

# SDT-A53X8

The most efficient and cost-effective edge computing SOM based on Arm® Cortex®-A53 octa-core

## Product Description

The SDT-A53X8 is the most efficient and cost-effective edge computing system-on-module based on 1.4GHz Arm® Cortex®-A53 octa-core. It also provides enough storage space with 1GB DDR3-800 DRAM (2GB optional) and 8GB eMMC flash memory. The module comes with fundamental IoT technologies such as OS, connectivity, security, and cloud service. It supports Mbed Linux OS, Tizen 5.0 Linux, and generic Linux. SDT also provides complete firmware and software libraries to connect with Arm Pelion, Amazon AWS, Microsoft Azure, and Samsung SmartThings.

The SDT-A53X8 is the perfect choice for embedded AI-enabled machine vision devices, while supporting a rich UI/UX capability for camera and display requirements.

Via the DAP Station for SDT-A53X8/A9X4, you can debug and evaluate the module with PC and connect SD-card, display, camera for additional functions.

## Benefits

- Powerful processing with security
- Full-HD multi-format video decoding
- Compact size for portable devices
- Enhanced 3D graphic processor

## Application

- Machine vision
- Speech-to-Text, Text-to-Speech
- Edge computing
- High-performance IoT gateway and device
- Dual-display application

**CPU - Samsung S5P6818**

- Cortex-A53 octa-core, 1.4GHz

**GPU**

- 3D graphics accelerator

**Memory**

- 8GB eMMC 4.5
- 1GB DDR3 (2GB optional)
- 1MB L2 Cache

**OS Support**

- Linux
- Samsung Tizen 5.0 Linux
- Arm Mbed Linux OS

**Security**

- Secure Element
- Arm TrustZone
- Secure boot
- Secure JTAG
- HW crypto accelerator (AES, DES/ TDES, SHA, MD5, PRNG)

**PMIC - NXE2000**

- 12 LDO regulators
- 5 high-efficiency step-down DC/ DC converters

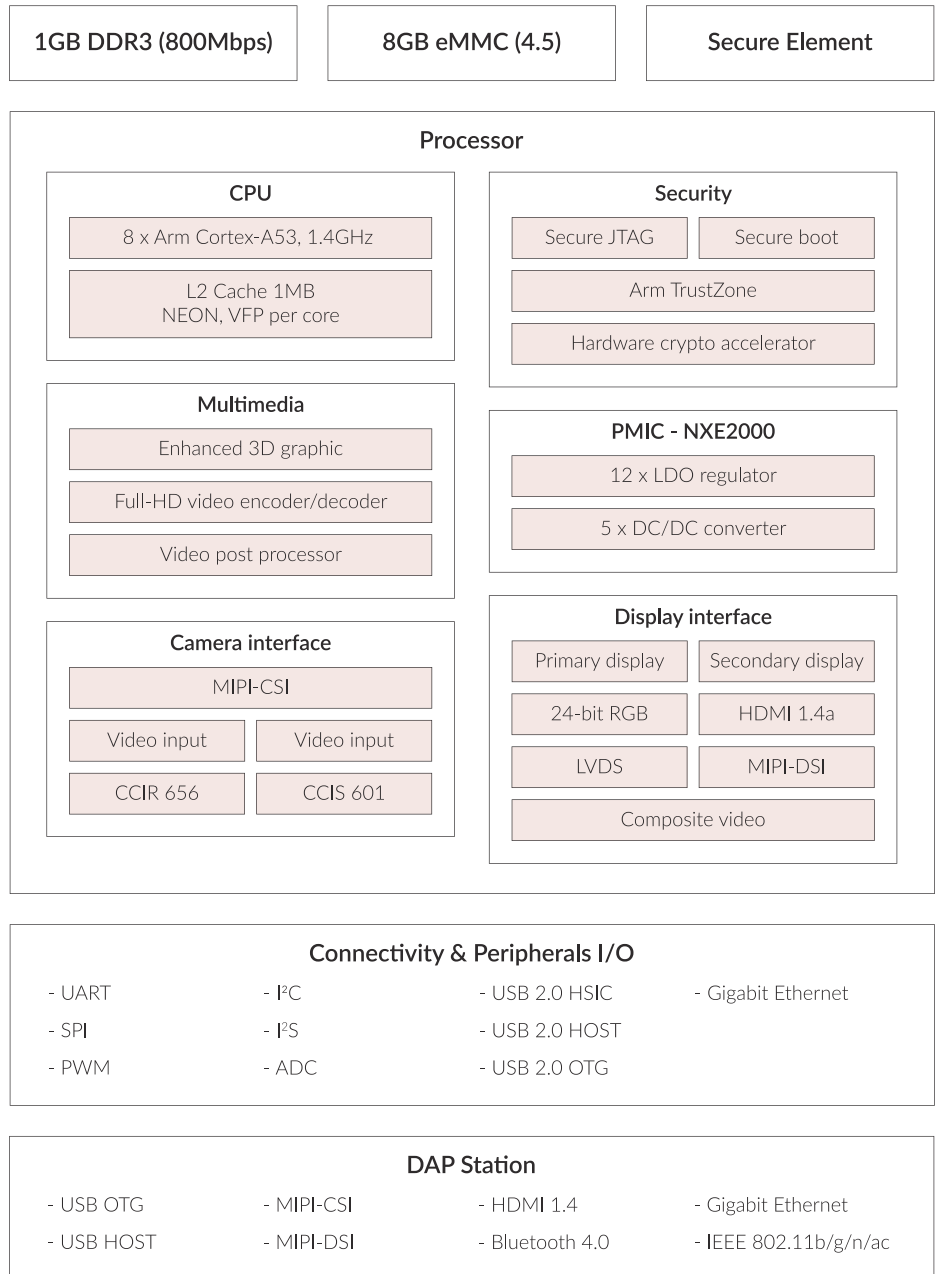
**Connectivity & Peripherals I/O**

- UART, SPI, I<sup>2</sup>C, PWM, ADC, GPIO, SDIO
- RMII/RGMII for 10/100/1000 Base-T Ethernet
- USB 2.0
- 4-lane MIPI-CSI for camera (up to 5M, 1920x1080 @30FPS)
- 4-lane MIPI-DSI for display (up to 1920x1280)
- HDMI 1.4a for display (up to 1920x1080 @60FPS)
- LVDS for display (up to 1280x720 @60FPS)
- I<sup>2</sup>S audio interface

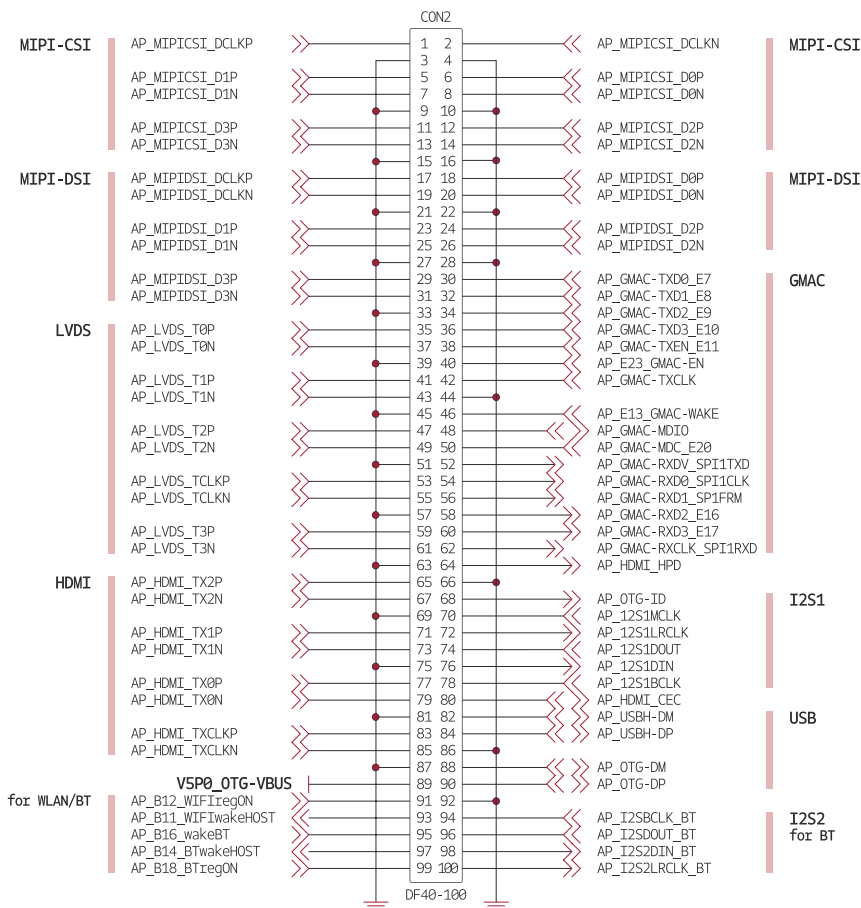
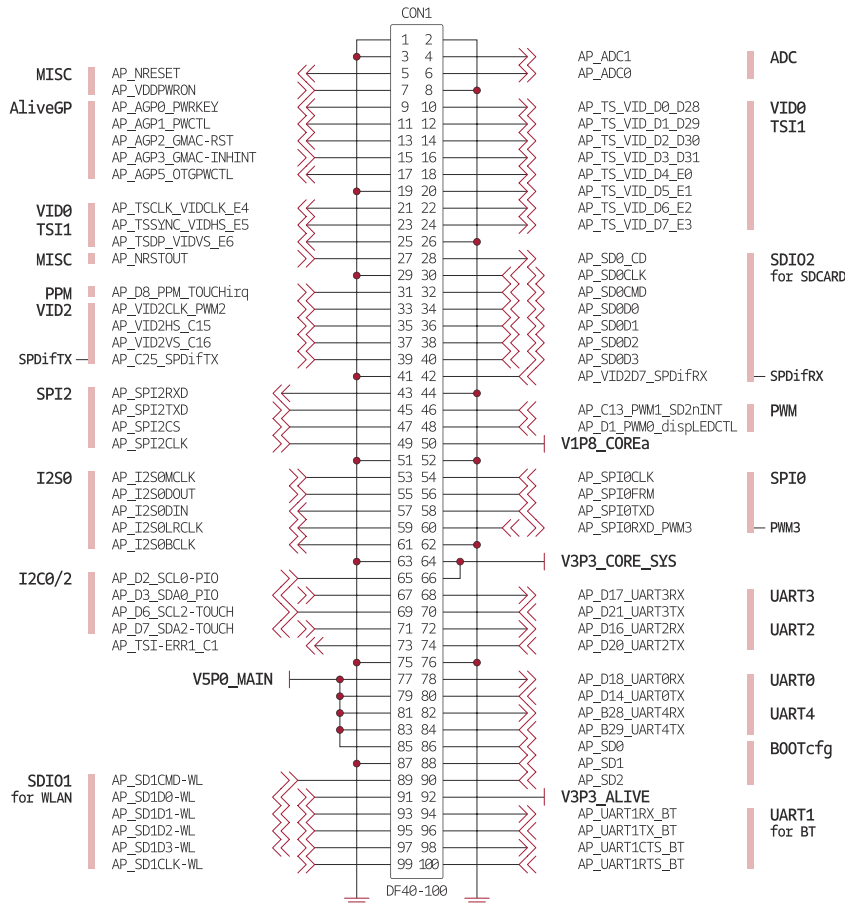
**Environmental**

- Dimension: 45 x 38 x 4.6 (mm)
- Operating temperature: -25~85°C

**Functional Diagram**



# Pinout Diagram



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