

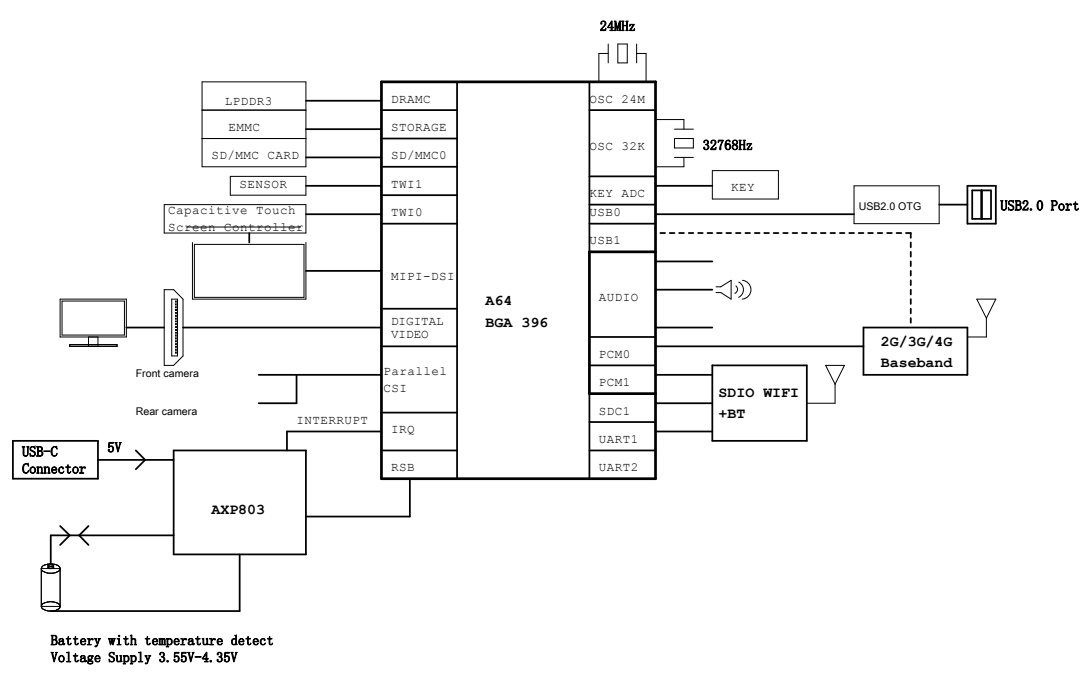
VERSION HISTORY

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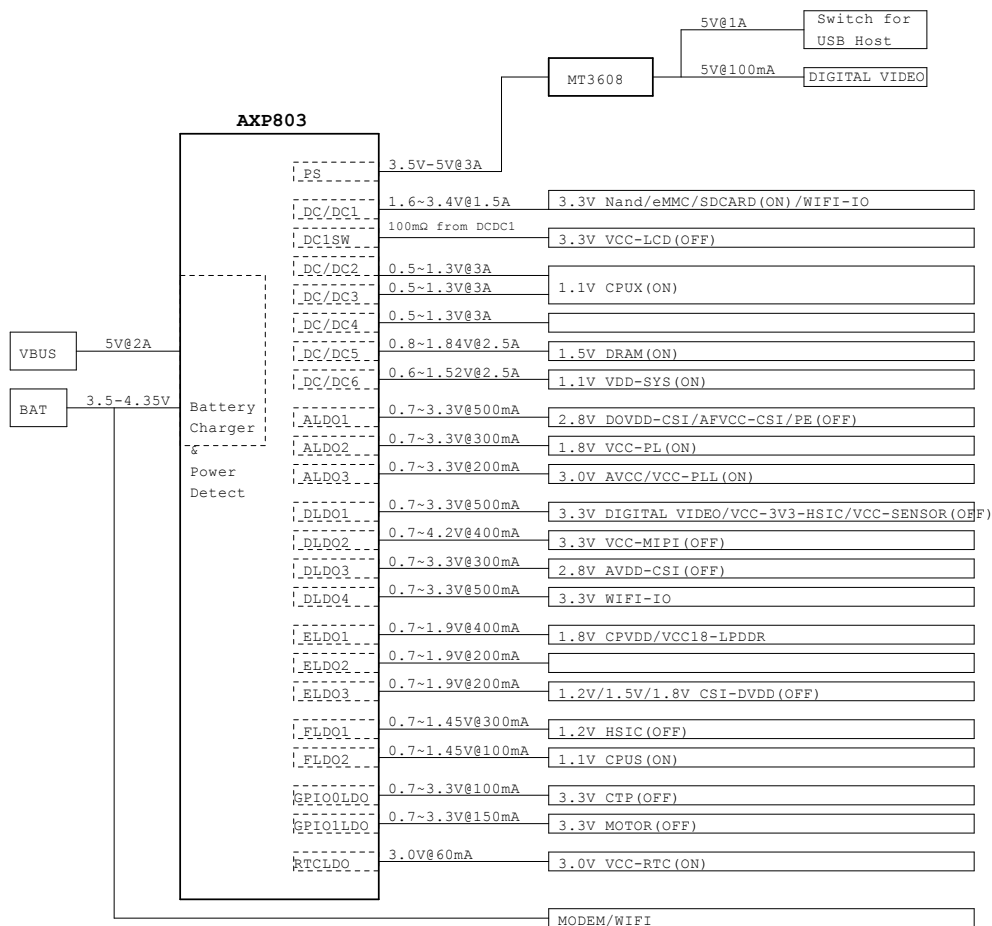
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Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Releas version	2019-05-28	HE		
Ver 1.1	Solved the TRX of UART3 and RTS CTS of UART4 could not work synchronously Modified PC3 and PD24 network interface problem Modified the problem of WiFi module in RTL8723CS NTC increases the series resistance	2019-07-06	HE		
Ver 1.2	Refer to below link or v1.2 change https://wiki.pine64.org/index.php?title=PinePhone_v1.2	2020-03-10	HE		

BLOCK DIAGRAM

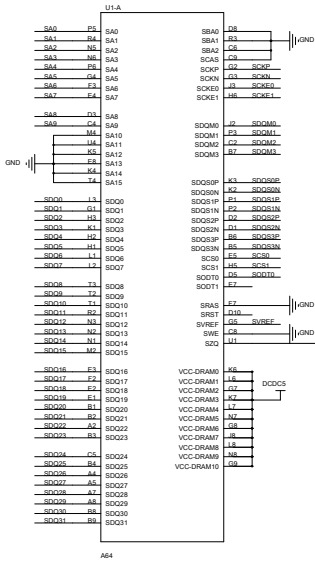


POWER TREE

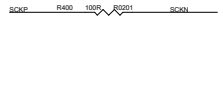
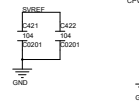
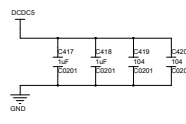
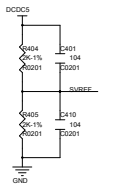
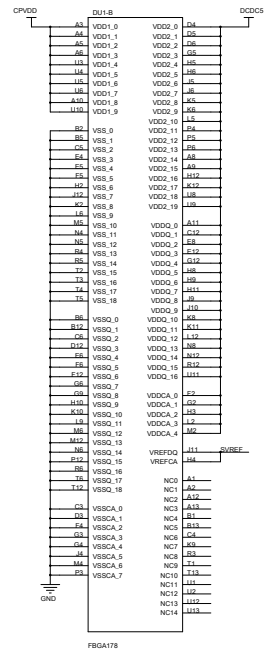
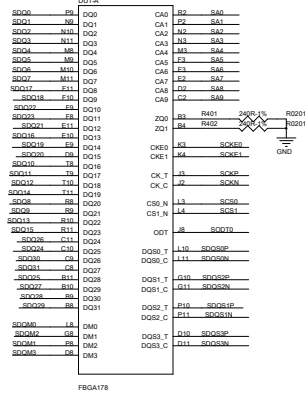


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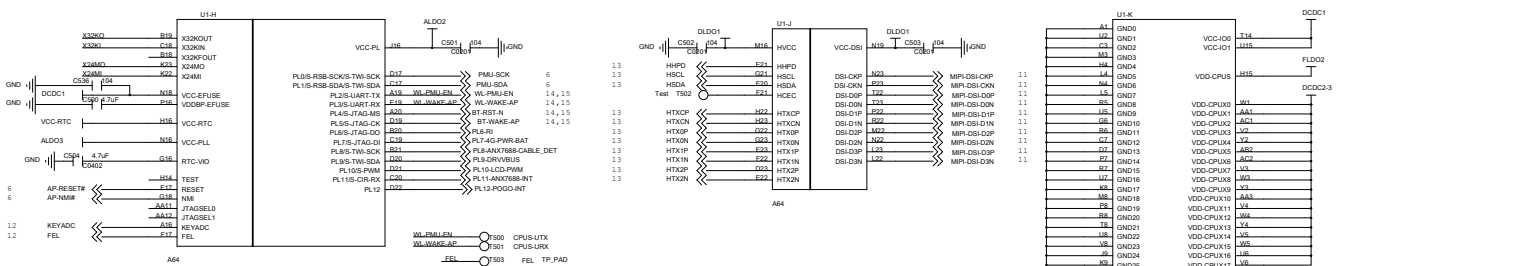
LPDDR3



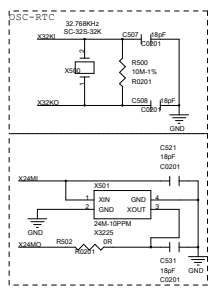
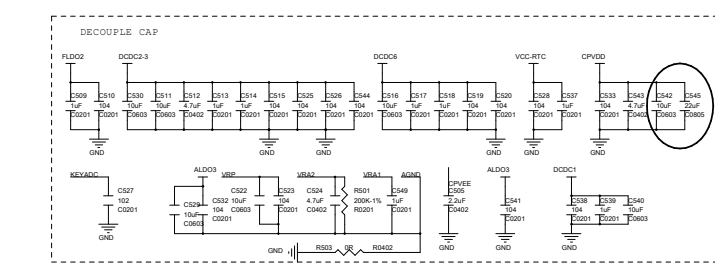
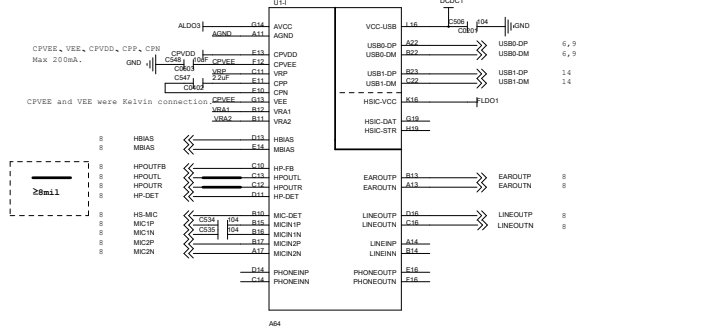
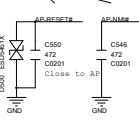
If use LPDDR3,
mount VDD18-LPDDR(ELD01) is 1.8V by Standby.



CPU



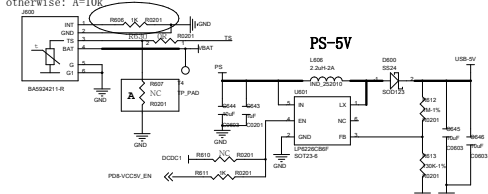
Away from the board outline and sensitive signal. Around GND line.



Power

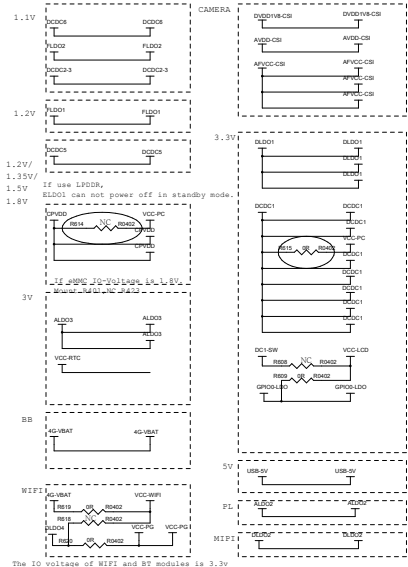
BAT

If use the battery temperature sensor: A=NC
otherwise: A=10k



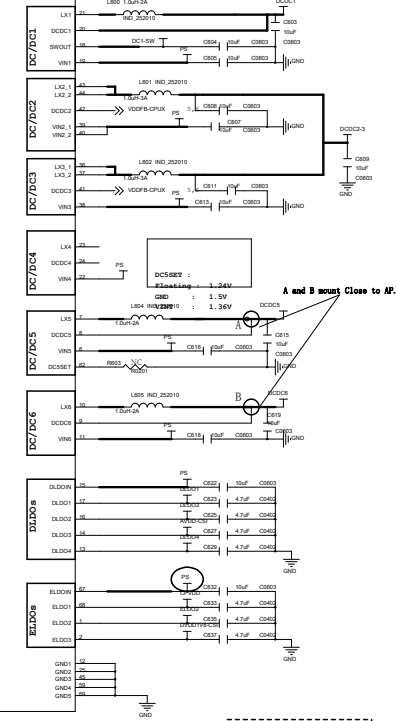
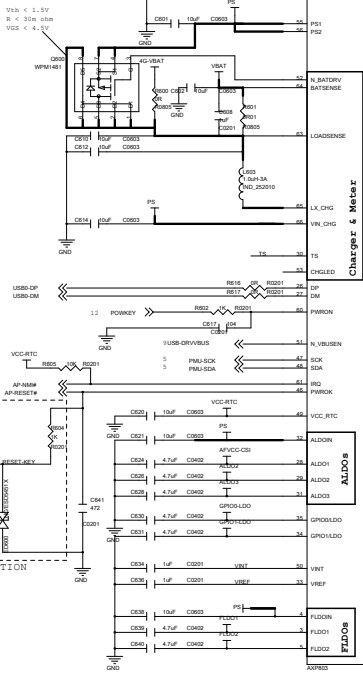
$$V_{out} = 0.6 \times (1 + R_A/R_B)$$

$$I_{max} = 2A$$



The IO voltage of WIFI and BT module is 3.3v

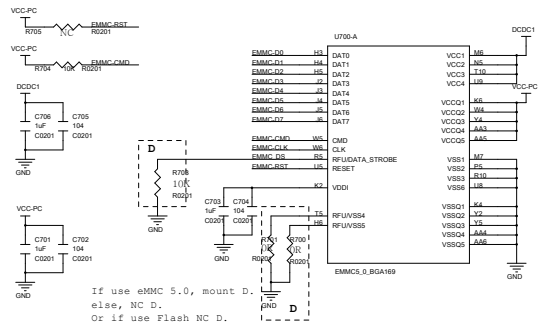
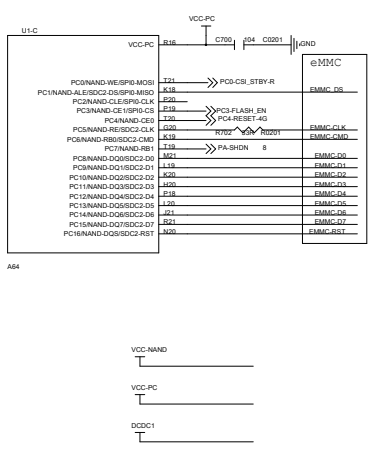
PMIC



A and B must Close to AF.

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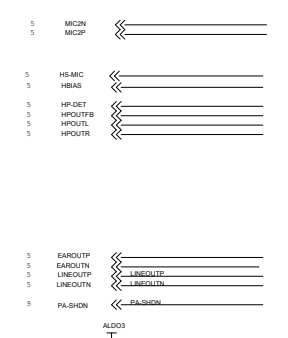
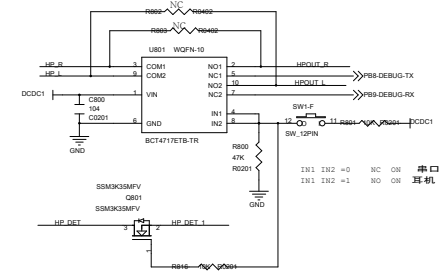
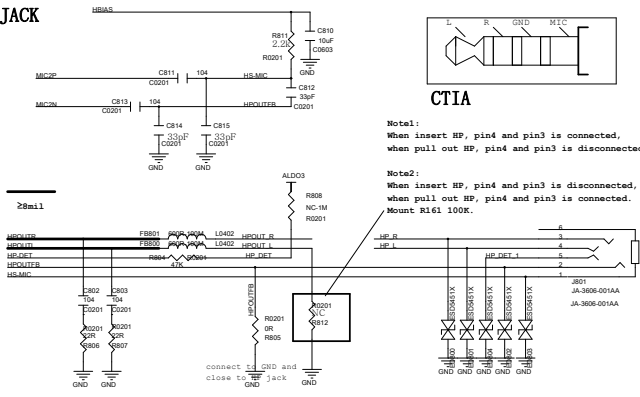
NAND/eMMC



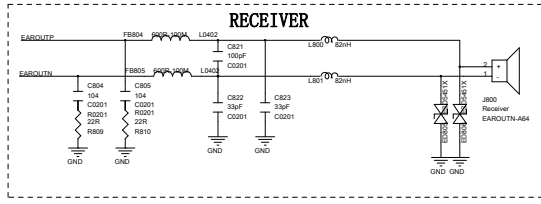
If use eMMC 5.0, mount D.
 else, NC D.
 Or if use Flash NC D.

AUDIO

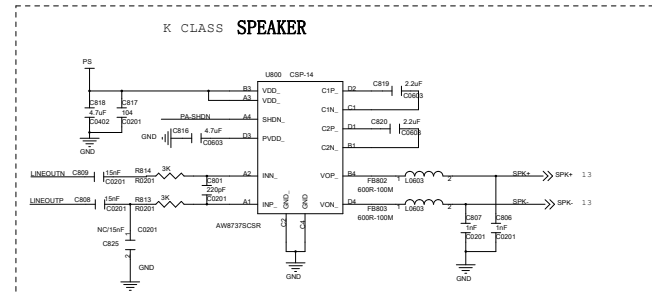
HP JACK



RECEIVER



K CLASS SPEAKER

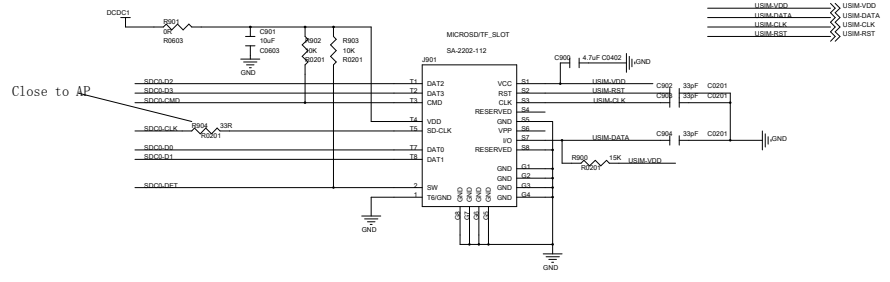


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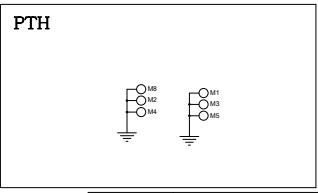
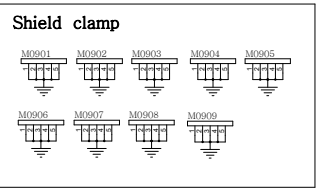
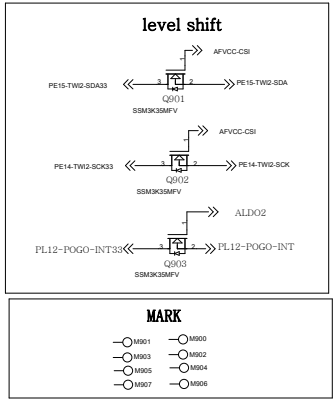
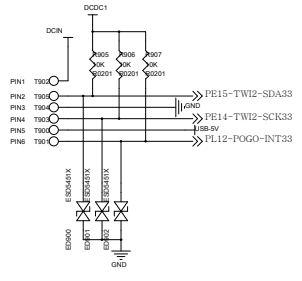
T-CADD/SIM



T-CARD

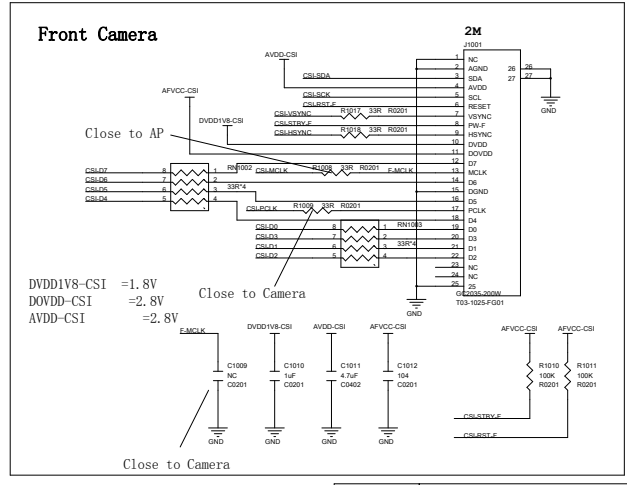
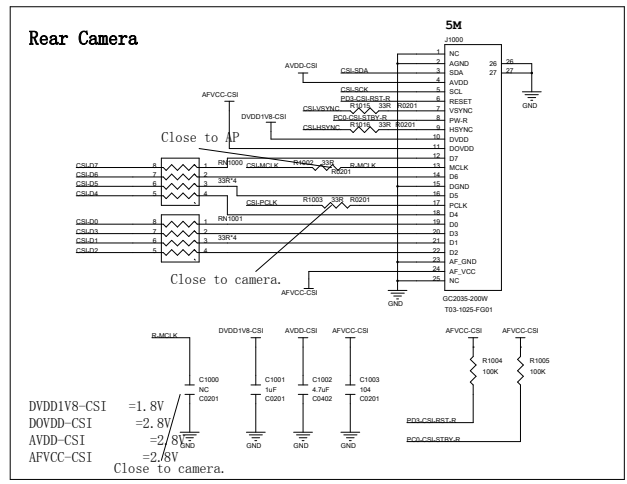
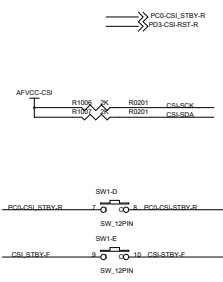
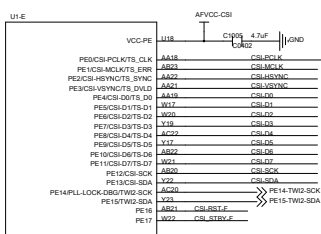


POGO PIN



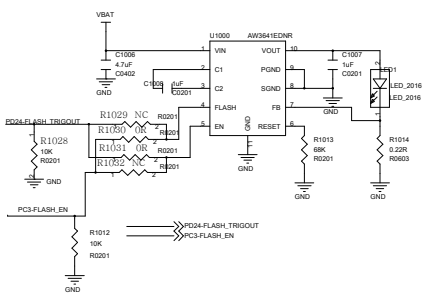
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CAMERA



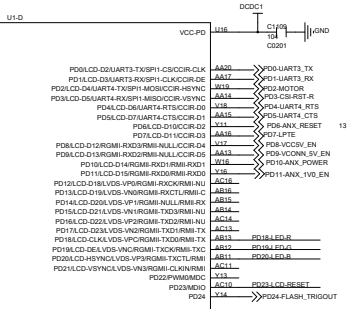
FLASH LED Drive

note: Drive up to 1A

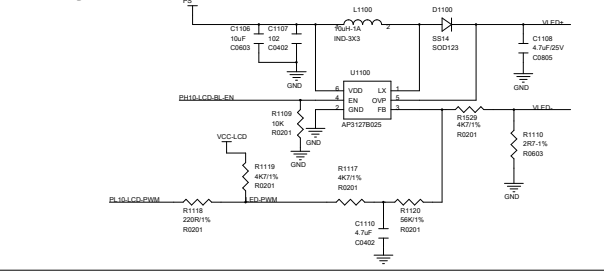


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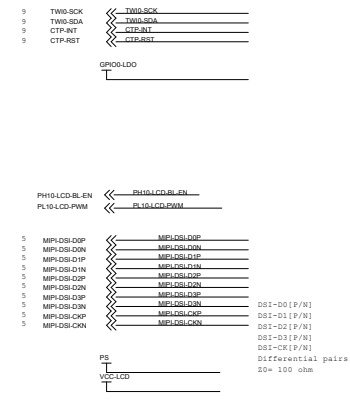
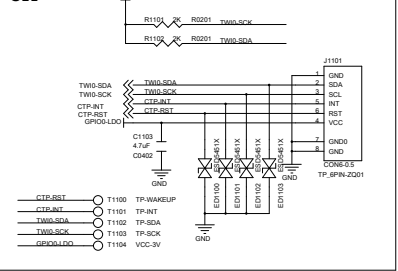
LCM/CTP



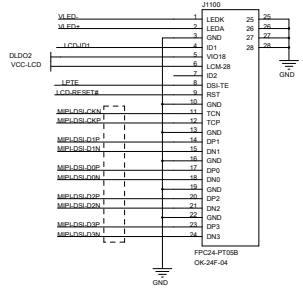
Backlight



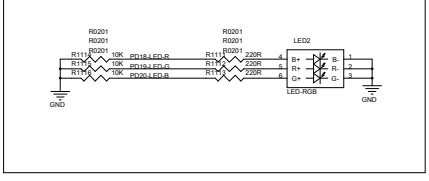
CTP



MIPI Differential pairs Z0= 100 ohm



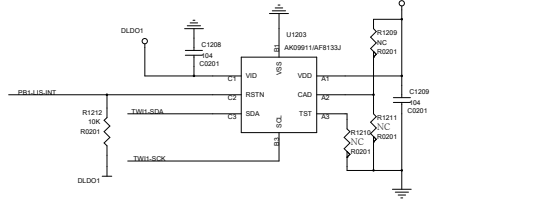
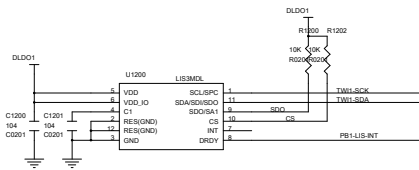
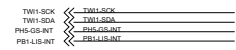
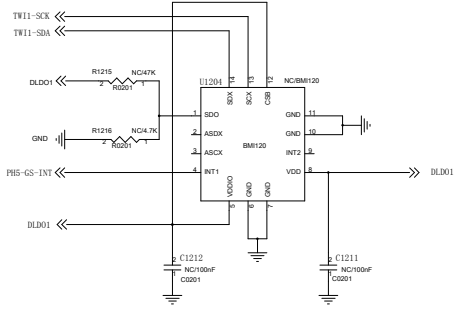
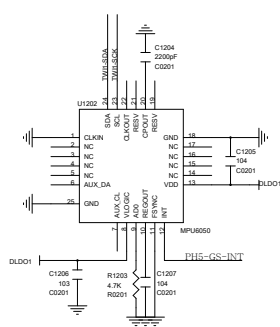
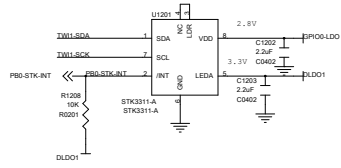
LED



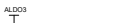
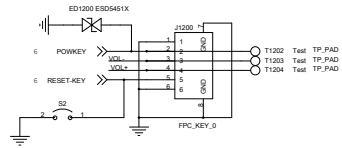
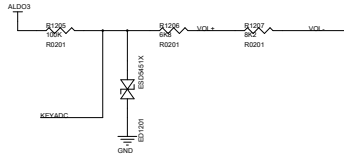
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SENSORs/MT/KEY

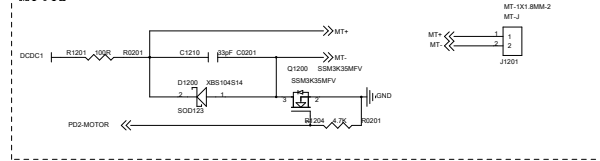
SENSOR



KEY

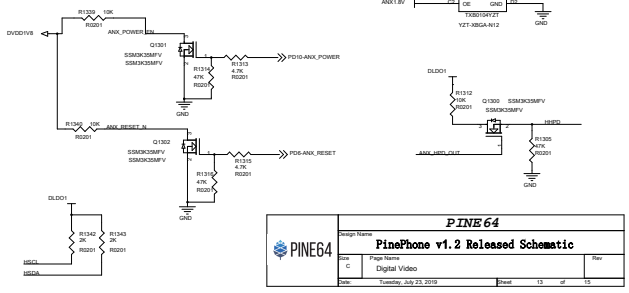
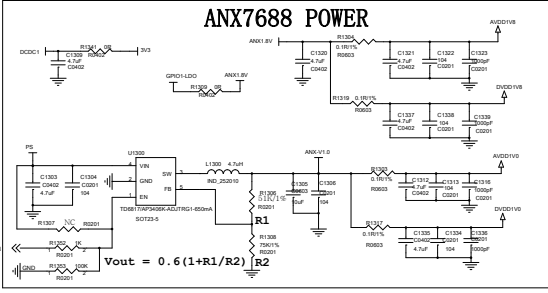
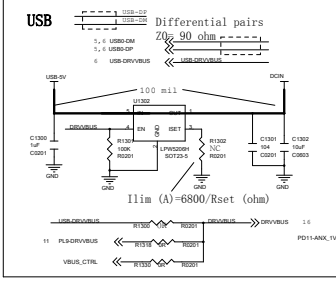
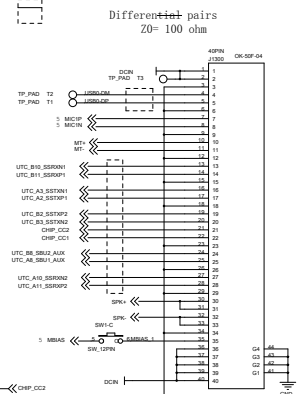
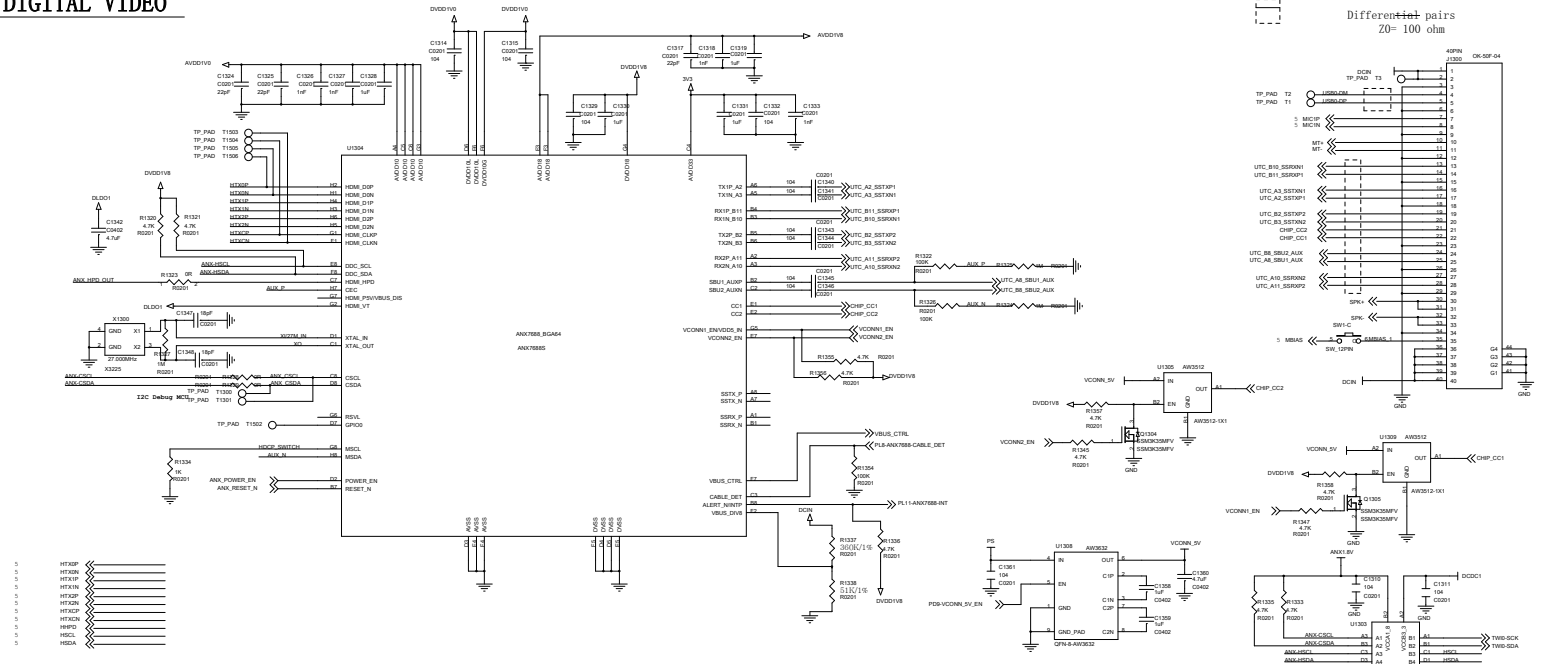


Motor

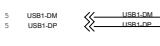
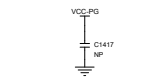
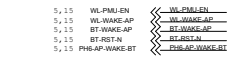
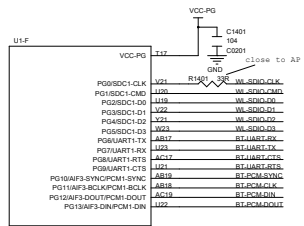


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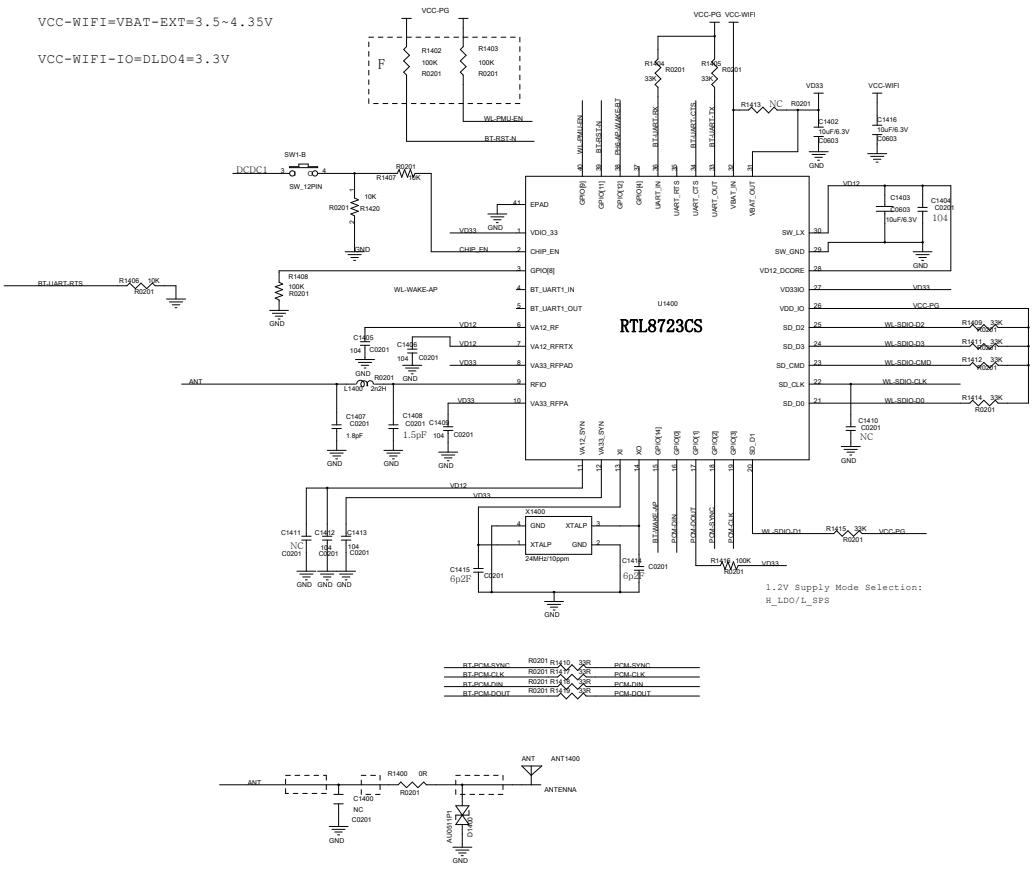
DIGITAL VIDEO



WIFI+BT

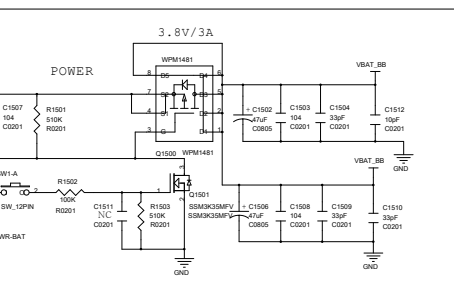
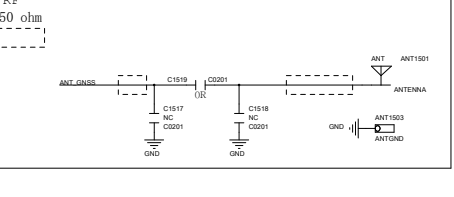
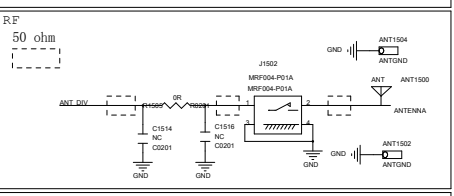
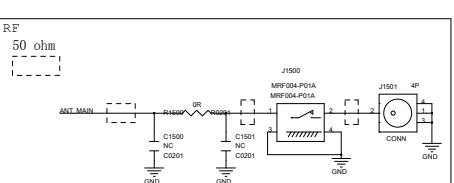
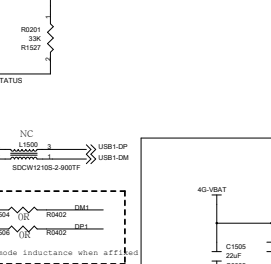
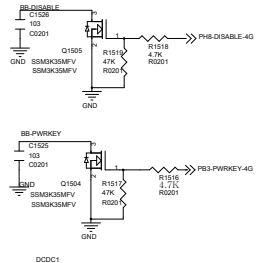
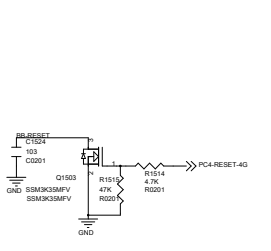
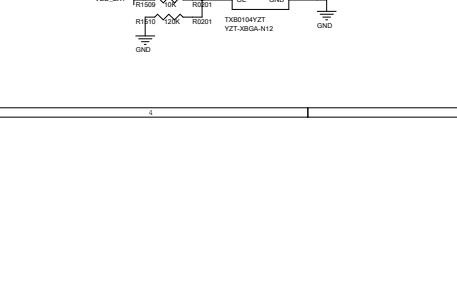
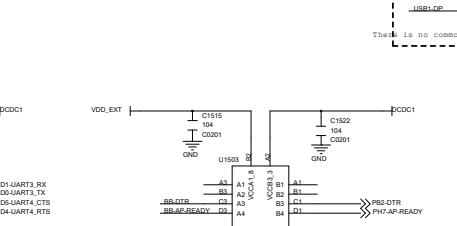
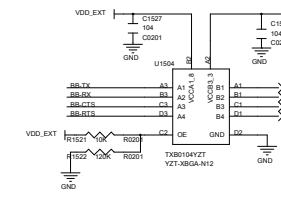
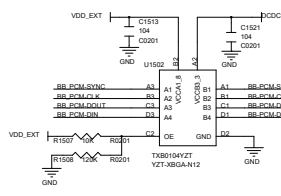
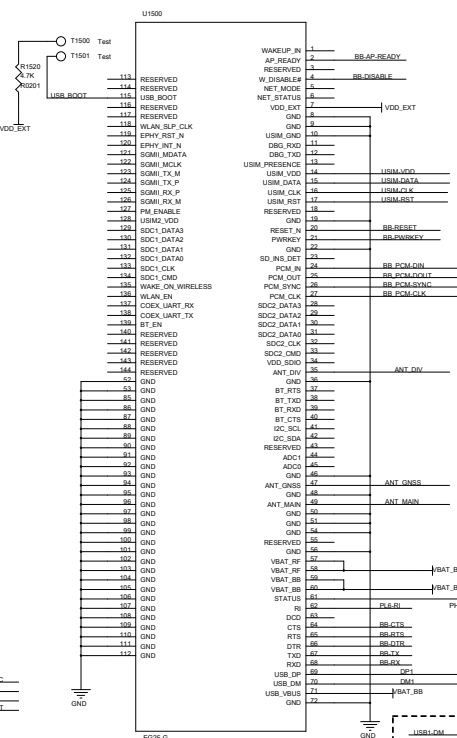
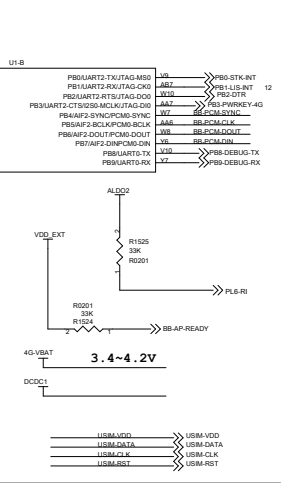


RTL8723CS power supply:
 VCC-WIFI=VBAT-EXT=3.5~4.35V
 VCC-WIFI-IO=DLDO4=3.3V



BT-EMLEN	R1401	10K	EMLEN
WL-WAKE-AP	R1402	100K	WL-WAKE-AP
BT-WAKE-AP	R1403	100K	BT-WAKE-AP
BT-STA	R1404	100K	BT-STA
PHS-AP-WAKE-BT	R1405	100K	PHS-AP-WAKE-BT

MODEM 4G



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