



M2-SQ8A-xx – Snapdragon SD820 based SMARC Module

Using the SMARC standard 2.0 for embedded modules, Tessolve Embedded Systems introduces ultra-low power ARM COMs (Computer-On-Module) based on the Qualcomm SnapdragonSD820 Family which is powered by 64-bit ARMv8-compliant quad-core application CPU. Tessolve leverages its vast experience of product development in embedded multimedia systems for professional applications and systems combining audio/video, graphics and HMI.

Target applications for MAGIK2 ARM COMs are HMI units for machines and vehicles, Surround-View Systems, Industrial Tablets, Surveillance Recording Systems, High End Home Appliances and Multimedia/ Infotainment

applications in avionics and transportation environment.

The modules come **with a complete software suite with unique differentiators (details below)**, including Device Drivers, BSP and support for Android 7.0.

Tessolve delivers application specific carrier boards along with reference software for related system solutions in the area of Multimedia/ Infotainment applications, video surveillance and HMI units like tablets or similar.

Product development made easy, with the industry leading complete system solution packages from Tessolve, is a clear differentiator!

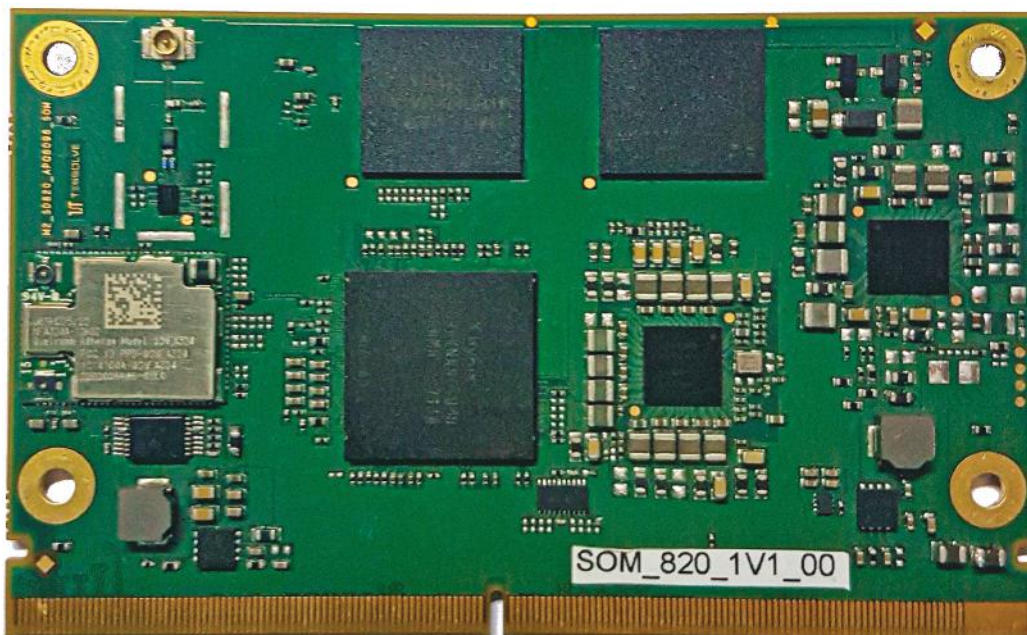


Figure 1:
SD820 SOM



The M2-SQ8A-xx modules are available in 64Bit Quad Core CPU with wide variety of IO feature sets.

Technical Information

Module Name	M2-SQ8-4Q
Processor	<ul style="list-style-type: none"> • QUALCOMM Snapdragon SD820 (APQ8096) • ARMv8 CPU 64 Bit • Quad core • 2 high-performance Kryo cores –Gold cluster (up to 2.15 GHz target) • 2 low-power Kryo cores –Silver cluster (up to 1.6 GHz target)
Graphics	<ul style="list-style-type: none"> • Adreno 530 3D graphics accelerator • Supports 64 bit addressing with 624 MHz
Memory	<ul style="list-style-type: none"> • LPDDR4-1866, 4GB (x64 bits) • Dual Channel PoP high-speed memory
Flash	<ul style="list-style-type: none"> • eMMC 5.1 (Optional)
UFC	<ul style="list-style-type: none"> • 64GB (Boot and Storage)
Display Interface	<ul style="list-style-type: none"> • 2x DSI DPHY 1.2(4-lane) • 1x HDMI 2.0(4k 60)
Camera	<ul style="list-style-type: none"> • 2x MIPI CSI DPHY1.2, maximum 8 Gbps (4 lane)
Audio	<ul style="list-style-type: none"> • On board Audio Codec
Video	<ul style="list-style-type: none"> • Encode up to 4K@30 • Decode up to 4K@60
SD/MMC	<ul style="list-style-type: none"> • 1x SDIO/MMC3.0(4 bits)
WIFI	<ul style="list-style-type: none"> • Wi-Fi 802.11a/b/g/n/ac • BTv4.2, BLE
USB	<ul style="list-style-type: none"> • 1x USB 2.0 OTG • 1x USB 3.0
High Speed Serial	<ul style="list-style-type: none"> • 2x PCIe 2.1 • 4x I2C • 2x SPI
Other Interfaces	<ul style="list-style-type: none"> • 1x UART • 2x UART with Flow Control • 12x GPIO
Operating Voltage Range	<ul style="list-style-type: none"> • 5V
Temperature Range	<ul style="list-style-type: none"> • - 20° C to + 85° C
Form Factor	<ul style="list-style-type: none"> • 82 mm x 50 mm



RoHS Compliant

Module Architecture Diagram

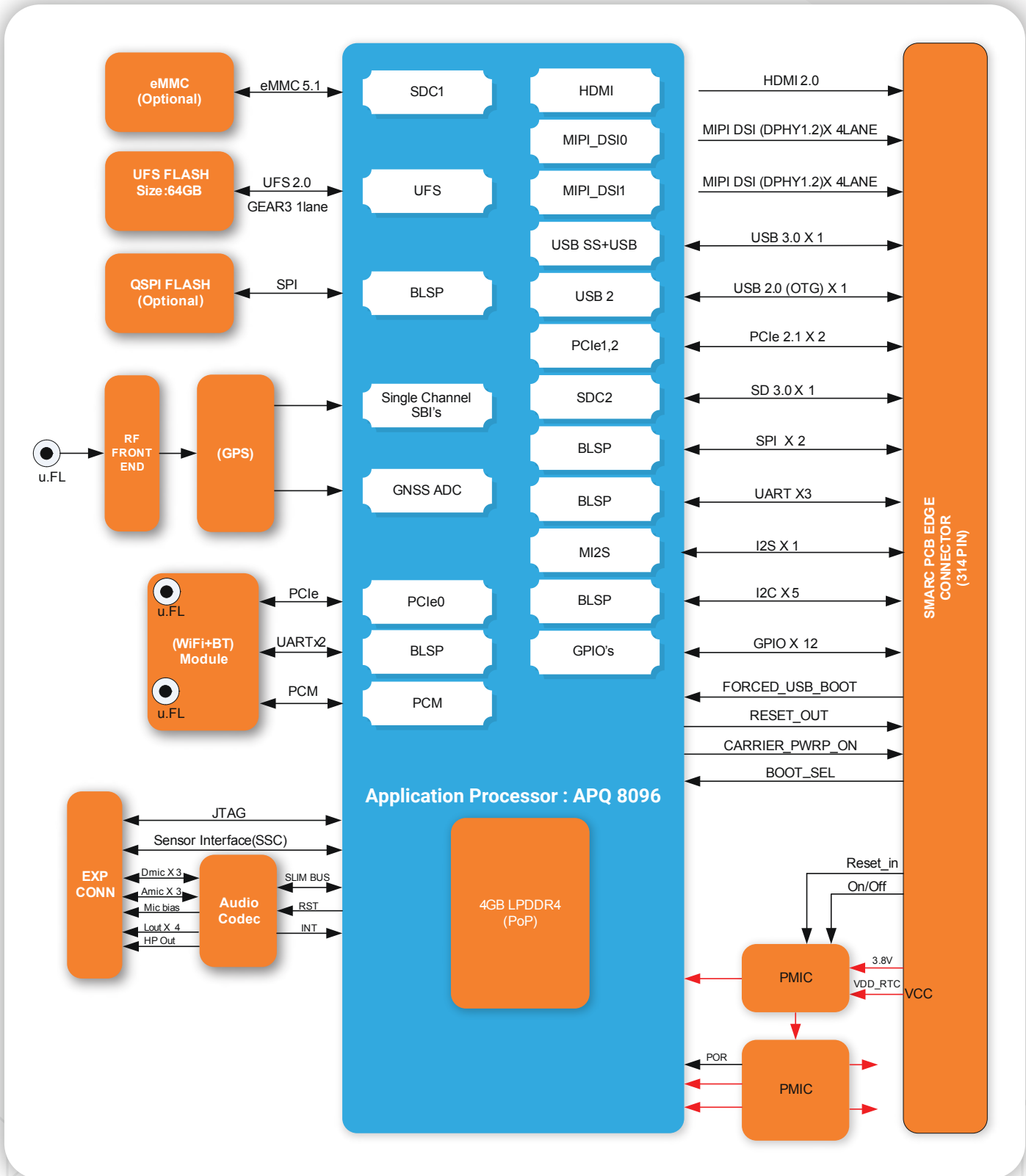


Figure 2: SD820

Included Software Packages – Tessolve Differentiators!

Tessolve provides ready to use SDK for evaluation and application development.
The section below lists high level details on the included software packages.

- ✓ **Board Support Packages (BSP) available for Android**
- ✓ **Linux Kernel Version: 3.10**
- ✓ **Operating System: Android (Nougat 7.1)**

Ordering Information

Article	Part No**.	Description
MAGIK 2 SMARC Module	M2-SQ8A-4Q2G-4G-64G-C-S	SD820 Quad, 2.15GHz, 4GB RAM, 64GBytes UFS, Commercial Grade, 80 mm x 52 mm

**Contact Tessolve for other possible memory and temperature configurations

Sales Offices

India

Tessolve Semiconductors Pvt. Ltd
Indiquebe South Island,
Sy.No.32, Marenahalli 2nd Phase,
JP Nagar, 24th Main, Ward No.177,
Bangalore 560 078, India
Phone: +91-80-66995800
Email: sales@tessolve.com

France & Europe

Tessolve Embedded Systems Group France
Contact David Mudard
Phone: +33 (0)42-829-0800 / +33 (0)63-730-3732
Email: david.mudard@tessolve.com

Singapore

Tessolve Engineering Services Pte Ltd.,
Blk 20, Woodlands Link, #06/20
Singapore 738733
Tel : +65 6297-9613
Email: sales.sg@tessolve.com

USA

Tessolve DTS Inc
226 Airport Parkway, Suite 300,
San Jose, CA 95110
Phone No: +1 408-865-0873
Email: sales@tessolve.com

For inquiries from all other countries / regions, please contact our HQ in India