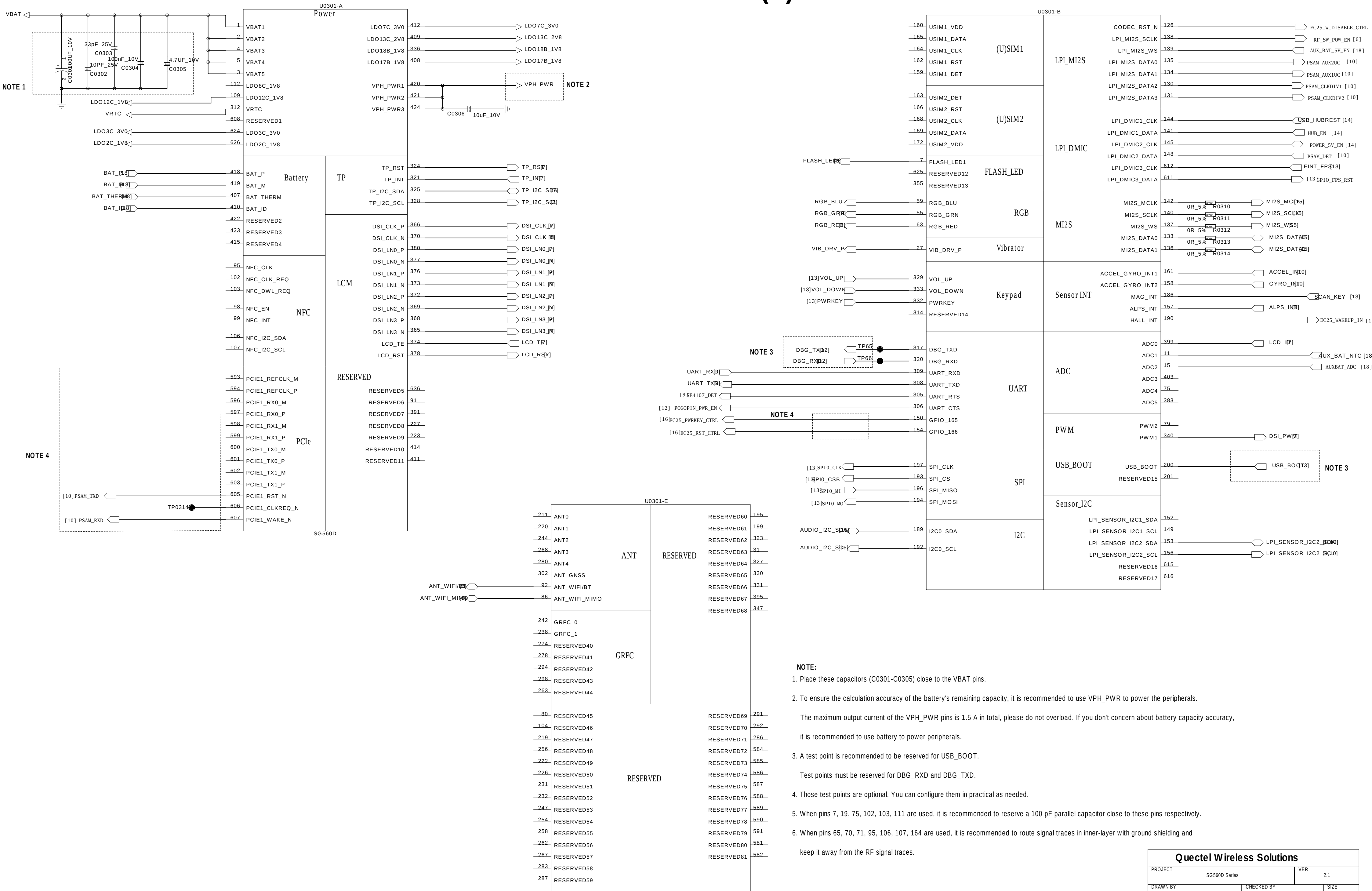
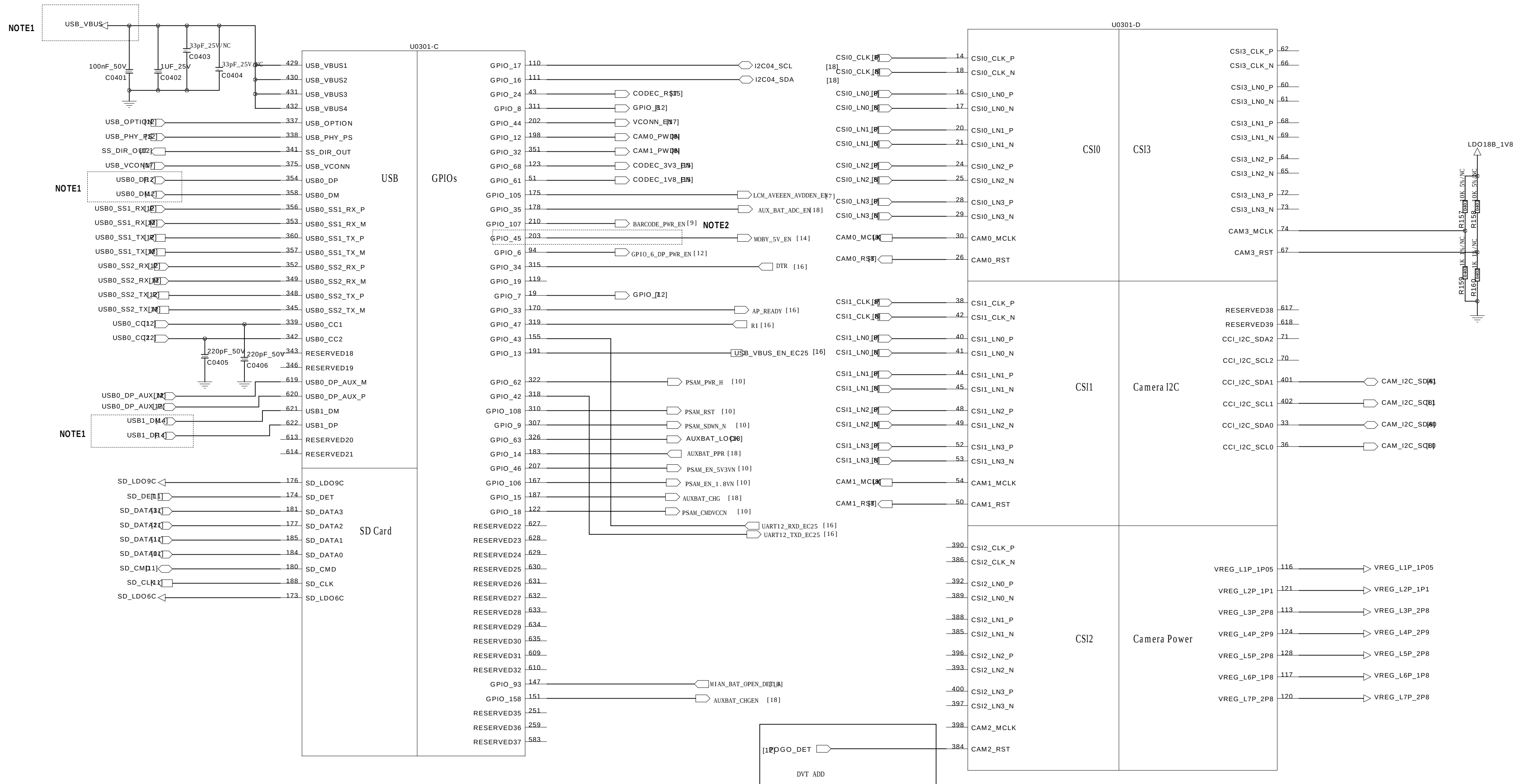


Module Interfaces (1)



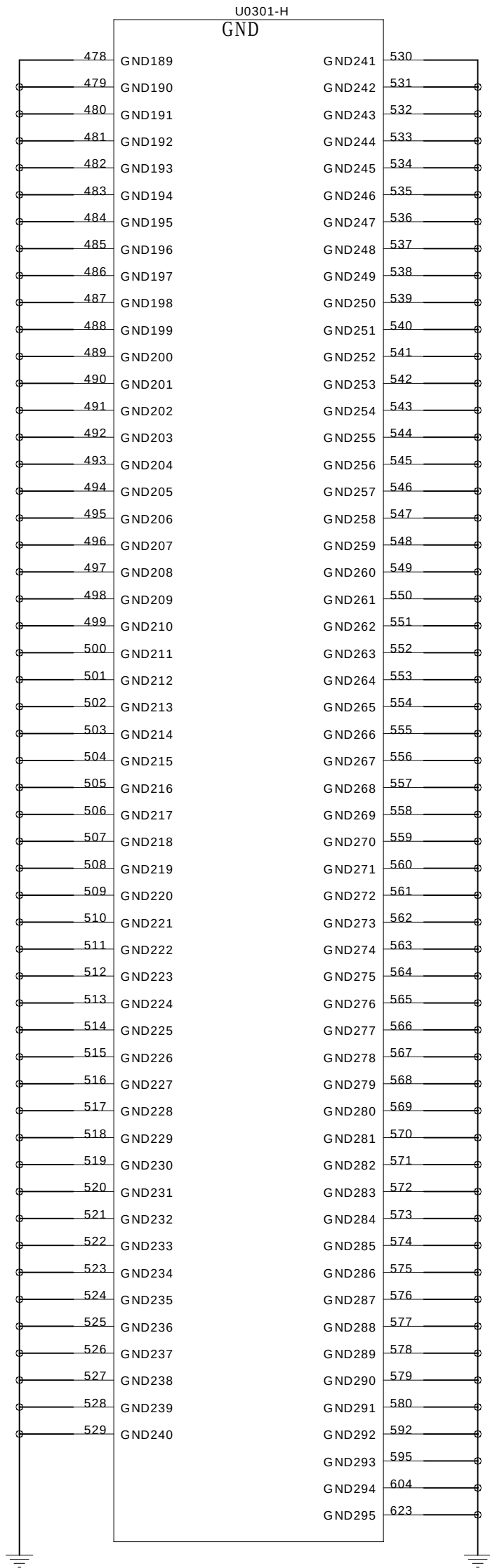
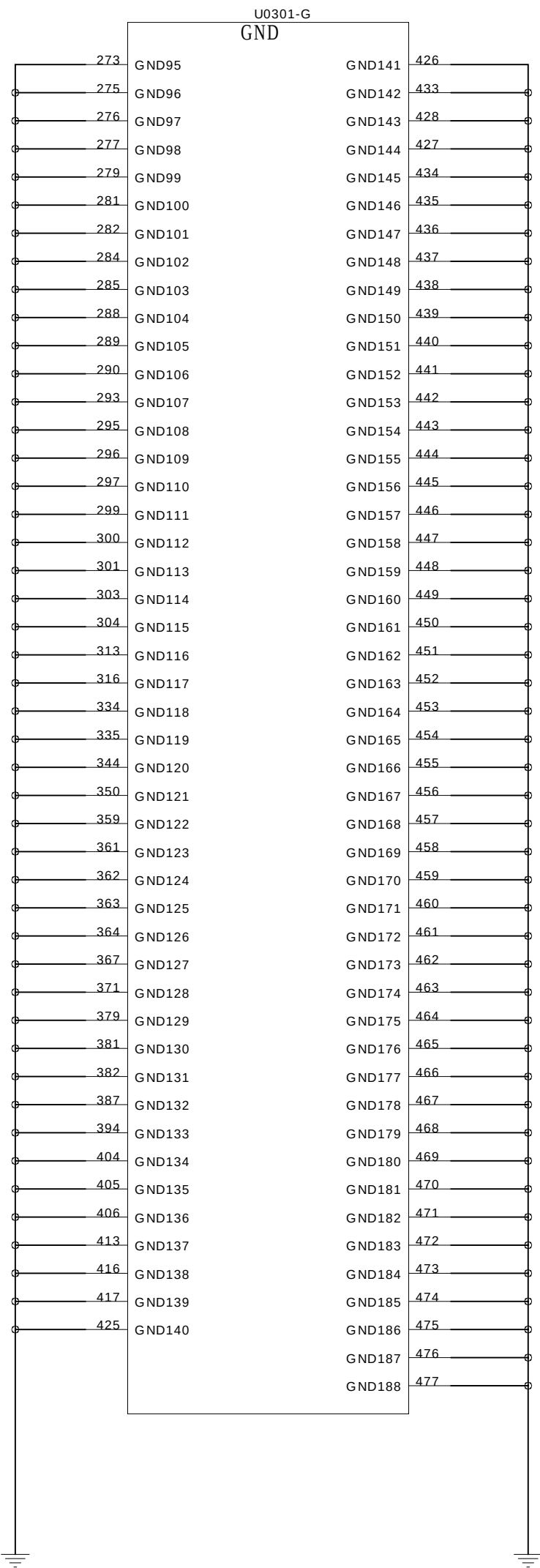
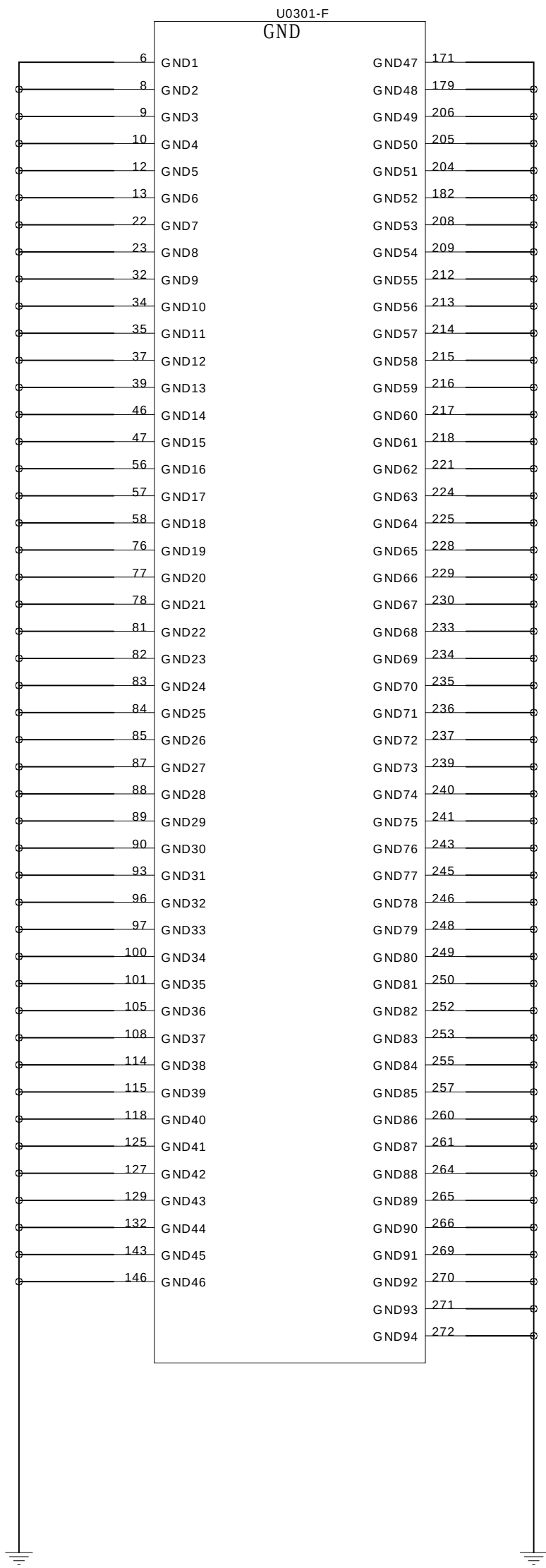
Module Interfaces (2)



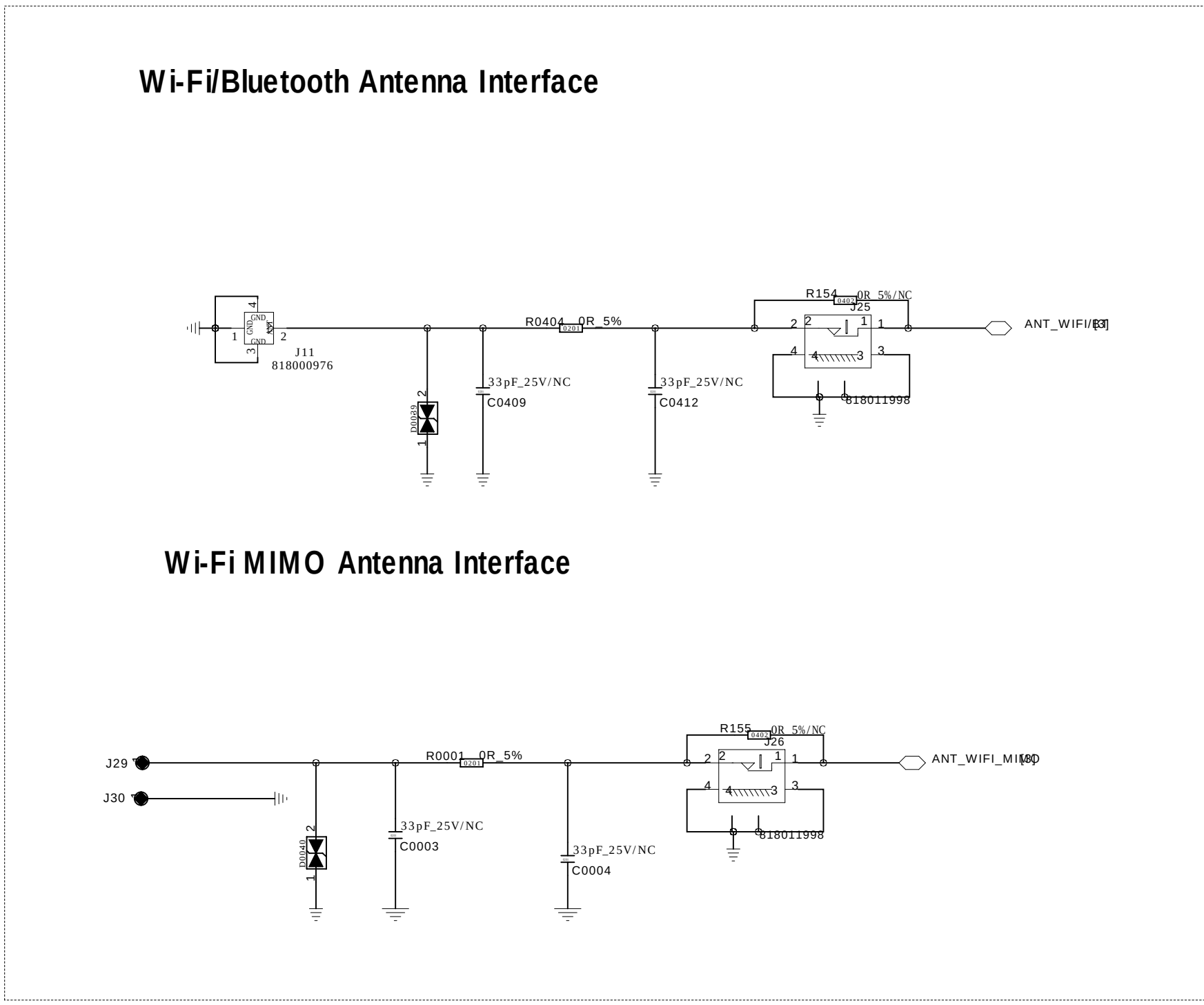
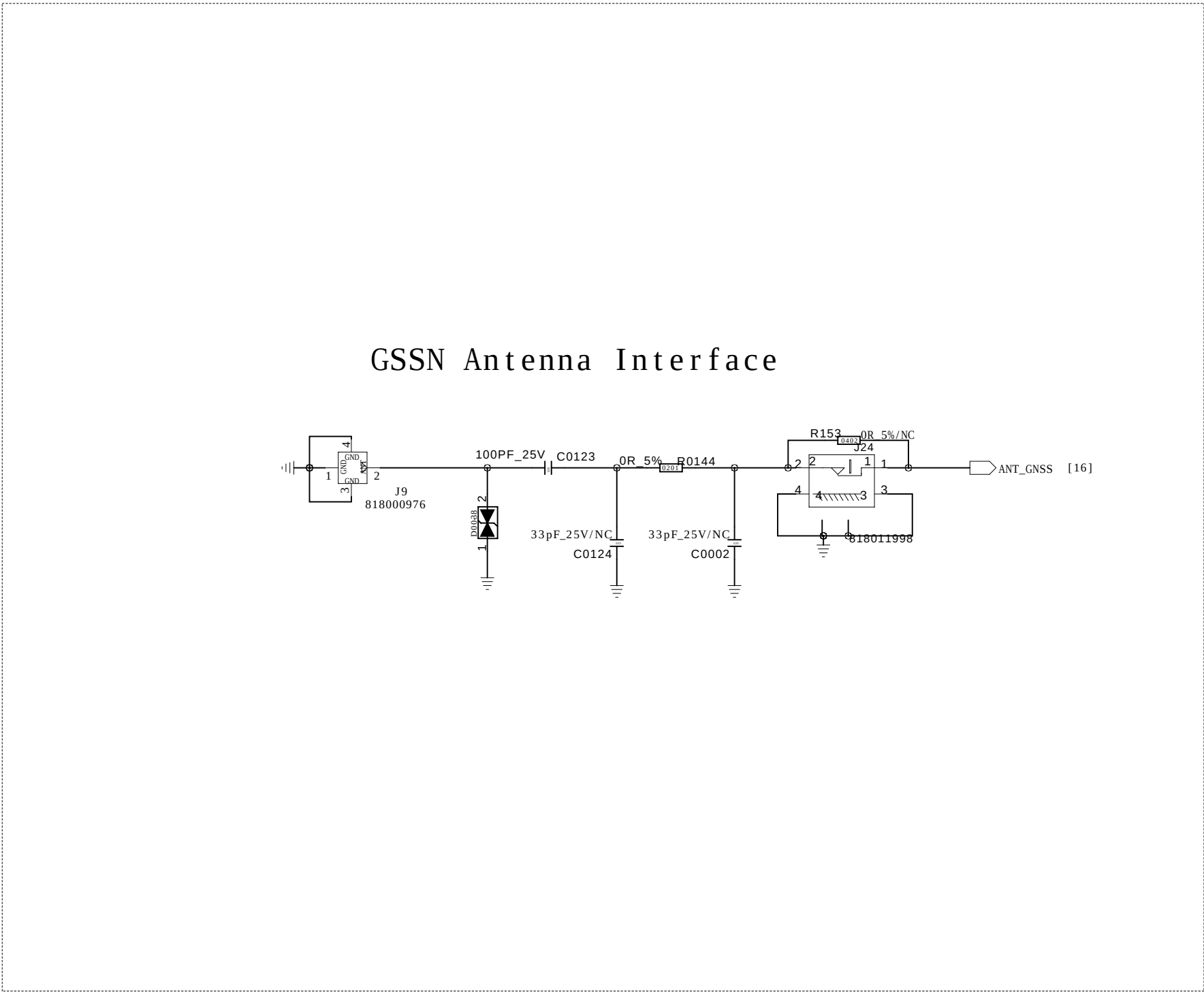
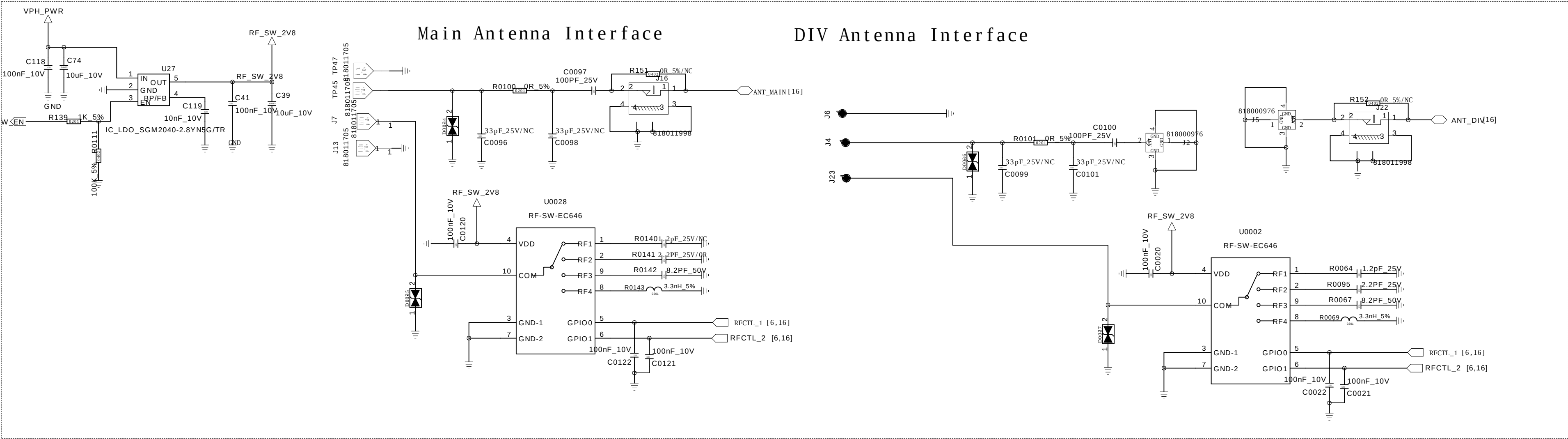
NOTE:

1. Test points must be reserved for USB_VBUS, USB0_DP/DM and USB1_DP/DM.
2. Do not pull up the GPIO_45 during startup.
3. When pins 7, 19, 75, 102, 103, 111 are used, it is recommended to reserve a 100 pF parallel capacitor close to these pins respectively.
4. When pins 65, 70, 71, 95, 106, 107, 164 are used, it is recommended to route signal traces in inner-layer with ground shielding and keep it away from the RF signal traces.

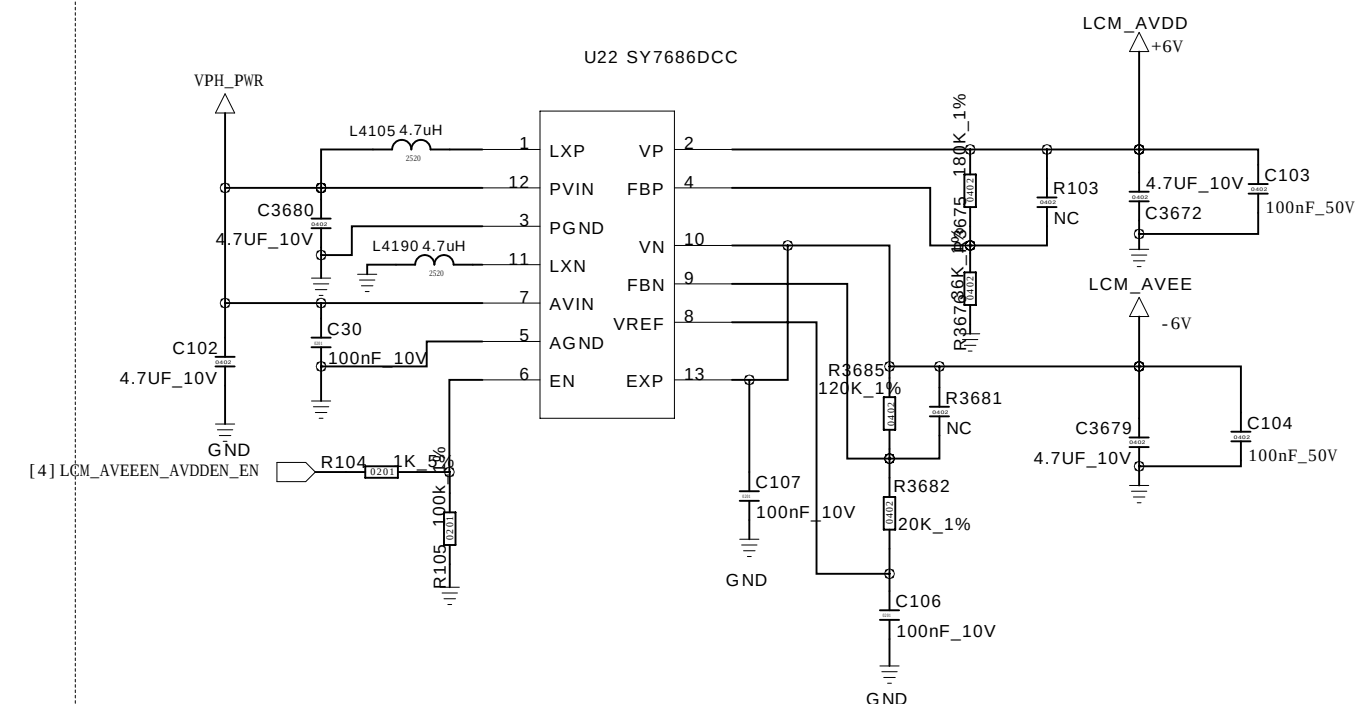
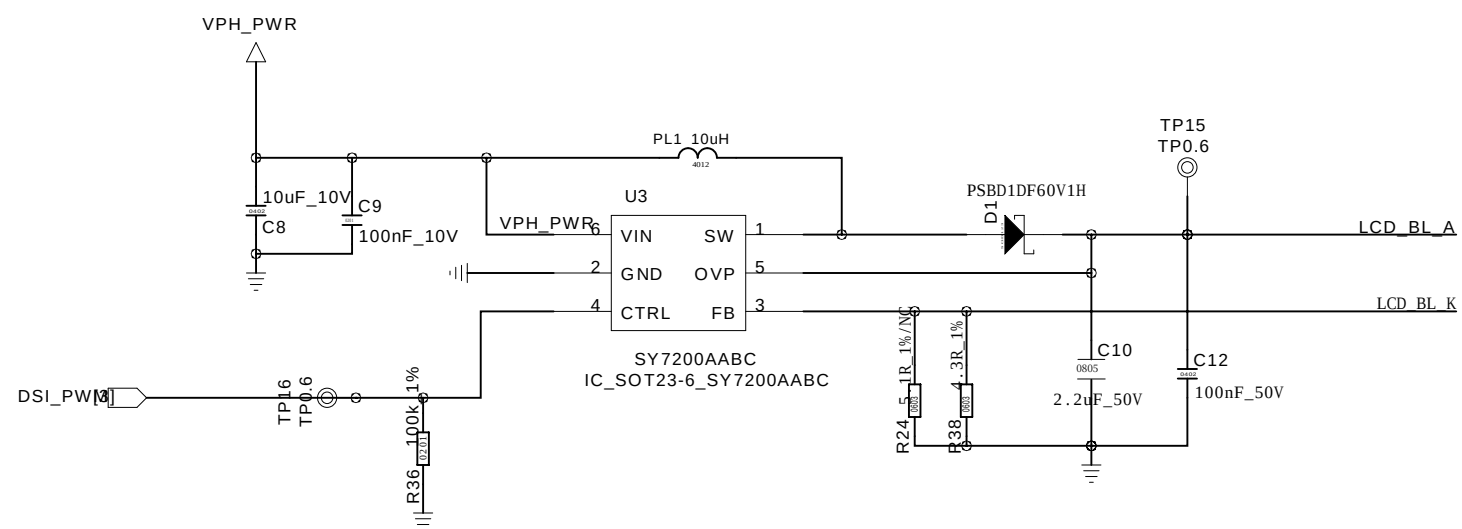
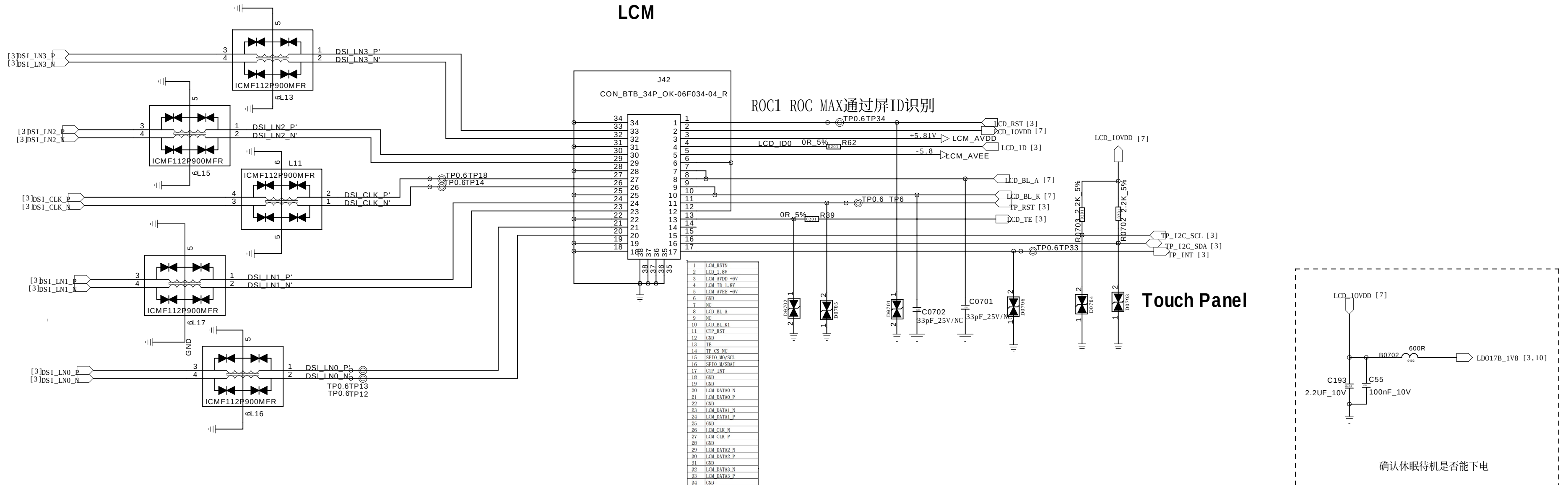
Module Interfaces (3)



Quectel Wireless Solutions			
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SG560D Series			
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DATA	Tuesday, July 15, 2025	SHEET	5 OF 18
		SIZE	A2



LCM and TP Interfaces

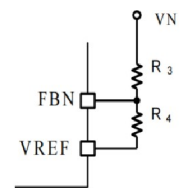


$$R_1 = \frac{V_P - V_{FBP}}{V_{FBP}} R_2$$

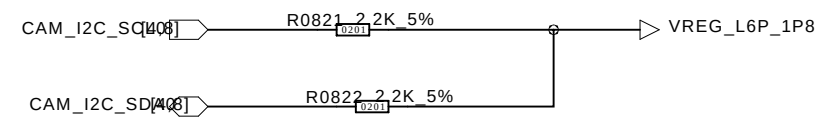
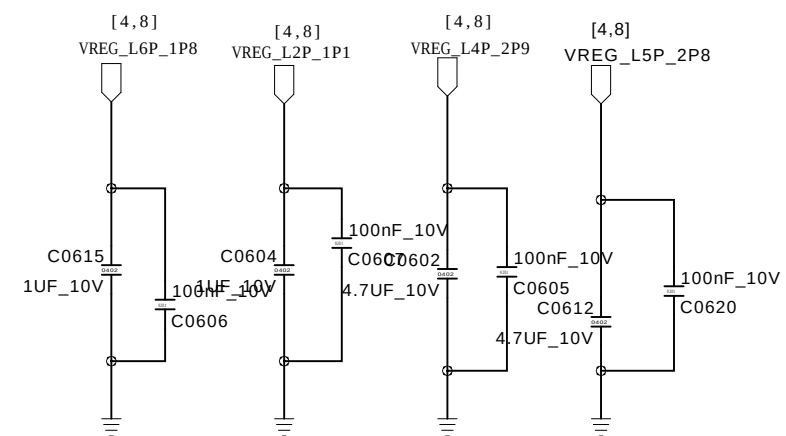
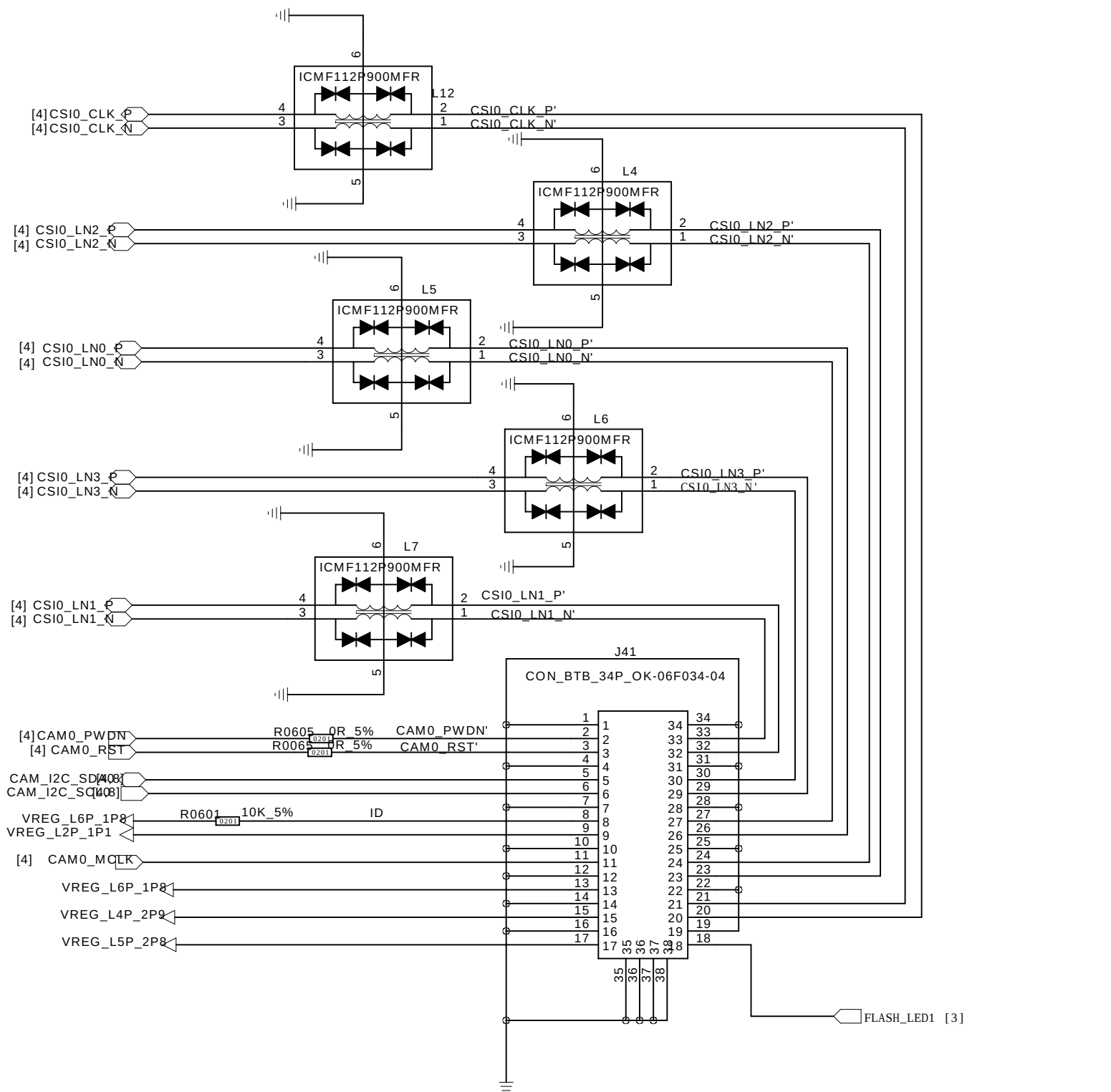
Where $V_{FBP} = 1V$

$$V_N = -\frac{R3 \times (V_{REF} - V_{FBN})}{R4}$$

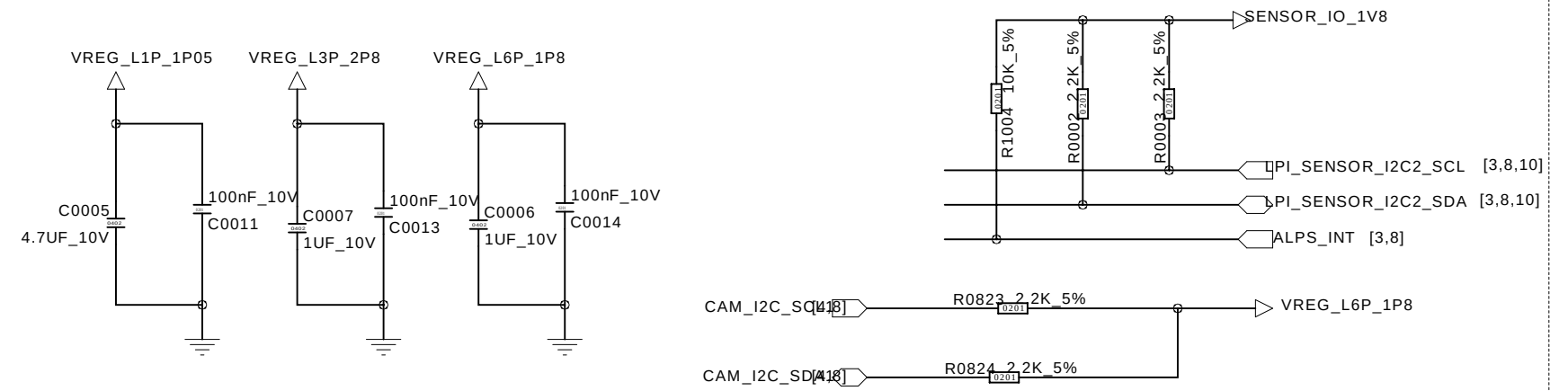
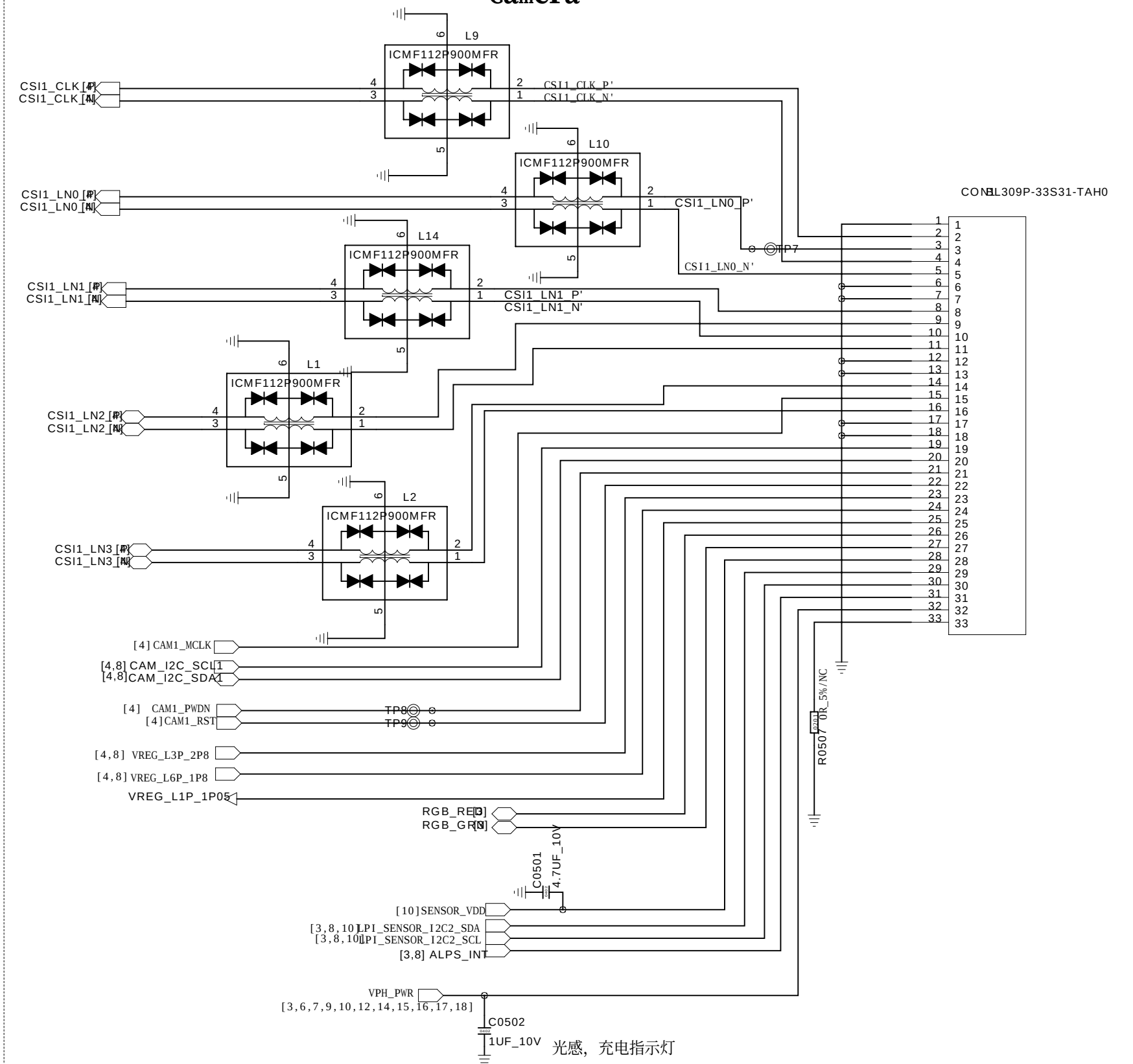
Where V_{REF} is 1V, V_{FBN} is 0V



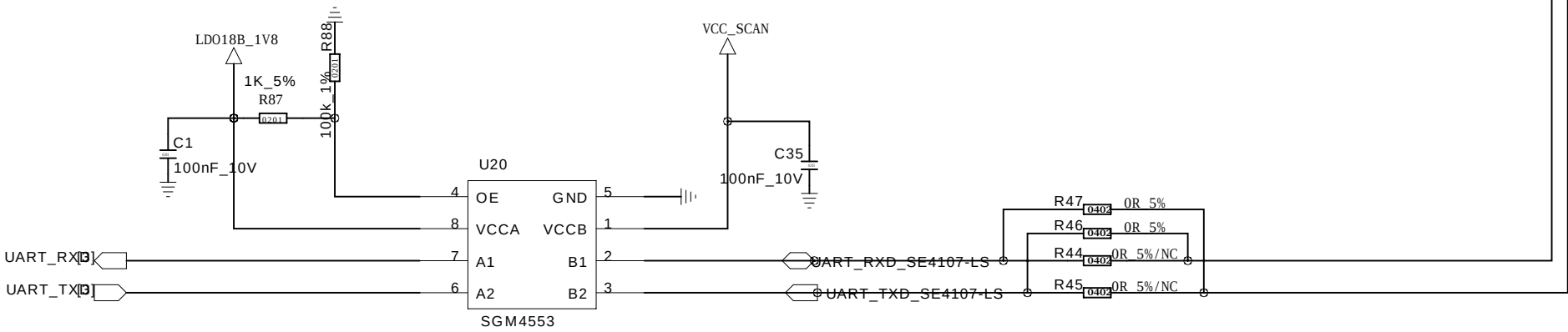
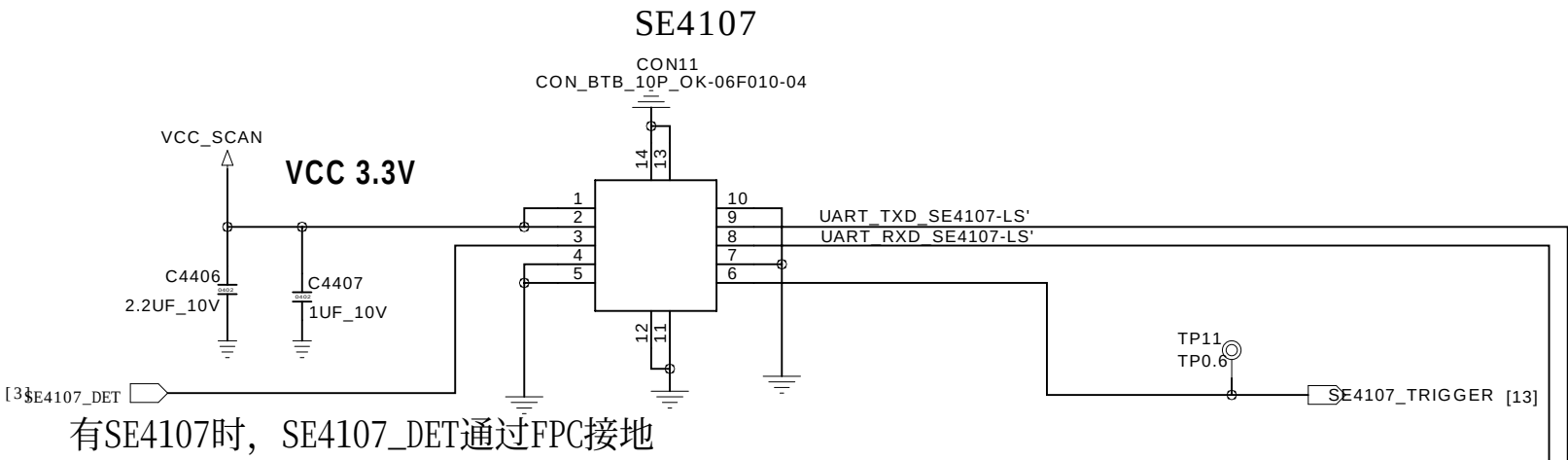
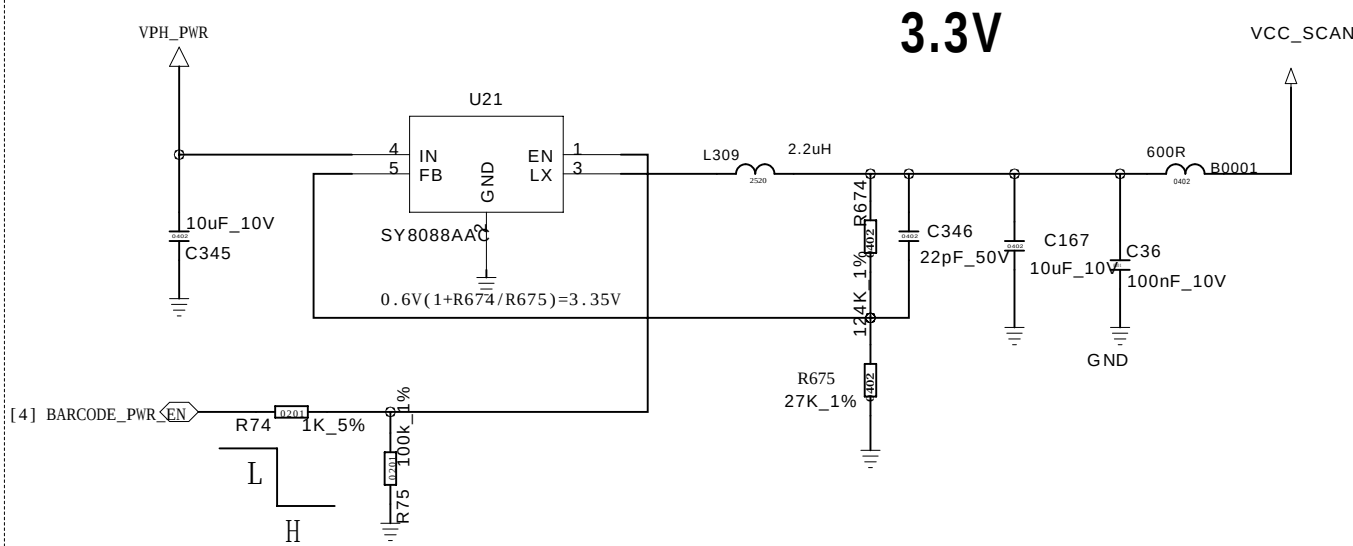
Camera Interfaces (1)



Camera



SCANNER



SE4107 Decoded Imager - Serial Interface, Right Angle Connector

All signals with the exception of VCC and GND are 3.3V referenced.

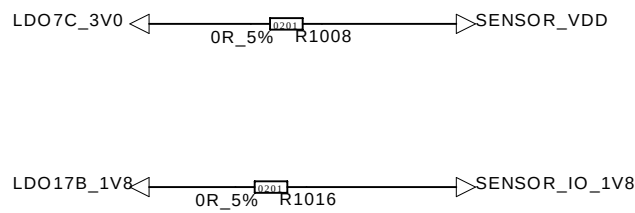
Table 10 Serial Interface 12 Pin Flex Connector Pinouts

Pin	Signal Name	I/O	Description
1	Download#	In	Active low signal. Drive low to flash download, leave open for normal operation
2	VCC	Power	Power Supply: 3.0V to 3.6V operating, 4.0V absolute max
3	GND	Ground	Ground Reference
4	Host RXD	In	Received Data: serial input port
5	Host TXD	Out	Transmit Data: serial output port
6	Host CTS	In	Clear to Send: serial port handshaking line
7	Host RTS	Out	Request to Send: serial port handshaking line
8	Power down	Out	Power Down Ready: When high, the decoder is in low power mode.
9	Beeper#	Out	Active low control signal. High when idle, low to enable current through beeper
10	Decode LED#	Out	Active low control signal. High when idle, low to enable current through decode LED
11	Aim/Wake#	In	When in low power mode: Drive this pin low to wake the SE4107 When in active state: Drive this pin low to enable engine Aim dot. Leave open for normal operation
12	Trigger#	In	Active low signal. Drive low to start a scan session, leave open for normal operation

I/O refers to signal direction relative to SE4107.
Interface connector: Amphenol 100051922-1210ELF or equivalent for SE4107-LS000R and SE4107-LU000R.

Sensor Interfaces

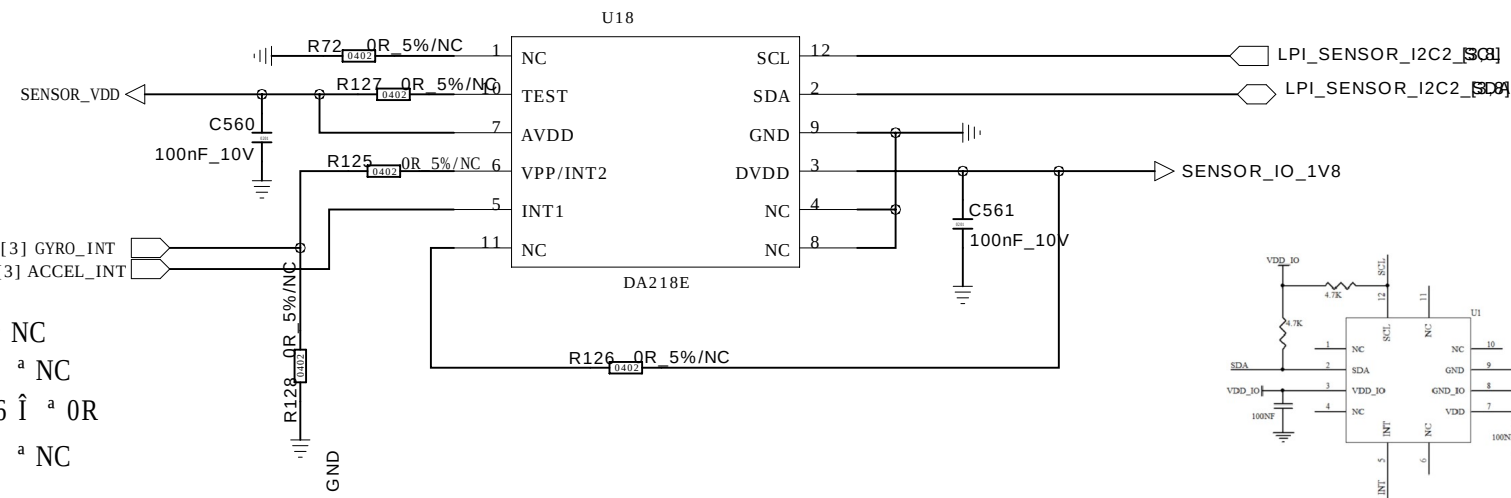
Sensor Power Supply



Accelerometer Sensor

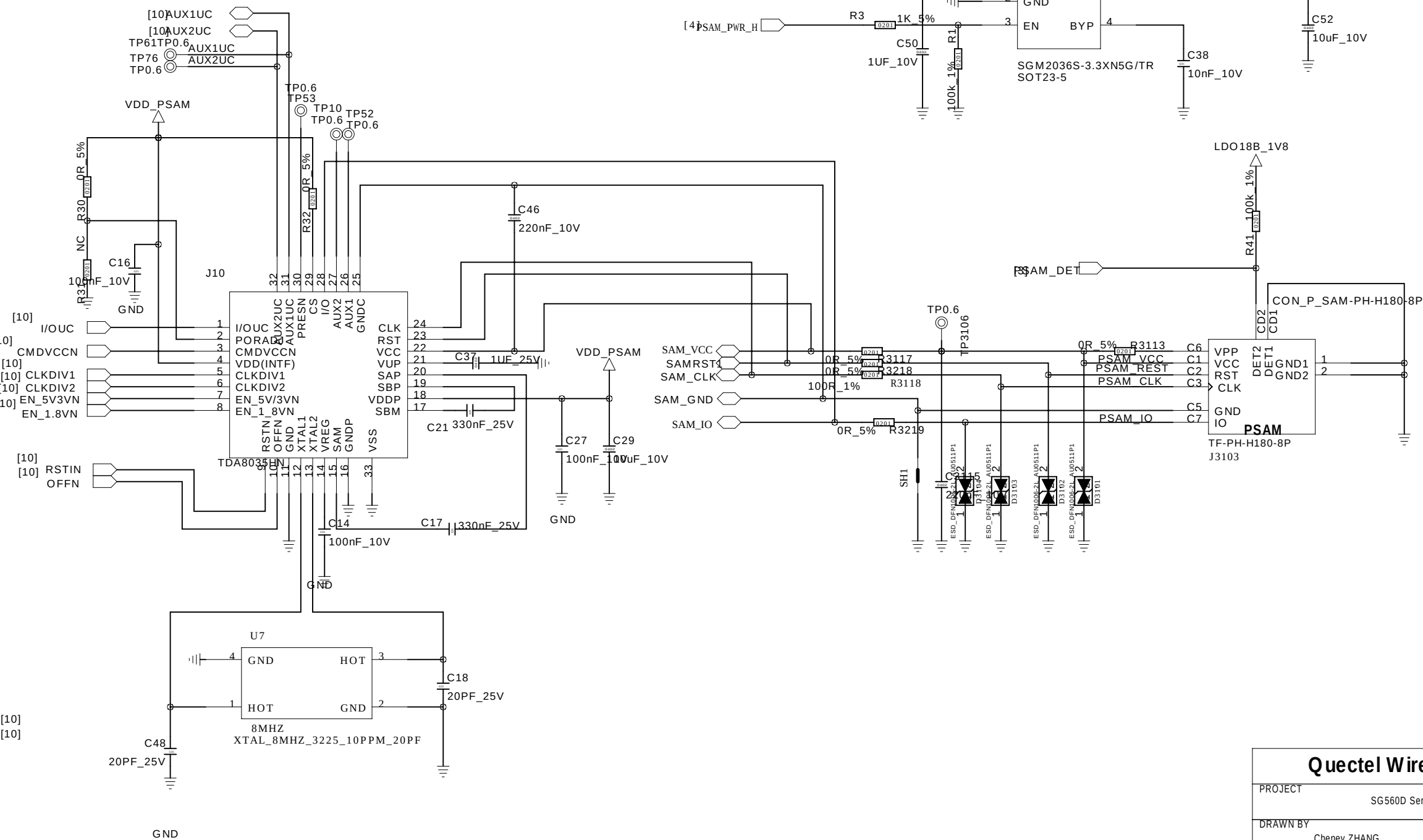
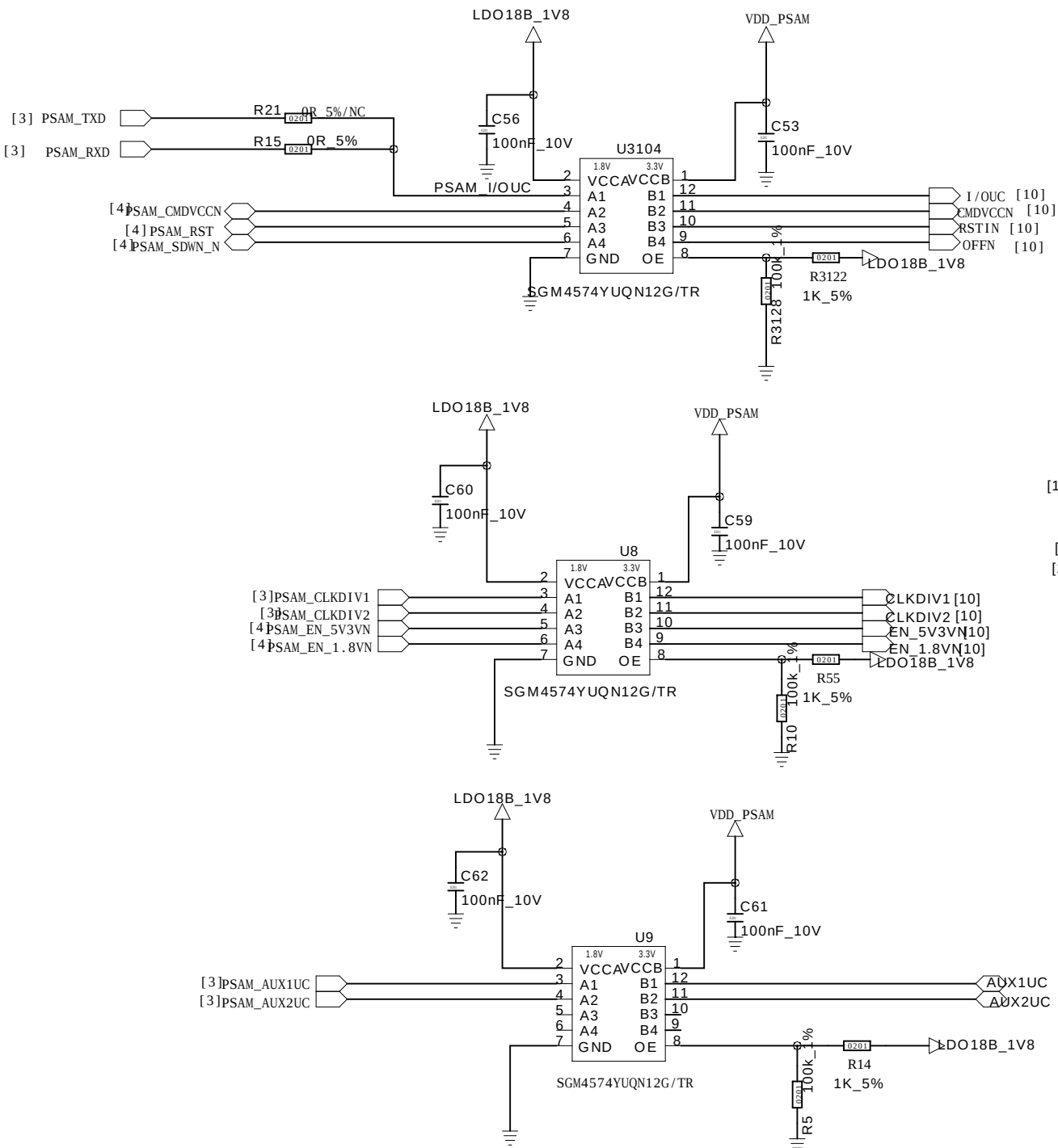
G-Sensor

MC3413 / G-SensorI2C address: 0x6E (Write:0xDC, Read:0xDD)
KXTJ3-1058 / G-SensorI2C address: 0x0E (Write:0x1C, Read:0x1D)



DA218E /R127/R125/R126 Î º NC
QMA6981 /R127/R125/R126 Î º NC
KXTJ3-1058 /R127/R125/R126 Î º 0R
QMA6981 /R127/R128/R126 Î º NC

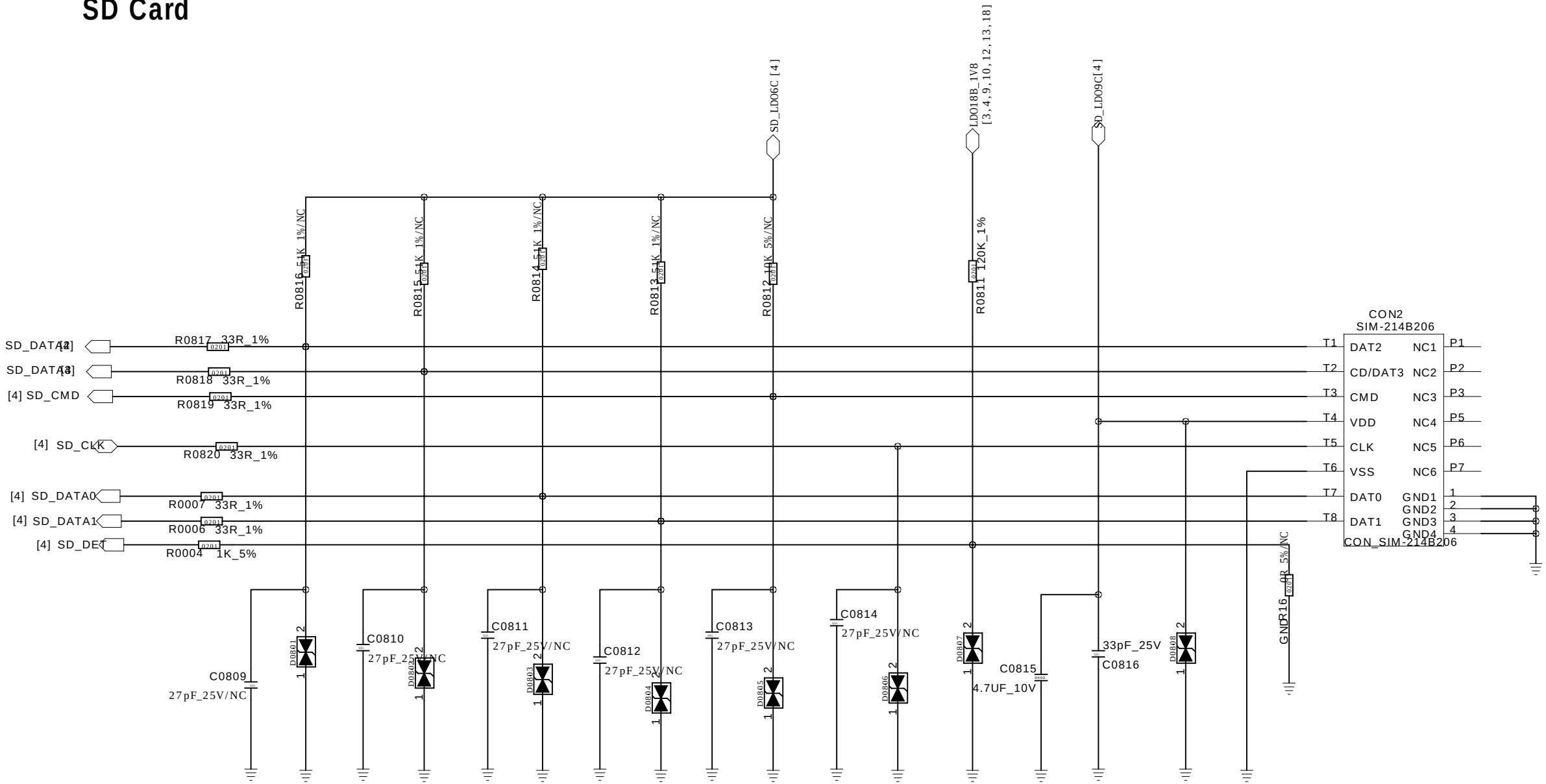
PSAM_PWR



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SD Card and (U)SIM Interfaces

SD Card

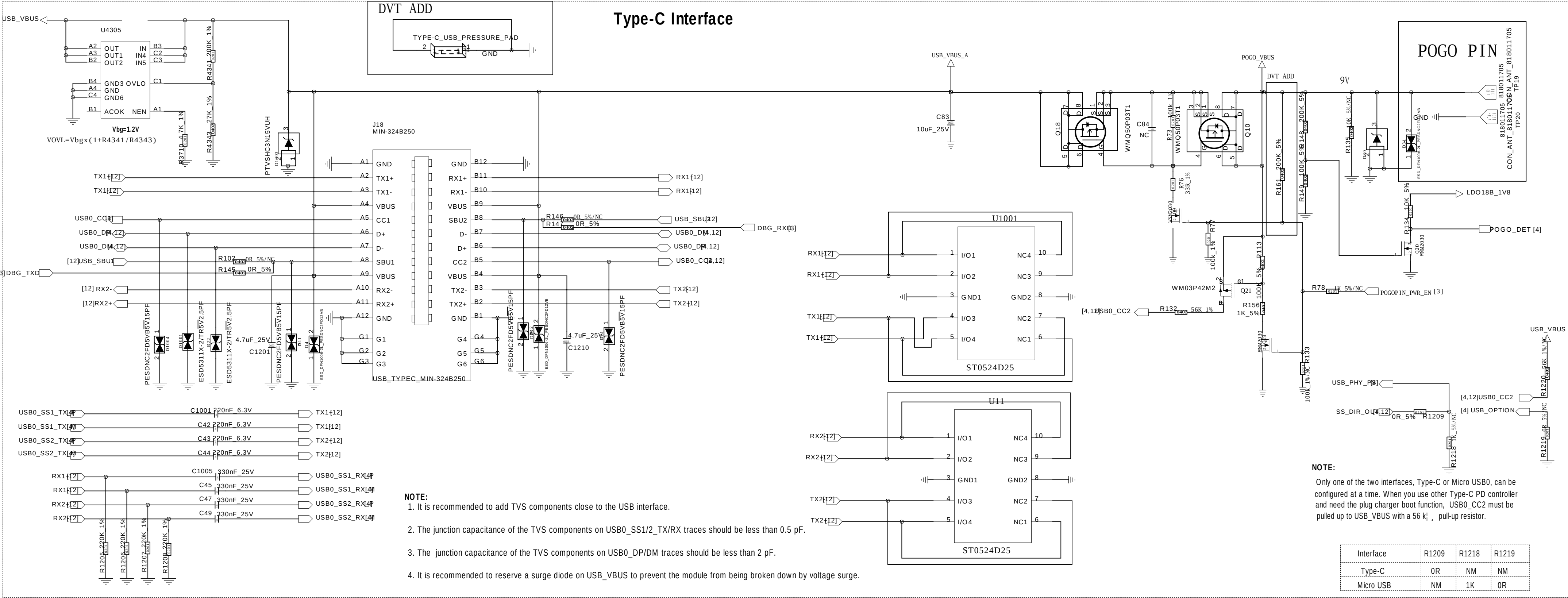


NOTE:

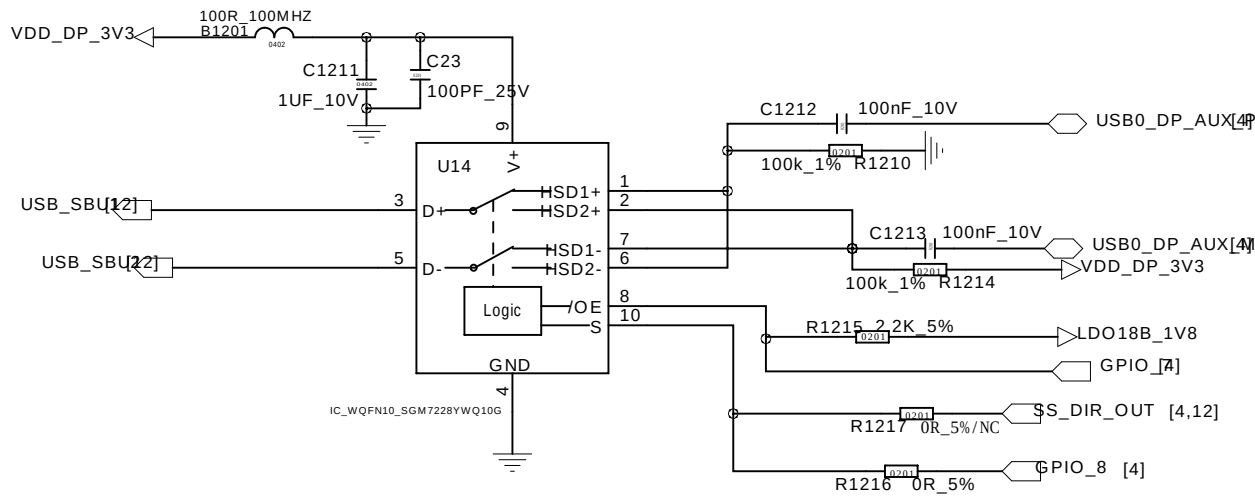
- 1. R1101~ CR1107 are used to improve signal quality.
- 2. The junction capacitance of D1101~ CD1107 cannot exceed 5 pF.

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USB Interfaces



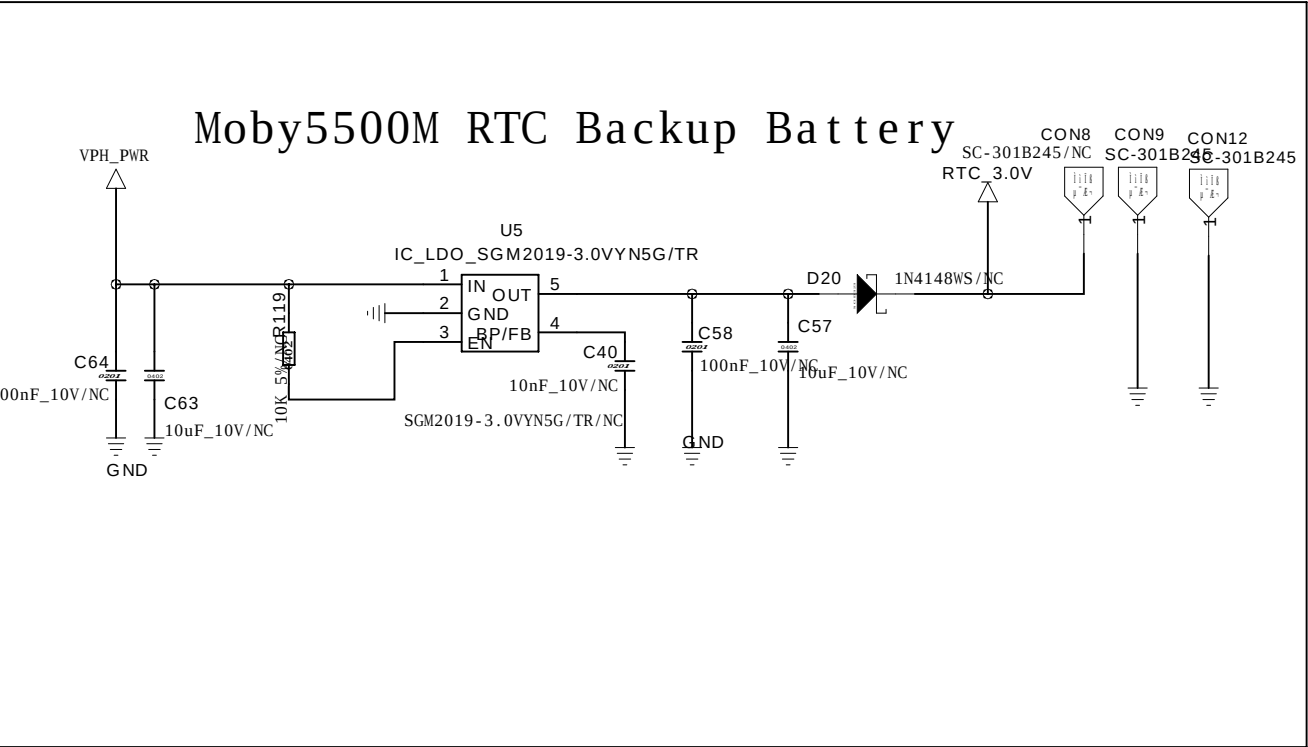
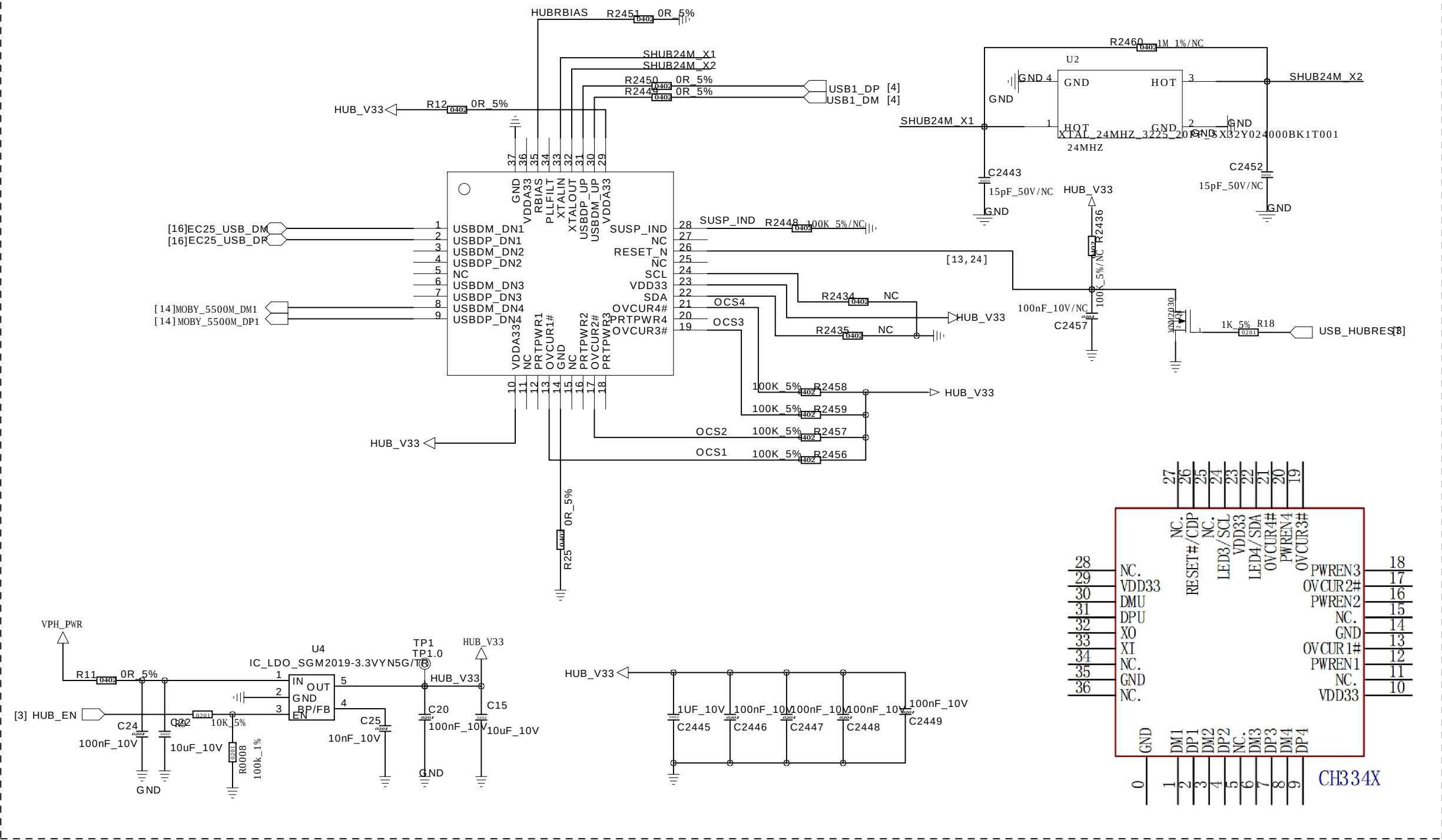
DisplayPort Interface



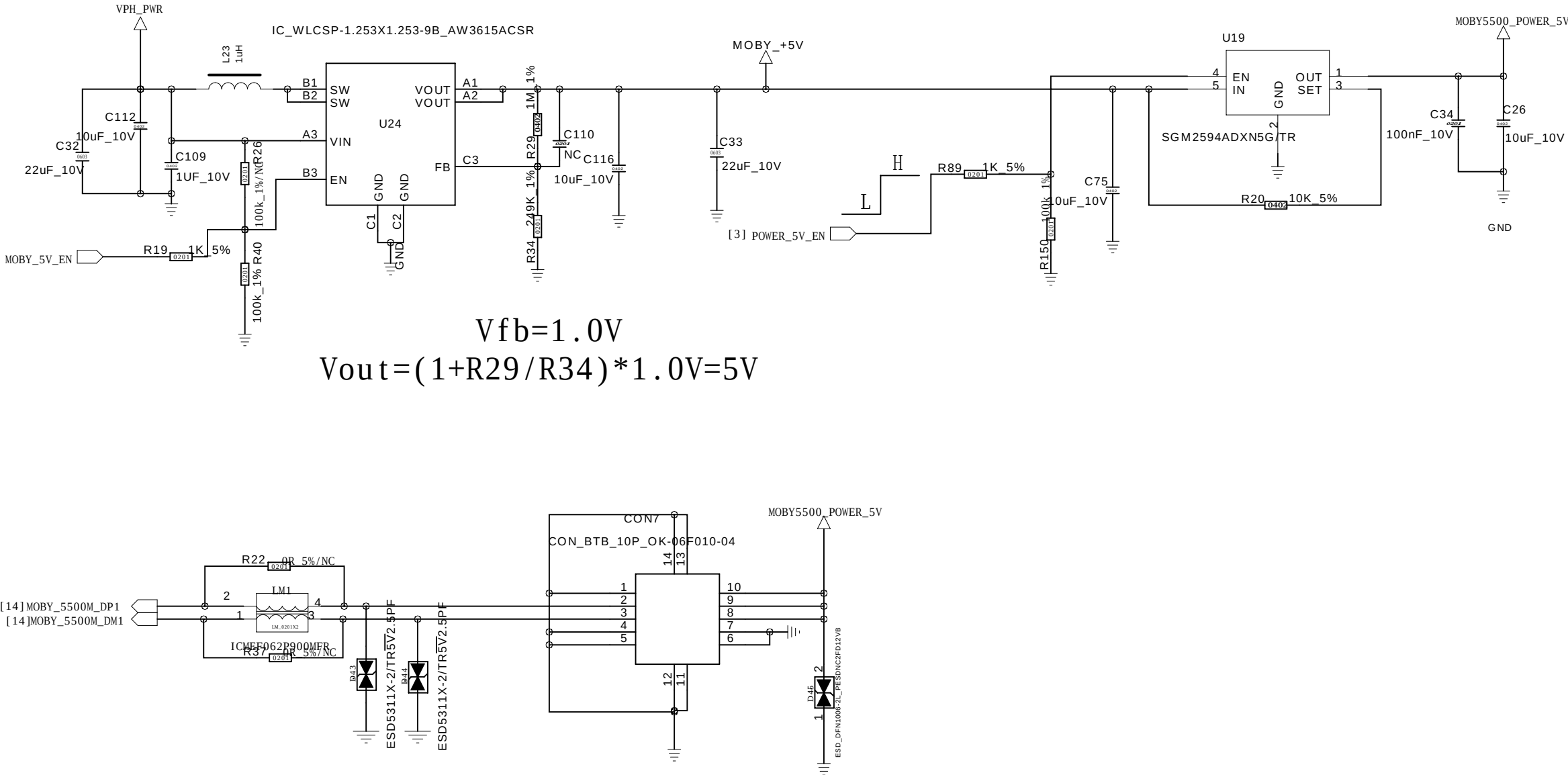
Quectel Wireless Solutions

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DATA	Tuesday, July 15, 2025	SHEET	12 OF 18

USB HUB

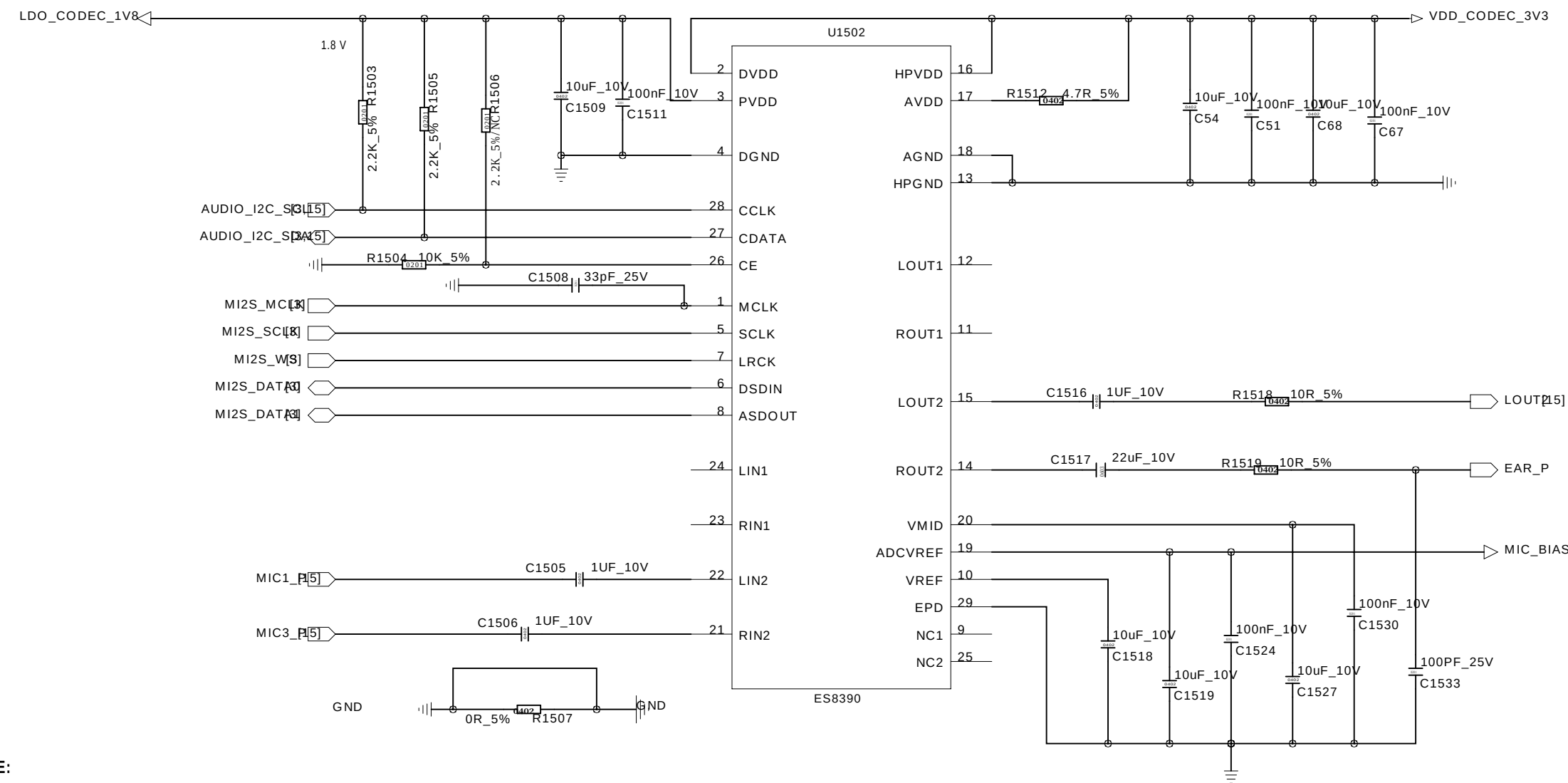


Vfb=1.0V
Vout=(1+R29/R34)*1.0V=5V

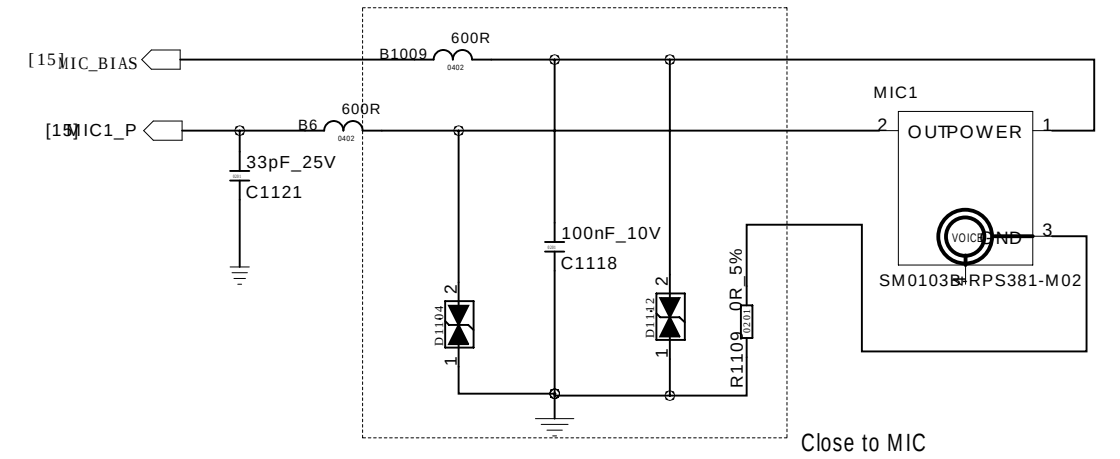


Quectel Wireless Solutions				
PROJECT	SG560D Series			VER 2.1
DRAWN BY	Cheney ZHANG	CHECKED BY	Iverson CHENG	SIZE A2
DATA	Tuesday, July 15, 2025	SHEET	14	OF 18

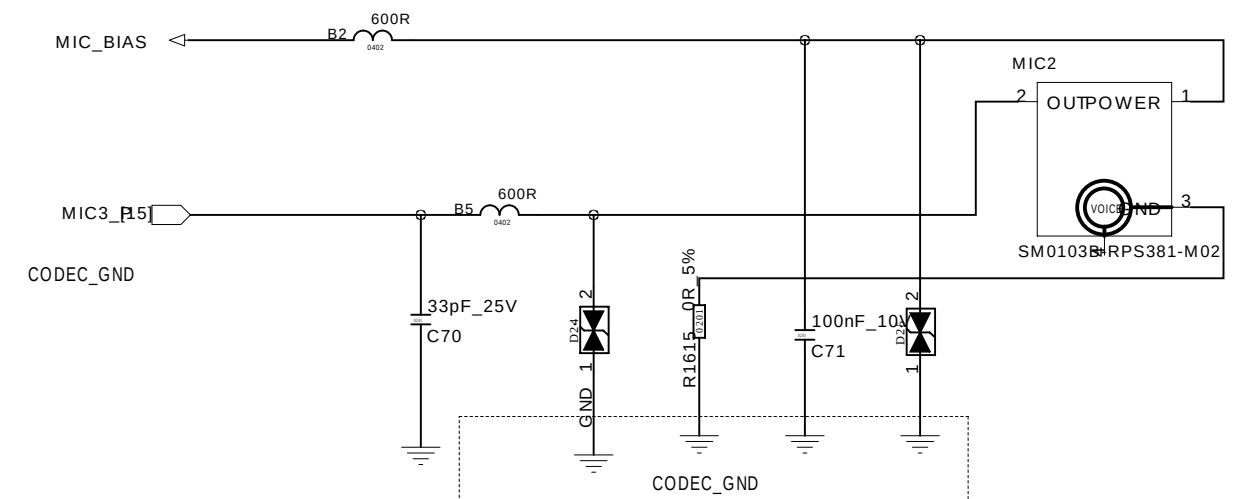
Codec



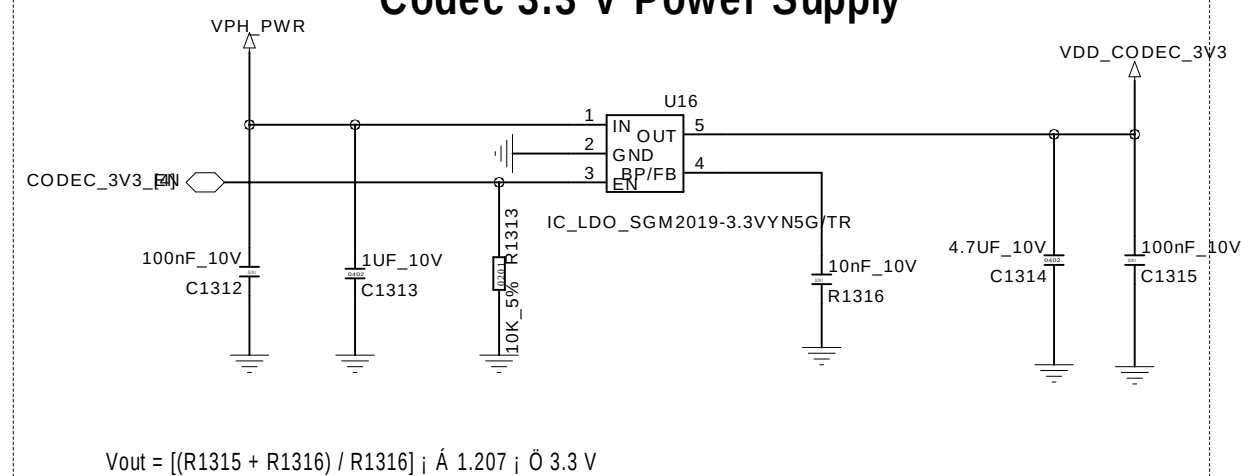
NOTE:
I2C address: 0x20



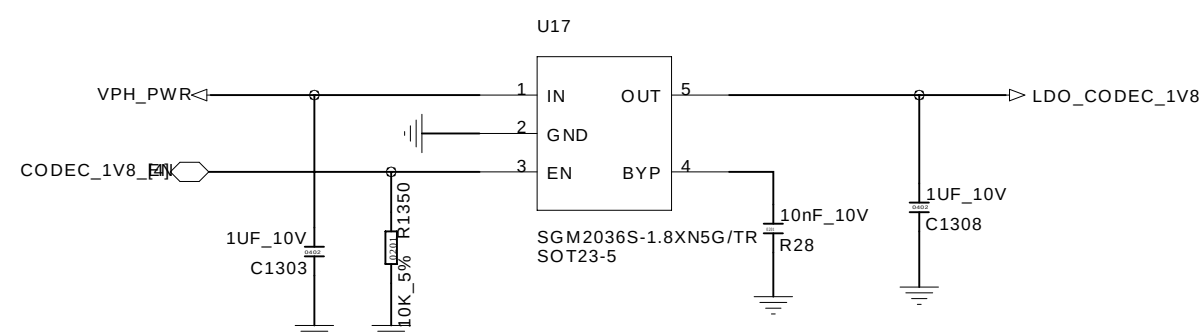
MEMS Microphone



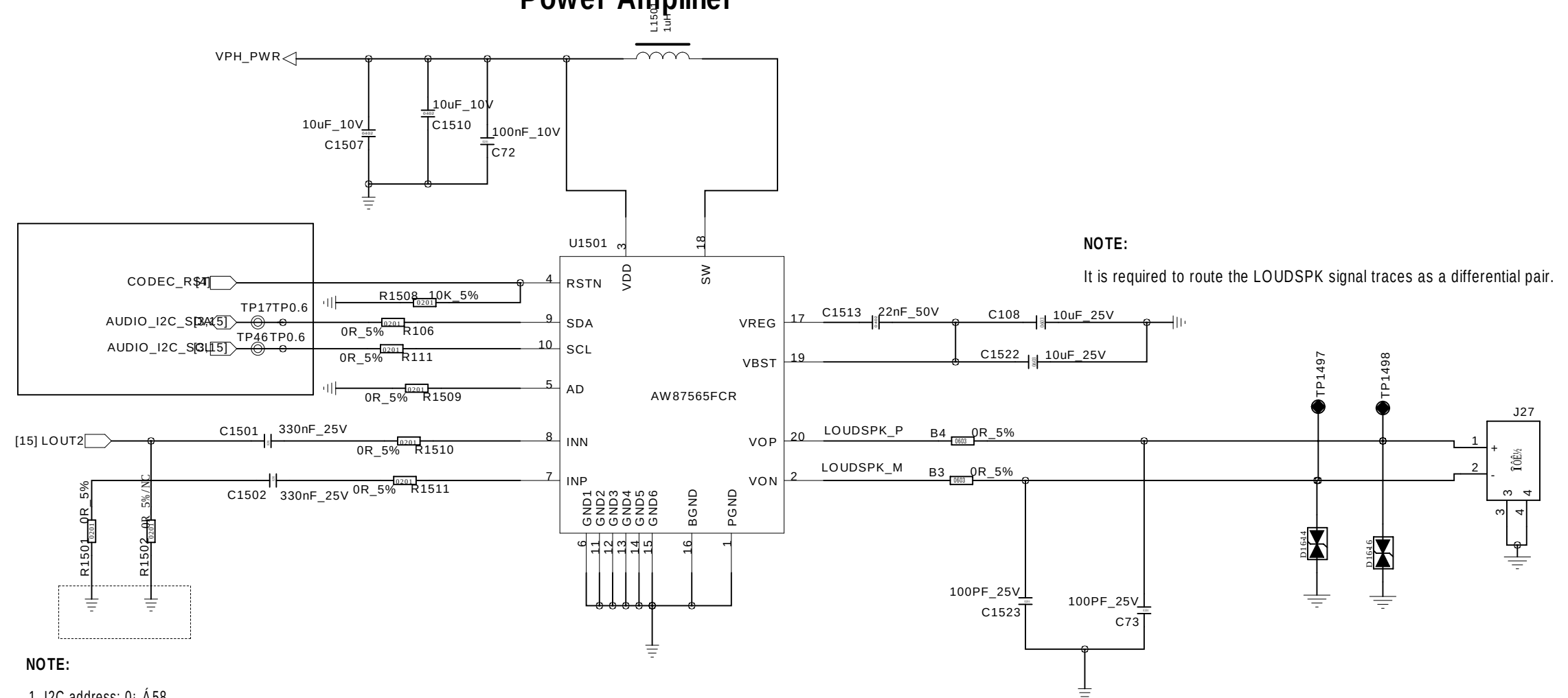
Codec 3.3 V Power Supply



Codec 1.8 V Power Supply



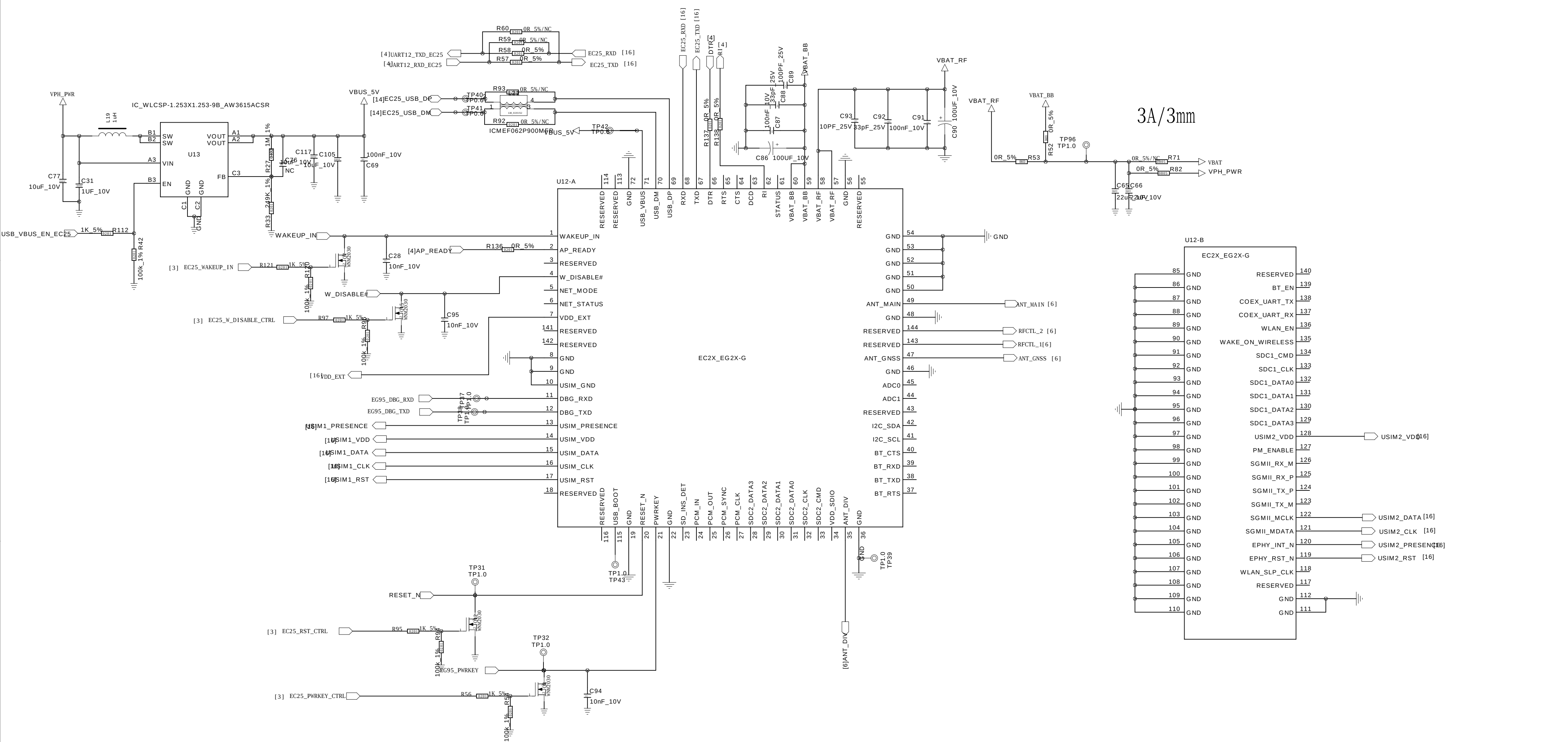
Power Amplifier



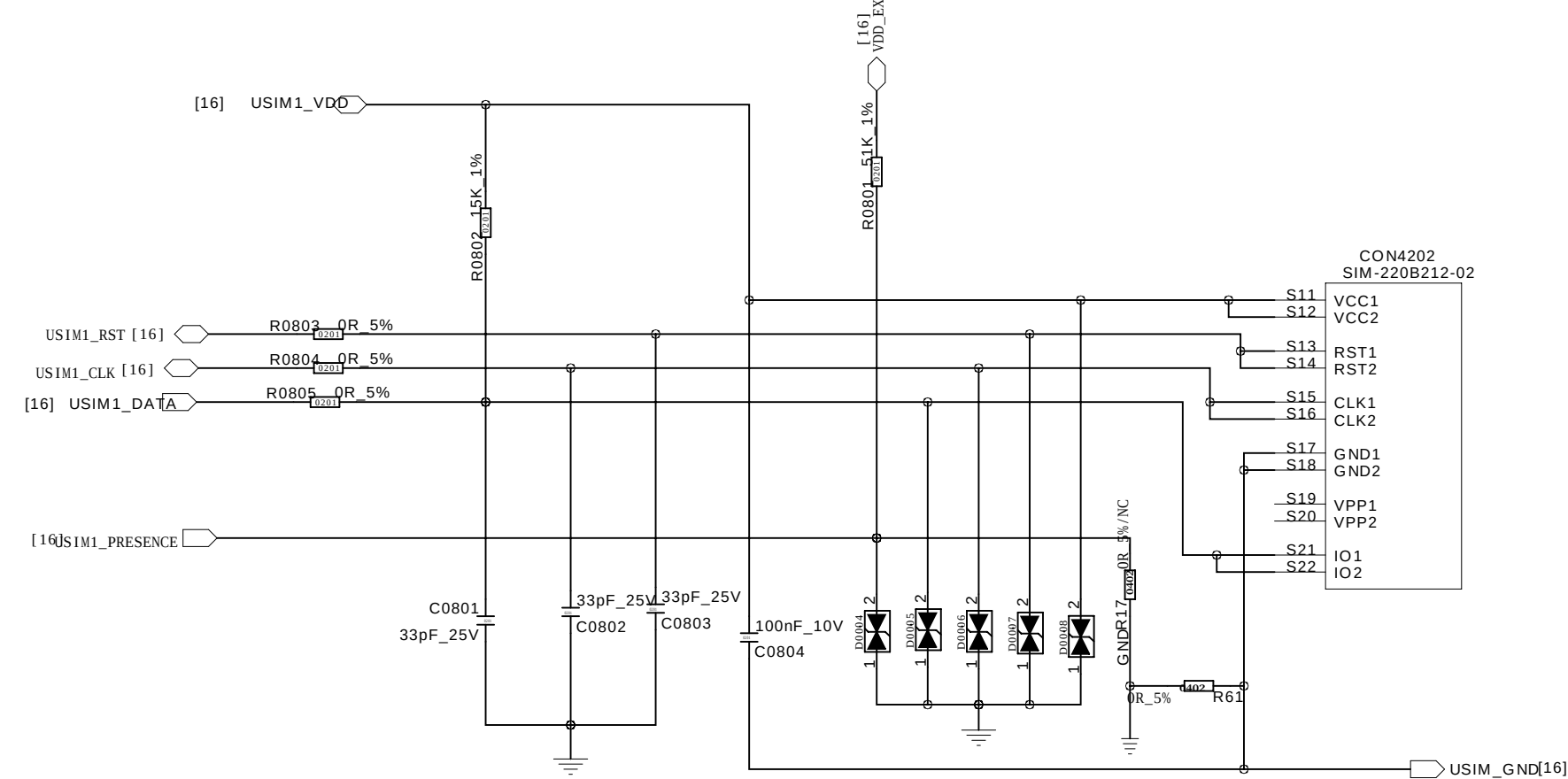
NOTE:

1. I2C address: 0j Å58
2. It is required to route the INN and INP signal traces as a differential pair.

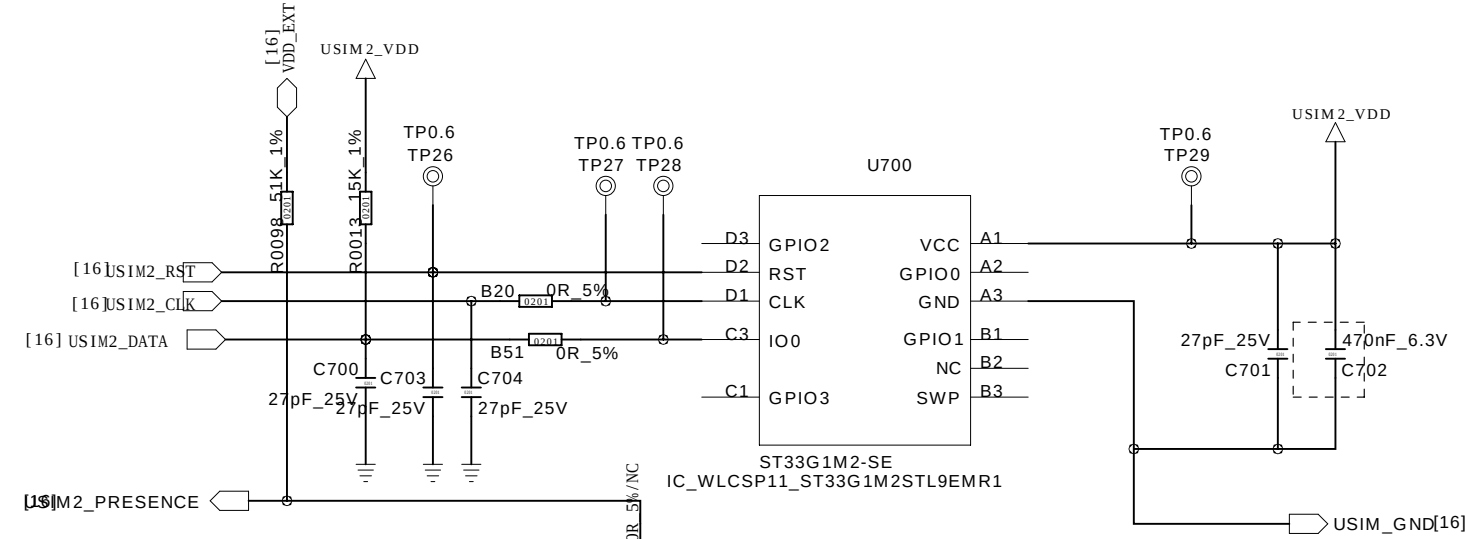
Quectel Wireless Solutions									
PROJECT						VER			
SG560D Series						2.1			
DRAWN BY				CHECKED BY			SIZE		
Cheney ZHANG				Iverson CHENG			A2		
DATA		Tuesday, July 15, 2025			1 SHEET		15 OF		18



(U)SIM1 Card



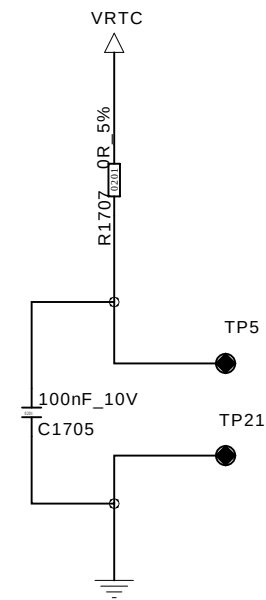
e-SIM



Quectel Wireless Solutions			
PROJECT	SG560D Series		VER 2.1
DRAWN BY	Cheney ZHANG	CHECKED BY	Iverson CHENG
DATA	Tuesday, July 15, 2025	SHEET	16 OF 18

Other Designs

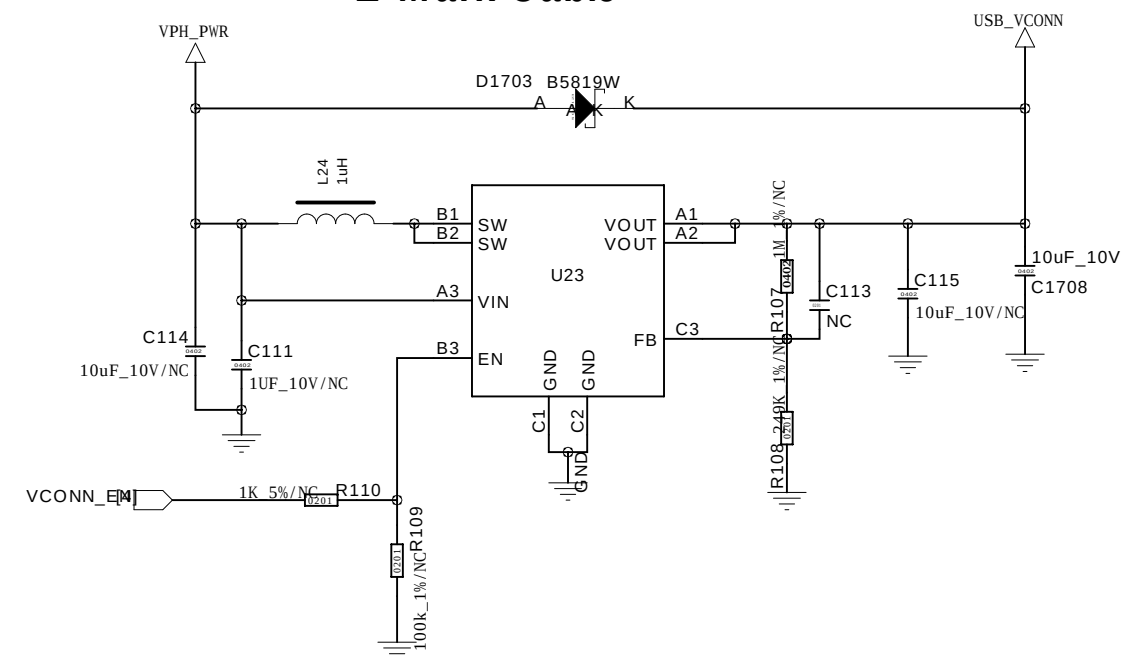
RGB Indicator Lights



NOTE:

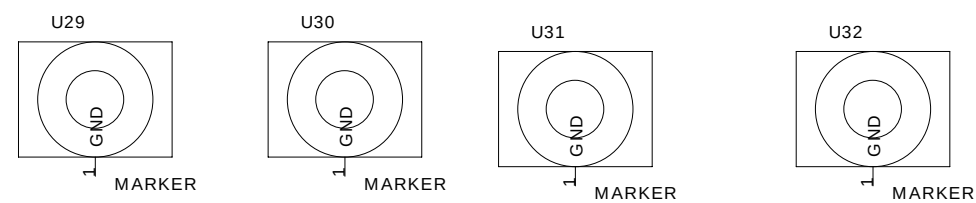
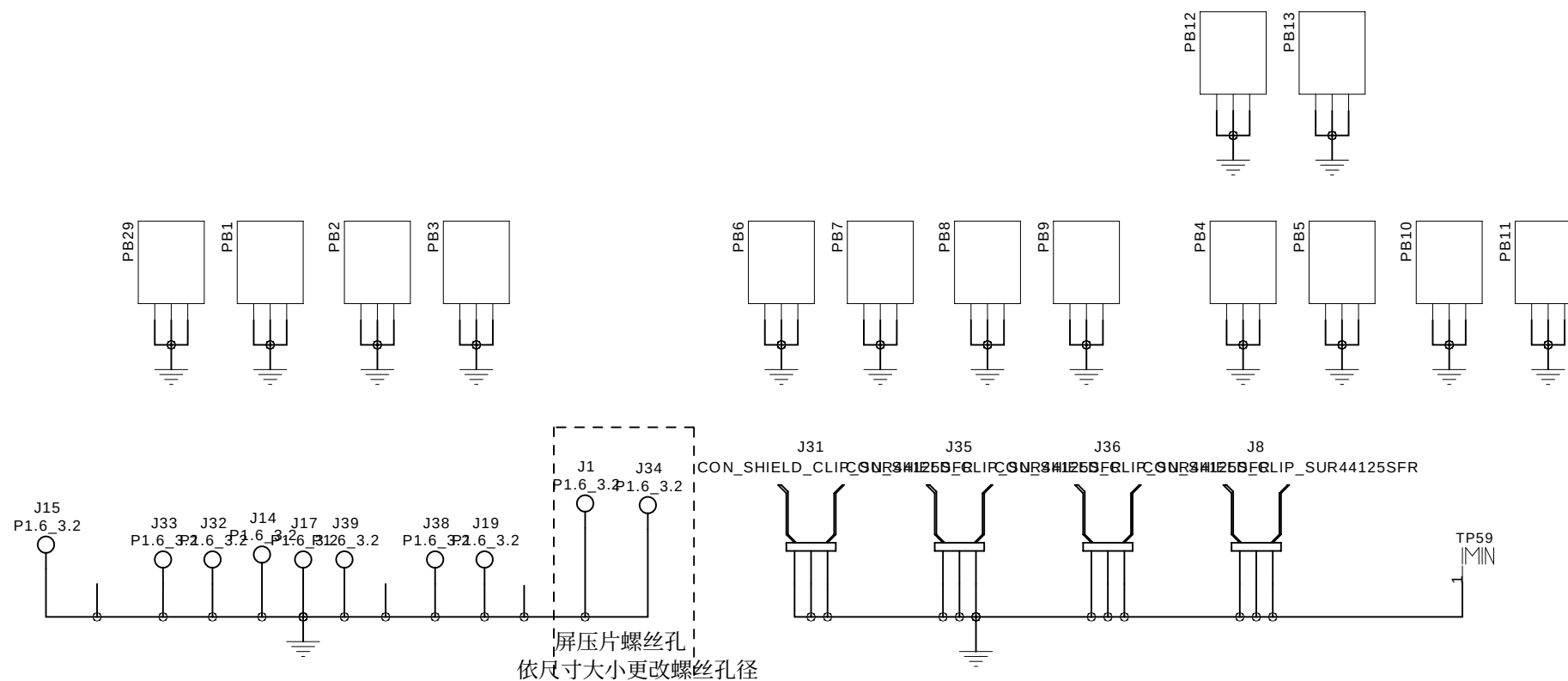
If RTC function is not needed, C1705 needs to be mounted.

RTC Backup Power Supply



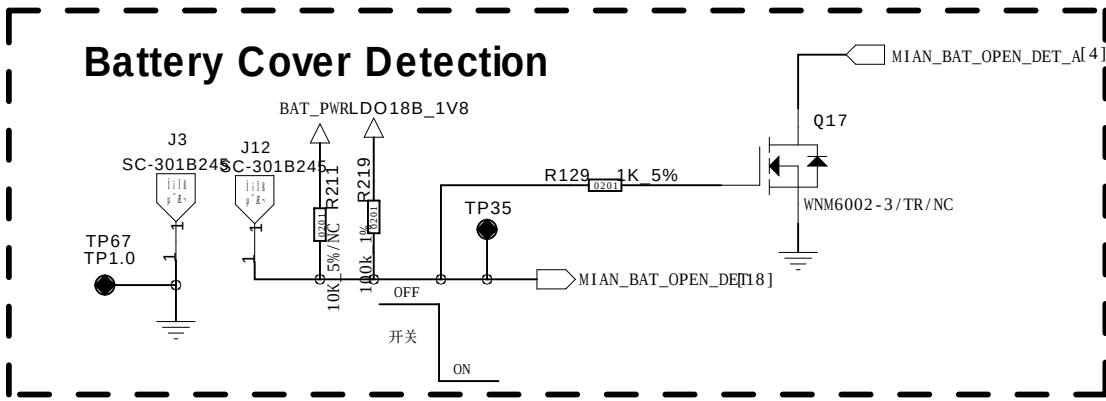
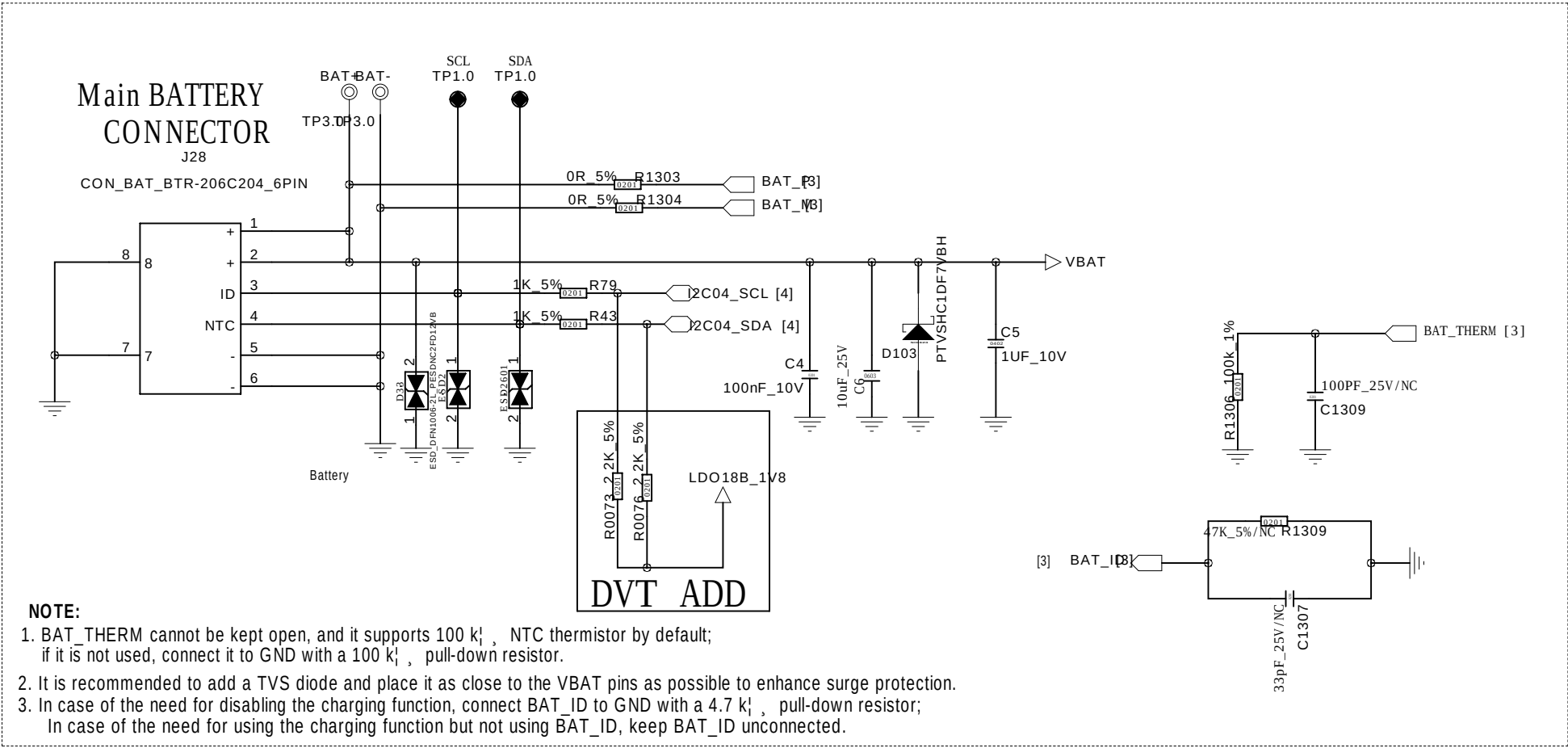
NOTE:

If E-Mark cable only supports 4.75" C5.5 V voltage, a boost circuit should be added.



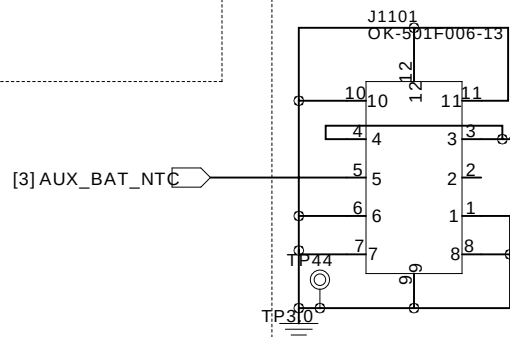
Quetcel Wireless Solutions									
PROJECT					VER				
SG560D Series					2.1				
DRAWN BY				CHECKED BY				SIZE	
Cheney ZHANG				Iverson CHENG				A2	
DATE			Tuesday, July 15, 2025			SHEET		17 OF 18	

Main Battery Interface



Battery Hot Swapping

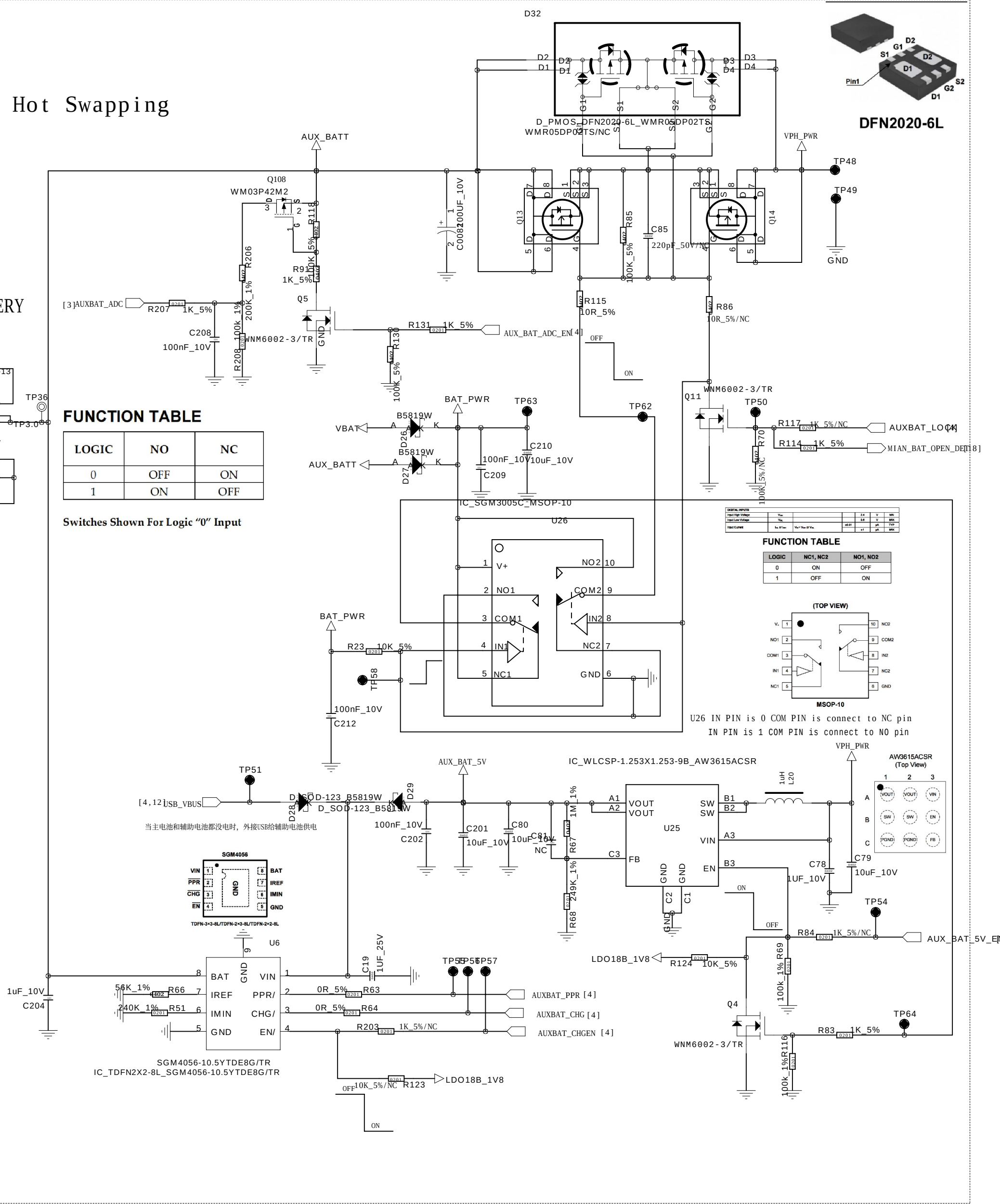
AUX BATTERY

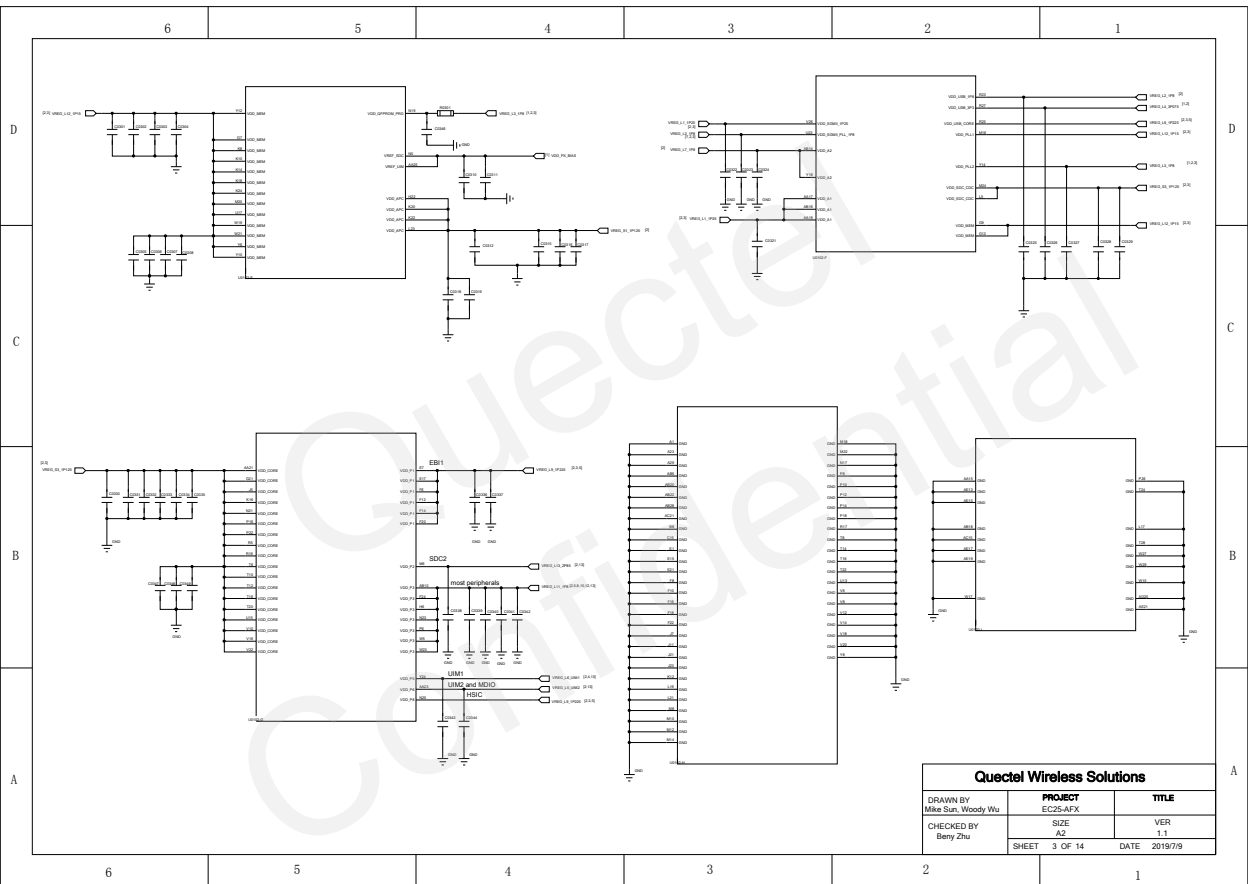


FUNCTION TABLE

LOGIC	NO	NC
0	OFF	ON
1	ON	OFF

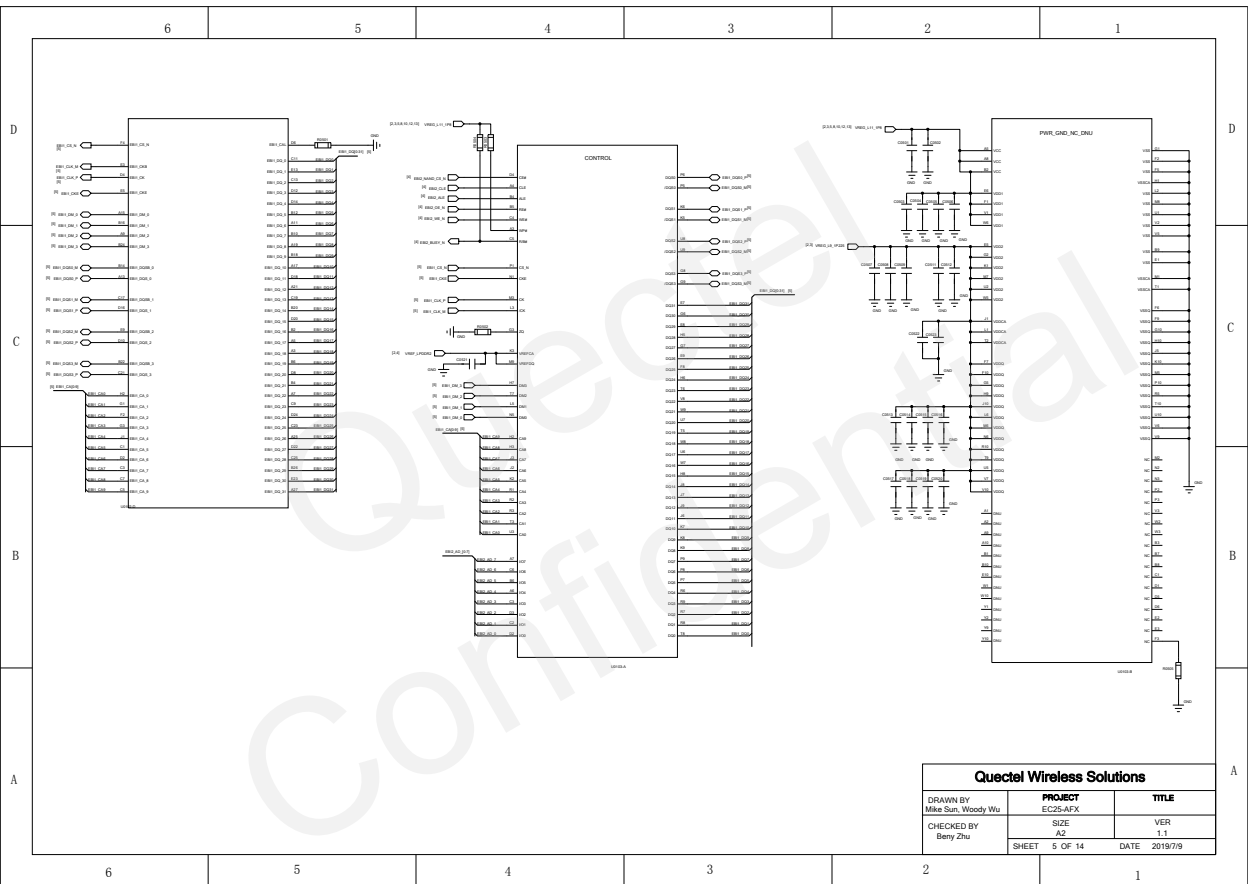
Switches Shown For Logic "0" Input





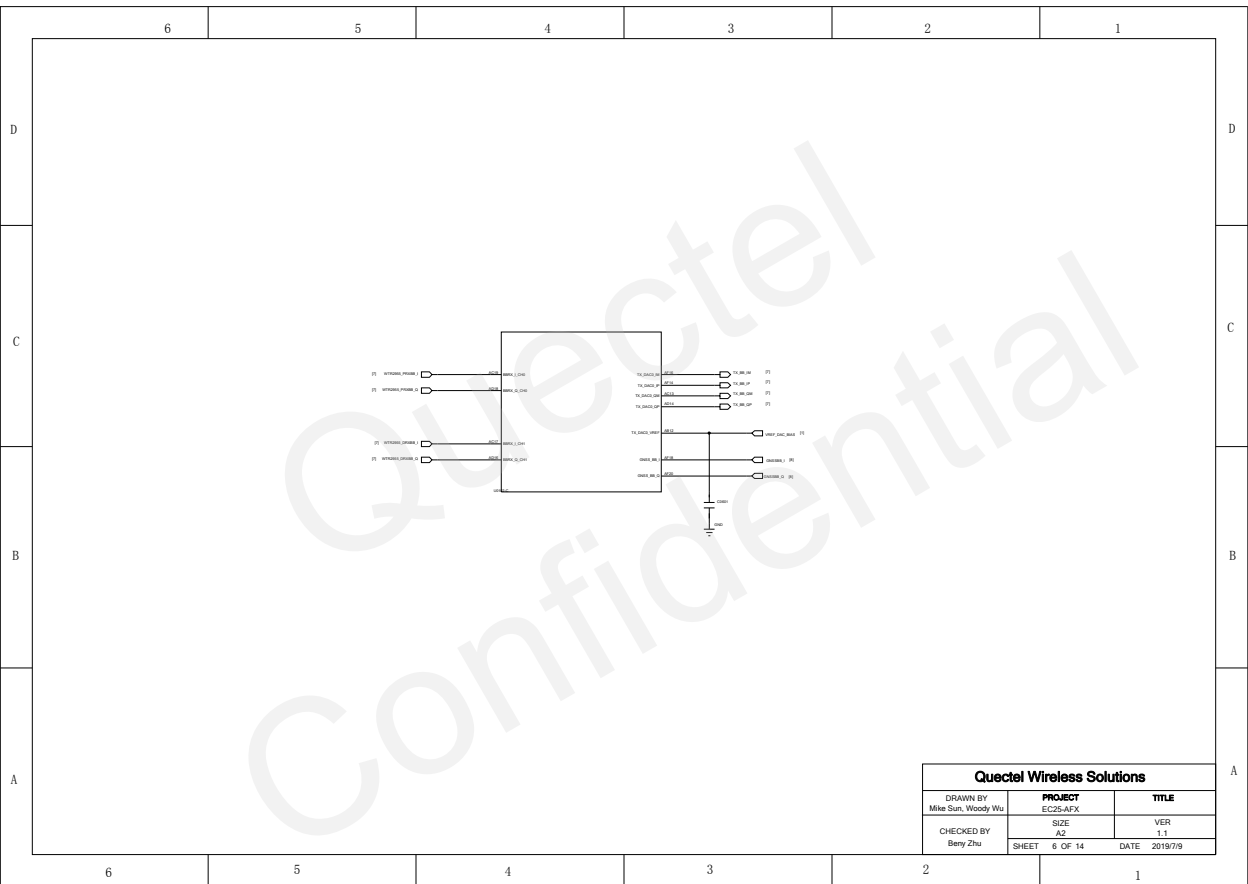
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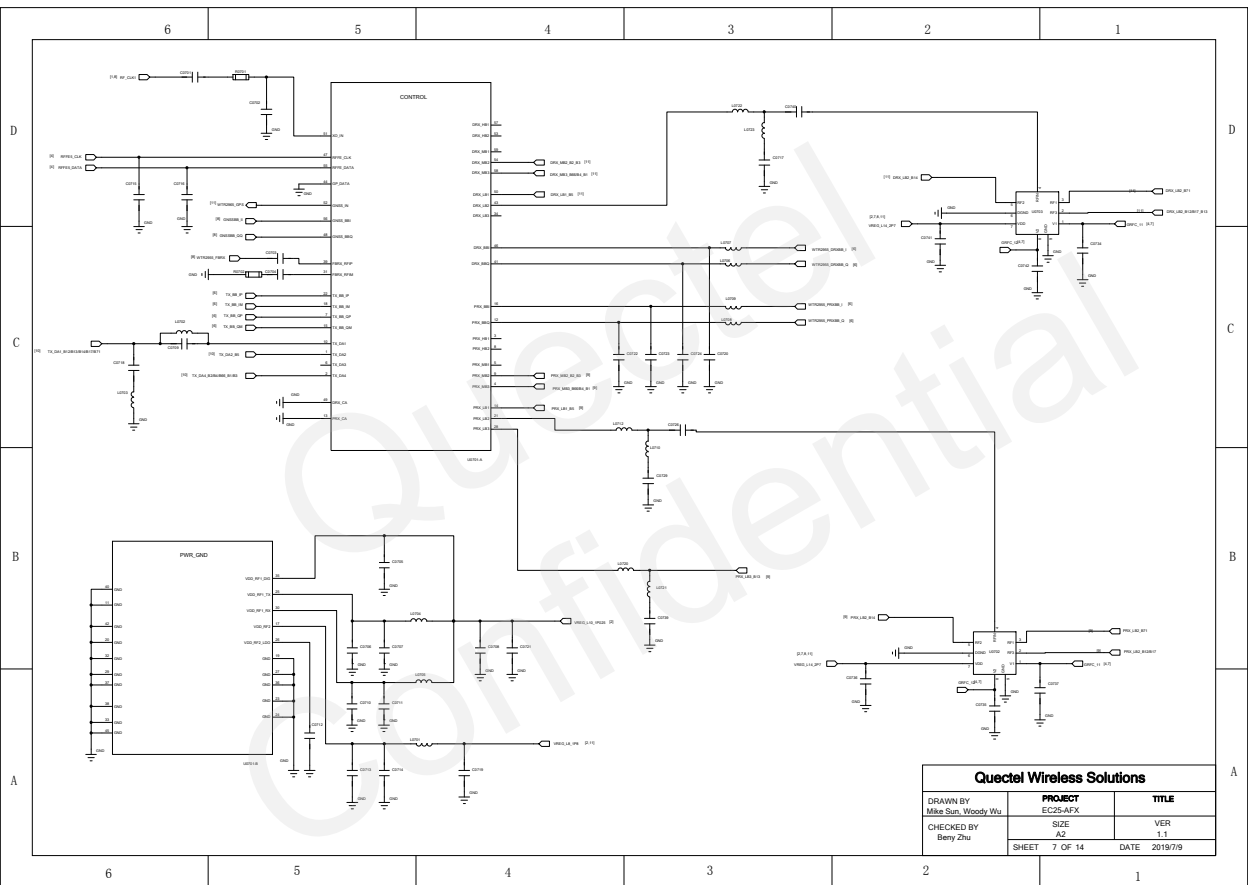
DRAWN BY Mike Sun, Woody Wu	PROJECT EC25-AFX	TITLE
CHECKED BY Beny Zhu	SIZE A3	VER 1.1
SHEET 3 OF 14		DATE 2019/7/9



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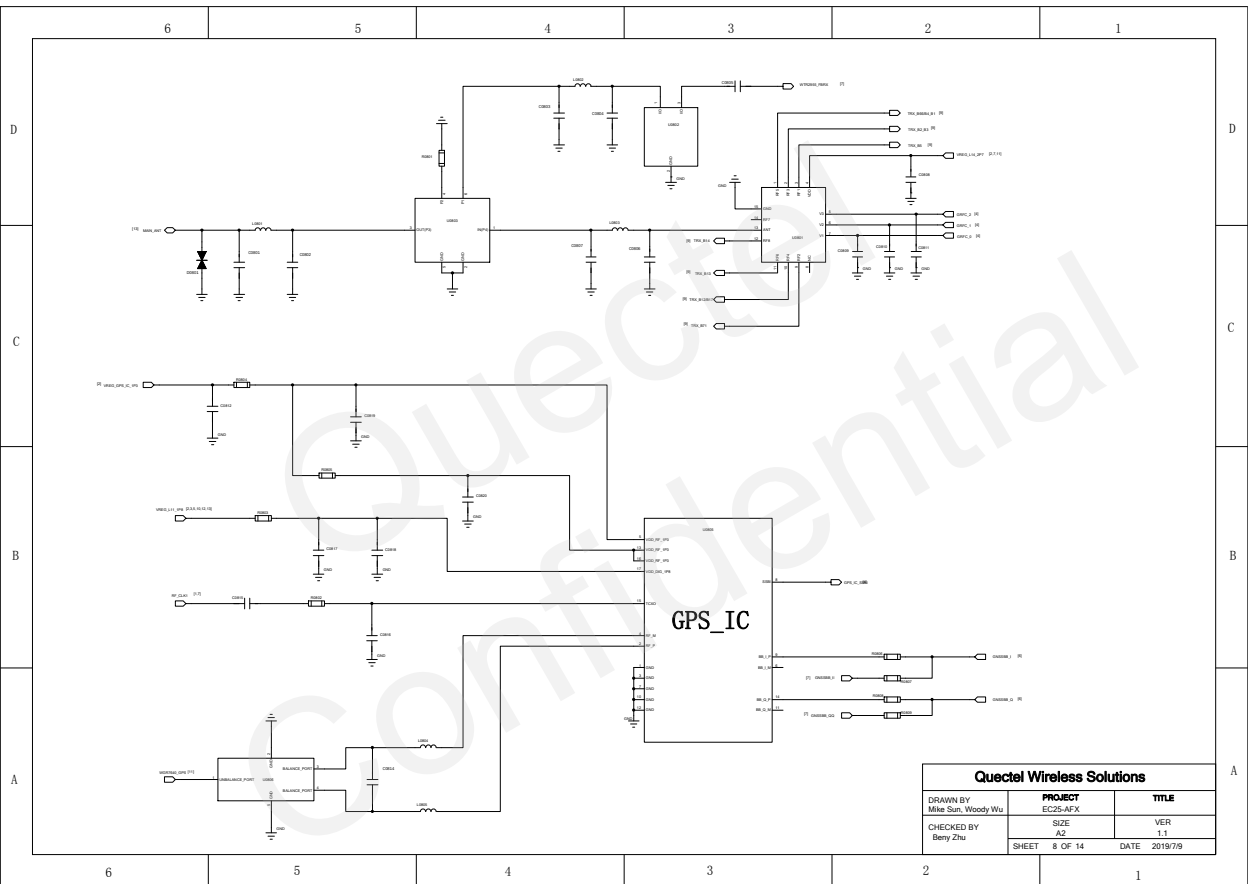
DRAWN BY Mike Sun, Woody Wu	PROJECT EC25-AFX	TITLE
	CHECKED BY Beny Zhu	VER 1.1
SHEET 5 OF 14		DATE 2019/7/9

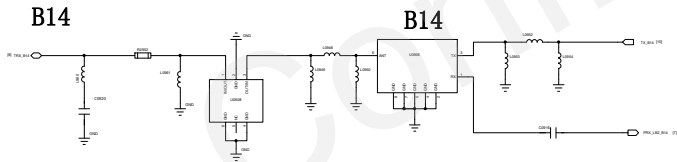
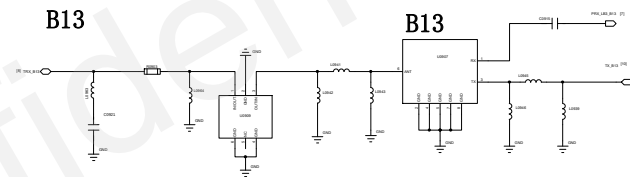
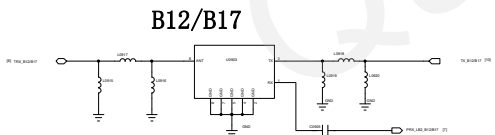
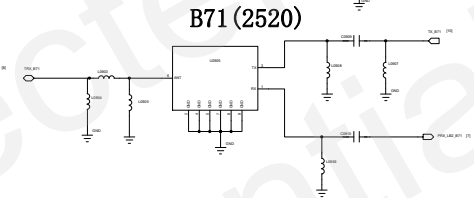
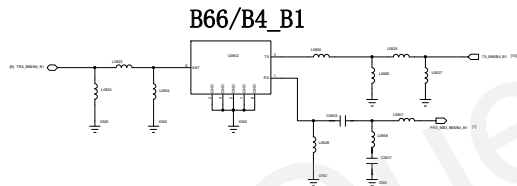
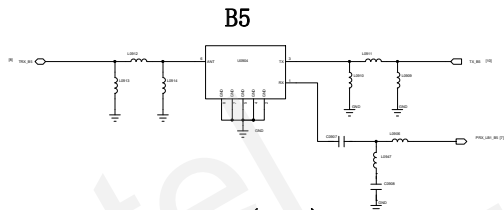
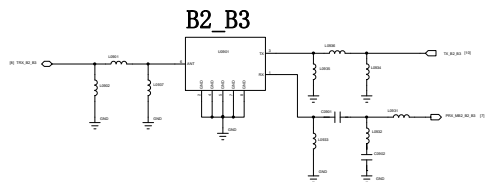




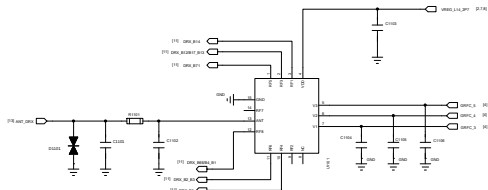
Quetcel Wireless Solutions

DRAWN BY Mike Sun, Woody Wj	PROJECT EC25-AFX	TITLE
CHECKED BY Beny Zhu	SIZE A3	VER 1.1
SHEET 7 OF 14		DATE 2019/7/9

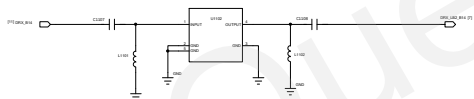




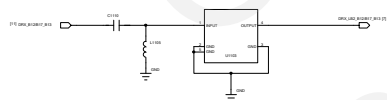
Quetel Wireless Solutions			
DRAWN BY Mike Sun, Woody Wu	PROJECT EC25-AFX		TITLE
	SIZE A2		VER 1.1
	SHEET 9 OF 14	DATE 2019/7/9	



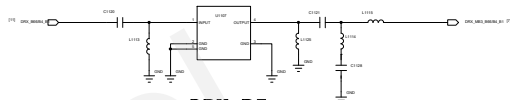
DRX_B14



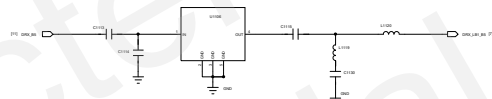
DRX_B12/B17_B13



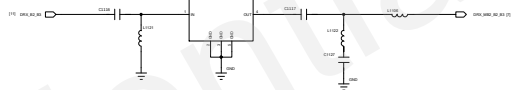
DRX_B66/B4_B1



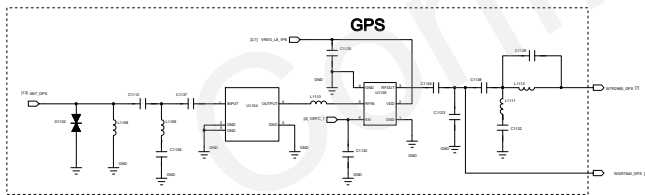
DRX_B5



DRX_B2_B3



DRX_B71 (1814)



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DRAWN BY Mike Sun, Woody Wu	PROJECT EC25-AFX	TITLE
CHECKED BY Beny Zhu	SIZE A3	VER 1.1
SHEET 110F 14	DATE 2019/7/9	

6

5

4

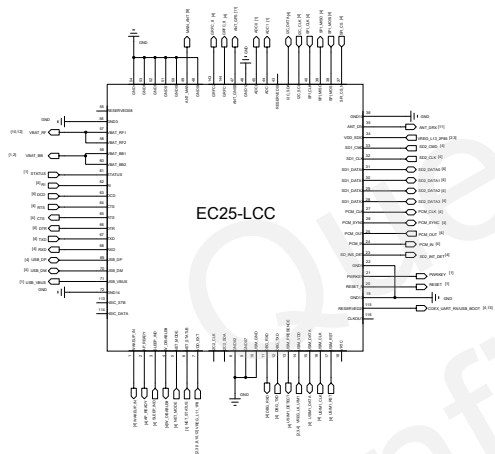
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2

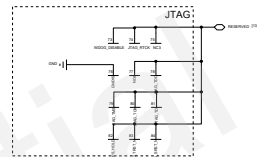
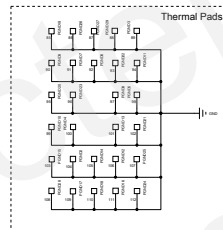
1

Module Interface

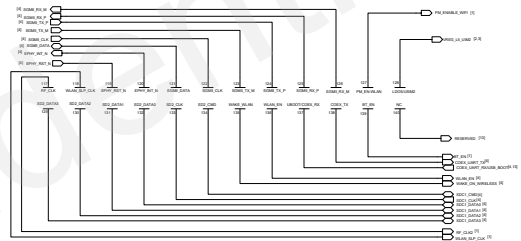
EC25-LGA



EC25-LCC



Additional functional pins



NET RESERVED is used to add via on PCB for this pins to improve connect stably.
In PCB, these pins will not be connected, and the error about this will be ignored.

Quectel Wireless Solutions

DRAWN BY Mike Sun, Woody Wu	PROJECT EC25-AFX	TITLE
CHECKED BY Beny Zhu	SIZE A2	VER 1.1
SHEET 13 OF 14	DATE 2019/7/9	

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5

4

3

2

1

