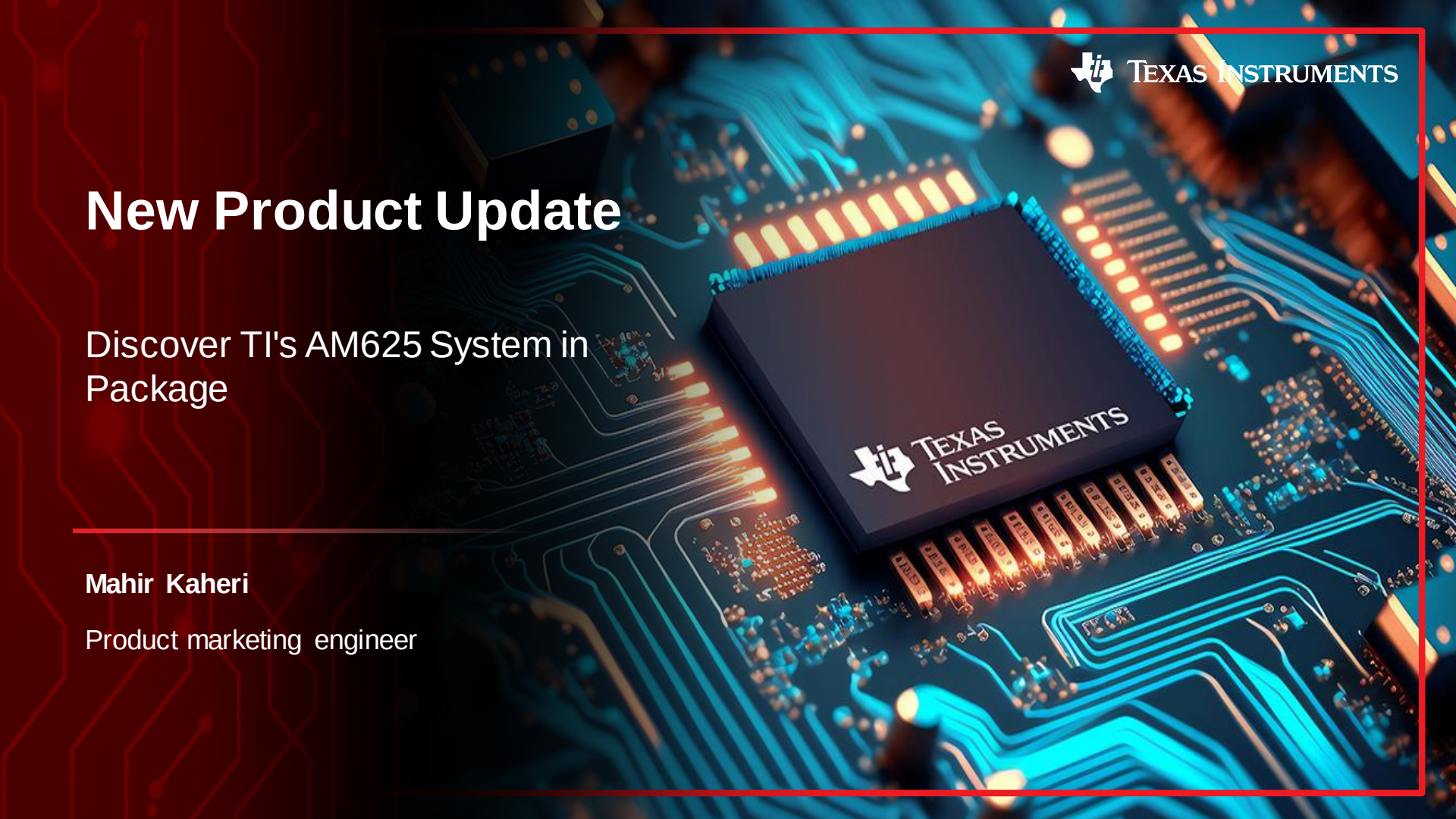
New Product Update

Discover TI's AM625 System in Package



Mahir Kaheri

Product marketing engineer

Agenda

- TI Processors Introduction
- System in Package, what is AM625SIP
- Scalable Software and Hardware with AM625SIP
- Getting started with AM625SIP

TI Processors | differentiated technologies

Technology Expertise

General Purpose

Affordable, energy efficient foundational processors solutions with scalable upgrade paths.

Audio & Video

Multi-core and multi-display options that enable next generation human machine interaction and intelligence. (Am62)

Networking

Integrated and secure industrial solutions for robust, modern I/O and real-time, deterministic communication.

Real-time Control

Low latency real-time control solutions for robotics and factory automation at from simple to advance functions.

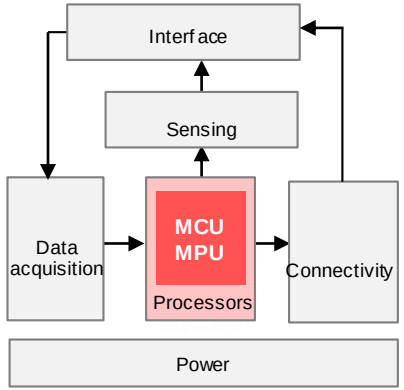
Edge AI & Analytics

Bring smart cameras, robots and intelligent machines to life with hardware-accelerated computer vision, sensor fusion and deep learning.

Functional Safety & Security

Accelerate your designs with Functional Safety-Compliance & secure processors and software

TI Processors | how we scale your success



From **general-purpose controllers** to **advanced processors** our portfolio of solutions are found at the center of every system.

Portfolio

Broadest ever portfolio, easier to use than ever before. Expanding options with lower cost and general purpose solutions and advance application accelerators

Simpler Tools and Software

Scalable hardware from starter kits to EVMs, with unified software SDK's and available development options for all major operating systems.

Ecosystem & Support

Our expanding ecosystem of curated experts operate on your schedule with robust support and services to get you to production faster.

Texas Instruments

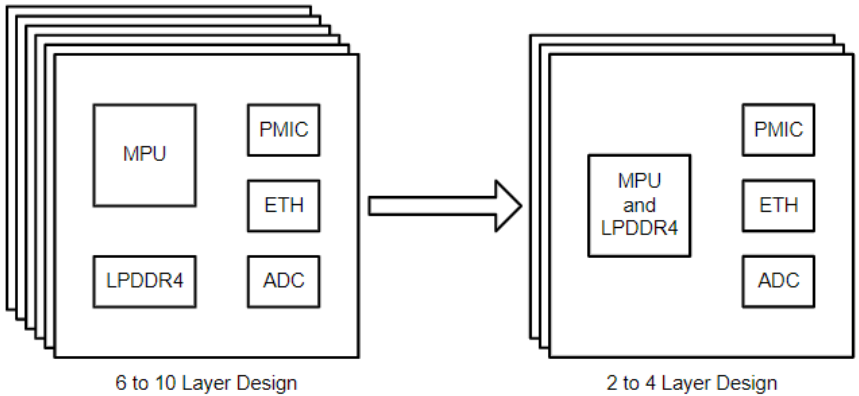
System in Package

Texas Instruments

System-in-package | driving innovation through simple system design

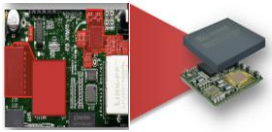
TI system-in-package (SIP) processors with integrated LPDDR4 like the upcoming AM625SIP help solve common processor design challenges such as:

- reduce time and resources needed to layout the DDR
- lesser effort on PCB layout, simulation, verification and failure analysis
- optimized size and system BOM
- power consumption saving with low power modes
- suited for compact and high performance products



Texas Instruments

AM625SIP with Integrated 512 MB LPDDR4



SoC + Memory in a single package

Arm-based 4x A53 AM62x processor + 512 MB LPDDR4 on a single package

Boot your board the first time

PCB layout already done on SIP, reducing faults and errors and getting you to market faster. DDR bring-up/Software efforts reduced greatly

Low Power with Security

Higher performance margin with reduced parasitic. Low power with dedicated power modes & security advantages with in-package DDR

AM625SIP

13x13mm Package

Considerable board space savings and Layer count reduction
Simplify assembly with reduced components

Robustness

Security, quality and E2E technical Support.
Simple supply chain management with Memory on a single package

Faster Development

Scalable hardware & software enables faster product development with AM62x platform of processors

TI Confidential – NDA Restrictions

Texas Instruments

AM625SIP | general purpose processor

Fac Auto& Control

Industrial HMI

PLC| Motion control

Ind Machine/PC

Grid Infrastructure

EV charging

Solar Energy

Grid Comm.

Build Automation

Building security

HVAC System

Elevator & Escalator

AM625SIP great for: fundamental display, data processing, or where communication is required

Medical

Patient Monitor

Medical Equipment

Home Healthcare

Ind Transportation

Marine equipment

Sensor tag Data logger

Train control & management

Test Measurement

Diagnostic equipment

DSO/AWG

Application specific

AM625SIP enables low power + integrated memory + scalable platform with ease-of-use SW

Payment

Scanner

Currency counter

Power delivery

Field supervisor unit

UPS monitor

Wireless Infra.

Appliance

Ip phone

Infinite possibility…

Texas Instruments

Software with AM625SIP

Texas Instruments

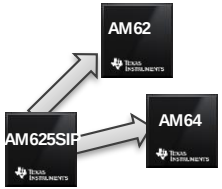
AM625SIP | A scalable, low power, secured platform

Ease of use Software

100% Software reuse for AM62X family

100% code compatibility Processor-Linux-SDK

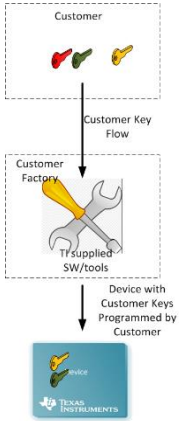
Unified SDK provides easy migration path to MPU



TI devices boot from mainline and fully supported on the community Linux

Easy migration! | **Save maintenance!** | **Stay reliable!**

Secured

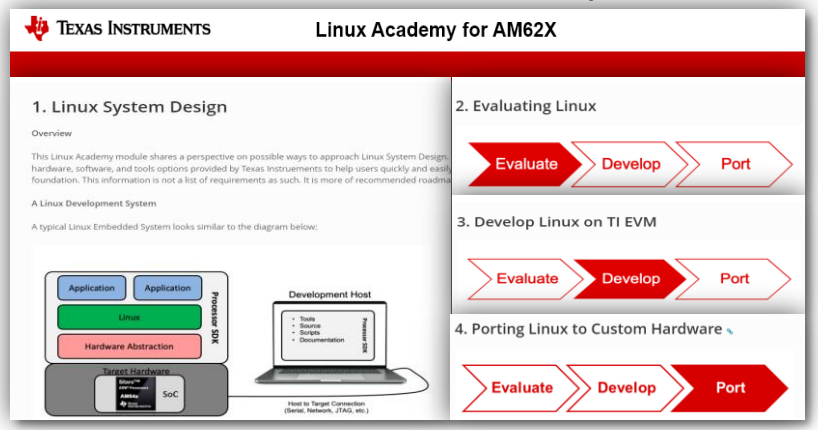


- ✓ **Takeover Protection (Integrity)**
  - Device only runs authentic software.
  - Ensure external flash content is not modified.
- ✓ **IP Protection (Confidentiality)**
  - No copying my code sitting in external flash.
  - External contents of flash (code / data) are encrypted.
- ✓ **Anti-cloning Protection**
  - Prevent cloning of device.
  - Bind flash image to given device

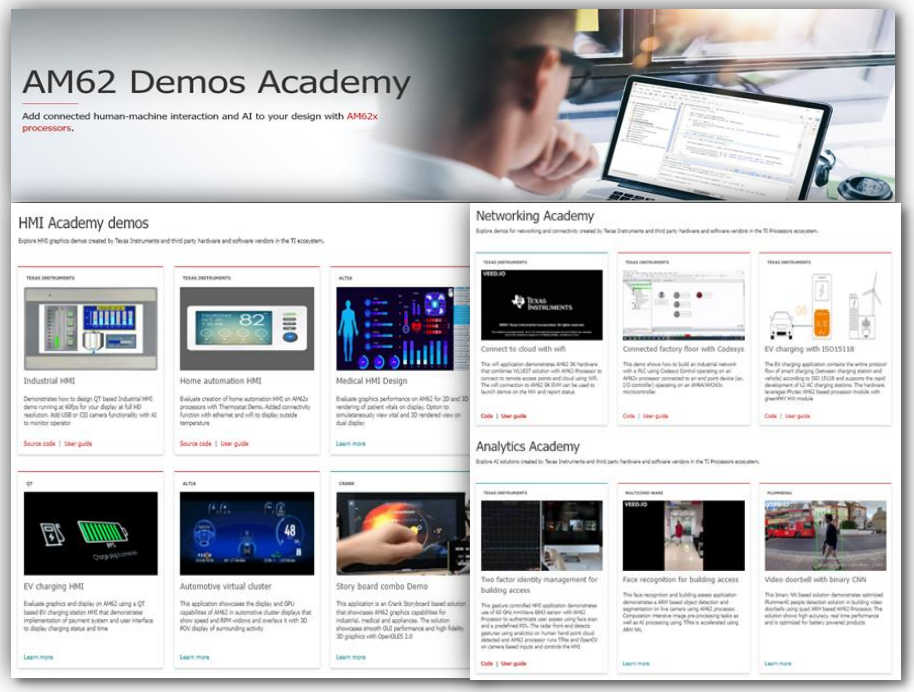
Simplify Design | **Assembly & BOM** | **Optimized solution**

AM625SIP Dev.TI.com | getting to market faster

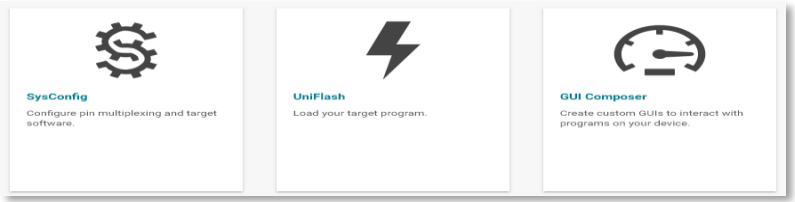
EVALUATE with Linux Academy



INTEGRATE using Design Academy



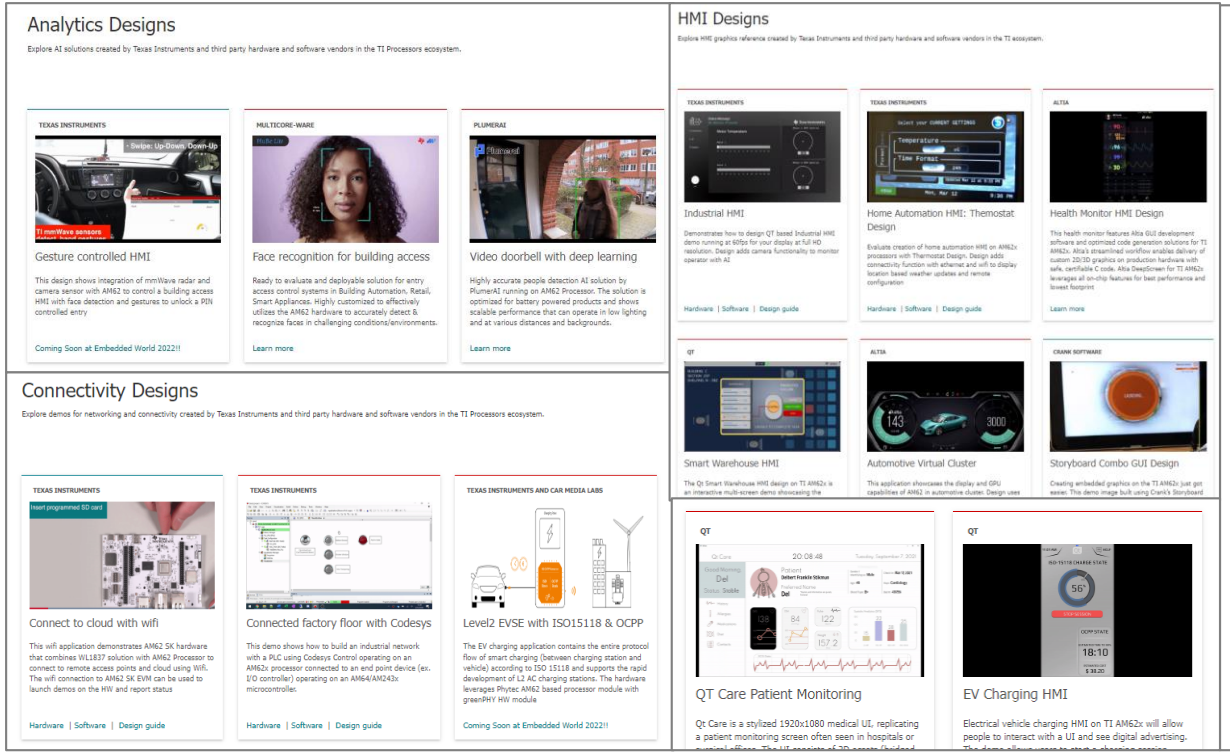
BUILD Platform with Easy to use Dev Tools



Sitara MPU enables you to easily design smart, connected applications

AM625SIP design gallery

AM62 and AM625 Design Gallery



HW + SW + Design Guide

Analytic Demos
- Gesture recognition
- Face recognition
- People detection

HMI Demos
- Industrial HMI
- Thermostat
- Altia GUI - Health monitor HMI
- QT Smart Warehouse
- Auto Cluster
- Crank's Storyboard GUI
- QT Care - Medical UI.
- EV charging HMI

Connectivity Demos
- WL1837 - WIFI
- CodeSys - PLC
- Level 2 EVES with ISO15118&OCPP

Texas Instruments

How to get started with AM625SIP

Texas Instruments

SK-AM625-SIP | Starter Kit EVM

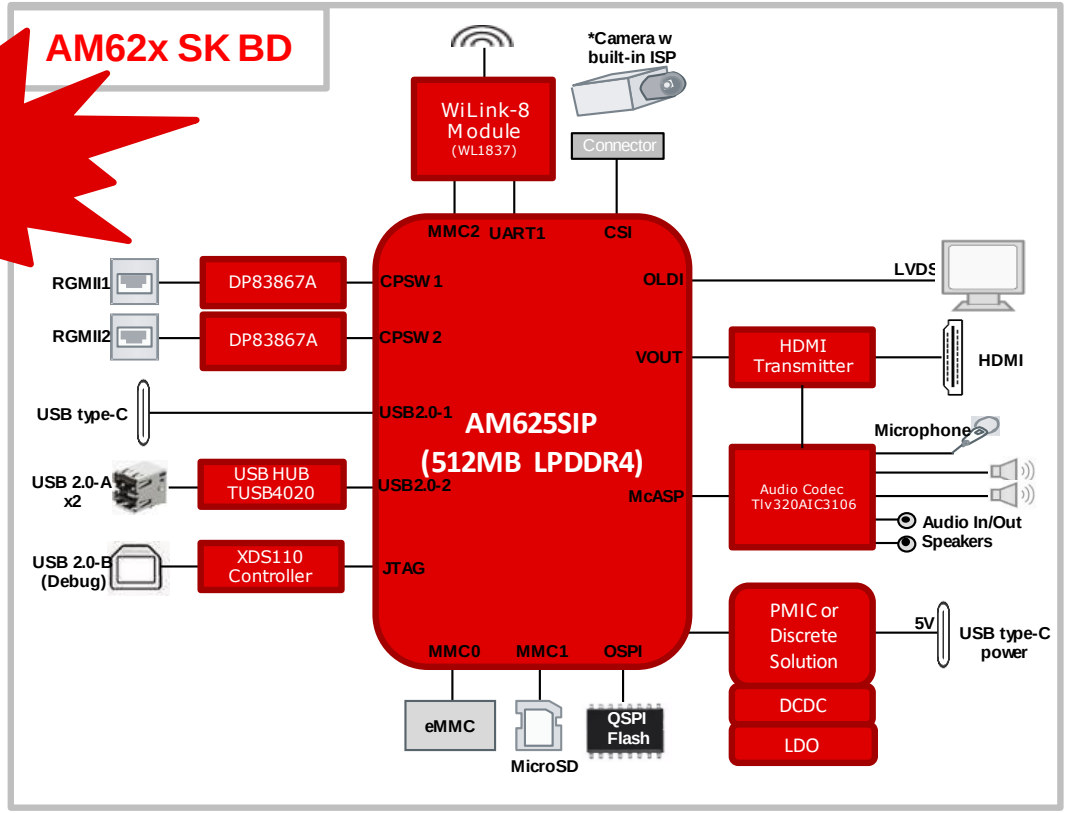
Target Market:

General Linux with WLAN and LVDS/HDMI options for display panels.

Target Applications:

Industrial display applications, medical, Linux Gateways, single-board computers.

Coming soon to TI.com!



*Camera module is not provided onboard

Visit www.ti.com/npu

For more information on the New Product Update series, calendar and archived recordings

© Copyright 2023 Texas Instruments Incorporated. All rights reserved.

This material is provided strictly “as-is,” for informational purposes only, and without any warranty.
Use of this material is subject to TI’s **Terms of Use**, viewable at TI.com

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2023, Texas Instruments Incorporated