

# VC70B-MTH

Intel® Core™ Ultra Processor  
In-vehicle System



## KEY FEATURES



### High Performance Compact in-vehicle system

Core Ultra processor with LPDDR5-6400 soldered memory



### Remote Management

Supports Out of band control



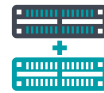
### 9-axis IMU Sensor

3 Accelerometer + 3 Gyroscope + 3 Magnetometer



### Triple Displays

1 HDMI, 1 DP, 1 USB-C DP Alt. mode



### Multiple Expansion

1 M.2 M Key, 1 M.2 B Key, 1 M.2 E Key



### Rich I/O

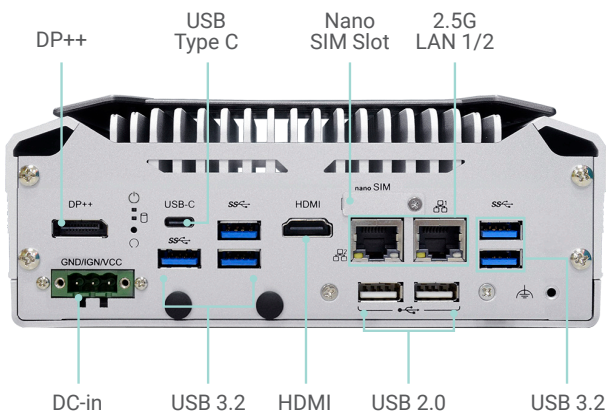
2 2.5GbE, 1 GbE, 5 USB 3.2, 1 USB-C, 2 USB 2.0, 3 COM, 2 CAN FD



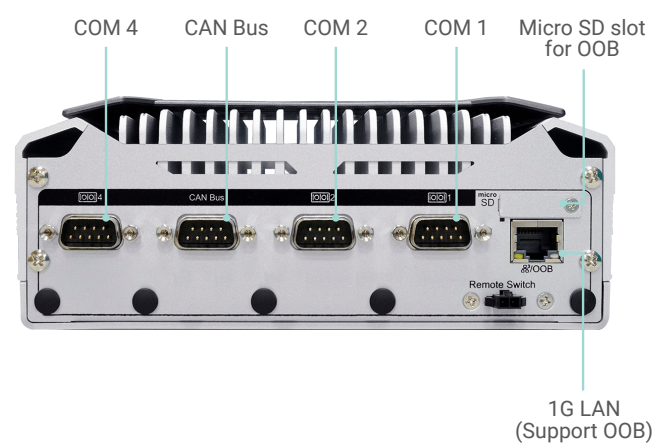
IoT Solutions Alliance



## PANEL

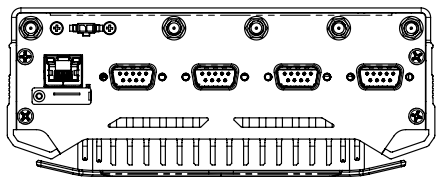


Front View

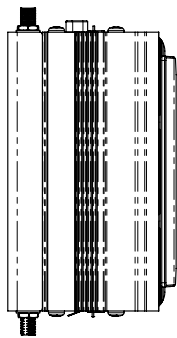


Rear View

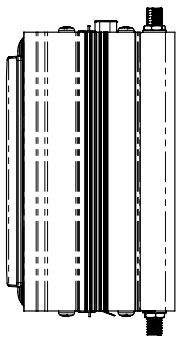
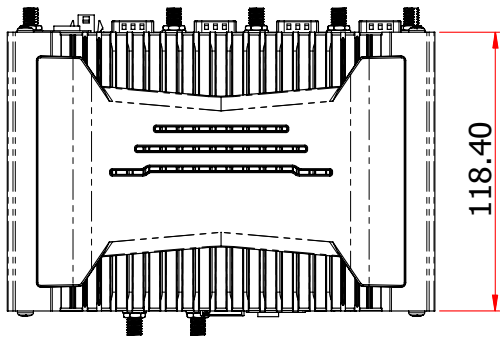
DIMENSIONS



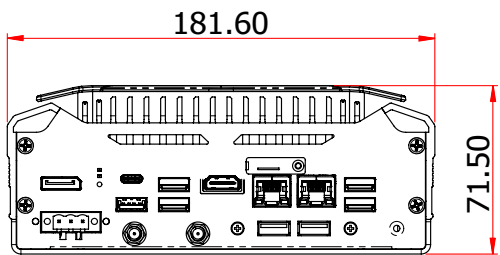
Rear View



Left View



Right View



Front View

## SPECIFICATION

|                              |                   |                                                                                                                                                                                                                                                     |
|------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM                       | Processor         | Intel® Core™ Ultra 7/5 Processors, TDP up to 28W<br>Intel® Core™ Ultra 7 165H, 16C, 24M Cache, 1.4GHz~5.0GHz, 28W<br>Intel® Core™ Ultra 7 155U, 12C, 12M Cache, 1.7GHz~4.8GHz, 15W<br>Intel® Core™ Ultra 5 125U, 12C, 12M Cache, 1.3GHz~4.3GHz, 15W |
|                              | Memory            | Dual Channel LPDDR5/x 6400MHz memory down Up to 32GB (64GB per request)                                                                                                                                                                             |
|                              | BIOS              | AMI SPI 256Mbit                                                                                                                                                                                                                                     |
| GRAPHICS                     | Controller        | Intel® Arc™ Graphics                                                                                                                                                                                                                                |
|                              | Feature           | OpenGL 4.6, Direct X 12.2, OpenCL 3.0<br><b>HW Decode:</b> HEVC, VP9, AV1, AVC<br><b>HW Encode:</b> HEVC, VP9,AV1, AVC                                                                                                                              |
|                              | Display           | 1 x HDMI 1.4b<br>1 x DP++<br>1 x USB-C DP Alt. mode<br><b>HDMI:</b> resolution up to 4096x2160@24Hz<br><b>DP++:</b> resolution up to 4096x2160@24Hz<br><b>USB-C DP:</b> resolution up to 4096x2304@60Hz                                             |
|                              | Triple Displays   | HDMI + DP + USB-C DP Alt. mode                                                                                                                                                                                                                      |
| EXPANSION                    | Interface         | 1 x M.2 M key 2280 (PCIe Gen4 x4)<br>1 x M.2 B key 3052 (USB 3.0/2.0, PCIe x1, SATA), 1 x SIM slot for 4G/5G<br>1 x M.2 E key 2230 (USB 2.0/PCIe x1)                                                                                                |
| ETHERNET                     | Controller        | 2 x Intel® I226IT (10/100/1000/2500Mbps)<br>1 x Intel® i210IT (10/100/1000Mbps)                                                                                                                                                                     |
| LED                          | Indicators        | 1 x Power LED<br>1 x HDD LED                                                                                                                                                                                                                        |
| FRONT I/O                    | Ethernet          | 2 x 2.5GbE @ RJ45 connectors                                                                                                                                                                                                                        |
|                              | USB               | 5 x USB 3.2 Type A<br>1 x USB Type C<br>2 x USB 2.0 Type A                                                                                                                                                                                          |
|                              | Display           | 1 x HDMI<br>1 x USB-C DP Alt. Mode<br>1 x DP++                                                                                                                                                                                                      |
|                              | SIM               | 1 x Nano SIM slot                                                                                                                                                                                                                                   |
| REAR I/O                     | Ethernet          | 1 x GbE @RJ-45 connector (support OOB)                                                                                                                                                                                                              |
|                              | Serial            | <b>COM 1:</b> RS-232/422/485<br><b>COM 2:</b> RS-232<br><b>COM 4:</b> RS-232/422/485 or 8-bit DIO by jumper setting                                                                                                                                 |
|                              | CANBus            | 2 x CAN FD (DB9-M)                                                                                                                                                                                                                                  |
|                              | SD                | 1 x Micro SD slot for OOB                                                                                                                                                                                                                           |
| WATCHDOG TIMER               | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds                                                                                                                                                                                       |
| SECURITY                     | TPM               | TPM 2.0                                                                                                                                                                                                                                             |
| POWER                        | Type              | 9~36V DC                                                                                                                                                                                                                                            |
|                              | Connector         | 3-pin terminal block (VCC/IGN/GND)                                                                                                                                                                                                                  |
|                              | Power Management  | 1. Ignition On/Off control<br>2. System On delay time<br>3. OS Protection Time<br>4. System Off delay time<br>5. Car Battery Voltage Monitoring<br>6. Battery Low Voltage Protect                                                                   |
|                              | RTC Battery       | CR2032 Coin Cell (Cable type)                                                                                                                                                                                                                       |
| OS SUPPORT                   | Microsoft         | Windows 11 & 10 IoT Enterprise 64-bit                                                                                                                                                                                                               |
|                              | Linux             | Linux (by request)                                                                                                                                                                                                                                  |
| ENVIRONMENT                  | Temperature       | <b>Operating:</b> -20 to 70°C fanless<br><b>Operating:</b> -20 to 50°C fanless (28W CPU only)<br><b>Storage:</b> -40 to 85°C                                                                                                                        |
|                              | Humidity          | <b>Operating:</b> 5 to 95% RH<br><b>Storage:</b> 5 to 95% RH                                                                                                                                                                                        |
| MECHANISM                    | Mounting          | Wall mount                                                                                                                                                                                                                                          |
|                              | Dimensions        | 181.6mm (W) x 71.5mm (H) x 118.4mm (D)                                                                                                                                                                                                              |
|                              | Weight            | < 3KG                                                                                                                                                                                                                                               |
| STANDARDS AND CERTIFICATIONS | Shock             | <b>Operating/non-operating:</b> MIL-STD-810G Method 516.6, Procedure 1                                                                                                                                                                              |
|                              | Vibration         | <b>Operating/non-operating:</b> MIL-STD-810G Method 514.6, Category 4                                                                                                                                                                               |
|                              | Certification     | CE, FCC Class A, E-Mark (E24), RoHS, UKCA                                                                                                                                                                                                           |