

# MIMOmESH Series

Powerfull Backpack-Wireless MESH&Data Link

**RESSCOM**  
**MESH RADIO**



10Watts×2/20Watts×2



Include HDMI(or SDI)/Display/5G  
routing/Optical port



Dual-band Operation  
Simultaneously



ULSC Four-band Selection  
Operate

# Technical Specifications

## General

SDR Platform, Waveform	AD936X+FPGA (7Z020, 7Z030, 7Z035, 7Z100), Mobile network MANET+MIMO
MIMO Technology	Space-time coding, Receive Diversity, TX /RX beamforming, Spatial multiplexing
Receive Sensitivity	-103dBm@5MHz BW
Channel Bandwidth	1.25/2.5/5/10/20MHz (7Z020, 7Z030)/40MHz (7Z035)/80MHz (7Z100, 40MHz+40MHz dual antenna frequency transceiver of carrier aggregation), configurable
Data Rate	1-70Mbps (20MHz BW, 7Z020)/1-130Mbps (20MHz BW, beamforming by 7Z030)/1-252Mbps (40MHz BW, 7Z035)/1-350Mbps (80MHz BW, 7Z100) Adaptive, QoS TD-COFDM, BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM Adaptive (Fixed setting optional)
Modulation Mode	10Watts*2
RF Output Power (Support TPC, transmission power control, 1dBm adjustable)	20Watts*2
Single Hop Communication Distance	100-300KM (LOS), 1-30KM (urban area)
Mode	Distributed centerless Point-to-point/Point-to-multipoint/Multipoint-to-multipoint, Layer 2 or 3 of Dynamic routing, Multi-hop relay, Star/Line/Network/Hybrid
Single Hop Delay	Average 6ms (Unidirectional, 20MHz BW)
Encryption	DES, AES128/256 (SM4/SNOW3G/ZUC optional, Chip/TF card encryption customized or external encryption machine)
Anti-Jamming Mode	Channel selection for manual spectrum scanning, across the entire frequency band (single-band/dual-band/triple-band) to enhanced intelligent frequency selection (spectrum awareness)/adaptive frequency hopping (FHSS) (up to 1000hops/second)/roaming mode, and multi-level anti-interference capabilities. Operating frequency, channel bandwidth, network ID, transmit power and other parameter settings, spectrum scanning, real-time display and statistical records of network topology, link field strength signal-to-noise ratio, upload and download traffic, node distance, BD/GPS(GNSS) positioning electronic map, temperature/voltage/jamming Monitoring, software upgrade (remote silence and wake-up optional)
Local/Remote Management	The startup time is less than 28 seconds, and the network access/update/switchover time is less than 1 second; There is no limit on the user capacity of a single system (256 nodes or more) and the number of hops in Mesh networks (Data 15+ hops, voice 10+ hops, video 8+ hops); The total transmission rate loss for more than three hops is less than 70%; Automatic carrier tracking, adapted to a Doppler frequency deviation of ±6kHz frequency offset, supports mobile communication at speeds above 7200 kilometers per hour (6 Mach, 2000 meters per second)
Others	

## Mechanical

Size/Weight	27.5×18.9×6.2cm/4.15kg, with 22.2V/213Wh battery 33.6×18.9×6.2cm/5.26kg, with 22.2V/427Wh battery 29.5×23.0×6.5cm/5.26kg, with 22.2V/213Wh battery (Dual-band Operation) 28.8×21.0×6.2cm/4.61kg, with 22.2V/213Wh battery (Dual-band Selection Operate) 22.9×18.9×6.5cm/2.95kg, with 22.2V/427Wh battery (Four-band Selection Operate)
Installation/Color	4 Mounting Holes, Backpack/Black (Iron Gray, Army Green optional)

## Power

Supply Voltage	18-32V DC, 10Watts*2/20Watts*2
Power consumption	Operation 3-6A/Standby 0.7-0.9A@24V, 10Watts*2
Power Selection	Operation 6-7A/Standby 0.7-0.9A@24V, 20Watts*2 6-8 hours for 213Wh polymer lithium battery (Default); 10-12 hours for 427Wh polymer lithium battery

## Interface

Basic interface	2xTNC RF, 1-2xRJ45 Ethernet 100/1000BaseT, RS232, Wi-Fi AP, DC input. BD/ GPS (GNSS), TTL (UART)/SBUS/Bluetooth 1.2-230.4Kbps available. Supports transparent transmission over Ethernet and serial ports, and all communication protocols, including MAVLink. Selectable service priority
Push to talk/ Auxiliary interface	MIC, SPK, PTT, GND/1xRS232, TTL, SBUS
Network Extension	OptionalPublic Network Routing/4G LTE, WB-NB integration, Fiber, Satellite
Video Extension	OptionalLow Delay HDMI/SDI/CVBS, 4K/2K/1080P/720P/D1
LINK Indicator	Steady red - The network is not connected Blinking red - Starting/not connected to the network Steady green - The network is connected Blinking green - Push-To-Talk has been pushed Steady green - The link quality is excellent Steady blue - The link quality is good Steady yellow - The link quality is medium Steady purple - The link quality is slightly worse Steady red - The link quality is poor Off - The link is interrupted
RSSI Indicator	
Management Interface/Control Interface	Web-based network management/GUI, API for secondary development interface/ SNMP

## Environmental

Operation Temperature	-40°C ~+80°C
Protection Level	IP66 (IP67/IP68 Customized)

### Bands(70M-6GHz/Uper C-X-Ku customizable. Same frequency or different frequency of TDD, single-band/dual-band/tri-band of 2T2R)

BAND	Frequency range	BAND	Frequency range
VHF/UHF (MHz)	360-450/450-550/570-700/800-950, 225-400/225-678/320-470*	S Band (GHz)	2.0-2.2/2.2-2.4/2.3-2.5/2.5-2.7/2.7-2.9/3.2-3.4/3.4-3.6/3.6-3.8, 1.9-2.7/2.0-2.7/2.1-2.7/2.7-3.6*, 2-4GHz Customization
L Band (GHz)	1.0-1.2/1.1-1.3/1.3-1.5/1.5-1.7/1.6-1.8, 1.0-1.5/1.1-1.6/1.2-1.7/1.3-1.8/1.6-2.3/1.7-2.4/1.8-2.5*, 500M-2GHz Customization (Note: RF power, Dimensions, Weight is different)	C Band (GHz)	4.4-5.0/5.25-5.85, 4.2-5.2/5.5-6.0/6.4-7.2*, 4-6GHz Customization
MIIT (MHz)	336-344/512-592/566-626/606-678/1420-1520/1430-1444		

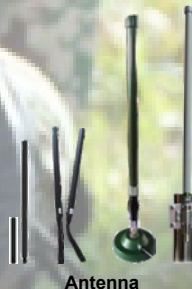
Product Model Approval Certificate of Radio Administration of The Ministry of Industry and Information Technology of China: 2018FP5238-2018FP6081-2021FP0114, 2021DP10060, 2022FP15779

## Model Name:

Maximum Channel Bandwidth	Frequency	Built-in WIFI AP	Built-in Public/Private Network	Built-in Display Screen	Maximum Channel Bandwidth (MHz)	Channel Power (W)	Frequency (MHz)	Battery Capacity (Wh)	Built-in WIFI AP	Built-in Video Encoder	Built-in Public/Private Network	Built-in Optical MODEM	Display Screen
BP	×2				20	10	600, U	0(N)	0(N)	0(N)	0(N)	0(N)	0(N)
					40	20	1400, L	213	1(Y)	HDMI	4G/5G	1(Y)	2(2")
					80		2300, S	427		SDI/AV	4G LTE CPE		3(3.2")
							4500, C						4(4")

BP20-40×2-1400-213-1-HDMI-4G/5G-0-0 Express: Maximum Channel Bandwidth 40MHz, 20Watts\*2, 1400MHz, With 213Wh Battery, With WIFI AP, Built-in HDMI Coding, Built-in 4G/5G Public Network Module, Without Optical MODEM and Without Display Screen Backpack Radio.

## Accessories:



## Options:

