

## Qseven™ Modules

VIA

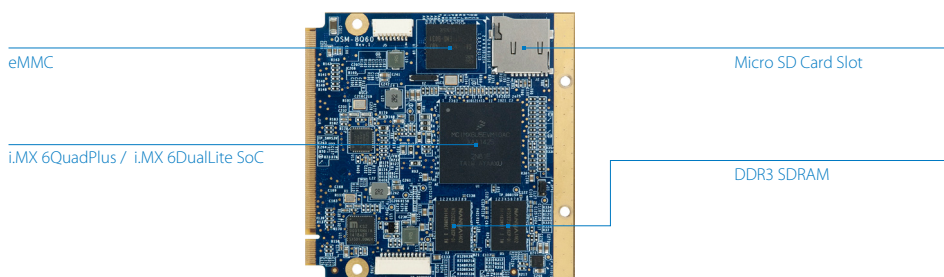
# QSM-8Q60

Qseven™ ARM module with NXP i.MX 6QuadPlus or i.MX 6DualLite Cortex-A9 SoC for industrial automation applications

### Features

- 1.0GHz NXP i.MX 6QuadPlus or i.MX 6DualLite Cortex-A9 SoC
- Qseven™ Rev. 2.0 compliant
- Wide operating temperature range: -20°C ~ 70°C
- 3.5" form factor carrier options
- 7-year longevity support

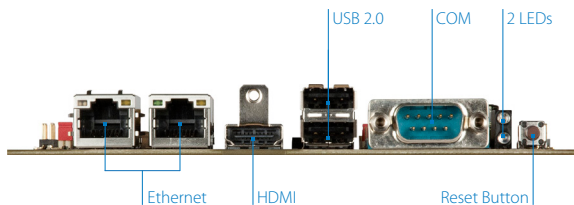
### Board Placement



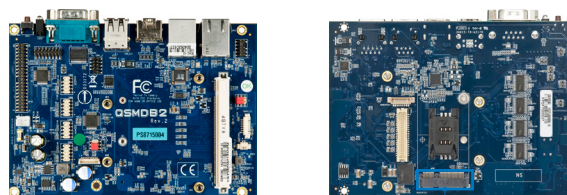
### Specifications

Model Name	QSM-8Q60-QP	QSM-8Q60
<b>Processor</b>	1.0GHz NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC	1.0GHz NXP i.MX 6DualLite Cortex-A9 dual-core SoC
<b>System Memory</b>	2GB DDR3 SDRAM	
<b>Storage</b>	4GB eMMC Flash memory	
<b>Boot Loader</b>	4MB SPI Flash ROM	
<b>Graphics</b>	Vivante GC2000+ GPU 3 integrated, independent 3D/2D and video graphics processing units Supports OpenGL® ES 2.0, OpenCL and OpenVG™ 1.1 hardware acceleration Supports MPEG-2, VC1 and H.264 video decoding up to 1080p Supports SD encoding	Vivante GC880 GPU 2 Independent, integrated 3D/2D and graphics processing units Supports OpenGL®ES 2.0, OpenVG 1.1 hardware acceleration Supports MPEG-2, VC1 video decoding up to 1080p
<b>LAN</b>	Micrel KSZ9031RNX Gigabit Ethernet Transceiver with RGMII support	
<b>Audio</b>	I2S Audio Interface	
<b>HDMI</b>	Integrated HDMI 1.4 Transmitter	
<b>USB</b>	SMSC USB2514 USB 2.0 High Speed 4-port hub controller	
<b>Supported Expansion I/O</b>	1 PCIe x1	
<b>Supported I/O</b>	1 HDMI port 1 Dual-channel 18/24-bit LVDS panel connector 4 USB 2.0 ports 1 USB OTG client 3 COM (TX/RX) ports 2 CAN bus 1 Gigabit Ethernet port 3 I <sup>2</sup> C 1 I2S 1 SPI 1 SDIO 1 PWM	
<b>Onboard I/O</b>	1 Micro SD card slot	
<b>Operating System</b>	Linux Kernel 4.1.15	
<b>Operating Temperature</b>	-20°C ~ 70°C	
<b>Operating Humidity</b>	0% ~ 95% (non-condensing)	
<b>Form Factor</b>	7.0cm x 7.0cm (2.76" x 2.76")	
<b>Compliance</b>	Qseven™ Rev. 2.0 module	

## Carrier Board Front Panel I/O



## Carrier Board (QSMDB2)



EMIO-2550 3G HSPA/UMTS Mobile Broadband Module



EMIO-2531 miniPCIe Wi-Fi + BT Module  
802.11b/g/n standards  
Bluetooth 2.1 + EDR specification

\* The carrier board is only for evaluation purposes.

## Specifications

<b>Model Name</b>	<b>QSMDB2</b>
<b>Audio</b>	NXP SGTL5000 low power stereo codec
<b>Onboard I/O</b>	1 Dual-channel 18/24-bit LVDS panel connector 1 LVDS inverter connector 1 Touch panel connector 4 COM port pin headers (RS-232/422/485) 1 GPIO (16 GPI +16 GPO) pin header 1 CAN bus connector (supports 2 CAN bus) 1 I <sup>2</sup> C and Serial port pin header (supports 2 RS-232 TX/RX) 1 Audio pin header for Line-in, Line-out, Mic-in 1 SIM card slot 1 miniPCIe slot 1 DC-in connector
<b>Front Panel I/O</b>	1 HDMI port 2 USB 2.0 ports 1 COM port (TX/RX for debug) 1 Gigabit Ethernet port 1 10/100Mbps Ethernet port 2 LEDs for power & Wi-Fi status 1 Reset Button
<b>Power Supply</b>	15~24V DC-in
<b>Operating Temperature</b>	-20°C ~ 70°C
<b>Operating Humidity</b>	0% ~ 95% (non-condensing)
<b>Form Factor</b>	3.5" Form Factor 14.6cm x 10.2cm (5.75" x 4.01")

## Ordering Information

Part Number	SoC Frequency	Description
10GEC10H40020	NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC @ 1.0GHz	Qseven™ module with 1.0GHz NXP i.MX 6QuadPlus Cortex-A9, 4GB eMMC, 4MB SPI ROM, 2GB DDR3 SDRAM, HDMI, 4 USB 2.0, 1 USB OTG client, LVDS, 3 COM (TX/RX), 2 CAN bus, Gigabit Ethernet, 10/100Mbps Ethernet, PCIe x1, Micro SD card slot
10GEC10700020	NXP i.MX 6DualLite Cortex-A9 dual-core SoC @ 1.0GHz	Qseven™ module with 1.0GHz NXP i.MX 6DualLite Cortex-A9, 4GB eMMC, 4MB SPI ROM, 2GB DDR3 SDRAM, HDMI, 4 USB 2.0, 1 USB OTG client, LVDS, 3 COM (TX/RX), 2 CAN bus, Gigabit Ethernet, 10/100Mbps Ethernet, PCIe x1, Micro SD card slot
10GFL00000020	N/A	QSM-8Q60 evaluation carrier board (QSMDB2) with CAN bus cable and DC power cable

## Optional Accessories

Wireless Accessories	
Part Number	Description
00GO27100BU2B0D0	VNT9271BU0DB IEEE 802.11 b/g/n USB Wi-Fi dongle
EMIO-2531-00A1	VAB-820-W-M IEEE 802.11 b/g/n miniPCIe Wi-Fi & Bluetooth module with assembly kit and antenna
EMIO-2550-00A1	3.75G HSPA/UMTS mobile broadband full size miniPCIe module with GPS, SIM card slot, assembly kit and antenna

## Block Diagram

