

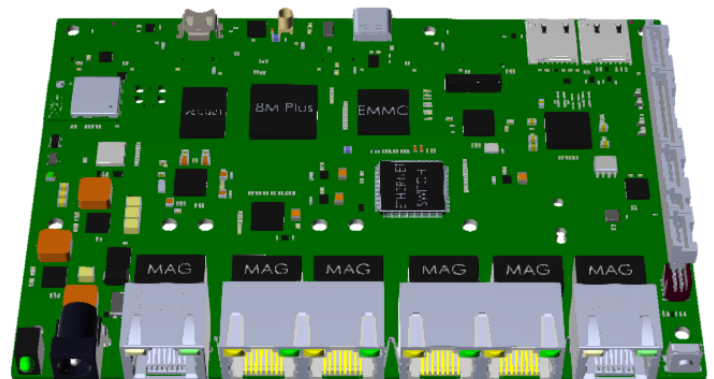
### A 140x100mm i.MX8M Mini SBC with 3 Mini-PCle Slots, 1 M.2 Slot, Six GbE Ethernet, PoE, Wifi/BLE and MIPI-CSI & MIPI-DSI

The GW7400 is a member of the Gateworks 7<sup>th</sup> generation Venice family of single board computers targeted for rugged and industrial embedded applications. The GW7400 features the 64-bit NXP™ i.MX8M Plus Quad Core ARM® Cortex™-A53 SoC processor operating at 1.6GHz, 1GBytes of LPDDR4 DRAM, and 8GBytes of eMMC System Flash. The i.MX8M Plus SoC features a Neural Processing Unit (NPU) operating at up to 2.3 TOPS, a Video Processing Unit (VPU) supporting up to 1080p60, a GC7000UL Graphics Processing Unit (GPU), and a Cadence® Tensilica® HiFi 4 DSP. Six total Gigabit Ethernet ports offer 1x WAN and 5x switched LAN wired connectivity. One Mini-PCle expansion socket supports PCIe 3.0 signaling and can be used for peripherals such as 802.11ax/ac/b/g/n WiFi radios. Two additional Mini-PCle sockets support USB 3.0 signaling. A M.2 B-Key socket is also available with USB 3.0 for 5G/4G/3G/CATM1 cellular modems with support for dual Nano SIMs. A USB 3.0 Type-C port is standard. Peripheral headers support Digital I/O, Analog Input, RS232/RS485/TTL Serial, I2C and SPI. A combined MIPI-DSI/CSI header with I2S audio offers video input/output. A 3-Axis accelerometer and CAN Bus are standard. An optional GPS and onboard Laird Sterling-LWB5+ 802.11a/b/g/n/ac WiFi / Bluetooth v5.2 module are available. The Gateworks System Controller provides embedded features such as real time clock, voltage and temperature monitor, programmable pushbutton, and programmable board shut-down and wake-up for remote applications. A wide-range DC input power supply provides up to 15W of power for the Mini-PCle and M.2 sockets. Power is applied through a dedicated barrel jack or an Ethernet port in an active 802.3af/at or passive Power over Ethernet (PoE) architecture. Ubuntu Linux BSP is supported.

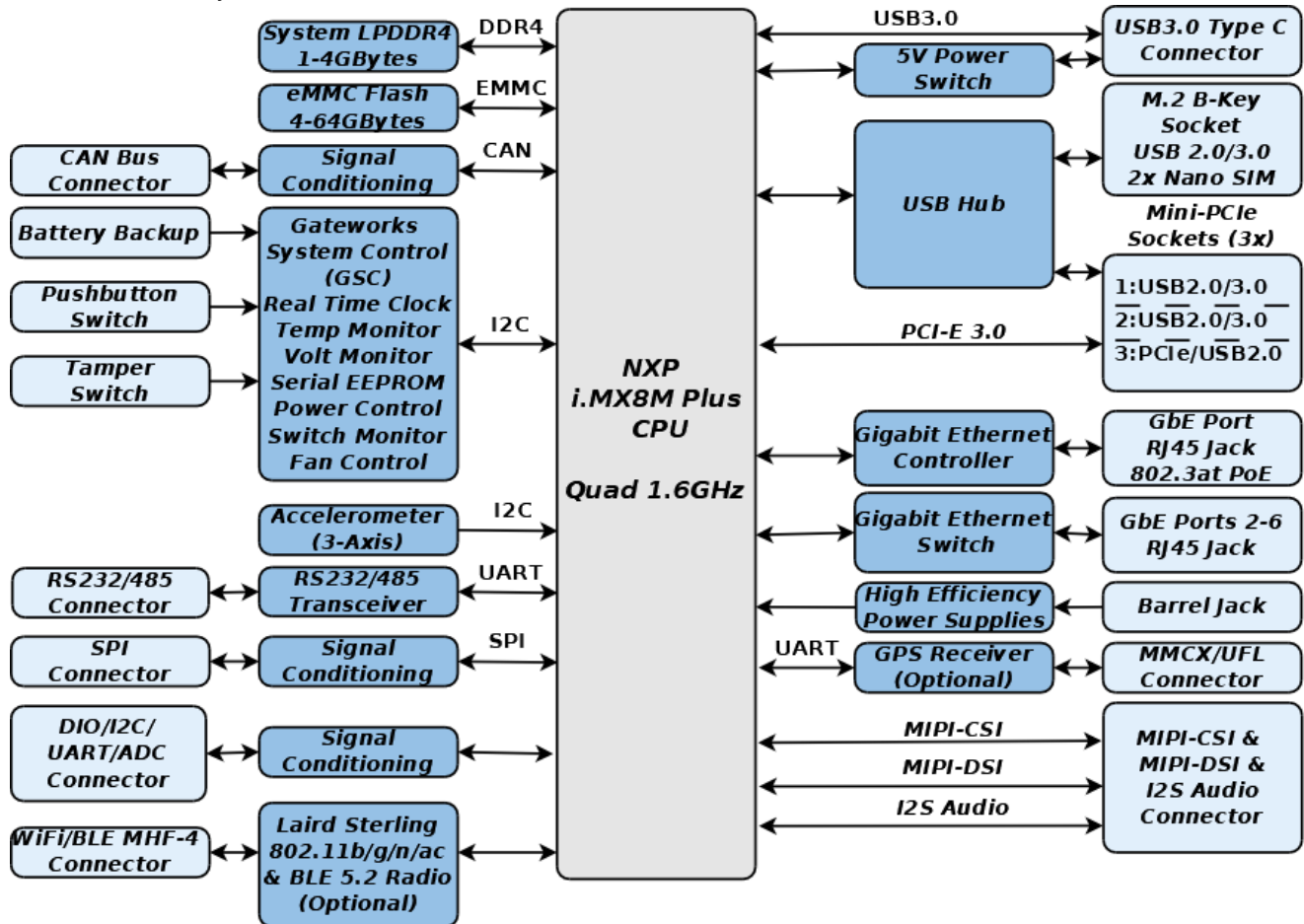
SBC	CPU	DRAM	eMMC	GPS	WiFi/BLE
GW7400	Quad 1.6GHz	1GByte	8GBytes	No	No
GW7401	Quad 1.6GHz	4GByte	64GBytes	Yes	Yes

### FEATURES

- NXP™ 64-bit i.MX8M Plus 1.6GHz Quad Core ARM® Cortex™-A53 SoC Processor
  - Neural Processing Unit (NPU) - up to 2.3 TOPS
  - Cadence® Tensilica® HiFi 4 DSP
  - Video Processing Unit (VPU) up to 1080p60
  - Graphics Processing Unit (GPU) - GC7000UL with OpenCL and Vulkan support
- 1GByte DRAM, 8GBytes Flash
- One High-Power Mini-PCle Socket with PCIe 3.0 and USB 2.0 signaling
- Two High-Power Mini-PCle Sockets with USB 3.0 Signaling
- One M.2 B-Key Socket with USB 3.0 and Dual Nano SIMs
- Six GbE Ethernet Ports, One WAN and Five Switched LAN
- Optional Laird Sterling-LWB5+ 802.11a/b/g/n/ac WiFi & BLE v5.2 Module (MHF4 Antenna Connector)
- Optional u-blox GPS Receiver with MMCX Antenna Connector
- CAN Bus Transceiver
- Digital I/O & Analog Port, I2C & SPI Port
- RS232/RS485 and TTL Serial Port
- USB 3.0 Type-C Port
- MIPI-DSI and MIPI-CSI Port, I2S Audio
- Digital 3-axis MEMS Accelerometer
- Real Time Clock with Battery Backup
- Voltage and Temperature Monitor
- Serial Configuration EEPROM
- Programmable Watchdog Timer
- 8 to 60VDC Input Voltage Range
- Power Through Dedicated Connector or Ethernet with 802.3af/at Active or Passive PoE



- 10W@25°C Typical Operating Power
- 15W Available for Mini-PCle and M.2 Sockets
- Reverse Voltage Protection
- -40°C to +85°C Operating Temperature
- Ubuntu Linux Board Support Package
- 1 Year Warranty



Venice GW7400 Block Diagram

## SPECIFICATIONS

### Electrical

#### Input Voltage

- 8 to 60VDC Barrel Jack or Active PoE

#### Operating Current

- 416mA Typical @ 24VDC

### Mechanical

#### Dimensions

- 140x100x21mm (5.5x3.9x0.8in)

#### Weight

- 4.62 oz (130g)

### Environmental

#### Operating Parameters

- Temperature: -40°C to +85°C
- Humidity (non-condensing): 20% to 90%

- MTBF: TBD Years at 55°C

#### Storage Parameters

- Temperature: -40°C to +85°C
- Humidity (non-condensing): 5% to 95%

## ORDERING OPTIONS

See table at beginning of datasheet

### Development Kit - GW11050-1-A

- GW7400 Single Board Computer
- U-Boot Boot Loader
- Ubuntu Linux Board Support Package
- Ethernet & Accessory Cables
- Power Supply
- JTAG Programmer

### Product Customization

The GW7400 can be customized for volume applications.

Contact the factory for additional information.

- i.MX8M Plus processor type and speed
- LPDDR4 DRAM up to 4GBytes
- System Flash up to 64GBytes
- GPS & WiFi/BLE
- Removing peripherals to achieve lowest cost