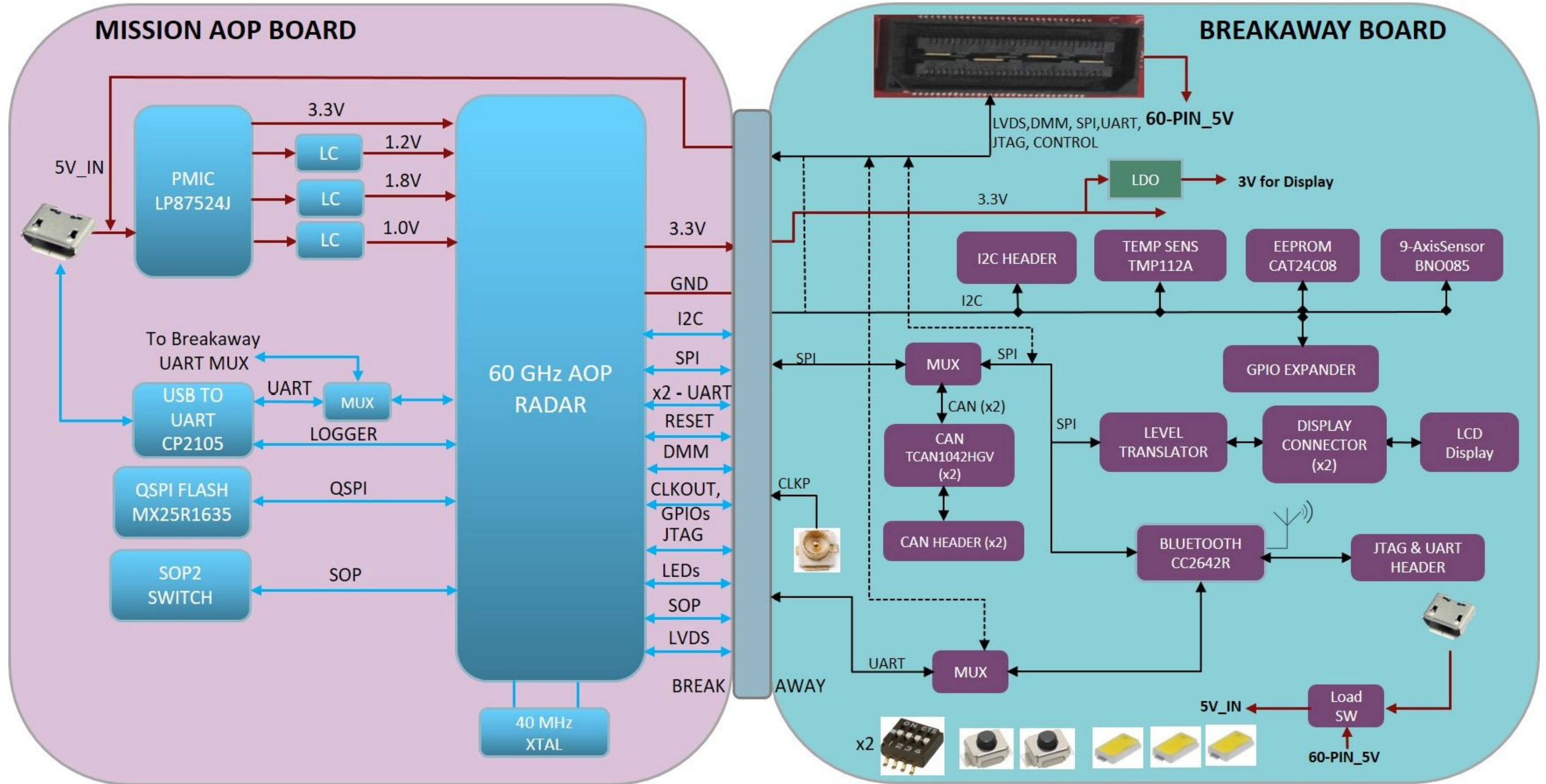


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: BLOCK DIAGRAM
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 12
Drawn By: Antony/Bala	File: PROC091F_BLOCK_DIAGRAM.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	



TABLE OF CONTENTS

SHEET NO.	SHEET NAME
1	BLOCK DIAGRAM
2	TABLE OF CONTENTS
3	AOP_IO
4	AOP_PWR
5	PMIC
6	QSPI FLASH & USB_TO_UART
7	BREAKAWAY 60PIN HD CONNECTOR
8	BREAKAWAY_SECTION2
9	BREAKAWAY_SECTION3
10	BREAKAWAY_SECTION4
11	BREAKAWAY_SECTION5
12	HARDWARE

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

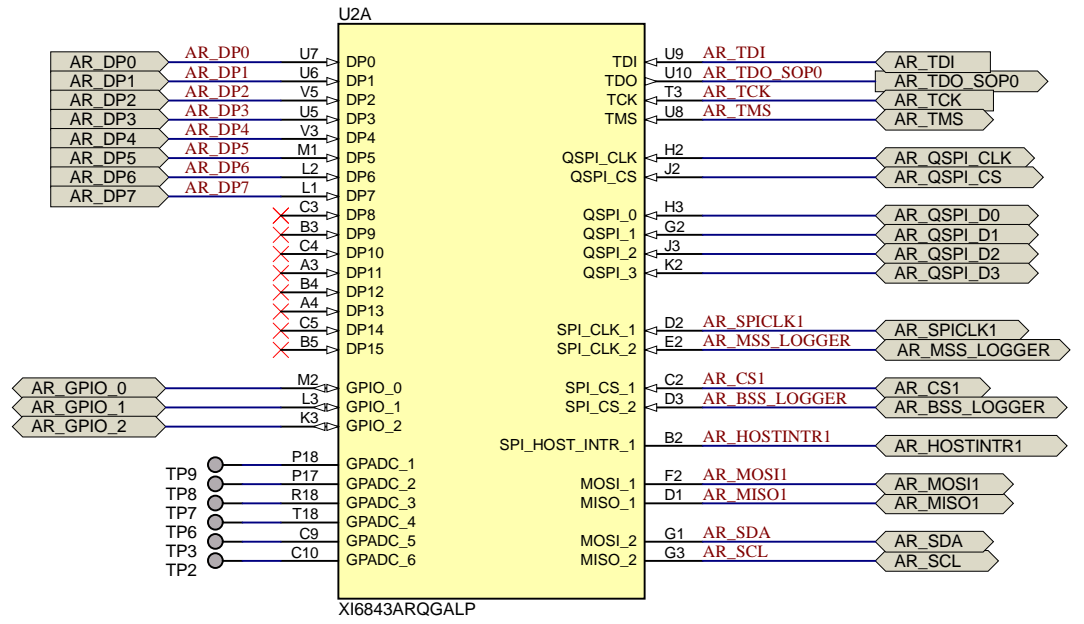
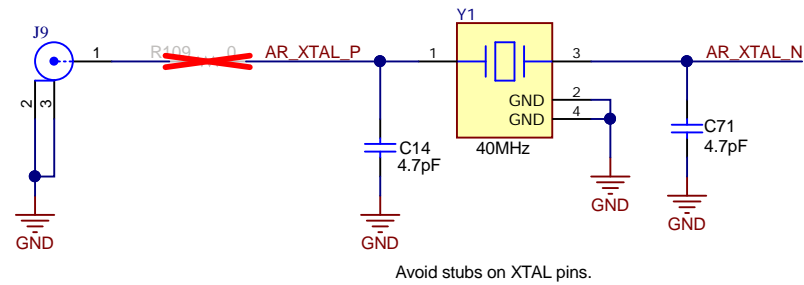
Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: TABLE_OF_CONTENTS
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 12
Drawn By: Antony/Bala	File: PROC091F_TABLEOFCONTENTS.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	



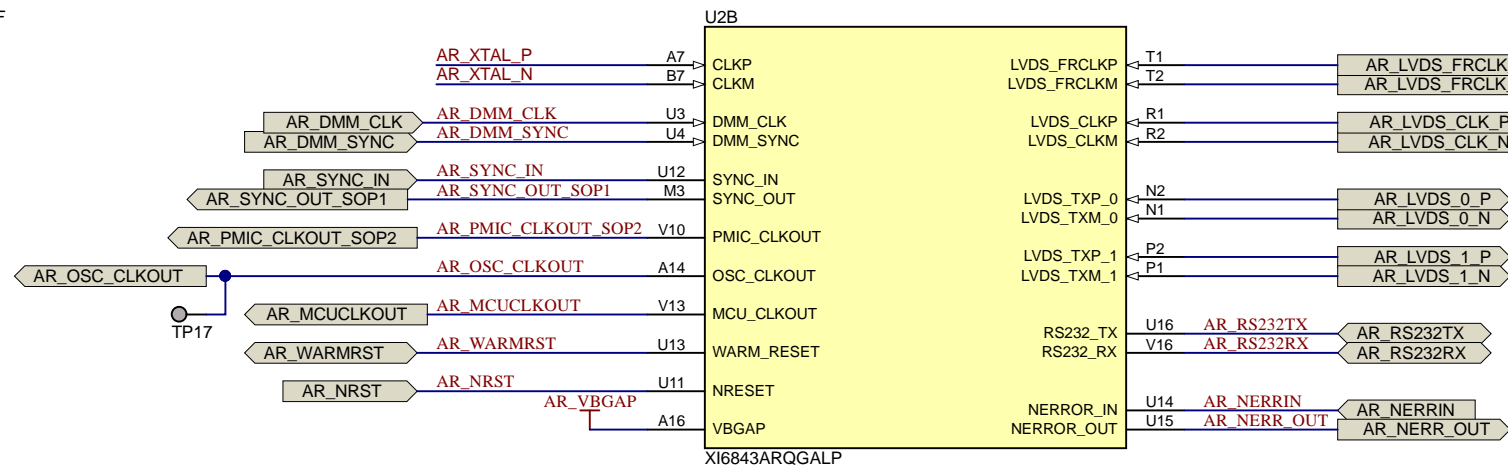
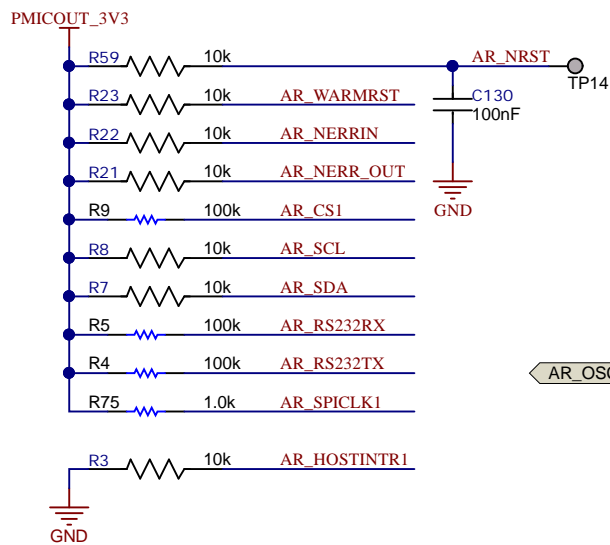
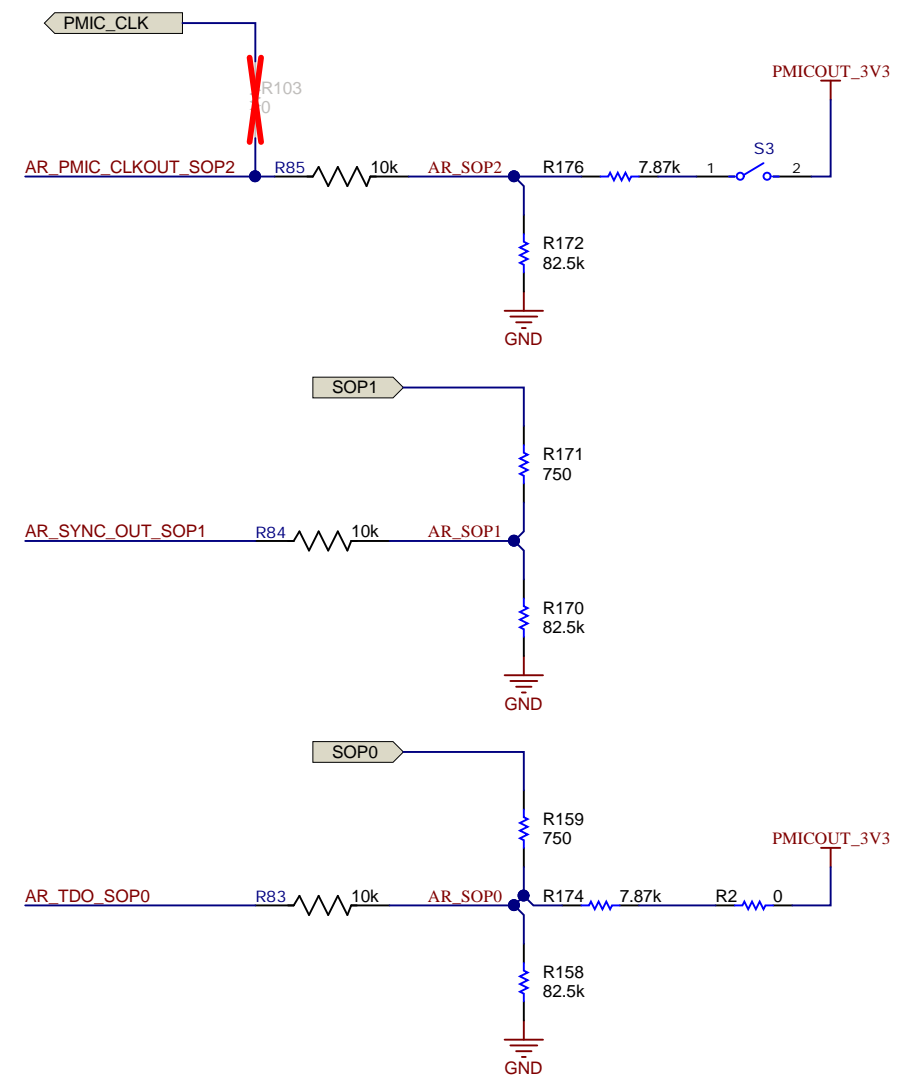
AOP IO

SOP_MODE2 - '011' - DEV/DEBUG
 SOP_MODE4 - '001' - FUNCTIONAL MODE
 SOP_MODE5 - '101' - FLASH MODE

40MHz CRYSTAL



SOP OPTIONS

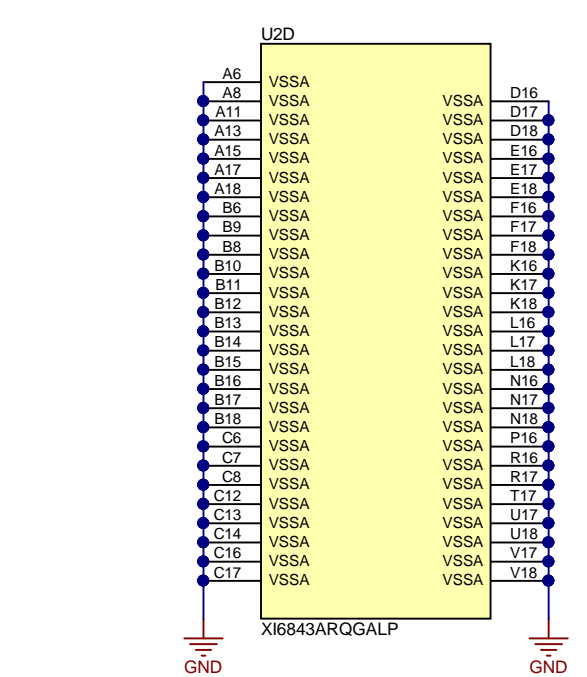
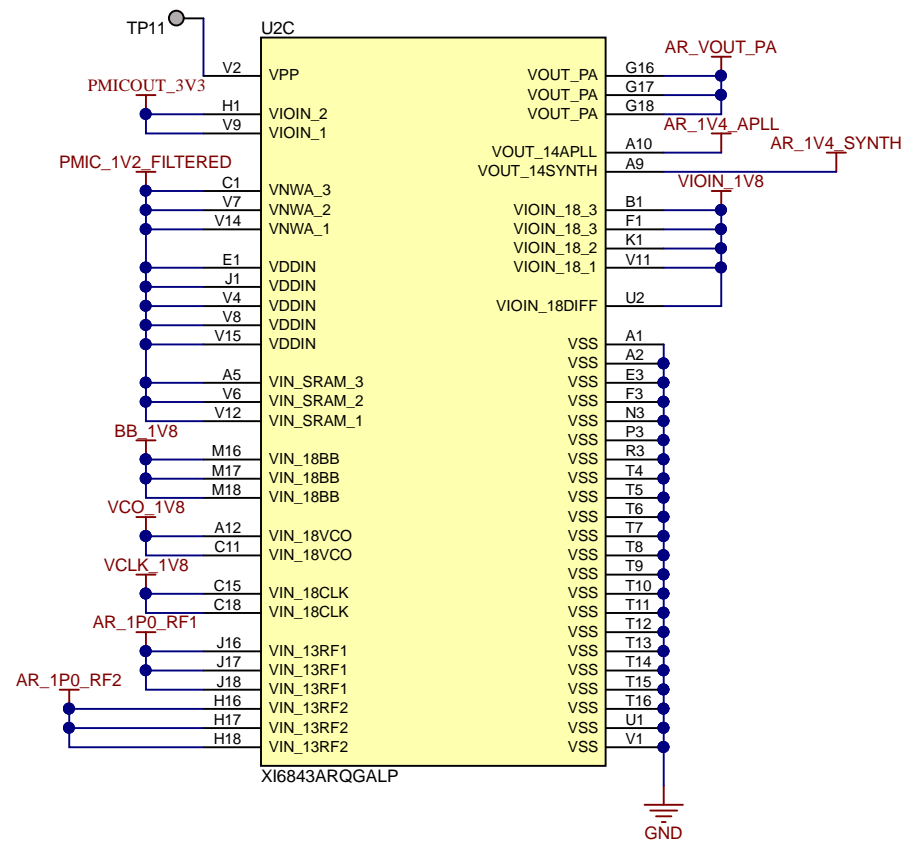


Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: AOP_IO
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 12
Drawn By: Antony/Bala	File: PROC091F_AOP_IO.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

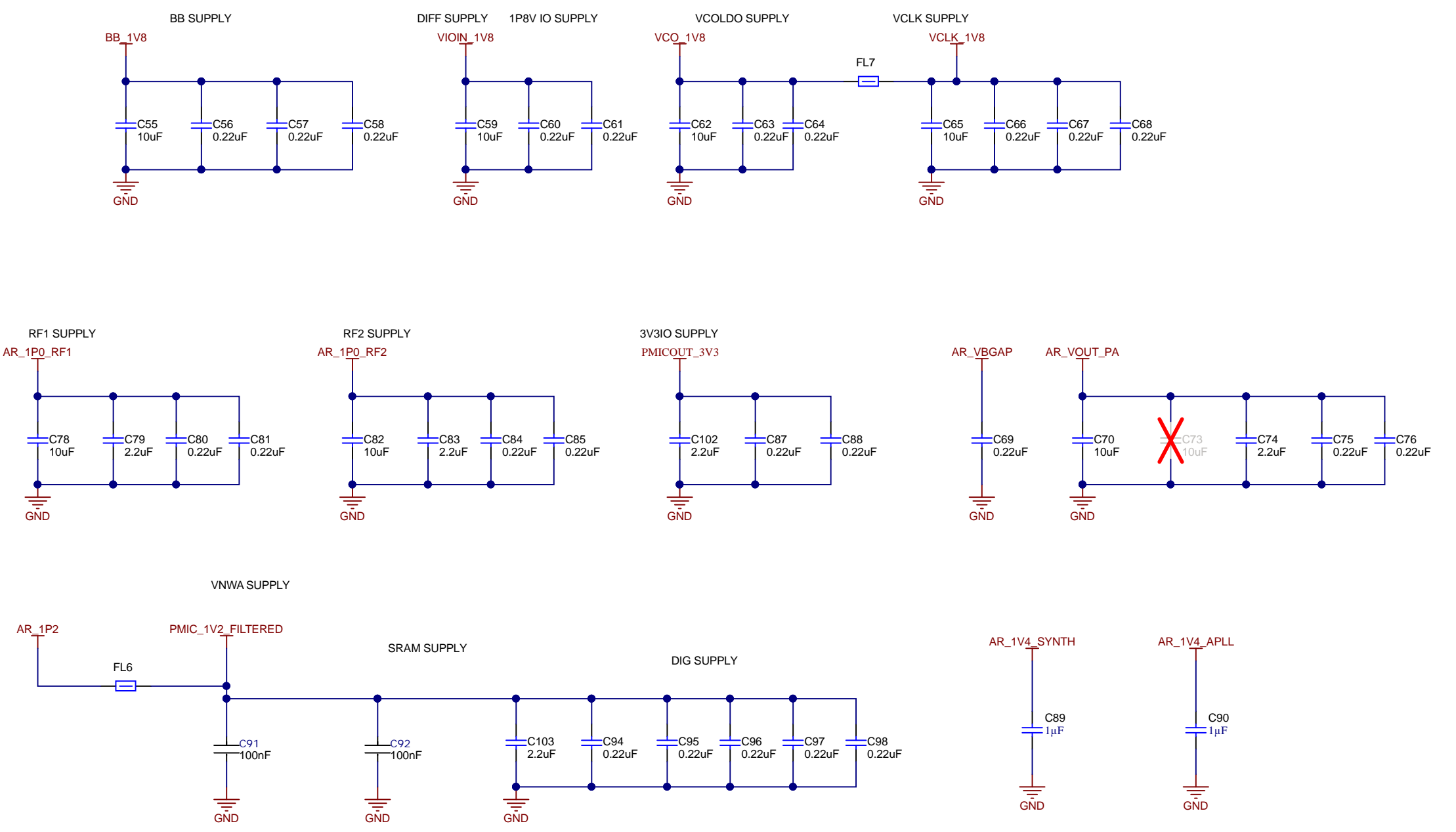
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.



AOP POWER



DECOUPLING CAPS

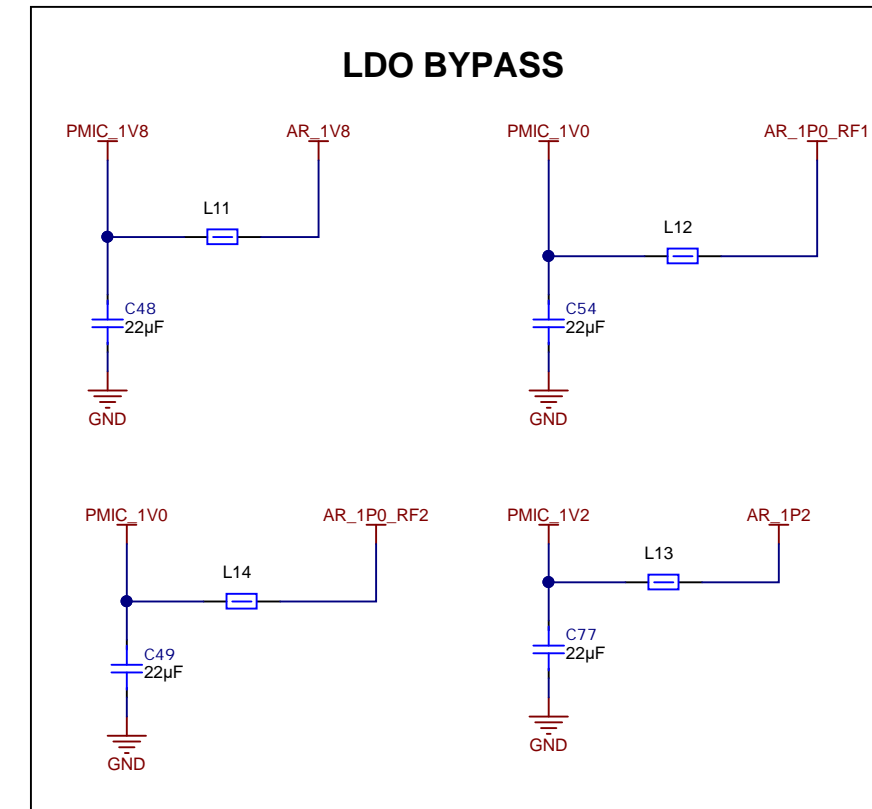
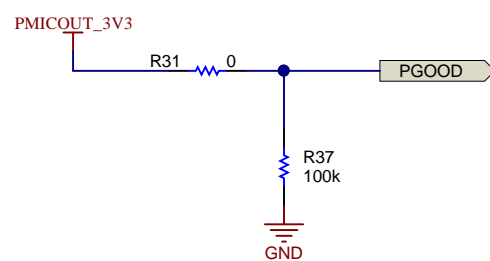
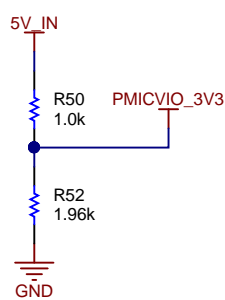
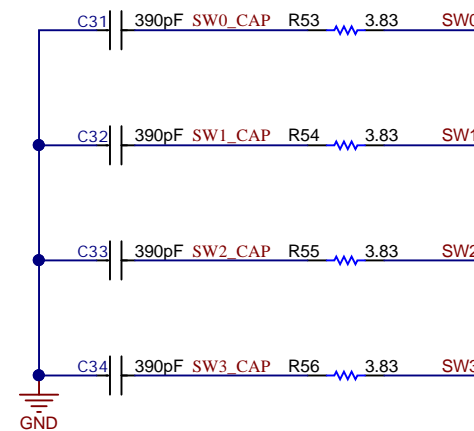
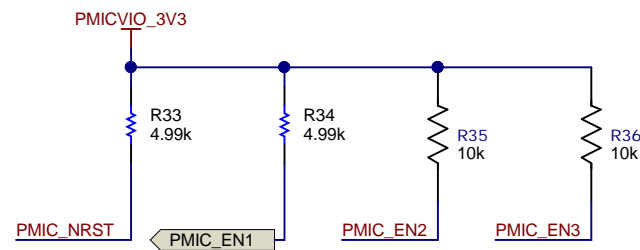
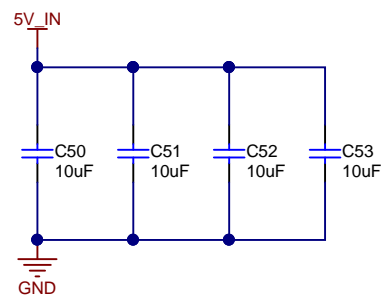
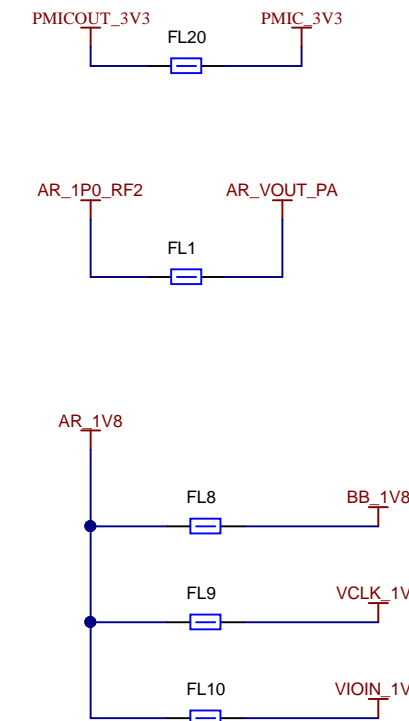
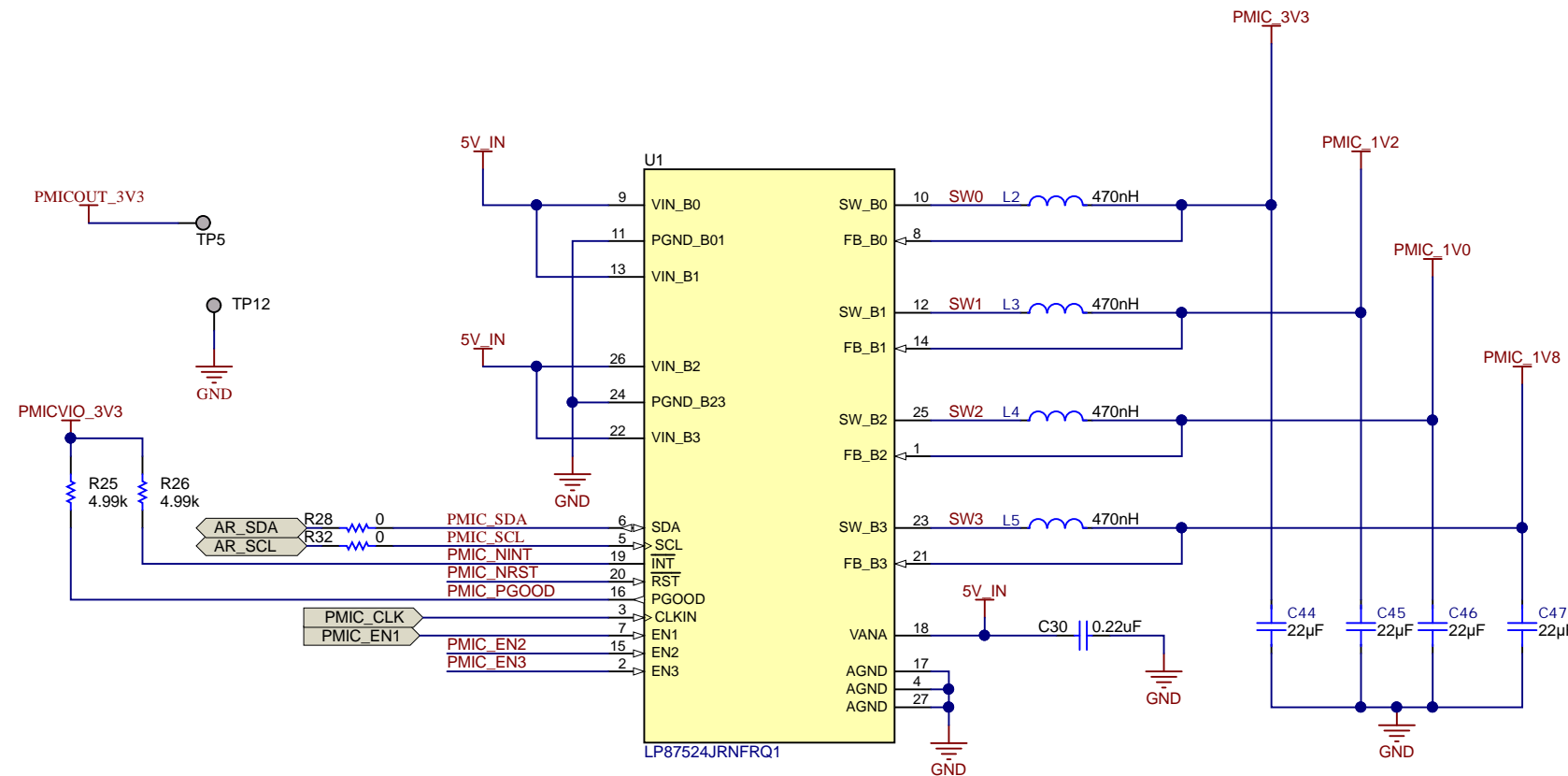


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: AOP_POWER
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 12
Drawn By: Antony/Bala	File: PROC091F_AOP_PWR_SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	



PMIC (3.3V, 1.2V, 1.0V, 1.8V OUTPUTS)

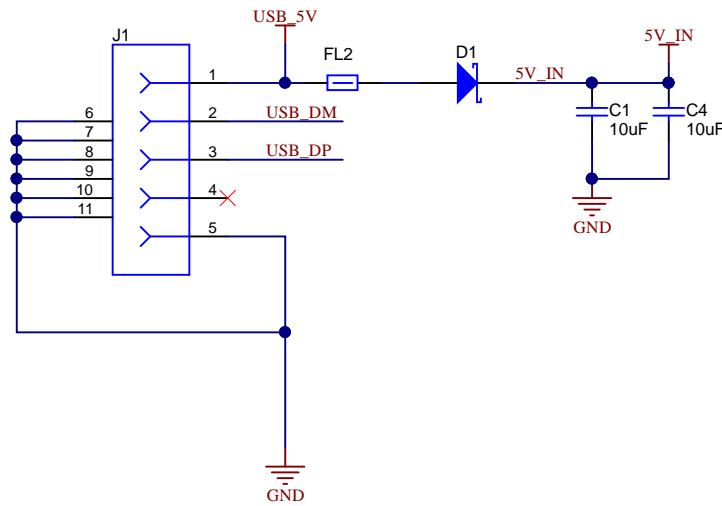


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

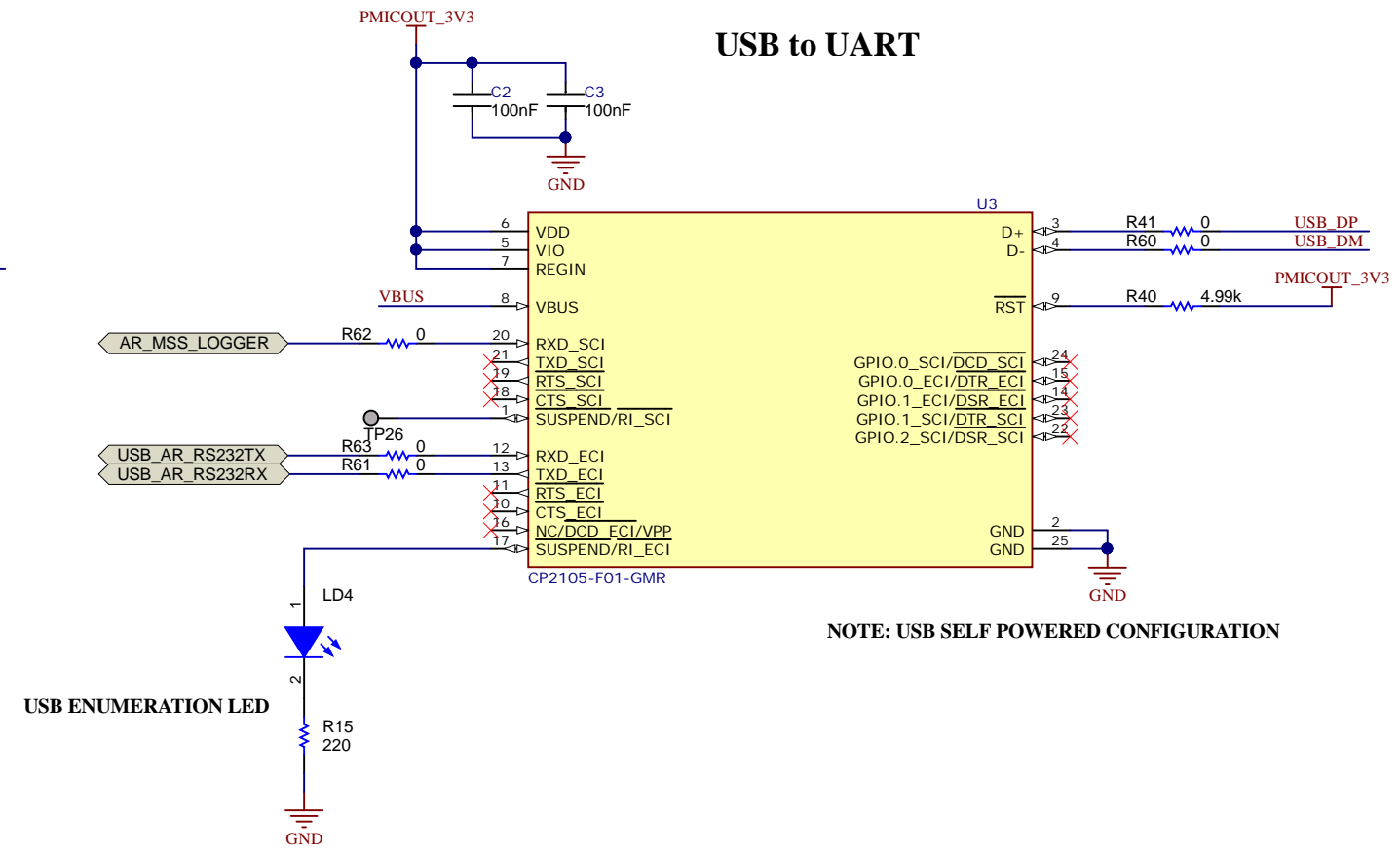
Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: PMIC
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 5 of 12
Drawn By: Antony/Bala	File: PROC091F_PMIC.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	



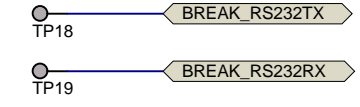
USB CONNECTOR



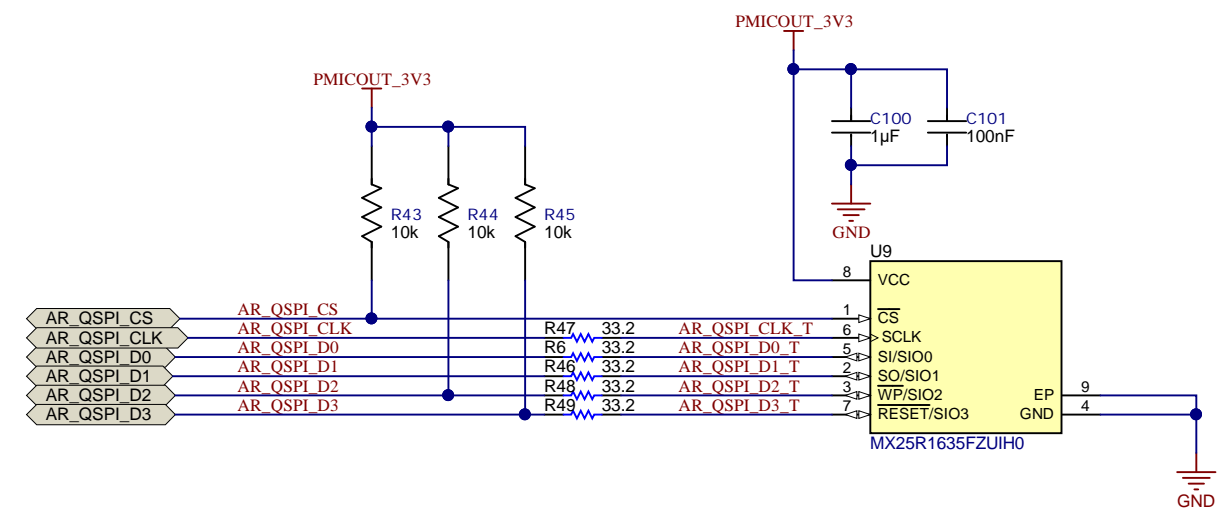
USB to UART



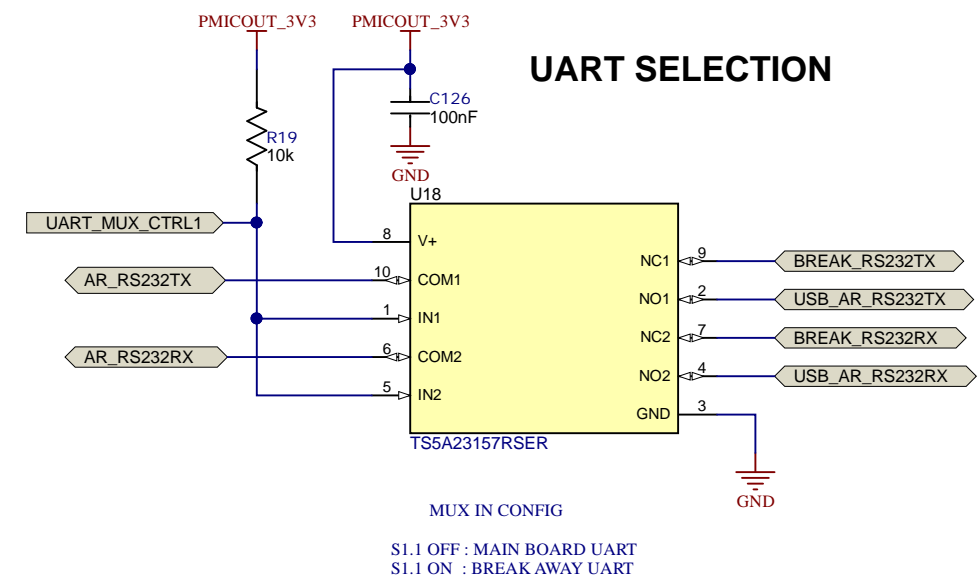
NOTE: USB SELF POWERED CONFIGURATION



QSPI FLASH



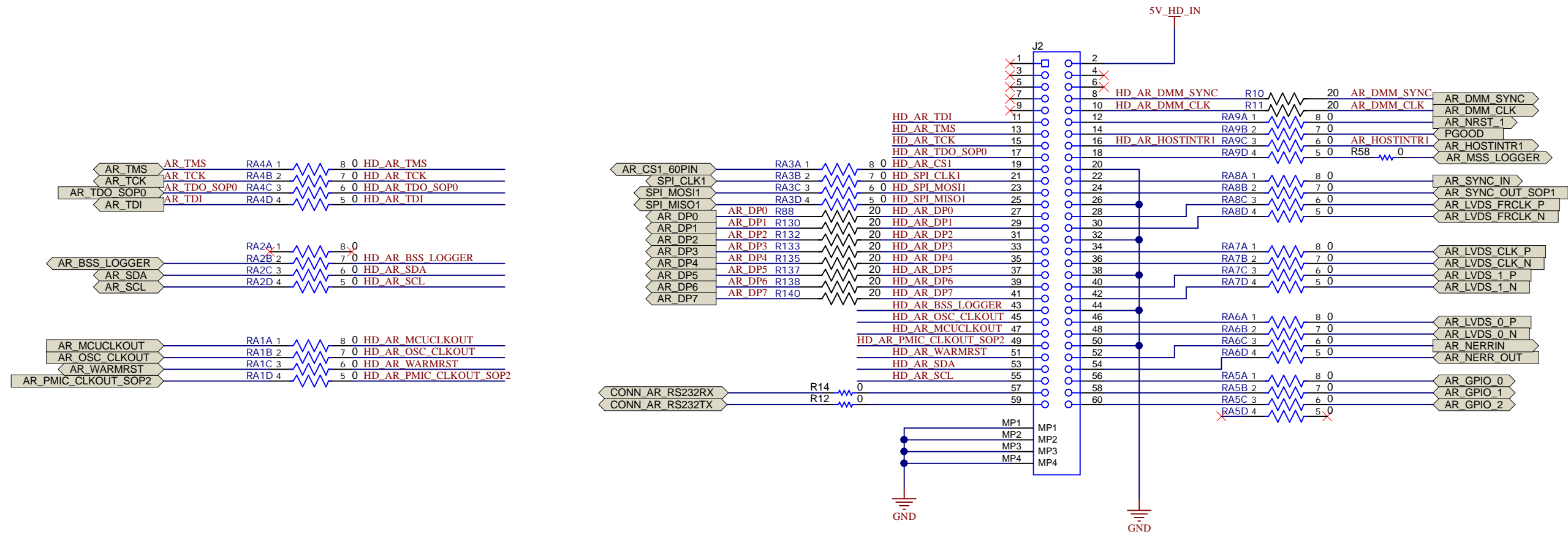
UART SELECTION



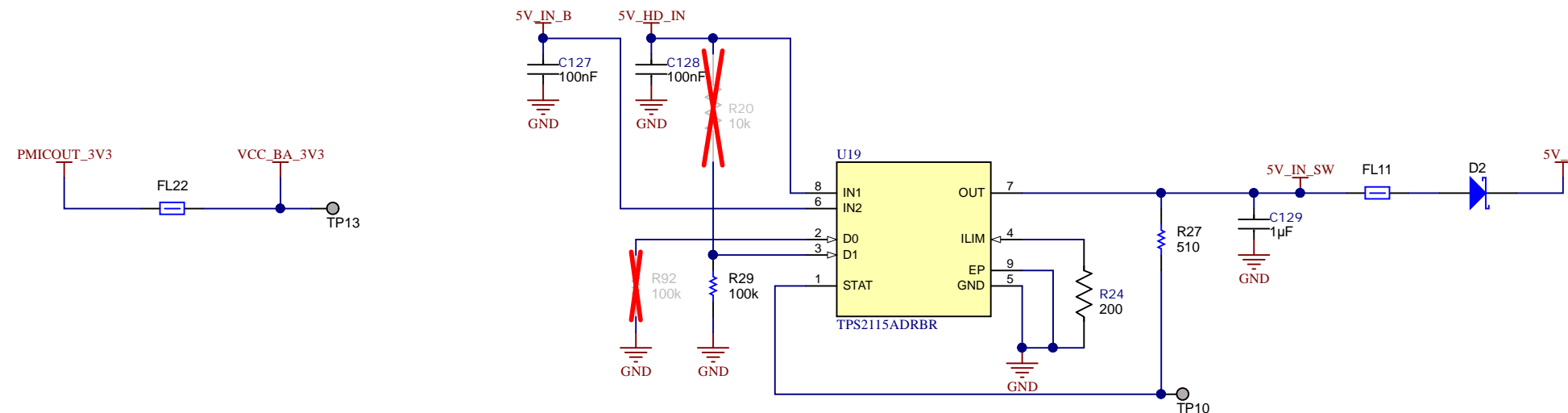
MUX IN CONFIG
S1.1 OFF : MAIN BOARD UART
S1.1 ON : BREAK AWAY UART

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

BREAKAWAY _ 60-PIN HD CONNECTOR



CONNECTOR PWR / USB PWR LOAD SWITCH

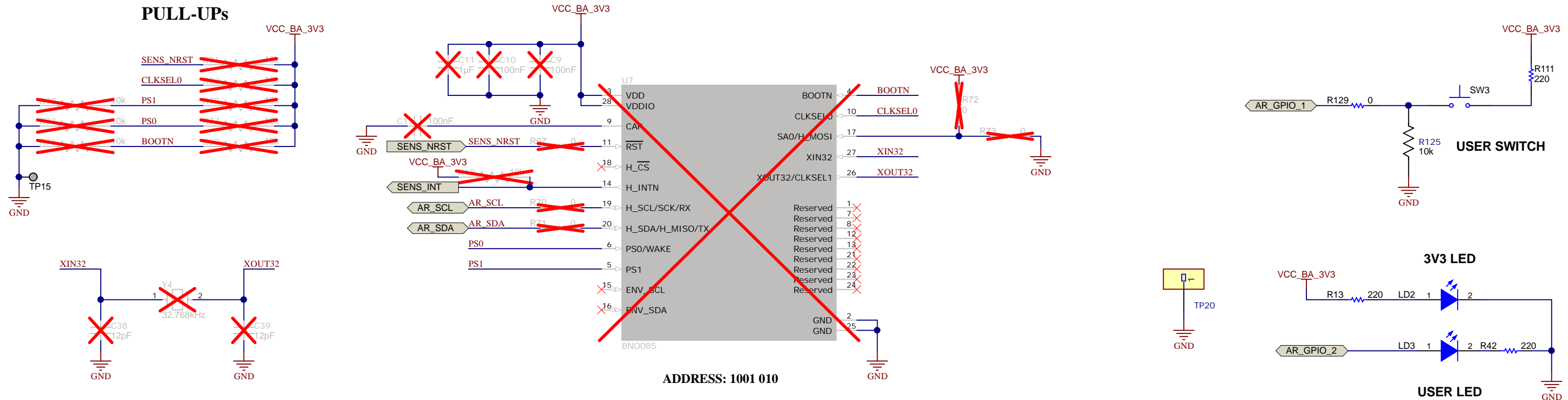


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

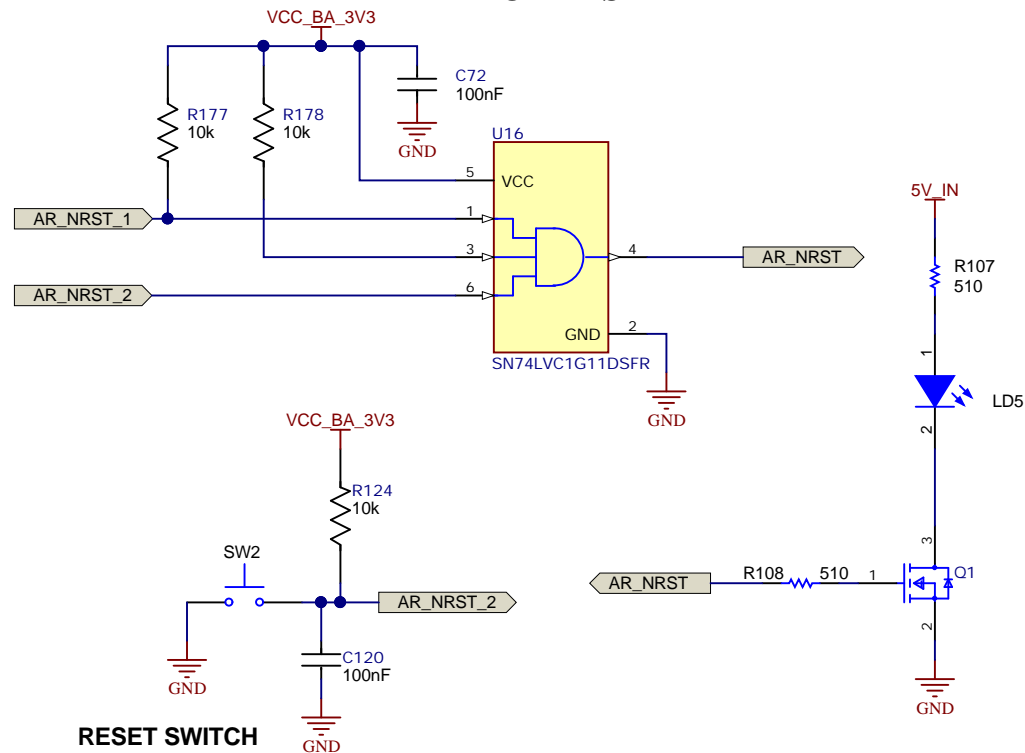
Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: BREAKAWAY_60PIN_CONN
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 12
Drawn By: Antony/Bala	File: PROC091F_HD_CONN_PWR_SW.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

BREAKAWAY_SECTION_2

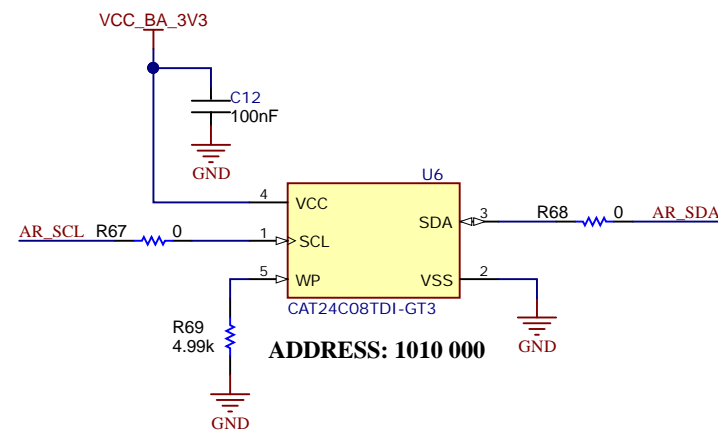
9 - AXIS SENSOR



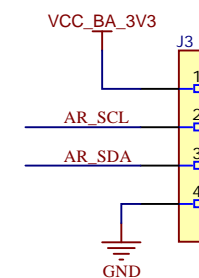
AOP RESET



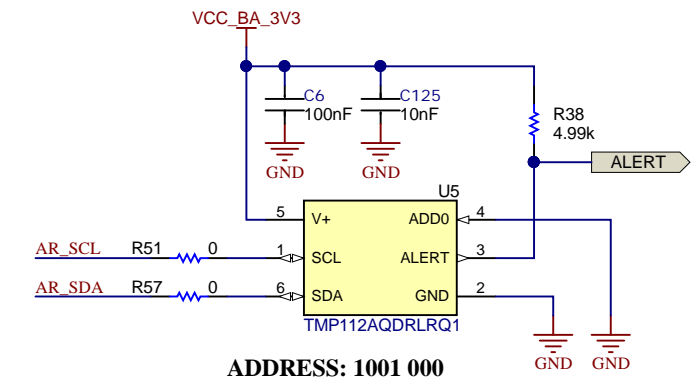
EEPROM



I2C HEADER



TEMPERATURE SENSOR



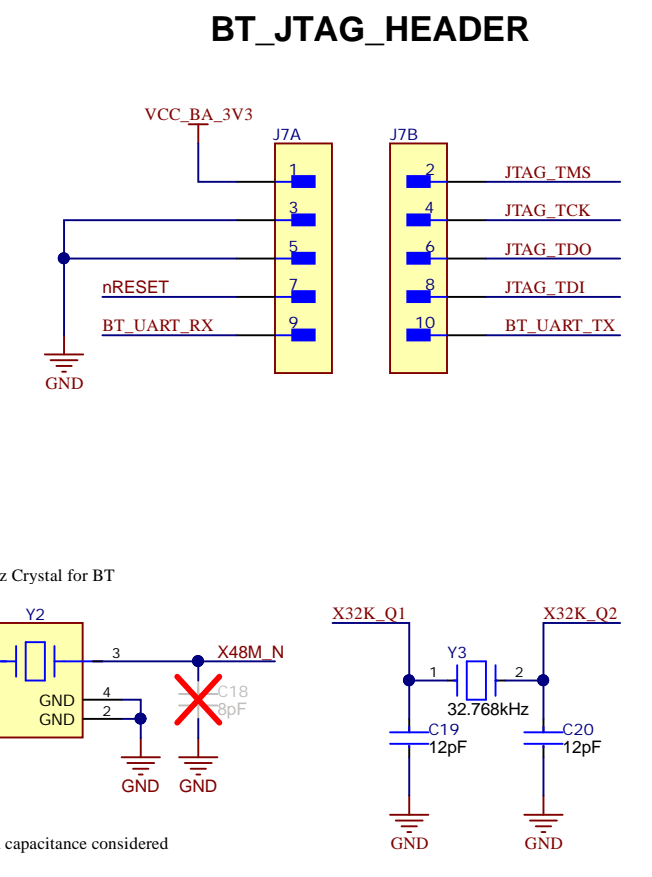
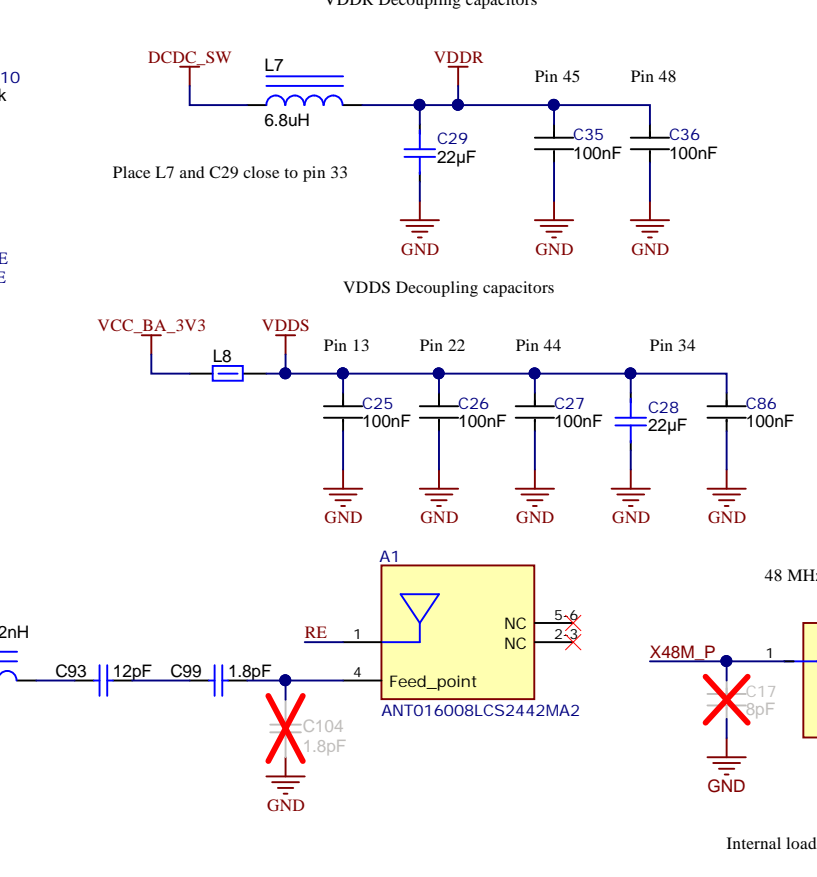
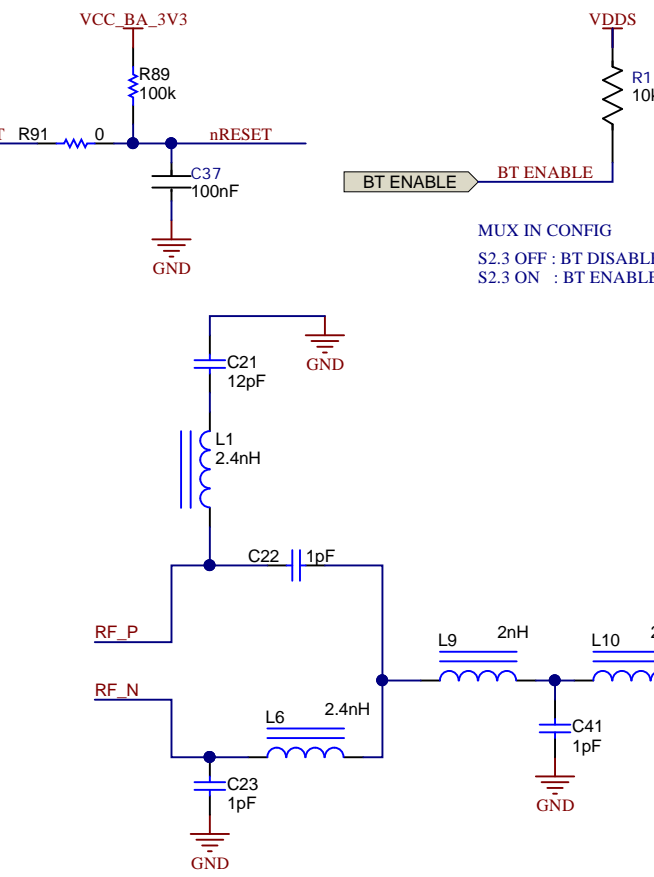
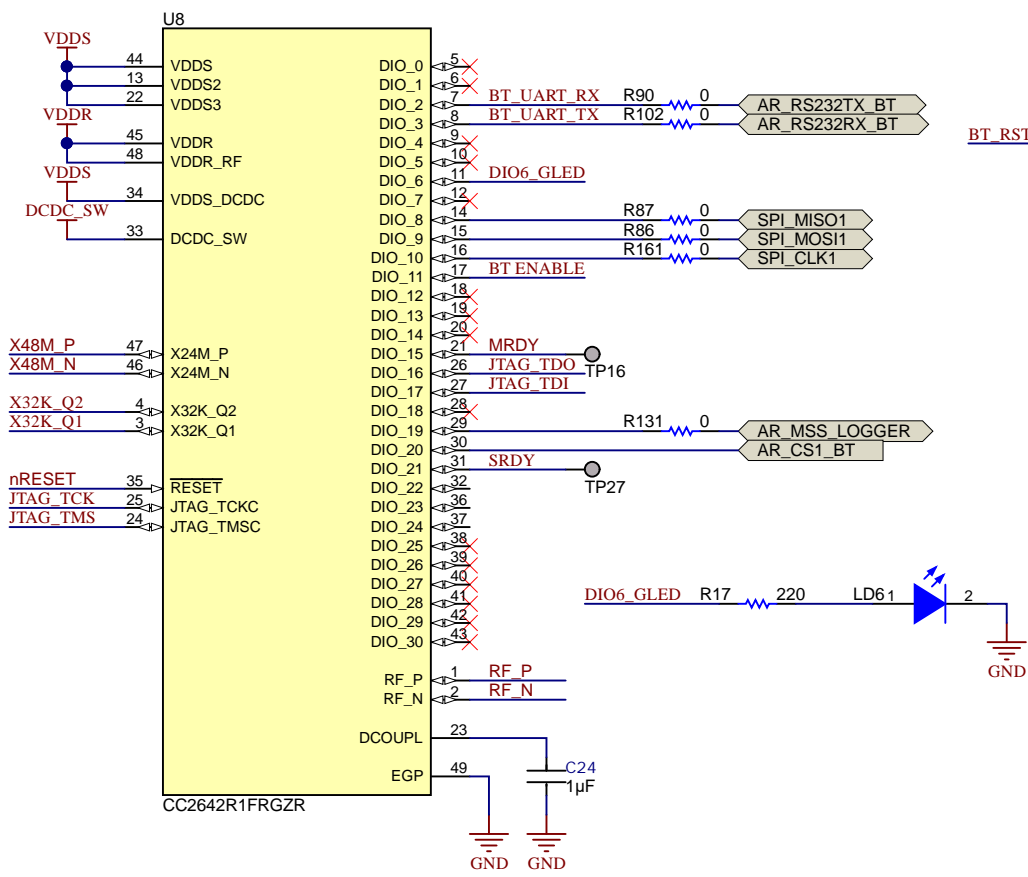
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: BREAKAWAY_SECTION2
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 8 of 12
Drawn By: Antony/Bala	File: PROC091F_RST_GPIOs_I2C.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

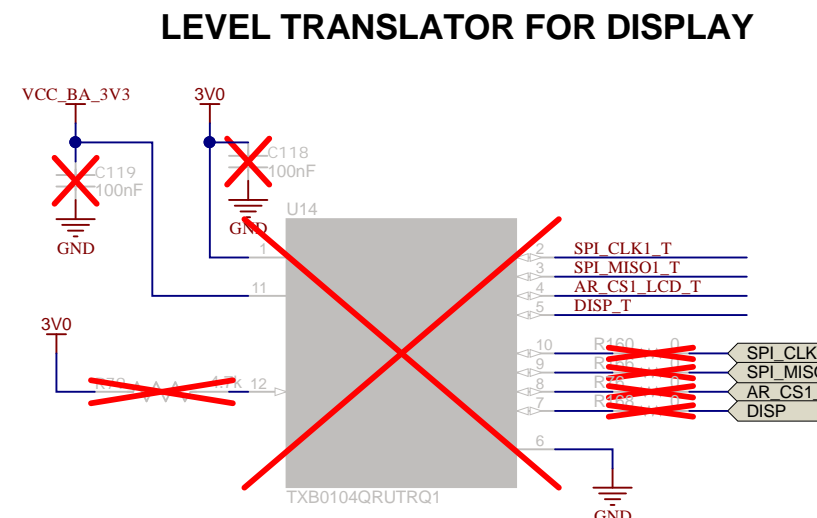
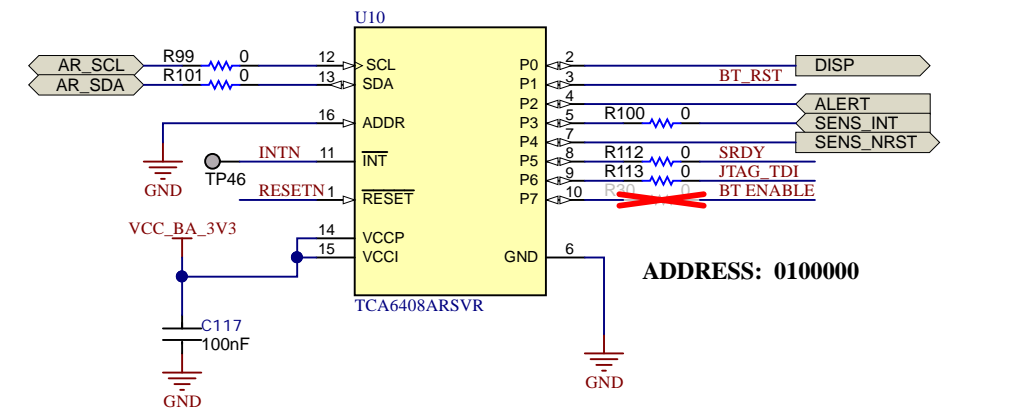
TEXAS INSTRUMENTS
http://www.ti.com
© Texas Instruments 2019

BREAKAWAY_SECTION_3

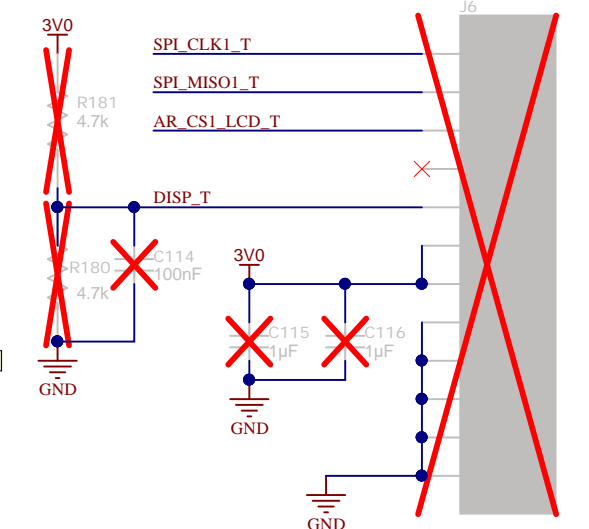
BLUETOOTH



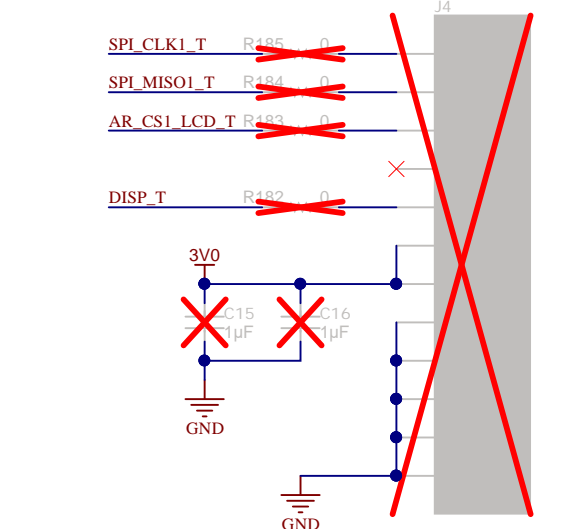
GPIO EXPANDER



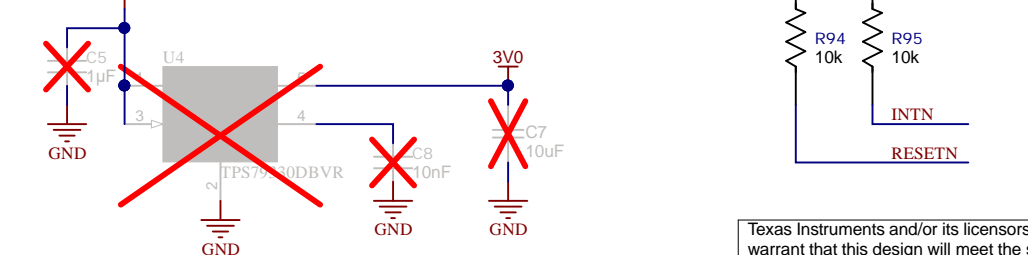
LCD DISPLAY CONNECTOR-1



LCD DISPLAY CONNECTOR-2



3V3 TO 3V LDO



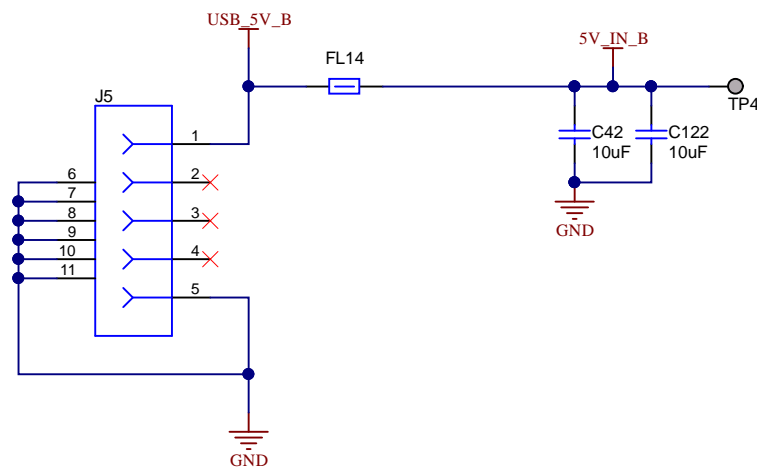
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: BREAKAWAY_SECTION3
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 9 of 12
Drawn By: Antony/Bala	File: PROC091F_BT_DISPLAY.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

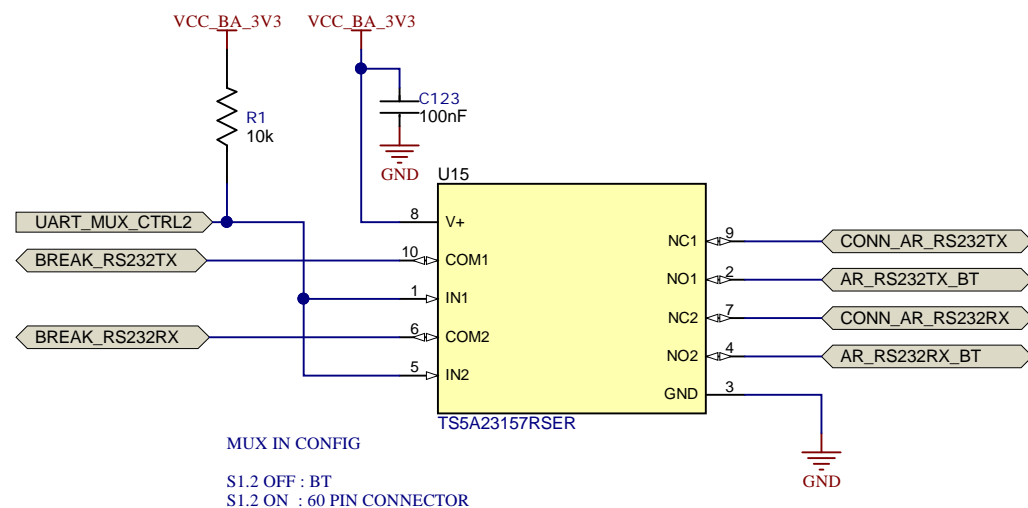


BREAKAWAY_SECTION_4

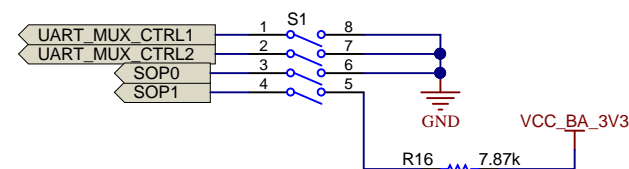
USB CONNECTOR



ANALOG MUX SELECTION FOR UART

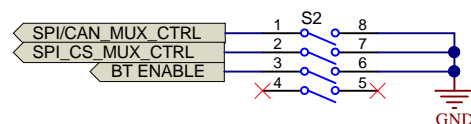


SWITCH CONTROL MUX SELECTION, SOPs, BT CONTROL



SOP CONFIGURATION

Mode	SOP0 (S1.3)	SOP1 (S1.4)	SOP2 (S3)
Functional Mode	OFF	OFF	OFF
Flash Mode	OFF	OFF	ON
MMWAVEICEBOOST mode (DCA1000, JTAG, and so forth)	OFF	ON	OFF



PIN MUX SETTINGS

Designator	Switch ON	Switch OFF
S1.1	Breakaway UART	CP2105UART
S1.2	60 Pin UART	BT UART
S2.1	CAN	SPI
S2.2	60 Pin CS	BT/LCD CS
S2.3	BT Enable	BT Disable

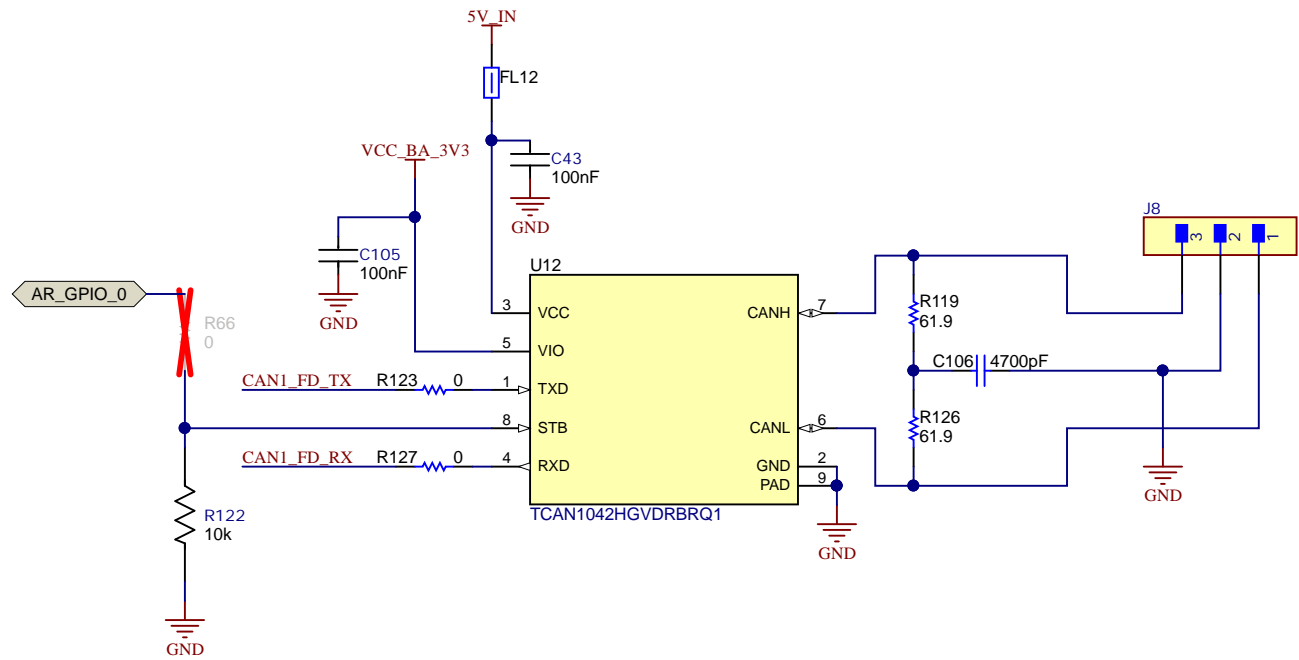
PIN MUX SETTINGS

	S1.1	S1.2	S2.1	S2.2	S2.3
Stand alone Mode	OFF	N/A	N/A	N/A	N/A
MMWAVEICEBOOST	ON	ON	OFF	OFF	N/A

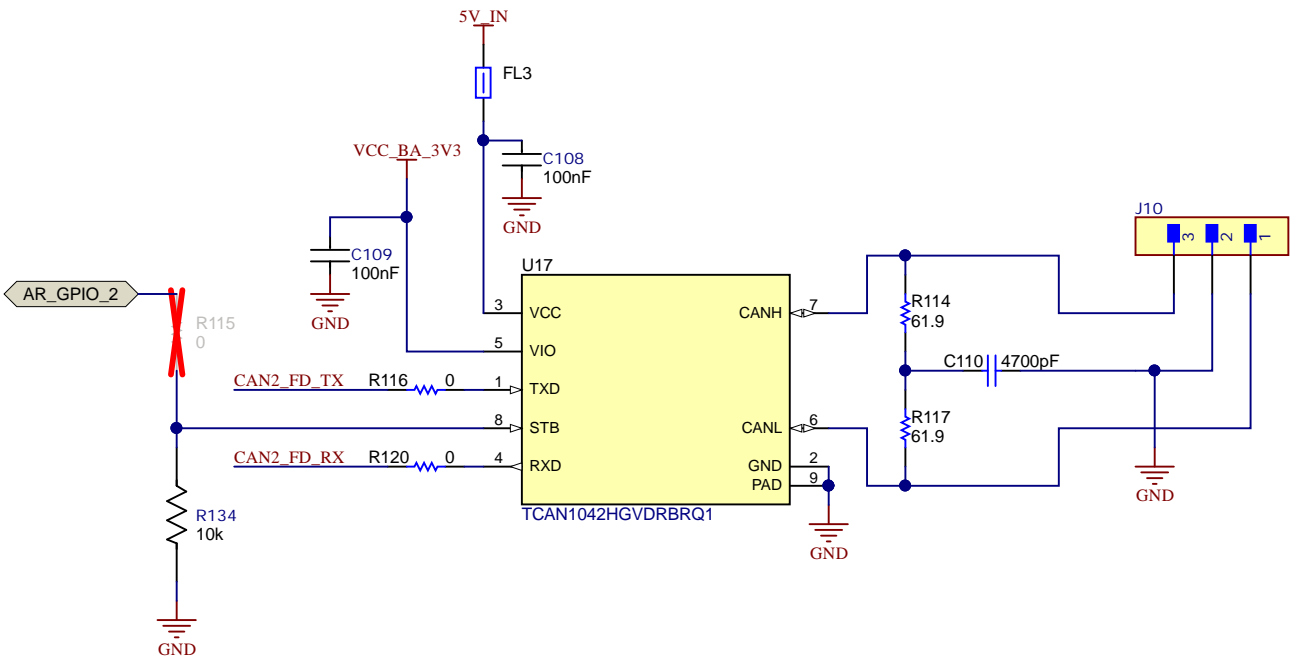
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

BREAKAWAY_SECTION_5

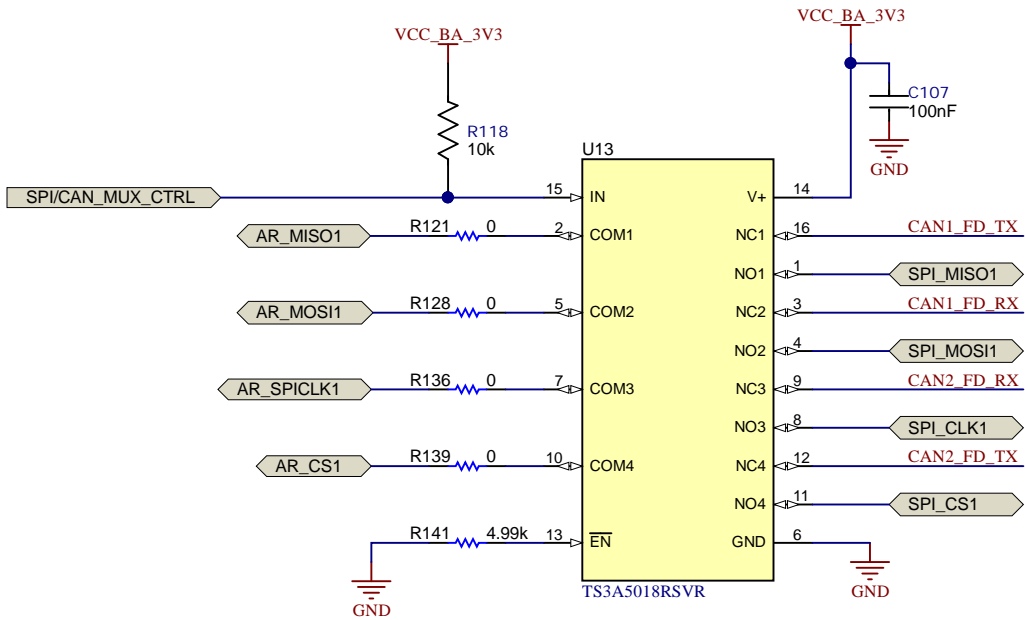
CAN1 INTERFACE



CAN2 INTERFACE

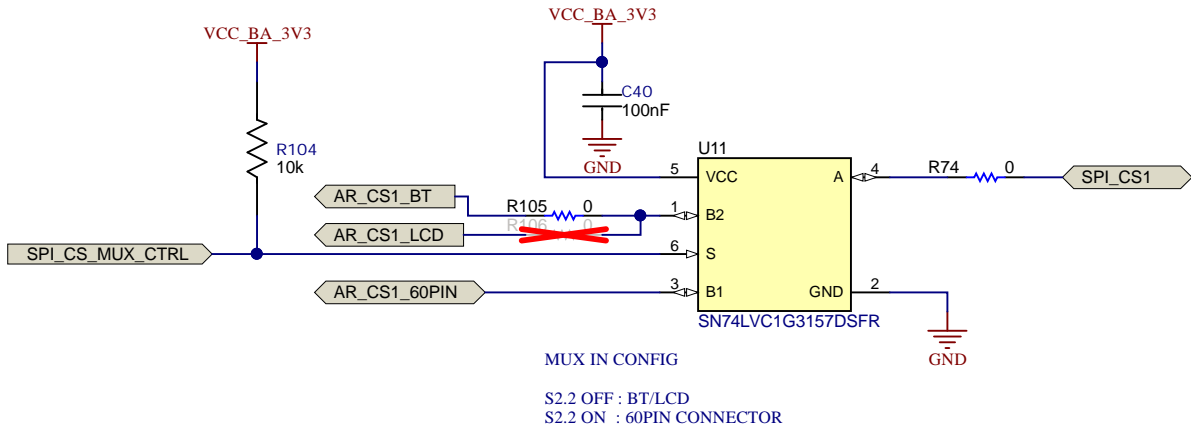


ANALOG MUX SELECTION FOR SPI/CAN



MUX IN CONFIG
 S2.1 OFF : SPI
 S2.1 ON : CAN

ANALOG MUX SELECTION FOR SPI CHIP SELECT



MUX IN CONFIG
 S2.2 OFF : BT/LCD
 S2.2 ON : 60PIN CONNECTOR

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

HARDWARE



PCB Number: PROC091
PCB Rev: F

PCB LOGO
Texas Instruments



PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

PCB LOGO
ESD Susceptible



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

LBL2
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.

ZZ5.1
Assembly Note
Cut the thermal pad(Part Number#GPVOUS-0.125-AC-0816) for the shape and size of the inner surface of the heatsink(Part Number#MCH054) and paste it on the inner surface of the heatsink;

ZZ5.2
Assembly Note
Bring the heatsink onto the PCB bottom side (Opposite side of AOP device). Match the teeth in the heatsink with break-away area in the PCB and press the heatsink onto the PCB slightly so as thermal pad is spread all over the area

Variant/Label Table	
Variant	Label Text
001	IWR6843AOPEVM

H1
MECH

H2
MECH

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/17/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: HARDWARE
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 12 of 12
Drawn By: Antony/Bala	File: PROC091F_Hardware.schdoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2020, Texas Instruments Incorporated