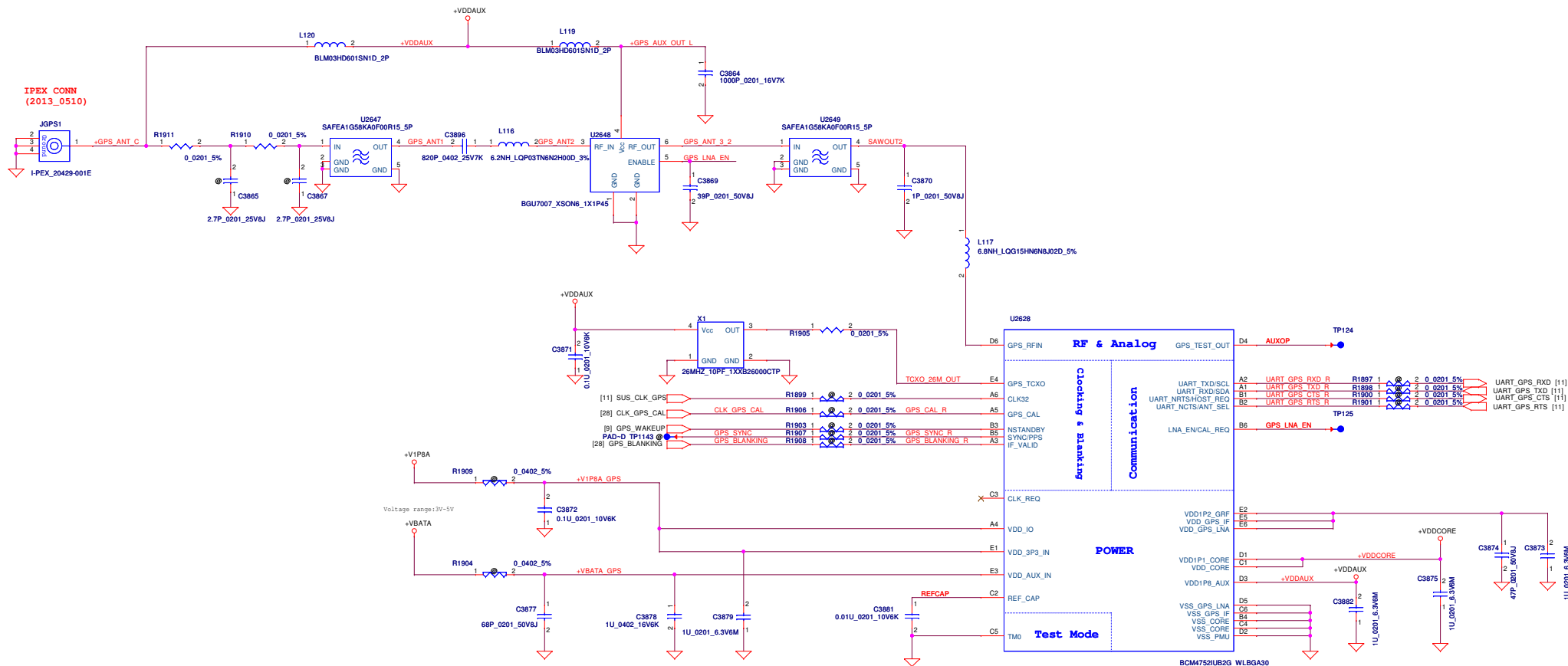
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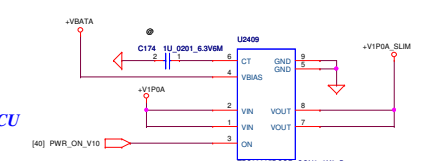
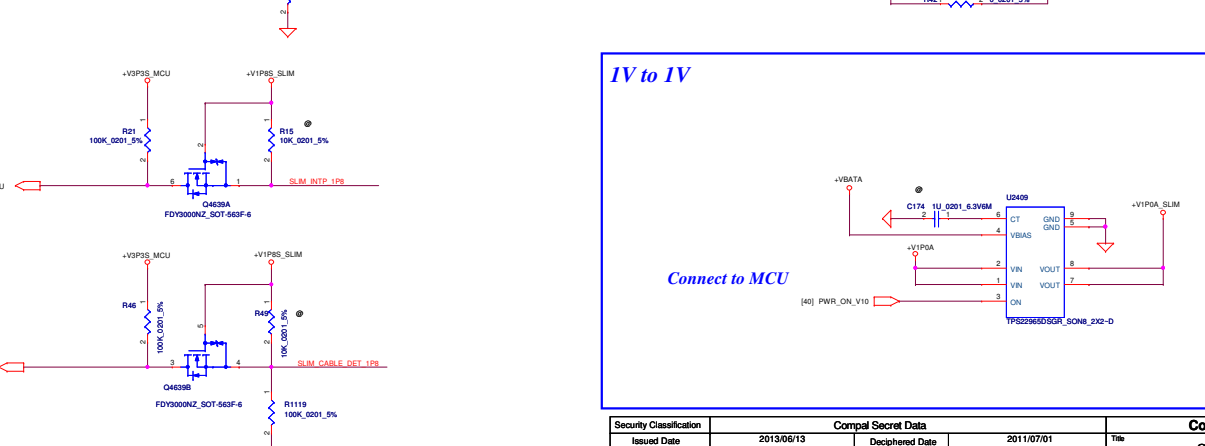
## COVER LID SENSOR







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				Date	Wednesday, June 04, 2014
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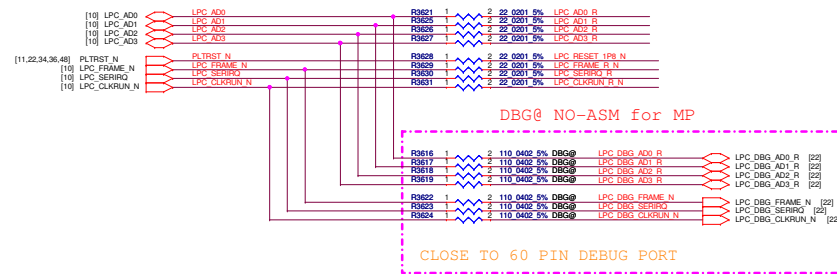
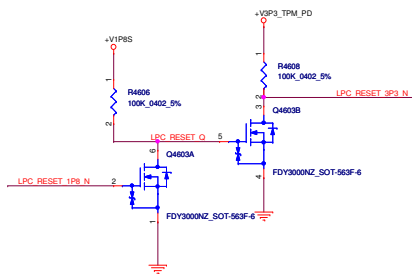
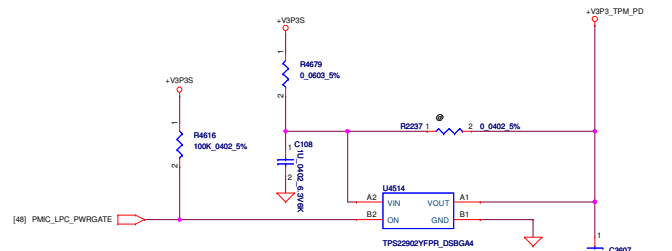
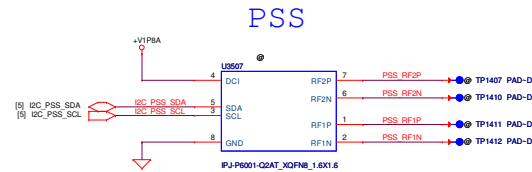
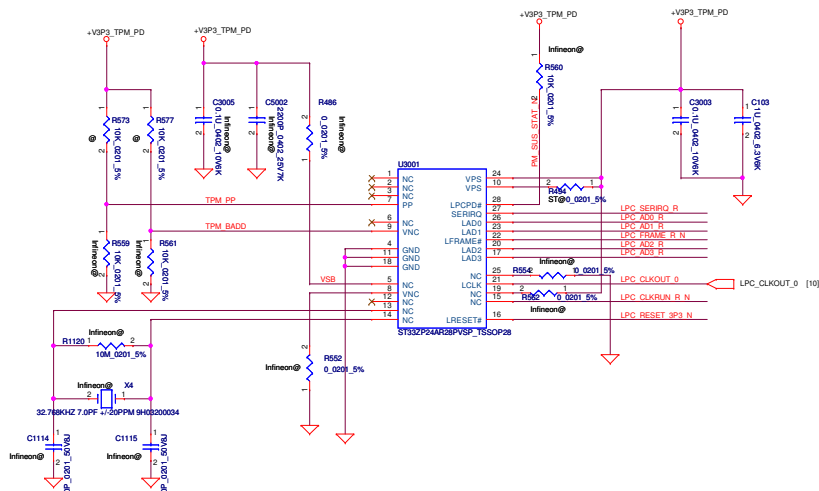


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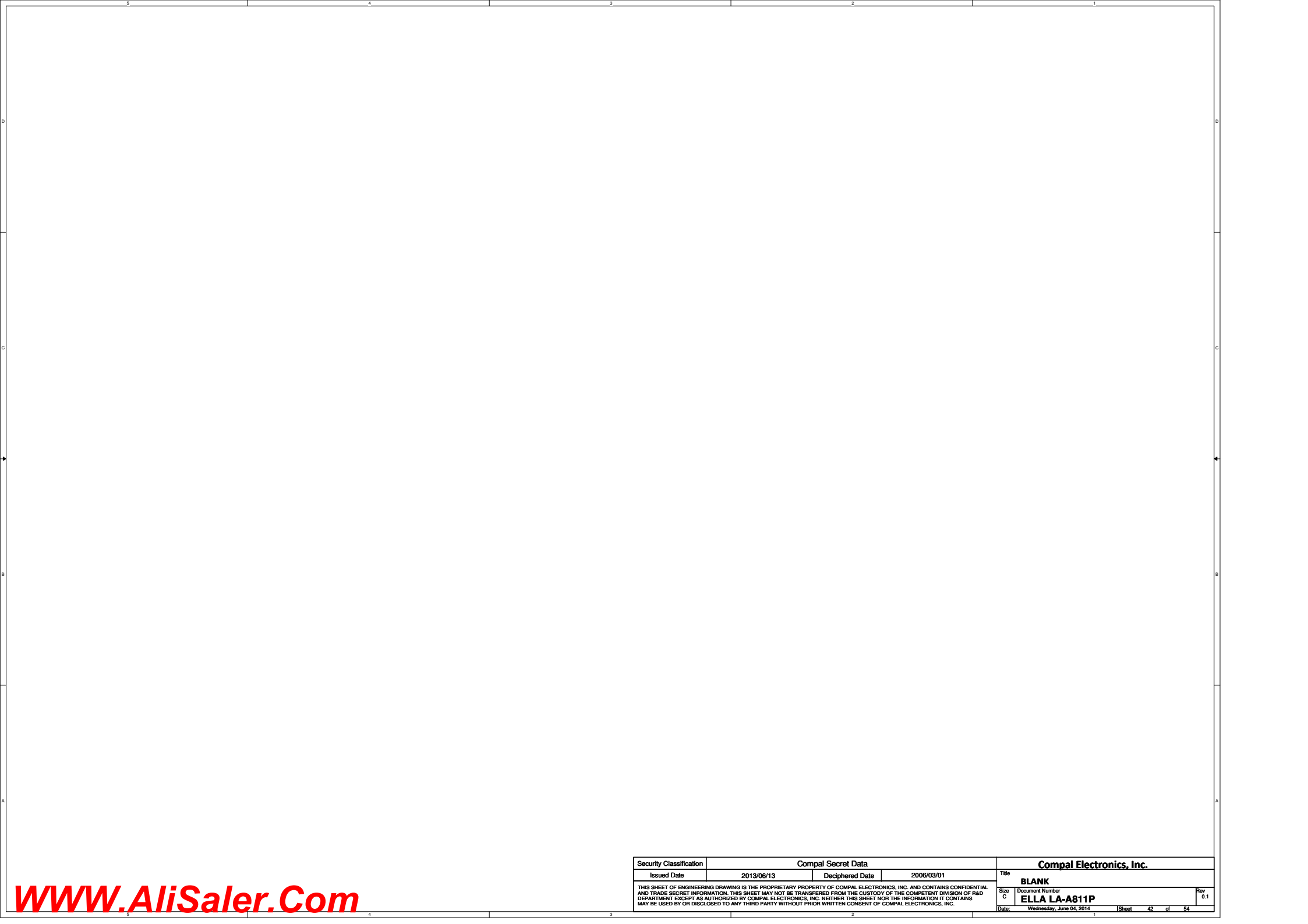
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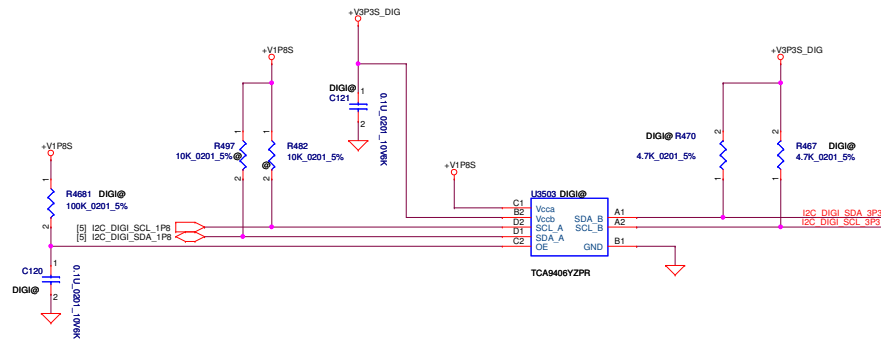
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### TABLE TPM CONFIGURATION

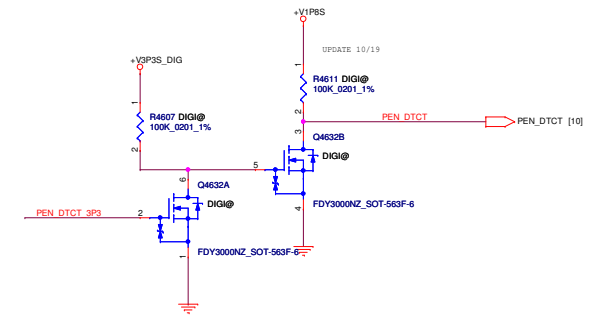
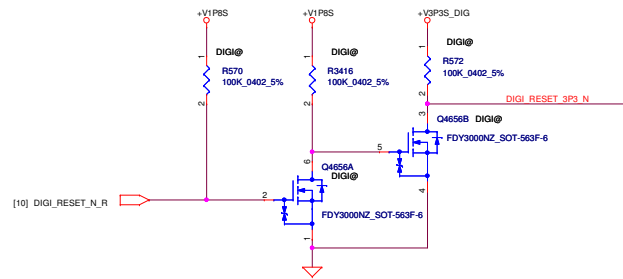
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C108	ASM	ASM	
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C1115	ASM	NO ASM	
C3003	ASM	ASM	
C3005	ASM	NO ASM	
C3607	ASM	ASM	
C5002	ASM	NO ASM	
R486	ASM	NO ASM	
R494	NO ASM	ASM	
R552	ASM	NO ASM	
R554	ASM	NO ASM	
R559	ASM	NO ASM	
R560	ASM	NO ASM	
R561	ASM	NO ASM	
R562	ASM	NO ASM	
R573	NO ASM	NO ASM	
R577	NO ASM	NO ASM	
R1120	ASM	NO ASM	
R3621	ASM	ASM	
R3625	ASM	ASM	
R3626	ASM	ASM	
R3627	ASM	ASM	
R3628	ASM	ASM	
R3629	ASM	ASM	
R3630	ASM	ASM	
R3631	ASM	ASM	
R4616	ASM	ASM	
R4606	ASM	ASM	
R4608	ASM	ASM	
R4679	ASM	ASM	
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U4514	ASM	ASM	
U3001	SLB9635	ST33ZP24AR	



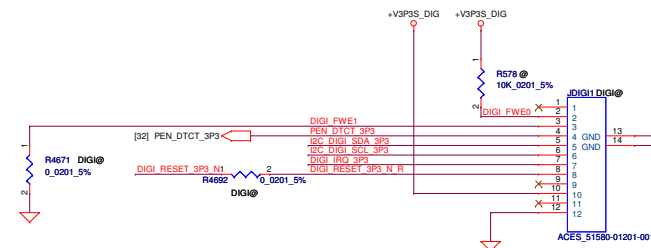
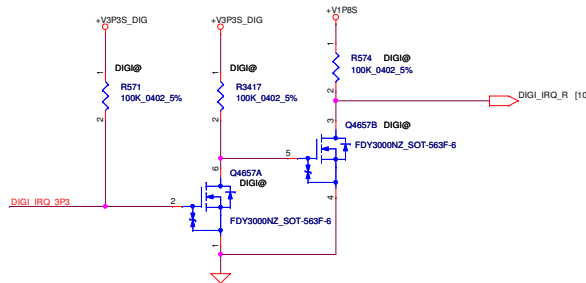
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check to PMIC 0604

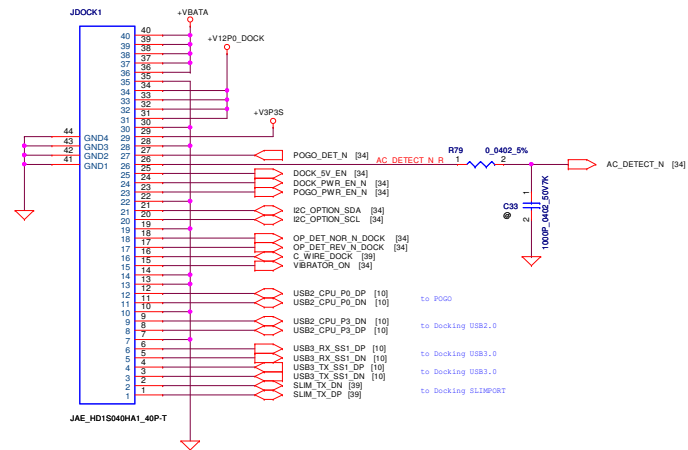


## Digitizer board connector

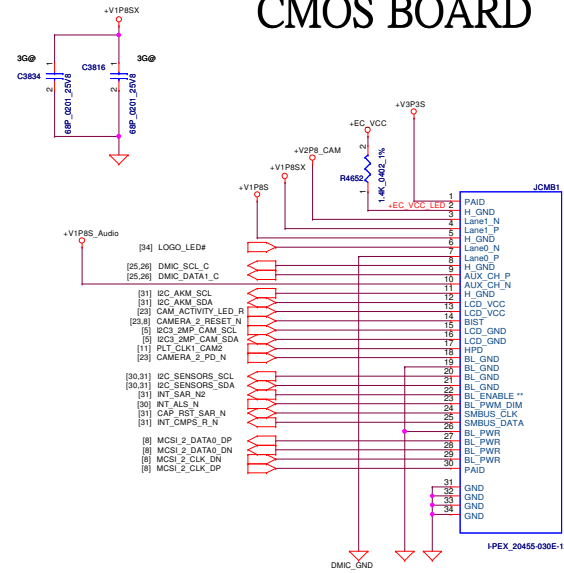


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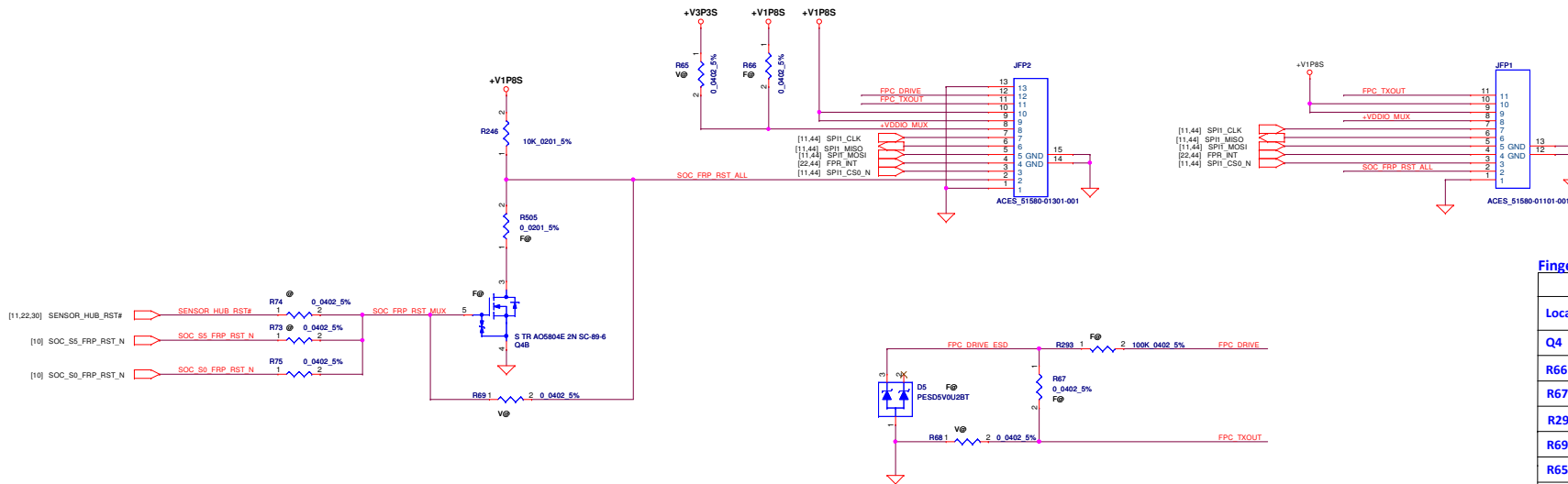
## Docking conn



## CMOS BOARD



## Finger Printer Conn



### Finger Printer BOM Structure

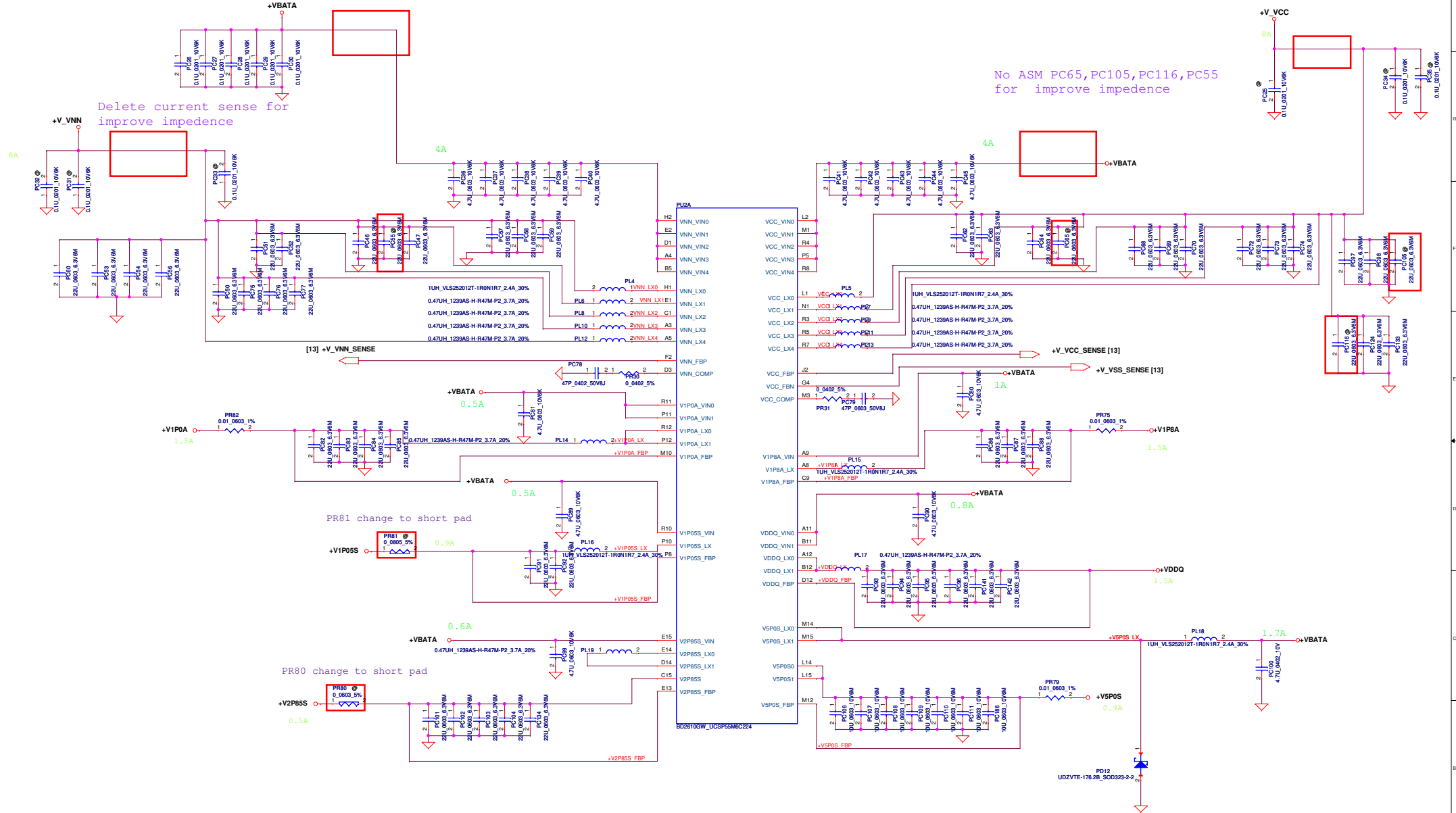
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R66	N0 ASM	ASM
R67	N0 ASM	ASM
R293	N0 ASM	ASM
R69	ASM	N0 ASM
R65	ASM	N0 ASM
R68	ASM	N0 ASM
D5	N0 ASM	ASM
R505	N0 ASM	ASM



No ASM PC65, PC105, PC116, PC55  
for improve impedance

No ASM PC65, PC105, PC116, PC55  
for improve impedance

Delete current sense for  
improve impedance

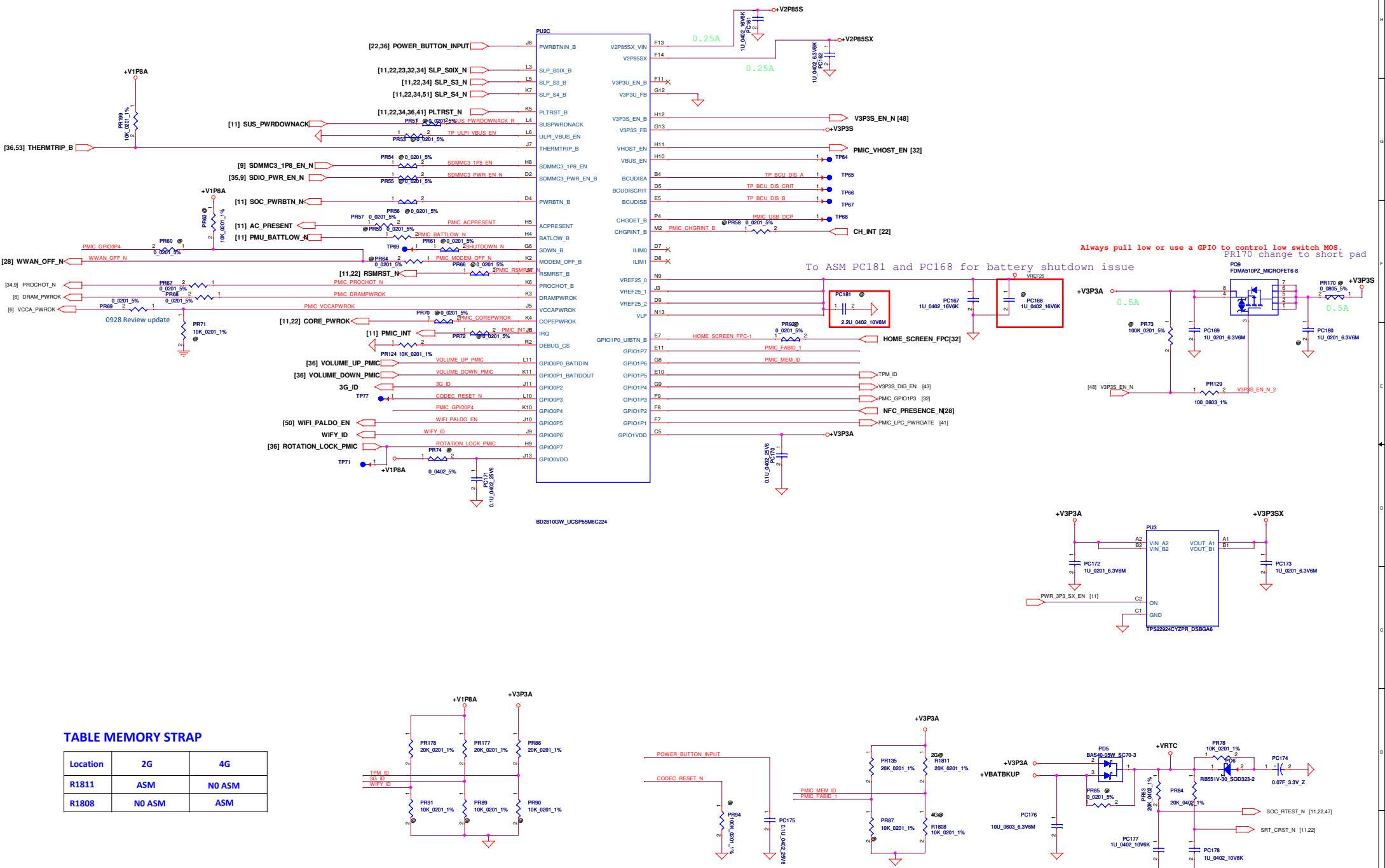


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A2		Document Number		Rev	
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				0.1	



### TABLE MEMORY STRAP

Location	2G	4G
R1811	ASM	NO ASM
R1808	NO ASM	ASM



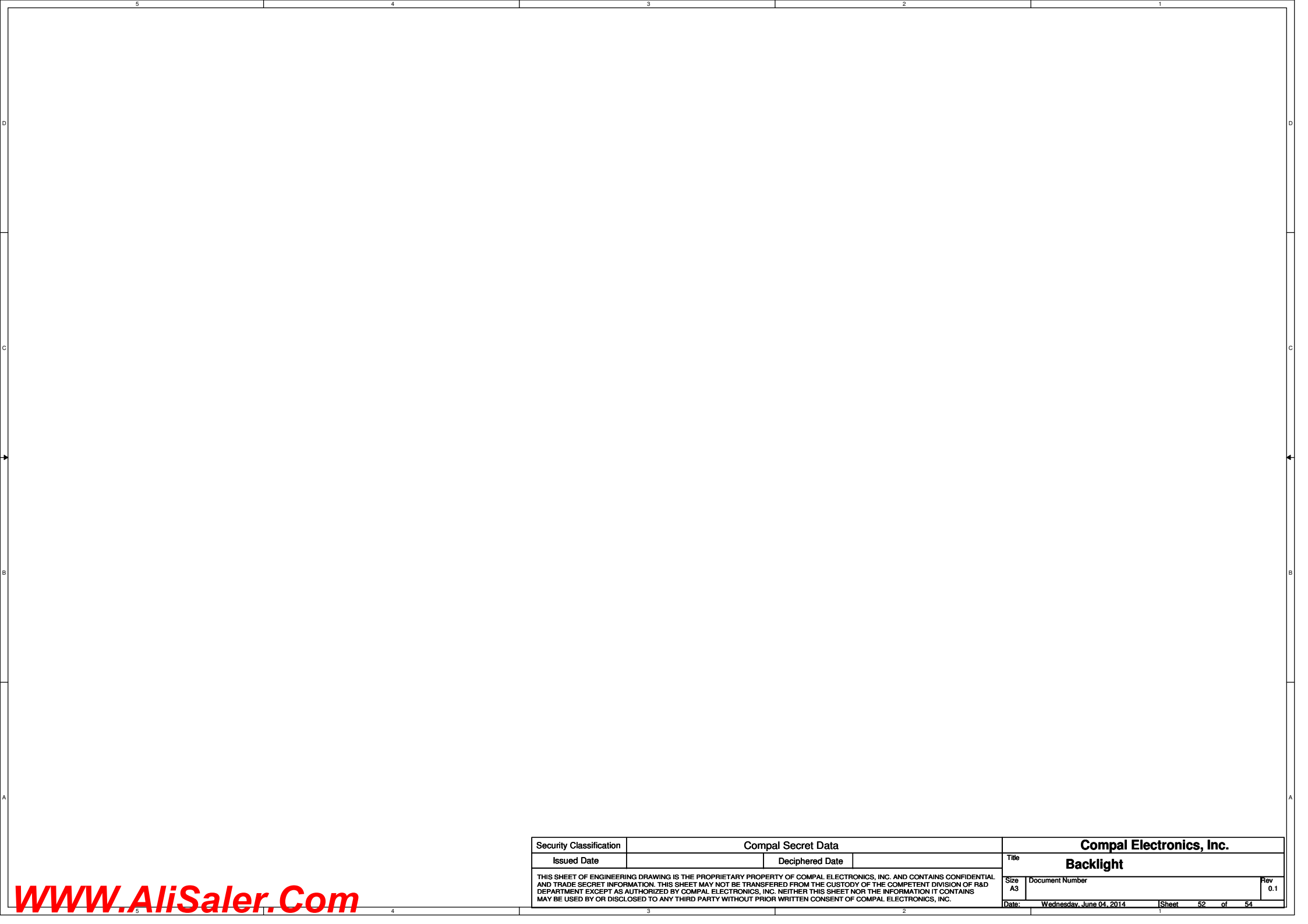
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Item	Reason for change	PG#	Modify List	Date	Phase
1					
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