

Qseven™ Modules

VIA

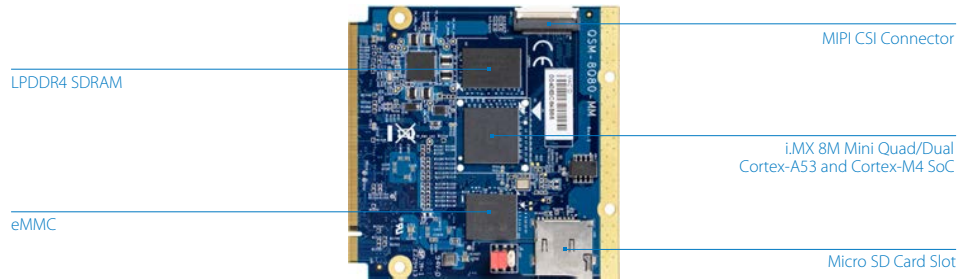
QSM-8Q80-MM

Qseven™ ARM module for fleet management and in-vehicle infotainment applications

Features

- 1.6GHz NXP i.MX 8M Mini Quad/Dual Cortex-A53 and 400MHz Cortex-M4 SoC
- Qseven™ Rev. 2.1 compliant
- Supports MIPI DSI and MIPI CSI
- Supports up to 8 GPIO and 4 USB 2.0
- Carrier board available

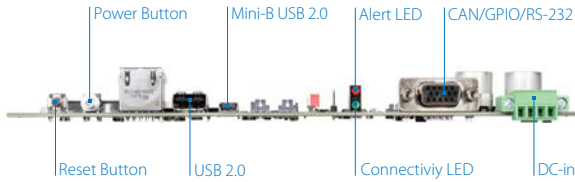
Board Placement



Specifications

Model Name	QSM-8Q80-MM
Processor	1.6GHz NXP i.MX 8M Mini Quad/Dual Cortex-A53 and 400MHz Cortex-M4 SoC
System Memory	2GB LPDDR4 SDRAM
Storage	16GB eMMC 5.1 Flash memory
Graphics	GCNanoUltra + GC320 GPU 2 integrated, independent 3D/2D and video graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports H.265/H.264/VP8 video decoding up to 1080p @60fps Supports H.264/VP8 video encoding
LAN	AR8031-AL1A-R Gigabit Ethernet Transceiver with RGMII support
Audio	I2S Audio Interface
PMIC	ROHM BD71847MWV Power Management Integrated Circuit
USB	SMSC USB2514i USB 2.0 High-speed 4-port hub controller
External RTC	Epson RX8010J
Supported I/O	1 MIPI DSI (4-Lanes) 4 USB 2.0 1 USB 2.0 OTG client 1 Gigabit Ethernet port 3 SDIO 3.0 3 I ² C 1 PCIe 2.0 (1-Lane) 1 SPI 2 UART (TX/RX) 2 I2S 1 PWM 1 JTAG 8 GPIO
Onboard I/O	1 Micro SD card slot 1 MIPI CSI connector (4-Lanes) 1 Boot selection jumper
Operating System	Yocto 2.5
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (relative humidity; non-condensing)
Form Factor	7.0cm x 7.0cm (2.76" x 2.76")
Compliance	Qseven™ Rev. 2.1 module

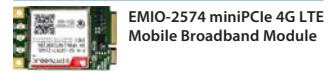
Carrier Board Front Panel I/O



Carrier Board Right Panel I/O



Carrier Board (QSMDB3)



Specifications

Model Name	QSMDB3
MCU	STMicroelectronics STM32F103RCT6 ARM Cortex-M3 with 256KB Flash
Audio	Wolfson WM8960 Stereo Codec Analog Devices SSM2306 Class-D Amplifier
GPS	Locosys ST-1612i-DGO GNSS and Dead Reckoning (DR) Module
Wi-Fi/Bluetooth	AMPAK AP6256 Wi-Fi 802.11ac + Bluetooth V4.2 Module
Sensor	InvenSense ICM-20948 Low Power 9-Axis MEMS MotionTracking Device
Display	Supports BOE COG-PVLSZT026-01 10.1" FHD, 16:9, Landscape, Transmissive, Normally black, ADS type, with mutual Capacitive touch panel
Onboard I/O	1 MXM connector 1 LVDS panel connector (supports dual-channel and touch) 1 Light Sensor connector 1 Mic-in connector 2 Speaker connectors 1 Gigabit Ethernet port 1 miniPCIe slot (supports USB host) 2 IPEX connectors for Wi-Fi/BT/GPS
Front Panel I/O	1 Power button with LED 1 Reset button 1 USB 2.0 port 1 Mini-B USB 2.0 port (supports OTG) 2 LEDs for alert and connectivity status 1 CAN/GPIO/RS-232 (D-Sub) port 1 4-pole Phoenix DC jack (for ACC/IGN/BAT(DCIN)/GND)
Right Panel I/O	1 Nano SIM card slot
Power Supply	9V ~36V DC-in
Operating Temperature	-20°C ~ 70°C
Storage Temperature	-30°C ~ 85°C
Form Factor	22cm x 15cm (8.66" x 5.90")
Compliance	CE, FCC Class A

Ordering Information

Part Number	SoC Frequency	Description
10GMH164000A0	NXP i.MX 8M Mini Quad Cortex-A53 and Cortex-M4 SoC @ 1.6GHz/400MHz	Qseven™ module with 1.6GHz NXP i.MX 8M Mini Quad Cortex-A53 and 400MHz Cortex-M4, 16GB eMMC, 2GB LPDDR4 SDRAM, Micro SD card slot
10GML000000A0	N/A	QSMDB3 carrier board

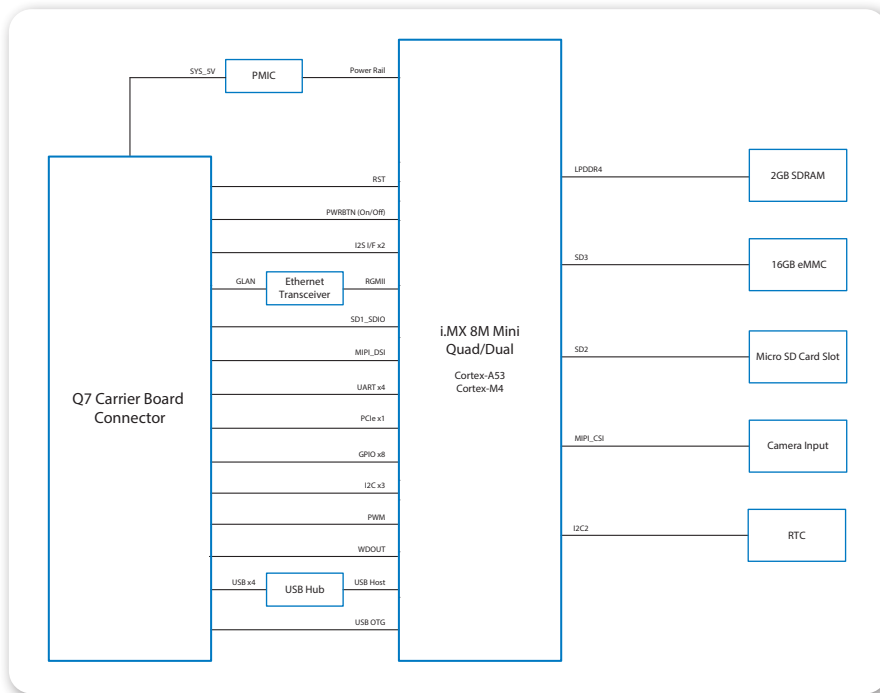
Optional Accessories

Wireless Accessories

Part Number	Description
EMIO-2574-00A0	SIM7600JC-H-PCIE 4G LTE mobile broadband full-size miniPCIe module with assembly kit and antenna (for Docomo/KDDI/Softbank)

*Note: 4G LTE module compatibility is dependent on region. Please contact our sales representative to confirm compatibility in your region.

Block Diagram



Packing List

Items
QSM-8Q80-MM module
QSMDB3 carrier board