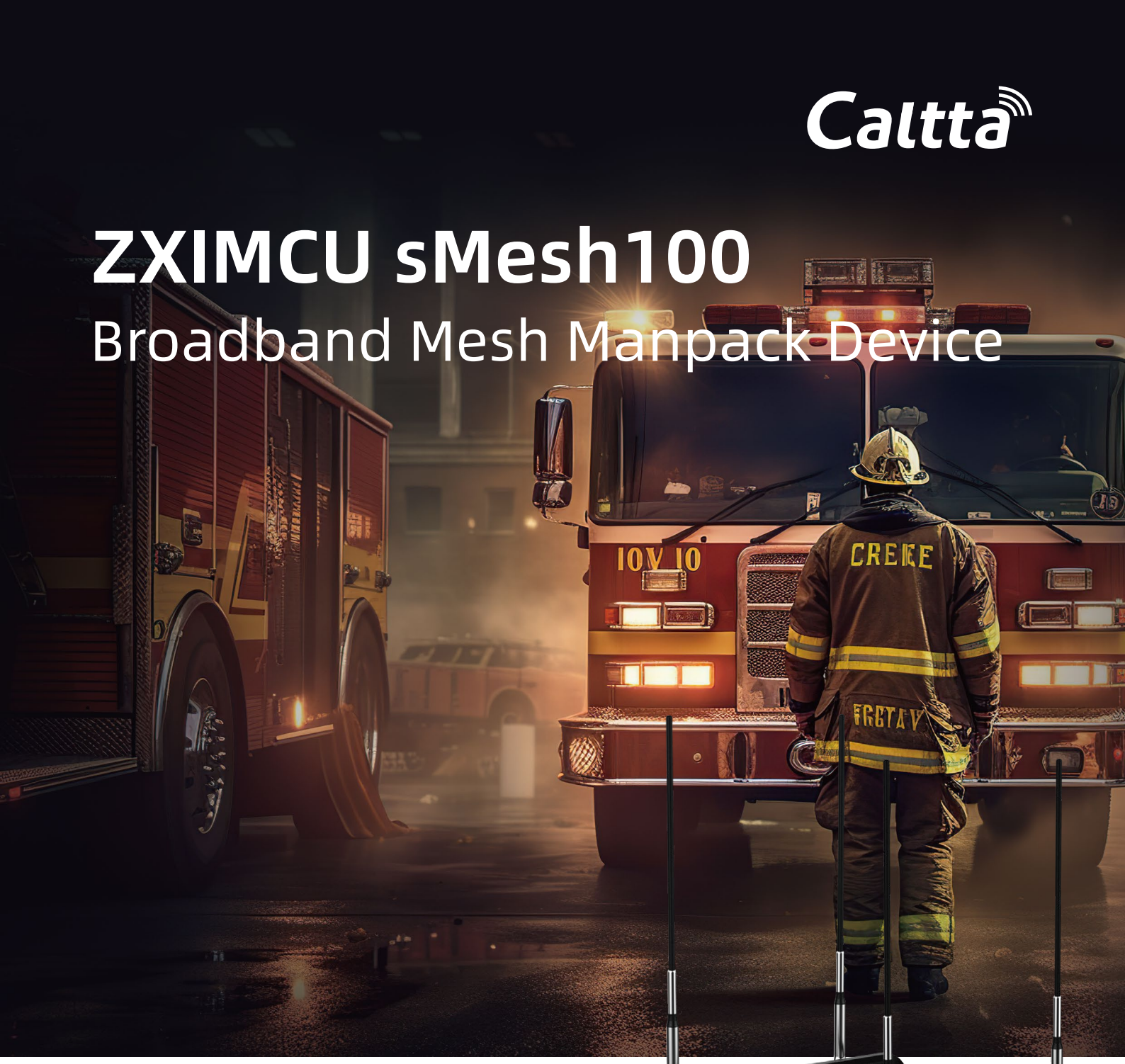
Caltta

ZXIMCU sMesh100

Broadband Mesh Manpack Device



The sMesh ("s" is smart, means highly flexible) broadband ad hoc network system adopts centerless and co-frequency ad hoc networking technology and a distributed network architecture. It supports arbitrary network topologies and multi-hop relaying, and can provide users with reliable, timely, efficient, and secure all-IP integrated multimedia services such as clear voice and broadband data under non-line-of-sight and high-speed movement conditions.

Functions

- Ad hoc network
- Arbitrary network topology
- Flexible networking with multiple nodes
- High bandwidth supports fast movement
- Anti-interence performance
- Anti-multipath capability
- High resistance
- High security
- All-IP architecture
- L2 data transparent transmission
- Diversified services
- Rich interfaces, easy to operate and maintain

Features

Quick Startup

- No configuration required, one-click startup, connect to the internet in no time.

Frequency Sweeping

- Support real-time frequency sweeping to check wireless interference.

Easy Management

- Can monitor the working status of devices at each node in real time. the quality of wireless links, and view GIS positioning information, etc.

High Reliability

- Waterproof and dustproof level (IP67), high vibration resistance, and operating temperature range of -40℃ to 60℃. Withstand diverse extreme environments.

High Resistance

- When a node in the network fails or the connection is interrupted, the system will re-select the best path for transmission to achieve network self-healing.

Multiple Deployment

- Support manpack, vehicle-mounted, UAV-mounted use, and can be deployed flexibly as needed. Meet communication needs on land, water, and in the air.

Flexible Networking

- With centerless and co-frequency ad hoc network, and flexible and configurable carrier bandwidth, it supports flexible and dynamic networking modes including: chain, star, tree, hybrid, etc.

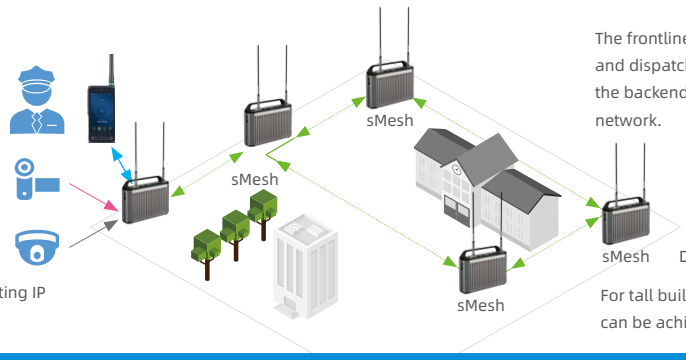
Diversified Services

- Support services including voice, video, data, positioning, etc. Able to be connected to satellite network, public network, LTE base stations, etc.

Application Scenarios

sMesh Independent Networking

Based on a centerless multi-hop ad hoc network technology, the device can realize rapid establishment of multi-node IP interconnection, link backhaul, etc.



The frontline command center can send the videos and dispatch information backhauled by sMesh to the backend command center via satellite or public network.

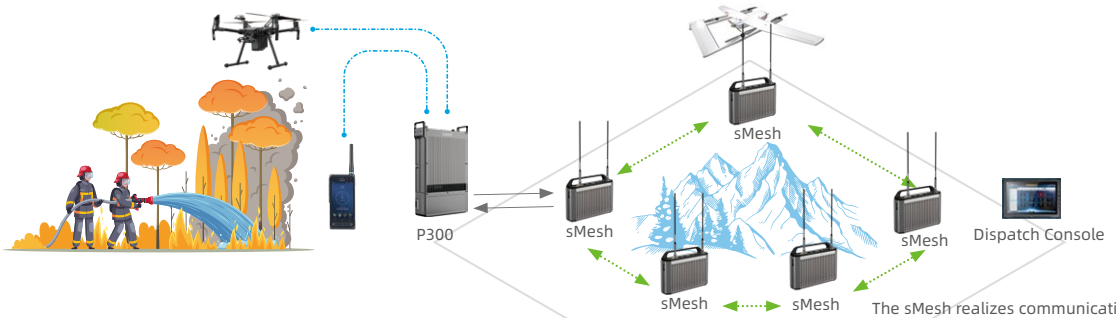
sMesh can realize frontline and backend communication via connecting IP cameras or Wi-Fi devices.

For tall buildings, multi-hop relay transmission can be achieved by adding intermediate nodes.

Application Scenarios: Public Safety, Urban Emergency, Fire Fighting and Rescue, Video Surveillance, etc.

sMesh Backhaul

The sMesh is the backhaul link between the frontline and the frontline command center. The manpack LTE system is carried to the frontline, and realizes on-site video and voice backhaul via sMesh device.



Realize backhaul of on-site data such as voice, video via UAVs, handheld devices, Individual devices, etc.

The LTE manpack system provides on-site LTE network coverage.

The sMesh provides a backhaul link for the LTE manpack system.

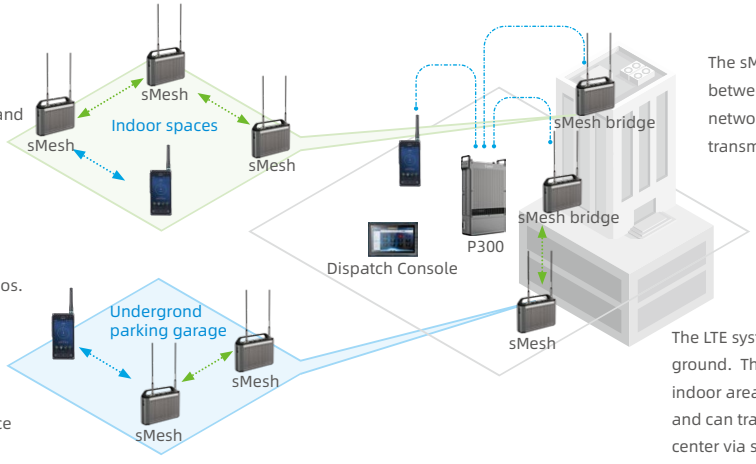
The sMesh provides multi-hop transmission via intermediate nodes.

The sMesh realizes communication between frontline and frontline command center, and interconnection with the backend command center via portable satellite devices.

Application Scenarios: Emergency Response such as Forest Fire Fighting, Disaster Rescue.

sMesh Extension

For LTE blind areas such as underground parking, indoor area of tall buildings, sMesh can be used to extend the network and realize video backhaul, dispatch and command in these complicated areas.



For complicated areas such as indoor spaces and underground parking garages, sMesh can expand network coverage through multi-hop extension.

The sMesh bridge provides bridging between the LTE network and the sMesh network, and realizes the voice and video transmitting back.

Frontline personnel transmit back indoor voice and video via LTE radios.

Frontline personnel transmit back underground parking garages voice and video via LTE radios.

The LTE system realizes data backhaul on the ground. The sMesh realizes data backhaul in indoor areas and underground parking areas, and can transmit data to the backend command center via satellite and public networks.

Application scenarios: Complicated Emergency Response such as Urban Fire Fighting Rescue, Public Safety Law Enforcement.

Specifications

General

Frequency	1.4GHz, Other bands customizable
Protocol	TDD
Transmission	COFDM
Bandwidth	1.25MHz/2.5MHz/5MHz/10MHz/20MHz
Transmitting Power	2x2W
Receiving Sensitivity	⩽-103dBm
Data Rate	⩾50Mbps, MIMO⩾90Mbps
Networking	Ad hoc network
Ad Hoc Network Maximum Nodes	More than 64 nodes
Hop	Suggest⩽9 hops
Encryption	DES/AES256
Power Supply	With a detachable battery, also support external power supply DC input: 27-36VDC
Working Time	12 hours

Environmental Conditions

Operating Temperature	-40°C～ +60°C
Storage Temperature	-50°C～ +70°C
Air Pressure Range	70 ～ 106 kPa
Dust and Water Resistance	IP67
Seismic Strengthening	GB/T 4798.7-2007 (Part 7: Portable & Non-stationary Use, Above Grade 7M2)

Physical

Dimensions	272mm×180mm×68mm (Without handle)
Weight	About 4kg (With battery)
Port	Network port: data transmission and nerwork management Wi-Fi(SMA): connect Wi-Fi antenna Audio: connect headphone RF(N): connect RF antenna GPS: GPS antenna, aviation plug structure Power port: external power supply Switch: main power switch

System Management

Unified Network Management	All nodes management , supports structures such as point-to- point, point-to-multipoint, chain, mesh, and hybrid topologies
	Support check the communication quality between nodes in real time
	Support the frequency scanning and allow real -time monitoring of interference in the frequency
	Support GIS map positioning, allowing real-time viewing of the location of each node
	Support multi-channel voice and data services

System Extension (Optional)

Public Network Access	Support 4G public network
External Video Access	Support HDMI external video access, realize the external video backhaul

General Disclaimer :
The specifications in this document are in accordance with the applicable standard test. Due to the continuous technology development, Caltta may change the specifications without prior notice.

Accessories

Standard


Li-ion Battery


Power Adapter


Aviation Plug Network Cable


GPS Module

Wi-Fi Antenna

Optional


USB HD Camera


HDMI Encoder

Gooseneck Antenna


Air Tube Earphone


Backpack


GD680 4G Module


PAD Dispatch Console


Laptop Dispatch Console


Protective Trolley Case

CALTTA TECHNOLOGIES CO.,LTD.

Address: 12F/Building G2, International E-City, Nanshan, Shenzhen, China

Web: https://www.caltta.com/ **E-mail:** sales@caltta.com **Post:** 518052