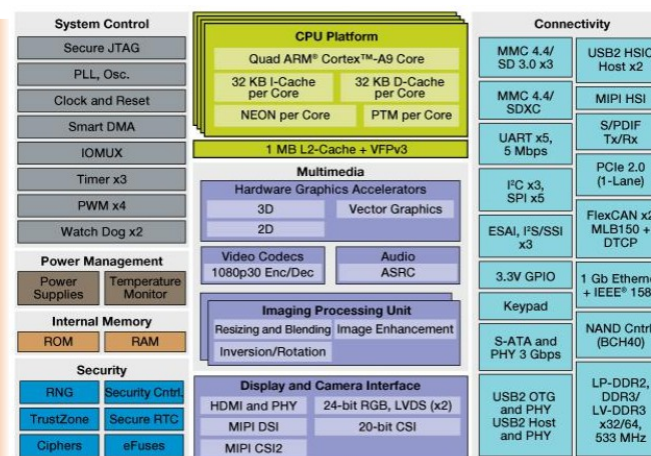




Actual Size

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



triton
TX6Q

TRITON-TX6Q (and QP) are self-contained industrial specification, production-quality modules measuring just 68mm x 31mm, based on Freescale's low-power high performance multimedia-optimized i.MX6 processor with quad 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 Linux and Windows Embedded Compact 7 and 2013, TRITON-TX6Q is a complete solution, ready to be designed into an embedded system.

Why TRITON-TX?

TRITON-TX6Q and QP, along with their sister products TRITON-TX6DL, TRITON-TX6UL and TRITON-TX6S, 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-TX6Q is plugged into the Mainboard-7 development baseboard, and then in production the devkit 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-TX6Q includes quad 1 GHz ARM Cortex-A9 Freescale i.MX6 Quad, 1GB of high performance, DDR3-1066 RAM and 128MB NAND Flash or optionally a 4GB eMMC. TRITON-TX6QP uses an industrial version of the i.MX6 Quad Plus processor, providing enhanced graphics and memory throughput, as well as full industrial temperature range (-40 to +85C).

The iMX6 Quad / Quad Plus's integrated display controller permits direct connection of one or two TFT touch screens of up to 1920x1080 resolution via LVDS. A directly connected 640x480 TFT with capacitive touch is optionally supplied as part of the development kit. The i.MX6 also provides integral Ethernet, with the PHY implemented on the TRITON-TX module. A PCIe output allows for additional high-speed interfaces such as Gigabit Ethernet to be implemented on the baseboard.

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-TX6Q is 67.6mm x 31mm x 4.2mm.



triton
TX6Q

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-TX6Q/P 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 Windows Embedded Compact 7 / 2013 (paid option, excludes QP) or Linux. 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 Quad processor and TRITON-TX6Q/P, including SD/MMC card socket, 2x RS232, RS485, CANbus, USB-OTG and USB-Host connectors, Hirose LVDS, SATA 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 TRITON-TXFB are suitable for use with TRITON-TX6Q - 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-TX6Q/P Feature:	Support	Details
Processor	i.MX6Q/P	Consumer Quad, or industrial Quad Plus
CPU	ARM Cortex-A9	Quad Core
Processor clock max (MHz)	800/1000	
RAM (MB)	1024/2048	DDR3-1066, 64-bit
NAND Flash (MB)	128 / 4GB	128MB NAND or 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
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	
PCI Express	1	
Temp Range	-40C/+85C	-25 / +70C for Quad
Dimensions	31mm x 68mm	SODIMM200

*optional **on baseboard

