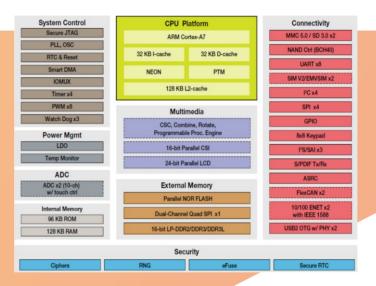- pin-compatible
- guaranteed longevity
- EU manufacture
- Production-ready BSPs
- Responsive support

TRITON-TX6UL is a self-contained industrial specification, production-quality module measuring just 68mm x 26mm, based on Freescale's low-power high performance multimedia-optimized i.MX6 UltraLite processor with single ARM-Cortex-A7 core, with NEON VFP. With a production-tested mainline Linux BSP and development kit, TRITON-TX6UL is a complete solution, ready to be designed into an embedded system.

Why TRITON-TX?

TRITON-TX6UL 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 guaranteed production lifetime of 10 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-TX6UL is plugged into the Mainboard-7development baseboard , and then in production the devkit is replaced by a project-specific baseboard, based on a reduction of the supplied Mainboard-7 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-TX6UL includes an 528MHz ARM Cortex-A7 Freescale i.MX6 UltraLite, 256MB of high performance DDR3 RAM and either 128MB NAND Flash, or a 4GB NAND eMMC.

The iMX6 UltraLite's integrated display controller permits direct connection a TFT touch screens of up to 1366 x 768 resolution. A directly connected 640x480 TFT with capacitive touch is optionally supplied as part of the development kit. The i.MX6 Ultralite also provides up to 2 integral Ethernet controllers, with one 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-TX6UL is 67.6mm x 26mm x 4.2mm.

The module operates from either a single 3.3 - 5.5V supply, and provides 3.3v 300mA output to power the rest of the system (min. 4.3v input). The module may also be powered via USB, or a Li-Ion/Polymer cell.

Mainboard-7 Baseboard

For development purposes, the TRITON-TX6UL plugs into the Mainboard-7 baseboard via its DIMM200 connector. This combination, with optional touch-screen display is supplied as a complete

TRITON-TX6UL Feature:	Support	Details
Processor	i.MX6 UltraLite	Freescale MCIMX6G2 Industrial
CPU	ARM Cortex-A7	Single Core
Processor clock max (MHz)	528	
RAM(MB)	256	DDR3
NAND Flash (MB)	128/4GB	eMMC version has reduced temp spec.
Coprocessor	-	Use TRITON-TX6S for acceleration
Floating Point	y	NEON Vector Floating Point
UART (RS-232)	8	
Ethernet 10/100 BaseT	2	one PHY on module. IEEE1588
I2C Interface	2	
LCD controller	1366x768	24-bit parallel, dual LVDS*
Supplied touch screen	640x480**	Cap. touch, other sizes on request
SSP (I2S, AC'97)	1	
CAN	2	
SD card / SDIO (4-bit)	1	
1-wire interface	-	
USB 2.0 Host	1	
USB 2.0 OTG	1	
SPI	2	
PWM controller	5	
Keypad	4x4	
JTAG	1	
Analog audio	1**	controller on baseboard
Touch screen interface	1**	capacitive via I2C
RTC	1	
Camera Interface	1	
Temp Range	-40C/+85C	-25C/+85C for eMMC version
Dimensions	26mm x 68mm	SODIMM200
*optional **on baseboard		

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-TX6UL, 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-TX6UL - 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.

DIRECTinsight
directinsight.co.uk

Direct Insight Ltd, The Hayloft, Greatworth Hall, Greatworth, Oxfordshire, England OX17 2DH Tel: +44 1295 768800