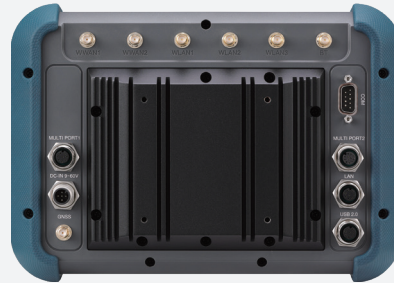




**TAIWAN  
EXCELLENCE  
2022**



## Main Features

- 8" TFT LCD monitor with projected capacitive touch screen
- IPS LCD with wide viewing angle and resolution 1280 x 720
- Touch panel cover thickness 3mm for IK08 protection
- Sunlight readable capability: 1,000nits LCD brightness
- CVBS input for analog camera x 4 (optional)
- Isolated CANBus 2.0 x 1
- Back-up battery for approx.15 min of operation (optional)
- Wide range DC input from 9V~60V DC in
- Complete IP65 waterproof
- Touchscreen is operable with various gloves (even with water spillage)

## Product Overview

VMC 2020, the 8-inch all-in-one robust vehicle mount computer. It is designed for warehouses, ports, logistics, and material handling markets. It is based on the latest Intel Atom® E3950 processor on both Windows and Linux platforms, and offers both IP65 and IK08. The VMC 2020 is able to support analog camera x4 (optional) for security purposes, with the ability to offer users video content in less than a second. With an optional backup battery, it can help back up data when car power battery is dangerously low. Its LCD panel 1,000nits guarantees users to read comfortably even under sunlight. Furthermore, its wide-range power input (9~60VDC) enables VMC 2020 to be capable of setting up in various facilities, forklifts, and vehicles. The design of mini-PCIe slots x 2 and M.2 slot x 1 is supported for WLAN/mSATA/capture card and WWAN wireless connectivity.

## Specifications

### LCD Panel

- 8-inch TFT LCD panel with LED backlight
- 1280 x 720 pixels (HD)
- Brightness: 1000 cd/m<sup>2</sup> (typical)
- Viewing angle: 170° (H)/170°(V)
- Contrast ratio: 1000:1 (typical)

### Touch Screen

- Projected capacitive
- Anti-glare coating surface
- Transmission rate: 80 ± 3%

### CPU

- Intel Atom® processor quad core E3950, up to 2.0GHz, 12W, 4 core

### Memory

- 1 x 204-pin DDR3L SO-DIMM socket support 1866MHz up to 8GB. Default 4GB

### Storage

- 1 x eMMC 64GB (BOM optional 128GB)
- 1 x mSATA (occupied mini-PCIe slot)

### Expansion

- 1 x Full size mini-PCIe socket (USB 2.0, PCIe 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0, PCIe 2.0/SATA 3.0)
- 1 x M.2 3042/3050/3052 Key B socket (USB2.0, USB 3.0/PCIe 2.0 (BOM optional)) for LTE/5G NR module with 2 x external Nano-SIM slot

### GNSS and Onboard Sensor

- 1 x Default u-blox NEO-M8N GNSS for GPS/Glonass/QZSS/Galileo/Beidou
- Optional M8U modules with dead reckoning available
- G Sensor (3-axis, 10-bit resolution)

### LAN

- 1-port LAN, 10/100/1000 Mbps Intel® I210-IT GbE

### Security

- TPM 2.0: Infineon SLB9665TT2.0FW5.62 (BOM optional)

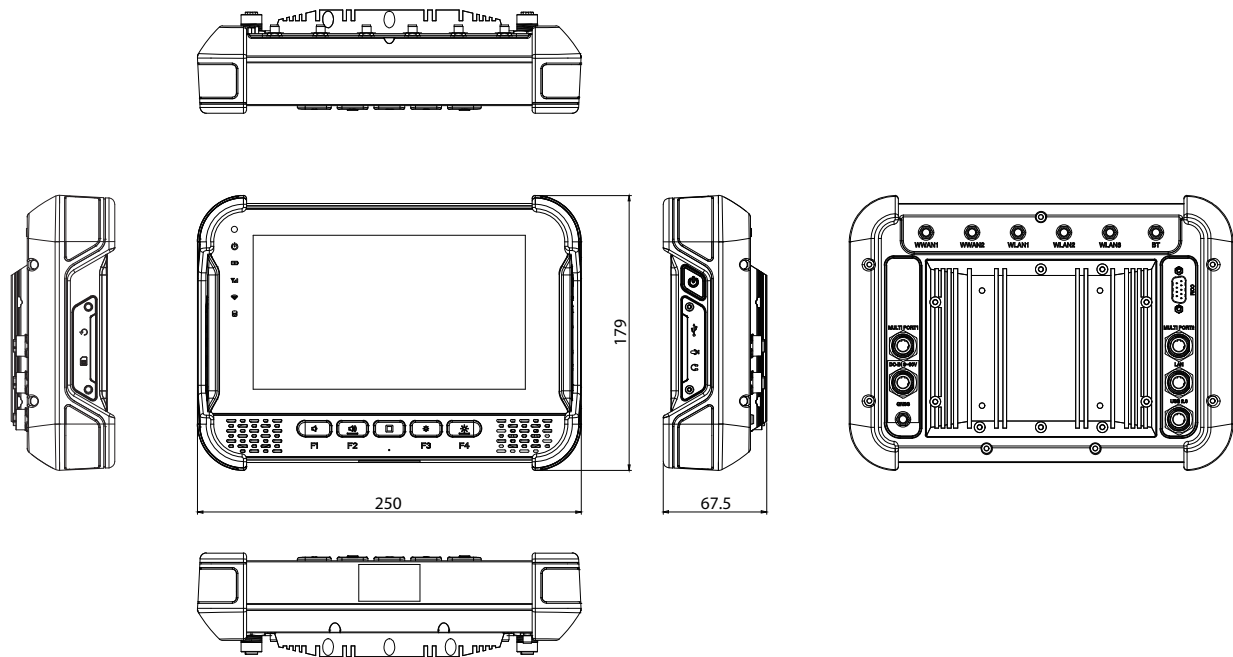
### I/O Interface-Front

- Volume control keys (+/-) with LED
- Brightness control keys (+/-) with LED
- F1~F4 programmable function keys with LED
- 1 x Shift key with LED
- 1 x Light sensor
- 5 x LED indicators (power, battery, WWAN, WLAN, storage)
- 2 x Built-in 2W speakers
- 1 x Built-in Mic

### I/O Interface-Lateral

- Left Side
  - 1 x System reset button w/ cover
  - 2 x Nano SIM slot w/ cover

## Dimension Drawing



- Right Side
  - 1 x Power button
  - 1 x USB 3.0 type A connector w/ cover
  - 1 x Mic-in, 1 x Line-out w/ cover

### I/O Interface-Rear

- 1 x Full RS232 (COM, w/ 5VDC, 12VDC)
- 1 x Power connector, M12 A-coded 5-pin
- 1 x 10/100/1000 Mbps LAN, M12 A-coded
- 1 x M12 A-coded 8pin for 2 x USB 2.0
- 1 x M12 (MULTI PORT1, A-coded 8-pin)
  - 2 x GPI
  - 2 x GPO
  - 1 x Isolated CANBus 2.0B
- 1 x M12 (MULTI PORT2, A-coded 12-pin)
  - 1 x RS232 (Tx, Rx)
  - 1 x RS232 (Tx, Rx)/RS422/RS485
  - PWM (speed)+direction+GND, optional 4 x composite video input/CAN-06
- 2 x SMA connector for WWAN
- 3 x SMA connector for WLAN
- 1 x SMA connector for Bluetooth
- 1 x SMA connector for GNSS

### Mechanical

- Cooling system: fanless
- Enclosure: plastic
- IK Rating: IK08 (housing and touch screen)
- Mounting: VESA 75
- Ingress protection: complete IP65
- Dimension: 250 x 179 x 67.5 mm
- Weight: 2.6 kg

### Power Management

- 9V~60V DC in
- Back-up battery for approx. 15 min of operation (optional)
- Reverse protection/over voltage protection/under voltage protection
- Ignition on/off control & programmable on/off delay timing

- Wake up by LAN, SMS, RTC and ignition

### RFID Module (optional, occupied 1 x USB 2.0)

- 13.56-MHz RFID/contactless standard protocols
- Compatibles with all major global secured baseband ISO standards including ISO14443 Type A, MIFARE classic cards, and Smartlabel ISO15693

### Environment

- Operating temperatures:
  - Ambient with air -30°C to 60°C, ambient with air and without battery
- Storage temperatures: -40°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random)
  - 2g@5~500 Hz (in operation)
- Vibration
  - Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  - Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24
- Shock
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers = 40g
  - Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment = 75g

### Operating System

- Windows 10
- Linux (Kernel 4.x)

### Standards/Certifications

- CE/FCC class B/E13/IK08

## Ordering Information

- **VMC 2020-PC1 (P/N: 10VC0202000X0)**

8" rugged vehicle mount computer with Intel Atom® E3950 up to 2.0GHz CPU, projected capacitive touch screen and complete IP65, 4GB DDR3L SO-DIMM, DC input 9~60 VDC