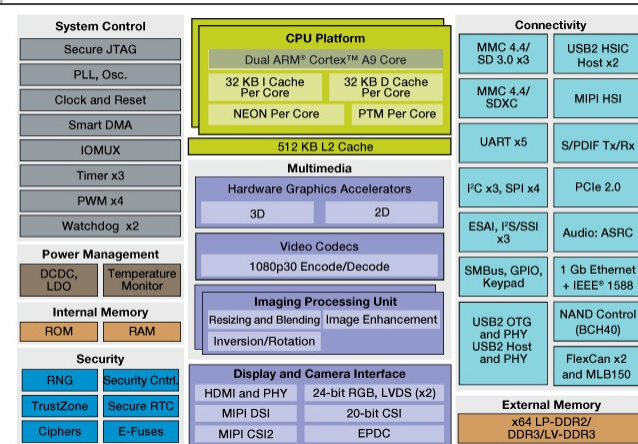




Actual Size

- pin-compatible
- guaranteed longevity
- EU manufacture
- Production-ready BSPs
- Responsive support

i.MX 6DualLite Multimedia Processor Block Diagram



TRITON-TX6DL is a self-contained industrial specification, production-quality module measuring just 68mm x 31mm, based on Freescale's low-power high performance multimedia-optimized i.MX6 Dual Lite processor with dual ARM-Cortex-A9 core, NEON VFP/SIMD, enhanced OpenGL ES 2.0 and OpenVG 1.1 graphics cores and hardware video codec. With BSPs for mainline Linux and Windows Embedded Compact 7 and Compact 2013, as well as Android, TRITON-TX6DL is a complete solution, ready to be designed into an embedded system.

#### Why TRITON-TX?

TRITON-TX6DL is a member of a series of pin-compatible, SODIMM format modules based predominantly on Freescale's i.MX

series of microcontrollers. Each family member has an anticipated production lifetime of 10-15 years.

Because the TRITON-TX module family is pin-compatible, a baseboard may be developed that will work with different family members, from low-cost ARM9 modules, through to multicore ARM Cortex-A9 devices. TRITON-TX modules are manufactured in the EU, to the highest quality standards, and production-quality Board Support Packages are backed up by responsive, hands-on tech support.

For development the TRITON-TX6DL is plugged into the StarterKit-5 development baseboard, and then in production the StarterKit is replaced by a project-specific baseboard, based on a reduction of the

supplied StarterKit schematics. Direct Insight can provide rapid development and manufacture of baseboards as a service.

Because the TRITON system includes a production quality Board Support Package (BSP) and production ready module, project times are cut dramatically.

TRITON-TX6DL includes dual 800MHz ARM Cortex-A9 Freescale i.MX6DL, 1GB of high performance, 64-bit DDR3-800 RAM and 128MB NAND Flash or alternatively a 4GB eMMC.

The iMX6DL's integrated display controller permits direct connection of one or two TFT touch screens of up to 1920x1080 resolution. The TRITON-TX6DL is also optionally provides dual LVDS outputs. A directly connected 640x480 TFT with

capacitive touch is optionally supplied as part of the development kit. The i.MX6DL also provides integral Ethernet, with the PHY implemented on the TRITON-TX module.. The processor's I/O is accessible via a standard DIMM200 socket based on the standard TX-module pinout, which in turn is all available via connectors and headers on the Mainboard-7. The overall size of TRITON-TX6DL is 67.6mm x 31mm x 4.2mm.

The module operates from either a single 3.1 - 5.5V supply, and provides 3.3v 300mA output to power the rest of the system. The module may also be powered via USB, or a Li-Ion/Polymer cell.

#### Mainboard-7 Baseboard

For development purposes, the TRITON-



**triton  
TX**

TX6DL plugs into the Mainboard-7 baseboard via its DIMM200 connector. This combination, with optional touch-screen display is supplied as a complete development kit running Linux. Source code and toolchain are supplied, along with a configured virtual machine for development.

The Mainboard-7 includes connectors for the I/O provided by the iMX6 UltraLite processor and TRITON-TX6DL, including SD/MMC card socket, 2x RS232, RS485, CANbus, USB-OTG and USB-Host connectors, Hirose LVDS, and an Ethernet connector. In addition, there is an audio codec with 3.5mm headphone jack connector.

The board is powered via USB, or an external supply source (supplied).

To facilitate creation of a production baseboard, full schematics are provided for the Mainboard-7. Alternative development systems including StarterKit-5 and TRITON-TXFB are suitable for use with TRITON-TX6DL - please see our website for details.

We offer a fixed price custom baseboard design and production service, as well as off-the shelf baseboards such as TRITON-TXFB for customers with tight time-to-market constraints who wish to focus their efforts on application development.



TRITON-TX6DL Feature:	Support	Details
Processor	i.MX6DL	Freescale MCIMX6U7 Dual Lite Industrial
CPU	ARM Cortex-A9	Dual Core
Processor clock max (MHz)	800	
RAM (MB)	1024	DDR3-800 64-bit
NAND Flash (MB)	128/4096	optional 4GB eMMC
Coprocessor	Graphics, Video	OpenGL ES 2.0, hard codec 1080p
Floating Point	y	NEON Vector Floating Point
UART (RS-232)	3	
Ethernet 10/100 BaseT	1	PHY on module. IEEE1588
I2C Interface	2	
LCD controller	1920x1080	24-bit parallel, dual LVDS*
Supplied touch screen	640x480**	cap. touch, other sizes on request
LVDS	2*	optional LVDS build
PCIe	1	
SSP (I2S, AC'97)	2	
CAN	2	
SD card / SDIO (4-bit)	2	
1-wire interface	1	
USB 2.0 Host	1	
USB 2.0 OTG	1	
SPI	2	
PWM controller	1	
Keypad	8x8	
JTAG	1	
Analog audio	1**	controller on baseboard
Touch screen interface	1	Capacitive via I2C
RTC	1	
Temp Range	-40C/+85C	-25 to +85C when eMMC fitted
Dimensions	31mm x 68mm	SODIMM200

\*optional \*\*on baseboard