Qseven

∧VNET EMBEDDED

MSC Q7-MB-EP5

/SimpleFlex,
Application-Ready Embedded
Platform Qseven Rev. 2.0

⛶	148 x 102 mm
♨	N.A.
🌡	-40 +85

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Description

SimpleFlex is the intelligent combination of a standard Computer-On-Module with a standard carrier board. It combines the advantages of Standard SBC and Custom SBC by choosing the COM from a huge portfolio of CPU and memory configuration.

This is the basis for innovative solutions in HMI systems, complex display systems, IoT gateways, professional infotainment systems, object recognition systems, transportation applications, medical devices, gaming systems and building automation, among others.

The ready-to-use platform is cost-efficiently adapted with the selected interfaces and assembled in-house at full-automatic production lines. For the customization, more than 30 pre-validated interface combinations are available. SimpleFlex is therefore best suited for series production with large quantities.

The Qseven slot of the board is compliant with Qseven rev. 2.0 but can support all other Qseven revisions as well.

The EP5 is suited for volume applications. The MSC Q7-MB-EP6 (x86) and the MSC Q7-MB-EP4-001 (ARM) are suggested for evaluation and use in low-volume Qseven applications.

Highlights

- Low-cost application board for medium to high volume use of any Qseven computer module (x86 or ARM)
- Dual Gigabit Ethernet
- Up to 2x SATA-II connectors
- Mini PCI Express Card
- mSATA Card socket
- SD Card or Micro-SD Card slot (option)
- SIM Card slot
- 1x USB 3.0, up to 3x USB 2.0 connectors
- 1x USB 2.0 Host/Client on µUSB connector
- RS-232, RS-485 or opt. CAN (opt. galv. isolated)
- DisplayPort connector for output of graphics signals from Qseven module
- Dual-channel LVDS on JILI30 connector

- Selectable Backlight power 3.3V, 5V or 12V
- Adjustable Backlight intensity
- WLAN / Bluetooth / NFC with antenna (option)
- 4-wire touch controller (option)
- I2S or HD Audio codec (option)
- SPI / I2C / GPIO on Feature Connector
- Input voltage up to 36V
- Industrial temperature versions available

Technical Data - MSC Q7-MB-EP5

Formfactor	Qseven™ Standard Rev. 2.0 compliant interface
Storage Interfaces	2x SATA connectors routed to Qseven module mSATA Card slot (full size) SD Card or Micro-SD Card socket with 4-bit interface
USB	1x USB 3.0 Host Type A connector 2x USB 2.0 Host Type A connectors 1x micro USB Host/Device connector 1x USB Host on internal pin header 1x USB at miniPCIexpress socket
Serial Interfaces	RS-232 signals on 4-pin JST connector or on Feature Connector (pin header) RS-485 signals on 4-pin JST connector (optional galvanic isolation)
Bus Interfaces	SPI, I2C, GPIO on pin header (support depends on module used) CAN Bus signals on 4-pin JST connector (optional galvanic isolation; alternatively to RS485) MiniPCIexpress card socket with USB support and MicroSIM card slot
Display Interfaces	DisplayPort connector driven by DP signals from module or from HDMI/DP converter (optional µHDMI connector) LVDS interface on Jili30 connector, alternatively eDP (module dep.) Backlight connector onboard (3.3/5/12V), Backlight brightness control supplied
Network Interface	2x Ethernet RJ45 connectors with LED - One channel directly connected to LAN from Qseven module - One channel via i210 GbE PCIe controller on baseboard
Audio Interface	HD Audio or I2S Audio codec (option) Audio out via IDC connector
Miscellaneous	WLAN / Bluetooth / NFC device SPB209A (optional, either with antenna or antenna connector)
Power Requirement	4-pin power connector for 10-28VDC (optionally up to 36V) Battery slot for DL2032 Lithium battery
Environment	Operating Temperature -40°… 85°C (operating) -40°… 85°C (storage) Humidity 20 … 80% (operating, non-condensing) 5 … 95% (storage, non-condensing)
Dimensions	148 x 102 mm
Certificates	UL / CE

Order Reference - MSC Q7-MB-EP5

Order Number	Description	Reference	Cat
70730	Qseven Rev. 2.0 compatible embedded platform (148 x 102mm), 10-36V input voltage, 1x RS232 on pin header, 1x CAN on JST connector, dual RJ45 LAN connector with LED, 1x SATA, 1x mSATA slot, 1x USB 3.0 connector, 2x USB 2.0 connector, 1x USB 2.0 on pin header, 1x microUSB 2.0 Host/Device; SPI, I2C and GPIO on pin header; DisplayPort++ connector, LVDS on JILI30 connector, µSD Card Slot, regulated backlight supply, mini PCI Express slot, I2S Audio, CMOS battery. Industrial temperature range -40..+85°C	MSC Q7-MB-EP5-101 PCBFTX	PV
70732	Qseven Rev. 2.0 compatible embedded platform (148 x 102mm), 10-36V input voltage, 1x RS232 on pin header, 1x CAN on JST connector, dual RJ45 LAN connector with LED, 1x SATA, 1x mSATA slot, 1x USB 3.0 connector, 2x USB 2.0 connector, 1x USB 2.0 on pin header, 1x microUSB 2.0 Host/Device; SPI, I2C and GPIO on pin header; DisplayPort++ connector, LVDS on JILI30 connector, µSD Card Slot, regulated backlight supply, mini PCI Express slot, HD Audio, CMOS battery. Industrial temperature range -40..+85°C	MSC Q7-MB-EP5-102 PCBFTX	PV
70734	Qseven Rev. 2.0 compatible embedded platform (148 x 102mm), 10-36V input voltage, 1x RS232 on pin header, 1x CAN on JST connector, dual RJ45 LAN connector with LED, 1x SATA, 1x mSATA slot, 1x USB 3.0 connector, 2x USB 2.0 connector, 1x microUSB 2.0 Host/Device; SPI, I2C and GPIO on pin header; DisplayPort++ connector, LVDS on JILI30 connector, µSD Card Slot, regulated backlight supply, mini PCI Express slot, I2S Audio, 4-wire Touch Controller, CMOS battery. WLAN/BT/NFC module with antenna connector on board. Industrial temperature range -40..+85°C	MSC Q7-MB-EP5-103 PCBFTX	PV

Accessories

Order Number	Description	Reference
	10.1" Displaykit	
78879	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 10.1" WXGA LCD with PCAP Touch Sensor and Touch Controller. Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch).	MSC DIS-AM1280800-101-KIT SETPAC
	12.1" Displaykit	
78880	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 12.1" WXGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM1280800-121-KIT SETPAC
	5.0" Displaykit	
81871	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 5.0" WVGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM800480-050-KIT SETPAC
	7" Displaykit	
78911	Displaykit suitable for all COM Carrier Boards and all COM Starterkits. Comprises 7.0" WVGA LCD with PCAP Touch Sensor and Touch Controller Includes all cables required to connect to COM Carrier Boards (LVDS, B/L & Touch)	MSC DIS-AM800480-070-KIT SETPAC