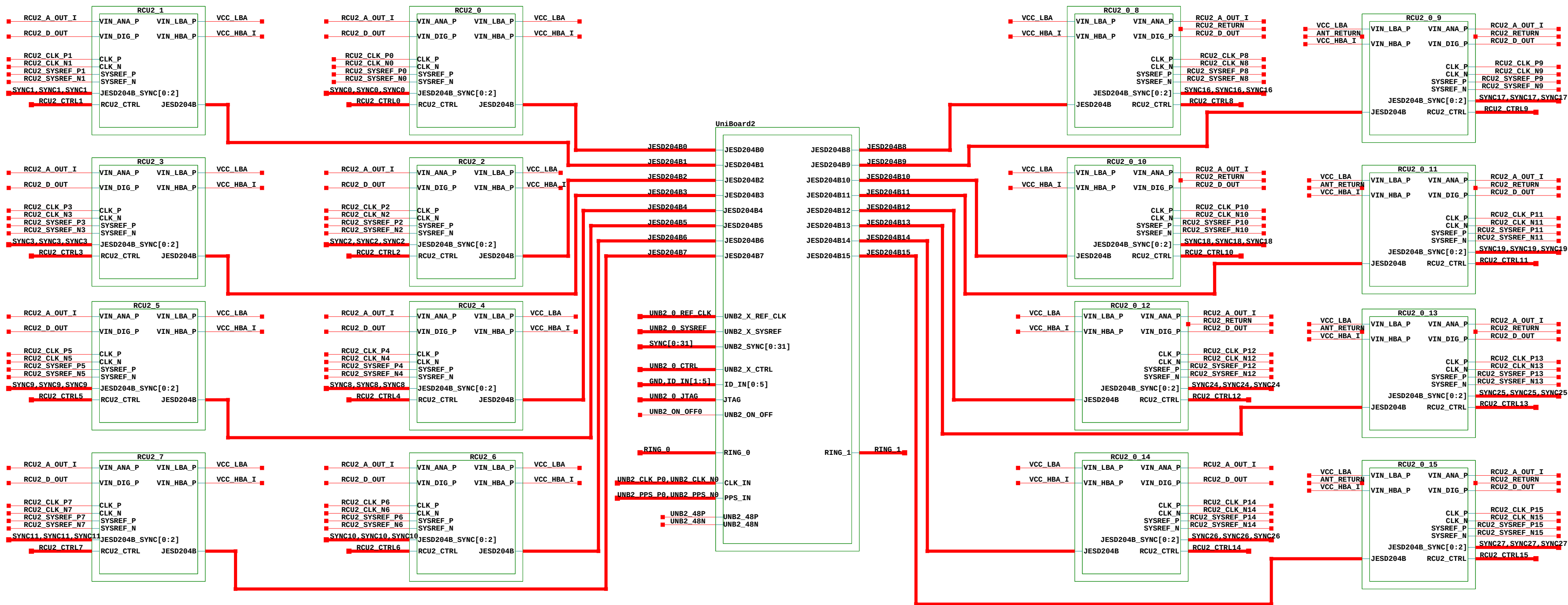
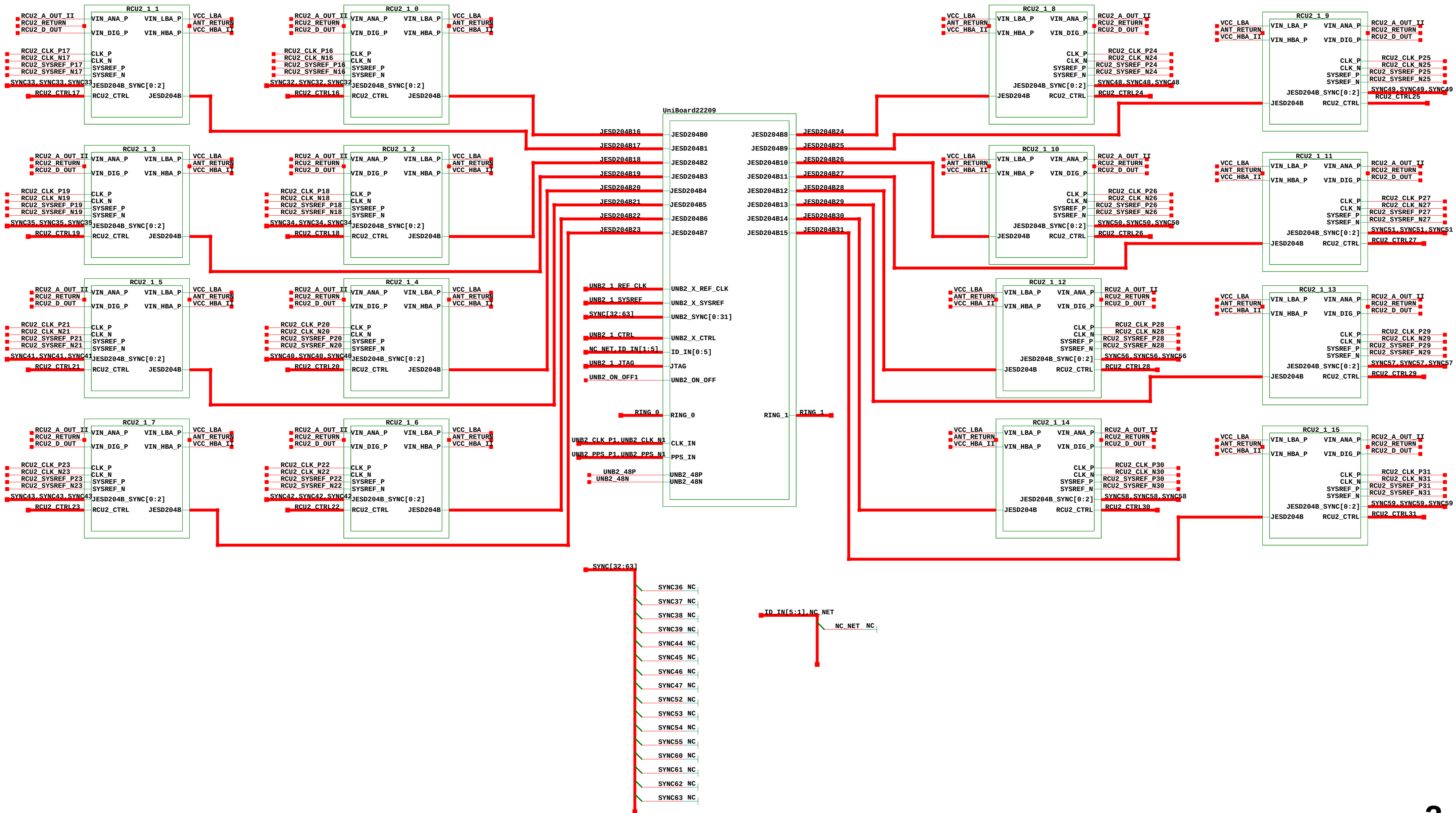


One SYNC per RCU2, extra sync incase 1 UniBoard2 per subrack.



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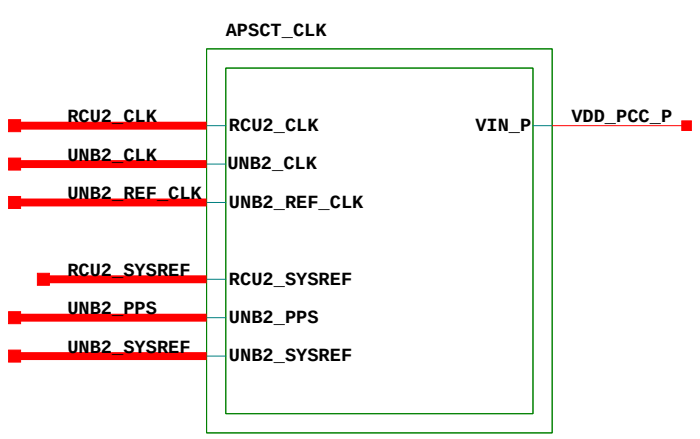
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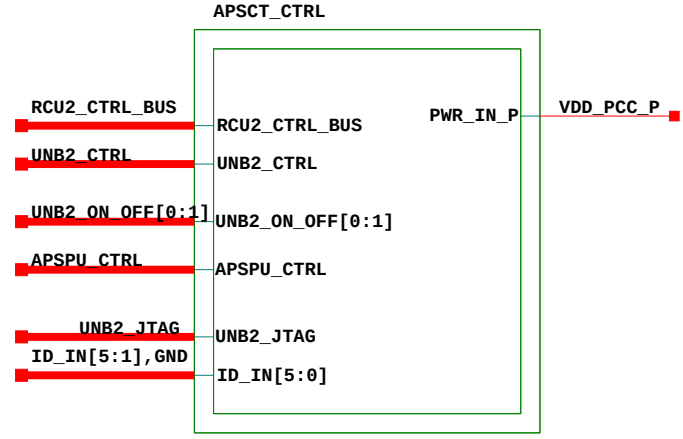
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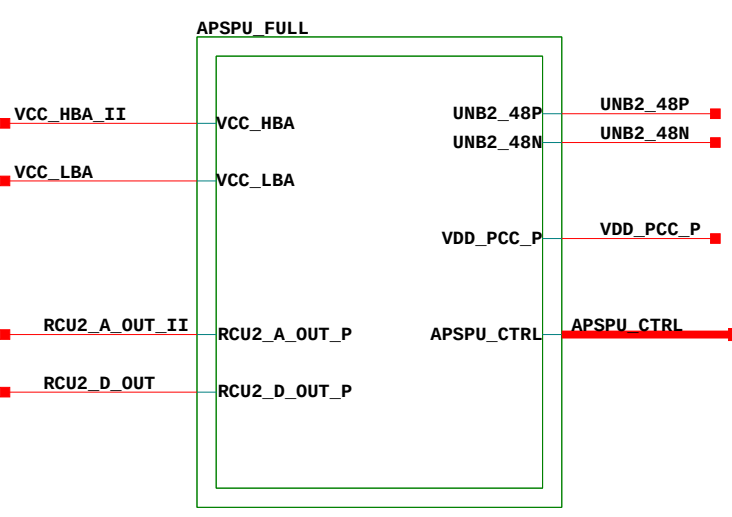
Clock



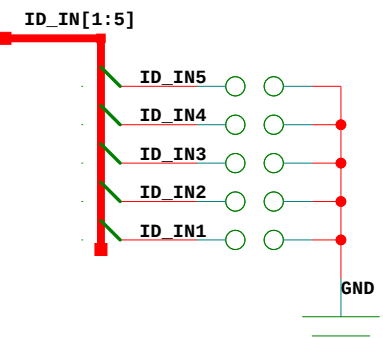
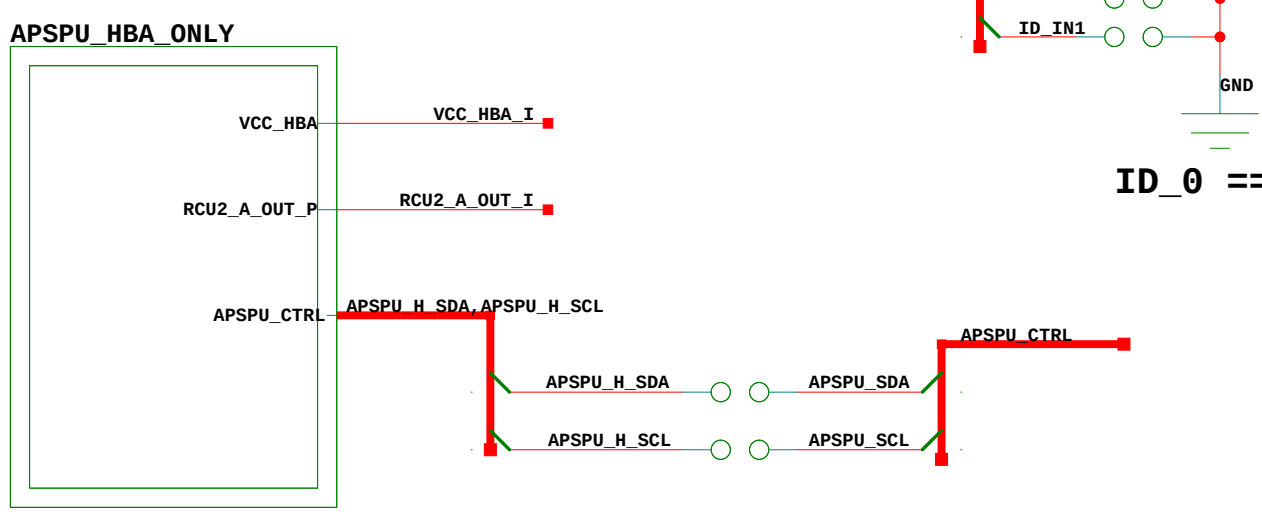
Control



Central Power



Additional HBA Power



ID_0 == SLOT ID UniBoard

PLACE JUMPER TO ENABLE MONITORING HBA_APSPU

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ASTRON

DESIGN			
LOFAR2.0 Midplane 2/3			
SIZE	Filename	REV	
A3		3.0	
DRAWN BY		SHEET	DATE
Gijs / Sieds		3 of 58	21/02/2022:10:23

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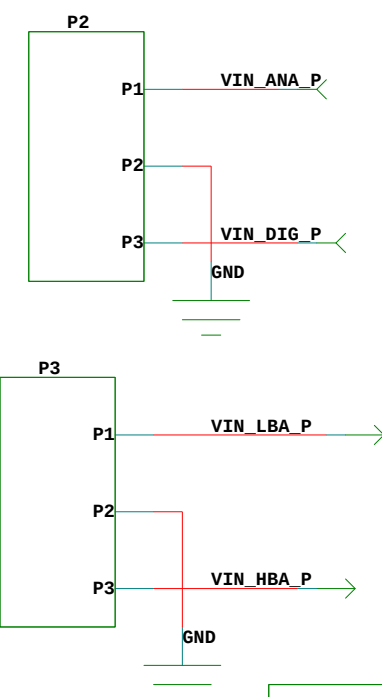
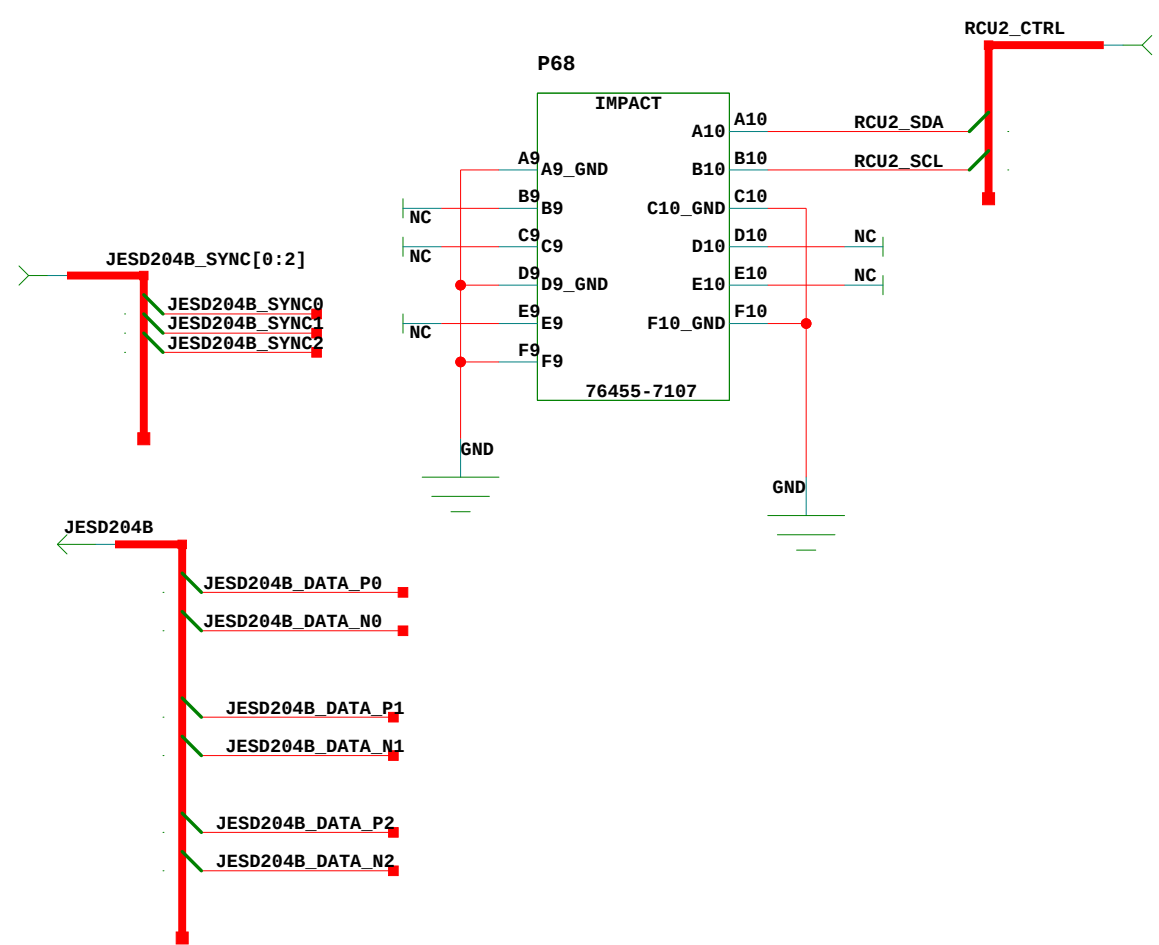
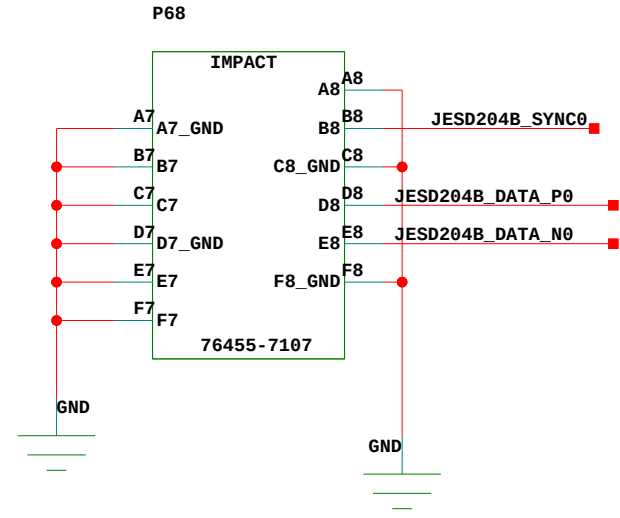
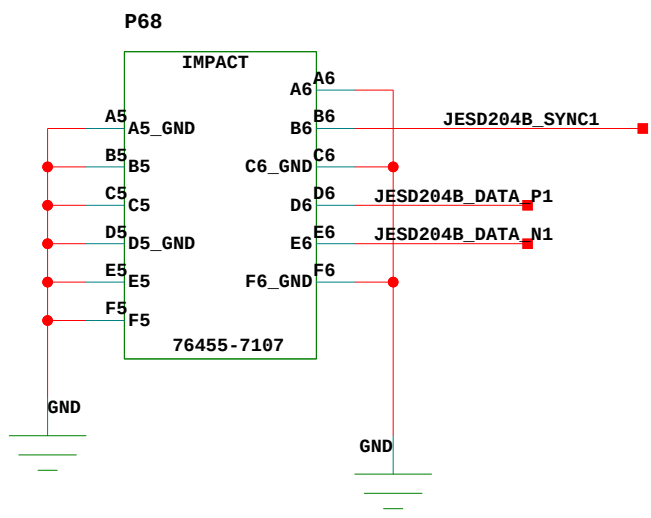
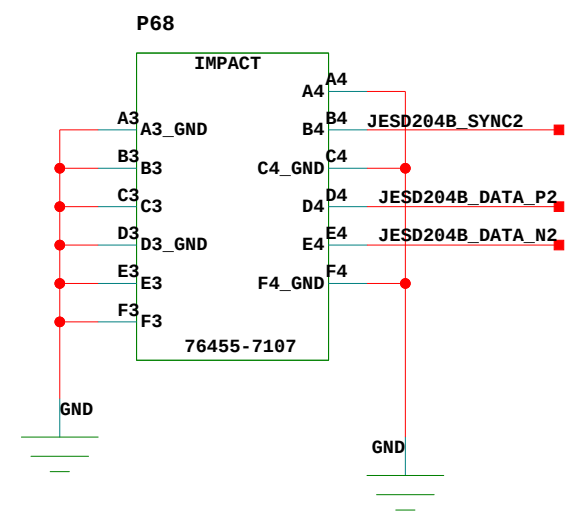
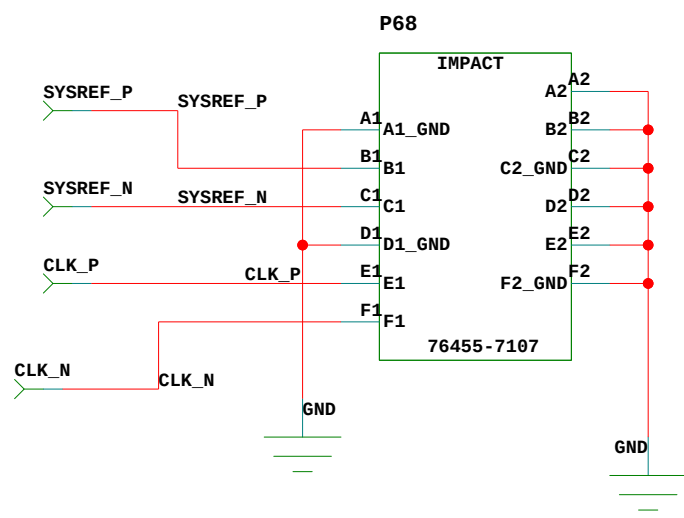
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ASTRON			
RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
G1js	4 of 58	21/02/2022:10:23	

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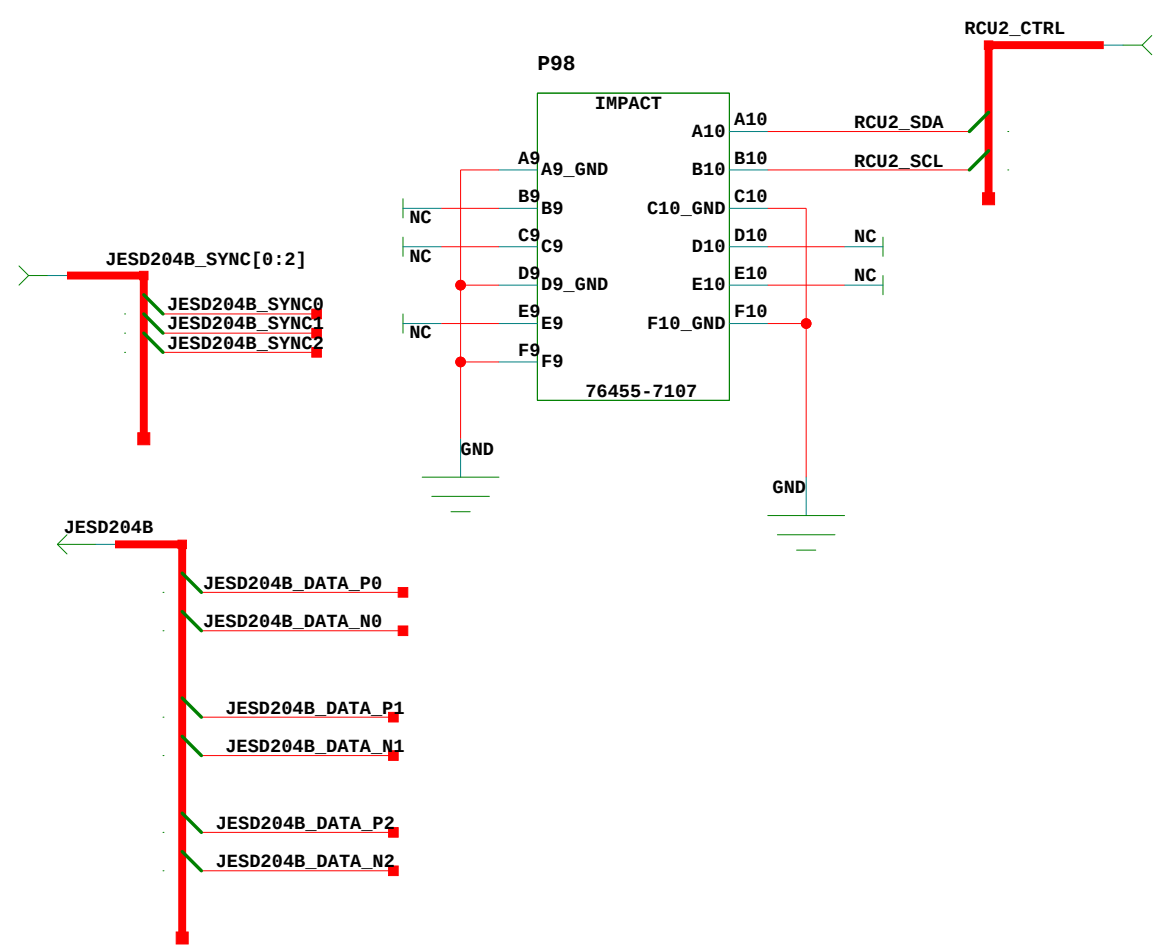
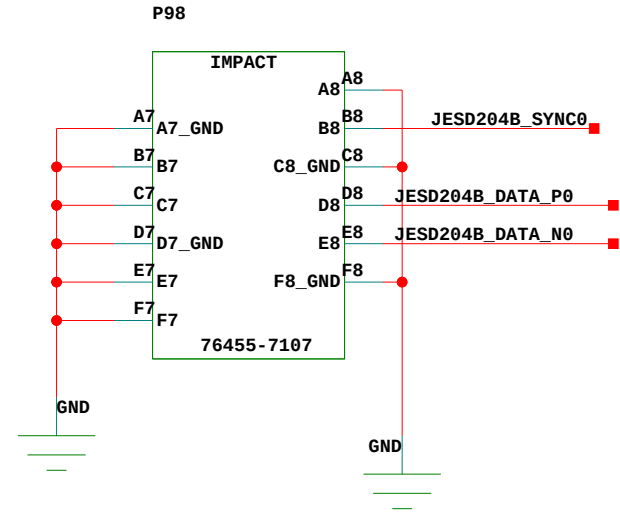
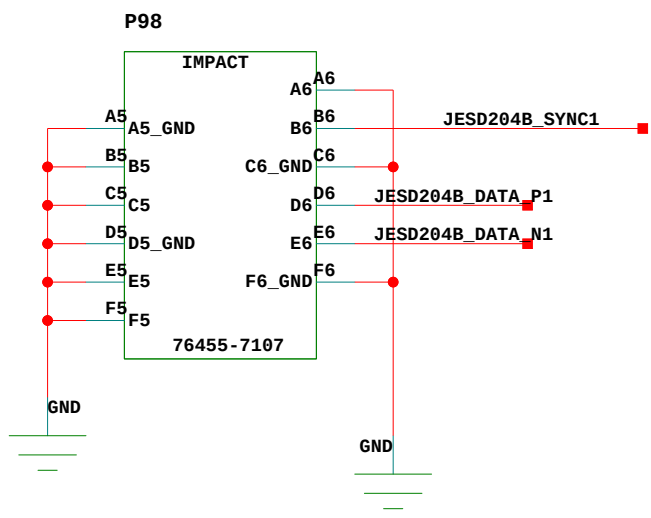
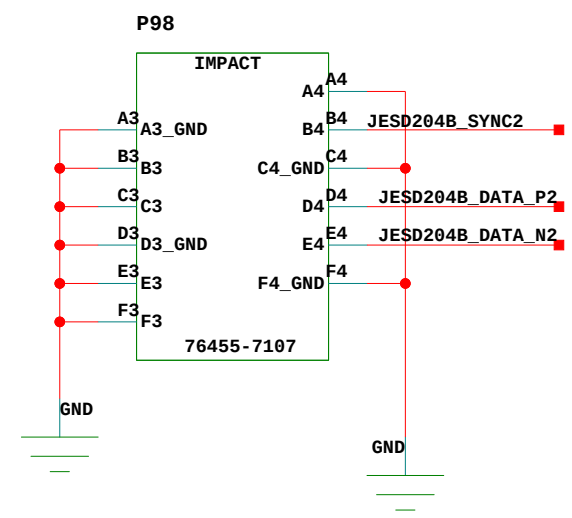
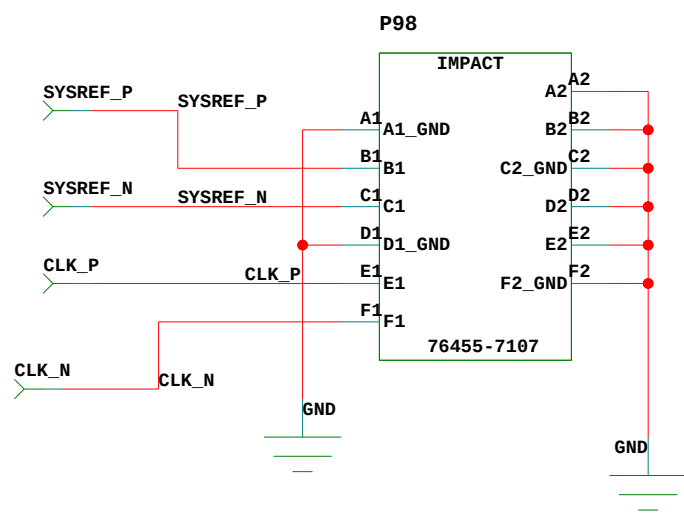
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ASTRON				
RCU2 Interface				
DESIGN	RCU2			
SIZE	Filename	REV		3.0
A3				
DRAWN BY	G1js	SHEET	5 of 58	DATE
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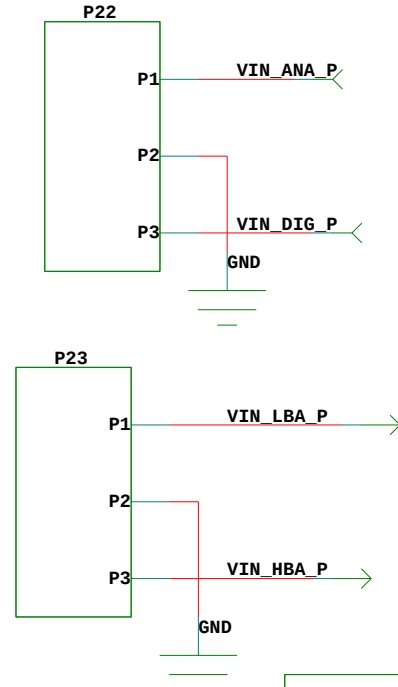
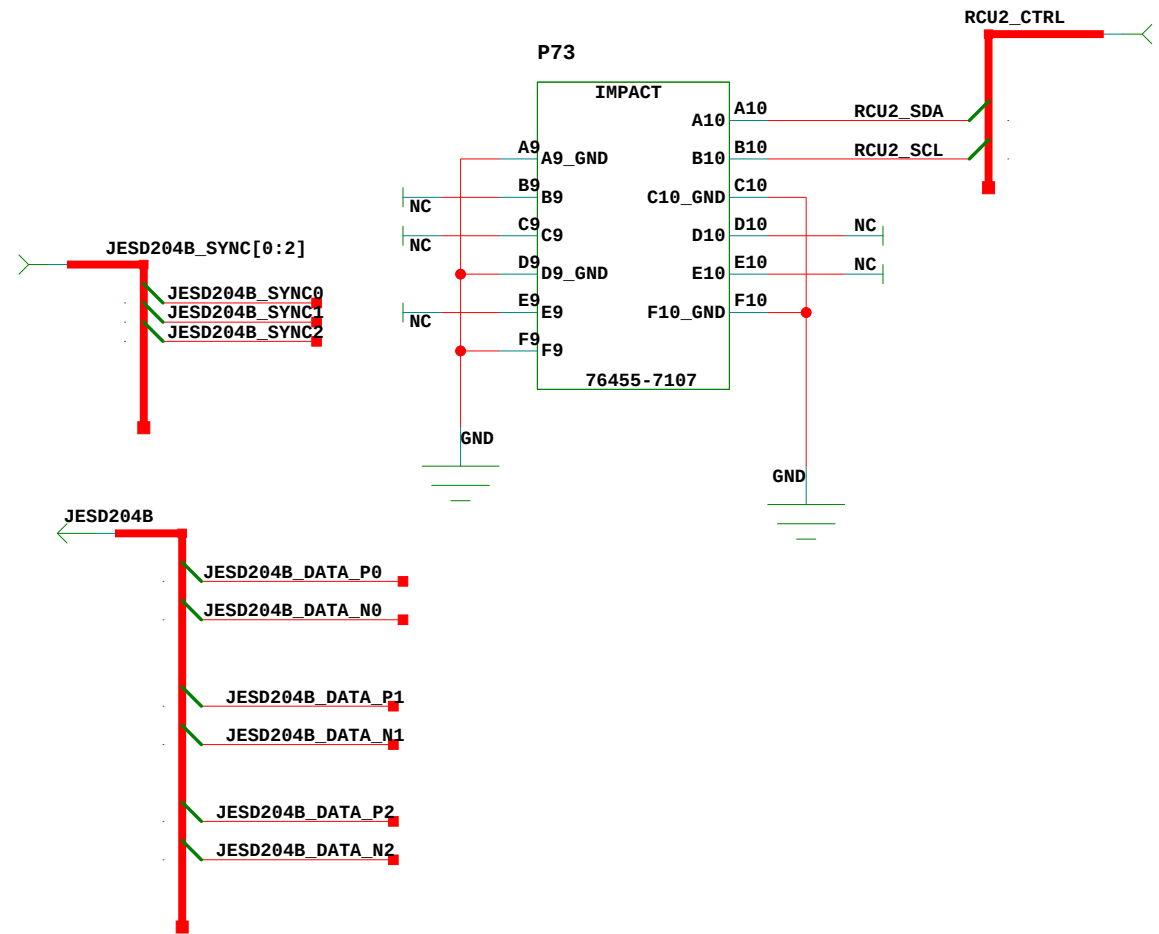
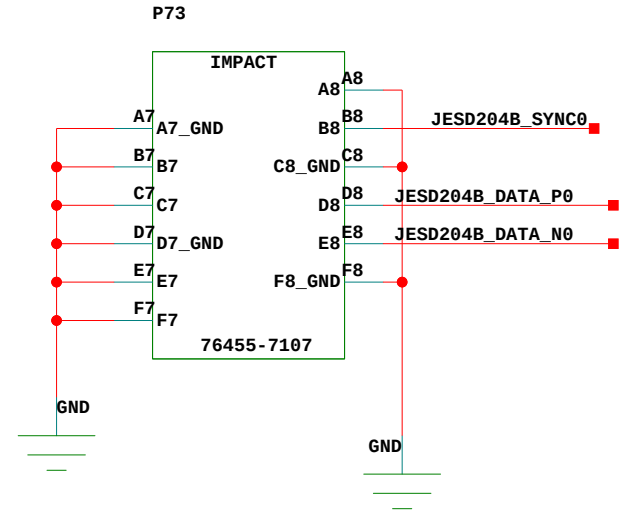
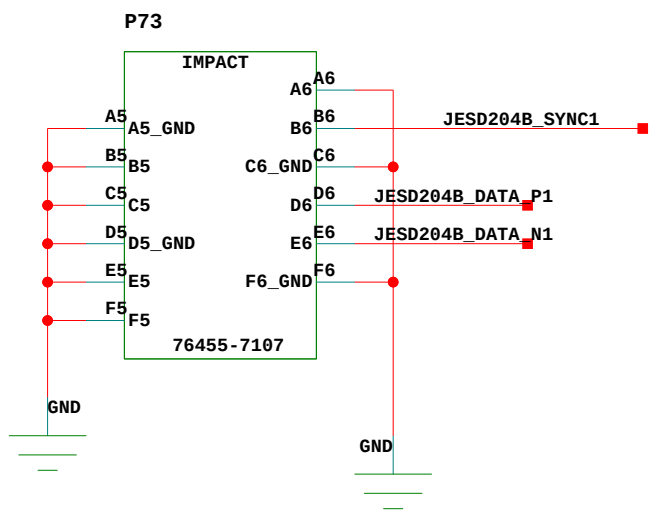
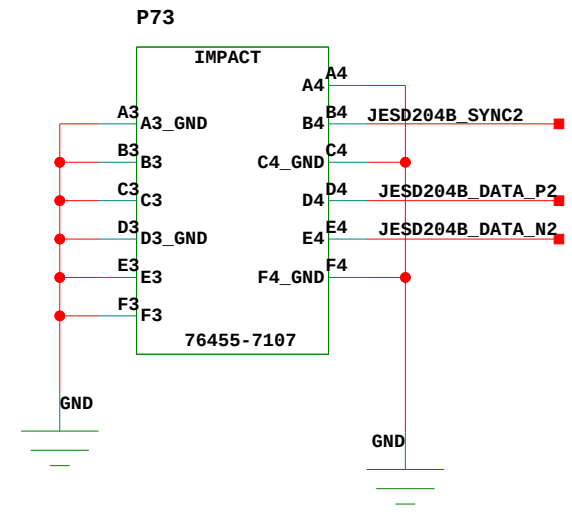
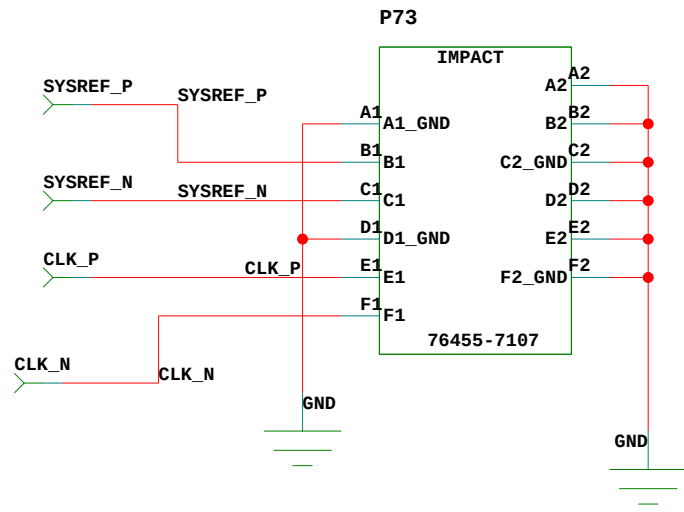
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ASTRON			
DESIGN		RCU2 Interface	
SIZE	Filename	REV	
A3		RCU2	
DRAWN BY		DATE	
G1js		21/02/2022:10:23	
SHEET		REV	
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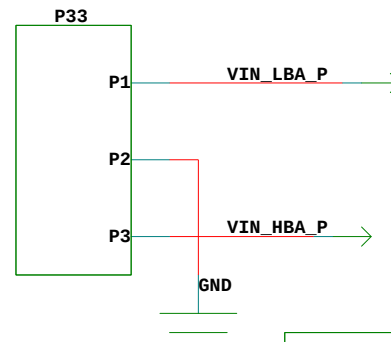
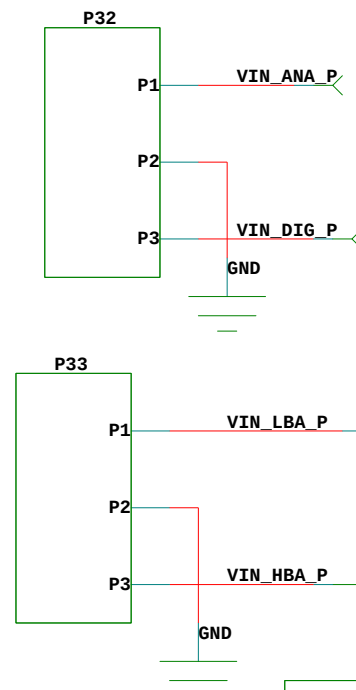
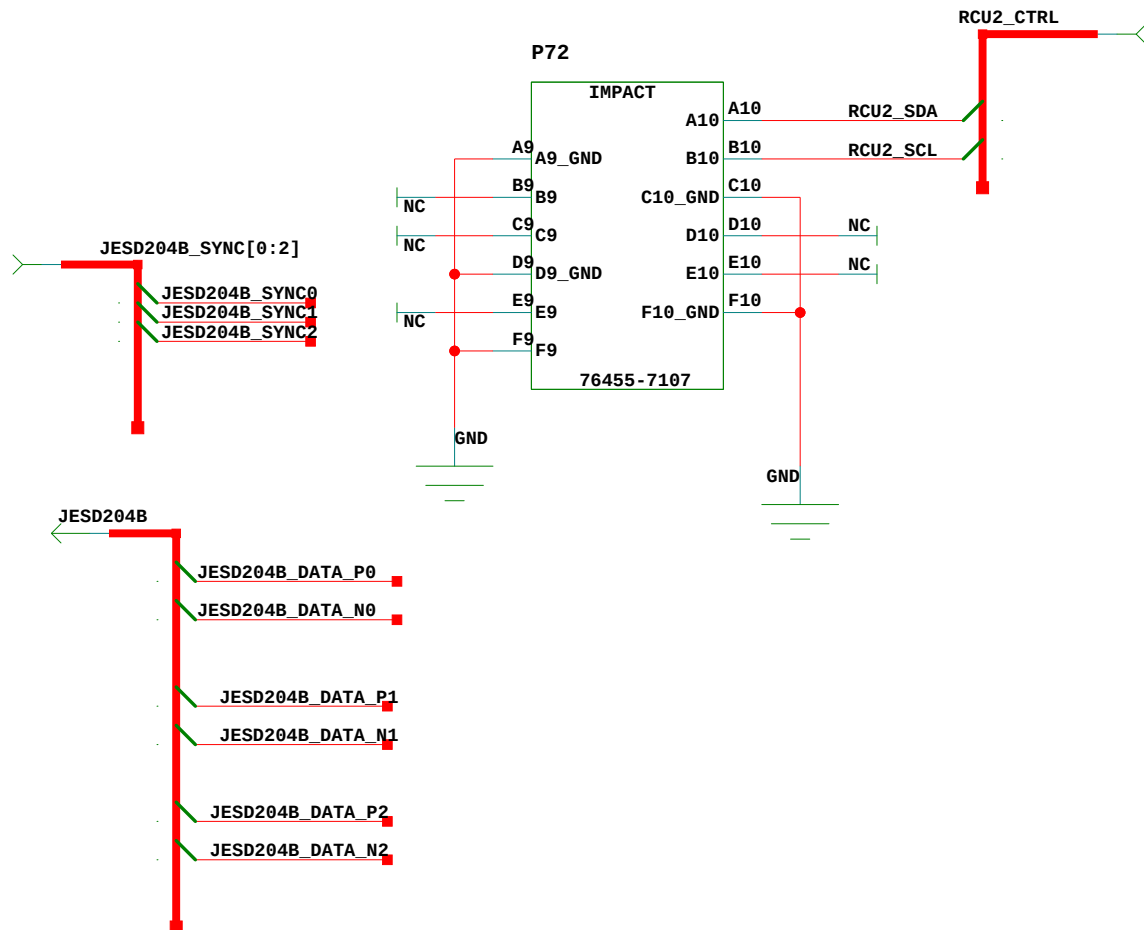
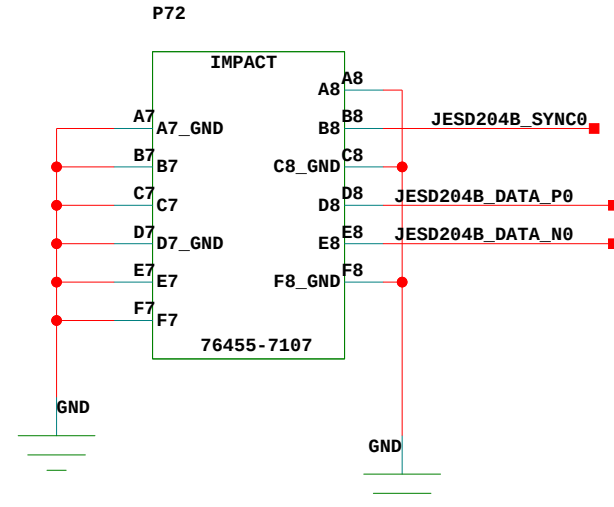
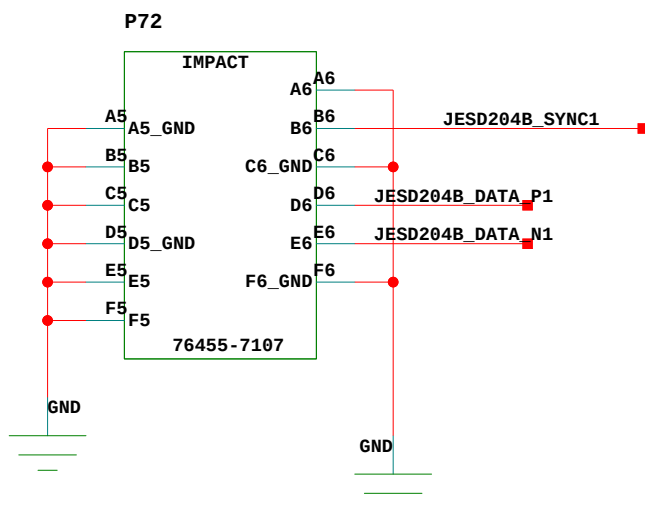
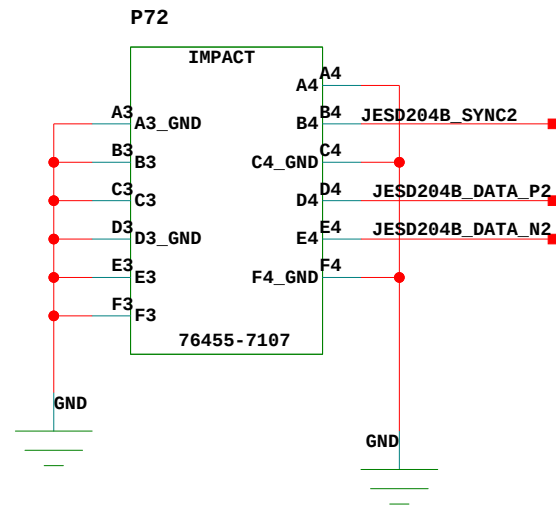
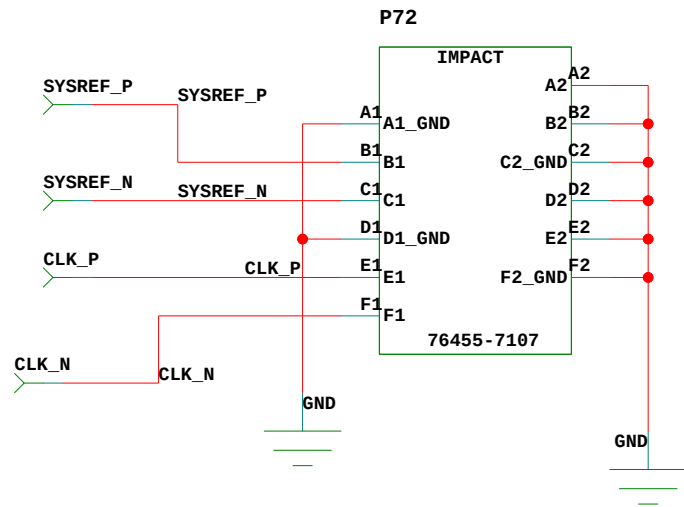
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ASTRON

RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 7 of 58	DATE	21/02/2022:10:23

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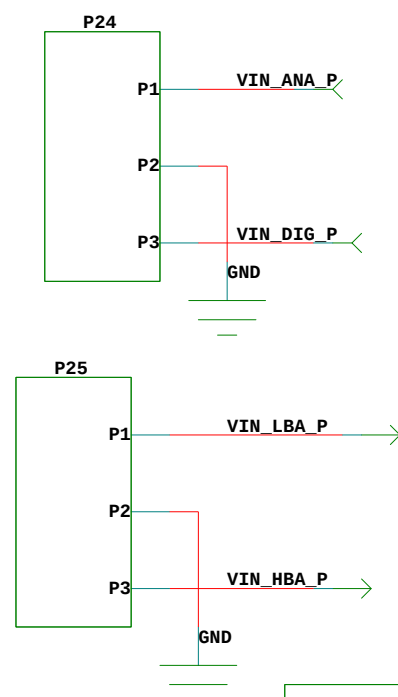
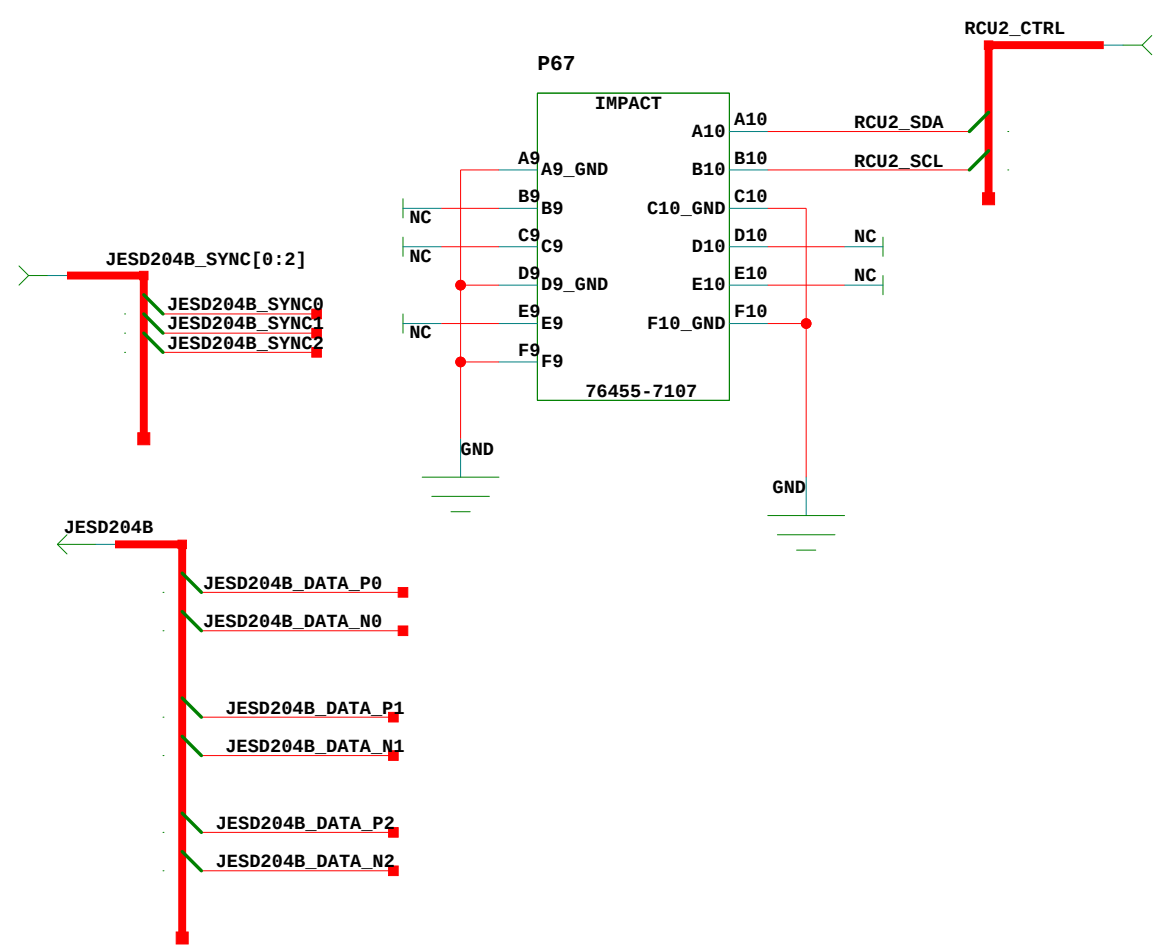
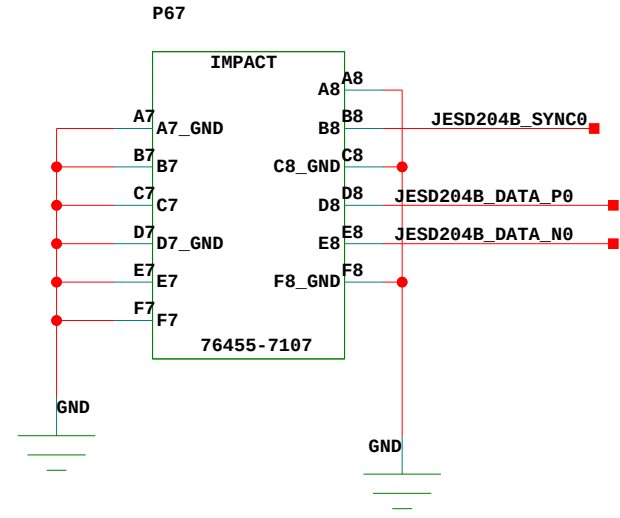
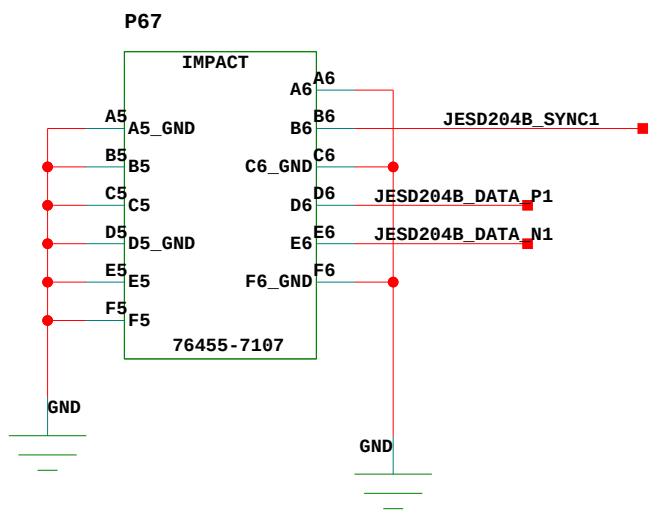
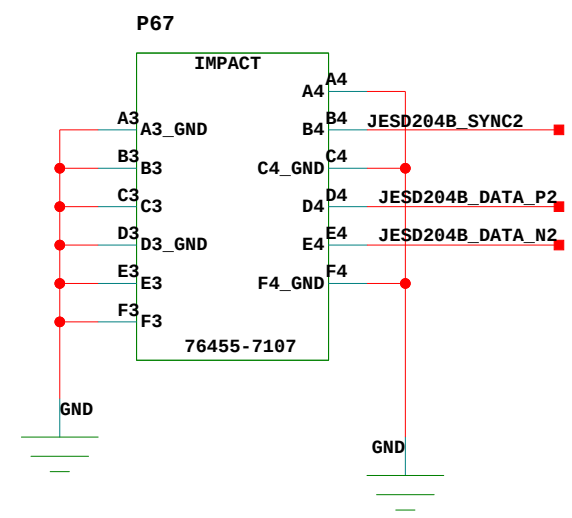
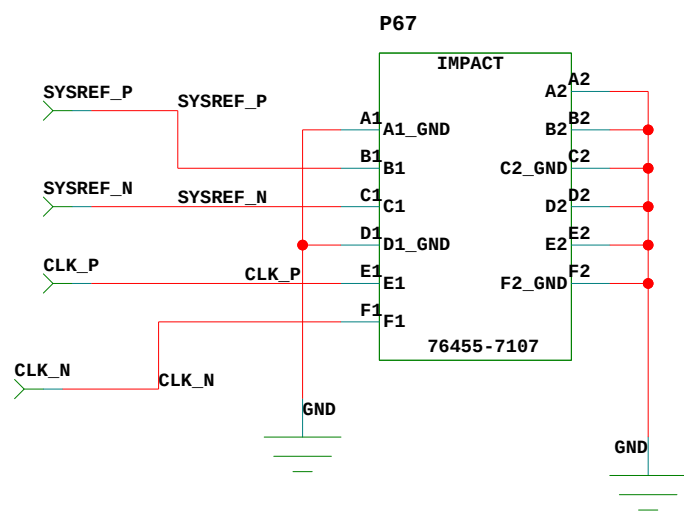
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	8 of 58
		DATE	21/02/2022:10:23

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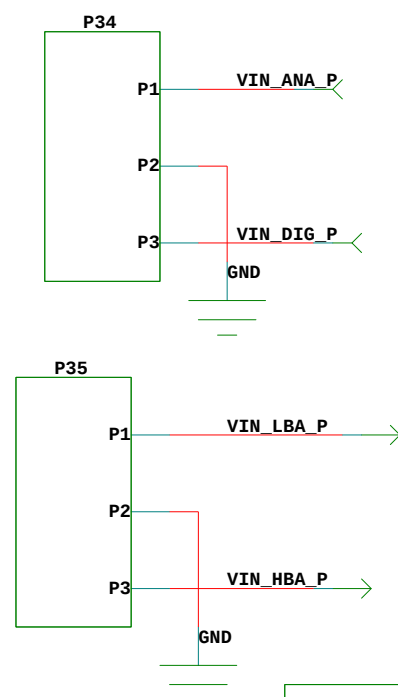
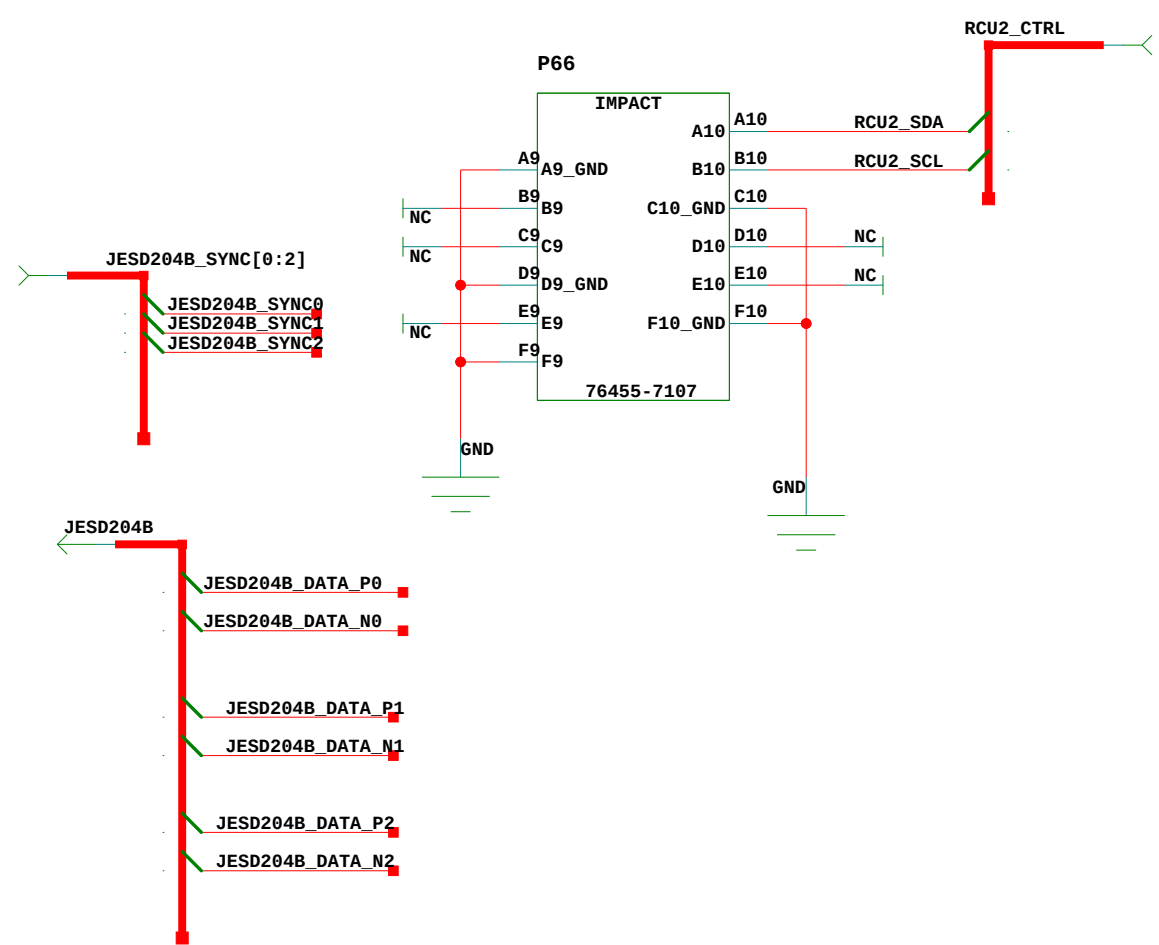
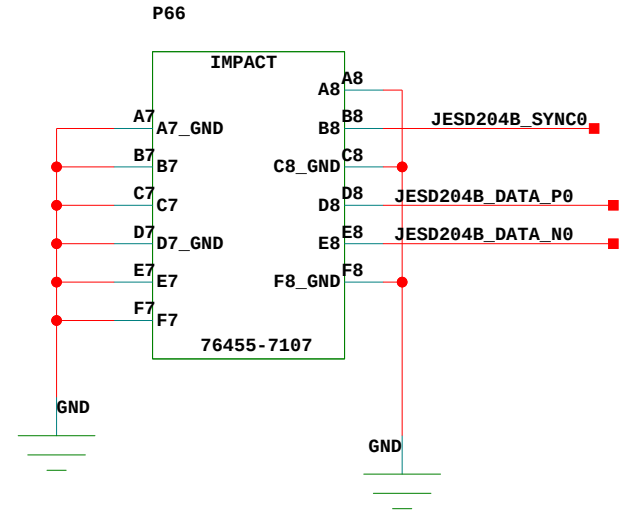
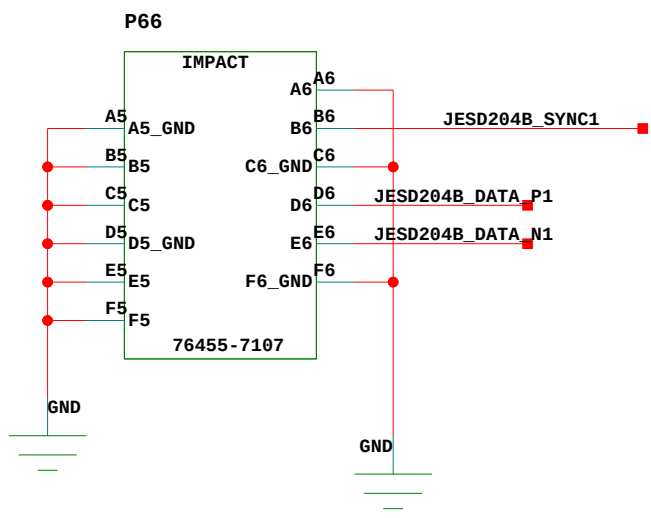
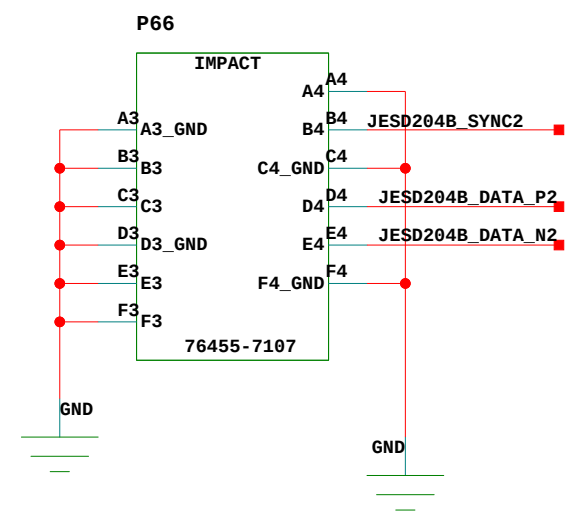
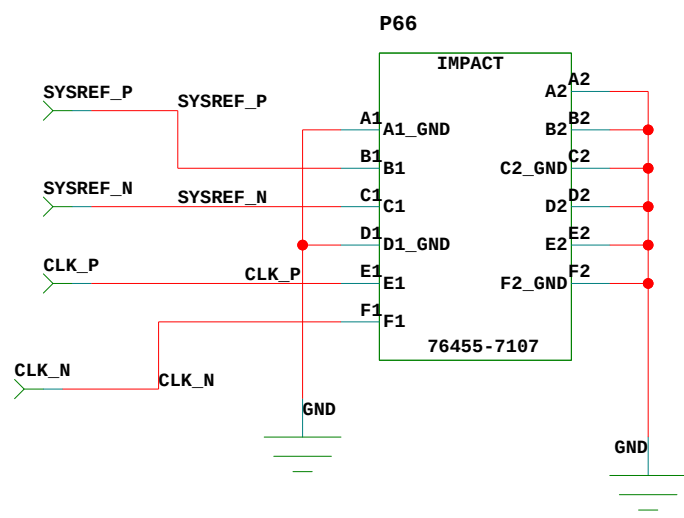
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ASTRON			
DESIGN RCU2 Interface			
SIZE A3	Filename	RCU2	
DRAWN BY G1js	SHEET 9 of 58	DATE	21/02/2022:10:23
		REV 3.0	

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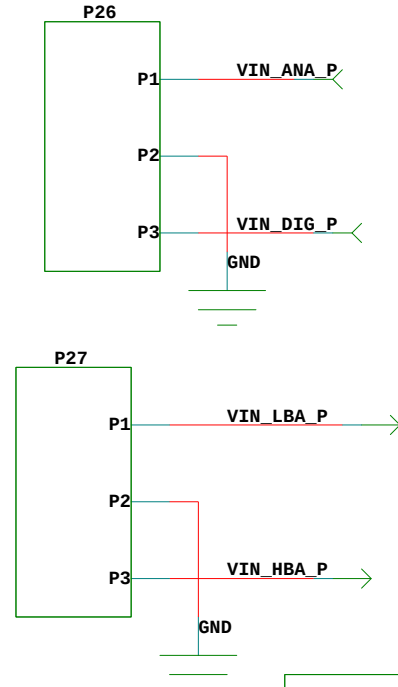
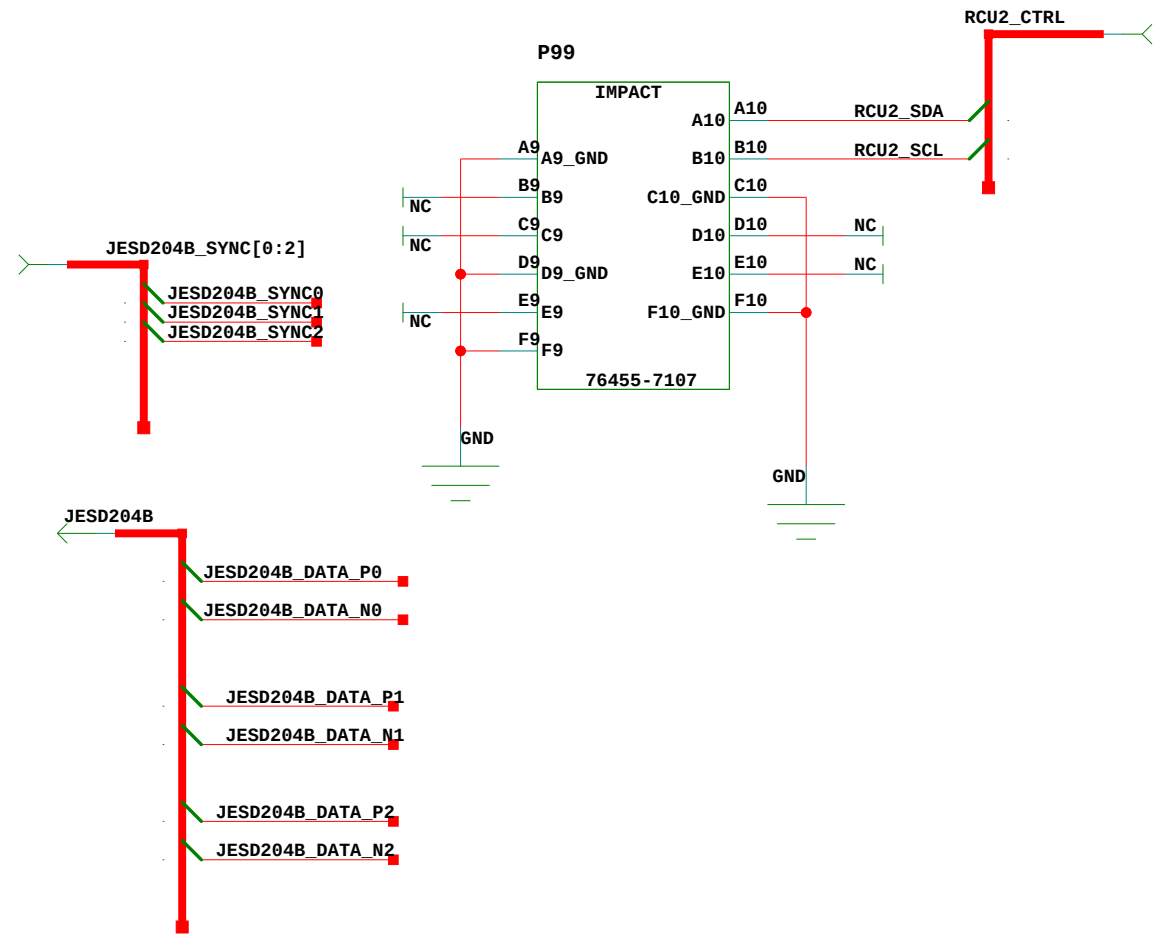
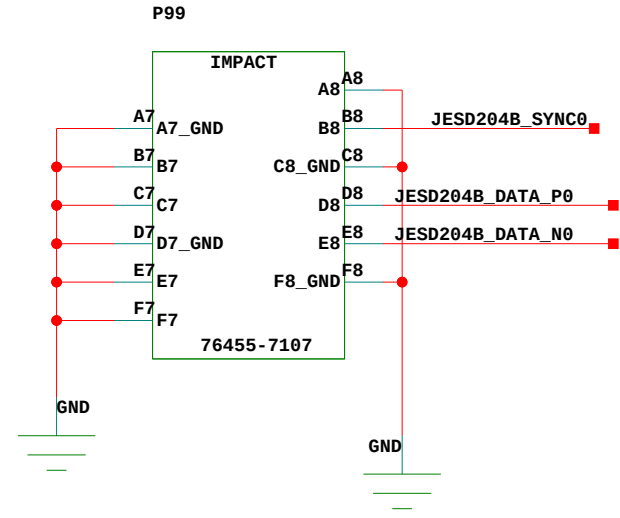
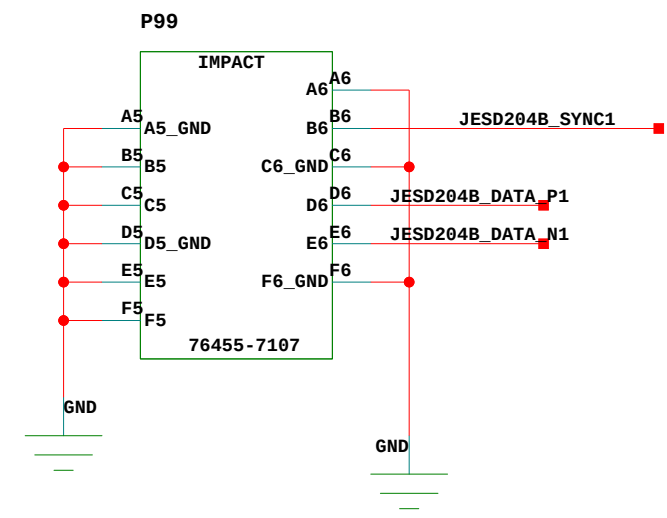
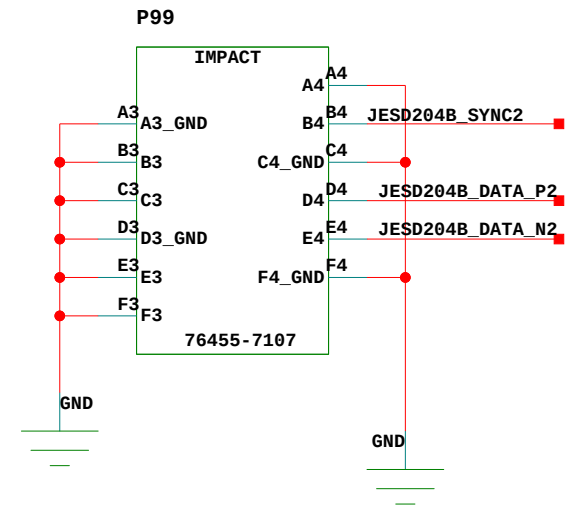
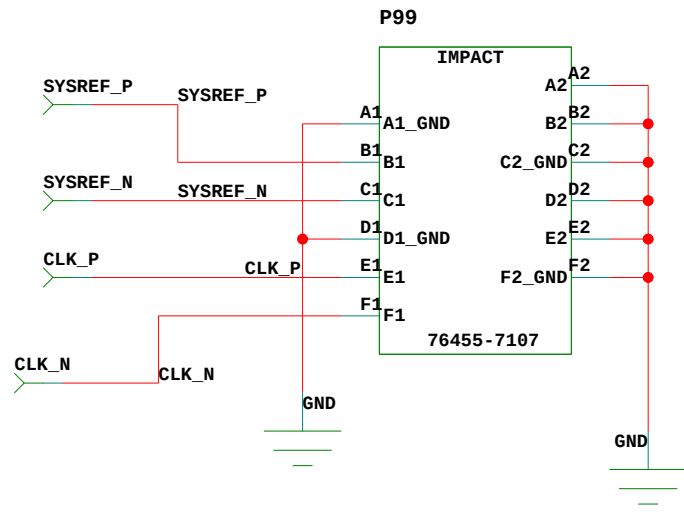
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 10 of 58	DATE	21/02/2022:10:23

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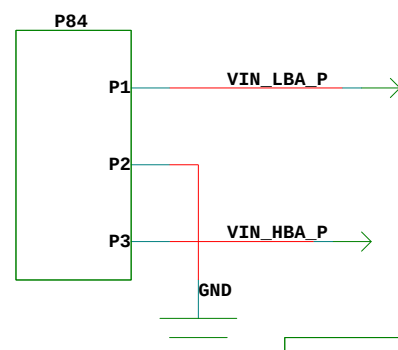
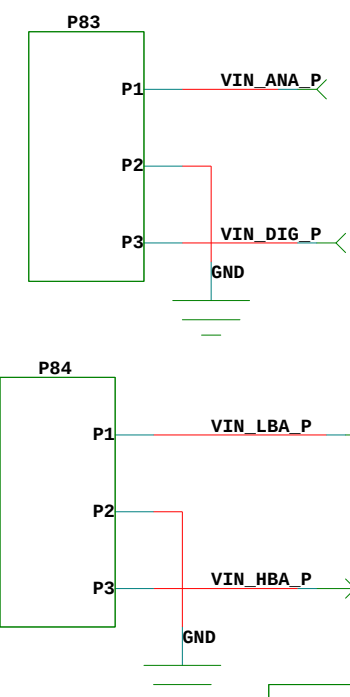
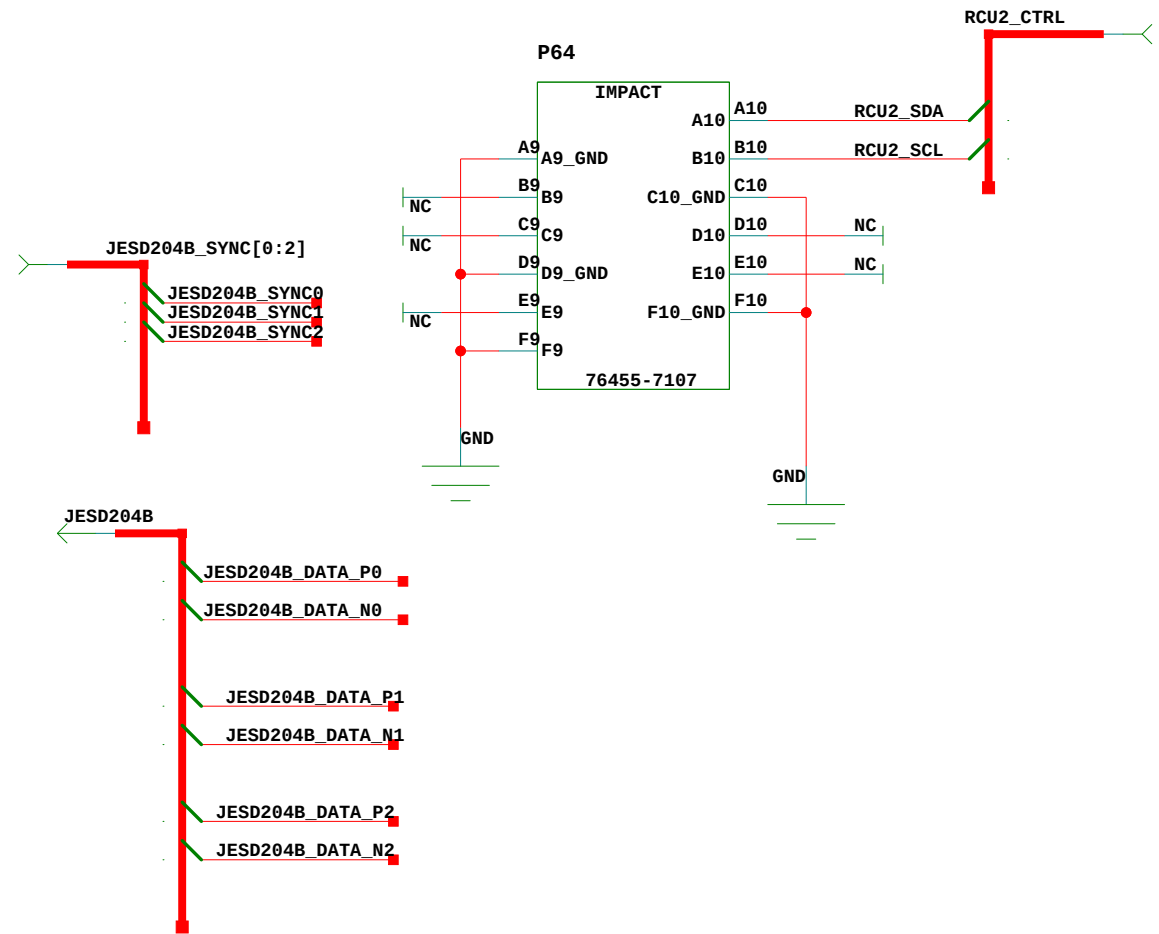
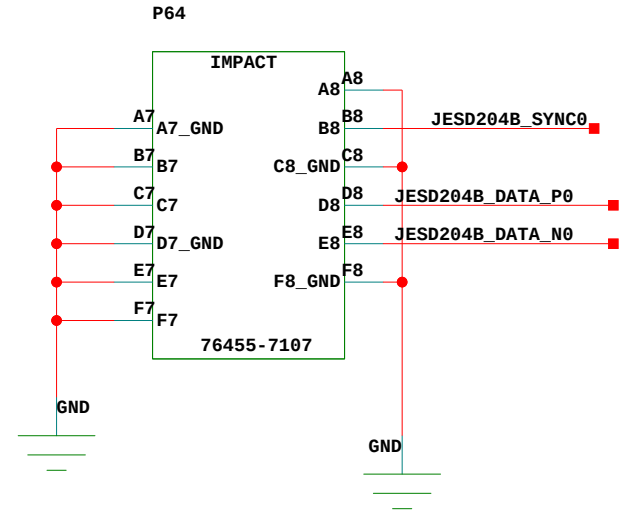
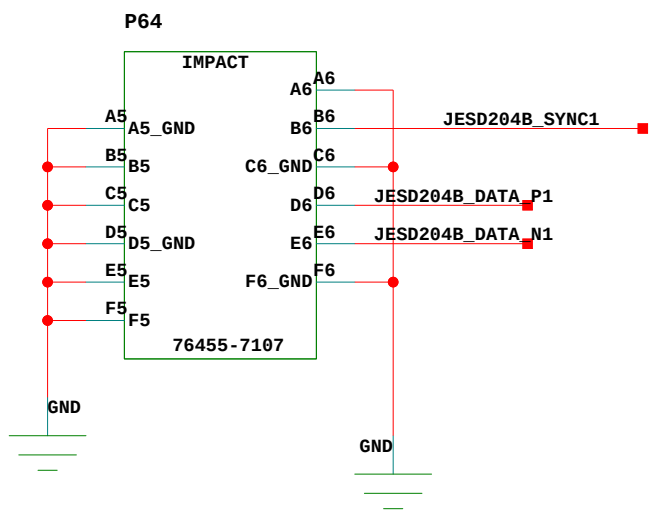
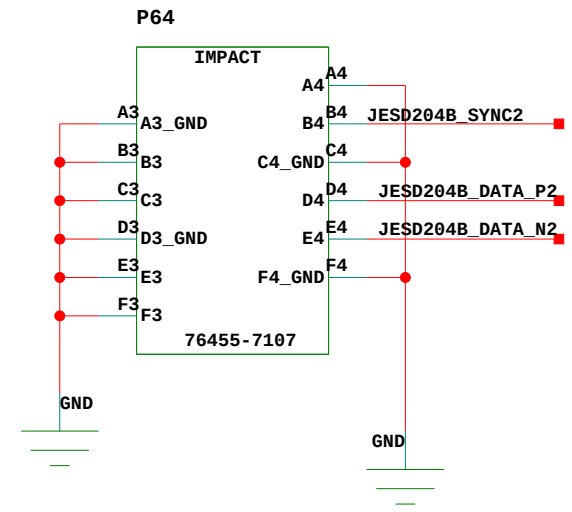
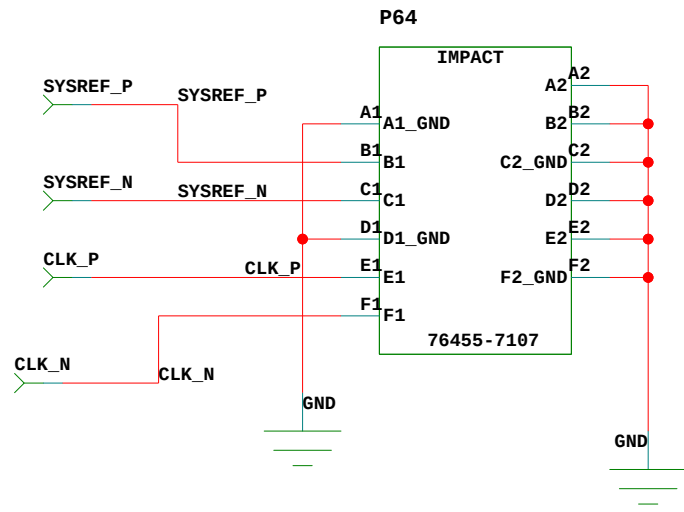
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ASTRON			
RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
G1js	11 of 58	21/02/2022:10:23	

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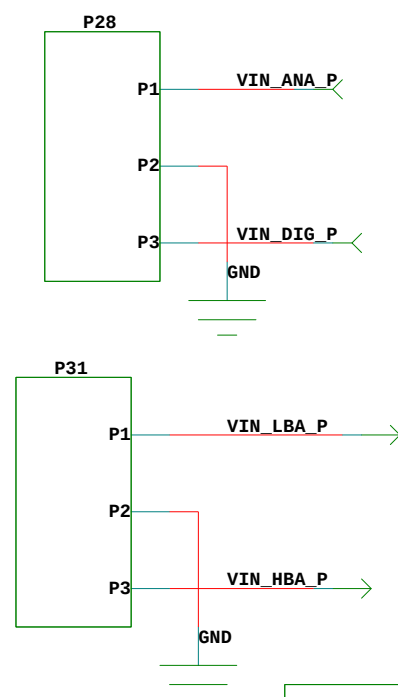
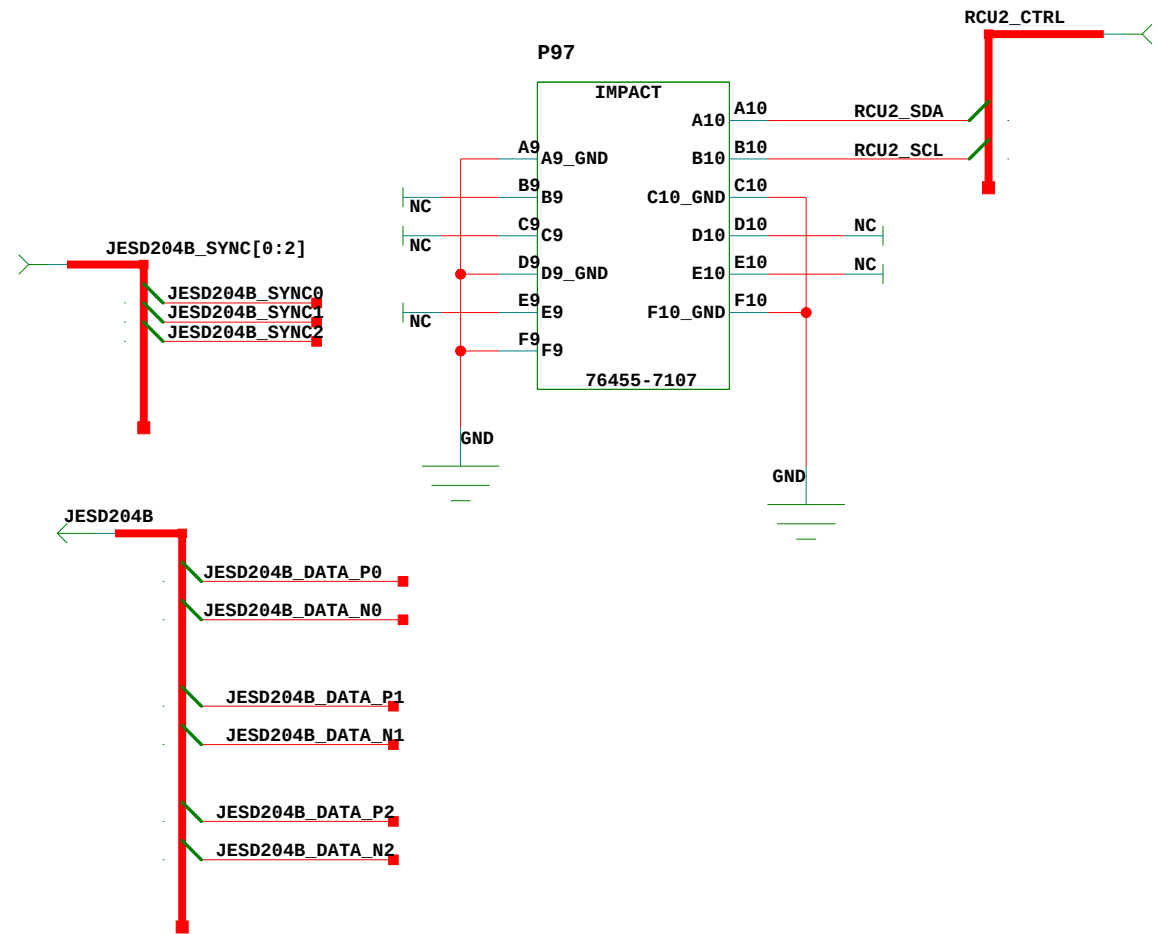
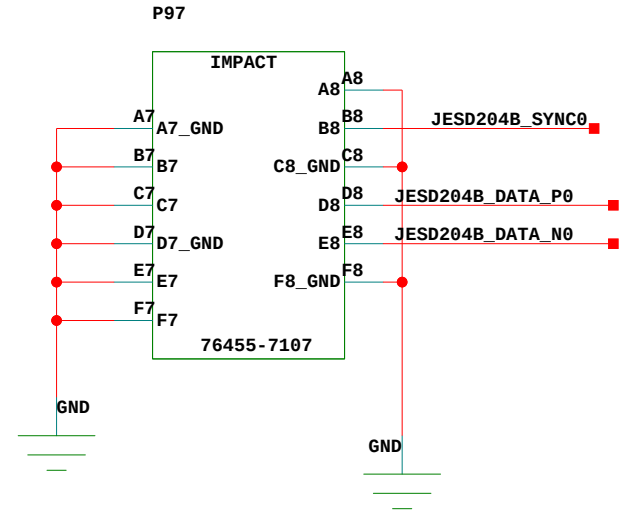
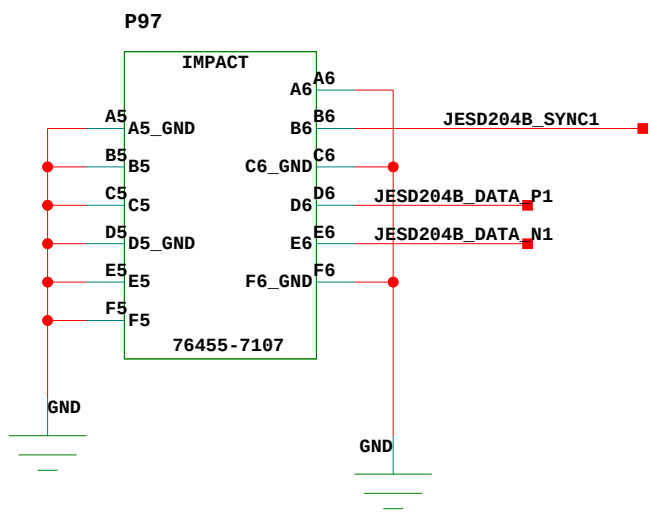
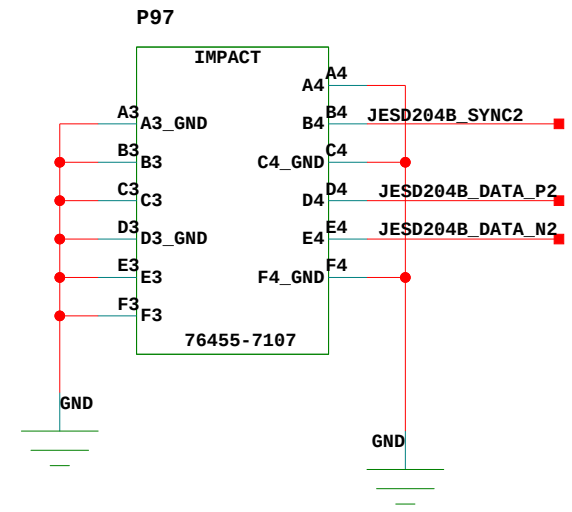
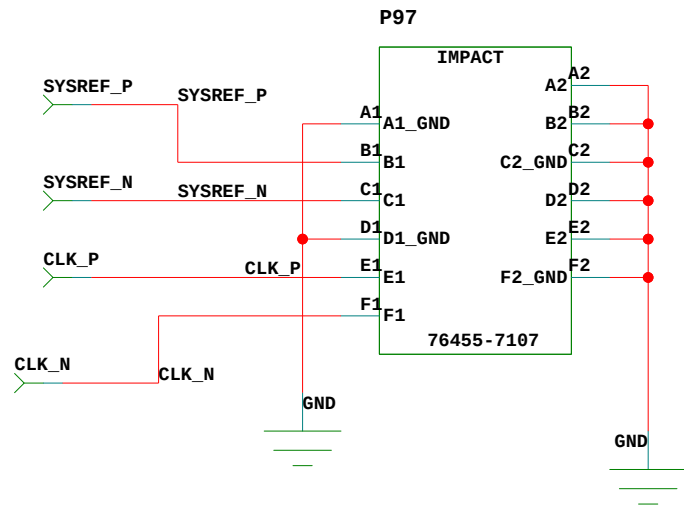
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 12 of 58	DATE	21/02/2022:10:23

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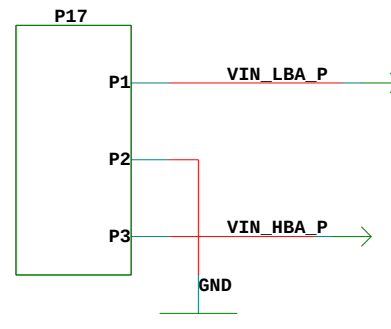
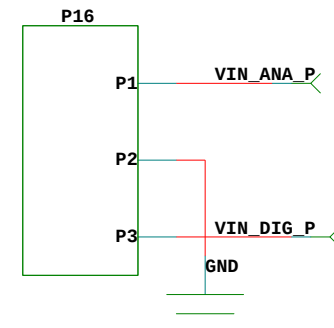
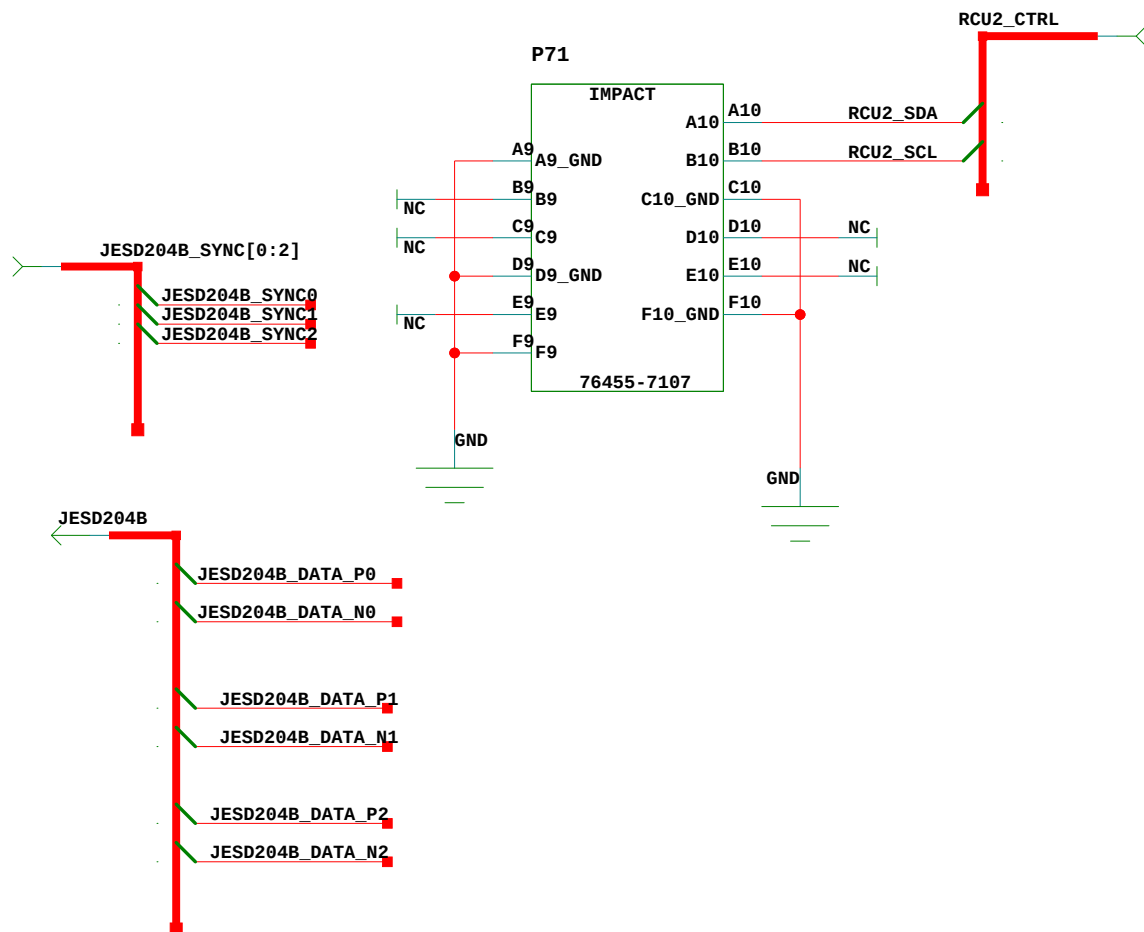
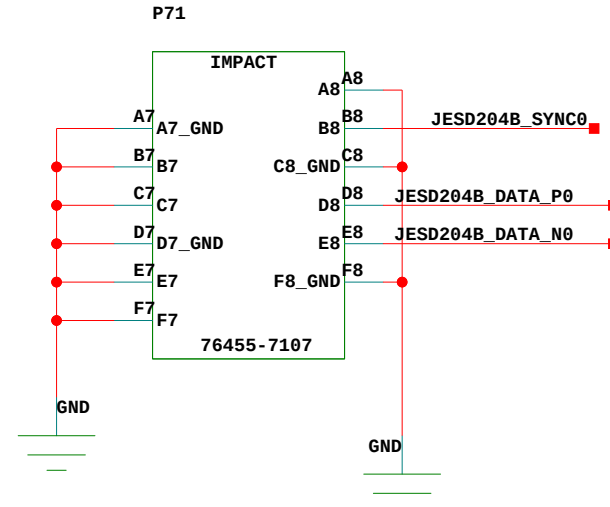
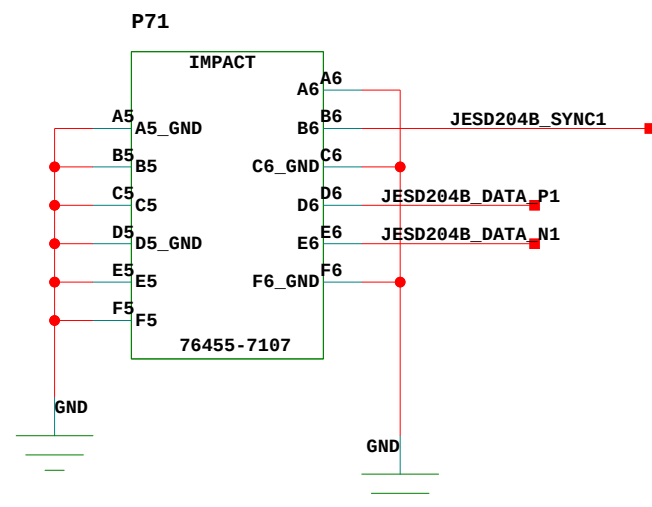
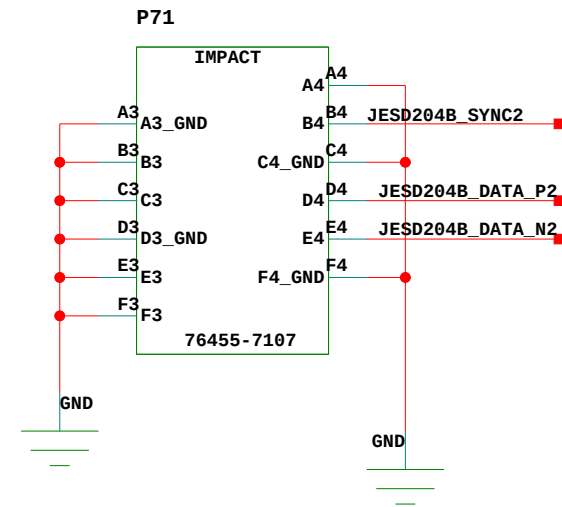
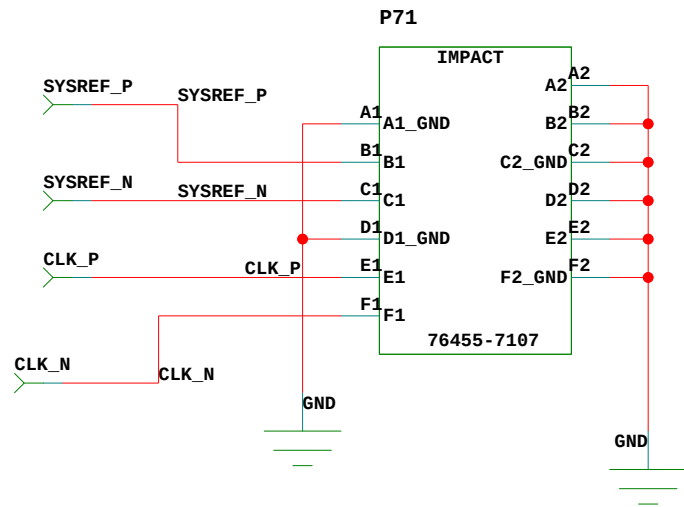
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ASTRON

RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
G1js	13 of 58	21/02/2022:10:23	

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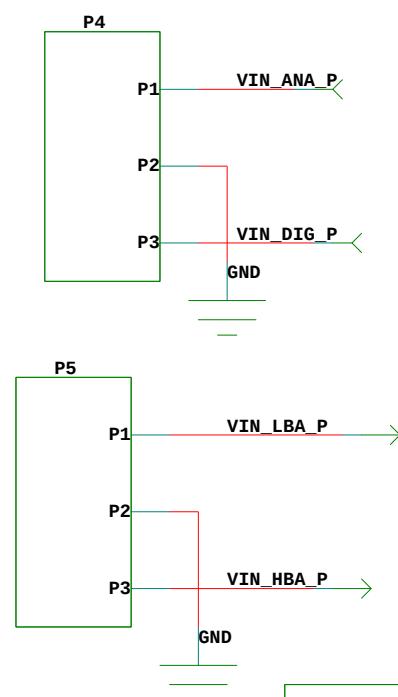
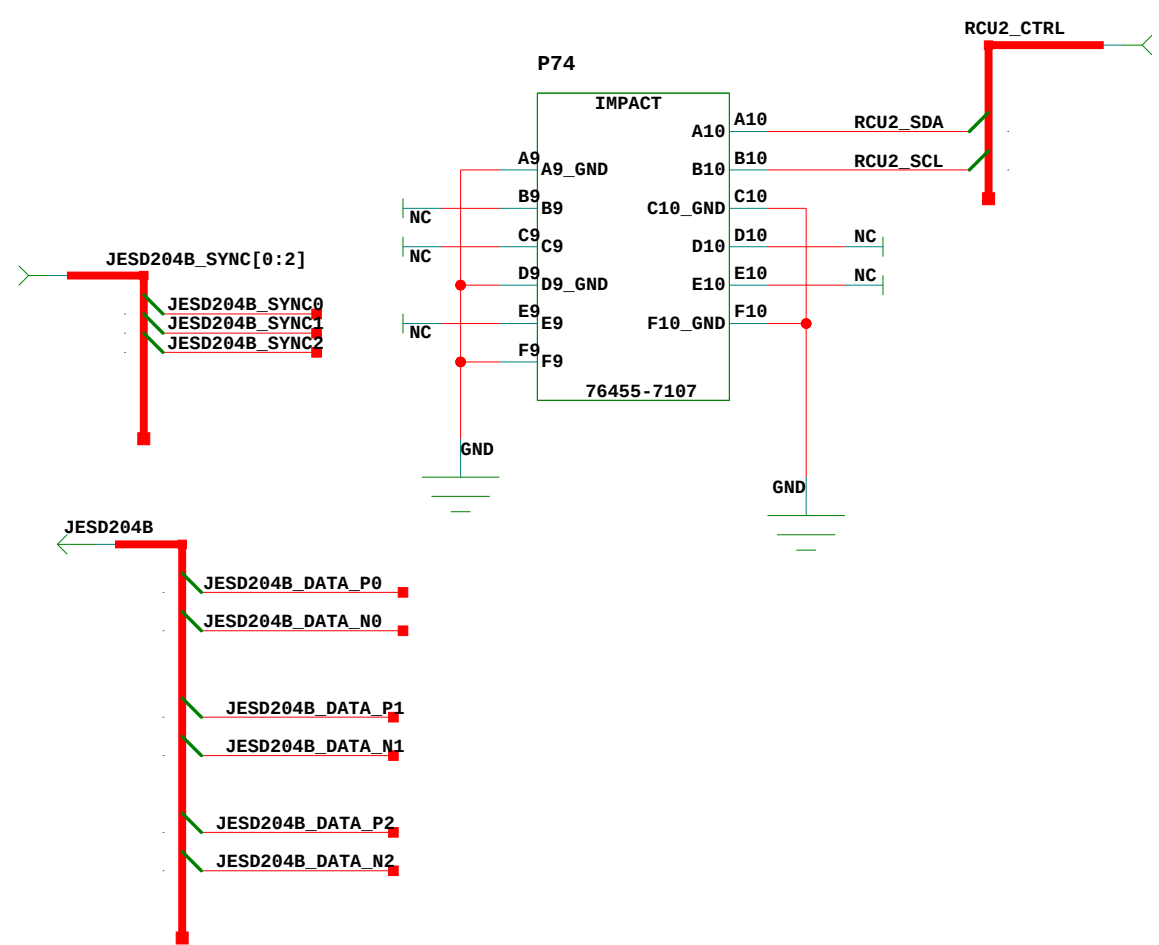
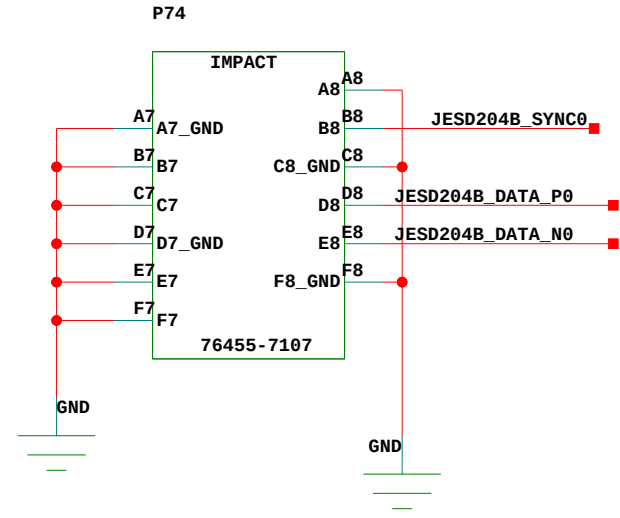
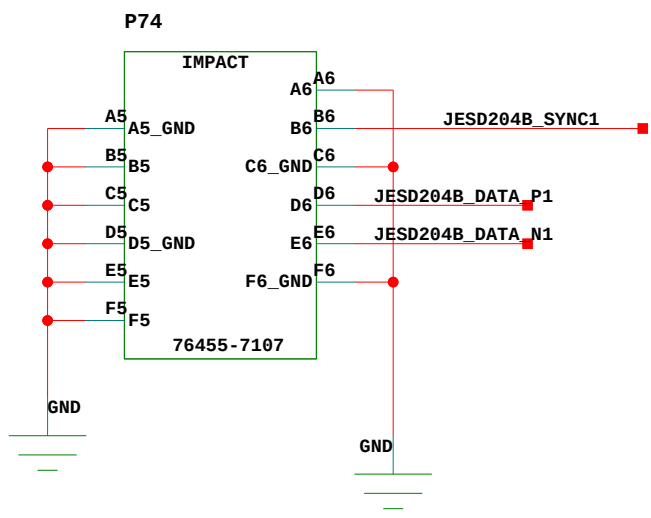
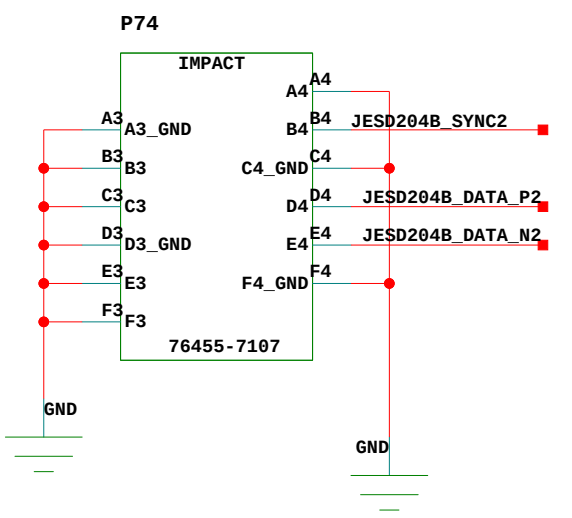
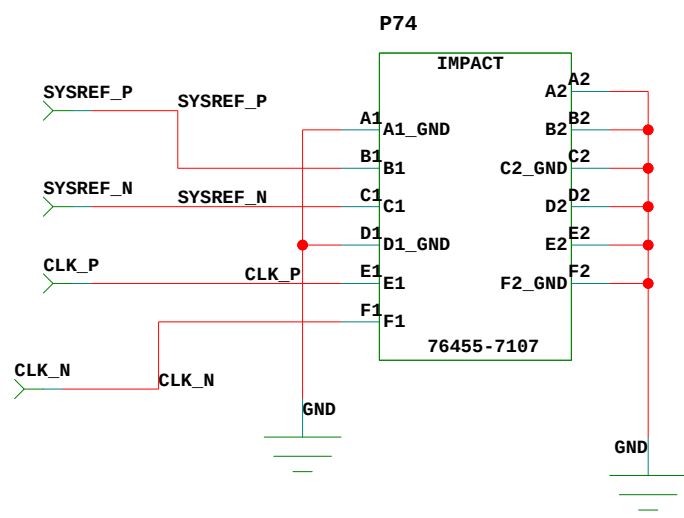
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	14 of 58
		DATE	21/02/2022:10:23

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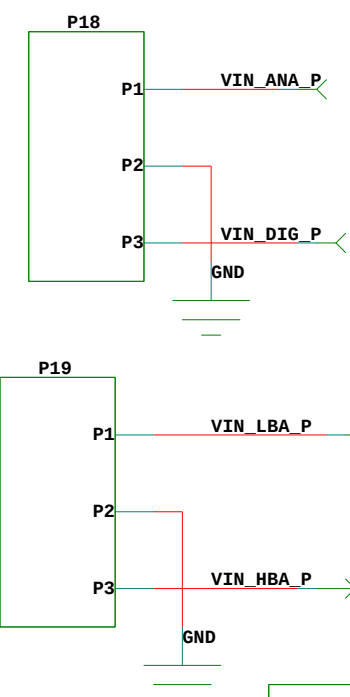
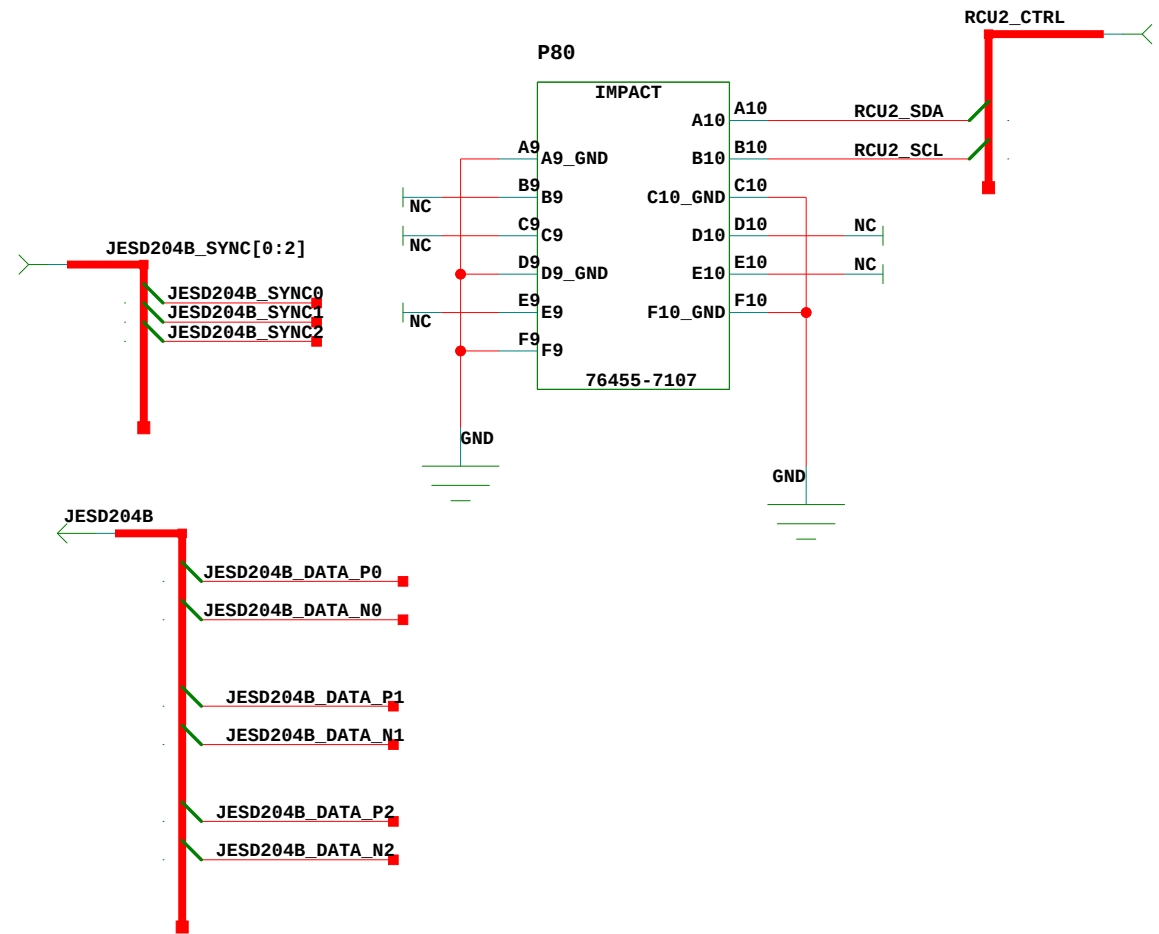
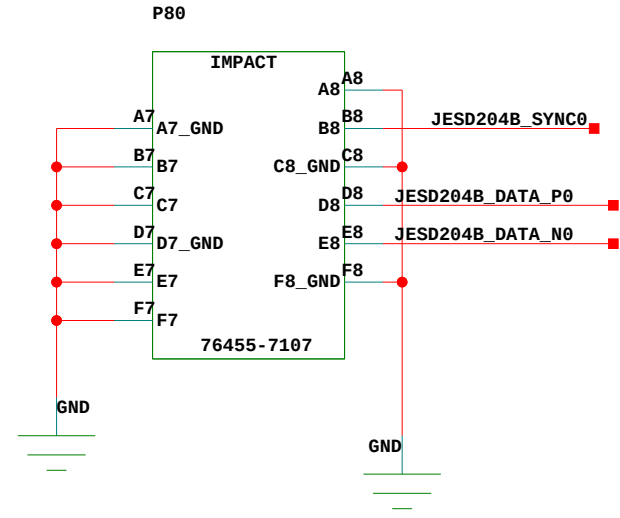
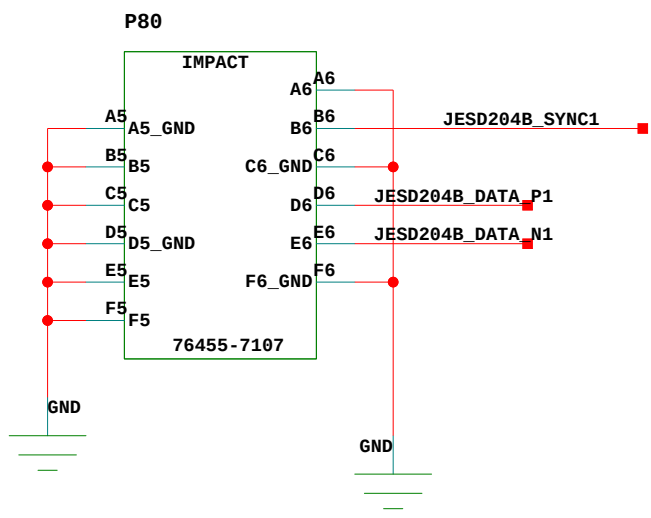
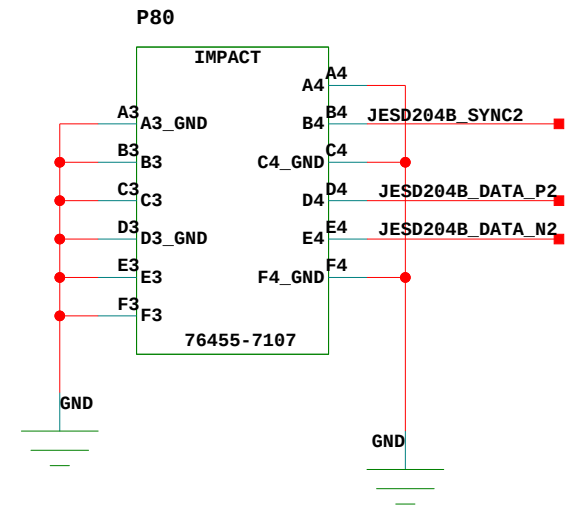
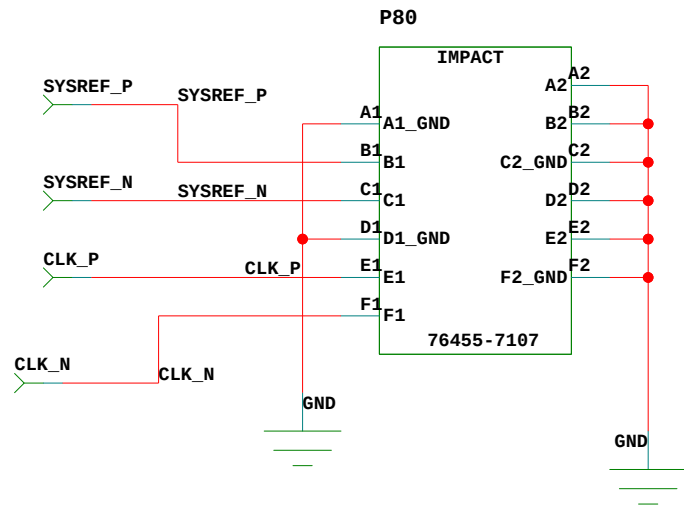
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	15 of 58
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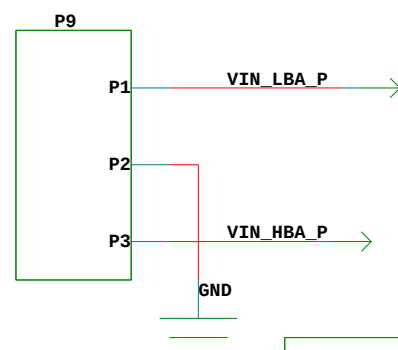
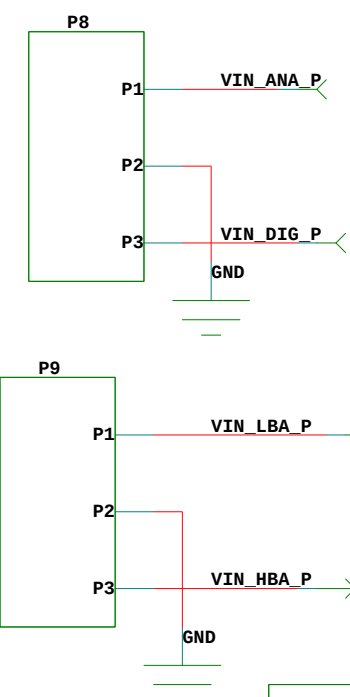
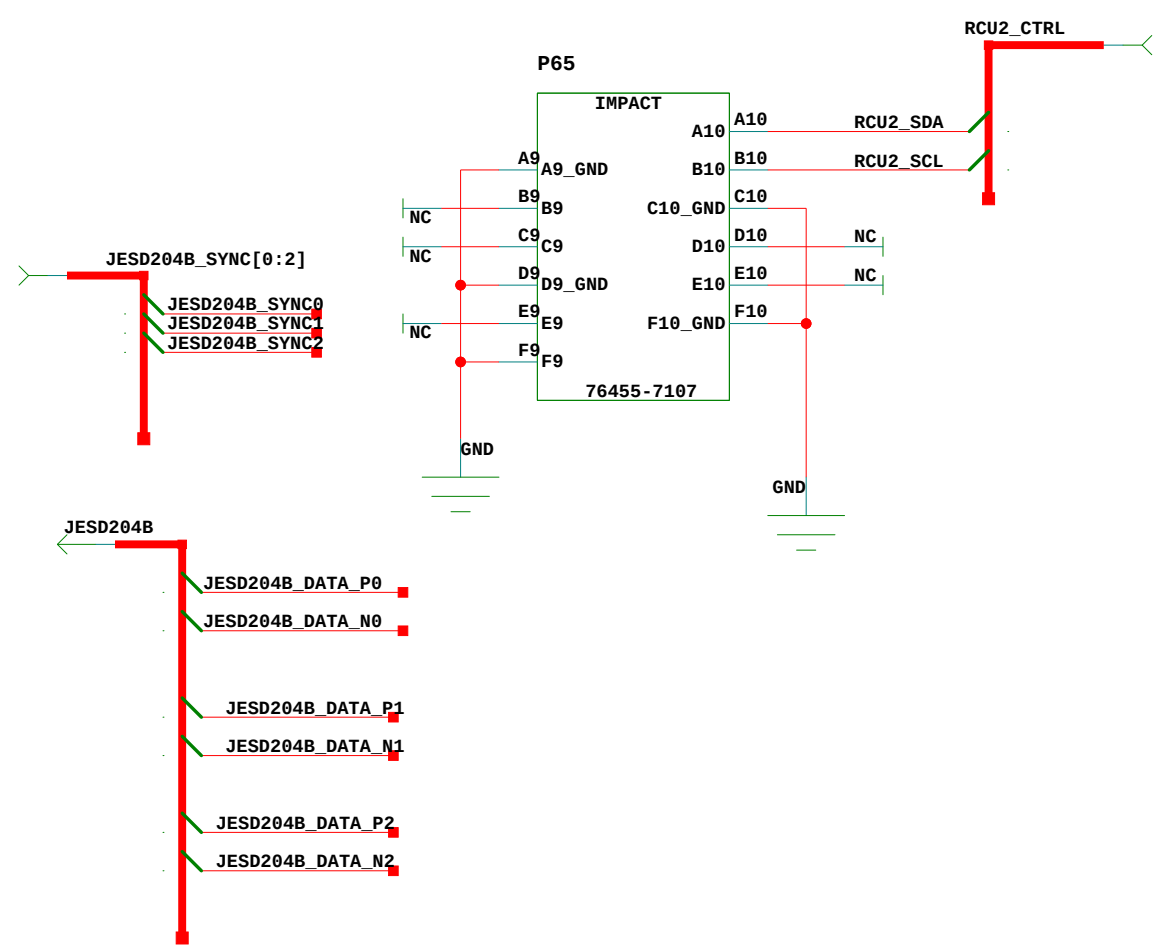
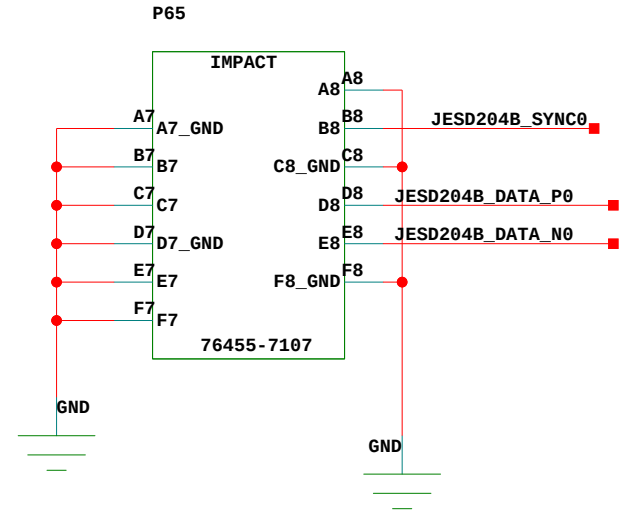
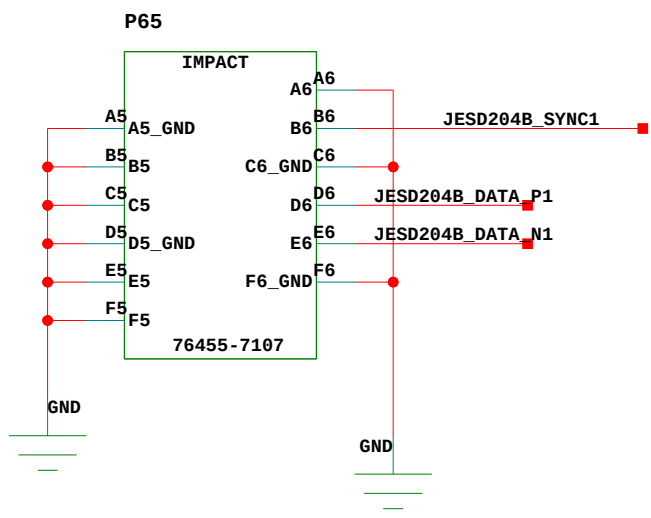
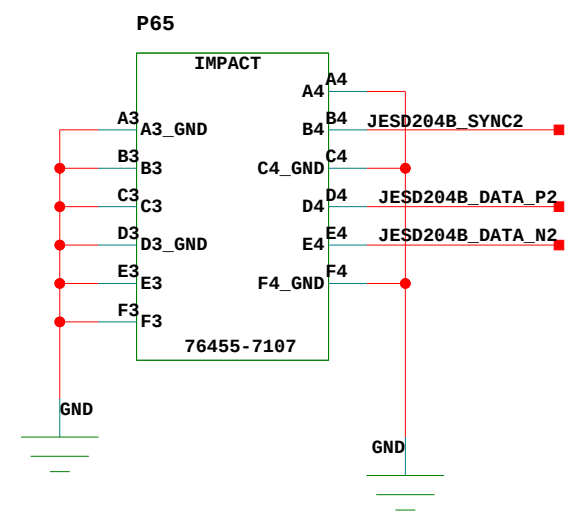
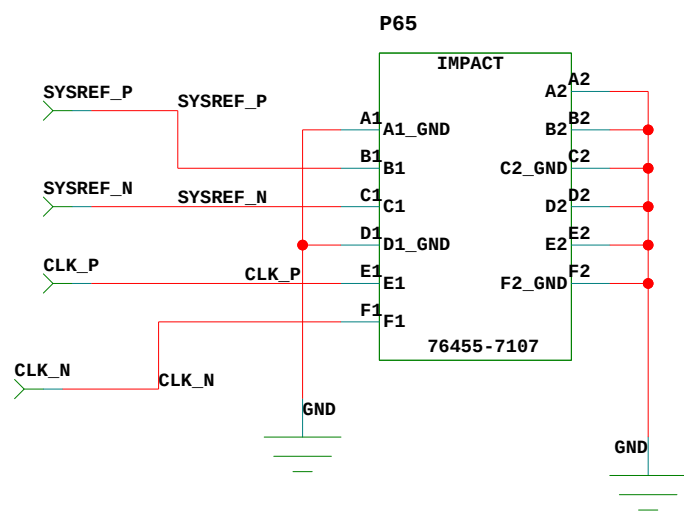
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	REV	
A3		RCU2	
DRAWN BY		SHEET	DATE
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3.0			

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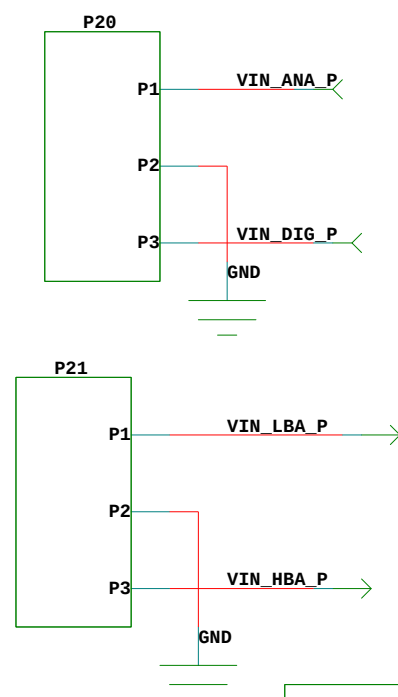
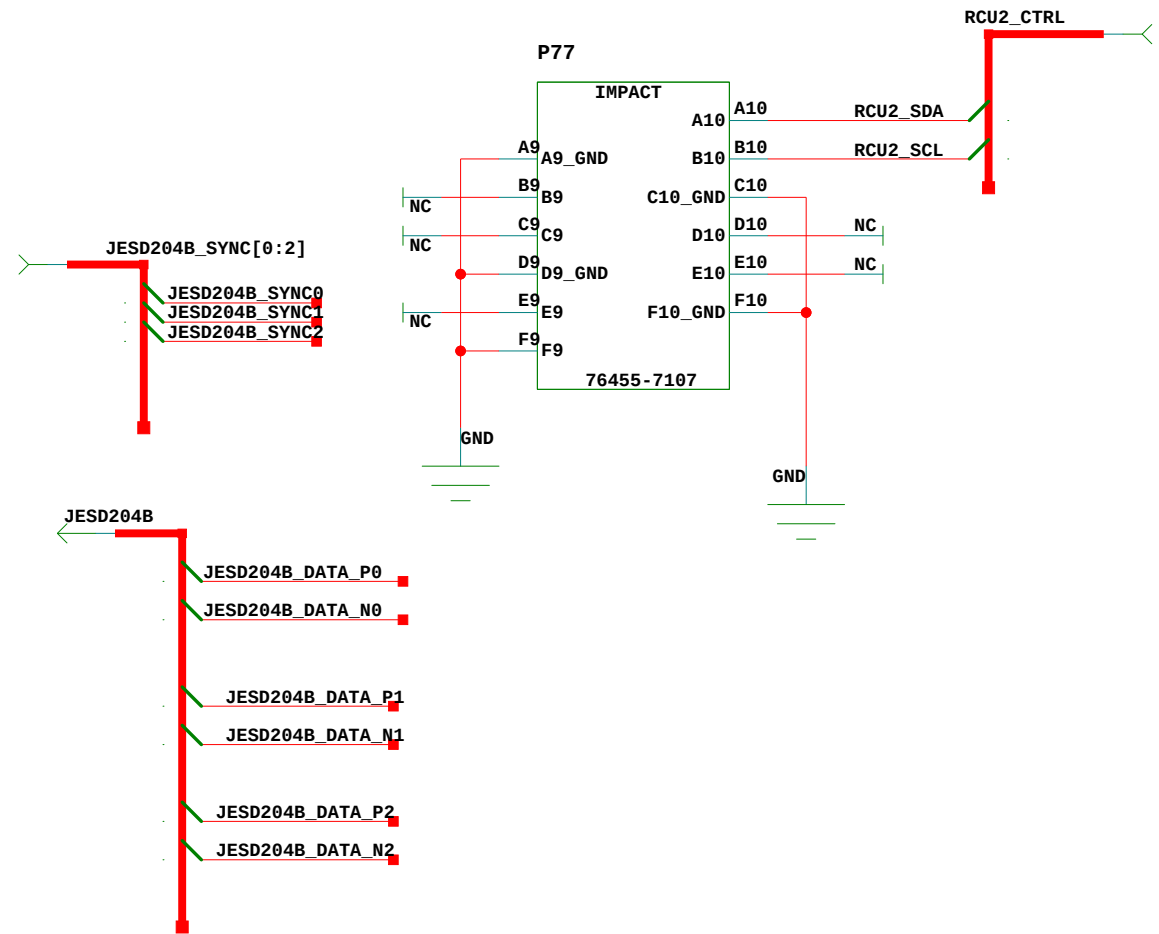
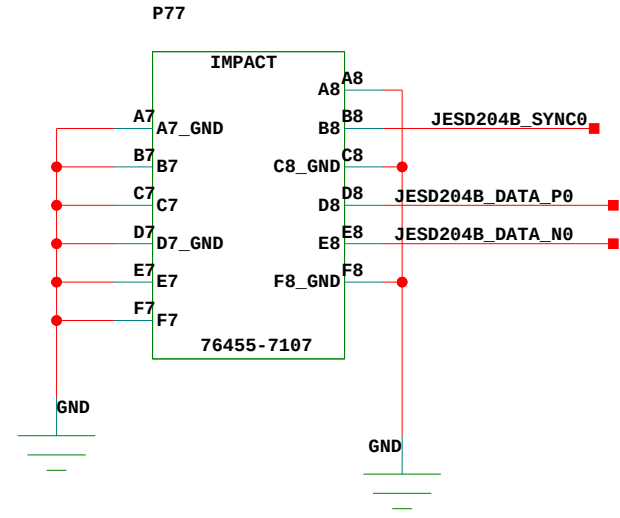
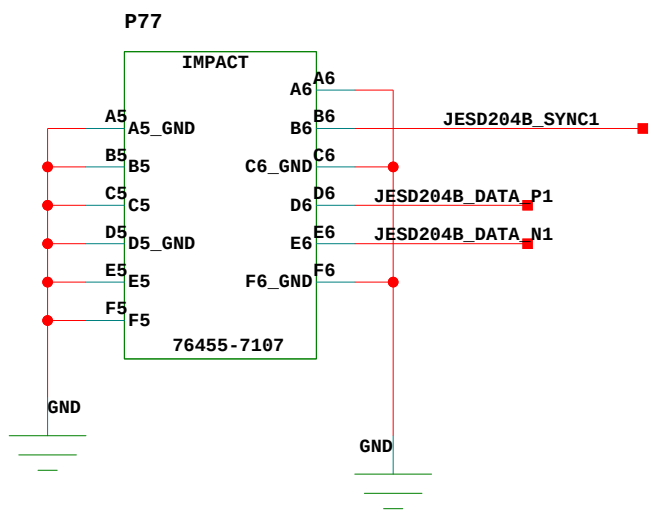
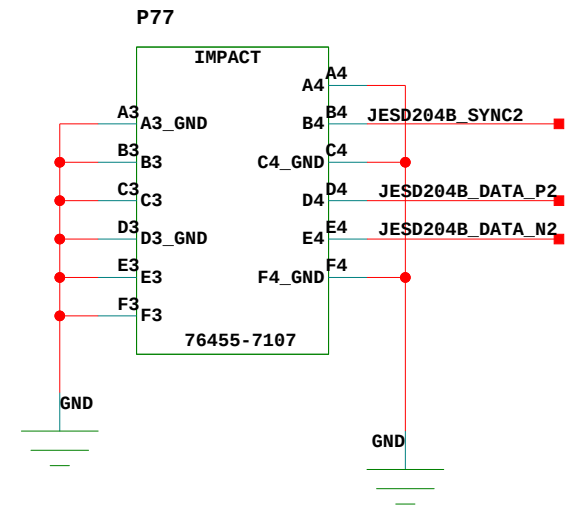
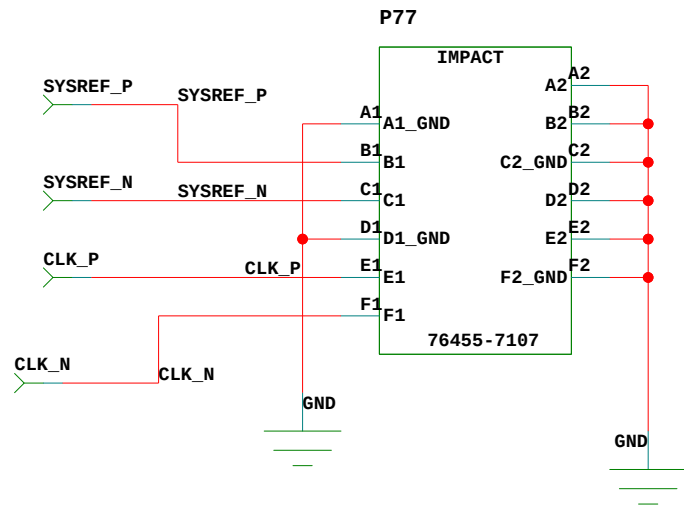
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ASTRON				
RCU2 Interface				
DESIGN				
SIZE	Filename	RCU2		REV 3.0
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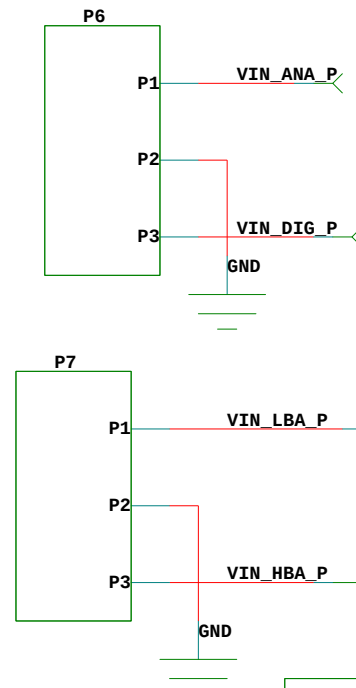
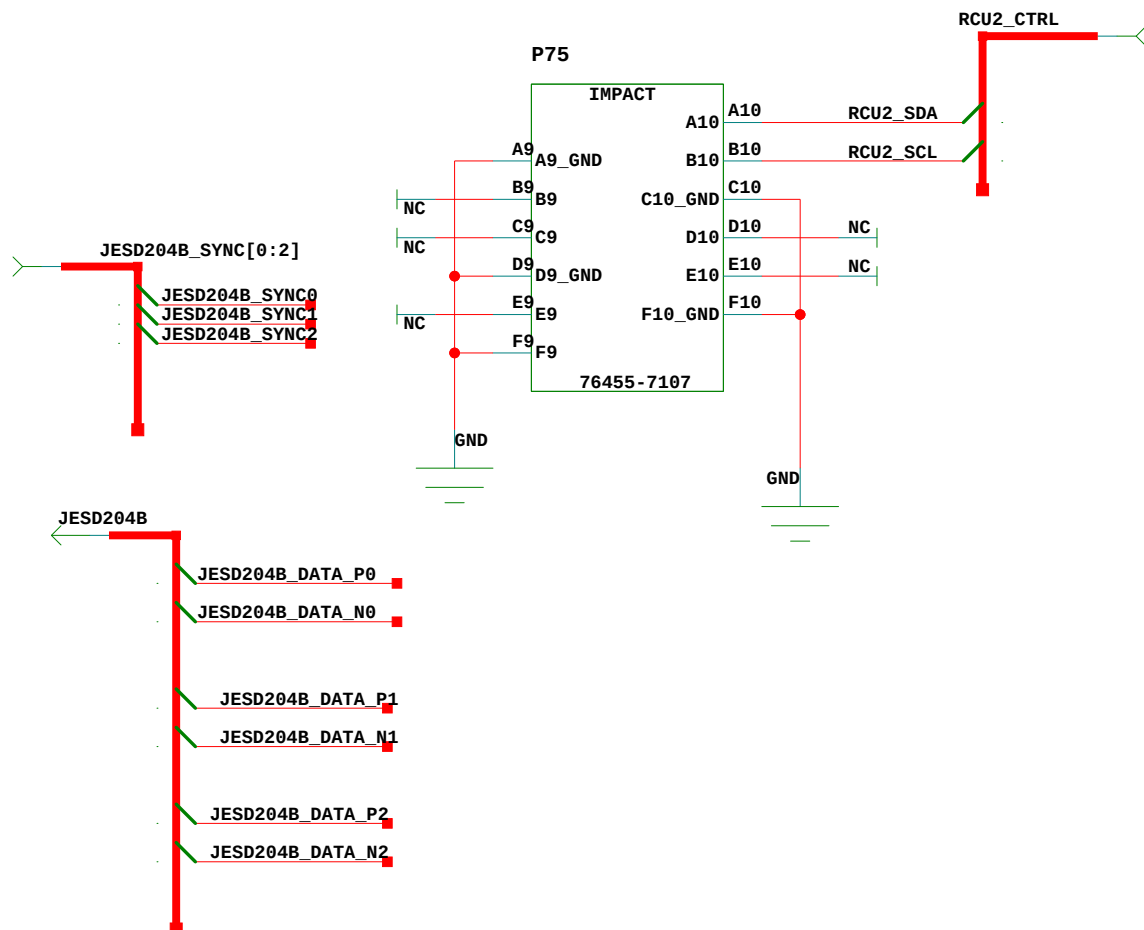
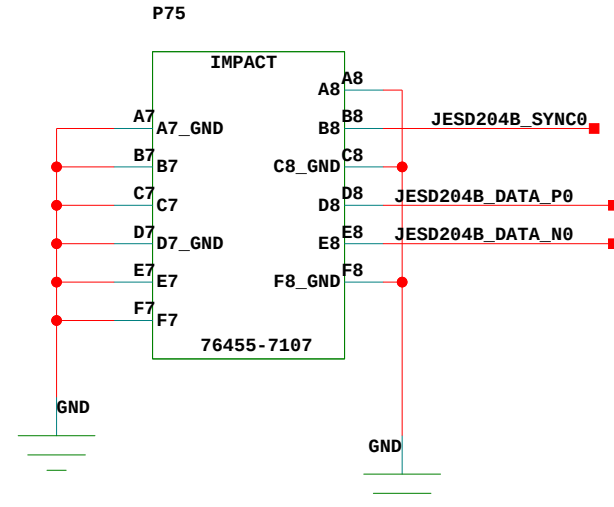
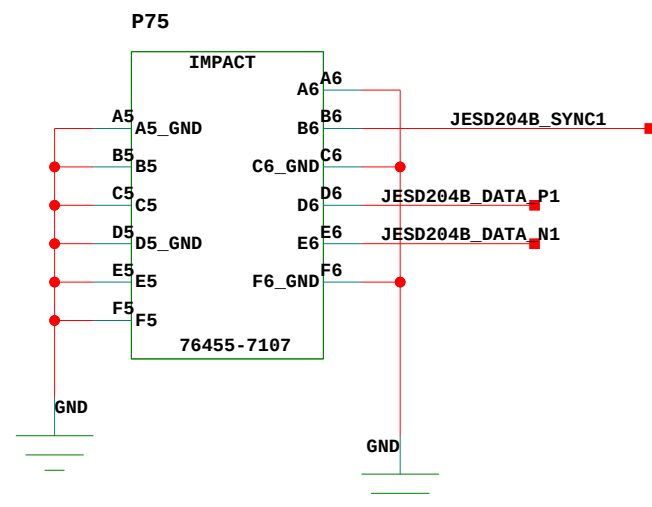
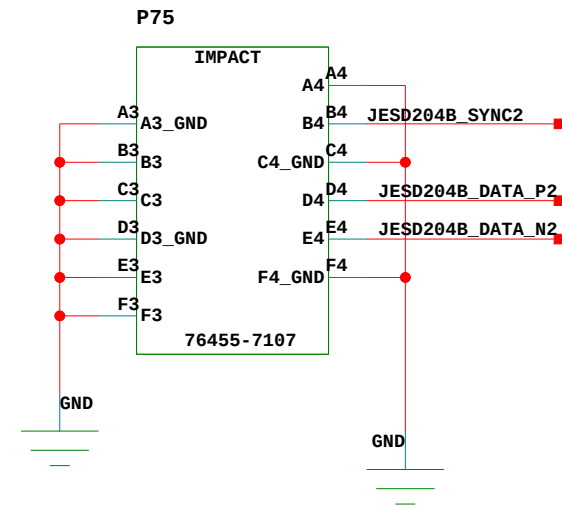
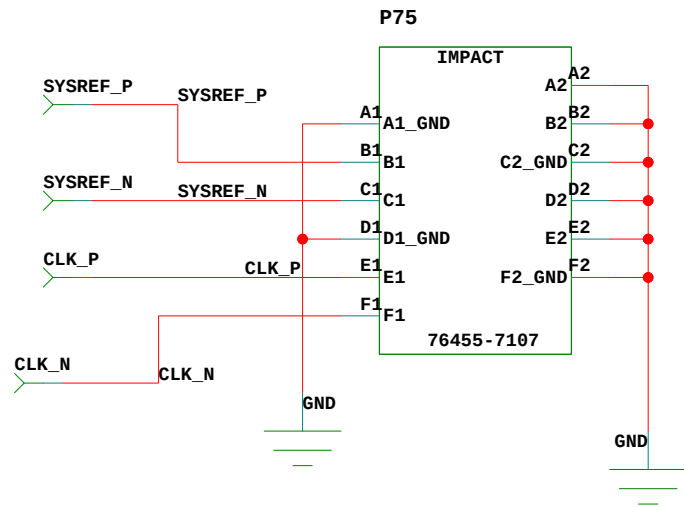
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ASTRON

RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
DRAWN BY G1js	SHEET 18 of 58	DATE	21/02/2022:10:23

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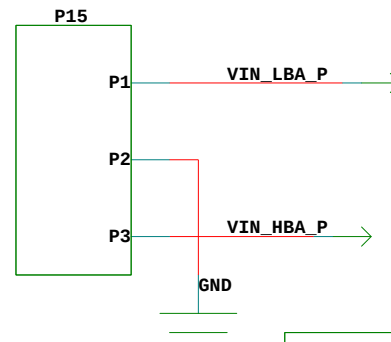
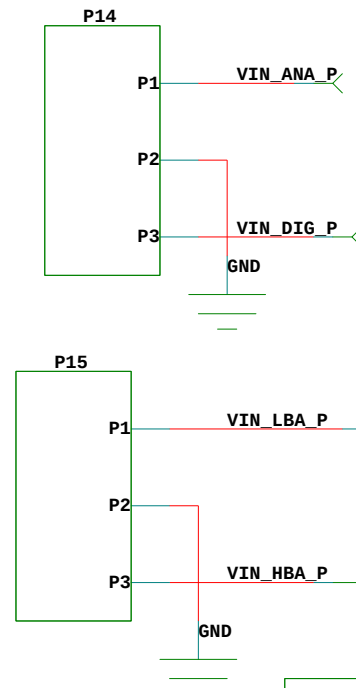
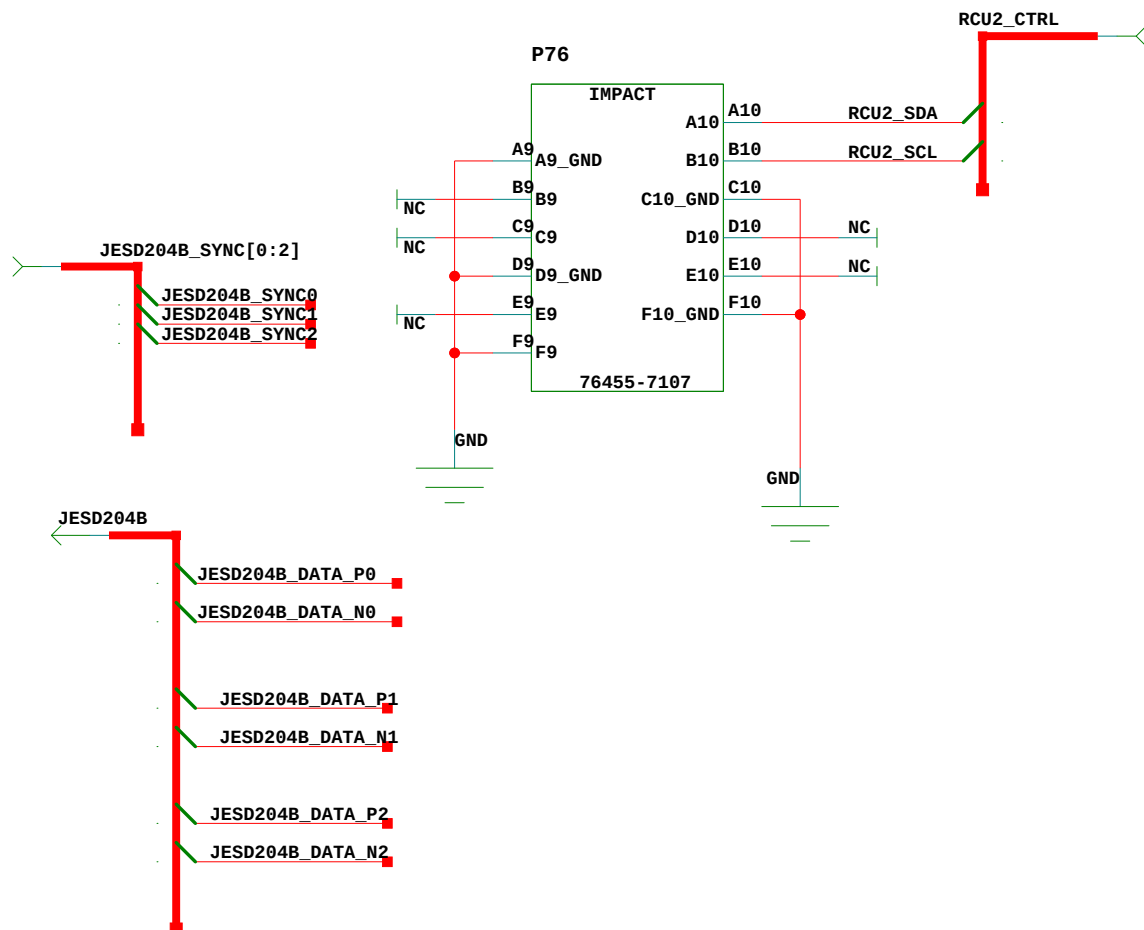
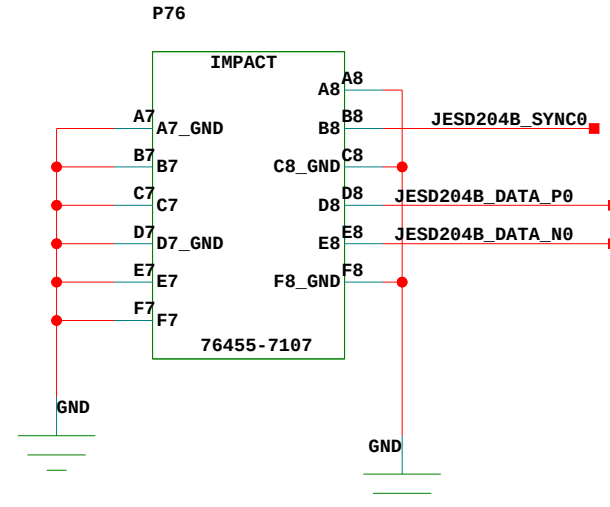
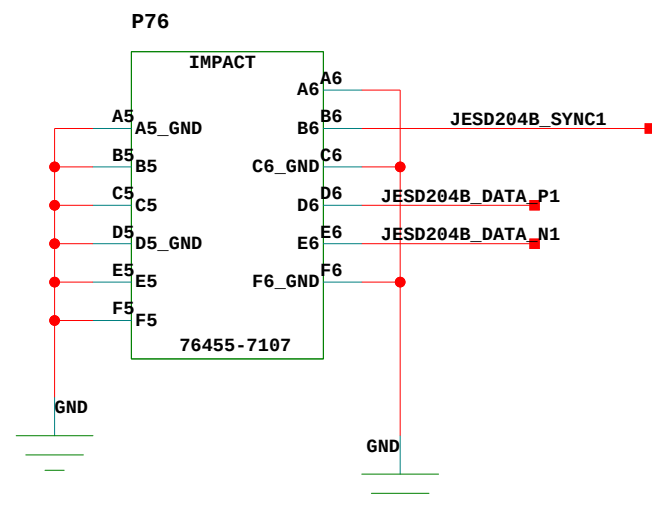
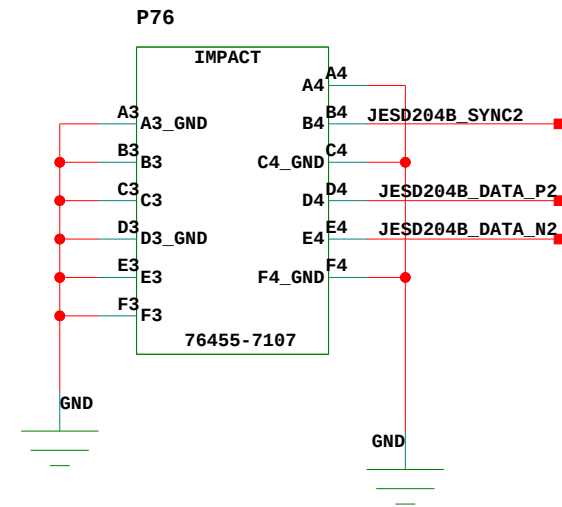
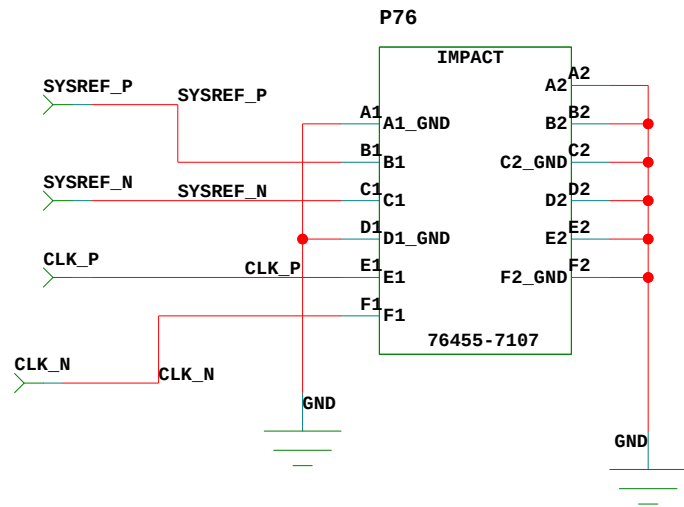
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ASTRON

RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	G1js	SHEET	19 of 58
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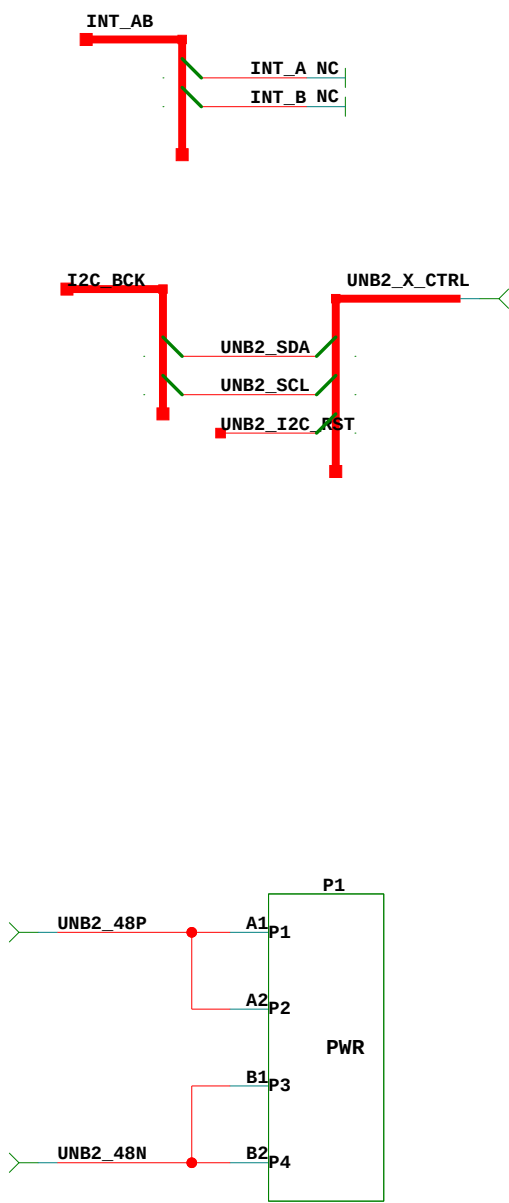
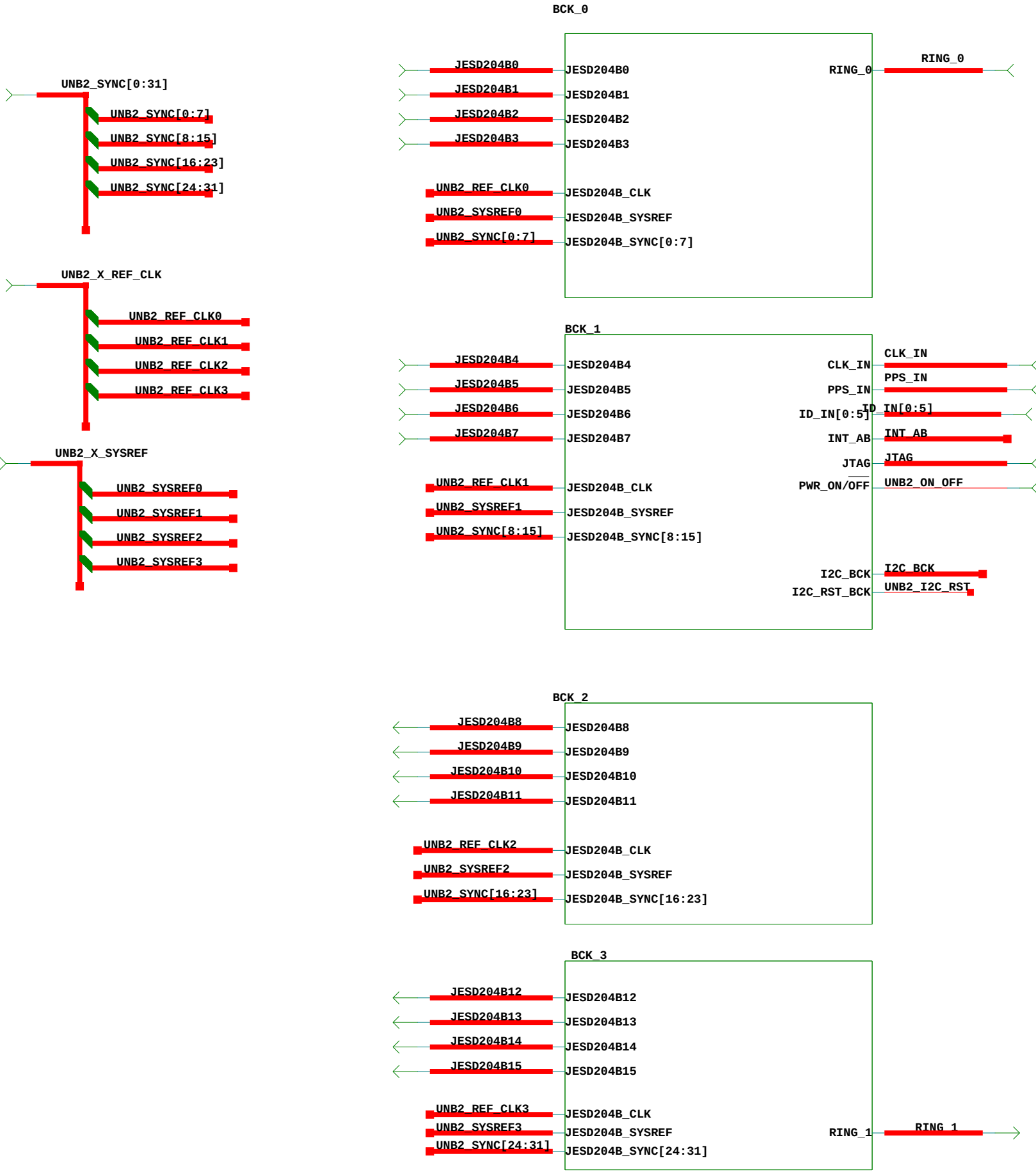
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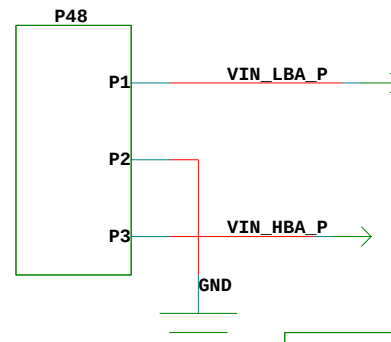
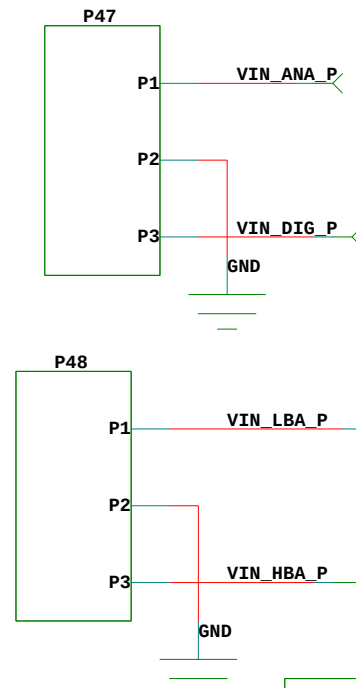
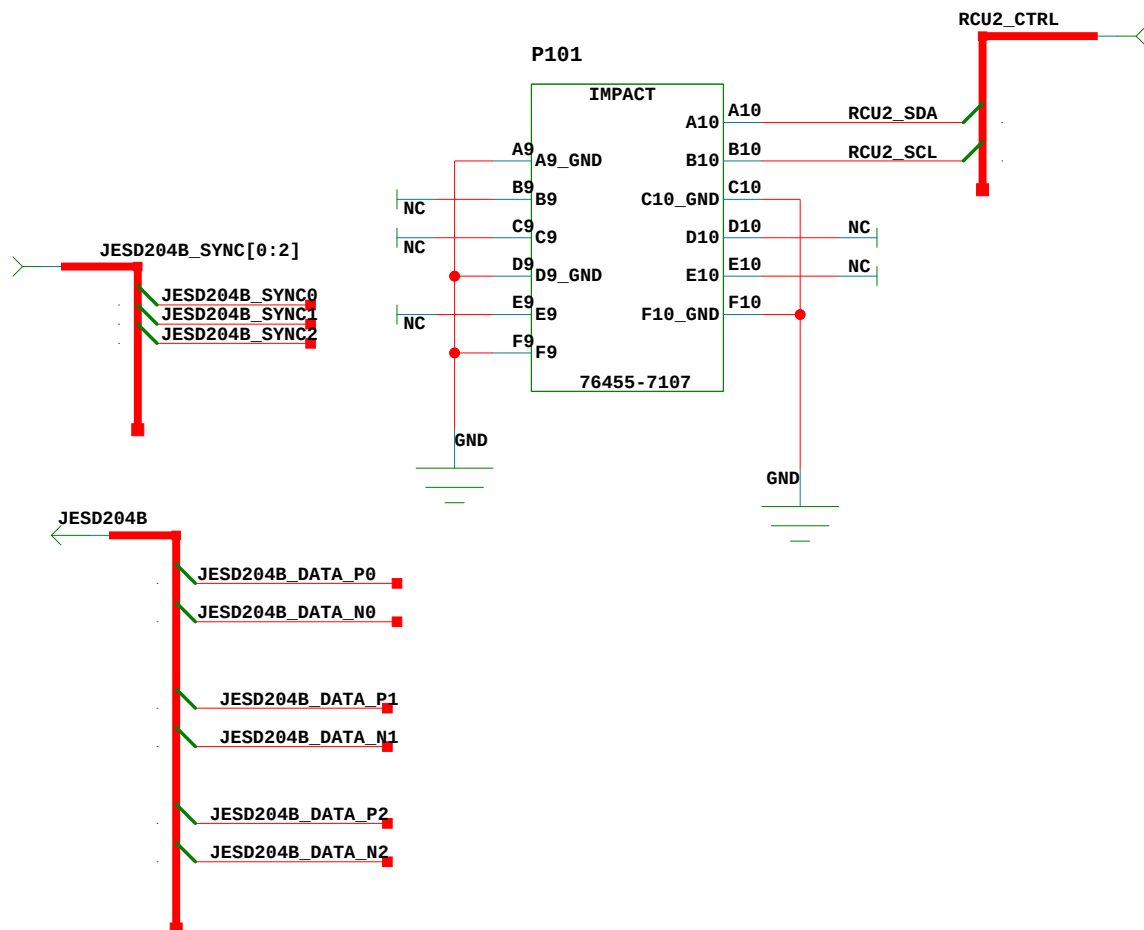
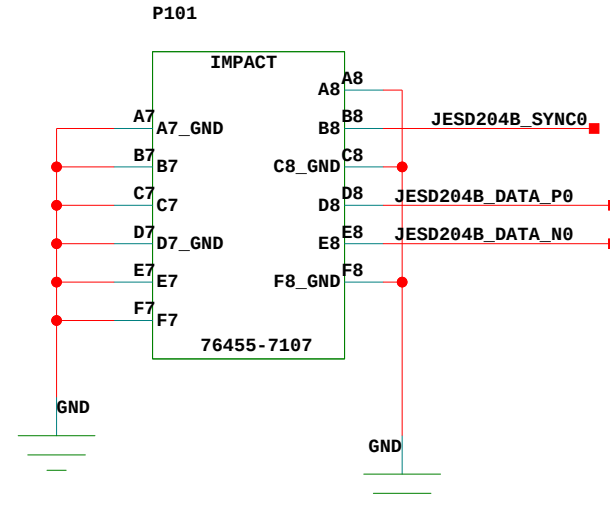
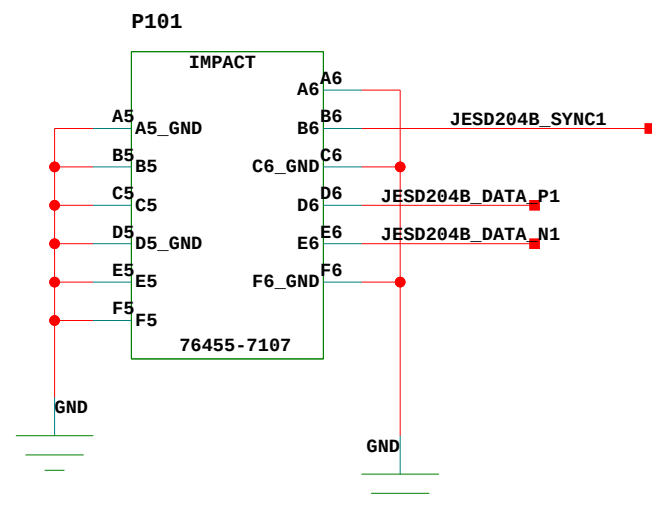
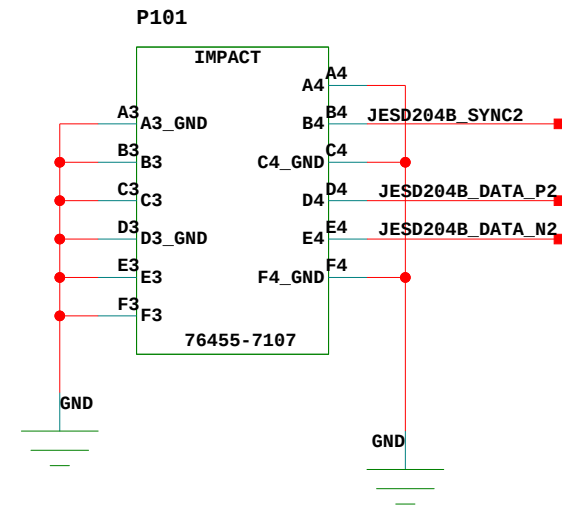
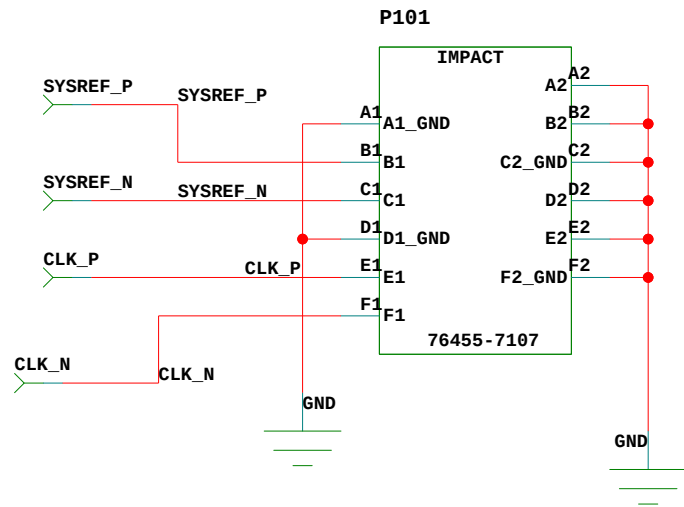
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ASTRON

DESIGN			
RCU2 Interface			
SIZE	Filename	REV	
A3		RCU2	
DRAWN BY		SHEET	DATE
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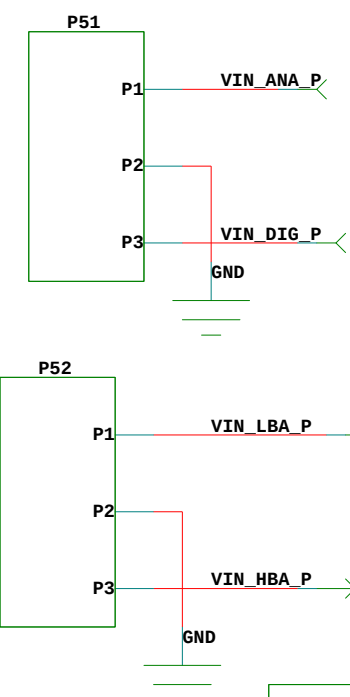
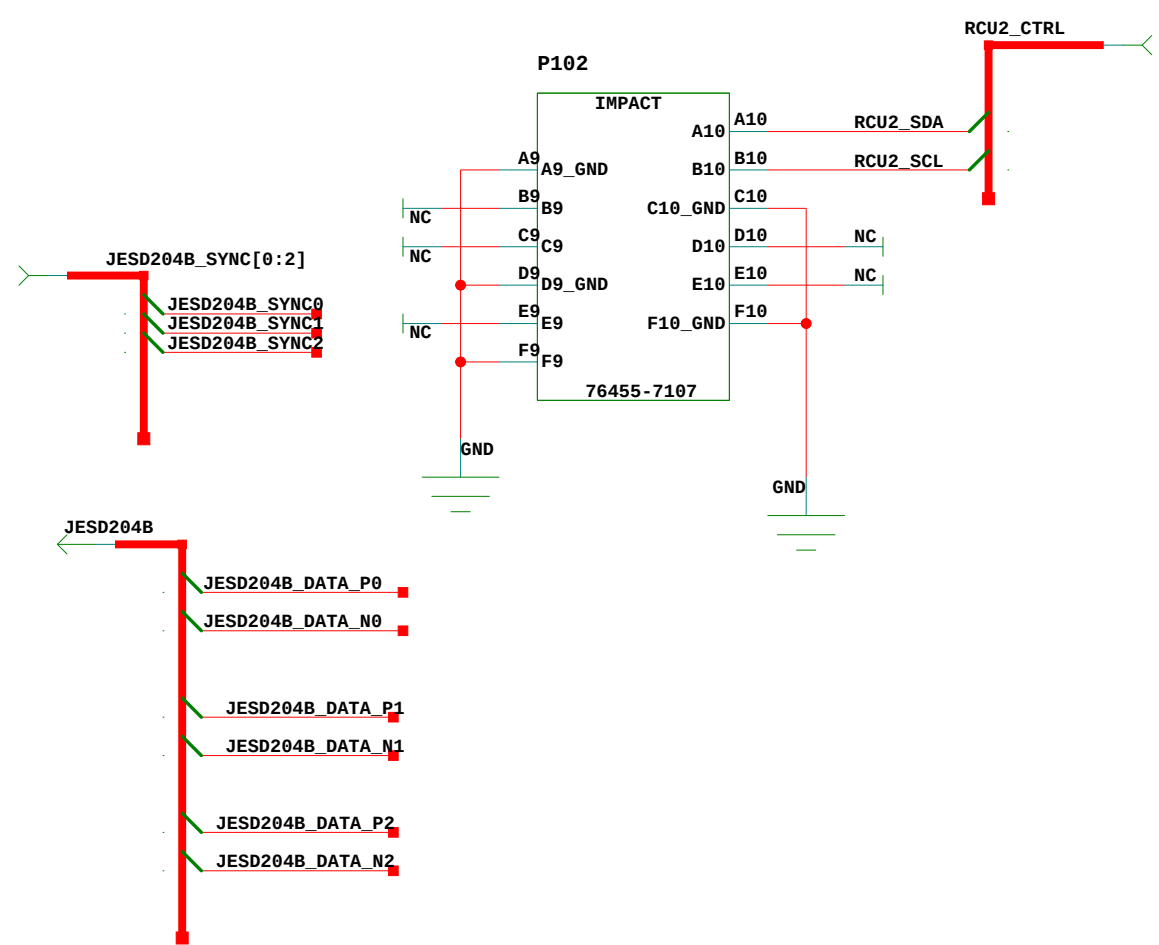
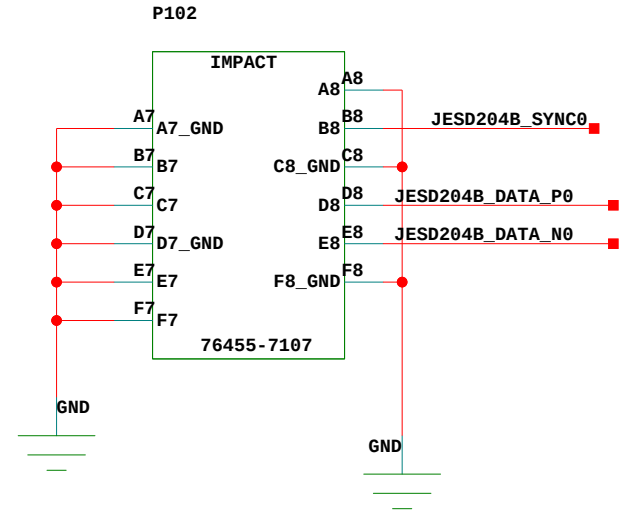
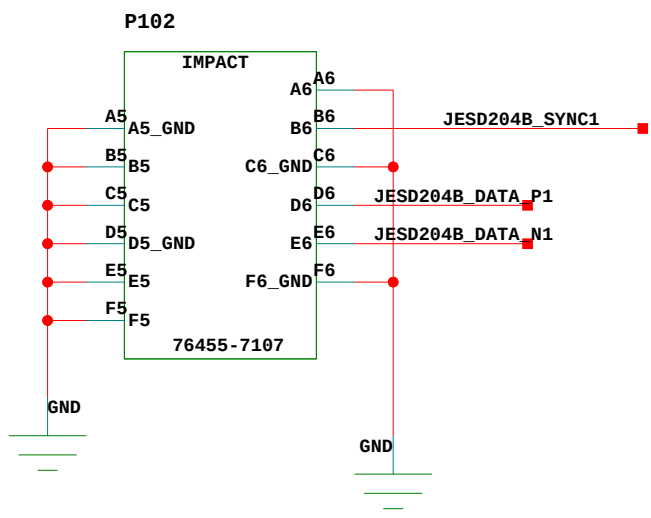
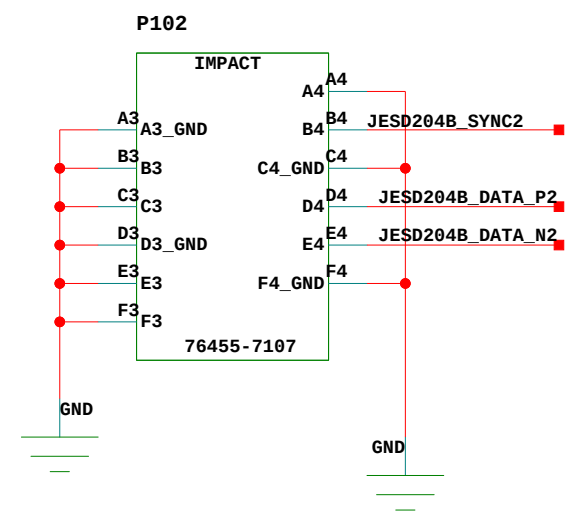
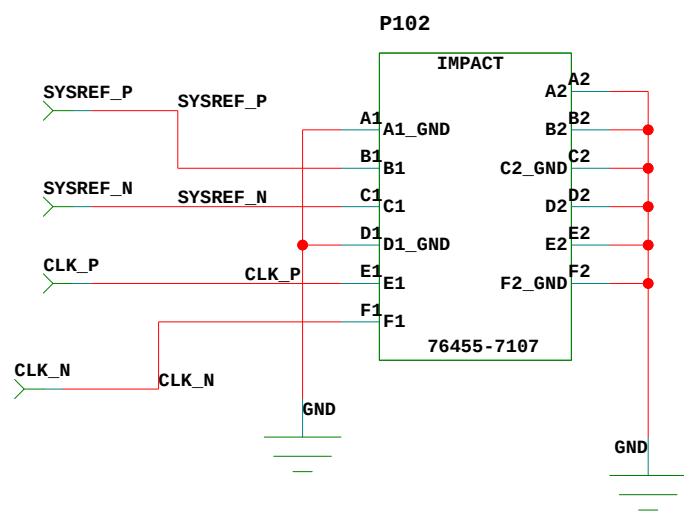
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 22 of 58	DATE	21/02/2022:10:23

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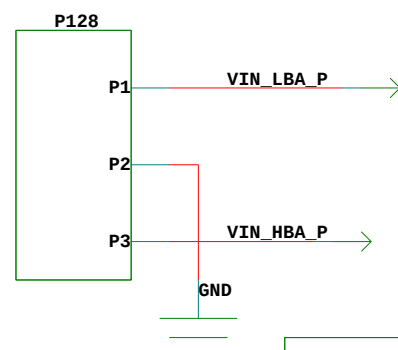
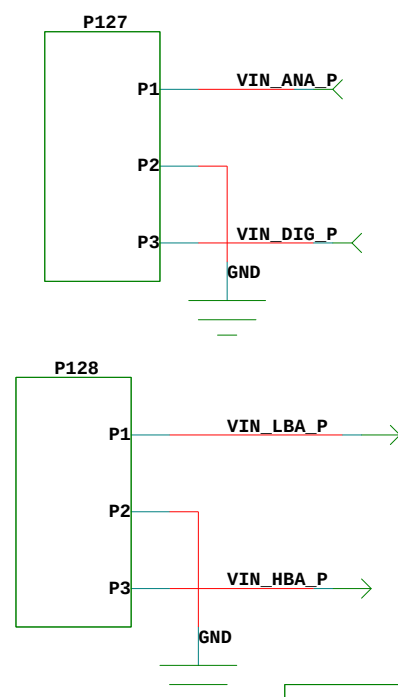
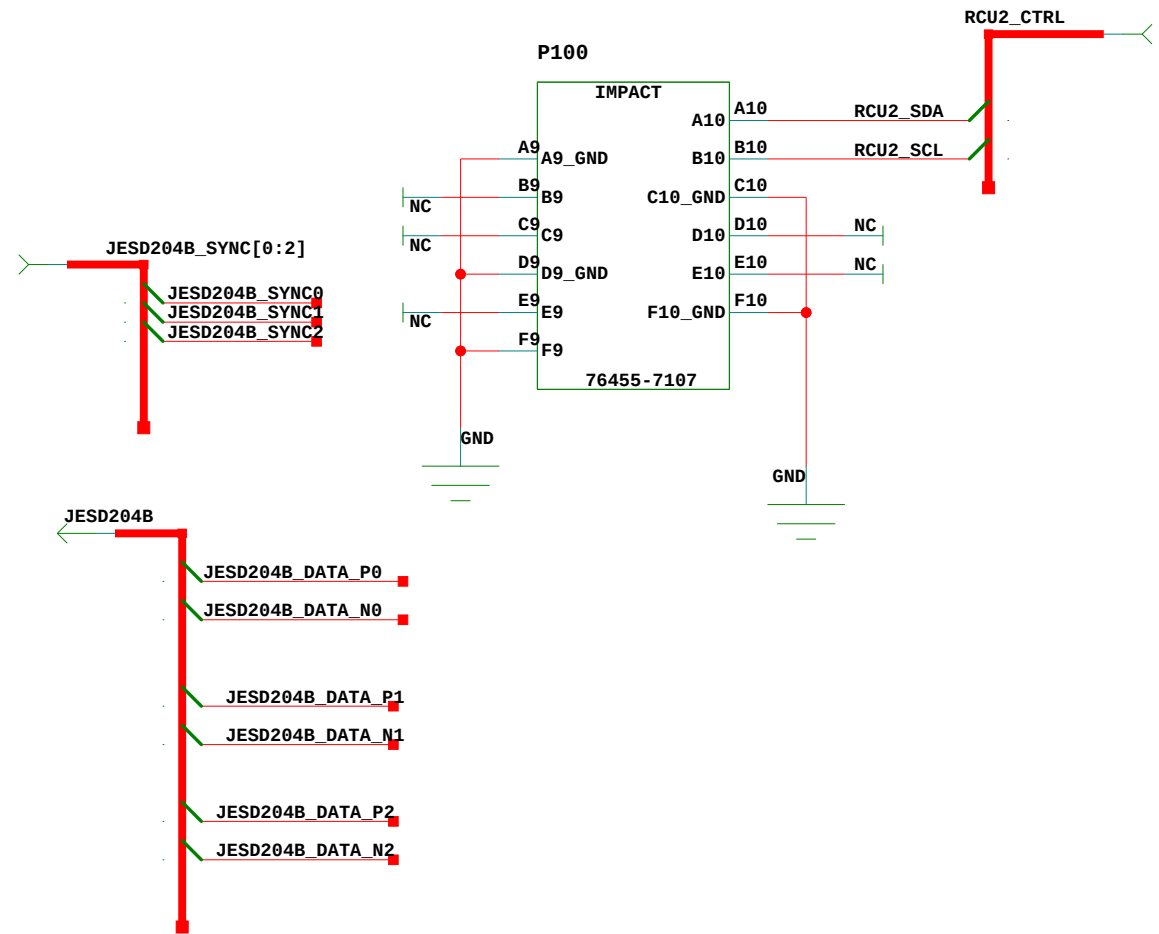
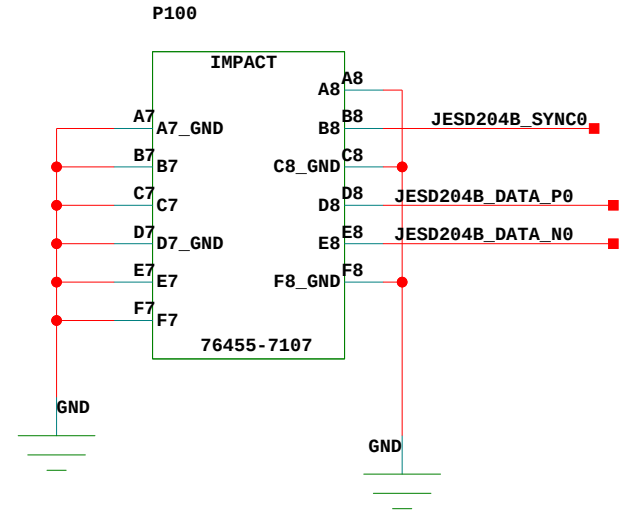
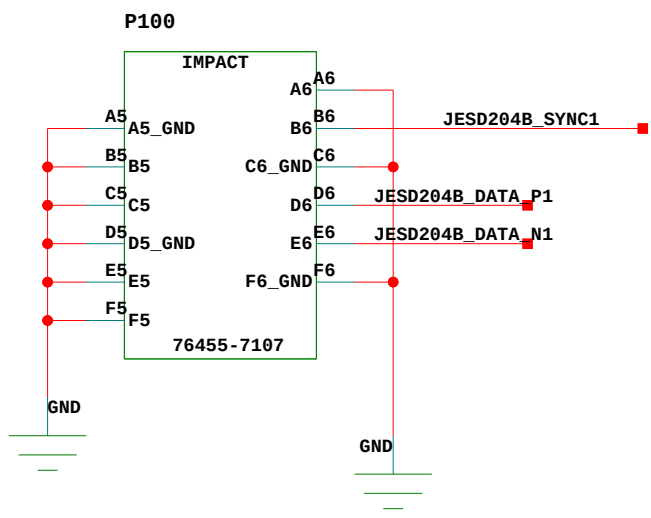
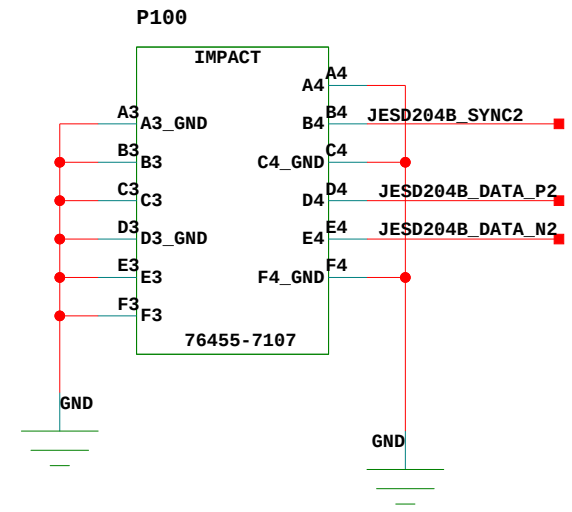
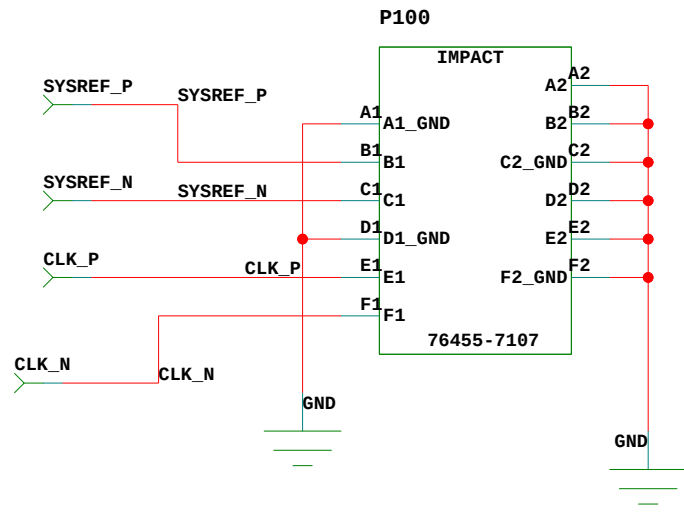
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ASTRON				
RCU2 Interface				
DESIGN				
SIZE	Filename	RCU2		REV 3.0
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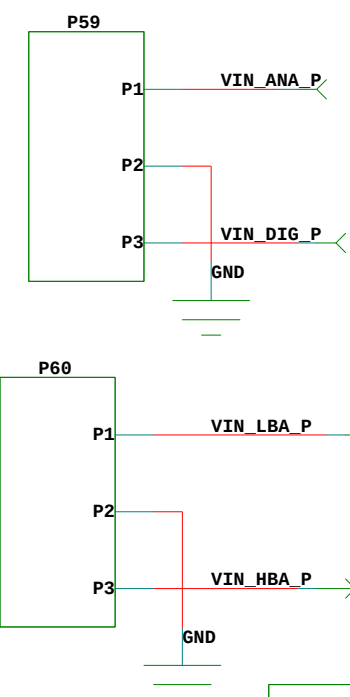
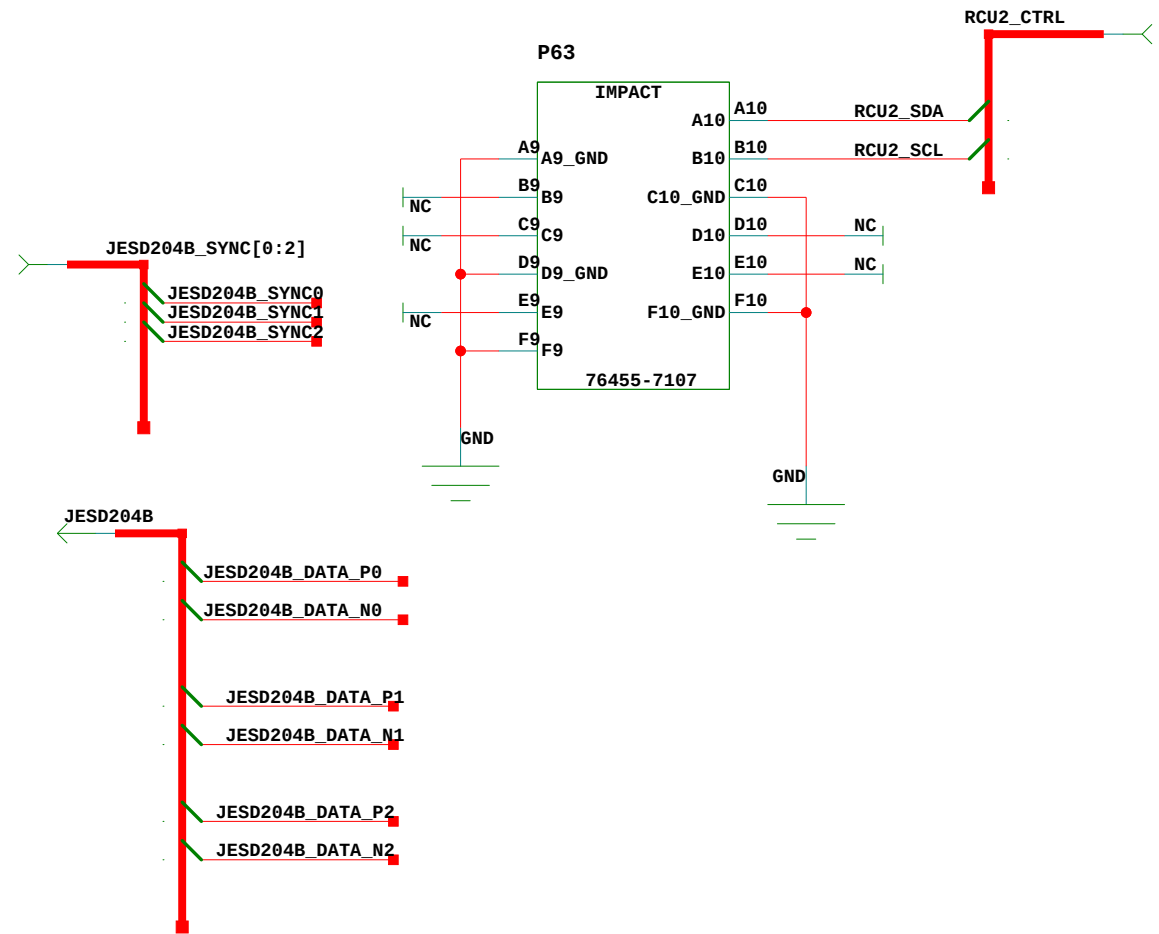
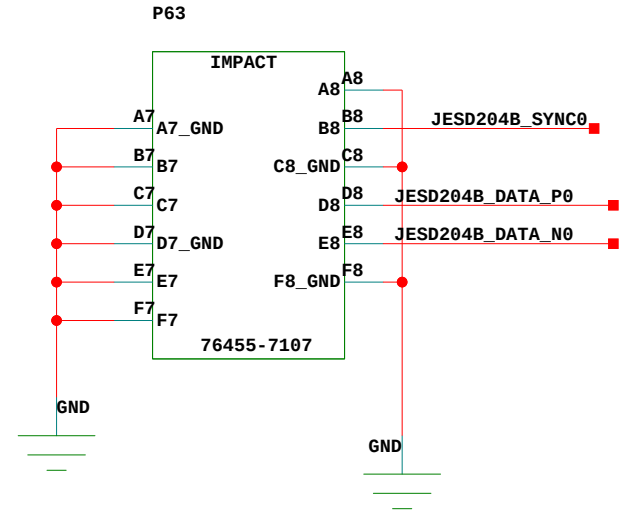
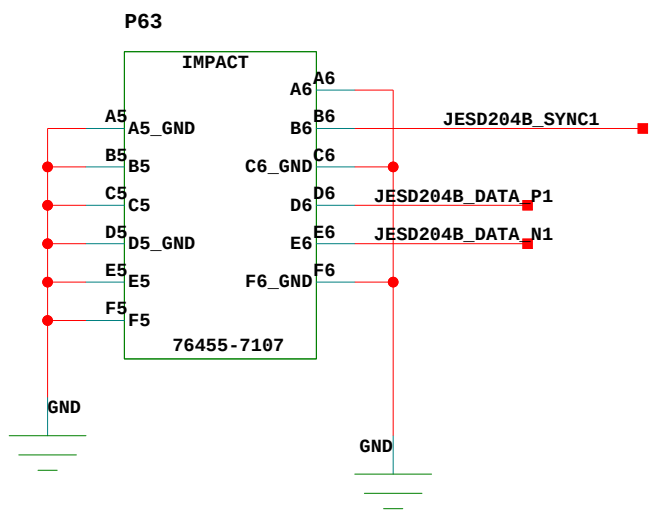
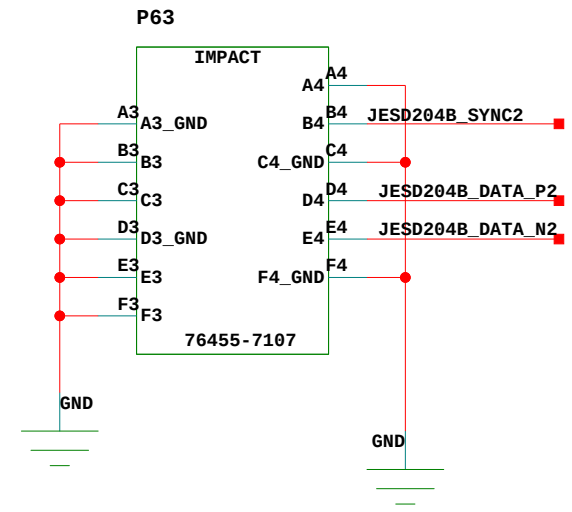
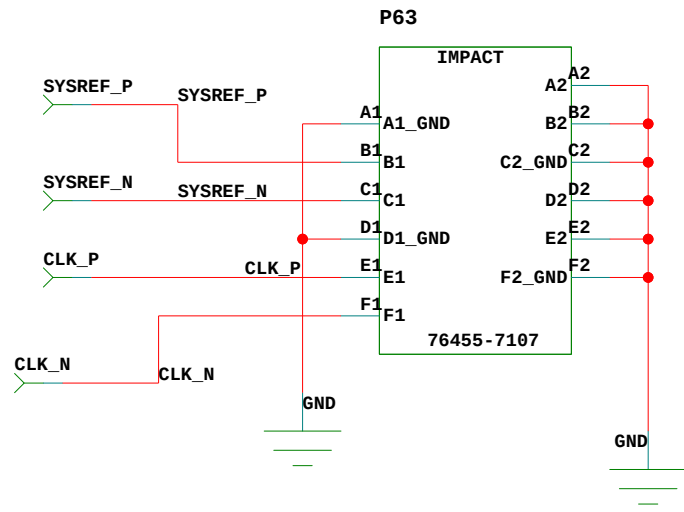
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 24 of 58	DATE	21/02/2022:10:23

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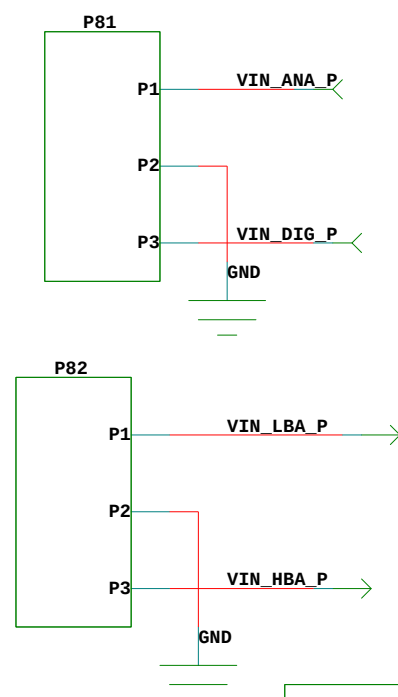
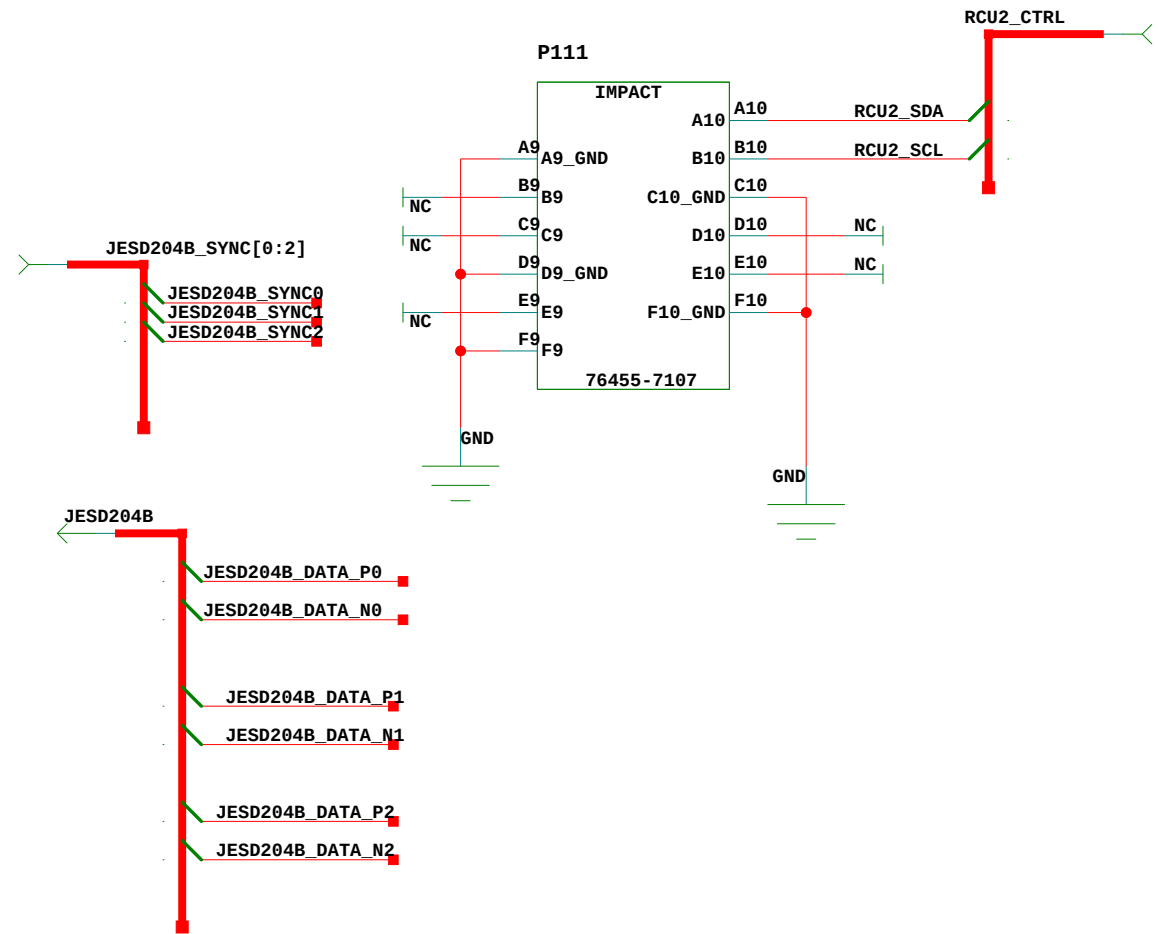
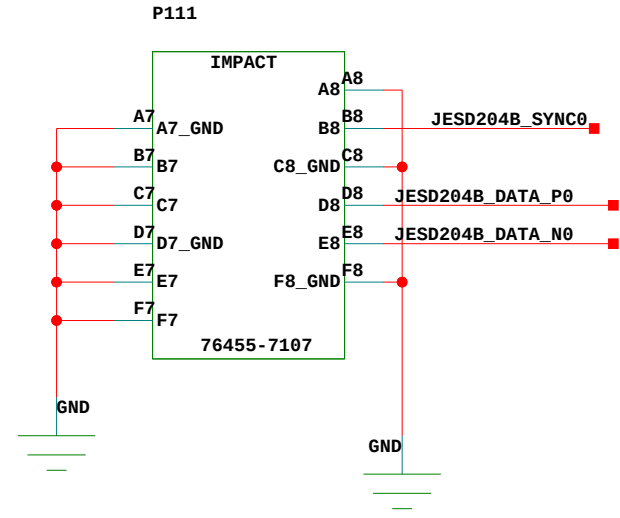
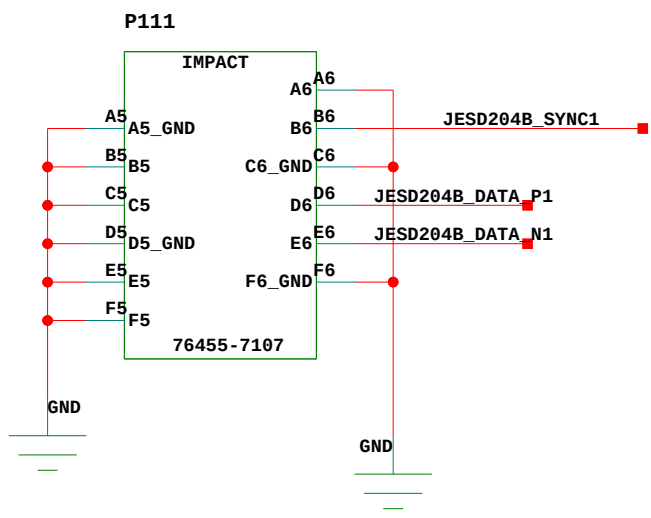
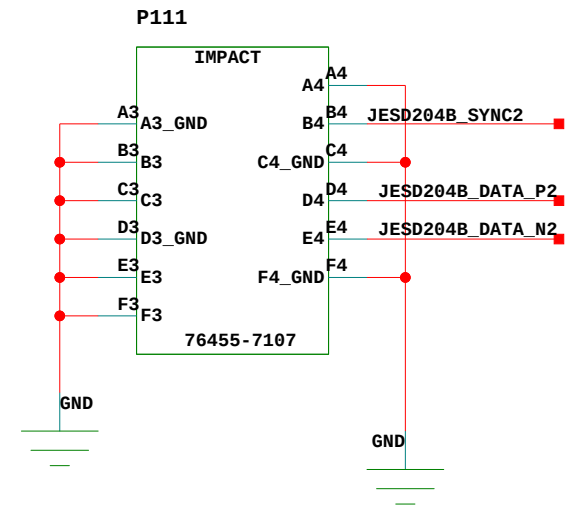
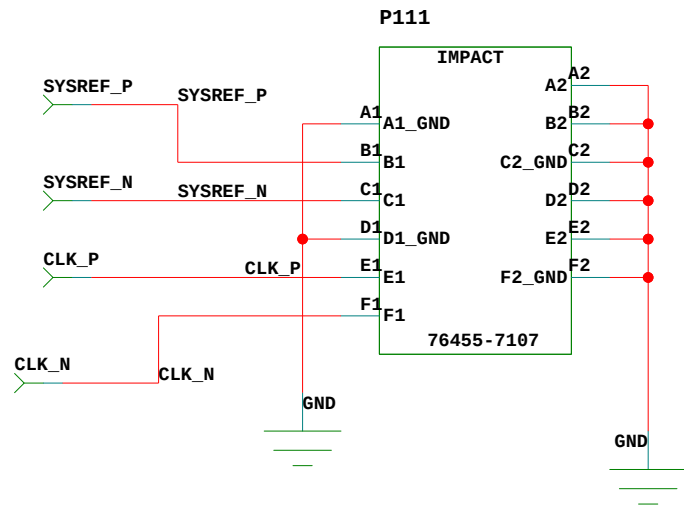
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 25 of 58	DATE	21/02/2022:10:23

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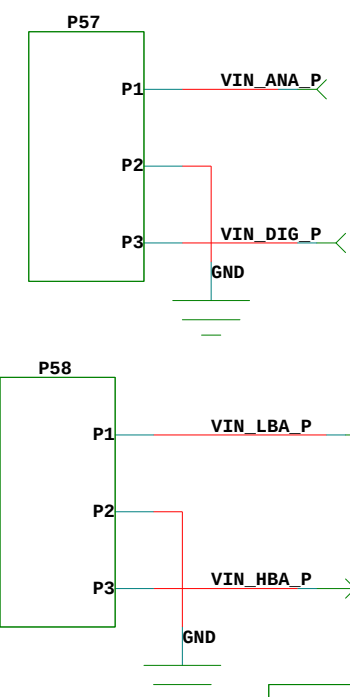
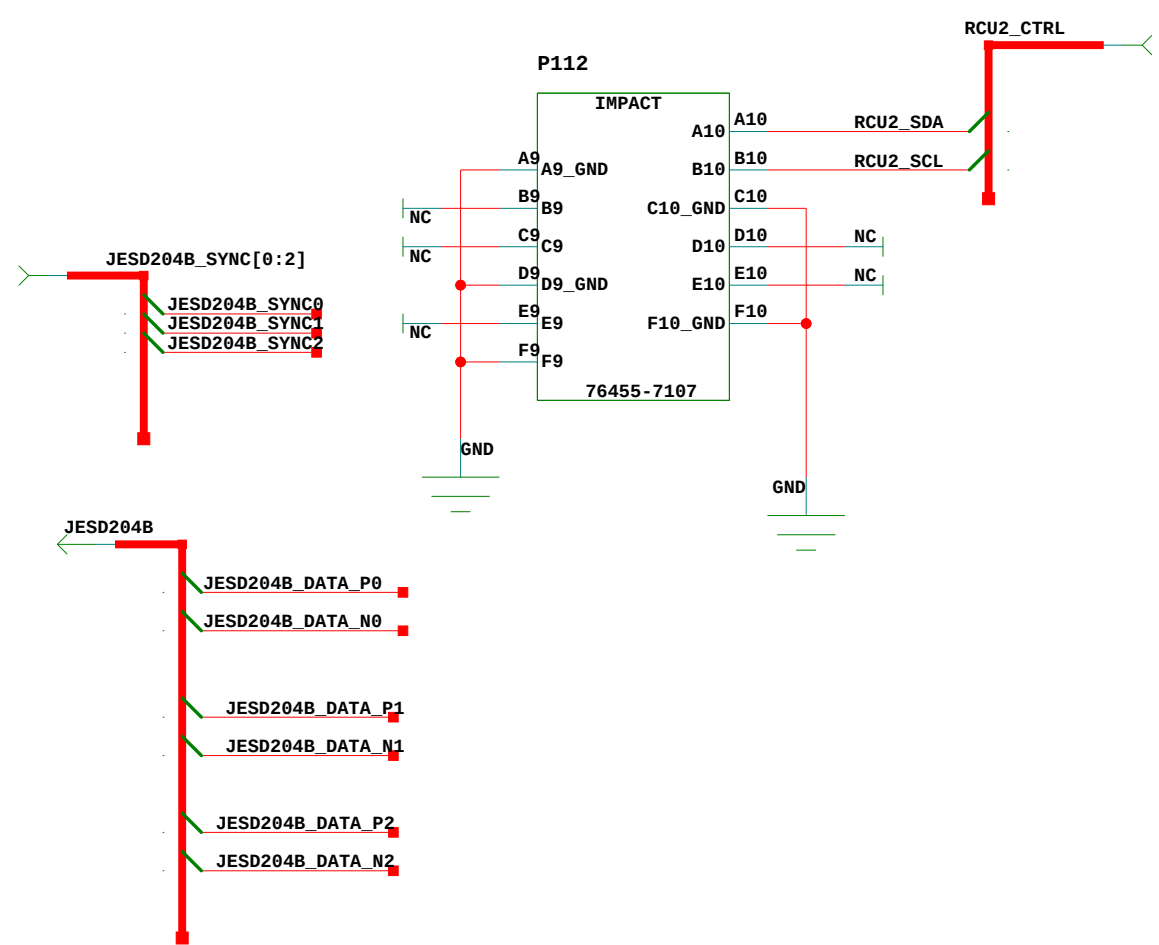
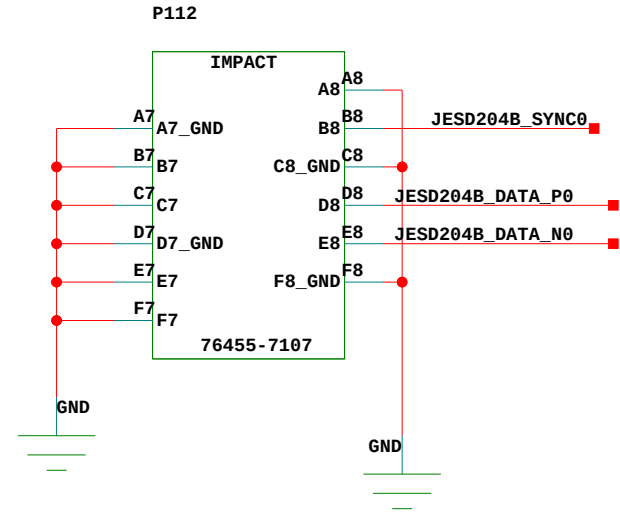
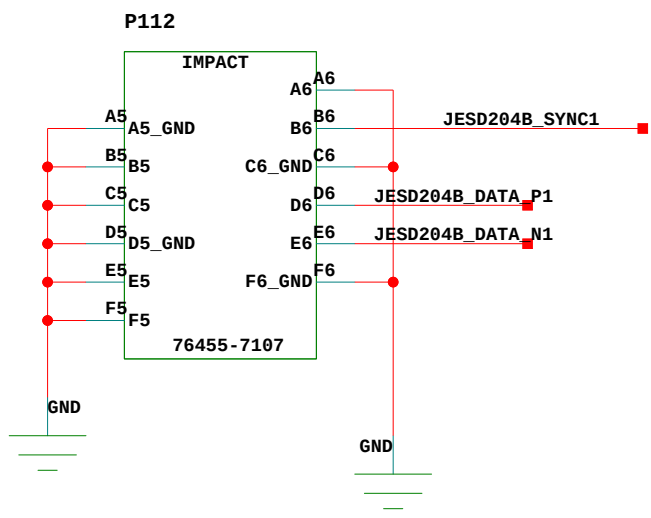
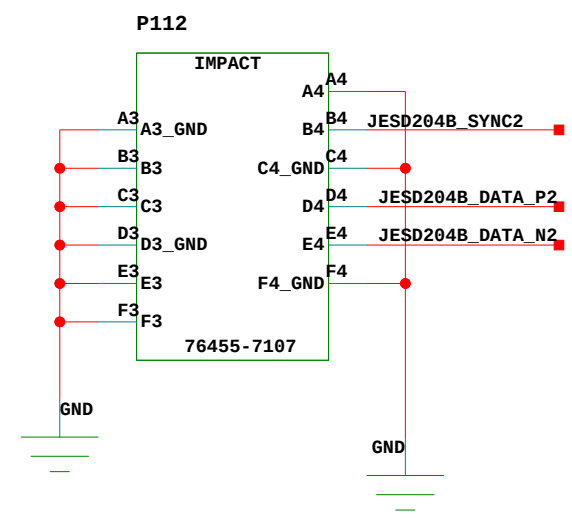
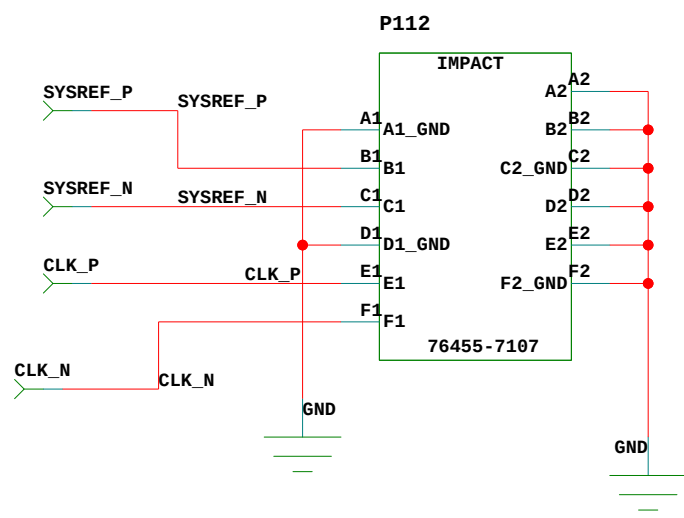
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	26 of 58
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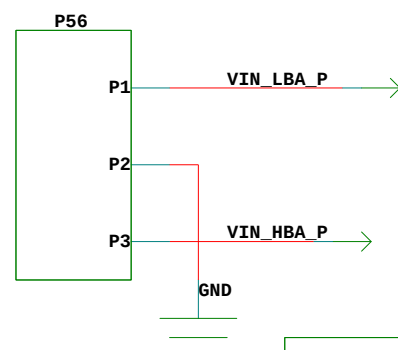
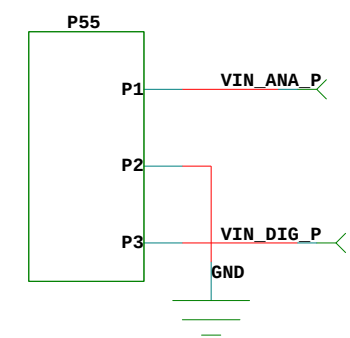
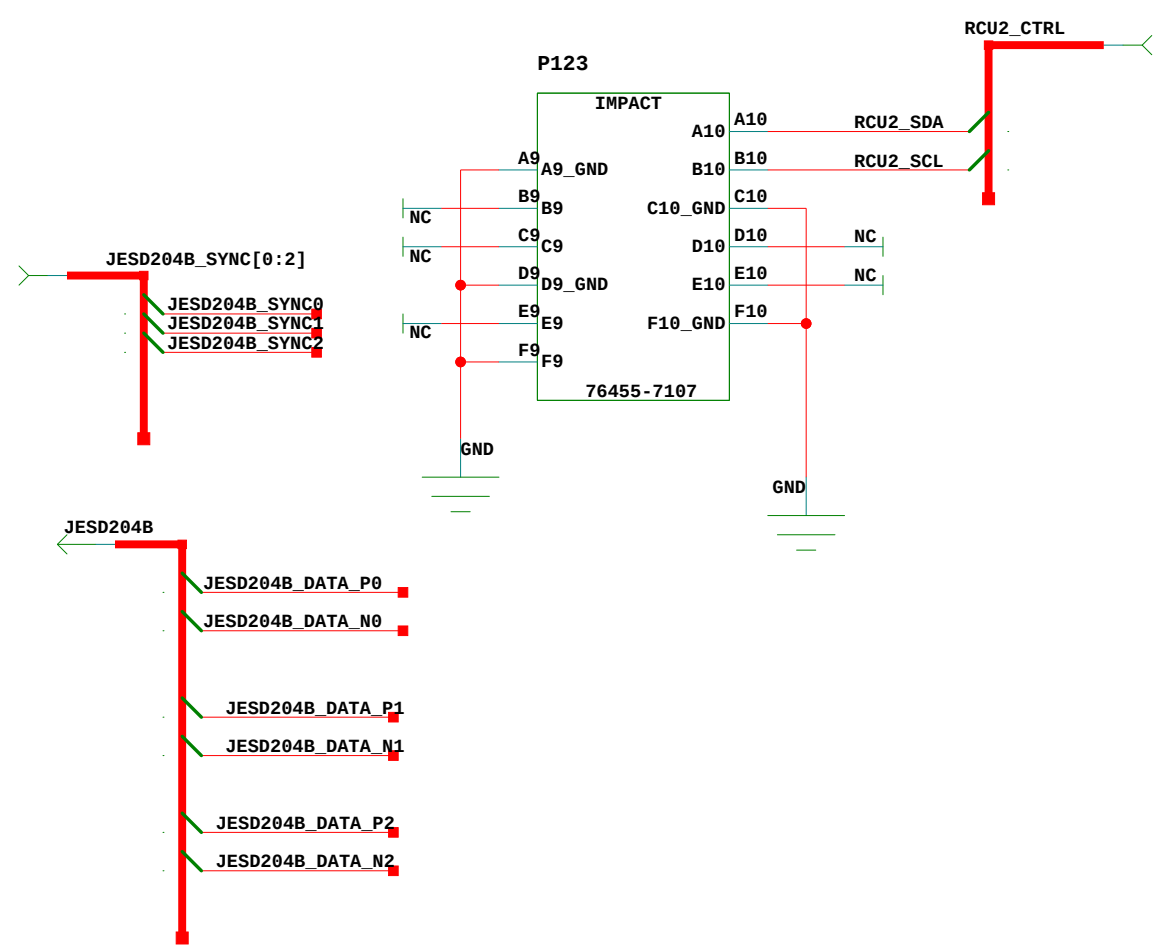
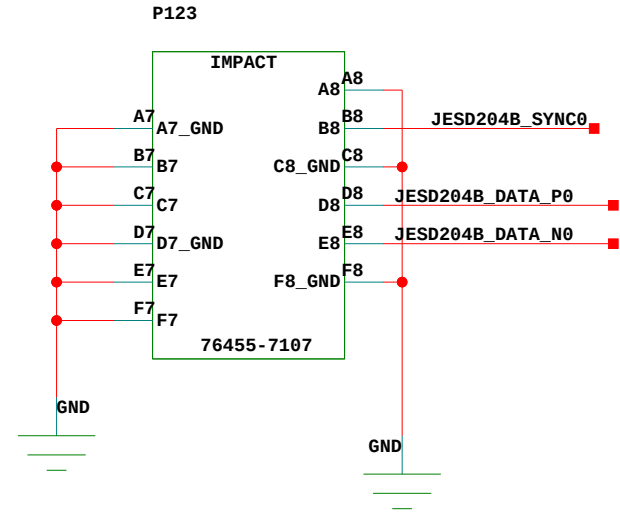
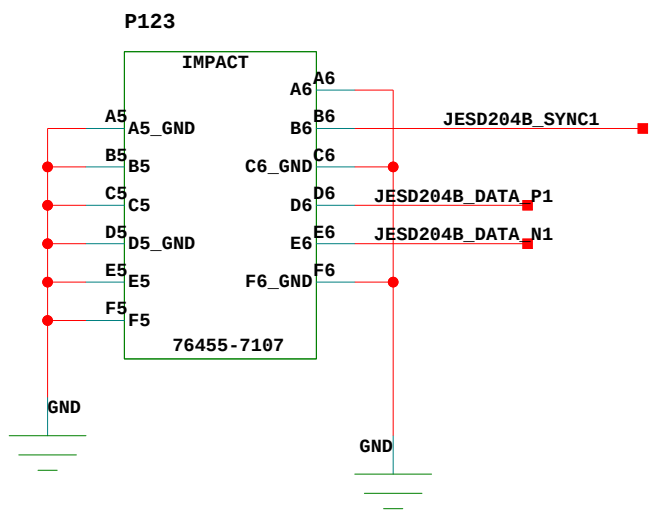
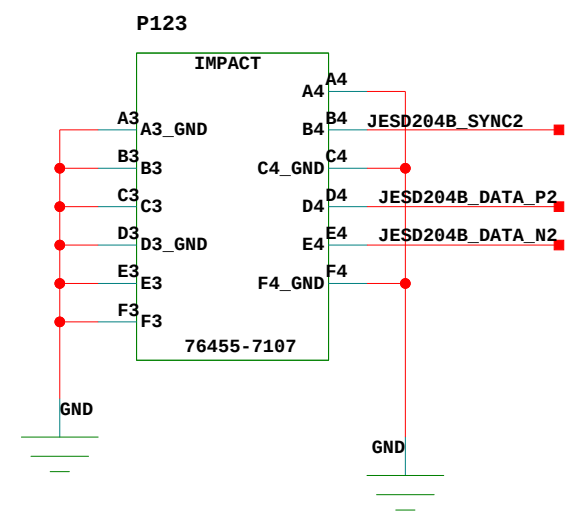
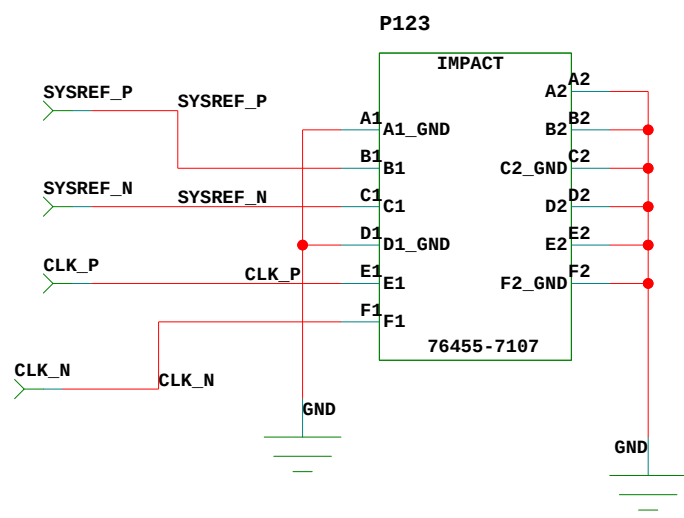
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ASTRON

RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
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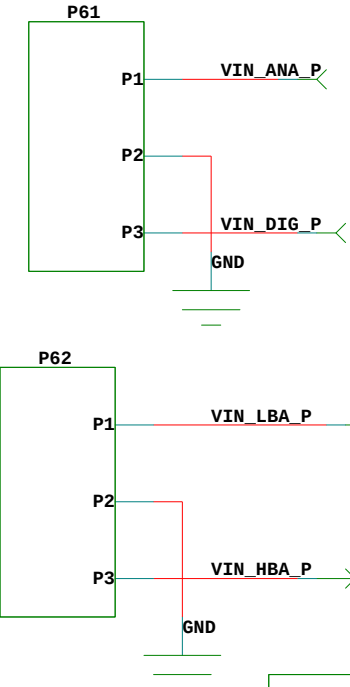
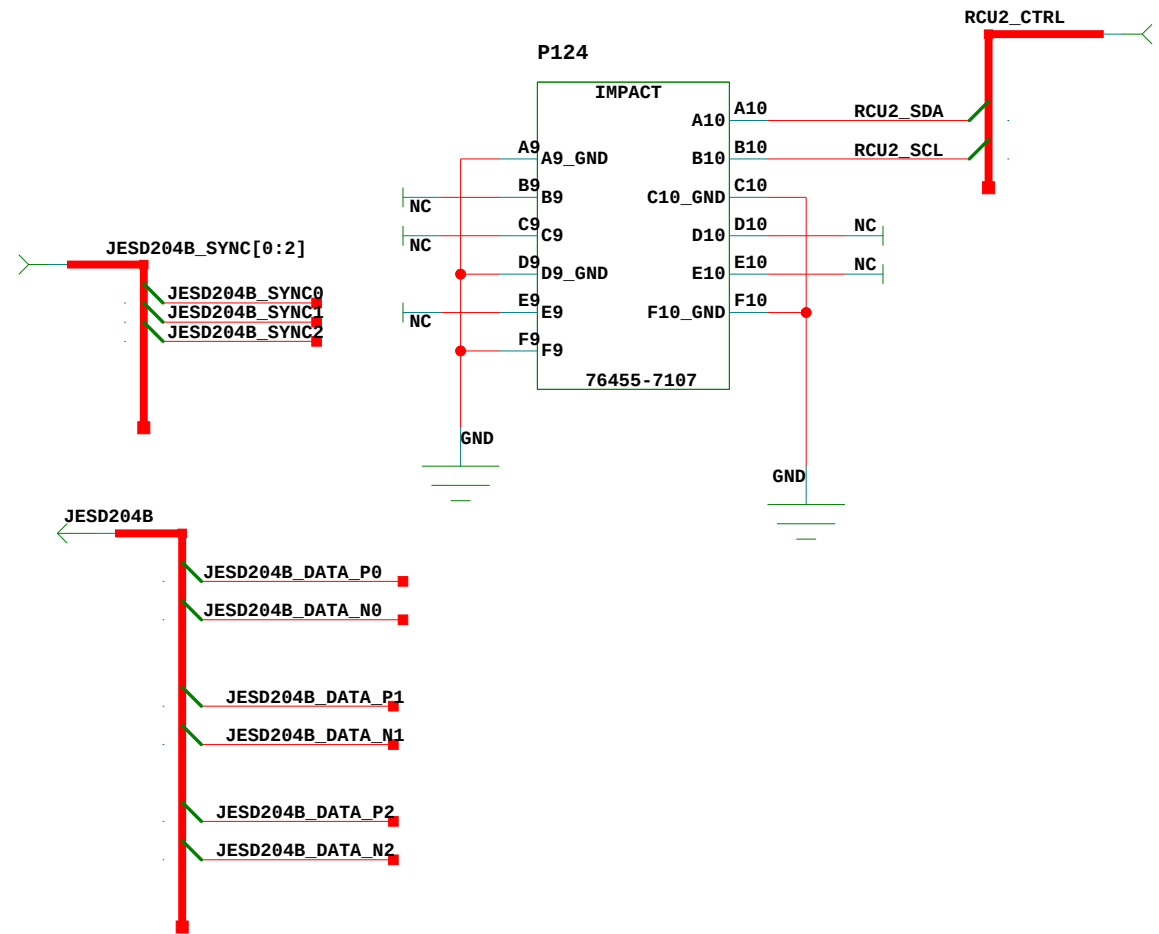
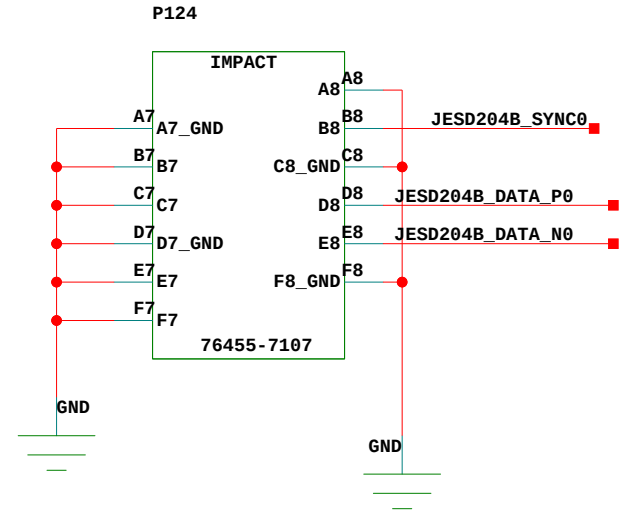
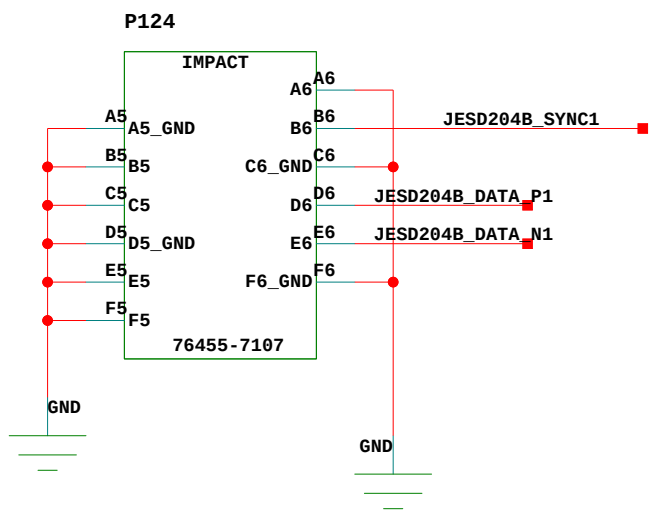
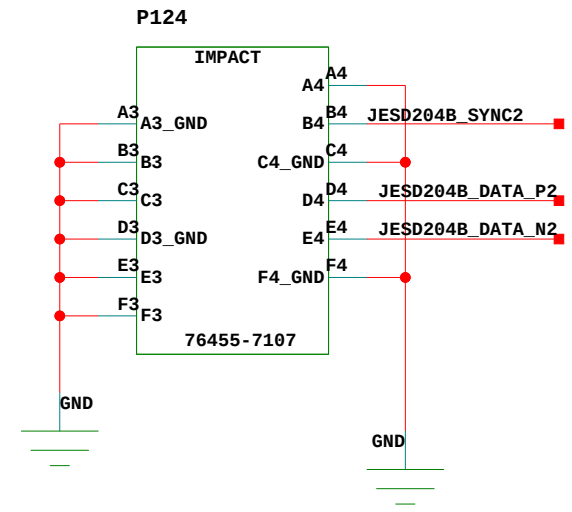
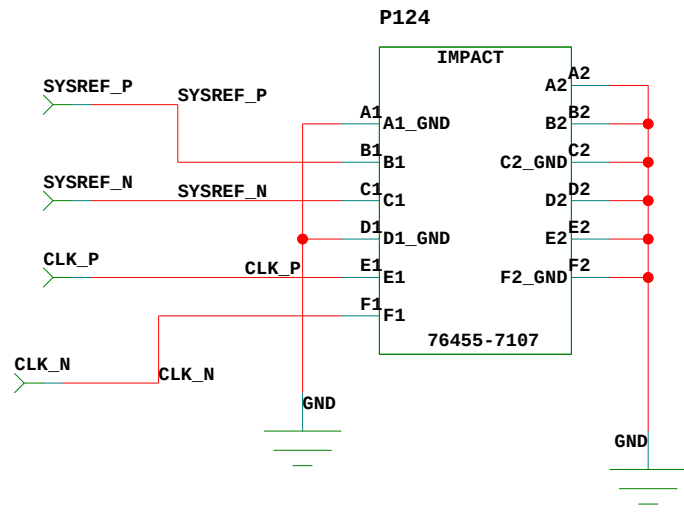
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	28 of 58
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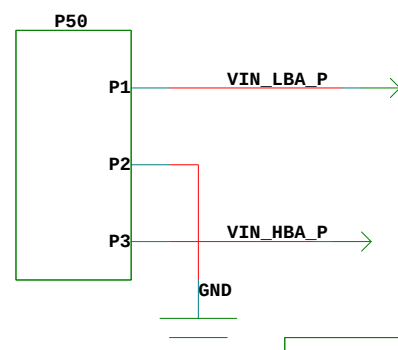
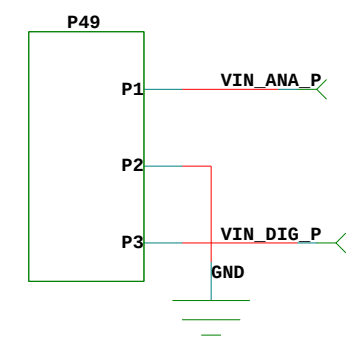
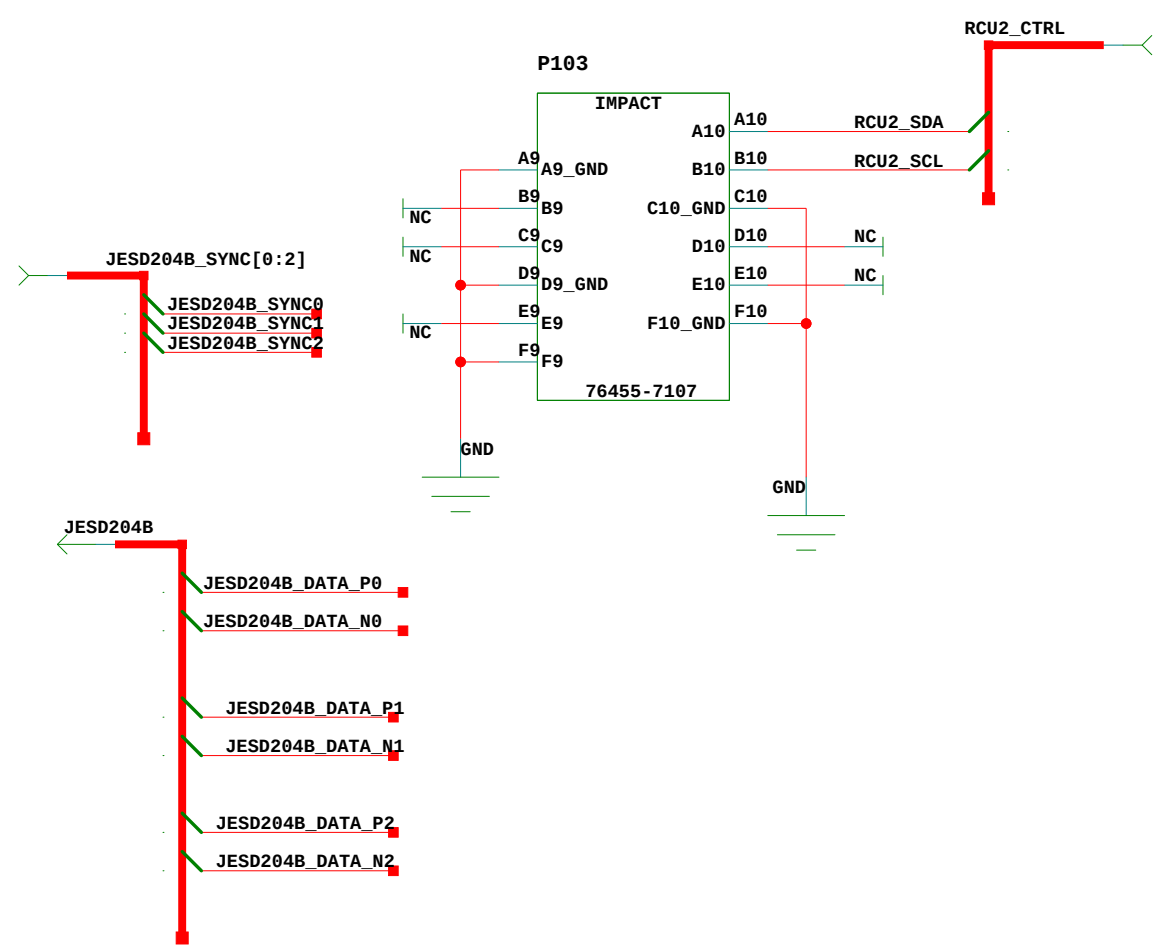
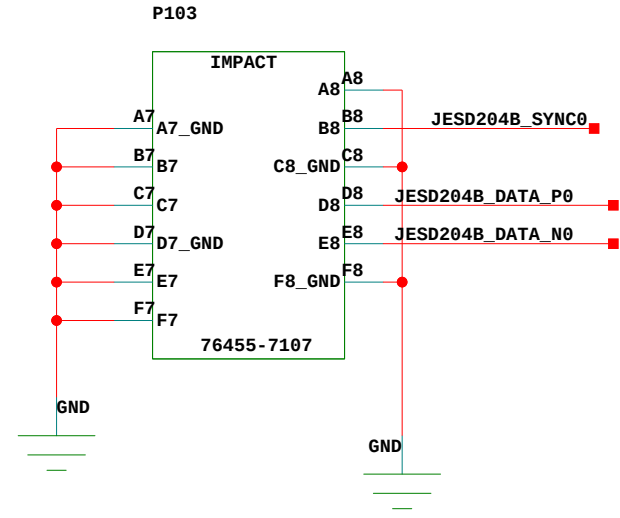
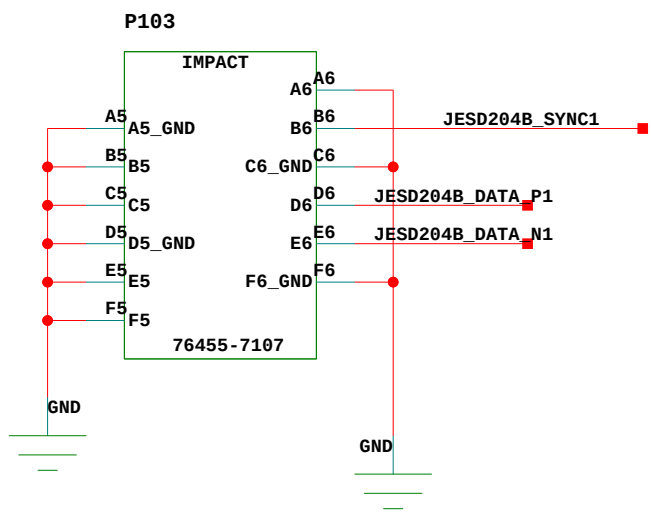
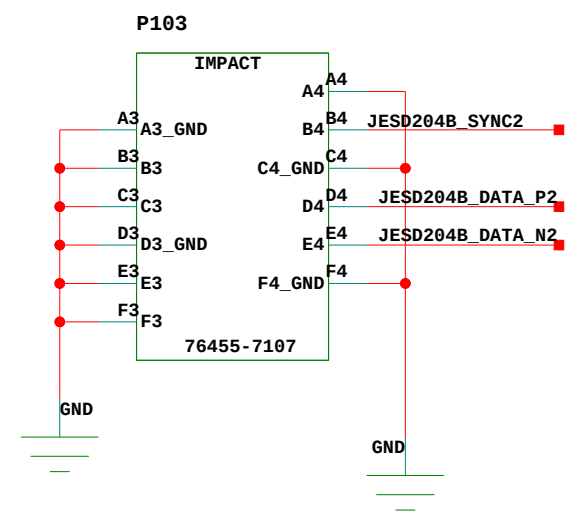
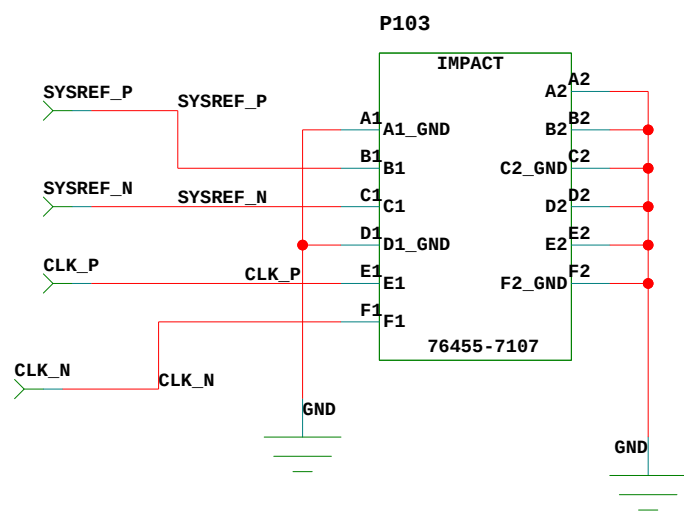
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 29 of 58	DATE	21/02/2022:10:23

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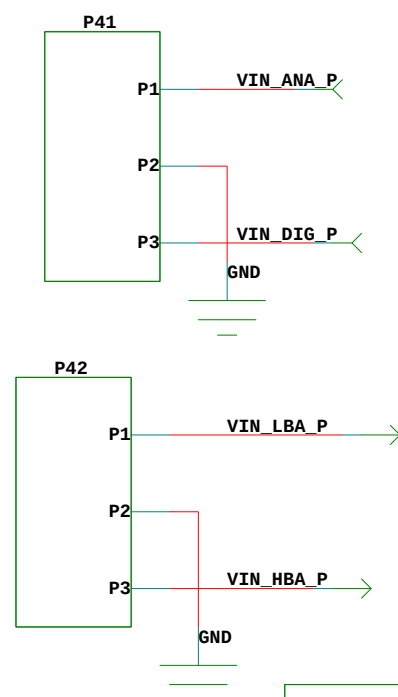
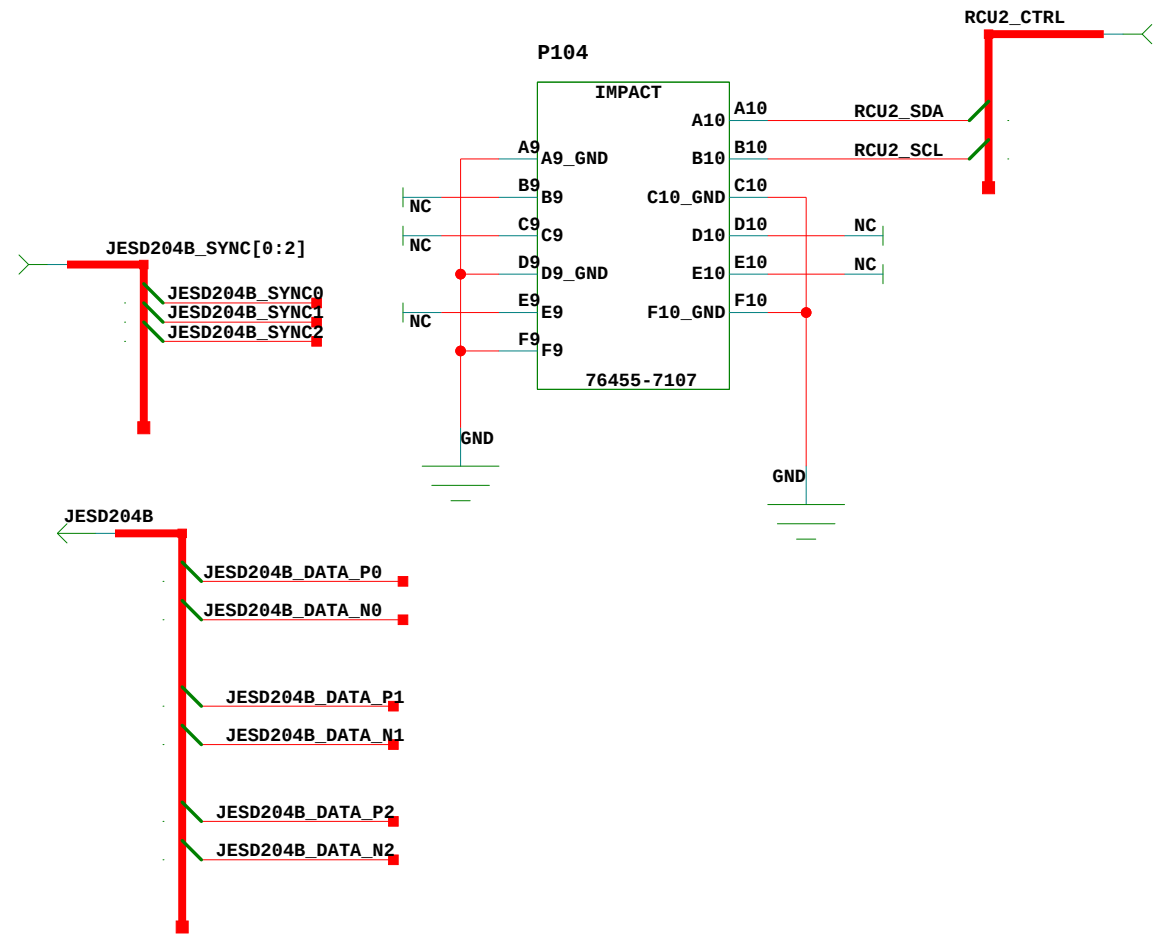
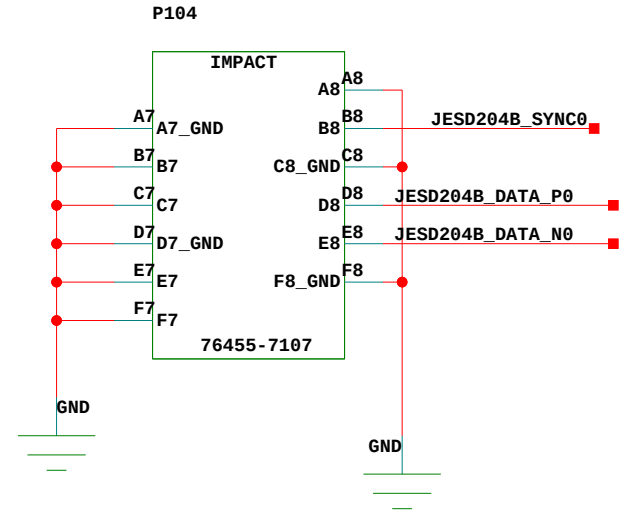
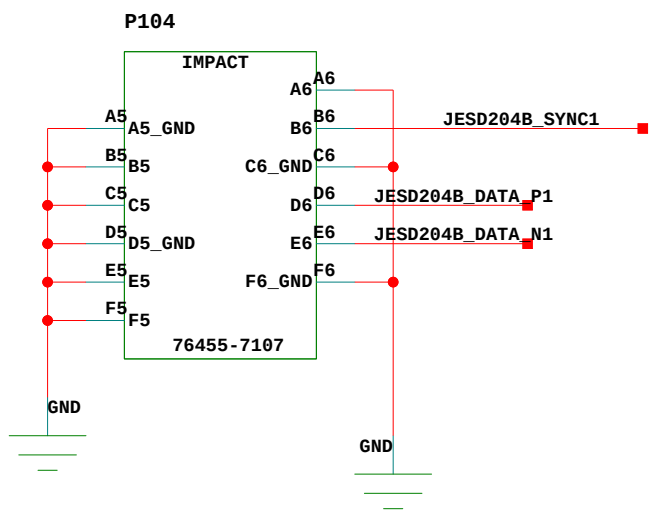
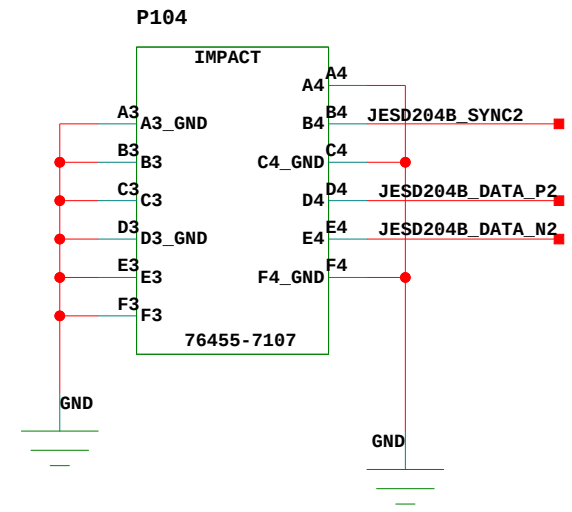
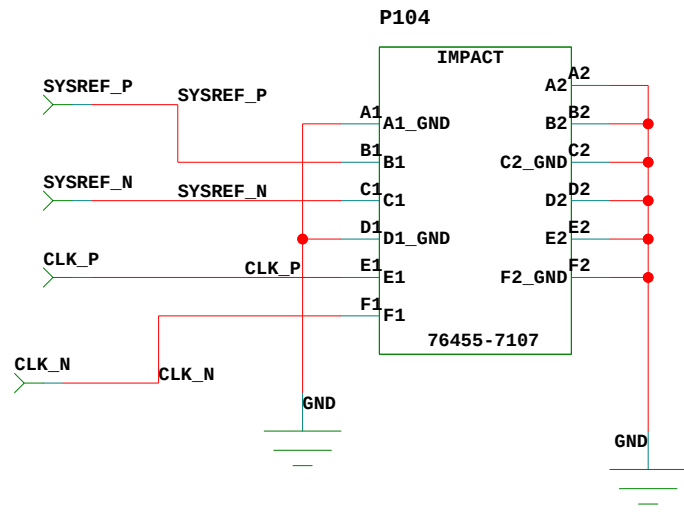
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	
A3		3.0	
DRAWN BY	G1js	SHEET	30 of 58
		DATE	21/02/2022:10:23

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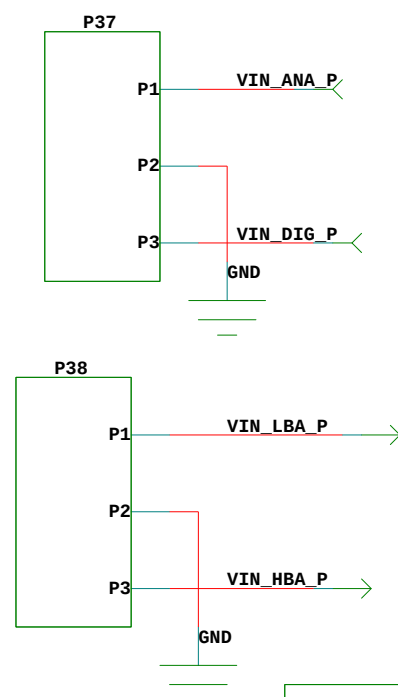
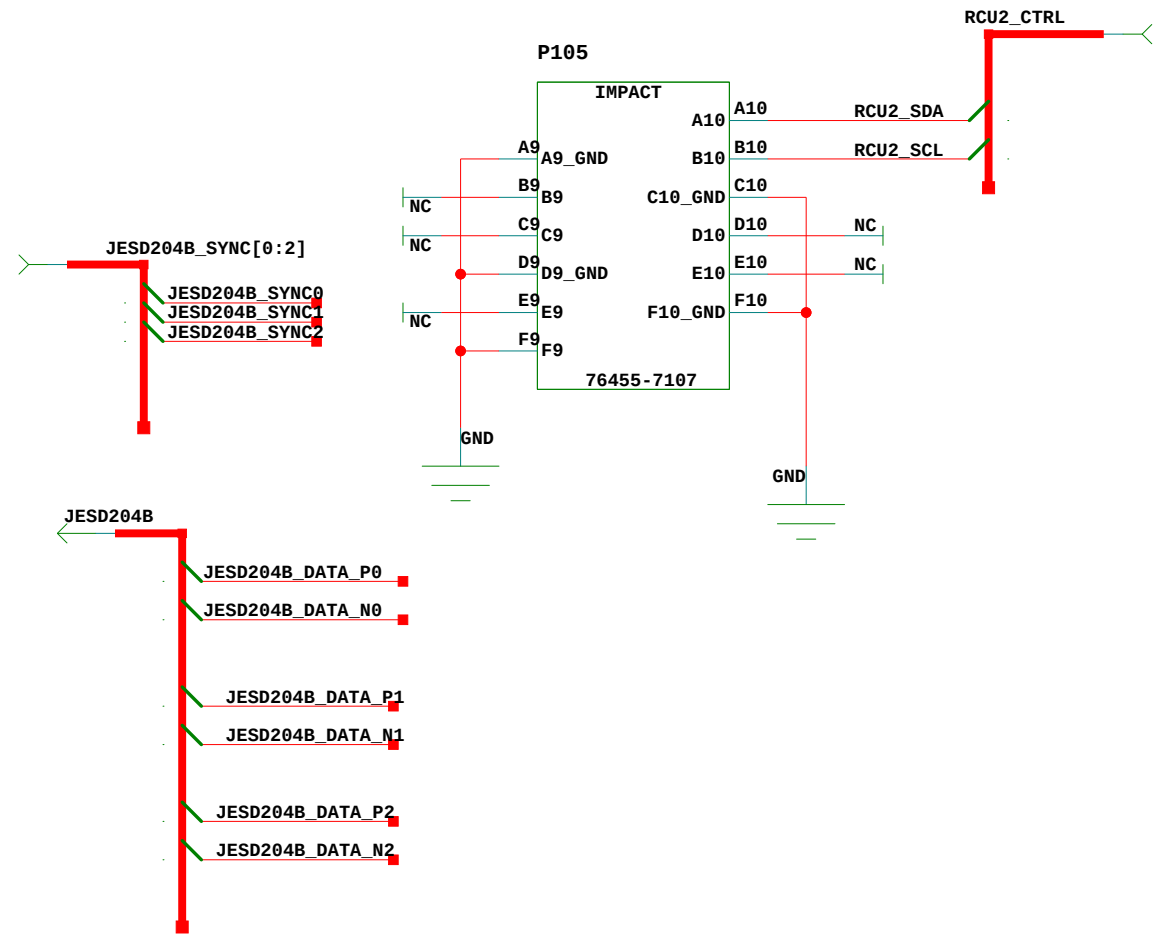
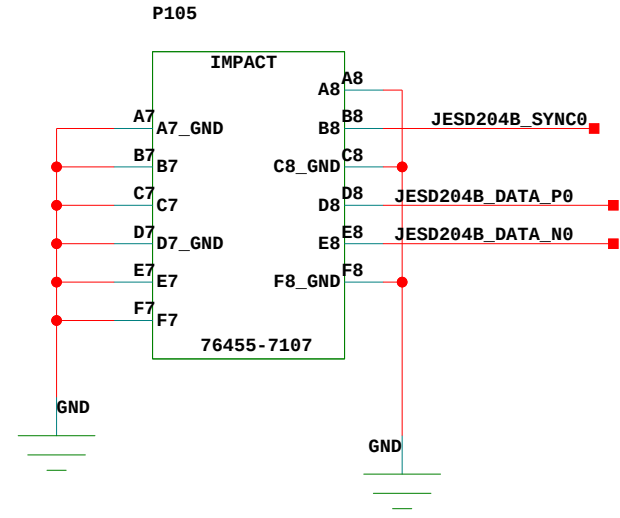
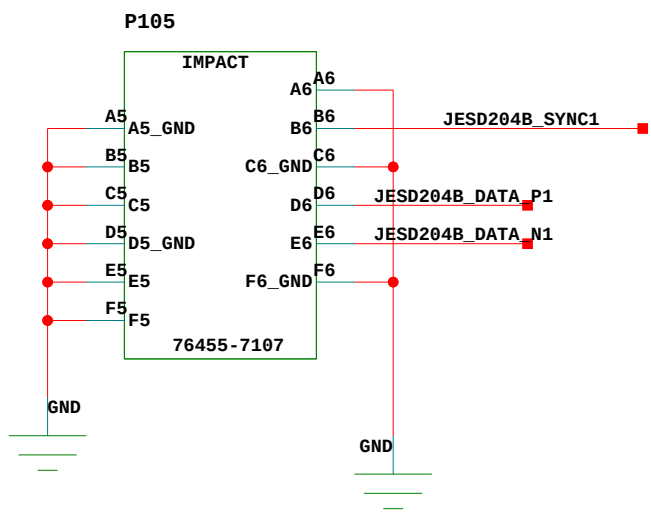
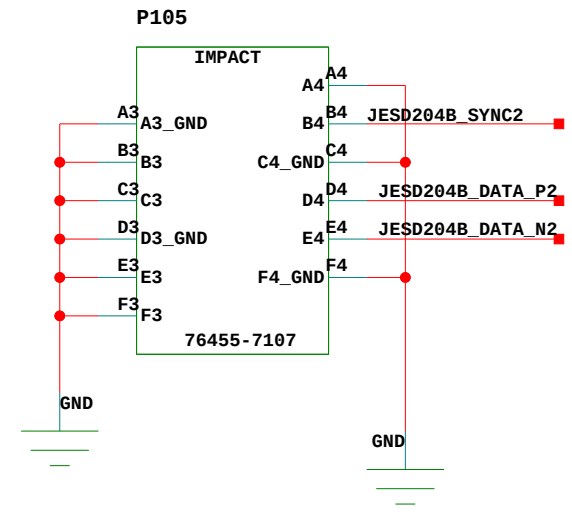
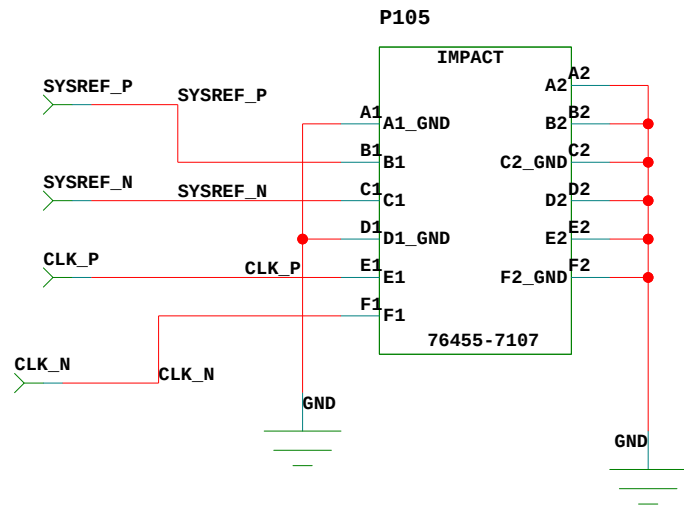
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 31 of 58	DATE	21/02/2022:10:23

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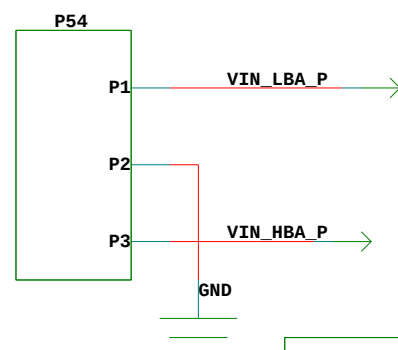
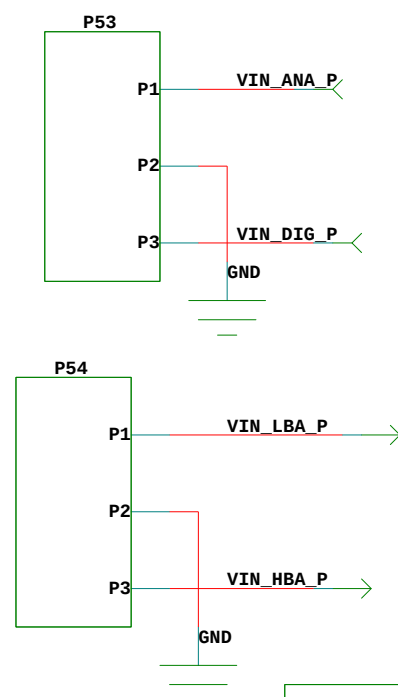
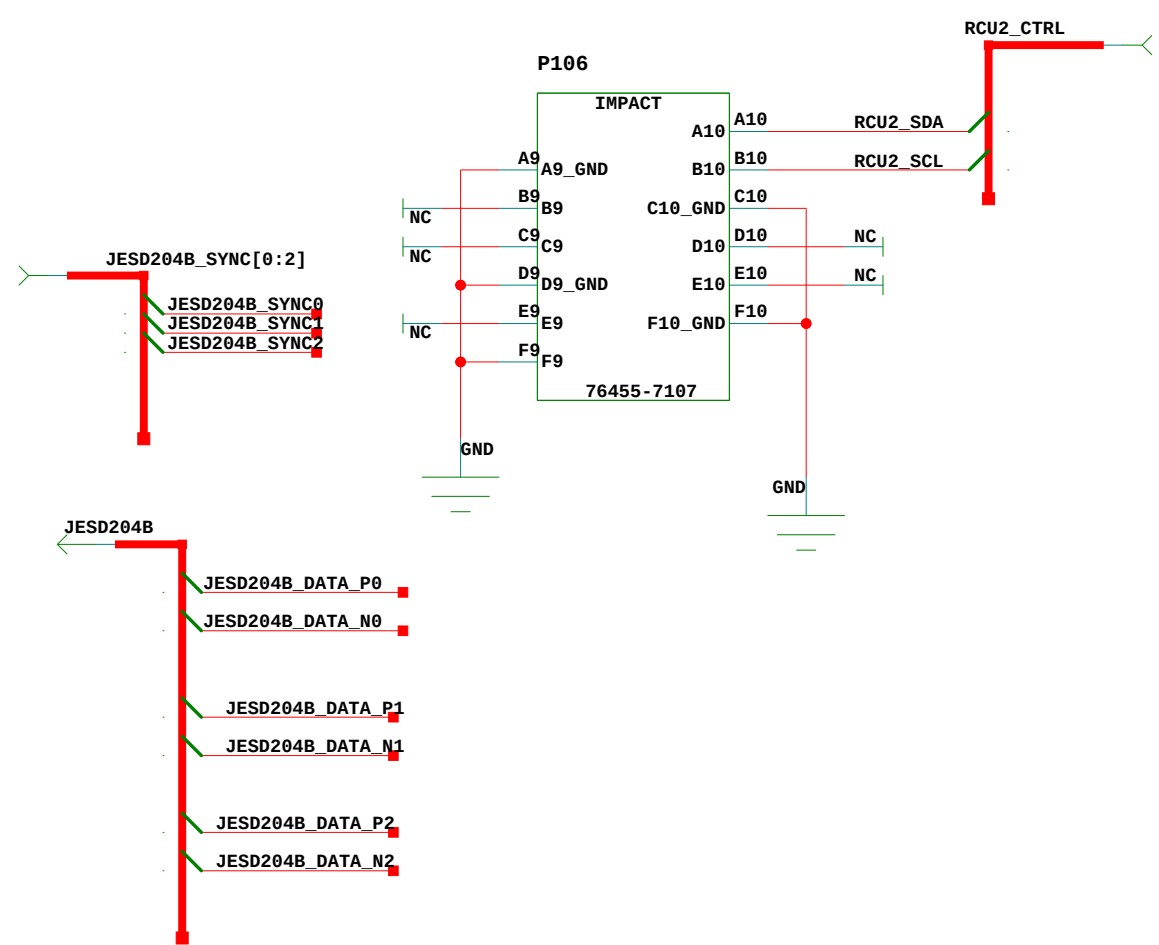
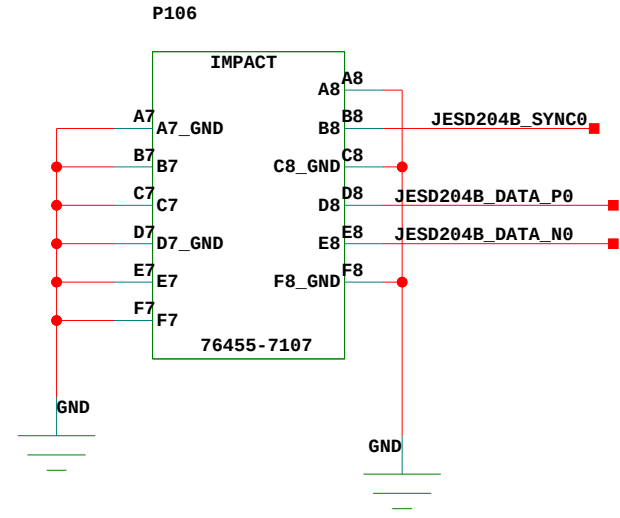
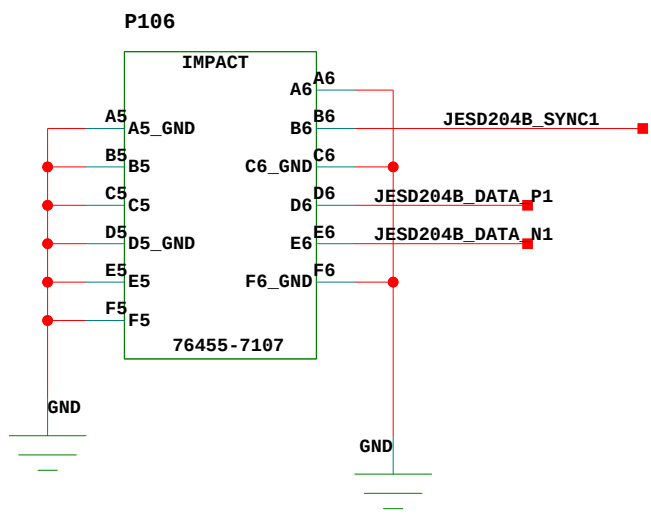
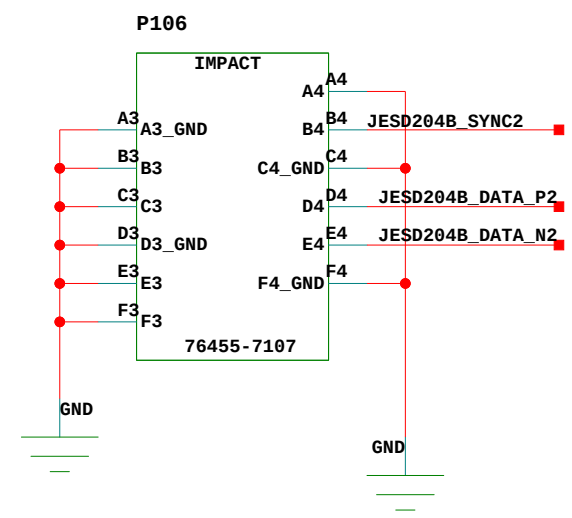
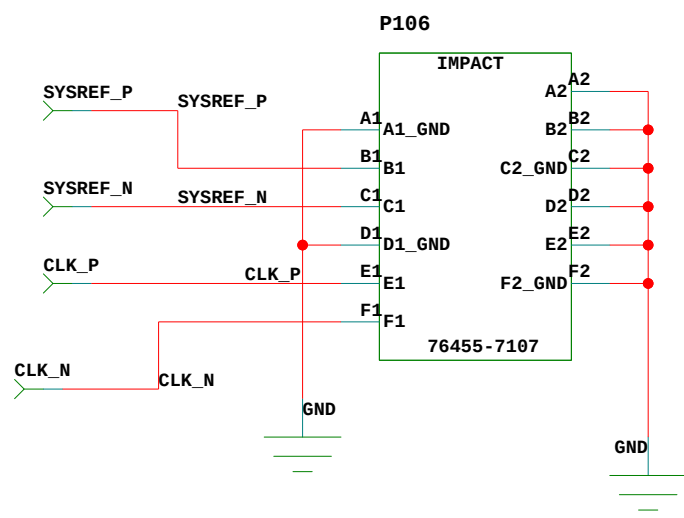
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ASTRON			
RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
G1js	32 of 58	21/02/2022:10:23	

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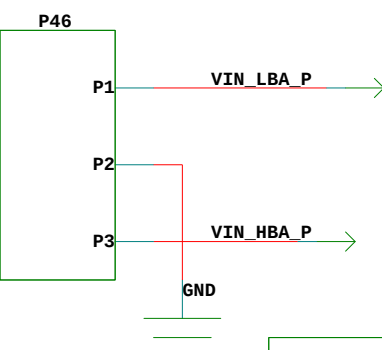
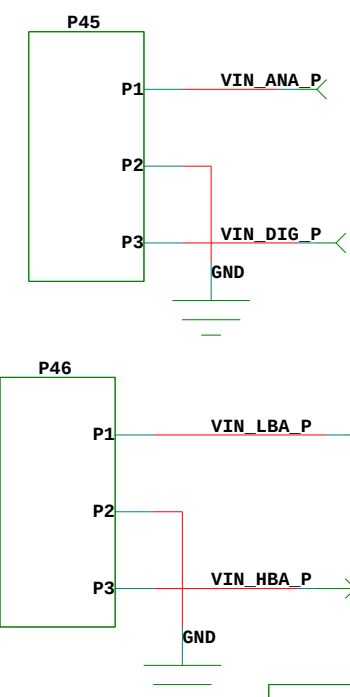
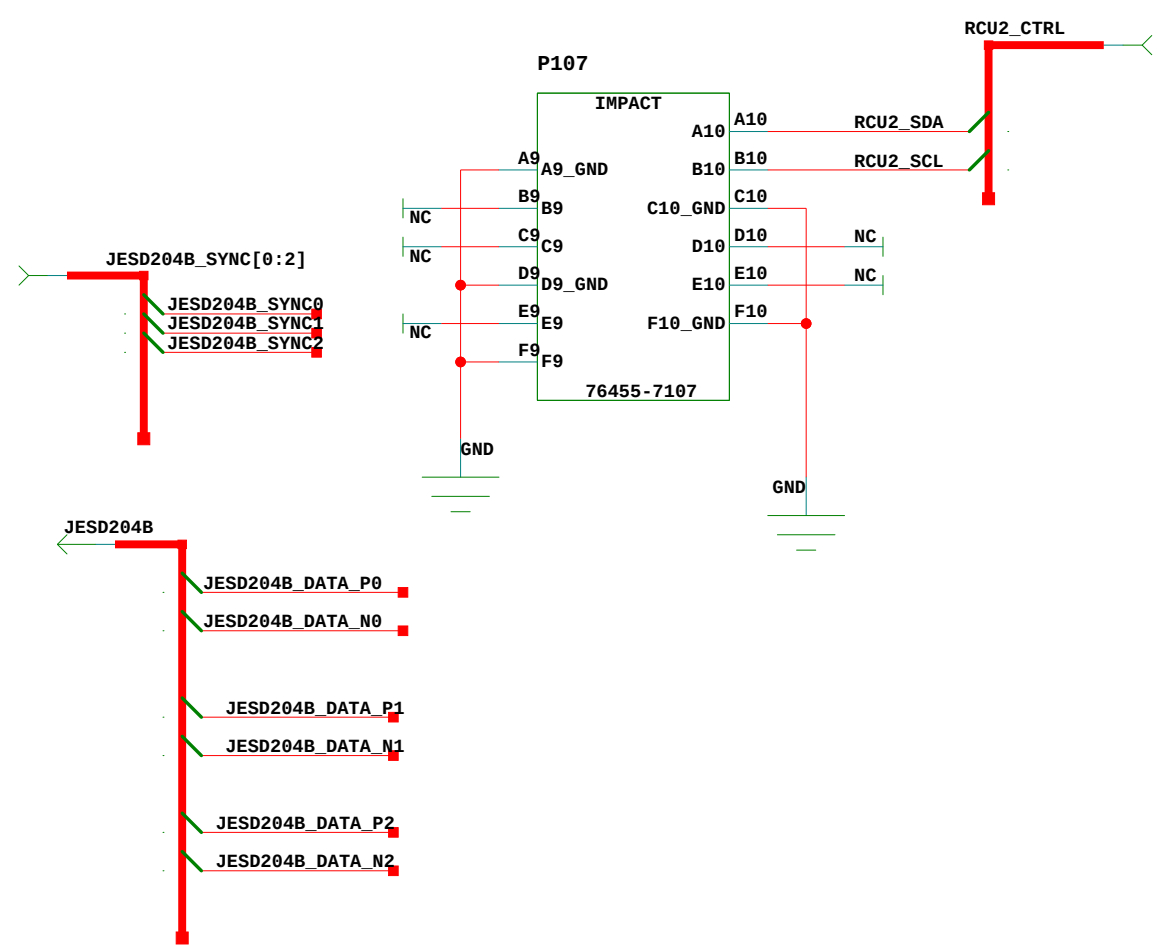
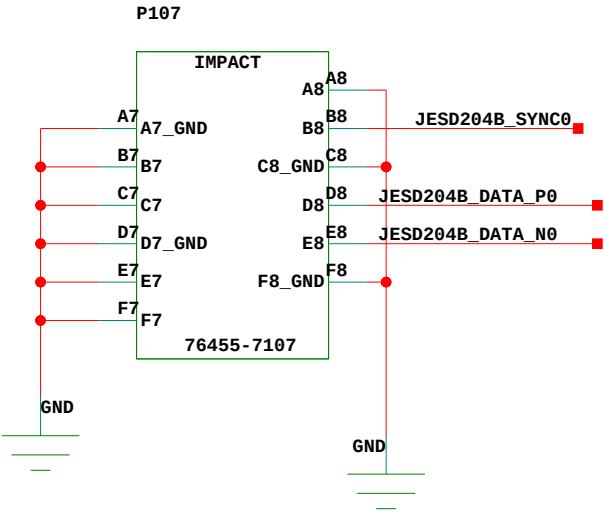
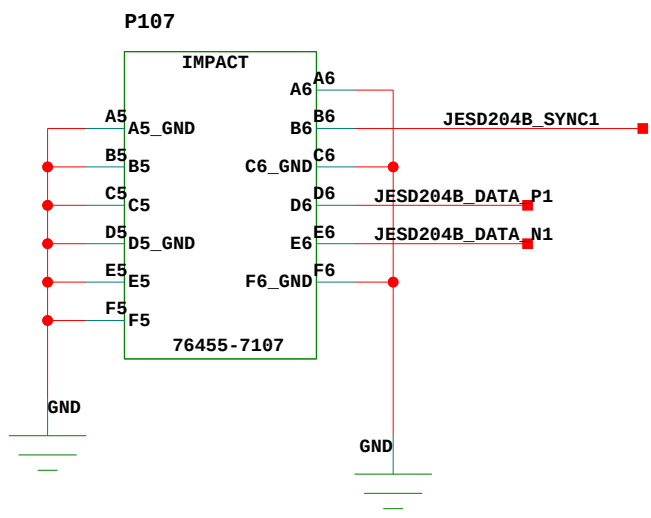
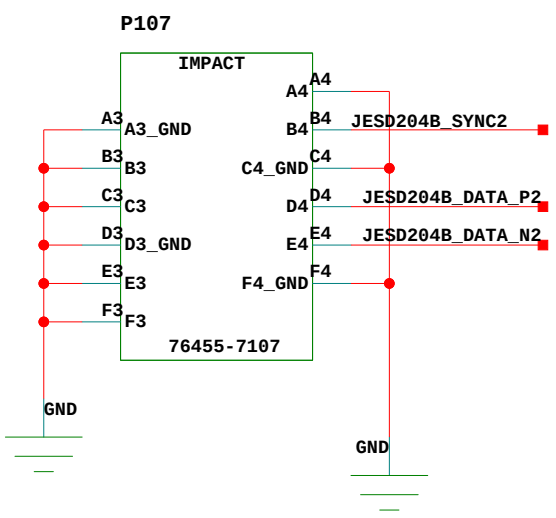
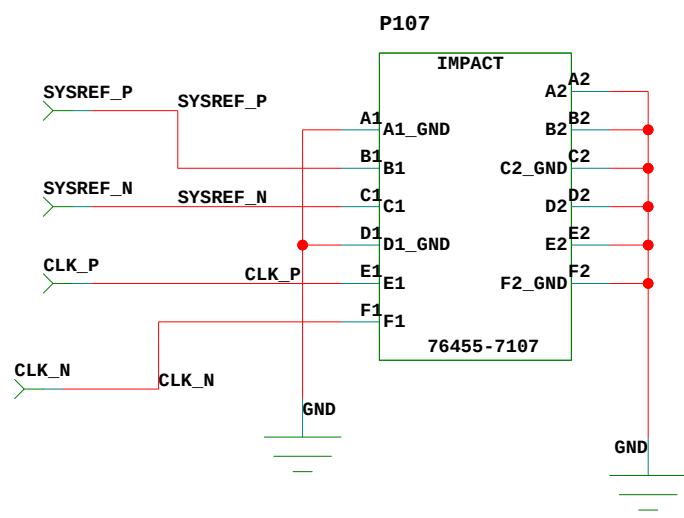
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ASTRON			
RCU2 Interface			
DESIGN			
SIZE	Filename	RCU2	REV 3.0
A3			
DRAWN BY G1js	SHEET 33 of 58	DATE	21/02/2022:10:23

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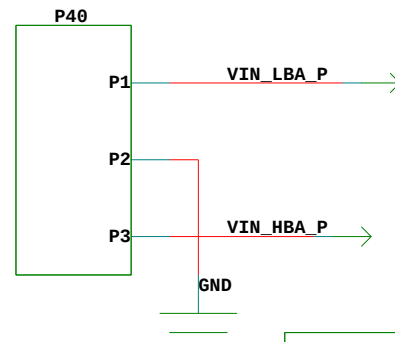
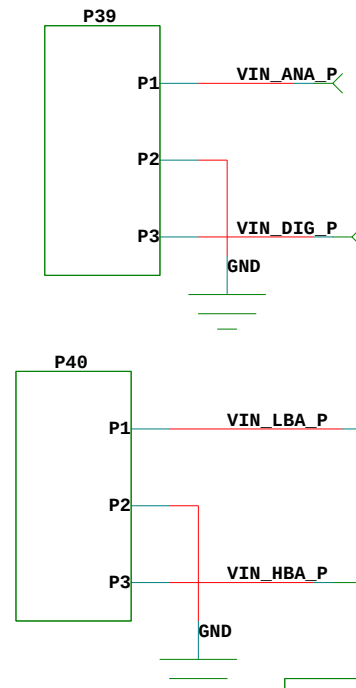
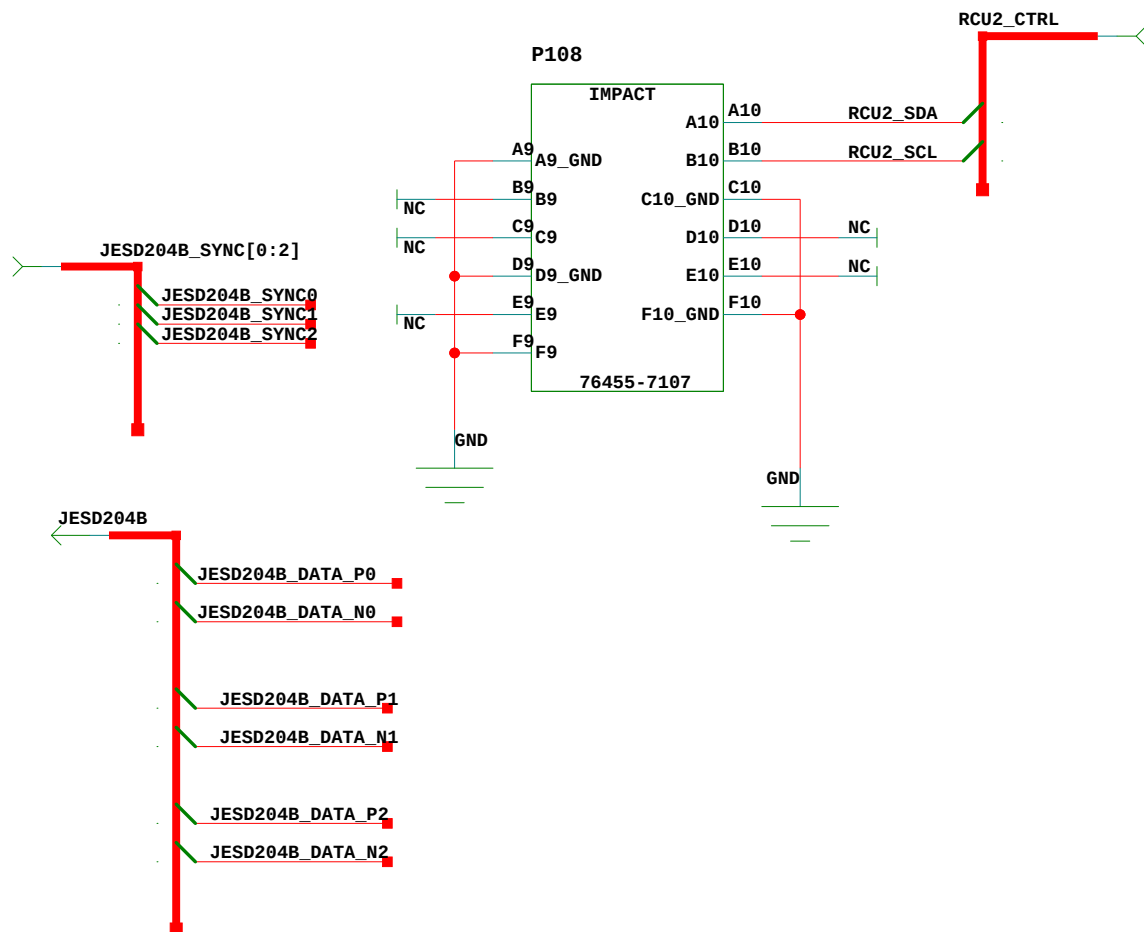
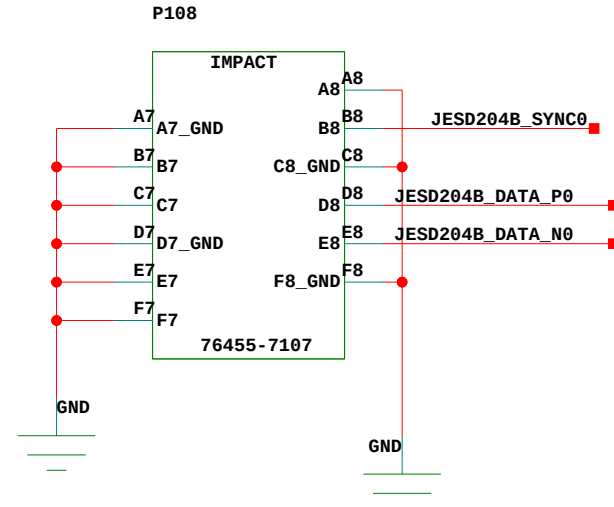
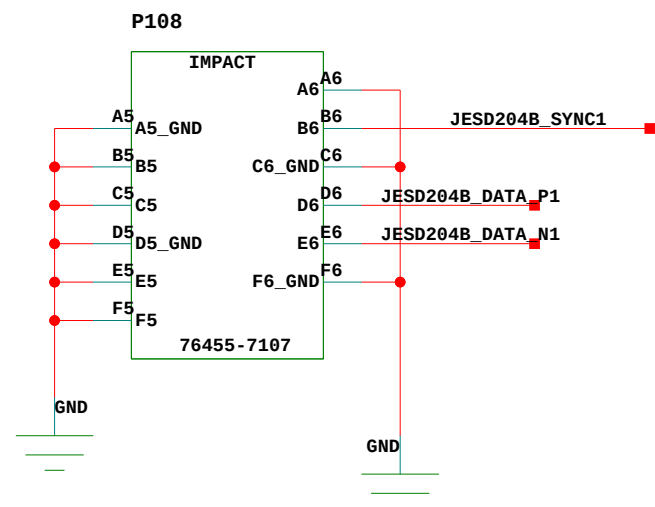
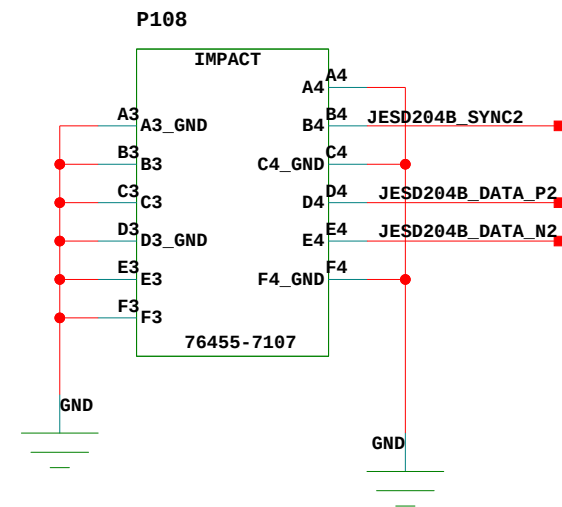
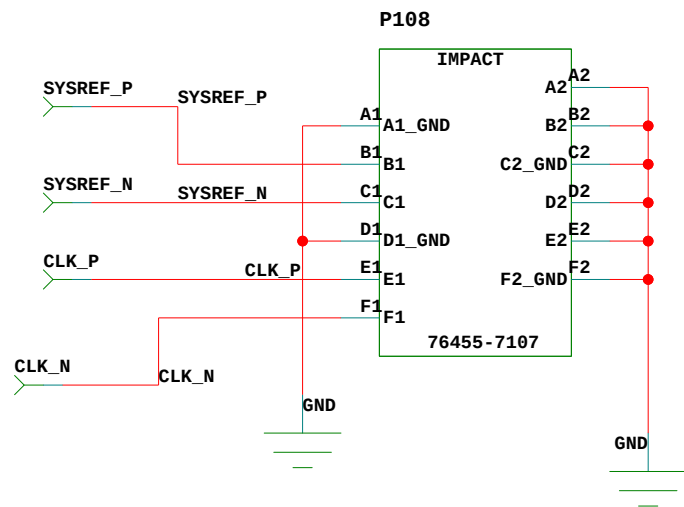
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ASTRON

RCU2 Interface			
DESIGN	RCU2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	G1js	SHEET	34 of 58
		DATE	21/02/2022:10:23

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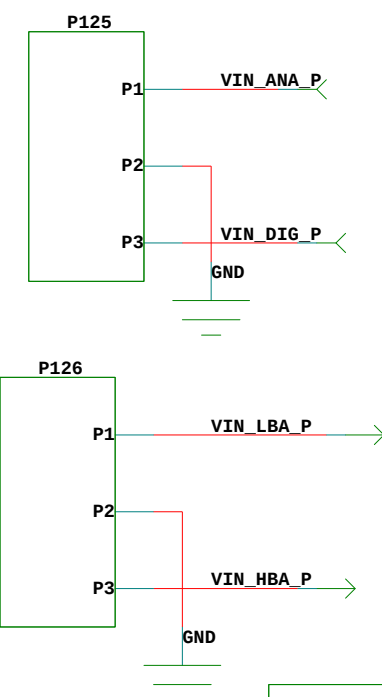
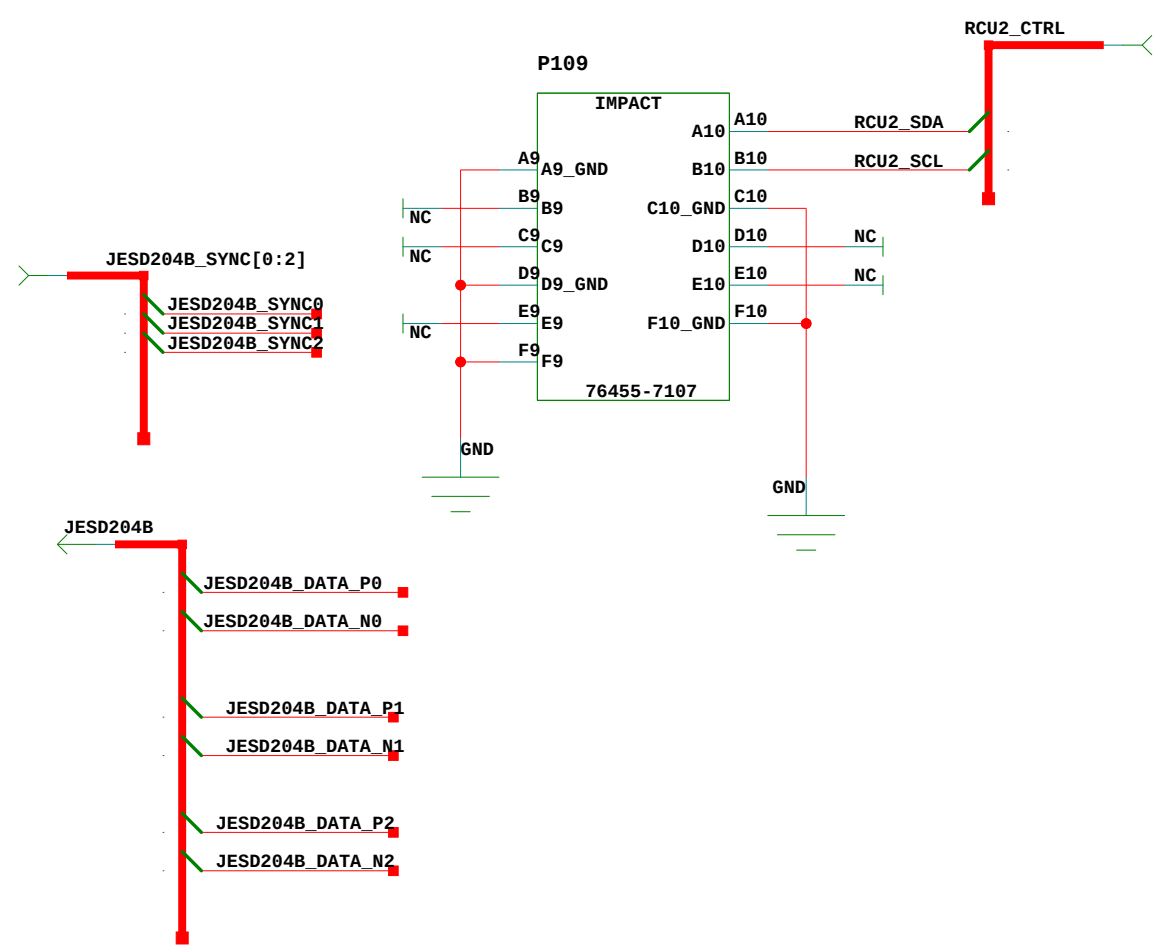
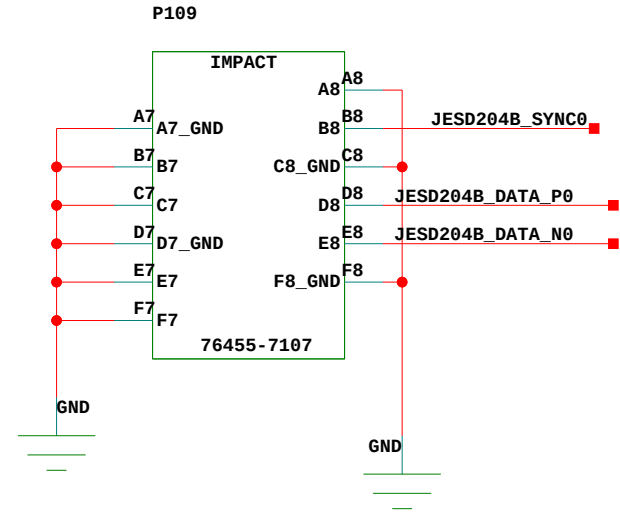
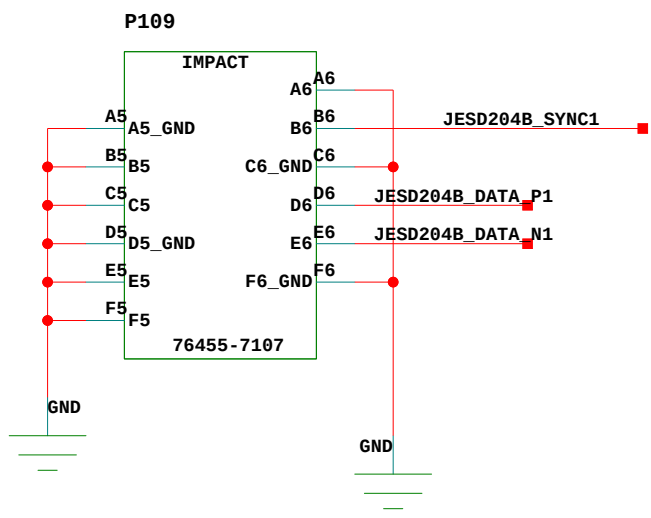
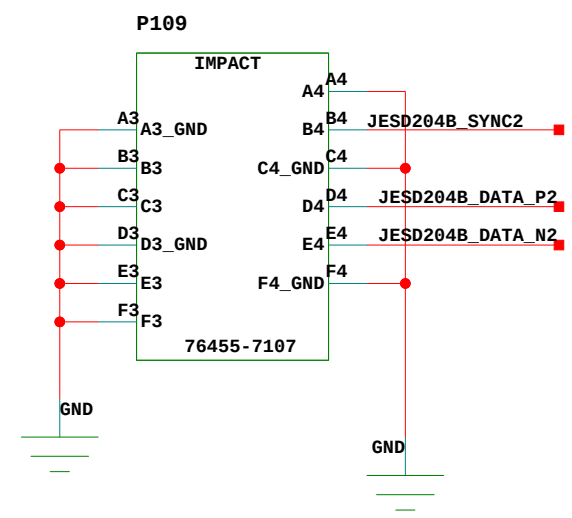
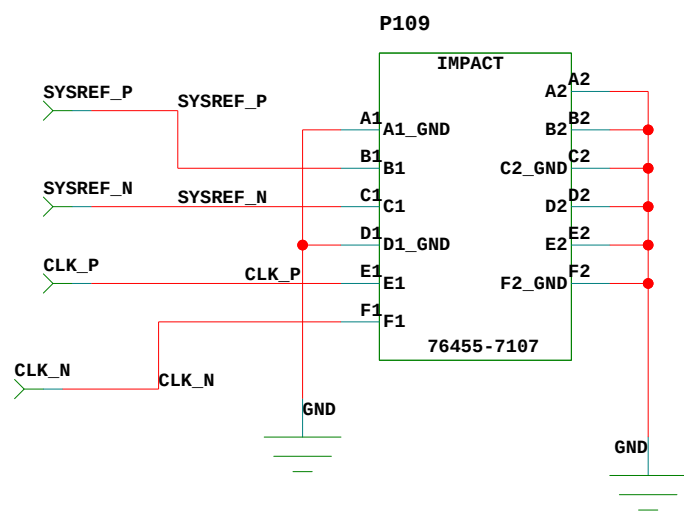
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ASTRON				
RCU2 Interface				
DESIGN	RCU2			
SIZE	Filename	REV		3.0
A3				
DRAWN BY	G1js	SHEET	35 of 58	DATE
				21/02/2022:10:23

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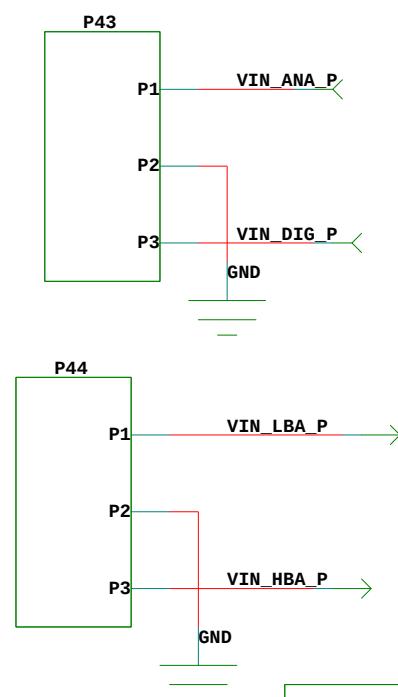
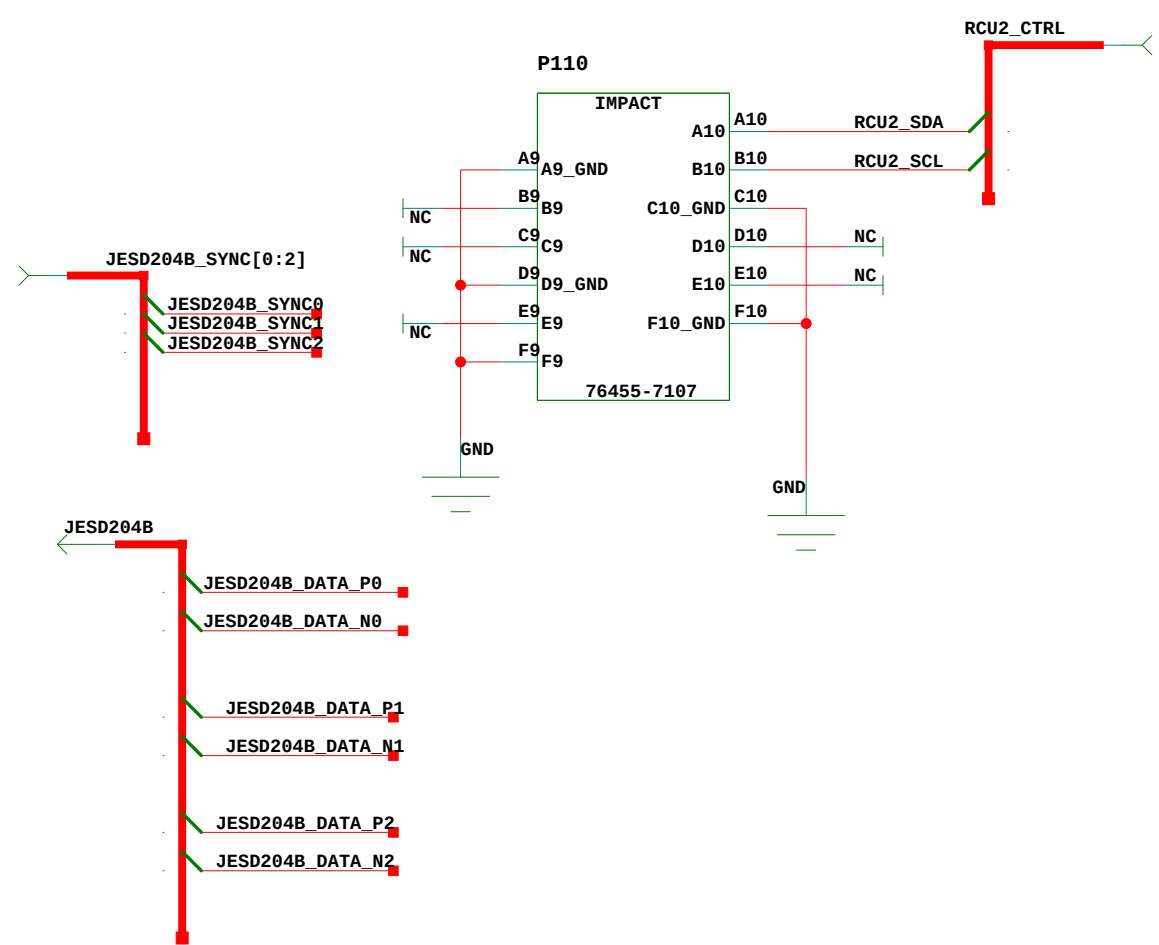
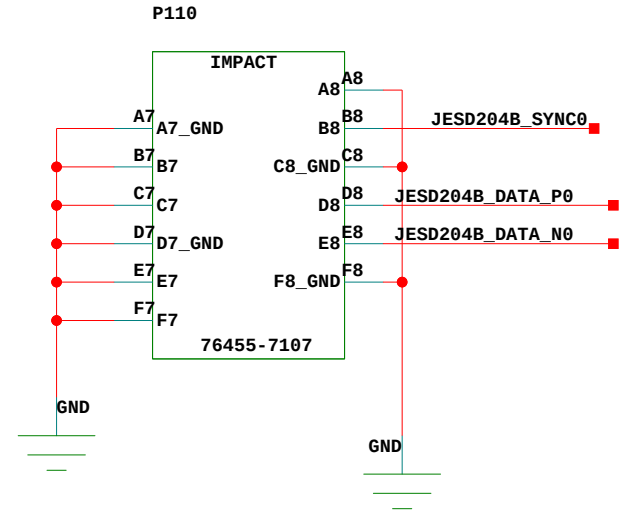
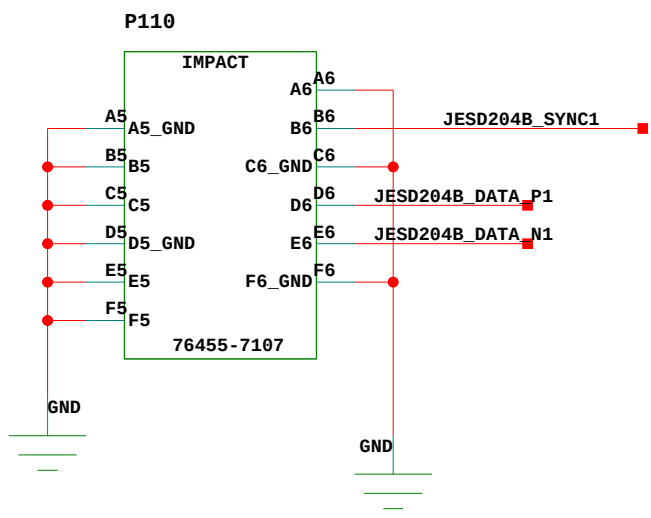
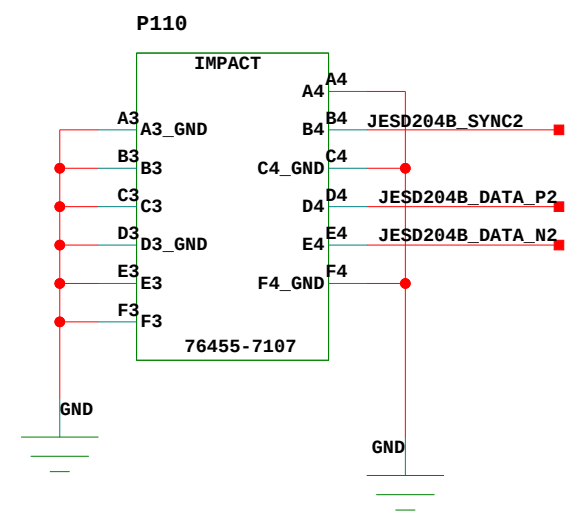
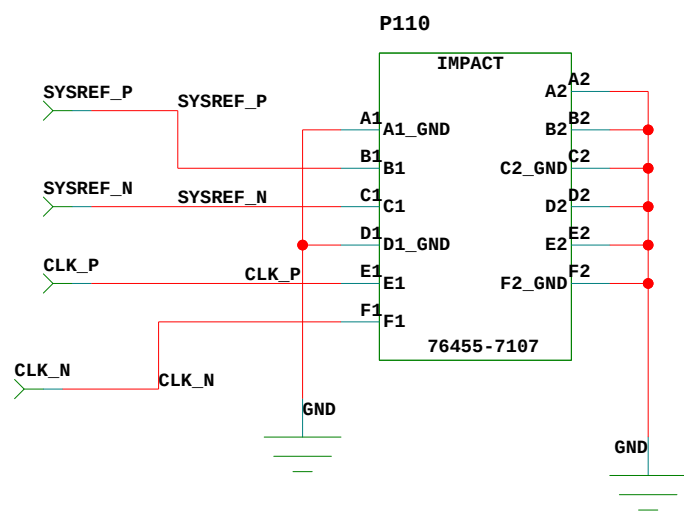
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ASTRON				
RCU2 Interface				
DESIGN				
SIZE	Filename	RCU2		REV 3.0
61				
DRAWN BY	G1js	SHEET	36 of 58	DATE 21/02/2022:10:23

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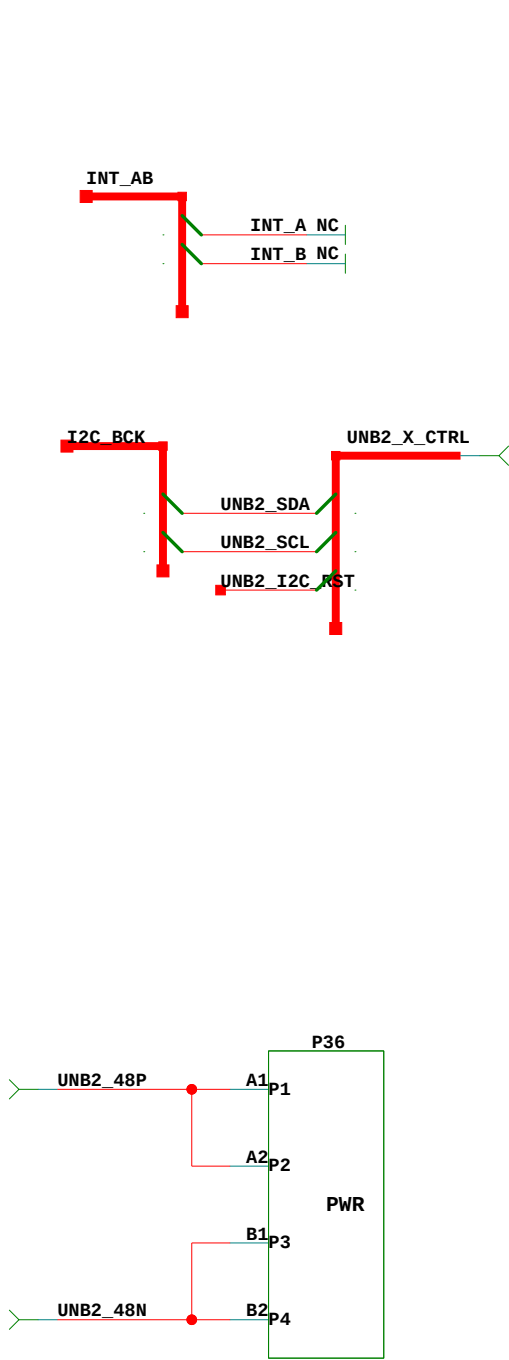
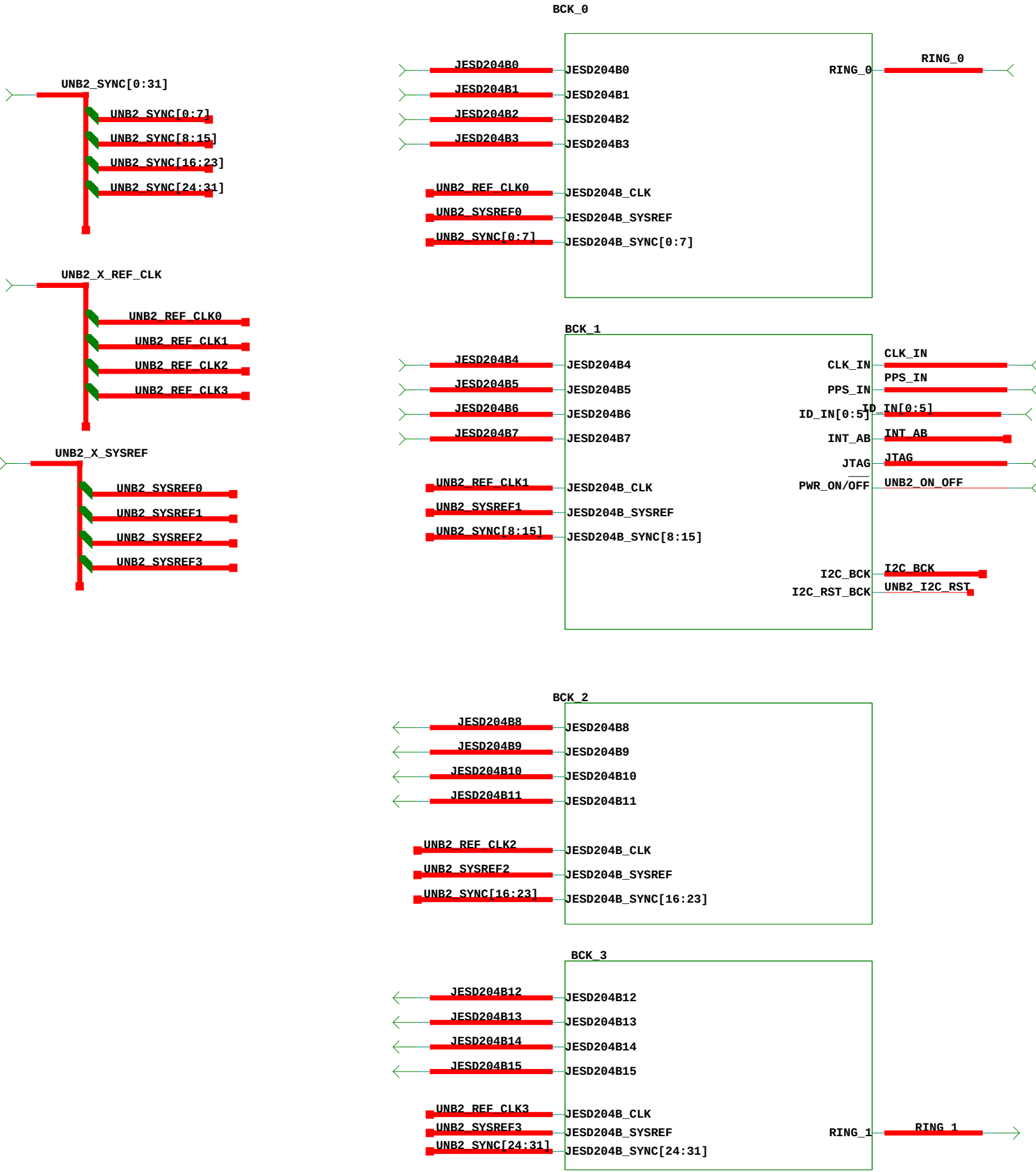
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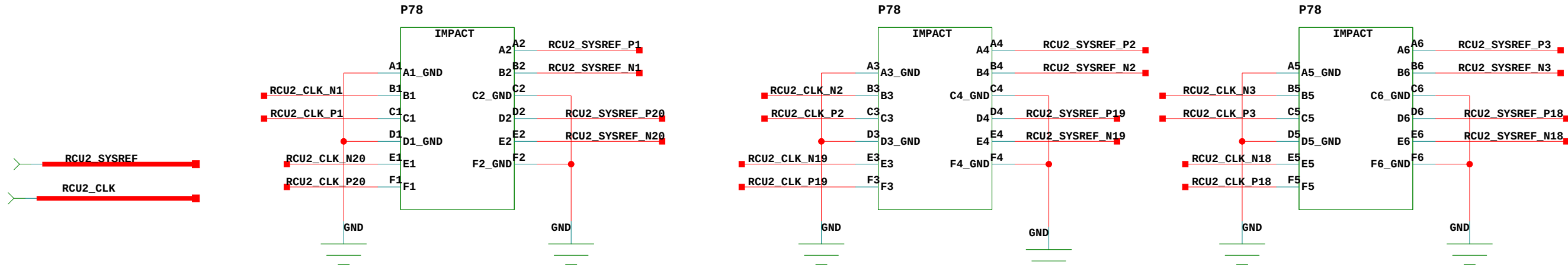
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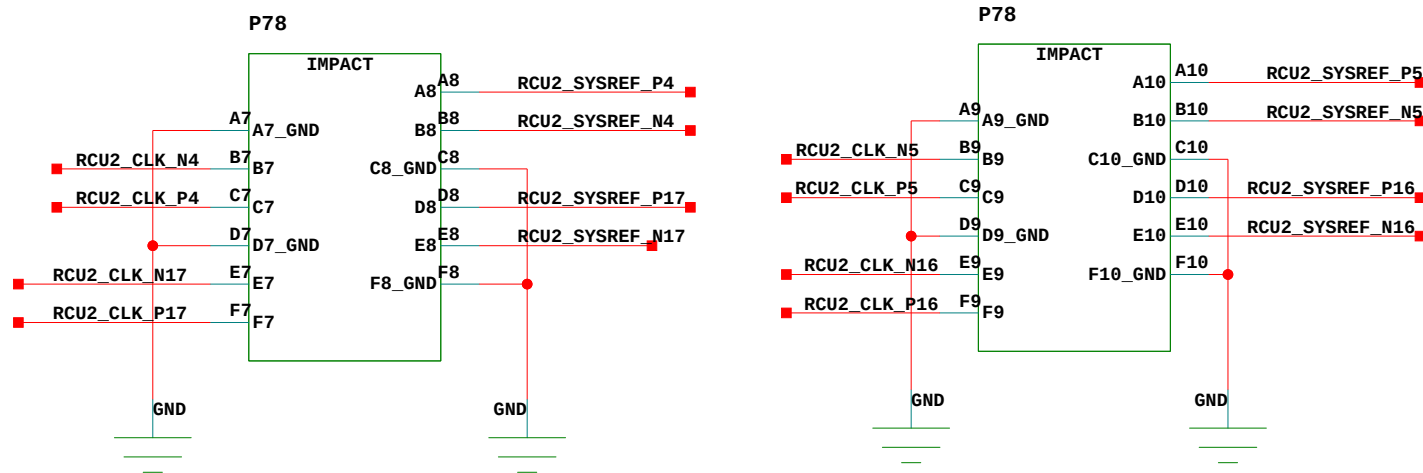
ASTRON			
UniBoard2 Interface			
DESIGN	UniBoard2		
SIZE	Filename	REV	3.0
A3			
DRAWN BY	SHEET	DATE	
Gijs	37 of 58	21/02/2022:10:23	

On both APSCT and LMP RCU2_CLK_N* are placed on the top

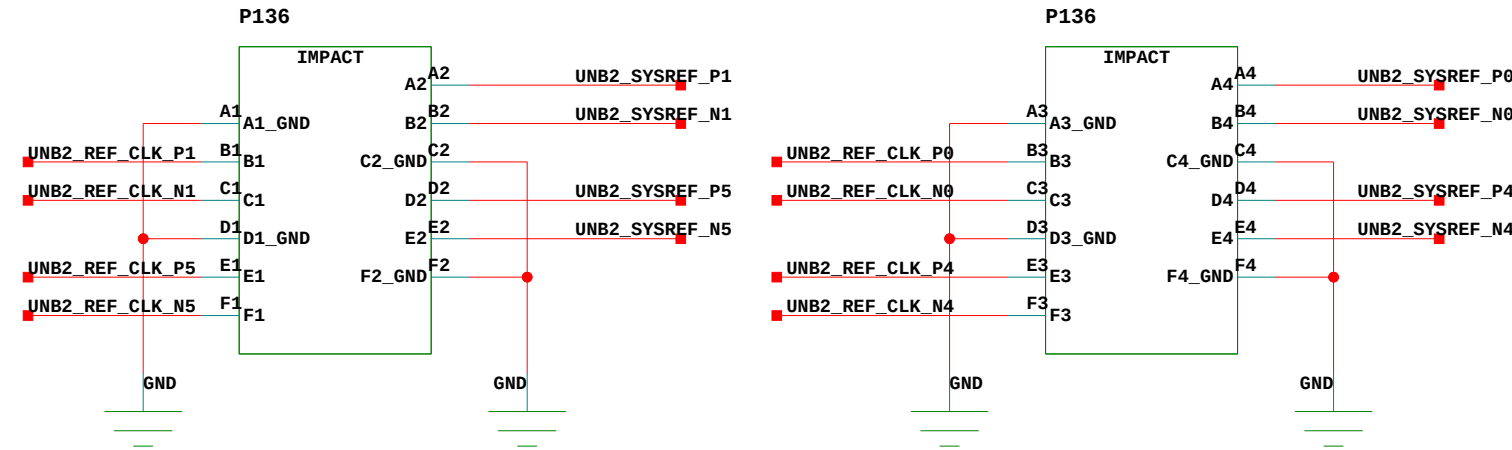
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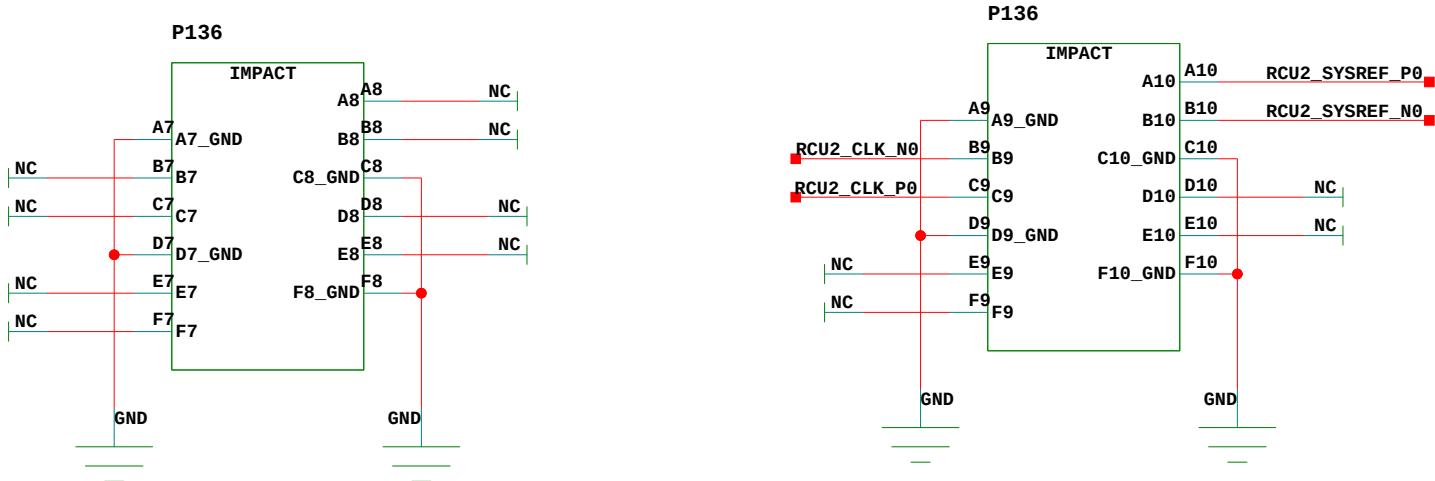
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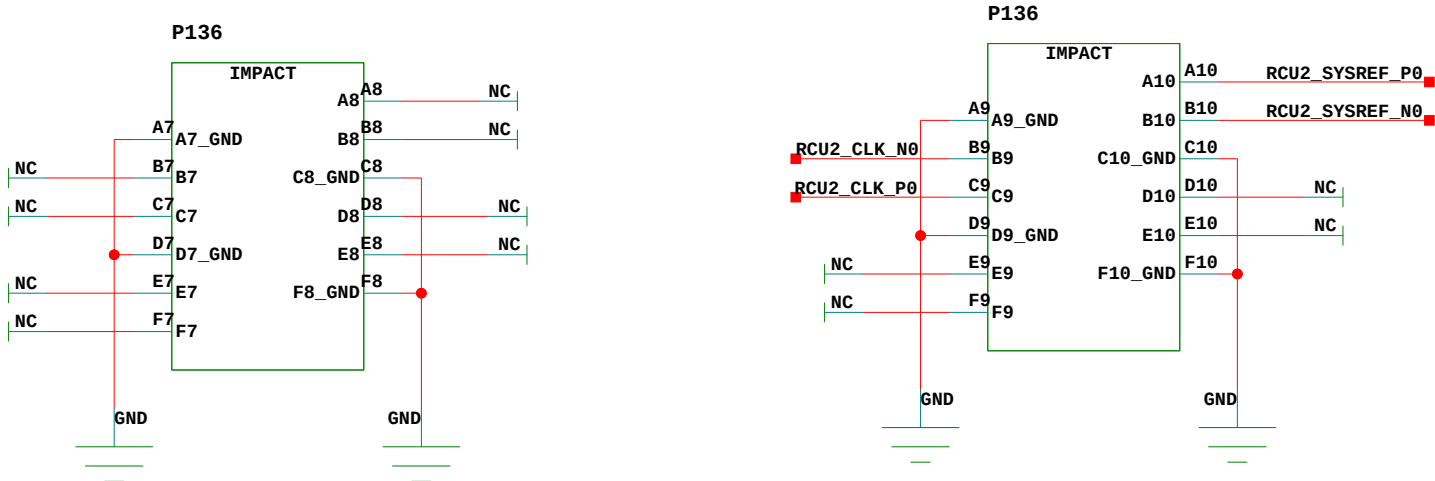
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ASTRON

DESIGN				APSCT Clock connetions to RCU2 pag	
SIZE	Filename	MIDPLANE_INTERFACE		REV	3.0
DRAWN BY G1js		SHEET	38 of 58	DATE	21/02/2022:10:23

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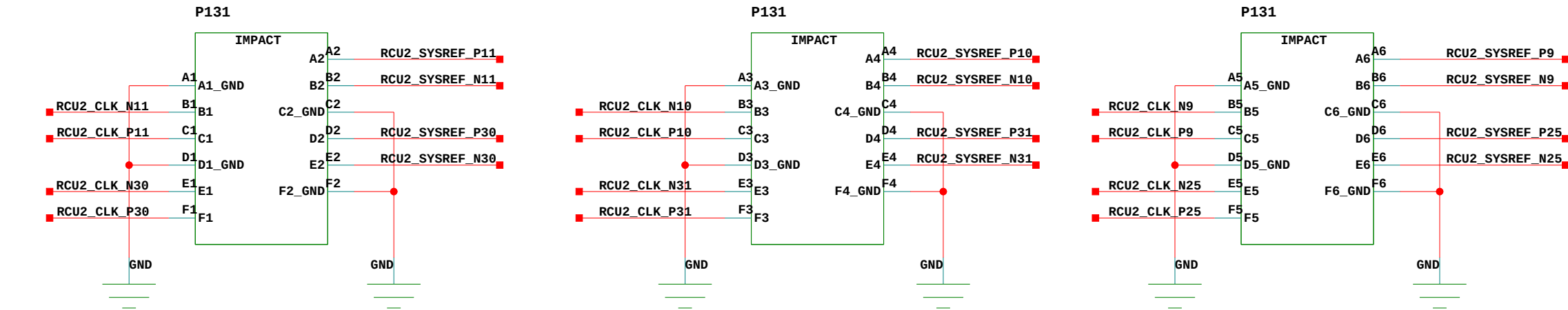
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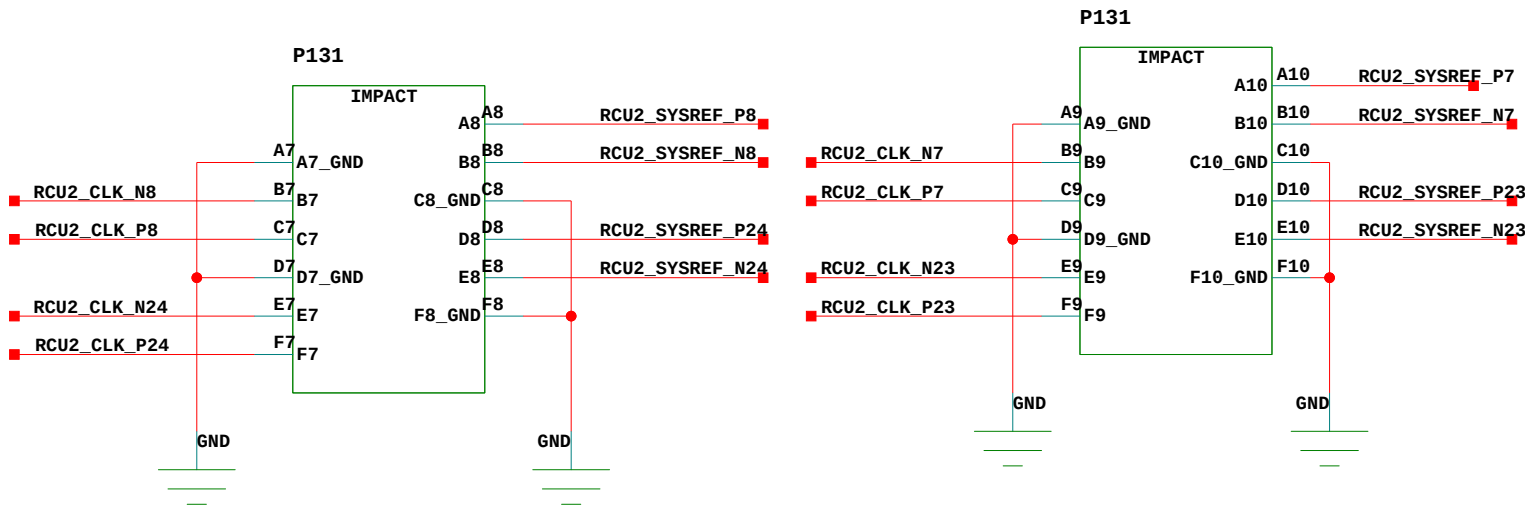
5

On both APSCT and LMP RCU2_CLK_N* are placed on the top

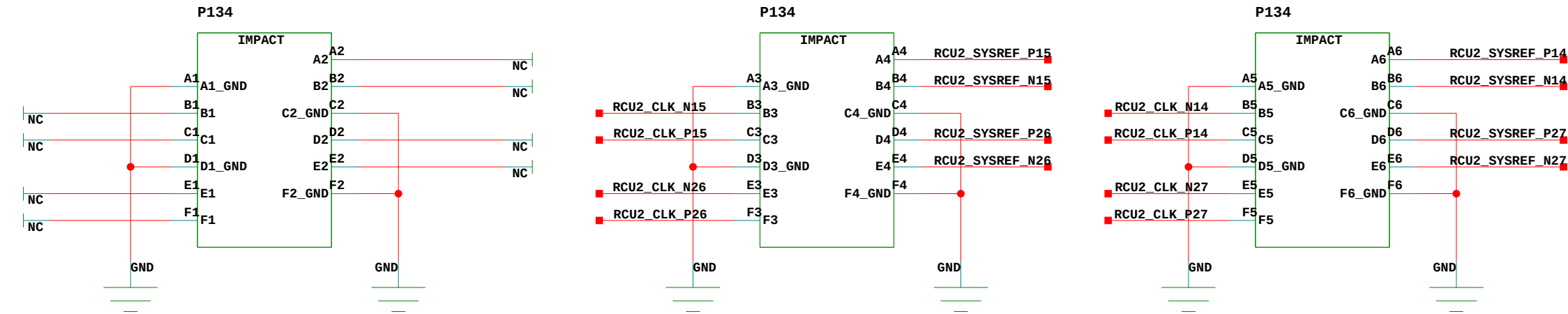
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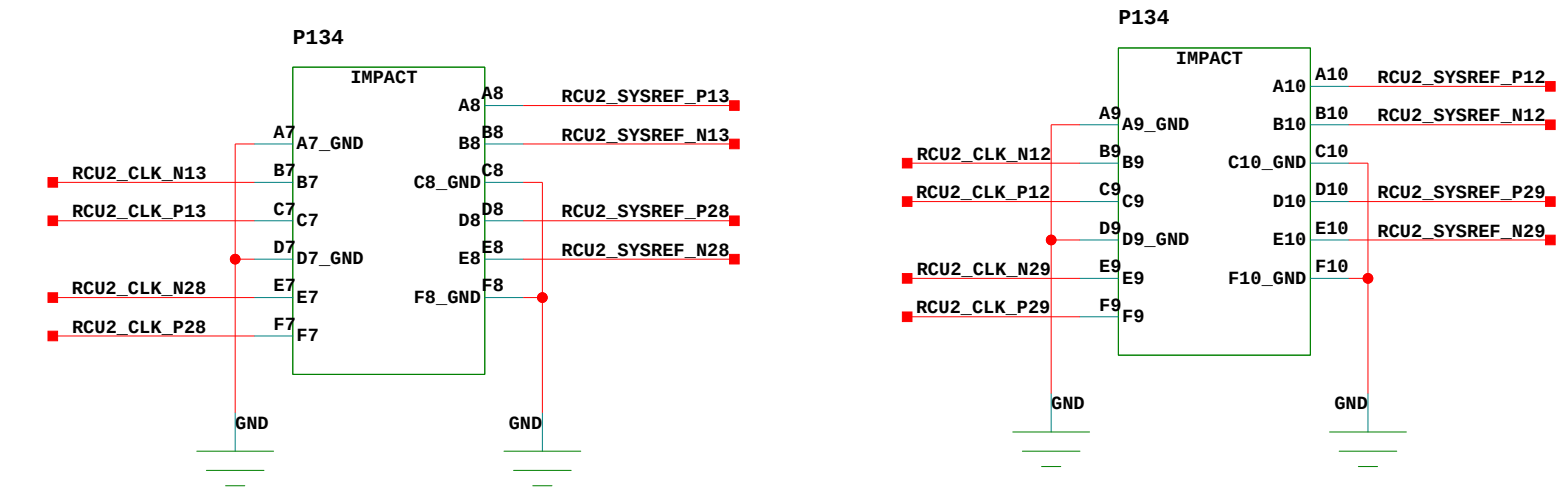
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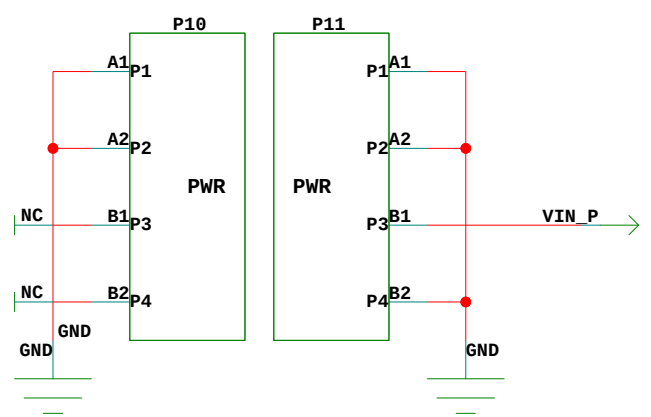
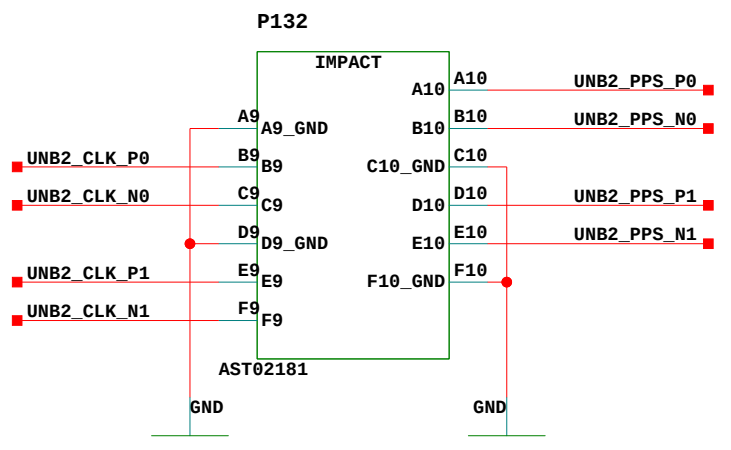
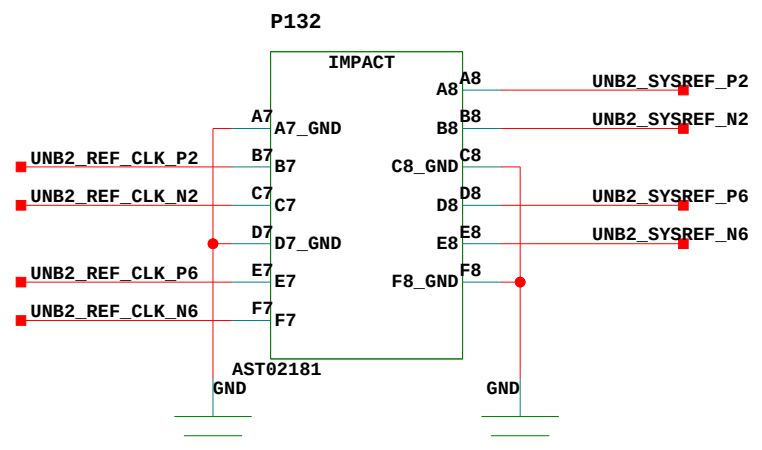
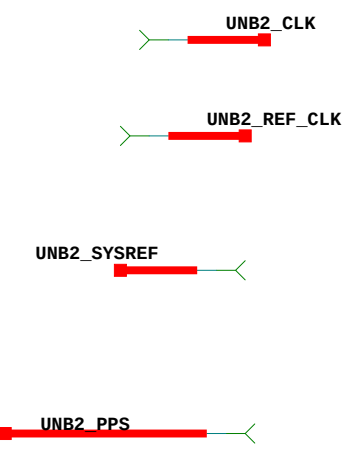
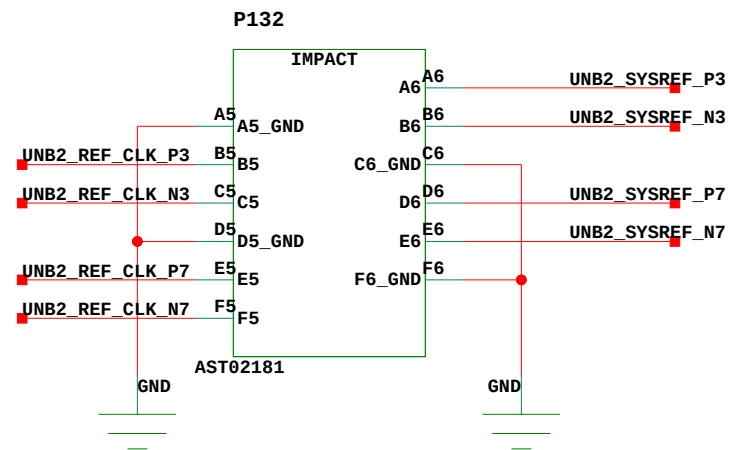
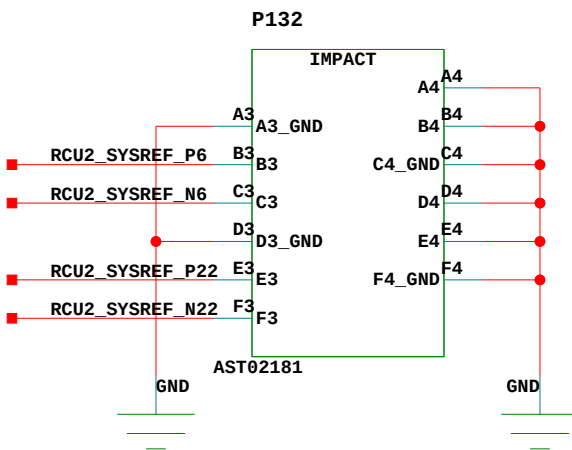
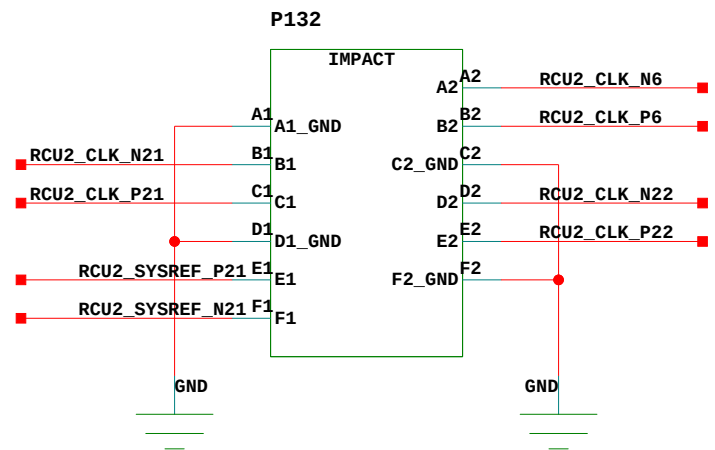
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RCU2_CTRL_BUS

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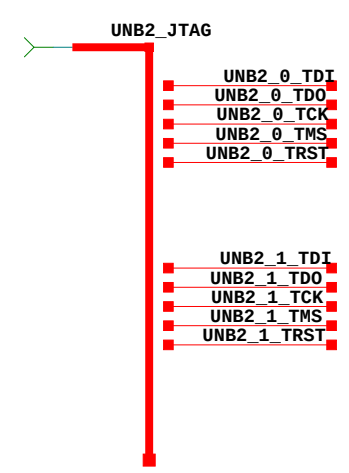


1 / 2

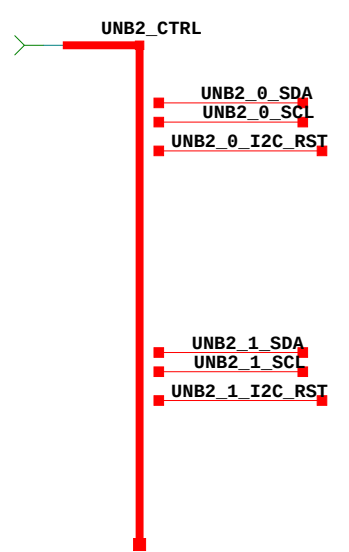
ASTRON

DESIGN			
RCU2 Control			
SIZE	Filename	REV	
A3	MIDPLANE_INTERFACE_CTRL	3.0	
DRAWN BY		SHEET	DATE
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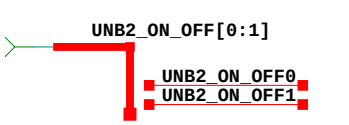
E



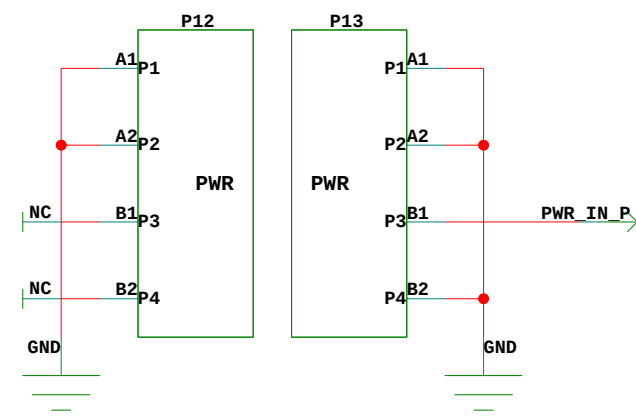
D



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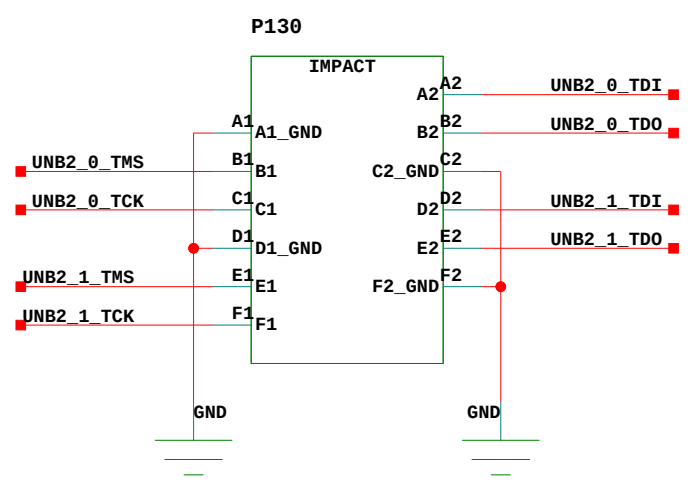


B

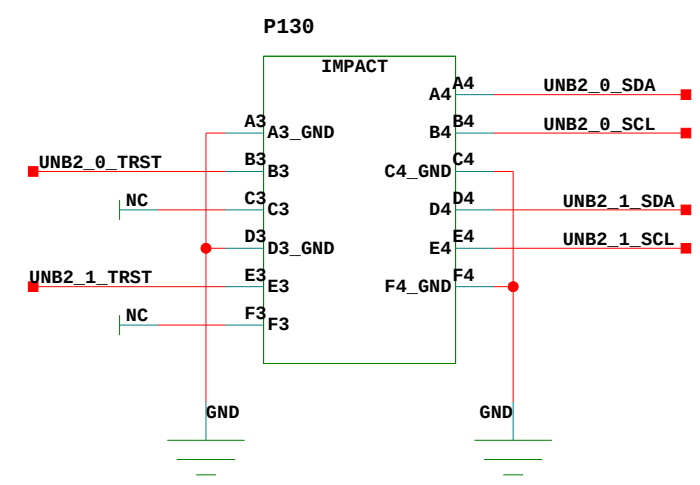


A

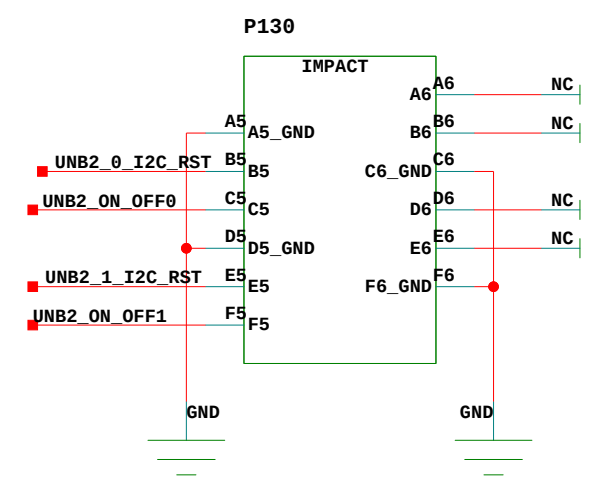
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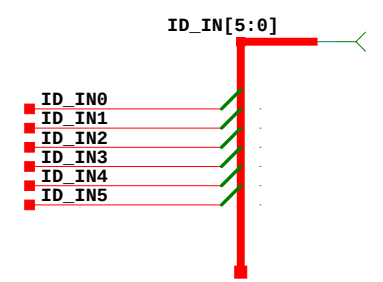
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ASTRON

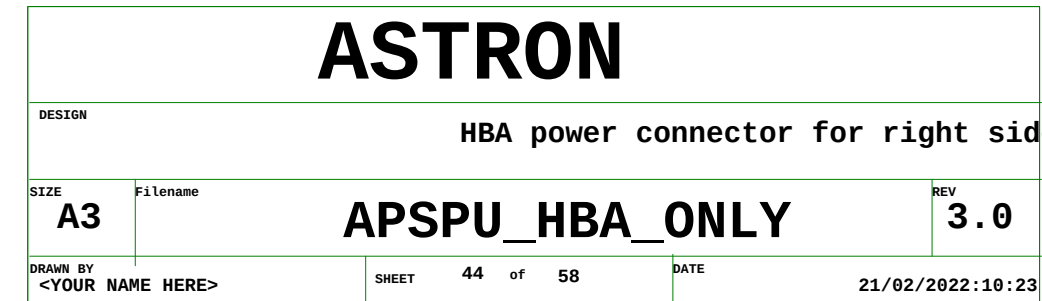
DESIGN LMP Power connections

SIZE	Filename	REV
A3	APSPU FULL	3.0

DRAWN BY Gijs	SHEET 43 of 58	DATE 21/02/2022:10:23
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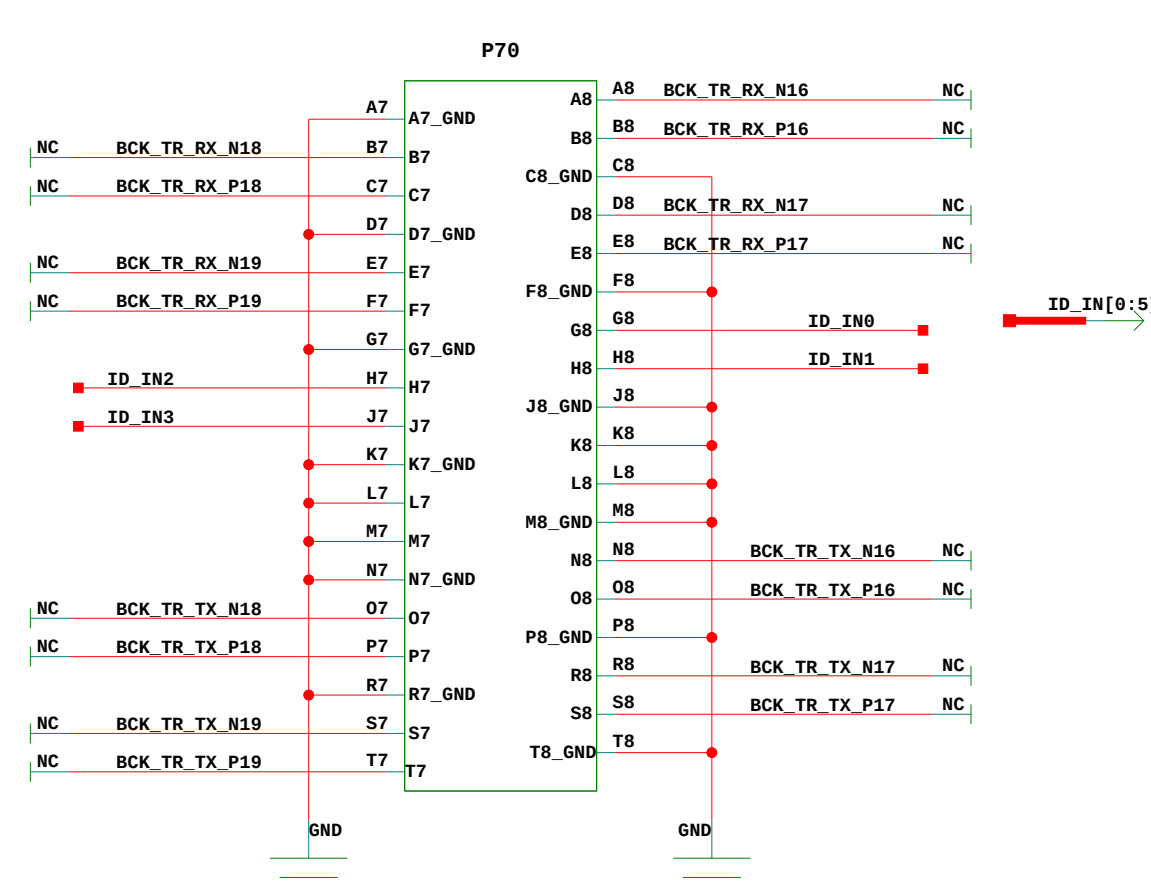
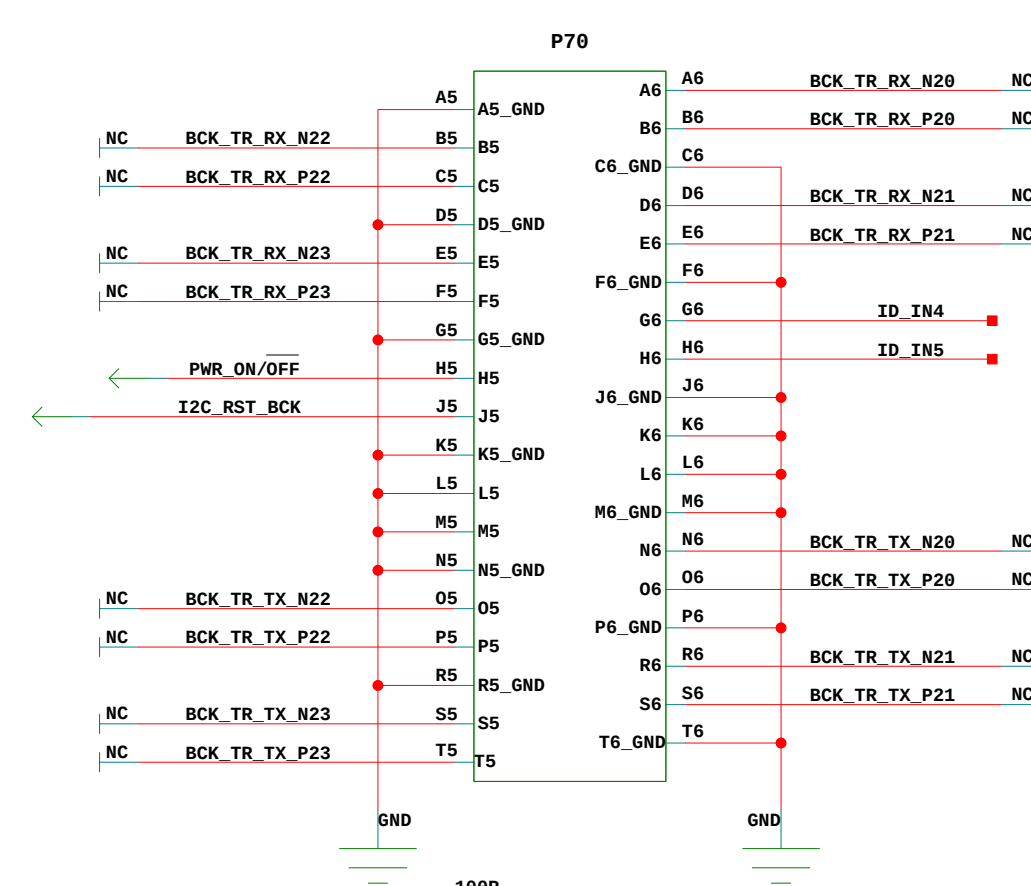
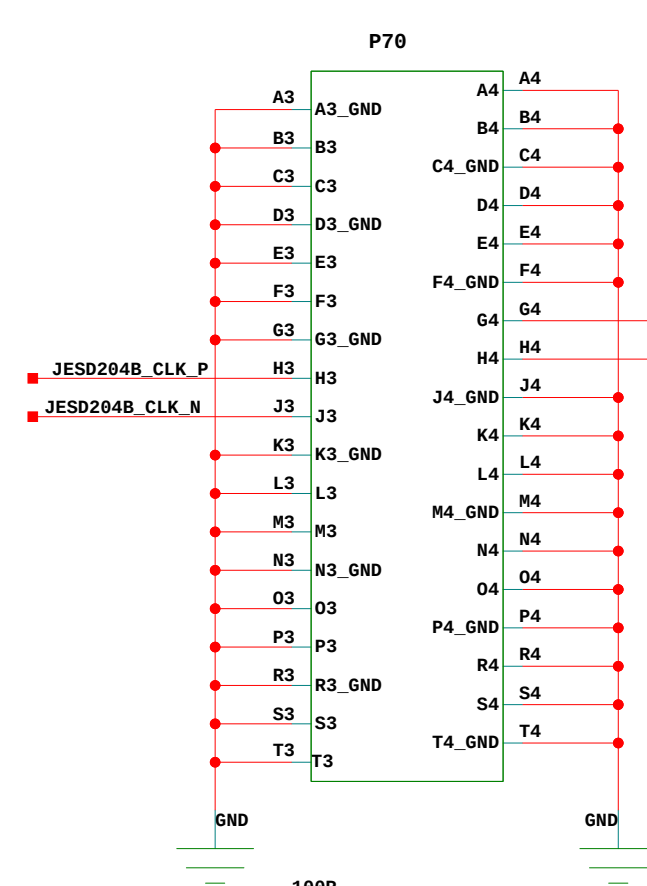
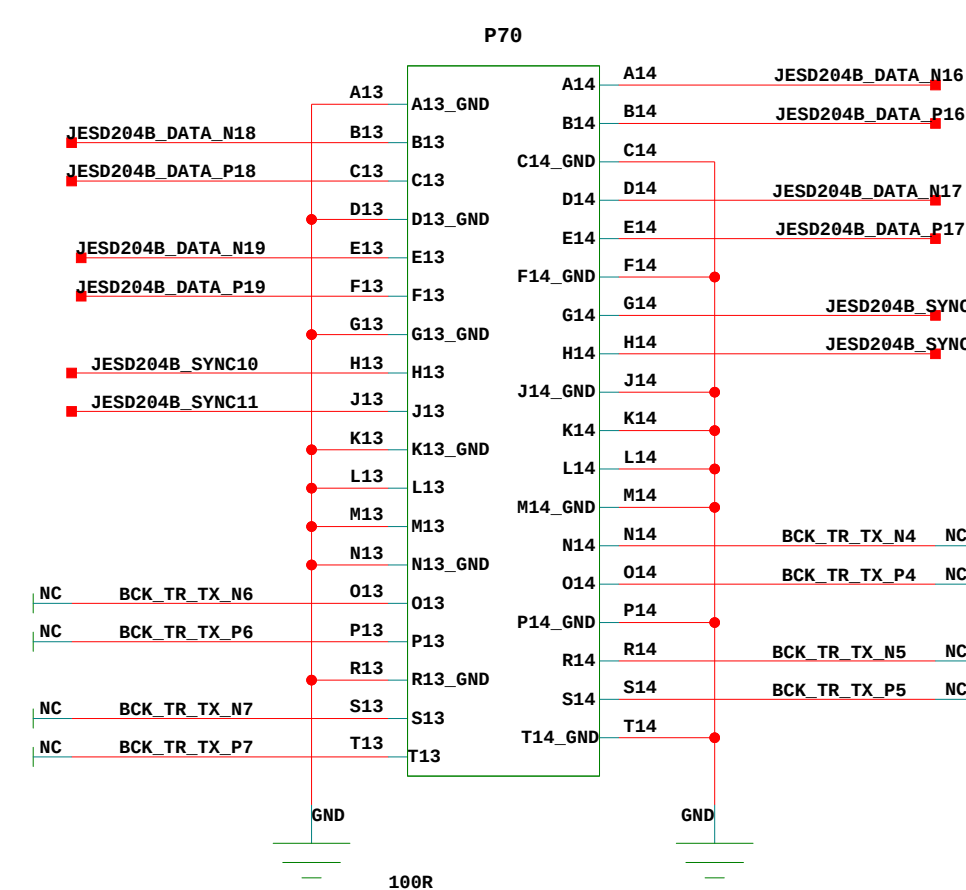
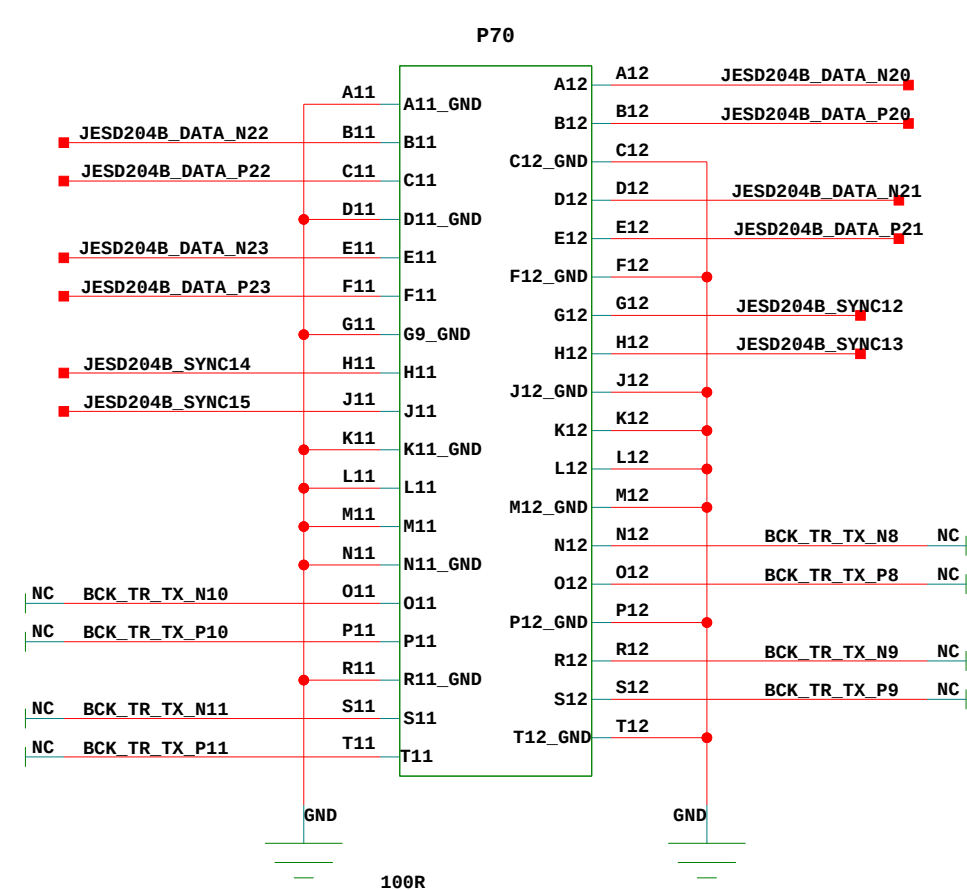
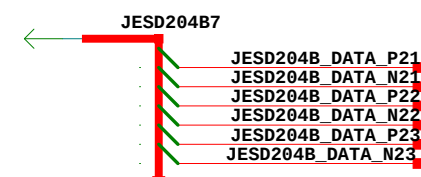
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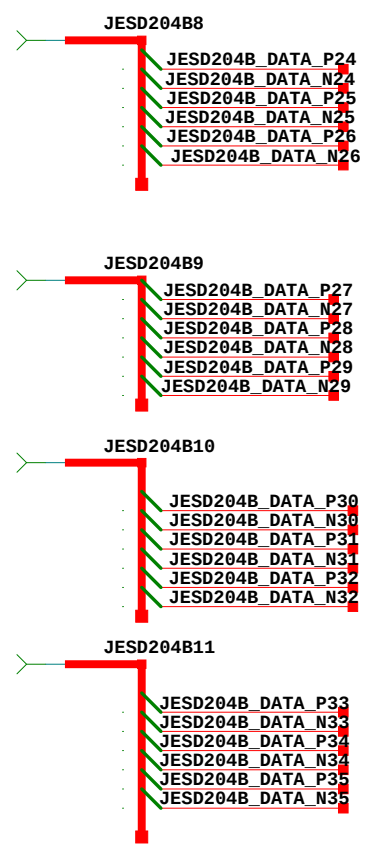
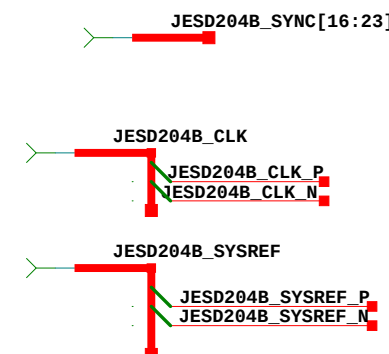
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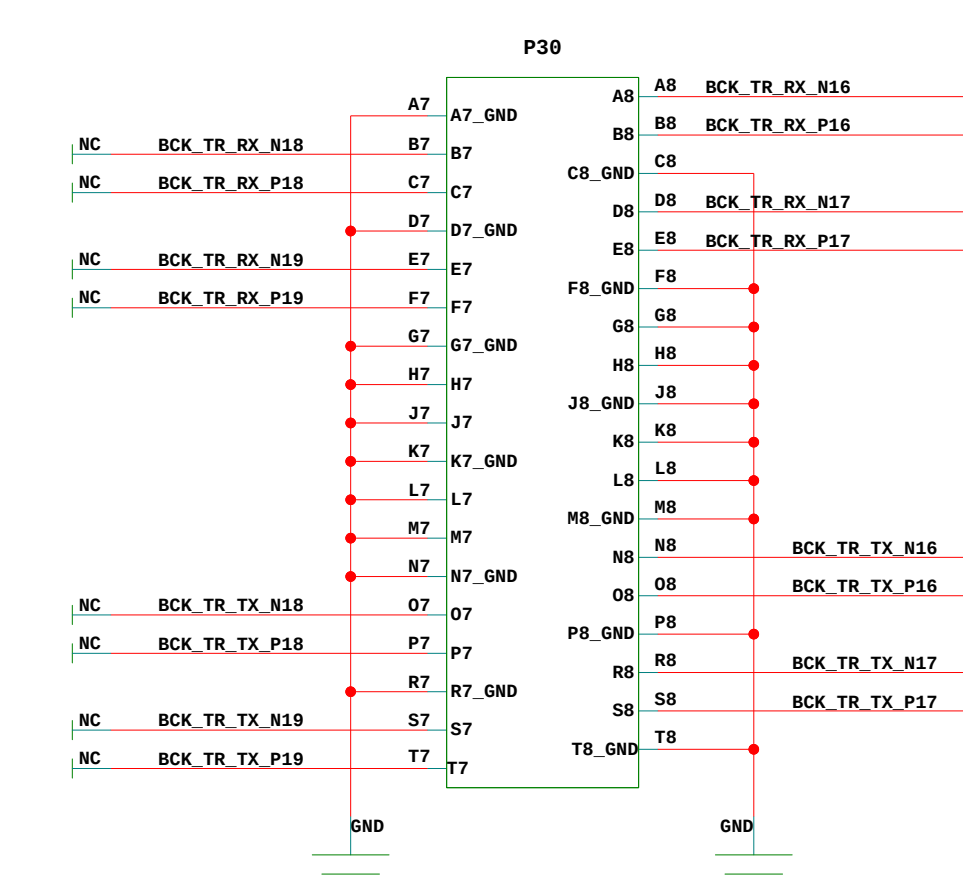
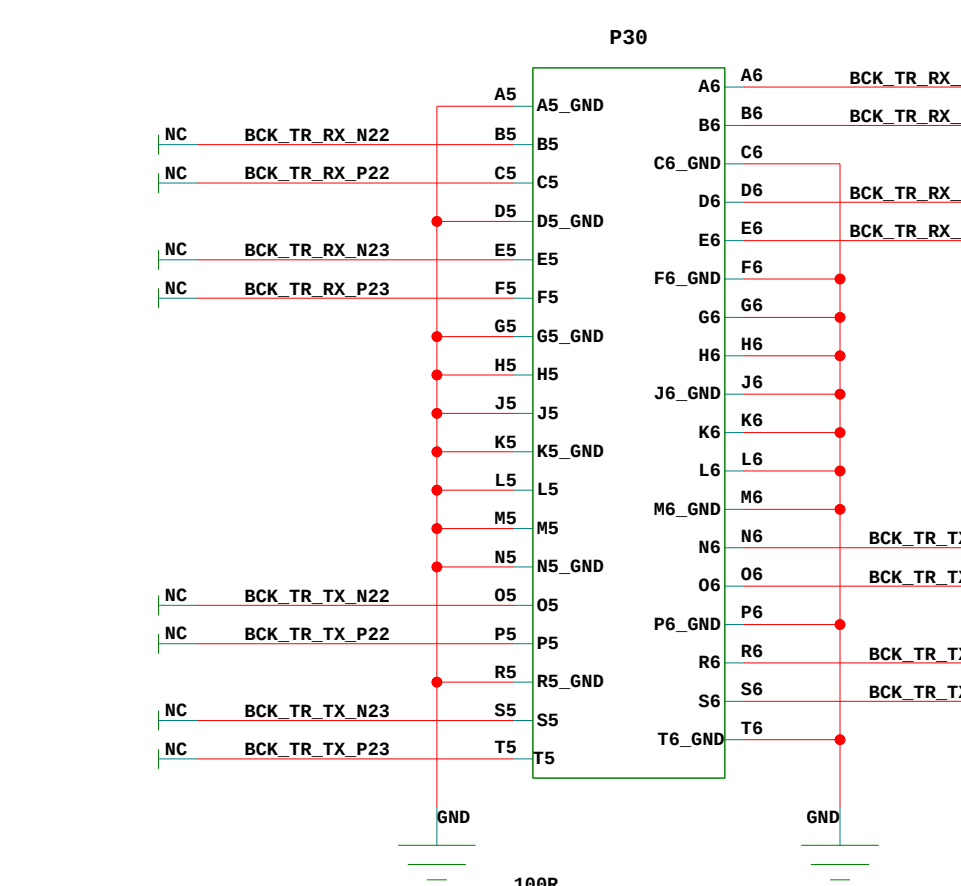
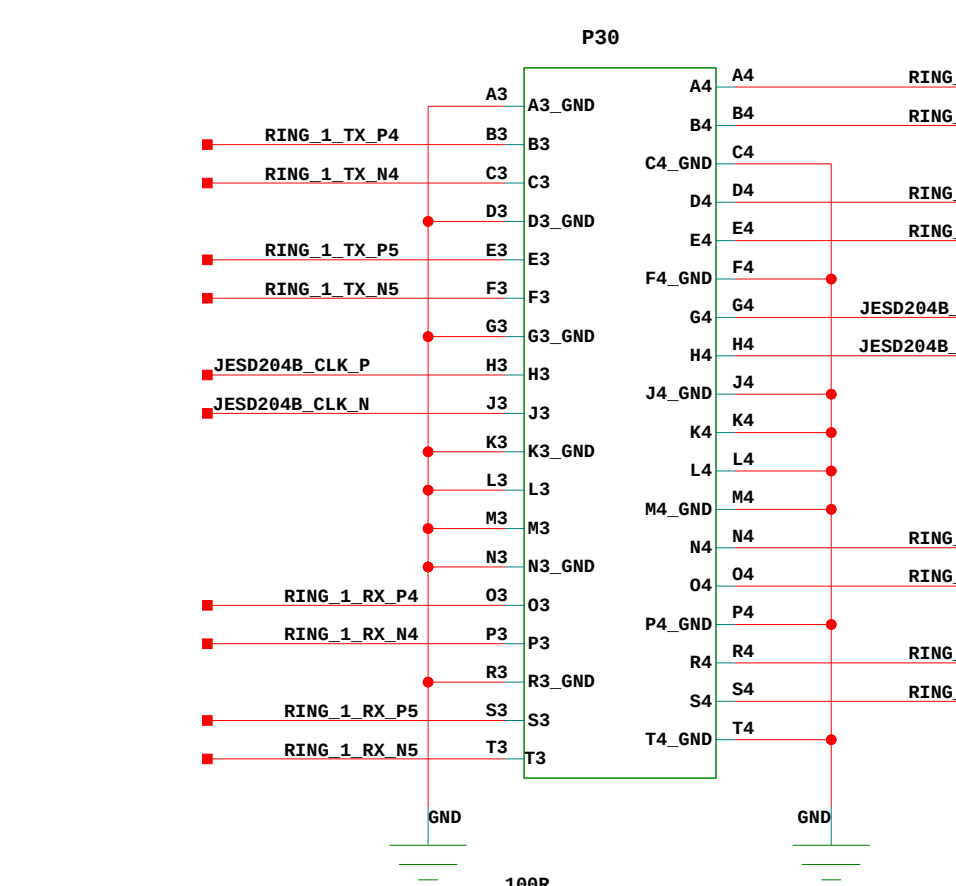
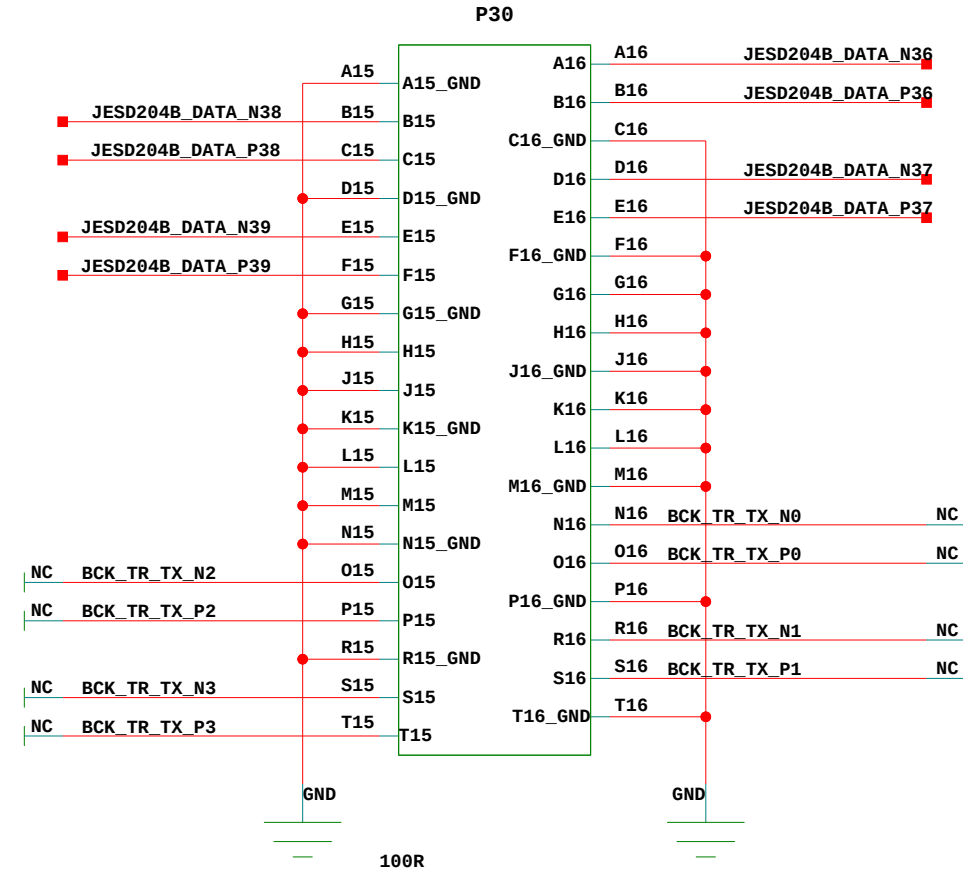
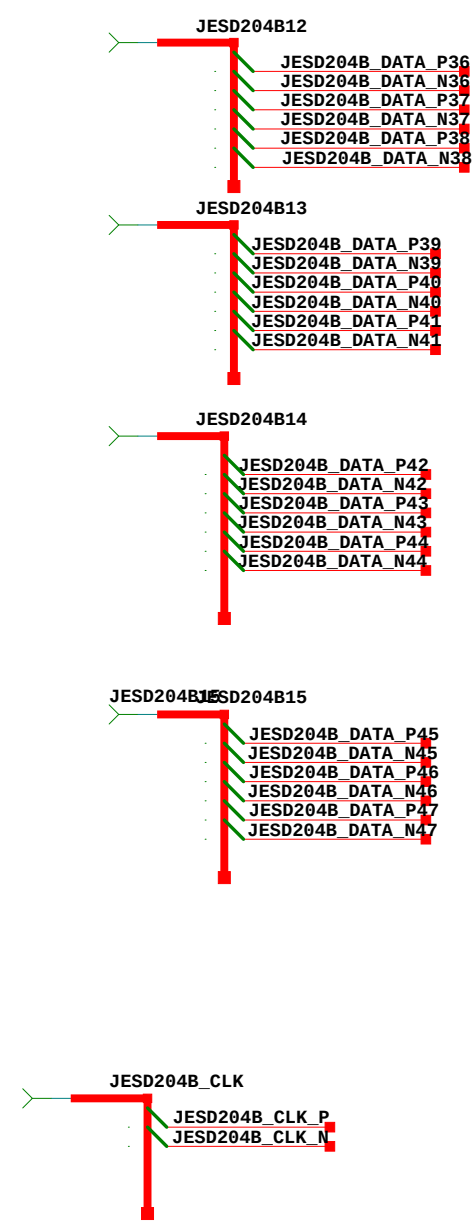


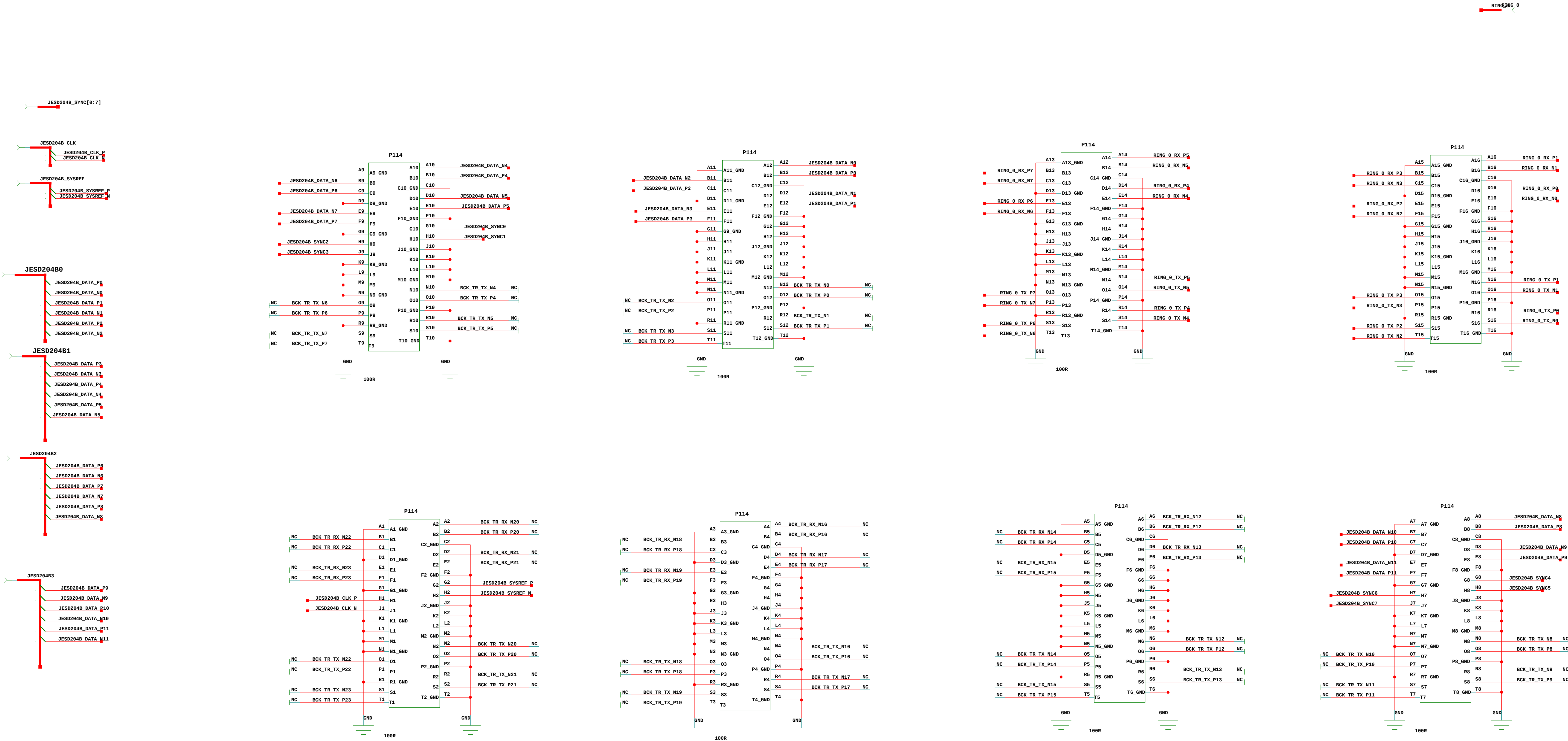
DRAWN BY <YOUR NAME HERE>	SHEET 44 of 58	DATE 21/02/2022:10:23
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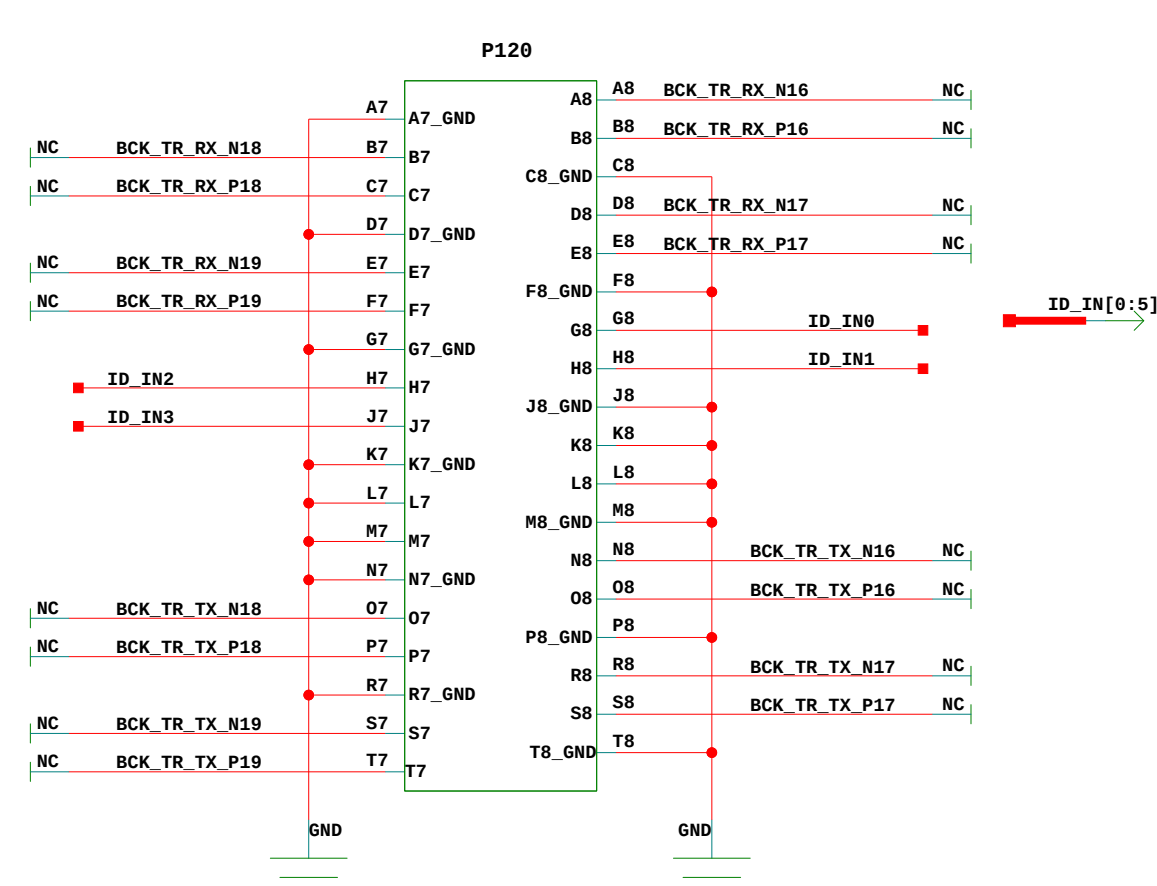
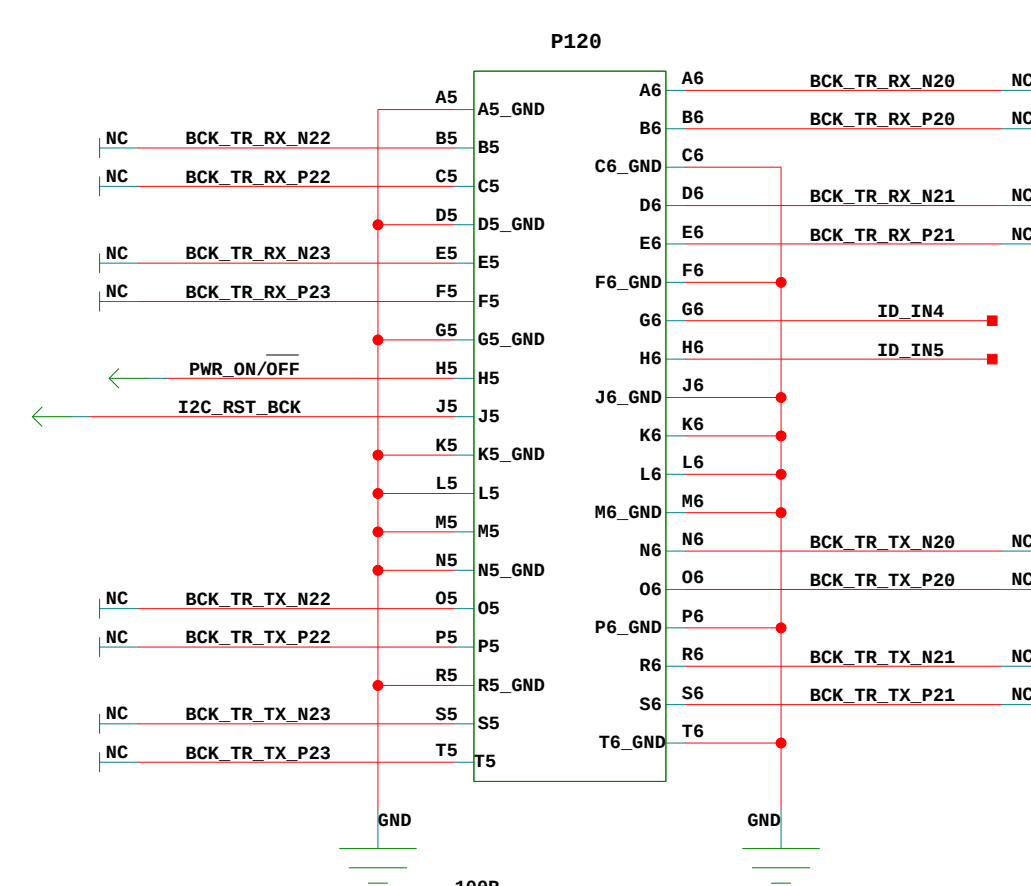
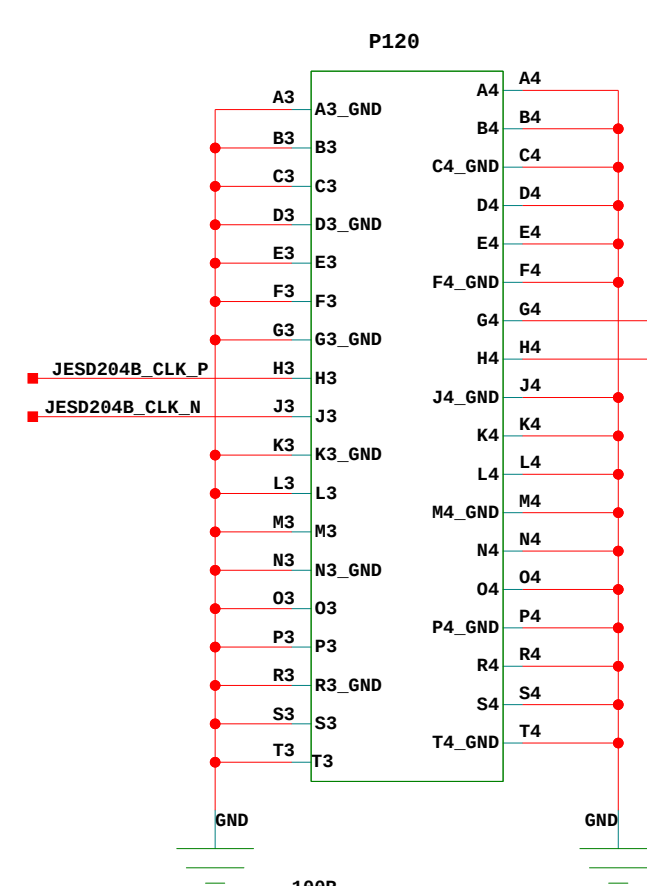
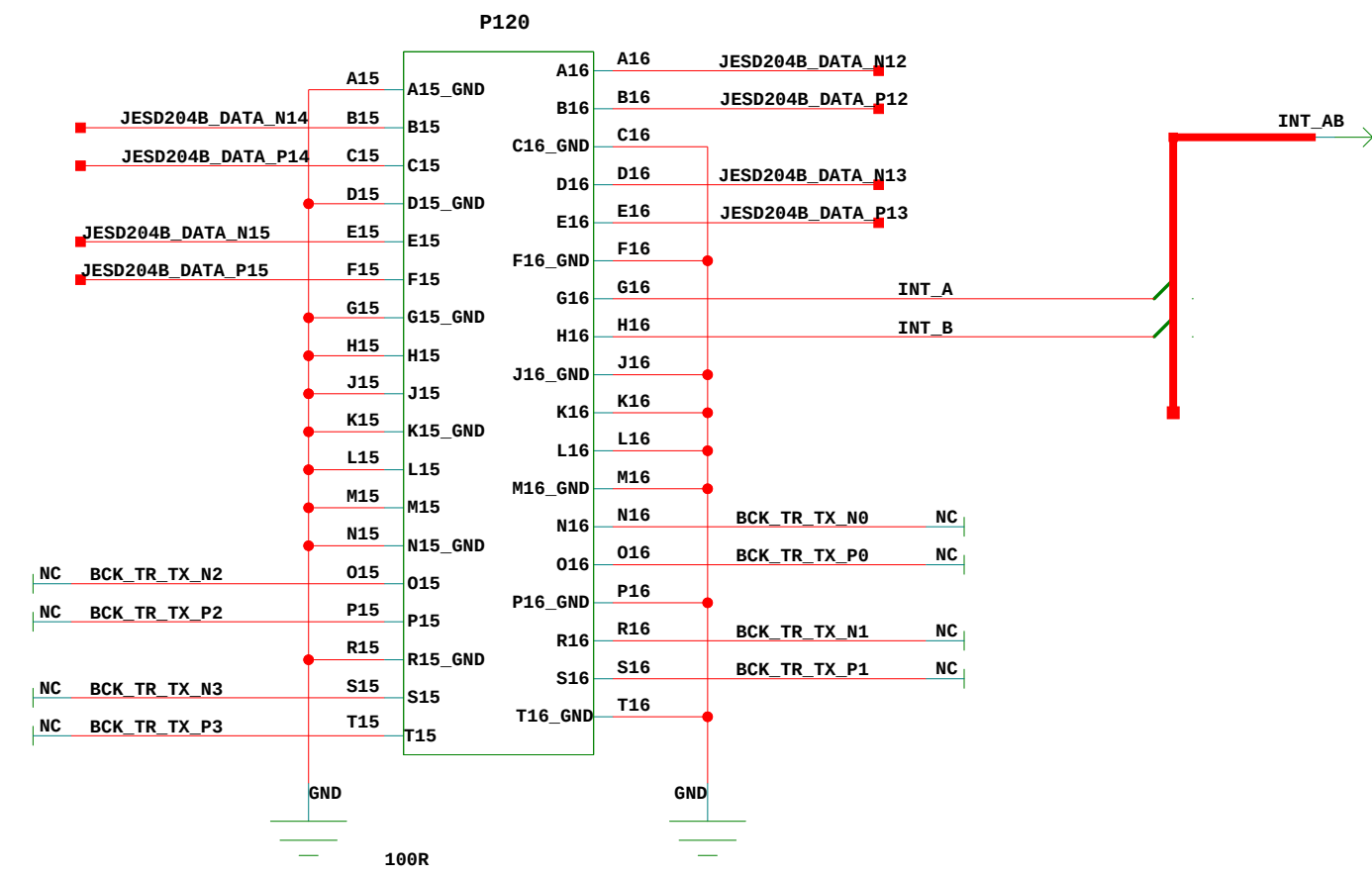
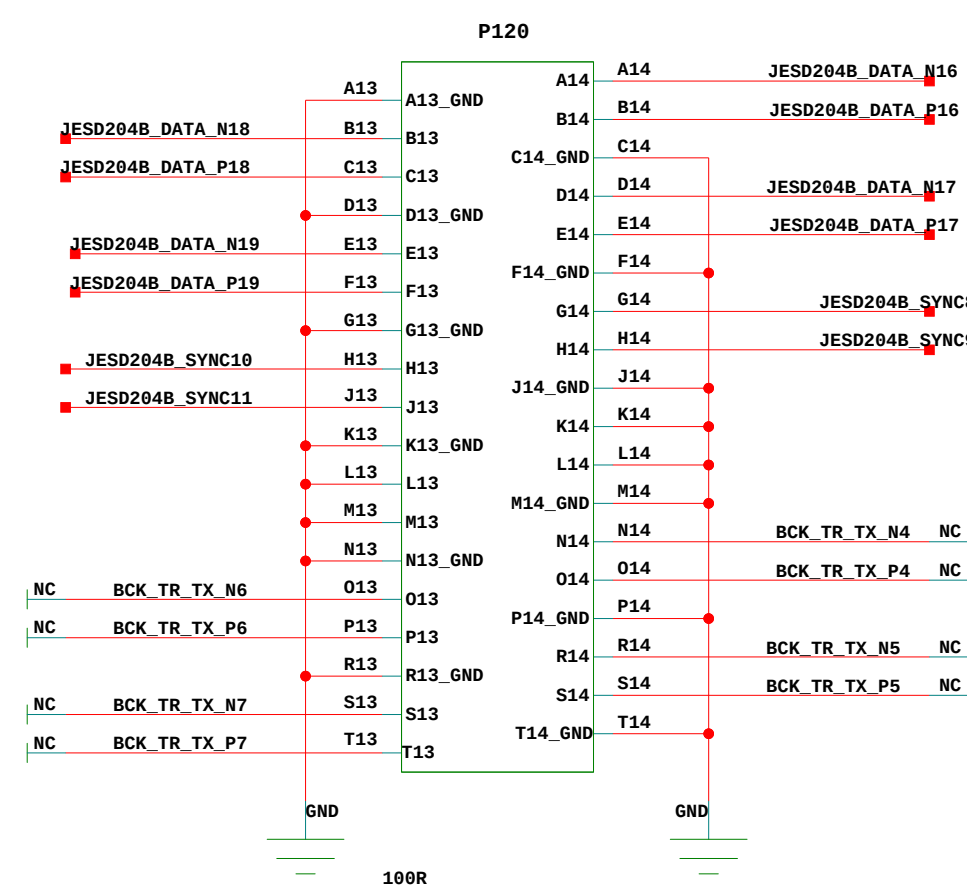
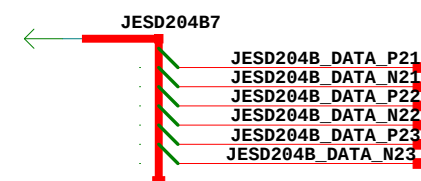


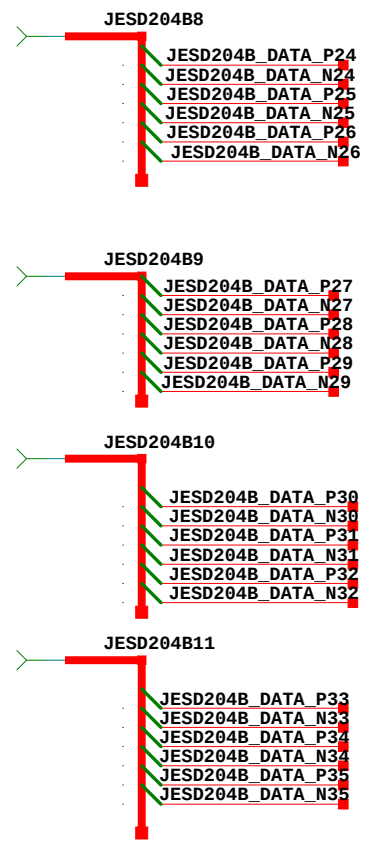
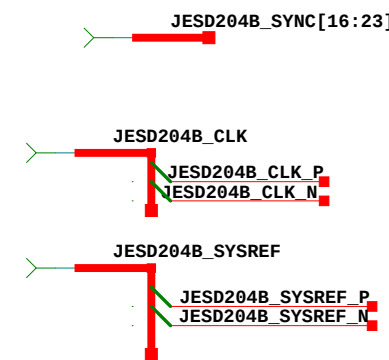


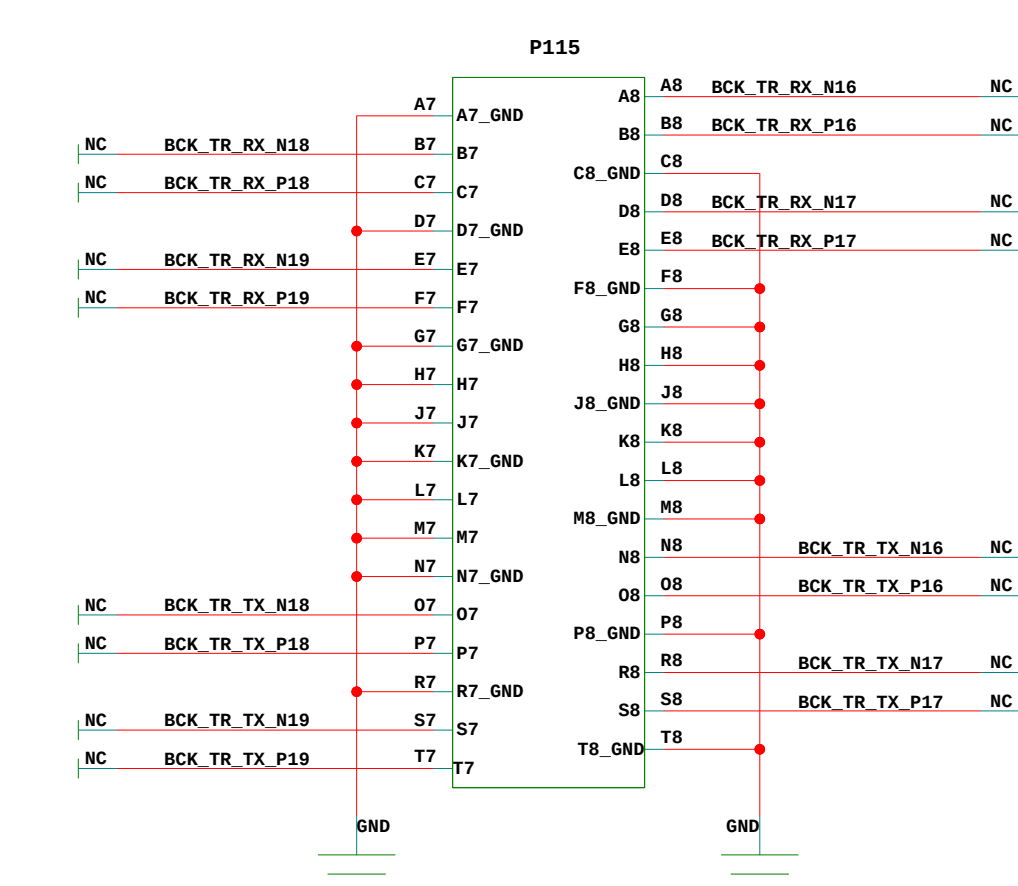
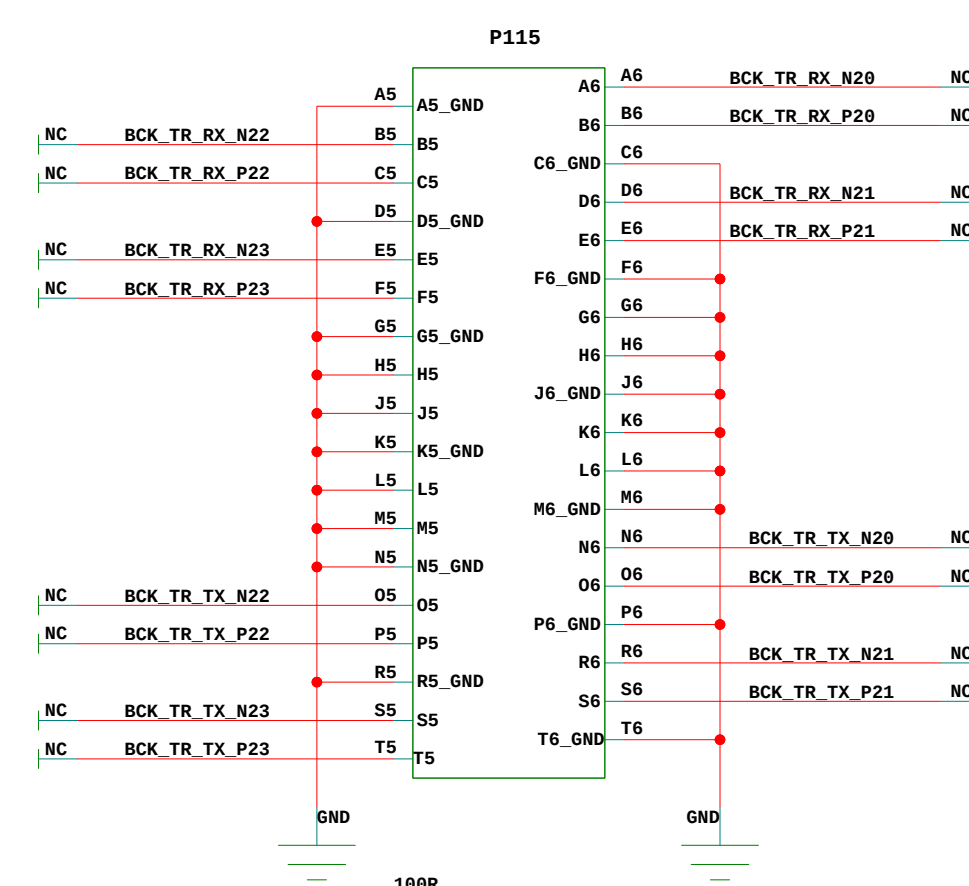
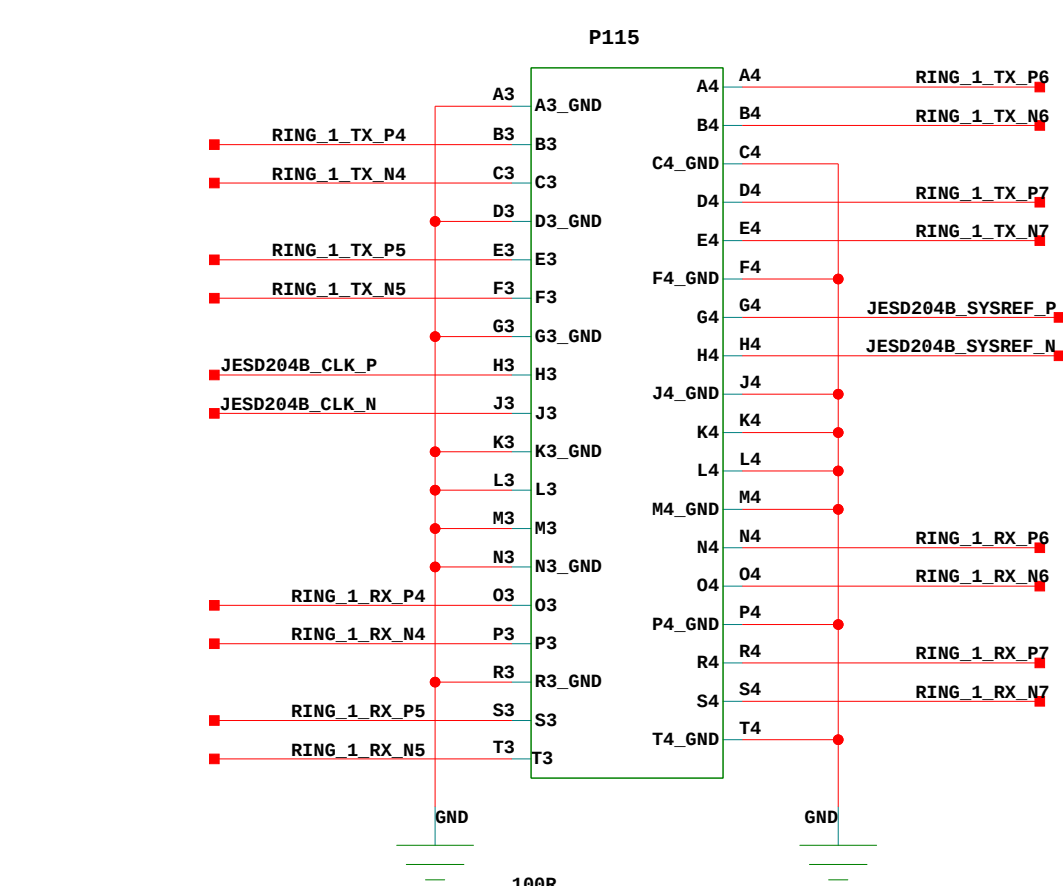
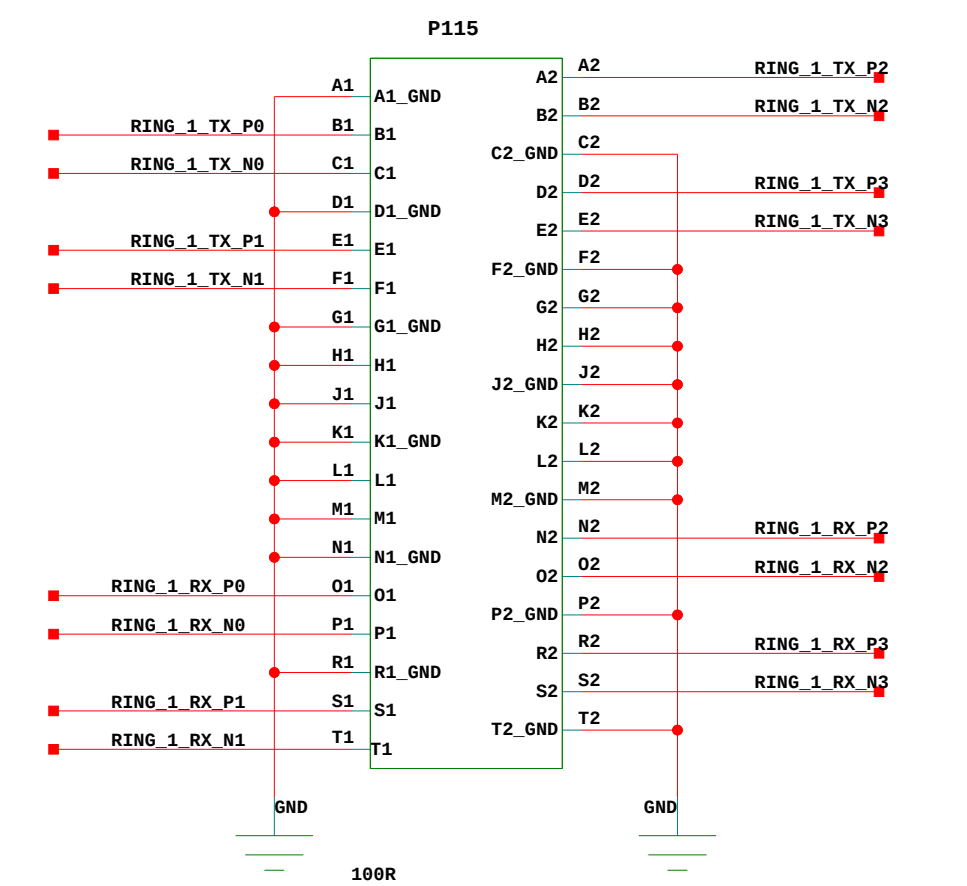
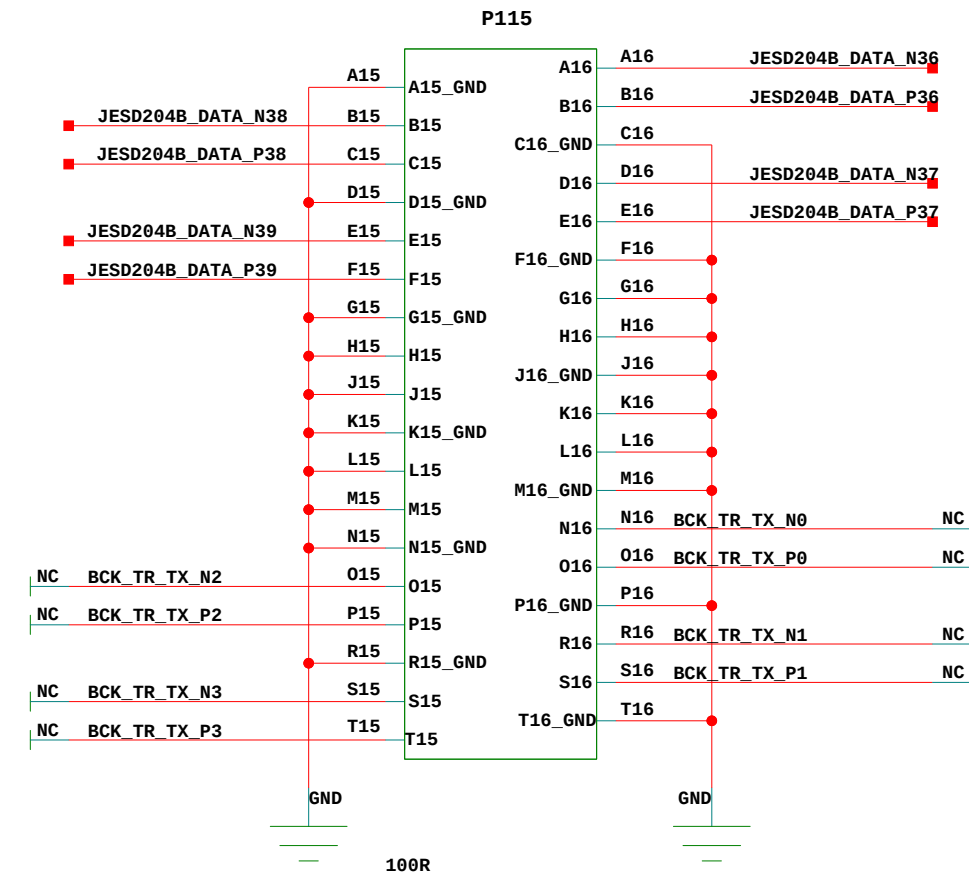
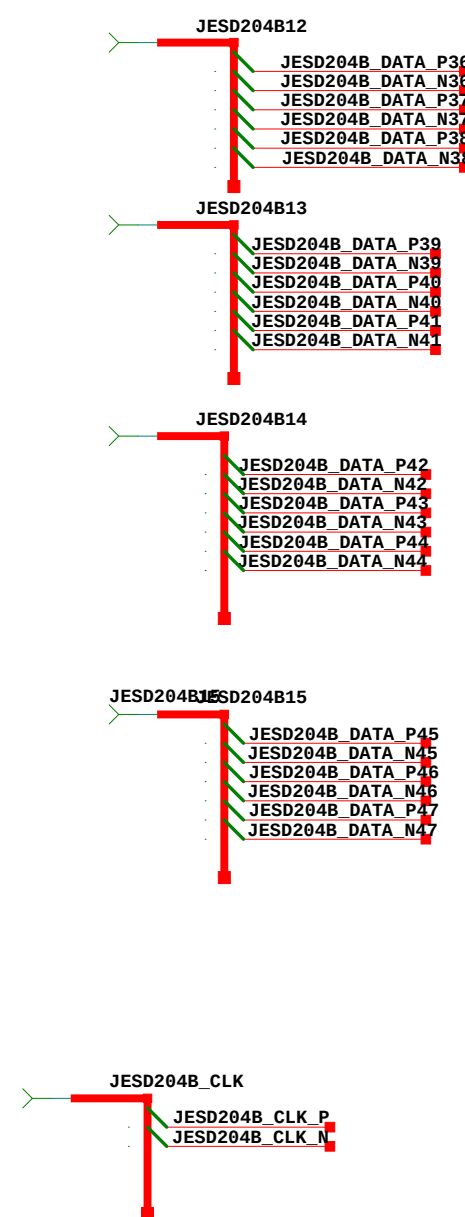


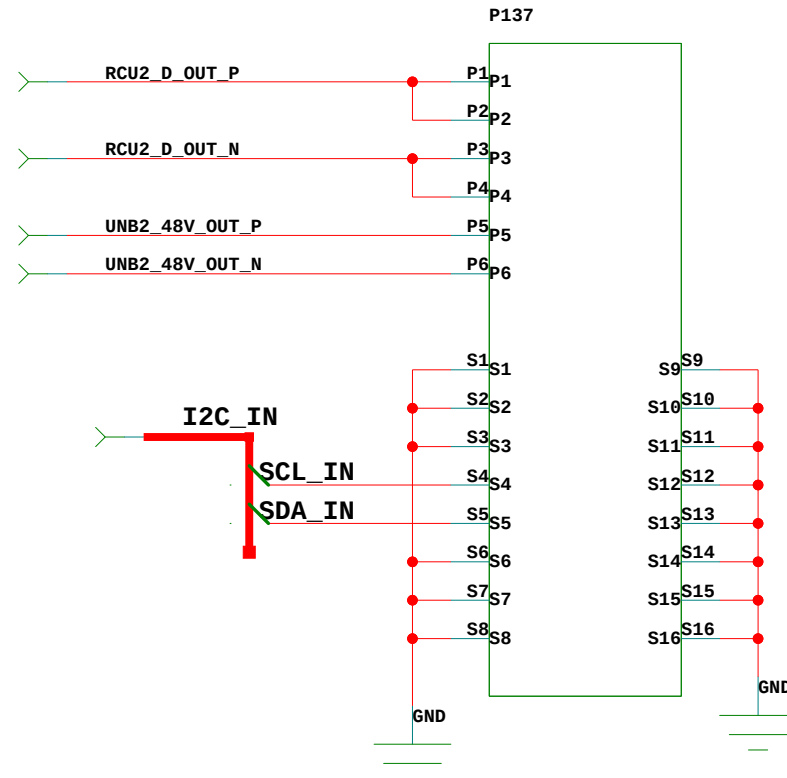




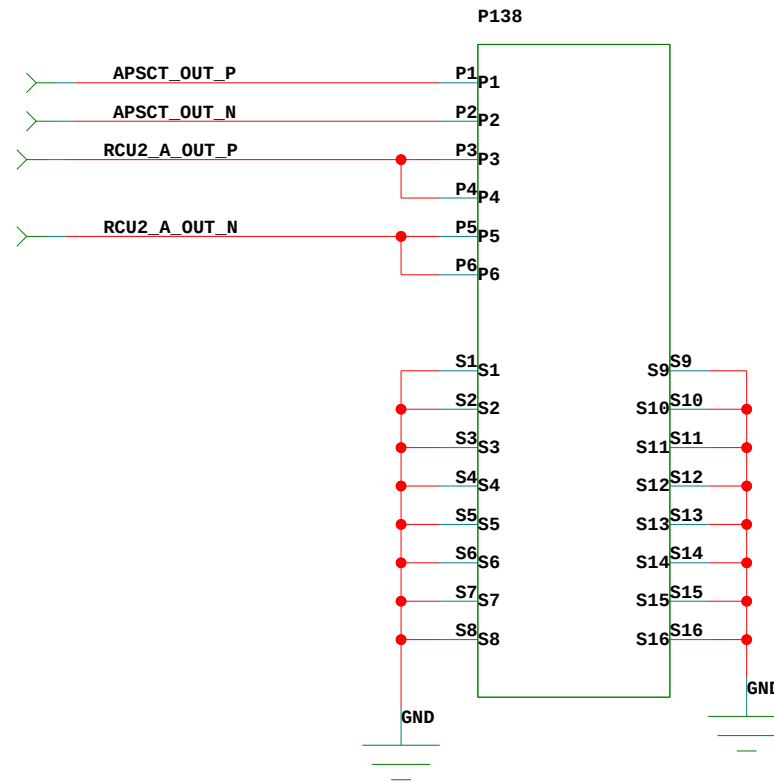








ASTRON			
DESIGN			
Midplane interface Digital conn			
SIZE	Filename		REV
A1	MIDPLANE_DIG		3.0
DRAWN BY		SHEET	DATE
Gijs / Sieds		53 of 58	21/02/2022:10:23



ASTRON

DESIGN

Midplane interface with RCU2_AN

SIZE
A1

Filename

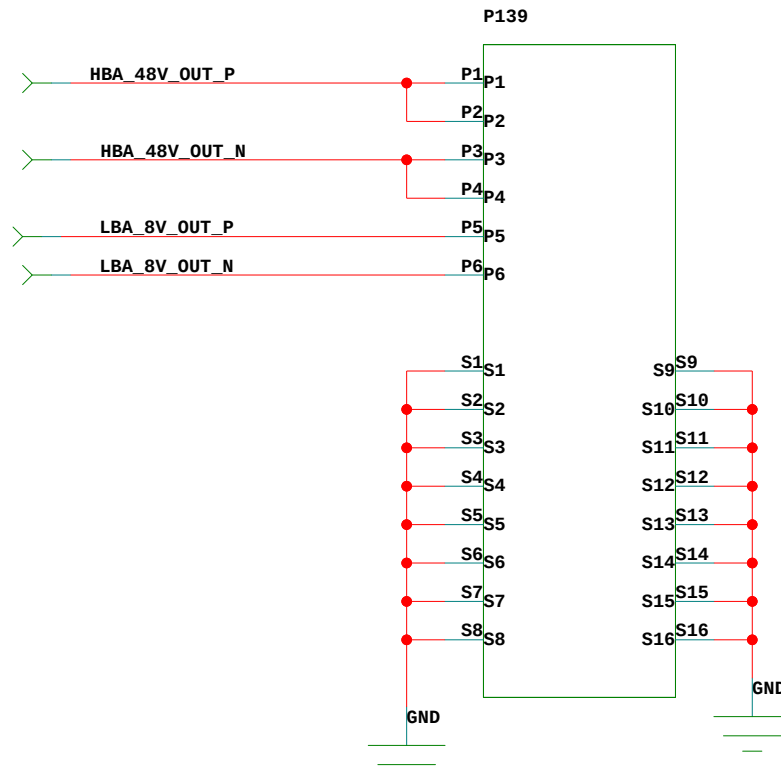
MIDPLANE_RCU2

REV
3.0

DRAWN BY
Gijs / Sieds

SHEET **54** of **58**

DATE
21/02/2022:10:23



ASTRON

DESIGN

Midplane interfaced with antenna

SIZE

A1

Filename

MIDPLANE_HBA

REV

3.0

DRAWN BY

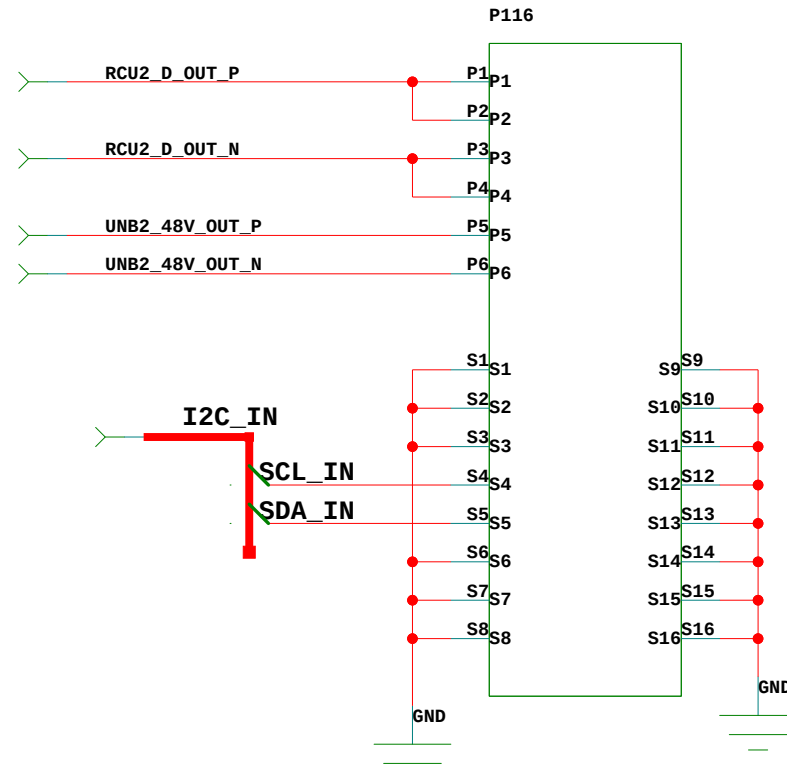
Gijs / Sieds

SHEET

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DATE

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ASTRON

DESIGN

Midplane interface Digital conn

SIZE
A1

Filename

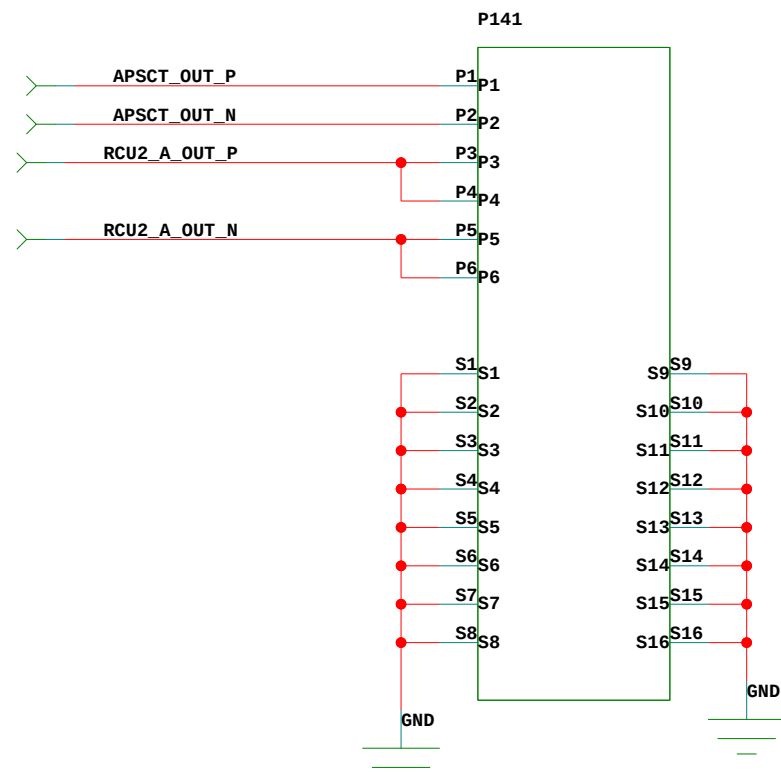
MIDPLANE_DIG

REV
3.0

DRAWN BY
Gijs / Sieds

SHEET **56** of **58**

DATE
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ASTRON

DESIGN

Midplane interface with RCU2_AN

SIZE
A1

Filename

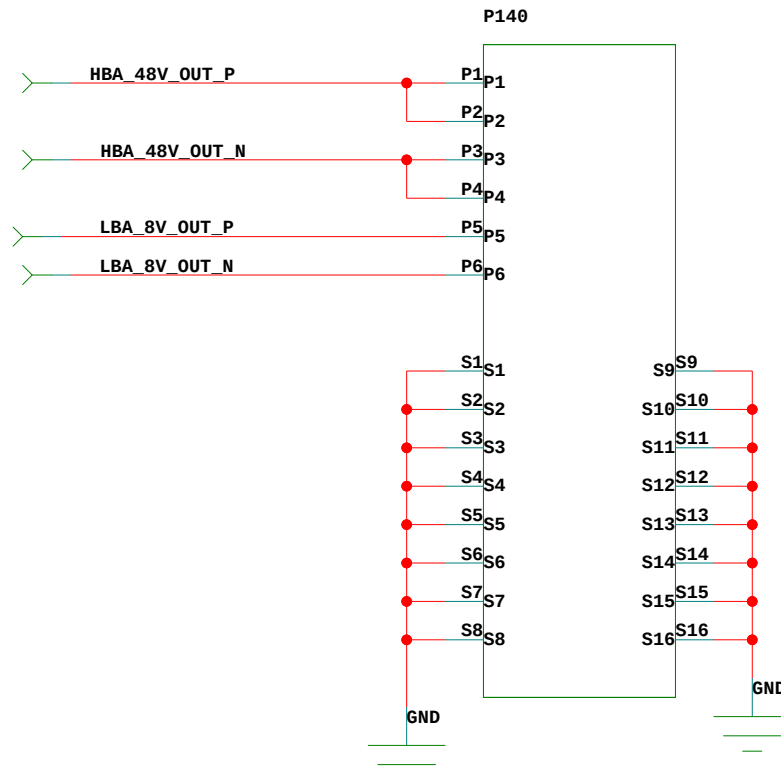
MIDPLANE_RCU2

REV
3.0

DRAWN BY
Gijs / Sieds

SHEET **57** of **58**

DATE
21/02/2022:10:23



ASTRON

DESIGN

Midplane interfaced with antenna

SIZE
A1

Filename

MIDPLANE_HBA

REV
3.0

DRAWN BY
Gijs / Sieds

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DATE
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