

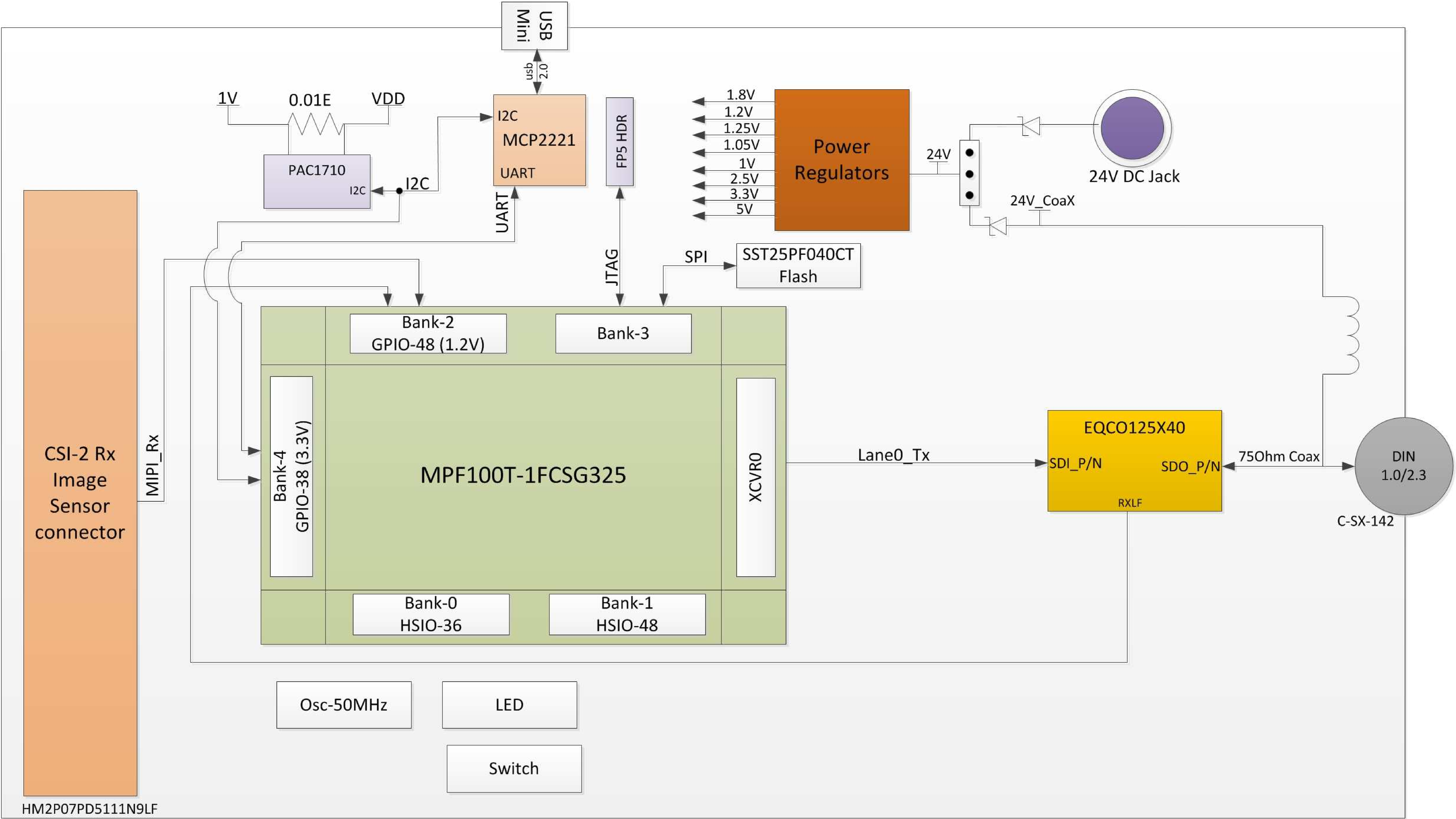
# CXP-12 Device Board

01	Title Page
02	Block Diagram
03	Bank 1 & 2 Connection
04	MIPI-CSI Connection
05	SERDES & CX12 Connection
06	MCP2221 Circuitry
07	JTAG Connection
08	Bank-4 & Debug Connection
09	Power Connection
10	Decoupling Capacitor & Ground Connection
11	Power Supplies: 5V
12	Power Supplies: 1V
13	Power Supplies: 3-8 Connection



Project Name:		<b>CXP-12 Device Board</b>	
Rev	Part Number:	PACTRON:	
<b>2</b>	MICROSEMI <b>DVP-100-000521-001</b>		
Originator:			
<b>GHURU KUMARAVELU</b>			
Size	Date:	Sheet <b>1</b> of <b>20</b>	
<b>A</b>	<b>Friday, October 11, 2019</b>		

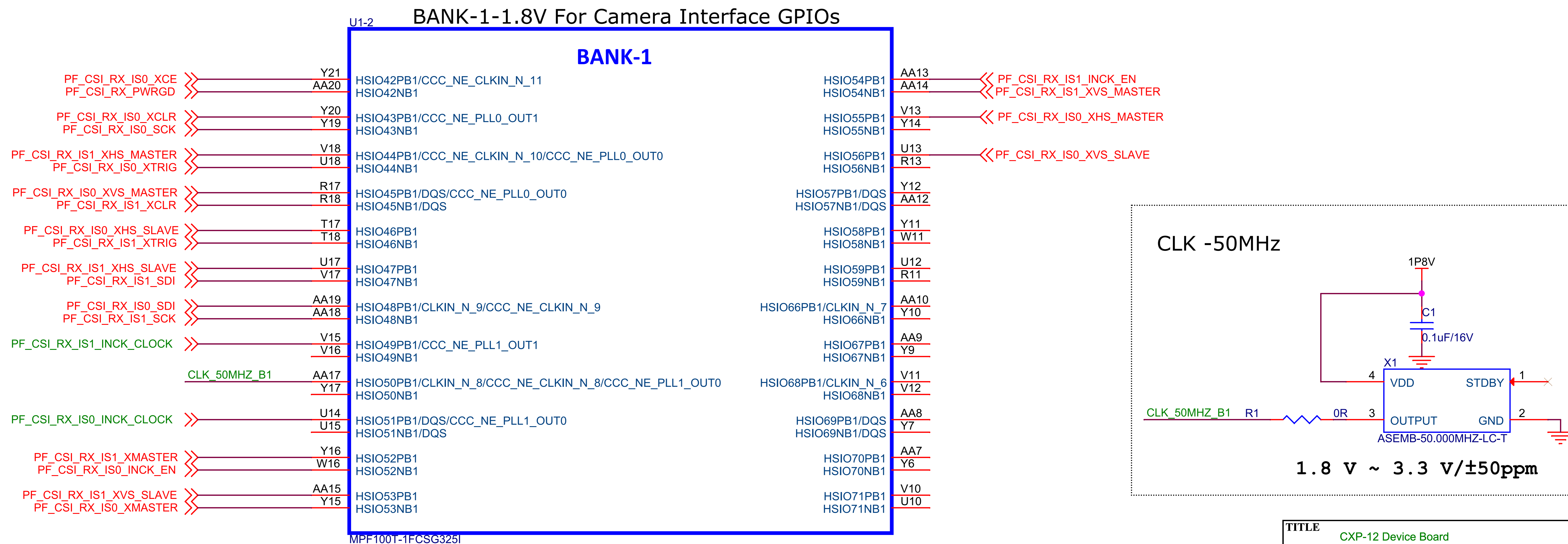
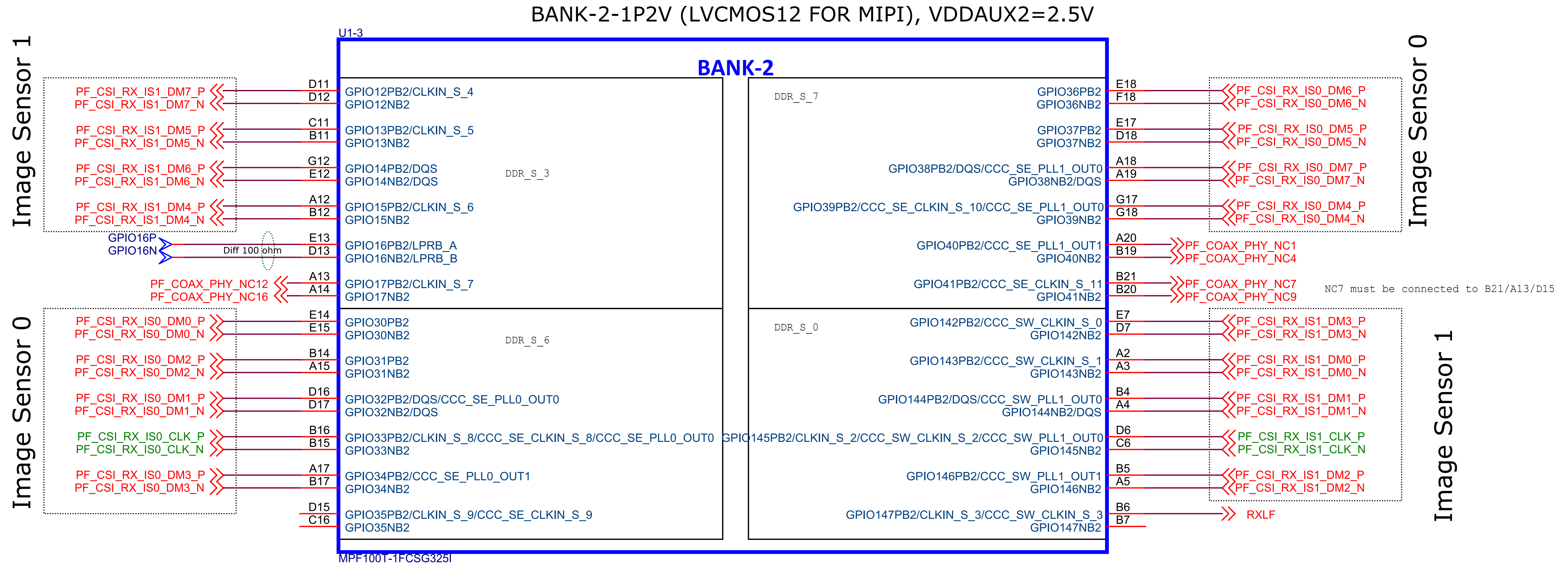
# CXP-12 Camera Device Interface



TITLE		
CXP-12 Device Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000521-001	REV
B		2
DATE:	Friday, October 11, 2019	SH 2 OF 20

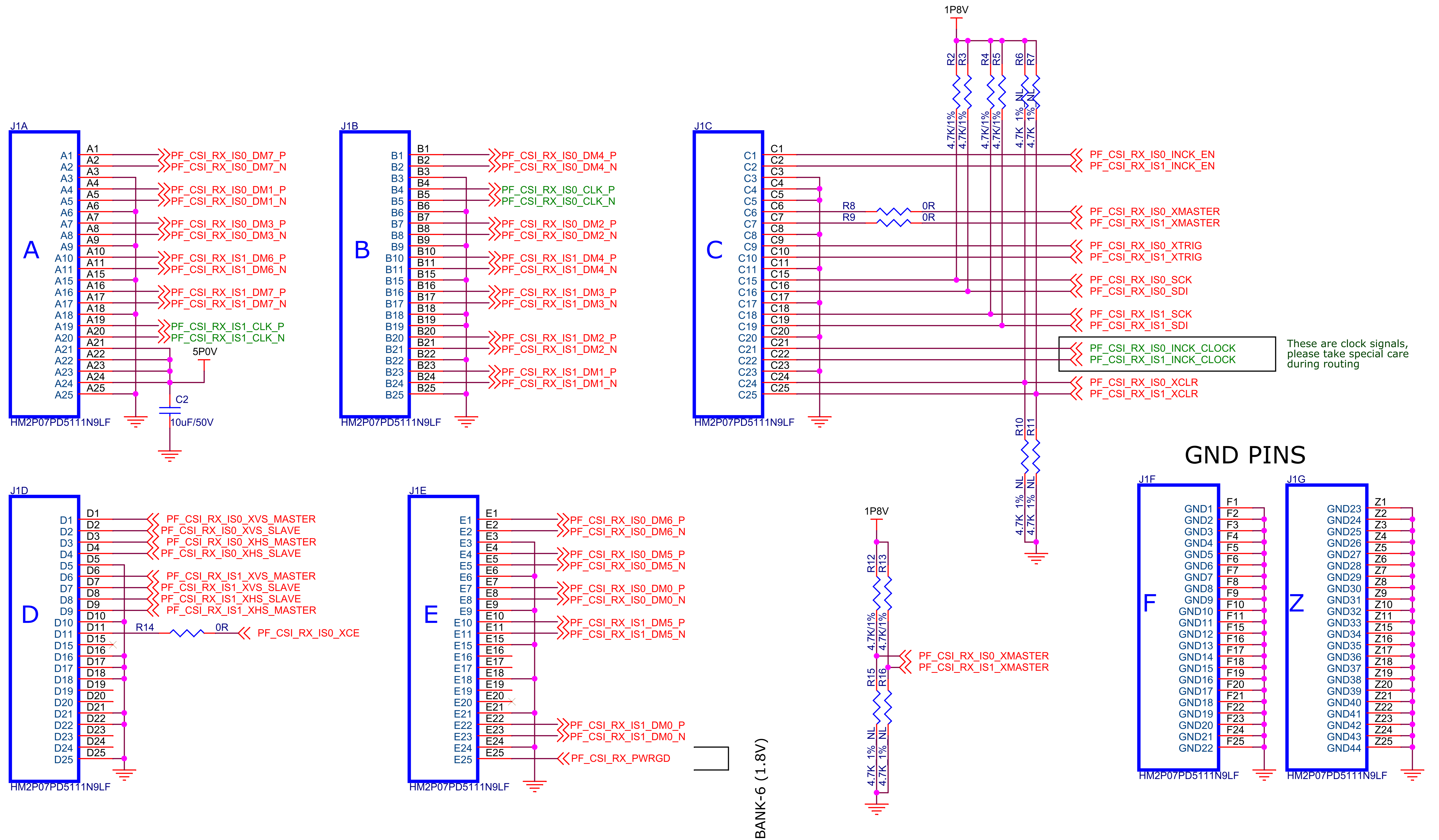


# BANK-1 and BANK-2 Connection



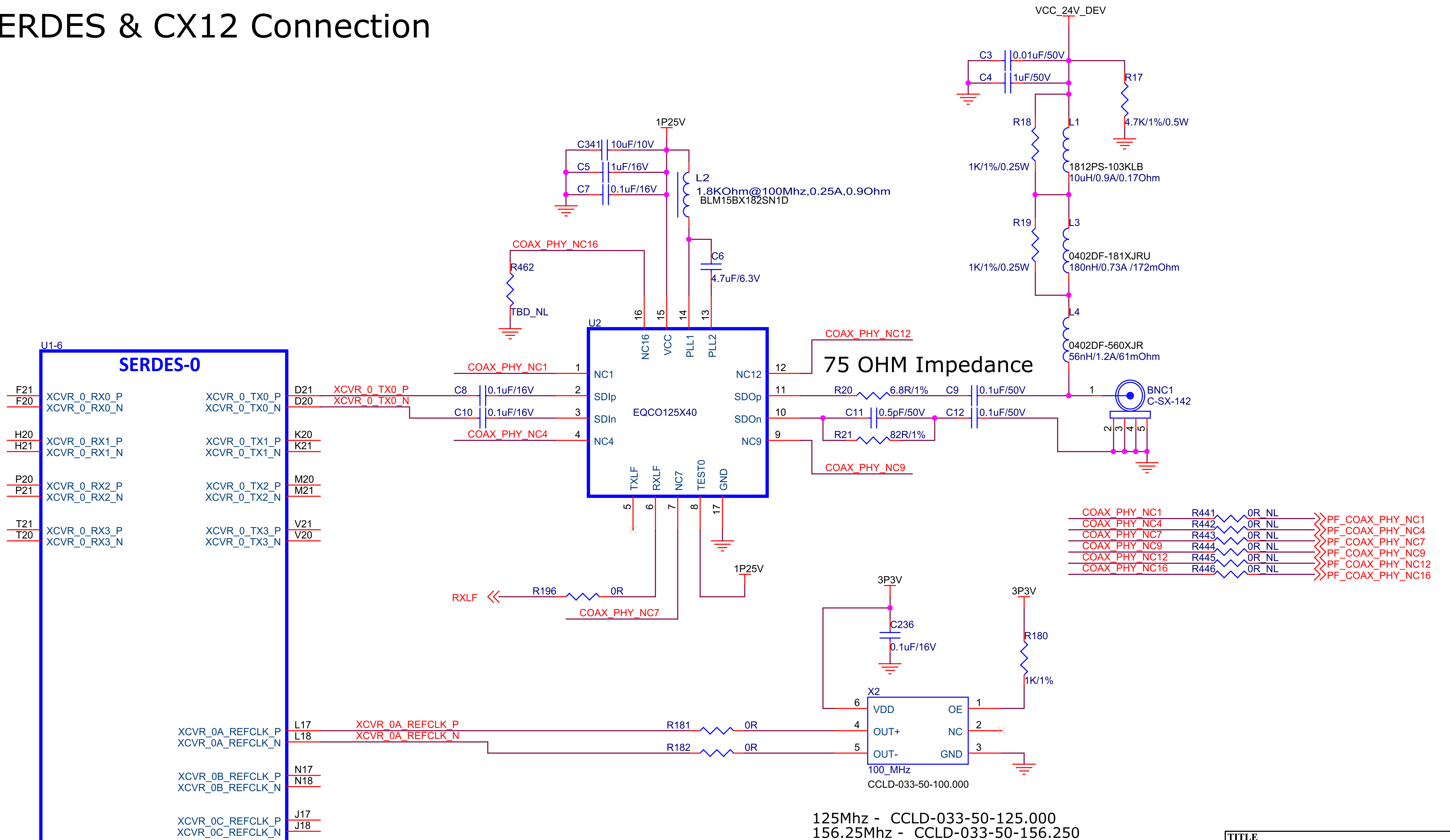
TITLE		
CXP-12 Device Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000521-001	REV
Custom		2
DATE:	Friday, October 11, 2019	SH 3 OF 20

# CSI-2 RX Image Sensor Interface



TITLE		
CXP-12 Device Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000521-001	REV
B		2
DATE:	Friday, October 11, 2019	SH 4 OF 20

# SERDES & CX12 Connection



MPF100T-1FC3G325I

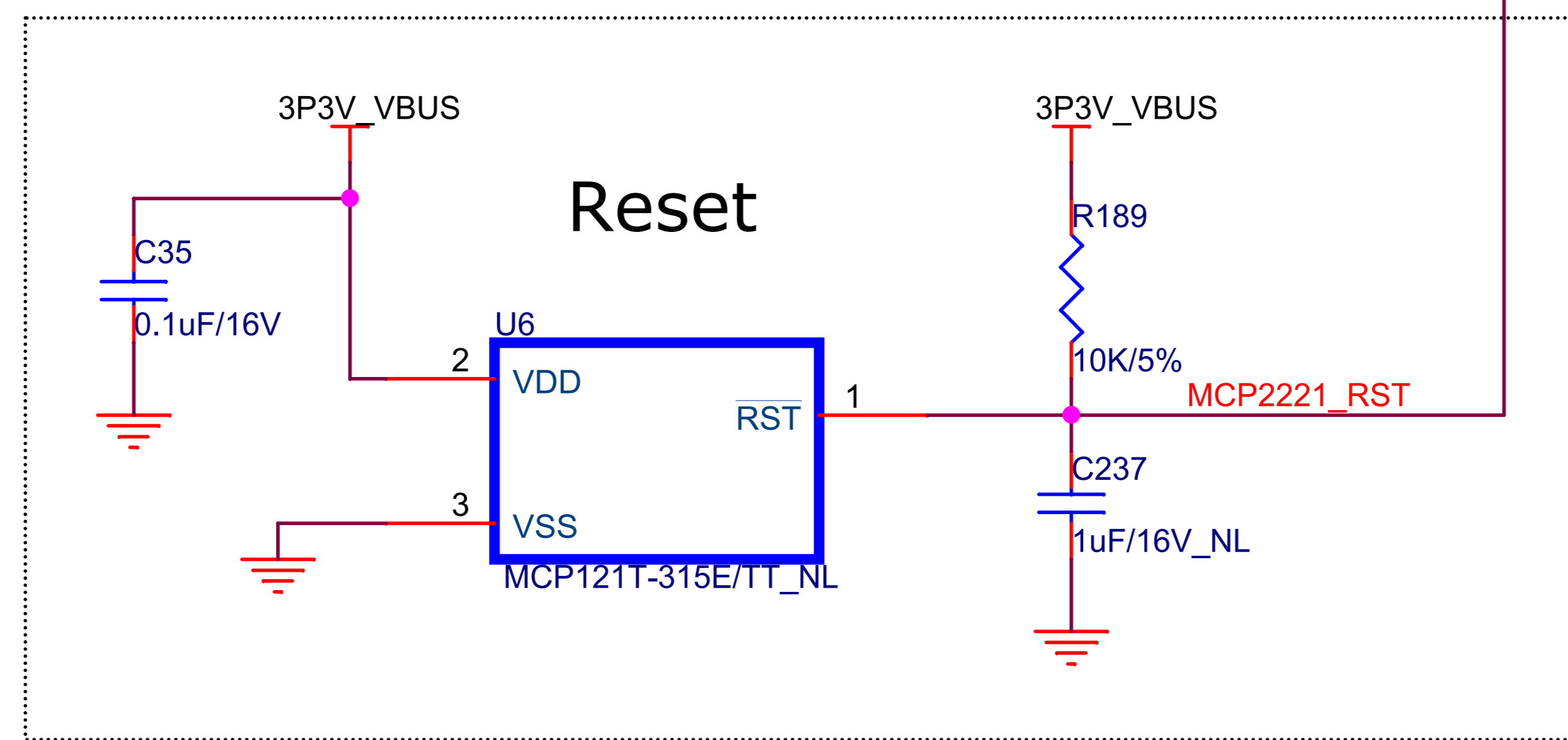
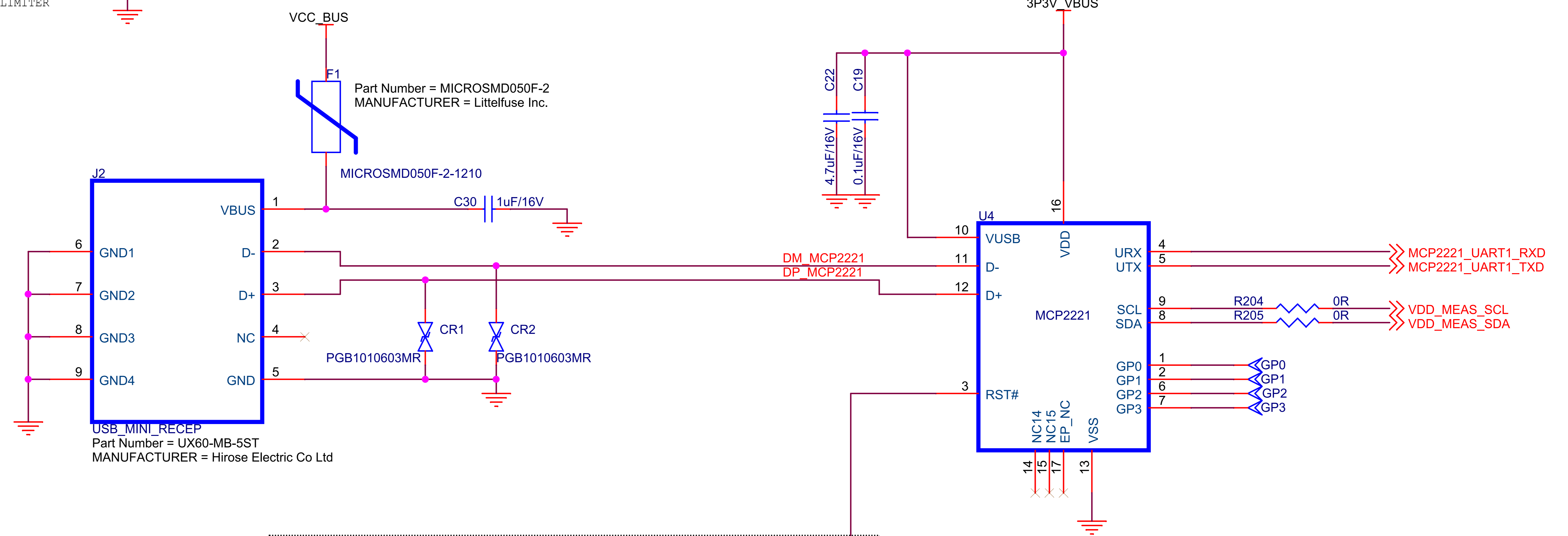
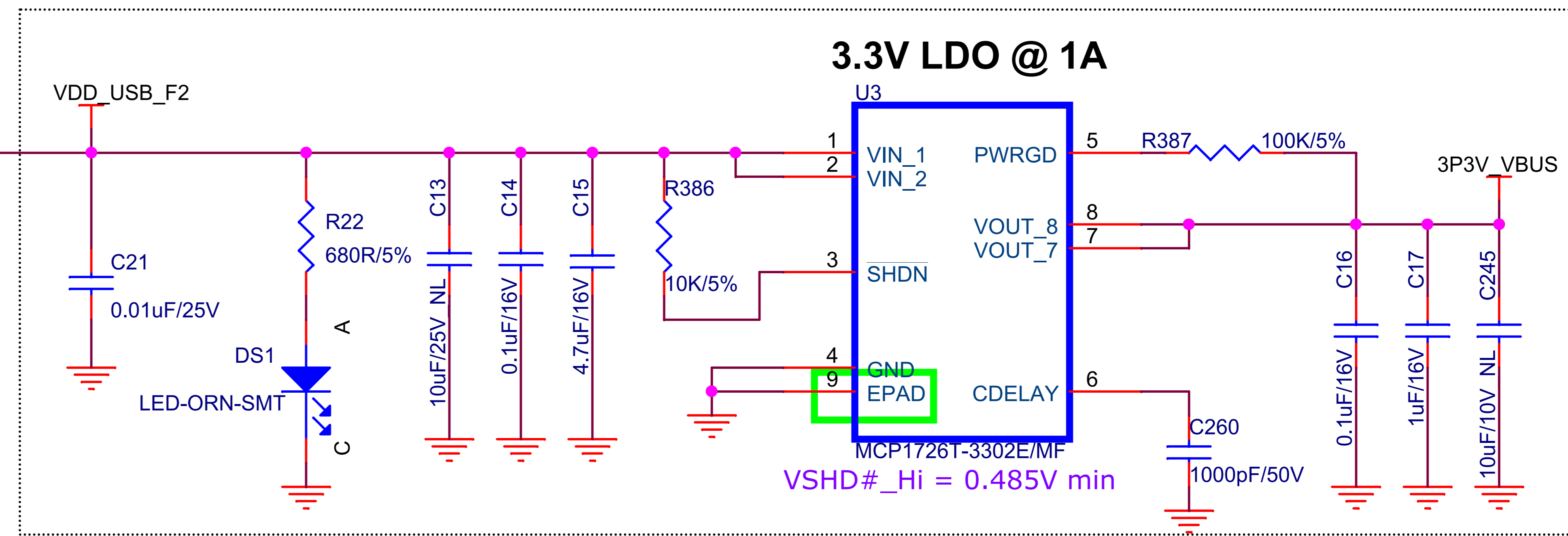
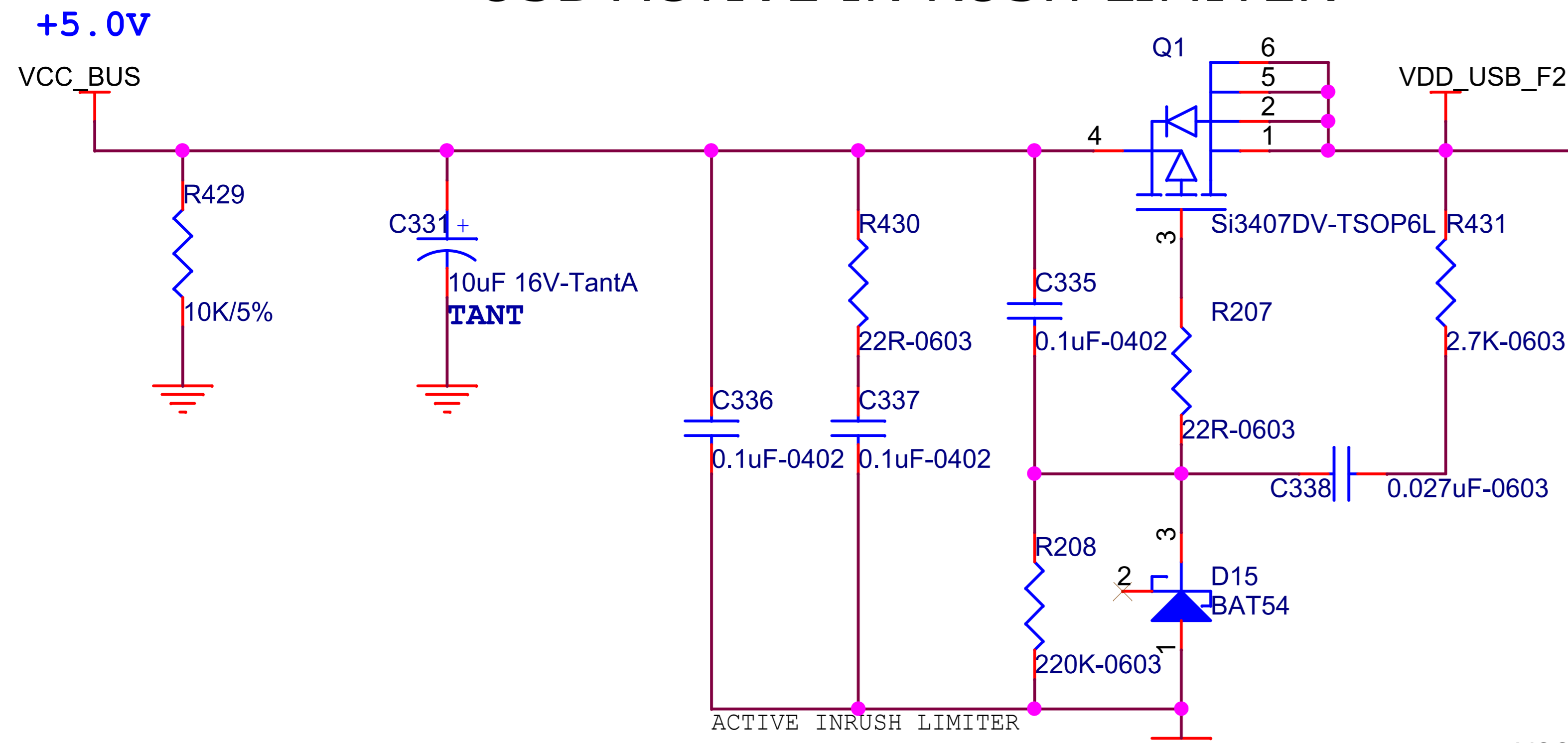
125Mhz - CCLD-033-50-125.000  
 156.25Mhz - CCLD-033-50-156.250

TITLE CXP-12 Device Board		
Microsemi		
SIZE Custom	DOCUMENT NO. DVP-100-000521-001	REV 2
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# MCP2221 CIRCUITRY

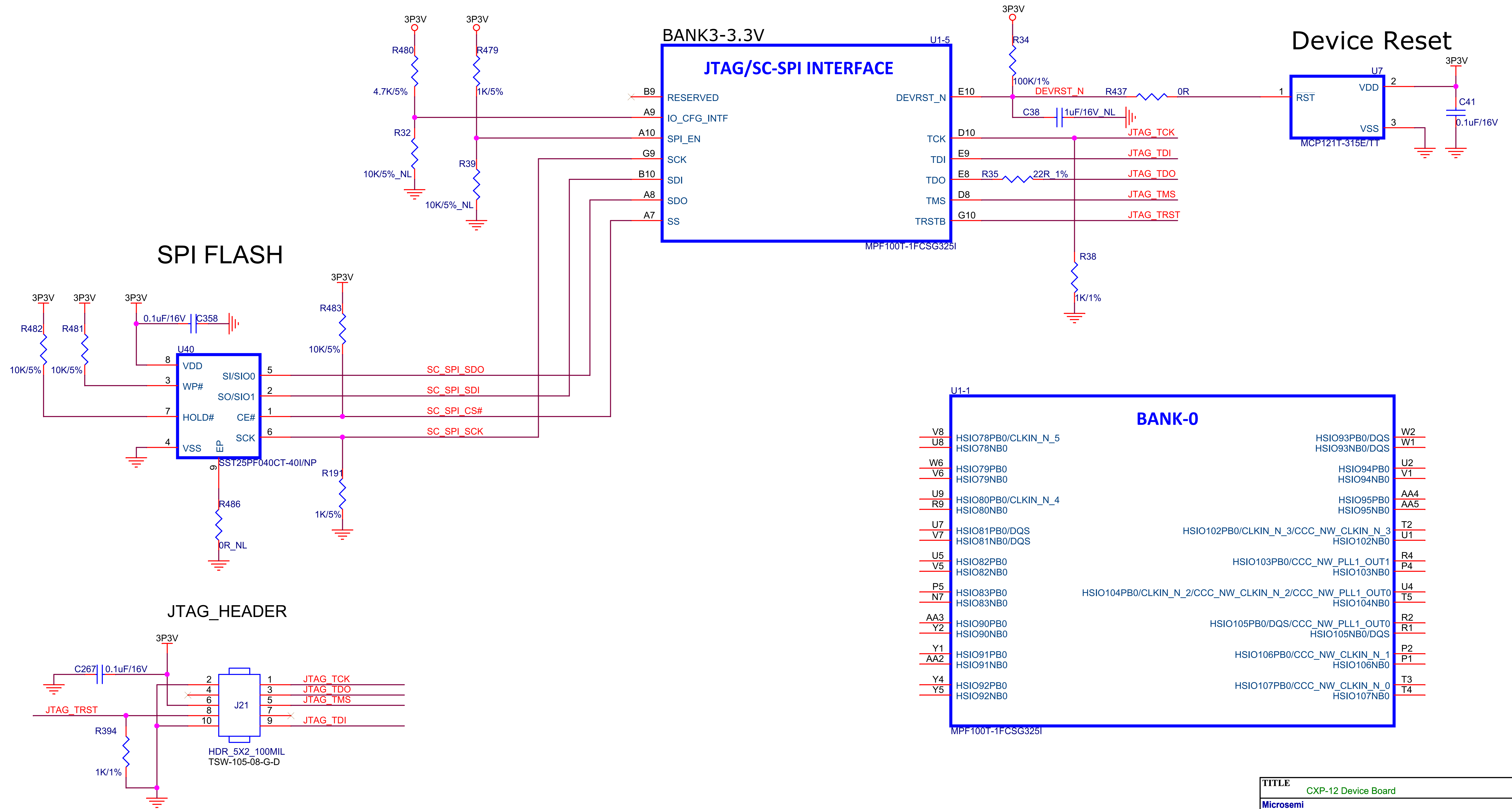
## USB ACTIVE IN RUSH LIMITER



TITLE CXP-12 Device Board		
Microsemi		
SIZE Custom	DOCUMENT NO. DVP-100-000521-001	REV 2
DATE: Friday, October 11, 2019	SH 6 OF 20	



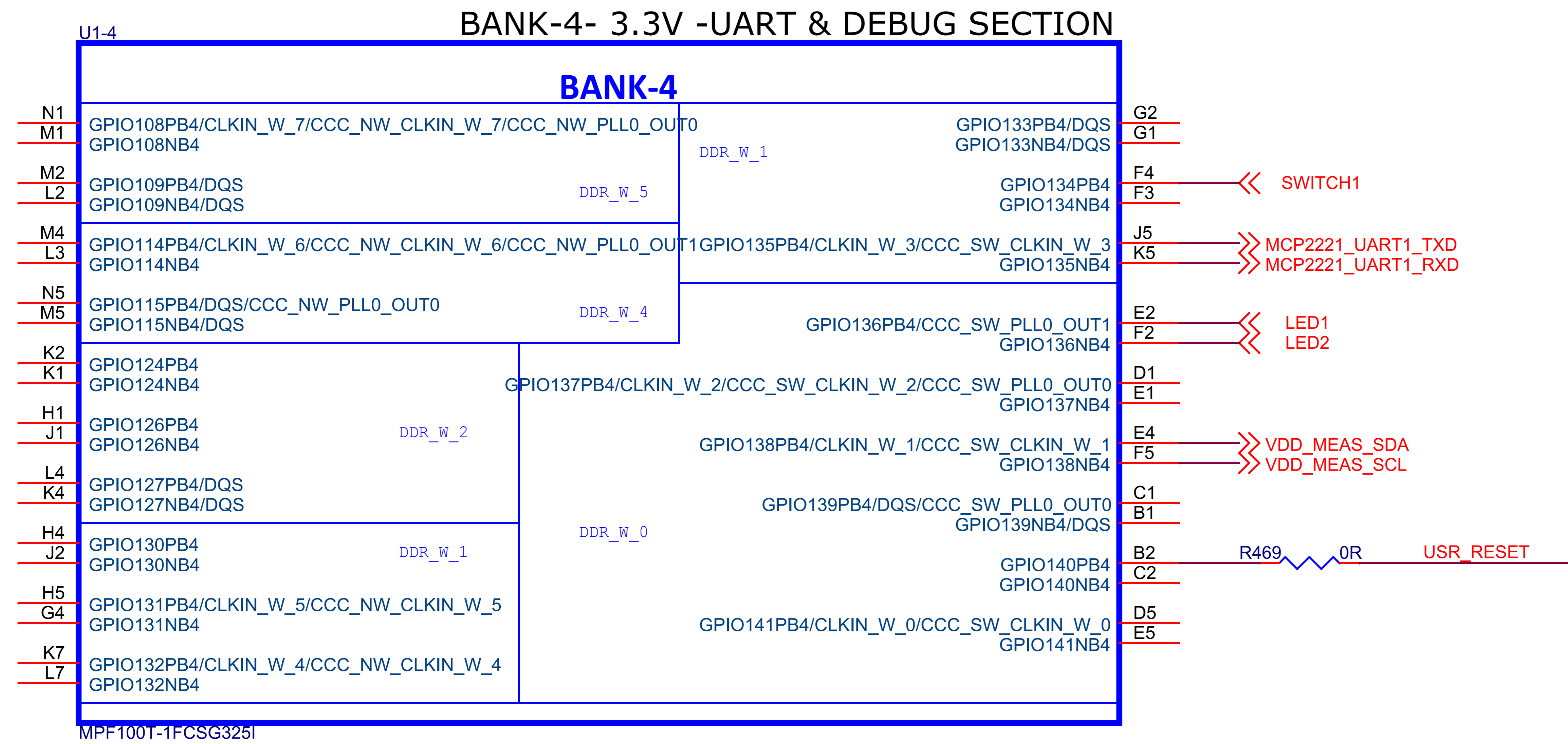
# JTAG & Reset Connection



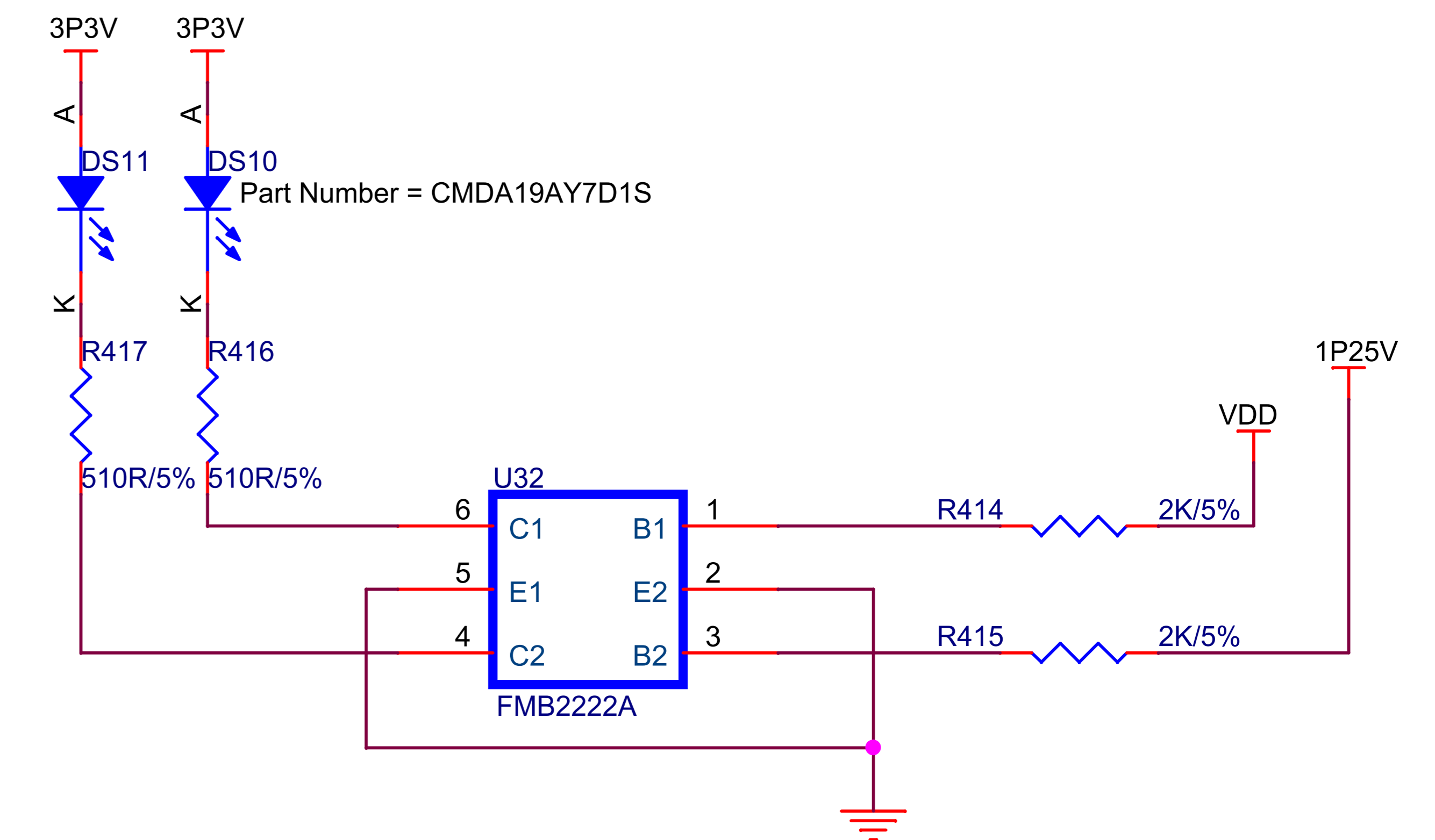
TITLE		
CXP-12 Device Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000521-001	REV
B		2
DATE:	Friday, October 11, 2019	SH 7 OF 20



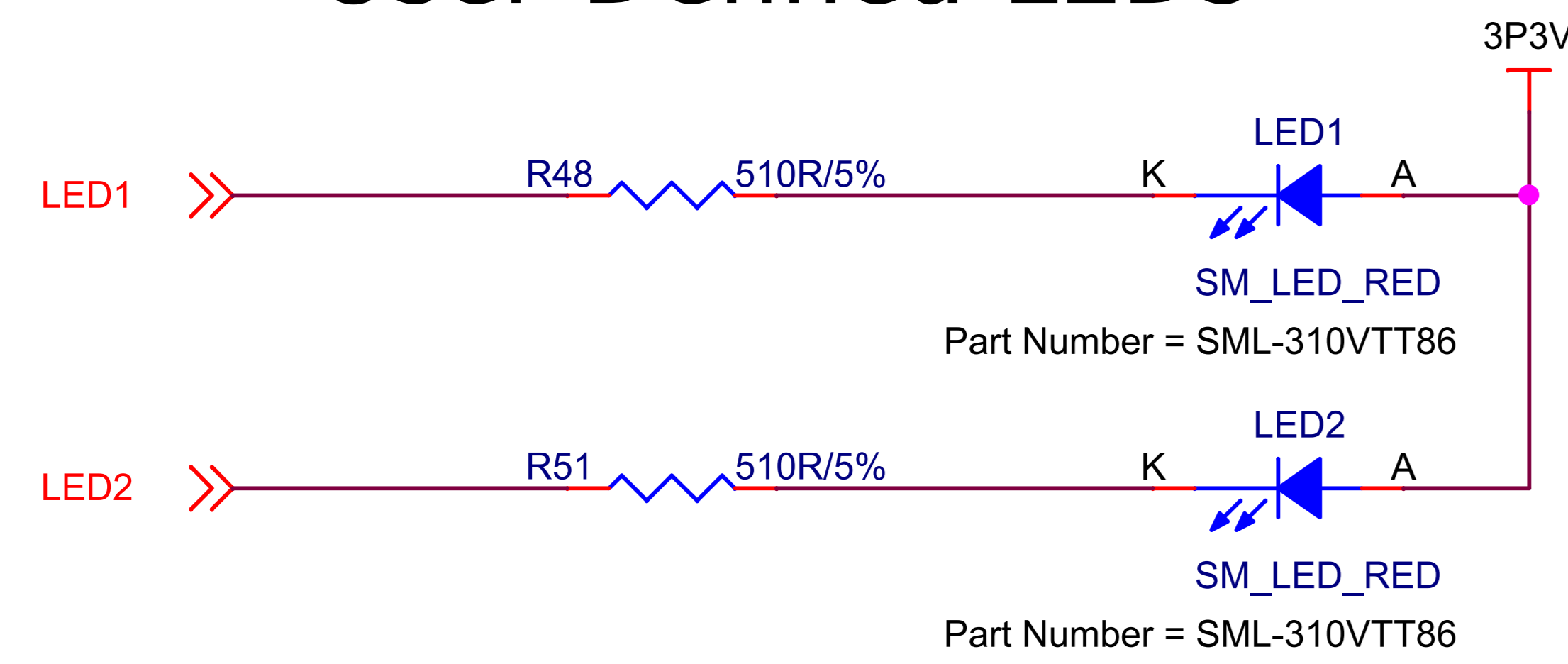
# BANK-4 & Debug Connection



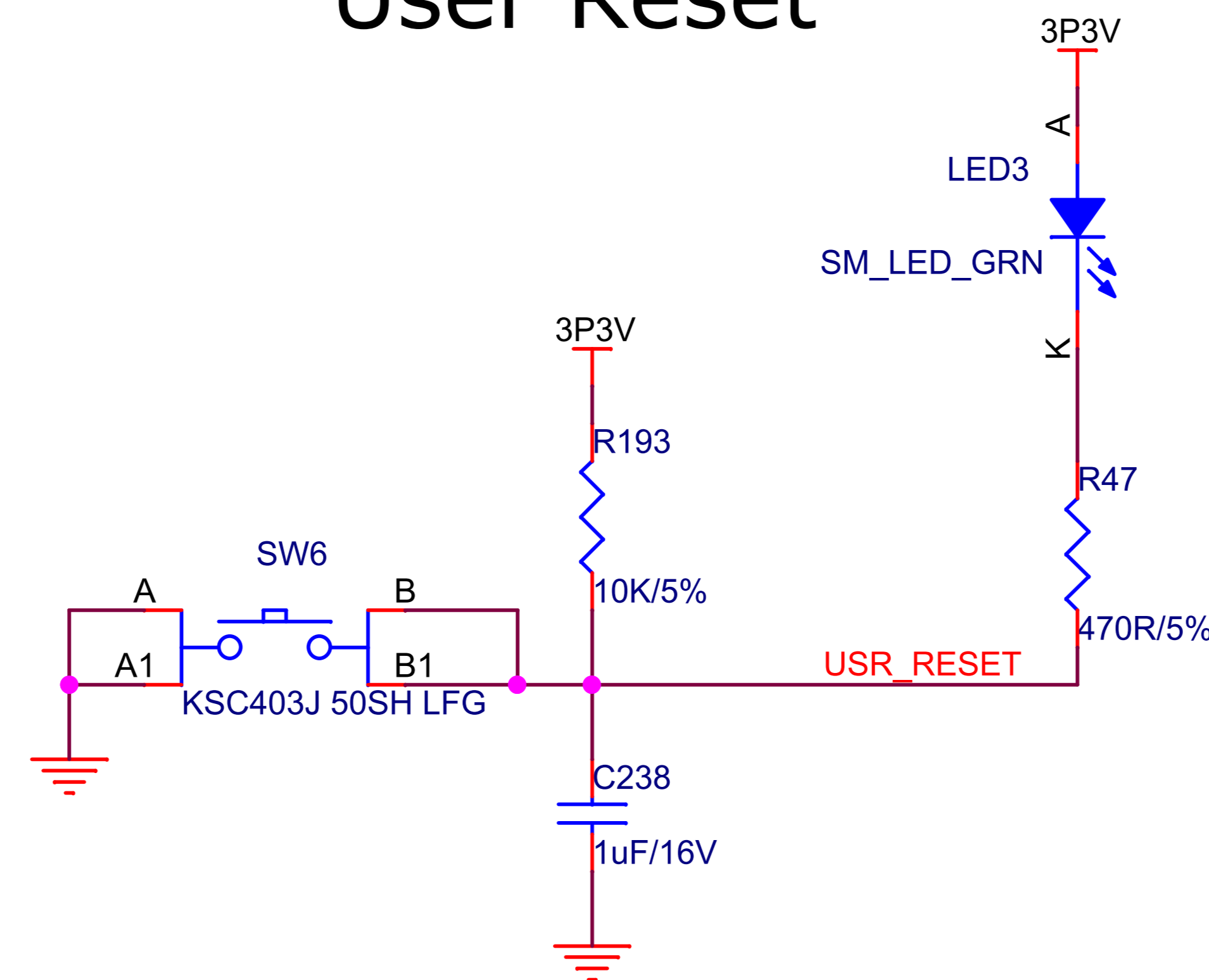
# Power LEDs



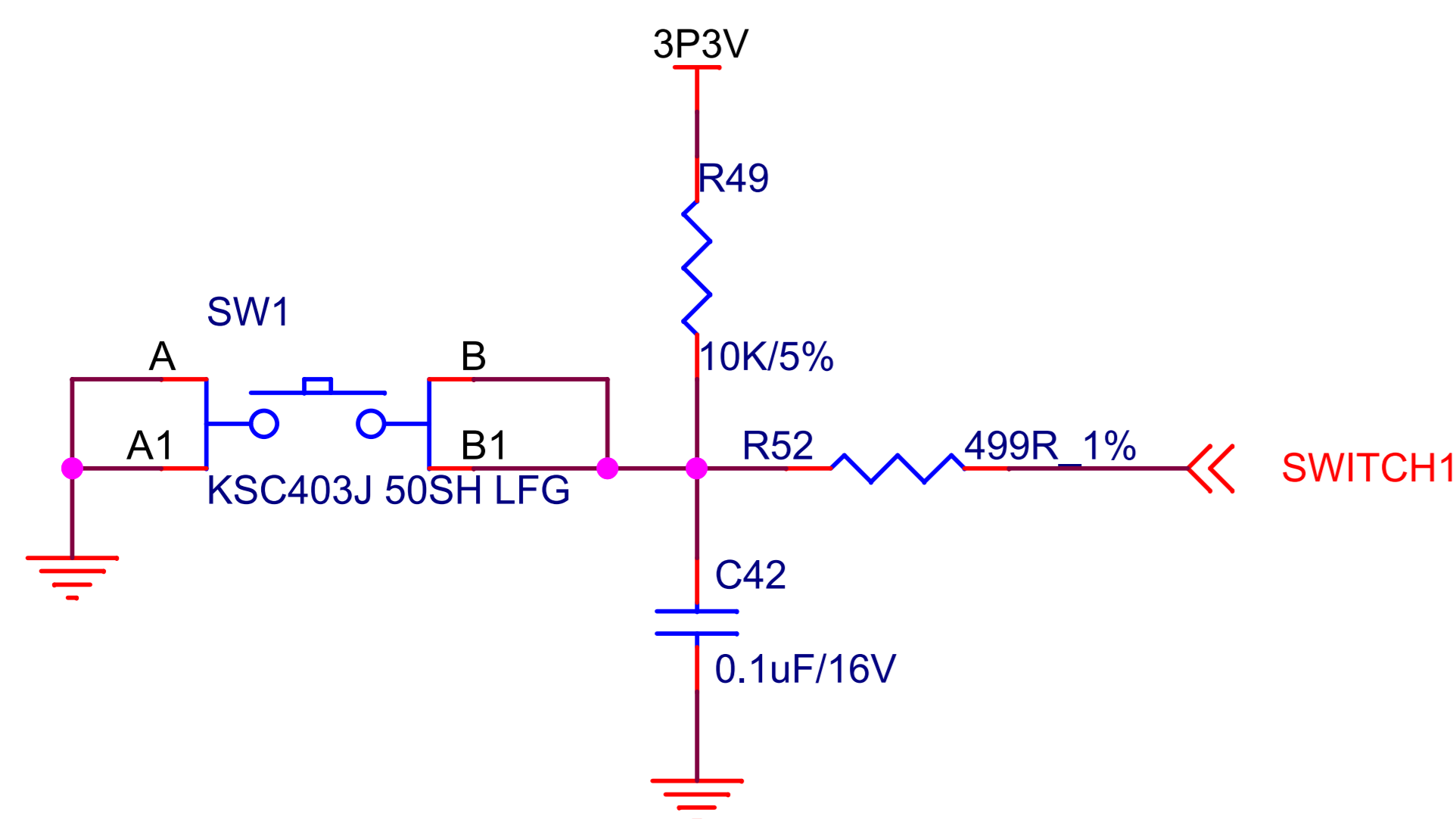
## User Defined LEDs



## User Reset



## Push button

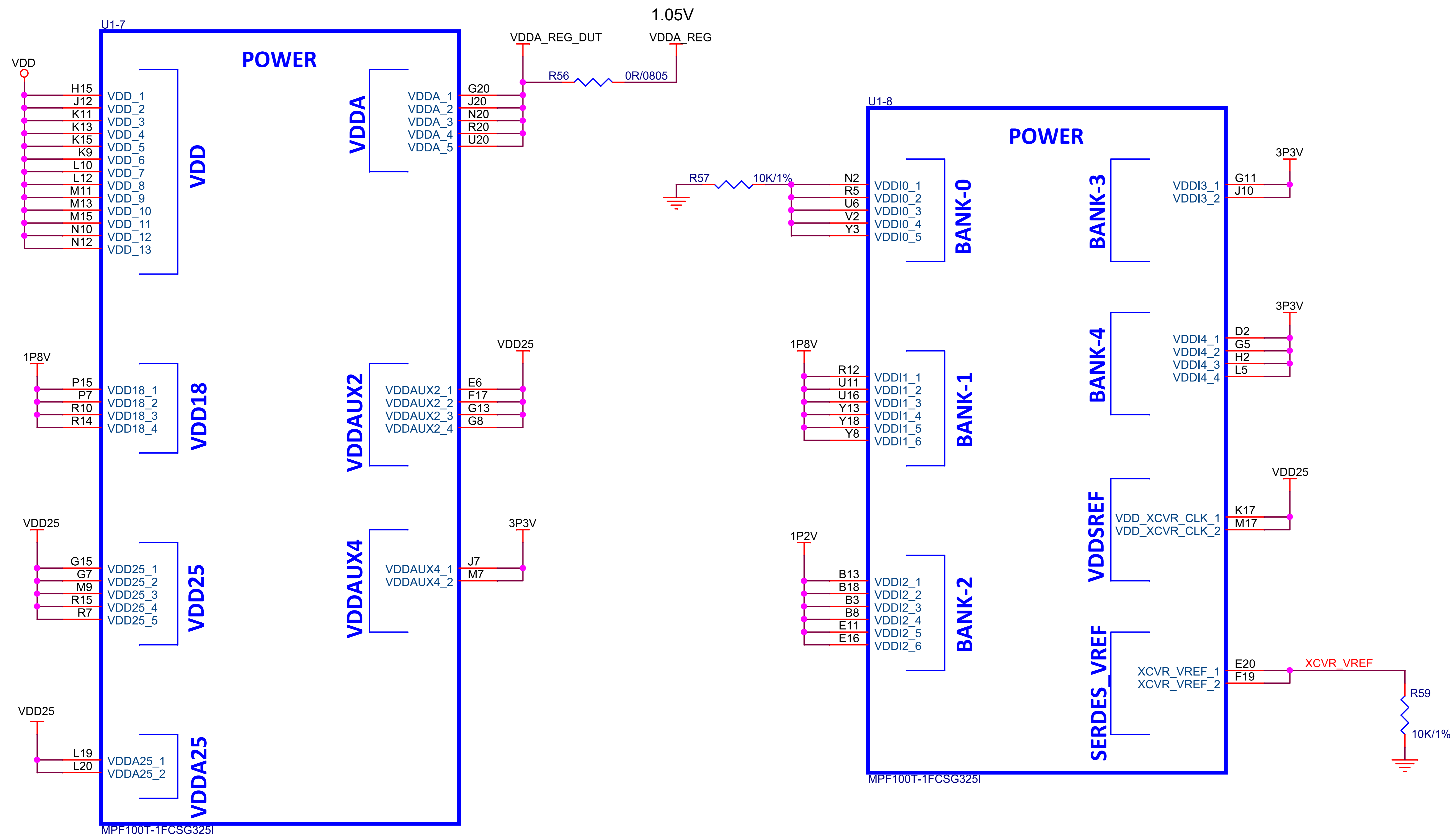


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Microsemi		
SIZE: B	DOCUMENT NO. DVP-100-000521-001	REV: 2
DATE: Friday, October 11, 2019	SH 8 OF 20	



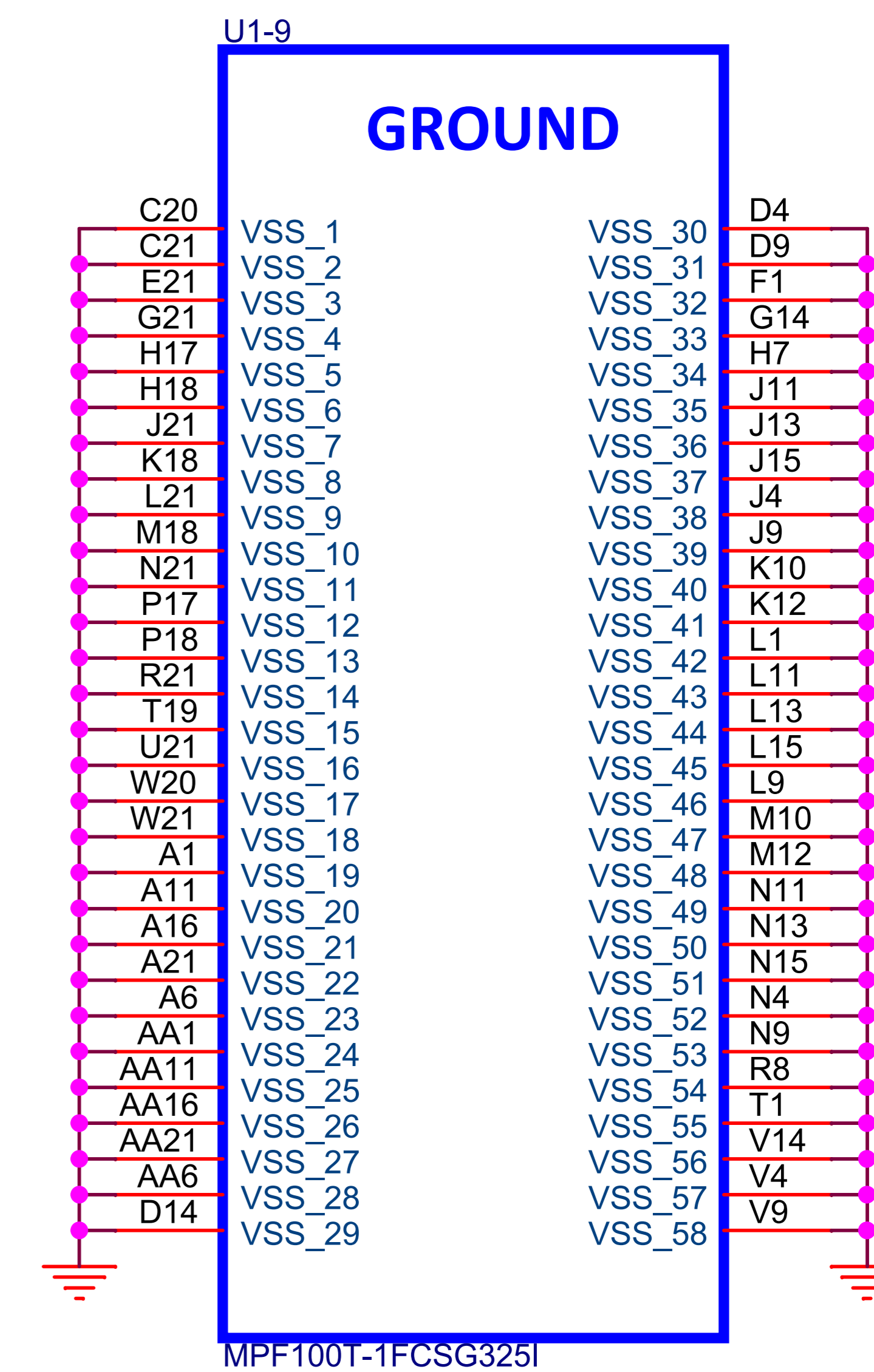
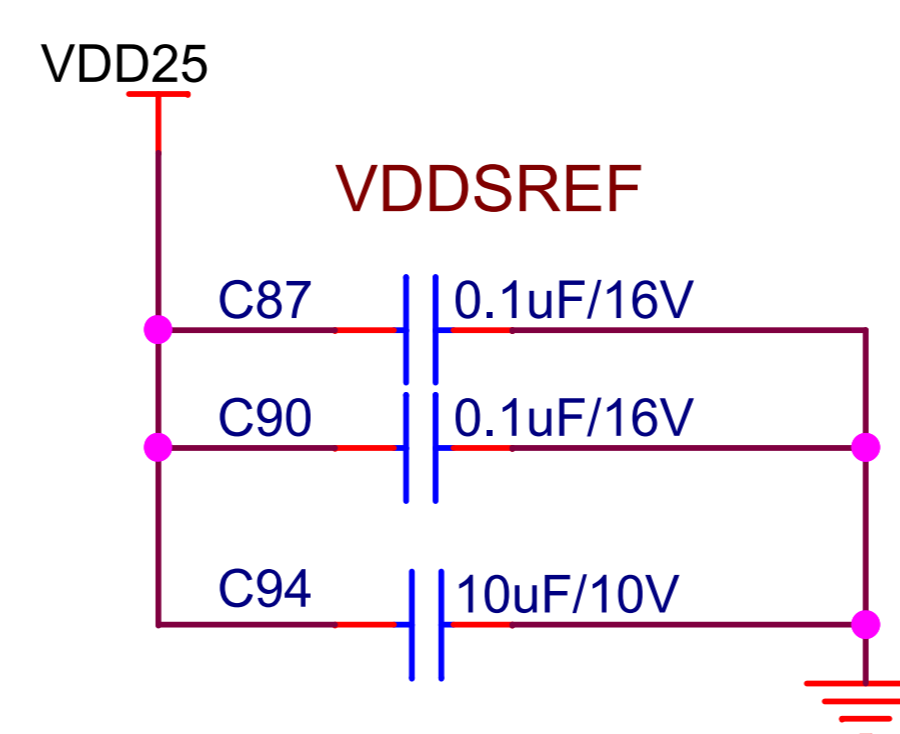
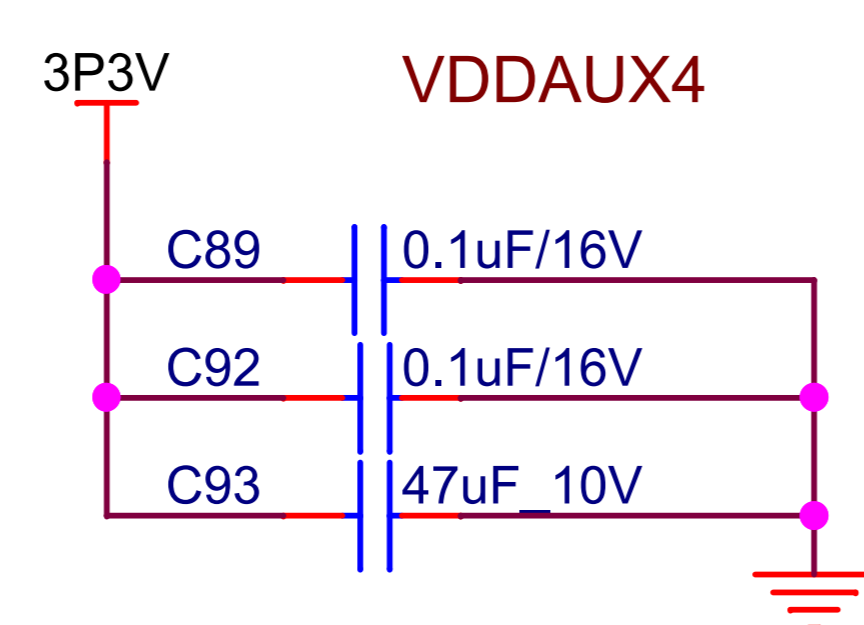
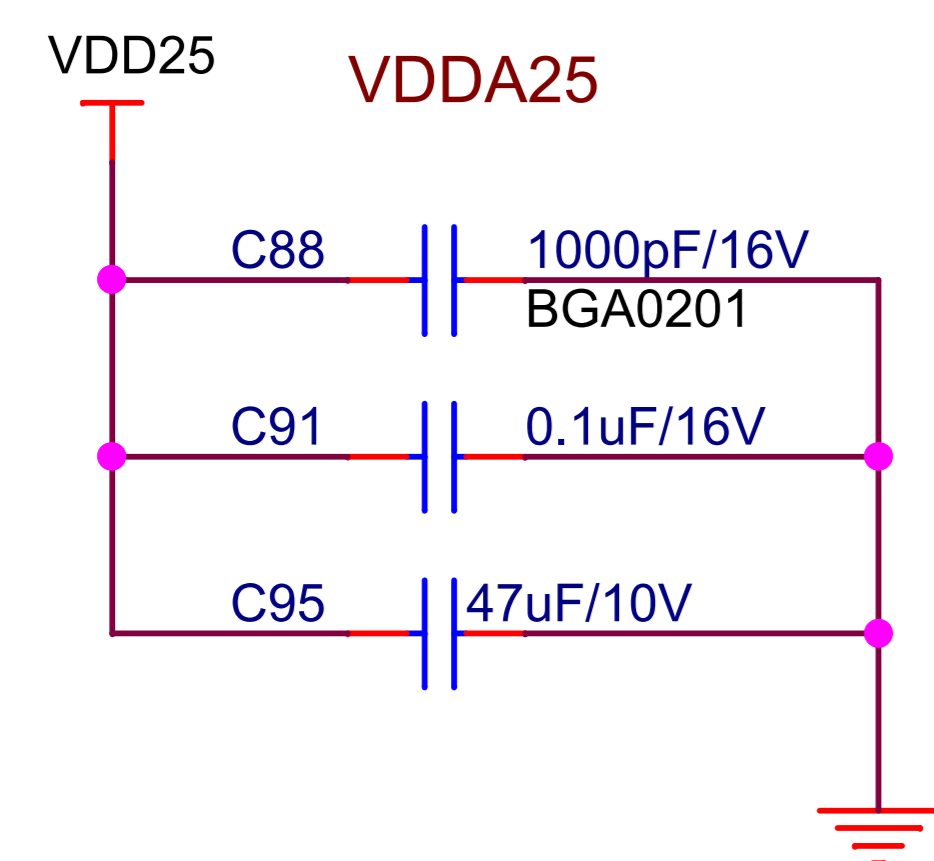
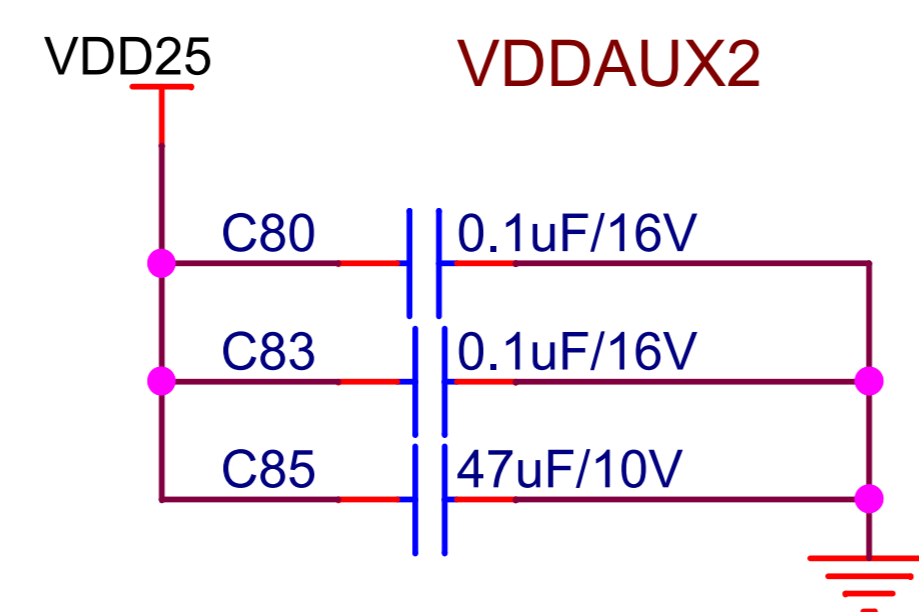
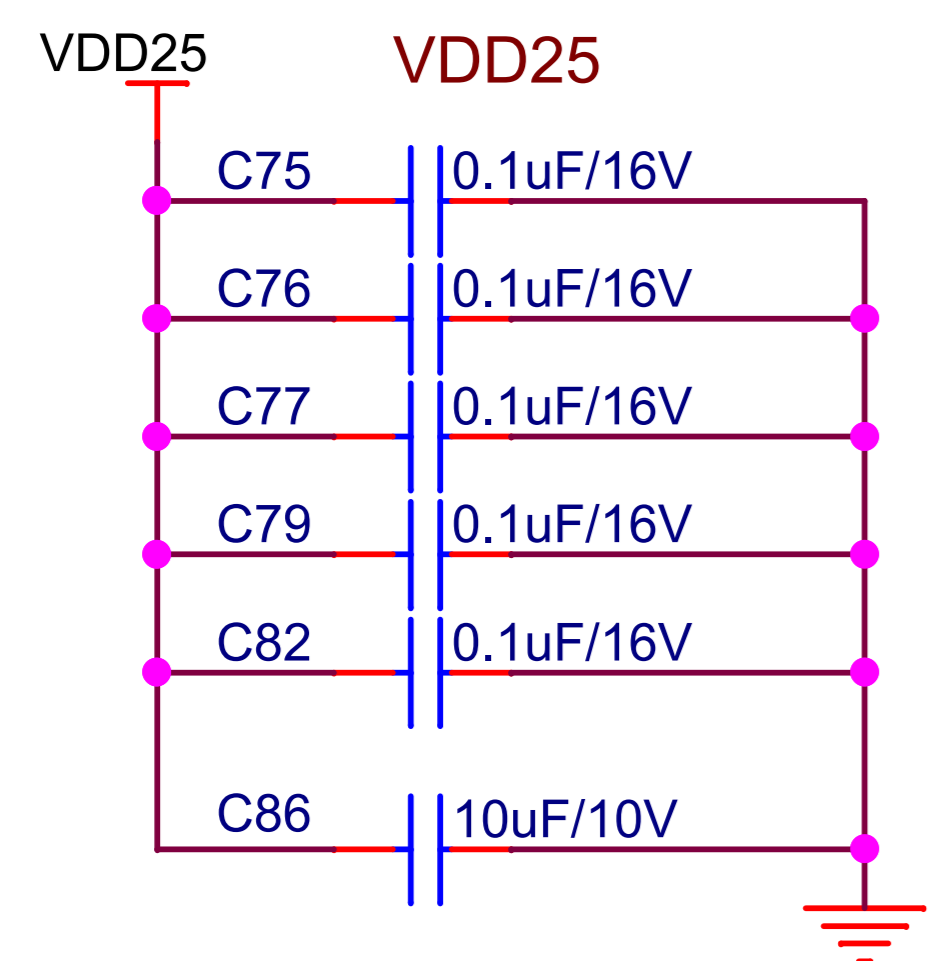
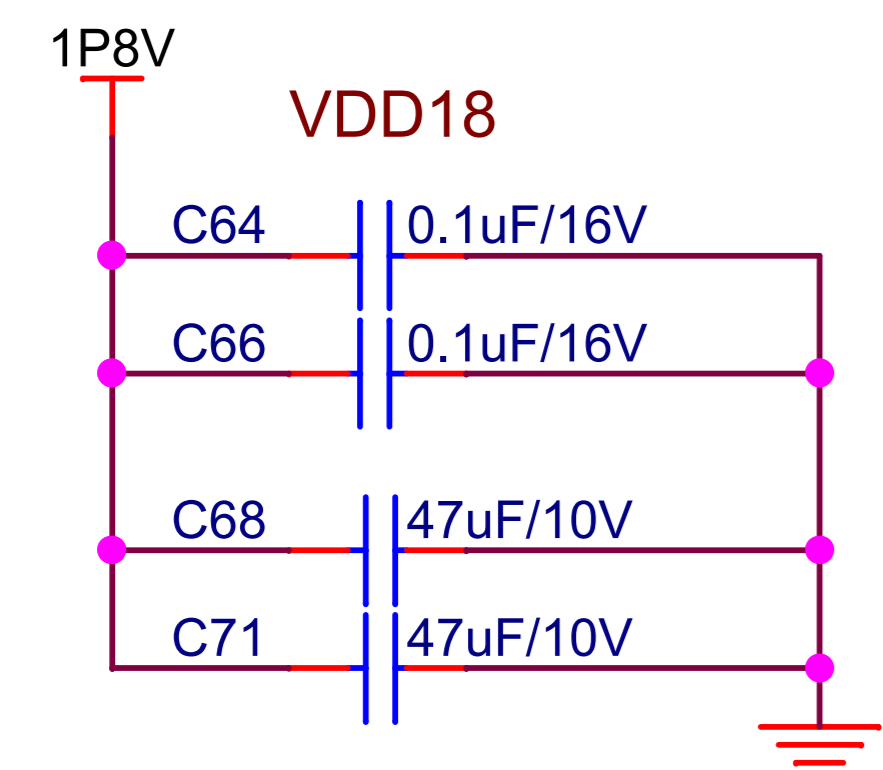
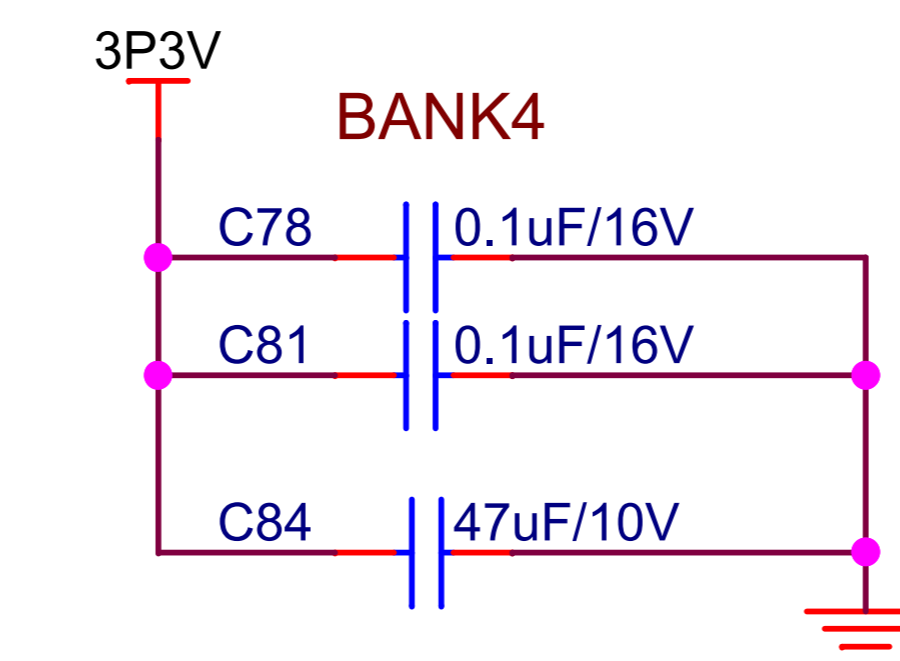
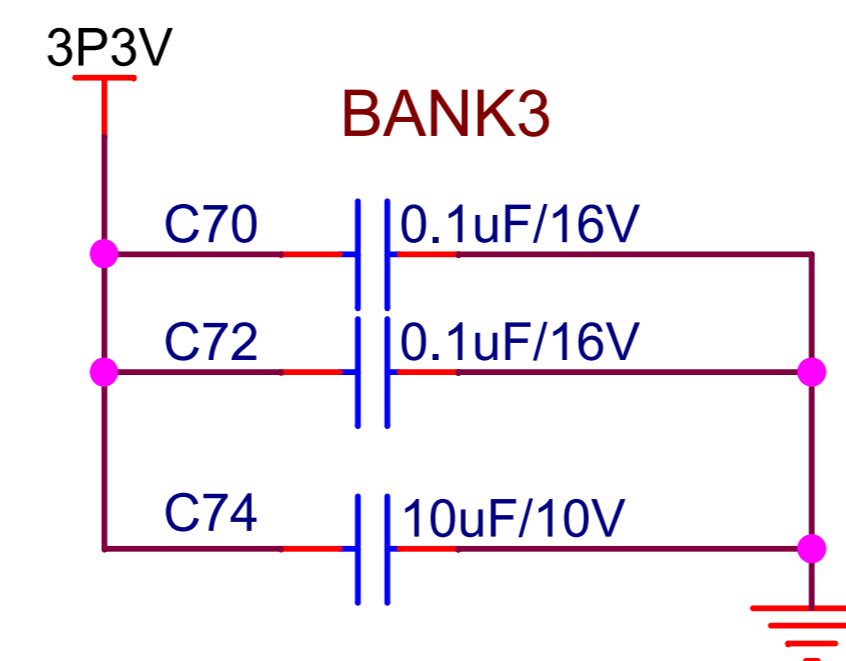
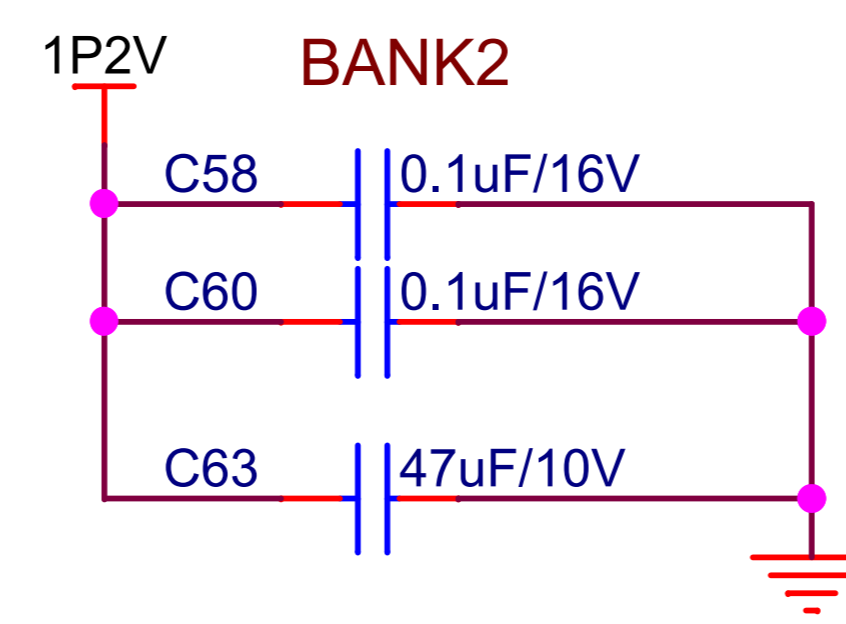
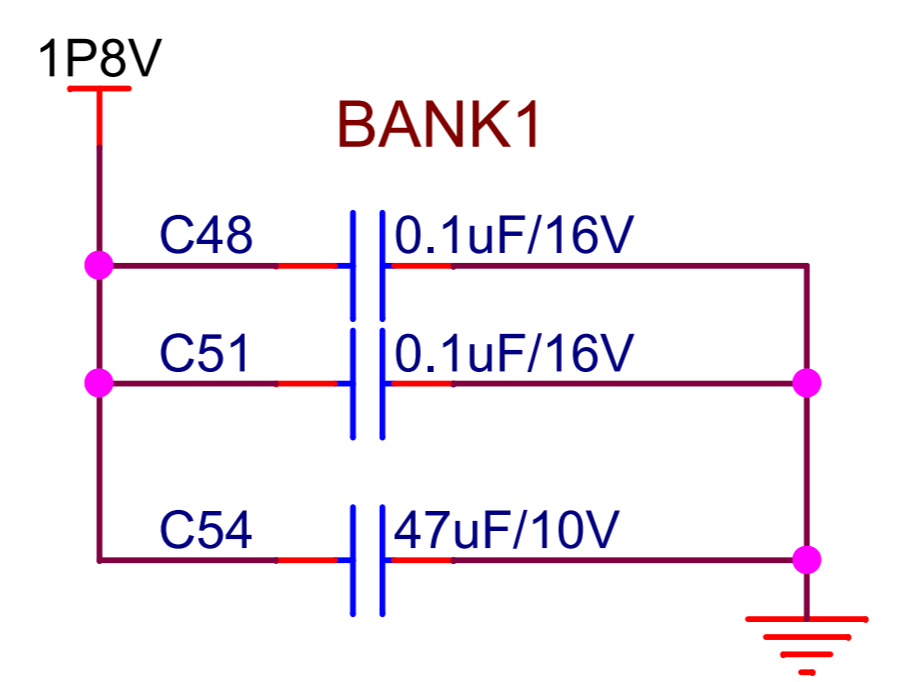
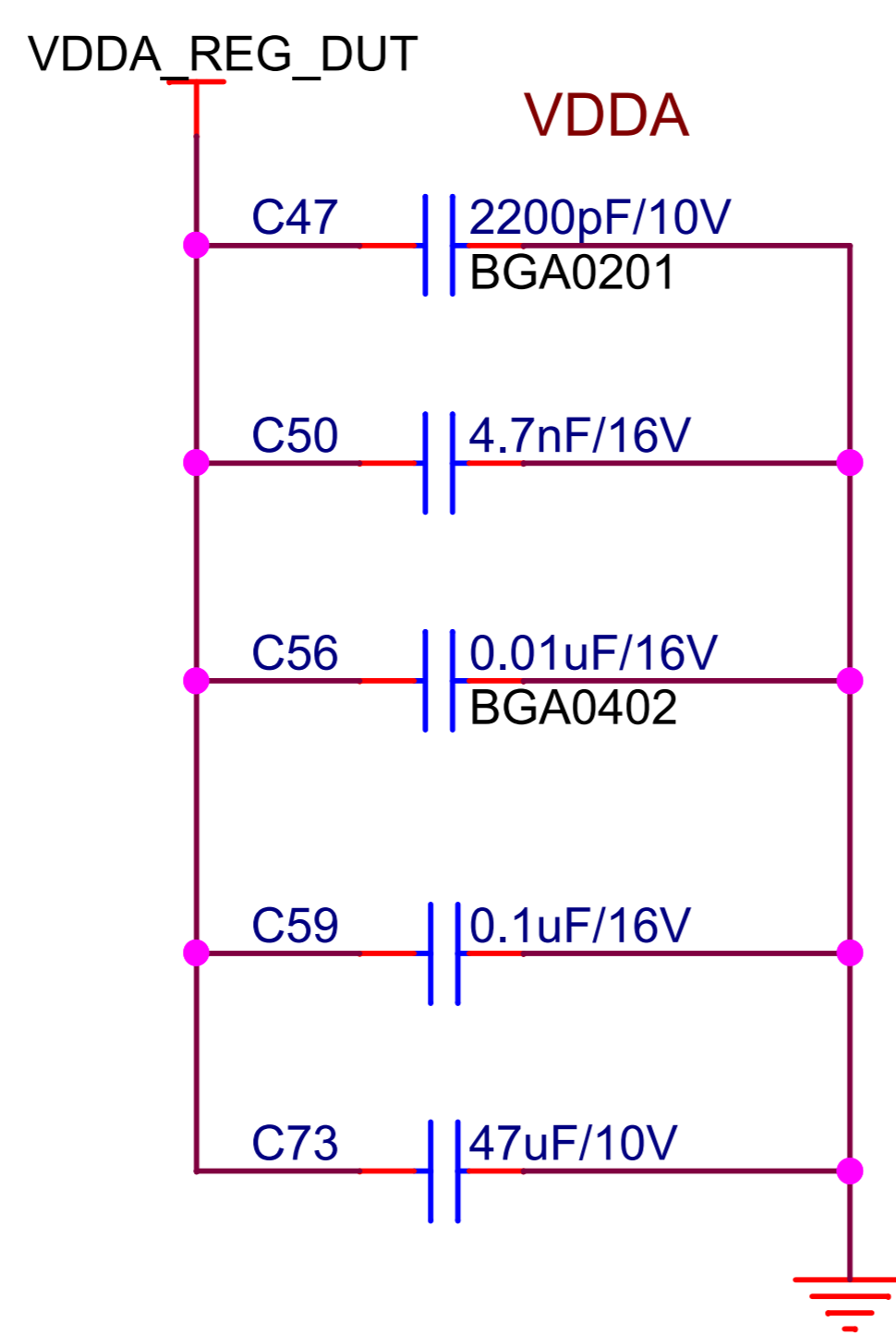
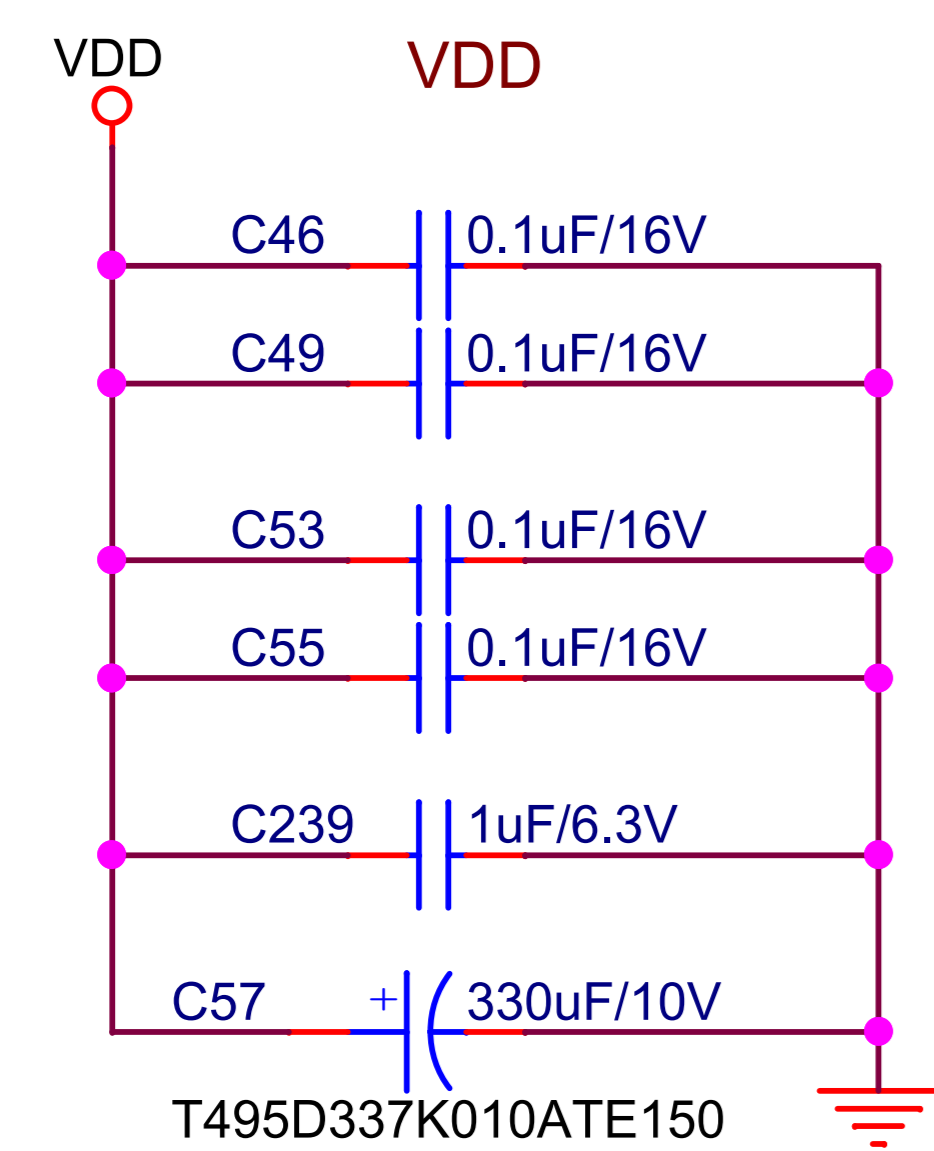


# Power Connection



TITLE CXP-12 Device Board		
Microsemi		
SIZE Custom	DOCUMENT NO. DVP-100-000521-001	REV 2
DATE: Friday, October 11, 2019	SH 9 OF 20	

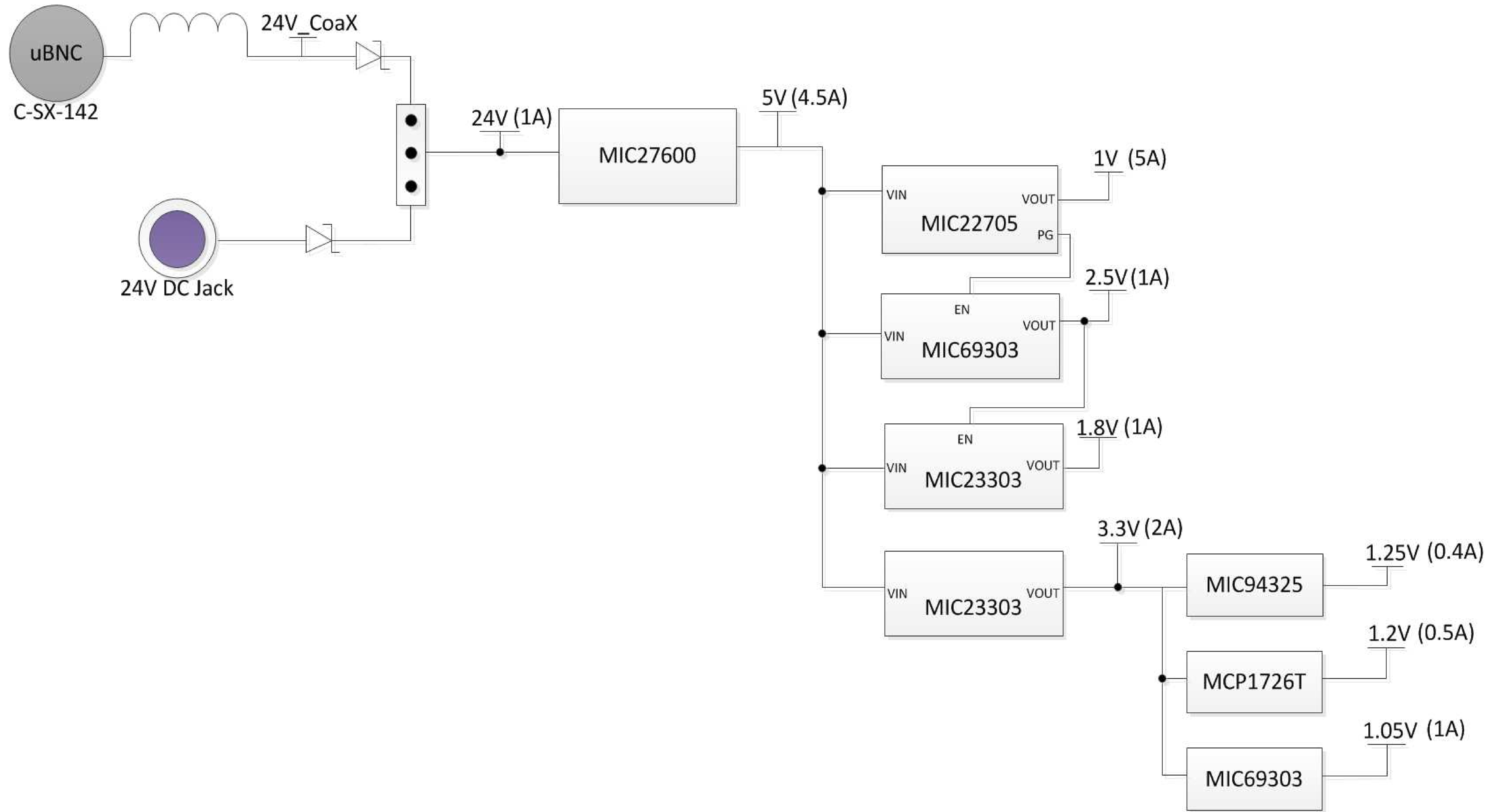
# Decoupling Capacitor & GND Connection



TITLE CXP-12 Device Board		
Microsemi		
SIZE B	DOCUMENT NO. DVP-100-000521-001	REV 2
DATE: Friday, October 11, 2019	SH 10 OF 20	



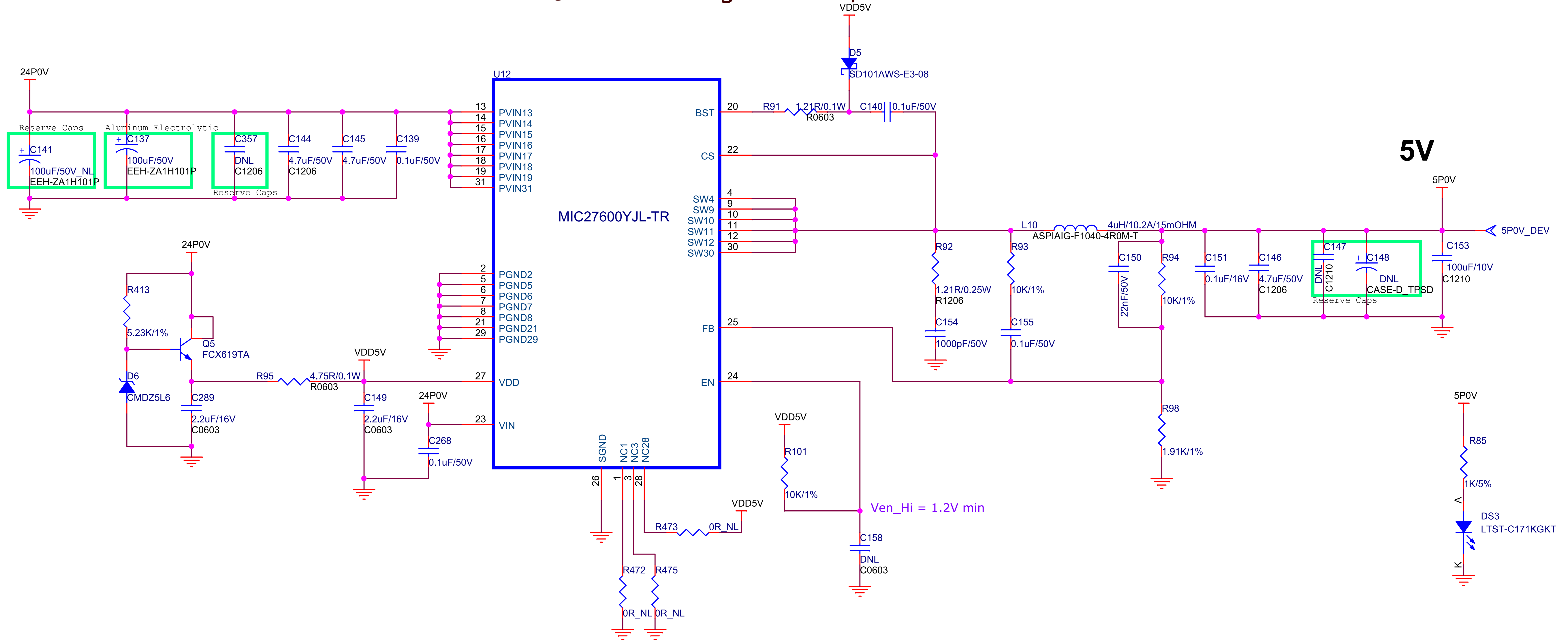
# CXP-12 Device Power Scheme



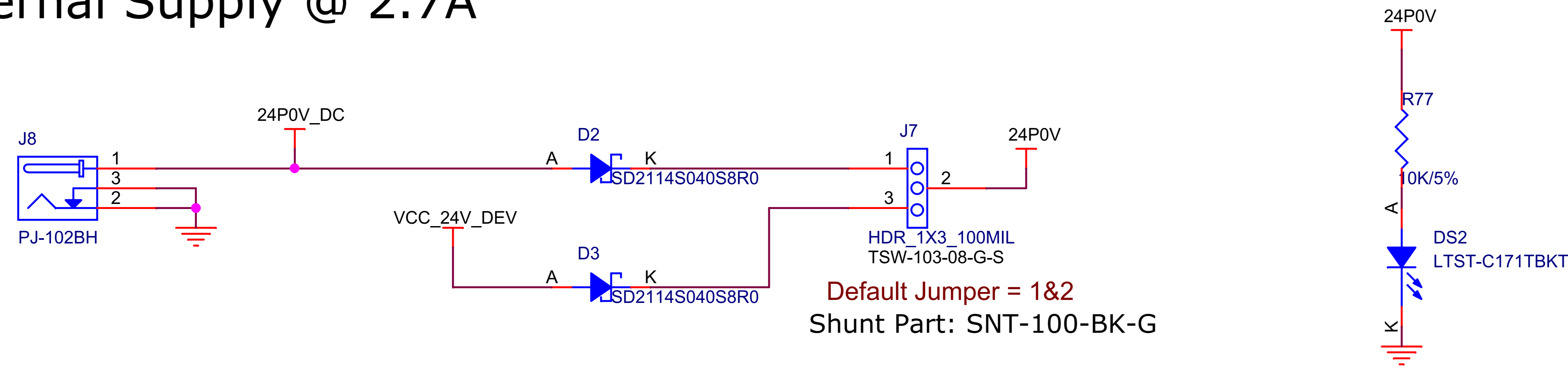
TITLE		
CXP-12 Device Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000521-001	REV
A		2
DATE:	Friday, October 11, 2019	SH 11 OF 20



# REGULATOR 1: 24V From Coax BNC to 5V @ 7A for Image Sensor, PDN



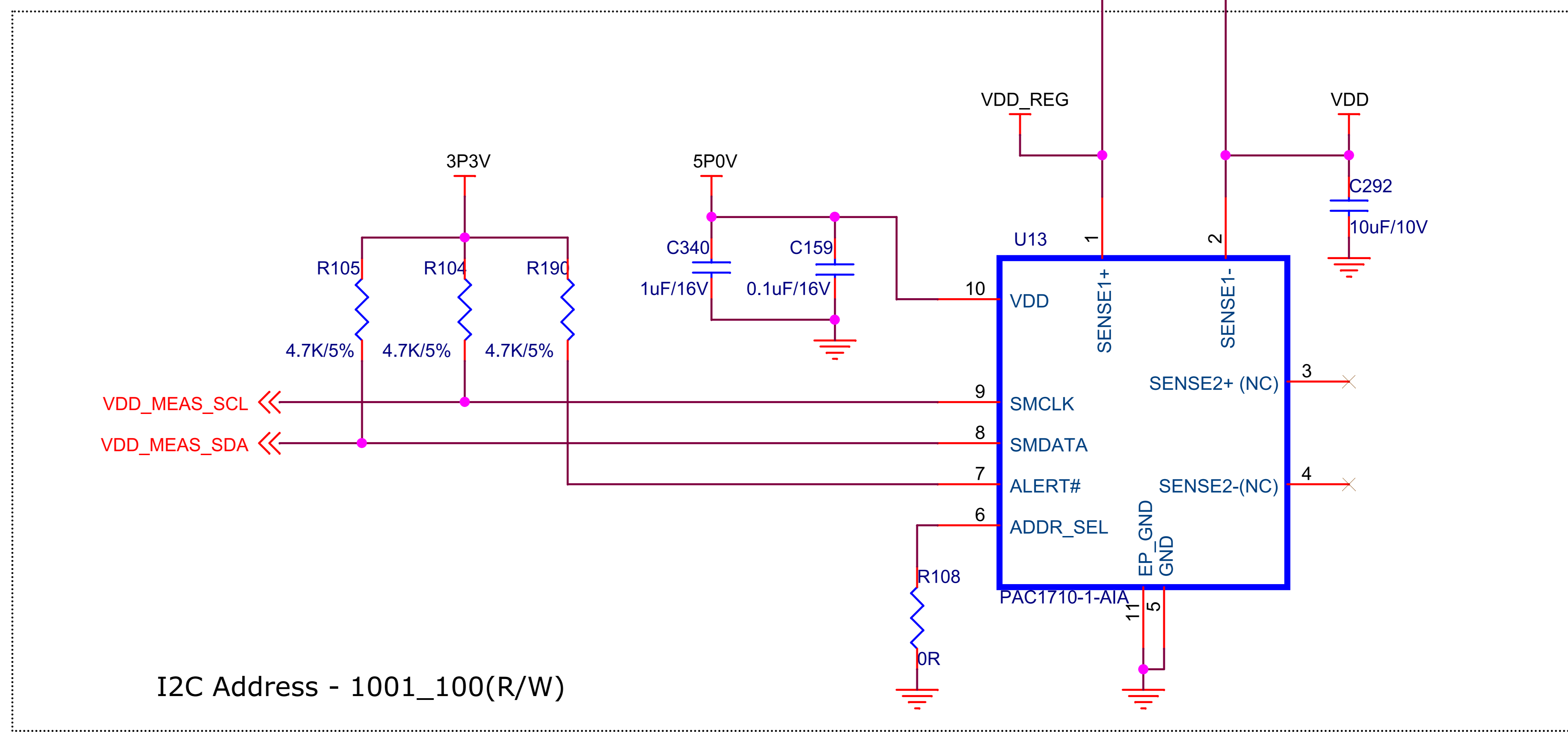
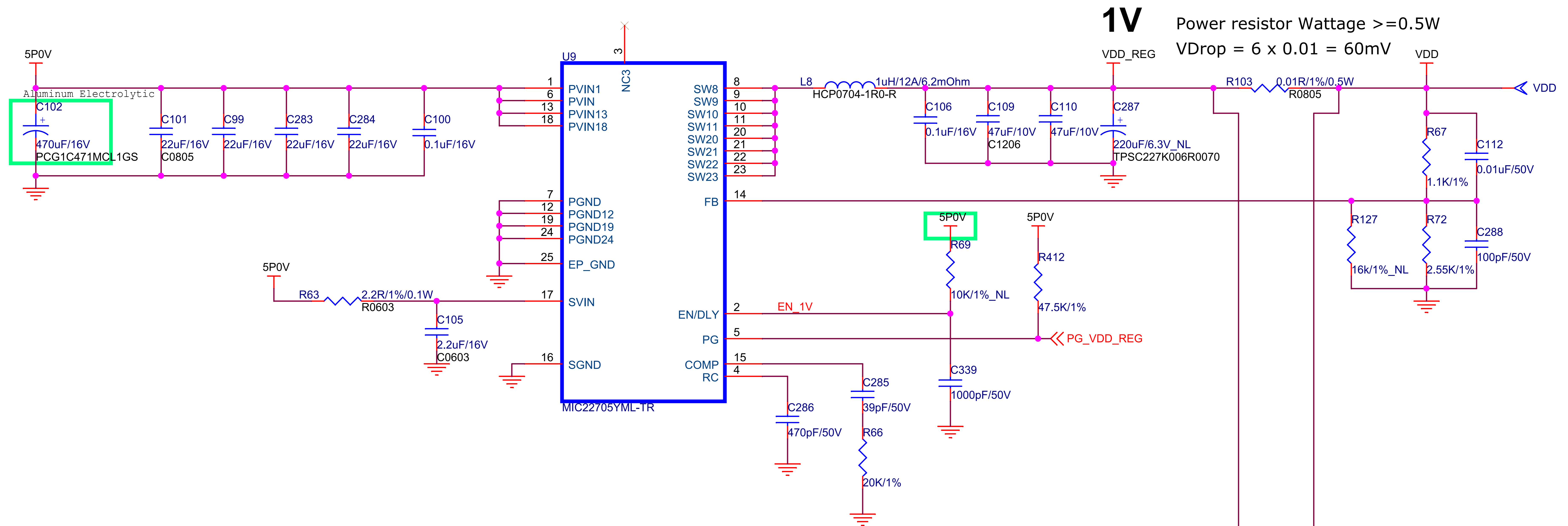
## 24V External Supply @ 2.7A



TITLE CXP-12 Device Board		
Microsemi		
SIZE B	DOCUMENT NO. DVP-100-000521-001	REV 2
DATE: Friday, October 11, 2019	SH 12 OF 20	

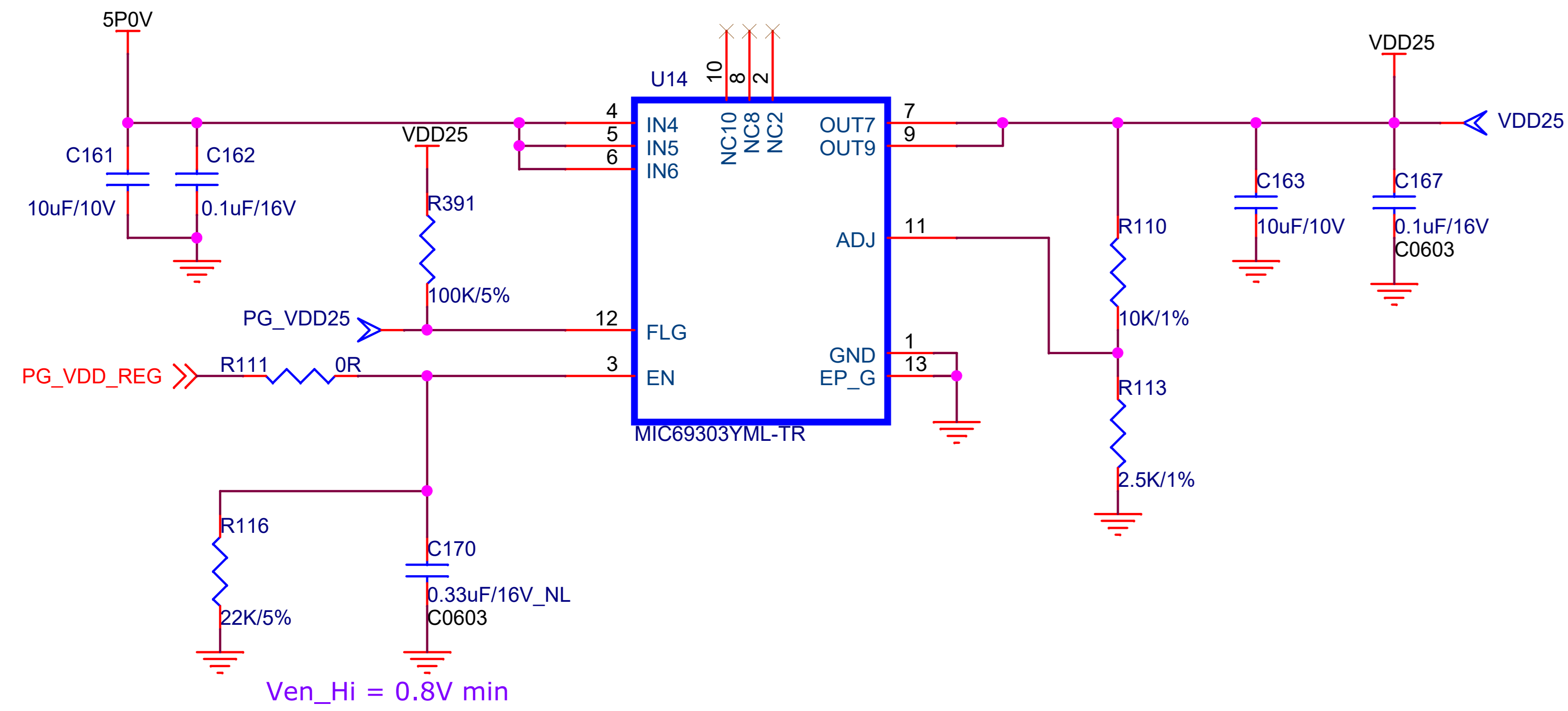


# REGULATOR 2 For PF\_VDD: 1.0V @ 7A

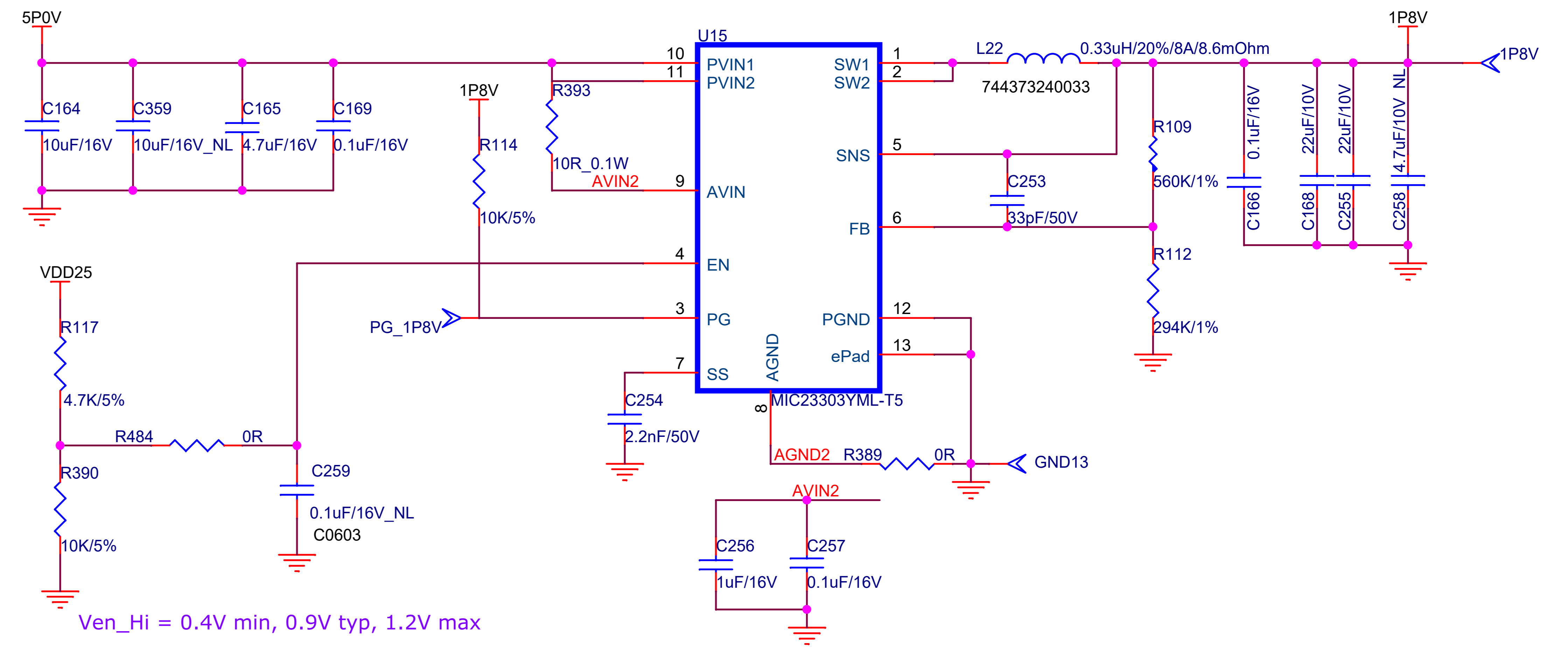


TITLE CXP-12 Device Board		
Microsemi		
SIZE B	DOCUMENT NO. DVP-100-000521-001	REV 2
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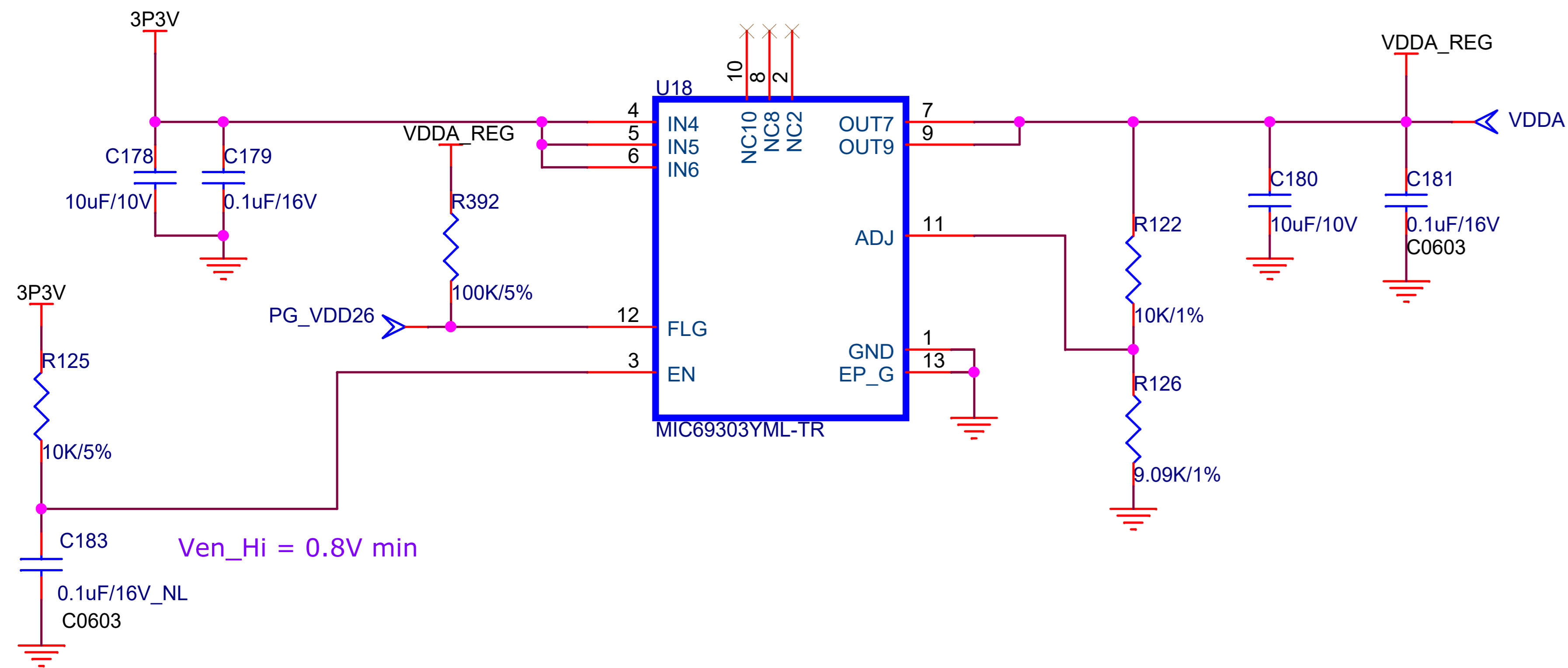
### REGULATOR 3 For PF\_VDD25, PF\_VDDA25, BANK-5: 2.5V @ 3A



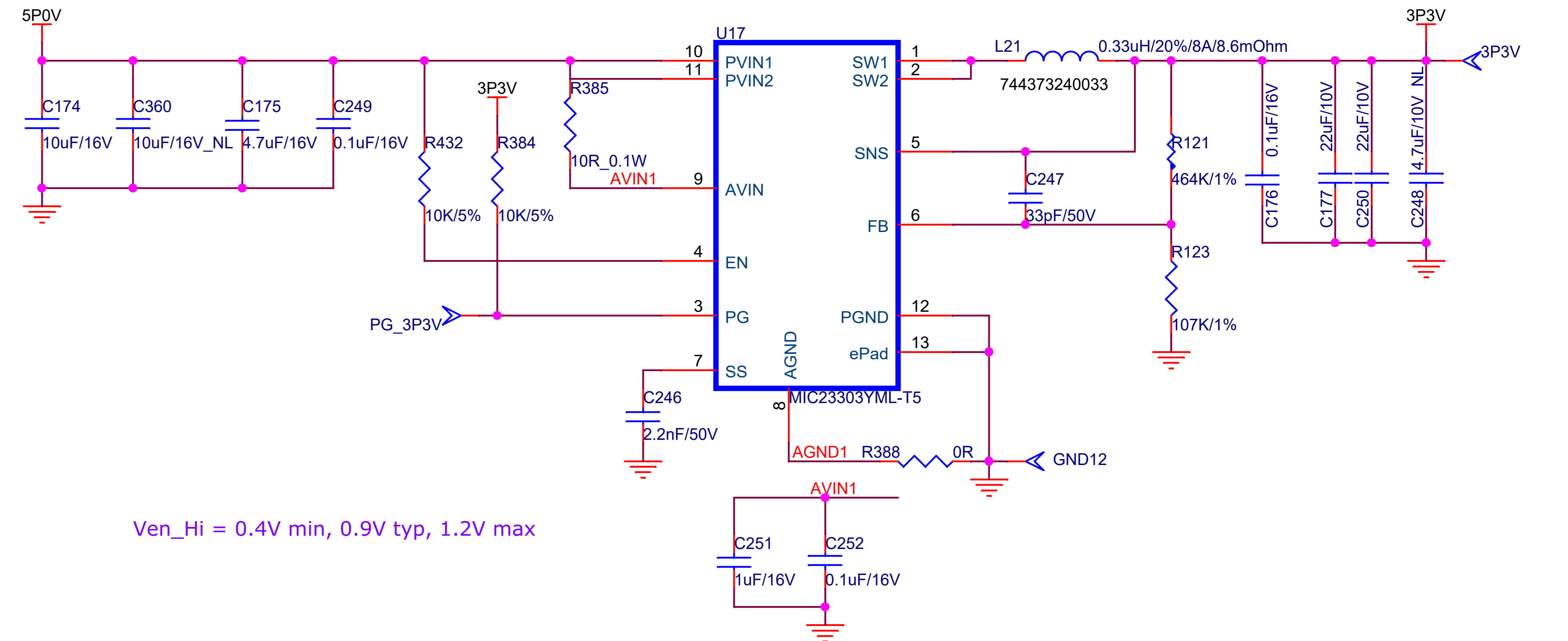
### REGULATOR 5 For VDD18, Bank1: 1.8V @ 3A



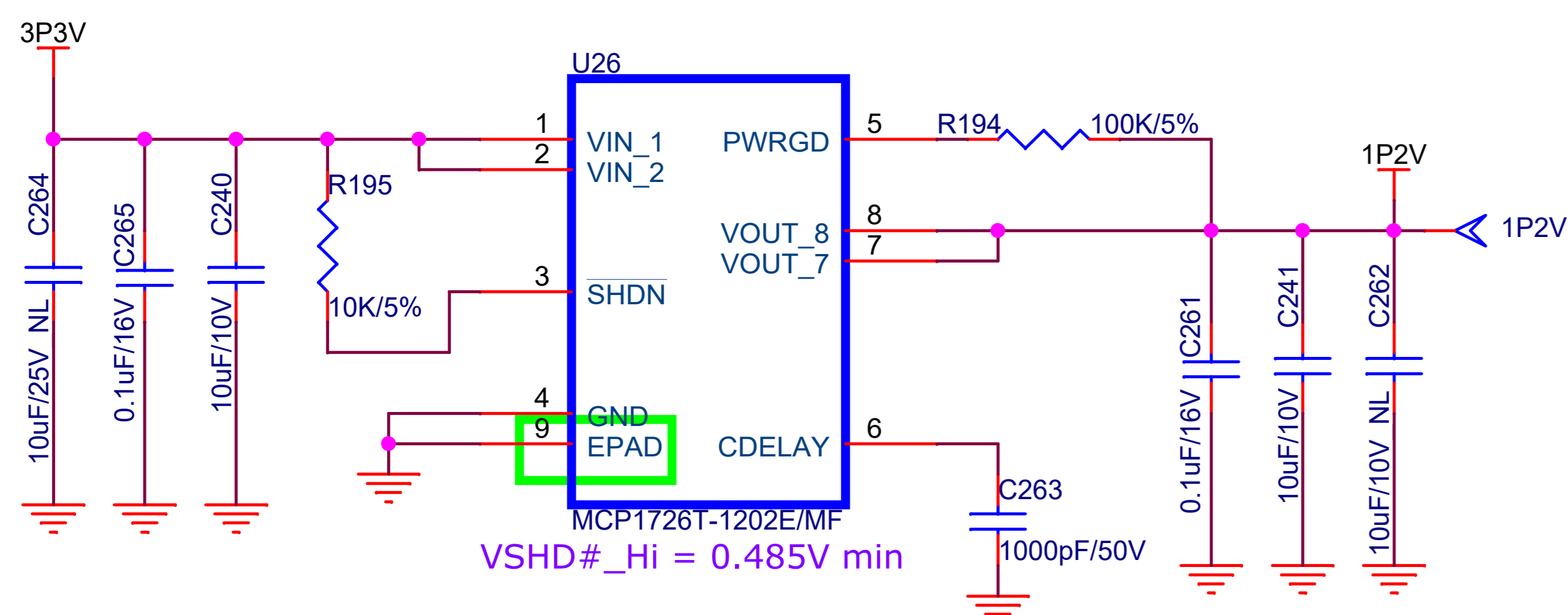
### REGULATOR 4 For PF\_VDDA: 1.05V @ 3A



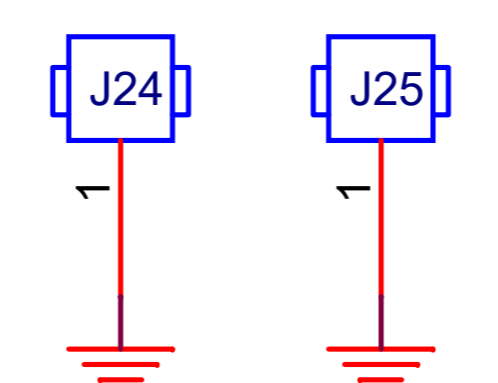
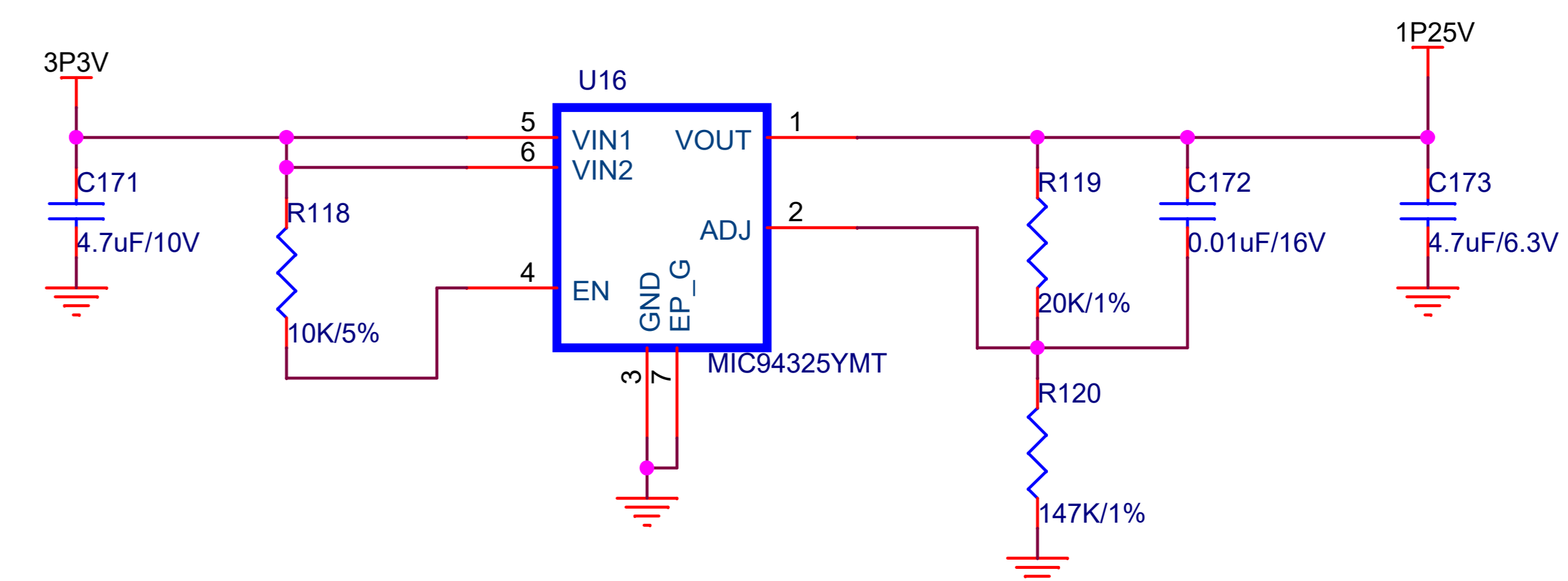
### REGULATOR 6 : 3.3V @ 3A



### REGULATOR 8 For Bank 4: 1.2V @ 1A



### REGULATOR 7 For COAX PHY: 1.25V @ 0.5A



TITLE: CXP-12 Device Board		
Microsemi		
SIZE: Custom	DOCUMENT NO. DVP-100-000521-001	REV: 2
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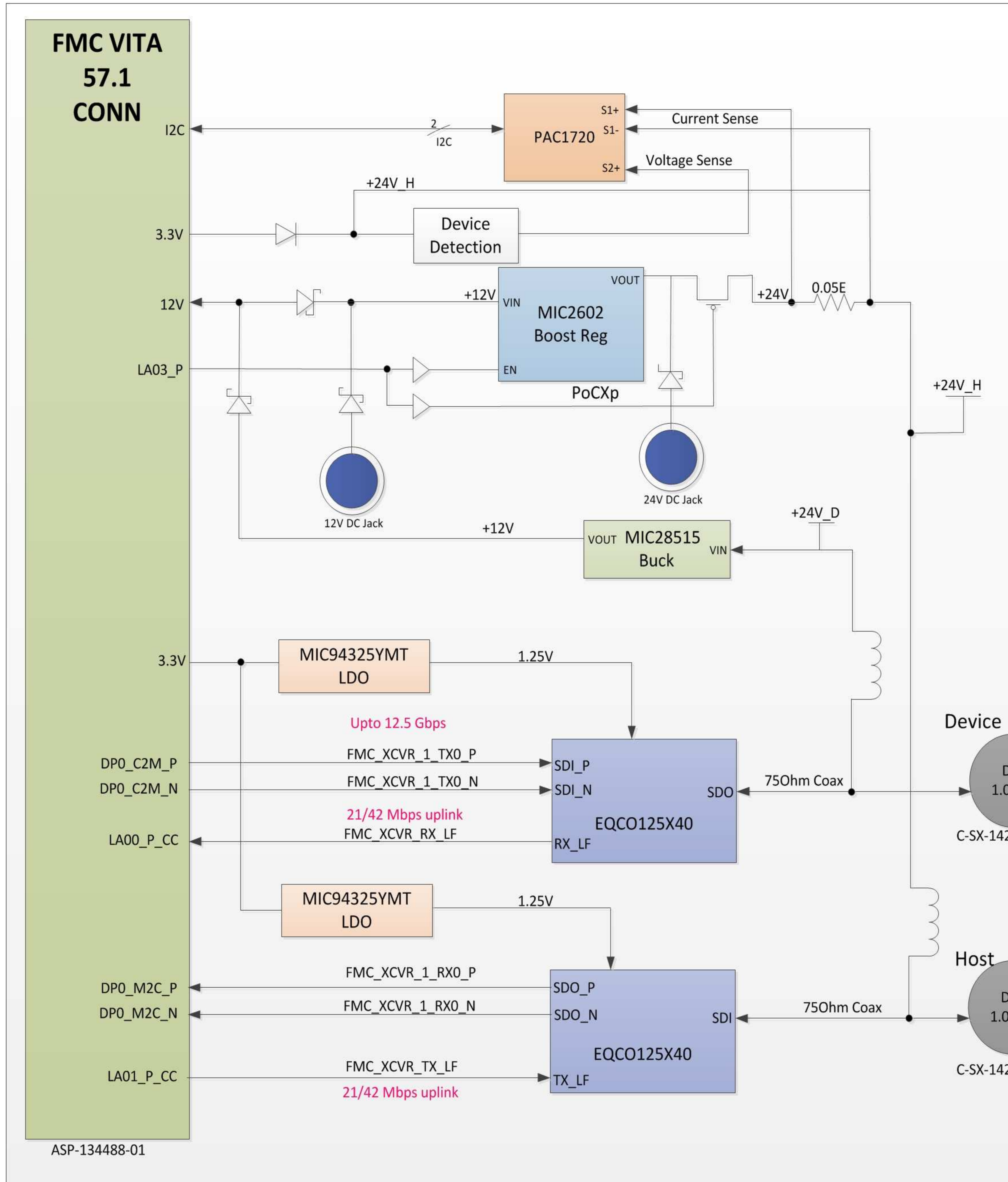
# CXP-12 Host Board

01	Title Page
02	Block Diagram
03	FMC Connection
04	CX12 PHY Connection
05	Power Supplies: 12V
06	Power Supplies: 24V,1.25V



Project Name:			<b>CXP-12 Host Board</b>		
Rev	Part Number:		PACTRON:		
<b>2</b>	MICROSEMI	<b>DVP-100-000522-001</b>			
Originator:			<b>GHURU KUMARAVELU</b>		
Size	Date:		Sheet		
<b>A</b>	<b>Friday, October 11, 2019</b>		<b>15 of 20</b>		

# CXP-12 Host Interface

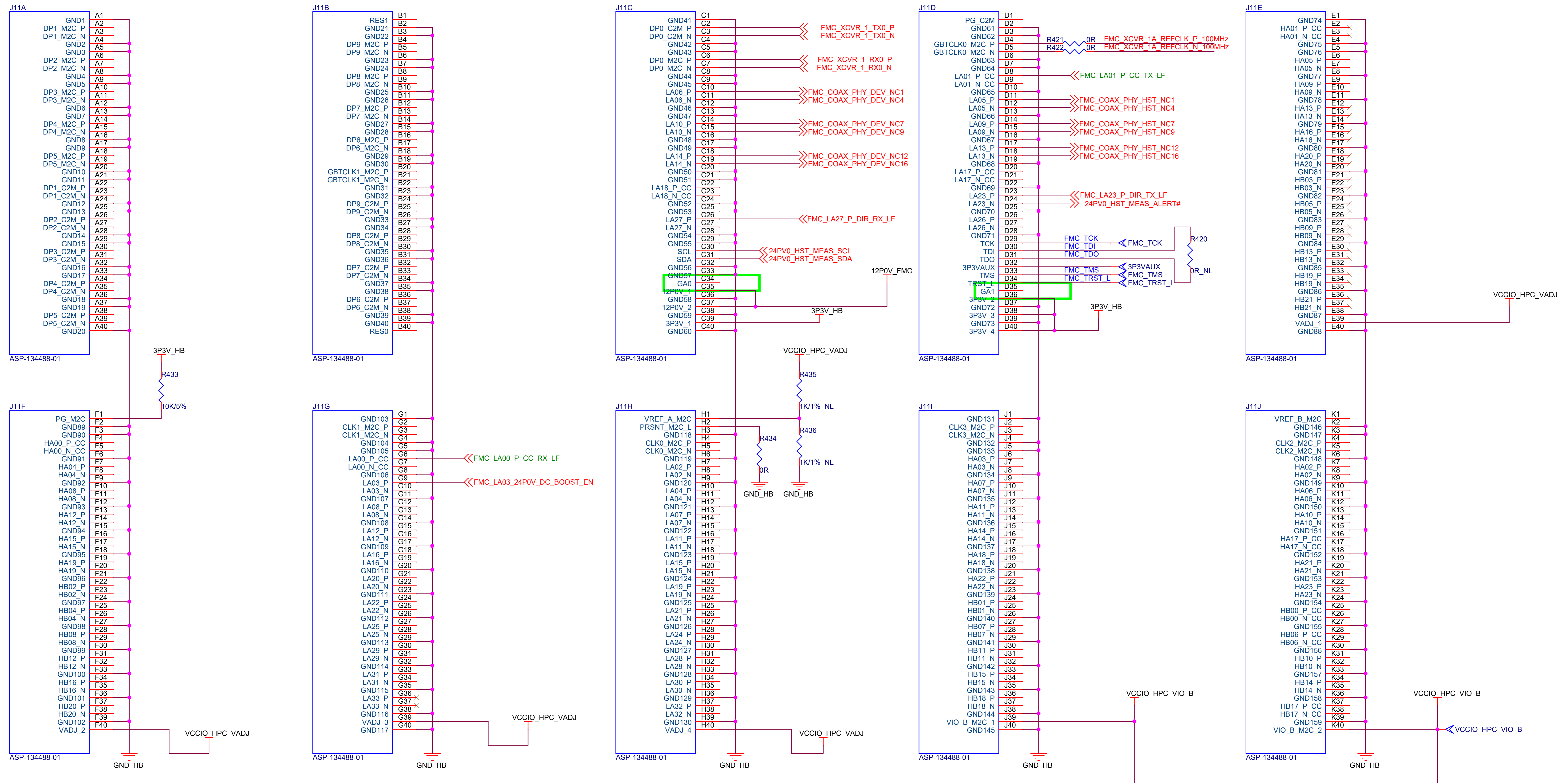


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Microsemi		
SIZE: C	DOCUMENT NO: DVP-100-000522-001	REV: 2
DATE: Friday, October 11, 2019	SH 16 OF 20	

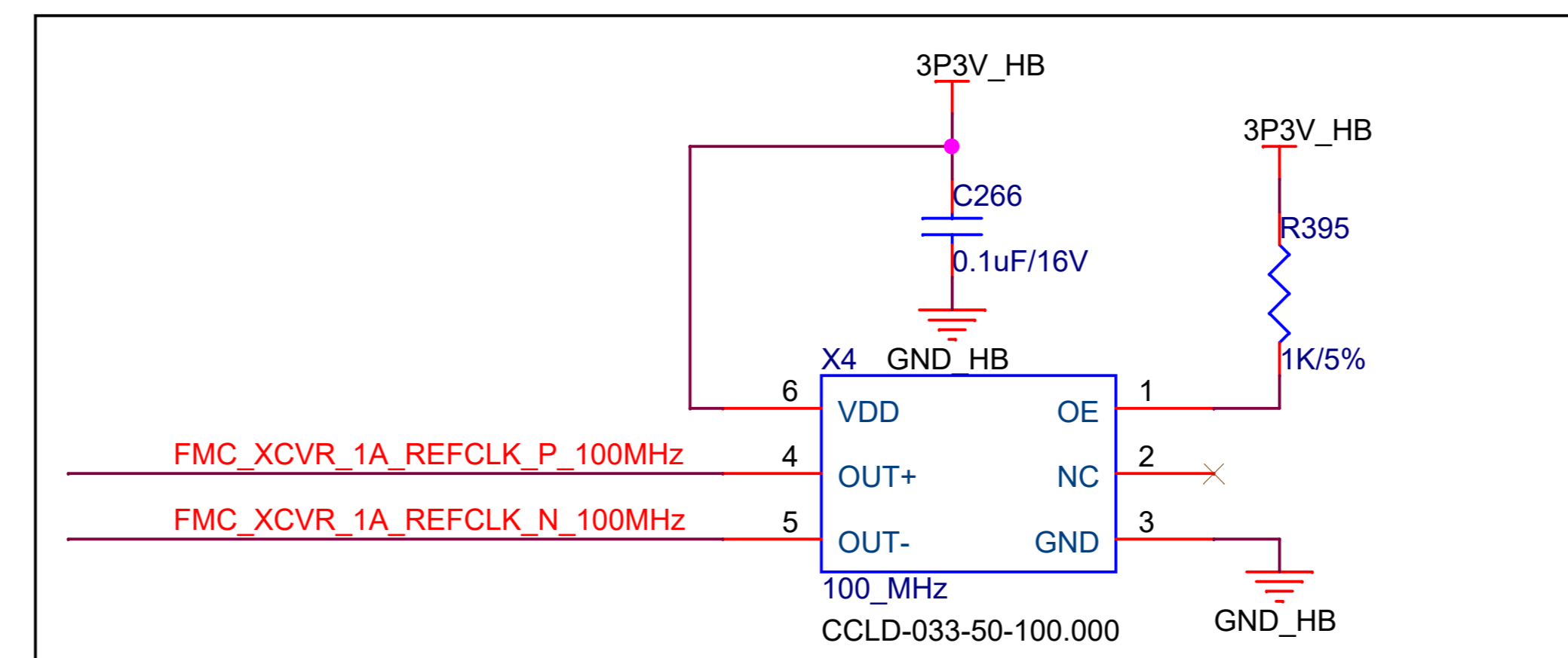
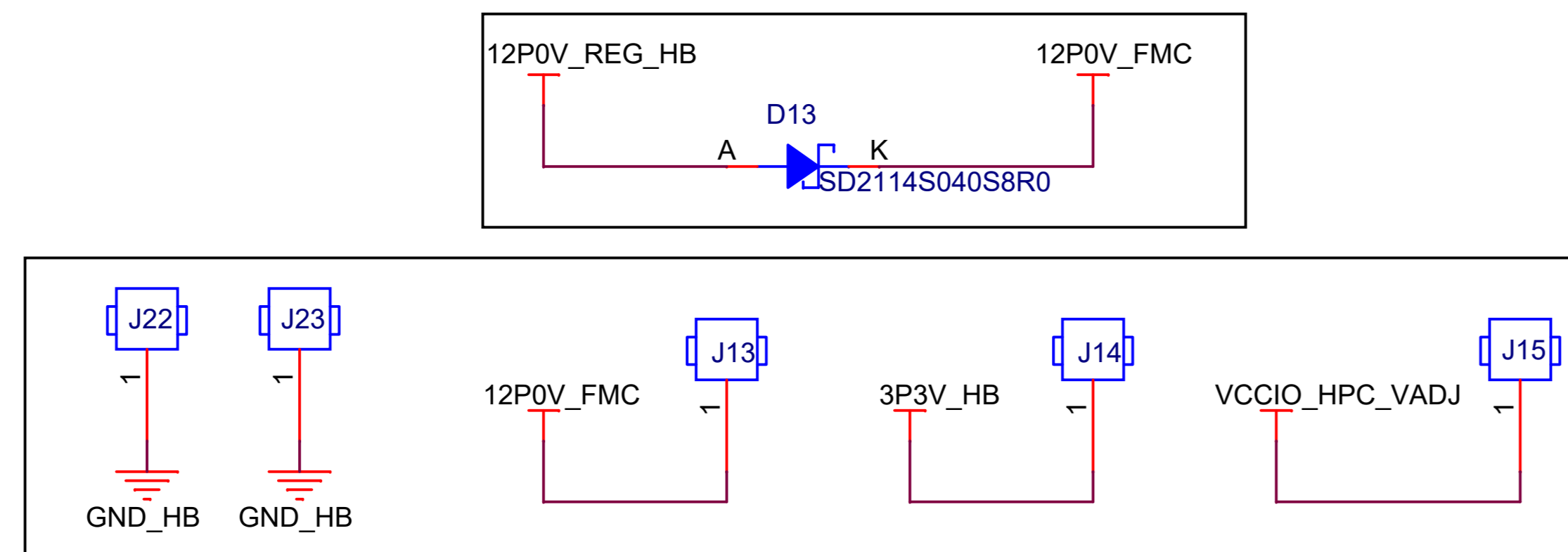
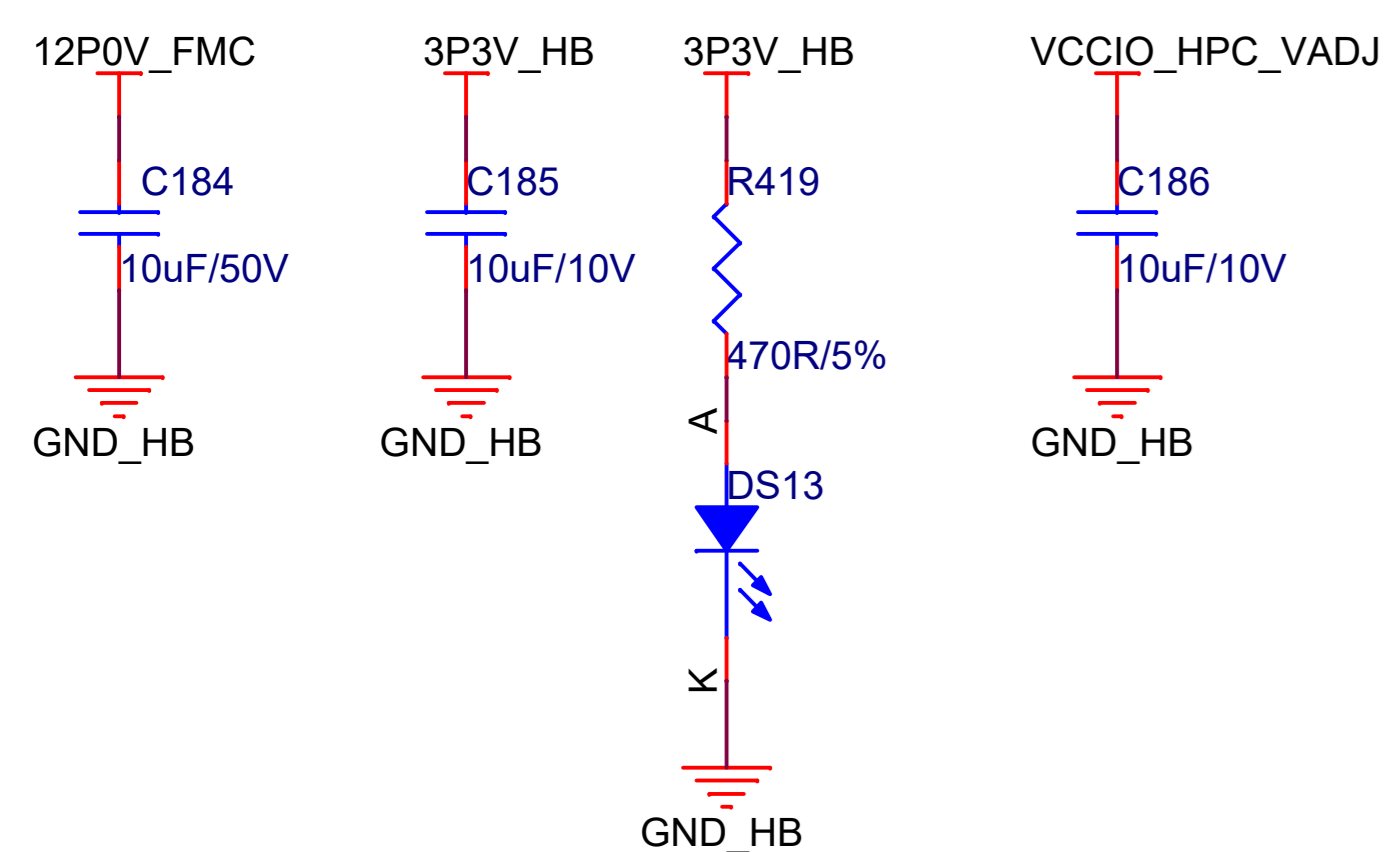




# FMC Connection (HPC)



## Decoupling Capacitor



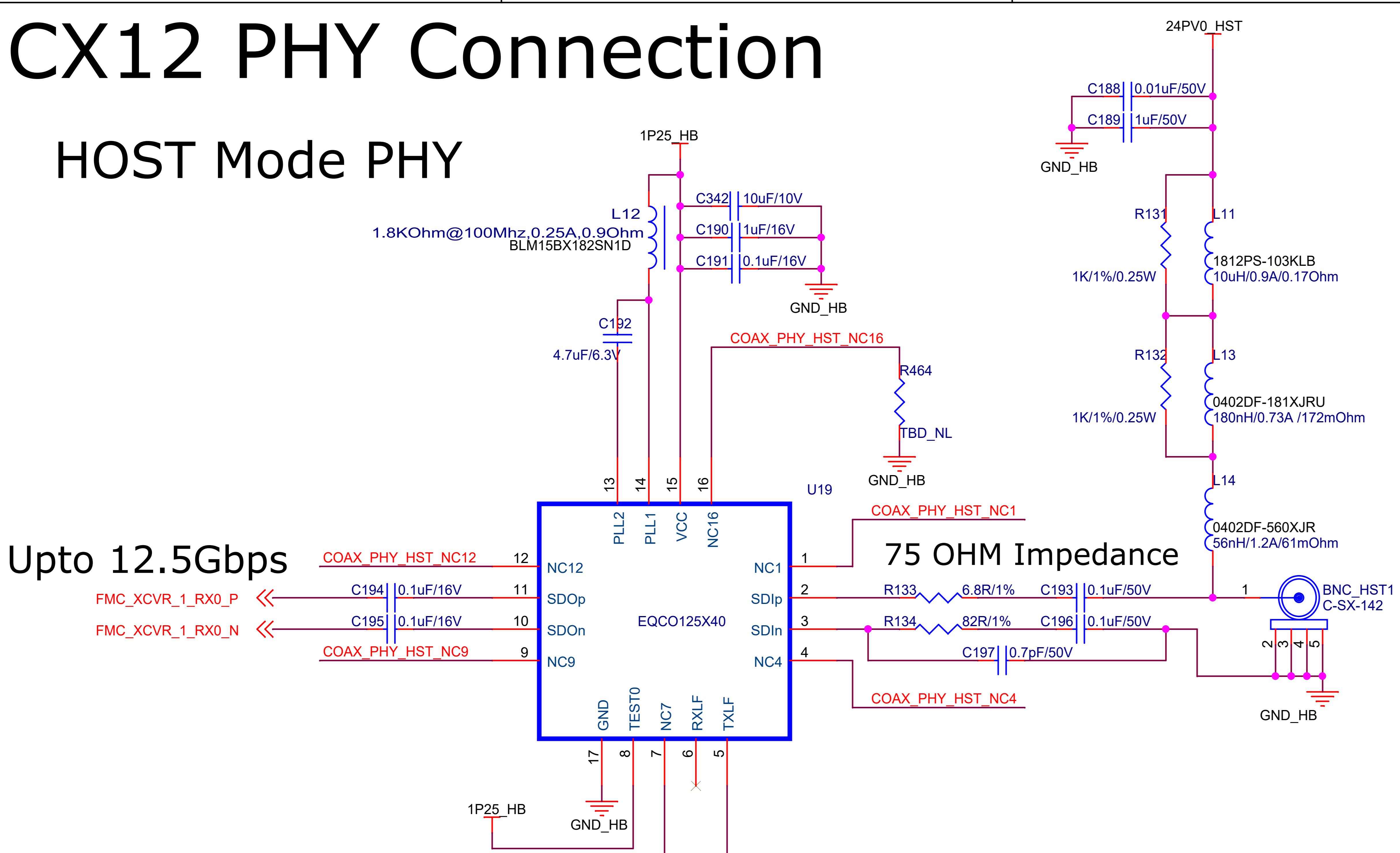
TITLE CXP-12 Host Board		
Microsemi		
SIZE Custom	DOCUMENT NO. DVP-100-000522-001	REV 2
DATE: Friday, October 11, 2019	SH 17 OF 20	



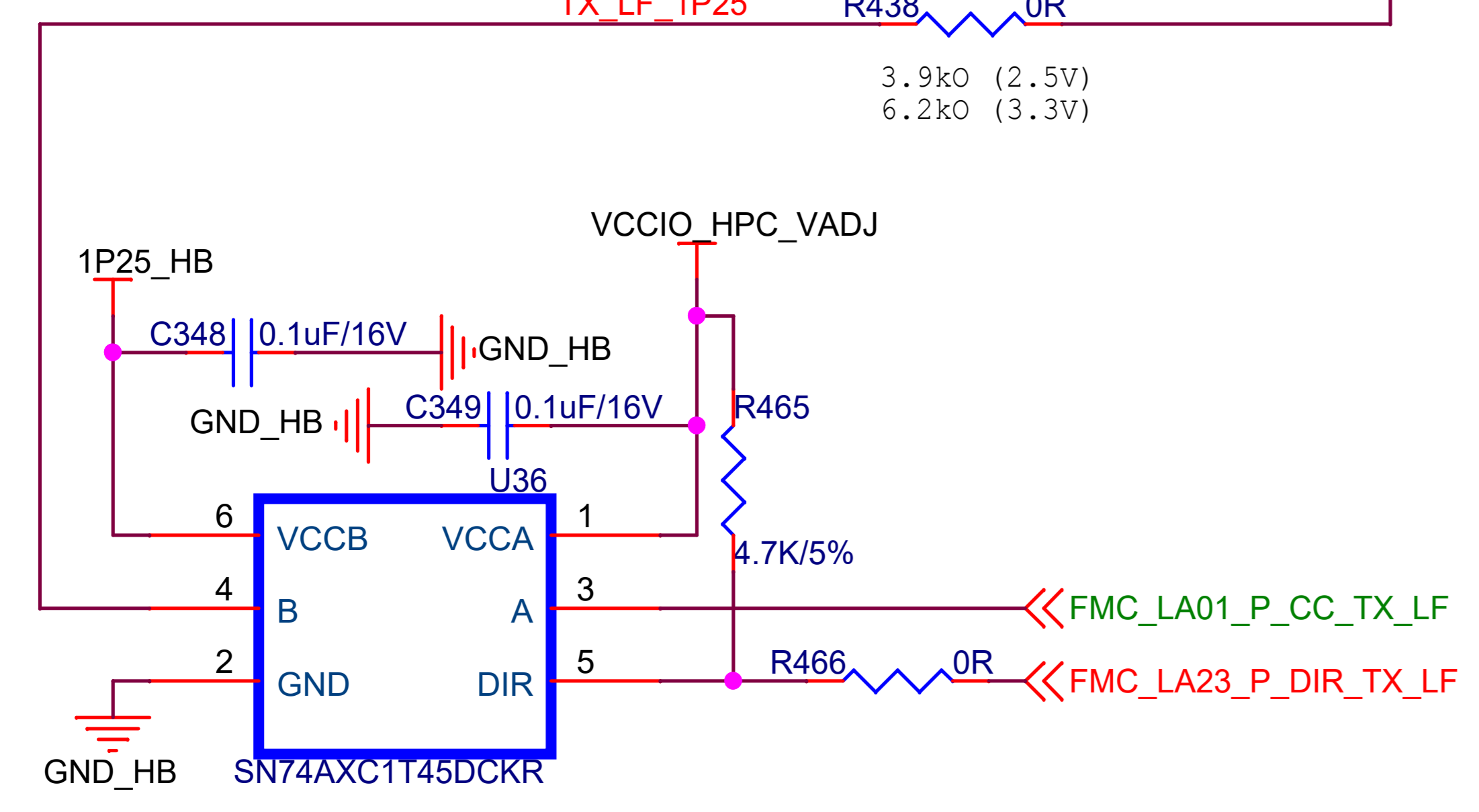
# CX12 PHY Connection

## HOST Mode PHY

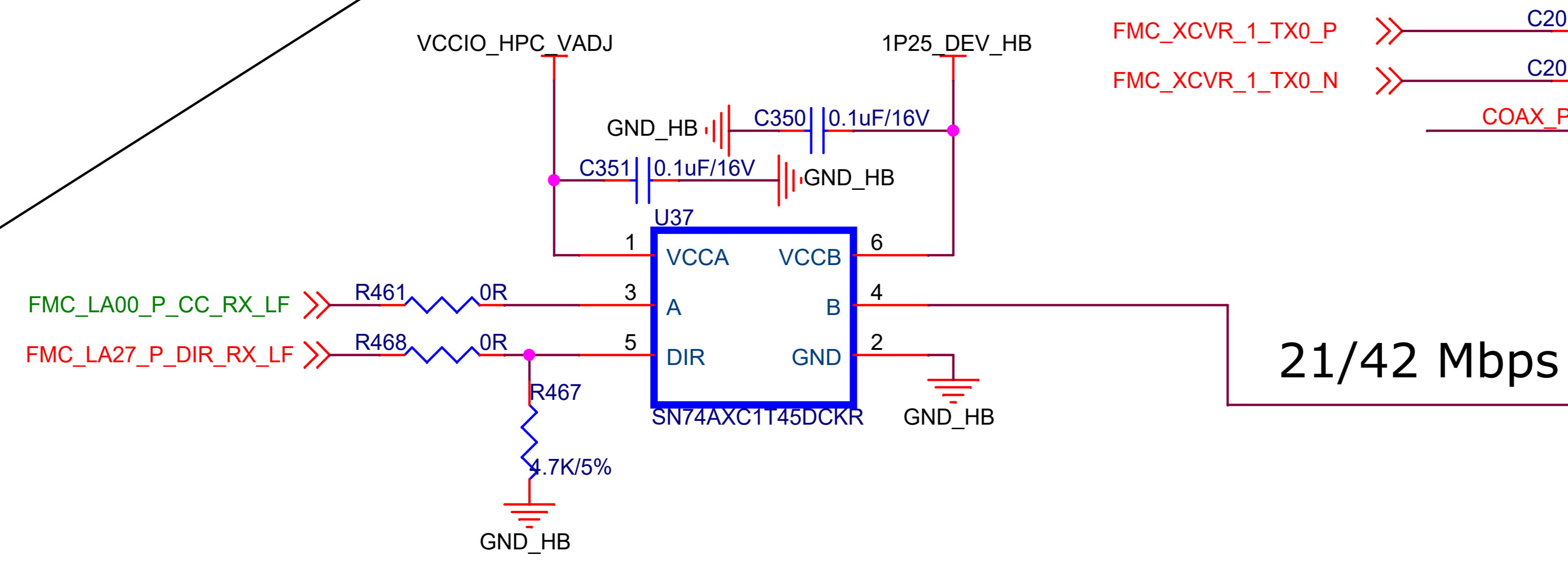
Upto 12.5Gbps



21/42 Mbps

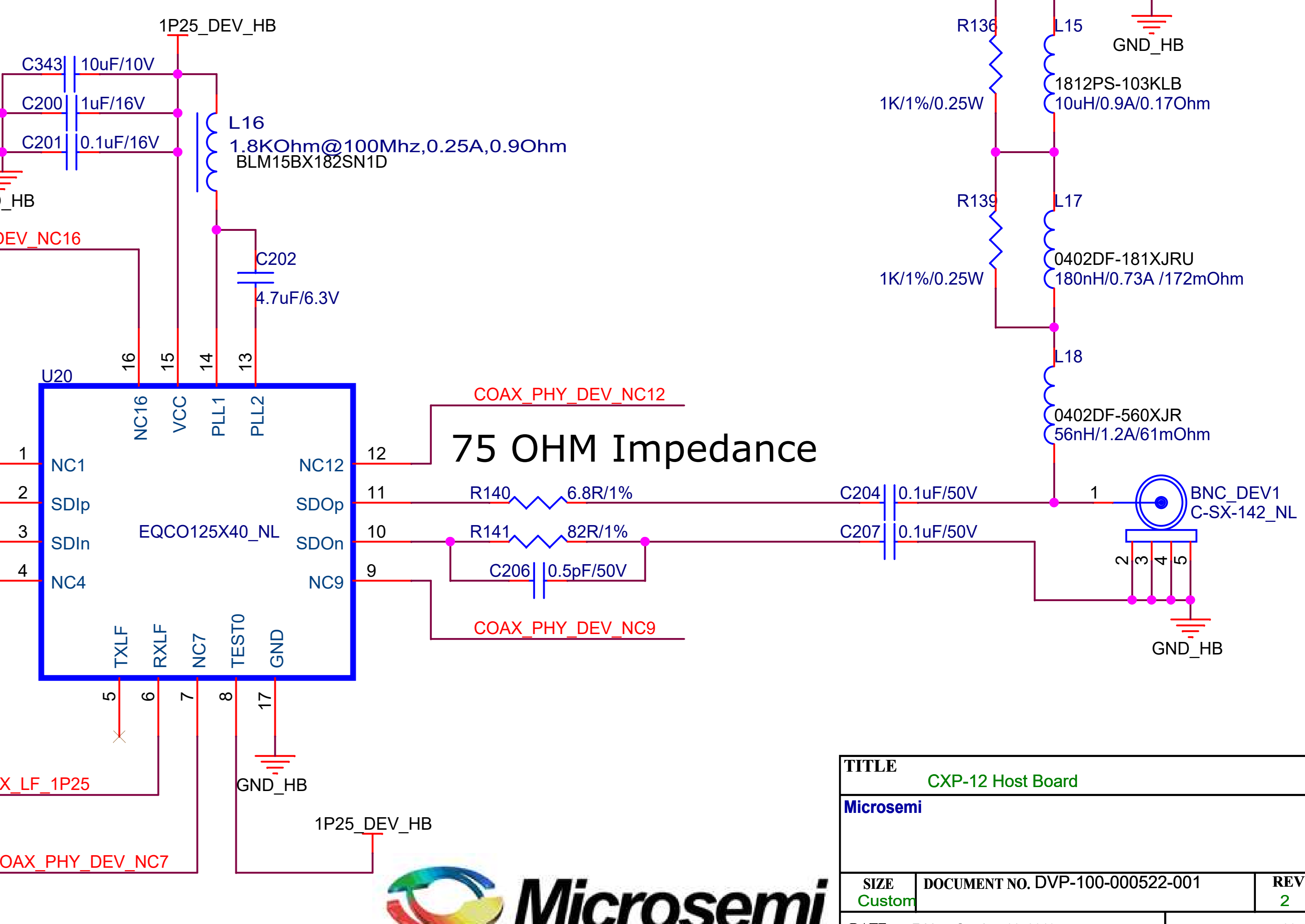
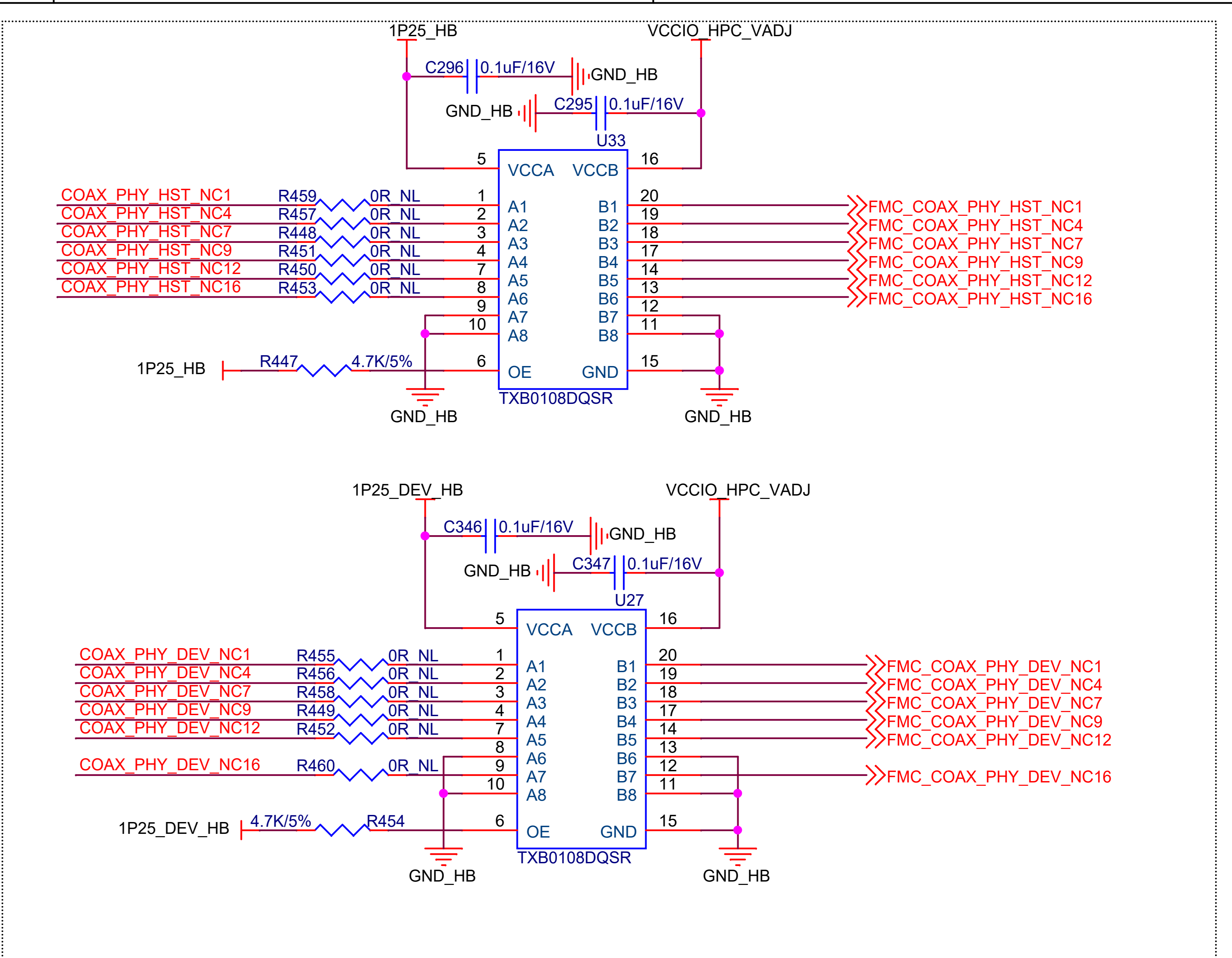


Upto 12.5Gbps



21/42 Mbps

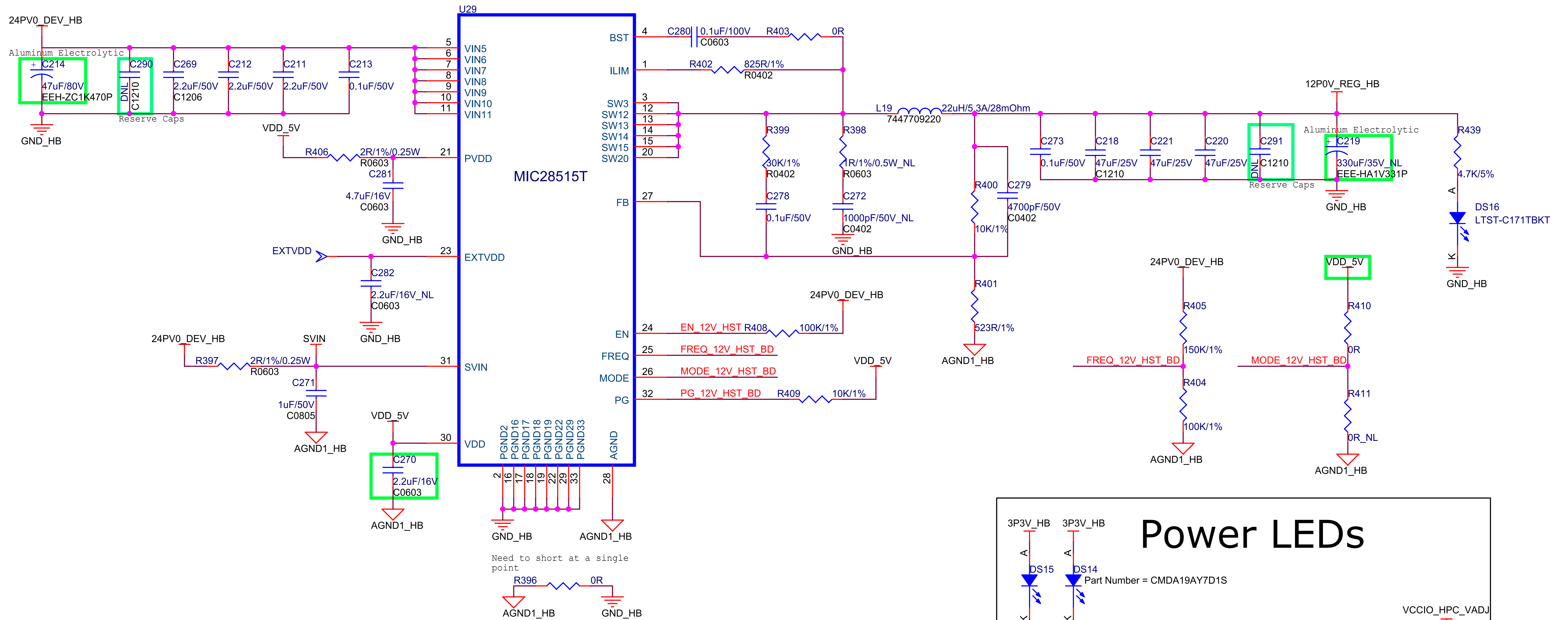
## DEVICE Mode PHY



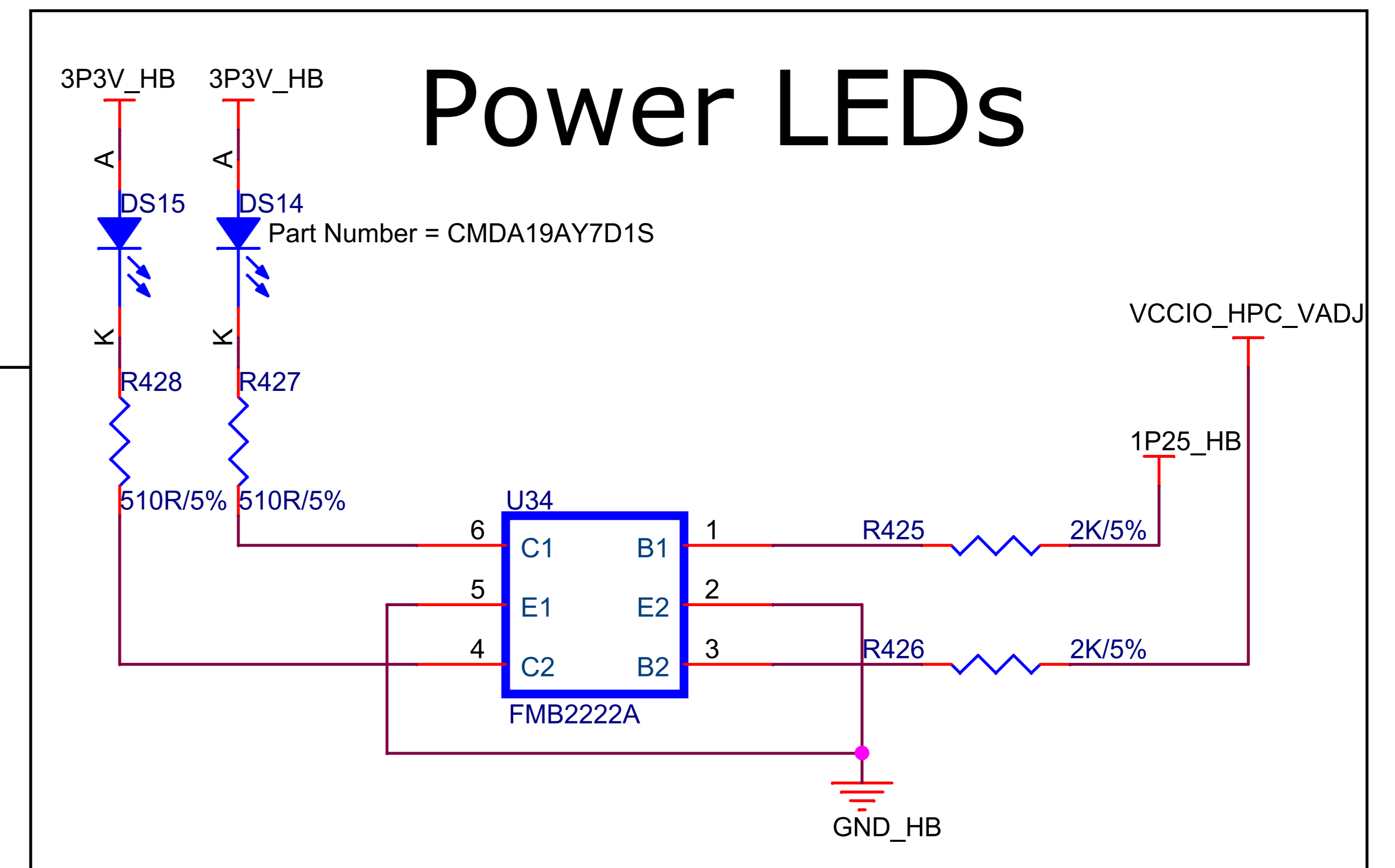
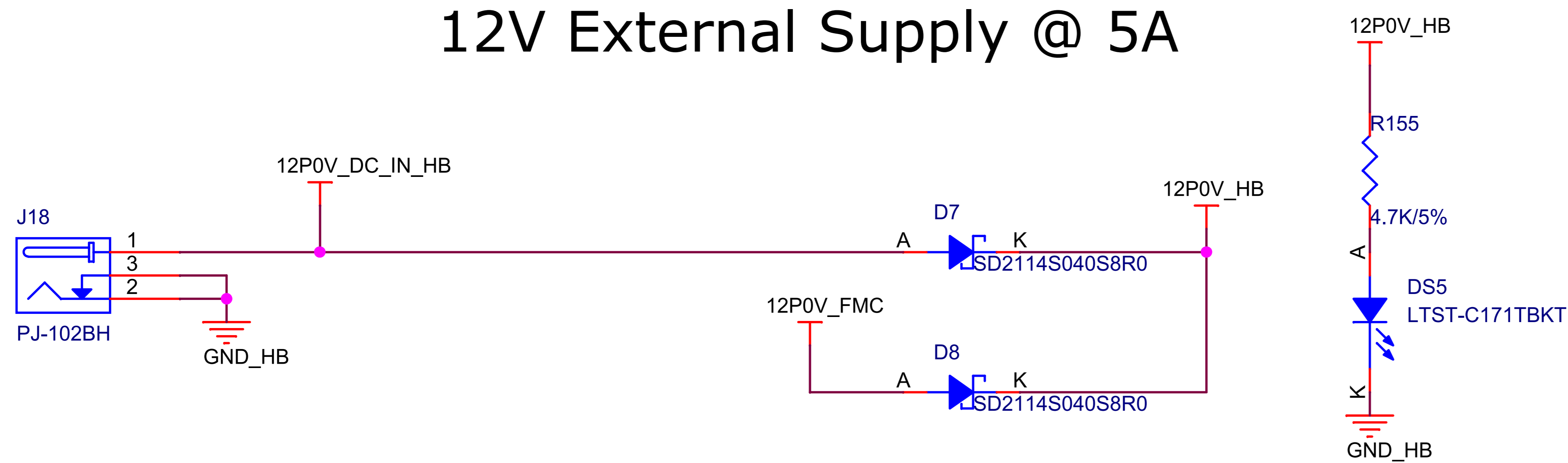
TITLE: CXP-12 Host Board		
Microsemi		
SIZE: Custom	DOCUMENT NO. DVP-100-000522-001	REV: 2
DATE: Friday, October 11, 2019	SH 18 OF 20	



# REGULATOR 1: 24V From Coax BNC to 12V @ 3A



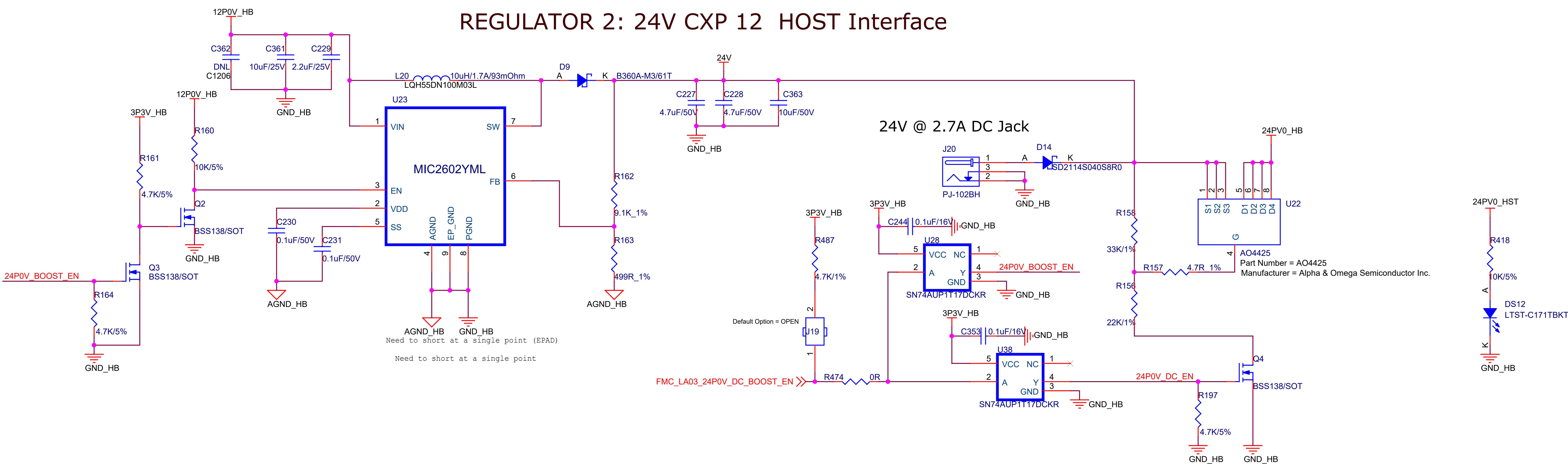
## 12V External Supply @ 5A



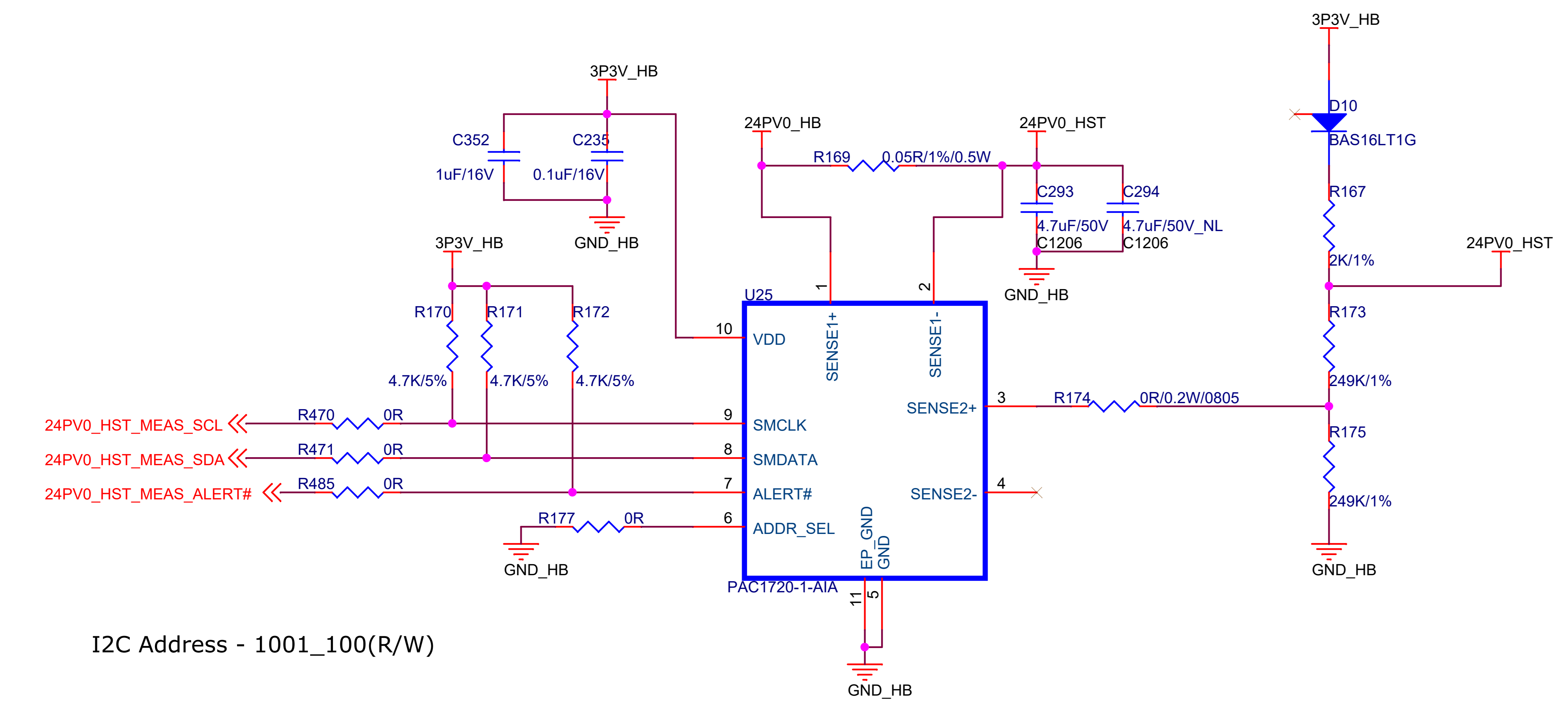
TITLE		
CXP-12 Host Board		
Microsemi		
SIZE	DOCUMENT NO. DVP-100-000522-001	REV
B		2
DATE:	Friday, October 11, 2019	SH 19 OF 20



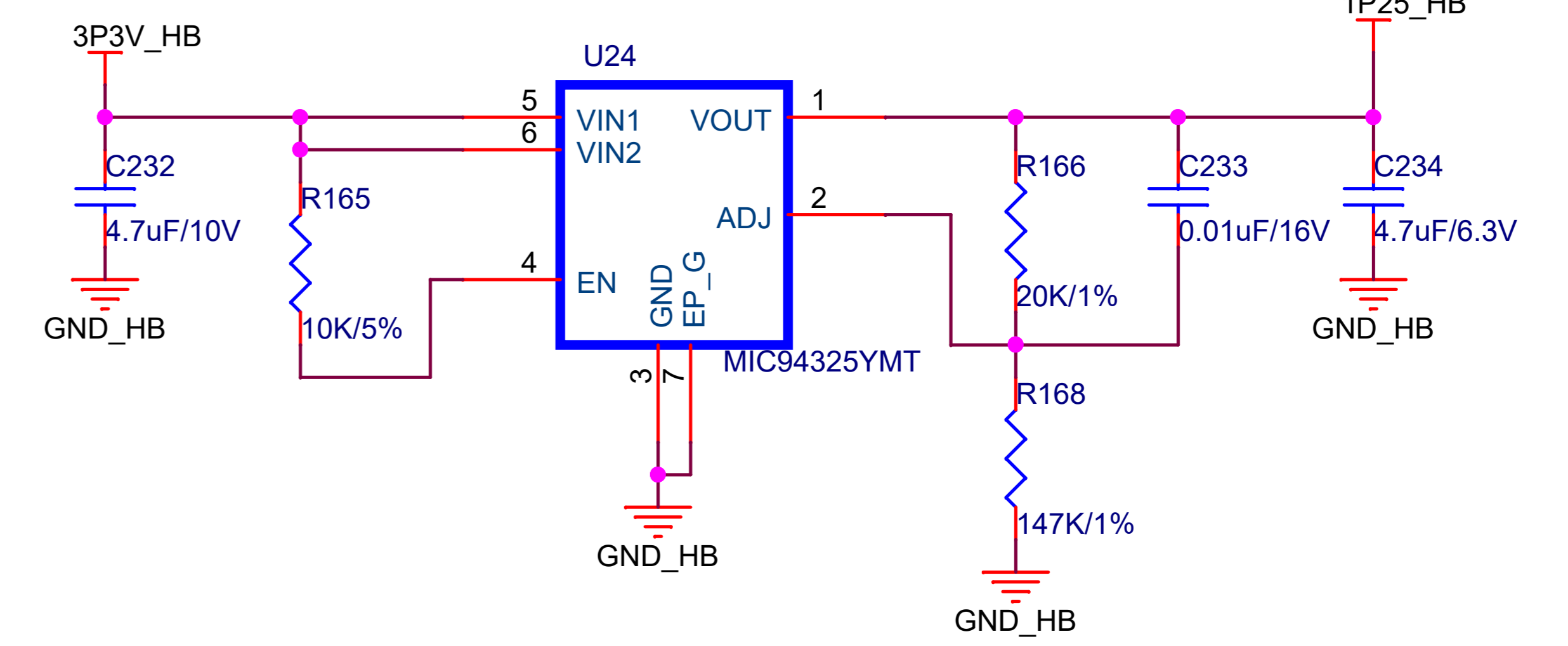
## REGULATOR 2: 24V CXP 12 HOST Interface



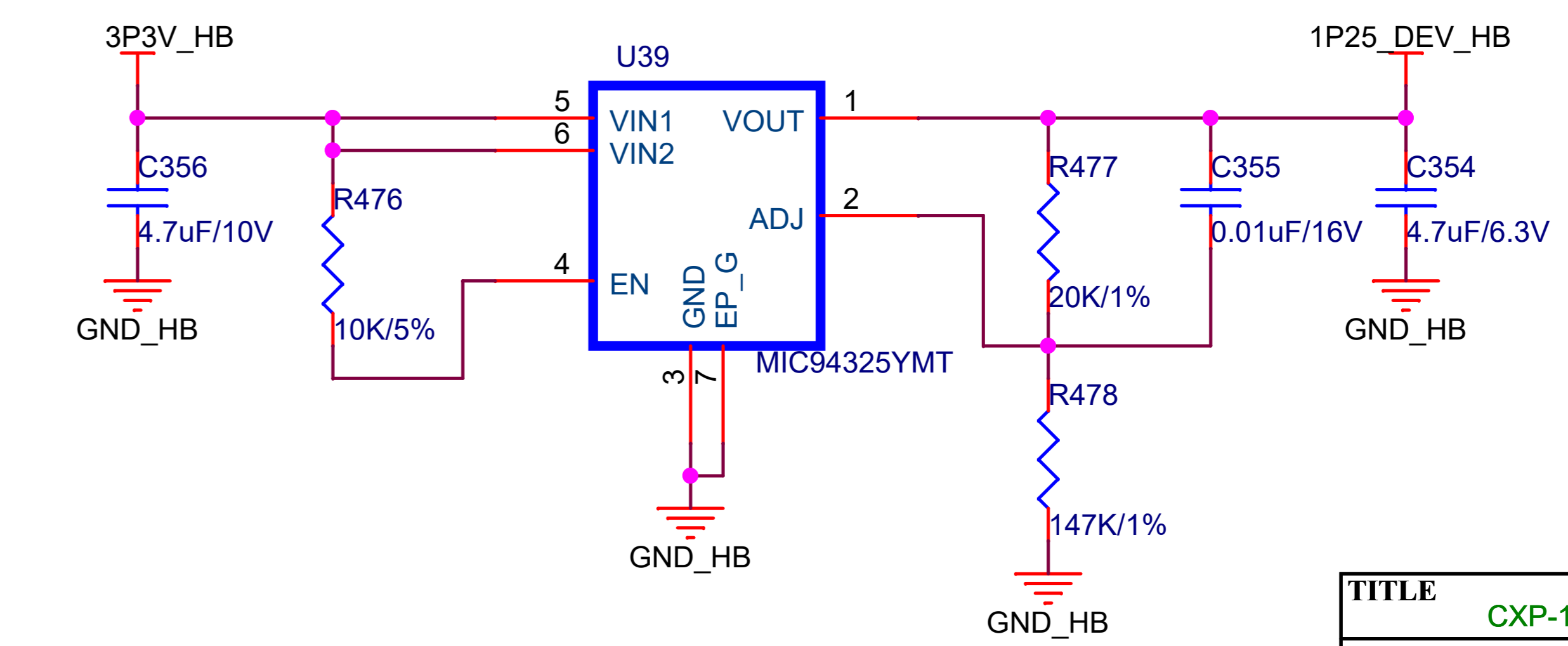
## Device Detection & Current Measurement



## REGULATOR 3 For COAX PHY: 1.25V @ 0.5A



## REGULATOR 4 For COAX PHY: 1.25V @ 0.5A



TITLE CXP-12 Host Board		
Microsemi		
SIZE Custom	DOCUMENT NO. DVP-100-000522-001	REV 2
DATE: Friday, October 11, 2019	SH 20 OF 20	

