



KHADASS

Something a little different.

Shenzhen Wesion Technology Co., Ltd.			
Project:	VIM2		
File:	Khadass		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	1 of 10

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00 Khadas
01 Power Timings
P01 POWER
P02 CPU & IR & KEYS
P03 DDR4
P04 EMMC
P05 Ethernet
P06 USB & SDCard
P07 WIFI & BT
P08 HDMI

MCU (U12) Usage:

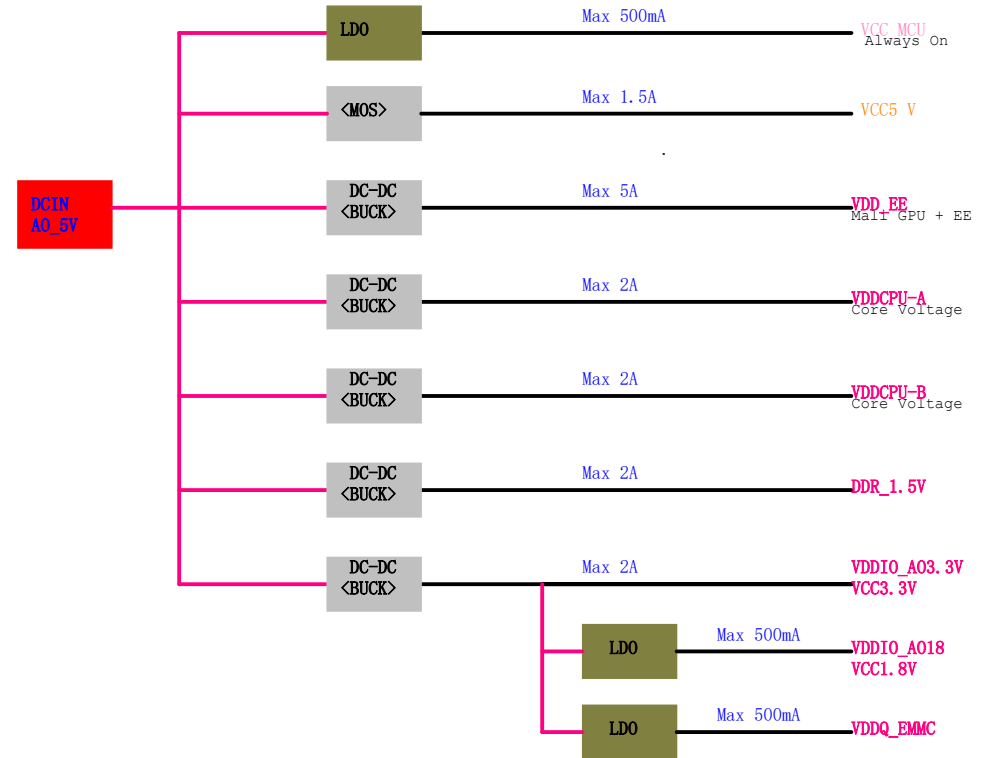
Power ON Sources:

- 1) Power Key
- 2) RTC Timer
- 3) IR Remote
- 4) WOL Events
- 5) Expand Board INT
- 6) DCIN

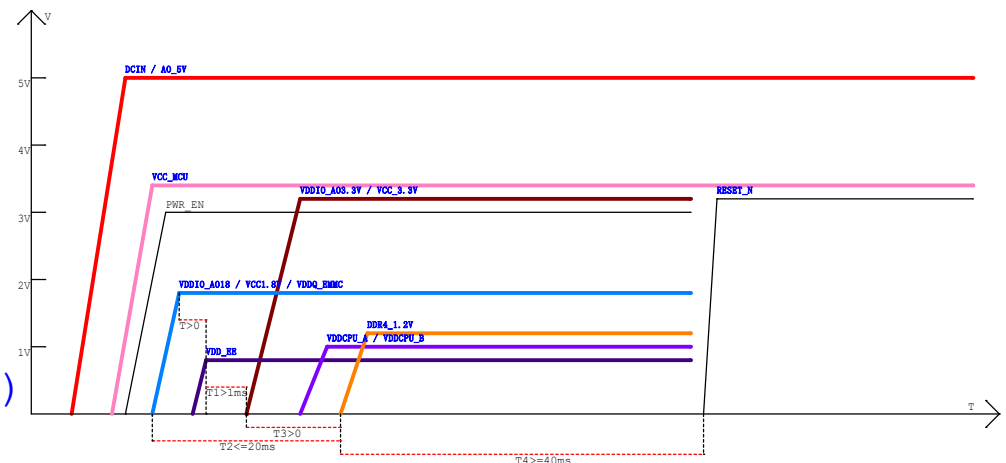
Please visit <http://docs.khadas.com>
for further details:

- 1) KBI (Khadas Bootloader Instructions)
- 2) EEPROM Usage
- 3) ADC for Expand Boards Detection
- 4) STM8S003F3

Power Tree

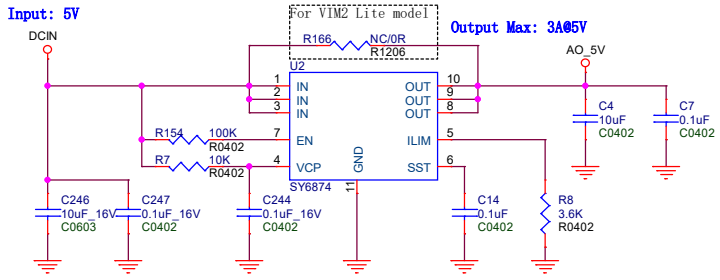


Power On Sequence :



Shenzhen Wesion Technology Co., Ltd.

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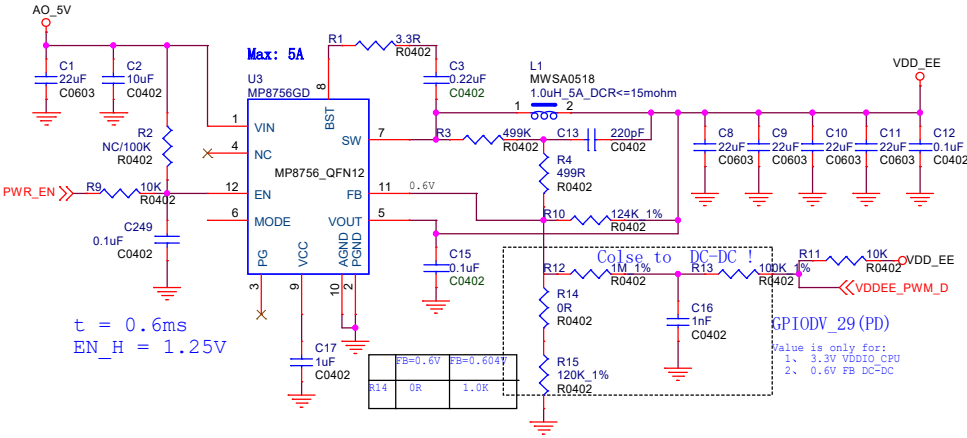


System Power Sources:
 1. USB-C Connector (J9)
 2. VIN Pads for Pogo Pin (J16)

Output Current Limit: $I = 11K / R8$

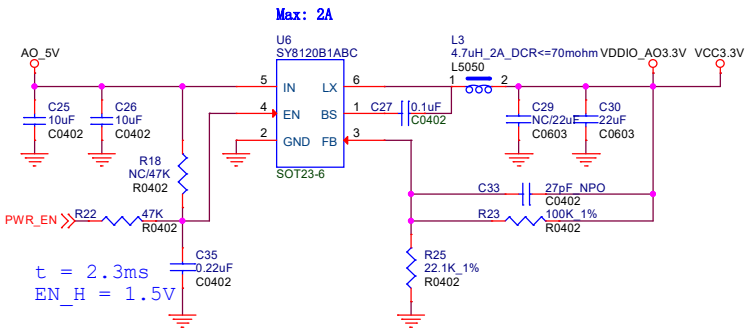
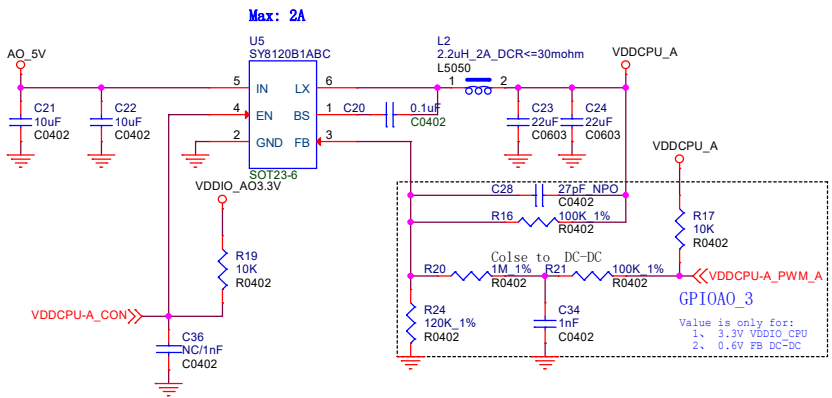
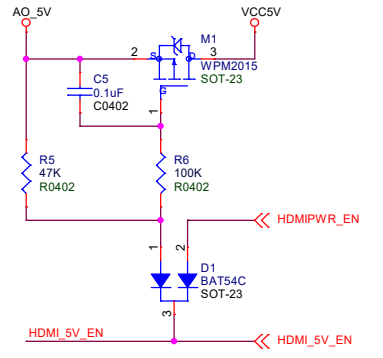
Current Limit Resistance	1.0K	2.0K	2.5K	3.0K	3.6K	4.0K
Output Current Limit	1.0A	2.0A	2.5A	3.0A	3.5A	3.0A

SY6874 Features:
 Clamping Output Voltage Threshold
 Short-circuit Protection
 Thermal Shutdown Protection & Auto Recovery

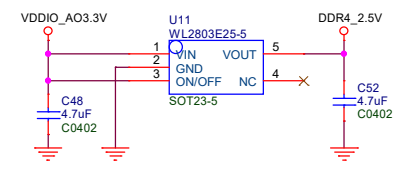
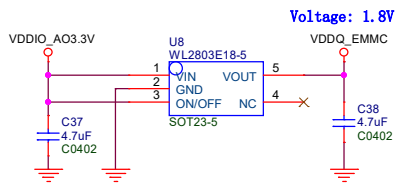
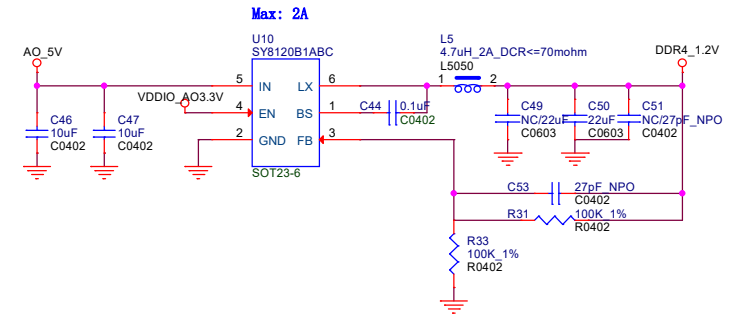
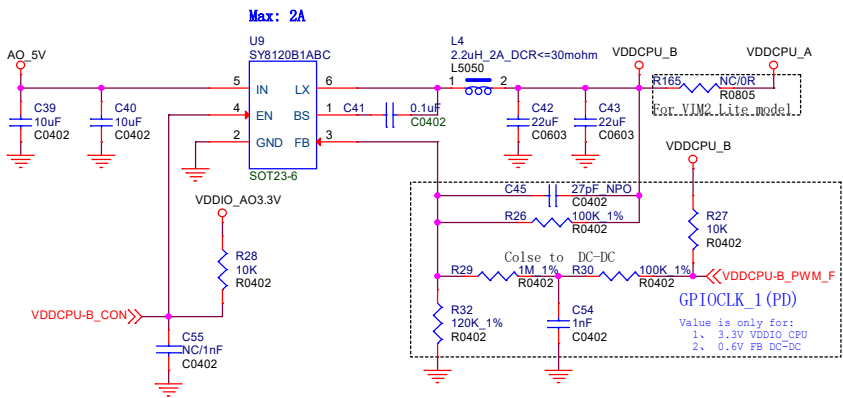
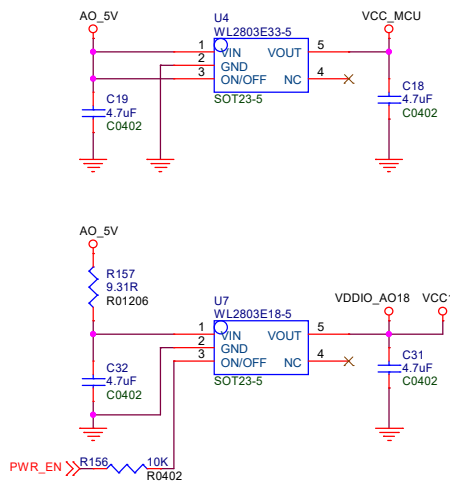


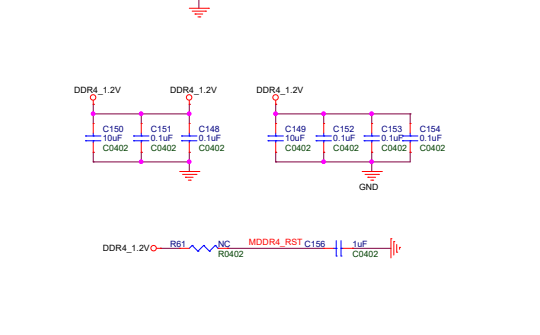
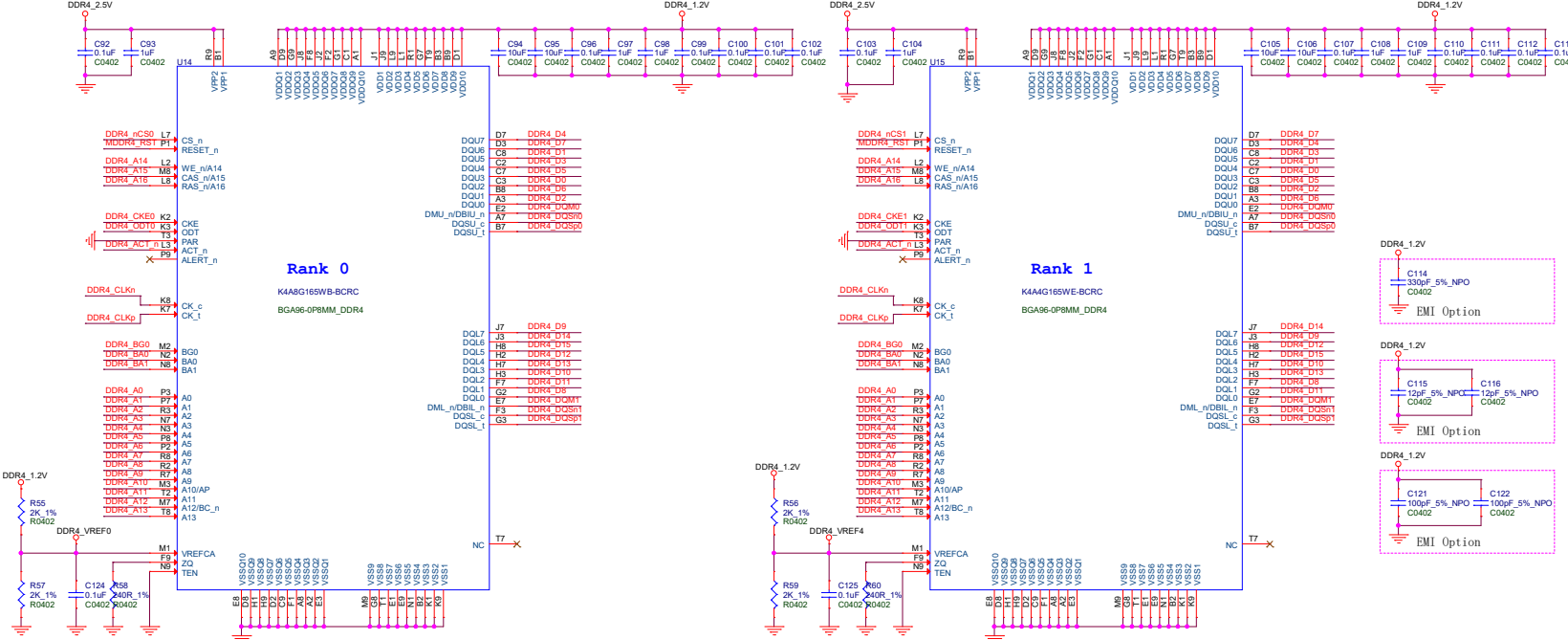
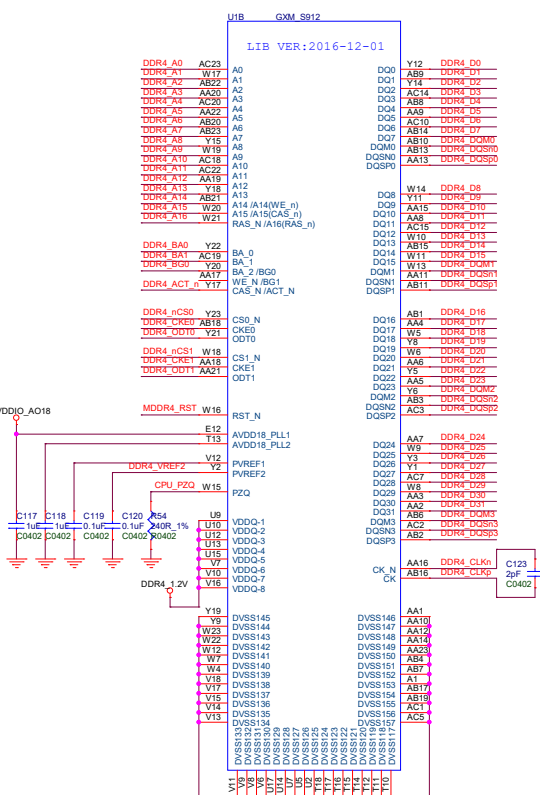
$t = 0.6ms$
 $EN_H = 1.25V$

FB=0.6V	FB=0.604V
R14	OR
	1.0K



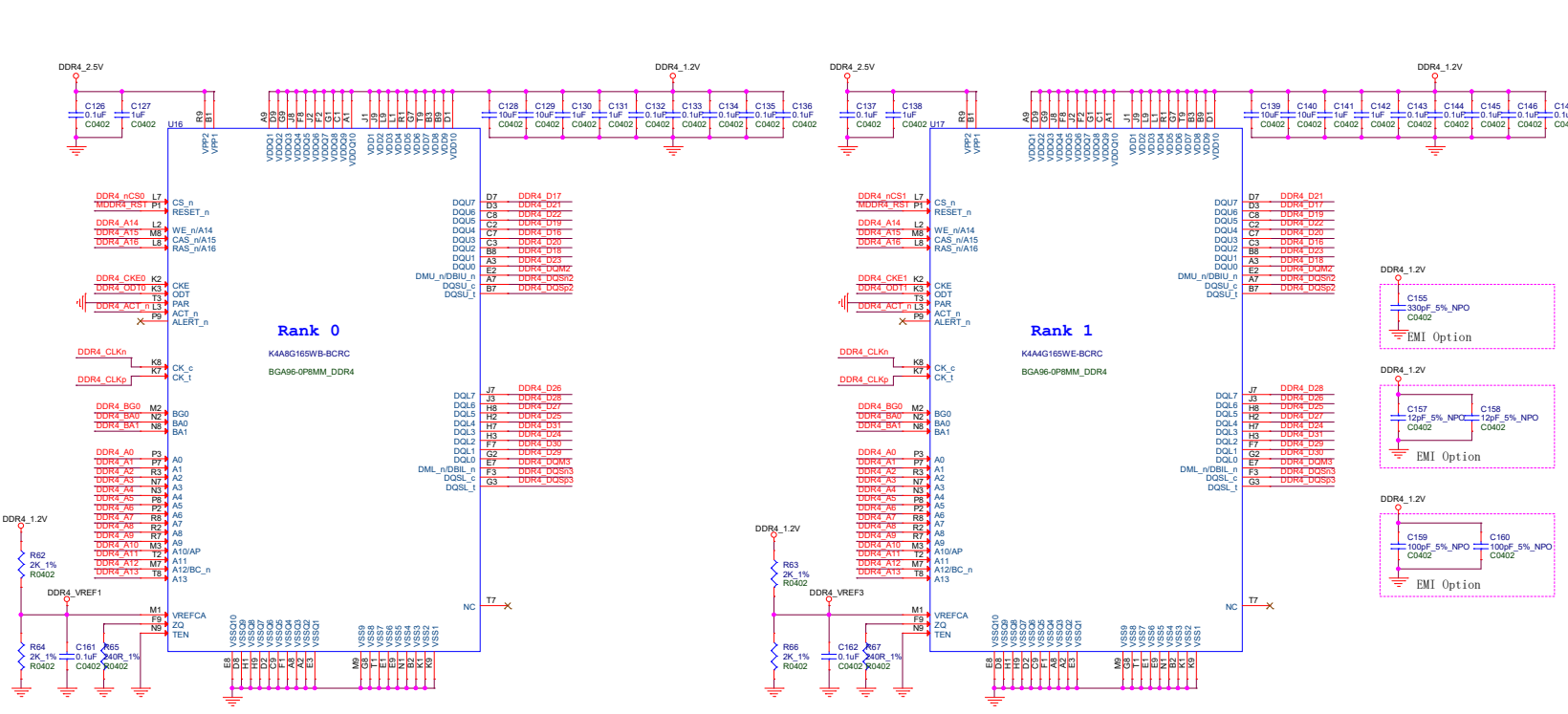
$t = 2.3ms$
 $EN_H = 1.5V$



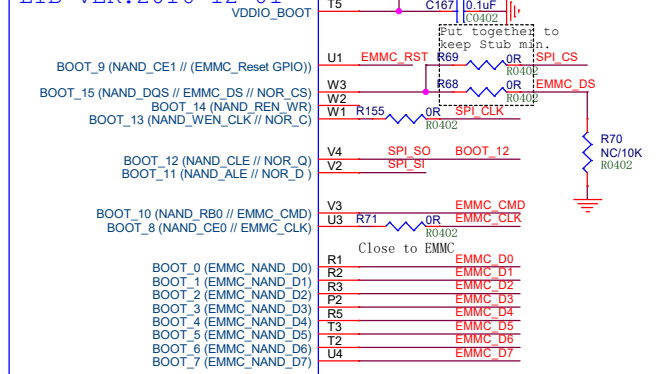


DDR4 Capacity	Rank 0		Rank 1	
	U14	U16	U15	U17
2GB	512MB	512MB	512MB	512MB
3GB	1GB	1GB	512MB	512MB

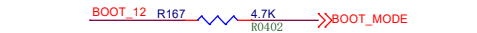
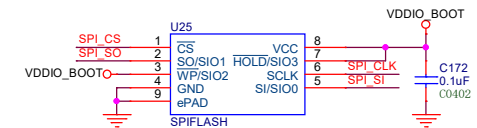
Notice: Schematic is for 3GB DDR4 capacity configuration.



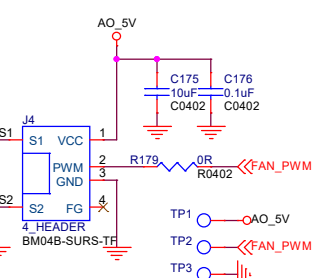
U1C GXM_S912
LIB VER:2016-12-01



BGA483_0P65



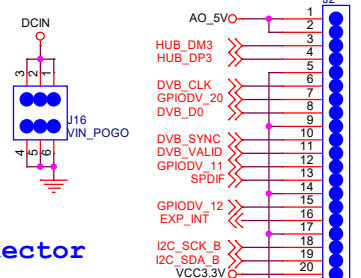
Cooling Fan



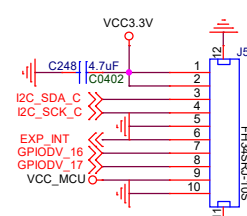
FAN Mode

TP1	TP2	Mode
0	0	OFF
0	1	LEVEL1
1	0	LEVEL2
1	1	LEVEL3

Pads for Pogo Pin

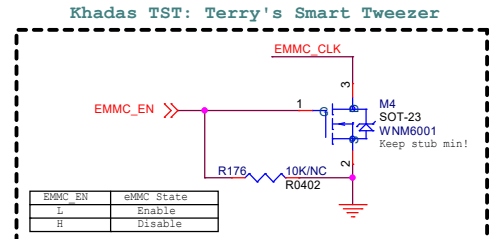
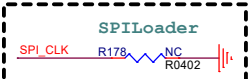
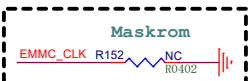
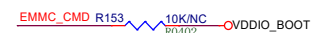
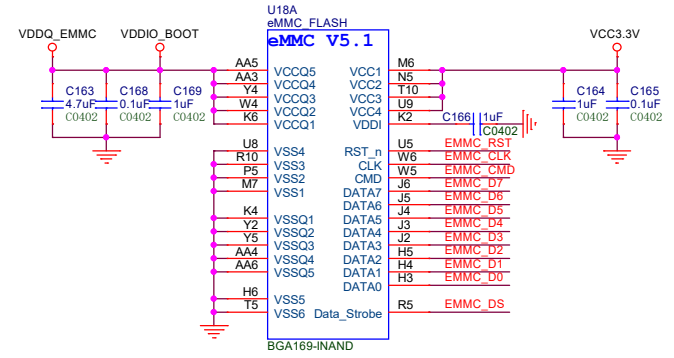


FPC Connector

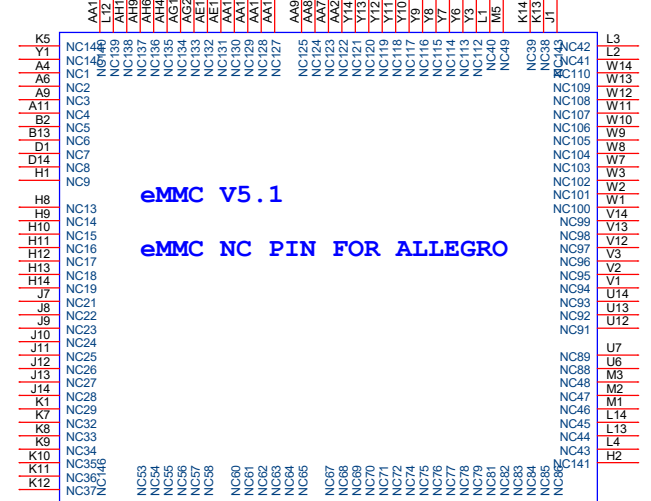


To use I2C_C:
Pull-up 4.7K first.

EMMC



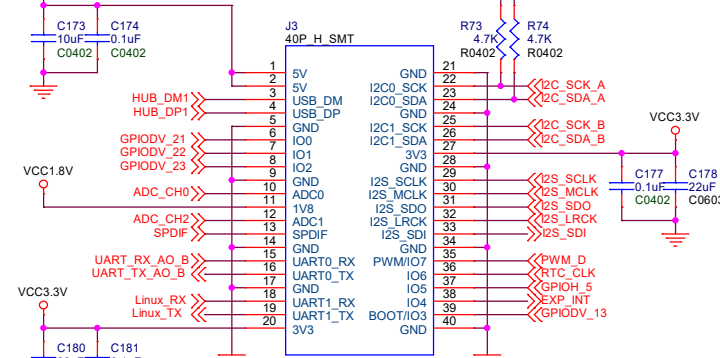
U18B



eMMC V5.1
eMMC NC PIN FOR ALLEGRO

eMMC FLASH
BGA169-INAND

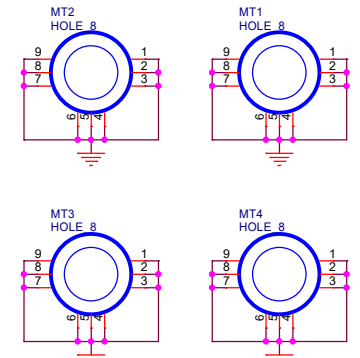
GPIO Header



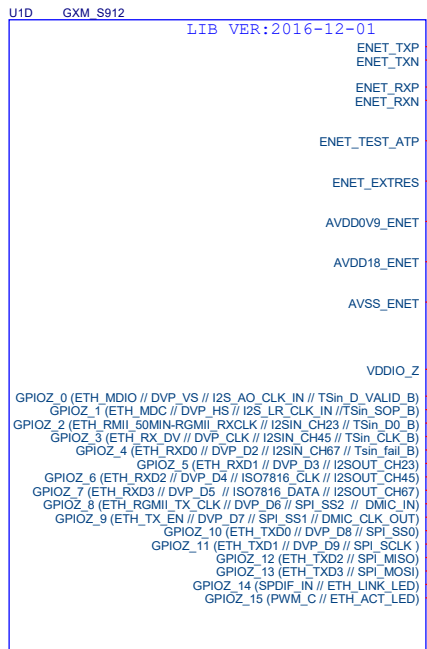
CHANGES

PIN	VIM	VIM2
6	NCV5	GPIOVDV_21
7	HUB_DM2	GPIOVDV_22
8	HUB_DP2	GPIOVDV_23
16	SWP	NCV19A
18	PWR_EN	EXP_INT
19	PWR_F	GPIOVDV_13

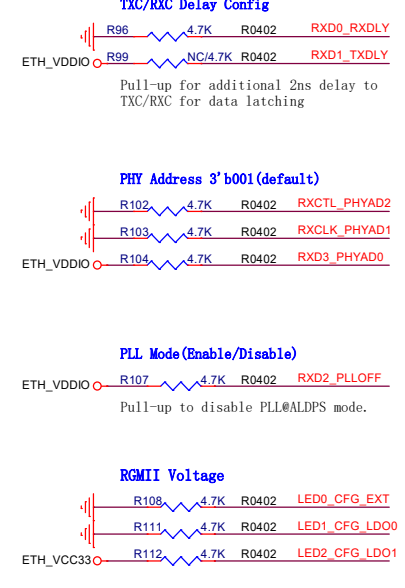
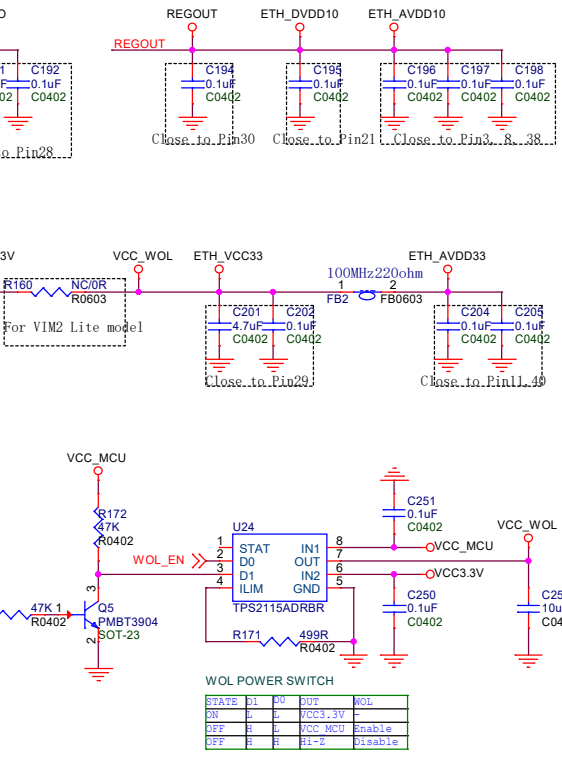
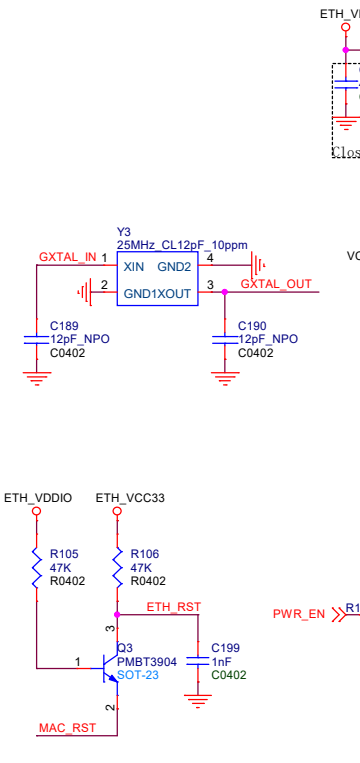
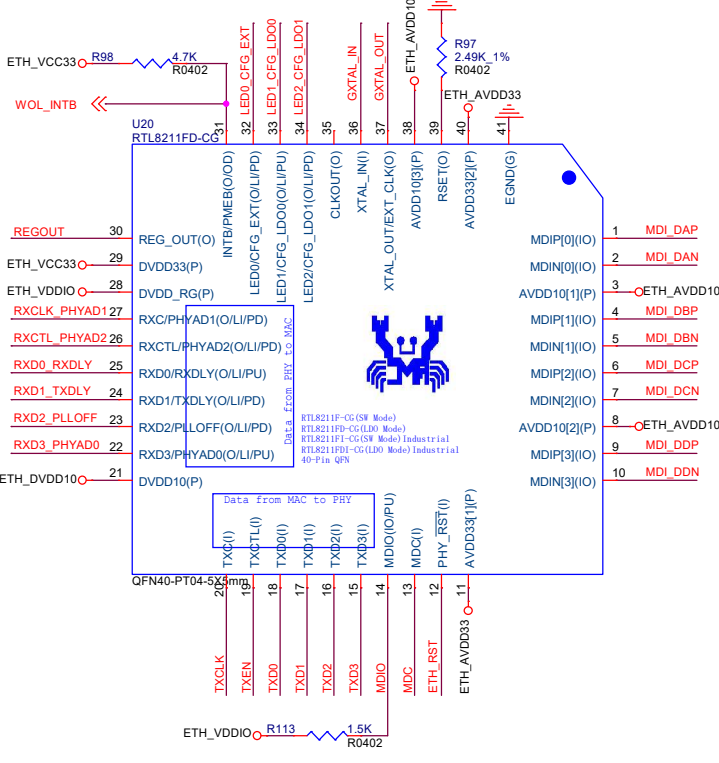
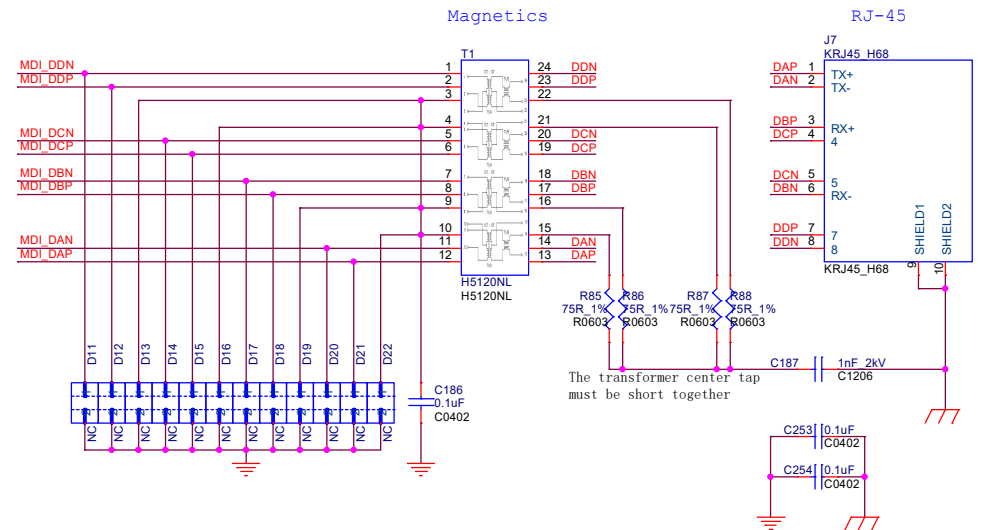
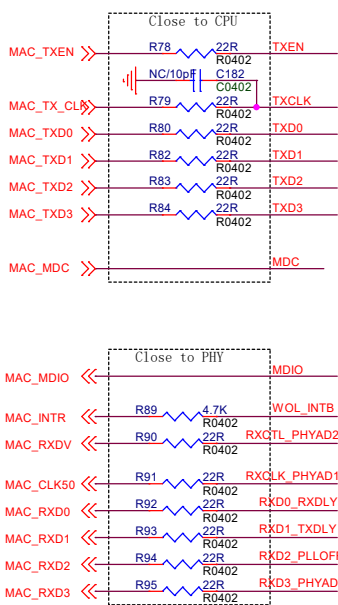
Mouting Holes



Tips: Float PIN6 & 11 to develop both VIM and VIM2 compatible expand board.



BGA483_0P65



U1E GXM_S912

LIB VER:2016-12-01

AVDD33_USB_C
AVDD33_USB
AVDD18_USB_C
AVDD18_USB

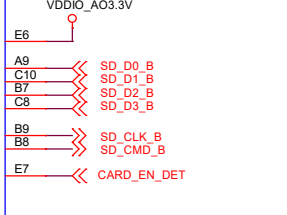
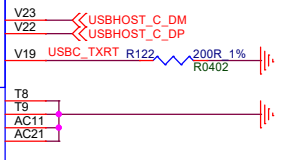
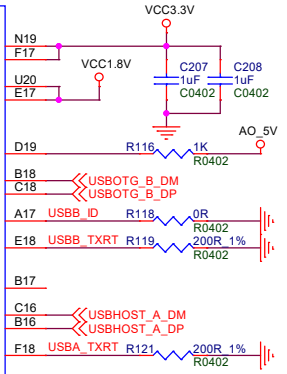
USBOTG_B_VBUS
USBOTG_B_DM
USBOTG_B_DP
USBOTG_B_ID
USBB_TXRTUNE
USBA_VBUS
USBHOST_A_DM
USBHOST_A_DP
USBA_TXRTUNE

USB_C is only available in S912
Not available in S905D

USBC_TXRTUNE
USBC_TXRTUNE

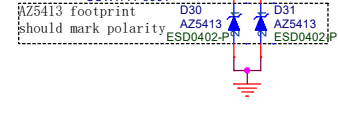
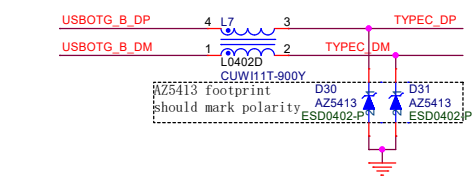
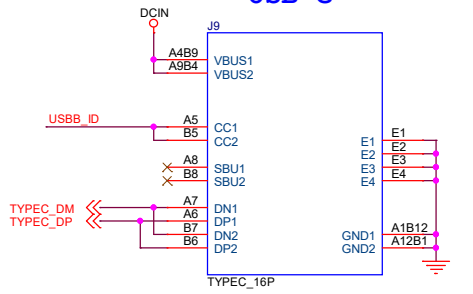
DVSS115
DVSS116
DVSS158
DVSS159

VDDIO_CARD
CARD_1 (SDCARD_D0 // JTAG_TDO)
CARD_0 (SDCARD_D1 // JTAG_TD1)
CARD_5 (SDCARD_D2 // UART_RX_AO_A)
CARD_4 (SDCARD_D3 // UART_TX_AO_A)
CARD_2 (SDCARD_CLK // JTAG_CLK)
CARD_3 (SDCARD_CMD // JTAG_TMS)
CARD_6

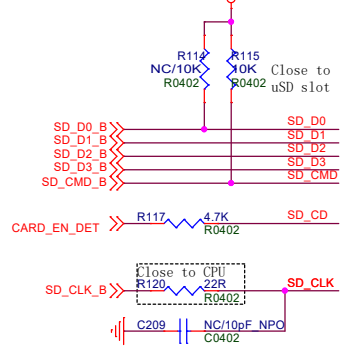


BGA483_0P65

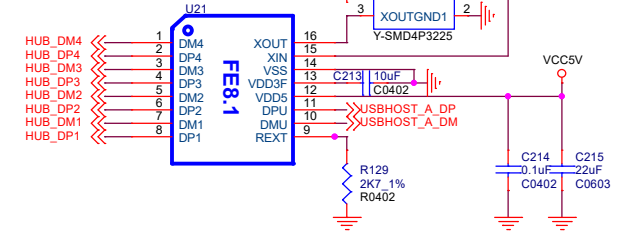
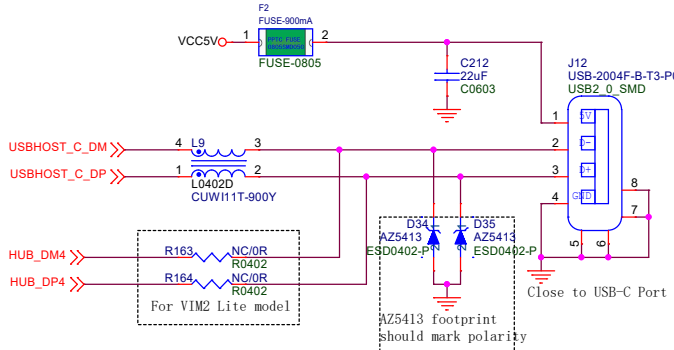
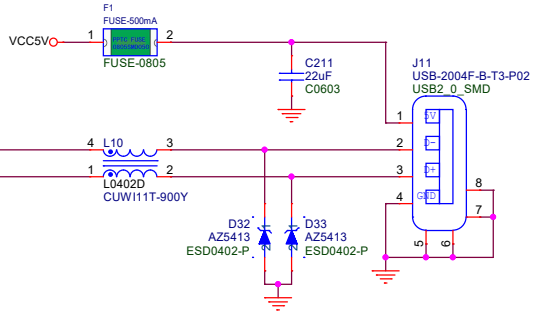
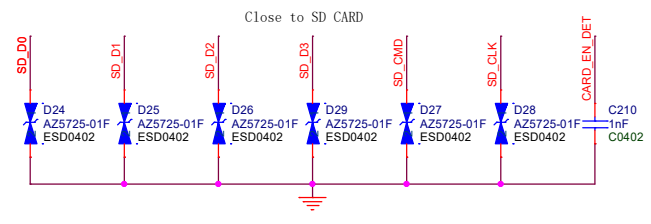
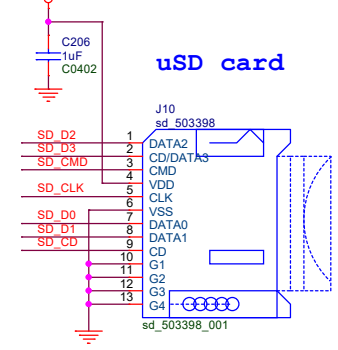
USB-C



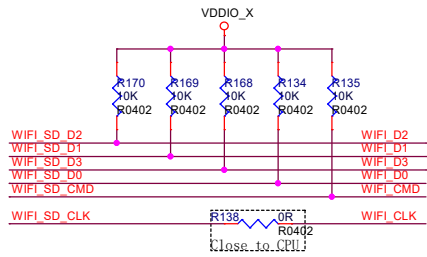
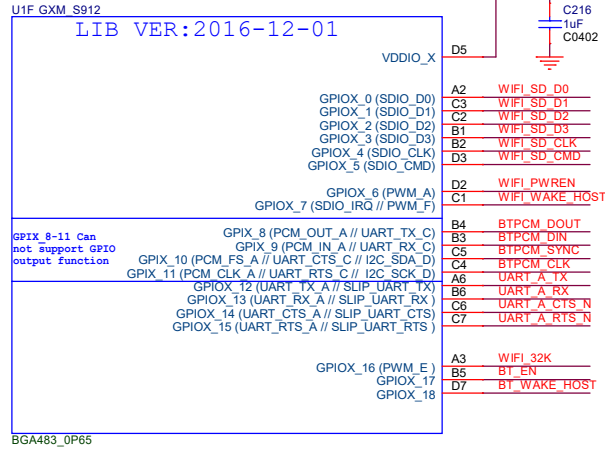
VDDIO_AO3.3V



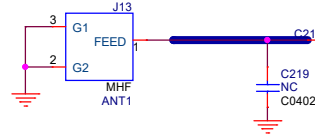
VDDIO_AO3.3V



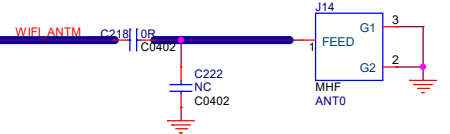
Shenzhen Wesion Technology Co., Ltd.			
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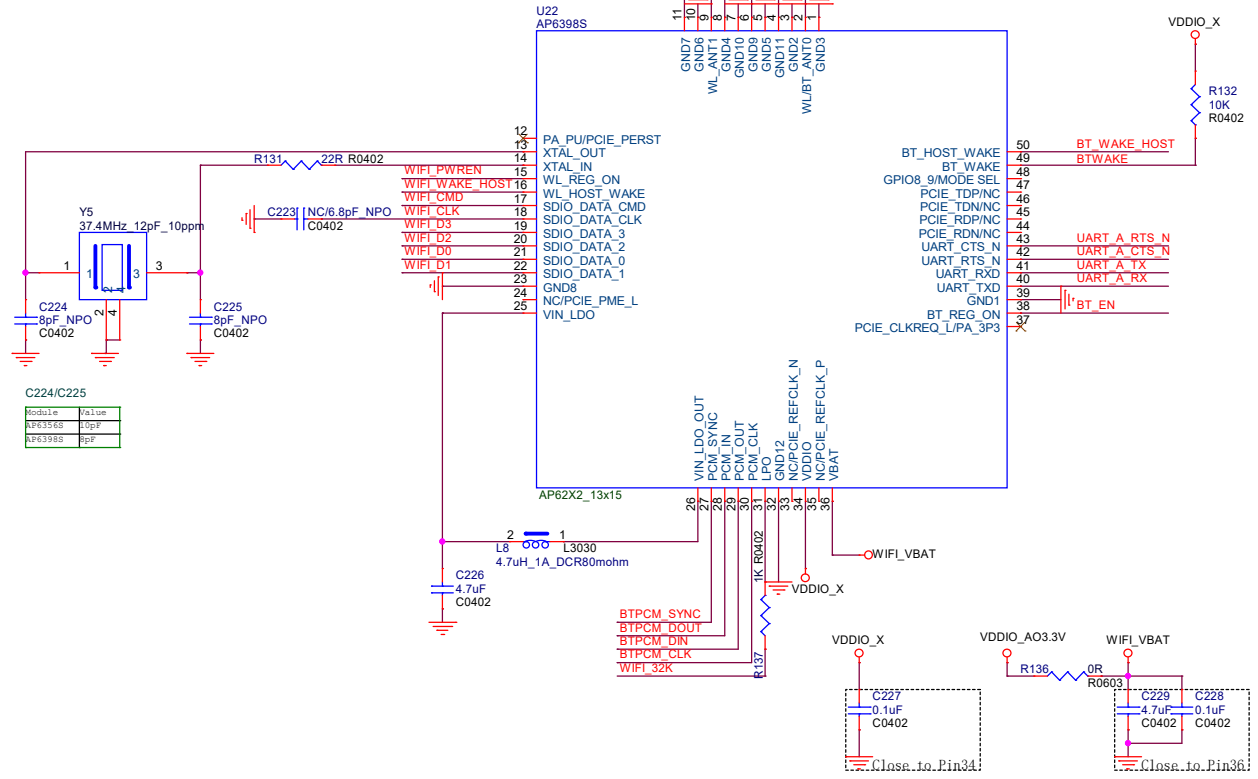
WiFi ANT



50 ohm impedance RF trace



WiFi & BT ANT



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