

Product Brief



M2-Q7M6-xx - i.MX6 based Q7 Modules

Using the Q7 standard for embedded modules, TESSOLVEEMBEDDED 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.

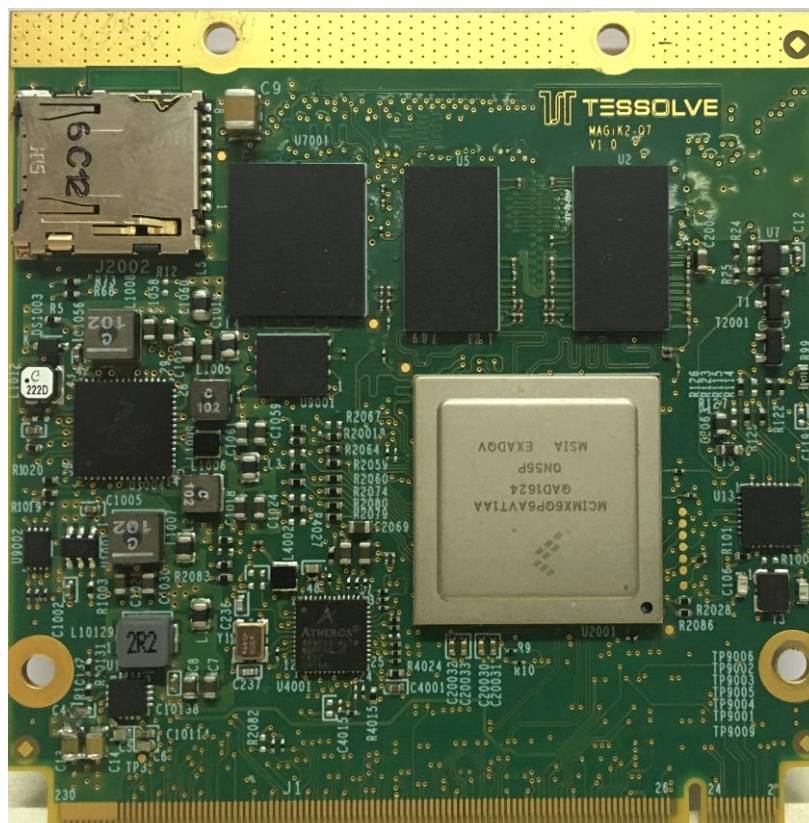
Target applications for MAGIK2 ARM COMs are e.g. HMI units for machines and vehicles, Surround-View Systems, Industrial Tablets, Medical Systems, High End Home Appliances and Multimedia/ Infotainment applications in avionics or transportation

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 Q7 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.

Technical Information		
Module Name	M2-SM6-1S/D2L	M2-SM6-2D/2D+/4Q/4Q+
Processor	NXP i.MX6 <ul style="list-style-type: none"> ARM Cortex A9 CPU Solo / Dual Lite Supports 800MHz, 1.0GHz, 1.2GHz NEON SIMD media accelerator 	NXP i.MX6 <ul style="list-style-type: none"> ARM Cortex A9 CPU Dual, Dual Plus / Quad, Quad Plus Supports 800MHz, 1.0GHz, 1.2GHz NEON SIMD media accelerator
Graphics	<ul style="list-style-type: none"> HD 1080p encode and decode 2D and 3D Graphics Accelerator 	<ul style="list-style-type: none"> HD 1080p encode and decode 2D and 3D Graphics Accelerator
Memory	<ul style="list-style-type: none"> DDR3-1066 (x32 bits) Up to 1GB (memory down) 	<ul style="list-style-type: none"> DDR3-1066 (x64 bits) Up to 2GB(memory down)
Flash	<ul style="list-style-type: none"> 4GB to 64GB eMMC* 	<ul style="list-style-type: none"> 4GB to 64GB eMMC*
Display Interface	<ul style="list-style-type: none"> Parallel RGB 24 bits LVDS Single Channel 18/24 bits HDMI 1.4 	<ul style="list-style-type: none"> Parallel RGB 24bits LVDS Single Channel 18/24 bits HDMI 1.4
Camera	<ul style="list-style-type: none"> 1x Parallel Camera (8 Bits) 1x Serial Camera (2 lane) 	<ul style="list-style-type: none"> 1x Parallel Camera (8 Bits) 1x Serial Camera (2 lane)
Audio	<ul style="list-style-type: none"> X1 I2S 	<ul style="list-style-type: none"> X1 I2S
SD/MMC	<ul style="list-style-type: none"> x1 SDIO (8 bits) x1 MMC (4 bits) 	<ul style="list-style-type: none"> x1 SDIO (8 bits) x1 MMC (4 bits)
Ethernet	<ul style="list-style-type: none"> x1 Gigabit 	<ul style="list-style-type: none"> x1 Gigabit
USB	<ul style="list-style-type: none"> x1 USB 2.0 OTG x4 USB 2.0 Host 	<ul style="list-style-type: none"> x1 USB 2.0 OTG x4 USB 2.0 Host
High Speed Serial	<ul style="list-style-type: none"> x1 PCIe 2.0 	<ul style="list-style-type: none"> x1 PCIe 2.0 x1 SATA II
Other Interfaces	<ul style="list-style-type: none"> x4 I2C x2 SPI x1 UART x1 UART with Flow Control x2 CAN x8 GPIO 	<ul style="list-style-type: none"> x4 I2C x2 SPI x1 UART x1 UART with Flow Control x2 CAN x8 GPIO
Operating Voltage Range	<ul style="list-style-type: none"> 3.3V/ 5V 	<ul style="list-style-type: none"> 3.3V/ 5V
Temperature Range	<ul style="list-style-type: none"> Industrial /Commercial 	<ul style="list-style-type: none"> Industrial /Commercial
Form Factor	<ul style="list-style-type: none"> 70mmx70mm 	<ul style="list-style-type: none"> 70mmx70mm

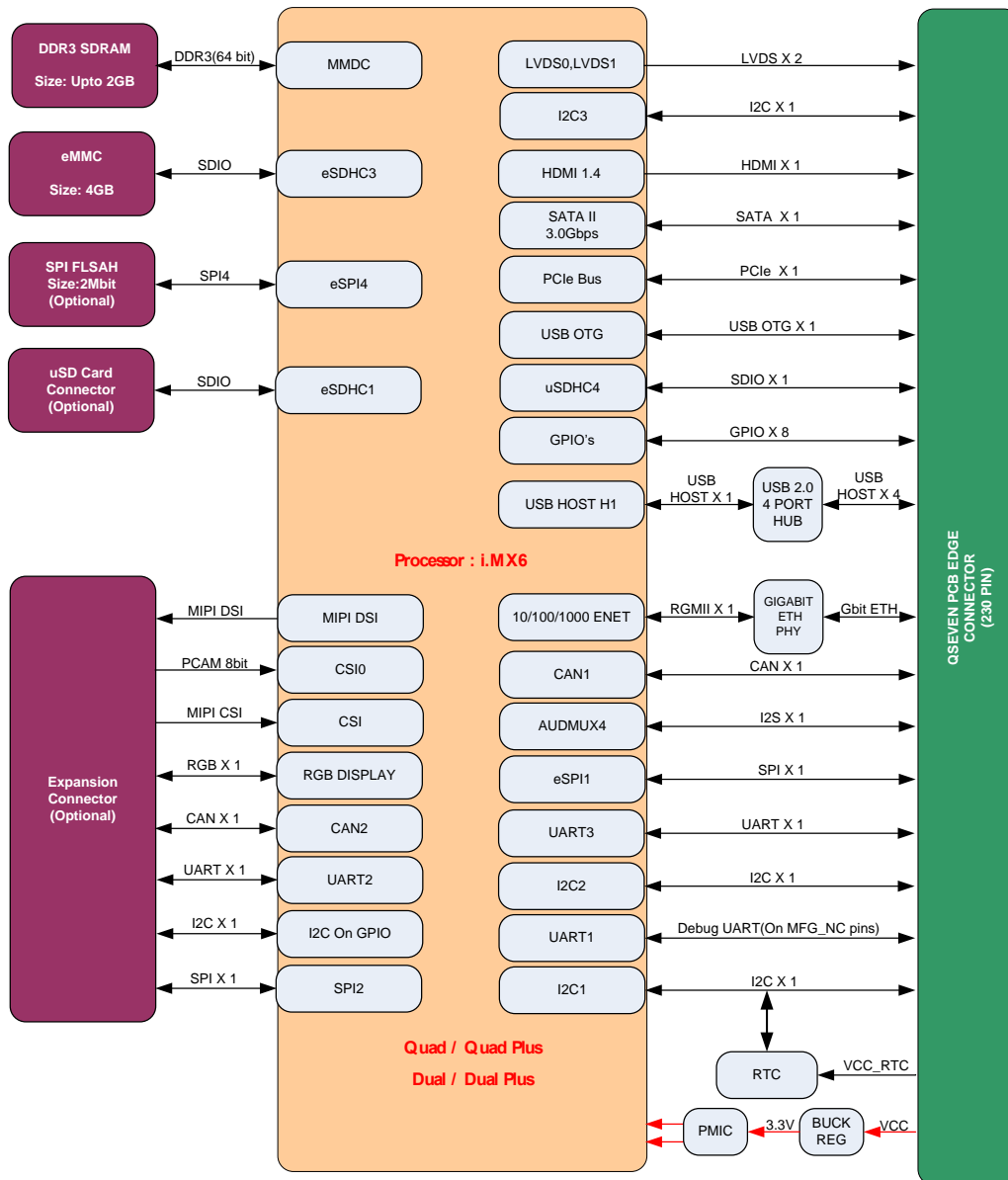
* Default supported flash capacity on the module is 4GB. Contact TESSOLVE for different memory capacity configuration.

RoHS



RoHS Compliant

Module Architecture Diagram



Note: Above picture depicts the actual ports on i.mx6 processor

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
MAGIK 2 QSEVEN Module	M2-Q7M6-1S8M-0.5G-4G-IT-S	i.MX6 Solo, 800MHz, 512MB RAM, 4GBytes Flash, Industrial Temperature, 70mmx70mm
MAGIK 2 QSEVEN Module	M2-Q7M6-D2L8M-0.5G-4G-IT-S	i.MX6 Dual Lite, 800MHz, 512MB RAM, 4GBytes Flash, Industrial Temperature, 70mmx70mm
MAGIK 2 QSEVEN Module	M2-Q7M6-2D1G-1G-4G-IT-S	i.MX6 Dual, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Temperature, 70mmx70mm
MAGIK 2 QSEVEN Module	M2-Q7M6-2D+1G-1G-4G-IT-S	i.MX6 Dual Plus, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Temperature, 70mmx70mm
MAGIK 2 QSEVEN Module	M2-Q7M6-4Q1G-1G-4G-IT-S	i.MX6 Quad, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Grade, 70mmx70mm
MAGIK 2 QSEVEN Module	M2-Q7M6-4Q+1G-1G-4G-IT-S	i.MX6 Quad Plus, 1GHz, 1GB RAM, 4GBytes Flash, Industrial Grade, 70mmx70mm

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

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