

## Product Brief

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### M2-SM8M-xx - i.MX8M based SMARC Module

TESSOLVE EMBEDDED SYSTEMS introduces an ultra-low power ARM Core based SOM (System-On-Module) powered by NXP™ i.MX8M Family processor which has a quad ARM Cortex A53 CPUs based on SMARC standard 2.0 for embedded modules. 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, Multimedia streaming devices, Industrial

Tablets, Medical Systems, High End Home Appliances and Multimedia/ Infotainment applications in avionics and transportation environment.

These modules are offered **with a complete software suite (details below)**, including Device Drivers, BSP and support for Linux & Android.

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



Figure 1: i.MX8M SOM

The M2-SM8M-xx module is available in Quad Core CPU with wide variety of IO feature sets.

<b>Technical Information</b>	
<b>Module Name</b>	<b>M2-SM8M-4Q</b>
<b>Processor</b>	NXP i.MX8M <ul style="list-style-type: none"> <li>ARM Cortex A53 CPU (Quad core)</li> <li>Supports up to 1.5GHz</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>4Kp60 decode</li> <li>2D and 3D Graphics Accelerator</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>LPDDR4 (x32 bits)</li> <li>512MB to 4GB variants</li> </ul>
<b>Flash</b>	<ul style="list-style-type: none"> <li>4GB to 64GB eMMC*</li> </ul>
<b>Display Interface</b>	<ul style="list-style-type: none"> <li>DSI 4 lane</li> <li>HDMI 2.0</li> </ul>
<b>Camera</b>	<ul style="list-style-type: none"> <li>1x Serial Camera (4 lane)</li> <li>1x Serial Camera (2 lane)</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>2x I2S</li> <li>1x SPDIF</li> </ul>
<b>SD/MMC</b>	<ul style="list-style-type: none"> <li>1x SDIO (4 bits)</li> </ul>
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>1x Gigabit</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>2x USB 3.0</li> </ul>
<b>High Speed Serial</b>	<ul style="list-style-type: none"> <li>1x PCIe 2.0</li> </ul>
<b>Other Interfaces</b>	<ul style="list-style-type: none"> <li>3x I2C</li> <li>1x SPI</li> <li>2x UART</li> <li>1x UART with Flow Control</li> <li>3x PWM</li> <li>12x GPIO</li> </ul>
<b>Operating Voltage Range</b>	3.3V / 5V
<b>Temperature Range</b>	Industrial and Commercial
<b>Form Factor</b>	SMARC - 82 mm X 50 mm

\*Modules are offered with a default flash size of 16GB. Contact TESSOLVE for different memory capacity configurations.

RoHS



RoHS Compliant

Module Architecture Diagram

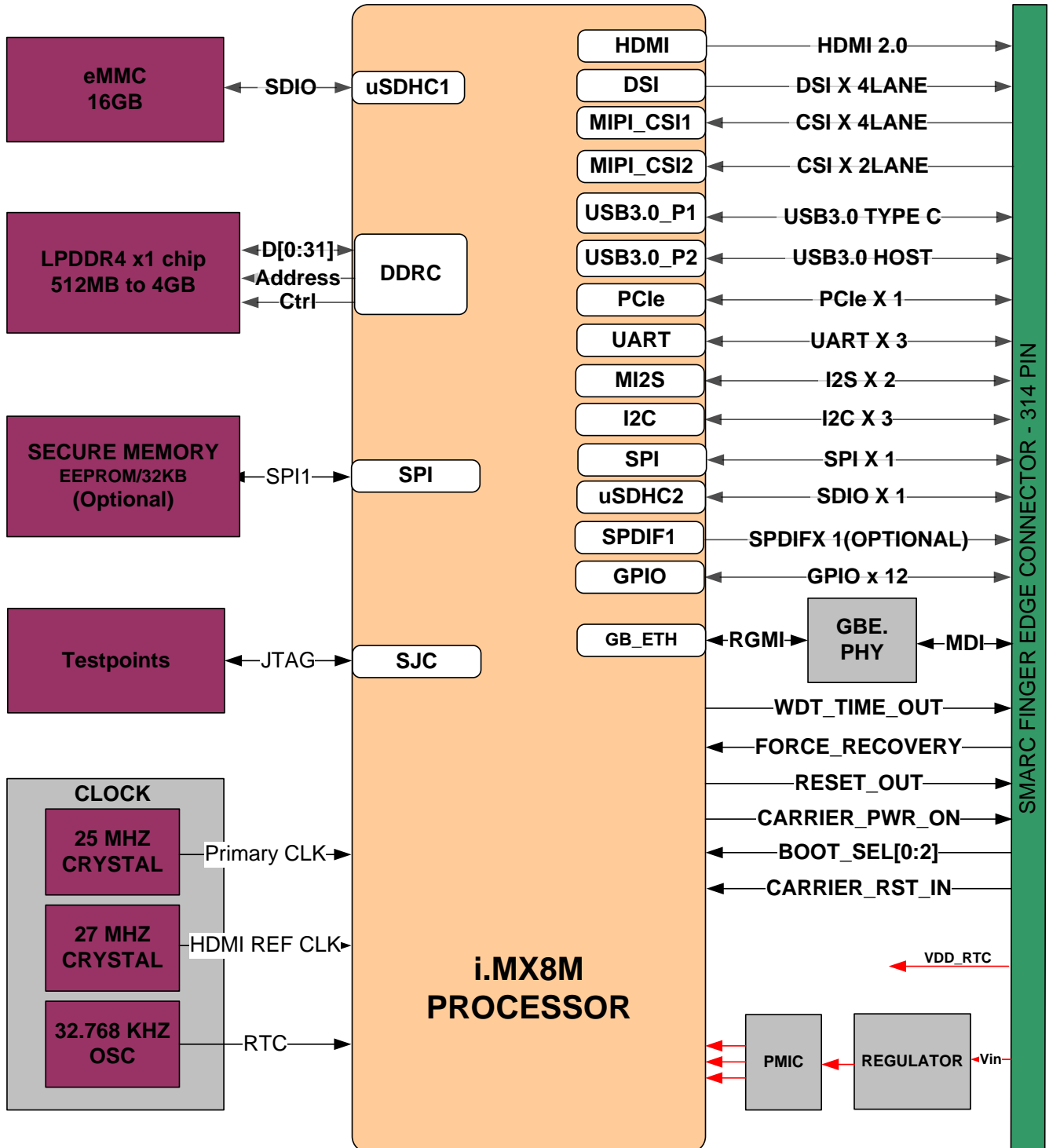


Figure 2: i.MX8M SOM Block Diagram

### Software Package

TESSOLVE provides ready to use SDK (Software Development Kit) for evaluation and application development. The section below lists high level details on the included software packages. For complete details please refer TESSOLVE Linux and TESSOLVE Android SDK datasheets.

- ✓ **Board Support Packages (BSP) available for Linux / Android**
- ✓ **Operating System Options**
  - Linux (Kernel 4.9.88)
  - Android O (Oreo) 8.1.0 (Kernel 4.9.78)

### Ordering Information

Article	Part No**.	Description
MAGIK 2 SMARC Module	M2-SM8M-4Q1G5-4G-16G-IT-S	i.MX8M Quad, 1.5GHz, 4GB RAM, 16GB Flash, Industrial Grade, 80mmx52mm

\*\*Contact TESSOLVE for other possible memory and temperature configurations

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## *Sales Offices*

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