A fully functioning evaluation system speeds on-vehicle testing and development of multi-camera, real-time vision applications requiring intensive video analytics.

The ADAS Development Kit is built on the DesignCore™ Rugged Vision Platform (RVP) family of reference design modules. The reference design modules contain advanced vision processors from Texas Instruments and run D3 Engineering’s advanced vision software frameworks.

The ADAS Development Kit is ready to use right out of the box. It includes an RVP reference design module with TI processor (either TDA3x, TDA2Eco, or TDA2x), along with rugged camera modules, display, cables, software, and calibration tools.

Once verified on the wheeled test platform provided, the kit can be easily de-mounted and installed on your test vehicle.

The base support package includes optimized and verified hardware and software, providing a known-good launch point for design and development.

A single-use sublicense is included in the kit for all TI and D3 firmware and application libraries as well as frameworks that allow immediate development of ADAS applications. Software updates and access to releases are included for one year.

### FEATURES
- **D3 Rugged Vision Platform (RVP) with TI Automotive Processor**
- Delivered running Surround View Application on wheeled test platform (can be easily de-mounted)
- Four FPD-Link III camera modules
- HD video display
- FPD-Link, CAN, Isolated IO, Gigabit Ethernet, Serial/USB, uSD Card, and JTAG connectivity interfaces
- Automotive 12VDC power
- Compact, rugged packaging for on-vehicle testing
- Ready for rapid development to your requirements

### APPLICATIONS
- Advanced Driver Assistance Systems (ADAS)
  - Front camera
  - Surround View
  - Surround View + car black box (CarBB)
  - Smart rear camera
  - Radar
  - Driver monitoring
  - Camera monitoring systems (CMS)/mirror replacement
- Automotive In-Vehicle Infotainment and Telematics
- In-vehicle displays
- 3D navigation
- High-definition multimedia
- Autonomous Shipping and Transportation Systems
- Materials Handling Systems

### SURROUND VIEW USE CASE ON ADAS DEVELOPMENT KIT

```
POWER IN (12V AUTO INPUT)
 IO/UART/CAN
 GIGE ETHERNET
 VIDEO OUT (FPD-LINK III)

ACCESS PANEL
 VIDEO IN FRONT
 VIDEO IN LEFT
 VIDEO IN RIGHT
 VIDEO IN REAR

VIDEO INPUTS
 FPD LINK III COAX
 1MPIX CAMERAS

USB (TDA2Eco AND TDA2x ONLY)

uSD CARD
```

Video Analytics
- Pedestrian detection
- Traffic sign recognition
- Lane detection
- Sparse/dense optical flow
- Edge detection
- Structure from motion
- False light detection
- Forward collision warning
- Object classification
SPECIFICATIONS

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Nominal</th>
<th>Maximum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SYSTEM INPUT CHARACTERISTICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Voltage</td>
<td>8</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Input Voltage Protection</td>
<td>40</td>
<td>60</td>
<td>Volts DC</td>
</tr>
<tr>
<td>Input Reverse Voltage Protection</td>
<td>-20</td>
<td>Volts DC</td>
<td></td>
</tr>
<tr>
<td>Input Current (no cameras)</td>
<td>0.22</td>
<td>0.34</td>
<td>Amps</td>
</tr>
<tr>
<td>Input Current (cameras)</td>
<td>0.60</td>
<td>Amps</td>
<td></td>
</tr>
</tbody>
</table>

1 Time limited, see component rating.

<table>
<thead>
<tr>
<th>TDA3x (2GB DDR3)</th>
<th>TDA2Eco or J6Eco (2GB DDR3)</th>
<th>TDA2x or J6 (4GB DDR3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROCESSOR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>512MB NOR, 512KB FRAM</td>
<td>8GB eMMC, 512MB NOR, 512KB FRAM</td>
</tr>
<tr>
<td>Camera Interface</td>
<td>4 x FPD Link III (CSI2)</td>
<td>4 x FPD Link III (CSI2)</td>
</tr>
<tr>
<td>Cameras</td>
<td>Ruggedized 1 or 2 Mpix digital camera DesignCore™ Platform with global shutter and wide field of view lens. Other sensors integrated upon request.</td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>UART, CAN, ISO GPIO, Gbit Ethernet, uSD card, JTAG, QSPI, USB (J6/J6Eco), SATA (J6/J6Eco)</td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>FPD Link III and HDMI</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Automotive 12VDC</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>Rugged enclosure with mount points</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operating temperature –40C to 85C (105C option)</td>
<td></td>
</tr>
<tr>
<td>Firmware</td>
<td>TI Vision SDK, TI Processor SDK, and D3 application framework</td>
<td></td>
</tr>
</tbody>
</table>

For additional details please refer to the RVP-TDA3x, RVP-TDA2Eco, and RVP-TDA2x DesignCore™ Platform data sheets.

ACCELERATE TIME-TO-MARKET

D3 Engineering will leverage our industry-proven DesignCore™ Platforms and Reference Designs to meet your unique product requirements, while minimizing technical- and schedule-risk for your development program.

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