Groundbreaking innovation, smart networking

Broadband Mesh Portable Device
E-mesh580P

· Networking-ready upon power-on
· Expandability and connectivity
· Compact and lightweight

· Quick configuration
· Long battery life
· Unbreakable security

OVERVIEW

Hytera E-mesh580P is the new-generation broadband wireless ad hoc network (WANET) device, which is designed to quickly establish a reliable network especially when public network is down. It provides wider communication coverage to ensure stable connectivity for public safety, major events, emergency response, field operation, and more.

What the E-mesh580P does is to fight side by side with frontline personnel. Powered by the intelligent platform, the E-mesh580P has an amazing networking capability from high throughput to stable transmission link, from relay to versatile network topologies. Moreover, the IP67-rated E-mesh580P can survive any harsh environment, and the long-lasting battery keeps the network services always on.

Unprecedented usability is built in the E-mesh580P. The compact and lightweight design makes the E-mesh580P easier to carry. The E-mesh580P allows users to get information quickly through the OLED display, LED indicator, or beep alert. The voice group call services let users stay connected with each other on the scene for better collaboration during deployment. Plus, the E-mesh580P is highly scalable from open APIs to diverse interfaces.

HIGHLIGHTS

Groundbreaking

- With the software-defined radio (SDR) architecture and exclusive enhancement algorithm, the E-mesh580P has a strong demodulation capability, high sensitivity, and stable transmission link.
- The throughput of single-hop network is up to 100 Mbps, and the throughput of 8-hop network is greater than 16 Mbps. In clear line of sight, the single-hop network reaches up to 100 km theoretically.
- As the low power consumption platform and power-saving algorithm extend the battery life, the E-mesh580P can power conventional services for up to 14 hours.

Agile and efficient

- Based on the 4G LTE \ 5G NR technologies, up to 32 E-mesh580P nodes can be deployed to create a wide-coverage peer-to-peer network without a core node.
- The E-mesh580P helps users identify the best deployment site by automatically detecting the signal strength and emitting a linkage alarm.
- With the external earpieces connected, the E-mesh580P allows users to make voice group call during deployment for improved work efficiency.
- The auto routing and manual routing enable the E-mesh580P nodes to be connected in the best way to create an ultra-strong network even in complex environments.

Stable

- Working in MIMO mode, Conventional mode, or Carrier Aggregation mode, the E-mesh580P has the robust anti-interference capability to face various electromagnetic environments. So it can always perform well anywhere.
- The E-mesh580P ensures the stability of network links, thanks to automatic frequency selection (AFS) and dynamic frequency hopping (DFH). So wireless network services are always on.

Easy to use

- The OLED display, LED indicator, beep alert, and functional keys make it easy for users to finish on-site configuration quickly and know its status intuitively and audibly.
- Made by state-of-the-art craftsmanship and of composite materials, the lightweight E-mesh580P is perfect for carrying on the move or deployable on the vehicle or airplane quickly.

Expandable

- The E-mesh580P provides open APIs that facilitate the development of third-party applications to meet the customer customized solutions.
- The E-mesh580P provides a variety of interfaces to ensure greater scalability, such as USB port, Ethernet interface, HDMI, and WLAN/BT antenna connector.

Reliable

- Data security is in our DNA. The E-mesh580P is extremely secure, thanks to the core chipset, authentication, software-hardware encryption, and whitelisting.
- IP67 rated, the E-mesh580P can stand up to water, dust, or other harsh environments.

AT A GLANCE

Rich interfaces

- WLAN/BT antenna connector
- GNSS antenna connector
- LTE antenna connector
- Dual RF antenna connectors
- Power inlet
- Aviation port 1 (can be adapted to dual Ethernet interfaces or optical port)
- Aviation port 2 (can be adapted to USB port, RS485 port, 12 V DC outlet, or HDMI)
- 3.5 mm audio jack

Easy to carry and deploy

- 211 mm x 239.9 mm x 70.7 mm (without the plug)
- Less than 3.5 kg (with the battery)
- Hide-able multifunctional handle
- Deployable on the back, vehicle, or airplane

Intuitive and audible

- OLED display
- Touchable power level indicator
- Functional keys
- Alerts for low power, abnormal link, IP conflict, or more

Stylish yet sturdy

- Magnesium-aluminum alloy case
- State-of-the-art craftsmanship
- Anti-corrosion, anti-drop, and anti-heat

Various power supplies

- 144 Wh cryogenic battery (14-hour conventional services, push-pull design, fast-charging)
- Mains power
- Vehicle power
- Solar energy

APPLICATION SCENARIOS

Urban firefighting

Forest firefighting

Geological disaster relief

Oil and gas exploration

Marine communications
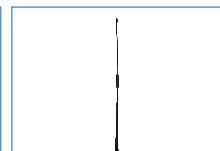

Expedition

Major event

Electrical power

SPECIFICATIONS

Item	Description
Frequency Range	512–582 MHz, customizable
RF Path	2T2R(2 Independent RF Chains)
Bandwidth	5MHz, 10MHz, 20MHz
TX Power	2 x 5 W (typical)
RX Sensitivity	≤-105dBm@10MHz
RF Modulation	OFDM
Interfaces	• WLAN/BT antenna connector • GNSS antenna connector • LTE antenna connector • Dual RF antenna connectors • Power inlet • Aviation port 1 (can be adapted to dual Ethernet interfaces or optical port) • Aviation port 2 (can be adapted to USB port, RS485 port, 12 V DC outlet, or HDMI IN) • 3.5 mm audio jack
Display	OLED (non-touchscreen)
Notification Method	LED indicator, OLED display, beep alert
Operating Voltage	12–24 V DC
Operating Time	> 14 hours (conventional services)
Weight	< 3.5 kg (with the battery)
Dimensions (W x H x D)	211 mm x 239.9 mm x 70.7 mm (without the plug)
Operating Temperature	-30°C～+55°C
Operating Humidity	5%~100%RH
IP Rating	IP67

ACCESSORIES   Standard ☐   Optional ☐

GNSS antenna and WLAN antenna

Battery

Earpiece with PTT

Aviation-to-Ethernet cable

Power adapter

Main antenna

Handle

Transport box
(up to 2 E-mesh580P devices)

Backpack with installation bracket

Bottom cover

12 V DC power output cable

Aviation-to-HDMI cable

Aviation-to-USB cable

L-shaped tripod with fixing bracket*

* It can hold at least 5Kg. The inch nuts 3/8-16UNC-2B are used.