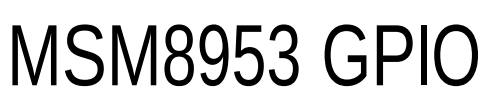
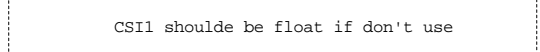


MSM8953 EBI



<Company Name>



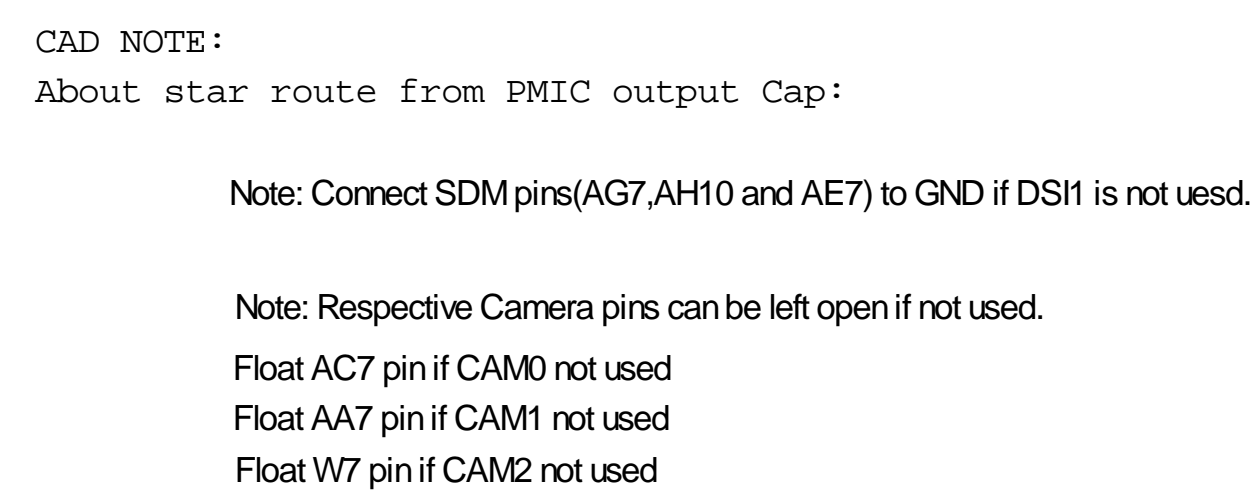
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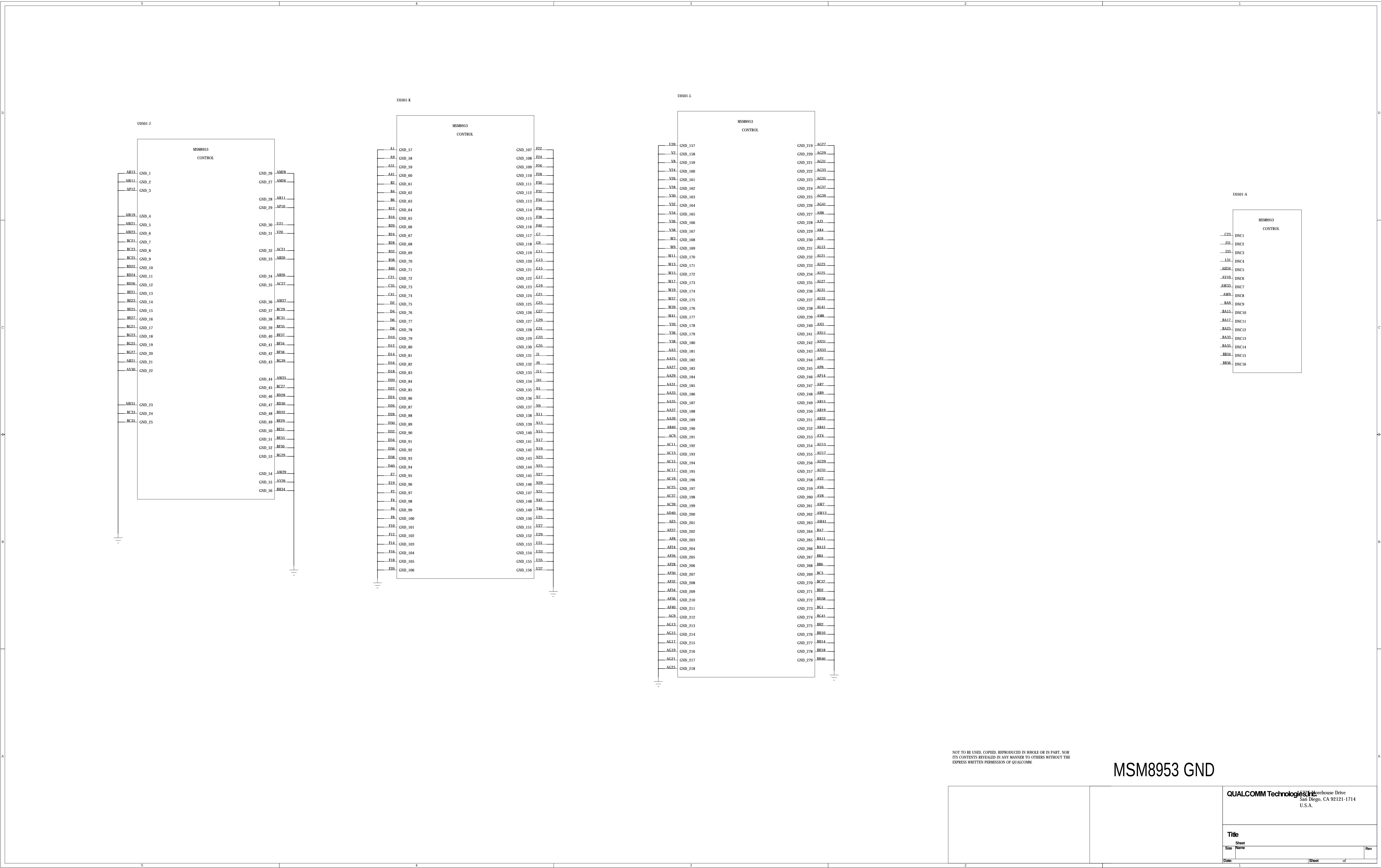
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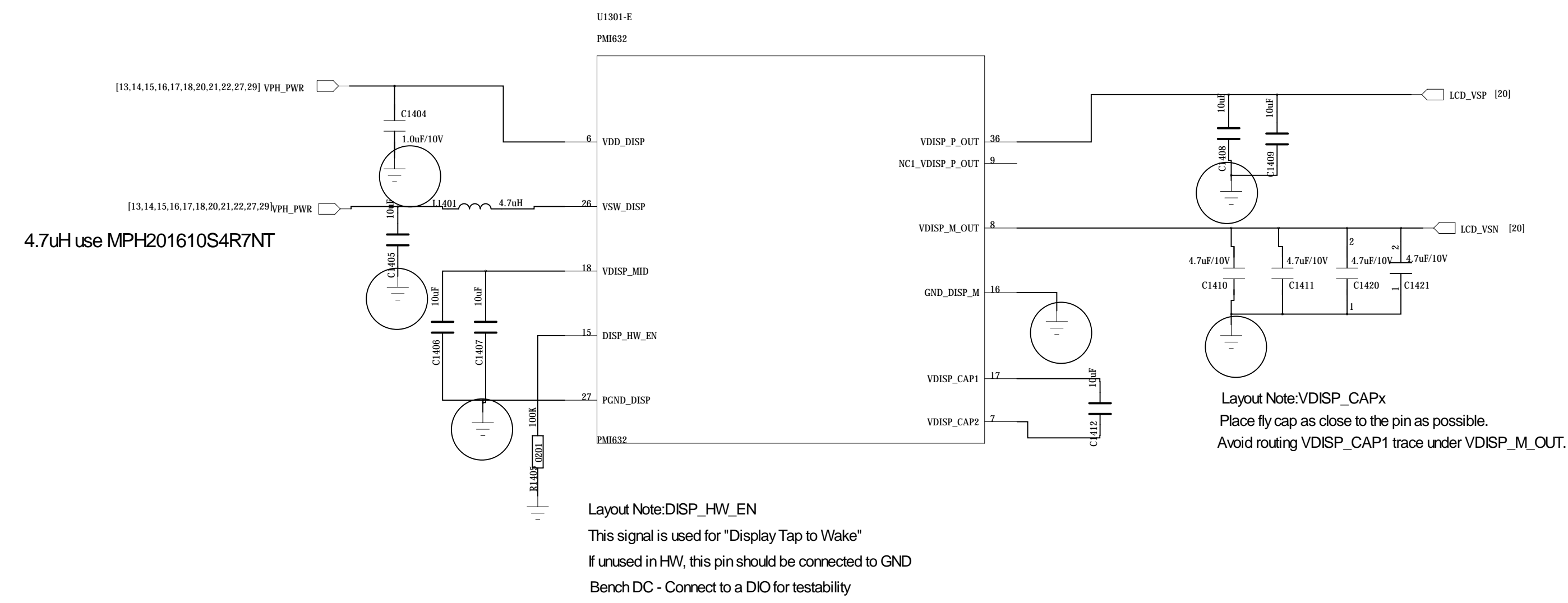
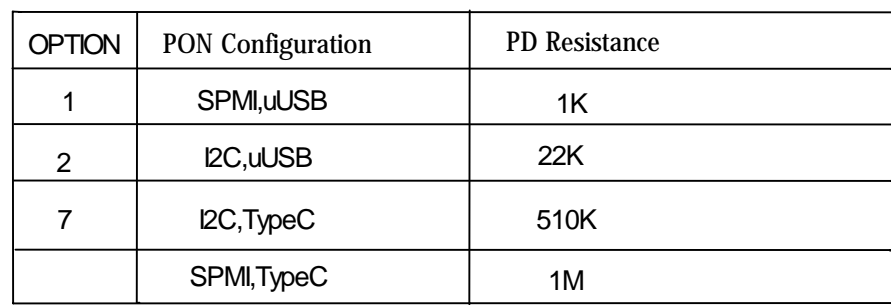
MSM8953 GND

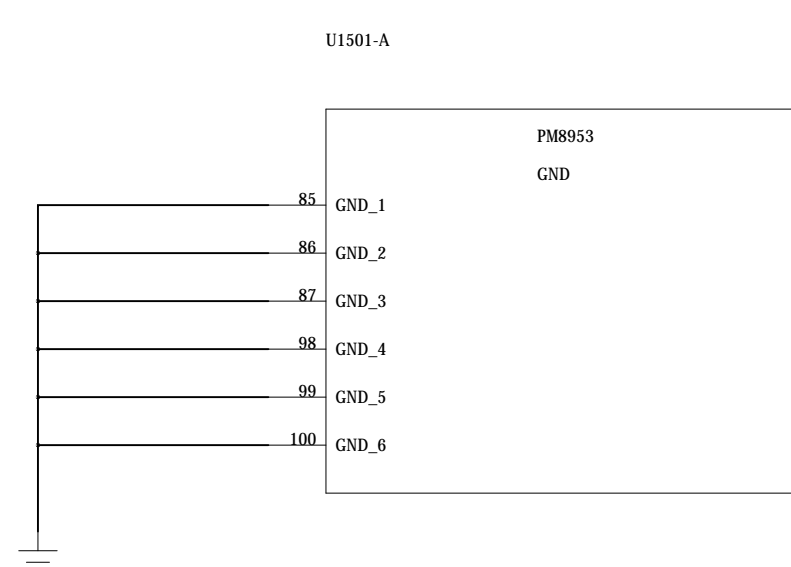
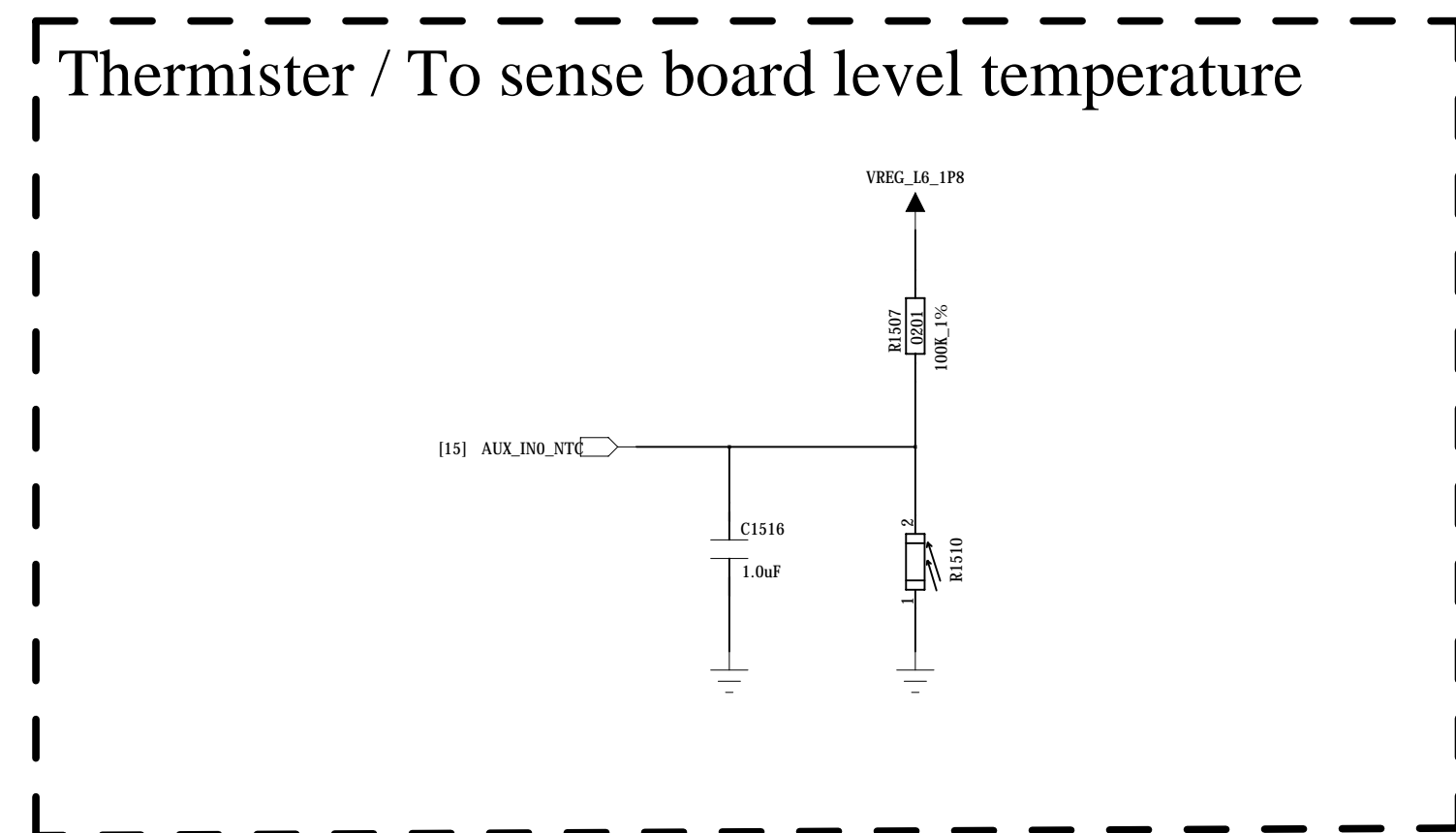
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San Diego, CA 92121-1714  
U.S.A.

Title		
Sheet	1	Rev
Date	Sheet	of

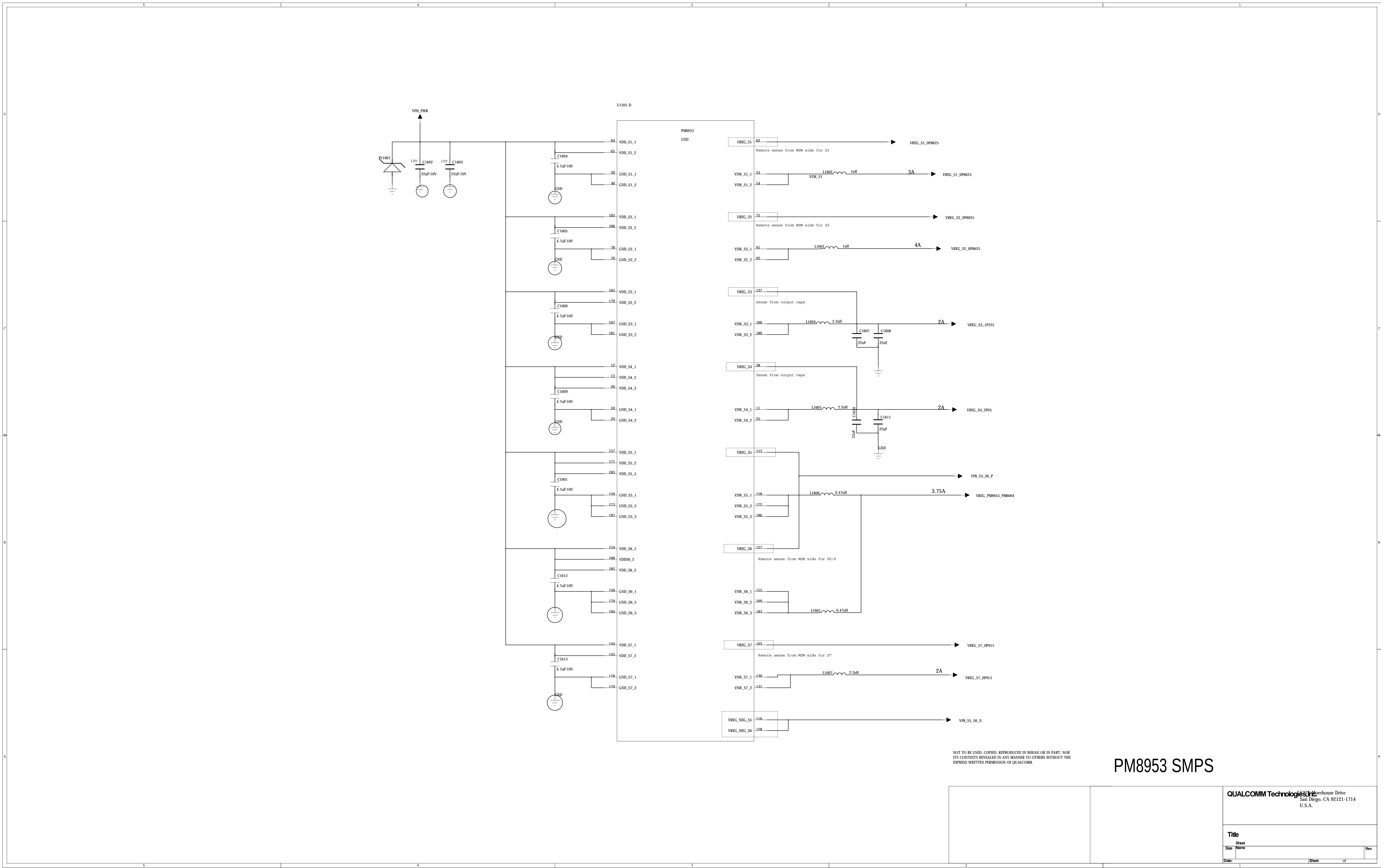








PM8953 Control/Interface



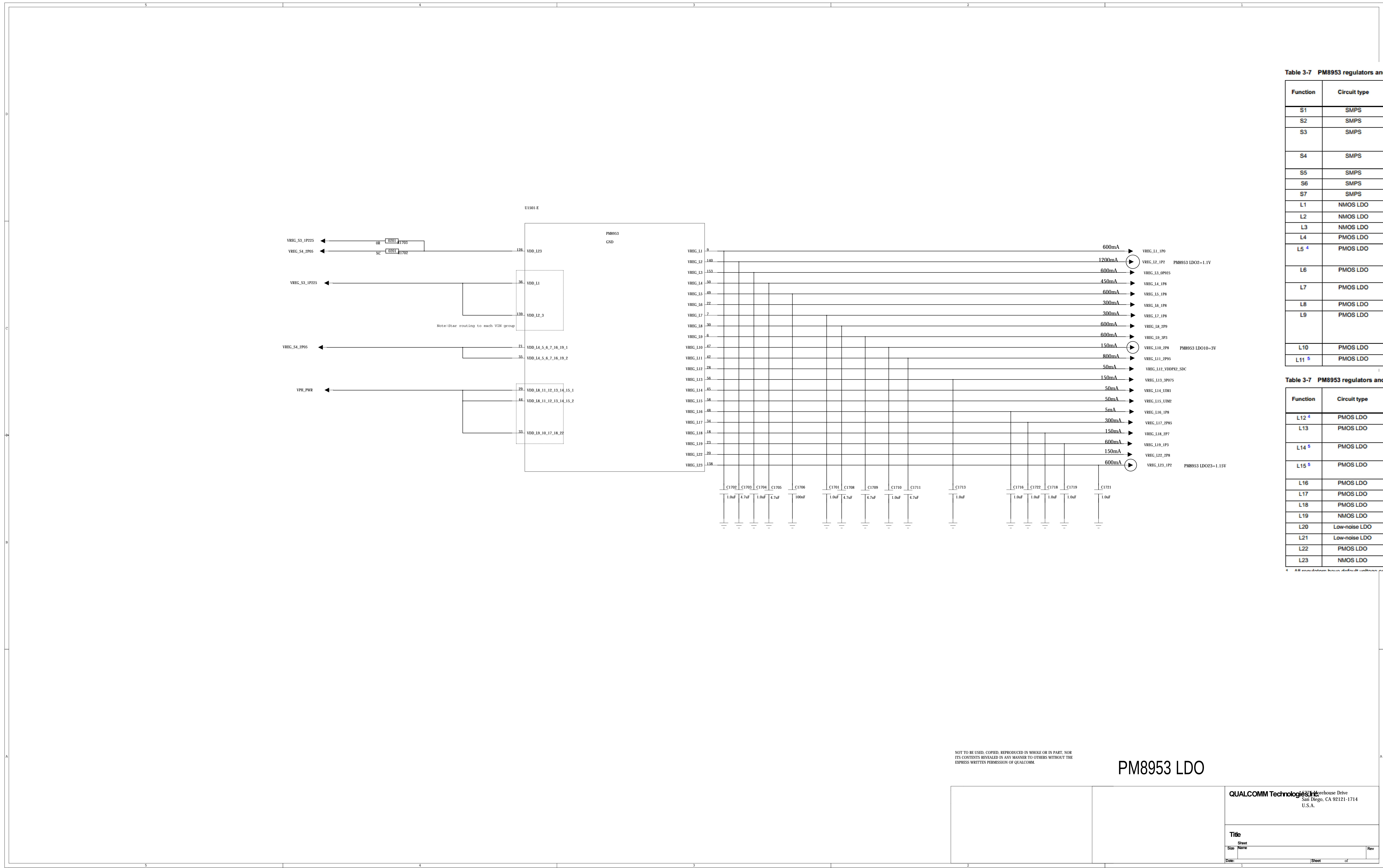


Table 3-7 PM8953 regulators and their intended uses

Function	Circuit type	Default voltage (V) <sup>1</sup>	Specified range (V) <sup>1</sup> (MSM8953/SDM450)	Programmable range (V)	Rated current (mA)	Default on	Expected use (MSM8953/SDM450)	
S1	SMPS	0.87	0.4–1.14	0.32–2.04	3000	N	MSM modem	
S2	SMPS	0.87	0.4–1.14	0.32–2.04	4000	Y	MSM core and graphics	
S3	SMPS	1.225	1.2–1.25	0.32–2.04	2000	Y	LPDDR2 and LPDDR3, MIPI CSI, and CSI Low-voltage LDOs (1, 2, 3, and 23)	
S4	SMPS	2.04	1.8–2.04	0.32–2.04	2000	Y	High-voltage LDOs (4, 5, 6, 7, 16, 19 RFCLK, and XO)	
S5	SMPS	0.87	0.4–1.14	0.350–1.355	3750	Y	MSM applications processor	
S6	SMPS	0.87	0.4–1.14	0.350–1.355	3750	Y	MSM applications processor	
S7	SMPS	0.915	0.4–1.14	0.32–2.04	2000	Y	MSM VDD memory rail (VDDMX)	
L1	NMOS LDO	1.0 <sup>3</sup>	1.0 <sup>3</sup>	0.375–1.5375	600	N	RFICs	
L2	NMOS LDO	1.100	1.100	0.375–1.5375	1200	N	Camera: digital	
L3	NMOS LDO	0.925	0.925	0.375–1.5375	600	Y	MSM DSI PLL and USB	
L4	PMOS LDO	1.800	1.800	1.750–3.3375	450	N	RFICs and GPS eLNA	
L5 <sup>4</sup>	PMOS LDO	1.800	1.800	1.750–3.3375	600	Y	Most digital I/Os, MSM pad groups 3 and 7, LPDDR, and eMMC	
L6	PMOS LDO	1.800	1.800	1.750–3.3375	300	N	MSM QFPROM, camera, touchscreen, display, and sensors	
L7	PMOS LDO	1.800	1.800	1.750–3.3375	300	Y	MSM analog, USB and PLLs, WCN XO, and PM baseband clock driver	
L8	PMOS LDO	2.900	2.900	1.750–3.3375	600	Y	eMMC	
L9	PMOS LDO	$V_{out} = 3.3\text{ V for } V_{BAT} > 3.575\text{ V}$ $V_{out} = 3\text{ V for } V_{BAT} < 3.575\text{ V}$		3.000–3.300	1.750–3.3375	600	N	WCN
L10	PMOS LDO	3.0	3.0	1.750–3.3375	150	N	Sensors and touchscreen	
L11 <sup>5</sup>	PMOS LDO	2.950	2.950	1.750–3.3375	800	Y	Micro SD	

Table 3-7 PM8953 regulators and their intended uses (cont.)

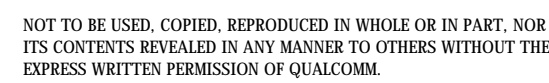
Function	Circuit type	Default voltage (V) <sup>1</sup>	Specified range (V) <sup>2</sup> (MSM8953/SDM450)	Programmable range (V)	Rated current (mA)	Default on	Expected use (MSM8953/SDM450)
L12 <sup>4</sup>	PMOS LDO	2.950	1.800/3.350	1.750–3.3375	50	Y	MSM pad group 2
L13	PMOS LDO	3.125	3.125	1.750–3.3375	150	Y	MSM USB and PMIC and external codec audio
L14 <sup>5</sup>	PMOS LDO	1.800	1.800/3	1.750–3.3375	50	N	MSM pad group 5, dual-voltage UIM1, and NFC
L15 <sup>5</sup>	PMOS LDO	1.800	1.800/3	1.750–3.3375	50	N	MSM pad group 6 and dual-voltage UIM2
L16	PMOS LDO	1.800	1.800	1.750–3.3375	5	N	PMIC HKADC
L17	PMOS LDO	2.850	2.850	1.750–3.3375	300	N	Camera and display
L18	PMOS LDO	2.700	2.700	1.750–3.3375	150	N	QTI RF front-end
L19	NMOS LDO	1.350	1.350	0.375–1.5375	600	N	MSM analog, WCN, and WGR
L20	Low-noise LDO	1.74	1.74	1.74–3.3375	5	Y	PMIC XO circuits
L21	Low-noise LDO	1.74	1.74	1.74–3.3375	5	Y	PMIC RF clock buffers
L22	PMOS LDO	2.800	2.800	1.750–3.3375	150	N	Camera: analog
L23	NMOS LDO	1.15	1.15	0.375–1.5375	600	N	Camera: digital

<sup>1</sup> All conclusions have default values unless otherwise specified. <sup>2</sup> The values are the values and state decodes from the recommended load sequence (RLS) specification.

## PM8953 LDO

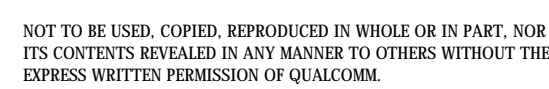
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Title	
Doc No.	Rev
Doc No.	Rev





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Date	Sheet of

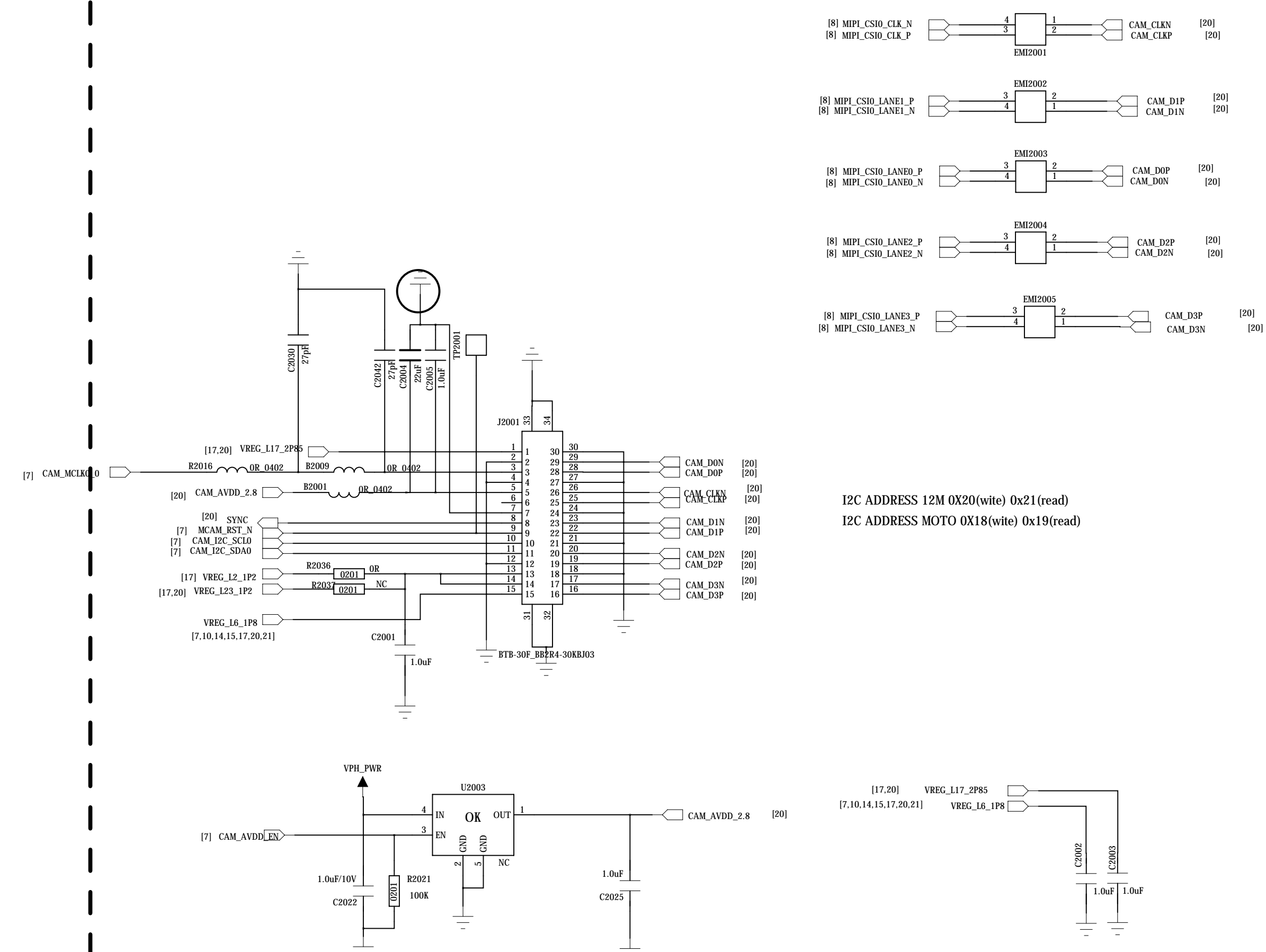


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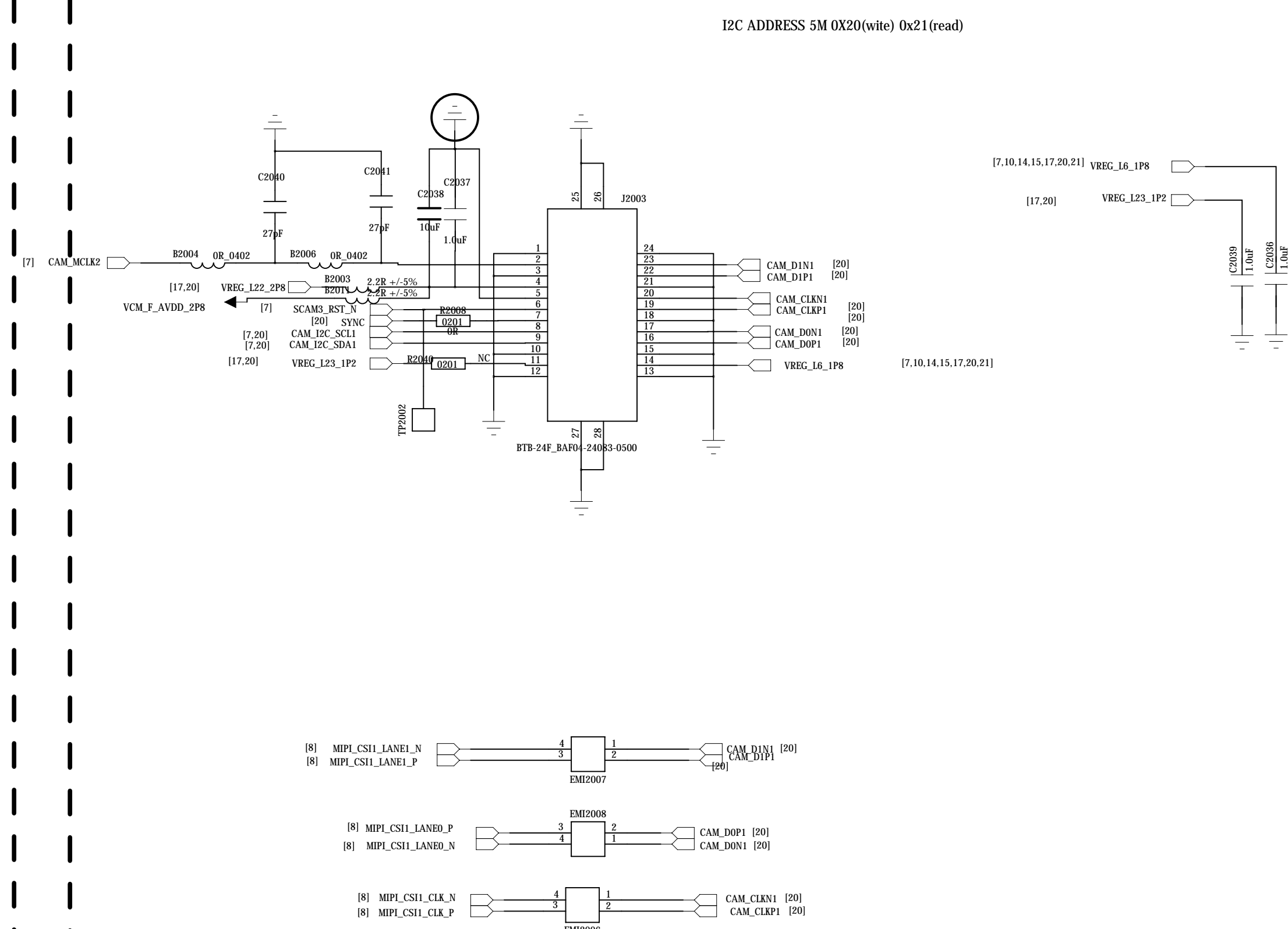
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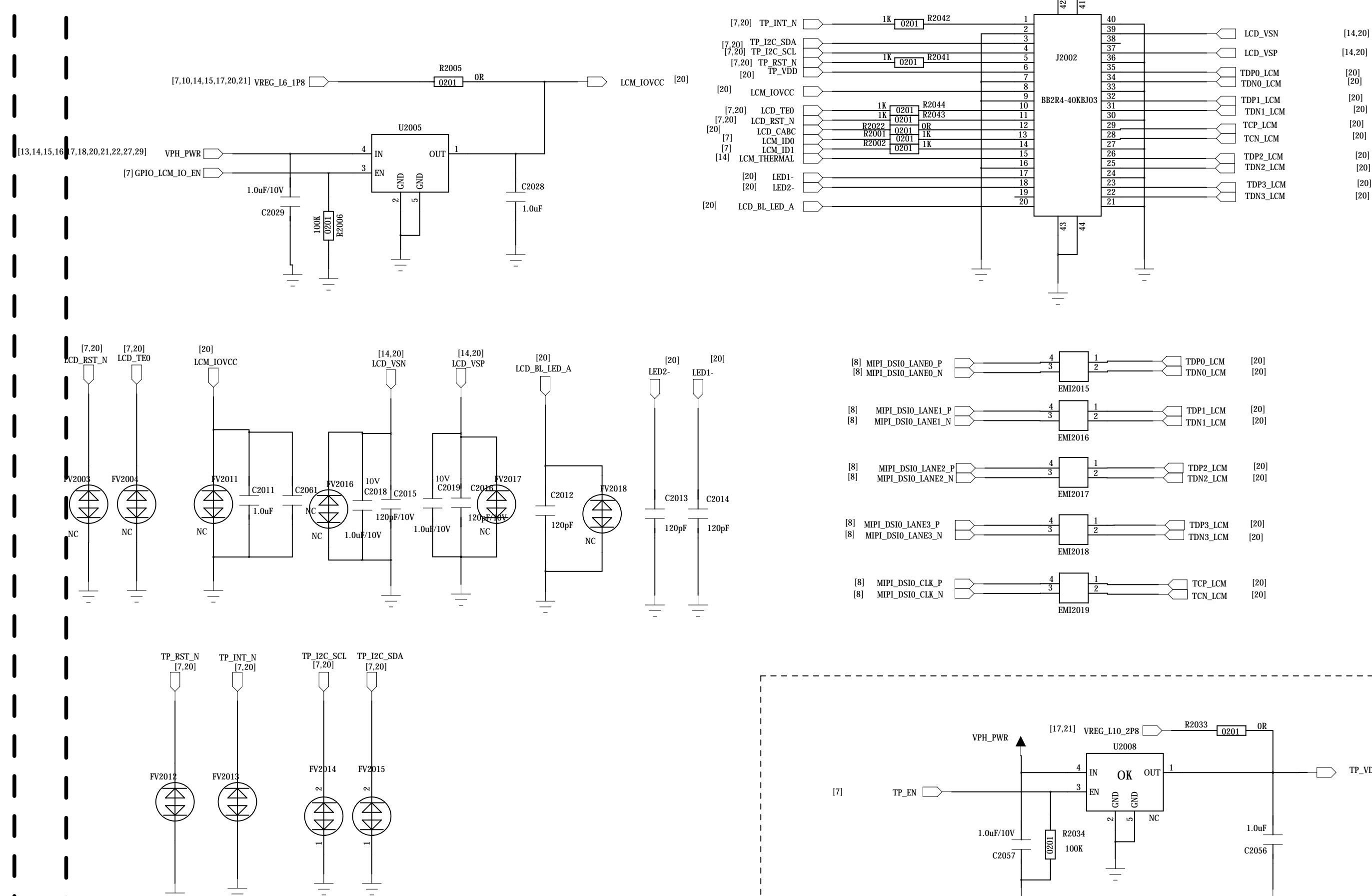
## Main Camera A



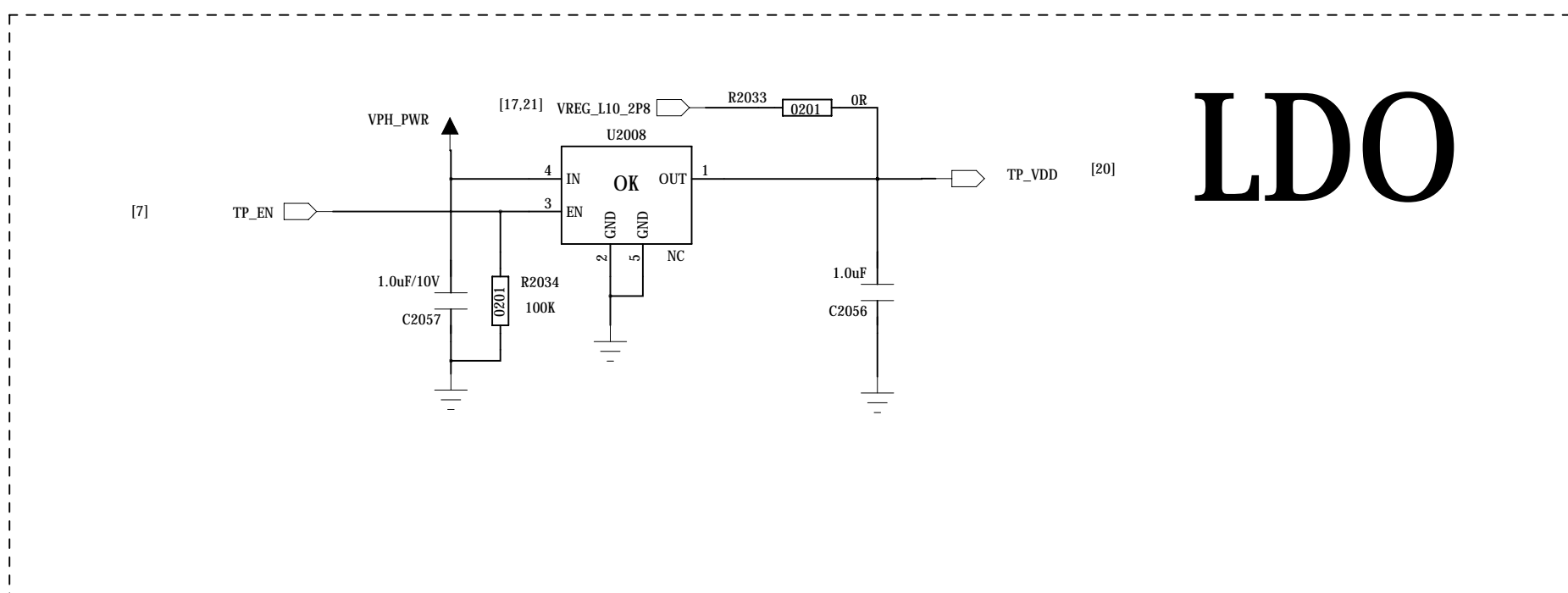
## Main Camera B



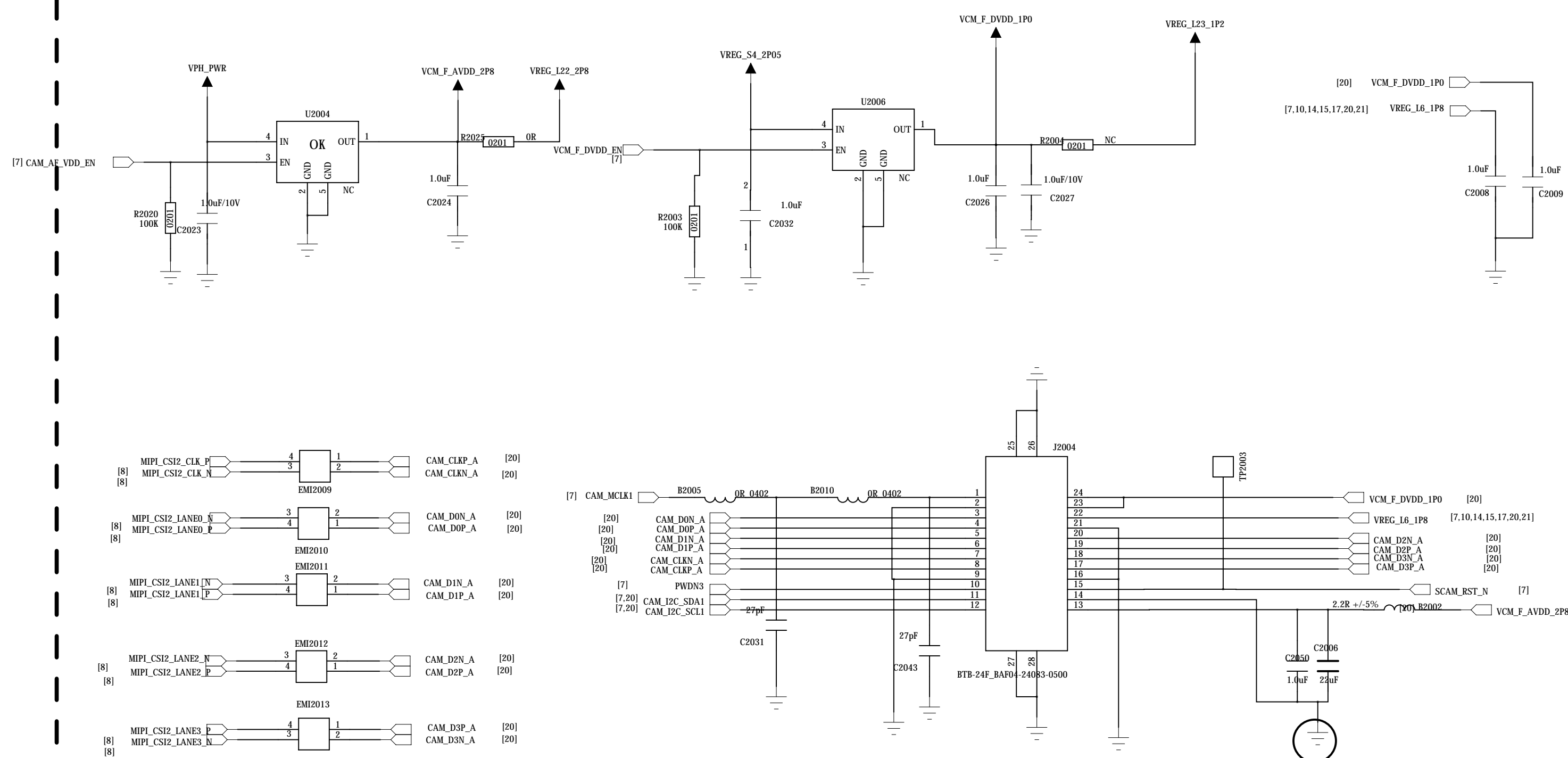
## LCM



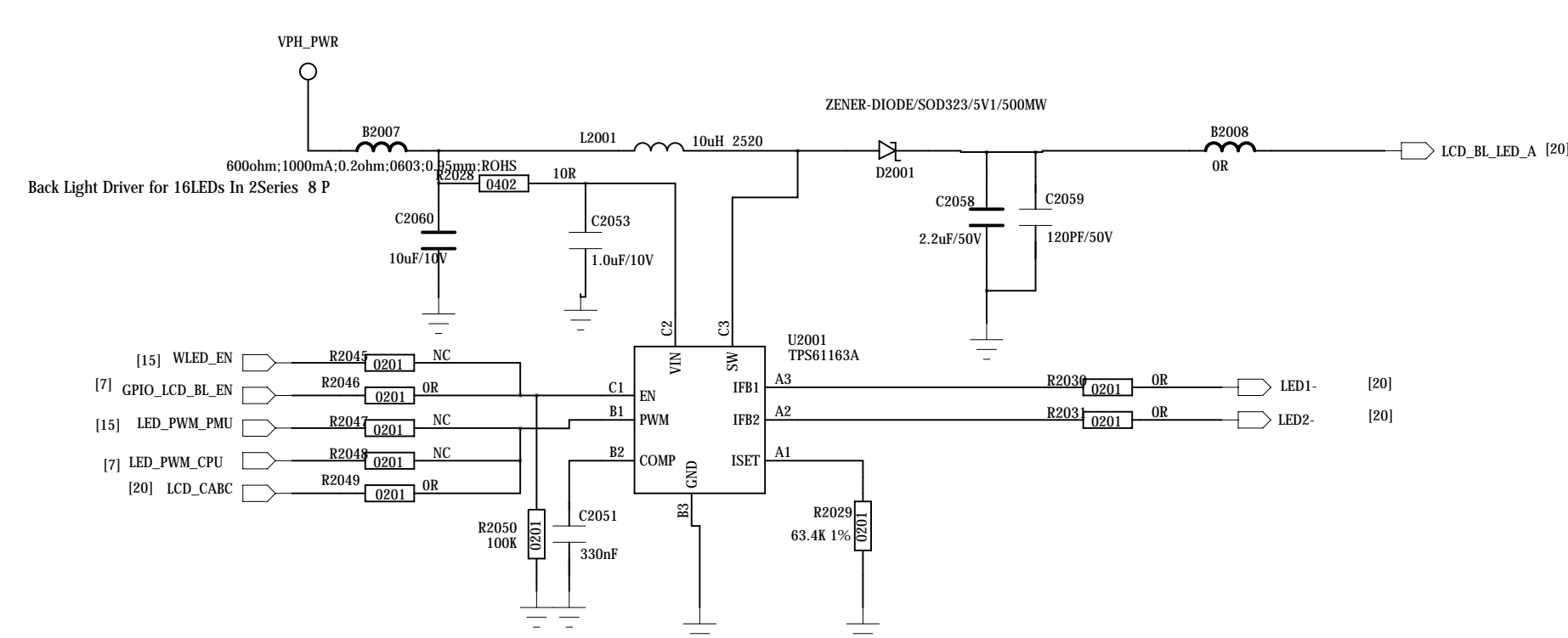
## LDO



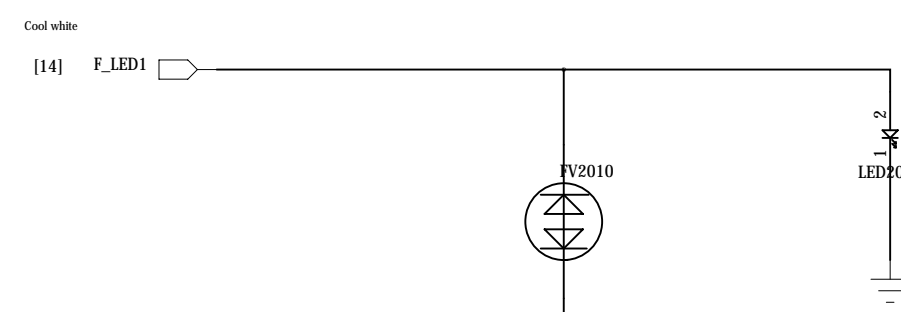
## Front Camera



## LCM Black Light



## Main FLASHLIGHT



Schematic design notice of "63\_PERI\_CAMERA\_KEYPAD" page.

Note 62-1: The VCC of I2C\_0 is pulled to "VCAM\_IO\_PMU".

Note 62-2: I2C control interface of front camera (with AF) must be assigned to I2C-2 bus when PIP/IVT feature be supported.

Note 62-3: Reserve a capacitor (27pF) on camera's MCLK and shunt it to GND to prevent GPS de-sense.

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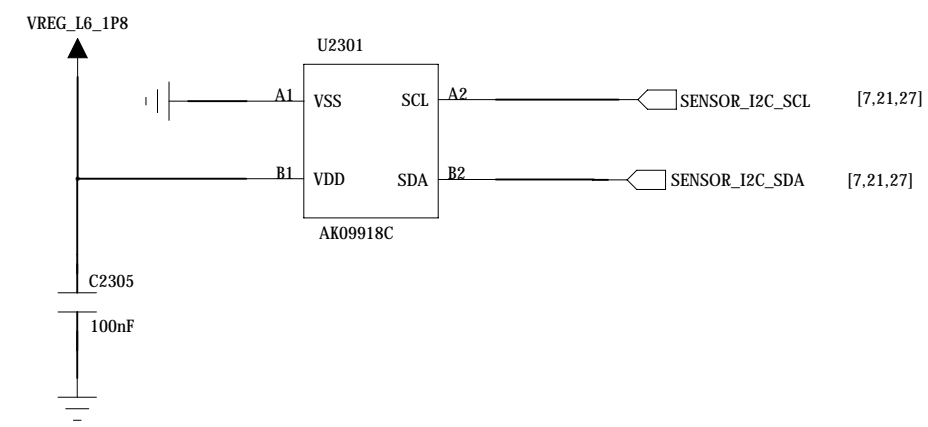


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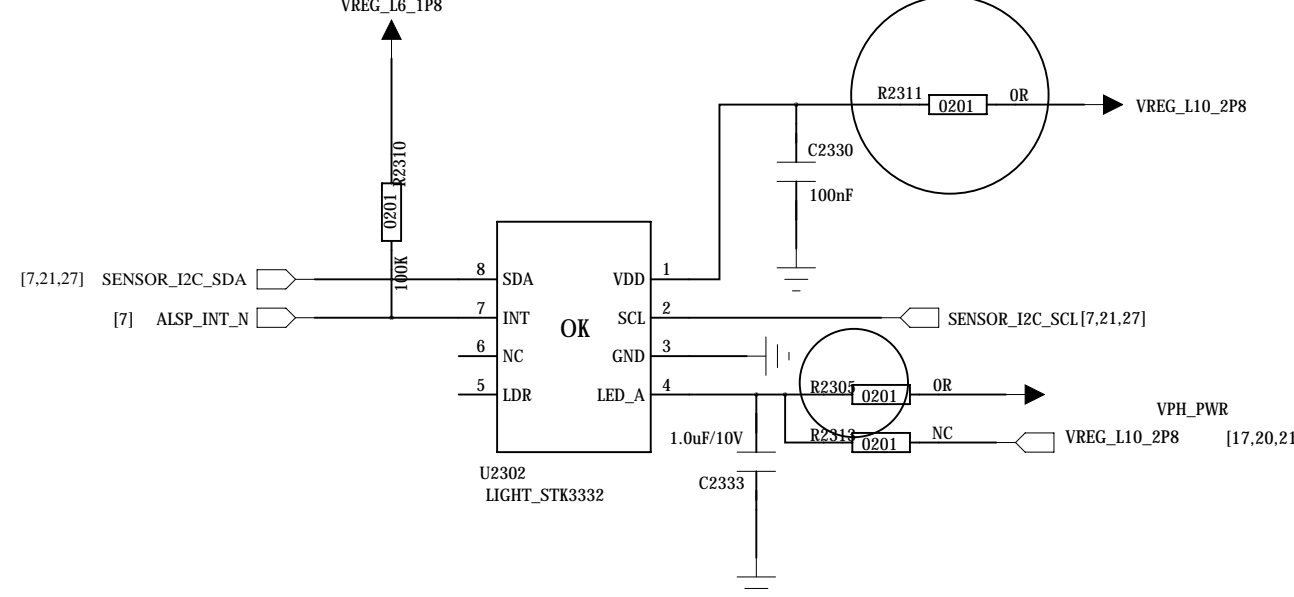
L-SENSOR

## M-Sensor

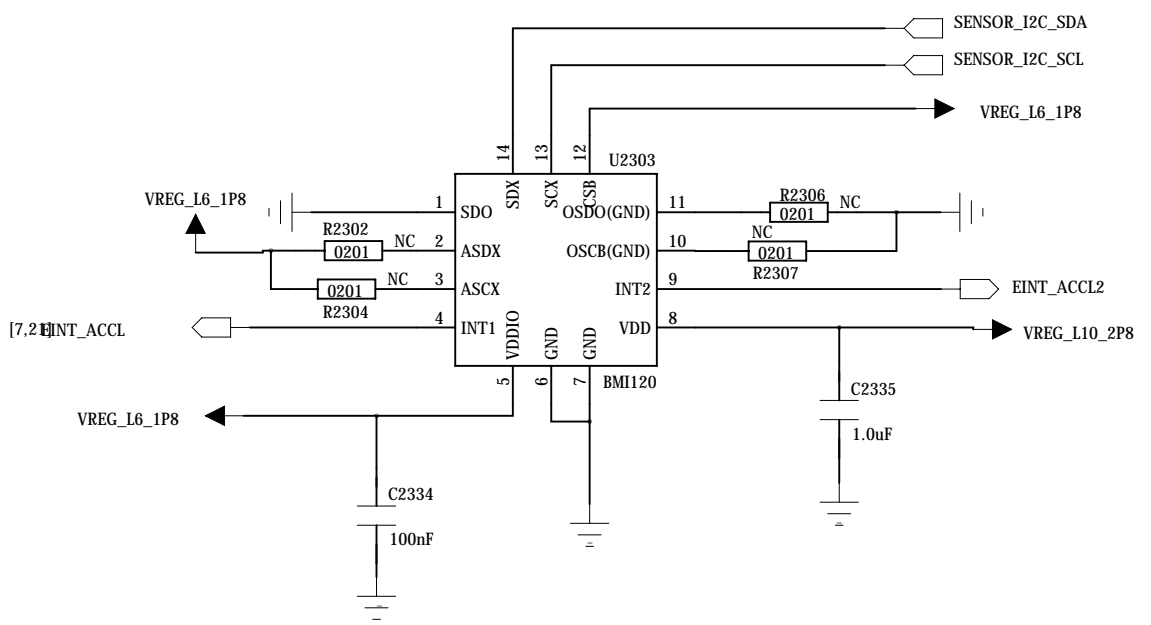
M-Sensor I2C Address: 0x0C



## P\_SENSOR

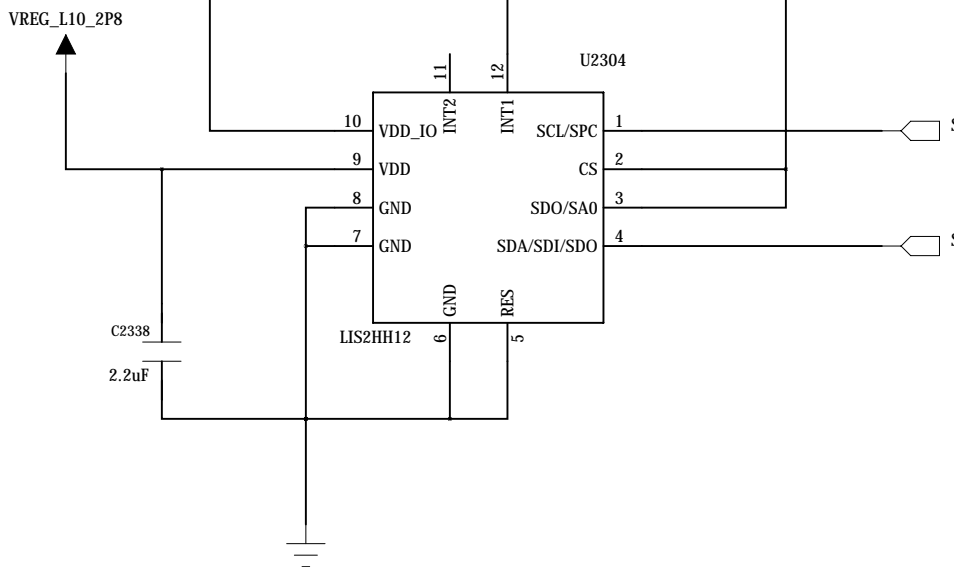


## ACC-Sensor

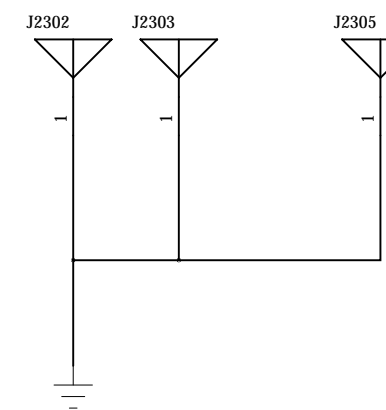
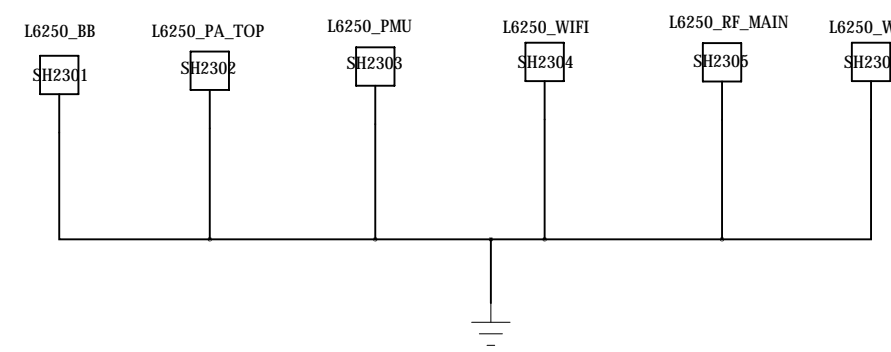
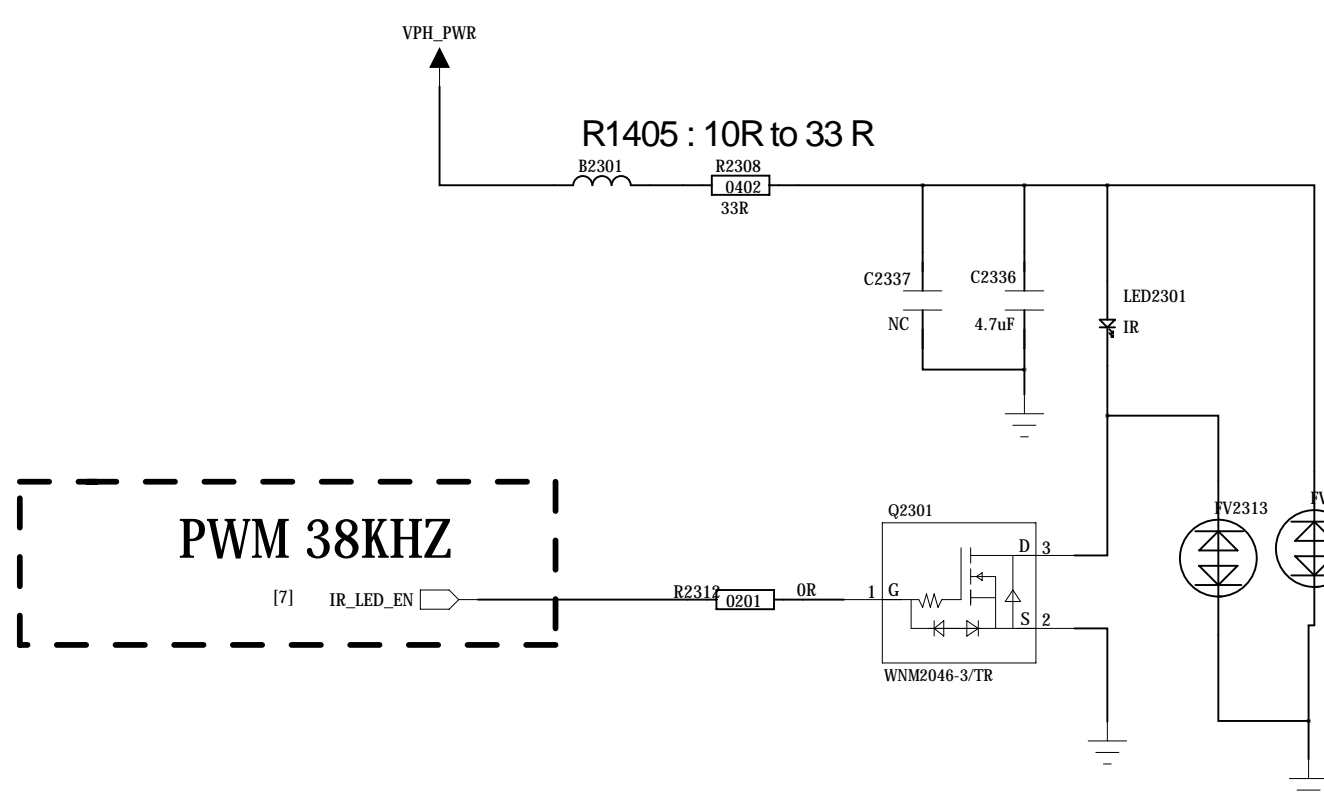


## ACC-Sensor

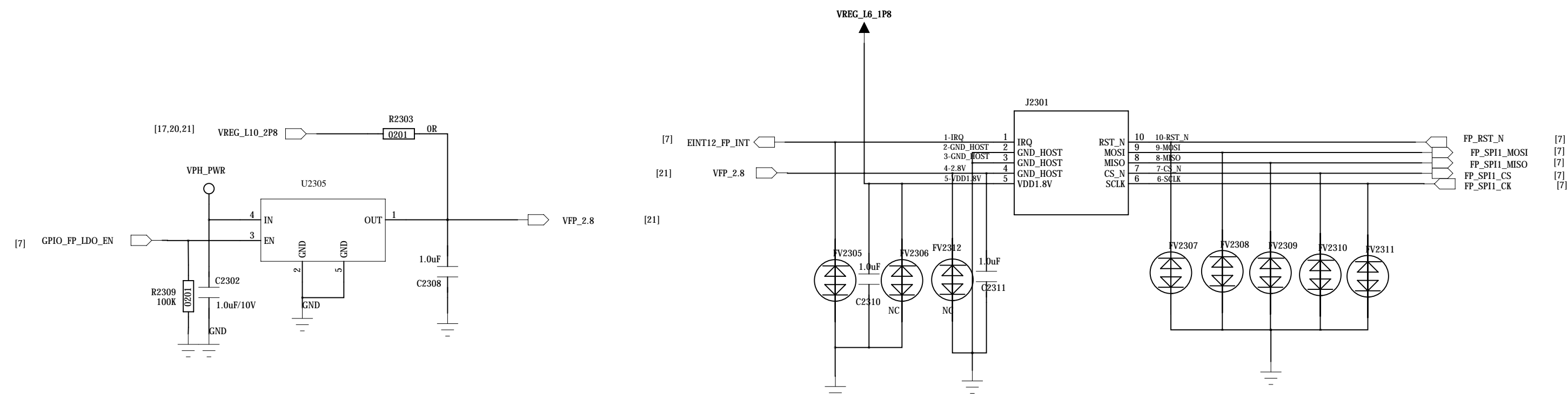
KX023-1025 I2C address : 1E  
LIS3DH I2C address : 0011000b



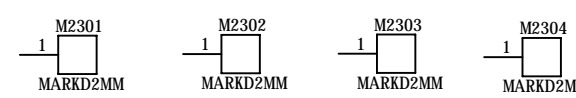
IR



## FingerPrint-Sensor



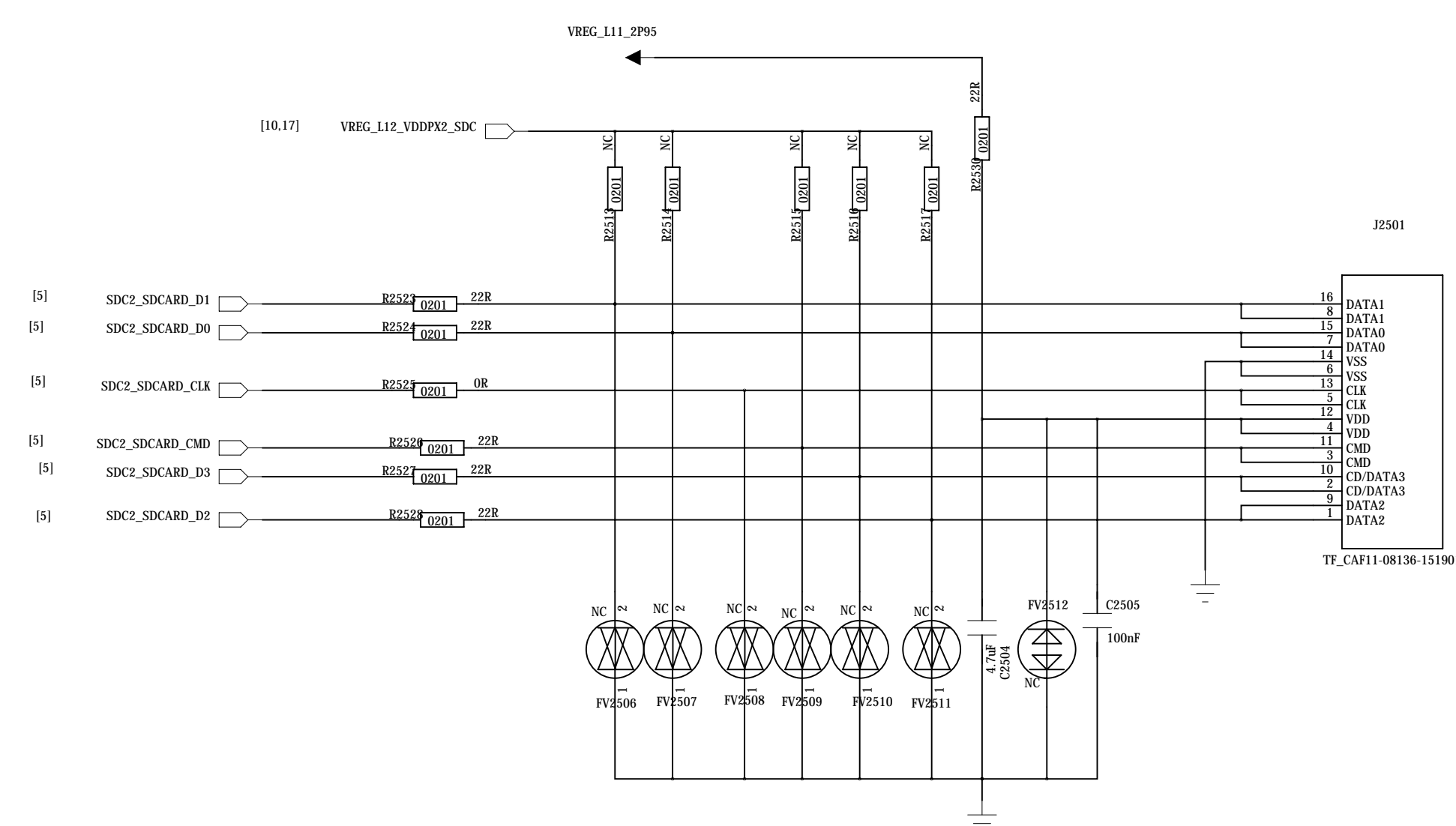
## MARK POINT



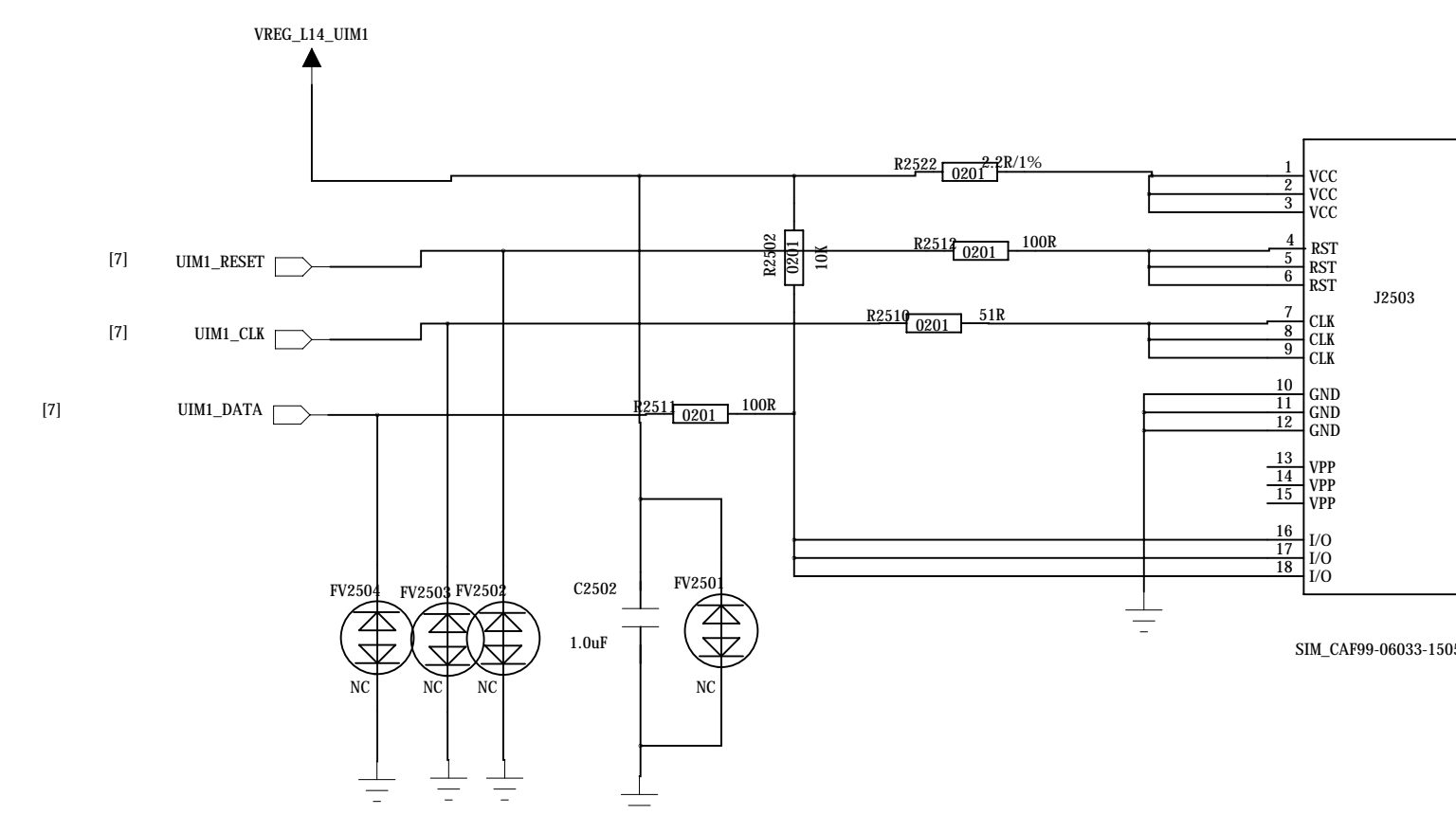
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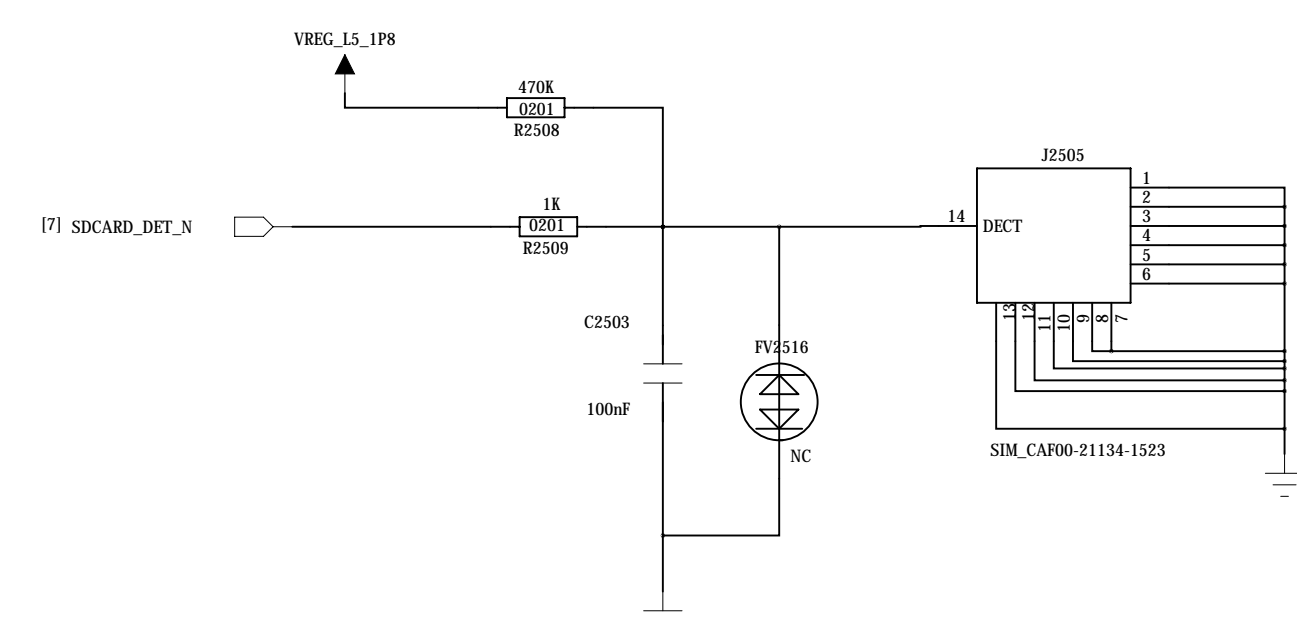
## T-Card



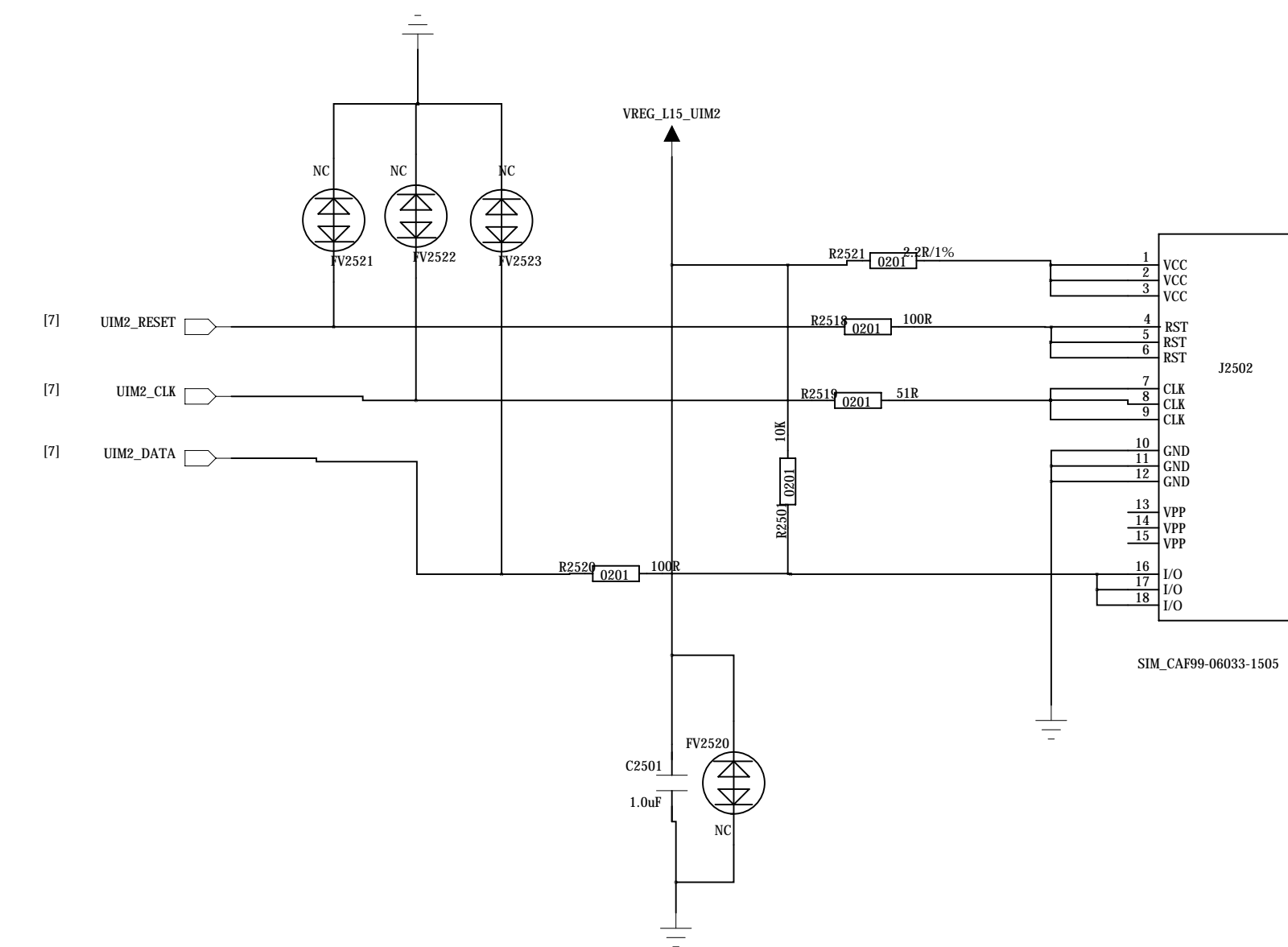
# SIM1



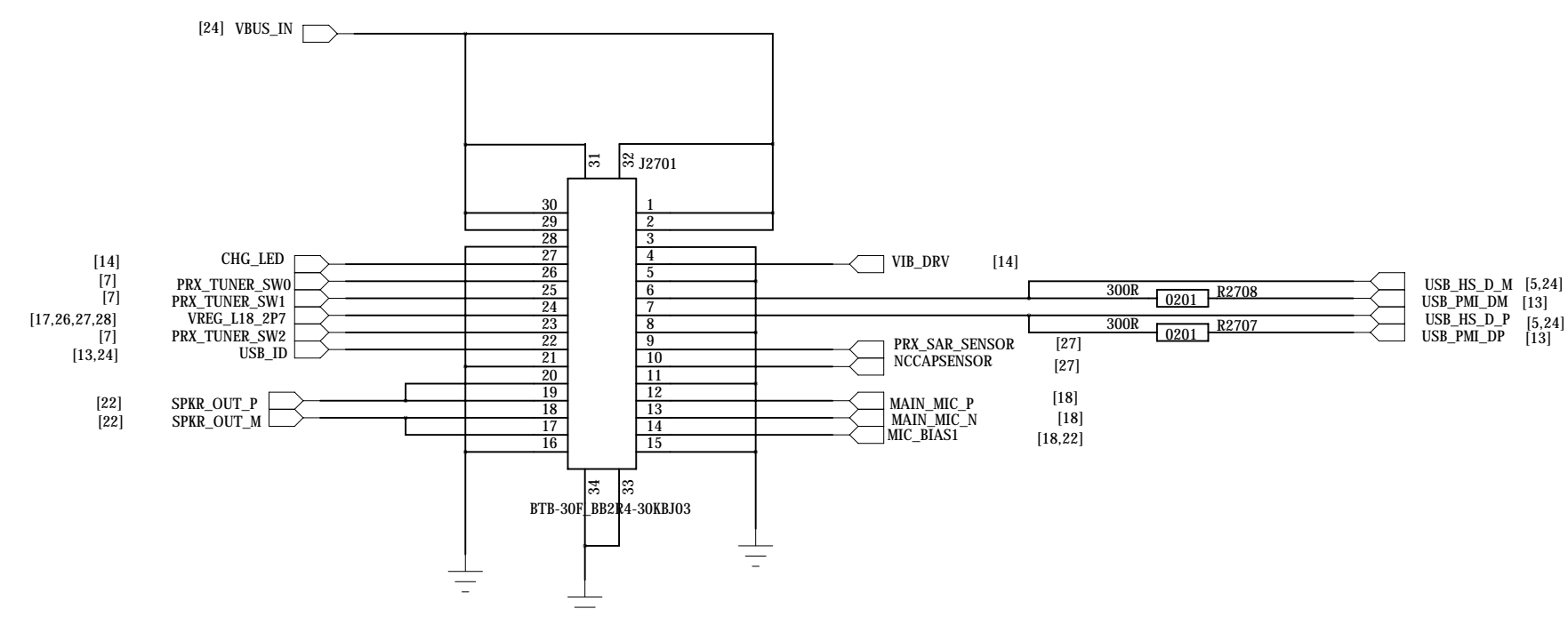
## INT



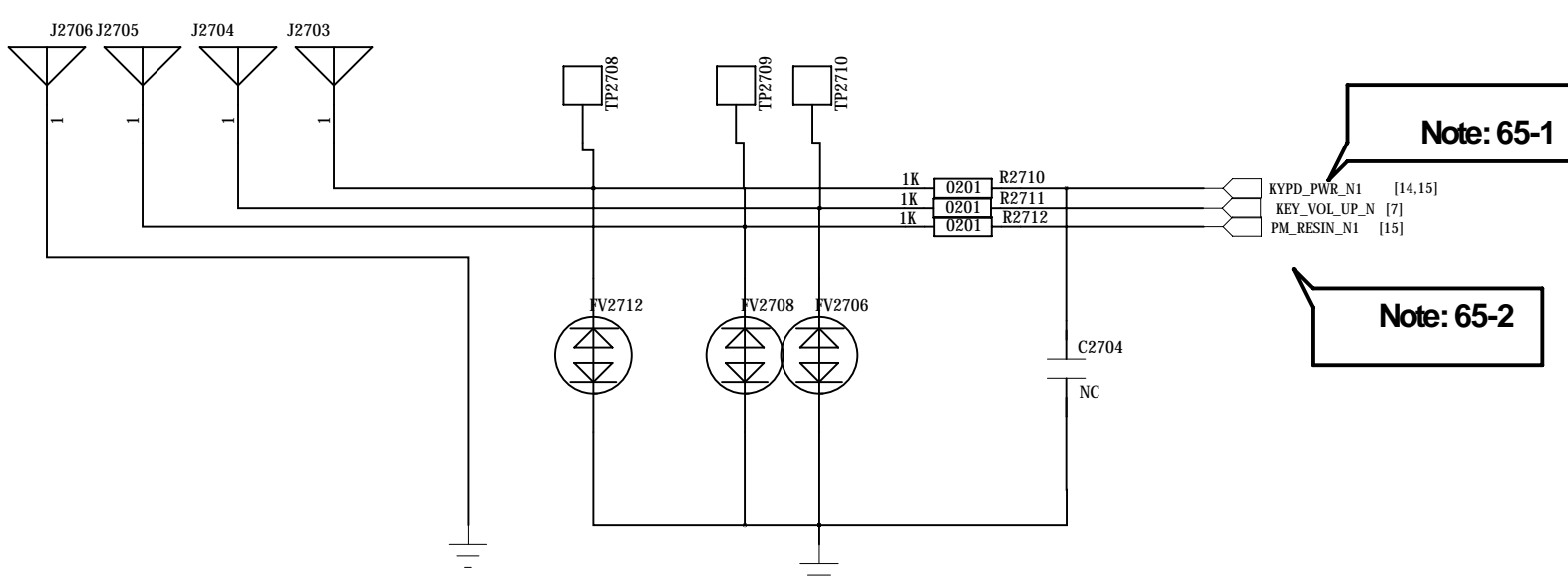
## SIM2



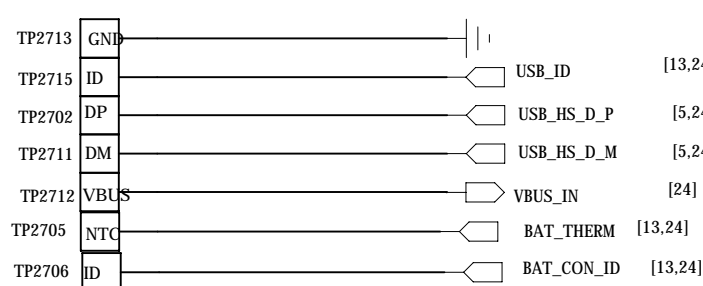
SUB\_FPC



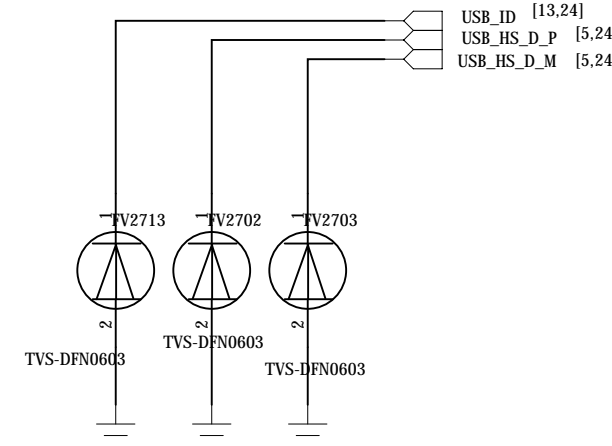
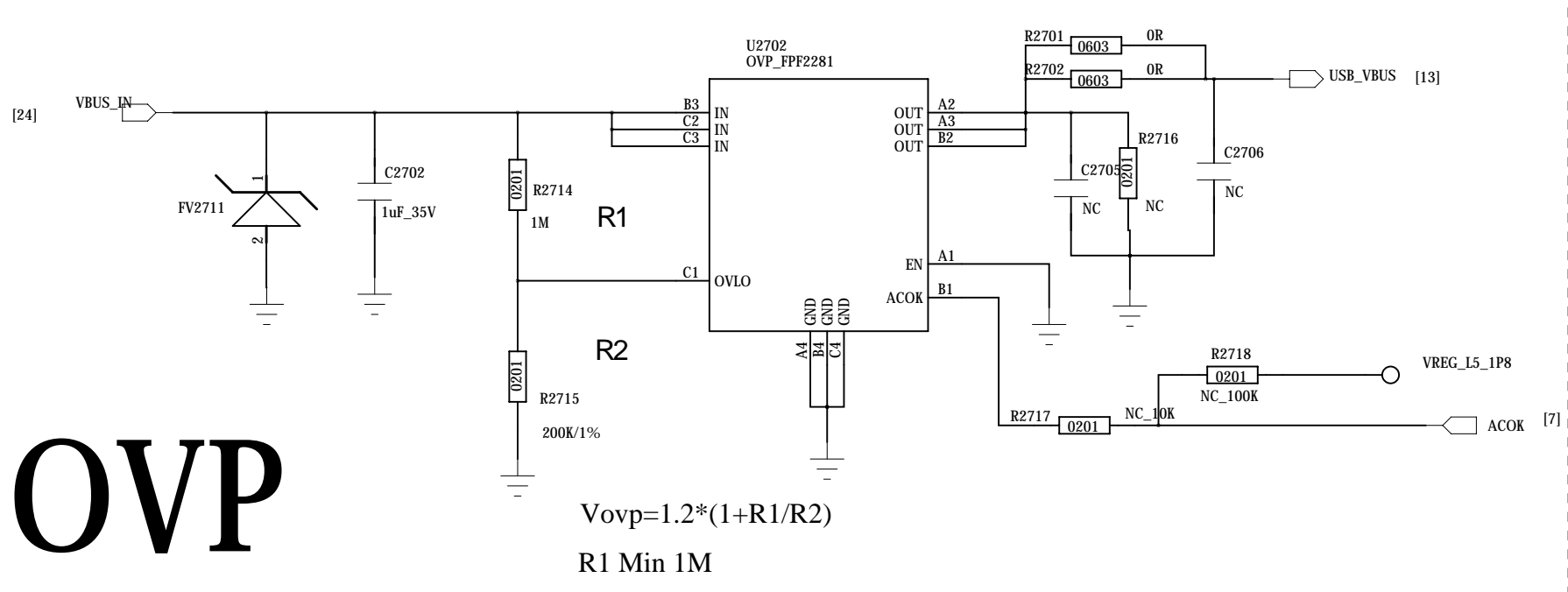
Power Key



Test point



OVP

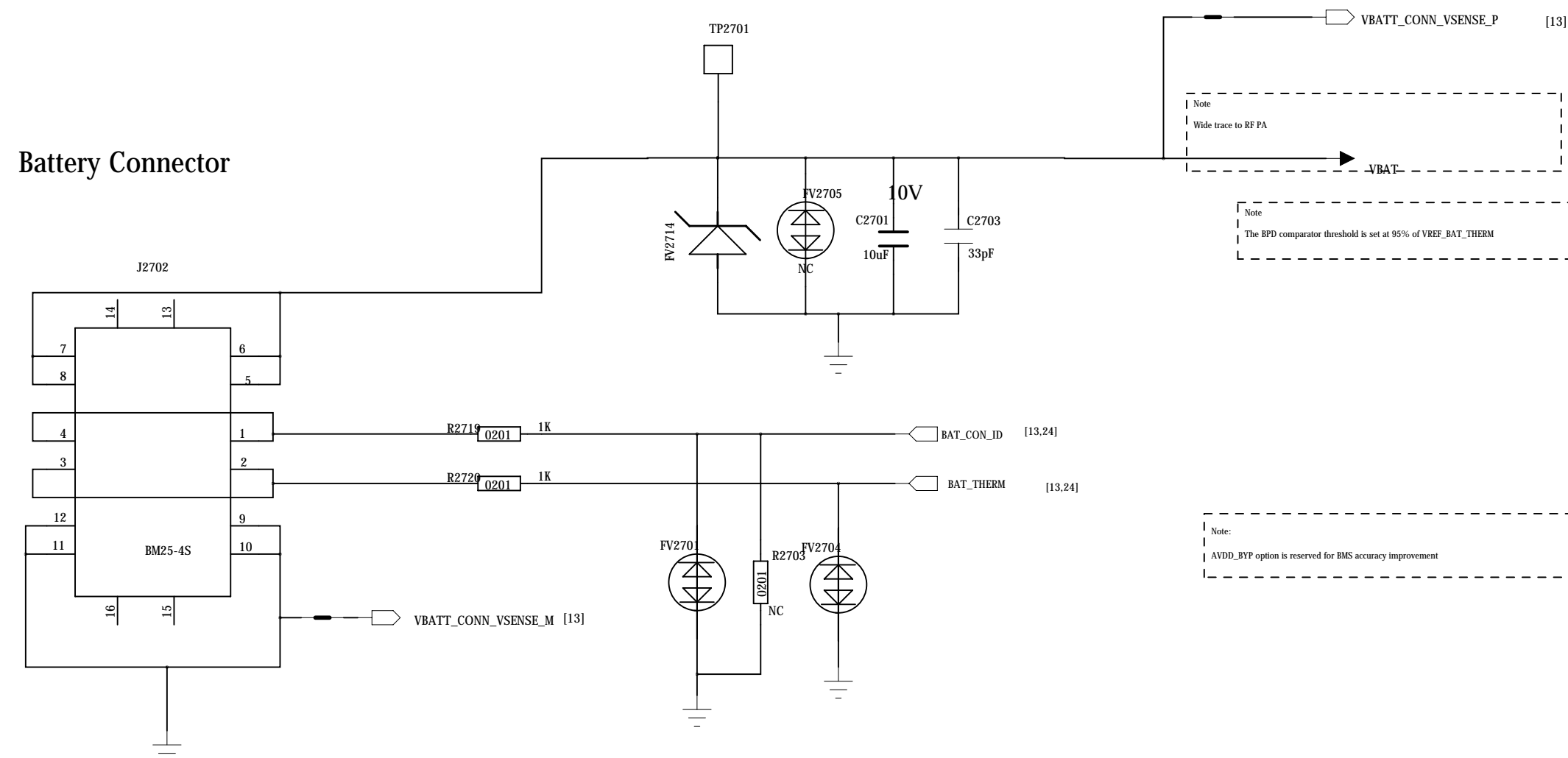


Schematic design notice of "65\_PERI\_Dual\_SIM\_ICUSB\_KEYPAD" page.

Note 65-1: DO NOT put pull-up resistor on PWRKEY

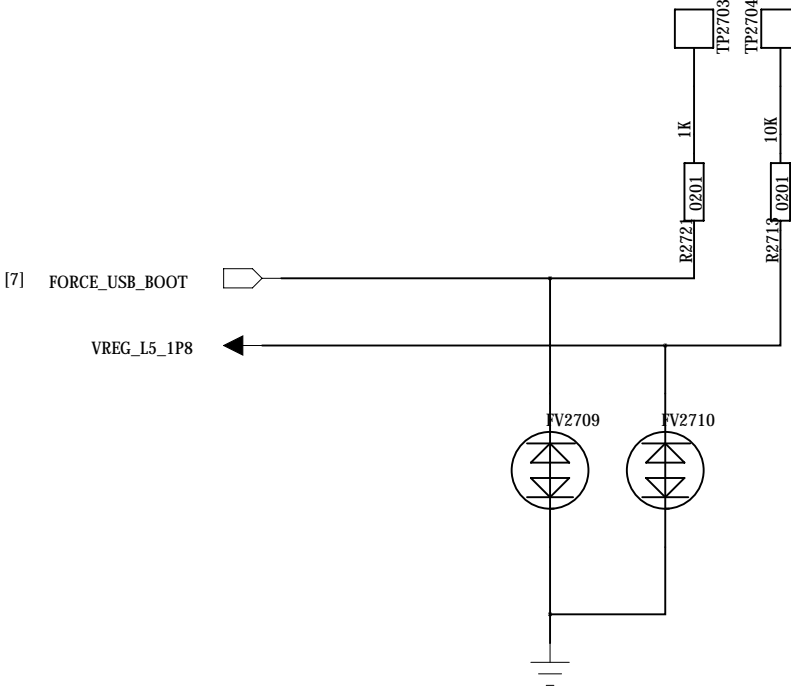
Note 65-2: Volume Up : HOME Key / GND  
Volume Down : (KPROW/KPCOLO) or KPCOLO / GND

BAT

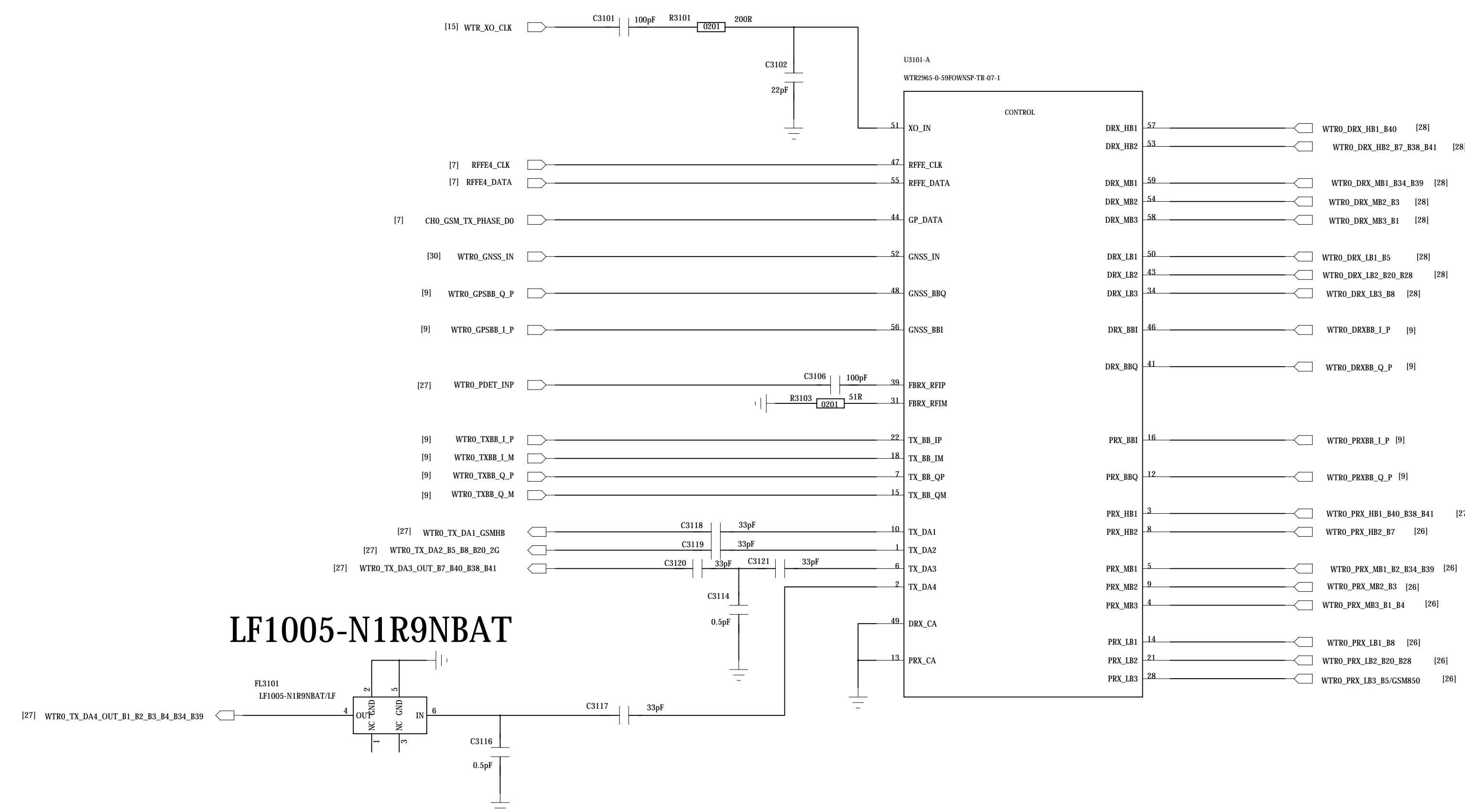
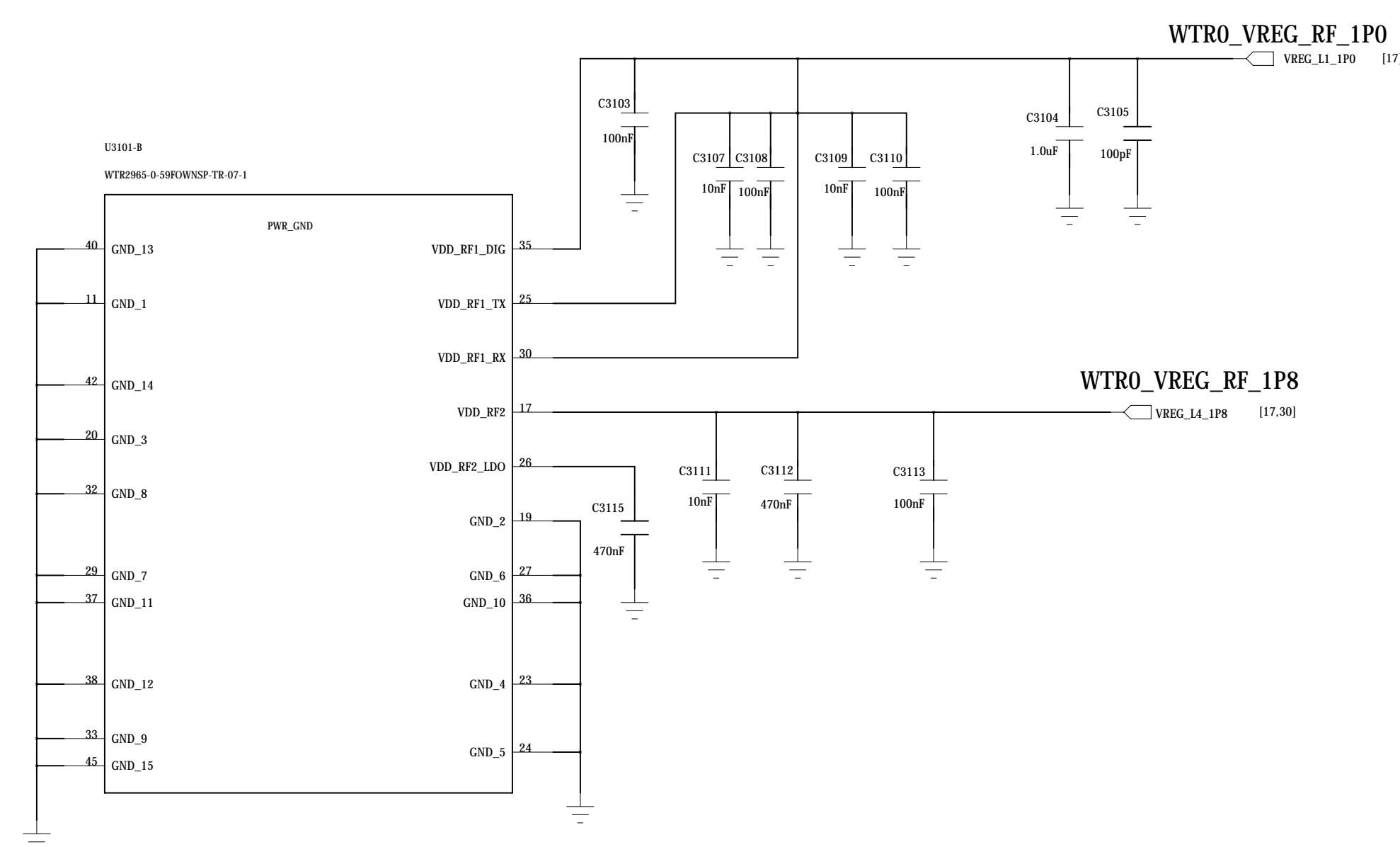


Note:  
Battery ID resistor value require 20K~150K.  
Add 100K to ground if battery package ID not meet requirement

Force USB boot



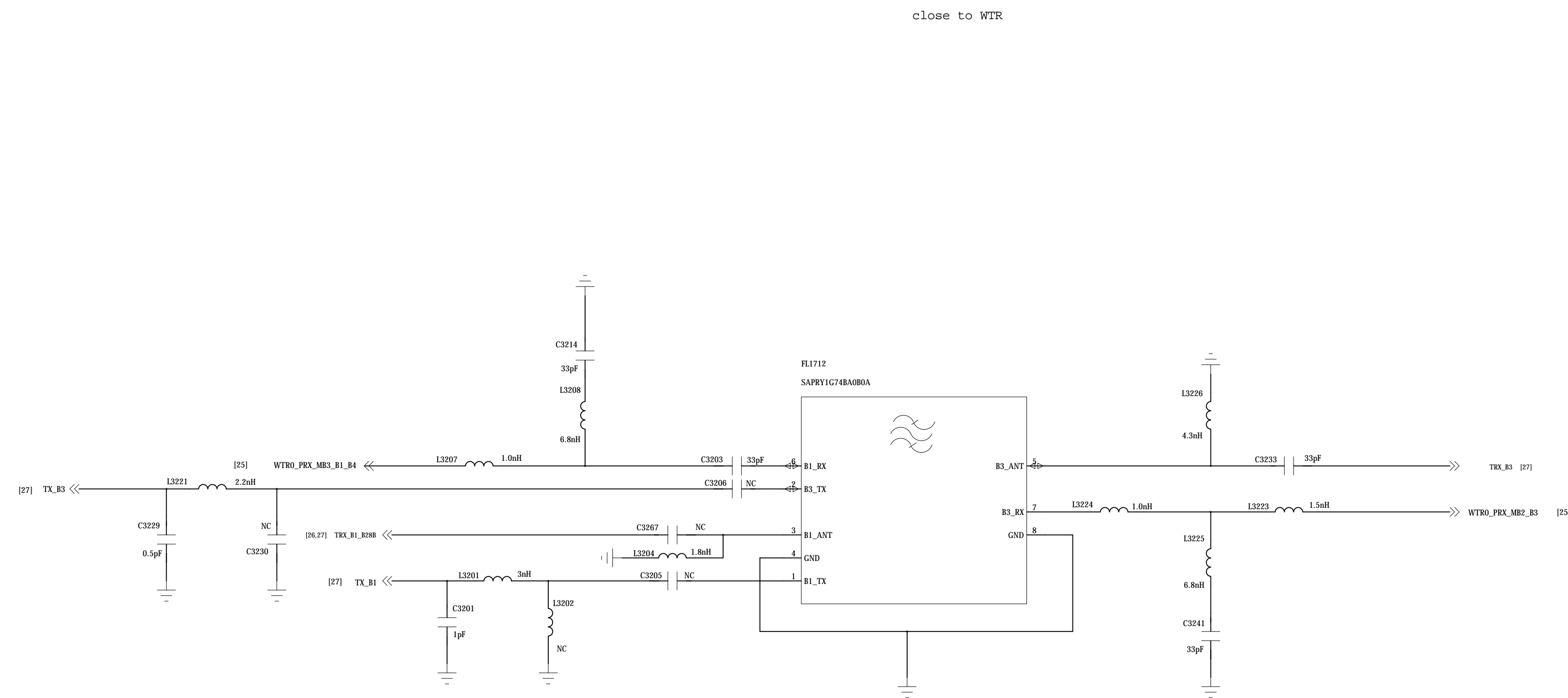
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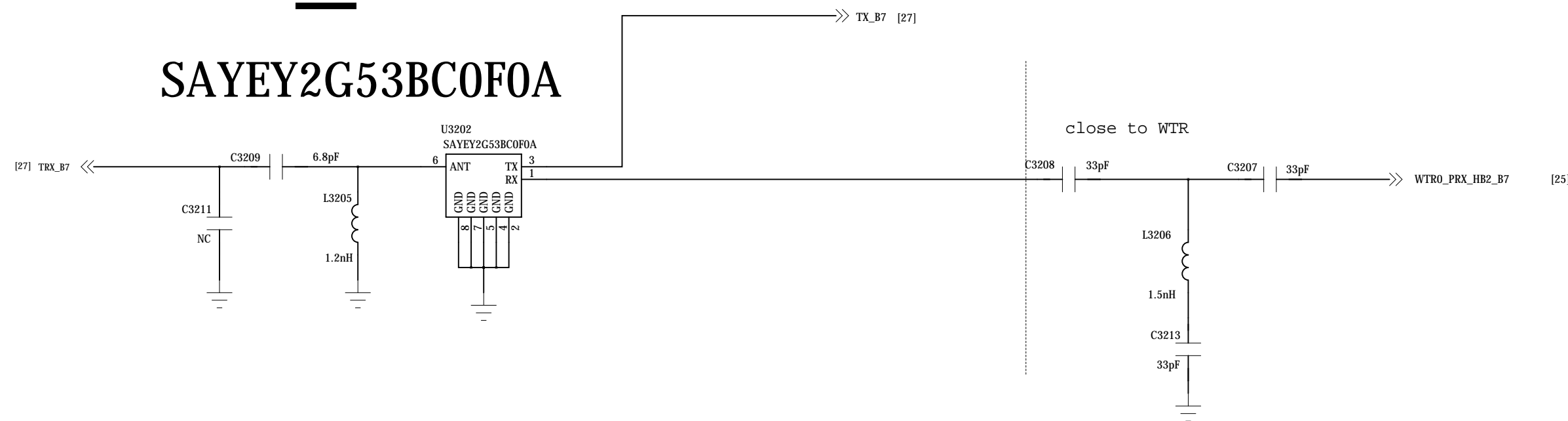
Note:RX ports have DC at the pin, so it need DC block,  
please make sure there is no DC short to other voltages and GND

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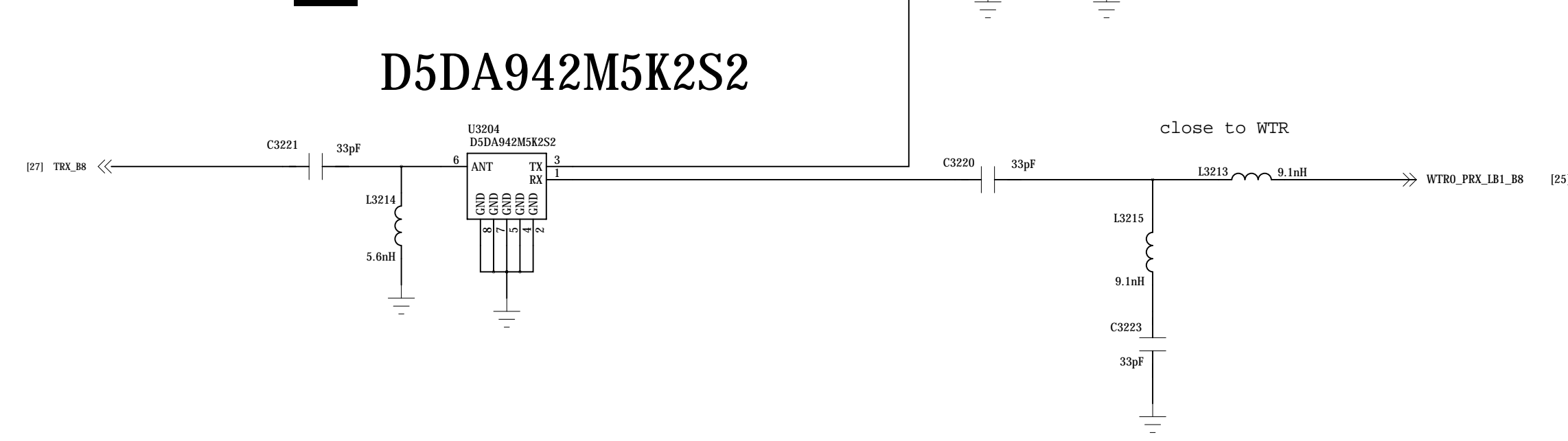
TRX\_B1 TRX\_B3



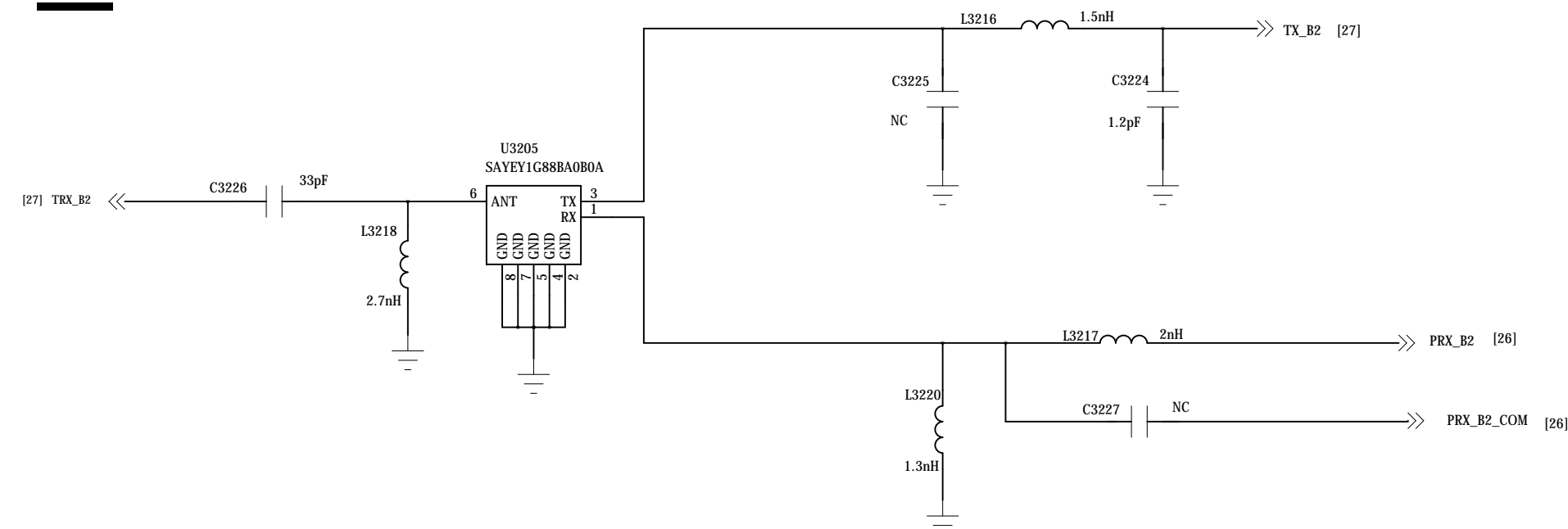
TRX\_B7



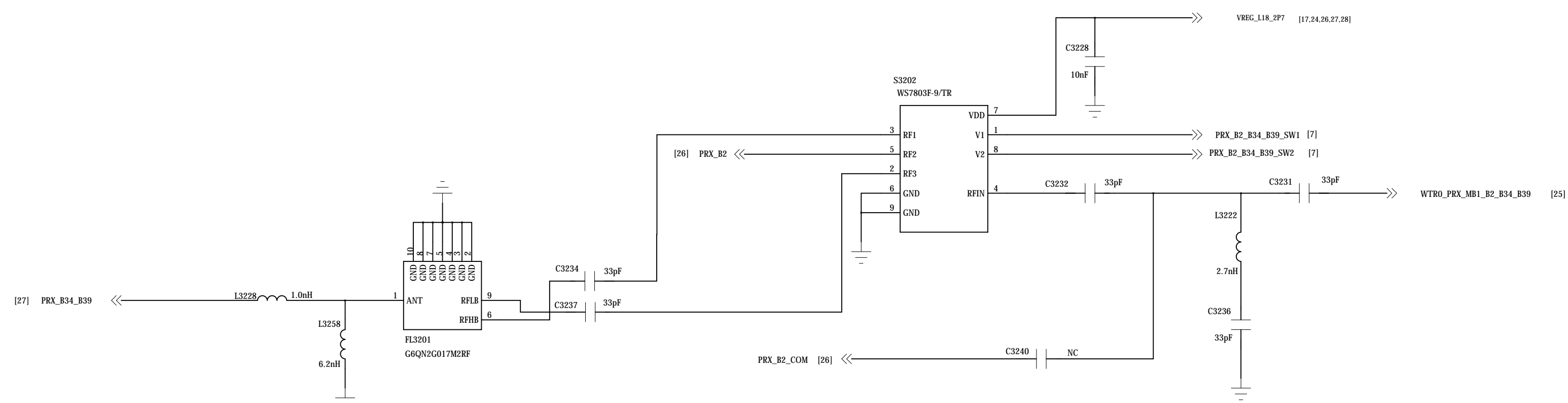
TRX\_B8



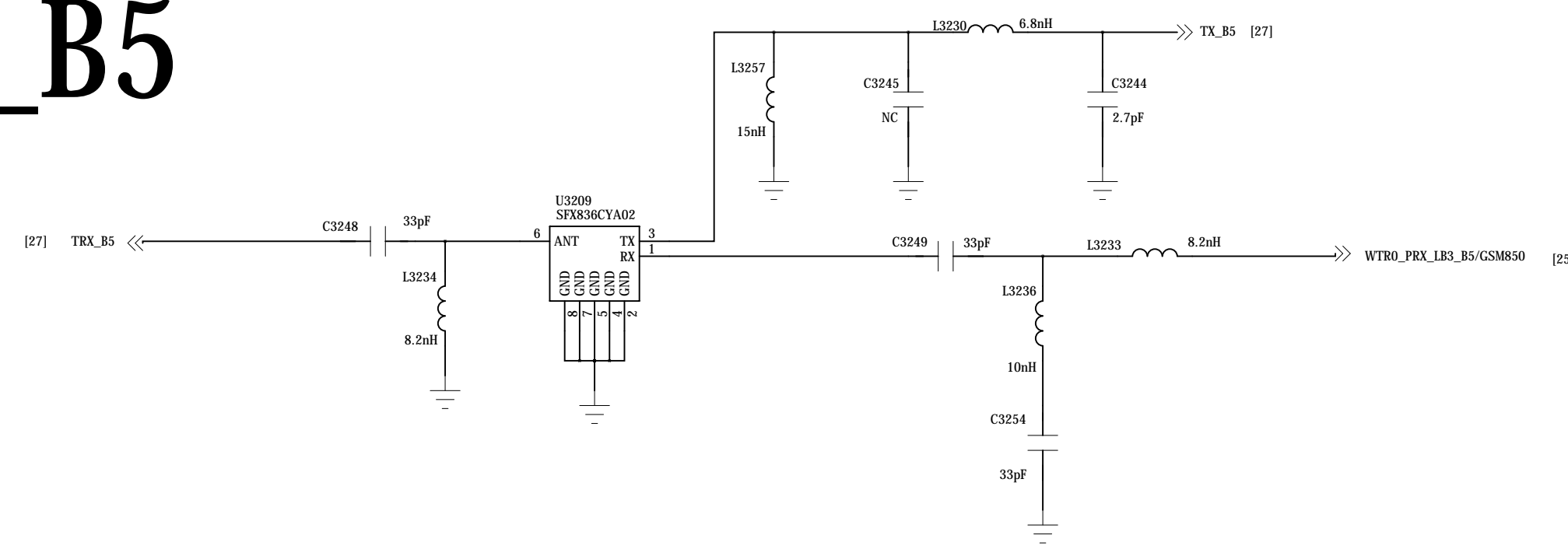
TRX\_B2



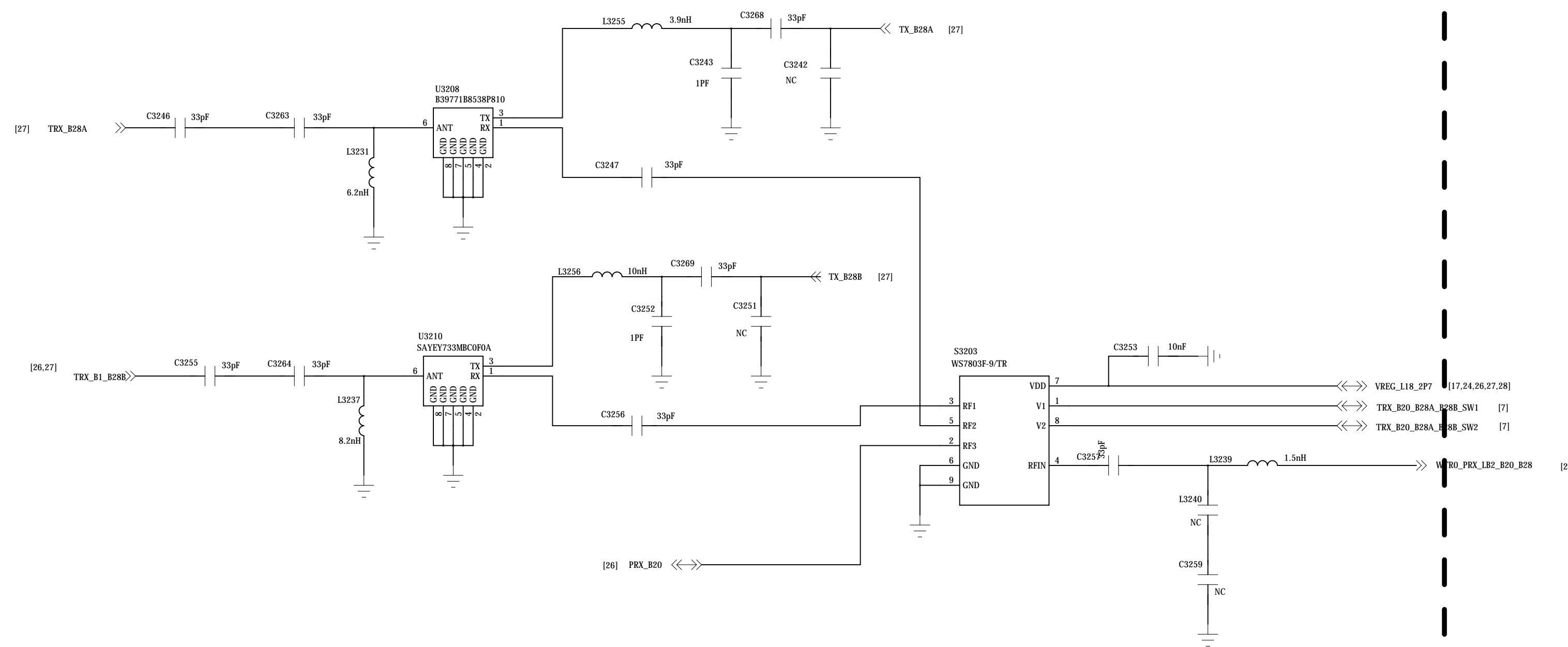
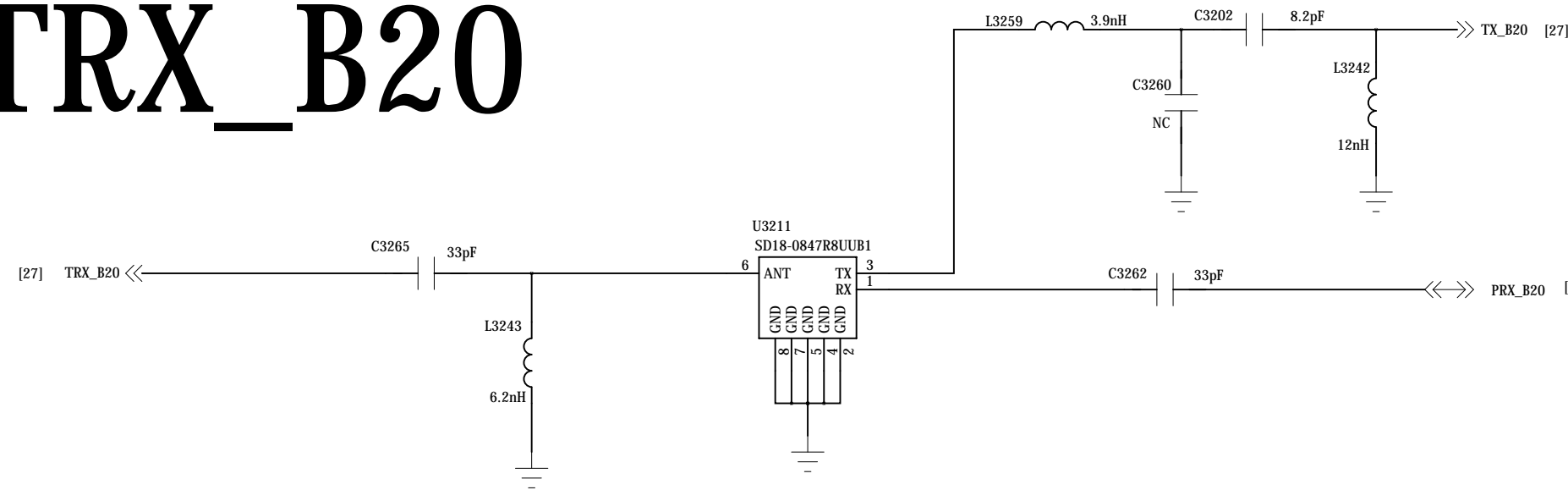
TRX\_TDS\_B34\_B39



TRX\_B5



TRX\_B20









6

5

4

3

2

**1**

D

D

**C**

**C**

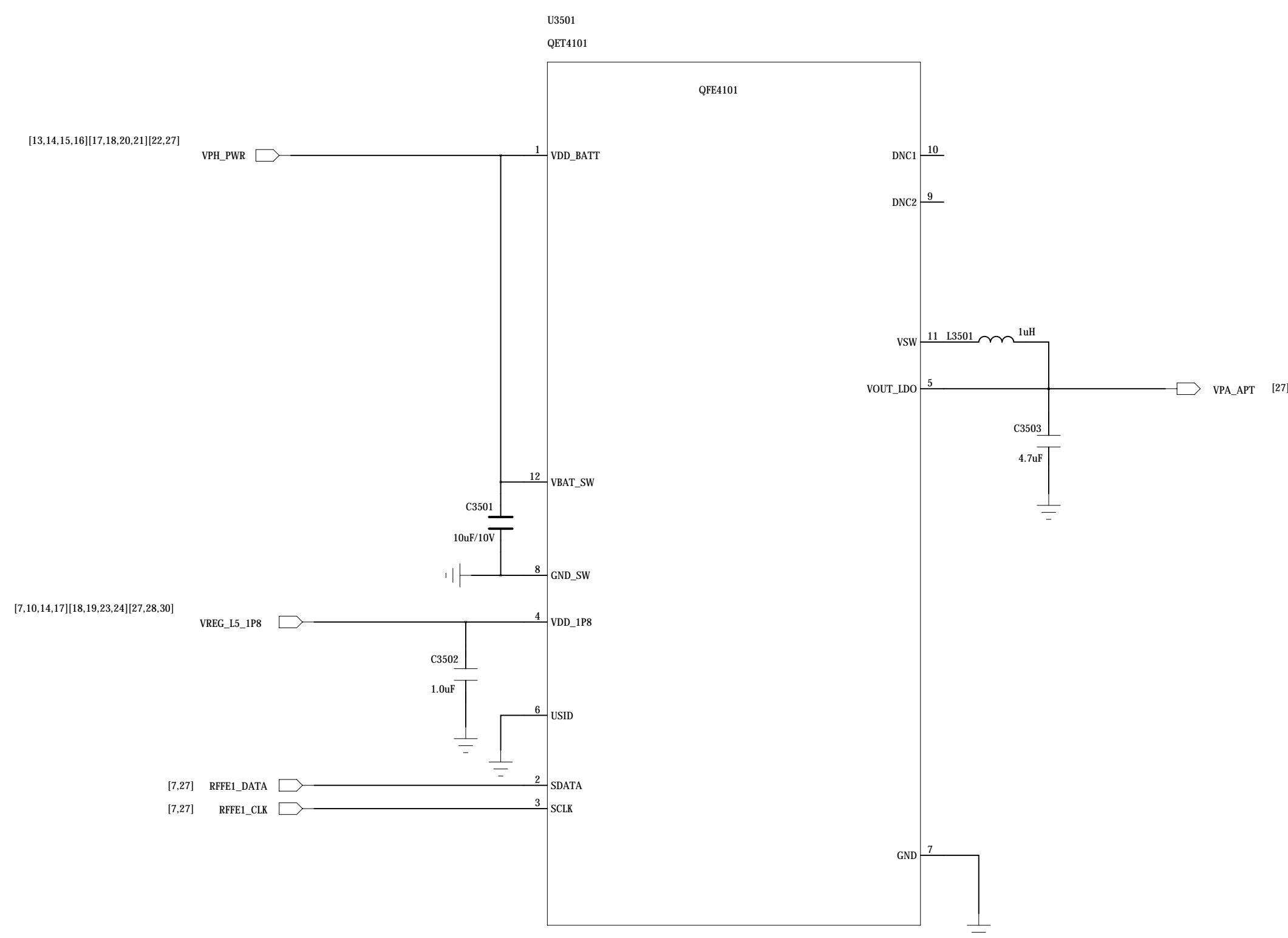
B

B

A

A

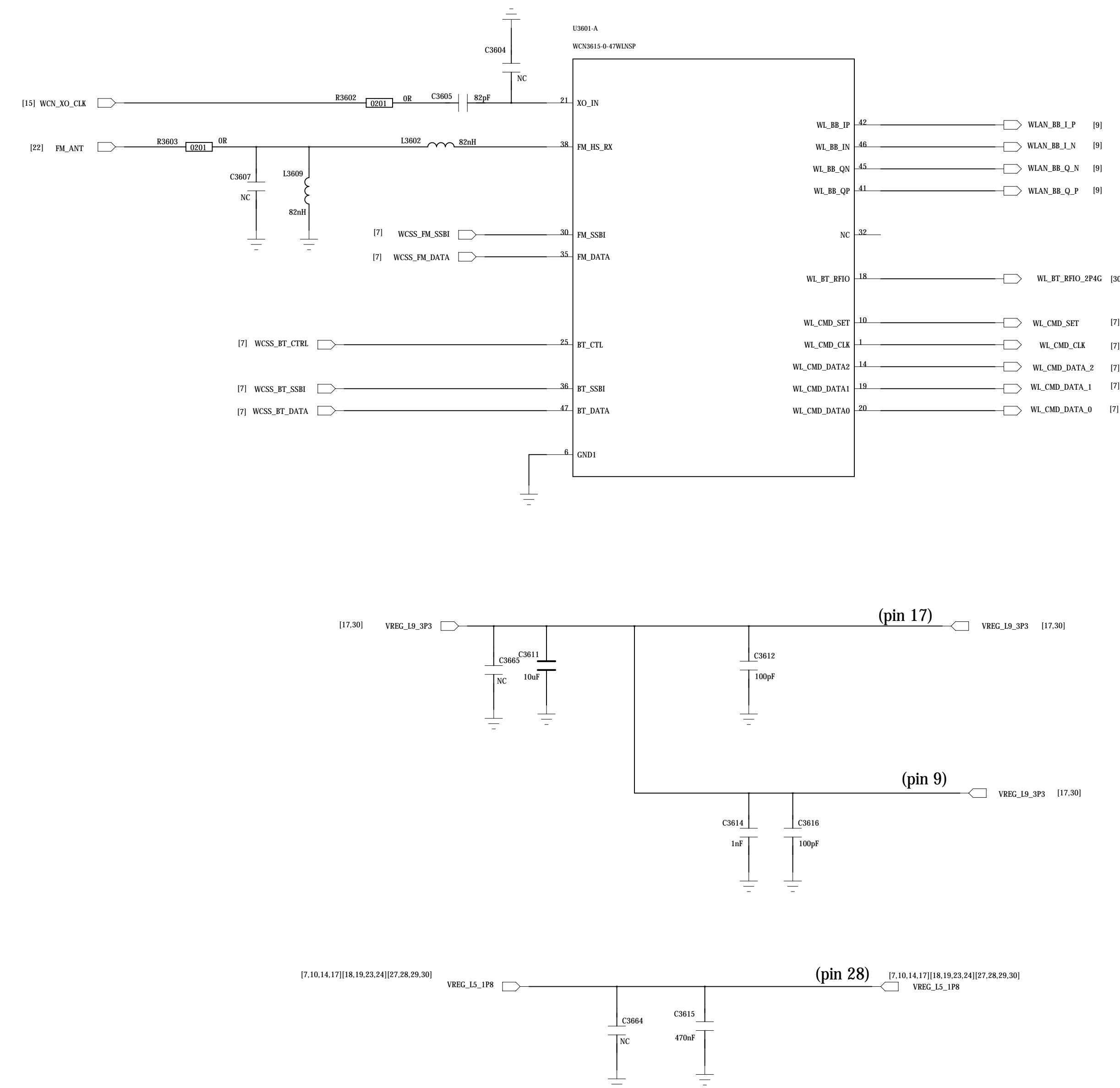
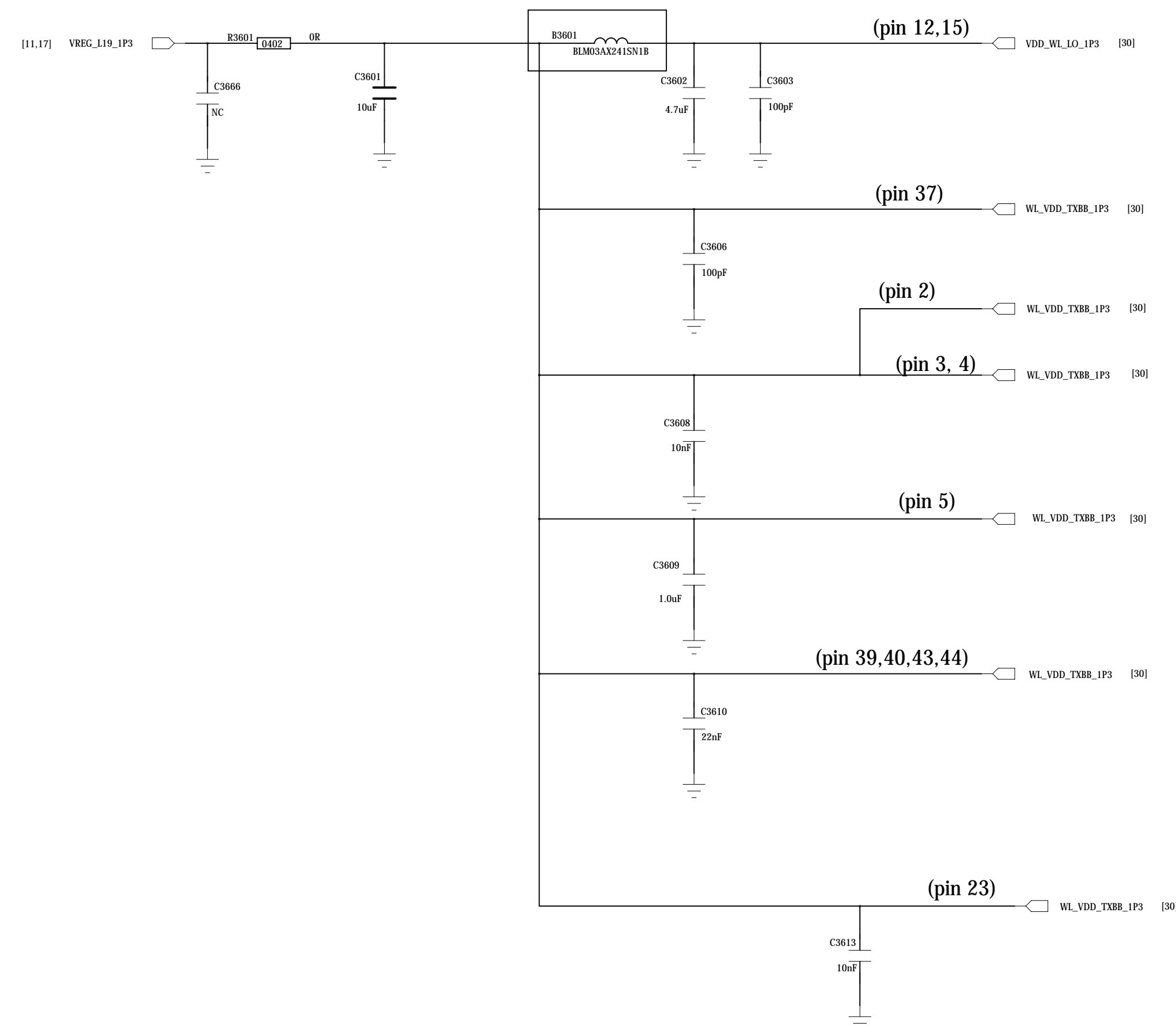
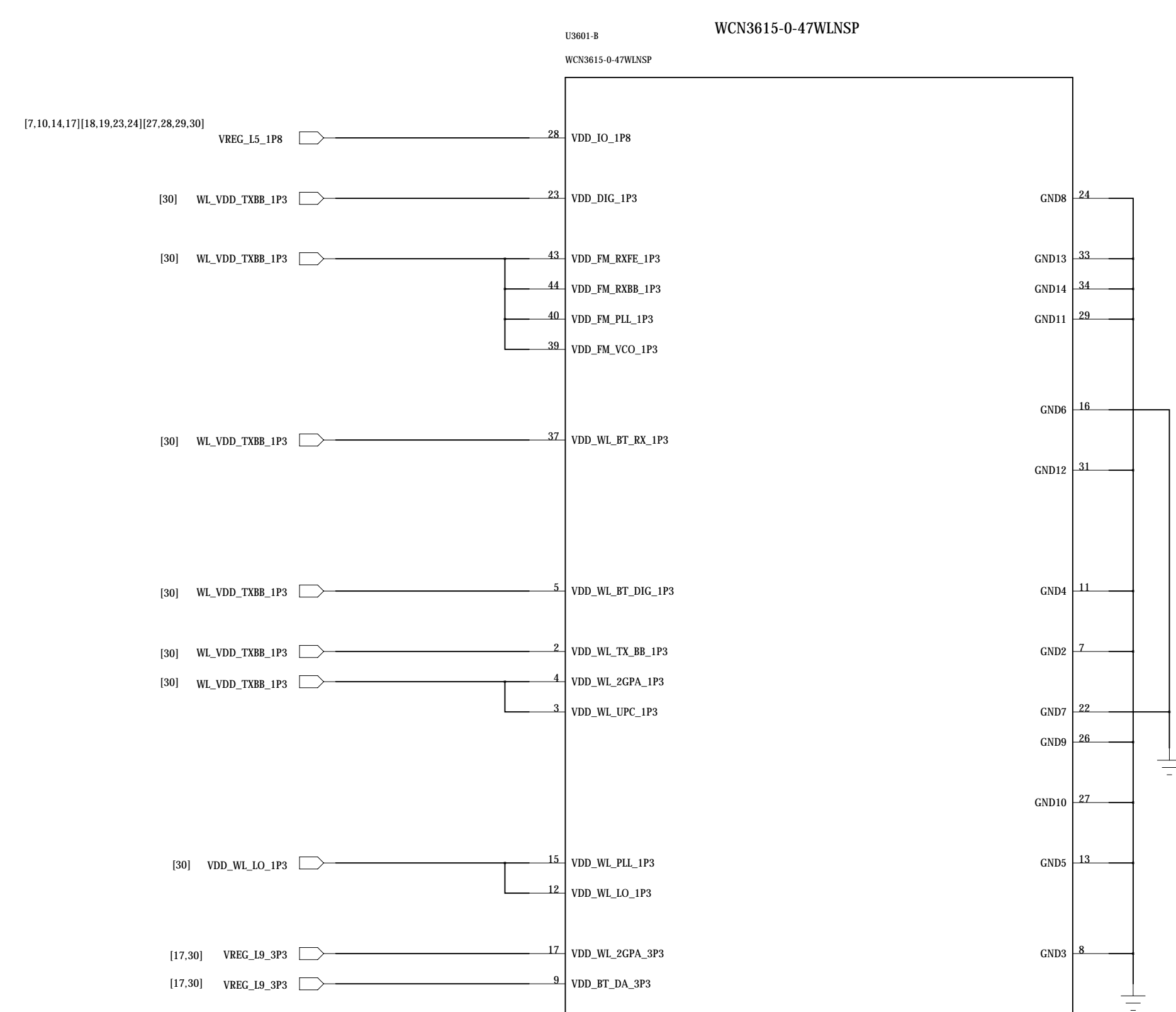
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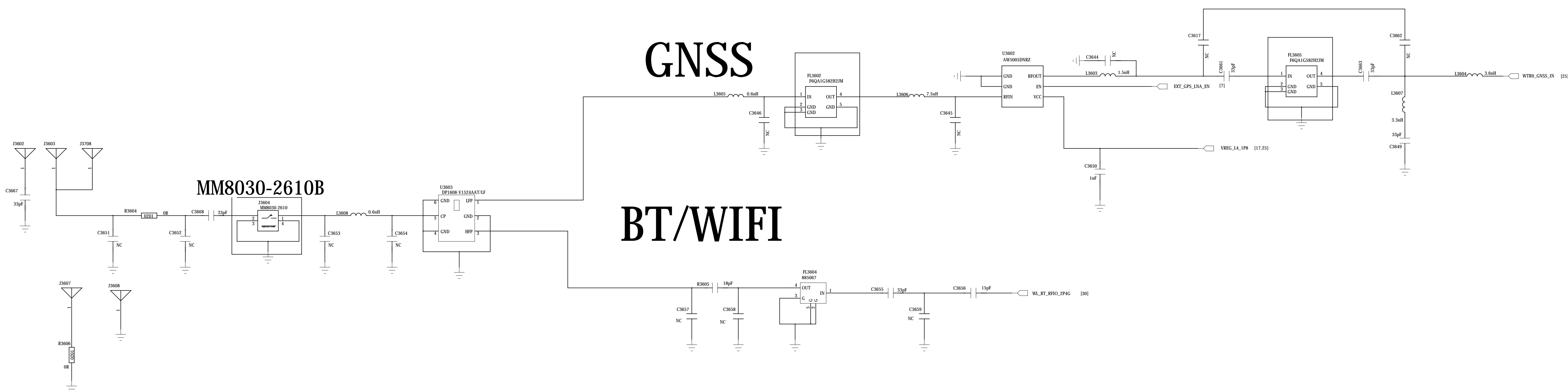
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# GNSS

## BT/WIFI

MM8030-2610B



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