Hatch

SCH: 650-03895-01-SCH
ASSY:650-03895-01
PCB: 651-03895-01

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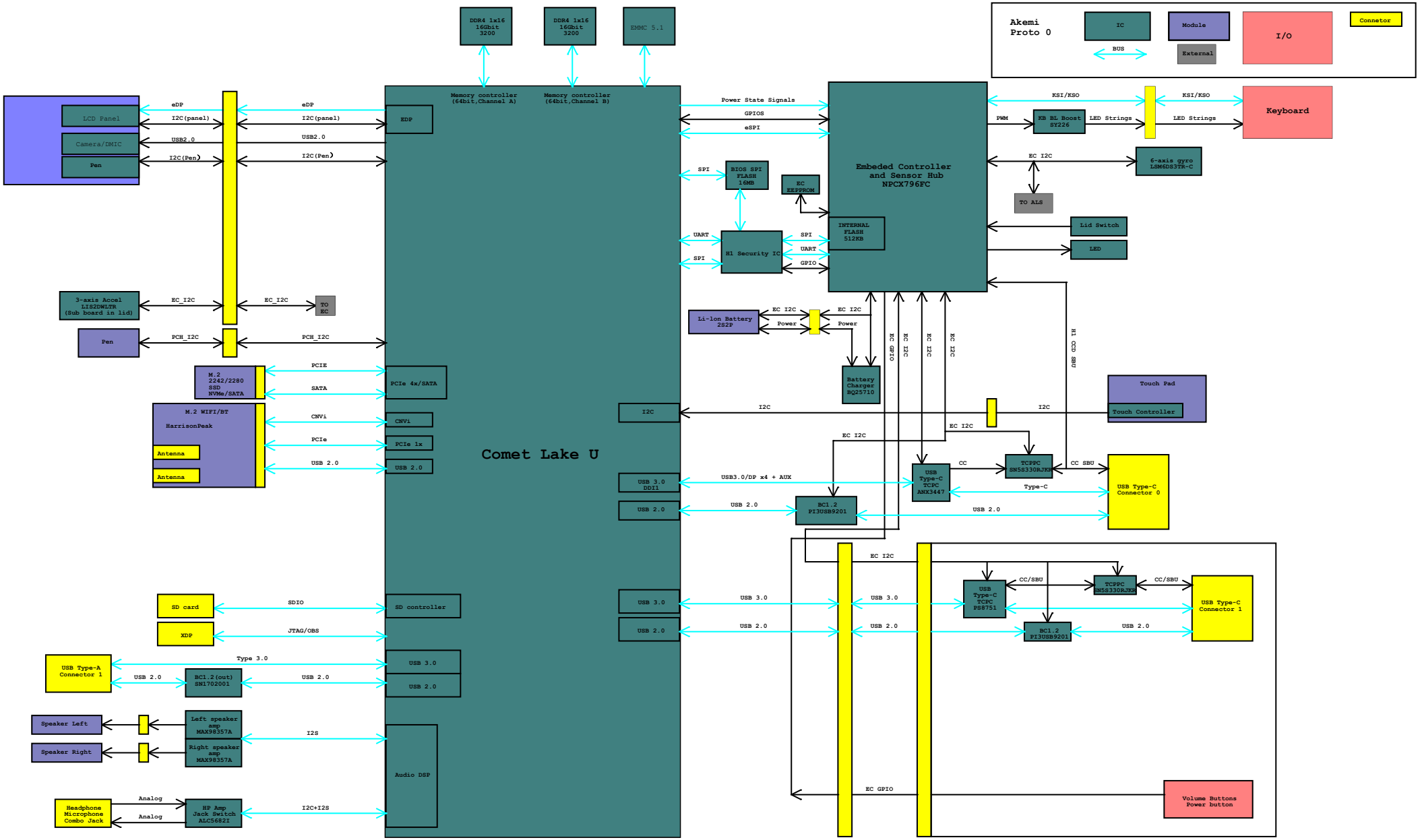

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Page Name: SYSTEM BLOCK DIAGRAM

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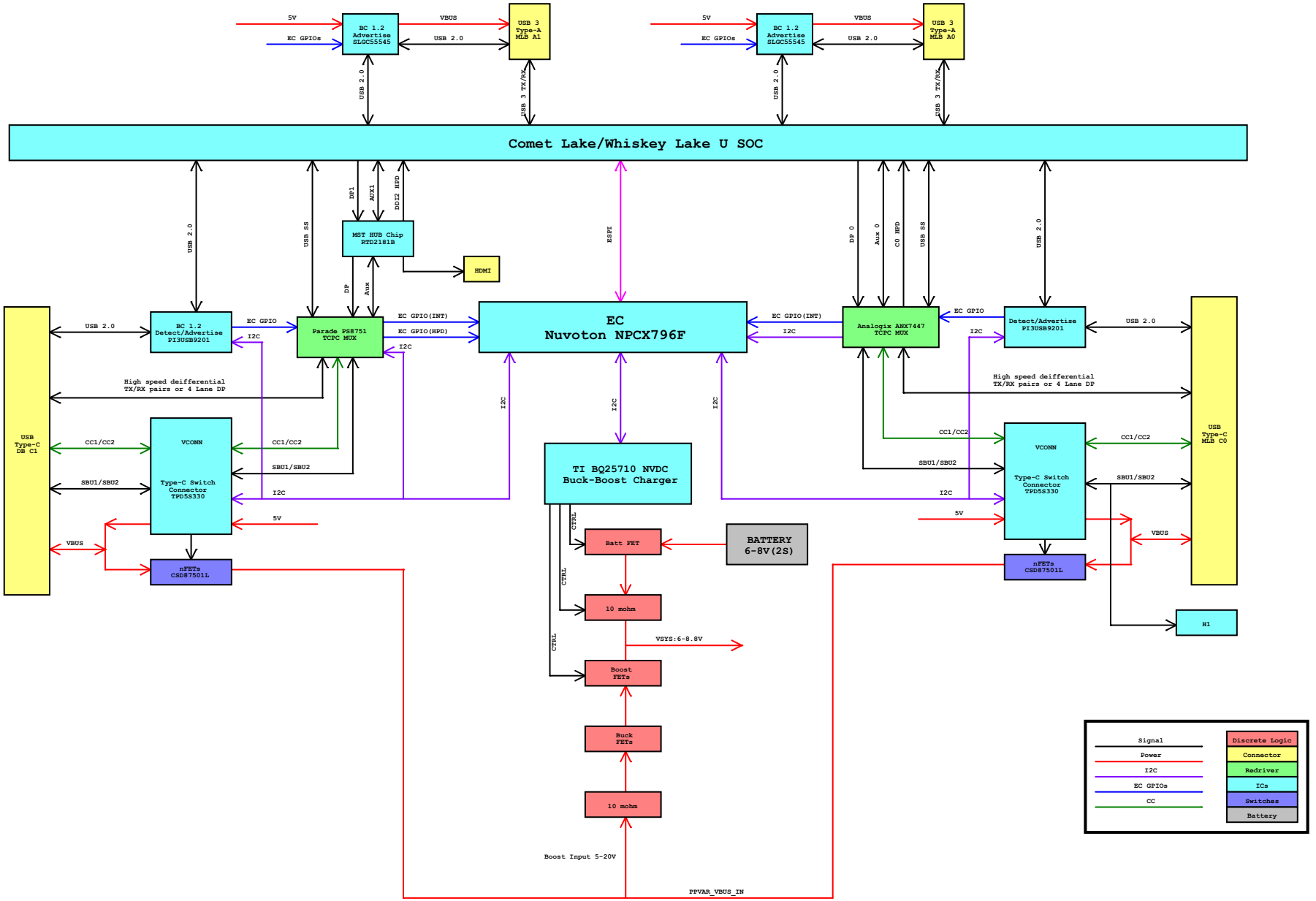

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Page Name: TYPE-C BLOCK DIAGRAM

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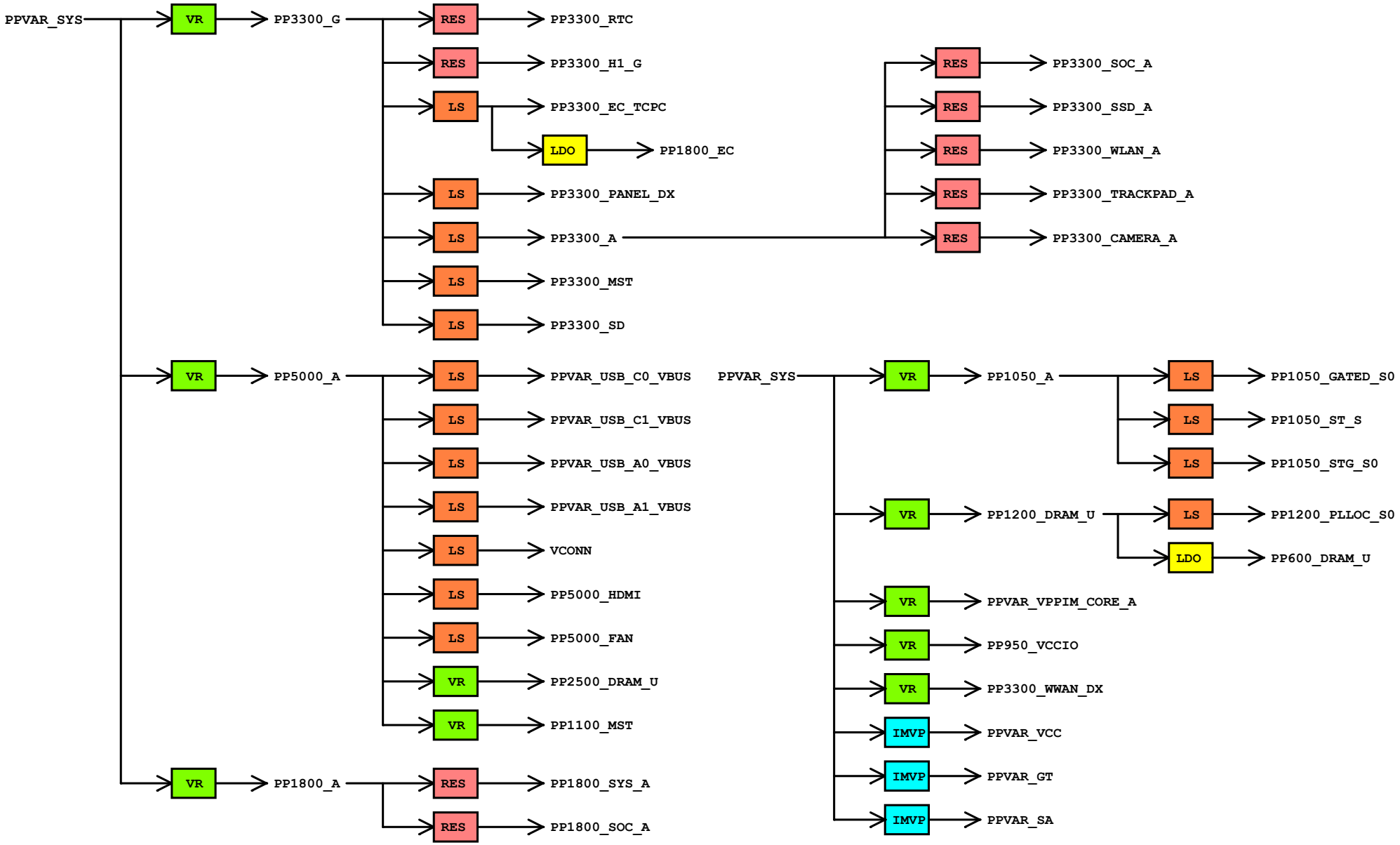

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Page Name: POWER TREE

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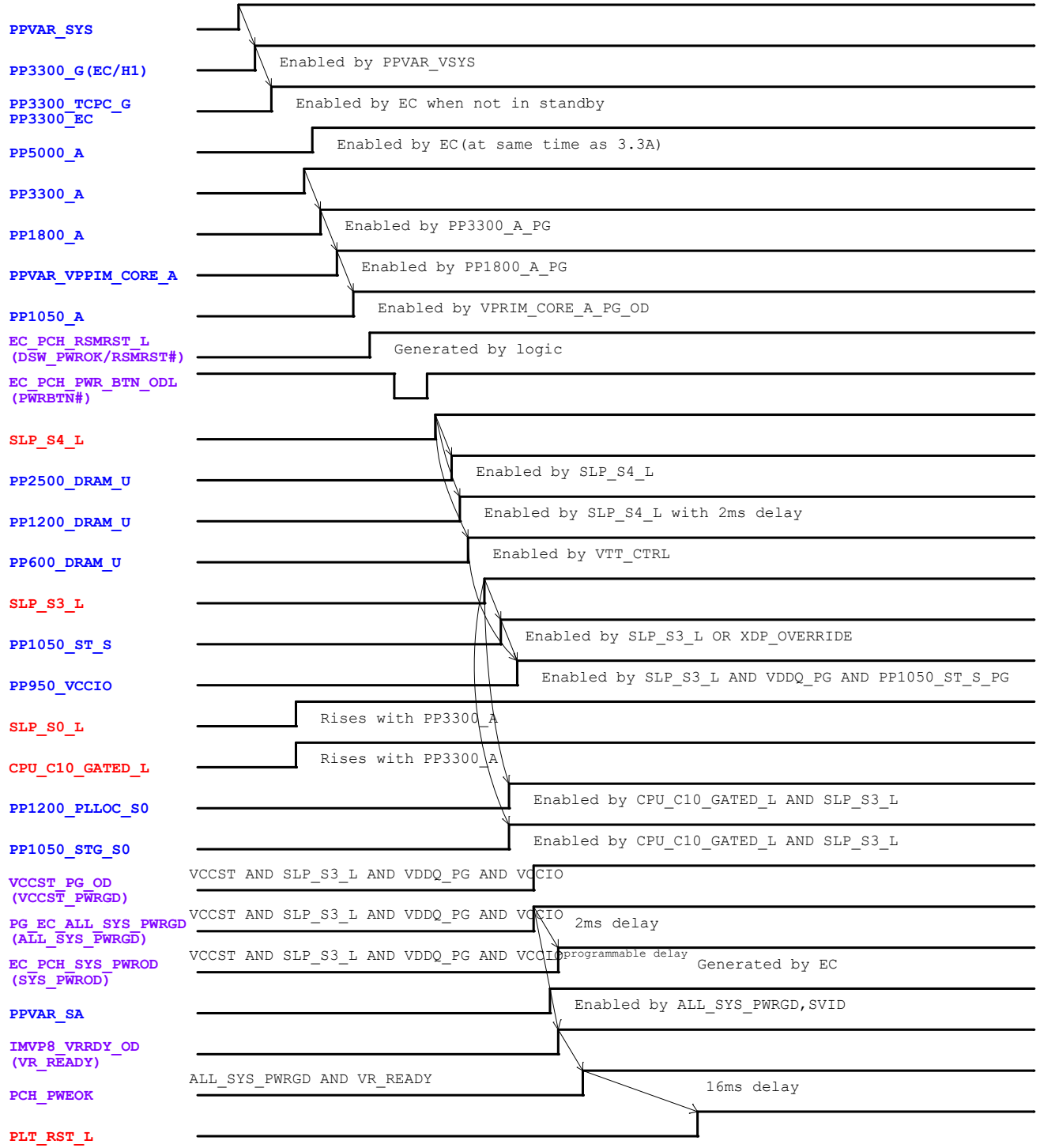

Power Rail
Signal from PCH
Signal from Platform

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Page Name: POWER SEQUENCING

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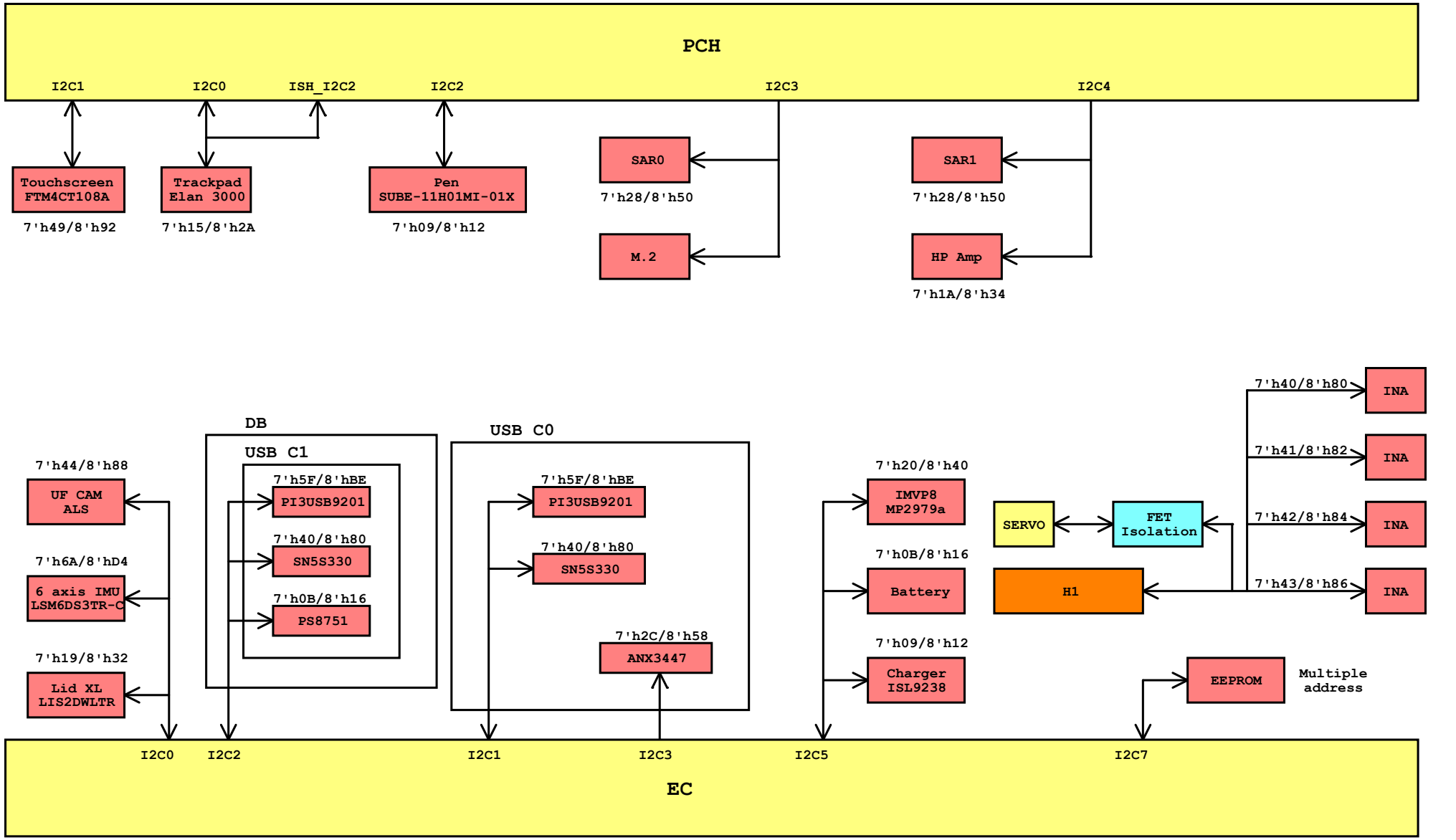
Hatch I2C Map

Updated:11/07/2018

LEGEND

I2C Master &Slave | I2C Master | I2C Slave

I2C addresses given in both 7 and 8 bit forms



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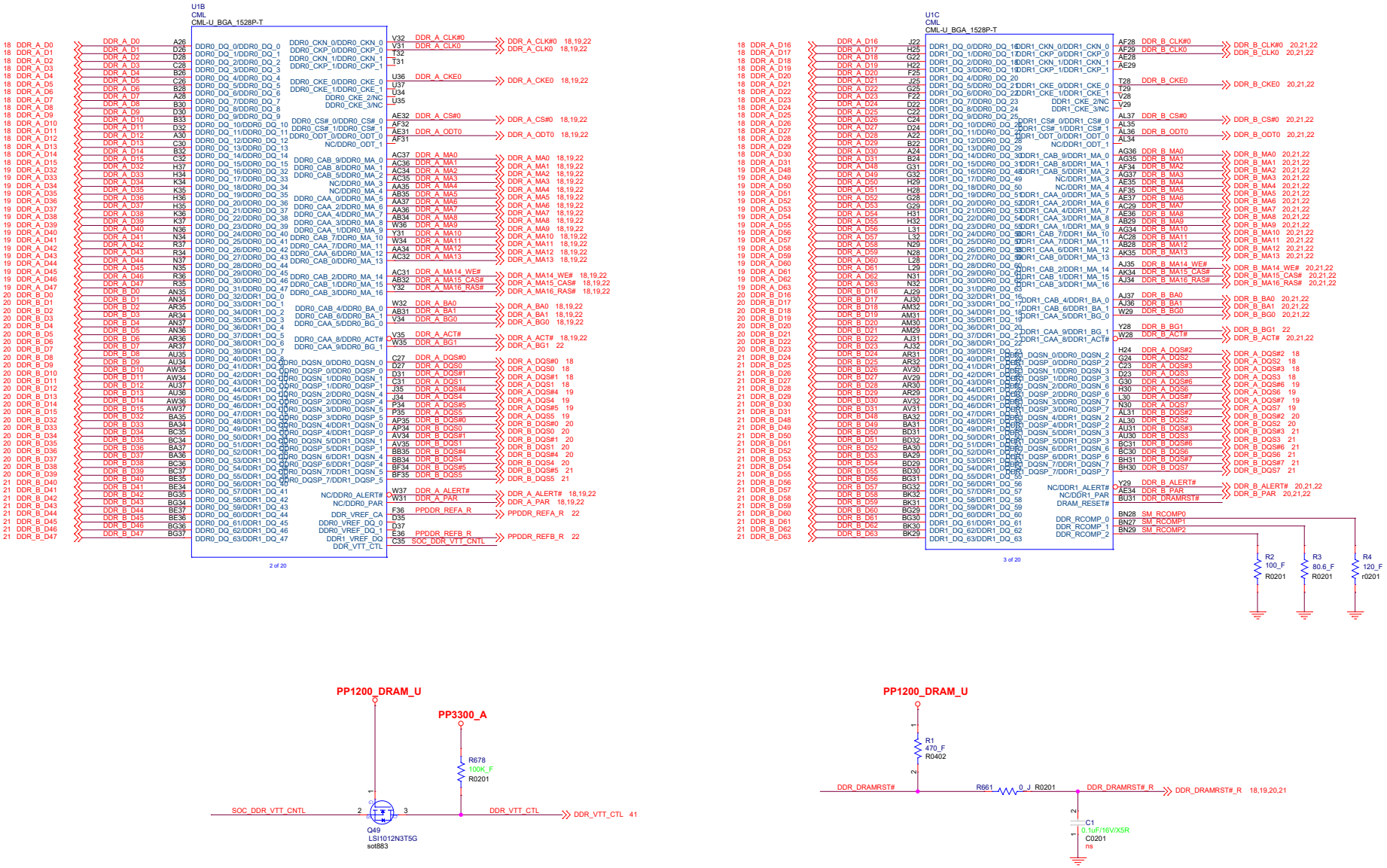

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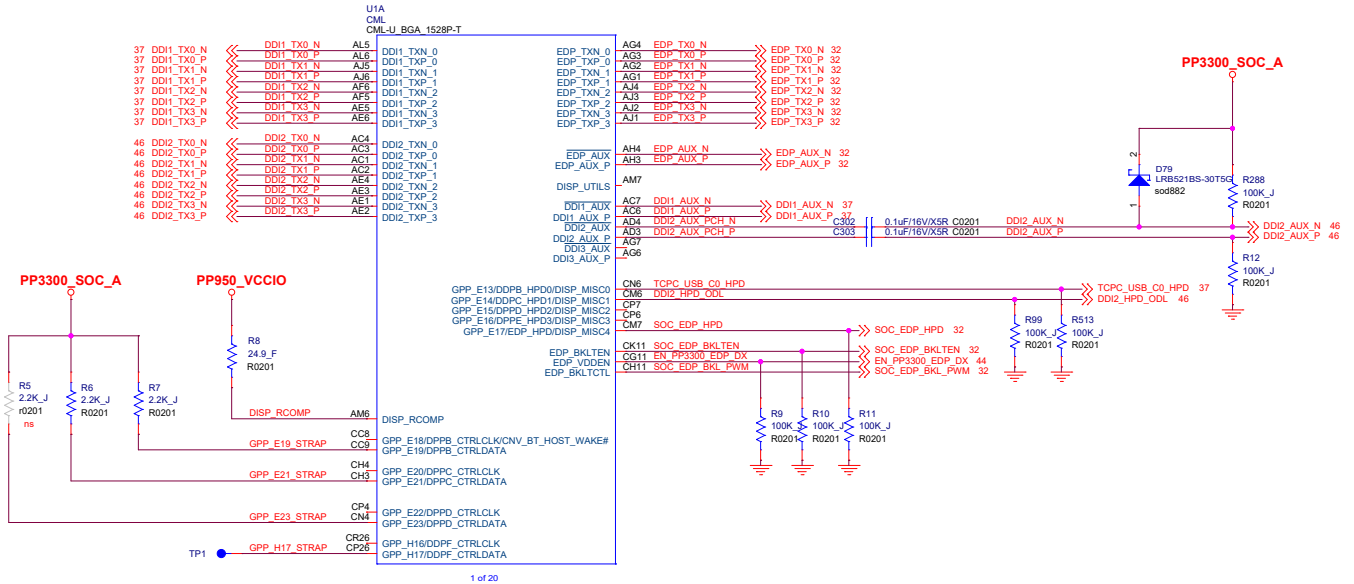

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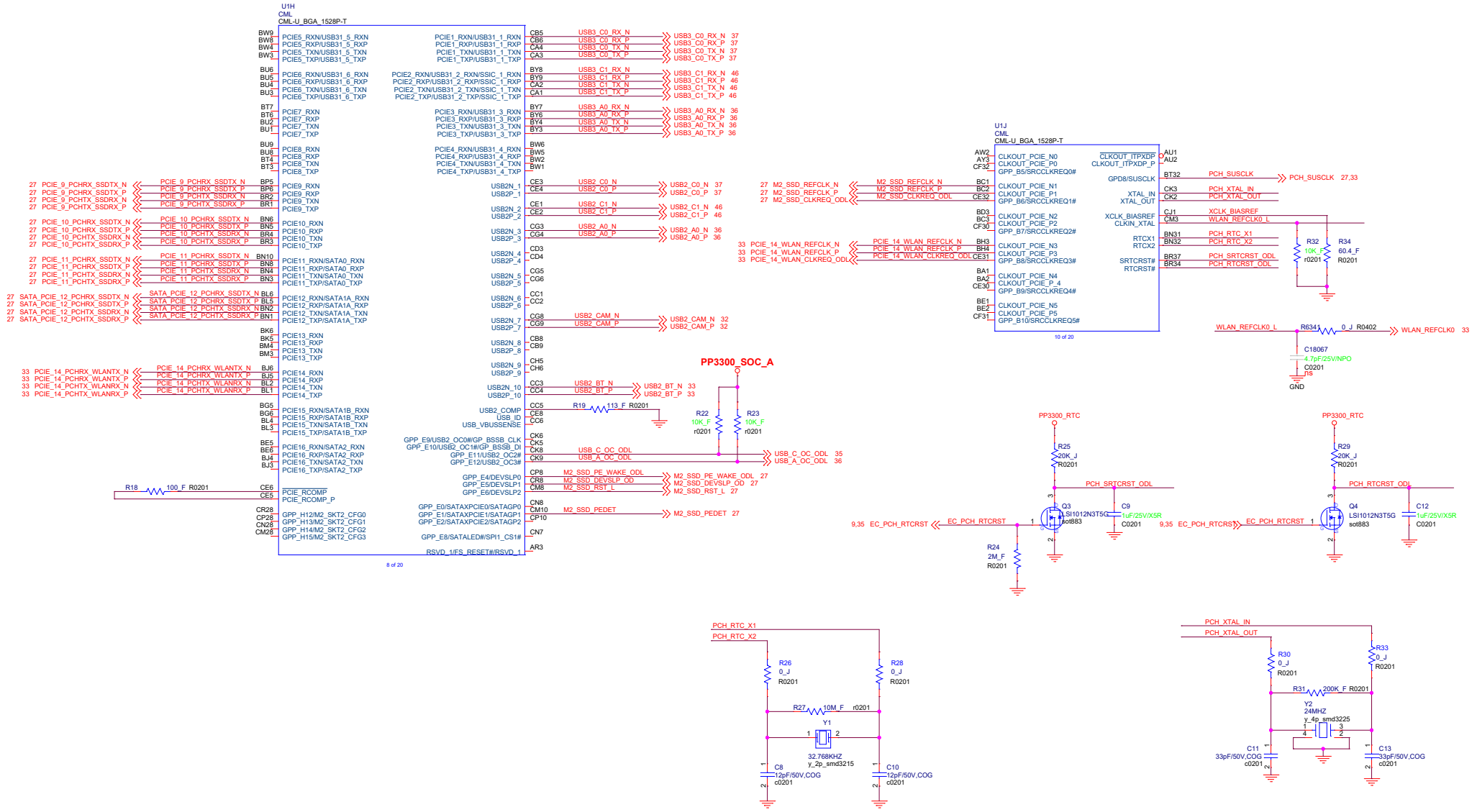

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Page Name: CML: USB/PCIE

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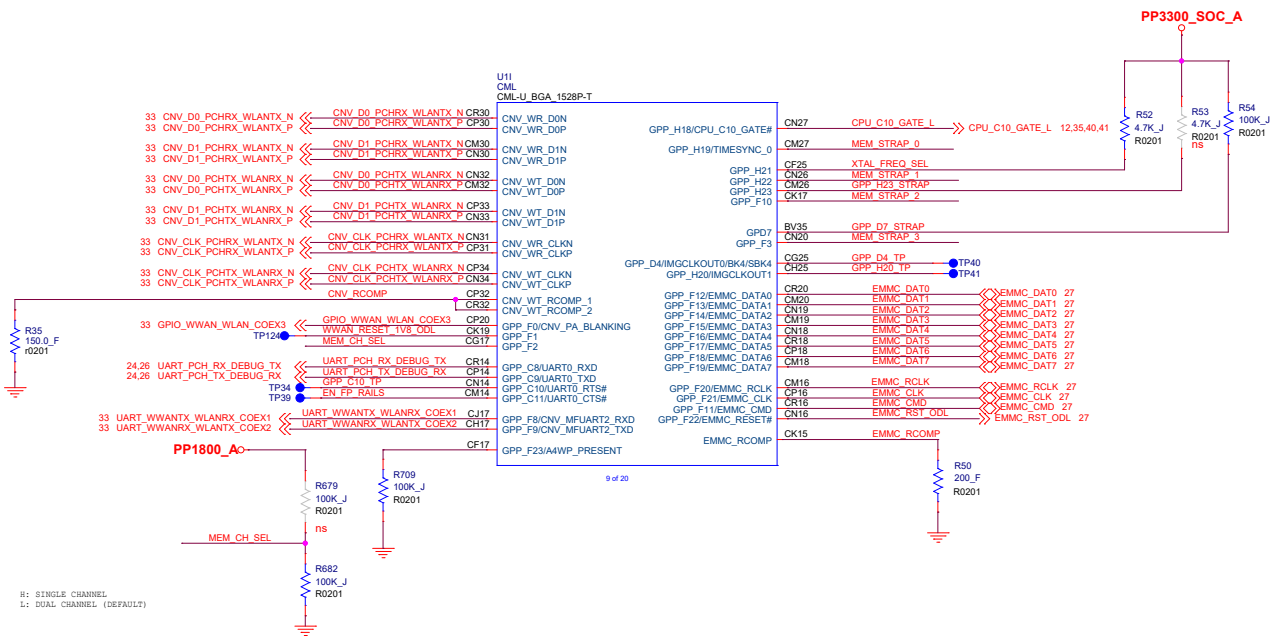
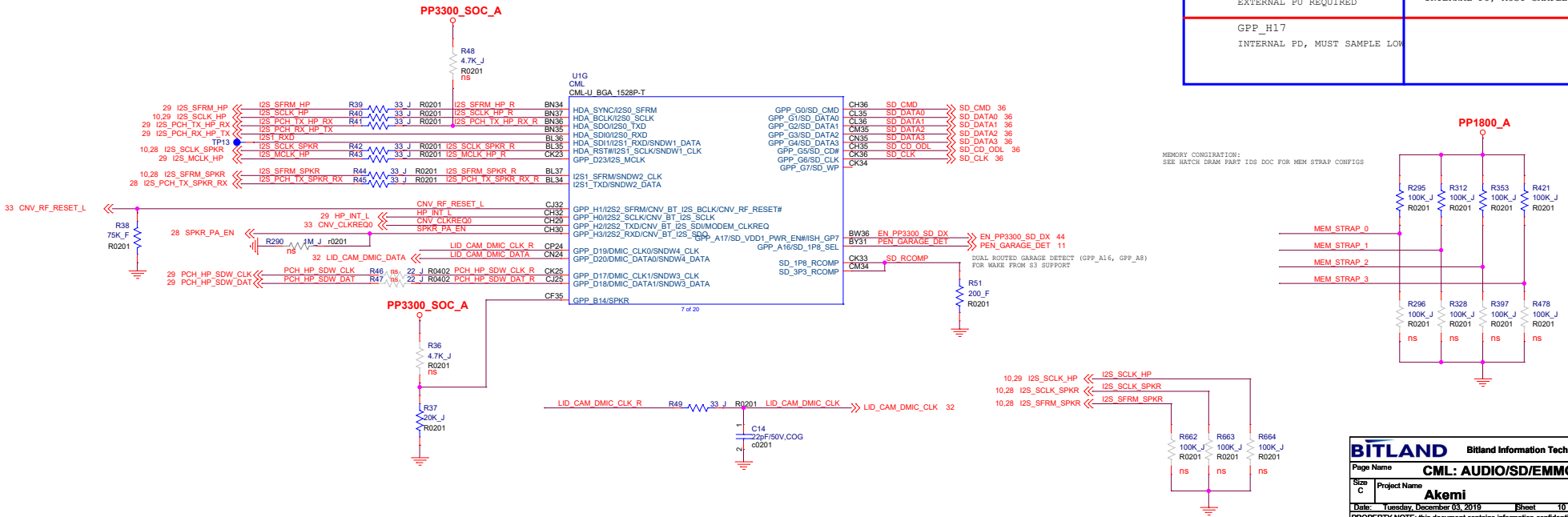


HARDWARE STRAPS (* = SYSTEM STRAP SELECTION)	
GPP_B14: EXTERNAL PD * DISABLE TOP SWAP MODE: 0 ENABLE TOP SWAP MODE: 1	GPP_E19: INTERNAL PD DISPLAY PORT B NOT DETECTED: 0 * DISPLAY PORT B DETECTED: 1
GPP_B18: INTERNAL PD * DISABLE NO REBOOT MODE: 0 ENABLE NO REBOOT MODE: 1	GPP_E21: INTERNAL PD DISPLAY PORT C NOT DETECTED: 0 * DISPLAY PORT C DETECTED: 1
GPP_C2: INTERNAL PD * DISABLE TSL CIPHER SUITE: 0 ENABLE TSL CIPHER SUITE: 1	GPP_E23: INTERNAL PD * DISPLAY PORT D NOT DETECTED: 0 DISPLAY PORT D DETECTED: 1
GPP_B22: INTERNAL PD * BOOT BIOS FROM SPI: 0 BOOT BIOS FROM LPC: 1	GPP_H23: MAF VS SAF SEL * MASTER ATTACHED FLASH: 0 SLAVE ATTACHED FLASH: 1
GPP_C5: INTERNAL PD LPC IS SELECTED FOR EC: 0 * ESPI IS SELECTED FOR EC: 1	GPP_F6 (M2 CAED CONTROLLED) INTEGRATED CNVI ENABLE: 0 *INTEGRATED CNVI DISABLED: 1
SPI0_MOSI EXTERNAL PU REQUIRED	SPI0_IO2 EXTERNAL PU REQUIRED
GPD7 EXTERNAL PU REQUIRED	SPI0_IO3 EXTERNAL PU REQUIRED
GPP_B23: INTERNAL * DISABLE DCI-OOB: 0 ENABLE DCI-OOB: 1	HDA_SDO: INTERNAL PD * ENABLE FLASH DESCRIPTOR SECURITY: 0 DISABLE FLASH DESCRIPTOR SECURITY: 1
INPUT3VSEL * 3.3V SUPPLY IS 3.3V: 0 3.3V SUPPLY IS 3.0V:	GPP_H21: XTAL FREQ SEL XTAL FREQ IS NOT 24MHZ: 0 *XTAL FREQ IS 24MHZ: 1
GPP_D12 EXTERNAL PU REQUIRED	ITP_MODE INTERNAL PU, MUST SAMPLE HIGH
GPP_H17 INTERNAL PD, MUST SAMPLE LOW	



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Page Name: CML: AUDIO/SD/EMMC/CNVI

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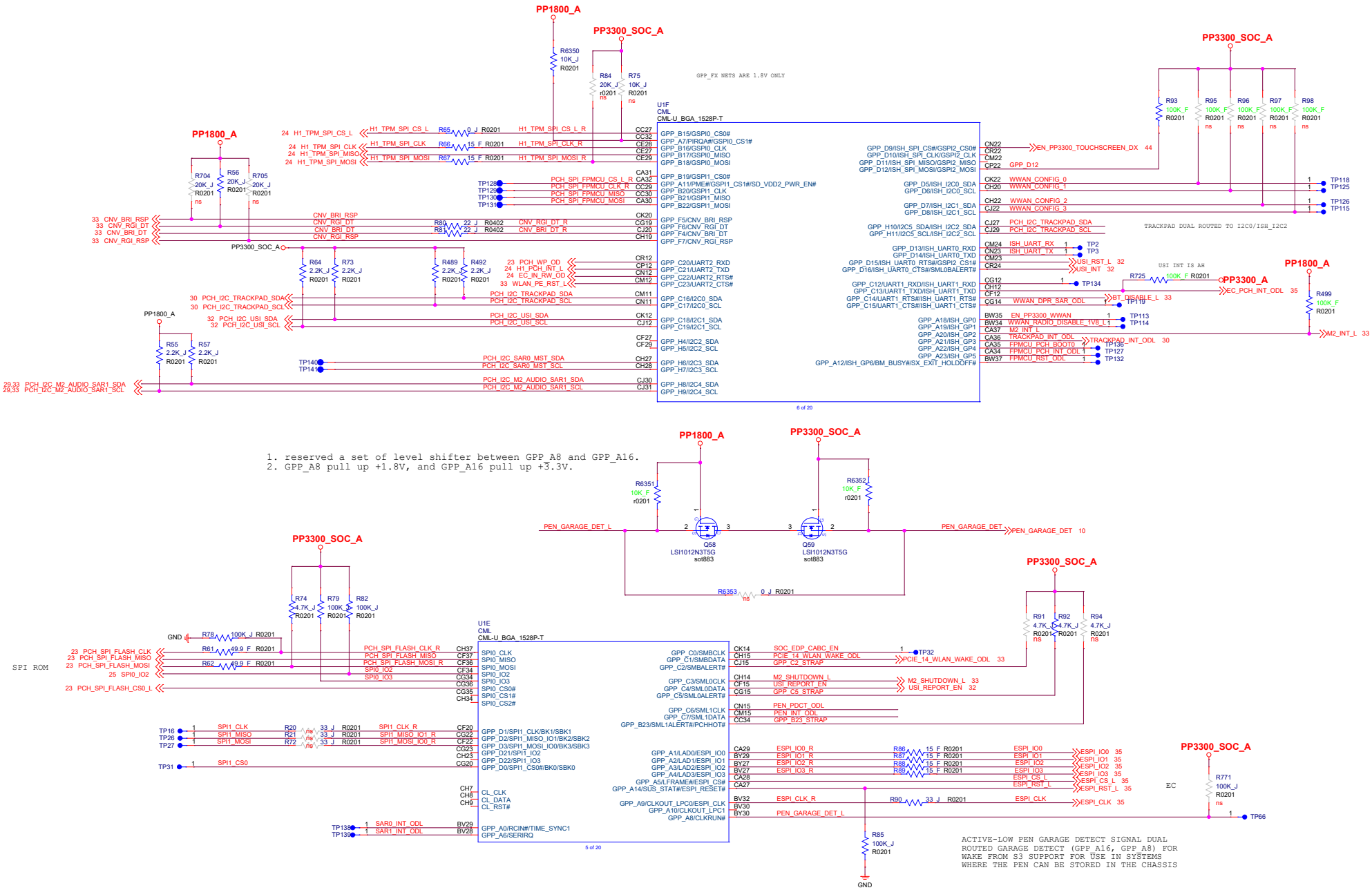

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Page Name: CML: ESPI/SPI/UART/I2C

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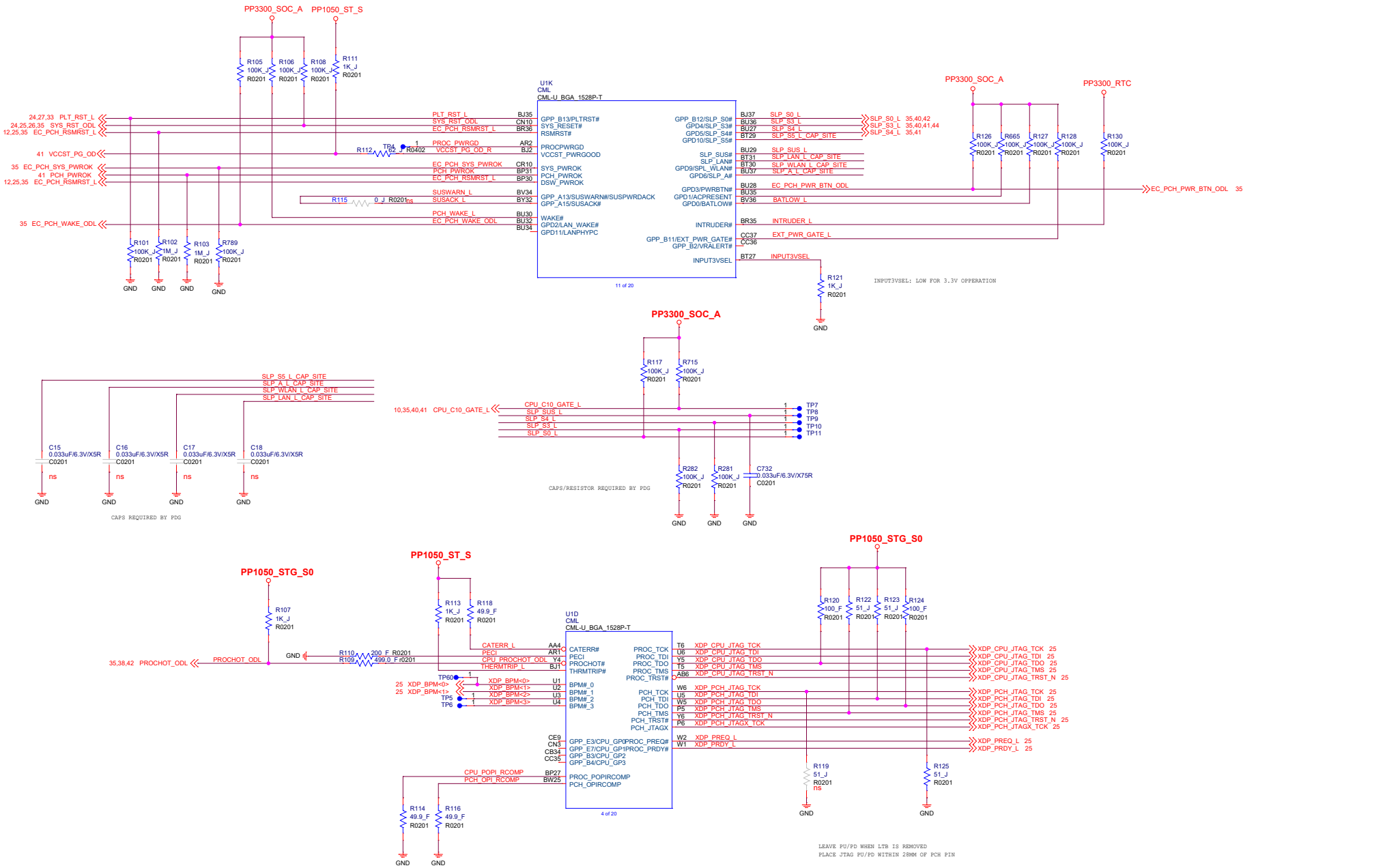

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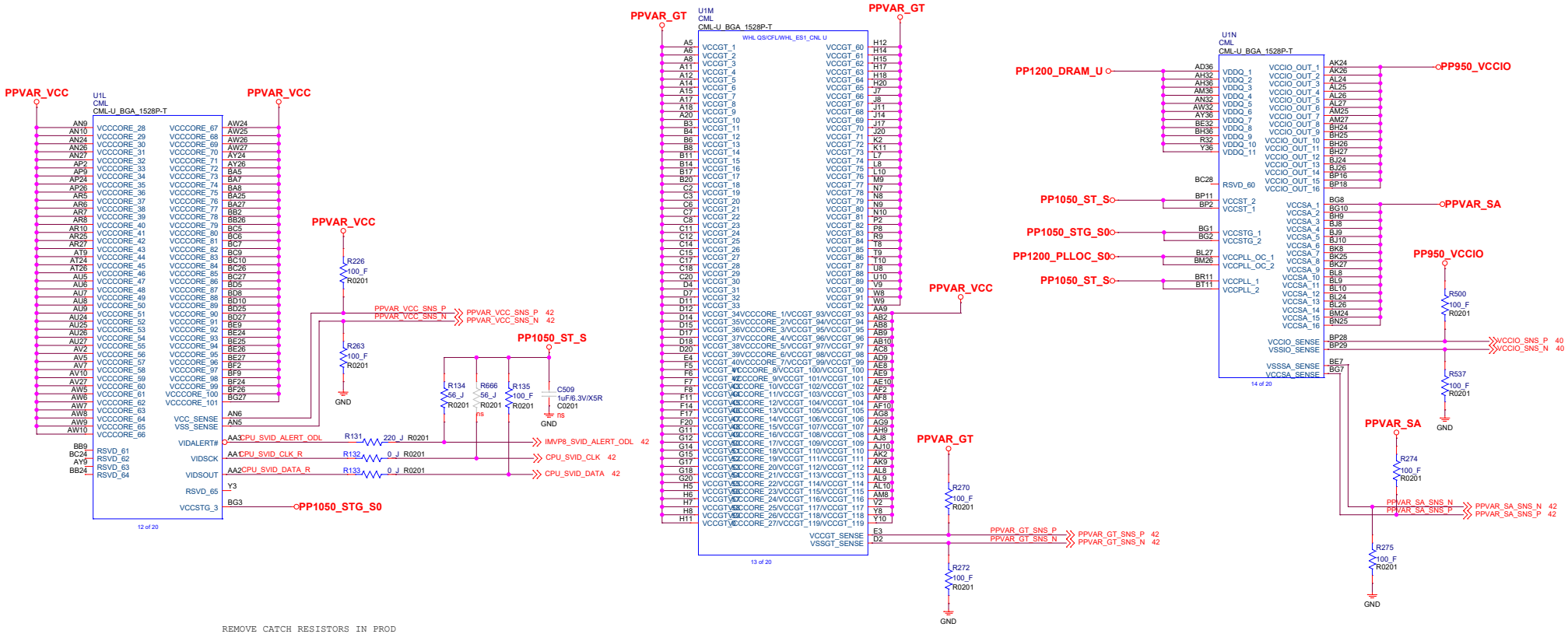

BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	CML: CORE POWER		
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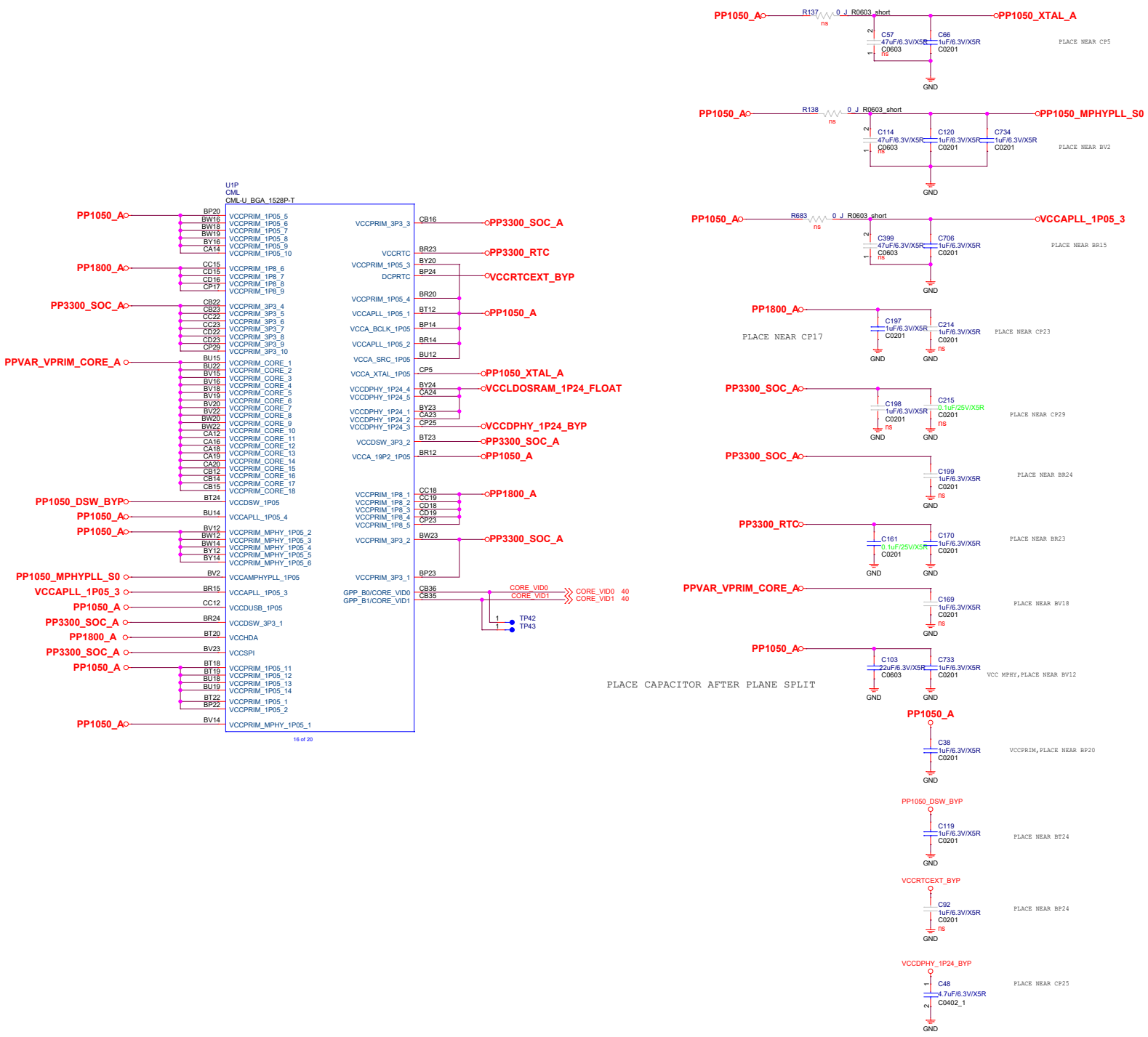

BITLAND	Bitland Information Technology Co.,Ltd.
Page Name	CML: PCH POWER
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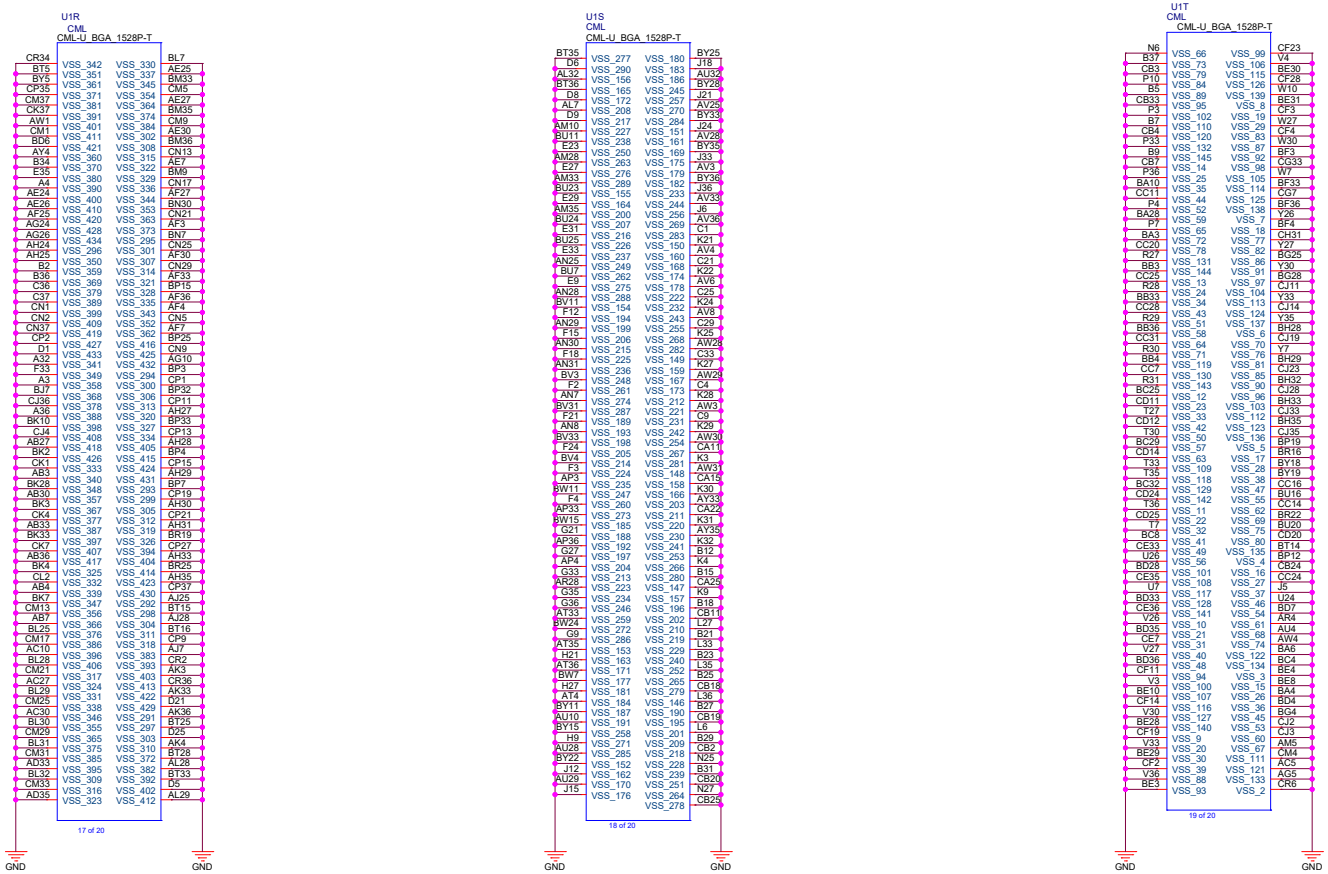

BITLAND	Bitland Information Technology Co.,Ltd.
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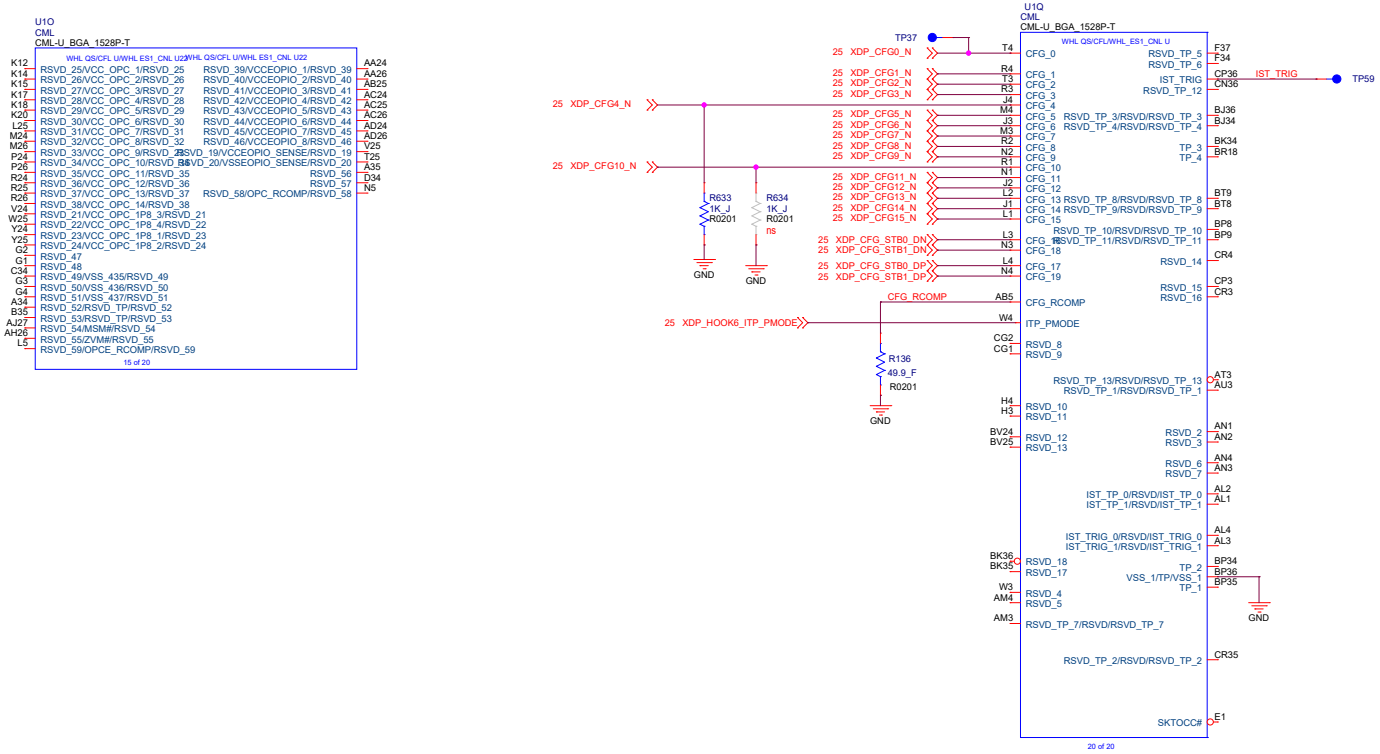

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Page Name: CML: DEBUG/RSVD

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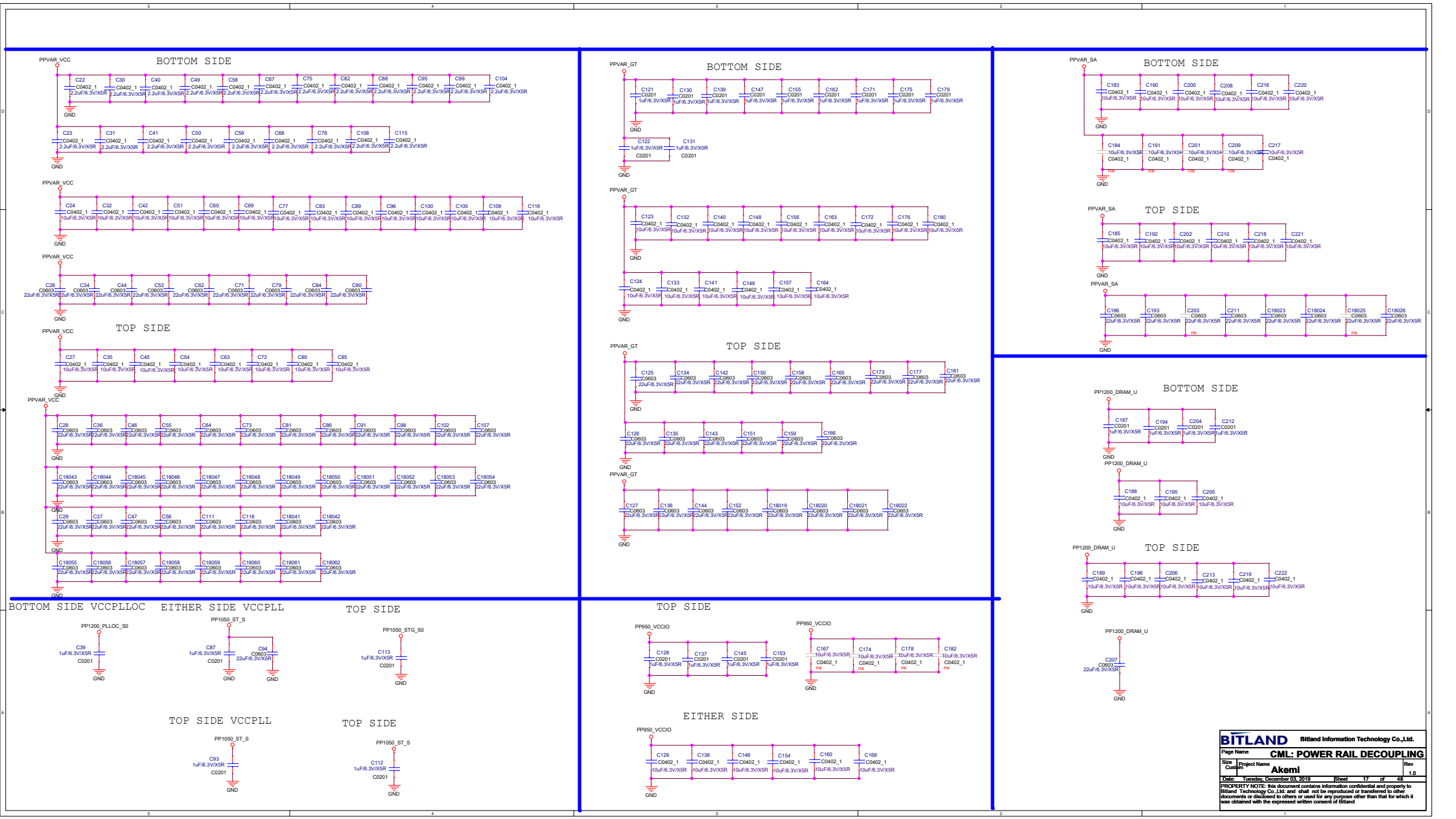

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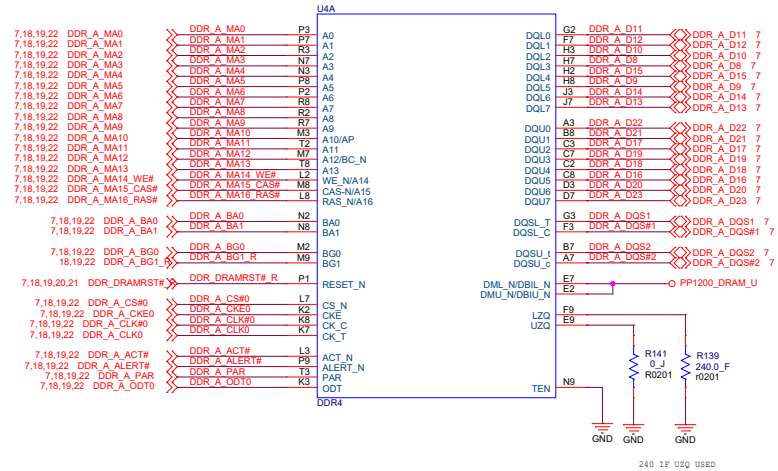

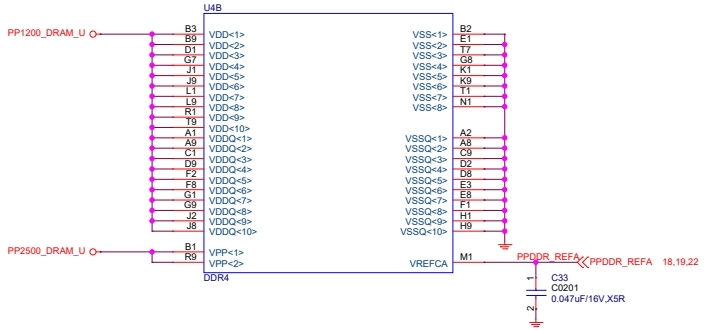

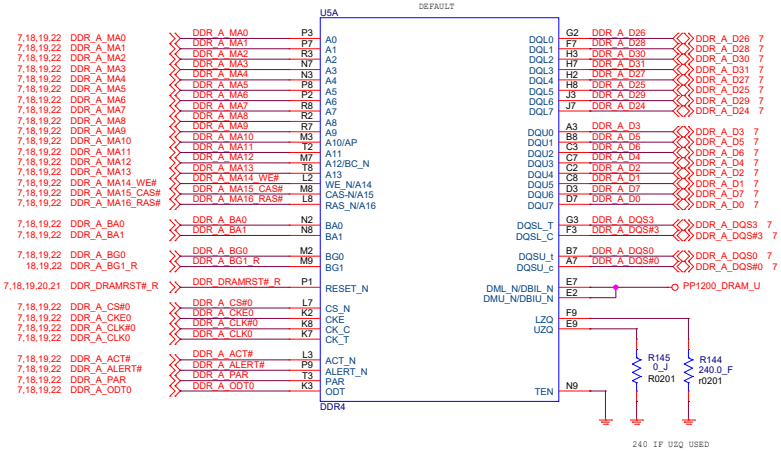

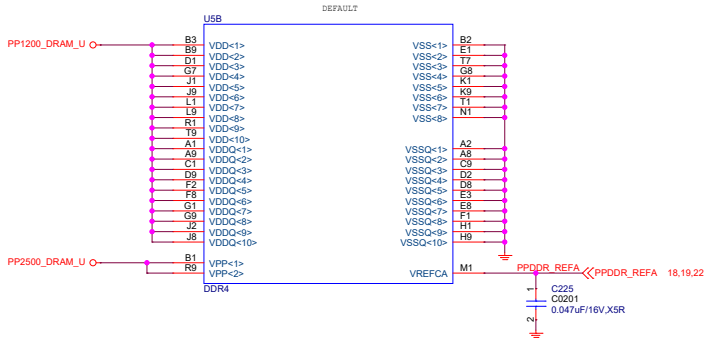

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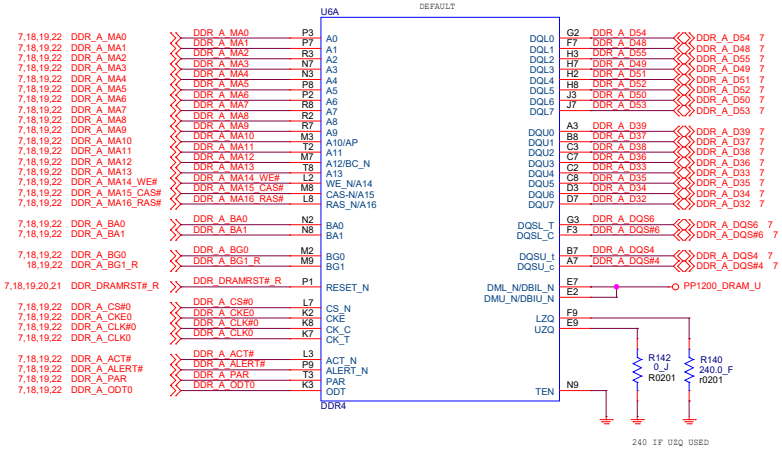

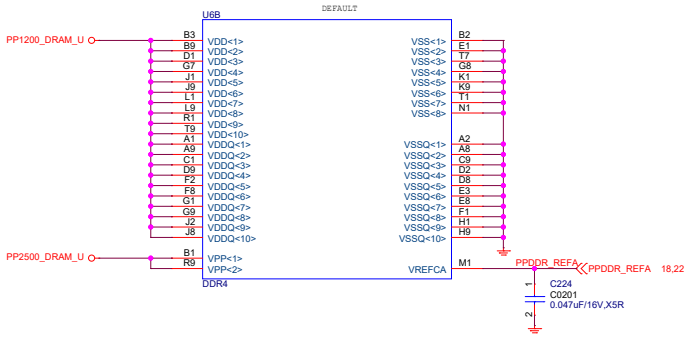

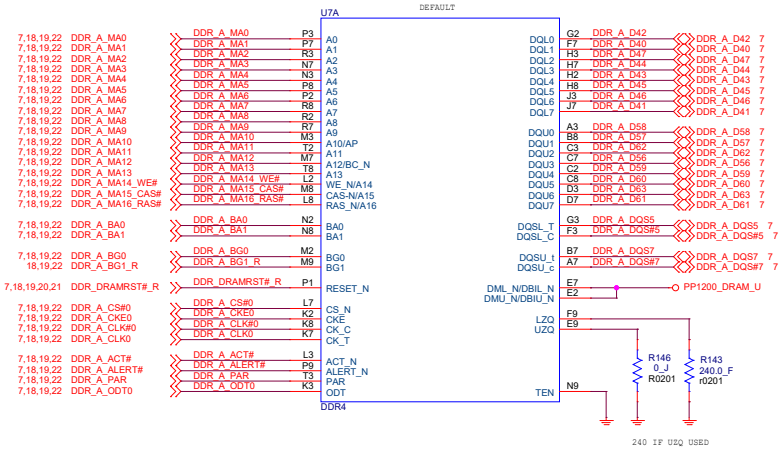

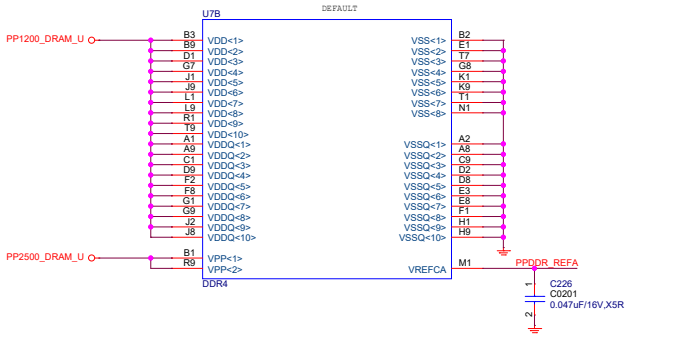

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Page Name: MEMORY CH A-2 DDR4

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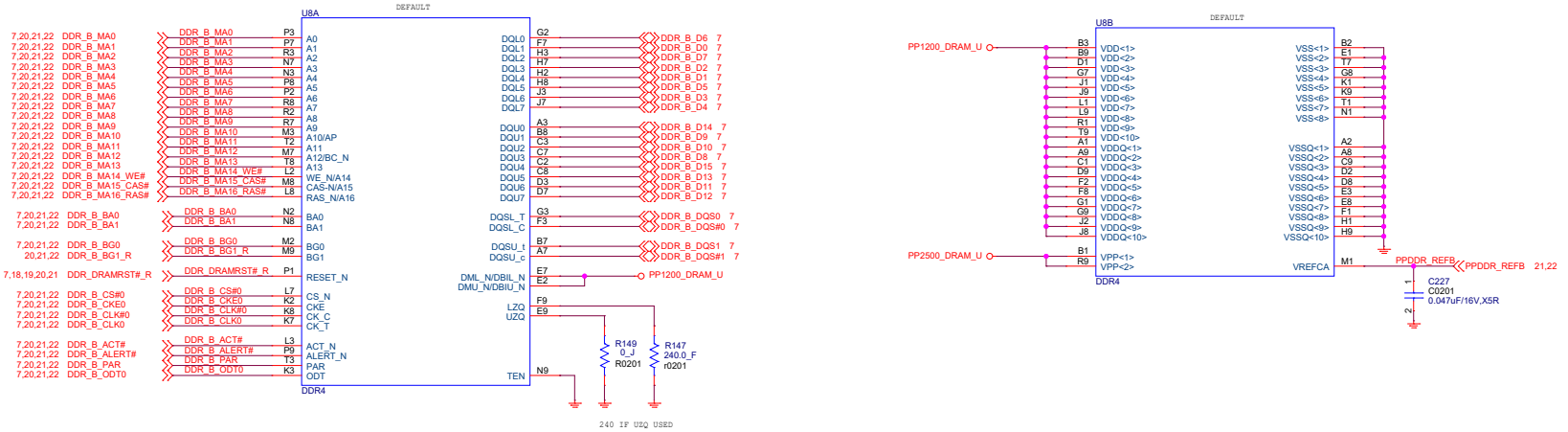

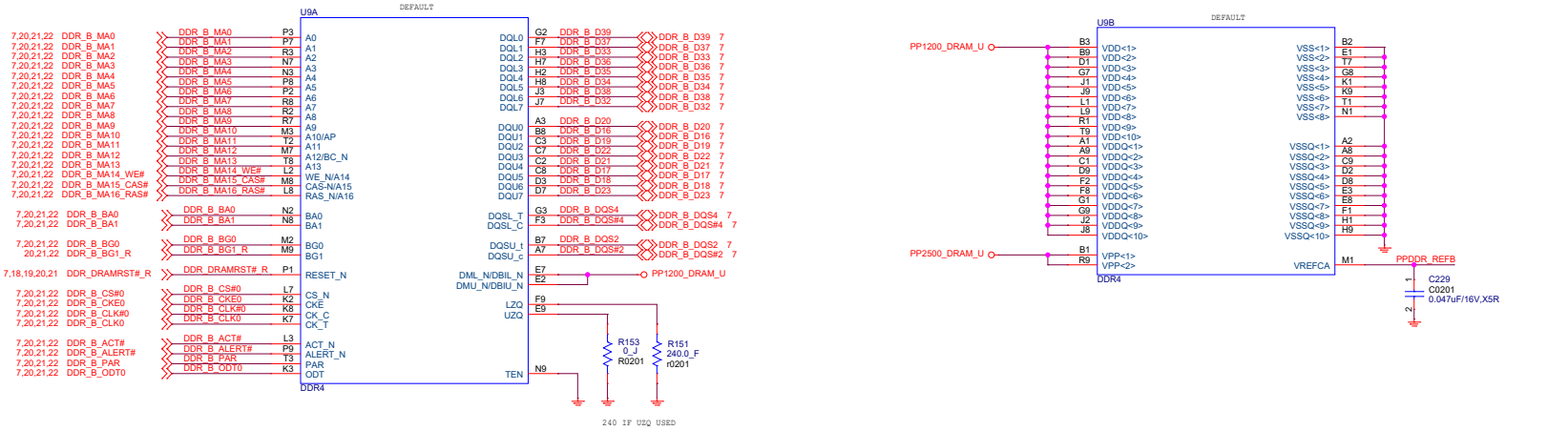

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Page Name: MEMORY CH B-1 DDR4

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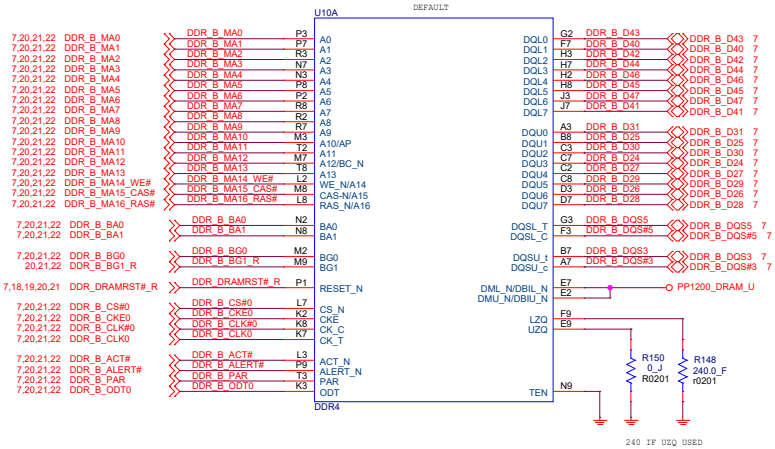

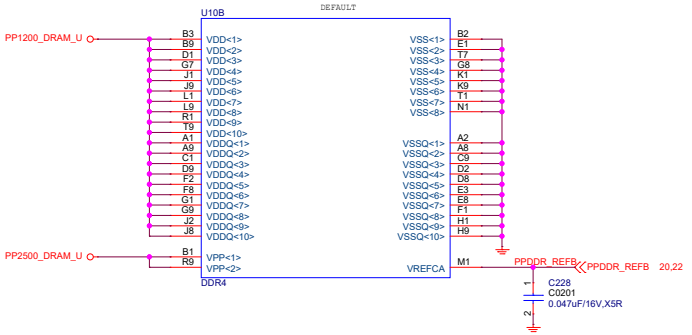

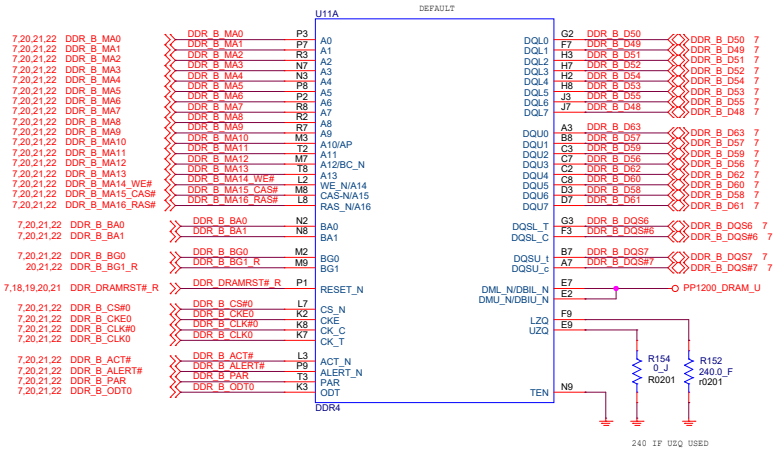

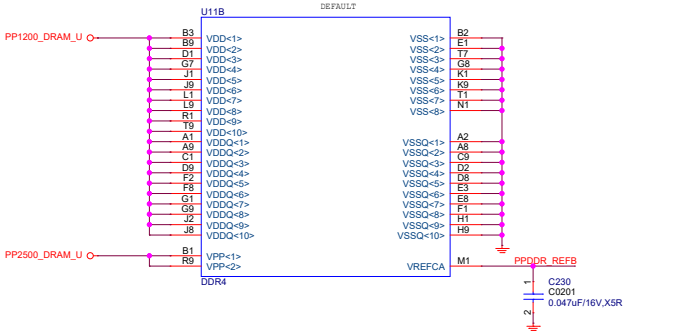

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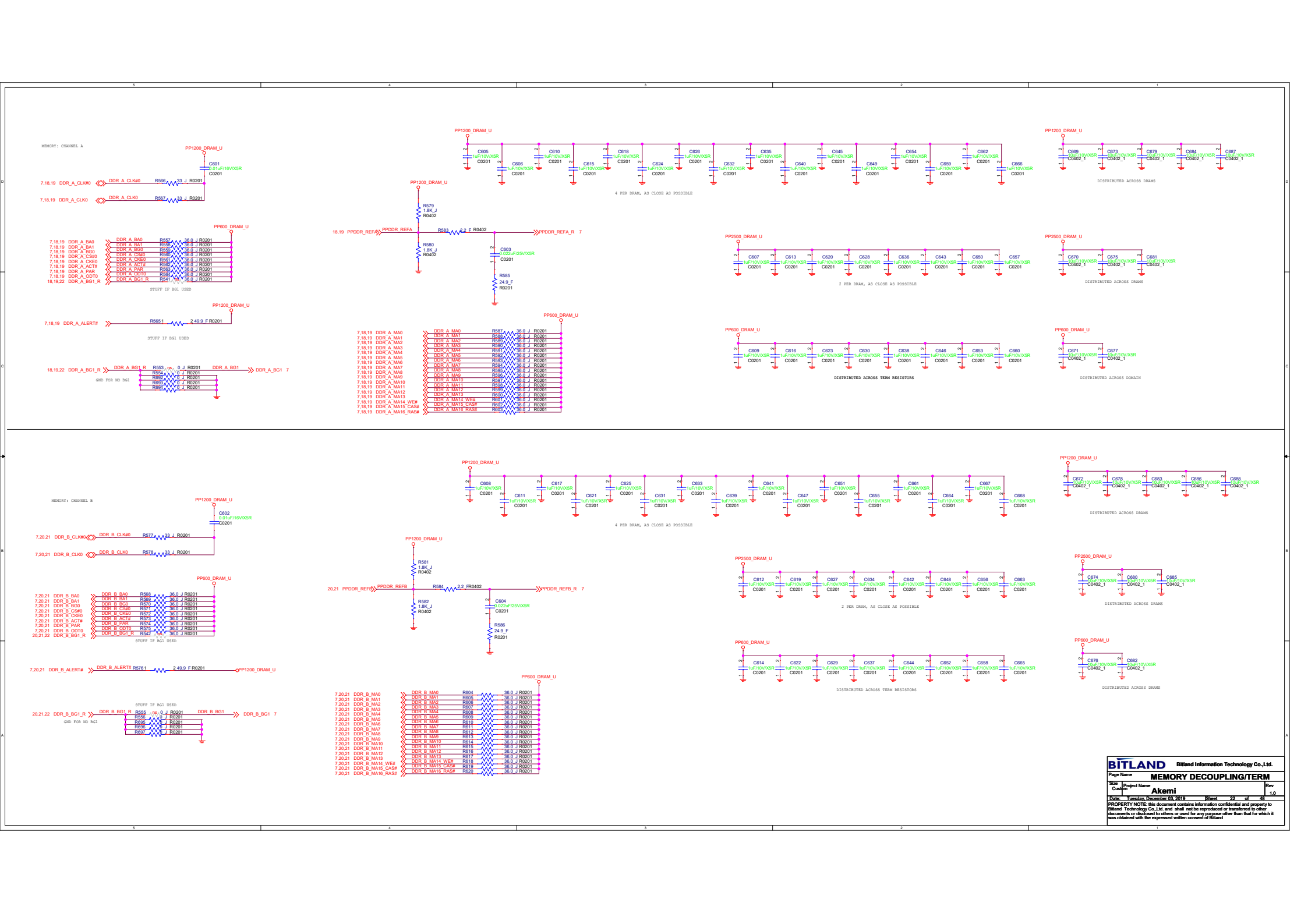
MEMORY: CHANNEL A
PP1200_DRAM_U
C601 0.01uF/16V/X5R C0201
7,18,19 DDR_A_CLK#0 DDR_A_CLK#0 R566 33_J R0201
7,18,19 DDR_A_CLK0 DDR_A_CLK0 R567 33_J R0201
PP600_DRAM_U
7,18,19 DDR_A_BA0 DDR_A_BA0 R557 36.0_J R0201
7,18,19 DDR_A_BA1 DDR_A_BA1 R558 36.0_J R0201
7,18,19 DDR_A_BG0 DDR_A_BG0 R559 36.0_J R0201
7,18,19 DDR_A_CS#0 DDR_A_CS#0 R560 36.0_J R0201
7,18,19 DDR_A_CKE0 DDR_A_CKE0 R561 36.0_J R0201
7,18,19 DDR_A_ACT# DDR_A_ACT# R562 36.0_J R0201
7,18,19 DDR_A_PAR DDR_A_PAR R563 36.0_J R0201
7,18,19 DDR_A_ODT0 DDR_A_ODT0 R564 36.0_J R0201
18,19,22 DDR_A_BG1_R DDR_A_BG1_R R541 36.0_J R0201
STUFF IF BG1 USED
PP1200_DRAM_U
7,18,19 DDR_A_ALERT# R565 1 2 49.9_F R0201
STUFF IF BG1 USED
18,19,22 DDR_A_BG1_R DDR_A_BG1_R R553 0_J R0201 DDR_A_BG1
GND FOR NO BG1
R554 0_J R0201
R692 0_J R0201
R693 0_J R0201
R694 0_J R0201
DDR_A_BG1 7
PP1200_DRAM_U
C605 1uF/10V/X5R C0201
C606 1uF/10V/X5R C0201
C610 1uF/10V/X5R C0201
C615 1uF/10V/X5R C0201
C618 1uF/10V/X5R C0201
C624 1uF/10V/X5R C0201
C626 1uF/10V/X5R C0201
C632 1uF/10V/X5R C0201
C635 1uF/10V/X5R C0201
C640 1uF/10V/X5R C0201
C645 1uF/10V/X5R C0201
C649 1uF/10V/X5R C0201
C654 1uF/10V/X5R C0201
C658 1uF/10V/X5R C0201
C662 1uF/10V/X5R C0201
C666 1uF/10V/X5R C0201
4 PER DRAM, AS CLOSE AS POSSIBLE
PP1200_DRAM_U
R579 1.8K_J R0402
18,19 PPDDR_REF PPDDR_REFA R583 2.2_F R0402 PPDDR_REFA_R 7
R580 1.8K_J R0402
C603 0.022uF/25V/X5R C0201
R585 24.9_F R0201
PP600_DRAM_U
7,18,19 DDR_A_MA0 DDR_A_MA0 R587 36.0_J R0201
7,18,19 DDR_A_MA1 DDR_A_MA1 R588 36.0_J R0201
7,18,19 DDR_A_MA2 DDR_A_MA2 R589 36.0_J R0201
7,18,19 DDR_A_MA3 DDR_A_MA3 R590 36.0_J R0201
7,18,19 DDR_A_MA4 DDR_A_MA4 R591 36.0_J R0201
7,18,19 DDR_A_MA5 DDR_A_MA5 R592 36.0_J R0201
7,18,19 DDR_A_MA6 DDR_A_MA6 R593 36.0_J R0201
7,18,19 DDR_A_MA7 DDR_A_MA7 R594 36.0_J R0201
7,18,19 DDR_A_MA8 DDR_A_MA8 R595 36.0_J R0201
7,18,19 DDR_A_MA9 DDR_A_MA9 R596 36.0_J R0201
7,18,19 DDR_A_MA10 DDR_A_MA10 R597 36.0_J R0201
7,18,19 DDR_A_MA11 DDR_A_MA11 R598 36.0_J R0201
7,18,19 DDR_A_MA12 DDR_A_MA12 R599 36.0_J R0201
7,18,19 DDR_A_MA13 DDR_A_MA13 R600 36.0_J R0201
7,18,19 DDR_A_MA14_WE# DDR_A_MA14_WE# R601 36.0_J R0201
7,18,19 DDR_A_MA15_CAS# DDR_A_MA15_CAS# R602 36.0_J R0201
7,18,19 DDR_A_MA16_RAS# DDR_A_MA16_RAS# R603 36.0_J R0201
PP1200_DRAM_U
C669 10uF/10V/X5R C0402_1
C673 10uF/10V/X5R C0402_1
C679 10uF/10V/X5R C0402_1
C684 10uF/10V/X5R C0402_1
C687 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DRAMS
PP2500_DRAM_U
C607 1uF/10V/X5R C0201
C613 1uF/10V/X5R C0201
C620 1uF/10V/X5R C0201
C628 1uF/10V/X5R C0201
C636 1uF/10V/X5R C0201
C643 1uF/10V/X5R C0201
C650 1uF/10V/X5R C0201
C657 1uF/10V/X5R C0201
2 PER DRAM, AS CLOSE AS POSSIBLE
PP2500_DRAM_U
C670 10uF/10V/X5R C0402_1
C675 10uF/10V/X5R C0402_1
C681 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DRAMS
PP600_DRAM_U
C609 1uF/10V/X5R C0201
C616 1uF/10V/X5R C0201
C623 1uF/10V/X5R C0201
C630 1uF/10V/X5R C0201
C638 1uF/10V/X5R C0201
C646 1uF/10V/X5R C0201
C653 1uF/10V/X5R C0201
C660 1uF/10V/X5R C0201
DISTRIBUTED ACROSS TERM RESISTORS
PP600_DRAM_U
C671 10uF/10V/X5R C0402_1
C677 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DOMAIN
MEMORY: CHANNEL B
PP1200_DRAM_U
C602 0.01uF/16V/X5R C0201
7,20,21 DDR_B_CLK#0 DDR_B_CLK#0 R577 33_J R0201
7,20,21 DDR_B_CLK0 DDR_B_CLK0 R578 33_J R0201
PP600_DRAM_U
7,20,21 DDR_B_BA0 DDR_B_BA0 R568 36.0_J R0201
7,20,21 DDR_B_BA1 DDR_B_BA1 R569 36.0_J R0201
7,20,21 DDR_B_BG0 DDR_B_BG0 R570 36.0_J R0201
7,20,21 DDR_B_CS#0 DDR_B_CS#0 R571 36.0_J R0201
7,20,21 DDR_B_CKE0 DDR_B_CKE0 R572 36.0_J R0201
7,20,21 DDR_B_ACT# DDR_B_ACT# R573 36.0_J R0201
7,20,21 DDR_B_PAR DDR_B_PAR R574 36.0_J R0201
7,20,21 DDR_B_ODT0 DDR_B_ODT0 R575 36.0_J R0201
20,21,22 DDR_B_BG1_R DDR_B_BG1_R R542 36.0_J R0201
STUFF IF BG1 USED
7,20,21 DDR_B_ALERT# DDR_B_ALERT# R576 1 2 49.9_F R0201 PP1200_DRAM_U
STUFF IF BG1 USED
20,21,22 DDR_B_BG1_R DDR_B_BG1_R R555 0_J R0201 DDR_B_BG1
GND FOR NO BG1
R556 0_J R0201
R695 0_J R0201
R696 0_J R0201
R697 0_J R0201
DDR_B_BG1 7
PP1200_DRAM_U
C606 1uF/10V/X5R C0201
C611 1uF/10V/X5R C0201
C617 1uF/10V/X5R C0201
C621 1uF/10V/X5R C0201
C625 1uF/10V/X5R C0201
C631 1uF/10V/X5R C0201
C633 1uF/10V/X5R C0201
C639 1uF/10V/X5R C0201
C641 1uF/10V/X5R C0201
C647 1uF/10V/X5R C0201
C651 1uF/10V/X5R C0201
C655 1uF/10V/X5R C0201
C661 1uF/10V/X5R C0201
C664 1uF/10V/X5R C0201
C667 1uF/10V/X5R C0201
C668 1uF/10V/X5R C0201
4 PER DRAM, AS CLOSE AS POSSIBLE
PP1200_DRAM_U
R581 1.8K_J R0402
20,21 PPDDR_REFB PPDDR_REFB R584 2.2_FR0402 PPDDR_REFB_R 7
R582 1.8K_J R0402
C604 0.022uF/25V/X5R C0201
R586 24.9_F R0201
PP600_DRAM_U
7,20,21 DDR_B_MA0 DDR_B_MA0 R604 36.0_J R0201
7,20,21 DDR_B_MA1 DDR_B_MA1 R605 36.0_J R0201
7,20,21 DDR_B_MA2 DDR_B_MA2 R606 36.0_J R0201
7,20,21 DDR_B_MA3 DDR_B_MA3 R607 36.0_J R0201
7,20,21 DDR_B_MA4 DDR_B_MA4 R608 36.0_J R0201
7,20,21 DDR_B_MA5 DDR_B_MA5 R609 36.0_J R0201
7,20,21 DDR_B_MA6 DDR_B_MA6 R610 36.0_J R0201
7,20,21 DDR_B_MA7 DDR_B_MA7 R611 36.0_J R0201
7,20,21 DDR_B_MA8 DDR_B_MA8 R612 36.0_J R0201
7,20,21 DDR_B_MA9 DDR_B_MA9 R613 36.0_J R0201
7,20,21 DDR_B_MA10 DDR_B_MA10 R614 36.0_J R0201
7,20,21 DDR_B_MA11 DDR_B_MA11 R615 36.0_J R0201
7,20,21 DDR_B_MA12 DDR_B_MA12 R616 36.0_J R0201
7,20,21 DDR_B_MA13 DDR_B_MA13 R617 36.0_J R0201
7,20,21 DDR_B_MA14_WE# DDR_B_MA14_WE# R618 36.0_J R0201
7,20,21 DDR_B_MA15_CAS# DDR_B_MA15_CAS# R619 36.0_J R0201
7,20,21 DDR_B_MA16_RAS# DDR_B_MA16_RAS# R620 36.0_J R0201
PP1200_DRAM_U
C672 10uF/10V/X5R C0402_1
C678 10uF/10V/X5R C0402_1
C683 10uF/10V/X5R C0402_1
C686 10uF/10V/X5R C0402_1
C688 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DRAMS
PP2500_DRAM_U
C612 1uF/10V/X5R C0201
C619 1uF/10V/X5R C0201
C627 1uF/10V/X5R C0201
C634 1uF/10V/X5R C0201
C642 1uF/10V/X5R C0201
C648 1uF/10V/X5R C0201
C656 1uF/10V/X5R C0201
C663 1uF/10V/X5R C0201
2 PER DRAM, AS CLOSE AS POSSIBLE
PP2500_DRAM_U
C674 10uF/10V/X5R C0402_1
C680 10uF/10V/X5R C0402_1
C685 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DRAMS
PP600_DRAM_U
C614 1uF/10V/X5R C0201
C622 1uF/10V/X5R C0201
C629 1uF/10V/X5R C0201
C637 1uF/10V/X5R C0201
C644 1uF/10V/X5R C0201
C652 1uF/10V/X5R C0201
C658 1uF/10V/X5R C0201
C665 1uF/10V/X5R C0201
DISTRIBUTED ACROSS TERM RESISTORS
PP600_DRAM_U
C676 10uF/10V/X5R C0402_1
C682 10uF/10V/X5R C0402_1
DISTRIBUTED ACROSS DRAMS
BITLAND
Bitland Information Technology Co.,Ltd.
Page Name
MEMORY DECOUPLING/TERM
Size Custom
Project Name Akemi
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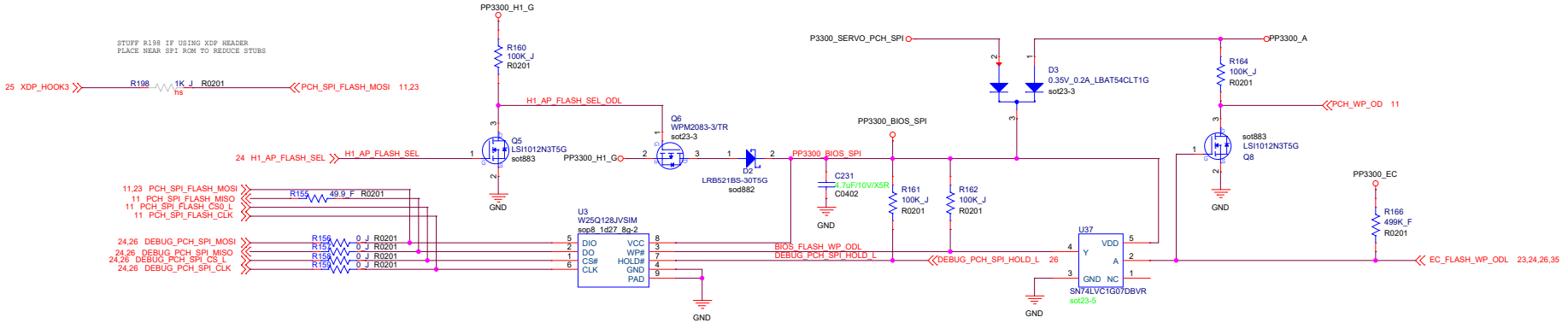
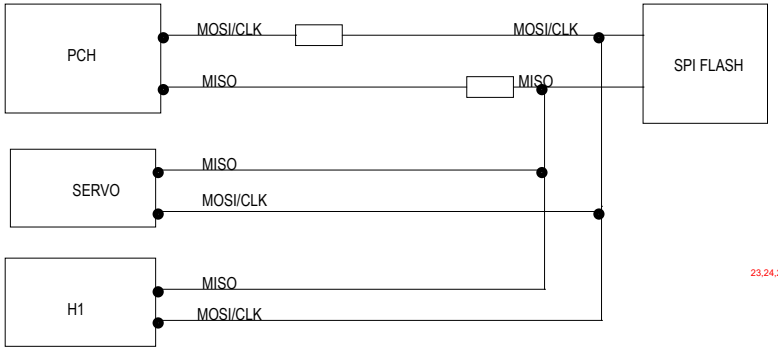
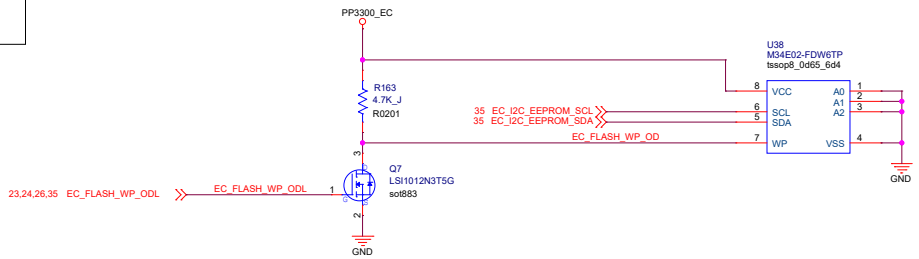


16MB SPI FLASH

KEEP 0 OHMS NEARBY TO REDUCE STUBS
KEEP NEAR H1/SERVO TO REDUCE STUBS





BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	SPI ROM	
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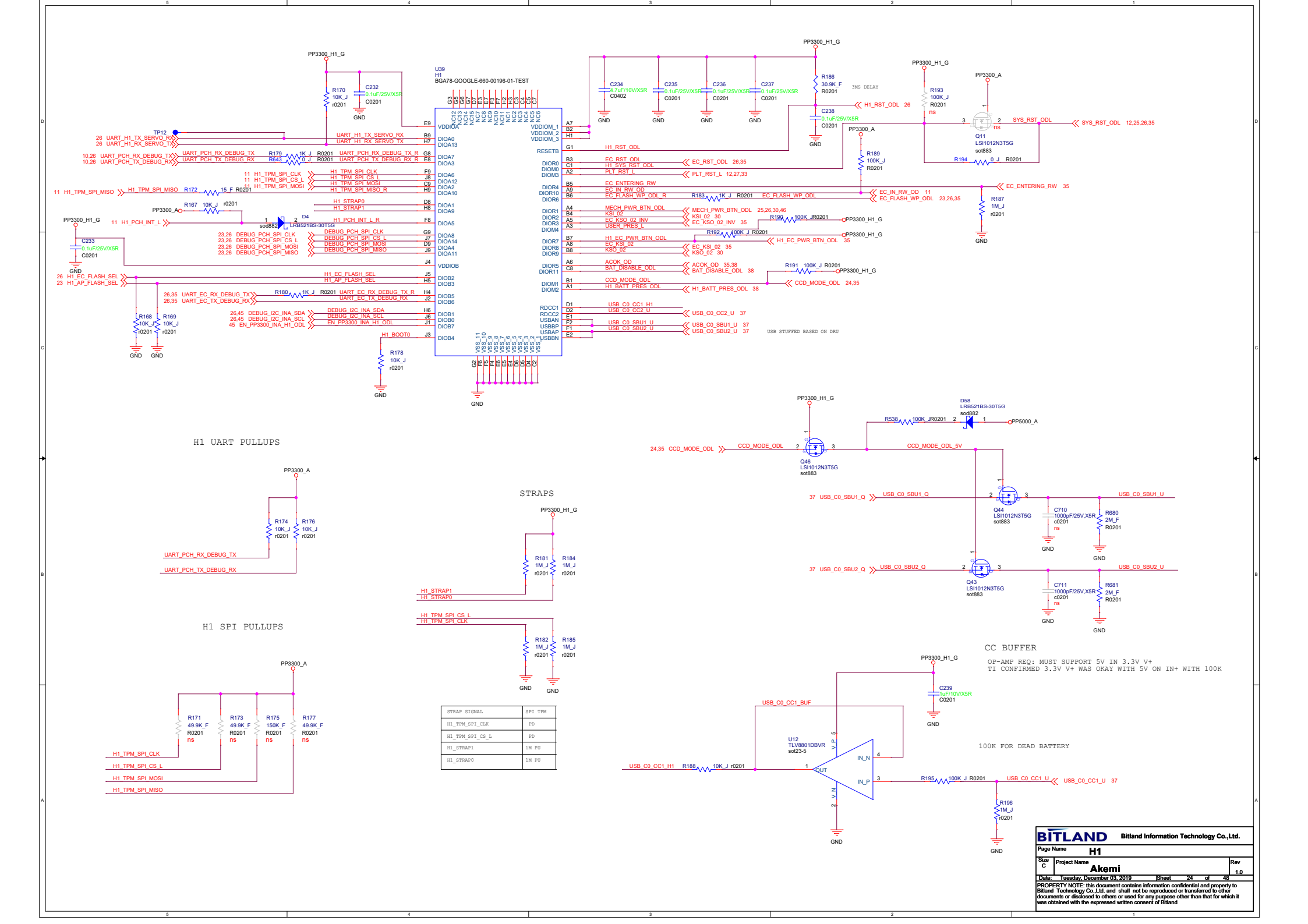
U39
H1
BGA78-GOOGLE-660-00196-01-TEST
H1 UART PULLUPS
H1 SPI PULLUPS
STRAPS
CC BUFFER
OP-AMP REQ: MUST SUPPORT 5V IN 3.3V V+
TI CONFIRMED 3.3V V+ WAS OKAY WITH 5V ON IN+ WITH 100K
100K FOR DEAD BATTERY
USB STUFFED BASED ON DRU
3MS DELAY
STRAP SIGNAL | SPI TPM
H1_TPM_SPI_CLK | PD
H1_TPM_SPI_CS_L | PD
H1_STRAP1 | 1M PU
H1_STRAP0 | 1M PU
BITLAND
Bitland Information Technology Co.,Ltd.
Page Name H1
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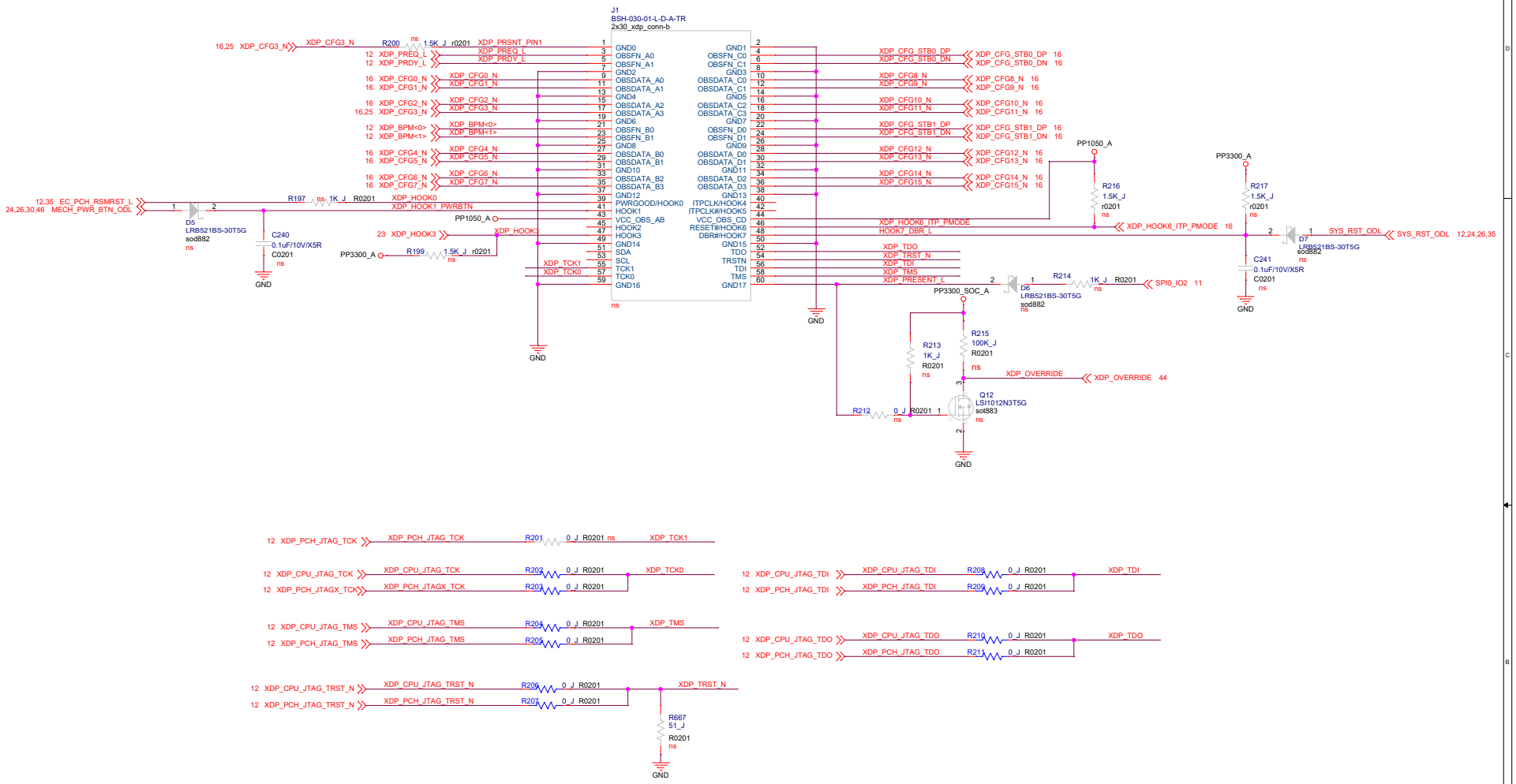

PLACE TKC0, TDO, TDI, TMS, AND TSRT RESISTORS NEAR THE SOC

BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	XDP DEBUG HEADER		
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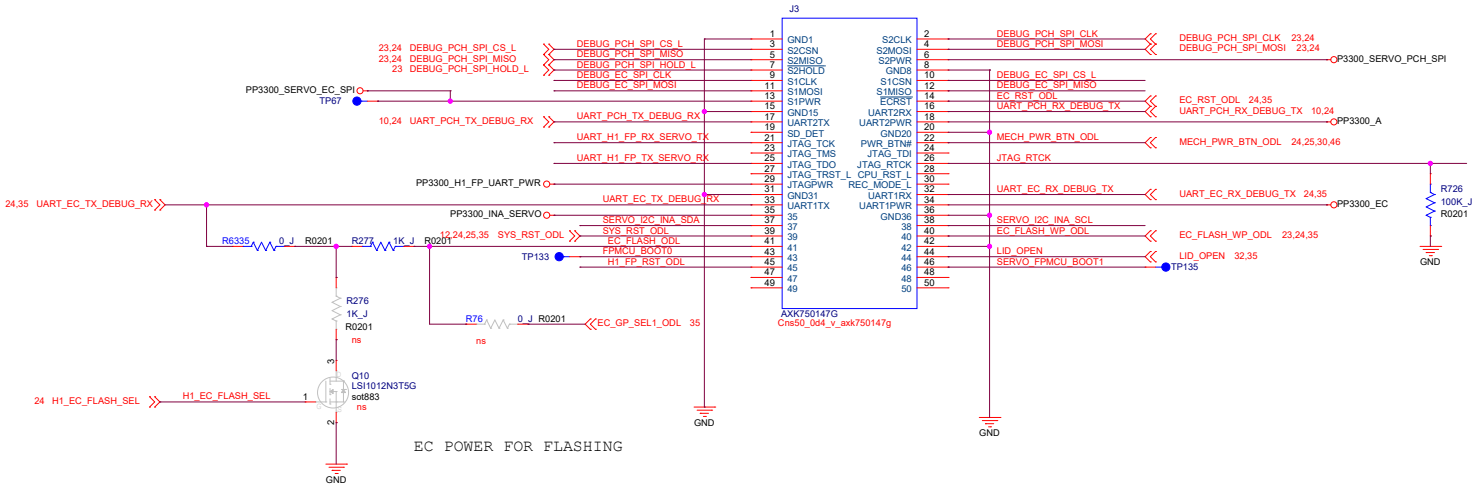
35 KSI_04_EC_SPI_FLASH_CLK — KSI_04_EC_SPI_FLASH_CLK — R221 33_J R0201 — DEBUG_EC_SPI_CLK

35 KSI_00_EC_SPI_FLASH_MOSI — KSI_00_EC_SPI_FLASH_MOSI — R222 33_J R0201 — DEBUG_EC_SPI_MOSI

35 KSI_05_EC_SPI_FLASH_MISO — KSI_05_EC_SPI_FLASH_MISO — R223 0_J R0201 — DEBUG_EC_SPI_MISO

35 KSI_01_EC_SPI_FLASH_CS_L — KSI_01_EC_SPI_FLASH_CS_L — R224 33_J R0201 — DEBUG_EC_SPI_CS_L

SERVO HEADER



EC POWER FOR FLASHING

LEAKAGE PROTECTION FROM SERVO

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Page Name: SERVO DEBUG

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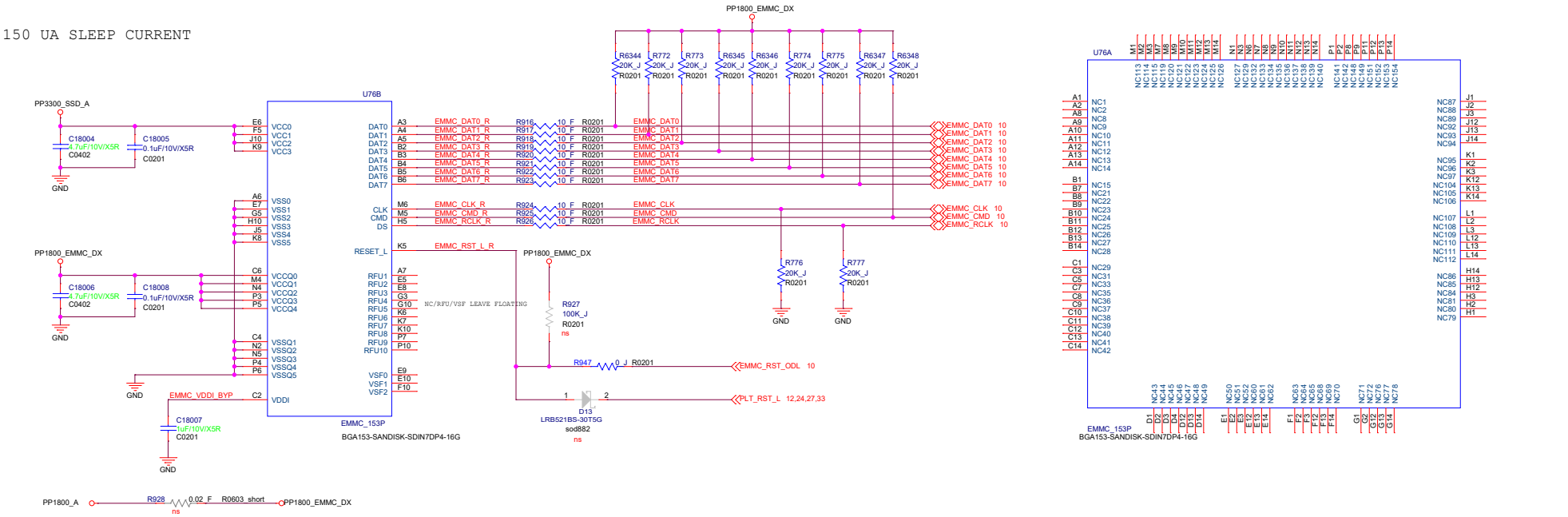
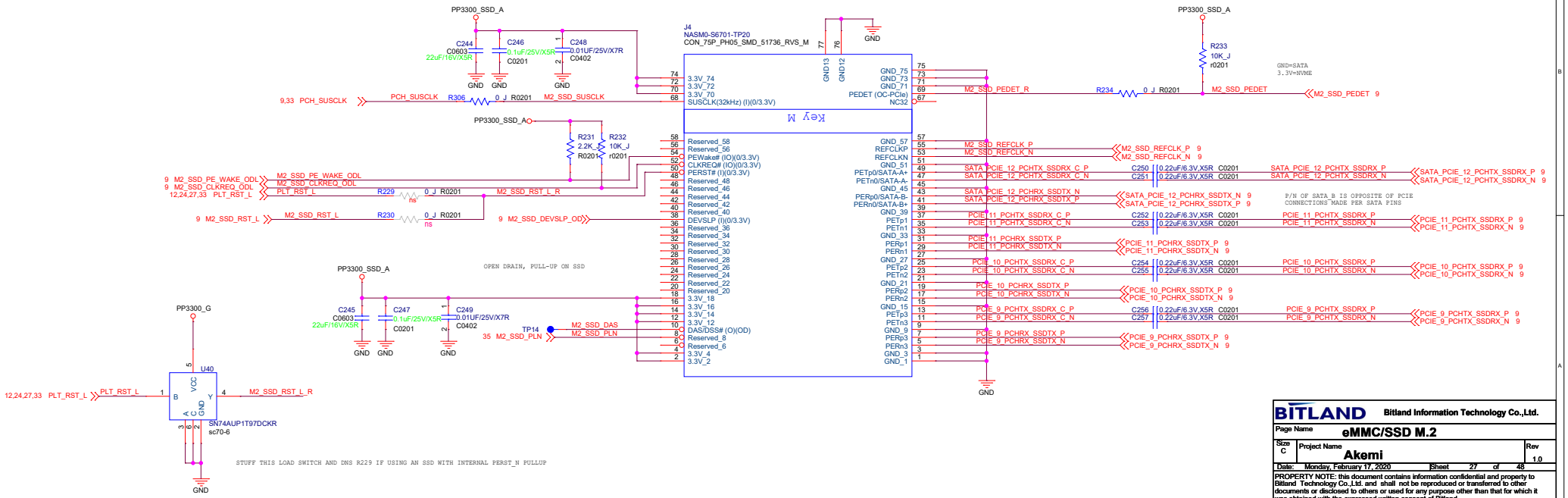
150 UA SLEEP CURRENT





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Page Name	eMMC/SSD M.2		
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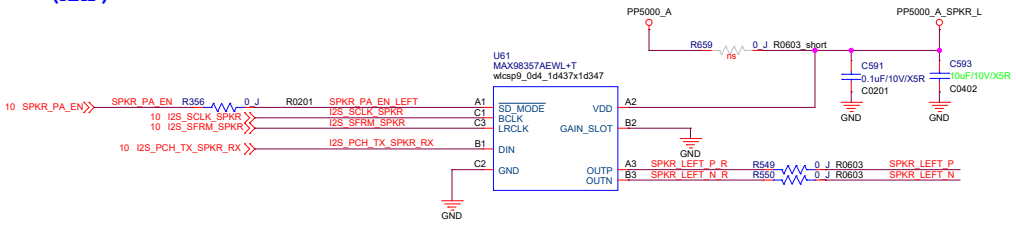
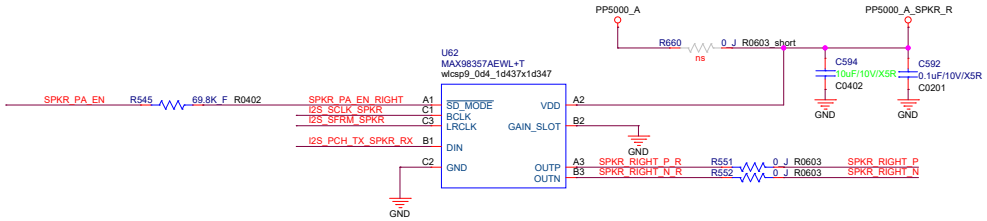
(AMP)

LEFT CHANNEL

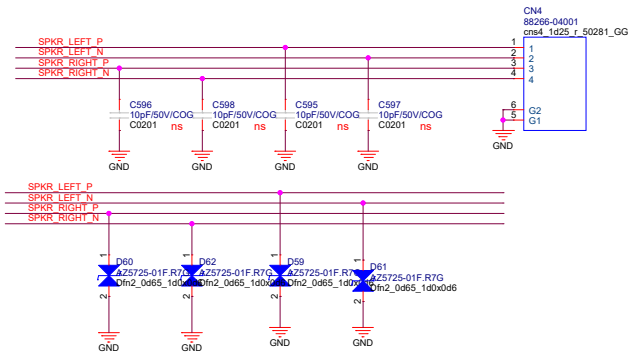


LEFT CHANNEL = SHORT (OR 2K FOR SAFETY) TO 1.8V
GAIN_SLOT: 100K TO GND = 15 DB GAIN
GAIN_SLOT: UNCONNECTED = 9 DB GAIN
GAIN_SLOT: 0 TO VDD = 6 DB GAIN
GAIN_SLOT: 0 TO GND = 12 DB GAIN
GAIN_SLOT: 100K TO VDD = 3 DB GAIN

RIGHT CHANNEL



RIGHT CHANNEL = 69.8K TO 1.8V
GAIN_SLOT: GND = 12 DB GAIN



BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	AUDIO: SPEAKER AMPS		
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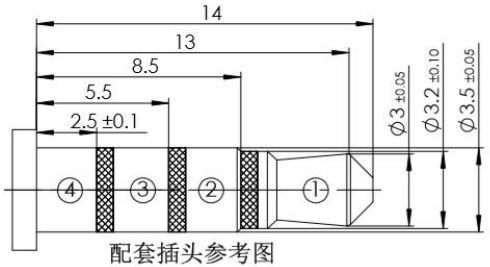
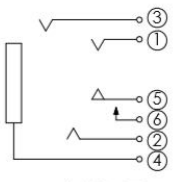
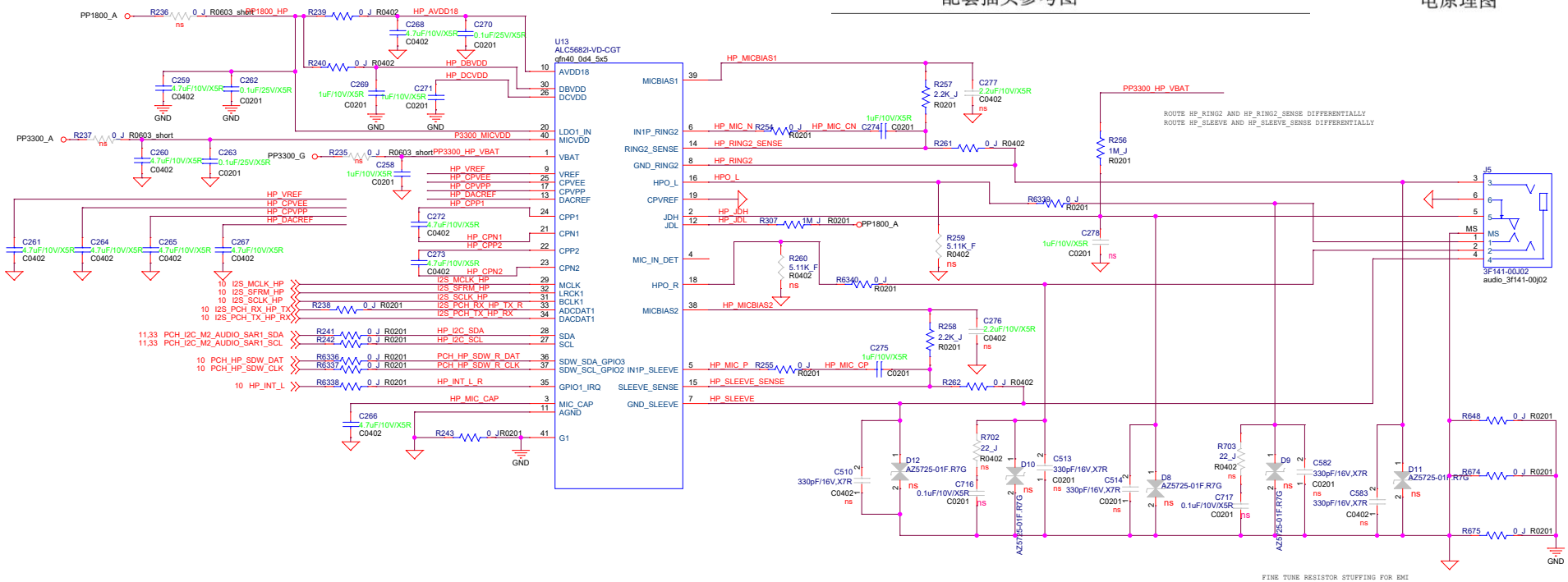


配套插头参考图



电原理图



Remove SOUND WIRE STRAPS---Vendor suggest

BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	AUDIO: HEADPHONE AMP	
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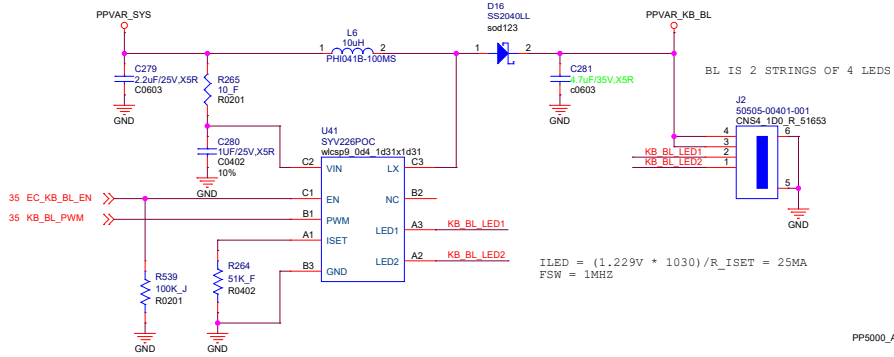
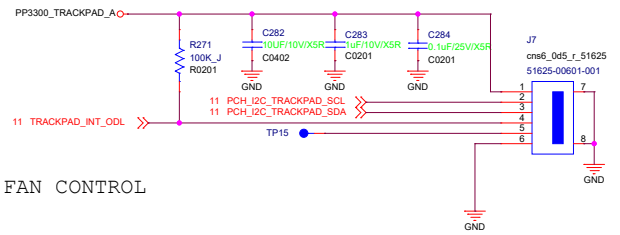
KEYBOARD BACKLIGHT

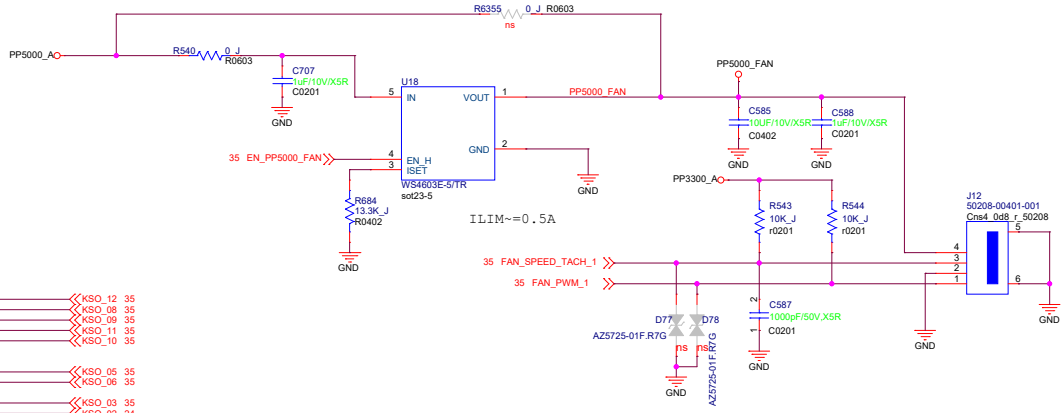


TRACKPAD CONNECTOR

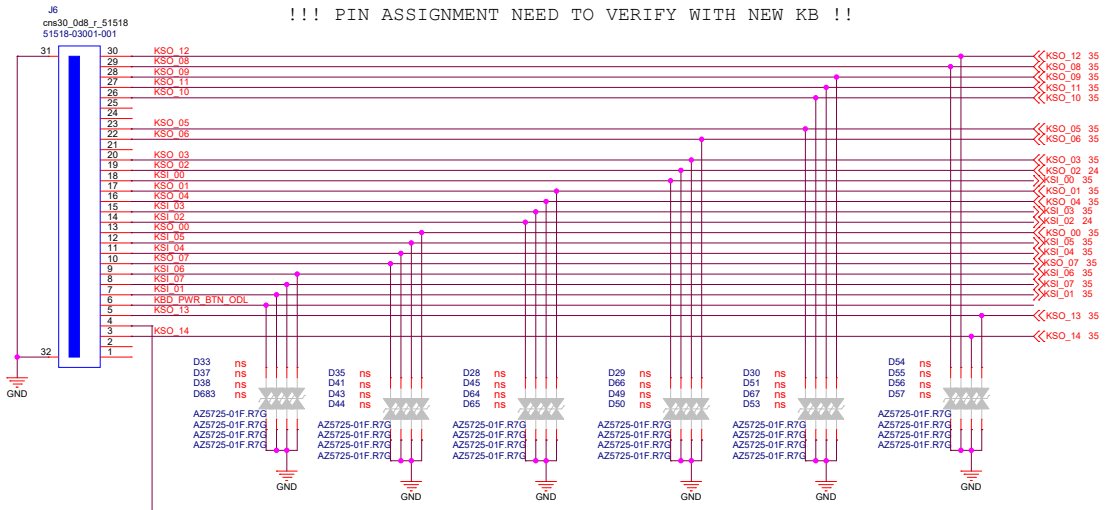
6 PIN, .5MM PITCH, FPC CONN, BOTTOM CONTACT

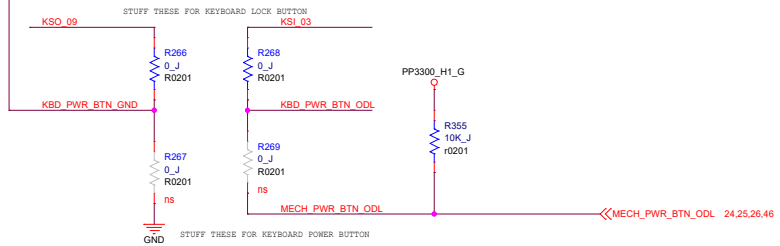


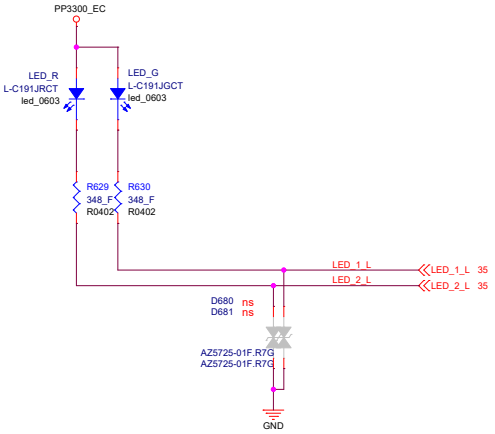
FAN CONTROL



!!! PIN ASSIGNMENT NEED TO VERIFY WITH NEW KB !!







BITLAND Bitland Information Technology Co.,Ltd.

Page Name	BASE: KB, TP, FAN, LED	
Size C	Project Name: Akemi	Rev 1.0
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Remove FINGERPRINT

BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	FINGER PRINT SENSOR	
Size C	Project Name Akemi	Rev 1.0
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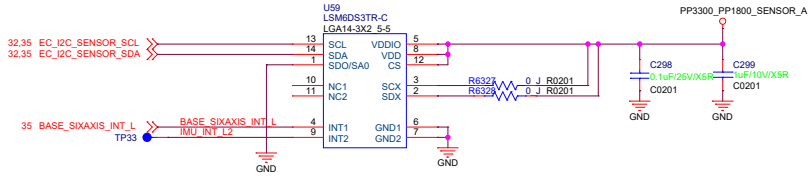
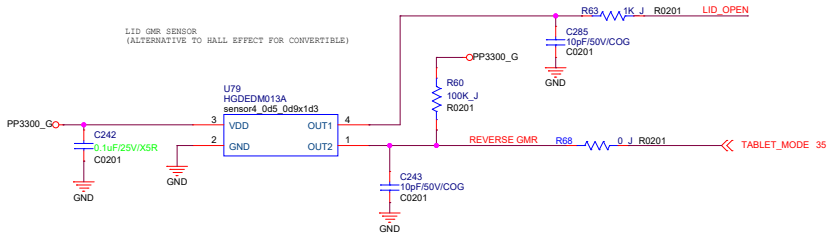
6 AXIS IMU (MLB)

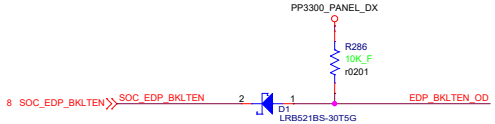
8 BIT ADDRESS:0XD4



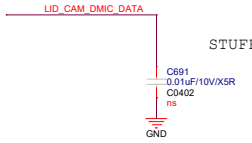
LID SWITCH HALL EFFECT SENSOR



BACKLIGHT ENABLE CONTROL

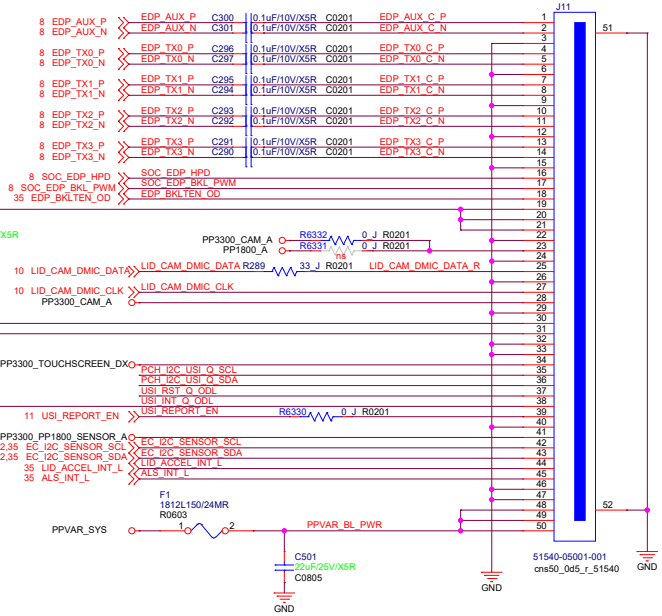


STUFF FOR DMIC TUNING

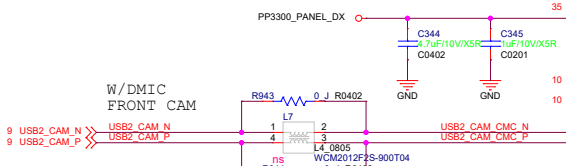


EDP CONNCETOR

EDP SIGNALS

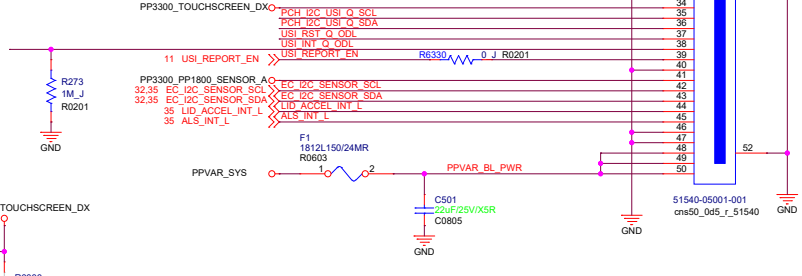


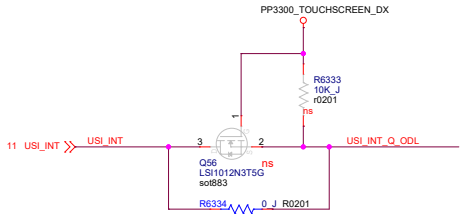
W/DMIC
FRONT CAM

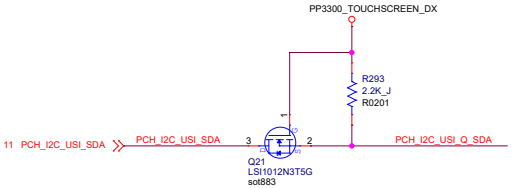


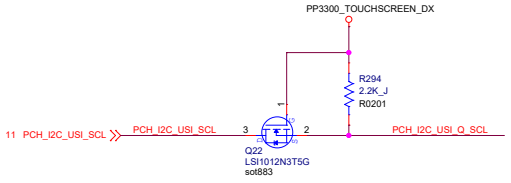
USI TOUCH PANEL

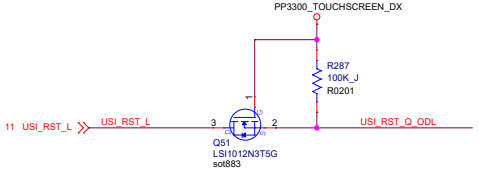
SENSOR
ALS & G-SENSOR











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Page Name	LID: DISPLAY, CAM, TOUCH, PEN
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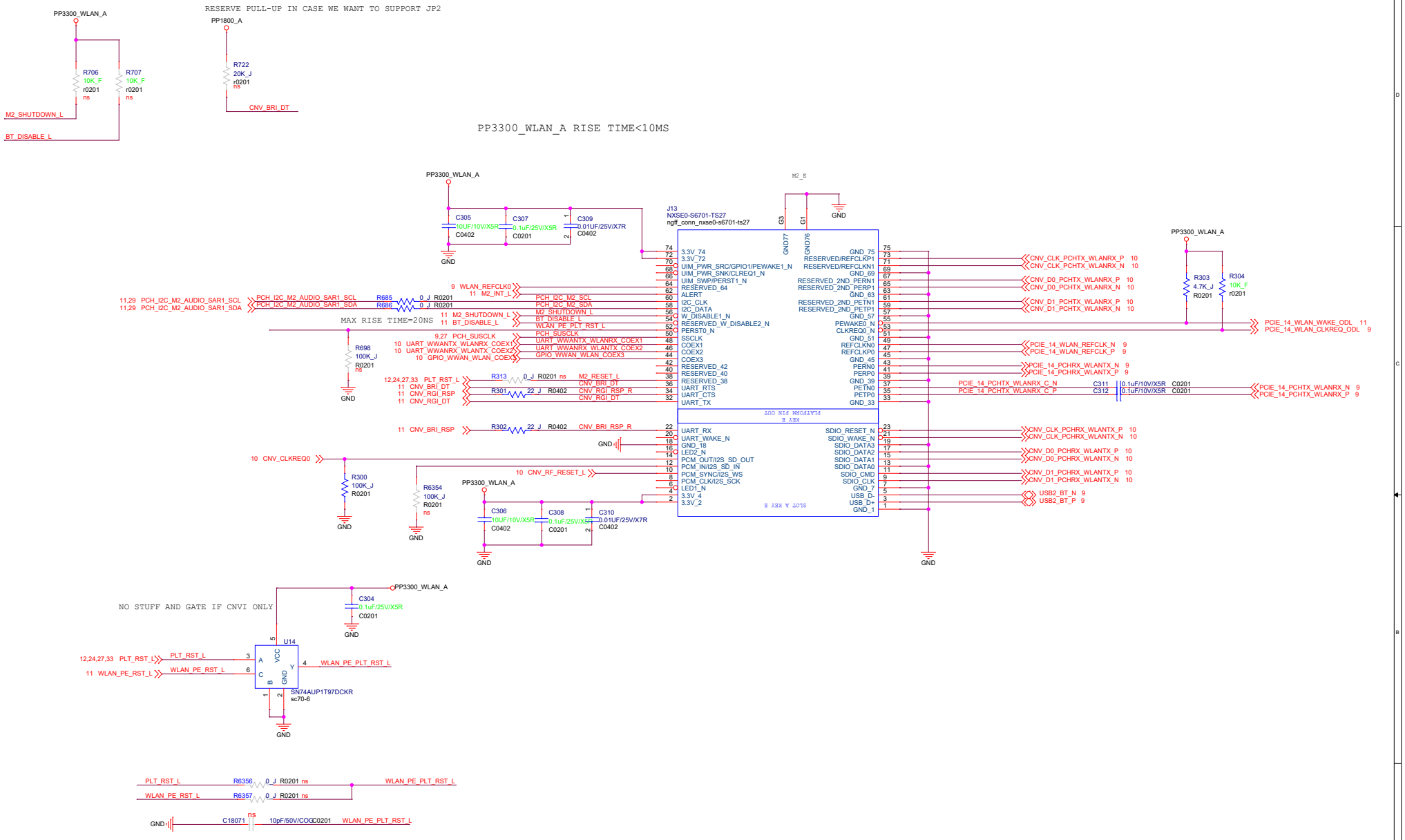

BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	WIFI		
Size C	Project Name Akemi		Rev 1.0
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Remove LTE

BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	LTE	
Size C	Project Name Akemi	Rev 1.0
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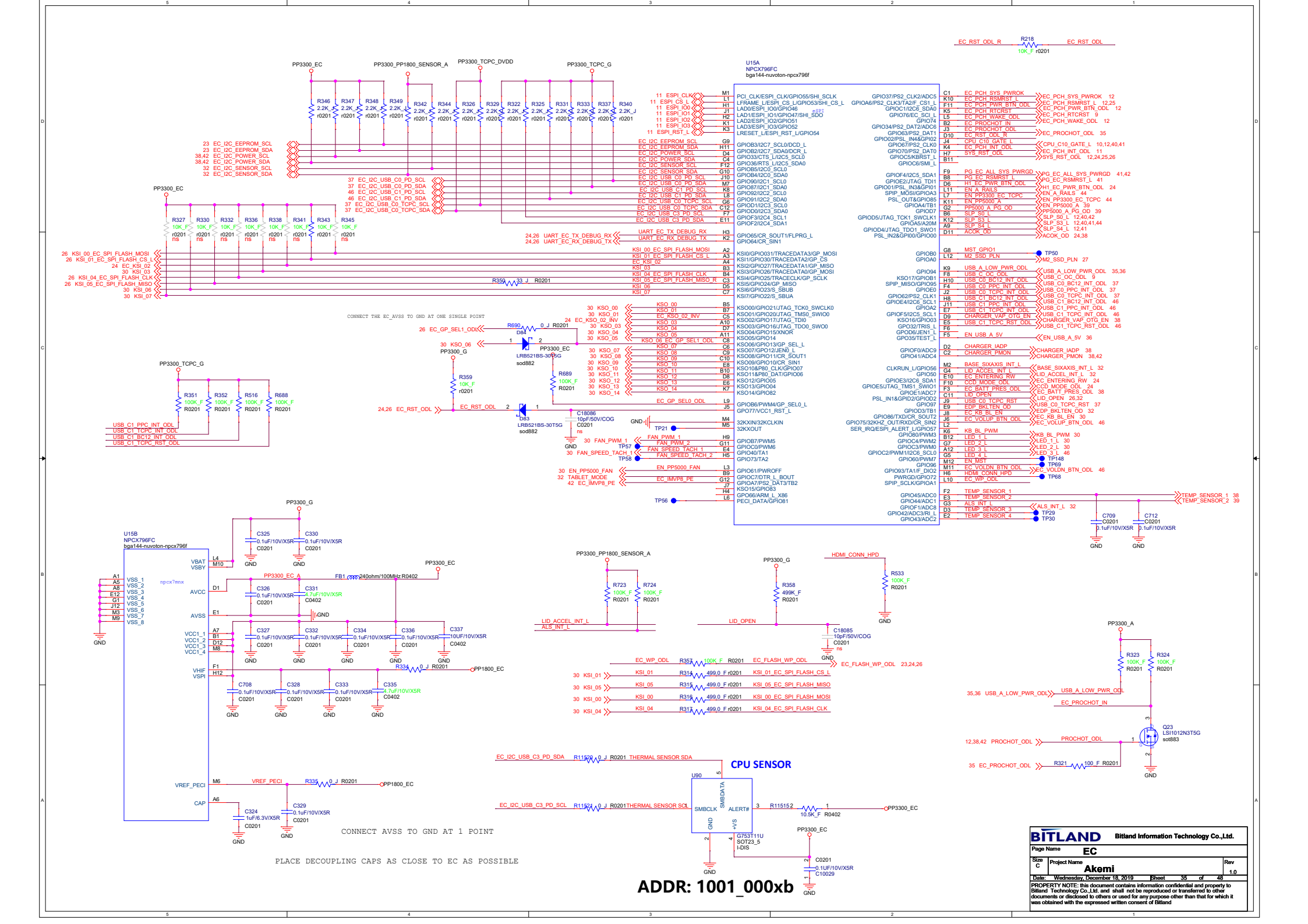
U15A
NPCX796FC
bga144-nuvoton-npcx796f
U15B
NPCX796FC
bga144-nuvoton-npcx796f
CONNECT THE EC_AVSS TO GND AT ONE SINGLE POINT
CONNECT AVSS TO GND AT 1 POINT
PLACE DECOUPLING CAPS AS CLOSE TO EC AS POSSIBLE
CPU SENSOR
ADDR: 1001_000xb
BITLAND
Bitland Information Technology Co.,Ltd.
Page Name EC
Size C
Project Name Akemi
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Date: Wednesday, December 18, 2019
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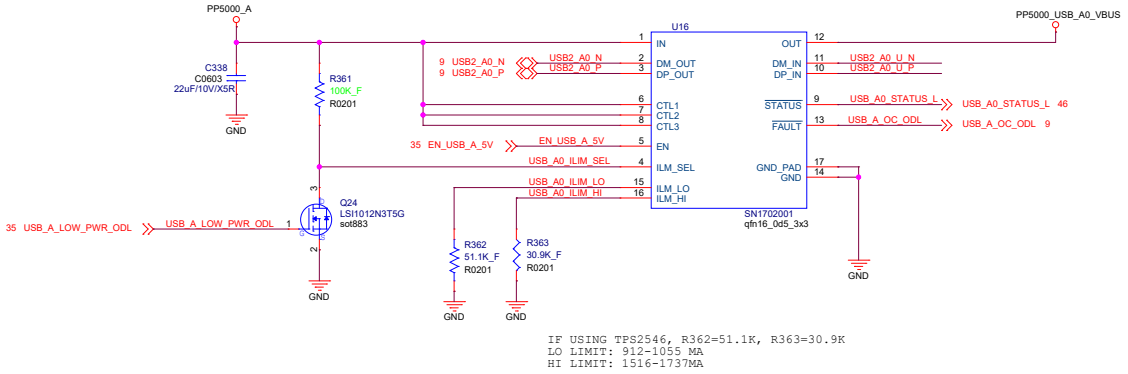
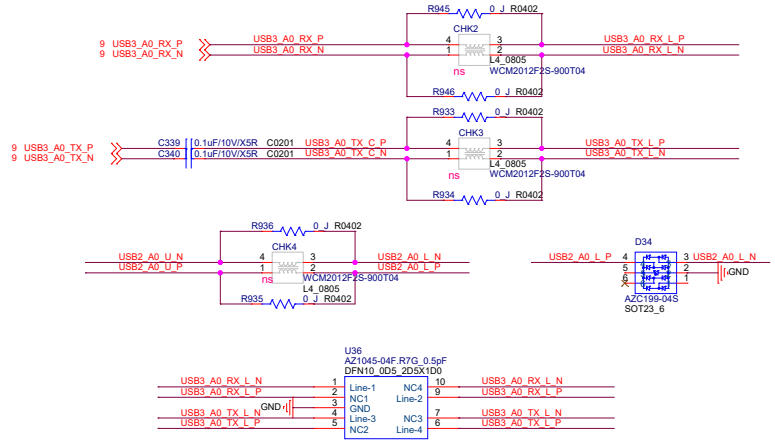
TYPE-A:PORT 0

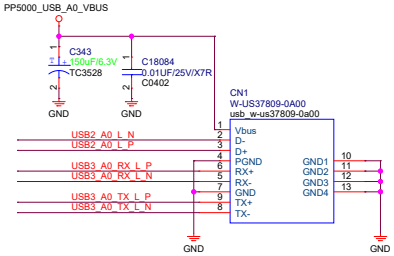


IF USING TPS2546, R362=51.1K, R363=30.9K
LO LIMIT: 912-1055 MA
HI LIMIT: 1516-1737MA

Deviation
Change L5(PCMF3USB3S) to discrete EMI filter and ESD----0315

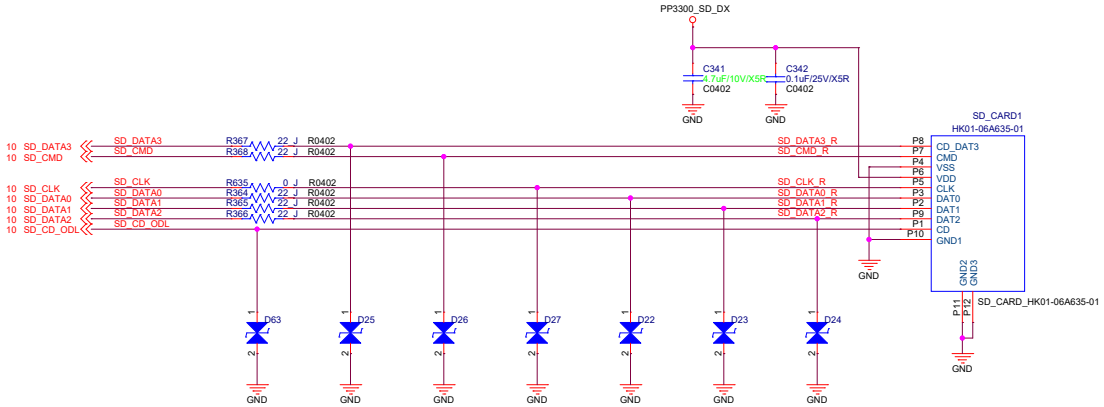


CM TO CHOOSE CONNECTOR



MICRO SD CARD

*IF NOT ON MLB, USB TO SD INTERFACE MUST BE USED



BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	USB A/SD CARD		
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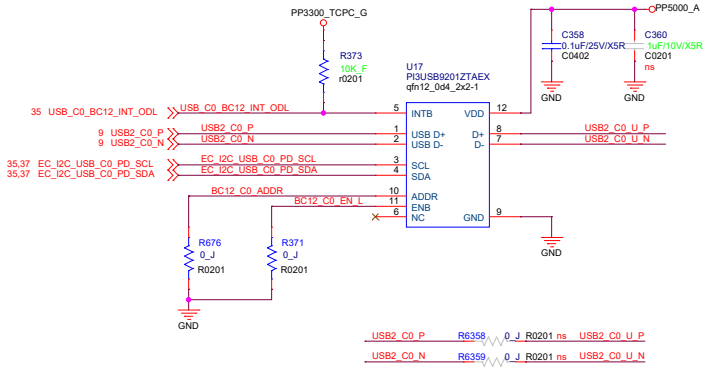
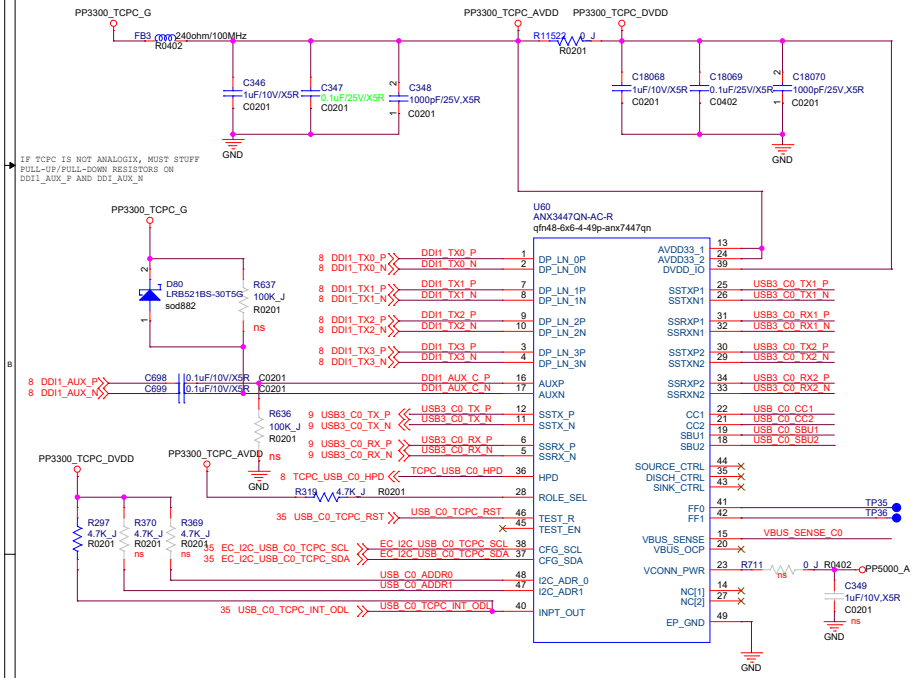
BC1.2



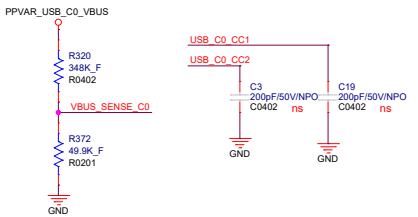
ADDRESS (HEX, 8 BIT): 0XBE

PORT 0:TCPC

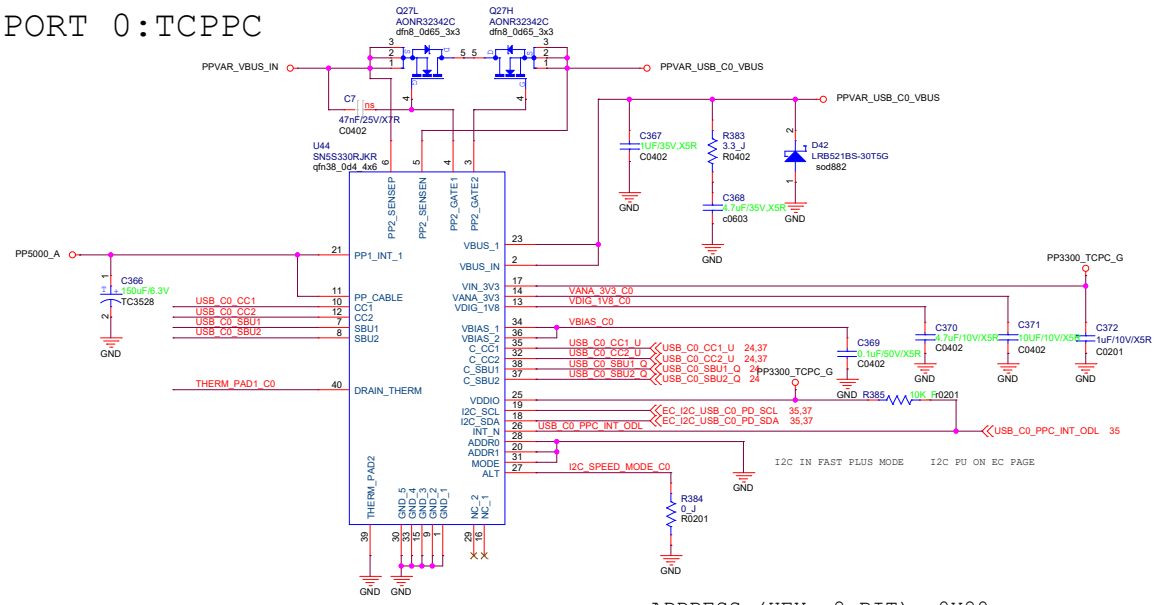


DEFAULT I2C ADDRESSES (HEX, 8-BIT)

TCPC:0X58
SPI:0X7E
EMTB:0X7A
EMRB:0X84
DEBUG1:0X72
DEBUG2:0X70

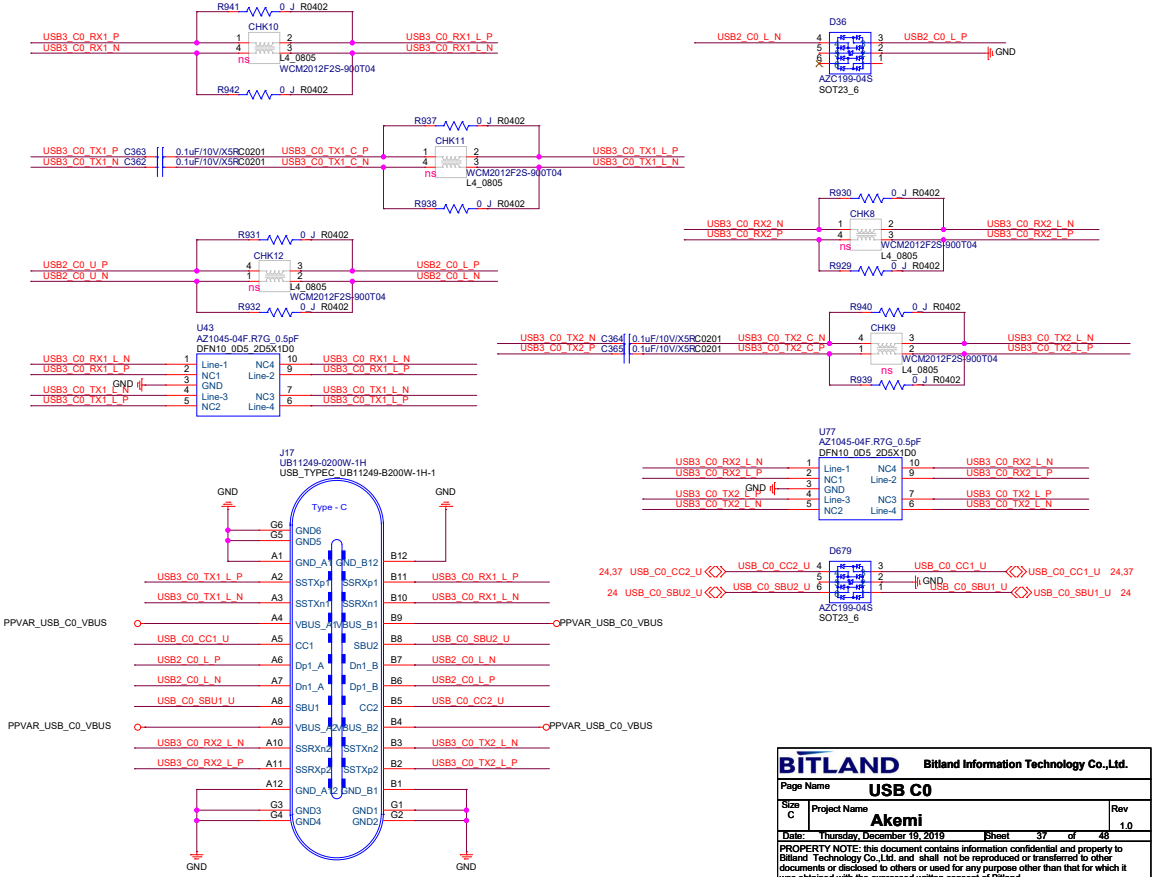


PORT 0:TCPPC



THERM PAD 1 MUST BE CONNECTED TO ISOLATED THERMAL PAD

ADDRESS (HEX, 8 BIT): 0X80



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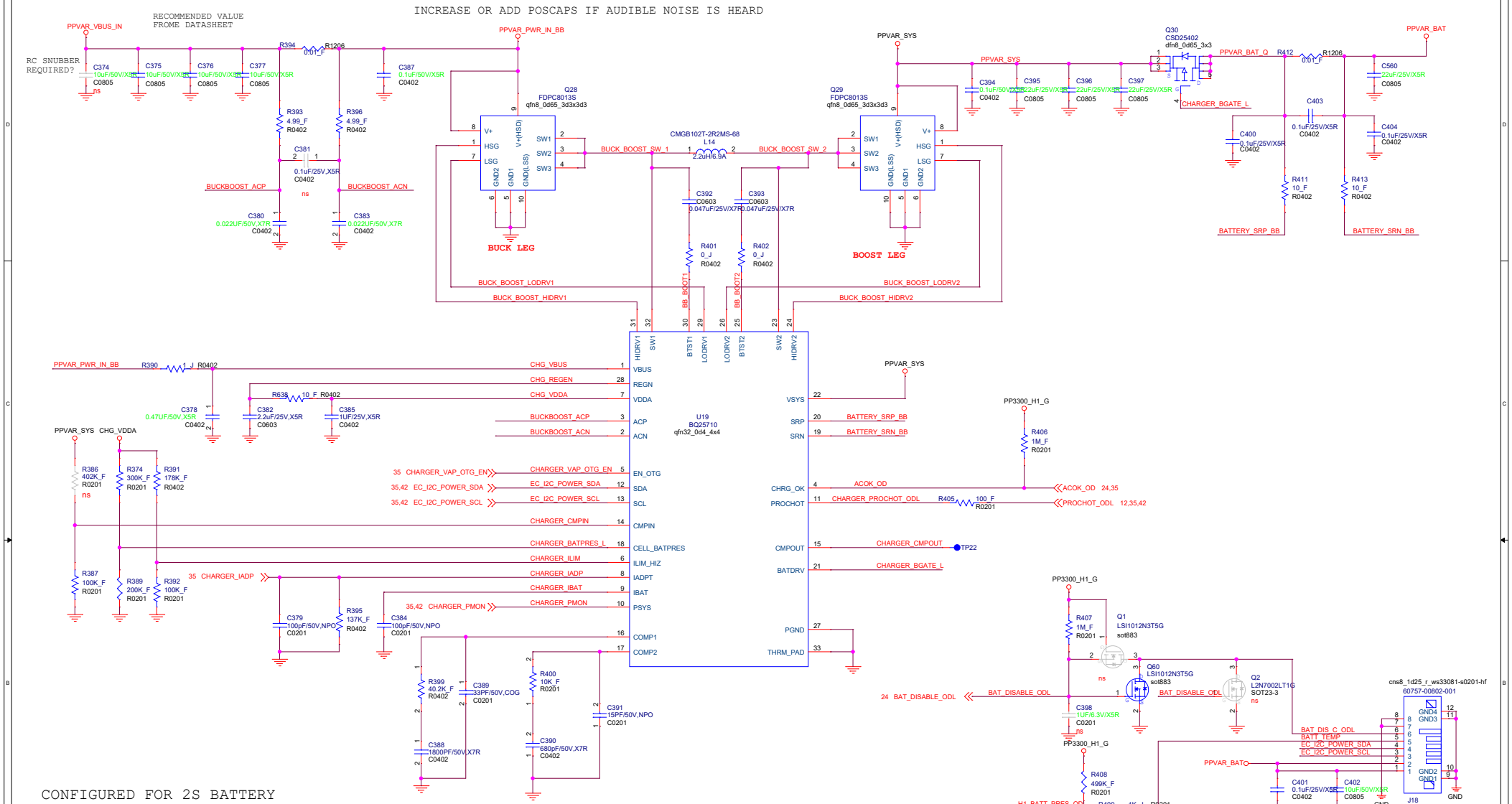
INCREASE OR ADD POSCAPS IF AUDIBLE NOISE IS HEARD
RECOMMENDED VALUE FROME DATASHEET
RC SNUBBER REQUIRED?
PPVAR_VBUS_IN
PPVAR_PWR_IN_BB
PPVAR_SYS
PPVAR_BAT
BUCK LEG
BOOST LEG
U19 BQ25710 qfn32_0d4_4x4
Q28 FDPC8013S qfn8_0d65_3d3x3d3
Q29 FDPC8013S qfn8_0d65_3d3x3d3
Q30 CSD25402 dfn8_0d65_3x3
L14 CMGB102T-2R2MS-68 2.2uH/6.9A
BUCK_BOOST_SW_1
BUCK_BOOST_SW_2
BUCKBOOST_ACP
BUCKBOOST_ACN
BUCK_BOOST_LODRV1
BUCK_BOOST_HIDRV1
BUCK_BOOST_LODRV2
BUCK_BOOST_HIDRV2
CHARGER_BGATE_L
BATTERY_SRP_BB
BATTERY_SRN_BB
CHG_VBUS
CHG_REGEN
CHG_VDDA
CHARGER_VAP_OTG_EN
EC_I2C_POWER_SDA
EC_I2C_POWER_SCL
CHARGER_CMPIN
CHARGER_BATPRES_L
CHARGER_ILIM
CHARGER_IADP
CHARGER_IBAT
CHARGER_PMON
ACOK_OD
CHARGER_PROCHOT_ODL
CHARGER_CMPOUT
CHARGER_BGATE_L
BAT_DISABLE_ODL
H1_BATT_PRES_ODL
EC_BATT_PRES_ODL
TEMP_SENSOR_1
BAT_DIS_C_ODL
BATT_TEMP
CONFIGURED FOR 2S BATTERY
STUFFING OPTION FOR BATPRES_L PU:
2S: R = 300K OHMS
3S: R = 162K OHMS
PROCHOT TRIGGERS (H->L) WHEN CMPIN VOLTAGE RISES ABOVE 1.2V
TRIGGER VOLTAGE SET BY CMPIN PU:
2S: R = 402K (TRIGGER AT VSYS=6V)
3S: R = 650K (TRIGGER AT VSYS=9V)
V_ILIM_HIZ = 1V + 40*IDPM*RAC
ILIM_HIZ: 2.2V INPUT FOR 3A
IADPT: RES INDICATES IND VALUE (137K FOR 2.2UH)
ROUTE GND OF COMP1 AND COMP2 SEPARATELY FROM PWR GND
PSYS PD RESISTOR GENERATES VOLTAGE DROP
SELECT GAIN VIA I2C (0.25UA/W OR 1UA/W)
MAX TEMP = 100C
PLACE THERMISTOR NEAR CHARGING INDUCTOR
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POWER:BATTERY CHARGER
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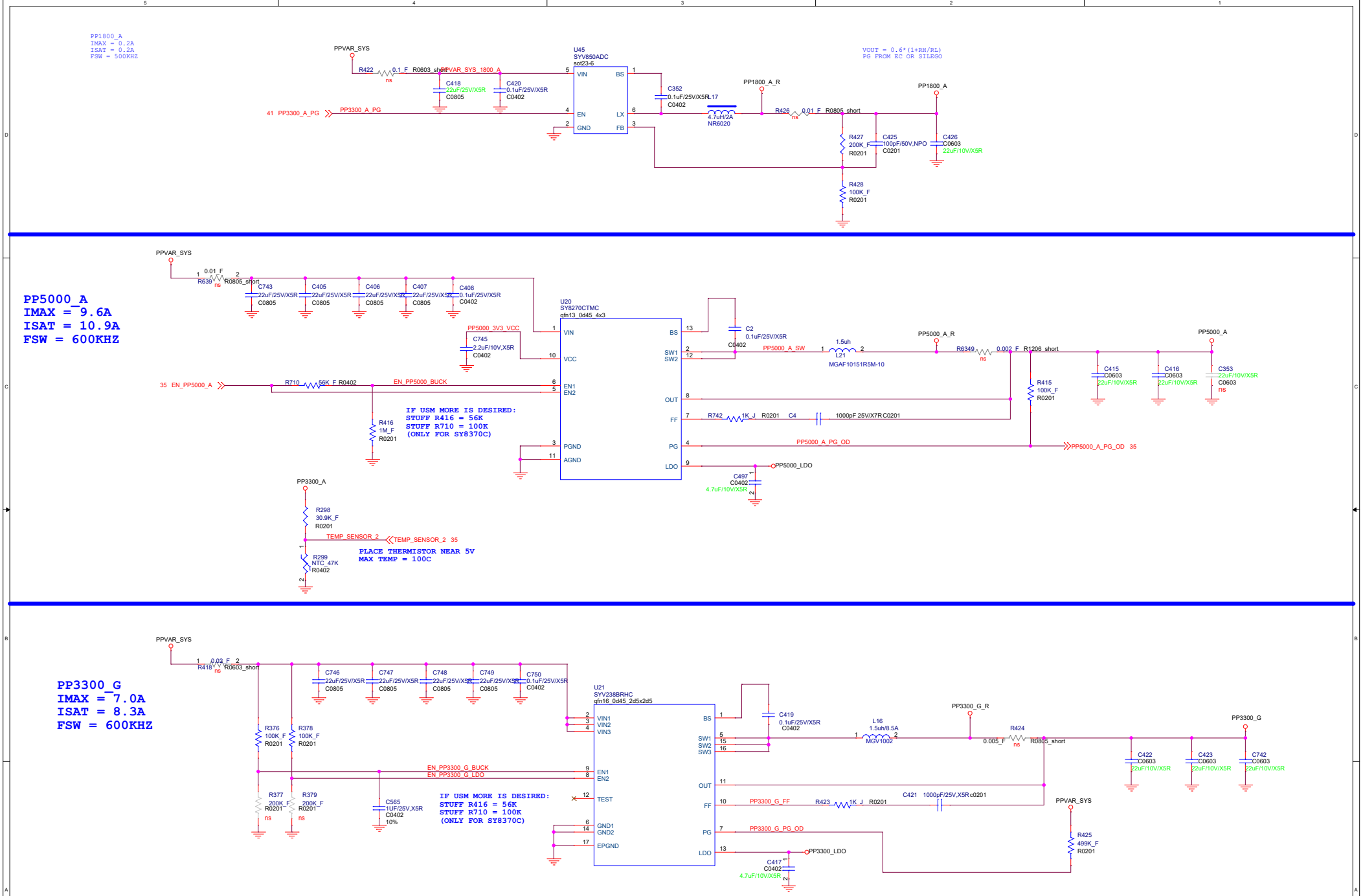
PP1800_A
IMAX = 0.2A
ISAT = 0.2A
FSW = 500KHZ
PPVAR_SYS
R422 0.1_F R0603_short
PPVAR_SYS_1800_A
C418 22uF/25V/X5R C0805
C420 0.1uF/25V/X5R C0402
U45
SYV850ADC
sot23-6
VIN
BS
EN
LX
GND
FB
C352 0.1uF/25V/X5R C0402
L17 4.7uH/2A NR6020
PP1800_A_R
R426 0.01_F R0805_short
PP1800_A
41 PP3300_A_PG
PP3300_A_PG
VOUT = 0.6*(1+RH/RL)
PG FROM EC OR SILEGO
R427 200K_F R0201
C425 100pF/50V,NPO C0201
C426 C0603 22uF/10V/X5R
R428 100K_F R0201
PP5000_A
IMAX = 9.6A
ISAT = 10.9A
FSW = 600KHZ
PPVAR_SYS
R639 0.01_F R0805_short
C743 22uF/25V/X5R C0805
C405 22uF/25V/X5R C0805
C406 22uF/25V/X5R C0805
C407 22uF/25V/X5R C0805
C408 0.1uF/25V/X5R C0402
U20
SY8270CTMC
qfn13_0d45_4x3
PP5000_3V3_VCC
C745 2.2uF/10V,X5R C0402
VIN
VCC
BS
SW1
SW2
C2 0.1uF/25V/X5R C0402
PP5000_A_SW
L21 1.5uh MGAF10151R5M-10
PP5000_A_R
R6349 0.002_F R1206_short
PP5000_A
35 EN_PP5000_A
R710 56K_F R0402
EN_PP5000_BUCK
EN1
EN2
OUT
FF
R742 1K_J R0201 C4 1000pF 25V/X7R C0201
R415 100K_F R0201
C415 C0603 22uF/10V/X5R
C416 C0603 22uF/10V/X5R
C353 22uF/10V/X5R C0603
IF USM MORE IS DESIRED:
STUFF R416 = 56K
STUFF R710 = 100K
(ONLY FOR SY8370C)
R416 1M_F R0201
PGND
AGND
PG
PP5000_A_PG_OD
PP5000_A_PG_OD 35
LDO
PP5000_LDO
C497 C0402 4.7uF/10V/X5R
PP3300_A
R298 30.9K_F R0201
TEMP_SENSOR_2
TEMP_SENSOR_2 35
R299 NTC_47K R0402
PLACE THERMISTOR NEAR 5V
MAX TEMP = 100C
PP3300_G
IMAX = 7.0A
ISAT = 8.3A
FSW = 600KHZ
PPVAR_SYS
R418 0.02_F R0603_short
C746 22uF/25V/X5R C0805
C747 22uF/25V/X5R C0805
C748 22uF/25V/X5R C0805
C749 22uF/25V/X5R C0805
C750 0.1uF/25V/X5R C0402
U21
SYV238BRHC
qfn16_0d45_2d5x2d5
R376 100K_F R0201
R378 100K_F R0201
VIN1
VIN2
VIN3
BS
SW1
SW2
SW3
C419 0.1uF/25V/X5R C0402
L16 1.5uh/8.5A MGV1002
PP3300_G_R
R424 0.005_F R0805_short
PP3300_G
C422 C0603 22uF/10V/X5R
C423 C0603 22uF/10V/X5R
C742 C0603 22uF/10V/X5R
EN_PP3300_G_BUCK
EN_PP3300_G_LDO
EN1
EN2
R377 200K_F R0201
R379 200K_F R0201
C565 1uF/25V,X5R C0402 10%
IF USM MORE IS DESIRED:
STUFF R416 = 56K
STUFF R710 = 100K
(ONLY FOR SY8370C)
TEST
GND1
GND2
EPGND
OUT
FF
PG
LDO
PP3300_G_FF
R423 1K_J R0201
C421 1000pF/25V,X5R c0201
PP3300_G_PG_OD
PP3300_LDO
PPVAR_SYS
R425 499K_F R0201
C417 C0402 4.7uF/10V/X5R
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Page Name
POWER:5V,3.3V,1.8V
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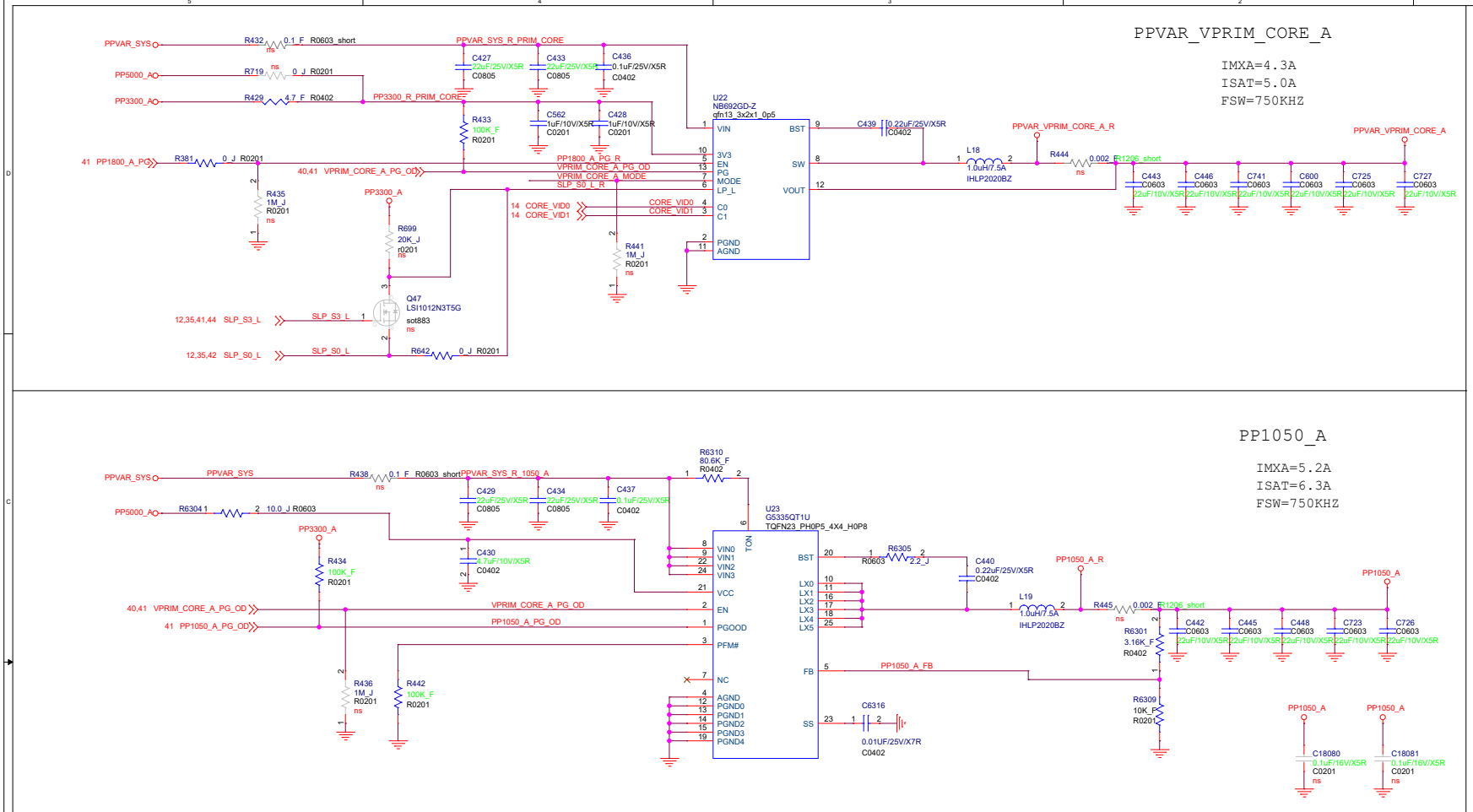

SETTINGS

	VOUT	LP_L	C0	C1
PPVAR_VPRIM_CORE_A	0.75	0	X	X
	0.90	1	0	0
	0.95	1	0	1
	1.0	1	1	0
	1.05	1	1	1
PP1050_A	1.05	1	1	1
PP950_VCCIO	0.95	1	0	1

*LP_L,C0,C1 PULLED HIGH INTERNALLY

RAIL	MODE PIN PD RES
PPVAR_VPRIM_CORE_A	FLOAT OR >230K
VCCOPC/V1.0A/EOPIO	100K
VCCIO	0

OPERATING MODE	EN PIN VOLTAGE [V]
ULTRASONIC (USM)	1.3 - 1.7
NORMAL	>2.3

*EN PIN HAS 800K INTERNAL PU

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Page Name: POWER: VCCPRIM_CORE, 1.05, VCCIO

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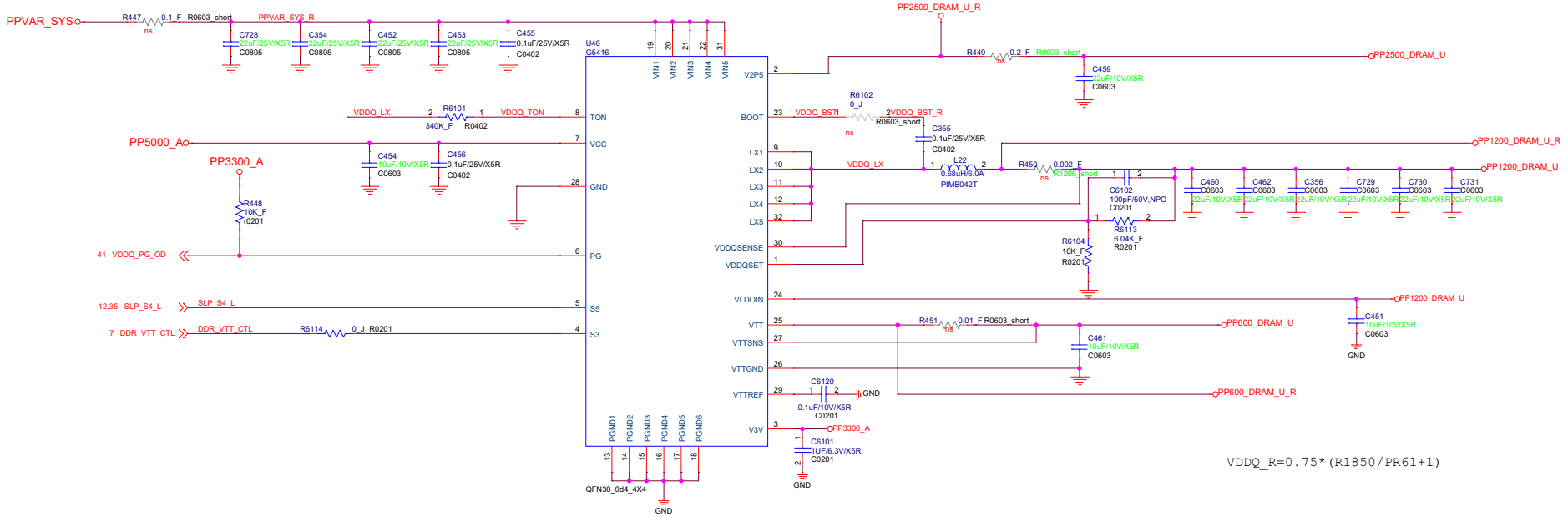
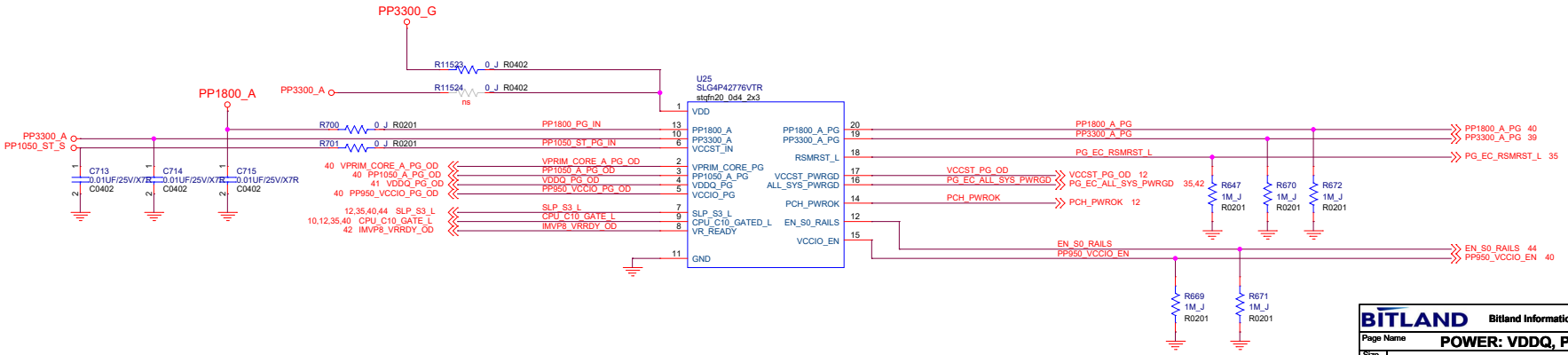
DRR4 RAILS



POWER GOOD GENERATION



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Page Name	POWER: VDDQ, PG CHIP	
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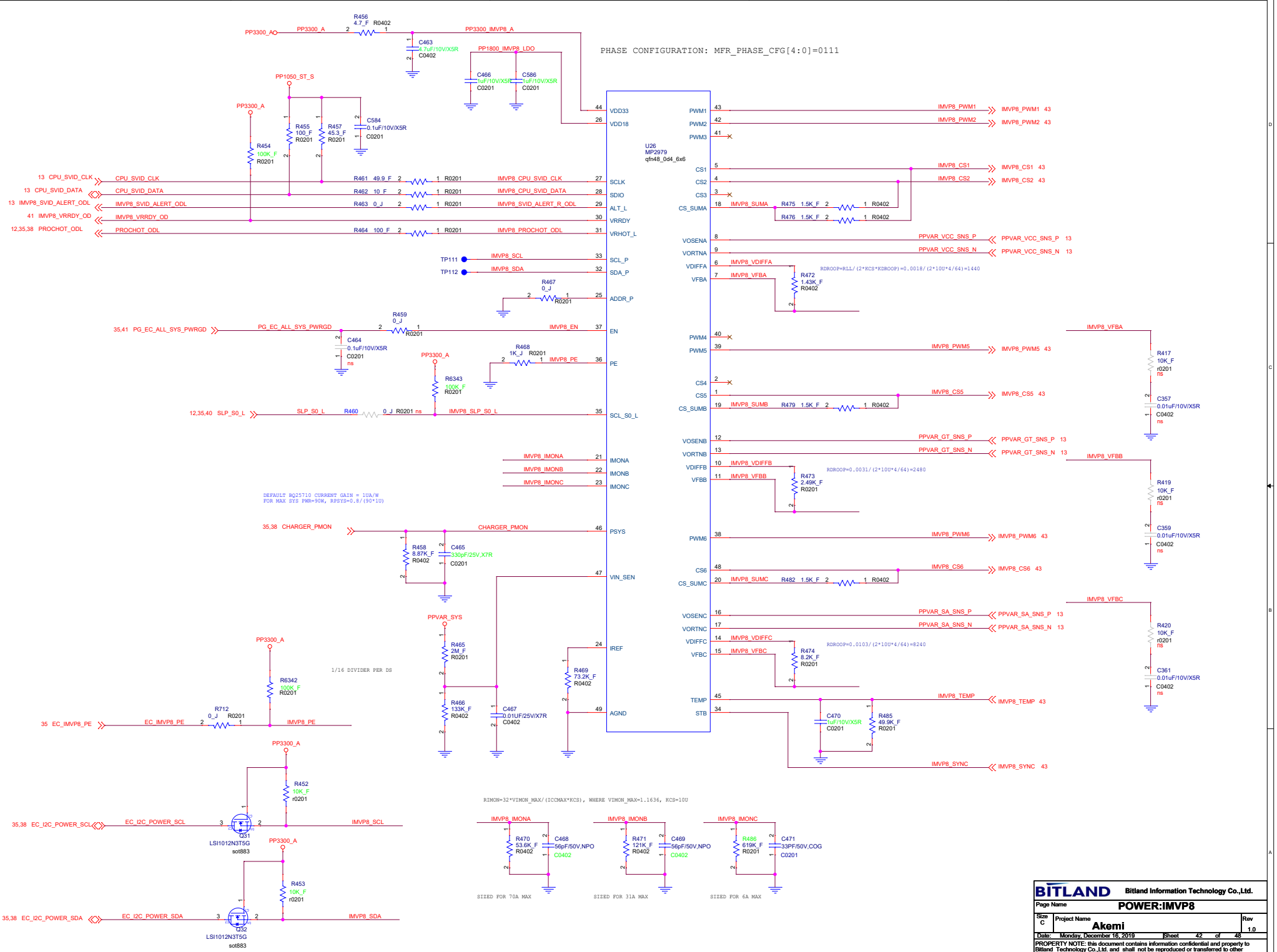
PHASE CONFIGURATION: MFR_PHASE_CFG[4:0]=0111
U26
MP2979
qfn48_0d4_6x6
DEFAULT BQ25710 CURRENT GAIN = 1UA/W
FOR MAX SYS PWR=90W, RPSYS=0.8/(90*1U)
1/16 DIVIDER PER DS
RDROOP=RLL/(2*RCS*KDROOP)=0.0018/(2*10U*4/64)=1440
RDROOP=0.0031/(2*10U*4/64)=2480
RDROOP=0.0103/(2*10U*4/64)=8240
RIMON=32*VIMON_MAX/(ICCMAX*RCS), WHERE VIMON_MAX=1.1636, RCS=10U
SIZED FOR 70A MAX
SIZED FOR 31A MAX
SIZED FOR 6A MAX
LSI1012N3T5G
sot883
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POWER:IMVP8
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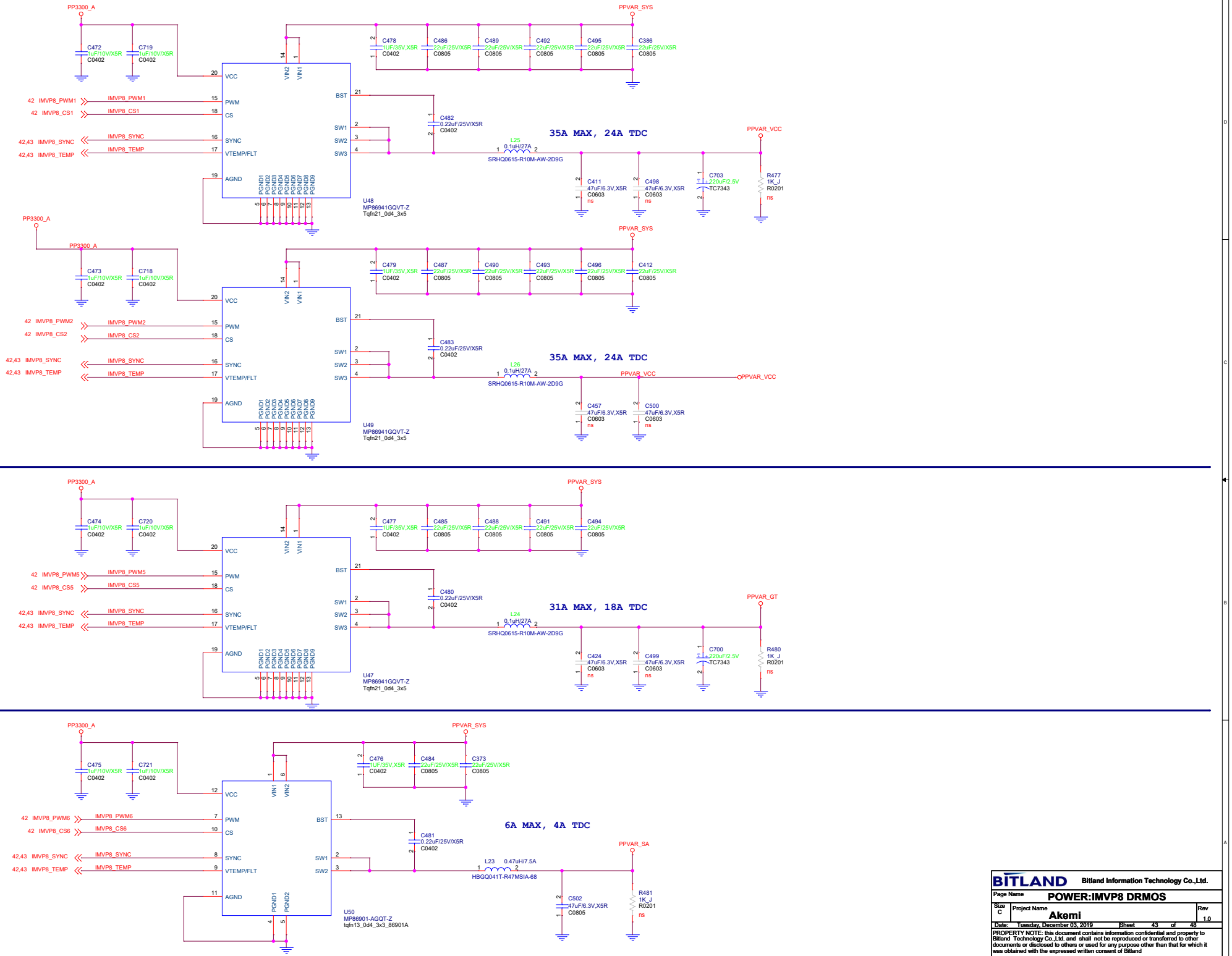

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Page Name	POWER:IMVP8 DRMOS
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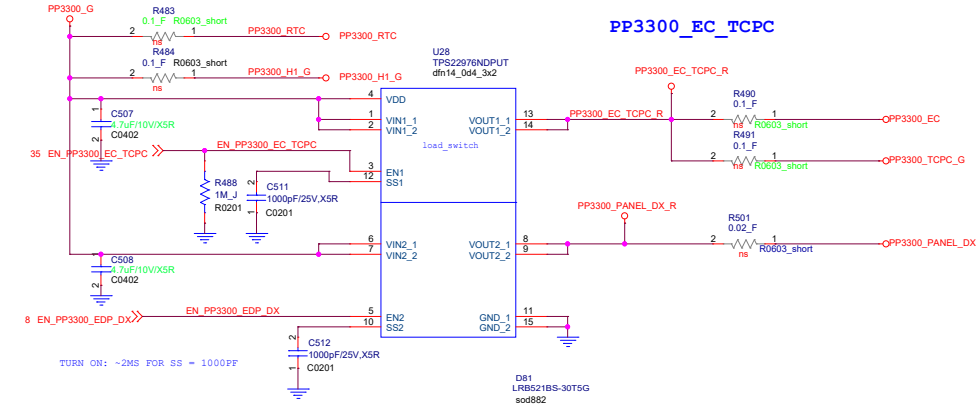

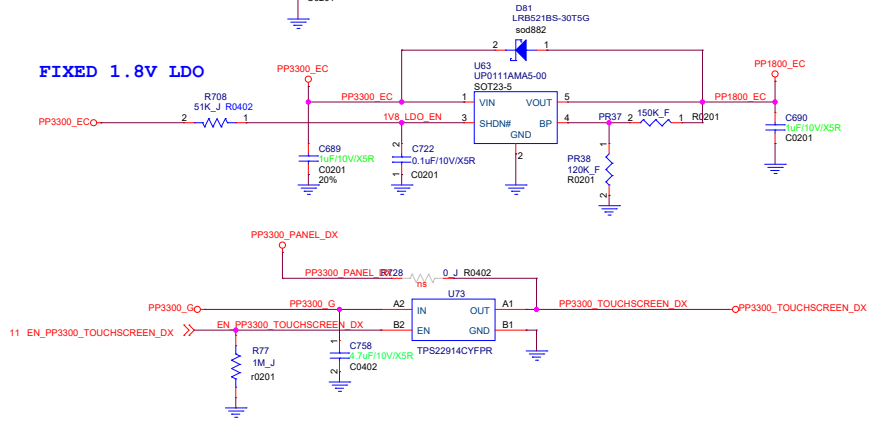

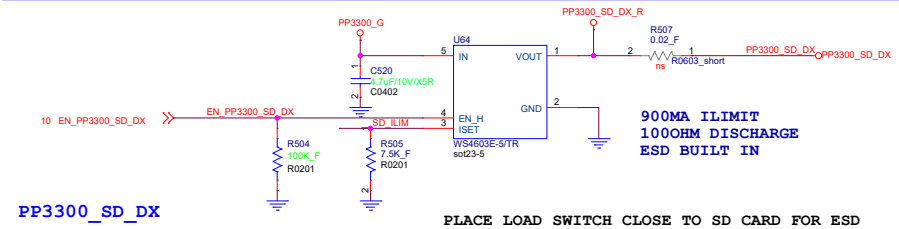

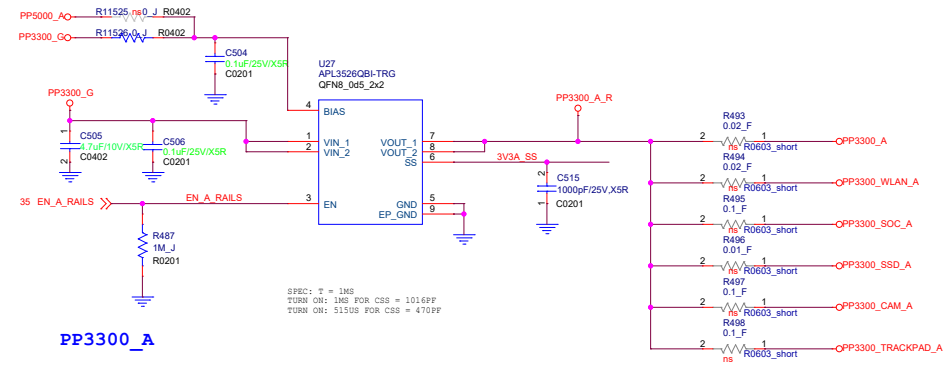

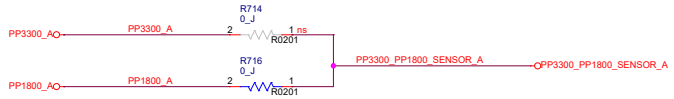

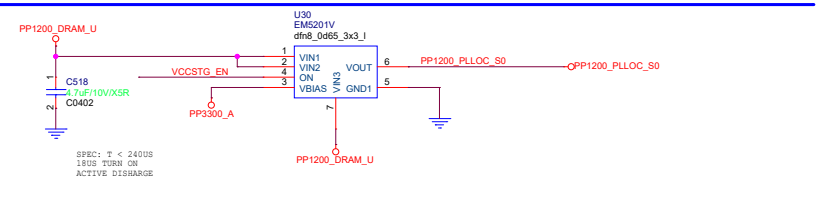

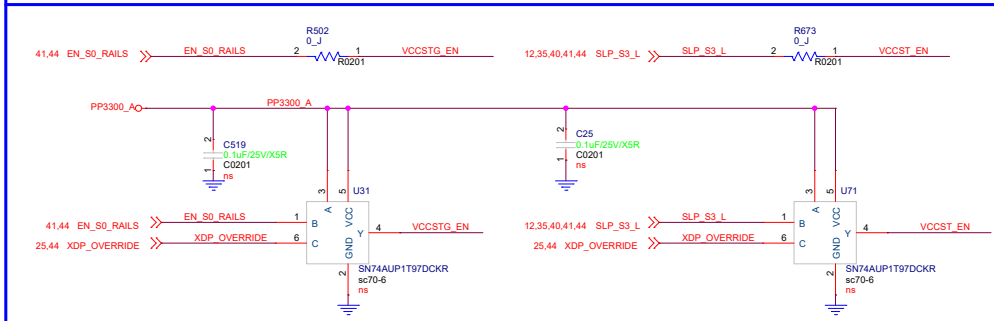

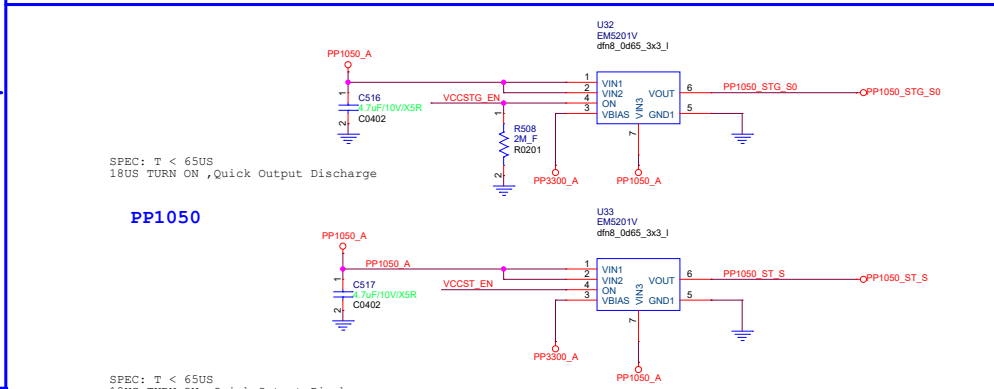

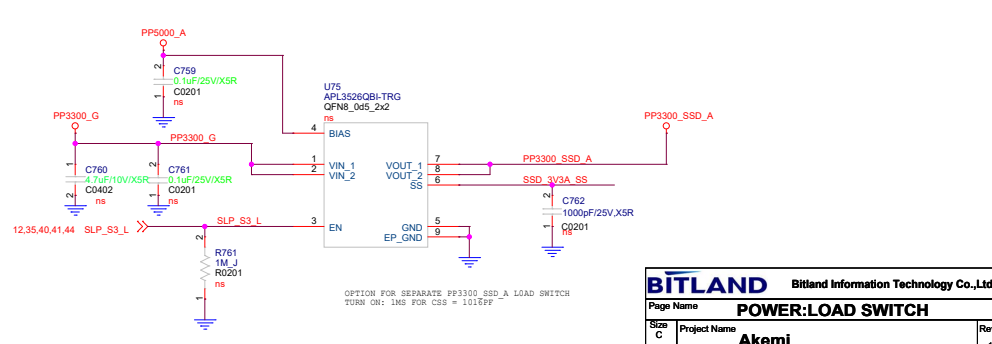

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Page Name: POWER:LOAD SWITCH

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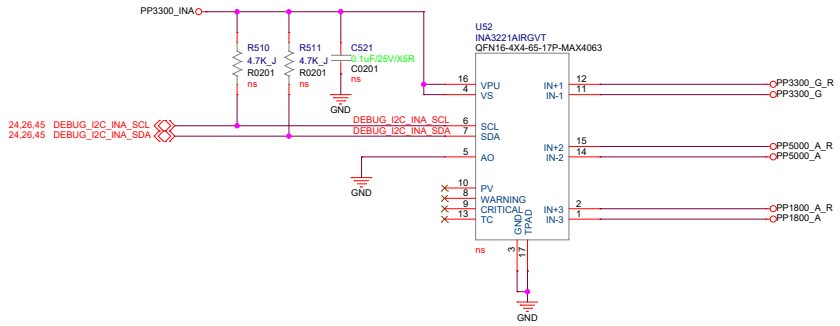
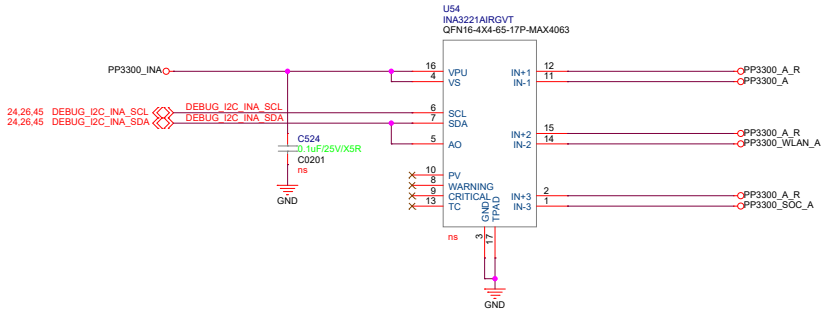
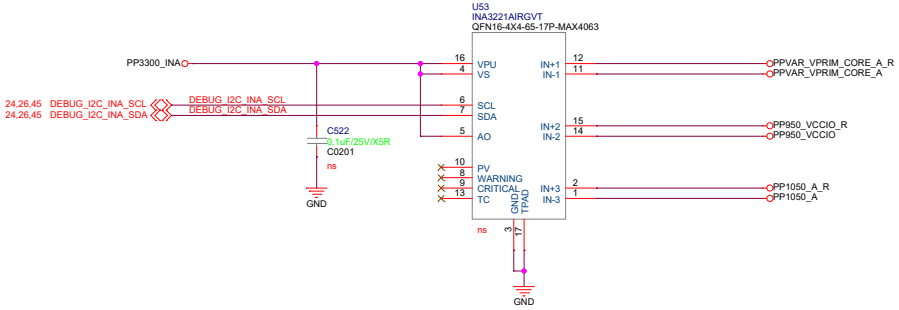


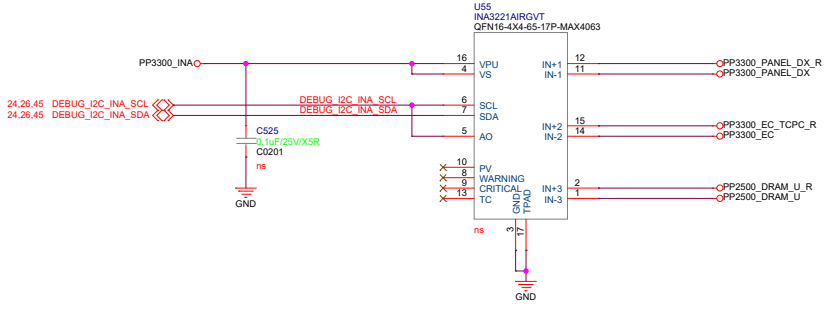
I2C ADDR: 0X40



I2C ADDR: 0X42

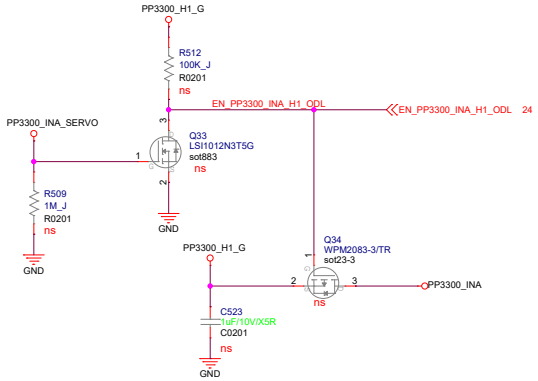


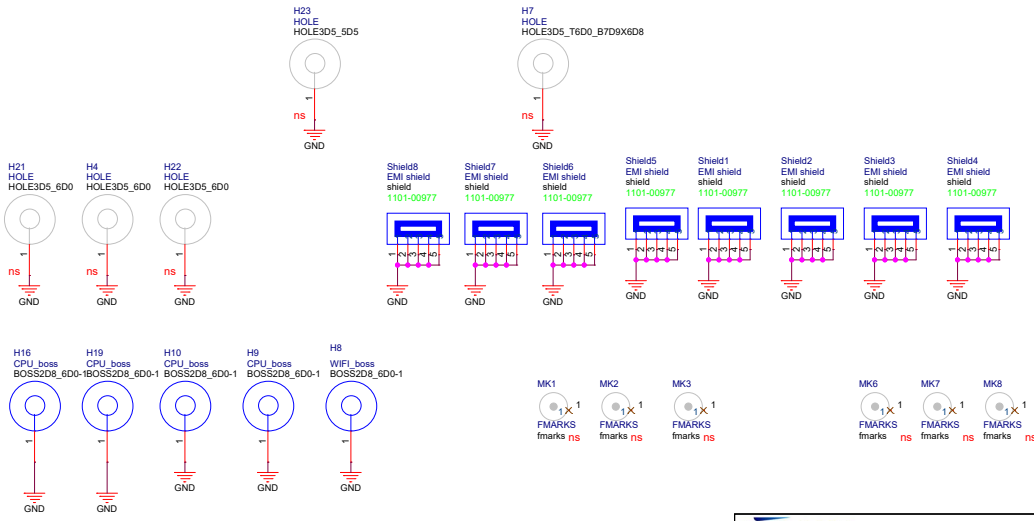
I2C ADDR: 0X41



I2C ADDR: 0X43

INA POWER





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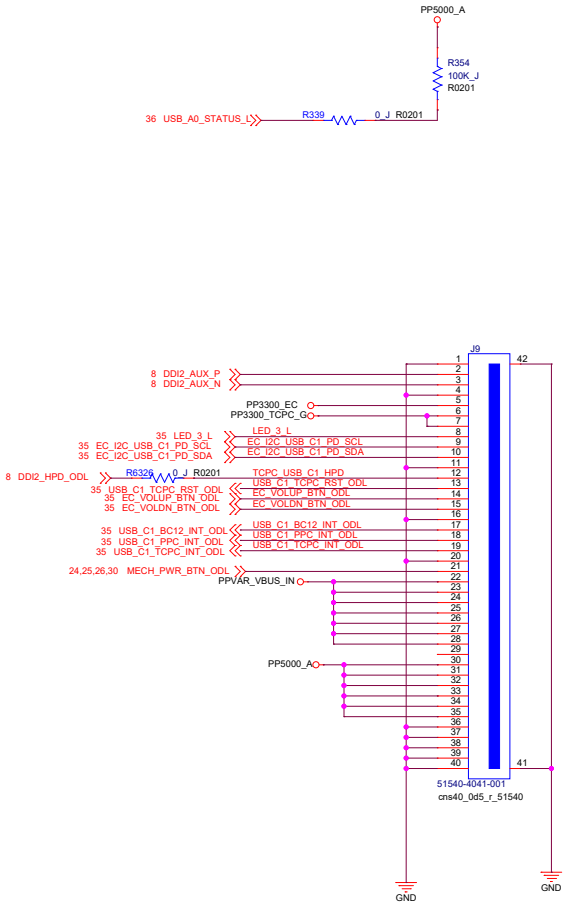

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Page Name: SUB BOARD CONNECTOR

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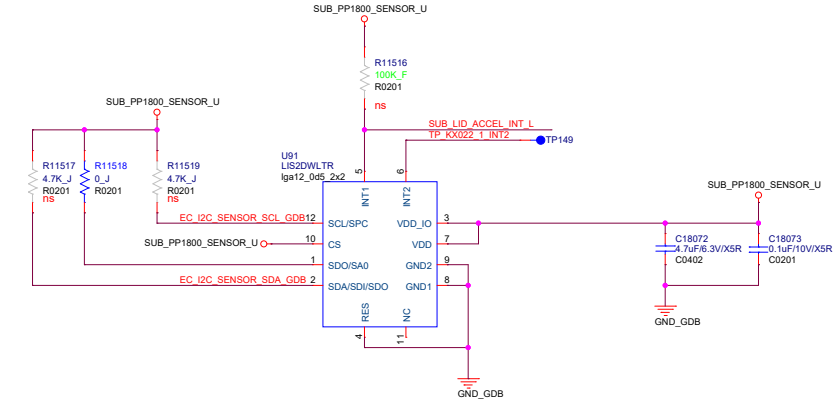
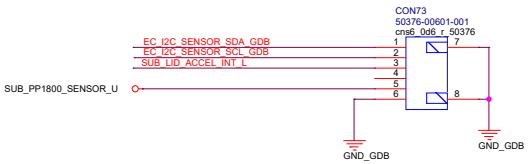
LID ACCEL-CORAL
(SUB BOARD)



I2C MODE: (SET BY NCS TIE TO VDDIO)
I2C ADDRESS: 0X1E (SDO_ADDR = GND), 0X1F (SDO_ADDR = VDDIO)
I2C MAX SPEED = 3.4MHZ



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