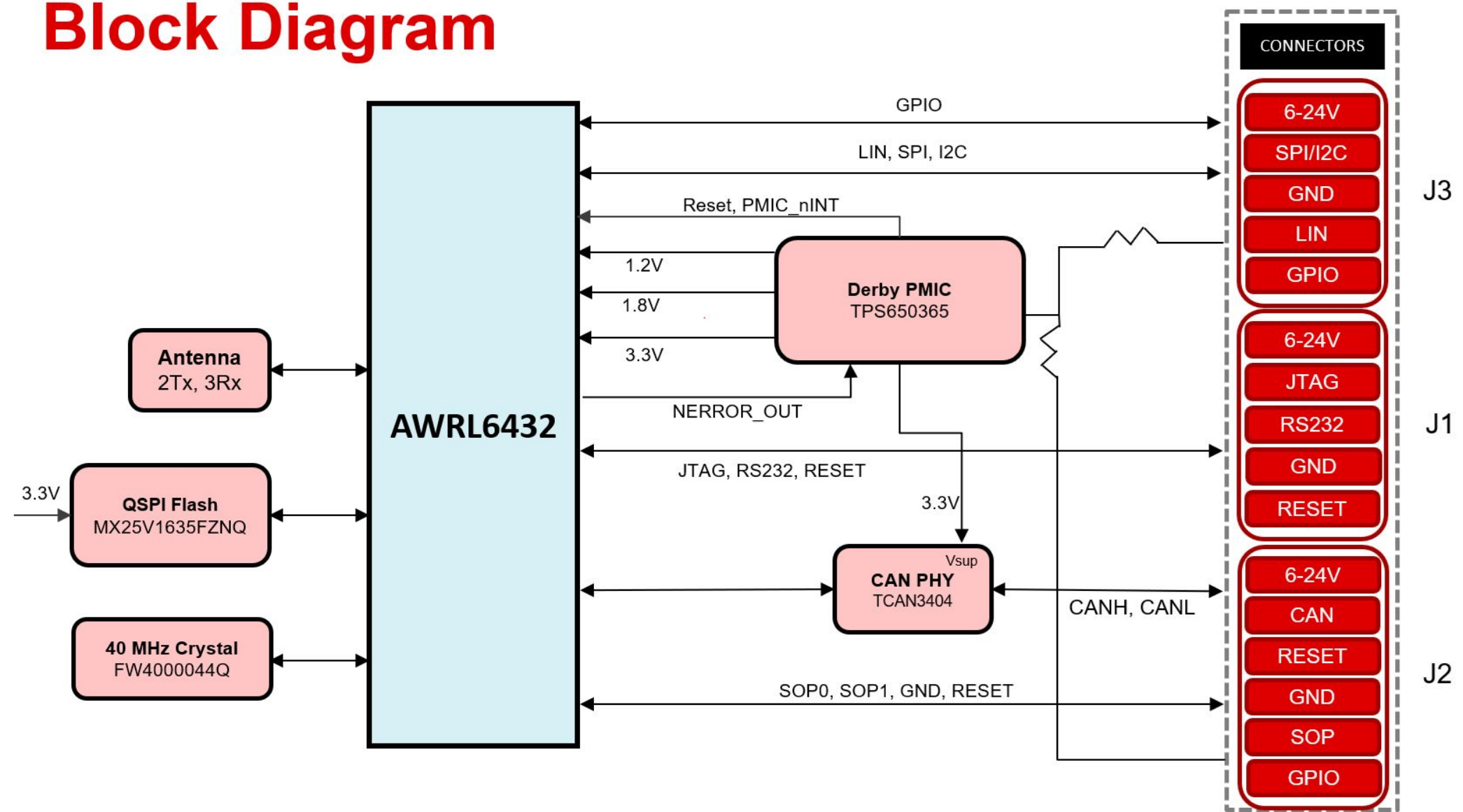


Revision History

Rev	ECN #	Approved Date	Approved by	Notes

BLOCK DIAGRAM

Block Diagram



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TABLE OF CONTENTS

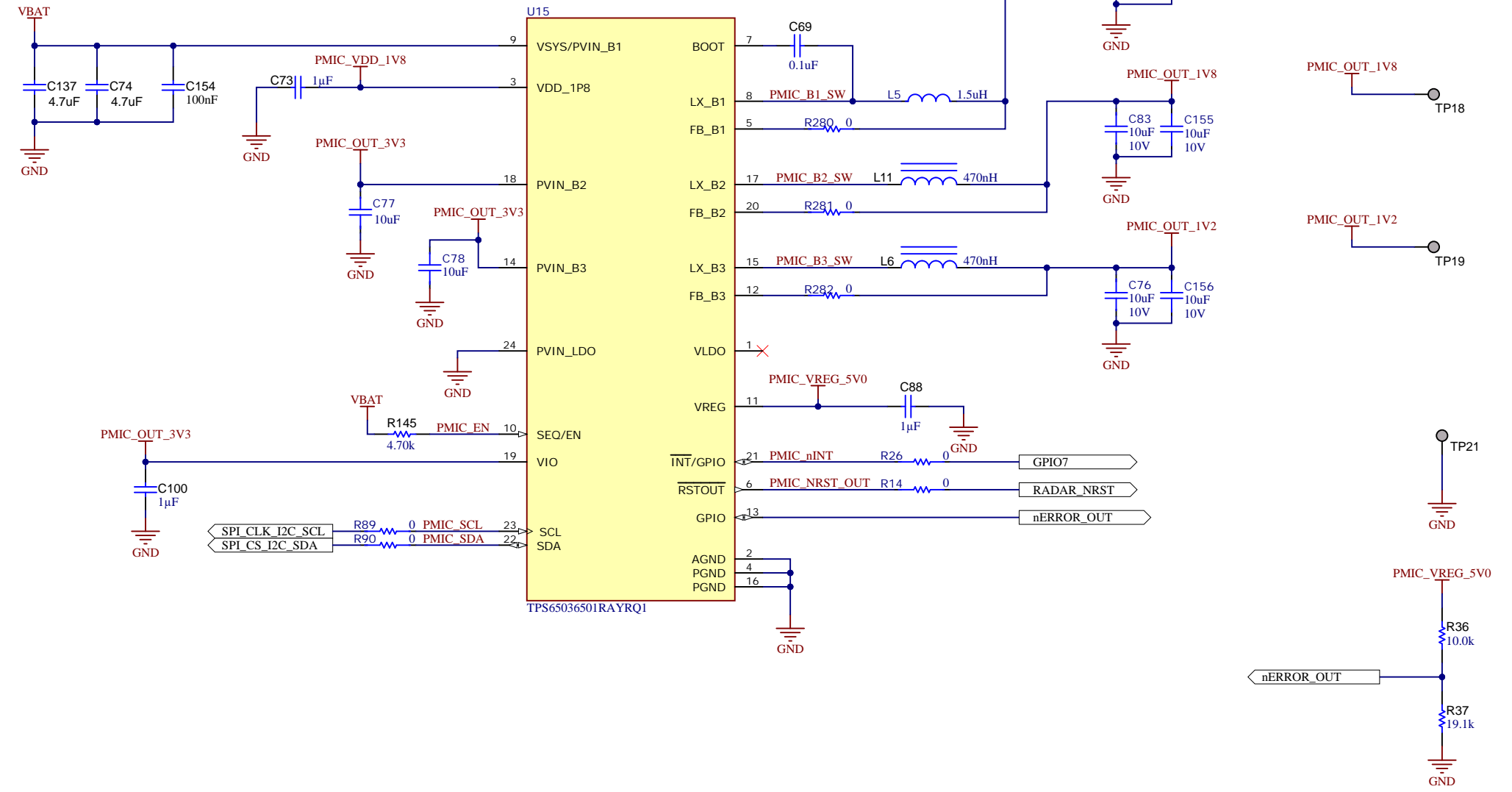
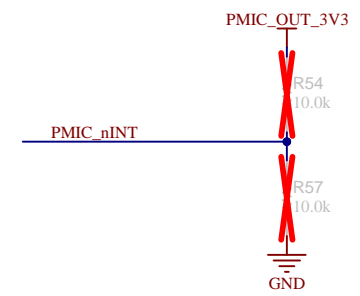
SHEET NO.	SHEET NAME
1	BLOCK DIAGRAM
2	TABLE OF CONTENTS
3	PMIC
4	xWRL6432_CHIP
5	DECOUPLING_CAPS & QSPI_FLASH
6	CAN_PHY & INTERFACE CONNECTORS
7	EVM_HARDWARE

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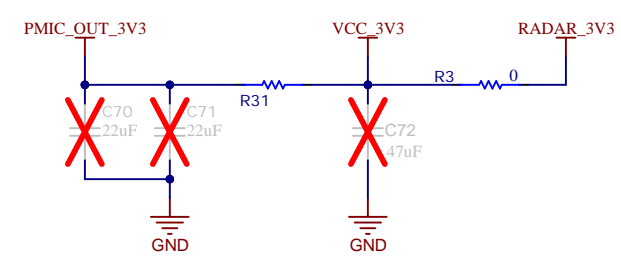
Orderable: AWRL6432InCabinRefDes	Designed for: Public Release	Mod. Date: 7/25/2024
TID #: TIDEP-01037	Project Title: AWRL6432_INCABIN_REF_DESIGN	
Number: TIDEP-01037	Rev: A	Sheet Title: TABLE OF CONTENTS
SVN Rev: 3395	Assembly Variant: 001_AWR	Sheet: 2 of 7
Drawn By: Mistral	File: AWRL6432_REF_DESIGN_Table_Of_Contents_S2.Dwg	
Engineer: Mistral	Contact: http://www.ti.com/support	



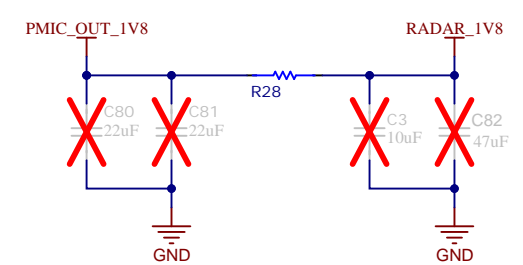
PMIC-3.3V,1.8V, 1.2V



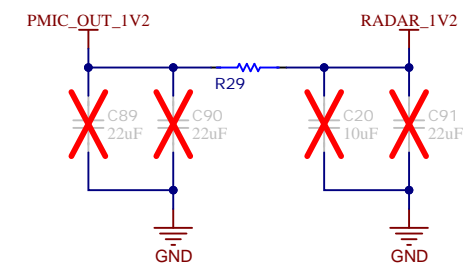
LC FILTER



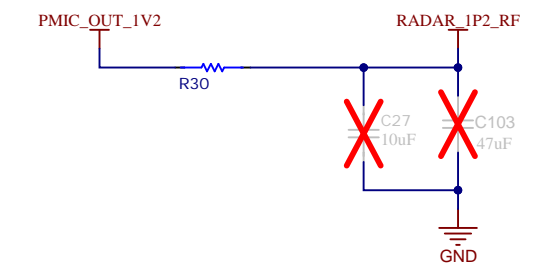
Design Note:
Alternate Inductor part for R31 is LQM2MPZR10MJHL



Design Note:
Alternate Ferrite bead part for R28 is MPZ2012S300ATD25



Design Note:
Alternate Ferrite bead part for R29 is MPZ2012S300ATD25



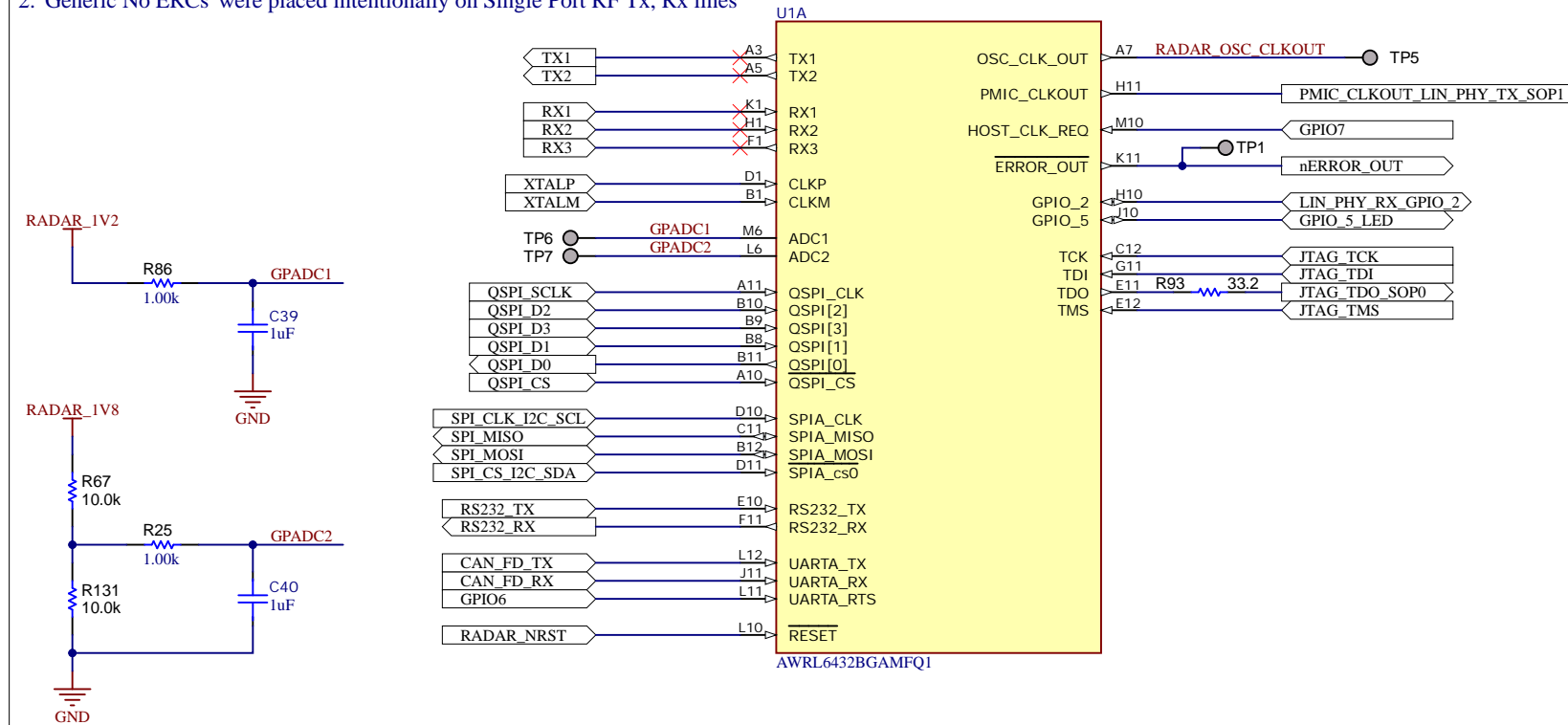
Design Note:
Alternate Ferrite bead part for R30 is MPZ2012S300ATD25

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xWRL6432 CHIP - INTERFACES

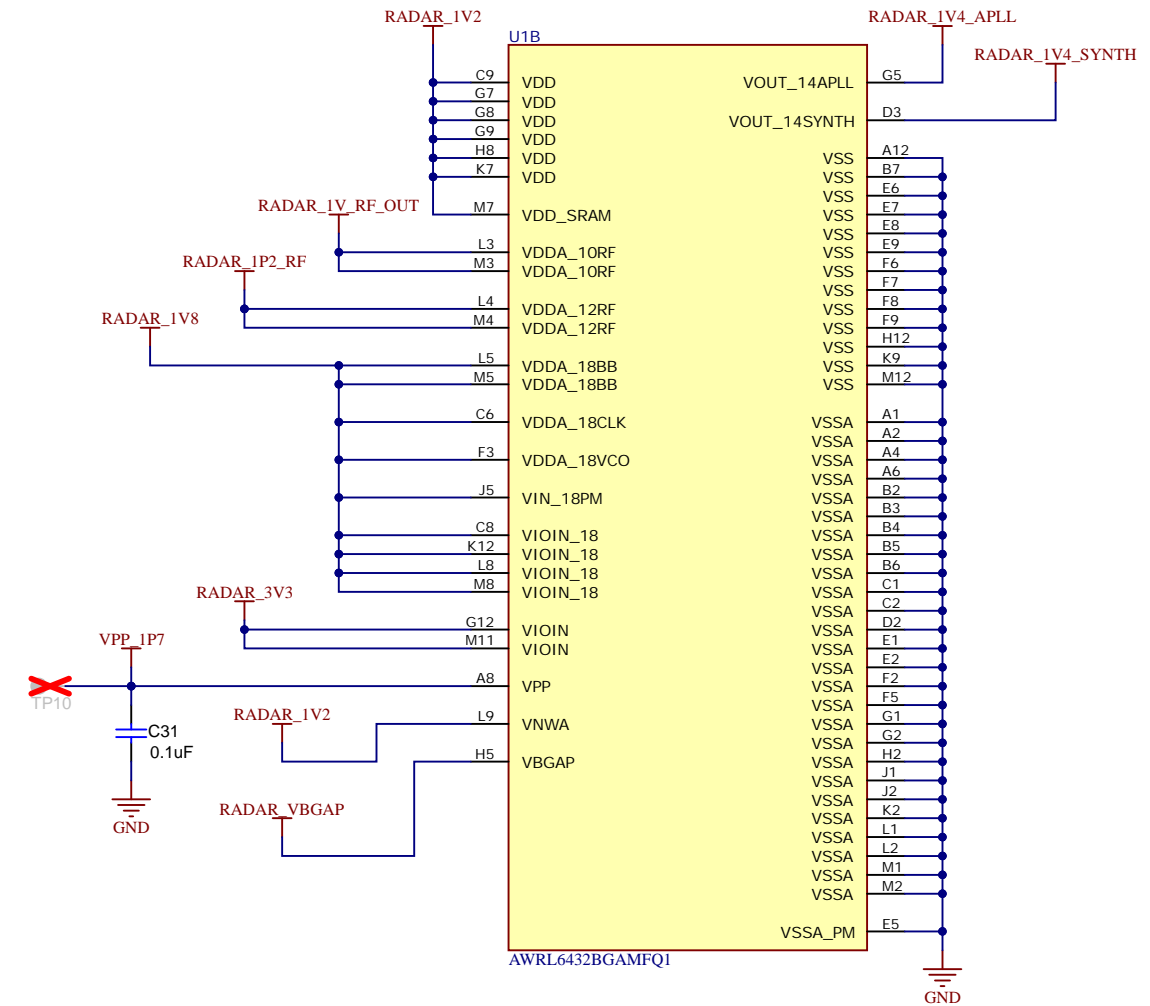
Design Note:

1. Antenna traces are GCPW traces
2. 'Generic No ERCs' were placed intentionally on Single Port RF Tx, Rx lines

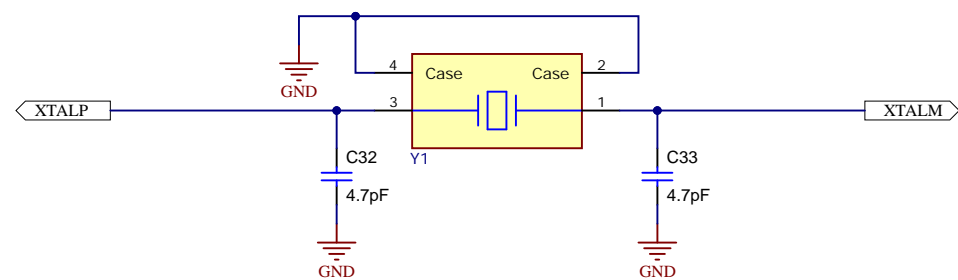


CAD Note: Place C39 and C40 close to AWRL6432 IC

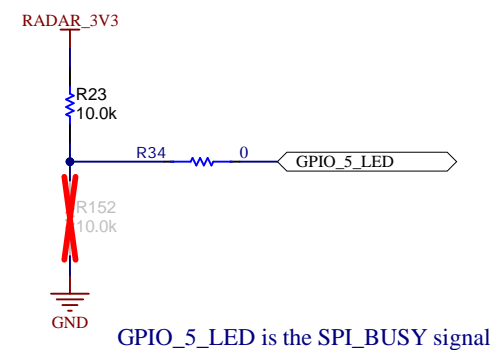
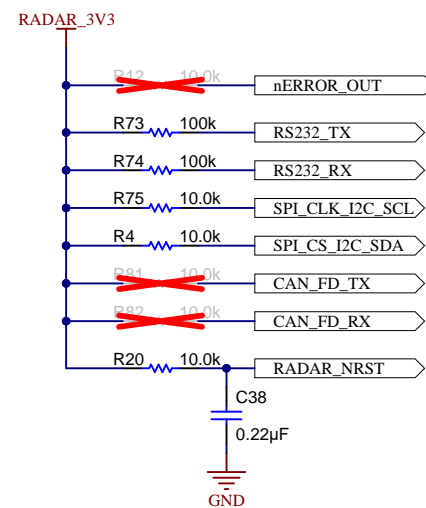
xWRL6432 CHIP - POWER



40 MHz CRYSTAL OSCILLATOR

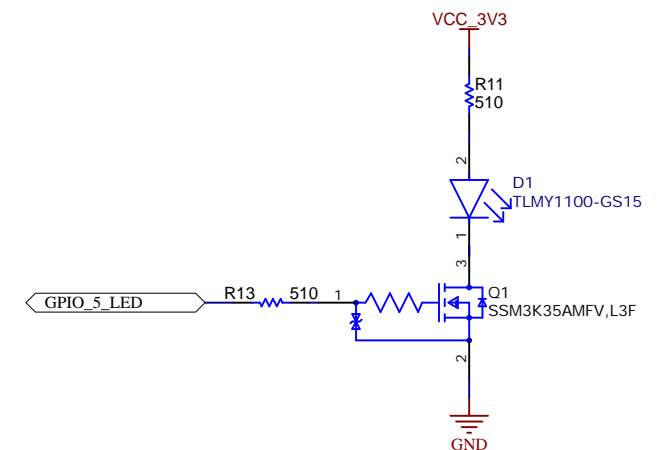


Alternate Crystal part number : CX2016SA40000D0PTWC1



GPIO_5_LED is the SPI_BUSY signal

USER LED

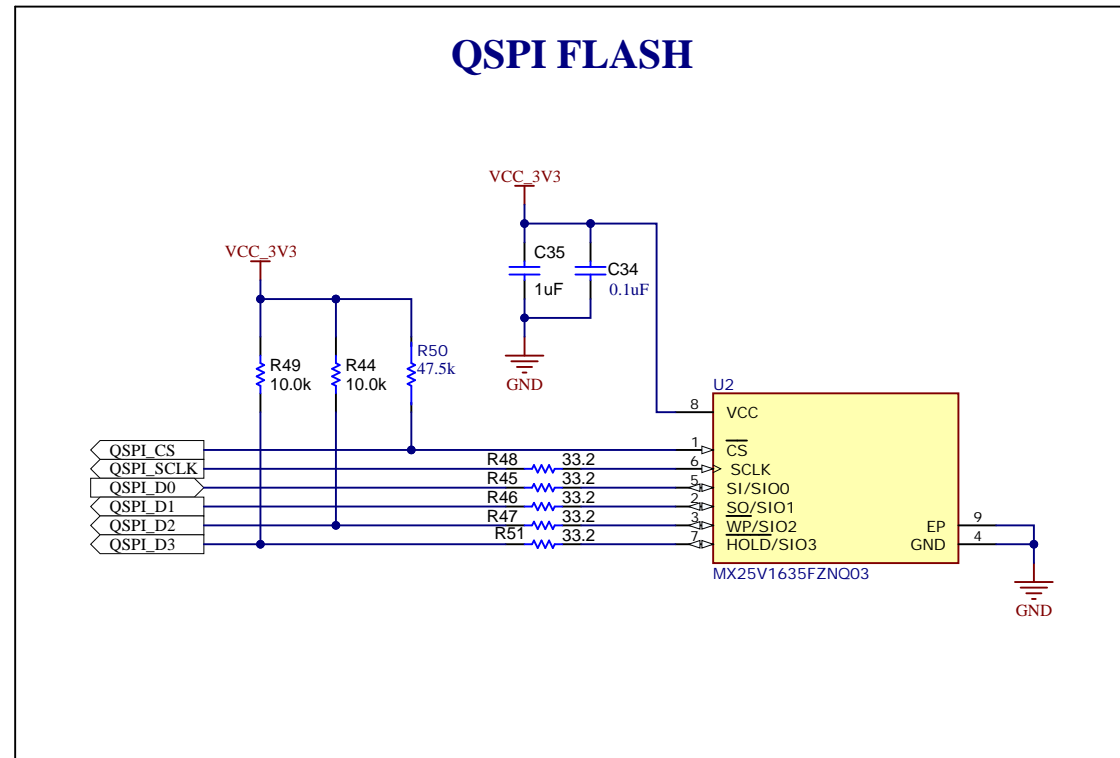
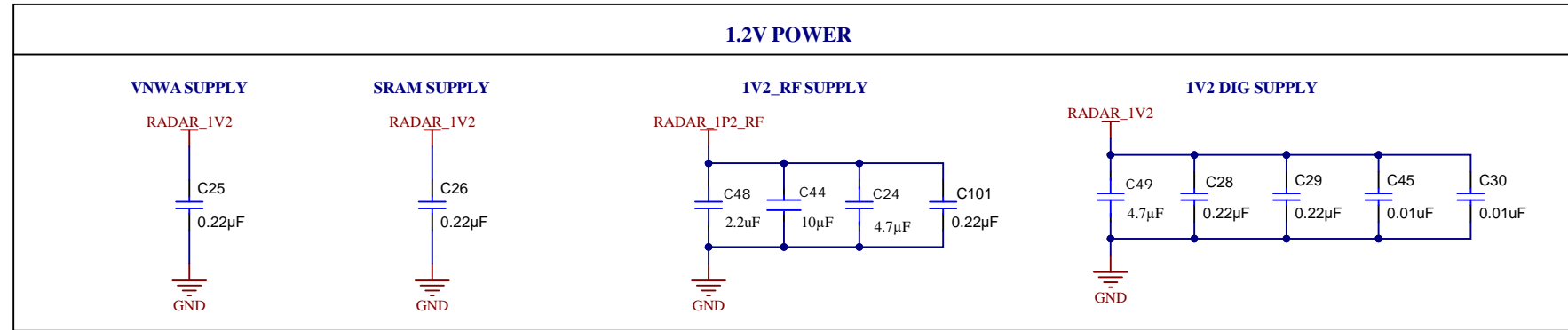
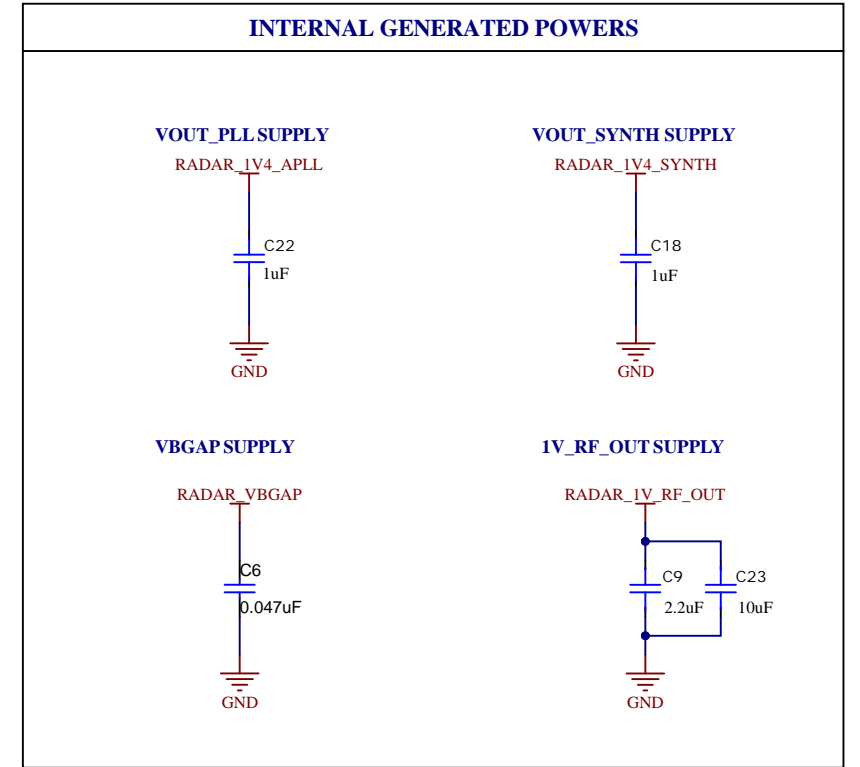
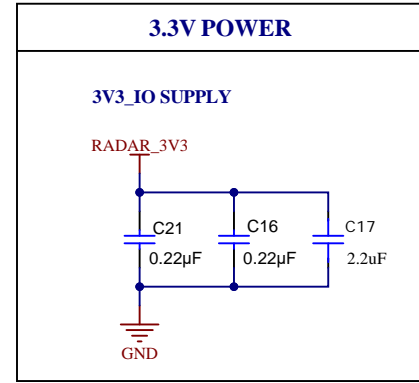
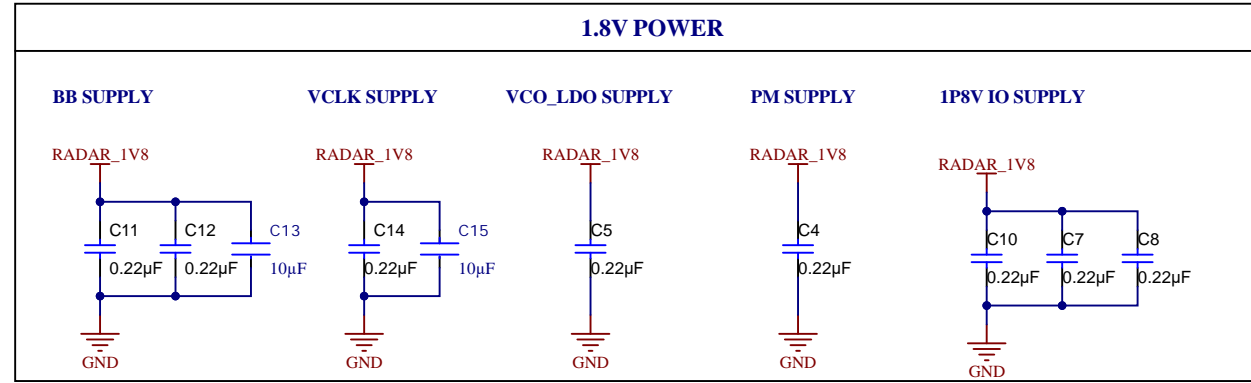


Orderable: AWRL6432InCabinRefDes	Designed for: Public Release	Mod. Date: 8/22/2024
TID #: TIDEP-01037	Project Title: AWRL6432_INCABIN_REF_DESIGN	
Number: TIDEP-01037	Rev: A	Sheet Title: xWRL6432_CHIP
SVN Rev: 3736	Assembly Variant: 001_AWR	Sheet: 4 of 7
Drawn By: Mistral	File: AWRL6432_REF_DESIGN_xWRL6432_Chip_SideB	Size: B
Engineer: Mistral	Contact: http://www.ti.com/support	

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SUPPLY_DECOUPLING_CAPS

Review Note
 TI to review the Decap section
 Let us know for any possible decaps optimization



SOP0 & SOP1

SOP CONFIGURATION

SOP Mode	PMIC_CLK_OUT, TDO	SOP1, SOP0
SOP_MODE1	Device Management Mode / QSPI flashing mode	0 0
SOP_MODE2	Application Mode / Functional Mode	0 1
SOP_MODE4	Debug Mode / mmWave Studio connectivity mode	1 1

Design Note : Default SOP state is Functional Mode

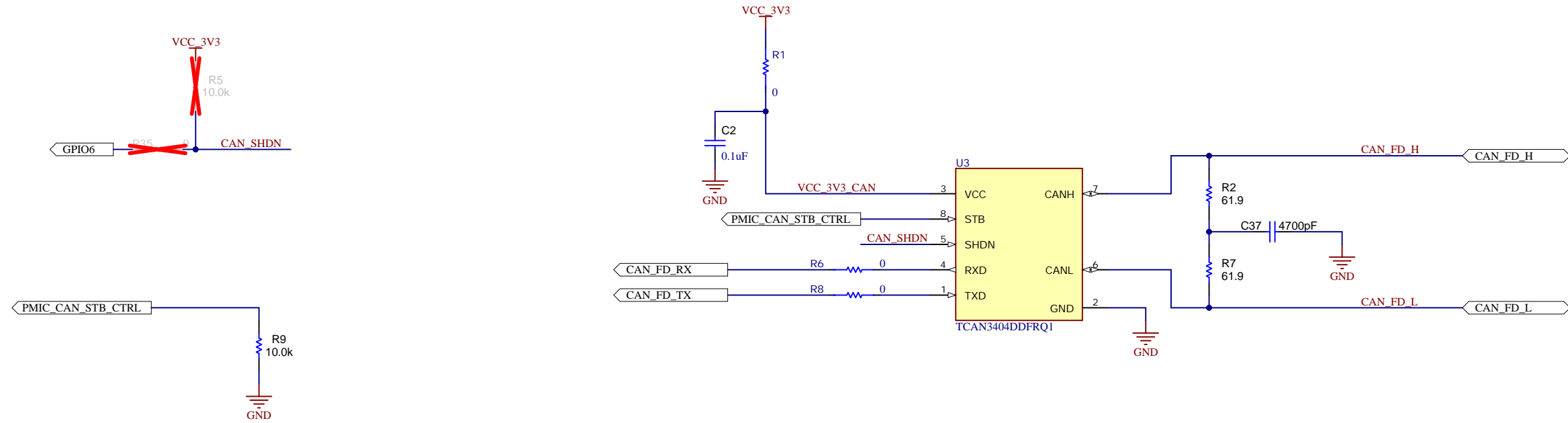
SOP0: JTAG_TDO_SOP0, R15 (10.0k), R16 (7.87k), R17 (82.5K), GND

SOP1: PMIC_CLKOUT_LIN_PHY_TX_SOP1, R18 (10.0k), R21 (82.5K), GND

TP2: PMIC_CLKOUT, R22 (0), GND

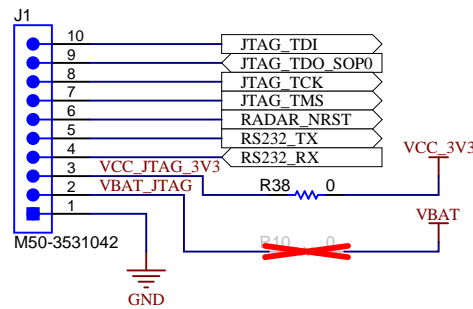
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CAN_FD_TRANSCEIVER



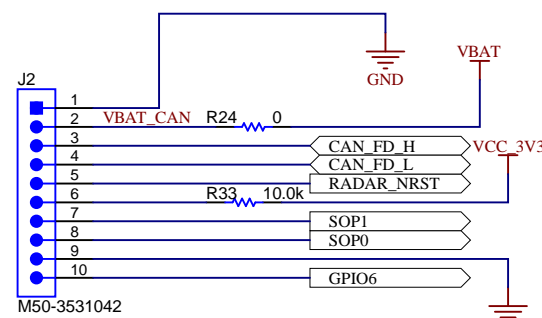
CONNECTORS

JTAG/RS232

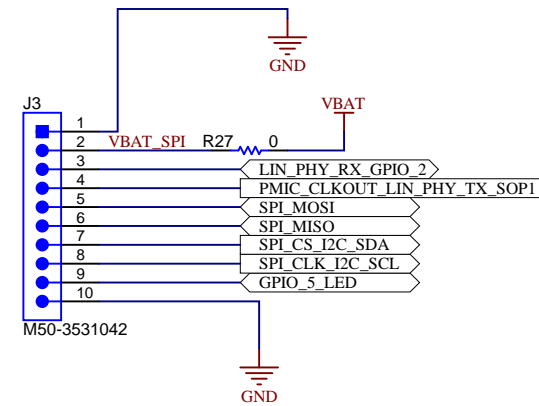


Review Note
since J1.3 is 3.3V source pin, pullup is not added. Please confirm

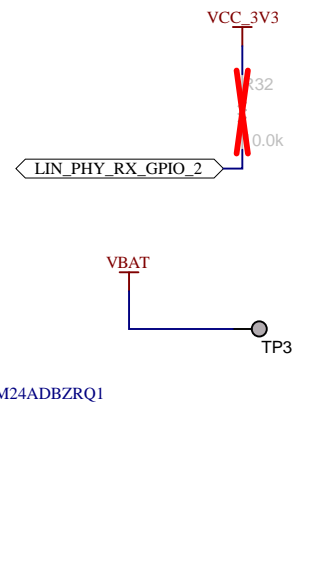
CAN/SOP



SPI/I2C/LIN



Design Note
GPIO_5_LED is used as SPI busy signal.



A

A



PCB Number: TIDEP-01037
PCB Rev: A

PCB LOGO
Texas Instruments



PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

B

B

CAUTION HOT SURFACE1



CAUTION HOT SURFACE

Variant/Label Table	
Variant	Label Text
001_AWR	AWRL6432_INCABIN_REF_DESIGN

CAPACITORS HIGHLIGHTED IN THE RED COLOR BOXES ARE ADDED FOR IMPROVEMENT AND THOSE ARE NOT MANDATORY.

LBL1

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

Assembly Note

INDICATION FOR COMPONENTS D* ARE GIVEN AT THEIR CATHODE SIDE.

C

C

D

D

Orderable: AWRL6432InCabinRefDes	Designed for: Public Release	Mod. Date: 7/25/2024
TID #: TIDEP-01037	Project Title: AWRL6432_INCABIN_REF_DESIGN	
Number: TIDEP-01037	Rev: A	Sheet Title: HARDWARE
SVN Rev: 3433	Assembly Variant: 001_AWR	Sheet: 7 of 7
Drawn By: Mistral	File: AWRL6432_REF_DESIGN_Hardware.SchDoc Size: B	
Engineer: Mistral	Contact: http://www.ti.com/support	

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