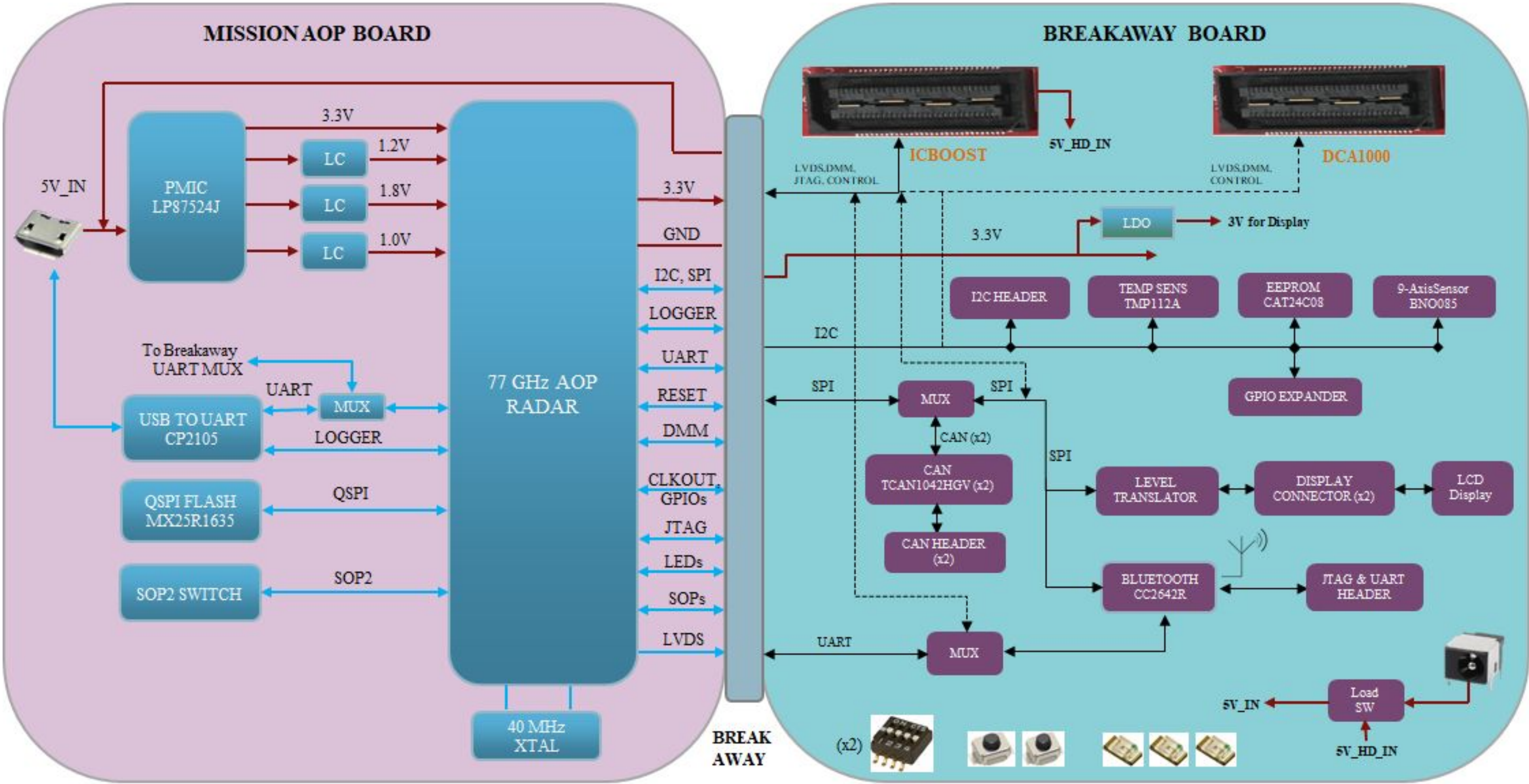


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

BLOCK DIAGRAM



1	2	3	4	5	6
A					
B					
C					
D					

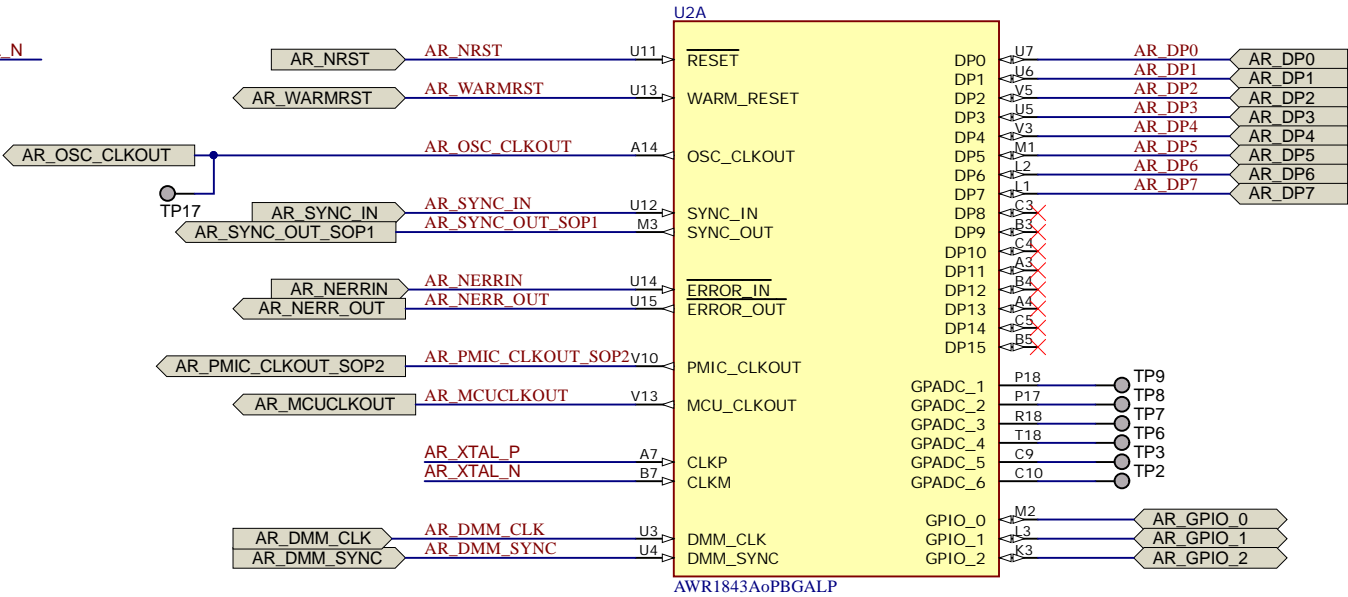
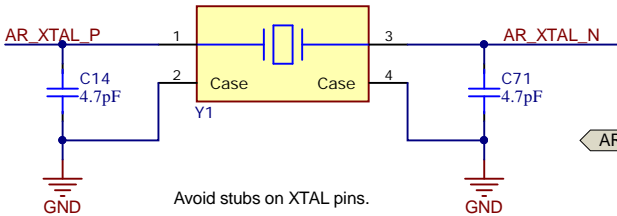
TABLE OF CONTENTS

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

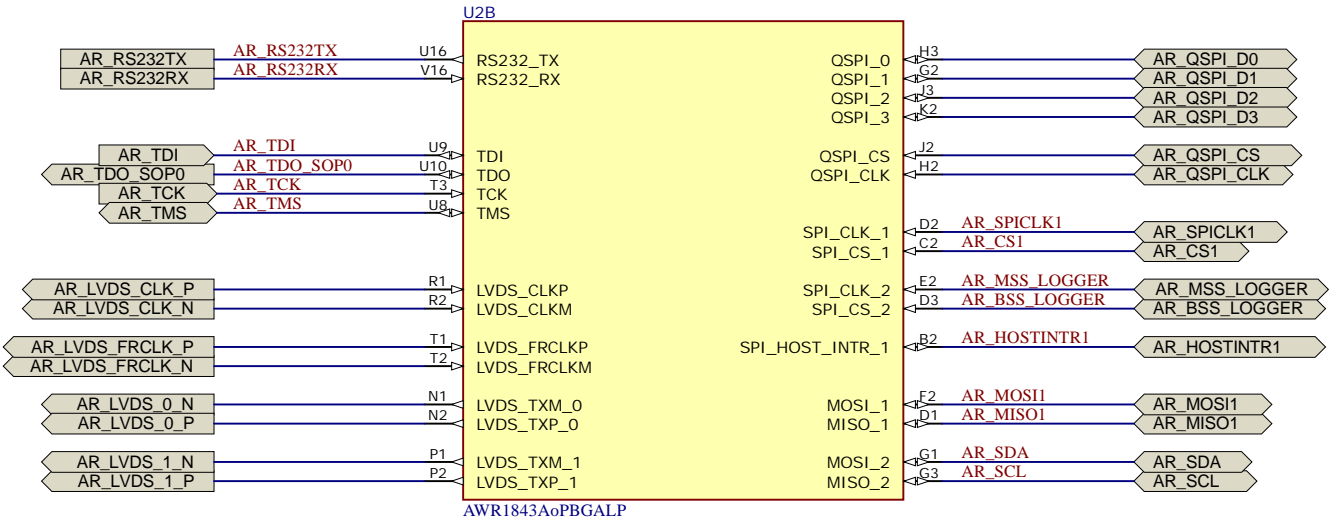
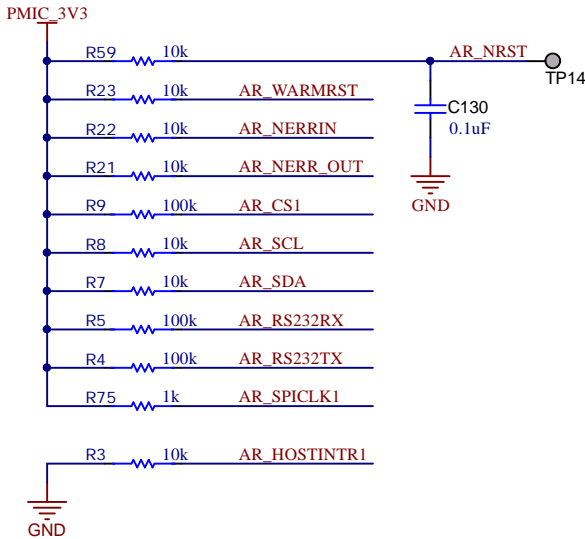
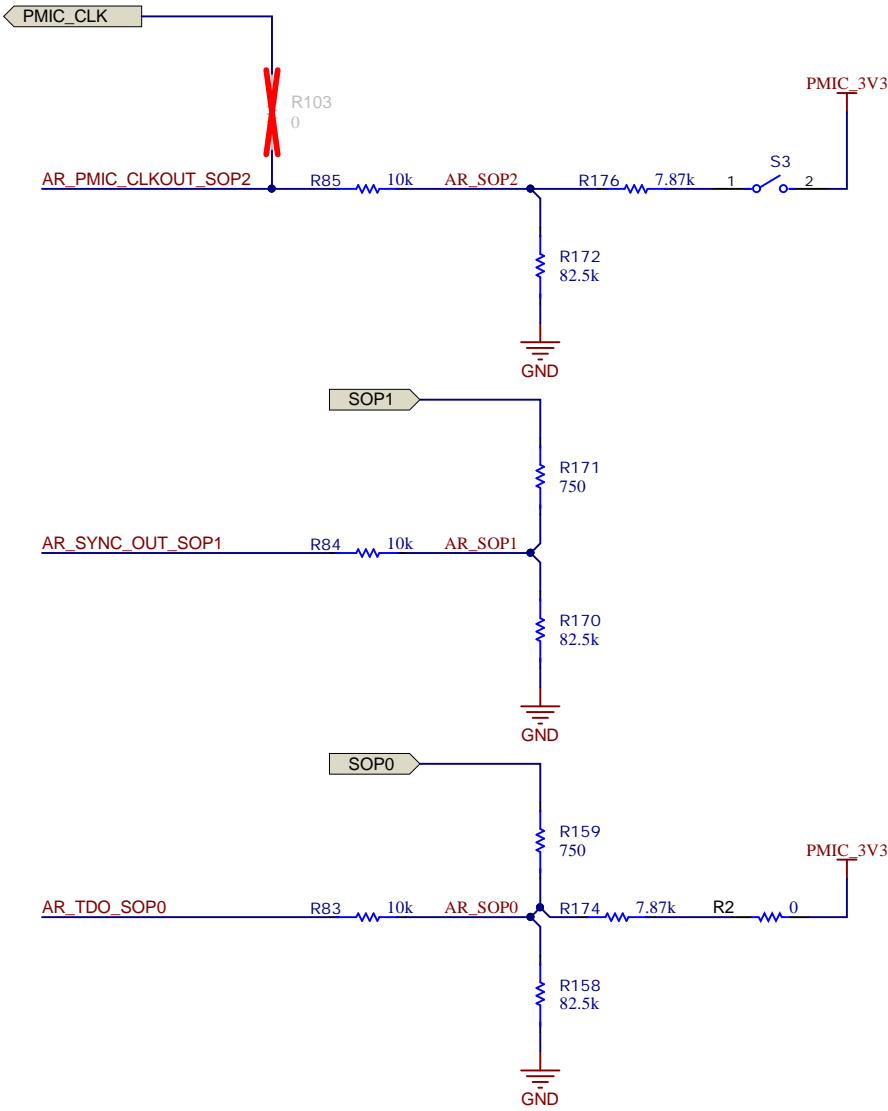
AOP IO

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

40MHz CRYSTAL



SOP OPTIONS



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Orderable: AWR1843AOPEVM	Designed for: Public Release	Mod. Date: 14-12-2020
TID #: N/A	Project Title: xWR1843AOPEVM	
Number: PROC106	Rev: A1	Sheet Title: AOP_IO
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 12
Drawn By: Antony/Anand Ram	File: PROC106A1_AOP_IO.SchDoc	Size: B
Engineer: Antony/Anand Ram	Contact: http://www.ti.com/support	

A

A

B

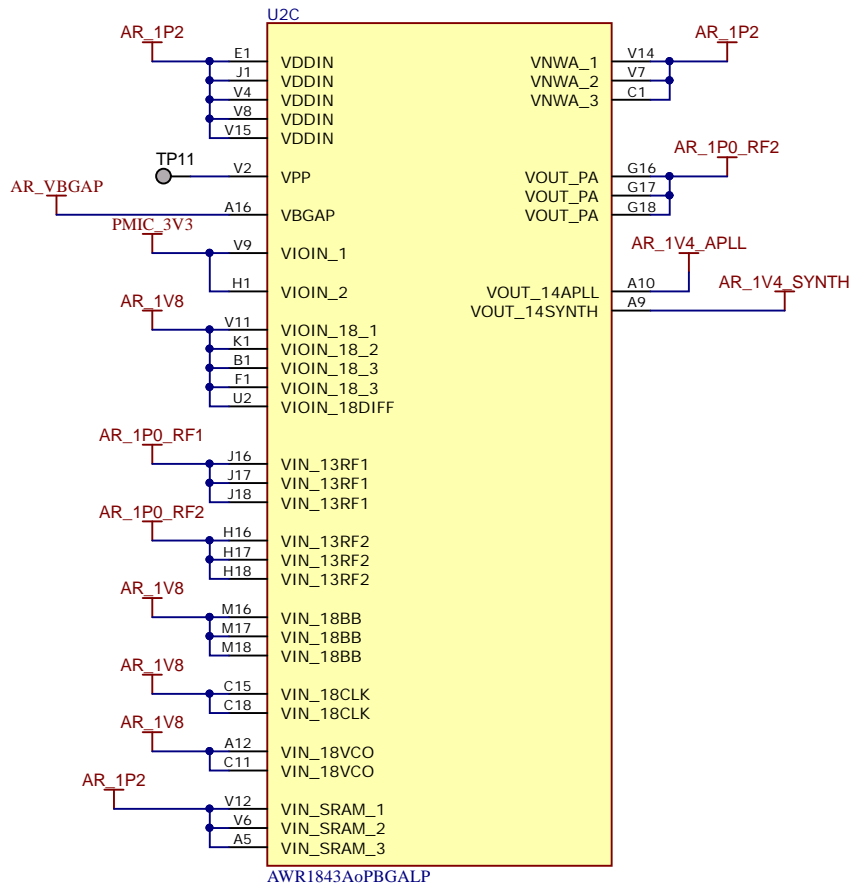
B

C

C

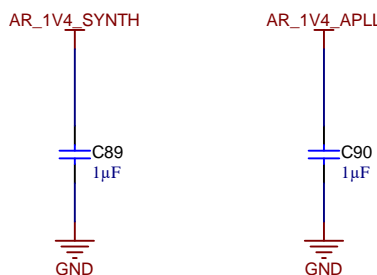
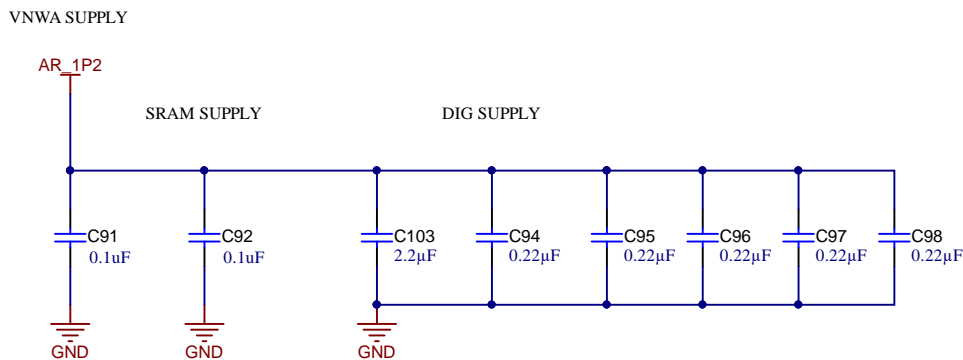
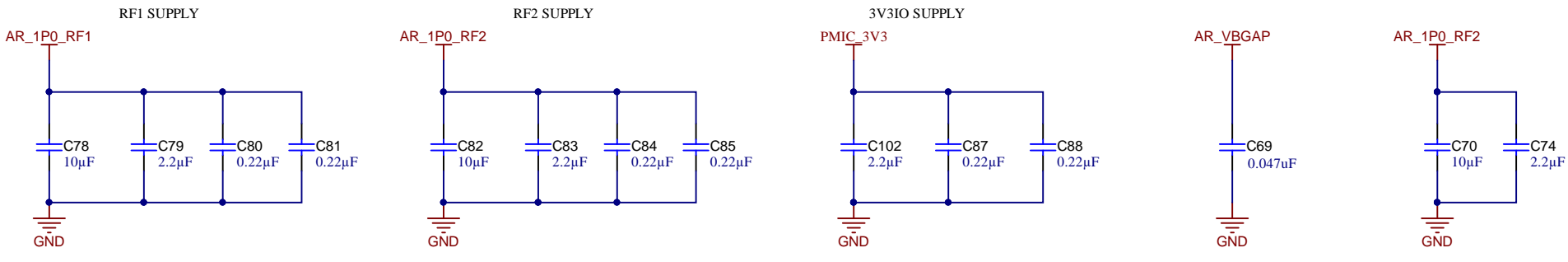
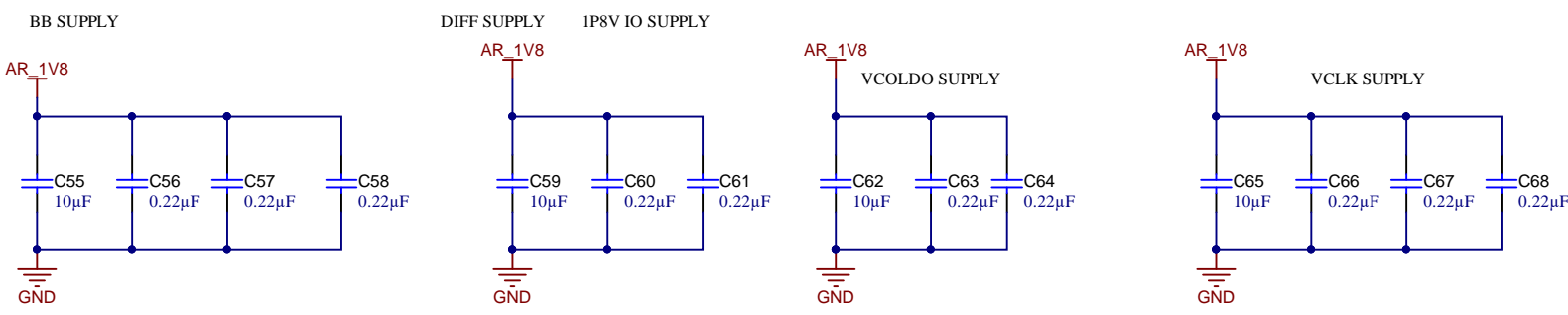
D

D



AOP POWER

DECOUPLING CAPS

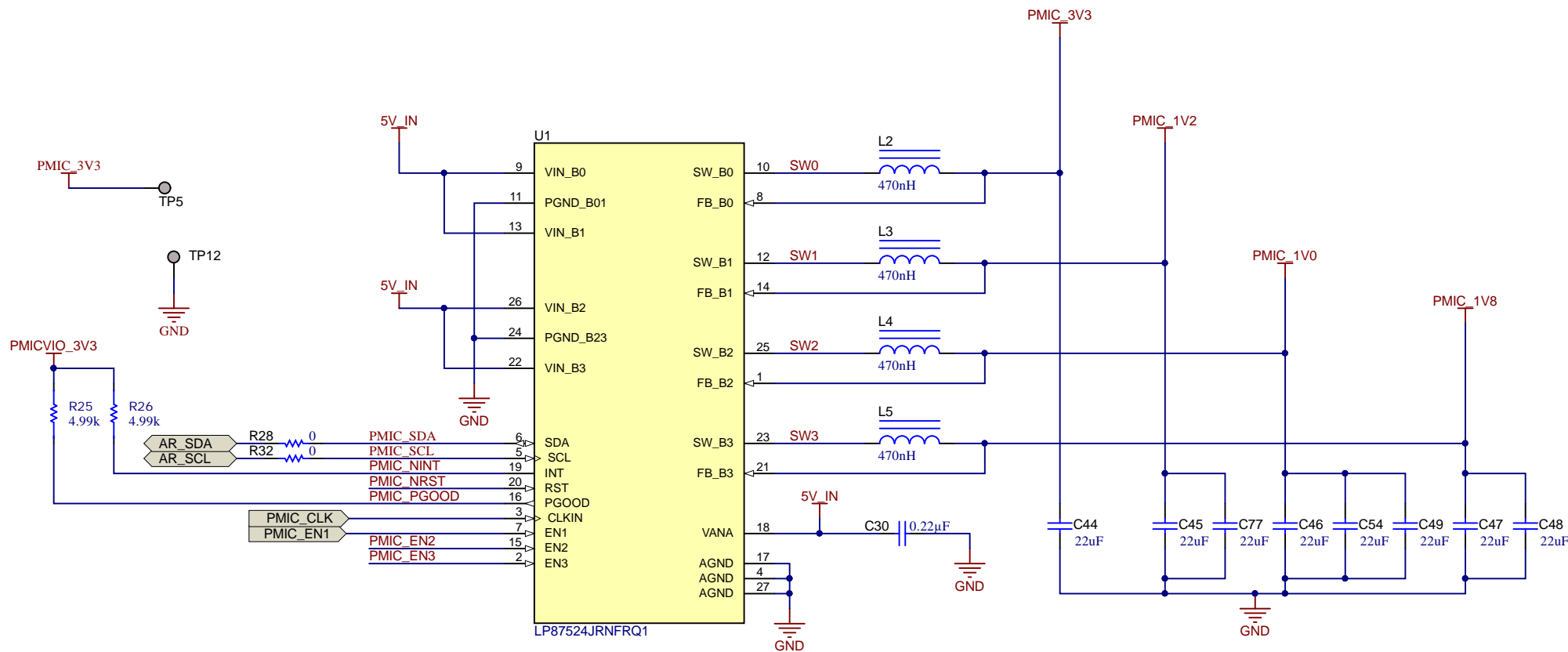


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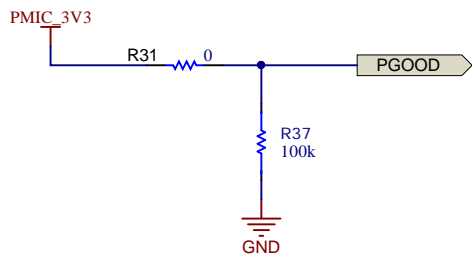
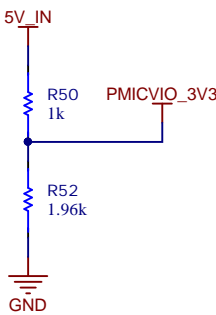
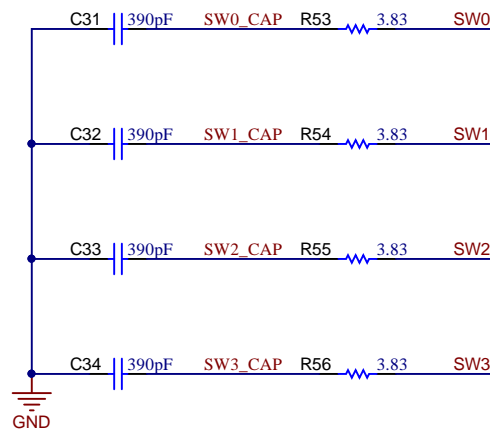
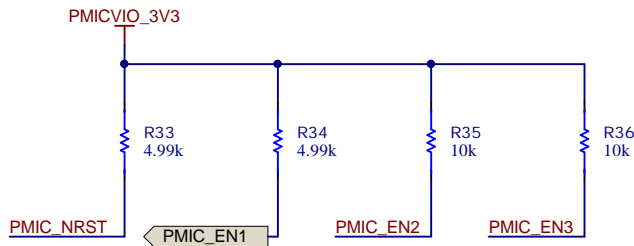
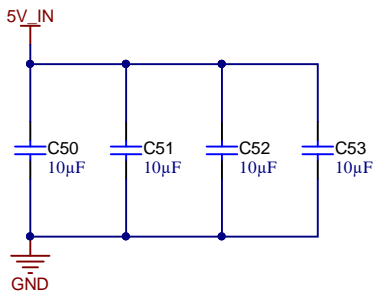
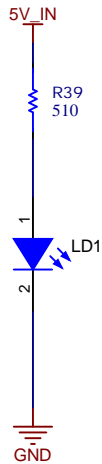
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TID #: N/A	Project Title: xWR1843AOPEVM	
Number: PROC106	Rev: A1	Sheet Title: AOP_POWER
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 12
Drawn By: Antony/Anand Ram	File: PROC106A1_AOP_PWR.SchDoc	Size: B
Engineer: Antony/Anand Ram	Contact: http://www.ti.com/support	



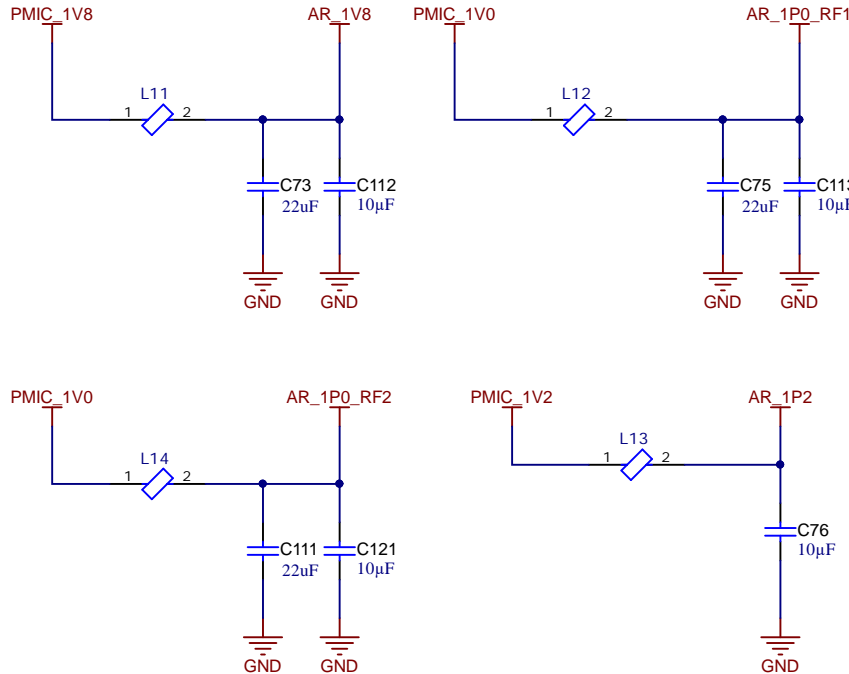
PMIC (3.3V, 1.2V, 1.0V, 1.8V OUTPUTS)



5V LED INDICATION



LDO BYPASS



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Orderable: AWR1843AOPEVM	Designed for: Public Release	Mod. Date: 14-12-2020
TID #: N/A	Project Title: xWR1843AOPEVM	
Number: PROC106	Rev: A1	Sheet Title: PMIC
SVN Rev: Not in version control	Assembly Variant: 001	Sheet 5 of 12
Drawn By: Antony/Anand Ram	File: PROC106A1_PMIC.SchDoc	Size: B
Engineer: Antony/Anand Ram	Contact: http://www.ti.com/support	

USB to UART

The schematic shows the CP2105-F01-GMR IC connected to a PMIC 3V3 supply and a USB interface. The IC pins are configured as follows:

- Power and Ground:**
 - VDD (pin 6) is connected to PMIC 3V3.
 - VIO (pin 5) is connected to PMIC 3V3.
 - REGIN (pin 7) is connected to PMIC 3V3.
 - VBUS (pin 8) is connected to VBUS.
 - RST (pin 9) is connected to PMIC 3V3 through a 4.99k resistor (R40).
 - GND (pin 2) and GND (pin 25) are connected to ground.
- USB Signals:**
 - D+ (pin 3) and D- (pin 4) are connected to USB_DP and USB_DM through resistors R41 and R60 (both 0Ω).
- UART Signals:**
 - RXD_SCI (pin 20) is connected to AR_MSS_LOGGER through resistor R61 (0Ω).
 - TXD_SCI (pin 21) is connected to TP26.
 - RTS_SCI (pin 18) is connected to TP26.
 - CTS_SCI (pin 17) is connected to TP26.
 - SUSPEND/RI_SCI (pin 16) is connected to TP26.
 - RXD_ECI (pin 12) is connected to USB_AR_RS232TX through resistor R62 (0Ω).
 - TXD_ECI (pin 13) is connected to USB_AR_RS232RX through resistor R63 (0Ω).
 - RTS_ECI (pin 11) is connected to TP26.
 - CTS_ECI (pin 10) is connected to TP26.
 - NC/DCD_ECI/VPP (pin 14) is connected to TP26.
 - SUSPEND/RI_ECI (pin 15) is connected to TP26.
- Enumeration LED:**
 - LD4 (pin 1) is connected to ground through resistor R15 (220Ω).

NOTE: USB SELF POWERED CONFIGURATION

UART SELECTION

PMIC_3V3

R19
10k

UART_MUX_CTRL1

AR_RS232RX

AR_RS232TX

PMIC_3V3

C126
0.1uF

GND

U18

V+

COM1

IN1

COM2

IN2

NC1

NO1

NC2

NO2

GND

BREAK_RS232RX

USB_AR_RS232RX

BREAK_RS232TX

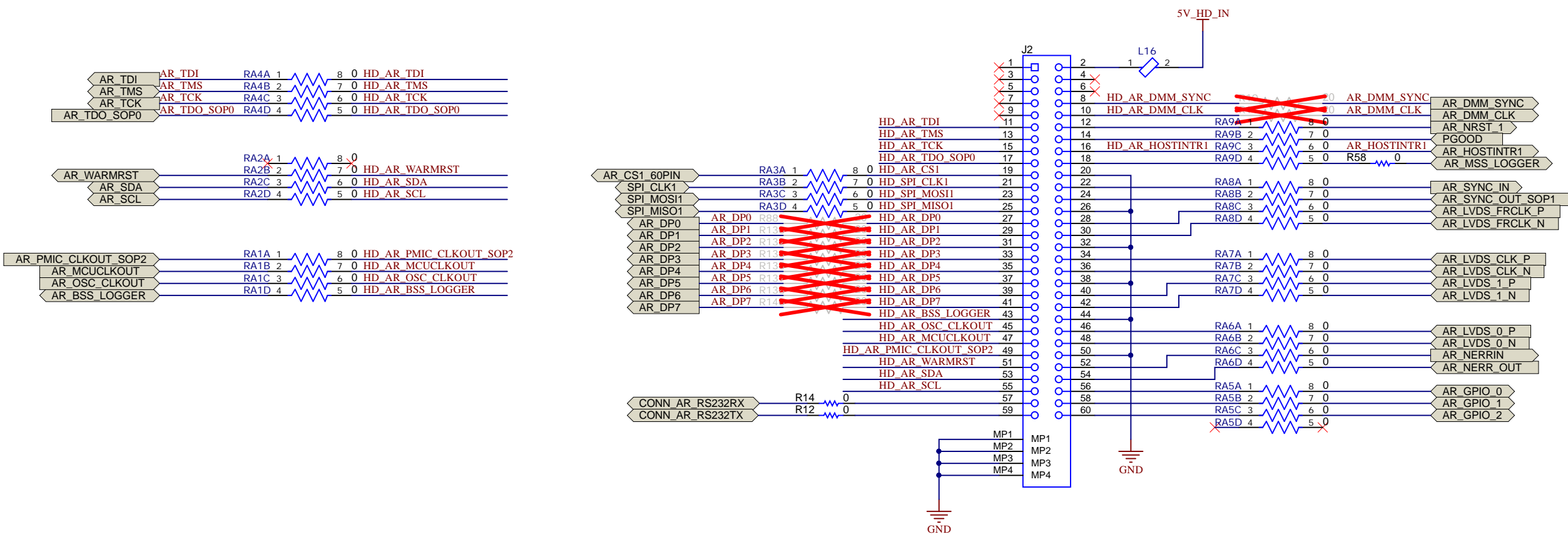
USB_AR_RS232TX

TS5A23157QDGSRQ1

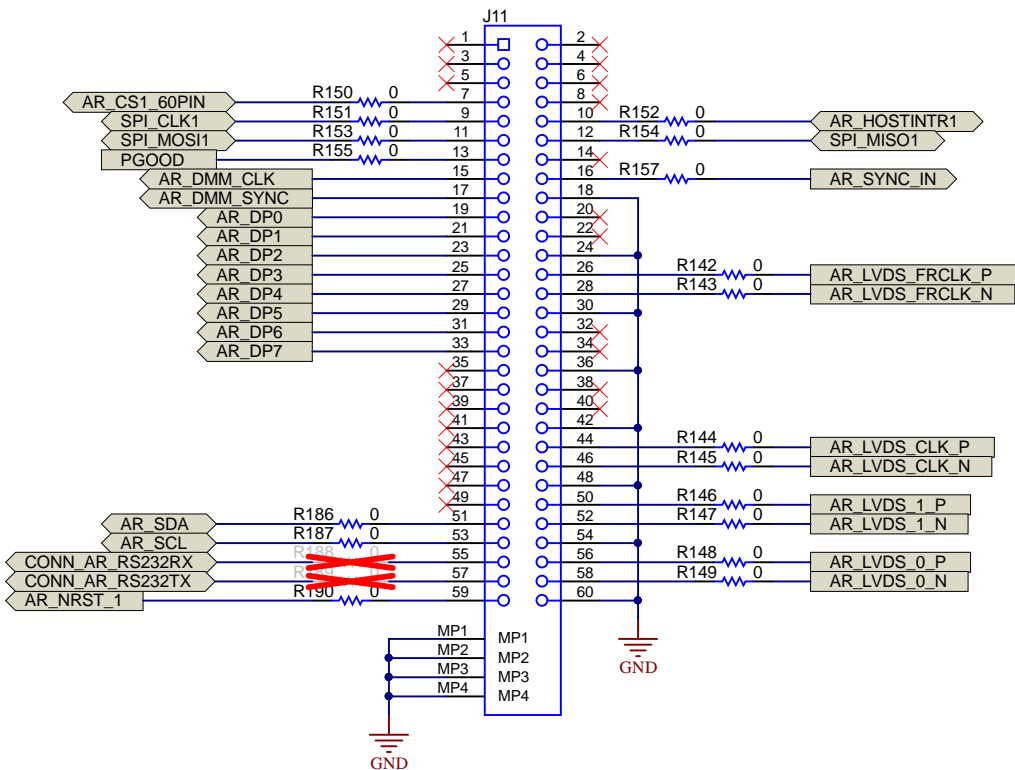
MUX IN CONFIG

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

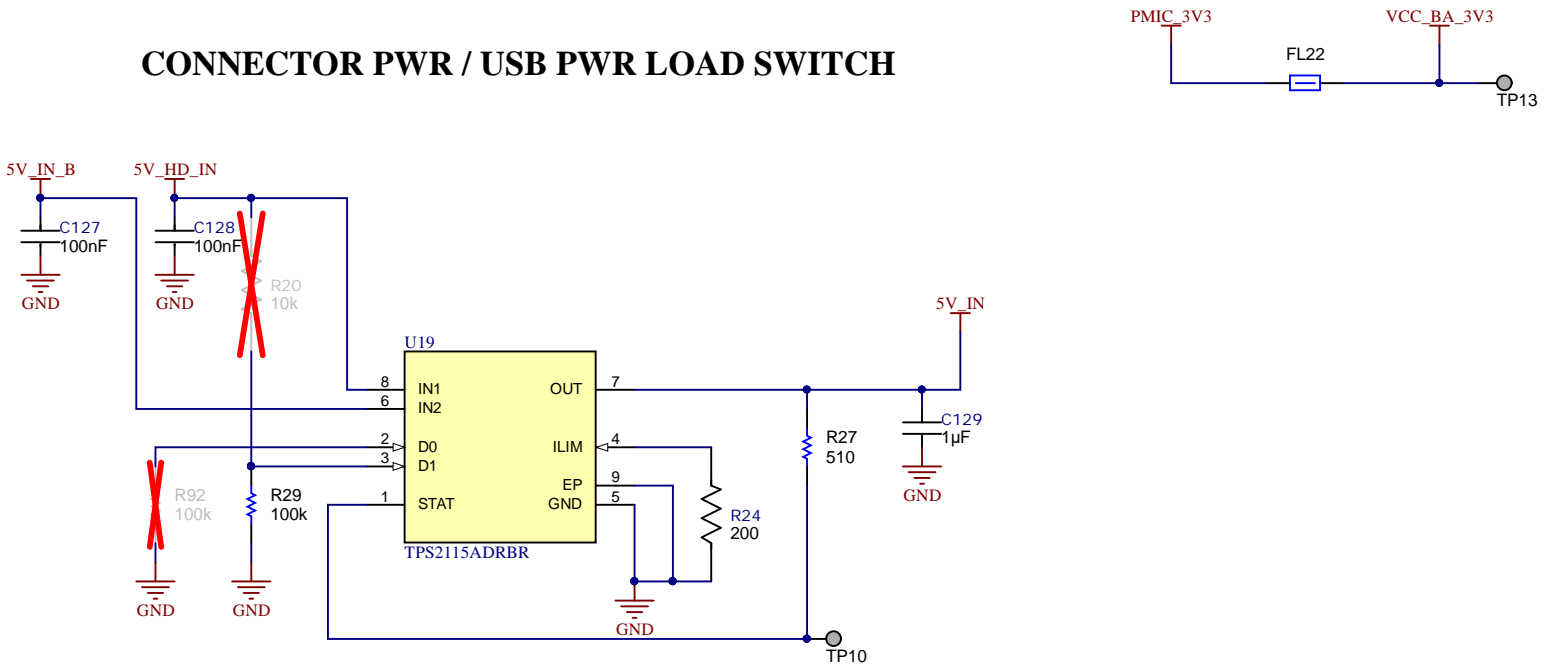
60PIN HD CONNECTOR FOR MMWAVEICBOOST



60PIN HD CONNECTOR FOR DCA1000



CONNECTOR PWR / USB PWR LOAD SWITCH



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Orderable: AWR1843AOPEVM	Designed for: Public Release	Mod. Date: 14-12-2020
TID #: N/A	Project Title: xWR1843AOPEVM	
Number: PROC106	Rev: A1	Sheet Title: BREAKAWAY_60PIN_CONN
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 12
Drawn By: Antony/Anand Ram	File: PROC106A1_HD_CONN_PWR_SW.SchDoc	Size: B
Engineer: Antony/Anand Ram	Contact: http://www.ti.com/support	

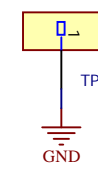
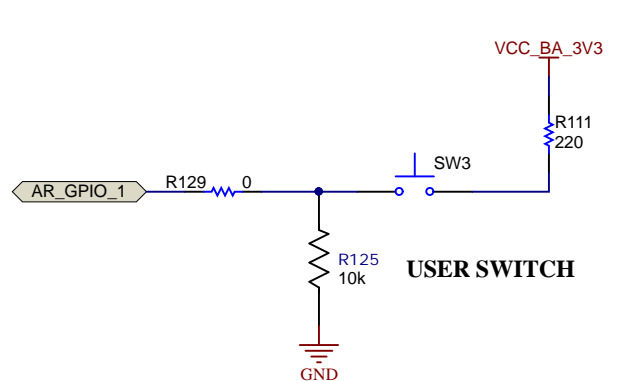
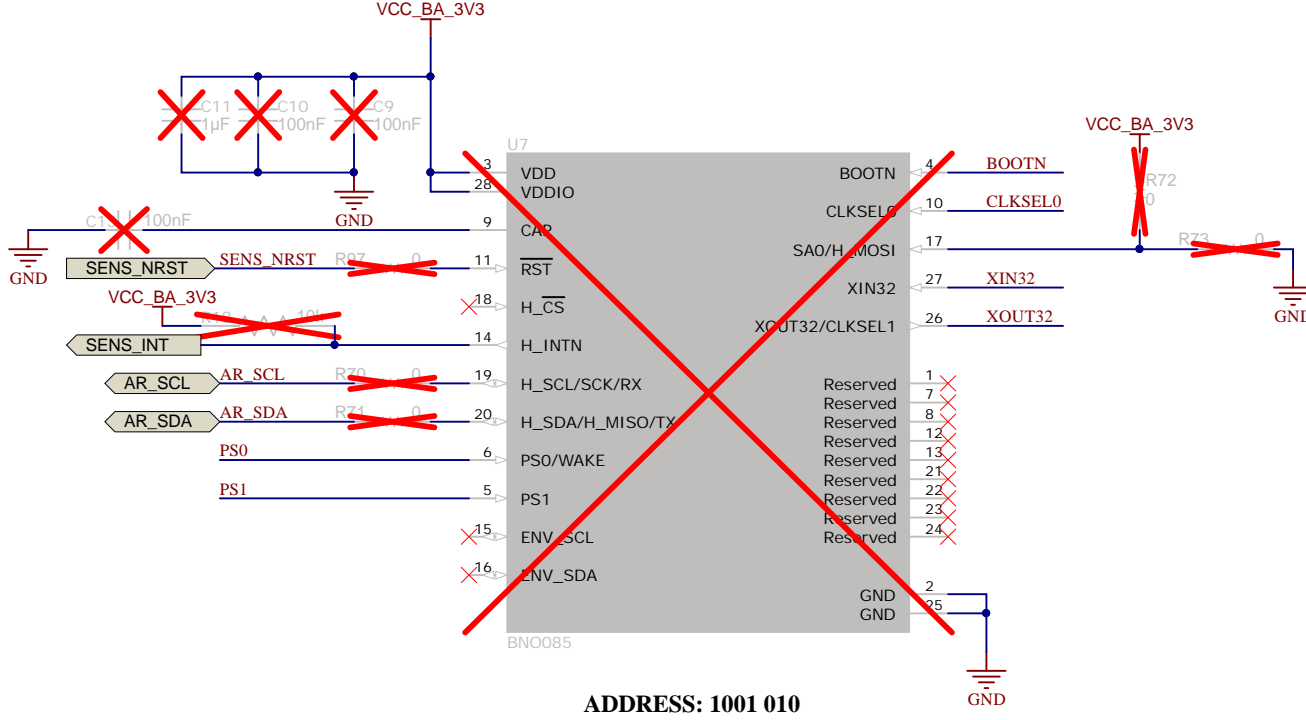
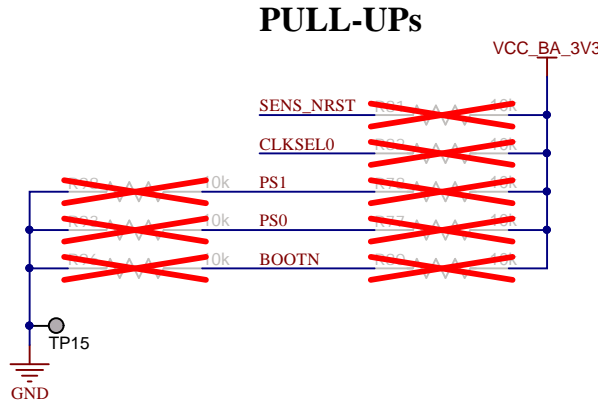


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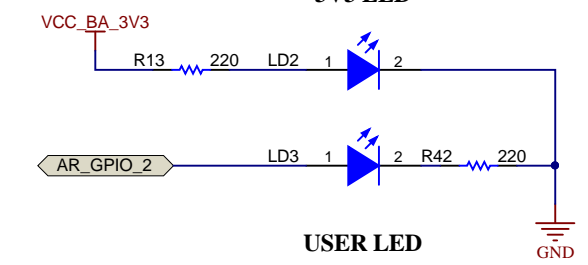
BREAKAWAY_SECTION_2

9 - AXIS SENSOR

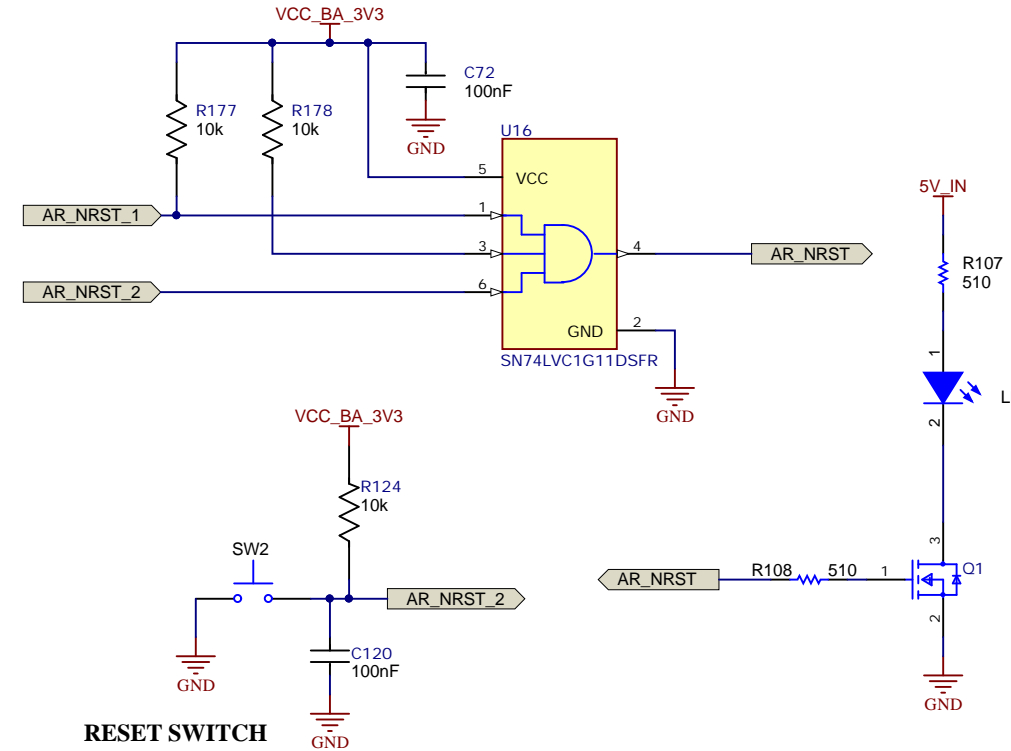
PULL-UPS



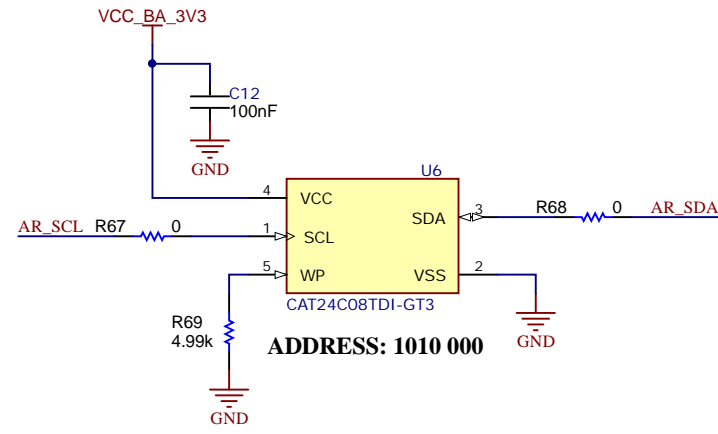
3V3 LED



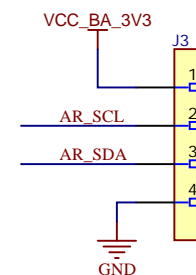
AOP RESET



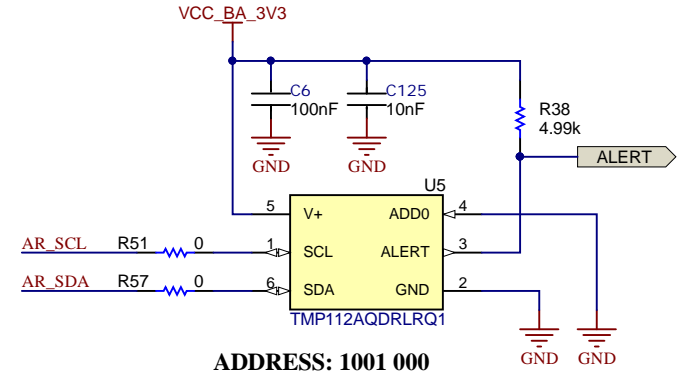
EEPROM



I2C HEADER



TEMPERATURE SENSOR



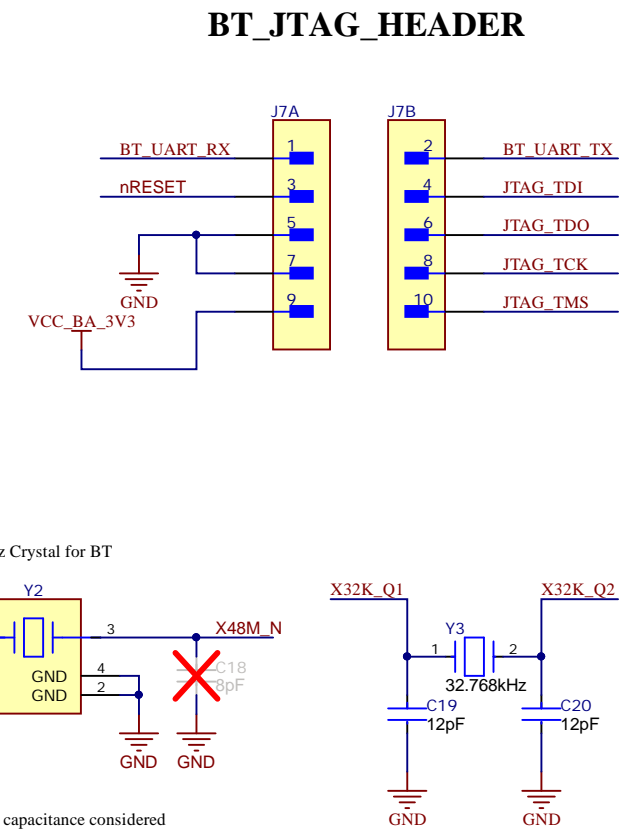
RESET SWITCH

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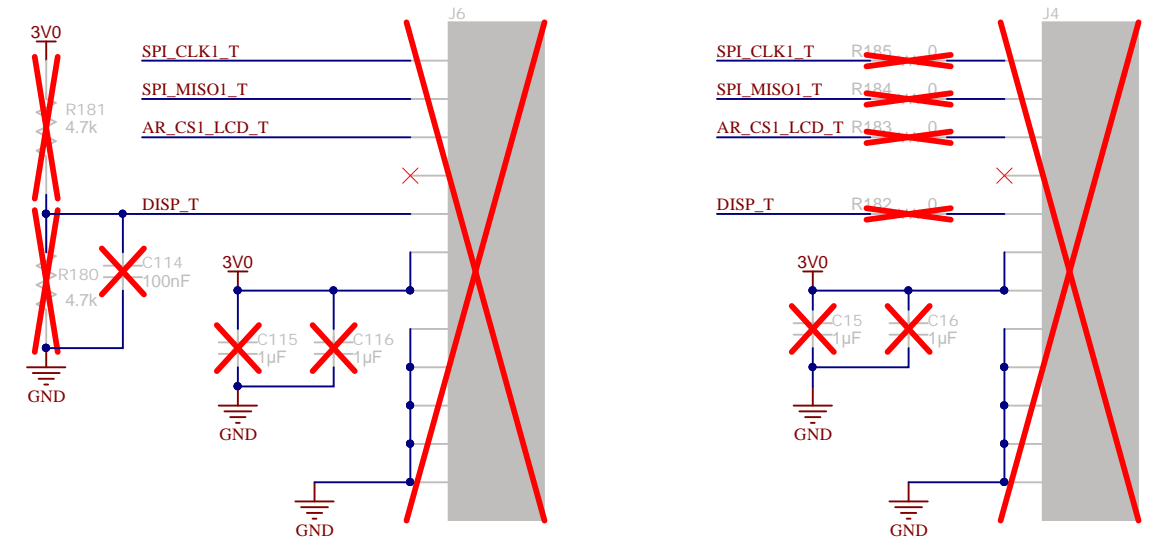
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TID #: N/A	Project Title: xWR1843AOPEVM	
Number: PROC106	Rev: A1	Sheet Title: BREAKAWAY_SECTION2
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 8 of 12
Drawn By: Antony/Anand Ram	File: PROC106A1_RST_GPIOs_I2C.SchDoc	Size: B
Engineer: Antony/Anand Ram	Contact: http://www.ti.com/support	

TEXAS INSTRUMENTS
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BLUETOOTH

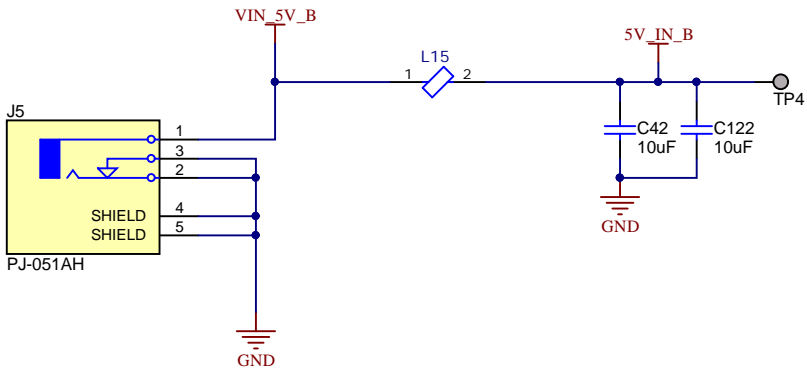


LEVEL TRANSLATOR FOR DISPLAY

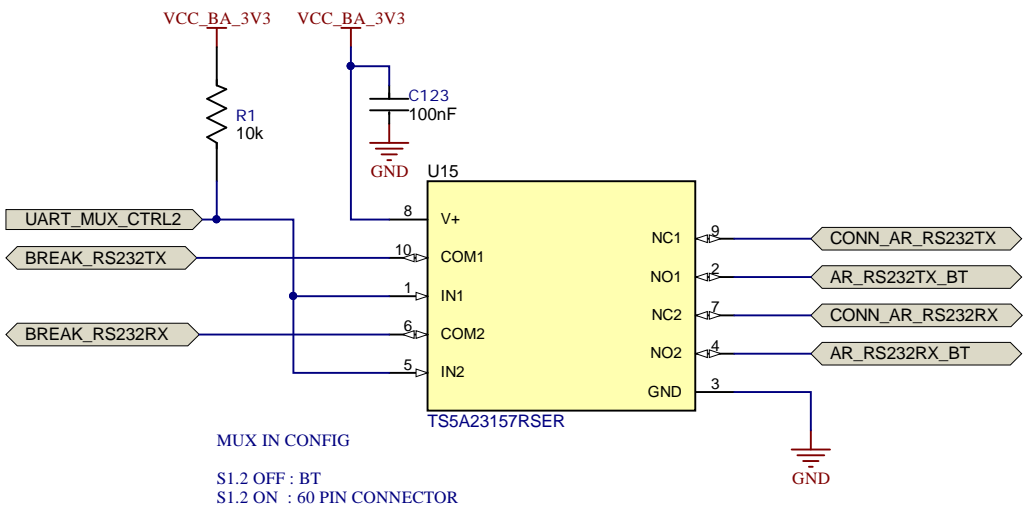


BREAKAWAY_SECTION_4

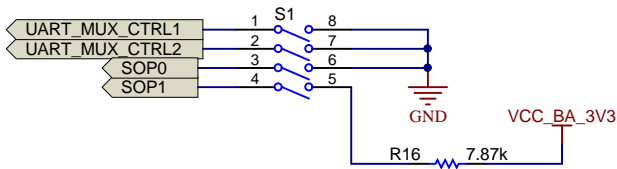
DC JACK



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

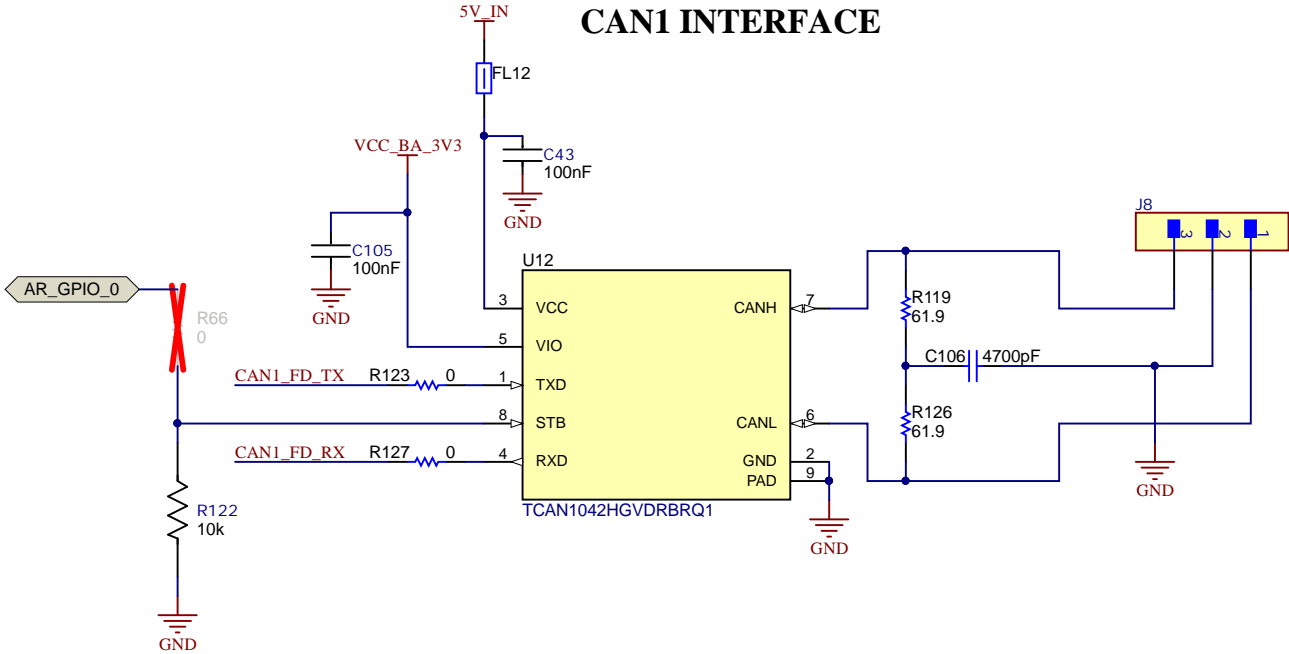
Designator	Switch ON	Switch OFF
S1.1	Breakaway UART	CP2105UART
S1.2	60 Pin UART	BT UART
S2.1	CAN	SPI
S2.2	60 Pin CS	BT/LCD CS
S2.3	BT Enable	BT Disable

PIN MUX SETTINGS

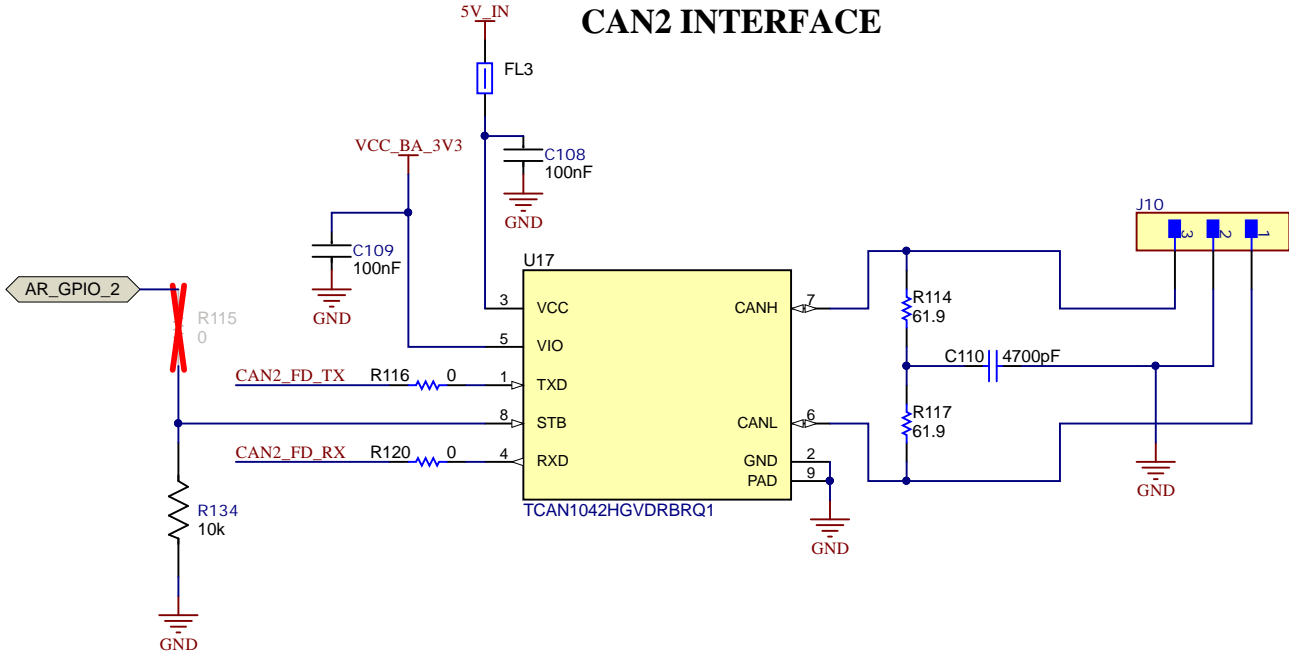
	S1.1	S1.2	S2.1	S2.2	S2.3
Stand alone Mode	OFF	N/A	N/A	N/A	N/A
MMWAVEICEBOOST	ON	ON	OFF	OFF	N/A

BREAKAWAY_SECTION_5

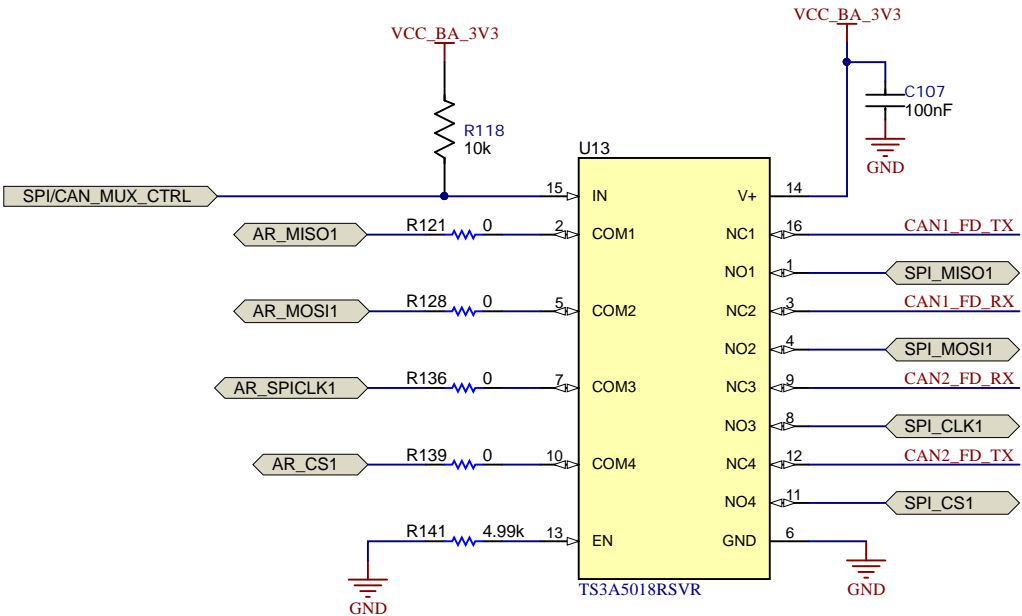
CAN1 INTERFACE



CAN2 INTERFACE



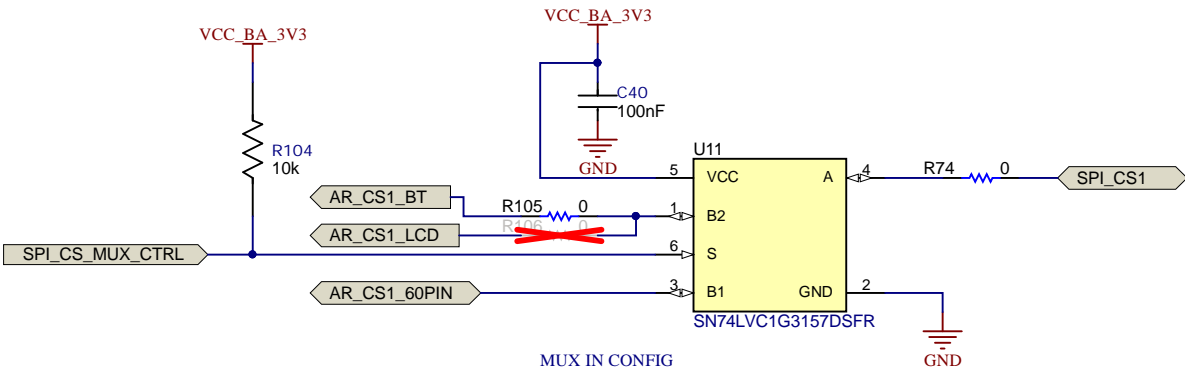
ANALOG MUX SELECTION FOR SPI/CAN



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

HARDWARE



PCB Number: PROC106
PCB Rev: A1



H1
MECH

H2
MECH

H3
MECH

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#MCH065) 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	AWR1843AOPEVM

Orderable: AWR1843AOPEVM		Designed for: Public Release		Mod. Date: 02-03-2021
TID #: N/A		Project Title: xWR1843AOPEVM		
Number: PROC106	Rev: A1	Sheet Title: HARDWARE		
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 12 of 12	
Drawn By: Antony/Anand Ram		File: PROC106A1_Hardware.schdoc		Size: B
Engineer: Antony/Anand Ram		Contact: http://www.ti.com/support		