Bitland Confidential

M/B Schematics Document

Intel Jasper Lake Platform

V1.1

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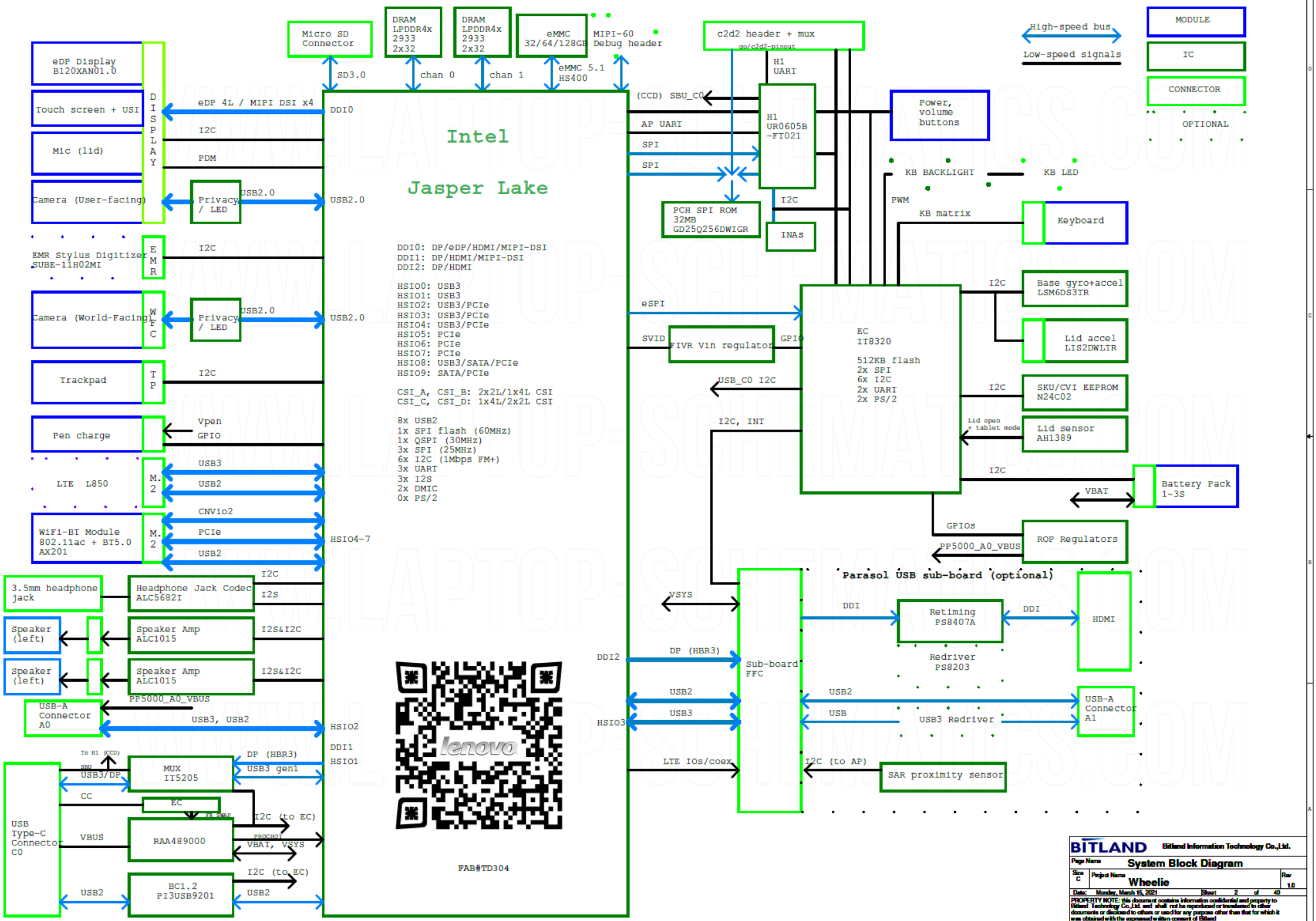
Wheelie System Block Diagram



BITLAND Bitland Information Technology Co.,Ltd.

Page Name: System Block Diagram

Size: C | Project Name: Wheelie | Rev: 1.0

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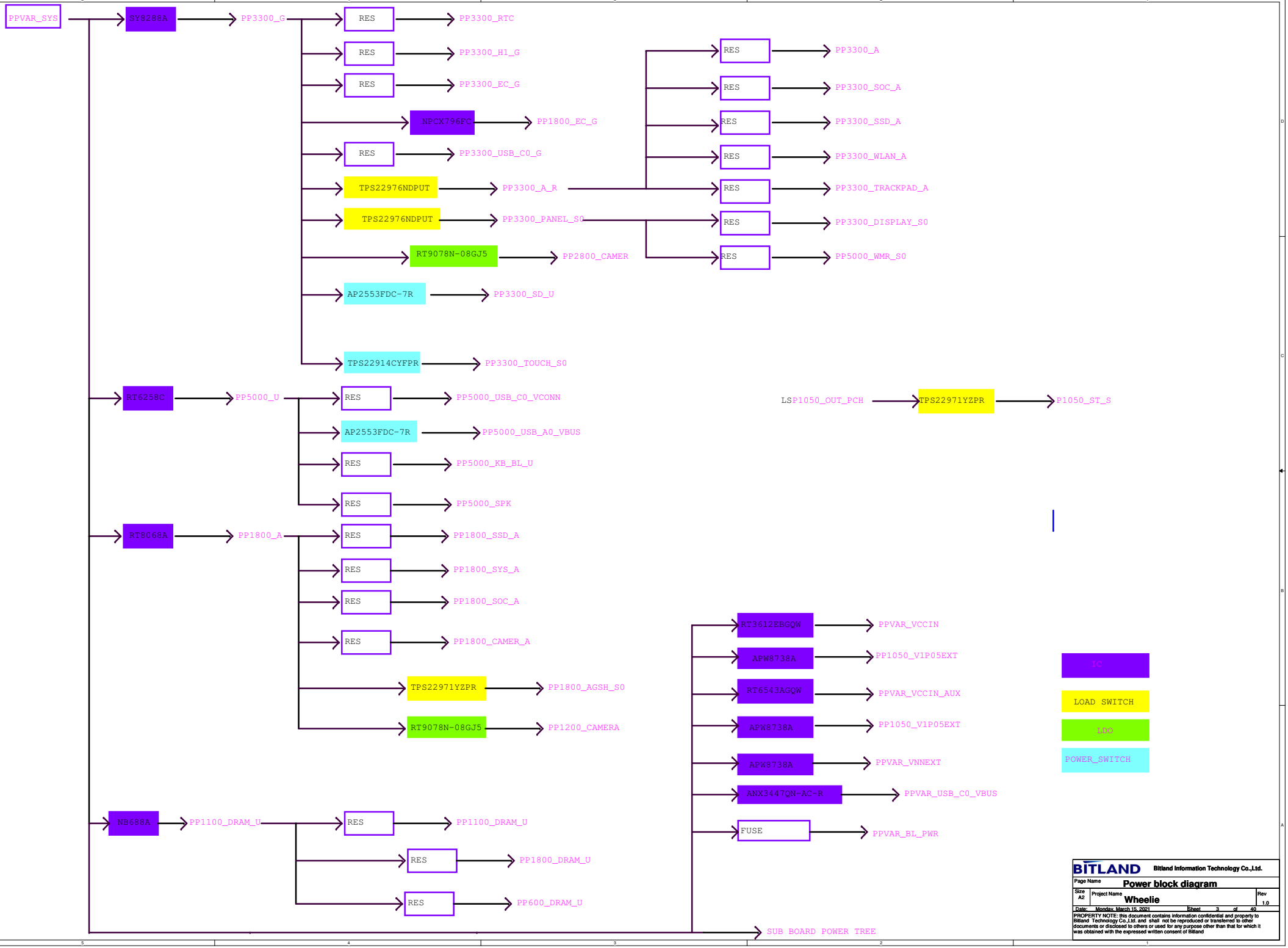

BITLAND Bitland Information Technology Co.,Ltd.

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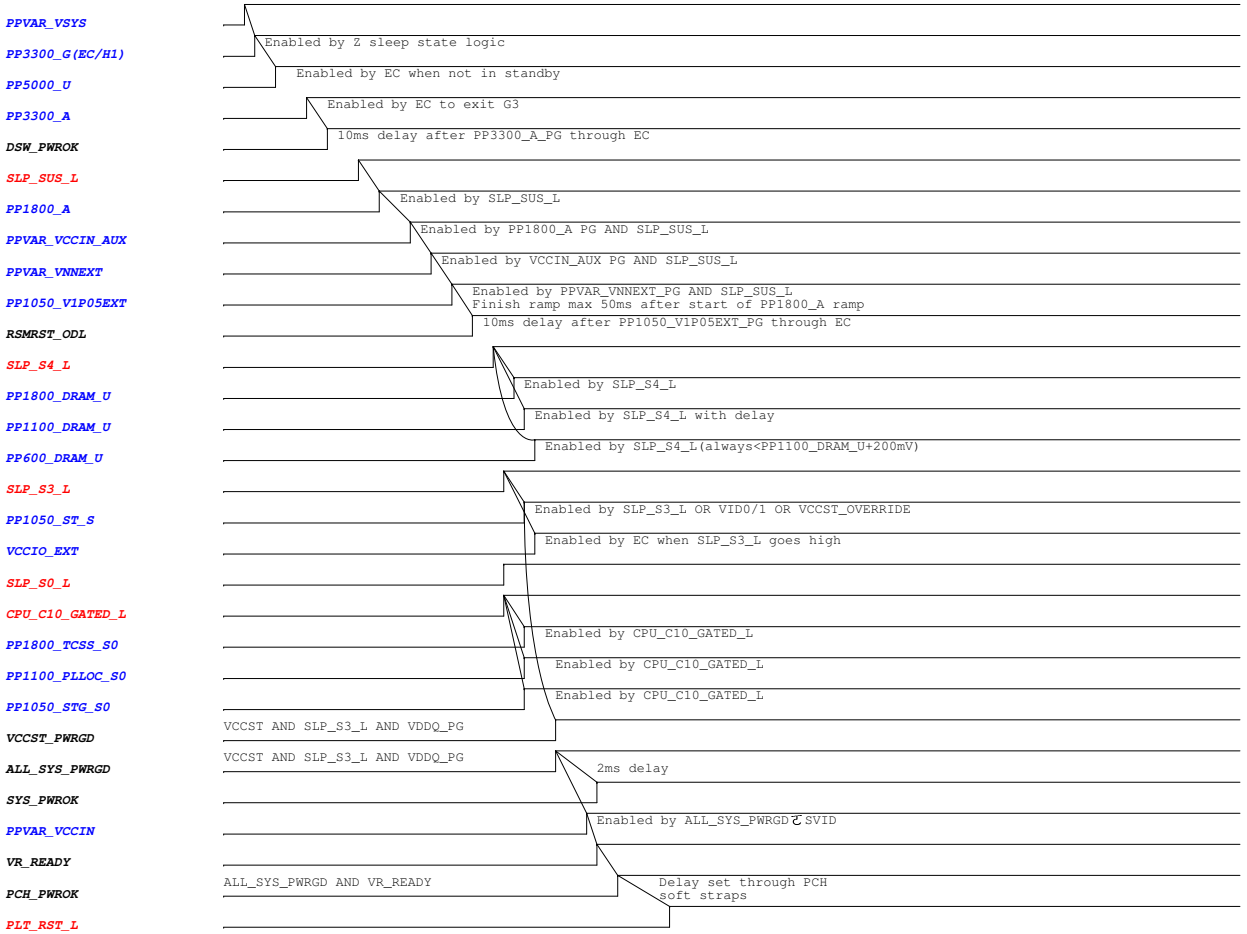

Power Rail
Signal from PCH
Signal from Platform

POWER SEQUENCING

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Master	Prot	Voltage Domain	Bus name	Bus Speed	Slave device	7-bit Addr(s专	Int Priority	Noye
AP(JSL+)	0	PP3300_A	AP_I2C_TP	400KHz	Trackpad	Project-specific	0	Trackpad
	1	PP1800_A	AP_I2C_EMR	400KHz	SUBE-xxxxxMI	0x09	0	NA
					HPDxxxx-920	?	0	NA
	2	PP3300_TOUCH_S0	AP_I2C_TS	400KHz	Touchscreen	Project-specific	0	Touchscreen
					Panel	Project-specific	-	MIPI Panel
	3	PP1800_A	AP_I2C_CAMERA	400KHz	UFC	Project-specific	-	NA
					WFC	Project-specific	-	NA
	4	PP1800_A	AP_I2C_AUDIO	400KHz	ALC1015	0x28(left),0x29(right)	-	Speakers
					ALC5682I	0x1A	0	Headphone
					DA7219	0x1A	0	Headphone
	5	PP3300_A	AP_I2C_SUB	400KHz	SX9324	Project-specific	0	P seneor

Master	Prot	Voltage Domain	Bus name	Bus Speed	Slave device	7-bit Addr(s专	Int Priority	Noye
EC	IT8320:0	PP3300_EC_G	EC_I2C_EEPROM	400KHz	N24C02	0x30(PSWP),0x50(memory)	-	CBI EEPROM
					IT8320	0x35,0x5A,0x79	-	EC flash
	IT8320:1	PP3300_EC_G	EC_I2C_BATTRERY	100KHz	Smart battery	Project-specific	-	Fuel gauge
	IT8320:2	PP1800_A	EC_I2CSENSOR	400KHz	LSM6DS3TR	0x6A	-	Gyro/accel
					LIS2DWLTR	TBD	-	Lid accel
					KB backlight	Project-specific	-	KB backlight
					IMVP9	Project-specific	-	IMVP9
	IT8320:5	PP3300_EC_G	EC_I2C_USB_C0	1MHz	RAA489000	0x09(+0x0C SMBus ARA)	1	Charger
					RAA489000	0x22	0	TCPC
					IT5205	0x48	-	MUX
					PI3USB9201	0x5F	2	BC1.2

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Page Name **Power Sequence**

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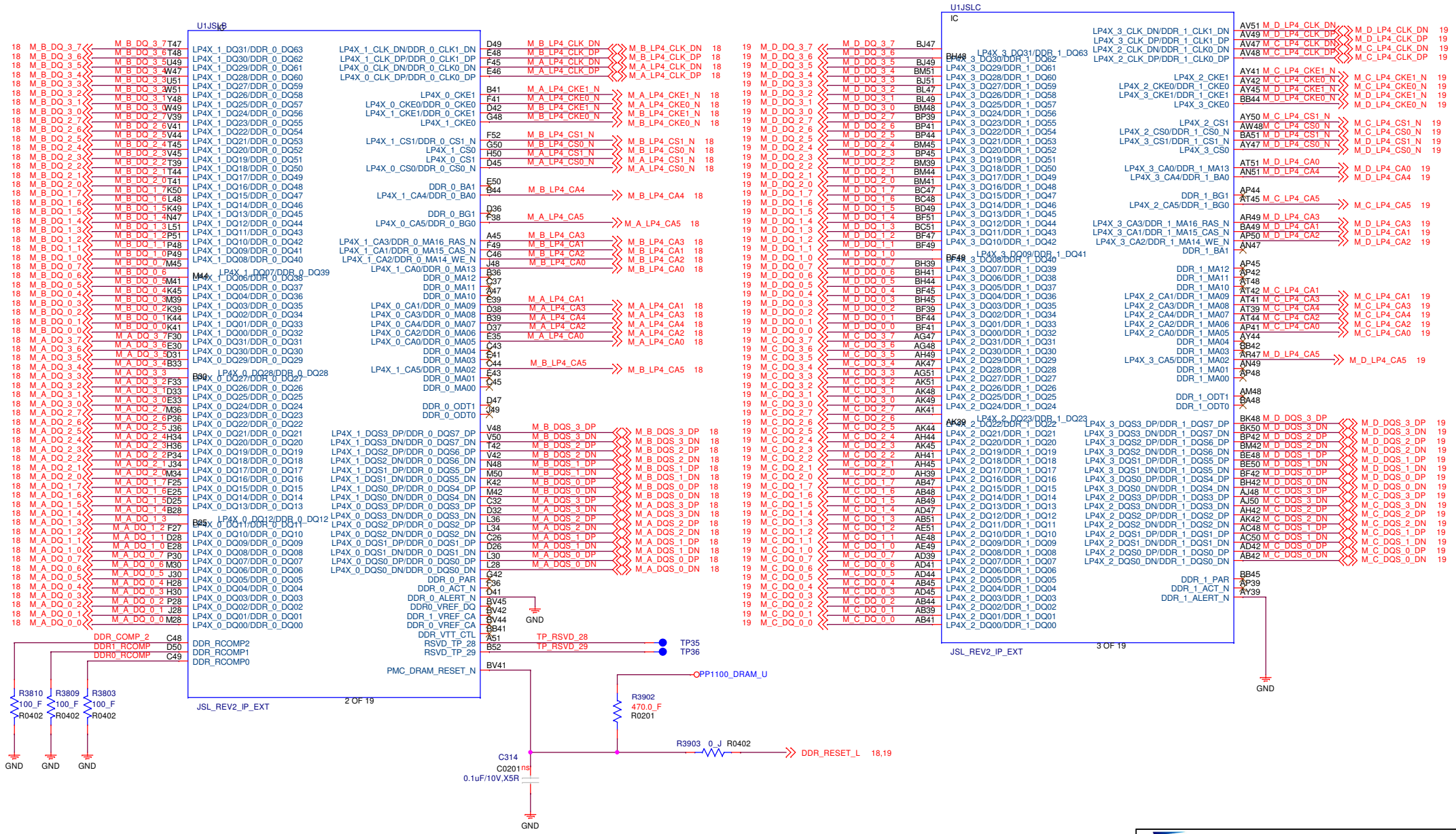

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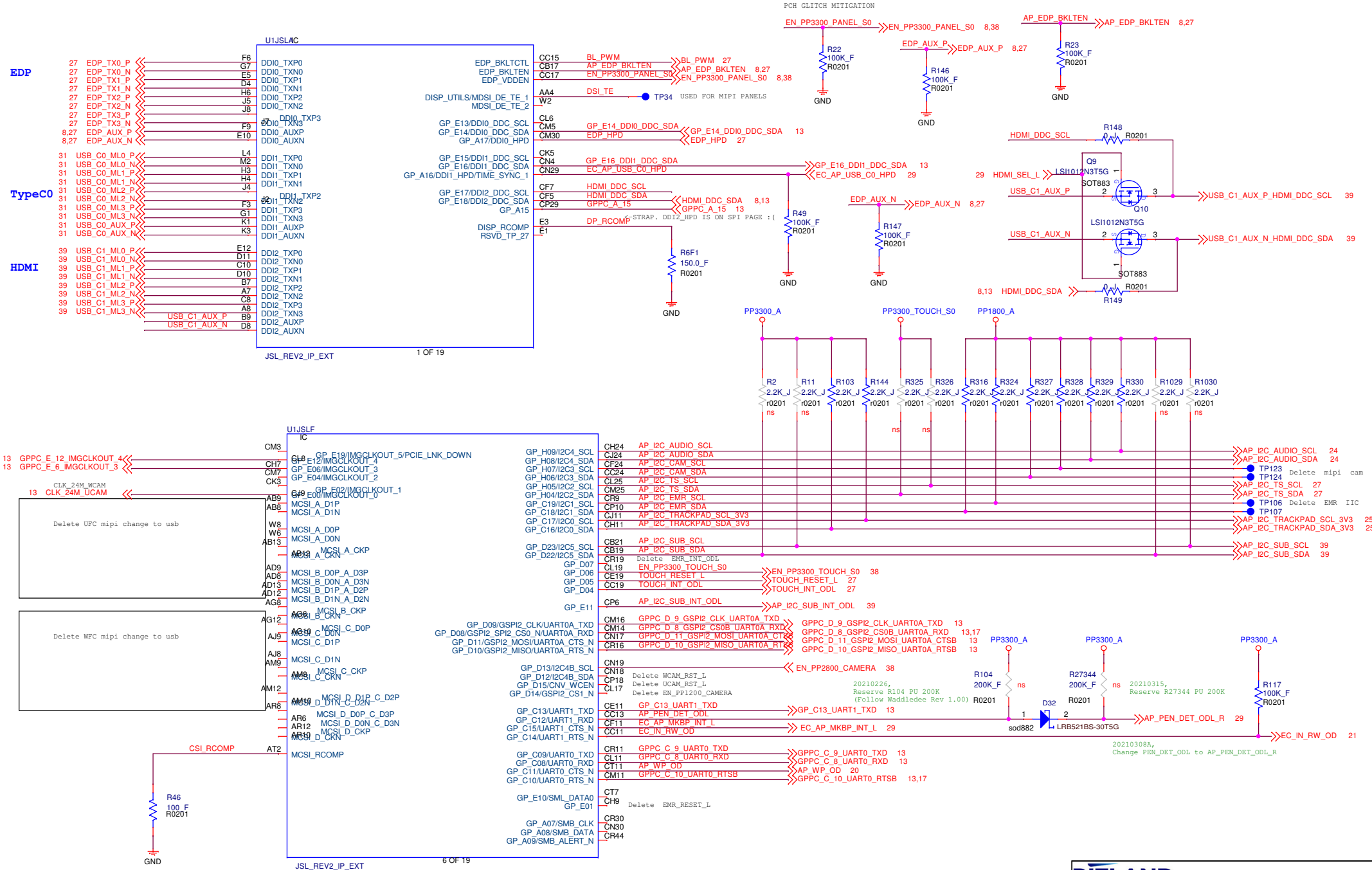
PCH GLITCH MITIGATION
EDP
TypeC0
HDMI
U1JSLAC
DDI0_TXP0
DDI0_TXN0
DDI0_TXP1
DDI0_TXN1
DDI0_TXP2
DDI0_TXN2
DDI0_TXP3
DDI0_TXN3
DDI0_AUXP
DDI0_AUXN
DDI1_TXP0
DDI1_TXN0
DDI1_TXP1
DDI1_TXN1
DDI1_TXP2
DDI1_TXN2
DDI1_TXP3
DDI1_TXN3
DDI1_AUXP
DDI1_AUXN
DDI2_TXP0
DDI2_TXN0
DDI2_TXP1
DDI2_TXN1
DDI2_TXP2
DDI2_TXN2
DDI2_TXP3
DDI2_TXN3
DDI2_AUXP
DDI2_AUXN
JSL_REV2_IP_EXT
1 OF 19
EN_PP3300_PANEL_S0
AP_EDP_BKLTEN
EDP_AUX_P
R22 100K_F R0201
R146 100K_F R0201
R23 100K_F R0201
GND
BL_PWM
EDP_HPD
DSI_TE
TP34 USED FOR MIPI PANELS
DISP_UTILS/MDSI_DE_TE_1
MDSI_DE_TE_2
EDP_BKLTCTL
EDP_VDDEN
GP_E13/DDI0_DDC_SCL
GP_E14/DDI0_DDC_SDA
GP_A17/DDI0_HPD
GP_E15/DDI1_DDC_SCL
GP_E16/DDI1_DDC_SDA
GP_A16/DDI1_HPD/TIME_SYNC_1
GP_E17/DDI2_DDC_SCL
GP_E18/DDI2_DDC_SDA
GP_A15
DISP_RCOMP
RSVD_TP_27
DP_RCOMP
STRAP. DDI2_HPD IS ON SPI PAGE :(
R6F1 150.0_F R0201
R49 100K_F R0201
R147 100K_F R0201
HDMI_DDC_SCL
HDMI_DDC_SDA
GPPC_A_15
EC_AP_USB_C0_HPD
HDMI_SEL_L
R148 0 R0201
R149 0 R0201
Q9 LSI1012N3T5G SOT883
Q10 LSI1012N3T5G SOT883
USB_C1_AUX_P
USB_C1_AUX_N
USB_C1_AUX_P_HDMI_DDC_SCL
USB_C1_AUX_N_HDMI_DDC_SDA
PP3300_A
PP3300_TOUCH_S0
PP1800_A
R2 2.2K_J r0201 ns
R11 2.2K_J r0201 ns
R103 2.2K_J r0201
R144 2.2K_J r0201
R325 2.2K_J r0201 ns
R326 2.2K_J r0201 ns
R316 2.2K_J r0201
R324 2.2K_J r0201
R327 2.2K_J r0201
R328 2.2K_J r0201
R329 2.2K_J r0201
R330 2.2K_J r0201
R1029 2.2K_J r0201 ns
R1030 2.2K_J r0201 ns
U1JSLF
IC
GPPC_E_12_IMGCLKOUT_4
GPPC_E_6_IMGCLKOUT_3
CLK_24M_WCAM
CLK_24M_UCAM
Delete UFC mipi change to usb
Delete WFC mipi change to usb
MCSI_A_D1P
MCSI_A_D1N
MCSI_A_D0P
MCSI_A_D0N
MCSI_A_CKP
MCSI_A_CKN
MCSI_B_D0P_A_D3P
MCSI_B_D0N_A_D3N
MCSI_B_D1P_A_D2P
MCSI_B_D1N_A_D2N
MCSI_B_CKP
MCSI_B_CKN
MCSI_C_D0P
MCSI_C_D0N
MCSI_C_D1P
MCSI_C_D1N
MCSI_C_CKP
MCSI_C_CKN
MCSI_D_D1P_C_D2P
MCSI_D_D1N_C_D2N
MCSI_D_D0P_C_D3P
MCSI_D_D0N_C_D3N
MCSI_D_CKP
MCSI_D_CKN
CSI_RCOMP
MCSI_RCOMP
R46 100_F R0201
GP_E19/IMGCLKOUT_5/PCIE_LNK_DOWN
GP_E12/IMGCLKOUT_4
GP_E06/IMGCLKOUT_3
GP_E04/IMGCLKOUT_2
GP_E02/IMGCLKOUT_1
GP_E00/IMGCLKOUT_0
JSL_REV2_IP_EXT
6 OF 19
AP_I2C_AUDIO_SCL
AP_I2C_AUDIO_SDA
AP_I2C_CAM_SCL
AP_I2C_CAM_SDA
AP_I2C_TS_SCL
AP_I2C_TS_SDA
AP_I2C_EMR_SCL
AP_I2C_EMR_SDA
AP_I2C_TRACKPAD_SCL_3V3
AP_I2C_TRACKPAD_SDA_3V3
AP_I2C_SUB_SCL
AP_I2C_SUB_SDA
TP123 Delete mipi cam
TP124
TP106 Delete EMR IIC
TP107
EN_PP3300_TOUCH_S0
TOUCH_RESET_L
TOUCH_INT_ODL
AP_I2C_SUB_INT_ODL
GP_D9/GSPI2_CLK/UART0A_TXD
GP_D8/GSPI2_CS0_N/UART0A_RXD
GP_D11/GSPI2_MOSI/UART0A_CTS_N
GP_D10/GSPI2_MISO/UART0A_RTS_N
GPPC_D_9_GSPI2_CLK_UART0A_TXD
GPPC_D_8_GSPI2_CS0B_UART0A_RXD
GPPC_D_11_GSPI2_MOSI_UART0A_CTSB
GPPC_D_10_GSPI2_MISO_UART0A_RTSB
EN_PP2800_CAMERA
Delete WCAM_RST_L
Delete UCAM_RST_L
Delete EN_PP1200_CAMERA
20210226, Reserve R104 PU 200K (Follow Waddledee Rev 1.00)
R104 200K_F ns R0201
R27344 200K_F ns R0201
20210315, Reserve R27344 PU 200K
D32 sod882 LRB521BS-30T5G
AP_PEN_DET_ODL_R
R117 100K_F R0201
EC_IN_RW_OD
20210308A, Change PEN_DET_ODL to AP_PEN_DET_ODL_R
GP_C13_UART1_TXD
AP_PEN_DET_ODL
EC_AP_MKBP_INT_L
EC_IN_RW_OD
GP_C_9_UART0_TXD
GP_C_8_UART0_RXD
AP_WP_OD
GPPC_C_10_UART0_RTSB
GP_E10/SML_DATA0
GP_E01
Delete EMR_RESET_L
GP_A07/SMB_CLK
GP_A08/SMB_DATA
GP_A09/SMB_ALERT_N
BITLAND
Bitland Information Technology Co.,Ltd.
Page Name
JSL+: DISPLAY, CAMERA, I2C
Size A3
Project Name
Wheelie
Rev 1.0
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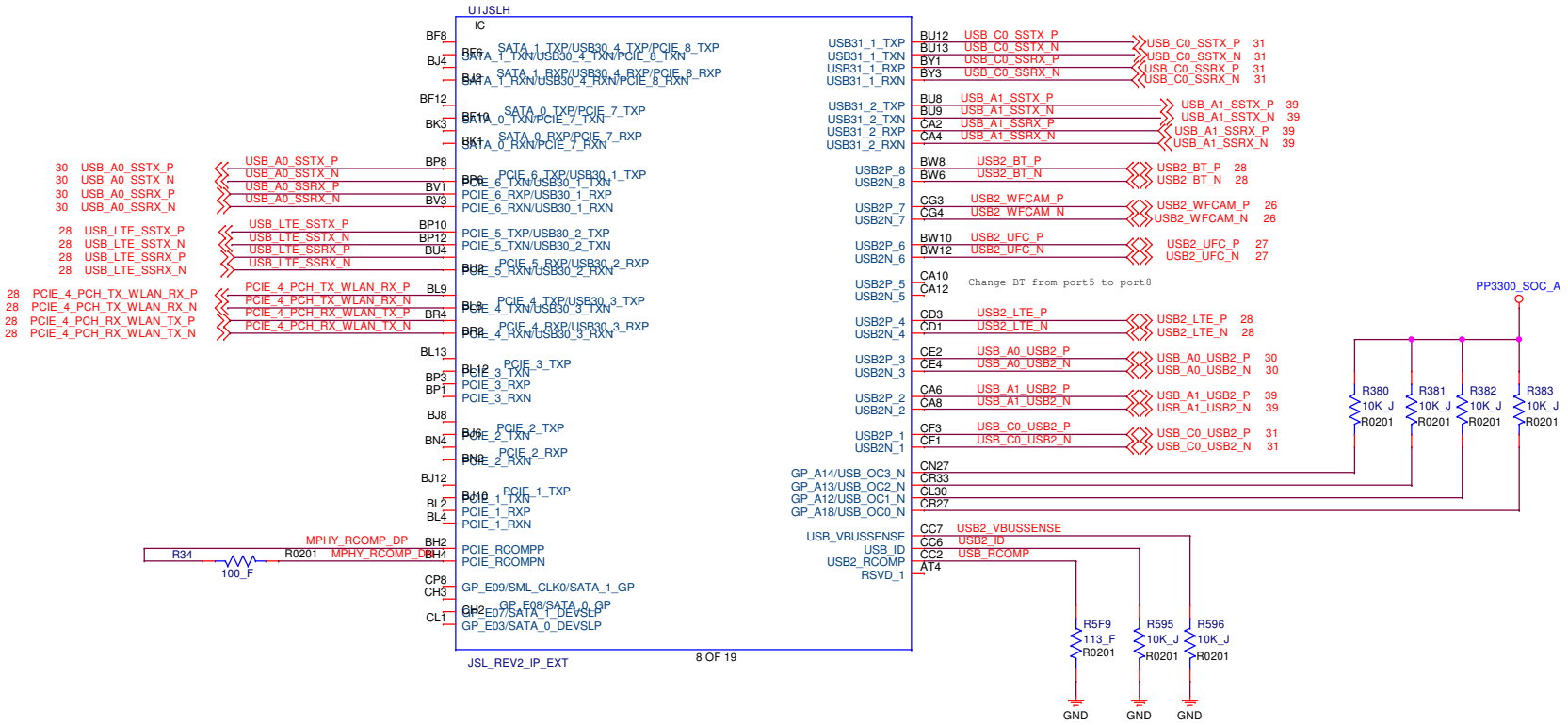

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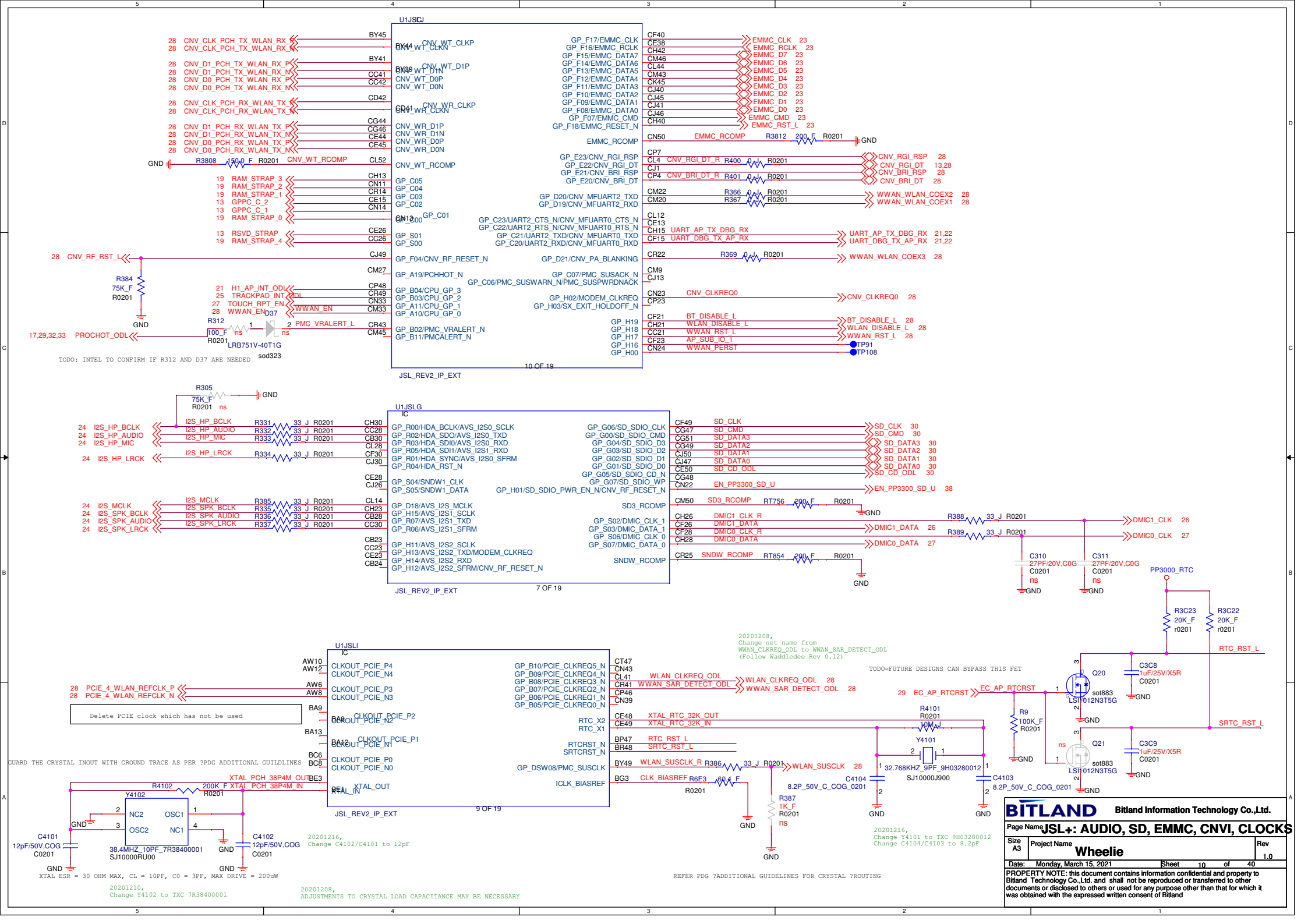
U1JSCJ
JSL_REV2_IP_EXT
10 OF 19
U1JSLG
IC
JSL_REV2_IP_EXT
7 OF 19
U1JSLI
IC
JSL_REV2_IP_EXT
9 OF 19
TODO: INTEL TO CONFIRM IF R312 AND D37 ARE NEEDED
Delete PCIE clock which has not be used
GUARD THE CRYSTAL INOUT WITH GROUND TRACE AS PER ?PDG ADDITIONAL GUILDLINES
XTAL ESR = 30 OHM MAX, CL = 10PF, C0 = 3PF, MAX DRIVE = 200uW
20201208, Change net name from WWAN_CLKREQ_ODL to WWAN_SAR_DETECT_ODL (Follow Waddledee Rev 0.12)
TODO=FUTURE DESIGNS CAN BYPASS THIS FET
20201216, Change C4102/C4101 to 12pF
20201216, Change Y4101 to TXC 9H03280012 Change C4104/C4103 to 8.2pF
20201210, Change Y4102 to TXC 7R38400001
20201208, ADJUSTMENTS TO CRYSTAL LOAD CAPACITANCE MAY BE NECESSARY
REFER PDG ?ADDITIONAL GUIDELINES FOR CRYSTAL ?ROUTING
BITLAND
Bitland Information Technology Co.,Ltd.
Page Name JSL+: AUDIO, SD, EMMC, CNVI, CLOCKS
Size A3
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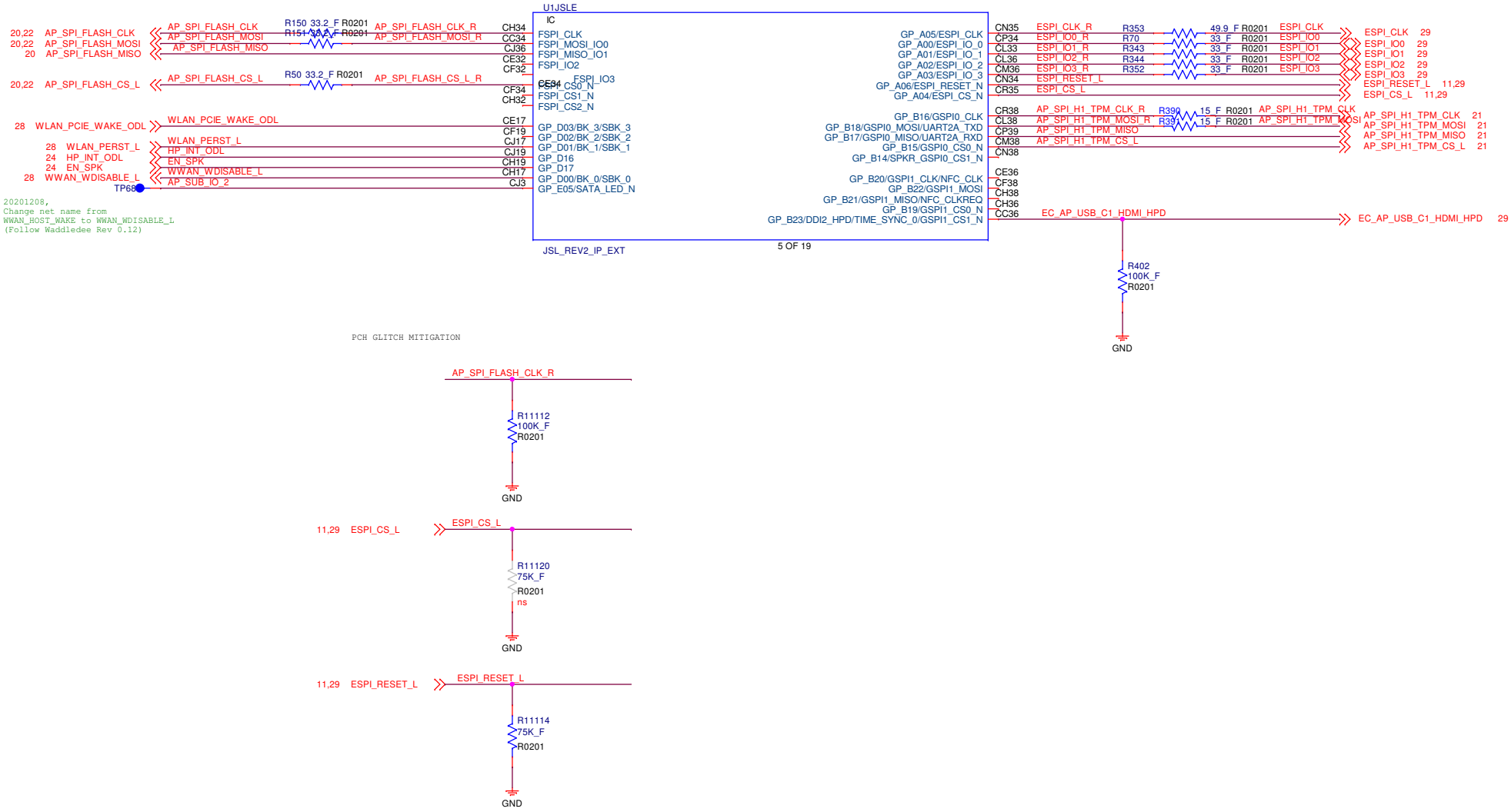

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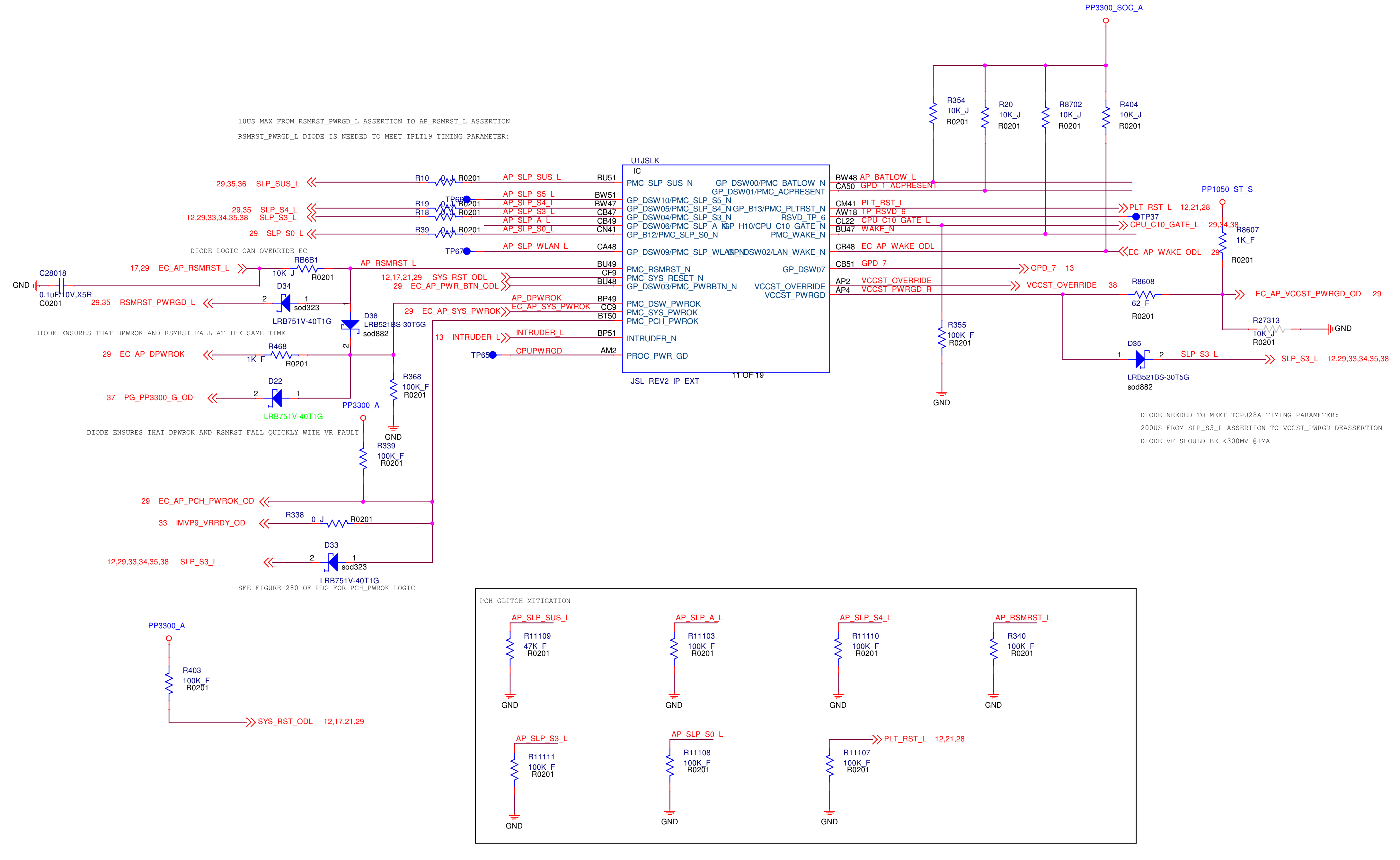

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DISPLAY PORT PRESENCE STRAP

CFG4	0: ENABLED AN EXTERNAL DISPLAY PORT DEVICE IS CONNECTED TO THE EMBEDDED DISPLAY PORT 1: DISABLED; (DEFAULT) NO PHYSICAL DISPLAY PORT ATTACHED TO THE EMBEDDED DISPLAY PORT	17 MIPI60_CFG4_N — MIPI60_CFG4_N — R5M19 1K_F R0201 — GND

CPUNSSC CLOCK FREQ

1: (DERIVED FROM 38.4MHZ CRYSTAL)
19.2MHZ CLOCK FROM DIVI

0: CRYSTAL (DEFAULT)
38.4MHZ CLOCK FROM DIRECT

PP3300_SOC_A — R4E63 4.7K_F R0201 ns — GP_C13_UART1_TXD — 8 GP_C13_UART1_TXD

CPUNSSC CLOCK FREQ

1: (DERIVED FROM 38.4MHZ CRYSTAL)
19.2MHZ CLOCK FROM DIVI

0: CRYSTAL (DEFAULT)
38.4MHZ CLOCK FROM DIRECT

PP3300_SOC_A — R7D40 4.7K_F R0201 ns — GPPC_C_9_UART0_TXD — 8 GPPC_C_9_UART0_TXD

TOP SWAP OVERRIDE

LOW-DISABLED
HIGH- TOP SWAP ENABLED

WEAK INTERNAL PD 20K
SAMPLING- PCH_PWROK

PP3300_SOC_A — R7D35 4.7K_F R0201 ns — 10 GPPC_C_1

RESERVED

PP3300_SOC_A — R1G3 100K_F R0201 — 8 GPPC_D_9_GSPI2_CLK_UART0A_TXD — R1G1 4.7K_F R0201 ns — GND

PP3300_SOC_A — R6D34 100K_F R0201 — 8,17 GPPC_D_8_GSPI2_CS0B_UART0A_RXD — R6D29 4.7K_F R0201 ns — GND

THIS STRAP HAS A 20K INTERNAL PULL-UP

17 DBG_PMODE — DBG_PMODE — R5G69 1K_F R0201 ns — GND

NO REBOOT

LOW- REBOOT ENABLED
HIGH - NO REBOOT

SAMPLING- PCH_PWROK
WEAK INTERNAL PD 20K

PP3300_SOC_A — R8A7 4.7K_F R0201 ns — 10 GPPC_C_2

RESERVED FOR CHROMEOS

PP1800_SOC_A — R105 4.7K_F R0201 ns — 10 RSVD_STRAP — R107 100K_F R0201 — GND

SPI VCCSIO CONFIGURATION

LOW: 3.3V
HIGH: 1.8V
NO INTERNAL PU/PD
SAMPLING - DSW_PWROK

PP3000_RTC — R3C18 1M_F R0201 ns — 12 INTRUDER_L — R2C20 10K_J R0201 — GND

TLS CONFIDENTIALITY

LOW - TLS CONFIDENTIALITY DISABLE
HIGH - TLS CONFIDENTIALITY ENABLE

SAMPLING - RSMRSTB
WEAK INTERNAL PD 20K

PP3300_SOC_A — R7D25 4.7K_F R0201 ns — 8 GPPC_C_8_UART0_RXD

XTAL SEL1

LOW: 38.4/19.2MHZ (DEFAULT)
HIGH = 24MHZ

SAMPLING - RSMRSTB
WEAK INTERNAL PD 20K

PP3300_SOC_A — R6D67 4.7K_F R0201 ns; PP1800_SOC_A — R6D66 4.7K_F R0201 ns — 8 CLK_24M_UCAM

RESET SEQUENCE STALL

LOW: STALL
HIGH: NO STALL

STALLS AFTER PCU PLL LOCK
UNTIL DEASSERTED

PP1050_VCCIO_EXT — R405 1K_F R0201 — 17 MIPI60_CFG0_N — R406 1K_F R0201 ns — GND

MAF/SAF STRAP

LOW-> MAF ENABLE
HIGH-> SAF ENABLE

WEAK INTERNAL PD 20K

PP3300_SOC_A — R1H18 2.2K_F R0201 ns — 8 GPPC_D_11_GSPI2_MOSI_UART0A_CTSB

M.2 CNVI MODES

LOW-> INTEGRATED CNVI ENABLE
HIGH-> INTEGRATED CNVI DISABLE

NO INTERNAL PU/PD
SAMPLING - RSMRSTB

PP3300_SOC_A — R6D85 20K_F R0201 ns; PP1800_SOC_A — R6D84 20K_F R0201 — 10,28 CNV_RGI_DT — R6D82 4.7K_F R0201 — GND

BSSB LSX #0 PINS VCCIO CONFIGURATION

HIGH: 3.3V
LOW: 1.8V

INTERNAL PD

PP3300_SOC_A — R6D46 4.7K_F R0201 ns — 8 GP_E14_DDI0_DDC_SDA

BOOT HALT

HIGH - DISABLED
LOW- ENABLED

NO INTERNAL PU/PD
SAMPLING - RSMRSTB

PP3300_SOC_A — R4F23 100K_F R0201 — 8,17 GPPC_C_10_UART0_RTSB — R4F20 20K_F R0201 ns — GND

RESERVED

THIS STRAP HAS A 20K INTERNAL PULL-DOWN

DO NOT PULL THIS PIN HIGH ON BOARD

PP3300_SOC_A — R6D41 4.7K_F R0201 ns — 8 GPPC_D_10_GSPI2_MISO_UART0A_RTSB — R6D38 20K_F R0201 ns — GND

BSSB LSX #1 PINS VCCIO CONFIGURATION

HIGH: 3.3V
LOW: 1.8V

INTERNAL PD

PP3300_SOC_A — R6D42 4.7K_F R0201 ns — 8 GP_E16_DDI1_DDC_SDA

FLASH DESCRIPTOR SECURITY OVERRIDE

HIGH: OVERRIDEN
LOW: SECURITY MEASURES NOT OVERRIDEN

SAMPLING- PCH_PWROK
WEAK INTERNAL PD 20K

PP3300_SOC_A — R3C14 4.7K_F R0201 ns — 8 GPPC_A_15

RESERVED

THIS STRAP HAS A 20K INTERNAL PULL-DOWN

PP3300_SOC_A — R7D26 4.7K_F R0201 ns — 12 GPD_7 — R7D24 20K_F R0201 ns — GND

BSSB LSX #2 PINS VCCIO CONFIGURATION

HIGH: 3.3V
LOW: 1.8V

INTERNAL PD

PP3300_SOC_A — R6D40 4.7K_F R0201 ns — 8 HDMI_DDC_SDA

???

PP3300_SOC_A — R6C1 100K_F R0201 — 8 GPPC_E_6_IMGCLKOUT_3

BSSB LSX #3 PINS VCCIO CONFIGURATION

HIGH: 3.3V
LOW: 1.8V

INTERNAL PD

PP3300_SOC_A — R6D39 4.7K_F R0201 ns — 8 GPPC_E_12_IMGCLKOUT_4

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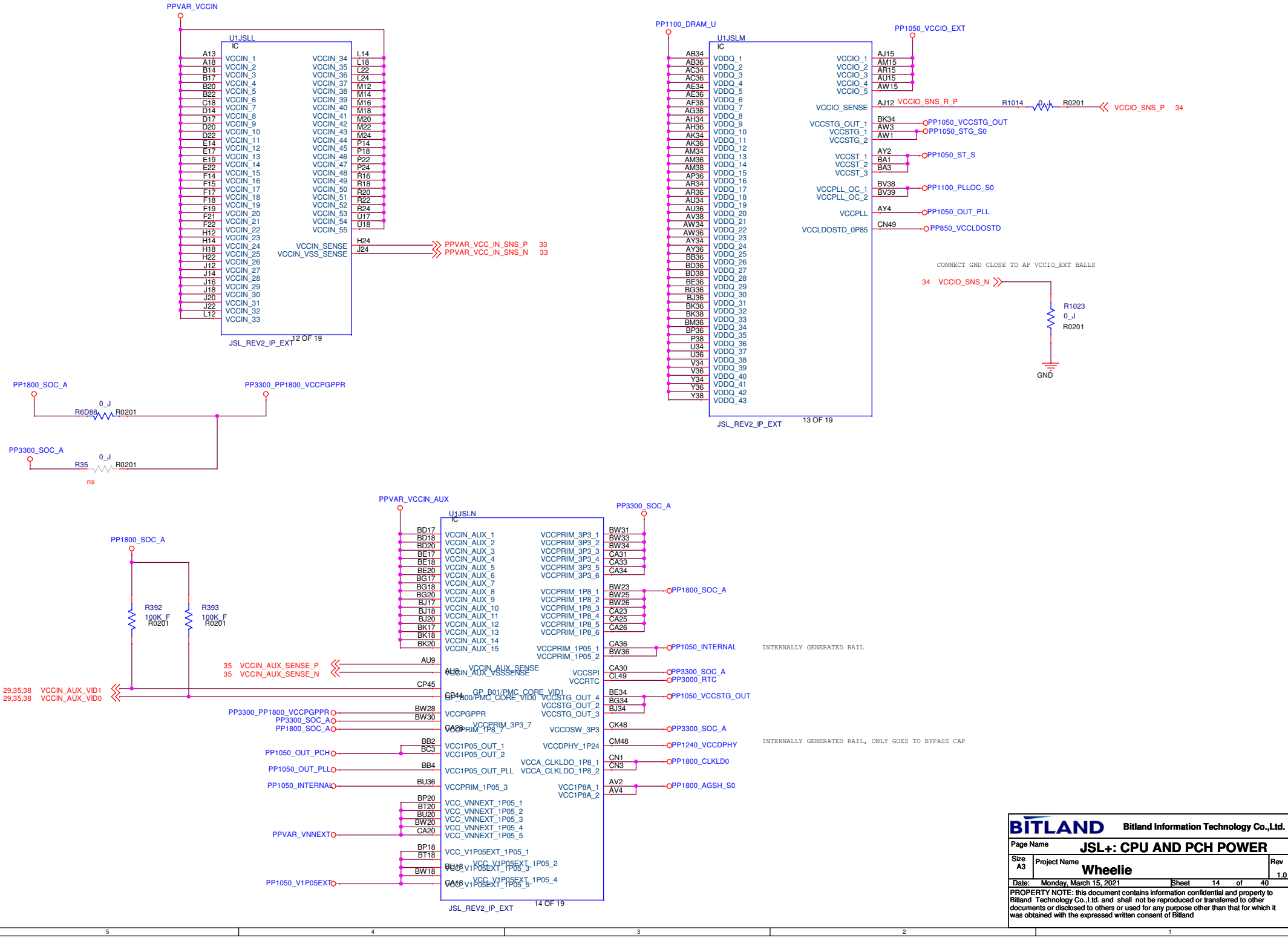

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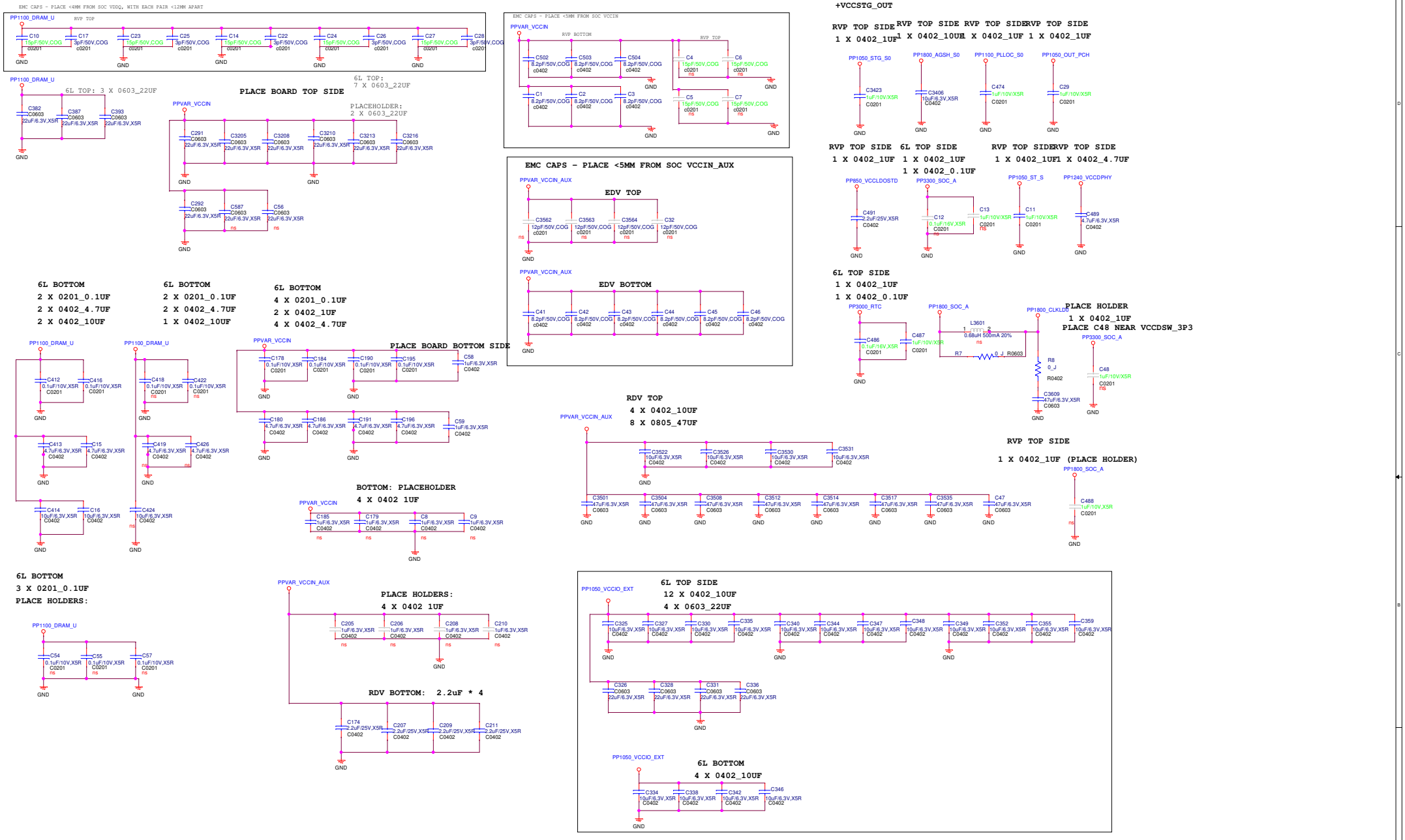

BITLAND Bitland Information Technology Co.,Ltd.

Page Name	JSL+: POWER DECOUPLING	
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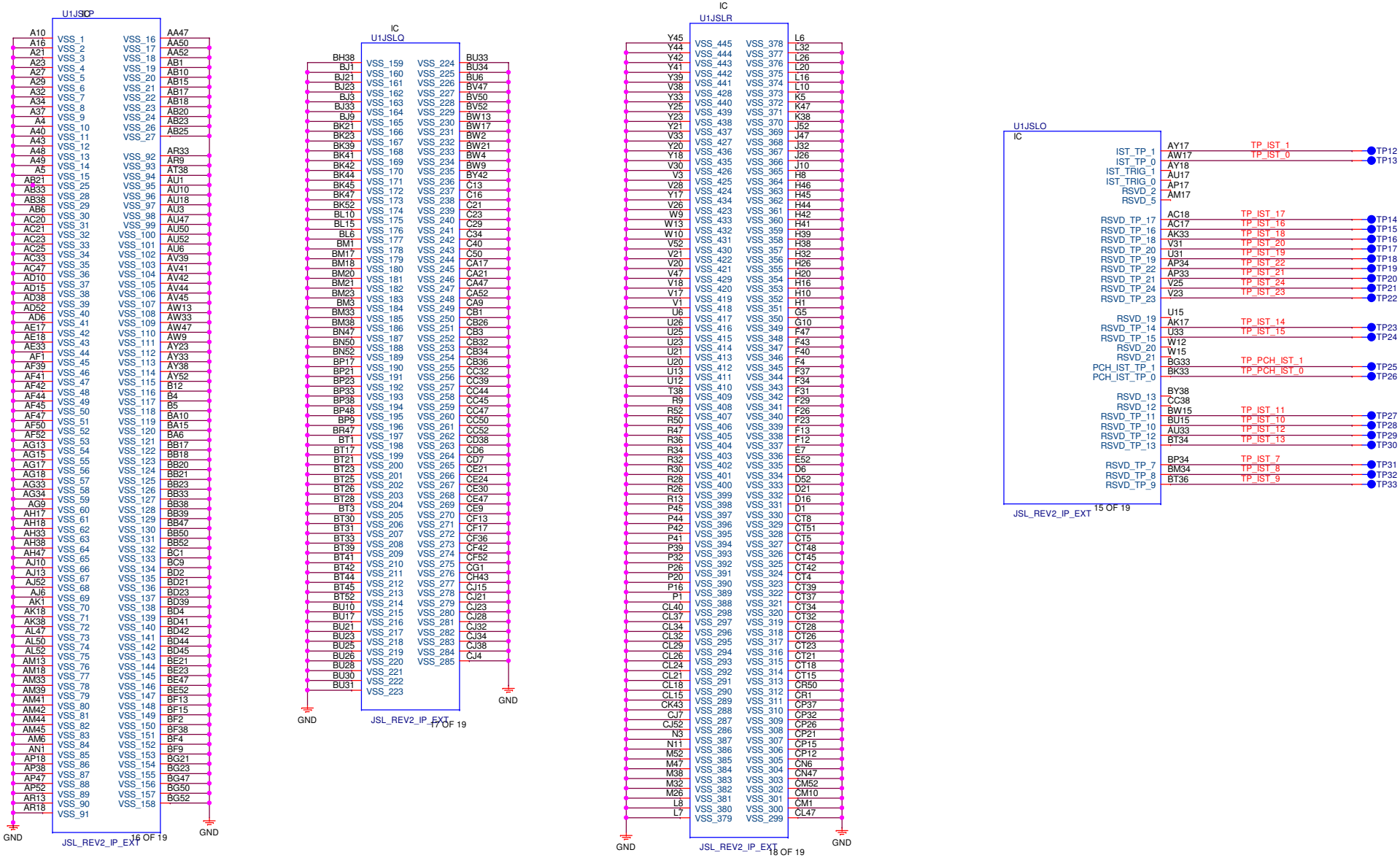

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Page Name	JSL+: GROUND, RESERVED	
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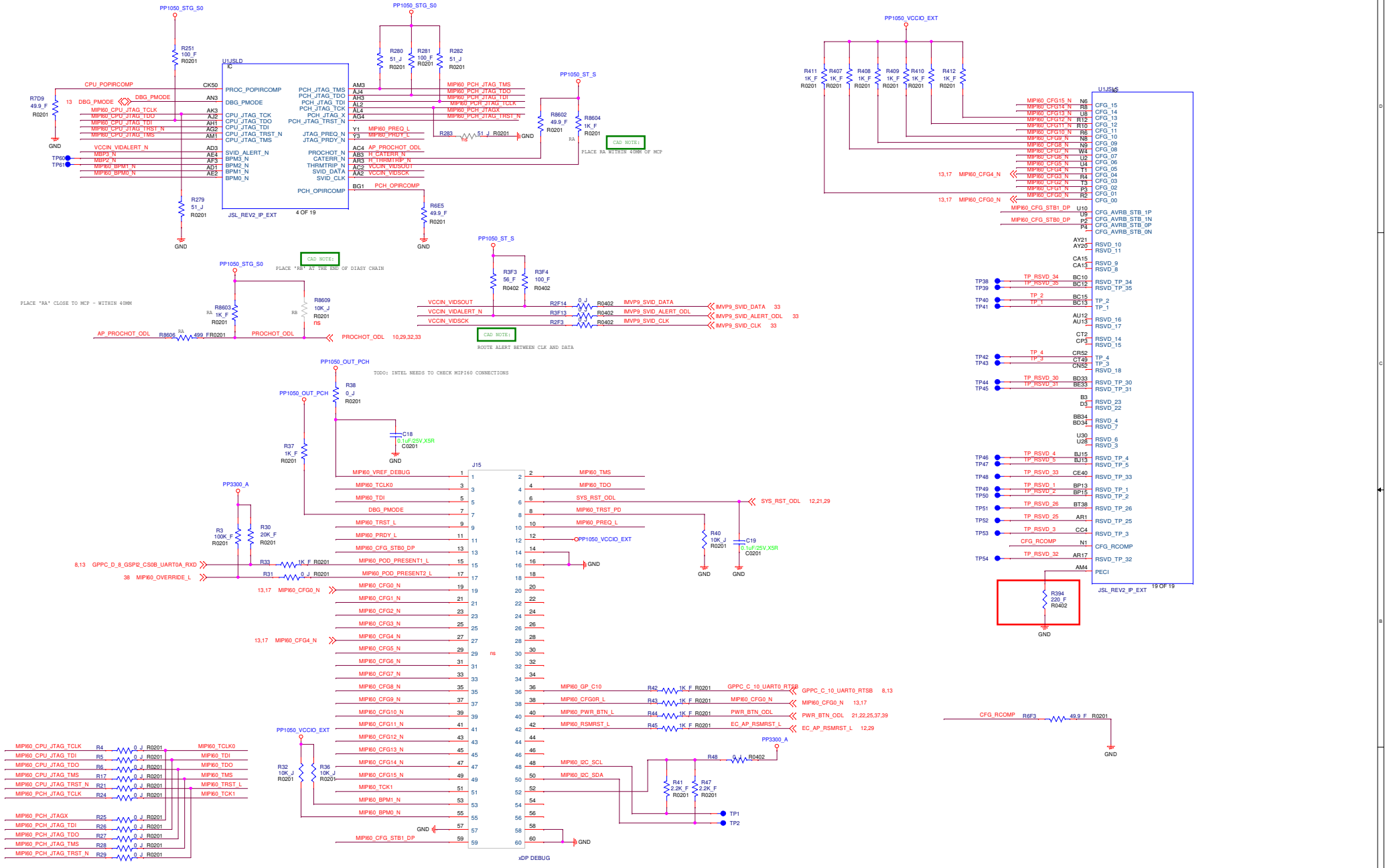

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Page Name	JSL+: DEBUG, MIPI60	
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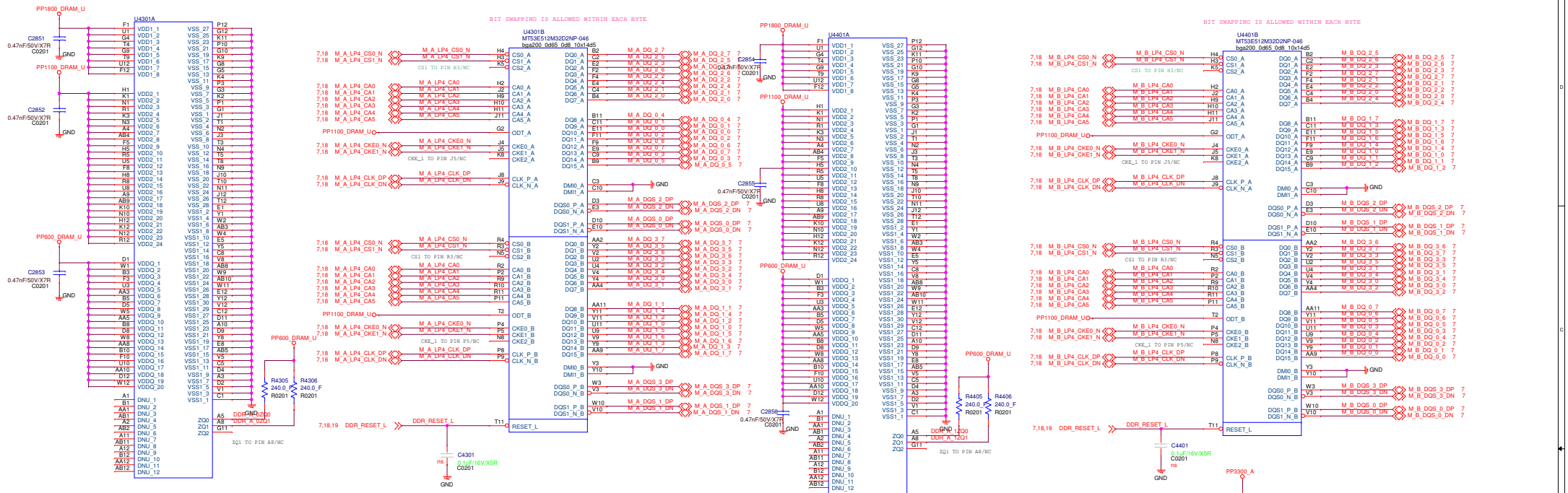
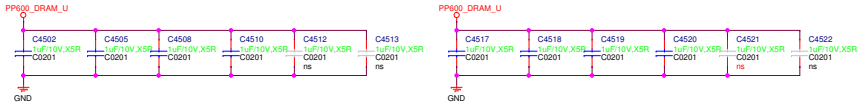
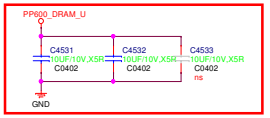


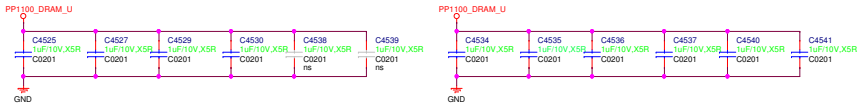
CAD NOTE: DISTRIBUTE EVENLY, 4 FOR EACH DRAM



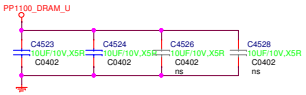
CAD NOTE: DISTRIBUTE EVENLY, 1 FOR EACH DRAM



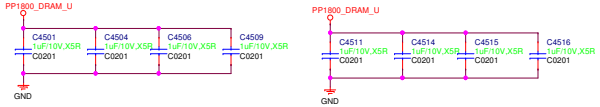
CAD NOTE: DISTRIBUTE EVENLY, 6 FOR EACH DRAM



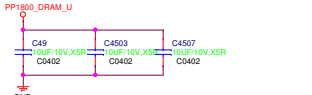
CAD NOTE: DISTRIBUTE EVENLY FOR EACH DRAM



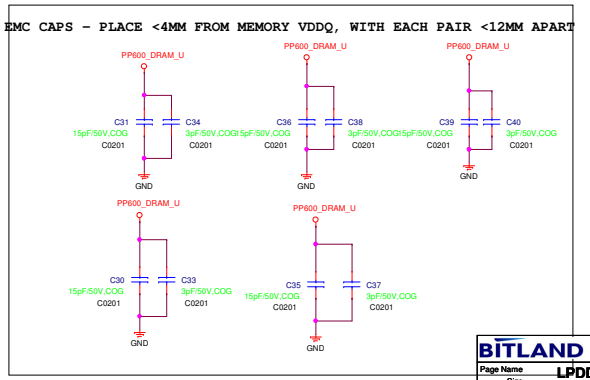
CAD NOTE: DISTRIBUTE EVENLY, 4 FOR EACH DRAM

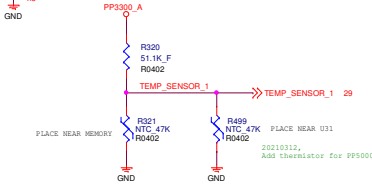


CAD NOTE: DISTRIBUTE EVENLY FOR EACH DRAM



EMC CAPS - PLACE <4MM FROM MEMORY VDDQ, WITH EACH PAIR <12MM APART





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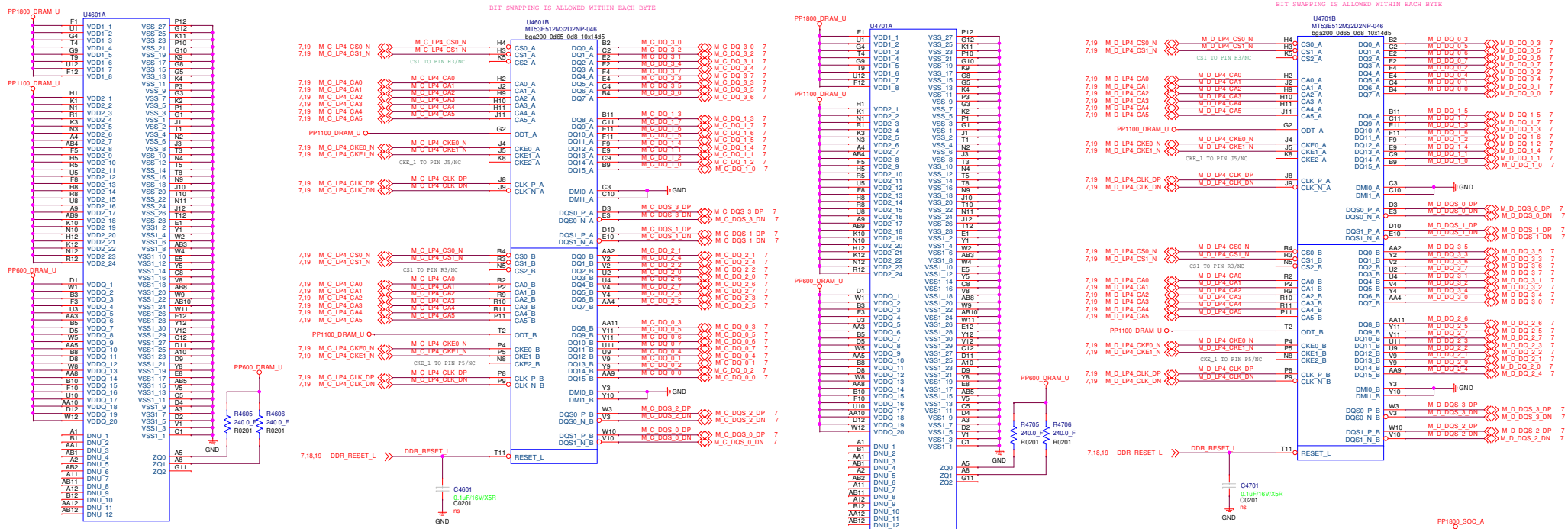
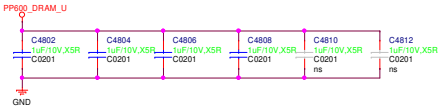
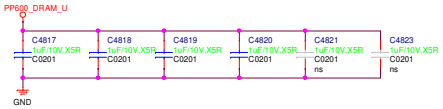
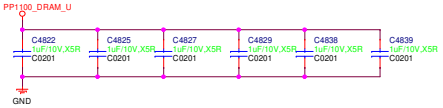


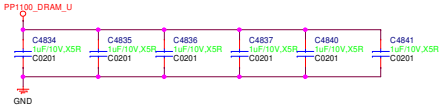
CAD NOTE: DISTRIBUTE EVENLY, 4 FOR EACH DRAM



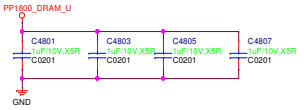


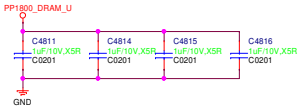
CAD NOTE: DISTRIBUTE EVENLY, 6 FOR EACH DRAM



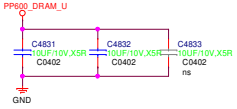


CAD NOTE: DISTRIBUTE EVENLY, 4 FOR EACH DRAM

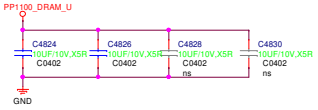




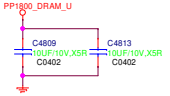
CAD NOTE: DISTRIBUTE EVENLY, 1 FOR EACH DRAM



CAD NOTE: DISTRIBUTE EVENLY FOR EACH DRAM



CAD NOTE: DISTRIBUTE EVENLY FOR EACH DRAM



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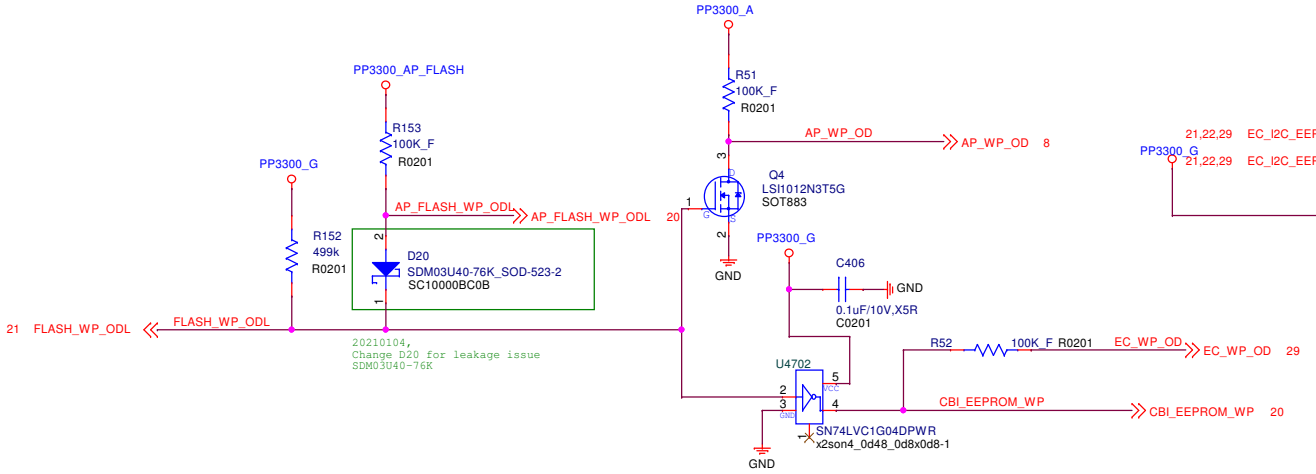
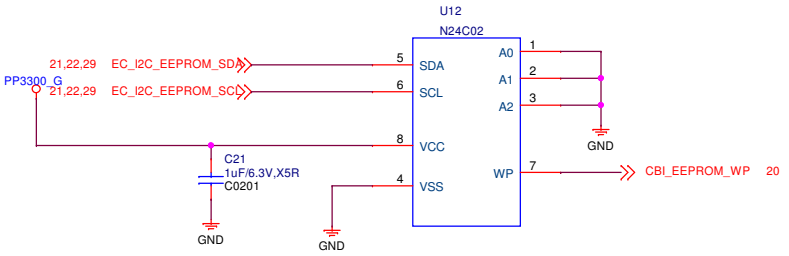
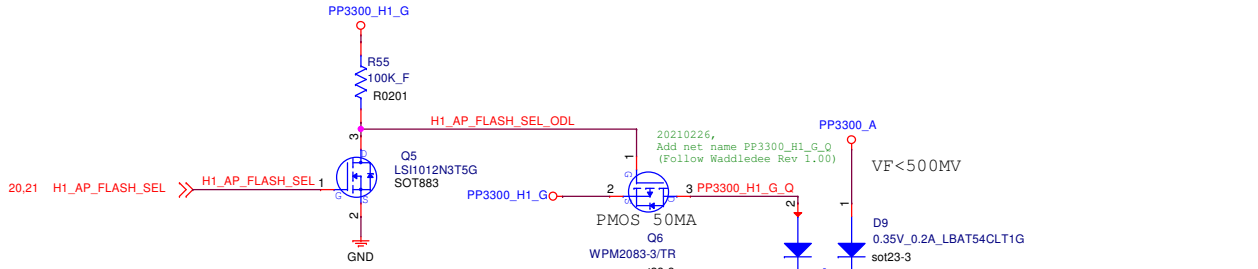
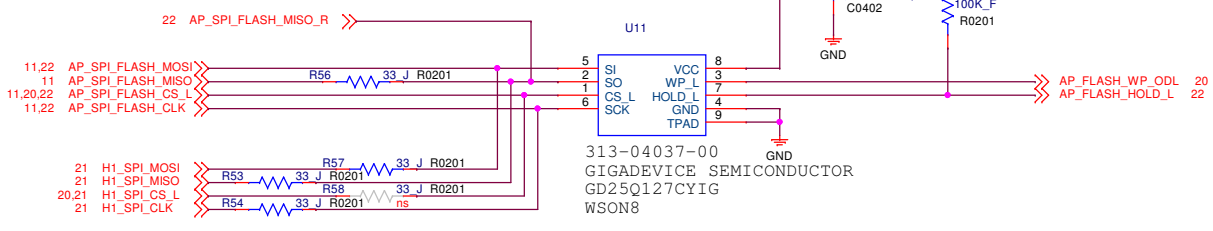
WP TREE

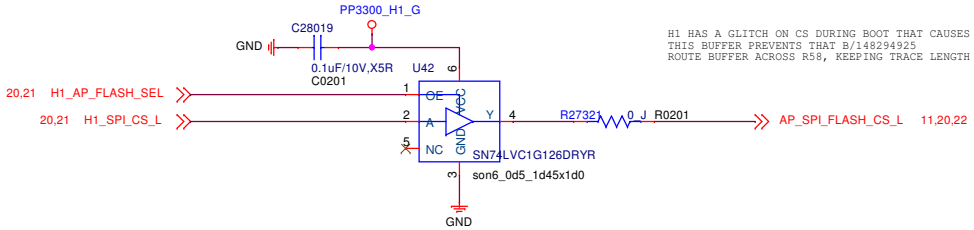


CBI EEPROM









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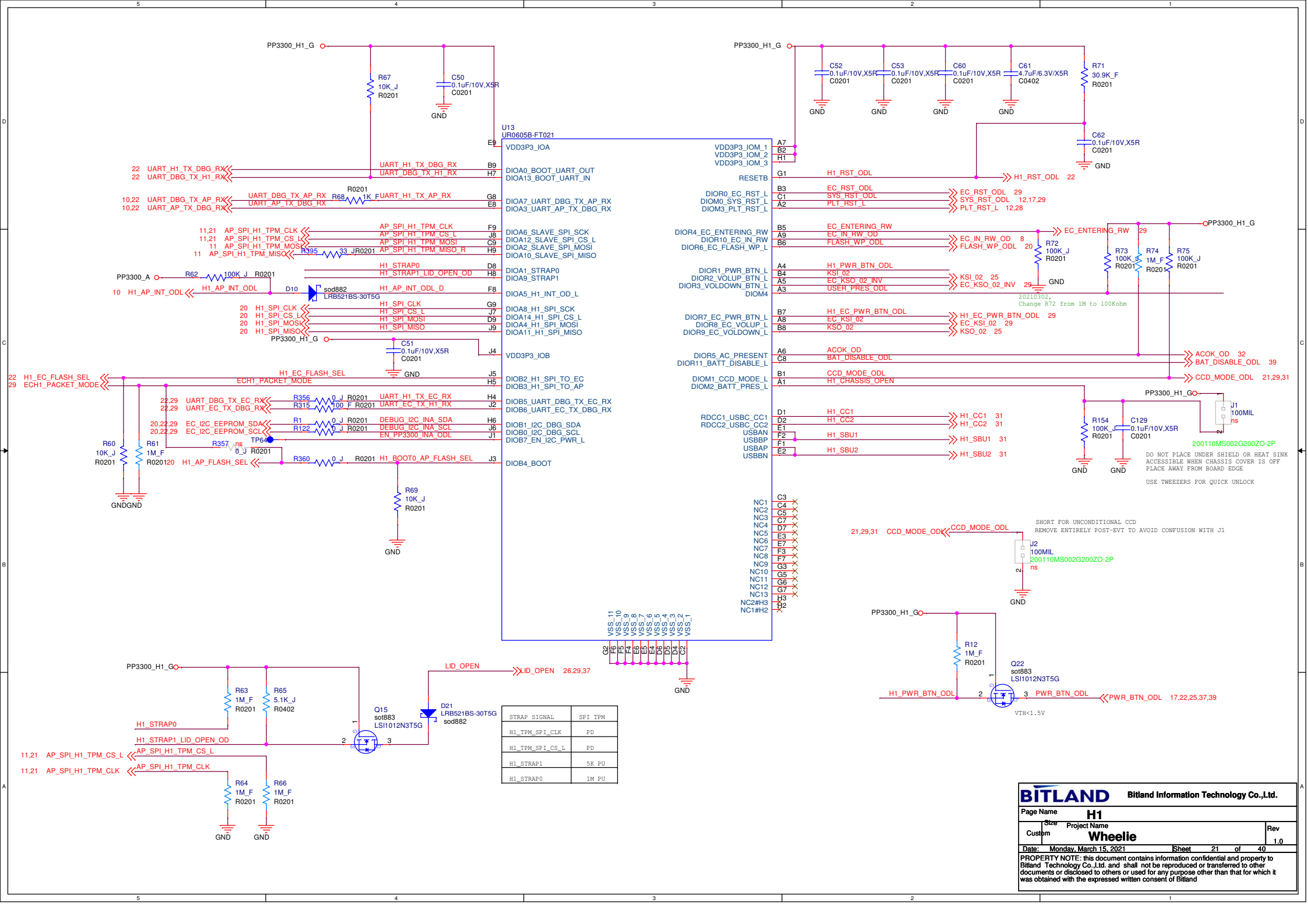
PP3300_H1_G
R67 10K_J R0201
C50 0.1uF/10V,X5R C0201
GND
U13
UR0605B-FT021
VDD3P3_IOA
UART_H1_TX_DBG_RX
UART_DBG_TX_H1_RX
DIOA0_BOOT_UART_OUT
DIOA13_BOOT_UART_IN
R68 1K_F R0201
UART_DBG_TX_AP_RX
UART_AP_TX_DBG_RX
DIOA7_UART_DBG_TX_AP_RX
DIOA3_UART_AP_TX_DBG_RX
AP_SPI_H1_TPM_CLK
AP_SPI_H1_TPM_CS_L
AP_SPI_H1_TPM_MOSI
AP_SPI_H1_TPM_MISO_R
R395 33_J R0201
AP_SPI_H1_TPM_MISO
DIOA6_SLAVE_SPI_SCK
DIOA12_SLAVE_SPI_CS_L
DIOA2_SLAVE_SPI_MOSI
DIOA10_SLAVE_SPI_MISO
PP3300_A
R62 100K_J R0201
H1_AP_INT_ODL
D10 sod882 LRB521BS-30T5G
H1_STRAP0
H1_STRAP1_LID_OPEN_OD
H1_AP_INT_ODL_D
DIOA1_STRAP0
DIOA9_STRAP1
DIOA5_H1_INT_OD_L
H1_SPI_CLK
H1_SPI_CS_L
H1_SPI_MOSI
H1_SPI_MISO
DIOA8_H1_SPI_SCK
DIOA14_H1_SPI_CS_L
DIOA4_H1_SPI_MOSI
DIOA11_H1_SPI_MISO
C51 0.1uF/10V,X5R C0201
VDD3P3_IOB
H1_EC_FLASH_SEL
ECH1_PACKET_MODE
DIOB2_H1_SPI_TO_EC
DIOB3_H1_SPI_TO_AP
R356 0_J R0201
R315 100_F R0201
UART_H1_TX_EC_RX
UART_EC_TX_H1_RX
DIOB5_UART_DBG_TX_EC_RX
DIOB6_UART_EC_TX_DBG_RX
R1 0_J R0201
R122 0_J R0201
EC_I2C_EEPROM_SDA
EC_I2C_EEPROM_SCL
DEBUG_I2C_INA_SDA
DEBUG_I2C_INA_SCL
EN_PP3300_INA_ODL
DIOB1_I2C_DBG_SDA
DIOB0_I2C_DBG_SCL
DIOB7_EN_I2C_PWR_L
R60 10K_J R0201
R61 1M_F R0201
R357 0_J R0201
TP64
R360 0_J R0201
H1_BOOT0_AP_FLASH_SEL
DIOB4_BOOT
R69 10K_J R0201
GNDGND
VSS_11 VSS_10 VSS_9 VSS_8 VSS_7 VSS_6 VSS_5 VSS_4 VSS_3 VSS_2 VSS_1
G2 F6 F5 F4 E6 E5 E4 D6 D5 D4 C2
PP3300_H1_G
C52 0.1uF/10V,X5R C0201
C53 0.1uF/10V,X5R C0201
C60 0.1uF/10V,X5R C0201
C61 4.7uF/6.3V/X5R C0402
R71 30.9K_F R0201
C62 0.1uF/10V,X5R C0201
VDD3P3_IOM_1
VDD3P3_IOM_2
VDD3P3_IOM_3
RESETB
H1_RST_ODL
H1_RST_ODL 22
DIOR0_EC_RST_L
DIOM0_SYS_RST_L
DIOM3_PLT_RST_L
EC_RST_ODL
SYS_RST_ODL
PLT_RST_L
EC_RST_ODL 29
SYS_RST_ODL 12,17,29
PLT_RST_L 12,28
DIOR4_EC_ENTERING_RW
DIOR10_EC_IN_RW
DIOR6_EC_FLASH_WP_L
EC_ENTERING_RW
EC_IN_RW_OD
FLASH_WP_ODL
EC_IN_RW_OD 8
FLASH_WP_ODL 20
R72 100K_J R0201
R73 100K_J R0201
R74 1M_F R0201
R75 100K_J R0201
DIOR1_PWR_BTN_L
DIOR2_VOLUP_BTN_L
DIOR3_VOLDOWN_BTN_L
DIOM4
H1_PWR_BTN_ODL
KSI_02
EC_KSO_02_INV
USER_PRES_ODL
KSI_02 25
EC_KSO_02_INV 29
20210302,
Change R72 from 1M to 100Kohm
DIOR7_EC_PWR_BTN_L
DIOR8_EC_VOLUP_L
DIOR9_EC_VOLDOWN_L
H1_EC_PWR_BTN_ODL
EC_KSI_02
KSO_02
H1_EC_PWR_BTN_ODL 29
EC_KSI_02 29
KSO_02 25
DIOR5_AC_PRESENT
DIOR11_BATT_DISABLE_L
ACOK_OD
BAT_DISABLE_ODL
ACOK_OD 32
BAT_DISABLE_ODL 39
DIOM1_CCD_MODE_L
DIOM2_BATT_PRES_L
CCD_MODE_ODL
H1_CHASSIS_OPEN
CCD_MODE_ODL 21,29,31
R154 100K_J R0201
C129 0.1uF/10V,X5R C0201
J1 100MIL 200110MS002G200ZO-2P
DO NOT PLACE UNDER SHIELD OR HEAT SINK
ACCESSIBLE WHEN CHASSIS COVER IS OFF
PLACE AWAY FROM BOARD EDGE
USE TWEEZERS FOR QUICK UNLOCK
RDCC1_USBC_CC1
RDCC2_USBC_CC2
USBAN
USBBP
USBAP
USBBN
H1_CC1
H1_CC2
H1_SBU1
H1_SBU2
H1_CC1 31
H1_CC2 31
H1_SBU1 31
H1_SBU2 31
NC1 NC2 NC3 NC4 NC5 NC6 NC7 NC8 NC9 NC10 NC11 NC12 NC13 NC2#H3 NC1#H2
C3 C4 C5 C7 D7 E3 E7 F3 F7 G3 G5 G6 G7 H3 H2
21,29,31 CCD_MODE_ODL
SHORT FOR UNCONDITIONAL CCD
REMOVE ENTIRELY POST-EVT TO AVOID CONFUSION WITH J1
J2 100MIL 200110MS002G200ZO-2P
PP3300_H1_G
R12 1M_F R0201
Q22 sot883 LSI1012N3T5G
H1_PWR_BTN_ODL
PWR_BTN_ODL
PWR_BTN_ODL 17,22,25,37,39
VTH<1.5V
PP3300_H1_G
R63 1M_F R0201
R65 5.1K_J R0402
LID_OPEN
LID_OPEN 26,29,37
Q15 sot883 LSI1012N3T5G
D21 LRB521BS-30T5G sod882
H1_STRAP0
H1_STRAP1_LID_OPEN_OD
11,21 AP_SPI_H1_TPM_CS_L
AP_SPI_H1_TPM_CS_L
11,21 AP_SPI_H1_TPM_CLK
AP_SPI_H1_TPM_CLK
R64 1M_F R0201
R66 1M_F R0201
GND GND
STRAP_SIGNAL | SPI TPM
H1_TPM_SPI_CLK | PD
H1_TPM_SPI_CS_L | PD
H1_STRAP1 | 5K PU
H1_STRAP0 | 1M PU
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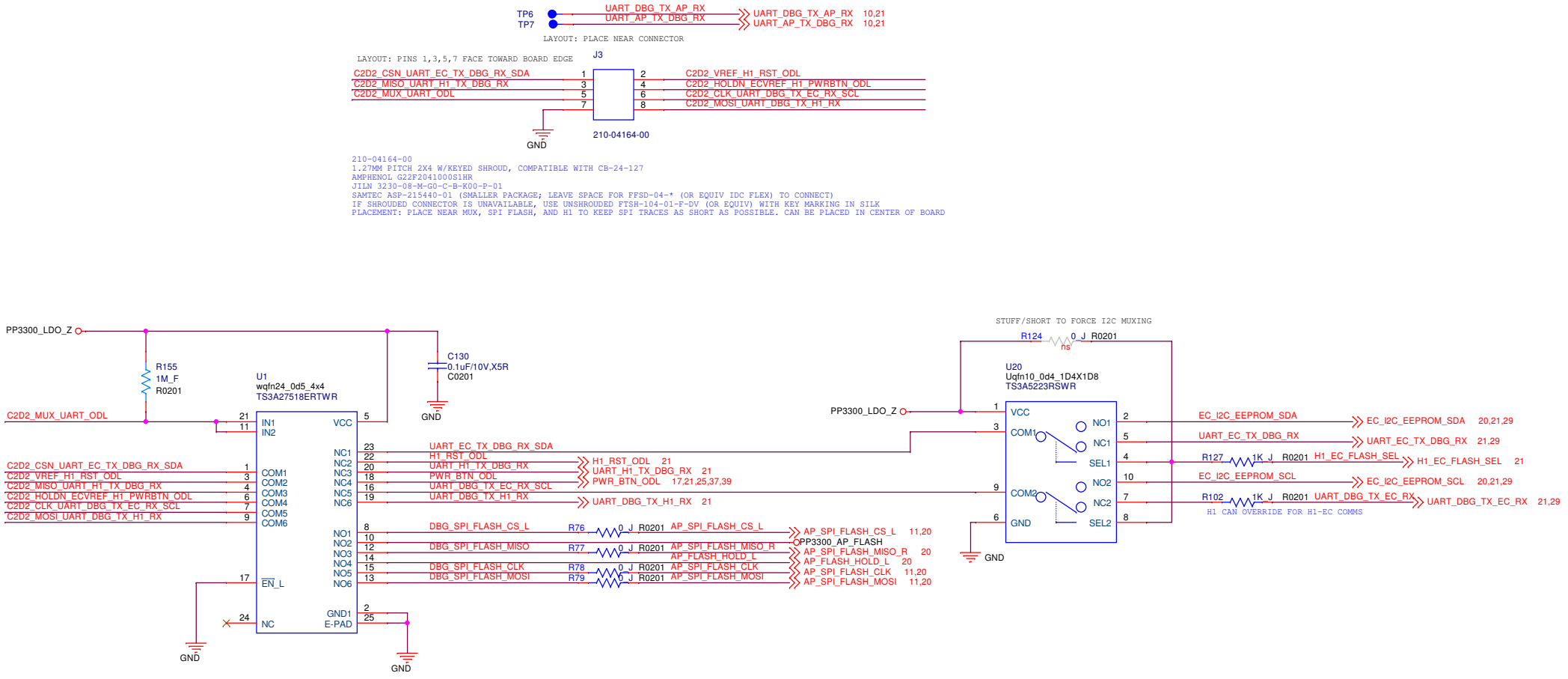

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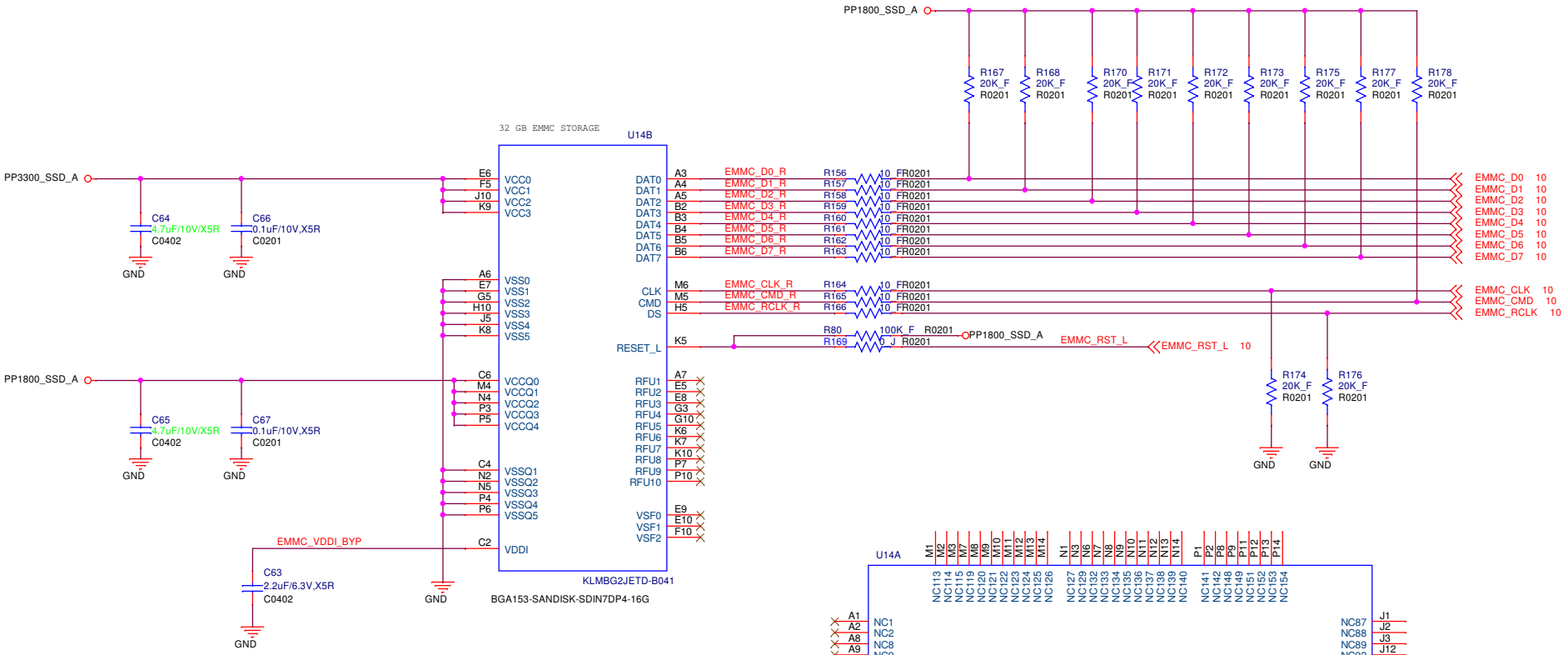

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Page Name	STORAGE: EMMC	
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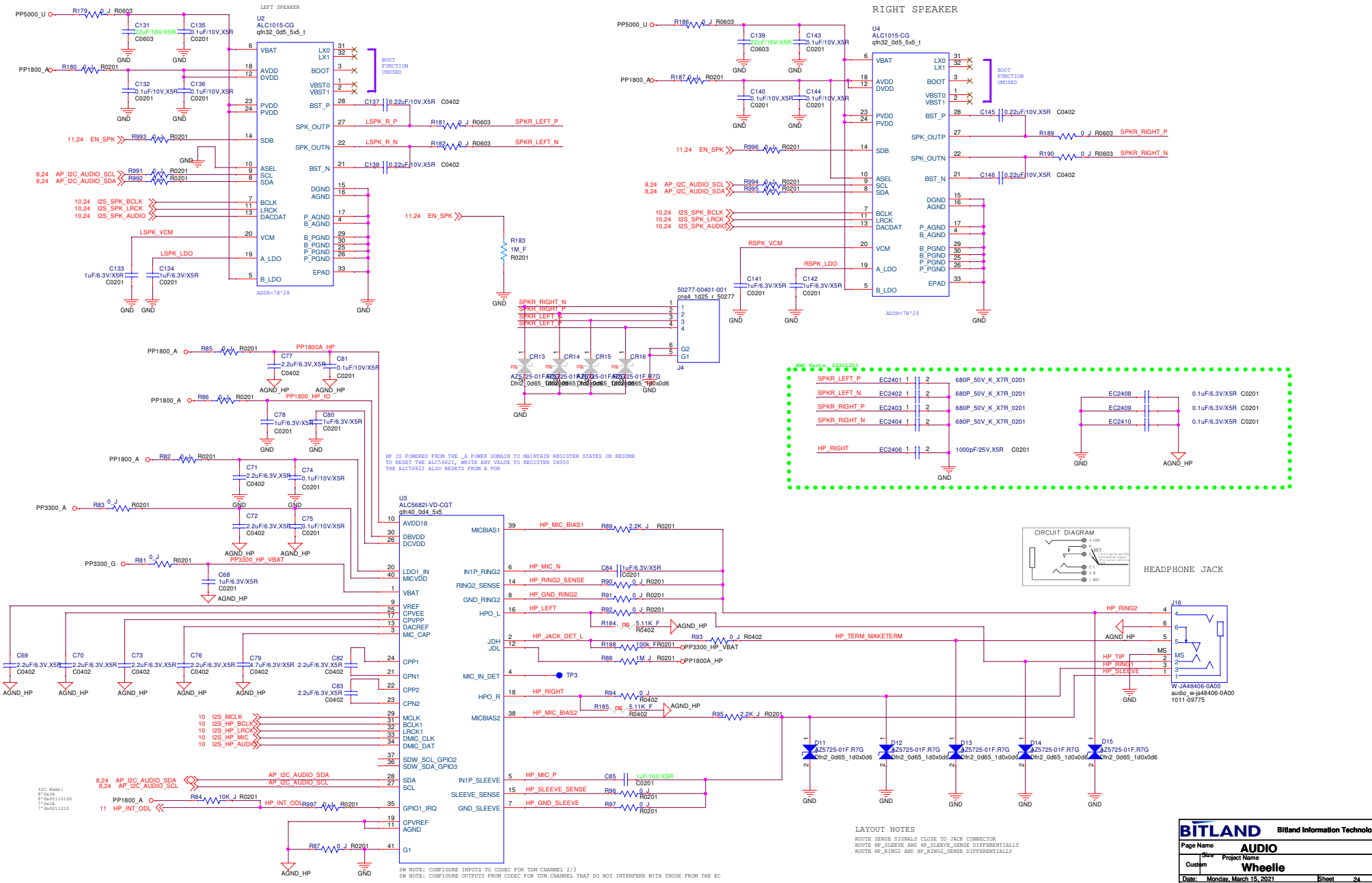
LEFT SPEAKER
U2
ALC1015-CG
qfn32_0d5_5x5_t
RIGHT SPEAKER
U4
ALC1015-CG
qfn32_0d5_5x5_t
BOOT FUNCTION UNUSED
ADDR=7b'28
ADDR=7b'29
EMC Parts_ 20201223
U3
ALC5682I-VD-CGT
qfn40_0d4_5x5
HP IS POWERED FROM THE _A POWER DOMAIN TO MAINTAIN REGISTER STATES ON RESUME
TO RESET THE ALC5682I, WRITE ANY VALUE TO REGISTER 0X000
THE ALC5682I ALSO RESETS FROM A POR
CIRCUIT DIAGRAM
HEADPHONE JACK
W-JA48406-0A00
audio_w-ja48406-0A00
1011-09775
SW NOTE: CONFIGURE INPUTS TO CODEC FOR TDM CHANNEL 2/3
SW NOTE: CONFIGURE OUTPUTS FROM CODEC FOR TDM CHANNEL THAT DO NOT INTERFERE WITH THOSE FROM THE EC
ADDR=7b'1A
LAYOUT NOTES
ROUTE SENSE SIGNALS CLOSE TO JACK CONNECTOR
ROUTE HP_SLEEVE AND HP_SLEEVE_SENSE DIFFERENTIALLY
ROUTE HP_RING2 AND HP_RING2_SENSE DIFFERENTIALLY
BITLAND
Bitland Information Technology Co.,Ltd.
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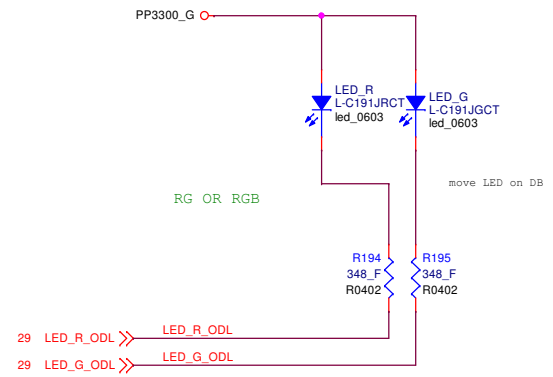
BUTTONS (IF ON DB)

Remove button and put them on DB

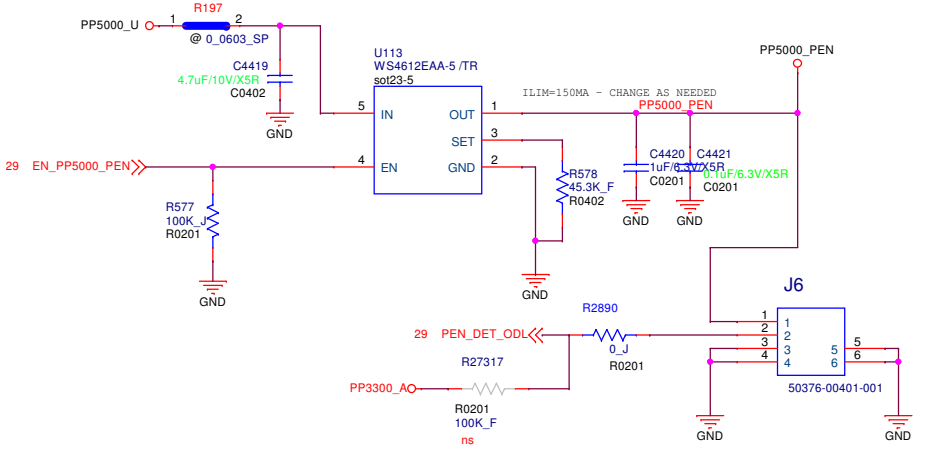
LEDS

ADJUST RESISTORS TO MATCH SELECTED LED

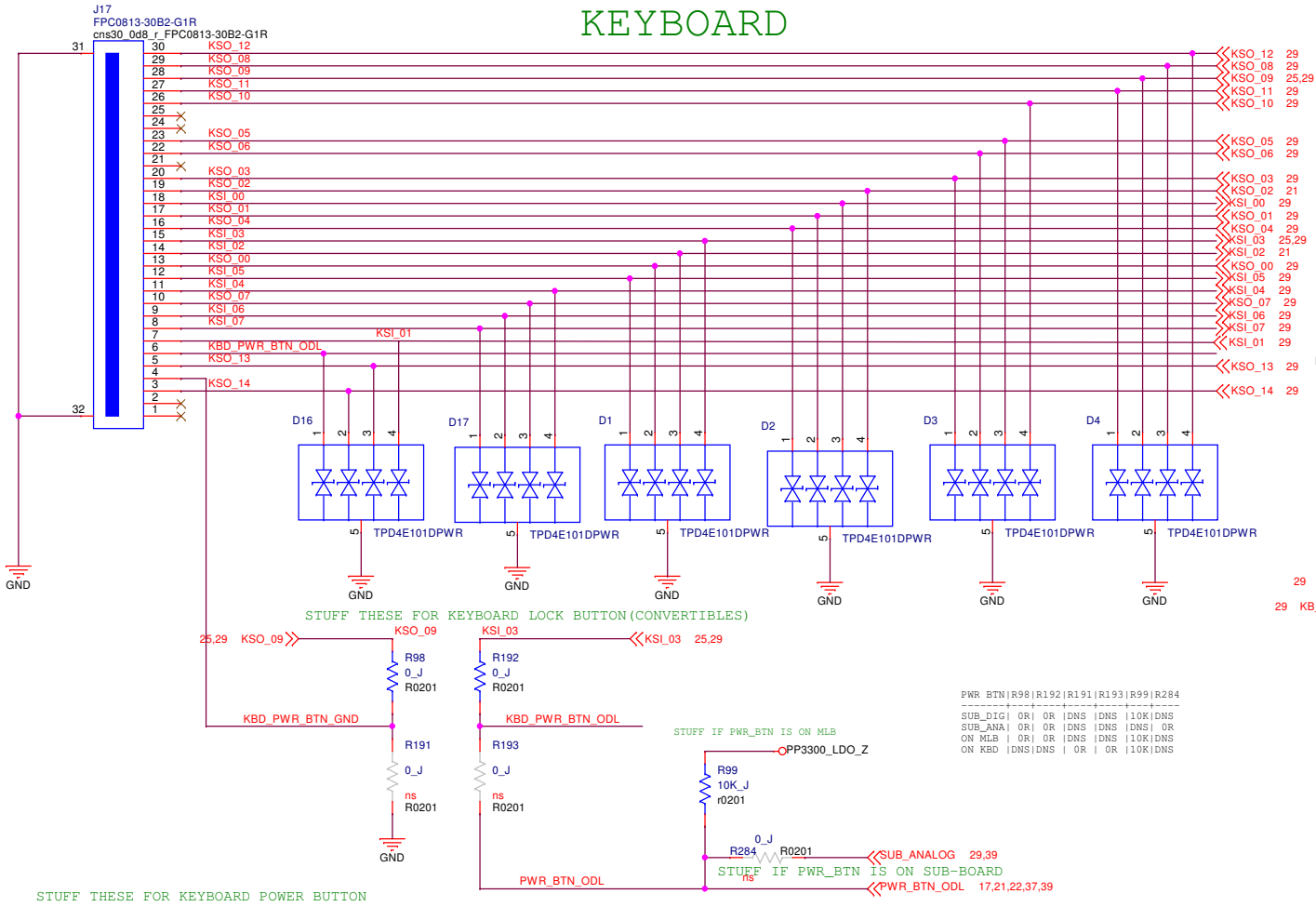


PEN GARAGE

TODO:FIGURE OUT THE CHARGING/DETECT CIRCUIT

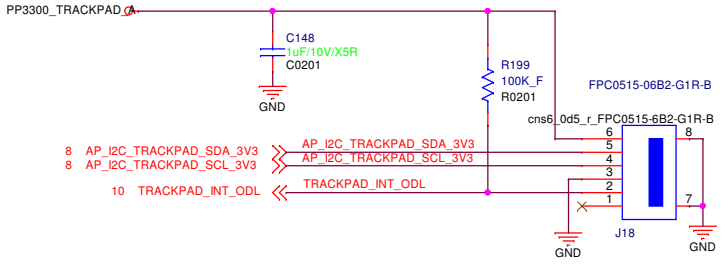


KEYBOARD

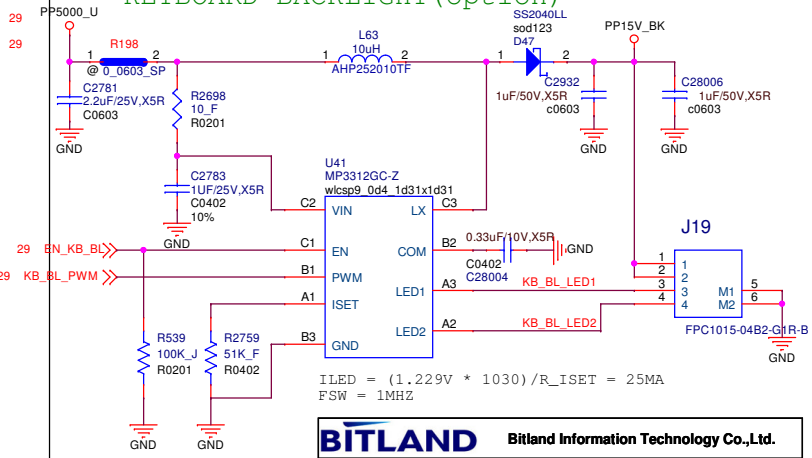


PWR BTN	R98	R192	R191	R193	R99	R284
SUB_DIG	0R	0R	DNS	DNS	10K	DNS
SUB_ANA	0R	0R	DNS	DNS	DNS	0R
ON MLB	0R	0R	DNS	DNS	10K	DNS
ON KBD	DNS	DNS	0R	0R	10K	DNS

TRACKPAD



KEYBOARD BACKLIGHT(option)



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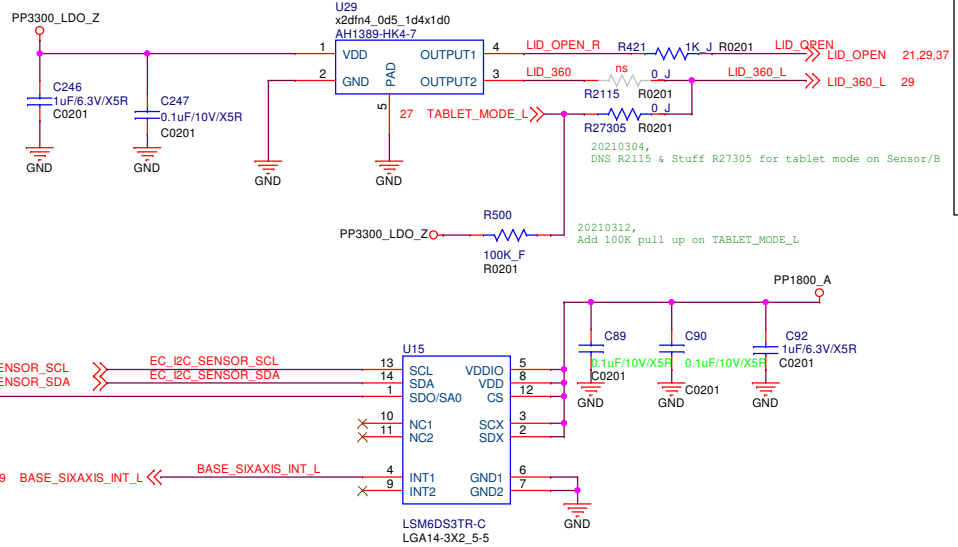
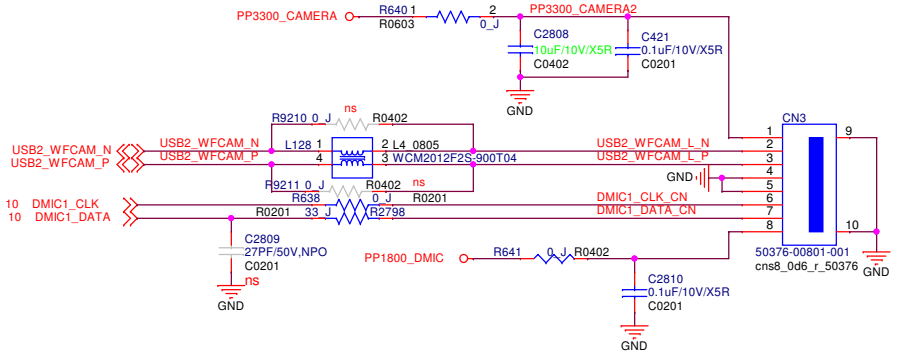
LID SWITCH



PLACE AS CLOSE TO WCAW AS POSSIBLE

WCM change mipi to USB



LID-SENSOR (GMR)

Only place one sensor
Clamshells use Single output sensor
Convertibles use Dual output sensor

20201214A,
Delete APX8132HAI-TRG

BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	SENSORS	
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USER-FACTNG CAMERA

ADDRESS =0X??

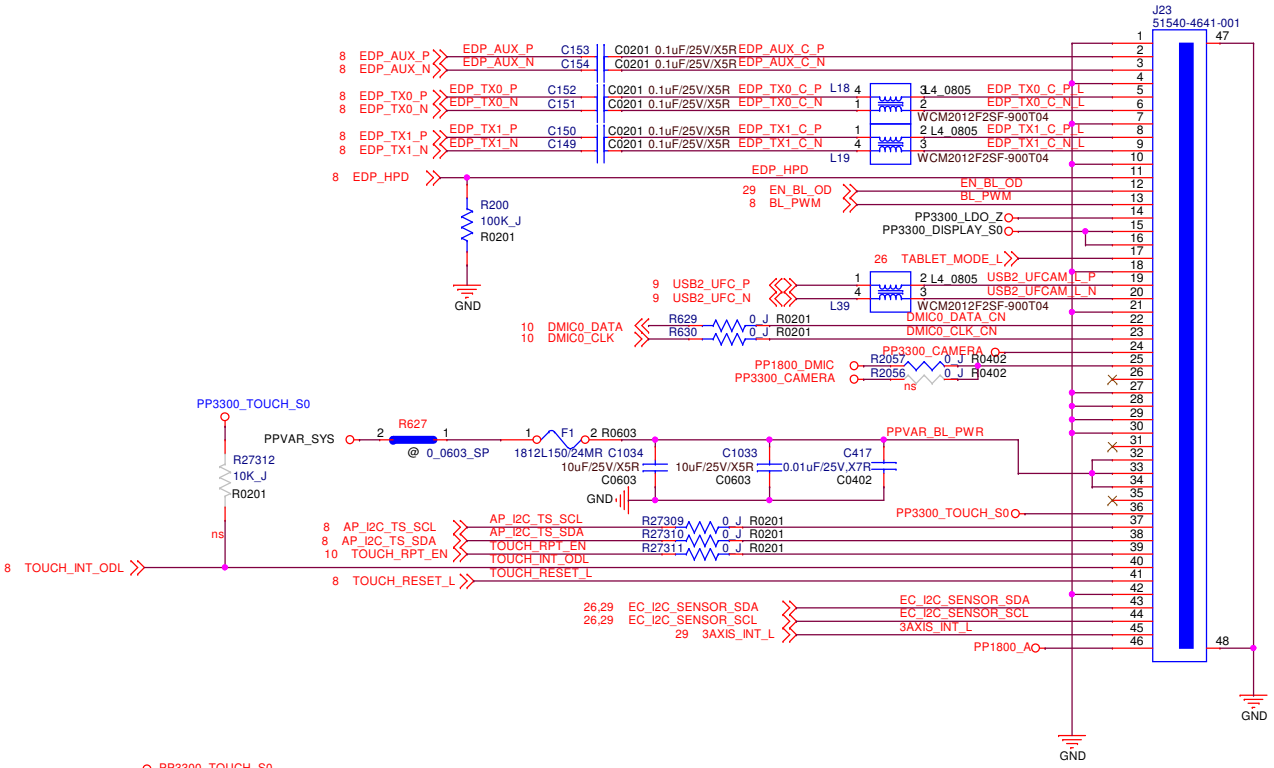
PLACEHOLDER/CONNECTOR DOESN'T MATCH ANYTHING

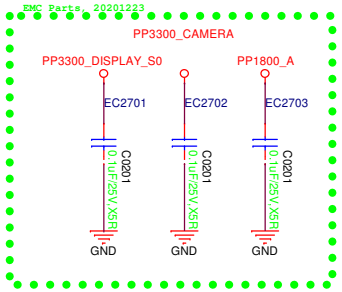
Delete mipi for UFC.

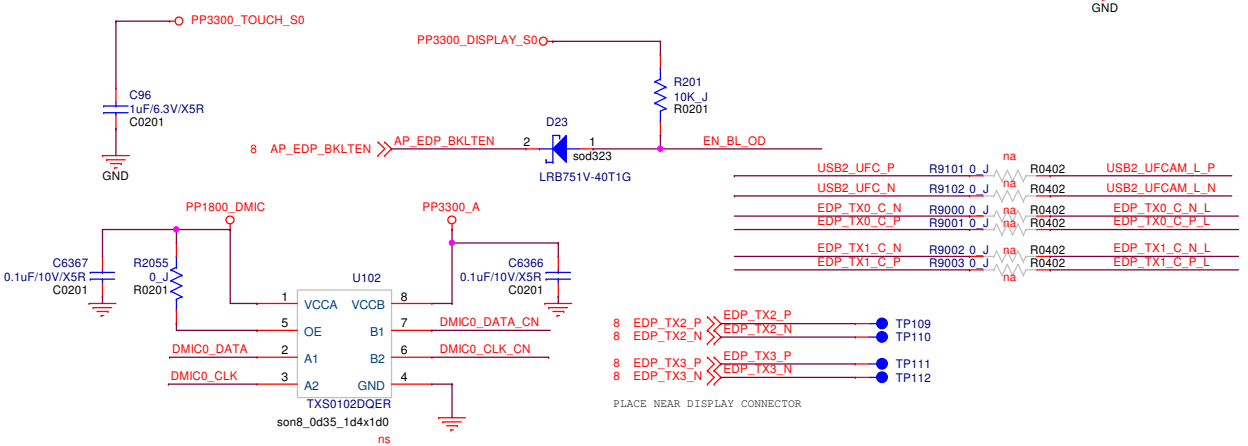
Delete EMR

Remove Touchscreen and put it on EDP connector

DISPLAY CONNECTOR GO HERE
PLACEHOLDER CONNCTOR







DMIC level shift for 1.8V and 3.3V

20201208,
Swap U102 A/B net

20201209,
Swap Pin 2/3, Pin 6/7 net

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Page Name: LID: DISPLAY, CAMERA, SENSORS

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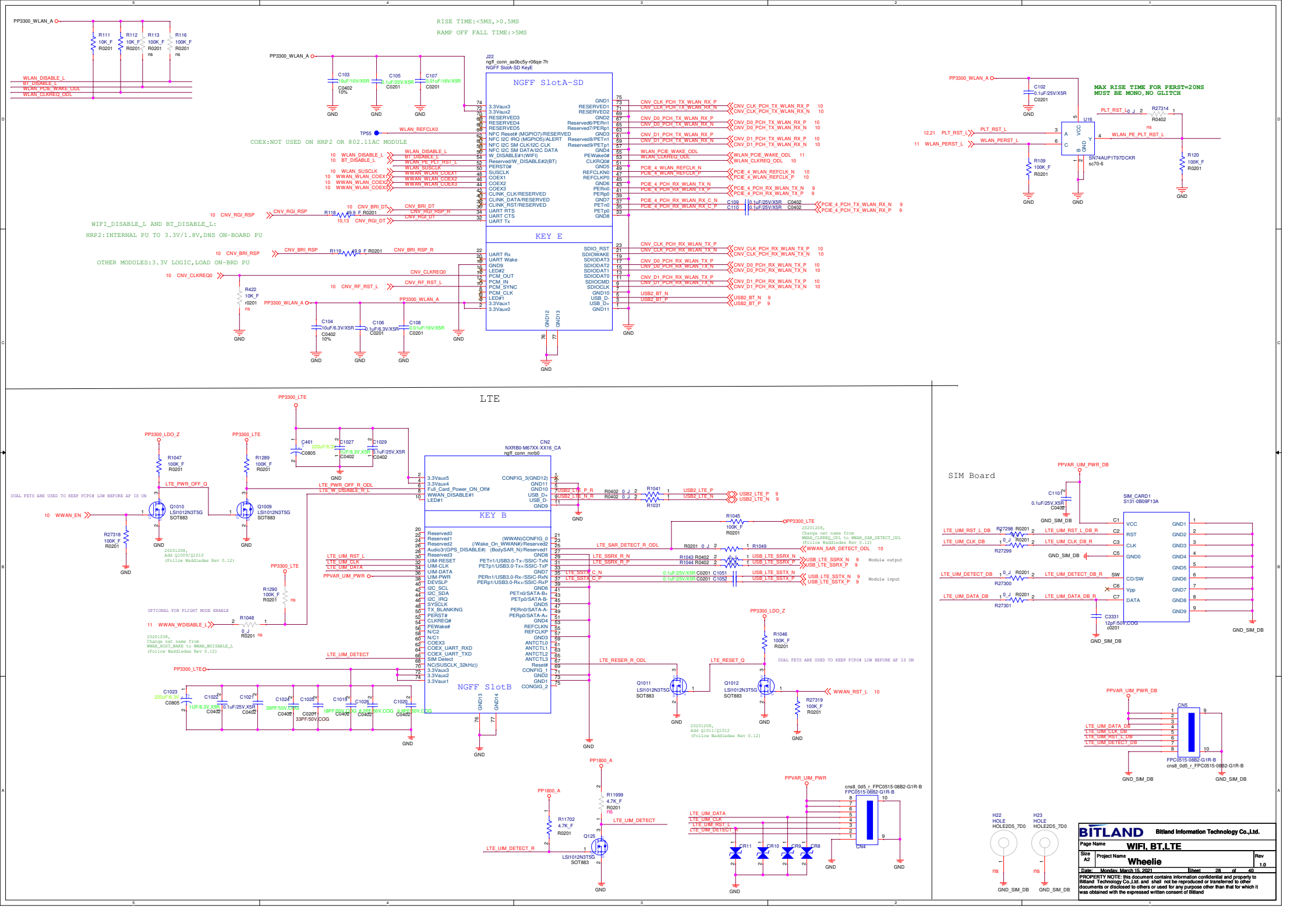
RISE TIME:<5MS,>0.5MS
RAMP OFF FALL TIME:>5MS
NGFF SlotA-SD
KEY E
KEY B
NGFF SlotB
LTE
SIM Board
MAX RISE TIME FOR PERST=20NS
MUST BE MONO,NO GLITCH
COEX:NOT USED ON HRP2 OR 802.11AC MODULE
WIFI_DISABLE_L AND BT_DISABLE_L:
HRP2:INTERNAL PU TO 3.3V/1.8V,DNS ON-BOARD PU
OTHER MODULES:3.3V LOGIC,LOAD ON-BRD PU
DUAL FETS ARE USED TO KEEP FCPO# LOW BEFORE AP IS ON
OPTIONAL FOR FLIGHT MODE ENABLE
BITLAND
Bitland Information Technology Co.,Ltd.
WIFI, BT,LTE
Wheelie
Monday, March 15, 2021
28
40
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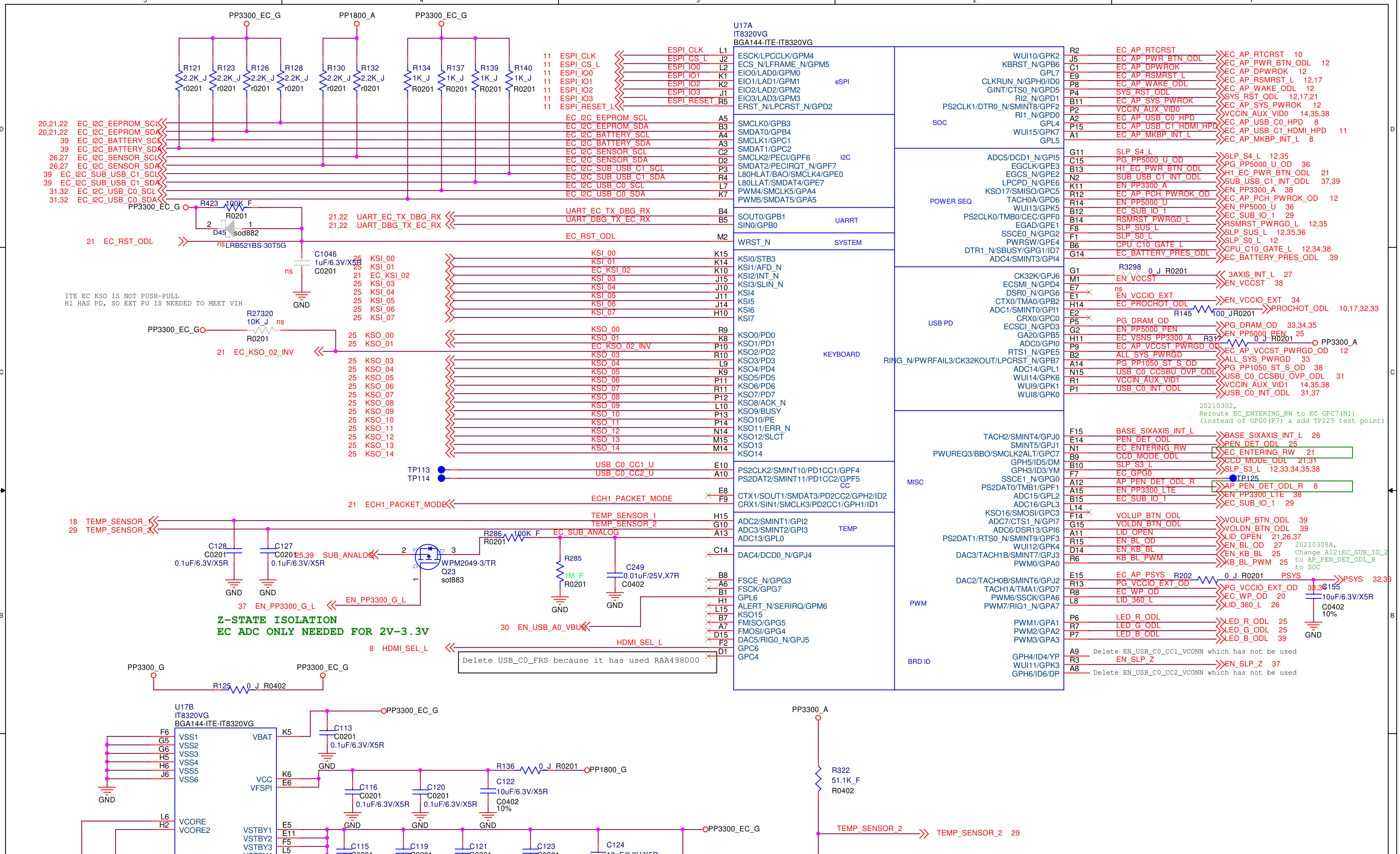

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Size: A3

Project Name: Wheelie

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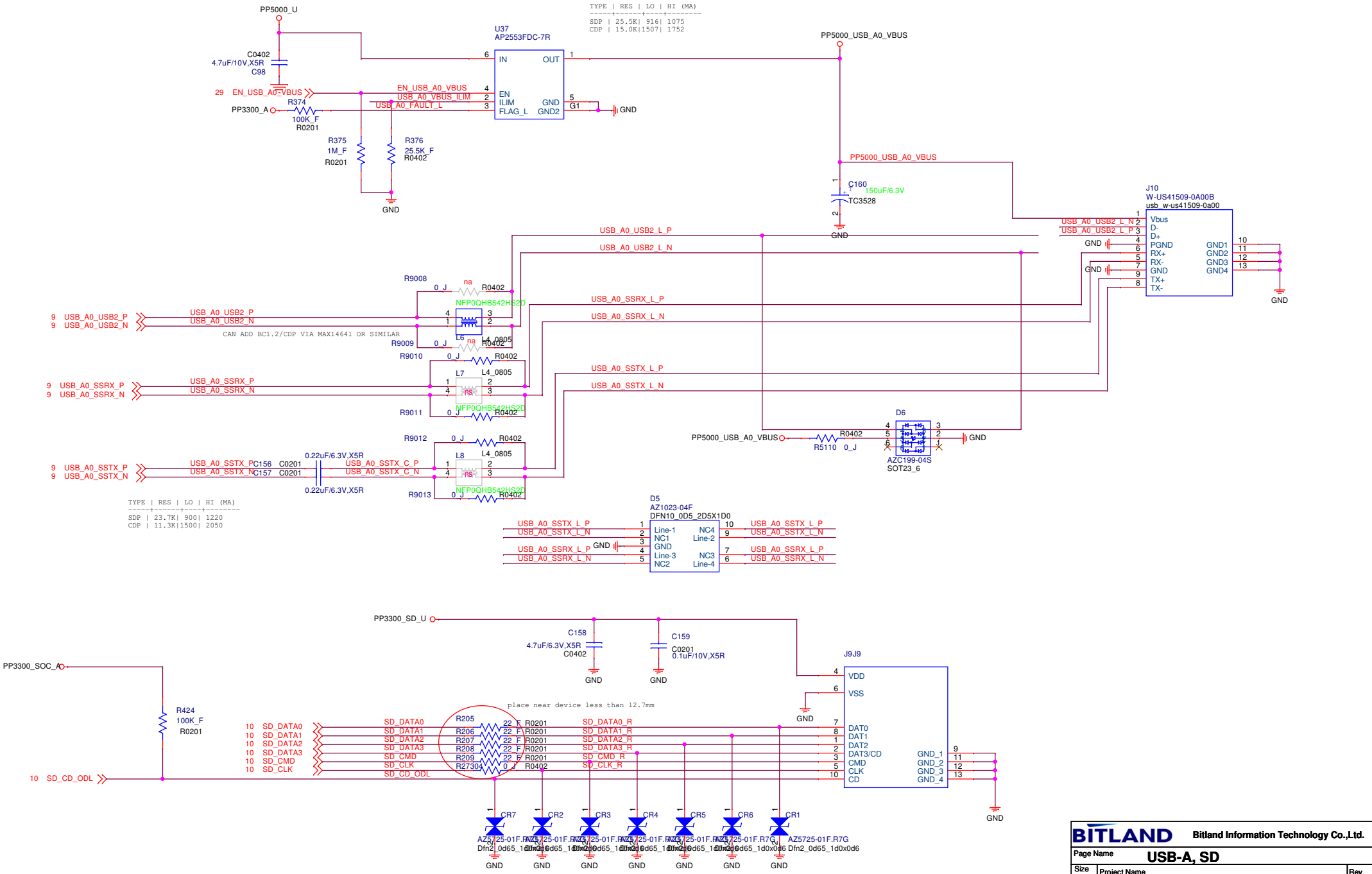

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Page Name **USB-A, SD**

Size A3 | Project Name **Wheelie** | Rev 1.0

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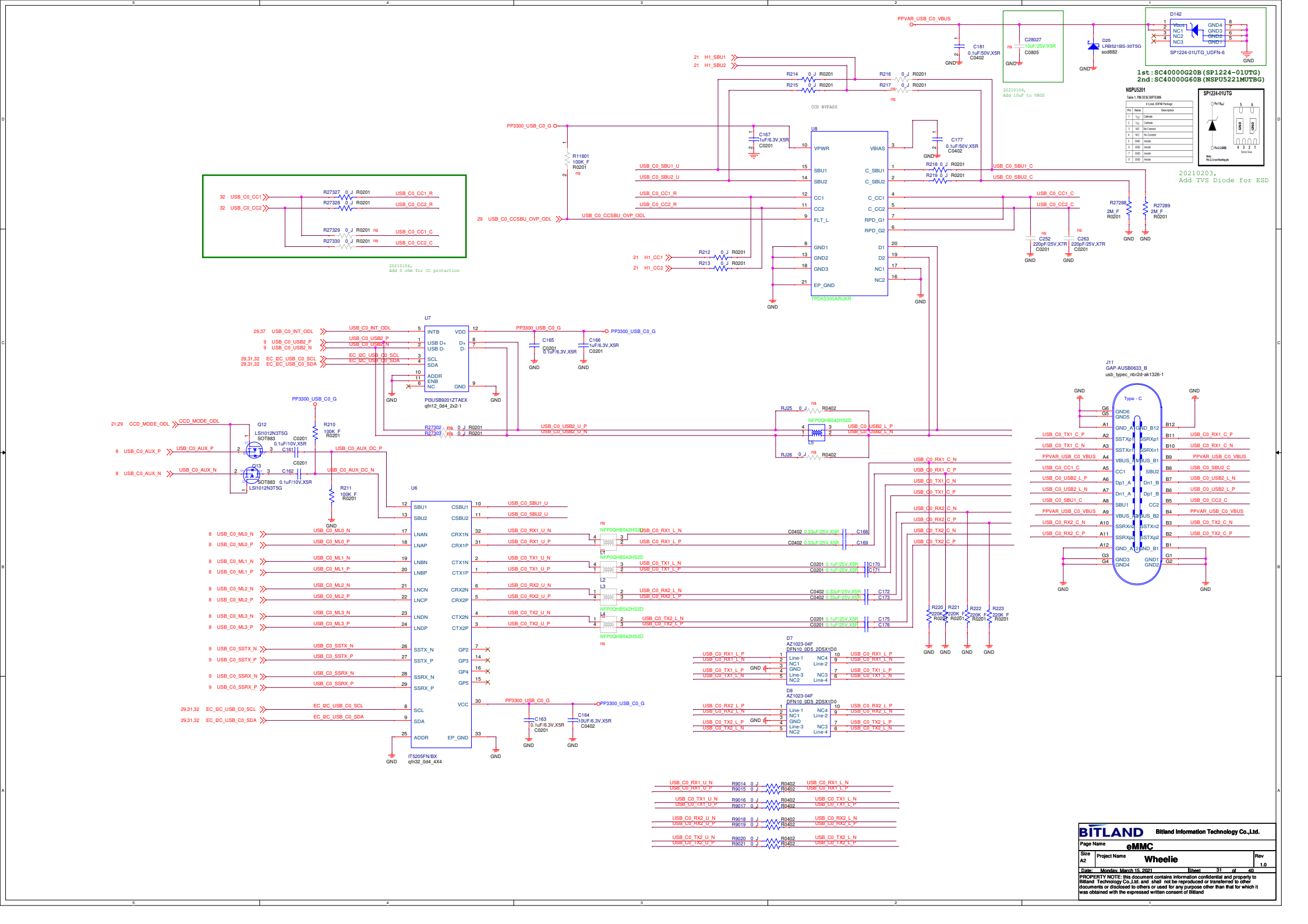
PPVAR_USB_C0_VBUS
C181 0.1uF/50V,X5R C0402
C28027 10uF/25V,X5R C0805
20210104, Add 10uF to VBUS
D25 LRB521BS-30T5G sod882
D142
SP1224-01UTG_UDFN-6
1st:SC40000G20B(SP1224-01UTG)
2nd:SC40000G60B(NSPU5221MUTBG)
NSPU5201
SP1224-01UTG
20210203, Add TVS Diode for ESD
21 H1_SBU1
21 H1_SBU2
R214 0_J R0201
R215 0_J R0201
R216 0_J R0201
R217 0_J R0201
CCD BYPASS
PP3300_USB_C0_G
C167 1uF/6.3V,X5R C0201
R11601 100K_F R0201
29 USB_C0_CCSBU_OVP_ODL
USB_C0_SBU1_U
USB_C0_SBU2_U
USB_C0_CC1_R
USB_C0_CC2_R
USB_C0_CCSBU_OVP_ODL
U8
VPWR
VBIAS
SBU1
SBU2
CC1
CC2
FLT_L
GND1
GND2
GND3
EP_GND
C_SBU1
C_SBU2
C_CC1
C_CC2
RPD_G1
RPD_G2
D1
D2
NC1
NC2
TPD6S300ARUKR
C177 0.1uF/50V,X5R C0402
R218 0_J R0201
R219 0_J R0201
USB_C0_SBU1_C
USB_C0_SBU2_C
USB_C0_CC1_C
USB_C0_CC2_C
R27288 2M_F R0201
R27289 2M_F R0201
C252 220pF/25V,X7R C0201
C263 220pF/25V,X7R C0201
32 USB_C0_CC1
32 USB_C0_CC2
R27327 0_J R0201
R27328 0_J R0201
R27329 0_J R0201 ns
R27330 0_J R0201 ns
USB_C0_CC1_R
USB_C0_CC2_R
USB_C0_CC1_C
USB_C0_CC2_C
20210104, Add 0 ohm for CC protection
21 H1_CC1
21 H1_CC2
R212 0_J R0201
R213 0_J R0201
U7
INTB
USB D+
USB D-
SCL
SDA
ADDR
ENB
NC
VDD
D+
D-
GND
PI3USB9201ZTAEX
qfn12_0d4_2x2-1
29,37 USB_C0_INT_ODL
9 USB_C0_USB2_P
9 USB_C0_USB2_N
29,31,32 EC_I2C_USB_C0_SCL
29,31,32 EC_I2C_USB_C0_SDA
C165 C0201 0.1UF/6.3V,X5R
C166 1uF/6.3V,X5R C0201
PP3300_USB_C0_G
R27302 ns 0_J R0201
R27303 ns 0_J R0201
USB_C0_USB2_U_P
USB_C0_USB2_U_N
RJ25 0_J ns R0402
RJ26 0_J ns R0402
NFP0QHB542HS2D
USB_C0_USB2_L_P
USB_C0_USB2_L_N
L5
J11
GAP-AUSB0633_B
usb_typec_nbr2d-ak1326-1
Type - C
21,29 CCD_MODE_ODL
Q12 LSI012N3T5G SOT883
Q13 LSI012N3T5G SOT883
C0201 0.1uF/10V,X5R
C161
C162 0.1uF/10V,X5R
R210 100K_F R0201
R211 100K_F R0201
8 USB_C0_AUX_P
8 USB_C0_AUX_N
USB_C0_AUX_DC_P
USB_C0_AUX_DC_N
U6
SBU1
SBU2
LNAN
LNAP
LNBN
LNBP
LNCN
LNCP
LNDN
LNDP
SSTX_N
SSTX_P
SSRX_N
SSRX_P
SCL
SDA
ADDR
CSBU1
CSBU2
CRX1N
CRX1P
CTX1N
CTX1P
CRX2N
CRX2P
CTX2N
CTX2P
GP2
GP3
GP4
GP5
VCC
EP_GND
IT5205FN/BX
qfn32_0d4_4X4
USB_C0_RX1_L_N
USB_C0_RX1_L_P
USB_C0_TX1_L_N
USB_C0_TX1_L_P
USB_C0_RX2_L_N
USB_C0_RX2_L_P
USB_C0_TX2_L_N
USB_C0_TX2_L_P
L1 L2 L3 L4
C168 C169 C170 C171 C172 C173 C175 C176
R220 R221 R222 R223 220K_F R0201
D7 AZ1023-04F DFN10_0D5_2D5X1D0
D8 AZ1023-04F DFN10_0D5_2D5X1D0
R9014 R9015 R9016 R9017 R9018 R9019 R9020 R9021 0_J R0402
GND
BITLAND
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Page Name eMMC
Size A2
Project Name Wheelie
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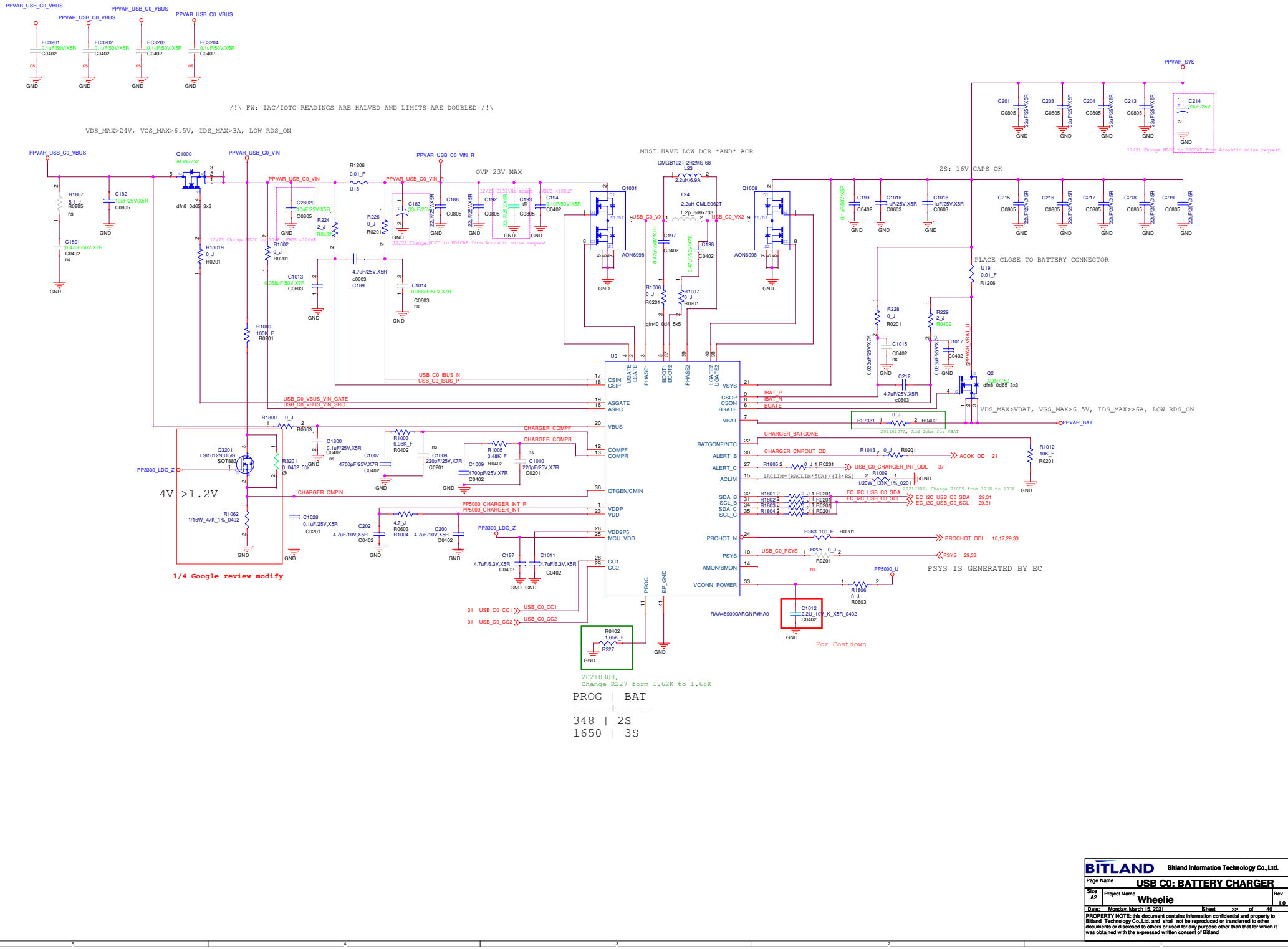

BITLAND	Bitland Information Technology Co.,Ltd.
Page Name	USB C0: BATTERY CHARGER
Size A2	Project Name: Wheelie
Rev	1.0
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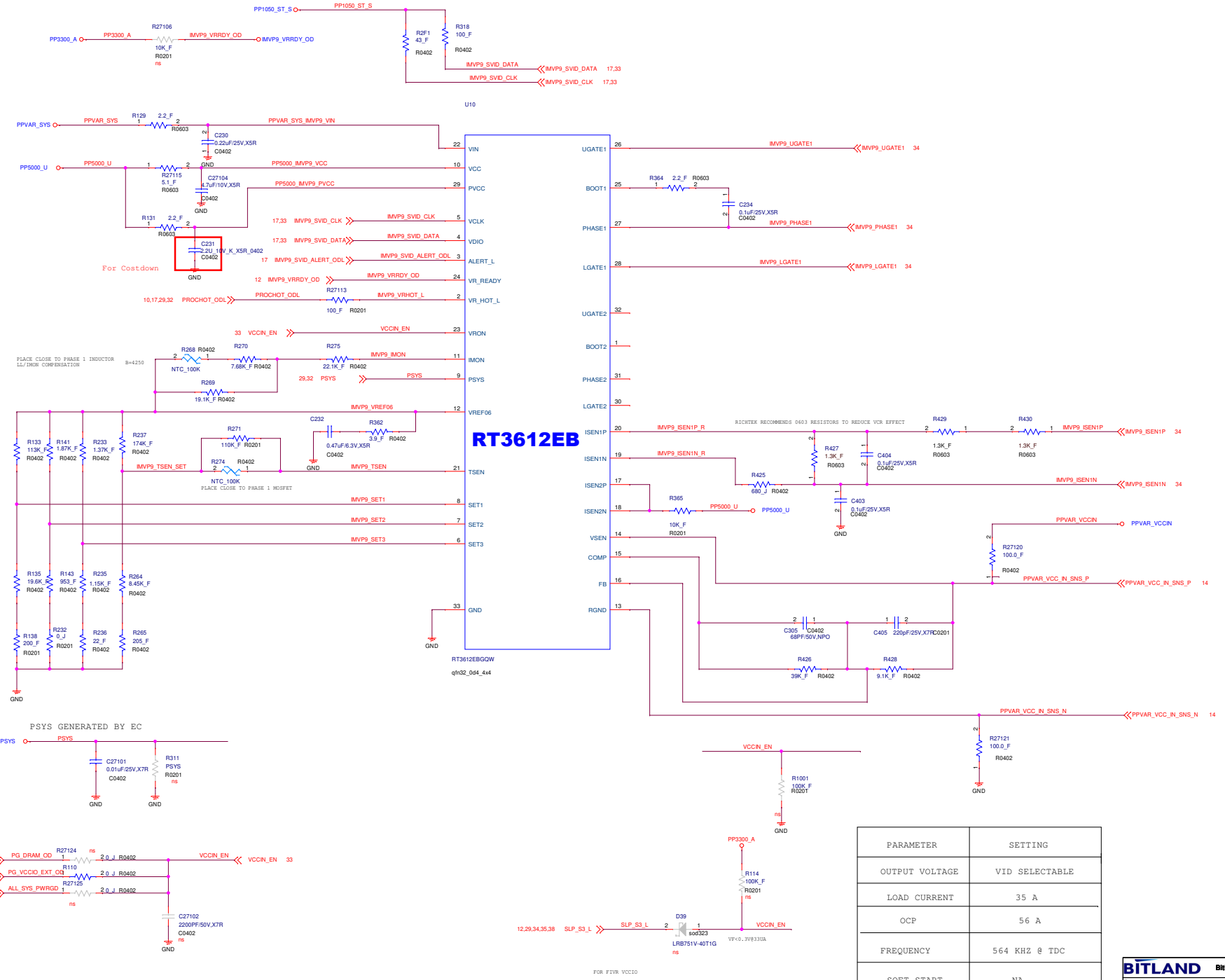

PARAMETER	SETTING
OUTPUT VOLTAGE	VID SELECTABLE
LOAD CURRENT	35 A
OCP	56 A
FREQUENCY	564 KHZ @ TDC
SOFT START	NA
LOAD LINE	2 MOHM

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Page Name **POWER: SOC RAILS 1**

Size A2 | Project Name **Wheelie** | Rev 1.0

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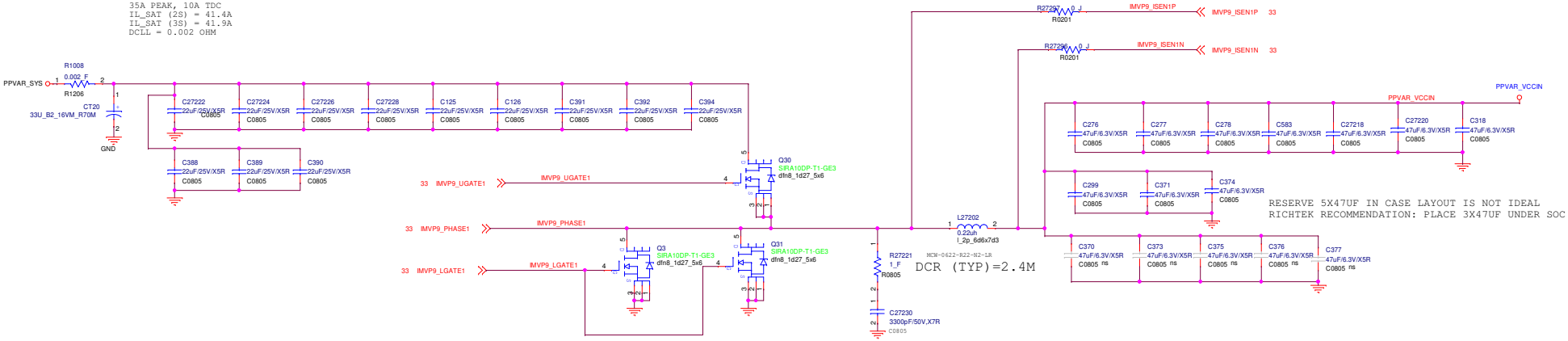
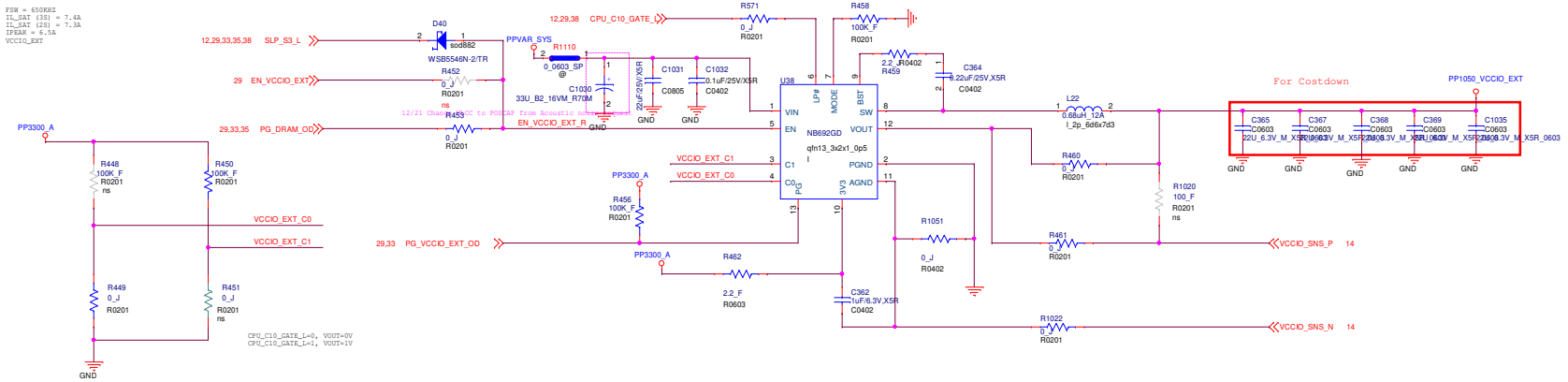
VCCIN POWER CONVERSION

35A PEAK, 10A TDC
IL_SAT (2S) = 41.4A
IL_SAT (3S) = 41.9A
DCLL = 0.002 OHM





BITLAND	Bitland Information Technology Co.,Ltd.		
Page Name	POWER: SOC RAILS 2		
Size A2	Project Name Wheelie		Rev 1.0
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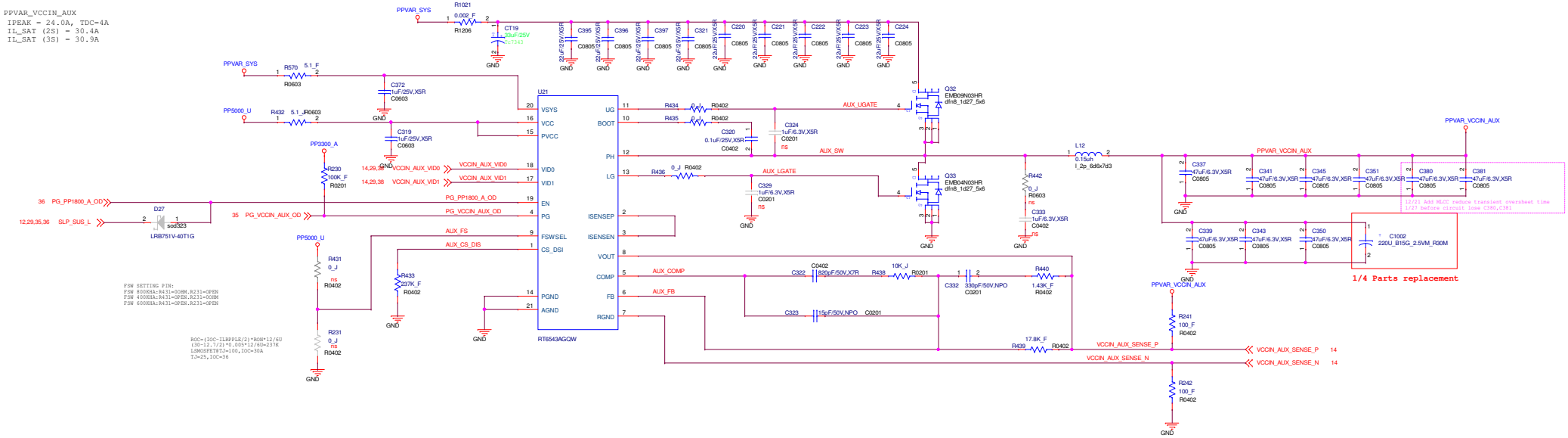
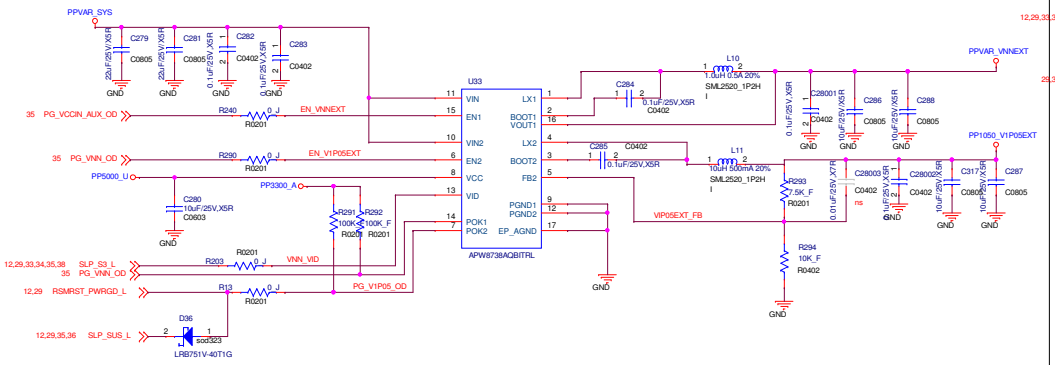
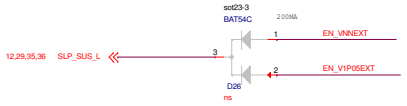


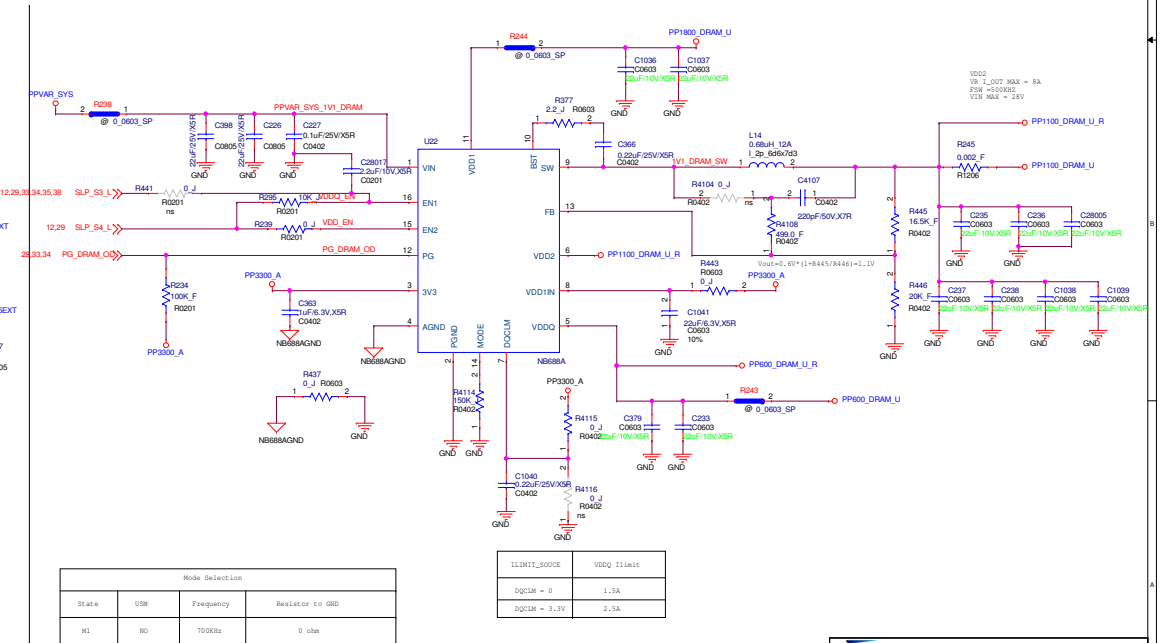
PPVAR_VNNEXT & PP1050_V1P05EXT BYPASS RAILS

IMAX = 0.5A
IL_SAT (2S/3S) = 1A
FSW = 800KHZ

IMAX = 0.5A
IL_SAT (2S/3S) = 0.6A
FSW = 800KHZ







Mode Selection			
State	USM	Frequency	Resistor to GND
M1	NO	700KHz	0 ohm
M2	YES	700KHz	90k ohm
M3	NO	500KHz	150k ohm

ILIMIT_SOUCE	VDDQ Ilimit
DQCLM = 0	1.5A
DQCLM = 3.3V	2.5A

BITLAND Billand Information Technology Co.,Ltd.

Page Name: POWER: SOC RAILS 3
Size: Custom
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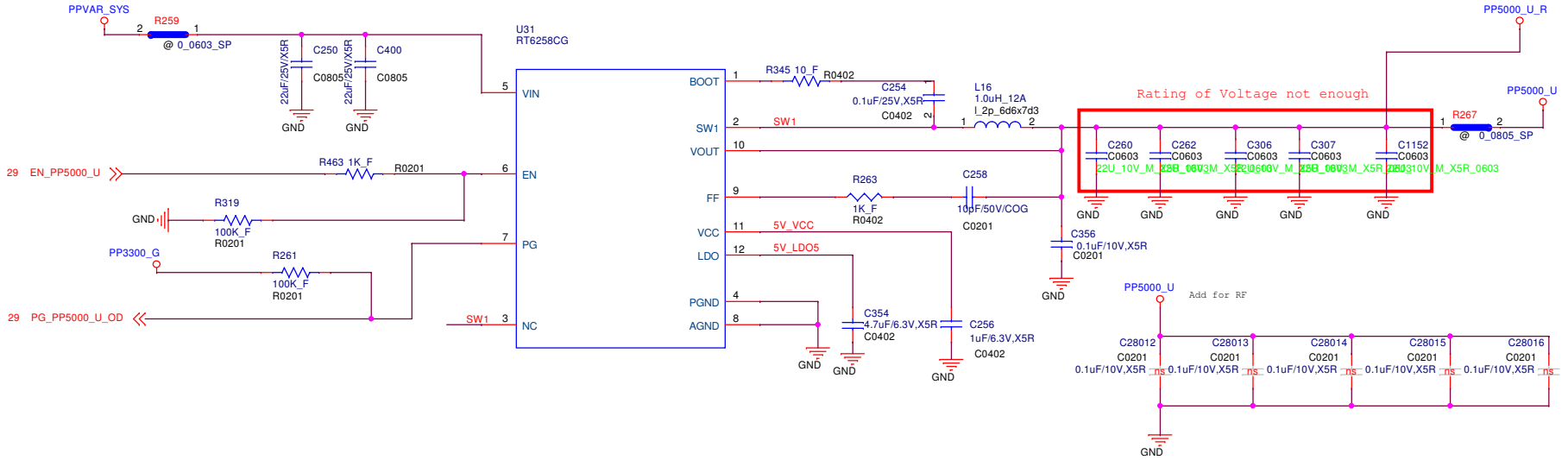
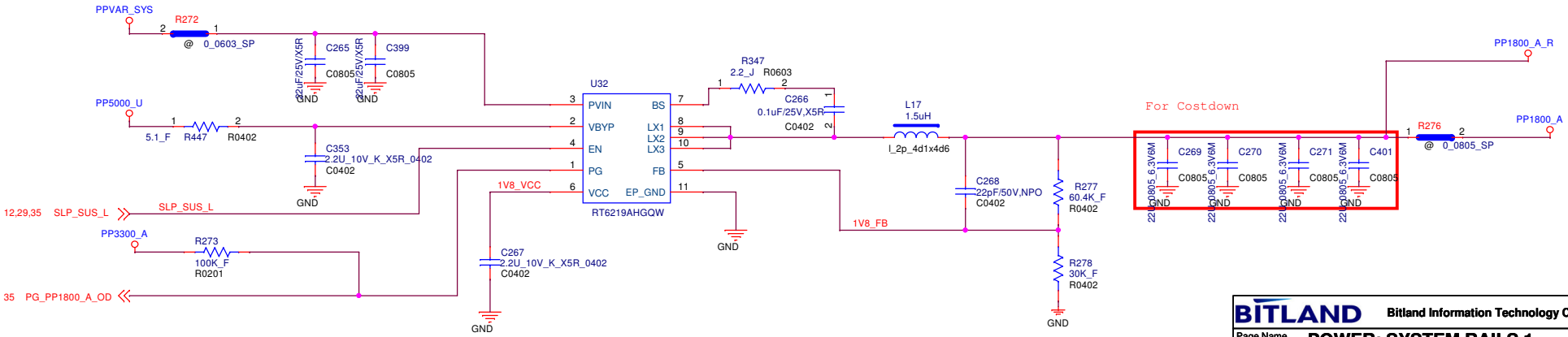
PP5000_U

PEAK CURRENT: 3.3A
IL_SAT (2S): 4.99A
IL_SAT (3S): 5.74A



PP1800_A

PEAK CURRENT: 2.94A
IL_SAT (2S): 4.06A
IL_SAT (3S): 4.16A



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Page Name	POWER: SYSTEM RAILS 1	
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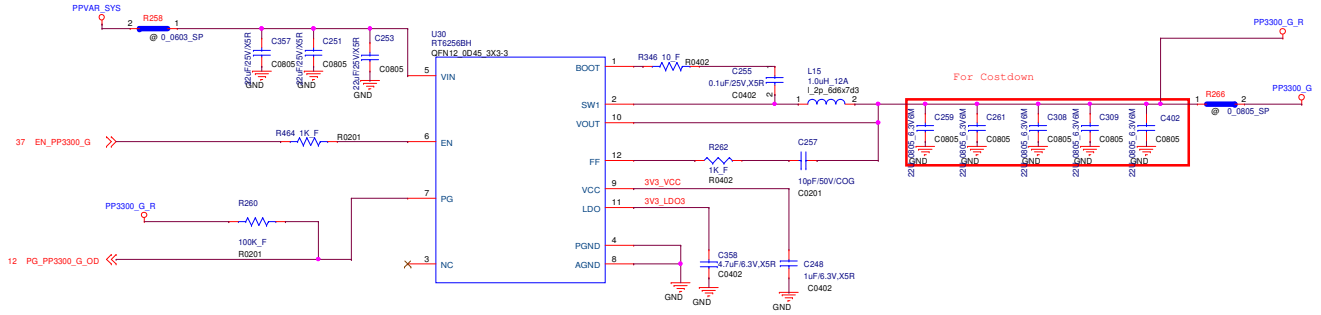
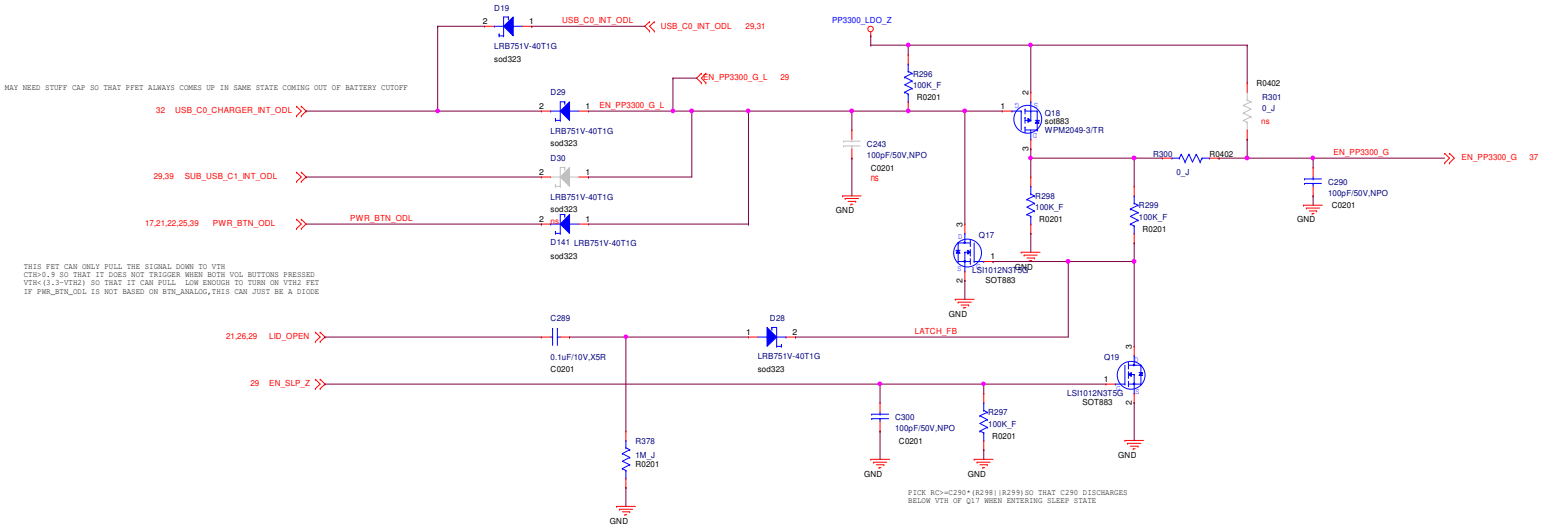
PP3300_G

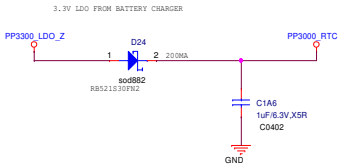
PEAK CURRENT: 4.06A
IL_SAT (2S): 6.47A
IL_SAT (3S): 6.96A



Z SLEEP STATE LOGIC

SUPER LOW POWER STATE WITH ONLY AP RTC ON.WAKES FROM PWR BTN,LIT USB-C EVENT





BITLAND	Bitland Information Technology Co.,Ltd.	
Page Name	POWER: SYSTEM RAILS 2	
Size A2	Project Name Wheelie	Rev 1.0
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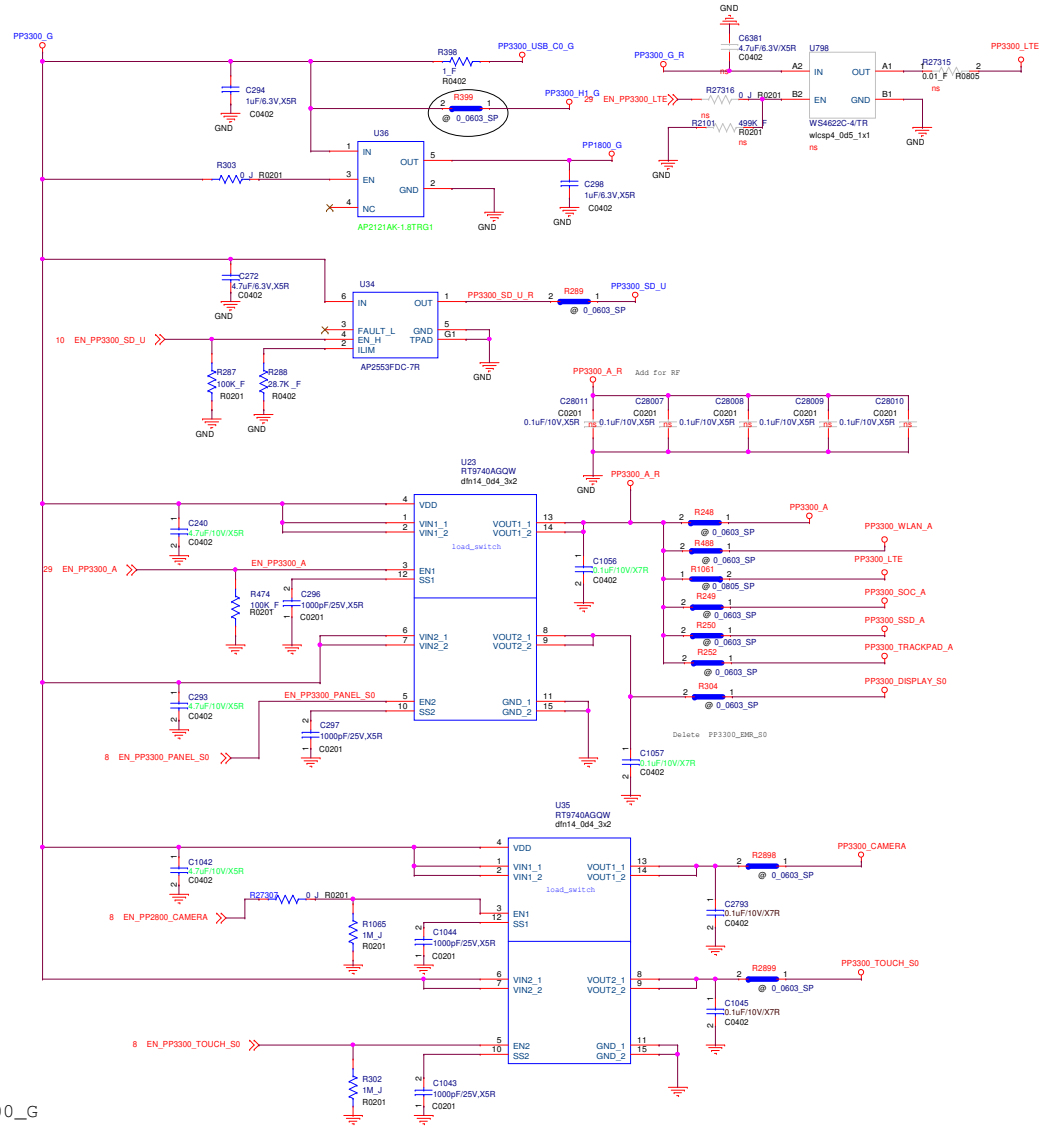

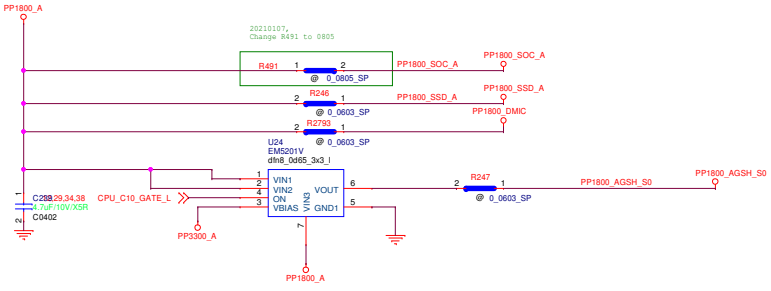

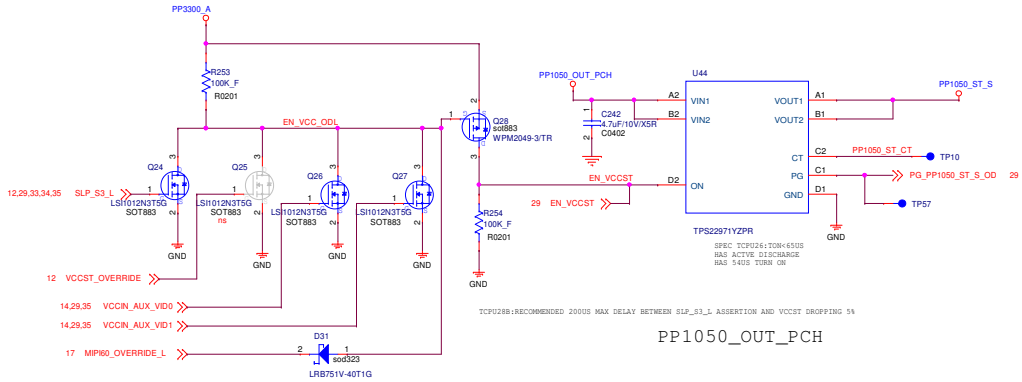

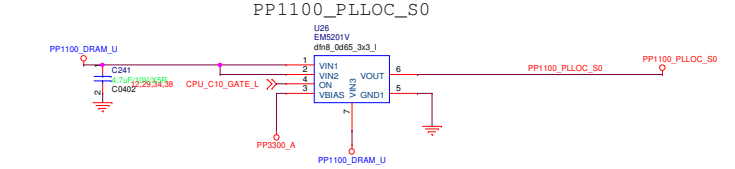

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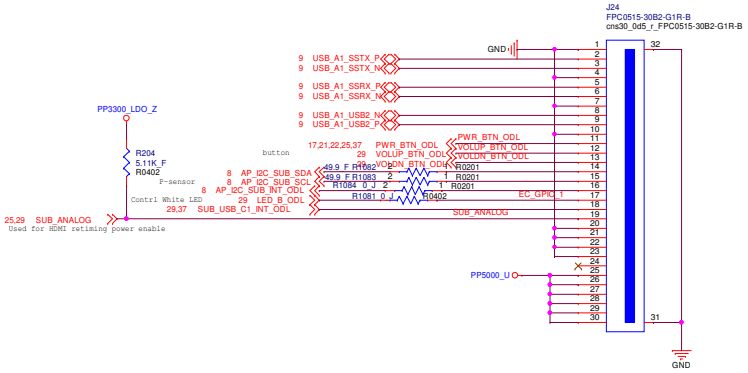
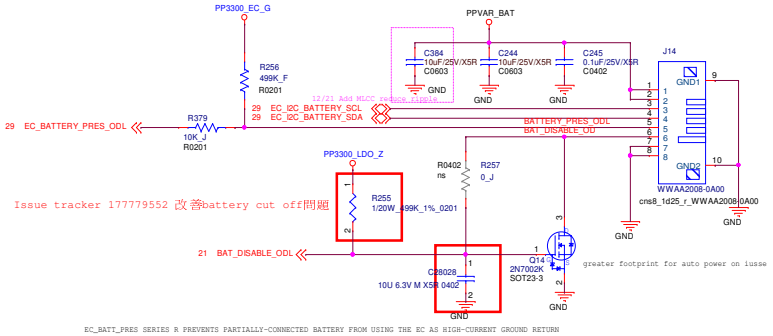
SUB-BOARD CONNECTOR

DETACH OR DISABLE BATTERY WHEN SWAPPING SUB-BOARDS

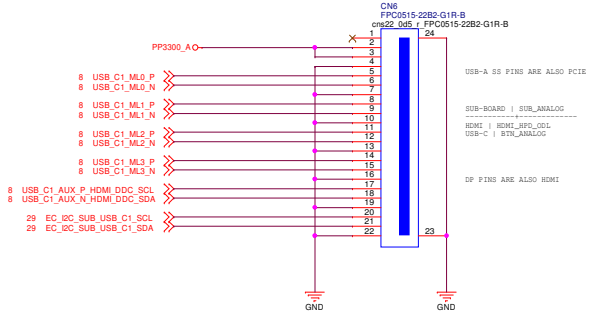


SMART BATTERY

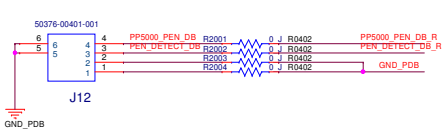
MAY NEED WEAKER PULL-UP IF BATTERY THERMISTOR IS GREATER THAN 100K



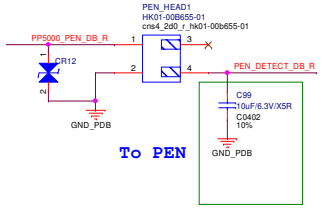
EC_BATT_PRES SERIES R PREVENTS PARTIALLY-CONNECTED BATTERY FROM USING THE EC AS HIGH-CURRENT GROUND RETURN



PEN Charging DB



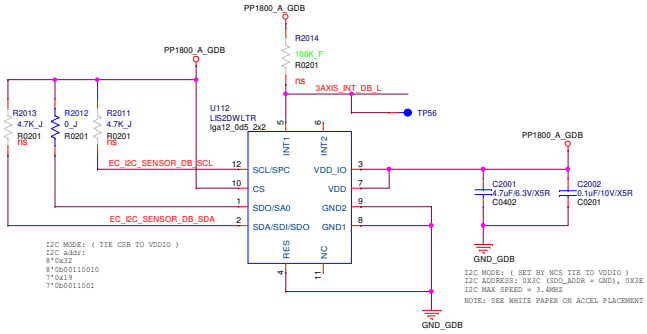
TO MB

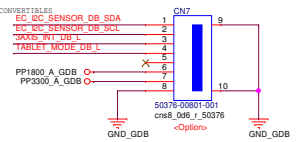


To PEN

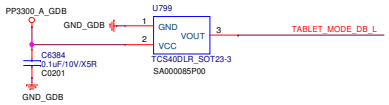
20210127,
Add 10uF to PEN Detect

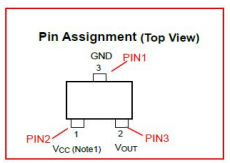
G-sensor DB(Same as Treeya solution)

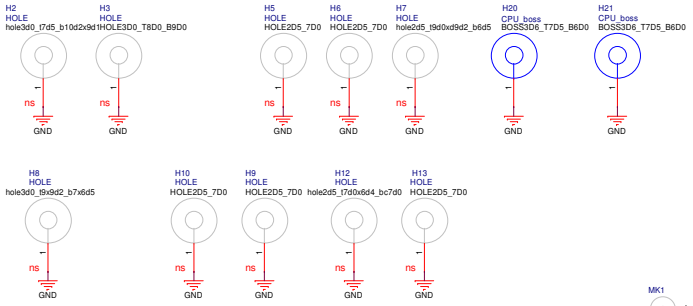


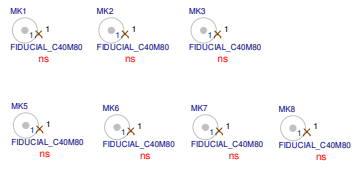


20210304,
Add U799 & stuff C6384 for Sensor/B









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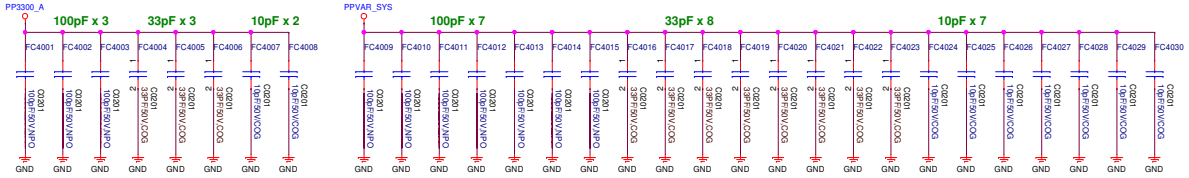

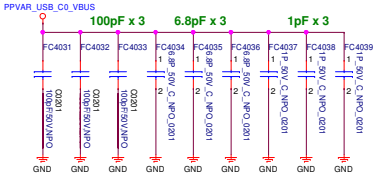

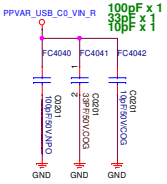

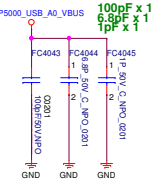

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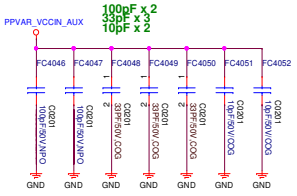

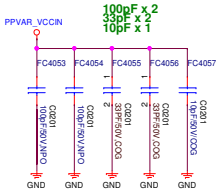

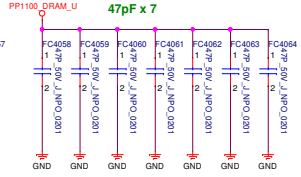

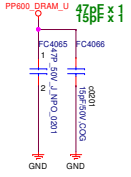

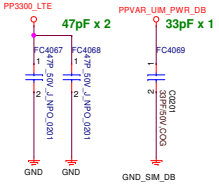

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