xWR1843BOOST COVER SHEET

Revision History

Rev	ECN #	Approved Date	Approved by	Notes
C	1	1/1/2019	Adrian Ozer	Increased LDO output cap to 47uF
C	2	1/1/2019	Adrian Ozer	Added two optional 10uF LDO output caps
C	3	1/1/2019	Adrian Ozer	Added 10uF cap to LDO input
C	4	1/1/2019	Adrian Ozer	Added test pad to LDO PG pin
C	5	1/1/2019	Adrian Ozer	Connected LDO DNC pads to GND for thermal performance
C	6	1/1/2019	Adrian Ozer	Added optional bleed resistor on LDO output
C	7	1/1/2019	Adrian Ozer	Changed 1V filtering to BLM18 inductor
C	8	1/1/2019	Adrian Ozer	Added 22uF caps to 1V, 1.24V, and 1.8V LC filters
C	9	1/1/2019	Adrian Ozer	Added 10uF caps to 3.3V and 1.24V LC filter
C	10	1/1/2019	Adrian Ozer	Added additional 10uF caps to 1V LC filter
C	11	1/31/2019	Adrian Ozer	Enabled 3.3V to BP header by default
D	1	5/28/2020	Adrian Ozer	Updated C56 from 0.22uF to 47nF

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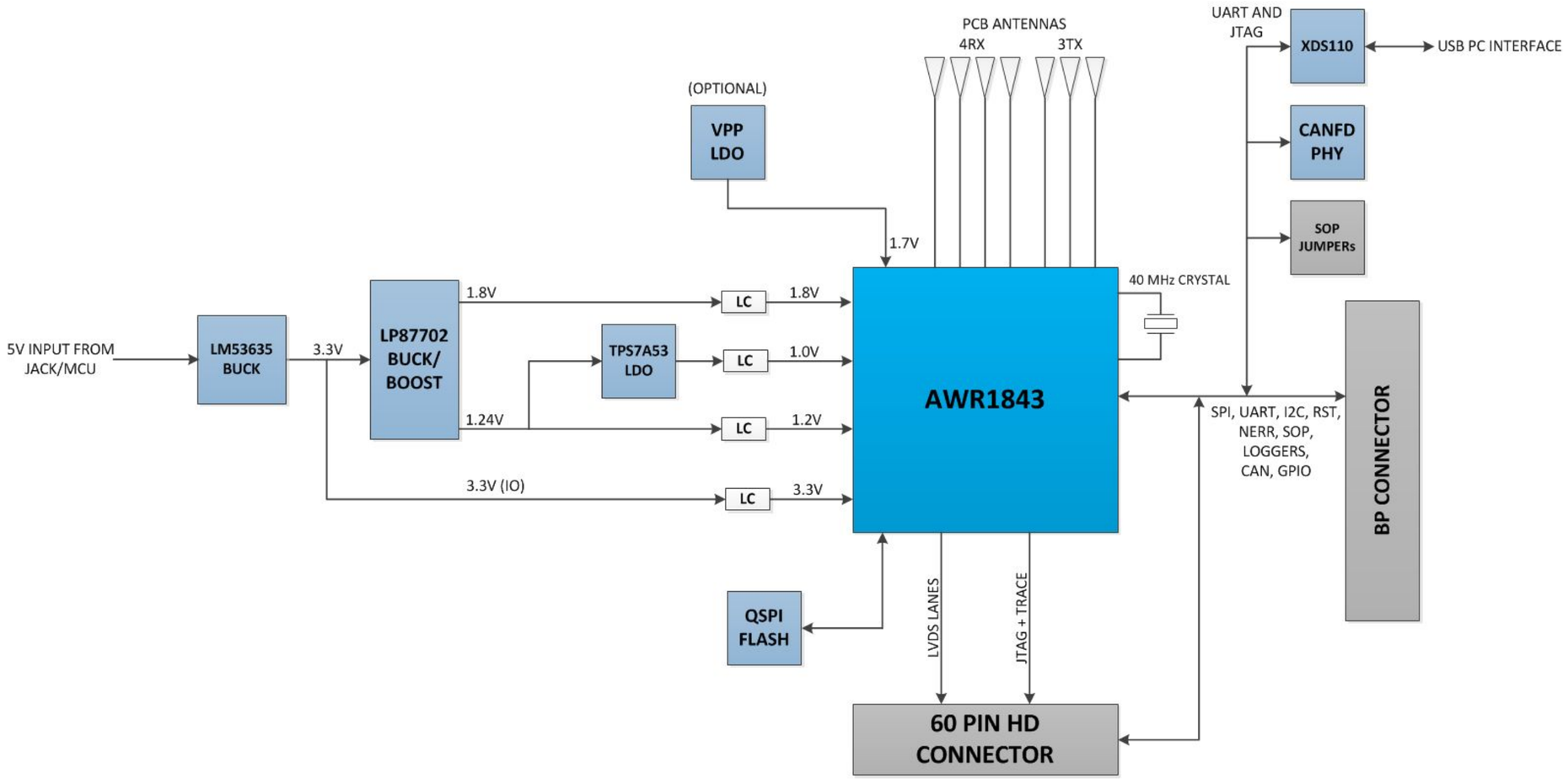

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TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: Contents	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 1 of 16
Drawn By:	File: PROC051D_Cover_Sheet.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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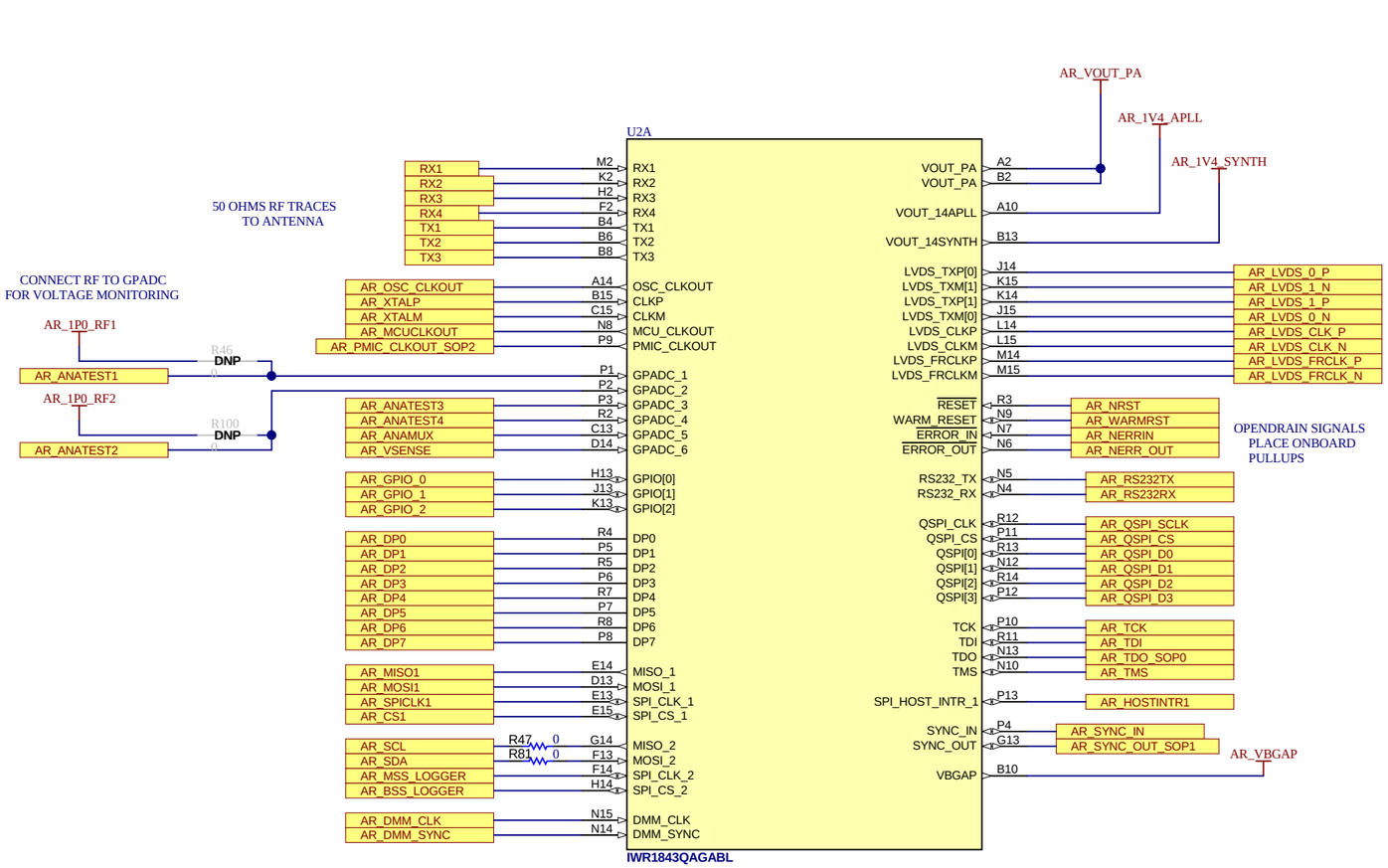
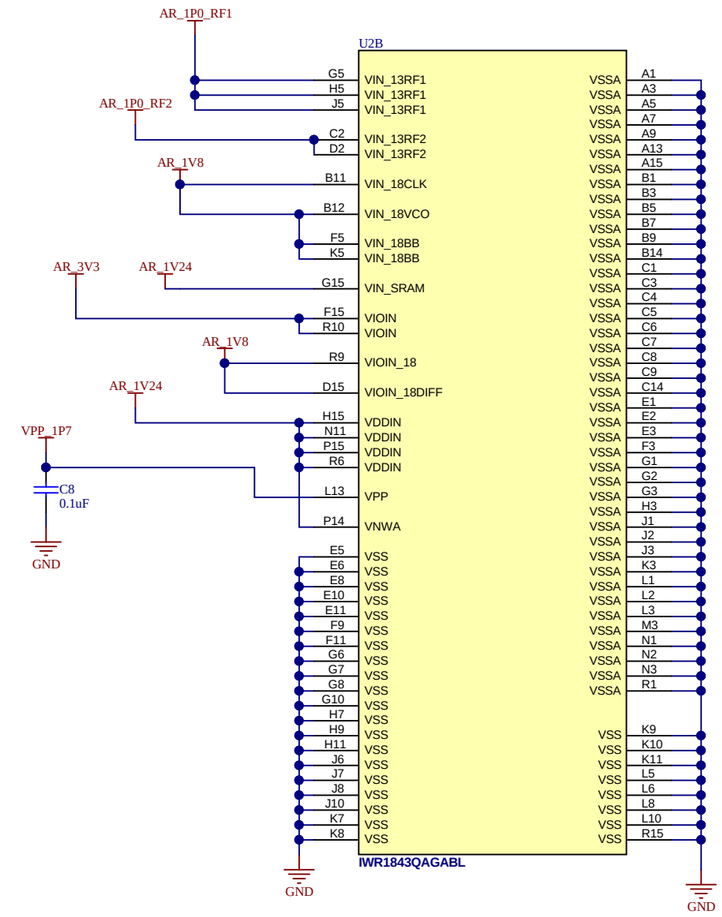
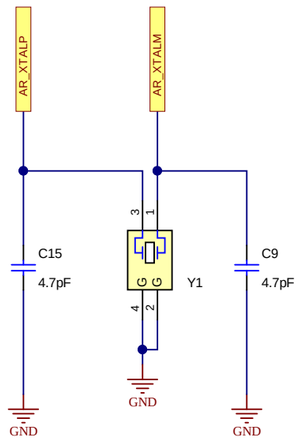
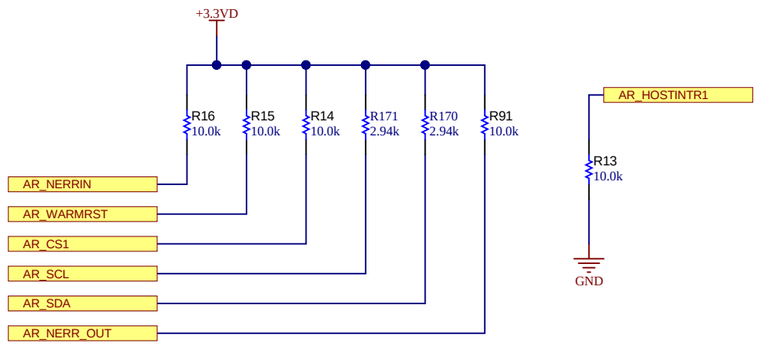
DUT REFERENCE







Mandatory Pullups/Pulldowns



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Number: PROC051 Rev: D	Sheet Title: DUT	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 2 of 16
Drawn By:	File: PROC051D_DUT_Reference.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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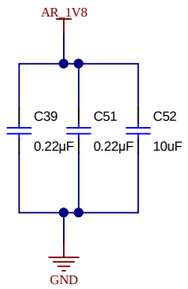
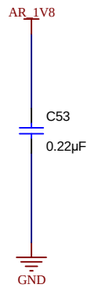
DECOUPLING CAPS REFERENCE

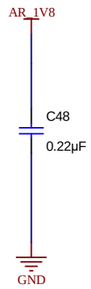
BB SUPPLY



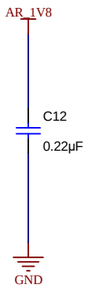
DIFF SUPPLY



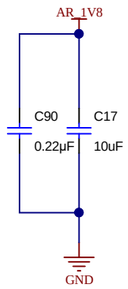
1P8V IO SUPPLY

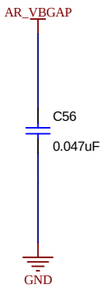


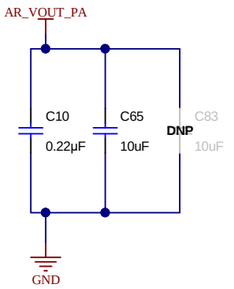
VCOLDO SUPPLY



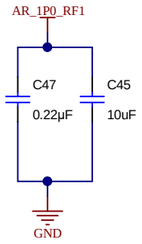
VCLK SUPPLY







RF1 SUPPLY



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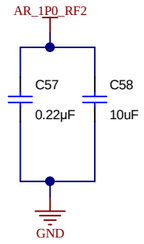
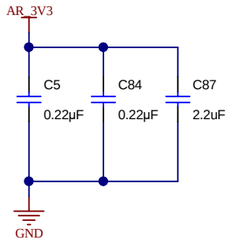
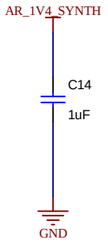
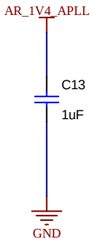


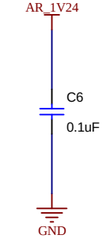
3V3IO SUPPLY



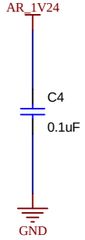




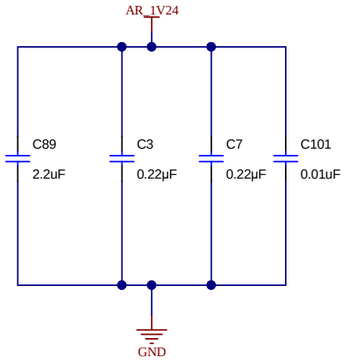
VNWA SUPPLY



SRAM SUPPLY



DIG SUPPLY



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Number: PROC051 Rev: D	Sheet Title: Decoupling_caps	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 3 of 16
Drawn By:	File: PROC051D_Decoupling_Caps_Reference.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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POWER INPUT REFERENCE

P6 5V, 3A
SHIELD
SHIELD
F1
5A
L7
VIN
C79 4.7µF
C26 47µF
C21 10uF
C23 50V
C25 10uF
C27 50V
R82 10k
U8
AVIN
PVIN1
PVIN2
EN
VCC
FPWM
RESET
NC
SYNC
CBOOT
SW
BIAS
FB
AGND
PGND1
PGND2
LMS36x5
C18 0.47uF
L1 2.2uH
C28 0.1uF
C29 22uF
C30 22uF
C31 22uF
3V3
D5 APHHS1005CGCK Green
R118 220
R156 0
3V3_REF
R141 0
R138 100k
PGOOD
THE 3V3 OUTPUT FROM LDO IS USED AS PGOOD.
C32 4.7µF
R84 100k
PMIC_EN1
GND
TP3
TP1

1.24V VOLTAGE MONITORING
AR_1V24
R146 4.42k
1.8V VOLTAGE MONITORING
AR_1V8
R139 4.87k
R150 100
R157 0
C77 0.1uF
C78 0.1uF
C35 10uF
C36 1uF
C22 0.1uF
R158 10.0k
R147 0 DNP
AR_GPIO_2
C46 10uF
C54 1uF
R142 10k
C81 10uF
R131 3.3k
R132 3.3k
L4 1uH
AR_SDA
AR_SCL
PMIC_EN1
AR_MCUCLKOUT
AR_WARMRST
R148 0
R149 0
U4
VANA
INT
VIN_B0
VIN_B1
SW_BST
NRST
SDA (EN3)
SCL (EN2)
EN1
CLKIN (GPO2)
VMON1
VMON2
WDI
WD_RESET
SW_B0
FB_B0
SW_B1
FB_B1
VOUT_BST
PG0
GPO0
PG1 (GPO1)
PGND_BST
PGND_B0
PGND_B1
AGND
PAD
LP87702DRHBRQ1
L2 470nH
L3 470nH
R119 0
R121 0
R143 0
R144 0
R145 0 DNP
C38 22uF
C60 22uF
C68 22uF
C82 0.1uF
C93 22µF
C94 1uF
1V8
1V24
5VBST
AR_NRST
3V3_REF
R186 10k
Disable
PMIC_CLK
R188 0 DNP
R189 0
Watchdog Enable/Disable
R190 10k DNP
Enable

1V24
C34 0.1uF
C33 1uF
C40 10uF
U5
IN
EN
NR/SS
DNC
GND
OUT
BIAS
PG
FB
PAD
TPS7A5301QRGRRQ1
C73 0.01uF
C59 10uF
C44 47uF
C95 10uF
C96 10uF
C72 0.01uF
R120 0
TP2
R122 12.1k
R145 48.7k
R183 0 DNP
Optional Bleed Resistor
VCC_LDO_OUT

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Engineer: Adrian Ozer		Contact: http://www.ti.com/support	

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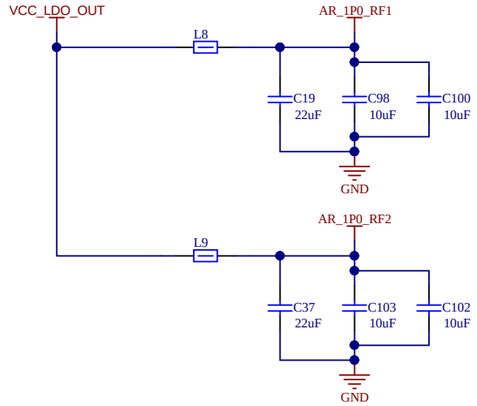
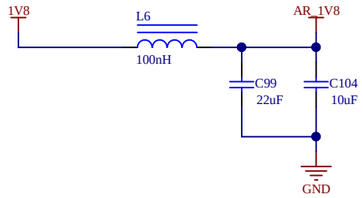
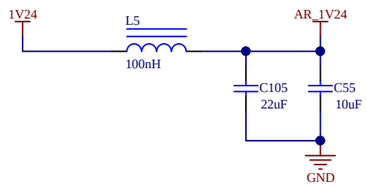
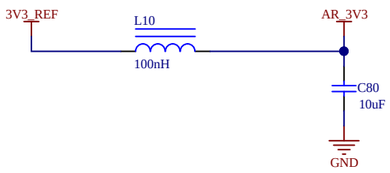
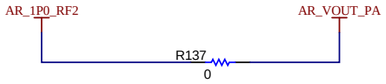
LC FILTERING REFERENCE











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Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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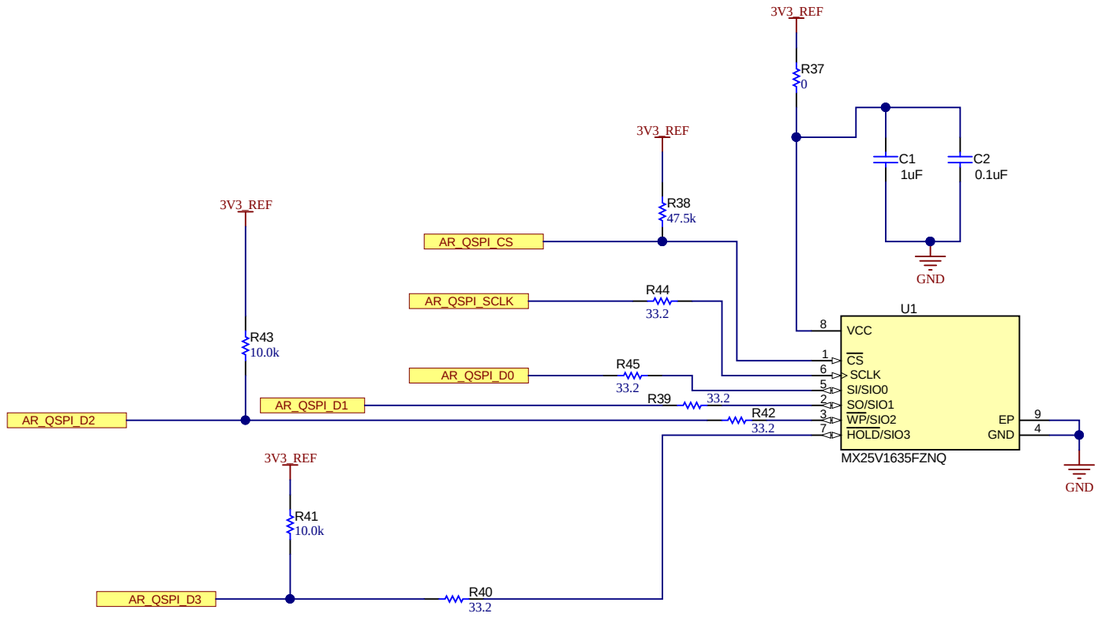
QSPI FLASH REFERENCE



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Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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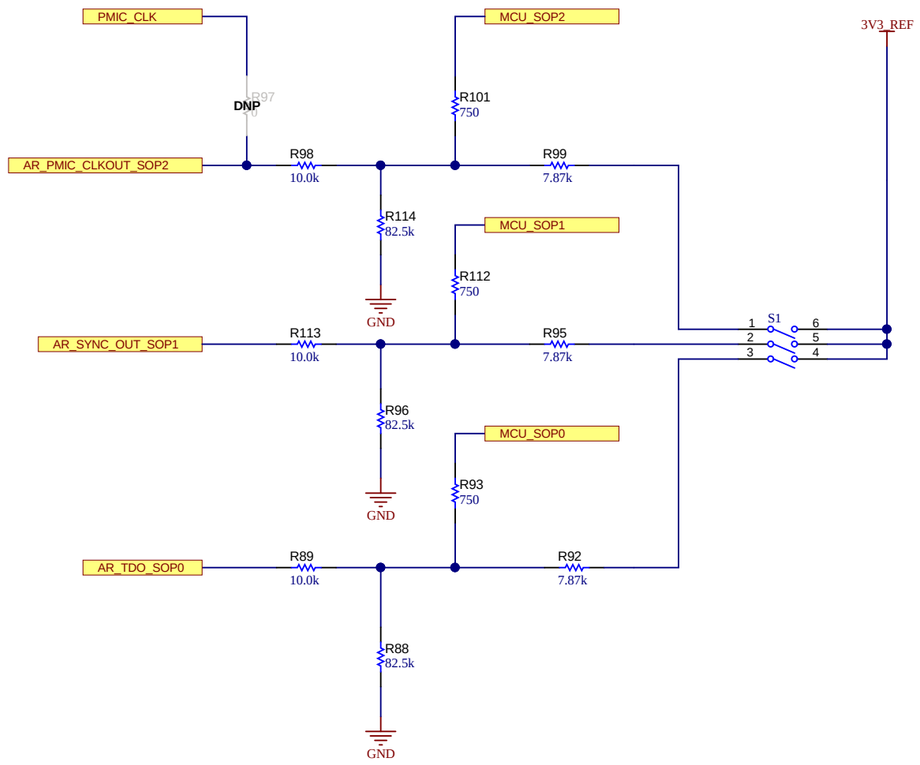
SOP HEADERS REFERENCE

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



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Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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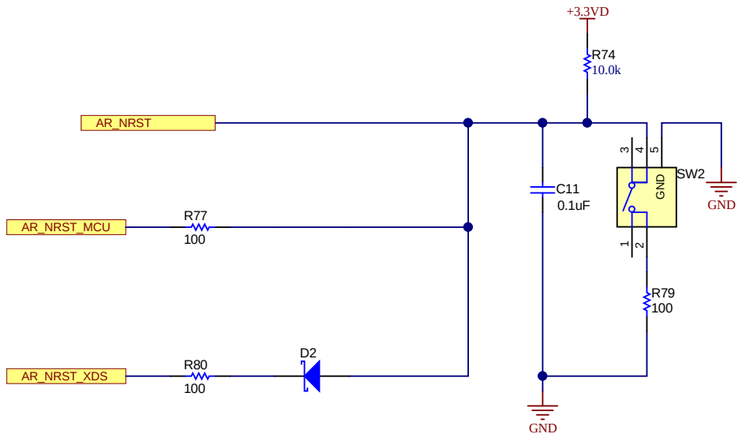
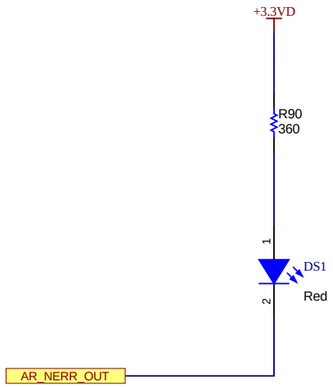
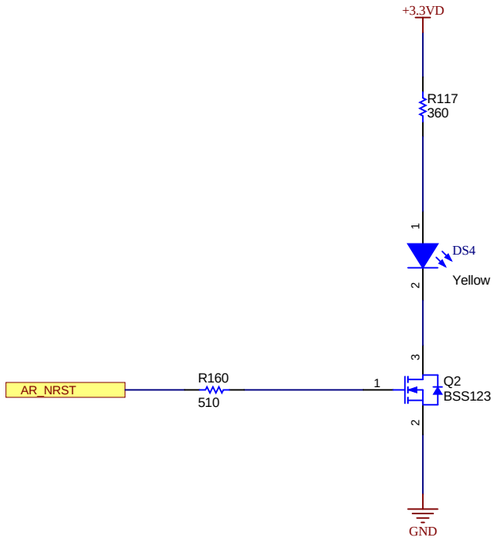
RESET AND LEDS

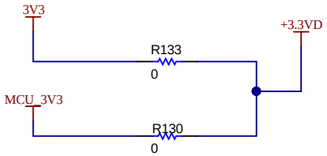
INDICATION LEDS

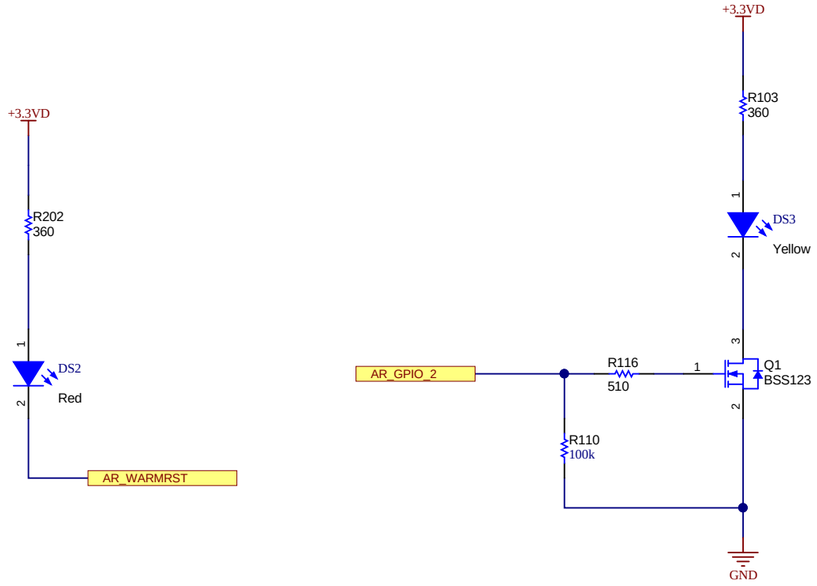


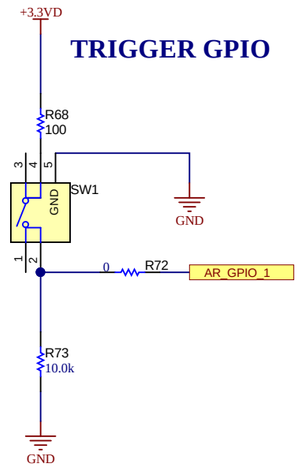




3V3 PERIPHERAL SUPPLY FROM LDO OR FROM THE MCU







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Drawn By:	File: PROC051D_RST_LEDs.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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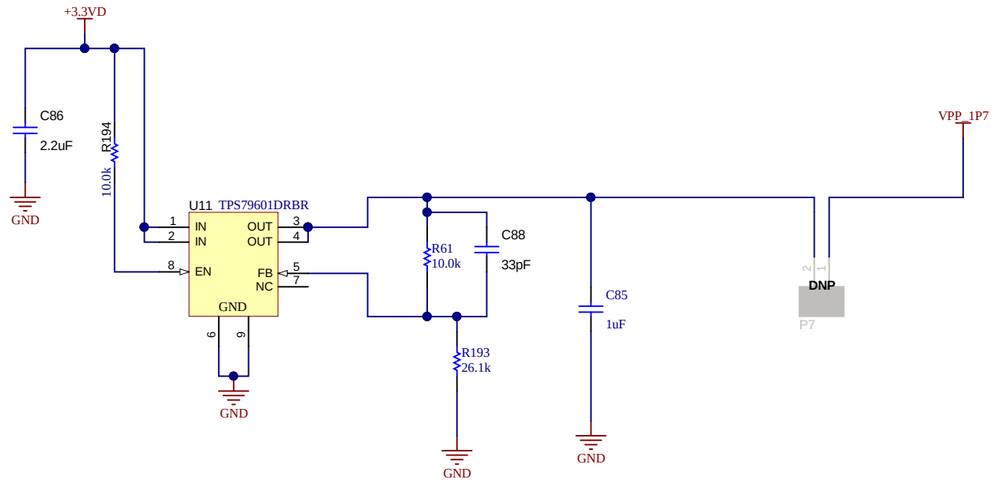
VPP SUPPLY LDO



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Engineer: Adrian Ozer		Contact: http://www.ti.com/support	

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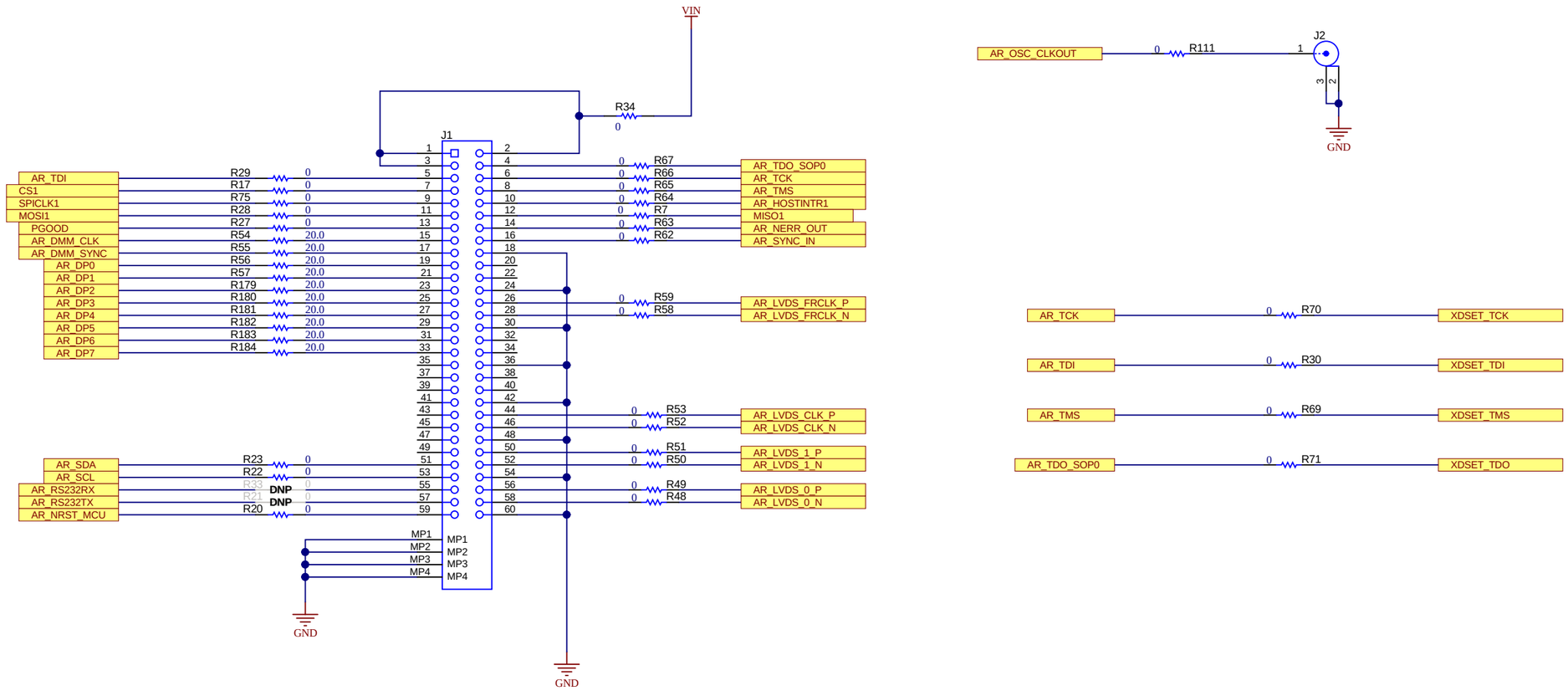
HD CONNECTOR FOR LVDS/CSI AND JTAG



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Number: PROC051 Rev: D	Sheet Title: HD Connector	
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Drawn By:	File: PROC051D_HD Connector.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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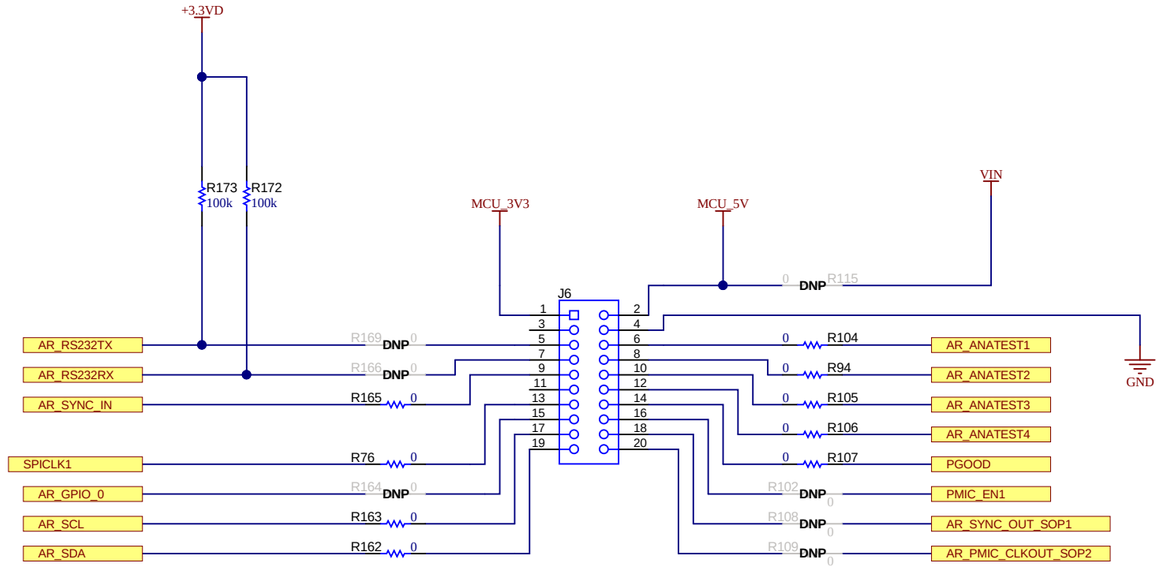
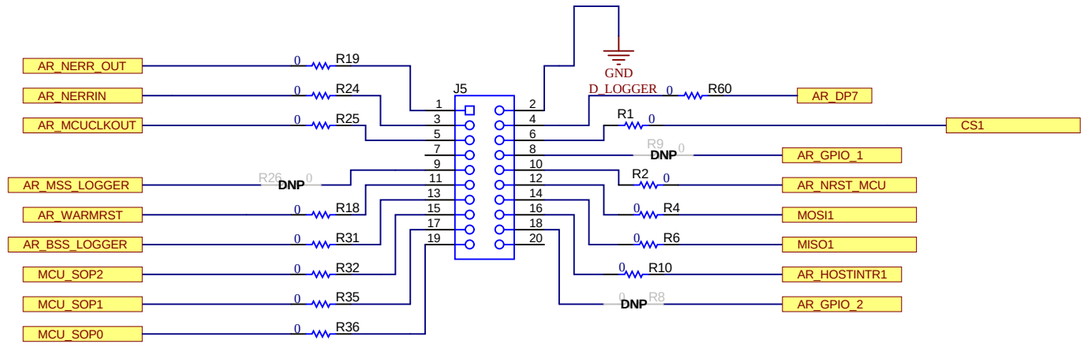
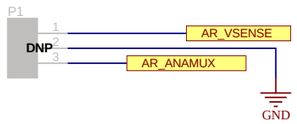
BP/LP CONNECTOR





ANALOG SIGNALS



Orderable: IWR1843BOOST	Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: LP Connector	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 11 of 16
Drawn By:	File: PROC051D_LP Connector.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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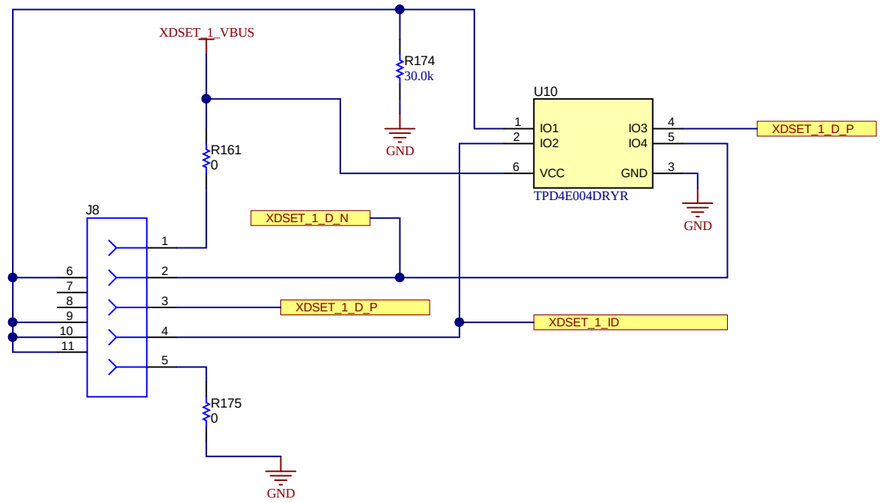
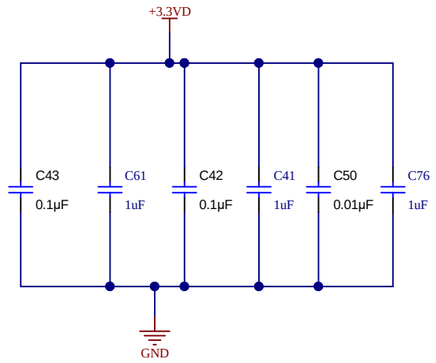
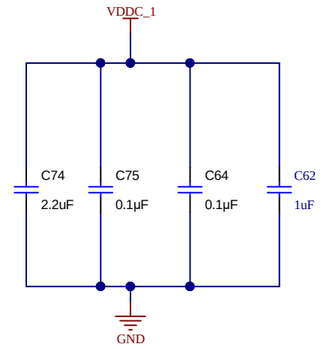
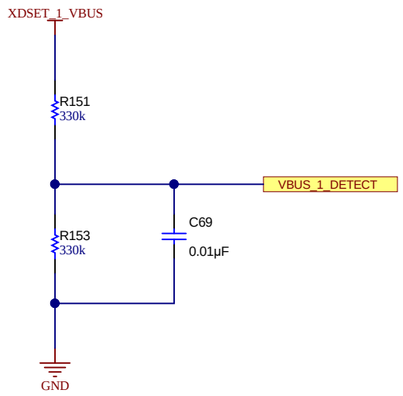
XDS110(1/2)









Orderable: IWR1843BOOST	Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: XDS110 Interface_1A	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 12 of 16
Drawn By:	File: PROC051D_XDS110 Interface_1A.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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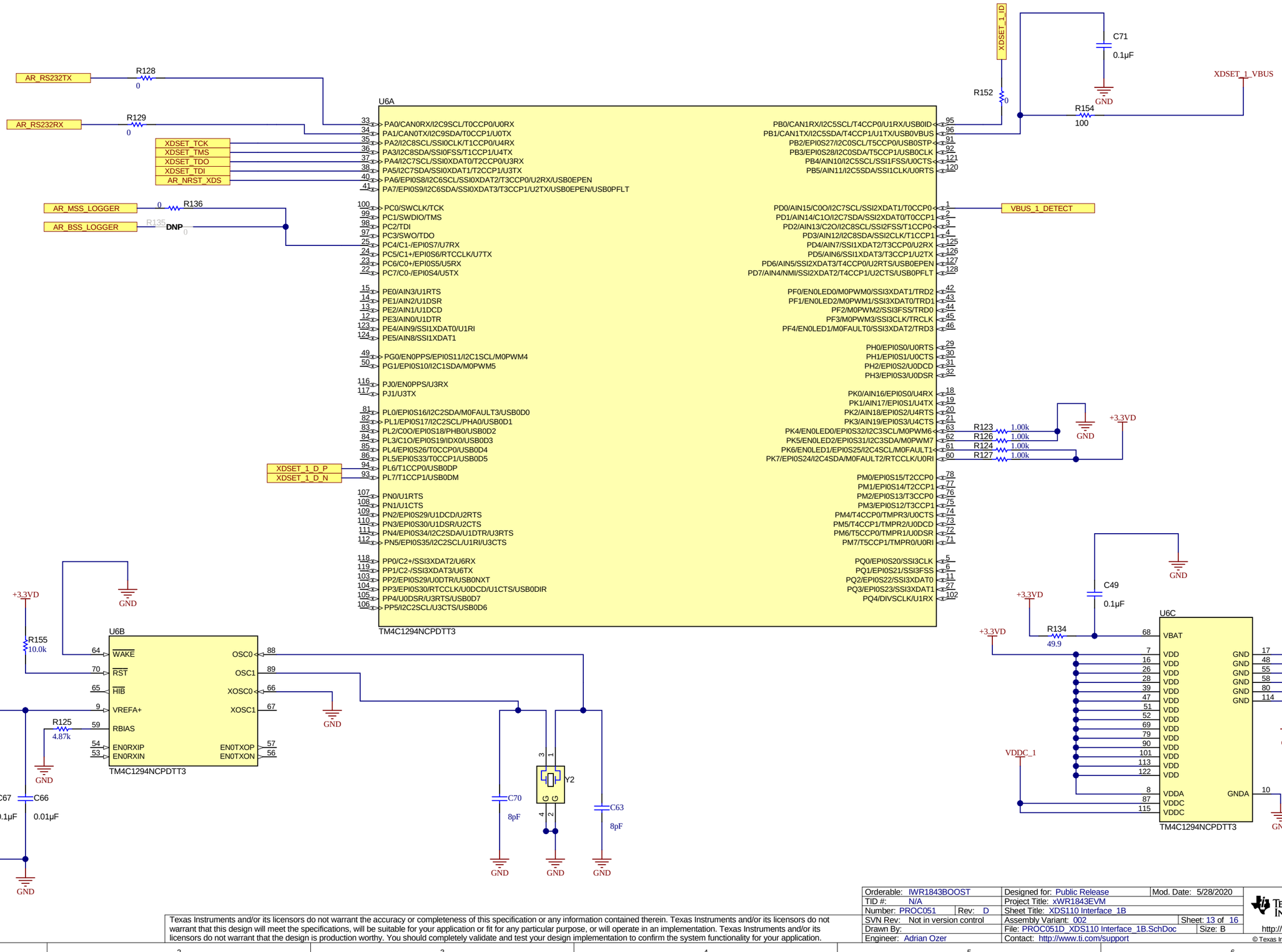
XDS110(2/2)



Orderable: IWR1843BOOST		Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A		Project Title: xWR1843EVM	
Number: PROC051	Rev: D	Sheet Title: XDS110 Interface_1B	
SVN Rev: Not in version control		Assembly Variant: 002	Sheet: 13 of 16
Drawn By:		File: PROC051D_XDS110 Interface_1B.SchDoc	Size: B
Engineer: Adrian Ozer		Contact: http://www.ti.com/support	

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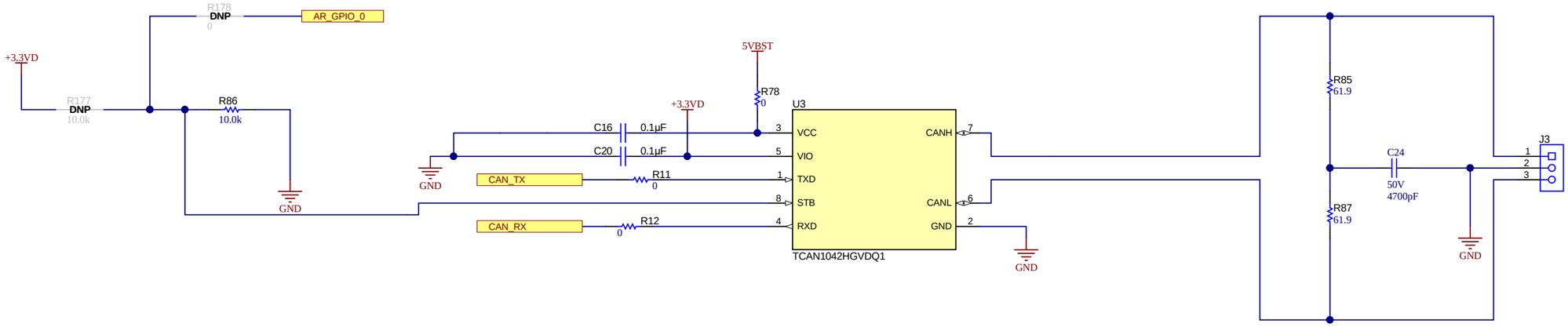
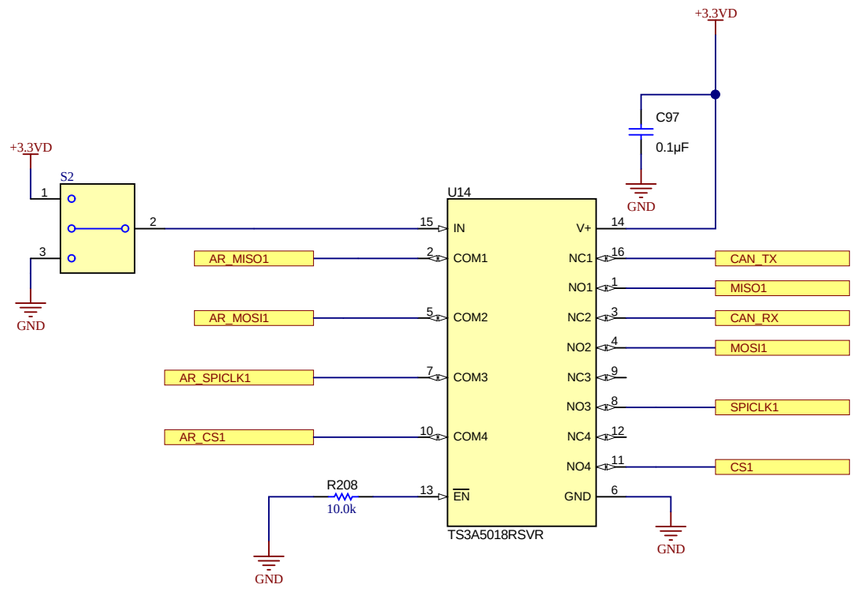
CAN INTERFACE



MUX BETWEEN SPI AND CAN INTERFACE



Orderable: IWR1843BOOST	Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: CAN Interface	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 14 of 16
Drawn By:	File: PROC051D_CAN_Interface.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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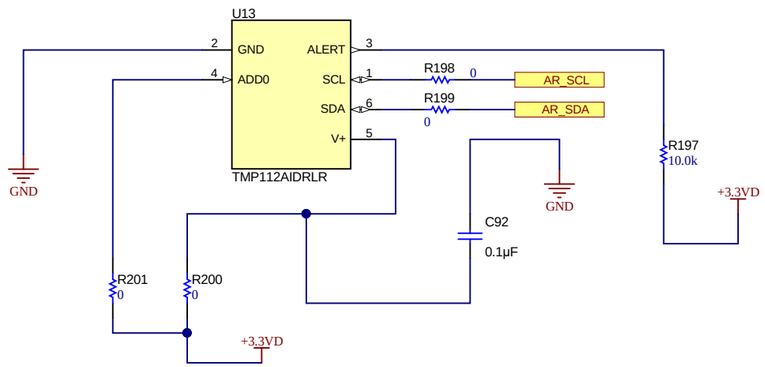
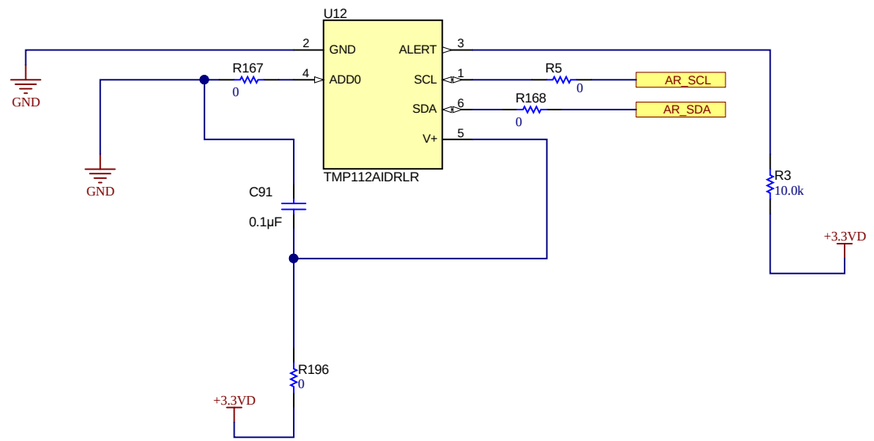
ONBOARD TEMP SENSORS

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



DEFAULT I2C ADDRESS 0X48 TEMP SENSOR CLOSE TO PMIC



Orderable: IWR1843BOOST	Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: Tempsensor	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 15 of 16
Drawn By:	File: PROC051D_Tempsensor.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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DNP FID1

DNP FID4

DNP FID2

DNP FID5

DNP FID3

DNP FID6

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

Logo4
PCB
LOGO
WEEE logo

LOGO3

LBL1
PCB Label
Label

Z9

PMSS 632 0038 PH

Z10

PMSS 632 0038 PH

Z11

PMSS 632 0038 PH

Z1 Bumpon
Z2 Bumpon
Z3 Bumpon
Z4 Bumpon
Z5 Bumpon
Z6 Bumpon
Z7 Bumpon
Z8 Bumpon

Z12

HNSS 632

Z13

HNSS 632

Z14

HNSS 632

Z15 MECH 625
Z16 MECH 625
Z17 MECH 625
Z18 MECH 625

Z21

SPC02SYAN

Z20

SPC02SYAN

Z19 MECH 3025010-03

PCB Number: PROC051
PCB Rev: C

Variant/Label Table	
Variant	Label Text
001	AWR1843BOOST
002	IWR1843BOOST

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 placed in a plastic bag

Orderable: IWR1843BOOST	Designed for: Public Release	Mod. Date: 5/28/2020
TID #: N/A	Project Title: xWR1843EVM	
Number: PROC051 Rev: D	Sheet Title: Hardware	
SVN Rev: Not in version control	Assembly Variant: 002	Sheet: 16 of 16
Drawn By:	File: PROC051D_Hardware.SchDoc	Size: B
Engineer: Adrian Ozer	Contact: http://www.ti.com/support	

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