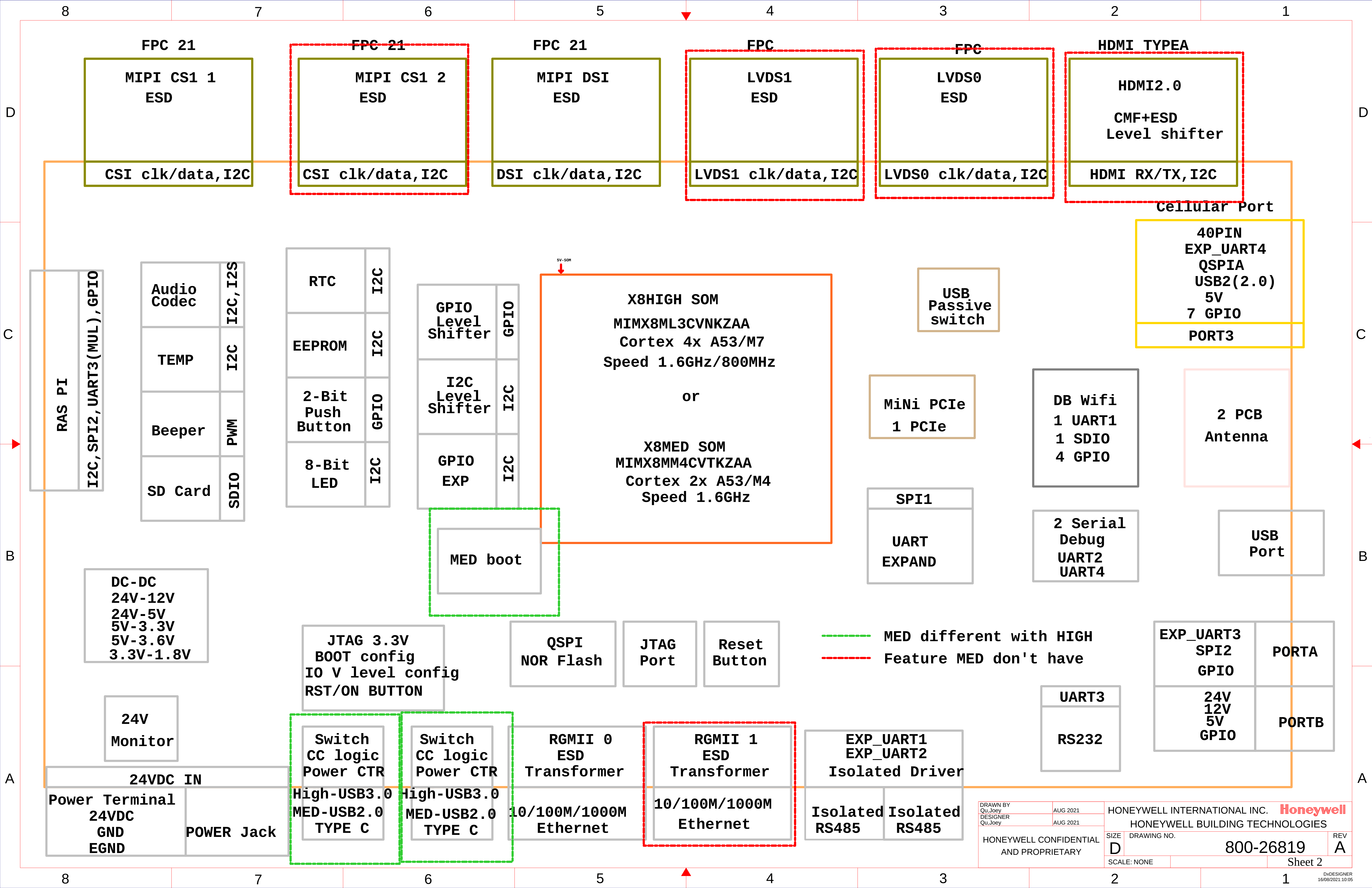
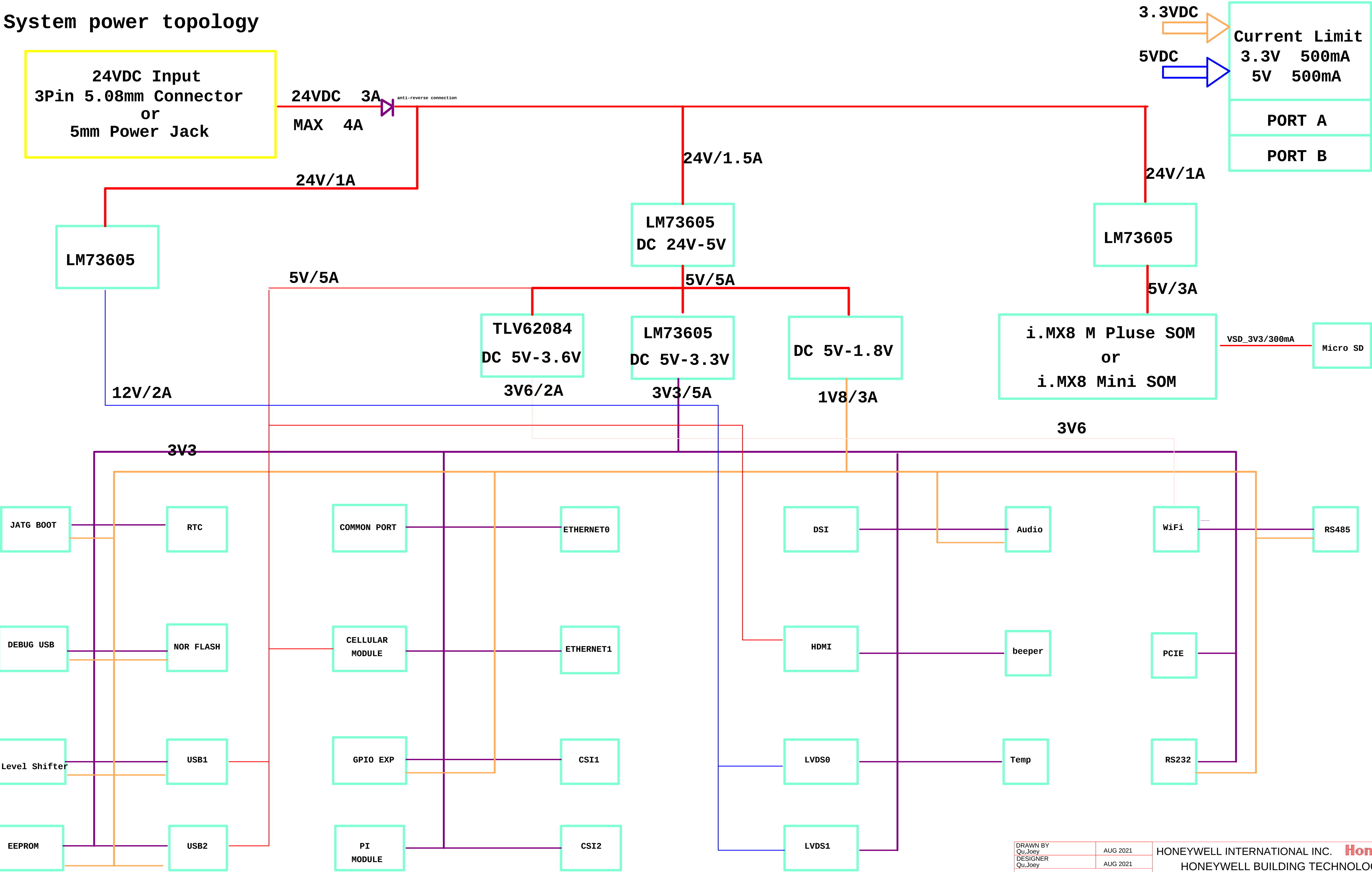


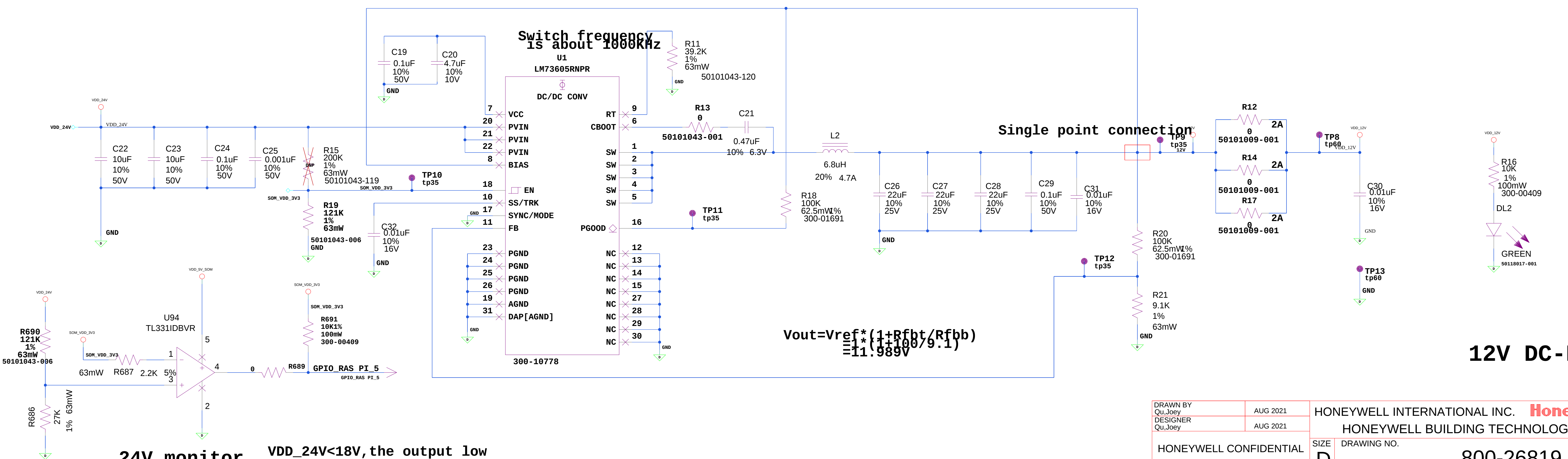
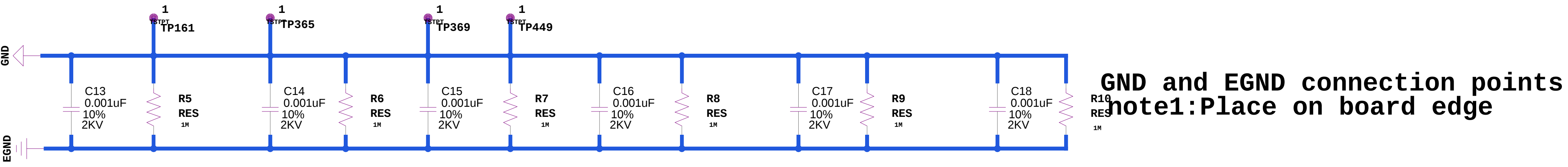
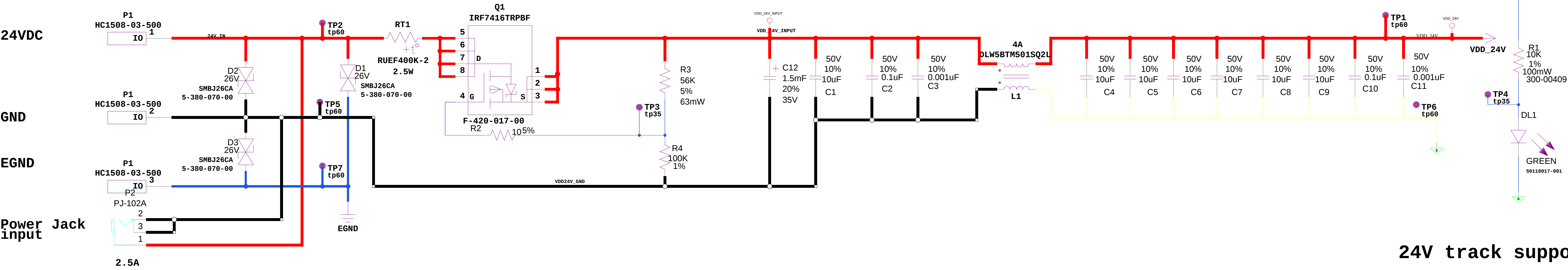
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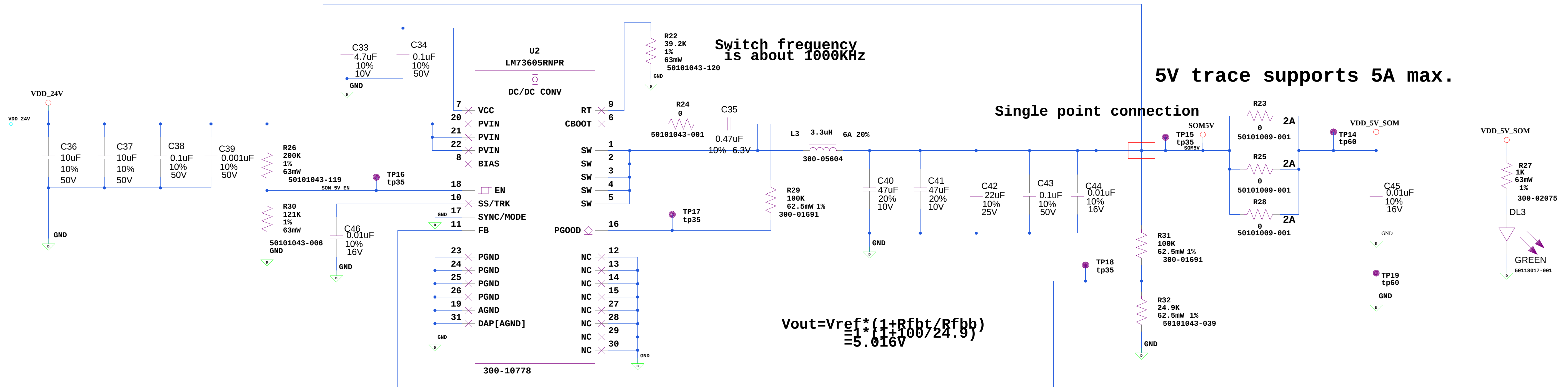
System power topology



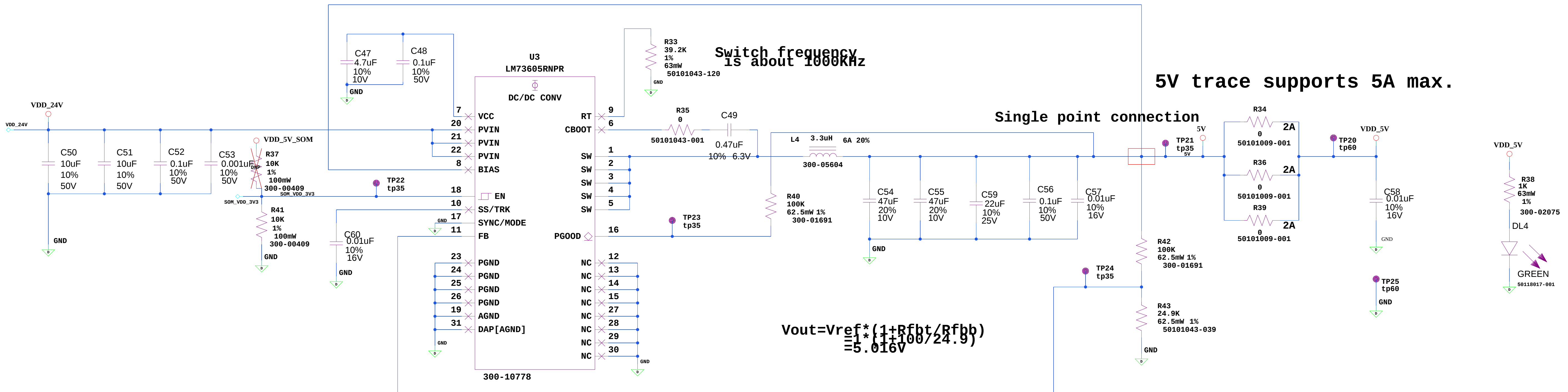
24V DC Input



5V DC-DC

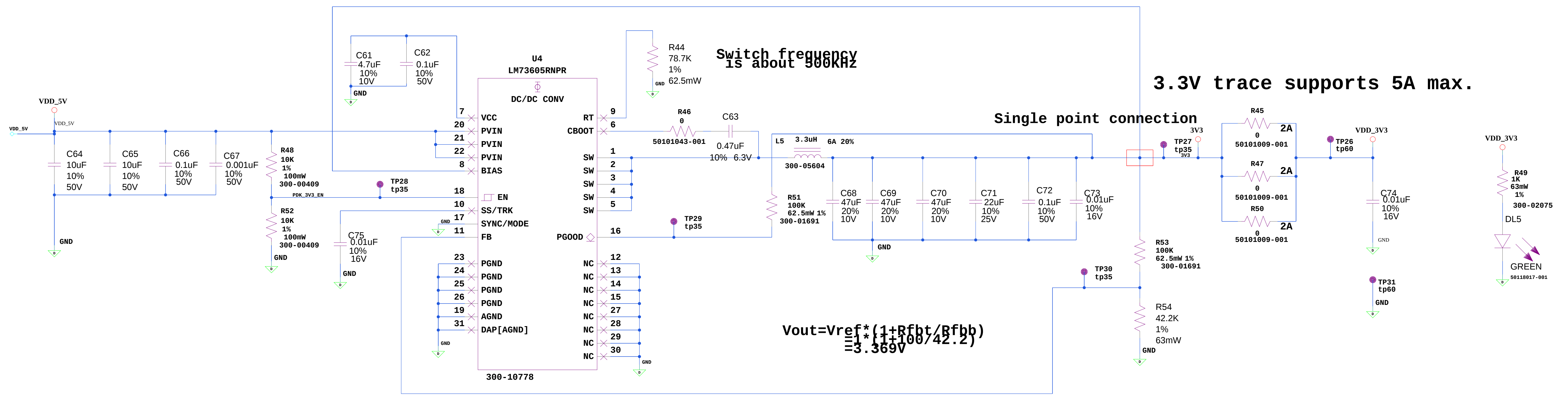


5V DC-DC to SOM power supply

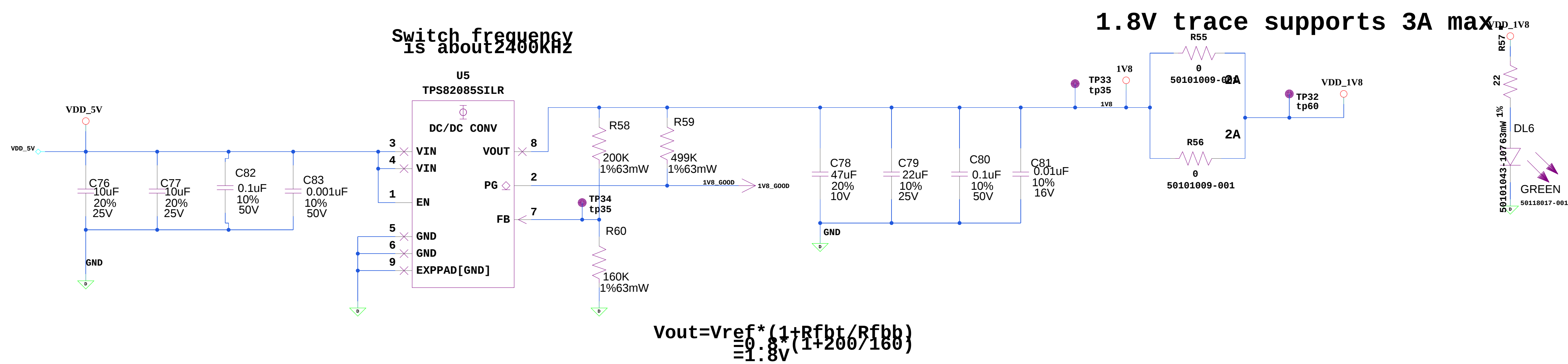


5V DC-DC to Base board power

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DESIGNER Qu.Joey		AUG 2021			
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE	DRAWING NO.		REV
		D	800-26819		A
		SCALE: NONE		Sheet 5	

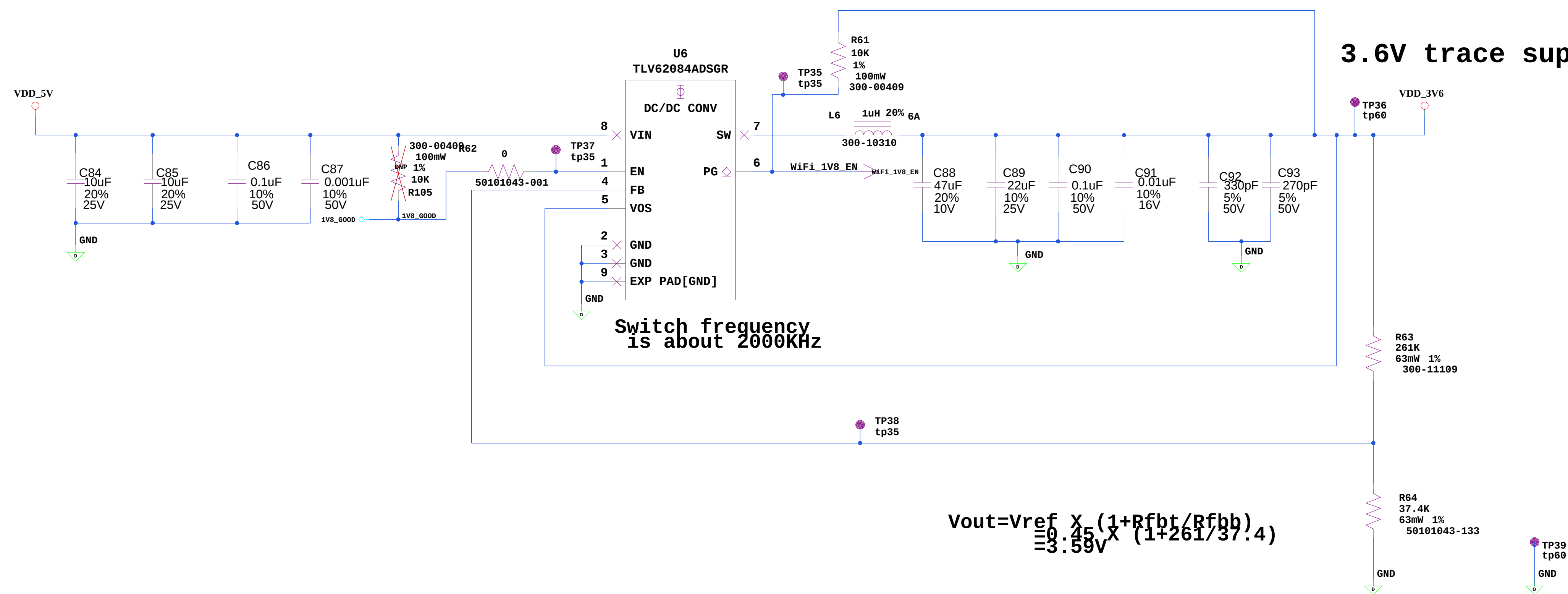


3.3V DC-DC to Base board power



1.8V DC-DC to Base board power supply

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DESIGNER Qu,Joey		AUG 2021						
HONEYWELL CONFIDENTIAL AND PROPRIETARY				SIZE	DRAWING NO. 800-26819			REV
				D				A
				SCALE: NONE				Sheet 6

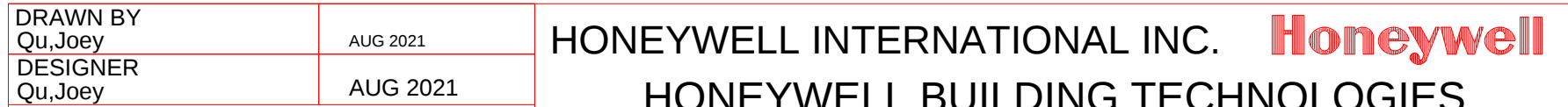


DRAWN BY Qu.Joey		AUG 2021		HONEYWELL INTERNATIONAL INC. Honeywell HONEYWELL BUILDING TECHNOLOGIES		
DESIGNER Qu.Joey		AUG 2021				
HONEYWELL CONFIDENTIAL AND PROPRIETARY				SIZE	DRAWING NO.	REV
				D	800-26819	A
				SCALE: NONE		Sheet 7

D

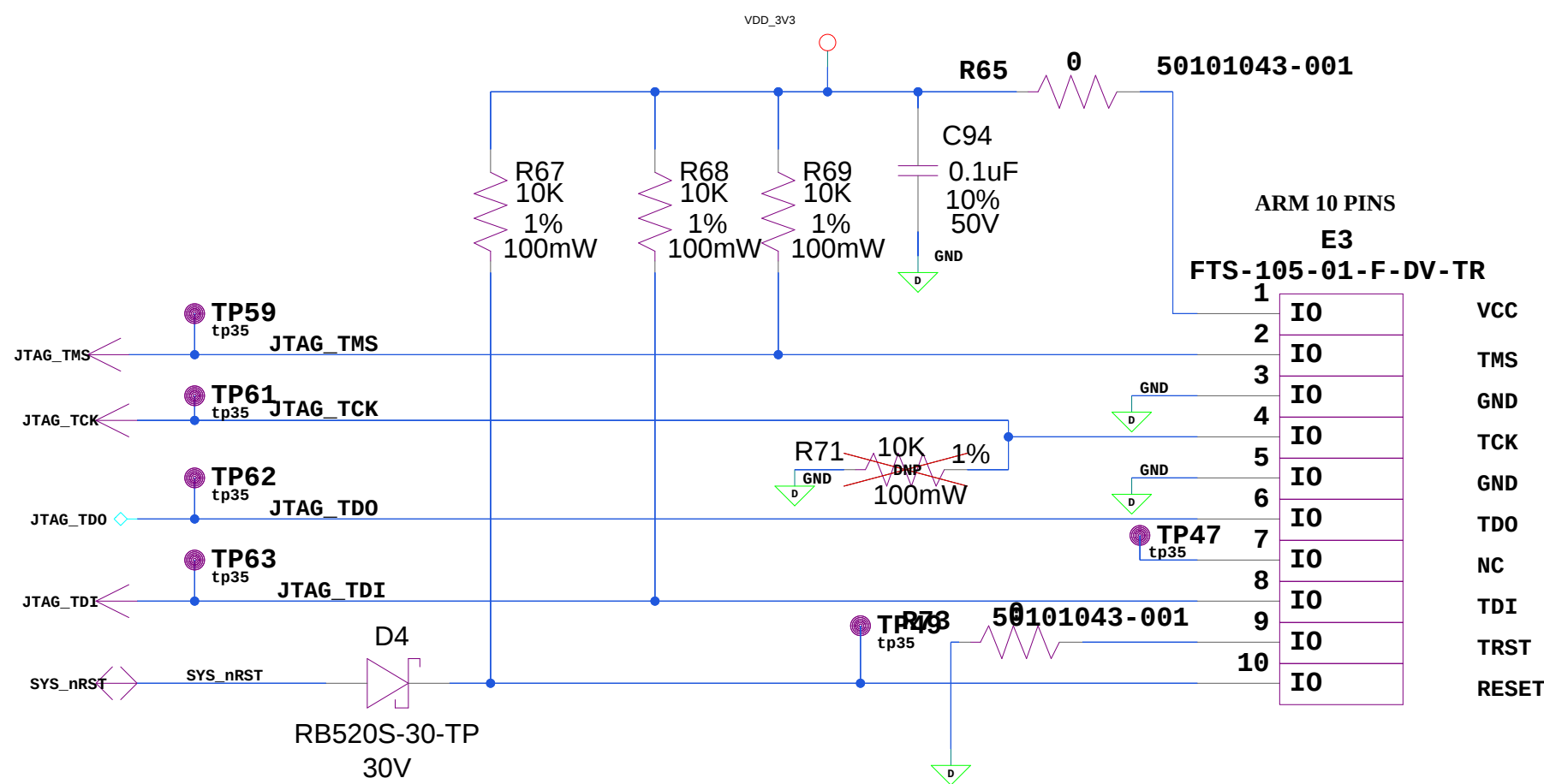
B

A



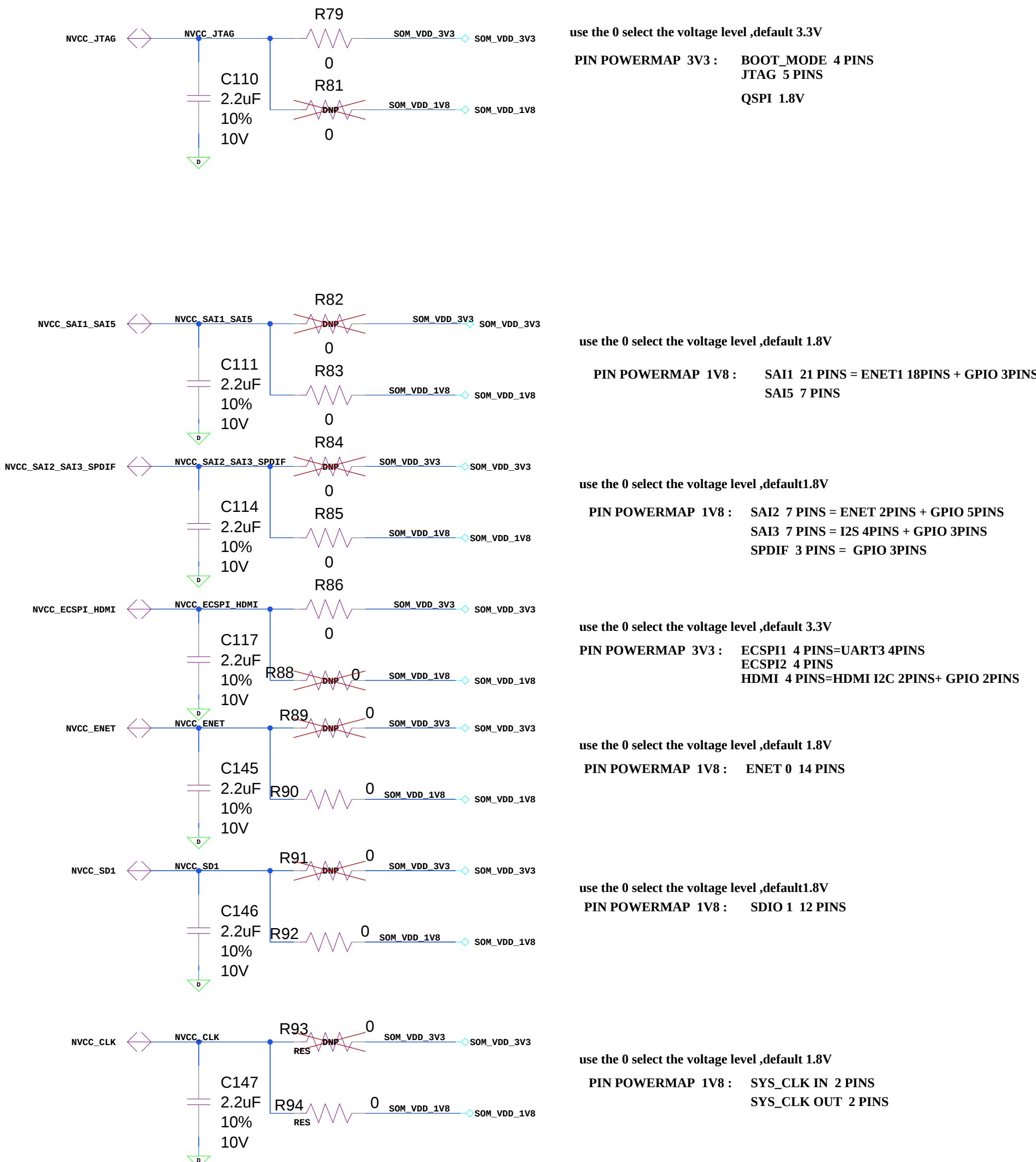
HONEYWELL CONFIDENTIAL AND PROPRIETARY	SIZE	DRAWING NO.		REV
	D	800-26819		A
SCALE: NONE		Sheet 8		

JTAG



When Boot, Jtag can get M7and A53.

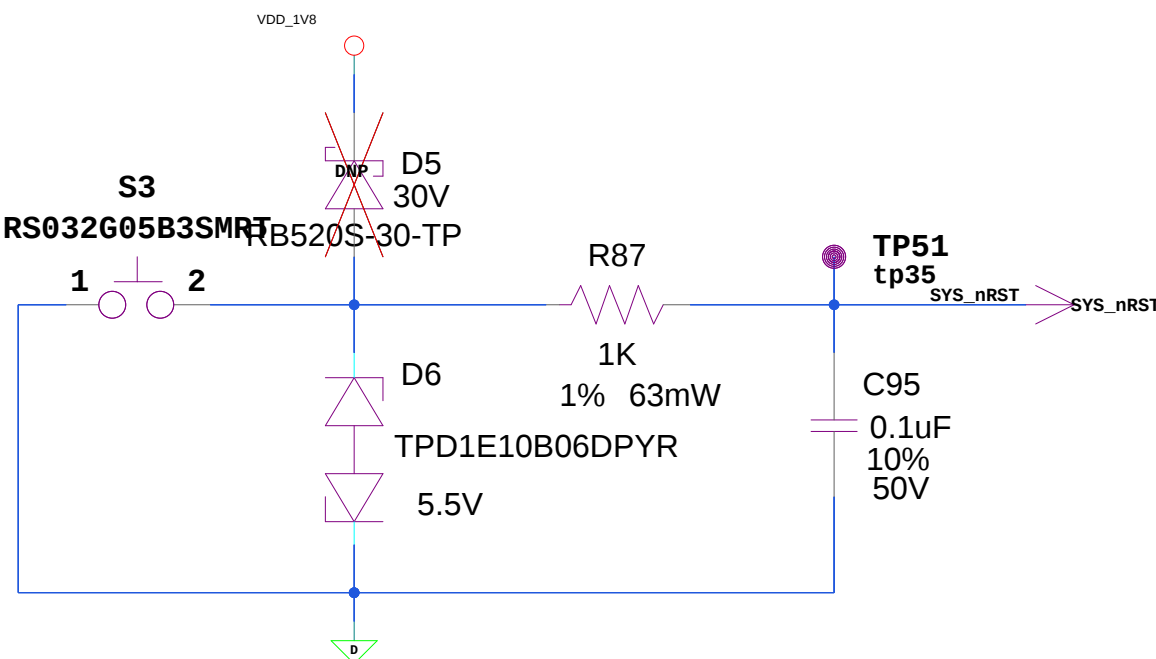
SOM GPIO Voltage Level Define



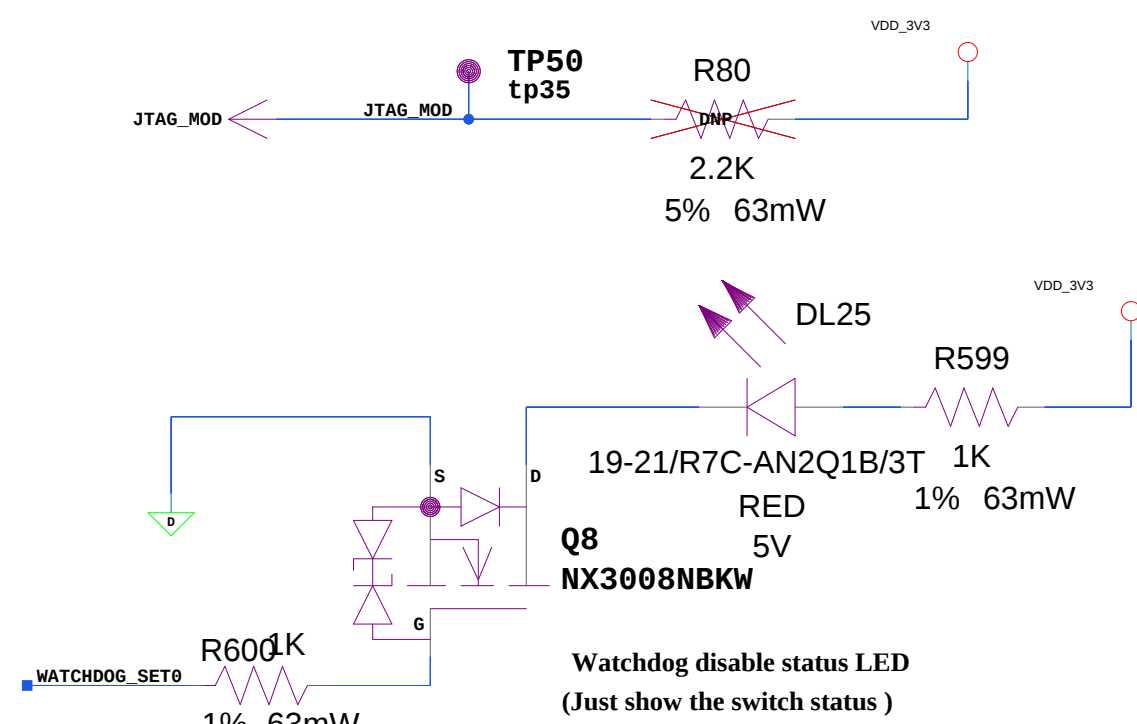
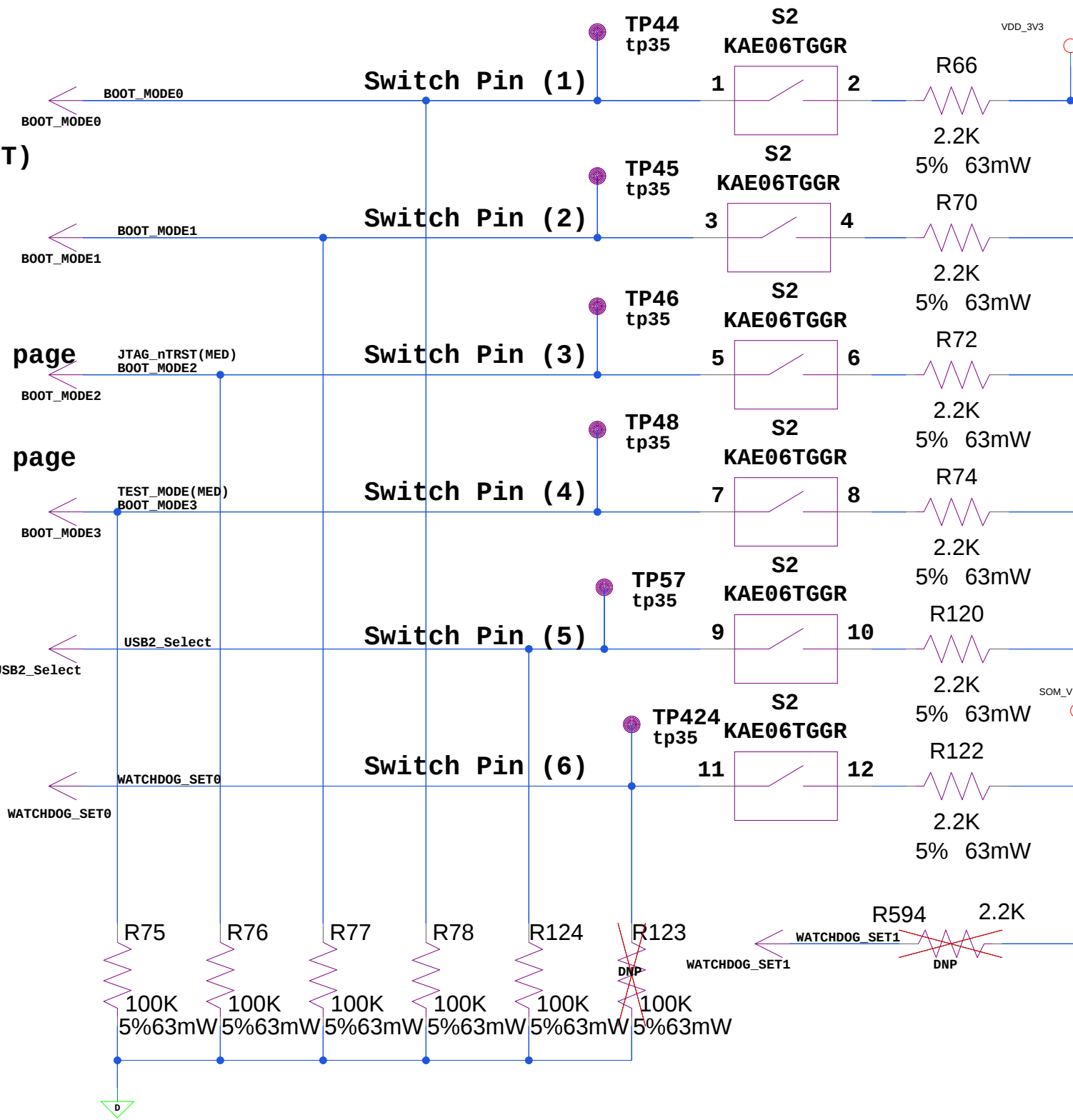
i.MX8 Plus Boot Mode

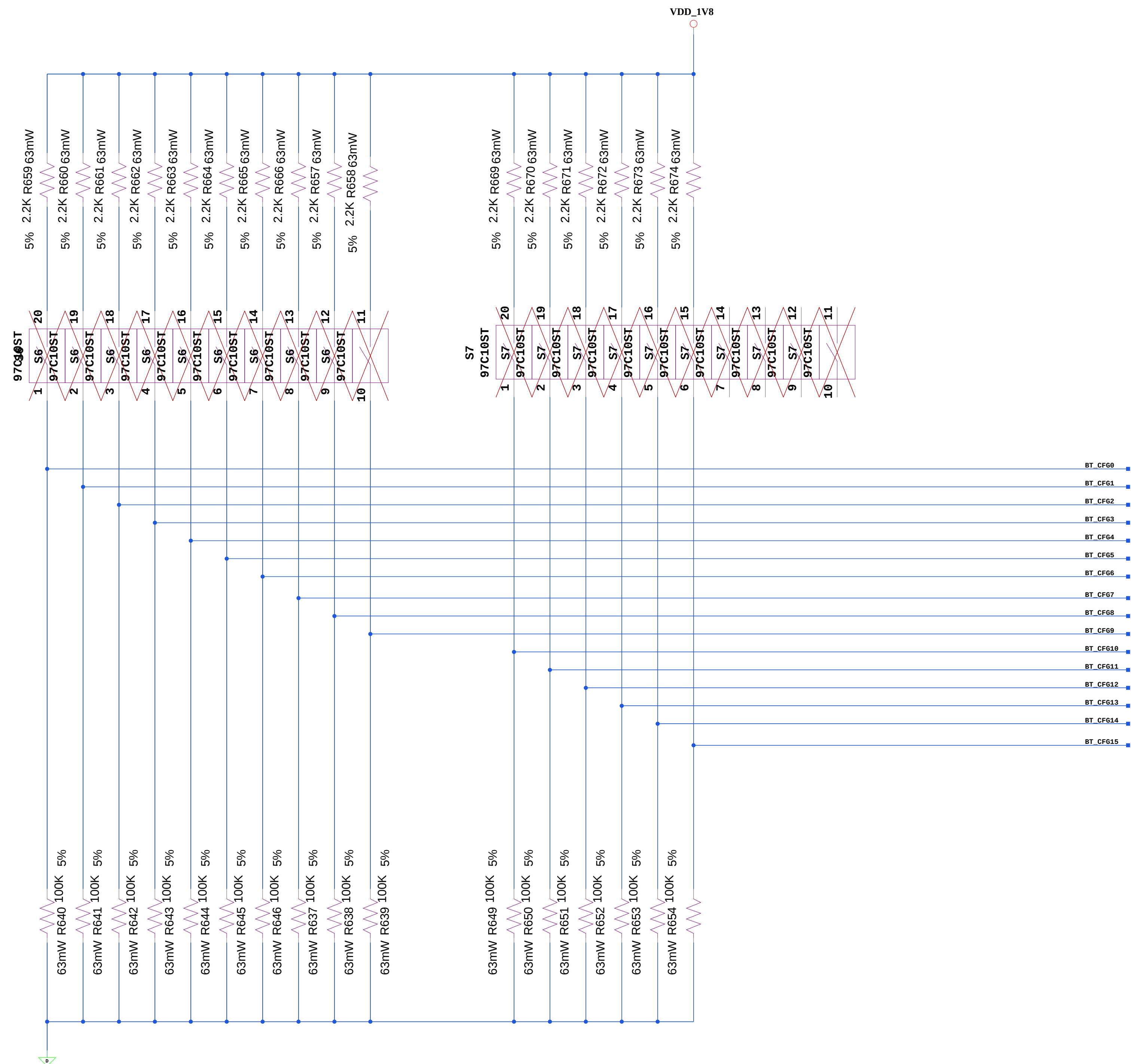
BOOT_MODE3	BOOT_MODE2	BOOT_MODE1	BOOT_MODE0	BOOT_MODES
0	0	0	0	Boot From Internal Fuses
0	0	0	1	USB Serial Download
0	0	1	0	Default USDHC3(eMMC boot only ,SD3 8BIT)
0	0	1	1	USDHC2(SD boot only ,SD2)
0	1	0	0	NAND 8-bit single device 256 page
0	1	0	1	NAND 8_bit single device 512 page
0	1	1	0	QSPI 3B Read
0	1	1	1	QSPI Hyperflash 3.3V
1	0	0	0	ecSPI Boot
1	0	0	1	Reserved
1	0	1	0	Reserved
1	0	1	1	Reserved
1	1	0	0	Reserved Boot on I2C connect to BOOT PIN[3:2]
1	1	0	1	Reserved
1	1	1	0	Infinite Loop Mode
1	1	1	1	Test Mode

Caution:
BOOT_MODE0,BOOT_MODE1 ,BOOT_MODE2 ,BOOT_MODE3 , JTAG_MOD and POR_B must be pulled to "111111"
for i.MX8M Plus to enter Boundary Scan mode



If NVCC_JTAG USE 1.8V the boot mode pin pull up must connect 1.8V





When assembly HIGH_SOM, choose_ENET channel,
When assembly MED_SOM, choose_BT_CFG channel,

```
#Boot Device: eMMC/SDHC3
```

S2[1-4]: 0110
S6[1-10]: 1100010001
S7[1-6]: 010100

```
#Boot Device: MicroSD/SDHC2
```

S2[1-4]: 0110
S6[1-10]: 1100100001
S7[1-6]: 101000

```
#Boot Device: NAND
```

S2[1-4]: 0110
S6[1-10]: 0000001000
S7[1-6]:111100

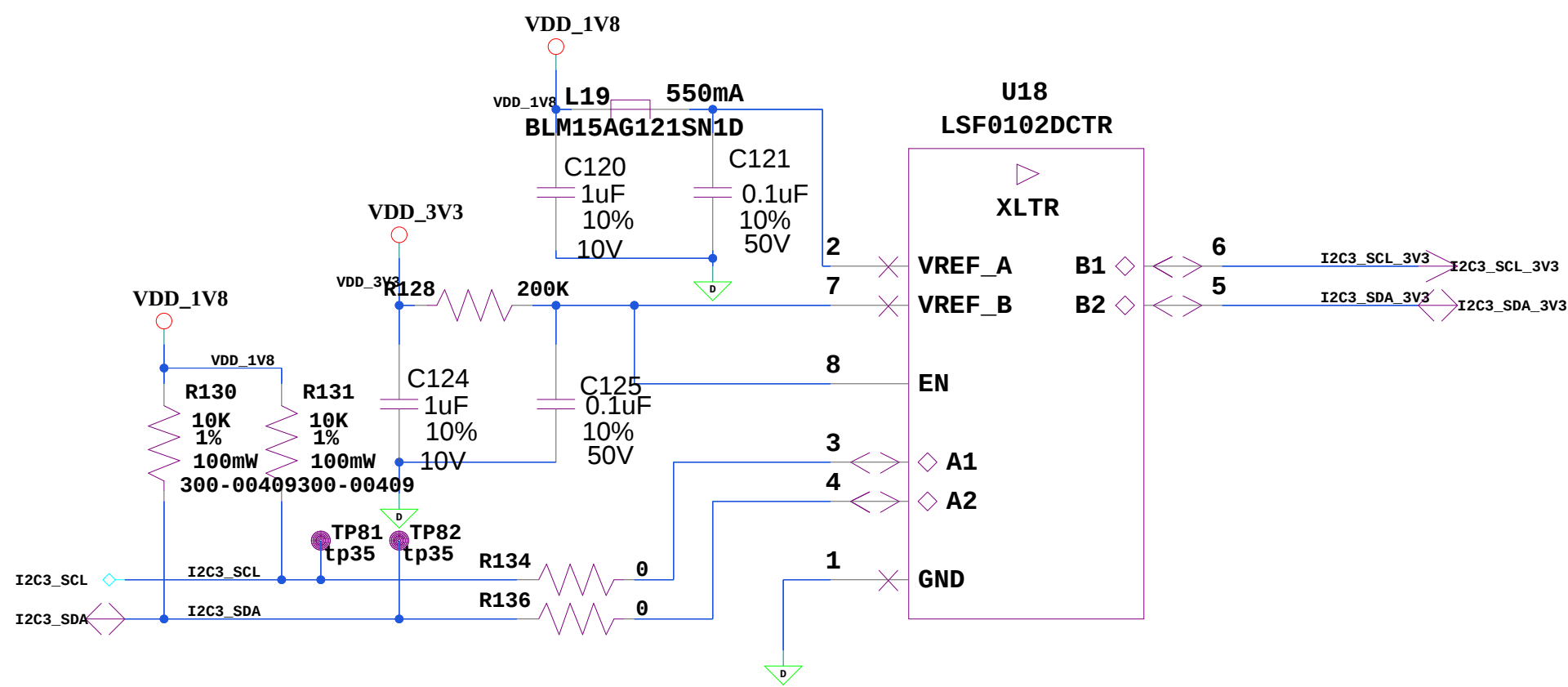
```
#Download Mode
S2[1-4]: 1010
S6[1-10]: xxxxxxxxxxxx
S7[1-6]: xxxxxx0
```

Boot_MODE1Boot_MODE0

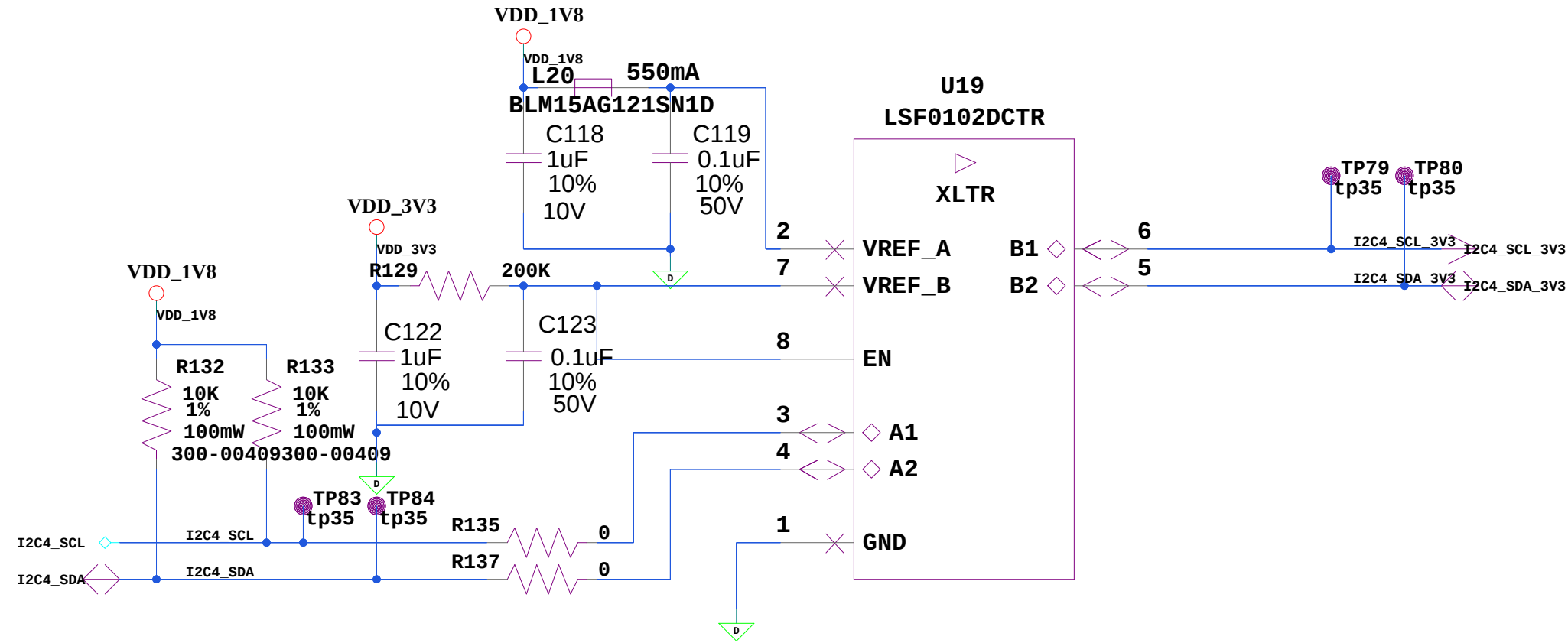
Boot_TYPE:

00	Boot From Fuses
01	Serial Downloader
10	Internal Boot(Development)
11	Reserved

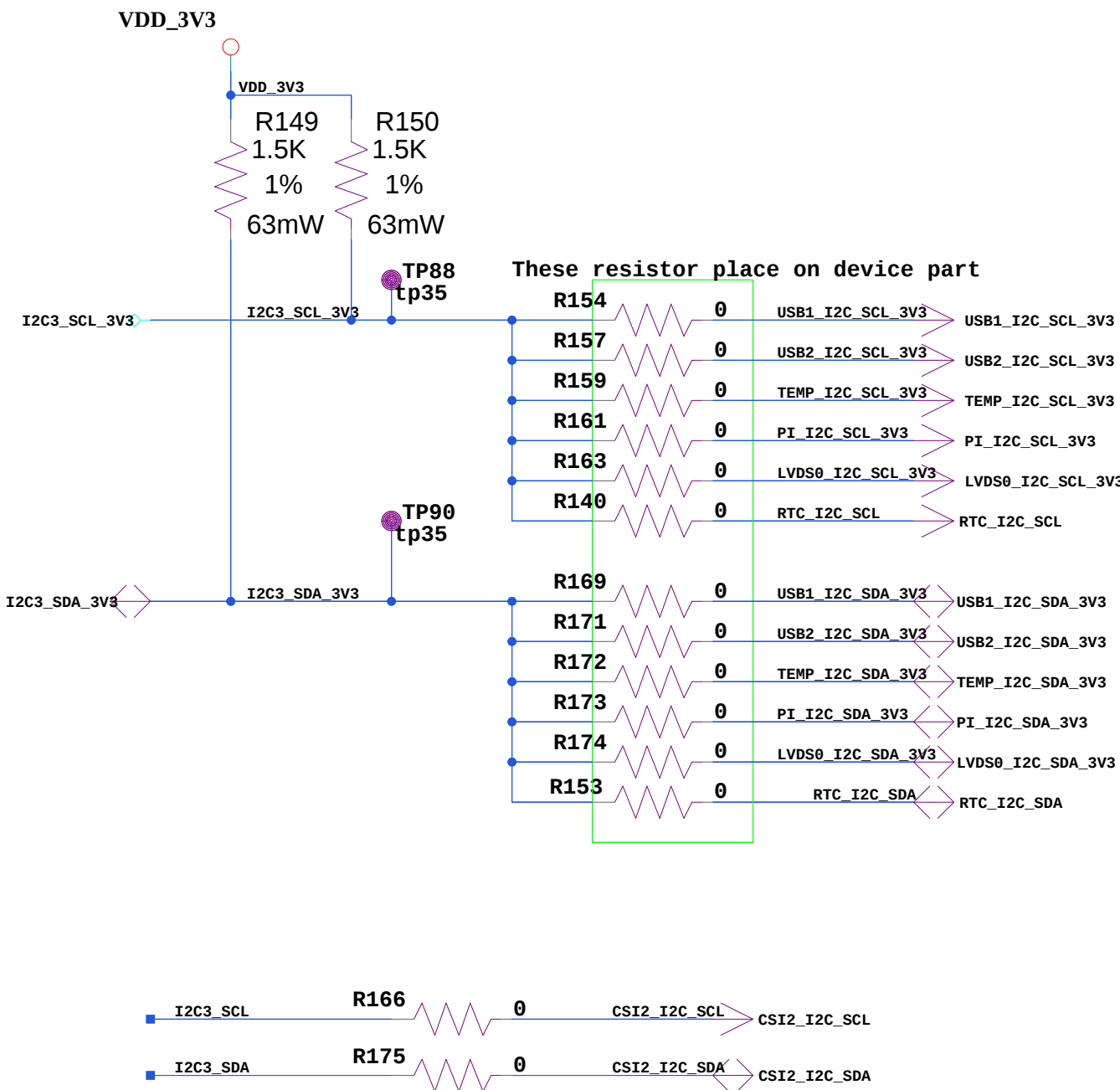
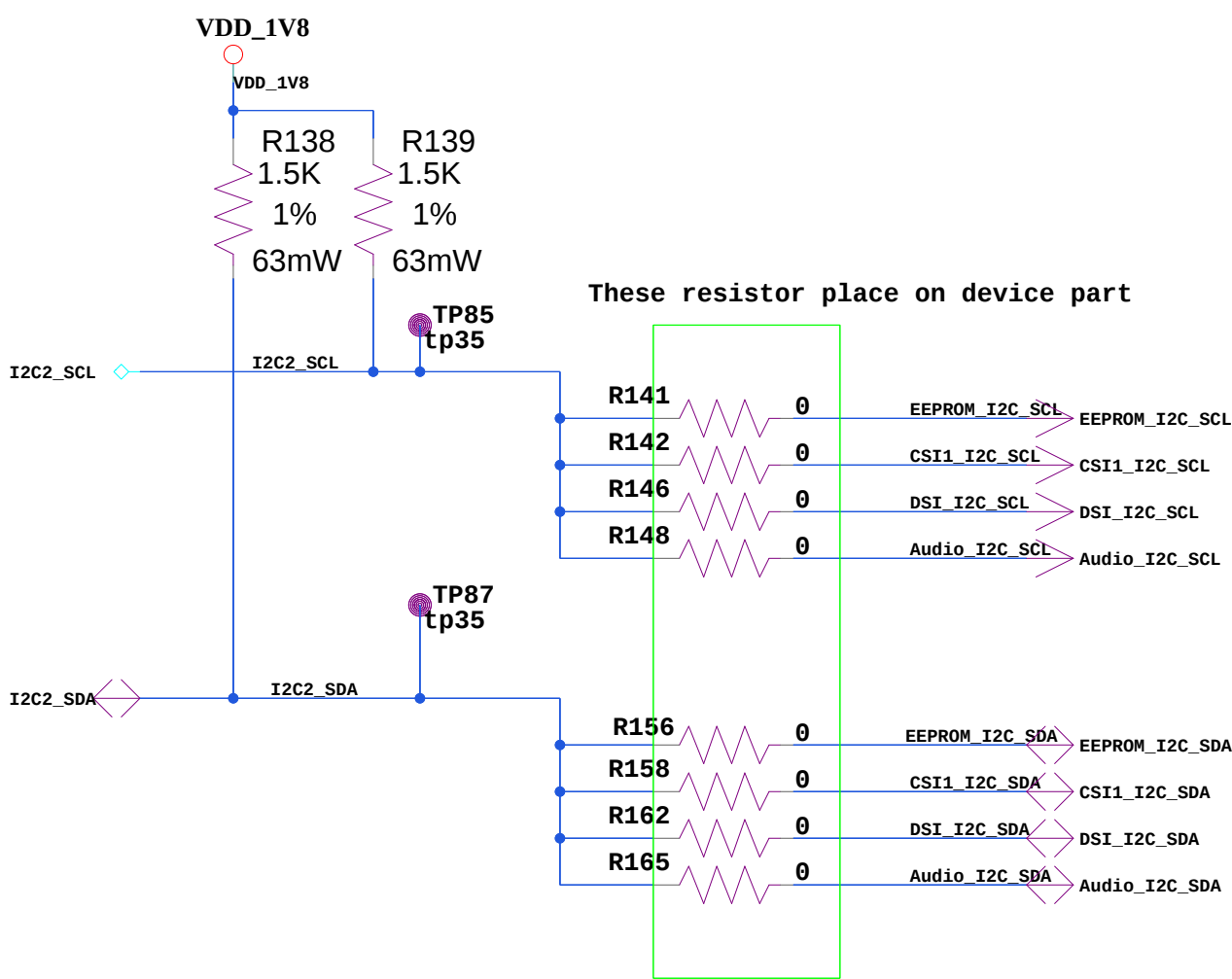
DRAWN BY Qu.Joey		AUG 2021		HONEYWELL INTERNATIONAL INC. Honeywell		
DESIGNER Qu.Joey		AUG 2021				
HONEYWELL CONFIDENTIAL AND PROPRIETARY				HONEYWELL BUILDING TECHNOLOGIES		
				SIZE D	DRAWING NO. 800-26819	REV A
				SCALE: NONE		Sheet 10



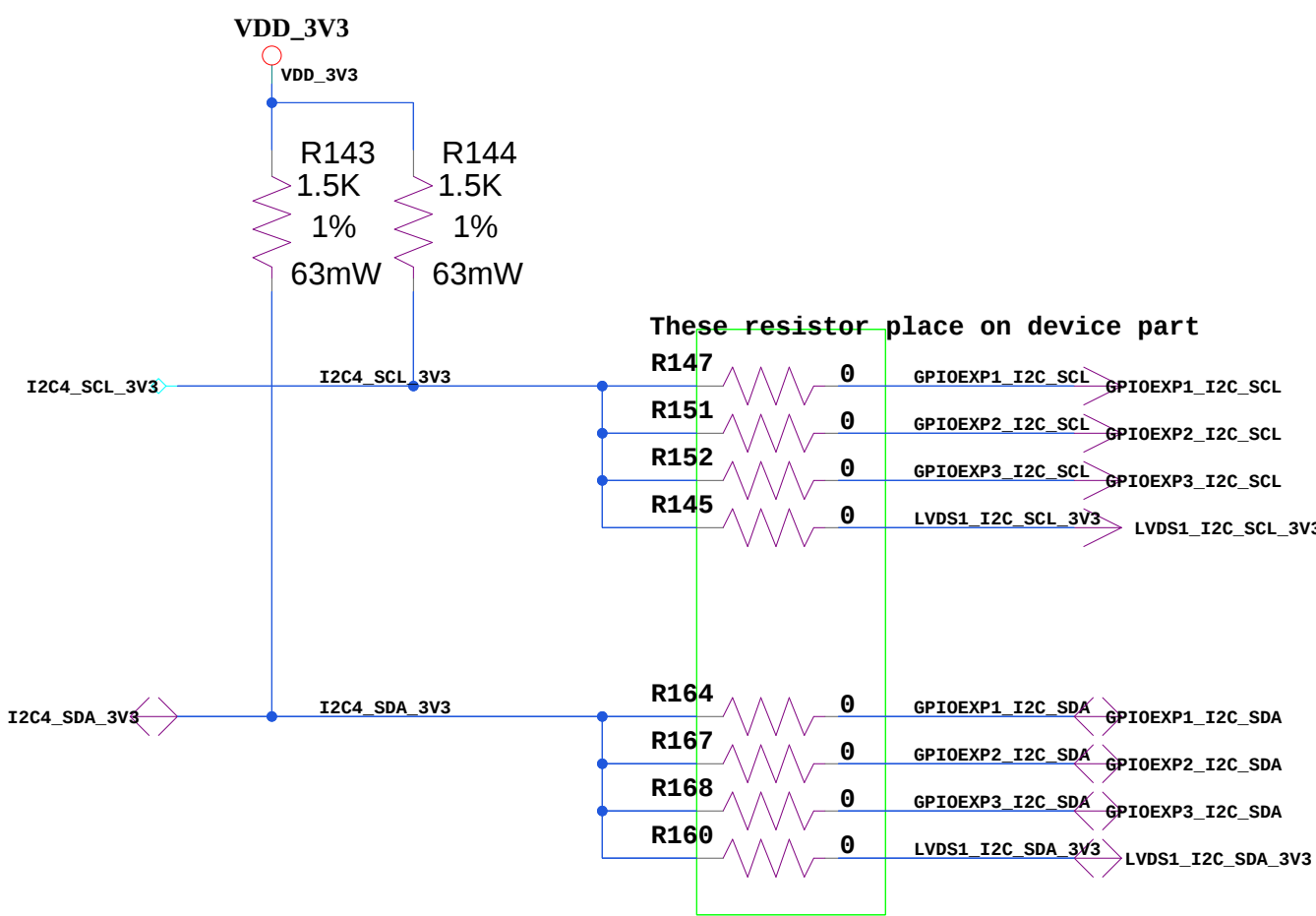
I2C3 Level Shifter



I2C4 Level Shifter



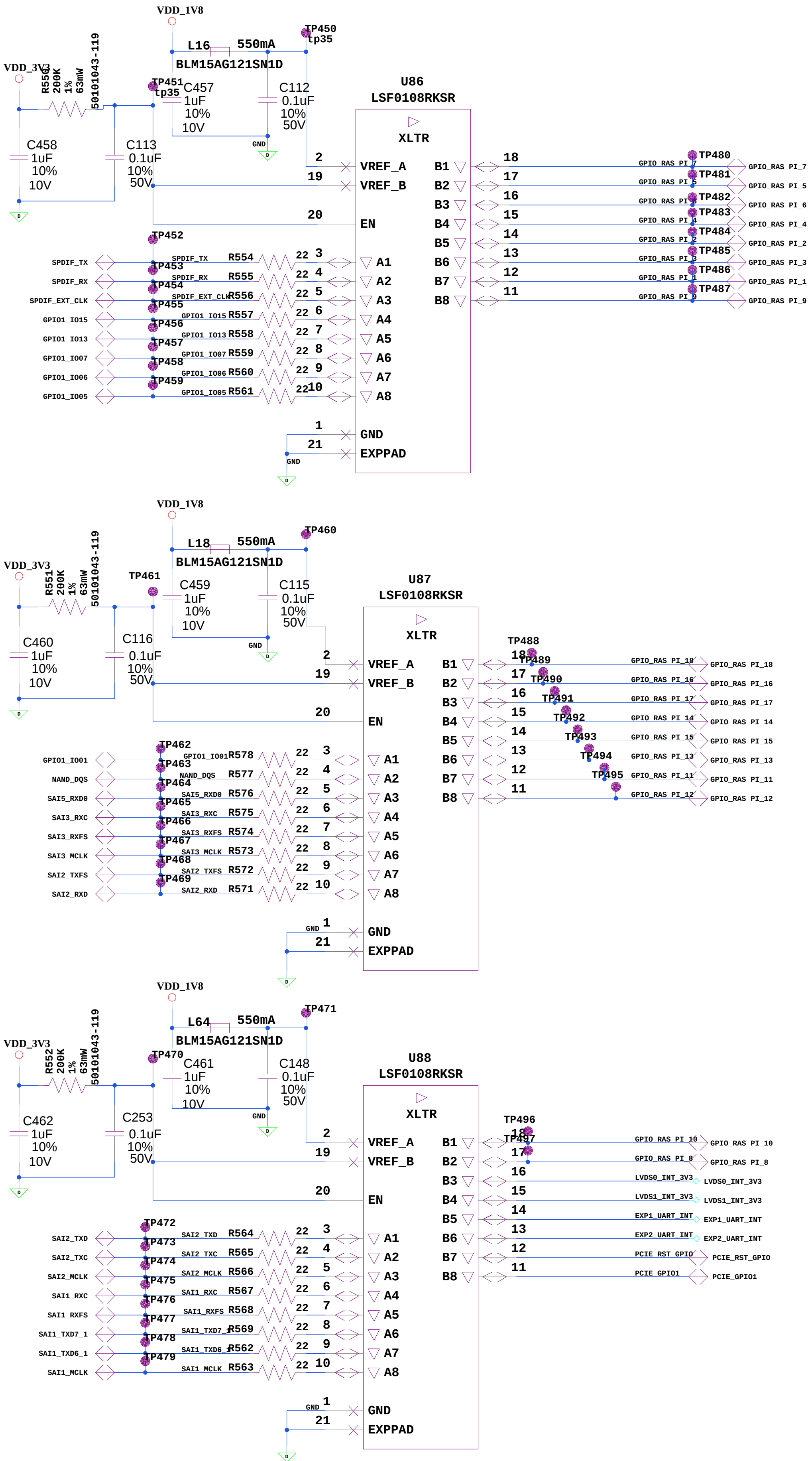
I2C3 BUS



I2C4 BUS

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DESIGNER	Qu.Joey	AUG 2021		
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE	DRAWING NO.	REV
		D	800-26819	A
		SCALE: NONE	Sheet 12	

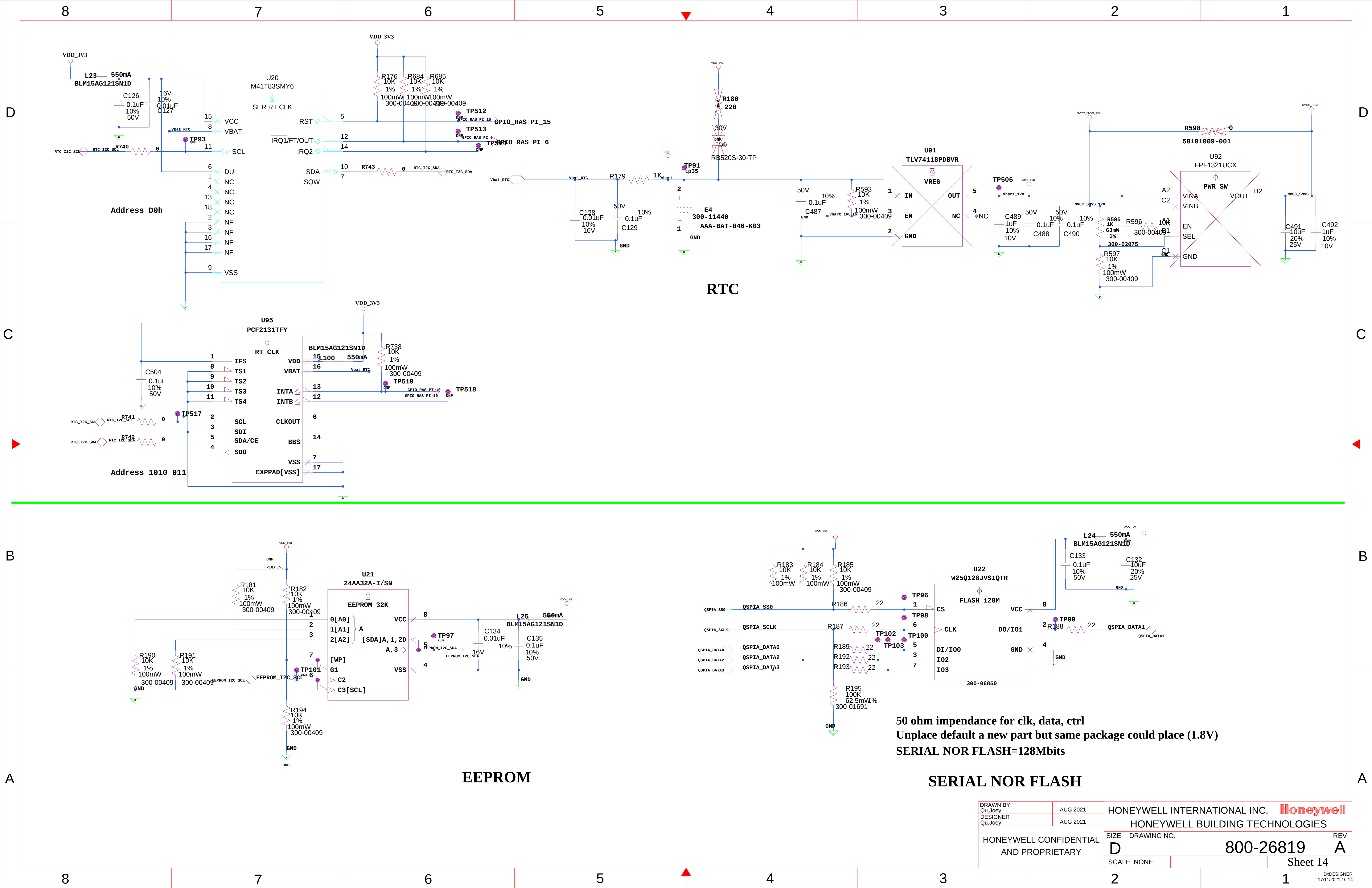
GPIO Level Shifter



GPIO function

GPIO_RAS_PI_1	USB1 INT
GPIO_RAS_PI_2	UART expand CS
GPIO_RAS_PI_3	COMMON A CS
GPIO_RAS_PI_4	PWM to DSI
GPIO_RAS_PI_5	24V monitor INT
GPIO_RAS_PI_6	M41T83SMY6 RTC INT
GPIO_RAS_PI_7	USB2 INT
SAI2_TXC	connect to
GPIO1_I00	connect to
GPIO_RAS_PI_10	PCF2131TFY RTC INT
GPIO_RAS_PI_11	LTE CS
SAI2_RXD	DSI INT
GPIO_RAS_PI_13	TBD
GPIO_RAS_PI_14	TBD
GPIO_RAS_PI_15	M41T83SMY6 RTC RST

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HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 13

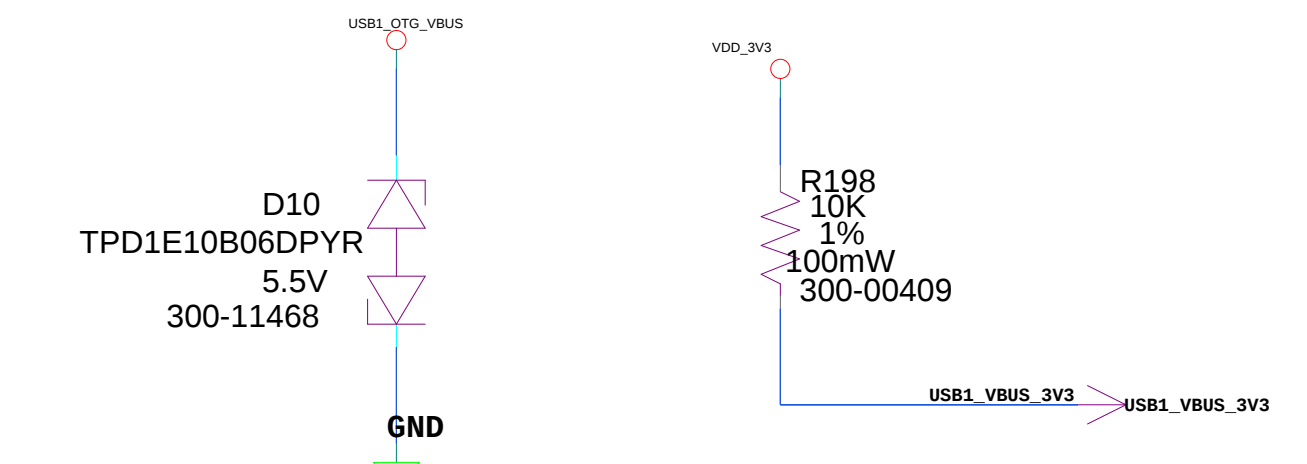
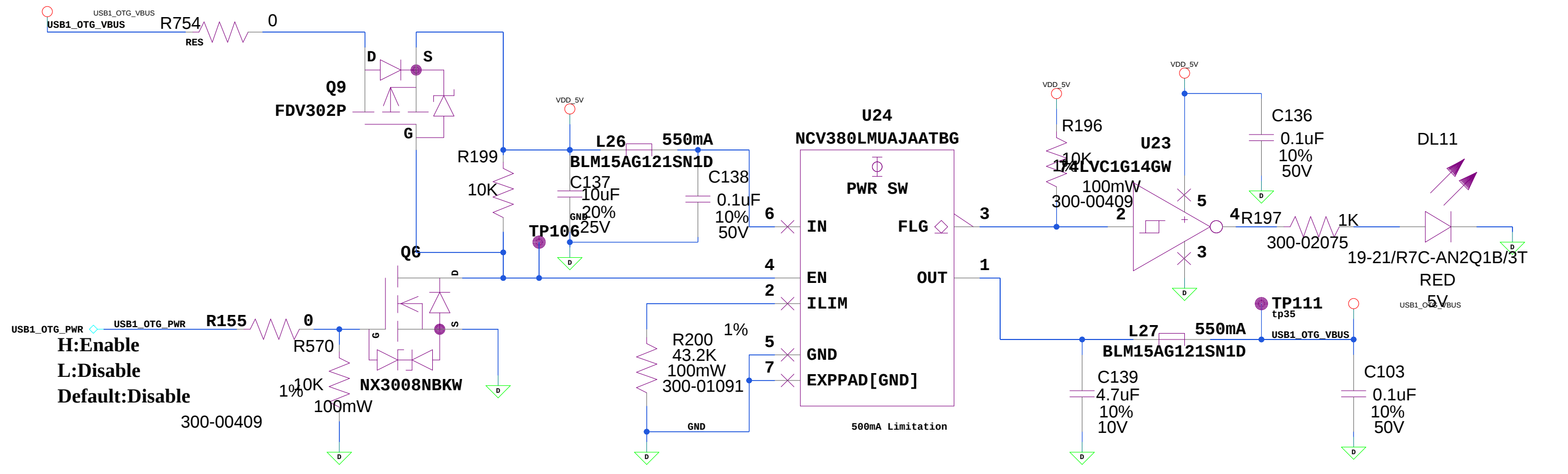


50 ohm impedance for clk, data, ctrl
Unplace default a new part but same package could place (1.8V)
SERIAL NOR FLASH=128Mbits

EEPROM

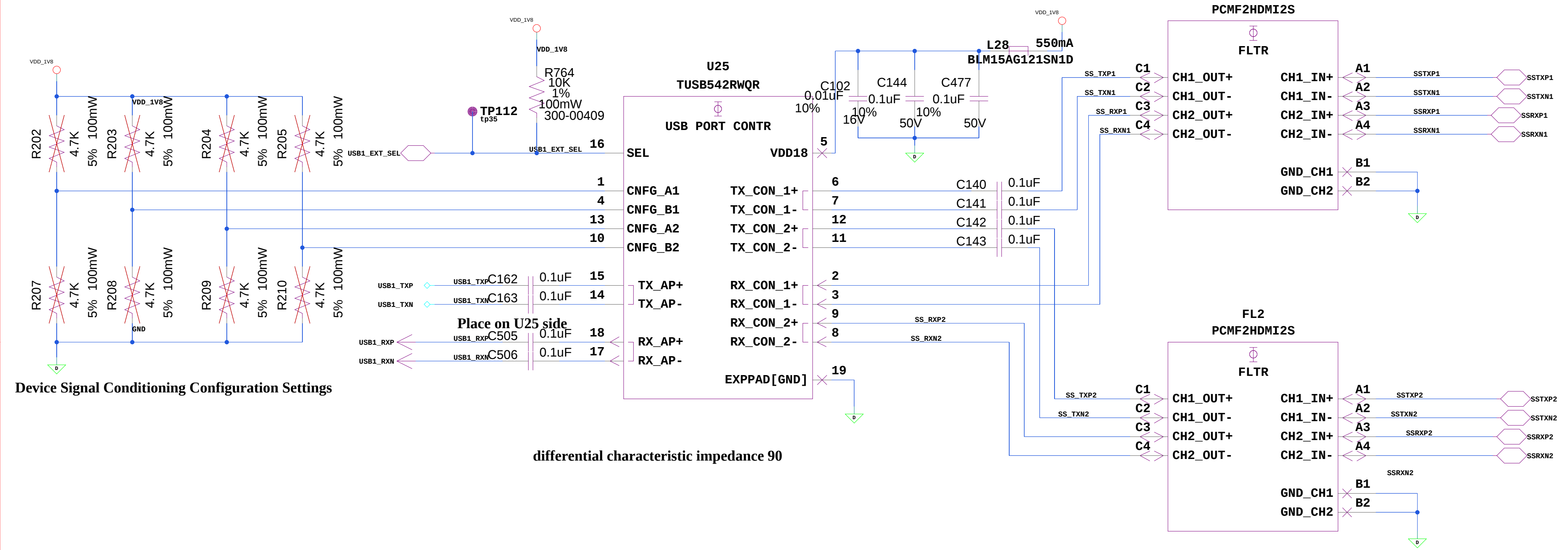
SERIAL NOR FLASH

D

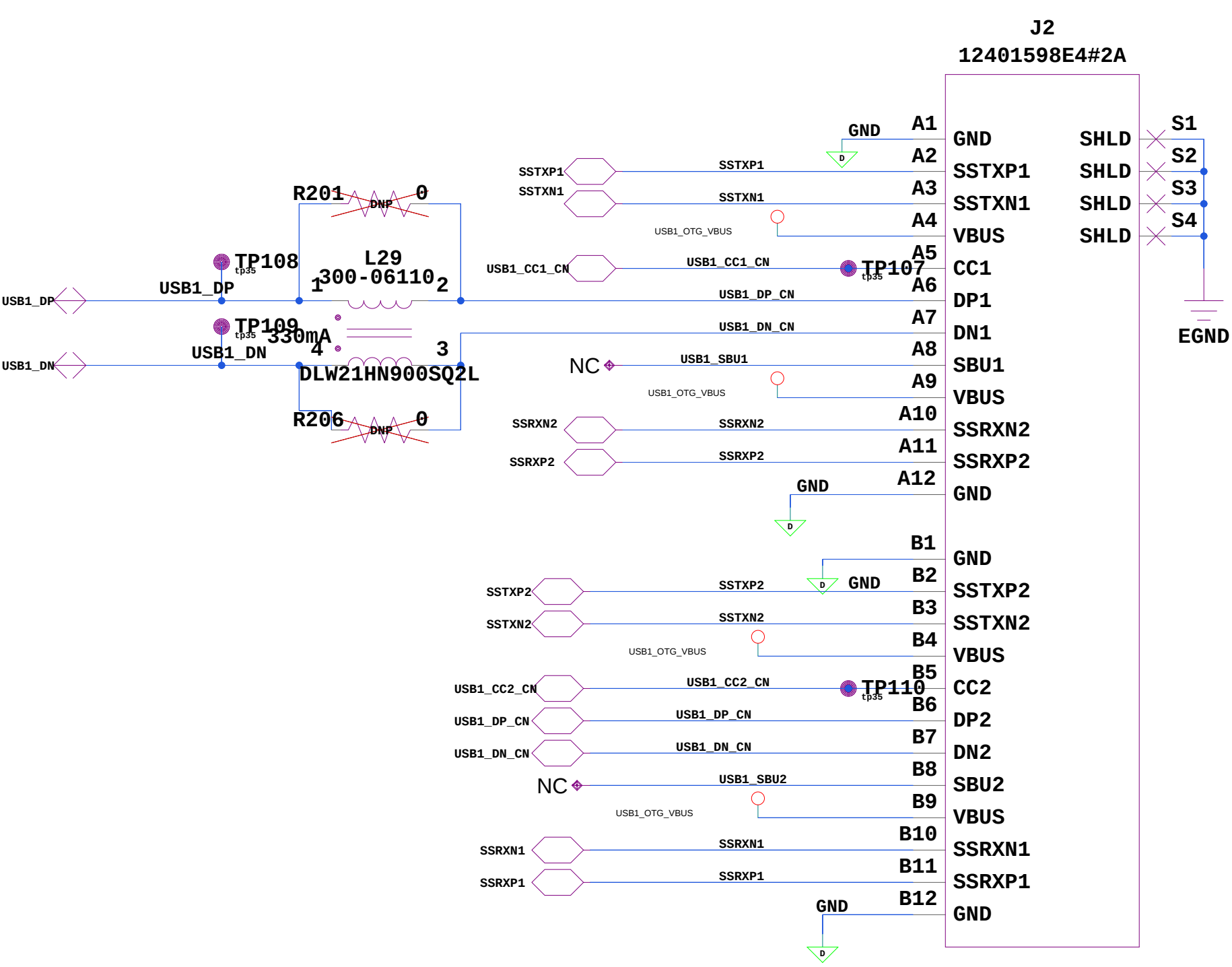


USB1 OTG POWER

C

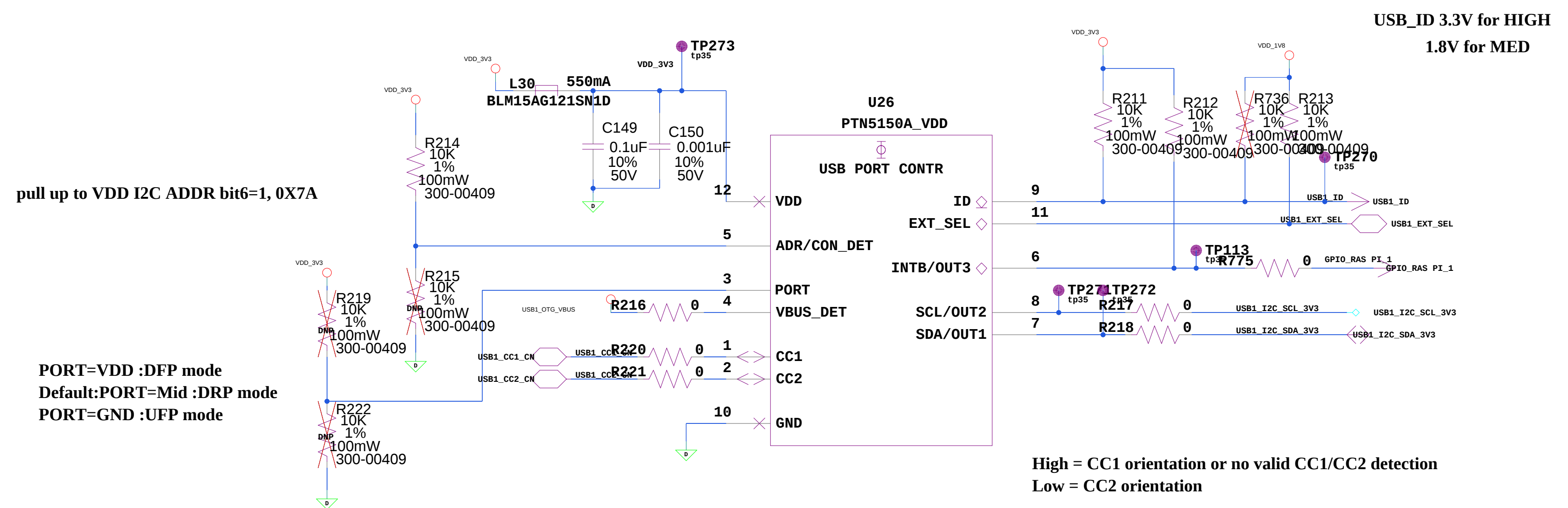


USB1 Signal



Layout near PCB edge.

B



USB1 CC

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HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 15

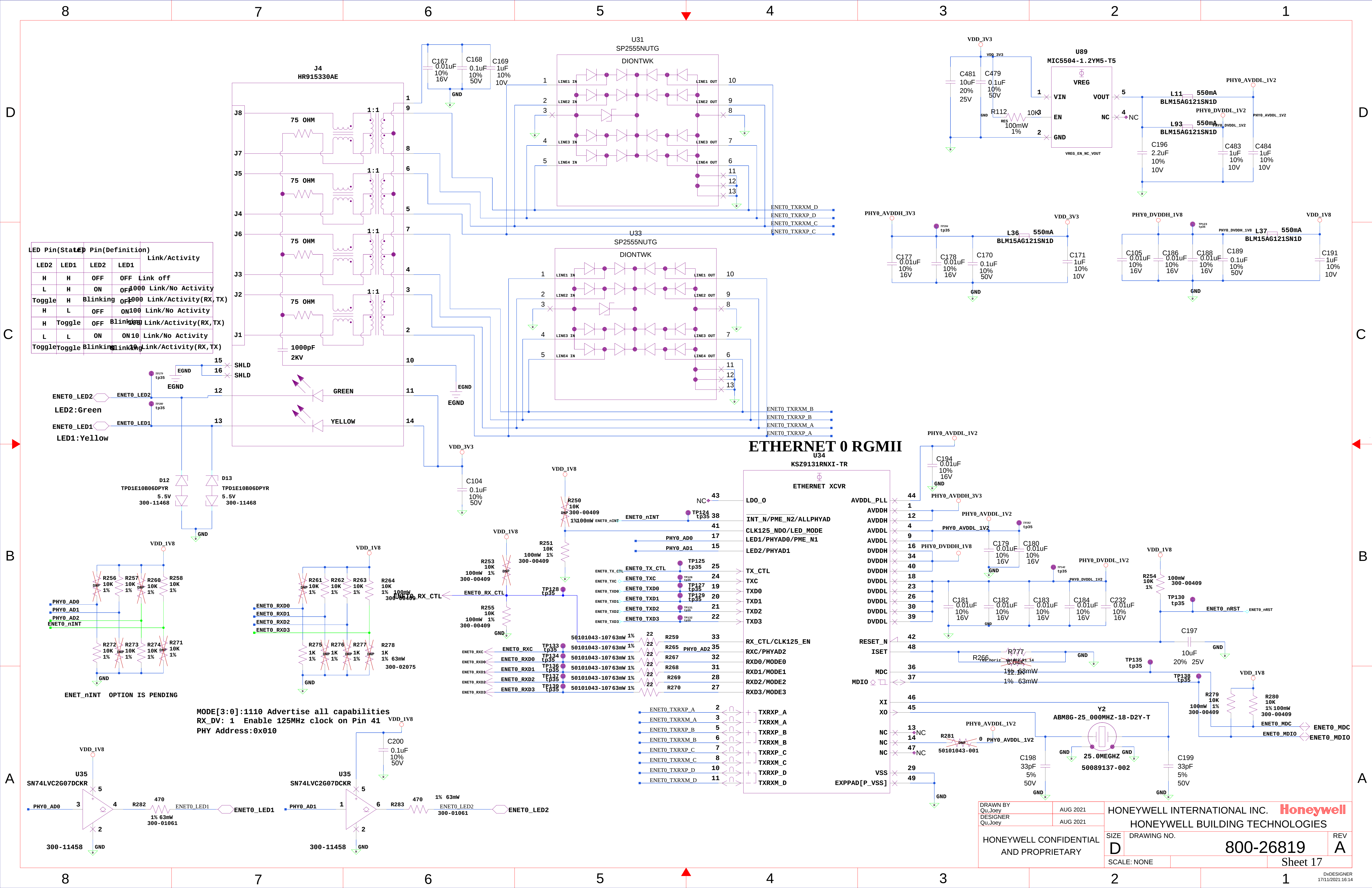
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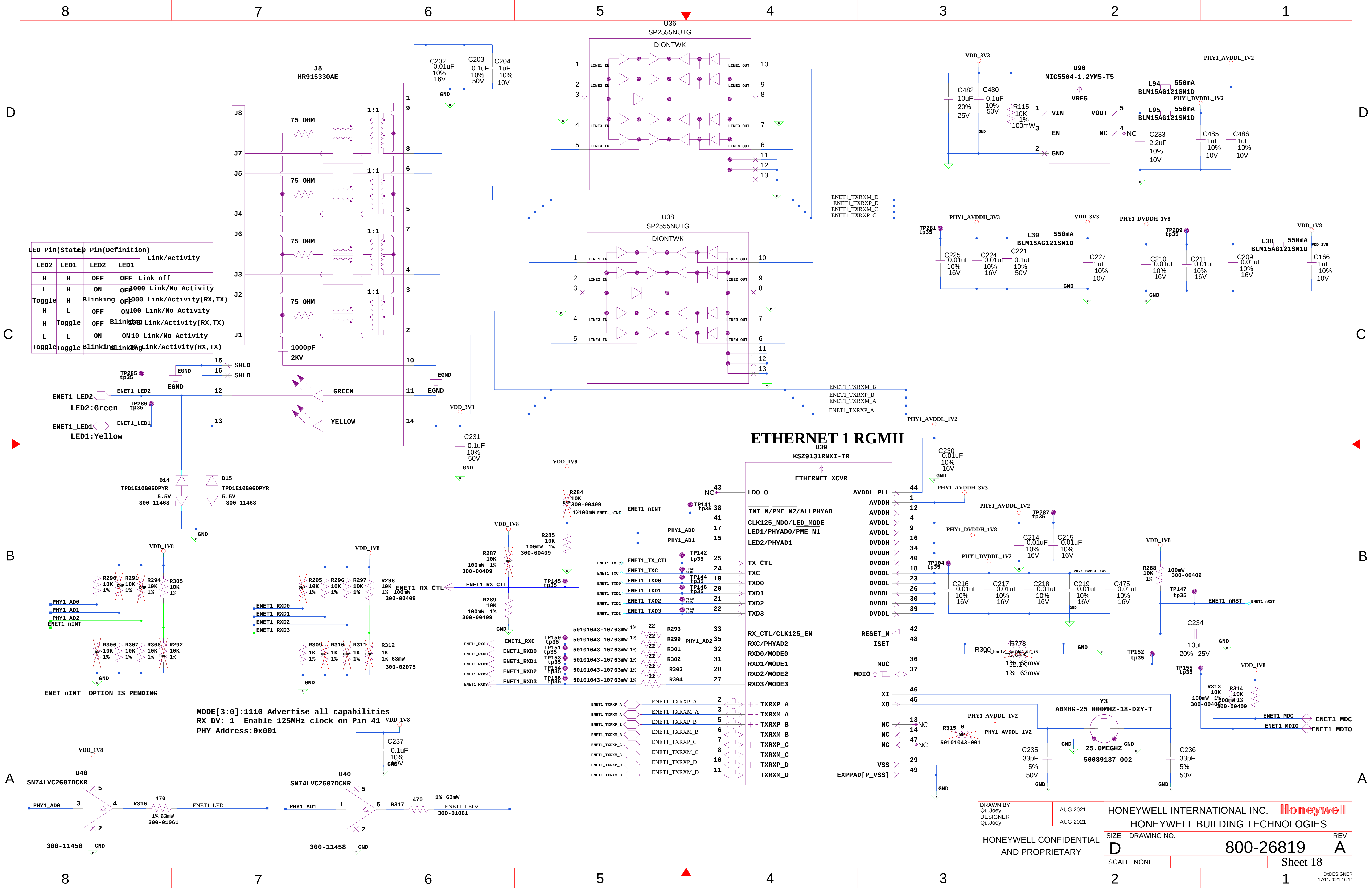
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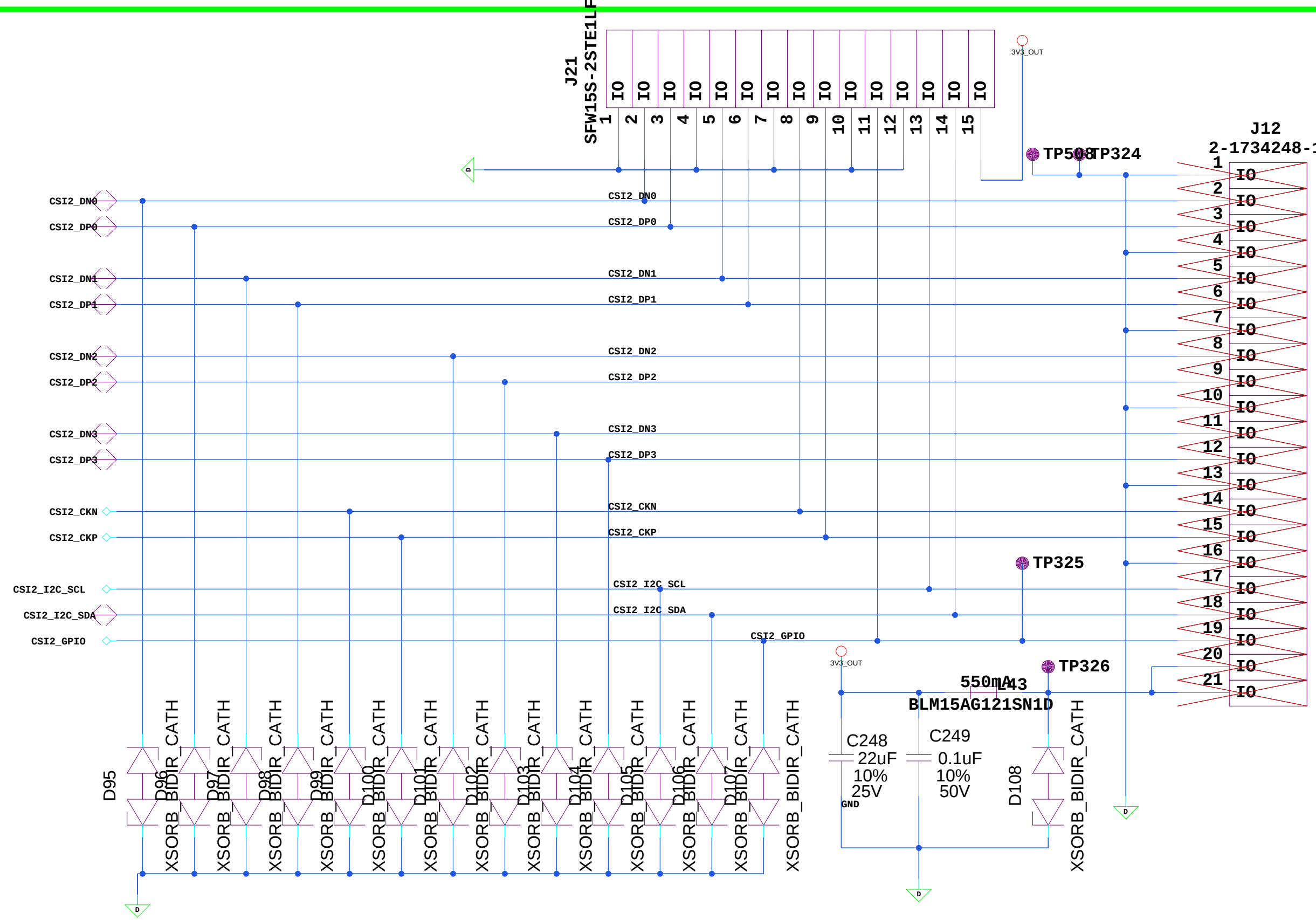
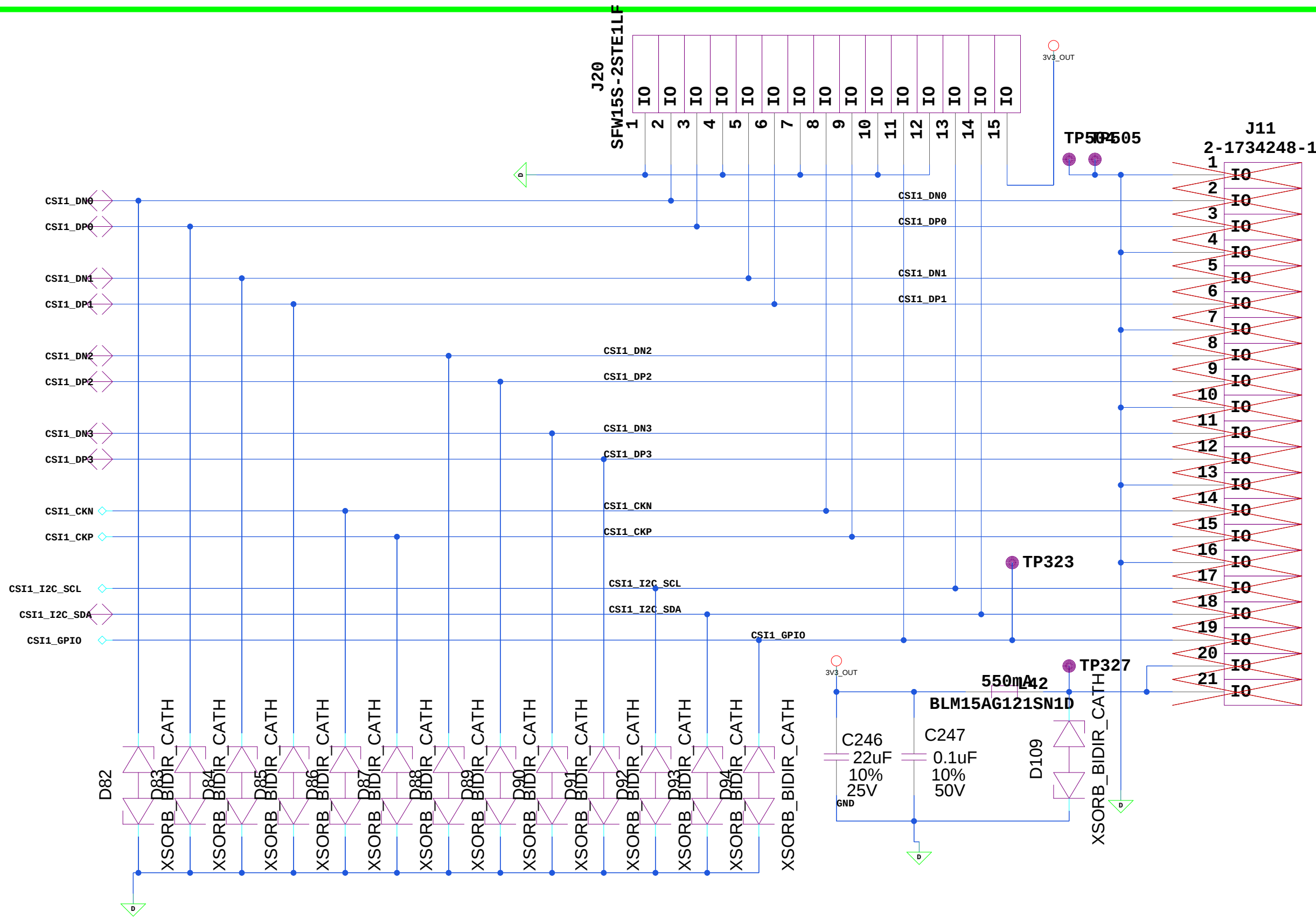
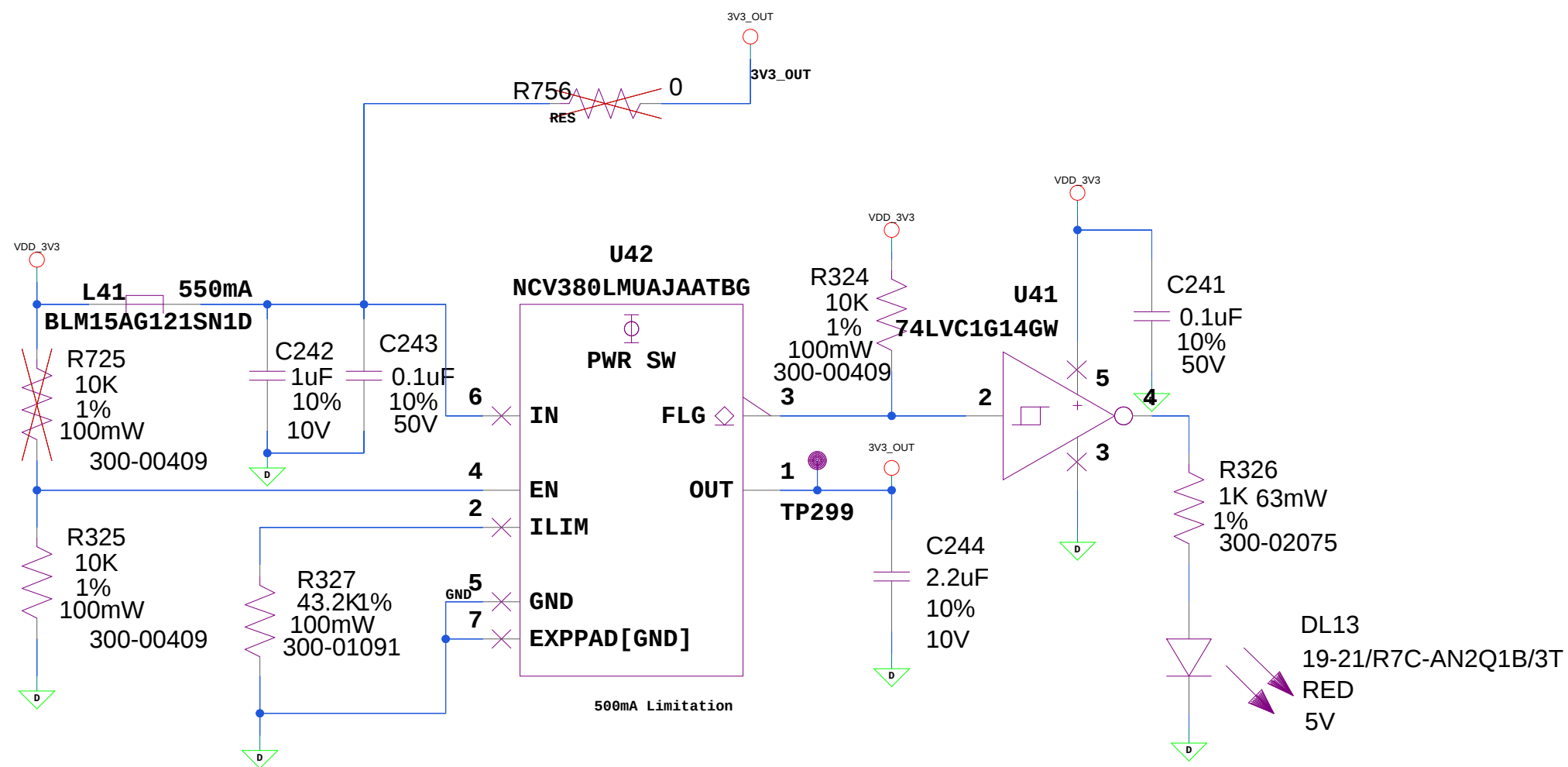
B

A

High = CC1 orientation or no valid CC1/CC2 detection
Low = CC2 orientation







The PCB will use the windowed through-hole as the test point

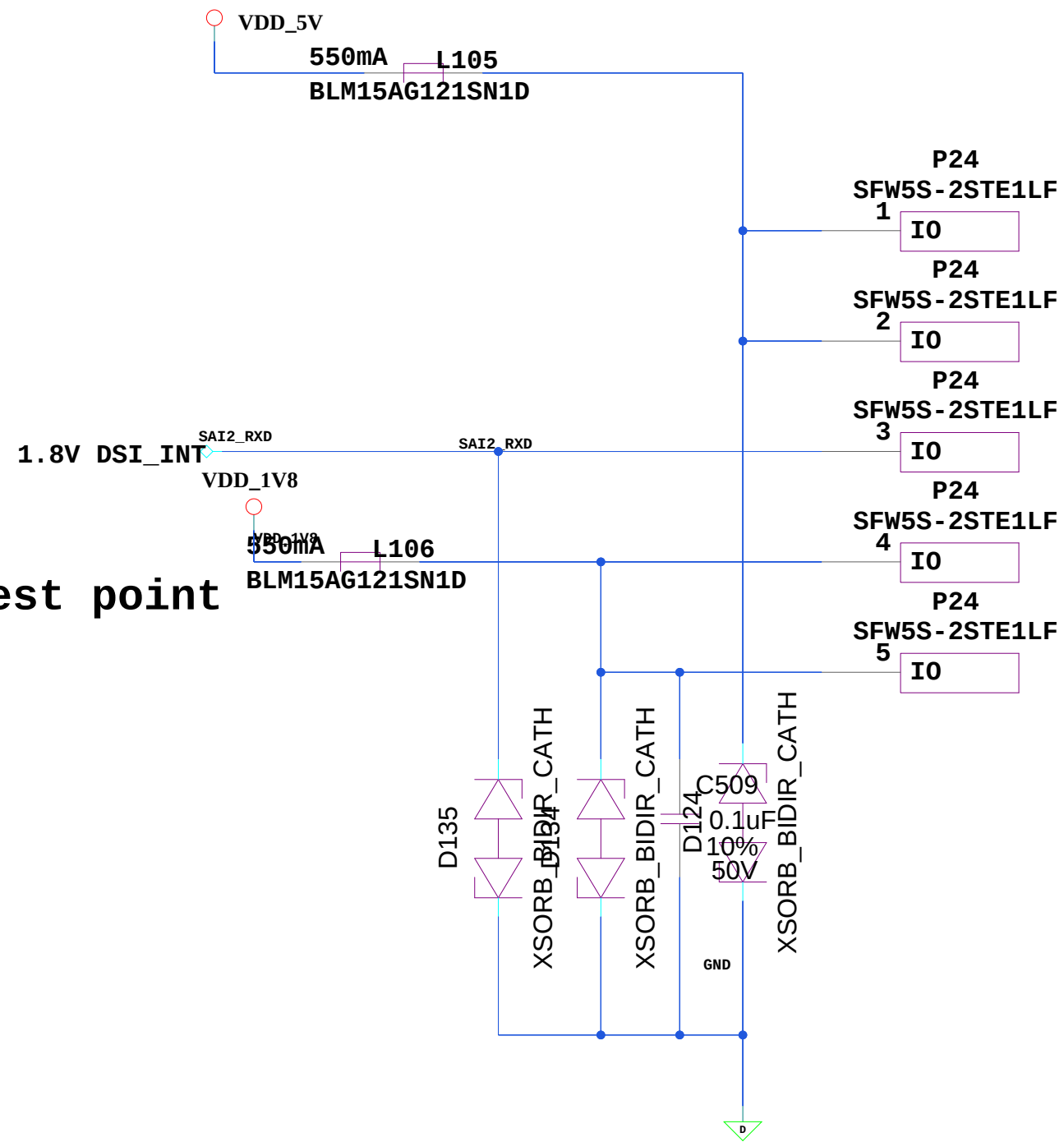
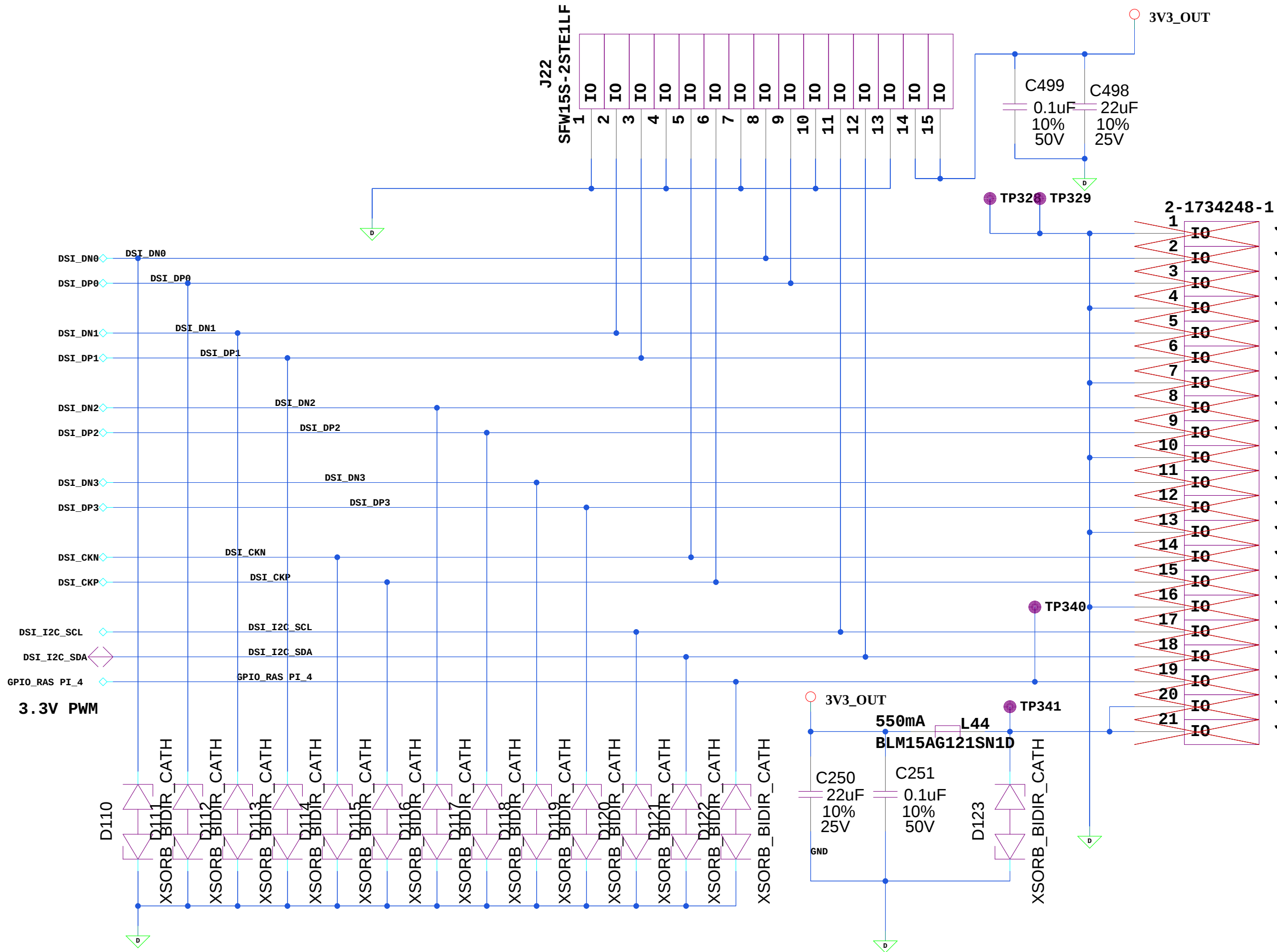
The PCB will use the windowed through-hole as the test point

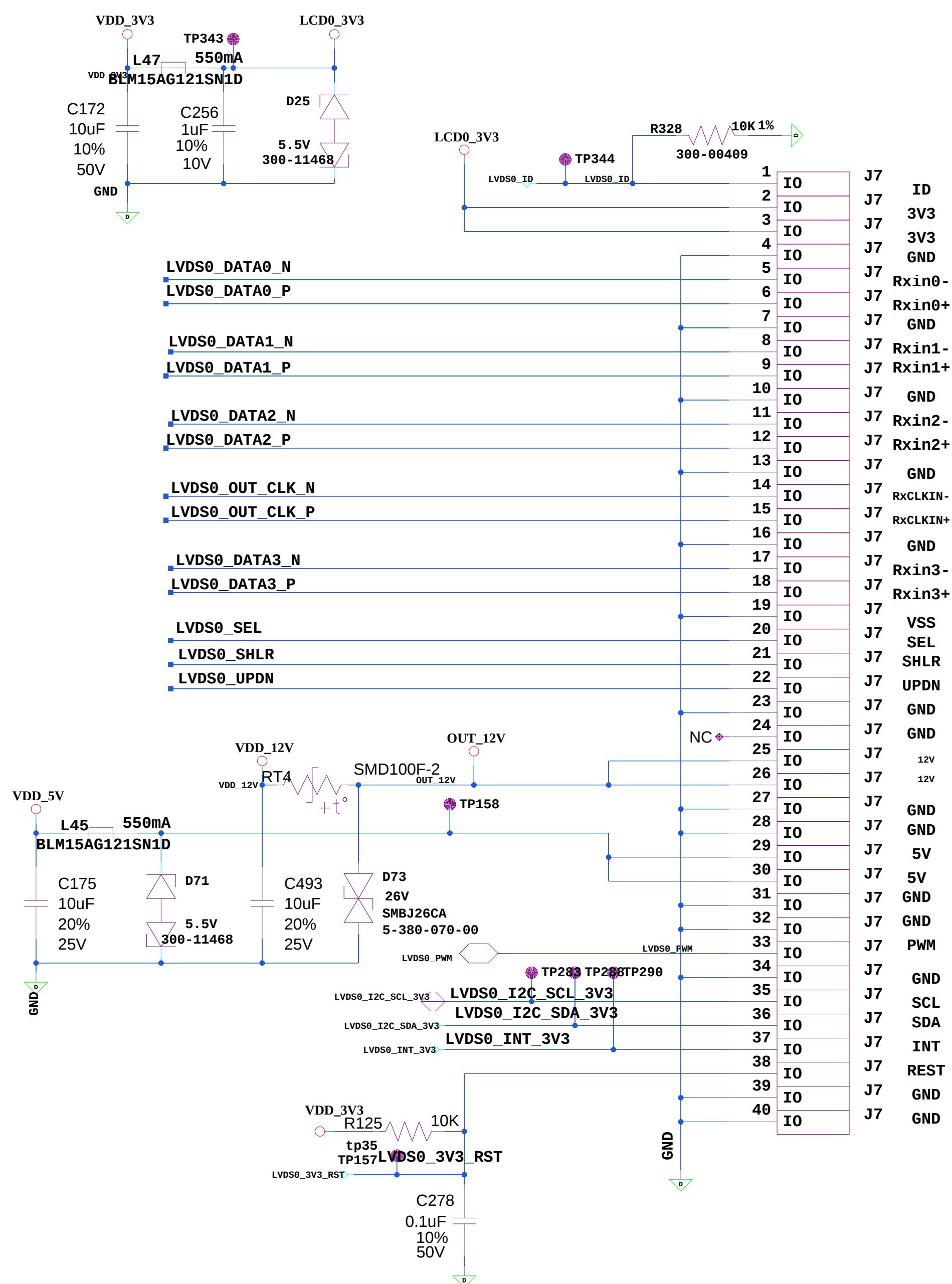
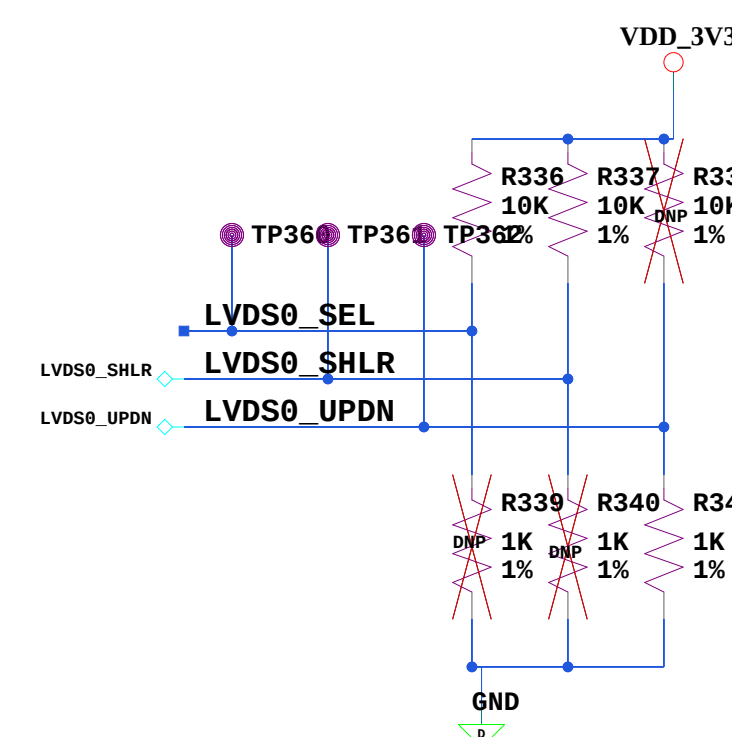
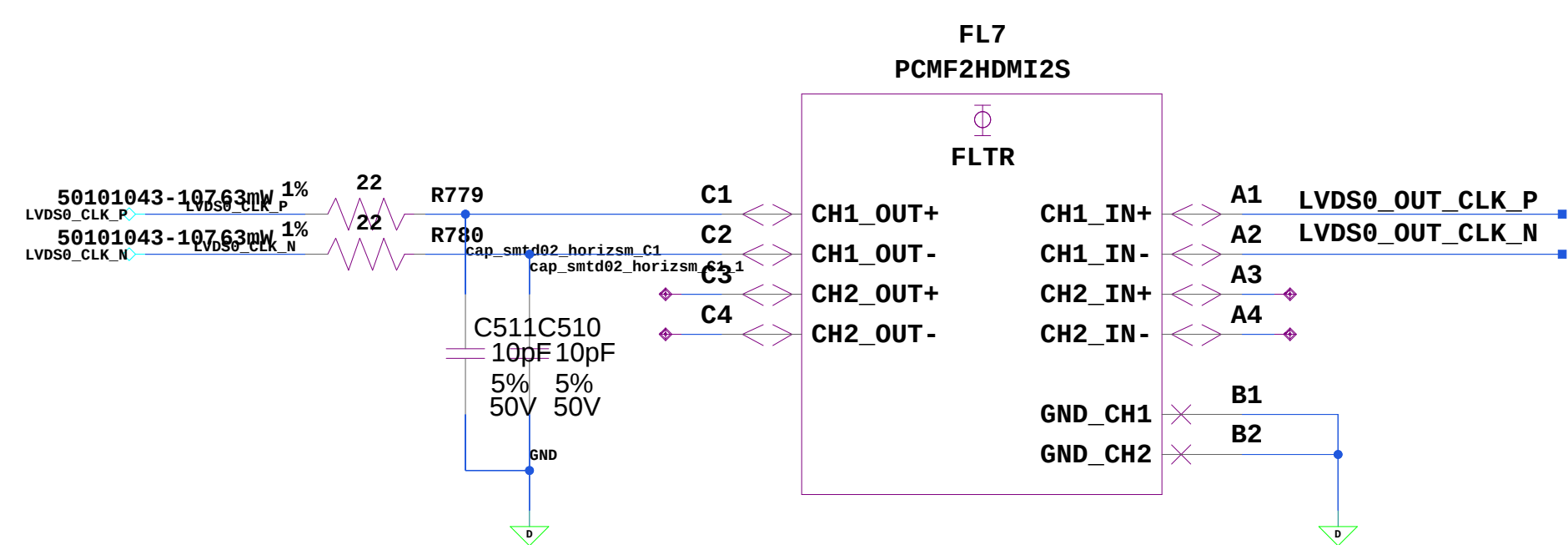
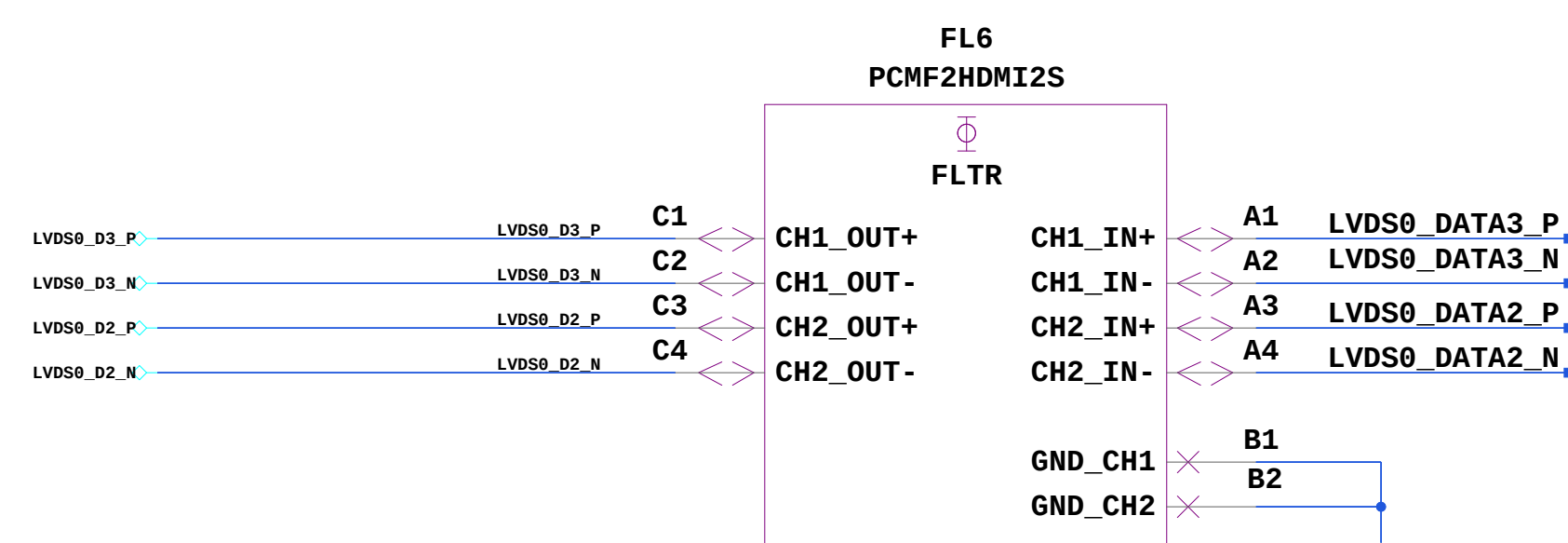
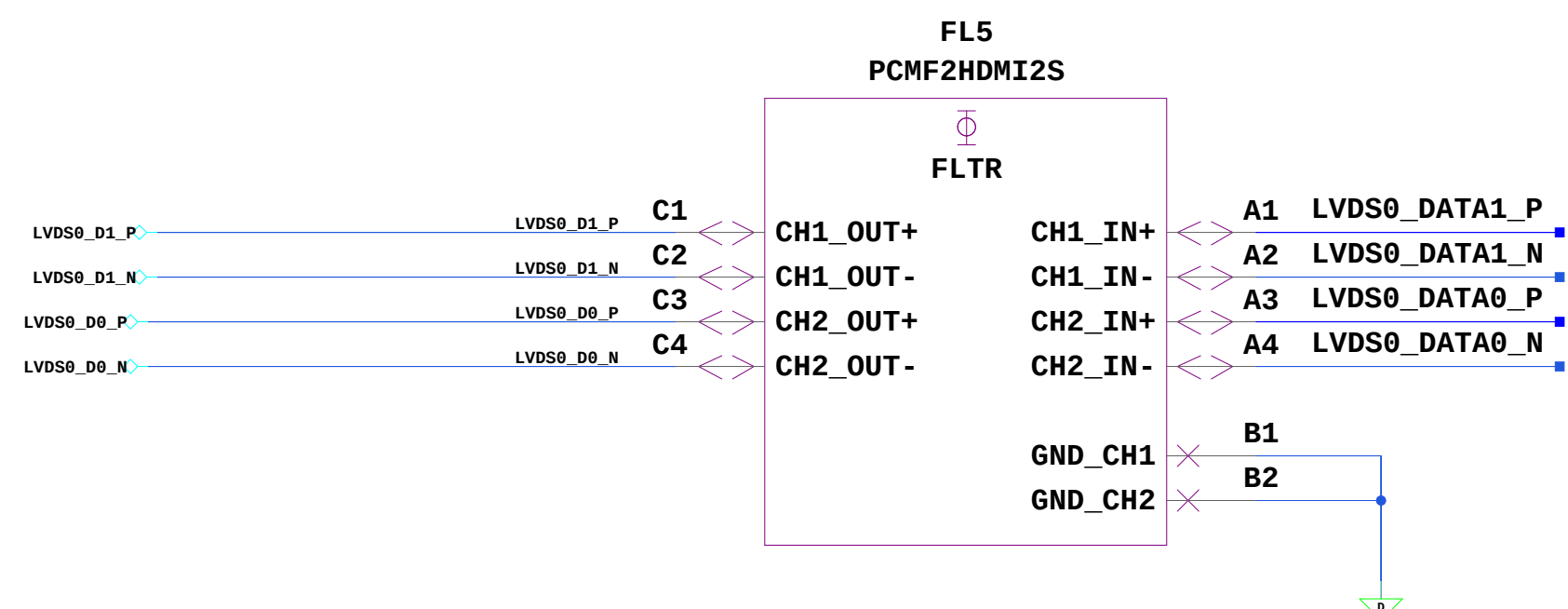
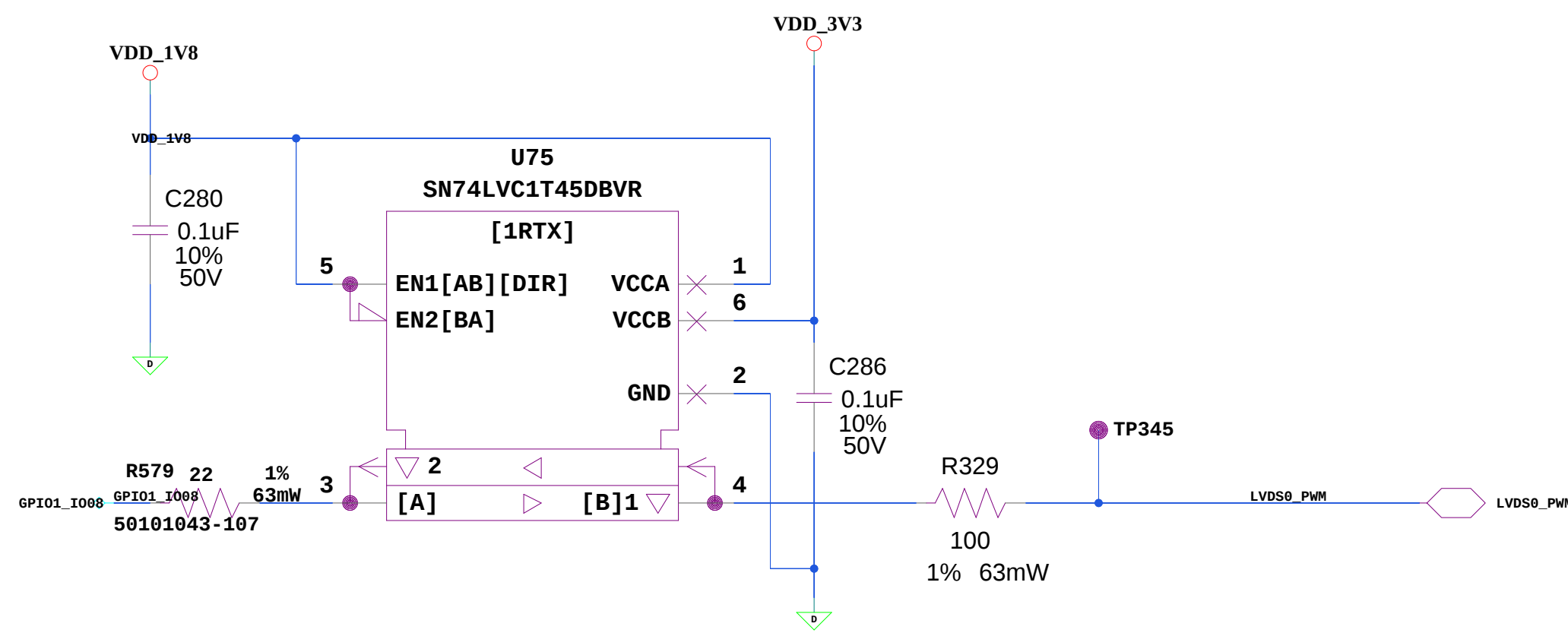
CSI1 Camra

CSI2 Camra

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DESIGNER Qu,Joey	AUG 2021	HONEYWELL BUILDING TECHNOLOGIES	
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	DRAWING NO. 800-26819
		SCALE: NONE	REV A
		Sheet 20	

The PCB will use the windowed through-hole as the test point





OPTION	Setting	Description
LVDS_SEL	H	LVDS 6/8 bit selection control SEL=H: 8 bit ; SEL=L: 6 bit
LVDS_SHLR	H	Left/Right shift control, SHLR=L: S1536..S1535...S2..S1 SHLR=H: S1..S2...S1535..S1536 Default:=H
LVDS_UPDN	L	Up/Down roate control UPDN=L: G600..G599...G2..G1 UPDN=H: G1..G2...G599..G600 Default:=-L
Notice: A terminal matching resistor 100Ω should be place on board close to connector PDK 's on the pinboard		

The PCB will use the windowed through-hole as the t

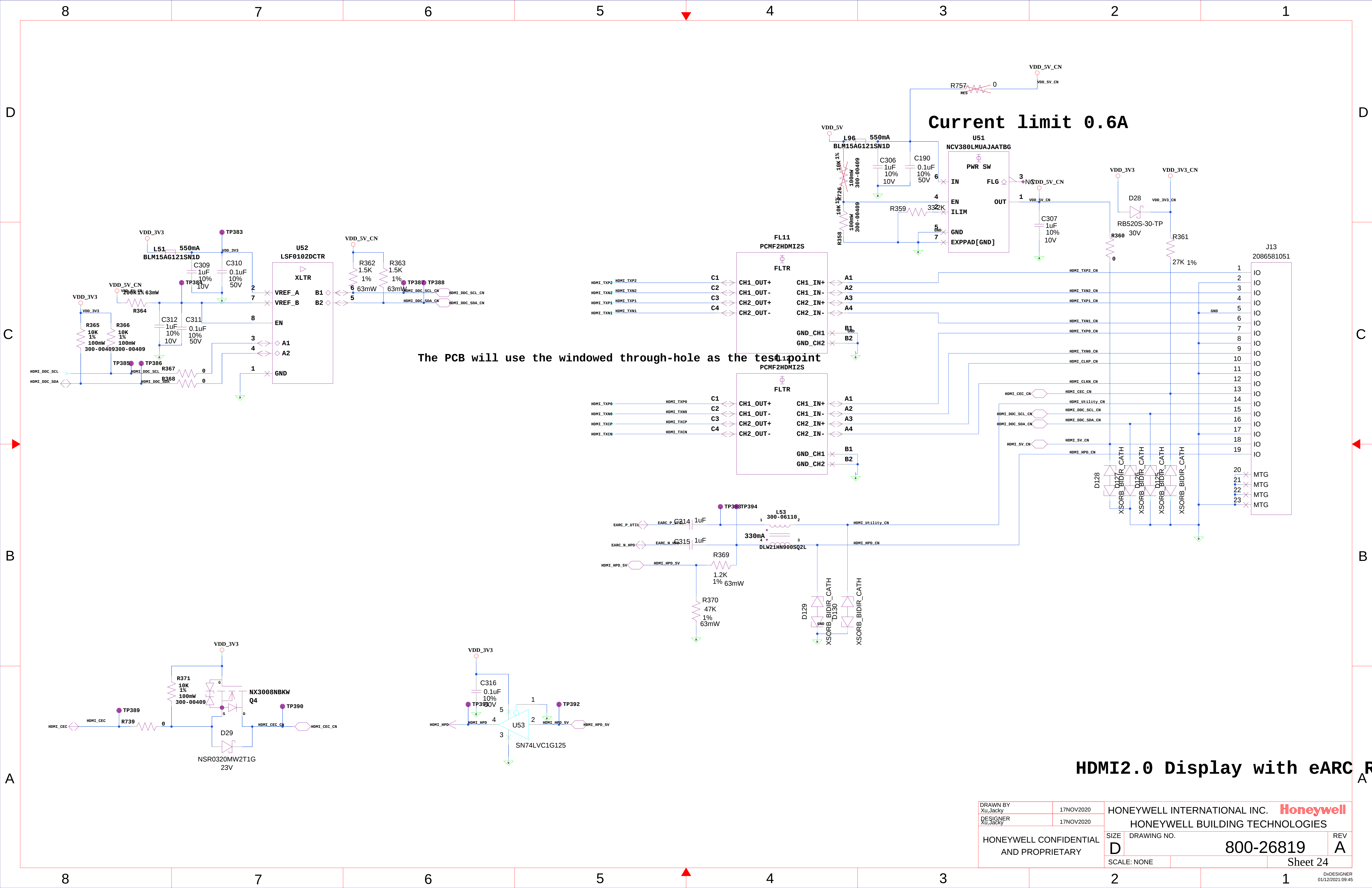


OPTION	Setting	Description
LVDS_SEL		LVDS 6/8 bit selection control HSEL=H: 8 bit ; SEL=L: 6 bit
LVDS_SHLR	H	Left/Right shift control, SHLR=L: S1536.S1535...S2.S1 SHLR=H: S1.S2...S1535.S1536 Default:=H
LVDS_UPDN	L	Up/Down roate control UPDN=L: G600.G599...G2.G1 UPDN=H: G1.G2...G599.G600 Default:=L
Notice:A terminal matching resistor 100! should be place on board close to connector PDK 's on the pinboard		

The PCB will use the windowed through-hole as the

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DESIGNER Xu,Jacky	17NOV2020		
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D SCALE: NONE	DRAWING NO. 800-26819 Sheet 23
		REV A	

DVDDESIGNER
17/11/2021.16:14



D

D

C

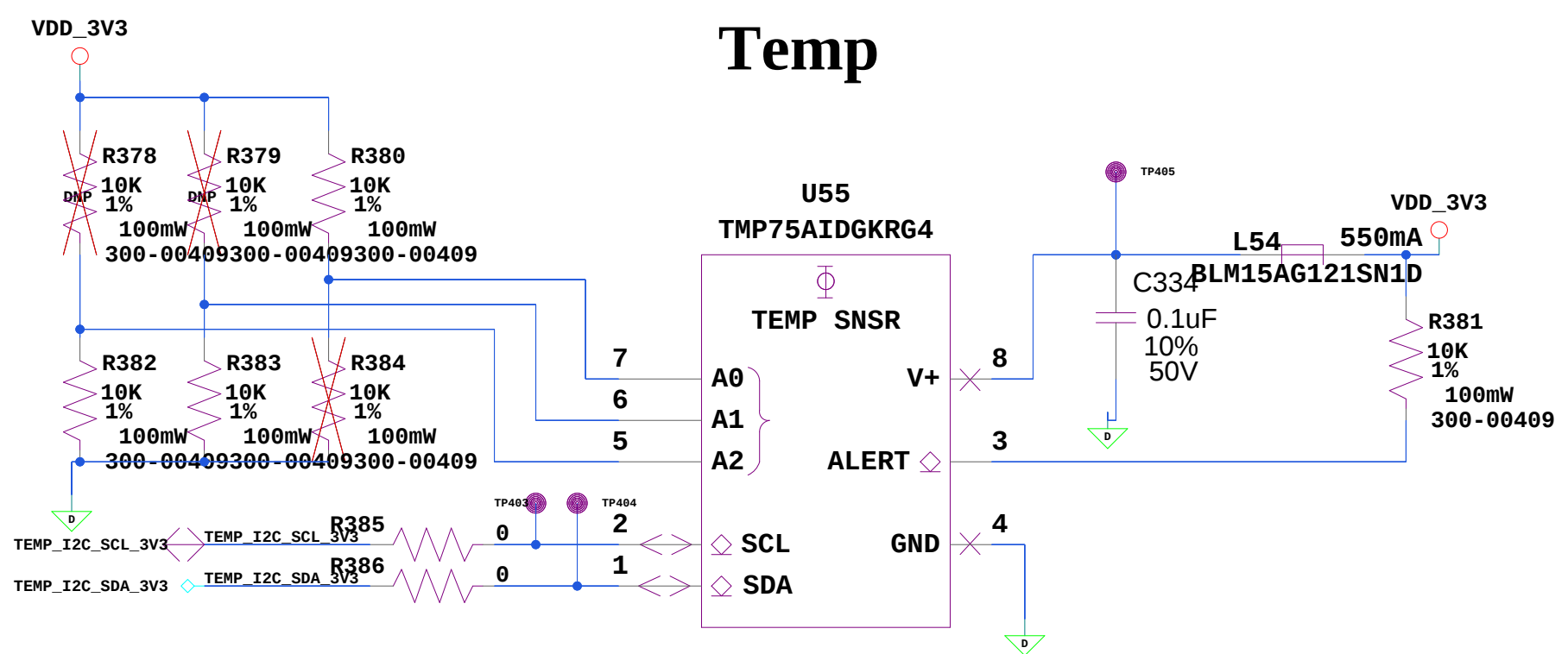
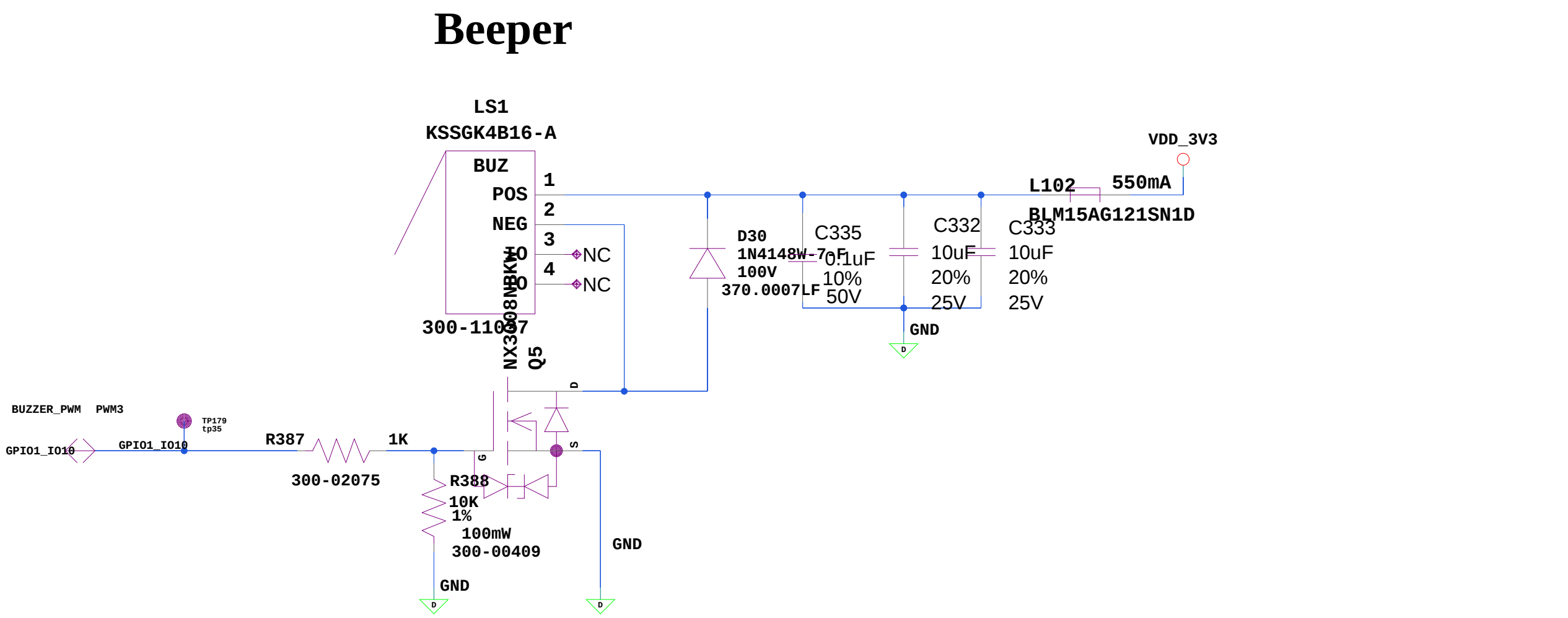
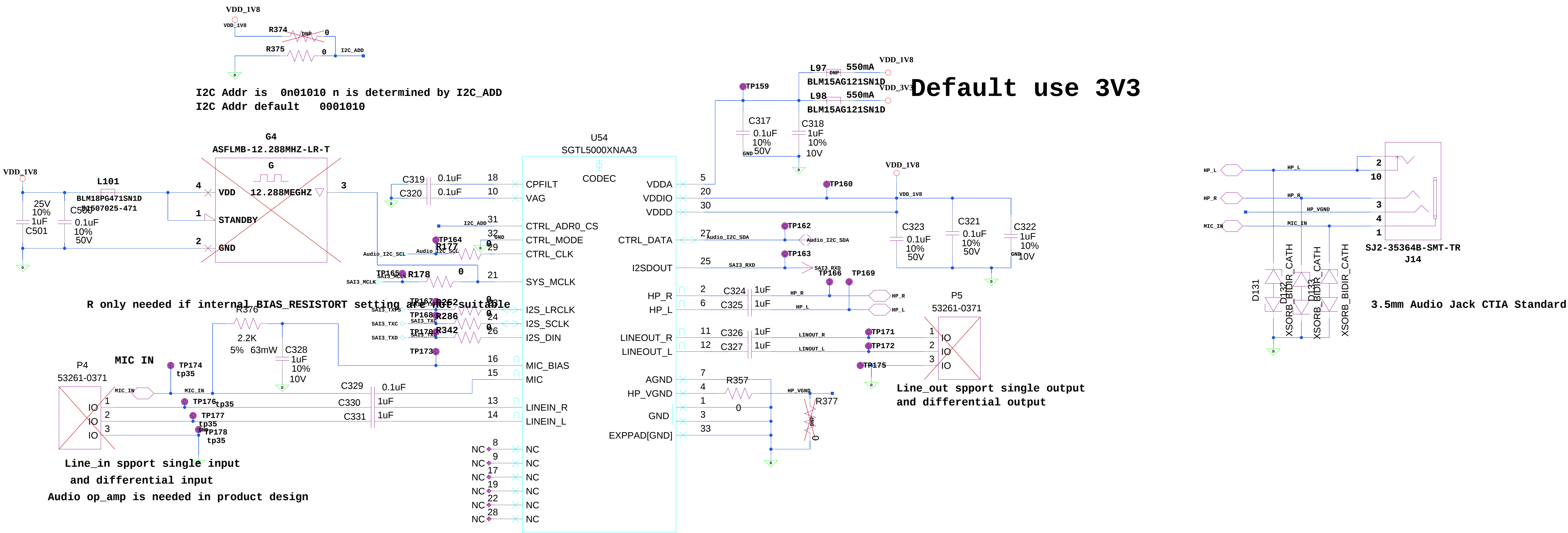
C

B

B

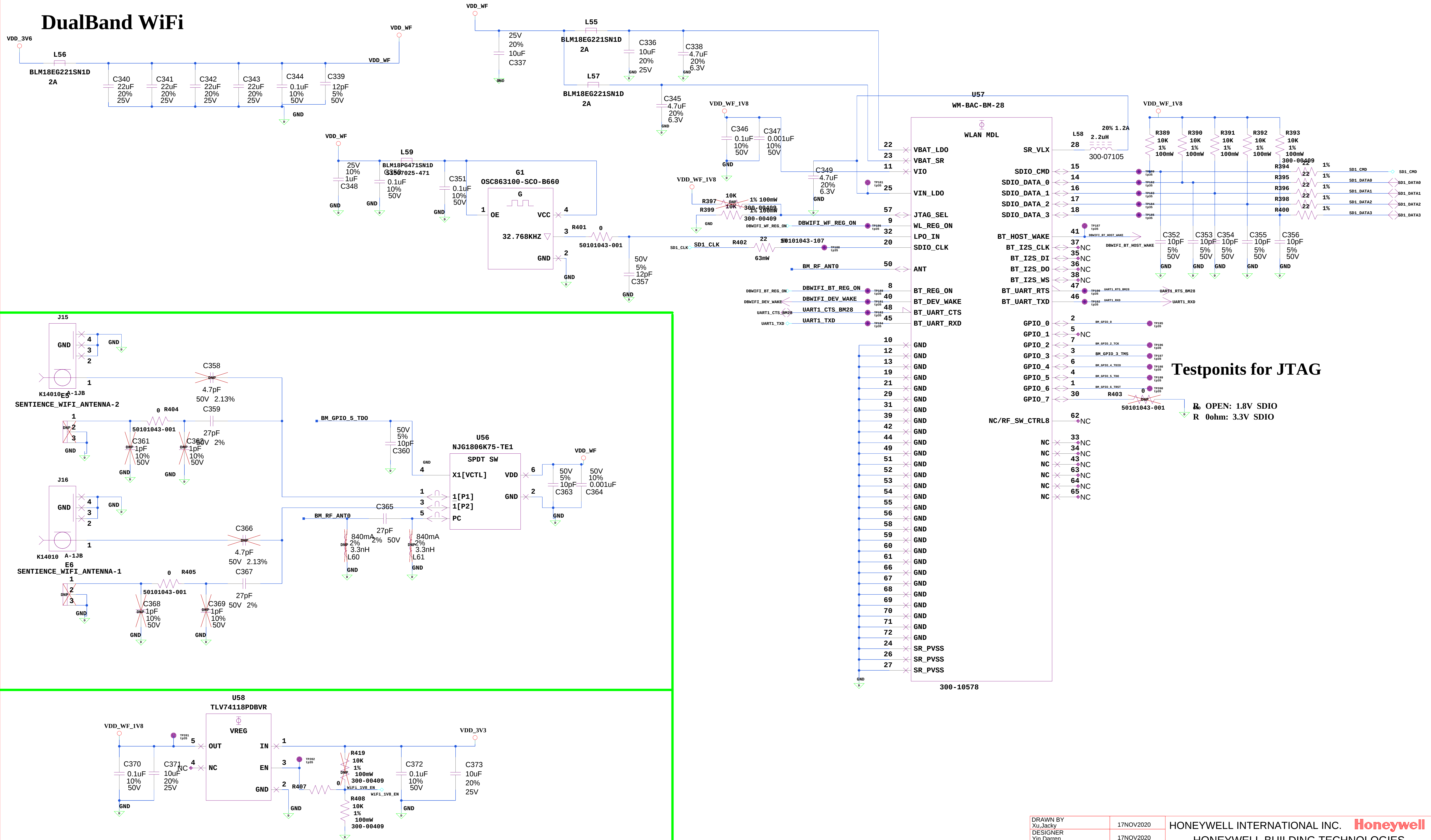
A

A



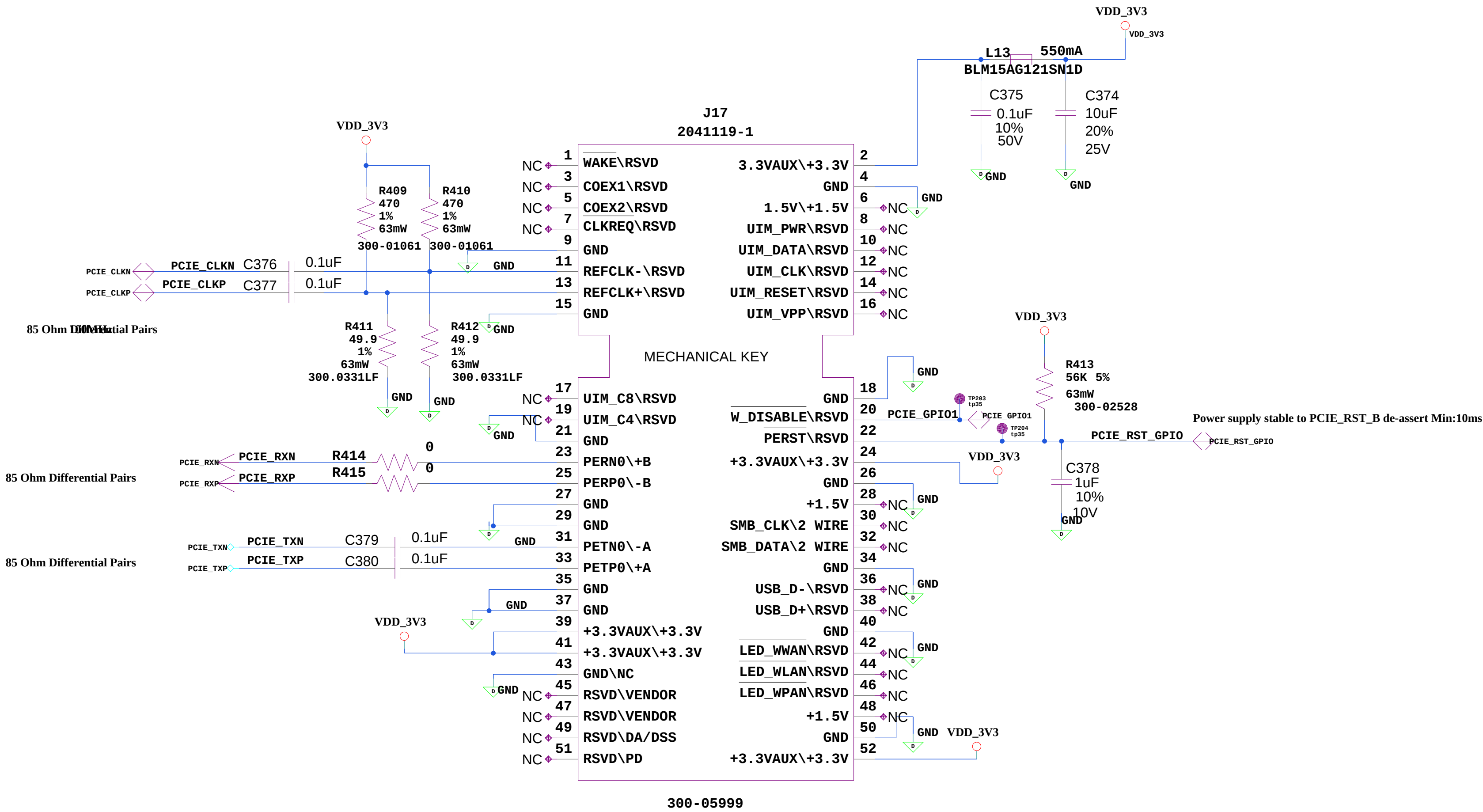
DRAWN BY Qu,Joey	AUG 2021	HONEYWELL INTERNATIONAL INC. Honeywell	
DESIGNER Qu,Joey	AUG 2021	HONEYWELL BUILDING TECHNOLOGIES	
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 25

DualBand WiFi



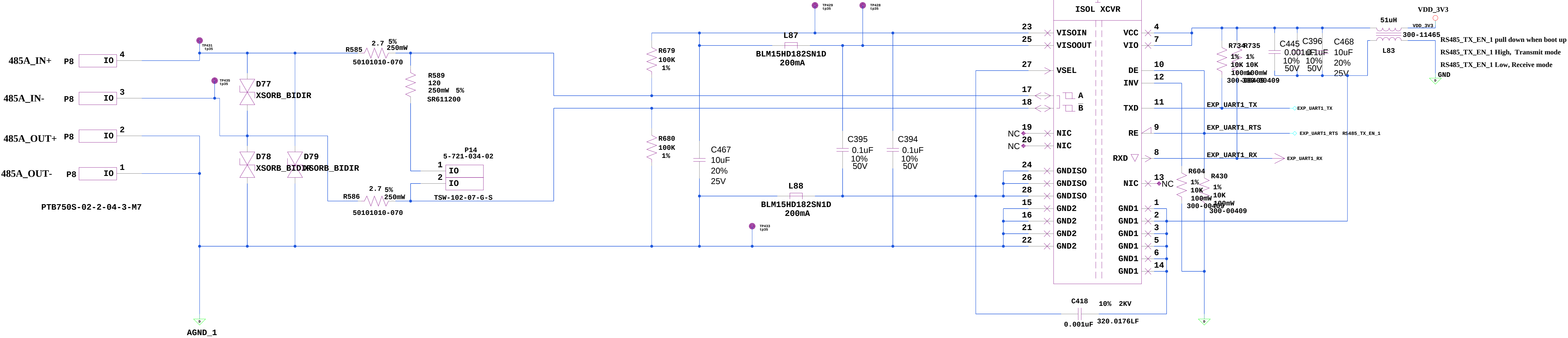
1.8V trace supports 150mA max.

PCIE Connector

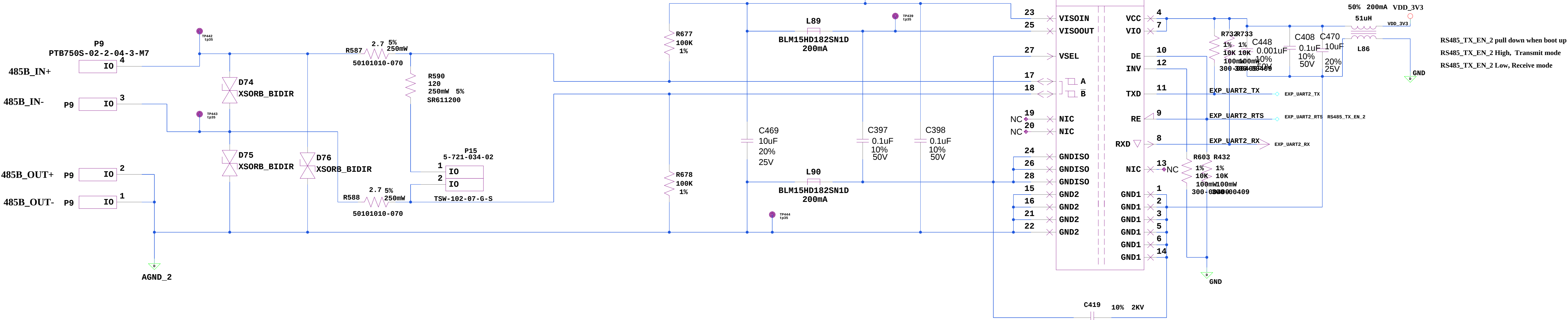


DRAWN BY Xu,Jacky	17NOV2020	HONEYWELL INTERNATIONAL INC. Honeywell	
DESIGNER Xu,Jacky	17NOV2020	HONEYWELL BUILDING TECHNOLOGIES	
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 27

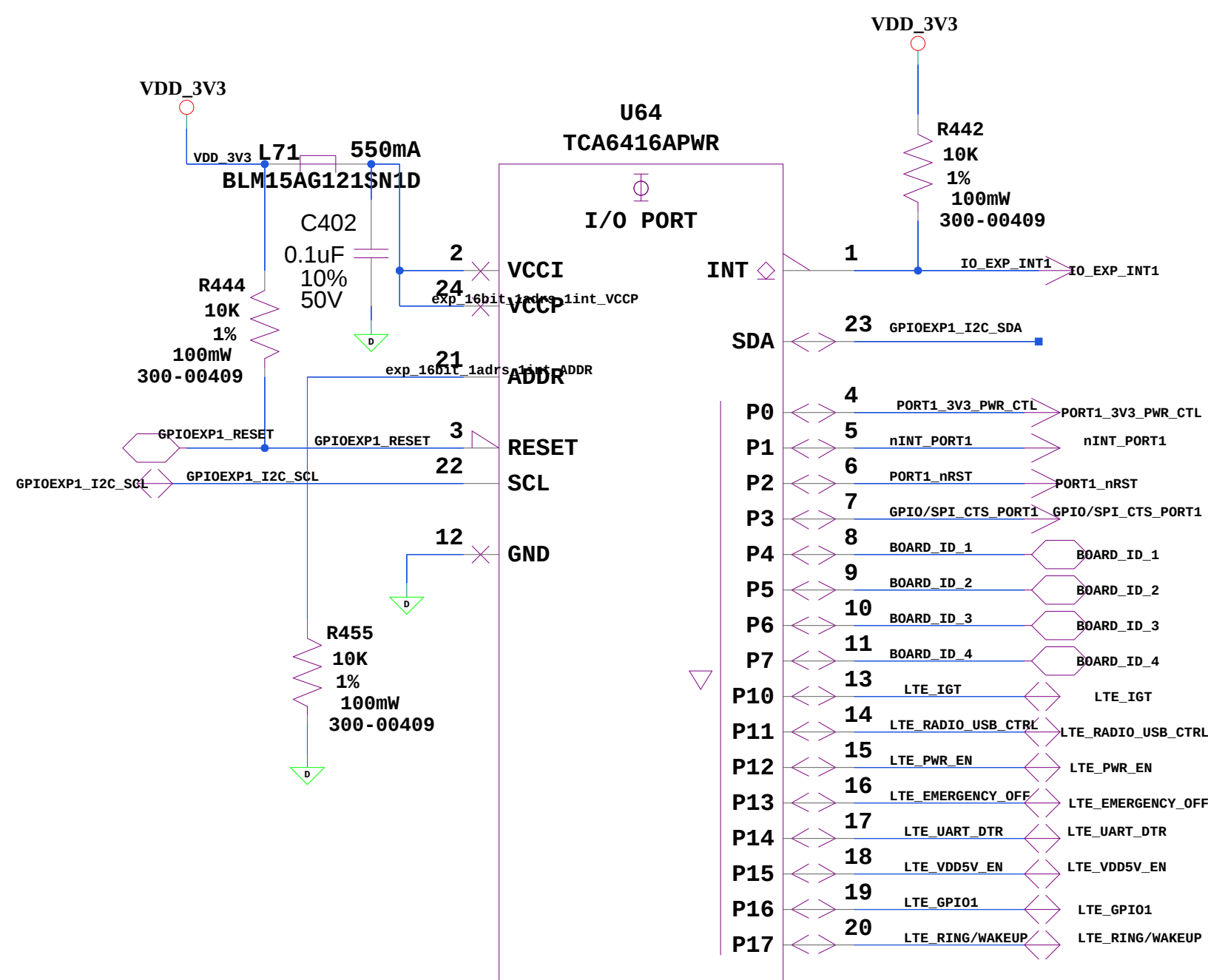
RS485



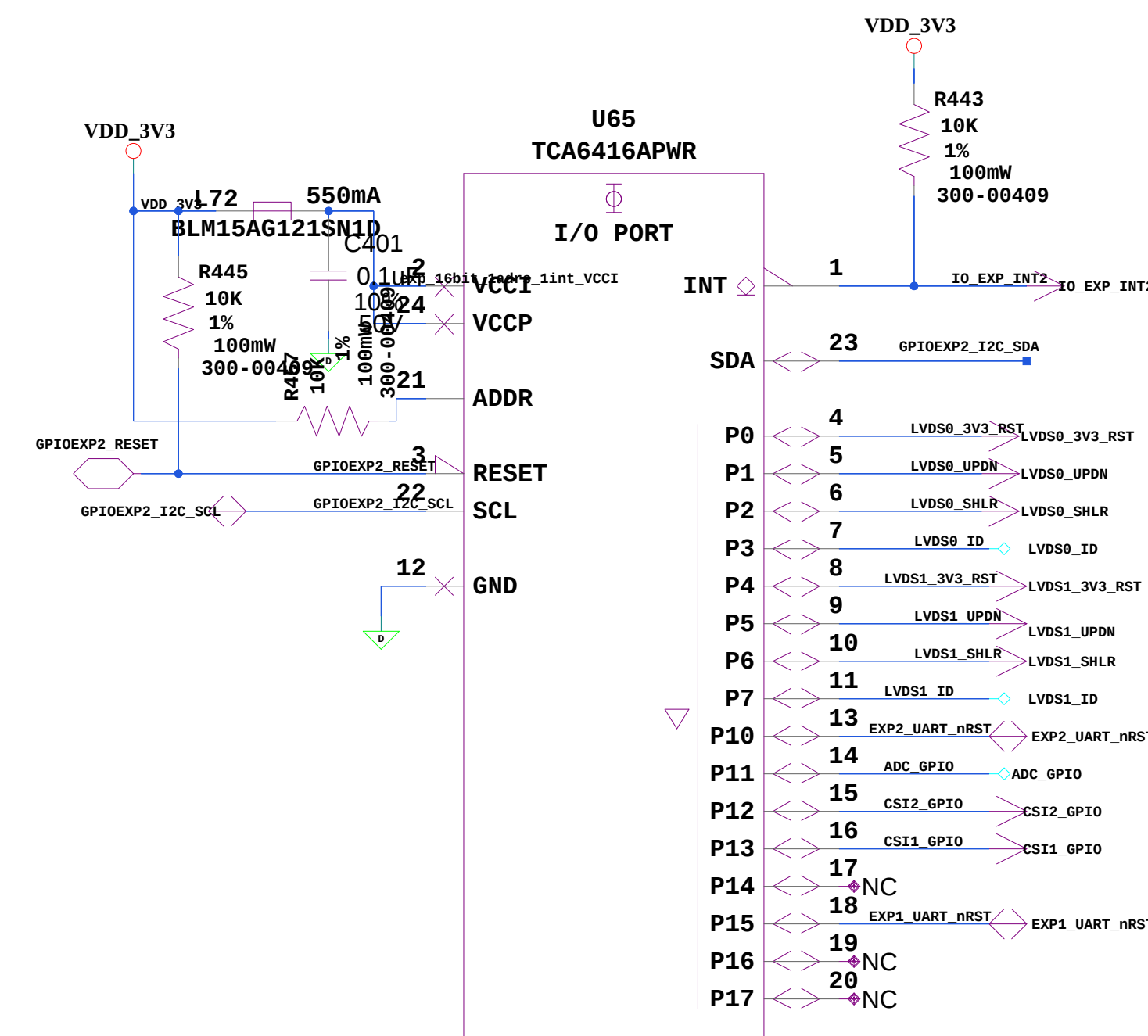
RS485



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DESIGNER Qu.Joey	AUG 2021			
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	DRAWING NO. 800-26819	
		SCALE: NONE		Sheet 29

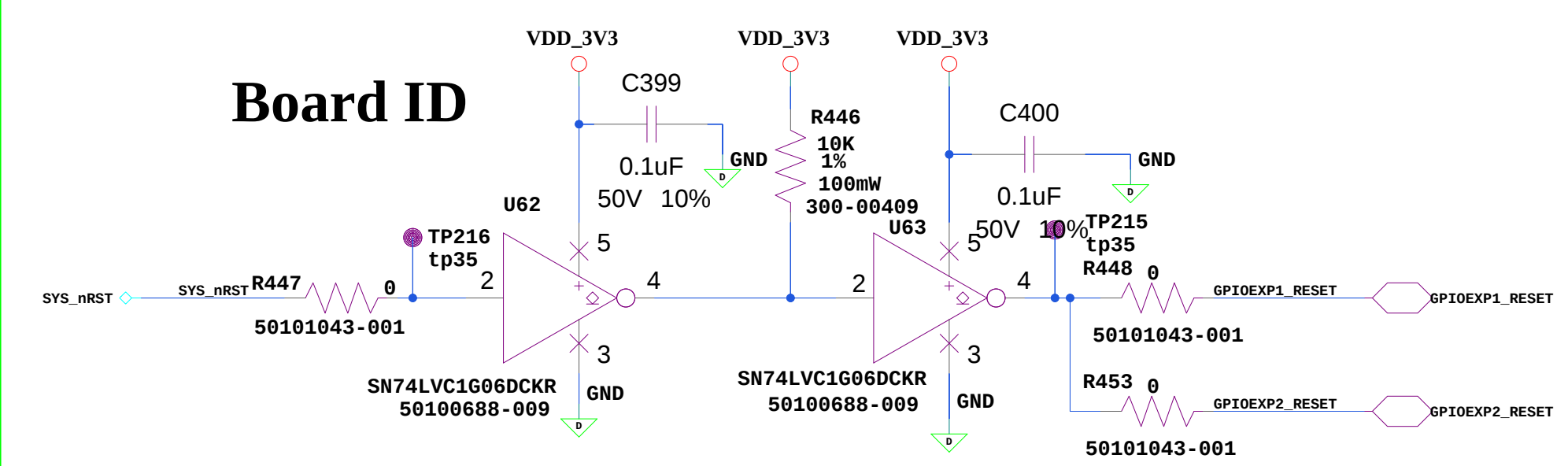


Add:0x41(R)0x40(W)

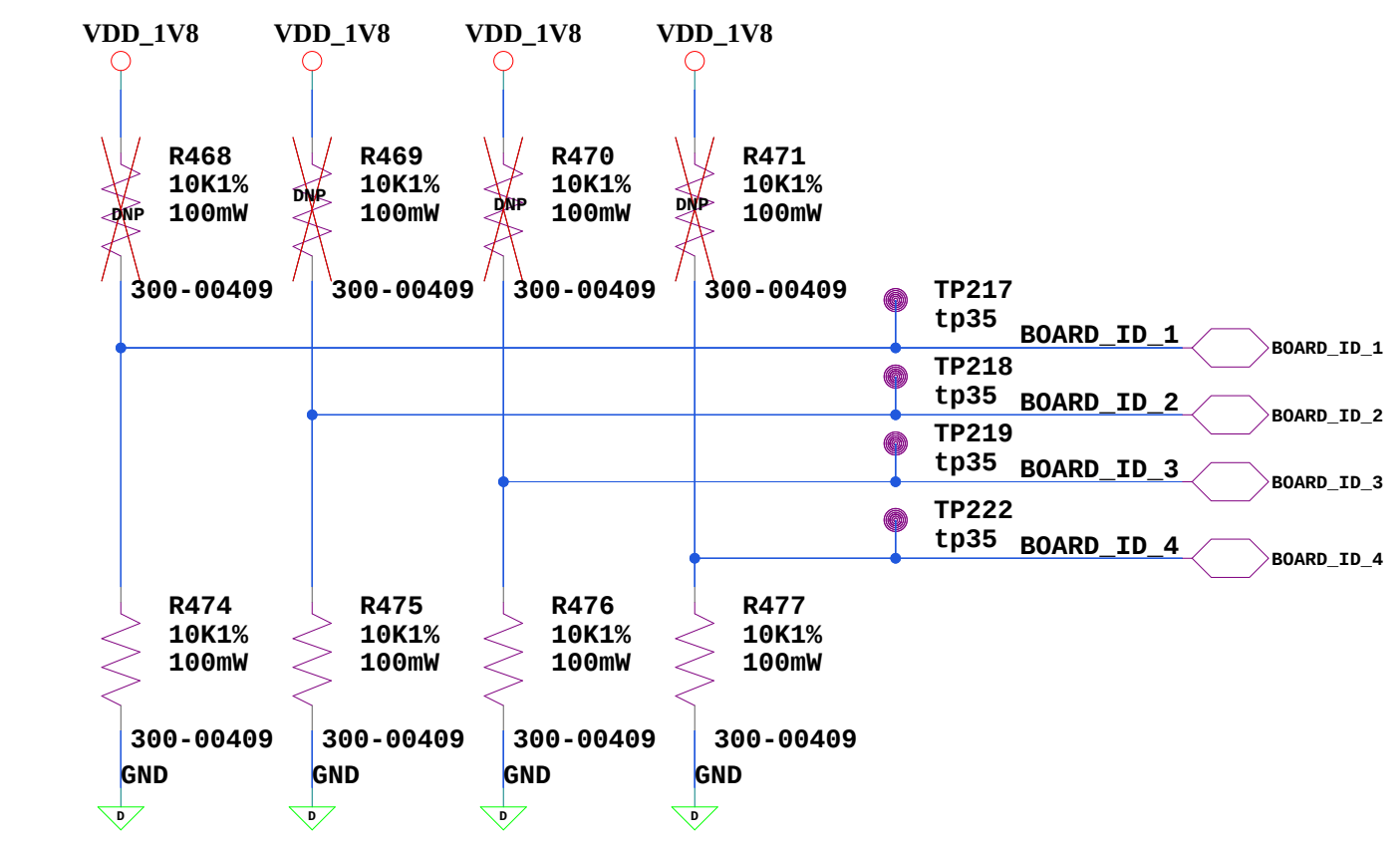


Add:0x43(R)0x42(W)

GPIO EXPANSION

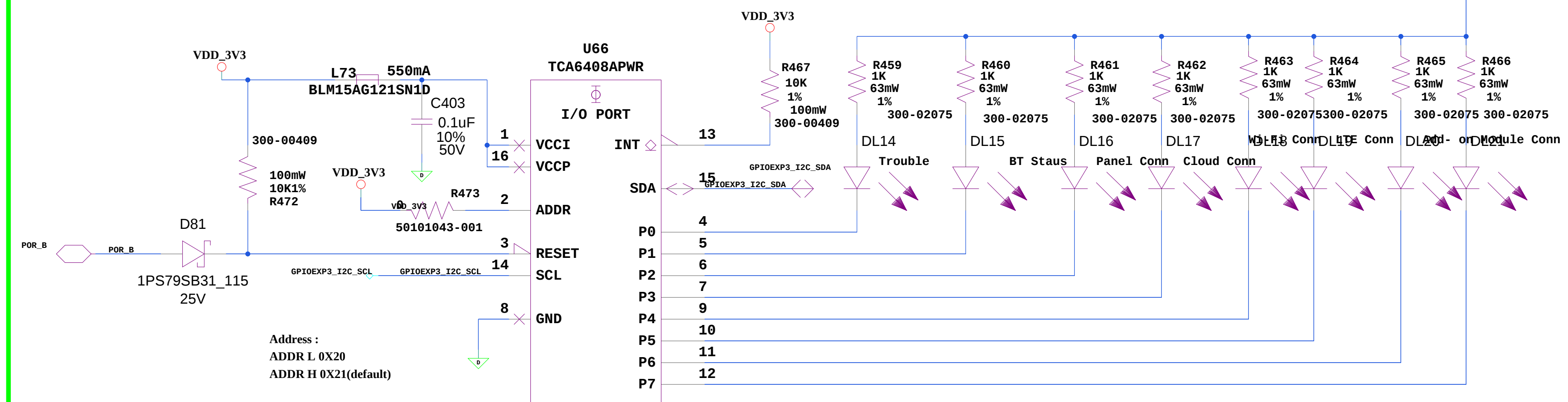


GPIO EXPANSION RESET



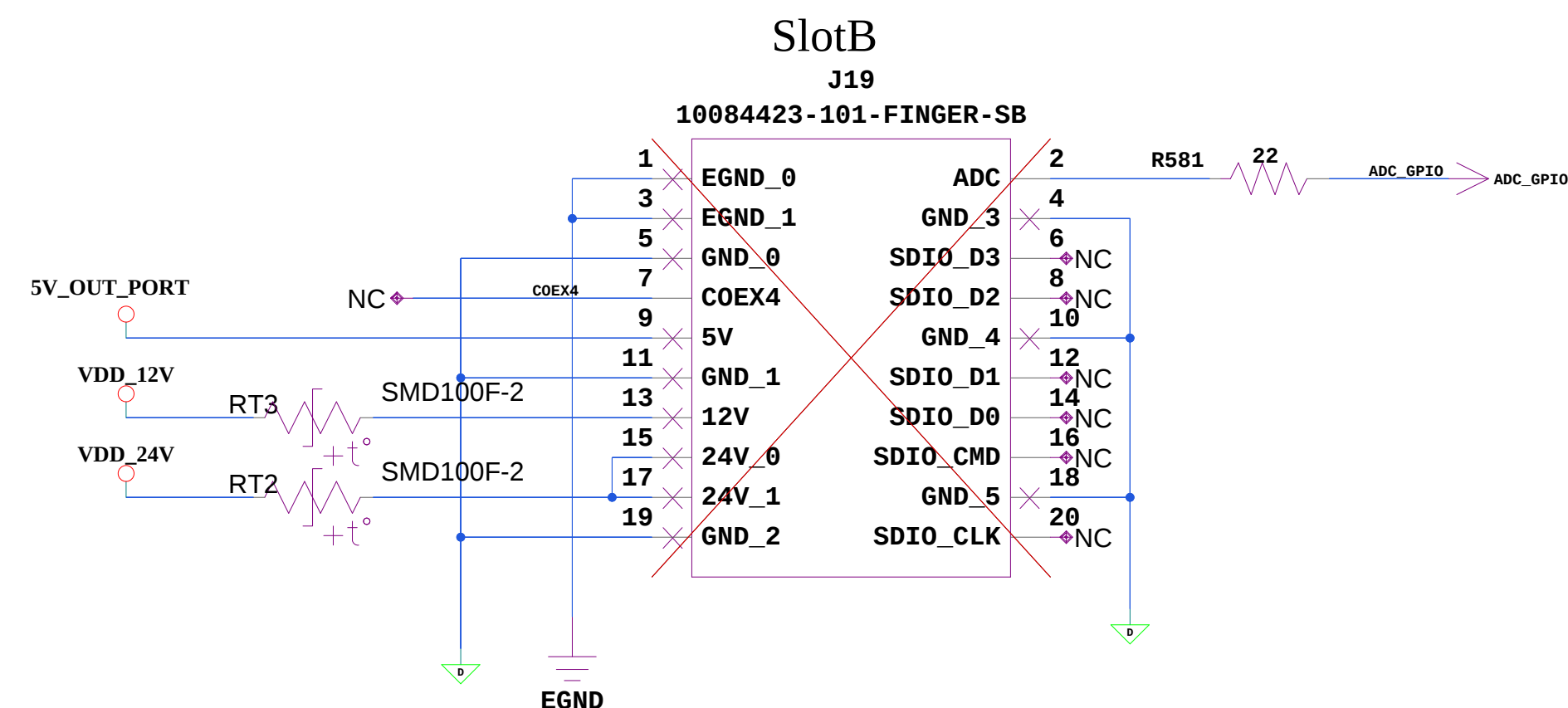
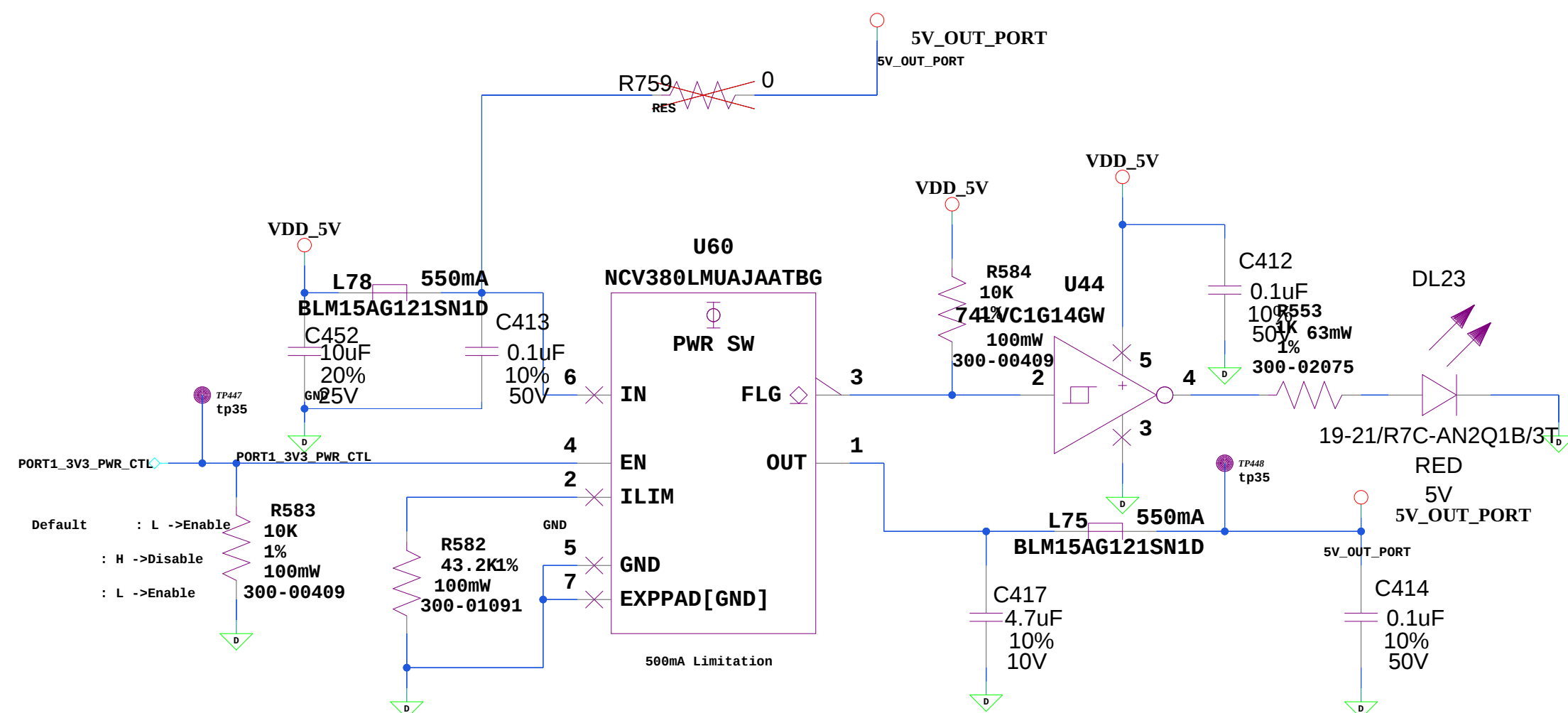
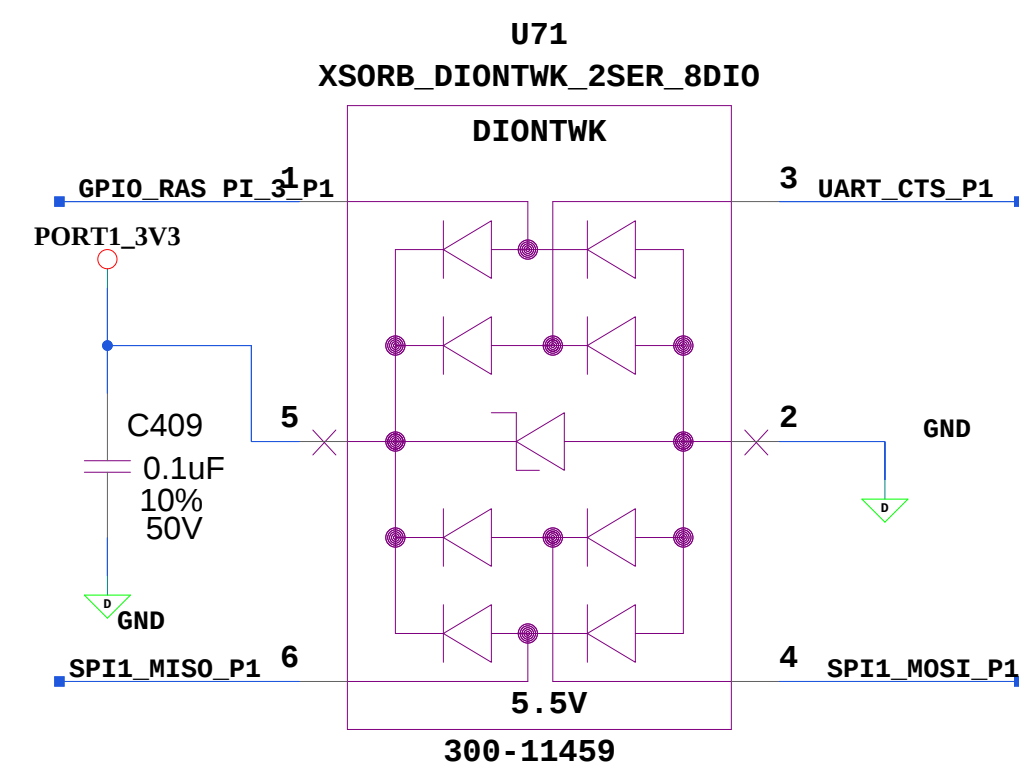
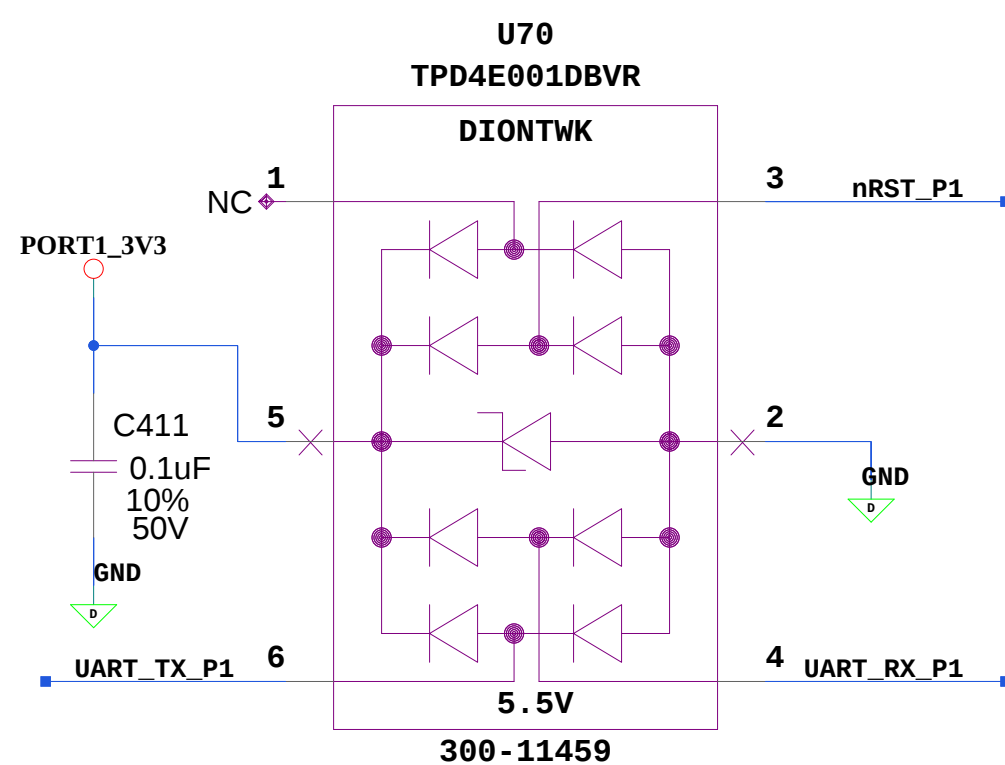
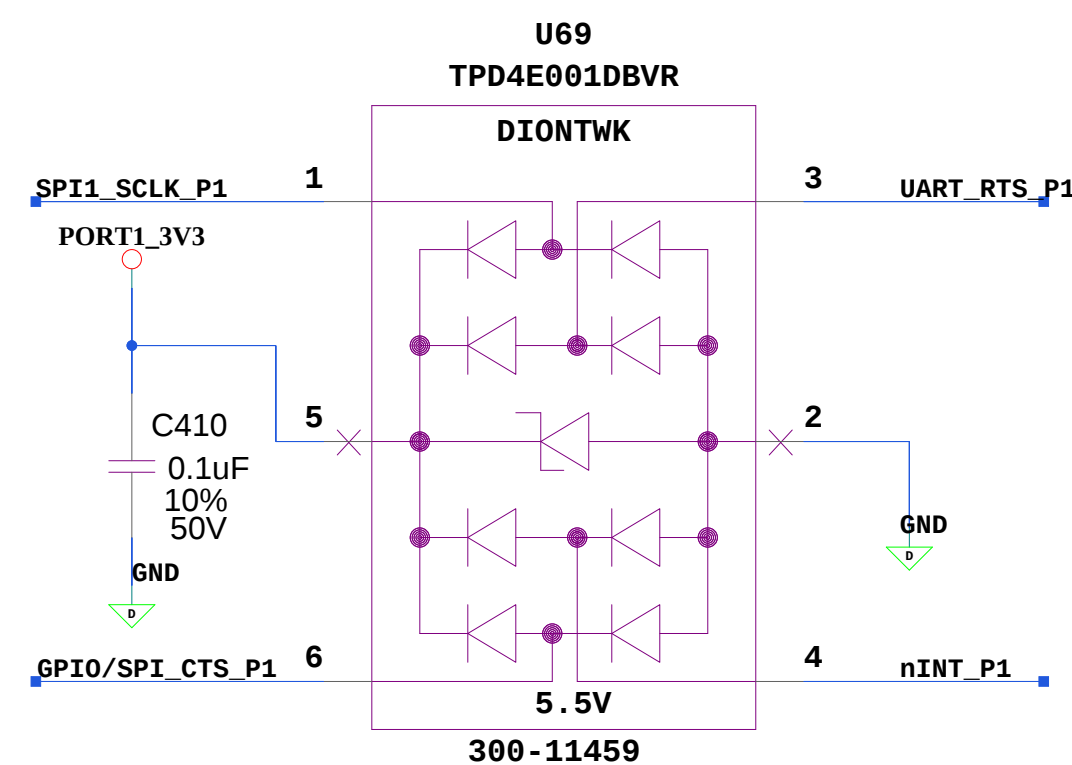
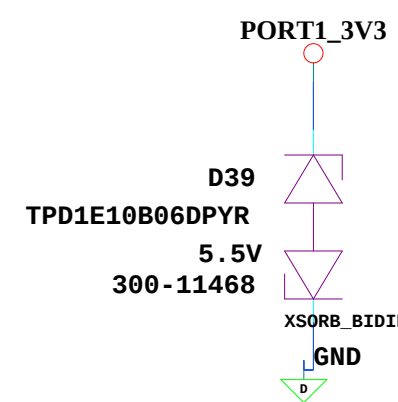
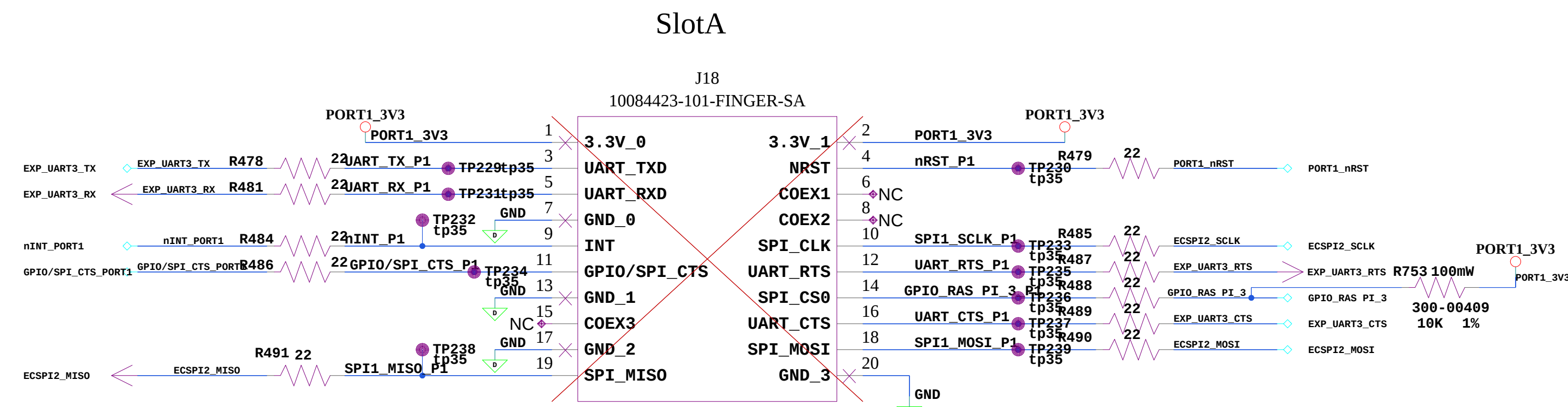
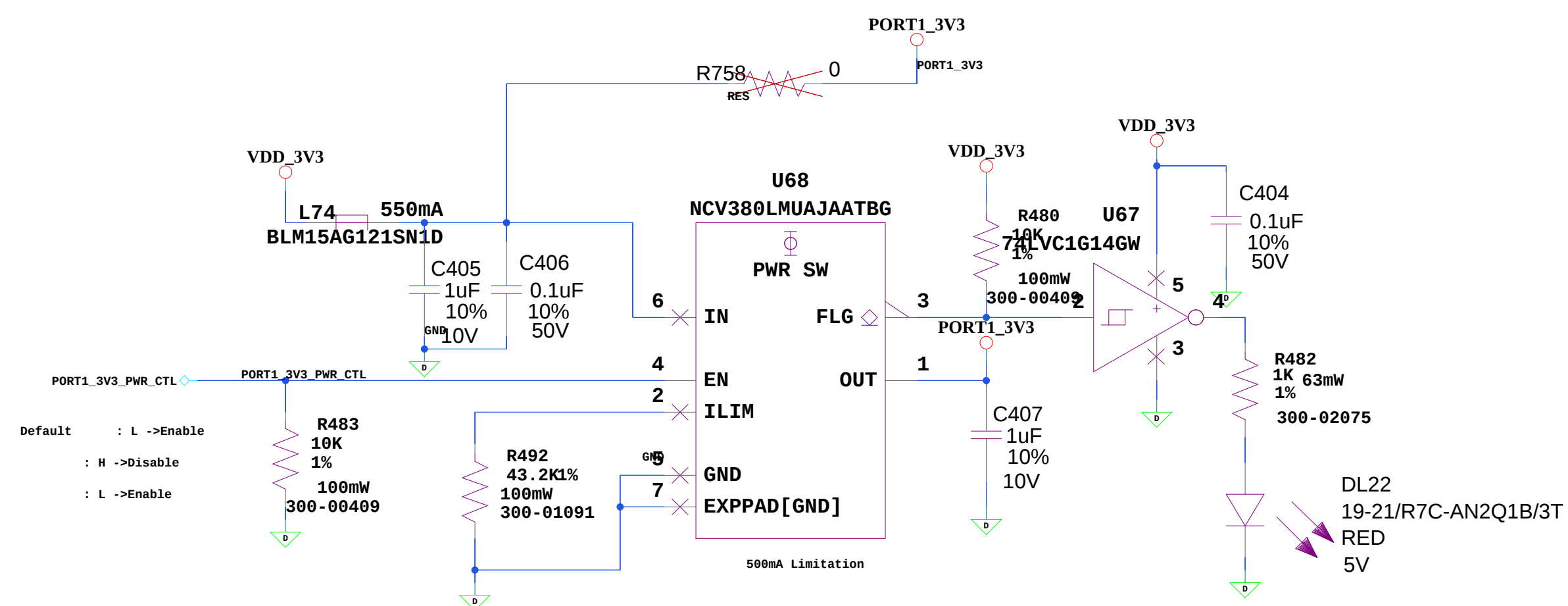
Board Assembly ID				
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1	0	0	0	
0	1	0	0	
0	0	1	0	
0	0	0	1	

Board ID



LED indicators

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DESIGNER Xu,Jacky	17NOV2020		
HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D SCALE: NONE	REV A
		DRAWING NO. 800-26819	Sheet 30

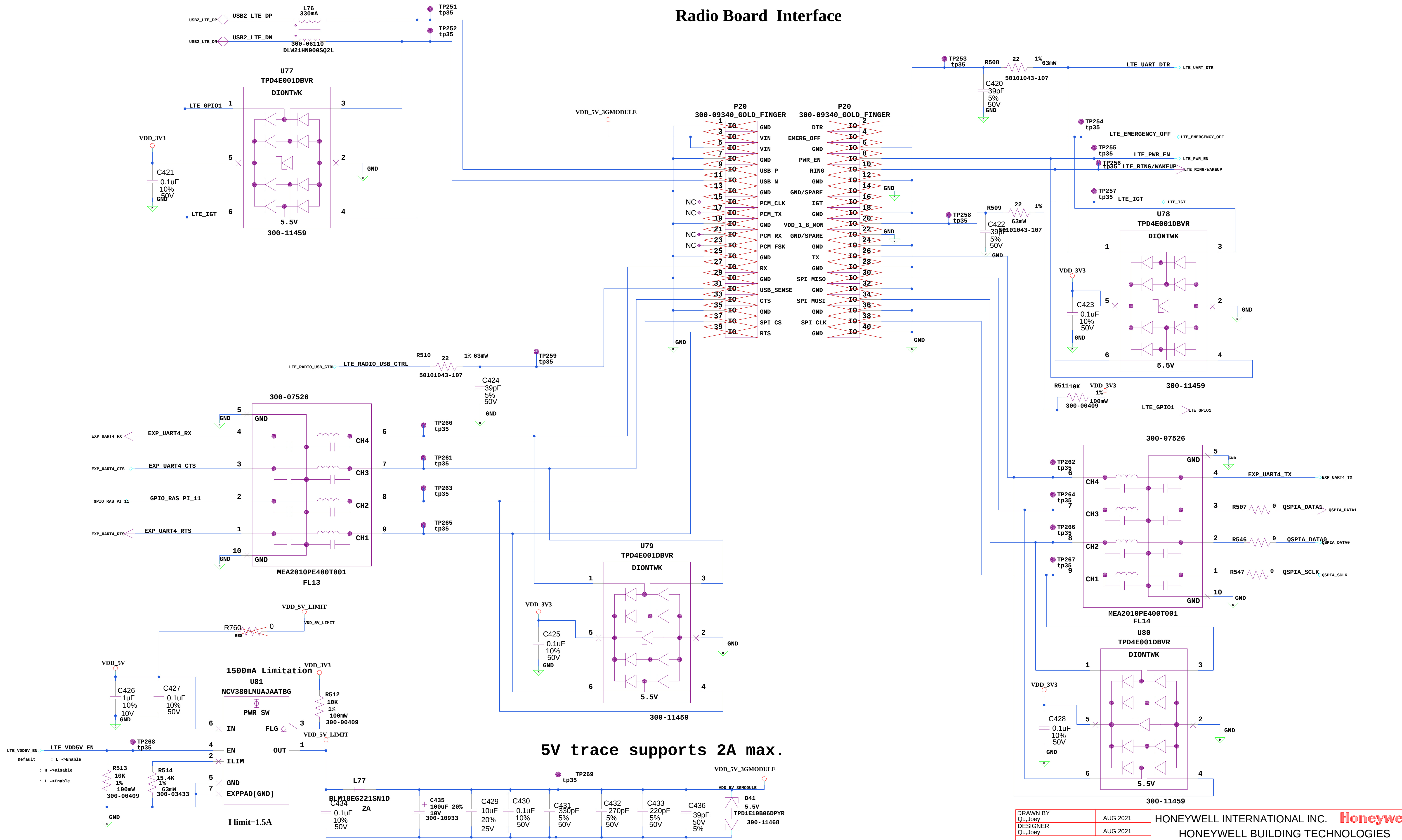


PORT1

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DESIGNER Qu.Joey		AUG 2021				
HONEYWELL CONFIDENTIAL AND PROPRIETARY				SIZE	DRAWING NO.	REV
				D	800-26819	A
				SCALE: NONE		Sheet 31

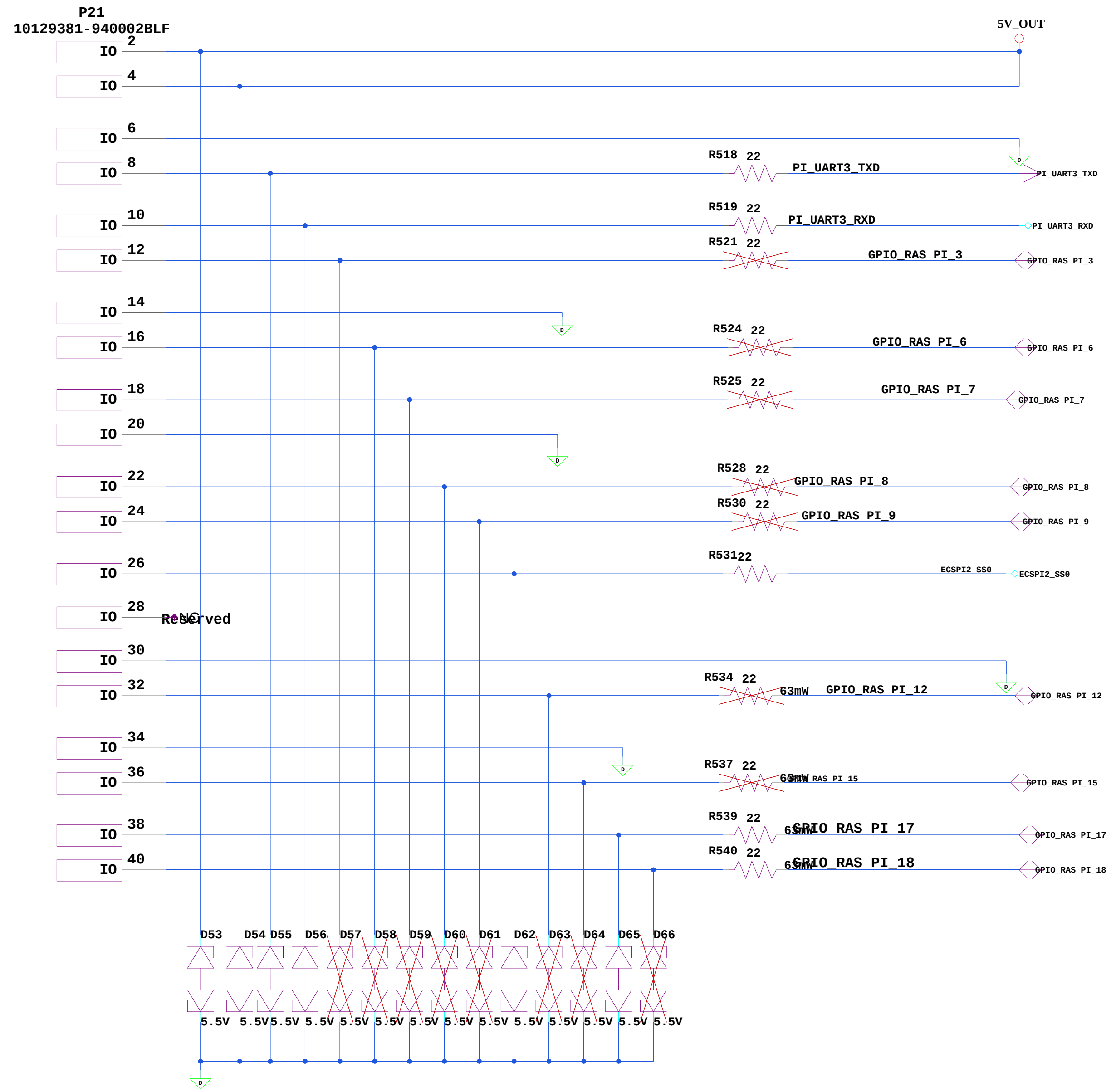
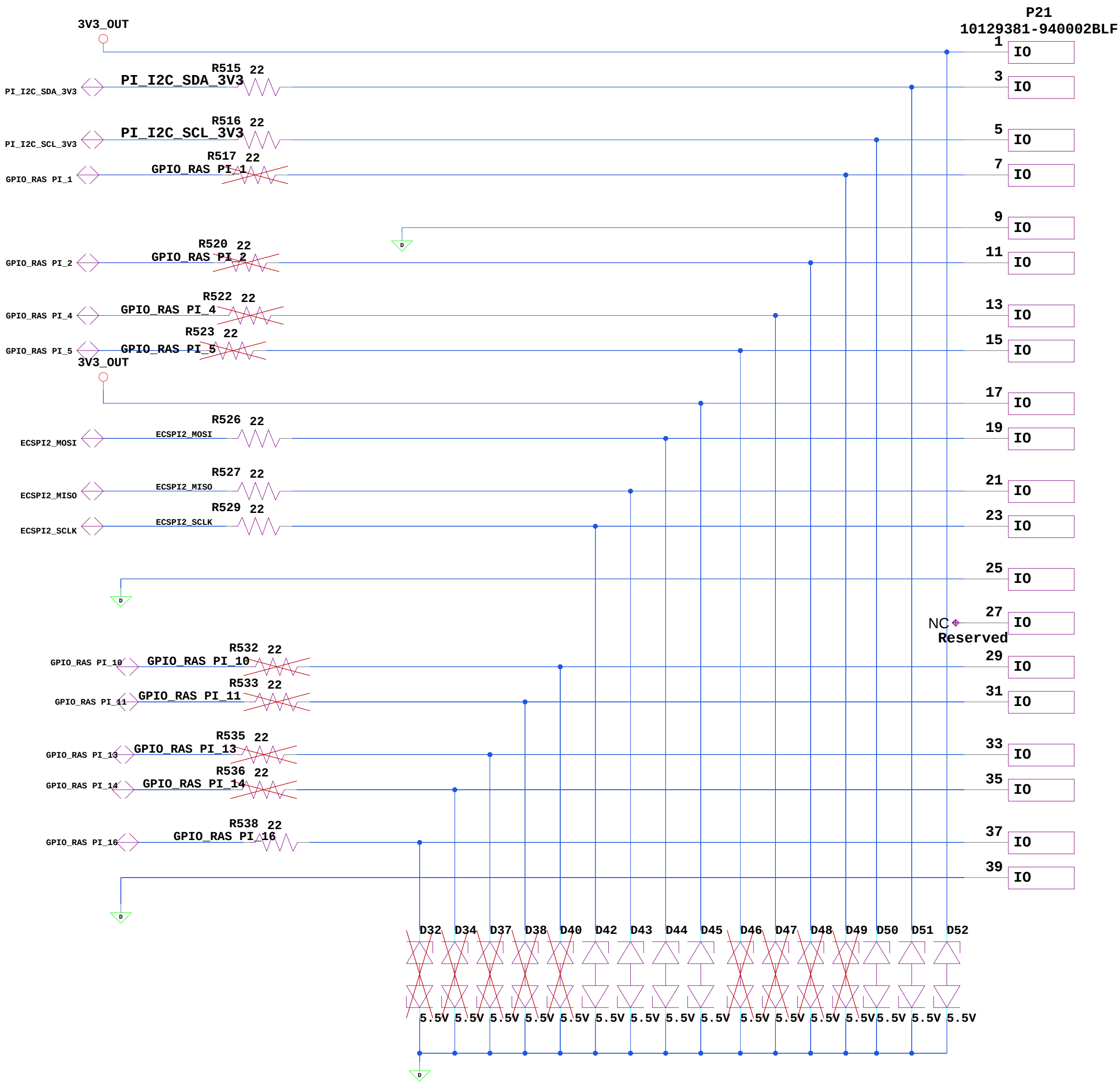
Radio Board Interface

5V trace supports 2A max.

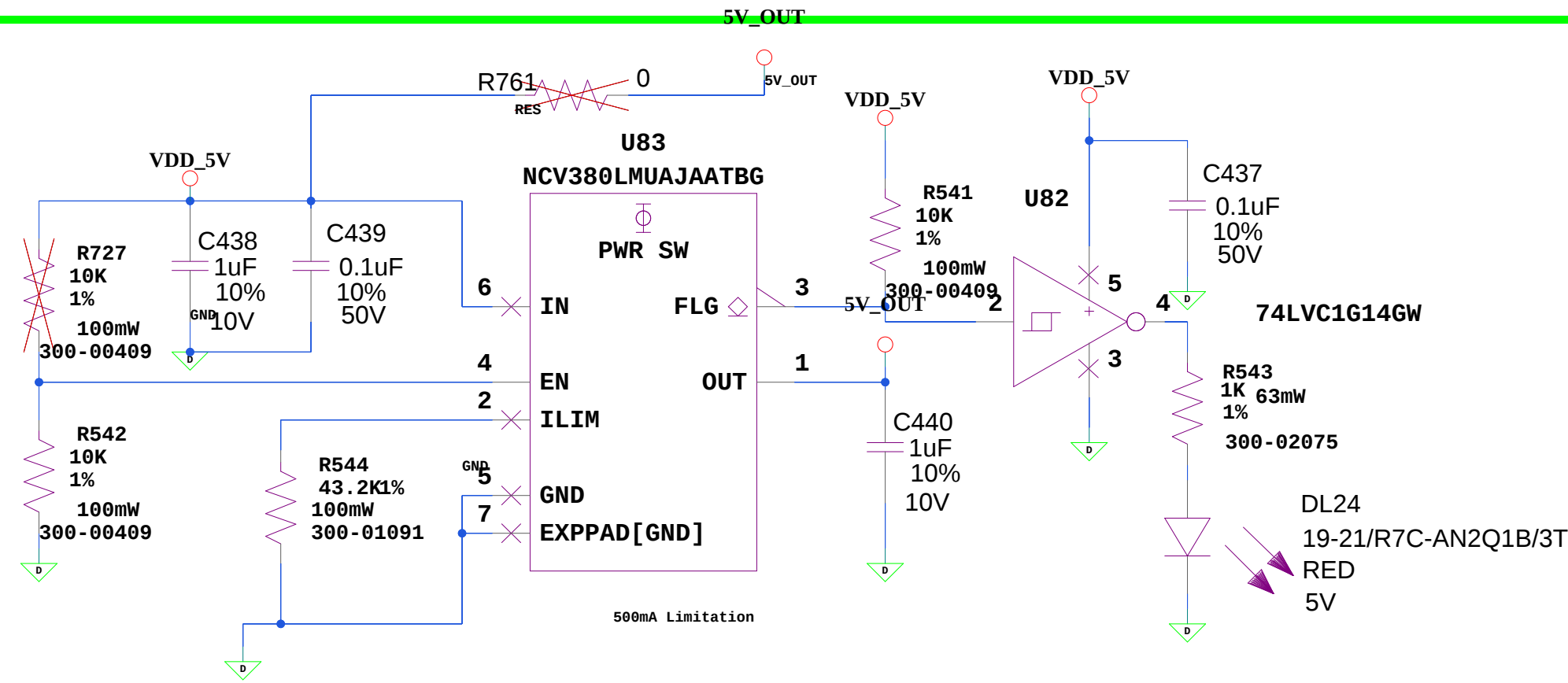


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HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 32

RASPBERRY PI INTERFACE



PI COMMON INTERFACE



VOUT 5V CURRENT LIMIT 500mA

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HONEYWELL CONFIDENTIAL AND PROPRIETARY		SIZE D	REV A
		SCALE: NONE	Sheet 33