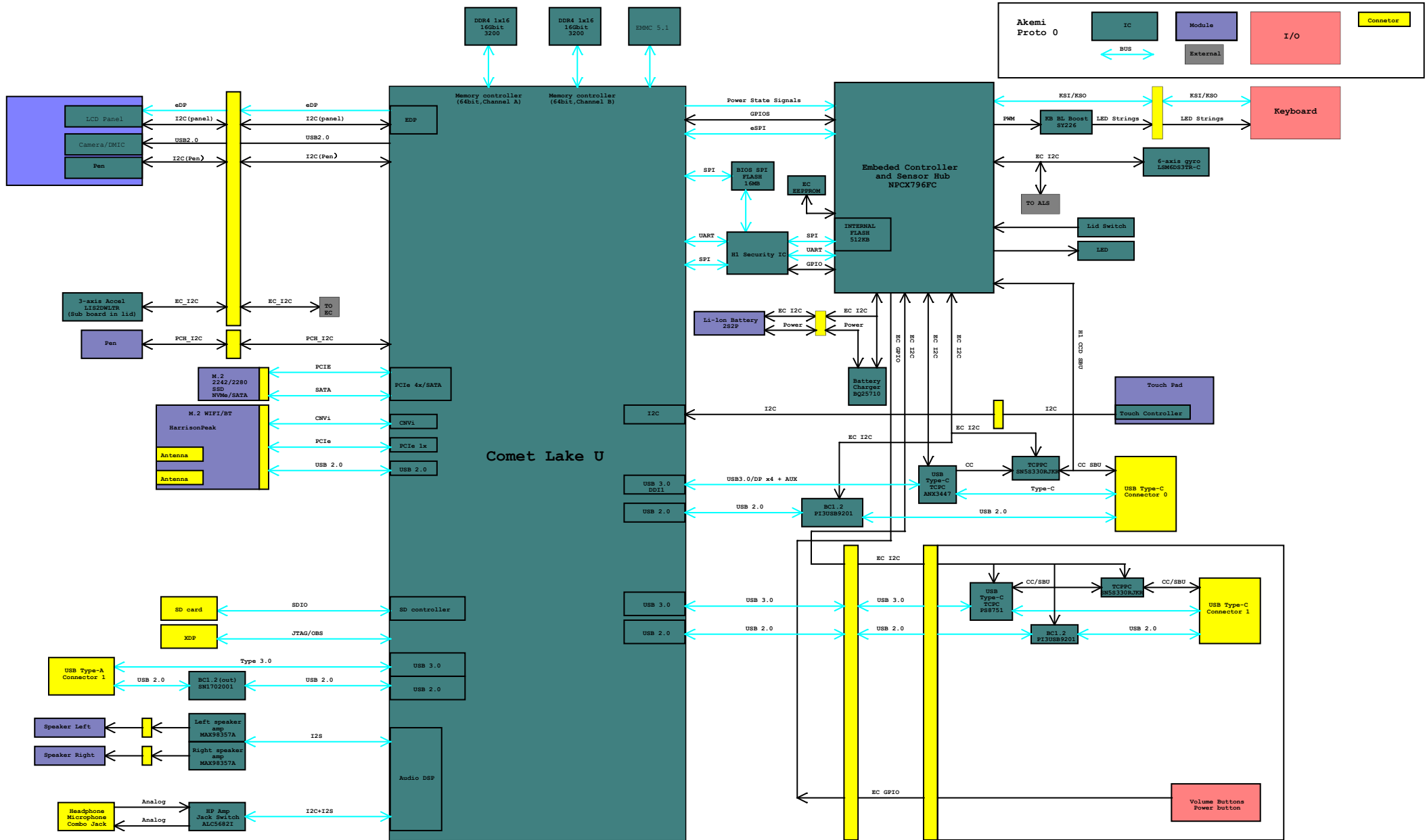
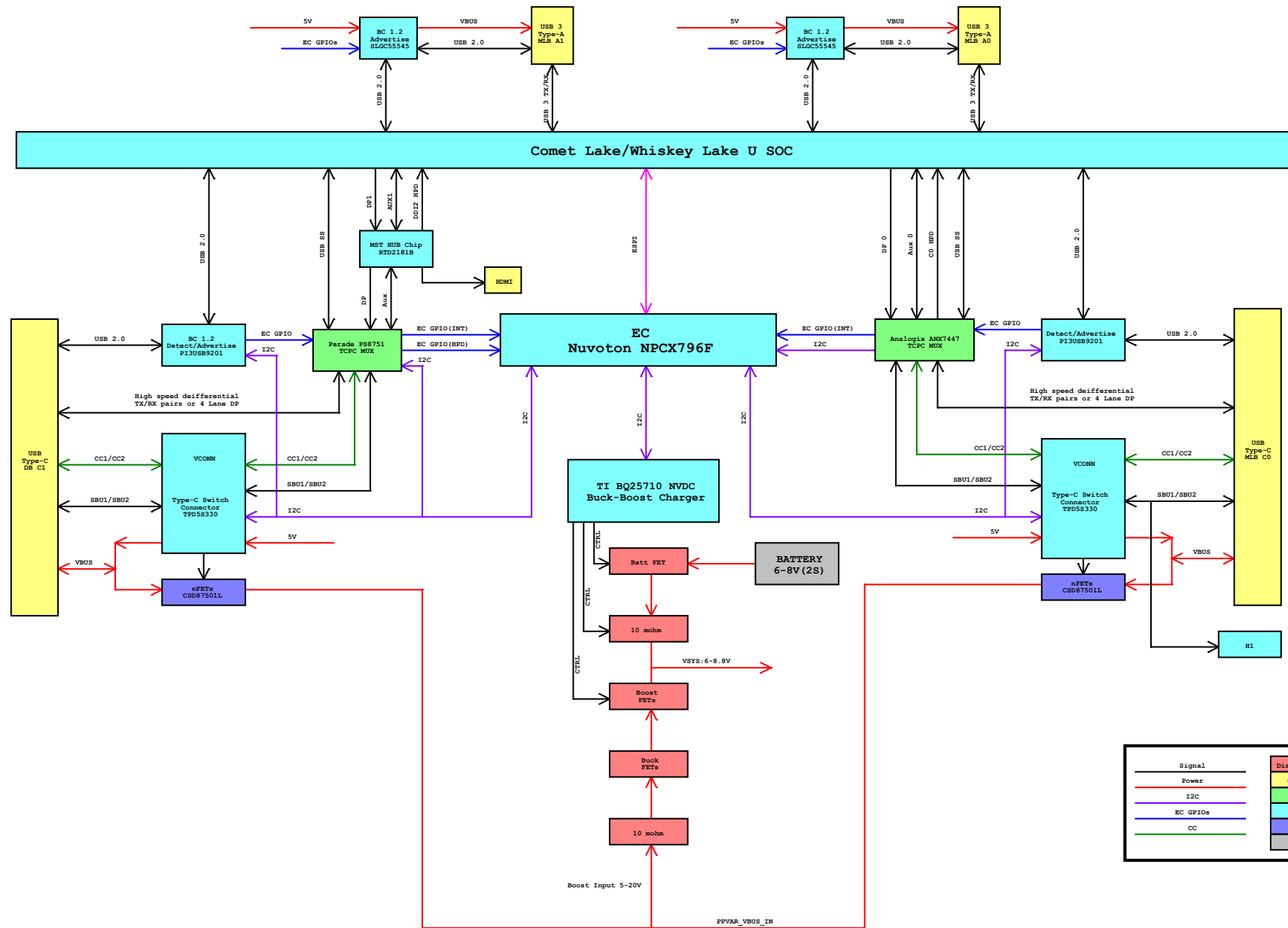


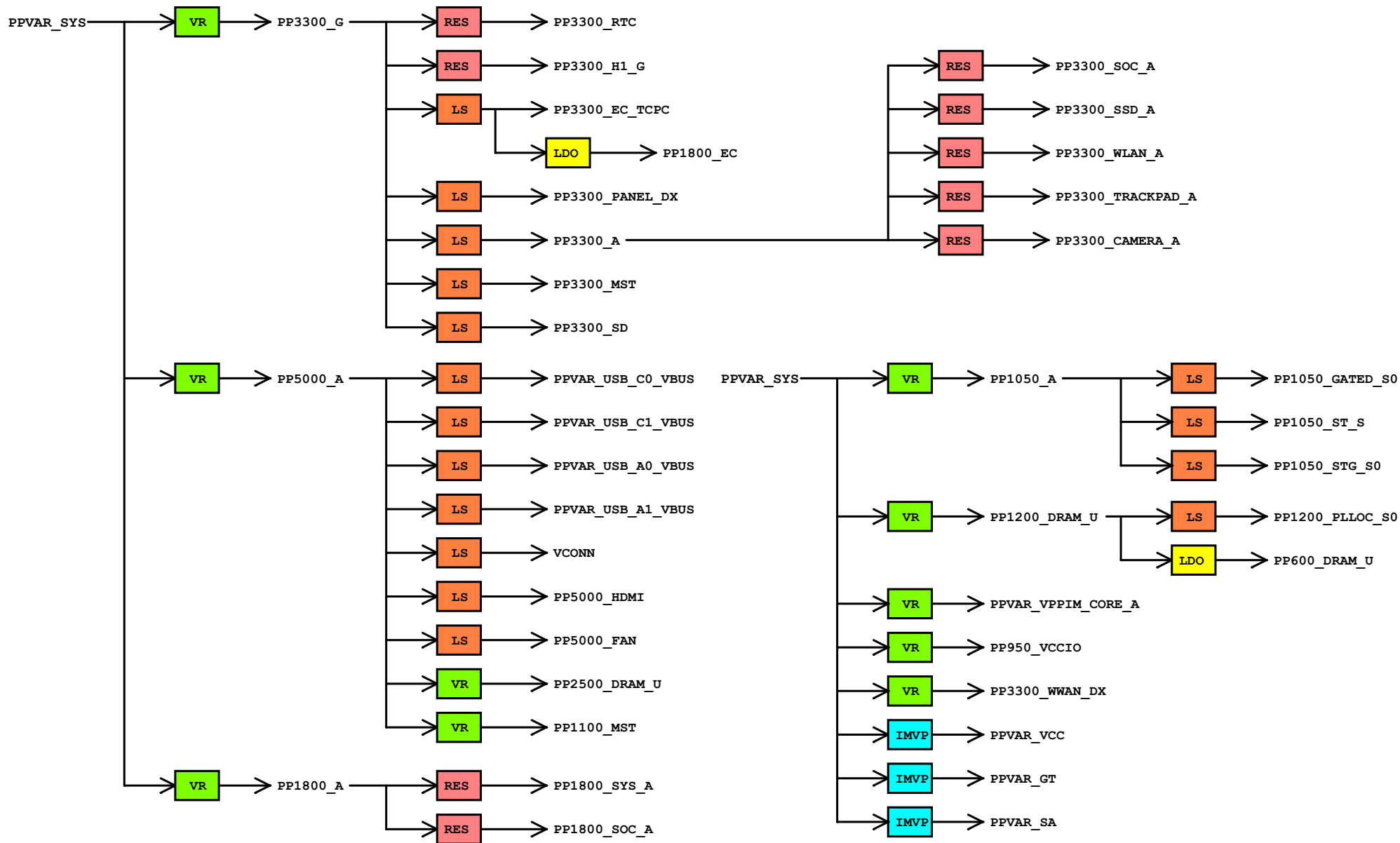
SCH: 650-03895-01-SCH  
ASSY: 650-03895-01  
PCB: 651-03895-01

| 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]







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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

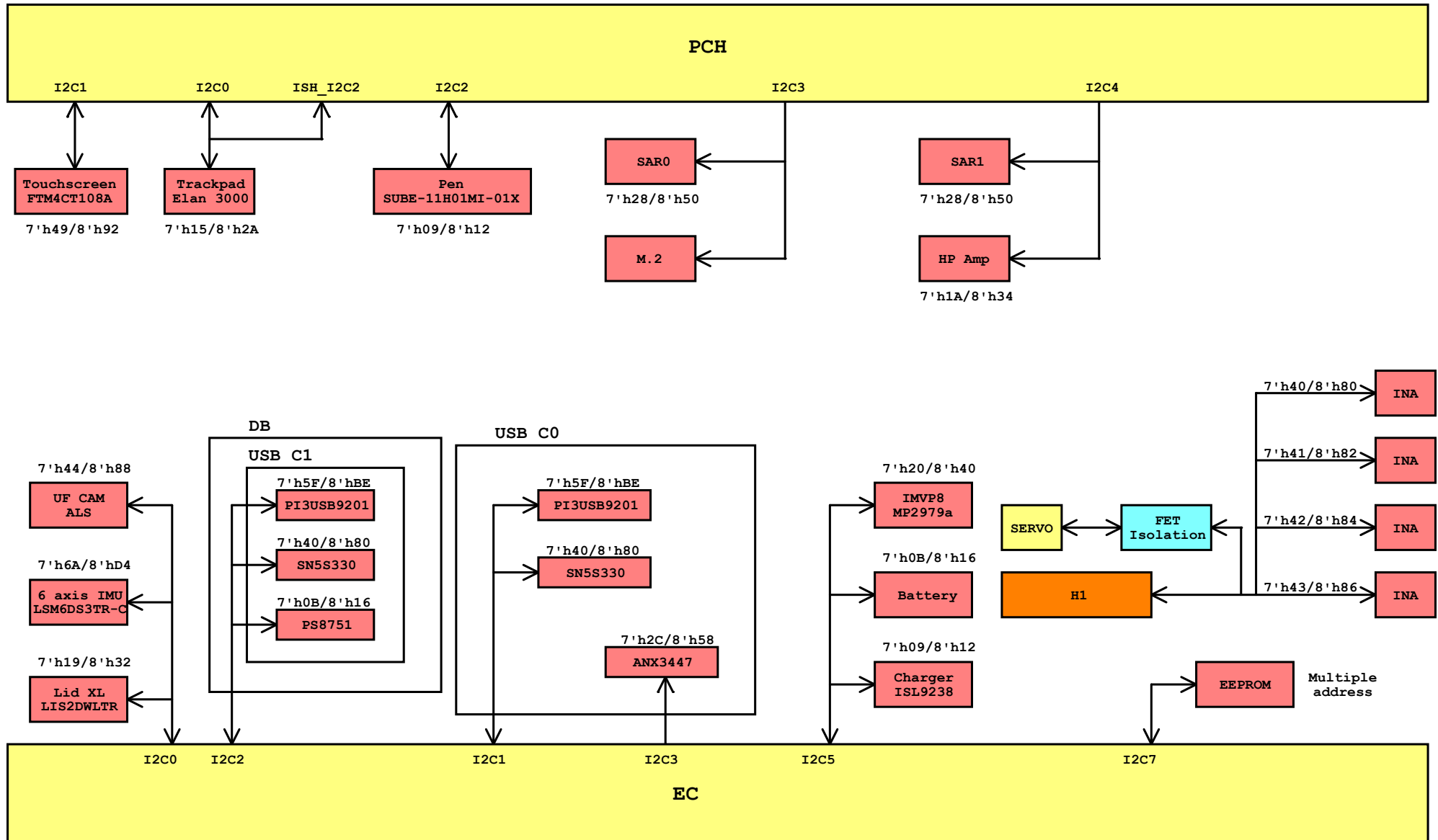
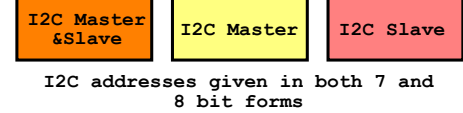
Signal from PCH

Signal from Platform

# Hatch I2C Map

Updated:11/07/2018

## LEGEND



U1B  
CML  
CML-U BGA 1528P-T

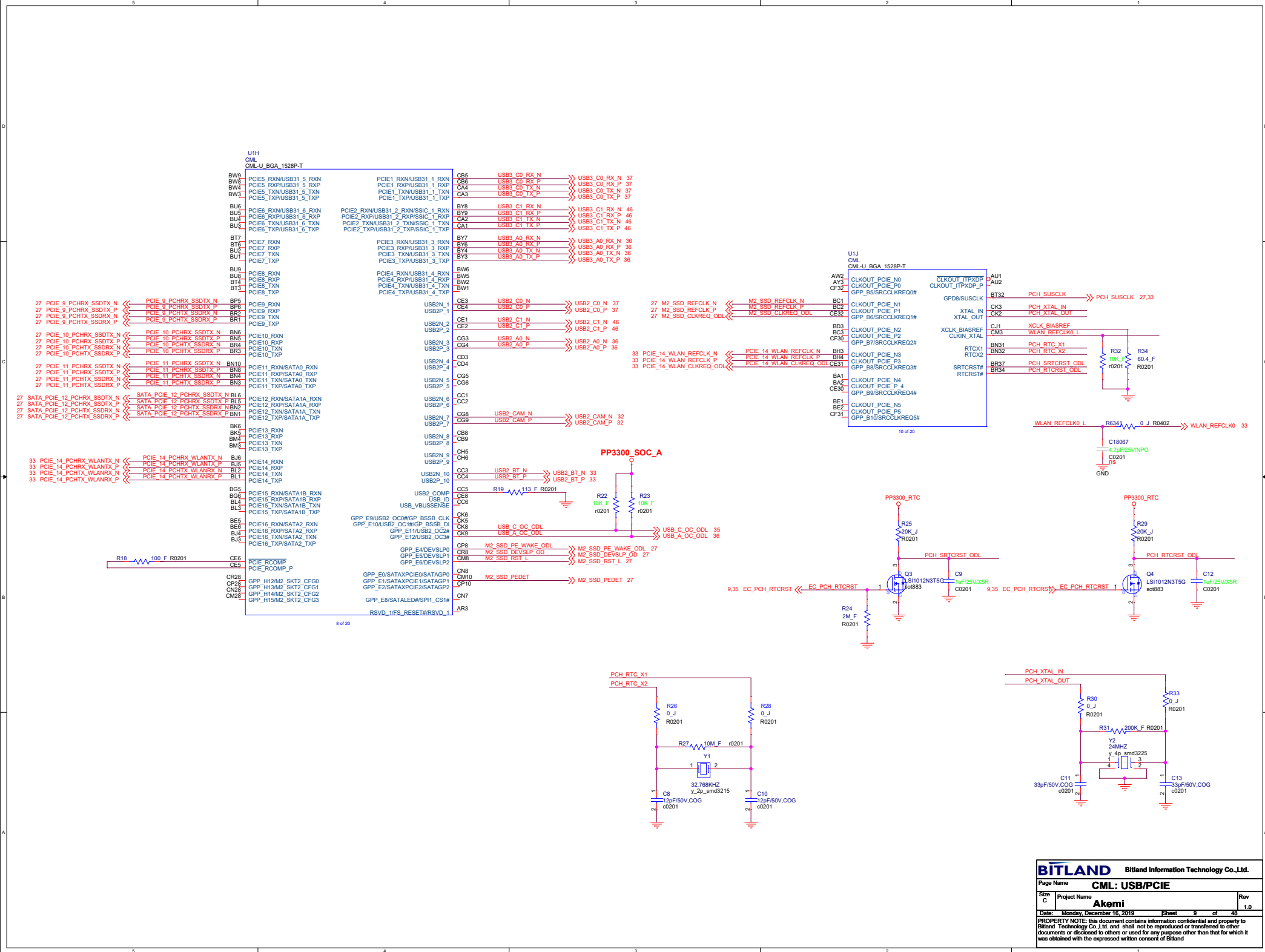
|              |           |     |                         |                         |      |             |             |          |
|--------------|-----------|-----|-------------------------|-------------------------|------|-------------|-------------|----------|
| 18 DDR_A_D0  | DDR_A_D0  | A26 | DDR0_DQ_0/DDR0_DQ_0     | DDR0_CK0_0/DDR0_CK0_0   | V32  | DDR_A_CLK#0 | DDR_A_CLK#0 | 18,19,22 |
| 18 DDR_A_D1  | DDR_A_D1  | D05 | DDR0_CK0_1/DDR0_CK0_1   | DDR0_CK0_1/DDR0_CK0_1   | V31  | DDR_A_CLK#0 | DDR_A_CLK#0 | 18,19,22 |
| 18 DDR_A_D2  | DDR_A_D2  | D08 | DDR0_CK0_2/DDR0_CK0_2   | DDR0_CK0_2/DDR0_CK0_2   | T31  |             |             |          |
| 18 DDR_A_D3  | DDR_A_D3  | C26 | DDR0_CK0_3/DDR0_CK0_3   | DDR0_CK0_3/DDR0_CK0_3   | U26  | DDR_A_CKE#0 | DDR_A_CKE#0 | 18,19,22 |
| 18 DDR_A_D4  | DDR_A_D4  | B26 | DDR0_CK0_4/DDR0_CK0_4   | DDR0_CK0_4/DDR0_CK0_4   | U37  |             |             |          |
| 18 DDR_A_D5  | DDR_A_D5  | C26 | DDR0_CK0_5/DDR0_CK0_5   | DDR0_CK0_5/DDR0_CK0_5   | U34  |             |             |          |
| 18 DDR_A_D6  | DDR_A_D6  | B26 | DDR0_CK0_6/DDR0_CK0_6   | DDR0_CK0_6/DDR0_CK0_6   | U35  |             |             |          |
| 18 DDR_A_D7  | DDR_A_D7  | A26 | DDR0_CK0_7/DDR0_CK0_7   | DDR0_CK0_7/DDR0_CK0_7   |      |             |             |          |
| 18 DDR_A_D8  | DDR_A_D8  | D30 | DDR0_CK0_8/DDR0_CK0_8   | DDR0_CK0_8/DDR0_CK0_8   |      |             |             |          |
| 18 DDR_A_D9  | DDR_A_D9  | B33 | DDR0_CK0_9/DDR0_CK0_9   | DDR0_CK0_9/DDR0_CK0_9   | AE32 | DDR_A_CS#0  | DDR_A_CS#0  | 18,19,22 |
| 18 DDR_A_D10 | DDR_A_D10 | D32 | DDR0_CK0_10/DDR0_CK0_10 | DDR0_CK0_10/DDR0_CK0_10 | AE31 | DDR_A_CS#0  | DDR_A_CS#0  | 18,19,22 |
| 18 DDR_A_D11 | DDR_A_D11 | A30 | DDR0_CK0_11/DDR0_CK0_11 | DDR0_CK0_11/DDR0_CK0_11 | AE31 | DDR_A_CS#0  | DDR_A_CS#0  | 18,19,22 |
| 18 DDR_A_D12 | DDR_A_D12 | C30 | DDR0_CK0_12/DDR0_CK0_12 | DDR0_CK0_12/DDR0_CK0_12 | AE31 | DDR_A_CS#0  | DDR_A_CS#0  | 18,19,22 |
| 18 DDR_A_D13 | DDR_A_D13 | B33 | DDR0_CK0_13/DDR0_CK0_13 | DDR0_CK0_13/DDR0_CK0_13 |      |             |             |          |
| 18 DDR_A_D14 | DDR_A_D14 | C32 | DDR0_CK0_14/DDR0_CK0_14 | DDR0_CK0_14/DDR0_CK0_14 |      |             |             |          |
| 18 DDR_A_D15 | DDR_A_D15 | H37 | DDR0_CK0_15/DDR0_CK0_15 | DDR0_CK0_15/DDR0_CK0_15 |      |             |             |          |
| 18 DDR_A_D16 | DDR_A_D16 | H37 | DDR0_CK0_16/DDR0_CK0_16 | DDR0_CK0_16/DDR0_CK0_16 |      |             |             |          |
| 18 DDR_A_D17 | DDR_A_D17 | H37 | DDR0_CK0_17/DDR0_CK0_17 | DDR0_CK0_17/DDR0_CK0_17 |      |             |             |          |
| 18 DDR_A_D18 | DDR_A_D18 | H37 | DDR0_CK0_18/DDR0_CK0_18 | DDR0_CK0_18/DDR0_CK0_18 |      |             |             |          |
| 18 DDR_A_D19 | DDR_A_D19 | H37 | DDR0_CK0_19/DDR0_CK0_19 | DDR0_CK0_19/DDR0_CK0_19 |      |             |             |          |
| 18 DDR_A_D20 | DDR_A_D20 | H37 | DDR0_CK0_20/DDR0_CK0_20 | DDR0_CK0_20/DDR0_CK0_20 |      |             |             |          |
| 18 DDR_A_D21 | DDR_A_D21 | H37 | DDR0_CK0_21/DDR0_CK0_21 | DDR0_CK0_21/DDR0_CK0_21 |      |             |             |          |
| 18 DDR_A_D22 | DDR_A_D22 | H37 | DDR0_CK0_22/DDR0_CK0_22 | DDR0_CK0_22/DDR0_CK0_22 |      |             |             |          |
| 18 DDR_A_D23 | DDR_A_D23 | H37 | DDR0_CK0_23/DDR0_CK0_23 | DDR0_CK0_23/DDR0_CK0_23 |      |             |             |          |
| 18 DDR_A_D24 | DDR_A_D24 | H37 | DDR0_CK0_24/DDR0_CK0_24 | DDR0_CK0_24/DDR0_CK0_24 |      |             |             |          |
| 18 DDR_A_D25 | DDR_A_D25 | H37 | DDR0_CK0_25/DDR0_CK0_25 | DDR0_CK0_25/DDR0_CK0_25 |      |             |             |          |
| 18 DDR_A_D26 | DDR_A_D26 | H37 | DDR0_CK0_26/DDR0_CK0_26 | DDR0_CK0_26/DDR0_CK0_26 |      |             |             |          |
| 18 DDR_A_D27 | DDR_A_D27 | H37 | DDR0_CK0_27/DDR0_CK0_27 | DDR0_CK0_27/DDR0_CK0_27 |      |             |             |          |
| 18 DDR_A_D28 | DDR_A_D28 | H37 | DDR0_CK0_28/DDR0_CK0_28 | DDR0_CK0_28/DDR0_CK0_28 |      |             |             |          |
| 18 DDR_A_D29 | DDR_A_D29 | H37 | DDR0_CK0_29/DDR0_CK0_29 | DDR0_CK0_29/DDR0_CK0_29 |      |             |             |          |
| 18 DDR_A_D30 | DDR_A_D30 | H37 | DDR0_CK0_30/DDR0_CK0_30 | DDR0_CK0_30/DDR0_CK0_30 |      |             |             |          |
| 18 DDR_A_D31 | DDR_A_D31 | H37 | DDR0_CK0_31/DDR0_CK0_31 | DDR0_CK0_31/DDR0_CK0_31 |      |             |             |          |
| 18 DDR_A_D32 | DDR_A_D32 | H37 | DDR0_CK0_32/DDR0_CK0_32 | DDR0_CK0_32/DDR0_CK0_32 |      |             |             |          |
| 18 DDR_A_D33 | DDR_A_D33 | H37 | DDR0_CK0_33/DDR0_CK0_33 | DDR0_CK0_33/DDR0_CK0_33 |      |             |             |          |
| 18 DDR_A_D34 | DDR_A_D34 | H37 | DDR0_CK0_34/DDR0_CK0_34 | DDR0_CK0_34/DDR0_CK0_34 |      |             |             |          |
| 18 DDR_A_D35 | DDR_A_D35 | H37 | DDR0_CK0_35/DDR0_CK0_35 | DDR0_CK0_35/DDR0_CK0_35 |      |             |             |          |
| 18 DDR_A_D36 | DDR_A_D36 | H37 | DDR0_CK0_36/DDR0_CK0_36 | DDR0_CK0_36/DDR0_CK0_36 |      |             |             |          |
| 18 DDR_A_D37 | DDR_A_D37 | H37 | DDR0_CK0_37/DDR0_CK0_37 | DDR0_CK0_37/DDR0_CK0_37 |      |             |             |          |
| 18 DDR_A_D38 | DDR_A_D38 | H37 | DDR0_CK0_38/DDR0_CK0_38 | DDR0_CK0_38/DDR0_CK0_38 |      |             |             |          |
| 18 DDR_A_D39 | DDR_A_D39 | H37 | DDR0_CK0_39/DDR0_CK0_39 | DDR0_CK0_39/DDR0_CK0_39 |      |             |             |          |
| 18 DDR_A_D40 | DDR_A_D40 | H37 | DDR0_CK0_40/DDR0_CK0_40 | DDR0_CK0_40/DDR0_CK0_40 |      |             |             |          |
| 18 DDR_A_D41 | DDR_A_D41 | H37 | DDR0_CK0_41/DDR0_CK0_41 | DDR0_CK0_41/DDR0_CK0_41 |      |             |             |          |
| 18 DDR_A_D42 | DDR_A_D42 | H37 | DDR0_CK0_42/DDR0_CK0_42 | DDR0_CK0_42/DDR0_CK0_42 |      |             |             |          |
| 18 DDR_A_D43 | DDR_A_D43 | H37 | DDR0_CK0_43/DDR0_CK0_43 | DDR0_CK0_43/DDR0_CK0_43 |      |             |             |          |
| 18 DDR_A_D44 | DDR_A_D44 | H37 | DDR0_CK0_44/DDR0_CK0_44 | DDR0_CK0_44/DDR0_CK0_44 |      |             |             |          |
| 18 DDR_A_D45 | DDR_A_D45 | H37 | DDR0_CK0_45/DDR0_CK0_45 | DDR0_CK0_45/DDR0_CK0_45 |      |             |             |          |
| 18 DDR_A_D46 | DDR_A_D46 | H37 | DDR0_CK0_46/DDR0_CK0_46 | DDR0_CK0_46/DDR0_CK0_46 |      |             |             |          |
| 18 DDR_A_D47 | DDR_A_D47 | H37 | DDR0_CK0_47/DDR0_CK0_47 | DDR0_CK0_47/DDR0_CK0_47 |      |             |             |          |
| 18 DDR_B_D0  | DDR_B_D0  | D05 | DDR0_CK0_0/DDR0_CK0_0   | DDR0_CK0_0/DDR0_CK0_0   |      |             |             |          |
| 18 DDR_B_D1  | DDR_B_D1  | D08 | DDR0_CK0_1/DDR0_CK0_1   | DDR0_CK0_1/DDR0_CK0_1   |      |             |             |          |
| 18 DDR_B_D2  | DDR_B_D2  | C26 | DDR0_CK0_2/DDR0_CK0_2   | DDR0_CK0_2/DDR0_CK0_2   |      |             |             |          |
| 18 DDR_B_D3  | DDR_B_D3  | B26 | DDR0_CK0_3/DDR0_CK0_3   | DDR0_CK0_3/DDR0_CK0_3   |      |             |             |          |
| 18 DDR_B_D4  | DDR_B_D4  | A26 | DDR0_CK0_4/DDR0_CK0_4   | DDR0_CK0_4/DDR0_CK0_4   |      |             |             |          |
| 18 DDR_B_D5  | DDR_B_D5  | D30 | DDR0_CK0_5/DDR0_CK0_5   | DDR0_CK0_5/DDR0_CK0_5   |      |             |             |          |
| 18 DDR_B_D6  | DDR_B_D6  | B33 | DDR0_CK0_6/DDR0_CK0_6   | DDR0_CK0_6/DDR0_CK0_6   |      |             |             |          |
| 18 DDR_B_D7  | DDR_B_D7  | D32 | DDR0_CK0_7/DDR0_CK0_7   | DDR0_CK0_7/DDR0_CK0_7   |      |             |             |          |
| 18 DDR_B_D8  | DDR_B_D8  | A30 | DDR0_CK0_8/DDR0_CK0_8   | DDR0_CK0_8/DDR0_CK0_8   |      |             |             |          |
| 18 DDR_B_D9  | DDR_B_D9  | C30 | DDR0_CK0_9/DDR0_CK0_9   | DDR0_CK0_9/DDR0_CK0_9   |      |             |             |          |
| 18 DDR_B_D10 | DDR_B_D10 | B33 | DDR0_CK0_10/DDR0_CK0_10 | DDR0_CK0_10/DDR0_CK0_10 |      |             |             |          |
| 18 DDR_B_D11 | DDR_B_D11 | D32 | DDR0_CK0_11/DDR0_CK0_11 | DDR0_CK0_11/DDR0_CK0_11 |      |             |             |          |
| 18 DDR_B_D12 | DDR_B_D12 | A30 | DDR0_CK0_12/DDR0_CK0_12 | DDR0_CK0_12/DDR0_CK0_12 |      |             |             |          |
| 18 DDR_B_D13 | DDR_B_D13 | C30 | DDR0_CK0_13/DDR0_CK0_13 | DDR0_CK0_13/DDR0_CK0_13 |      |             |             |          |
| 18 DDR_B_D14 | DDR_B_D14 | B33 | DDR0_CK0_14/DDR0_CK0_14 | DDR0_CK0_14/DDR0_CK0_14 |      |             |             |          |
| 18 DDR_B_D15 | DDR_B_D15 | D32 | DDR0_CK0_15/DDR0_CK0_15 | DDR0_CK0_15/DDR0_CK0_15 |      |             |             |          |
| 18 DDR_B_D16 | DDR_B_D16 | A30 | DDR0_CK0_16/DDR0_CK0_16 | DDR0_CK0_16/DDR0_CK0_16 |      |             |             |          |
| 18 DDR_B_D17 | DDR_B_D17 | C30 | DDR0_CK0_17/DDR0_CK0_17 | DDR0_CK0_17/DDR0_CK0_17 |      |             |             |          |
| 18 DDR_B_D18 | DDR_B_D18 | B33 | DDR0_CK0_18/DDR0_CK0_18 | DDR0_CK0_18/DDR0_CK0_18 |      |             |             |          |
| 18 DDR_B_D19 | DDR_B_D19 | D32 | DDR0_CK0_19/DDR0_CK0_19 | DDR0_CK0_19/DDR0_CK0_19 |      |             |             |          |
| 18 DDR_B_D20 | DDR_B_D20 | A30 | DDR0_CK0_20/DDR0_CK0_20 | DDR0_CK0_20/DDR0_CK0_20 |      |             |             |          |
| 18 DDR_B_D21 | DDR_B_D21 | C30 | DDR0_CK0_21/DDR0_CK0_21 | DDR0_CK0_21/DDR0_CK0_21 |      |             |             |          |
| 18 DDR_B_D22 | DDR_B_D22 | B33 | DDR0_CK0_22/DDR0_CK0_22 | DDR0_CK0_22/DDR0_CK0_22 |      |             |             |          |
| 18 DDR_B_D23 | DDR_B_D23 | D32 | DDR0_CK0_23/DDR0_CK0_23 | DDR0_CK0_23/DDR0_CK0_23 |      |             |             |          |
| 18 DDR_B_D24 | DDR_B_D24 | A30 | DDR0_CK0_24/DDR0_CK0_24 | DDR0_CK0_24/DDR0_CK0_24 |      |             |             |          |
| 18 DDR_B_D25 | DDR_B_D25 | C30 | DDR0_CK0_25/DDR0_CK0_25 | DDR0_CK0_25/DDR0_CK0_25 |      |             |             |          |
| 18 DDR_B_D26 | DDR_B_D26 | B33 | DDR0_CK0_26/DDR0_CK0_26 | DDR0_CK0_26/DDR0_CK0_26 |      |             |             |          |
| 18 DDR_B_D27 | DDR_B_D27 | D32 | DDR0_CK0_27/DDR0_CK0_27 | DDR0_CK0_27/DDR0_CK0_27 |      |             |             |          |
| 18 DDR_B_D28 | DDR_B_D28 | A30 | DDR0_CK0_28/DDR0_CK0_28 | DDR0_CK0_28/DDR0_CK0_28 |      |             |             |          |
| 18 DDR_B_D29 | DDR_B_D29 | C30 | DDR0_CK0_29/DDR0_CK0_29 | DDR0_CK0_29/DDR0_CK0_29 |      |             |             |          |
| 18 DDR_B_D30 | DDR_B_D30 | B33 | DDR0_CK0_30/DDR0_CK0_30 | DDR0_CK0_30/DDR0_CK0_30 |      |             |             |          |
| 18 DDR_B_D31 | DDR_B_D31 | D32 | DDR0_CK0_31/DDR0_CK0_31 | DDR0_CK0_31/DDR0_CK0_31 |      |             |             |          |
| 18 DDR_B_D32 | DDR_B_D32 | A30 | DDR0_CK0_32/DDR0_CK0_32 | DDR0_CK0_32/DDR0_CK0_32 |      |             |             |          |
| 18 DDR_B_D33 | DDR_B_D33 | C30 | DDR0_CK0_33/DDR0_CK0_33 | DDR0_CK0_33/DDR0_CK0_33 |      |             |             |          |
| 18 DDR_B_D34 | DDR_B_D34 | B33 | DDR0_CK0_34/DDR0_CK0_34 | DDR0_CK0_34/DDR0_CK0_34 |      |             |             |          |
| 18 DDR_B_D35 | DDR_B_D35 | D32 | DDR0_CK0_35/DDR0_CK0_35 | DDR0_CK0_35/DDR0_CK0_35 |      |             |             |          |
| 18 DDR_B_D36 | DDR_B_D36 | A30 | DDR0_CK0_36/DDR0_CK0_36 | DDR0_CK0_36/DDR0_CK0_36 |      |             |             |          |
| 18 DDR_B_D37 | DDR_B_D37 | C30 | DDR0_CK0_37/DDR0_CK0_37 | DDR0_CK0_37/DDR0_CK0_37 |      |             |             |          |
| 18 DDR_B_D38 | DDR_B_D38 | B33 | DDR0_CK0_38/DDR0_CK0_38 | DDR0_CK0_38/DDR0_CK0_38 |      |             |             |          |
| 18 DDR_B_D39 | DDR_B_D39 | D32 | DDR0_CK0_39/DDR0_CK0_39 | DDR0_CK0_39/DDR0_CK0_39 |      |             |             |          |
| 18 DDR_B_D40 | DDR_B_D40 | A30 | DDR0_CK0_40/DDR0_CK0_40 | DDR0_CK0_40/DDR0_CK0_40 |      |             |             |          |
| 18 DDR_B_D41 | DDR_B_D41 | C30 | DDR0_CK0_41/DDR0_CK0_41 | DDR0_CK0_41/DDR0_CK0_41 |      |             |             |          |
| 18 DDR_B_D42 | DDR_B_D42 | B33 | DDR0_CK0_42/DDR0_CK0_42 | DDR0_CK0_42/DDR0_CK0_42 |      |             |             |          |
| 18 DDR_B_D43 | DDR_B_D43 | D32 | DDR0_CK0_43/DDR0_CK0_43 | DDR0_CK0_43/DDR0_CK0_43 |      |             |             |          |
| 18 DDR_B_D44 | DDR_B_D44 | A30 | DDR0_CK0_44/DDR0_CK0_44 | DDR0_CK0_44/DDR0_CK0_44 |      |             |             |          |
| 18 DDR_B_D45 | DDR_B_D45 | C30 | DDR0_CK0_45/DDR0_CK0_45 | DDR0_CK0_45/DDR0_CK0_45 |      |             |             |          |
| 18 DDR_B_D46 | DDR_B_D46 | B33 | DDR0_CK0_46/DDR0_CK0_46 | DDR0_CK0_46/DDR0_CK0_46 |      |             |             |          |
| 18 DDR_B_D47 | DDR_B_D47 | D32 | DDR0_CK0_47/DDR0_CK0_47 | DDR0_CK0_47/DDR0_CK0_47 |      |             |             |          |

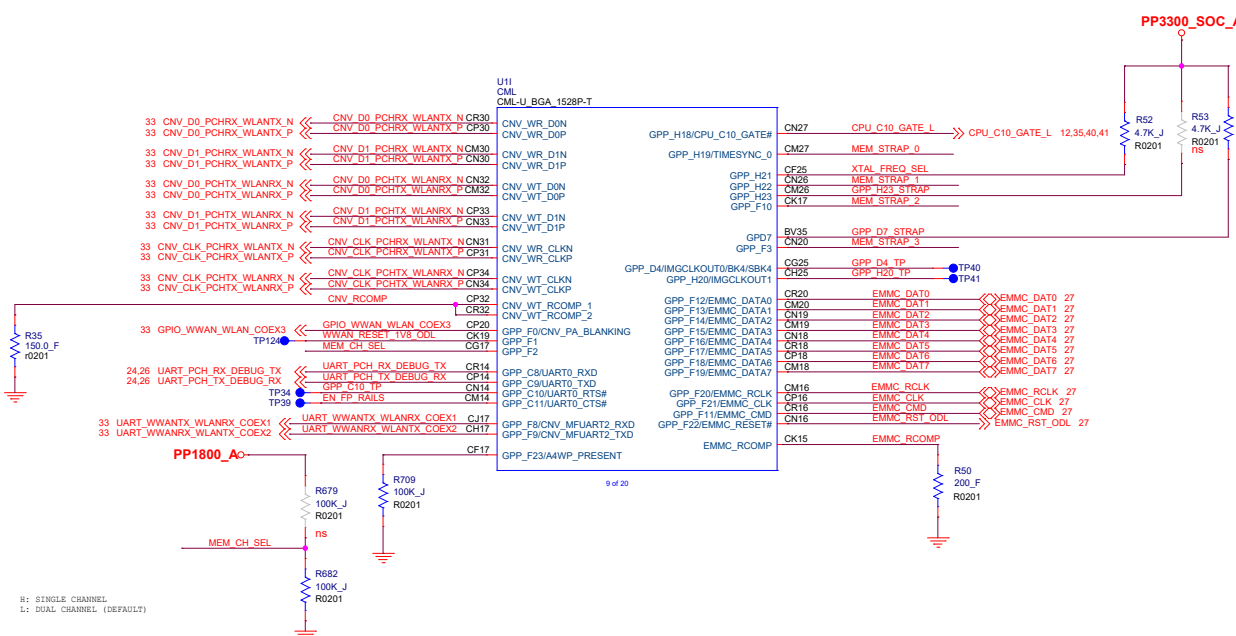
2 of 20

U1C  
CML  
CML-U BGA 1528P-T

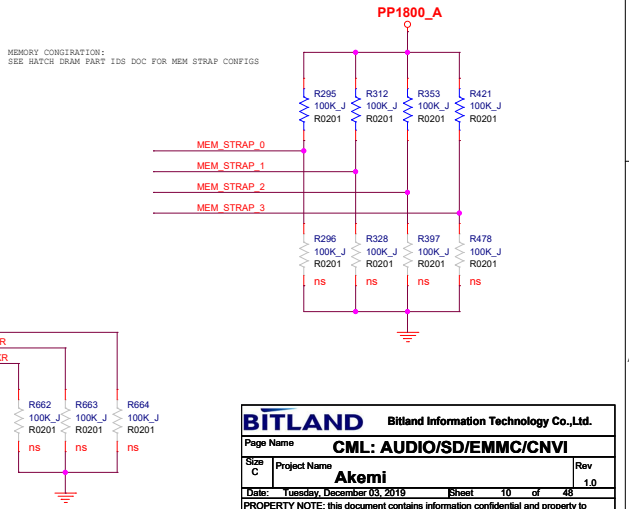
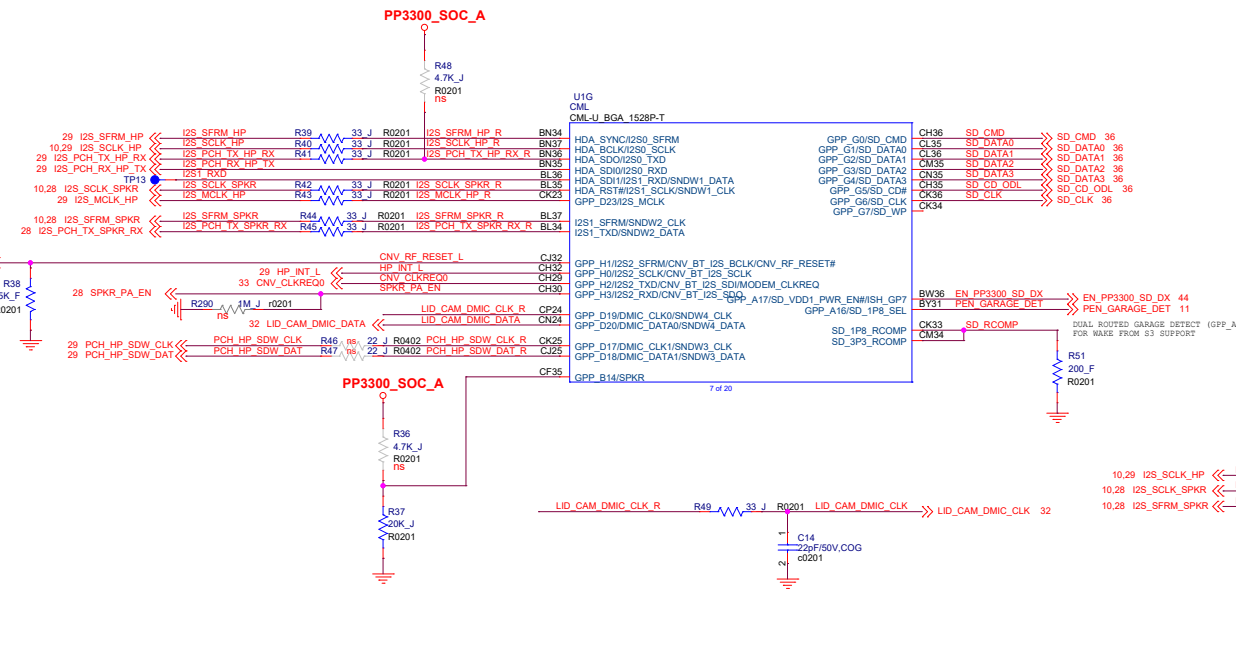
|              |           |      |                             |                           |      |             |             |          |
|--------------|-----------|------|-----------------------------|---------------------------|------|-------------|-------------|----------|
| 18 DDR_A_D16 | DDR_A_D16 | J22  | DDR0_CK0_0/DDR0_CK0_0       | DDR0_CK0_0/DDR0_CK0_0     | AF28 | DDR_B_CLK#0 | DDR_B_CLK#0 | 20,21,22 |
| 18 DDR_A_D17 | DDR_A_D17 | J22  | DDR0_CK0_1/DDR0_CK0_1       | DDR0_CK0_1/DDR0_CK0_1     | AE28 | DDR_B_CLK#0 | DDR_B_CLK#0 | 20,21,22 |
| 18 DDR_A_D18 | DDR_A_D18 | G22  | DDR0_CK0_2/DDR0_CK0_2       | DDR0_CK0_2/DDR0_CK0_2     | AE29 |             |             |          |
| 18 DDR_A_D19 | DDR_A_D19 | H22  | DDR0_CK0_3/DDR0_CK0_3       | DDR0_CK0_3/DDR0_CK0_3     |      |             |             |          |
| 18 DDR_A_D20 | DDR_A_D20 | F22  | DDR0_CK0_4/DDR0_CK0_4       | DDR0_CK0_4/DDR0_CK0_4     |      |             |             |          |
| 18 DDR_A_D21 | DDR_A_D21 | J22  | DDR0_CK0_5/DDR0_CK0_5       | DDR0_CK0_5/DDR0_CK0_5     | T28  | DDR_B_CKE#0 | DDR_B_CKE#0 | 20,21,22 |
| 18 DDR_A_D22 | DDR_A_D22 | G22  | DDR0_CK0_6/DDR0_CK0_6       | DDR0_CK0_6/DDR0_CK0_6     | T28  |             |             |          |
| 18 DDR_A_D23 | DDR_A_D23 | F22  | DDR0_CK0_7/DDR0_CK0_7       | DDR0_CK0_7/DDR0_CK0_7     | T28  |             |             |          |
| 18 DDR_A_D24 | DDR_A_D24 | G22  | DDR0_CK0_8/DDR0_CK0_8       | DDR0_CK0_8/DDR0_CK0_8     | T28  |             |             |          |
| 18 DDR_A_D25 | DDR_A_D25 | C24  | DDR0_CK0_9/DDR0_CK0_9       | DDR0_CK0_9/DDR0_CK0_9     | AE37 | DDR_B_CS#0  | DDR_B_CS#0  | 20,21,22 |
| 18 DDR_A_D26 | DDR_A_D26 | D24  | DDR0_CK0_10/DDR0_CK0_10     | DDR0_CK0_10/DDR0_CK0_10   | AE37 | DDR_B_CS#0  | DDR_B_CS#0  | 20,21,22 |
| 18 DDR_A_D27 | DDR_A_D27 | A22  | DDR0_CK0_11/DDR0_CK0_11     | DDR0_CK0_11/DDR0_CK0_11   | AE37 | DDR_B_CS#0  | DDR_B_CS#0  | 20,21,22 |
| 18 DDR_A_D28 | DDR_A_D28 | B22  | DDR0_CK0_12/DDR0_CK0_12     | DDR0_CK0_12/DDR0_CK0_12   | AE37 | DDR_B_CS#0  | DDR_B_CS#0  | 20,21,22 |
| 18 DDR_A_D29 | DDR_A_D29 | A24  | DDR0_CK0_13/DDR0_CK0_13     | DDR0_CK0_13/DDR0_CK0_13   |      |             |             |          |
| 18 DDR_A_D30 | DDR_A_D30 | B24  | DDR0_CK0_14/DDR0_CK0_14     | DDR0_CK0_14/DDR0_CK0_14   |      |             |             |          |
| 18 DDR_A_D31 | DDR_A_D31 | G31  | DDR0_CK0_15/DDR0_CK0_15     | DDR0_CK0_15/DDR0_CK0_15   |      |             |             |          |
| 18 DDR_A_D32 | DDR_A_D32 | G32  | DDR0_CK0_16/DDR0_CK0_16     | DDR0_CK0_16/DDR0_CK0_16   |      |             |             |          |
| 18 DDR_A_D33 | DDR_A_D33 | H29  | DDR0_CK0_17/DDR0_CK0_17     | DDR0_CK0_17/DDR0_CK0_17   |      |             |             |          |
| 18 DDR_A_D34 | DDR_A_D34 | H28  | DDR0_CK0_18/DDR0_CK0_18     | DDR0_CK0_18/DDR0_CK0_18   |      |             |             |          |
| 18 DDR_A_D35 | DDR_A_D35 | G29  | DDR0_CK0_19/DDR0_CK0_19     | DDR0_CK0_19/DDR0_CK0_19   |      |             |             |          |
| 18 DDR_A_D36 | DDR_A_D36 | H31  | DDR0_CK0_20/DDR0_CK0_20     | DDR0_CK0_20/DDR0_CK0_20   |      |             |             |          |
| 18 DDR_A_D37 | DDR_A_D37 | H32  | DDR0_CK0_21/DDR0_CK0_21     | DDR0_CK0_21/DDR0_CK0_21   |      |             |             |          |
| 18 DDR_A_D38 | DDR_A_D38 | L31  | DDR0_CK0_22/DDR0_CK0_22     | DDR0_CK0_22/DDR0_CK0_22   |      |             |             |          |
| 18 DDR_A_D39 | DDR_A_D39 | L32  | DDR0_CK0_23/DDR0_CK0_23     | DDR0_CK0_23/DDR0_CK0_23   |      |             |             |          |
| 18 DDR_A_D40 | DDR_A_D40 | N29  | DDR0_CK0_24/DDR0_CK0_24     | DDR0_CK0_24/DDR0_CK0_24   |      |             |             |          |
| 18 DDR_A_D41 | DDR_A_D41 | N29  | DDR0_CK0_25/DDR0_CK0_25     | DDR0_CK0_25/DDR0_CK0_25   |      |             |             |          |
| 18 DDR_A_D42 | DDR_A_D42 | N29  | DDR0_CK0_26/DDR0_CK0_26     | DDR0_CK0_26/DDR0_CK0_26   |      |             |             |          |
| 18 DDR_A_D43 | DDR_A_D43 | N29  | DDR0_CK0_27/DDR0_CK0_27     | DDR0_CK0_27/DDR0_CK0_27   |      |             |             |          |
| 18 DDR_A_D44 | DDR_A_D44 | N29  | DDR0_CK0_28/DDR0_CK0_28     | DDR0_CK0_28/DDR0_CK0_28   |      |             |             |          |
| 18 DDR_A_D45 | DDR_A_D45 | N29  | DDR0_CK0_29/DDR0_CK0_29     | DDR0_CK0_29/DDR0_CK0_29   |      |             |             |          |
| 18 DDR_A_D46 | DDR_A_D46 | N29  | DDR0_CK0_30/DDR0_CK0_30     | DDR0_CK0_30/DDR0_CK0_30   |      |             |             |          |
| 18 DDR_A_D47 | DDR_A_D47 | N29  | DDR0_CK0_31/DDR0_CK0_31     | DDR0_CK0_31/DDR0_CK0_31   |      |             |             |          |
| 18 DDR_A_D48 | DDR_A_D48 | G31  | DDR0_CK0_32/DDR0_CK0_32     | DDR0_CK0_32/DDR0_CK0_32   |      |             |             |          |
| 18 DDR_A_D49 | DDR_A_D49 | G32  | DDR0_CK0_33/DDR0_CK0_33     | DDR0_CK0_33/DDR0_CK0_33   |      |             |             |          |
| 18 DDR_A_D50 | DDR_A_D50 | H29  | DDR0_CK0_34/DDR0_CK0_34     | DDR0_CK0_34/DDR0_CK0_34   |      |             |             |          |
| 18 DDR_A_D51 | DDR_A_D51 | H28  | DDR0_CK0_35/DDR0_CK0_35     | DDR0_CK0_35/DDR0_CK0_35   |      |             |             |          |
| 18 DDR_A_D52 | DDR_A_D52 | G29  | DDR0_CK0_36/DDR0_CK0_36     | DDR0_CK0_36/DDR0_CK0_36   |      |             |             |          |
| 18 DDR_A_D53 | DDR_A_D53 | H31  | DDR0_CK0_37/DDR0_CK0_37     | DDR0_CK0_37/DDR0_CK0_37   |      |             |             |          |
| 18 DDR_A_D54 | DDR_A_D54 | H32  | DDR0_CK0_38/DDR0_CK0_38     | DDR0_CK0_38/DDR0_CK0_38   |      |             |             |          |
| 18 DDR_A_D55 | DDR_A_D55 | L31  | DDR0_CK0_39/DDR0_CK0_39     | DDR0_CK0_39/DDR0_CK0_39   |      |             |             |          |
| 18 DDR_A_D56 | DDR_A_D56 | L32  | DDR0_CK0_40/DDR0_CK0_40     | DDR0_CK0_40/DDR0_CK0_40   |      |             |             |          |
| 18 DDR_A_D57 | DDR_A_D57 | L32  | DDR0_CK0_41/DDR0_CK0_41     | DDR0_CK0_41/DDR0_CK0_41   |      |             |             |          |
| 18 DDR_A_D58 | DDR_A_D58 | N29  | DDR0_CK0_42/DDR0_CK0_42     | DDR0_CK0_42/DDR0_CK0_42   |      |             |             |          |
| 18 DDR_A_D59 | DDR_A_D59 | N29  | DDR0_CK0_43/DDR0_CK0_43     | DDR0_CK0_43/DDR0_CK0_43   |      |             |             |          |
| 18 DDR_A_D60 | DDR_A_D60 | L28  | DDR0_CK0_44/DDR0_CK0_44     | DDR0_CK0_44/DDR0_CK0_44   |      |             |             |          |
| 18 DDR_A_D61 | DDR_A_D61 | L29  | DDR0_CK0_45/DDR0_CK0_45     | DDR0_CK0_45/DDR0_CK0_45   |      |             |             |          |
| 18 DDR_A_D62 | DDR_A_D62 | N32  | DDR0_CK0_46/DDR0_CK0_46     | DDR0_CK0_46/DDR0_CK0_46   |      |             |             |          |
| 18 DDR_A_D63 | DDR_A_D63 | N33  | DDR0_CK0_47/DDR0_CK0_47     | DDR0_CK0_47/DDR0_CK0_47   |      |             |             |          |
| 18 DDR_B_D16 | DDR_B_D16 | A22  | DDR0_CK0_48/DDR0_CK0_48     | DDR0_CK0_48/DDR0_CK0_48   |      |             |             |          |
| 18 DDR_B_D17 | DDR_B_D17 | A23  | DDR0_CK0_49/DDR0_CK0_49     | DDR0_CK0_49/DDR0_CK0_49   |      |             |             |          |
| 18 DDR_B_D18 | DDR_B_D18 | A23  | DDR0_CK0_50/DDR0_CK0_50     | DDR0_CK0_50/DDR0_CK0_50   |      |             |             |          |
| 18 DDR_B_D19 | DDR_B_D19 | AM1  | DDR0_CK0_51/DDR0_CK0_51     | DDR0_CK0_51/DDR0_CK0_51   |      |             |             |          |
| 18 DDR_B_D20 | DDR_B_D20 | AM1  | DDR0_CK0_52/DDR0_CK0_52     | DDR0_CK0_52/DDR0_CK0_52   |      |             |             |          |
| 18 DDR_B_D21 | DDR_B_D21 | AM1  | DDR0_CK0_53/DDR0_CK0_53     | DDR0_CK0_53/DDR0_CK0_53   |      |             |             |          |
| 18 DDR_B_D22 | DDR_B_D22 | AJ3  | DDR0_CK0_54/DDR0_CK0_54     | DDR0_CK0_54/DDR0_CK0_54   |      |             |             |          |
| 18 DDR_B_D23 | DDR_B_D23 | AJ3  | DDR0_CK0_55/DDR0_CK0_55     | DDR0_CK0_55/DDR0_CK0_55   |      |             |             |          |
| 18 DDR_B_D24 | DDR_B_D24 | AR1  | DDR0_CK0_56/DDR0_CK0_56     | DDR0_CK0_56/DDR0_CK0_56   |      |             |             |          |
| 18 DDR_B_D25 | DDR_B_D25 | AR2  | DDR0_CK0_57/DDR0_CK0_57     | DDR0_CK0_57/DDR0_CK0_57   |      |             |             |          |
| 18 DDR_B_D26 | DDR_B_D26 | AR2  | DDR0_CK0_58/DDR0_CK0_58     | DDR0_CK0_58/DDR0_CK0_58   |      |             |             |          |
| 18 DDR_B_D27 | DDR_B_D27 | AV3  | DDR0_CK0_59/DDR0_CK0_59     | DDR0_CK0_59/DDR0_CK0_59   |      |             |             |          |
| 18 DDR_B_D28 | DDR_B_D28 | AR2  | DDR0_CK0_60/DDR0_CK0_60     | DDR0_CK0_60/DDR0_CK0_60   |      |             |             |          |
| 18 DDR_B_D29 | DDR_B_D29 | AV3  | DDR0_CK0_61/DDR0_CK0_61     | DDR0_CK0_61/DDR0_CK0_61   |      |             |             |          |
| 18 DDR_B_D30 | DDR_B_D30 | AV3  | DDR0_CK0_62/DDR0_CK0_62     | DDR0_CK0_62/DDR0_CK0_62   |      |             |             |          |
| 18 DDR_B_D31 | DDR_B_D31 | AV31 | DDR0_CK0_63/DDR0_CK0_63     | DDR0_CK0_63/DDR0_CK0_63   |      |             |             |          |
| 18 DDR_B_D32 | DDR_B_D32 | AV31 | DDR0_CK0_64/DDR0_CK0_64     | DDR0_CK0_64/DDR0_CK0_64   |      |             |             |          |
| 18 DDR_B_D33 | DDR_B_D33 | AV31 | DDR0_CK0_65/DDR0_CK0_65     | DDR0_CK0_65/DDR0_CK0_65   |      |             |             |          |
| 18 DDR_B_D34 | DDR_B_D34 | AV31 | DDR0_CK0_66/DDR0_CK0_66     | DDR0_CK0_66/DDR0_CK0_66   |      |             |             |          |
| 18 DDR_B_D35 | DDR_B_D35 | BD01 | DDR0_CK0_67/DDR0_CK0_67     | DDR0_CK0_67/DDR0_CK0_67   |      |             |             |          |
| 18 DDR_B_D36 | DDR_B_D36 | BD01 | DDR0_CK0_68/DDR0_CK0_68     | DDR0_CK0_68/DDR0_CK0_68   |      |             |             |          |
| 18 DDR_B_D37 | DDR_B_D37 | BD01 | DDR0_CK0_69/DDR0_CK0_69     | DDR0_CK0_69/DDR0_CK0_69   |      |             |             |          |
| 18 DDR_B_D38 | DDR_B_D38 | BD01 | DDR0_CK0_70/DDR0_CK0_70     | DDR0_CK0_70/DDR0_CK0_70   |      |             |             |          |
| 18 DDR_B_D39 | DDR_B_D39 | BD01 | DDR0_CK0_71/DDR0_CK0_71     | DDR0_CK0_71/DDR0_CK0_71   |      |             |             |          |
| 18 DDR_B_D40 | DDR_B_D40 | BD01 | DDR0_CK0_72/DDR0_CK0_72     | DDR0_CK0_72/DDR0_CK0_72   |      |             |             |          |
| 18 DDR_B_D41 | DDR_B_D41 | BD01 | DDR0_CK0_73/DDR0_CK0_73     | DDR0_CK0_73/DDR0_CK0_73   |      |             |             |          |
| 18 DDR_B_D42 | DDR_B_D42 | BD01 | DDR0_CK0_74/DDR0_CK0_74     | DDR0_CK0_74/DDR0_CK0_74   |      |             |             |          |
| 18 DDR_B_D43 | DDR_B_D43 | BD01 | DDR0_CK0_75/DDR0_CK0_75     | DDR0_CK0_75/DDR0_CK0_75   |      |             |             |          |
| 18 DDR_B_D44 | DDR_B_D44 | BD01 | DDR0_CK0_76/DDR0_CK0_76     | DDR0_CK0_76/DDR0_CK0_76   |      |             |             |          |
| 18 DDR_B_D45 | DDR_B_D45 | BD01 | DDR0_CK0_77/DDR0_CK0_77     | DDR0_CK0_77/DDR0_CK0_77   |      |             |             |          |
| 18 DDR_B_D46 | DDR_B_D46 | BD01 | DDR0_CK0_78/DDR0_CK0_78     | DDR0_CK0_78/DDR0_CK0_78   |      |             |             |          |
| 18 DDR_B_D47 | DDR_B_D47 | BD01 | DDR0_CK0_79/DDR0_CK0_79     | DDR0_CK0_79/DDR0_CK0_79   |      |             |             |          |
| 18 DDR_B_D48 | DDR_B_D48 | BD01 | DDR0_CK0_80/DDR0_CK0_80     | DDR0_CK0_80/DDR0_CK0_80   |      |             |             |          |
| 18 DDR_B_D49 | DDR_B_D49 | BD01 | DDR0_CK0_81/DDR0_CK0_81     | DDR0_CK0_81/DDR0_CK0_81   |      |             |             |          |
| 18 DDR_B_D50 | DDR_B_D50 | BD01 | DDR0_CK0_82/DDR0_CK0_82     | DDR0_CK0_82/DDR0_CK0_82   |      |             |             |          |
| 18 DDR_B_D51 | DDR_B_D51 | BD01 | DDR0_CK0_83/DDR0_CK0_83     | DDR0_CK0_83/DDR0_CK0_83   |      |             |             |          |
| 18 DDR_B_D52 | DDR_B_D52 | BD01 | DDR0_CK0_84/DDR0_CK0_84     | DDR0_CK0_84/DDR0_CK0_84   |      |             |             |          |
| 18 DDR_B_D53 | DDR_B_D53 | BD01 | DDR0_CK0_85/DDR0_CK0_85     | DDR0_CK0_85/DDR0_CK0_85   |      |             |             |          |
| 18 DDR_B_D54 | DDR_B_D54 | BD01 | DDR0_CK0_86/DDR0_CK0_86     | DDR0_CK0_86/DDR0_CK0_86   |      |             |             |          |
| 18 DDR_B_D55 | DDR_B_D55 | BD01 | DDR0_CK0_87/DDR0_CK0_87     | DDR0_CK0_87/DDR0_CK0_87   |      |             |             |          |
| 18 DDR_B_D56 | DDR_B_D56 | BD01 | DDR0_CK0_88/DDR0_CK0_88     | DDR0_CK0_88/DDR0_CK0_88   |      |             |             |          |
| 18 DDR_B_D57 | DDR_B_D57 | BD01 | DDR0_CK0_89/DDR0_CK0_89     | DDR0_CK0_89/DDR0_CK0_89   |      |             |             |          |
| 18 DDR_B_D58 | DDR_B_D58 | BD01 | DDR0_CK0_90/DDR0_CK0_90     | DDR0_CK0_90/DDR0_CK0_90   |      |             |             |          |
| 18 DDR_B_D59 | DDR_B_D59 | BD01 | DDR0_CK0_91/DDR0_CK0_91     | DDR0_CK0_91/DDR0_CK0_91   |      |             |             |          |
| 18 DDR_B_D60 | DDR_B_D60 | BD01 | DDR0_CK0_92/DDR0_CK0_92     | DDR0_CK0_92/DDR0_CK0_92   |      |             |             |          |
| 18 DDR_B_D61 | DDR_B_D61 | BD01 | DDR0_CK0_93/DDR0_CK0_93     | DDR0_CK0_93/DDR0_CK0_93   |      |             |             |          |
| 18 DDR_B_D62 | DDR_B_D62 | BD01 | DDR0_CK0_94/DDR0_CK0_94     | DDR0_CK0_94/DDR0_CK0_94   |      |             |             |          |
| 18 DDR_B_D63 | DDR_B_D63 | BD01 | DDR0_CK0_95/DDR0_CK0_95     | DDR0_CK0_95/DDR0_CK0_95   |      |             |             |          |
| 18 DDR_B_D64 | DDR_B_D64 | BD01 | DDR0_CK0_96/DDR0_CK0_96     | DDR0_CK0_96/DDR0_CK0_96   |      |             |             |          |
| 18 DDR_B_D65 | DDR_B_D65 | BD01 | DDR0_CK0_97/DDR0_CK0_97     | DDR0_CK0_97/DDR0_CK0_97   |      |             |             |          |
| 18 DDR_B_D66 | DDR_B_D66 | BD01 | DDR0_CK0_98/DDR0_CK0_98     | DDR0_CK0_98/DDR0_CK0_98   |      |             |             |          |
| 18 DDR_B_D67 | DDR_B_D67 | BD01 | DDR0_CK0_99/DDR0_CK0_99     | DDR0_CK0_99/DDR0_CK0_99   |      |             |             |          |
| 18 DDR_B_D68 | DDR_B_D68 | BD01 | DDR0_CK0_100/DDR0_CK0_100   | DDR0_CK0_100/DDR0_CK0_100 |      |             |             |          |
| 18 DDR_B_D69 | DDR_B_D69 | BD01 | DDR0_CK0_101/DDR0_CK0_101   | DDR0_CK0_101/DDR0_CK0_101 |      |             |             |          |
| 18 DDR_B_D70 | DDR_B_D70 | BD01 | DDR0_CK0_102/DDR0_CK0_102   | DDR0_CK0_102/DDR0_CK0_102 |      |             |             |          |
| 18 DDR_B_D71 | DDR_B_D71 | BD01 | DDR0_CK0_103/DDR0_CK0_103   | DDR0_CK0_103/DDR0_CK0_103 |      |             |             |          |
| 18 DDR_B_D72 | DDR_B_D72 | BD01 | DDR0_CK0_104/DDR0_CK0_104   | DDR0_CK0_104/DDR0_CK0_104 |      |             |             |          |
| 18 DDR_B_D73 | DDR_B_D73 | BD01 | DDR0_CK0_105/DDR0_CK0_105   | DDR0_CK0_105/DDR0_CK0_105 |      |             |             |          |
| 18 DDR_B_D74 | DDR_B_D74 | BD01 | DDR0_CK0_106/DDR0_CK0_106   | DDR0_CK0_106/DDR0_CK0_106 |      |             |             |          |
| 18 DDR_B_D75 | DDR_B_D75 | BD01 | DDR0_CK0_107/DDR0_CK0_107   | DDR0_CK0_107/DDR0_CK0_107 |      |             |             |          |
| 18 DDR_B_D76 | DDR_B_D76 | BD01 | DDR0_CK0_108/DDR0_CK0_108   | DDR0_CK0_108/DDR0_CK0_108 |      |             |             |          |
| 18 DDR_B_D77 | DDR_B_D77 | BD01 | DDR0_CK0_109/DDR0_CK0_109   | DDR0_CK0_109/DDR0_CK0_109 |      |             |             |          |
| 18 DDR_B_D78 | DDR_B_D78 | BD01 | DDR0_CK0_110/DDR0_CK0_110   | DDR0_CK0_110/DDR0_CK0_110 |      |             |             |          |
| 18 DDR_B_D79 | DDR_B_D79 | BD01 | DDR0_CK0_111/DDR0_CK0_111   | DDR0_CK0_111/DDR0_CK0_111 |      |             |             |          |
| 18 DDR_B_D80 | DDR_B_D80 | BD01 | DDR0_CK0_112/DDR0_CK0_112   | DDR0_CK0_112/DDR0_CK0_112 |      |             |             |          |
| 18 DDR_B_D81 | DDR_B_D81 | BD01 | DDR0_CK0_113/DDR0_CK0_113   | DDR0_CK0_113/DDR0_CK0_113 |      |             |             |          |
| 18 DDR_B_D82 | DDR_B_D82 | BD01 | DDR0_CK0_114/DDR0_CK0_114   | DDR0_CK0_114/DDR0_CK0_114 |      |             |             |          |
| 18 DDR_B_D83 | DDR_B_D83 | BD01 | DDR0_CK0_115/DDR0_CK0_115   | DDR0_CK0_115/DDR0_CK0_115 |      |             |             |          |
| 18 DDR_B_D84 | DDR_B_D84 | BD01 | DDR0_CK0_116/DDR0_CK0_116   | DDR0_CK0_116/DDR0_CK0_116 |      |             |             |          |
| 18 DDR_B_D85 | DDR_B_D85 | BD01 | DDR0_CK0_117/DDR0_CK0_117   | DDR0_CK0_117/DDR0_CK0_117 |      |             |             |          |
| 18 DDR_B_D86 | DDR_B_D86 | BD01 | DDR0_CK0_118/DDR0_CK0_118   | DDR0_CK0_118/DDR0_CK0_118 |      |             |             |          |
| 18 DDR_B_D87 | DDR_B_D87 | BD01 | DDR0_CK0_119/DDR0_CK0_119   | DDR0_CK0_119/DDR0_CK0_119 |      |             |             |          |
| 18 DDR_B_D88 | DDR_B_D88 | BD01 | DDR0_CK0_120/DDR0_CK0_120   | DDR0_CK0_120/DDR0_CK0_120 |      |             |             |          |
| 18 DDR_B_D89 | DDR_B_D89 | BD01 | DDR0_CK0_121/DDR0_CK0_121   | DDR0_CK0_121/DDR0_CK0_121 |      |             |             |          |
| 18 DDR_B_D90 | DDR_B_D90 | BD01 | DDR0_CK0_122/DDR0_CK0_122   | DDR0_CK0_122/DDR0_CK0_122 |      |             |             |          |
| 18 DDR_B_D91 | DDR_B_D91 | BD01 | DDR0_CK0_123/DDR0_CK0_123   | DDR0_CK0_123/DDR0_CK0_123 |      |             |             |          |
| 18 DDR_B_D92 | DDR_B_D92 | BD01 | DDR0_CK0_124/DDR0_CK0_124   | DDR0_CK0_124/DDR0_CK0_124 |      |             |             |          |
| 18 DDR_B_D93 | DDR_B_D93 | BD01 | DDR0_CK0_125/DDR0_CK0_125   | DDR0_CK0_125/DDR0_CK0_125 |      |             |             |          |
| 18 DDR_B_D94 | DDR_B_D94 | BD01 | DDR0_CK0_126/DDR0_CK0_126   | DDR0_CK0_126/DDR0_CK0_126 |      |             |             |          |
| 18 DDR_B_D95 | DDR_B_D95 | BD01 | DDR0_CK0_127/DDR0_CK0_127   | DDR0_CK0_127/DDR0_CK0_127 |      |             |             |          |
| 18 DDR_B_D96 | DDR_B_D96 | BD01 | DDR0_CK0_128/DDR0_CK0_128   | DDR0_CK0_128/DDR0_CK0_128 |      |             |             |          |
| 18 DDR_B_D97 | DDR_B_D97 | BD01 | DDR0_CK0_129/DDR0_CK0_129</ |                           |      |             |             |          |



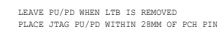
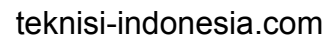


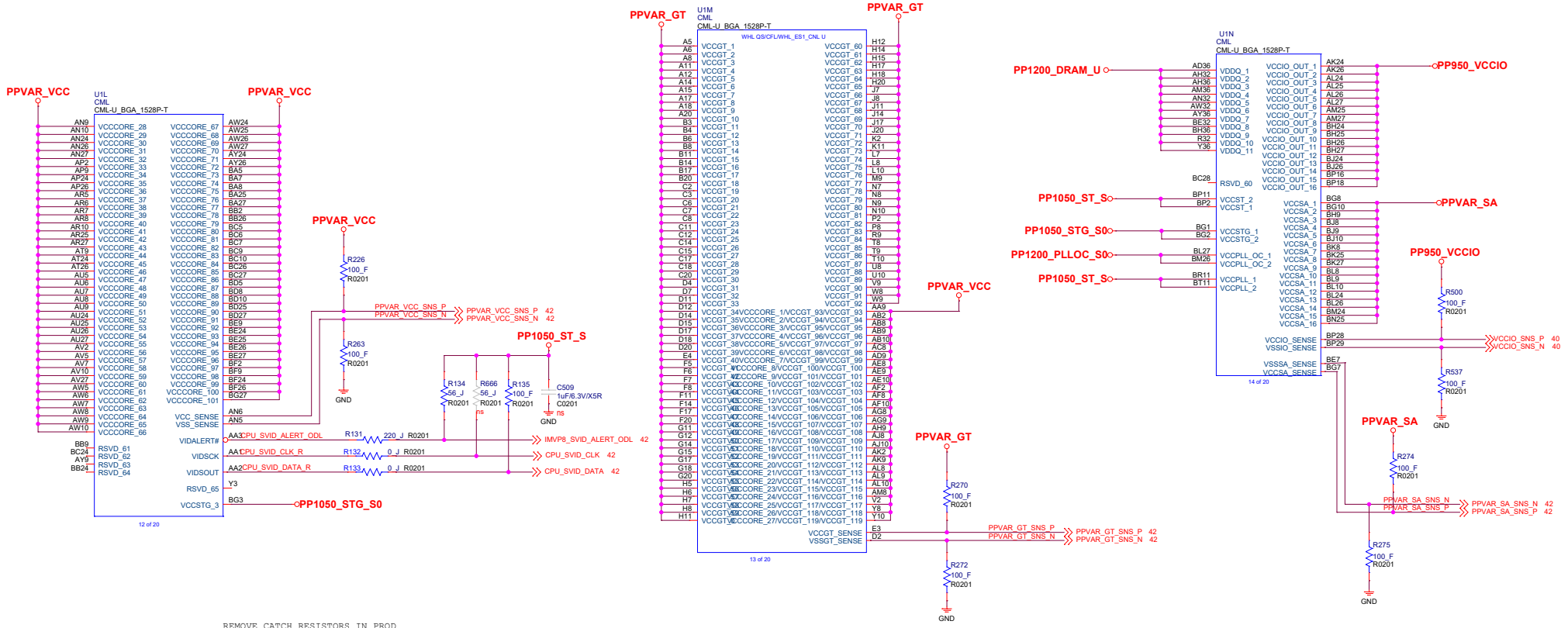


| HARDWARE STRAPS (* = SYSTEM STRAP SELECTION)                                       |                                                                                                       |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| GPP_B14: EXTERNAL PD<br>* DISABLE TOP SWAP MODE: 0<br>ENABLE TOP SWAP MODE: 1      | GPP_E19: INTERNAL PD<br>DISPLAY PORT B NOT DETECTED: 0<br>* DISPLAY PORT B DETECTED: 1                |
| GPP_B18: INTERNAL PD<br>* DISABLE NO REBOOT MODE: 0<br>ENABLE NO REBOOT MODE: 1    | GPP_E21: INTERNAL PD<br>DISPLAY PORT C NOT DETECTED: 0<br>* DISPLAY PORT C DETECTED: 1                |
| GPP_C2: INTERNAL PD<br>* DISABLE TSL CIPHER SUITE: 0<br>ENABLE TSL CIPHER SUITE: 1 | GPP_E23: INTERNAL PD<br>* DISPLAY PORT D NOT DETECTED: 0<br>DISPLAY PORT D DETECTED: 1                |
| GPP_B22: INTERNAL PD<br>* BOOT BIOS FROM SPI: 0<br>BOOT BIOS FROM LPC: 1           | GPP_H23: MAF VS SAF SEL<br>* MASTER ATTACHED FLASH: 0<br>SLAVE ATTACHED FLASH: 1                      |
| GPP_C5: INTERNAL PD<br>LPC IS SELECTED FOR EC: 0<br>* ESPI IS SELECTED FOR EC: 1   | GPP_F6 (M2 CAED CONTROLLED)<br>INTEGRATED CNVI ENABLE: 0<br>*INTEGRATED CNVI DISABLED: 1              |
| SPIO_MOSI<br>EXTERNAL PU REQUIRED                                                  | SPIO_IO2<br>EXTERNAL PU REQUIRED                                                                      |
| GPD7<br>EXTERNAL PU REQUIRED                                                       | SPIO_IO3<br>EXTERNAL PU REQUIRED                                                                      |
| GPP_B23: INTERNAL<br>* DISABLE DCI-OOB: 0<br>ENABLE DCI-OOB: 1                     | HDA_SDO: INTERNAL PD<br>* ENABLE FLASH DESCRIPTOR SECURITY: 0<br>DISABLE FLASH DESCRIPTOR SECURITY: 1 |
| INPUT3VSEL<br>* 3.3V SUPPLY IS 3.3V: 0<br>3.3V SUPPLY IS 3.0V:                     | GPP_H21: XTAL FREQ SEL<br>XTAL FREQ IS NOT 24MHZ: 0<br>*XTAL FREQ IS 24MHZ: 1                         |
| GPP_D12<br>EXTERNAL PU REQUIRED                                                    | ITP_MODE<br>INTERNAL PU, MUST SAMPLE HIGH                                                             |
| GPP_H17<br>INTERNAL PD, MUST SAMPLE LOW                                            |                                                                                                       |





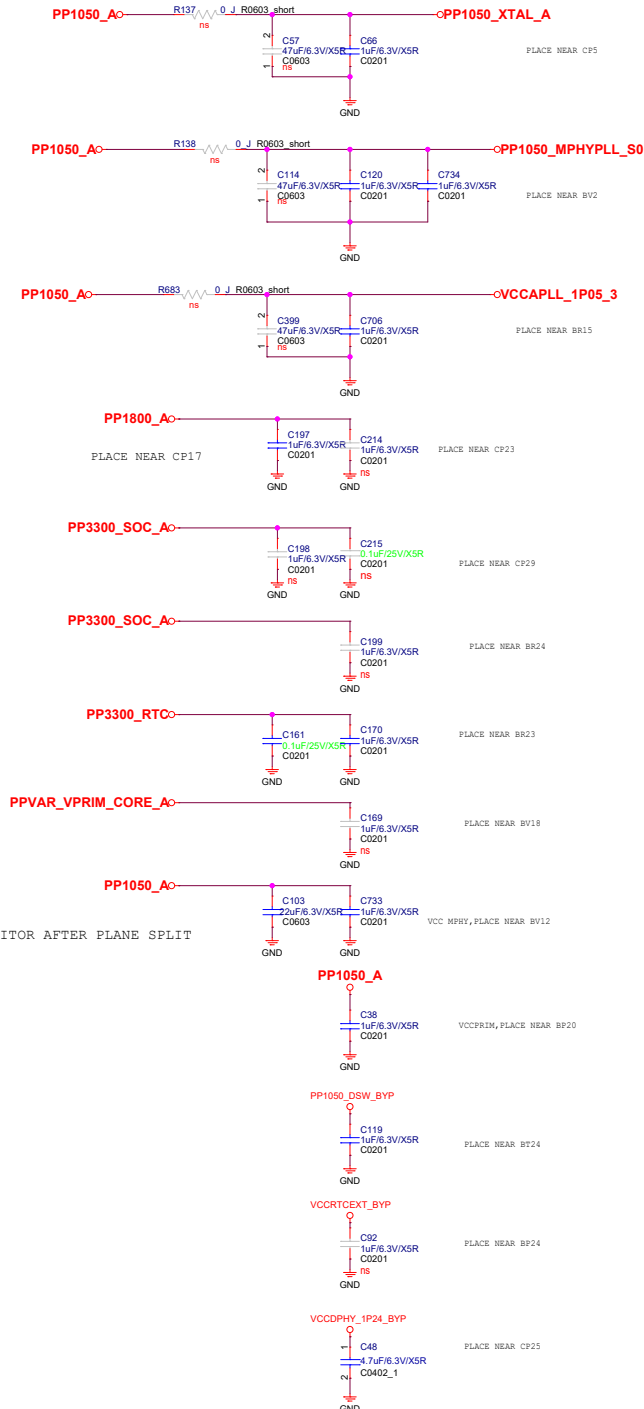
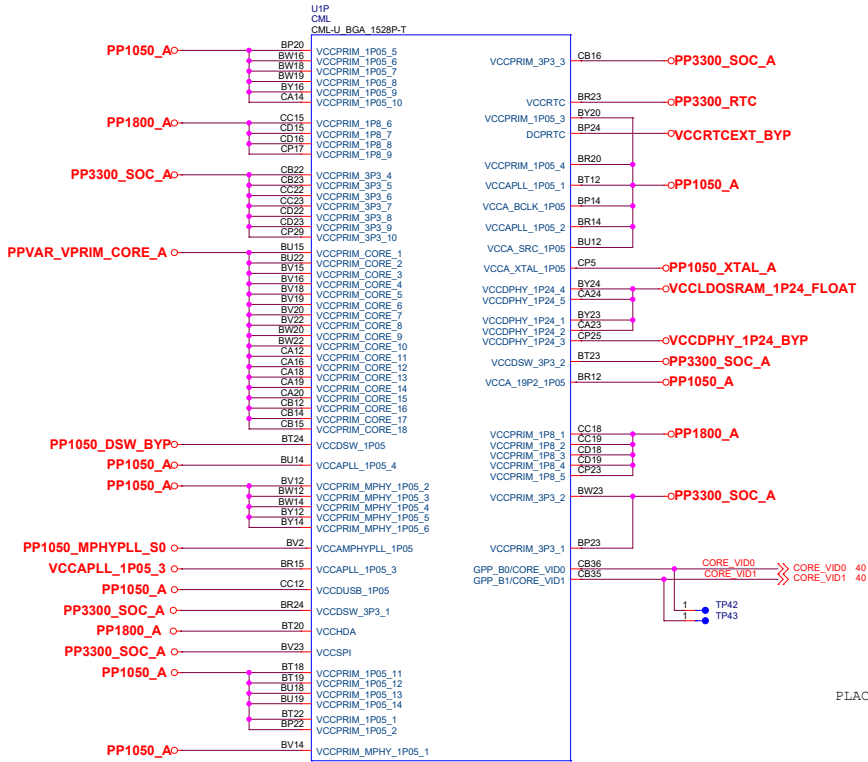


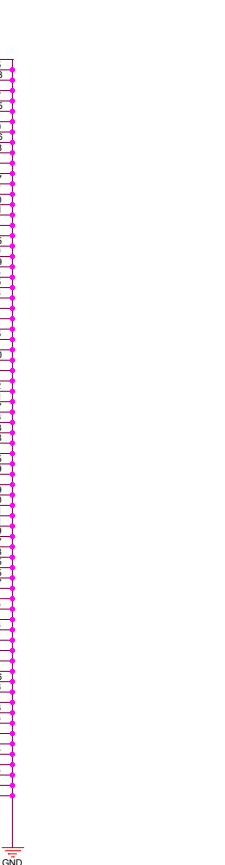


REMOVE CATCH RESISTORS IN PROD

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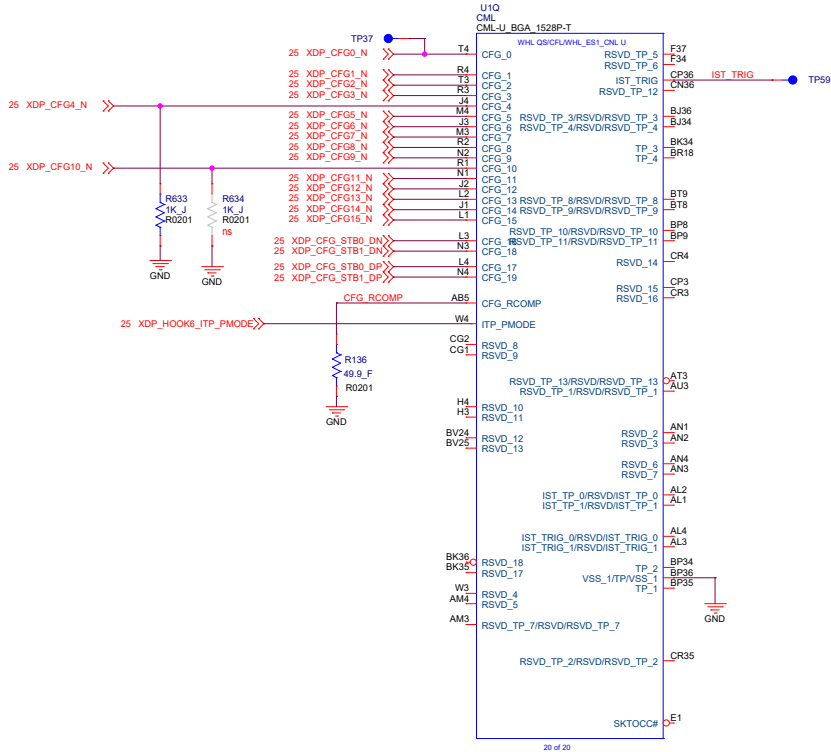
| BITLAND Bitland Information Technology Co., Ltd.                                                                                                                                                                                                                                                                 |              |                 |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|-------|
| Page Name                                                                                                                                                                                                                                                                                                        |              | CML: CORE POWER |       |
| Size C                                                                                                                                                                                                                                                                                                           | Project Name | Akemi           |       |
| Date: Tuesday, December 03, 2019                                                                                                                                                                                                                                                                                 | Sheet        | 13              | of 48 |
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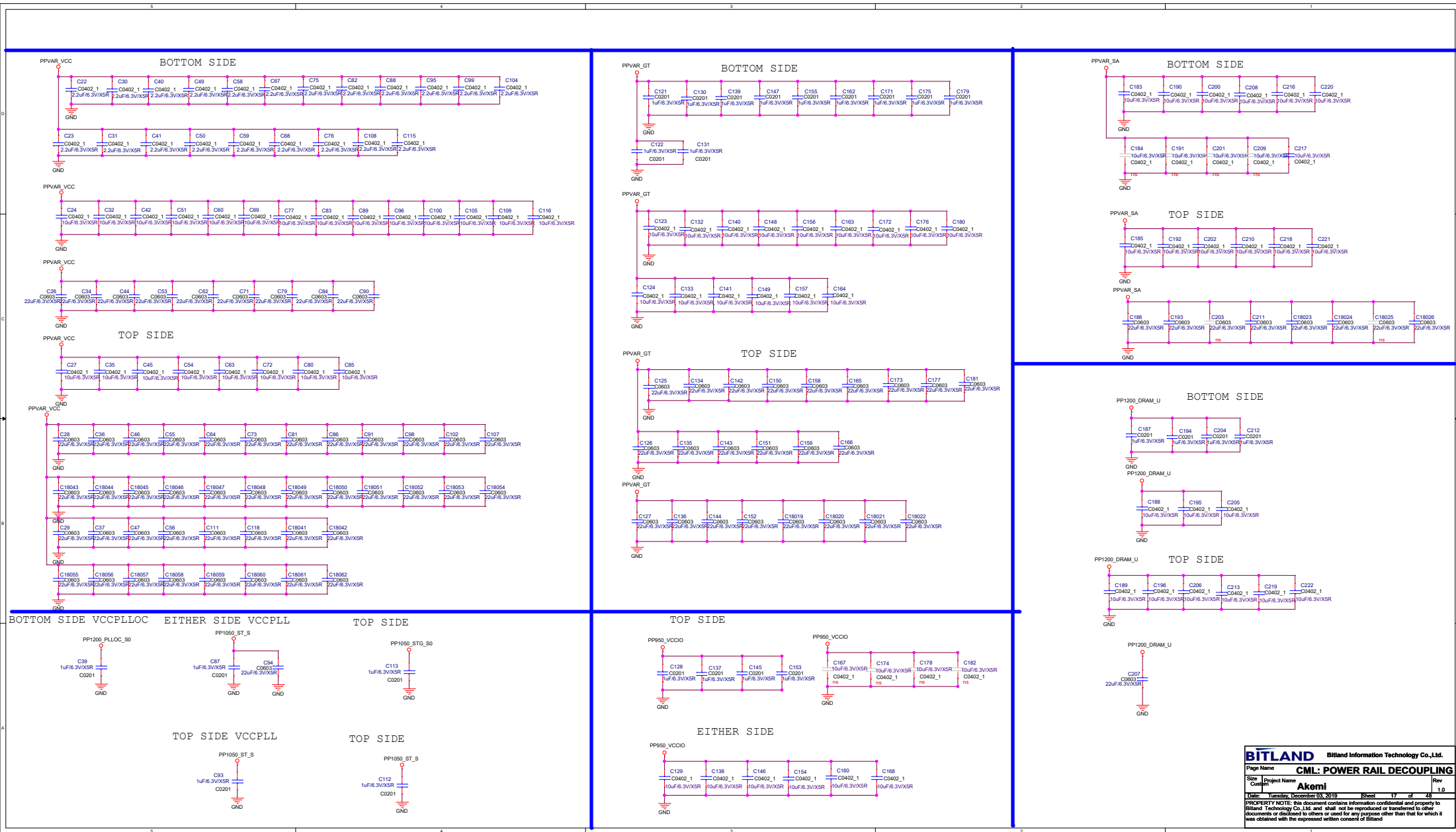


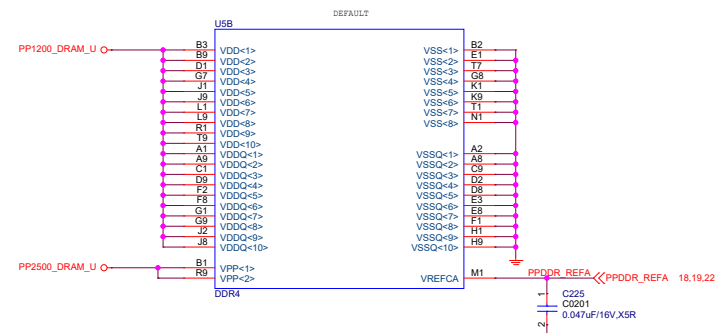
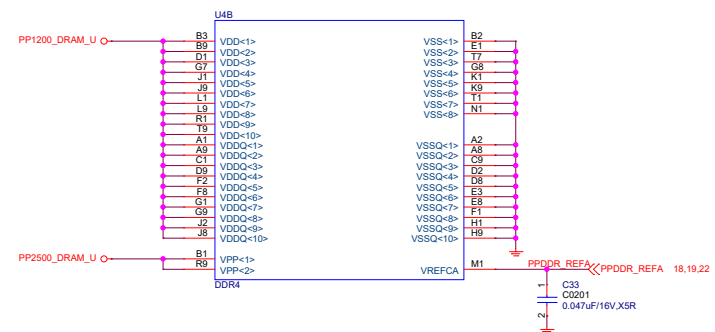
|      |                            |                              |
|------|----------------------------|------------------------------|
| U10  | CML                        | CML-U BGA 1528P-T            |
| K12  | WHL QSICL/UWHL_E81 ONL U22 | WHL QSICL/UWHL_E81 ONL U22   |
| K14  | RSVD_25/VCC_OPC_1/RSVD_25  | 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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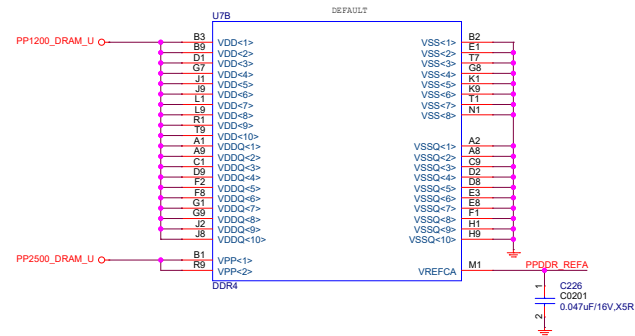
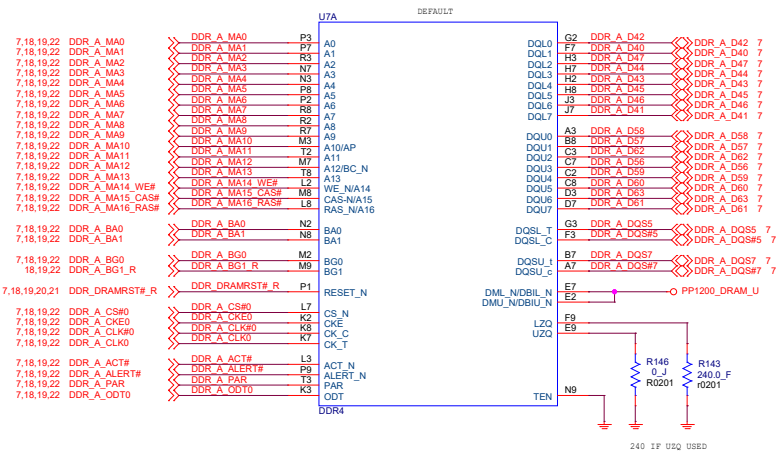
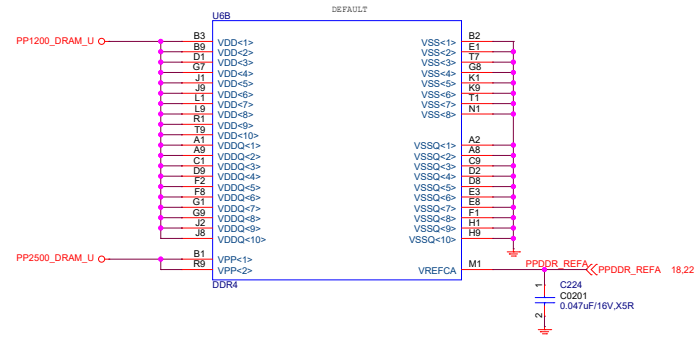
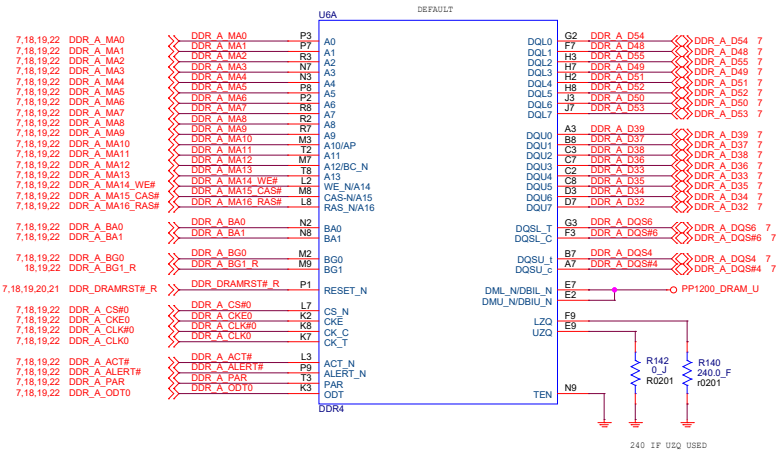
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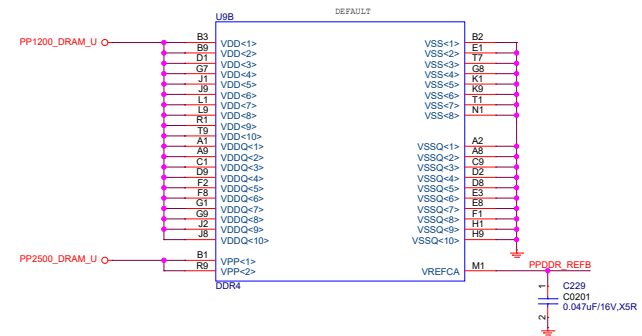
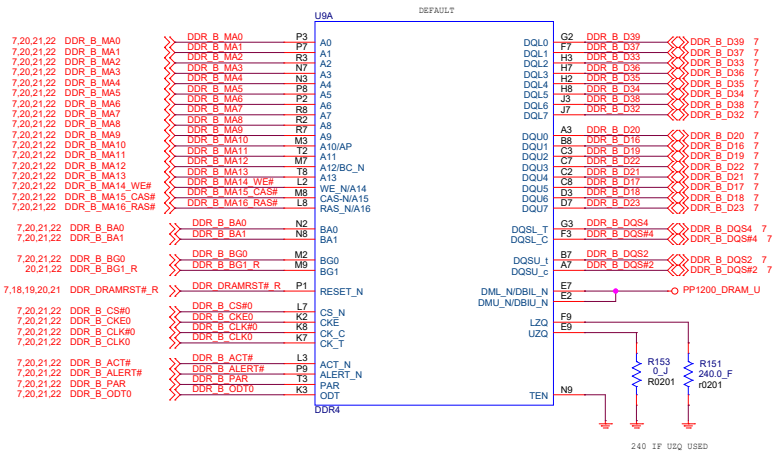
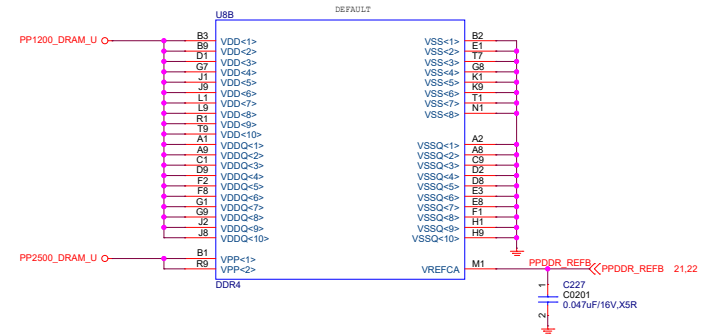
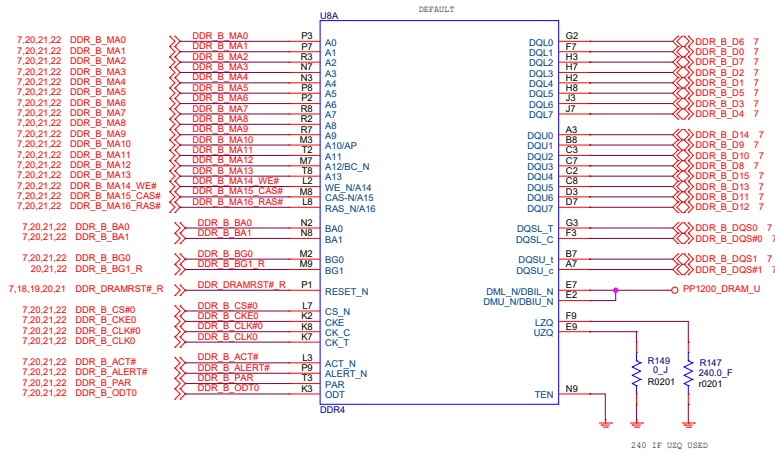


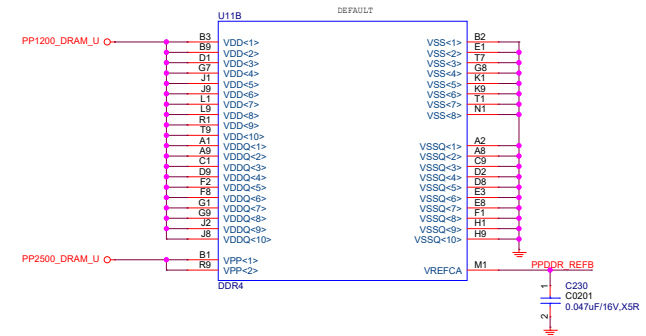
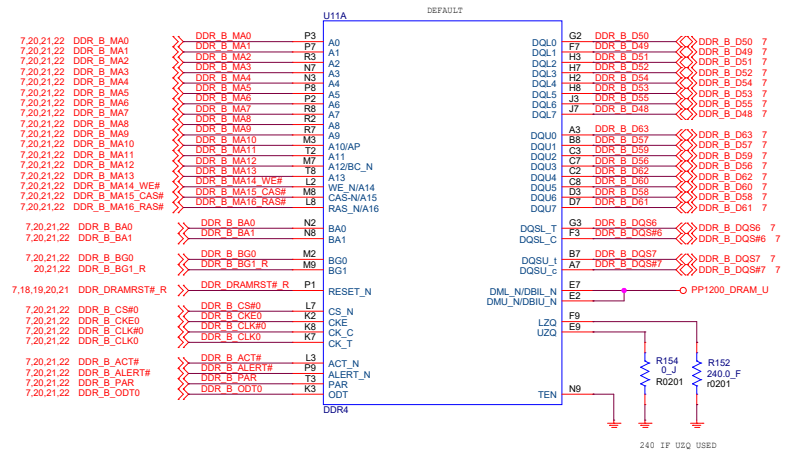
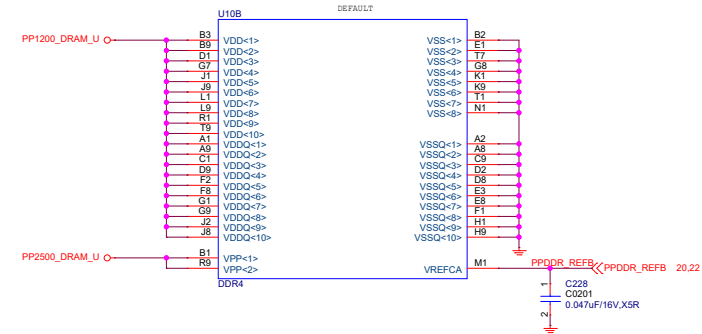
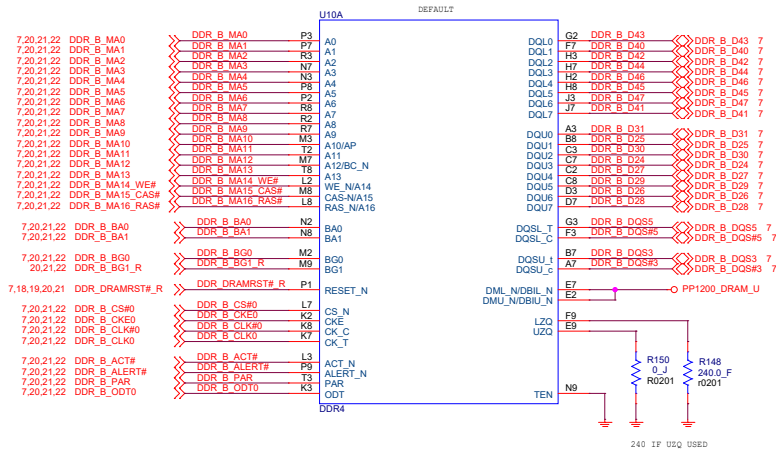


|                                  |                              |                                          |          |
|----------------------------------|------------------------------|------------------------------------------|----------|
| <b>BITLAND</b>                   |                              | Bitland Information Technology Co., Ltd. |          |
| Page Name                        |                              | <b>MEMORY CH A-1 DDR4</b>                |          |
| Size<br>C                        | Project Name<br><b>Akemi</b> | Rev                                      | 1.0      |
| Date: Tuesday, December 03, 2019 |                              | Sheet                                    | 18 of 48 |

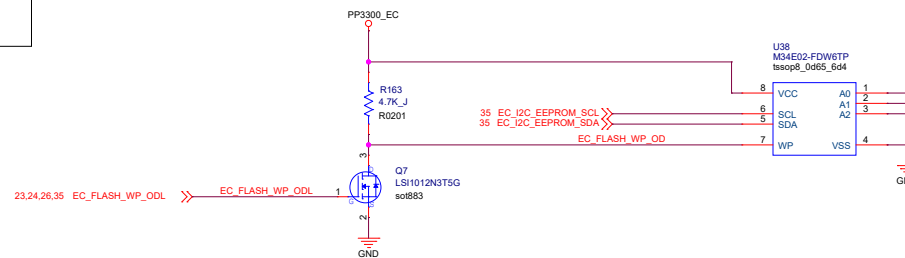
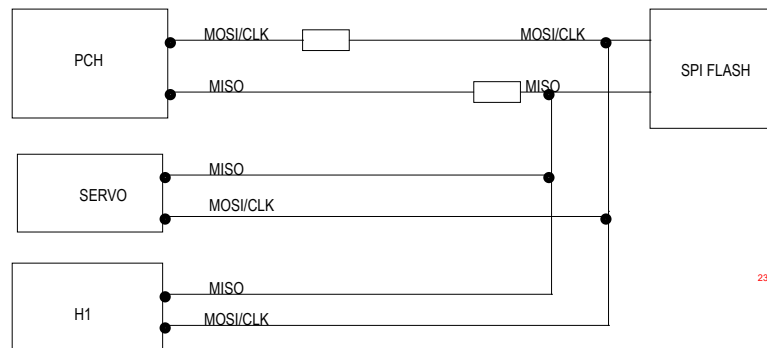
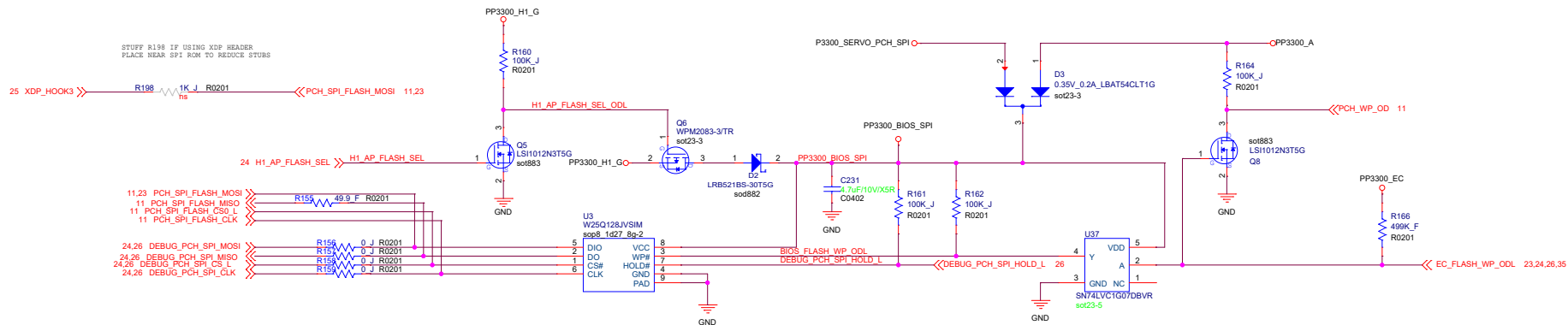
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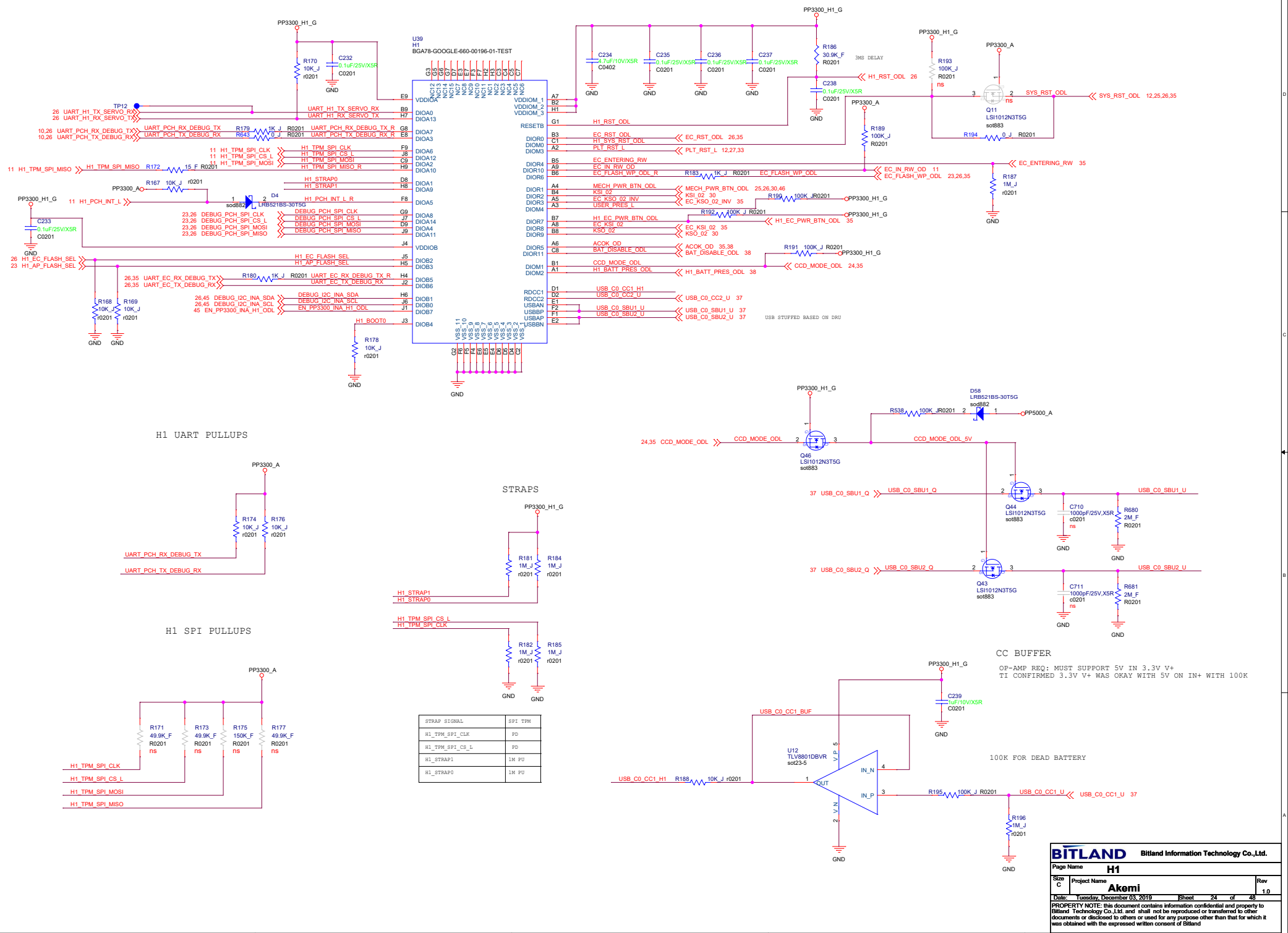






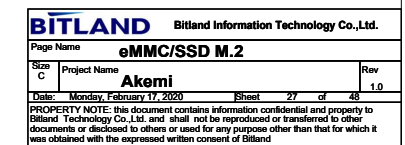






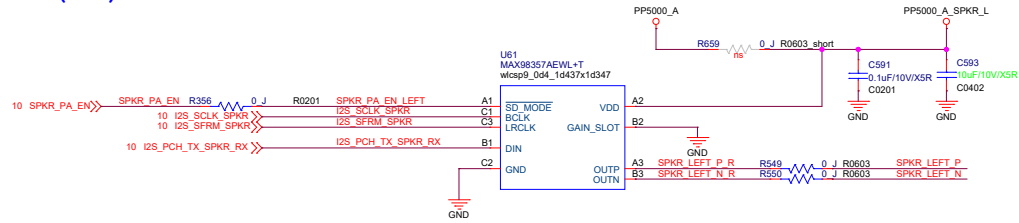






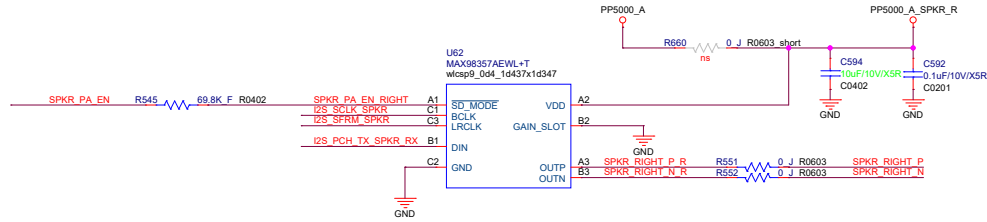
(AMP)

## LEFT CHANNEL

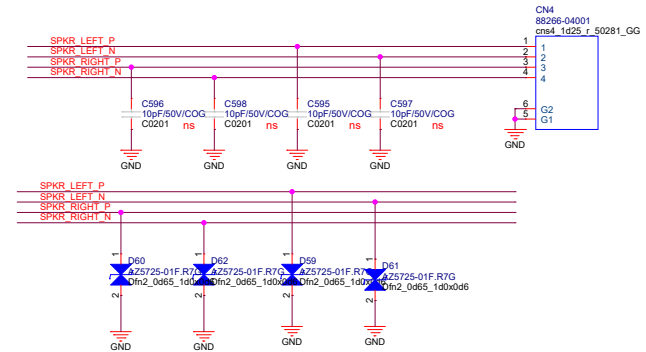


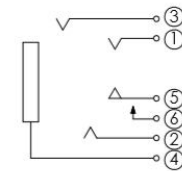
LEFT CHANNEL = SHORT (OR 2K FOR SAFETY) TO 1.8V  
GAIN\_SLOT: 100K TO GND = 15 DB GAIN  
GAIN\_SLOT: UNCONNECTED = 9 DB GAIN  
GAIN\_SLOT: 0 TO VDD = 6 DB GAIN  
GAIN\_SLOT: 0 TO GND = 12 DB GAIN  
GAIN\_SLOT: 100K TO VDD = 3 DB GAIN

## RIGHT CHANNEL

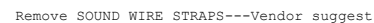


RIGHT CHANNEL = 69.8K TO 1.8V  
GAIN\_SLOT: GND = 12 DB GAIN





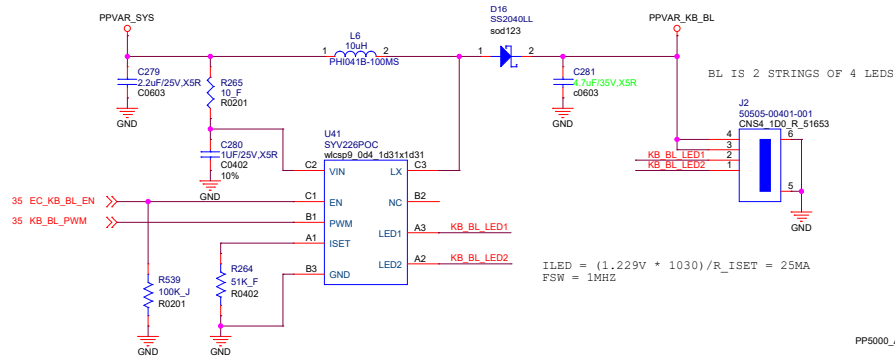
电原理图



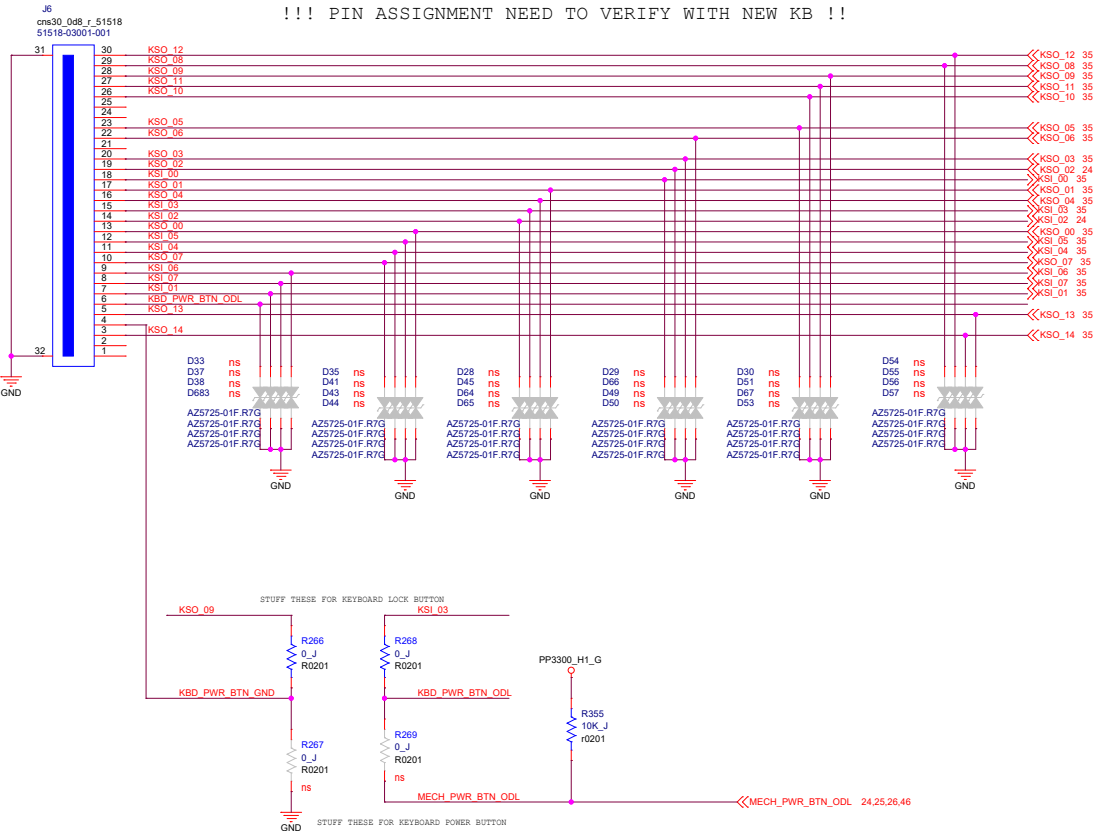
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| <b>BITLAND</b> |                              | Bitland Information Technology Co., Ltd. |          |
| Page Name      |                              | <b>AUDIO: HEADPHONE AMP</b>              |          |
| Size<br>C      | Project Name<br><b>Akemi</b> | Rev                                      | 1.0      |
| Date:          | Monday, February 17, 2020    | Sheet                                    | 29 of 48 |

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## KEYBOARD BACKLIGHT

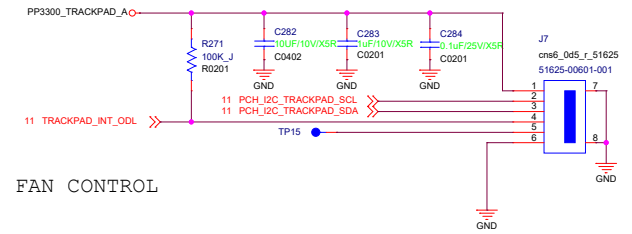


!!! PIN ASSIGNMENT NEED TO VERIFY WITH NEW KB !!

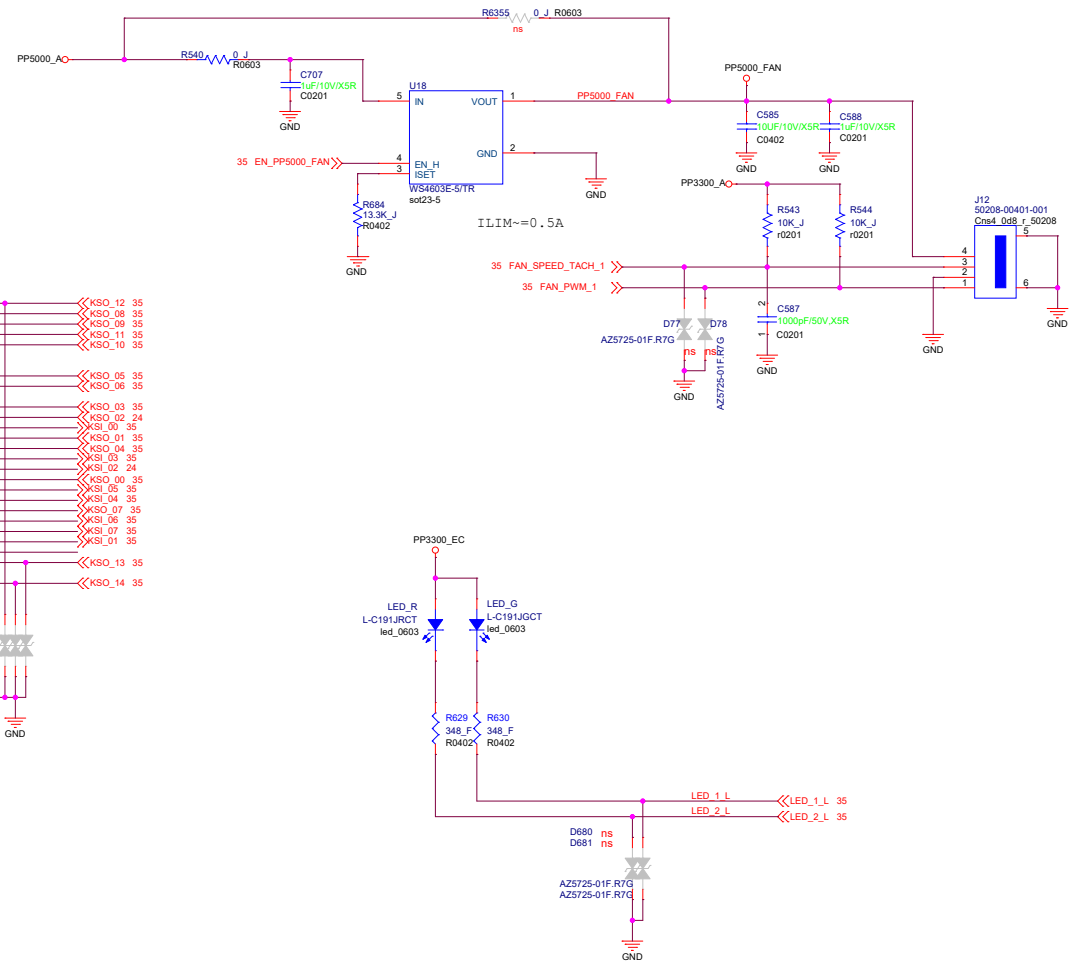


## TRACKPAD CONNECTOR

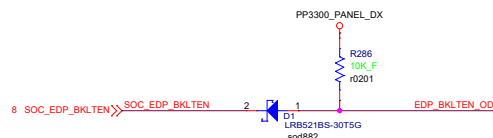
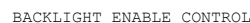
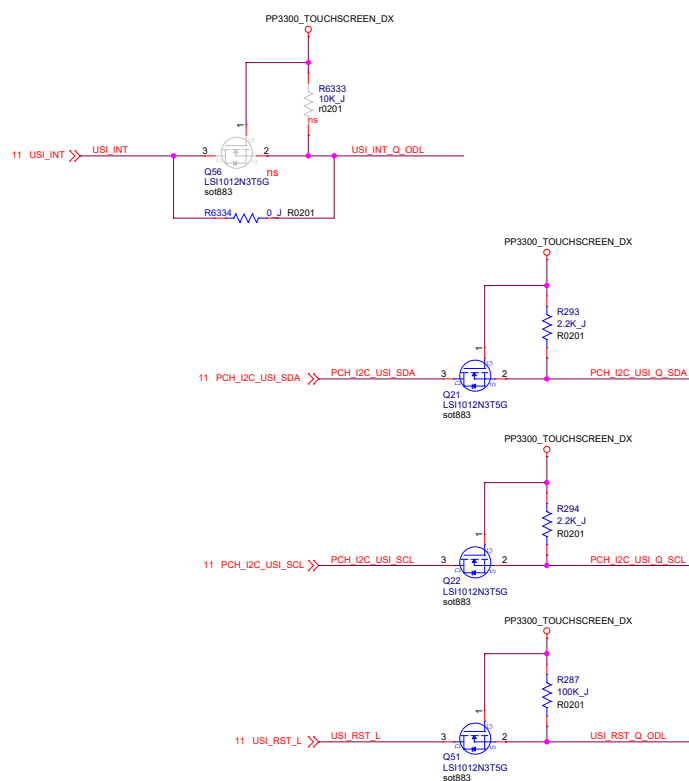
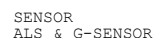
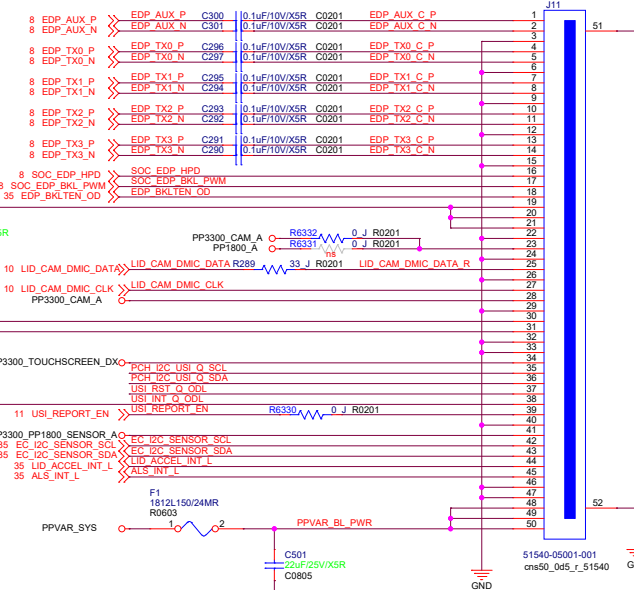
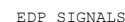
6 PIN, .5MM PITCH, FPC CONN, BOTTOM CONTACT

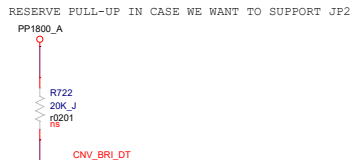
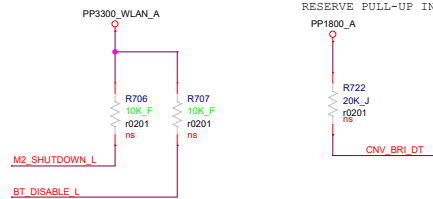


## FAN CONTROL

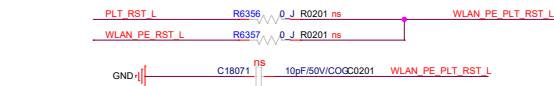
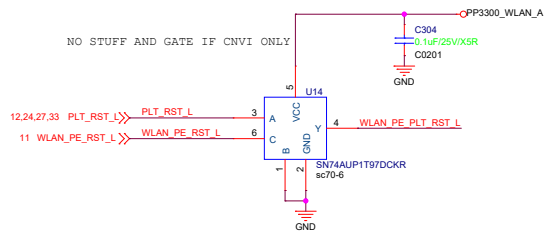
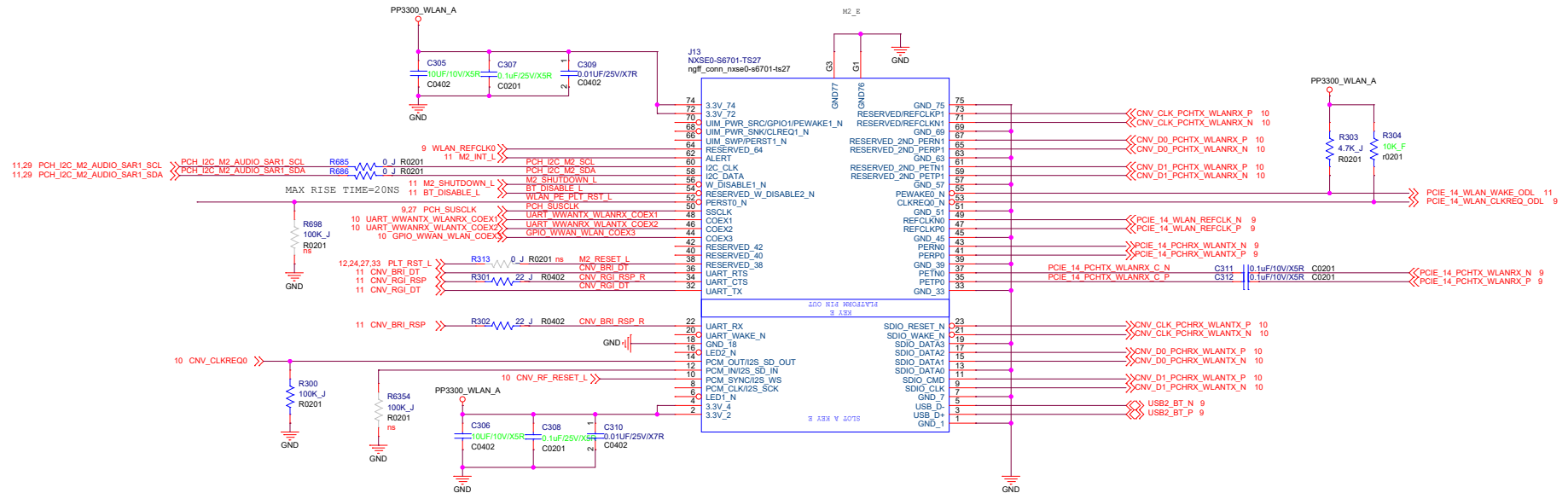


Remove FINGERPRINT





PP3300\_WLAN\_A RISE TIME<10MS



Remove LTE



Bitland Information Technology Co.,Ltd.

Page Name

LTE

Size

C

Project Name

Akemi

Rev

1.0

Date

Tuesday, December 03, 2019

Sheet

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of

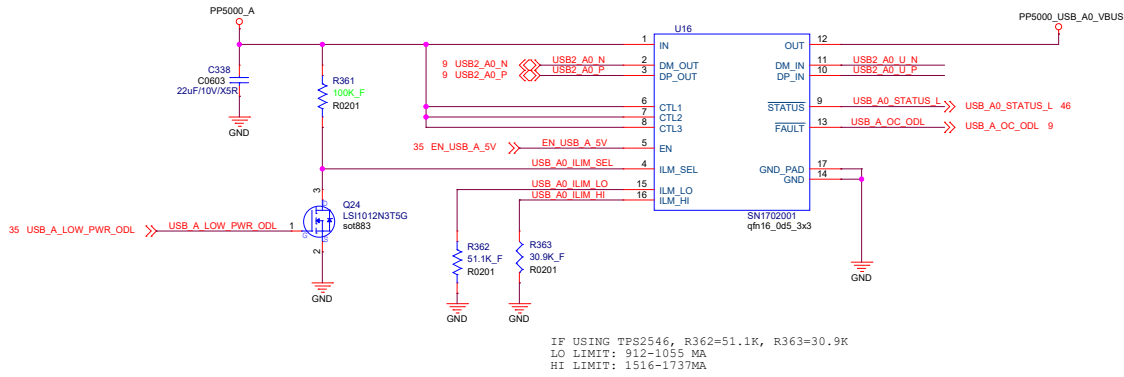
48

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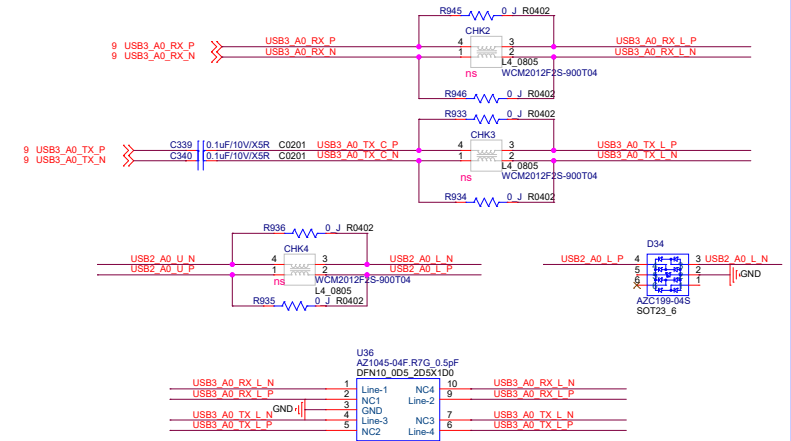


## MICRO SD CARD

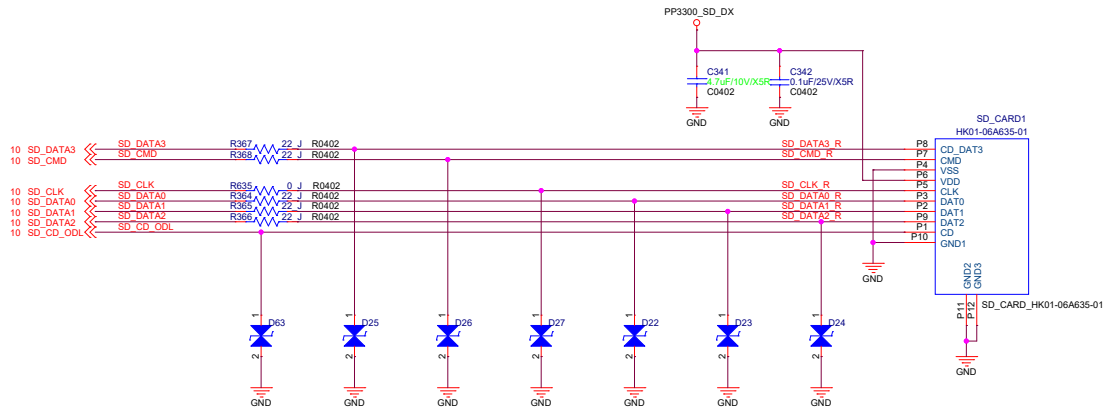
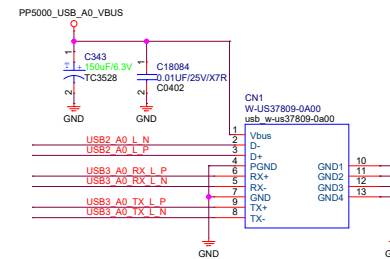
\*IF NOT ON MLB, USB TO SD INTERFACE MUST BE USED



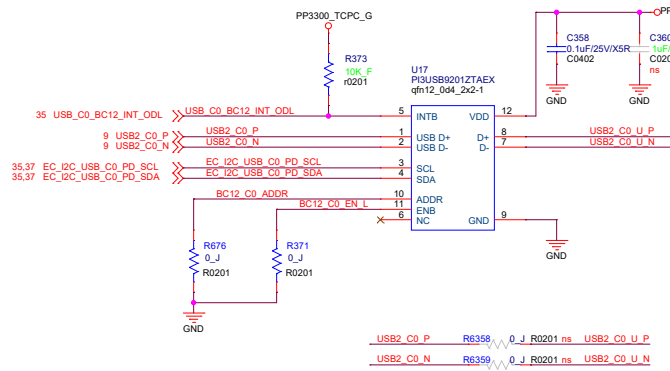
Deviation  
Change L5(PCMF3USB3S) to discrete EMI filter and ESD---0315



CM TO CHOOSE CONNECTOR

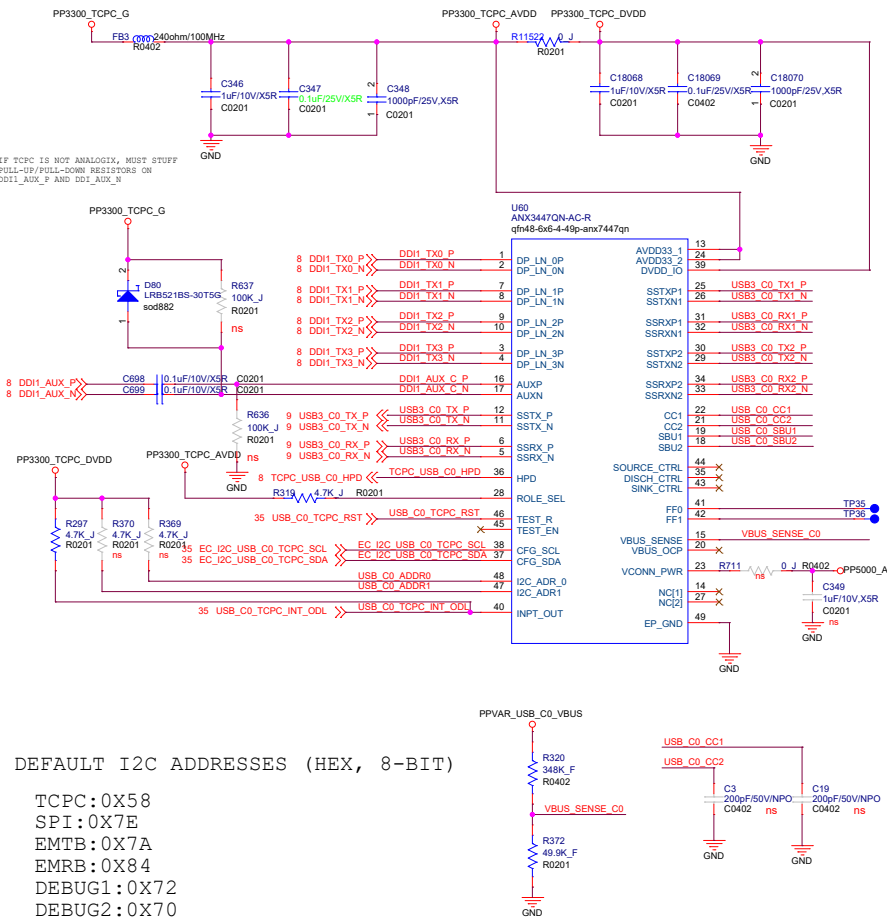


## BC1.2

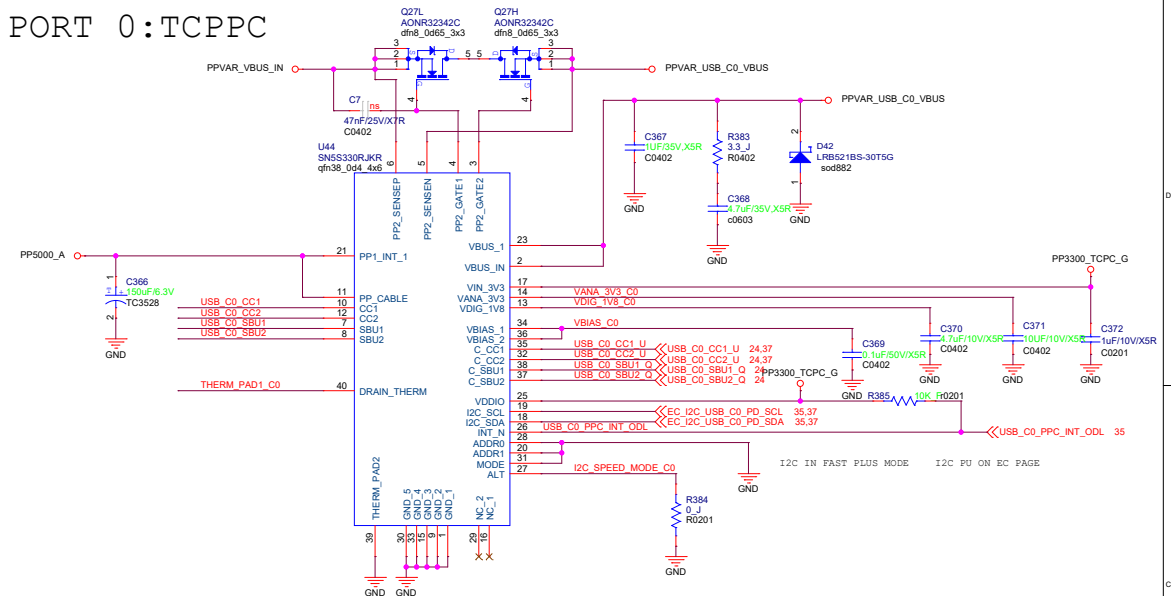


ADDRESS (HEX, 8 BIT) : 0XBE

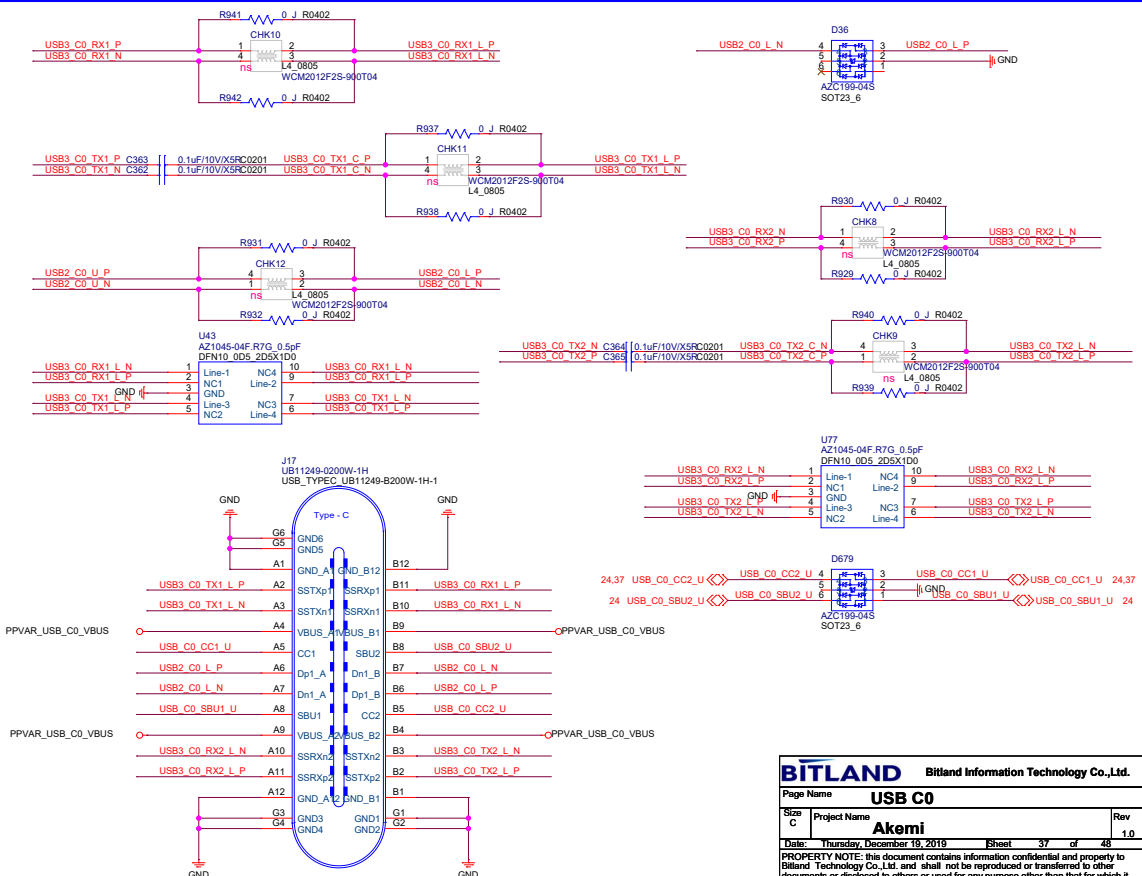
## PORT 0:TCPC

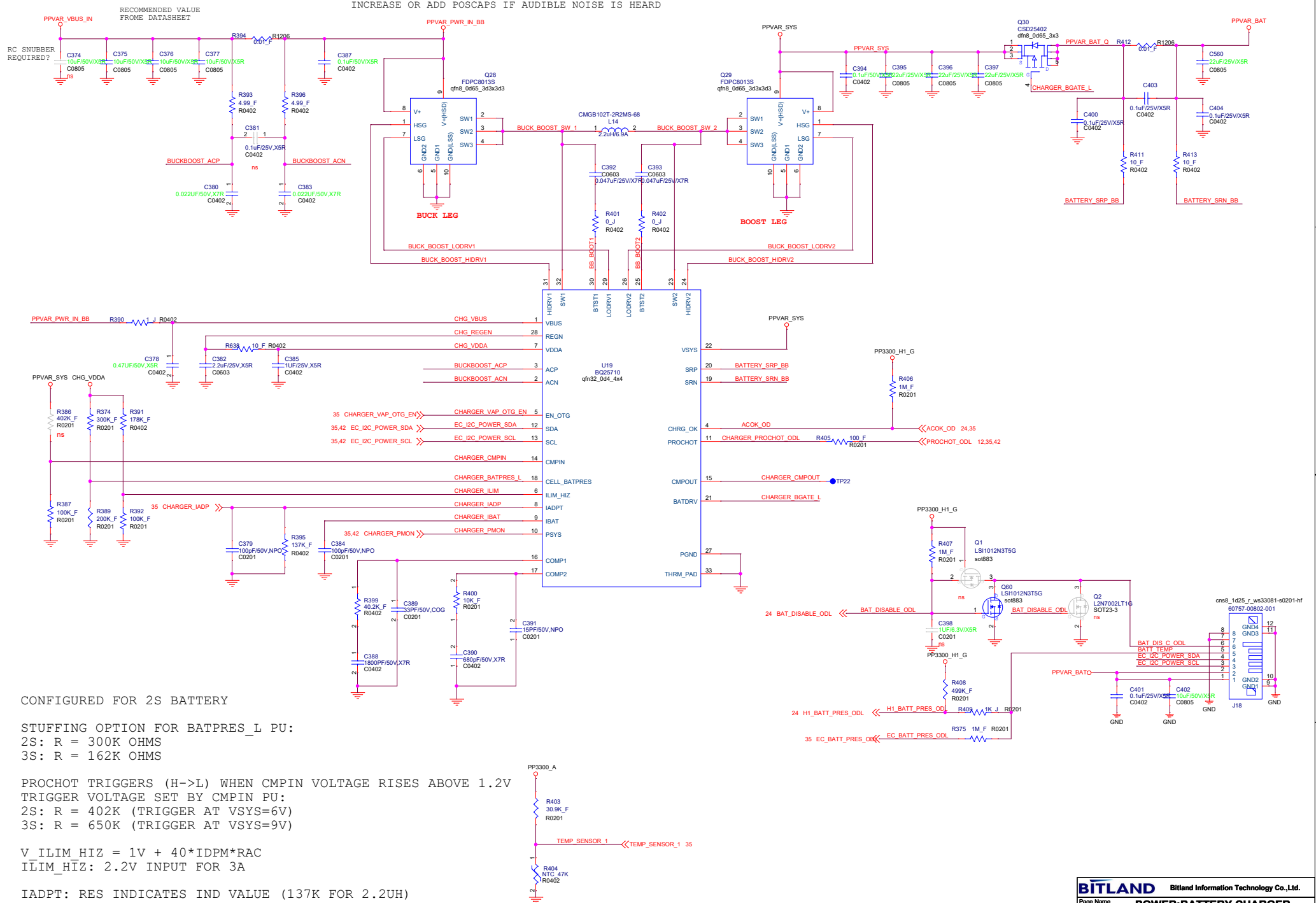


## PORT 0:TCPPC

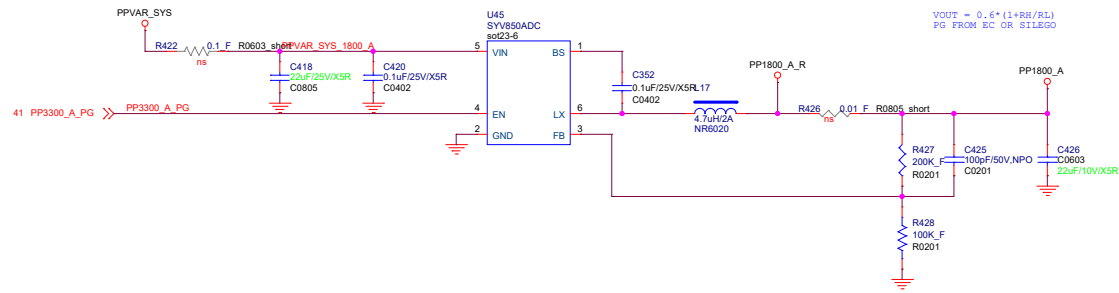


THERM PAD 1 MUST BE CONNECTED TO ISOLATED THERMAL PAD ADDRESS (HEX, 8 BIT): 0X80

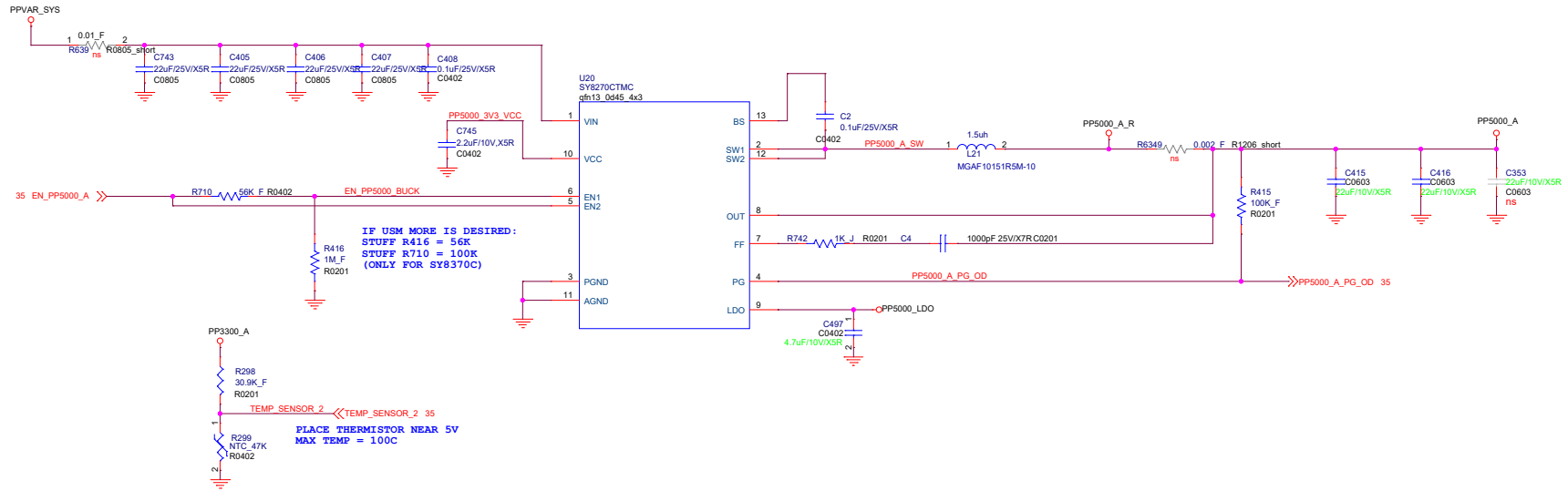




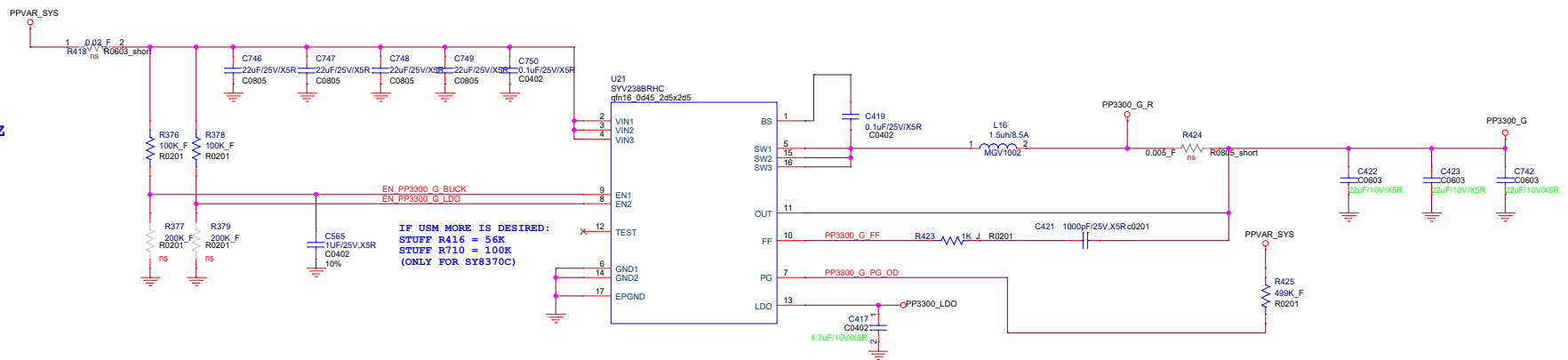
PP1800\_A  
IMAX = 0.2A  
ISAT = 0.2A  
FSW = 500KHZ



PP5000\_A  
IMAX = 9.6A  
ISAT = 10.9A  
FSW = 600KHZ

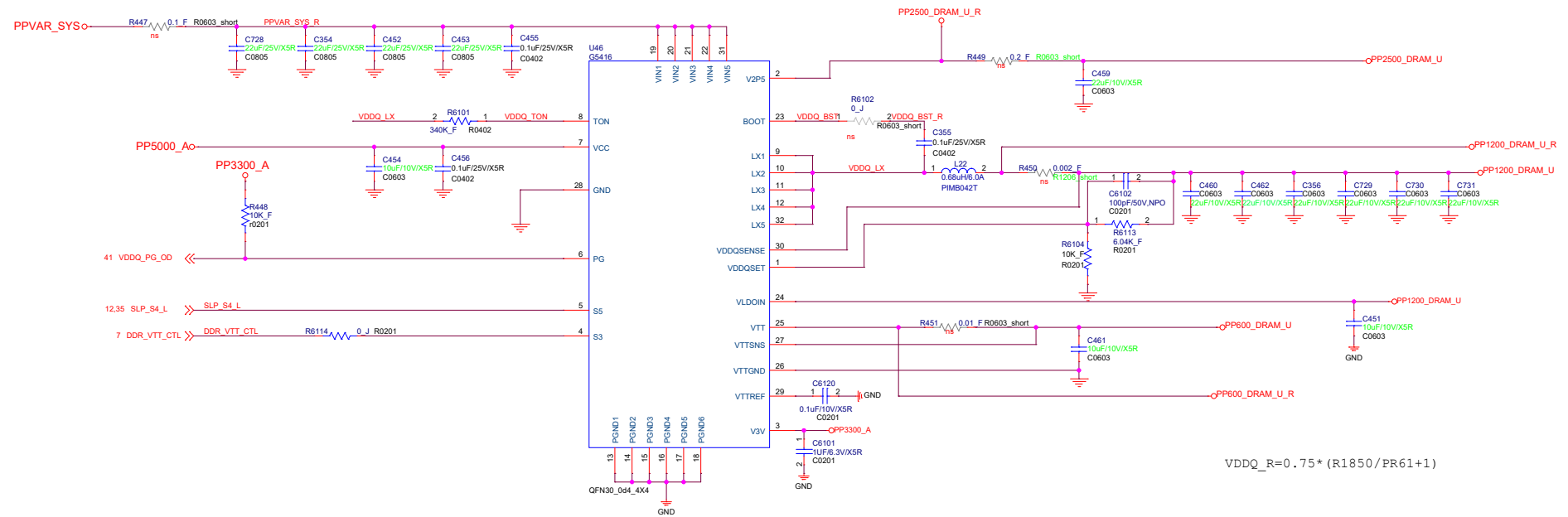


PP3300\_G  
IMAX = 7.0A  
ISAT = 8.3A  
FSW = 600KHZ

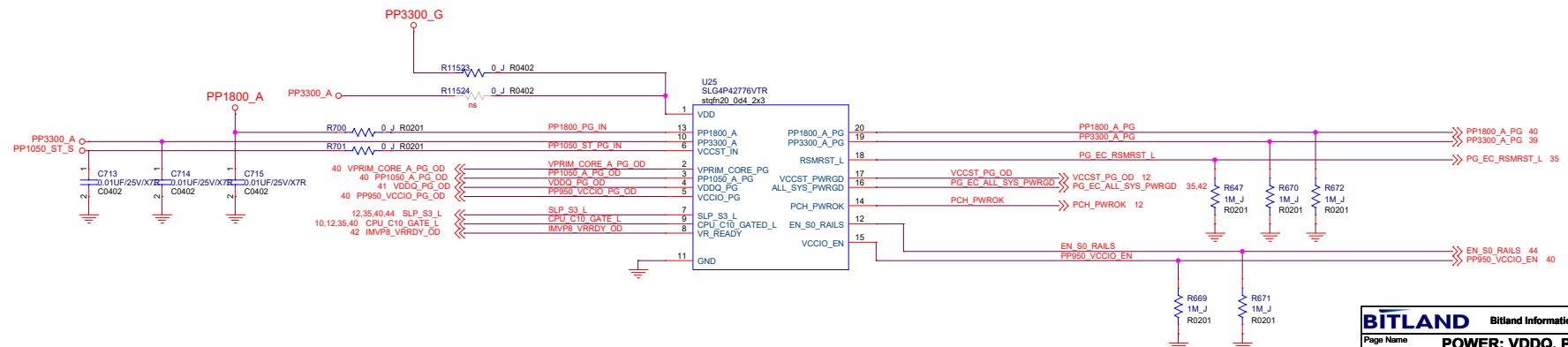




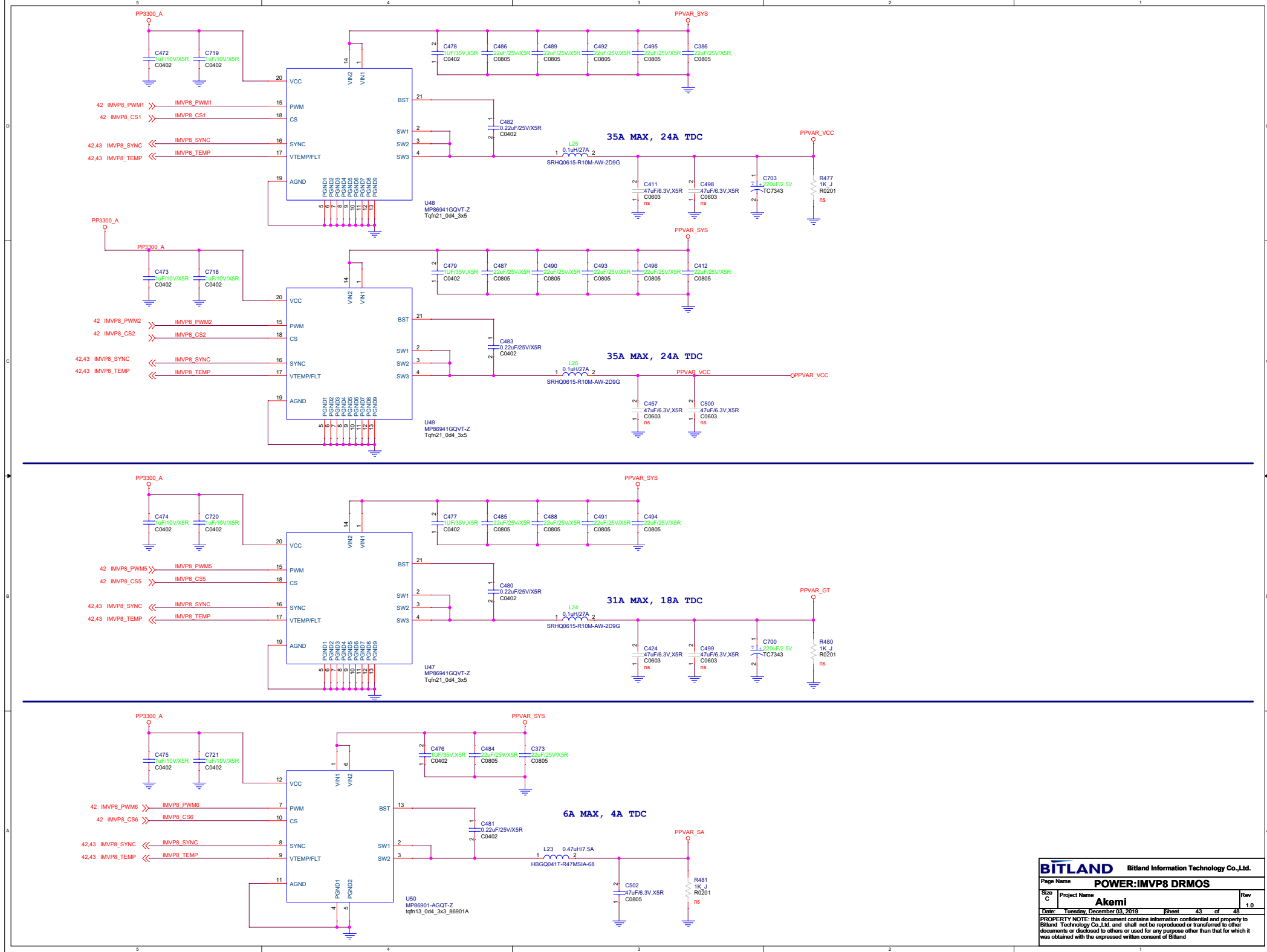
## DRR4 RAILS



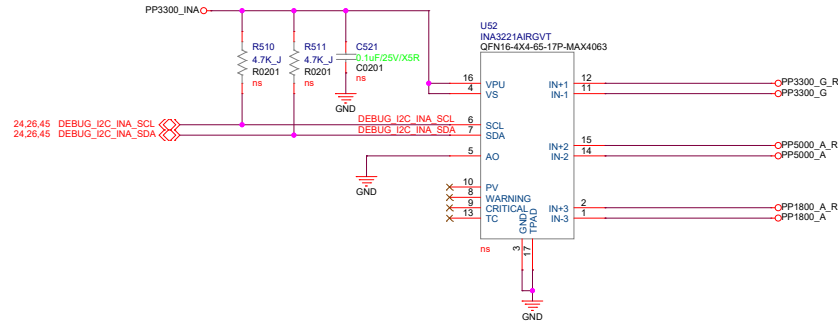
## POWER GOOD GENERATION



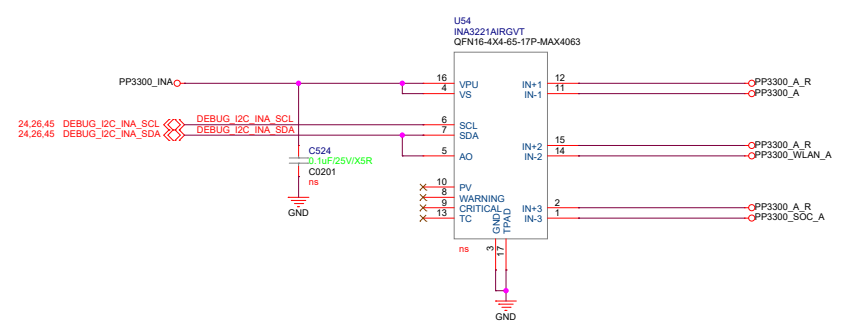




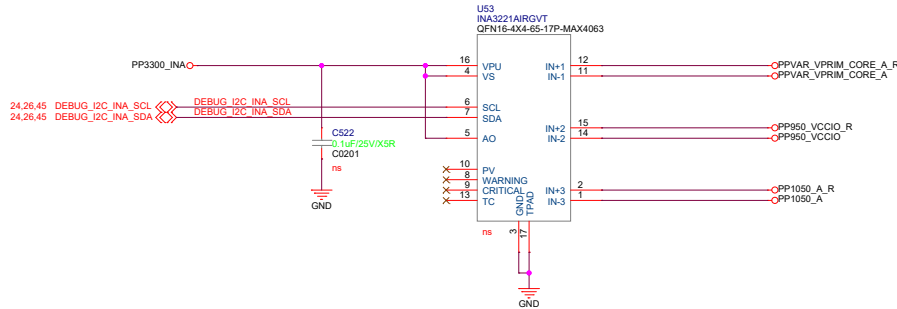




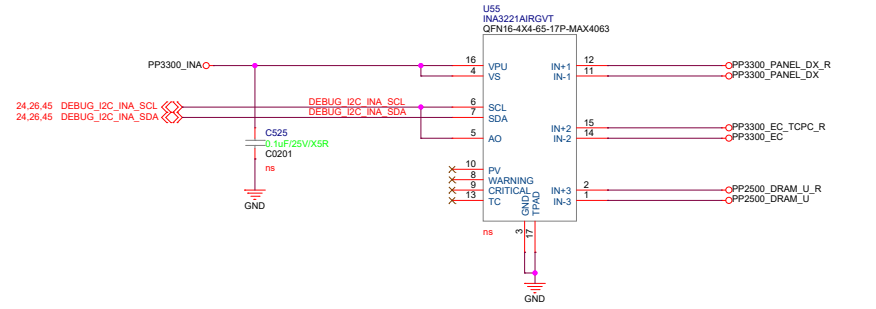
I2C ADDR: 0X40



I2C ADDR: 0X42

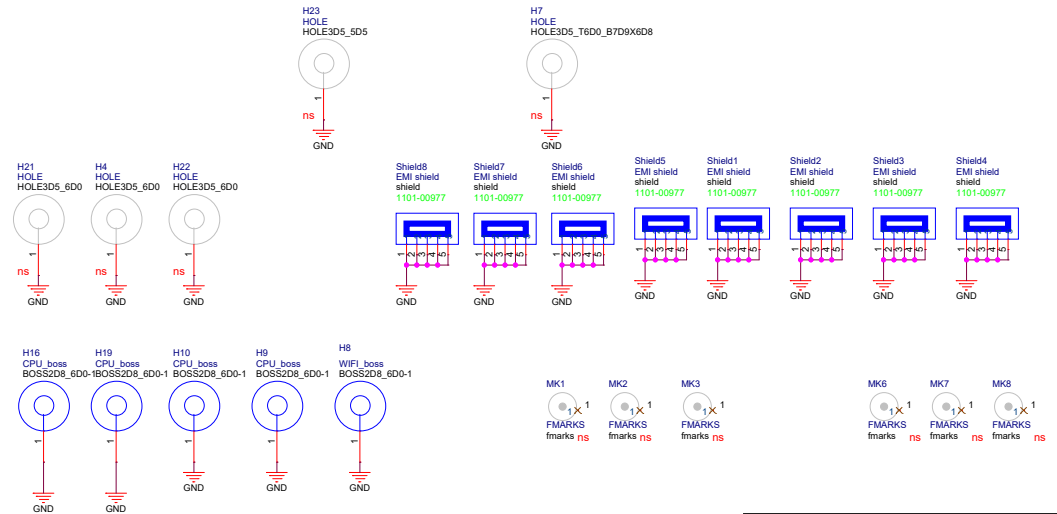
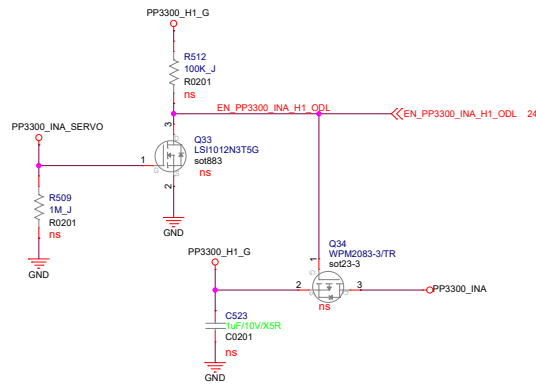


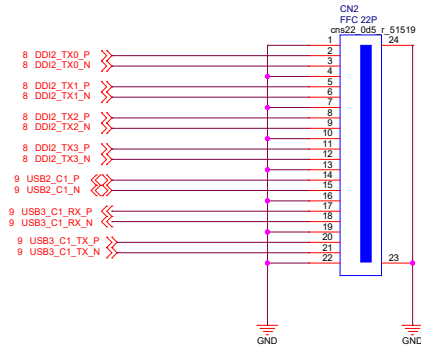
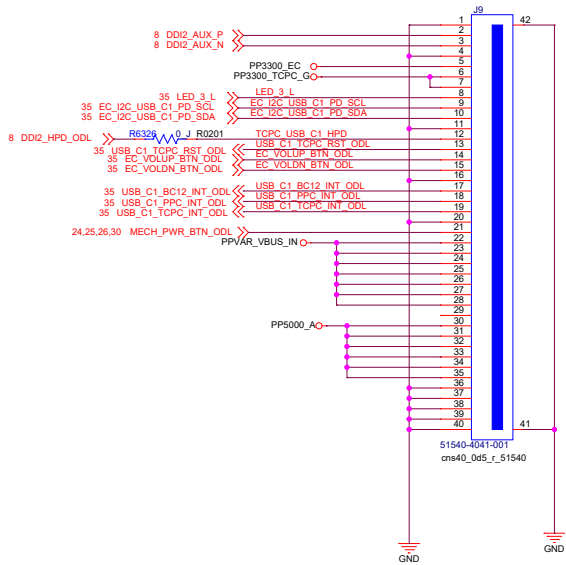
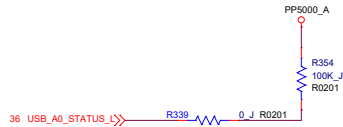
I2C ADDR: 0X41



I2C ADDR: 0X43

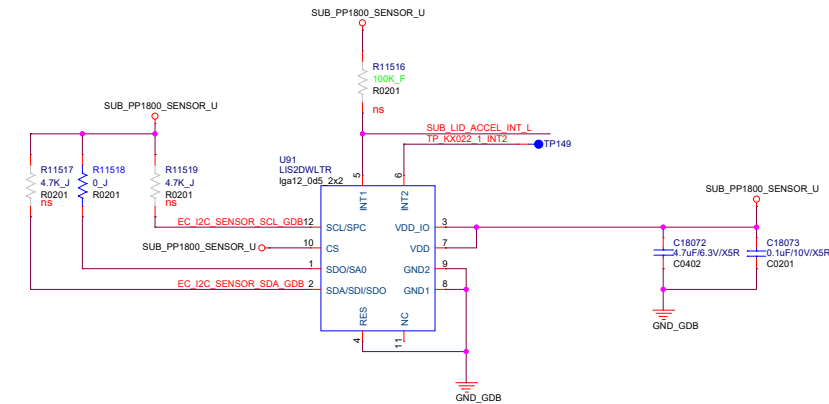
## INA POWER



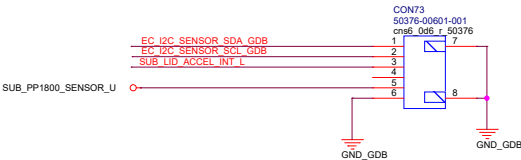


0.7A PER PIN  
5V: 5A  
PPVIR\_VBUS\_IN: 3A  
PP3300\_TCPC\_G: <.7A  
PP3300\_MST: <.7A  
PP3300\_H1\_G: <.7A

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 |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |

|                                                                                                                                                                                                                                                                                                                 |                              |                |  |            |
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| Page Name <b>CHANGELIST</b>                                                                                                                                                                                                                                                                                     |                              |                |  |            |
| Size<br>A                                                                                                                                                                                                                                                                                                       | Project Name<br><b>Akemi</b> |                |  | Rev<br>1.0 |
| Date: Tuesday, December 03, 2019                                                                                                                                                                                                                                                                                |                              | Sheet 48 of 48 |  |            |
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| Page Name                                                                                                                                                                                                                                                                                                       |                              | <b>CHANGELIST</b>                       |            |
| Size<br>A                                                                                                                                                                                                                                                                                                       | Project Name<br><b>Akemi</b> |                                         | Rev<br>1.0 |
| Date: Tuesday, December 03, 2019                                                                                                                                                                                                                                                                                |                              | Sheet 48 of 48                          |            |
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