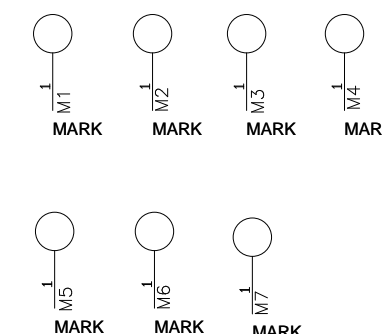
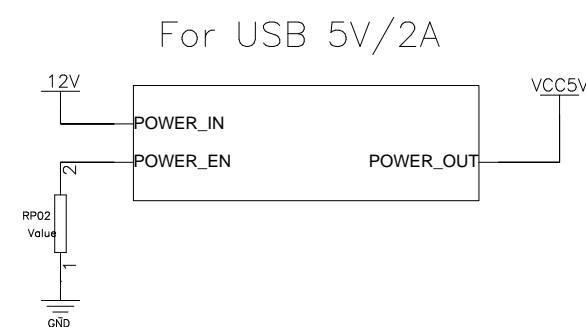
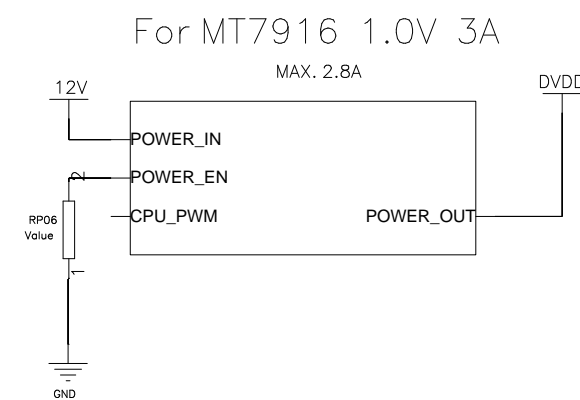
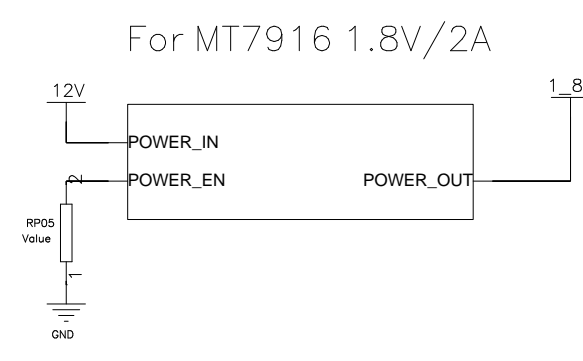
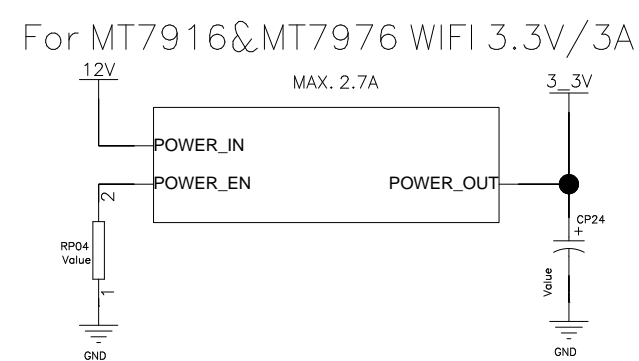
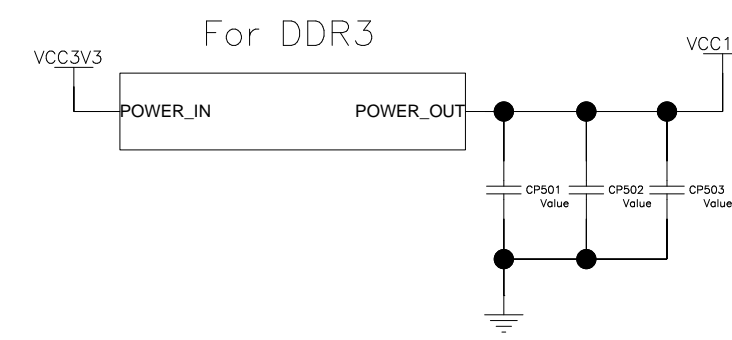
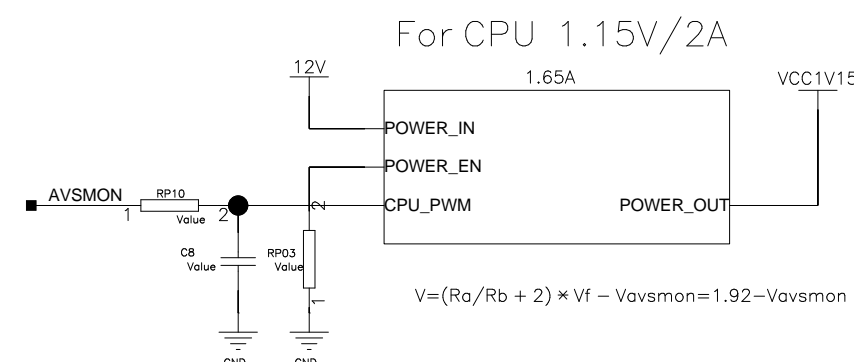
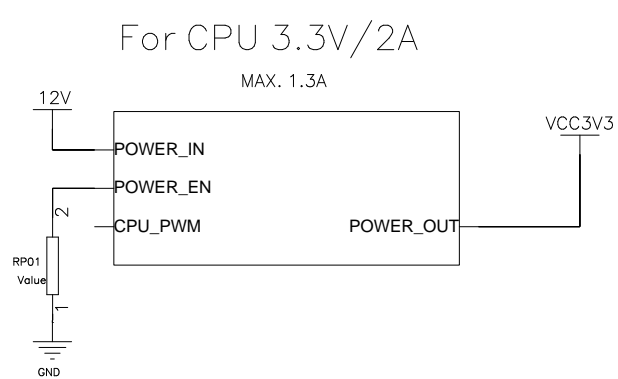
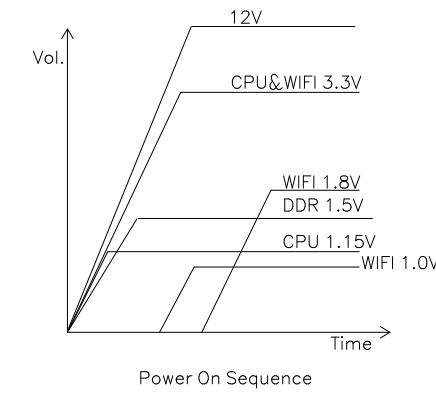
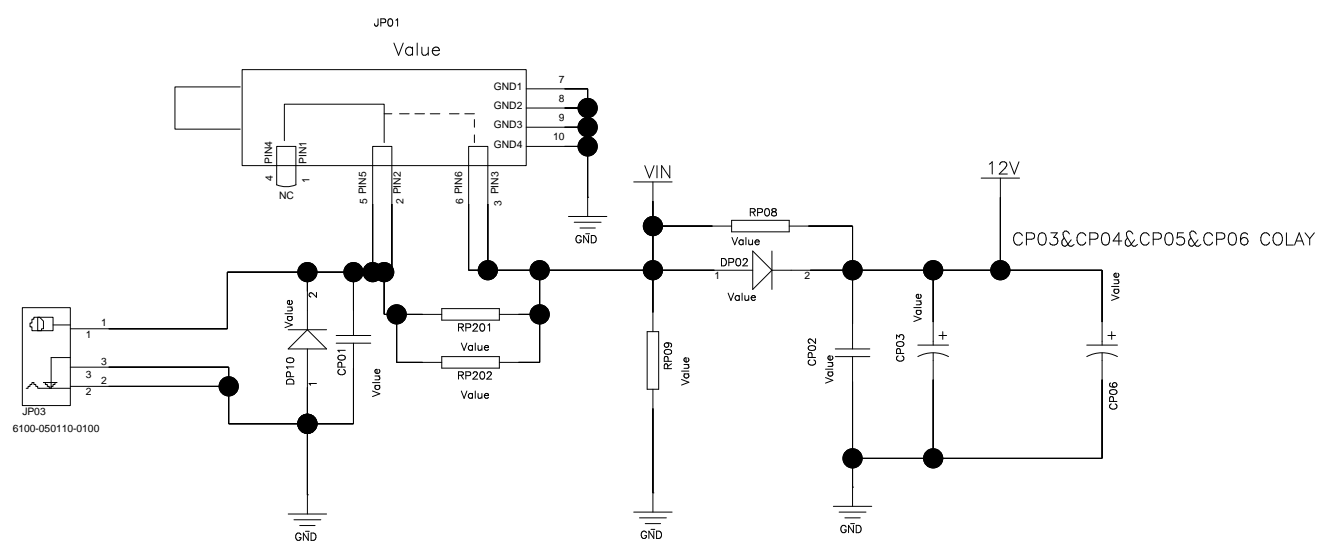


COMPANY:	Skyworth		
TITLE:	pon		
PCB NO:	5800-000000-0000		
SIZE:	C	AUTHOR:	<YOUR NAME HERE>
DATE:	08/10/2022:15:58	SHEET	Block Diagram 12



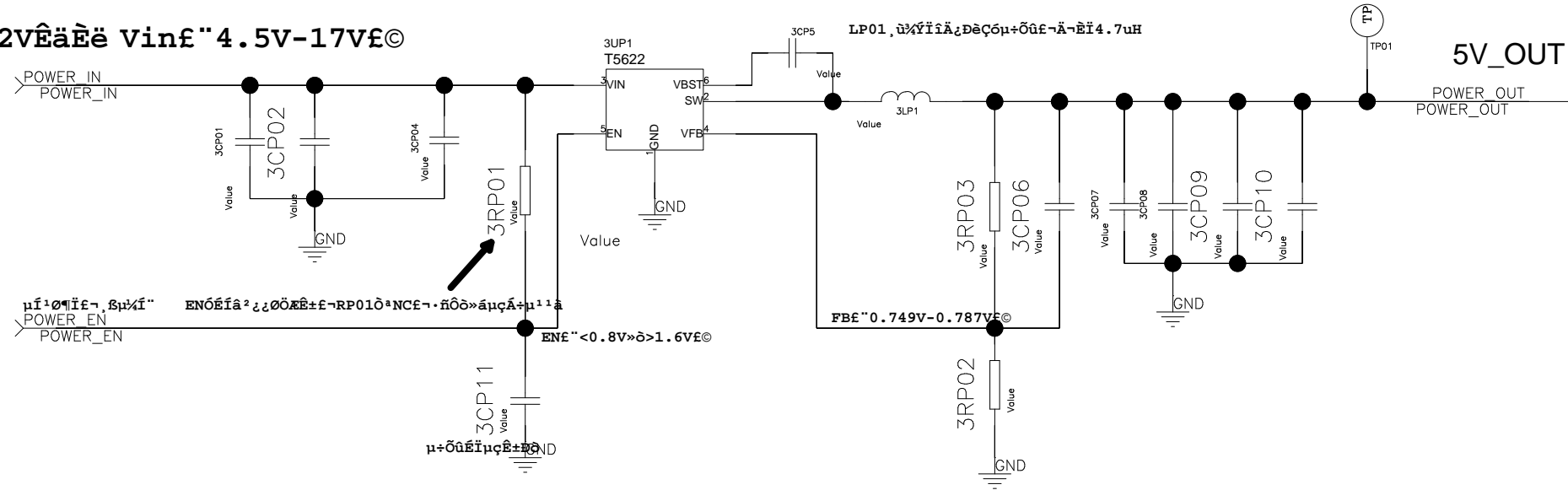
COMPANY:	Skyworth		
TITLE:	POWER		
PCB NO:			
SIZE: C	AUTHOR:	<YOUR NAME HERE>	
DATE: 16/12/2022:16:42	SHEET 1	OF 2	

12V-5V 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

$$V_{out} = 0.765 \cdot \dot{A} (1 + 51.1 / 9.1) = 5.06V$$

12V Vin 4.5V-17V



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

$$V_{outmin} = V_{fbmin} \cdot \dot{A} (1 + 0.99 RP03 / 1.01 RP02)$$

$$V_{outmax} = V_{fbmax} \cdot \dot{A} (1 + 1.01 RP03 / 0.99 RP02)$$

5V	4.93V	5.36V
RP02	4100-CA8225-2200	8.25K 1%
RP03	4100-CA5726-2200	47K 1%
LP01	4.7uH	580K

x ç ò â Ê Â Ì Ì

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POWER_IN = 12V

POWER_EN = EN

Ê ä ß ö Í Ò Â ç

POWER_OUT = 5V

1; ç EN

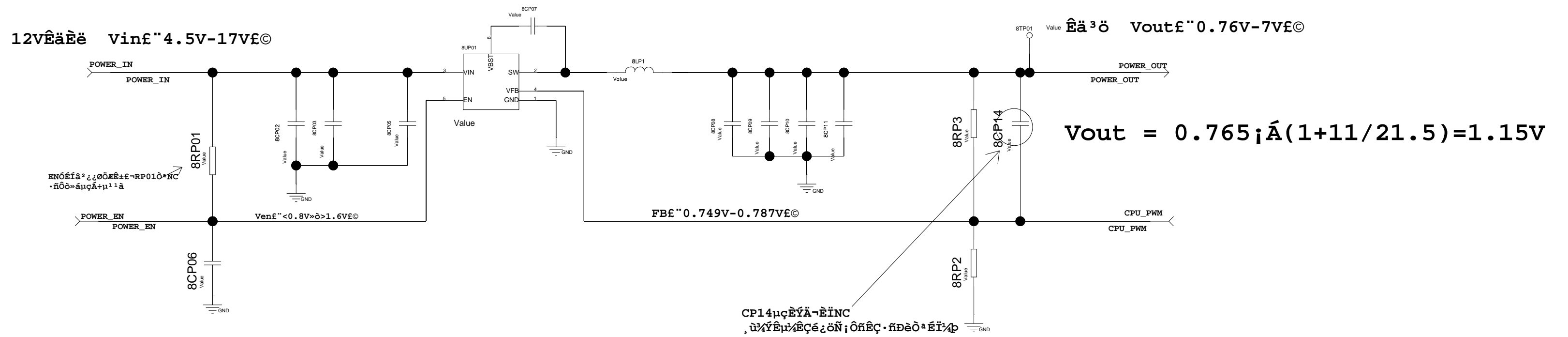
2; ç CP11

3; ç LP01

4; ç RP02; ç RP03

5; ç CP02; ç CP03; ç CP09; ç CP10

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



$$V_{out} = 0.768 \cdot \left(1 + \frac{RP03}{RP02} \right)$$

$$V_{outmin} = V_{fbmin} \cdot \left(1 + \frac{0.99RP03}{1.01RP02} \right)$$

$$V_{outmax} = V_{fbmax} \cdot \left(1 + \frac{1.01RP03}{0.99RP02} \right)$$

1.2V ÜAÿîiÄ

RP03 4100-CA5726-2200 5.76K 1%
 RP02 4100-CA1030-2200 10K 1%

ÄíÄÜÖD%äÖµ 1.21V

Êµ%ÊÇø%ä£"1.17-1.25V©

2.5V ÜAÿîiÄ

RP03 4100-CA2430-2200 24K 1%
 RP02 4100-CA1035-2200 10.5K 1%

ÄíÄÜÖD%äÖµ 2.52V

Êµ%ÊÇø%ä£"2.43-2.62V©

5V ÜAÿîiÄ

RP03 4100-CA4730-2200 47K 1%
 RP02 4100-CA8225-2200 8.25K 1%

ÄíÄÜÖD%äÖµ 5.14V

Êµ%ÊÇø%ä£"4.93-5.36V©

×çòâÊÄîî

1; çEN%ÄÉîÄ-µç×èRP01, ÖÚîâ²; çÖÖµÄÇé; çÖîÄNC²»Éî¼p£-CBBÄ-ÈîNC

2; çCP06Ää°îÉîÄ-µç×èRP01»ðÖßîâ½ç°Äªµç×èµ+ÖüÉîµçÊ±Dð

3; çµç DLP01Ä-ÈîîÄ%äÖµîª4.7µH çè, ù%ÿ, °ÖÖÊµ%ÊDèðªµ+Öü´óD;

4; çRP02; çRP03Ñ; È; 1%µç×è£¹²ç, ù%ÿÊµ%ÊDèðªÑ; È; ×èÖµ; £

5; ç, ù%ÿ²»î-Ä%î"½°, Ñ; È; CPU_PWMîâî\$ÆªÄµç×èîØÄç

6; çCP01; çCP02; çCP11-CP13îªÖµÄðµçÉÿî»çÈè%ÆÊ; ù%ÿÊµ%ÊDèçø%DD

ÊäÈèíØÄç

POWER_IN£°12VµçÖ´ÊäÈè

POWER_EN£°ENµçÖ´çÖÖÖÿ%Ä£¬, ßµ¼î"çµî¹ø¶î

CPU_PWM£°CPUµçÑ; µ+½ç, Ì; Öÿ%Ä
 îª²; çÆªÄµç×èÖèÖ+D%Æ¬½°, îª¹ø

Êä³öíØÄç

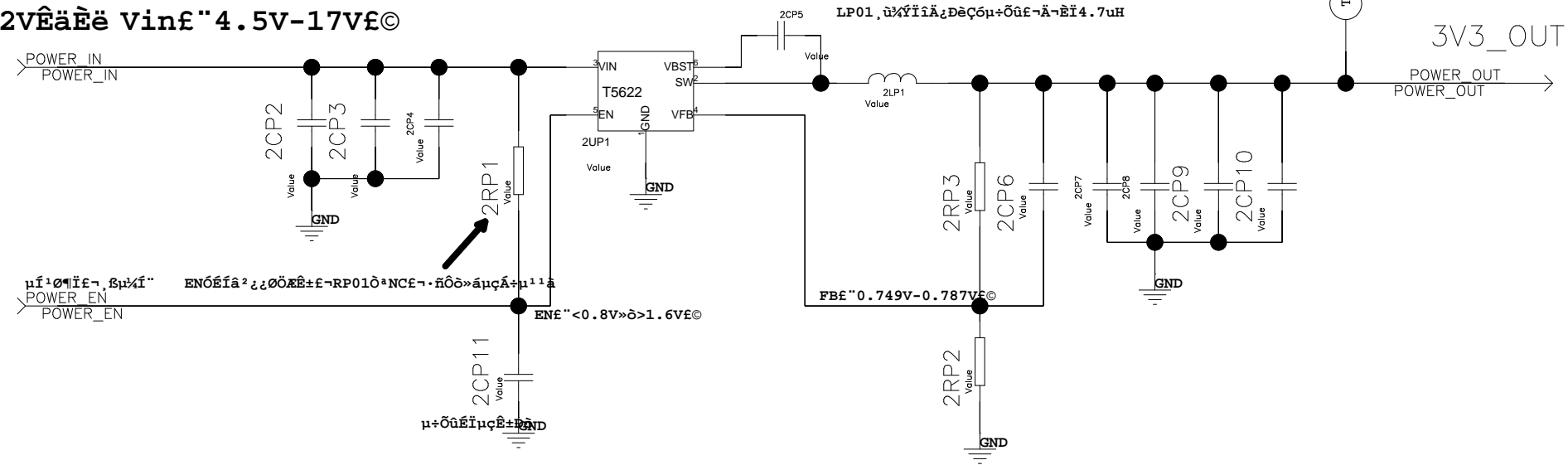
POWER_OUT£°çÊµ+µçÖ´Êä³ö

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

$$V_{out} = 0.765 \cdot \dot{A} (1 + 34.8/10.5) = 3.3V$$

12V Vin 4.5V-17V



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

$$V_{outmin} = V_{fbmin} \cdot \dot{A} (1 + 0.99RP03/1.01RP02)$$

$$V_{outmax} = V_{fbmax} \cdot \dot{A} (1 + 1.01RP03/0.99RP02)$$

RP02 4100-CA1030-2200 10K 1%
 RP03 4100-CA3330-2210 33K 1%
 3.3V
 3.17V 3.43V

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POWER_IN = 12V

POWER_EN = EN

Ê ä ò Ì Ò Â ç

POWER_OUT = 3.3V

1; ç EN

2; ç CP11

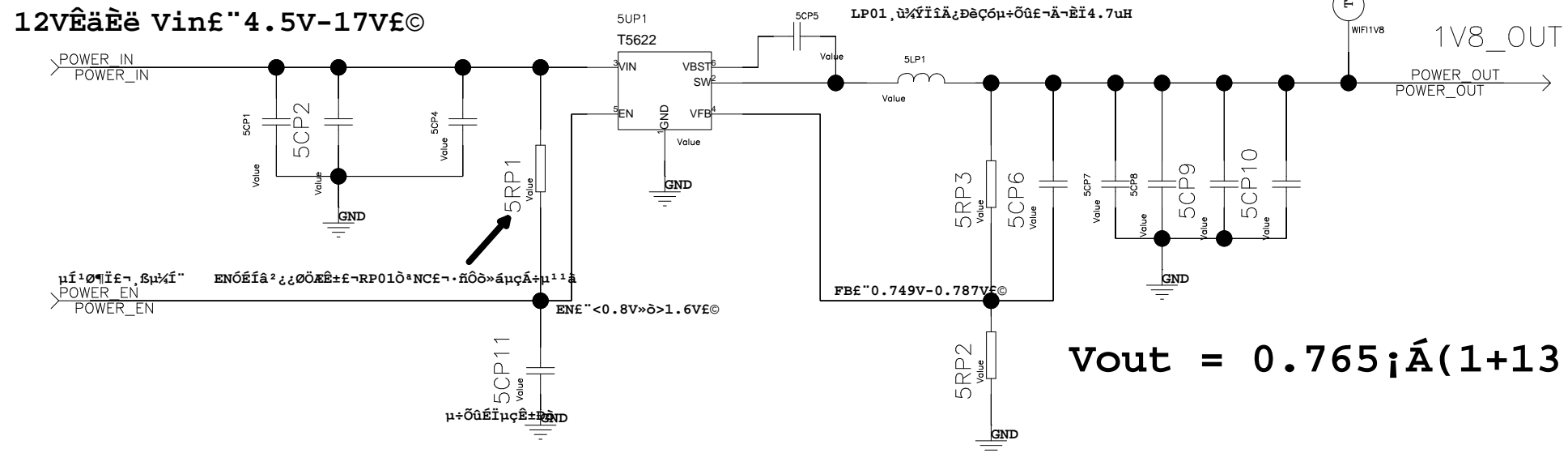
3; ç LP01

4; ç RP02; ç RP03

5; ç CP02; ç CP03; ç CP009; ç CP10

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



$$V_{out} = 0.765 \cdot \left(1 + \frac{13.7}{10}\right) = 1.81V$$

$$V_{out} = 0.768 \cdot \left(1 + \frac{RP03}{RP02}\right)$$

$$V_{outmin} = V_{fbmin} \cdot \left(1 + \frac{0.99RP03}{1.01RP02}\right)$$

$$V_{outmax} = V_{fbmax} \cdot \left(1 + \frac{1.01RP03}{0.99RP02}\right)$$

1.8V $\frac{V_{out}}{V_{in}}$
 RP02 4100-CA1030-2200 10K 1%
 RP03 4100-CA1337-2200 13.7K 1%
 A1A0D7aOu 1.82V
 Ep/Fç/a(1.75; 1.88v)

xçÒâÊÄÏî

1; çEN ½ÄEİÄ-µç×èRP01ε-ôÚİâ² ç; çÖËµÄçé ç; öİÄNC²»Éİ¼p

2; çCP11Äâ ° İEİÄ-µç×èRP01»ðÕßİâ¼Ö´ @Äªµç×èµ÷ÔüEİµçÊ±

3; çµç ΔLP01Ä-ÈİİÄ¼Ööµİª 4.7uH çè, ü¼Ý, °ÔËµ¼ÊDèÒªµ÷
 ²ç×çÖaµçÄ÷ªæ,n

4; çRP02; çRP03Ñ; È; 1%¼çµç×èε-²ç, ü¼ÝÈµ¼ÊDèÒªÑ; È; ×è
 I-E±çè ° ÖÖ¼E¼ÄEaµçNª. çİS

5; çCP02; çCP03; çCP09; çCP10İª òαÄöµçÈÝε-çè, ü¼ÝÈµ¼ÊçÉ

ÊäÈëÍØÂç

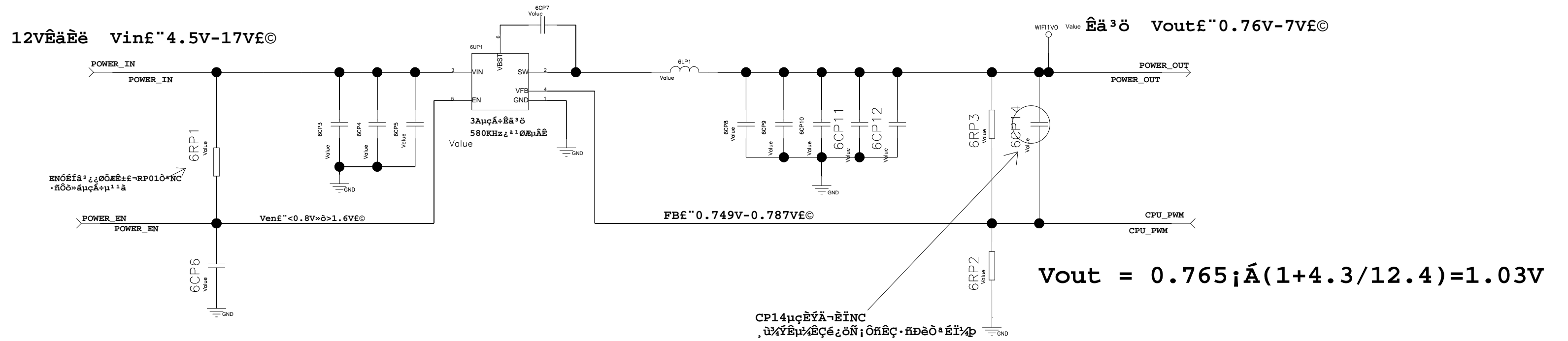
POWER_INε ° 12VµçÔ´ÊäÈë

POWER_ENε ° ENµçÔ´ ç; çÖËÖ¼ÄE¼, ßµ¼İ" ; çµİ¹çİİ

Êä³öÍØÂç

POWER_OUTε ° 1.8VÊä³ö

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



$$V_{out} = 0.768V \cdot (1 + RP03/RP02)$$

$$V_{outmin} = V_{fbmin} \cdot (1 + 0.99RP03/1.01RP02)$$

$$V_{outmax} = V_{fbmax} \cdot (1 + 1.01RP03/0.99RP02)$$

12V Input

POWER_IN = 12V

POWER_EN = EN

CPU_PWM = CPU

0.768V Output

POWER_OUT = 0.768V

1.2V Output

RP03 4100-CA5726-2200 5.76K 1%
 RP02 4100-CA1030-2200 10K 1%

V_{FB} = 1.21V

V_{out} = 1.17V - 1.25V

2.5V Output

RP03 4100-CA2430-2200 24K 1%
 RP02 4100-CA1035-2200 10.5K 1%

V_{FB} = 2.52V

V_{out} = 2.43V - 2.62V

5V Output

RP03 4100-CA4730-2200 47K 1%
 RP02 4100-CA8225-2200 8.25K 1%

V_{FB} = 5.14V

V_{out} = 4.93V - 5.36V

Component List

1. EN = 10k pull-up resistor to V_{IN}

2. CP06 = 10µF electrolytic capacitor at output

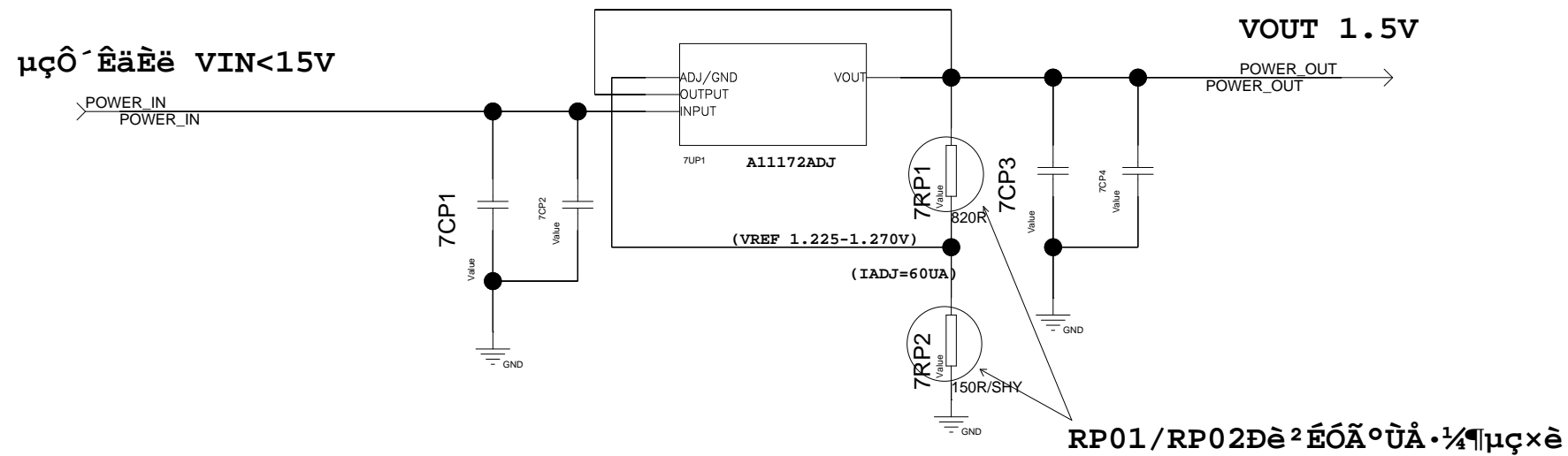
3. CP01, CP02, CP11, CP12, CP13 = 10µF electrolytic capacitors at input and output

4. RP02, RP03 = feedback resistors

5. CPU_PWM = CPU pin

6. CP01, CP02, CP11, CP12, CP13 = 10µF electrolytic capacitors at input and output

Εισαγωγή: $V_{in} - V_{out} \pm 0.3V$



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

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

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

Σημειώσεις:

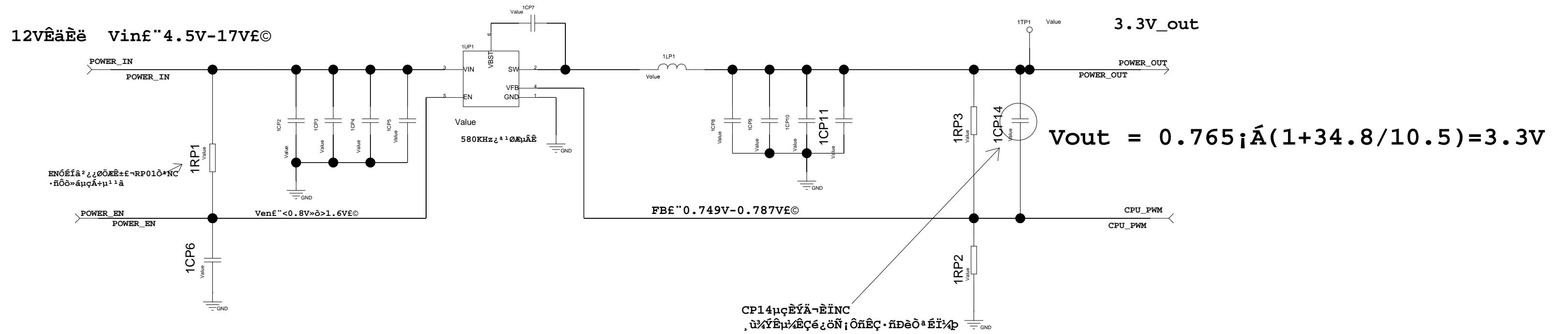
1. $V_{in} < 15V$
2. $V_{in} - V_{out} \pm 0.3V$
3. $V_{in} - V_{out} \pm 0.3V$
4. $R_{P01} \pm 1\%, R_{P02} \pm 1\%$
5. $V_{out} = 1.5V$

Εισαγωγή
POWER_IN: $V_{in} < 15V$

Εξέρχεται
POWER_OUT: $V_{out} = 1.5V$

1.8V ± 1%
RP01: 200R 1%
RP02: 442R 1%
A11172ADJ
Eμ: 1.83V
Eμ: 1.79V ± 1.87V ©

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



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

$$V_{outmin} = V_{fbmin};A(1 + 0.99RP03 / 1.01RP02)$$

$$V_{outmax} = V_{fbmax};A(1 + 1.01RP03 / 0.99RP02)$$

3.3V ÜÀÿîiÄ

RP03 4100-CA3438-2200 34.8K 1%

RP02 4100-CA1035-2200 10.5K 1%

ÄíÄÛÖD¼äÖµ 3.31V

Ëµ¼ËÇø¼äÉ" 3.18-3.45V

ËäÈëÍØÄÇ

POWER_IN = 12V µçÖ´ËäÈë

POWER_EN = EN µçÖ´ çÖËÖÿ¼ÄÉ¬, ßµ¼Ä" ; çµÍ¹Ø¶Ï

CPU_PWM = CPU µçÑ: µ¼Û·¼Ä: Öÿ¼Ä
Iä²¼Ä¼Aµç×èÖèÖ+D¼Ä¬¼º°, İä¹Ø

Ëä³öÍØÄÇ

POWER_OUT = 3.3V µçÖ´Ëä³ö

×çÒâËÄÏî

1 ; çEN¼ÄËİÄ-µç×èRP01, ÖÚİâ² çÖËµ¼ÄÇéçöİÄNC²»Ëİ¼pÉ¬CBBÄ¬ËİNC

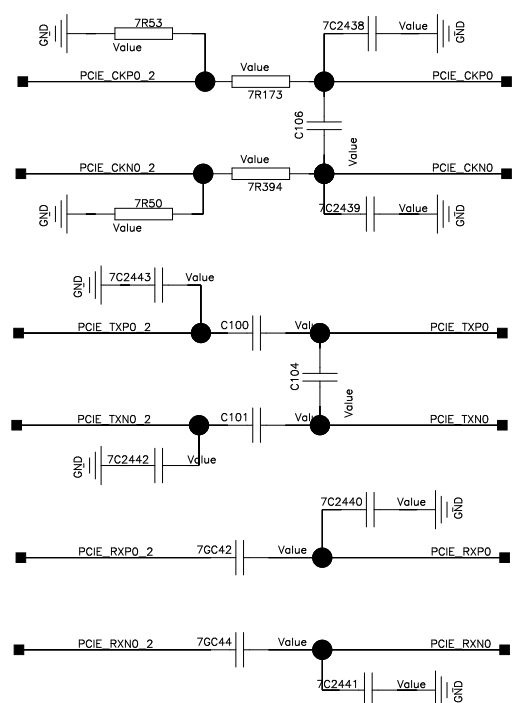
2 ; çCP06Ää°İËİÄ-µç×èRP01»ðÖßİâ¼Ö´©Äªµç×èµ+ÖüËİµçË±Dð

3 ; çµç DLPO1Ä¬ËİİÄ¼ÖÖµİª 4.7µH Çè, ù¼ÿ, °ÖËµ¼ËËèÖªµ+Öü´óD;
Çè×çÖµçA¼æ, ñ

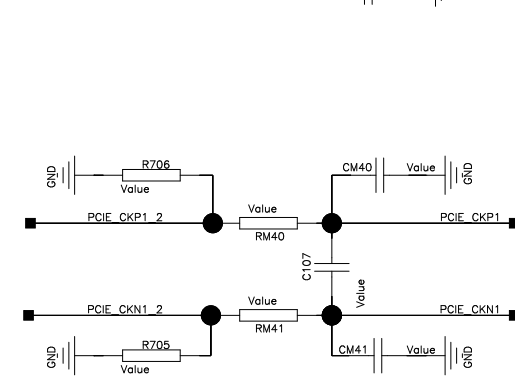
4 ; çRP02; çRP03Ñ; È: 1%¼«¼Ëµç×èÉ¬²ç, ù¼ÿËµ¼ËËèÖªÑ; È; ×èÖµ; É
I¬È±Çè° ÖÖİÄ¼Ö¹«E¼ÄËµçN¹.¼İS

5 ; ç, ù¼ÿ²»İ¬¼İ"¼º°, Ñ; È; CPU_PWMİâİS¼Ä¼µç×èİØÄÇ

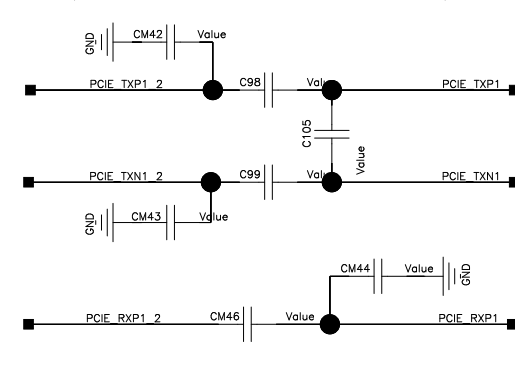
6 ; çCP01; çCP02; çCP11-CP13İª Öµ¼ÖµçËÿİ» ; çÉè¼ÄË, ù¼ÿËµ¼ËËèÖªDðDË³



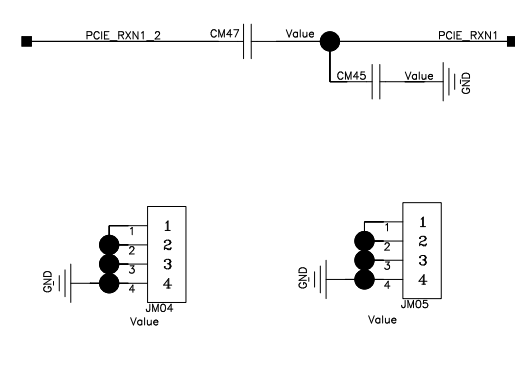
Layout diff. 100R



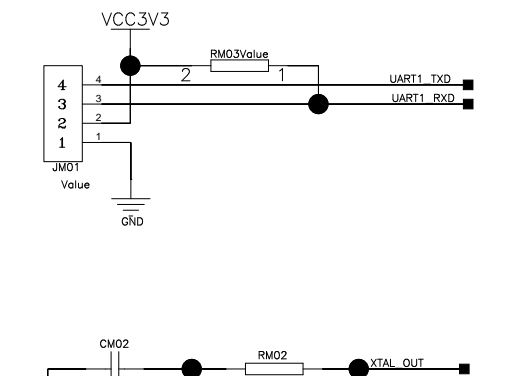
Layout diff. 90R



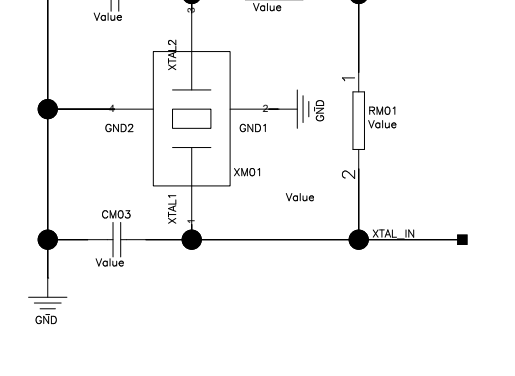
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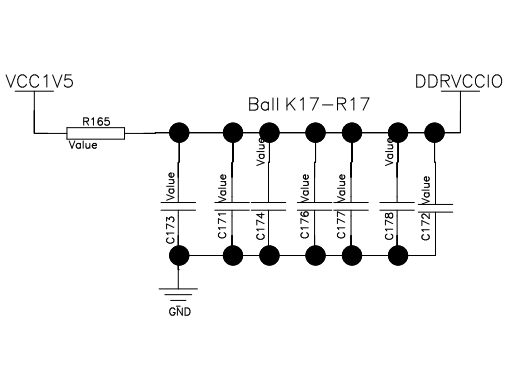
Layout diff. 100R



Layout diff. 90R



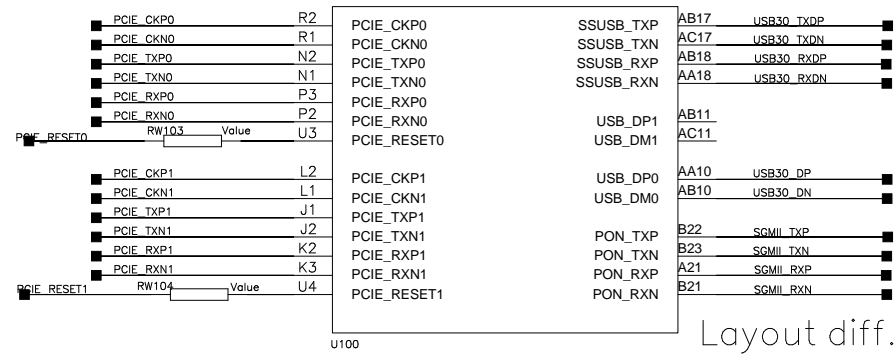
Layout diff. 90R



Layout diff. 90R



Layout diff. 90R

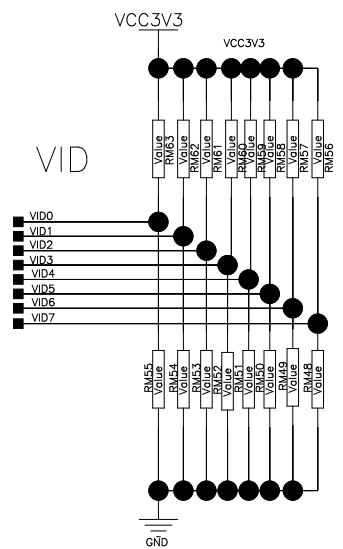


Layout diff. 90R

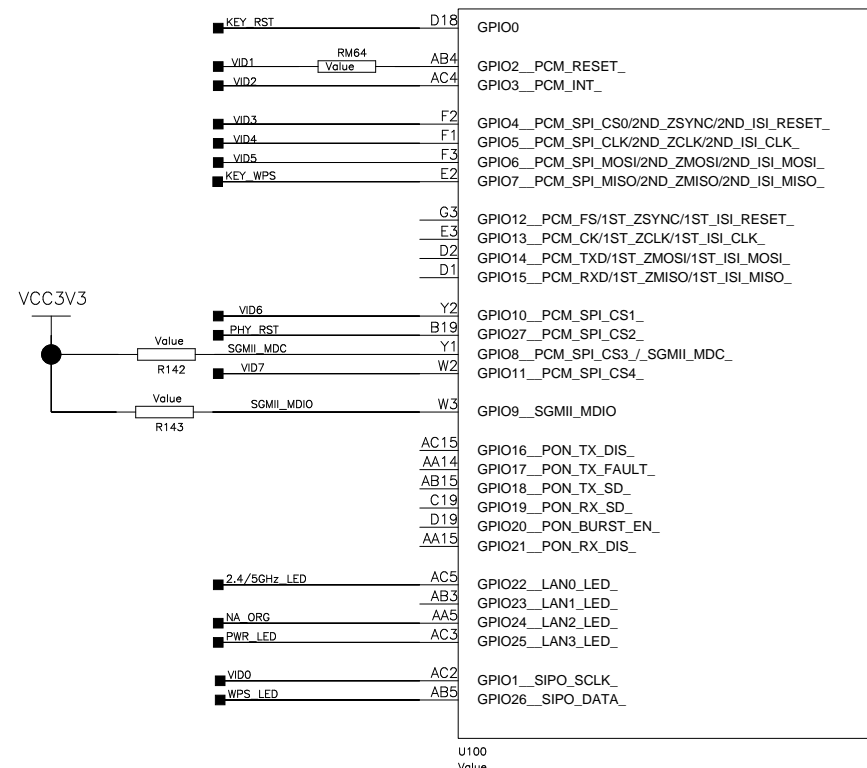
Layout diff. 90R

Reserve for SGMII application

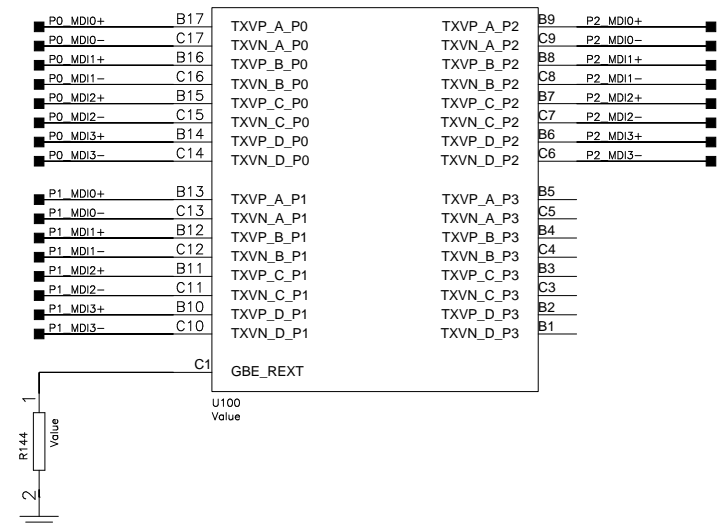
Layout diff. 90R



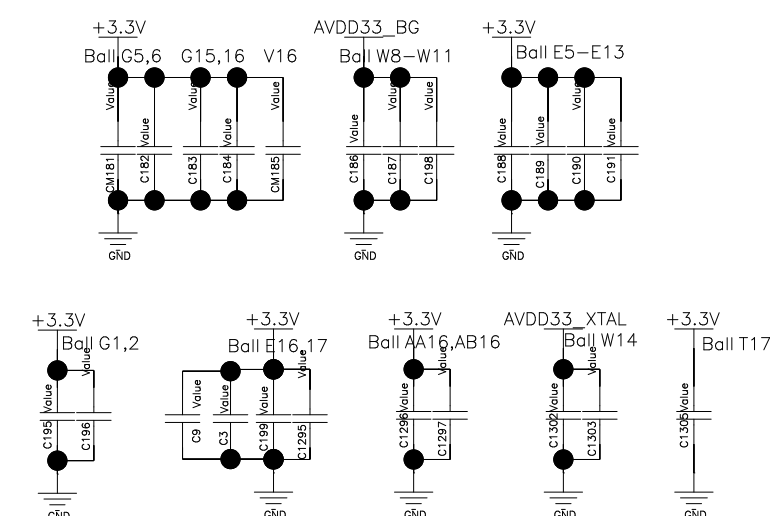
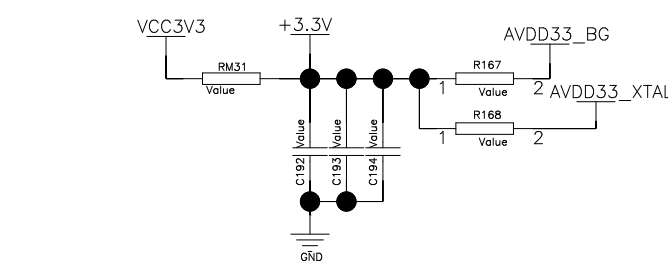
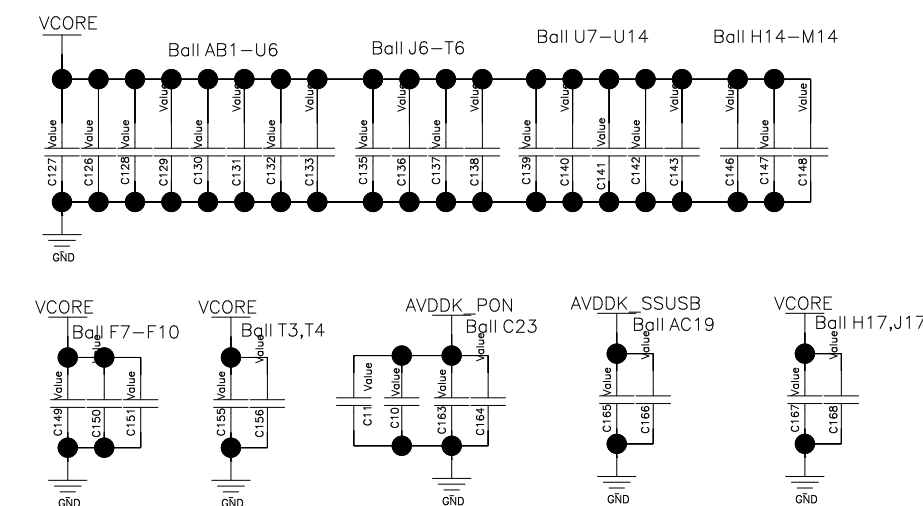
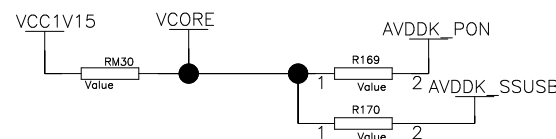
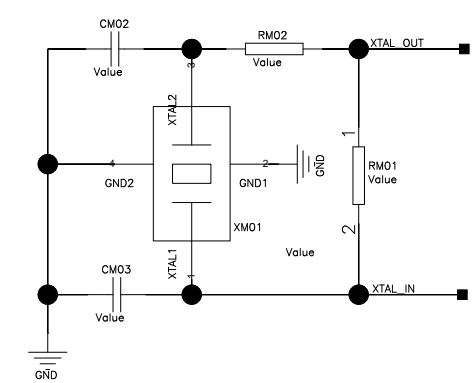
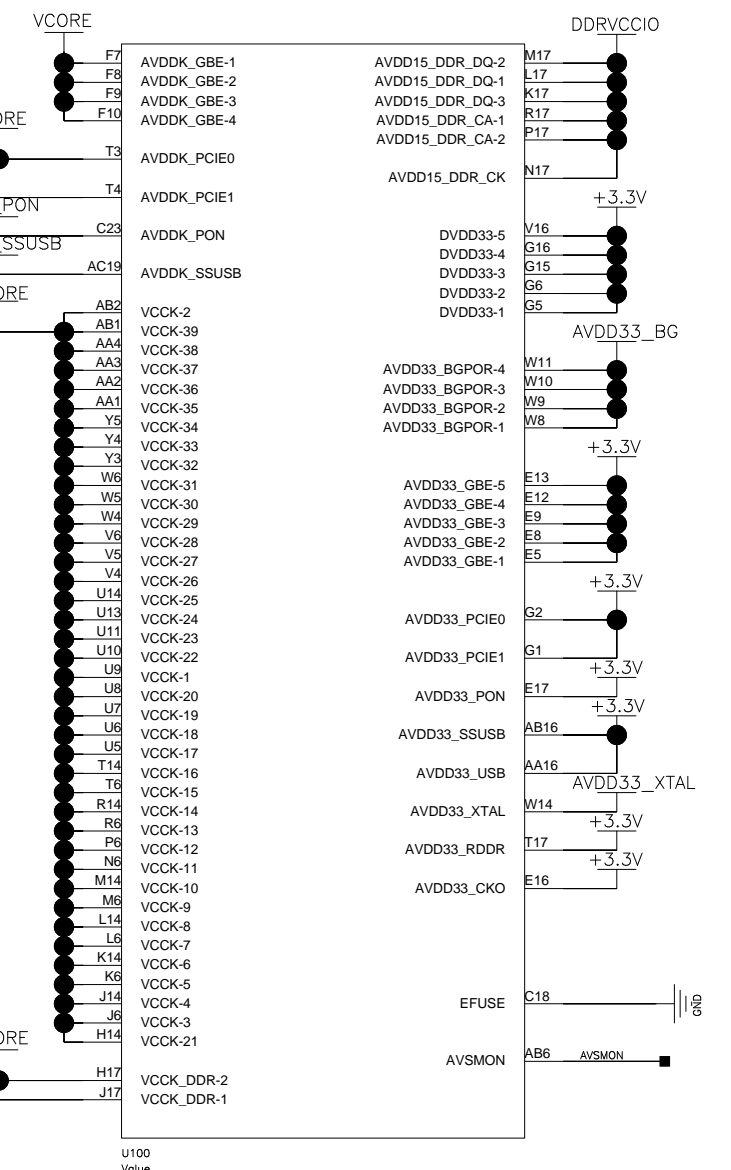
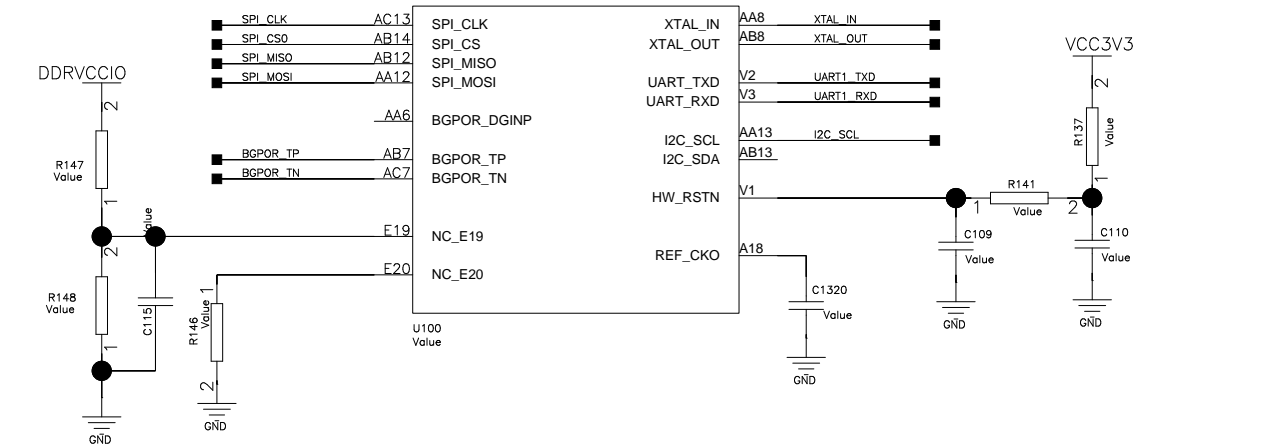
GPIO2-5 Using High active led/I/O default low



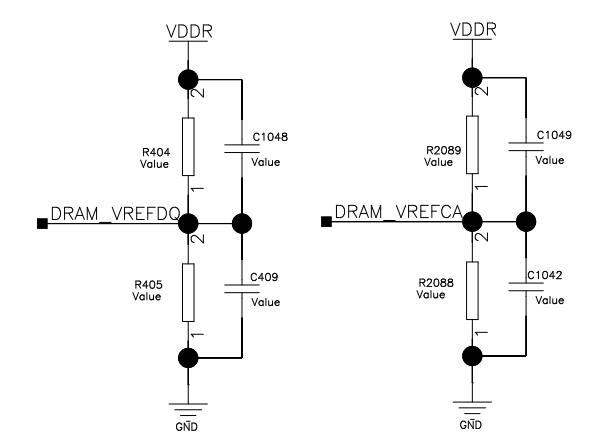
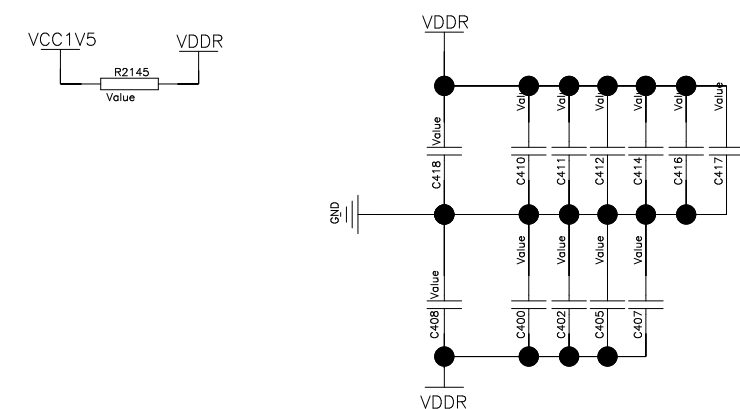
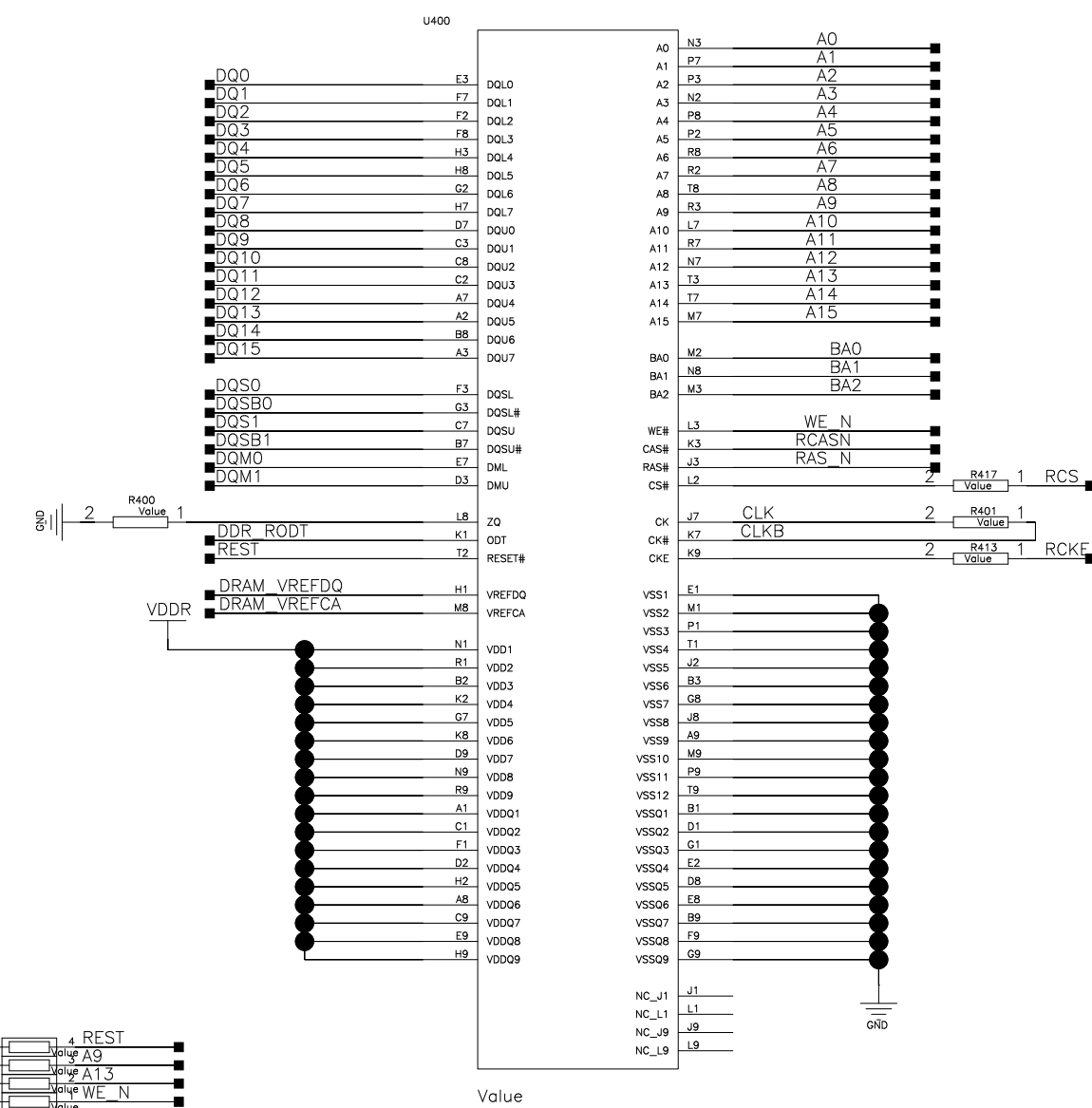
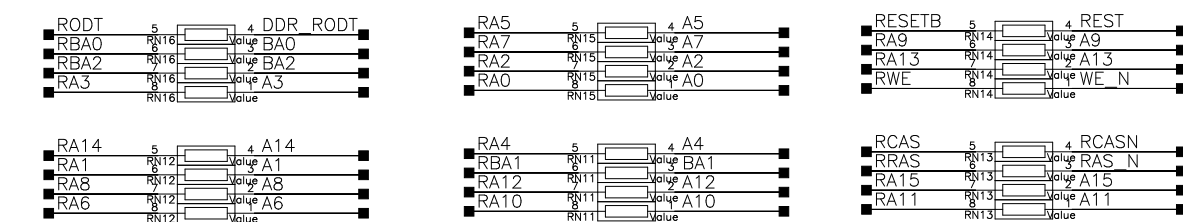
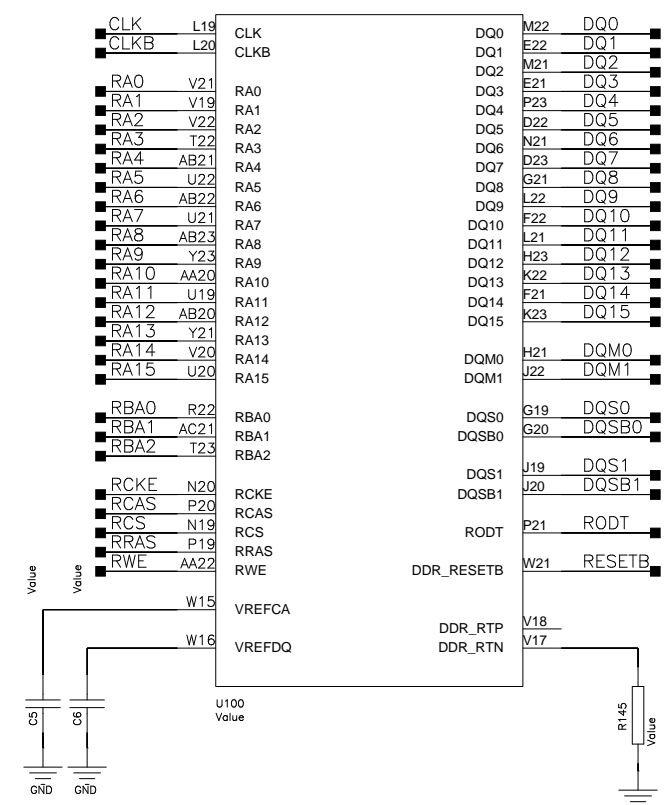
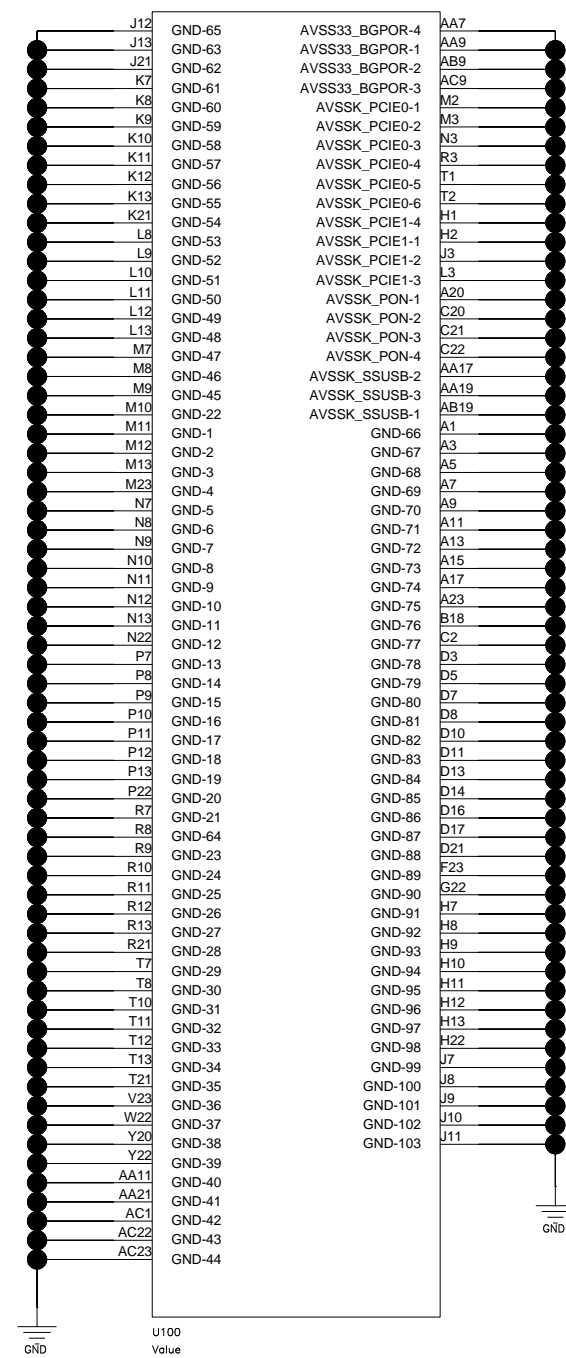
VCC3V3



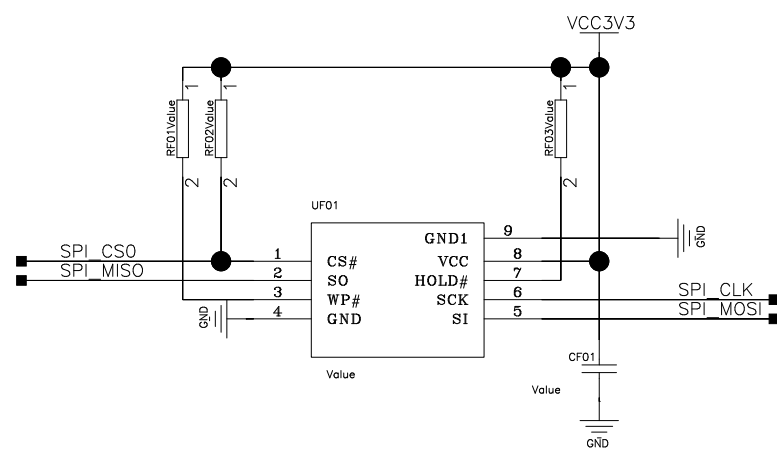
Pin Name	Description	Default
SPI_CLK, SPI_MISO, UART_TXD	SPI NAND_addr_select: 3'b10: IIC mode enable 3'b00: SPI NOR 4B mode 3'b001: SPI NOR 3B mode 3'b010: Reserve 3'b011: SPI NAND dummy append Boot from flash	3'b011
GPIO0	1'b0: disable(Boot form internal rom) 1'b1: enable	1'b1
SPI_CS, I2C_SCL	Operation 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



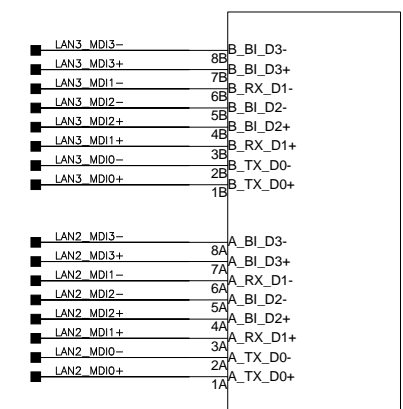
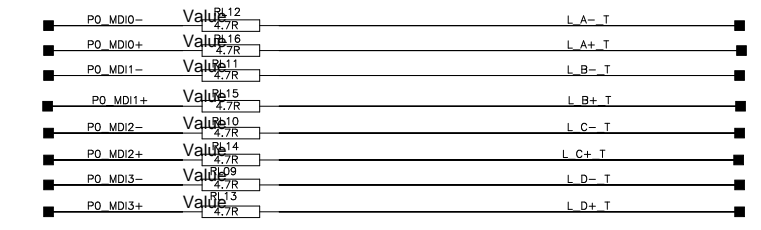
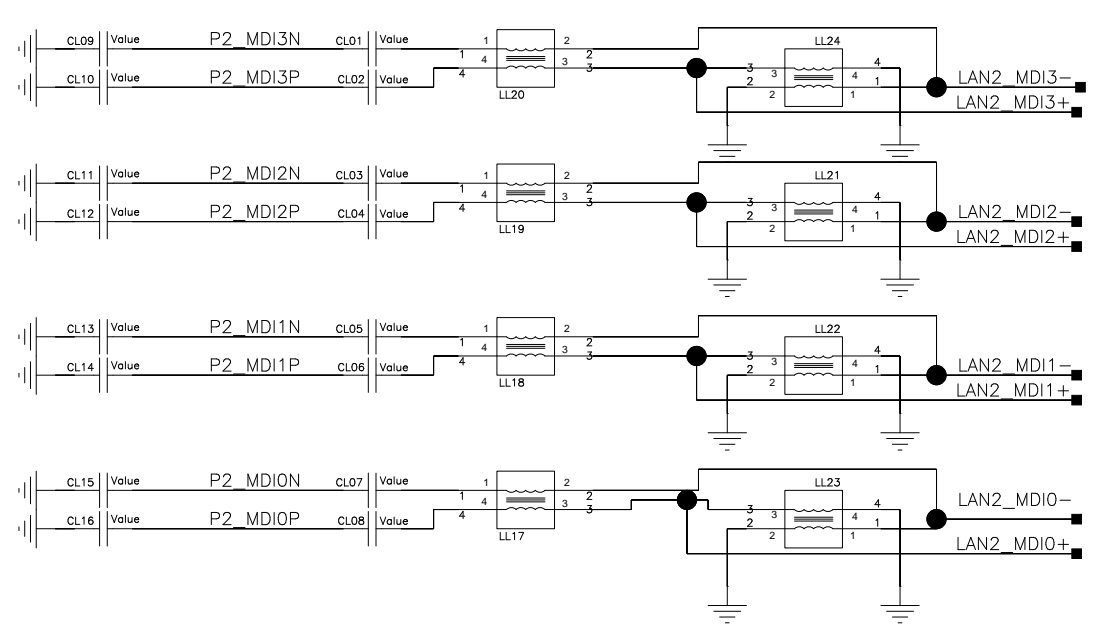
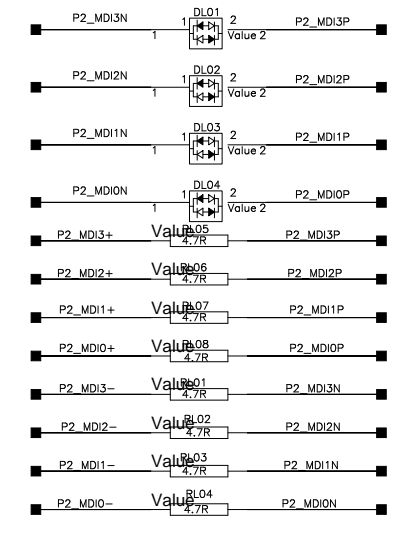
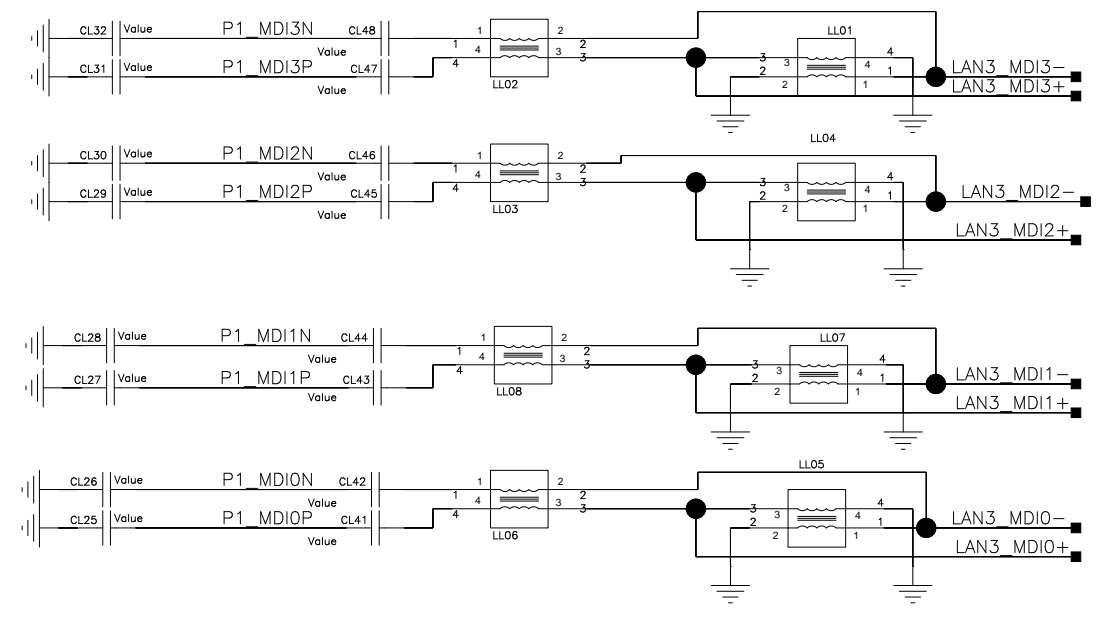
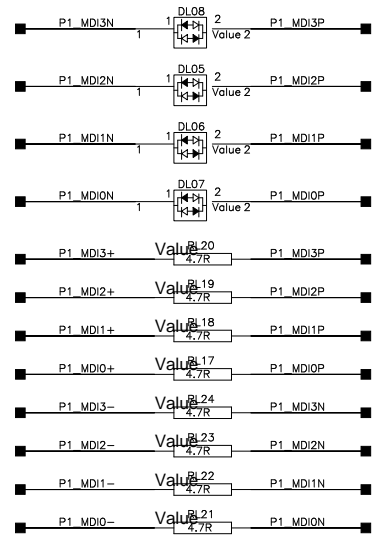
COMPANY:	Skyworth		
TITLE:	CPU		
PCB NO:	5800-000000-0000		
SIZE:	C	AUTHOR:	<YOUR NAME HERE>
DATE:	28/10/2022:14:33	SHEET	1 OF 2



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

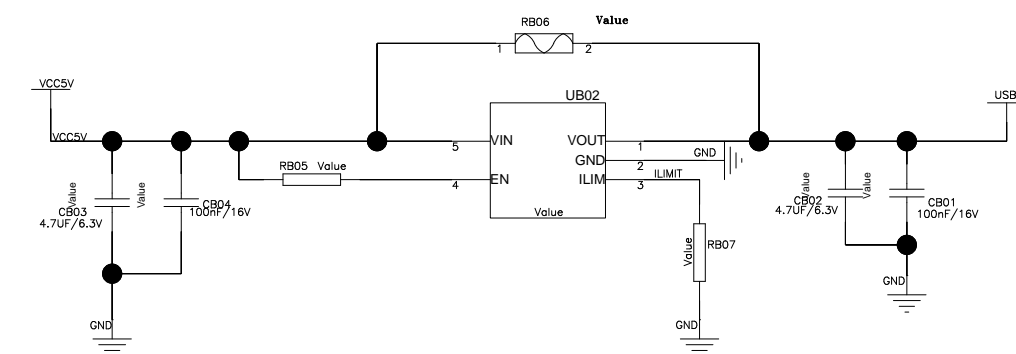
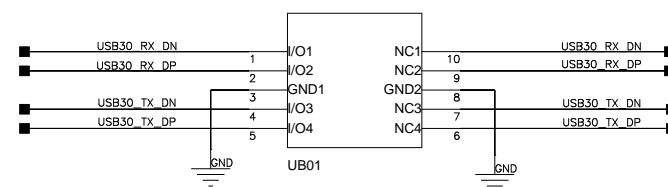
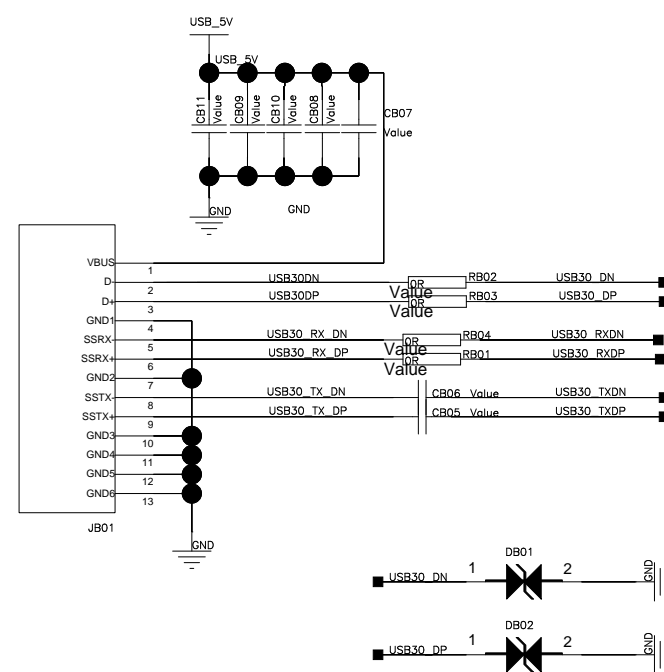


COMPANY:	Skyworth		
TITLE:	FLASH		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR:	<YOUR NAME HERE>	
DATE: @DATETIME=25/04/2022:13:48	SHEET	@SHEET=4	@SHEETTO



Value
JL02

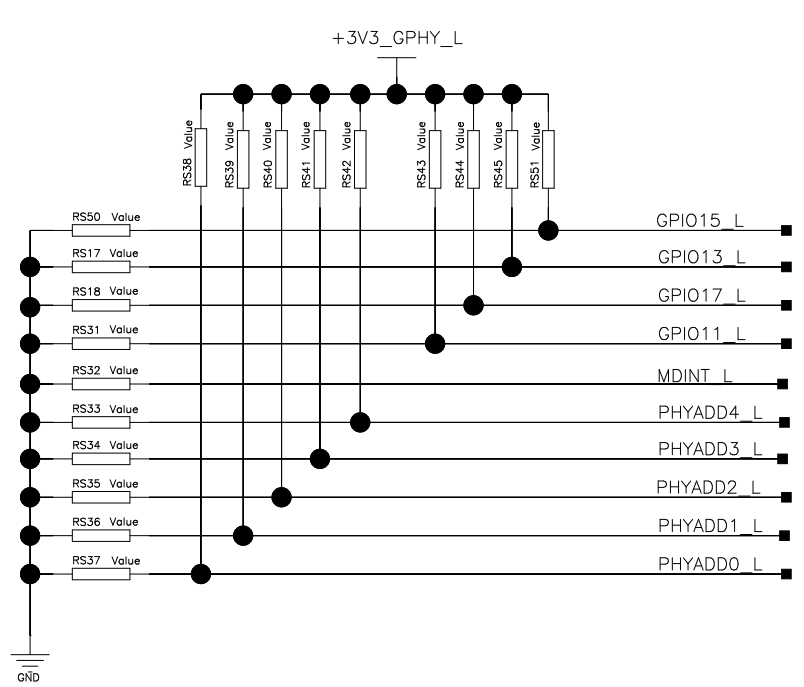
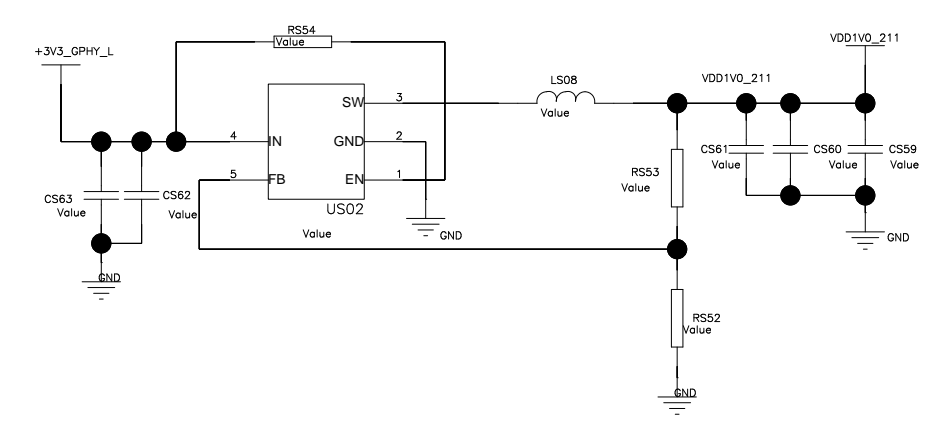
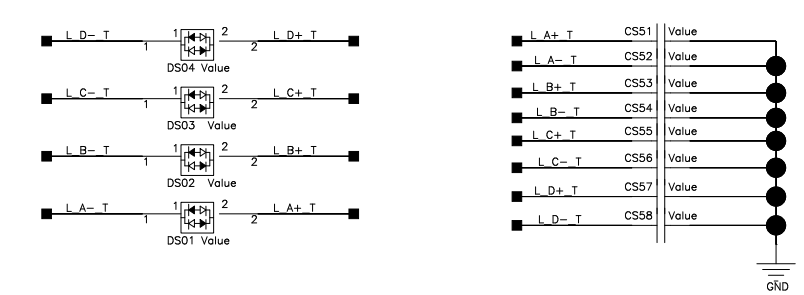
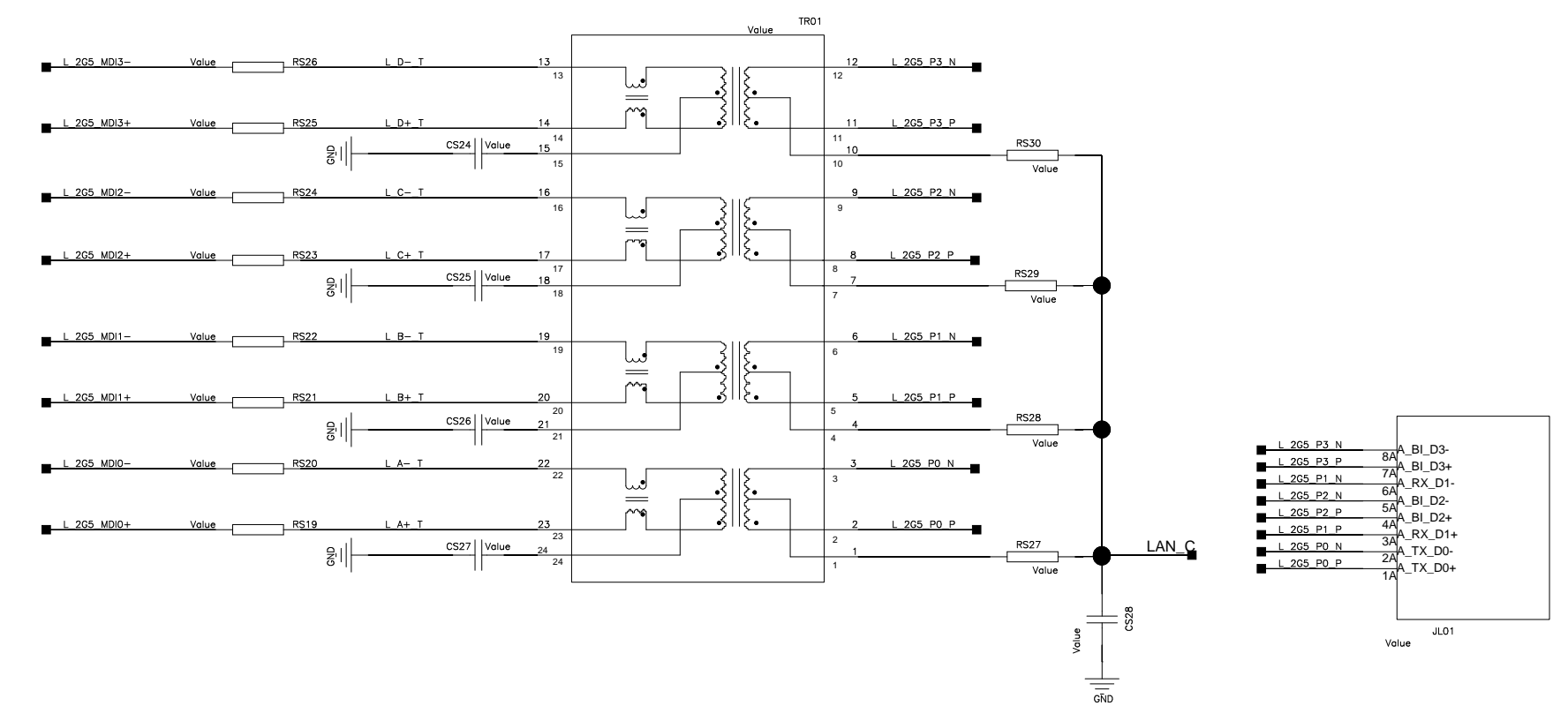
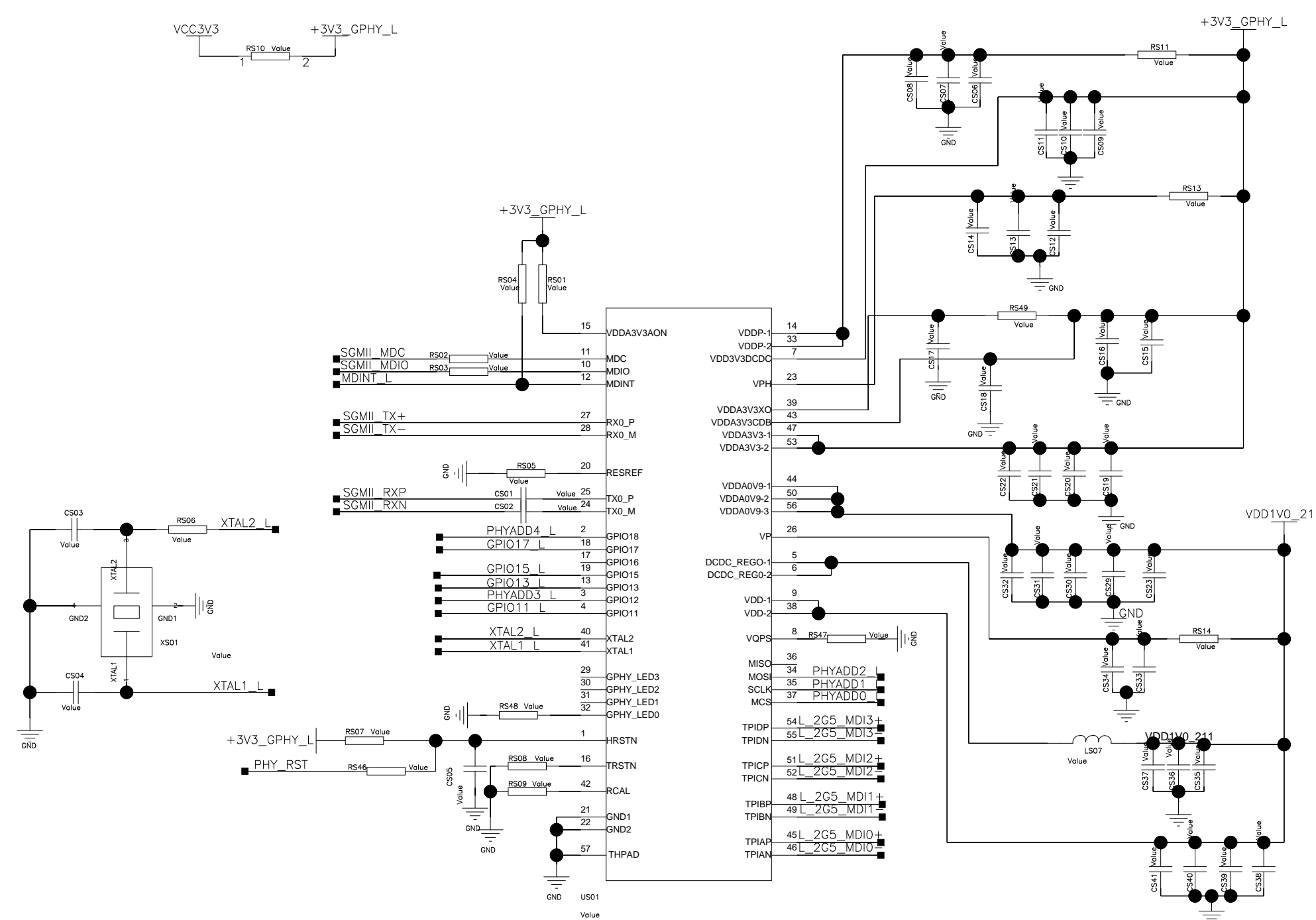
COMPANY:	Skyworth		
TITLE:	LAN		
PCB NO:	5800-000000-0000		
SIZE:	C	AUTHOR:	<YOUR NAME HERE>
DATE:	26/10/2022:19:22	SHEET	1 OF 2



$$ILIMIT: 6.8 / 6.8 = 1.0A$$

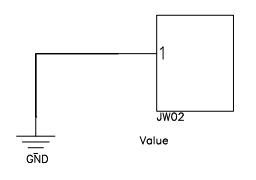
COMPANY:	Skyworth		
TITLE:	USB		
PCB NO:	5800-000000-0000		
SIZE: C	AUTHOR: <YOUR NAME HERE>		
DATE: @DATETIME=28/10/2022:14:22	SHEET	@SHEET=4F	@SHEETTO

2.5G LAN

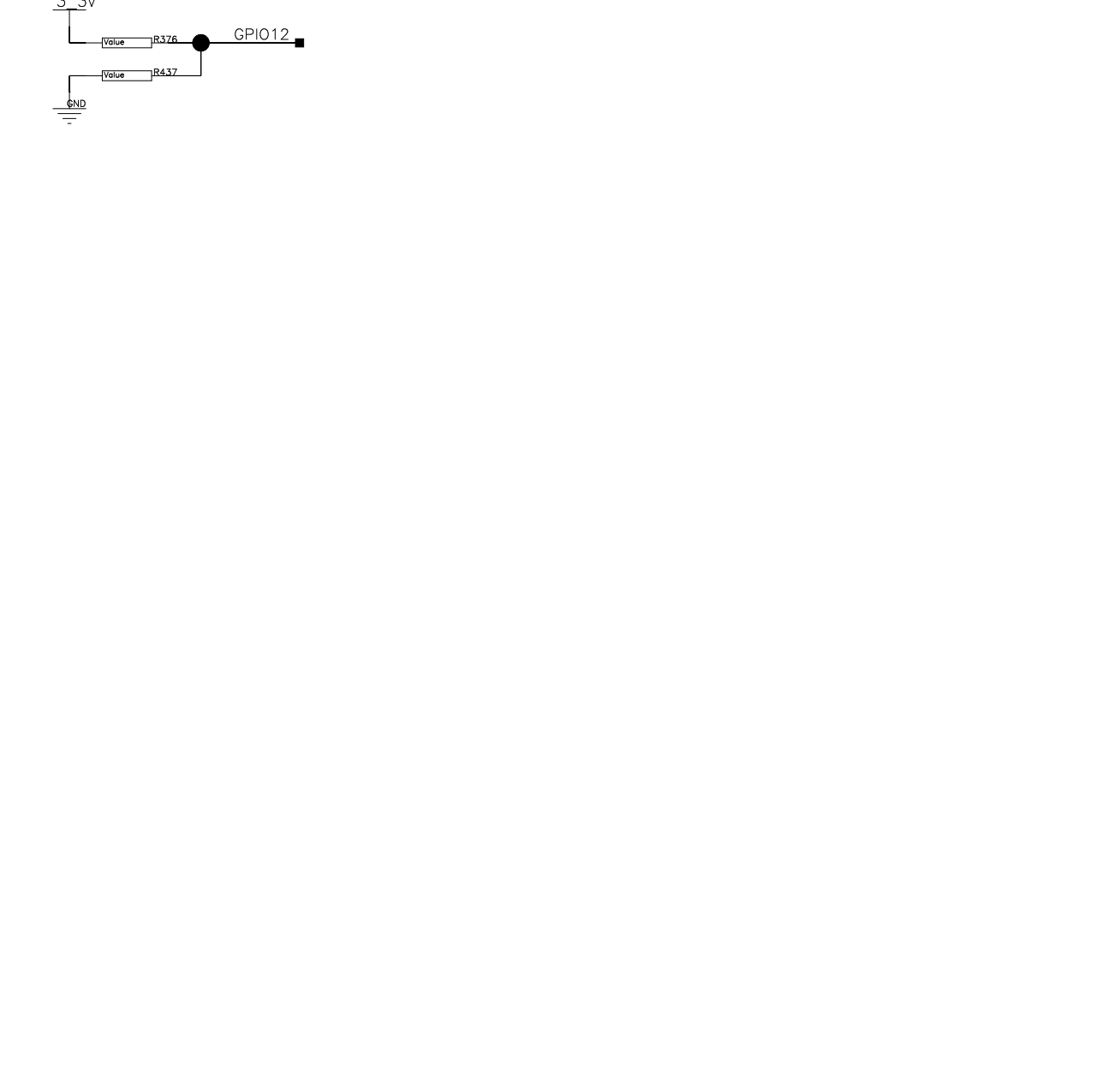
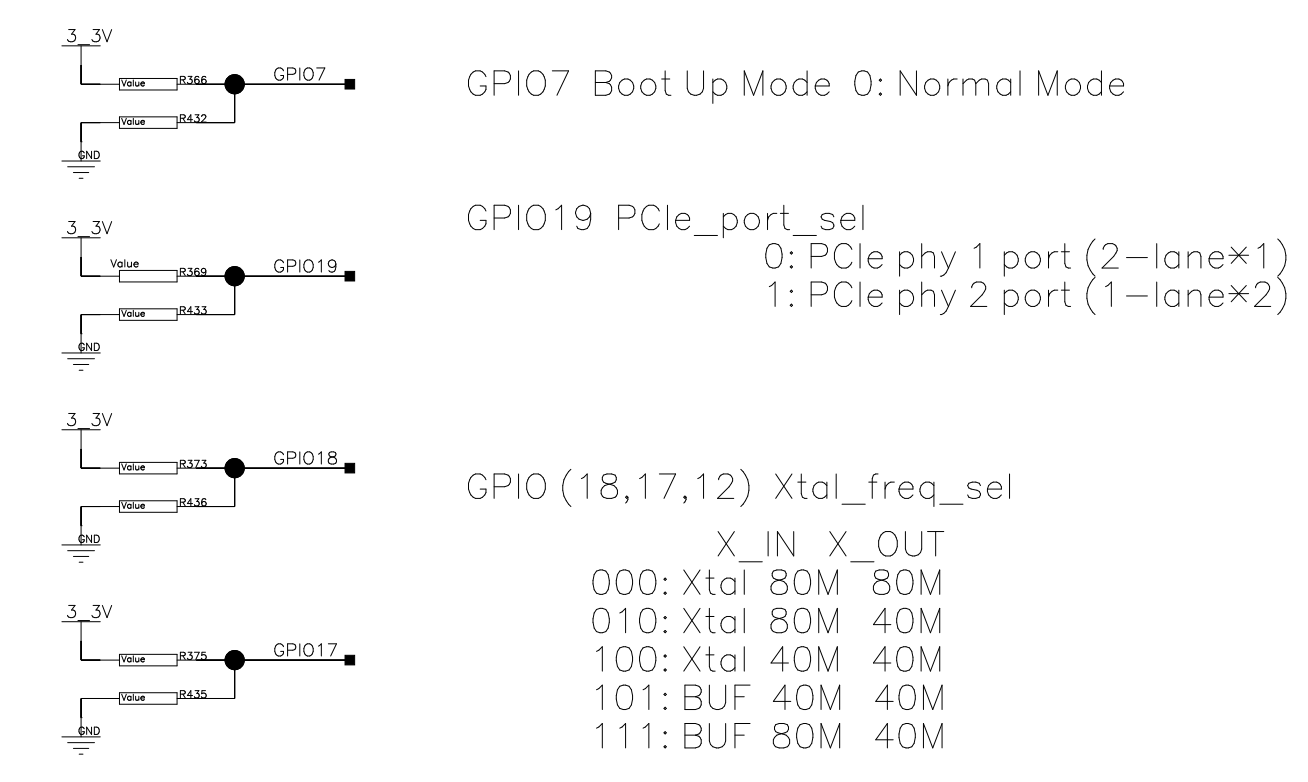
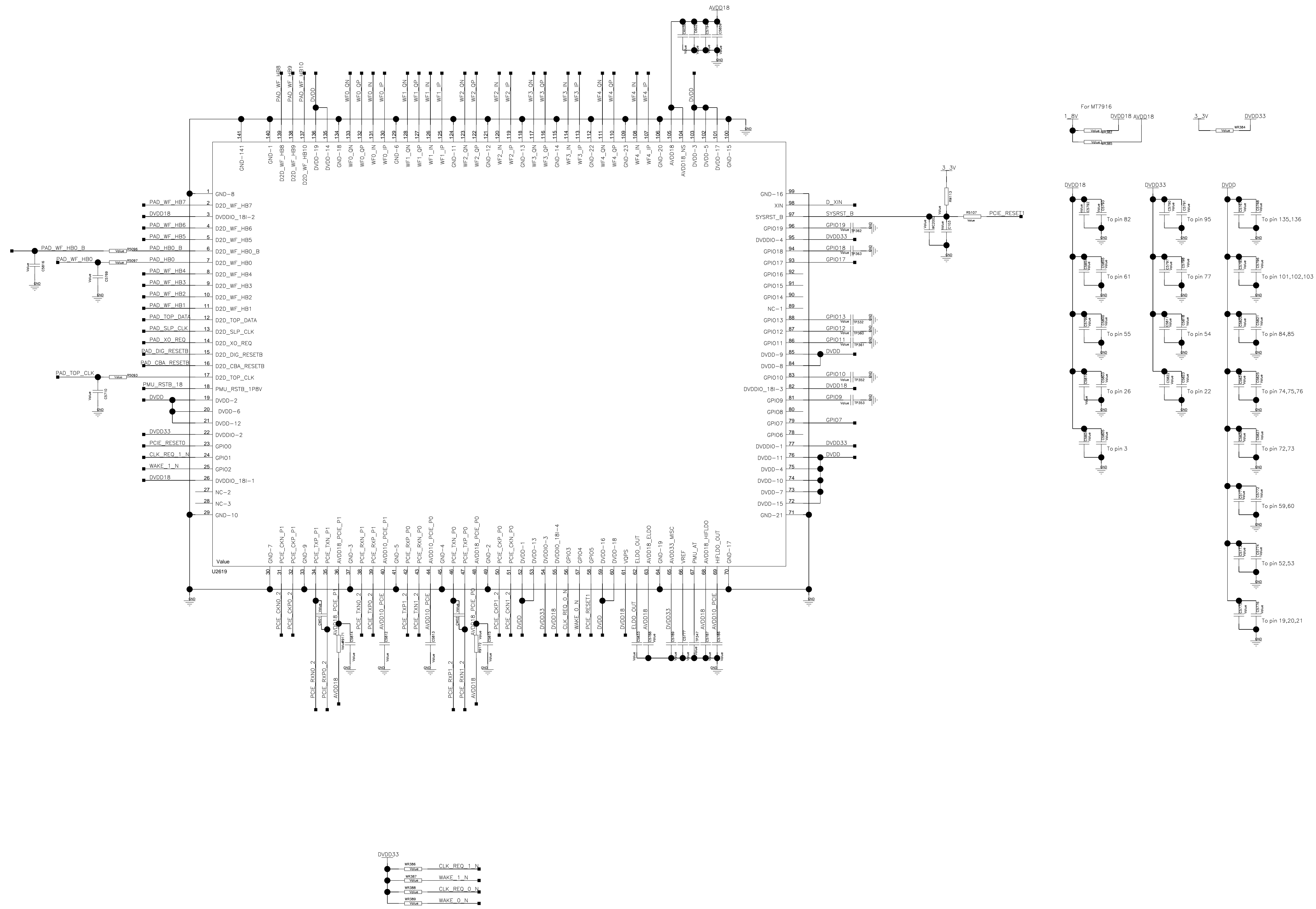


GPIO15/MDIO_VOLTACEM	0: MDIO signal is 1.8V *1: MDIO signal is 3.3V
GPIO13/PS_CLK_SEL	
GPIO17/PS_RJ45_TAP	0: UP Tap-up *1: DOWN Tap-down
GPIO11/PS_MINT_POL	0: MDIO Interrupt (MDINT) is active high. *1: MDIO Interrupt (MDINT) is active low.
MDINT/PS_SGMII_EEE	0: NORMAL, Non-EEE mode: SGMII does not power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

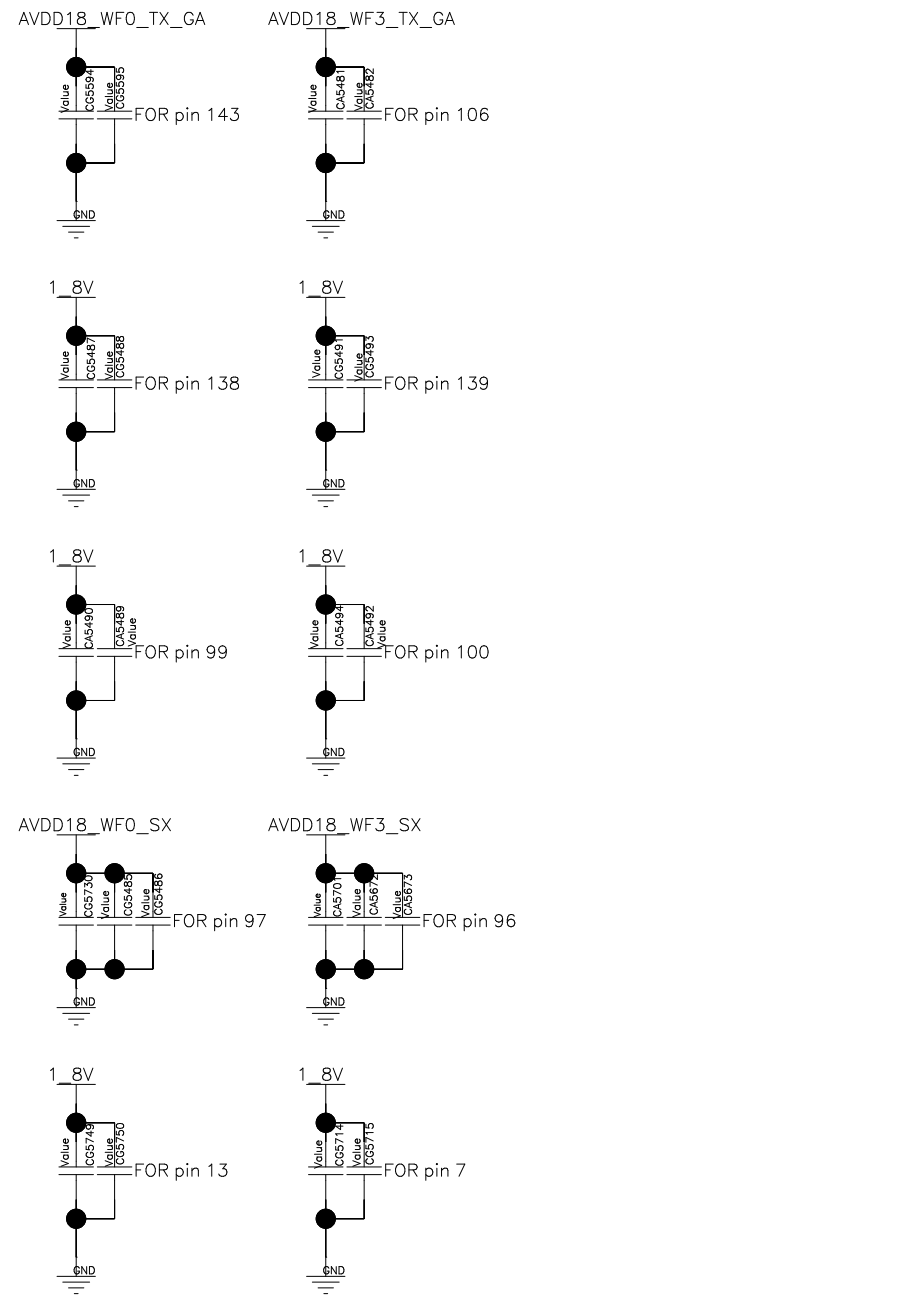
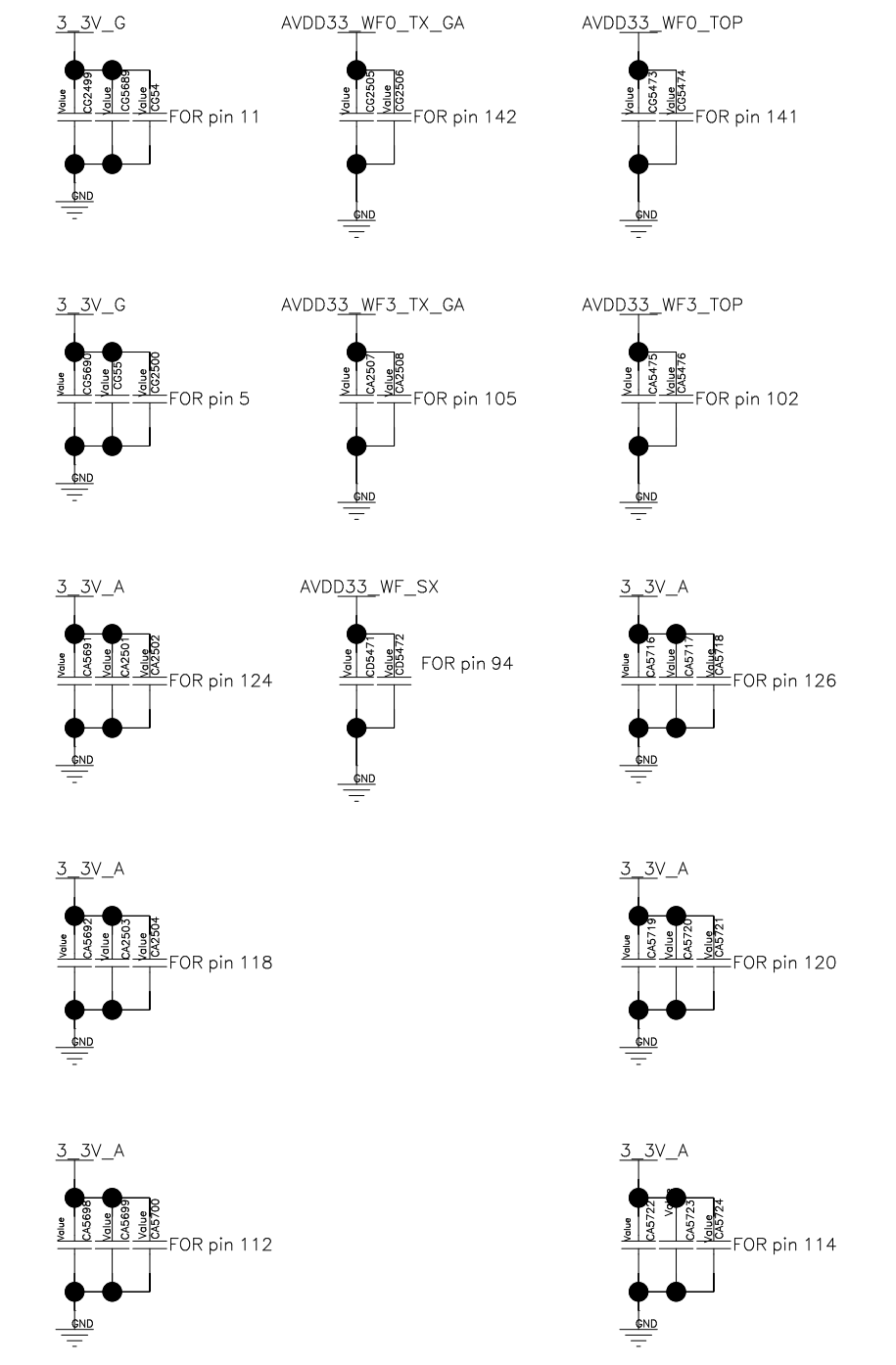
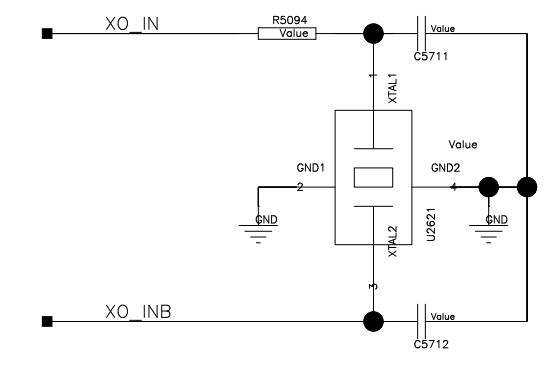
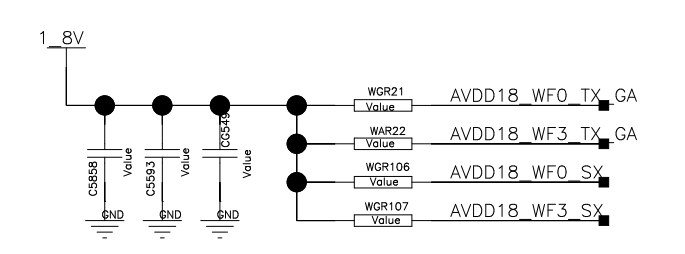
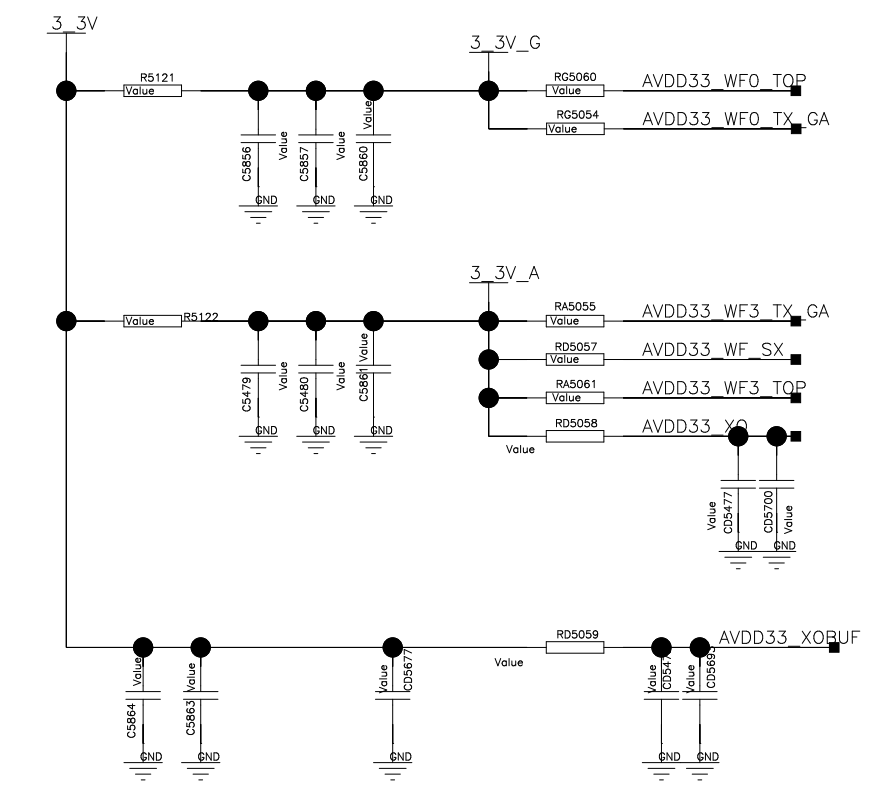
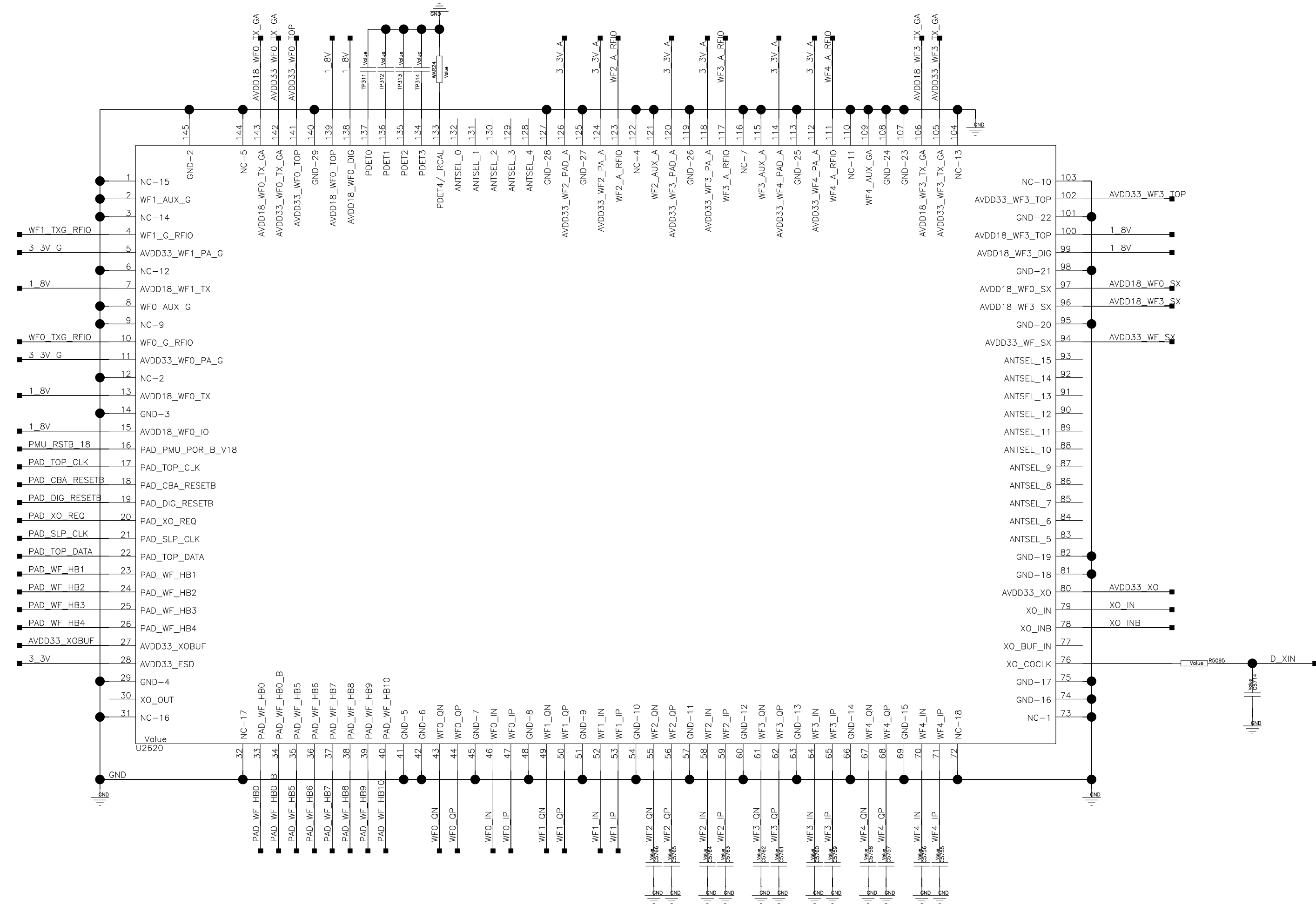
LAN PHY Addr 0x01



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

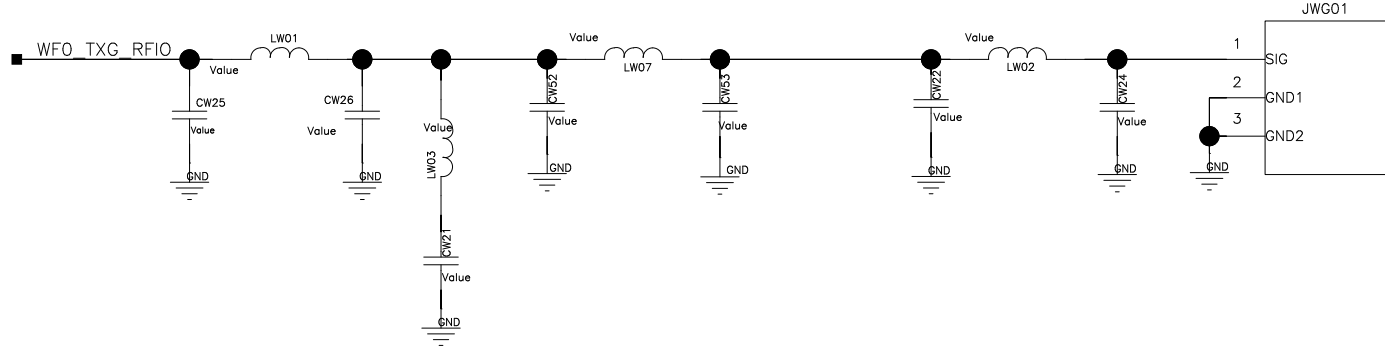


COMPANY:	Skyworth		
TITLE:	XXXX		
PCB NO:	5800-000000-0000		
SIZE: D	AUTHOR:	<YOUR NAME HERE>	
DATE: 30/09/2022:10:35	SHEET	X	OF 19

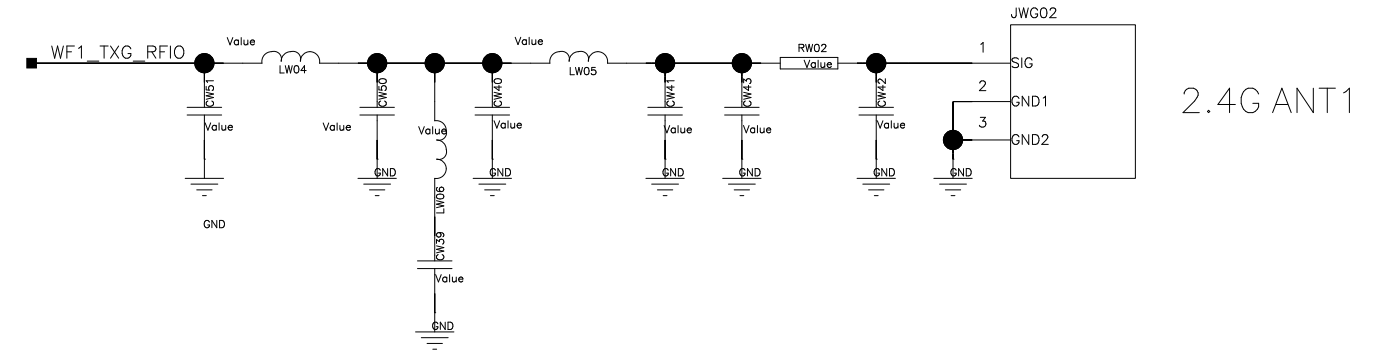


COMPANY:	Skyworth		
TITLE:	XXXX		
PCB NO:	5800-000000-0000		
SIZE: D	AUTHOR:	<YOUR NAME HERE>	
DATE: 25/04/2022:13:48	SHEET	X	OF 19

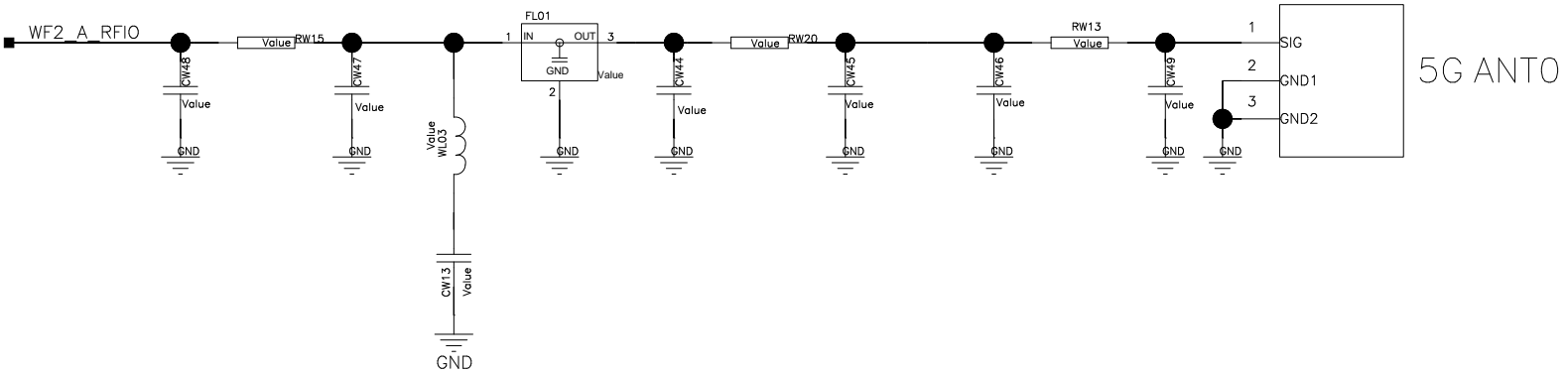
Close notch filter



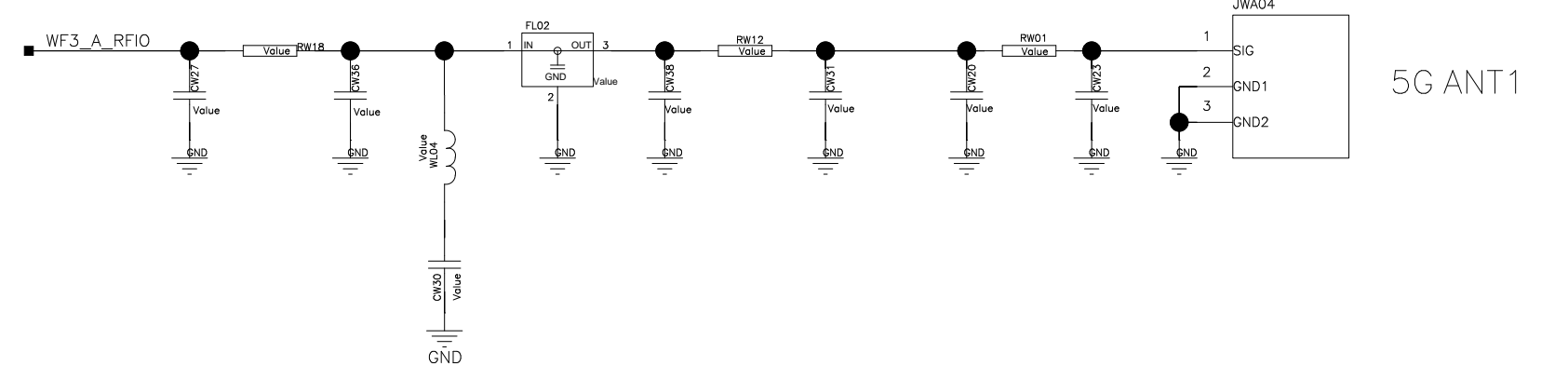
2.4G ANT0



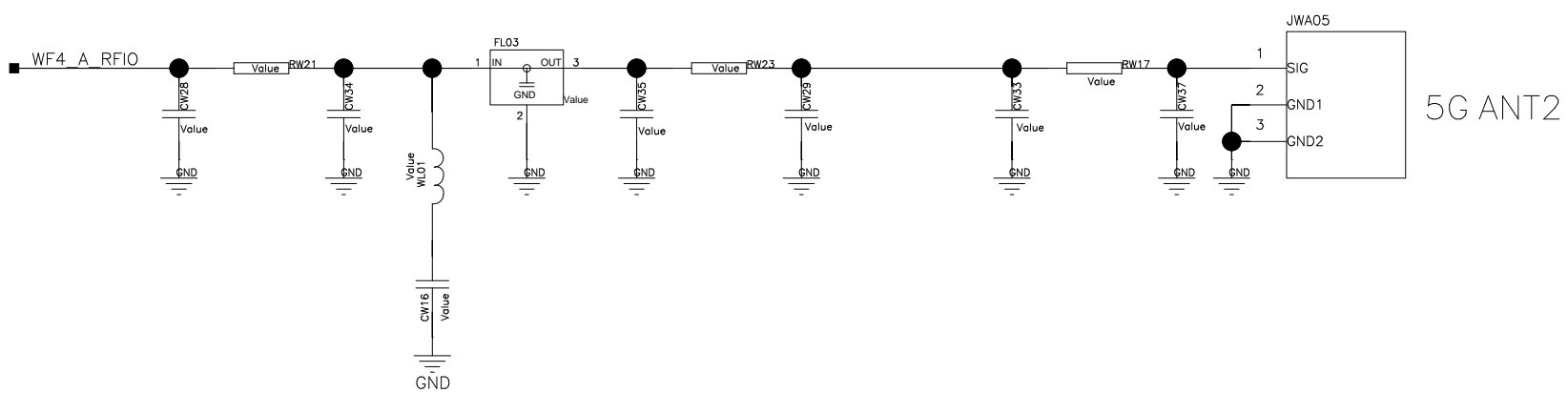
2.4G ANT1



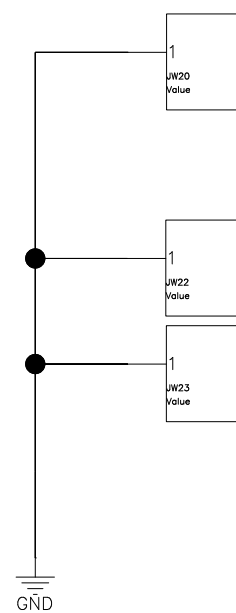
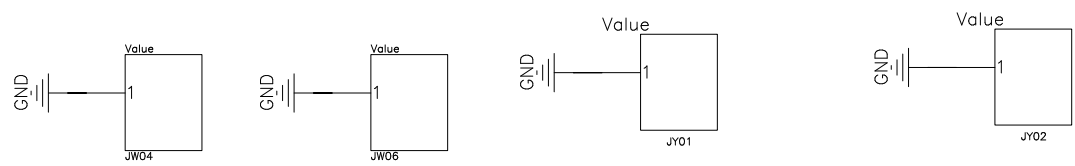
5G ANT0



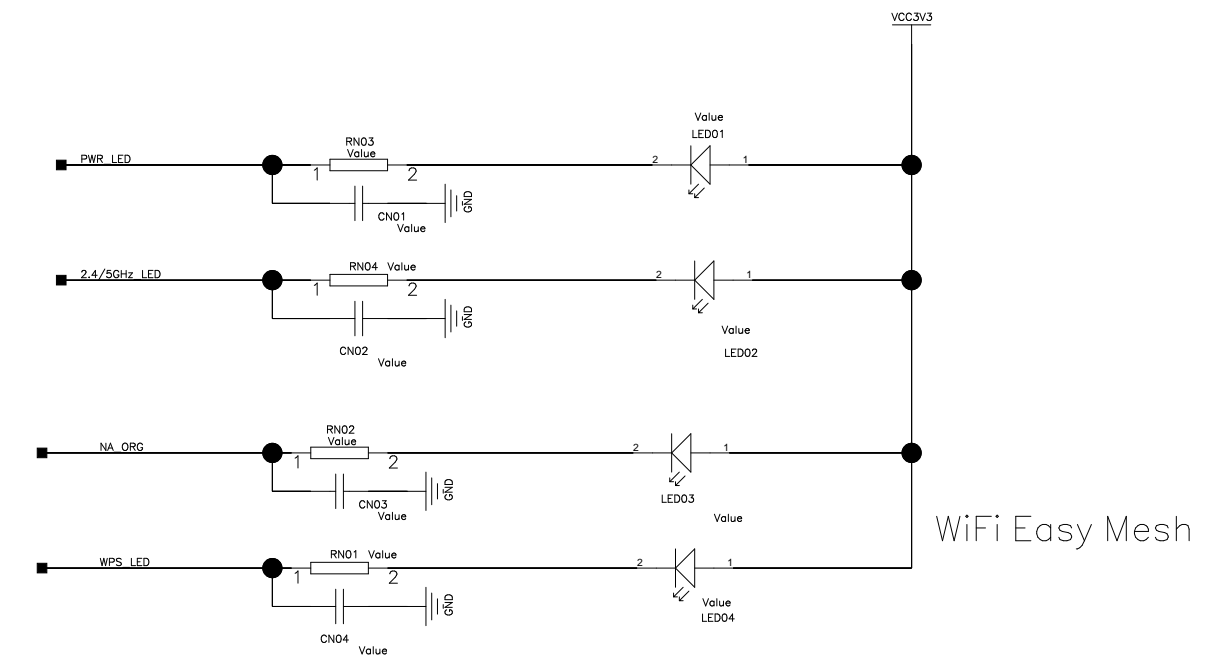
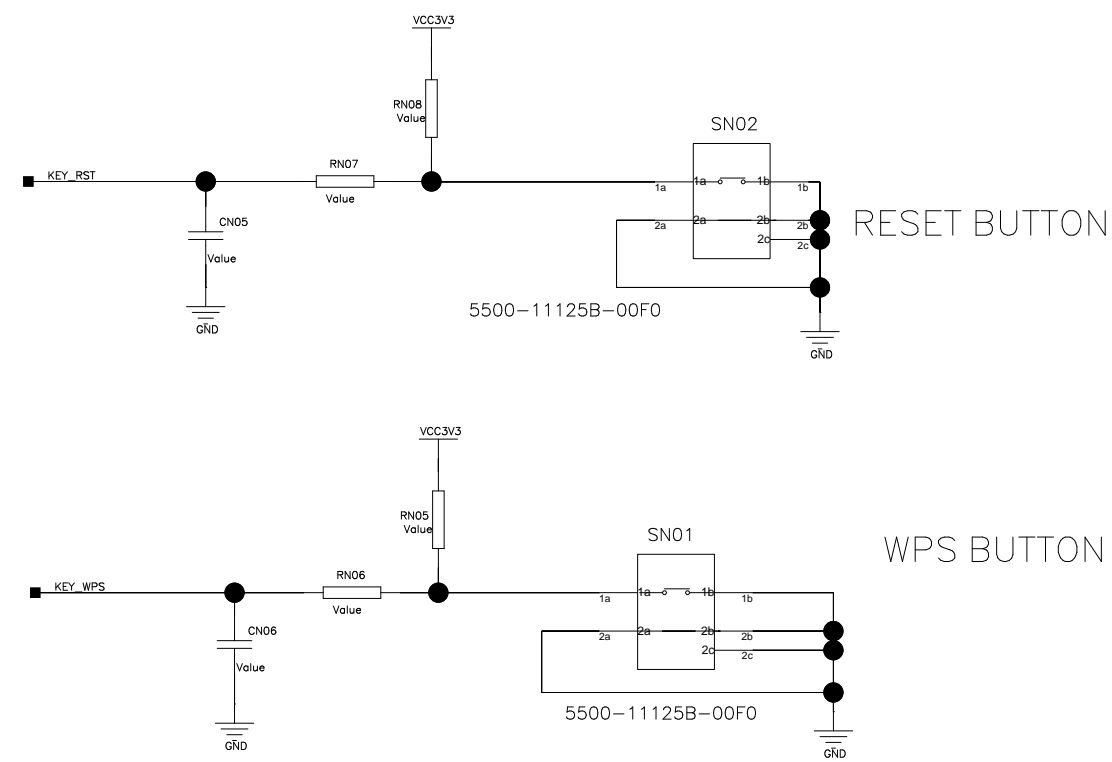
5G ANT1



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