aJ-102 Starter Kit
aJ-102SK

Overview

The aJile aJ-102SK is a compact and versatile Starter Kit for the evaluation of aJile's aJ-102 SOC that directly executes both Java Virtual Machine bytecode instructions and real-time Java threading primitives. The aJ-102SK is designed with a typical I/O configuration required for M2M network edge devices.

The aJ-102SK, bundled with the aJile RTOS, an optimizing application builder (JEMBuiler), and a debugging tool, provides a complete silicon-based solution for the JME platform. Using commercial Java IDEs, application developers can create real-time applications in 100% Java, with the performance and memory efficiency of systems programmed in C and assembly. The aJ-102SK allows users to evaluate, prototype, and create an aJ-102-based network edge device for M2M applications.

Features

Processor
- aJile network direct execution Java processor, aJ-102

Memory configuration
- 32 MB SDRAM
- 32 MB NAND Flash

10/100 base-T Ethernet port
- RJ-45 connector

Serial channel
- RS-232
- Full modem interface
- DB-9 connector

USB 2.0 host port
- Type A connector

Secure digital card slot (SD/SDIO)

Real-time clock with a battery backup

Zigbee Module (optional)
- XBee

Status LEDs
- Ethernet port
- USB port
- SD slot
- Zigbee coordinator
- 3.3 V power on

Prototype area
- Space for user's circuitry
- 3.3V and GND
- UART2 / IrDA interface
- I^2C interface
- SPI interface
- Timer/counter
- PWM
- XBee digital I/O and analog input

Header (J1)
- JTAG debug interface
- 5V power supply via USB host device
- Debug serial channel (UART3)

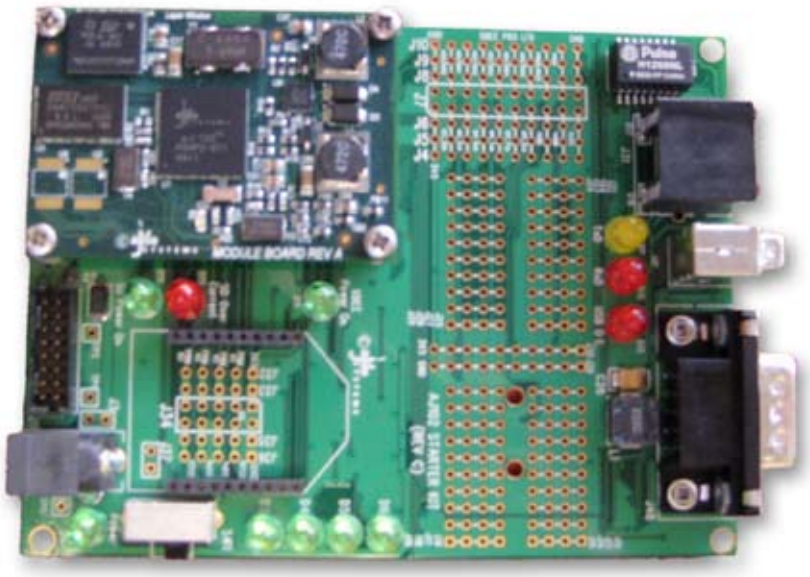

Figure 1. Simplified Block Diagram of aJ-102SK

System Development Support

The aJ-102SK, bundled with the aJile RTOS, an optimizing application builder (JEMBuilder), debugging tools and an evaluation board provides a complete silicon-based solution for the JME platform. The key components are:

aJile RTOS

The aJile RTOS is implemented entirely in Java as illustrated in figure 2. In addition, the aJile Multiple JVM (MJM) enables multiple applications to execute concurrently and independently in a deterministic, timesliced schedule. This allows hard real-time applications to run independently and safely co-exist with networked applications.

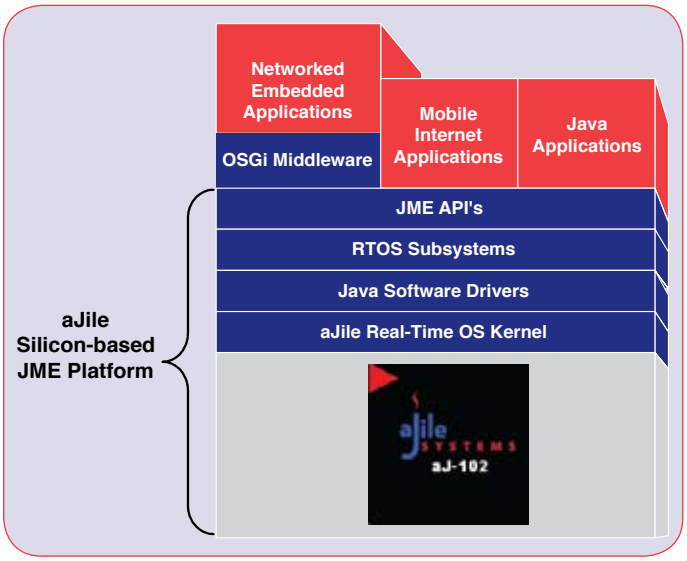

Figure 2. The Silicon-based JME Platform

Development Tools

The development environment allows the use of any off-the-shelf IDE that produces Java standard class files, such as Eclipse or Netbeans. It consists of the following key components:

- **Optimizing Linker/Application Builder (JEMBuilder)**
- **Application Debugging Tools**
  - aJ-102 Starter Kit
  - aJ-102SK board
  - JTag cable
  - JTAG-to-USB converter
  - Optional Zigbee module and 5V power supply
  - Schematics and gerber file can be downloaded via aJile website

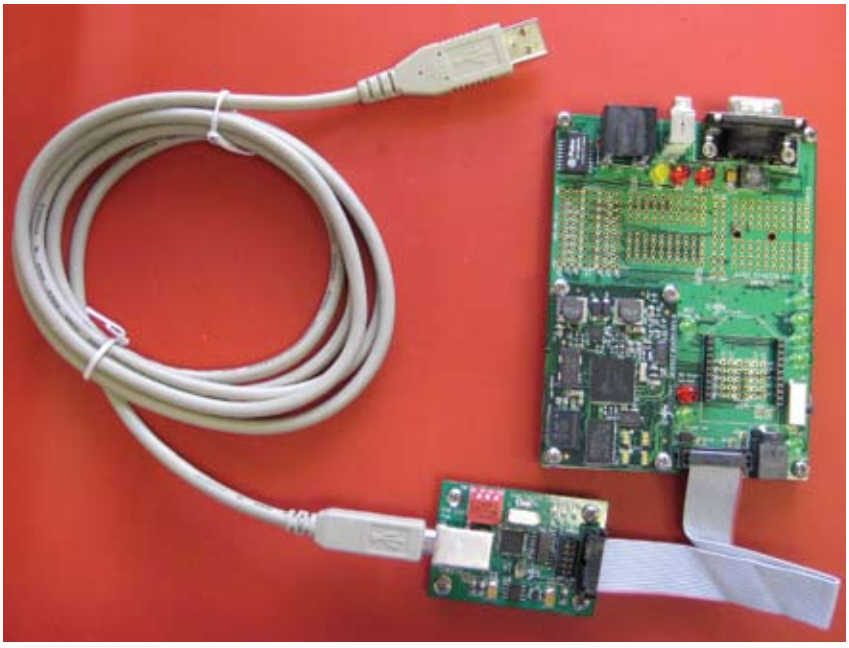

Figure 3. aJ-102 Starter Kit

aJile SYSTEMS

920 Saratoga Ave., Ste.209
San Jose, CA 95129

Tel: 408-557-0829
Fax: 408-557-8279

Email:info@ajile.com
www.ajile.com

aJ-102 Starter Kit