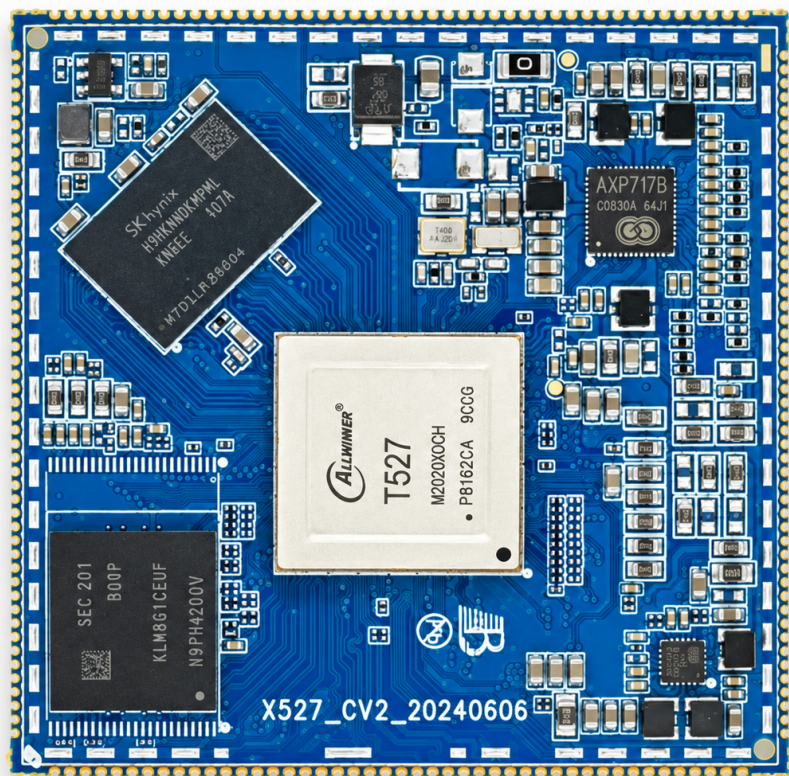


T527 Industrial Core Board

Octa-core Cortex-A55 computing module with 2 TOPS NPU, multi-camera input and 4K display support



8-core Cortex-A55 Up to 1.8 GHz	2 TOPS NPU INT8 / INT16 inference	Industrial range -40 to +85 °C
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A heterogeneous embedded platform for smart displays, vision systems, edge AI, industrial control and commercial robotics.

Processing and memory

The T527 combines eight ARM Cortex-A55 application cores with a RISC-V management core, Mali-G57 graphics, a dedicated neural-processing engine and a HiFi4 DSP. This architecture supports concurrent application processing, graphics, AI inference, audio and real-time control workloads.

Application CPU	8 x ARM Cortex-A55 cores, up to 1.8 GHz
Management core	RISC-V core, up to 200 MHz
GPU	ARM Mali-G57, source material specifies up to 750 MHz
NPU	Up to 2 TOPS; INT8 and INT16 support
DSP	HiFi4 DSP for audio and heterogeneous processing
Memory interface	32-bit DDR3 / DDR3L / LPDDR3 / DDR4 / LPDDR4 / LPDDR4X support
Storage interfaces	SD 3.0, eMMC 5.1 and NAND
Operating temperature	-40 to +85 °C industrial range

Security and system functions

- Crypto engine, security ID, TrustZone and secure boot.
- CCU, GIC, DMA, thermal sensor, timer, high-speed timer and IOMMU.
- Designed for multi-OS and heterogeneous application environments.

Operating-system support

Android	64-bit Android; Android 13 32-bit low-memory solution referenced in the supplied material
Linux	Tina Linux 5.0 with Ubuntu, Debian and Kylin support
Heterogeneous modes	Android + Linux, or Linux + RTOS + bare-metal operation, subject to BSP configuration

Video, display and multimedia

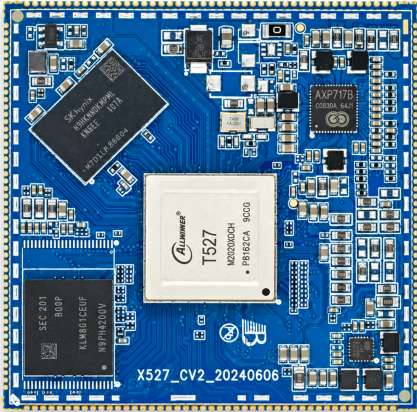
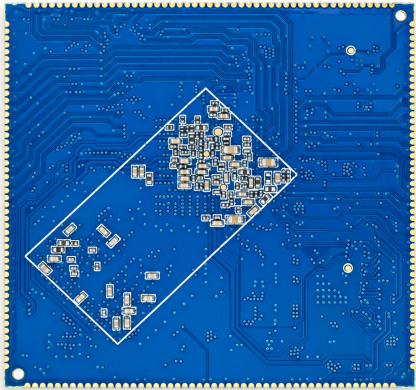
T527 is optimized for multi-channel video and dual-display products. The supplied architecture information specifies 4K decoding, multi-camera input, an 8-megapixel ISP and simultaneous 4K plus 1080p display capability.

Video decode	Up to 4K at 60 fps H.265; up to 4K at 30 fps H.264
Video encode	Up to 4K at 25 fps H.264
Camera input	MIPI CSI, two 4-lane ports; 8 MP / 30 fps WDR ISP; up to six camera inputs
Display output	2 x RGB, 2 x dual-link LVDS, 2 x 4-lane MIPI DSI, eDP 1.3 and HDMI 2.0
Dual display	4K + 1080p asynchronous dual-screen output
Image processing	Display engine and image-quality enhancement functions
Audio	Integrated audio codec, 4 x I2S/PCM and digital microphone interface

Connectivity and peripheral interfaces

USB / PCIe	2 x USB 2.0; USB 3.1 / PCIe 2.1 interface
Ethernet	2 x 10/100/1000 Mbps GMAC
Industrial buses	2 x CAN; 4 x SPI
Serial / control	Up to 9 x TWI/I2C, 10 x UART, 30-channel PWM and LEDC
Analog / IR	2-channel LRADC, 24-channel GPADC, 1 x CIR TX and 2 x CIR RX

Product views and applications

	
Front view	Rear view

Typical applications

- Smart commercial displays and digital signage
- Retail payment and point-of-sale terminals
- Smart education and interactive terminals
- Commercial robots and machine-vision systems
- Automotive infotainment and vision-assisted driving
- Industrial control and edge-computing equipment
- Intelligent power-distribution and embedded AI terminals

Integration notes

Thermal design	Validate cooling and heat spreading under sustained CPU, GPU, NPU and video-engine workloads.
Memory population	Confirm the installed DRAM type/capacity and eMMC/NAND configuration for the selected module variant.
Carrier design	Obtain the approved pinout, land pattern, stack-up constraints and power-sequencing requirements before carrier-board layout.
Software	Confirm BSP, drivers, codec licensing and OS image support for the chosen peripheral set.

DOCUMENT NOTE

This English datasheet consolidates only the supplied product images. Exact mechanical dimensions, module pinout, power limits, DRAM/storage population and orderable variants were not stated and have intentionally not been invented. Verify final specifications against approved hardware documentation before design-in or production release.