

TIDesigns

**Thermocouple Analog Front End (AFE) with CJC using
RTD/Internal Temperature Sensor of ADS1220
TIDA-00168**



Place ADS1220
right under TC
connector

K-type
thermocouple
connector with
TO-92 transistor
clip

AT
-200°C to +1372°C

Place RTD inside
TO-92 transistor
clip of TC
connector

Isothermal
Block

VCC =
+3.3V

(U2)
REF5020
(External Voltage Ref.)

VCC =
+3.3V

TPS71733
(U3)

VCC =
+3.3V

TCA9535
(U5)

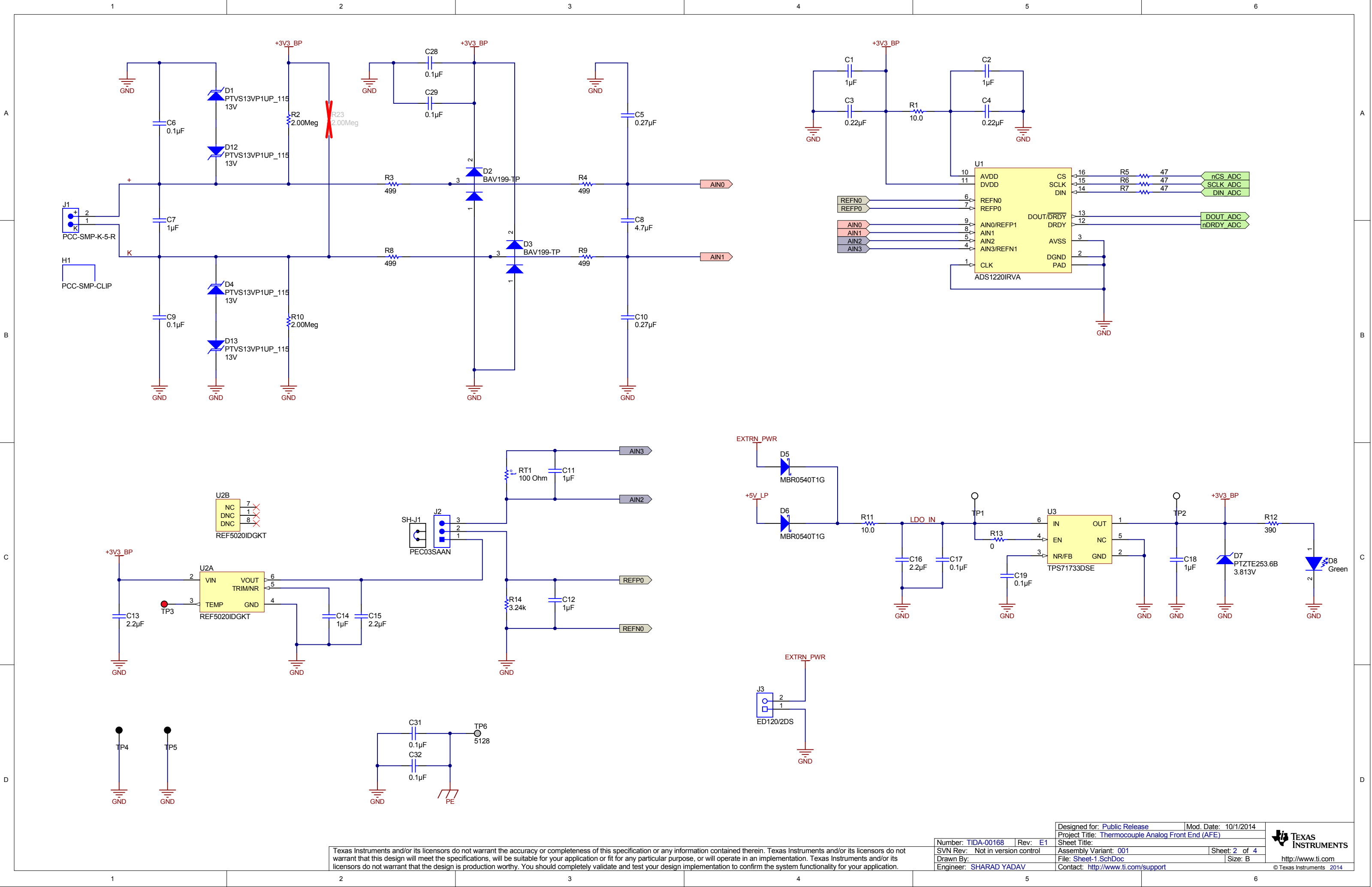
MSP430FR5949
(U4)

VCC_TOOL
VCC_TARGET

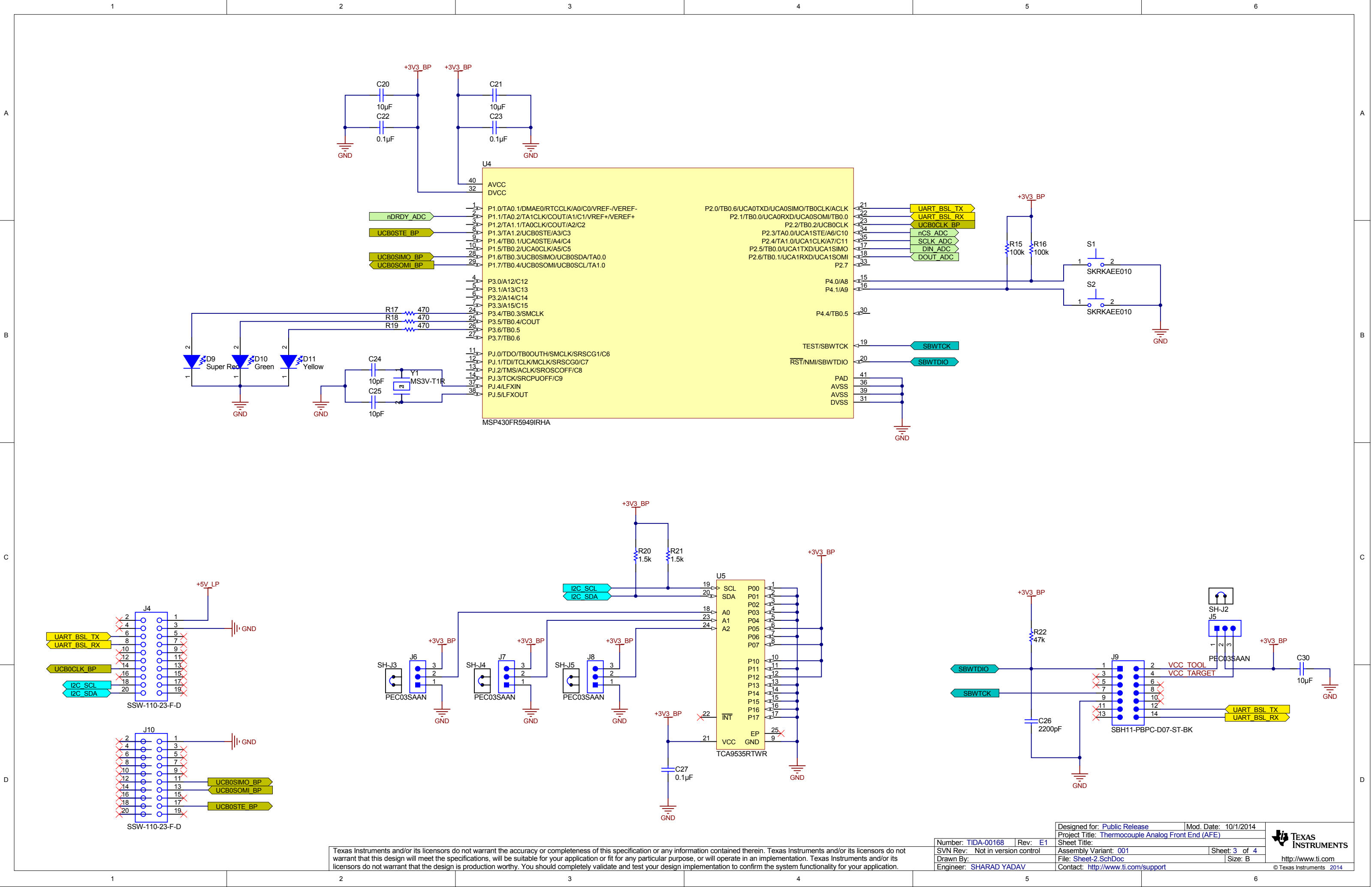
External Power
Max 6.5V

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Number: TIDA-00168	Rev: E1	Designed for: Public Release	Mod. Date: 10/1/2014
SVN Rev: Not in version control	Assembly Variant: 001	Project Title: Thermocouple Analog Front End (AFE)	Sheet Title:
Drawn By: SHARAD YADAV	File: Cover Sheet ANSI-B SchDoc	Sheet: 1 of 4	Size: B
Engineer: SHARAD YADAV	Contact: http://www.ti.com/support	http://www.ti.com	© Texas Instruments 2014



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

