



M2-SQ2-xx - Snapdragon based SMARC Module

Using the new SMARC standard 2.0 for embedded modules, Tessolve Embedded Systems introduces ultra-low power ARM COMs (Computer-On-Module) based on the Qualcomm Snapdragon Family which is powered by ARM Cortex-A7 quad-core application CPU. Tessolve leverages its vast experience of product development in the area of 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, Industrial Tablets, and Multimedia/ Infotainment applications in avionics or transportation environment.

The modules come **with a complete software suite with unique differentiators (details below)**, including Device Drivers, BSP and support for Android 7.1.

Tessolve delivers application specific carrier boards along with reference software for related system solutions in the area of HMI units like tablets or similar.

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

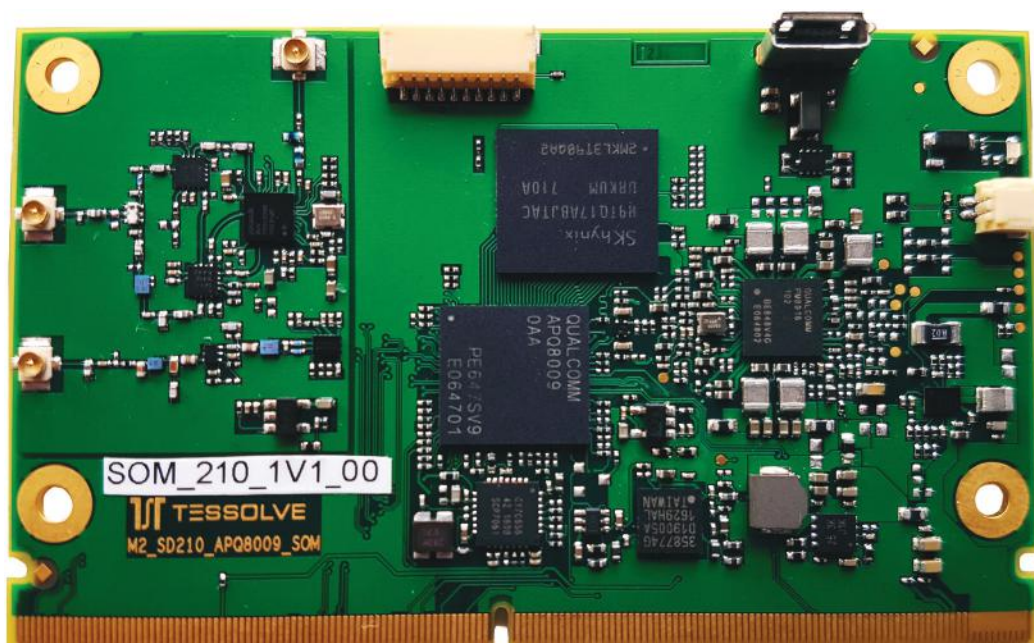


Figure 1:
SD210 SOM

The M2-SQ2-xx modules are available in Quad Core CPU with wide variety of IO feature sets.

Technical Information

Module Name	M2-SQ2-4Q
	QUALCOMM Snapdragon SD210
Processor	<ul style="list-style-type: none"> • ARM Cortex-A7 • Quad core • Upto 1.3 GHz
Graphics	<ul style="list-style-type: none"> • Adreno 304 GPU; 3D graphics accelerator (up to 409.6 MHz)
Memory	<ul style="list-style-type: none"> • LPDDR3, upto 2GB (x32 bits)
Flash	<ul style="list-style-type: none"> • 16GB eMMC 4.5
Display Interface	<ul style="list-style-type: none"> • 1x MIPI - DSI
Camera	<ul style="list-style-type: none"> • 1x MIPI CSI (2 lane) • 1x MIPI CSI (1 lane)
Audio	<ul style="list-style-type: none"> • 1x I2S
SD/MMC	<ul style="list-style-type: none"> • 1x SDIO/MMC(4 bits)
Wi-Fi/BT/FM	<ul style="list-style-type: none"> • Wi-Fi 802.11 a/b/g/n • BT V4.0 LE • FM receive
GNSS	<ul style="list-style-type: none"> • GPS, GLONAS
USB	<ul style="list-style-type: none"> • 1x USB 2.0 OTG
Other Interfaces	<ul style="list-style-type: none"> • 3x I2C • 1x SPI • 1x UART • 12x GPIO
Operating Voltage Range	<ul style="list-style-type: none"> • 5V
Temperature Range	<ul style="list-style-type: none"> • - 30° C to + 85° C
Form Factor	<ul style="list-style-type: none"> • 82 mm x 50 mm



RoHS Compliant

*Default supported flash capacity on the module is 16GB. Contact Tessolve for different memory capacity configuration.

Module Architecture Diagram

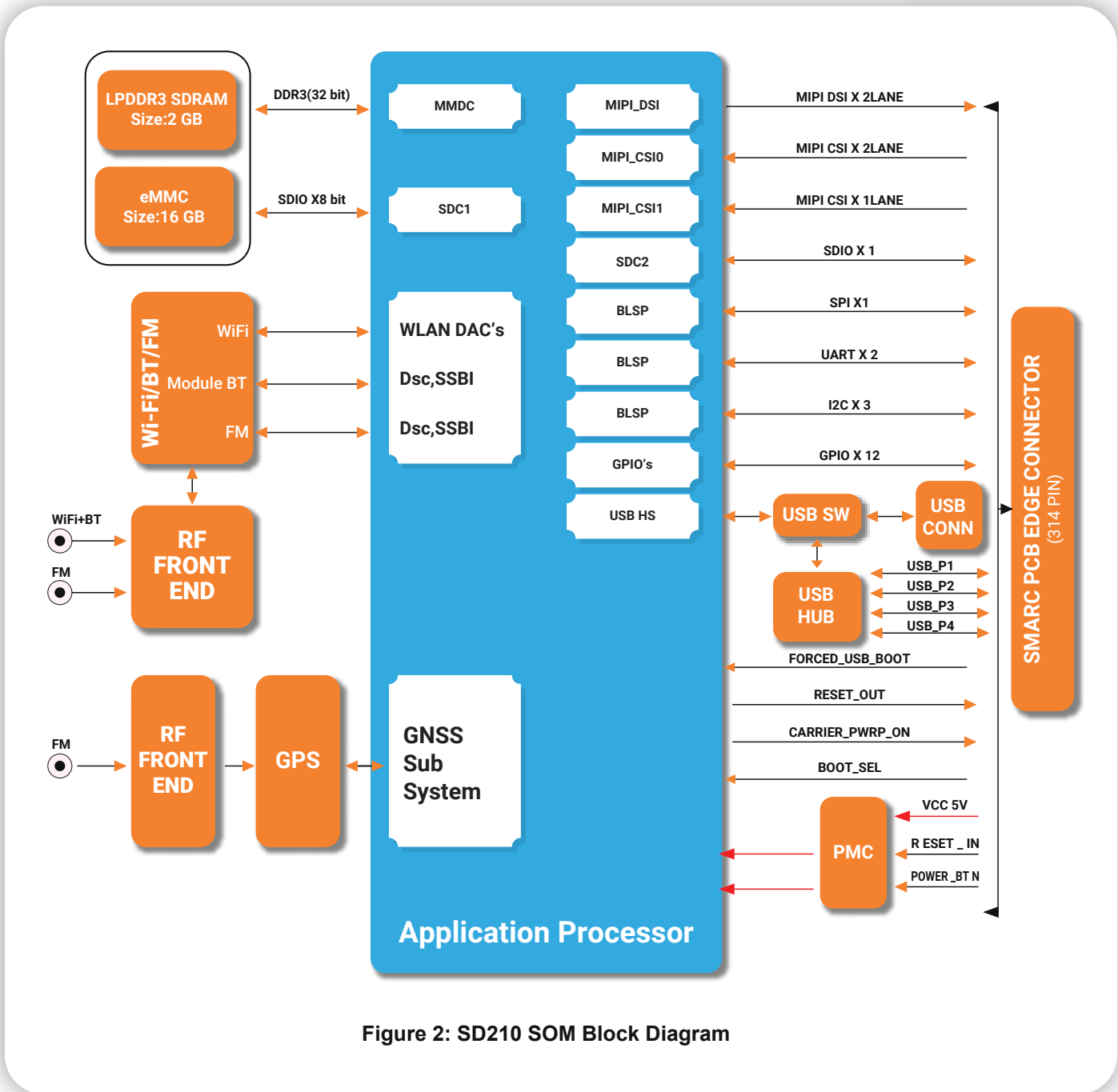


Figure 2: SD210 SOM Block Diagram



SD210 module and carrierboard snapshot

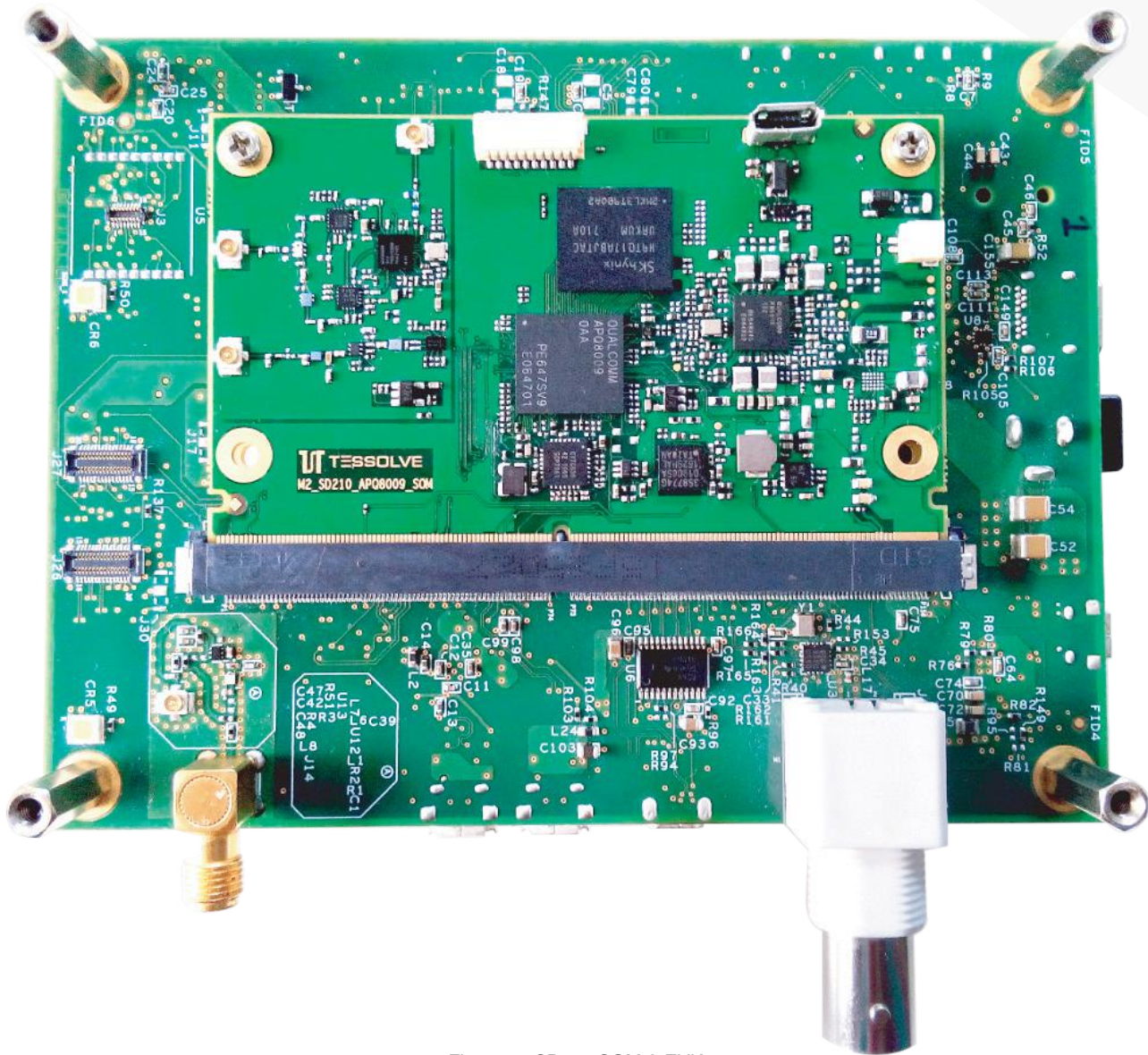


Figure 3: SD210 SOM & EVK

The M2-SQ2A-xx EVK features are listed below.

Technical Information

EVK Name	M2-SQ2A-CB-EVA
SD/MMC	• 1 x SDIO 4 bits
Display Interfaces	• 1 x MIPI DSI
Camera Interface	• 2x MIPI CSI
GNSS	• 1 x GPS, GLONASS, COMPASS
Peripheral Interfaces	<ul style="list-style-type: none"> • 2x SPI • 3x I2C • 1x UART • 1x USB 2.0 OTG
FM	• 1 x FM Receiver
Sensors	<ul style="list-style-type: none"> • MAG, ACC, GYRO SENSOR • Sensor tile module
OS Support	• Android (Nougat 7.1)
Form Factor	• 120mmx 90mm
Temperature Range	• - 30° C to + 85° C



RoHS Compliant

*Default supported flash capacity on the module is 16GB. Contact Tessolve for different memory capacity configuration.

EVK Architecture Diagram

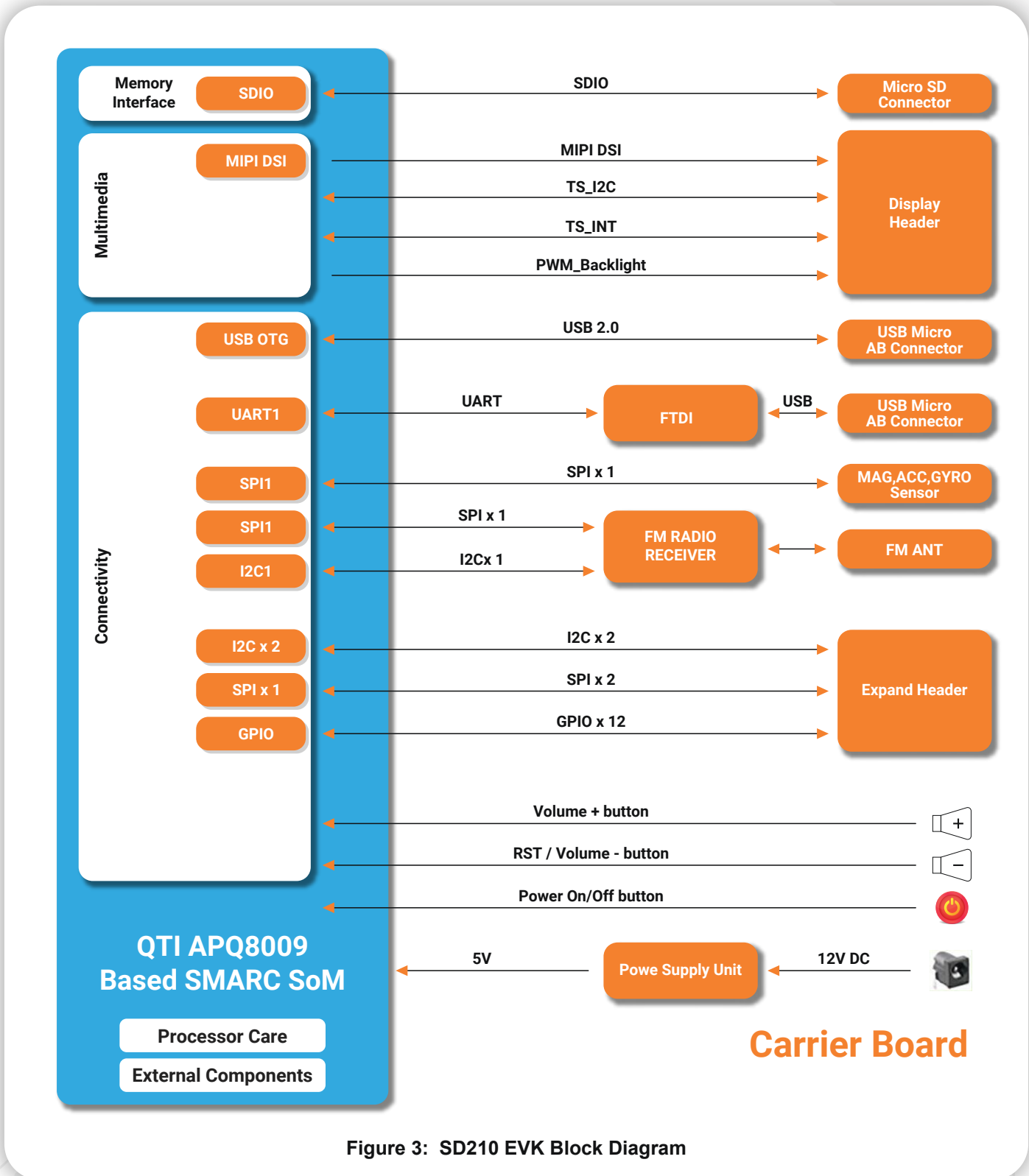


Figure 3: SD210 EVK Block Diagram

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-SQ2A-4Q1G-2G-16G-C-S	SD210 Quad, 1.3GHz, 2GB RAM, 16GBytes Flash, Commercial Grade, 80 mm x 52 mm
MAGIK 2 SMARC Module EVK	M2-SQ2A-CB-EVA-BOARD	Carrier Board For 210 Module Evaluation & Software Development

**Contact Tessolve for other possible memory and temperature configurations

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