The DART-6UL, measuring only 25mm x 50mm, is a highly flexible System-on-Module (SoM) based on NXP’s i.MX 6UltraLite / 6ULL / 6ULZ family and carries up to 900MHz ARM Cortex-A7 processor.

A versatile platform, the DART-6UL provides a variety of interfaces and connectivity options—all packaged at an optimized power, size and cost. This superior price/performance offering is ideal for fast emerging applications such as Internet-of-Things (IoT), as well as other portable and battery operated embedded systems.

The DART-6UL highly integrated connectivity includes a certified WiFi, Bluetooth/BLE, dual Ethernet, dual USB, audio, display with touch panel and serial interfaces. In addition, the system supports industrial operating grade, targeting embedded application requiring a wide temperature range.

The VAR-6ULCustomBoard carrier board complements an attractive full reference kit of the DART-6UL, which can be used for customers’ evaluation, development and end-product mass production.

Main Features

**NXP i.MX 6UltraLite / 6ULL / 6ULZ**
- Power optimized up to 900MHz, ARM Cortex-A7
- 1GB DDR3L, 512MB NAND / 64GB eMMC
- Integrated security features
- 2D pixel acceleration engine (PxP)

**Display Support**
- 24bits Parallel LCD up to WXGA (1366 x 768)
- Touch screen controller

**Networking**
- 2x 10/100Mbps Ethernet
- Certified WiFi 802.11ac/a/b/g/n and Bluetooth 5.2/BLE

**USB**
- USB 2.0 OTG
- USB 2.0 Host

**Audio**
- Digital audio SSI(AUDMUX)/SPDIF
- Analog microphone (stereo)
- Headphone out, Line-in
- ESAI (6ULL only)

**Camera**
- Parallel input

**Other Interfaces**
- Dual CAN, I2C, SPI, PWM, JTAG, UART, SD/MMC

**OS Support**
- Linux

**Power**
- Single 3.3V

**Dimensions (W x L xH):**
- 25mm x 50mm x 4mm

**-40 to 85°C Industrial temperature range**

**Low Power consumption**
- Optimized power consumption in both operational and suspend modes
Complementing the DART-6UL

DART-6UL Evaluation Kit

The VAR-DVK-6UL allows full performance and capability evaluation, serving as an evaluation, development and production platform for hardware and software teams.

Evaluation Kit content
- VAR-6ULCustomBoard populated with DART-6UL
- 7” LCD + capacitive touch panel
- Power supply and communication cables
- Documentation and design package

VAR-6ULCustomBoard

The VAR-6ULCustomBoard ensures a scalable and simplified development and reference board to achieve a short time-to-market for customer’s designs and end-products.

<table>
<thead>
<tr>
<th>Display Support</th>
<th>Ethernet</th>
<th>RTC backup battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 24-bit RGB</td>
<td>• 2 x 10/100Mbps Ethernet RJ45</td>
<td>• CR1225 coin battery socket</td>
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<tr>
<td>• 18-bit LVDS</td>
<td></td>
<td>Power</td>
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<tr>
<td>Touch Panel</td>
<td>Storage</td>
<td>5V DC input</td>
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<tr>
<td>• Capacitive touch support (6-pin FFC/FPC)</td>
<td>• SD/MMC card socket</td>
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<tr>
<td>• Resistive touch support (via header)</td>
<td>Additional expansion Connectors</td>
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</tr>
<tr>
<td>Audio</td>
<td>• SPI, I2C</td>
<td></td>
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<tr>
<td>• Headphone</td>
<td>• CAN Bus</td>
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<tr>
<td>• Line-in</td>
<td>• UART, RS232</td>
<td></td>
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<tr>
<td>USB</td>
<td>• Digital Audio</td>
<td></td>
</tr>
<tr>
<td>• 2 x USB 2.0 host</td>
<td>• PWM</td>
<td></td>
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<tr>
<td>• Optional 1 x USB OTG</td>
<td>Debug</td>
<td></td>
</tr>
<tr>
<td>RTC backup battery</td>
<td>• Micro USB</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>• JTAG (header)</td>
<td></td>
</tr>
</tbody>
</table>

Size
- 7cm x 10cm

About Variscite

Variscite is a leading System on Module (SoM) and Single-Board-Computer (SBC) design and manufacture company. A trusted provider of development and consulting services for a variety of embedded platforms, Variscite transforms clients’ visions into successful products.

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