

SideBridge SOM

System on Module (SOM)



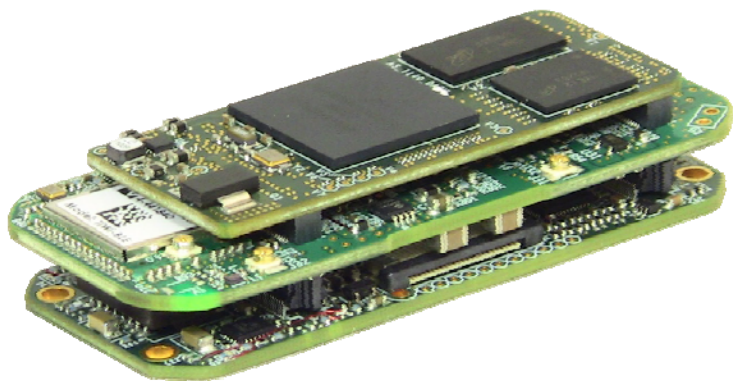
General Description:

The SideBridge System on Module (SOM) is an ultra-compact form factor based on the Freescale Vybrid VF6 MCU dual core, versatile, low-power microprocessor & microcontroller.

Occupying only 2 in², the SideBridge SOM provides a low-cost flexible platform for embedded solutions that require rich connectivity and flexibility of the Vybrid microprocessor device. Carrier board options support a variety of wireless network connectivity and GPS positioning for machine-to-machine (M2M) and Internet of Things (IoT) applications. It is easy to customize the SideBridge SOM for your needs with the Yocto Project-based board support package and the available development platform.

Applications:

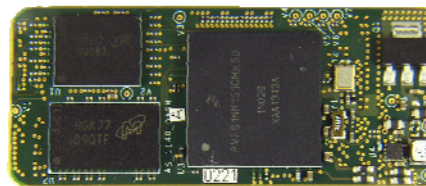
- Connectivity—Radio Networking
- Consumer—Smart Connected Appliances
- Industrial—HDMI, Mobile Robot, Unmanned Vehicles
- Motor Control—Brushless Motor
- IoT Devices—Gateways and Sensors



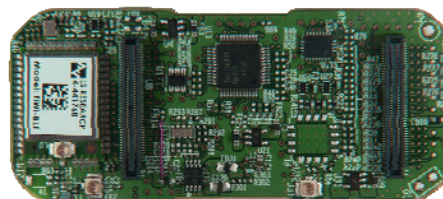
SideBridge SOM (shown on top) connected to a carrier board stack for M2M and IoT applications.

Features and Benefits:

- Compact Vybrid SOM for flexible processing and network connectivity
- Carrier boards with Bluetooth, Wi-Fi, GPS, LAN, USB, display interfaces for M2M and IoT applications
- Complete Board Support Package software (Yocto Project-based) for SOM on each carrier board
- Bridging and routing software for wireless IP-based communications to smartphone
- Dual-core processor ideal for running commercial operating system on one core and RTOS on the other
- Highly secure connectivity (dual tunnel encryption) to smartphones (e.g., Samsung KNOX 2.4)



Featuring a miniature form factor with stacking connectors, the SideBridge SOM is specifically designed to enable the Vybrid processing flexibility for any application targeting industrial automation, system and power management, wired and wireless networking and sensors and other embedded applications.



Optional carrier board with wired/ Made in the USA

SideBridge SOM

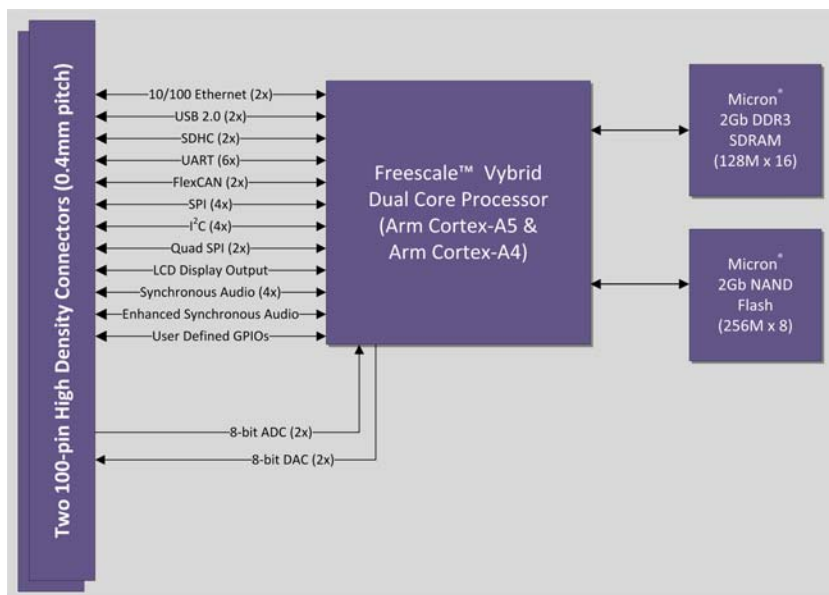
System on Module (SOM)



Technical Specifications:

Processor	Vybrid VF6 MCU dual-core - ARM Cortex-A5 up to 500 MHz - ARM Cortex-M4 up to 167 MHz
Memory	256 MB DDR3 SDRAM 256 MB NAND Flash
Size	23.6 mm x 55mm x 4.3 mm
Interfaces (2 x 100 pin connectors)	2 x 10/100 Ethernet 2 x USB 2.0 Serial (UART, SPI, I2C) Audio (8-bit ADC, 8-bit DAC) LCD display Video camera (digital or analog) User defined GPIOs
Operating System	Linux 3.18 kernel
Board Support Package Software	Yocto Project-based
Carrier Board Options	Bluetooth Smart (v4.0 and Low Energy) Wi-Fi (IEEE 802.11 b/g/n) GPS Interfaces for Ethernet, USB, Serial

Block Diagram:



SOM Development Platform:



Security Features

Hardware Supported

- Secure High Assurance Boot
- AES, DES/3DES, SHA-1, SHA-224, SHA-256 encryption
- Run-time Integrity Checker and Security Controller (incl. Secure RAM and Security Monitor)
- Random Number Generator (NIST SP 800-90)
- Secure JTAG Controller (with electrical fuses)
- Secure real-time clock; Universal Unique ID
- Tamper Detection; ARM TrustZone

Software Supported

- Mandatory Access Control – provided by SELinux

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