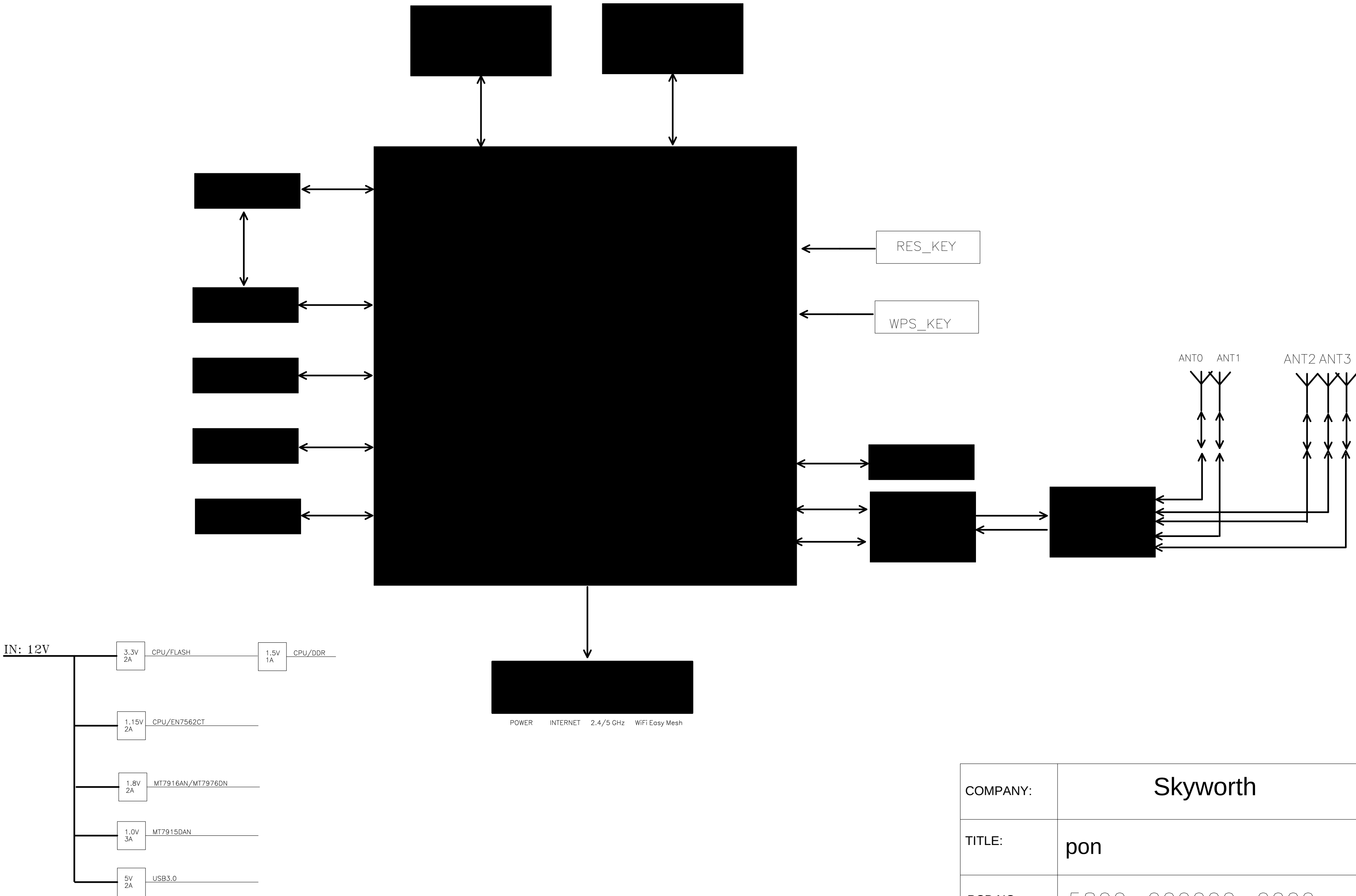


B

B

A

A



COMPANY:	Skyworth		
TITLE:	pon		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: 08/10/2022:15:58	SHEET	Block Diagram	12

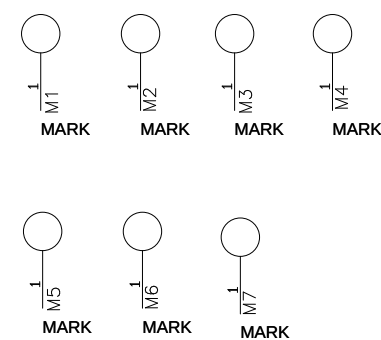
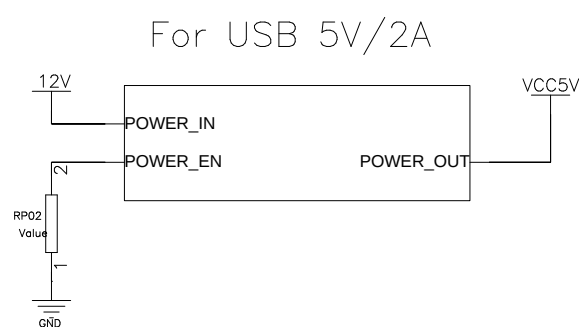
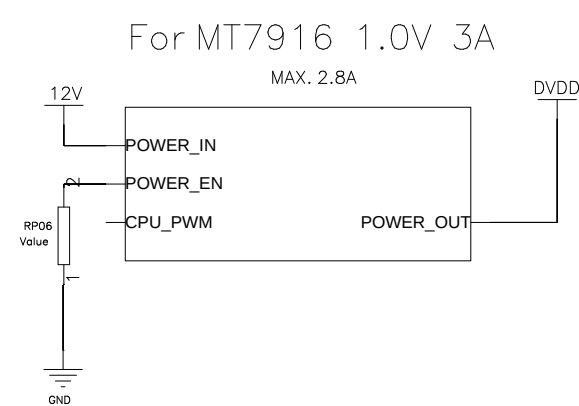
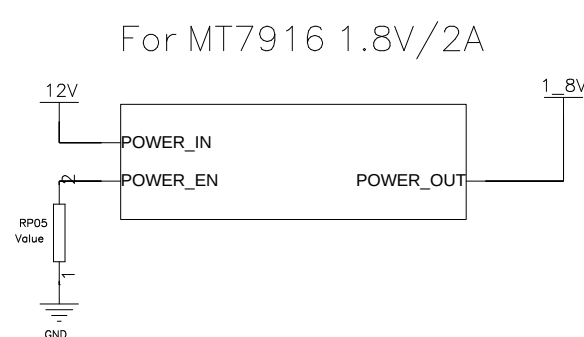
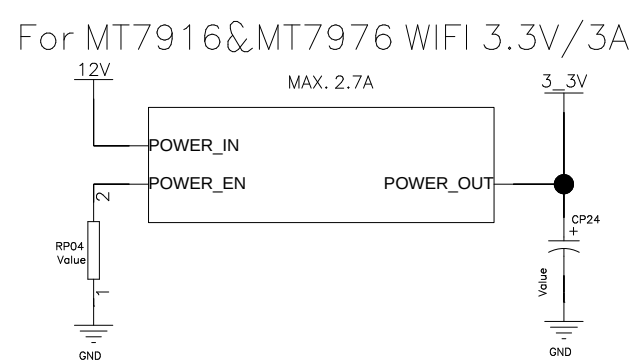
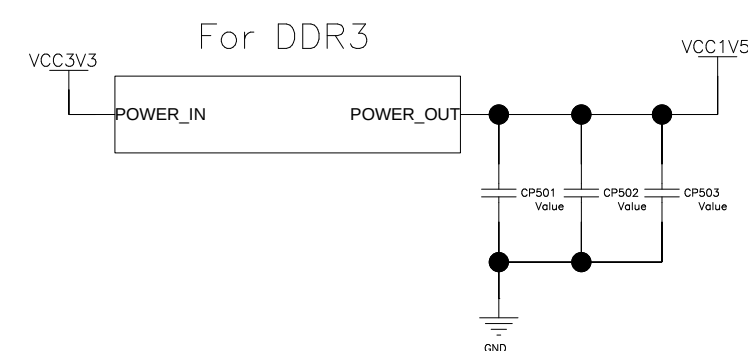
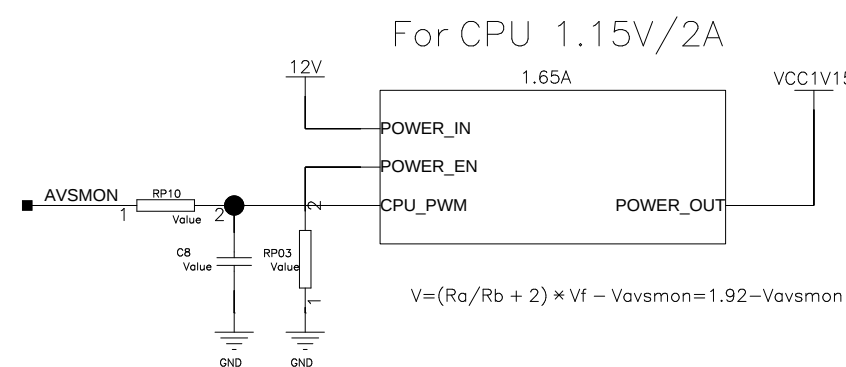
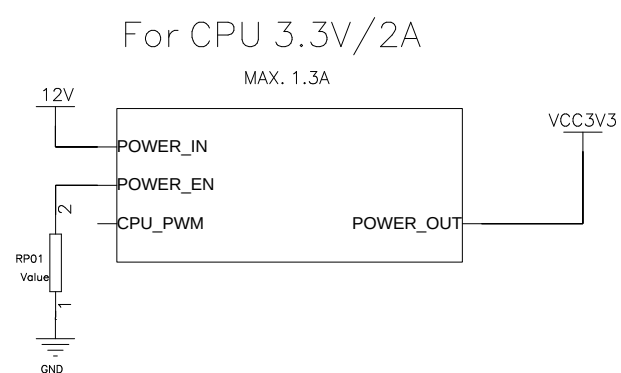
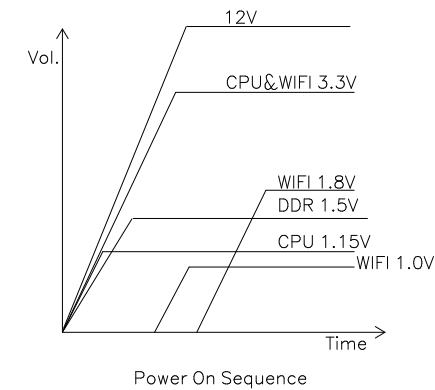
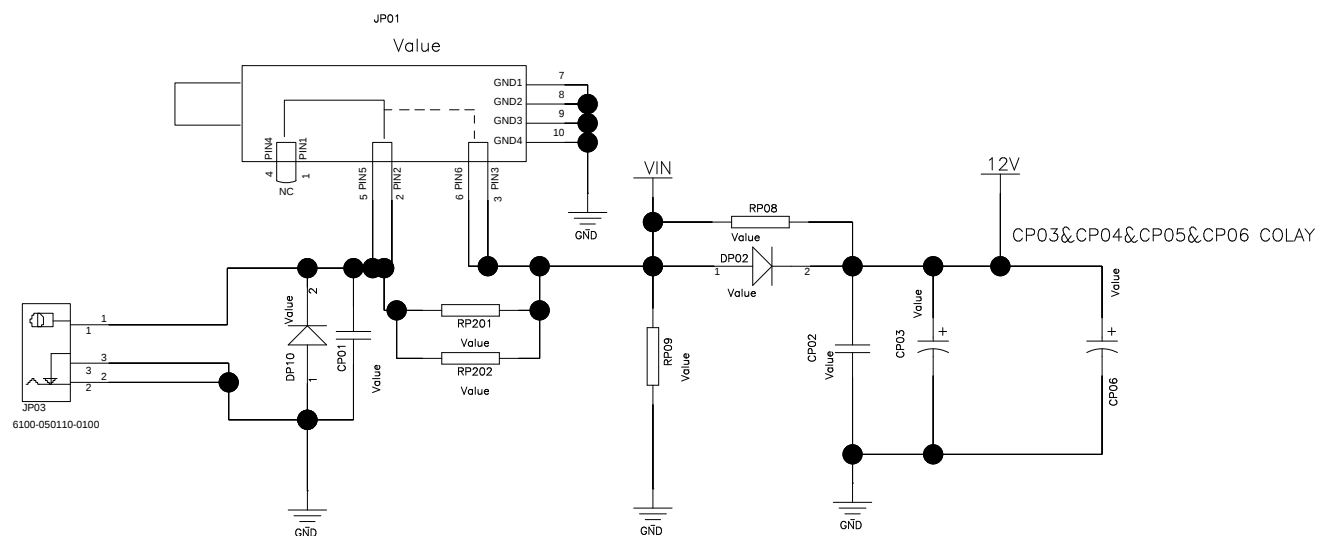
1

2

3

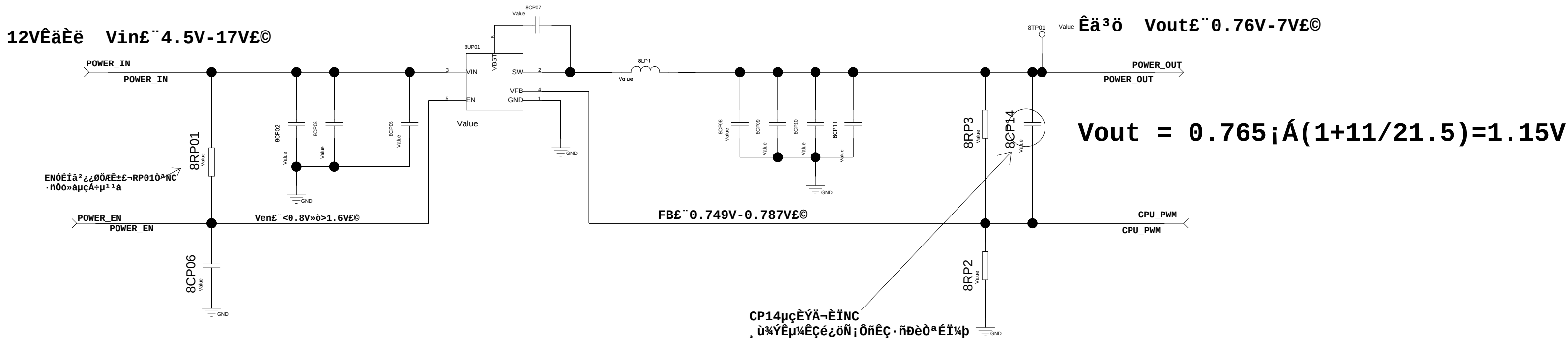
4

5



COMPANY:	Skyworth		
TITLE:	POWER		
PCB NO:			
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: 16/12/2022:16:42	SHEET 1	OF 2	

12V 3A 580K FB0.768 D-CAP2(TM)



$$V_{out}=0.768; \dot{A}(1+RP03/RP02)$$

$$V_{outmin}=V_{fbmin}; \dot{A} \approx 1+0.99RP03/1.01RP02 \text{ ©}$$
$$V_{outmax}=V_{fbmax}; \dot{A} \approx 1+1.01RP03/0.99RP02 \text{ ©}$$

ÊäÈëÍøÂç

POWER_IN 12V µçð´ÊäÈë

POWER_EN EN µçð´¿ððÆðý½Ä£¬, ßµ%Í´; çµÍ¹ð¶Ï

CPU_PWM 1 µçñ¹µ÷½Ú·´À; òý½ÄÍà´¿ÆªÄµç×èðèð÷ð%Æ¬½°, Ìà¹ð

Êä³öÍøÂç

POWER_OUT 1 µç÷µçð´Êä³ö

- 1.2V%ÙÀýÏÏÁÏ
- | | | | |
|------|------------------|-------|----|
| RP03 | 4100-CA5726-2200 | 5.76K | 1% |
| RP02 | 4100-CA1030-2200 | 10K | 1% |
- ÀíÂÜðð%äðµ 1.21V
- Êµ%ÊÇø%ä£ 1.17-1.25V ©
- 2.5V%ÙÀýÏÏÁÏ
- | | | | |
|------|------------------|-------|----|
| RP03 | 4100-CA2430-2200 | 24K | 1% |
| RP02 | 4100-CA1035-2200 | 10.5K | 1% |
- ÀíÂÜðð%äðµ 2.52V
- Êµ%ÊÇø%ä£ 2.43-2.62V ©
- 5V%ÙÀýÏÏÁÏ
- | | | | |
|------|------------------|-------|----|
| RP03 | 4100-CA4730-2200 | 47K | 1% |
| RP02 | 4100-CA8225-2200 | 8.25K | 1% |
- ÀíÂÜðð%äðµ 5.14V
- Êµ%ÊÇø%ä£ 4.93-5.36V ©

×çòâÊÂÏÏ

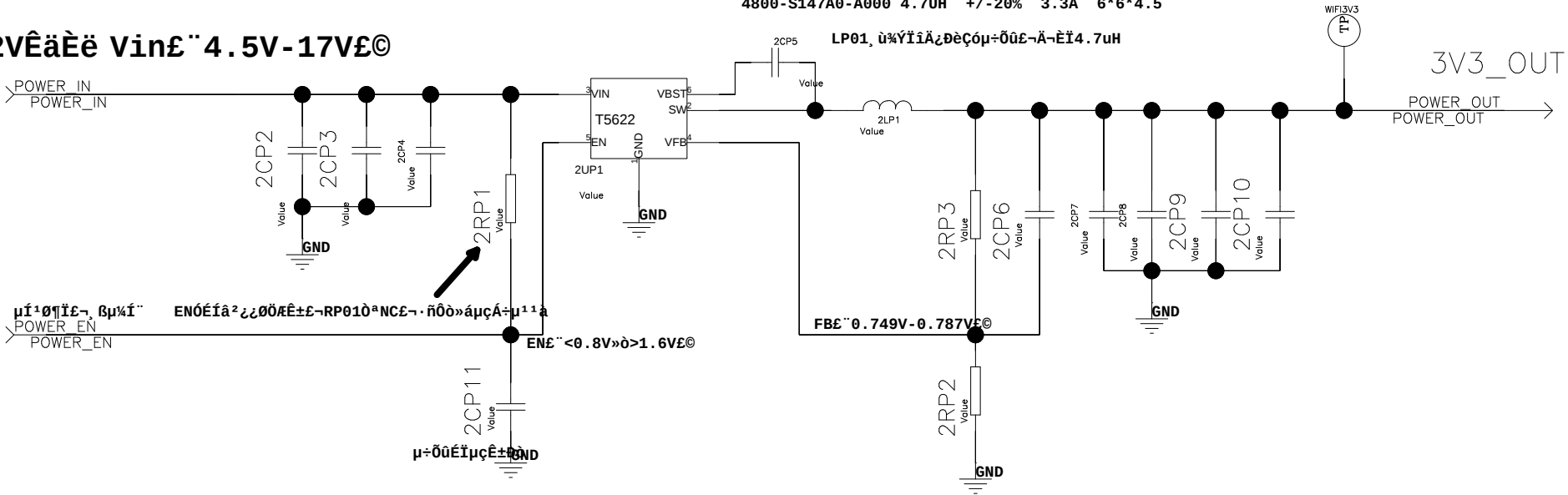
- 1; çEN½ÄÉÏÄ-µç×èRP01, òÚÍâ²¿¿ððÆµÄÇé¿ðÏÄNC²»ÉÏ%ð£¬CBBÄ¬ÈÏNC
- 2; çCP06Äª°ÏÉÏÄ-µç×èRP01»òðßíâ½ó´@Äªµç×èµ÷ðÛÉÏµçÊ±ðð
- 3; çµç, ðLP01Ä¬ÈÏÏÆ%ððµîª4.7uH çè, ù%Ý, °ððÊµ%Êðèðªµ÷ðÛ´óð; çè×çòâµçÄ÷¹æ, ñ
- 4; çBP02; çRP03Ñ; È; 1%; çµç×èç¬²ç, ù%ÝÊµ%ÊðèðªÑ; È; ×èðµ; çI¬ÈÏÇè°ððIÆ%ð¹«È½%ÆEµçN¹.¶ÏS
- 5; ç, ù%Ý²»Í¬Æ½Ï´½°, Ñ; È; CPU_PWMÍâÏSÆªÄªµç×èÍøÂç
- 6; çCP01; çCP02; çCP11-CP13ÏªðªÁðµçÈÝÏ»; çÈè%ÆÊ! , ù%ÝÊµ%Êðèçó½ððð

12V-3V3 12V 3A 580K FB0.765

4800-S122A0-ASA0	2.2uH	+/-20%	2.2A	4*4*1.8
4800-S147A0-AS80	4.7uH	+/-20%	1.7A	4*4*1.8
4800-S147A0-AS60	4.7uH	+/-20%	2A	4*4*3
4800-S11000-AS90	10uH	+/-20%	2A	5.8*5.2*4.5
4800-S147A0-AS40	4.7uH	+/-20%	1.8A	5.8*5.2*4.5
4800-S147A0-A000	4.7uH	+/-20%	3.3A	6*6*4.5

Vout = 0.765;Á(1+34.8/10.5)=3.3V

12VÊäÈë Vin£¨4.5V-17V£©



Vout = 0.768;Á(1+RP03/RP02)

Voutmin = Vfbmin;Á(1+0.99RP03/1.01RP02)

Voutmax = Vfbmax;Á(1+1.01RP03/0.99RP02)

3.3V%ÙÀÝ
RP02 4100-CA1030-2200 10K 1%
RP03 4100-CA3330-2210 33K 1%
A1A005%a0µ 3.3V
Eµ%ÊÇ0%a£ 3.17;ª3.43V£©

×çÒâÊÂİİ

1;çEN ½ÂÉİÀ-µç×èRP01£¬ÔÚÍâ²¿¿ØÖµÄÇé¿öİÂNC²»Éİ¼þ

2;çCP11Âª°İÉİÀ-µç×èRP01»òÕßÍâ½Ó´@Áªµç×èµ÷ÕúÉİµçÊ±

3;çµç_ØLP01Ä¬ÈİİÆ%öÖµÎª4.7uH Çë, ù%Ý, °ØØÊµ¼ÊÐèÒªµ÷
Lç×ç0aµçA¬İæ, ħ

4;çRP02;çRP03Ñ;È;1%¾«İÈµç×è£²ç, ù%ÝÊµ¼ÊÐèÒªÑ;È;×è
I¬E±çª°00¹«Ê½%ÆaµçN¹.İİS

5;çCP02;çCP03;çCP009;çCP10Îª0ªÁôµçÈÝ£¬Çë, ù%ÝÊµ¼ÊÇ

ÊäÈëÍ0Âç

POWER_IN£ª12VµçÔ´ÊäÈë

POWER_EN£ªENµçÔ´¿ØÖðòý½Â£¬, ßµ¼Í¨;çµÍ¹Øİİ

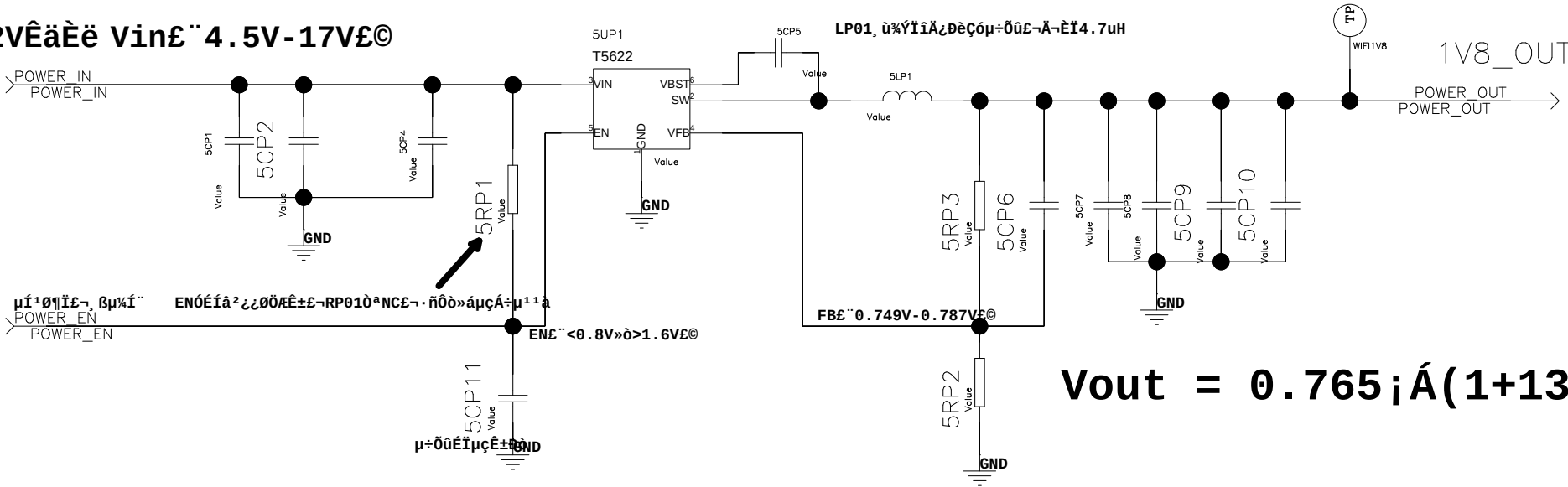
Êä³öÍ0Âç

POWER_OUT£ª3.3VÊä³ö

12V-1V8 12V 2A 580K FB0.768

4800-S122A0-ASA0	2.2uH	+/-20%	2.2A	4*4*1.8
4800-S147A0-AS80	4.7uH	+/-20%	1.7A	4*4*1.8
4800-S147A0-AS60	4.7uH	+/-20%	2A	4*4*3
4800-S11000-AS90	10uH	+/-20%	2A	5.8*5.2*4.5
4800-S147A0-AS40	4.7uH	+/-20%	1.8A	5.8*5.2*4.5
4800-S147A0-A000	4.7uH	+/-20%	3.3A	6*6*4.5

12VÊäÈë Vin£¨4.5V-17V£©



Vout = 0.765;Á(1+13.7/10)=1.81V

Vout = 0.768;Á(1+RP03/RP02)

Voutmin = Vfbmin;Á(1+0.99RP03/1.01RP02)

Voutmax = Vfbmax;Á(1+1.01RP03/0.99RP02)

1.8V¾ÙÀÝ
RP02 4100-CA1030-2200 10K 1%
RP03 4100-CA1337-2200 13.7K 1%
A1A0005%a0u 1.82V
Eµ¼EÇ0¼a(1.75i 1.88V)

×çÒâÊÂİİ

1;çEN ½ÂÊİÀ-µç×èRP01£¬ÔÚÍâ²¿¿ØØÆµÄÇé¿öİÂNC²»Éİ¼þ

2;çCP11Âä°İÊİÀ-µç×èRP01»òÕßÍâ½Ó´@Áªµç×èµ÷ÕúÉİµçÊ±

3;çµç_ðLP01Ä¬ÊİİÆ¼öÖµÎª4.7uH Çë, ù¼Ý, °ØØÊµ¼ÊÐèðªµ÷
Lç×ç0aµçA÷¹æ, ñ

4;çRP02;çRP03Ñ;È;1¼¾«¶ÈÈç×è£²ç, ù¼ÝÊµ¼ÊÐèðªÑ;È;×è
I¬E±çë°00¹«Ê¼¼ÆEaµçN¹.¶İİ

5;çCP02;çCP03;çCP09;çCP10ÎªðªÁðµçÈÝ£¬Çë, ù¼ÝÊµ¼ÊÇë

ÊäÈëÍ0Âç

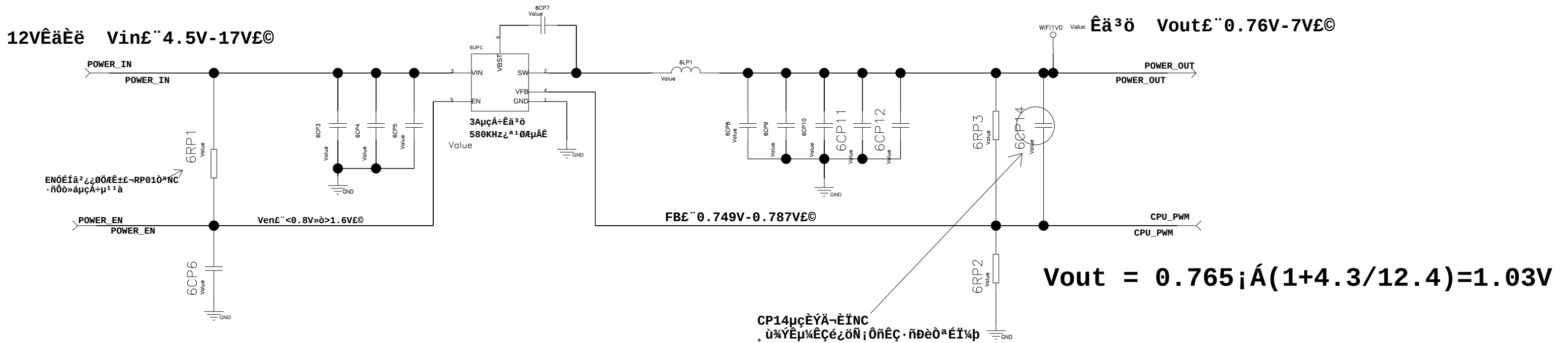
POWER_IN£¨12VµçÔ´ÊäÈë

POWER_EN£¨ENµçÔ´¿ØØÆòý½Â¬, ßµ¼Í¨;çµÍ¹Ø¶İ

Êä³öÍ0Âç

POWER_OUT£¨1.8VÊä³ö

12V 3A 580K FB0.768 D-CAP2(TM)



$$V_{out} = 0.768 \cdot \dot{A} (1 + R_{P03}/R_{P02})$$

$$V_{outmin} = V_{fbmin}; \quad \Delta \varepsilon = 1 + 0.99 R_{P03} / 1.01 R_{P02} \varepsilon_C$$

$$V_{outmax} = V_{fbmax} \cdot \frac{1 + 1.01 R_{P03} / 0.99 R_{P02}}{1}$$

1.2V¾ÙÀýÎïÁÏ

RP03 4100-CA5726-2200 5.76K 1%

RP02 4100-CA1030-2200 10K 1%

À1ÂÛÖÐ¼äÖµ 1.21V

1.17-1.25V

2.5V³/₄ÙÀýÎïÁÏ

RP03 4100-CA2430-2200 24K 1%

RP02 4100-CA1035-2200 10.5K 1%

ÀíÂÛÖÐ¼äÖµ 2.52V

2.43-2.62V

5V¾ÙÀýÎïÁÏ

RP03 4100-CA4730-2200 47K 1%

RP02 4100-CA8225-2200 8.25K 1%

ÀíÂÛÖĐ¼äÖµ 5.14V

4.93-5.36V£©

ÊäÈëÍøÂç

POWER_IN£°12VµçÔ´ÊäÈë

POWER_EN£°ENμçÔ´¿ØÖÆòý½Å£¬ Βμ¼Í¨ ; ϕμÍ¹Ø¶İ

CPU_PWM£°CPUµçÑ½µ÷½Ú: ¿À: ÒÝ½Å
İã¿Æ¥Åµç×è0è0÷Ð¼Æ¬½°, İã¹Ø

Êä³öÍøÂç

POWER_OUT£°¿Éµ÷µçÔ´Êä³ö

×ϕÒâÊÂÏî

1;ϕEN½ÁÉÏÀ-μç×èRP01,ÔÚÍâ²¿¿ØØÆμÄÇé¿ÖÏÂNC²»ÉÍ¼ρ£-CBBÄ-ÈÏNC

2;¢CP06Ää°İĖİĖ-µç×èRP01»òÕßİâ½Œ´®Áªµç×èµ÷ÕûĖİµçÊ±Đò

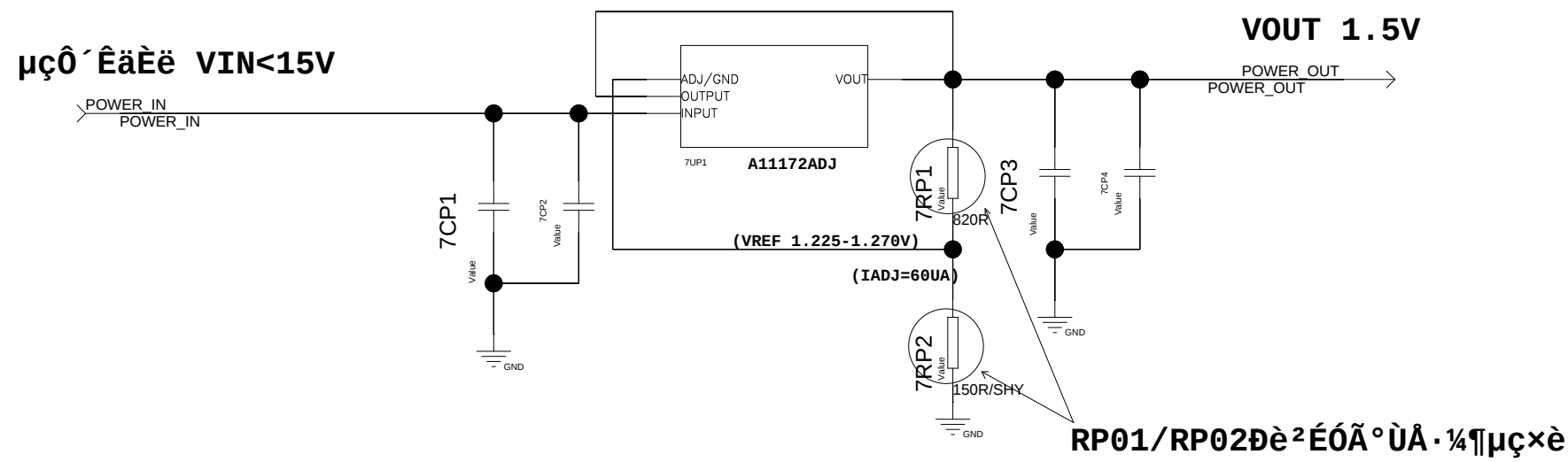
3 i fuc ɖLP01Ä-ÈÏÄ¼öÖmîª4.7uH Çë, ù¾Ý, °ØØÊµ¼ÊÐèÐªµ÷Õü´óÐ;

4 i 4BP02 i 4BP03Ñ i È i 1%3 « 7Èuc x è f 7 2 c ù 34YÈµ¼EÐè0 aÑ i È i x èÖµ i £
1-E i Çe 8 001A%0 1 «E½¼AEauçN 1. 7 i s

5;ϕ, ù¾Ý²»Í¬Æ½Ì¨·½°, Ñ;È;CPU_PWMÍâÎ\$Æ¥Ãµç×èíøÂç

6 ; ¢CP01 ; ¢CP02 ; ¢CP11-CP13ÎªÔªÂÔµçÈÝÎ» ; ¢Èè¼ÆÊ ! , ù¾ÝÊµ¼ÊÐèÇó½øÐÐ

$$I_{in} = I_{out} + I_{ADJ} \approx 1A \qquad V_{in} - V_{out} \leq 0.3V$$



$$V_{out} = 1.25 \left(1 + \frac{R_{P02}}{R_{P01}} \right) + I_{ADJ} R_{P02}$$

$$V_{outmin} = V_{fbmin} \left(1 + \frac{0.99 R_{P02}}{1.01 R_{P01}} \right) + I_{ADJ} R_{P02}$$
$$V_{outmax} = V_{fbmax} \left(1 + \frac{1.01 R_{P02}}{0.99 R_{P01}} \right) + I_{ADJ} R_{P02}$$

Notes:

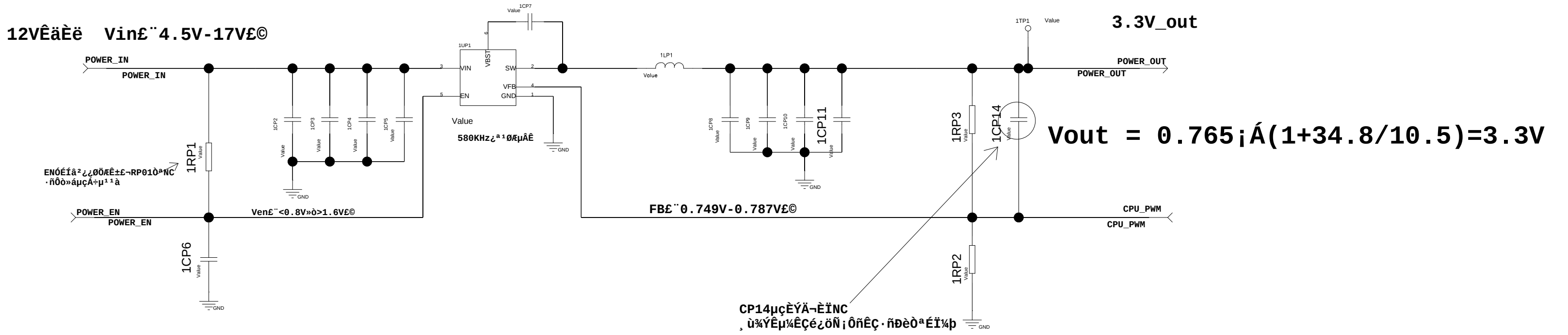
- 1. $I_{in} = I_{out} + I_{ADJ} \approx 1A$
- 2. $V_{in} - V_{out} \leq 0.3V$
- 3. $V_{in} - V_{out} \leq 0.3V$
- 4. $R_{P01} \approx R_{P02} \cdot 0.99$
- 5. $I_{in} = I_{out} + I_{ADJ} \approx 1A$

Input Power

Output Power

1. 8V 1/4W
RP01 4100-CA2010-2200 220R 1%
RP02 4100-CA4412-2200 220R 1%
A11172ADJ 1.83V
EPC 0.5W 1.79V 1.87V

12V 3A 580K FB0.768 D-CAP2(TM)



$$V_{out} = 0.768 \cdot \dot{A} (1 + R_{P03}/R_{P02})$$

$$V_{outmin} = V_{fbmin}; \text{ } \dot{A}_E \approx 1 + 0.99R_{P03}/1.01R_{P02} \text{ } \textcircled{C}$$

$$V_{outmax} = V_{fbmax} \left(1 + \frac{R_{P03}}{R_{P02}} \right)$$

3.3V¾ÙÀýÎïÁÏ

RP03 4100-CA3438-2200 34.8K 1%

RP02 4100-CA1035-2200 10.5K 1%

ÀíÂÛÖÐ¼äÖµ 3.31V

3.18-3.45V£©

ÊäÈëÍøÂç

POWER_IN£°12VµçÔ´ÊäÈë

POWER_EN£°ENμçÔ´¿ØÖÆòý½Å£¬ Βμ¼Í¨;ιϕμÍ¹Ø¶Ï

CPU_PWMε°CPUμcÑ1μ÷½Ú: ¿À:òý½Ä
İä²¿Æ¥Äaμç×è0ë0÷Đ¼Æ¬·½°, İä¹ø

Êä³öÍøÂç

POWER_OUT£°3.3VµçÔ´Êä³ö

×ϕÒâÊÂÏî

1;ϕEN½ÅÉİÀ-μϕ×èRP01,ÔÚÍâ²¿¿ØØμÄÇé¿öİÂNC²»Éİ¼ρE-CBBÄ-ÈİNC

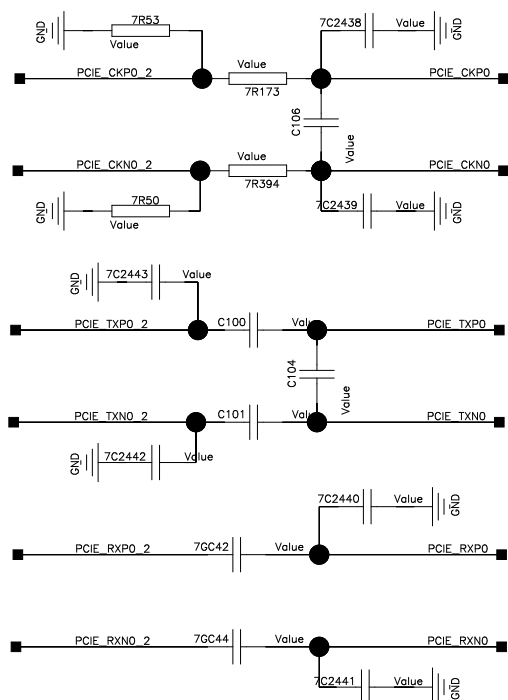
2;¢CP06Ää°İĖİÄ-µç×èRP01»òÕßİâ½0´®Áªµç×èµ÷ÕûĖİµçÊ±Đò

3iϕuc,ĐLP01Ä-ÈĬĬÉ%öÖmÎª4.7uH Çë, ù%Ý, °00Êm¼ÊÊÈòªμ÷Õû´óĐi
Çë×Ç0AμÇA÷Ĭæ, ĩ

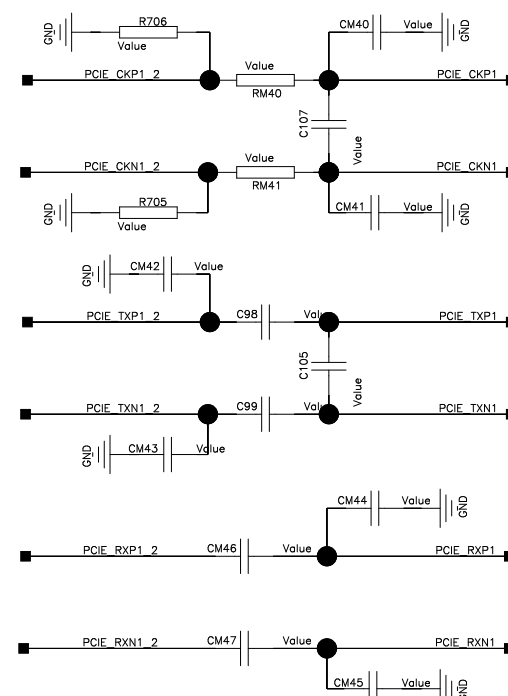
4 i ÇBP02 i ÇBP03 Ñ i È i 1% « T EUC x è £ 1 2 Ç ù ð Y È µ % Ê Ò è 0 a Ñ i È i x è 0 µ i £
I - E i Ç e 001A / 0 i « E 1/2 A A E µ Ç N 1 . T i s

5;ϕ, ù¾Ý²»Í¬Æ½Ì¨·½°, Ñ;È;CPU_PWMíâî\$Æ¥Åäµç×èíøÂç

6 | ¢CP01 | ¢CP02 | ¢CP11-CP13ÎªÔµ¢ÉÝÎ» | ¢Éè¼ÆÊ | , ù¾ÝÊµ¼Ê½∅ÐÐÉ



Layout diff. 100R



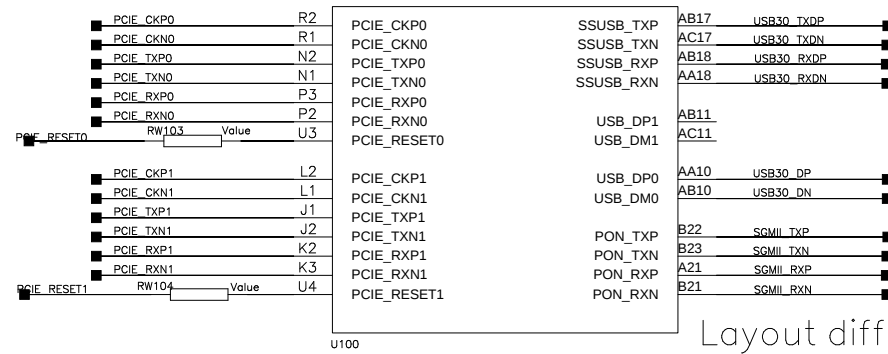
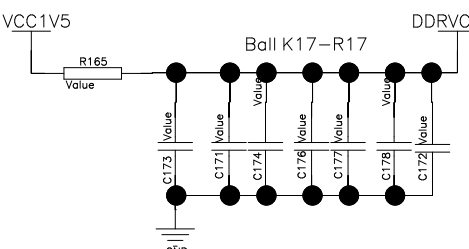
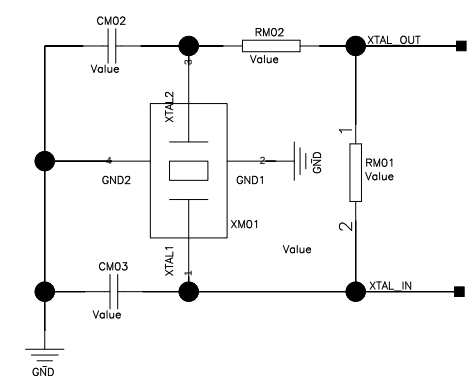
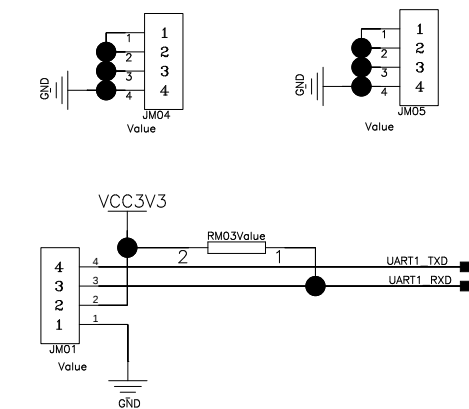
Layout diff. 90R

Layout diff. 90R

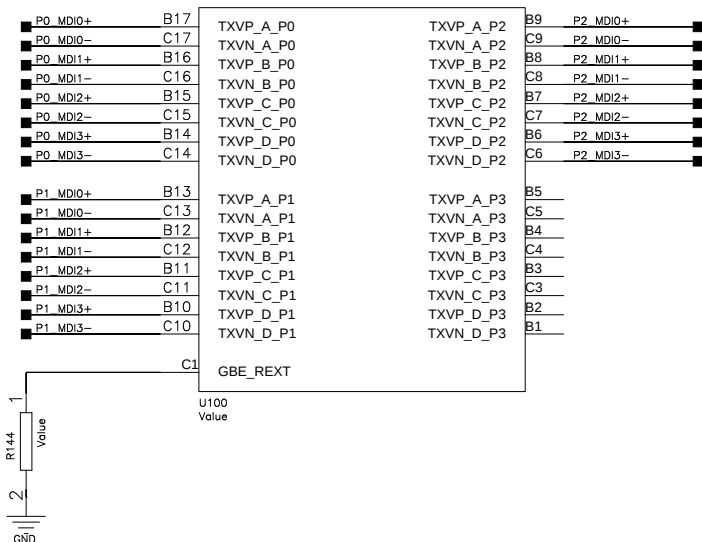
Layout diff. 100R

Layout diff. 90R

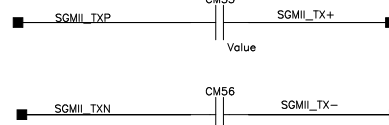
Layout diff. 90R



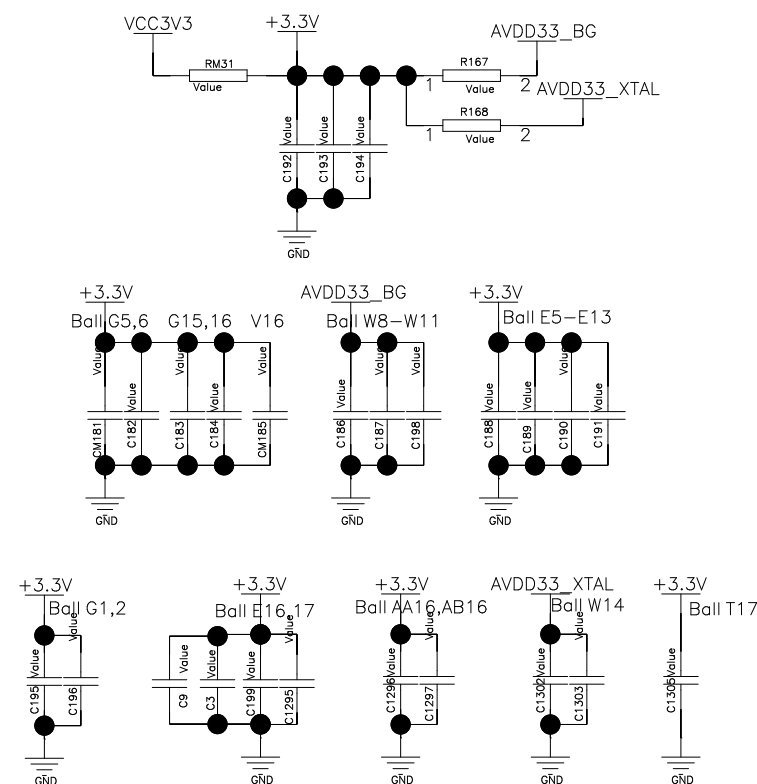
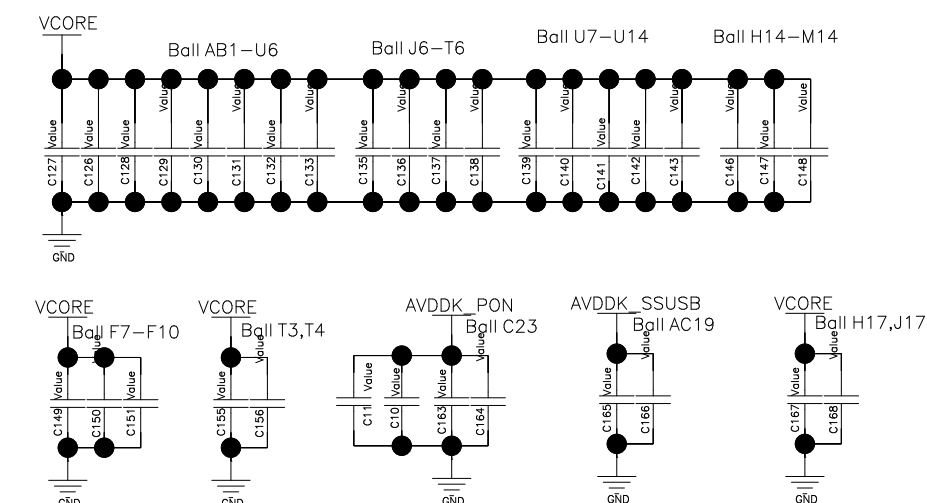
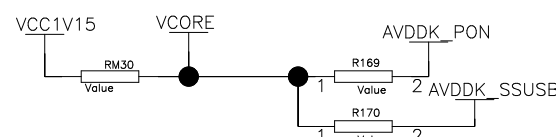
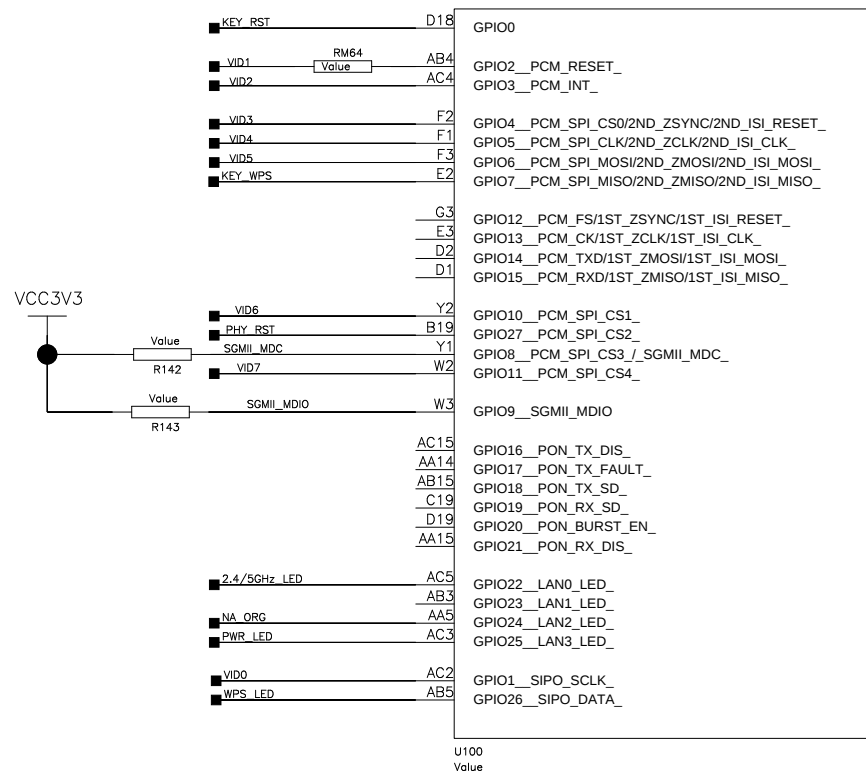
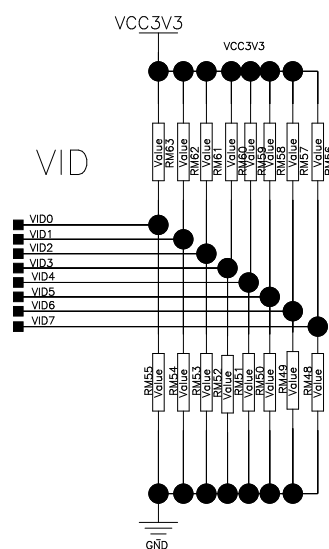
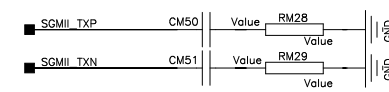
Layout diff. 90R



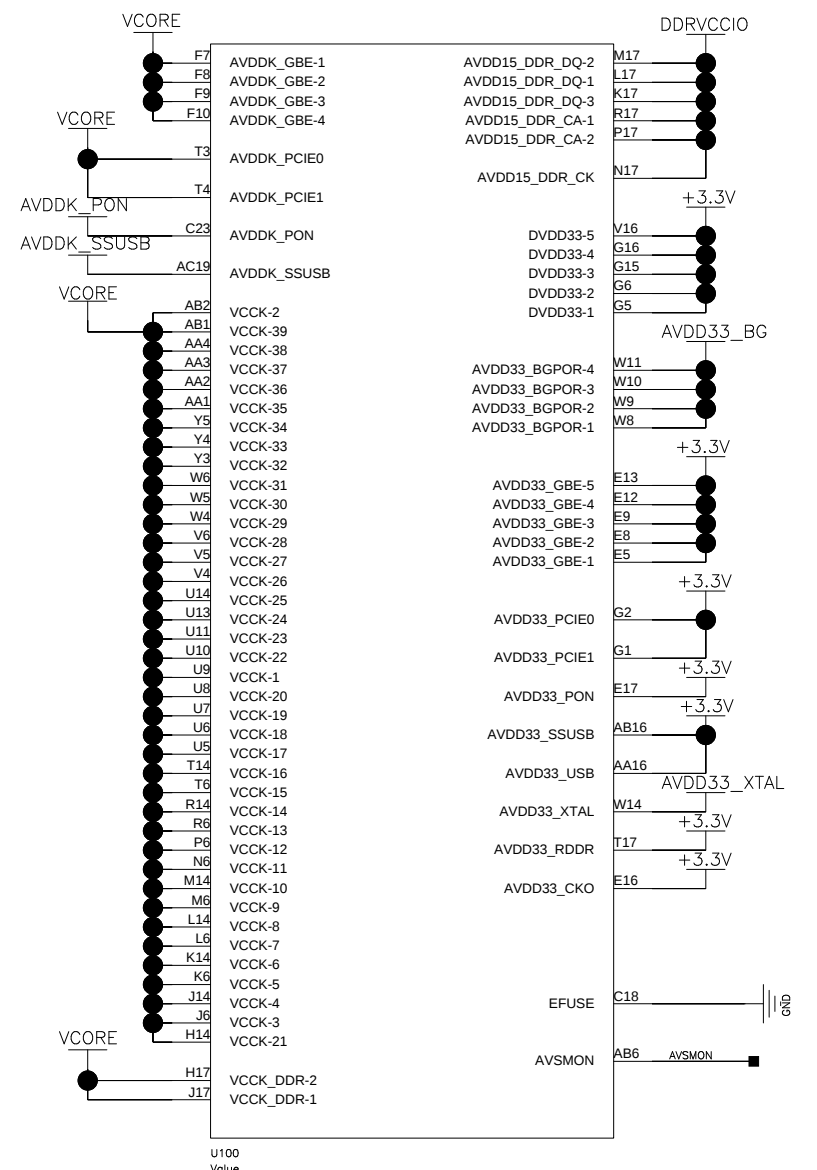
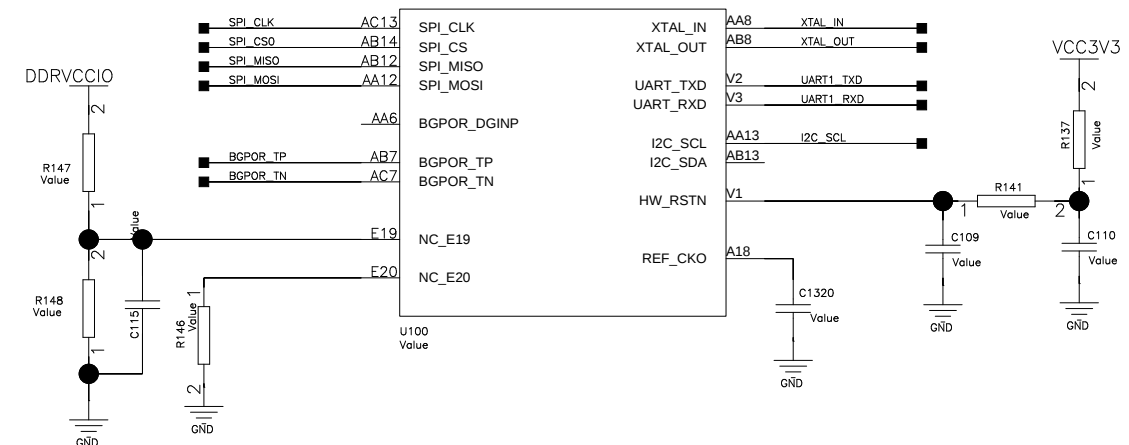
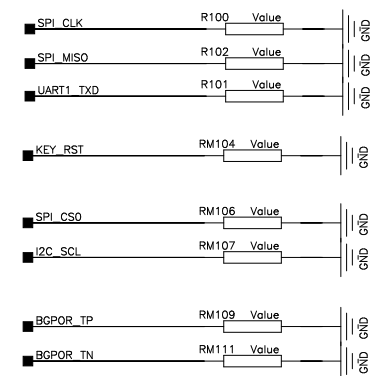
Layout diff. 90R



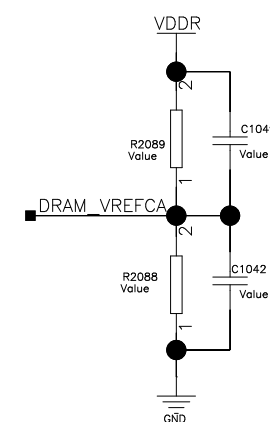
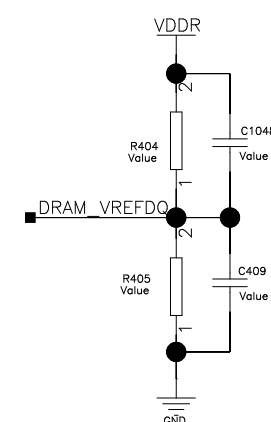
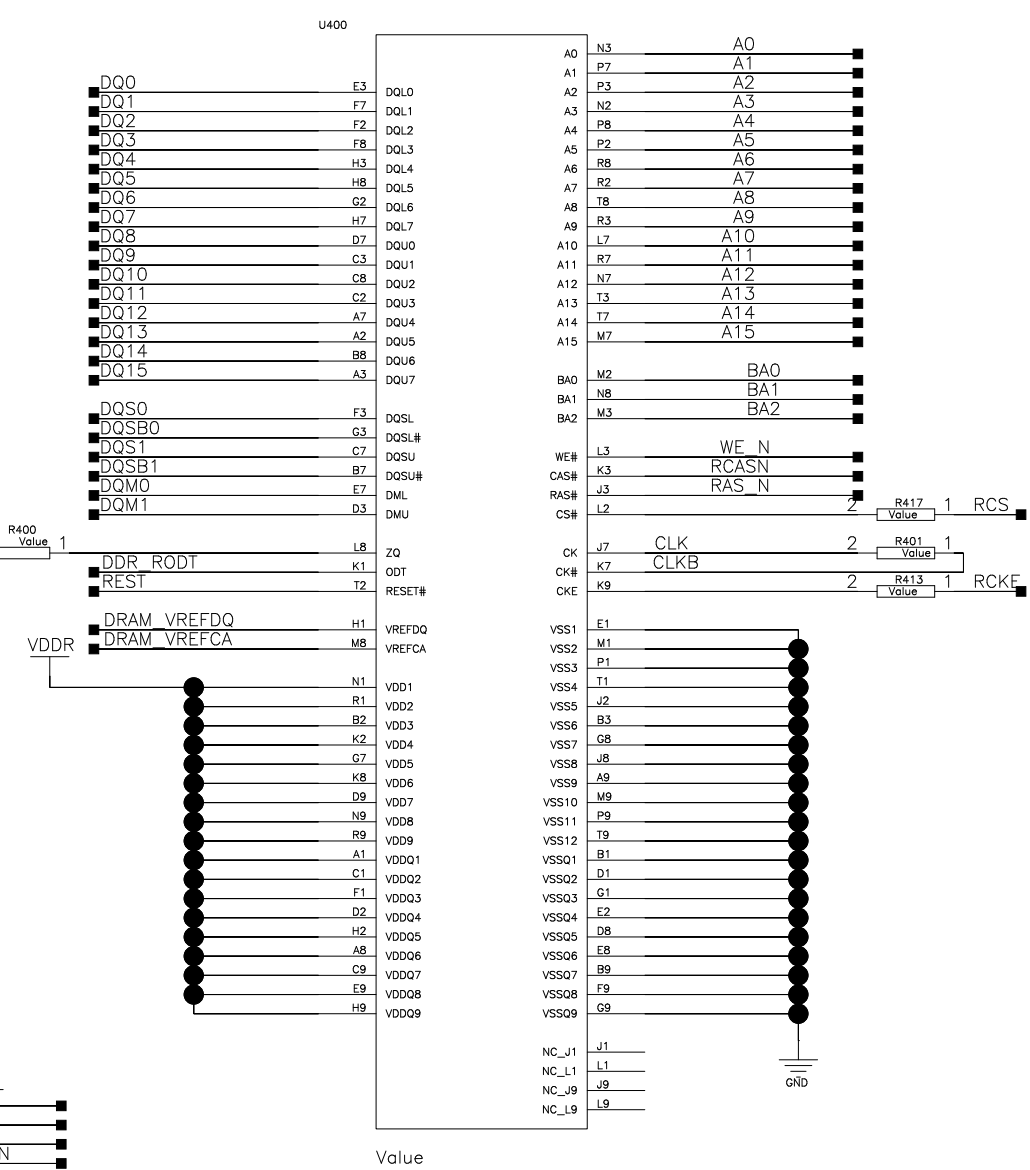
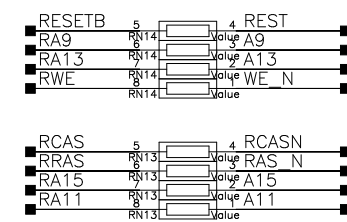
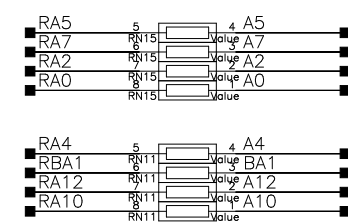
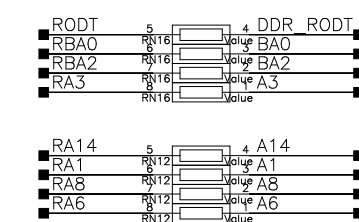
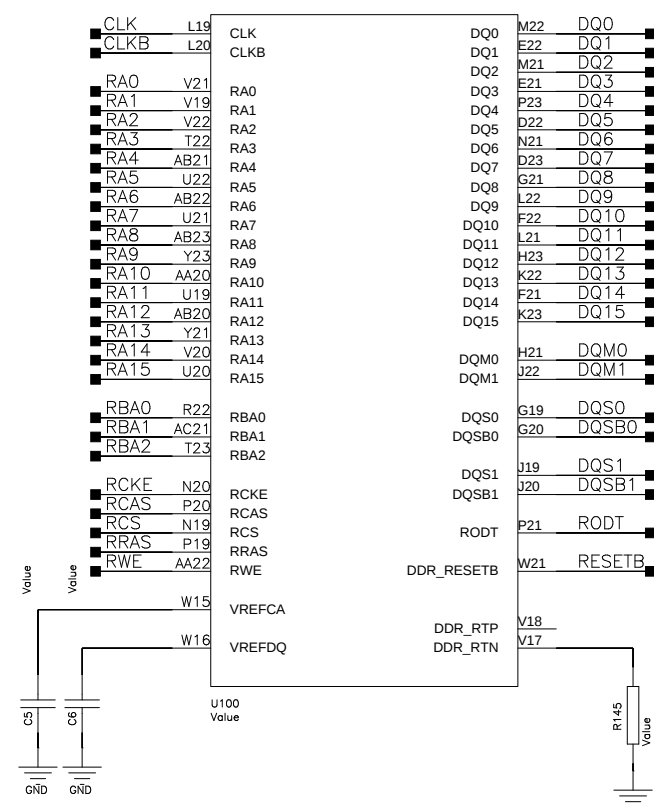
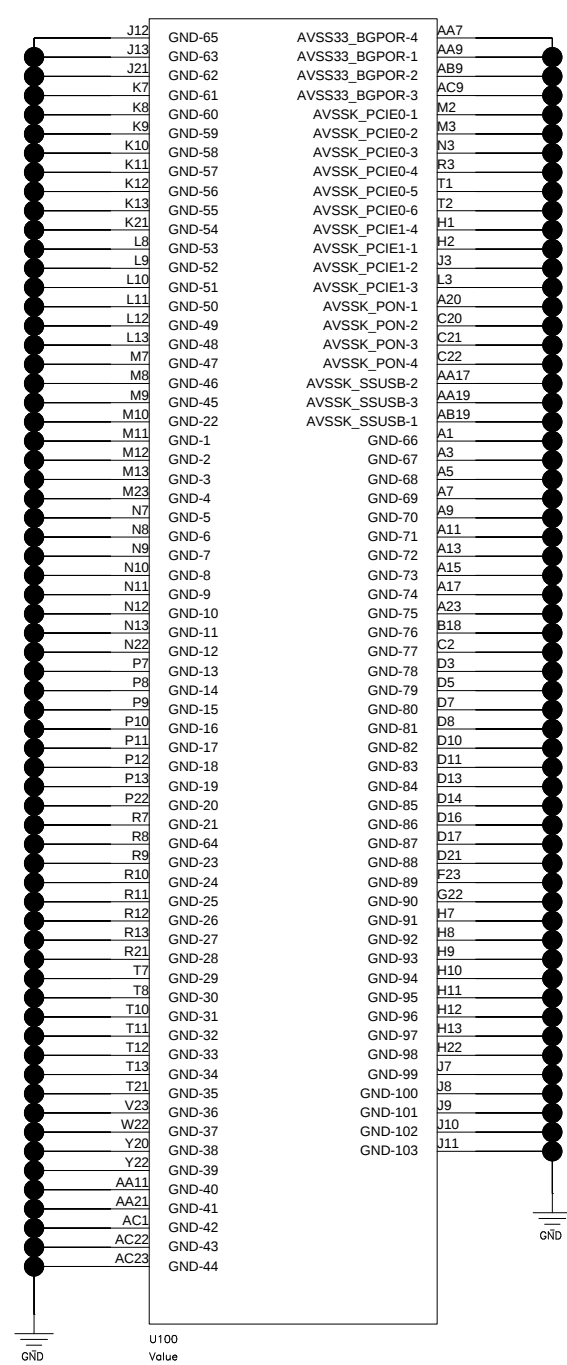
Reserve for SGMII application



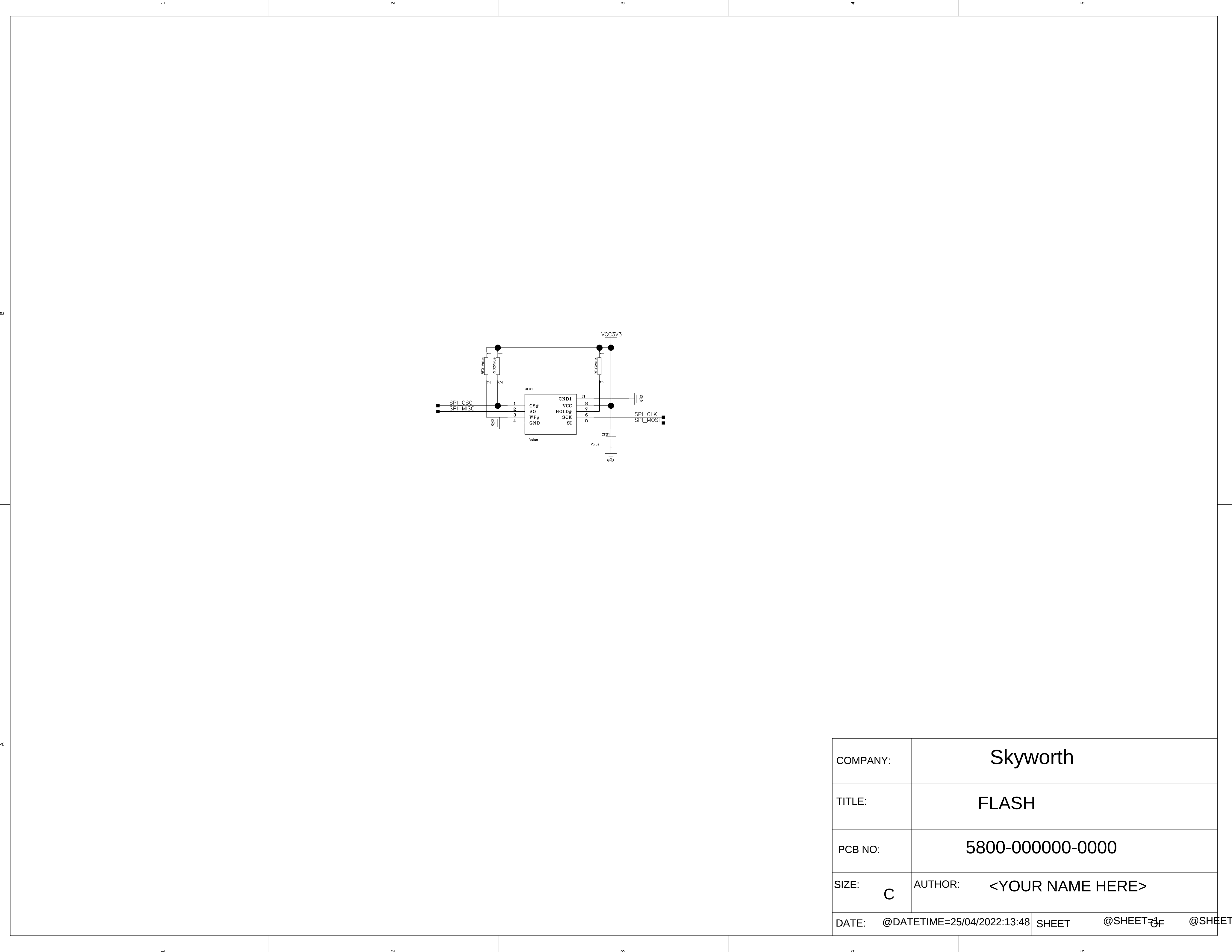
EN7529DT Hardware Trap		
Pin Name	Description	Default
SPI_CLK,SPI_MISO,UART_TXD	SPI NAND_addr_select: 3'b110: iNIC mode enable 3'b000: SPI NOR 4B mode 3'b001: SPI NOR 3B mode 3'b010: Reserve 3'b011: SPI NAND dummy append	3'b011
GPI00	Boot from flash 1'b0: disable(Boot form internal rom) 1'b1: enable	1'b1
SPI_CS,I2C_SCL	Operation mode: 2'b00: Reserved 2'b01: Reserved 2'b10: Reserved 2'b11: Normal mode	2'b11
BGPOR_TP, BGPOR_TN	Crystal select: 2'b00: 25MHz XTAL 2'b01: 40MHz single-end voltage mode 2'b10: 25MHz Differential current mode 2'b11: 40MHz Differential current mode	2'b00



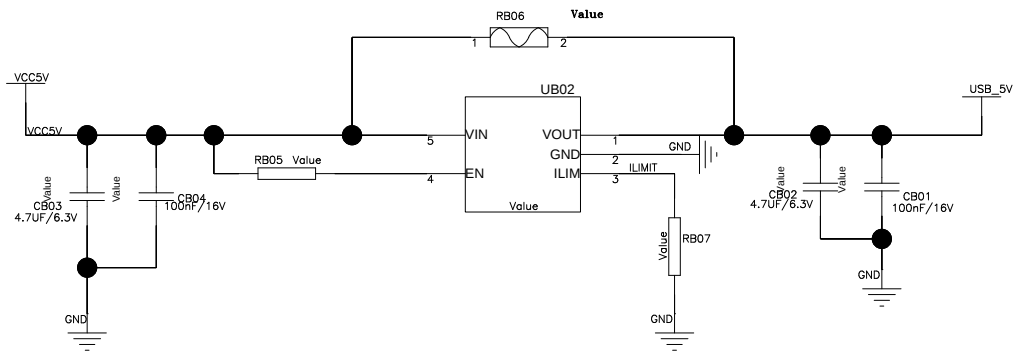
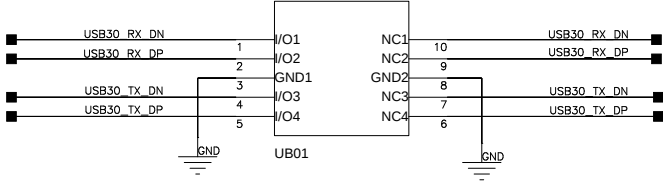
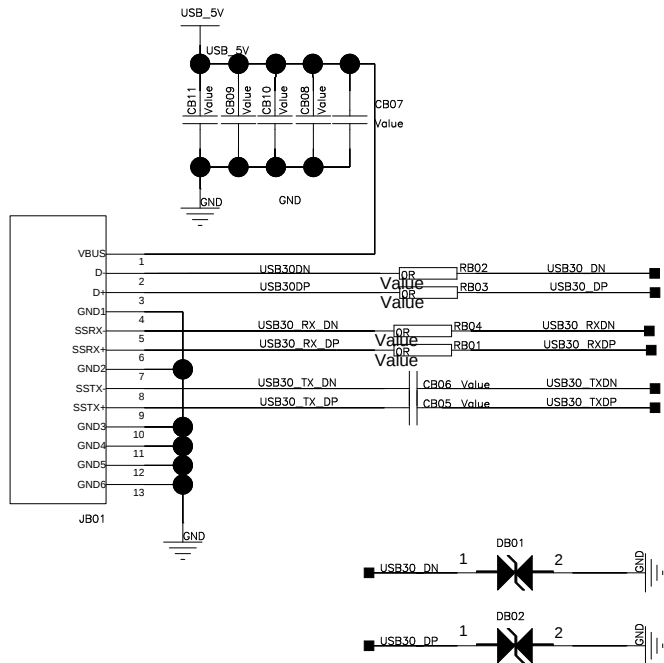
COMPANY:	Skyworth		
TITLE:	CPU		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: 28/10/2022:14:33	SHEET	1	OF 2



COMPANY:	Skyworth		
TITLE:	DDR3		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR:	<YOUR NAME HERE>	
DATE:	@DATE	TIME=25/04/2022:13:48	SHEET @SHEET=1 of @SHEETTOTAL



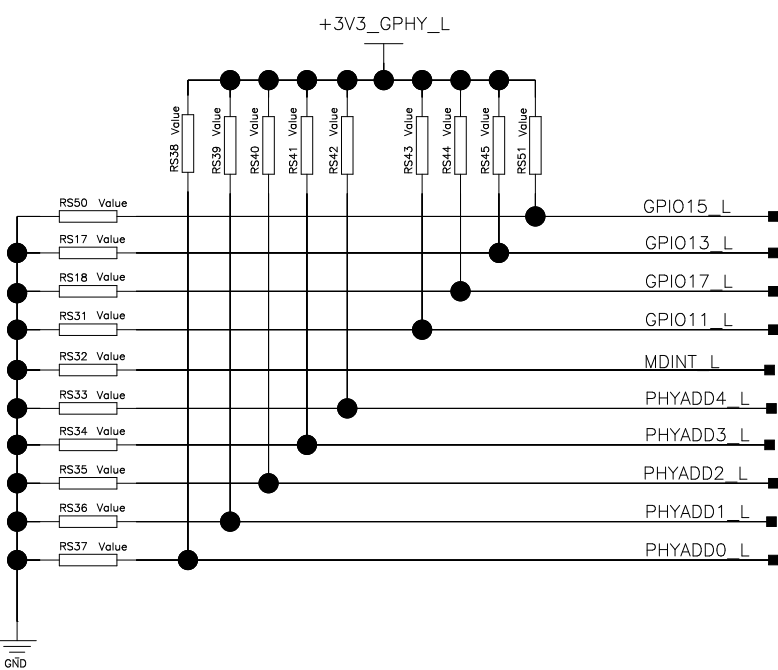
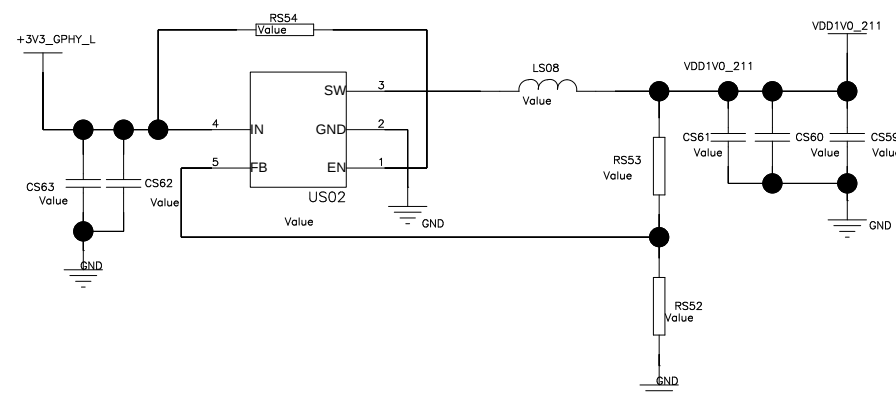
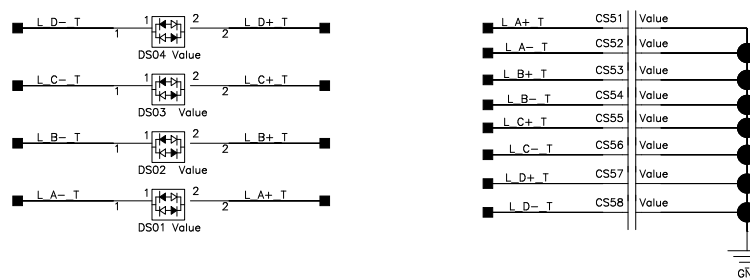
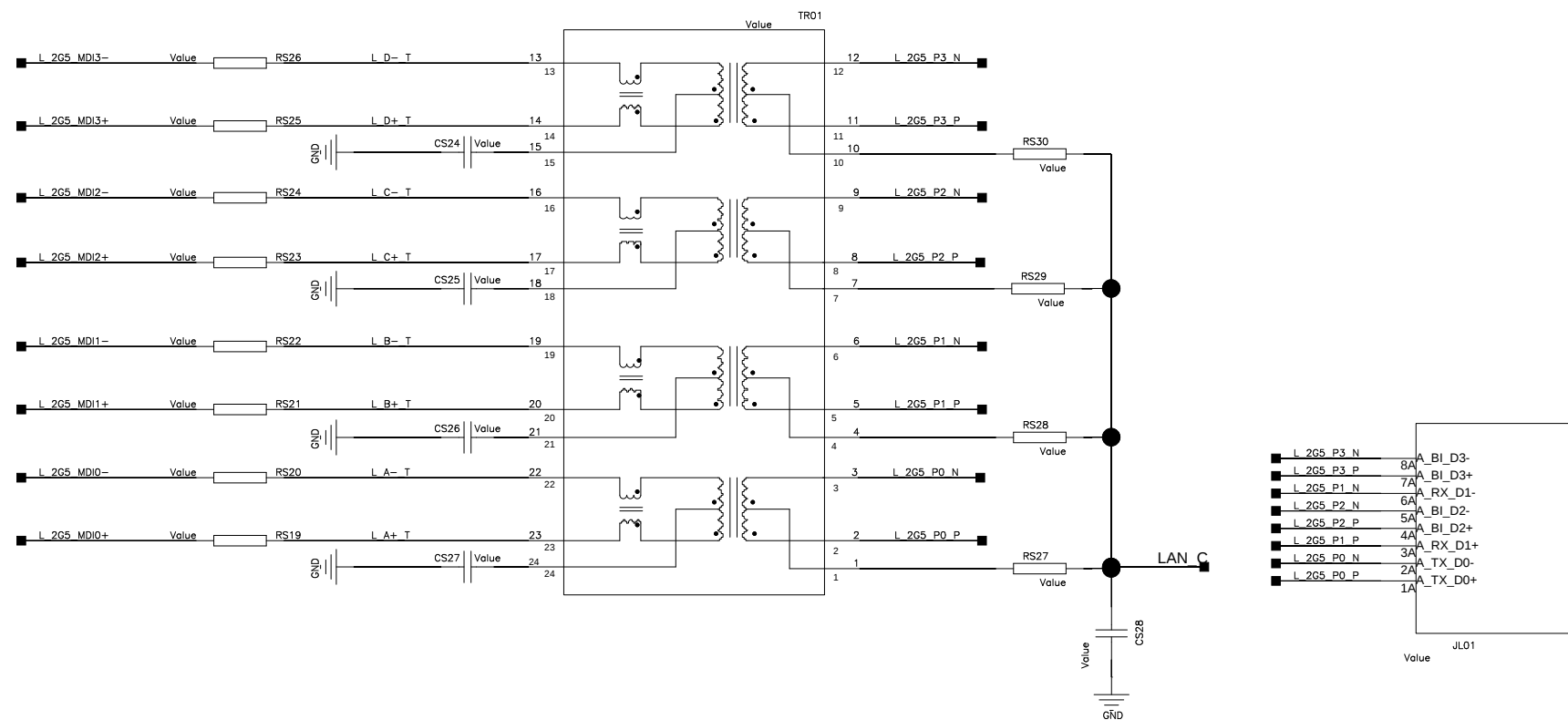
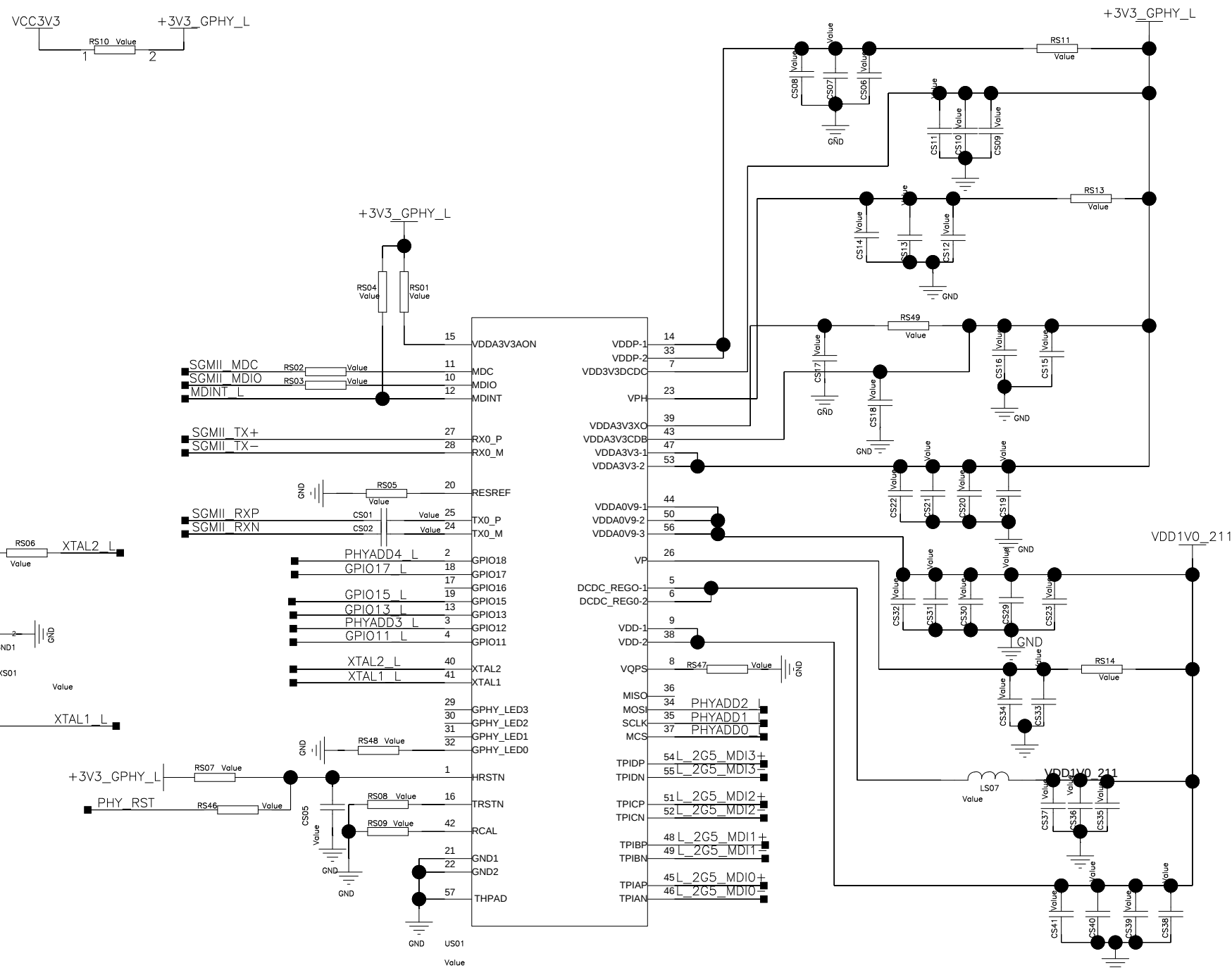
COMPANY:	Skyworth		
TITLE:	FLASH		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: @DATETIME=25/04/2022:13:48	SHEET	@SHEET=3	@SHEETTO=4



$$I_{LIMIT} = 6.8 / 6.8 = 1.0A$$

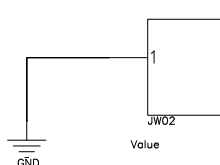
COMPANY:	Skyworth		
TITLE:	USB		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: @DATETIME=28/10/2022:14:22	SHEET 3	@SHEET=3	@SHEETTO=3

2.5G LAN

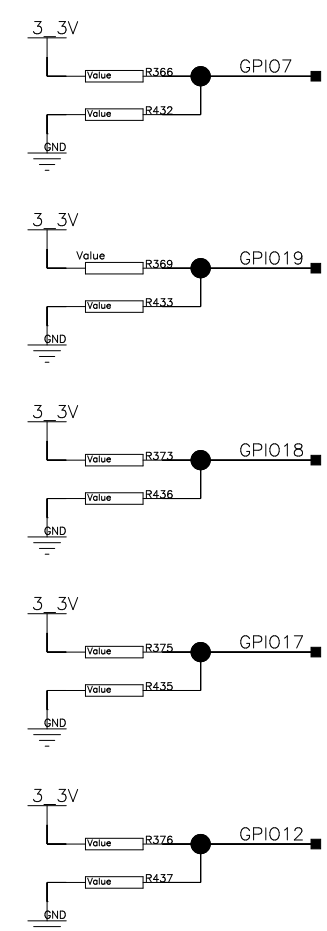


GPIO15/MDIO_VOLTAGE	0: MDIO signal is 1.8V ×1: MDIO signal is 3.3V
GPIO13/PS_CLK_SEL	
GPIO17/PS_RJ45_TAP	0: UP Tap-up ×1: DOWN Tap-down
GPIO11/PS_MINT_POL	0: MDIO Interrupt (MDINT) is active high. ×1: MDIO Interrupt (MDINT) is active low.
MDINT/PS_SGMII_EEE	0: NORMAL, Non-EEE mode: SGMII does not power down in EEE ×1: EEE mode

LAN PHY Addr 0x01

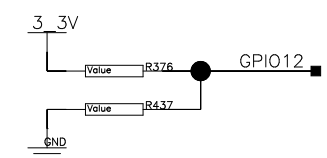


COMPANY:	Skyworth		
TITLE:	pon		
PCB NO:			
SIZE:	C	AUTHOR:	<YOUR NAME HERE>
DATE:	26/10/2022:10:46	SHEET	GPY211-LAN 26

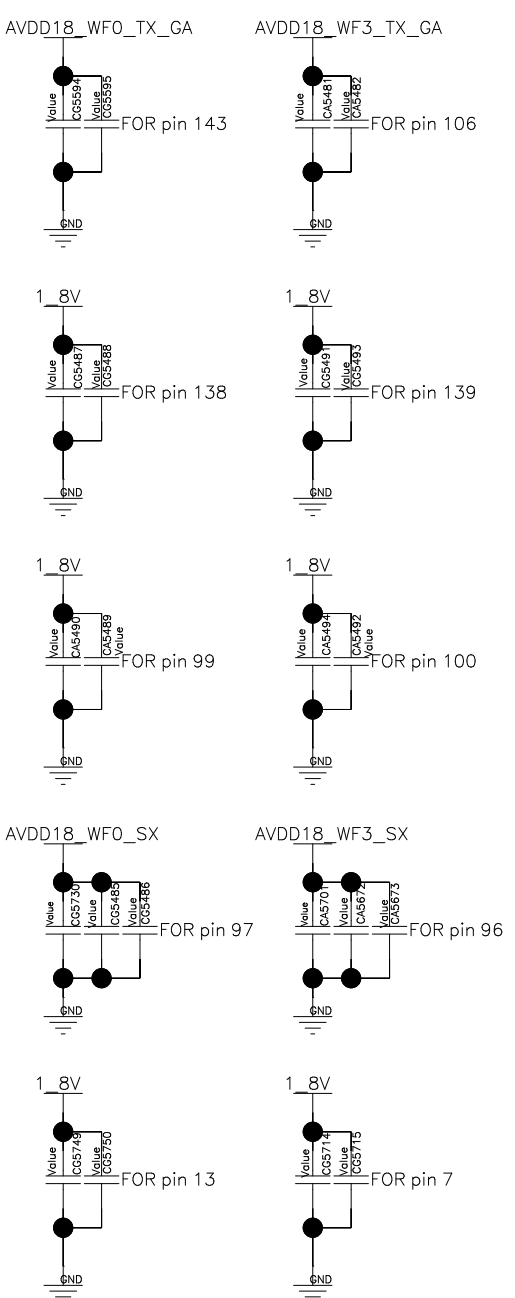
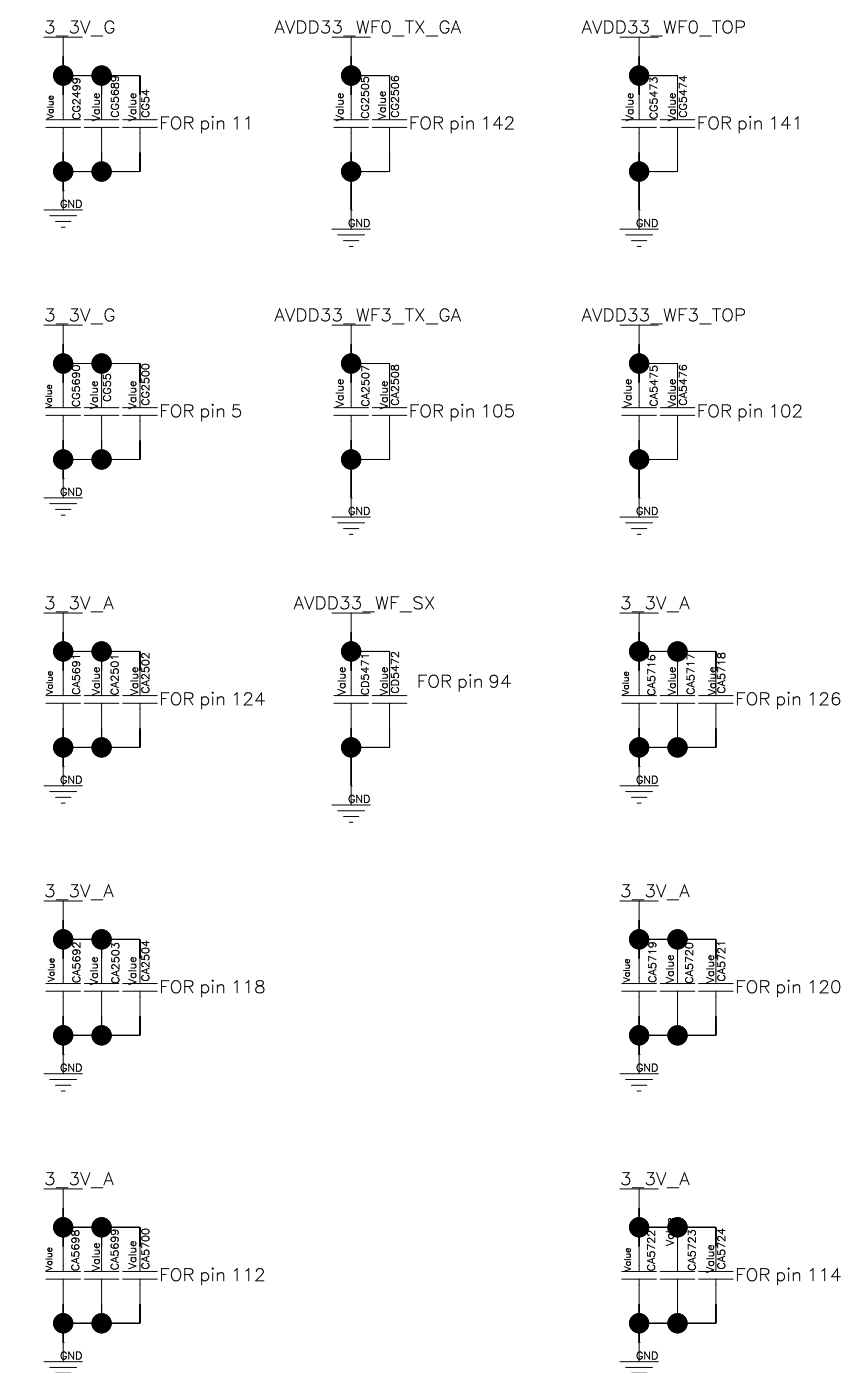
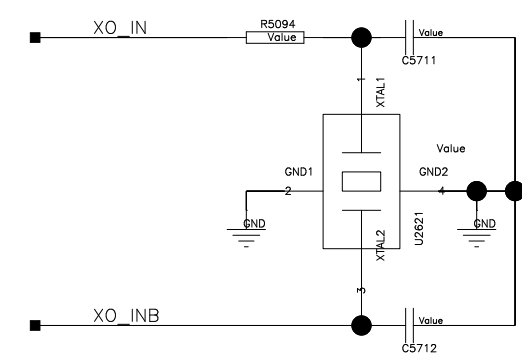
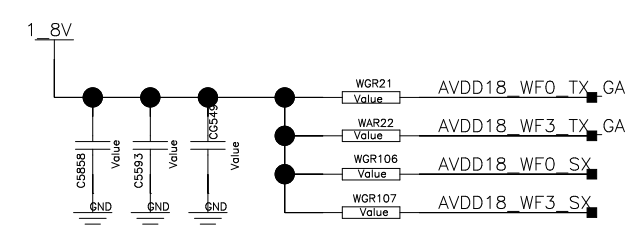
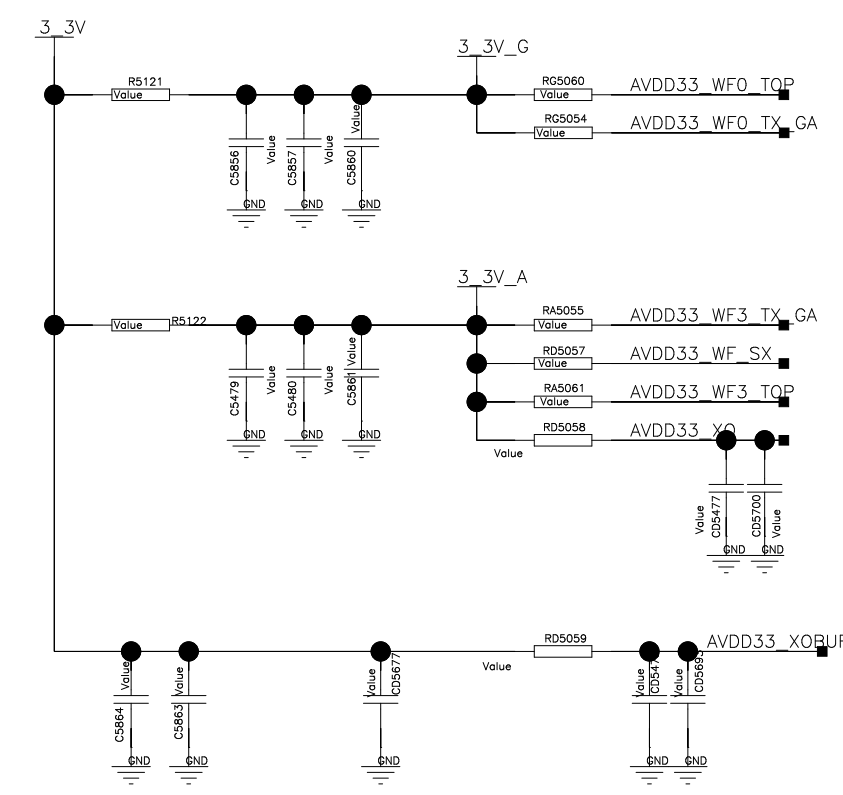
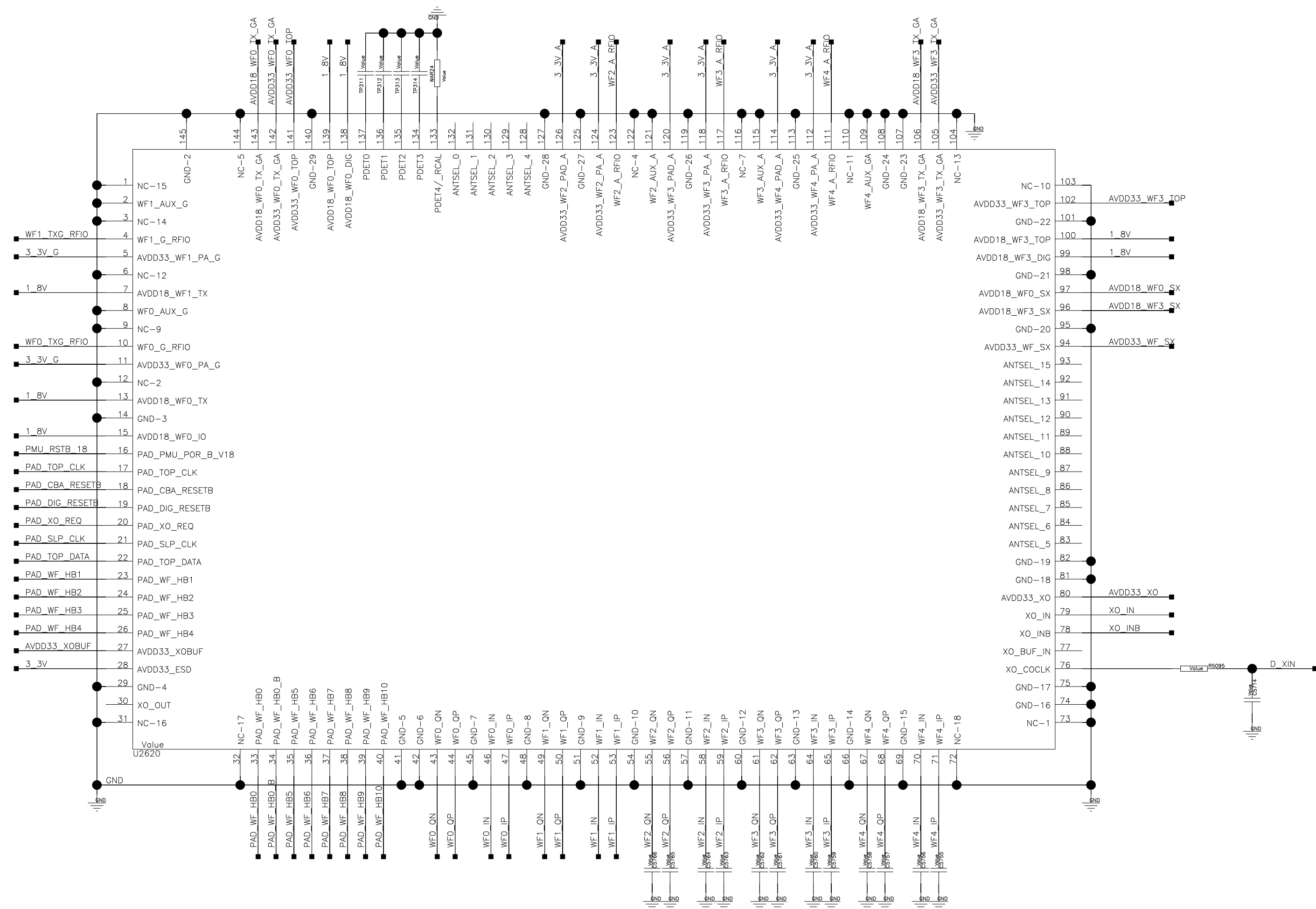


```
GPIO19 PCIe_port_sel
0: PCIe phy 1 port {2-lane*1}
1: PCIe phy 2 port {1-lane*2}
```

	X_IN	X_OUT
000: Xtal	80M	80M
010: Xtal	80M	40M
100: Xtal	40M	40M
101: BUF	40M	40M
111: BUF	80M	40M

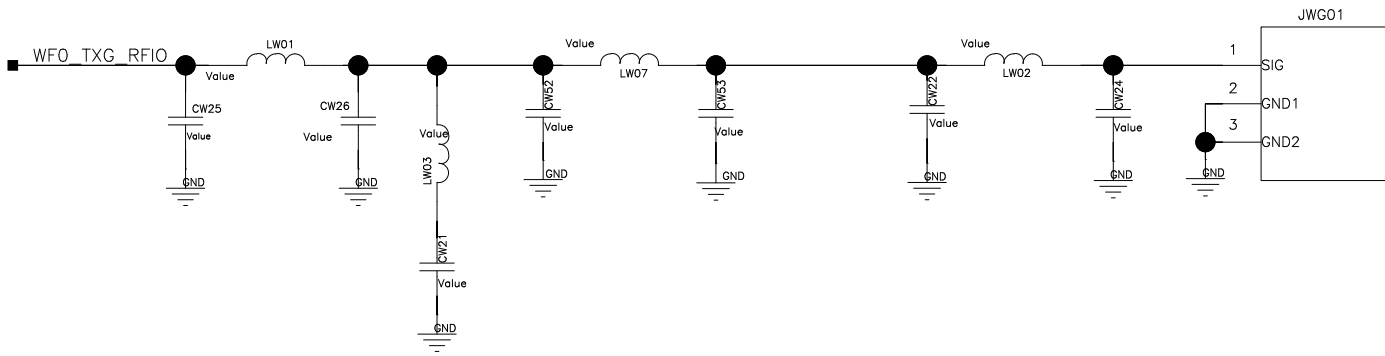


COMPANY:		Skyworth	
TITLE:		XXXX	
PCB NO:		5800-000000-0000	
SIZE: D		AUTHOR: <YOUR NAME HERE>	
DATE:	30/09/2022:10:35	SHEET	X OF 19

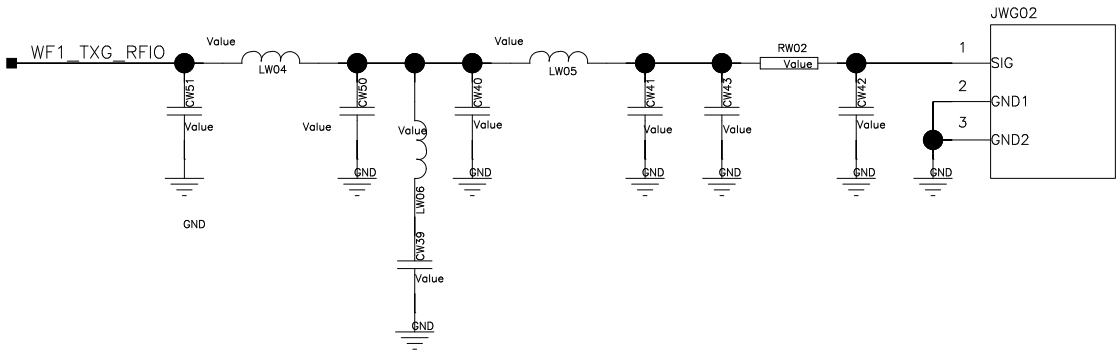


COMPANY:		Skyworth					
TITLE:		XXXX					
PCB NO:		5800-000000-0000					
SIZE: D		AUTHOR: <YOUR NAME HERE>					
DATE:	25/04/2022:13:48			SHEET	X	OF	19

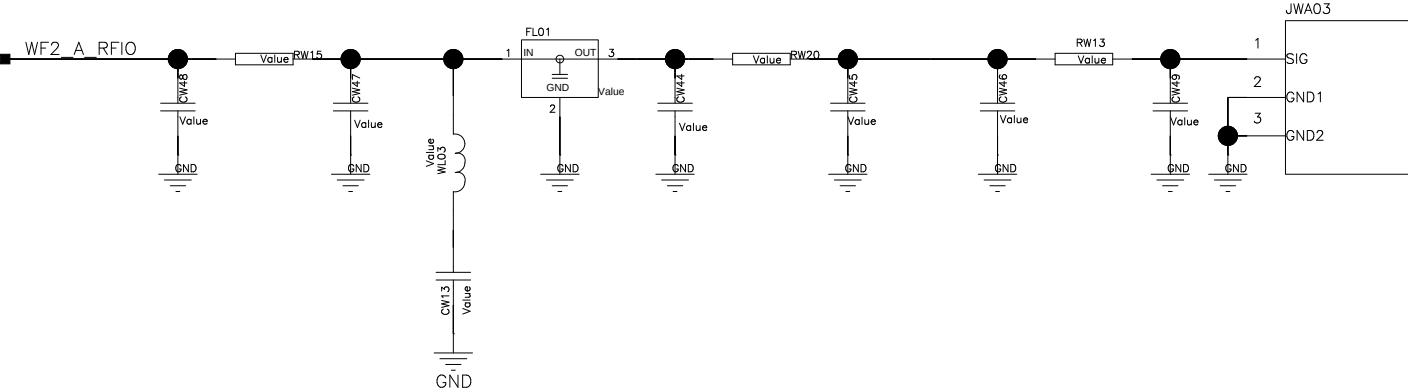
Close notch filter



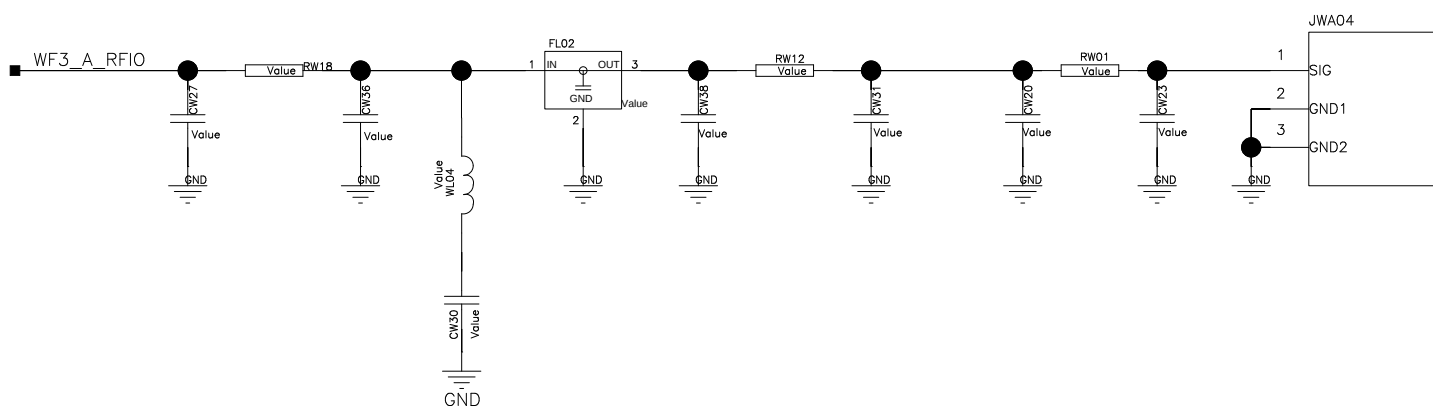
2.4G ANT0



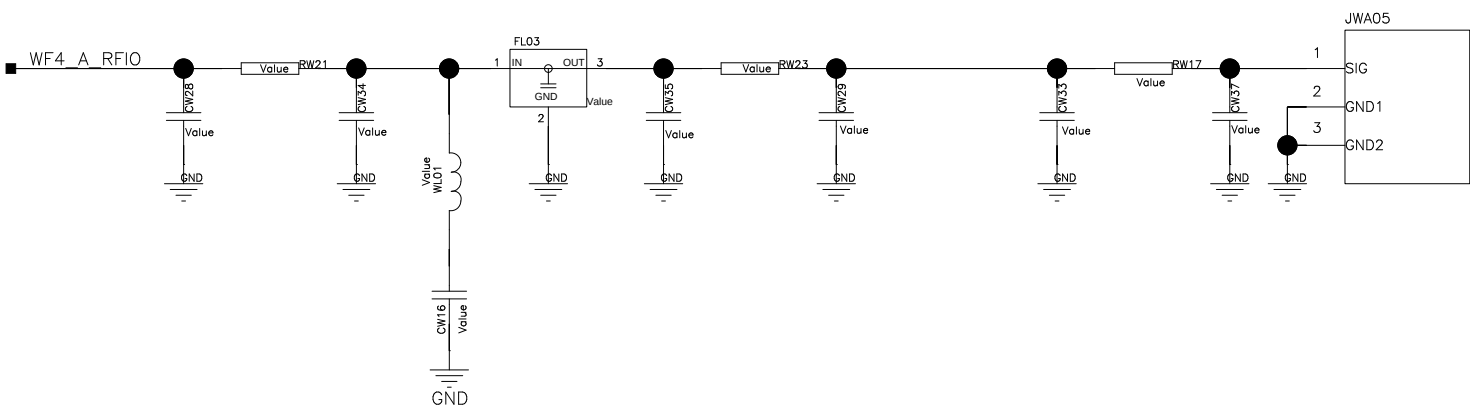
2.4G ANT1



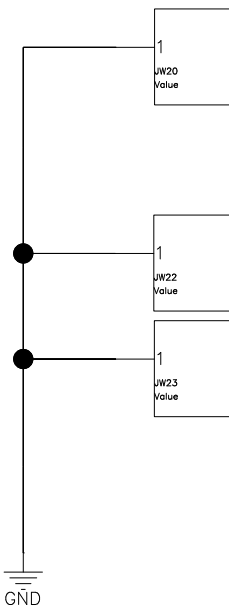
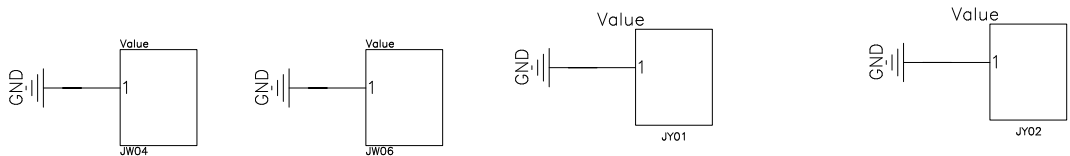
5G ANT0



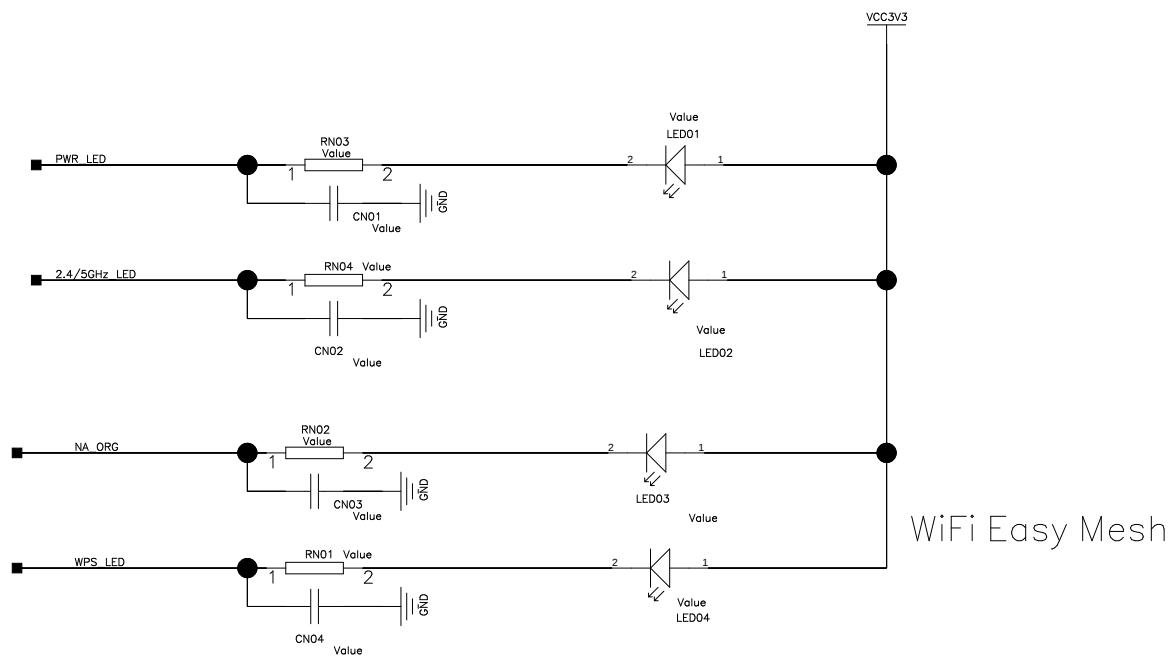
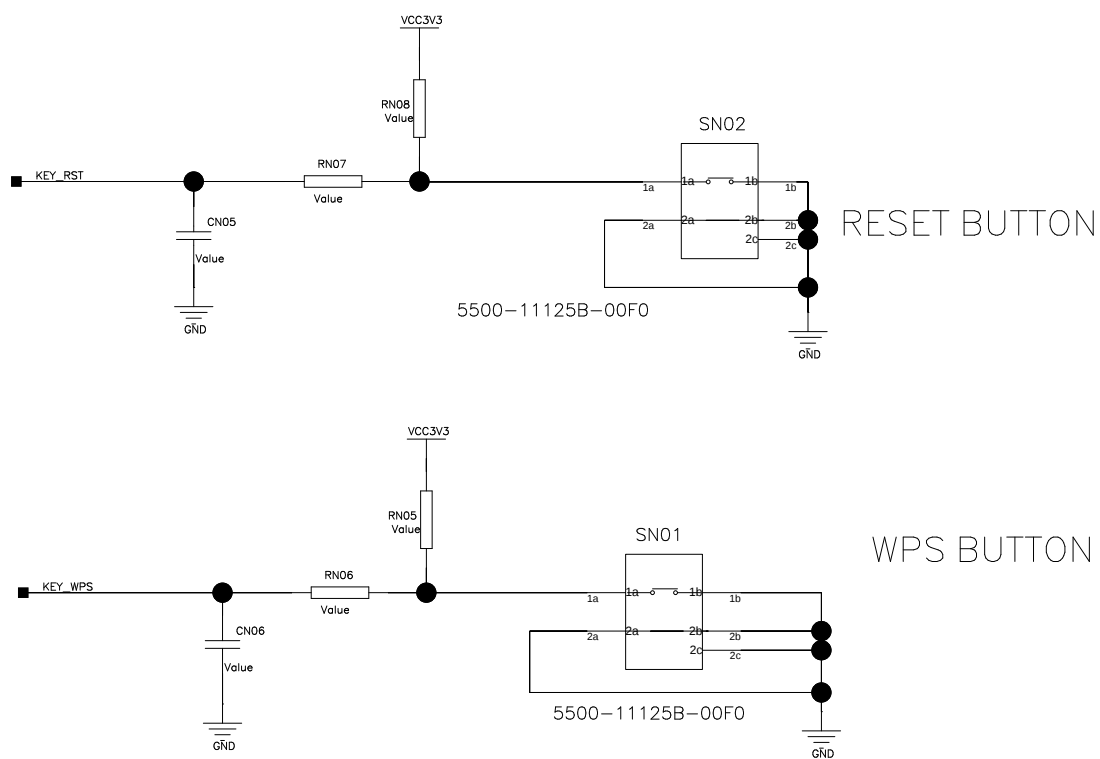
5G ANT1



5G ANT2



COMPANY:	Skyworth		
TITLE:	pon		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: 27/10/2022:18:11	SHEET		wifi_5g OF 12



POWER Internet WiFi Easy Mesh

COMPANY:	Skyworth			
TITLE:	LED_KEY			
PCB NO:	5800-000000-0000			
SIZE: C	AUTHOR: <YOUR NAME HERE>			
DATE: 28/09/2022:16:54	SHEET 1		OF 2	