FPGA High Performance Outdoor Base Station with HDMI IP Input 56Mbps 2T2R High Power 43dBm for Long Transmission

Our Product Introduction

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Basic Information

- Place of Origin: Guangdong, China
- Brand Name: ZKMANET
- Certification: CE, ISO9001
- Model Number: ZKManet3561
- Minimum Order Quantity: 1 piece
- Price: USD 7999 per piece
- Packaging Details: carton
- Delivery Time: 3-7 work days
- Payment Terms: T/T, Western Union, MoneyGram
- Supply Ability: 10000 pieces per year

Product Specification

- Frequency: 70MHz-6GHz Customizable
- Working Bandwidth: 2.5M/5M/10M/20MHz
- RF Channel: 2T2R,2*2MIMO
- Transmit Power: 43dBm, Supports Adjustable Output Power
- 1 Hop Communication Distance: ≥70KM
- Video Interface: HDMI For Optional
- Frequency Hopping Function: Optional
- Anti-interference: Supports Manual Spectrum Scanning Channel Selection And Intelligent Frequency Selection

More Images

Product Description

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Product Description

ZKManet3561 is a high-power MESH self-organizing outdoor base station product utilizing an FPGA solution. The device can be fixedly installed using pole mounts, wall mounts, or brackets, primarily deployed at outdoor fixed points. The IP rating is IP67. With high transmission power and long coverage distance, it integrates data transmission, dynamic routing, and relay forwarding into one unit. It quickly self-organizes with other node devices to form a wireless multi-hop broadband network, providing users with wireless transmission services for voice, data, and video multimedia services. It is particularly suitable for applications such as long-distance communication coverage, information aggregation and feedback, regional coverage support, elevated point coverage enhancement, and relay transmission nodes.

Features

* Supports Mobile Ad Hoc Network (MANET)
* Frequency 1300-1500MHz (70MHz-6GHz customizable)
* Supports FHSS and IFS (Intelligent Frequency Selection)
* Supports AES256 Encryption
* 2x40dBm power output
* Data rate up to 56Mbps
* Supports up to 32 nodes
* Supports GPS/BD/GLONASS (GNSS)
* Full transparent IP data transmission
* Supports Web and PC software management
* HDMI input as optional
* Rugged IP67 housing

Flexible Networking
No central distributed networking, flexible carrier bandwidth configuration, supports various network topologies such as point-to-point, chain, star, mesh, mixed dynamic, etc.

Powerful Adaptivity
Built-in H.265 encoder adjusts video bitrate, resolution, and frame rate adaptively based on channel bandwidth to ensure the continuity and smoothness of video transmission services.

Intelligent Routing
Devices can move quickly and network topology can be updated accordingly with dynamic route reconstruction in real-time without affecting overall system communication.

Anti-interference
Wideband carrier frequency hopping (optional) effectively enhances anti-interference capabilities. Additionally, it supports intelligent frequency selection (optional) mode where devices can intelligently choose interference-free frequencies for network transmission to avoid interference. It also utilizes ARQ error control transmission mechanism to reduce data loss rates and improve data transmission reliability.

Secure Encryption
It has independently developed system with custom transmission protocols and 64-bit key for air interface transmission encryption. It can dynamically generate scrambling sequences for channel encryption. The system also supports DES56/AES128/AES256 source encryption to enhance security.

GIS Services
With built-in BD/GPS, it supports real-time display of geographical location and latitude/longitude positioning information through. It can measure distances between individual radio stations and track the continuous position of selected radio station groups.

Specifications

RF Parameters	
Default Frequencies	70MHz-6GHz customizable
Channel Bandwidth	2.5M/5M/10M/20MHz (40MHz optional)
RF Waveform	TDD-COFDM + 2T2R
Output Power	2x40dBm
Receive Sensitivity	-100dBm@2.5MHz
Modulation Type	BPSK/QPSK/16QAM/64QAM (adaptive)
FHSS	Optional (>1000 hop/s)
IFS	Optional

Network Parameters	
Network Size	Up to 32 nodes
Multi-hop Capability	15 hops (short message); 10 hops (voice); 8 hops (video)
Range	50-70km (Air-to-Ground LOS) 30-50 km (Ground-to-Ground LOS)
Data rate	Up to 28Mbps@10MHz & 56Mbps@20MHz
Delay	7ms
Movement Speed	>1000km/h
Start Time	27s
Positioning	GPS/BD
Network Access Time	<1s
Network Extension	WIFI AP

Electrical Parameters	
Working Voltage	AC220V
Power Consumption	≤937dBm

Physical/Environment	
Weight	6.5kg
Dimensions	300*238*133mm
IP Rating	IP67
Working Temp.	-40°C~70°C

Interface	
LAN Interface	*1
RS232	*1
Voice Interface	PTT Mic (7-pin LEMO connector*1)
Video Interface	HDMI*1

Dimensions

Panel Description

Rugged IP67 43dBm Output Power for 50~70km Transmission Outdoor Base Station Transceiver

1. MESH antenna interface-1, N-F
2. GPS/BD antenna interface, SMA-F
3. HDMI input interface type A (Optional)
4. WIFI antenna interface-1, SMA-F
5. MESH antenna interface-2, N-F
6. LAN interface, RJ45
7. MESH signal indicator

SNR	Link Quality	Topology Color
SNR ≥ 17	Excellent	Deep Green
12 ≤ SNR < 17	Good	Light Green
7 ≤ SNR <12	Fine	Yellow
2 ≤ SNR <7	Medium	Orange
-10 < SNR <2	Bad	Red
SNR = -10	Disconnected	N/A

8. Power input port, 3-pin
9. Power push button

Company Profile

Zhongke Lianxun (Shenzhen) Technology Co., Ltd is a high-tech R&D enterprise. Our products mainly use Mesh and LTE as core technologies and auxiliary decision-making software to form underground building emergency communication systems, and police investigation communication systems, and police noncombat training communication systems, urban emergency communication systems, emergency communication vehicle communication systems, etc., suitable for law enforcement forces and government departments such as public security, armed police, , forest fire prevention, civil air defense, and maritime. Especially the intelligent communication products of special robots have solved the long-distance communication and control problems of robots in complex environments. We provide design and development services for internet big data collection and analysis products and application solutions to large enterprises and institutions with confidentiality needs.

We hold several patents with independent intellectual property rights and have developed a robust quality management system that adheres to ISO9001 standards, as well as national standards. Our production processes strictly follow these national guidelines and internationally recognized standards, including CCC, CE, and FCC. Additionally, we have received the Radio Transmission Equipment Model Approval Certificate from the Ministry of Industry and Information Technology of China and have successfully completed wireless product testing certification by the Ministry of Public Security.

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FAQ

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