

# VIA AMOS-820

Fanless ultra-compact quad-core edge computing system ruggedized for extreme environments

## Features

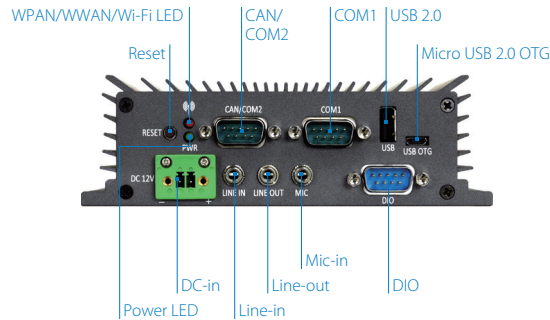
- 1.0GHz NXP i.MX 6QuadPlus or i.MX 6Quad Cortex-A9 quad-core SoC
- Power over Ethernet (PoE) option
- Wide operating temperature range, -20°C ~ 70°C
- Legacy I/O support including dual CAN bus, dual COM, and GPIO
- Android and Linux solution packs available



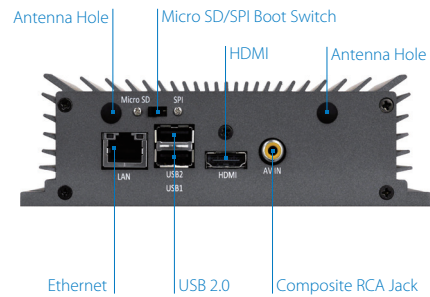
## Specifications

Model Name	AMOS-820-QP	AMOS-820
<b>Processor</b>	1.0GHz NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC	1.0GHz NXP i.MX 6Quad Cortex-A9 quad-core SoC
<b>System Memory</b>	1GB DDR3 SDRAM onboard	
<b>Storage</b>	4GB eMMC Flash memory	
<b>Boot Loader</b>	4MB SPI Flash ROM	
<b>Graphics</b>	Vivante GC2000+ GPU	Vivante GC2000 GPU
	3 independent, integrated 3D/2D and video graphics processing units Supports OpenGL® ES 3.0, OpenCL and OpenVG™ 1.1 hardware acceleration Supports MPEG-2, VC-1 and H.264 video decoding up to 1080p Supports SD encoding	
<b>LAN</b>	Micrel KSZ9031RNX Gigabit Ethernet transceiver with RGMII support	
<b>Audio</b>	NXP SGT15000 low power stereo codec	
<b>HDMI</b>	Integrated HDMI 1.4 transmitter	
<b>USB</b>	SMSC USB2514 USB 2.0 high-speed 4-port hub controllers	
<b>CAN</b>	TI SN65HVD1050 EMC optimized CAN transceiver	
<b>Expansion I/O</b>	1 miniPCIe slot	
<b>Front Panel I/O</b>	1 USB 2.0 port 1 Micro USB 2.0 type B port supports OTG 1 COM (TX/RX) / 2 CAN bus ports (supports CAN protocol specification version 2.0 B) 1 COM port supports 8-wire DTE mode 1 DIO port supports 8 GPIO (4 GPI + 4 GPO) 3 Audio jacks: Line-in, Line-out and Mic-in 1 Reset button 2 LEDs for power & WPAN/WWAN/Wi-Fi status 1 2-pole Phoenix DC jack	
<b>Back Panel I/O</b>	1 HDMI port 1 Composite RCA jack 2 USB 2.0 ports 1 Gigabit Ethernet port (supports optional IEEE 802.3at type 2) 1 Micro SD/SPI boot switch 2 Antenna holes for 3G/Wi-Fi	
<b>Power Supply</b>	12V DC-in (typical: 7W)	
<b>Operating System</b>	Android 6.0, Linux kernel 4.1.15	
<b>VIA Smart ETK</b>	Watchdog timer, CAN bus, GPIO, UART	
<b>Operating Temperature</b>	-20°C ~ 70°C (3G & Wi-Fi not included) (AMOS-820-1Q10A2, AMOS-820-5Q10A1) -20°C ~ 60°C (3G & Wi-Fi not included) (AMOS-820-2Q10A2, AMOS-820-6Q10A1)	
<b>Operating Humidity</b>	0% ~ 90% @ 45° C (non-condensing)	
<b>Vibration Loading During Operation</b>	With onboard eMMC 7Grms, IEC 60068-2-64, random, 5 ~ 500Hz, 1hr/axis	
<b>Shock During Operation</b>	With onboard eMMC 70G, IEC 60068-2-27, half sine, 11ms duration	
<b>PoE Function</b>	Supports IEEE 802.3at compliant (type 2) PD (AMOS-820-2Q10A2, AMOS-820-6Q10A1)	
<b>Bottom Opening Covers</b>	Open window with removable door plate to access Micro SD and miniPCIe slots	

## Front Panel External I/O



## Back Panel External I/O



## Specifications

<b>Model Name</b>	<b>AMOS-820</b>
<b>Mechanical Construction</b>	Aluminum top chassis housing Metal chassis housing Dual removable front & rear metal face plate
<b>Mounting</b>	Wall/DIN Rail/VESA mountable
<b>Dimensions</b>	150.5mm(W) x 48.1mm(H) x 103.3mm(D) (5.9" x 1.9" x 4.1")
<b>Weight</b>	0.673kg (1.48lbs)
<b>Compliance</b>	CE, FCC

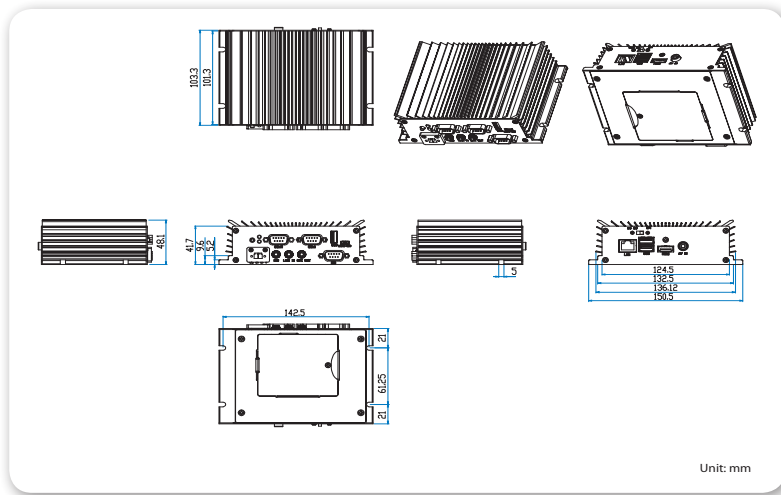
## Ordering Information

Part Number	SoC Frequency	Description
AMOS-820-5Q10A1	NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6QuadPlus Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCle slot, RCA-in, 12V DC-in
AMOS-820-6Q10A1	NXP i.MX 6QuadPlus Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6QuadPlus Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCle slot, RCA-in, PoE function, 12V DC-in
AMOS-820-1Q10A2	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCle slot, RCA-in, 12V DC-in
AMOS-820-2Q10A2	NXP i.MX 6Quad Cortex-A9 quad-core SoC @ 1.0GHz	Fanless embedded system with 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC, 1GB DDR3 RAM, 4GB eMMC, 512KB SPI Flash ROM, HDMI, 3 USB 2.0, Micro USB 2.0 OTG, 2 COM, 2 CAN bus, GPIO, Gigabit Ethernet, miniPCle slot, RCA-in, PoE function, 12V DC-in

## Optional Accessories

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

## Dimensions



## Packing List

Items
AMOS-820 system
Phoenix plug to DC jack
COM/CAN conversion cable
Screw pack for miniPCle card
Screw pack for mounting
Rubber feet pack