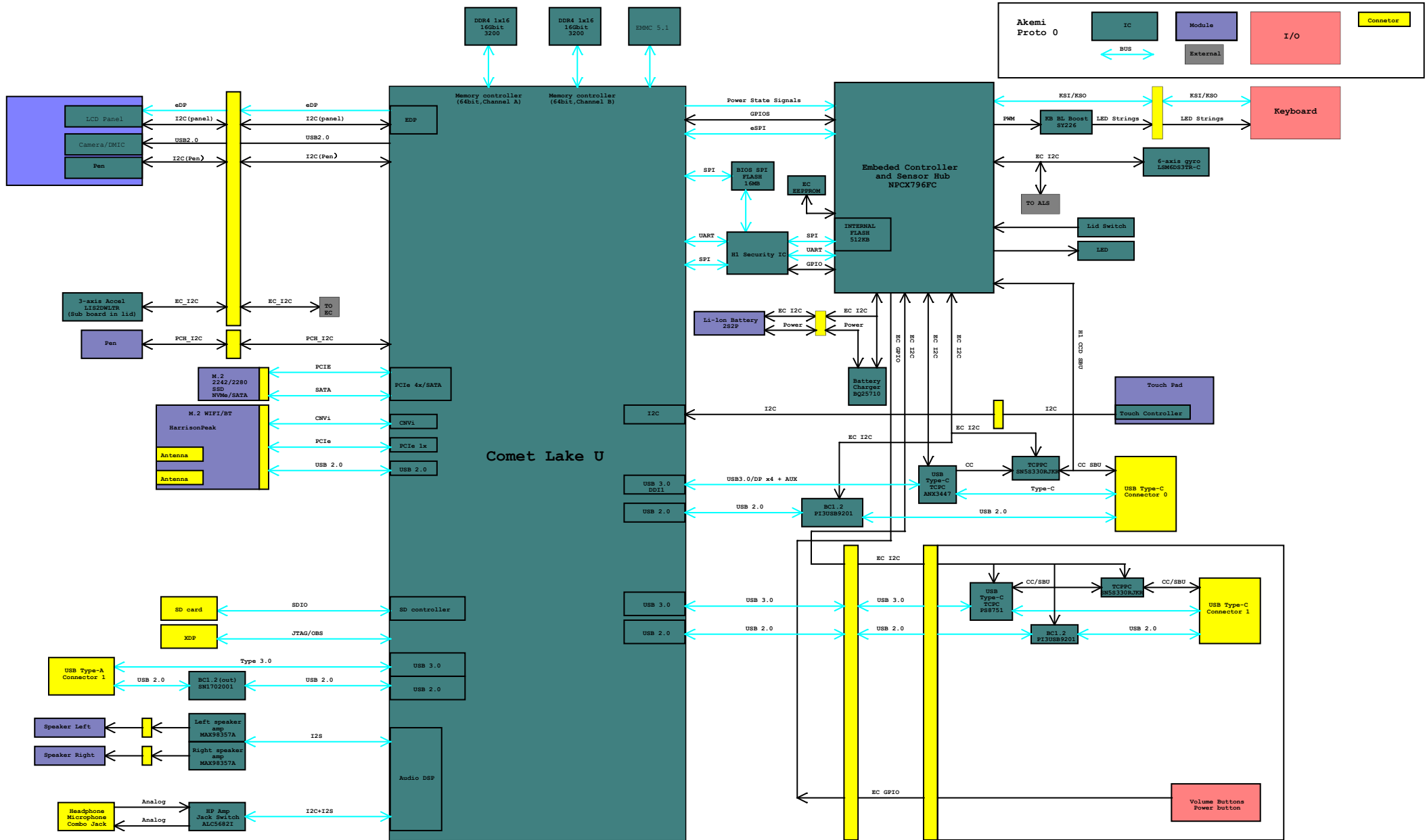
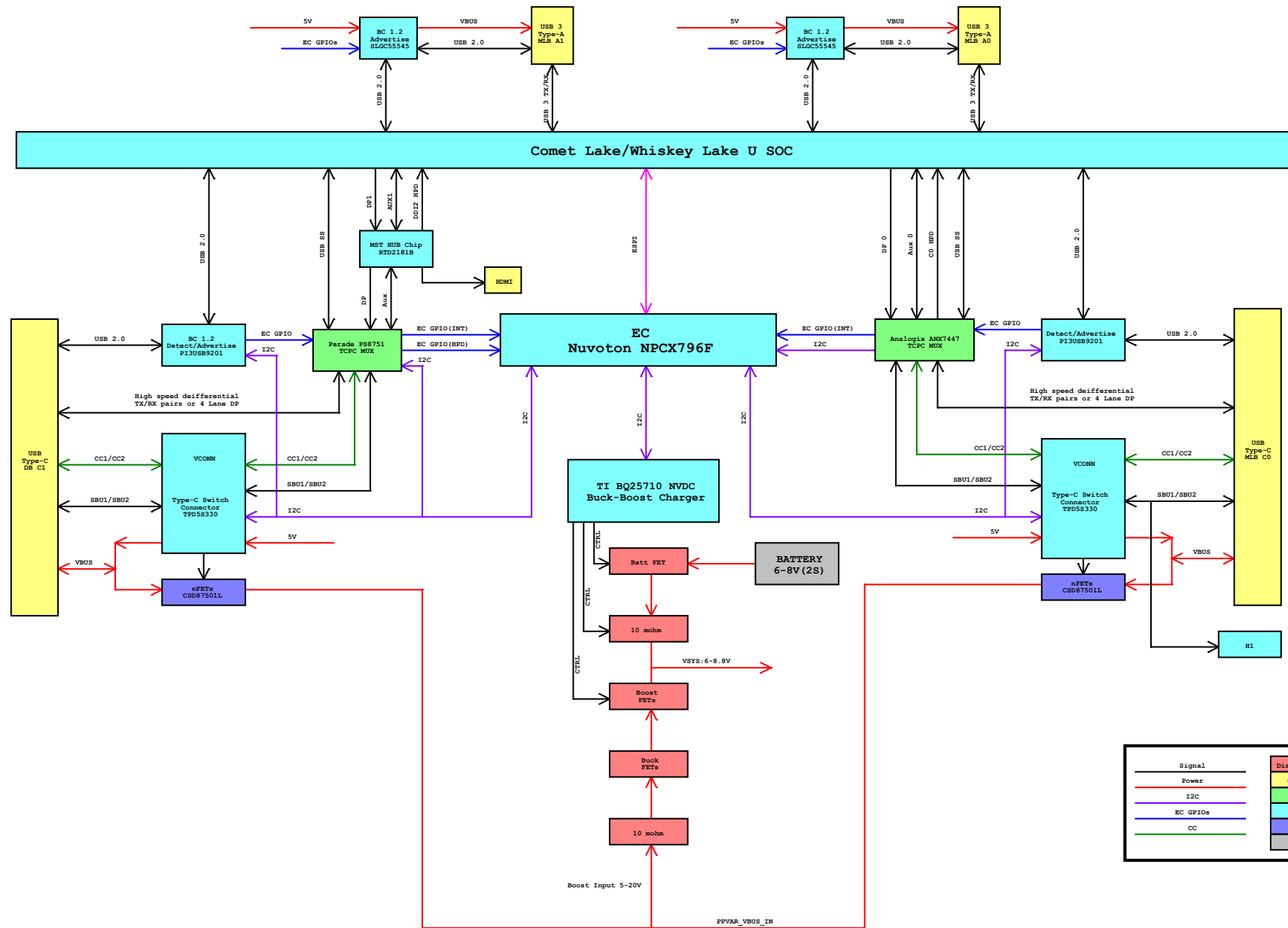


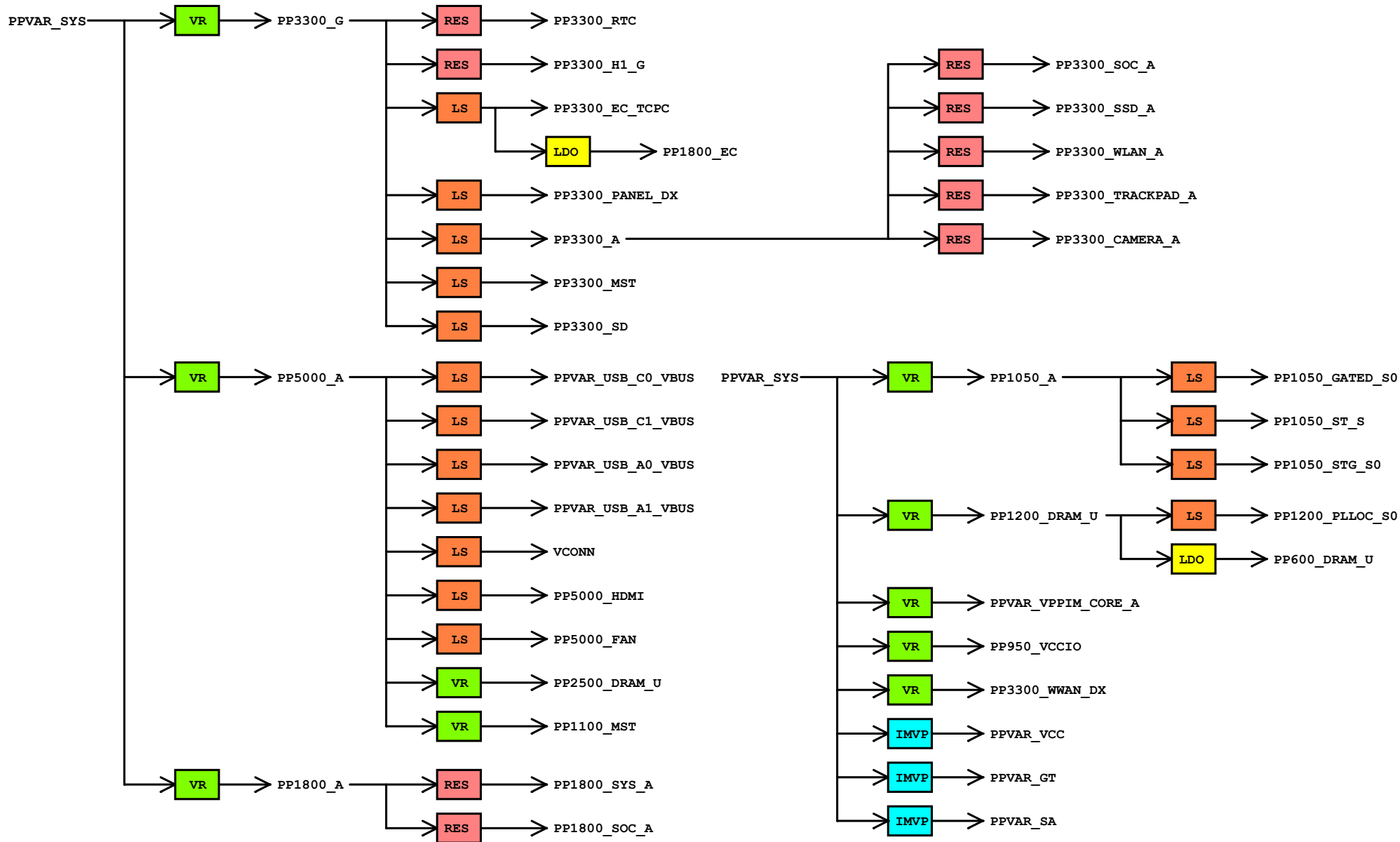
SCH: 650-03895-01-SCH
ASSY: 650-03895-01
PCB: 651-03895-01

SHEET NO.	SHEET NAME
1	TABLE OF CONTENTS
2	SYSTEM BLOCK DIAGRAM
3	TYPE-C BLOCK DIAGRAM
4	POWER TREE
5	POWER SEQUENCING
6	I2C MAP
7	CML: MEMORY
8	CML: DISPLAY
9	CML: USB/PCIE
10	CML: AUDIO/SD/EMMC/CNVI
11	CML: ESPI/SPI/UART/I2C
12	CML: POWER SEQ
13	CML: CORE POWER
14	CML: PCH POWER
15	CML: GND
16	CML: DEBUG/RSVD
17	CML: POWER RAIL DECOUPLING
18	MEMORY CH A-1 DDR4
19	MEMORY CH A-2 DDR4
20	MEMORY CH B-1 DDR4
21	MEMORY CH B-2 DDR4
22	MEMORY DECOUPLING/TERM
23	SPI ROM
24	H1
25	XDP DEBUG HEADER
26	SERVO DEBUG
27	eMMC/SSD M.2
28	AUDIO: SPEAKER AMPS
29	AUDIO: HEADPHONE AMP
30	BASE: KB, TP, FAN, LED

[illegible]







PPVAR_SYS

PP3300_G(EC/H1)

PP3300_TCPC_G
PP3300_EC

PP5000_A

PP3300_A

PP1800_A

PPVAR_VPPIM_CORE_A

PP1050_A

EC_PCH_RSMRST_L
(DSW_PWROK/RSMRST#)

EC_PCH_PWR_BTN_ODL
(PWRBTN#)

SLP_S4_L

PP2500_DRAM_U

PP1200_DRAM_U

PP600_DRAM_U

SLP_S3_L

PP1050_ST_S

PP950_VCCIO

SLP_S0_L

CPU_C10_GATED_L

PP1200_PLLOC_S0

PP1050_STG_S0

VCCST_PG_OD
(VCCST_PWRGD)

PG_EC_ALL_SYS_PWRGD
(ALL_SYS_PWRGD)

EC_PCH_SYS_PWROD
(SYS_PWROD)

PPVAR_SA

IMVP8_VRRDY_OD
(VR_READY)

PCH_PWEOK

PLT_RST_L

Enabled by PPVAR_VSYS

Enabled by EC when not in standby

Enabled by EC(at same time as 3.3A)

Enabled by PP3300_A_PG

Enabled by PP1800_A_PG

Enabled by VPRIM_CORE_A_PG_OD

Generated by logic

Enabled by SLP_S4_L

Enabled by SLP_S4_L with 2ms delay

Enabled by VTT_CTRL

Enabled by SLP_S3_L OR XDP_OVERRIDE

Enabled by SLP_S3_L AND VDDQ_PG AND PP1050_ST_S_PG

Rises with PP3300_A

Rises with PP3300_A

Enabled by CPU_C10_GATED_L AND SLP_S3_L

Enabled by CPU_C10_GATED_L AND SLP_S3_L

VCCST AND SLP_S3_L AND VDDQ_PG AND VCCIO

VCCST AND SLP_S3_L AND VDDQ_PG AND VCCIO 2ms delay

VCCST AND SLP_S3_L AND VDDQ_PG AND VCCIO programmable delay Generated by EC

Enabled by ALL_SYS_PWRGD,SVID

ALL_SYS_PWRGD AND VR_READY

16ms delay

Power Rail

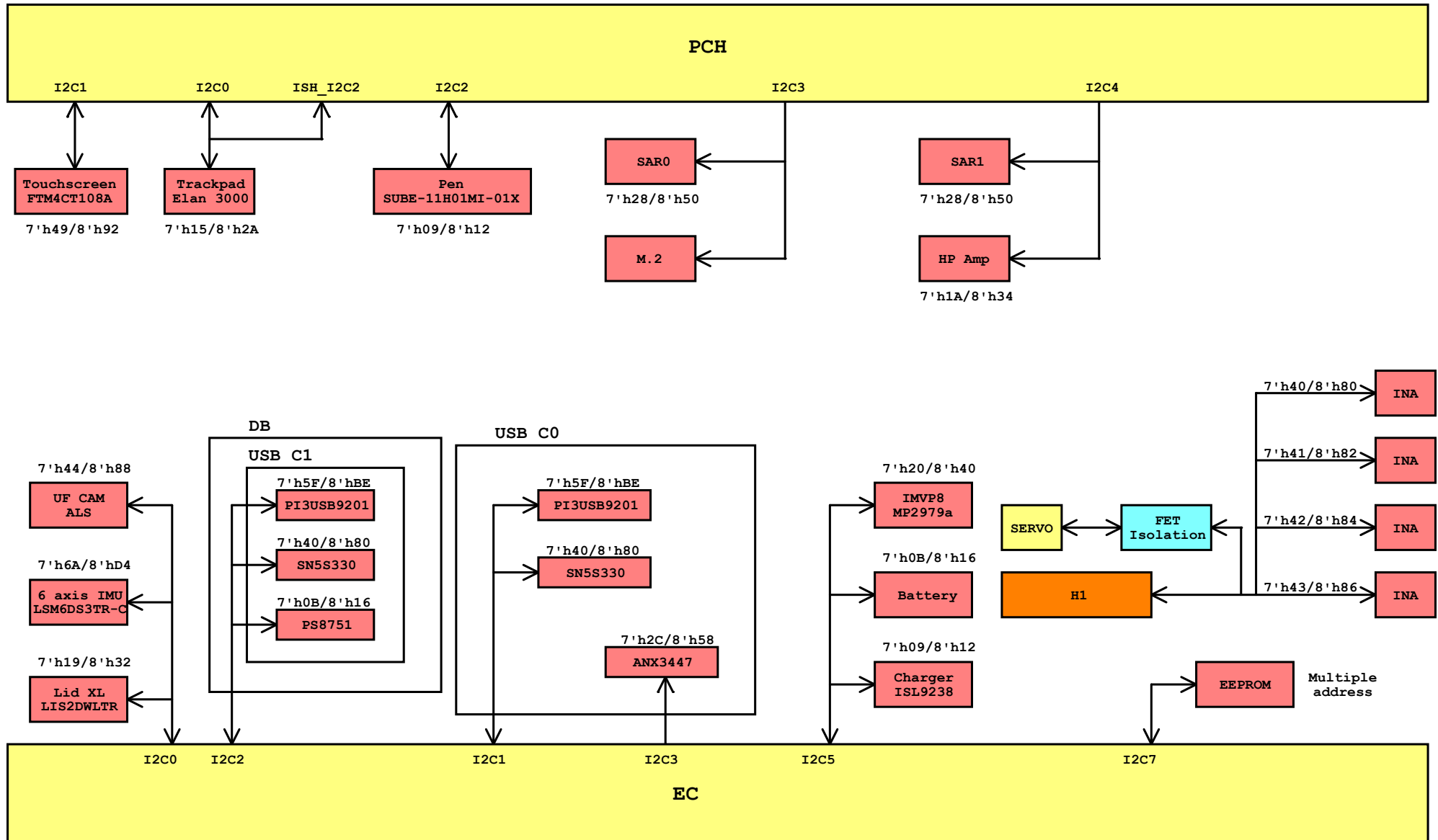
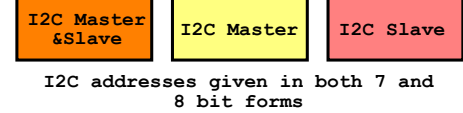
Signal from PCH

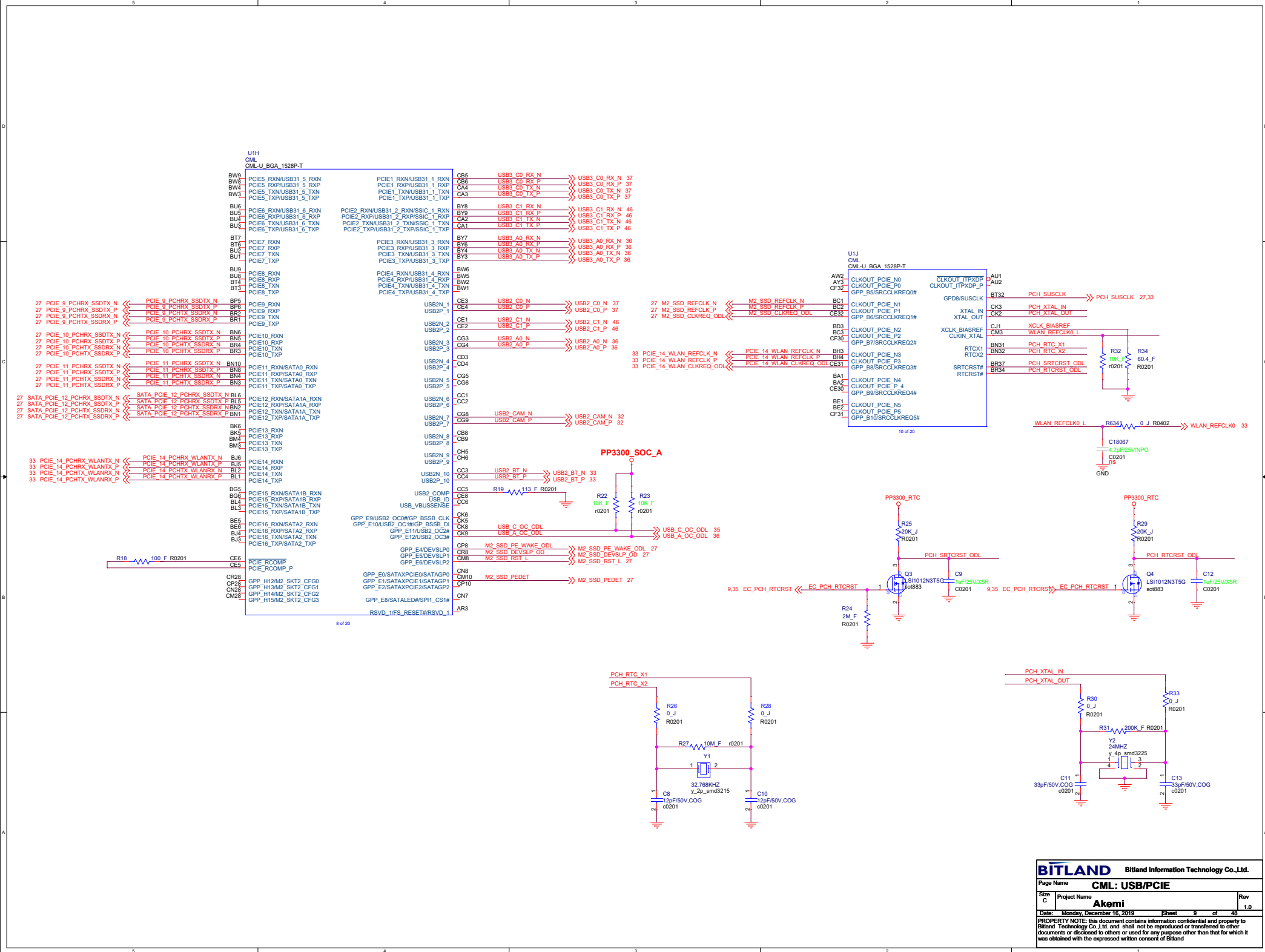
Signal from Platform

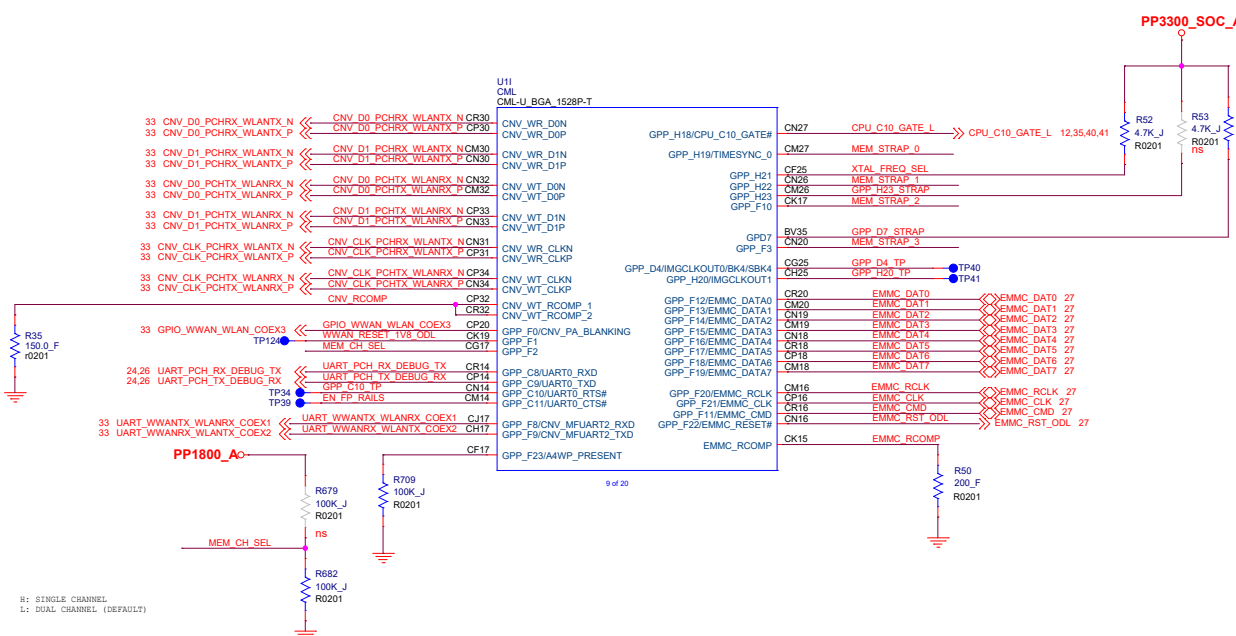
Hatch I2C Map

Updated:11/07/2018

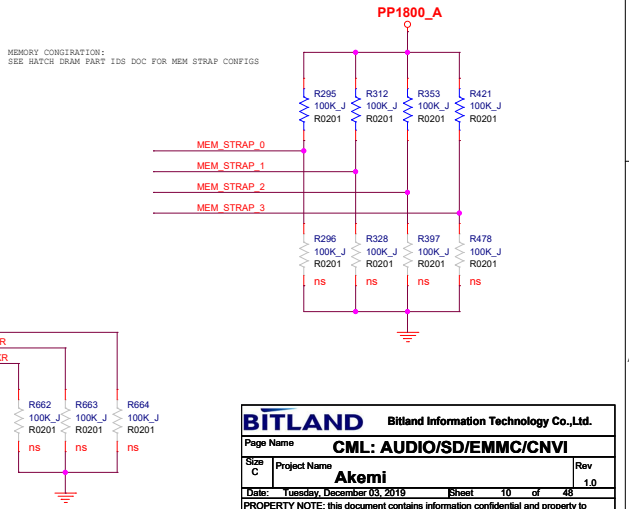
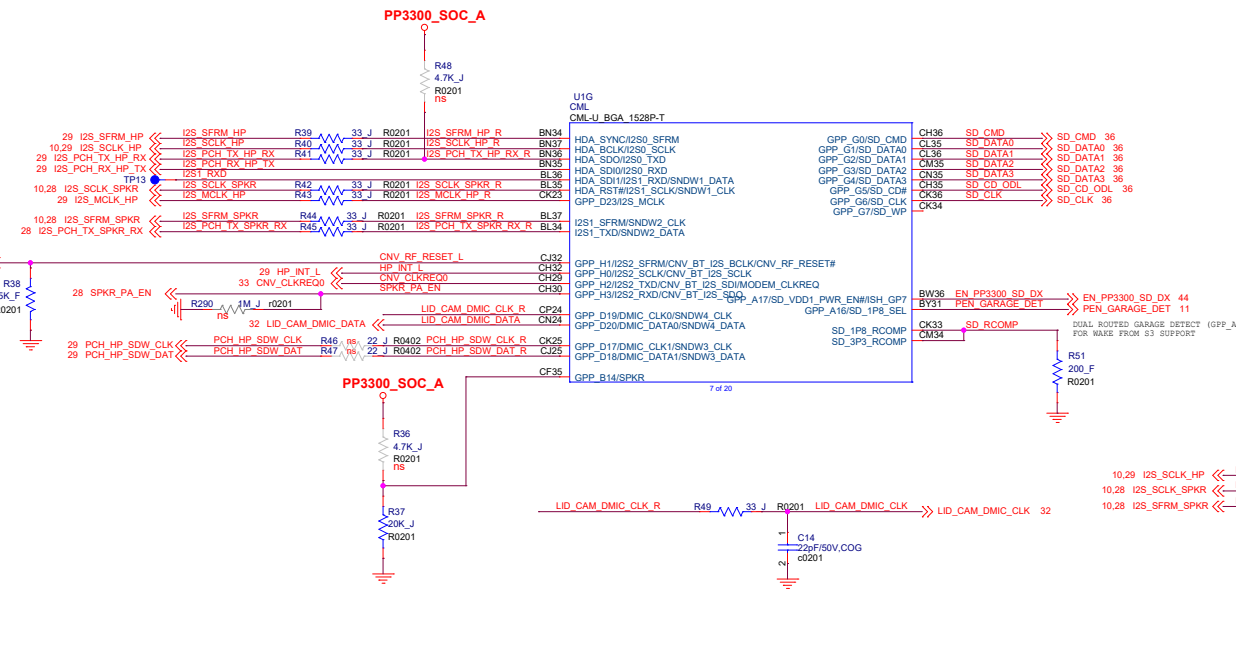
LEGEND

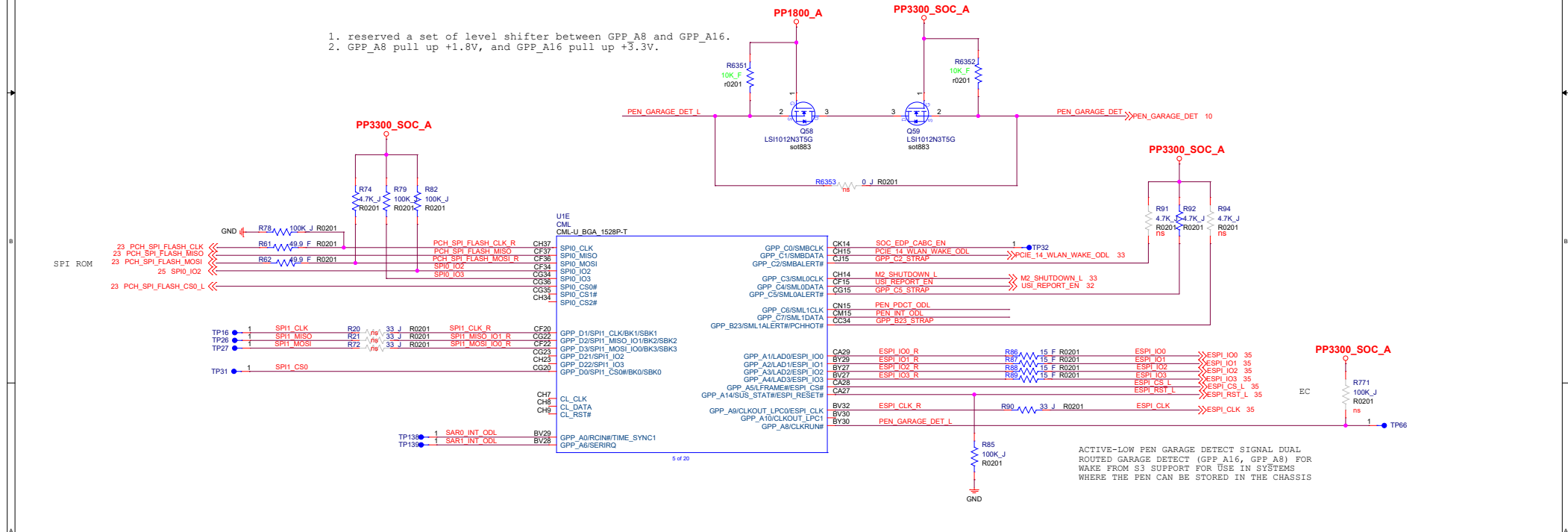


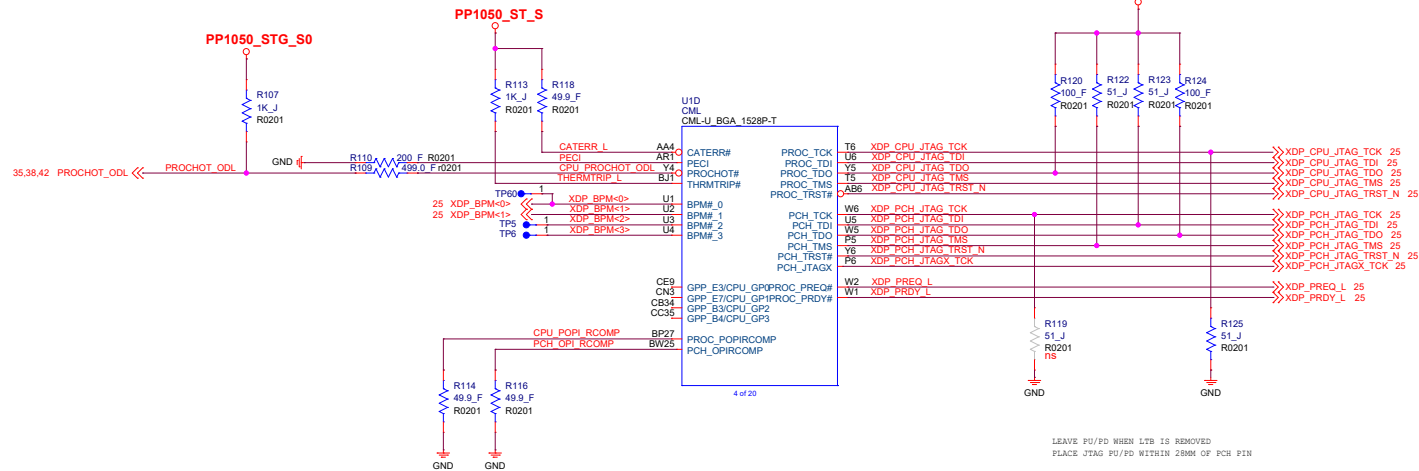
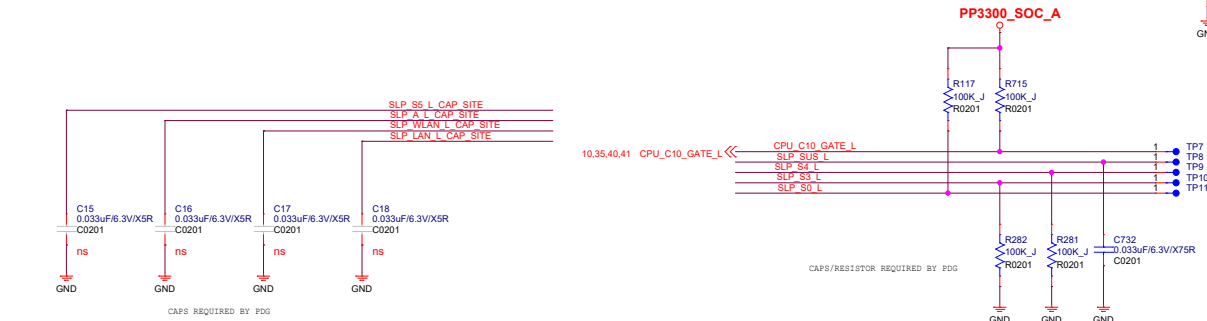
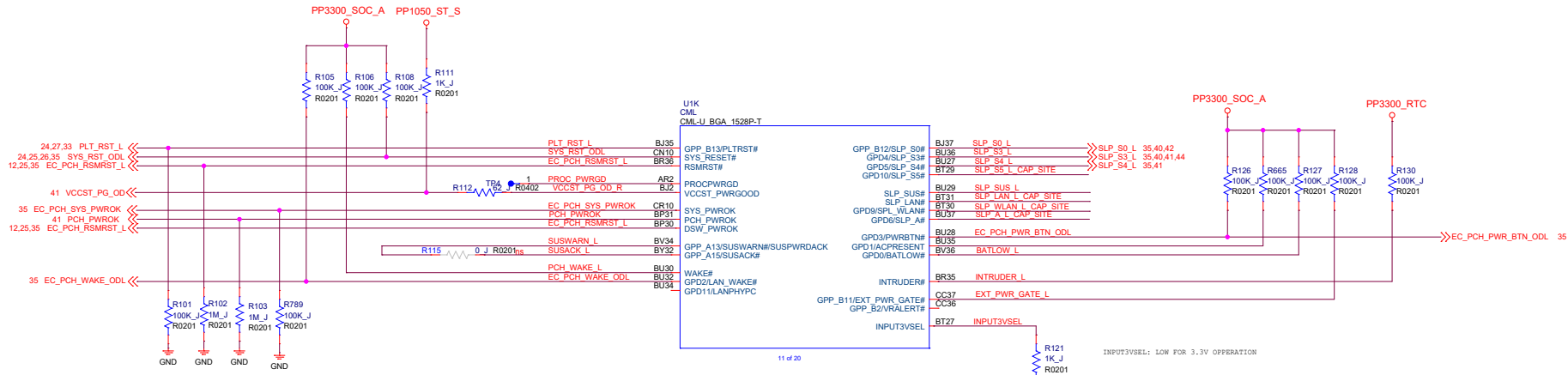


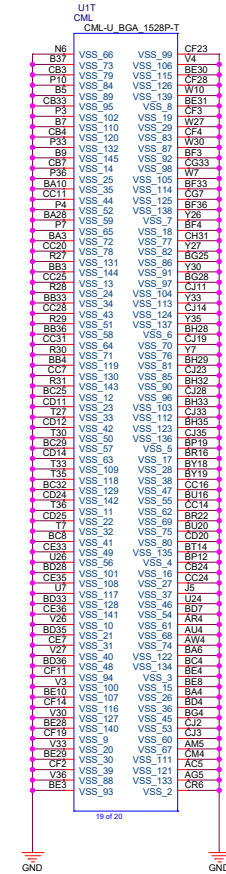
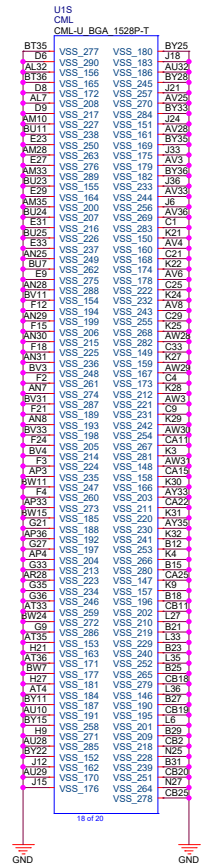
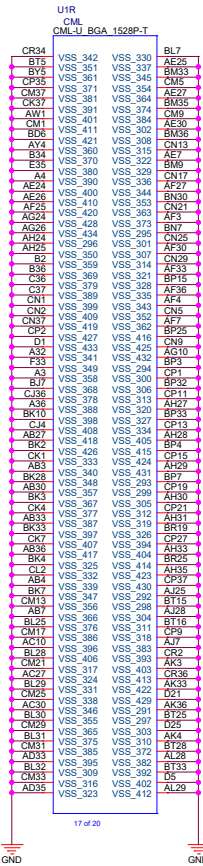


HARDWARE STRAPS (* = SYSTEM STRAP SELECTION)	
GPP_B14: EXTERNAL PD * DISABLE TOP SWAP MODE: 0 ENABLE TOP SWAP MODE: 1	GPP_E19: INTERNAL PD DISPLAY PORT B NOT DETECTED: 0 * DISPLAY PORT B DETECTED: 1
GPP_B18: INTERNAL PD * DISABLE NO REBOOT MODE: 0 ENABLE NO REBOOT MODE: 1	GPP_E21: INTERNAL PD DISPLAY 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
SPIO_MOSI EXTERNAL PU REQUIRED	SPIO_IO2 EXTERNAL PU REQUIRED
GPD7 EXTERNAL PU REQUIRED	SPIO_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	



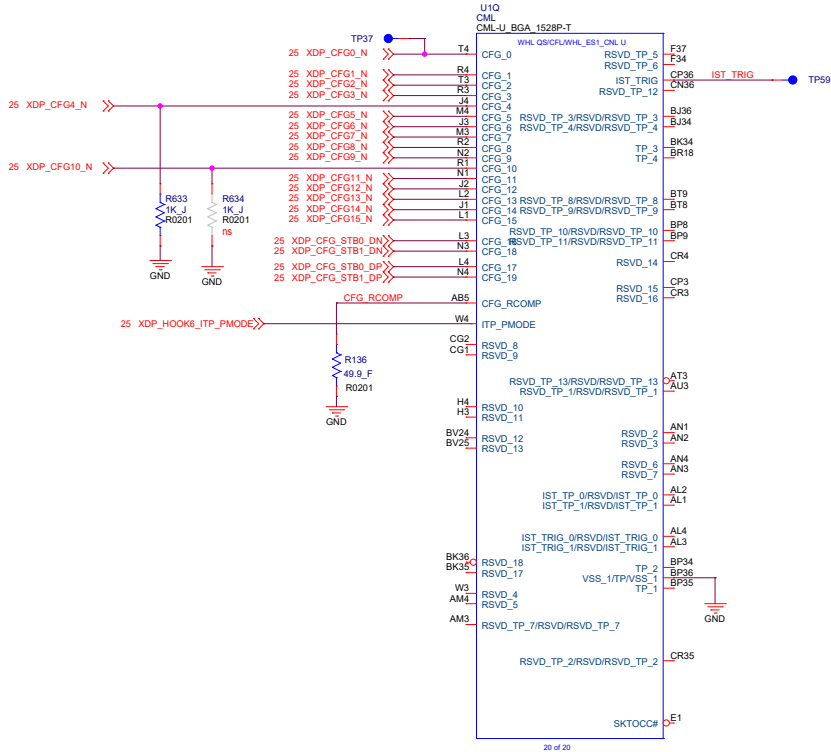




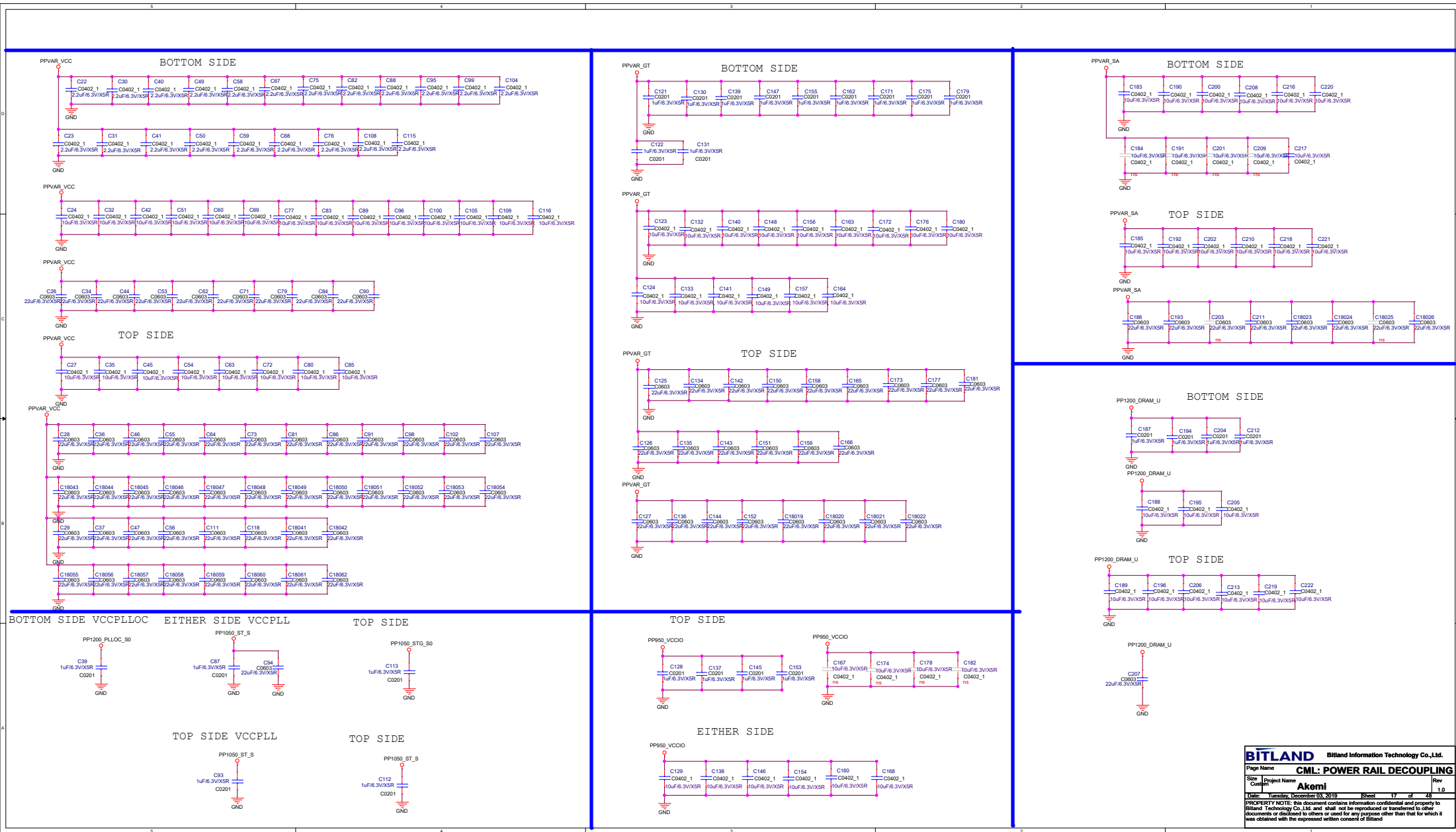


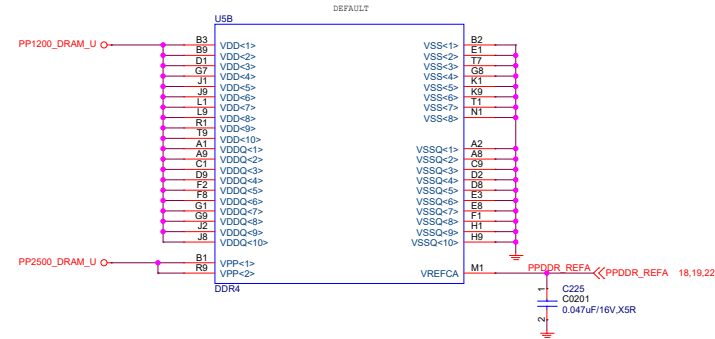
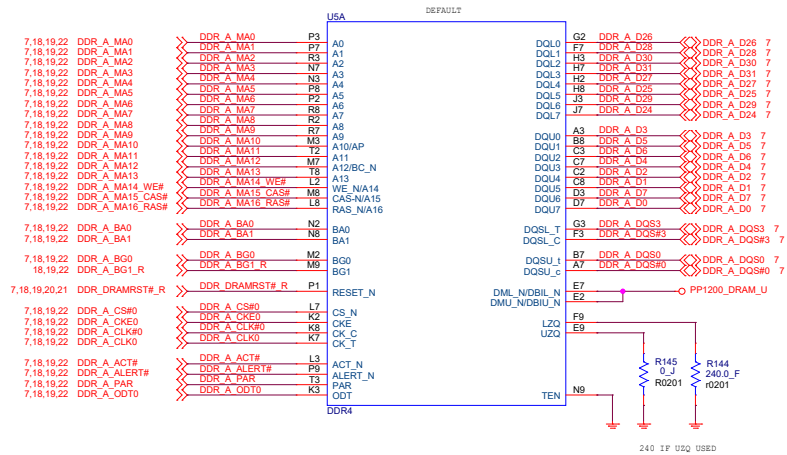
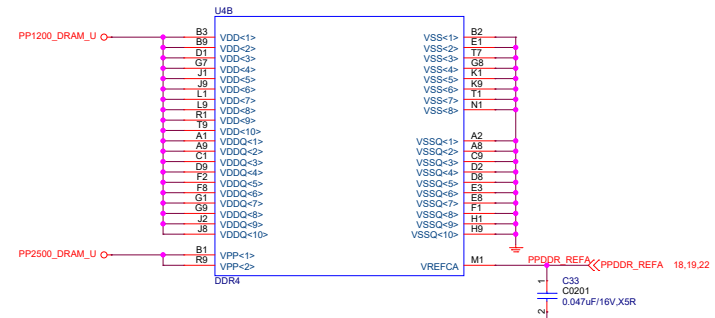
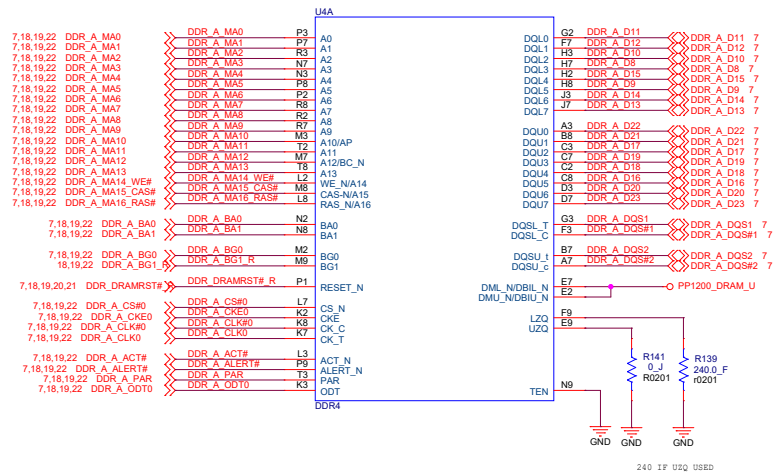
U10	CML	CML-U BGA 1528P-T
K12	WHL QSICL/UWHL_E81 ONL U22	WHL QSICL/UWHL_E81 ONL U22
K14	RSVD_25/VCC_OPC_1/RSVD_25	RSVD_39/VCC_OPCIO_1/RSVD_39
K15	RSVD_26/VCC_OPC_2/RSVD_26	RSVD_40/VCC_OPCIO_2/RSVD_40
K17	RSVD_27/VCC_OPC_3/RSVD_27	RSVD_41/VCC_OPCIO_3/RSVD_41
K18	RSVD_28/VCC_OPC_4/RSVD_28	RSVD_42/VCC_OPCIO_4/RSVD_42
K20	RSVD_29/VCC_OPC_5/RSVD_29	RSVD_43/VCC_OPCIO_5/RSVD_43
L25	RSVD_30/VCC_OPC_6/RSVD_30	RSVD_44/VCC_OPCIO_6/RSVD_44
M24	RSVD_31/VCC_OPC_7/RSVD_31	RSVD_45/VCC_OPCIO_7/RSVD_45
M26	RSVD_32/VCC_OPC_8/RSVD_32	RSVD_46/VCC_OPCIO_8/RSVD_46
P24	RSVD_33/VCC_OPC_9/RSVD_33	RSVD_47/VCC_OPCIO_9/RSVD_47
P26	RSVD_34/VCC_OPC_10/RSVD_34	RSVD_48/VCC_OPCIO_10/RSVD_48
R24	RSVD_35/VCC_OPC_11/RSVD_35	RSVD_49/VCC_OPCIO_11/RSVD_49
R26	RSVD_36/VCC_OPC_12/RSVD_36	RSVD_50/VCC_OPCIO_12/RSVD_50
V24	RSVD_37/VCC_OPC_13/RSVD_37	RSVD_51/VCC_OPCIO_13/RSVD_51
V25	RSVD_38/VCC_OPC_14/RSVD_38	RSVD_52/VCC_OPCIO_14/RSVD_52
Y24	RSVD_39/VCC_OPC_15/RSVD_39	RSVD_53/VCC_OPCIO_15/RSVD_53
Y25	RSVD_40/VCC_OPC_16/RSVD_40	RSVD_54/VCC_OPCIO_16/RSVD_54
G2	RSVD_41/VCC_OPC_17/RSVD_41	RSVD_55/VCC_OPCIO_17/RSVD_55
G1	RSVD_42/VCC_OPC_18/RSVD_42	RSVD_56/VCC_OPCIO_18/RSVD_56
C34	RSVD_43/VCC_OPC_19/RSVD_43	RSVD_57/VCC_OPCIO_19/RSVD_57
G3	RSVD_44/VCC_OPC_20/RSVD_44	RSVD_58/VCC_OPCIO_20/RSVD_58
G4	RSVD_45/VCC_OPC_21/RSVD_45	RSVD_59/VCC_OPCIO_21/RSVD_59
A34	RSVD_46/VCC_OPC_22/RSVD_46	RSVD_60/VCC_OPCIO_22/RSVD_60
B35	RSVD_47/VCC_OPC_23/RSVD_47	RSVD_61/VCC_OPCIO_23/RSVD_61
AJ27	RSVD_48/VCC_OPC_24/RSVD_48	RSVD_62/VCC_OPCIO_24/RSVD_62
AH26	RSVD_49/VCC_OPC_25/RSVD_49	RSVD_63/VCC_OPCIO_25/RSVD_63
L5	RSVD_50/VCC_OPC_26/RSVD_50	RSVD_64/VCC_OPCIO_26/RSVD_64

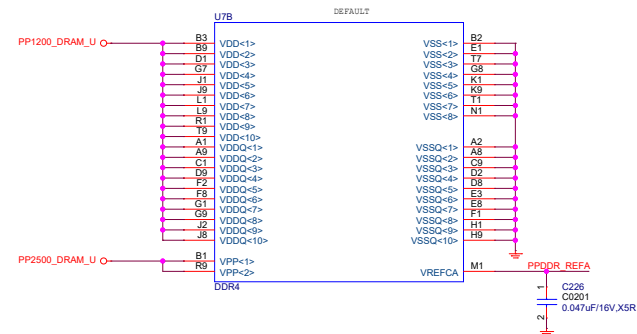
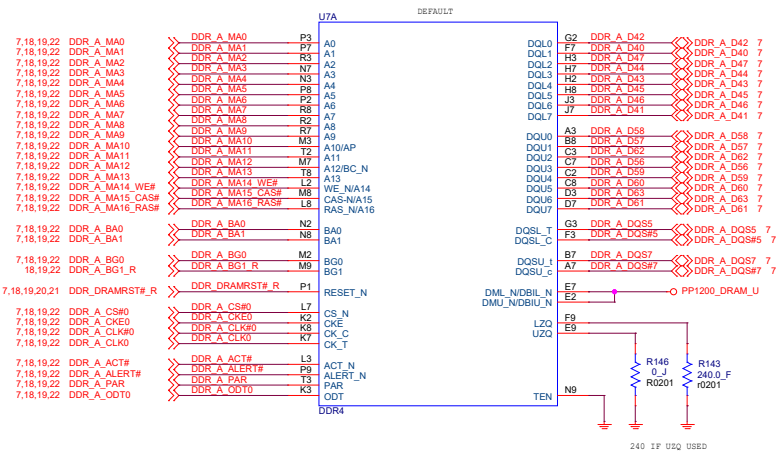
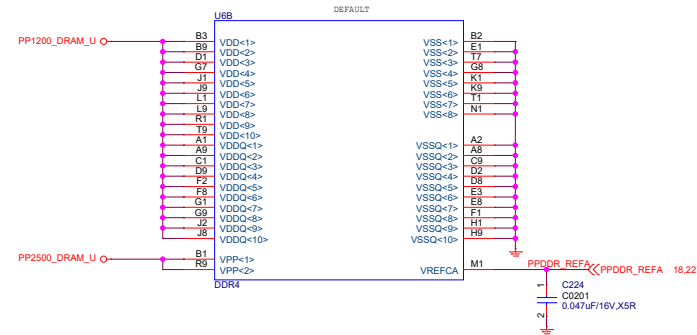
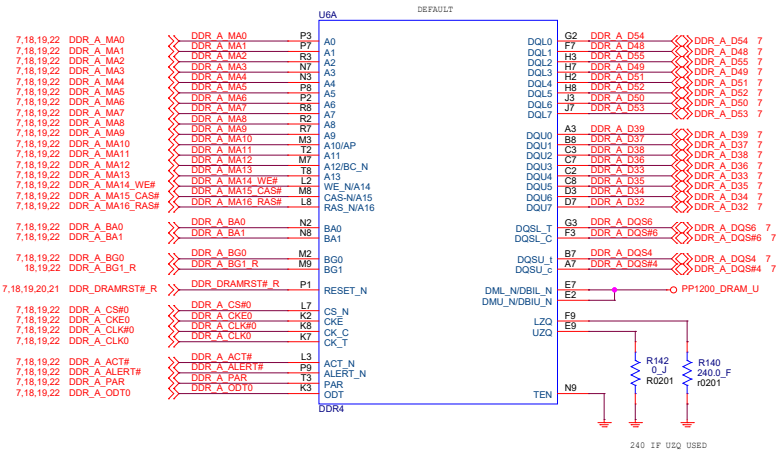
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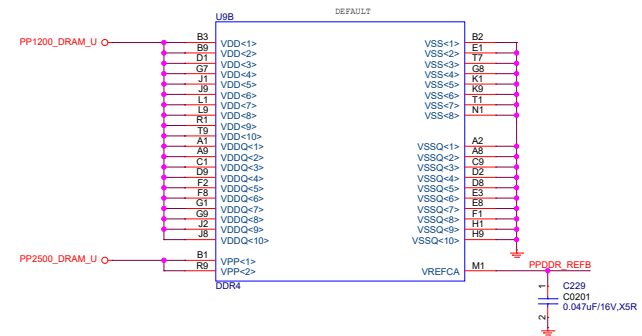
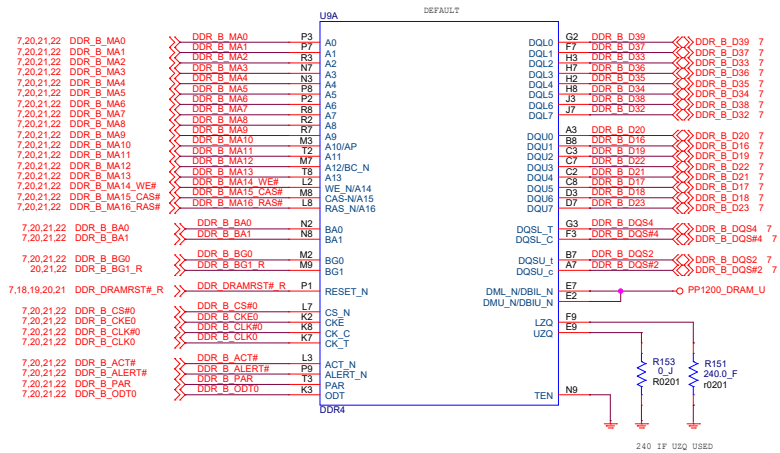
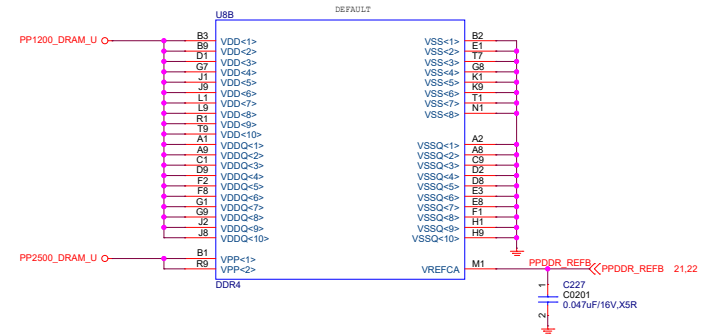
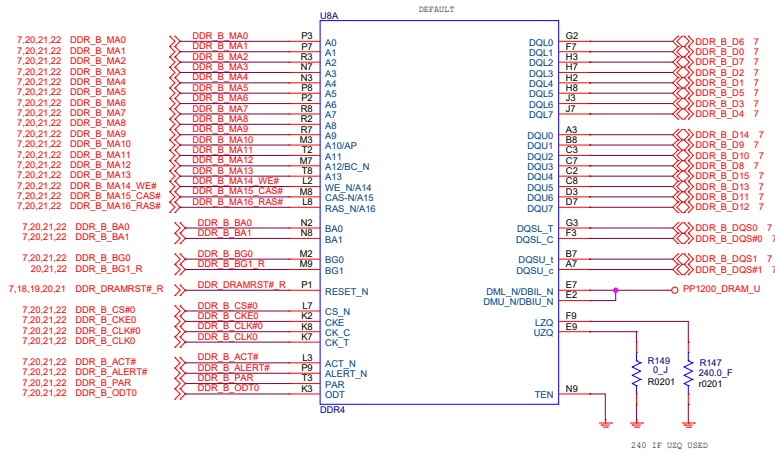


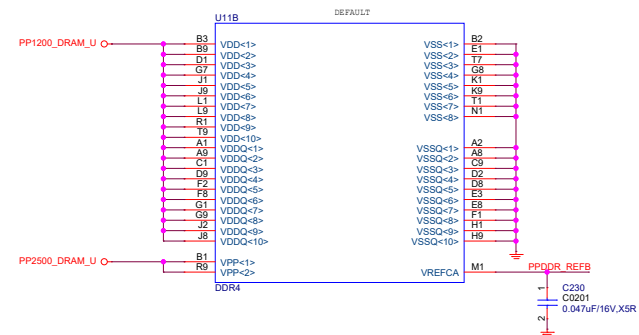
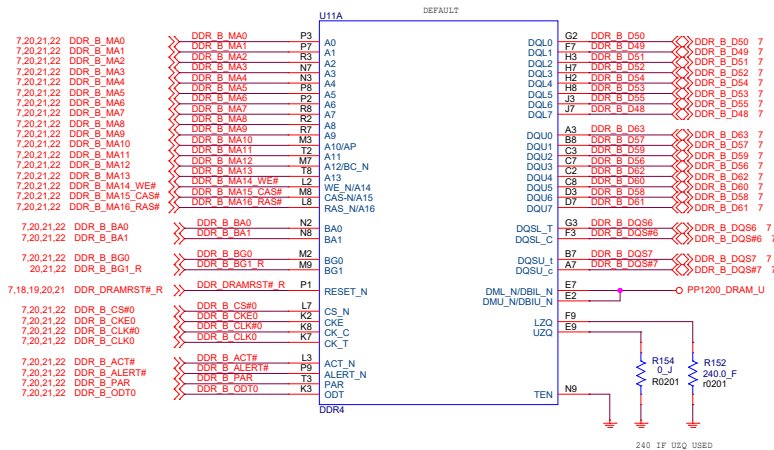
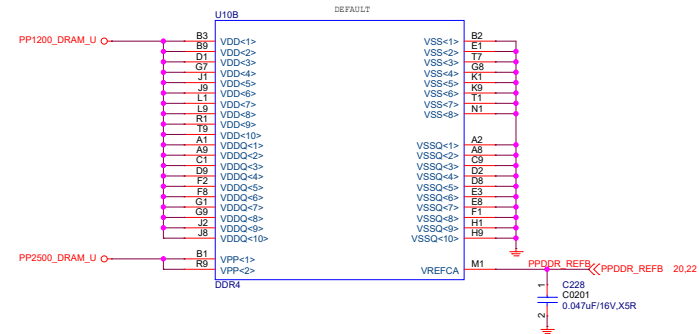
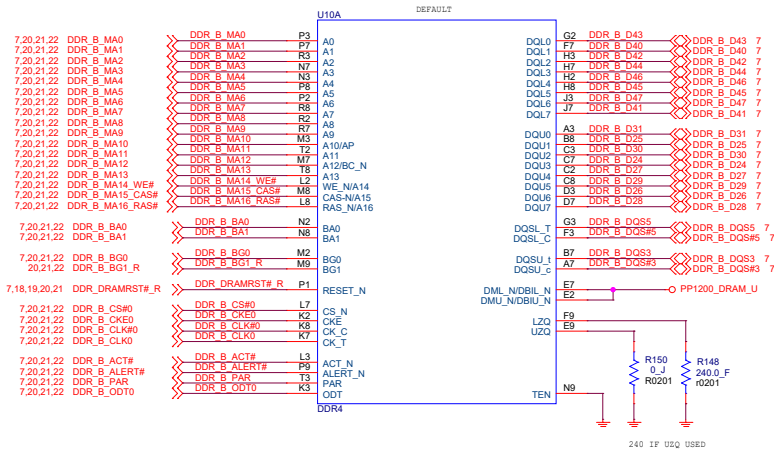
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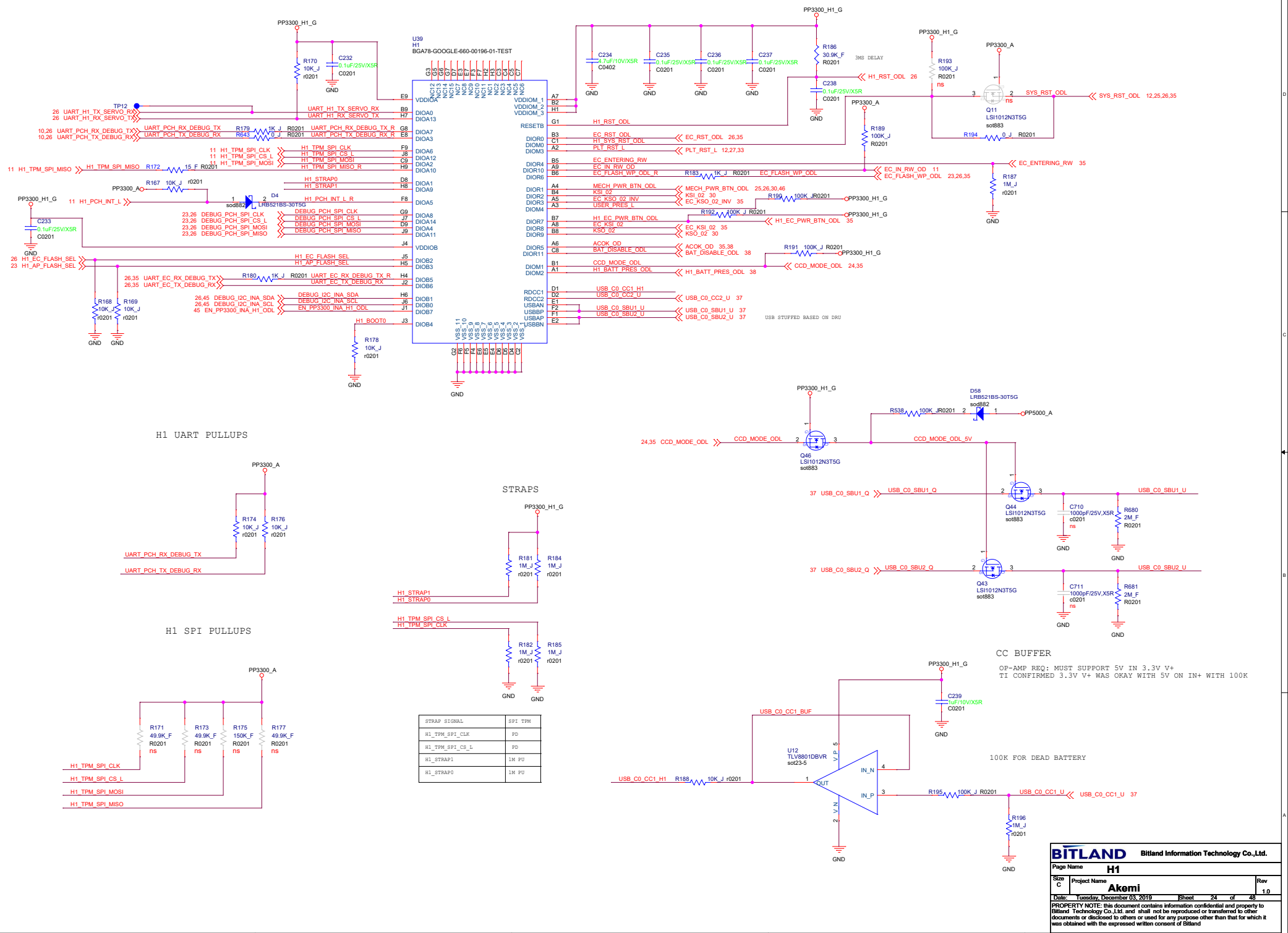




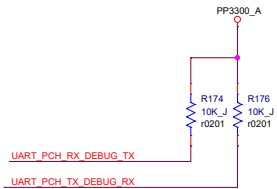




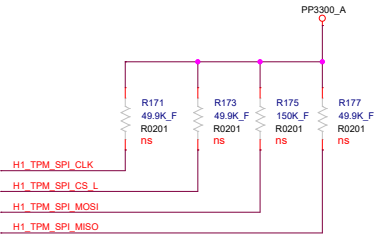




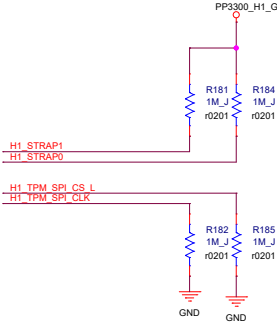
H1 UART PULLUPS



H1 SPI PULLUPS

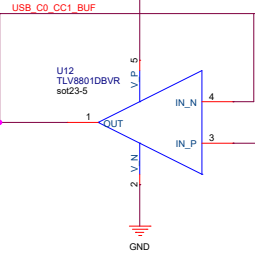


STRAPS



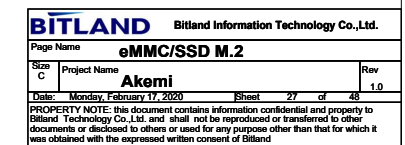
CC BUFFER

OP-AMP REQ: MUST SUPPORT 5V IN 3.3V V+
TI CONFIRMED 3.3V V+ WAS OKAY WITH 5V ON IN+ WITH 100K



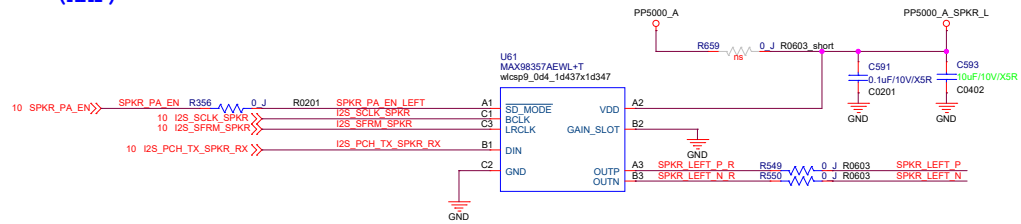
The schematic diagram illustrates the internal circuitry of the BGA153-SANDISK-SDIN7DP4-16G module. Key components and connections include:

- PP3300_SSD_A** and **PP1800_A** are connected to the module's input pins.
- PP1800_EMMC_DX** is connected to the module's output pins.
- The module contains an **EMMC 153P** chip (BGA153-SANDISK-SDIN7DP4-16G).
- Various capacitors (C18004, C18005, C18006, C18007, C18008, C18009, C18010, C18011, C18012, C18013, C18014, C18015, C18016, C18017, C18018, C18019, C18020, C18021, C18022, C18023, C18024, C18025, C18026, C18027, C18028, C18029, C18030, C18031, C18032, C18033, C18034, C18035, C18036, C18037, C18038, C18039, C18040, C18041, C18042, C18043, C18044, C18045, C18046, C18047, C18048, C18049, C18050, C18051, C18052, C18053, C18054, C18055, C18056, C18057, C18058, C18059, C18060, C18061, C18062, C18063, C18064, C18065, C18066, C18067, C18068, C18069, C18070, C18071, C18072, C18073, C18074, C18075, C18076, C18077, C18078, C18079, C18080, C18081, C18082, C18083, C18084, C18085, C18086, C18087, C18088, C18089, C18090, C18091, C18092, C18093, C18094, C18095, C18096, C18097, C18098, C18099, C18100, C18101, C18102, C18103, C18104, C18105, C18106, C18107, C18108, C18109, C18110, C18111, C18112, C18113, C18114, C18115, C18116, C18117, C18118, C18119, C18120, C18121, C18122, C18123, C18124, C18125, C18126, C18127, C18128, C18129, C18130, C18131, C18132, C18133, C18134, C18135, C18136, C18137, C18138, C18139, C18140, C18141, C18142, C18143, C18144, C18145, C18146, C18147, C18148, C18149, C18150, C18151, C18152, C18153, C18154, C18155, C18156, C18157, C18158, C18159, C18160, C18161, C18162, C18163, C18164, C18165, C18166, C18167, C18168, C18169, C18170, C18171, C18172, C18173, C18174, C18175, C18176, C18177, C18178, C18179, C18180, C18181, C18182, C18183, C18184, C18185, C18186, C18187, C18188, C18189, C18190, C18191, C18192, C18193, C18194, C18195, C18196, C18197, C18198, C18199, C18200, C18201, C18202, C18203, C18204, C18205, C18206, C18207, C18208, C18209, C18210, C18211, C18212, C18213, C18214, C18215, C18216, C18217, C18218, C18219, C18220, C18221, C18222, C18223, C18224, C18225, C18226, C18227, C18228, C18229, C18230, C18231, C18232, C18233, C18234, C18235, C18236, C18237, C18238, C18239, C18240, C18241, C18242, C18243, C18244, C18245, C18246, C18247, C18248, C18249, C18250, C18251, C18252, C18253, C18254, C18255, C18256, C18257, C18258, C18259, C18260, C18261, C18262, C18263, C18264, C18265, C18266, C18267, C18268, C18269, C18270, C18271, C18272, C18273, C18274, C18275, C18276, C18277, C18278, C18279, C18280, C18281, C18282, C18283, C18284, C18285, C18286, C18287, C18288, C18289, C18290, C18291, C18292, C18293, C18294, C18295, C18296, C18297, C18298, C18299, C18300, C18301, C18302, C18303, C18304, C18305, C18306, C18307, C18308, C18309, C18310, C18311, C18312, C18313, C18314, C18315, C18316, C18317, C18318, C18319, C18320, C18321, C18322, C18323, C18324, C18325, C18326, C18327, C18328, C18329, C18330, C18331, C18332, C18333, C18334, C18335, C18336, C18337, C18338, C18339, C18340, C18341, C18342, C18343, C18344, C18345, C18346, C18347, C18348, C18349, C18350, C18351, C18352, C18353, C18354, C18355, C18356, C18357, C18358, C18359, C18360, C18361, C18362, C18363, C18364, C18365, C18366, C18367, C18368, C18369, C18370, C18371, C18372, C18373, C18374, C18375, C18376, C18377, C18378, C18379, C18380, C18381, C18382, C18383, C18384, C18385, C18386, C18387, C18388, C18389, C18390, C18391, C18392, C18393, C18394, C18395, C18396, C18397, C18398, C18399, C18400, C18401, C18402, C18403, C18404, C18405, C18406, C18407, C18408, C18409, C18410, C18411, C18412, C18413, C18414, C18415, C18416, C18417, C18418, C18419, C18420, C18421, C18422, C18423, C18424, C18425, C18426, C18427, C18428, C18429, C18430, C18431, C18432, C18433, C18434, C18435, C18436, C18437, C18438, C18439, C18440, C18441, C18442, C18443, C18444, C18445, C18446, C18447, C18448, C18449, C18450, C18451, C18452, C18453, C18454, C18455, C18456, C18457, C18458, C18459, C18460, C18461, C18462, C18463, C18464, C18465, C18466, C18467, C18468, C18469, C18470, C18471, C18472, C18473, C18474, C18475, C18476, C18477, C18478, C18479, C18480, C18481, C18482, C18483, C18484, C18485, C18486, C18487, C18488, C18489, C18490, C18491, C18492, C18493, C18494, C18495, C18496, C18497, C18498, C18499, C18500, C18501, C18502, C18503, C18504, C18505, C18506, C18507, C18508, C18509, C18510, C18511, C18512, C18513, C18514, C18515, C18516, C18517, C18518, C18519, C18520, C18521, C18522, C18523, C18524, C18525, C18526, C18527, C18528, C18529, C18530, C18531, C18532, C18533, C18534, C18535, C18536, C18537, C18538, C18539, C18540, C18541, C18542, C18543, C18544, C18545, C18546, C18547, C18548, C185



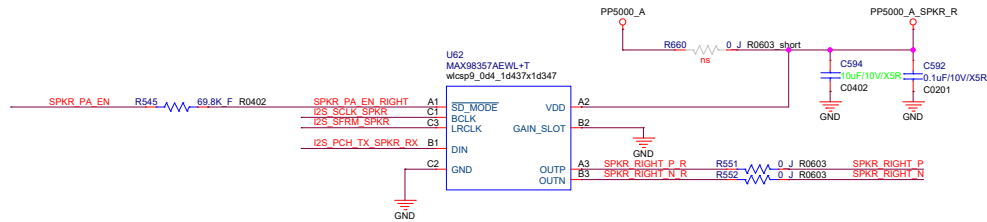
(AMP)

LEFT CHANNEL

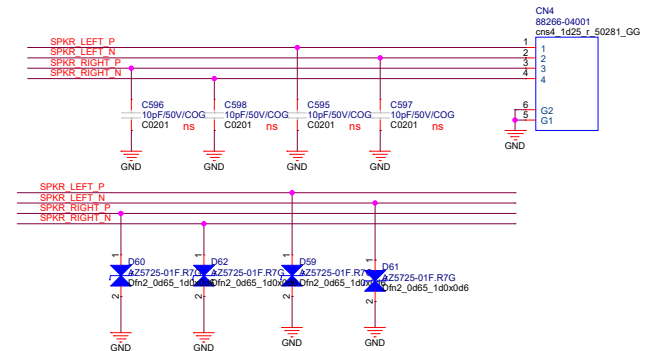


LEFT CHANNEL = SHORT (OR 2K FOR SAFETY) TO 1.8V
GAIN_SLOT: 100K TO GND = 15 DB GAIN
GAIN_SLOT: UNCONNECTED = 9 DB GAIN
GAIN_SLOT: 0 TO VDD = 6 DB GAIN
GAIN_SLOT: 0 TO GND = 12 DB GAIN
GAIN_SLOT: 100K TO VDD = 3 DB GAIN

RIGHT CHANNEL

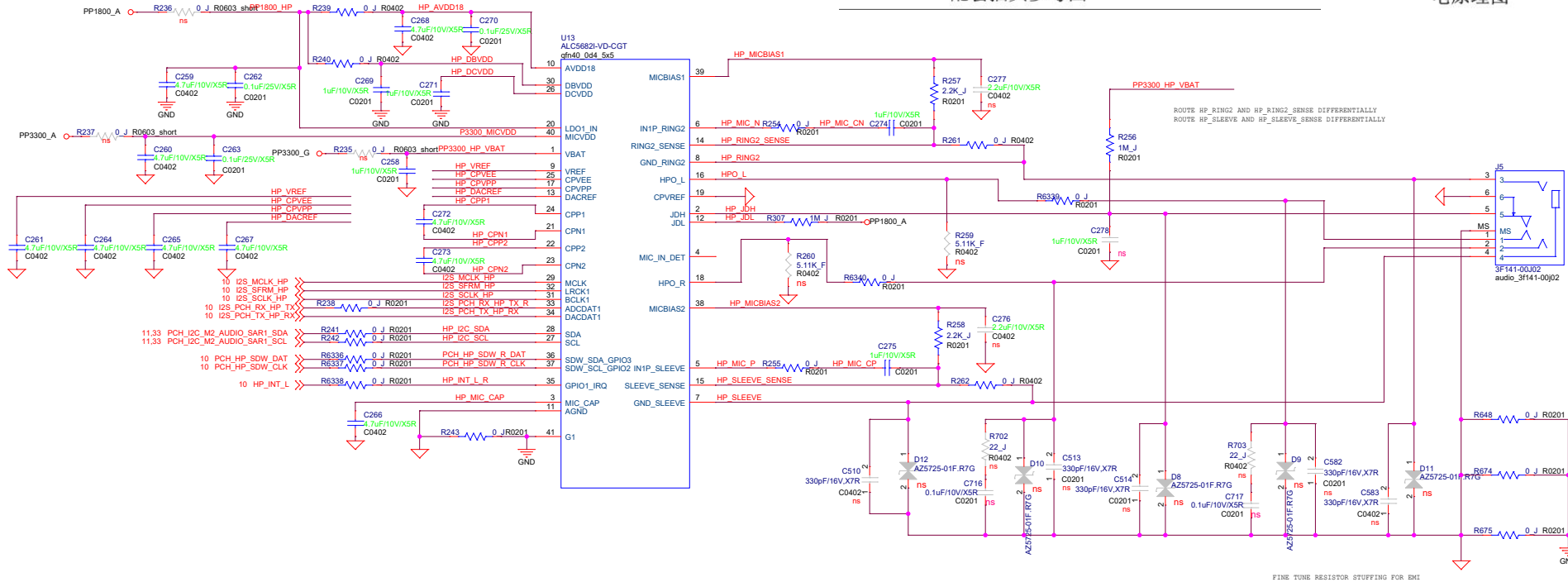


RIGHT CHANNEL = 69.8K TO 1.8V
GAIN_SLOT: GND = 12 DB GAIN



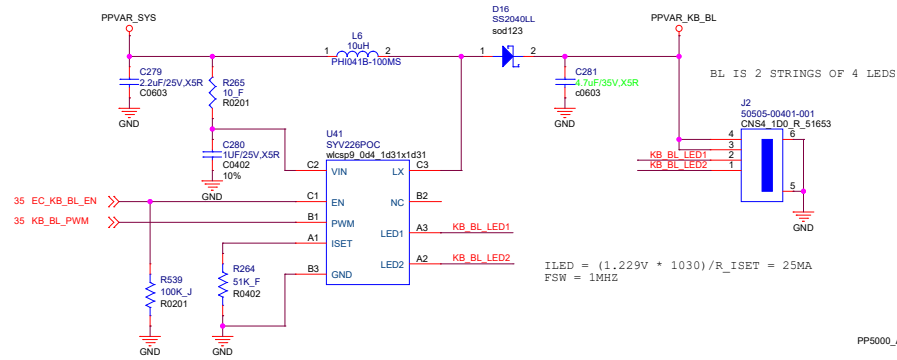
VBAT ON EC RAIL TO REDUCE 60KHZ POWERED SPEAKER NOISE
OTHER POWER ON SOC RAILS TO
PREVENT LEAKAGE

VBAT 2.5-5V
DACREF 1.8V
DBVDD 1.8V
LDO1_IN 1.8V

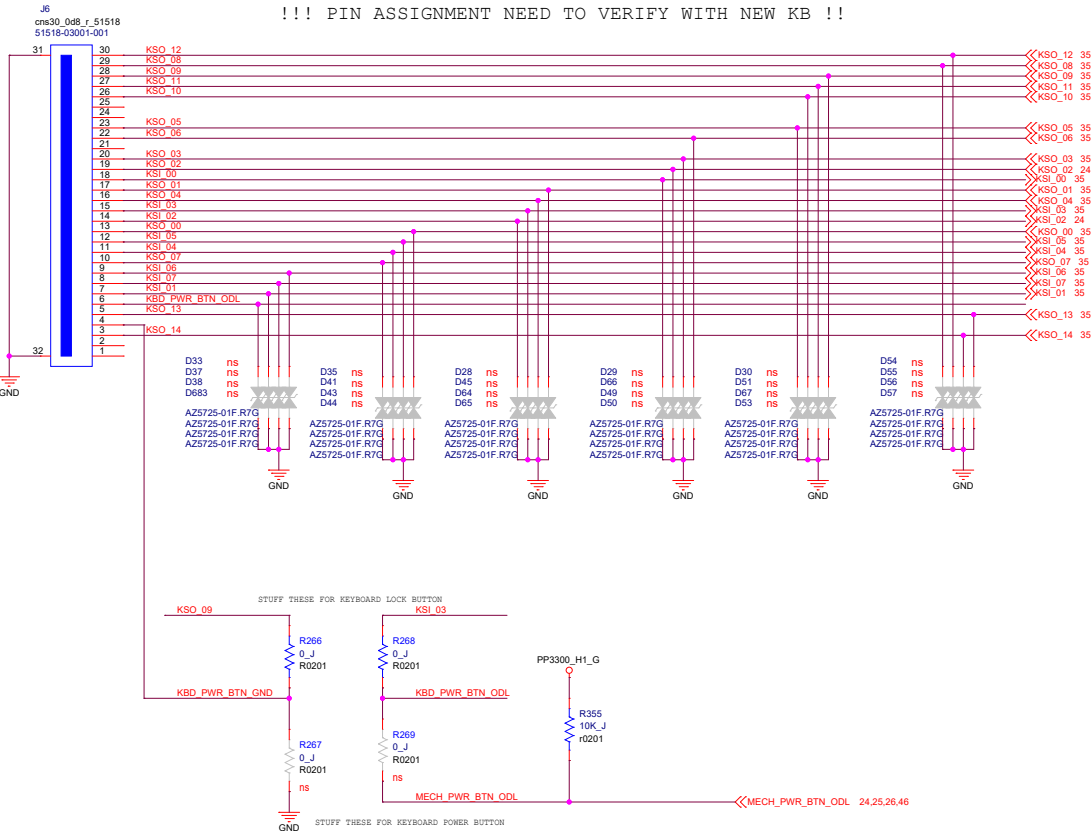


Remove SOUND WIRE STRAPS---Vendor suggest

KEYBOARD BACKLIGHT

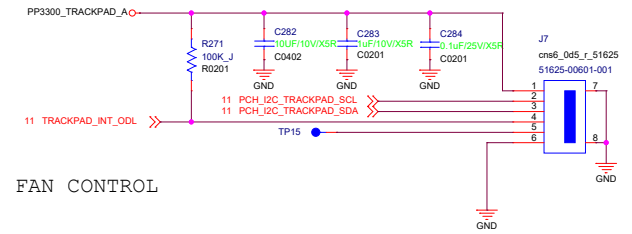


!!! PIN ASSIGNMENT NEED TO VERIFY WITH NEW KB !!

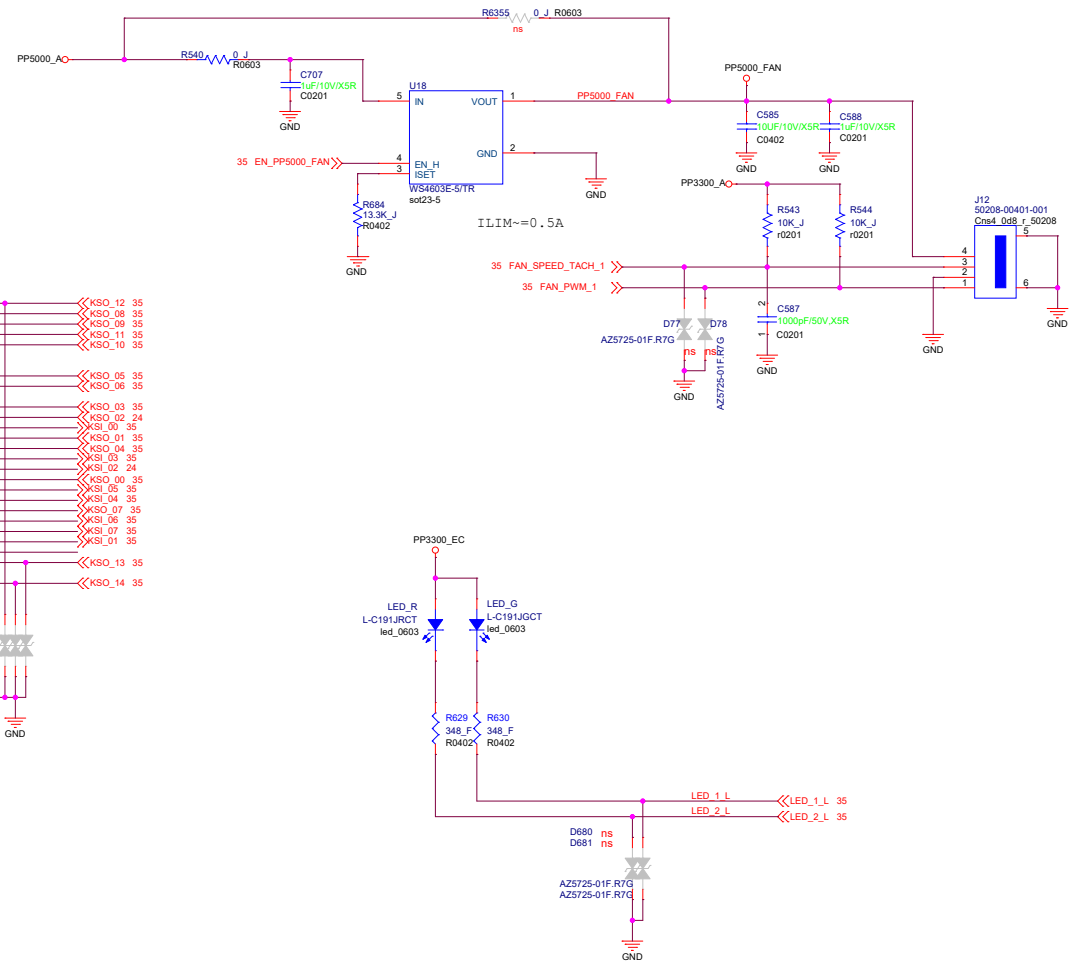


TRACKPAD CONNECTOR

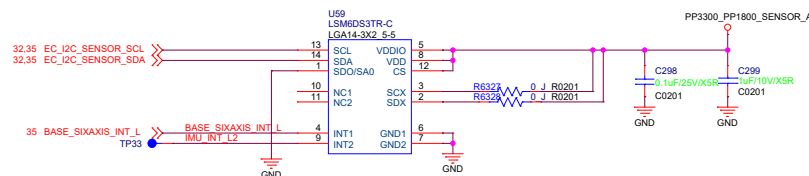
6 PIN, .5MM PITCH, FPC CONN, BOTTOM CONTACT



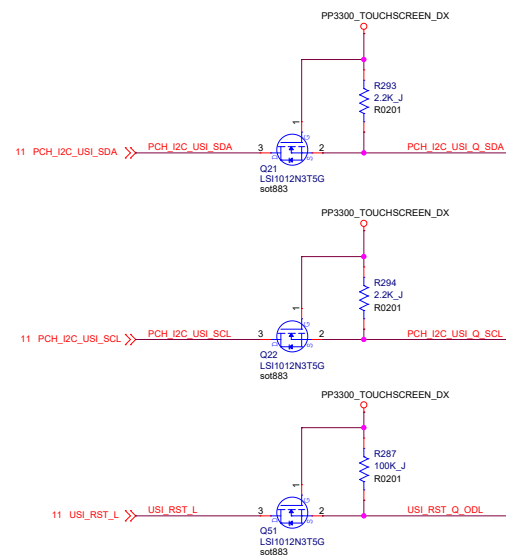
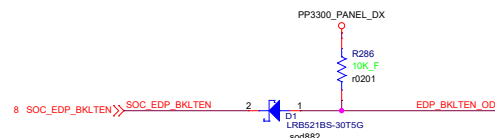
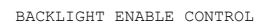
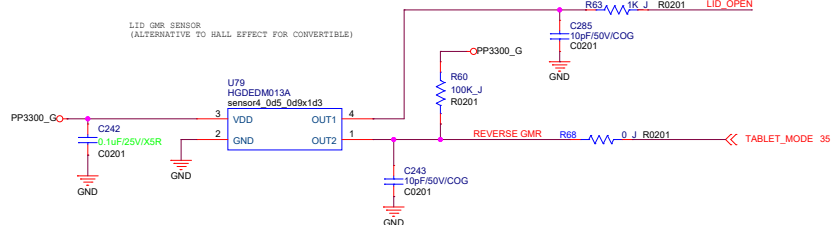
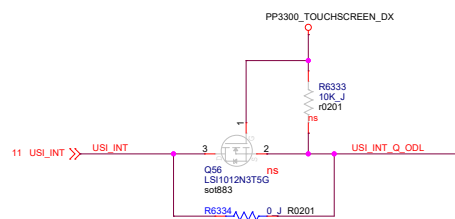
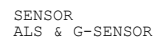
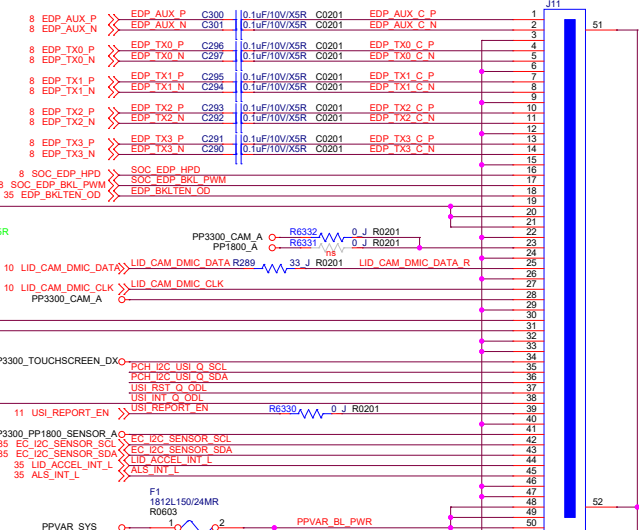
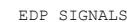
FAN CONTROL



Remove FINGERPRINT



8 BIT ADDRESS:OXD4



Remove LTE



Bitland Information Technology Co.,Ltd.

Page Name

LTE

Size

C

Project Name

Akemi

Rev

1.0

Date

Tuesday, December 03, 2019

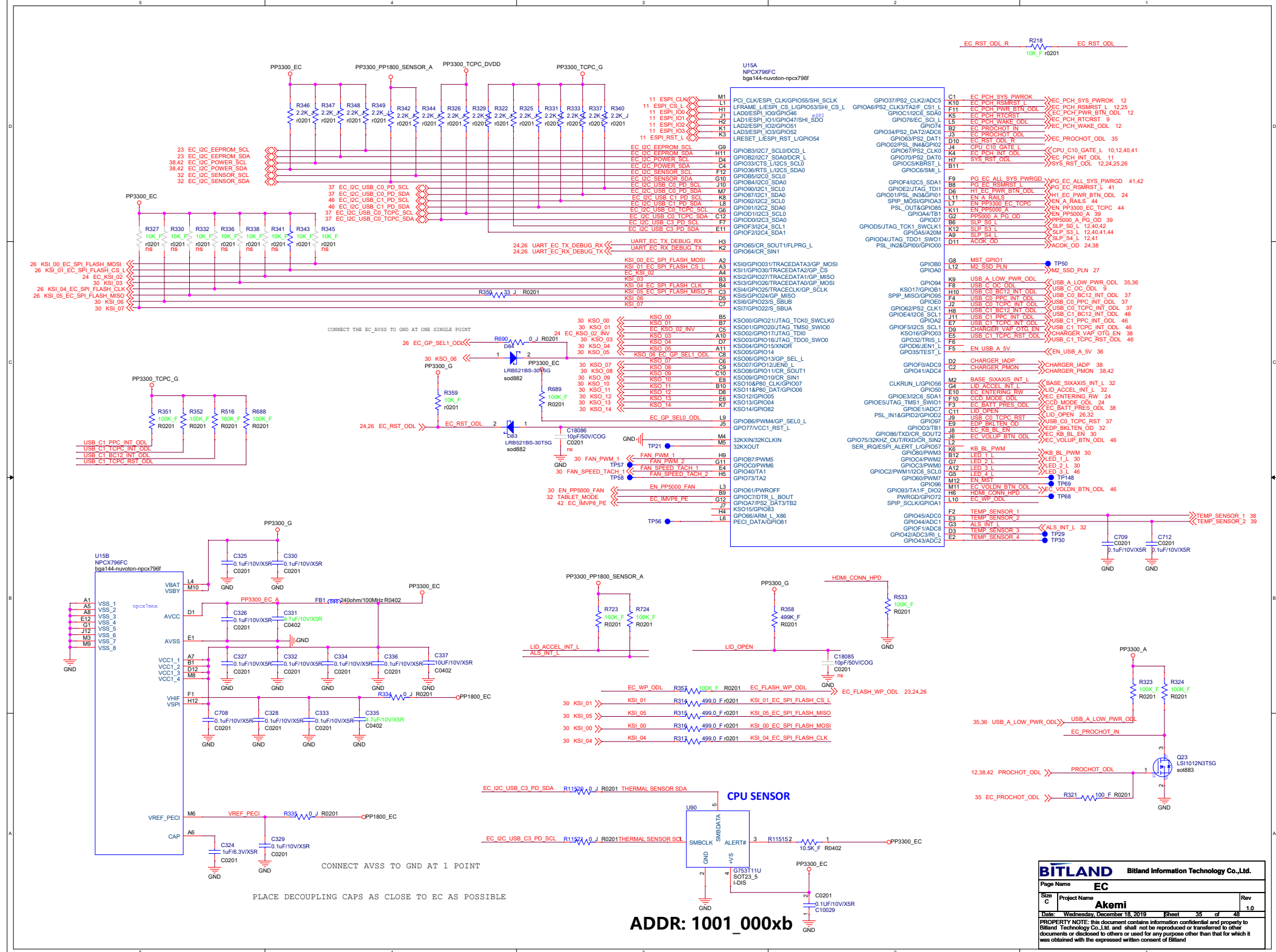
Sheet

34

of

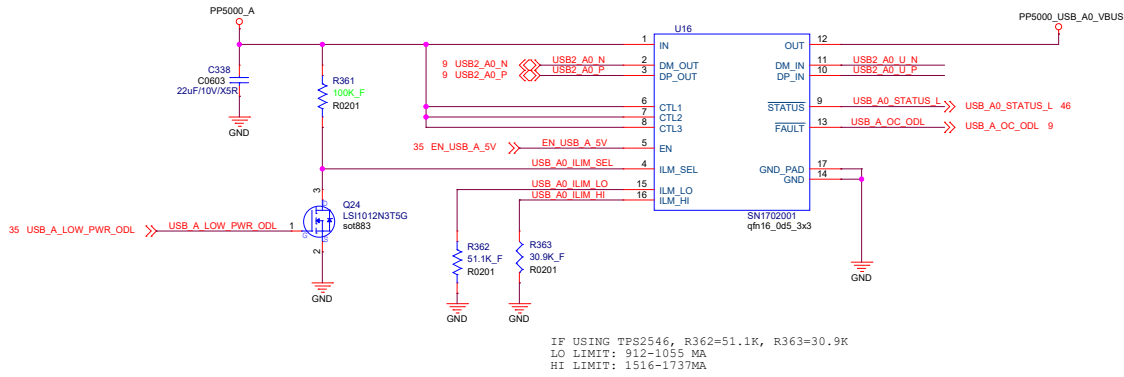
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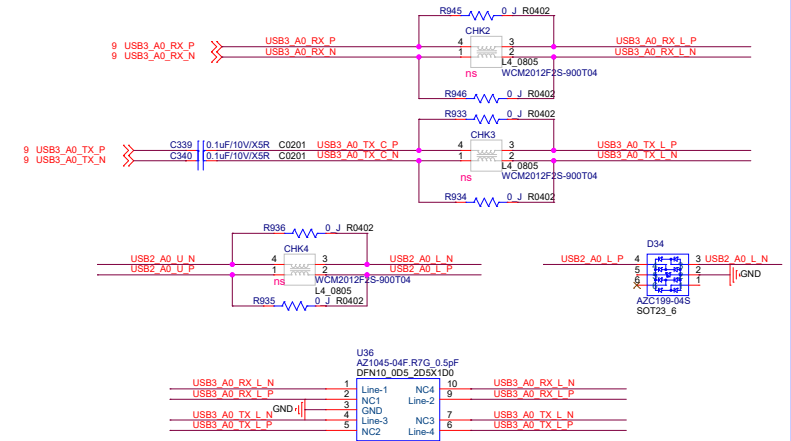


MICRO SD CARD

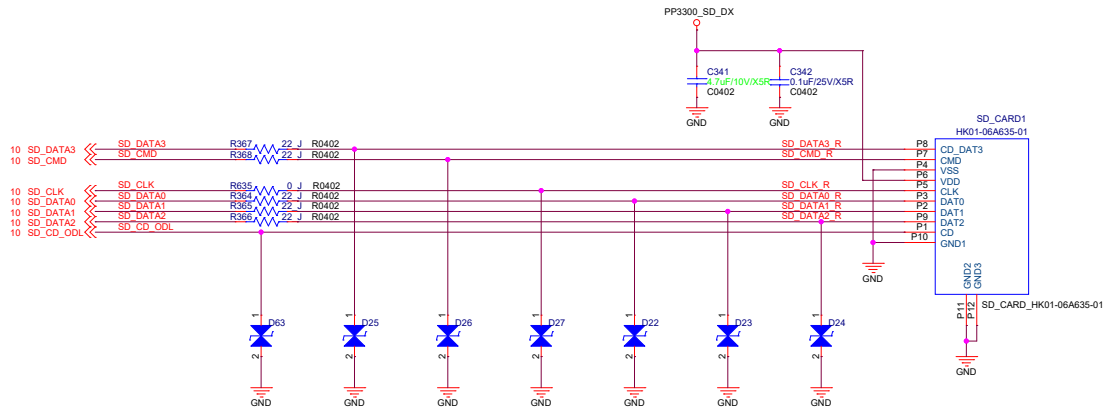
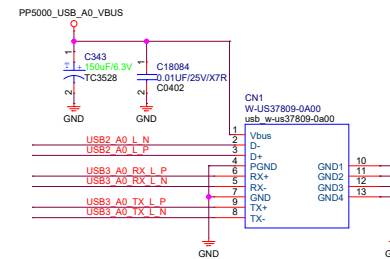
*IF NOT ON MLB, USB TO SD INTERFACE MUST BE USED



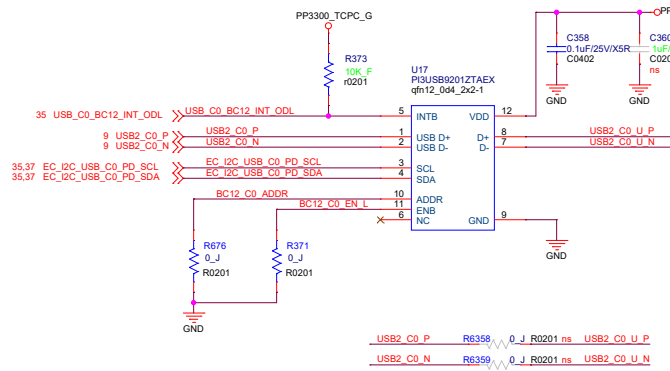
Deviation
Change L5(PCMF3USB3S) to discrete EMI filter and ESD---0315



CM TO CHOOSE CONNECTOR

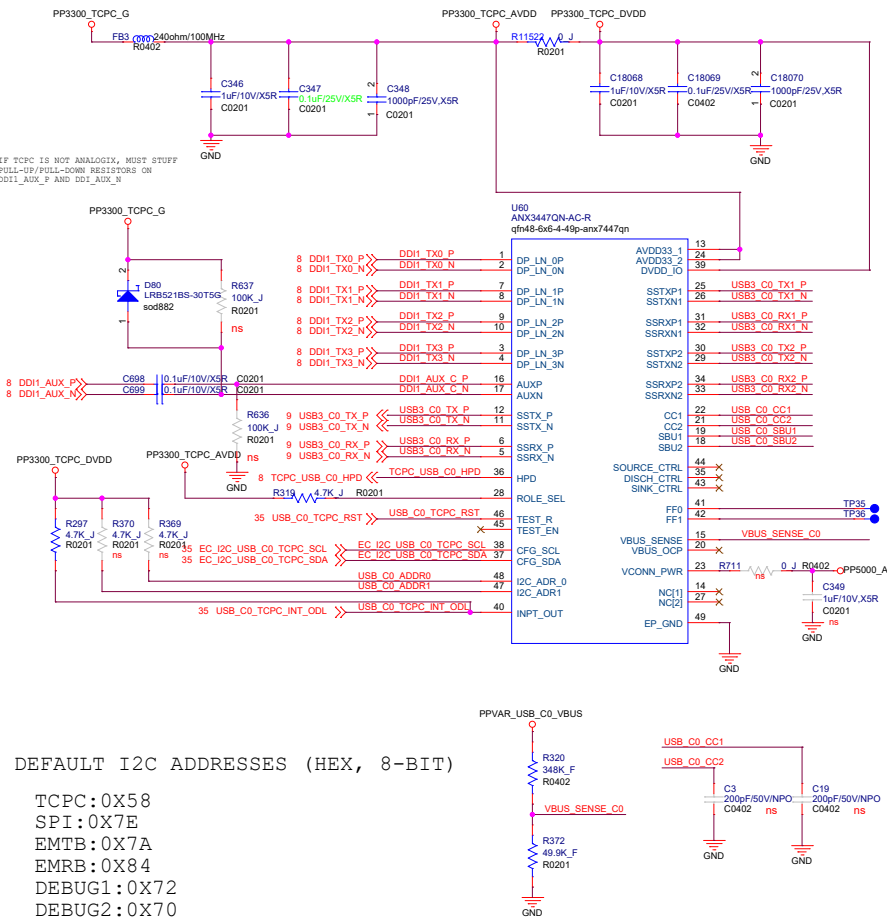


BC1.2

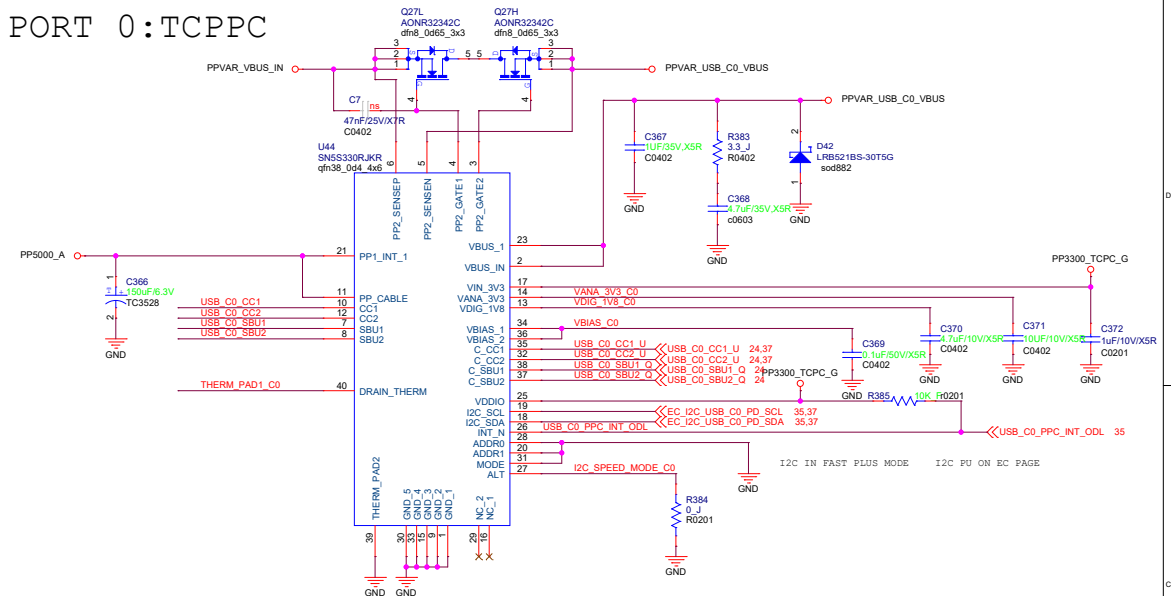


ADDRESS (HEX, 8 BIT): 0XBE

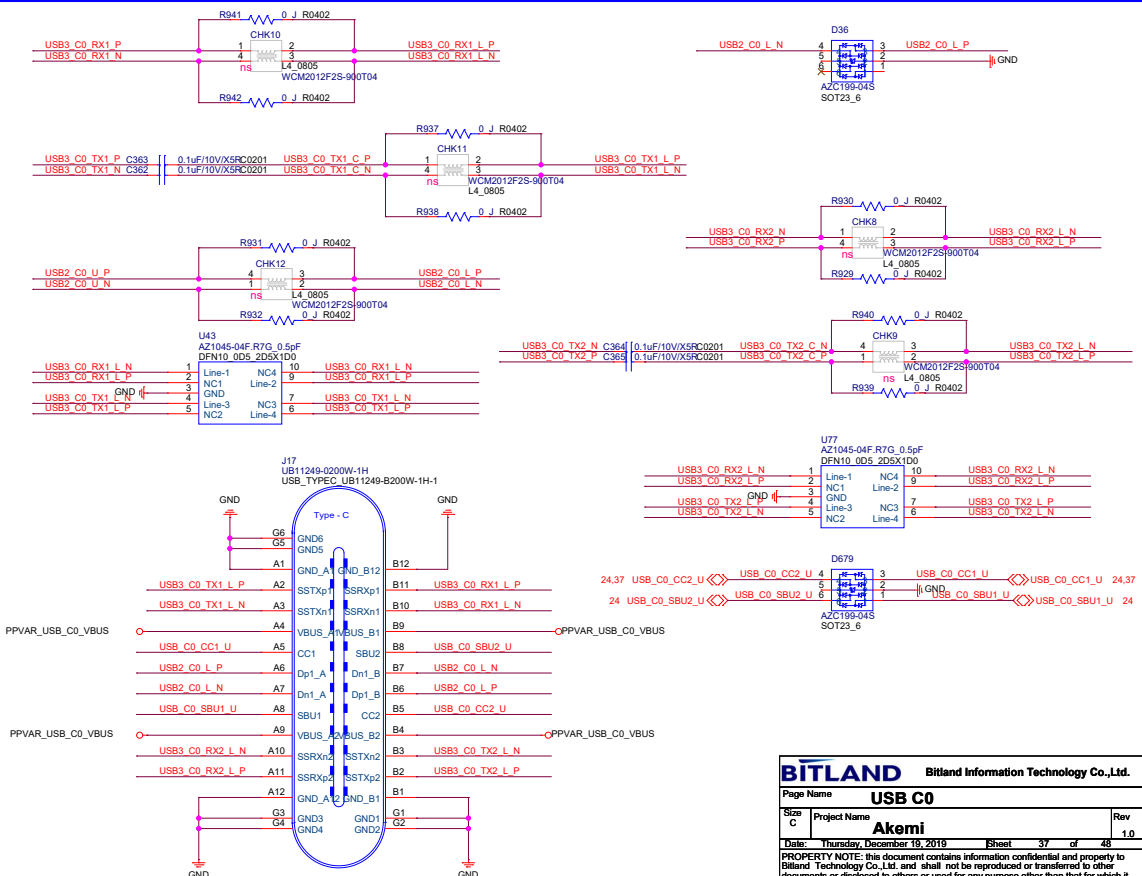
PORT 0:TCPC



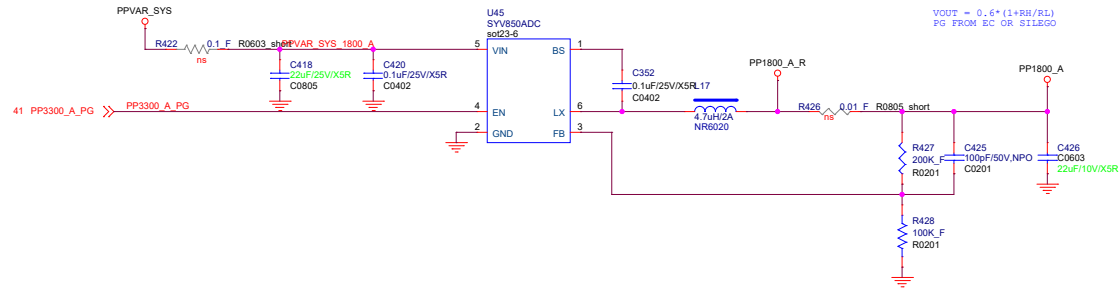
PORT 0:TCPPC



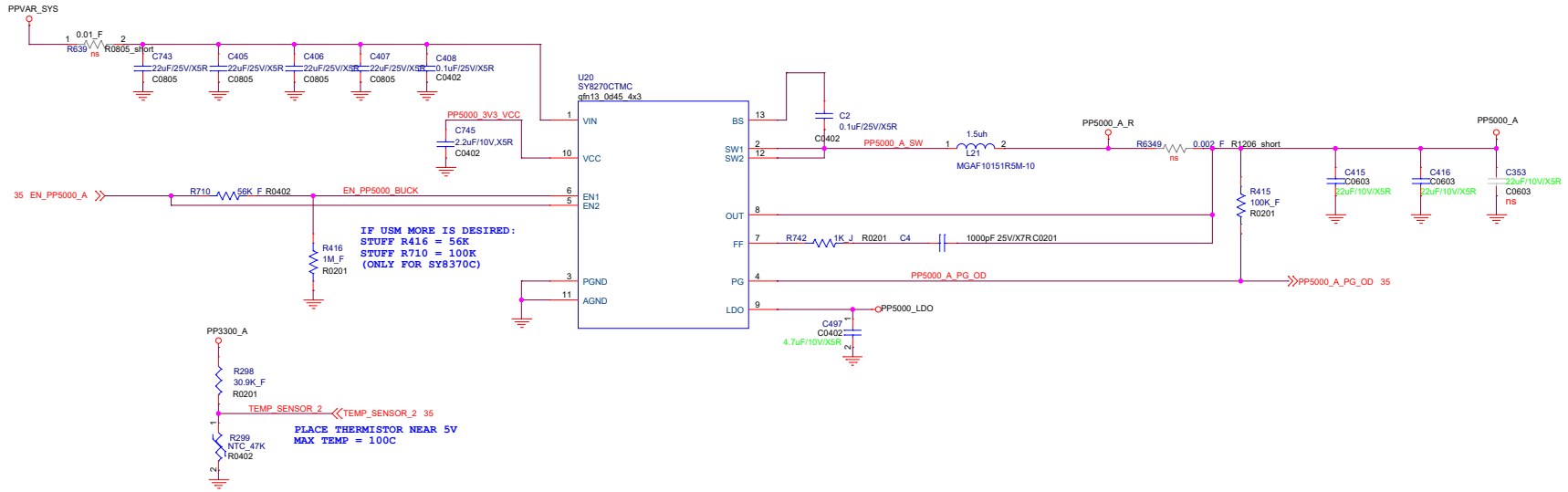
THERM PAD 1 MUST BE CONNECTED TO ISOLATED THERMAL PAD ADDRESS (HEX, 8 BIT): 0X80



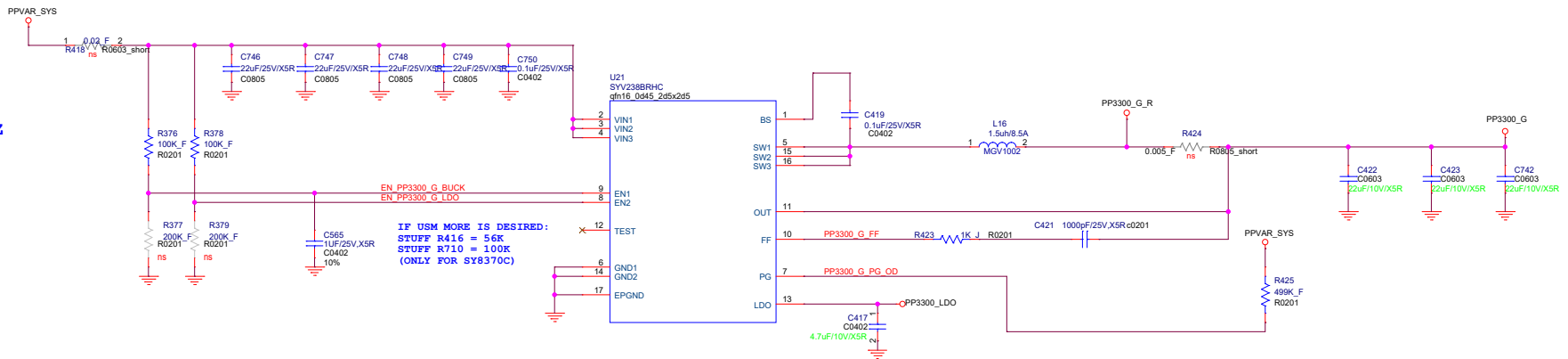
PP1800_A
IMAX = 0.2A
ISAT = 0.2A
FSW = 500KHZ



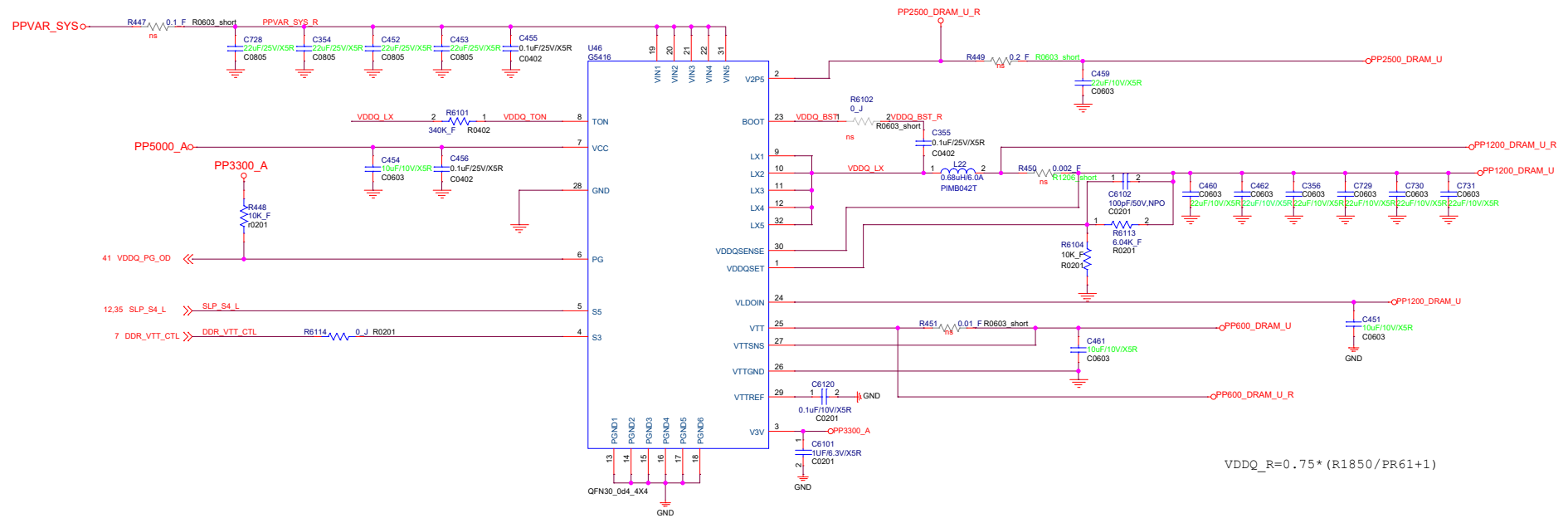
PP5000_A
IMAX = 9.6A
ISAT = 10.9A
FSW = 600KHZ



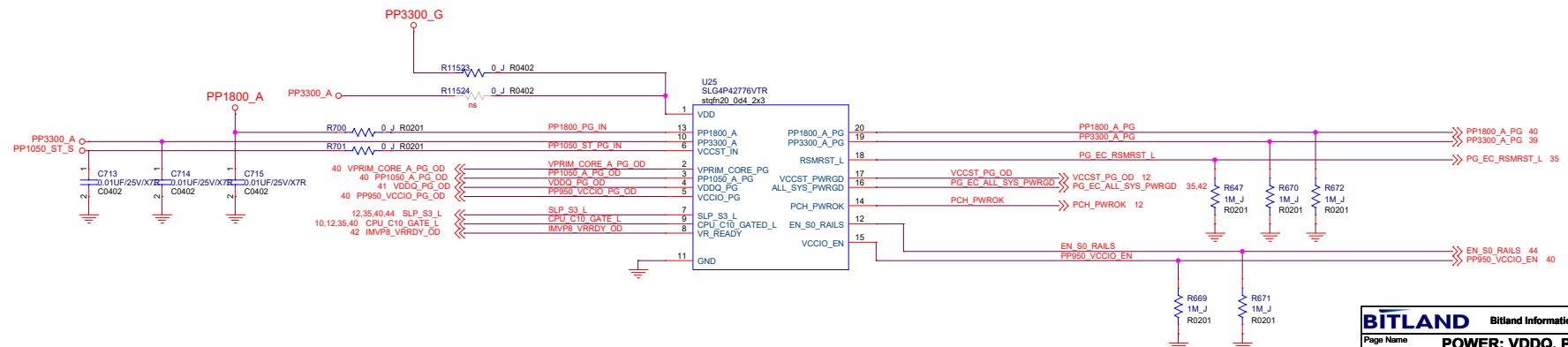
PP3300_G
IMAX = 7.0A
ISAT = 8.3A
FSW = 600KHZ

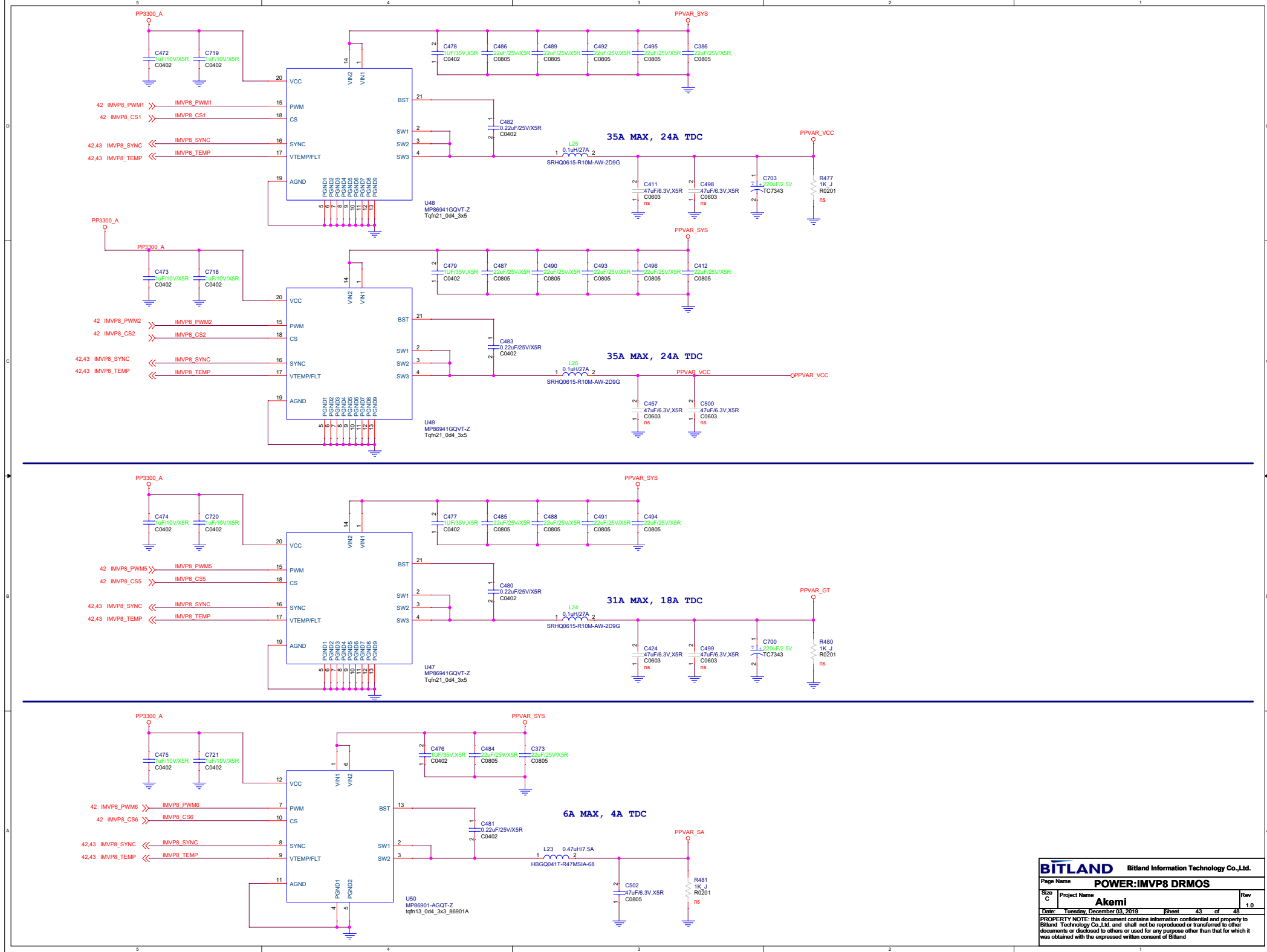


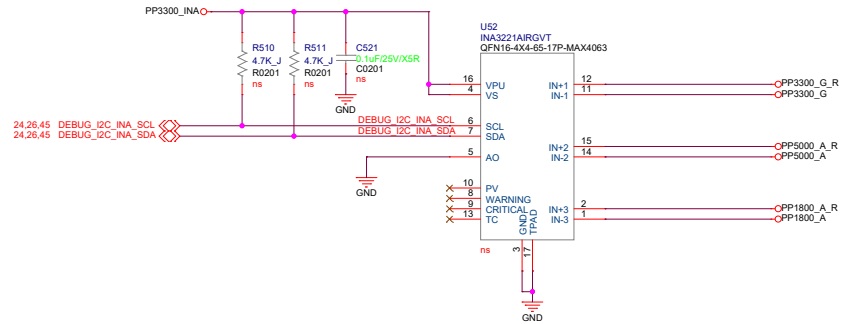
DRR4 RAILS



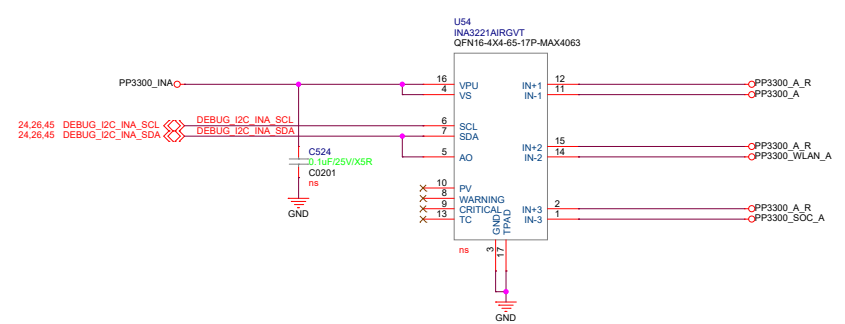
POWER GOOD GENERATION



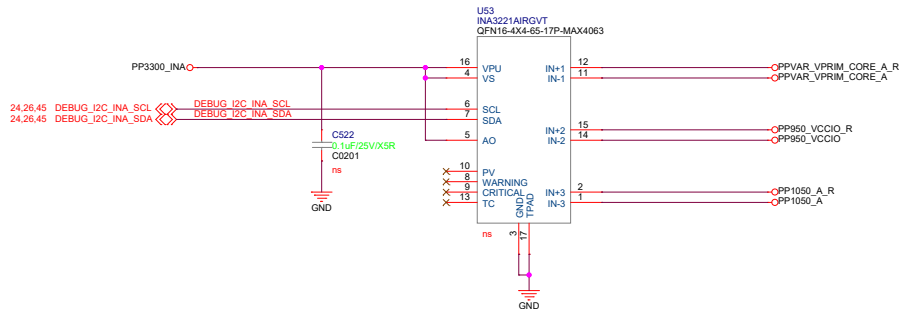




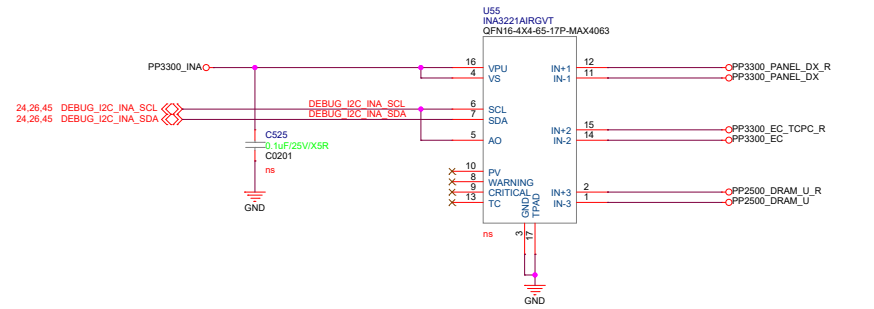
I2C ADDR: 0X40



I2C ADDR: 0X42

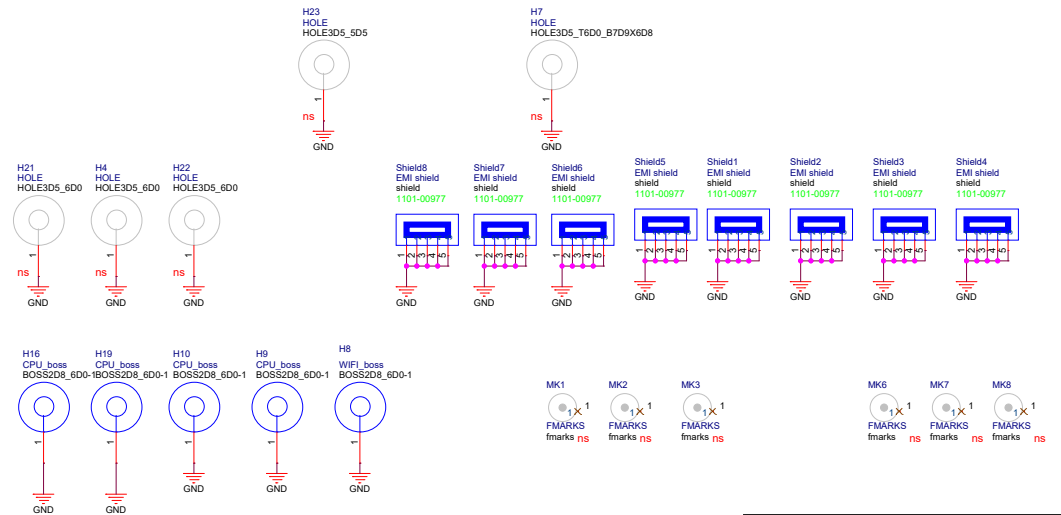
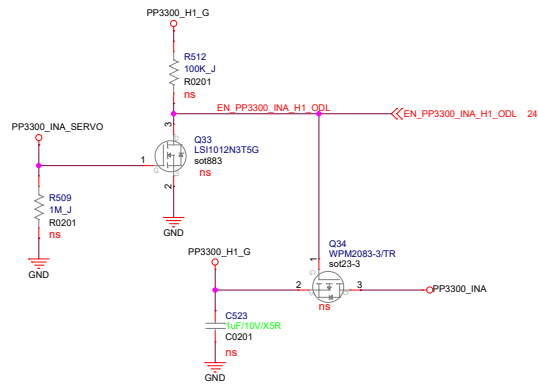


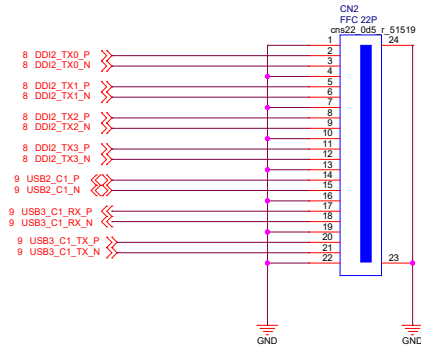
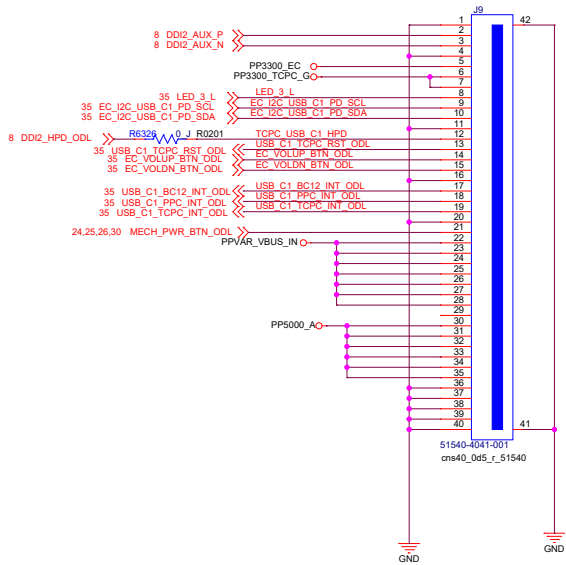
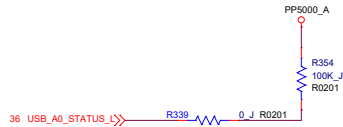
I2C ADDR: 0X41



I2C ADDR: 0X43

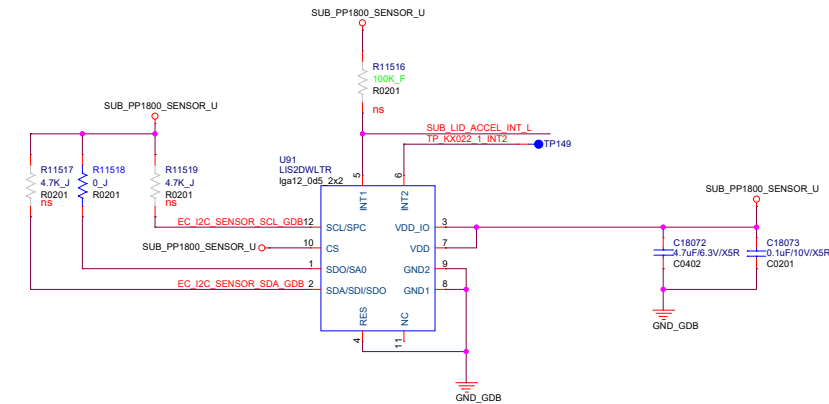
INA POWER



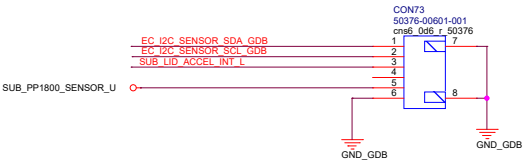


0.7A PER PIN
5V: 5A
PPVIR_VBUS_IN: 3A
PP3300_TCPC_G: <.7A
PP3300_MST: <.7A
PP3300_H1_G: <.7A

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



5					4					3					2					1				
D																								
C																								
B																								
A																								
5					4					3					2					1				

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Size A	Project Name Akemi		Rev 1.0
Date: Tuesday, December 03, 2019 Sheet 48 of 48			
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