

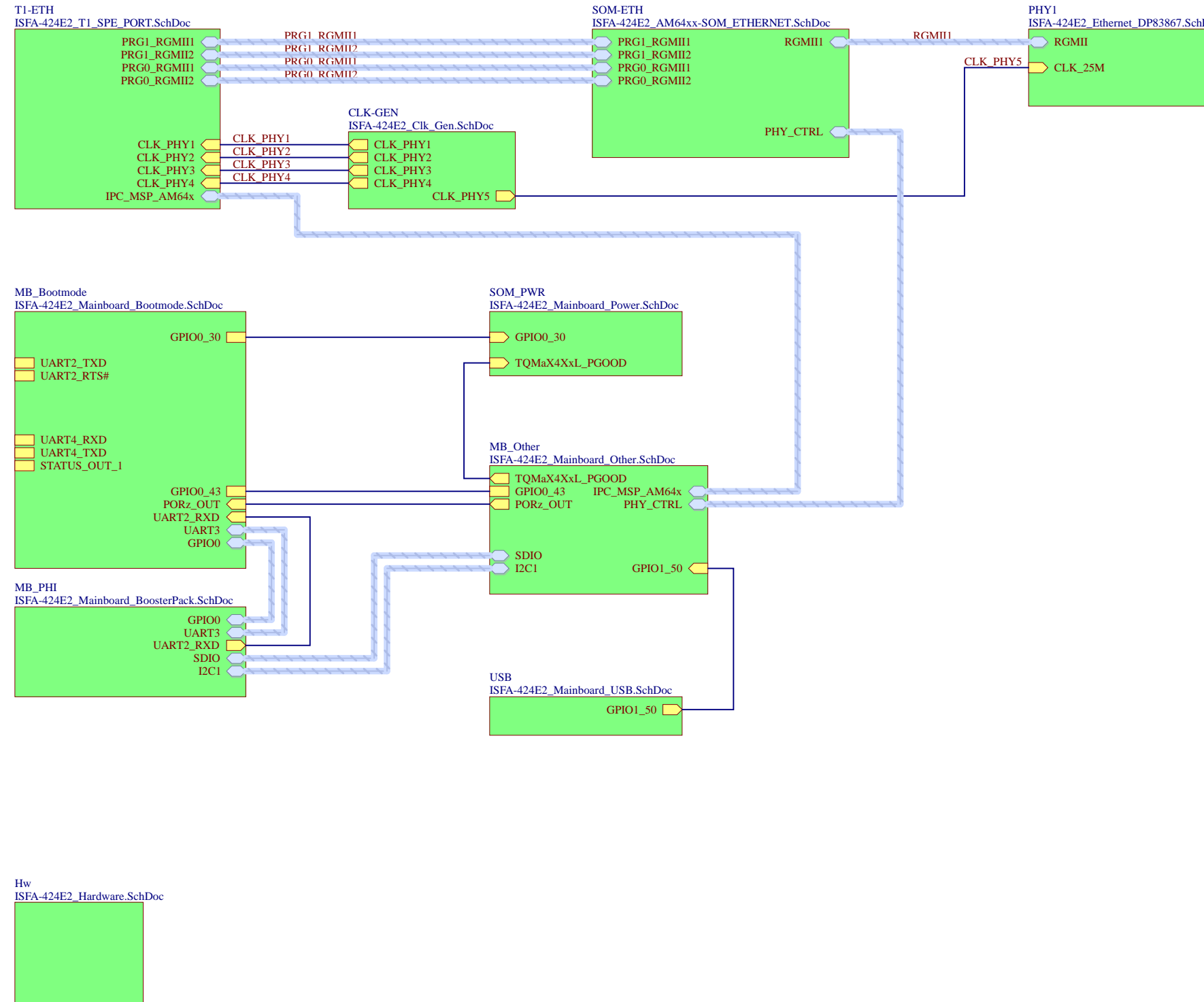
GCB
ISFA-424E2_Gateway.SchDoc

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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/24/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 1 of 18
Drawn By: Thomas Mauer	File: ISFA-424E2_BLOCK_DIAGRAM.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

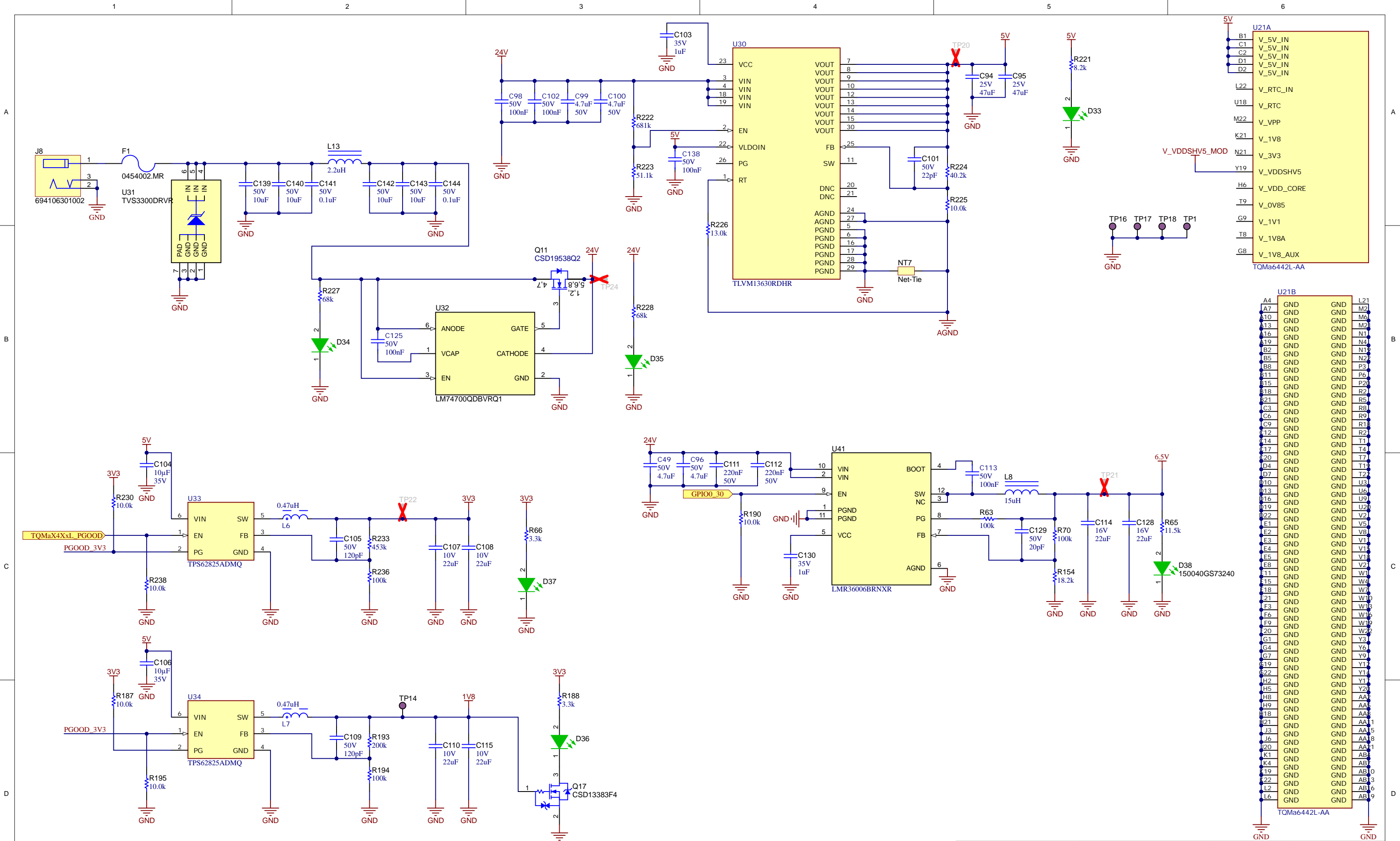


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Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 2 of 18
Drawn By:	File: ISFA-424E2_Gateway.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



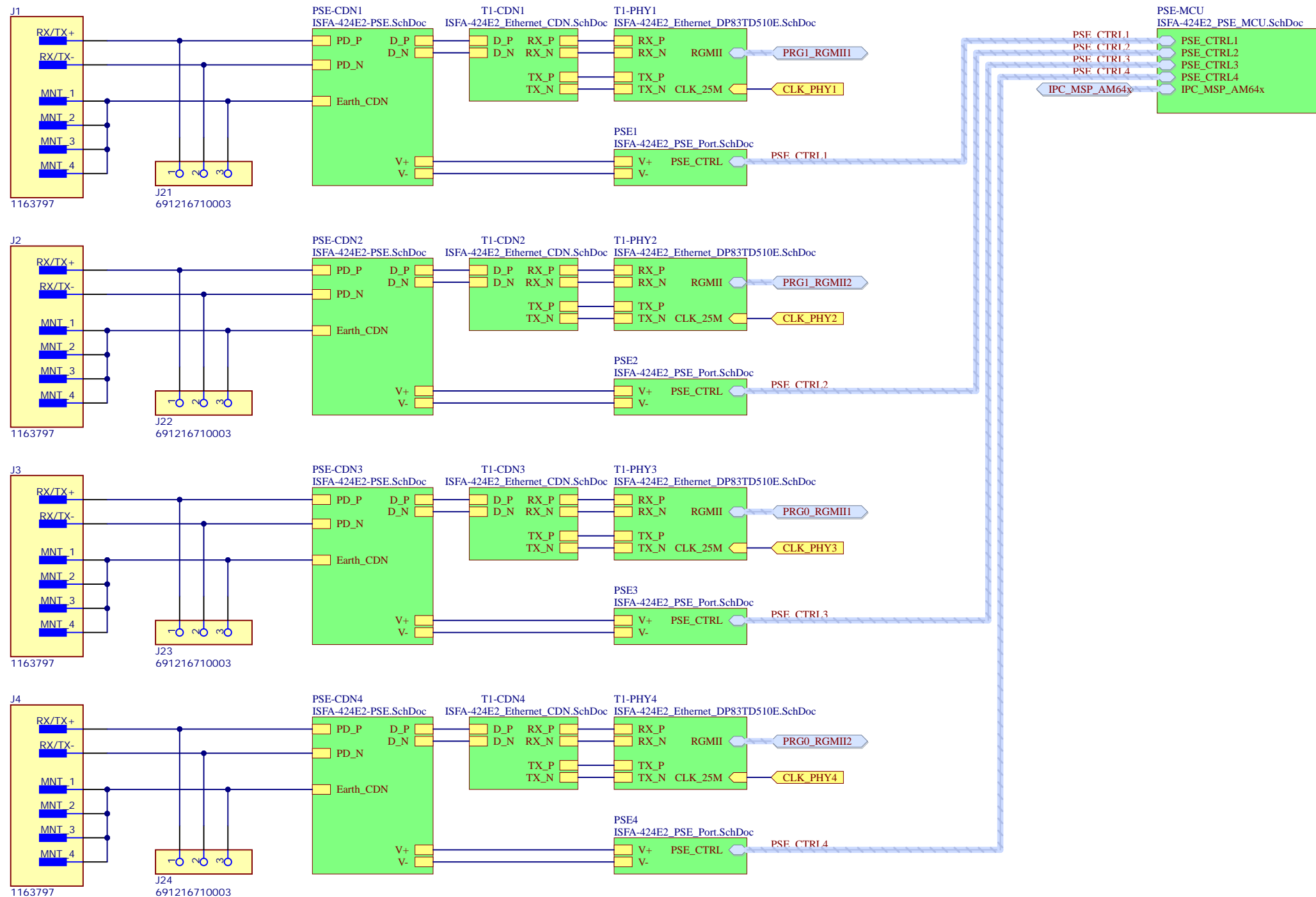
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TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev: 14686	Assembly Variant: 001 ALL SPE PORTS	Sheet: 3 of 18
Drawn By:	File: ISFA-424E2_Mainboard_Power.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



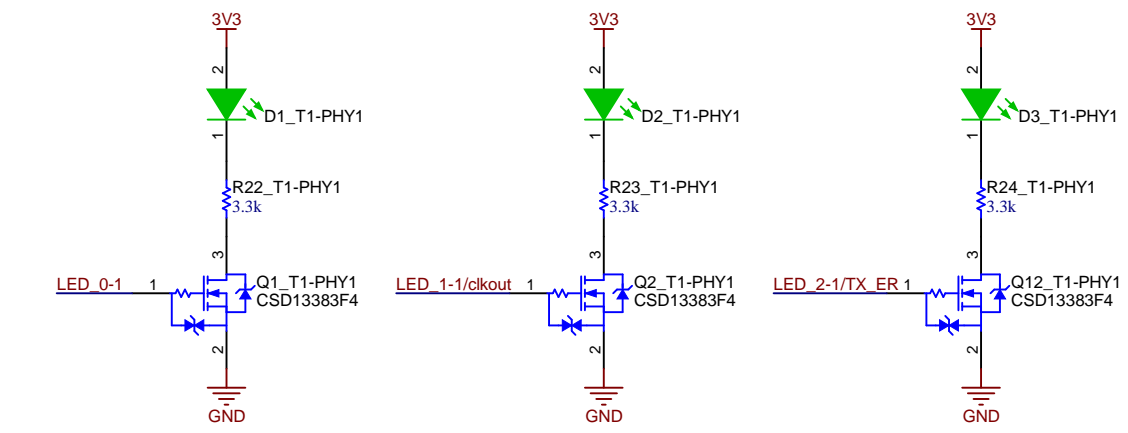
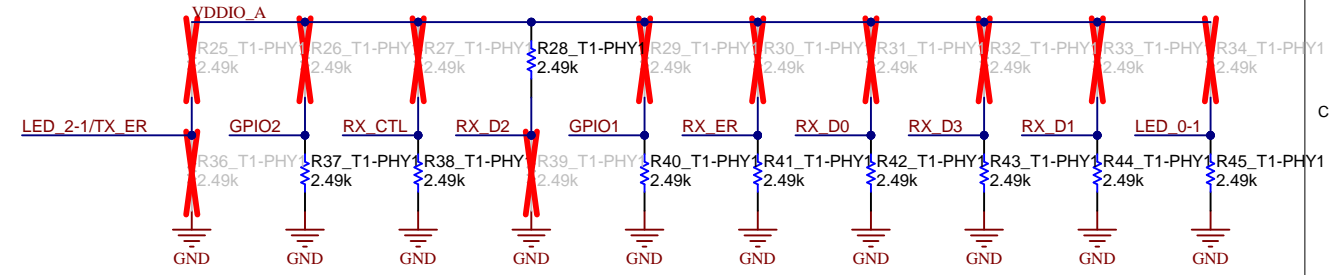
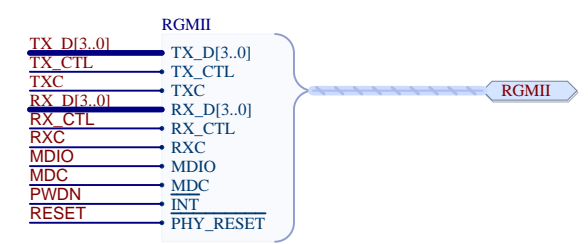
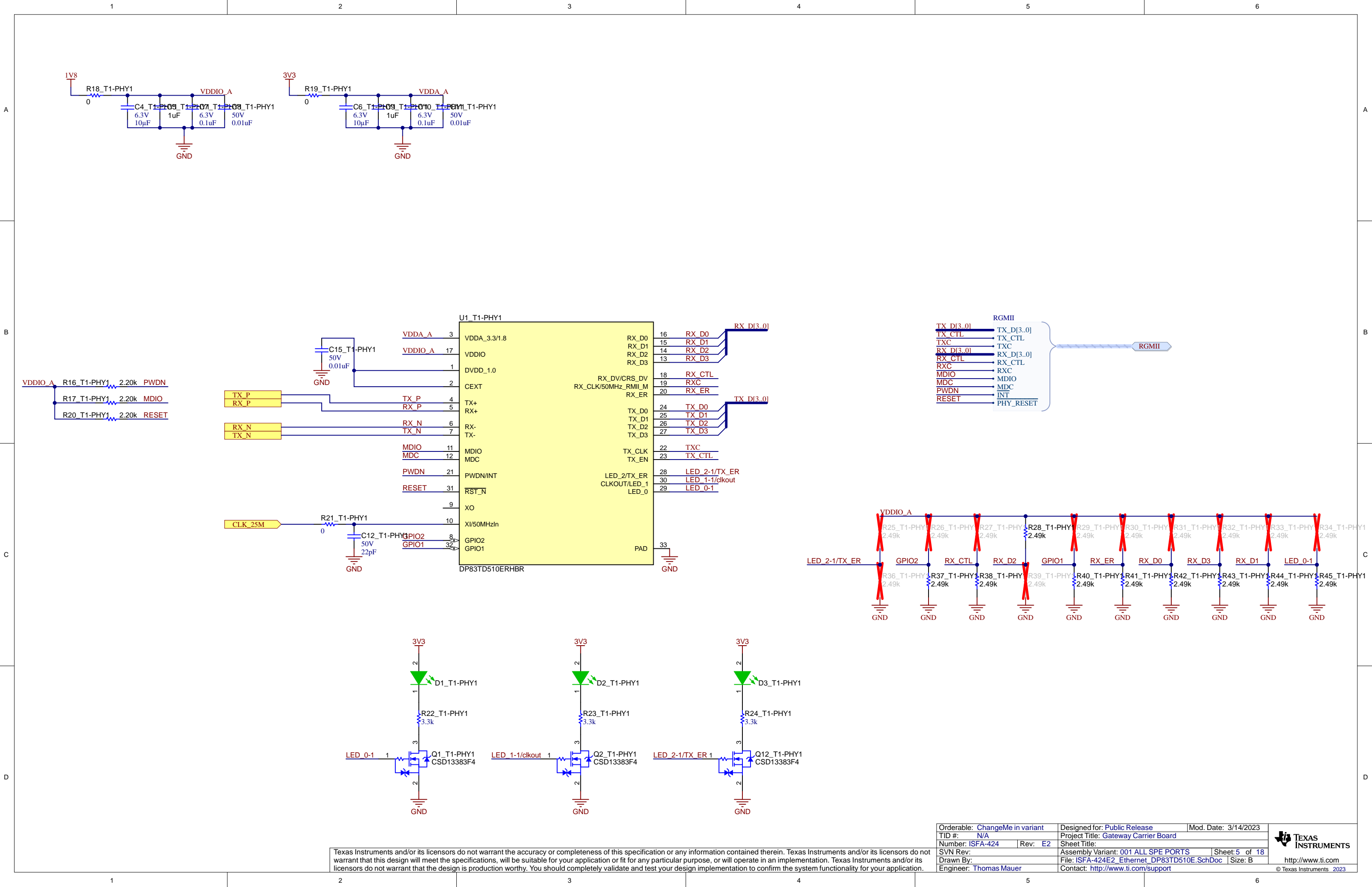


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TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 4 of 18
Drawn By:	File: ISFA-424E2_T1_SPE_PORT.SchDoc	Size: B
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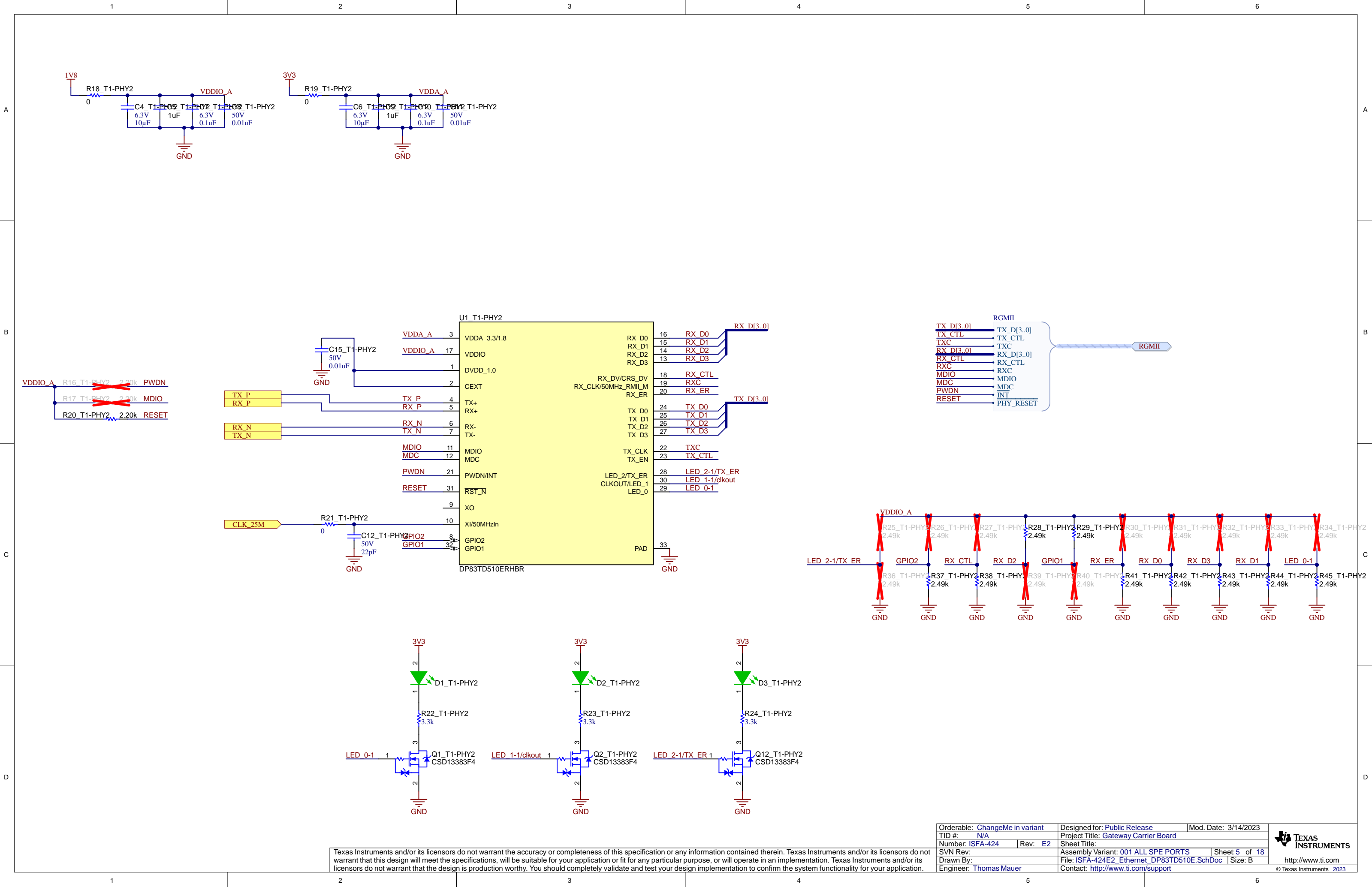
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Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 5 of 18
Drawn By:	File: ISFA-424E2_Ethernet_DP83TD510E.SchDoc	Size: B
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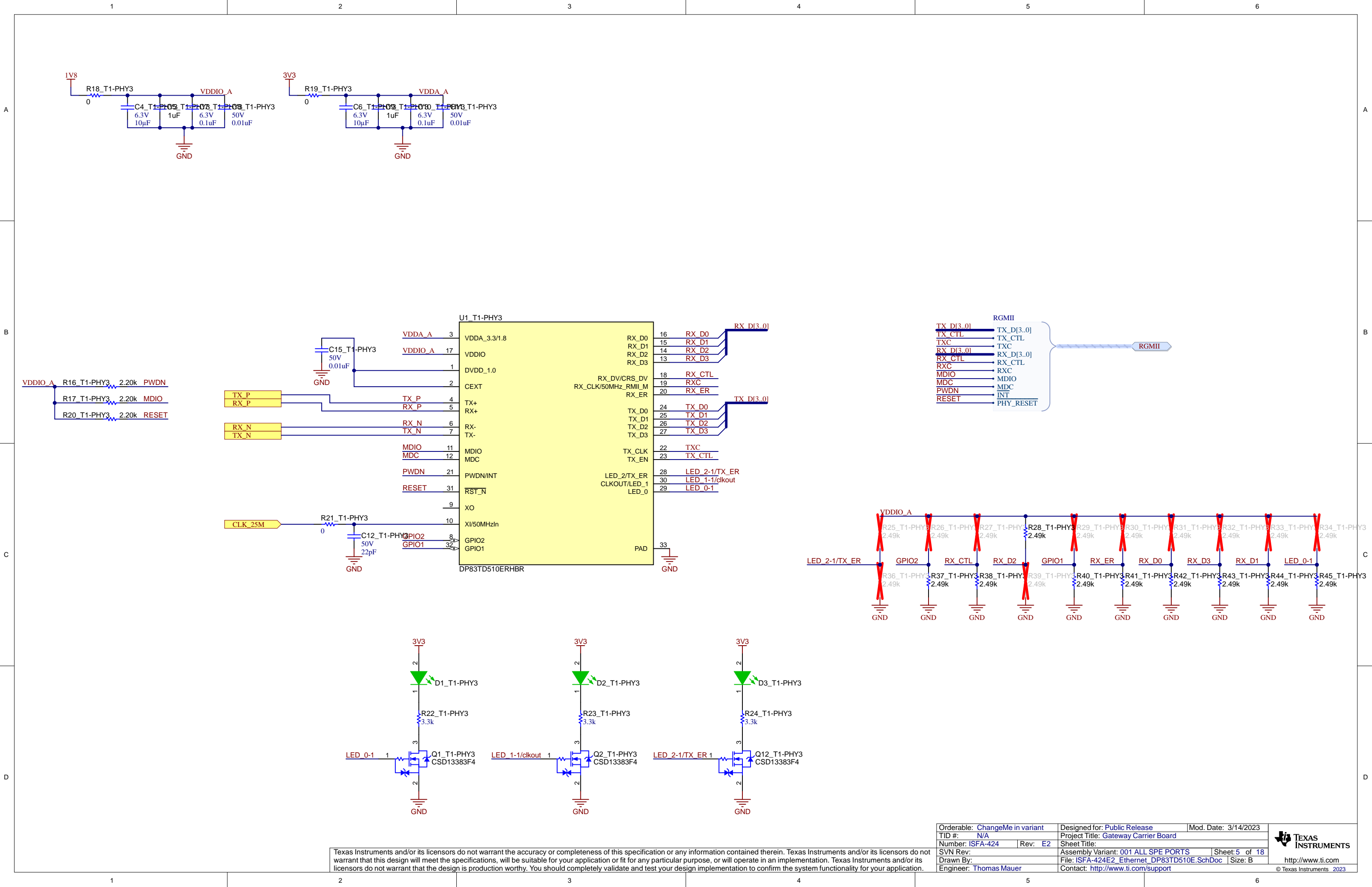


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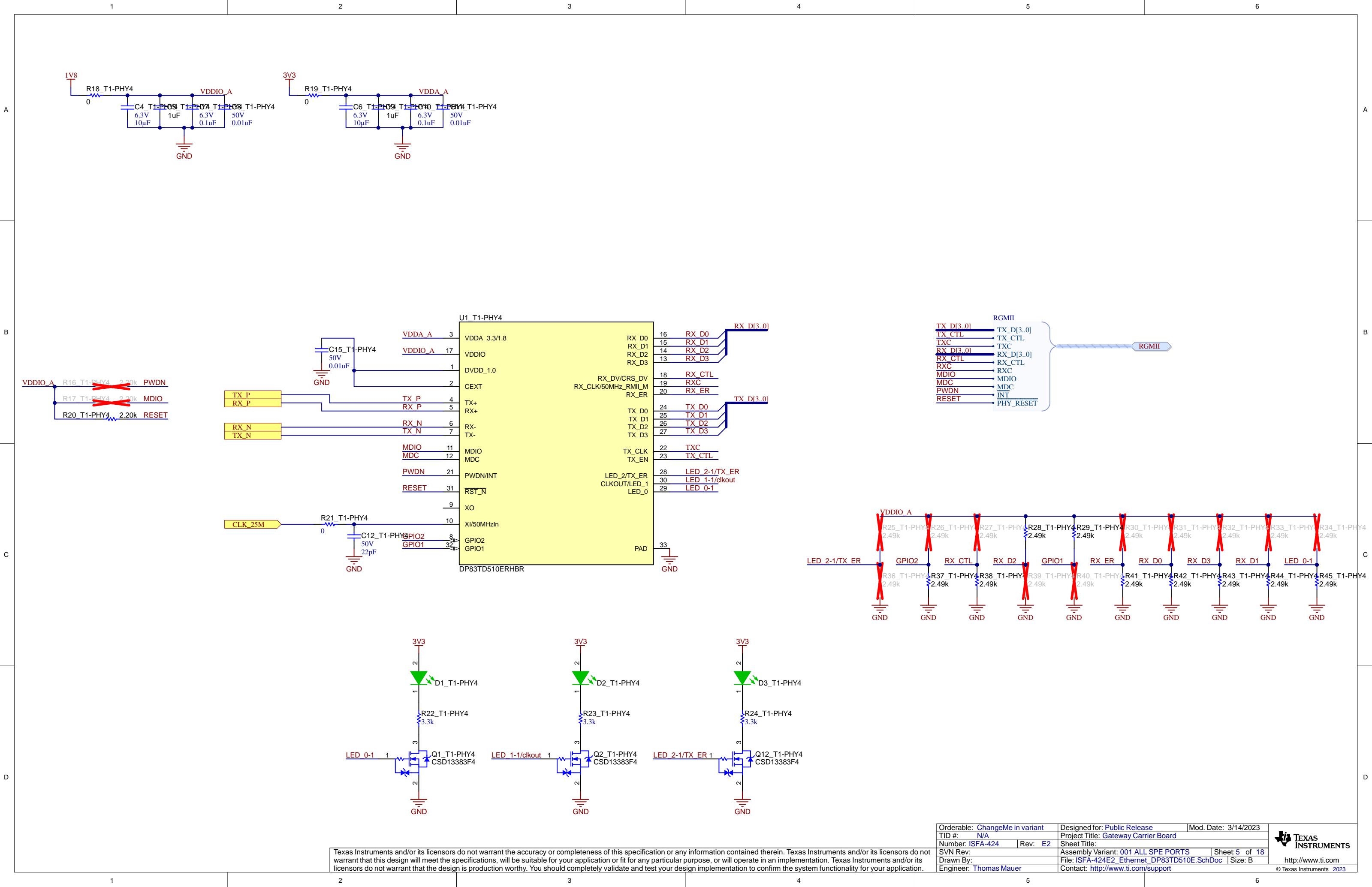


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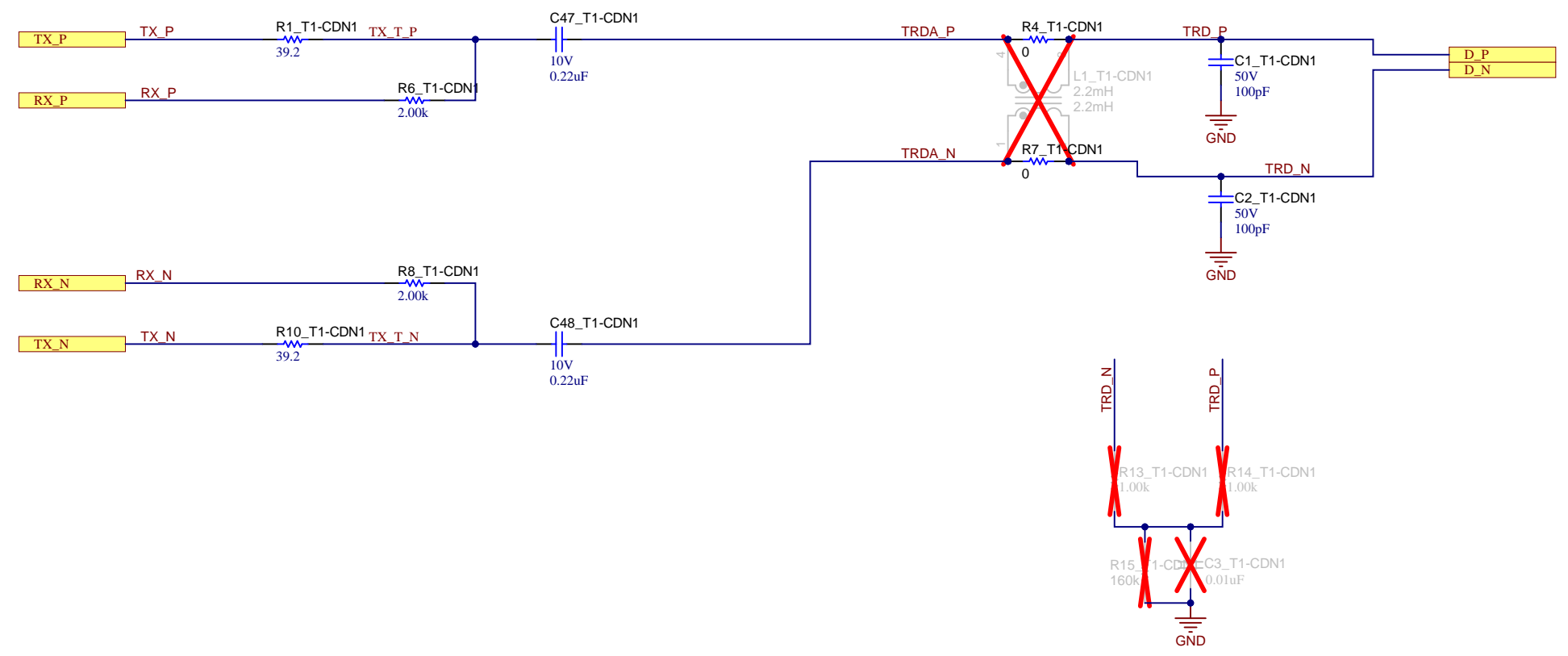


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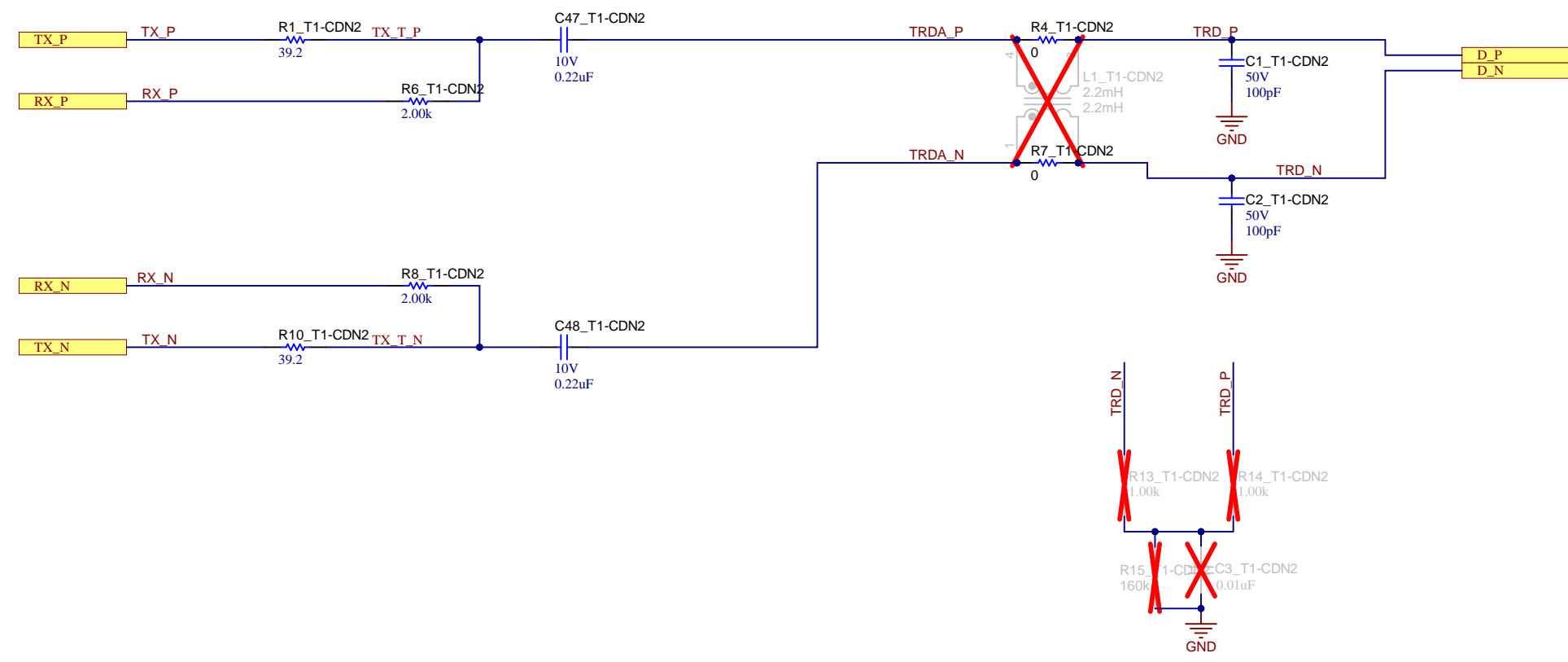
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SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 6 of 18
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Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

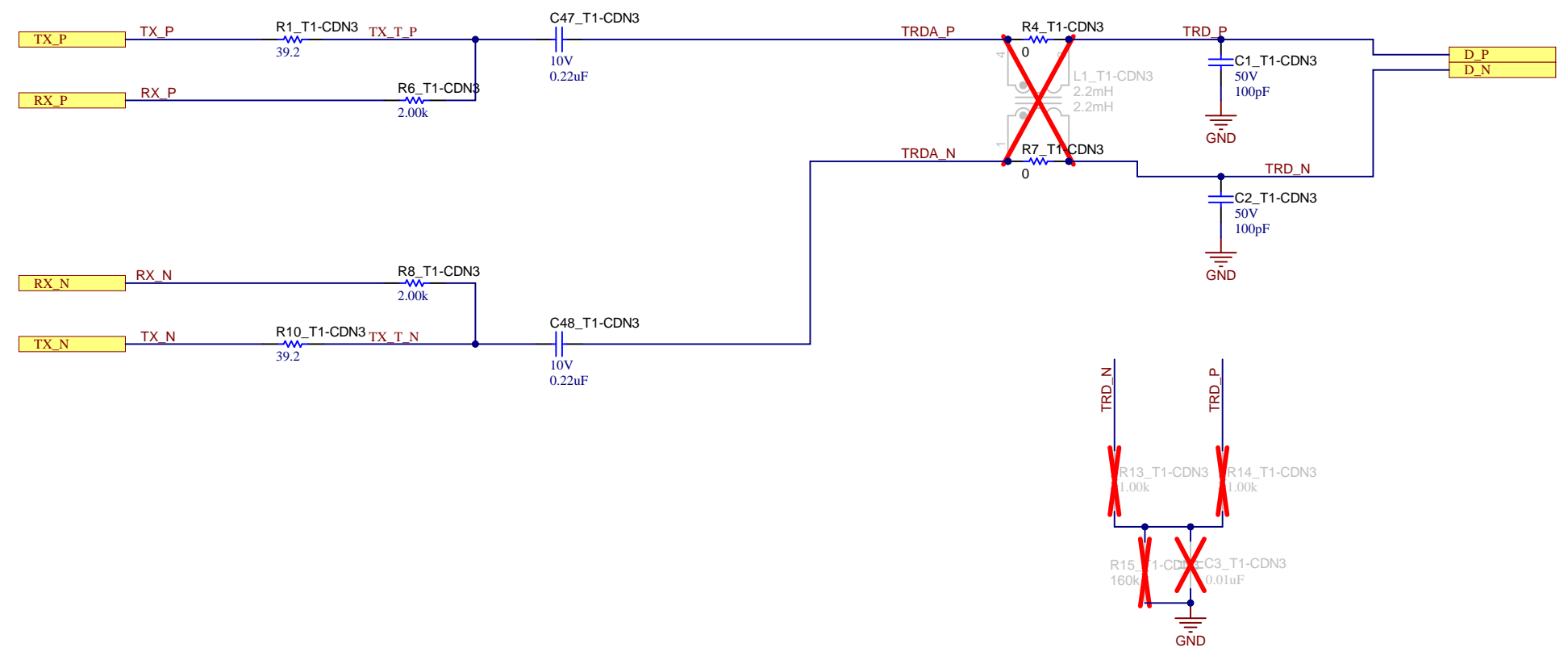




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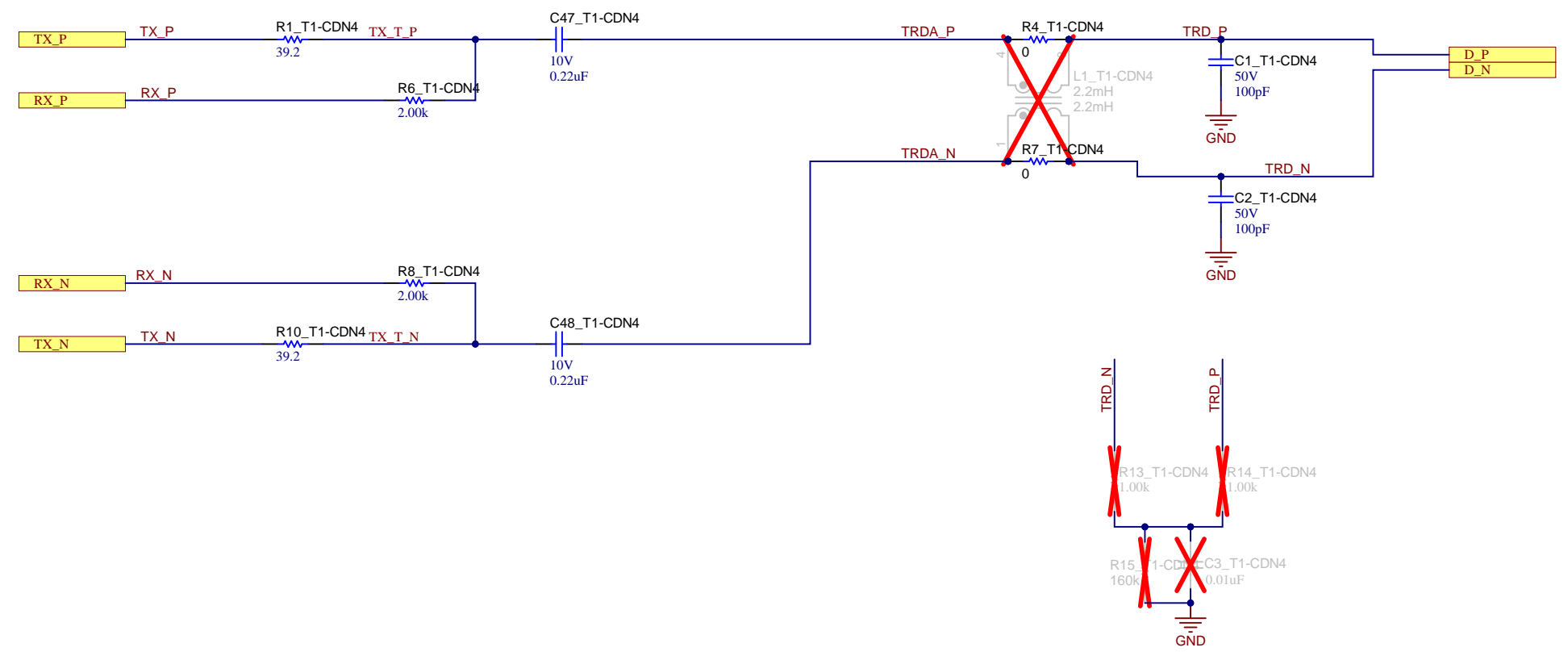




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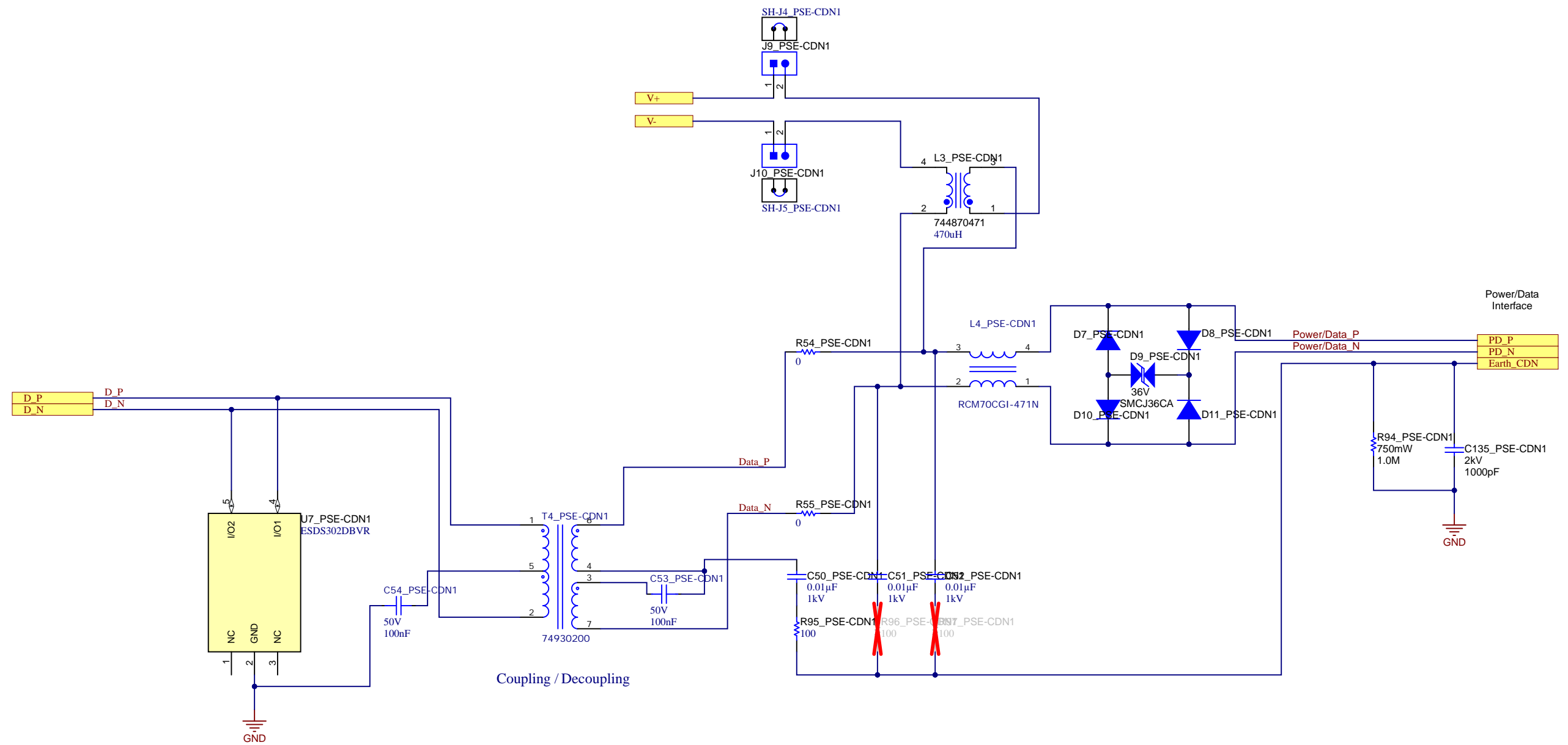


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Drawn By:	File: ISFA-424E2_Ethernet_CDN.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



changes on EVM:
R14 and R128 on EVM changed to 39 Ohm
C118 and C128 shorted

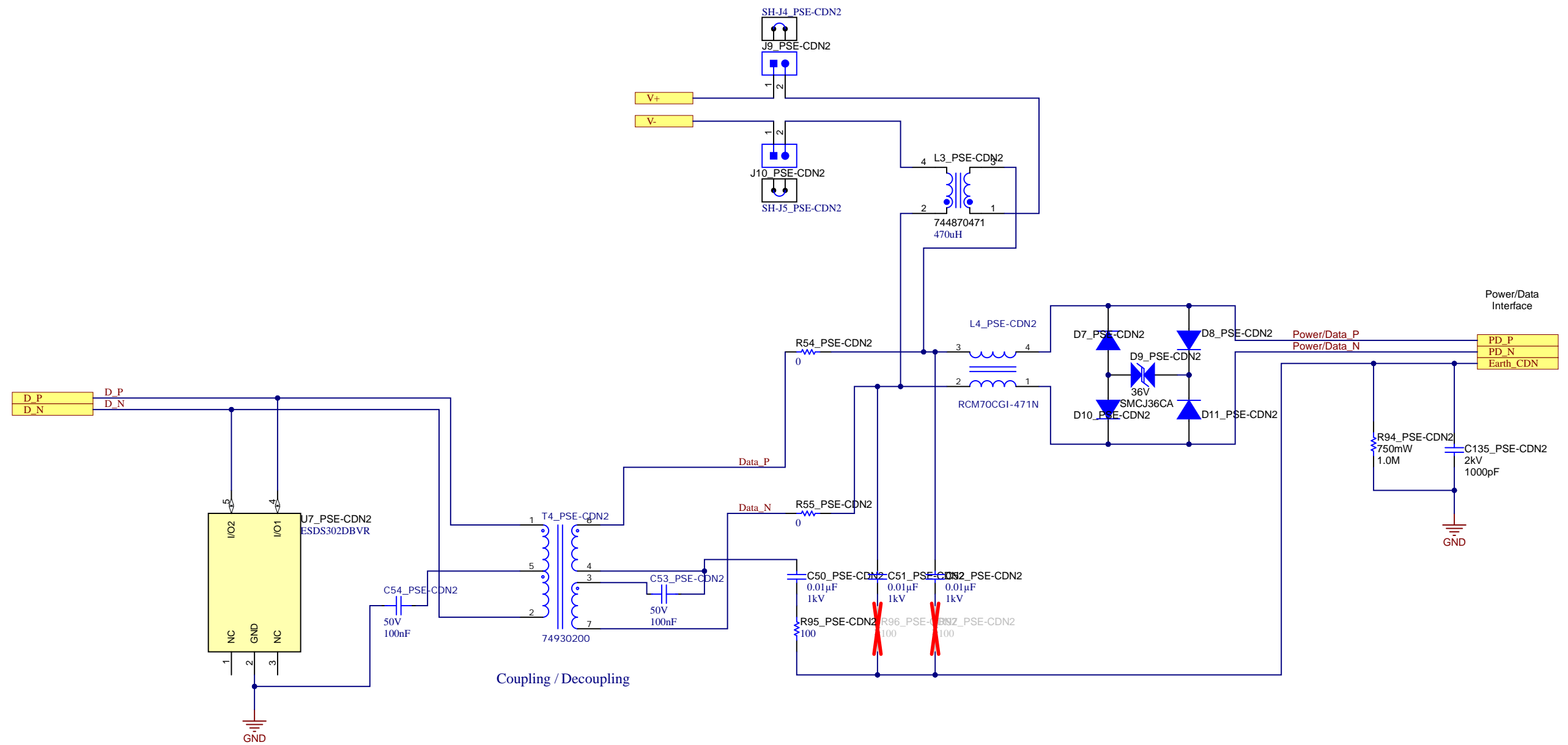


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SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 7 of 18
Drawn By:	File: ISFA-424E2-PSE.SchDoc	Size: B
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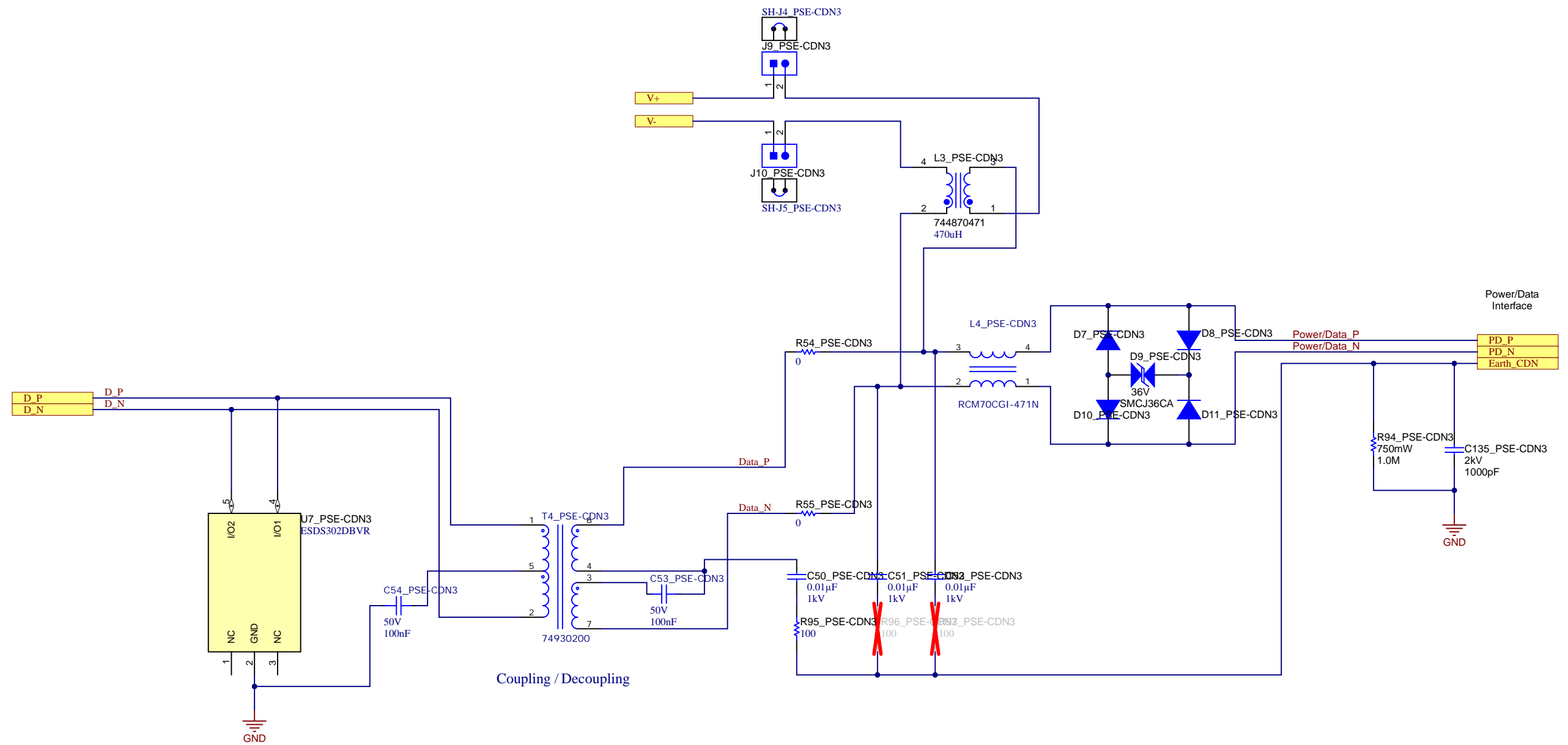
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SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 7 of 18
Drawn By:	File: ISFA-424E2-PSE.SchDoc	Size: B
Engineer: Thomas Mauw	Contact: http://www.ti.com/support	

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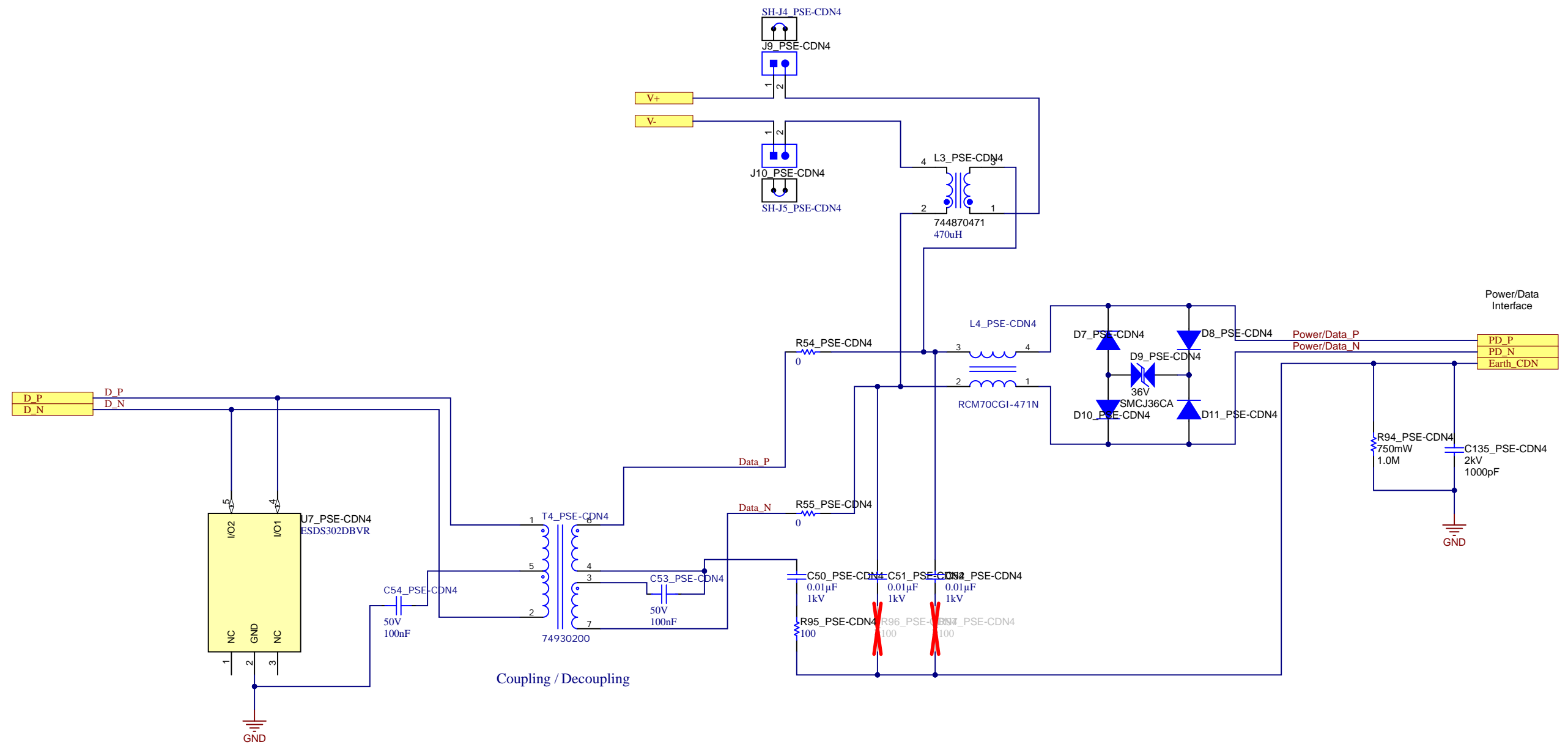


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Drawn By:	File: ISFA-424E2-PSE.SchDoc	Size: B
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PSE_CTRL	
Imon	Imon
Iset	Iset
Fault	Fault
SHDN	SHDN
SCCP_Din	SCCP_Din
SCCP_Dout	SCCP_Dout
VID_valid	VID_valid
CS_ON	CS_ON
MVFS_valid	MVFS_valid
Prebias_ok	Prebias_ok
Prebias_en	Prebias_en

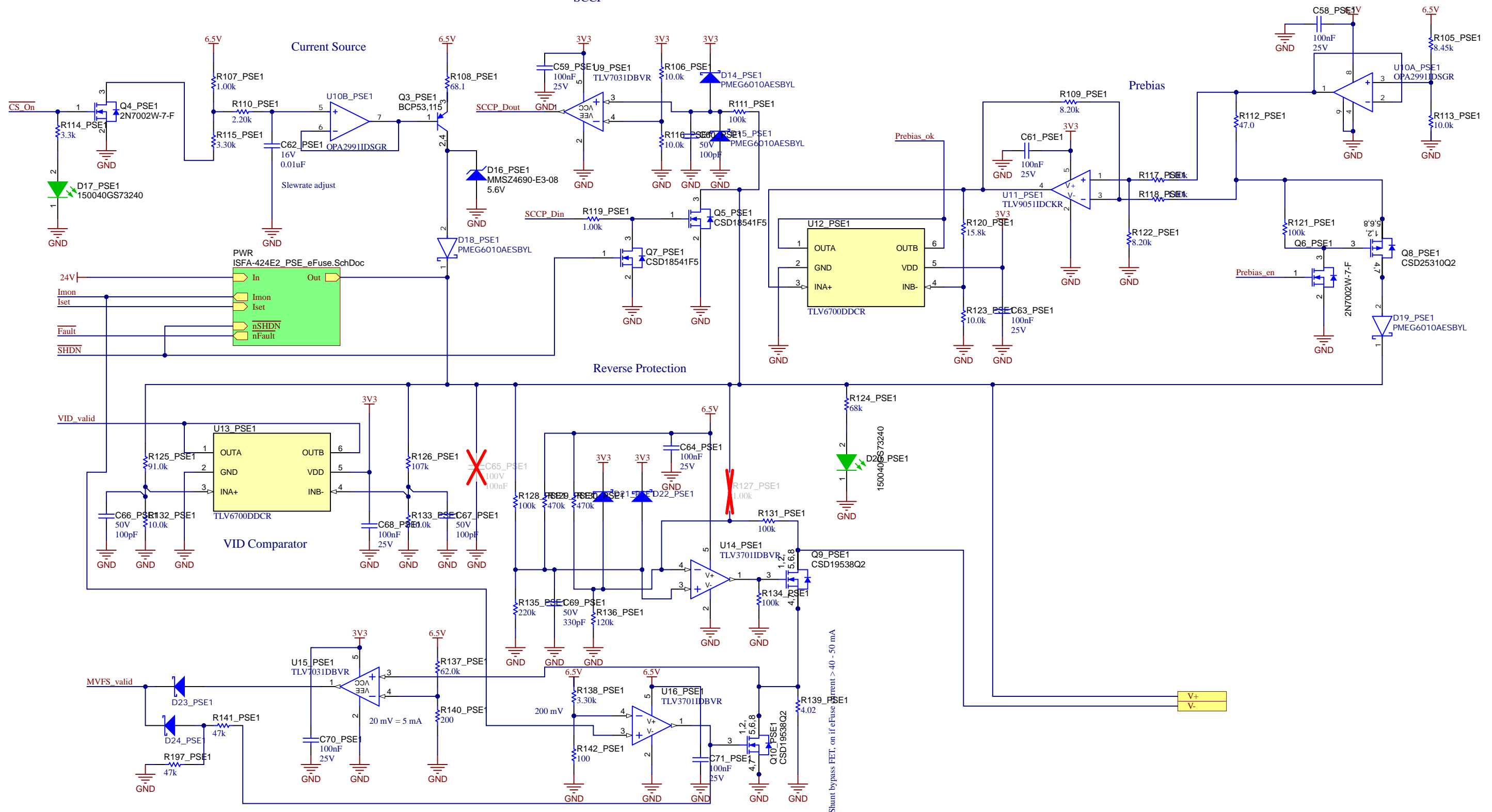
SCCP

Current Source

Prebias

Reverse Protection

VID Comparator



Shunt bypass FET, on if eFuse current > 40 - 50 mA

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TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 8 of 18
Drawn By:	File: ISFA-424E2_PSE_Port.SchDoc	Size: B
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PSE_CTRL	
Imon	Iset
Fault	SHDN
SCCP_Din	SCCP_Dout
VID_valid	CS_ON
CS_ON	MVFS_valid
MVFS_valid	Prebias_ok
Prebias_ok	Prebias_en

PSE_CTRL

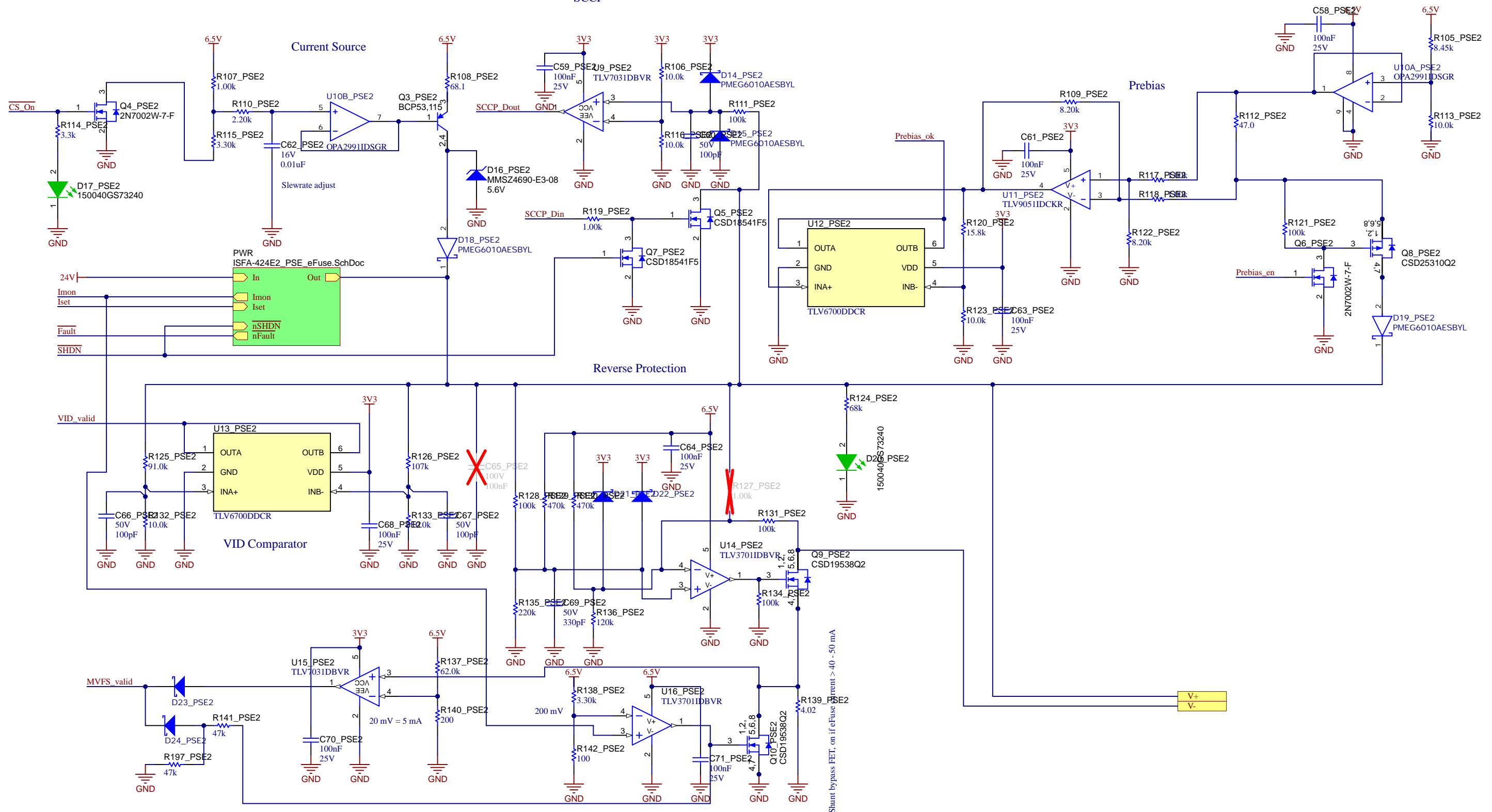
SCCP

Current Source

Prebias

Reverse Protection

VID Comparator



Shunt bypass FET, on if eFuse current > 40 - 50 mA

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Iset	Iset
Fault	Fault
SHDN	SHDN
SCCP_Din	SCCP_Din
SCCP_Dout	SCCP_Dout
VID_valid	VID_valid
CS_ON	CS_ON
MVFS_valid	MVFS_valid
Prebias_ok	Prebias_ok
Prebias_en	Prebias_en

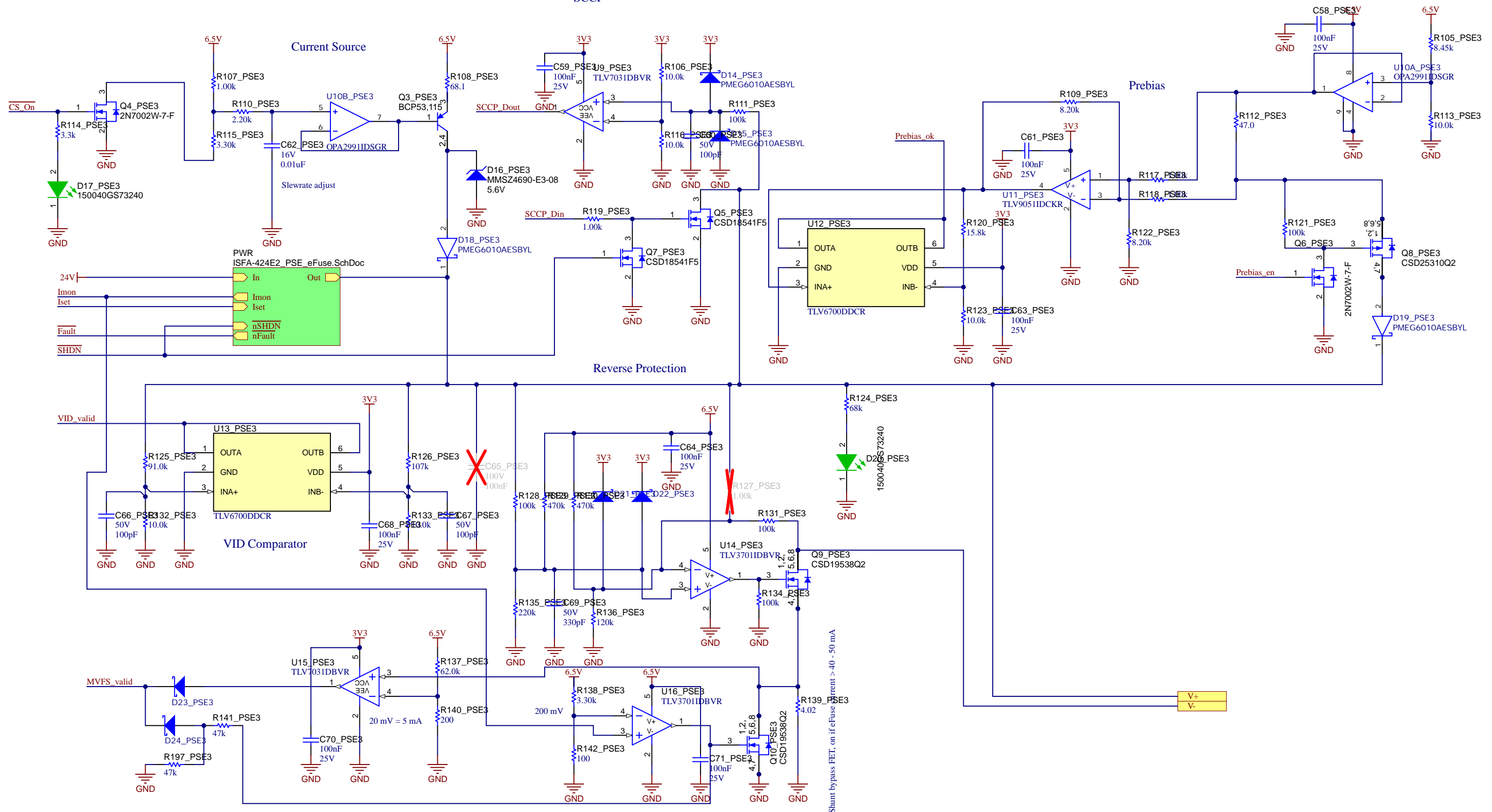
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Reverse Protection

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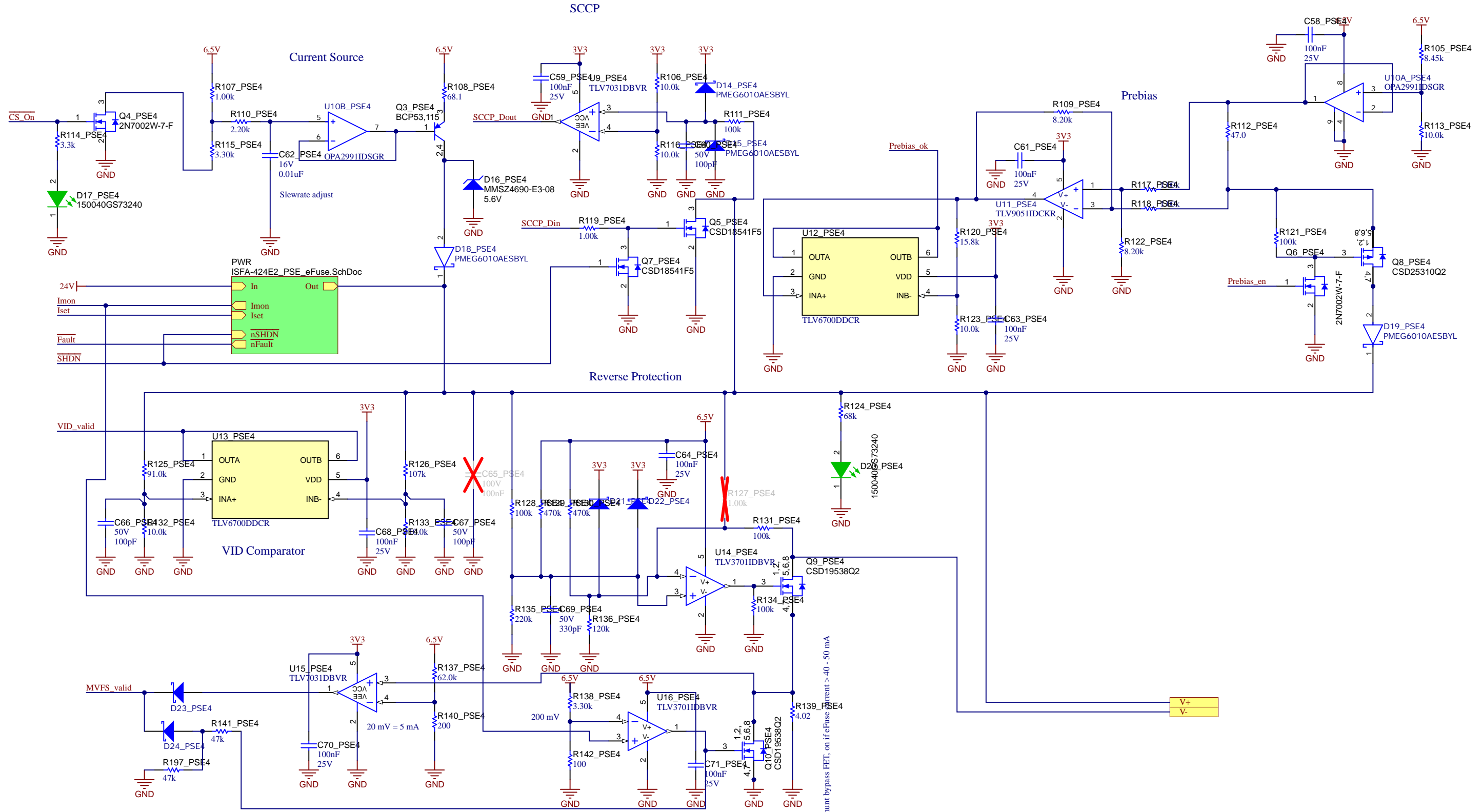
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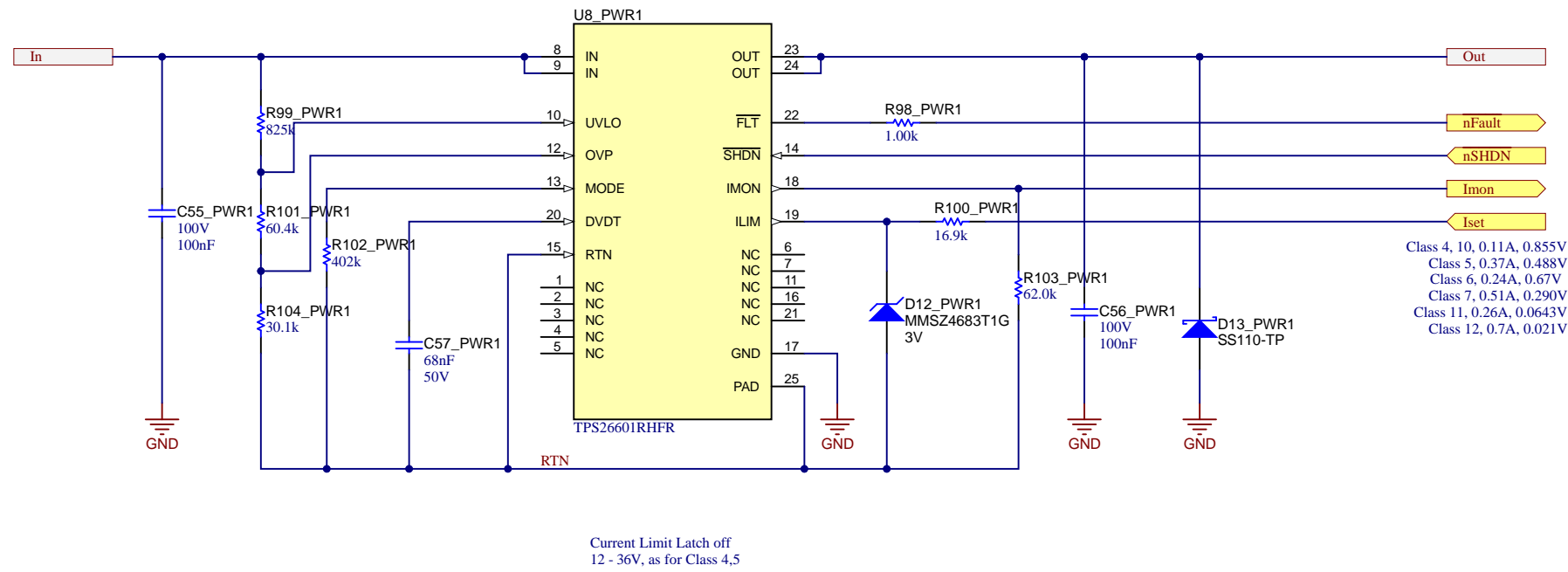
PSE_CTRL	
Imon	Iset
Fault	SHDN
SCCP_Din	SCCP_Dout
VID_valid	CS_ON
MVFS_valid	Prebias_ok
Prebias_ok	Prebias_en



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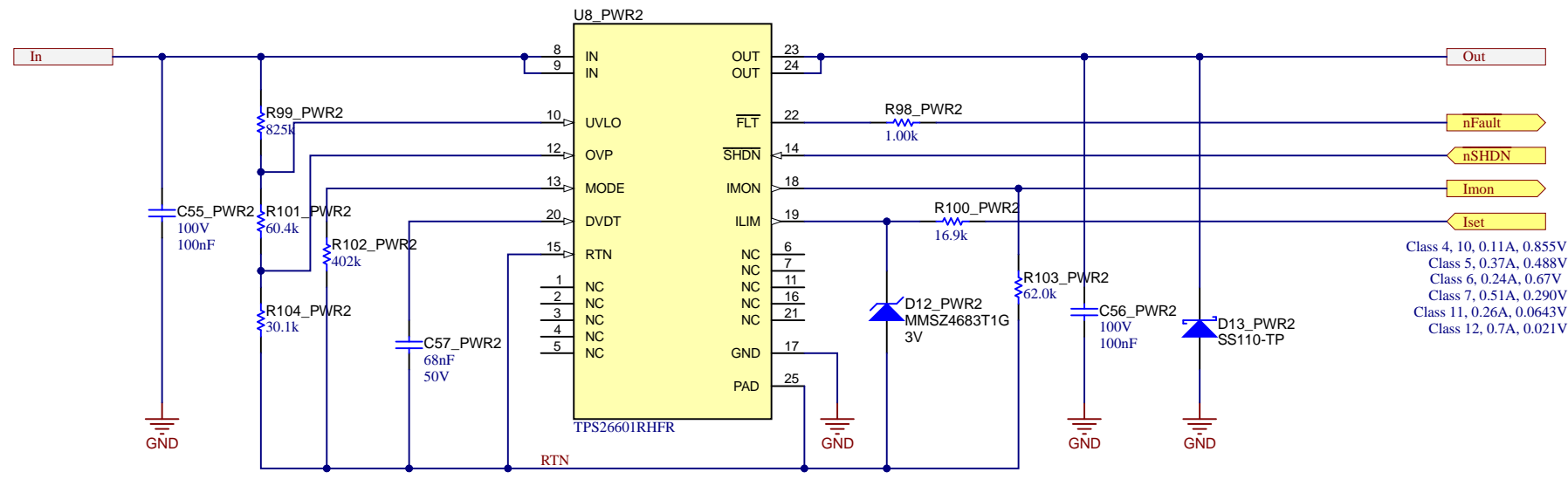




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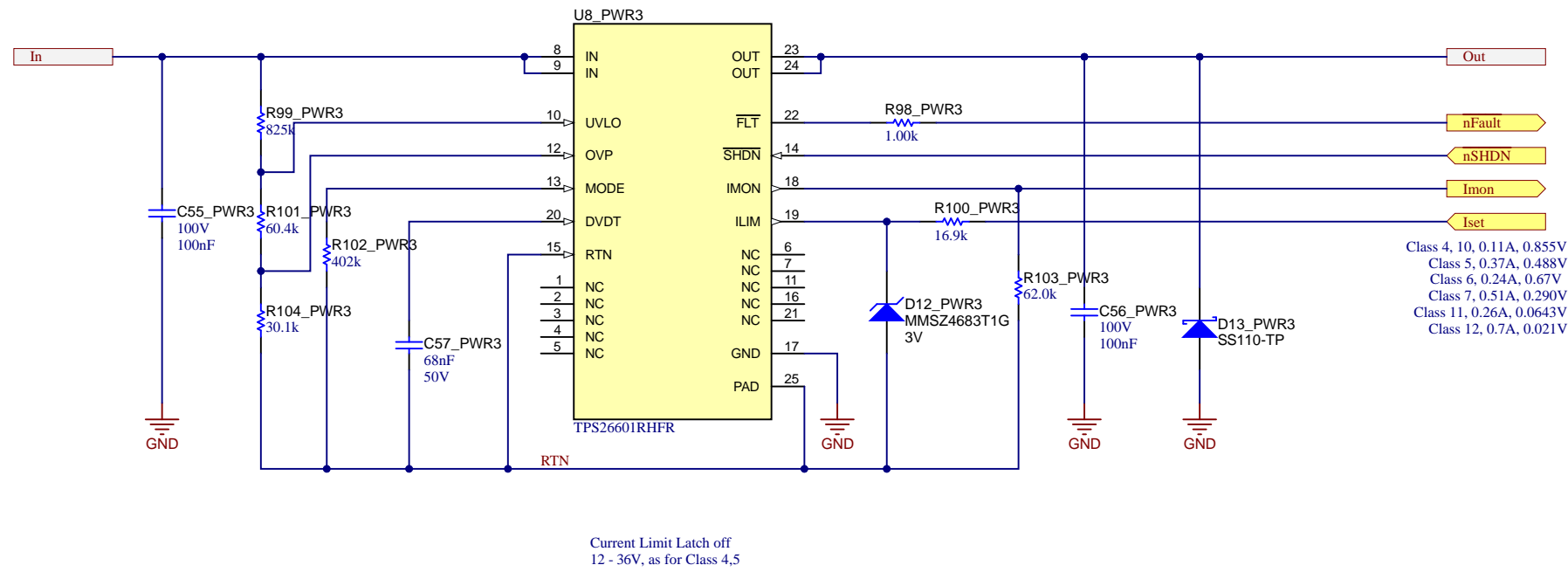
- Class 4, 10, 0.11A, 0.855V
- Class 5, 0.37A, 0.488V
- Class 6, 0.24A, 0.67V
- Class 7, 0.51A, 0.290V
- Class 11, 0.26A, 0.0643V
- Class 12, 0.7A, 0.021V

Current Limit Latch off
12 - 36V, as for Class 4,5

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Drawn By:	File: ISFA-424E2_PSE_eFuse.SchDoc	
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

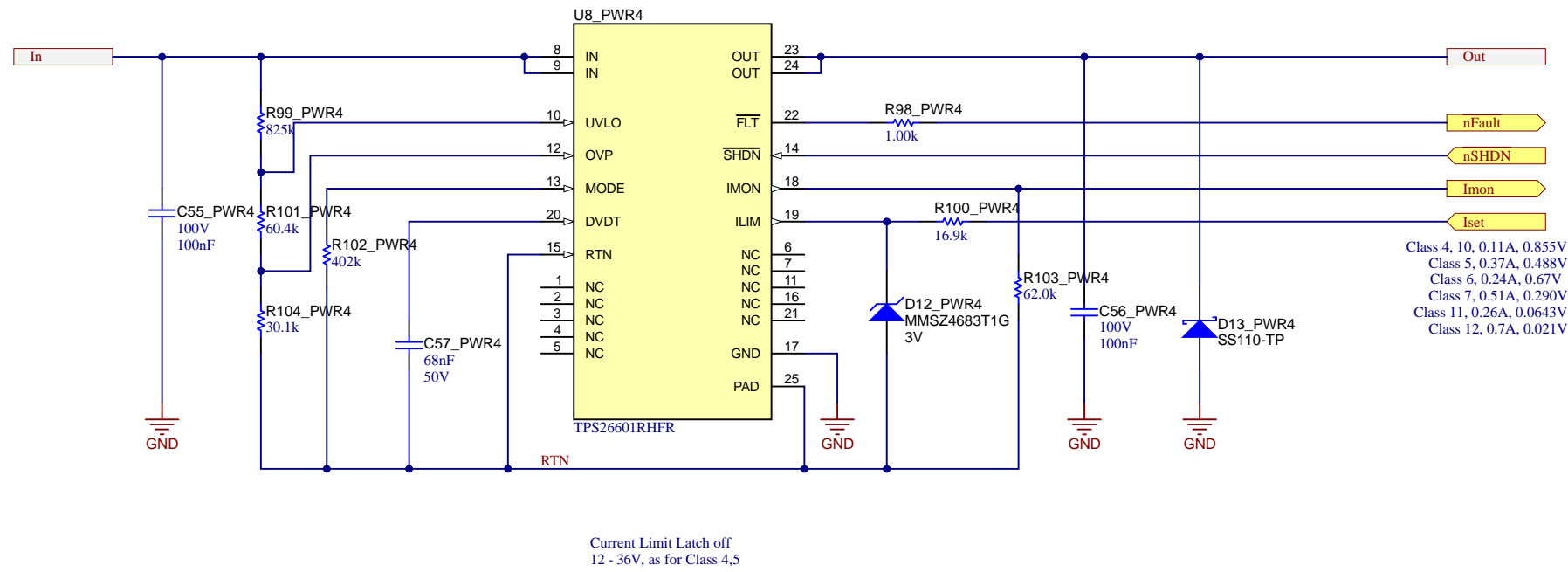




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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 3/14/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet: 9 of 18
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Size: B
Drawn By:	File: ISFA-424E2_PSE_eFuse.SchDoc	
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

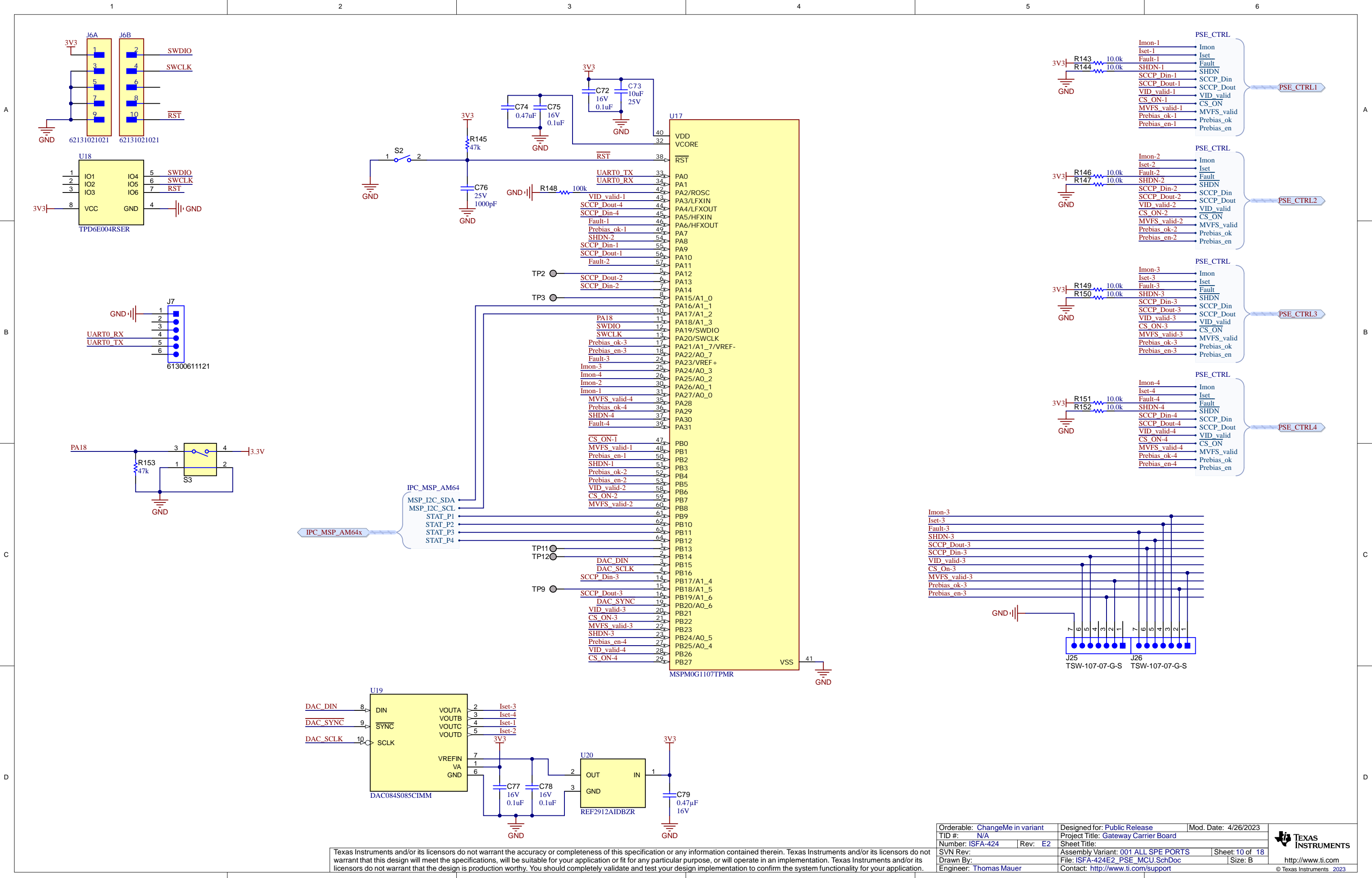




Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 3/14/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet: 9 of 18
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	File: ISFA-424E2_PSE_eFuse.SchDoc
Drawn By:	Engineer: Thomas Mauer	Contact: http://www.ti.com/support

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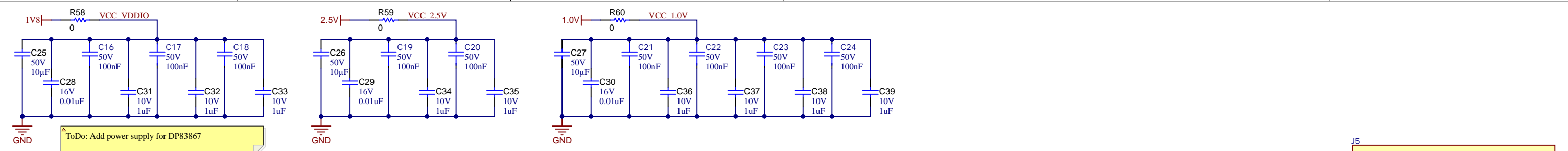


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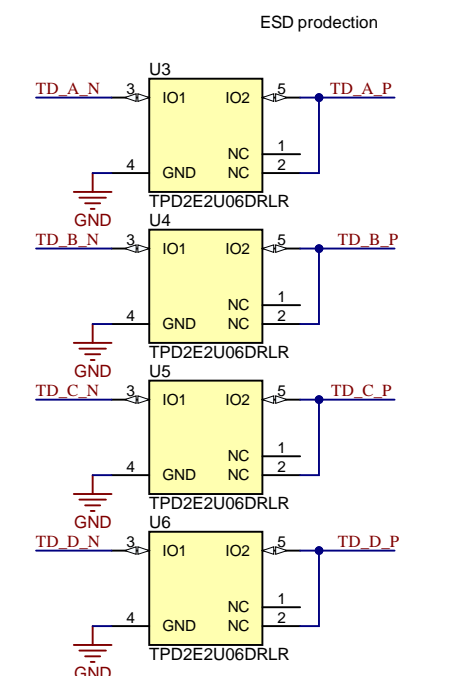
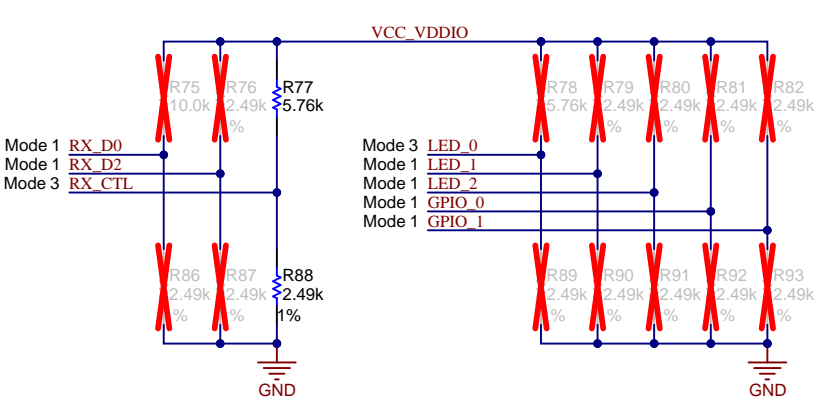
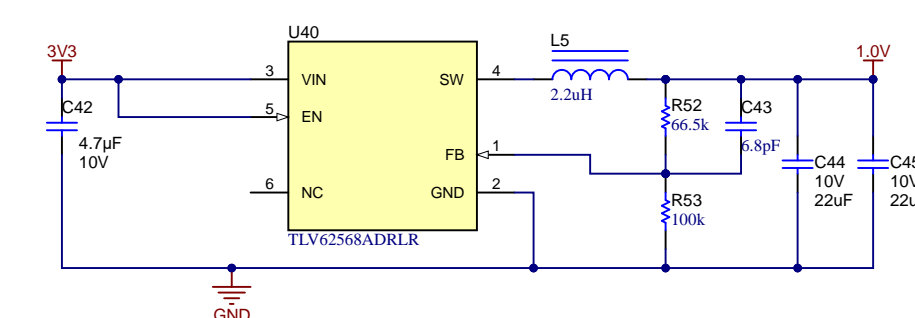
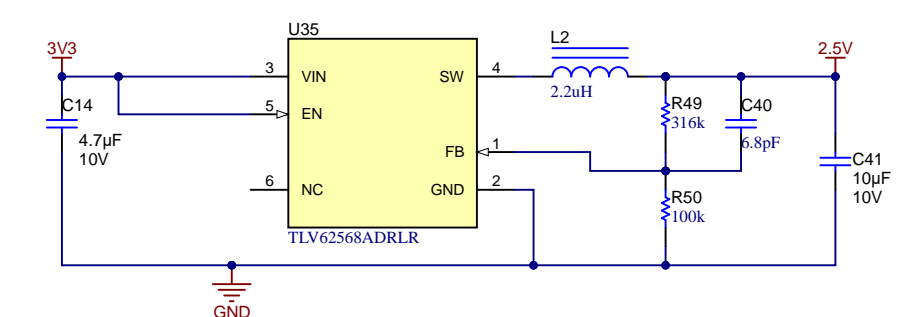
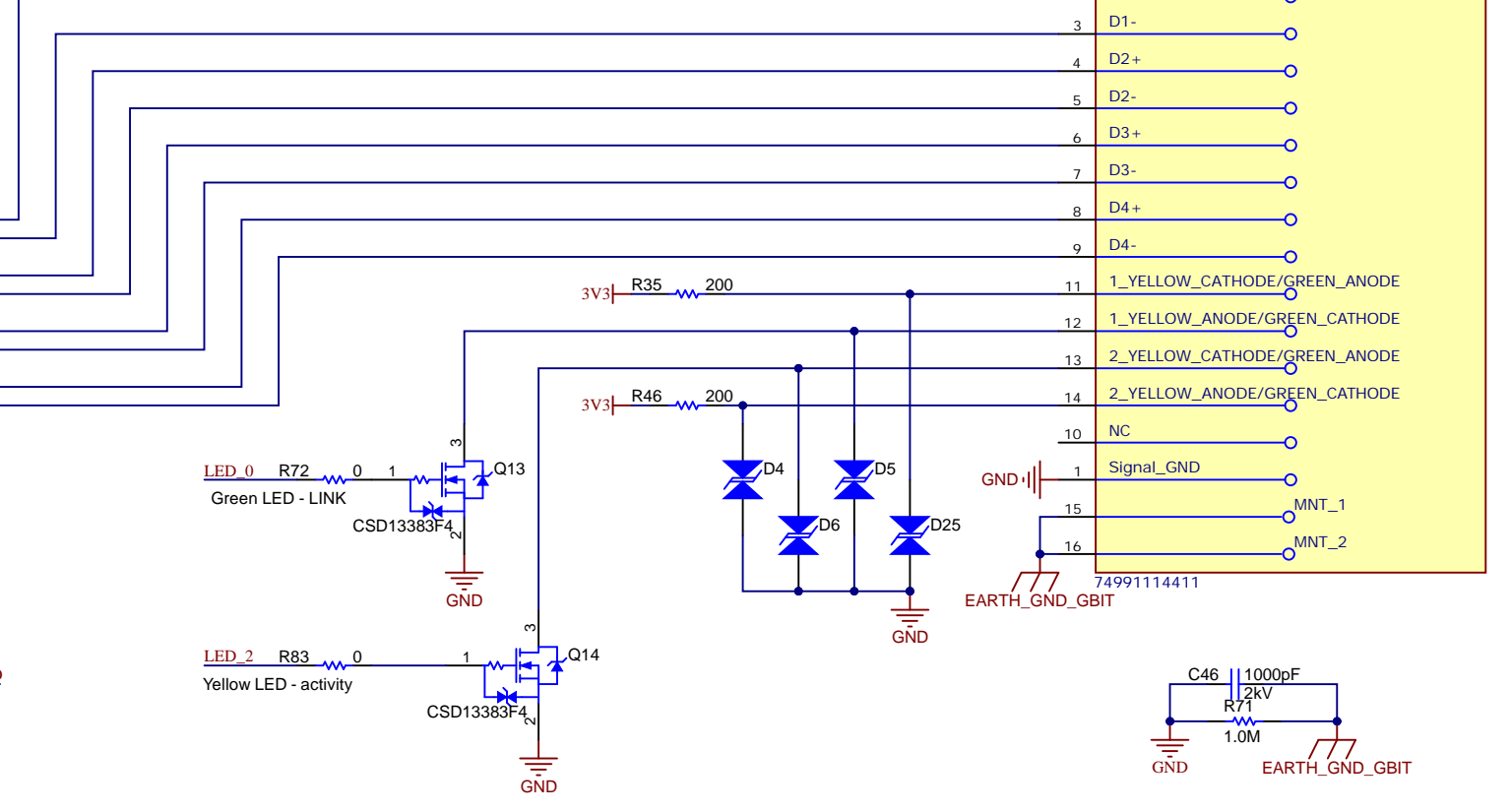
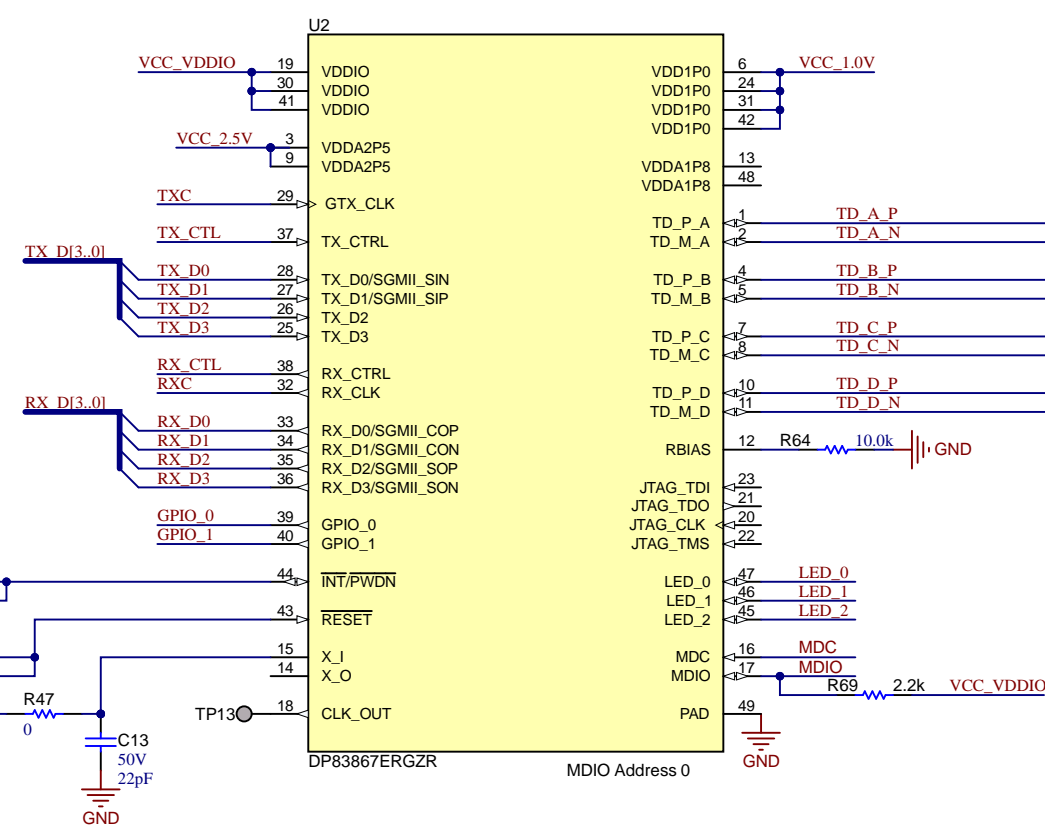
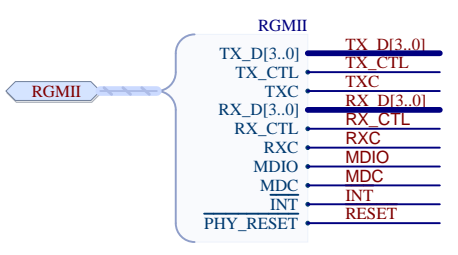
Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/26/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 10 of 18
Drawn By:	File: ISFA-424E2_PSE_MCU.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



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ToDo: Add power supply for DP83867



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A

B

C

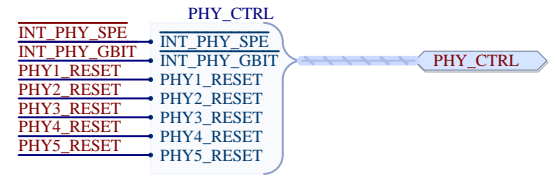
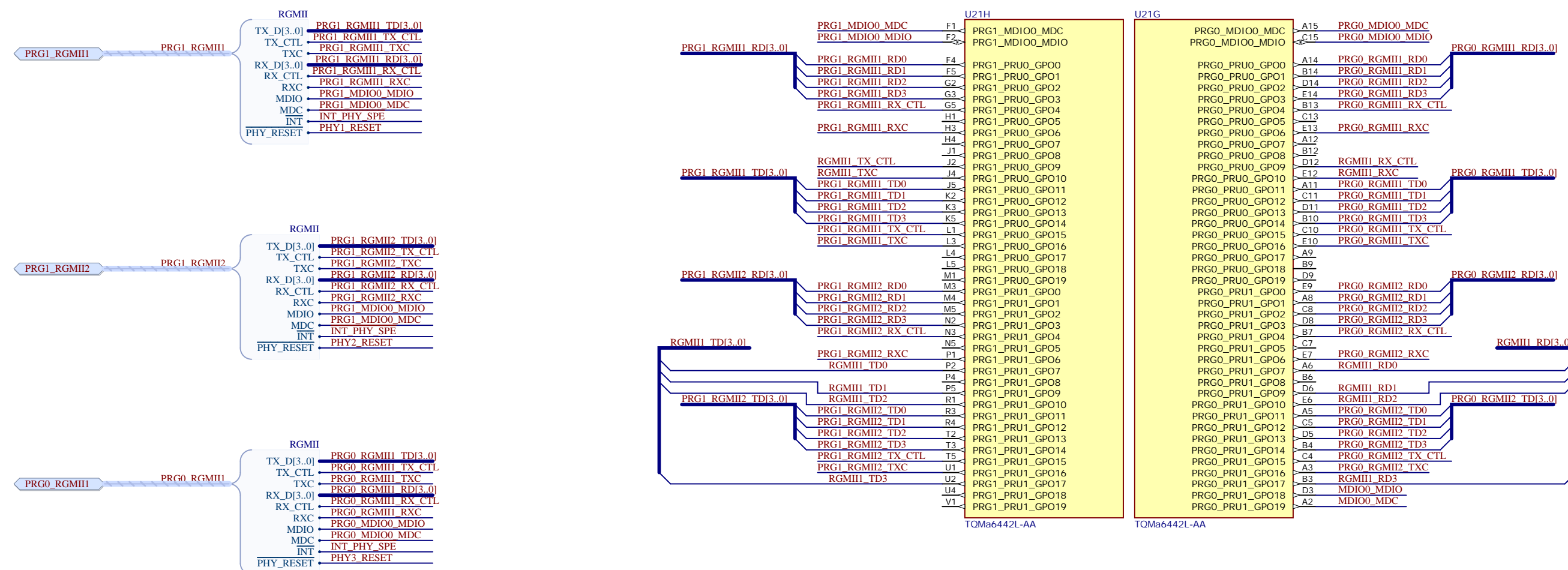
D

A

B

C

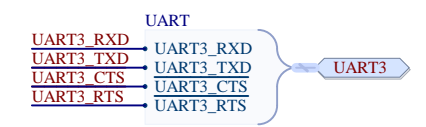
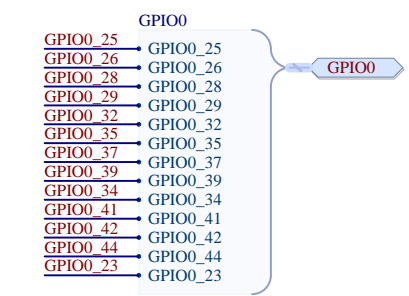
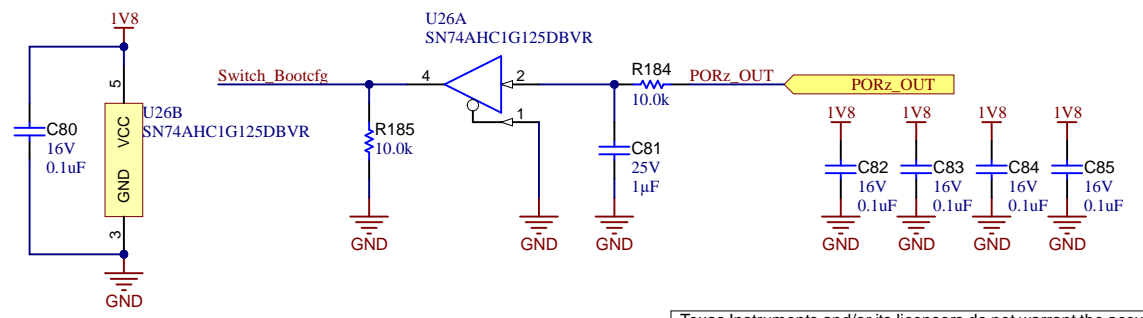
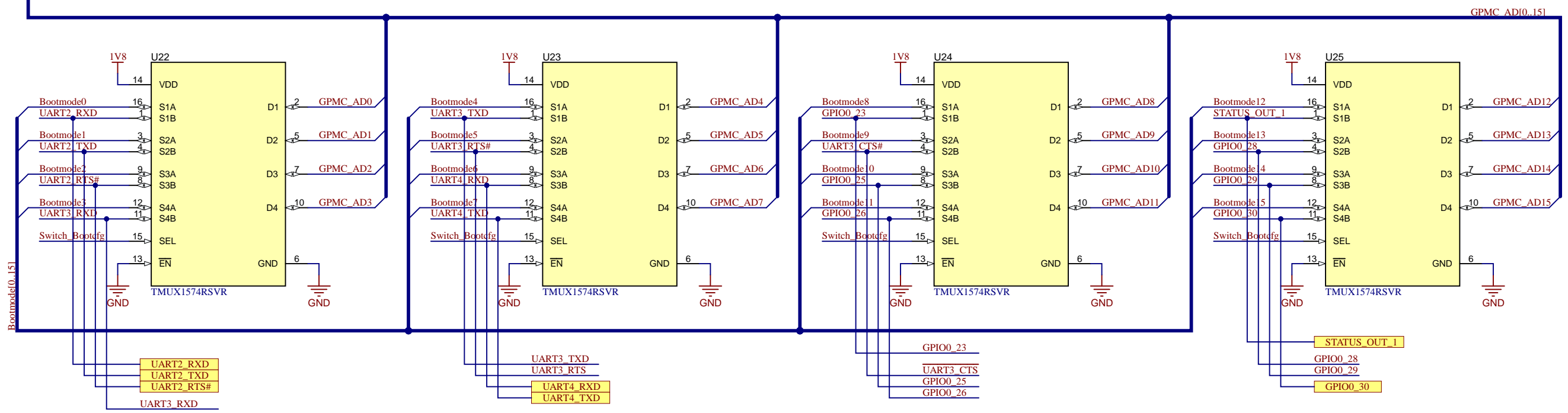
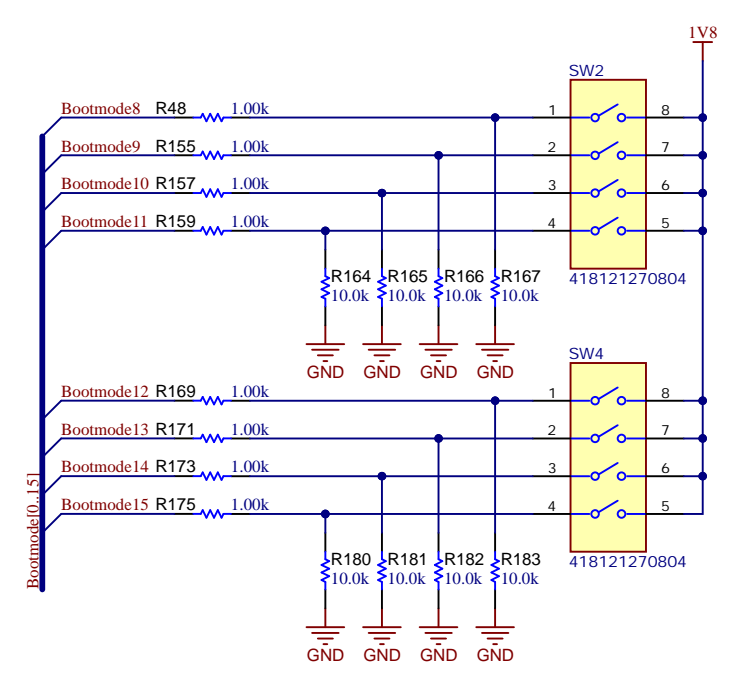
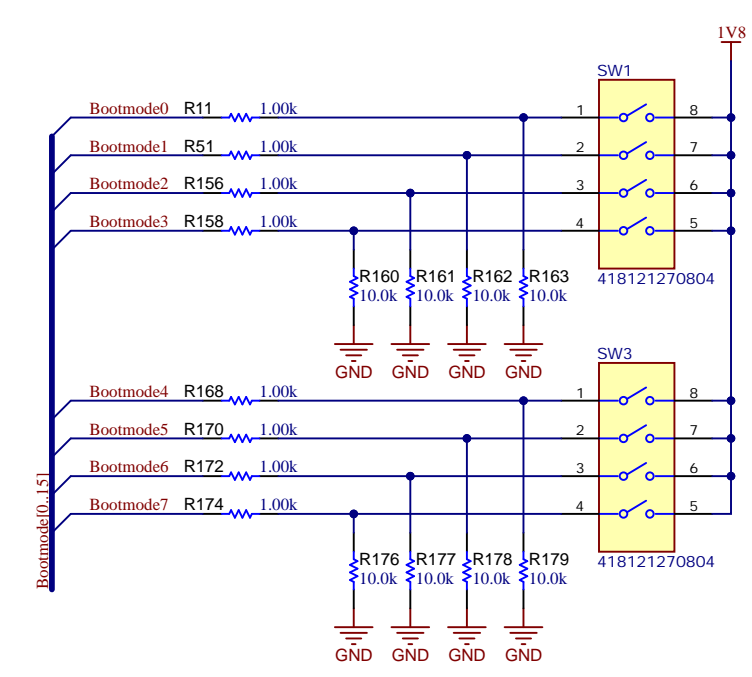
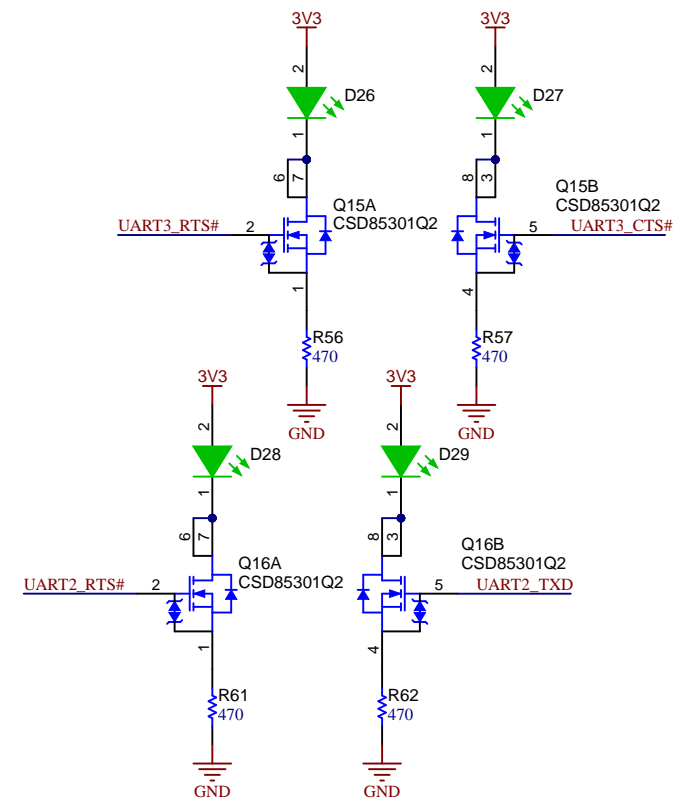
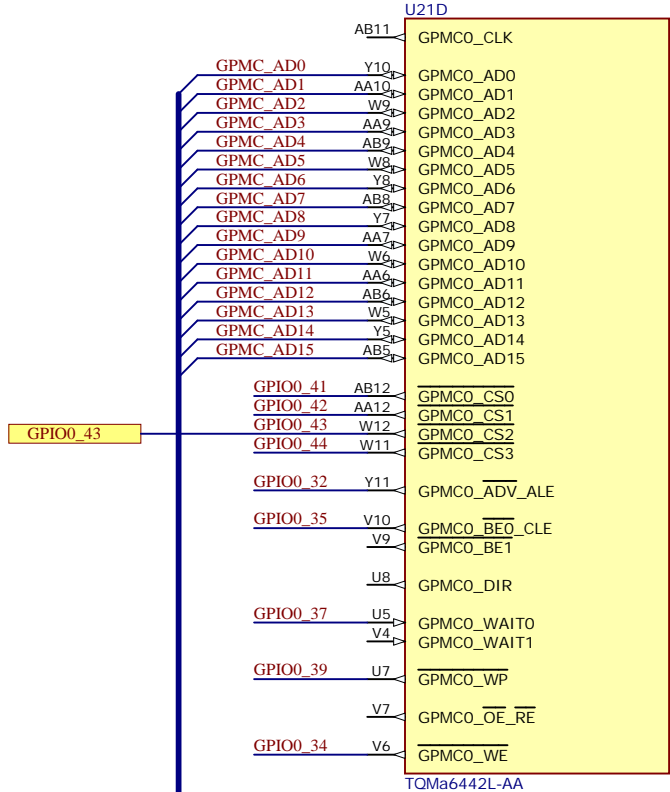
D



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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/24/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 12 of 18
Drawn By:	File: ISFA-424E2_AM64xx-SOM_ETHERNET.SchD4	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

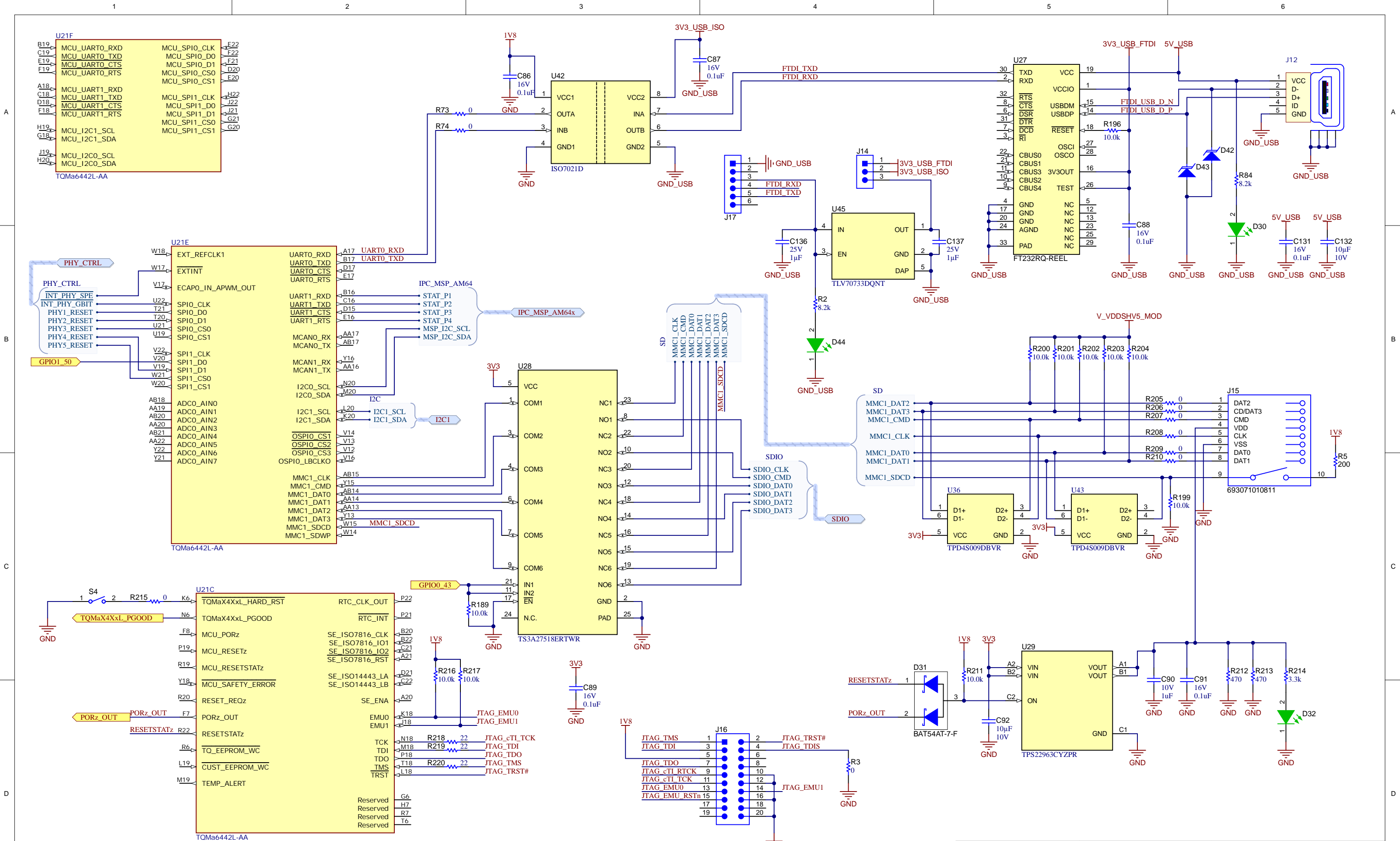




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TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 13 of 18
Drawn By:	File: ISFA-424E2_Mainboard_Bootmode.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

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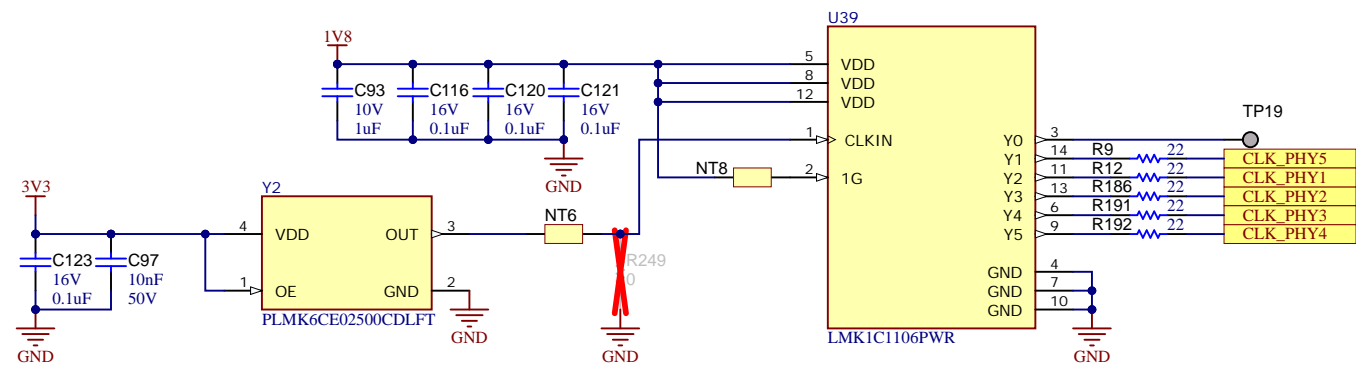




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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/27/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev: 14697	Assembly Variant: 001 ALL SPE PORTS	Sheet: 14 of 18
Drawn By:	File: ISFA-424E2_Mainboard_Other.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



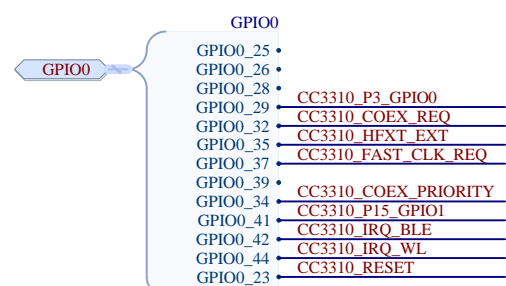
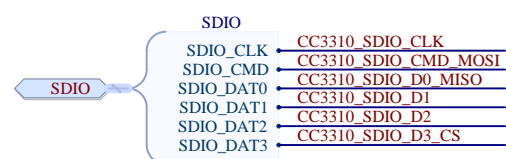
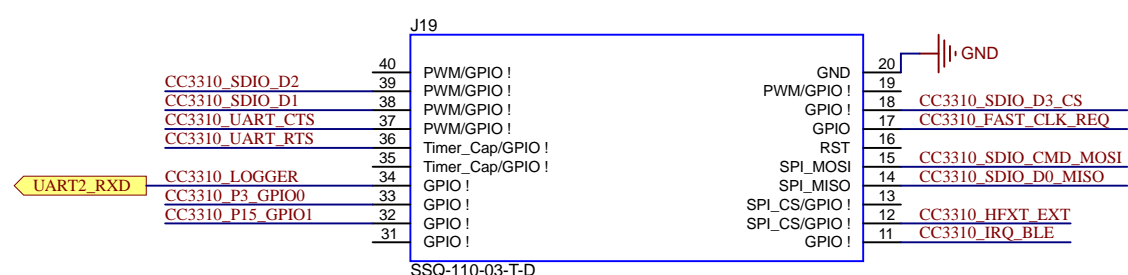
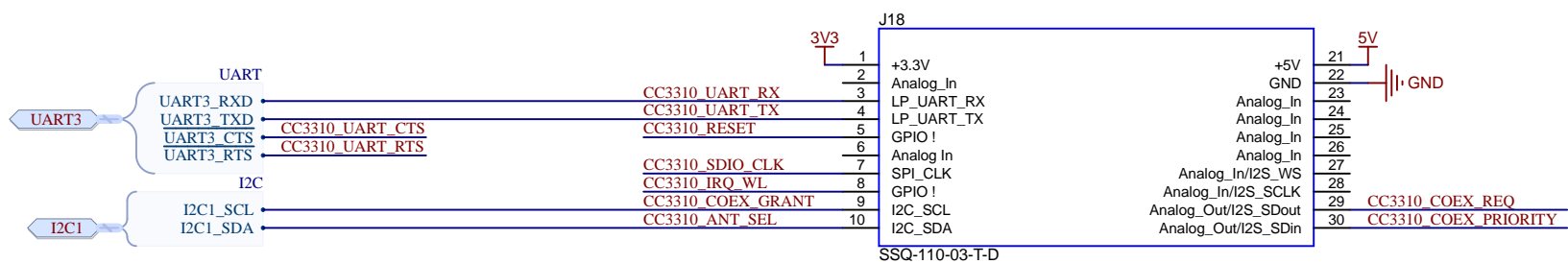


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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 3/14/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 15 of 18
Drawn By:	File: ISFA-424E2_Clk_Gen.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	



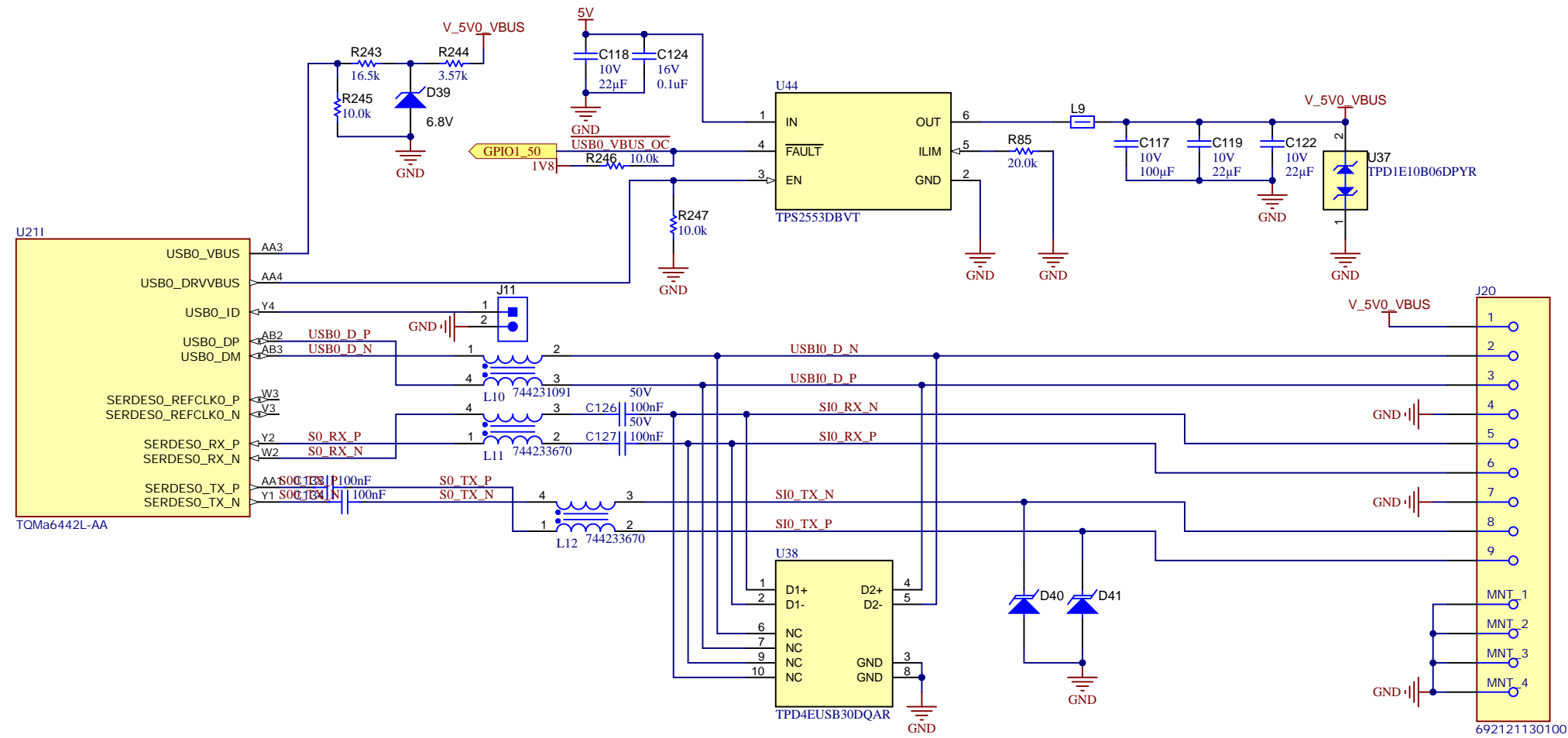
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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 3/14/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 16 of 18
Drawn By:	File: ISFA-424E2_Mainboard_BoosterPack.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

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Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/27/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 17 of 18
Drawn By:	File: ISFA-424E2_Mainboard_USB.SchDoc	Size: B
Engineer: Thomas Mauer	Contact: http://www.ti.com/support	

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PCB Number: ISFA-424
PCB Rev: E2

PCB LOGO
Texas Instruments



PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

Variant/Label Table

Variant	Label Text
001	Default

LBL1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20"

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 3/14/2023
TID #: N/A	Project Title: Gateway Carrier Board	
Number: ISFA-424	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: 001 ALL SPE PORTS	Sheet: 18 of 18
Drawn By:	File: ISFA-424E2_Hardware.SchDoc	Size: B
Engineer: Thomas Mauier	Contact: http://www.ti.com/support	

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