<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Change Note</th>
<th>Approved</th>
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<td>V0.2</td>
<td>20210315</td>
<td>Pilot Production</td>
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<td>V1.0</td>
<td>20211127</td>
<td>Explorer Edition</td>
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**DDR FILTER**

Note:
1. All the Power filter capacitor should be placed close to the power pin of RK3399.
2. R1204 cannot be deleted.

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**DDR FILTER**

Note:
1. All the Power filter capacitor should be placed close to the power pin of RK3399.
2. R1205 cannot be deleted.
USB2.0 design rule:
1. Max intra-pair skew < 4 ps
2. Max trace length < 6 inches
3. Max allowed via < 6
4. Trace impedance 90ohm +/- 10%

USB3.0 design rule:
1. Max intra-pair skew < 4 ps
2. Max trace length < 6 inches
3. Max allowed via < 4
4. Trace impedance 90ohm +/- 10%
5. Trace impedance 90ohm +/- 10%

DP design rule:
1. Max intra-pair skew < 4 ps
2. Max trace length < 6 inches
3. Max allowed via < 4
4. Trace impedance 90ohm +/- 10%
MIPI design rules:
1. Max intra-pair skew < 4ps;
2. Max length skew between clk and data < 7ps;
3. Max trace length < 7.2 inches;
4. Max allowed via < 4;
5. Trace impedance 100ohm ± 10%;
6. The distance between other signals follows the 3W rule;
HDMI design rule:
1. Max intra-pair skew < 4 ps;
2. Max length skew between clk and data < 80 ps;
3. Max trace length < 9.8 inches;
4. Max allowed via < 4;
5. Trace impedance 100 Ohm +/- 10%;

eDP design rule:
1. Max intra-pair skew < 4 ps;
2. Max trace length < 6 inches;
3. Max allowed via < 4;
4. Trace impedance 90 Ohm +/- 10%;

MIPI design rule:
1. Max intra-pair skew < 4 ps;
2. Max length skew between clk and data < 7 ps;
3. Max trace length < 7.2 inches;
4. Max allowed via < 4;
5. Trace impedance 100 Ohm +/- 10%;
PMIC RK818-3

Power key (Power on/off)

Close to sink

DO NOT DELETE THE TVS PROTECTION!!!

Recommended TVS Partnumber: AZ5825-01F

Operating Supply Voltage: 5.5V
Peak Pulse Current: 10A (tp=8/20us)
Surge Clamping Voltage: 6V
ESD Clamping Voltage: 6.5V

IF TVS UMONTED,
ESD OR SURGE SHOULD BE DAMAGE THE PMIC!!!
Title: PinephonePro Schematic 20211127

PINE64

A

5 4 3 2 1

B

5 4 3 2 1

C

5 4 3 2 1

D

5 4 3 2 1

U36B

85 GND14 RESERVED12
86 GND15 BT_EN
87 GND16 COEX_UART_TX
88 GND17 COEX_UART_RX
89 GND18 WLAN_EN
90 GND19 WAKE_ON_WIRELESS
91 GND20 SDC1_CMD
92 GND21 SDC1_CLK
93 GND22 SDC1_DATA0
94 GND23 SDC1_DATA1
95 GND24 SDC1_DATA2
96 GND25 SDC1_DATA3
97 GND26 USIM2_VDD
98 GND27 PM_ENABLE
99 GND28 SGMII_RX_M
100 GND29 SGMII_RX_P
101 GND30 SGMII_TX_P
102 GND31 SGMII_TX_M
103 GND32 SGMII_MCLK
104 GND33 SGMII_MDATA
105 GND34 EPHY_RST_N
106 GND35 EPHY_INT_N
107 GND36 WLAN_SLP_CLK
108 GND37 RESERVED11
109 GND38 GND41
110 GND39 GND40

WLAN_SLP_CLK

SGMII_MCLK

SGMII_RX_M

SGMII_RX_P

SGMII_TX_P

SGMII_TX_M

PM_ENABLE

RESERVED12

RESERVED11

GND39

GND38

GND37

GND36

GND35

GND34

GND33

GND32

GND31

GND30

GND29

GND28

GND27

GND26

GND25

GND24

GND23

GND22

GND21

GND20

GND19

GND18

GND17

GND16

GND15

GND14