

# ATSAMA5D27-WLSOM1 Wireless System-On-Module

Unique Total System Solution for Smart, Connected and Secure Designs

## Summary

Microchip's SAMA5D27 Wireless SOM1 (WLSOM1) is a small single-sided System-On-Module (SOM) based on the high-performance 32-bit Arm<sup>®</sup> Cortex<sup>®</sup>-A5 processor-based MPU + 2 Gbit LPDDR2 System in Package, the WILC3000 Wi-Fi<sup>®</sup> and Bluetooth<sup>®</sup> module and the MCP16502 Power Management IC. The ATSAMA5D27-WLSOM1 is built on a common set of proven Microchip components to reduce time to market by simplifying hardware design and software development. Design rules of the main application board are relaxed, reducing its complexity and cost. The ATSAMA5D27-WLSOM1 is delivered with a free Linux<sup>®</sup> distribution.



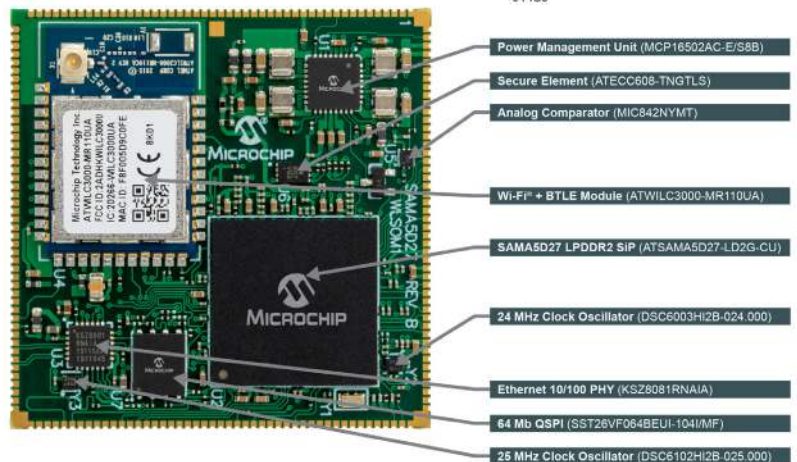
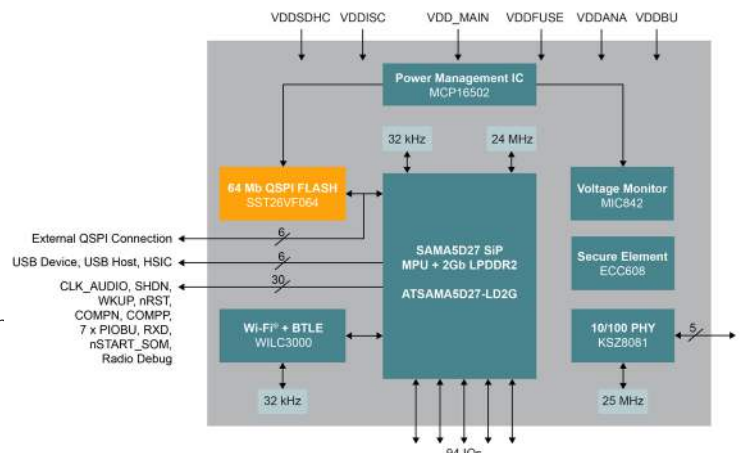
## Key Features

- ATSAMA5D27C-LD2G System-in-Package (SiP)
- ATWILC3000-MR110UA Wi-Fi/Bluetooth Module
- KSZ8081 10/100 Ethernet PHY
- ATECC608A-TNGTLS Secure Element
- MCP16502 Power Management IC
- SST26VF064 64 Mb Serial Quad I/O Flash Memory
- MEMS Oscillators
- 94 I/Os
- U.FL connector for antenna to ease board placement
- Dimensions (W x L x H): 40.8 mm x 40.8 mm x 3.287 mm
- Operating temperature range: -40°C to 85°C
- FCC-Certified and Red-Certified Radio Module

## Key Applications

- IoT applications
- Smart appliances
- Healthcare
- Human Machine Interfaces (HMI)
- Access control panels
- Home automation
- Industrial control and automation

## Microchip Total System Solution






## Rich Development Ecosystem

- Free mainline Linux distribution
- Ensemble Graphics Toolkit
  - Free-to-use, royalty-free graphical library for Linux optimized for Microchip MPUs
- Full access to hardware design files (schematics, gerber files and bill of materials)
- Treelink online tool for selecting Microchip’s analog and interface products
- PowerCheck, MPUCheck and WirelessCheck design check online review services
  - Exclusive and personalized value-added service at no charge to customer
  - Review of design schematic, PCB layout and PCB routing



## ATSAMA5D27-WLSOM1 Tools Guide

Tool	Description	Part Number	
<b>ATSAMA5D27-WLSOM1-EK1 Evaluation Kit</b>	<p>The ATSAMA5D27-WLSOM1-EK1 is ideal for evaluating and prototyping with the SAMA5D27-WLSOM1, Wireless System on Module and the SAMA5D27C-LD2G, LPDDR2 System in Package.</p> <p>The ATSAMA5D27-WLSOM1 Module integrates a 2 Gbit LPDDR2 SDRAM, a Wi-Fi®/Bluetooth® module, a Secure Element device, a Power Management IC (PMIC), a QSPI memory, a 10/100 Mbps Ethernet PHY. 94 GPIO pins are provided by the SOM for general use in the system.</p> <p>The baseboard features a wide range of peripherals, as well as a user interface. Connectors and expansion headers allows for easy customization and quick access to leading edge embedded features such as MikroElektronica Click Boards™.</p>	DM320117	
<b>WVGA LCD Display Module</b>	High-Performance WVGA capacity touch LCD Display Module with maXTouch® Technology.	AC320005-5	
<b>J-32 Debug Probe</b>	The J-32 Debug Probe Debugger/Programmer provides affordable, fast and easy debugging and programming	DV164232	

## Ready-to-go Cloud Gateway With Pre-Provisioning

With Microchip Wireless SOM Module, Amazon Web Services (AWS) or Microsoft Azure, you can securely connect the world of IoT. The ATSAMA5D27-WLSOM1 is an ideal platform for IoT Edge control, data collection and secure transfer to the cloud and local inference processing. Processing data and acted upon (AI) locally without sending data to the cloud continuously, lowers the cloud solution cost and reduces the impact of an intermittent connection to the Cloud.

Cloud Authentication is facilitated by the ATECC608A-TNGTLS which is part of Microchip’s Trust&Go platform offering a pre-configured and pre-provisioned secure element.



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