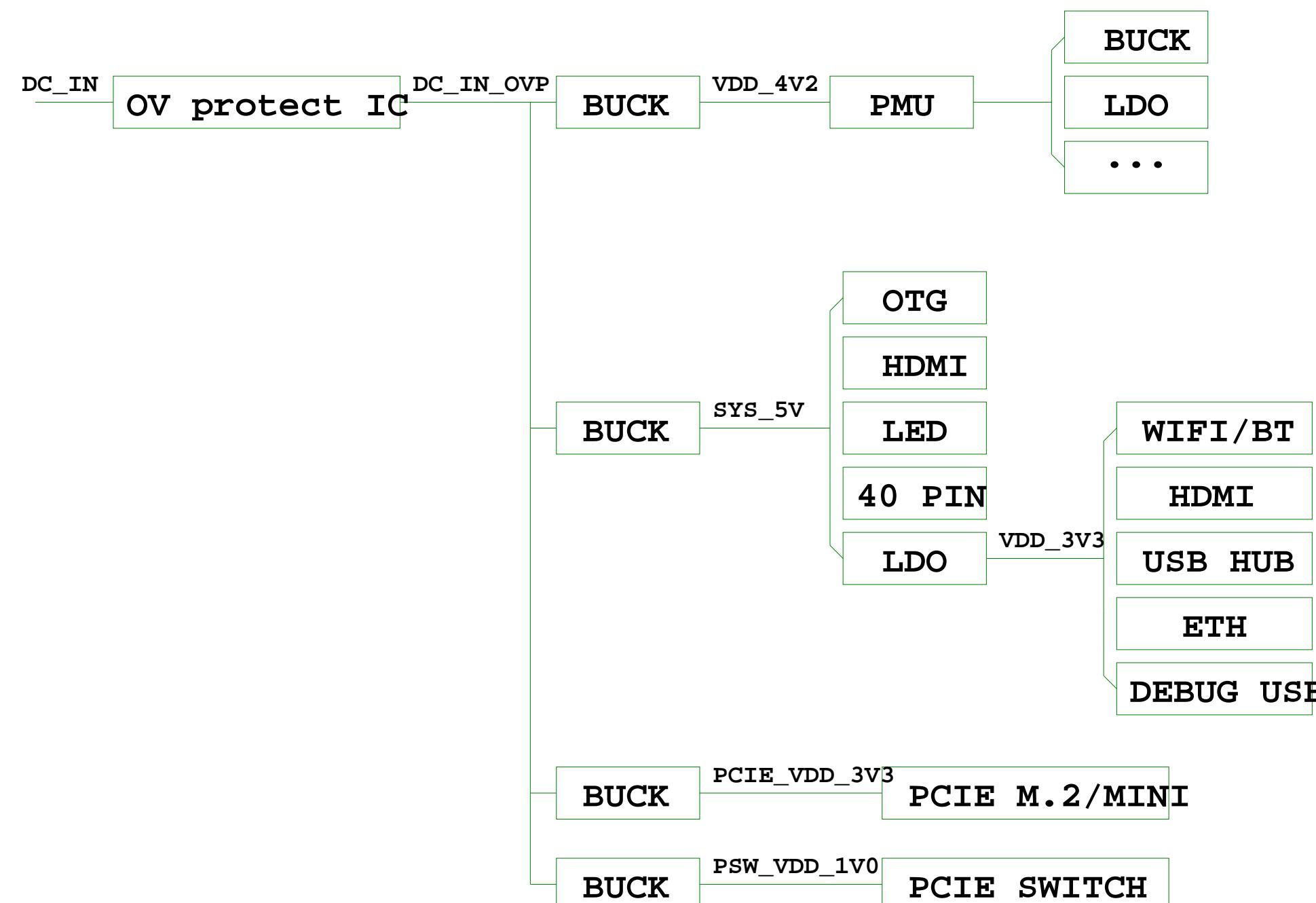


- |   |                              |                           |
|---|------------------------------|---------------------------|
| A | 1. CATLOGUE                  |                           |
|   | 2. POWER TREE                | 18. USB TYPEC             |
|   | 3. Block Diagramm            | 19. USB TYPEA             |
| B | 4. POWER                     | 20. HDMI                  |
|   | 5. SOC PWR1                  | 21. IO CONN               |
|   | 6. SOC PWR2                  | 22. WIFI/BT               |
|   | 7. SOC PWR3                  | 23. GPS                   |
| C | 8. SOC HS INTERFACE          | 24. KEY                   |
|   | 9. SOC IO INTERFACE          | 25. SD CARD&JTAG          |
|   | 10. SOC RF INTERFACE         | 26. PCIE SWITCH 1         |
|   | 11. SOC GND                  | 27. PCIE SWITCH 2         |
|   | 12. Hi6421 LDO               | 28. PCIE M.2              |
|   | 13. Hi6421 BUCK AND Hi6423   | 29. PCIE MINI             |
|   | 14. Hi6421 DIGITAL INTERFACE | 30. ETHERNET/CLK DRIVER   |
|   | 15. HI6422V300               | 31. DEBUG USB/LEVEL SHIFT |
|   | 16. UFS/LPDDR4X              | 32. CAN                   |
| D | 17. USB SWITCH/USB HUB       | 33. USER LED              |

The type and specification of the components refer to the BOM

					2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED		VER	PART_NUMBER	SHEET 1 OF 33	
					HUAWEI TECH CO.,LTD.

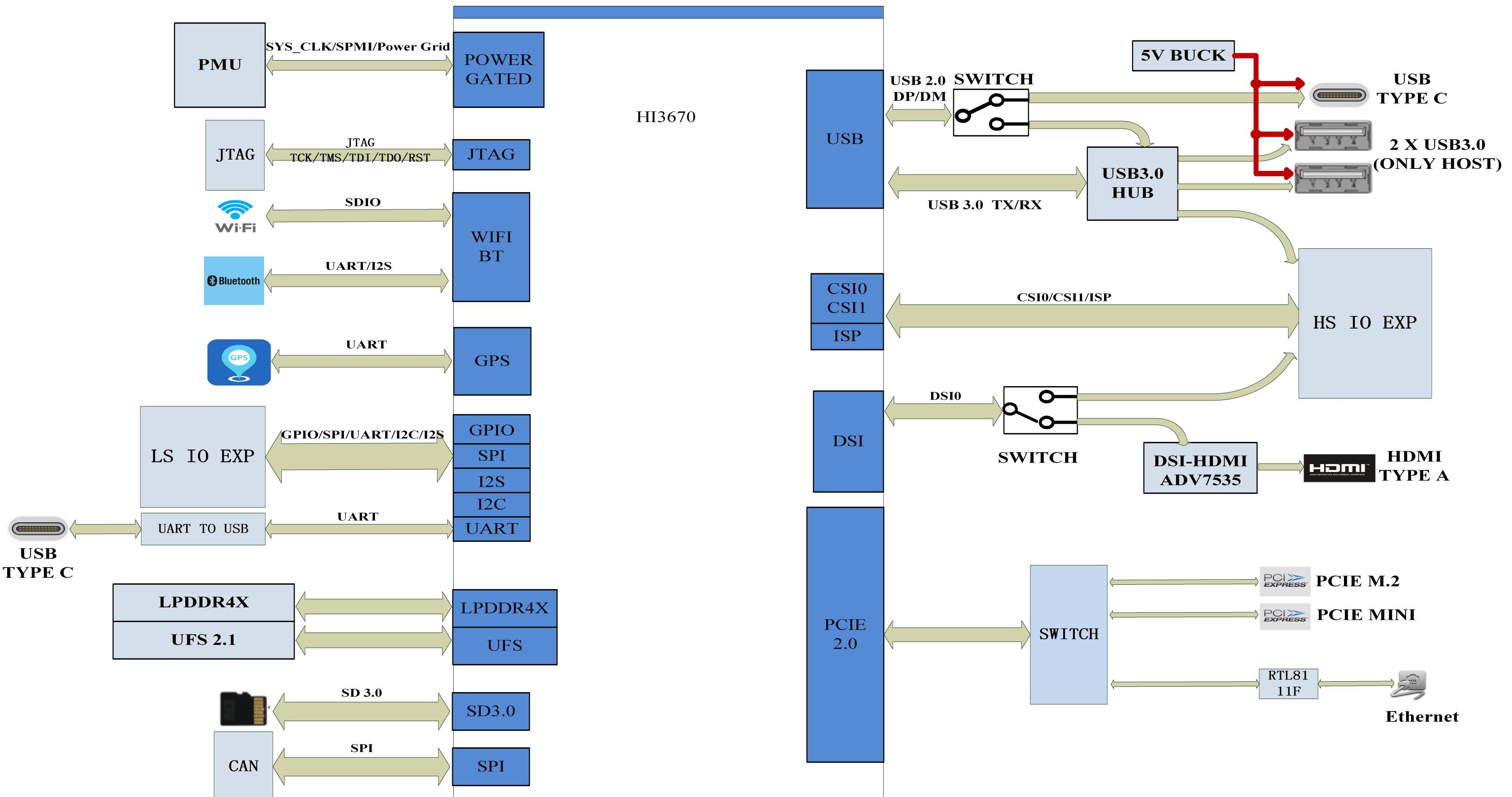
## 2. Power Tree



The type and specification of the components refer to the BOM

					2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED		VER	PART_NUMBER	SHEET 2 OF 33	
					HUAWEI TECH CO.,LTD.

### 3. Block Diagramm

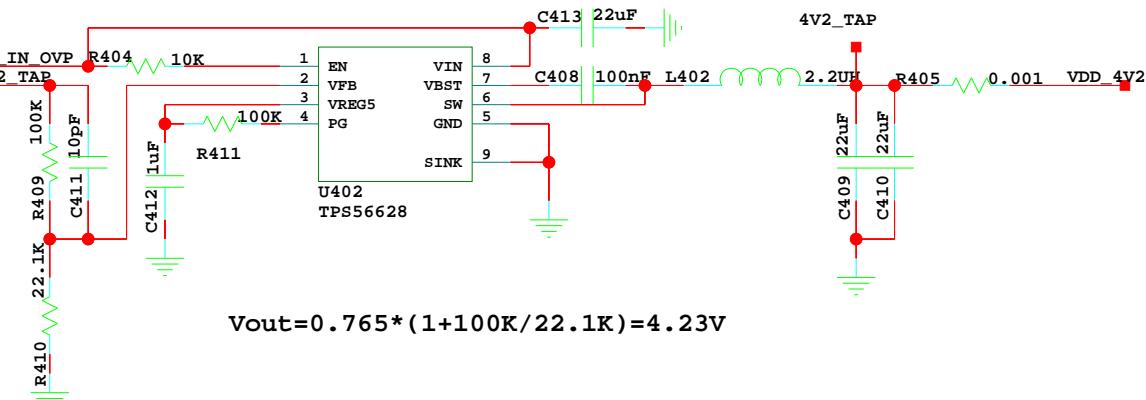
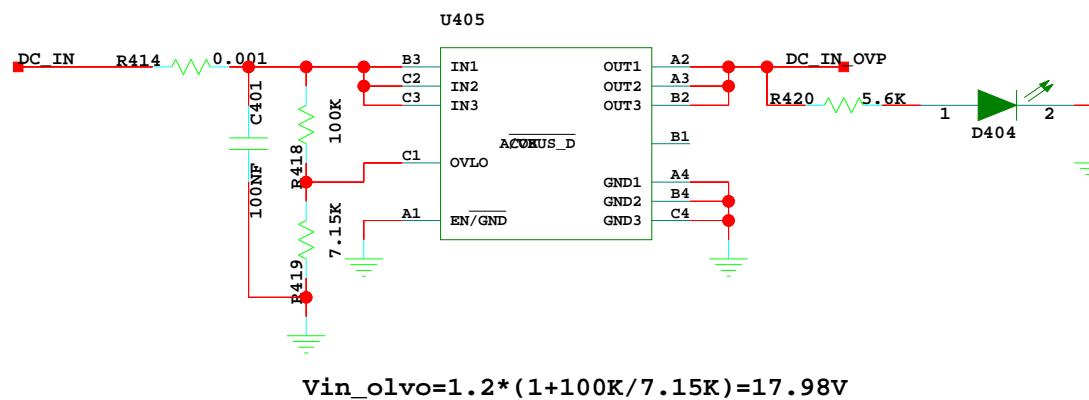
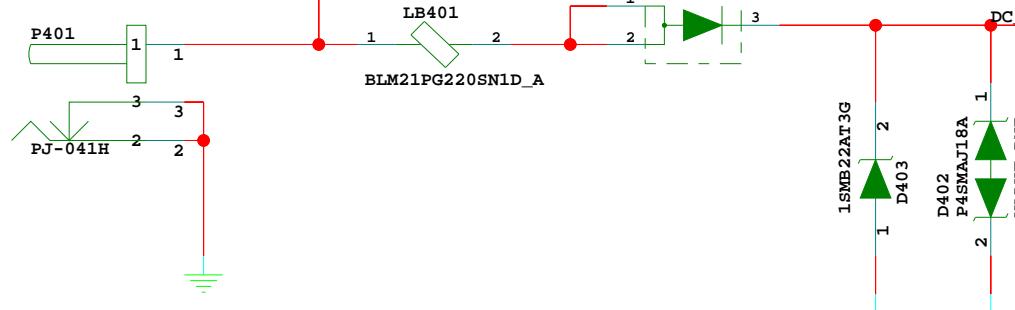


						2017/11/02	
DESIGNED		ECA NO		DATE			
REVIEWED		VER		PART_NUMBER		SHEET 3 OF 33	
						HUAWEI TECH CO.,LTD.	

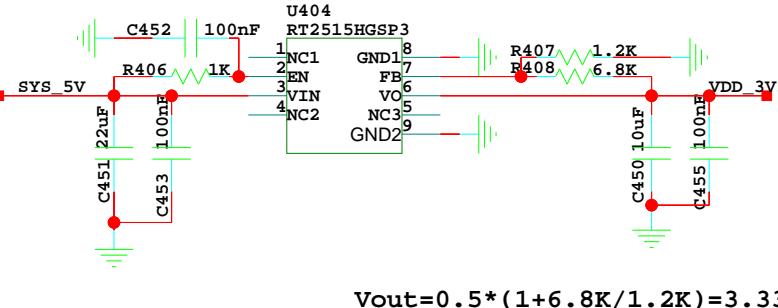
# 4. 12V DC\_IN

## DC\_IN 12V0 To 4.2V 5A

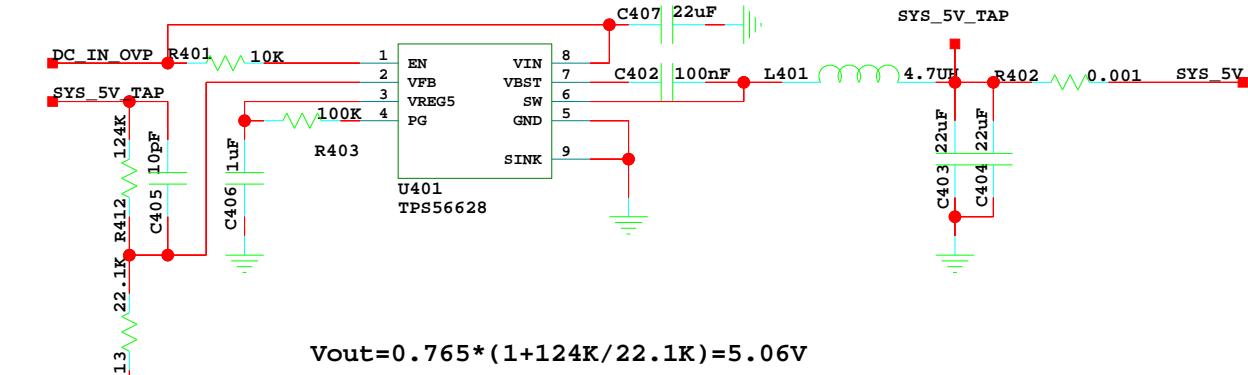
### DC 8-18V Input



### 5VDC to 3V3DC

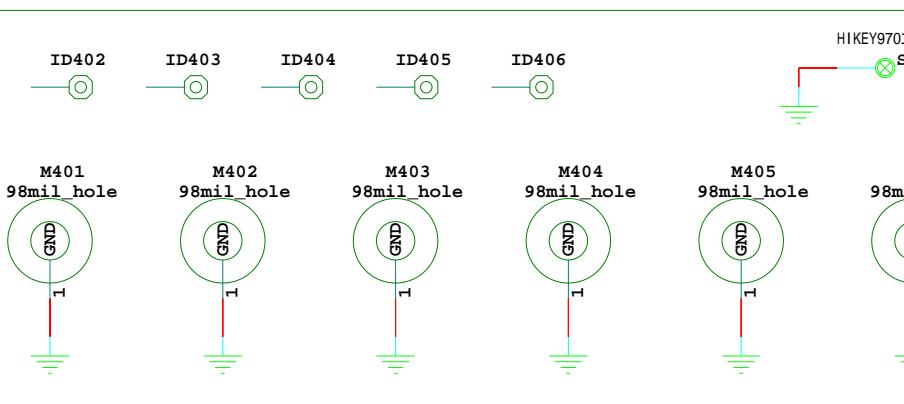


### DC\_IN 12V0 To 5V 4A

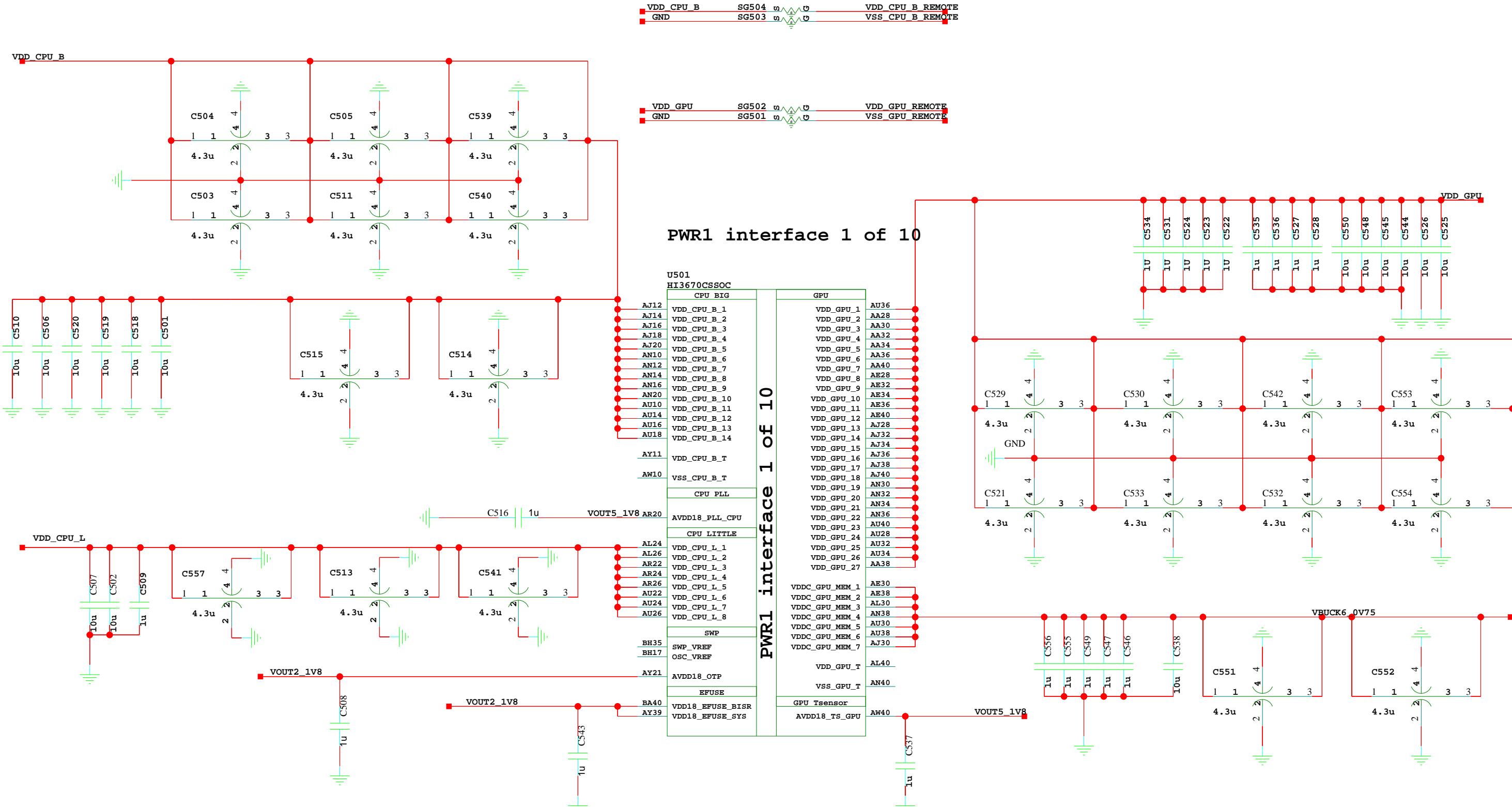


The type and specification of the components refer to the BOM

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REVIEWED					ECA NO DATE
					Hikey970
			VER	PART_NUMBER	SHEET 4 OF 33
					HUAWEI TECH CO.,LTD.



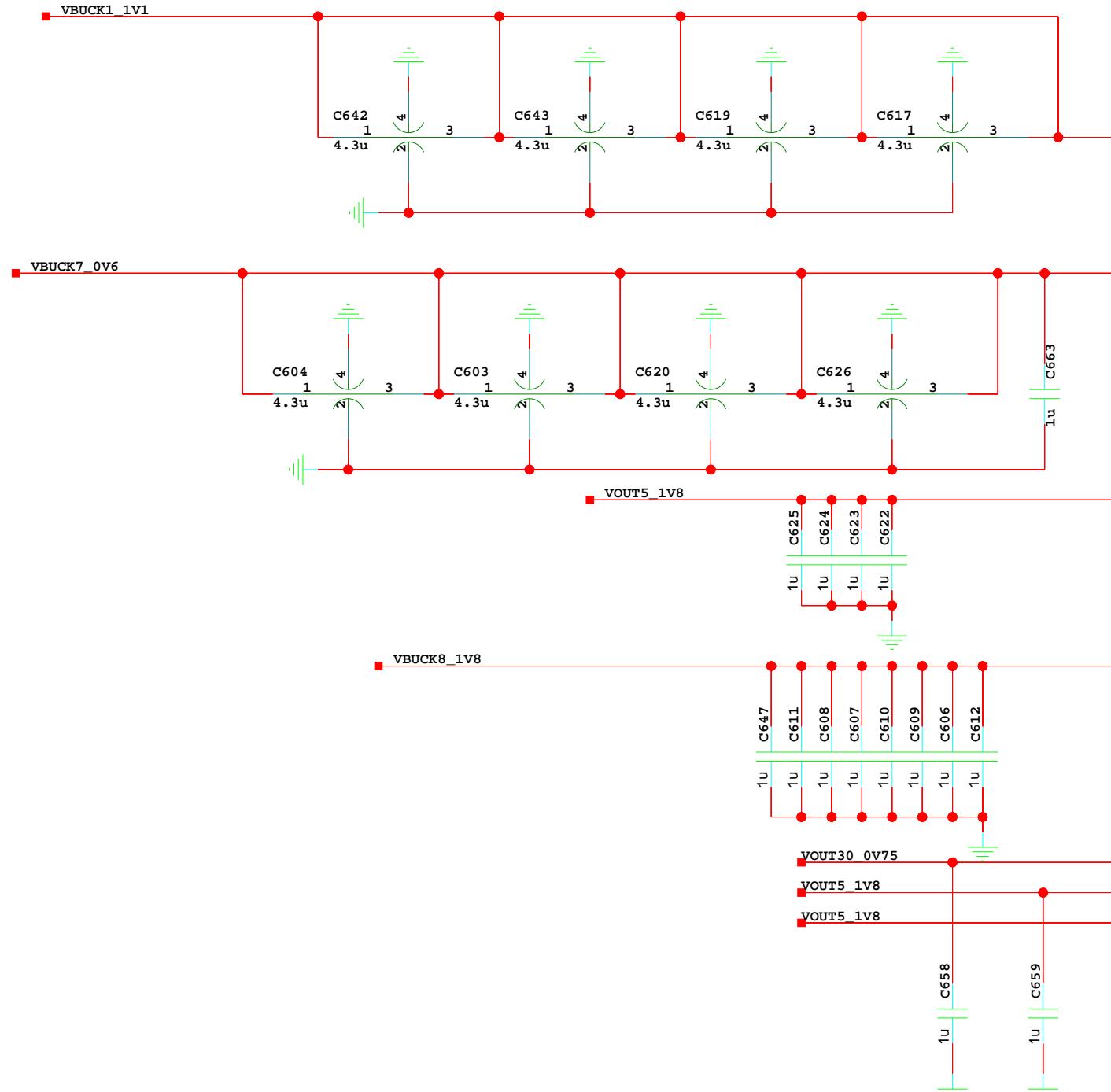
## **5.SOC PWR1**



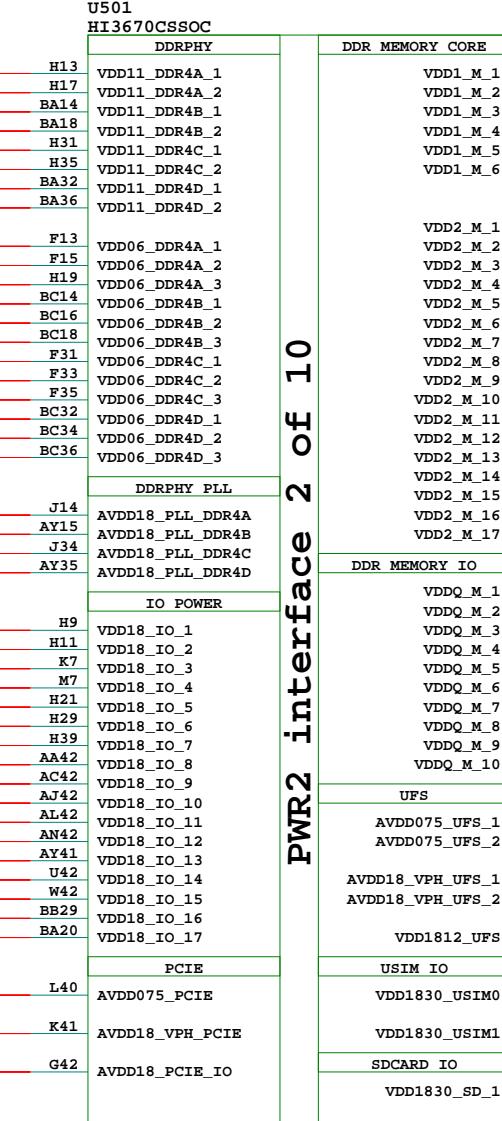
The type and specification of the components refer to the BOM.

The type and specification of the components refer to the BOM					
				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED					
		VER	PART_NUMBER	SHEET 5 OF 33	
				HUAWEI TECH CO.,LTD	

# 6.SOC PWR2



PWR2 interface 2 of 10

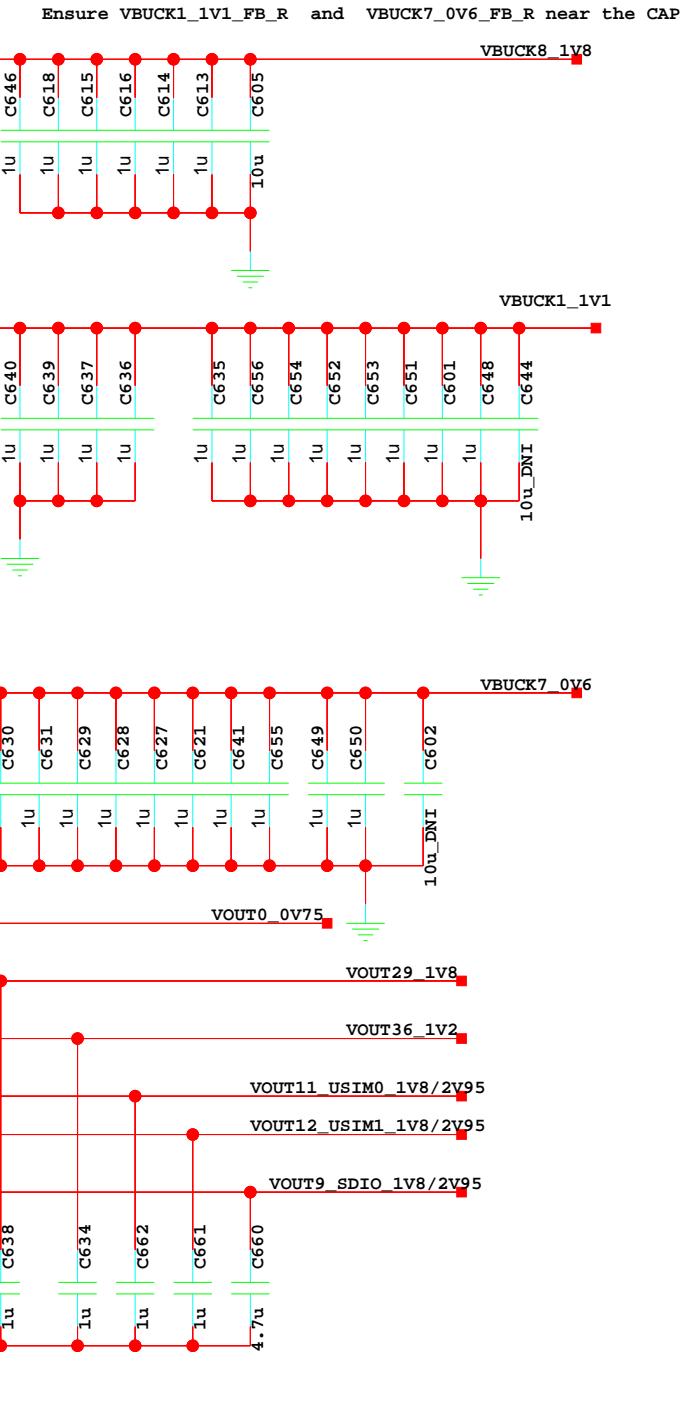


The type and specification of the components refer to the BOM

DESIGNED	wqh	VER		PART_NUMBER		SHEET 6 OF 33
REVIEWED						

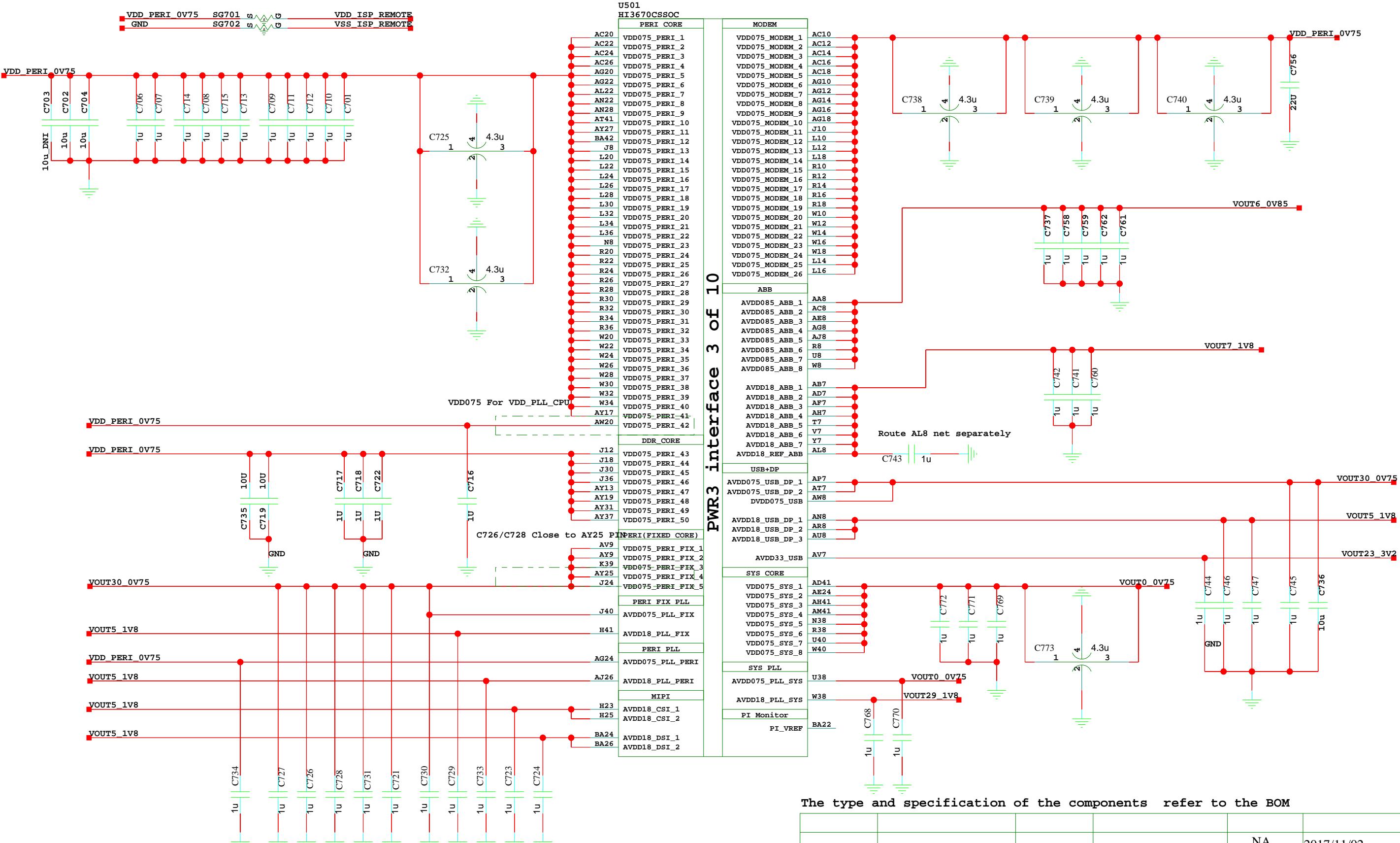
Hikey970

HUAWEI TECH CO.,LTD.



# 7.SOC PWR3

PWR3 interface 3 of 10

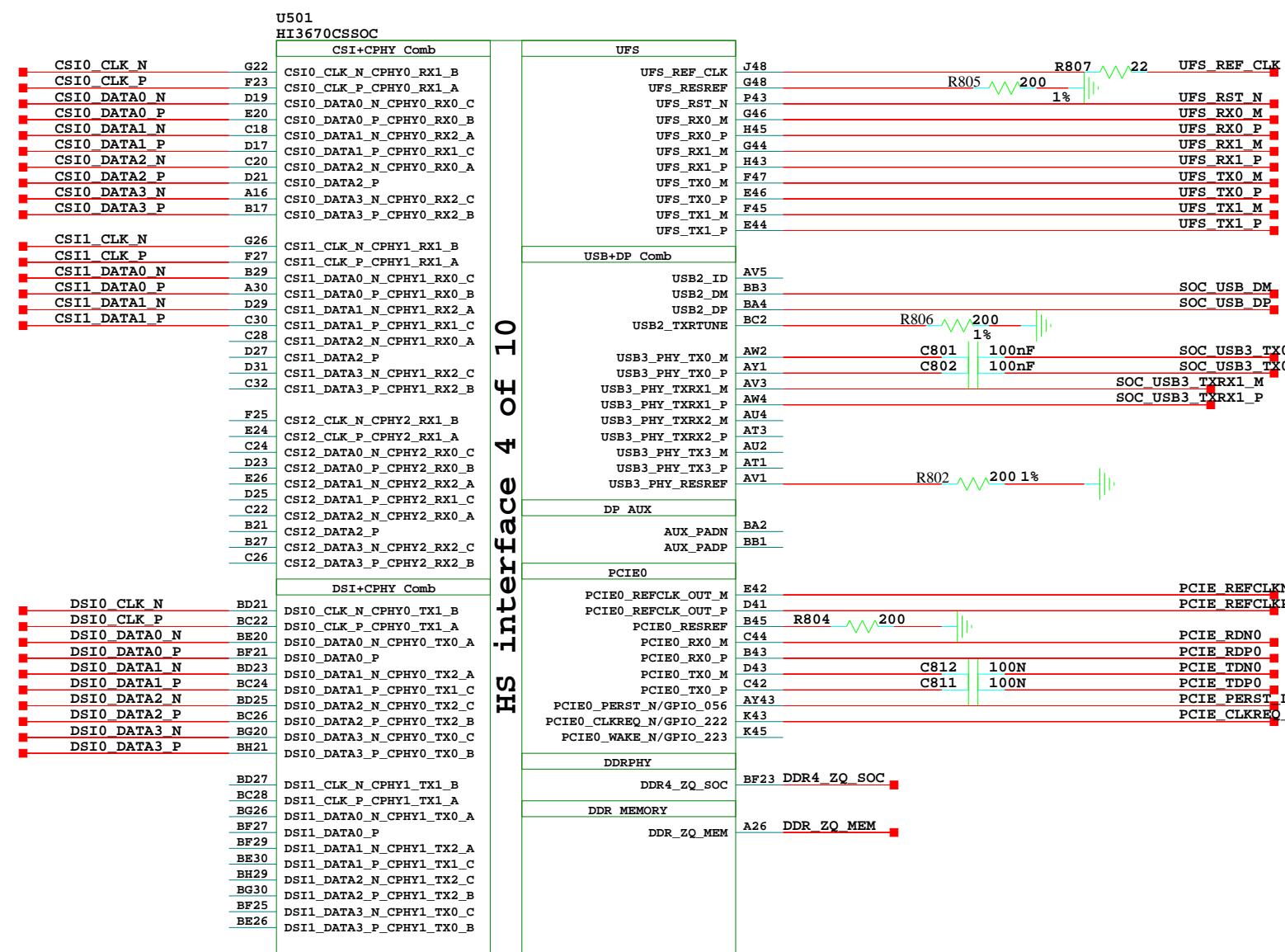


					NA	2017/11/02
DESIGNED	wqh				ECA NO	DATE
REVIEWED						
		VER	PART_NUMBER		SHEET	7 OF 33
						HUAWEI TECH CO.,LTD.

Hikey970

# 8.SOC HS INTERFACE

A

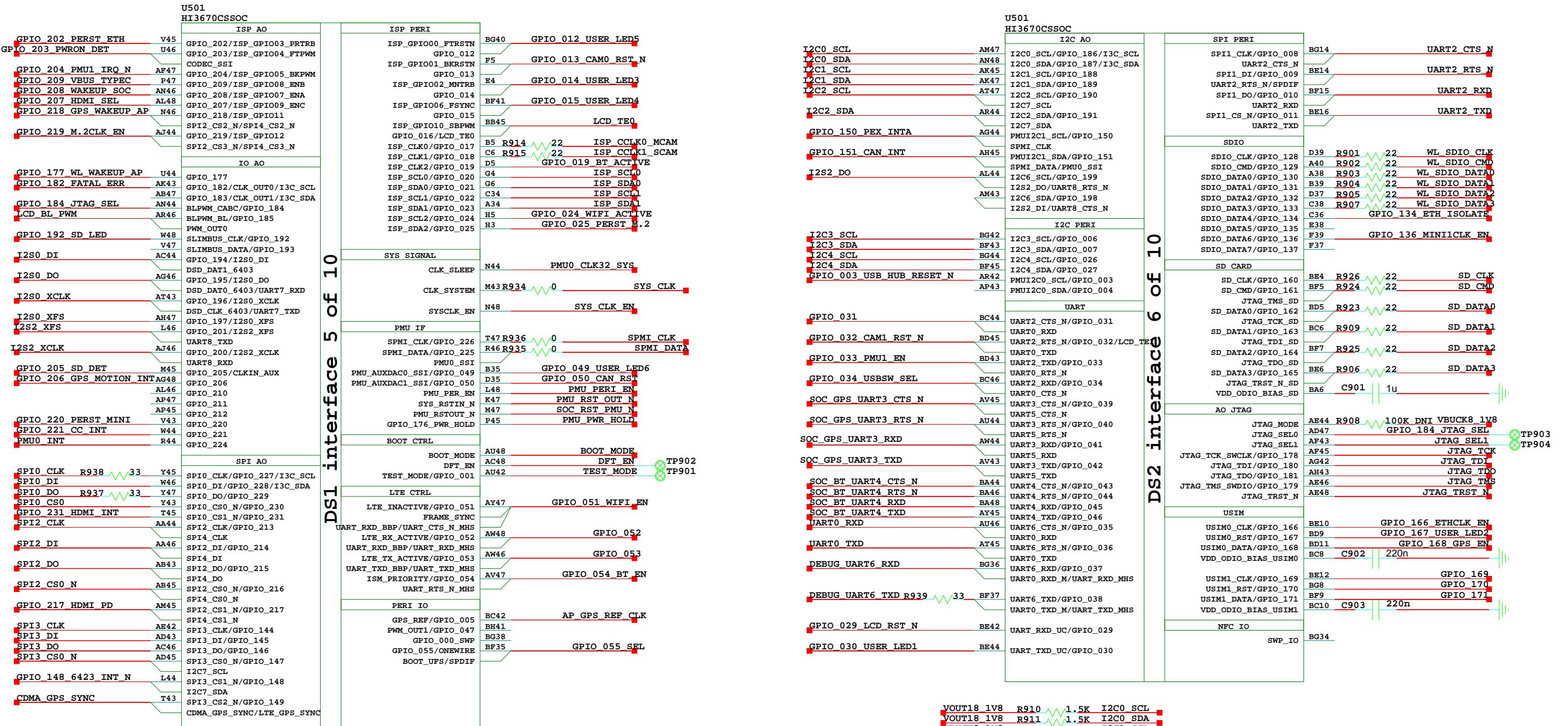


VBUCK7\_0V6 R803 240 DDR4\_ZQ\_SOC  
VBUCK7\_0V6 R801 240 DDR\_ZQ\_MEM

The type and specification of the components refer to the BOM

				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED					
		VER	PART_NUMBER	SHEET 8 OF 33	
					HUAWEI TECH CO.,LTD.

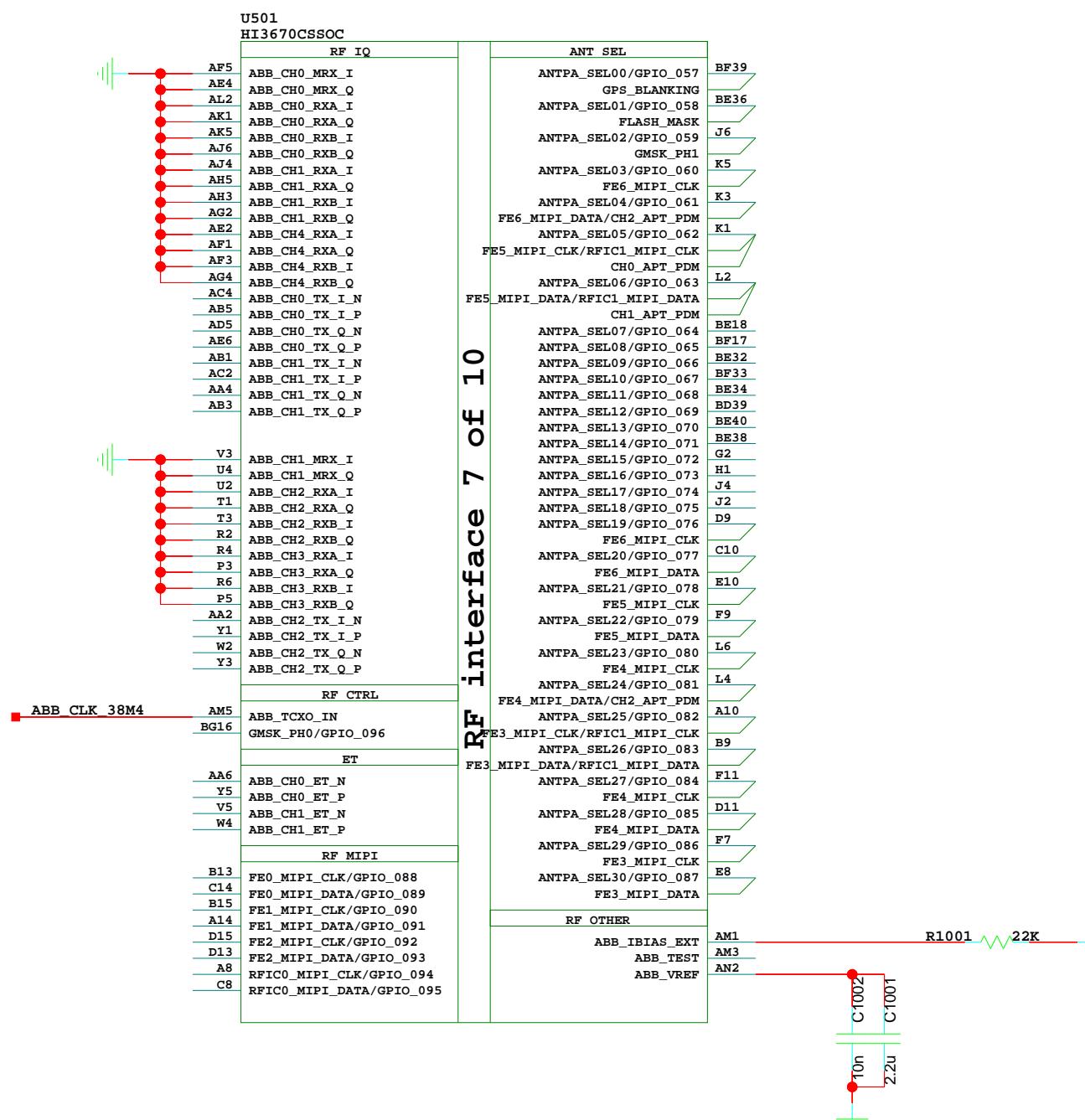
# **9. SOC IO INTERFACE**



The type and specification of the components refer to the BOM					
				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	<b>Hikey970</b>			
REVIEWED					
		VER	PART_NUMBER	SHEET 9	OF 33
				<b>HUAWEI TECH CO.,LTD</b>	

# 10.SOC RF INTERFACE

A



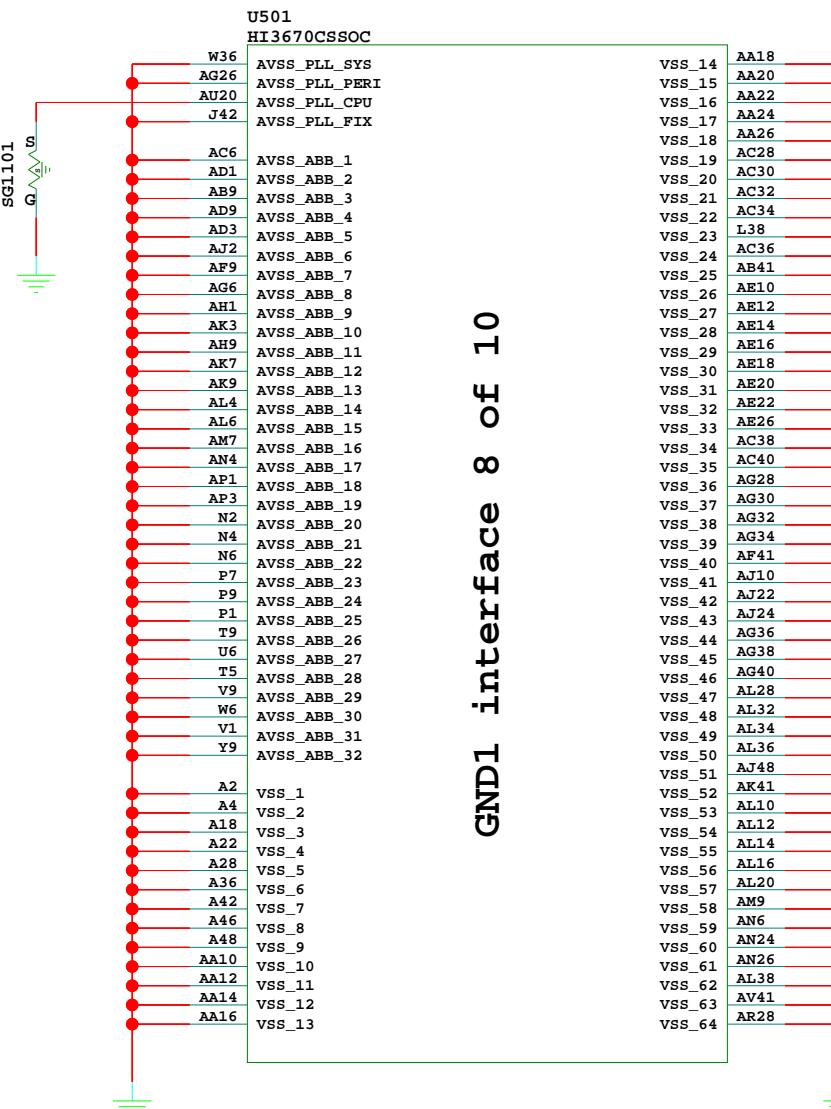
The type and specification of the components refer to the BOM

					NA	2017/11/02
					ECA NO	DATE
DESIGNED	wqh					
REVIEWED						
			VER	PART_NUMBER	SHEET 10 OF 33	
						HUAWEI TECH CO.,LTD.

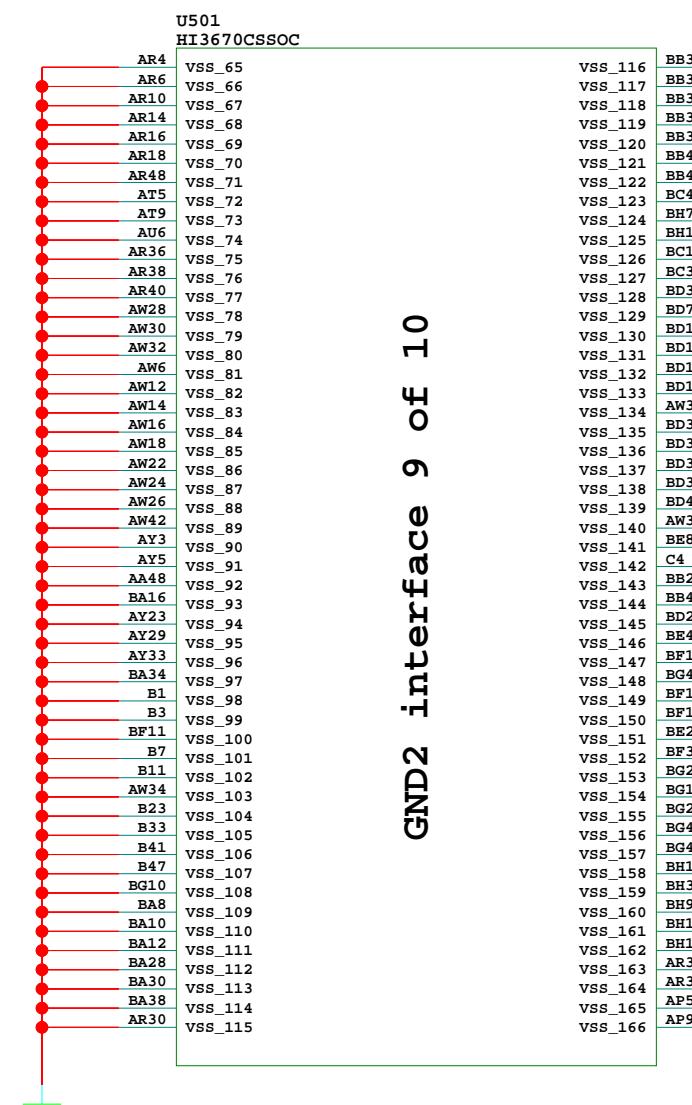
Hikey970

# **11.SOC GND**

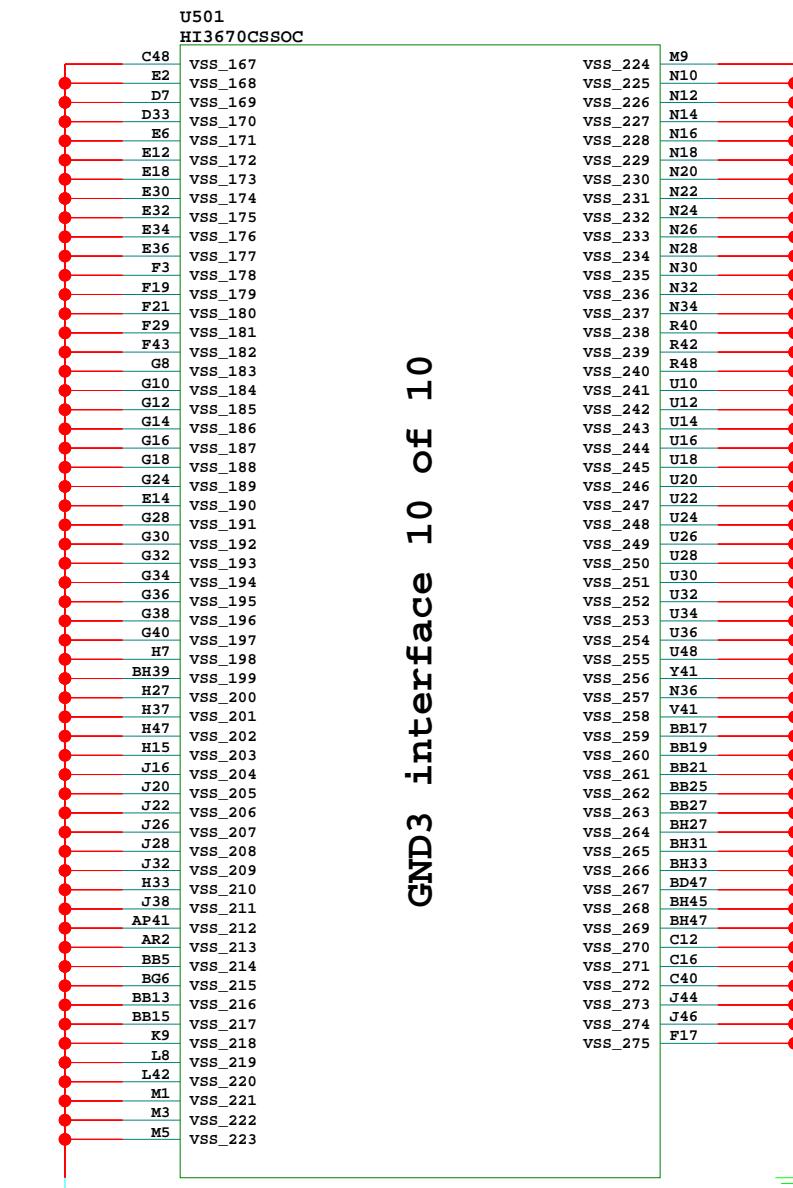
A



END1 interface 8 of 10



GND2 interface 9 of 10



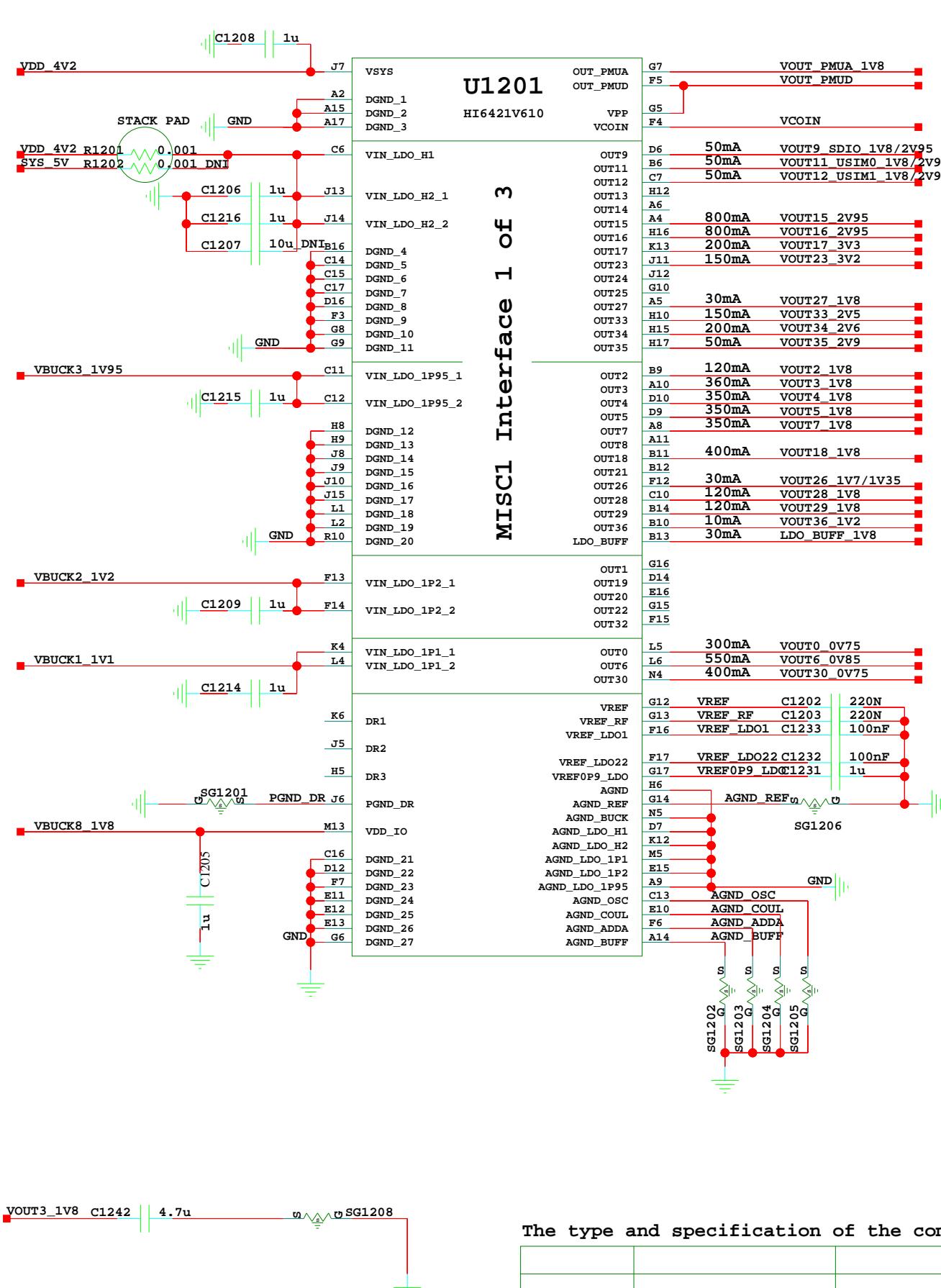
GND3 interface 10 of 10

The type and specification of the components refer to the BOM.

The type and specification of the components refer to the BOM					
				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED		VER	PART_NUMBER	SHEET	11 OF 33
				HUAWEI TECH CO.,LTD	

## 12. Hi6421 LDO

NUM	Vol	Current	Function
LDO0	0.75	300	SOC:UFS ,SYS ,PLL_SYS
LDO1	1.09	350	
LDO2	1.8	120	SOC_EFUSE&HISEE
LDO3	1.8	360	HDMI
LDO4	1.85	350	40pin CONNECTOR
LDO5	1.8	350	SOC 1.8V AVDD
LDO6	0.85	550	SOC:AVDD085_ABB
LDO7	1.8	350	SOC:AVDD18_ABB
LDO8	1.8	250	
LDO9	1.8	50	SOC SDIO 1.8V
LDO11	1.8/2.95	50	
LDO12	1.8/2.95	50	
LDO13	2.8	150	
LDO14	2.85	50	
LDO15	2.95	800	UFS_VCC
LDO16	2.95	800	SDCARD VDD
LDO17	3.3	200	USB HUB
LDO18	1.8	400	PERI IO
LDO19	1.2	400	
LDO20	1.1	400	
LDO21	1.8	180	
LDO22	1.09	350	
LDO23	3.2	150	USB 2.0 PHY
LDO24	2.8	200	
LDO25	2.85	150	
LDO26	1.7	30	38.4MHZ XO CORE
LDO27	1.8	30	HKADC ,XOADC
LDO28	1.8	120	CLK DRIVER
LDO29	1.8	120	VPH_UFS ,PLL_SYS
LDO30	0.75	400	FIX 0.75 For SOC
LDO32	1.1	400	
LDO33	2.5	150	PCIE SWITCH VDD25
LDO34	2.6	200	GPS
LDO35	2.9	50	
LDO36	1.2	10	UFS refclk/rst IO

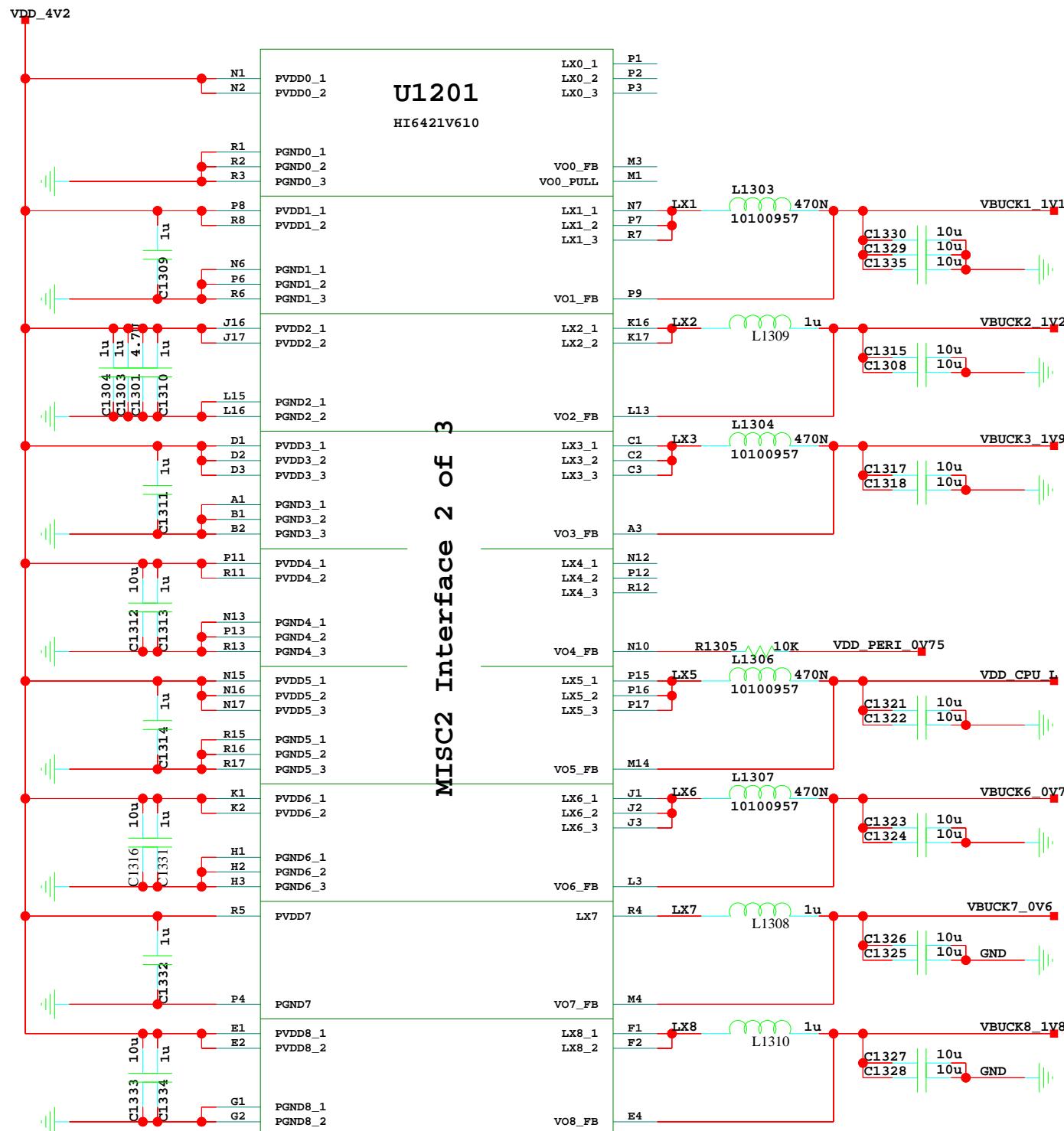


The type and specification of the components refer to the BOM.

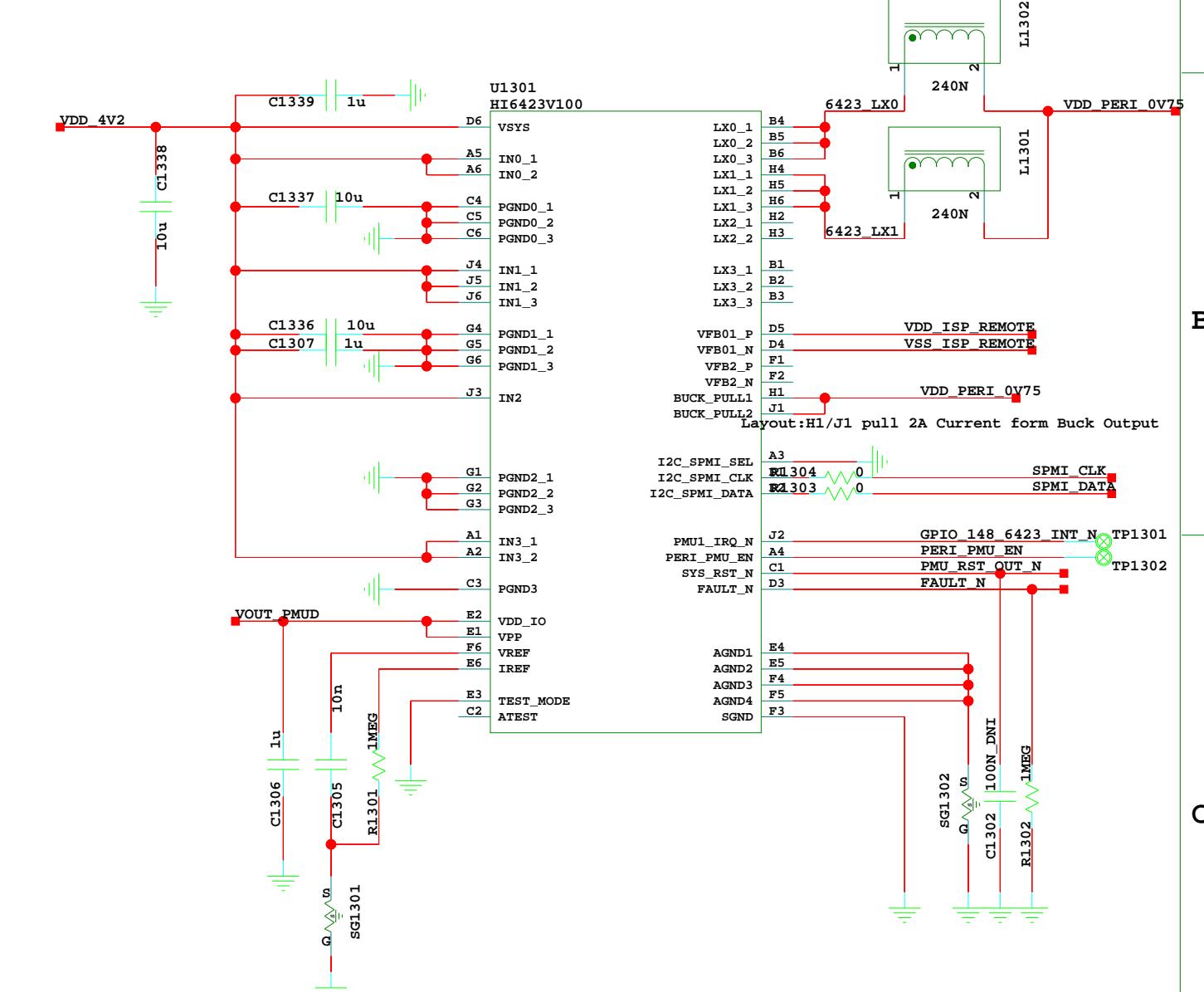
The Type and Specification of the Components Refer to the BOM					
				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	<b>Hikey970</b>			
REVIEWED					
		VER	PART_NUMBER	SHEET 12 OF 33	
				<b>HUAWEI TECH CO.,LTD</b>	

# 13.Hi6421 BUCK AND Hi6423

A



Hi6423



The type and specification of the components refer to the BOM

					NA	2017/11/02
					ECA NO	DATE
DESIGNED	wqh	Hikey970				
REVIEWED		VER	PART_NUMBER	SHEET	13	OF 33

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1

2

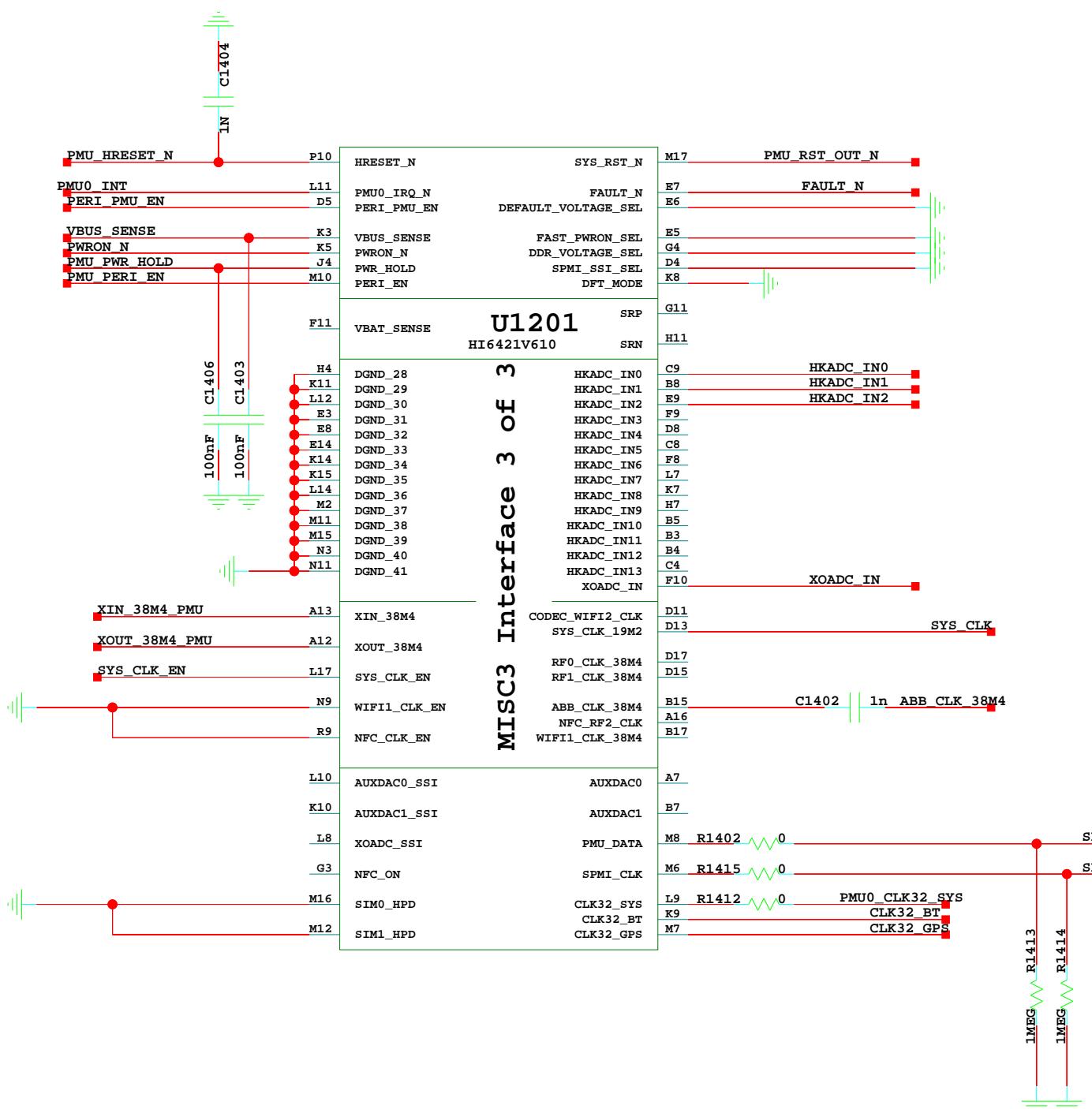
3

4

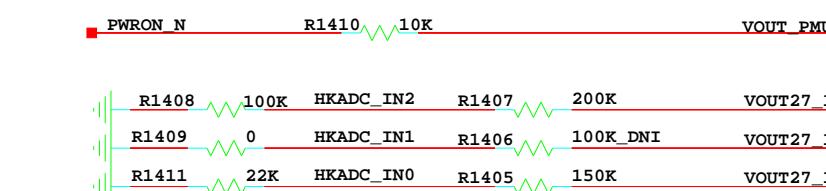
5

6

# 14.Hi6421 DIGITAL INTERFACE

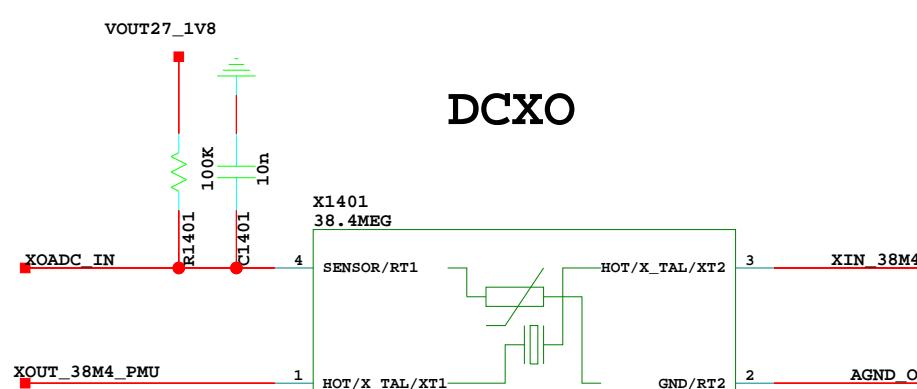


FAST_PWRON_SEL	0	1
NORMAL		FAST
DDR_VOLTAGE_SEL	0	1
LPDDR4x		LPDDR3
SPMI_SSI_SEL	0	1
SPMI		SSI



## BOARD ID

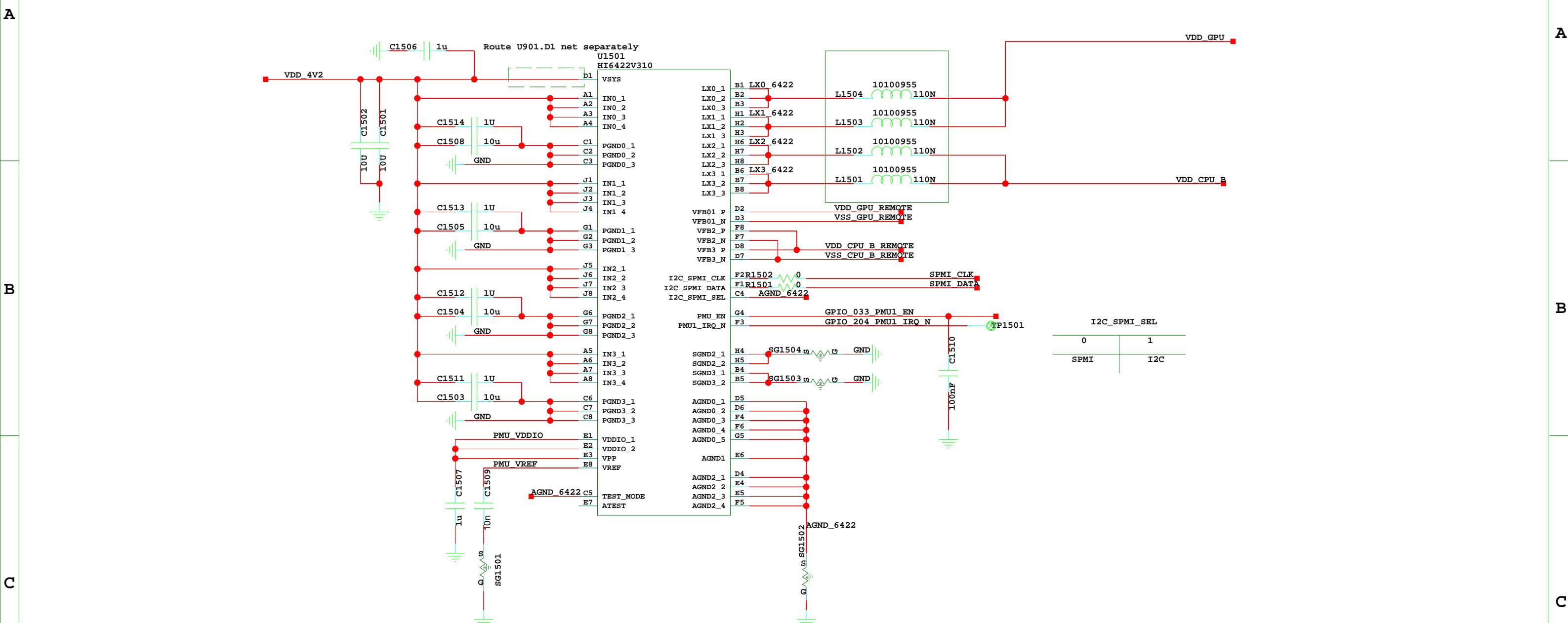
Board ID	HKADC2	HKADC1	HKADC0
hikey970	3	0	1



The type and specification of the components refer to the BOM

				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh				
REVIEWED					
			VER	PART_NUMBER	SHEET 14 OF 33
					HUAWEI TECH CO.,LTD.

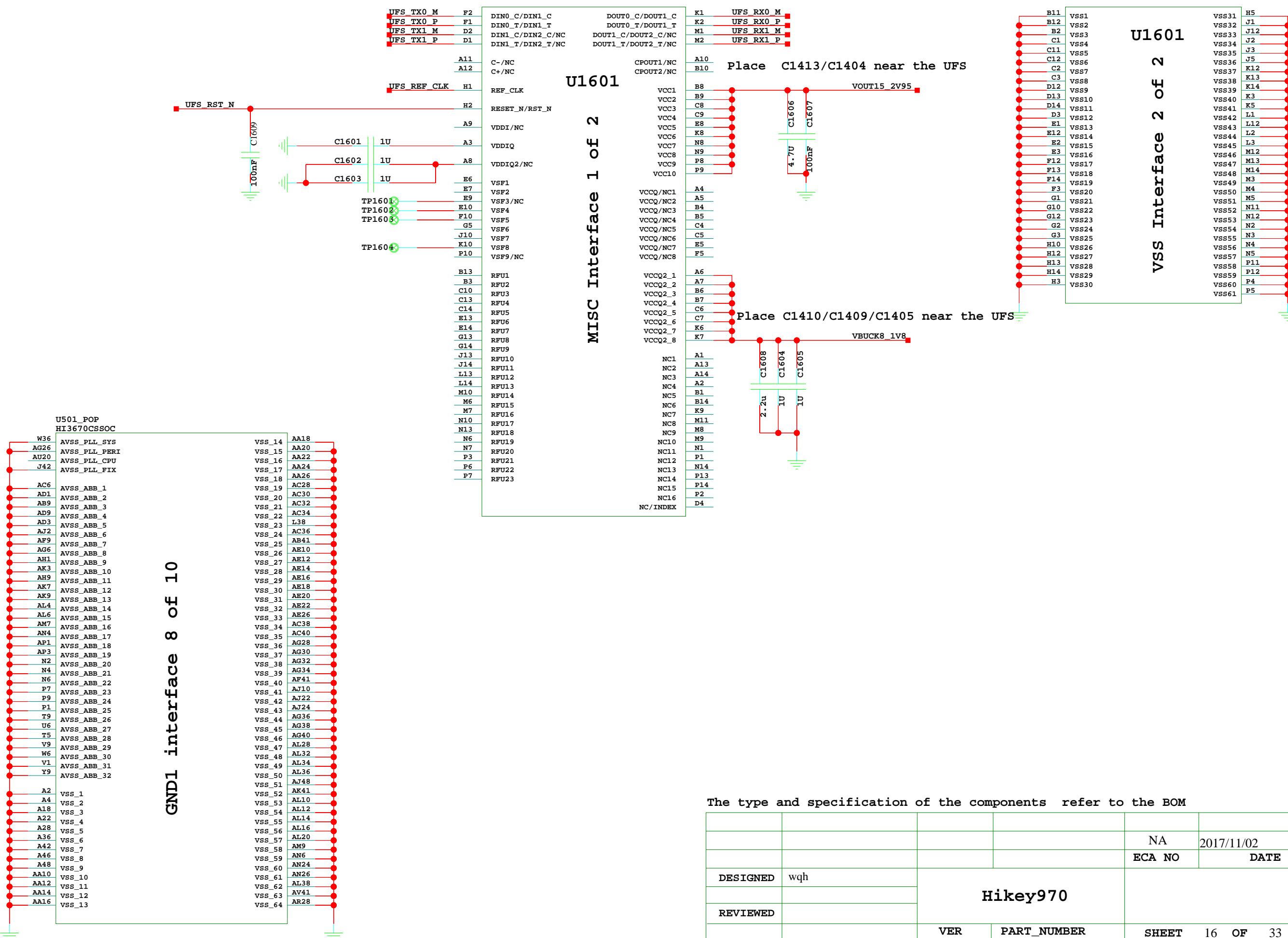
# 15.Hi6422V300



The type and specification of the components refer to the BOM

				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED					
		VER	PART_NUMBER	SHEET 15 OF 33	
					HUAWEI TECH CO.,LTD.

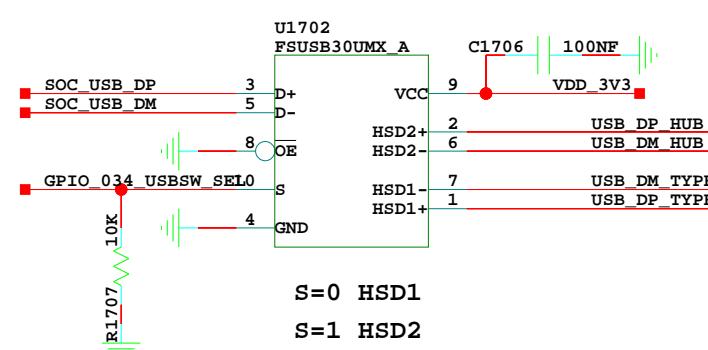
# 16.UFS and LPDDR4X



# 17 USB SWITCH/USB HUB

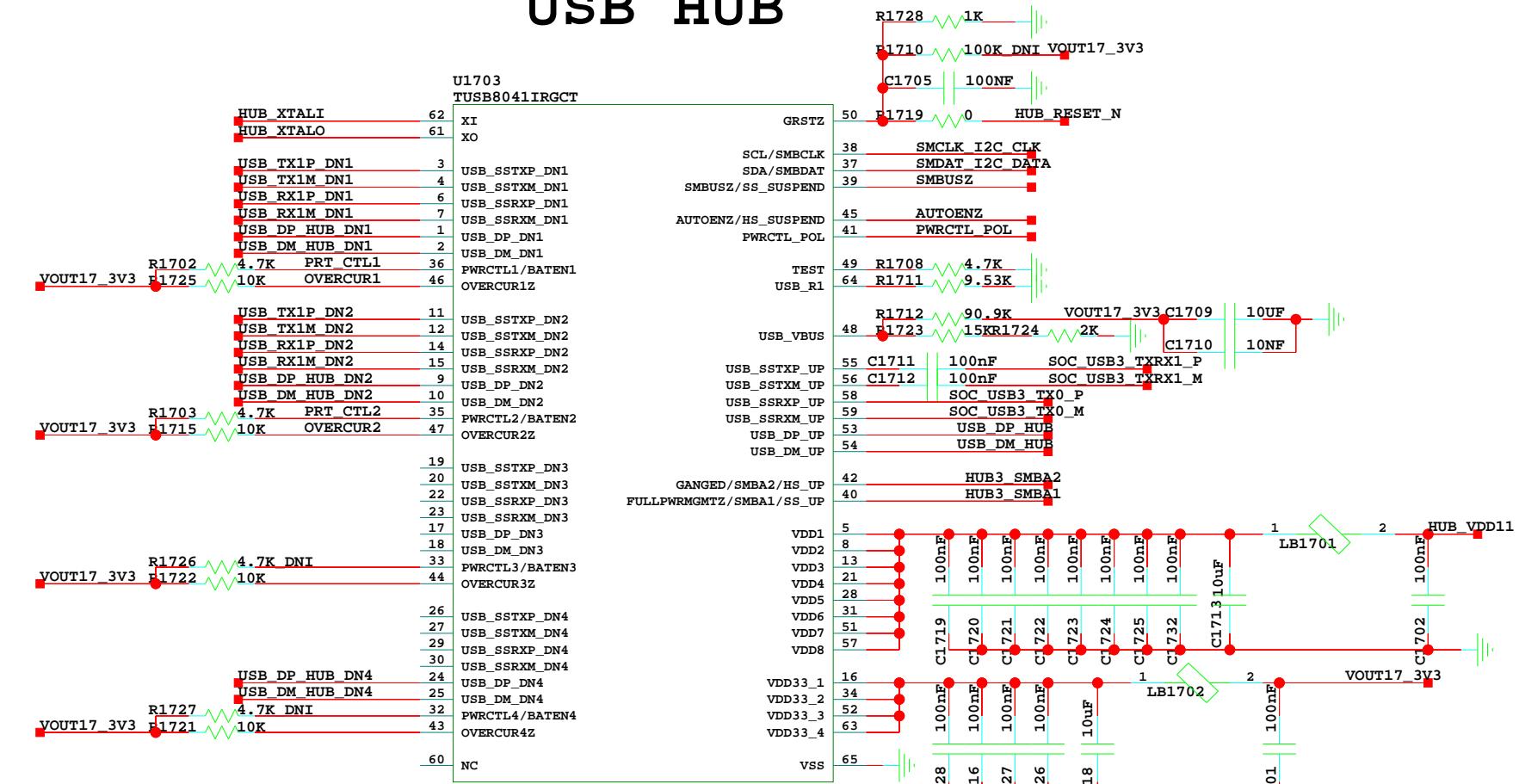
A

## USB SWITCH

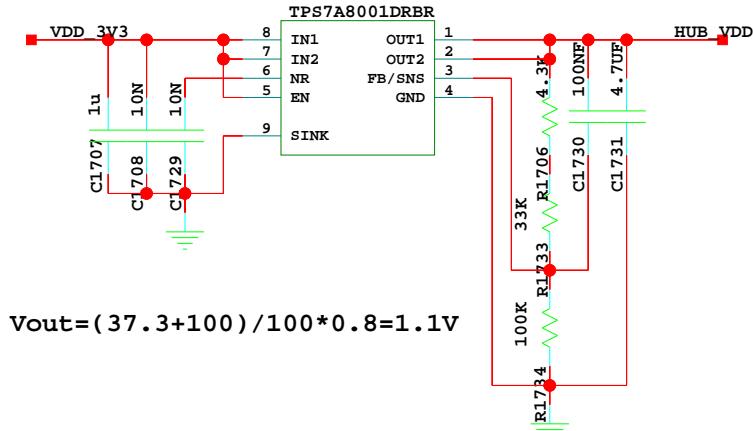


B

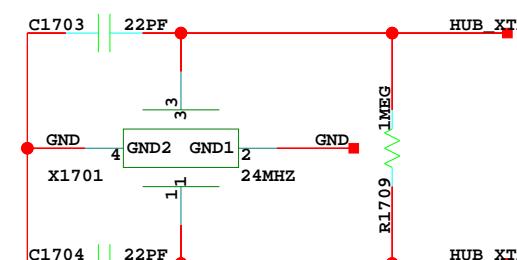
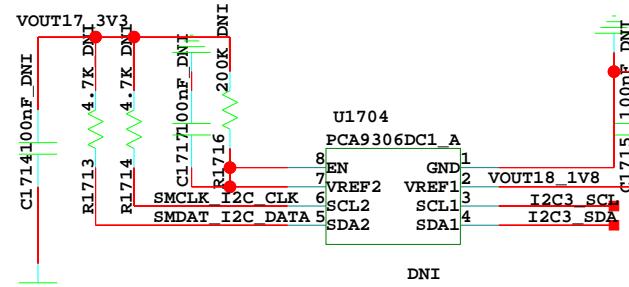
## USB HUB



C



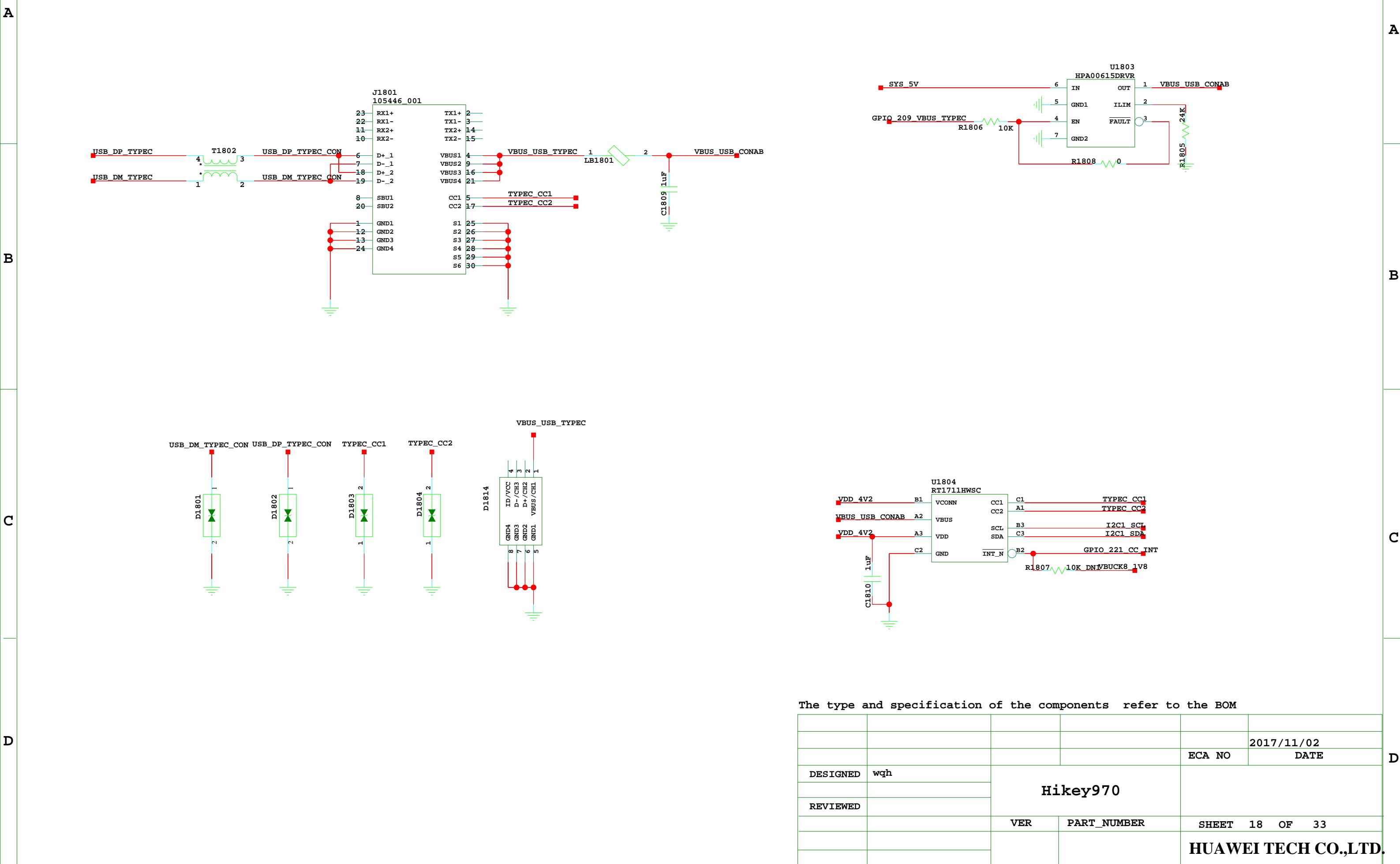
D



The type and specification of the components refer to the BOM

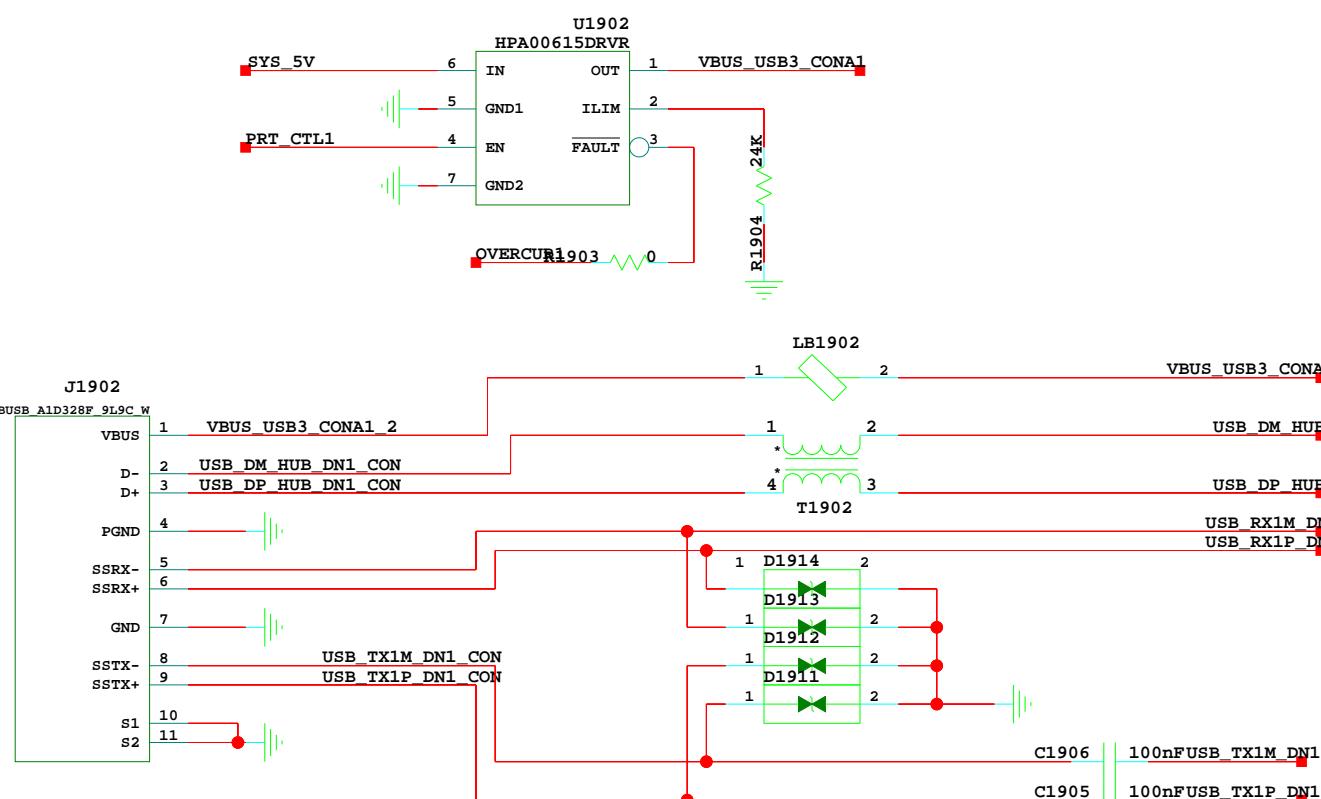
DESIGNED	wqh				01-03-2018_11:07
REVIEWED					2017/11/02
Hikey970					ECA NO DATE
VER	PART_NUMBER	SHEET	17	OF	33
					HUAWEI TECH CO.,LTD.

# 18. USB TYPEC

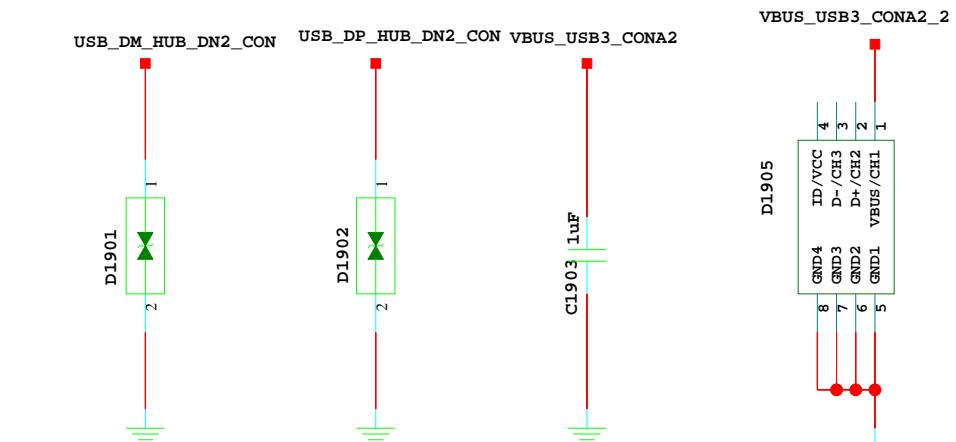
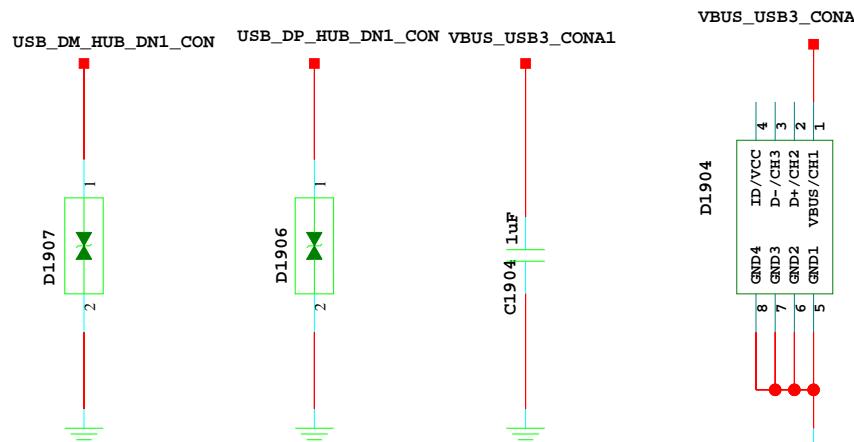
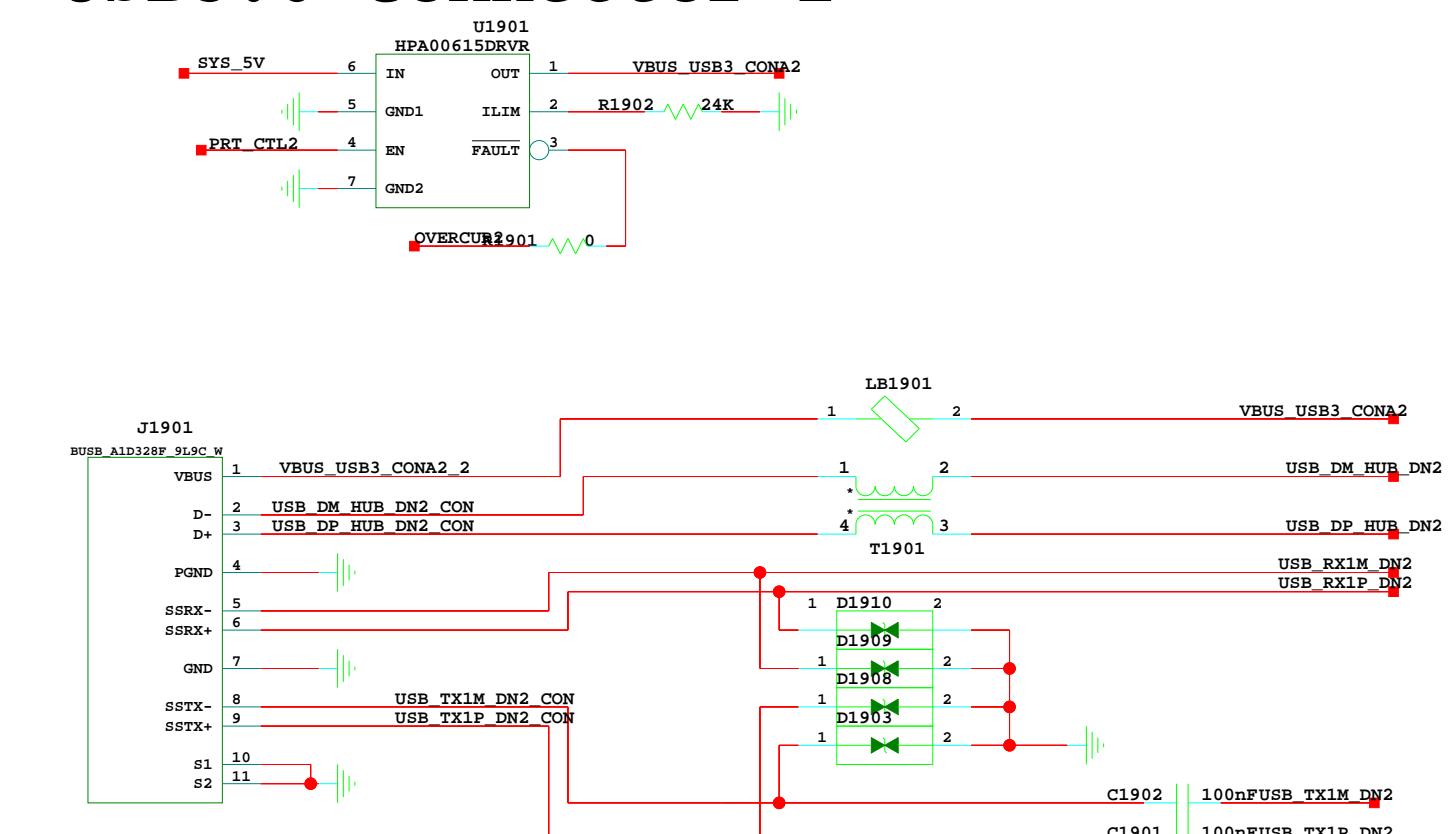


# 19 USB TYPEA

**USB3.0 Connector 1**



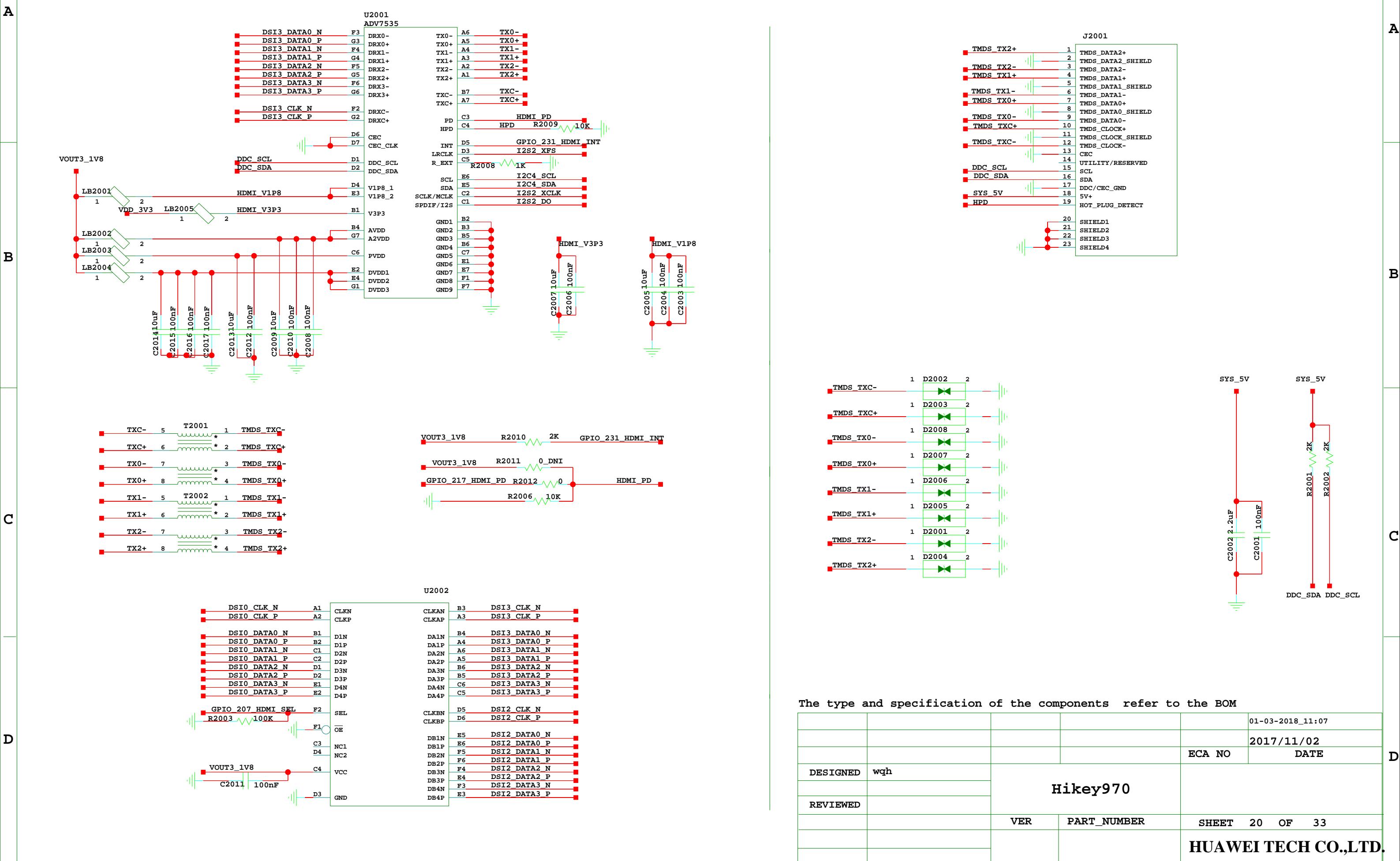
**USB3.0 Connector 2**



The type and specification of the components refer to the BOM

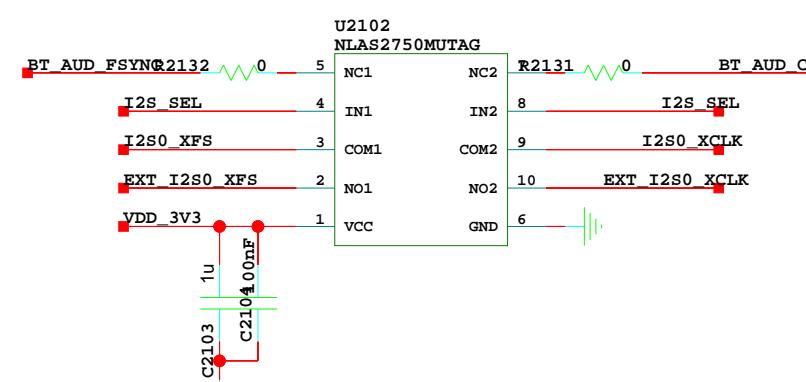
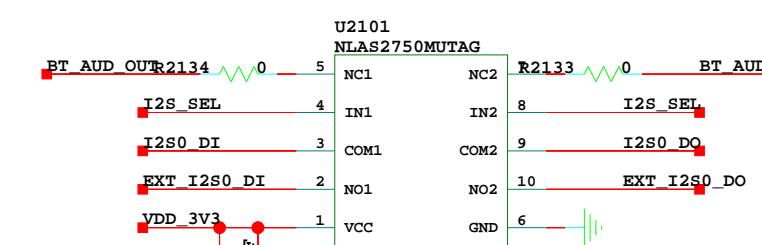
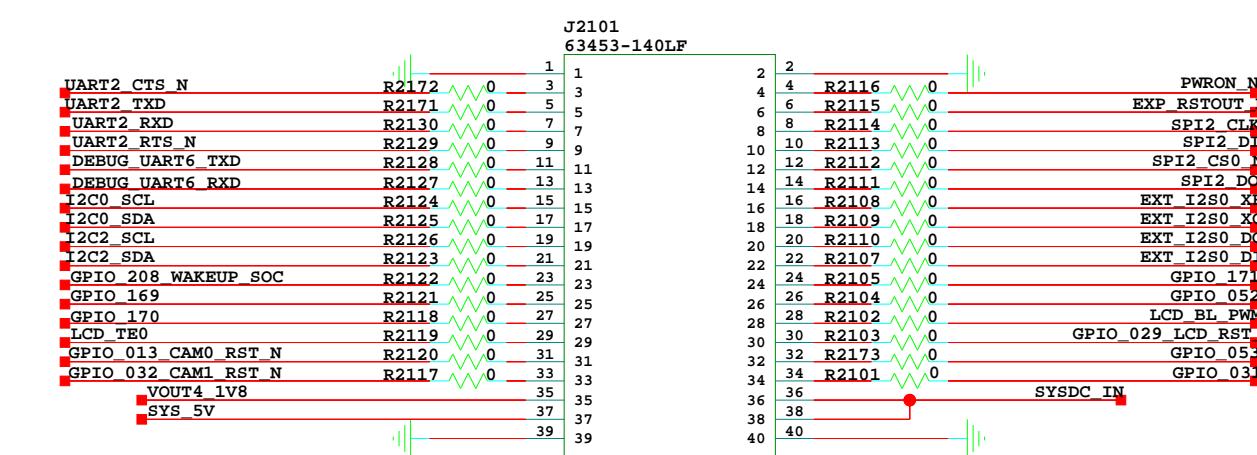
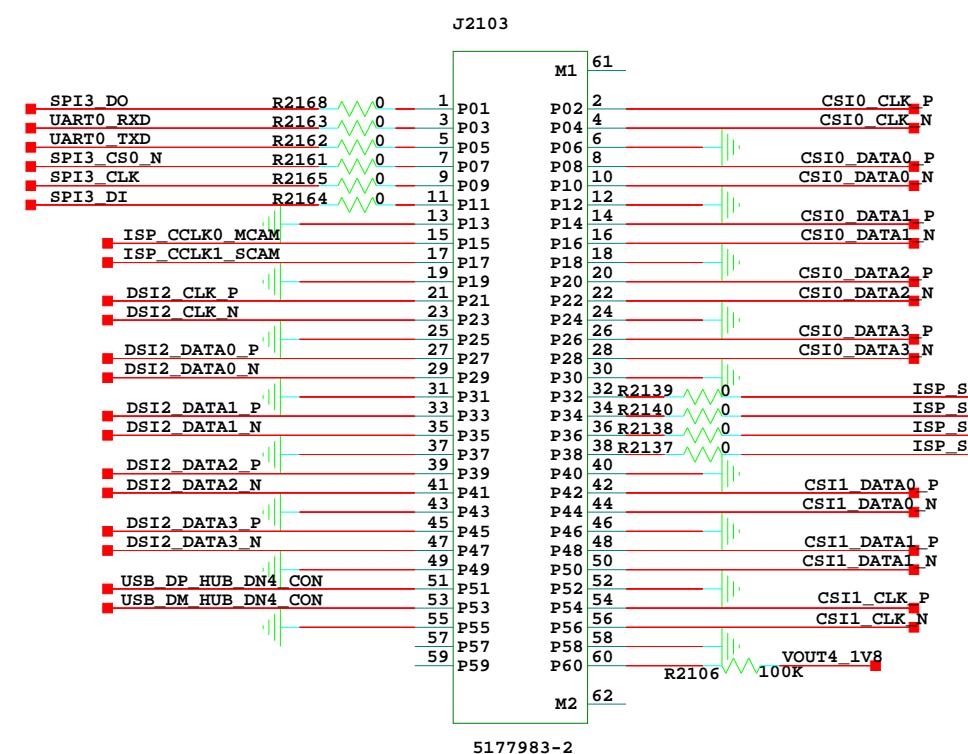
DESIGNED	wqh	NA		2017/11/02
REVIEWED	ECA NO		DATE	
Hikey970				
	VER	PART_NUMBER	SHEET	19 OF 33
				HUAWEI TECH CO.,LTD.

# 20 HDMI



# 21 IO CONN

A



The type and specification of the components refer to the BOM

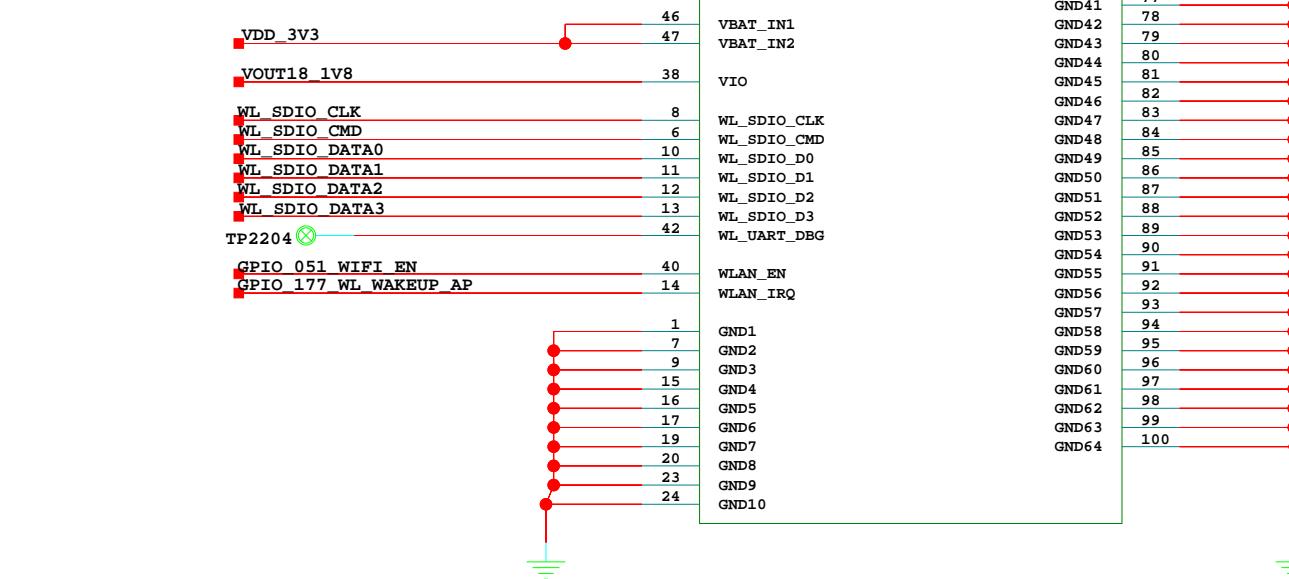
DESIGNED	wqh					2017/11/02
REVIEWED					ECA NO	DATE
				VER	PART_NUMBER	SHEET 21 OF 33
						HUAWEI TECH CO.,LTD.

# 22 WIFI/BT

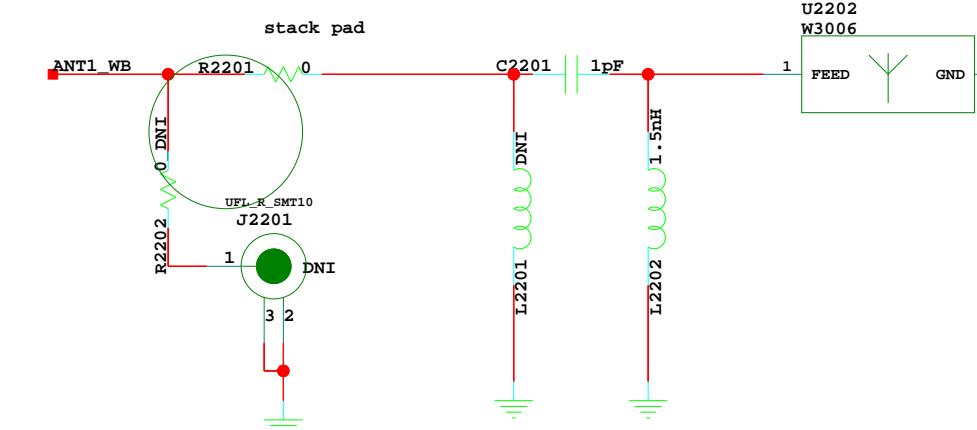
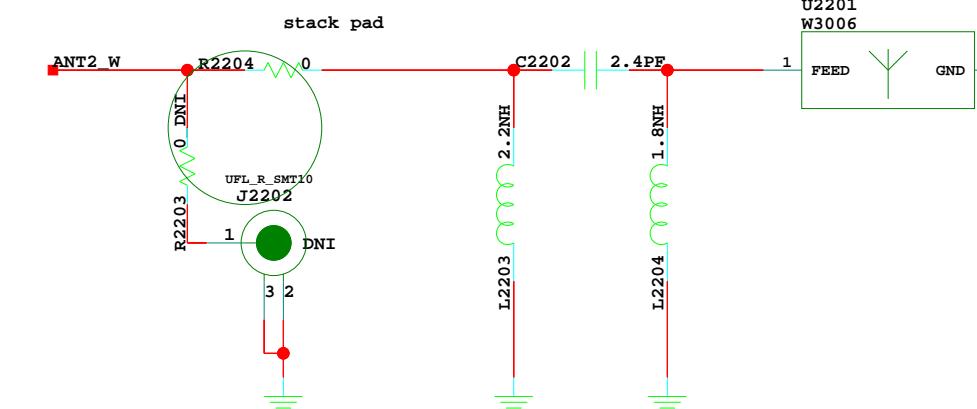
A



B



C

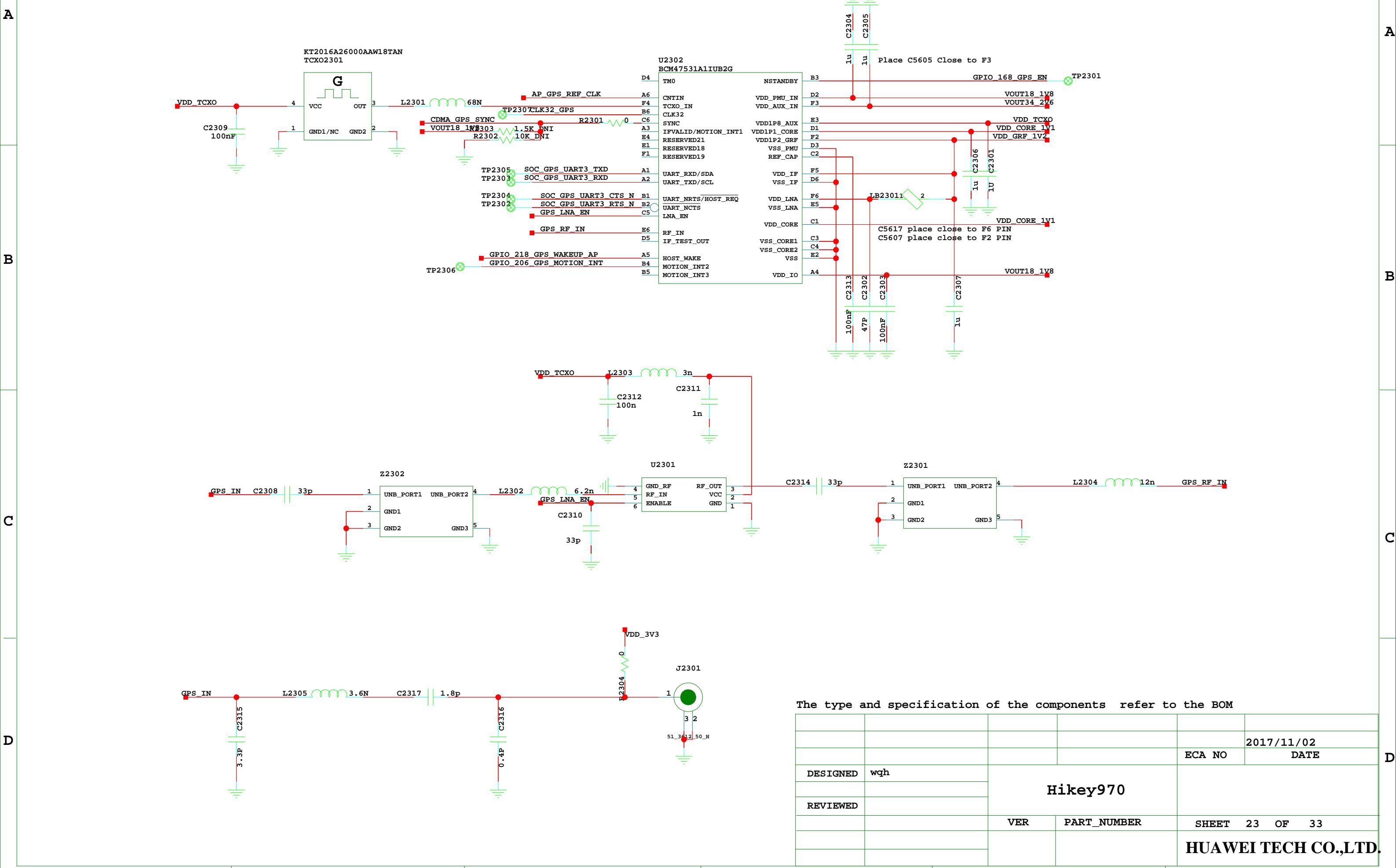


The type and specification of the components refer to the BOM

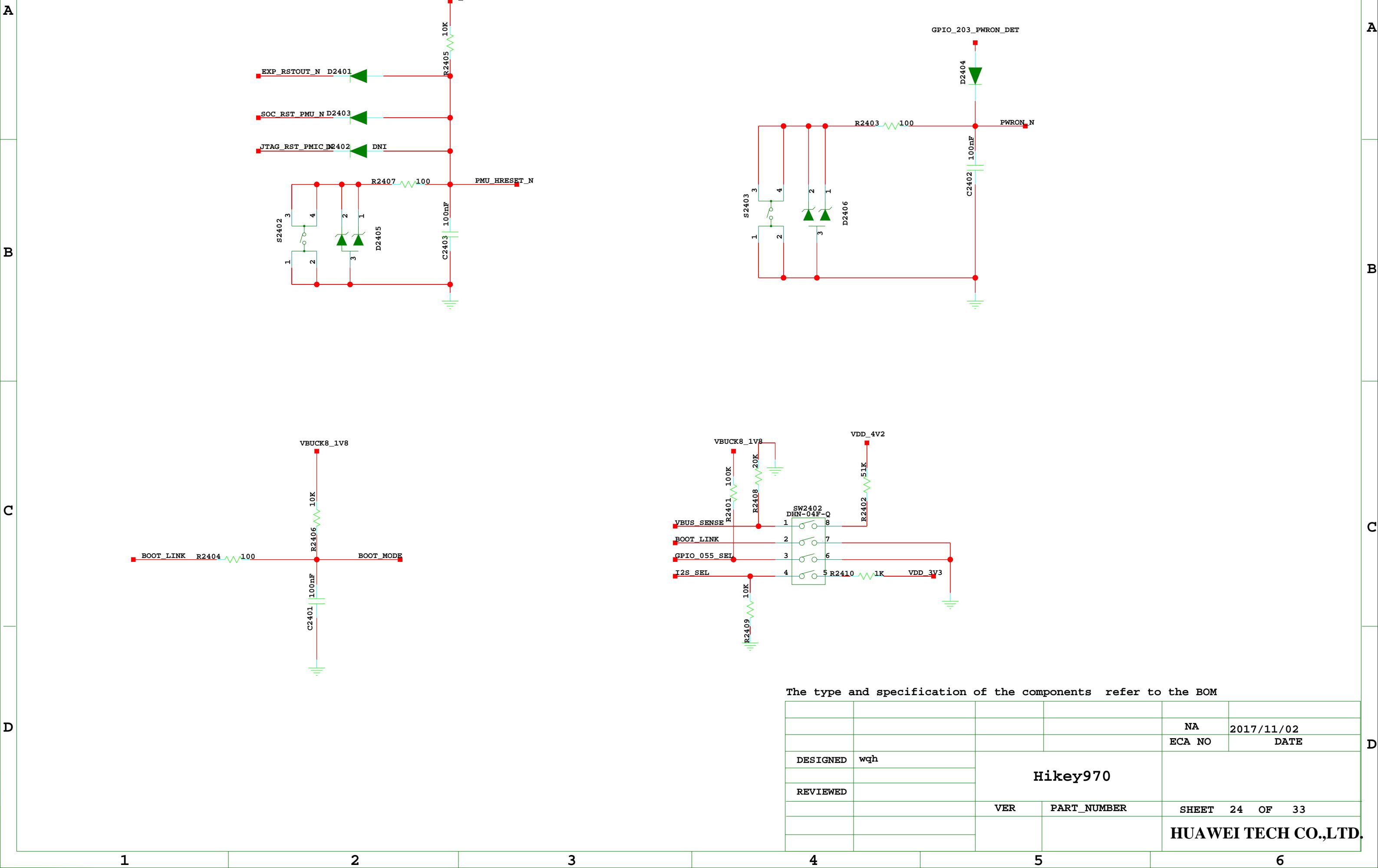
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					ECA NO	DATE
DESIGNED	wqh					
REVIEWED						
		VER	PART_NUMBER		SHEET	22 OF 33
						HUAWEI TECH CO.,LTD.

Hikey970

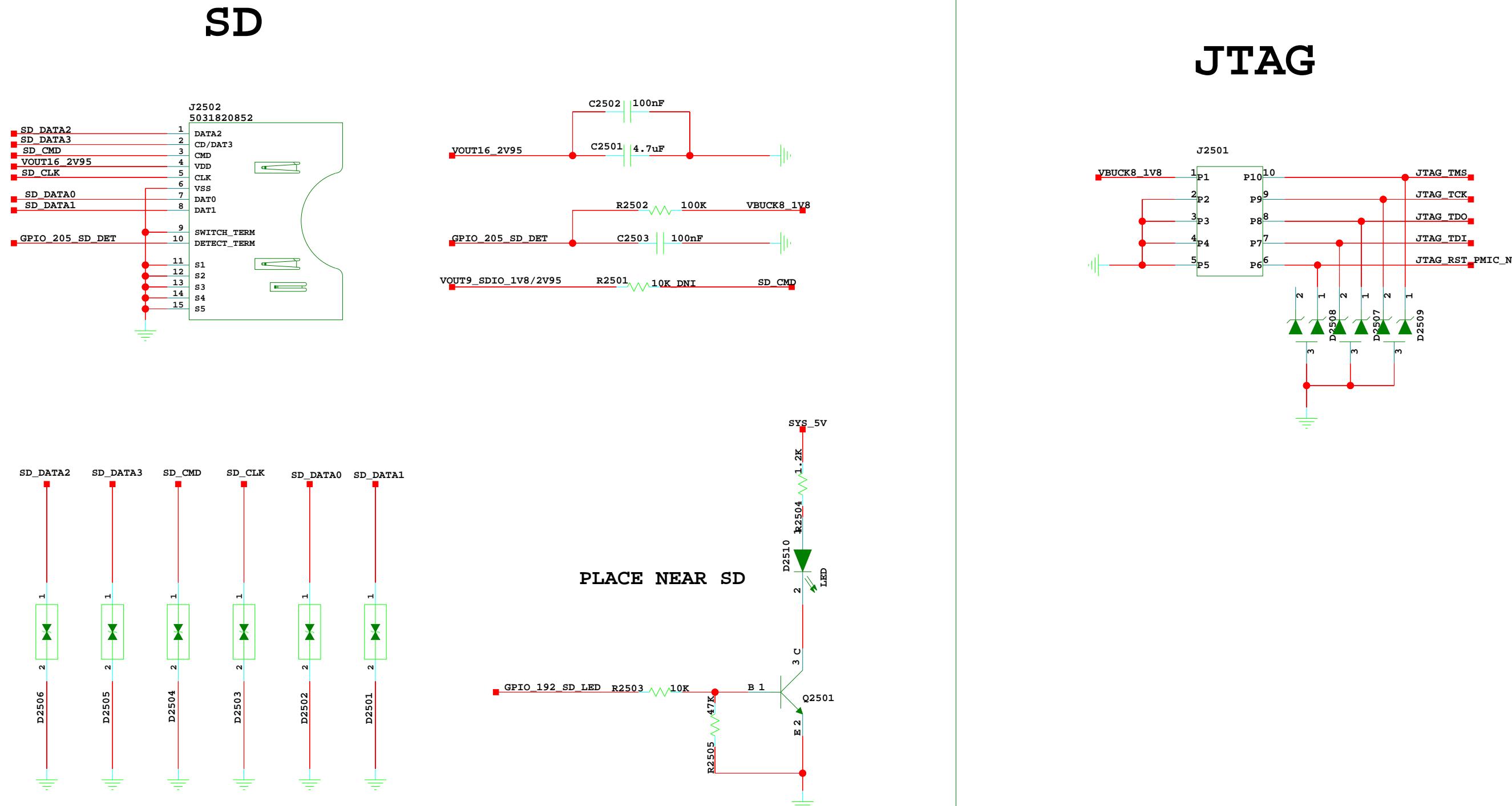
## 23.GPS



# 24 KEY



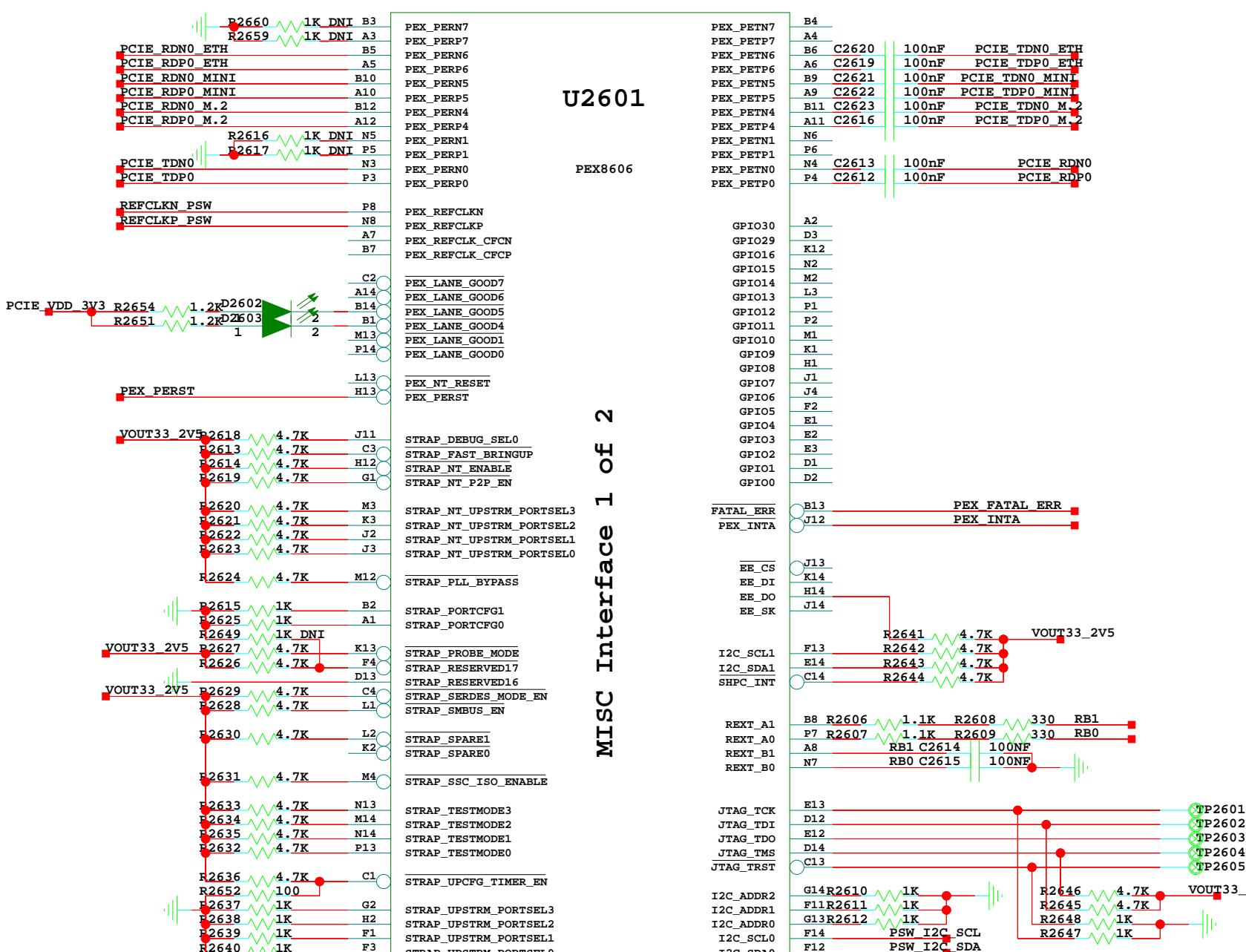
# 25.SD Card/jtag



				NA	2017/11/02
				ECA NO	DATE
DESIGNED	wqh				
REVIEWED					
		VER	PART_NUMBER	SHEET	25 OF 33
					HUAWEI TECH CO.,LTD.

Hikey970

# 26 PCIE SWITCH 1



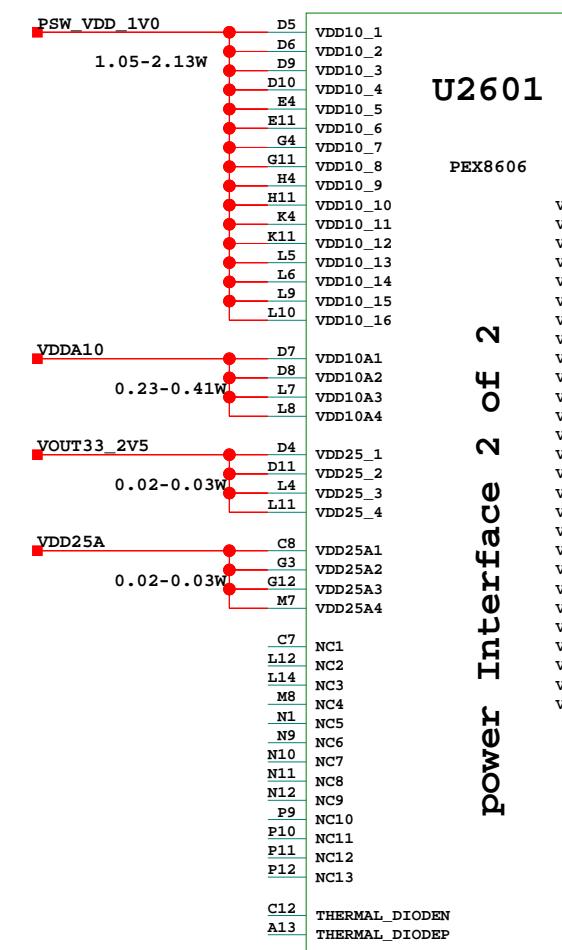
I2C ADDR 0x38(write)/0x39(read)

The type and specification of the components refer to the BOM

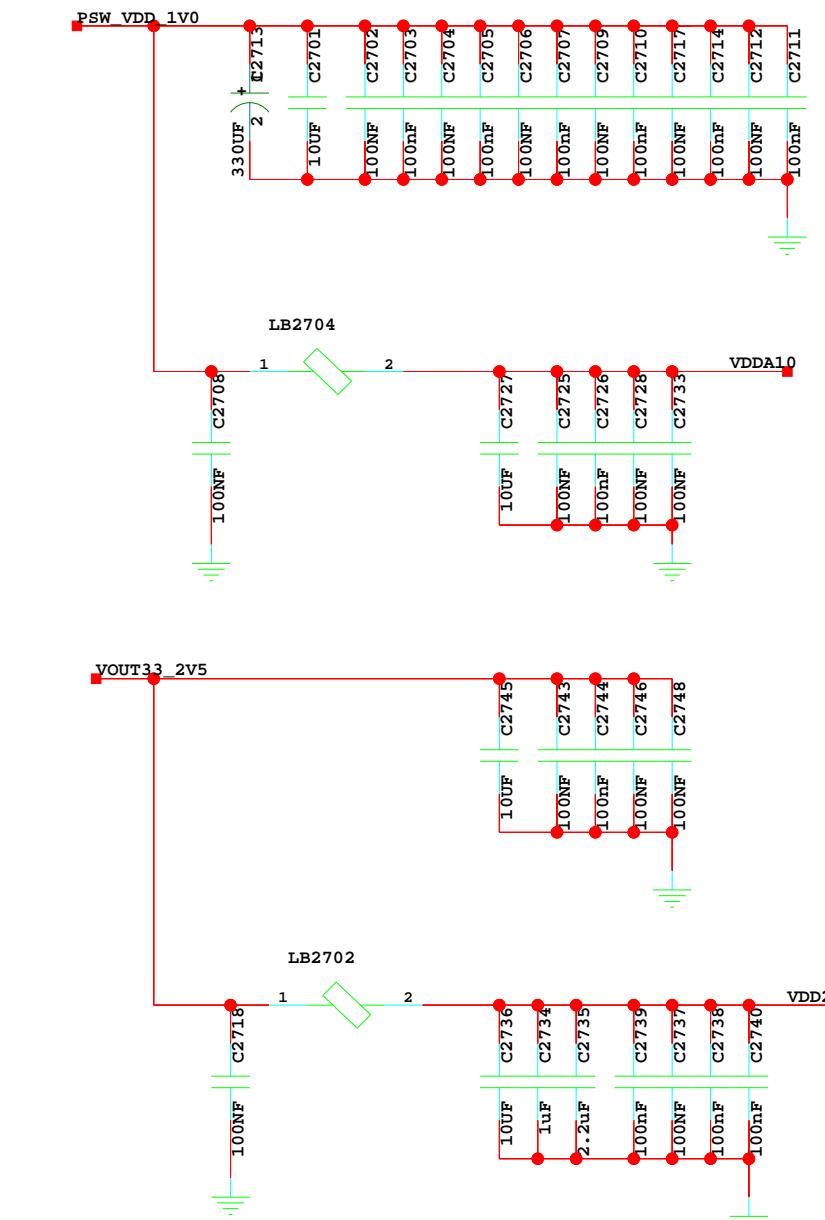
DESIGNED	wqh	Hikey970		2017/11/02
REVIEWED				ECA NO DATE
		VER	PART_NUMBER	SHEET 26 OF 33
				HUAWEI TECH CO.,LTD.

# 27. PCIE SWITCH 2

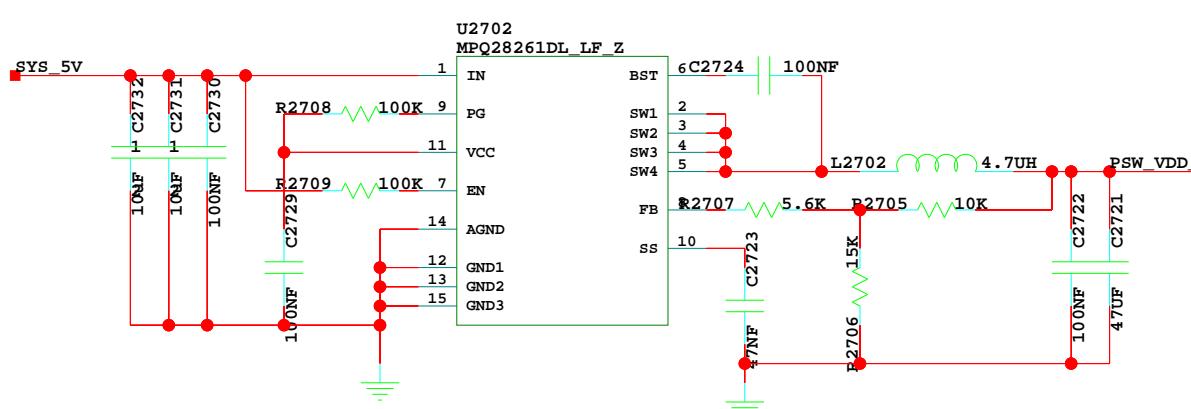
A



power Interface 2 of 2



The type and specification of the components refer to the BOM



$$V_{out} = 0.6 * (1 + 2K / 3K) = 1V$$

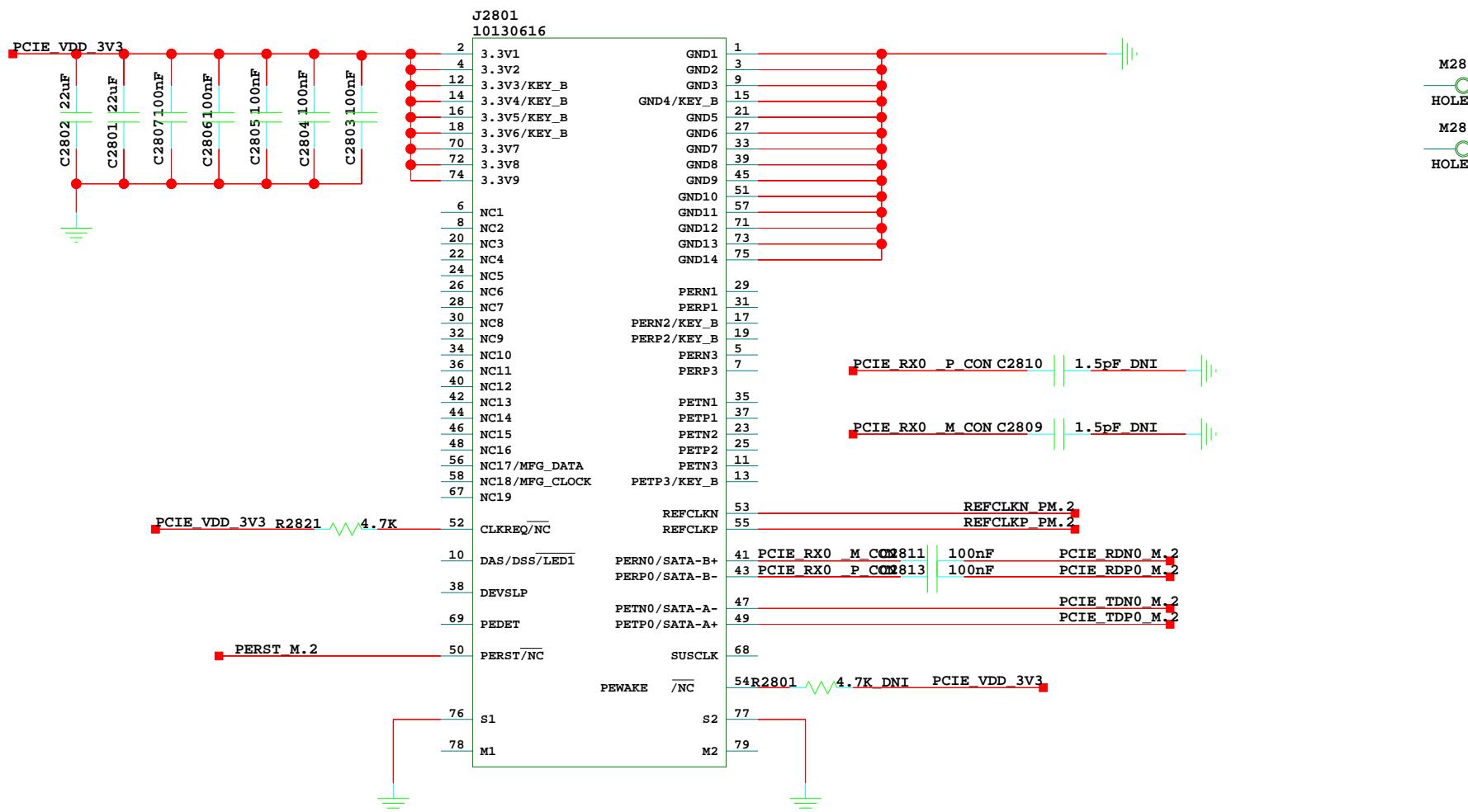
DESIGNED	wqh <th data-cs="2" data-kind="parent">Hikey970</th> <th data-kind="ghost"></th> <th data-cs="2" data-kind="parent">2017/11/02</th> <th data-kind="ghost"></th>	Hikey970		2017/11/02	
REVIEWED		VER	PART_NUMBER	ECA NO	DATE

HUAWEI TECH CO.,LTD.

# 28 PCIE M.2

A

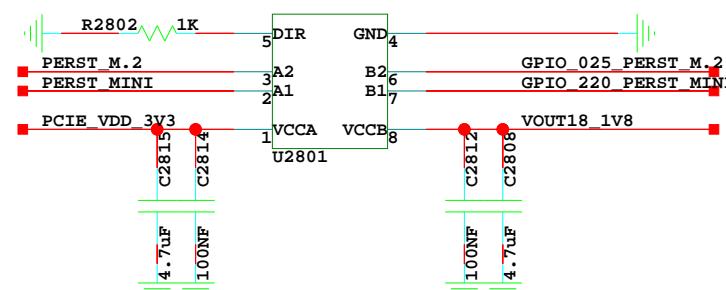
## M.2 CONNECTOR



B

C

## PCIE PERST LEVEL SHIFT



DIR	Operation
L	B DATA TO A BUS
H	A DATA TO B BUS

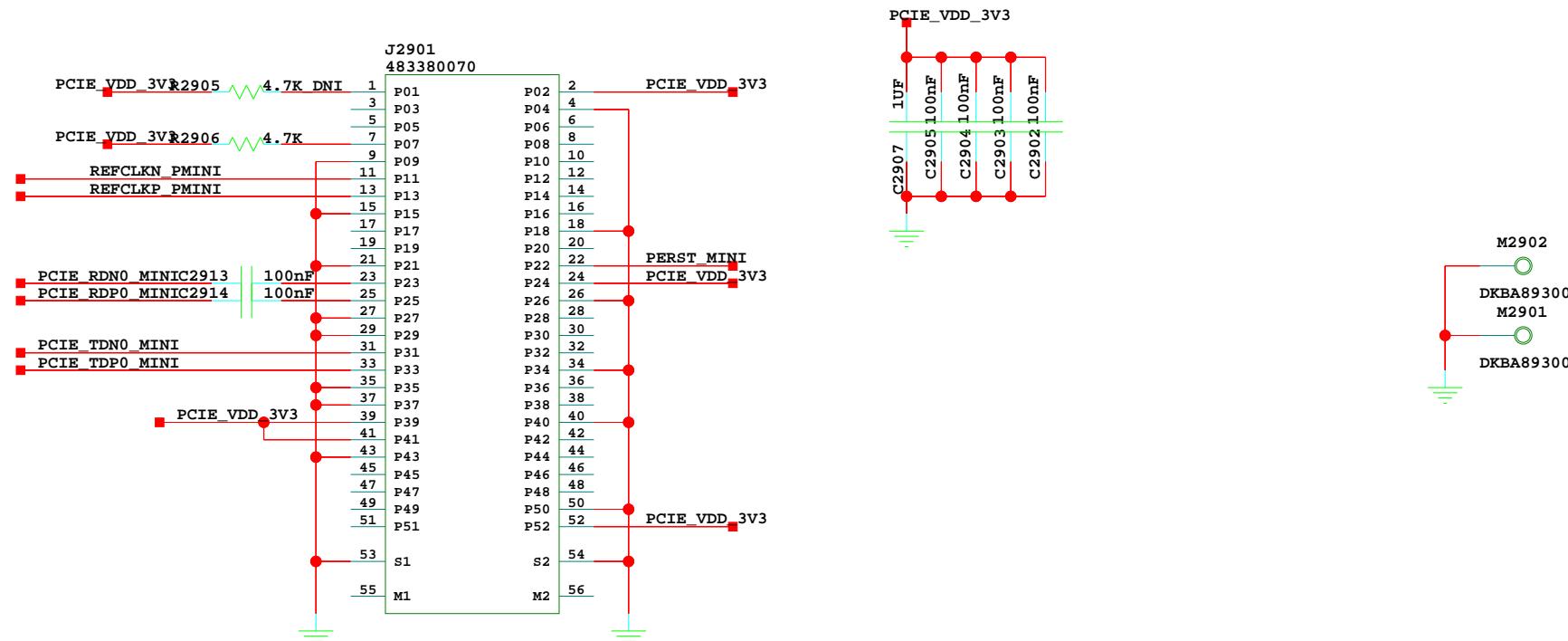
The type and specification of the components refer to the BOM

					2017/11/02
				ECA NO	DATE
DESIGNED	wqh				
REVIEWED					
		VER	PART_NUMBER	SHEET 28 OF 33	
					HUAWEI TECH CO.,LTD.

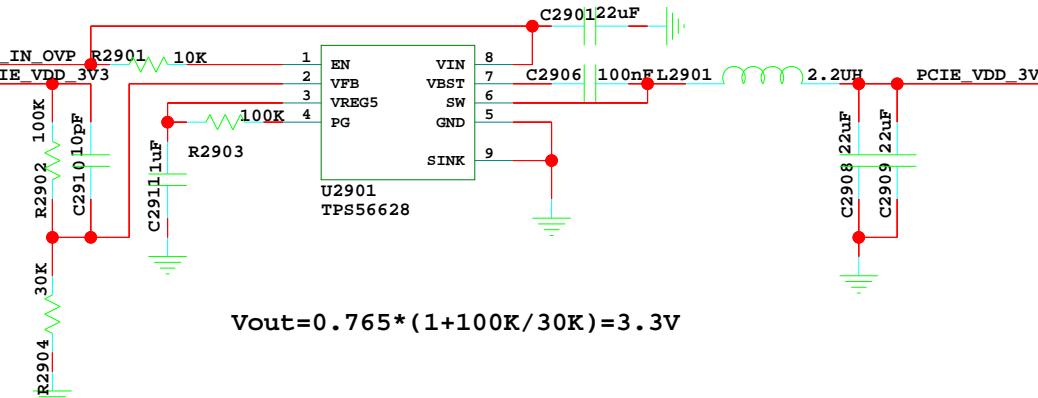
Hikey970

# 29. PCIE MINI

## MINI CONNECTOR



## 3V3 FOR PCIE CARD



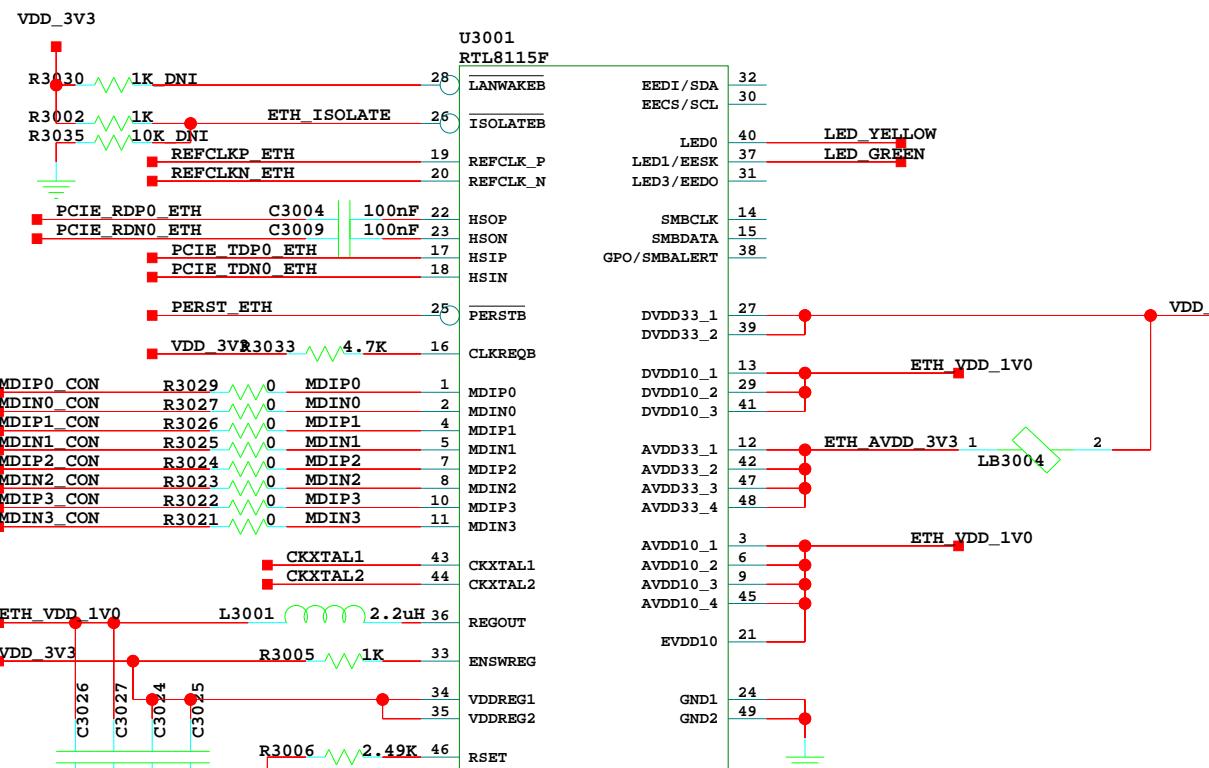
The type and specification of the components refer to the BOM

DESIGNED	wqh				2017/11/02
REVIEWED				ECA NO	DATE
			VER	PART_NUMBER	SHEET 29 OF 33
					HUAWEI TECH CO.,LTD.

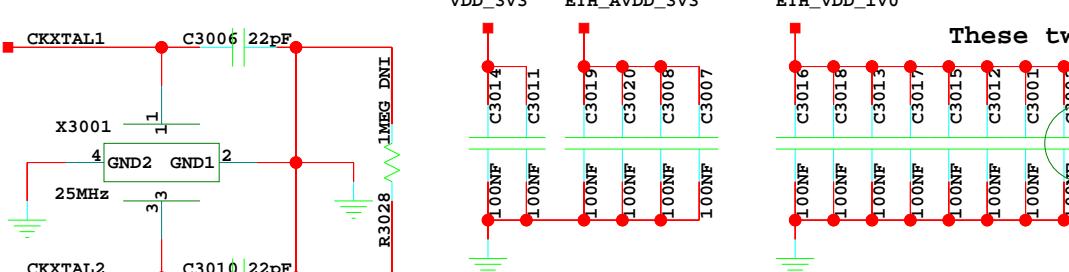
Hikey970

# 30. ETHERNET/CLK DRIVER

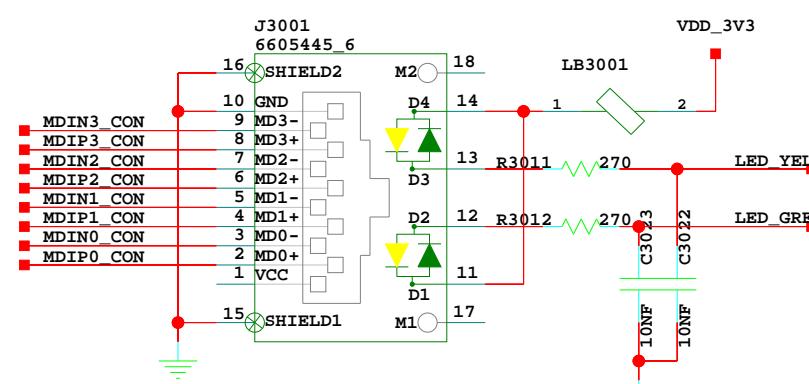
# PCIE TO ETHERNET



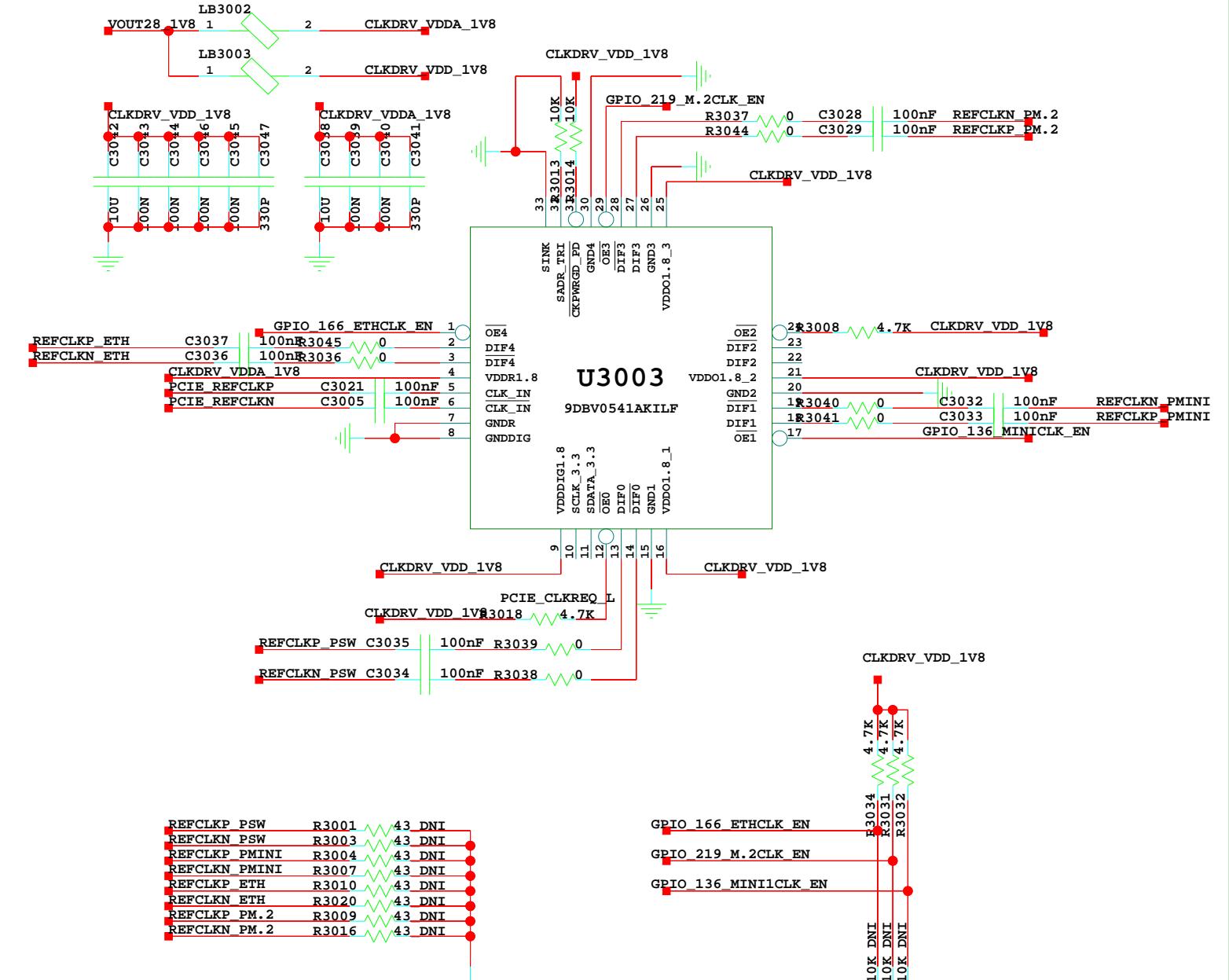
These two near to p.



# LANE CONNECTOR



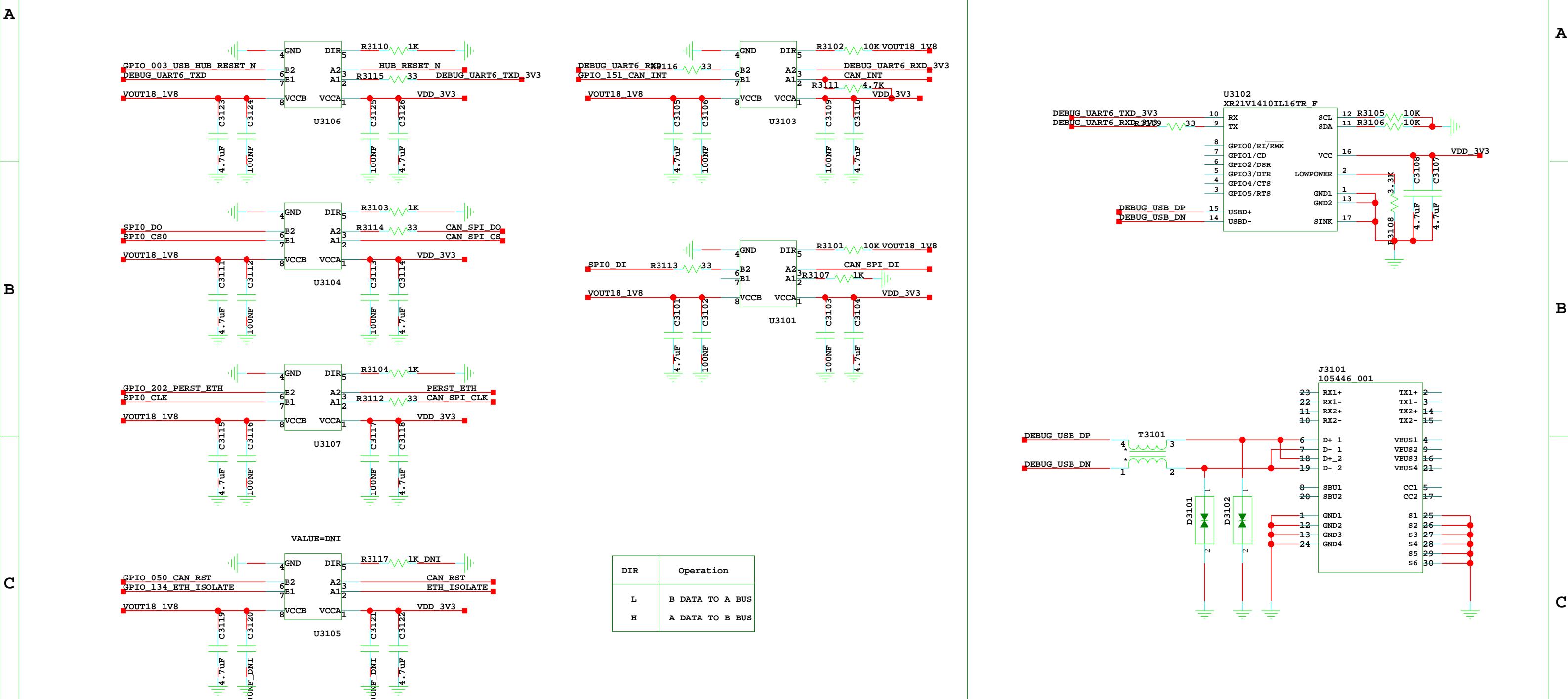
## CLOCK DRIVER 1TO5



The type and specification of the components refer to the BOM.

The type and specification of the components refer to the BOM					
				2017/11/02	
				ECA NO	DATE
DESIGNED	wqh	Hikey970			
REVIEWED					
		VER	PART_NUMBER	SHEET	30 OF 33
				HUAWEI TECH CO.,LTD	

# 31. DEBUG USB/LEVEL SHIFT



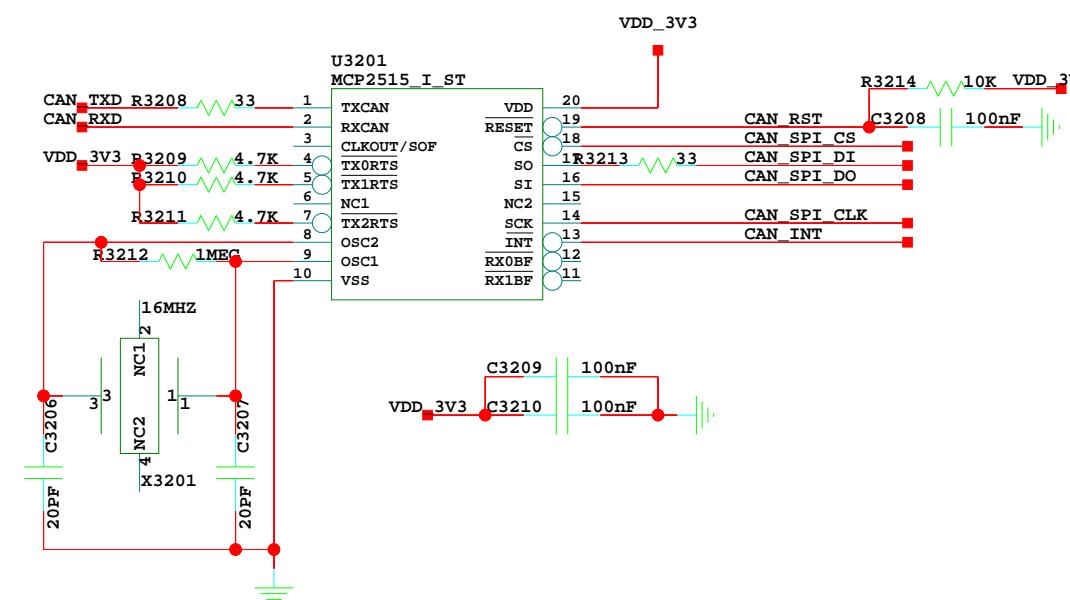
The type and specification of the components refer to the BOM

DESIGNED	wqh				2017/11/02
REVIEWED				VER	PART_NUMBER
				SHEET	31 OF 33
					HUAWEI TECH CO.,LTD.

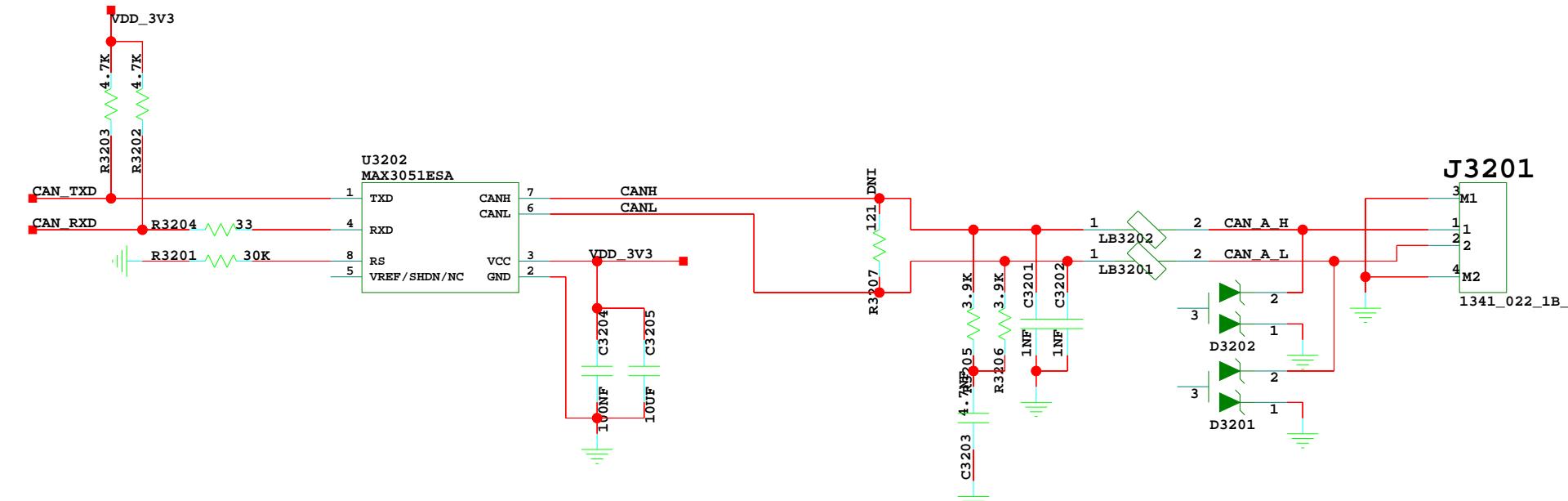
Hikey970

## 32.CAN

A



B



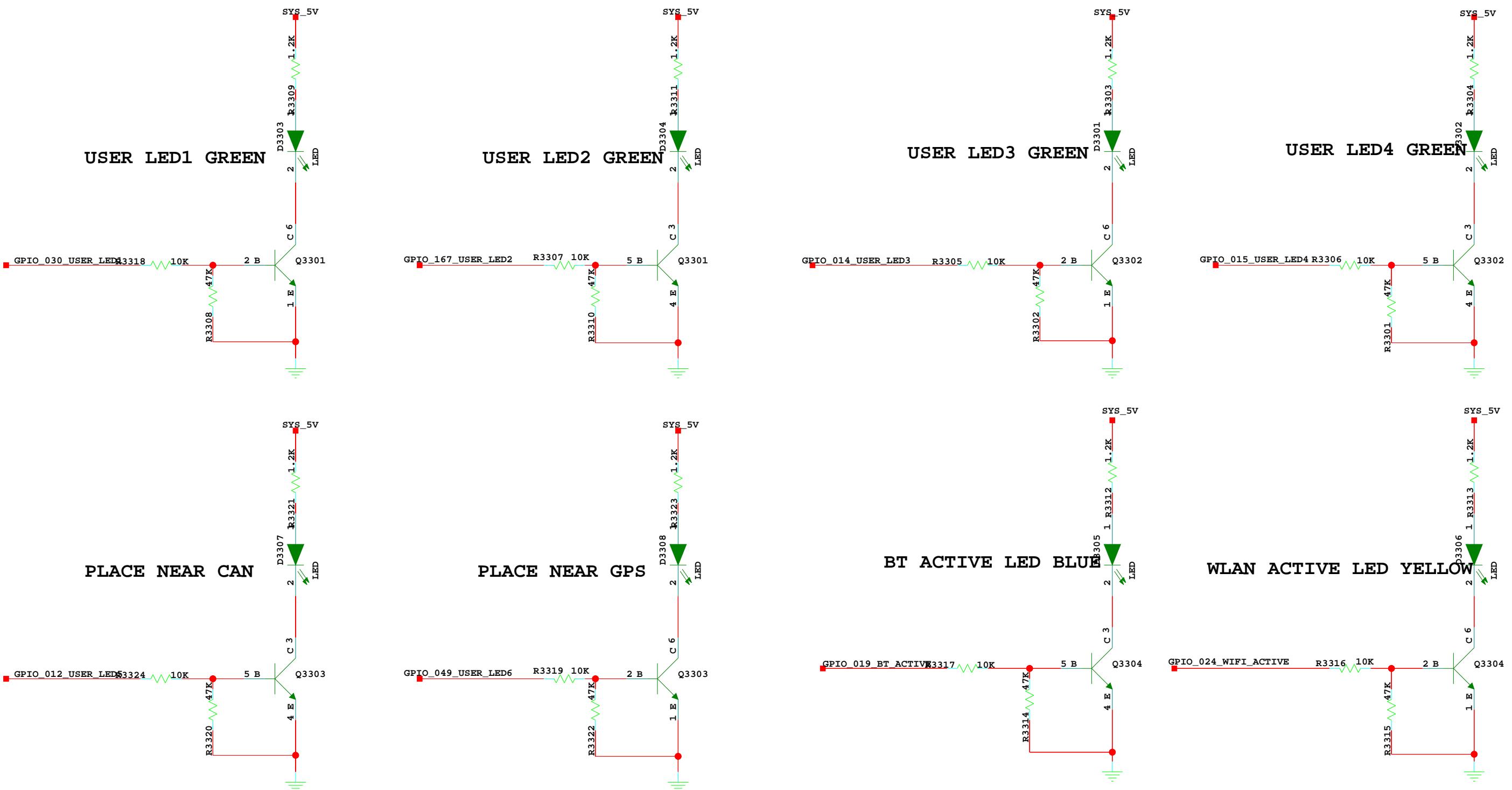
C

The type and specification of the components refer to the BOM

					2017/11/02
DESIGNED	wqh			ECA NO	DATE
REVIEWED					
		VER	PART_NUMBER	SHEET 32 OF 33	
					HUAWEI TECH CO.,LTD.

Hikey970

# 33 User LED



The type and specification of the components refer to the BOM

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REVIEWED				ECA NO	DATE
		VER	PART_NUMBER	SHEET	33 OF 33
					HUAWEI TECH CO.,LTD.

Hikey970