

# 5G CPE UF51

*Milesight*



UF51 5G CPE is dedicated to cost effective solutions for 5G wireless networking application. Adopting high-performance industrial platform of quad-core CPU and 5G cellular module, UF51 is capable of providing ultra-fast network and ultra-small package to ensure the extremely safe and reliable connection to the wireless network. With various kinds of installation methods, IP67 waterproof enclosure and novel design, UF51 is applicable to indoor and outdoor applications.

Meanwhile, UF51 also supports 2-port Gigabit Ethernet switch, serial ports (RS232/RS485) and DI/DO (Digital input/Digital output), which enable you to scale up M2M application combining data and video in limited time and budget.

UF51 is particularly suitable for smart offices, video surveillance, digital media implementations, industrial automation, traffic applications, robots and so on.

## ◆ Fast & Reliable Network

- Qualcomm quad-core CPU with big memory, providing high performance for data transmission
- Global 5G NSA&SA/4G LTE network for backup among multiple carrier networks
- Gigabit Ethernet ports for lightning transmission of data
- 2.4G & 5G dual band Wi-Fi support
- Embedded 8 5G antennas and 4 Wi-Fi antennas for best signal reception
- Equipped with I/O, serial port, GPS for industrial transmission applications

## ◆ Security & Reliability

- Embedded Python SDK for functional programming and seamless deployment to edge nodes
- Automated failover/failback among Ethernet, Cellular and Wi-Fi
- Secure transmission with VPN tunnels such as IPsec/OpenVPN/GRE/L2TP/PPTP /DMVPN/MilesightVPN
- Reliable firewall for secure networking: SPI, ACL, port mapping, IP/MAC binding, etc.
- Embeds hardware watchdog to automatically recover from various failure, ensure highest level of availability

## ◆ Robust Hardware Design

- Wide operating temperature range from -40°C to 70°C and industrial design for harsh environment
- IP67 waterproof and UV-protective enclosure for outdoor applications
- PoE or DC power supply optional
- Equipped with a vent plug to prevent condensation in enclosure
- Pole mounting, wall mounting, desktop, bottom magnetic or lock mounting for various applications
- 3-year warranty included

## ◆ Easy Maintenance

- The user-friendly web interface design and more than one option of upgrade help administrator to manage the device as easy as pie
- WEB GUI and CLI enable the admin to achieve simple management and quick configuration among a large quantity of devices
- DeviceHub provides easy setup, mass configuration, and centralized management of remote devices
- Efficiently manage the remote device through SNMP protocol

## ◆ Specifications

| <b>Hardware System</b>    |                                             |
|---------------------------|---------------------------------------------|
| CPU                       | Qualcomm Quad-core ARM Cortex-A7, 716.8 MHz |
| Memory                    | 512 MB DDR3 RAM and 8 GB Flash              |
| <b>Cellular Interface</b> |                                             |
| Network                   | 5G/4G LTE                                   |
| Antenna                   | 8 × Internal Antennas                       |
| SIM Slot                  | 1 (Mini SIM-2FF)                            |
| <b>Ethernet Interface</b> |                                             |
| Numbers                   | 2 × 10/100/1000 Mbps                        |
| Property                  | 1 × WAN + 1 × LAN or 2 × LAN                |
| Mode                      | Full or Half Duplex (Auto-Sensing)          |
| PoE                       | 1 × 802.3af PoE PD on WAN/LAN1 Port         |
| <b>Wi-Fi Interface</b>    |                                             |
| Antenna                   | 4 × Internal Antennas                       |
| Standards                 | IEEE 802.11b/g/n, 2.4 GHz                   |
|                           | IEEE 802.11a/n/ac, 5 GHz                    |
| Tx Power                  | 2.4 GHz: 26dBm (max)                        |
|                           | 5 GHz: 26.4dBm (max)                        |
| Rx Sensitivity            |                                             |
| 2.4 GHz                   | 802.11b: ≤ -92dBm@11Mbps                    |
|                           | 802.11g: ≤ -78dBm@54Mbps                    |
|                           | 802.11ac VHT20: ≤ -91dBm@MCS0               |
|                           | 802.11ac VHT20: ≤ -66dBm@MCS8               |
|                           | 802.11ac VHT40: ≤ -88.5dBm@MCS0             |
|                           | 802.11ac VHT40: ≤ -64dBm@MCS8               |
| 5 GHz                     | 802.11a: ≤ -91dBm@6Mbps                     |
|                           | 802.11a: ≤ -76dBm@54Mbps                    |
|                           | 802.11ac VHT20: ≤ -90dBm@MCS0               |
|                           | 802.11ac VHT20: ≤ -68dBm@MCS8               |
|                           | 802.11ac VHT40: ≤ -87dBm@MCS0               |
|                           | 802.11ac VHT40: ≤ -65dBm@MCS9               |
|                           | 802.11ac VHT80: ≤ -84dBm@MCS0               |

|                                     |                                                                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | 802.11ac VHT80: ≤ -60dBm@MCS9                                                                                                                |
| Modes                               | AP and Client Mode                                                                                                                           |
| Security                            | WPA/WPA2 authentication, WEP/TKIP/AES encryption                                                                                             |
| <b>GNSS<sup>1</sup></b>             |                                                                                                                                              |
| Antenna                             | 1 × Internal Antenna                                                                                                                         |
| Technology                          | GPS/GLONASS/Beidou/Galileo/QZSS                                                                                                              |
| <b>Serial Interface</b>             |                                                                                                                                              |
| Numbers                             | 1 × RS232 or 1 × RS485 (Switchable)                                                                                                          |
| Connector                           | 3.5 mm Terminal Block                                                                                                                        |
| Baud Rate                           | 300bps to 230400bps                                                                                                                          |
| <b>DI/DO</b>                        |                                                                                                                                              |
| Numbers                             | 1 × DI (Dry Contact) + 1 × DO (Wet Contact), Galvanic Isolation                                                                              |
| Connector                           | 3.5 mm Terminal Block                                                                                                                        |
| Maximum V/A                         | 0.3A@30VDC (DO)                                                                                                                              |
| <b>Others</b>                       |                                                                                                                                              |
| Reset Button                        | 1 × RESET                                                                                                                                    |
| LED Indicators                      | 1 × STATUS, 1 × Cellular Network                                                                                                             |
| Built-in                            | Watchdog, Timer                                                                                                                              |
| <b>Software</b>                     |                                                                                                                                              |
| Network Protocols                   | IPv4/IPv6, PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QOS, SNTP, Telnet, VLAN, SSH, etc. |
| VPN                                 | DMVPN, IPsec, OpenVPN, PPTP, L2TP, GRE                                                                                                       |
| Security                            | Access Control, DMZ, Port Mapping, MAC Binding, SPI Firewalls, DoS&DDoS Protection, Filtering(IP&Domain), IP Passthrough                     |
| Management                          | Web, CLI, SMS, On-demand dial up, SNMP v1/v2/v3, DeviceHub                                                                                   |
| AAA                                 | Radius, Tacacs+, LDAP, Local Authentication                                                                                                  |
| Multilevel Authority                | Multiple Levels of User Authority                                                                                                            |
| Reliability                         | VRRP, WAN Failover                                                                                                                           |
| Serial Port                         | Transparent (TCP Client/Server, UDP), Modbus Master/Slave, Modbus Gateway (Modbus RTU to Modbus TCP)                                         |
| <b>Power Supply and Consumption</b> |                                                                                                                                              |
| Power Input <sup>2</sup>            | 1. 9-48 VDC, with Surge-Protection and Reverse Polarity Protection                                                                           |

<sup>1</sup> GNSS is under development.

<sup>2</sup> DC and PoE supply can not be used at the same time.

## 2. 802.3af PoE PD

Power Connector 2-pin 3.5 mm Terminal Block

 Power Consumption  $\leq 7\text{ W}$ 
**Physical Characteristics**

Ingress Protection IP67

Housing Polycarbonate + Metal

 Dimension No Waterproof Connector:  $\phi 105 \times 110 \times 187\text{ mm}$  ( $\phi 4.13 \times 4.33 \times 7.36\text{ in}$ )  
 With Waterproof Connector:  $\phi 105 \times 110 \times 218\text{ mm}$  ( $\phi 4.13 \times 4.33 \times 8.58\text{ in}$ )

Installation Desktop, Pole Mounting, Wall Mounting, Bottom Magnet/Screw Mounting

**Environmental**

 Operating Temperature  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+158^{\circ}\text{F}$ )

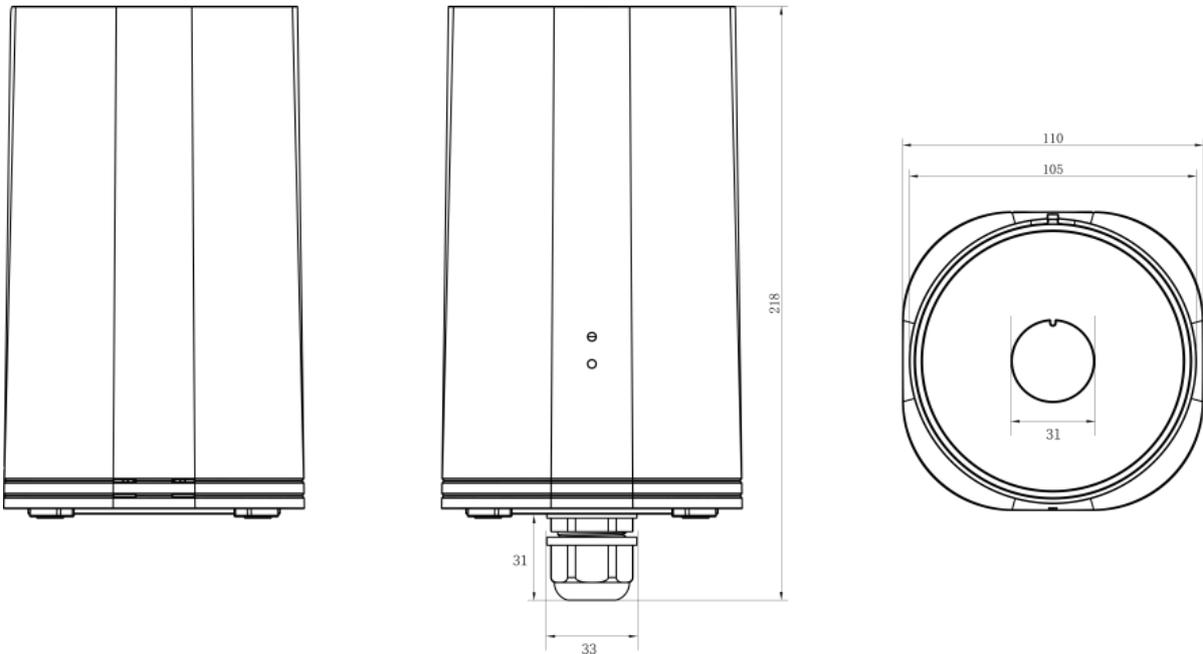
 Reduced Cellular Performance Above  $60^{\circ}\text{C}$ 

 Storage Temperature  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+185^{\circ}\text{F}$ )

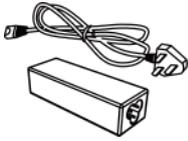
Ethernet Isolation 1.5 kV RMS

 Relative Humidity 0% to 95% (Non-condensing) at  $25^{\circ}\text{C}/77^{\circ}\text{F}$ 

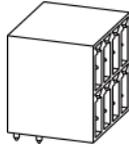
## ◆ Dimensions (mm)



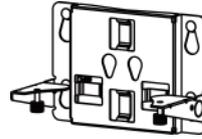
## ◆ Accessories



1 × PoE Injector



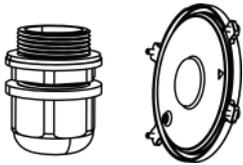
1 × 8-Pin Pluggable Terminal



1 × Mounting Bracket



4 × Rubber Feet



1 × Bottom Cover with Cable Gland



1 × Waterproof Rubber Ring



4 × Wall Mounting Kits



2 × Hose Clamps

**\*Note:** Contact us if you need any other special accessories or customized accessories.



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