



DEVELOPMENT KITS

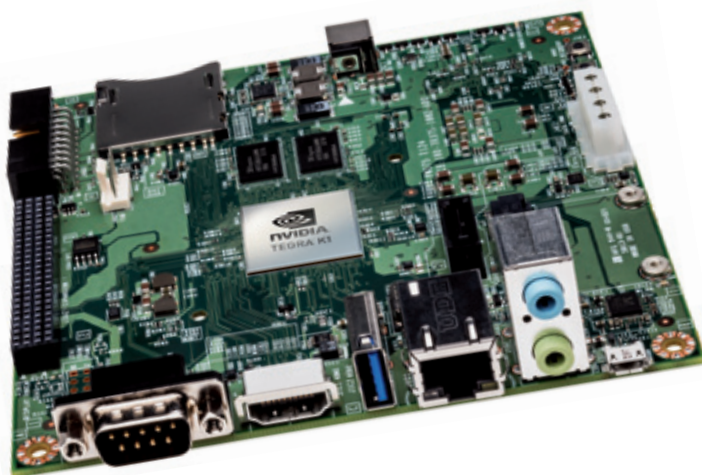
Nvidia® Jetson TK1

(P/N 940-7R375-0001-000)


















NVIDIA® Jetson TK1 Software Developer Board

The NVIDIA® Jetson TK1 development kit unlocks the power of the GPU for embedded applications. Built around the revolutionary **Tegra K1 SOC**, it uses the same Kepler computing core designed into supercomputers around the world. It is a fully functional CUDA platform that will allow you to quickly develop and deploy compute-intensive systems for computer vision, robotics, and medicine.

NVIDIA® provides the BSP and software stack, including CUDA, OpenGL 4.4, and the NVIDIA VisionWorks toolkit. With a complete suite of development and profiling tools, out-of-the-box support for cameras and other peripherals, you have everything you need to realize the future of embedded.



FEATURES

	Processor	NVIDIA Tegra K1 Mobile Processor Quad-core, 4-Plus-1™ ARM® Cortex –A15 MPCore™ processor with NEON technology
	Core Max	4
	Memory	2 GB DDR3L system RAM
	Graphics	Low-power NVIDIA Kepler™-based GeForce® graphics processor with 192 CUDA cores
	Video Interface	Display HDMI Connector
	Video Resolution	up to 3840x2160 on HDMI
	Mass Storage	16 GB eMMC 4.51 storage SATA connector SD Card
	Networking	10/100/1000BASE-T Ethernet
	USB	USB Type-A Host 3.0 Speed Micro USB connector: Supports Recovery Mode
	PCI-e	Half mini-PCIe expansion slot
	Audio	Microphone Jack Head phone jack
	Serial Ports	RS232 Serial Port (DB9)
	Other Interfaces	JTAG Connector Two I/O Expansion headers
	Power Supply	External 12V AC adapter
	Operating System	Linux for Tegra (L4T) provides flashing utilities, bootloader, Linux kernel, Tegra hardware acceleration libraries for graphics, multimedia and compute (EGL, OpenGL-ES, GLX, OpenGL), and a reference filesystem for evaluating Linux on the Tegra platform.
	Operating Temperature*	Min: 0 °C, Max: 50 °C
	Dimensions	12,70 cm x 12,70 cm (5" x 5")

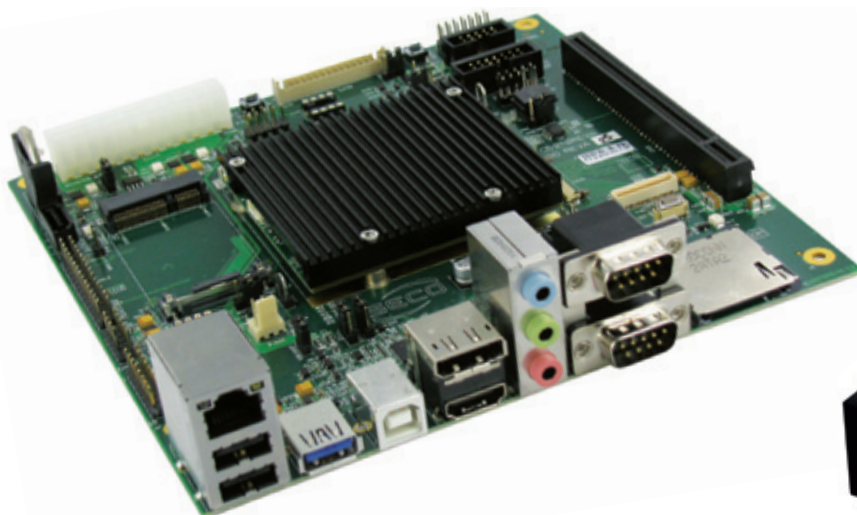
PACKAGE CONTENT

- Jetson TK1 development board
- AC adapter with power cord
- USB Micro-B to USB A adapter
- Quick Start Guide









Nvidia® Kayla GPU DevKit

SECO mITX GPU DevKit (P/N SECO_mITX_GPU_DEVKIT)

NVIDIA® Tegra® 3 SoC on Qseven provided in a standard PC form factor, supporting NVIDIA Graphics Drivers and CUDA 5.0 Toolkit



FEATURES

	Processor	NVIDIA® Tegra® 3 ARM Cortex A9 Quad-Core
	Memory	CPU Memory: 2 GB
	Graphics	SECO mITX GPU DEVKIT does not include a specific GPU, so the user may choose the one that best fits the particular application. Hereafter is provided the list of the NVIDIA® GPUs which are supported by the mITX GPU DEVKIT Board Support Package, which comes pre-loaded on the system. <ul style="list-style-type: none">• GF108• GK104• GK107• GK 208
	Mass Storage	1x SATA 2.0 Connector
	Networking	1x Gigabit Ethernet
	USB	3x USB 2.0
	PCI-e	CPU - GPU: PCIe x4 Gen1 link
	Operating System	Linux Ubuntu Derivative OS CUDA® Tool Kit

PACKAGE CONTENT

- QuadMo747-X/T30- QSeven v1.2 module, NVIDIA® Tegra® 3 with 2 GB RAM and 4 GB eMMC
- SECO mITX Carrier Board
- Cable Kit

Nvidia® CARMA DevKit









(P/N CARMA DEVKIT)

The CUDA® on ARM Development Kit | NVIDIA

The CUDA® on ARM DevKit, codename CARMA, is a GPU computing development kit created to support the growing demand for energy-efficient computing initiatives around the world. Powered by an NVIDIA® Tegra® 3 quad-core ARM-based processor and an NVIDIA® CUDA®-enabled GPU, the CARMA DevKit supports energy-efficient HPC projects using ARM-based GPU computing.



FEATURES

	Processor	NVIDIA® Tegra® 3 ARM Cortex A9 Quad-Core
	Memory	CPU Memory: 2 GB GPU Memory: 2 GB
	Graphics	NVIDIA® Quadro™ 1000M with 96 CUDA® Cores Peak Performance: 270 Single Precision GFlops CPU - GPU Interface PCIe x4 Gen1 link
	Video Interface	HDMI
	Mass Storage	1x SATA 2.0 Connector
	Networking	1x Gigabit Ethernet
	USB	3x USB 2.0
	Operating Temperature	Linux Ubuntu Derivative OS CUDA® Tool Kit

CARMA DevKit CONTAINS

- QuadMo747-X/T30 - Qseven 1.2 specs module, NVIDIA® Tegra® 3 with 2 GB RAM and 4GB eMMC
- NVIDIA® Quadro® 1000M
- CARMA carrier board
- Power supply
- Cable kit

Qseven Cross Platform Development Kit (P/N Q7XDK)

Development kit for Qseven philosophy, compatible with both x86 and ARM Qseven® modules. Compliant to Qseven® specifications rel. 1.20

DEVELOPMENT KIT CONTENTS












The Development kit contains the following material:

- Cross Platform Carrier Board
- LVDS Display (7" - 800x480 and/or 10" - 1024x768, at choice)
- 4-wire T/S, already assembled on LCD display
- LVDS to TTL 24-bit display converter
- TTL to RS-232 Transceiver board
- 19VDC Notebook Power Adapter, with Power Cords for connection to EUCEE 7/16, US NEMA 1-15, UK BS 1363A, JP JIS8303
- FFC cable for interconnection of Cross Platform Carrier Board and ARM Qseven® module camera connector
- USB 2.0 Plug "A" – Plug "mini B" for USB client connection
- Connection cables for adapter boards included in the kit
- Connection cable for LVDS display
- 4-Wire Touch Screen cable adapter

Since the Cross Platform can be used with any SECO Qseven CPU Module, the Development Kit DOESN'T CONTAIN any Qseven® module, which has to be purchased separately.



FEATURES OF SECOCQ7-Xboard

	Video Interface	VGA DB-15HD + DVI-D Single Link connector LVDS LCD and Backlight connector, with voltage selection Video Camera Interface, NTSC/PAL/SECAM video decoder integrated
	Mass Storage	2 x S-ATA connectors Hard Disk Power Connector 2 x SD/MMC slots SDIO Internal Header
	Networking	Gigabit Ethernet interface
	USB	6 x USB 2.0 standard "A" connector USB Client connector
	PCI-e	1 x PCI Express x 1 Slot miniPCI express Slot
	Audio	Triple Audio Jack 2 x S/P-DIF connectors (In & Out) AC'97 and HD Audio Codecs integrated, jumper selectable Direct Digital Audio Interface
	Serial Ports	4 x Serial Ports (2 x DB-9 standard RS-232, 2 x TTL interface)
	Other Interfaces	1 x CAN Interface 4 x GPIO 3x 4 / 5 Wire T/S interfaces (I2C, SPI and USB controller directly onboard) Internal FPGA, with possibility of defining up to 64 User I/O's JTAG connection LPC Bus interface SPI interface I2C applications included: EEPROM, Light Sensor, I/O Extender, SIM Card slot A/D Converter FAN: 3 pin Header, +5/+12V configurable with Tachometric signal
	Power Supply	+5V _{DC} /+12VDC for Desktop application, +19VDC for Notebook-like application Smart Battery Management Li-ION Single Cell Battery Management
	Operating Temperature*	0° ... +60°C (commercial version) -20° ... +80°C (industrial version)
	Dimensions	270 x 170 mm (10,63" x 6,69")

HIGHLIGHTS

- Qseven® development board with a wide range of interfaces
- Available with complete BOM and schematics



The Chameleon Philosophy

- **Schematics**
- **BOM**
- **Design Review**

*All carrier board components must remain within the operating temperature at any and all times, including start-up; carrier operating temperature is independent of the module installed. Please refer to the specific module for more details. Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider specific cooling solutions for the final system.

Qseven Cross Platform Starter Kit (P/N Q7XSK)

The Cross Platform Starter kit is a complete package that contains the basic components necessary to start developing with Qseven® CPU modules, both on x86 and on ARM architectures.












THE STARTER KIT CONTAINS

- 1x SECOCQ7-pITX/Xboard
- 1x Notebook Power Adapter, with power cord and adapters for use in Europe, UK, USA and Japan
- 1x TTL to RS-232 serial converter
- Connection cables
- Quick start guide

With the purchase of the starter Kit, you will have **access to the electrical schematics of SECOCQ7-pITX/Xboard for free**, completely reusable for your own carrier board's design. The Development Kit doesn't contain any Qseven® module, that must be purchased separately.



FEATURES OF SECOCQ7-pITX-Xboard

	Video Interface	LVDS Interface, 34 pin 2mm pin header Backlight Connector, 6 pin, 2mm Pin Header HDMI Connector
	Mass Storage	1 x S-ATA connector µSD Card Slot
	Networking	1 x Gigabit/FastEthernet connector 1 x optional additional FastEthernet port
	USB	Up to 7x USB ports (1 x USB client)
	PCI-e	1 x miniPCI Express slot SIM Card slot for miniPCI Express modems
	Audio	AC'97 and HD Audio Codec, jumper selectable Line In, Mic In on internal pin headers Earphone pin header
	Serial Ports	1 x RS-232 (RS-422 / RS-485 configurable) 1 x TTL-level serial port CAN Interface
	Other Interfaces	8 x GPIO on 10-Pin Header Connector 4-Wire Touch Screen controller integrated SMBus Pin Header I ² CBus, SPI interface
	Power Supply	On Board rechargeable Lithium Battery for CMOS Backup and RTC 12V Power jack Internal Pin Header for Power, Lid, Sleep and Reset Button Power On Status LED
	Operating Temperature*	0°C ÷ +60°C (commercial version) -40°C ÷ +85°C (industrial version)
	Dimensions	100 x 72 mm (3,94" x 2,83")



The Chameleon
Philosophy

- Schematics
- BOM
- Design Review

*All carrier board components must remain within the operating temperature at any and all times, including start-up; carrier operating temperature is independent of the module installed. Please refer to the specific module for more details. Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider specific cooling solutions for the final system.

