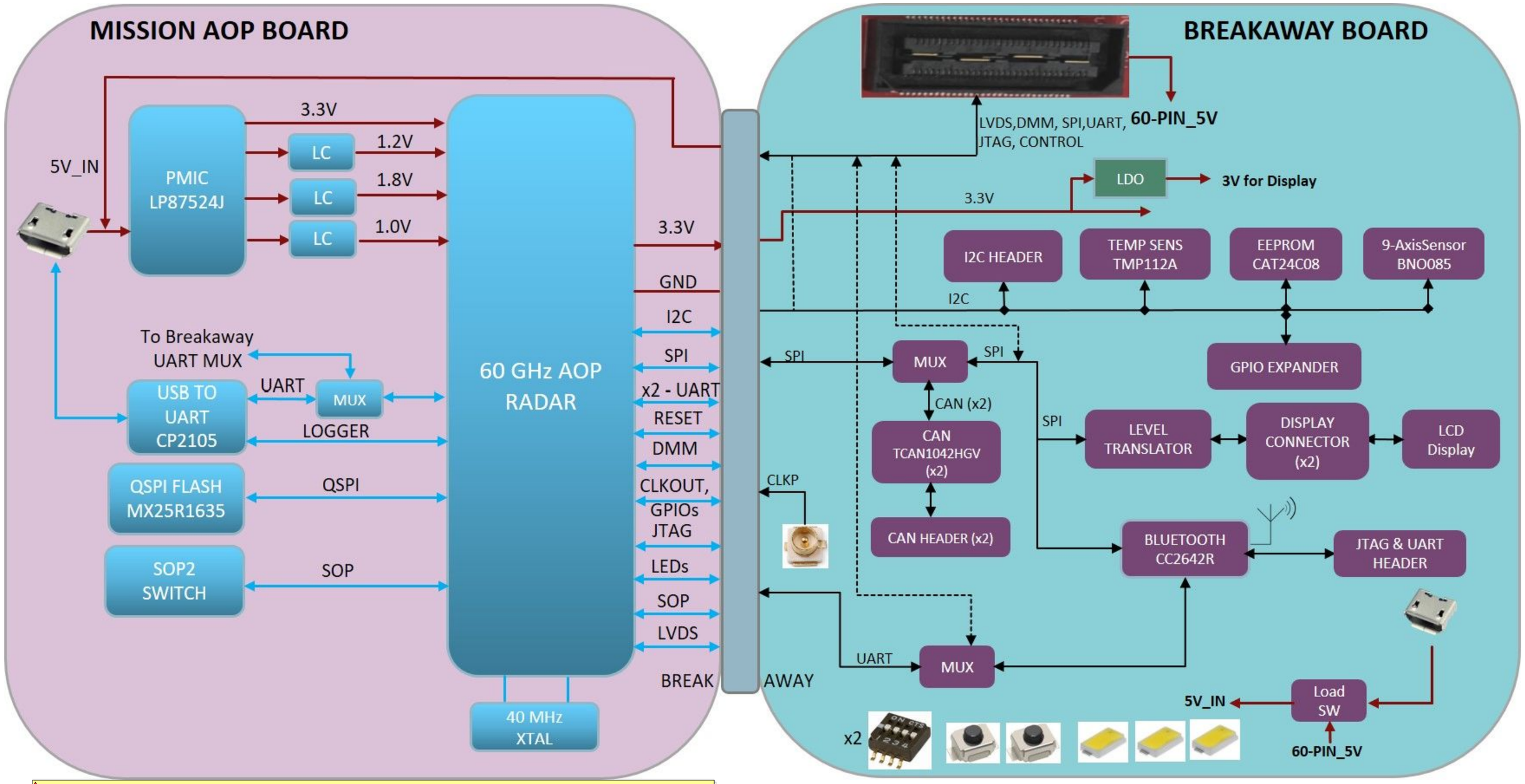
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



Please refer to the Thermal design guide for mmWave sensor application note for details of Thermal dissipation options for xWR6843 AOP Devices, particular for small form factor designs like the mission side of the EVM."

Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 5/8/2020
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	

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TABLE OF CONTENTS

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/21/2020
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	

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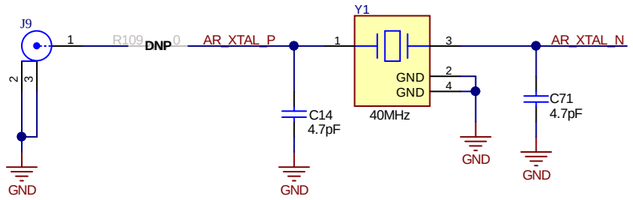
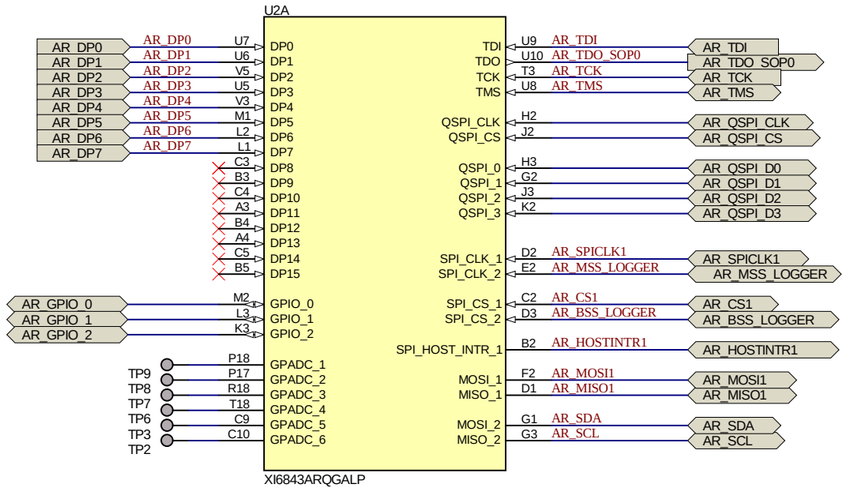
SOP_MODE2 - '011' - DEV/DEBUG
SOP_MODE4 - '001' - FUNCTIONAL MODE
SOP_MODE5 - '101' - FLASH MODE

AOP IO

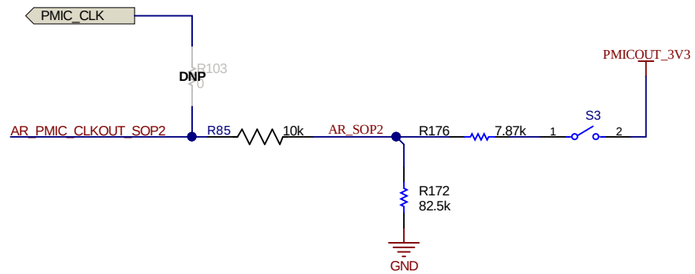
40MHz CRYSTAL

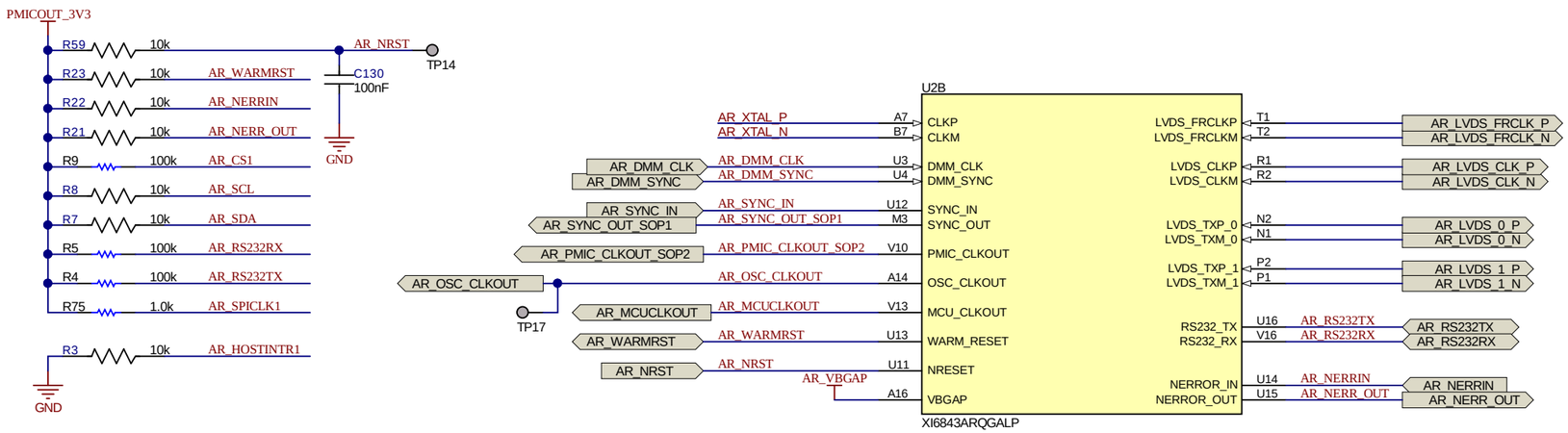


Avoid stubs on XTAL pins.



SOP OPTIONS





Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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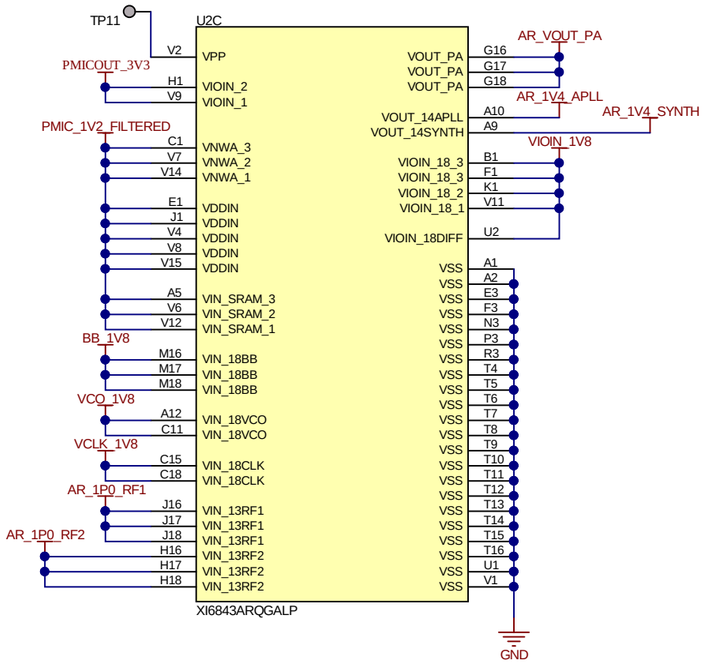
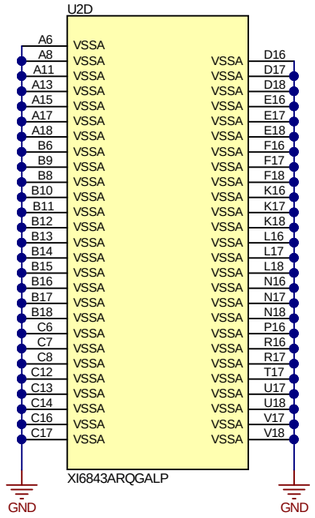
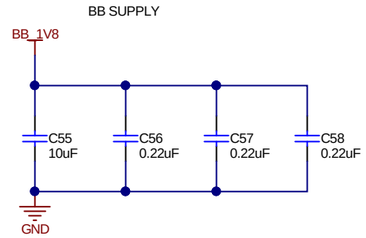
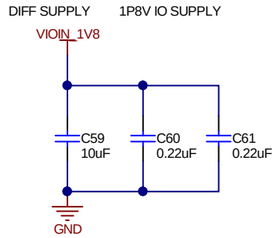
AOP POWER

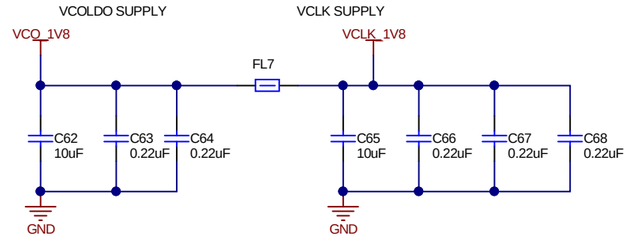
DECOUPLING CAPS

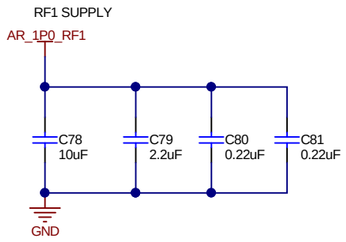


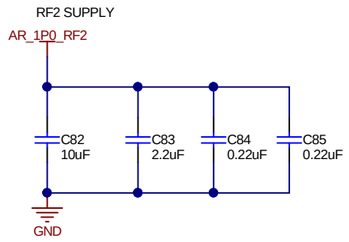


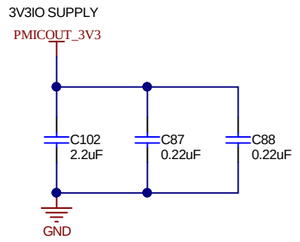


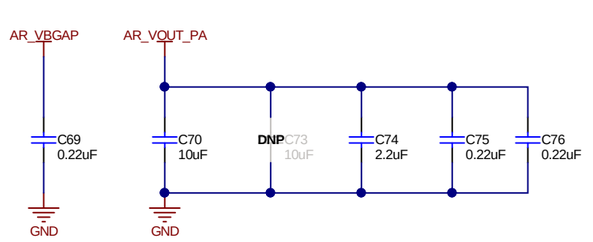


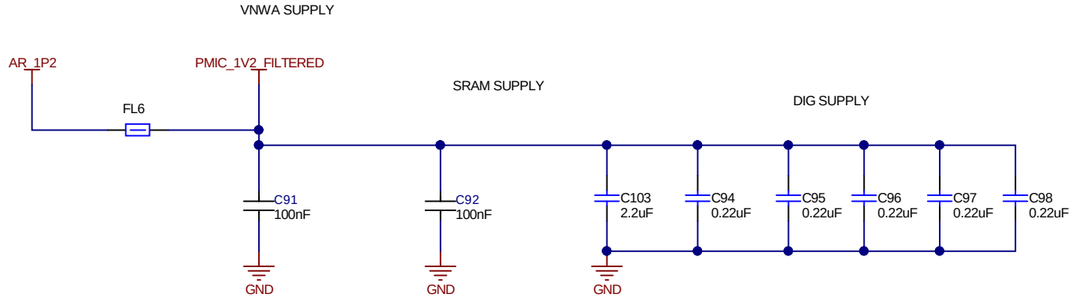


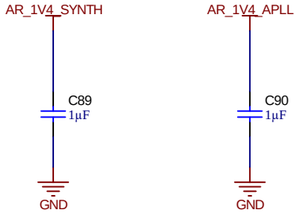












Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
TID #: N/A		Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: AOP_POWER	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 4 of 12
Drawn By: Antony/Bala		File: PROC091F_AOP_PWR.SchDoc	Size: B
Engineer: Antony/Bala		Contact: http://www.ti.com/support	

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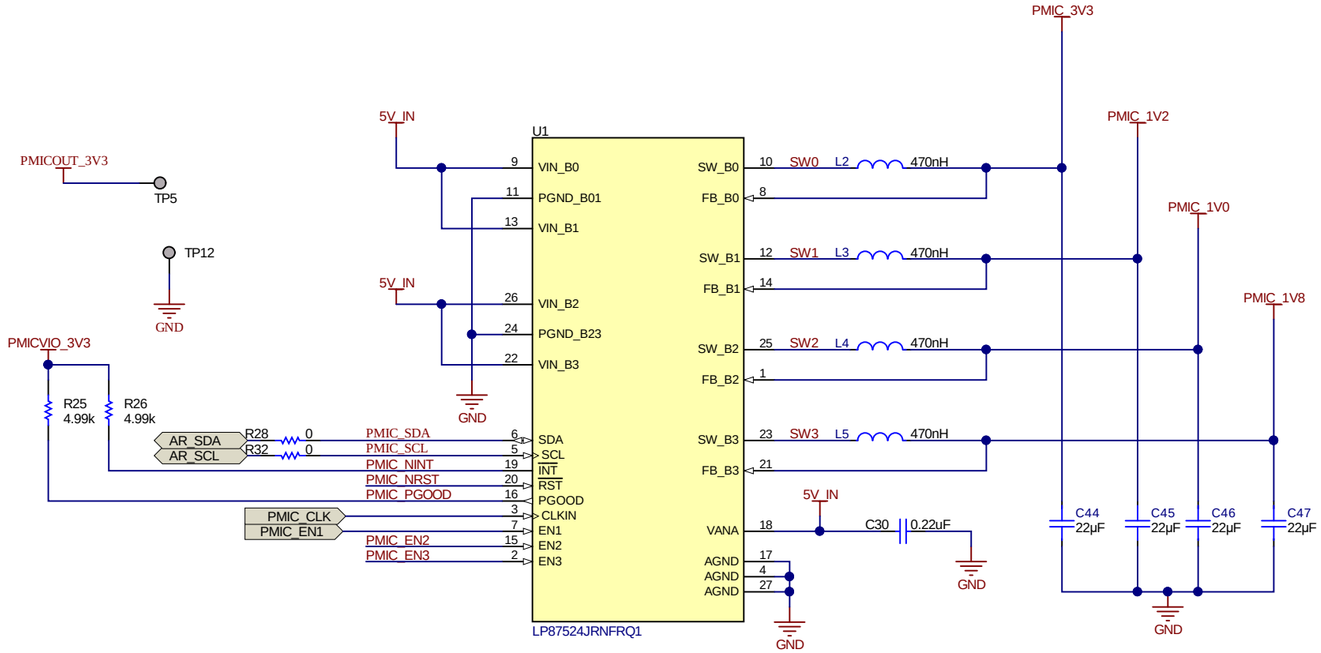
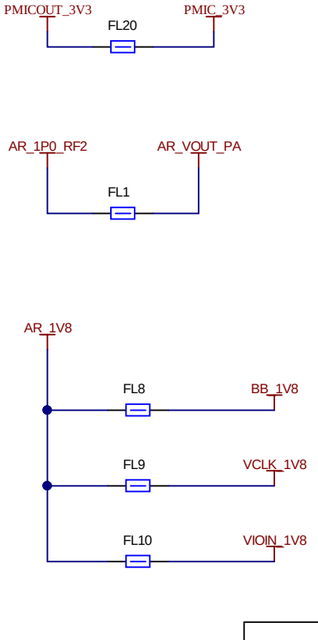
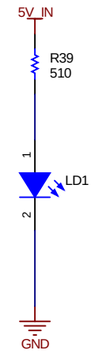
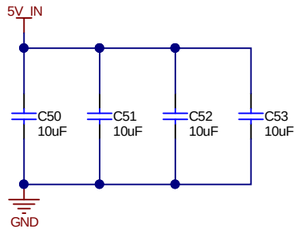
PMIC (3.3V, 1.2V, 1.0V, 1.8V OUTPUTS)

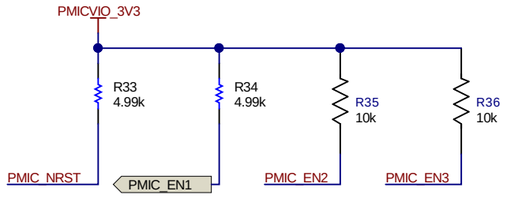


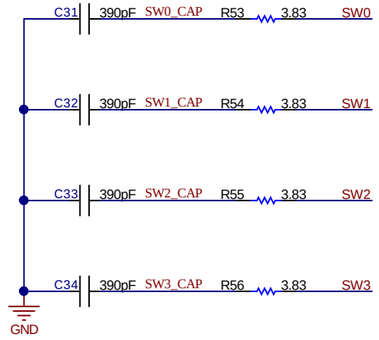


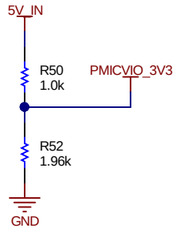
5V LED INDICATION

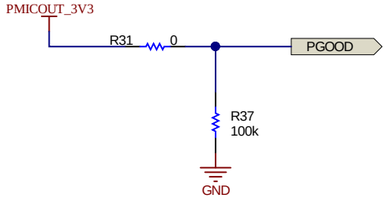




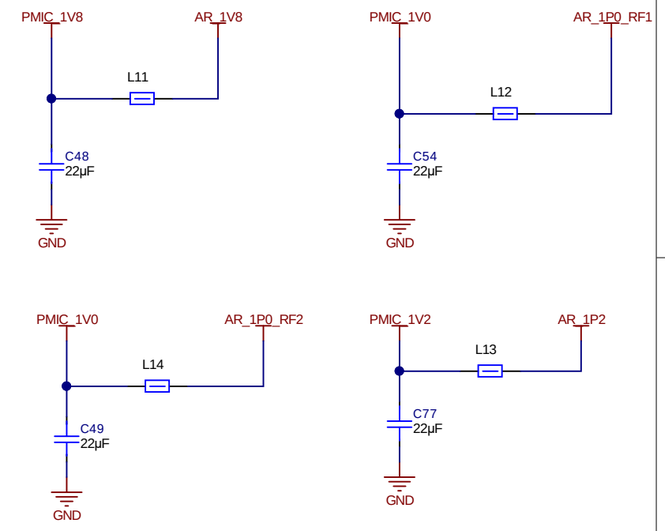








LDO BYPASS



Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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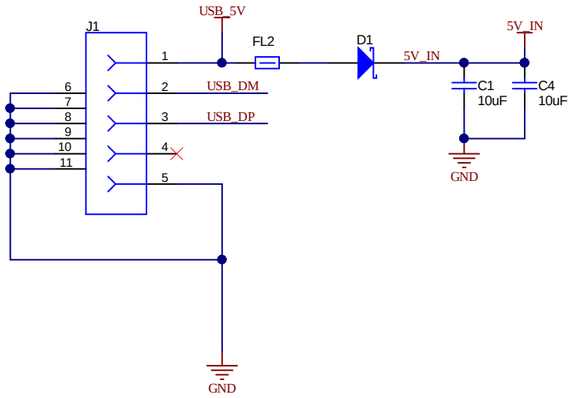
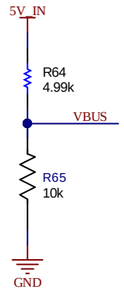
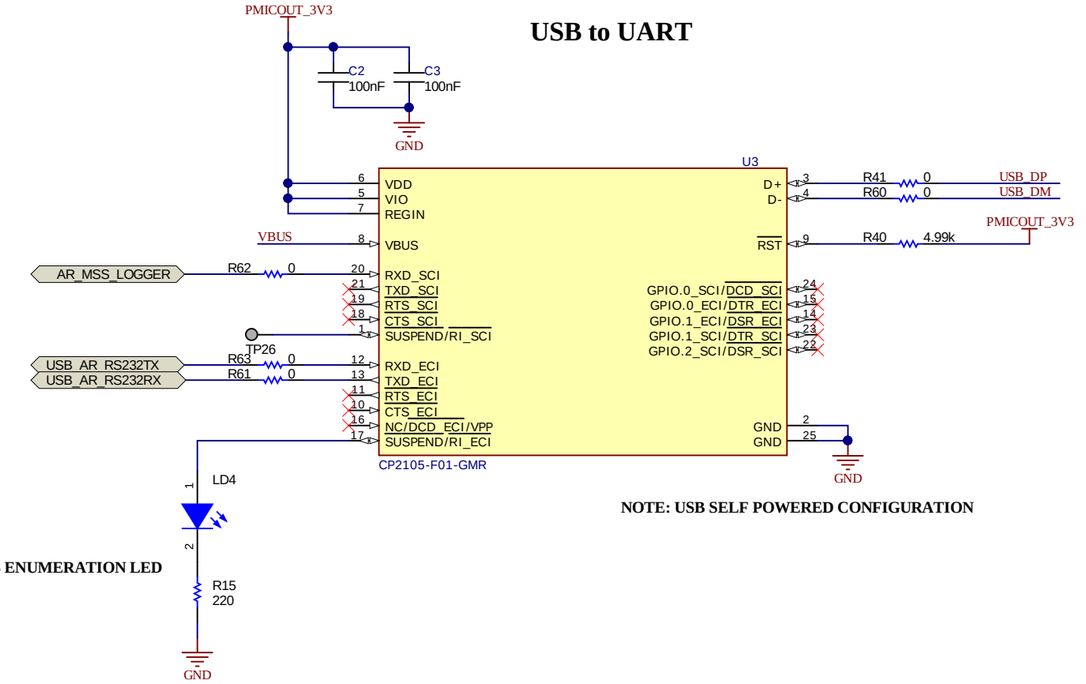
USB CONNECTOR



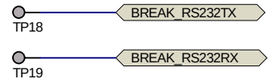


USB to UART

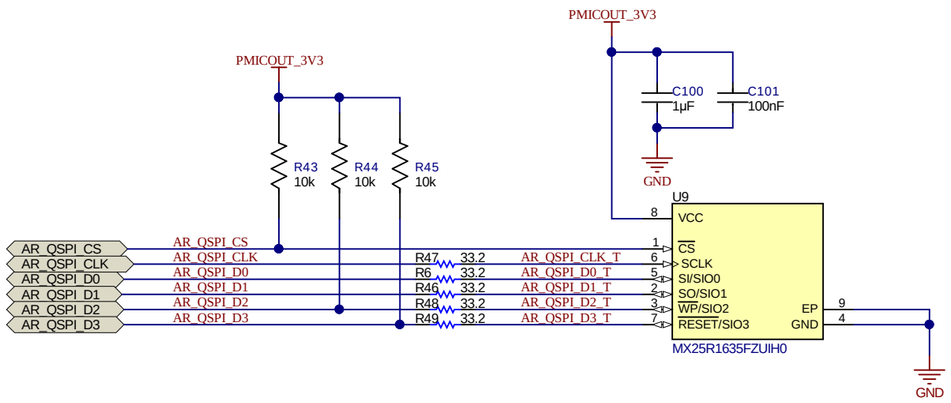


USB ENUMERATION LED

NOTE: USB SELF POWERED CONFIGURATION



QSPI FLASH



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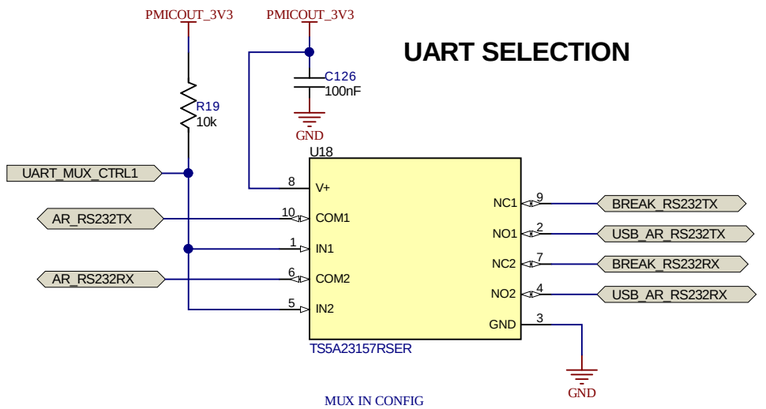

MUX IN CONFIG

S1.1 OFF : MAIN BOARD UART
S1.1 ON : BREAK AWAY UART

Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
TID #: N/A		Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: FLASH&USB_TO_UART	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 6 of 12
Drawn By: Antony/Bala		File: PROC091F_FLASH_USB_TO_UART.SchDoc	Size: B
Engineer: Antony/Bala		Contact: http://www.ti.com/support	

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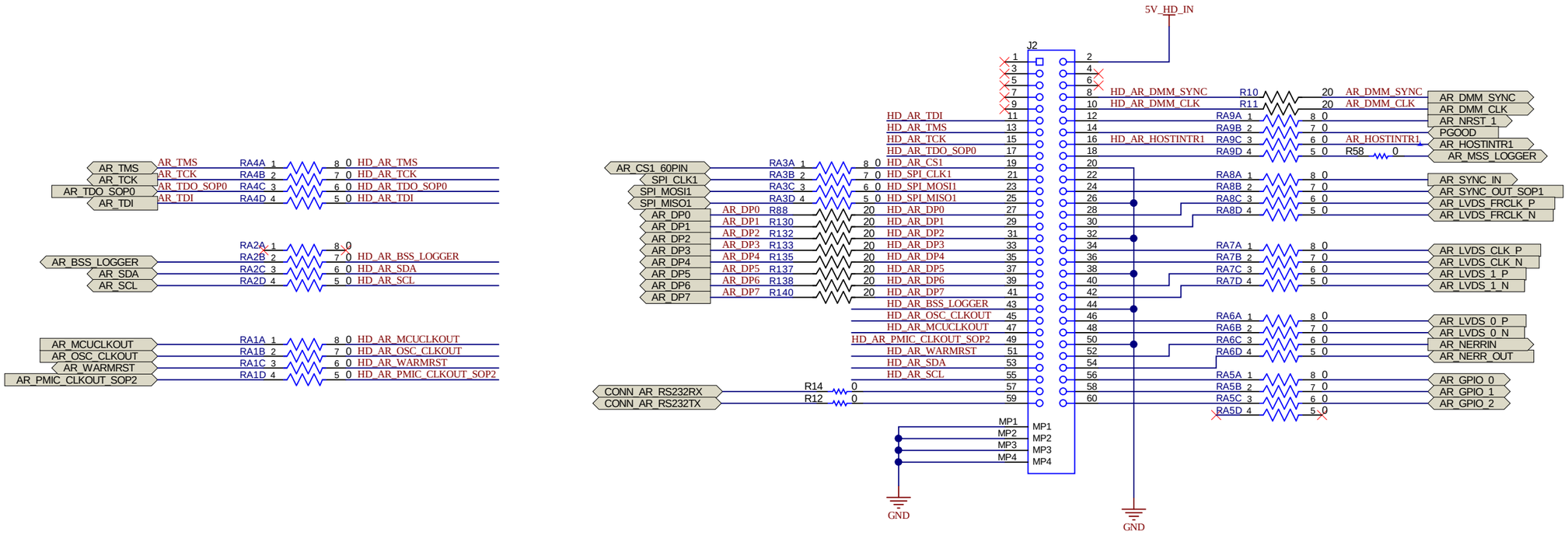
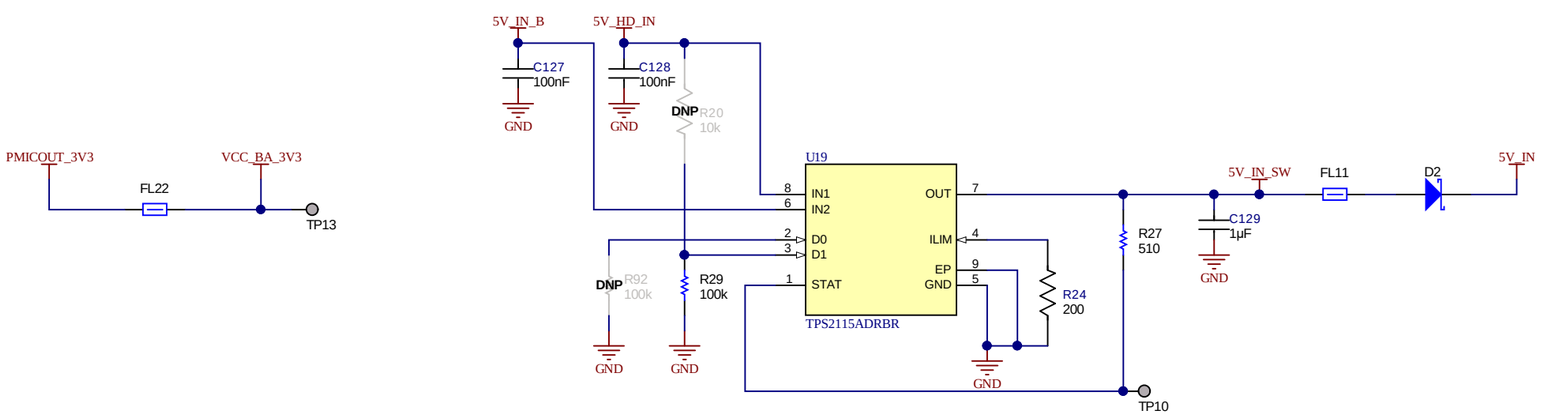
BREAKAWAY _ 60-PIN HD CONNECTOR



CONNECTOR PWR / USB PWR LOAD SWITCH



Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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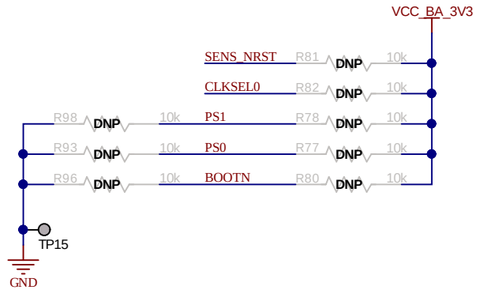
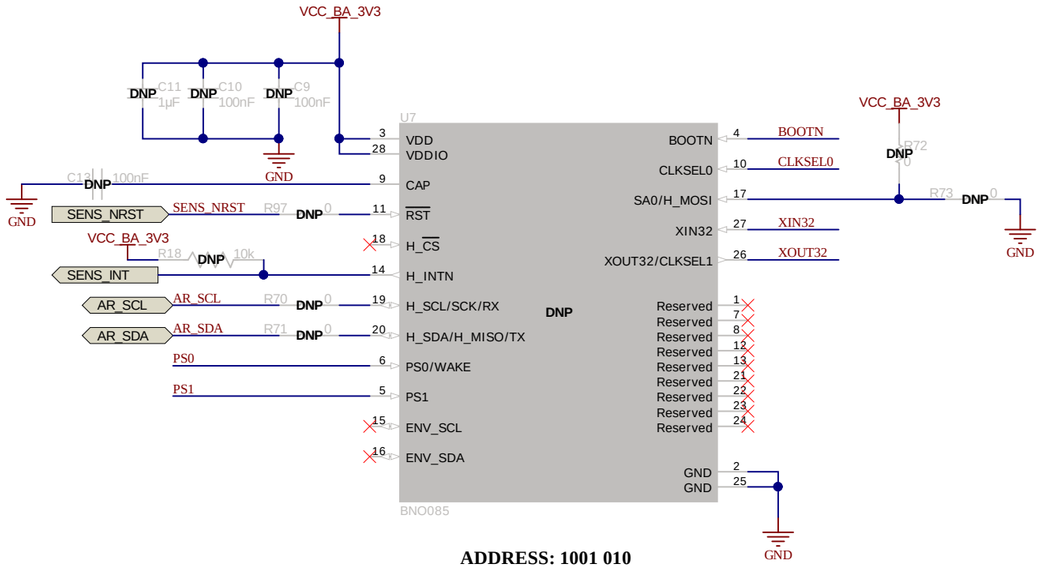
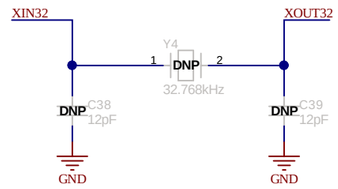
BREAKAWAY_SECTION_2

9 - AXIS SENSOR

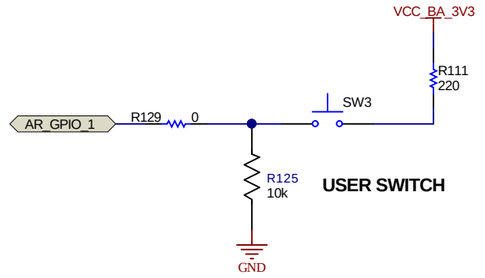
PULL-UPs

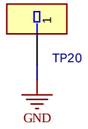


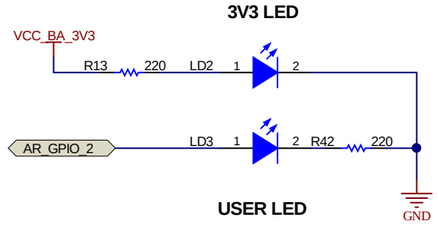




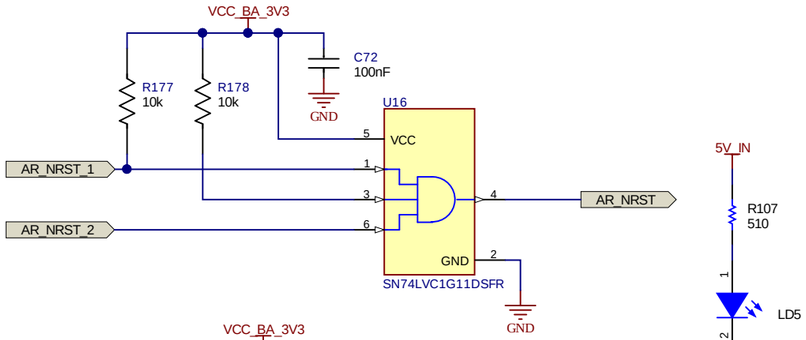
ADDRESS: 1001 010







AOP RESET



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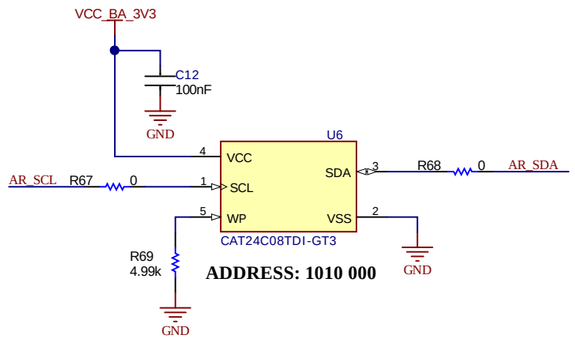
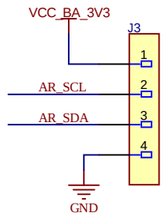
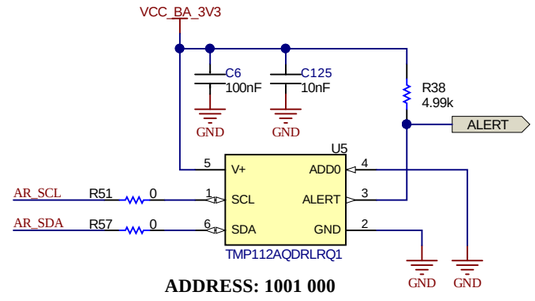


I2C HEADER



TEMPERATURE SENSOR



Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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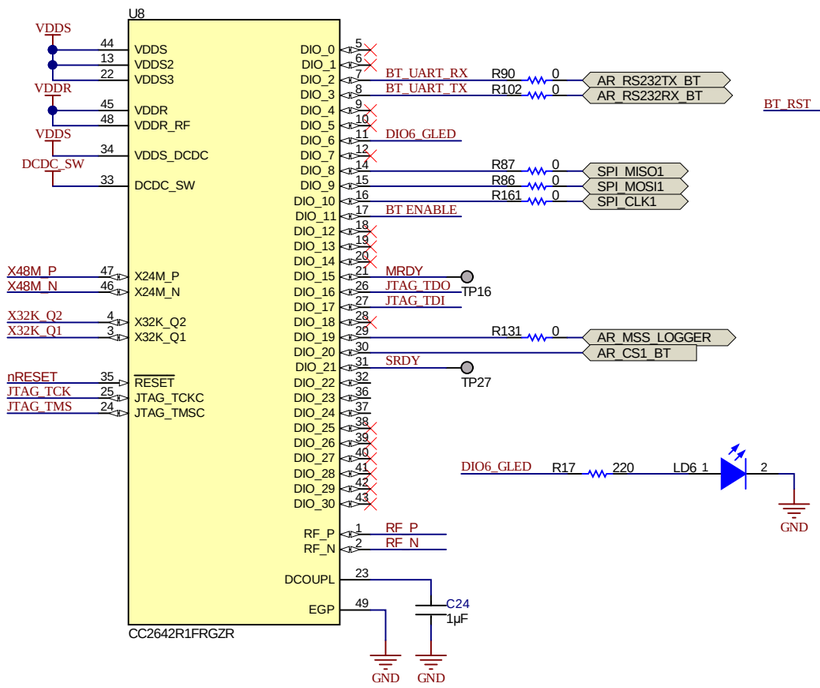
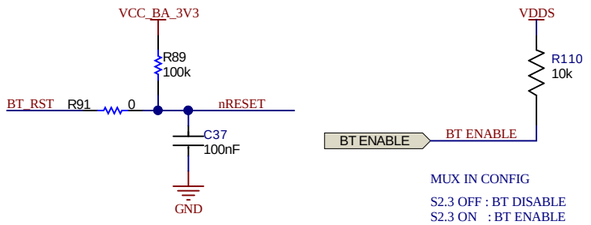
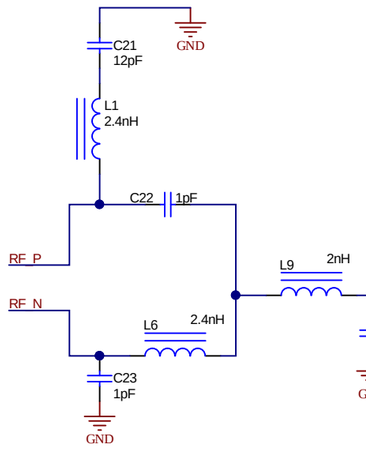
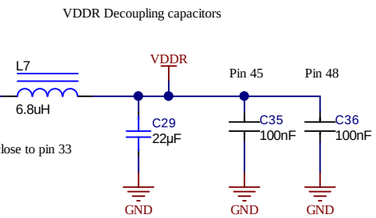
BREAKAWAY_SECTION_3

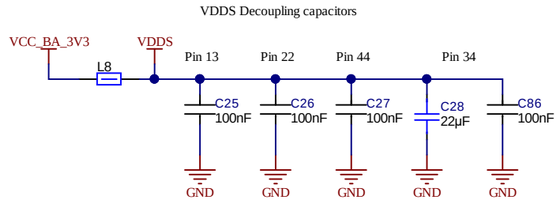
BLUETOOTH

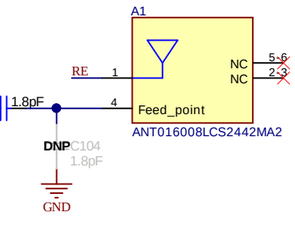


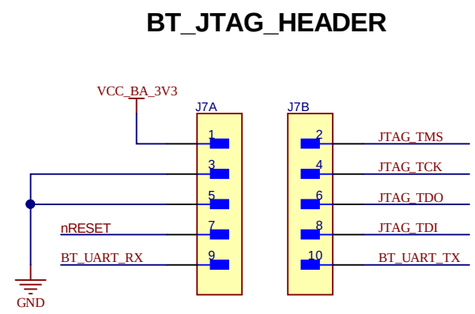


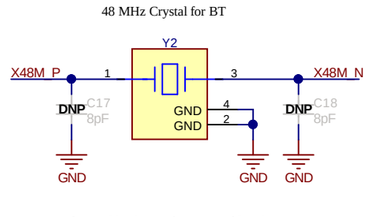


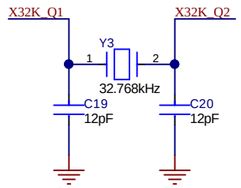




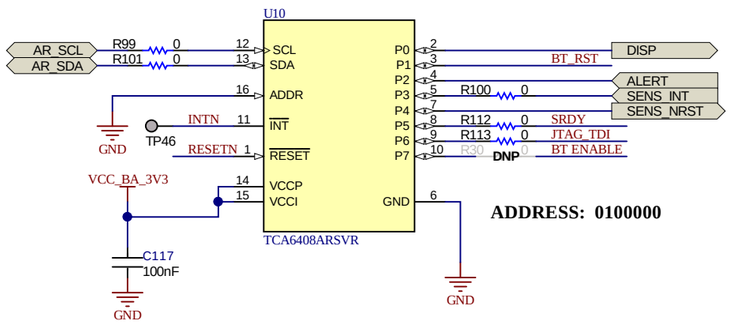




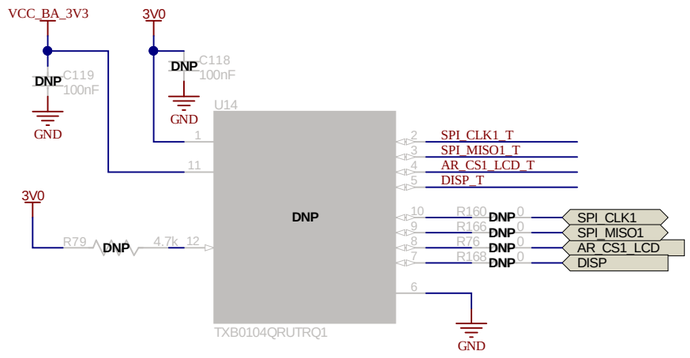




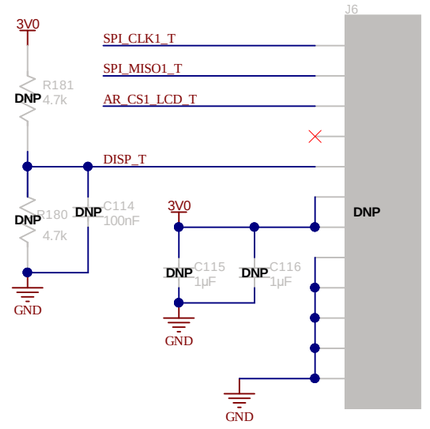
GPIO EXPANDER



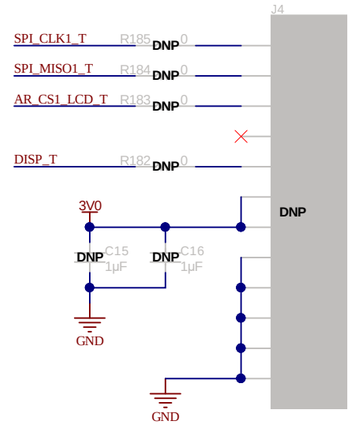
LEVEL TRANSLATOR FOR DISPLAY



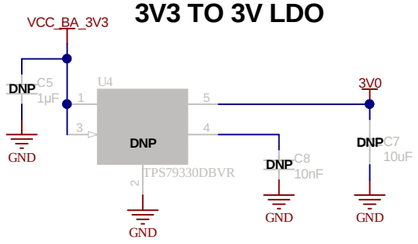
LCD DISPLAY CONNECTOR-1

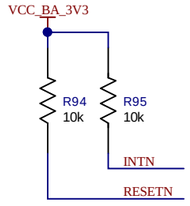


LCD DISPLAY CONNECTOR-2



3V3 TO 3V LDO





Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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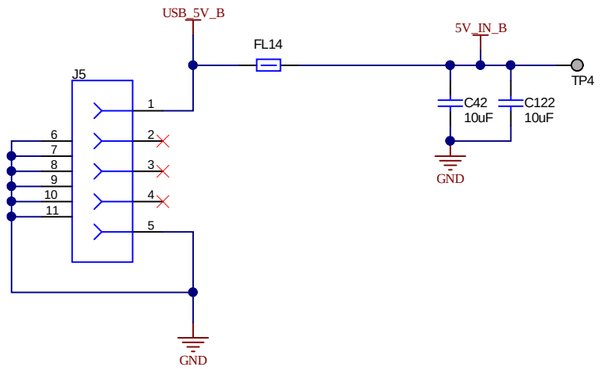
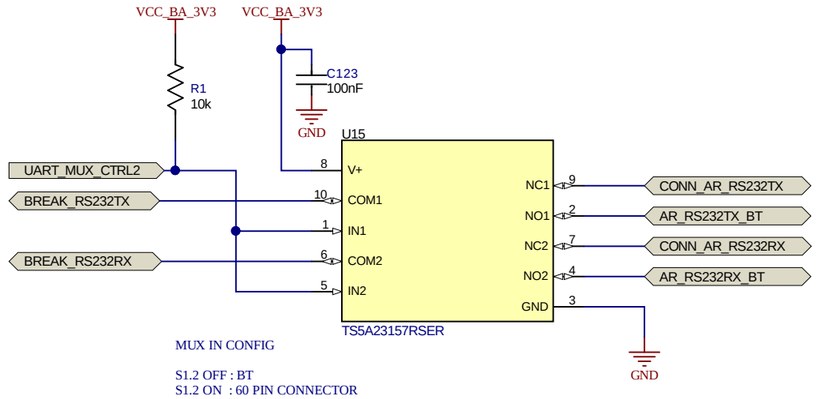
BREAKAWAY_SECTION_4

USB CONNECTOR



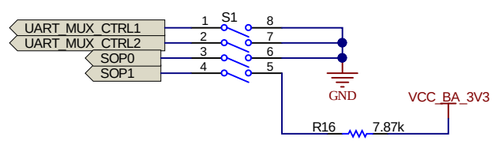
ANALOG MUX SELECTION FOR UART

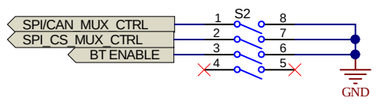


MUX IN CONFIG

S1.2 OFF : BT
S1.2 ON : 60 PIN CONNECTOR

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

Orderable: IWR6843AOPEVM	Designed for: Public Release	Mod. Date: 2/21/2020
TID #: N/A	Project Title: IWR6843AOPEVM	
Number: PROC091 Rev: F	Sheet Title: BREAKAWAY_SECTION4	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 10 of 12
Drawn By: Antony/Bala	File: PROC091F_ANALOG_MUX.SchDoc	Size: B
Engineer: Antony/Bala	Contact: http://www.ti.com/support	

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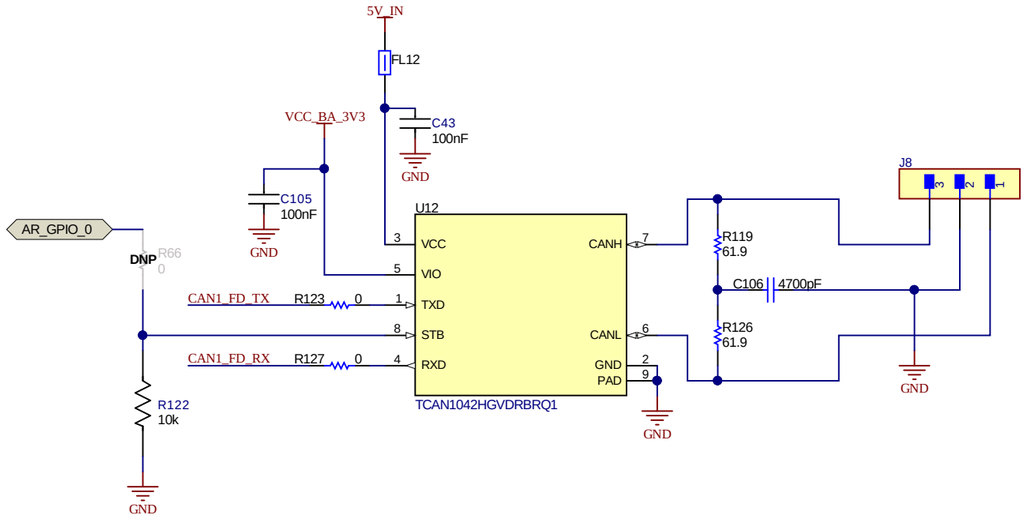
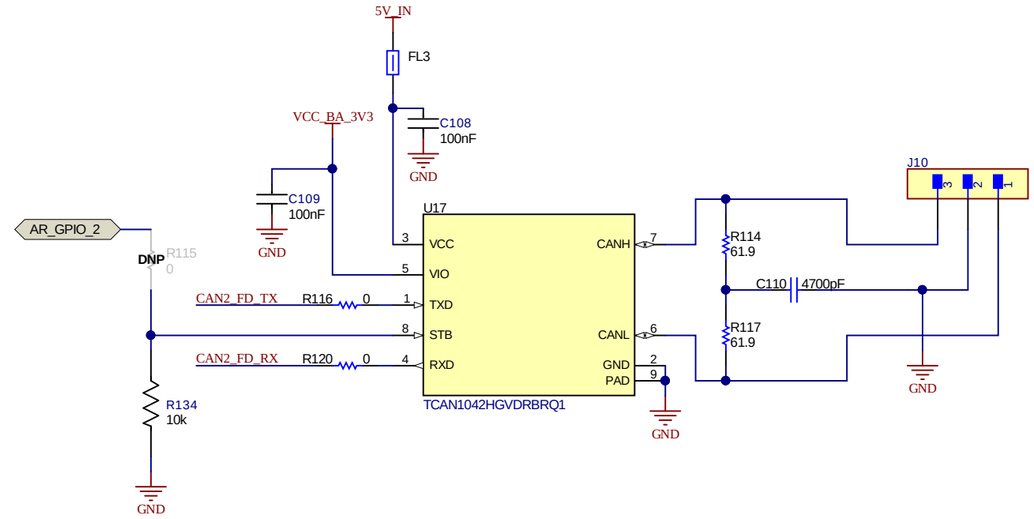
BREAKAWAY_SECTION_5

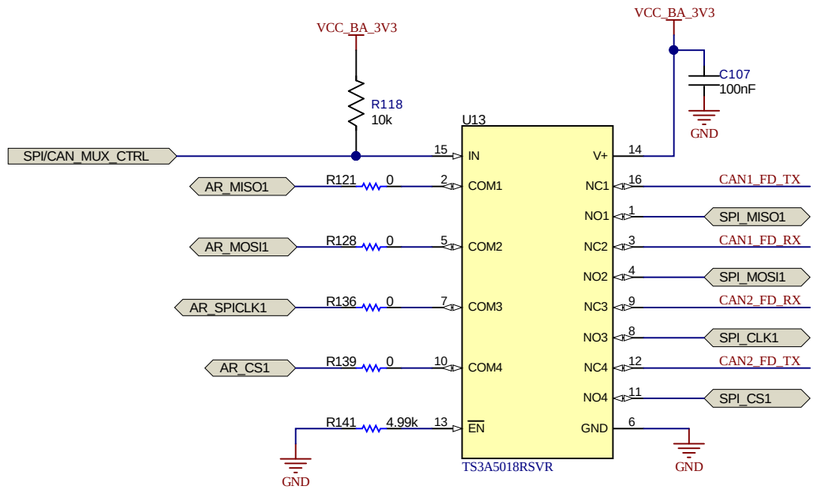
CAN1 INTERFACE



CAN2 INTERFACE



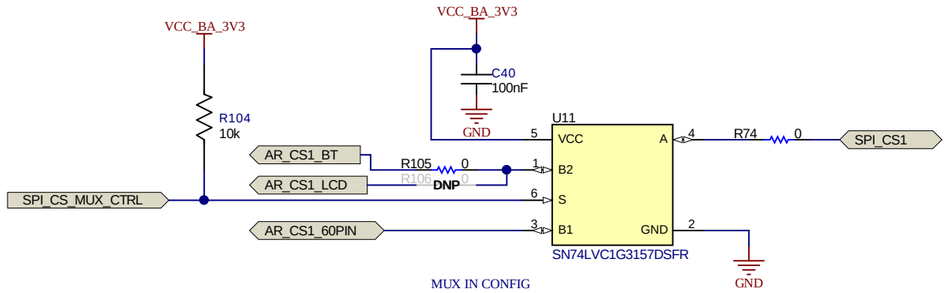
ANALOG MUX SELECTION FOR SPI/CAN



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

Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
TID #: N/A		Project Title: IWR6843AOPEVM	
Number: PROC091	Rev: F	Sheet Title: BREAKAWAY_SECTION5	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 11 of 12
Drawn By: Antony/Bala		File: PROC091F_CAN_INTERFACE.SchDoc	Size: B
Engineer: Antony/Bala		Contact: http://www.ti.com/support	

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HARDWARE

DNP FID1 DNP FID2 DNP FID3 DNP FID4 DNP FID5 DNP FID6

PCB Number: PROC091
PCB Rev: F

PCB LOGO
Texas Instruments

CE Mark

PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

PCB LOGO
ESD Susceptible

CAUTION HOT SURFACE

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

Variant/Label Table	
Variant	Label Text
001	IWR6843AOPEVM

H1
MECH

H2
MECH

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

Orderable: IWR6843AOPEVM		Designed for: Public Release	Mod. Date: 2/21/2020
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	

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