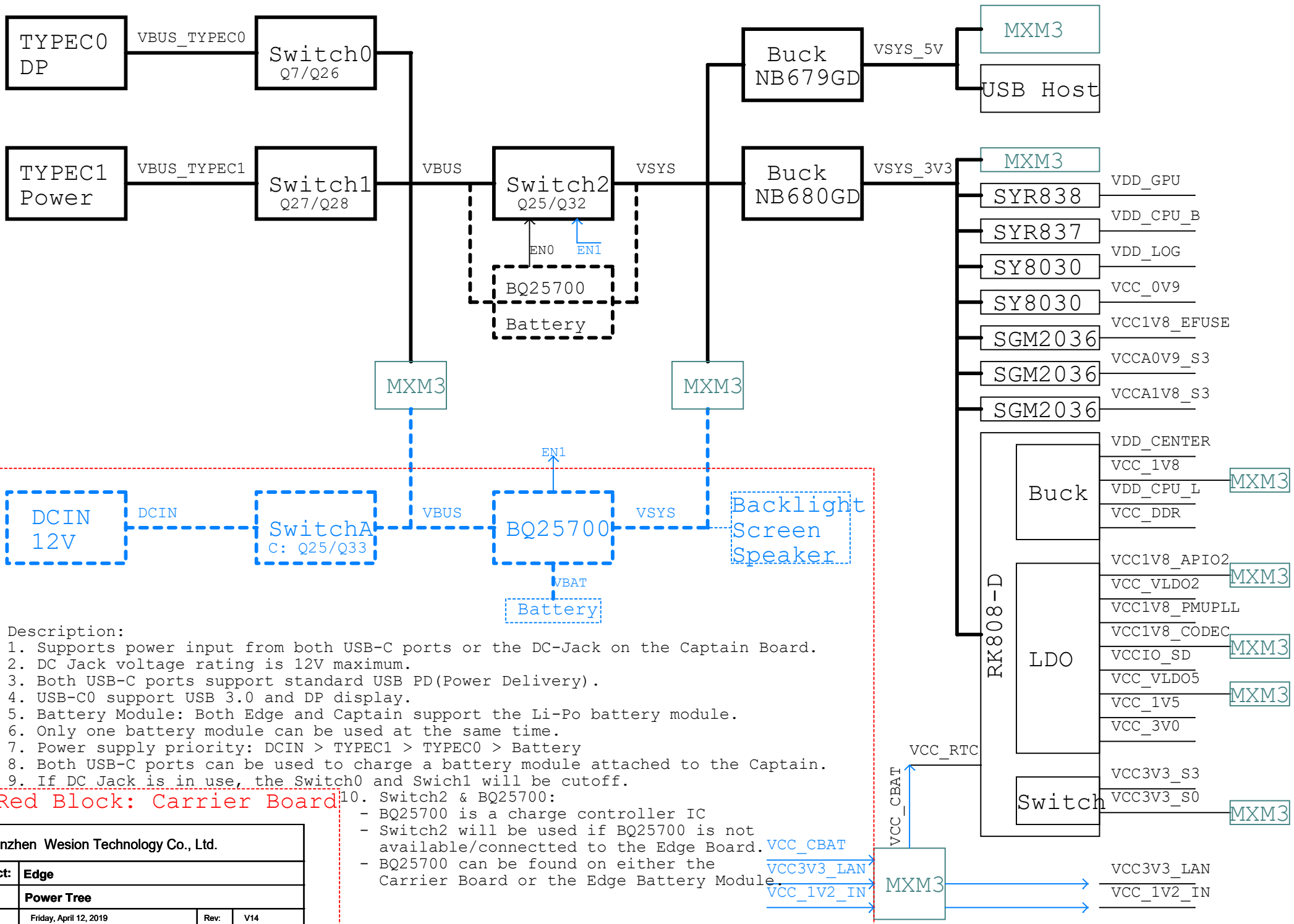




KHADAS

Something a little different.

Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	Khadas		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	1 of 18

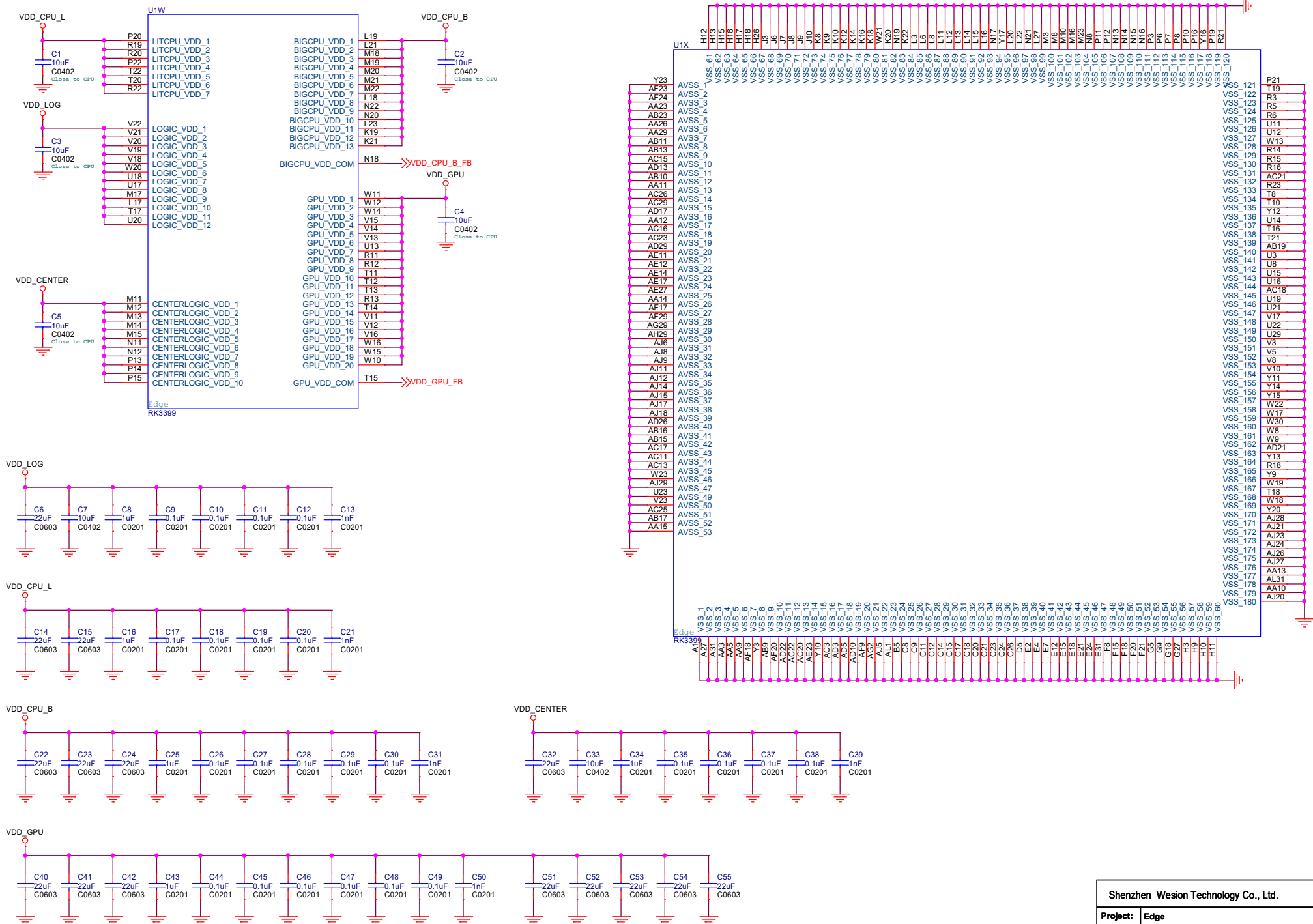


- Description:**
1. Supports power input from both USB-C ports or the DC-Jack on the Captain Board.
 2. DC Jack voltage rating is 12V maximum.
 3. Both USB-C ports support standard USB PD(Power Delivery).
 4. USB-C0 support USB 3.0 and DP display.
 5. Battery Module: Both Edge and Captain support the Li-Po battery module.
 6. Only one battery module can be used at the same time.
 7. Power supply priority: DCIN > TYPEC1 > TYPEC0 > Battery
 8. Both USB-C ports can be used to charge a battery module attached to the Captain.
 9. If DC Jack is in use, the Switch0 and Swich1 will be cutoff.
 10. Switch2 & BQ25700:
 - BQ25700 is a charge controller IC
 - Switch2 will be used if BQ25700 is not available/connected to the Edge Board.
 - BQ25700 can be found on either the Carrier Board or the Edge Battery Module.

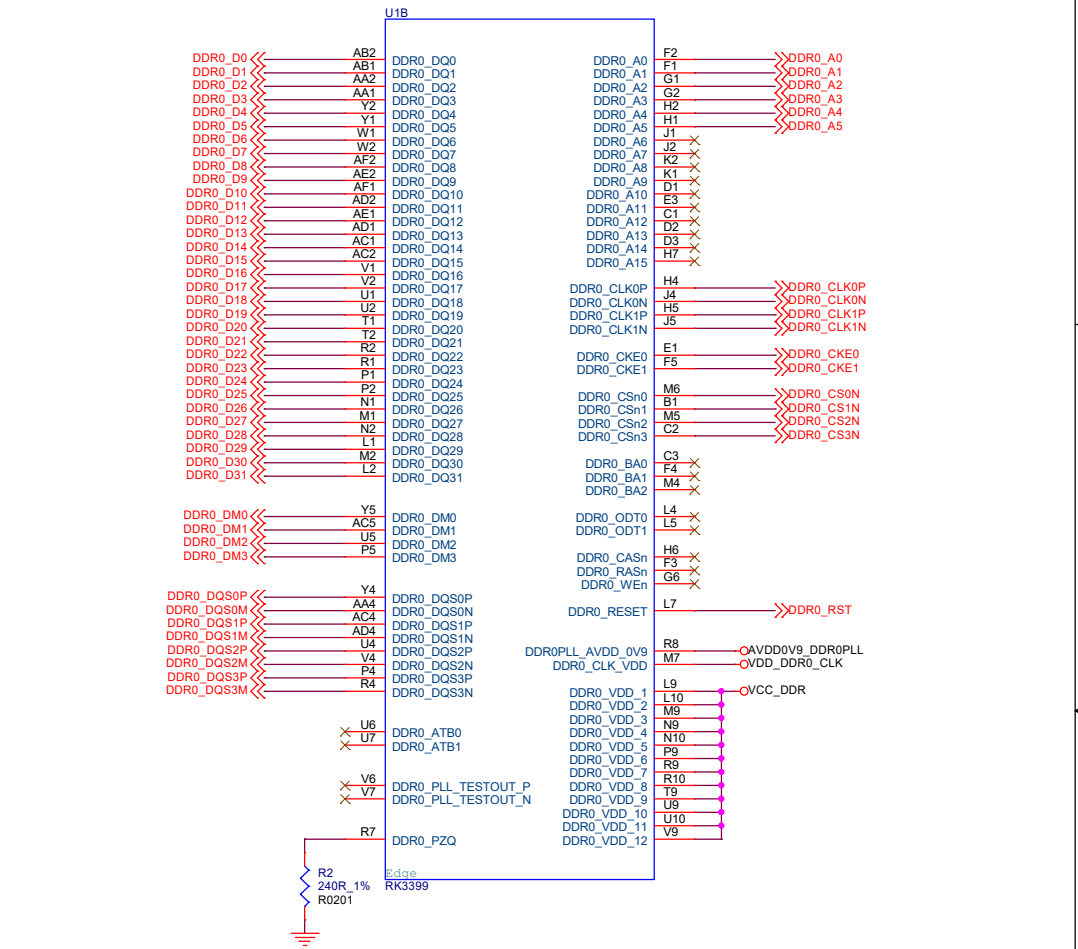
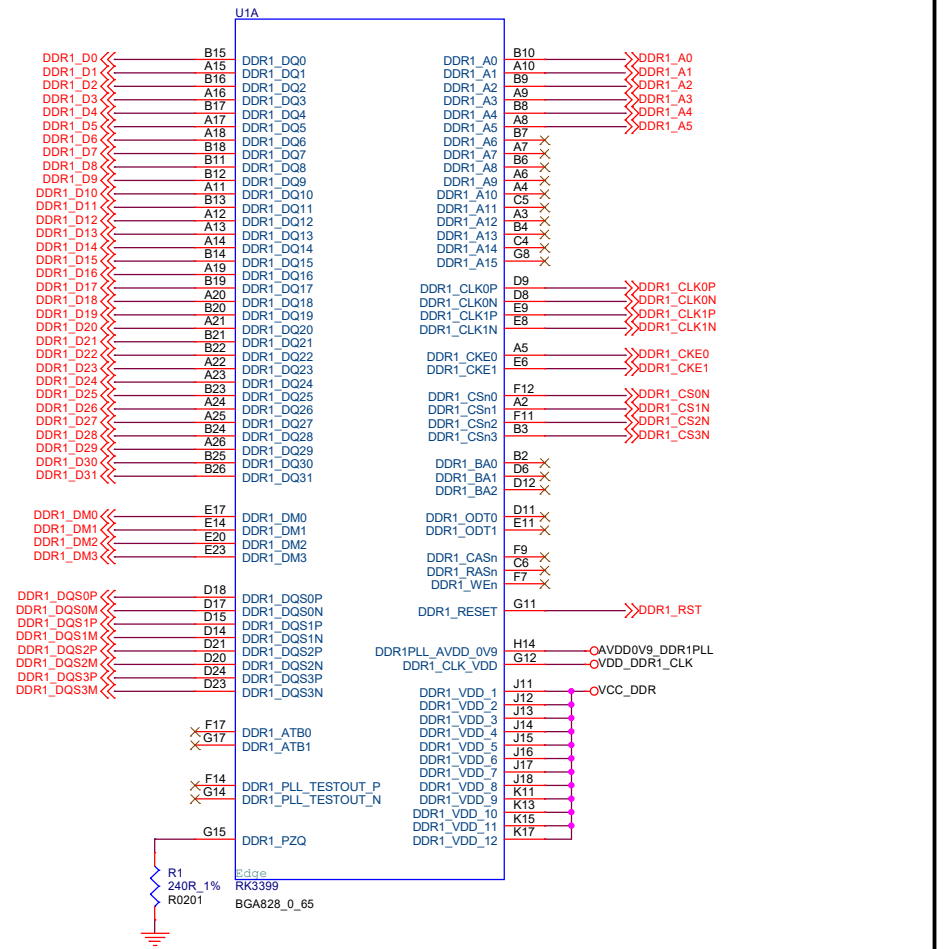
Red Block: Carrier Board

Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	Power Tree		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	2 of 18

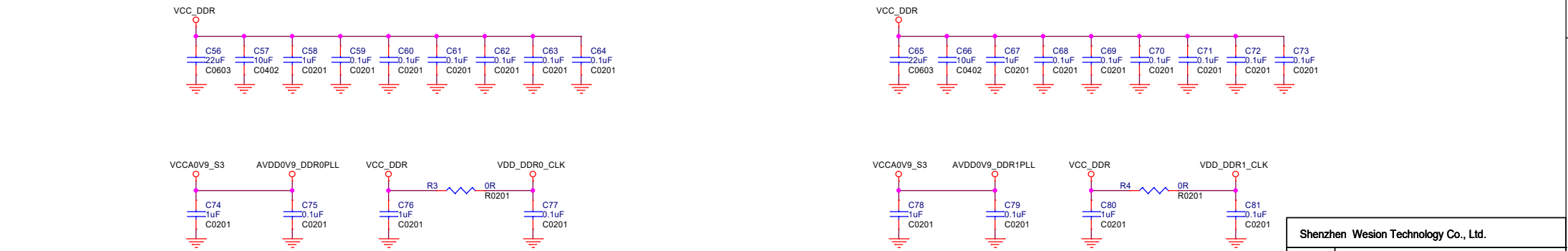




Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	RK3399 Power		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	3 of 18

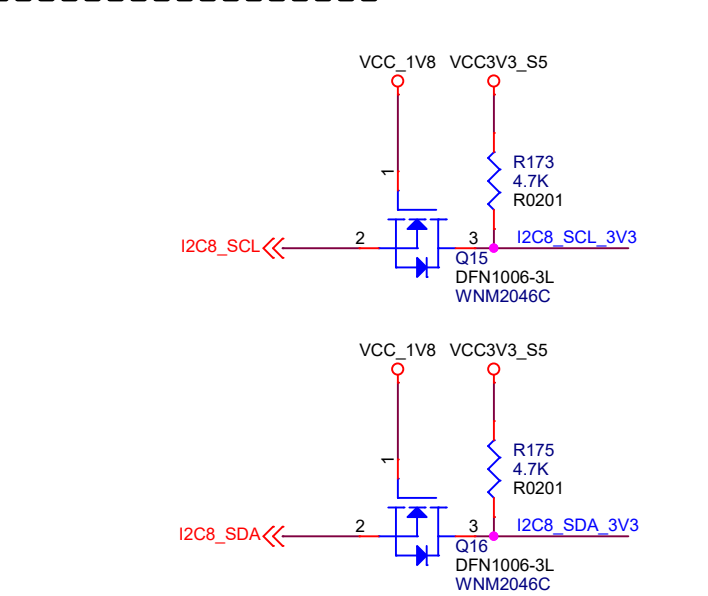
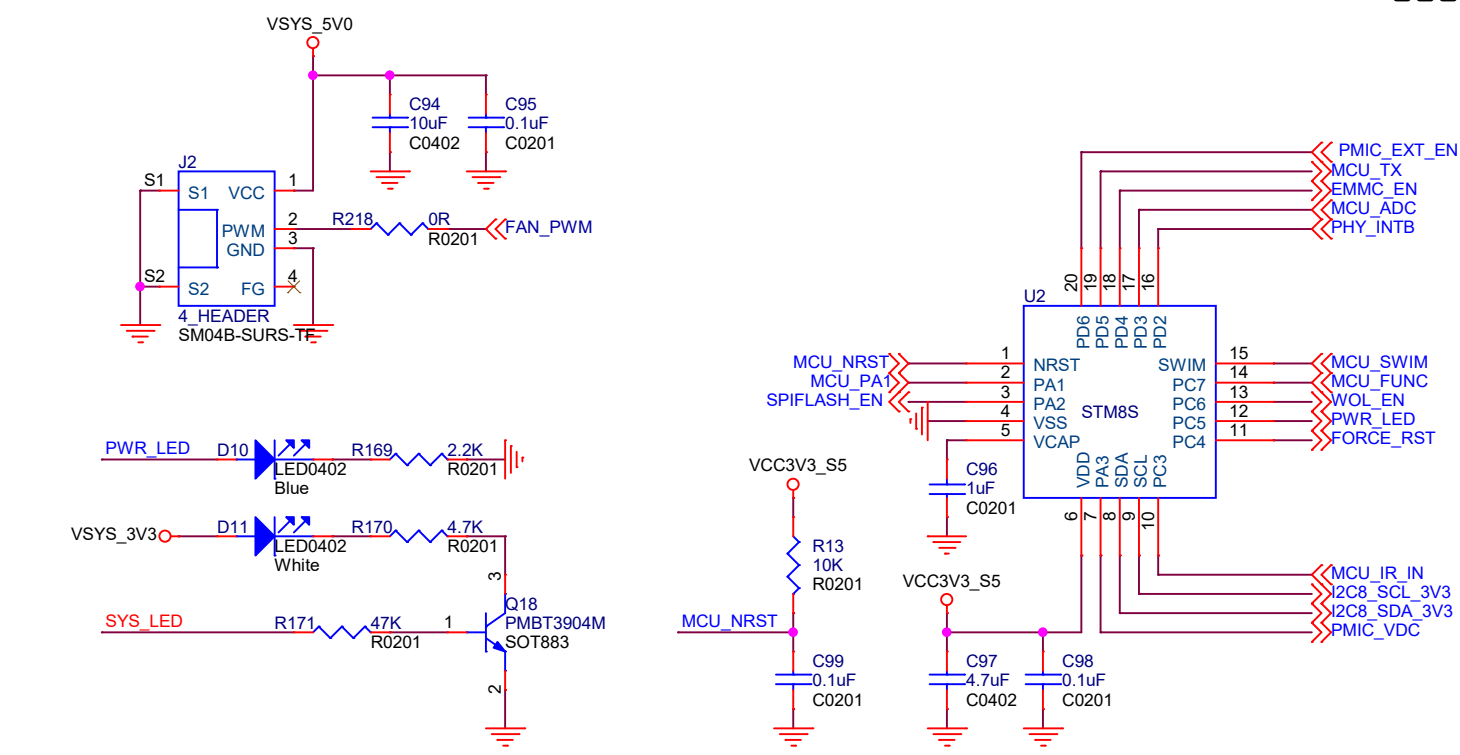
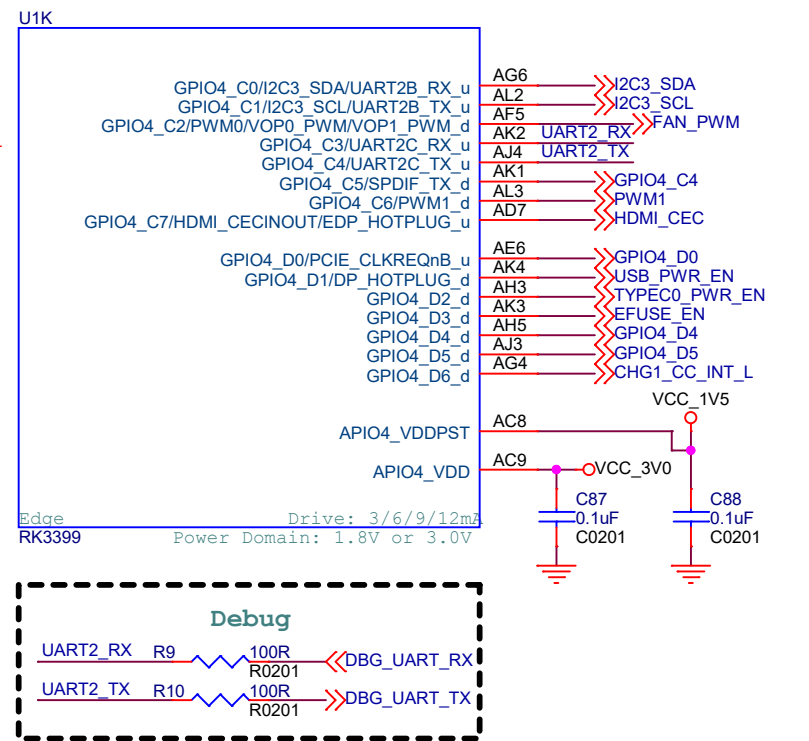
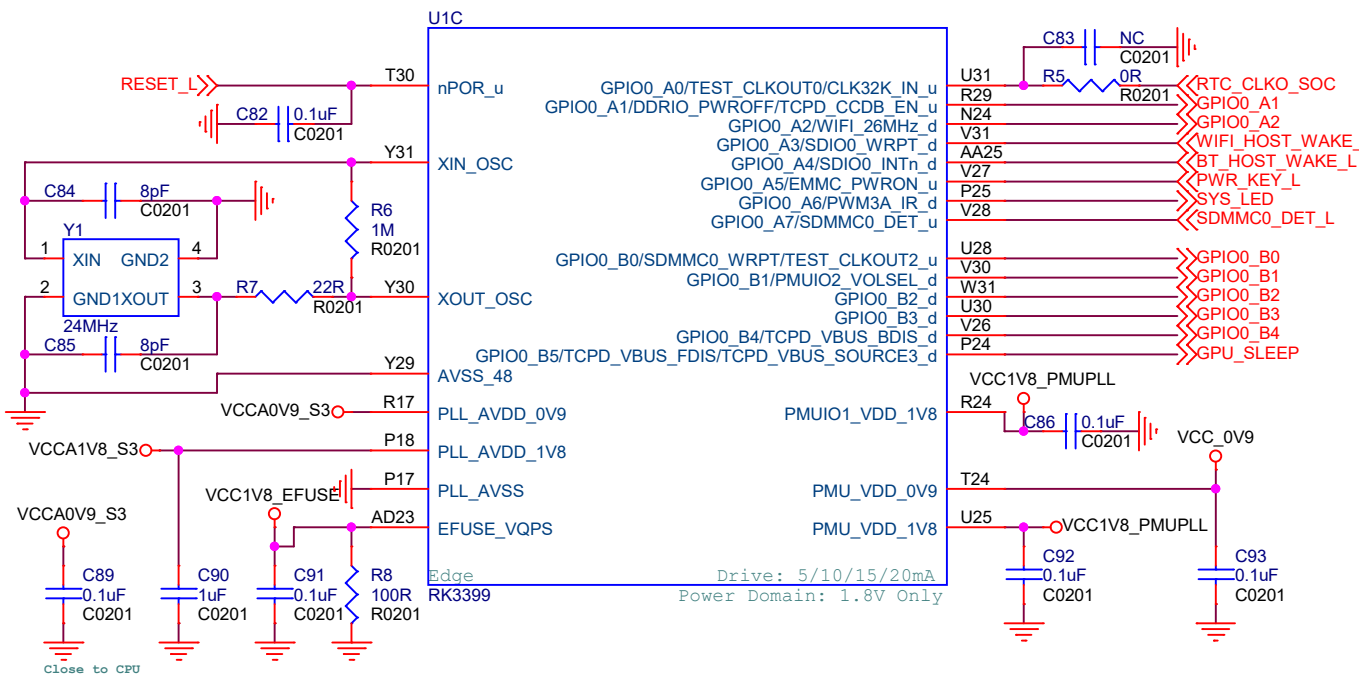


DDR FILTER

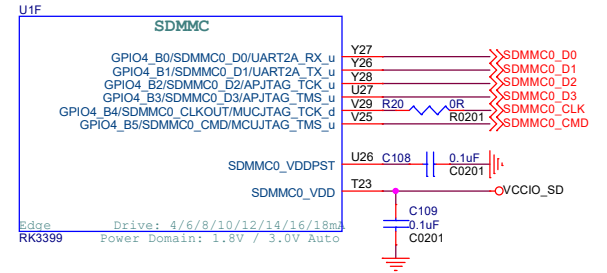
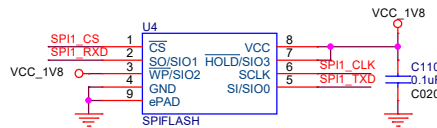
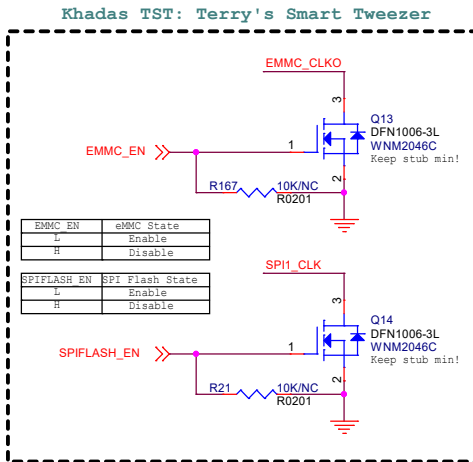
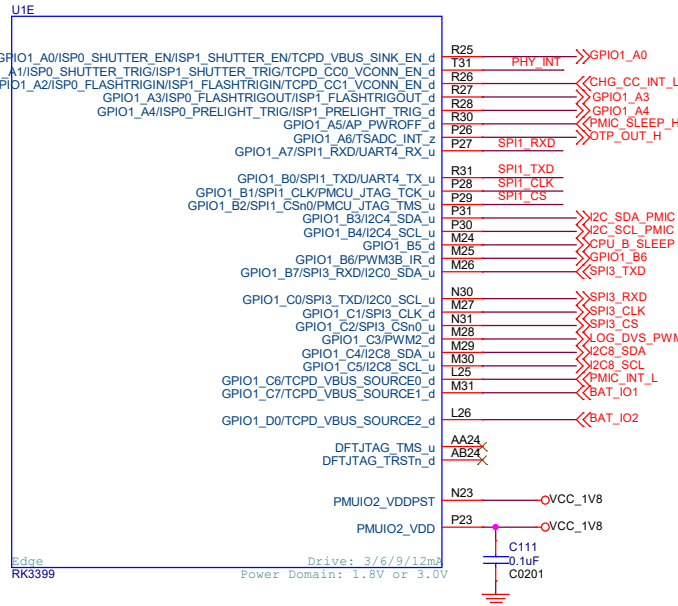
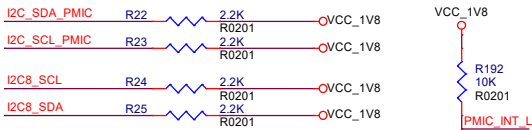
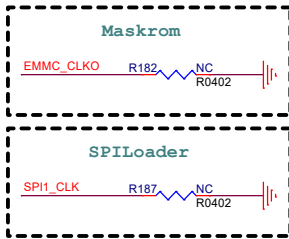
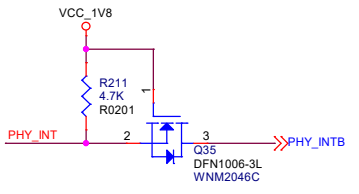
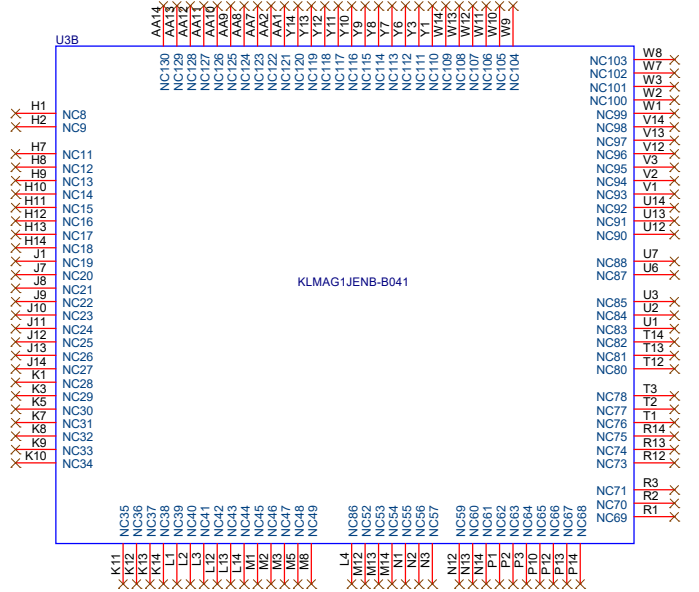
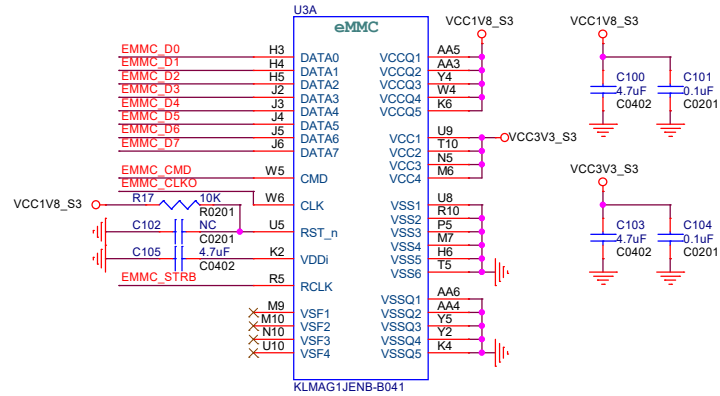
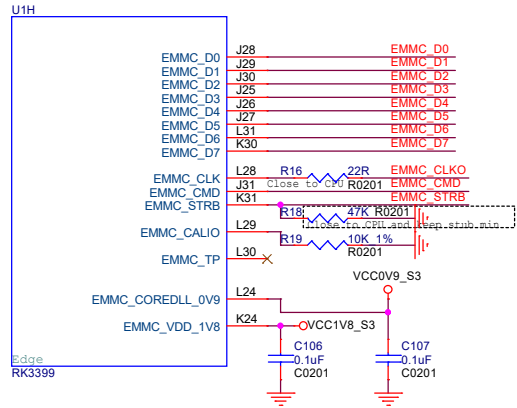


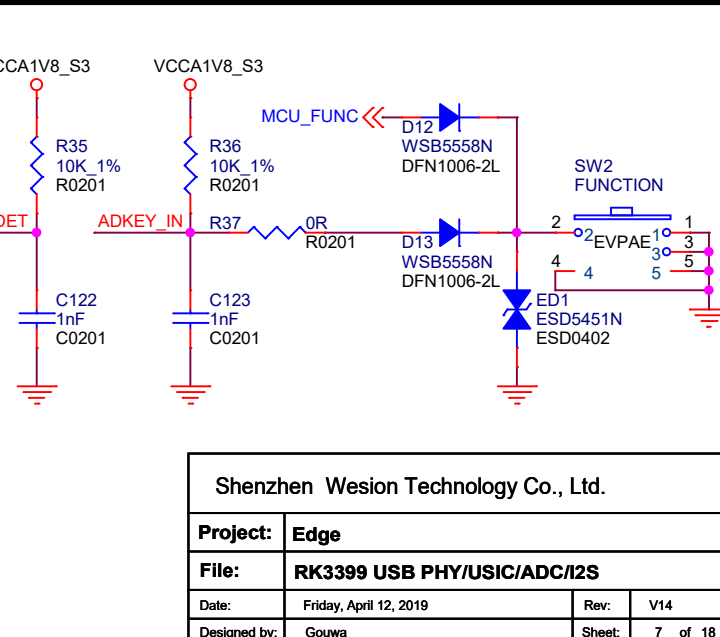
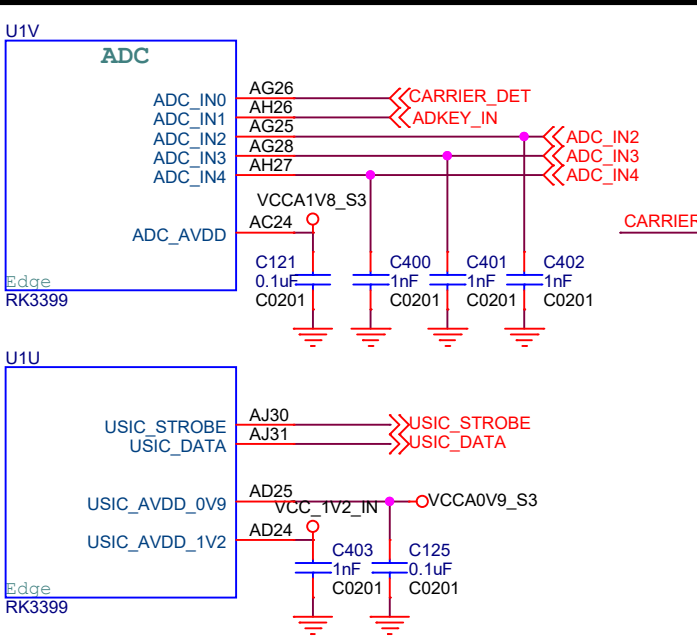
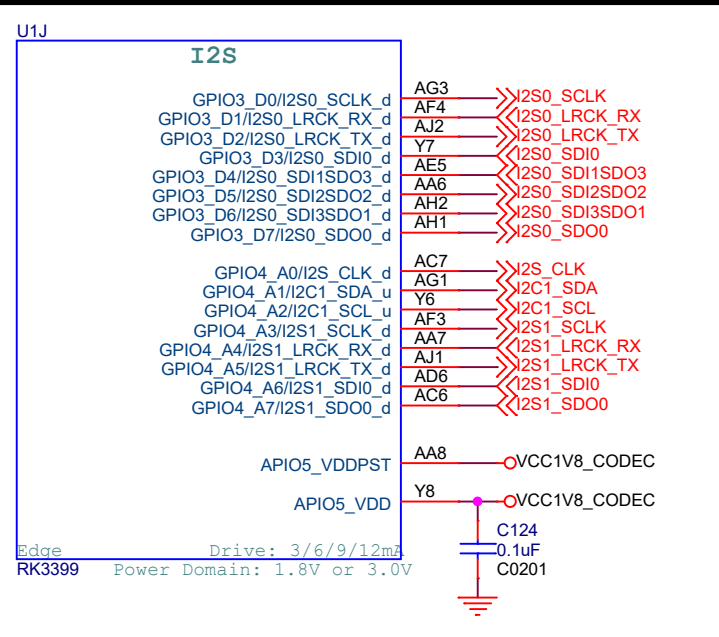
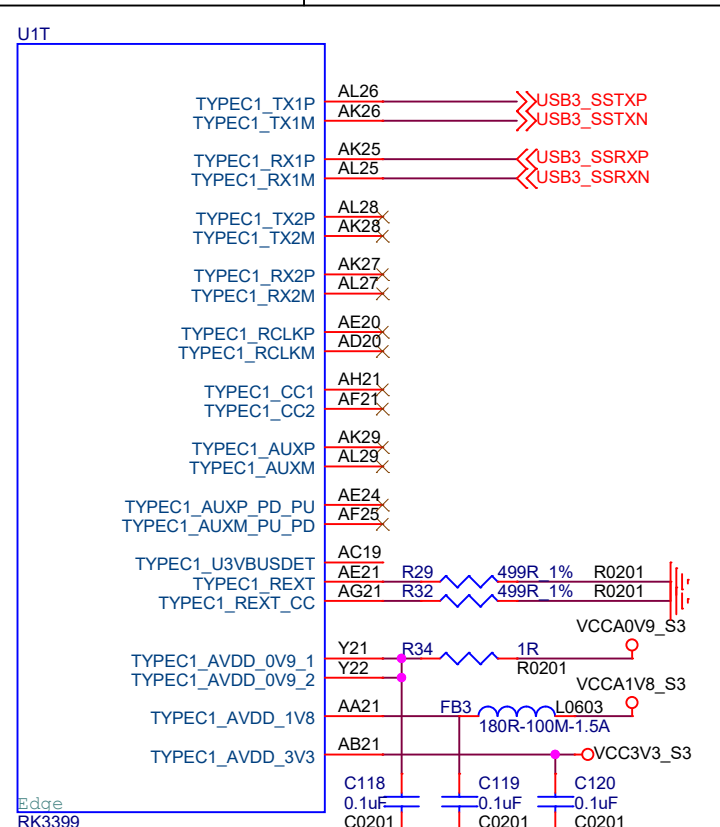
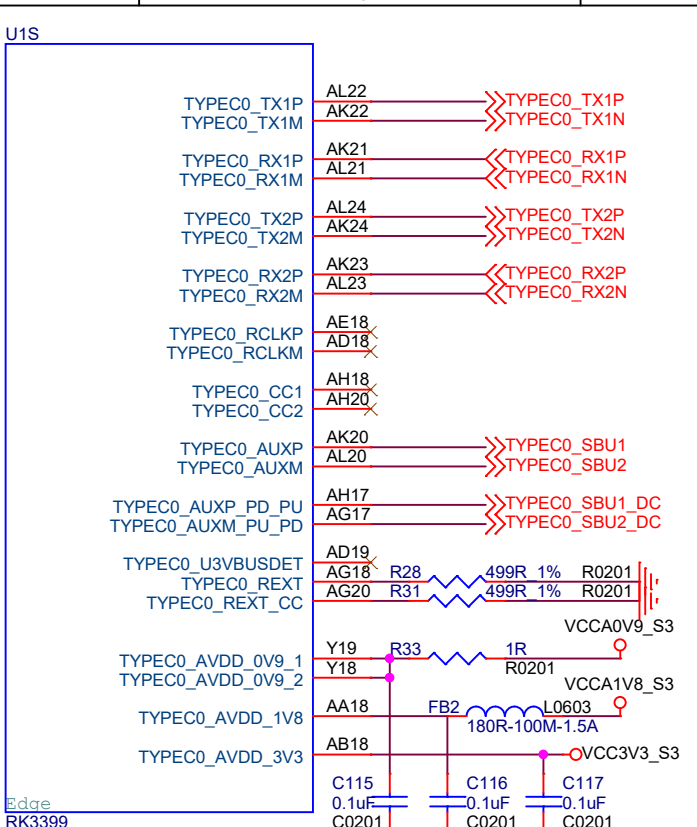
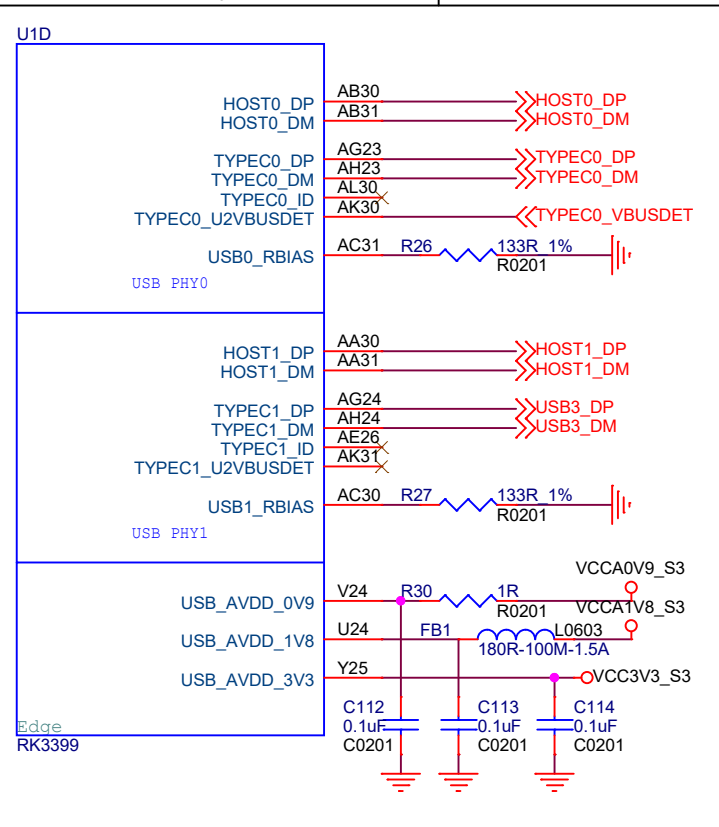
Layout: Star topology

Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	RK3399 DDR Controller		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	4 of 18

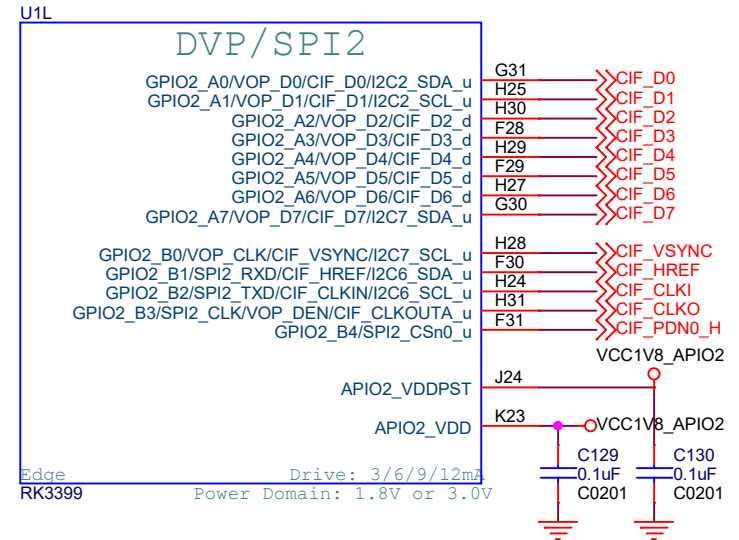
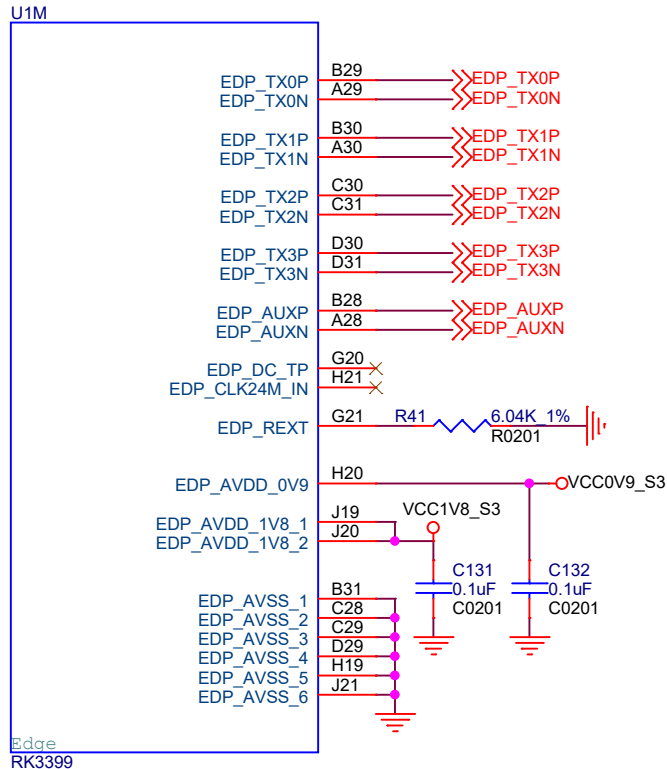
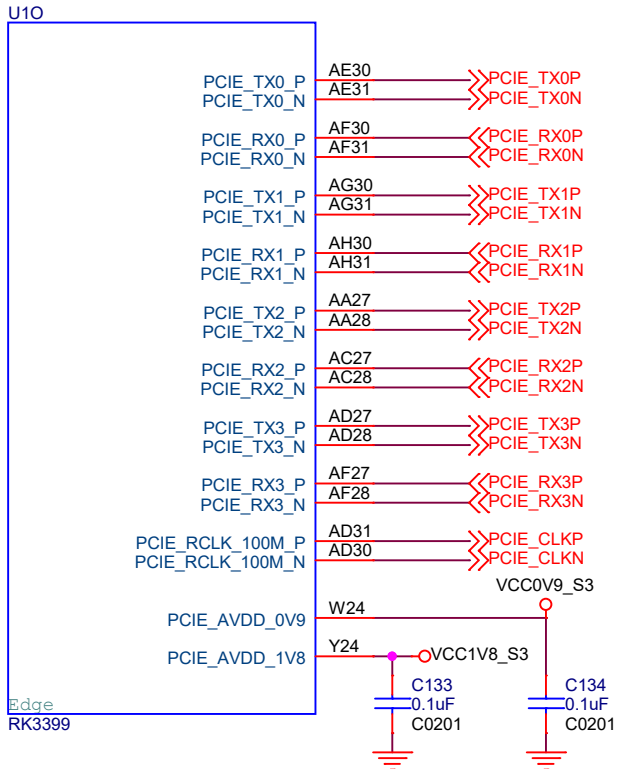
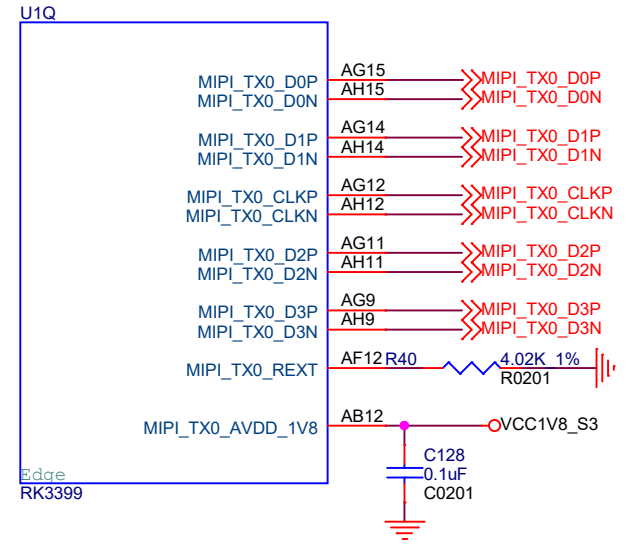
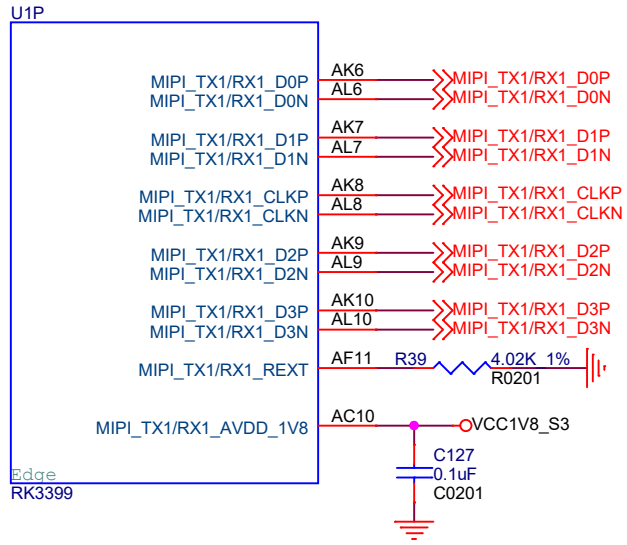
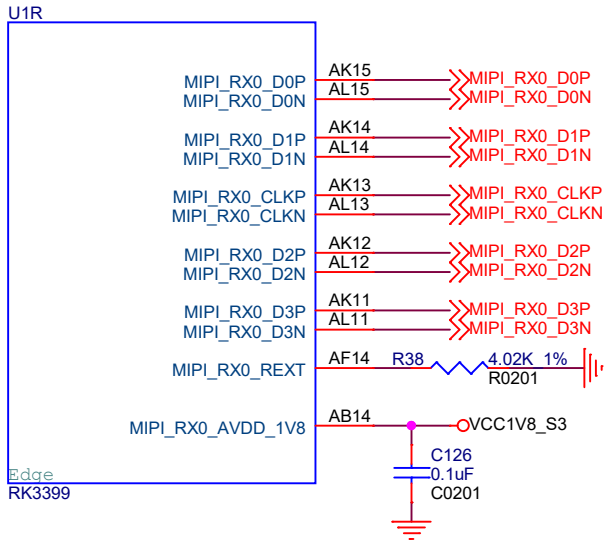


Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	RK3399 Clock/FAN/MCU/LED/GPIO		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	5 of 18

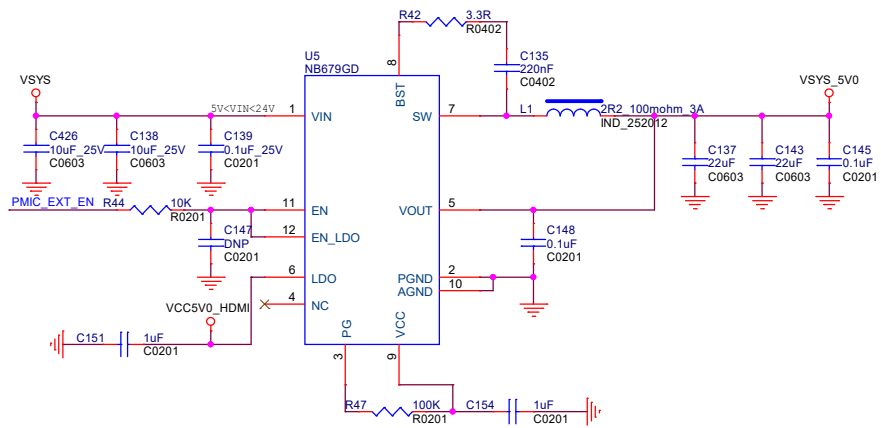




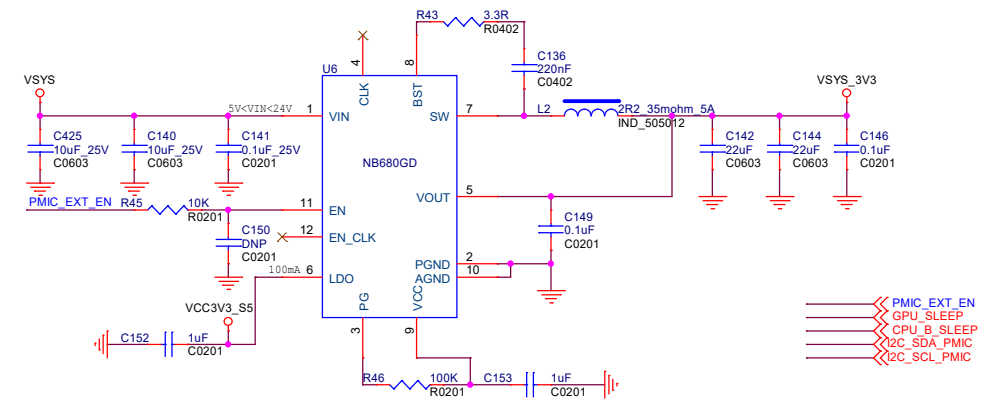
Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	RK3399 USB PHY/USIC/ADC/I2S		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	7 of 18



Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	RK3399 MIPI/eDP/PCIE/DVP		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	8 of 18

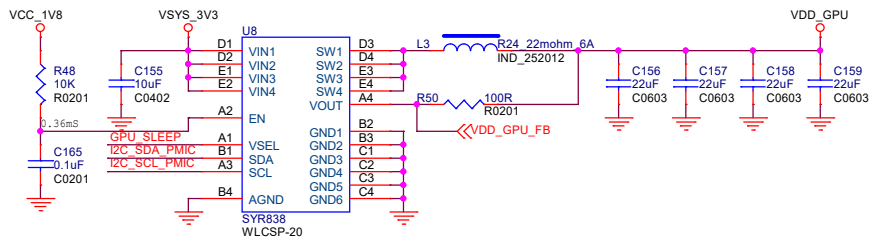


VSYS_5V0

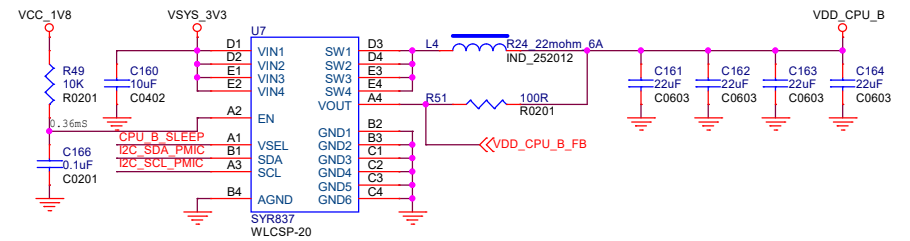


VSYS_3V3

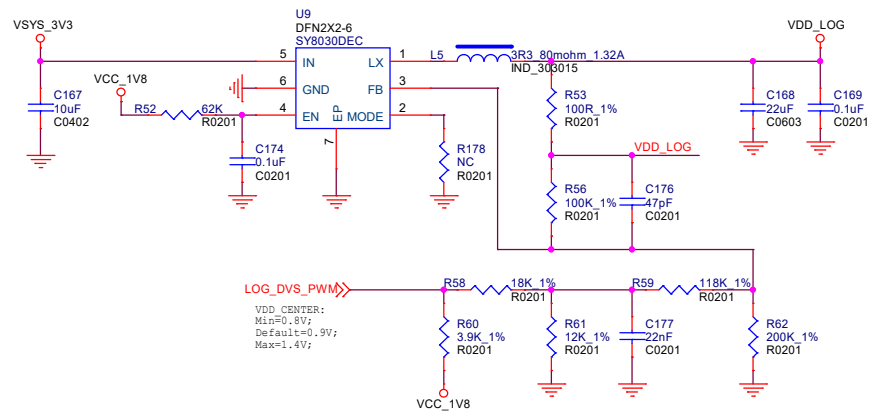
- PMIC_EXT_EN
- GPU_SLEEP
- CPU_B_SLEEP
- I2C_SDA_PMIC
- I2C_SCL_PMIC



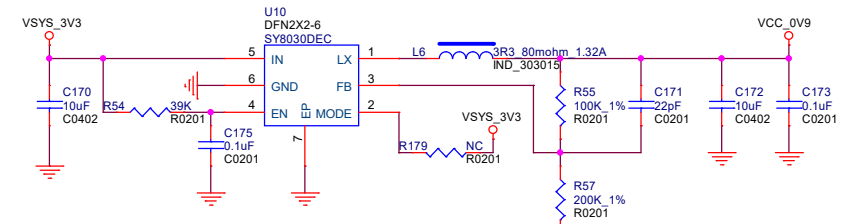
VDD_GPU



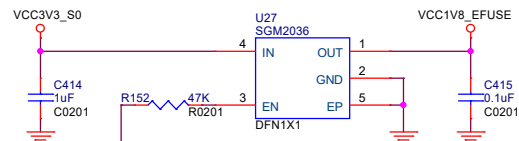
VDD_CPU_B



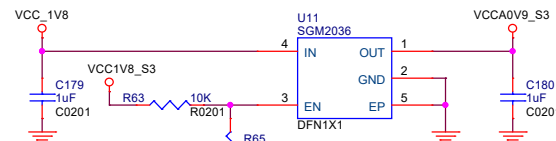
VDD_LOG



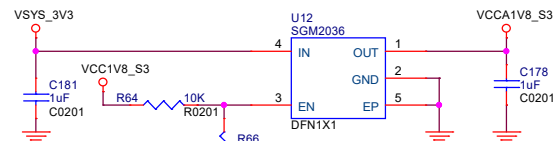
VCC_0V9



VCC1V8_EFUSE



VCCA0V9_S3

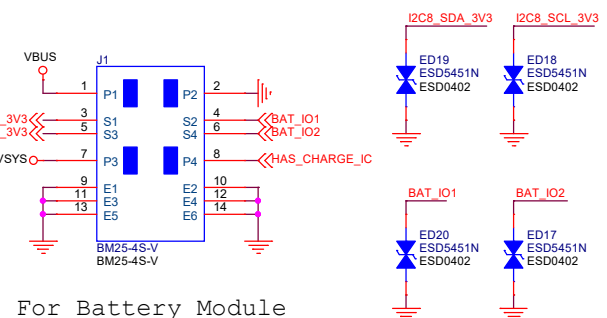
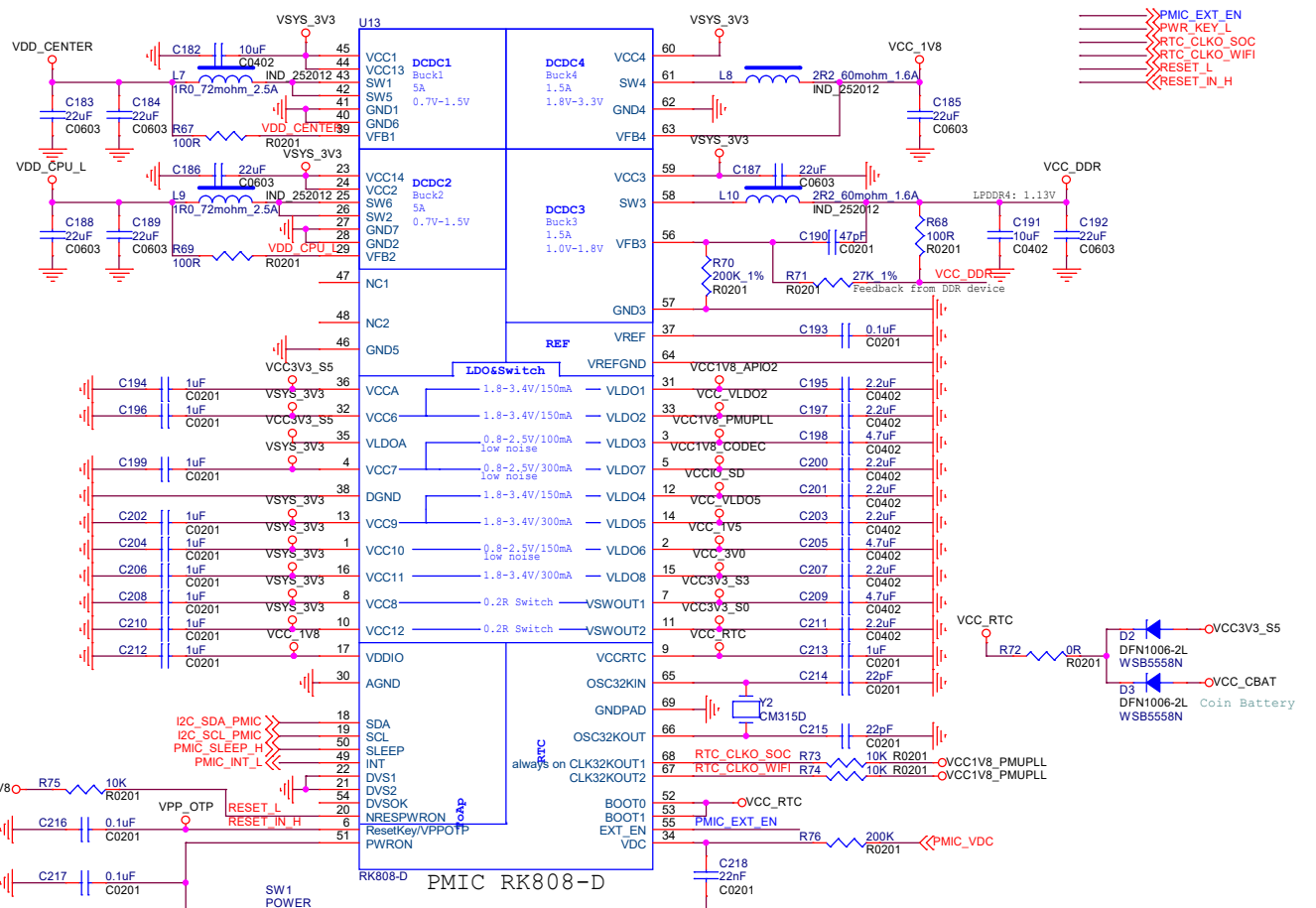
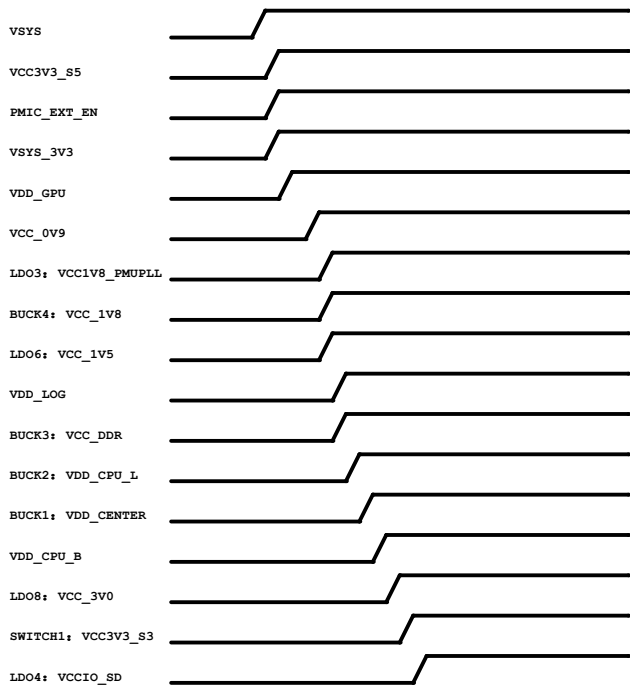


VCCA1V8_S3

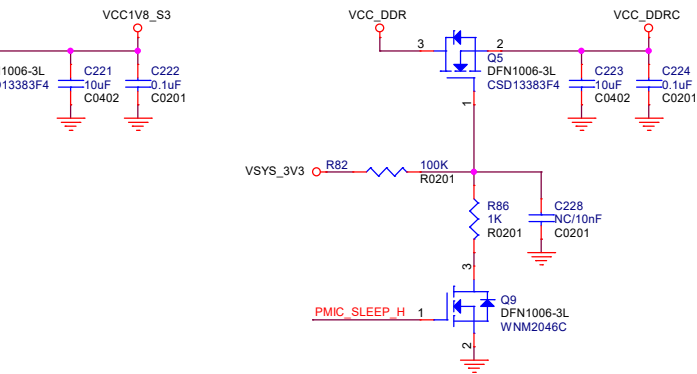
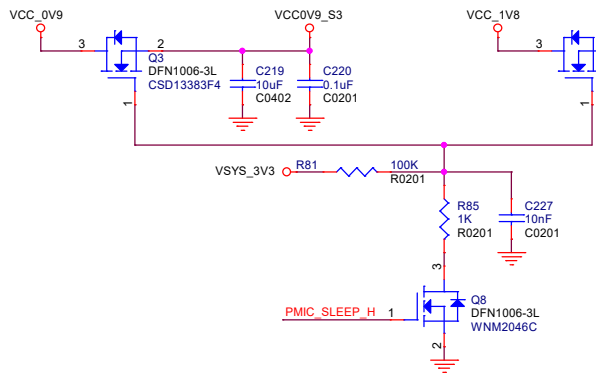
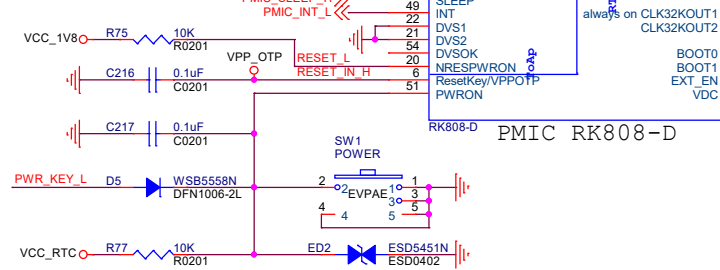
Shenzhen Wesion Technology Co., Ltd.

Project:	Edge		
File:	Power: DC-DC & LDO		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	9 of 18

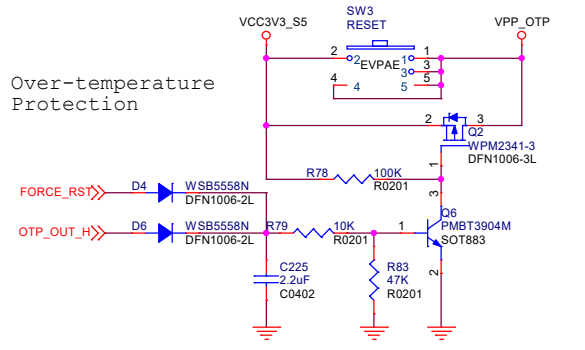
Power Sequence (PMIC-RK808-D)



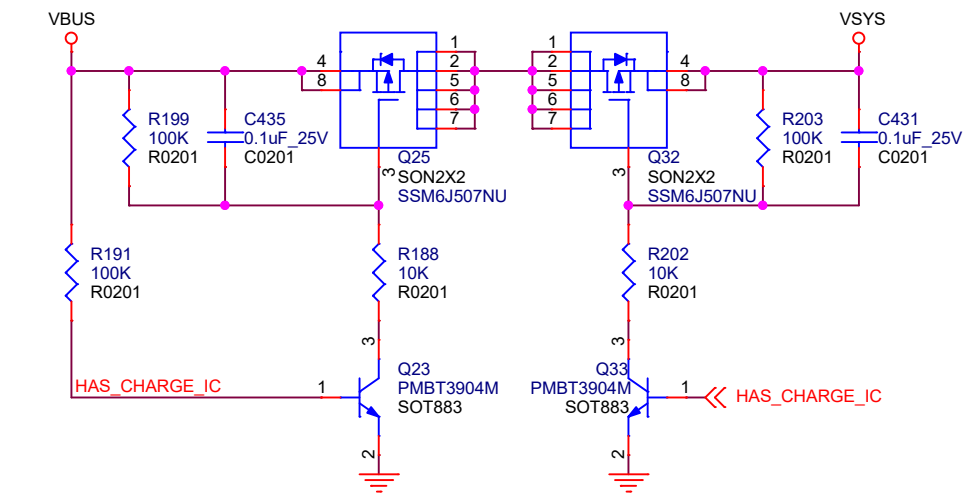
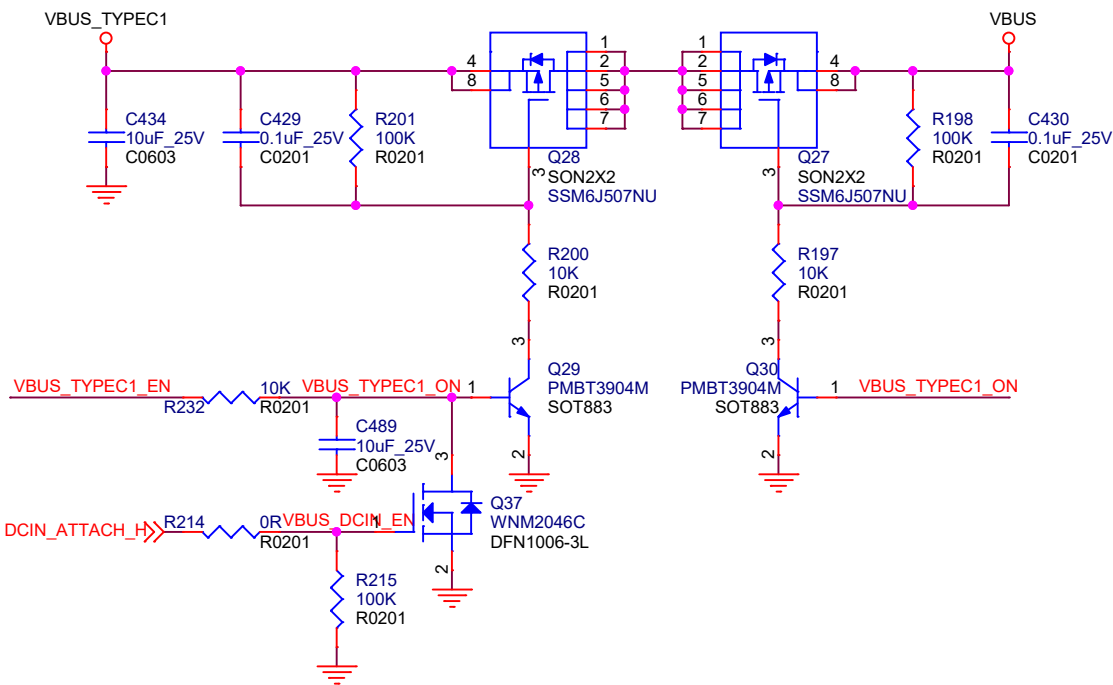
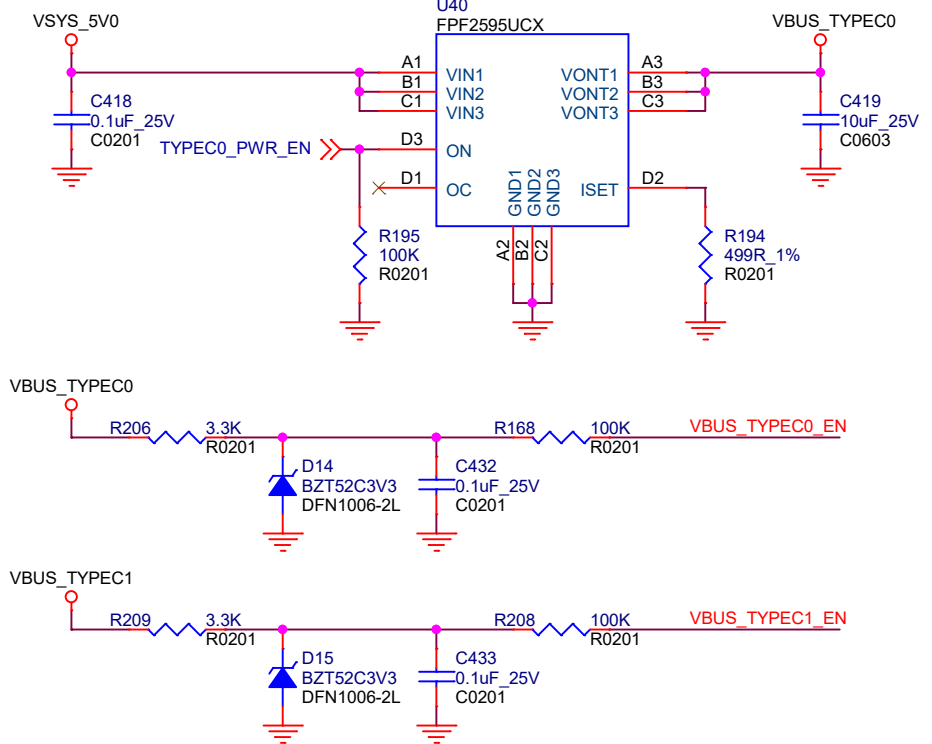
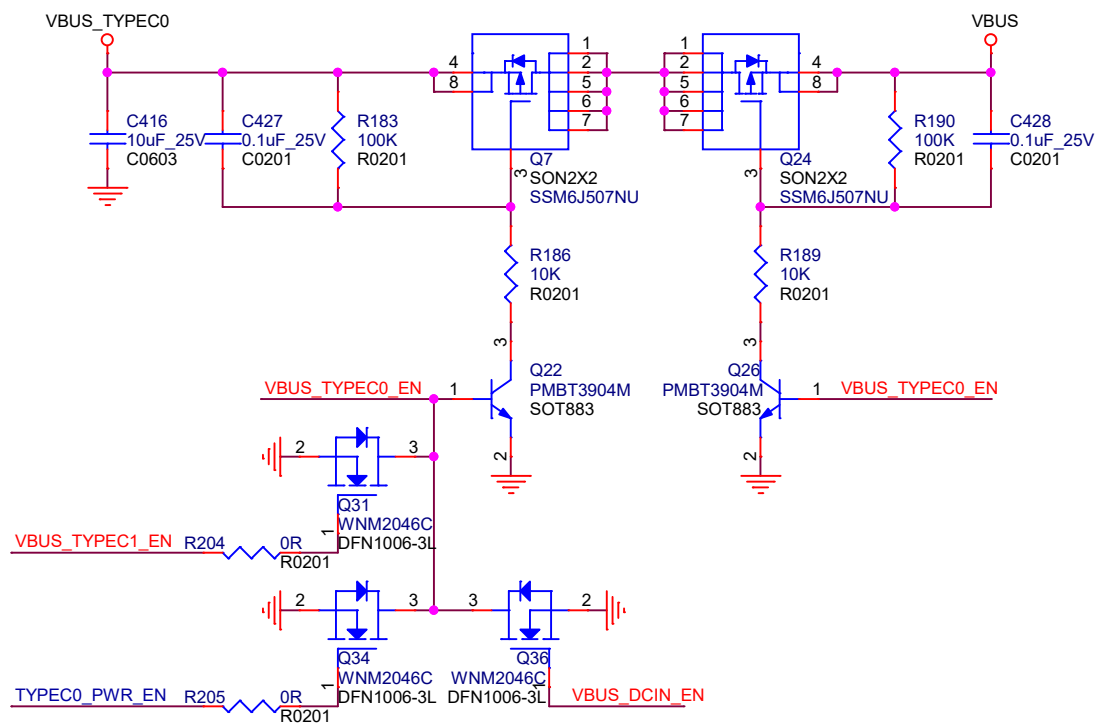
For Battery Module



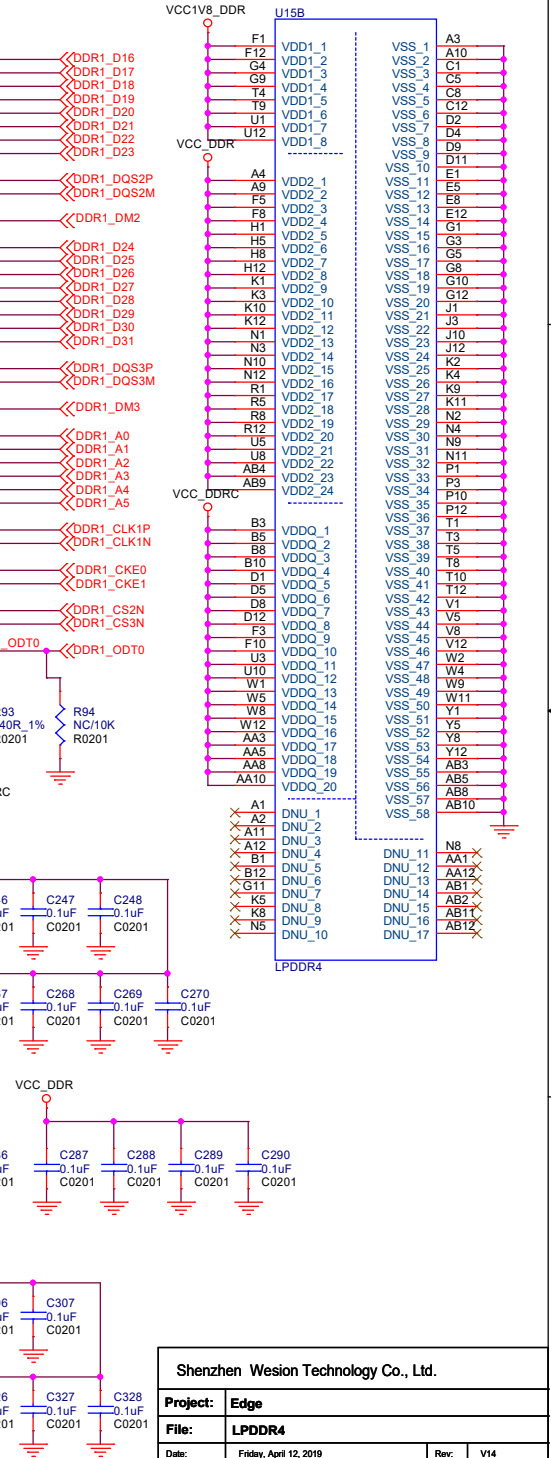
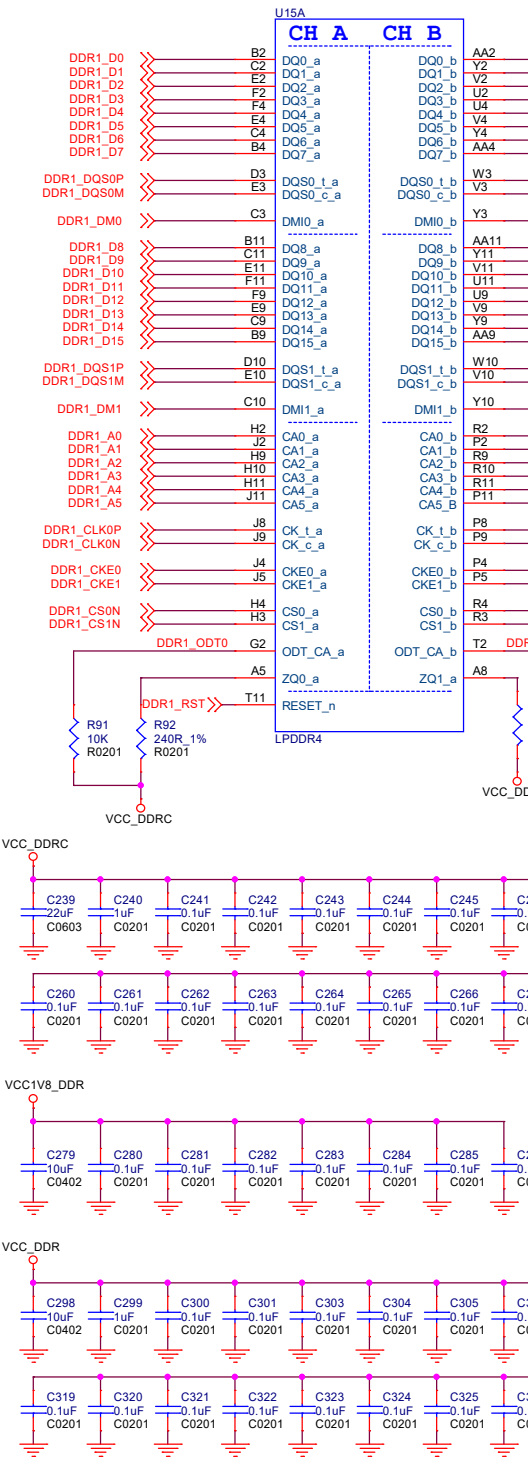
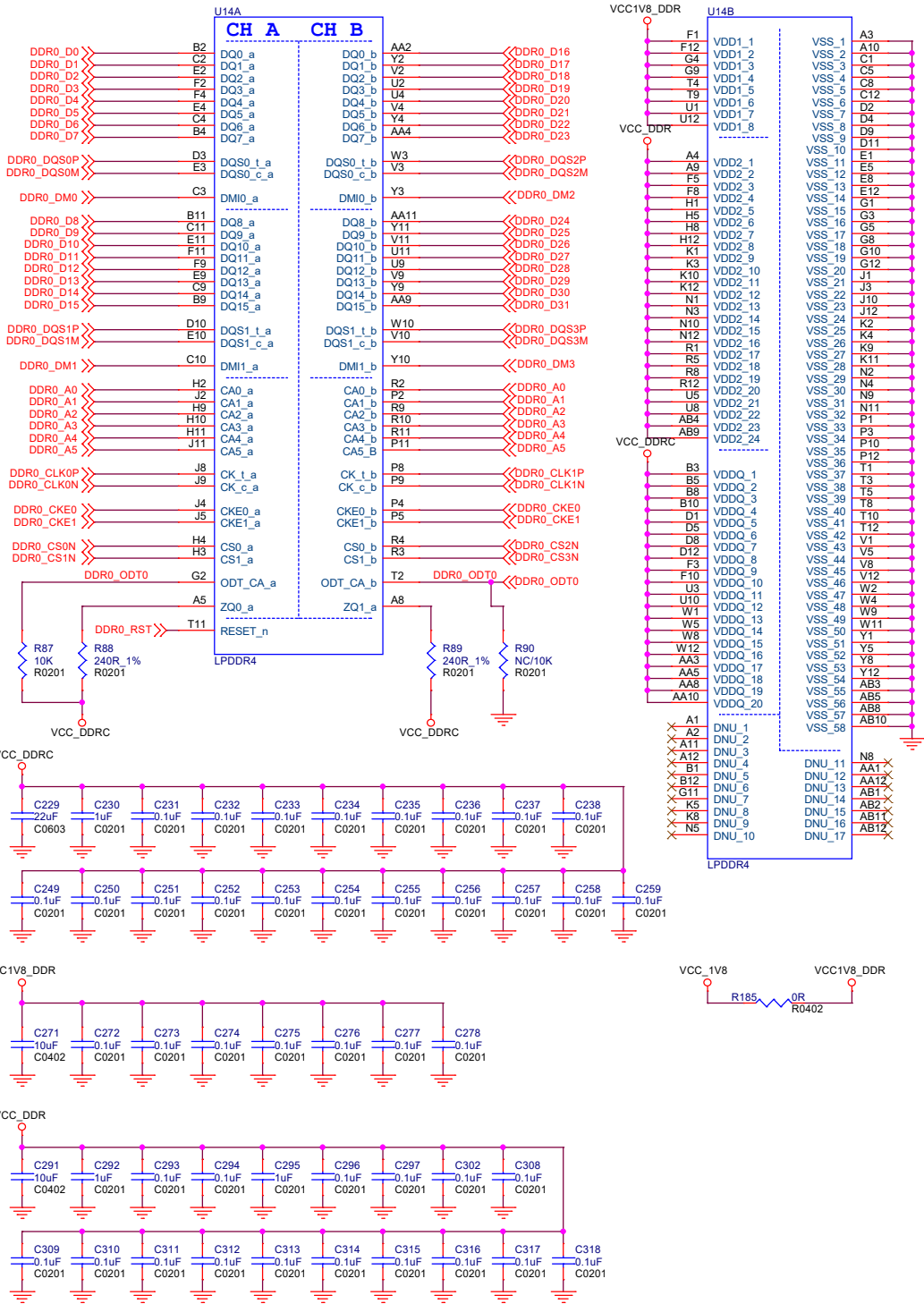
Over-temperature Protection

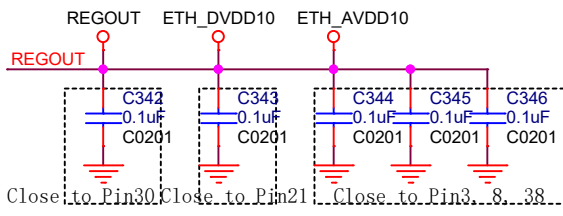
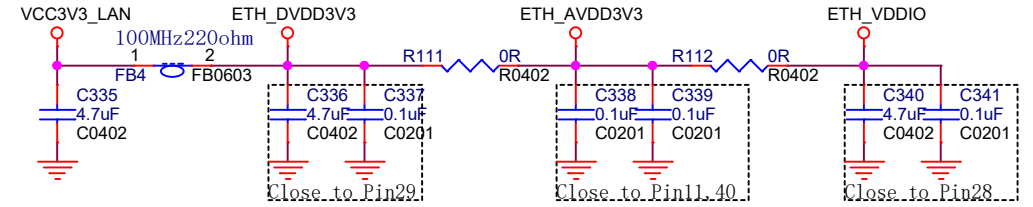
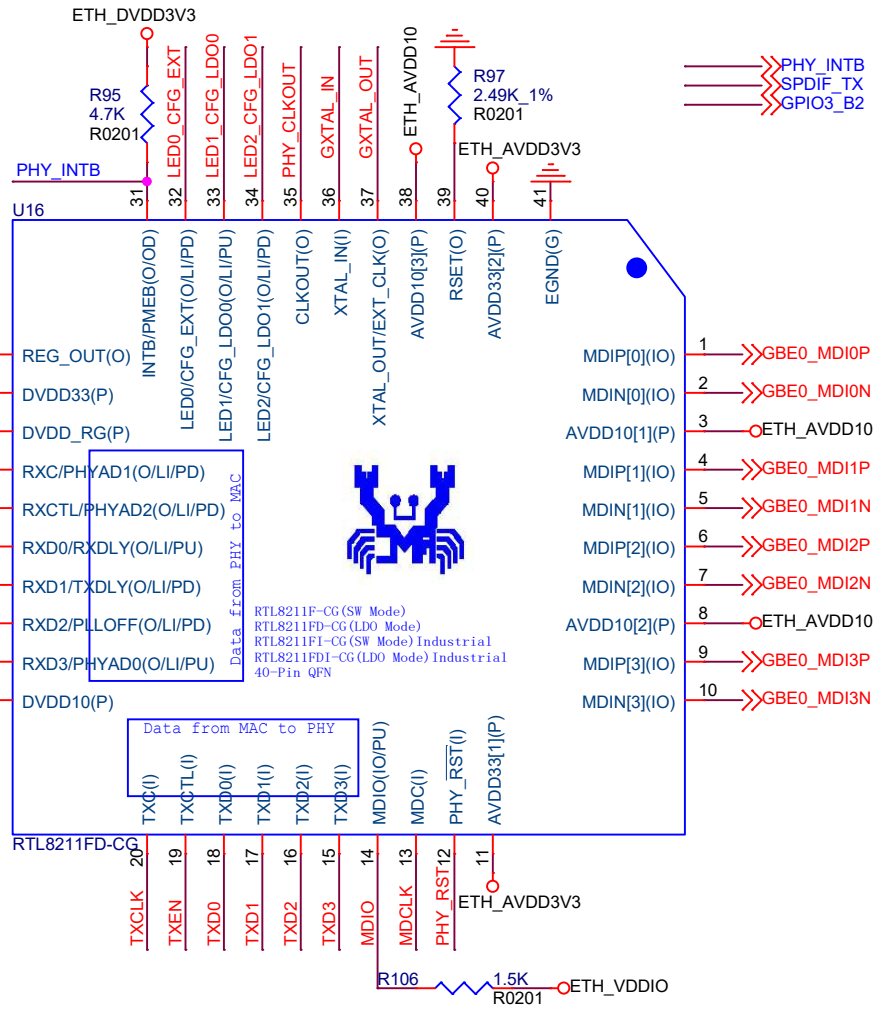
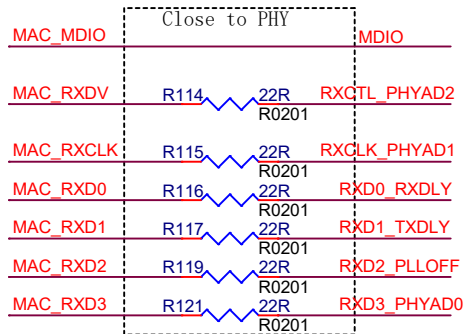
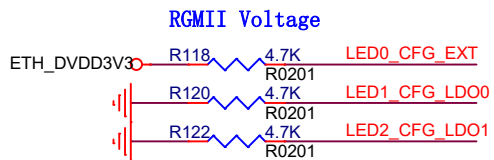
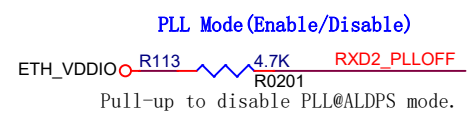
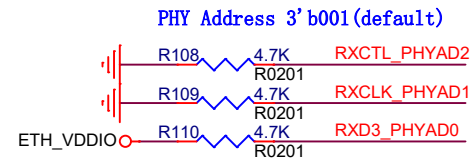
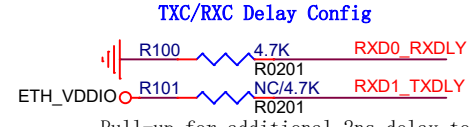
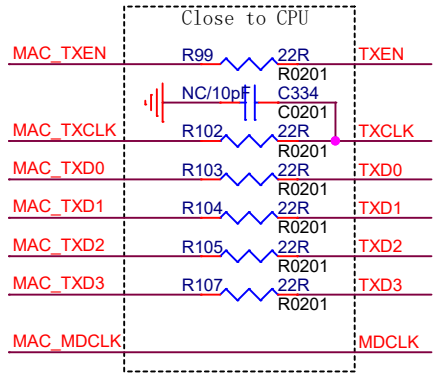
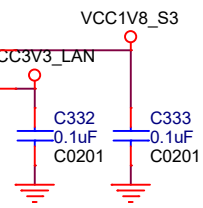
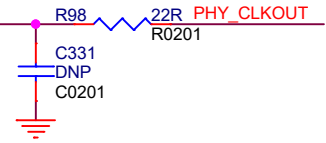
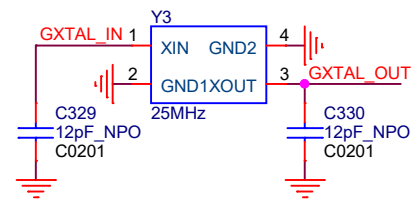
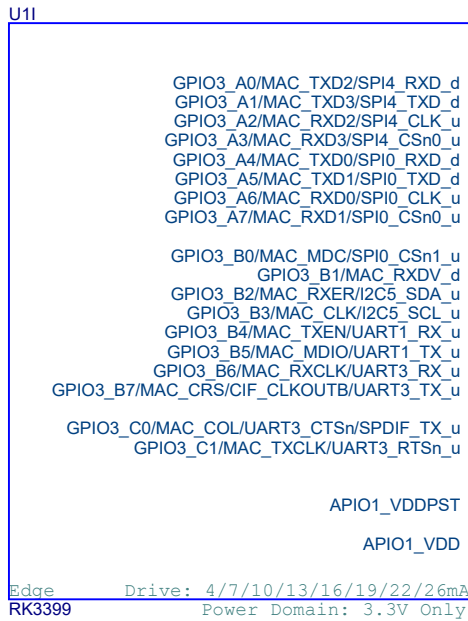


Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	PMU: RK808-D		
Date:	Friday, April 12, 2019	Rev:	V14
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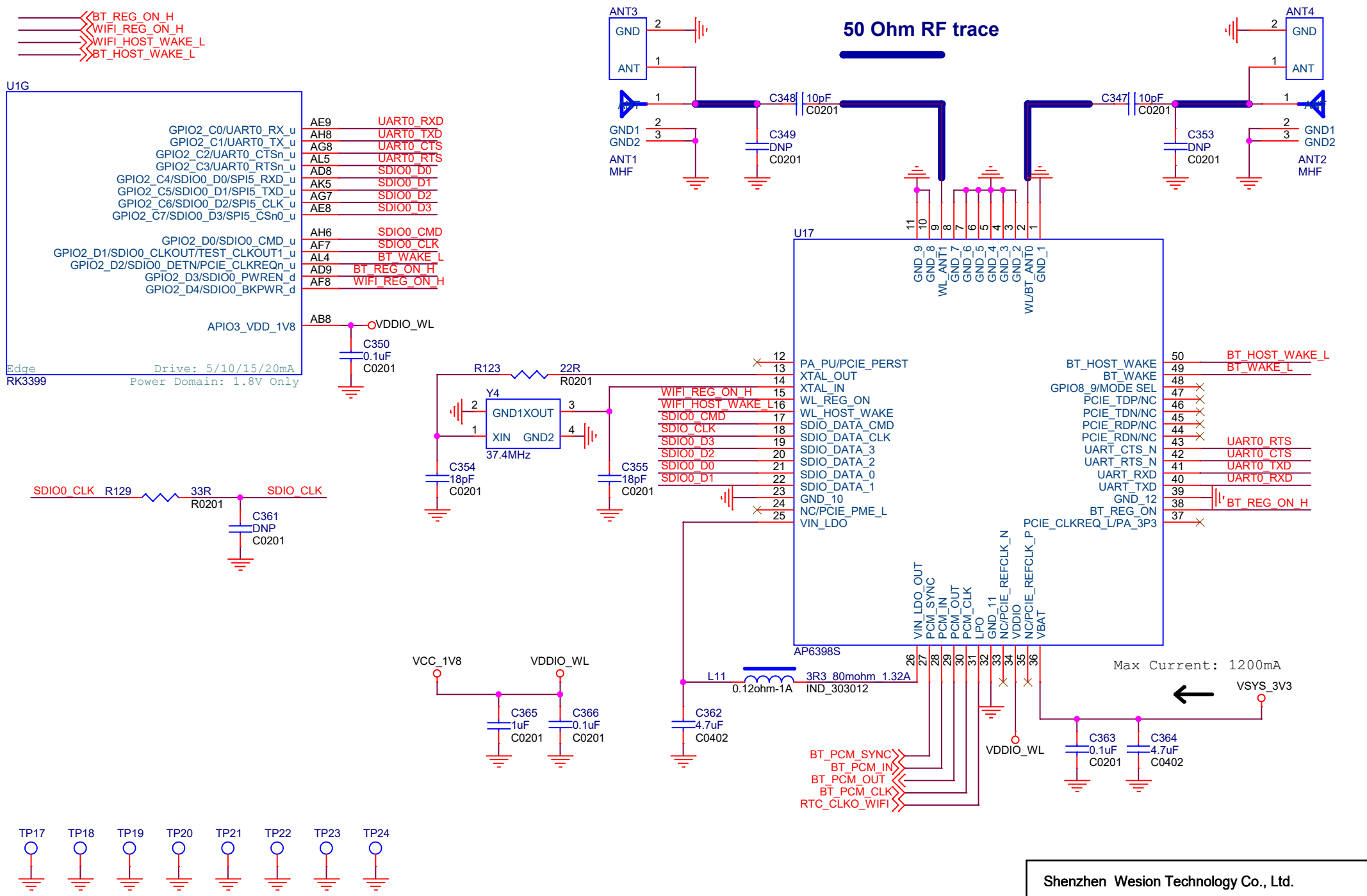
Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	Power Path		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	11 of 18



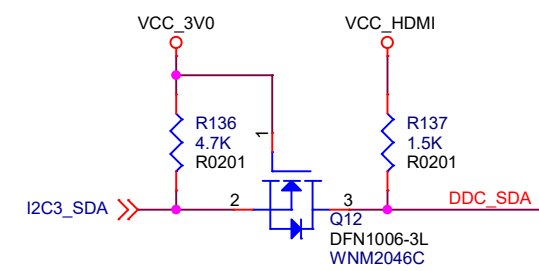
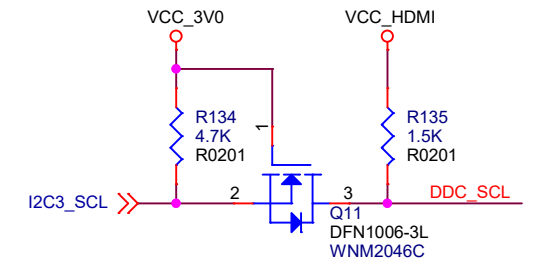
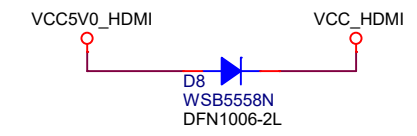
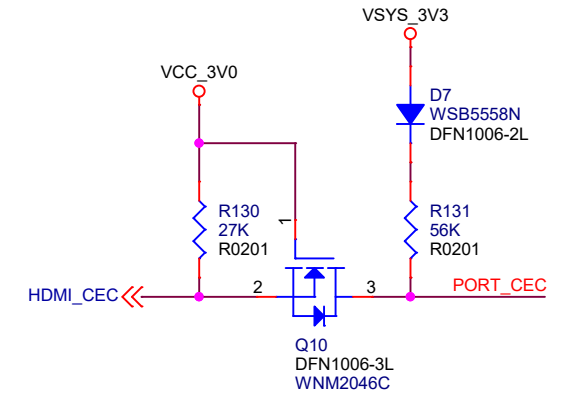
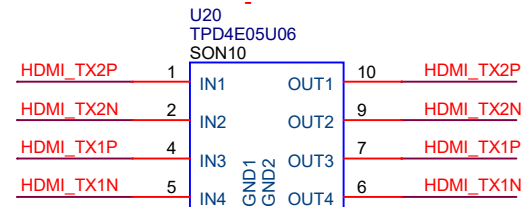
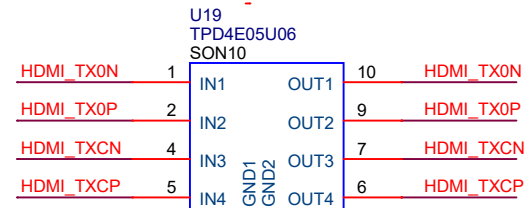
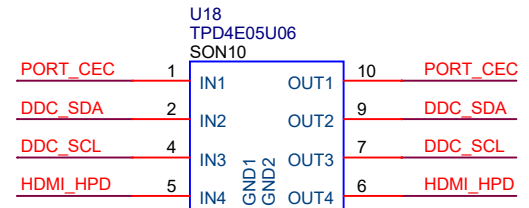
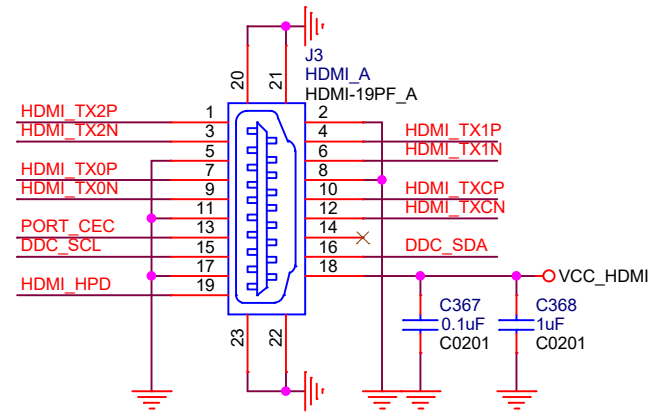
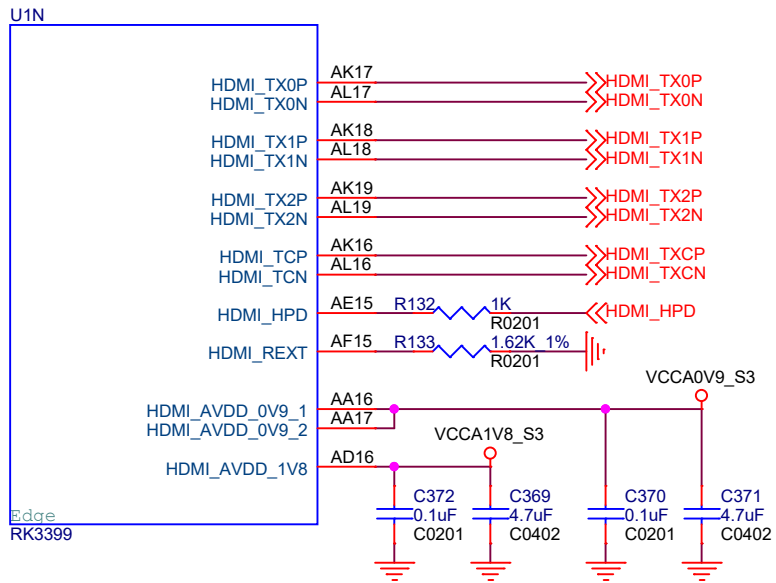


Shenzhen Wesion Technology Co., Ltd.

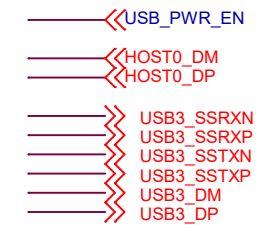
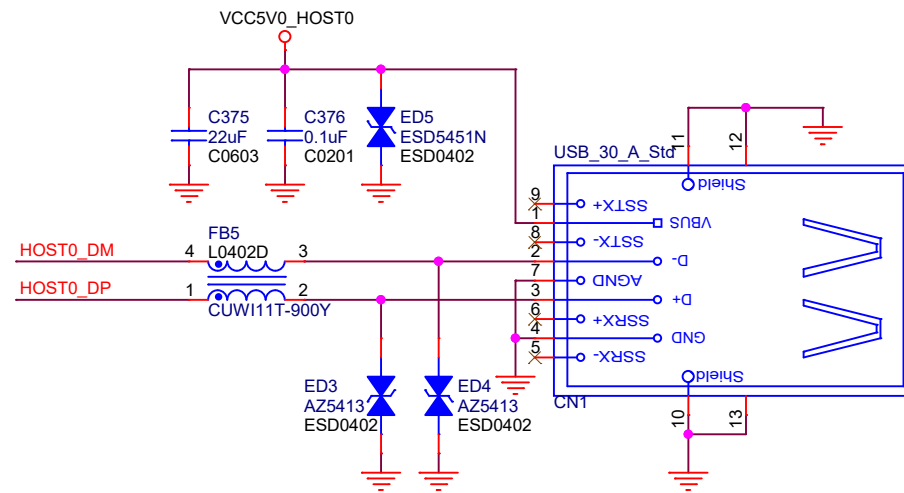
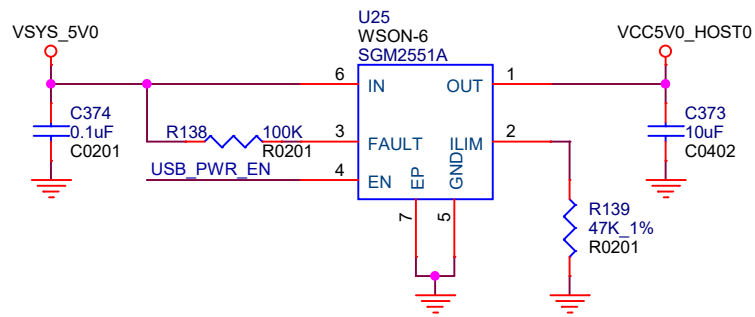
Project:	Edge
File:	Ethernet PHY
Date:	Friday, April 12, 2019
Designed by:	Gouwa
Rev:	V14
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Shenzhen Wesion Technology Co., Ltd.			
Project:	Edge		
File:	Wi-Fi & BT		
Date:	Friday, April 12, 2019	Rev:	V14
Designed by:	Gouwa	Sheet:	14 of 18



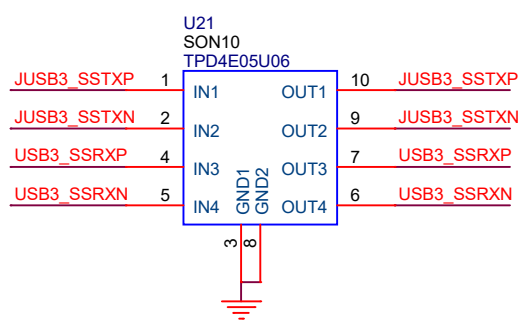
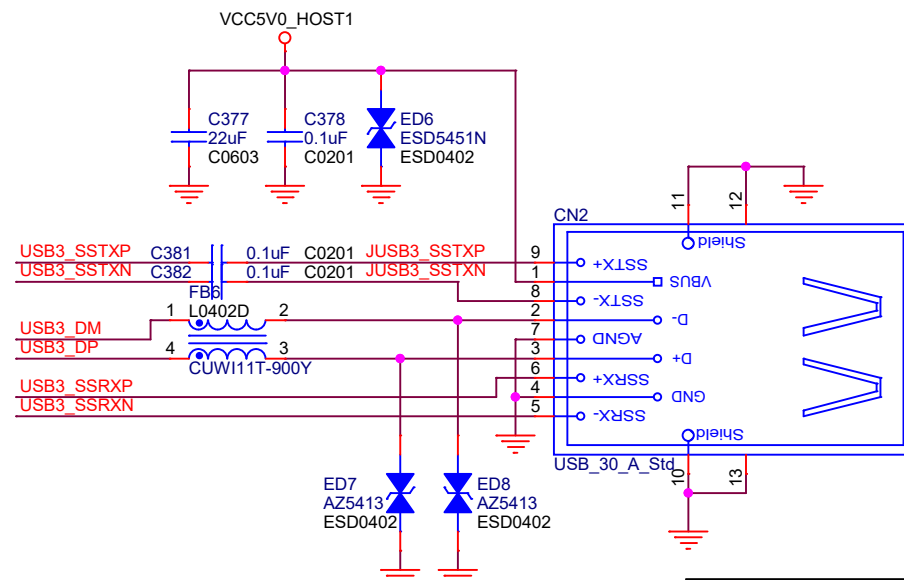
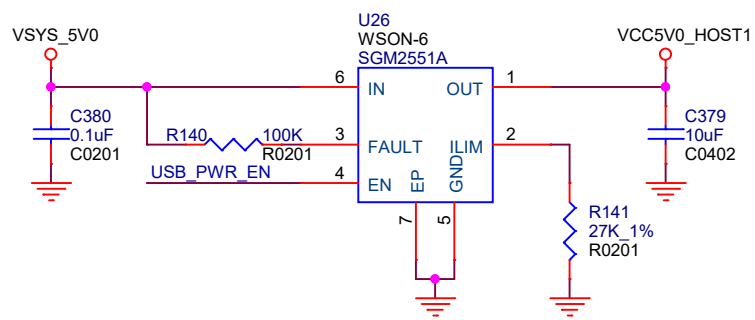
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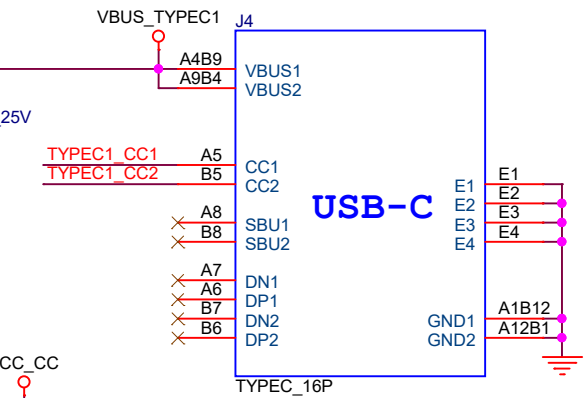
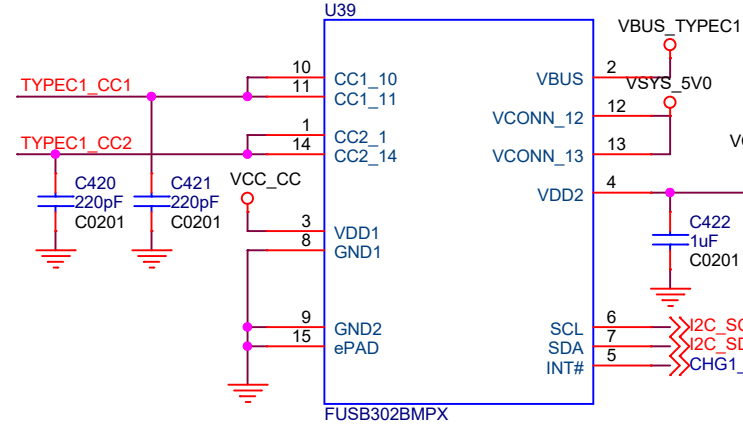
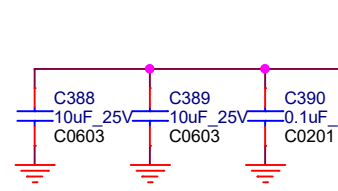
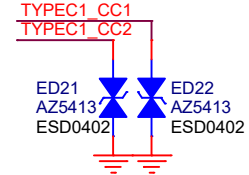
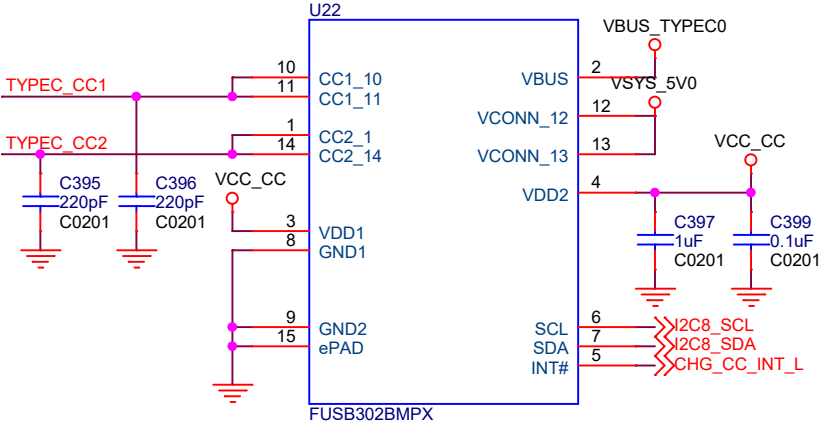
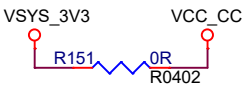
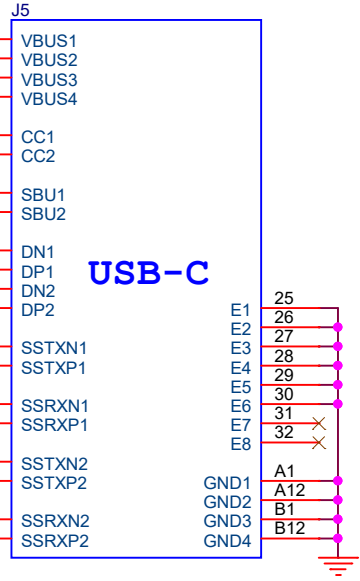
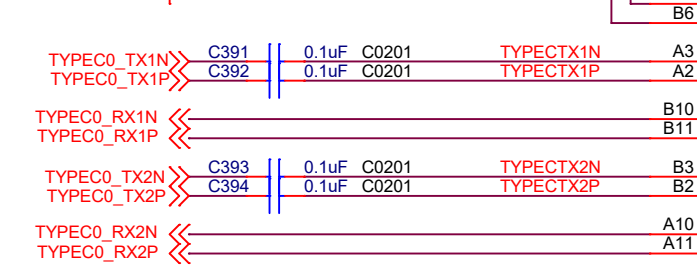
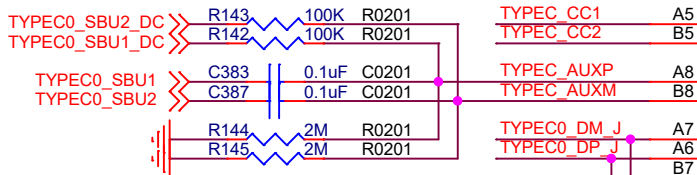
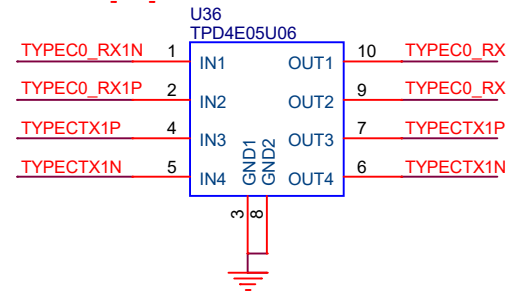
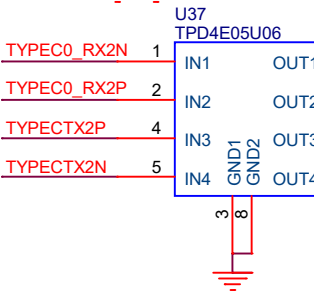
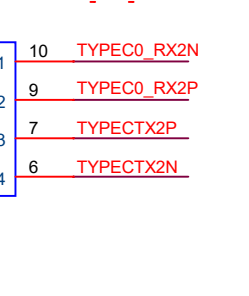
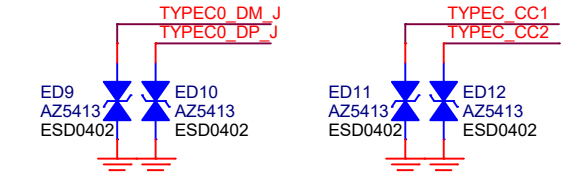
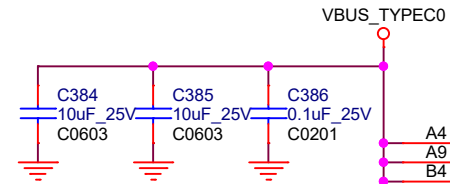
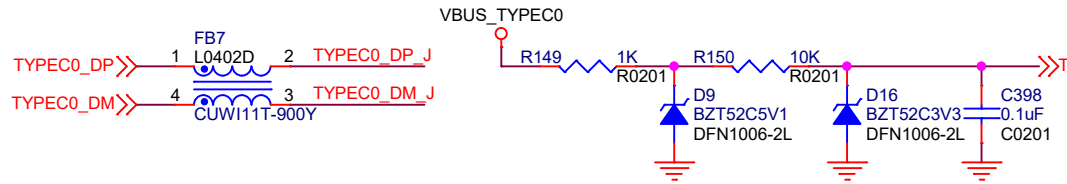
Notice:
USB2.0 feature with 3.0 Connector

USB2.0 HOST

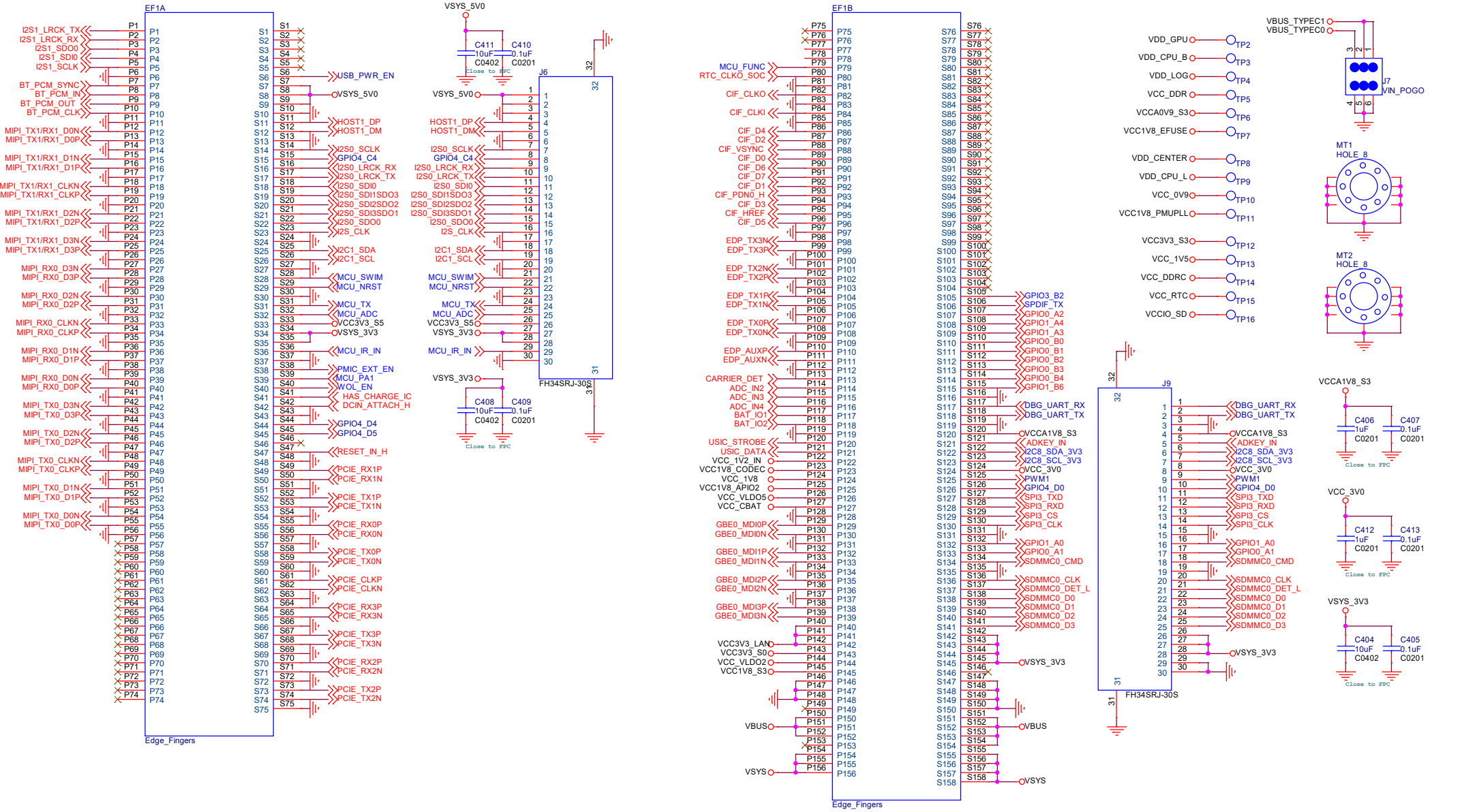
USB3.0 HOST



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- Gold Fingers Usage:
1. Current Rating: 0.5A per Pin
 2. Smart Booting: Edge can recognize 3rd-party carrier boards, contact Khadas to be added to our list of recognised boards.
 3. To use USIC, make sure VCC LV2 is connected with a 1.2V source.
 4. RESET: Set RESET IN_H as high level(3.3V) to reset the system.
 5. PWM3: To use PWM3 you have to configure SYS_LED as GPIO0_A6 first.
 6. VCC CBAT: RTC Battery, 3.3V is recommended.
 7. PCIe: To use PCI-E, decoupling capacitors are required on carrier board side
 8. eDP: To use eDP, decoupling capacitors are required on carrier board side
 9. GPIO: RK3399 support 5 channels GPIO, from GPIO0 to GPIO4, notice as below:
 - All GPIO can be configured as an interrupt source
 - The drive strength can be configured
 - Only GPIO0 & 1 can wake on CPU to sleep mode
 - Each IO channels with different IO voltage, connection of a GPIO to a voltage higher than that will likely destroy the GPIO block within the SoC.
 10. Check Khadas Docs for the further details.

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