

A

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Sheet01

Sheet02

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Sheet04

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Sheet34

Sheet35-36

HI3521DMEB Ver.C

HI3521DMEB CHANGE LIST

HI3521DMEB BLOCK DIAGRAM

HI3521DMEB POWER TREE

Reset Block Diagram

POWER

HI3521 POWER_GND

HI3521 DDR3

HI3521 SYS & RST & JTAG

HI3521 FLASH

Power-On Strapping Pins

HI3521 INTERFACE

SATA & UART & RTC

ETH

PCIE

DISPLAY

HDMI0

VIVO

SWITCH FOR VO

Si19022

SD Card

24bit GRB for LCD

VIDEO AND AUDIO INPUT FOR 2867

TW2867A-D

AIC31

Connector for Daughter board

DRIVER FOR TW2960

CPLD

HI3521DMEB Ver.C

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 1 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

1

2

3

4

5

6

HI3521DMEB CHANGE LIST

2012.1.21 1st version schematic

2013.1.5 updata:

- 1.On sheet10,DDR Routing design rule is changed into the same as that of Hi3521DMEB PCB;
- 2.On sheet14,denoting several pins of NFC and SFC interface can not be used as GPIO.

The type and specification of the components refer to the BOM

				NA	
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DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 2 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

1	2	3	4	5	6
HI3521DMEB BLOCK DIAGRAM					
A					A
B					B
C					C
D					D
The type and specification of the components refer to the BOM					
				NA	
				ECA NO	DATE
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REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 3 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	
1	2	3	4	5	6

HI3521DMEB POWER TREE

The type and specification of the components refer to the BOM

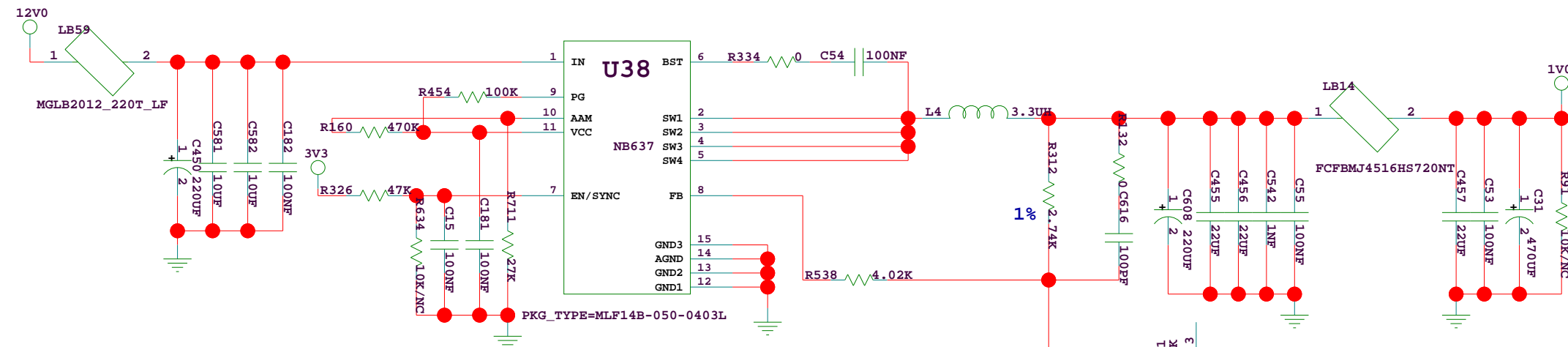
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		A	03030001	HUAWEI TECH CO.,LTD.	

Reset Block Diagram

The type and specification of the components refer to the BOM

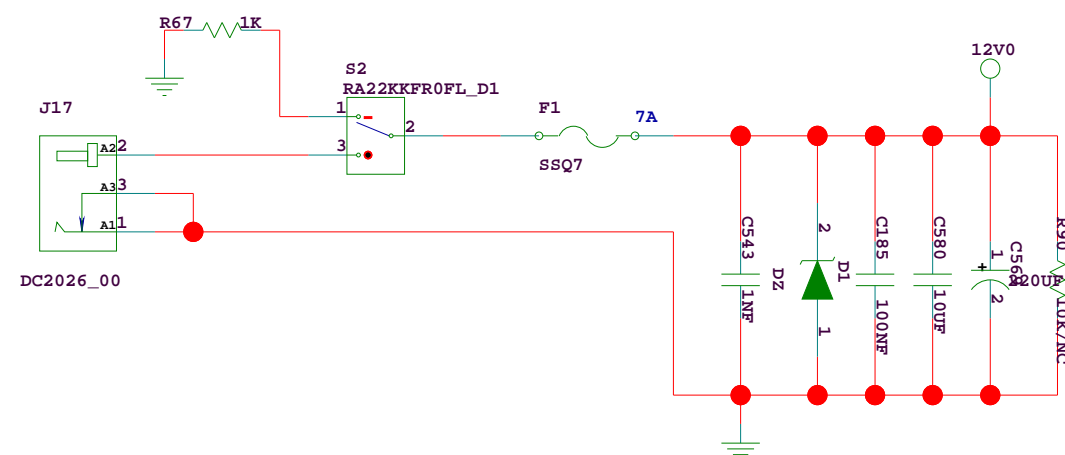
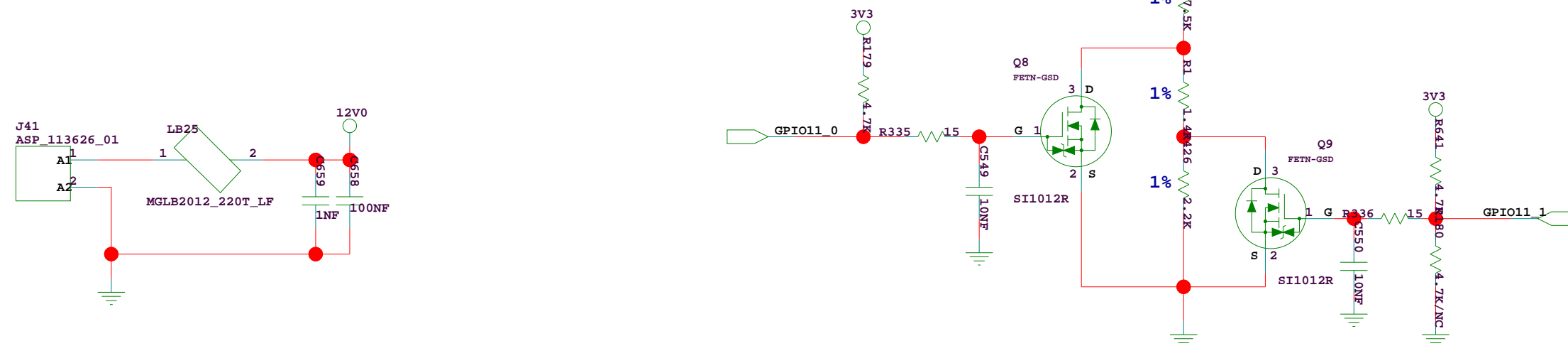
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		VER	PART_NUMBER	SHEET 5 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

POWER



$$V_{out} = 0.8 * (1 + R_{312} / (R_{706} + R_{310}))$$

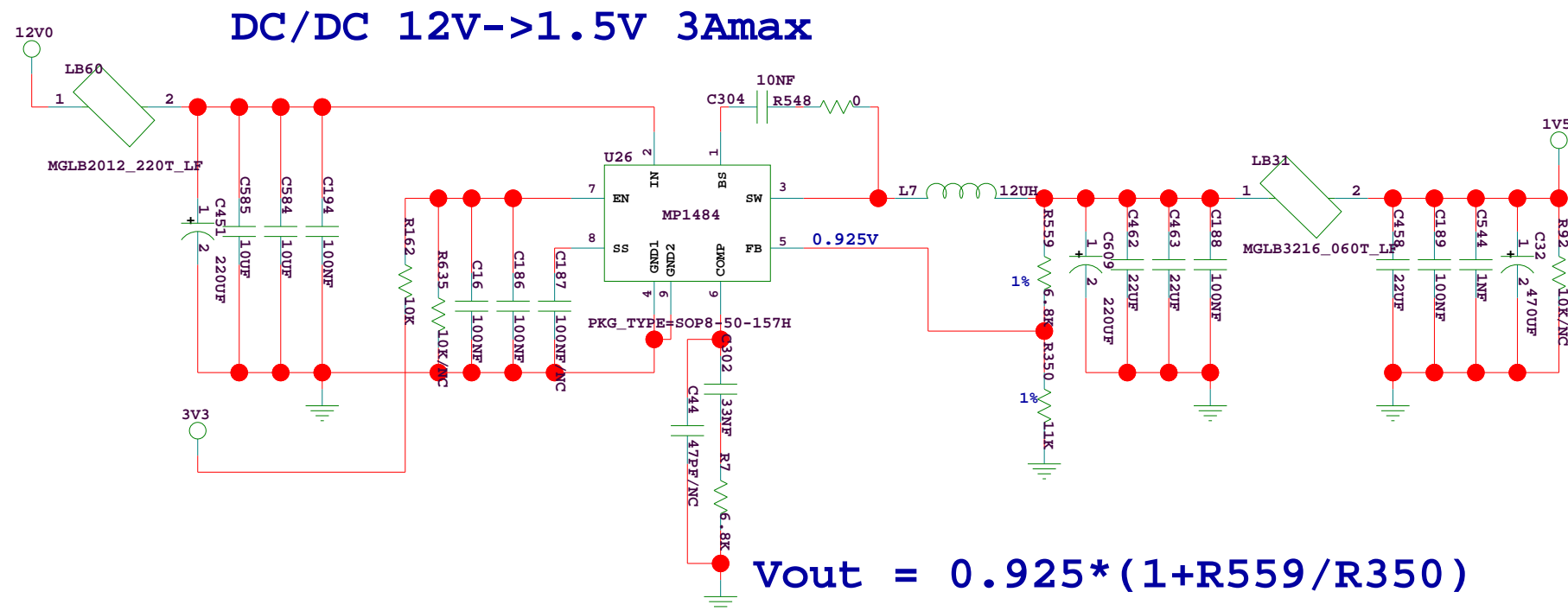
GPIO11_0 & GPIO11_1 is used for HI3521 SVB Test



The type and specification of the components refer to the BOM

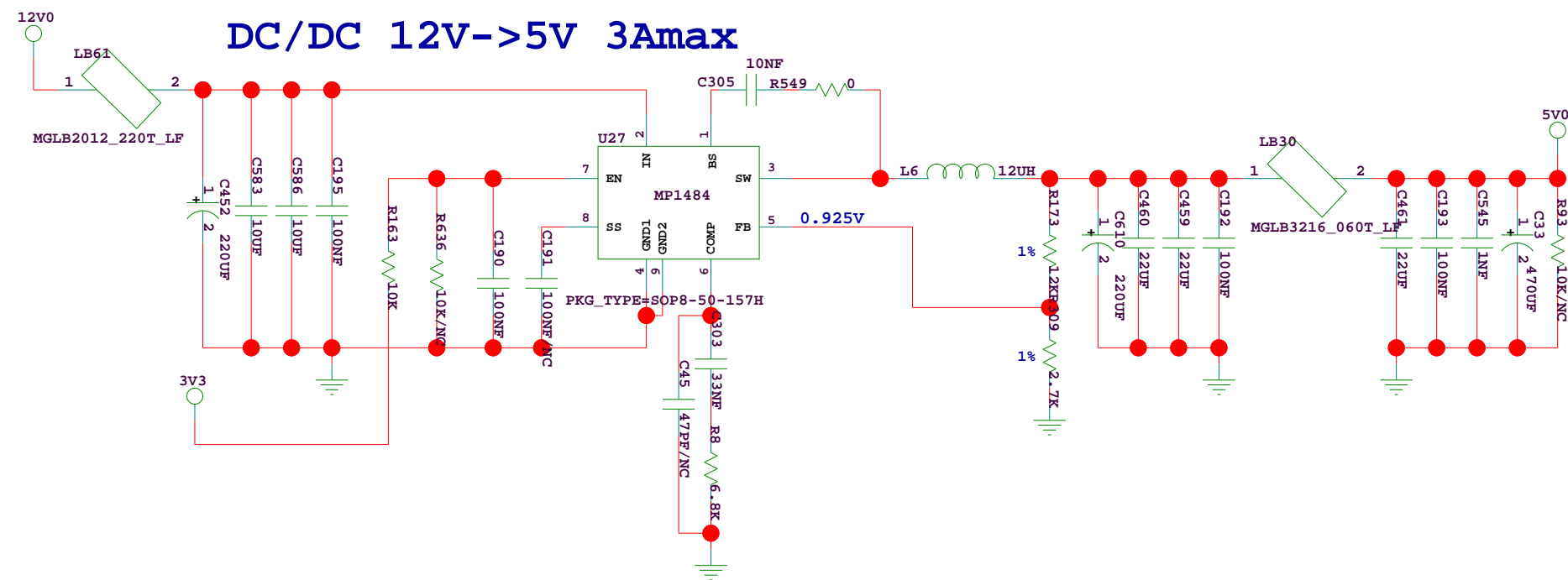
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		VER	PART_NUMBER	SHEET 6 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

POWER



$$V_{out} = 0.925 * (1 + R_{559} / R_{350})$$

Change R1 into 5K, Vout will be 1.35V

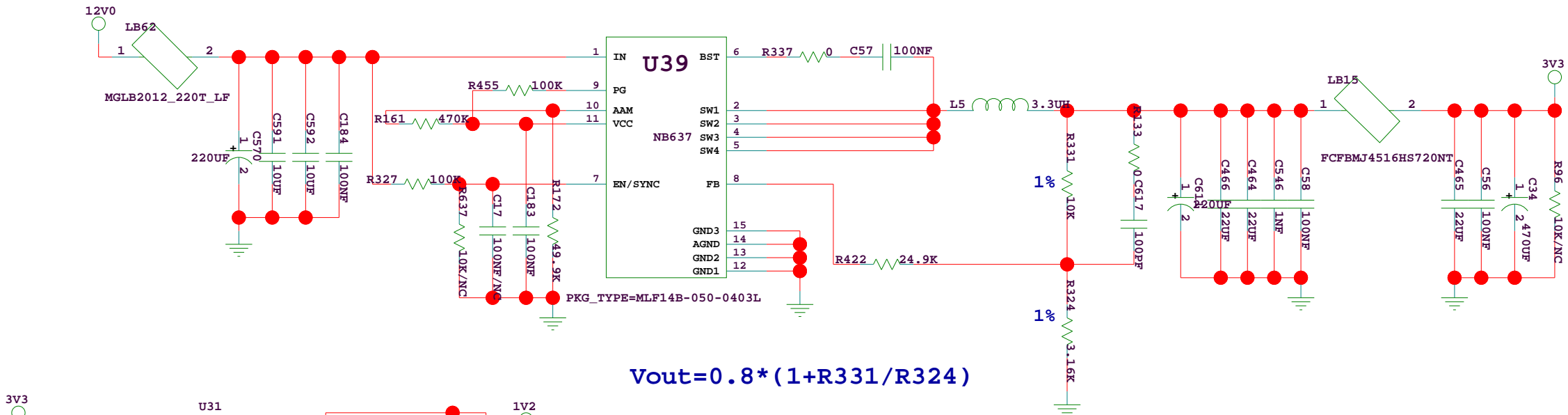


$$V_{out} = 0.925 * (1 + R_{173}/R_{309})$$

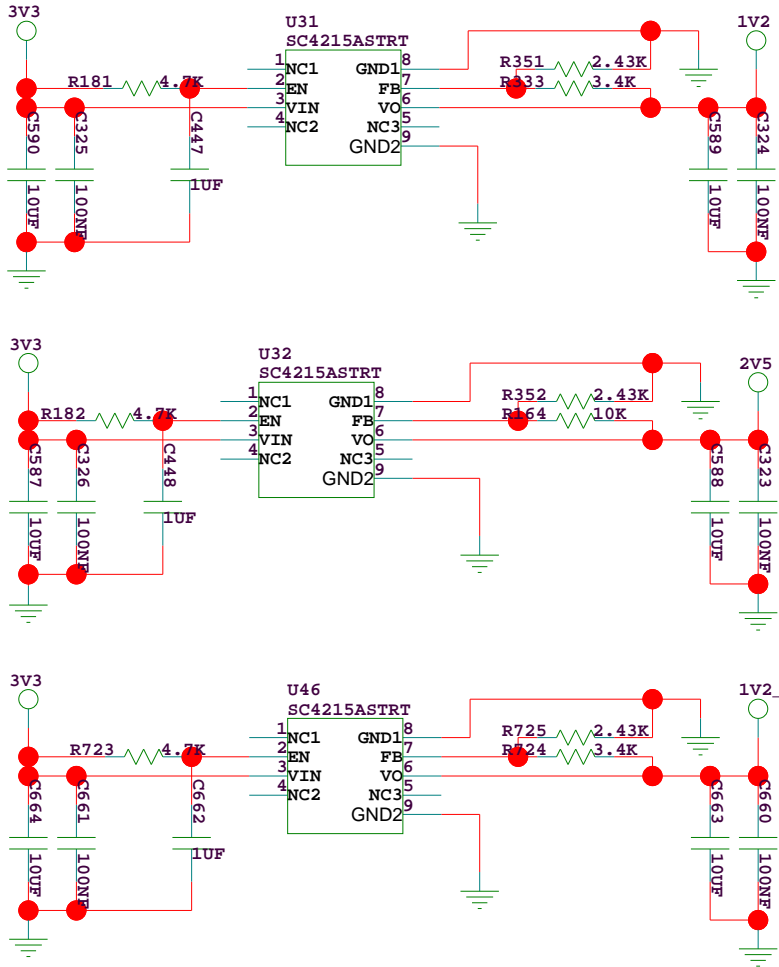
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		VER	PART_NUMBER	SHEET 7 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

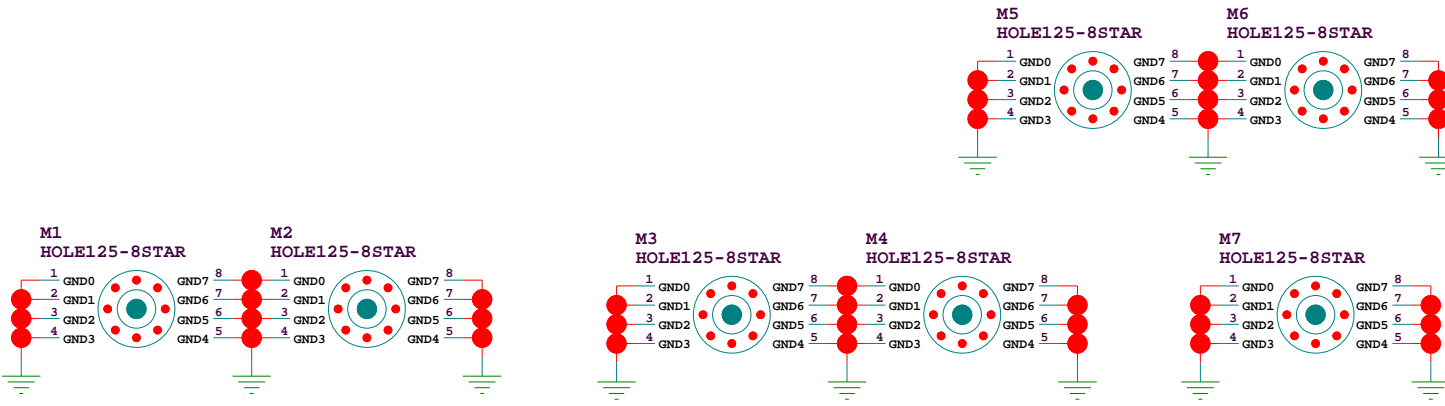
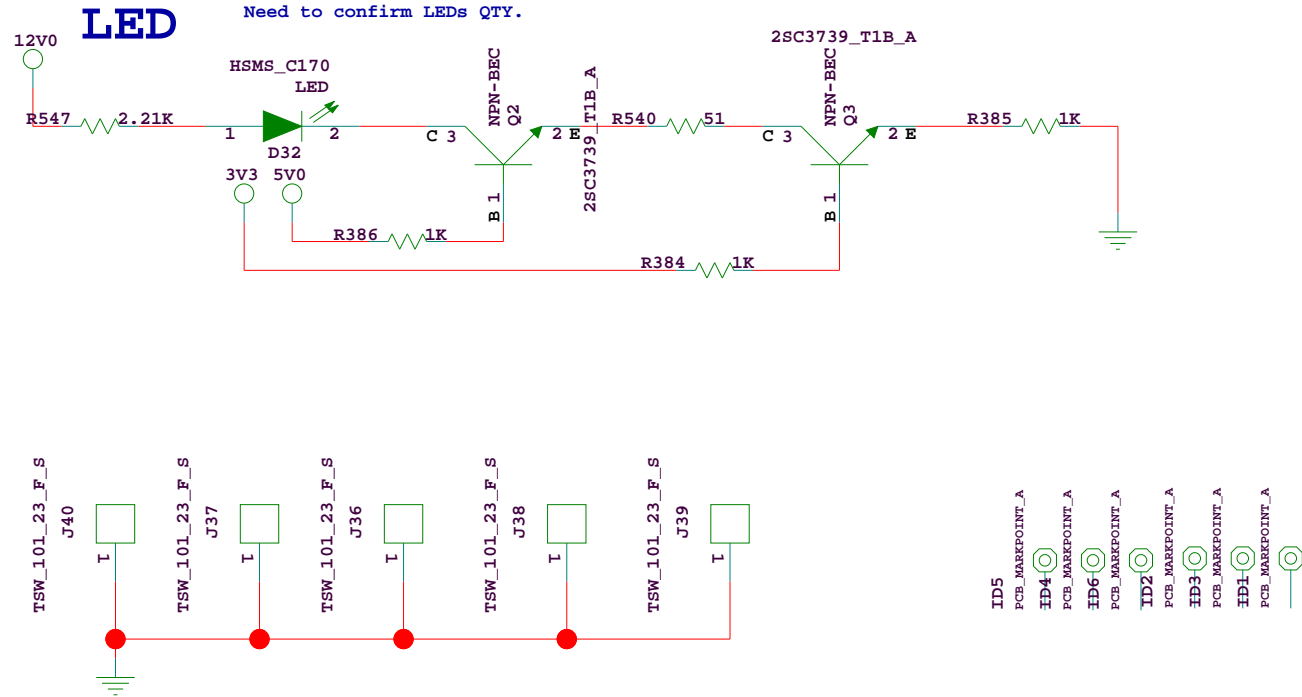
POWER



$V_{out}=0.8*(1+R331/R324)$



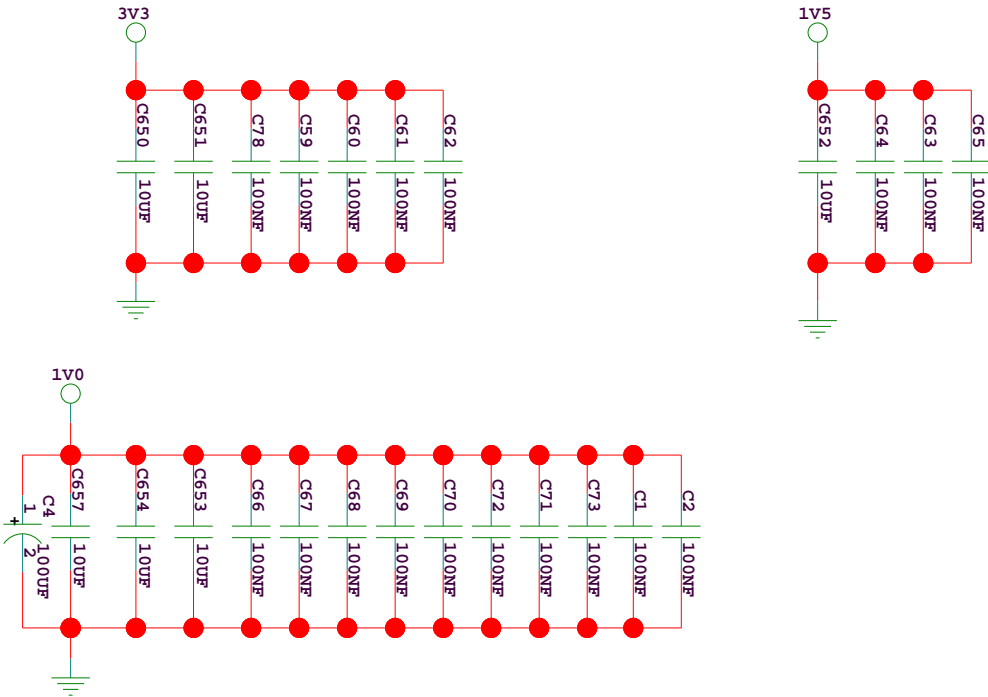
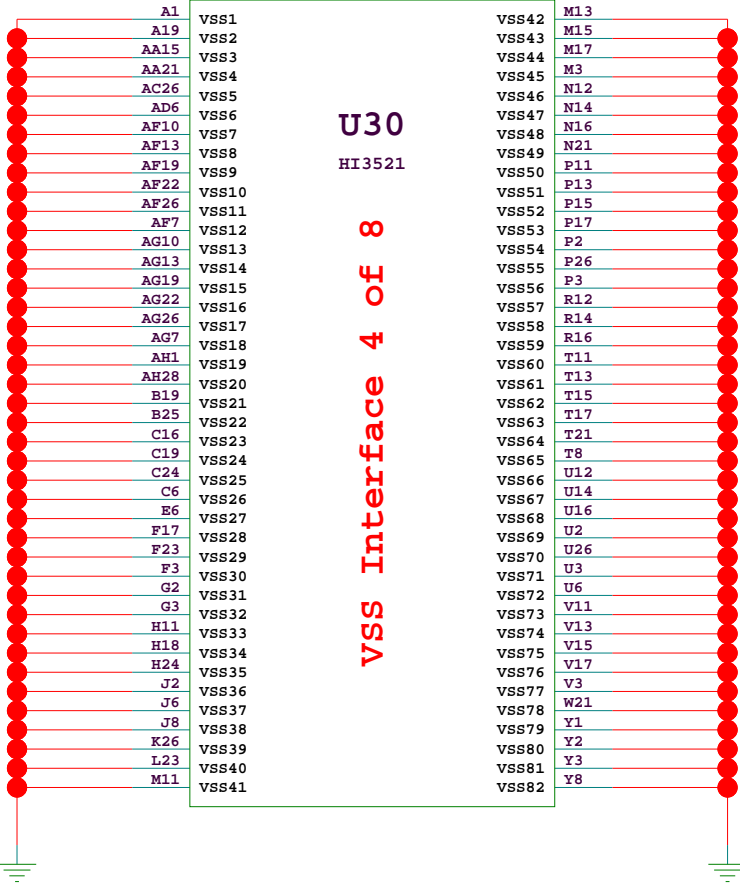
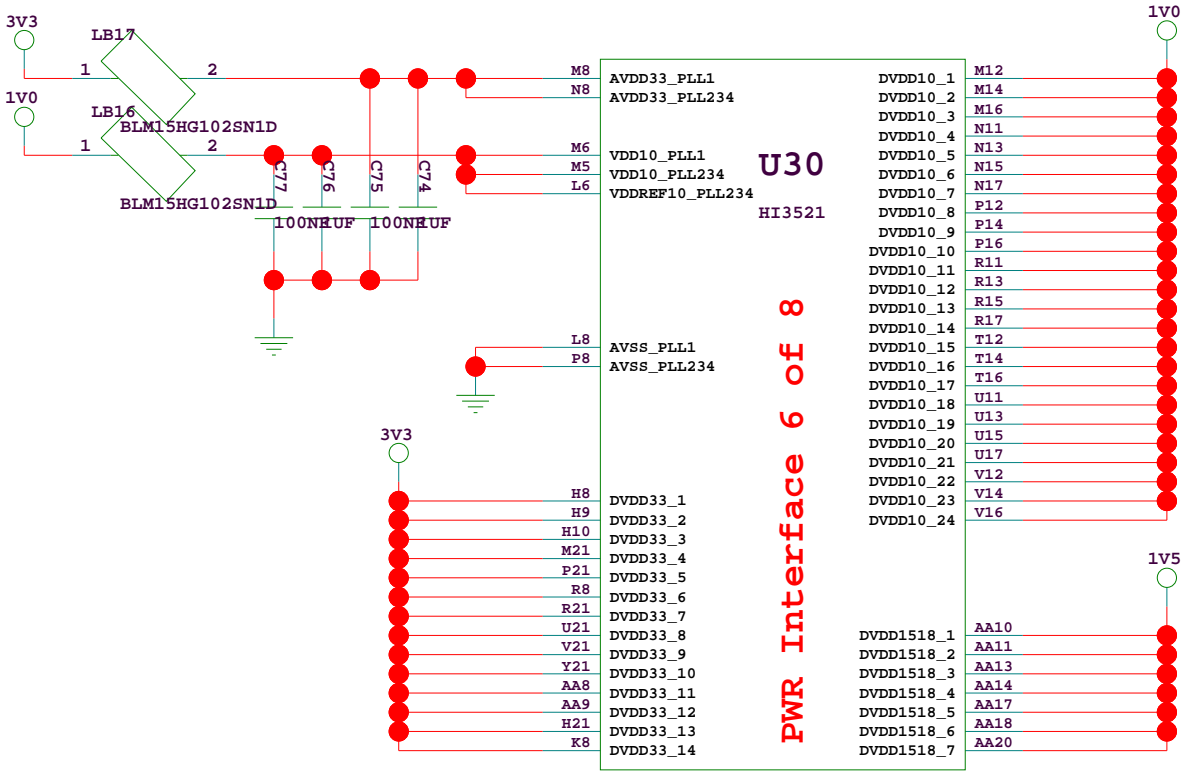
LED



The type and specification of the components refer to the BOM

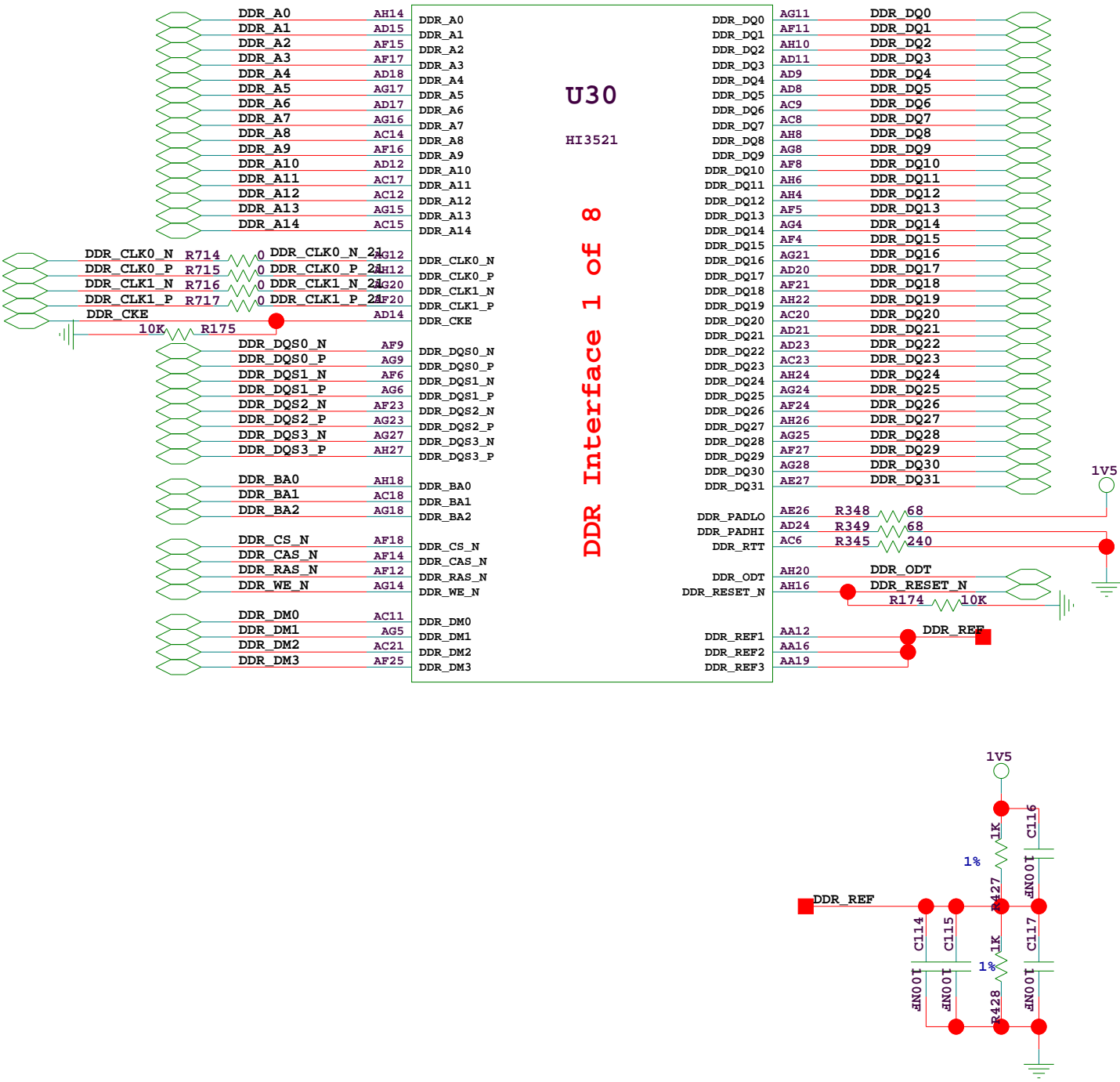
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REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 8 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

HI3521 POWER_GND



The type and specification of the components refer to the BOM					
				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 9 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

HI3521 DDR3



The routing design for the DDR must be the same as that of the Hi3521 demo board.

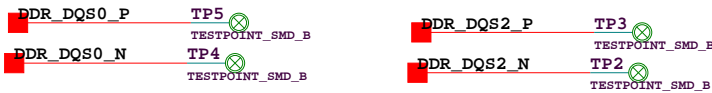
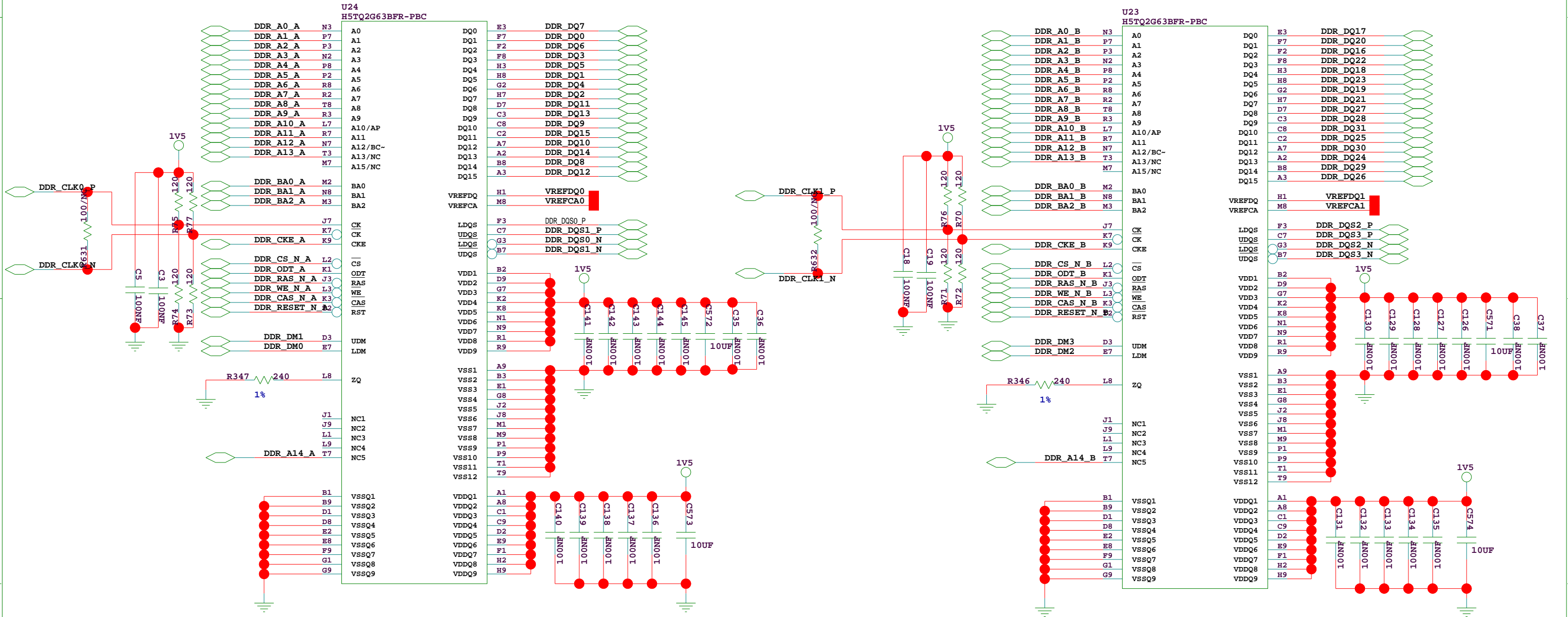
If customer can not copy DMEB design directly,
please comply with the Hi3521 Hardware Design User Guide.

And make sure your design is more structer than our demo board.

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 10 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

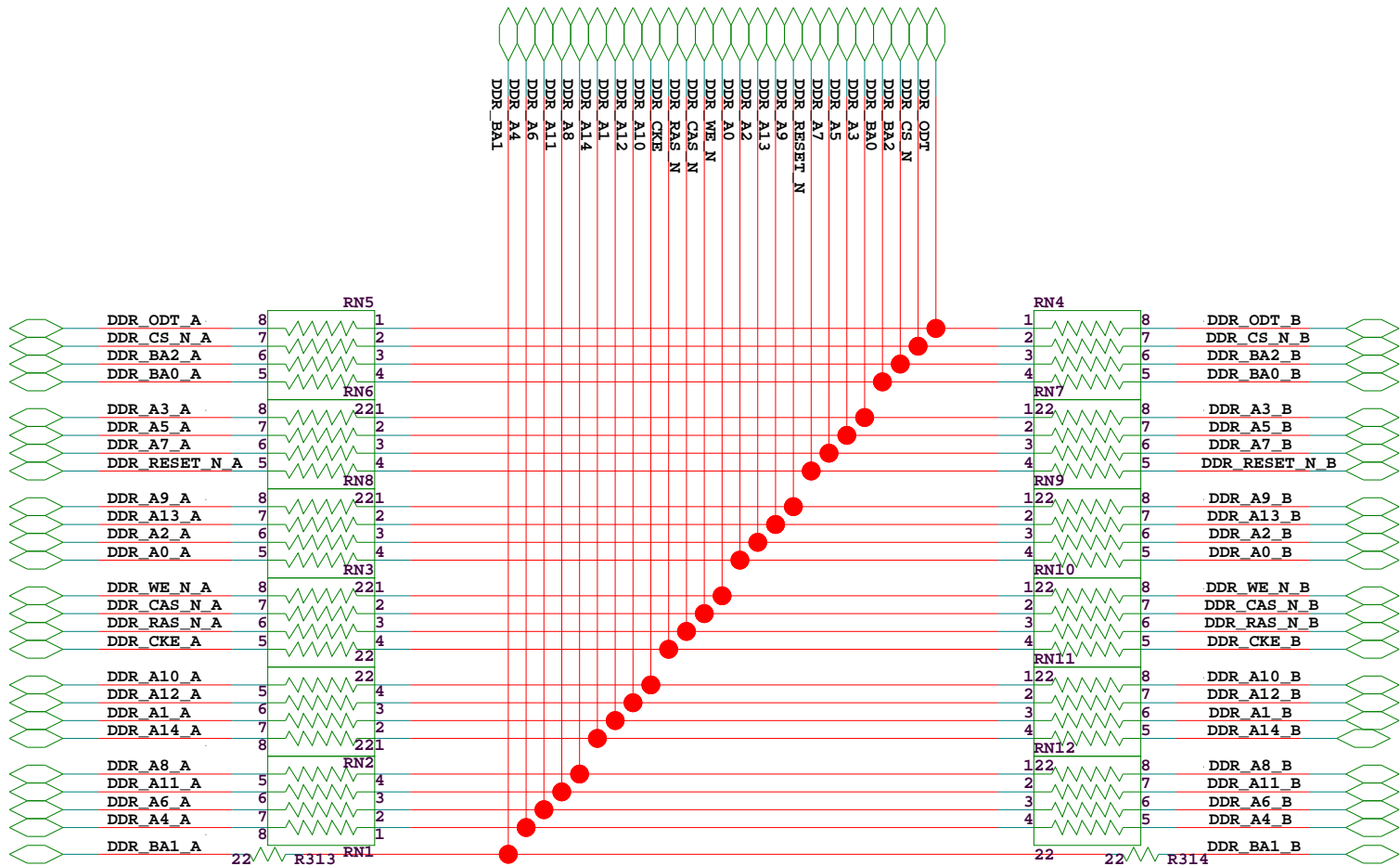
HI3521 DDR3



The type and specification of the components refer to the BOM

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		VER	PART_NUMBER	SHEET 11 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

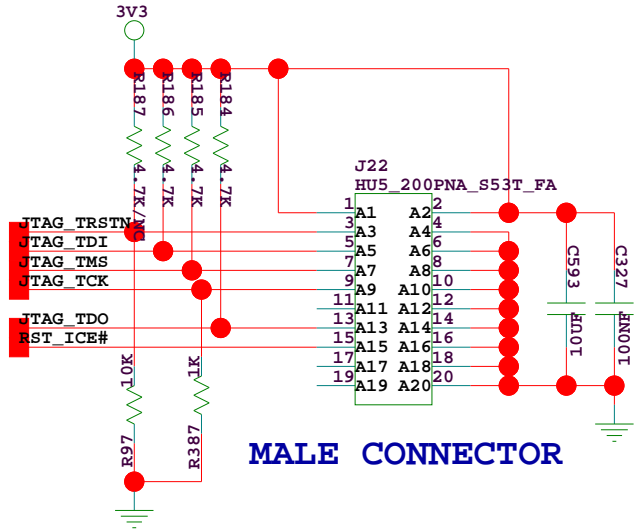
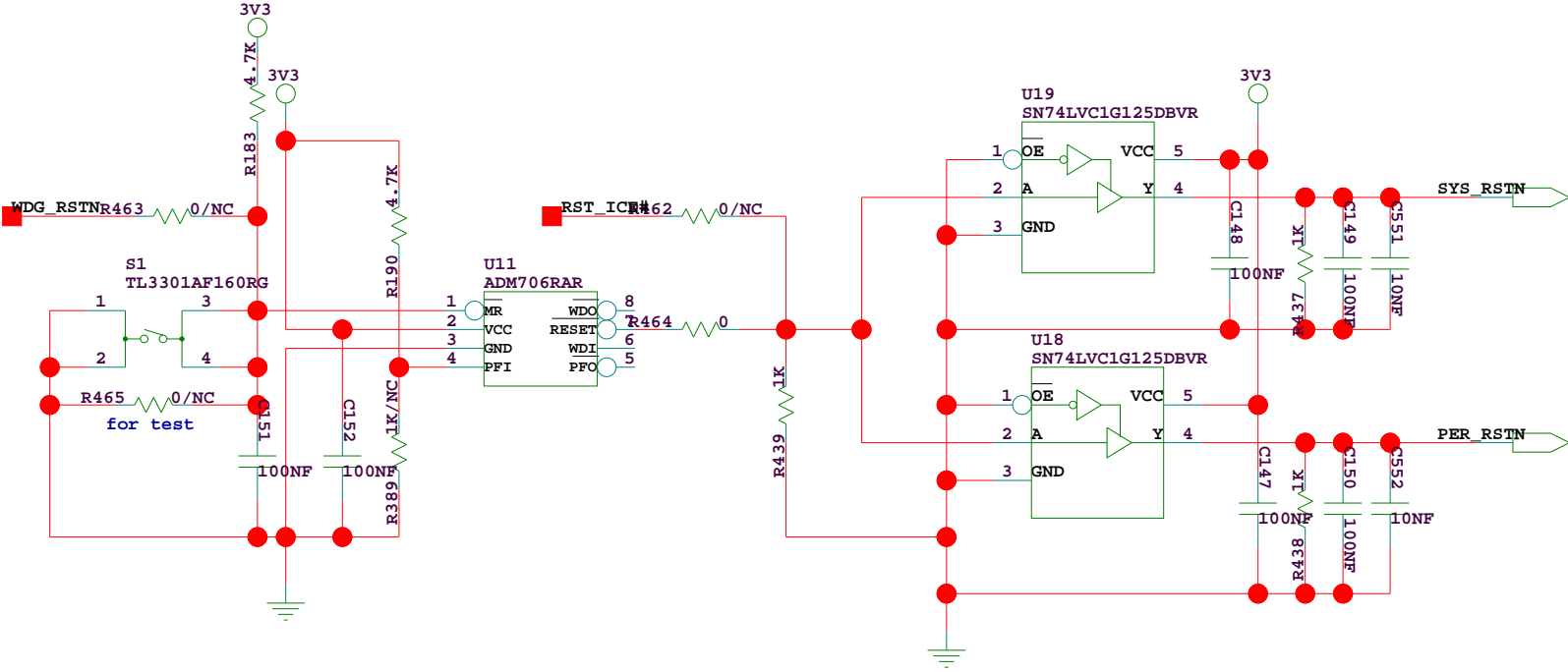
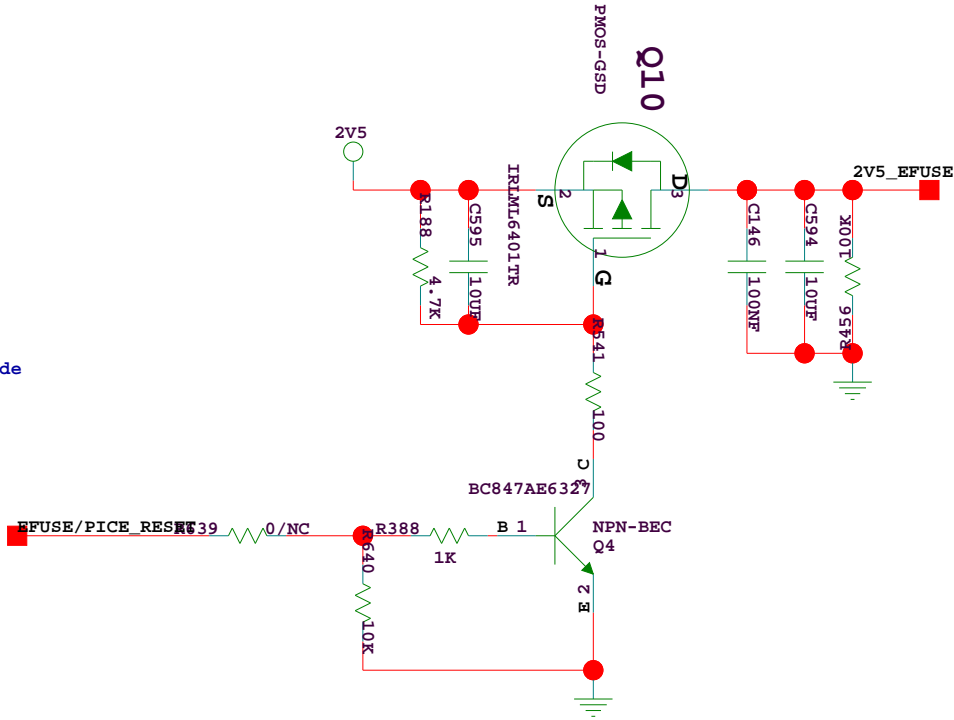
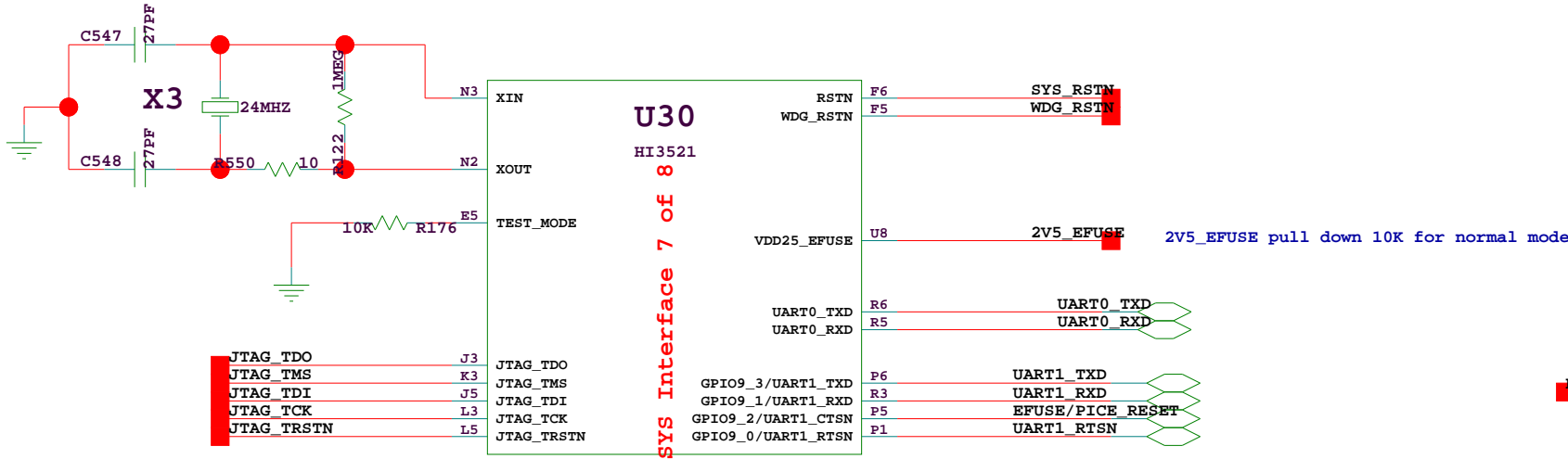
HI3521 DDR3



The type and specification of the components refer to the BOM

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REVIEWED	LISI XXXXX				
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		A	03030001	HUAWEI TECH CO.,LTD.	

HI3521 SYS & RST & JTAG

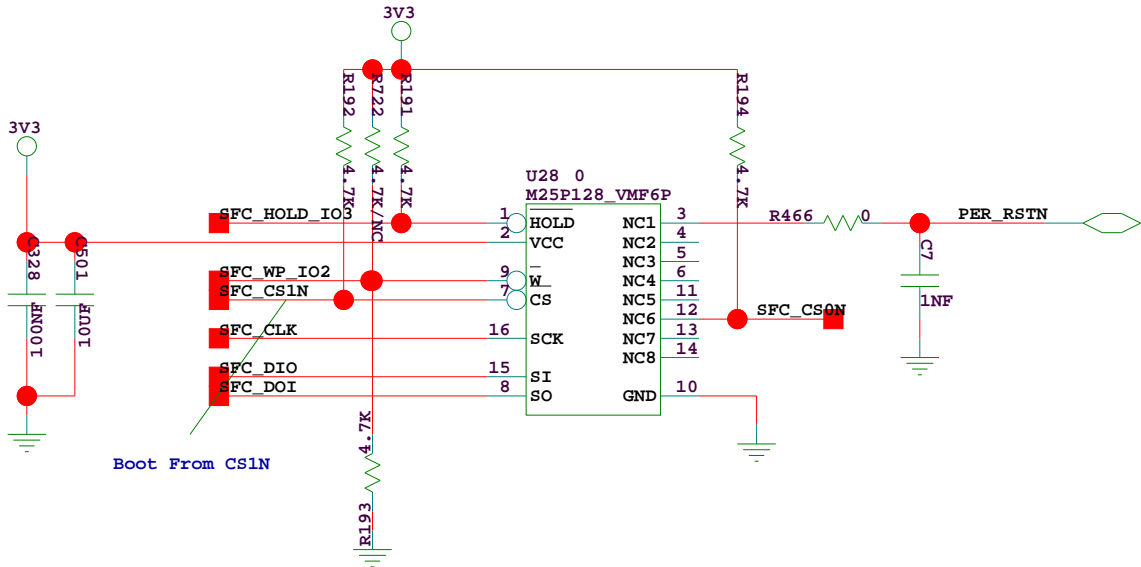
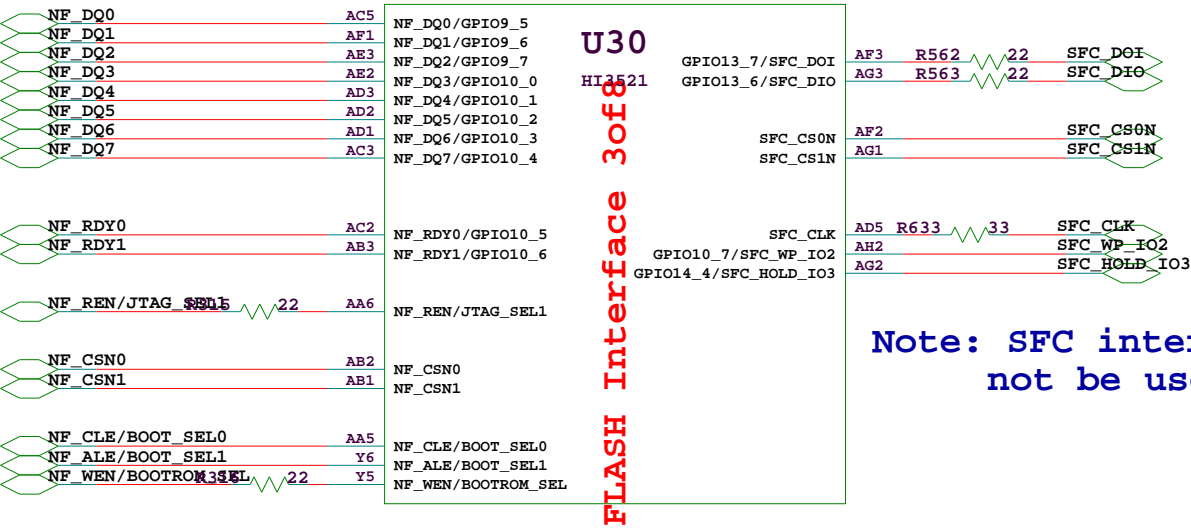


The type and specification of the components refer to the BOM

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		VER	PART_NUMBER	SHEET 13 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

HI3521 FLASH

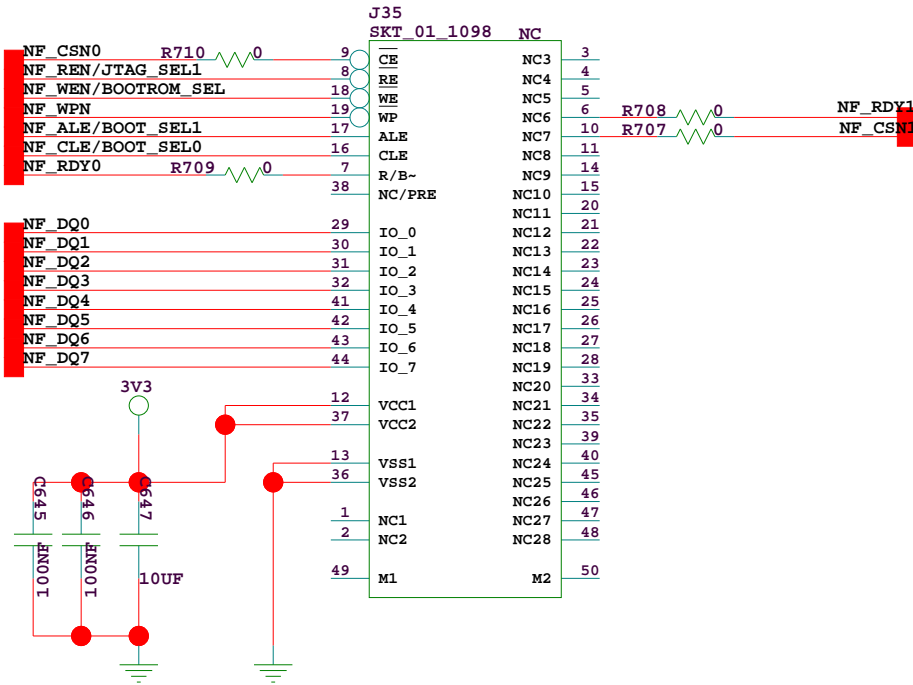
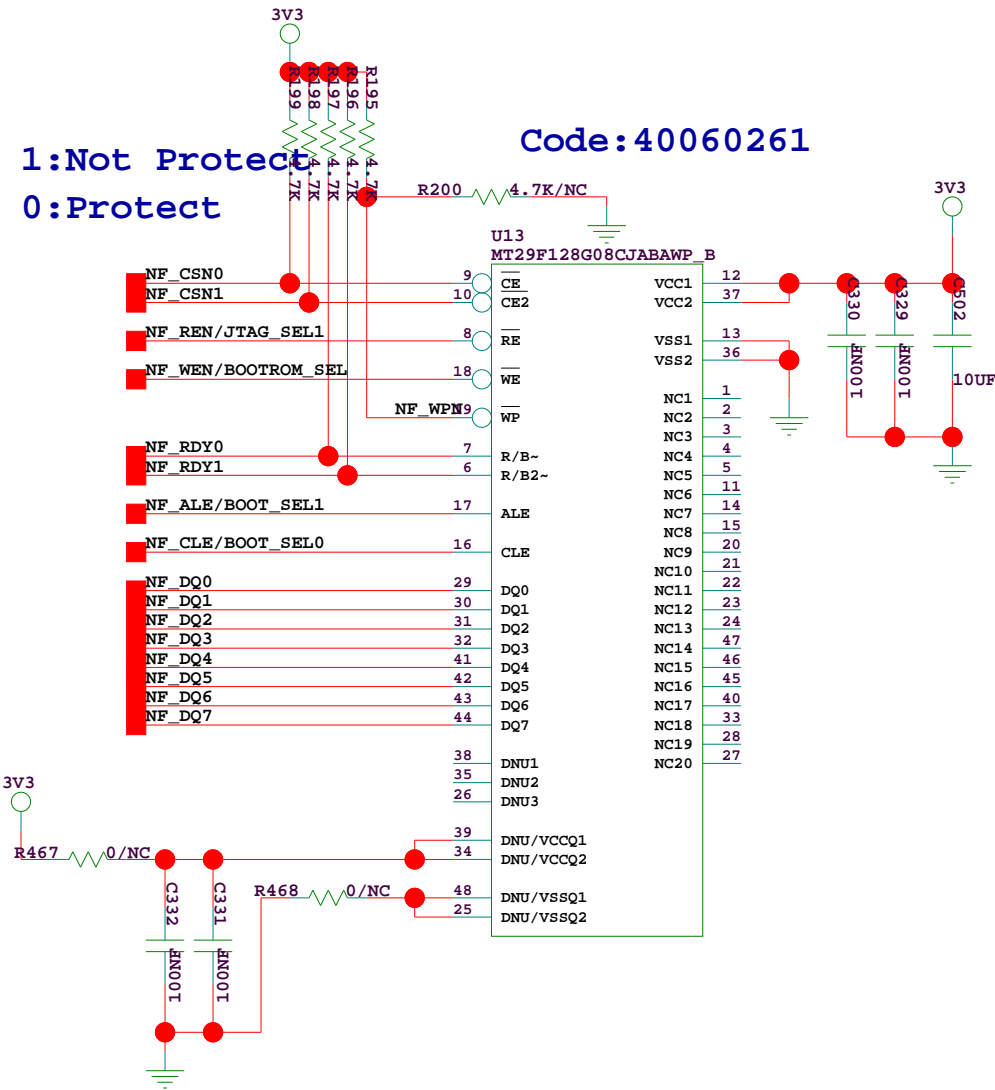
Note:NF_DQ[7:0] and NF_RDY0/1 can not be used as GPIO!!!



Nandflash Socket For Test, No need for normal mode.

1:Not Protect
0:Protect

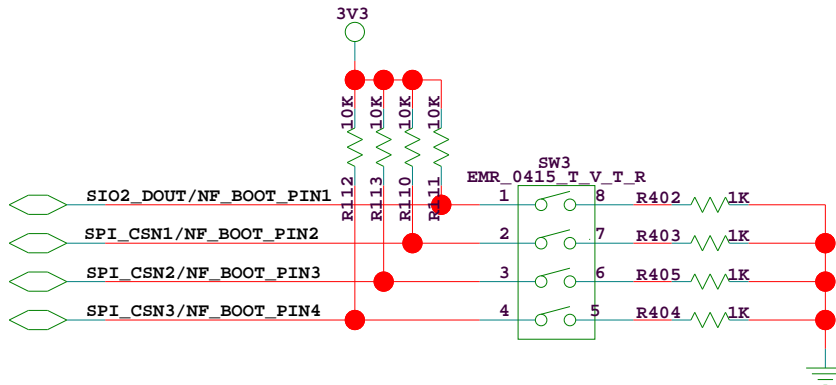
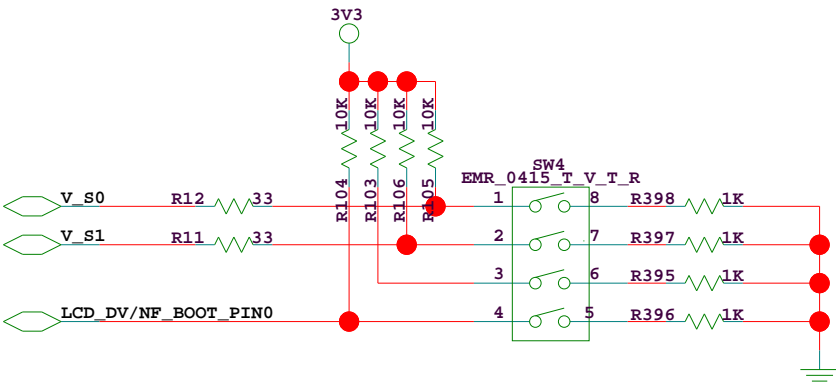
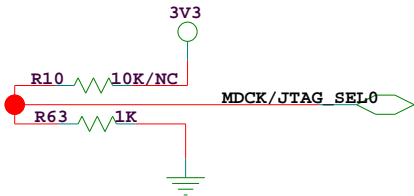
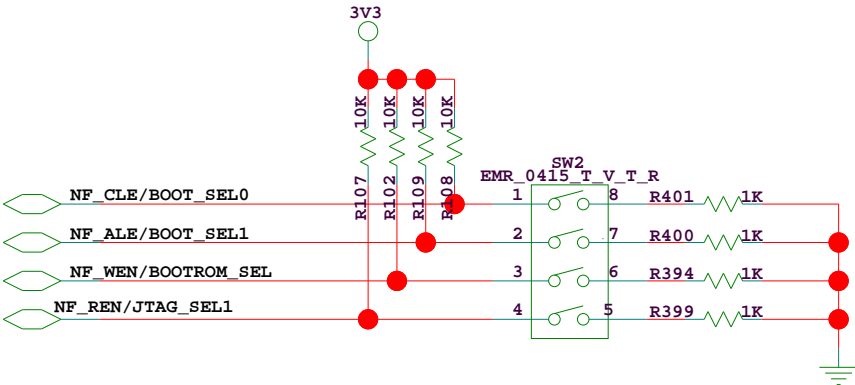
Code:40060261



The type and specification of the components refer to the BOM

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REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 14 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

Power-on Strapping Pins



NF_BOOT_PIN[4:0]

00001	2k	page size,1bit	ecc,64page/block,5addr
00011	2k	page size,4bit	ecc,64page/block,5addr
00101	2k	page size,24bit	ecc,64page/block,5addr
00110	2k	page size,1bit	ecc,64page/block,4addr
01000	4k	page size,4bit	ecc,128page/block,5addr
01001	4k	page size,4bit	ecc,64page/block,5addr
01010	2k	page size,4bit	ecc,64page/block,4addr
01011	4k	page size,24bit	ecc,128page/block,5addr
01101	8k	page size,24bit	ecc,128page/block,5addr
10000	8k	page size,24bit	ecc,64page/block,5addr
10001	4k	page size,24bit	ecc,64page/block,5addr
10011	4k	page size,1bit	ecc,64page/block,5addr
10101	2k	page size,4bit	ecc,128page/block,5addr
11001	2k	page size,24bit	ecc,128page/block,5addr

BOOT_SEL[1:0]

00:SPI FLASH
10:NAND FLASH
11:BOOTROM

JTAG_SEL[1:0]

00:A9
01:PCIE
10:SATA

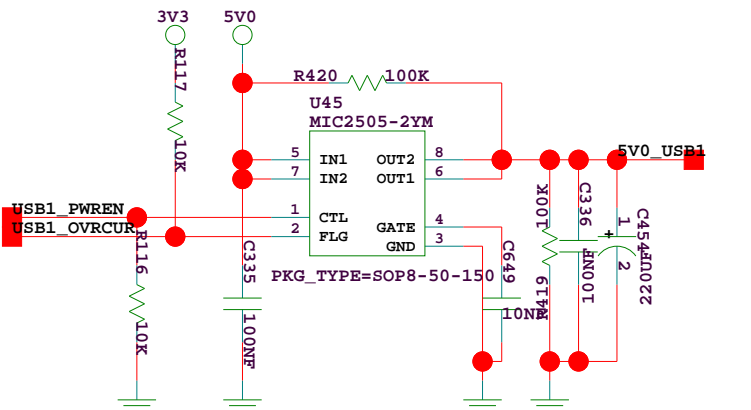
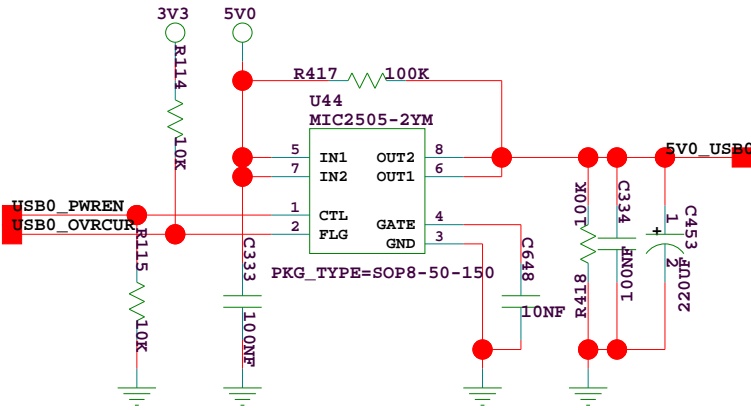
V_S[1:0]

XX01:SD Card & Si19022
XX10:LCD

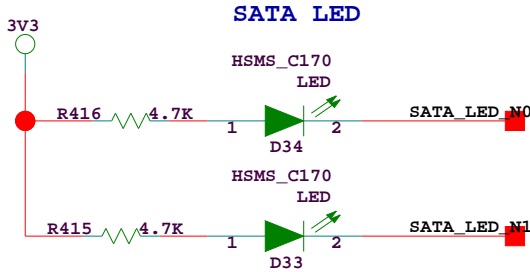
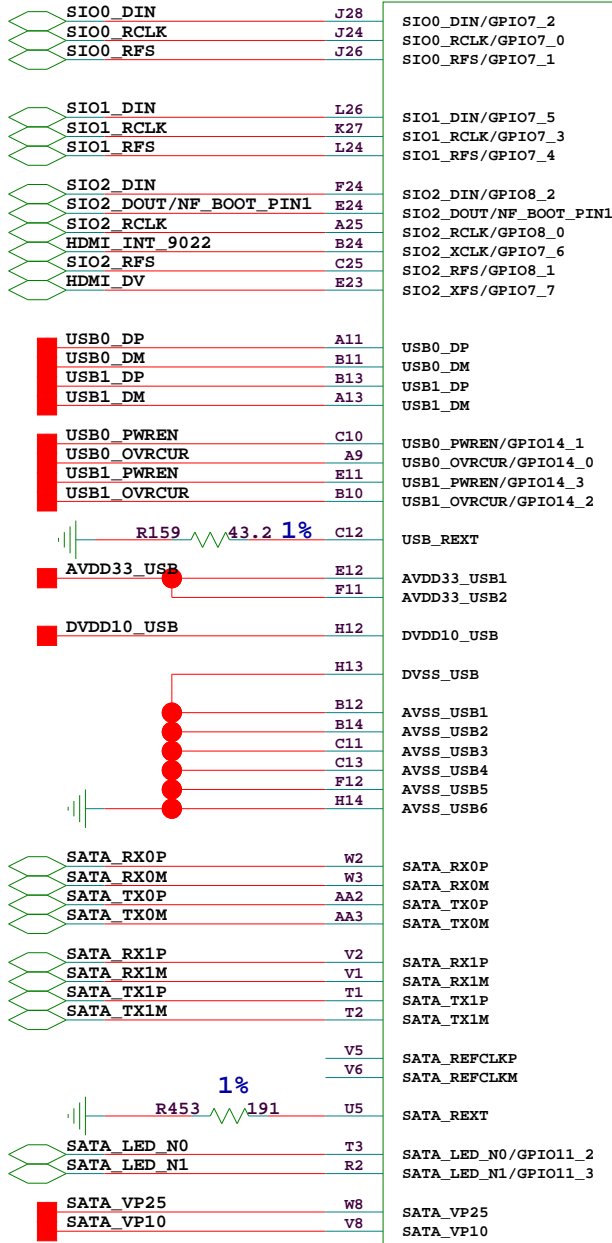
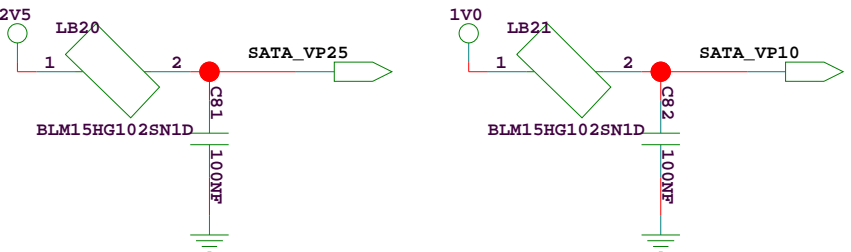
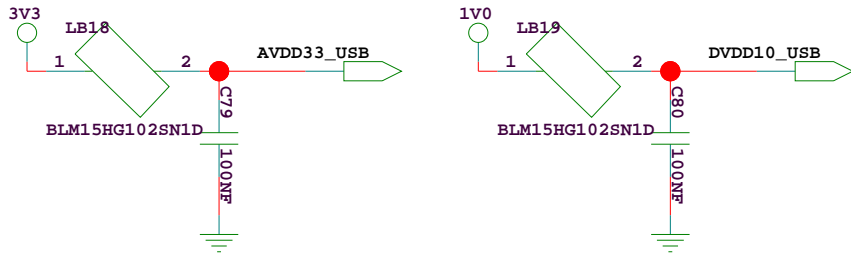
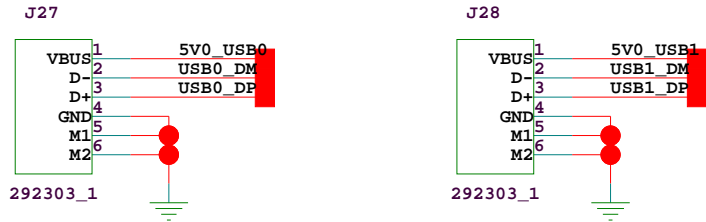
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		VER	PART_NUMBER	SHEET 15 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

HI3521 INTERFACE



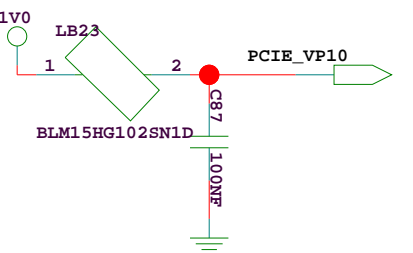
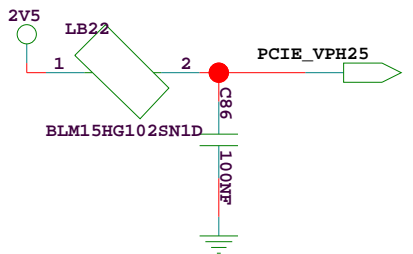
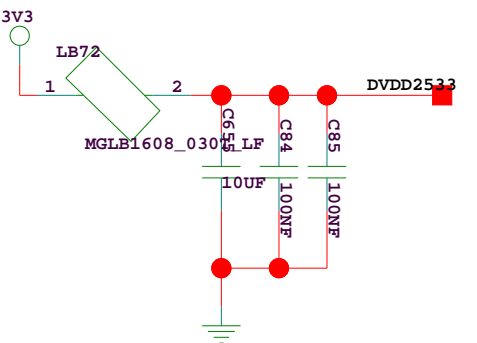
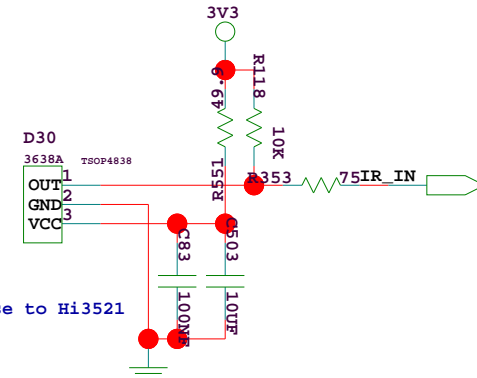
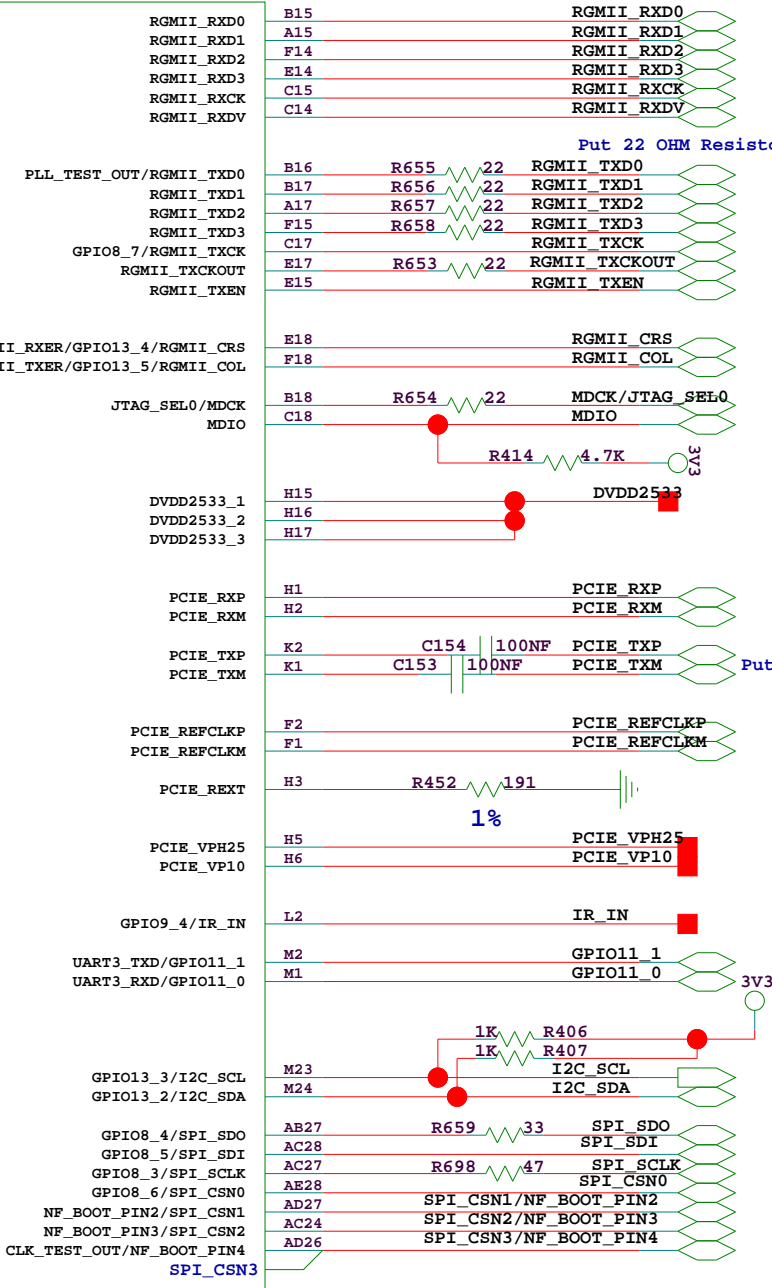
The USB differential trace impedance is 90 OHM



U30

HI3521

INTERFACE Interface 5 of 8



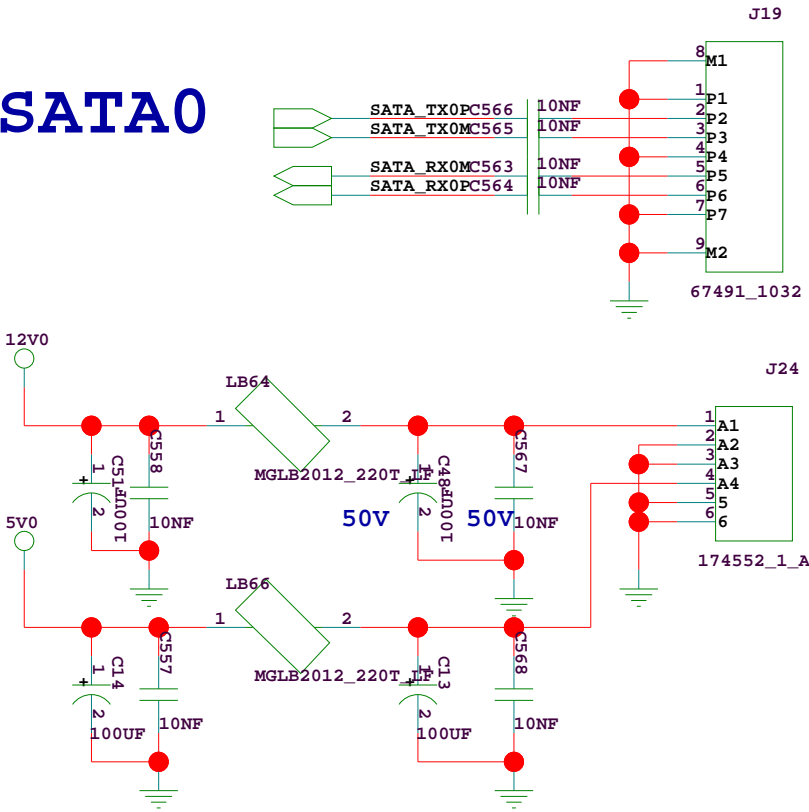
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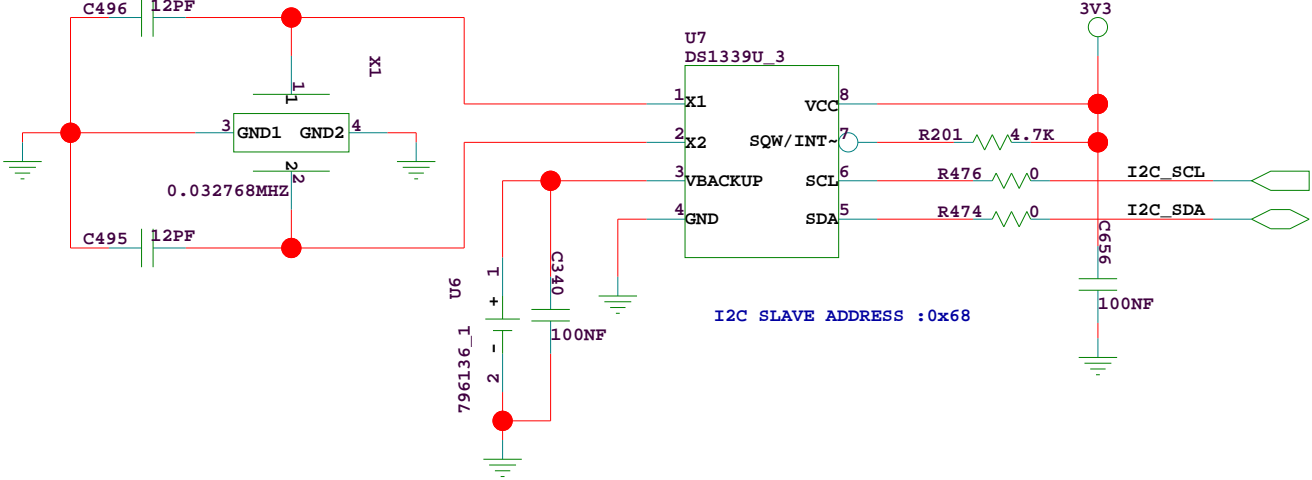
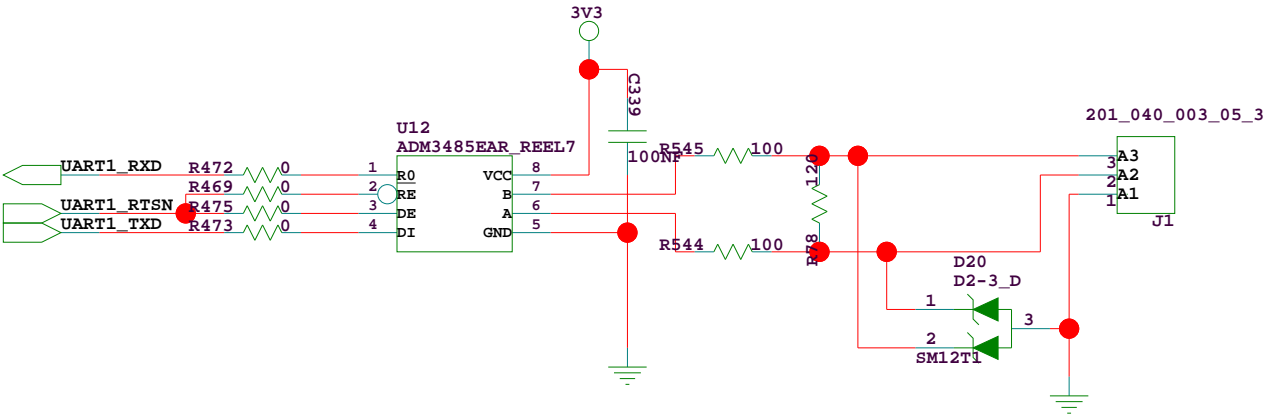
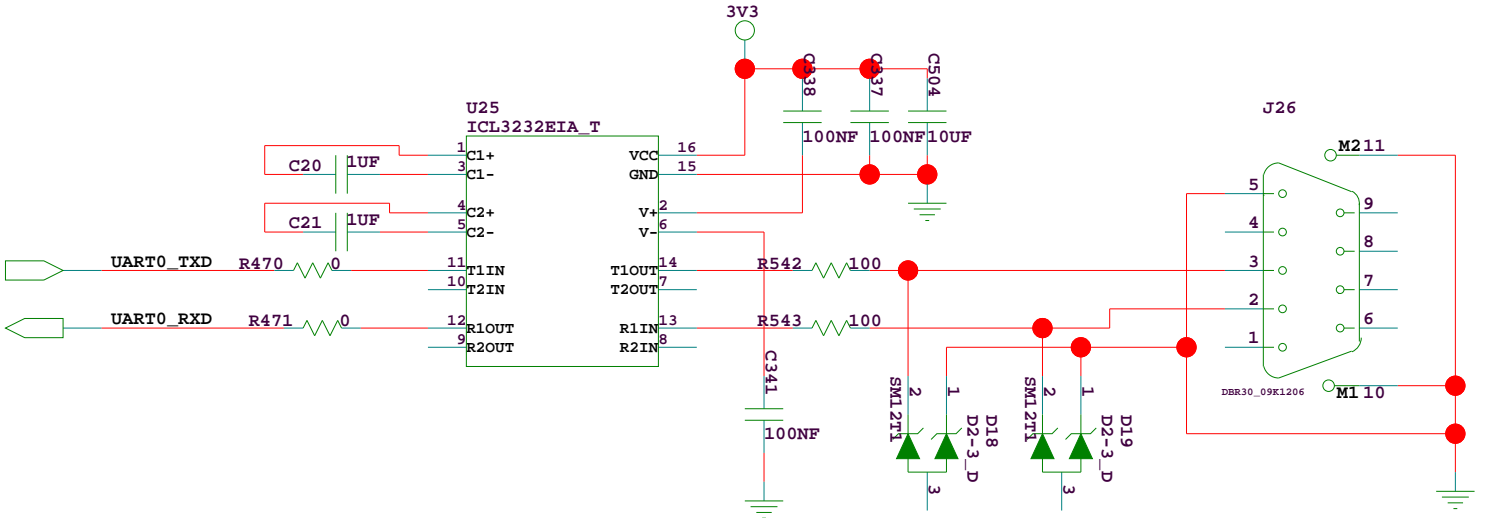
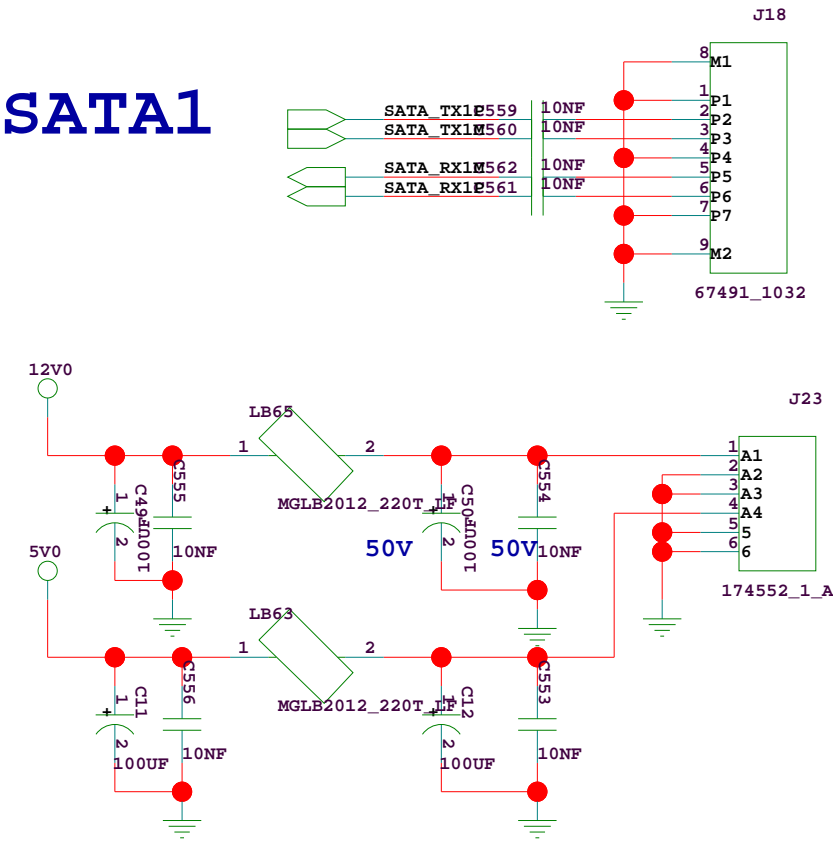
SATA & UART & RTC

The SATA differential trace impedance is 100 OHM

SATA0



SATA1

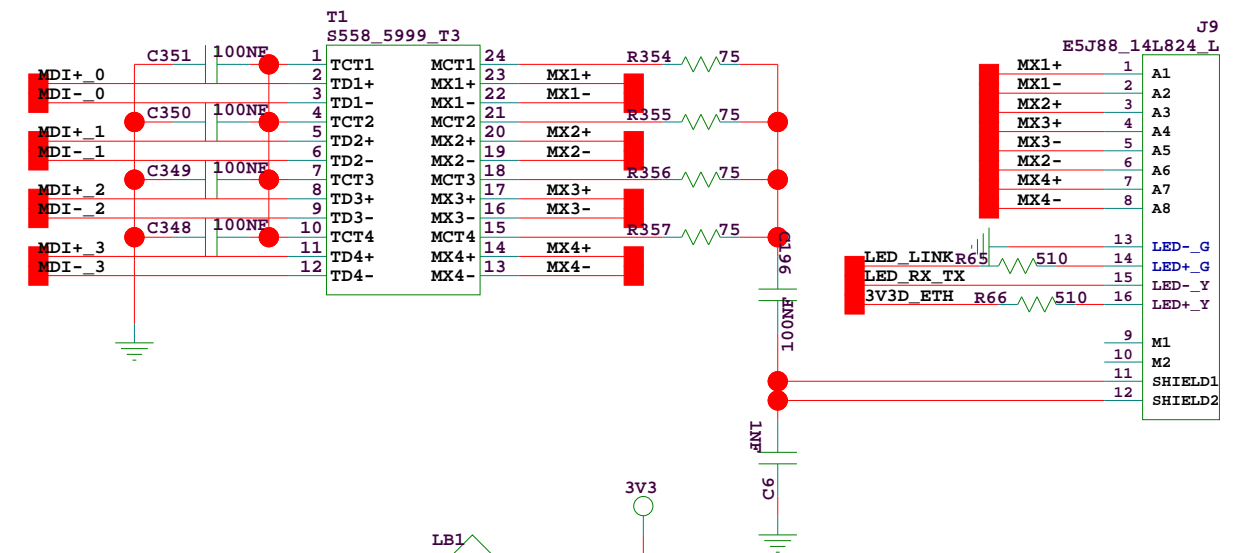


The type and specification of the components refer to the BOM

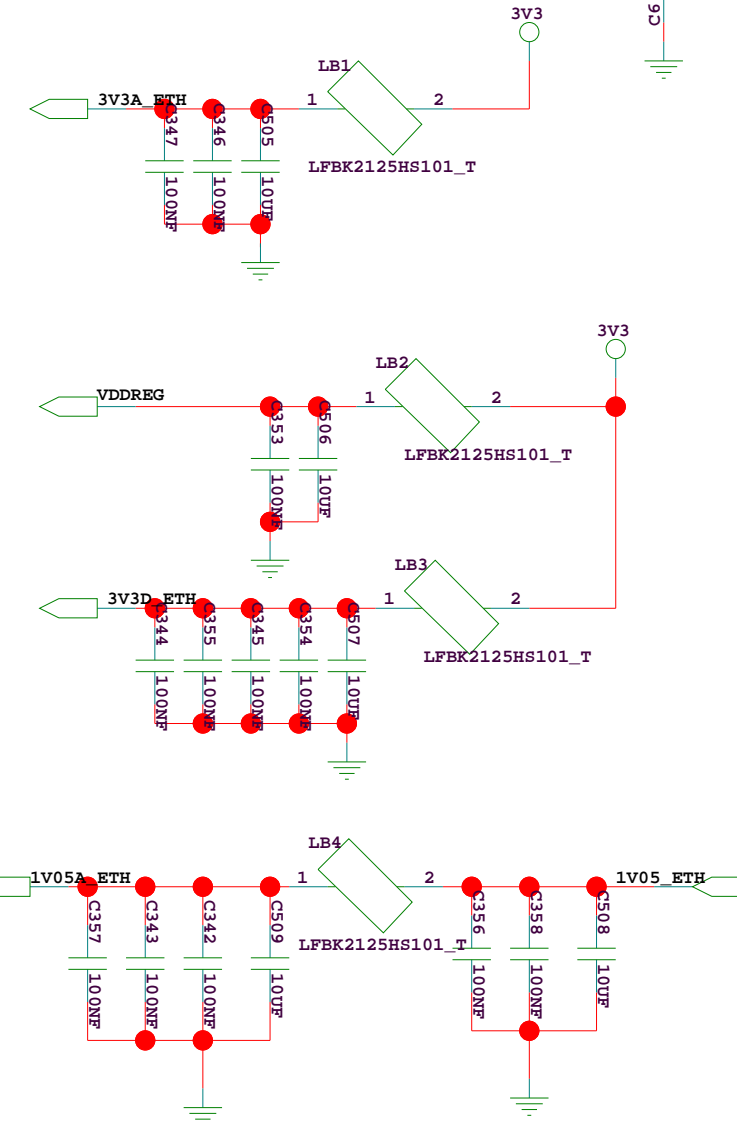
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		A	03030001	HUAWEI TECH CO.,LTD.	

ETH

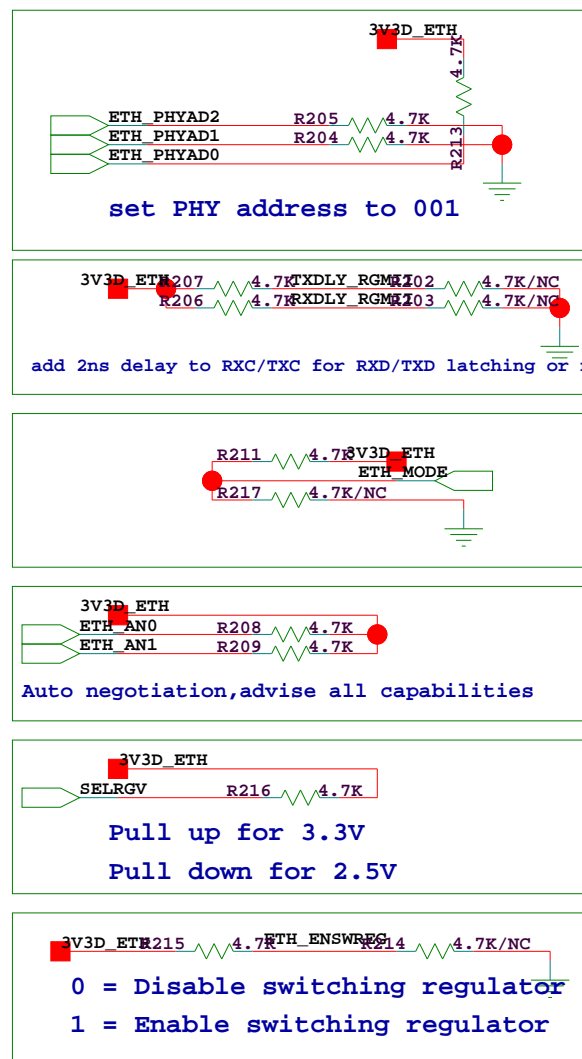
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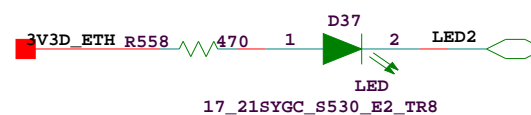
B



C



0 = GMII/MII Mode
1 = RGMII Mode

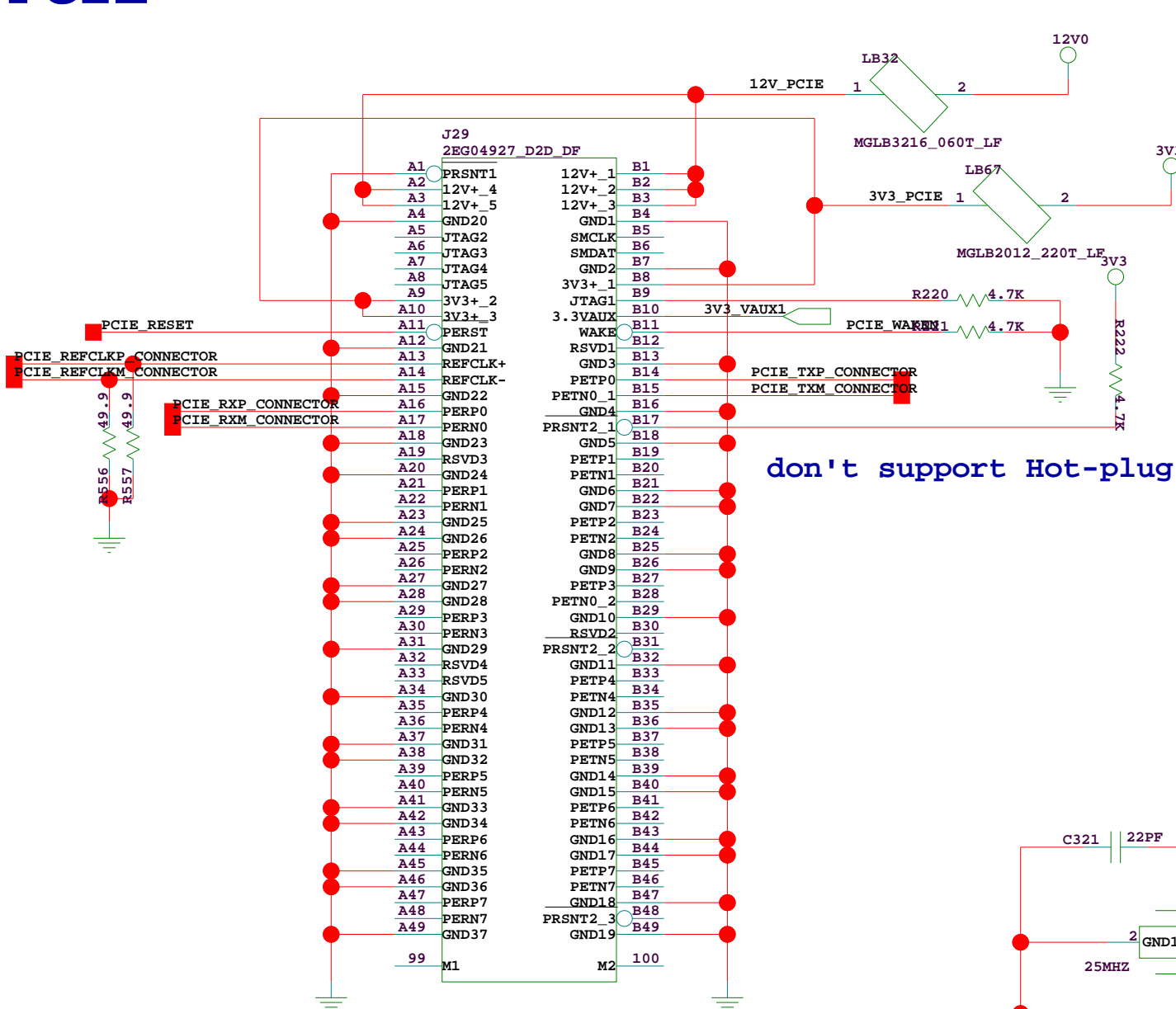


D

The type and specification of the components refer to the BOM

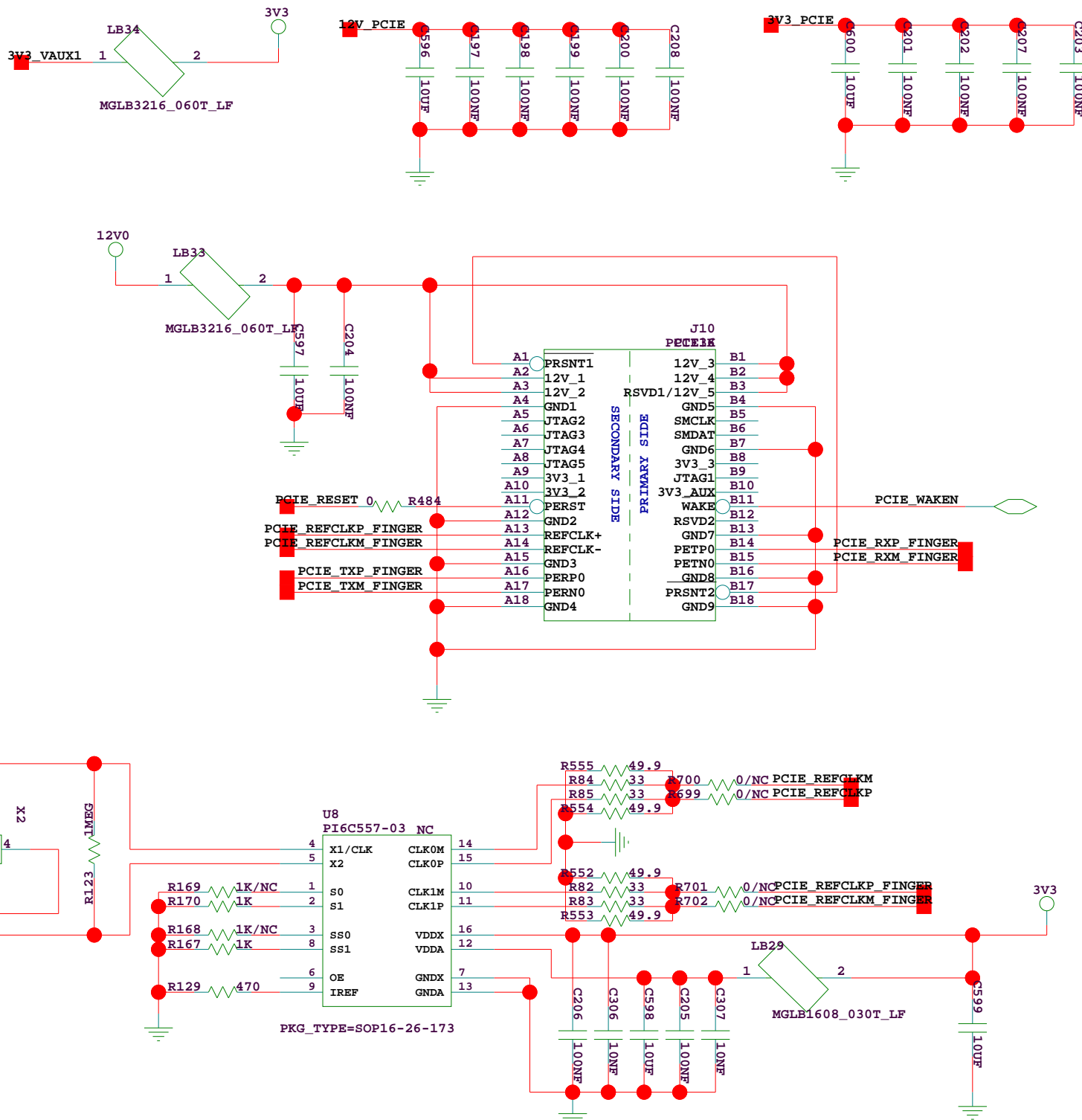
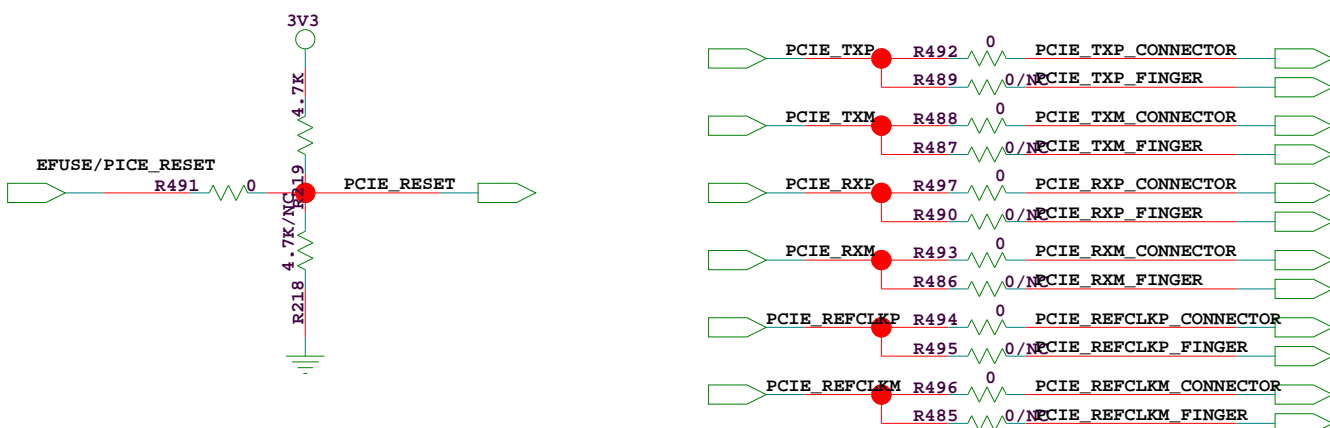
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REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 18 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

PCIe



don't support Hot-plug

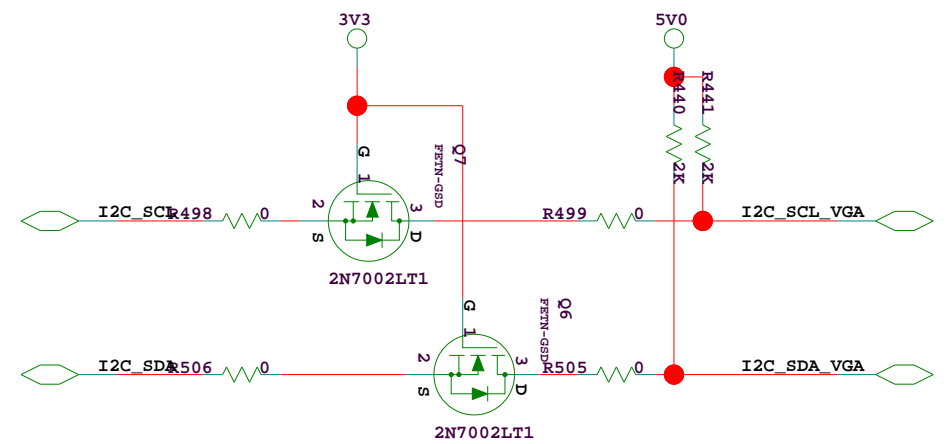
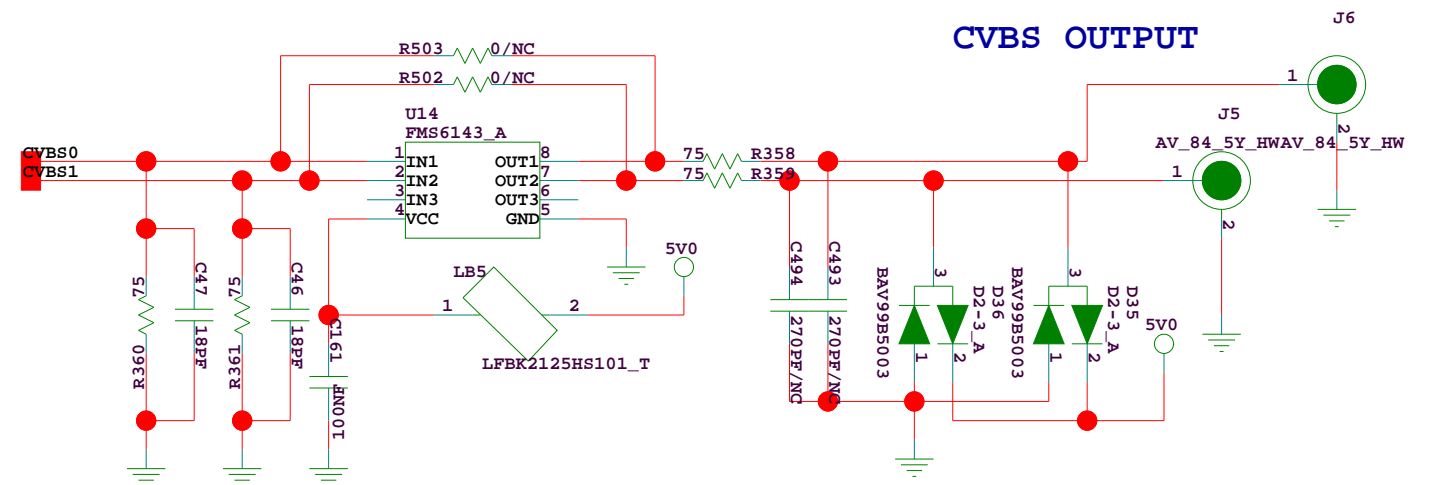
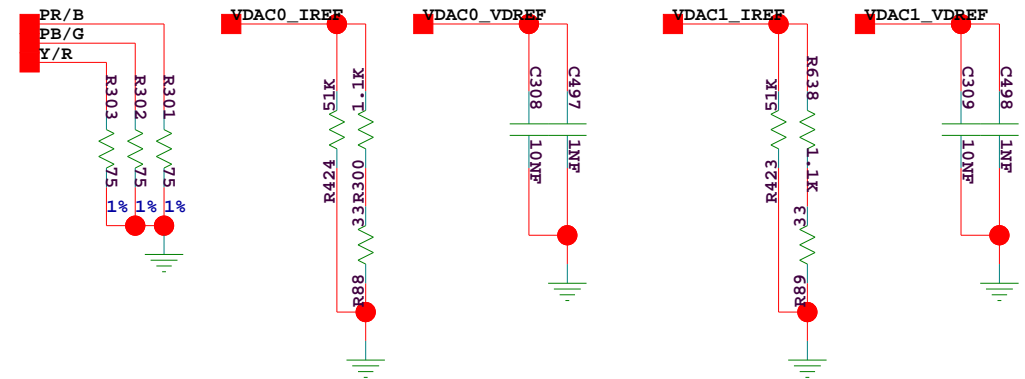
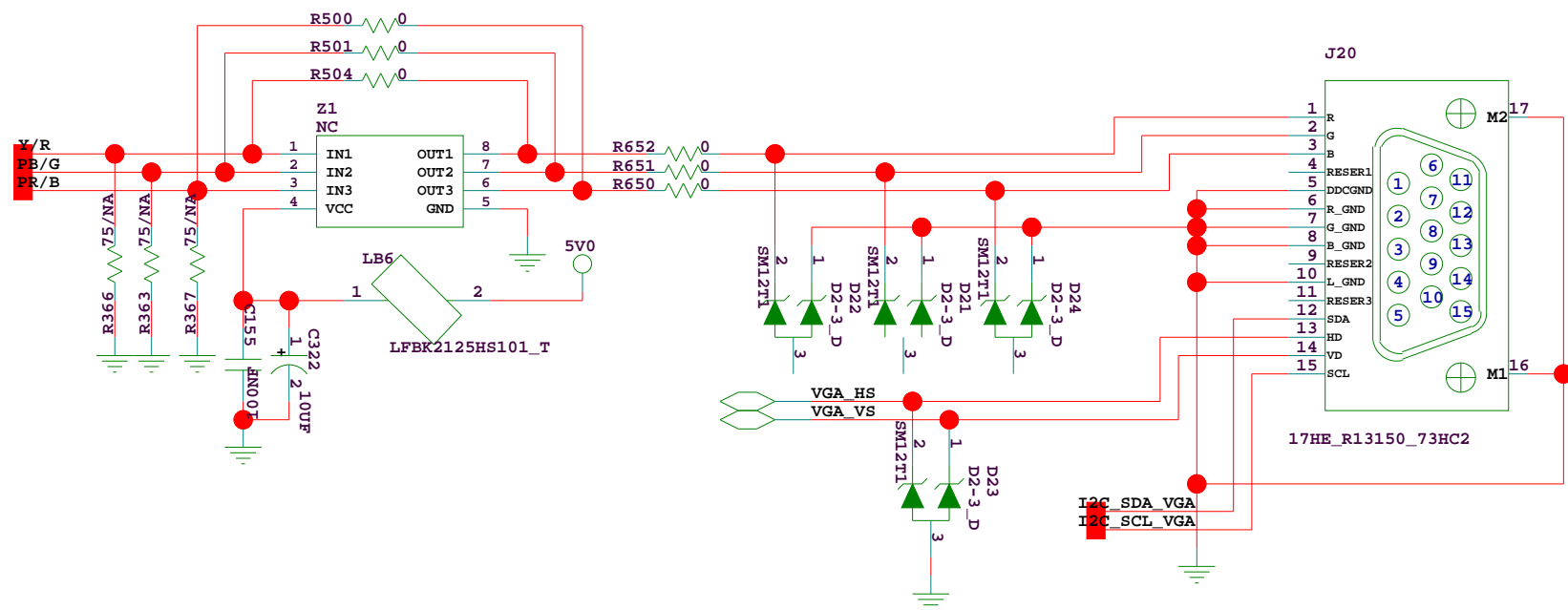
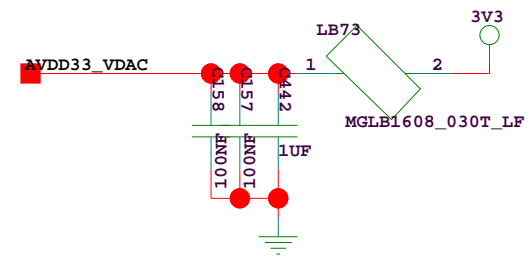
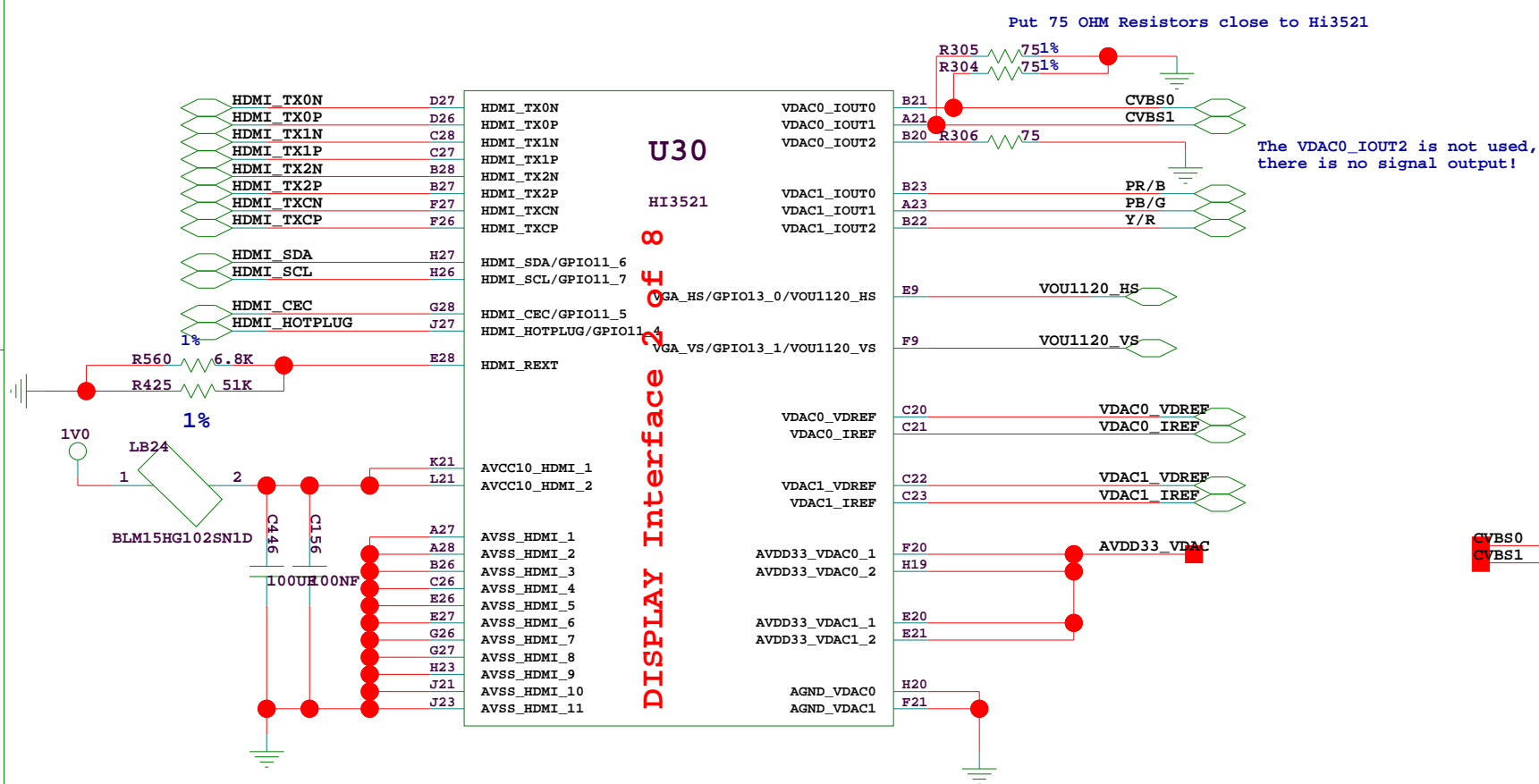
PCIe diferencial trace resistance is 100 OHM



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET	19 OF 36
		A	03030001	HUAWEI TECH CO.,LTD	

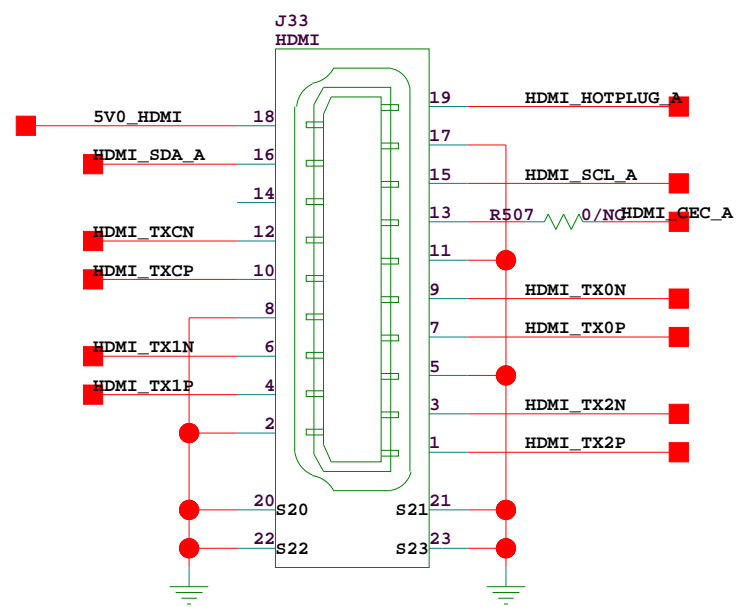
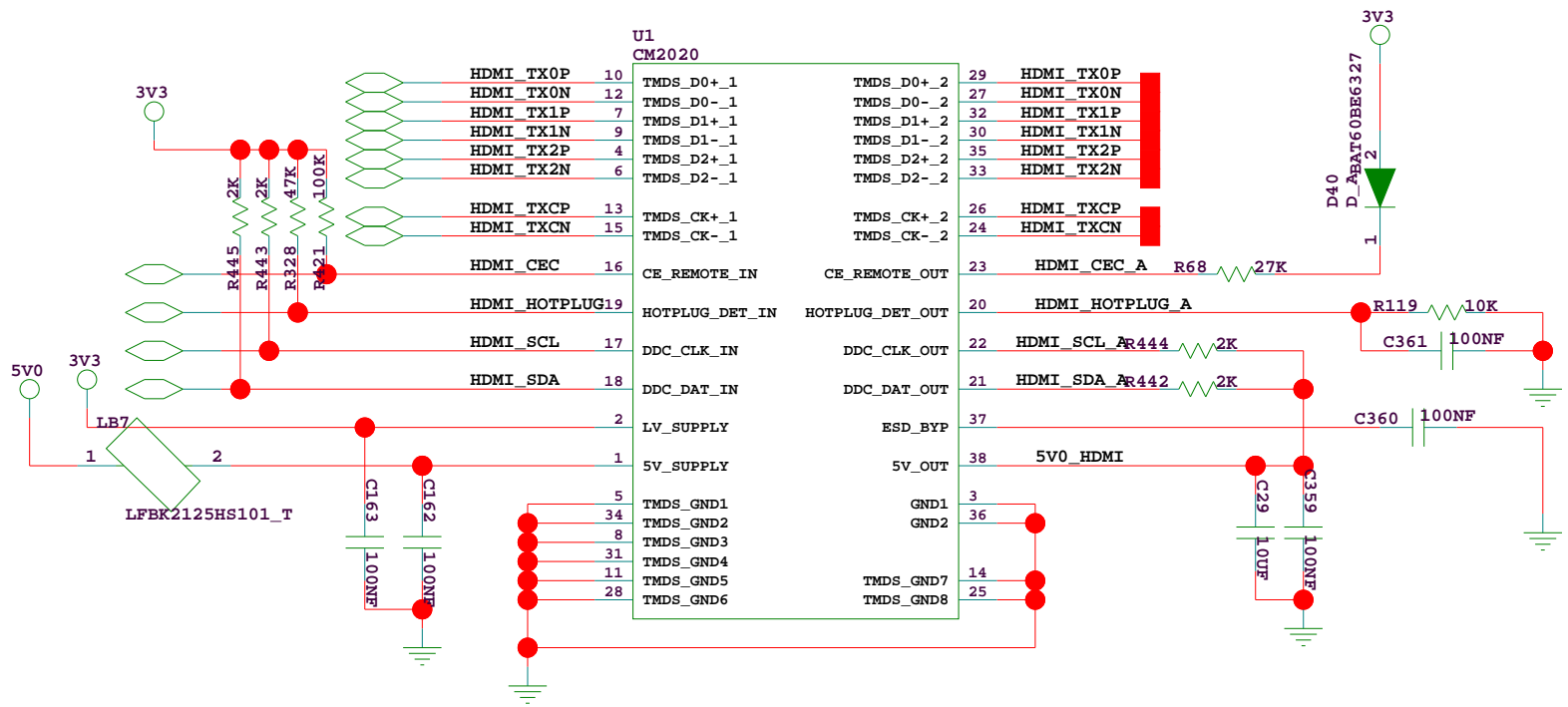
DISPLAY



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 20 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

HDMI 0



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 21 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

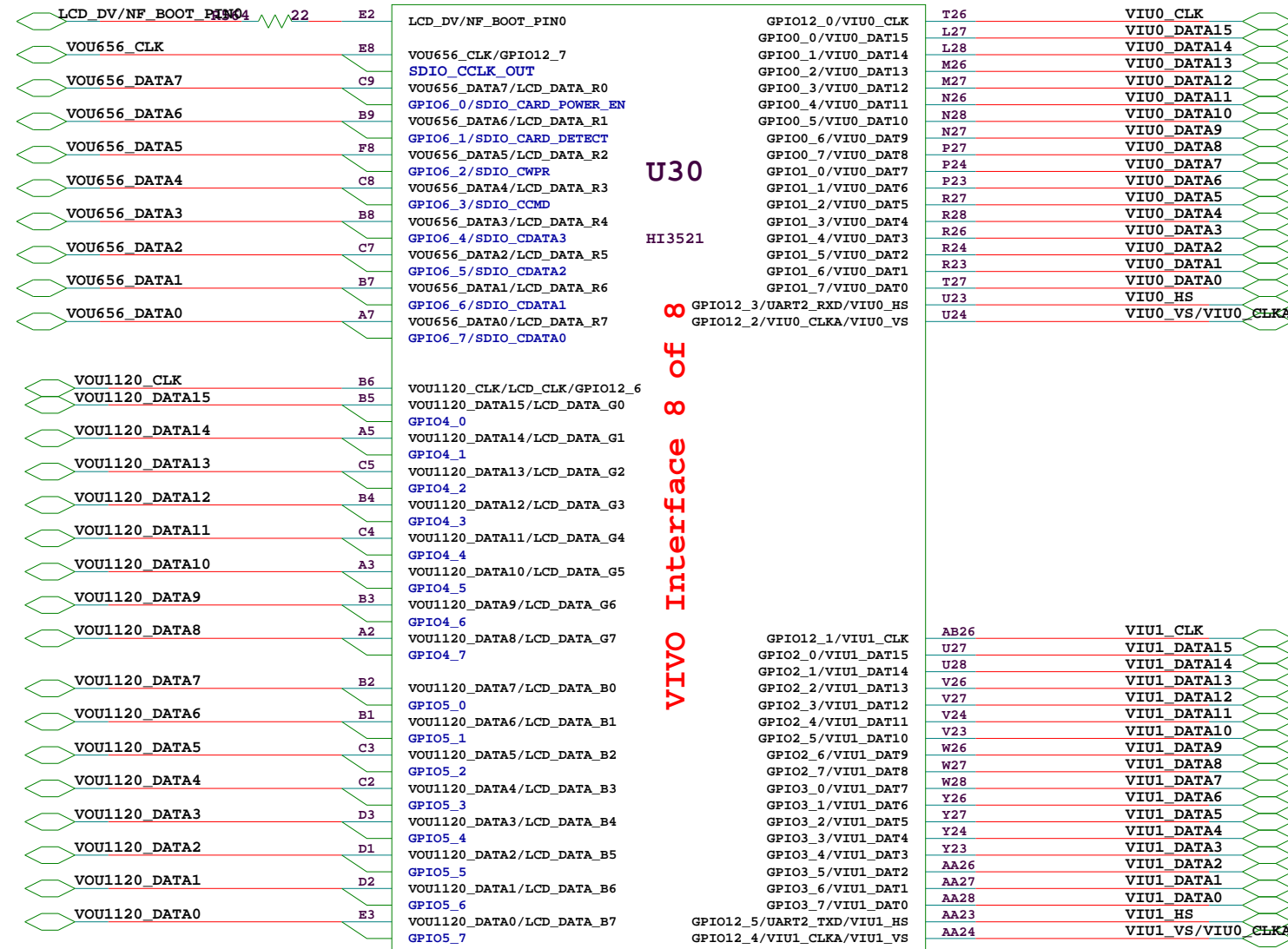
VIVO

A

B

C

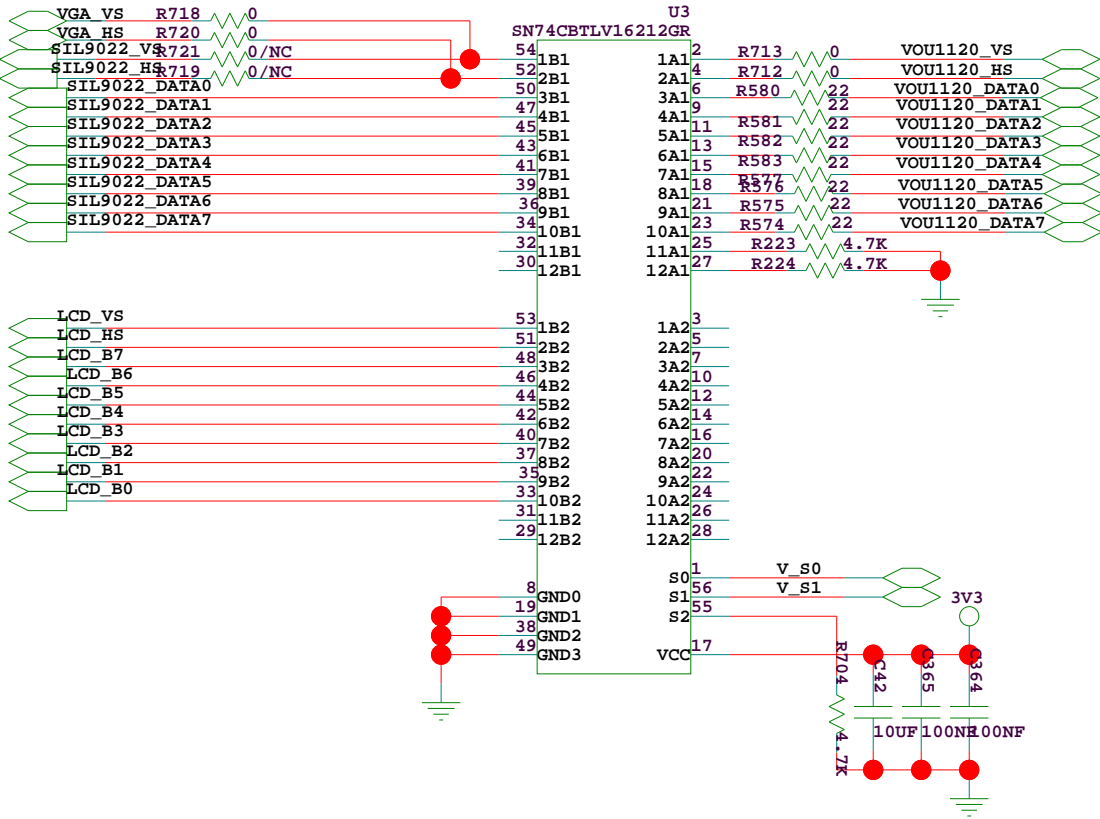
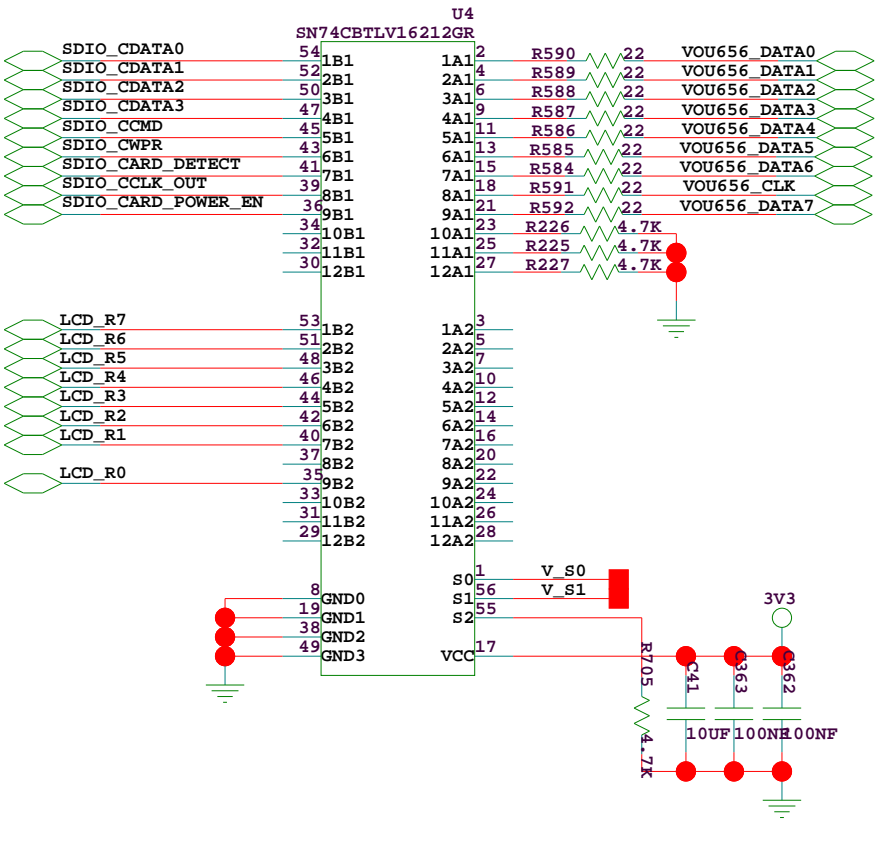
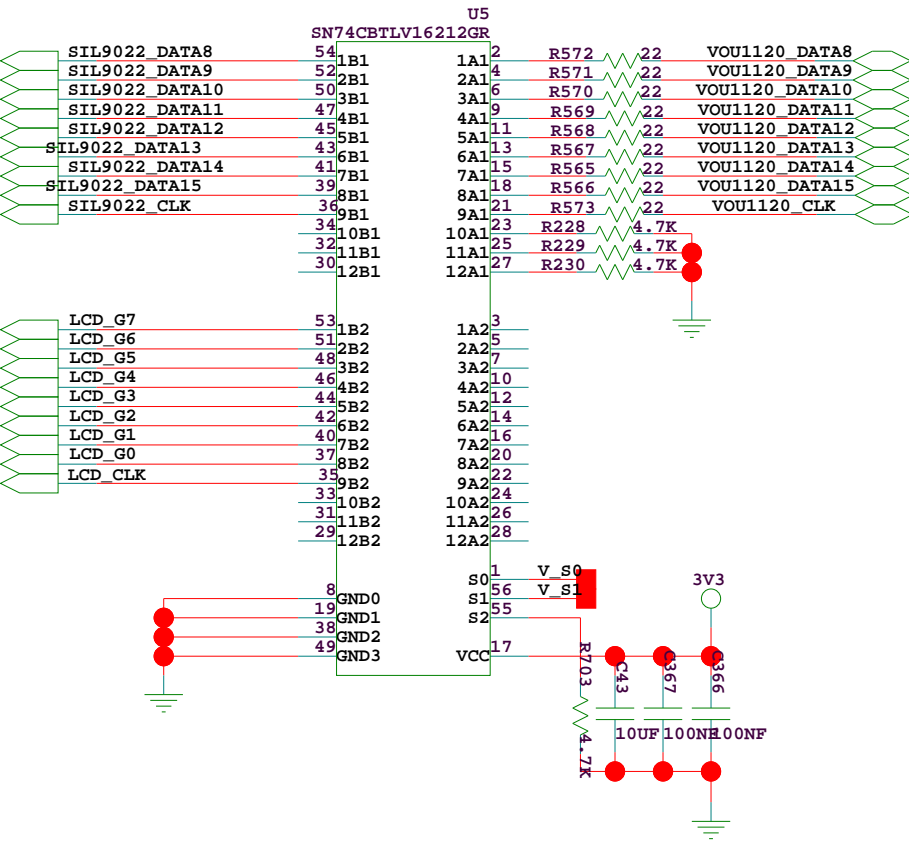
D



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 22 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

SWITCH FOR VO



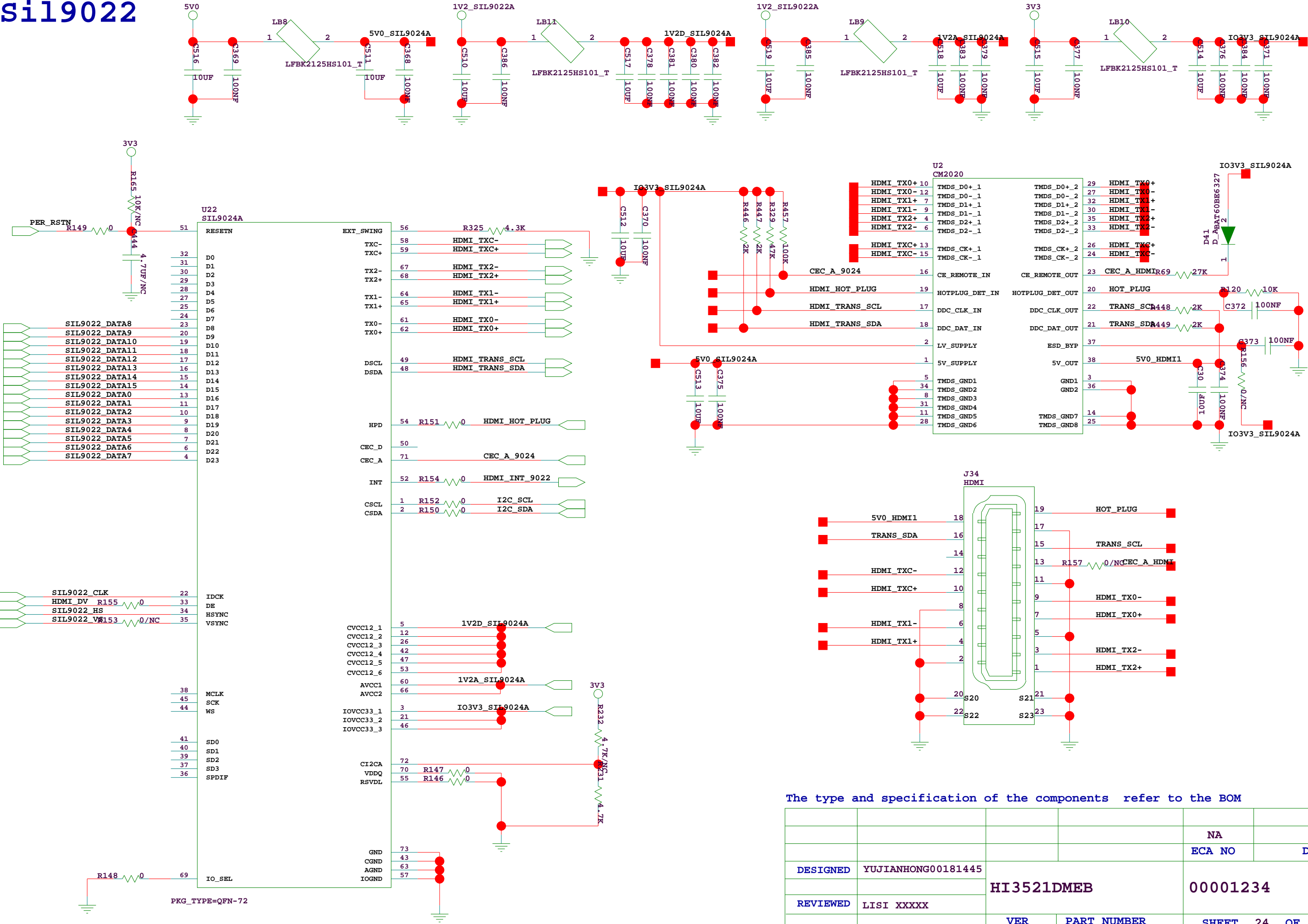
v_s[3:0]

XX01:SD Card & Sil9022

XX10:LCD

The type and specification of the components refer to the BOM					
				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 23 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

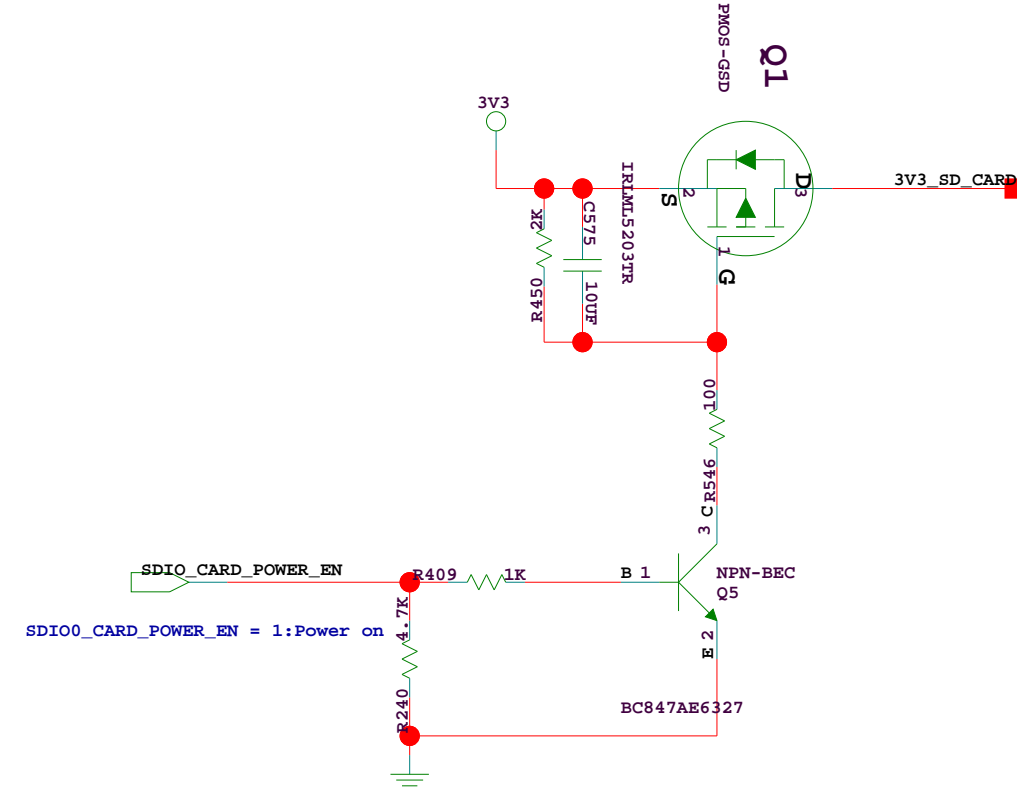
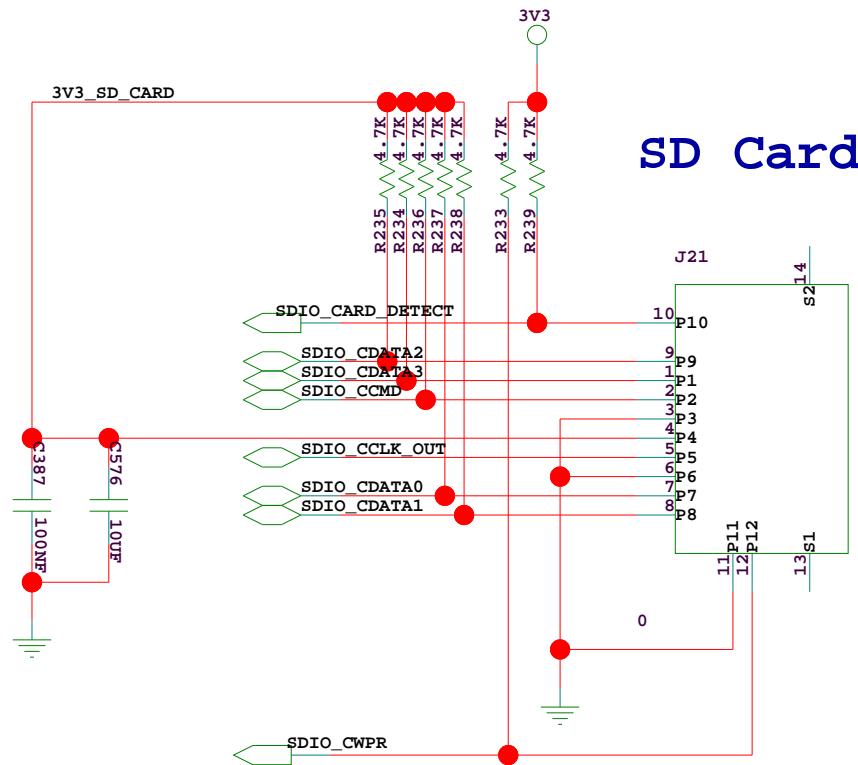
sil9022



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 24 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

SD Card



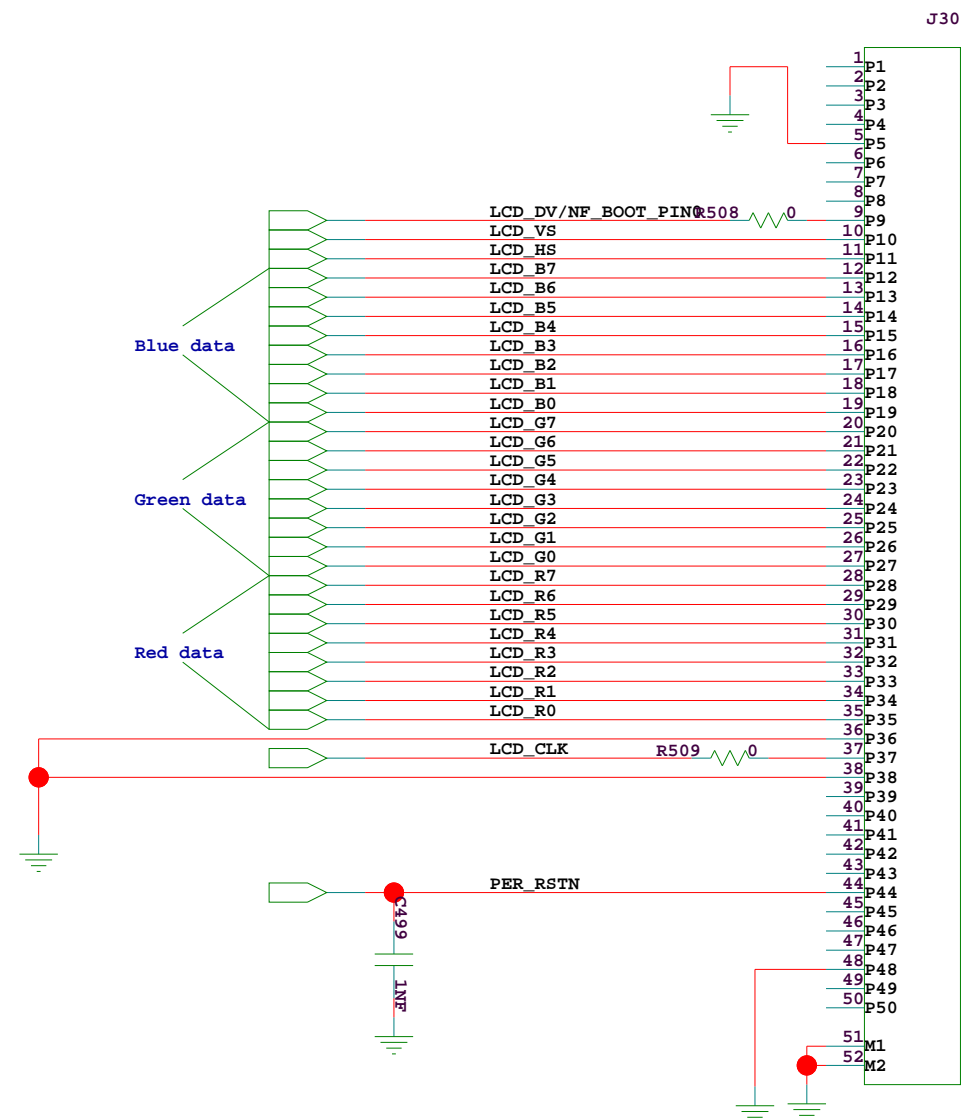
The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 25 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

24bit GRB for LCD

J30 is used for fanout the 24bit GRB signals.

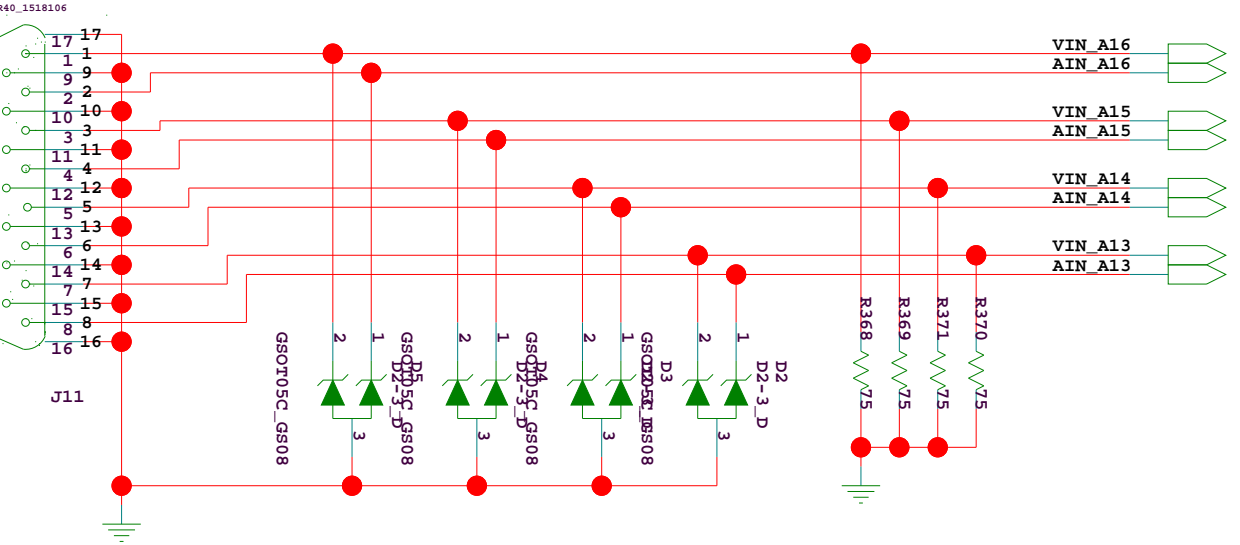
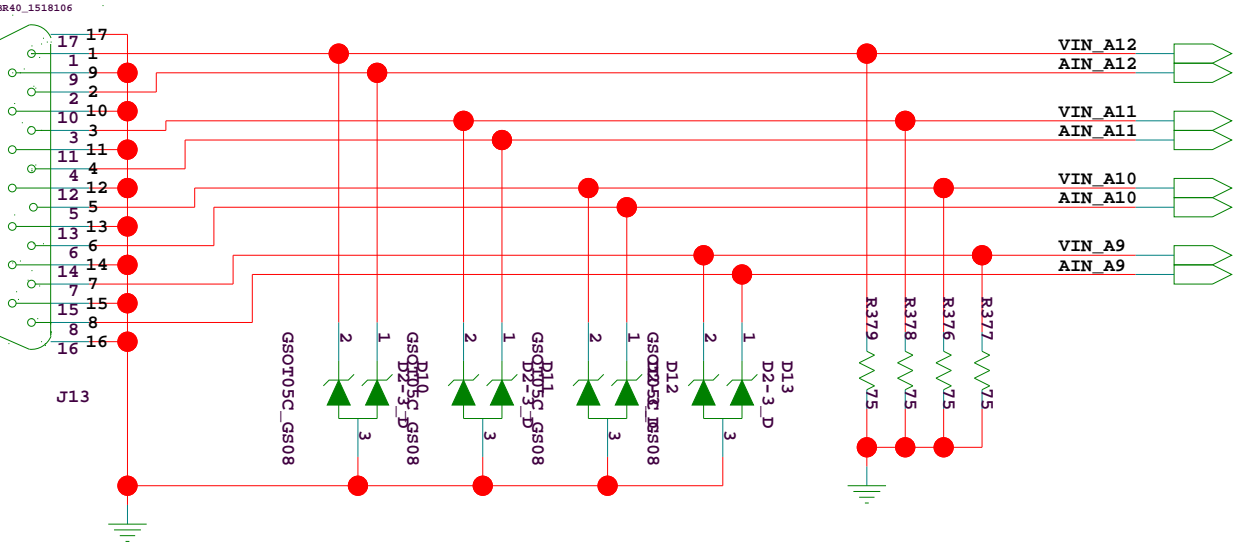
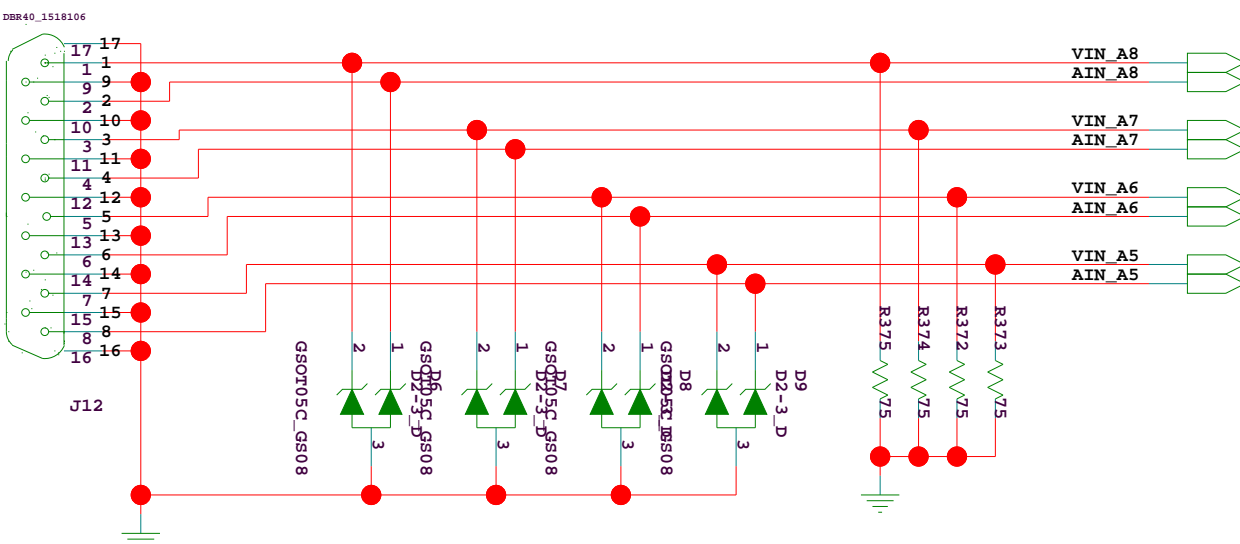
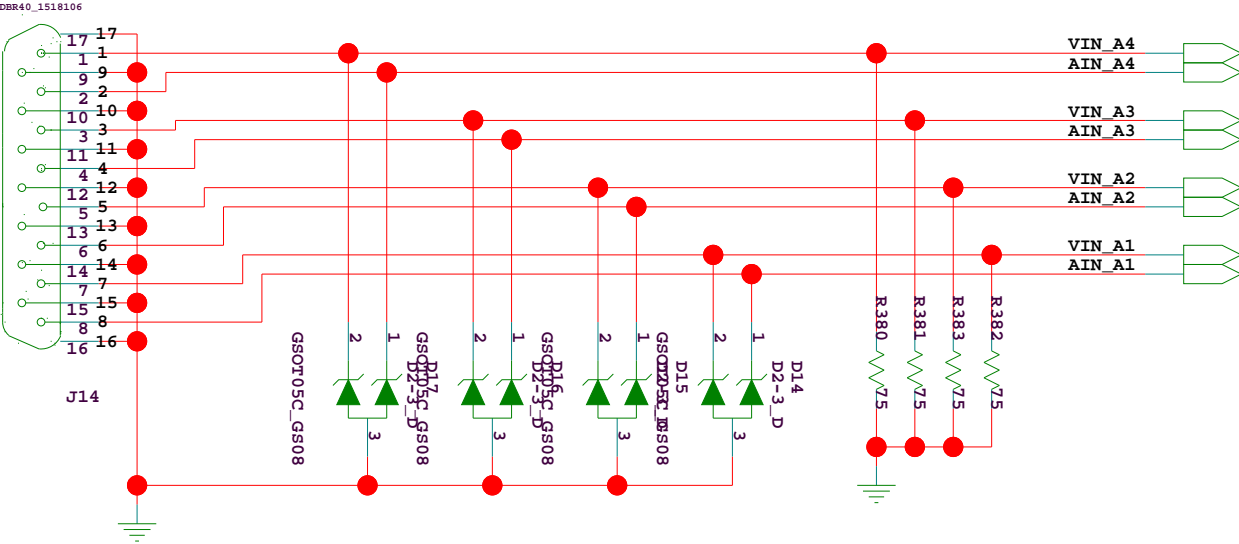
Without the LCD Power drive circuit,It can't connect to LCD.



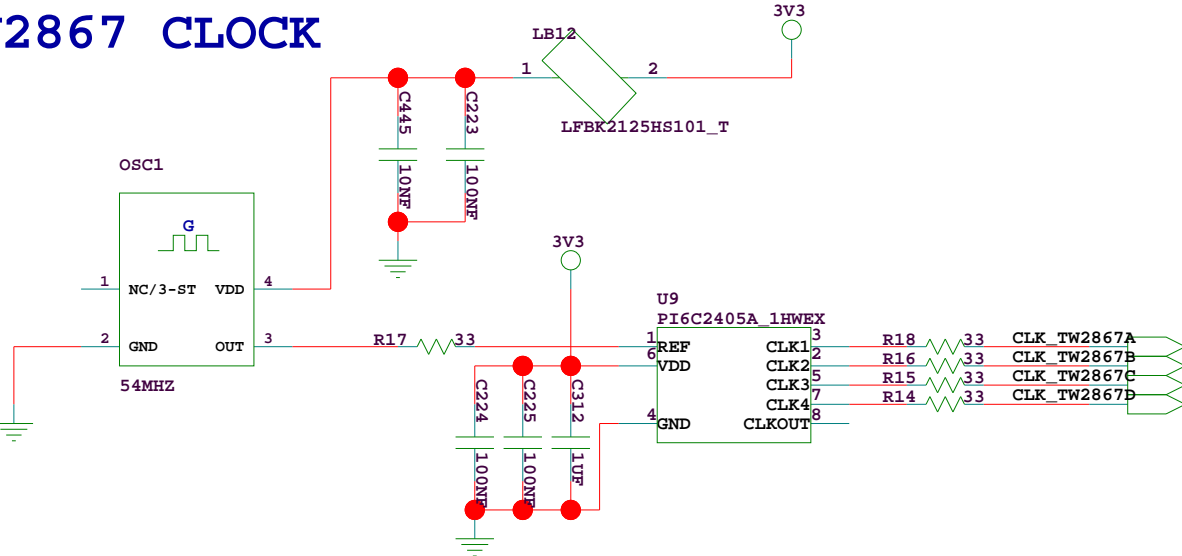
The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 26 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

VIDEO AND AUDIO INPUT FOR 2867



TW2867 CLOCK

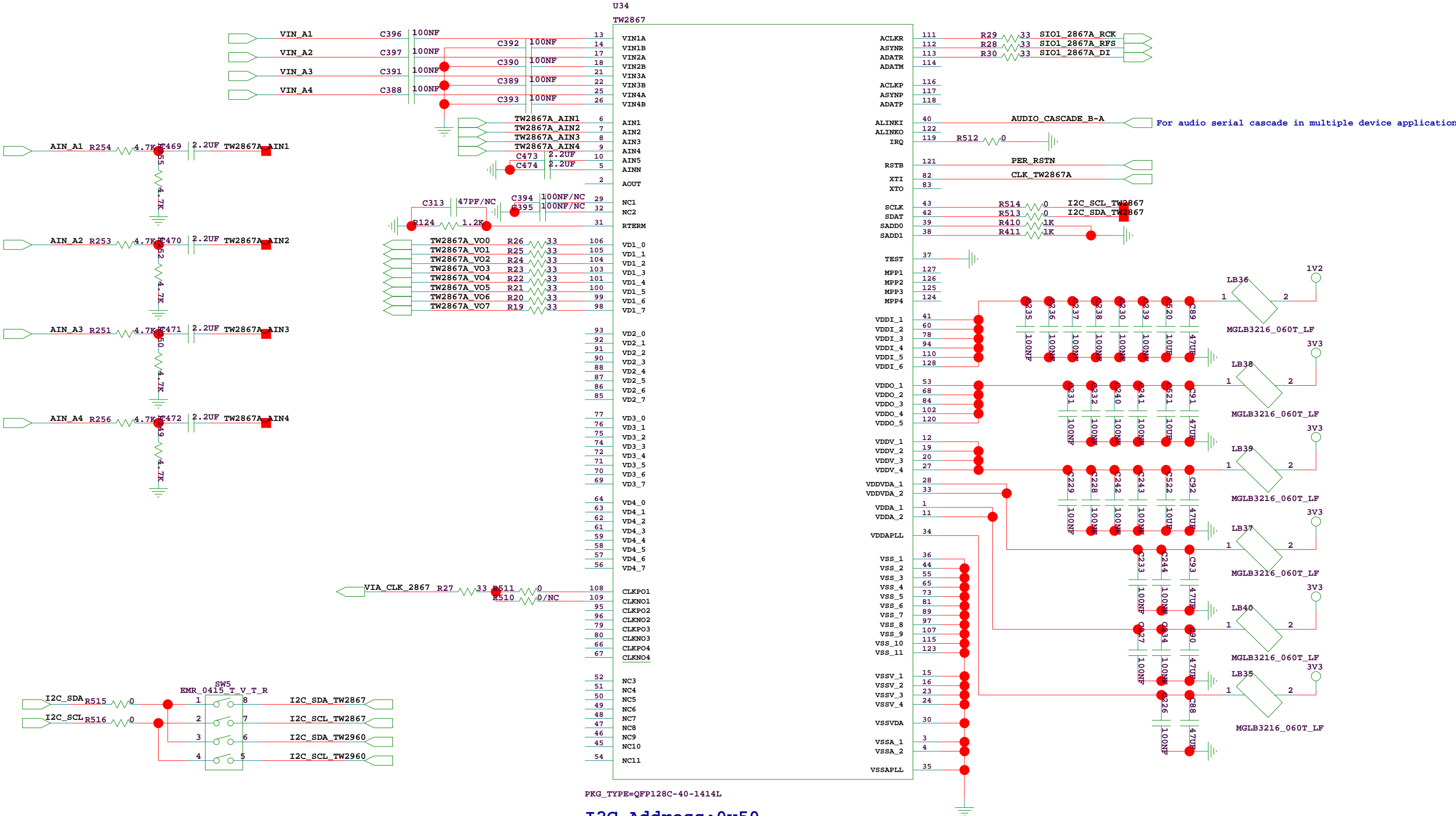


FREQ OUTPUT RANGE SHOULD BE CONSIDERED(10M~100M) WHEN COPY DIAGRAM!

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 27 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

TW2867A



1100:I2C FOR TW2867

0011:I2C FOR TW2960

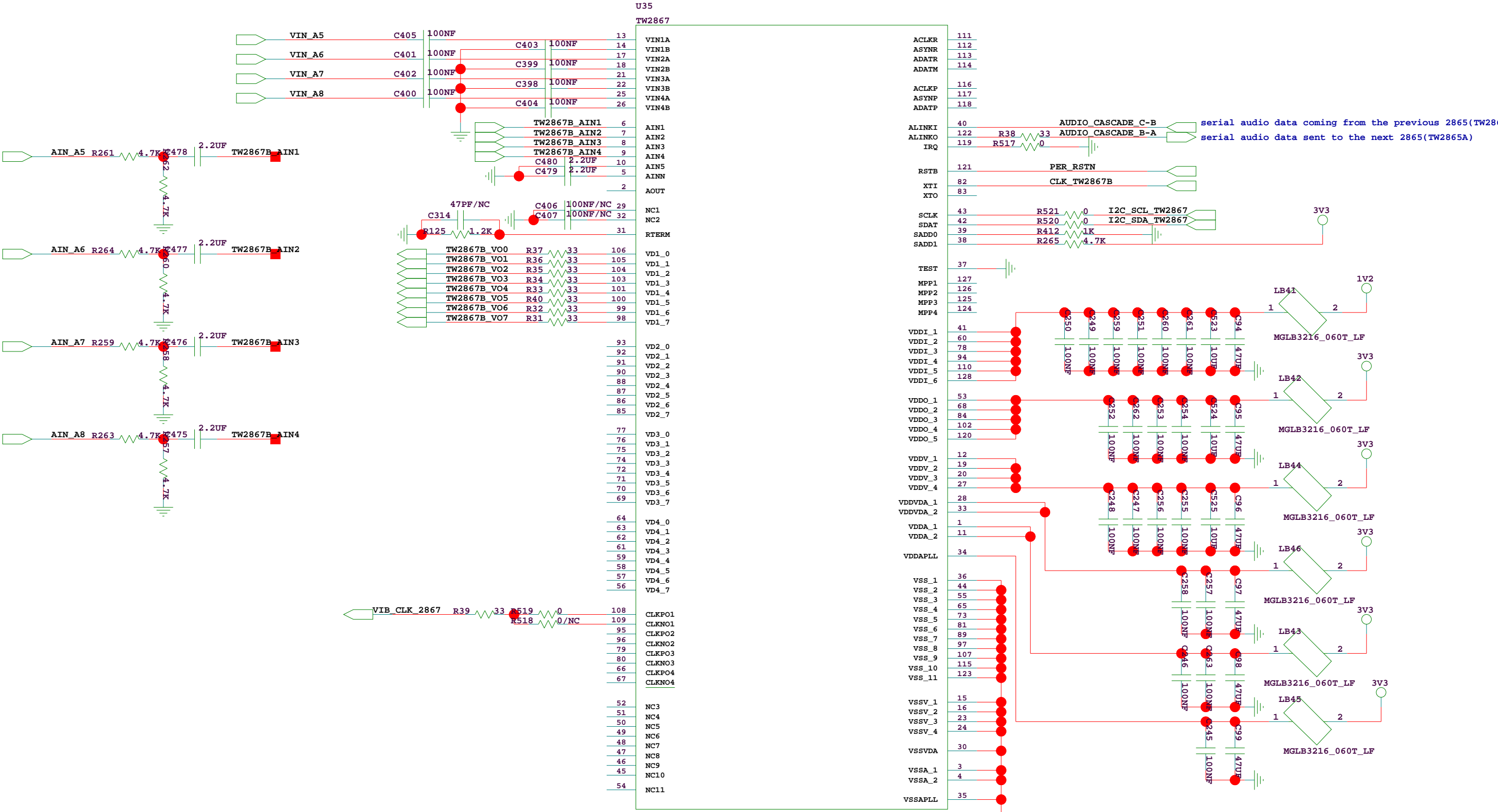
PKG_TYPE=QFP128C-40-1414L

I2C Address:0x50

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 28 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

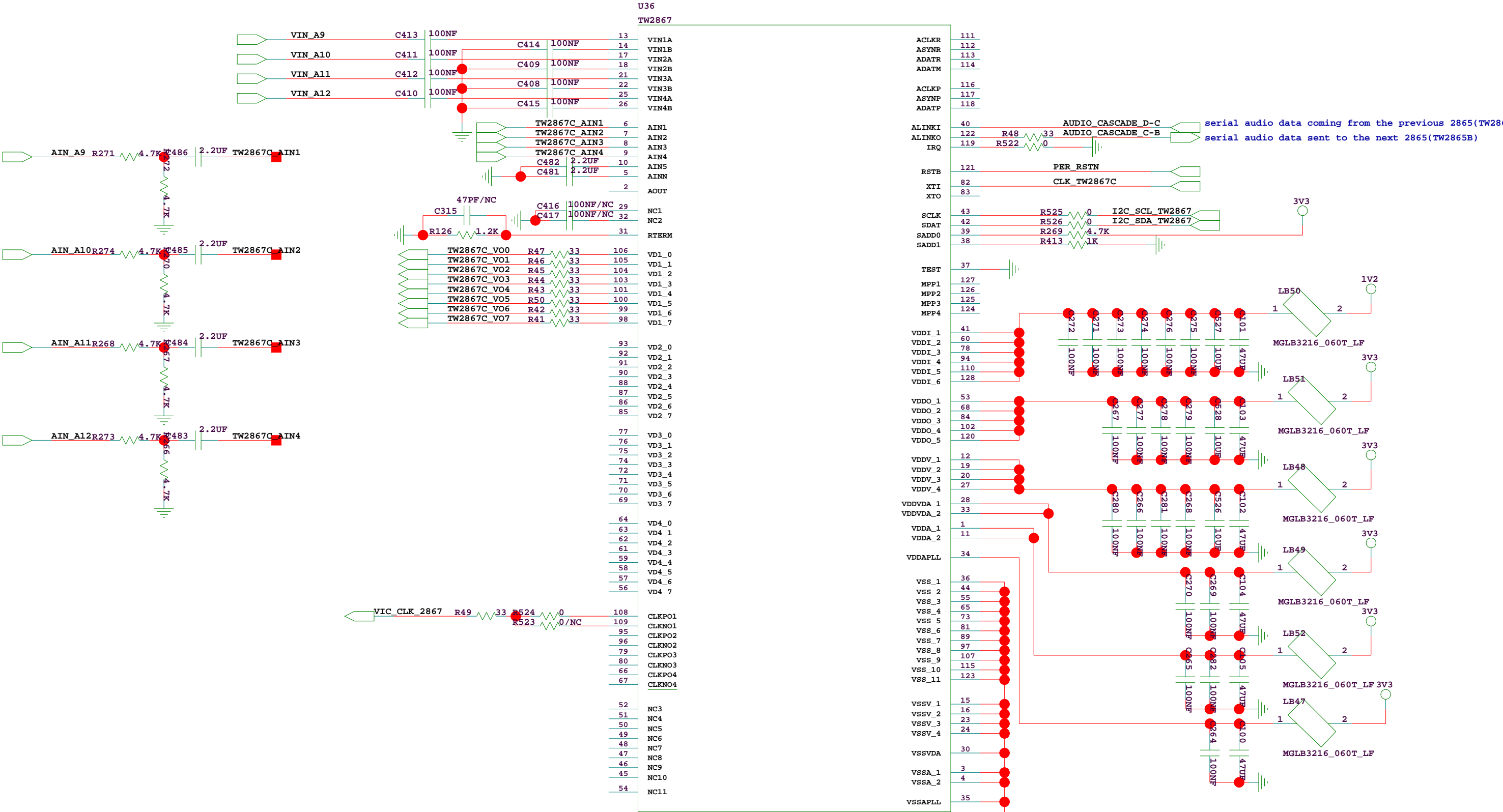
TW2867B



PKG_TYPE=QFP128C-40-1414L
IIC ADDRESS: 0x54

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 29 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

TW2867C

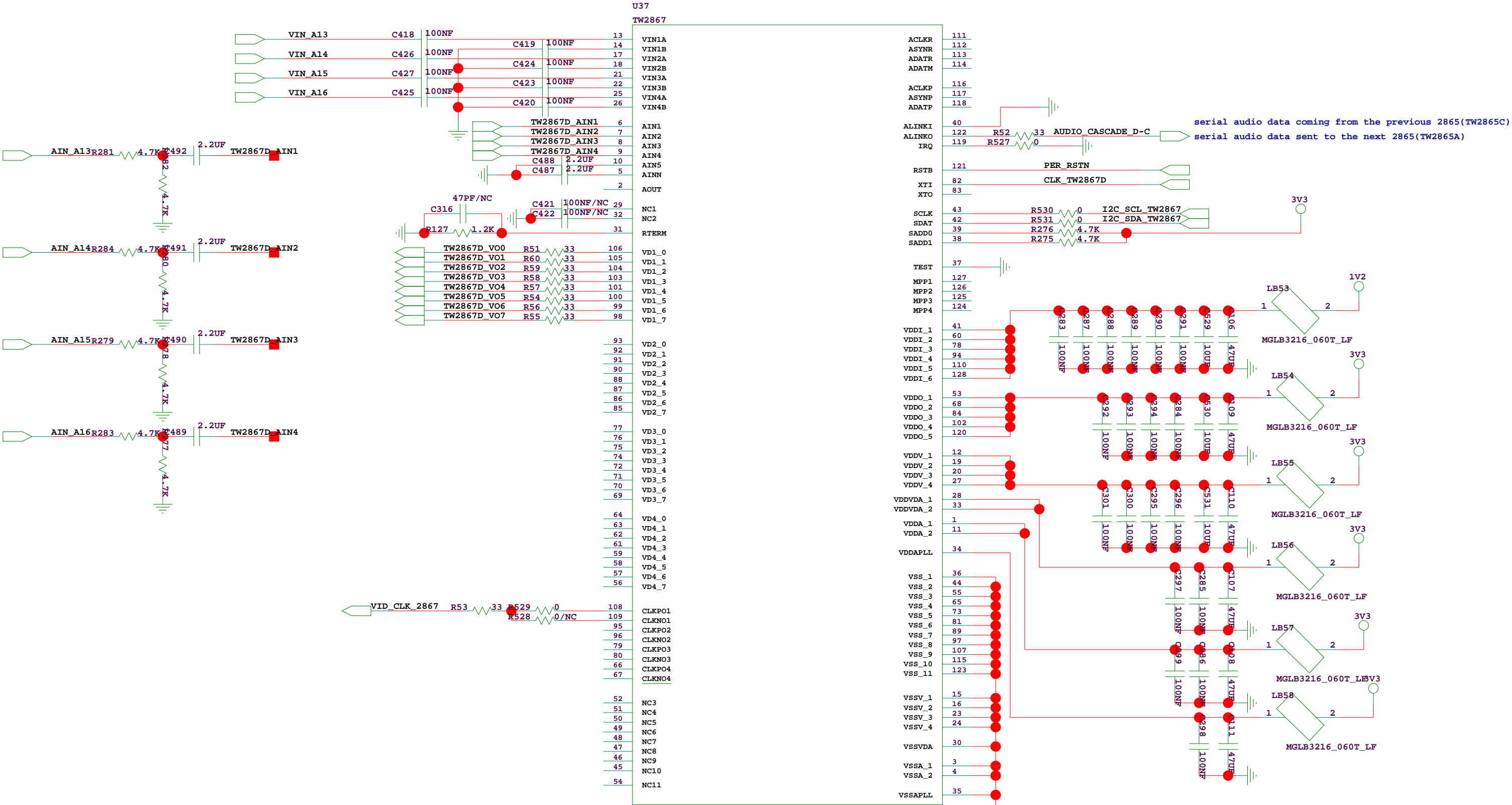


PKG_TYPE=QFP128C-40-1414L
IIC ADDRESS: 0x52

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 30 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

TW2867D

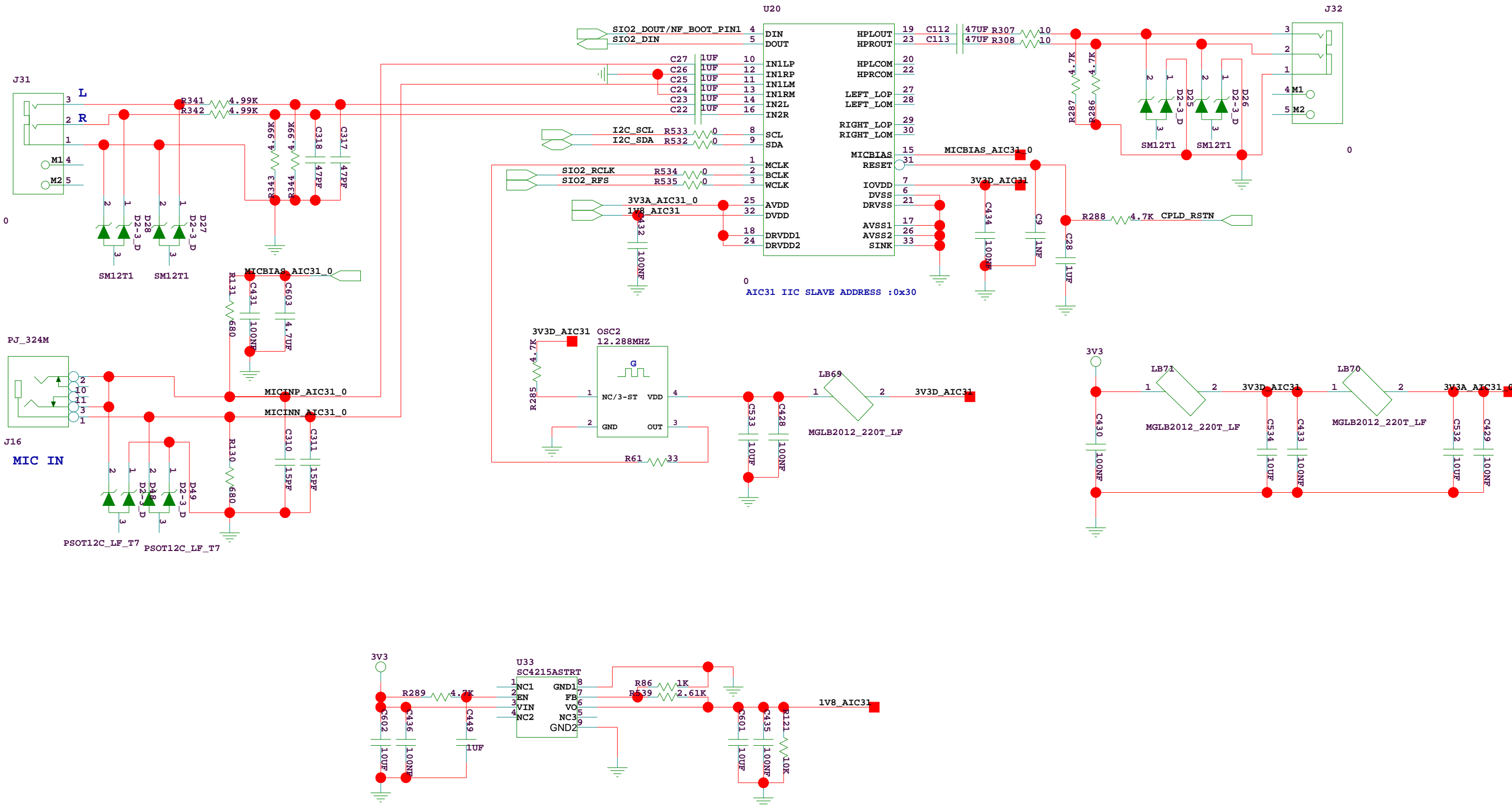


PKG_TYPE=QFP128C-40-1414L
IIC ADDRESS: 0x56

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 31 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

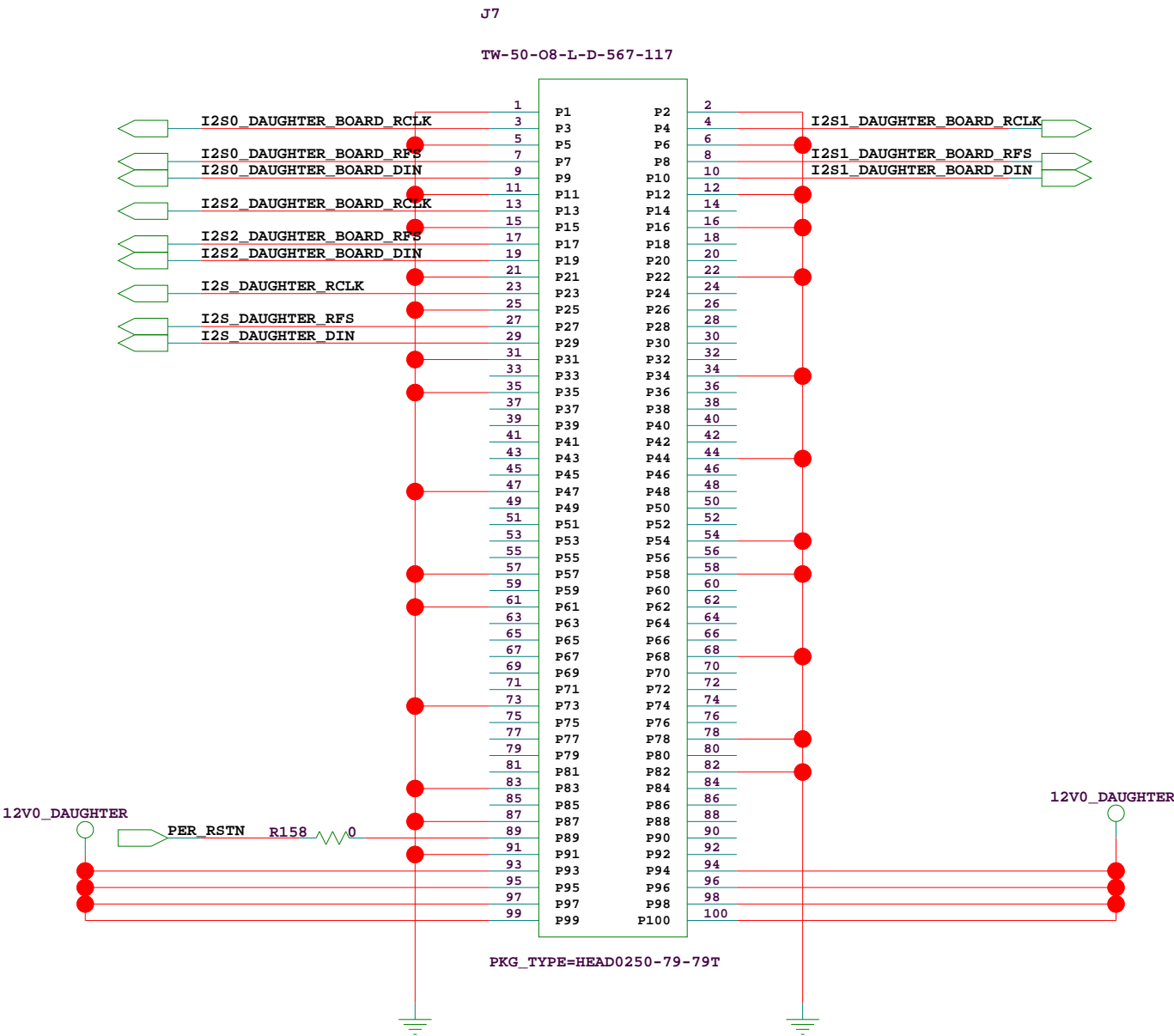
AIC31



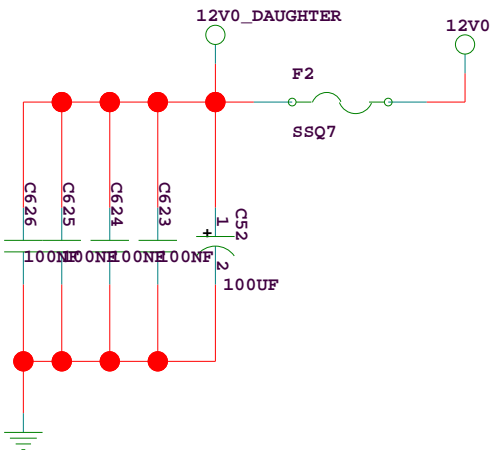
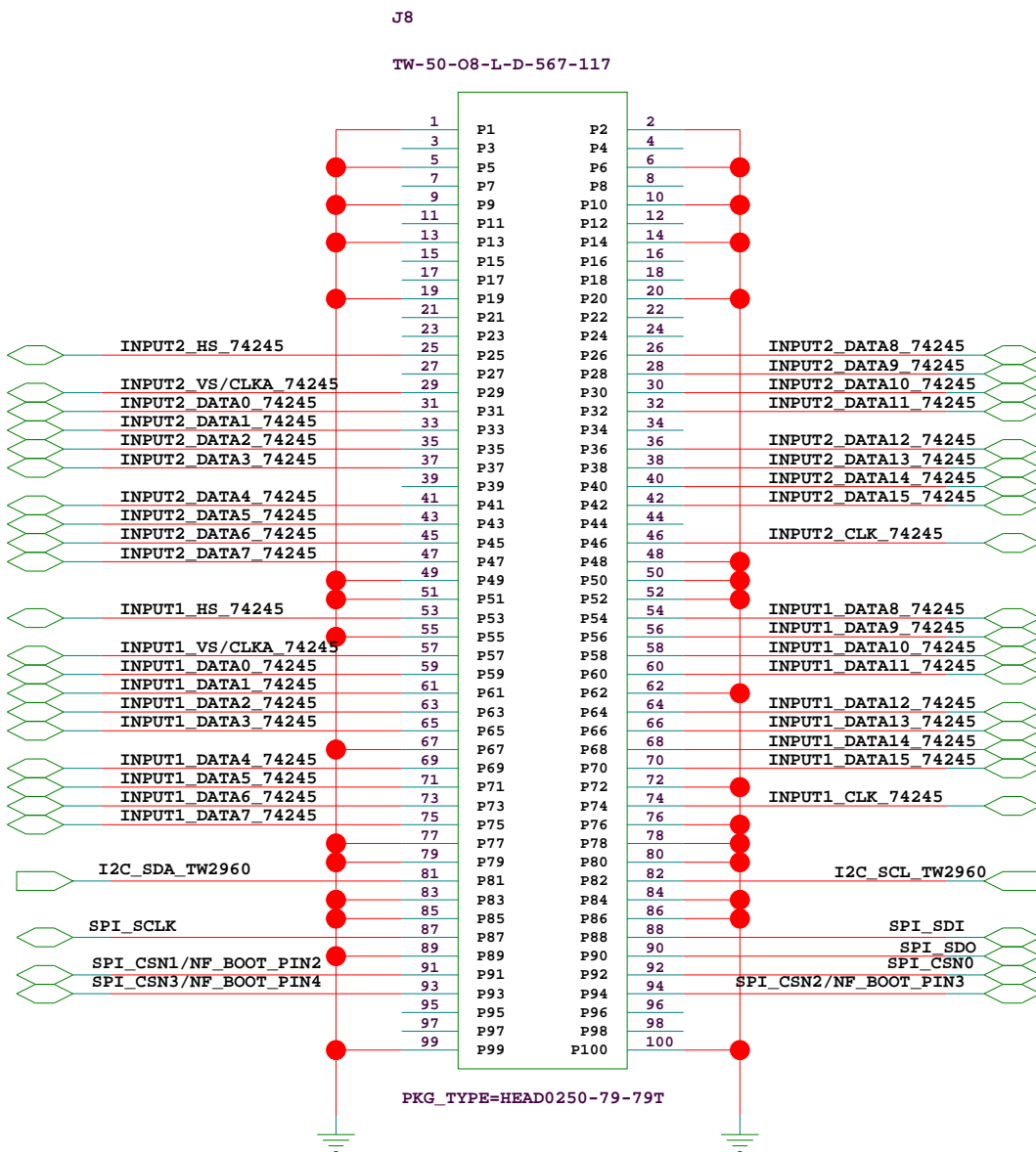
The type and specification of the components refer to the BOM					
				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 32 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

Connector for Daughter board

J7 connect with J5 on Hi353XVAB Board



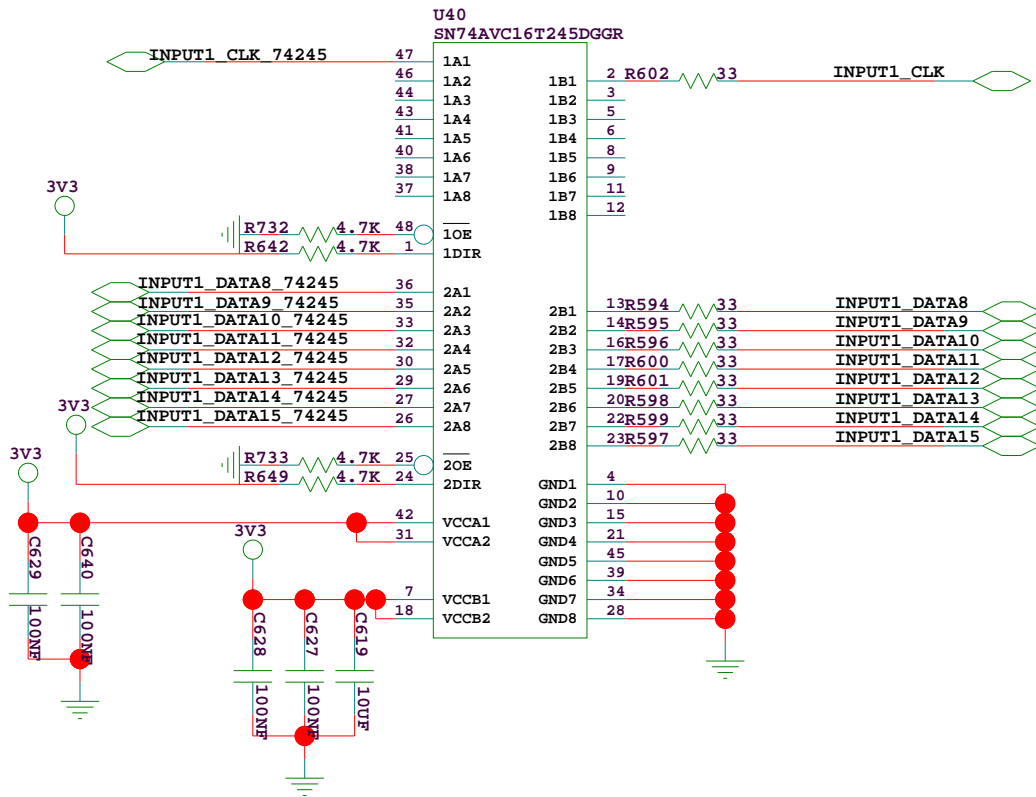
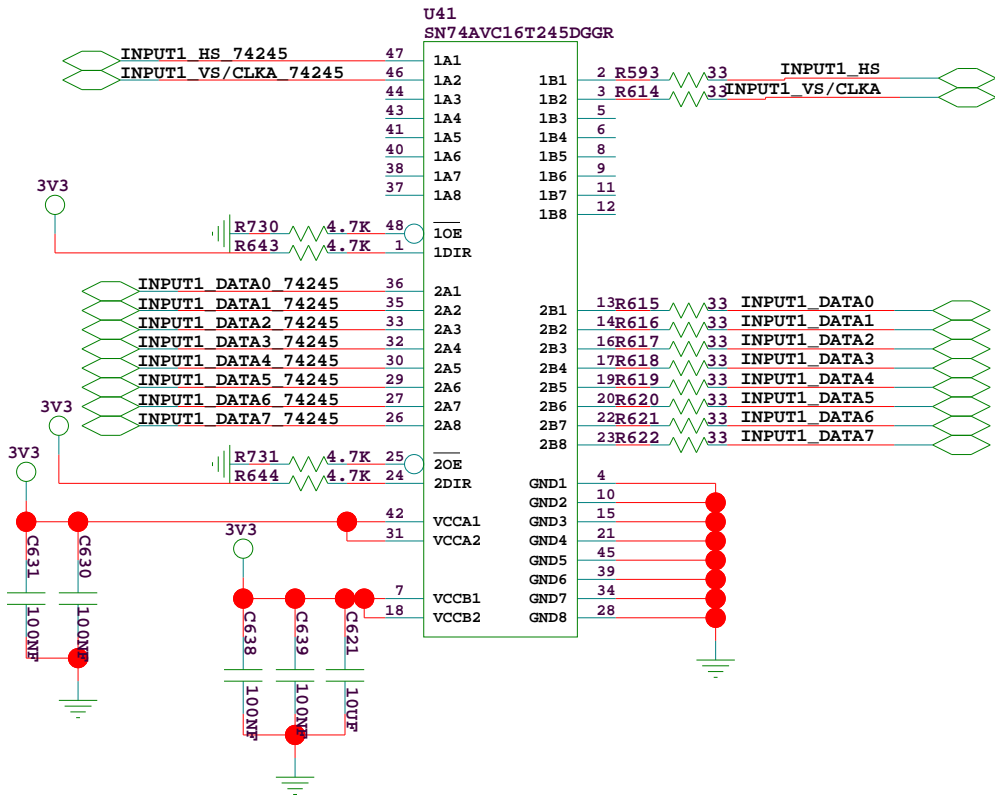
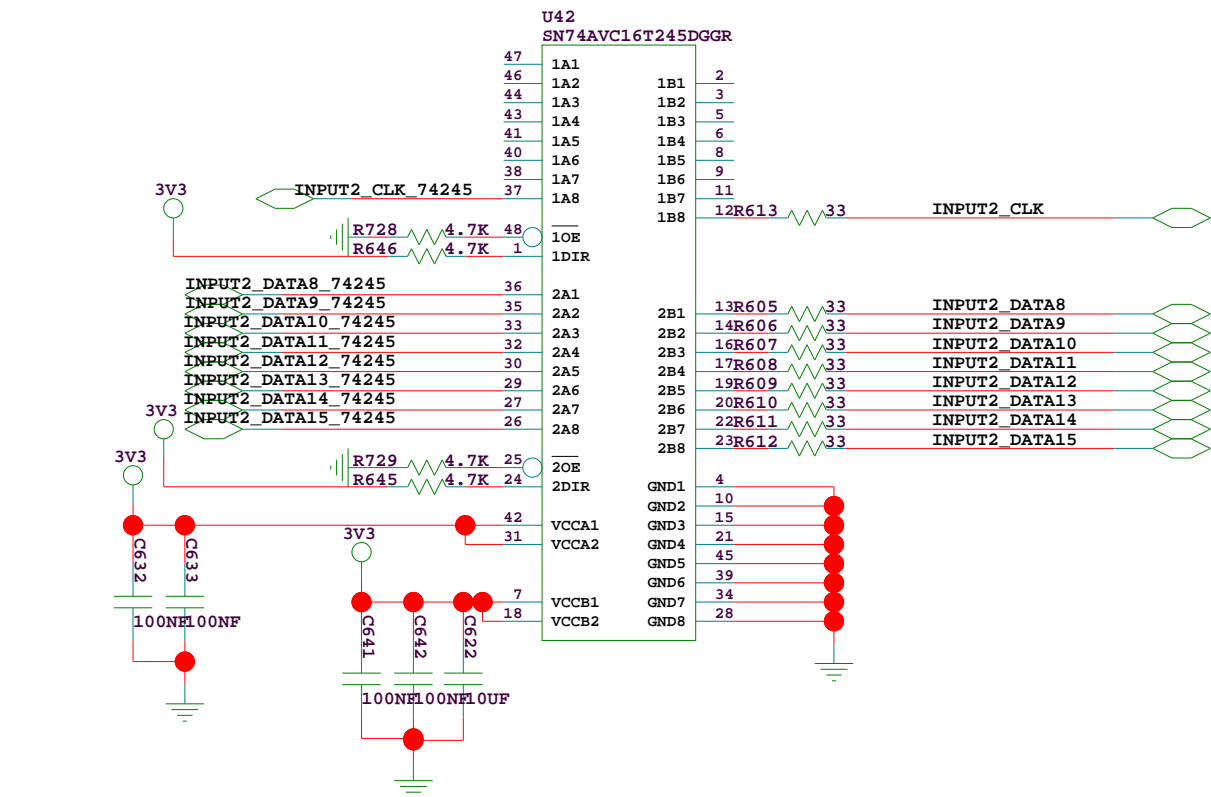
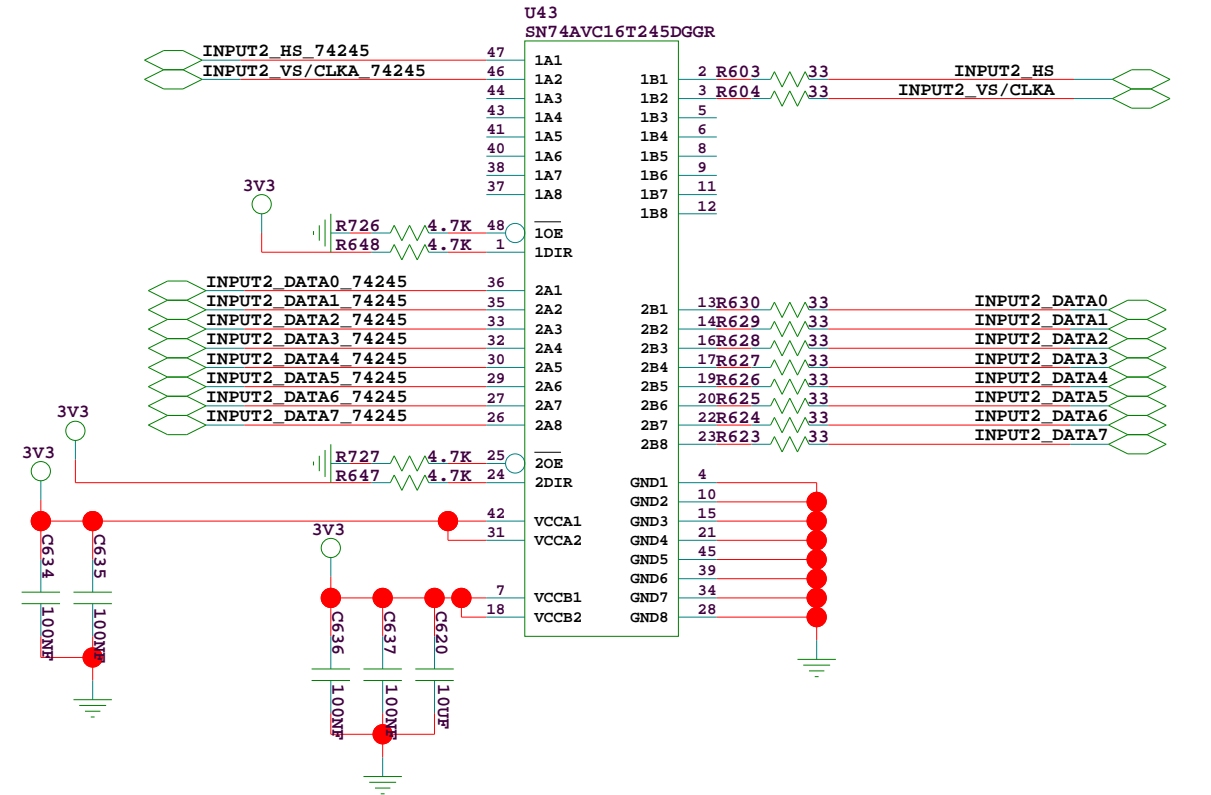
J8 connect with J6 on Hi353XVAB Board



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 33 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

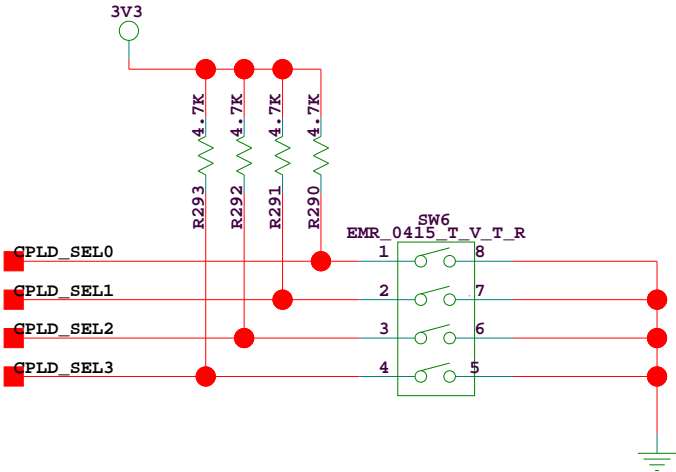
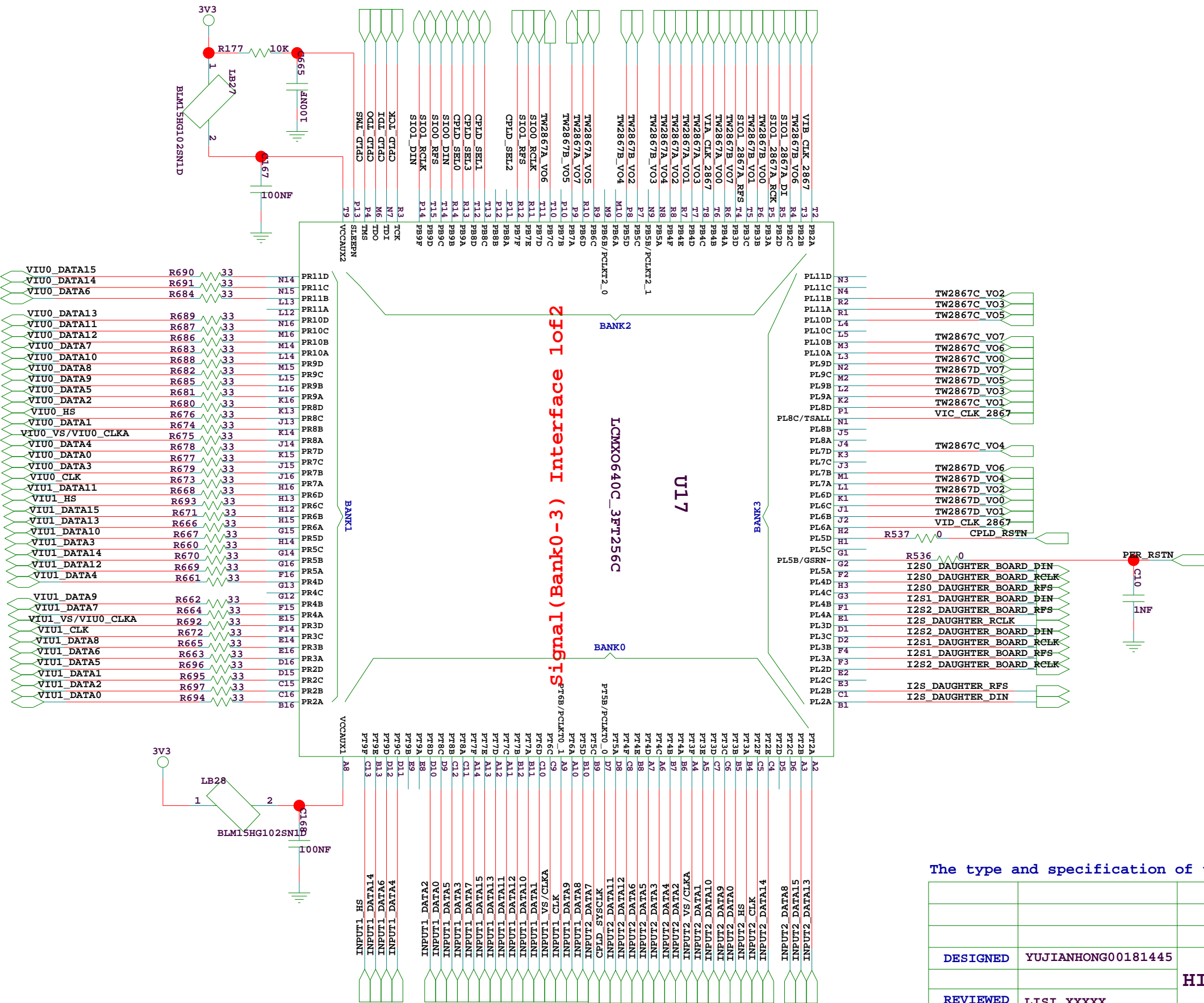
DRIVER FOR TW2960



The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 34 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

CPLD Input/Output



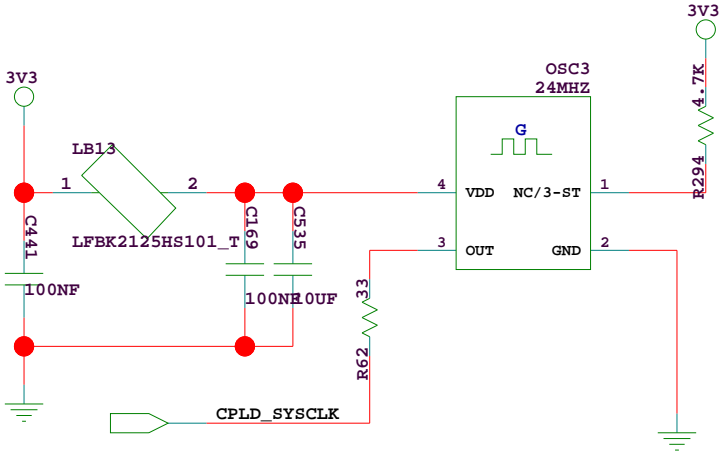
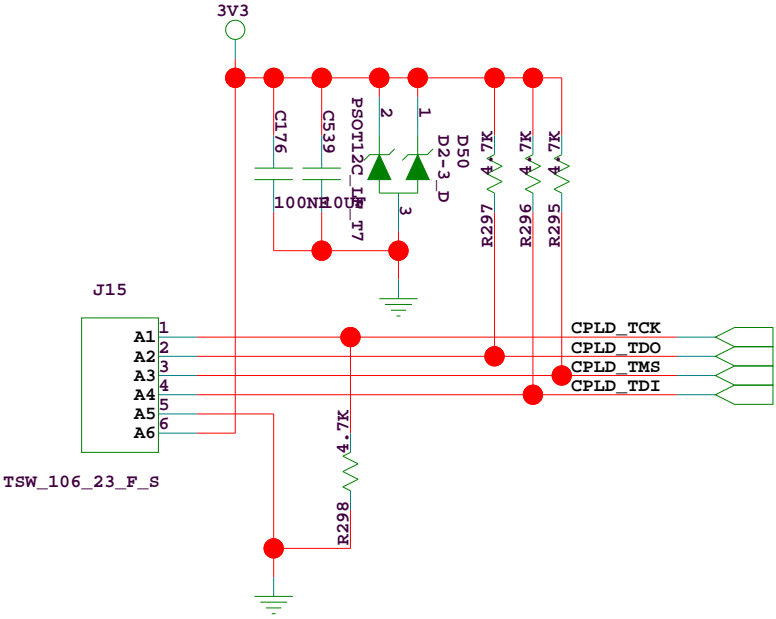
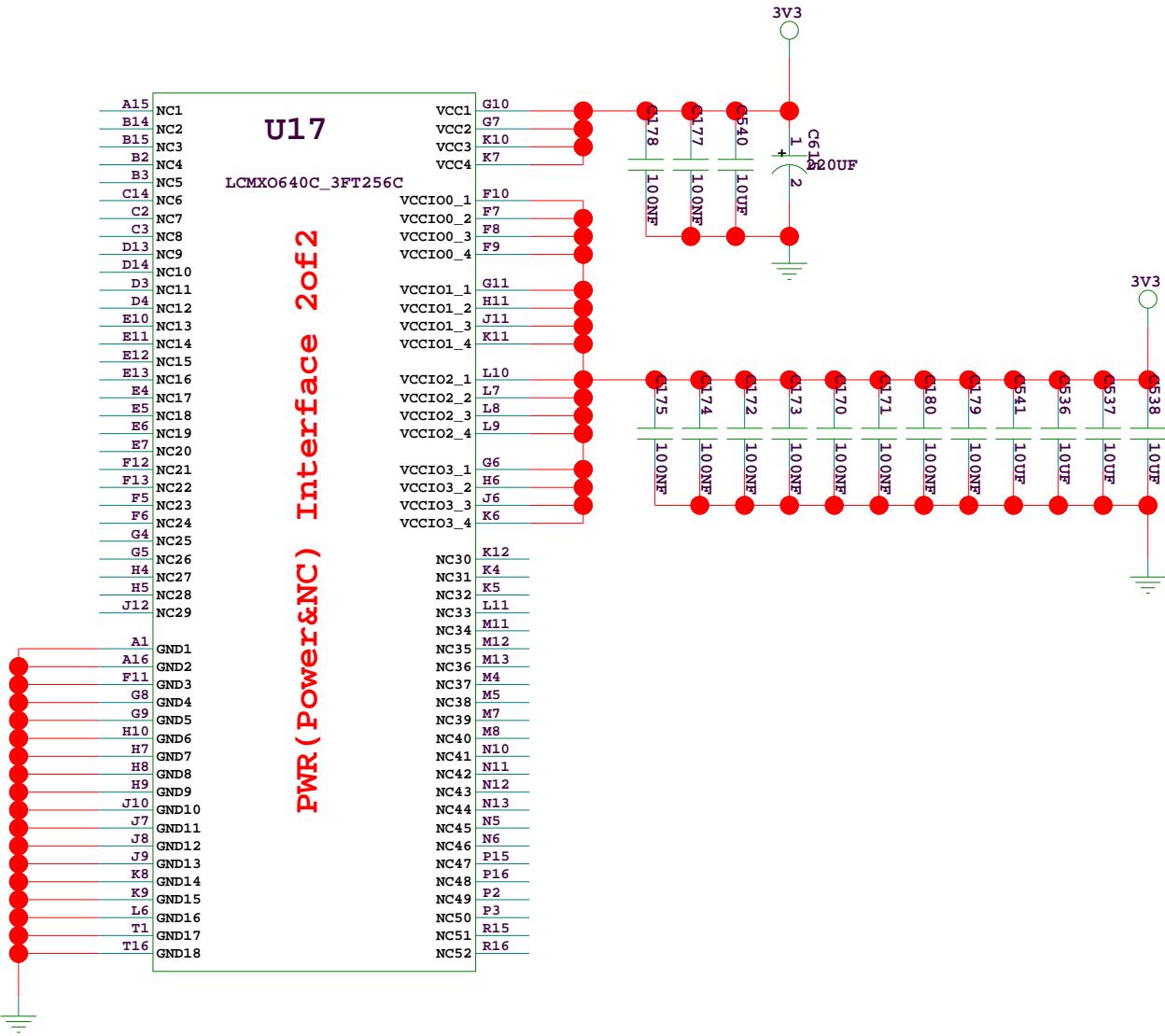
CPLD_SEL[3:0]

- 0000: 16CIF en + 16CIF dec
- 0001: 8D1 en + 4D1 dec
- 1100: 8*960H en + 1*960H dec
- 1000: 4 * 720P or 2 * 1080P
- 1001: 1*720P + 7D1 en + 1*720P dec

The type and specification of the components refer to the BOM

				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 35 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	

CPLD POWER_SYS



The type and specification of the components refer to the BOM					
				NA	
				ECA NO	DATE
DESIGNED	YUJIANHONG00181445	HI3521DMEB		00001234	
REVIEWED	LISI XXXXX				
		VER	PART_NUMBER	SHEET 36 OF 36	
		A	03030001	HUAWEI TECH CO.,LTD.	