# NVIDIA® JETSON™ TK1
THE WORLD'S FIRST EMBEDDED SUPERCOMPUTER

NVIDIA Jetson is an embedded computing platform. Today, there are two versions featuring the NVIDIA Tegra® K1 processor — Jetson TK1 and Jetson TK1 Pro. Both give you everything you need to unlock the power of the GPU for embedded applications. They're built around the revolutionary NVIDIA Tegra K1 SoC, using the same NVIDIA Kepler™ GPU and NVIDIA CUDA® architecture that power supercomputers around the world.

JETSON TK1

Jetson TK1 is ideal for general development. This is a small form-factor board with minimal components, and includes the entire BSP plus software stack, including CUDA, OpenGL 4.4, and OpenCV for Tegra. It also includes a complete suite of development and profiling tools, plus out-of-the-box support for cameras and other peripherals. This makes it the perfect solution for helping shape the future of embedded, compute-intensive systems for computer vision, robotics, medicine, and more. Jetson TK1 is available to the public (suggested list price is $192 in the US).
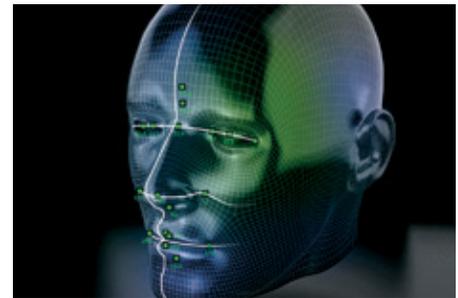
COMPUTER VISION

PEDESTRIAN DETECTION

JETSON TK1 PRO

Jetson TK1 Pro is for automotive development and includes many more components and I/Os. Plus it's automotive-grade and Genivi compliant. This means you can now easily create and test automotive and computer-vision applications for in-vehicle infotainment, digital instrument clusters, head-up displays, and advanced driver assist systems (ADAS). This solution is packaged in a 1-DIN form factor that supports several hardware configurations, so it slides easily into the dash to enable rapid prototyping. Jetson TK1 Pro is only available to NVIDIA's automotive partners.

Jetson TK1 and Jetson TK1 Pro product comparison

	JETSON TK1	JETSON TK1 PRO
FEATURES		
SoC	NVIDIA Tegra K1 Processor	NVIDIA Tegra K1 VCM
Memory	2 GB	2 or 4 GB
Storage	16 GB eMMC	64 GB eMMC on VCM 8 GB eMMC on Baseboard
Networking	RTL8111GS (PEX- GbE)	100 Mbit (ABB) GbE / AVB
Communication	-	Wi-Fi 802.11 a/b/g/n, AP; BT 4.0 (AW-AH691A-I5)
Modem	-	(add-on) NVIDIA i500 LTE Cat 3-4
Audio	ALC5639 Audio Codec	AK4618VQ + AD1937 Audio Codecs
CAN	-	(ABB) Via MicroController (2 CAN channels, MCU)
Camera Aggregator	-	(ABB) 2x Maxim 9268 (8x GMSL over 2x CSI-2)
Touch Panel	-	Atmel Controller Sharp 10.1" EDP display
Other	-	AV Companion Chip
INPUT/OUTPUT AND FORM FACTOR		
USB	1 x 3.0 + 1 x 2.0	1 x 3.0 + 4x 2.0 type A + 1x 2.0 micro type B (ABB) 1x iAP2
Networking	GbE	100 Mbit (ABB) GbE / AVB
Storage	SATA, SD	8 GB eMMC, mSATA, SD (VCM) 64 GB eMMC
PCIe	mPCIe x 1	PCIe x 2
Camera	CSI - 2 x 1 + CSI-2 x4	(ABB) GMSL x 8 OR 2x CSI-2 x4
Display Out	HDMI + DP/LVDS (Expansion)	HDMI + mini DP (2x GMSL; up to 3 displays w/ ABB)
Display In	-	HDMI – In, 2x CVBS In
Audio	MIC In, Headphone Out	6x 2ch line out, 3x 2ch line in (ABB) 4x 2ch line out, 1x 2ch line in
Form Factor	127 mm x 127 mm x 56 mm	178 mm x 178 mm x 66 mm
SOFTWARE AND SUPPORT		
OS	Linux for Tegra	Vibrante Linux, Android, QNX
Graphics	OpenGL 4.4, OpenGL ES 3.1	OpenGL ES 3.1
Compute	NVIDIA CUDA (latest production release)	NVIDIA CUDA 7.0
Multimedia	V4L	NvMedia
Vision	OpenCV	OpenCV
Authoring Toolchain	-	UI Composer™ Studio
Development Tools	NVIDIA Nsight™ and Visual Profiler	NVIDIA Nsight™ and Visual Profiler
Support Model	Community	NVIDIA Direct / NVonline
Genivi Compliant	-	Yes

For more information on NVIDIA Jetson TK1, visit www.nvidia.com/jetson-tk1
or for NVIDIA Jetson TK1 Pro, visit www.nvidia.com/jetsonpro