

# MVP-5100-MXM Series

*Value Family 9th Gen Intel® Core™ i7/i5/i3® Processor-Based  
Embedded GPU/AI Platforms*

## Features

- 9th Gen Intel® Core™ i7/i5/i3 LGA processor
- Dual SODIMMs sockets for up to 32GB DDR4
- Abundant I/O:
  - Up to 4x additional DP 1.4 from MXM
  - 2x DP++, DVI, VGA, 3x GbE, 3x COM, TPM2.0
  - 3x USB 3.1 Gen 1, 3x USB 2.0
- Rich storage options: 2x 2.5" SATA, M.2 2280
- Front accessible I/O and adaptive Function Module 2.0 options
- Embedded slots for Mini PCIe, M.2 3042, 2x USIM
- World leading embedded GP/GPU computing options built-in



## Software Support

- Windows 10 IoT Enterprise CBB/LTSB 64-bit
- Linux Ubuntu18.04 LTS

## Optional Accessories

- **Factory Installed 2.5" SSD/HDD/M.2 Storage**
- **Wireless Mini PCIe/M.2 Module**  
Wi-Fi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ antenna)
- **AC/DC Adapter**  
220W (P/N: 31-62149-0000)  
280W (P/N: 31-62162-1010-A0)

## Ordering Information

| Model                  | CPU                    | Memory           |
|------------------------|------------------------|------------------|
| MVP-510A-MXM/M4G/[GPU] | Intel® Core™ i7-9700E  | 4GB non-ECC DDR4 |
| MVP-5101-MXM/M4G/[GPU] | Intel® Core™ i7-9700TE | 4GB non-ECC DDR4 |
| MVP-5102-MXM/M4G/[GPU] | Intel® Core™ i5-9500TE | 4GB non-ECC DDR4 |
| MVP-5103-MXM/M4G/[GPU] | Intel® Core™ i3-9100TE | 4GB non-ECC DDR4 |

## GPU Options

| Model         | GPU                            | Power | CUDA® Cores | Graphics Memory |
|---------------|--------------------------------|-------|-------------|-----------------|
| EGX-MXM-P1000 | NVIDIA® Quadro® Embedded P1000 | 47W   | 512         | GDDR5 4GB       |
| EGX-MXM-P2000 | NVIDIA® Quadro® Embedded P2000 | 58W   | 768         | GDDR5 4GB       |

# MVP-5100-MXM Series

## Specifications

| Model Name             | MVP-510A-MXM                                                                                                                    | MVP-5101-MXM           | MVP-5102-MXM           | MVP-5103-MXM           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|
| System Core            |                                                                                                                                 |                        |                        |                        |
| Processor              | Intel® Core™ i7-9700E                                                                                                           | Intel® Core™ i7-9700TE | Intel® Core™ i5-9500TE | Intel® Core™ i3-9100TE |
| TDP                    | 65 W                                                                                                                            | 35 W                   | 35 W                   | 35 W                   |
| # of Cores             | 8                                                                                                                               | 8                      | 6                      | 4                      |
| Base Frequency         | 2.6 GHz                                                                                                                         | 1.8 GHz                | 2.2 GHz                | 2.2 GHz                |
| Max Turbo Frequency    | 4.4 GHz                                                                                                                         | 3.8 GHz                | 3.6 GHz                | 3.2 GHz                |
| Chipset                | Intel® H310 (Optional: C246)                                                                                                    |                        |                        |                        |
| Memory                 | 4GB DDR4 non-ECC 2400 MHz, dual SODIMMs, up to 32GB (Optional: 8/16/32GB ECC, only for Intel Core i3 w/ C246)                   |                        |                        |                        |
| I/O Interface          |                                                                                                                                 |                        |                        |                        |
| Graphics               | Dual independent displays: 2x DP++ 1.2/ 1x DVI-D/VGA (3 independent ones w/ C246)<br>Extra 4x DP 1.4 powered by MXM P1000/P2000 |                        |                        |                        |
| Ethernet               | 3x Intel® GbE: i219 + 2x i225 (support Intel AMT/vPro w/ C246)                                                                  |                        |                        |                        |
| Serial Ports           | COM1/2: RS-232/422/485, COM3: RS-232                                                                                            |                        |                        |                        |
| USB                    | 3x USB 3.1 Gen 1, 3x USB 2.0, 1x internal USB2.0 dongle (2x USB 3.1 up to Gen 2 w/ C246)                                        |                        |                        |                        |
| M.2                    | 1x socket 2, key B+M or B, 2280/3042 (USB3.1 + SATA III + PCIe1. Up to PCIe2 w/ C246)                                           |                        |                        |                        |
| Mini PCIe              | 1x Full size (USB 2.0, PCIe)                                                                                                    |                        |                        |                        |
| USIM                   | 2                                                                                                                               |                        |                        |                        |
| I²C                    | 2 (3.3V/5V)                                                                                                                     |                        |                        |                        |
| TPM                    | TPM 2.0                                                                                                                         |                        |                        |                        |
| Storage Device         |                                                                                                                                 |                        |                        |                        |
| 2.5" SATA              | 2x internal (support RAID 0/1 w/ C246)                                                                                          |                        |                        |                        |
| Mechanical             |                                                                                                                                 |                        |                        |                        |
| Dimensions             | 125 (W) x 240 (D) x 210 (H) mm (4.92" x 9.45" x 8.27")                                                                          |                        |                        |                        |
| Cooling                | Fanless passive cooling                                                                                                         |                        |                        |                        |
| Weight                 | 6.5 kg (14.4 lbs)                                                                                                               |                        |                        |                        |
| Mounting               | Wall mount                                                                                                                      |                        |                        |                        |
| Power Supply           |                                                                                                                                 |                        |                        |                        |
| DC Input               | 12 to 24V                                                                                                                       |                        |                        |                        |
| AC Input               | Optional 220W or 280W AC/DC adapter                                                                                             |                        |                        |                        |
| Environmental          |                                                                                                                                 |                        |                        |                        |
| Operating* Temperature | Standard: w/ air flow 0.6 m/s                                                                                                   |                        |                        |                        |
|                        | 0°C to 45°C                                                                                                                     | 0°C to 50°C            |                        |                        |
|                        | Extended: w/ air flow 0.6 m/s & Ind. storage                                                                                    |                        |                        |                        |
|                        | -20°C to 45°C                                                                                                                   | -20°C to 60°C          |                        |                        |
| Storage Temperature    | -40°C to 85°C (-40°F to 185°F) (excl. storage)                                                                                  |                        |                        |                        |
| Humidity               | ~95% @ 40°C (non-condensing)                                                                                                    |                        |                        |                        |
| Vibration              | Operating: 3 Grms, random, 5-500 Hz, 3 axes (w/ 2.5" SSD/CFast))                                                                |                        |                        |                        |
| Shock                  | Operating: 50 G, half sine 11ms duration (w/ 2.5" SSD)                                                                          |                        |                        |                        |
| ESD                    | Contact 4kV, Air 8kV                                                                                                            |                        |                        |                        |
| EMC                    | EN61000-6-4/-2, CE, FCC Class A                                                                                                 |                        |                        |                        |
| Safety                 | UL/cUL, CB                                                                                                                      |                        |                        |                        |

\*: MXM module's performance depends on ambient temperature, software and devices