



# SL1620 Embedded IoT Processor

## PRODUCT BRIEF



The Synaptics SL-Series of embedded processors are highly integrated AI-native Linux® and Android™ systems on chip (SoCs) optimized for multi-modal consumer, enterprise, and industrial IoT workloads with hardware accelerators for edge inferencing, security, video, graphics, and audio. The SL1620 is designed and optimized for embedded applications that require powerful processing, advanced AI capability, and 3D graphics.

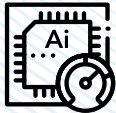
The SL1620 incorporates high-performance compute engines, including a quad-core Arm® Cortex®-A55 CPU subsystem, a high-efficiency, feature-rich GPU for advanced graphics and AI acceleration, superior audio algorithms, and dual displays.

### BENEFITS

- ▶ Multi-modal IoT SoC lowers system cost
- ▶ Powerful GPU for advanced graphics and out-of-the-box AI
- ▶ Pairs with best-in-class Synaptics connectivity
- ▶ Enables fast time to market

### APPLICATIONS

- ▶ Enterprise conferencing
- ▶ Home security gateways
- ▶ Smart speakers and soundbars
- ▶ Industrial control systems
- ▶ Signage, displays, and wearables



AI-NATIVE  
EDGE SOC



LINUX/ANDROID SDK



HIGH  
PERFORMANCE  
PER WATT

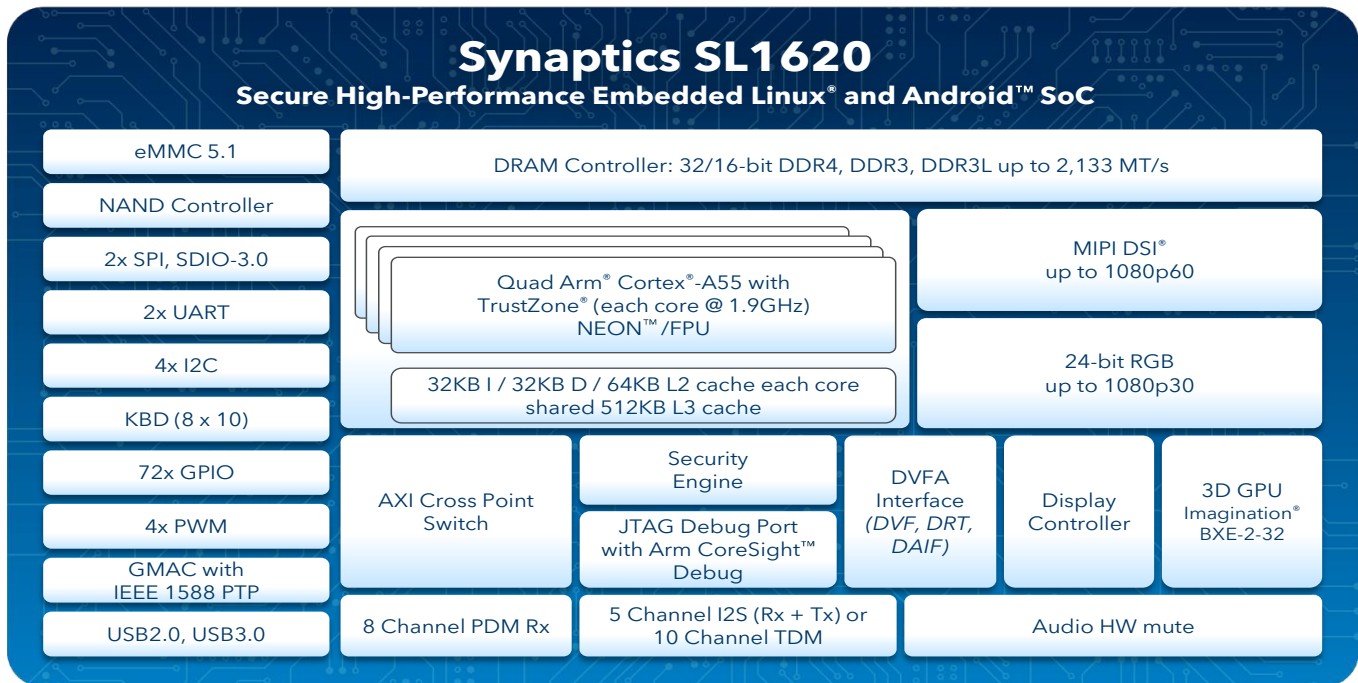
PROVEN SECURITY  
MODEL



### FEATURES

- ▶ Quad-core Arm® Cortex®-A55 processor; up to 1.9 GHz per core
- ▶ DRAM controller: 32/16-bit DDR3 / DDR3L-1866 / DDR4-2133
- ▶ Integrated GPU for 3D/2D graphics with concurrent execution and support for general-purpose compute
- ▶ Audio processing with far-field voice, keyword detection, decompression and post-processing
- ▶ Base Crypto Module (BCM) security processor
- ▶ True random number generator (TRNG)
- ▶ On-chip 32 Kbit OTP
- ▶ eMMC 5.1 controller
- ▶ Dual-display support
- ▶ Gbit networking with IEEE 1588 support
- ▶ SPI, SDIO, UART, USB, GPIO, TDM, I2S

### SYSTEM BLOCK DIAGRAM



### TRADEMARKS

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For more information, reference the [SL1620 Embedded IoT Processor Electrical Specification Datasheet](#) (PN: 505-001428-01).