Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
B	1	22/01/2018	Vivek dham	ADDED SWITCH CONTROL TO MOVE between SPI and CAN interface
B	2	22/01/2018	Vivek dham	Enabled by default the 5V supply from the 60pin HD connector.
B	3	22/01/2018	Vivek dham	Enabled by default the SYNC_IN signal connection to J6 connector
B	4	22/01/2018	Vivek dham	Serial flash part number updated to MX25V1635FZNQ
B	5	22/01/2018	Vivek dham	Added series resisters on I2C lines.
B	6	13/02/2018	Vivek dham	Removed the series diode on the NRST signal.
B	7	23/02/2018	J Quintal	added Variant 002, U2, PCB Label, revised AWR1642 to xWR1642

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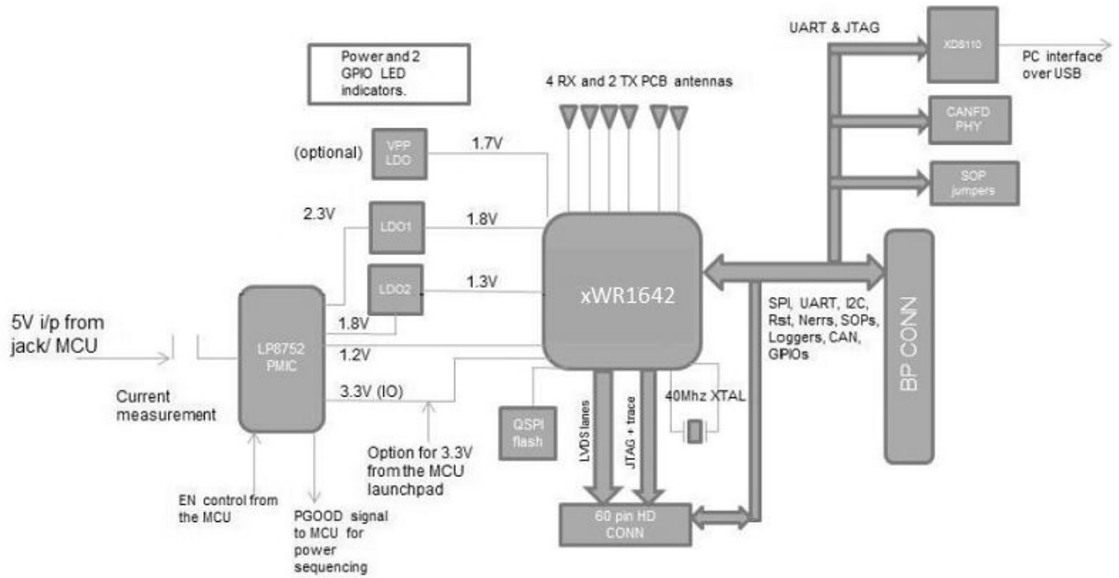
BLOCK DIAGRAM



Orderable: IWR1642BOOST-ODS		Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A		Project Title: xWR1642BOOST-ODS	
Number: PROC049	Rev: B	Sheet Title: COVERSHEET	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 1 of 17
Drawn By:		File: PROC049B_COVERSHEET.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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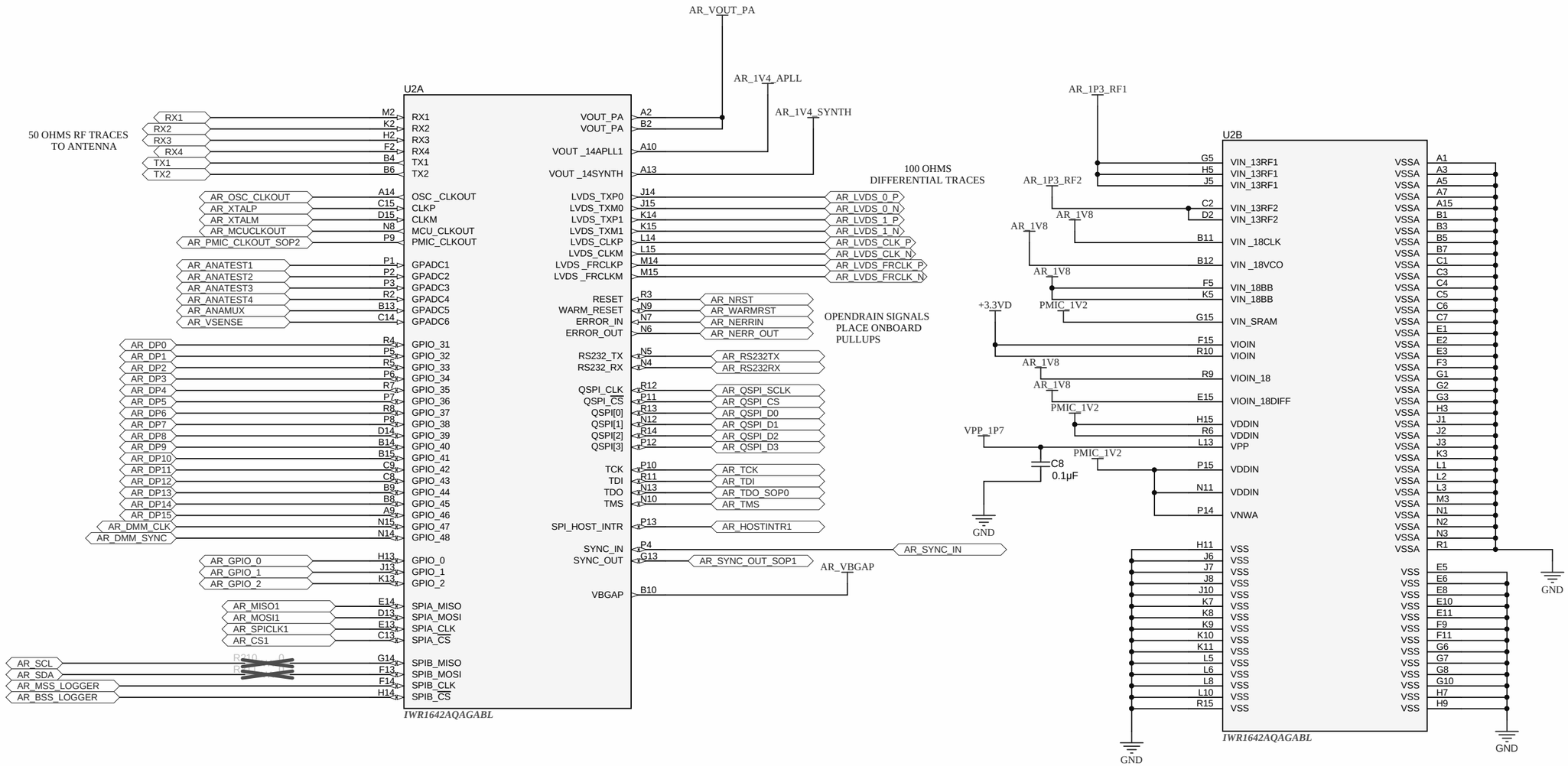

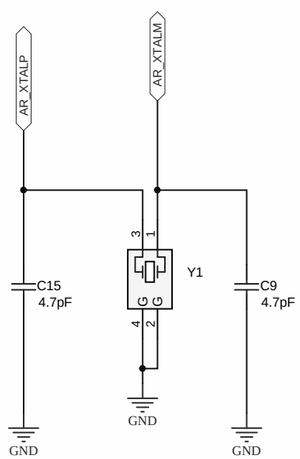

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Orderable: IWR1642BOOST-ODS	Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: DUT	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 2 of 17
Drawn By:	File: PROC049B_DUT.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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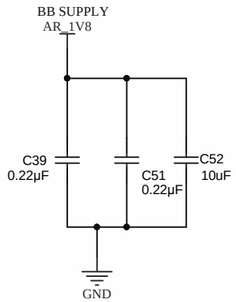
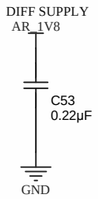
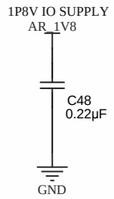
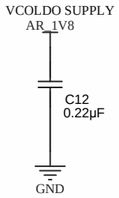
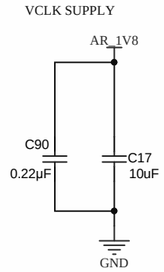
SUPPLY_DECOUPLING_CAPS

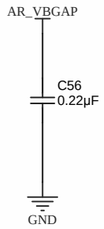


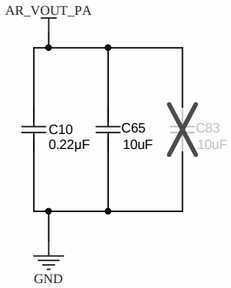


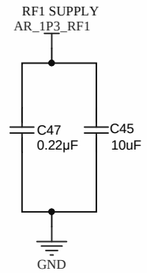


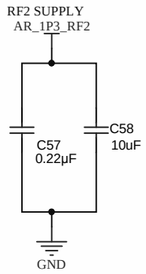


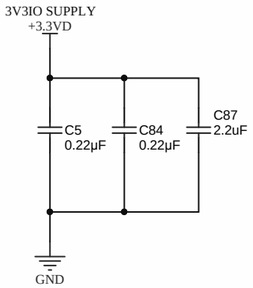


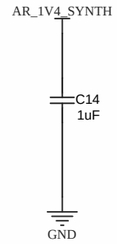


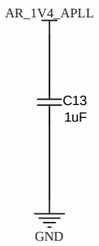


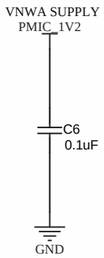


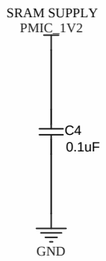


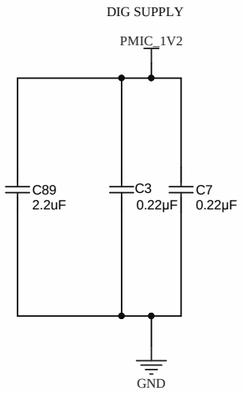




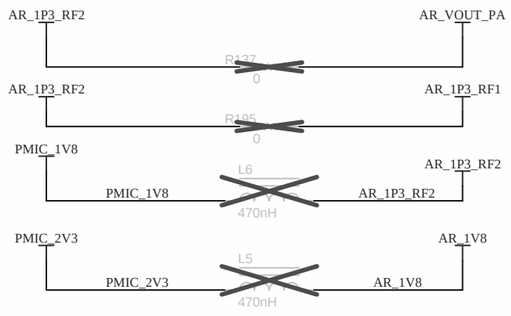








OPTIONS FOR INTERNAL DEBUG ONLY



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TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: Decoupling caps	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 3 of 17
Drawn By:	File: PROC049B_Decoupling caps.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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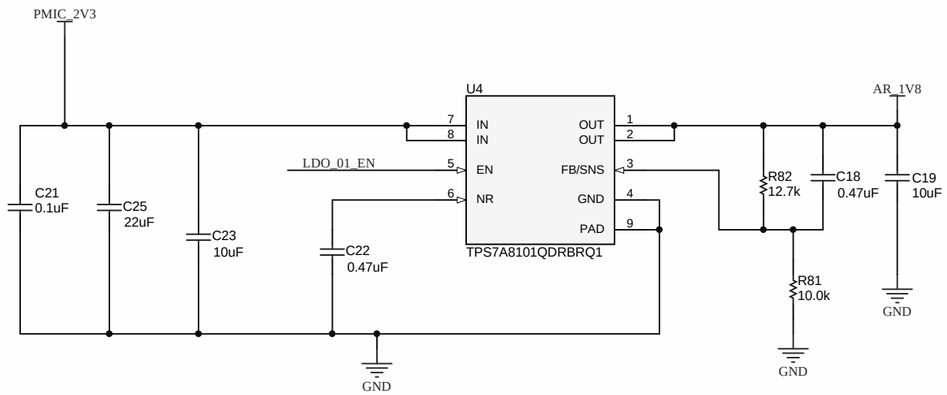
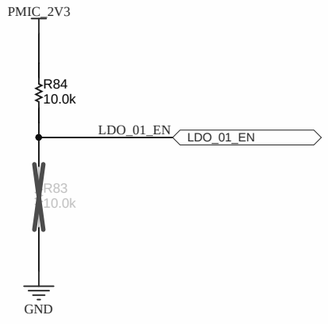
LDO_01 (1.8V OUTPUT)





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Number: PROC049 Rev: B	Sheet Title: LDO_01 (1.8V Output)	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 4 of 17
Drawn By:	File: PROC049B_LDO_01 (1.8V Output).SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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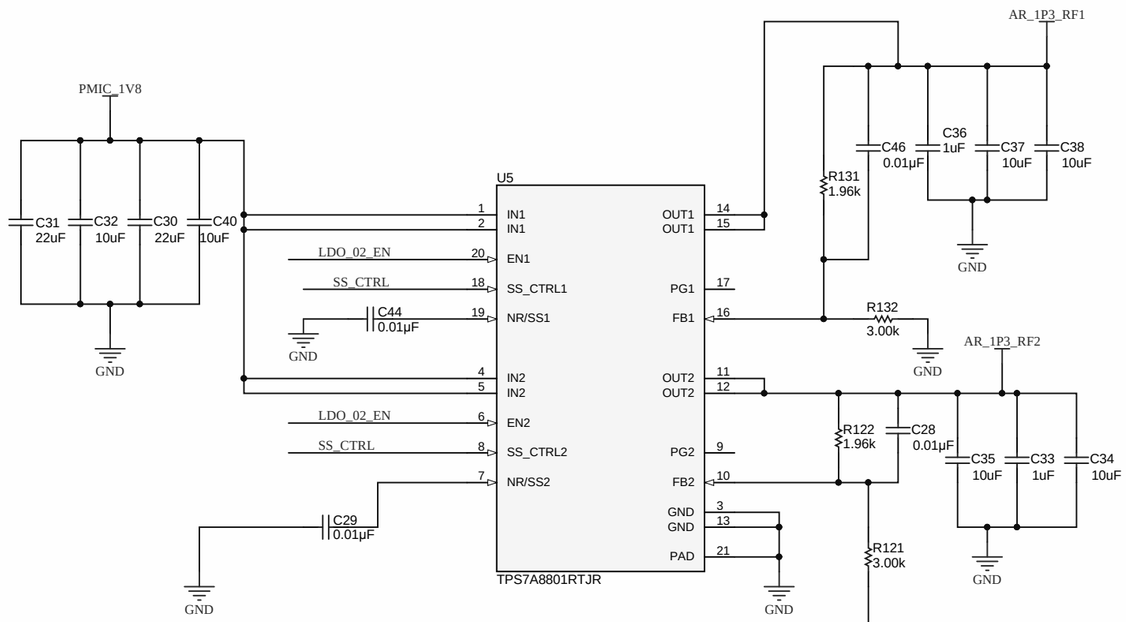
LDO_02 (1.3V LDO)



ENABLED BY DEFAULT

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Number: PROC049	Rev: B	Sheet Title: LDO_02 (1.3V Output)	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 5 of 17
Drawn By:		File: PROC049B_LDO_02 (1.3V Output).SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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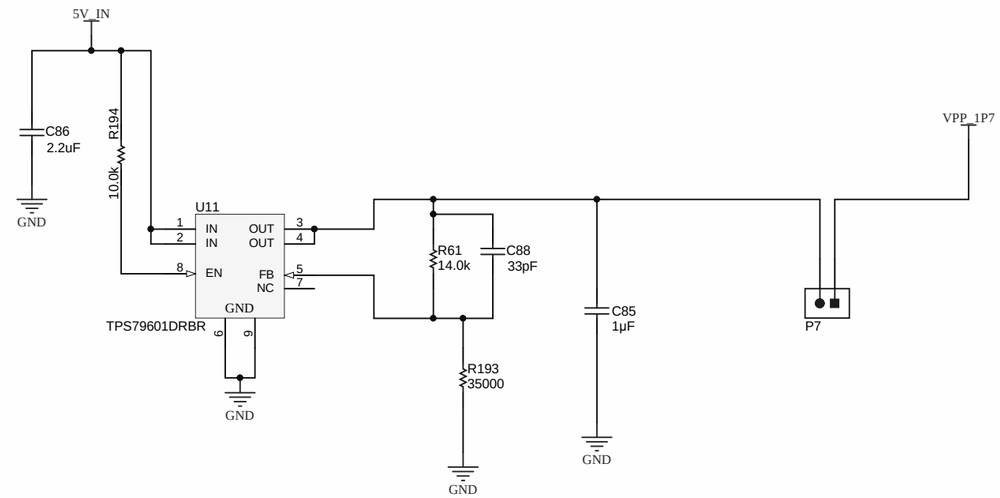
VPP SUPPLY LDO



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SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 6 of 17
Drawn By:		File: PROC049B_VPP_Supply.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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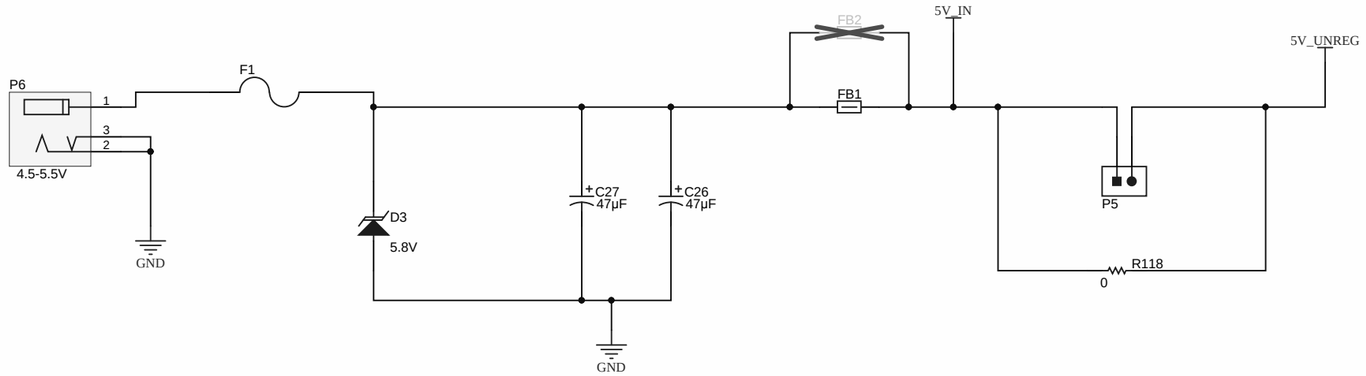
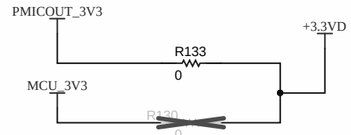
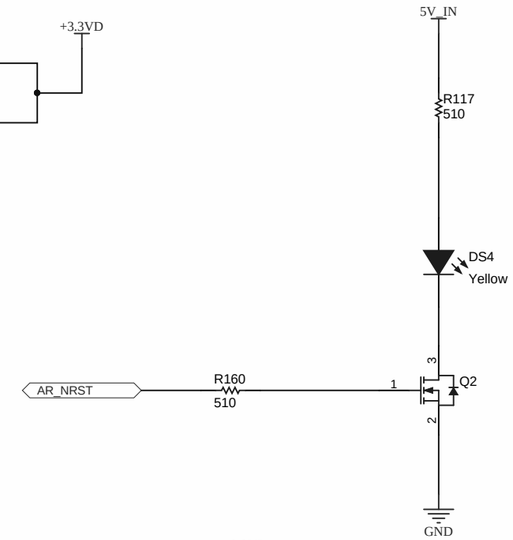
POWER SUPPLY CONNECTOR

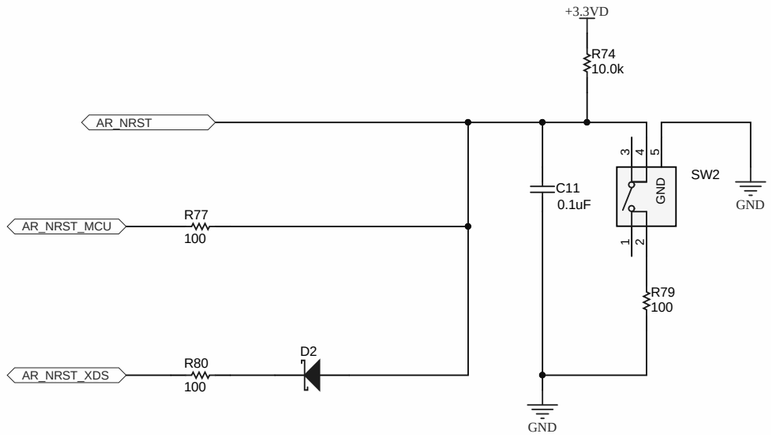


3P3 SUPPLY FROM PMIC OR FROM THE MCU

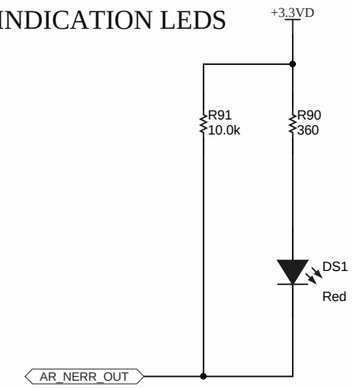


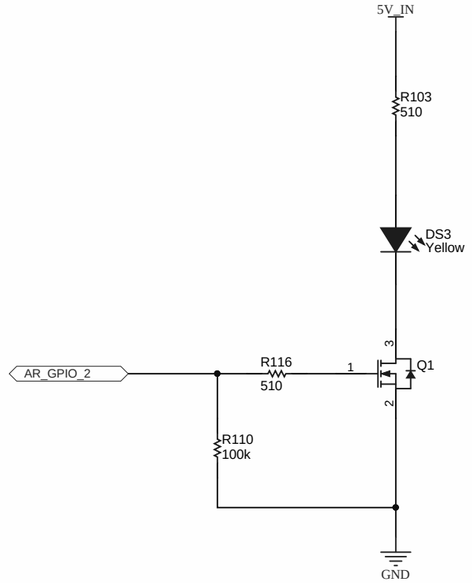


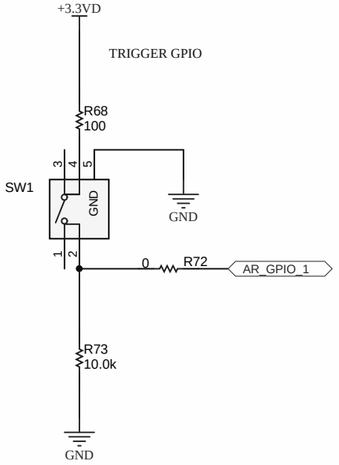
RESET AND LEDS



INDICATION LEDS







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Number: PROC049	Rev: B	Sheet Title: Pwr_RST_LEDs	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 7 of 17
Drawn By:		File: PROC049B_Pwr_RST_LEDs.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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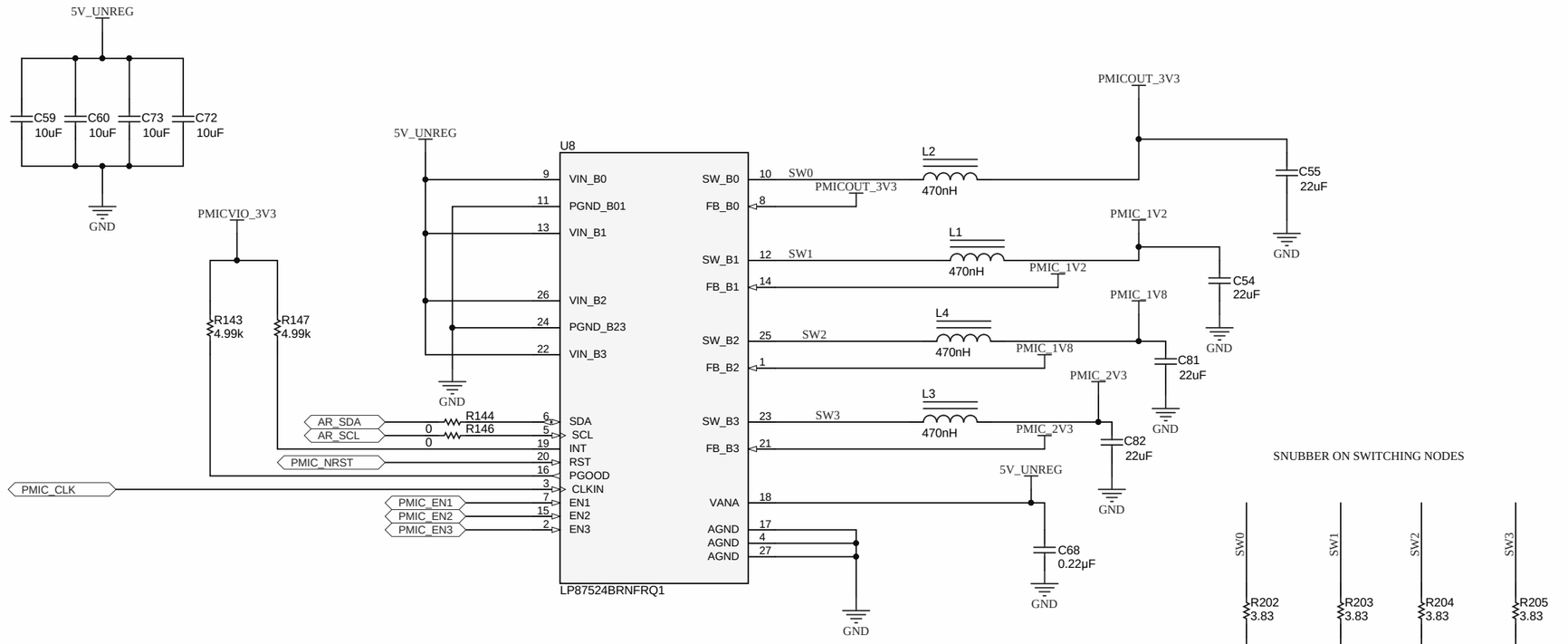
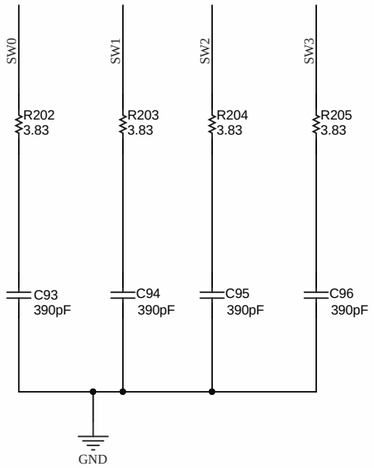
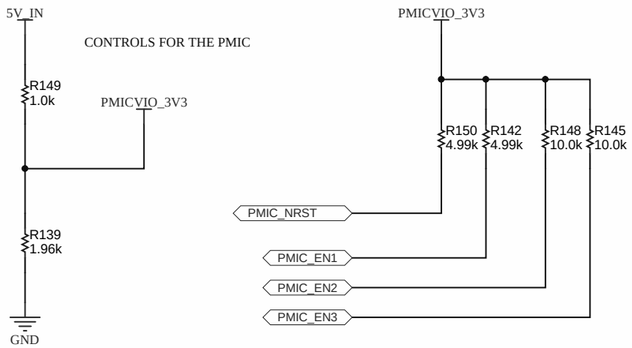
PMIC (3.3V, 1.2V, 1.8V,2.3V OUTPUTS)



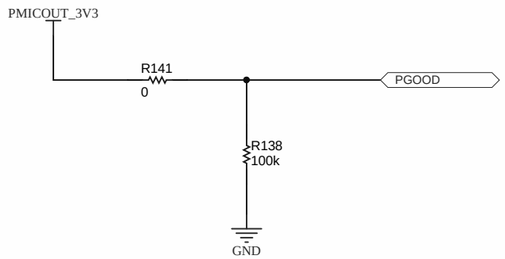
SNUBBER ON SWITCHING NODES



CONTROLS FOR THE PMIC



THE 3V3 OUTPUT FROM PMIC IS USED AS PGOOD.



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TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: PMIC	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 8 of 17
Drawn By:	File: PROC049B_PMIC.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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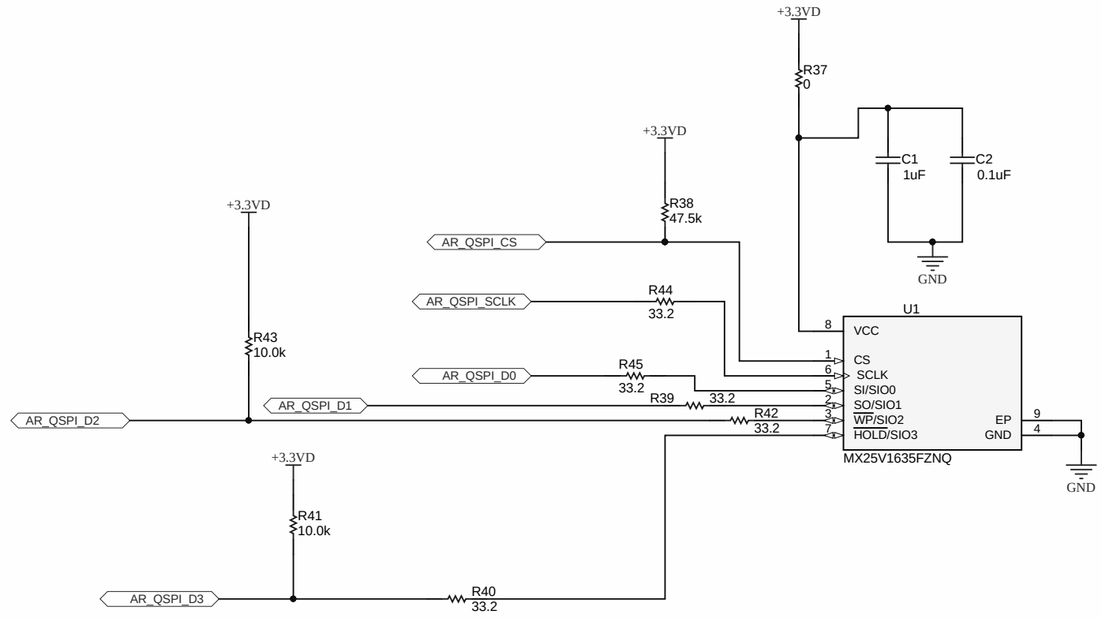
QSPI FLASH



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Number: PROC049 Rev: B	Sheet Title: QSPI flash section	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 9 of 17
Drawn By:	File: PROC049B_QSPI flash section.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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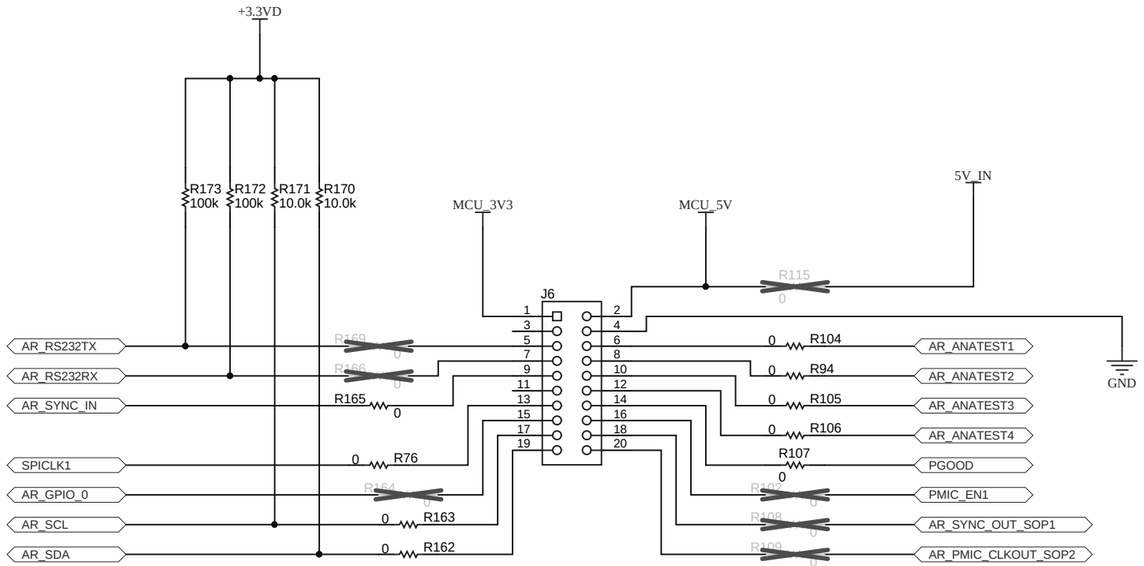
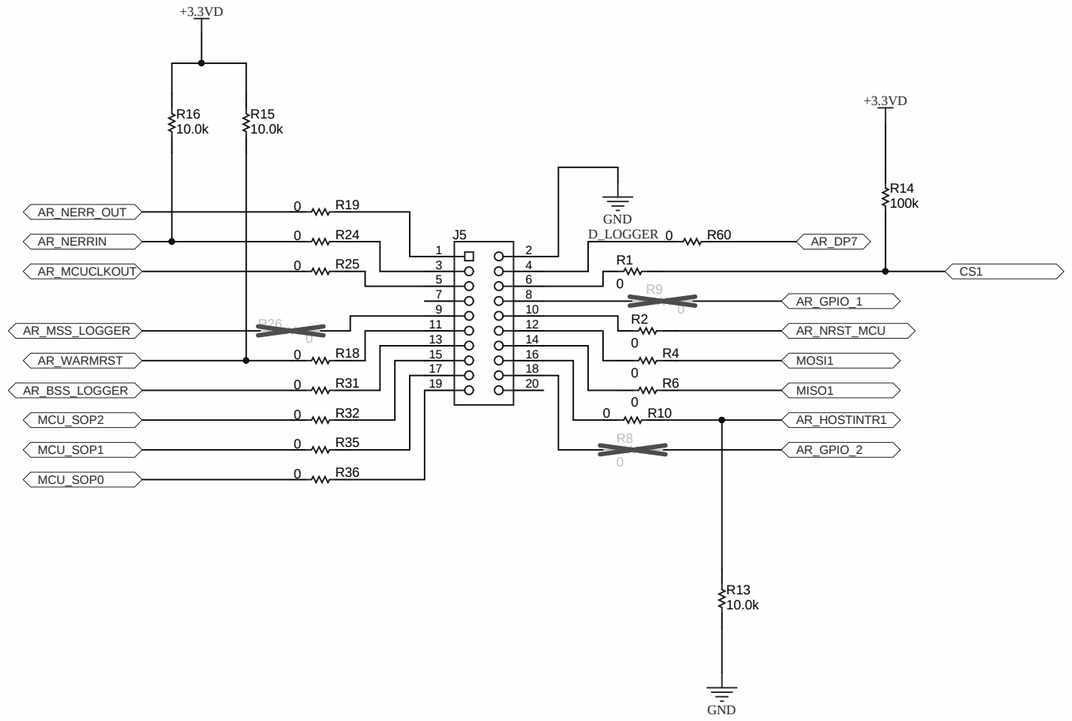
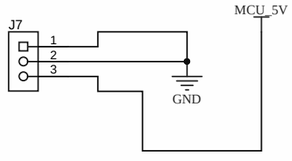
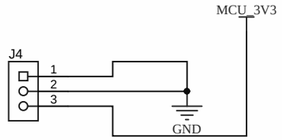
BP/LP CONNECTOR

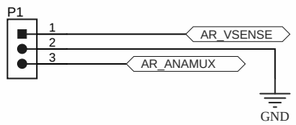




ANALOG SIGNALS







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TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: LP Connector	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 10 of 17
Drawn By:	File: PROC049B_LP Connector.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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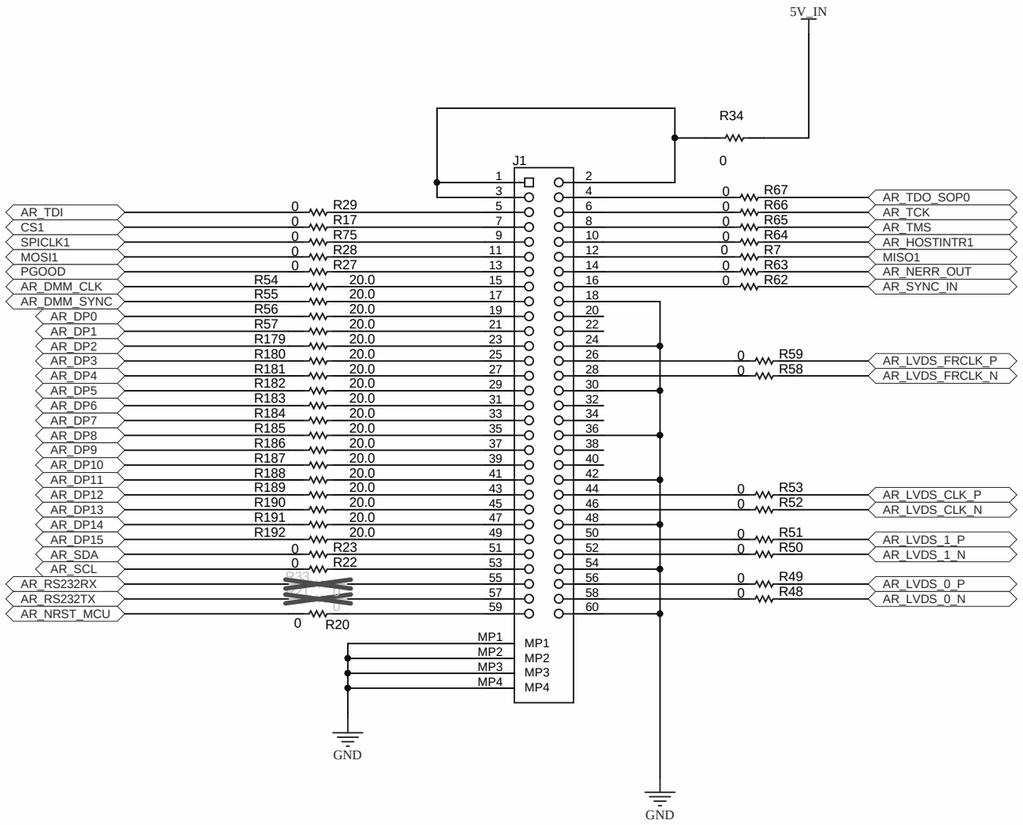
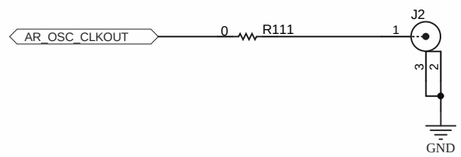
HD CONNECTOR FOR LVDS/CSI AND JTAG





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Number: PROC049	Rev: B	Sheet Title: HD Connector	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 11 of 17
Drawn By:		File: PROC049B_HD Connector.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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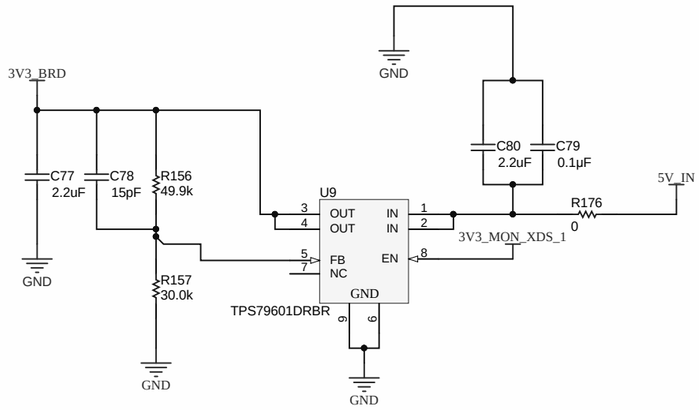
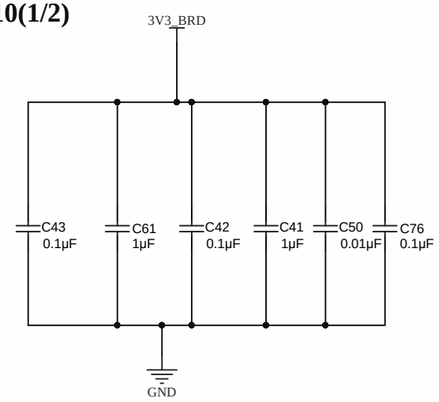
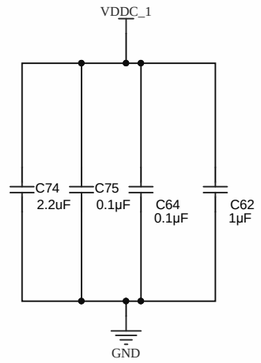
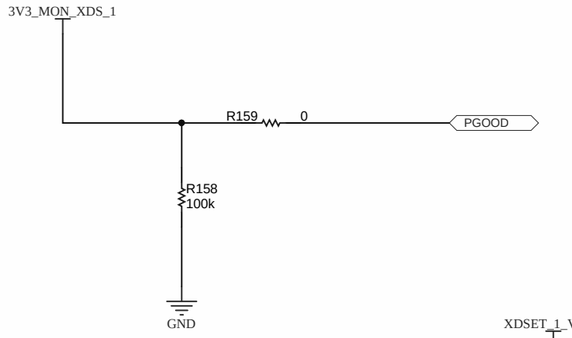
XDS110(1/2)



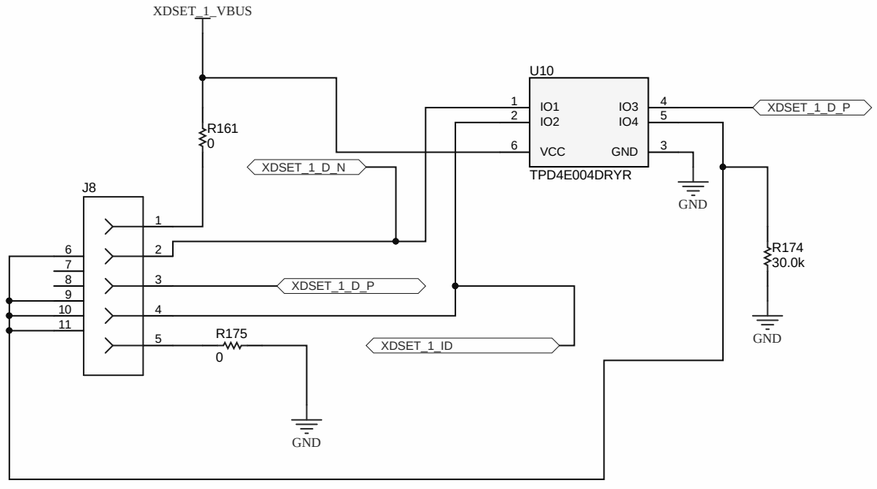


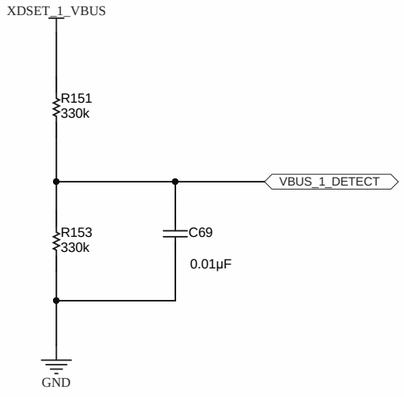




BY DEFAULT THE XDS SUPPLY IS DISABLED..

GETS ENABLED ONLY ONCE THE PMIC IS POWERED UP.





Orderable: IWR1642BOOST-ODS		Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A		Project Title: xWR1642BOOST-ODS	
Number: PROC049	Rev: B	Sheet Title: XDS110 Interface_1A	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 12 of 17
Drawn By:		File: PROC049B_XDS110 Interface_1A.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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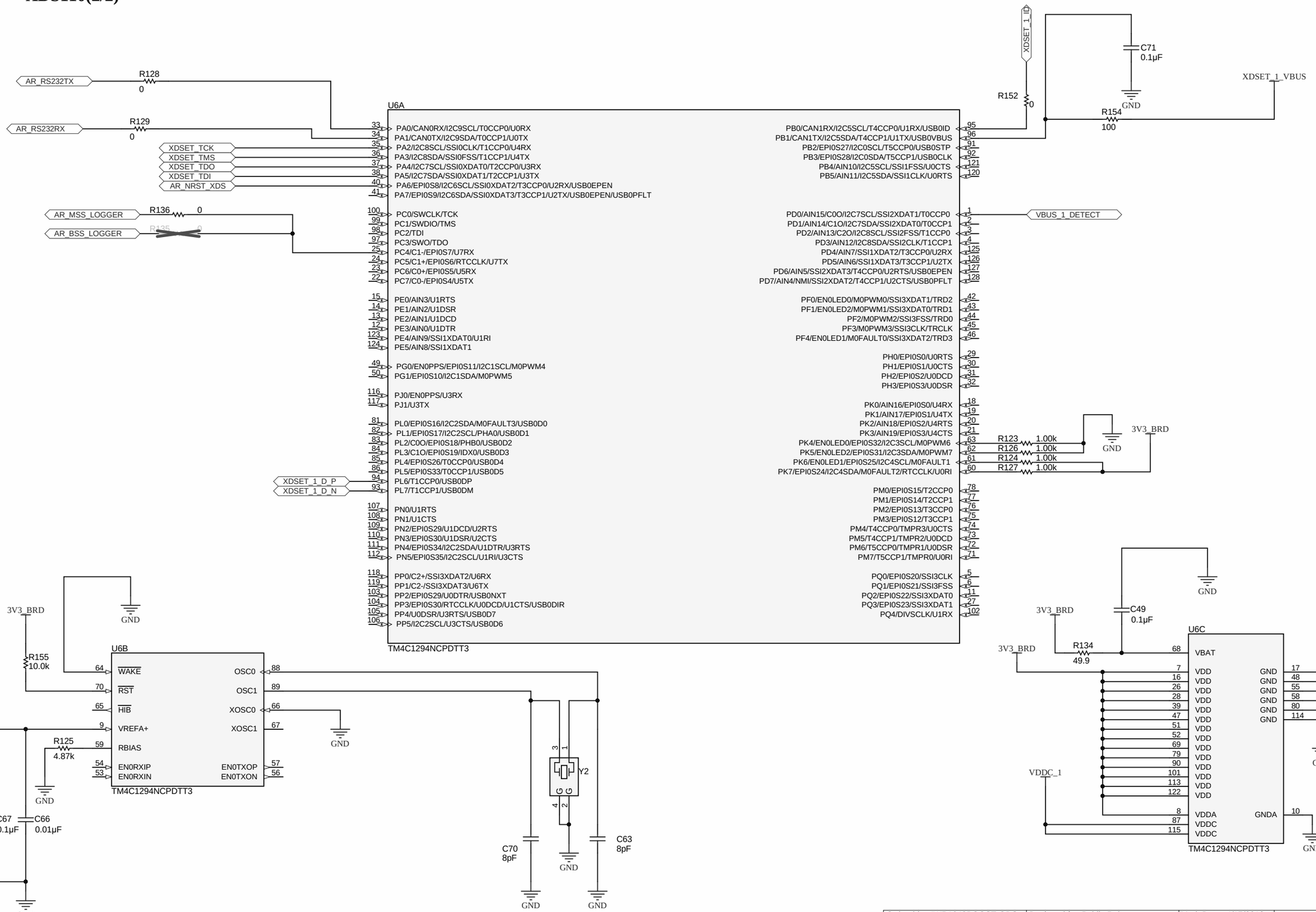
XDS110(2/2)



Orderable: IWR1642BOOST-ODS		Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A		Project Title: xWR1642BOOST-ODS	
Number: PROC049	Rev: B	Sheet Title: XDS110 Interface_1B	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 13 of 17
Drawn By:		File: PROC049B_XDS110 Interface_1B.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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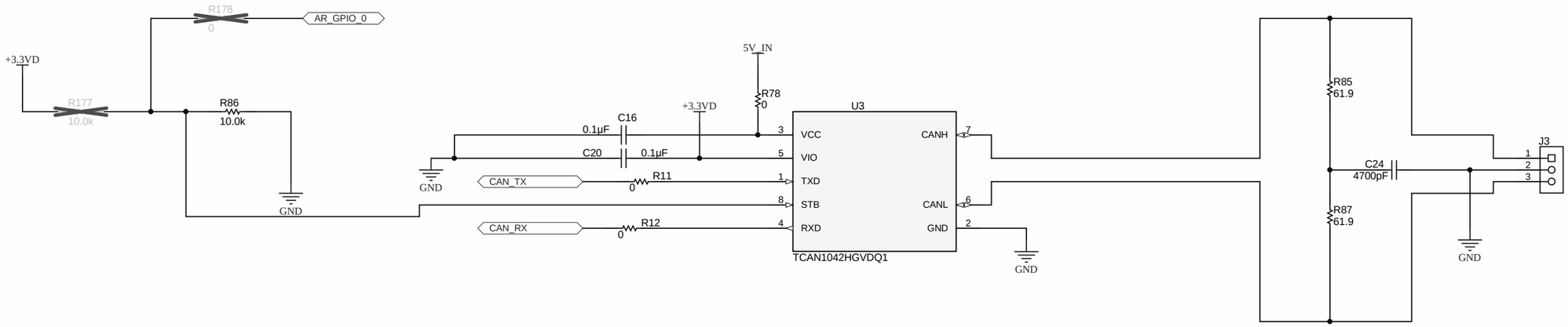
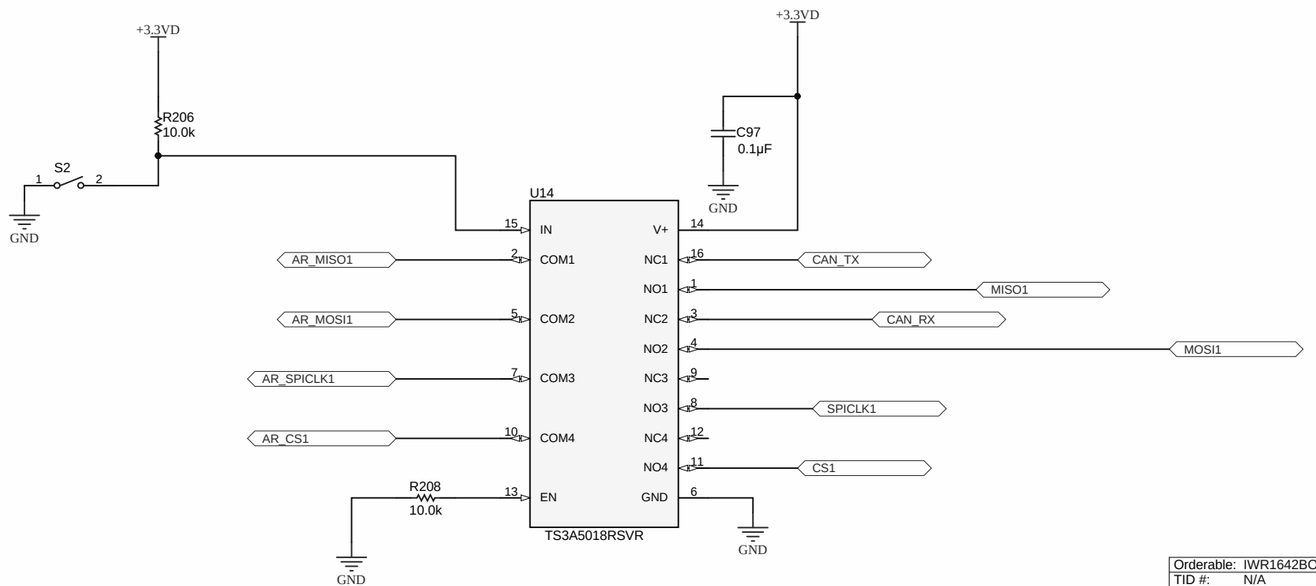
CAN INTERFACE



MUX BETWEEN SPI AND CAN INTERFACE



Orderable: IWR1642BOOST-ODS	Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: CAN Interface	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 14 of 17
Drawn By:	File: PROC049B_CAN Interface.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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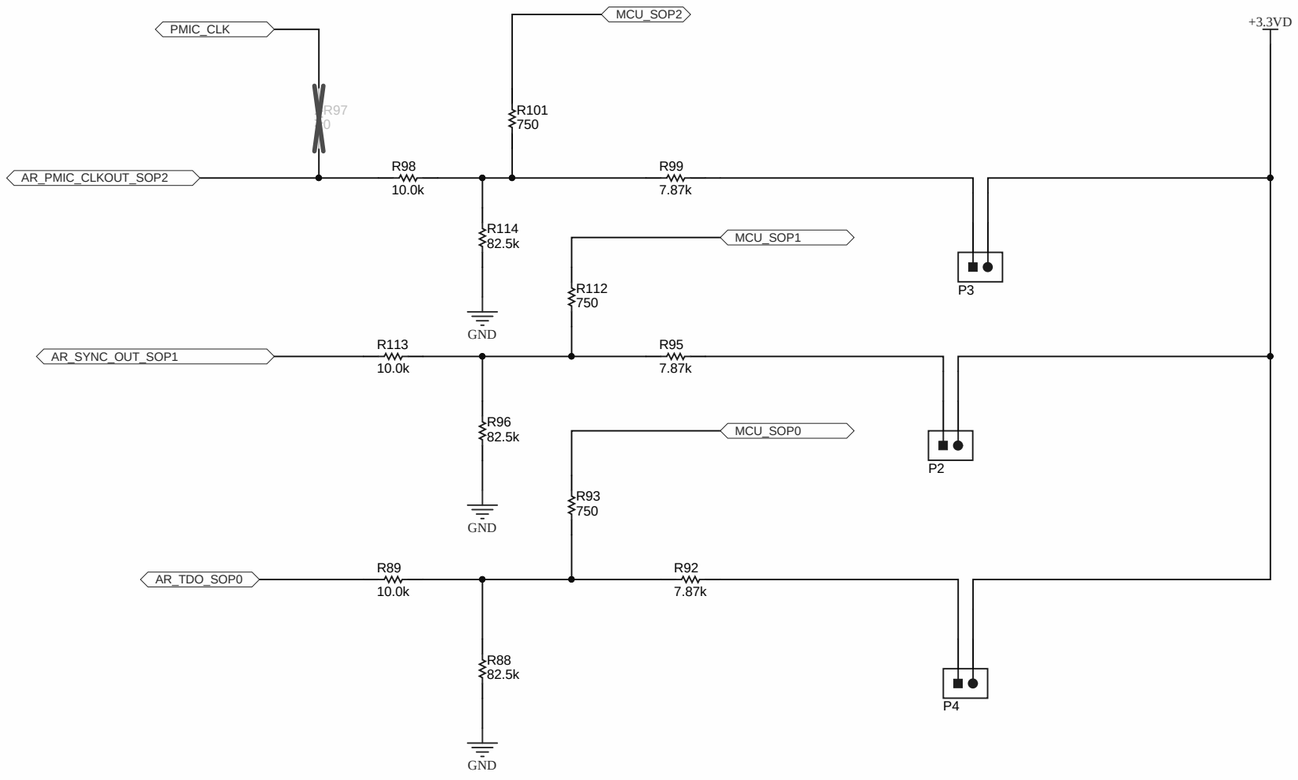
SOP HEADERS

SOP_MODE1	"010"	SCAN/ATPG
SOP_MODE2	"011"	DEV/FLED/ORBIT
SOP_MODE3	"000"	TBD
SOP_MODE4	"001"	FUNC - > DEFAULT VALUE FOR OUTPUTS
SOP_MODE5	"101"	DEV MANAGEMENT -> FOR FLASHING



Orderable: IWR1642BOOST-ODS	Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A	Project Title: xWR1642BOOST-ODS	
Number: PROC049 Rev: B	Sheet Title: SOP selection	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 15 of 17
Drawn By:	File: PROC049B_SOP selection.SchDoc	Size: B
Engineer: Vivek Dham	Contact: http://www.ti.com/support	

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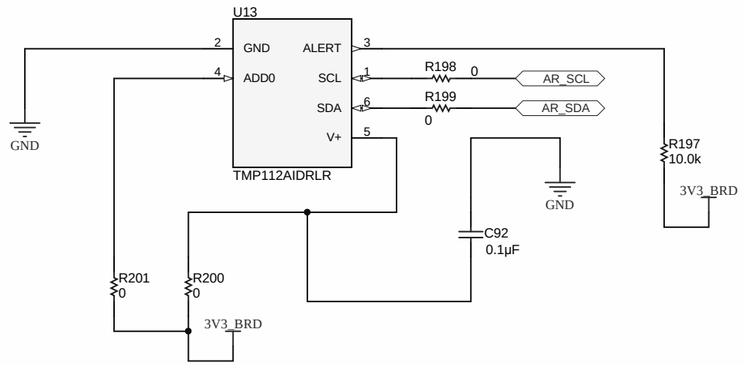
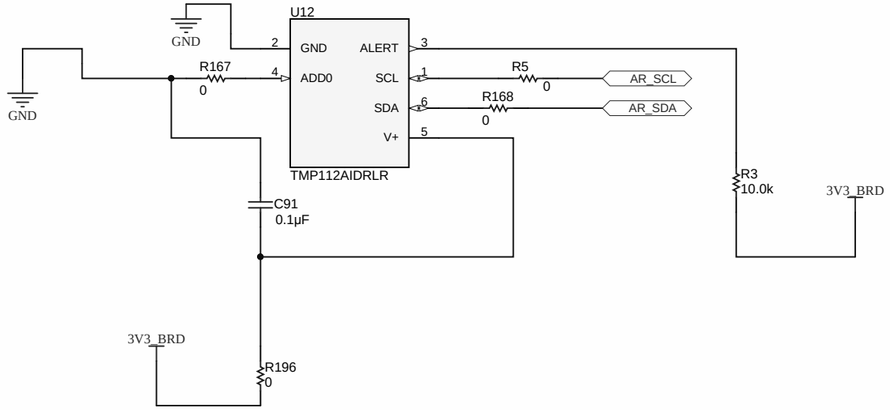
ONBOARD TEMP SENSORS

DEFAULT I2C ADDRESS 0X49
AND MMWAVE DEVICE
TEMP SENSOR AWAY FROM PMIC



DEFAULT I2C ADDRESS 0X48
TEMP SENSOR CLOSE TO PMIC



Orderable: IWR1642BOOST-ODS		Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A		Project Title: xWR1642BOOST-ODS	
Number: PROC049	Rev: B	Sheet Title: Tempsensor	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 16 of 17
Drawn By:		File: PROC049B_Tempsensor.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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FID1

FID2

FID3

FID4

FID5

FID6

FID7

CAUTION HOT SURFACE

PCB
LOGO
Texas Instruments

PCB
LOGO
ESD Susceptible

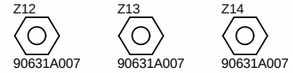
PCB
LOGO
FCC disclaimer

Works With TI LaunchPad Logo
PCB
LOGO
Works With TI LaunchPad Logo

Logo2
PCB
LOGO
WEEE logo

LOGO4

LBL1
PCB Label
Size: 0.65" x 0.20 "



Z21
MECH
969102-0000-DA

Z20
MECH
969102-0000-DA

Z19
MECH
3025010-03

PCB Number: PROC049
PCB Rev: B

Variant/Label Table	
Variant	Label Text
001	AWR1642BOOST-ODS
002	IWR1642BOOST-ODS

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.

ZZ5
Assembly Note
Micro USB cable, Brackets, Screws, Nuts, Jumpers and Bump on need to be place in a plastic bag

Orderable: IWR1642BOOST-ODS		Designed for: Public Release	Mod. Date: 4/17/2018
TID #: N/A		Project Title: xWR1642BOOST-ODS	
Number: PROC049	Rev: B	Sheet Title: Hardware	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 17 of 17
Drawn By:		File: PROC049B_Hardware.SchDoc	Size: B
Engineer: Vivek Dham		Contact: http://www.ti.com/support	

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