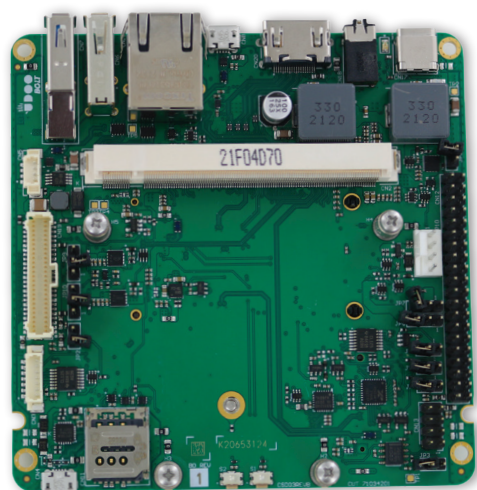# Qseven®
Carrier Board

CQ7-D03 Carrier Board for Qseven® and µQseven® Rev 2.1 Modules in embedded NUCTM Form factor

Flexible Qseven compliant Carrier board in embedded NUC Form factor

HIGHLIGHTS

- embedded NUCTM Form factor for Qseven® and µQseven® Rev 2.1 Modules

CROSS PLATFORM
Philosophy

FEATURES

Video Interfaces	LVDS Dual Channel 24-bit + backlight connector HDMI Connector	
Mass Storage	microSD Slot	
Networking	1 x Gigabit Ethernet connectors 1 x Mini-PCIe Slot for WWAN Modem Modules, connected to on-board microSIM slot	
USB	1 x USB 2.0 Host port on Type-A socket 1 x USB 3.0 Host ports on Type-A socket shared with USB 2.0 OTG Client 1 x USB 2.0 OTG port on micro-AB socket shared with USB 3.0 Host 1 x USB 2.0 Host port on internal connector 1 x USB 2.0 Host port on M.2 Socket 1 KeyE Slot 1 x USB 2.0 Host port on mini-PCIe Slot	
PCI-e	1 x PCIe x1 lane on M.2 Socket 1 Key E Slot 1 x PCIe x1 lane on Mini-PCIe Slot	
Audio	Optional combo TRSS audio connector Mic in/Stereo out	
Serial Ports	Optional 4-wires RS-232 / RS-422 / RS-485 configurable serial port on pin header	
Other Interfaces	Optional 1 x CAN port on pin header 1 x PCIe x1 lane on M.2 Socket 1 Key E Slot 1 x PCIe x1 lane on Mini-PCIe Slot 1 x 40 pin connector for I2C, SPI and General Purpose I/O, pinout compatible with the Raspberry Pi - GPIO Connector 1 x LED driver connector 4-wires FAN connector configurable microSIM Slot for miniPCIe Modem Debug USB port on micro-AB socket MFG connector for JTAG programming of Qseven® module	

Power Supply	12VDC through USB Type-C connector Coin cell battery Holder for CMOS and RTC
Operating Temperature*	0°C ÷ +70°C
Dimensions	eNUCTM compliant:101.6 x101.6 mm (4""x4"")

*All carrier board components must remain within the operating temperature at any and all times, including start-up; carrier operating temperature is independent of the module installed. Please refer to the specific module for more details. Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider specific cooling solutions for the final system.

SECO

BLOCK DIAGRAM

1x USB Type C Connector → USB-C PD Controller — +12VDC → Power Section

Coin Cell battery holder

Power and reset pushbuttons ← PWRBTN#, RSTBTN#

USB internal connector ← USB 2.0 #3

Gigabit Ethernet Connector ← Gigabit Ethernet

Mini PCIe Slot — USB 2.0 #0 / SM Bus / 1x PCI-e x1 #1

Combo microSD + miniSIM connector ← SD interface

USB 2.0 Type-A Upright connector ← USB 2.0 #4

USB 3.0 Type-A Upright connector ← USB_SSRX1, USB_SSTX1

Micro-AB USB Socket → USB Switch — USB 2.0 #1 OTG

USB miniB Socket → UART-to-USB Bridge (CP2104) — MFG (Debug Uart)

Backlight connector ← LED driver — LVDS_PWM

+5V_S, +5V_A / VCC_RTC

Qseven MXM connector

1x PCI-e x1 #0 / USB 2.0 #2 / I2C → M.2 Slot (Socket 1 Key E Type 2230)

FAN → FAN connector

Factory option: CAN → Can Transceiver → 3-poles CAN Terminal Block

HDMI → HDMI connector

LVDS → LVDS connector

Factory option: UART → Mux → RS232/422/485 Transceiver → Serial port DB9 Connector

GPIO & GP_PWM_OUT#1,#2 / SPI & CS0#,CS1# / I2C / SM Bus → GPIO header (RPi compatible)

Factory option: I2S → I2S Audio Codec → Combo TRSS