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Number: PROC076	Rev: A	Sheet Title: Cover Sheet	
SVN Rev: Not in version control		Assembly Variant:001	Sheet:1 of 10
Drawn By:Charles Oladimeji		File: PROC076A_CoverSheet.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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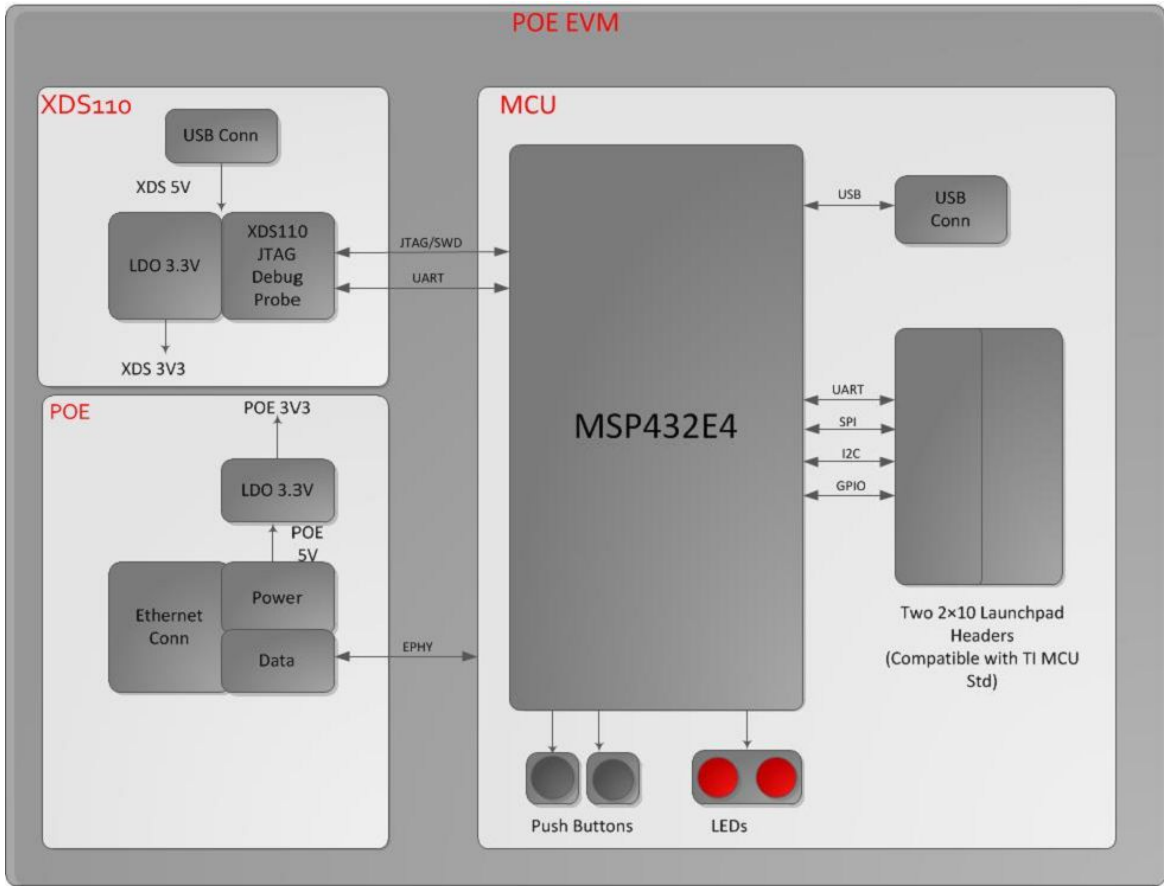
BLOCK DIAGRAM



Orderable: MMWAVEPOEEVM		Designed for: Public Release	Mod. Date: 9/6/2018
TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: Block Diagram	
Custom Rev: Not in version control		Assembly Variant: 001	Sheet: 2 of 10
Drawn By: Charles Oladimeji		File: PROC076A_Block_Diagram.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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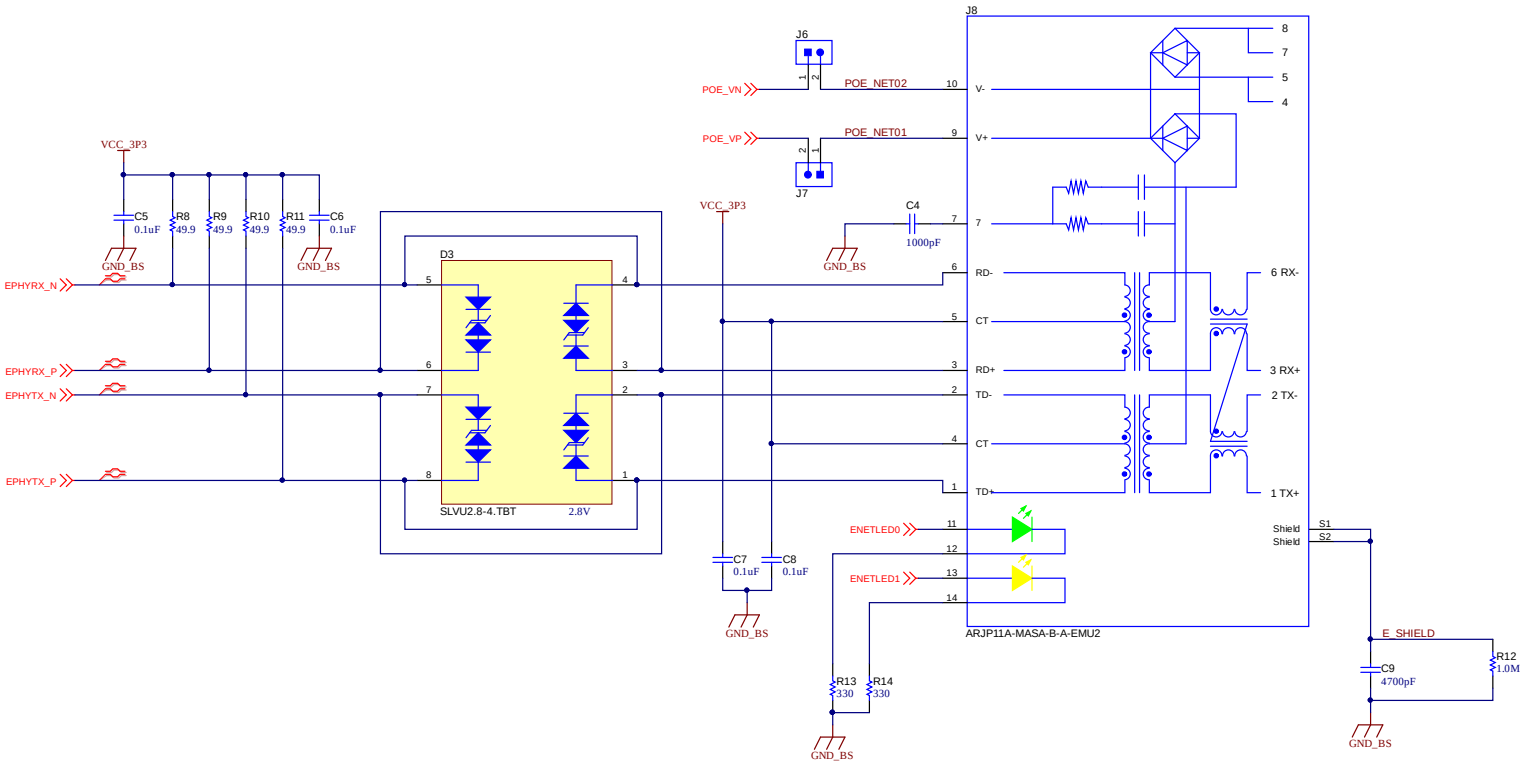
ETHERNET



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TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: Ethernet	
SVN Rev: Not in version control		Assembly Variant:001	Sheet:3 of 10
Drawn By:Charles Oladimeji		File: PROC076A_Ethernet.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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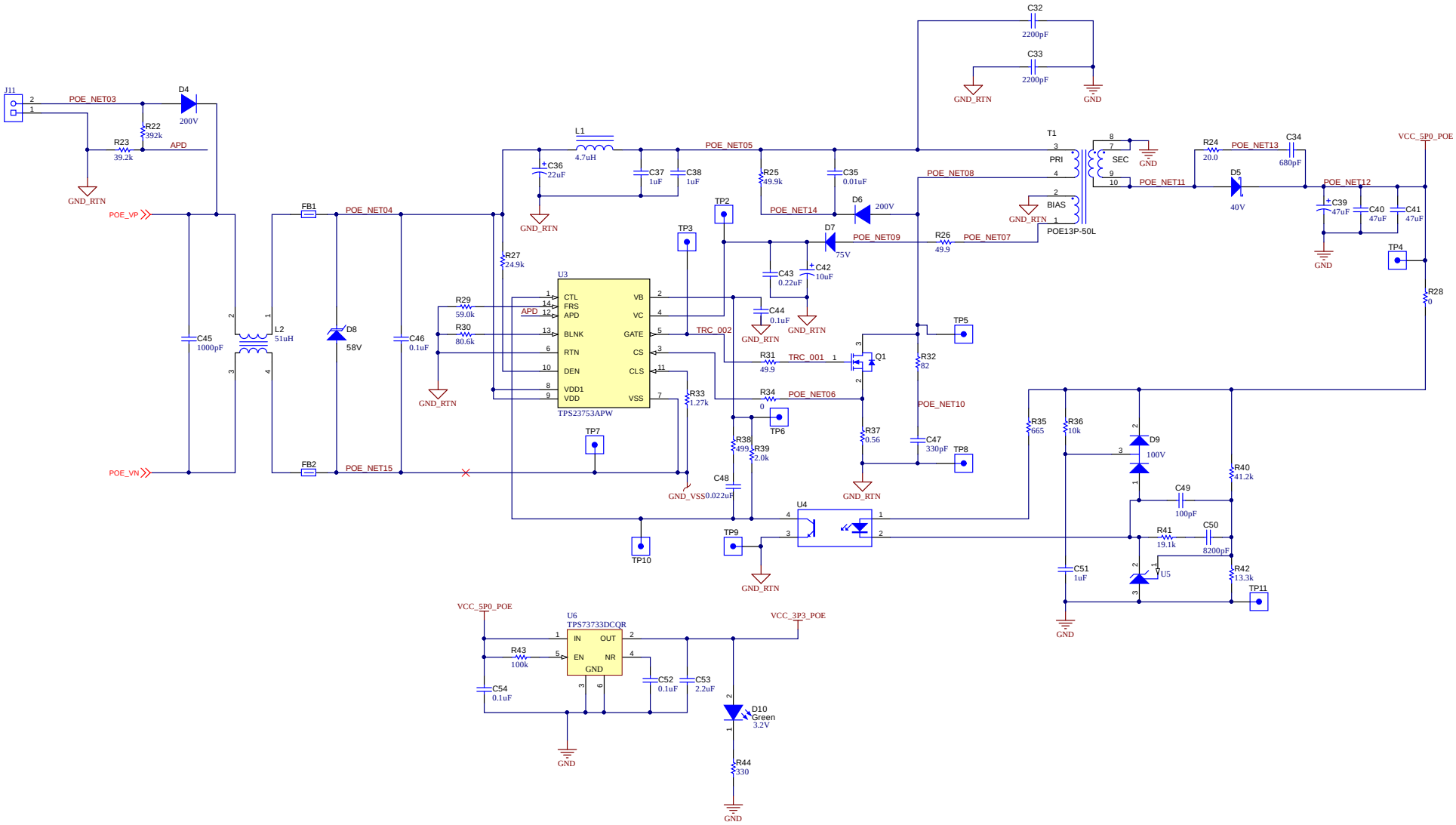
POWER STAGE



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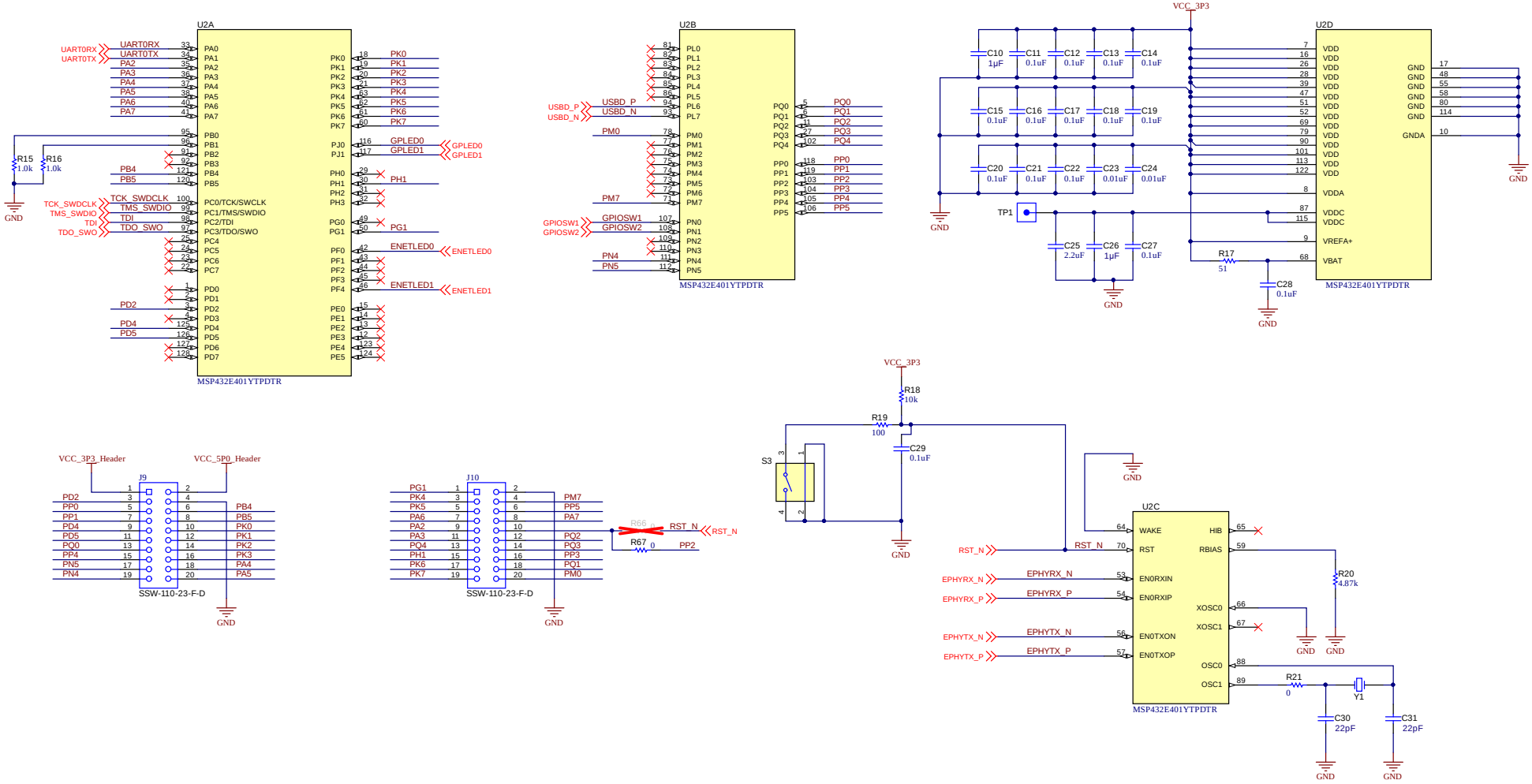
TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: Power Stage	
Custom Rev: Not in version control		Assembly Variant:001	Sheet:4 of 10
Drawn By:Charles Oladimeji		File: PROC076A_PowerStage.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

MICRO



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TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: Micro	
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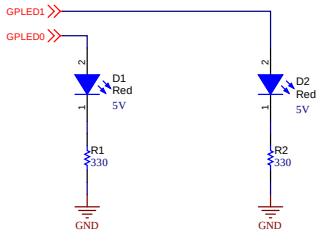
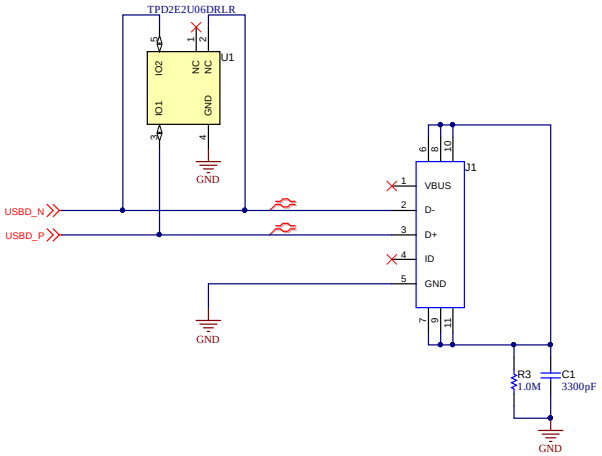
Drawn By: Charles Oladimeji		File: PROC076A_Micro.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

CONNECTOR

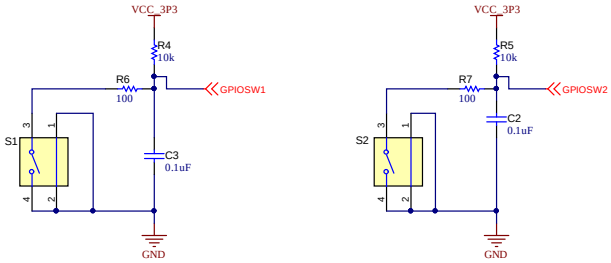
LED



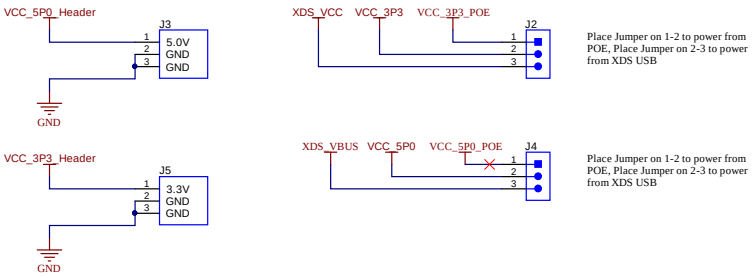
USB Connector



Switches



Power Headers



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SVN Rev: Not in version control		Assembly Variant:001	Sheet:6 of 10
Drawn By:Charles Oladimeji		File: PROC076A_Connector.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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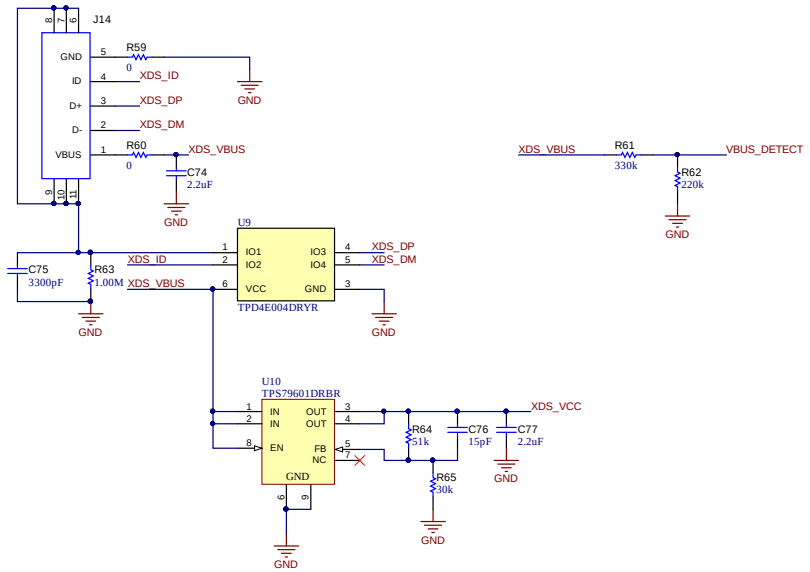
XDS110 USB POWER



Orderable: MMWAVEPOEEVM		Designed for:Public Release	Mod. Date: 9/9/2018
TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: XDS110 USB Power	
SVN Rev: Not in version control		Assembly Variant:001	Sheet:7 of 10
Drawn By:Charles Oladimeji		File: PROC076A_XDS110_USB_Power.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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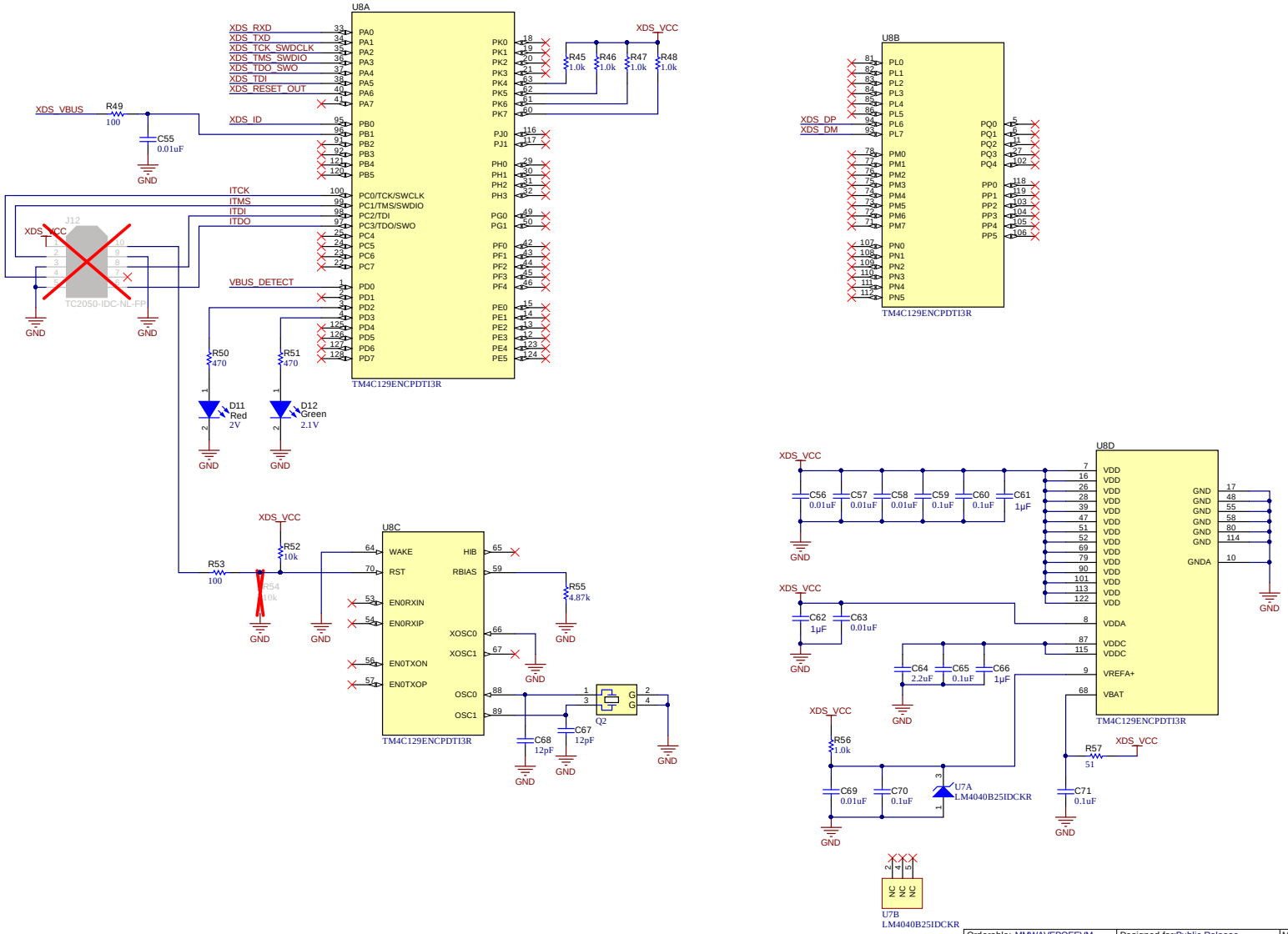
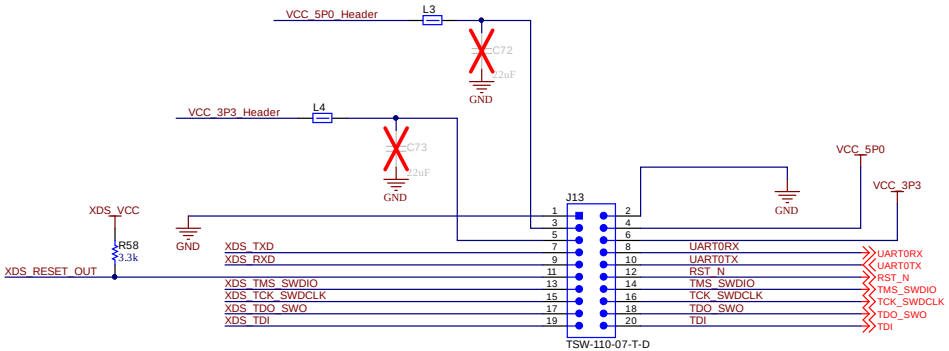
XDS110 DEBUG PROBE



Orderable: MMWAVEPOEEVM		Designed for:Public Release	Mod. Date: 9/9/2018
TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: XDS110 Debug Probe	
Custom Rev: Not in version control		Assembly Variant:001	Sheet:8 of 10
Drawn By:Charles Oladimeji		File: PROC076A_XDS110_Debug_Probe.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

XDS110 TARGET INTERFACE



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TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: XDS110 Target Interface	
SVN Rev: Not in version control		Assembly Variant:001	Sheet:9 of 10
Drawn By:Charles Oladimeji		File: PROC076A_XDS110_Target_Interface.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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EVM HARDWARE

Variant/Label Table	
Variant	Label Text
001	MMWAVEPOEEVM

FID1 FID2 FID3 FID4 FID5 FID6

H1 H2 H3 H4

H8 H5 H6 H7

SH-J1 SH-J2 SH-J3 SH-J4 SH-J5 SH-J11 SH-J12

SH-J6 SH-J7 SH-J8 SH-J9 SH-J10 SH-J13 SH-J14

PCB Number: PROC076
PCB Rev: A

PCB LOGO
Texas Instruments

PCB LOGO
ESD Susceptible

PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

CE Mark

LBL1
PCB Label

CAUTION HOT SURFACE

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: MMWAVEPOEEVM		Designed for:Public Release	Mod. Date: 12/3/2018
TID #: N/A		Project Title: MMWAVEPOEEVM	
Number: PROC076	Rev: A	Sheet Title: EVM Hardware	
Cur Rev: Not in version control		Assembly Variant:001	Sheet:10 of 10
Drawn By:Charles Oladimeji		File: PROC076A_EVM_Hardware.SchDoc	Size: B
Engineer: Charles Oladimeji		Contact: http://www.ti.com/support	

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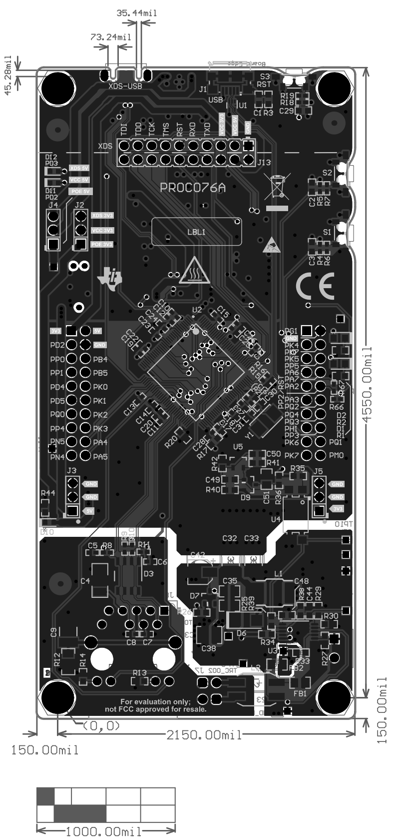
STACKUP TABLE:

	Layer	Name	Material	Thickness	Constant	Board Layer Stack
	1	Top Overlay				
	2	Top Solder	Solder Resist	0.80mil	3.5	
2 3	3	Top Layer	Copper	1.80mil		
	4	Dielectric1	FR-4	3.87mil	4.02	
	5	GND Split	Copper	1.20mil		
	6	Dielectric2	FR-4	46.66mil	4.02	
	7	PWR/GND Split	Copper	1.20mil		
	8	Dielectric 3	FR-4	3.87mil	4.02	
2	9	Bottom Layer	Copper	1.80mil		
	10	Bottom Solder	Solder Resist	0.80mil	3.5	
	11	Bottom Overlay				



FAB NOTES:

1. THE SOLDER MASK IMAGES THAT ARE THE SAME SIZE AS THE COMPONENT PADS MAY BE ENLARGED AS PER THE MANUFACTURING CAPABILITIES BUT NOT BEYOND 0.08MM PER SIDE OR 0.15MM OVERALL. ALL OTHER SOLDER MASK IMAGES SHALL NOT BE MODIFIED.
2. EXTERNAL LAYER 4.99 MIL WIDE, 6.01 MIL SPACE TRACES REQUIRE 90 OHM +/-10% DIFFERENTIAL IMPEDANCE
3. TOP LAYER 5.01 MIL WIDE, 8.99 MIL SPACE TRACES REQUIRE 100 OHM +/-10% DIFFERENTIAL IMPEDANCE.

DESIGN INFORMATION

MIN. TRACK WIDTH: 4.99 MIL
MIN. CLEARANCE: 5.9 MIL
MIN. VIA PAD SIZE: 19.685 MIL
MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:
[ ] FR-408 [ ] FR-4 High Tg [X] OTHER FR4
THICKNESS: [X] 62 MIL (1.6mm) +/-10% [ ] OTHER
TOLERANCE: [X] ANSI IPC-6012 TYPE 3 CLASS 2
[ ] OTHER +/-
BOW & TWIST: [X] ANSI IPC-6012 TYPE 3 CLASS 2
[ ] OTHER +/-

DRILLING:
REFERENCE: [X] AS SHOWN [X] NC_DRILL FILES
PTH COPPER THICKNESS: [X] 20-30 um [ ] OTHER

BOARD FINISH:
SILKSCREEN: [X] TOP [X] BOTTOM
SILKSCREEN COLOR: [X] WHITE [ ] OTHER
SOLDER RESIST COLOR: [ ] GREEN [X] OTHER RED
[X] MATTE [ ] SEMI-GLOSS

SURFACE FINISH: [X] IMMERSION GOLD (ENIG) [ ] ENEPIG
[ ] IMM. TIN/SILVER OR EQUIV [ ] OTHER

ARRAY/PANEL: [ ] CUT AND TRIM PER M1 BOARD OUTLINE
[ ] N.C. ROUTE [ ] V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
[X] ANSI IPC-A-600F CLASS -> [ ] 1 [X] 2 [ ] 3
[X] RoHS [ ] OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
PCB MUST BEAR THE UL94V-0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:
MICROSECTION: [ ] YES
BARE BOARD ELEC. TEST: [ ] NONE [X] REQUIRED [ ] PER ORDER
[ ] XX MIL VIAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
[ ] XX MIL VIAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
[ ] OUTER XX MIL VIAS REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
[ ] LAYER 2 & 3 (INNER LAYERS) XX MIL WIDE, XX MIL SPACE TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE

ZZ1 ■ Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.
ZZ2 ■ These assemblies are ESD sensitive, ESD precautions shall be observed.
ZZ3 ■ These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
ZZ4 ■ These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

COMPONENTS MARKED 'DNP' SHOULD NOT BE POPULATED.
ASSEMBLY VARIANT: [No Variations]

A	BOARD #: PROC076	REV: A		
LAYER NAME =	TID #: N/A			
PLOT NAME =	Composite	GENERATED : 12/	6:08:38 PM	TEXAS INSTRUMENTS

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TEXAS INSTRUMENTS

PROJECT TITLE: MMWAVEPOEEVM
DESIGNED FOR: Public Release
FILE NAME: PROC076A_PCB.PcbDoc
ENGINEER: Charles Oladimeji
LAYOUT BY: TESSOLVE
SCALE: 1.00
ALTIUM DESIGNER VERSION: 18.1.9.240
WO#307405-7403-D