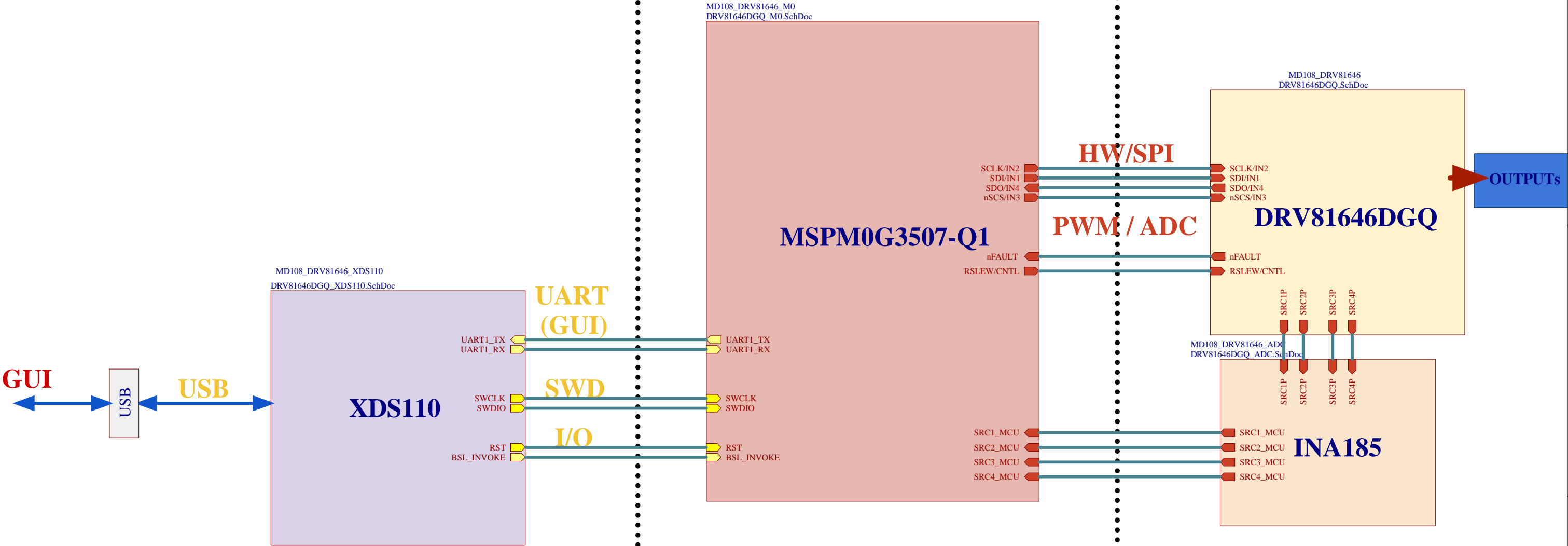


# DRV81646DGQ TOP LEVEL SCHEMATIC

## PROCESSING

## DRIVER + OUTPUTS

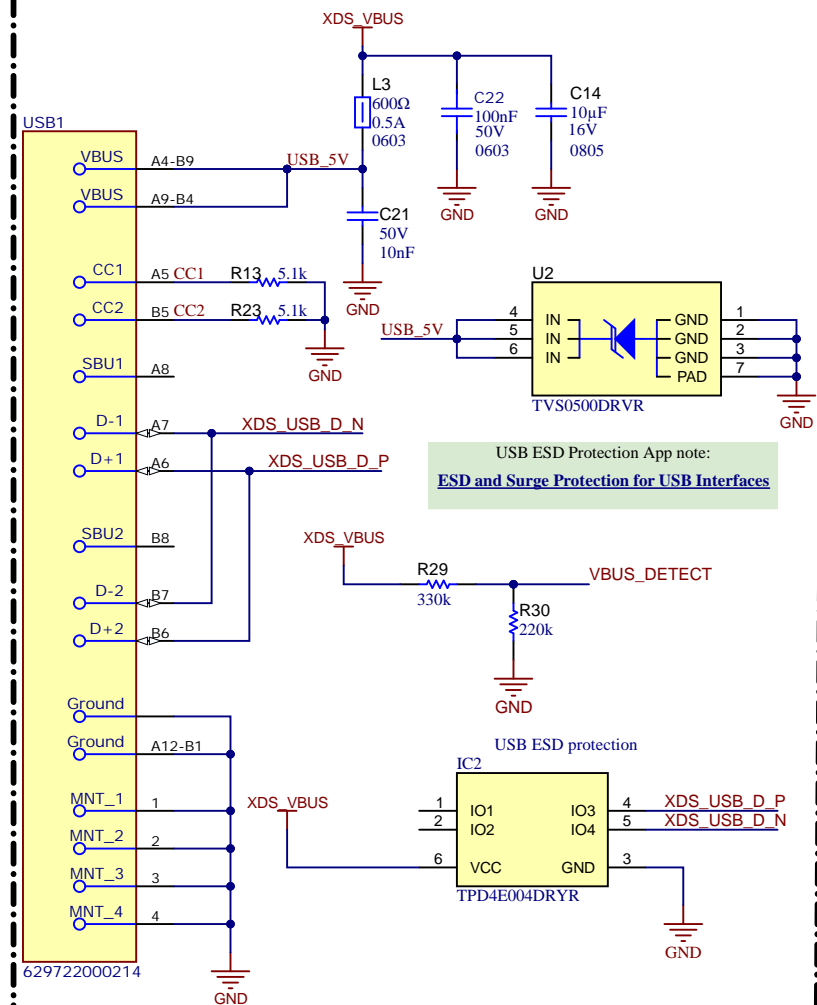


MD108\_DRV81646\_\_Hardware  
DRV81646DGQ\_Hardware.SchDoc

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Orderable: DRV81646DGQEVM	Designed for: Public Release	Mod. Date: 9/12/2025
TID #: N/A	Project Title: DRV81646DGQ	
Number: MD108-001	Rev: A	Sheet Title: TOP LEVEL SCHEMATIC
SVN Rev: Not in version control	Assembly Variant: DRV81646DGQ	Sheet: 0 of 5
Drawn By: Mojtaba Afshar	File: DRV81646DGQ_Top_Level.SchDoc	Size: B
Engineer: Mojtaba Afshar	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

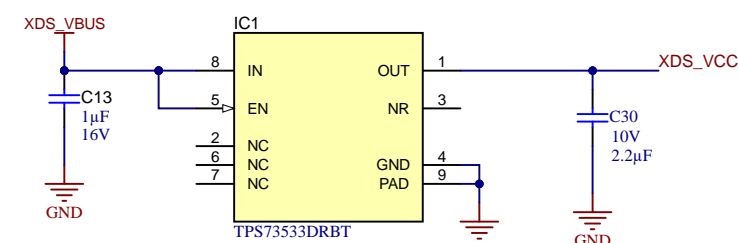
## USB-C Interface, ESD Protection



Recommend pairing with Wurth  
Electronics 632910731131 - USB-3.1  
C Male to 3.1 A Male Cable  
**DigiKey - 632910731131**  
**Wurth Elektronik - USB C Cables**

### 3.3V LDO

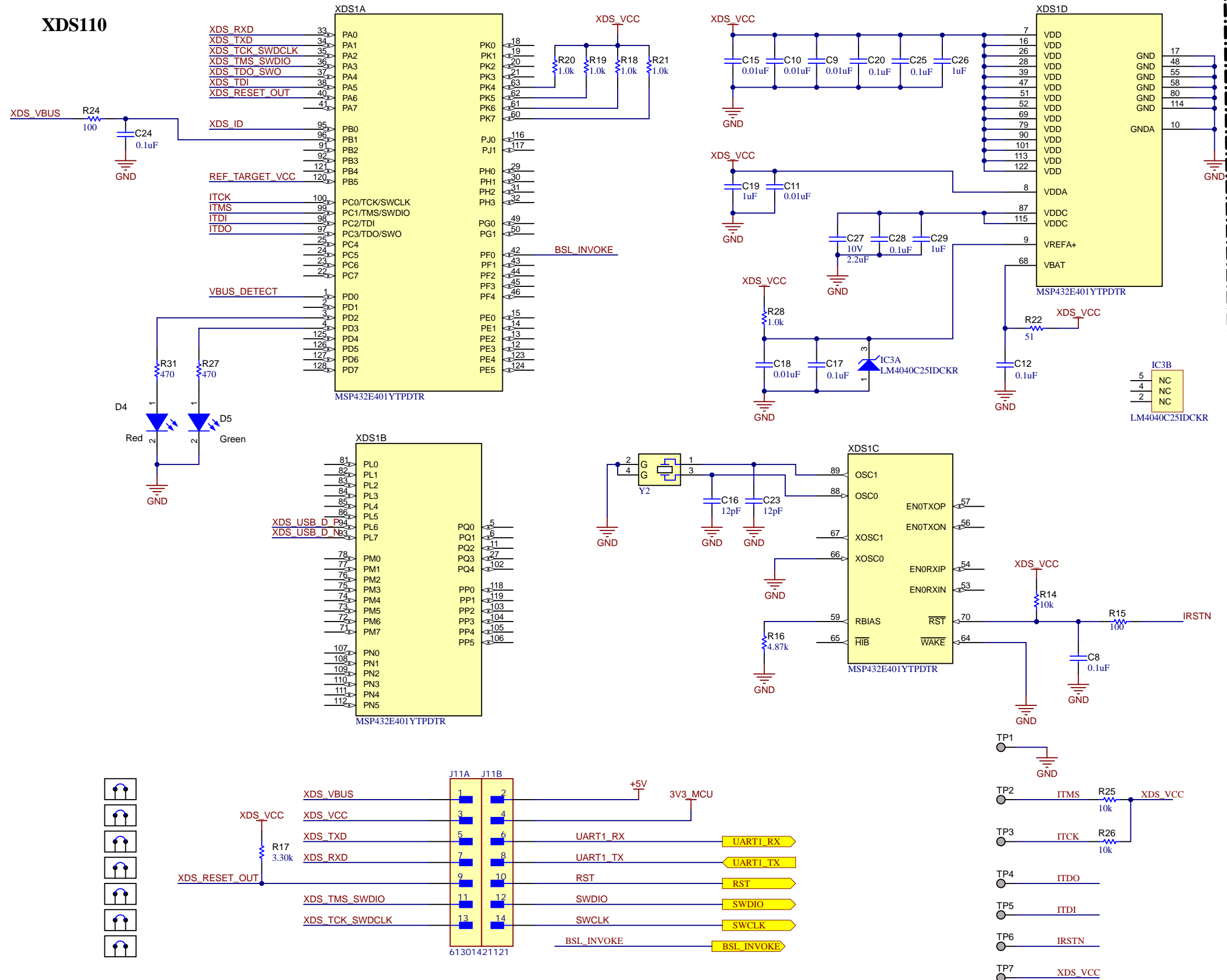
LDO 3v3 (for XDS)



500-mA  
Low IQ: 45  $\mu$ A  
Stable With a Ceramic, 2.2- $\mu$ F, Low-ESR Output  
Capacitor

XDS--  
LDO current IINRUSH Inrush current 50 max 250 mA  
Peripheral Current Consumption

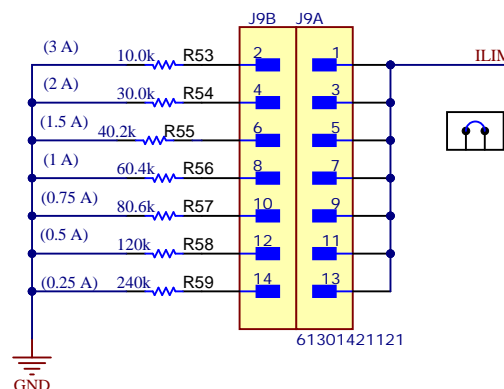
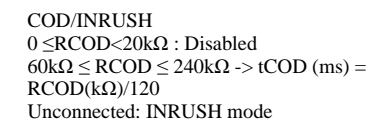
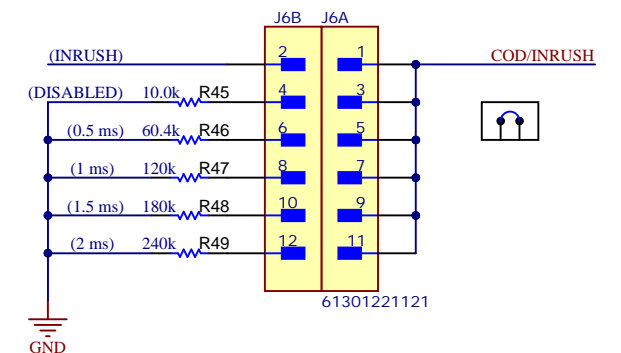
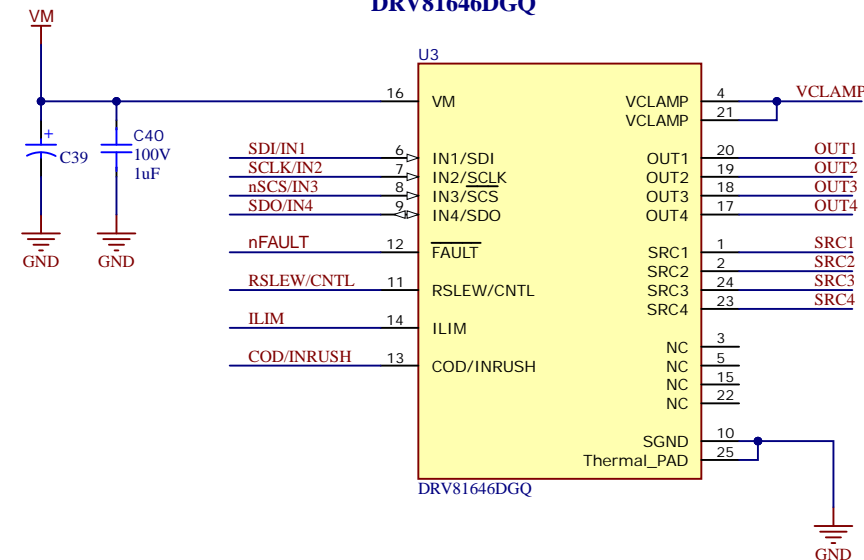
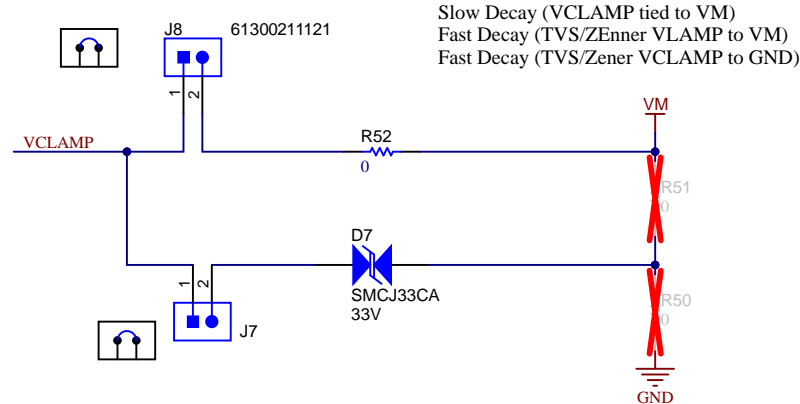
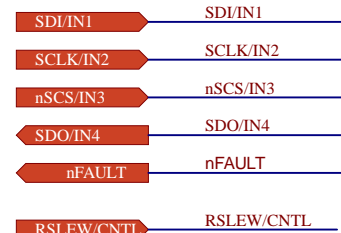
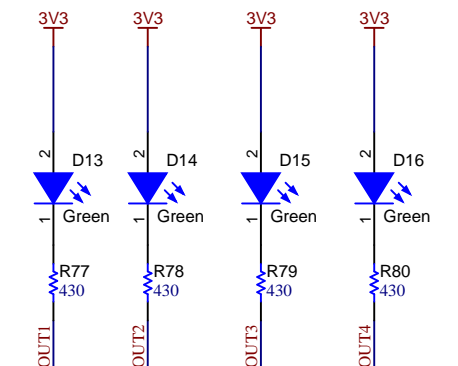
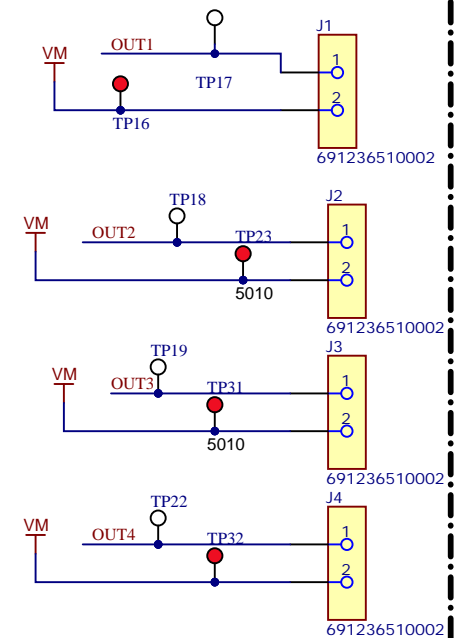
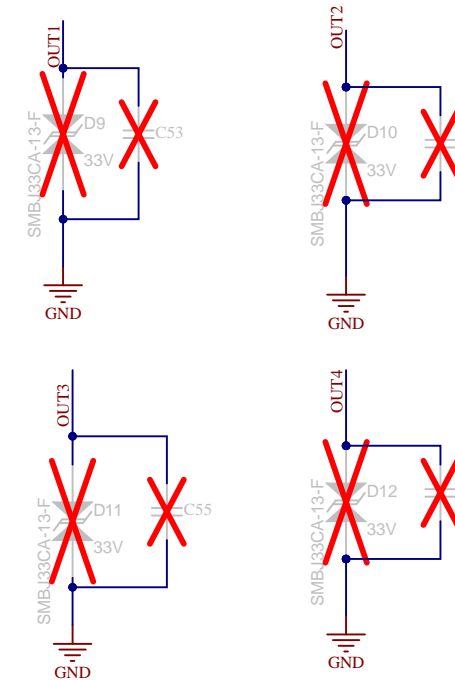
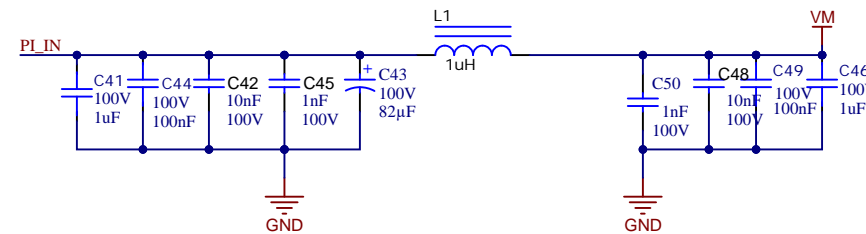
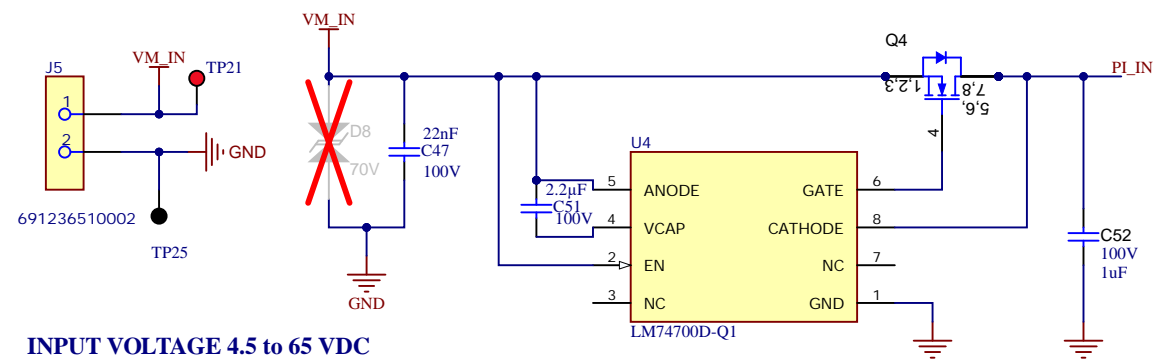
# XDS110



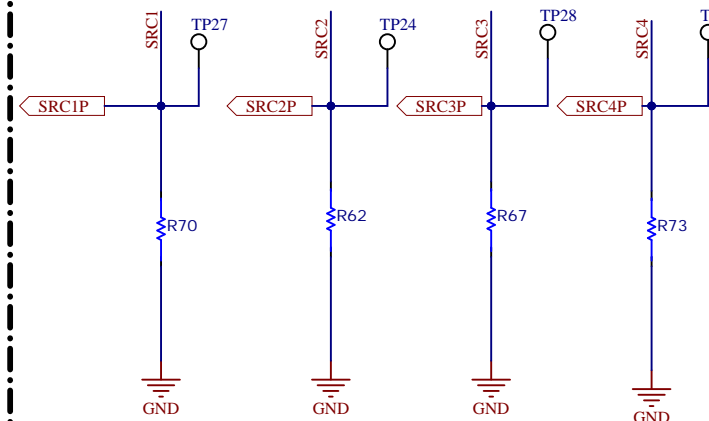
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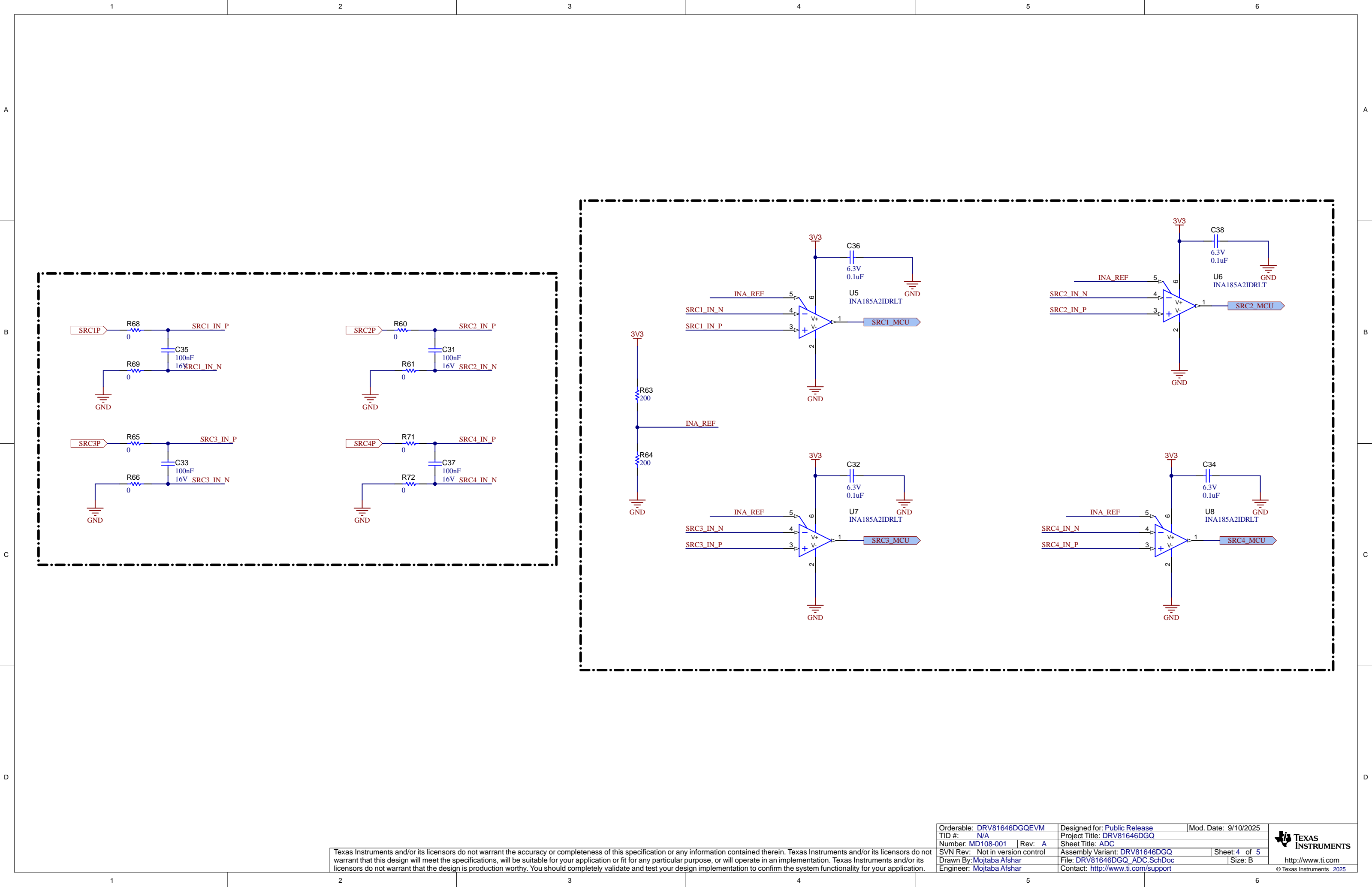
Orderable: <a href="#">DRV81646DGQEVM</a>	Designed for: <a href="#">Public Release</a>	Mod. Date: 5/18/2025
TID #: <a href="#">N/A</a>	Project Title: <a href="#">DRV81646DGQ</a>	
Number: <a href="#">MD108-001</a>	Rev: <a href="#">A</a>	Sheet Title: <a href="#">XDS110</a>
SVN Rev: Not in version control	Assembly Variant: <a href="#">DRV81646DGQ</a>	Sheet: 1 of 5
Drawn By: <a href="#">Mojtaba Afshar</a>	File: <a href="#">DRV81646DGQ_XDS110.SchDoc</a>	Size: B
Engineer: <a href="#">Mojtaba Afshar</a>	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	





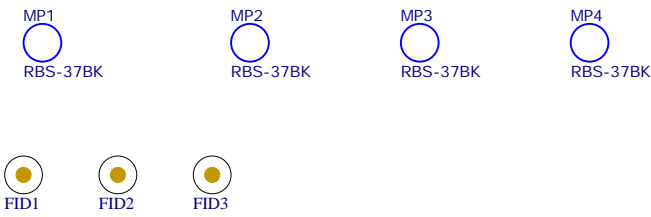
RILIM Resistor between ILIM and SGND  
 $0 < \text{RILIM} < 20\text{k}\Omega$ : ILIM Limited to 3A  
 $30\text{k}\Omega \leq \text{RILIM} < 120\text{k}\Omega$ : ILIM Limited to 60 / RILIM (k $\Omega$ )  
 $120\text{k}\Omega \leq \text{RILIM}$ : ILIM Limited to 60 / RILIM (k $\Omega$ ). Linearity is not guaranteed.






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Orderable: DRV81646DGQEV	Designed for: Public Release	Mod. Date: 9/10/2025
TID #: N/A	Project Title: DRV81646DGQ	
Number: MD108-001	Rev: A	Sheet Title: ADC
SVN Rev: Not in version control	Assembly Variant: DRV81646DGQ	Sheet: 4 of 5
Drawn By: Mojtaba Afshar	File: DRV81646DGQ_ADC.SchDoc	Size: B
Engineer: Mojtaba Afshar	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	



PCB Number: MD108-001  
PCB Rev: A

PCB  
LOGO  
Texas Instruments

  
CE Mark

PCB  
LOGO  
FCC disclaimer

PCB  
LOGO  
WEEE logo

  
CAUTION HOT SURFACE

PCB  
LOGO  
CAUTION. READ USER GUIDE BEFORE USE

Variant/Label Table	
Variant	Label Text
001	DRV8000-Q1EVM

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.

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Orderable: <a href="#">DRV81646DGQEVM</a>		Designed for: <a href="#">Public Release</a>	Mod. Date: <a href="#">5/19/2025</a>
TID #: <a href="#">N/A</a>		Project Title: <a href="#">DRV81646DGQ</a>	
Number: <a href="#">MD108-001</a>	Rev: <a href="#">A</a>	Sheet Title: <a href="#">HARDWARE</a>	
SVN Rev: <a href="#">Not in version control</a>	Assembly Variant: <a href="#">DRV81646DGQ</a>		Sheet: <a href="#">5</a> of <a href="#">5</a>
Drawn By: <a href="#">Mojtaba Afshar</a>	File: <a href="#">DRV81646DGQ_Hardware.SchDoc</a>		Size: <a href="#">B</a>
Engineer: <a href="#">Mojtaba Afshar</a>	Contact: <a href="#">http://www.ti.com/support</a>		