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

IWR6843 INDUSTRIAL STARTER KIT

TABLE OF CONTENTS

Orderable: IWR6843ISK-ODS	Designed for: Public Release	Mod. Date: 11/6/2018
TID #: N/A	Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075 Rev: A	Sheet Title: Table of Contents	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 9
Drawn By:	File: PROC075A_Table of Contents.SchDoc	Size: B
Engineer: Faiz Ahmed	Contact: http://www.ti.com/support	

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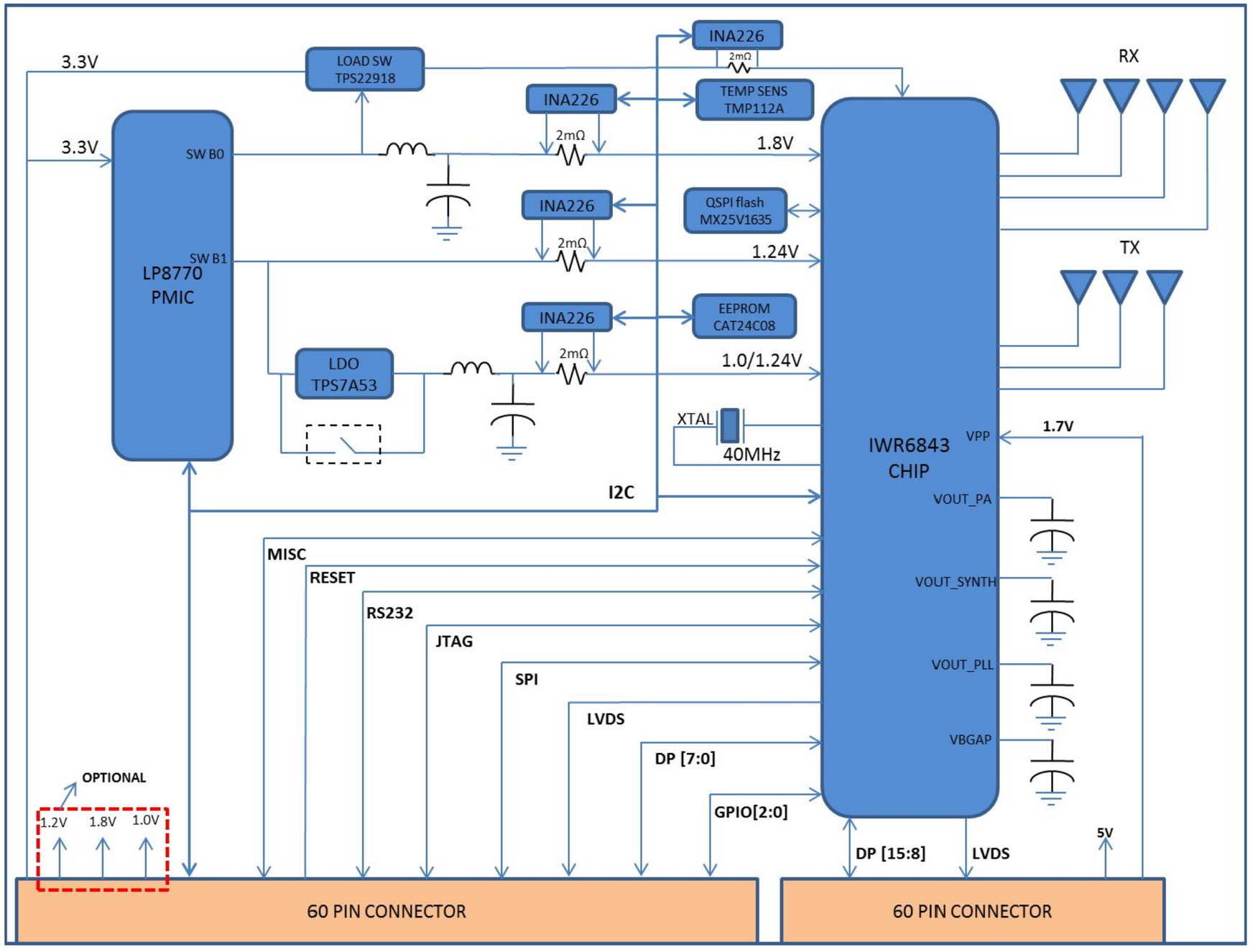
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

BLOCK DIAGRAM



S.No	DESCRIPTION	I2C ADDRESS
1	CURRENT SENSOR 3.3V	100 0100
2	CURRENT SENSOR 1.8V	100 0000
3	CURRENT SENSOR 1.2V	100 0001
4	CURRENT SENSOR 1.0V	100 0101
5	TEMPERATURE SENSOR1	100 1011
6	LP8770 PMIC	
7	EEPROM	1010 0XX

Orderable: IWR6843ISK-ODS	Designed for: Public Release	Mod. Date: 11/6/2018
TID #: N/A	Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075 Rev: A	Sheet Title: BLOCK DIAGRAM	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 9
Drawn By:	File: PROC075A_Block_Diagram.SchDoc	Size: B
Engineer: Faiz Ahmed	Contact: http://www.ti.com/support	

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PMIC (1.2V, 1.8V OUTPUTS)

1V24 TO 1V LDO

U4 — LP87702DRHBRQ1

Pin	Name
27, 28	VIN_B0
23, 24	PGND_B0
13, 14	VIN_B1
17, 18	PGND_B1
9	SW_BST
11	NRST
21	SDA (EN3)
20	SCL (EN2)
1	INT
19	EN1
22	CLKIN (GPO2)
30	VMON1
31	VMON2
7	WDI
25, 26	SW_B0
2	FB_B0
15, 16	SW_B1
3	FB_B1
8	VOUT_BST
10	PGND_BST
29	PG0
32	PG1 (GPO1)
12	GPO0
6	WD_RESET
5	VANA
4	AGND
33	PAD

U5 — TPS7A5301QRGRRQ1

Pin	Name
15, 16, 17	IN
14	EN
13	NR/SS
2, 5, 6, 7, 9, 10, 11	DNC
1, 19, 20	OUT
12	BIAS
4	PG
3	FB
8, 18	GND
21	PAD

THE 3V3 OUTPUT FROM PMIC IS USED AS PGOOD.

WDI is disabled and enabled GPIO mode

RC time is 1ms

THERMAL SHUTDOWN=125C

Load switch for delaying 3.3V to IWR6483 module

U9 — TPS22917DBVR

Pin	Name
1	VIN
3	ON
4	CT
6	VOUT
5	QOD
2	GND

Current Sense Resistors

PMIC_1V8	R70 0.002	CB_PMIC_1V8	1V8_VIN+ / 1V8_VIN-
PMIC_1V24	R96 0.002	CB_PMIC_1V2	1V2_VIN+ / 1V2_VIN-
PMIC_1V0	R71 0.002	CB_PMIC_1V0	1V0_VIN+ / 1V0_VIN-
VCC_LD_SW_3V3	R123 0.002	RADAR_3V3	3V3_VIN+ / 3V3_VIN-

Orderable: IWR6843ISK-ODS	Designed for: Public Release	Mod. Date: 1/10/2019
TID #: N/A	Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075 Rev: A	Sheet Title: PMIC	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 9
Drawn By:	File: PROC075A_PMIC.SchDoc	Size: B
Engineer: Faiz Ahmed	Contact: http://www.ti.com/support	

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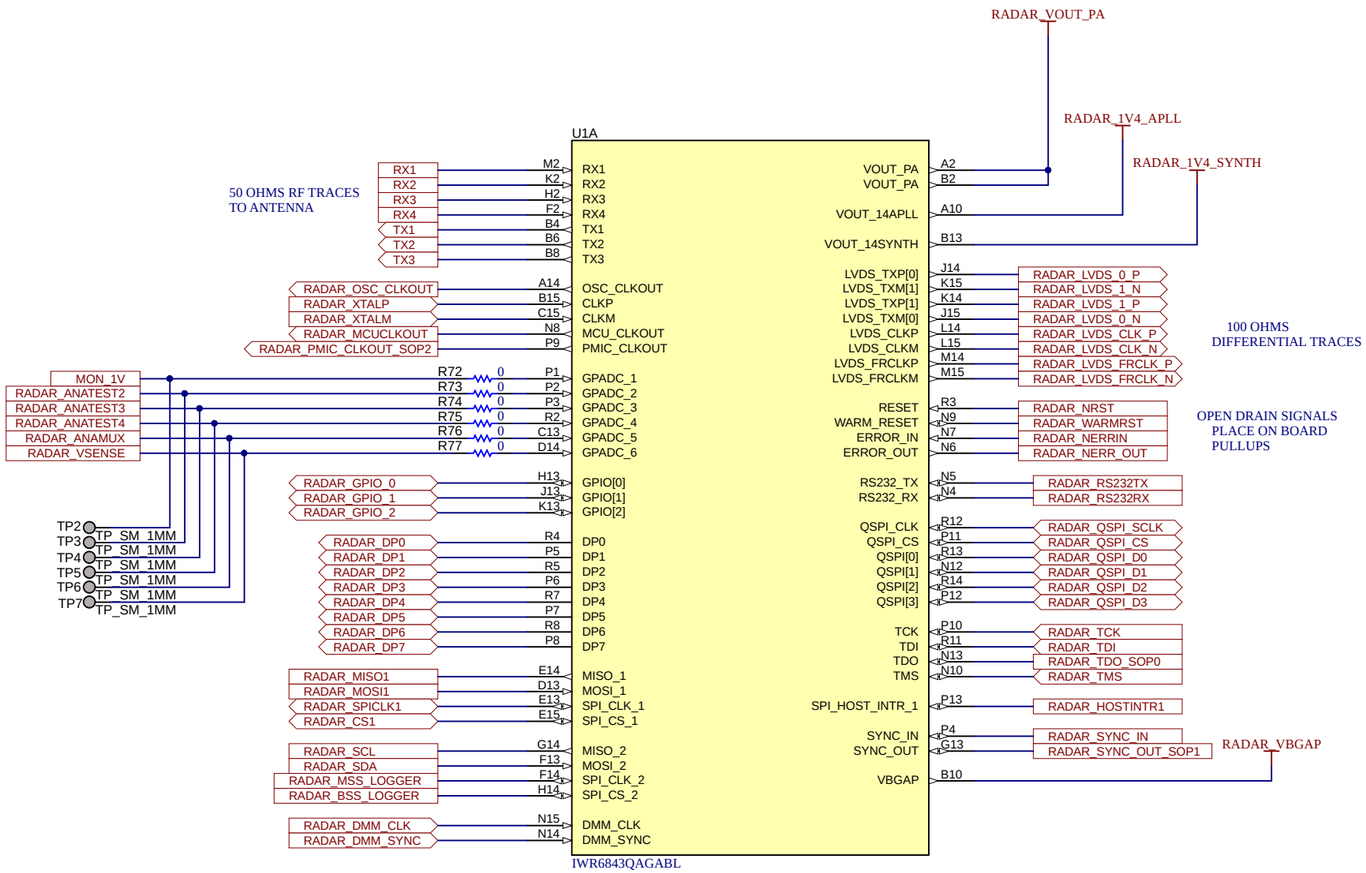
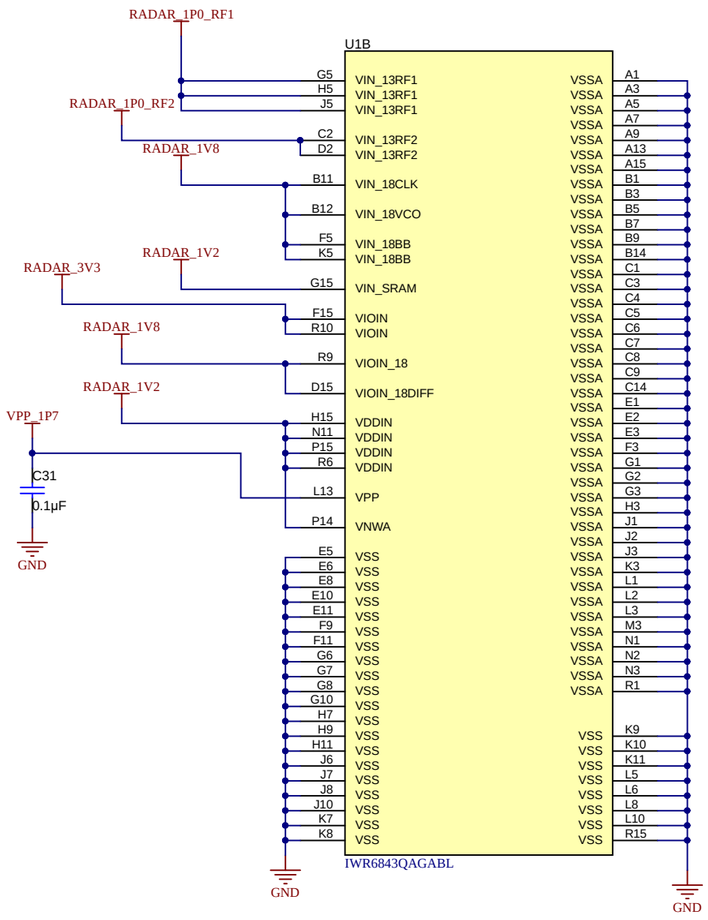
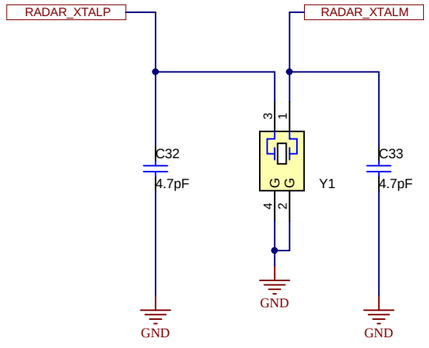
IWR6843 Chip

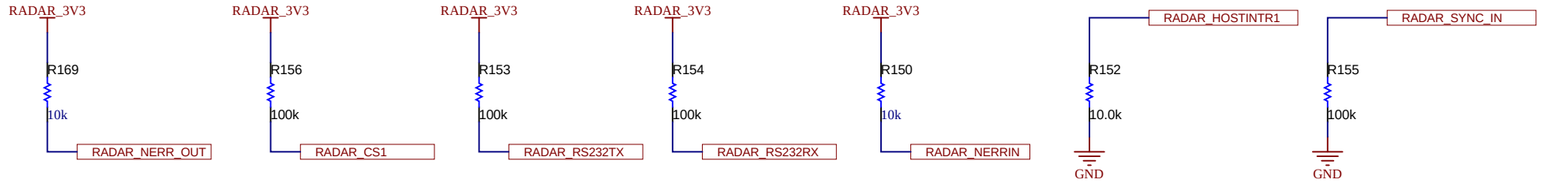




Crystal Oscillator 40MHz



PULL UPs/DOWNs FOR SPI CS1, NERRIN, RS232, SYNC_IN & HOST_INTn



Orderable: IWR6843ISK-ODS		Designed for: Public Release	Mod. Date: 11/6/2018
TID #: N/A		Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075	Rev: A	Sheet Title: IWR6843 Chip	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 4 of 9
Drawn By:		File: PROC075A_IWR6843_Chip.SchDoc	Size: B
Engineer: Faiz Ahmed		Contact: http://www.ti.com/support	

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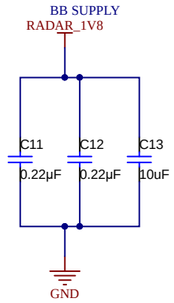
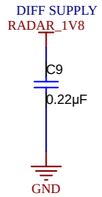
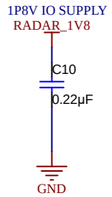
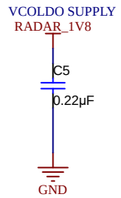
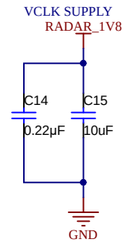
SUPPLY_DECOUPLING_CAPS

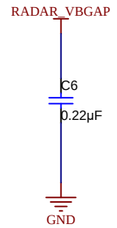


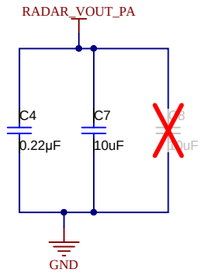


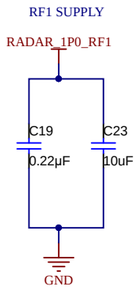


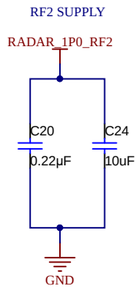


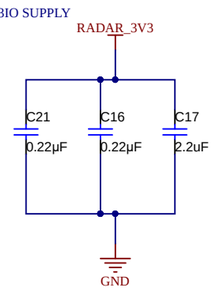


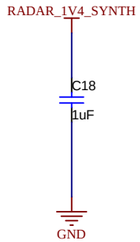


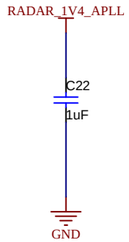


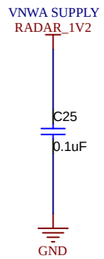


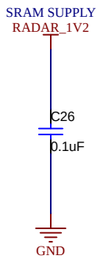


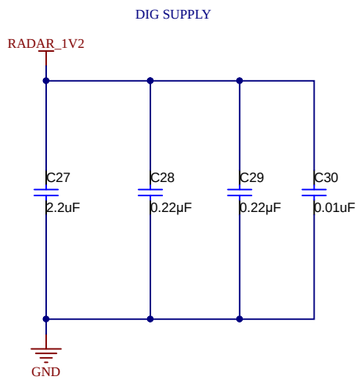




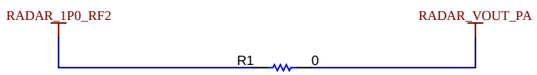






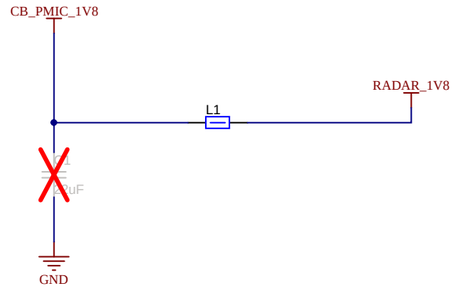


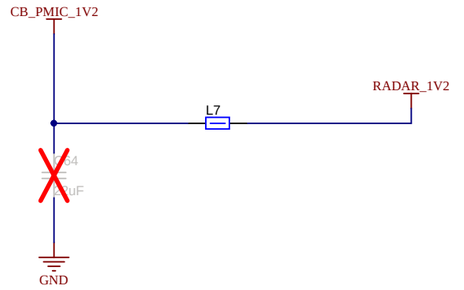
OPTIONS FOR INTERNAL DEBUG ONLY

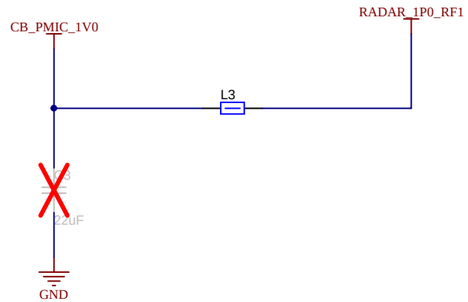


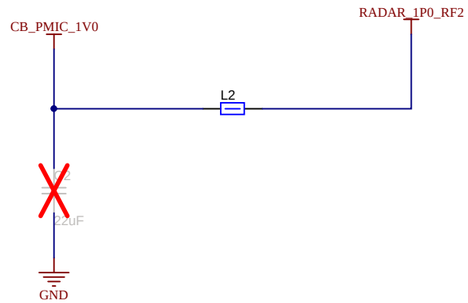
Customer note: Make it DNP if the TPS7A5301 LDO is bypassed

PMIC LC Filters









Orderable: IWR6843ISK-ODS		Designed for: Public Release	Mod. Date: 1/10/2019
TID #: N/A		Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075	Rev: A	Sheet Title: Decoupling_caps_LC_filters	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 5 of 9
Drawn By:		File: PROC075A_Decoupling caps.SchDoc	Size: B
Engineer: Faiz Ahmed		Contact: http://www.ti.com/support	

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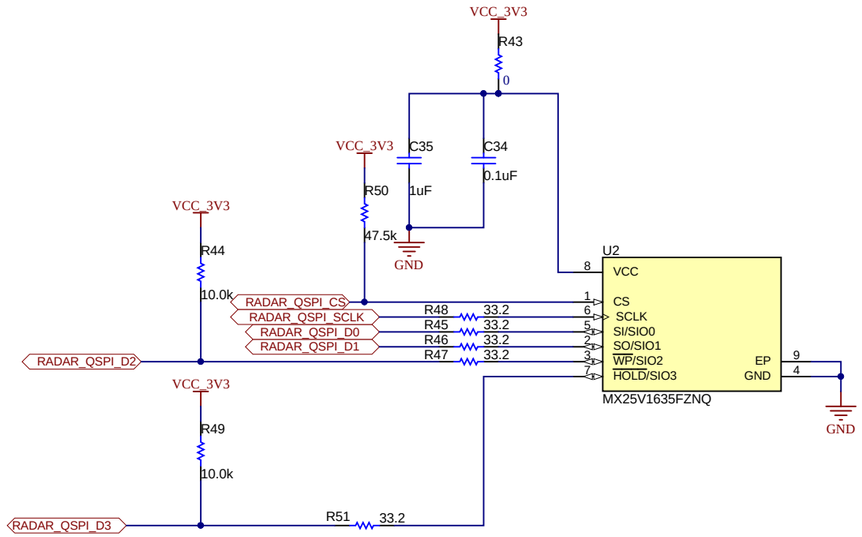
QSPI FLASH



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TID #: N/A		Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075	Rev: A	Sheet Title: QSPI Flash	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 6 of 9
Drawn By:		File: PROC075A_QSPI flash section.SchDoc	Size: B
Engineer: Faiz Ahmed		Contact: http://www.ti.com/support	

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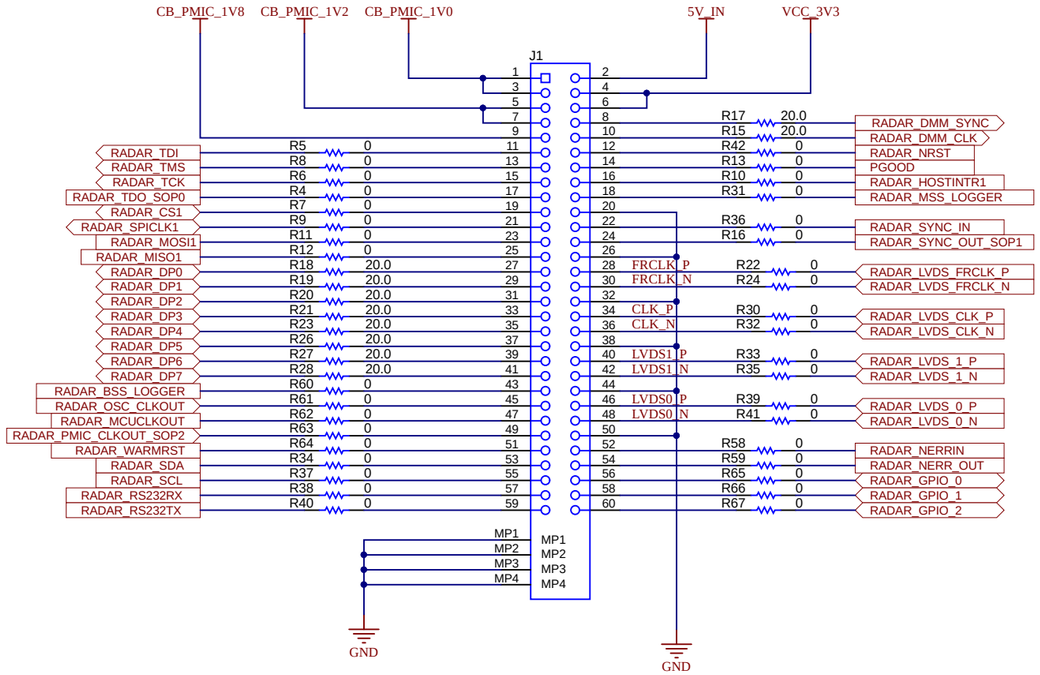
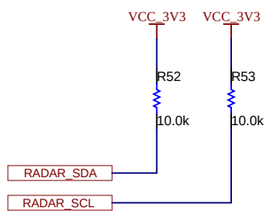
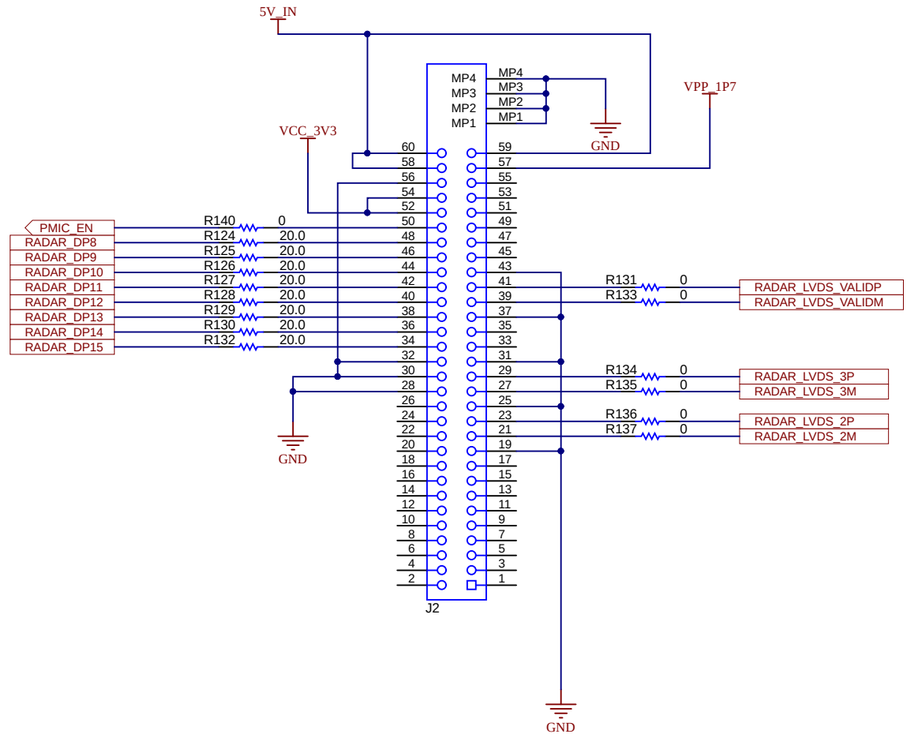
CONNECTORS

60 PIN HD CONNECTOR





60 PIN HD CONNECTOR FOR xWRxxxx DEVICES COMPATABILITY



Orderable: IWR6843ISK-ODS	Designed for: Public Release	Mod. Date: 11/6/2018
TID #: N/A	Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075 Rev: A	Sheet Title: 60Pin HD Connector	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 7 of 9
Drawn By:	File: PROC075A_HD_Connector_60Pin.SchDoc	Size: B
Engineer: Faiz Ahmed	Contact: http://www.ti.com/support	

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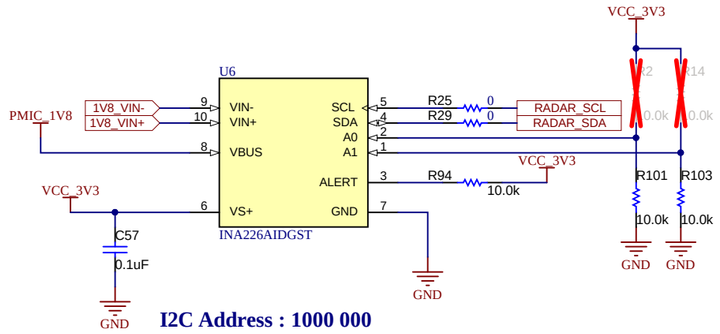
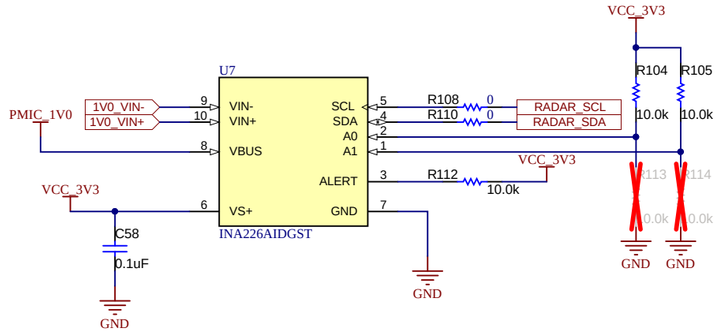
CURRENT SENSOR



I2C Address : 1000 000



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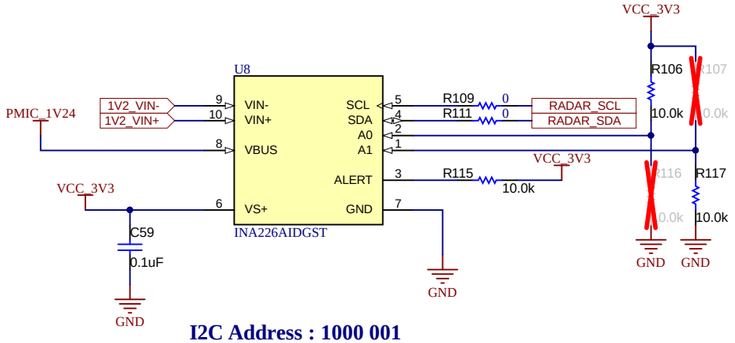

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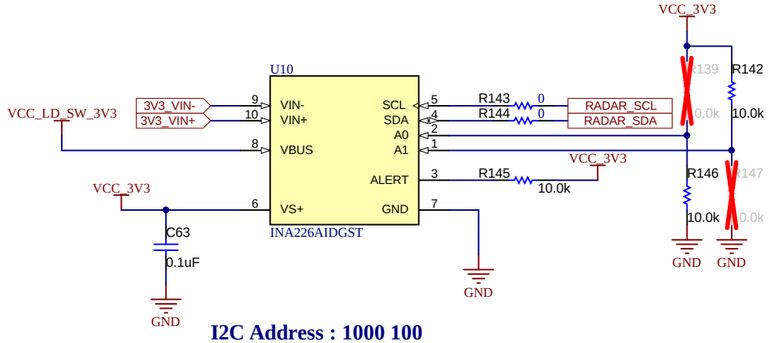
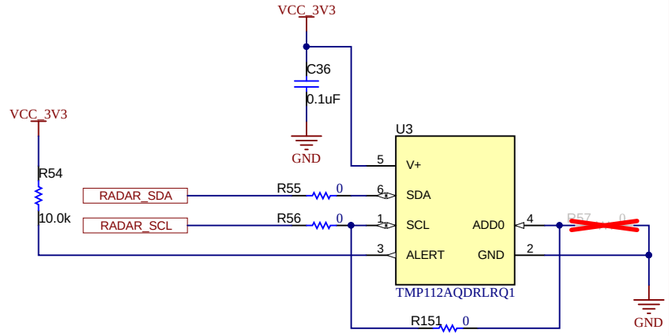


I2C Address : 1000 100

TEMPERATURE SENSOR



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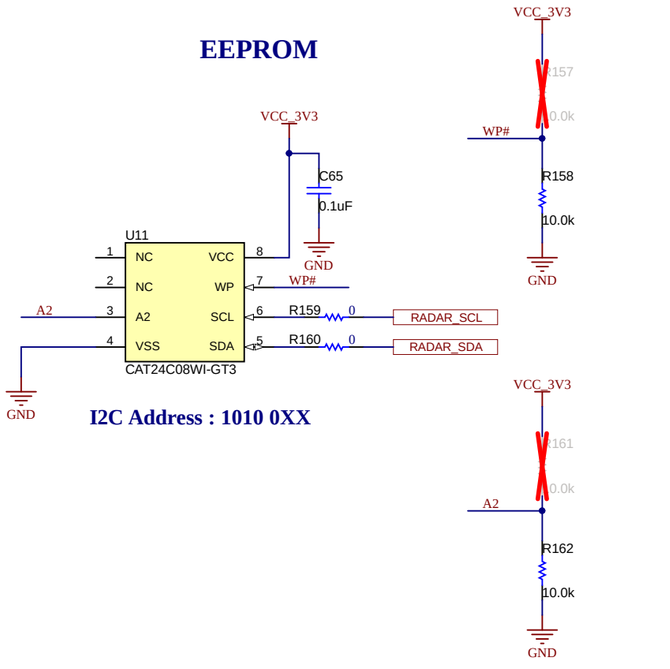
EEPROM



I2C Address : 1010 0XX

Orderable: IWR6843ISK-ODS	Designed for: Public Release	Mod. Date: 11/6/2018
TID #: N/A	Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075 Rev: A	Sheet Title: TEMPERATURE SENSOR	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 8 of 9
Drawn By:	File: PROC075A_Temp_current_sensor.SchDoc	Size: B
Engineer: Faiz Ahmed	Contact: http://www.ti.com/support	

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FID1

FID2

FID4

FID3

FID6

FID5

CAUTION HOT SURFACE1

CAUTION HOT SURFACE

Logo1
PCB
LOGO
Texas Instruments

PCB
LOGO
ESD Susceptible

PCB
LOGO
FCC disclaimer

Logo4
PCB
LOGO
WEEE logo

Logo5
PCB
LOGO
Texas Instruments

LOGO3

CE Mark

PCB Number: PROC075
PCB Rev: A

Variant/Label Table	
Variant	Label Text
001	IWR6843ISK-ODS

LBL1
PCB Label
THT-14-423-10

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.

HW Assembly Instructions
1.Mount the optional nuts,screws and washers to mate with MMWAVEICBOOST

Orderable: IWR6843ISK-ODS		Designed for: Public Release	Mod. Date: 12/21/2018
TID #: N/A		Project Title: IWR6843ISK (INDUSTRIAL STARTER KIT)	
Number: PROC075	Rev: A	Sheet Title: Hardware	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 9 of 9
Drawn By:		File: PROC075A_Hardware.SchDoc	Size: B
Engineer: Faiz Ahmed		Contact: http://www.ti.com/support	

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