Nanjing Maxon Technology Co., Ltd

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MG1400P-2
On-drone Self-organizing Network Radio

*Rapid deployment   *No center network

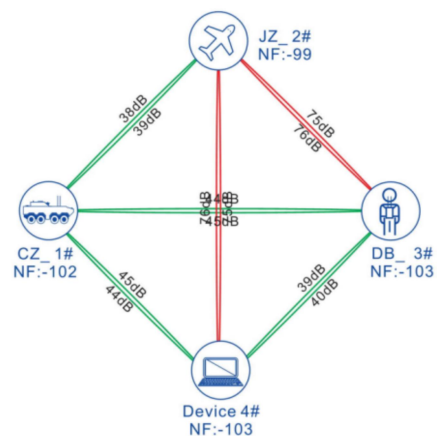*Customizable power *Ready to use *Strong anti-destruction

Product Introduction

The airborne ad hoc network radio is small in size, light in weight, and easy to install. It is particularly suitable for application scenarios with lightweight networking requirements such as drones. With fast network access and automatic multi-hop relay, it can quickly establish an interconnected three-dimensional network with handheld individual systems, vehicle-mounted systems, and surrounding base station networking equipment to achieve efficient collaboration. The system adopts the same frequency networking and multi-hop relay, and supports any network topology, such as point-to-point, point-to-multipoint, chain relay, mesh network, and hybrid network topology. It can provide wireless broadband communication for emergency response, anti-terrorism and riot control, covert reconnaissance, special operations, disaster relief, daily patrols and other "peace and war" tasks in the first time. The transmission distance can reach more than 10km in an open environment on the ground, 300~1000m in a blocked environment (depending on the blocking environment), and more than 30km from the air to the ground.

Main features

* Networking without a center: nodes are equal in status and can be used as terminal nodes, relay nodes or central nodes
* Networking with any structure: nodes automatically identify and select the optimal route for bandwidth data
* Security and confidentiality: through layer-by-layer encryption such as working frequency, carrier bandwidth, scrambling code, etc., support AES128/256 encryption
* Anti-interference and anti-destruction: using COFDM, MIMO, ARQ and other technologies to improve data bandwidth and anti-interference performance
* Flexible networking of multiple nodes: according to channel quality, rate, error code and other indicators, link routing is automatically calculated and networked flexibly
* Full IP networking and intercommunication: support data transparent transmission, interconnection of multiple systems, and real-time interaction of multimedia services

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System parameters

Operating frequency	1428~1448MHz
Carrier bandwidth	5/10/20MHz, self-adaptable
Transmission system	COFDM
Modulation mode	BPSK/QPSK/16QAM/64QAM(adaptive)
Transmission capacity	Peak rate 90Mbps@20MHz
Transmit power	2W
Receive sensitivity	-97dBm@1MHz
Video input	Support IP network video input (HDMI/AV needs to be customized)

Networking	Networking capability	≥52 nodes
	Networking hop count	＞10 hops
	Networking time	5s after system hot start
	Network topology	No center network, star network, chain network, mesh network, etc.

Encryption method	AES128/AES256
Power supply	DC 15-36V
Power consumption	≤30W

Device interface

Antenna interface	SMA-K×2
Ethernet port	J30J connector
TTL serial connector	J30J connector
Power supply	J30J connector

Physical indicators

Device size	≤112×82×35mm
Device weight	≤350g
Protection level	IP65
Operating temperature	-30℃～+65℃

Accessories

RF antenna	Power supply + network port + serial port J30J interface	Packing box

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