

# TI DLP 4K Ultra High Definition (UHD) Display Chipset



Developers looking to integrate 4K UHD display technology can use Texas Instruments DLP 4K UHD chipsets. Highly programmable and delivering true 4K UHD resolution, the chipset enables numerous display solutions, including: laser TV, home theater, education and enterprise projectors, digital signage, smart lighting and more.

## About the DLP 4K UHD Chipset

The DLP chipset consists of the digital micromirror device (DMD), a digital controller, and a power management device. These devices can be combined with many different optical and mechanical components to meet a diverse set of performance level requirements. The chipset offers great versatility for numerous applications needing ultra-high definition, each DMD and digital controller coming with a unique set of features. To learn more, explore the products in [Table 1](#).

**Table 1. DLP 4K UHD Chipsets**

DMD	Controller	Power management device
<a href="#">DLP470TE</a>	<a href="#">DLPC4422</a> (x2)	<a href="#">DLPA100</a>
<a href="#">DLP660TE</a>	<a href="#">DLPC4422</a> (x2)	<a href="#">DLPA100</a>
<a href="#">DLP471TE</a>	<a href="#">DLPC7540</a>	<a href="#">DLPA100</a>
<a href="#">DLP471TP</a>	<a href="#">DLPC6540</a>	<a href="#">DLPA3005</a>
<a href="#">DLP650TE</a>	<a href="#">DLPC7540</a>	<a href="#">DLPA100</a>

## 4K UHD Resolution

- Ultra-fast switching speed.
  - The fast switching speed of the DMD enables 8.3 million pixels to be displayed on the screen using 4.15 million micromirrors.
  - Resolution delivered is equal to combining four 1080p displays.

## High Performance Imager

- High ANSI contrast reveals fine lines and details for excellent readability.
- Alignment-free.
  - Optical engine designs using a single DLP chip are inherently aligned for perfect convergence, resulting in sharp, detailed images.

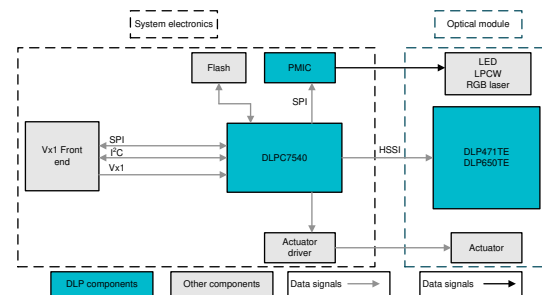
## Flexible Technology

- High thermal capability.
  - Enables numerous display products requiring high brightness solutions.
- Light source agnostic.
  - Compatible with virtually any light source, including lasers, laser phosphor and LEDs.

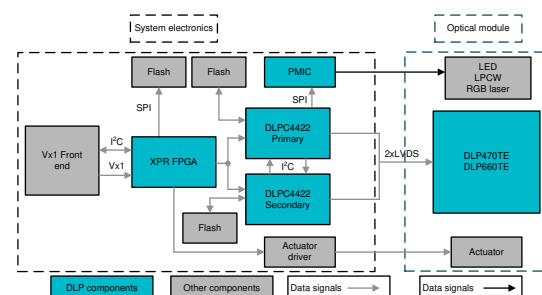
## Robust Ecosystem

- Optical modules
  - [Production-ready optical modules](#) from third party companies can speed up product development.
- TI.com support tools, technical documents and online community available to address technical questions.

[Production-ready optical modules to aid developers](#), TI maintains a robust ecosystem, including independent companies with expertise in designing and manufacturing production-ready optical modules. An optical module is a compact assembly that includes a DLP DMD, an LED-based illumination source, optics and associated mechanics.



**Figure 1. DLPC7540 4K UHD Chipset Diagram**



**Figure 2. DLPC4422 4K UHD Chipset Diagram**

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), 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, 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 (<https://www.ti.com/legal/termsofsale.html>) or other applicable terms available either on [ti.com](https://www.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.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2021, Texas Instruments Incorporated