



## M2-Q7M6-xx - i.MX6 based QSeven Modules

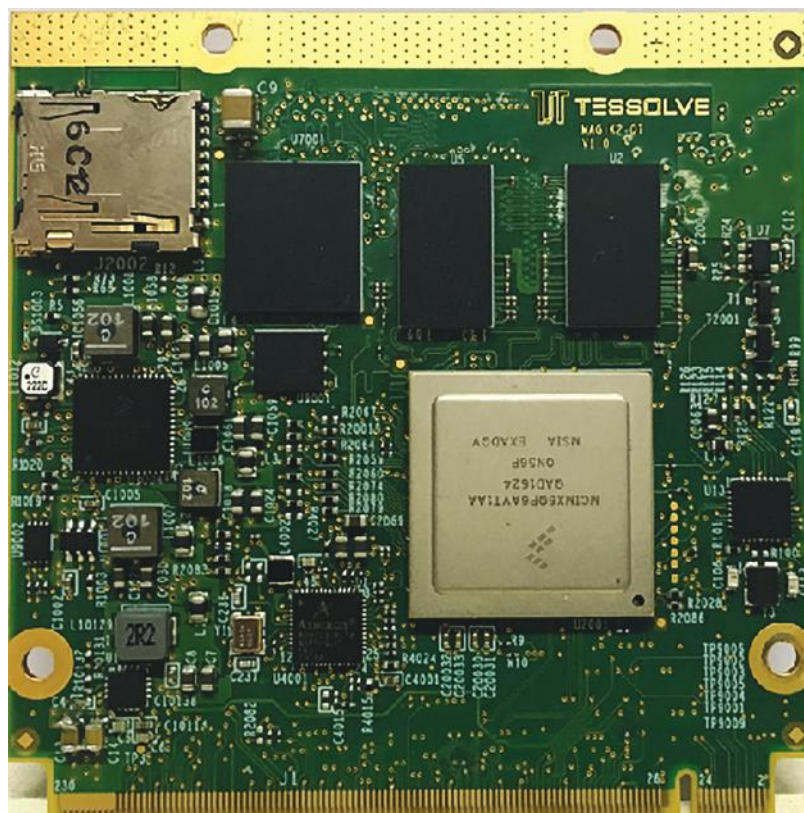
Using the QSeven standard for embedded modules, Tessolve Embedded Systems introduces a series of ultra-low power ARM COMs (Computer-On-Module) based on the NXP™ i.MX Family which is powered by ARM Cortex A9 CPUs. Tessolve leverages its vast experience of product development in the area of embedded multimedia systems for professional applications and systems combining audio/video, graphics and HMI.

Target applications for MAGIK2 ARM COMs are e.g. HMI units for machines and vehicles, Surround-View Systems, Industrial Tablets, Medical Systems, High End Home Appliances 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 various OS and selectable application specific HMI libraries.

Tessolve delivers application specific carrier boards along with reference software for related system solutions in the area of 3D-surround-view, Handheld 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!



The QSeven modules are available in different flavors with Solo / Dual Lite / Dual / Dual plus Core or Quad /Quad plus Core CPUs with wide variety of IO feature sets.

Module Name	M2-SM6-1S/D2L	M2-SM6-2D/2D+/4Q/4Q+
<b>Processor</b>	<b>NXP i.MX6</b> <ul style="list-style-type: none"> <li>• ARM Cortex A9 CPU</li> <li>• Solo / Dual Lite</li> <li>• Supports 800MHz, 1.0GHz</li> <li>• NEON SIMD media accelerator</li> </ul>	<b>NXP i.MX6</b> <ul style="list-style-type: none"> <li>• ARM Cortex A9 CPU</li> <li>• Dual, Dual Plus / Quad, Quad Plus</li> <li>• Supports 800MHz, 1.0GHz, 1.2GHz</li> <li>• NEON SIMD media accelerator</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>• HD 1080p encode and decode</li> <li>• 2D and 3D Graphics Accelerator</li> </ul>	<ul style="list-style-type: none"> <li>• HD 1080p encode and decode</li> <li>• 2D and 3D Graphics Accelerator</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• DDR3-1066 (x32 bits)</li> <li>• Up to 1GB ( memory down)</li> </ul>	<ul style="list-style-type: none"> <li>• DDR3-1066 (x64 bits)</li> <li>• Up to 2GB(memory down)</li> </ul>
<b>Flash</b>	<ul style="list-style-type: none"> <li>• 4GB to 64GB eMMC*</li> </ul>	<ul style="list-style-type: none"> <li>• 4GB to 64GB eMMC*</li> </ul>
<b>Display Interface</b>	<ul style="list-style-type: none"> <li>• Parallel RGB 24 bits</li> <li>• LVDS Single Channel 18/24 bits</li> <li>• HDMI 1.4</li> </ul>	<ul style="list-style-type: none"> <li>• Parallel RGB 24bits</li> <li>• LVDS Single Channel 18/24 bits</li> <li>• HDMI 1.4</li> </ul>
<b>Camera</b>	<ul style="list-style-type: none"> <li>• 1x Parallel Camera ( 8 Bits)</li> <li>• 1x Serial Camera ( 2 lane)</li> </ul>	<ul style="list-style-type: none"> <li>• 1x Parallel Camera (8 Bits)</li> <li>• 1x Serial Camera (2 lane)</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>• X1 I2S</li> </ul>	<ul style="list-style-type: none"> <li>• X1 I2S</li> </ul>
<b>SD/MMC</b>	<ul style="list-style-type: none"> <li>• x1 SDIO (8 bits)</li> <li>• x1 MMC (4 bits)</li> </ul>	<ul style="list-style-type: none"> <li>• x1 SDIO (8 bits)</li> <li>• x1 MMC (4 bits)</li> </ul>
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>• x1 Gigabit</li> </ul>	<ul style="list-style-type: none"> <li>• x1 Gigabit</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>• x1 USB 2.0 OTG</li> <li>• x4 USB 2.0 Host</li> </ul>	<ul style="list-style-type: none"> <li>• x1 USB 2.0 OTG</li> <li>• x4 USB 2.0 Host</li> </ul>
<b>High Speed Serial</b>	<ul style="list-style-type: none"> <li>• x1 PCIe 2.0</li> </ul>	<ul style="list-style-type: none"> <li>• x1 PCIe 2.0</li> <li>• x1 SATA II</li> </ul>
<b>Other Interfaces</b>	<ul style="list-style-type: none"> <li>• x4 I2C</li> <li>• x2 SPI</li> <li>• x1 UART</li> <li>• x1 UART with Flow Control</li> <li>• x2 CAN</li> <li>• x8 GPIO</li> </ul>	<ul style="list-style-type: none"> <li>• x4 I2C</li> <li>• x2 SPI</li> <li>• x1 UART</li> <li>• x1 UART with Flow Control</li> <li>• x2 CAN</li> <li>• x8 GPIO</li> </ul>
<b>Operating Voltage Range</b>	<ul style="list-style-type: none"> <li>• 3.3V/ 5V</li> </ul>	<ul style="list-style-type: none"> <li>• 3.3V/ 5V</li> </ul>
<b>Temperature Range</b>	<ul style="list-style-type: none"> <li>• Industrial /Commercial</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial /Commercial</li> </ul>
<b>Form Factor</b>	<ul style="list-style-type: none"> <li>• 70 mm x 70 mm</li> </ul>	<ul style="list-style-type: none"> <li>• 70 mm x 70 mm</li> </ul>



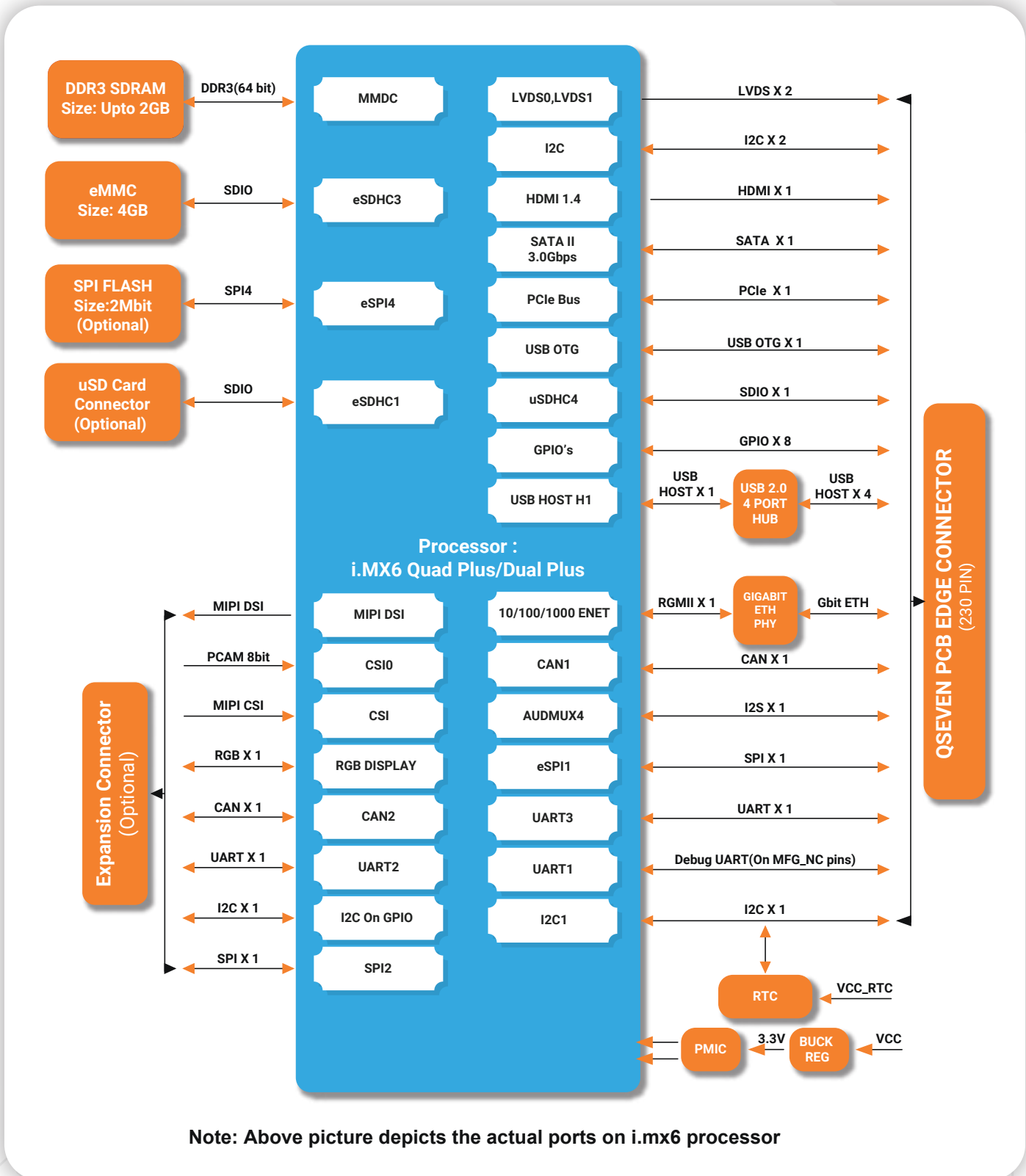
RoHS Compliant

\*Modules are offered with a default flash size of 4GB.  
Contact Tessolve for different memory capacity configurations.

MAGIK-2 Family  
M2-Q7M6-xx - i.MX6 QSeven Modules  
**PRODUCT BRIEF**



**Module Architecture Diagram**



## 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. For complete details please refer Tessolve Linux and Tessolve WEC SDK datasheets.

- ✓ **Board Support Packages (BSP) available for Linux / Android**
- ✓ **Operating System Options**
  - **Linux** (Kernel 3.10/3.14/ 4.1) with optimized boot time
  - **Android (Kit Kat / Lollipop/ Marshmallow)** with optimized boot time
- ✓ **Common Linux BSP** for Dual / Dual Plus / Quad / Quad Plus Core Processor
  - ^ Contact TESSOLVE for licensing options
  - ^^Support available on specific request□

## Ordering Information

Article	Part No**.	Description
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-1S8M-0.5G-4G-IT-S	i.MX6 Solo, 800MHz, 512MB RAM, 4GBytes Flash, Industrial Temperature, 70 mm x 70 mm
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-D2L8M-0.5G-4G-IT-S	i.MX6 Dual Lite, 800MHz, 512MB RAM, 4GBytes Flash, Industrial Temperature, 70 mm x 70 mm
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-2D1G-1G-4G-IT-S	i.MX6 Dual, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Temperature, 70 mm x 70 mm
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-2D+1G-1G-4G-IT-S	i.MX6 Dual Plus, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Temperature, 70 mm x 70 mm
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-4Q1G-1G-4G-IT-S	i.MX6 Quad, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Grade, 70 mm x 70 mm
<b>MAGIK 2 QSEVEN Module</b>	M2-Q7M6-4Q+1G-1G-4G-IT-S	i.MX6 Quad Plus, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Grade, 70 mm x 70 mm

\*\*Contact Tessolve for other possible memory, CPU speed and temperature configurations

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