SOM1570−A

SOM1570 is a module based on the high-performance dual-core Cortex®-A7 32-bit RISC core STM32MP157A operating at up to 650 MHZ.

Overview

The SOM1570, combines the STM32MP157 multi-core application processor with up to 1GB DDR3L, up to 32MB QSPI flash, up to 64GB eMMC and a 1Gb Ethernet PHY module on a SOM(system on module). STM32MP1 SOC series is based on a heterogeneous single or dual Arm Cortex-A7 core and high-performance Cortex-M4 core architecture, strengthening its ability to support multiple and flexible applications,achieving the best performance and power figures at any time. The Cortex-A7 core provides access to open-source operating systems (Linux/Android) while the Cortex-M4 core leverages the STM32 for real-time OS or baremetal system.

Features

- 32-bit Arm® Cortex®-M4 with FPU/MPU
- 3D GPU: Vivante® - OpenGL® ES 2.0, Up to 26 Mtriangle/s, 133 Mpixel/s
- Security chip ATECC608A
- Hardware Watchdog
- On board Qspi flash
- On board eMMC
- Gagabyte Ethernet
- FMC bus for external device
- Sodimm form fact 69.6x35.5 mm

Order Information

- Minimal configuration P/N: SOM1570-AE-512M
- Full configuration P/N: SOM1570-AE-1024M-8G-Q16M-CRYPTO
- Industry configuration P/N: SOM1570-AI-1024M-8G-Q16M-CRYPTO

P/N template: SOM1570-AI-512M-8G-Q16M-CRYPTO
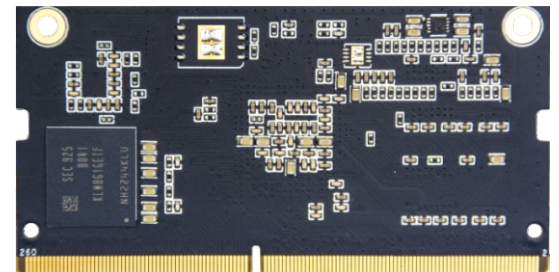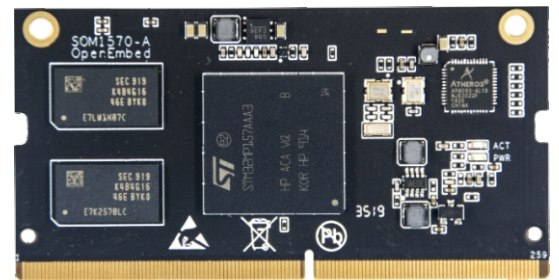Where:
A: hardware edition
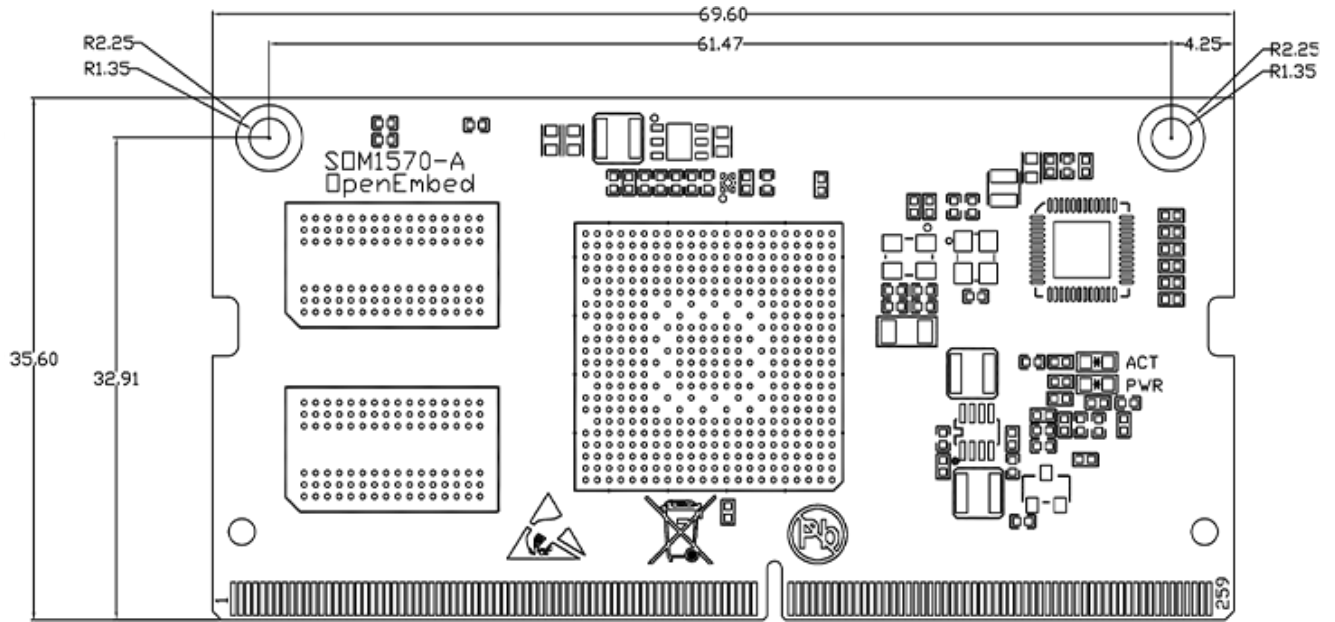I: industry grade(-40 - 85 dgree),E: consumer grade(0-70 dgree)
512M: DDR3L
8G: eMMC
Q16M: QSPI FLASH 16MB or other size
CRYPTO: ATECC608A

Note: Product images are for illustration purposes only and maybe don't match what is currently being shipped.

Dimension Drawing

Specifications

CPU

- Dual Cortex®-A7 cores running at 650 MHz
- 32-Kbyte L1 Instruction cache
- 32-Kbyte L1 Data cache
- 256-Kbyte Level 2 cache
- Cortex®-M4 core running at 209 MHz
- a single-precision floating point unit (FPU)
- a full set of digital signal processor (DSP) instructions
- memory protection unit for enhanced application security

Interfaces

- 10/100/1000M Ethernet with on board Ethernet PHY AR8033
- 4 × UART + 4 × USART (12.5 Mbit/s, ISO7816 interface, LIN, IrDA, SPI slave)
- 6 × SPI (50 Mbit/s, including 3 with full duplex I2S audio class accuracy via internal audio PLL or external clock)
- 4 × SAI (stereo audio: I2S, PDM, SPDIF Tx)
- 2 × SDMMC up to 8-bit (SD / e•MMC™ / SDIO)
- 2 × CAN controllers supporting CAN FD protocol, out of which one supports time-triggered CAN (TTCAN)
- 1 × USB 2.0 high-speed Host+ 1 × USB 2.0 high-speed OTG simultaneously
- LCD-TFT interface
- MIPI® DSI 2 data lanes

Graphics and multimedia

- 3D GPU: Vivante® - OpenGL® ES 2.0 – Up to 26 Mtriangle/s, 133 Mpixel/s
    -up to WXGA (1366 × 768) @60 fps
    -Two layers with programmable colour LUT

- MIPI® DSI 2 data lanes up to 1 GHz each