



ANYMESH

万蓝通信

ANYMESH-SDR Ad Hoc Radio

High-Quality Secure Communication for Mission-Critical Applications



万蓝通信

Take Connection Easy

REDEFINING WIRELESS
CONNECTIVITY

Company Profile: Beijing Wanlan Technology Co., Ltd.



Enterprise Vision

To become an industry leader in the development of wireless ad hoc network products and a pioneer in new wireless communication technologies, driving innovation and setting benchmarks for the future of secure, reliable connectivity.



Core Focus & Expertise

Dedicated to R&D, production, and sales of **100% domestically produced SDR platforms** integrated with FPGA and ADC chips, as well as wide/narrowband wireless MESH ad hoc network radios, delivering high-performance and fully autonomous wireless solutions.



ANYMESH



Innovation Ecosystem Hub

Based in Zhongguancun Hongfu Science and Technology Park, leveraging a vibrant tech ecosystem to incubate breakthroughs in wireless communication hardware and algorithms.



Verified Excellence

Accredited with national-level high-tech enterprise status, ISO certifications, and multiple patents, solidifying our reputation for quality and technical superiority.

High-Quality Secure Communication



Flexible Communication Mode

Offers infrastructure independence, enabling stable and reliable communication between mobile nodes without relying on fixed base stations.



Multipath Resistance

Utilizes diversity reception techniques to effectively combat signal reflections and support stable Non-Line-of-Sight (NLOS) transmission.



Self-Organizing Network

Adopts dynamic topology with intelligent routing algorithms that automatically discover and select optimal transmission paths for network adaptability.



Frequency Offset Resistance

Actively compensates for Doppler frequency shifts caused by high-speed movement, maintaining consistent and reliable data transmission at ultra-high velocities.



Anti-Jamming Capability

Integrates autonomous frequency selection and adaptive frequency-hopping technologies to mitigate interference and ensure signal integrity in complex environments.



Security and Confidentiality

Supports both built-in and external security modules, combining software encryption protocols with hardware-level protection for end-to-end data security.

Product Overview



ANYMESH brand ad hoc network products employ a multi-carrier **TDD-COFDM + MIMO** technology architecture, built on an FPGA hardware platform and an SDR software-defined radio platform. They support loading four types of waveform algorithms for versatile application scenarios.

Peak Data Rate

Achieves up to 260 Mbps of throughput at 40MHz bandwidth for high-speed data transmission.

Network Scale

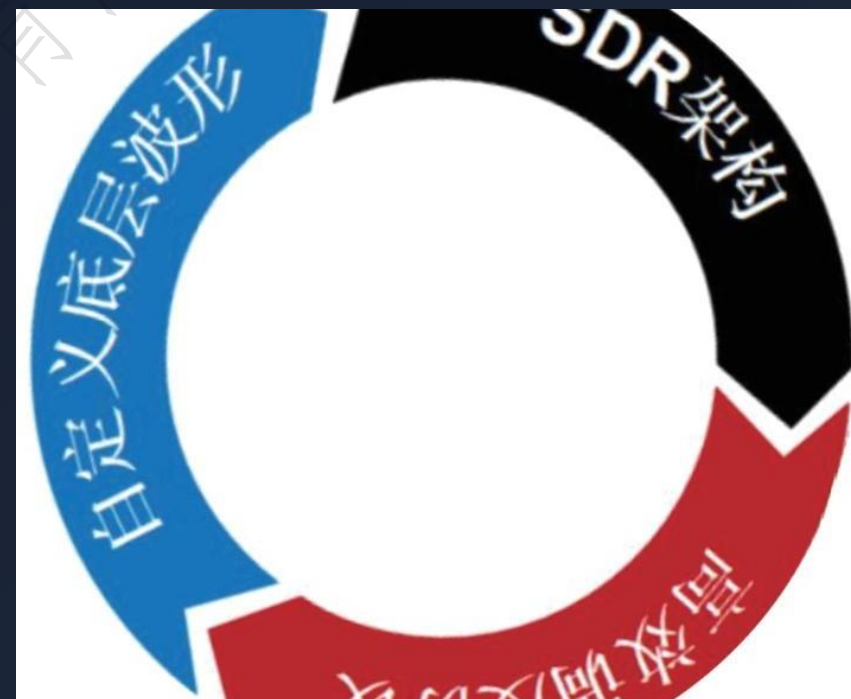
Supports a robust network topology with up to 256 nodes for large-scale deployments.

Communication Range

Provides a line-of-sight (LOS) range exceeding 300 km, ensuring long-distance connectivity.

Full Customization

Flexible customization of protocols, frequency, power levels, and interfaces for specific needs.



SDR architecture diagram illustrating the integration of custom underlying waveforms, efficient scheduling protocols, and flexible hardware abstraction layers.

Product Series



UAV Relay Station Series

High-performance relay nodes extend network coverage and enhance signal stability in complex environments, ensuring seamless connectivity across vast areas.



2nd or 3rd Gen Multi-Scenario Series

Integrated handheld, manpack, and vehicle-mounted terminals deliver robust, low-latency communication for mission-critical field operations and rapid deployments.



Vehicle-Mounted Chassis Series

Compact 1U/2U rack-mountable systems offer high-power, reliable mesh networking for specialized vehicles, command centers, and fixed installations.



OEM Core Board Series

Flexible, high-performance core modules designed for seamless integration into third-party devices, enabling custom mesh network solutions for OEM partners.



Unmanned aerial vehicle image transmission relay station series



Outdoor Fixed Station Base Units

Functional Features



Network Architecture

SDR software-defined radio architecture, distributed, centerless, IP MESH ad hoc network for resilient connectivity.



Hardware Platform

FPGA + ADC chip-based SDR solution, fully customizable to achieve 100% localization for secure, domestic production.



Communication Waveform

TDD-COFDM + MIMO for full-duplex bidirectional communication, with four selectable software waveforms (A, B, C, D).



Bandwidth Modes

Flexible options: 2.5/5/10/20*/40* MHz. The 20/40MHz wide bandwidths are available with optional hardware support.



Dynamic Routing

Advanced adaptive routing protocol supports diverse topologies: star, chain, and mesh networking for versatile deployment.



Mobility Performance

Standard version up to Mach 1.9 (2315 km/h); optional high-performance version supports speeds up to Mach 3.8.



Multi-Hop Relay

Scalable network supporting no less than 64 nodes, with a maximum hop count of 32 for extended coverage.



Security Encryption

Features DES, AES128/256, SM4 national encryption algorithms, with optional hardware encryption for maximum security.



Wireless Expansion

Integrated WIFI hotspot enables easy connection of cameras, smartphones, tablets, and other end-user devices.

Networking Topology



ANYMESH product line offers a comprehensive range of advanced devices engineered to achieve seamless, high-efficiency networking across diverse environments, ensuring reliable connectivity and robust performance in mission-critical scenarios.

01 / TYPICAL TOPOLOGIES

MESH Star Topology

 Centralized control with distributed nodes for simplified management and broad coverage in hub-and-spoke deployments.



Adaptive Routing

Dynamic path optimization for minimal latency.



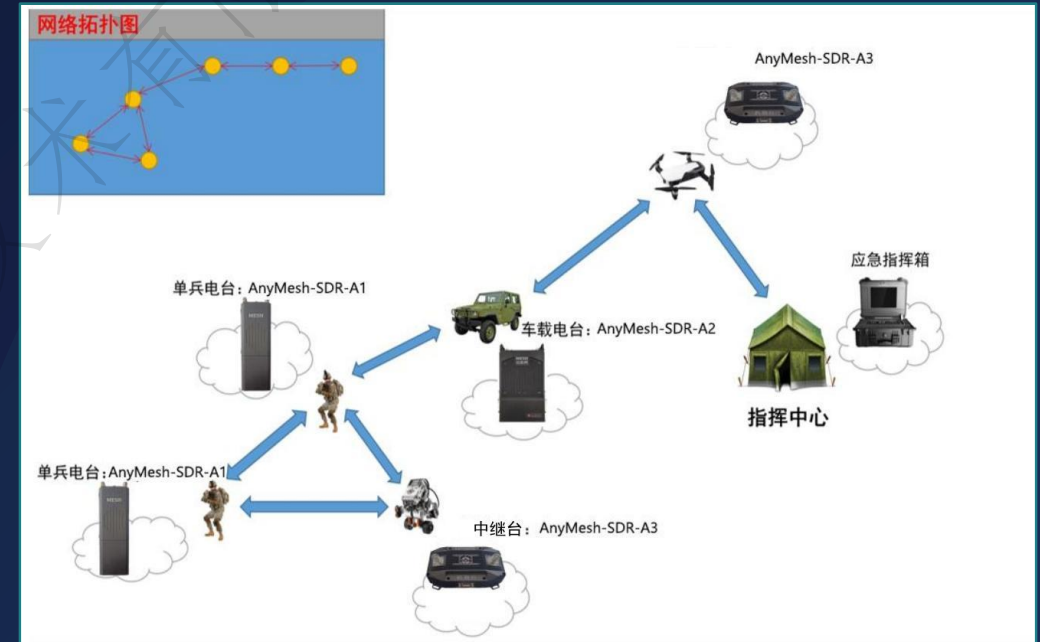
Auto Formation

Zero-configuration setup for new nodes.



Mesh & Chain

Flexible structures for complex terrains.



The diagram illustrates a fully integrated ANYMESH network, showcasing interoperability between handheld, vehicle-mounted, and fixed station devices. This topology ensures resilient communication and efficient information relay across the entire operational domain.

Communication Waveforms: A-Waveform



A-Waveform is a high-speed, medium-scale broadband ad hoc waveform, optimized for scenarios demanding robust connectivity and high data throughput in dynamic environments.

Application Scenarios & Services

Ideal for air-to-ground, maritime, and long-distance ground communications. Delivers integrated services including voice/video telephony, real-time position tracking, serial port data transmission, and high-speed IP-based data connectivity for mission-critical operations.

Peak Data Rate

260Mbps

Network Scale

64+Nodes

Multi-Hop Capability

32+Hops

Carrier Bandwidth

2.5/5/10/20/40 MHz
(Hardware Selectable)

Communication Waveforms: B-Waveform



Core Technical Features

Optimized for high-speed, large-scale broadband ad-hoc networking, delivering exceptional performance in dynamic, complex environments. It ensures low latency, fast node switching, and robust support for integrated voice, high-definition video, and high-throughput IP data services across vast networks.



Key Application Scenarios

Ideal for mission-critical, large-scale deployments including smart city infrastructure management, industrial IoT sensor networks, and wide-area tactical military communications. It seamlessly connects dispersed nodes in both urban and remote settings, enabling reliable, high-data-rate connectivity where traditional networks struggle.



Performance Specifications



260 Mbps Peak Rate

Sustained at 40MHz bandwidth for high-throughput data.



256 Nodes

Massive network scale support



8+ Hops

Deep multi-hop coverage range

Summary: B-Waveform bridges the gap between large-scale connectivity and ultra-high data rates for modern critical infrastructure.

Communication Waveforms: C-Waveform



A medium-speed, ultra-large-scale chain ad hoc waveform optimized for linear infrastructure monitoring and patrol missions.

Key Operational Features

Engineered for low latency and fast node switching, it delivers high service data rates, ensuring seamless connectivity even in rapidly changing network topologies.

Target Application Scenarios

Ideal for ultra-large-scale multi-hop chain networks such as oil/gas pipeline inspection, power line monitoring, river and coastal patrol, and linear infrastructure security.



Peak Data Rate

112Mbps



Network Scale

UnlimitedNodes



Multi-Hop Range

∞Hops Supported



Reception Sensitivity

≤-103dBm @5MHz

Communication Waveforms: D-Waveform



A low-speed, large-scale narrowband trunking ad hoc waveform engineered for reliable long-range connectivity, prioritizing robust voice intercom and low-rate data transmission in wide-area network deployments.



Core Technical Features

Delivers an exceptionally long single-hop transmission distance with high reception sensitivity, ensuring stable signal capture even in challenging propagation environments.



Primary Application Scenarios

Optimized for mission-critical voice intercom systems and low-speed sensor data transmission across large-scale, geographically dispersed ad hoc networks.



Peak Data Rate

900Kbps



Network Scale

≥256Nodes



Multi-Hop Capability

≥6Hops



Reception Sensitivity

≤-117dBm

Product Series: MESH-SDR Product Family



Handheld Radio A1 Series

Lightweight, portable design with IP68-rated protection, engineered for reliable use by individual soldiers in harsh field environments.

Scenario: Individual Soldier / Tactical Patrol / Field Ops



Manpack Radio A2 Series

A powerful portable base station with extended range, designed for emergency command, rapid deployment and field headquarters.

Scenario: Emergency Command / Field Base / Rapid Setup



Airborne Relay Station A3 Series

Ultra-lightweight and vibration-resistant, designed for drones and unmanned platforms to establish airborne communication relays.

Scenario: UAV Relay / Unmanned Systems / Airborne Mesh



Fixed Station A4 Series

High-power industrial-grade fixed station built for wide-area coverage, permanent infrastructure and reliable network backbone.

Scenario: Wide-Area Coverage / Border Defense / Base Station



Vehicular Radio A5 Series

Rugged vehicular radio for platforms and convoys, ensuring stable on-the-move communication in challenging environments.

Scenario: Convoy Comm / Vehicle-Mounted / Mobile Command



OEM Core Module Series

Highly integrated compact module that enables seamless integration into custom devices and industry-specific terminals.

Scenario: Device Integration / Custom Terminals / IoT

SDR Series Product Specifications: A1 Handheld Radio



ANYMESH-SDR-A1 **(2W / 4W / 8W)**

Screen:Not supported

Transmit Power:Dual channel, 2×1W
Or 2×2W , Or 2×4W

Range (LOS):3-5 km Or 5-10 km
(Ground to Ground)

Power Consumption:6~15 W Or 12~25
W

ANYMESH-SDR-A1G **(2W / 4W / 8W)**

100% localization

Screen:Not supported

Transmit Power:Dual channel, 2×1W
Or 2×2W , Or 2×4W

Range (LOS):3-5 km Or 5-10 km
(Ground to Ground)

Power Consumption: 6~15 W Or 12~25
W

ANYMESH-SDR-A13 **(2W / 4W / 8W)**

Screen:1.8-inch display screen

Transmit Power:Dual channel, 2×1W
Or 2×2W , Or 2×4W

Range (LOS):3-5 km Or 5-10 km
(Ground to Ground)

Power Consumption: 6~15 W Or 12~25
W



Frequency Bands

U/L/S band (customizable options
available)



Bandwidth Support

1.25-10MHz (Std), 20MHz (Optional)



Data Rate & Network Entry

Up to 125Mbps@20MHz; Network entry < 1 second

Product Details: Handheld Radio - AnyMESH-SDR-A1 Series



A1 Series Individual Soldier Terminal

Ultra-compact and lightweight body design
Supports long endurance & adapts to all-weather complex environments

Advanced ad hoc network tech, multi-hop relay,
stable voice & data transmission in complex terrain
without base stations.

Product Positioning: A handheld ad hoc network radio for individual soldier combat, emergency rescue, and law enforcement. It enables centerless, self-healing high-speed data & voice communication, serving as the core communication support in complex environments.



Lightweight & Portable

Weighs only 880g, compact & one-hand grip,
optimized for long-term mobility and covert
operations.



Visual Control

3.5-inch HD color display, real-time network
topology, signal strength & terminal status,
intuitive HMI.



Physical Buttons

Independent buttons,
glove-friendly operation,
quick configuration
switching for complex
battlefields.



One-Click Ad Hoc Network

Auto node discovery, no
manual config, rapid
network establishment,
zero-latency emergency
response.



GPS/Beidou Dual- Mode

Built-in dual-mode module,
real-time position sharing,
precise situational
awareness without public
network.



Long-Lasting Battery

Large-capacity battery for hours of operation,
supports fast charging & hot-swap for prolonged
missions.



Industrial-Grade Protection

IP65 dust/water proof, shock/vibration resistant,
adapts to extreme high/low temp, humid
environments.

A1 Series Technical Specifications



01 Wireless Core Performance

Operating Frequency Band (Customizable)
500M-680MHz / 1.3G-1.5GHz

Transmit Power & Bandwidth
2W/4W Adjustable | 1.25~20MHz Selectable

Peak Data Rate
65Mbps(@10MHz) / 125Mbps(@20MHz)

Communication Coverage Distance
1-5km (2W) / 5-10km (4W) in Open Area

02 Networking & Environmental Adaptability

Ad Hoc Network Scale Capacity
Supports 64 concurrent nodes, multi-hop relay ≥ 32 hops

Wide Temperature Stable Operation
Operates in extreme temp: -40°C to +65°C

Anti-Jamming & Reliability
TDMA anti-jamming algorithm, supports fast frequency hopping

Network Topology Characteristics
Centerless ad hoc network, auto relay, ms-level self-healing

03 Hardware & Power Supply Specifications

Compact and Portable Design
210×70×35mm, only 880g in weight

Long-Lasting Battery Life Guarantee
Built-in lithium-sulfur battery, 4-6 hours continuous work

Rich Peripheral Interfaces
RJ45, RS232/485 serial ports, voice interface

Rugged and Durable Structure
High-strength aluminum alloy shell, dust/water proof, excellent heat dissipation

Summary: The A1 series handheld radio integrates high-performance ad hoc network technology and industrial-grade reliability, specially designed for emergency command, field operations, and complex electromagnetic environments, providing stable communication support with high bandwidth and low latency.

SDR Series Product Specifications: A2 Manpack Radio



ANYMESH-SDR-A2 (4W)

TRANSMIT POWER

Dual channel, 2×2W output

Range:5-10km (Ground) | Data: 65/125* Mbps

Interfaces:LAN×2, Serial×2, Voice×1

Battery:8~10h | Weight: 1970g

ANYMESH-SDR-A2 (10W)

TRANSMIT POWER

Dual channel, 2×5W output

Range:10-15km (Ground) | Data: 65/125*/260* Mbps

Interfaces:LAN×2, Serial×2, Voice×1

Battery:8~10h | Weight: 3830g

ANYMESH-SDR-A23 (20W)

TRANSMIT POWER

Dual channel, 2×10W output

Range:15-20km (Ground) | Data: 65/125*/260* Mbps

Interfaces:LAN×2, Fiber×2, Voice×1

Battery:8~10h | Weight: 4300g



All models support U/L/S band (customizable), ideal for mobile base station applications with long endurance and versatile connectivity.

Product Details: Manpack Radio - AnyMESH-SDR-A2 Series



Portable Base Station ·
Manpack Relay Station



全功率段型号覆盖

A2-4W

便携轻量版

A2-10W

标准增强版

A2-20W

广域覆盖版



20W Extreme Power Output

Supports up to 20W RF output, with signal penetration and coverage far exceeding similar products. It can easily penetrate complex obstructions like mountains and buildings, adapting to harsh communication environments without public networks.



One-Click Automatic Link Establishment

Supports zero-configuration rapid deployment. The device automatically scans surrounding nodes and forms a Mesh network on startup, eliminating complex manual configuration and shortening system setup time.



Military-Grade Power Amplifier

Adopts military-grade high-linearity power amplifier modules to reduce signal distortion and interference, maintaining stable communication quality in extreme scenarios like weak signal areas and high-speed movement.



Ultra-Long Battery Life

Equipped with a high-capacity smart lithium battery, supporting over 8 hours of continuous communication with a single battery. Hot-swappable battery replacement ensures uninterrupted missions without shutdown.



Built-in HD Video Encoding

Integrates high-performance H.264/H.265 video codec, enabling low-latency real-time backhaul of 1080p@30fps HD video, helping the command center grasp on-site visuals and improve decision efficiency.



Multi-Terminal WiFi Interconnection

Built-in standard WiFi hotspot allows smart terminals like smartphones and tablets to directly access the ad hoc network, enabling voice calls, data transmission, and video interoperability between multiple devices.

A manpack ad hoc network radio specially designed for complex environments, integrating portability and high performance. With extreme performance and portable design, it is the core of communication support for emergency command, field operations, and disaster relief, creating a reliable "central nervous system" in the field of emergency communications.

A2 Series Technical Specifications



 Operating Frequency Band	500M-680MHz / 1.3G-1.5GHz, (Customizable)	 Multi-Hop Capability	Support non blocking forwarding with 32 hops or more, millisecond level link self-healing, ensuring uninterrupted communication
 Transmit Power	4W / 10W / 20W (Customizable)	 Operating Temperature	-Industrial grade wide temperature design from 40 °C to+65 °C, suitable for harsh outdoor environments such as high cold and high temperature
 Channel Bandwidth	1.25/2.5/5/10/20MHz (Customizable)	 Device Dimensions	About 280×220×60mm, Compact body, compact size, easy for individual soldiers to carry or integrate in vehicles
 Peak Rate	65Mbps(@10MHz) / 125Mbps(@20MHz), (Customizable)	 Device Weight	The whole machine weighs only 1.8kg/3.5kg/4.9kg, with a lightweight carrying design to reduce the load on individual soldiers
 Communication Distance	The ground-to-ground line-of-sight range is 5-20 km, featuring strong diffraction capability and supporting non-line-of-sight transmission in complex environments	 Power Supply Method	Built in intelligent lithium battery, supports hot swapping, has a continuous battery life of 6-8 hours, and the large capacity version can reach 12 hours
 Networking Scale	Support 64 node concurrent access, Mesh decentralized self-organizing network architecture, fast deployment, flexible expansion	 Interface Type	Standard Ethernet port, RS232/485 serial port, voice interface, optional HDMI video extension, strong compatibility

Product Details: Airborne Relay Station - AnyMESH-SDR-A3 Series



Dedicated Ad Hoc Network Radio for Drones



A dedicated ad hoc network radio for drones, specially designed for drones and unmanned platforms, breaking through space and payload limits, adopting advanced ad hoc network technology to ensure stable communication connections in complex airspace environments.

The whole machine is as light as 160g.

 **Ultra-Portable Model**
A3-1W (Lightweight Choice)

 **Standard Enhanced Model**
A3-2W / A3-4W (Mainstream)

 **High-Power Coverage Model**
A3-10W/20W (Wide Coverage)

 **Extreme Lightweight**
Weighing only 160g with ultra-low power consumption, it perfectly fits small drones and payload-limited unmanned platforms, effectively reducing flight energy consumption and load pressure.

 **Compact Embedded**
With a highly integrated modular design, it is compact and can be easily embedded into the limited installation space of various drones, compatible with multiple flight control and power interfaces for convenient deployment.

 **Long-Distance Air-Ground Communication**
With a line-of-sight communication distance of up to 150km and strong signal penetration, it easily covers large operation areas, fully meeting the long-distance communication needs of drone BVLOS missions.

 **High-Speed Dynamic Communication**
Optimized for high-speed mobile scenarios with built-in Doppler effect compensation algorithm, it ensures stable communication links and no data packet loss even when the drone is flying at high speed or maneuvering rapidly.

 **Swarm Intelligent Networking**
Supports dynamic ad hoc networking for multiple drones. The centerless mesh network architecture has self-healing capabilities, enabling swarm collaborative operations and adapting to complex formations and dynamic networking needs.

 **HD Video and Data Co-Transmission**
Supports parallel real-time transmission of 1080P HD video streams, flight control commands and telemetry data, with low latency and high bandwidth, ensuring clear transmission of operation images and accurate delivery of control commands.

SDR Series Product Specifications: A3 Relay Station



ANYMESH-SDR-A3 (1W)

TRANSMIT POWER
Dual channel,
500mW*2
RANGE (Air-Air/Ground)
>20-30km
DATA RATE / LATENCY
65/95 Mbps • 7ms avg.
WEIGHT (bare)
~160g

ANYMESH-SDR-A3 (2W)

TRANSMIT POWER
Dual channel, 1W*2
RANGE (Air-Air/Ground)
>40-60km
DATA RATE / LATENCY
65/125 Mbps • 7ms avg.
WEIGHT (bare)
~318g

ANYMESH-SDR-A3 (4W)

TRANSMIT POWER
Dual channel, 2W*2
RANGE (Air-Air/Ground)
>60-100km
DATA RATE / LATENCY
65/125 Mbps • 7ms avg.
WEIGHT (bare)
~318g



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Application Topology

Seamless connectivity for UAV swarms and robotic platforms, establishing robust mesh networks between air/ground units and the command center with long-range, low-latency links.



EXTREME MOBILITY: 2315km/h (~Mach 1.9) | ULTRA-LOW LATENCY: 7ms single-hop average

SDR Series Product Specifications: A3 Relay Station



ANYMESH-SDR-A3 (10W)

TRANSMIT POWER
Dual channel, 5W*2
RANGE (Air-Air/Ground)
>100-150km
DATA RATE / LATENCY
65/125 Mbps • 7ms avg.
WEIGHT (bare)
~980g

ANYMESH-SDR-A3 (20W)

TRANSMIT POWER
Dual channel, 10W*2
RANGE (Air-Air/Ground)
>150-200km
DATA RATE / LATENCY
65/125 Mbps • 7ms avg.
WEIGHT (bare)
~1500g

ANYMESH-SDR-A3 (40W)

TRANSMIT POWER
Dual channel, 20W*2
RANGE (Air-Air/Ground)
>200-300km
DATA RATE / LATENCY
65/125 Mbps • 7ms avg.
WEIGHT (bare)
~1500g



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Application Topology

Seamless connectivity for UAV swarms and robotic platforms, establishing robust mesh networks between air/ground units and the command center with long-range, low-latency links.



EXTREME MOBILITY: 2315km/h (~Mach 1.9) | ULTRA-LOW LATENCY: 7ms single-hop average

A3 Series Technical Specifications



01 Core Performance Indicators



Wideband Coverage Design
Covering 500M-680MHz/1.3G-1.5GHz frequency bands and supporting customized development and adaptation for special frequency bands



Multi-Gear Power Adjustable
Optional 1W/2W/4W/10W/20W/40W gears to flexibly match the transmission power requirements of various scenarios



High-Speed Transmission
Channel bandwidth 1-20MHz, supports dynamic adjustment of peak speed up to 125Mbps, ensuring high-definition feedback

02 Networking & Coverage Capability



BVLOS Communication
Air to air: 20-100km/air to ground: 30-150km
Long distance stable communication link under line of sight conditions



Large-Scale Ad Hoc Network
Supports up to 64 nodes for concurrent networking and decentralized self-organizing architecture, with extremely strong network robustness



Strong Multi-Hop Relay
Support data relay forwarding capability of 32 hops or more, effectively expanding coverage in non line of sight (NLOS) scenarios

03 Physical & Environmental Characteristics



Industrial-Grade Wide Temperature Design
The working temperature range is -40 °C to +65 °C, making it easy to cope with harsh outdoor environments such as high temperatures and extreme cold



Lightweight and Miniaturized
Size: 120 × 92 × 30mm (airborne specification) Weight: 160g (1W model) to 800g (40W model)



Flexible Adaptation
Power supply: 12-36V DC wide voltage input
design interface: standard network port, RS232/485 and customized interface

Summary: The A3 series relay station, with high power, multi-hop networking, and wide temperature adaptability, is specially built for drones, robots, and special equipment, providing a stable and reliable long-distance data link.

ANYMESH-SDR-A4 Outdoor Fixed Station



10W / 20W High-Power Model

Transmit Power:

Dual Channel, 2 × 10W, 2 × 5W

Air-ground communication range of 100-200km, ideal for medium-scale regional network coverage and relay deployment.

40W / 80W Long-Range Models

Max Transmit Power:

**2 × 40W (80W total)
2 × 20W (40W total)**

Achieves an ultra-long air-ground range of 200-300km. The ultimate cornerstone for building wide-area, high-capacity backbone networks.



High Data Rate

65/125/260 Mbps adaptive



Low Latency

7ms single-hop average



Robust & Compact

220V/24-48V, ~7kg weight



Deployment Scenario: Tower Relay

Deployed on high towers, the A4 Base Station acts as a central hub to extend communication coverage. It seamlessly connects handheld, manpack, and vehicle-mounted nodes, ensuring reliable connectivity across vast, complex terrains with non-line-of-sight resilience.

Product Details: Fixed Station - AnyMESH-SDR-A4 Series



Industrial-grade base station design •
Rugged and durable
Core node of ad-hoc network for harsh outdoor
environments

A4-20W

Standard Power Type
Lightweight design for easy
installation, ideal for small-to-
medium networks with low power
consumption.

A4-40W

Enhanced Coverage Type
40W high power for strong
penetration, suitable for complex
urban and hilly terrain
communications.

A4-80W

Flagship Long-Range
80W extreme power for tens of km
coverage, core anchor for wide-area
command.



High-Power Output • Ultra-Long
Coverage

Up to 80W RF power, tens of km coverage,
penetrates obstacles, solving wide-area comms in
wild/mountainous areas.



IP67 Protection • Fearless of
Weather

Sealed aluminum body, temperature/salt spray
resistant, withstands rain/sand, adapts to harsh
outdoor conditions.



Cascaded Relay • Unlimited
Expansion

Supports centerless ad-hoc & multi-hop relay, auto-
routes signals, flexibly expanding networks over
barriers.



National Encryption • Secure &
Reliable

Built-in SM2/SM3/SM4 algorithms, full-link high-
strength encryption, preventing eavesdropping &
interference.



Multi-Service Bearer • Efficient
Transmission

Supports HD video, voice & data sync transmission,
low latency/high throughput for command &
monitoring.



Web O&M • Remote Control

Browser-based remote config, monitoring &
upgrade, no on-site ops needed, reducing O&M
costs.

Product Positioning

A high-performance outdoor fixed base station ad-hoc
radio, acting as a backbone node with high power,
stability & anti-jamming, ideal for forest fire prevention,
smart cities & private network communications.

A4 Series Technical Specifications



Operating Frequency Band

500M-680MHz / 1.3G-1.5GHz / 1.4GHz (Software & hardware customizable for regional needs)



Mesh Networking & Multi-Hop

Supports up to 64 nodes, 32+ hops; maintains >8Mbps bandwidth after 6 cascaded hops for large coverage.



High-Power Transmit Configurations

20W / 40W / 80W three gear options, dynamically adapting to short-range dense or long-range sparse scenarios.



Industrial-Grade Environmental Resilience

-40°C ~ +65°C wide temp range; IP67 dustproof & waterproof, designed for harsh outdoor deployment.



Flexible Channel Bandwidth

1.25 / 2.5 / 5 / 10 / 20MHz software adjustable, optimizing spectrum utilization for voice/data.



Compact & Robust Form Factor

Dimensions: 480×260×80mm (L×W×H); Weight: 6.5kg(20W) – 12kg(80W), easy to install/transport.



Symmetric Peak Data Rate

Uplink/Downlink symmetric design: 65Mbps (@10MHz) / 125Mbps (@20MHz) for high-throughput needs.



Dual Redundancy & Rich I/O

AC 220V + DC 48V dual power input; equipped with 10/100M Ethernet, RS232/485, and dedicated voice ports.

CORE HIGHLIGHTS

Built for mission-critical operations in complex electromagnetic environments and extreme climates. The A4 Series combines high-power output, ultra-long-range transmission (50km+ LOS), and resilient mesh networking to ensure reliable communication for private networks, emergency response, and field operations.



Product Details: Vehicular Radio - ANYMESH-SDR-A5 Series



High-Power Reliable Transmission

High-power RF transmission design ensures communication stability during high-speed movement and in complex electromagnetic environments, with strong anti-interference capabilities for continuous signal stability.

Scenarios: High-speed Maneuvering / Long-distance Communication Support



Wide Voltage Power Adaptation

Compatible with various vehicle power systems, supports a wide range of DC voltage inputs, adapts to voltage fluctuations during vehicle start-up and operation, no additional voltage regulation modification required.

Scenarios: Multi-vehicle Compatibility / Field Vehicle Power Supply



High-Gain Antenna Configuration

Equipped with a dedicated high-gain vehicle antenna, optimizes signal transmission and reception gain, effectively overcomes signal attenuation from vehicle metal occlusion and urban buildings, expanding coverage.

Scenarios: Complex Urban Environments / Mountain Signal Coverage



Convoy Dynamic Ad Hoc Network

Supports automatic networking and relay hopping for multiple vehicles, maintaining dynamic connectivity of the network topology for real-time intercommunication even during high-speed convoy movement or vehicle dispersion.

Scenarios: Convoy Command & Dispatch / Formation Cooperative Communication



Mobile Command Hub

Can serve as a mobile command core node, real-time aggregation of convoy status and on-site information, supports rapid issuance of command instructions and situation sharing to improve dispatch efficiency.

Scenarios: Emergency Mobile Command / On-site Temporary Dispatch



Easy Integration & Deployment

Compact body adapts to various vehicle spaces, provides standardized hardware interfaces and dedicated mounting brackets, supports rapid integration and modification, reducing deployment difficulty and time.

Scenarios: Emergency Vehicle Modification / Multi-platform Rapid Mounting



SDR Series Product Specifications: A5 Rack-Mount Vehicle Station

ANYMESH-SDR-A5-3

10W | Dual Channel Transmit

Power: $2 \times 5W$

Range: 100-150km
(Air-Ground)

Data

Rate: 65/125*/260*
Mbps

Video: 1080p
H.264/265

Power: 220V or
24~48V/3A

Weight: ~3500g

ANYMESH-SDR-A5-2

20W | Dual Channel Transmit

Power: $2 \times 10W$

Range: 150-200km
(Air-Ground)

Data

Rate: 65/125*/260*
Mbps

Video: 1080p
H.264/265

Power: 220V or
24~48V/5A

Weight: ~4100g

ANYMESH-SDR-A5

40W | Dual Channel Transmit

Power: $2 \times 20W$

Range: 200-300km
(Air-Ground)

Data

Rate: 65/125*/260*
Mbps

Video: Not supported

Power: 220V or
24~48V/7A

Weight: ~4280g



Engineered for command & communication vehicles, delivering "communication on the move" with up to 300km air-ground range for mobile command centers.

Product Details: OEM Core Module Series



High Integration

Integrates core ad hoc networking capabilities into a compact form factor, reducing footprint for easy integration into space-limited devices.

Scenario: Compact Embedding / Miniature Terminals



Small Size & Low Power

Optimized power consumption and ultra-compact design, making it ideal for battery-operated IoT sensors and portable smart devices.

Scenario: Wearables / Battery-Powered Nodes



Standard API Interfaces

Offers well-documented, standard API access for rapid software integration, reducing development cycles and compatibility issues.

Scenario: Fast Prototyping / Cross-Platform



Customizable Solutions

Flexible configuration to meet specific industry needs, including frequency band tuning, firmware customization and functional trimming.

Scenario: Industry-Specific / Tailored Hardware



Reliable & Robust

Built on field-proven ad hoc network technology, ensuring stable connectivity and anti-interference in harsh outdoor environments.

Scenario: Mission-Critical / Harsh Environments



Versatile Applications

Seamlessly integrates into smart hardware, industrial control terminals, telematics units and various embedded systems.

Scenario: Smart Hardware / Industry IoT

OEM Core Board



Designed for small size and light weight, supporting 100% localization. This miniaturized ad hoc module is ideal for applications with stringent size and high-performance requirements, such as robots, unmanned vehicles, and unmanned boats.



Front View: Compact Form Factor



Back View: Integrated Interfaces

100M Core Board

70-6000MHz | 65/125Mbps | 85g
Ultra-lightweight for small robotics.

1000M Core Board

Peak 260Mbps | 7ms latency | 100g
High-throughput for data-intensive tasks.

100% Localized Solution

Independent IP | 7ms latency | 100g
Secure, reliable, and fully domesticated.

KEY BENEFITS: Seamless integration, ultra-low latency (7ms), and versatile frequency coverage (70-6000MHz).

Solutions: Emergency Communication & Fire Command



Critical Scenario Addressing

Targeting communication blackspots in high-rise buildings, underground complexes, and disaster-stricken areas. Ensures seamless connectivity where traditional infrastructure fails, creating a reliable lifeline for first responders.



Rapid Mesh Network Deployment

Swiftly deploy portable MESH nodes to establish a self-organizing wireless multi-hop network. Leverage UAVs to carry airborne nodes for wide-area coverage and fire source detection, achieving "network access for every person" in the field.



Real-time Ops

Firefighters transmit HD video & data to command vehicles, enabling instant situational awareness for safe, effective rescue.



Core Products

A13 Handheld, A3 Relay Station, and A2 Manpack nodes form a versatile, rugged communication ecosystem for the field.

Solutions: Tactical Command & Control



Operational Scenario

Quickly establish a highly reliable, mobile, anti-jamming wireless broadband network in complex battlefield environments, ensuring connectivity remains stable under extreme conditions.



All-Domain Integration

Constructs a seamless, networked tactical communication ecosystem integrating air, space, and ground assets, breaking information silos for unified battlefield connectivity.



Mission-Critical Capabilities

Enables real-time information exchange, comprehensive battlefield situational awareness, rapid enemy information sharing, and efficient issuance of combat commands to frontline units.



CORE PRODUCT PORTFOLIO

A6

Command Box

A13

Handheld

A5

Vehicle

A3

Relay

Solutions: Coastal & Maritime Vessel Communication



Scenario & Topology

Deploy MESH nodes on shore and ships to form a mobile, anti-jamming, multi-hop broadband wireless network that ensures seamless connectivity across coastal waters.



Integrated Services

Delivers high-quality, integrated multimedia transmission services—including voice, video, and data—between shore stations and vessels, and peer-to-peer between ships at sea.



Mission Applications

Enables secure wireless private network access to command centers, supports dynamic networking for ship formations with seamless roaming and strong anti-jamming capabilities.



Optimized Product Suite

A tailored combination of A4 Fixed Base Stations (shore), A5 Vehicle Nodes (ships), and A2 Manpack Nodes (portable) for flexible, comprehensive maritime coverage.



The diagram illustrates a resilient maritime MESH network architecture, connecting shore command, patrol vessels, and personnel via satellite and ground-based nodes for full-domain awareness.

Solutions: Urban Counter-Terrorism & Stability

Maintenance



Fixed Node Deployment

Fixed nodes positioned at urban high points relay real-time surveillance images back to the command center, establishing persistent, wide-area visual coverage of critical areas.



Mobile Vehicle Nodes

Vehicles equipped with mesh radios provide "communication on the move", acting as forward command posts to extend network coverage and ensure connectivity in dynamic operational scenarios.



Individual Nodes & Product Suite

Enabling deep penetration into incident scenes for HD video & bidirectional comms. Our product line includes A13 (Handheld), A4 (Base Station), A3 (Relay), and A5 (IU Rack) for full-system integration.



ANYMESH builds a three-dimensional, self-organizing network that integrates fixed, vehicle, and individual nodes. This architecture ensures seamless connectivity and real-time intelligence sharing, enabling rapid, coordinated response to emergencies in dense urban environments.

Solutions: Large-Scale Event Security



Fixed Monitoring Network

Pre-deploy resilient MESH fixed nodes at strategic vantage points to establish a persistent, high-bandwidth backbone for uninterrupted live video transmission and wide-area coverage.



Mobile Command & Response

Integrate vehicle-mounted MESH nodes into patrol fleets for flexible ad-hoc networking, enabling on-the-move command centers to dynamically reposition and maintain real-time connectivity.

Optimized Product Suite: A13 Handheld Nodes for personnel, A4 Fixed Base Stations for infrastructure, and A5 1U Rack Mounts for central command hubs ensure seamless scalability.



Patrol Personnel Connectivity

Equip ground teams with handheld MESH nodes for real-time voice, video, and location sharing, eliminating surveillance blind spots in dense or complex environments.

Solutions: Multi-Hop Communication for Subway Penetration



SCENARIO: DEEP TUNNEL DEPLOYMENT

Quickly deploy a wireless multi-hop network in subway tunnels to break through signal shielding, enabling stable and reliable broadband communication between ground control and underground operations.



ADVANTAGE: COST & FLEXIBILITY

Eliminates the prohibitive cost and complexity of traditional wired networks. Wireless MESH technology allows for rapid deployment, easy relocation, and flexible network expansion as needed.



DUAL FUNCTION

Acts as a seamless extension of the existing private network or serves as a critical emergency backup link during outages.



RECOMMENDED UNITS

A13 (Handheld), A53, A2 (Manpack/Fixed), and A6 Command Box for comprehensive coverage.



ANYMESH's wireless multi-hop network establishes a resilient communication backbone in harsh subway environments, ensuring uninterrupted connectivity for both routine operations and emergency response scenarios.

Solutions: Dynamic Networking for Convoy Operations



Deployment

Install MESH vehicle nodes on convoy vehicles to quickly form a multi-hop, highly mobile broadband wireless ad hoc network, enabling seamless connectivity across all units.



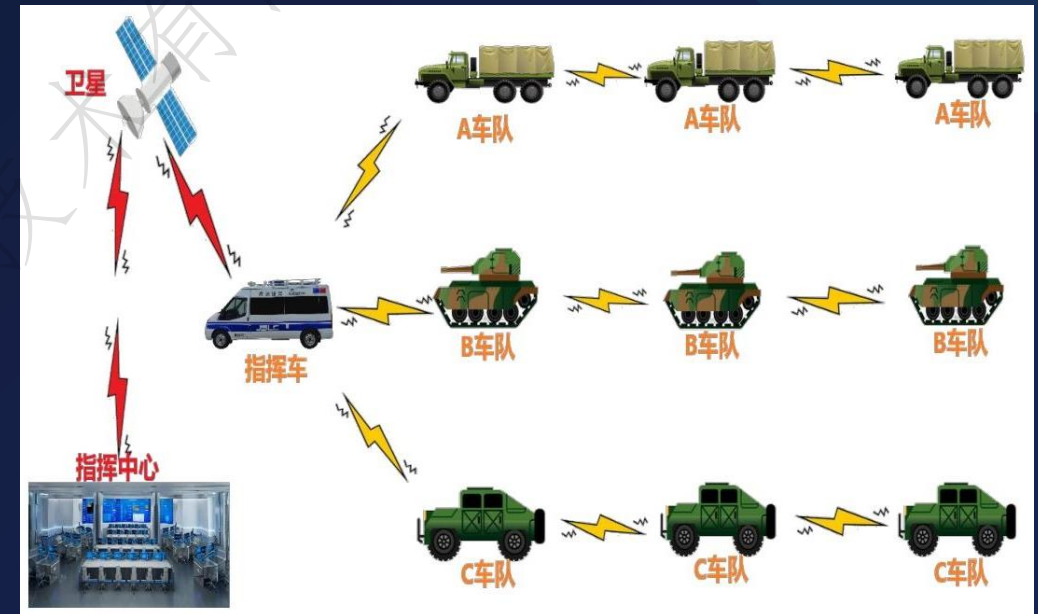
Capability

Delivers independent, secure voice, data, and video services. The network dynamically adapts to changing convoy formations, maintaining integrity even as units reposition in real time.



Robustness

Excellent resistance to multipath interference adapts to complex terrains. Ensures uninterrupted communication during rapid movement and non-line-of-sight (NLOS) scenarios.



The diagram illustrates the self-forming mesh network topology for convoy operations, showcasing seamless integration of command centers, satellite links, and multiple vehicle columns (A, B, C) to maintain continuous connectivity across the formation.

Full Industry Application Fields



ANYMESH-SDR ad hoc network products break through geographical barriers and are widely deployed across 16+ critical industries. We deliver ultra-reliable, low-latency wireless communication solutions tailored for mission-critical operations and complex, dynamic scenarios.



01. National Defense

Tactical command, battlefield situational awareness, and secure encrypted communications for military operations.



05. Maritime Vessels

Open-sea fleet communication, search-and-rescue (SAR) command, and navigation support.



09. Mining & Wells

Deep underground communication, personnel positioning, and mine safety monitoring.



13. Large-Scale Events

High-density crowd support for concerts, sports games, and national celebrations.



02. Public Security

Counter-terrorism support, emergency response, and real-time on-site command for police forces.



06. Drone Systems

Drone swarm control, long-range video relay, and air-to-ground command links.



10. Petrochemical

Plant monitoring, pipeline patrol, and secure comms in hazardous industrial areas.



14. Emergency Rescue

Rapid deployment for earthquake/flood relief, creating temporary networks in disaster zones.



03. Fire Emergency

Seamless coverage for high-rise and forest fires, enabling unified rescue command and coordination.



07. Unmanned Vehicles

Remote robot/UGV control, real-time telemetry data transmission, and fleet networking.



11. Power Grid

Transmission line inspection, emergency repair coordination, and substation interconnection.



15. Smart City

IoT integration, urban security monitoring, and municipal emergency communication.



04. Border & Coastal

Remote border surveillance, island-to-mainland connectivity, and coastal perimeter security.



08. Metro & Tunnels

Communication for tunnel construction, daily metro operations, and emergency evacuation.



12. Forest Fire Prevention

Wide-area forest monitoring, fire source tracking, and firefighting command dispatch.



16. Civil Air Defense

Civil defense command, underground space emergency networking, and disaster drills.

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