

# MIMOmash Series

## Standard Vehicular/Rack-mounted - Wireless MESH/Data Link



10Watts×2/20Watts×2



50Watts×2/150Watts×2



Dual-band Operation Simultaneously



Four-band Selection Operate



19" 1U Standard Rack



19" 2U Standard Rack With Display



Application scenarios and Installation display

# Standard Vehicular/Rack-mounted- Wireless MESH/Data Link 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
Modulation Mode	TD-COFDM, BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM Adaptive (Fixed setting optional)
RF Output Power (Support TPC, transmission power control, 1dBm adjustable)	10Watts*2/20Watts*2 50Watts*2 150Watts*2/250Watts*2 (Customization)
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	Manual spectrum scanning channel selection/Full band enhanced intelligent frequency selecting(spectrum awareness)/Full band adaptive frequency hopping FHSS/Roaming mode, Multi-level anti-interference
Local/Remote Management	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)
Others	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)

## Mechanical

Size/Weight	19.1x18.6x6.3cm/2.16kg, 10Watts*2/20Watts*2 25.8x21.3x6.5cm/3.95kg, 50Watts*2 19.0x23.0x6.5cm/3.0kg, Dual-band Operation Simultaneously 22.1x21.1x6.3cm/2.16kg, Four-band Selection Operate 48.2x42.0x4.5cm/3.9kg, 19" 1U Standard Rack Radio 48.2x42.0x8.8cm/5.9kg, 19" 2U Display Screen Standard Rack Radio
Installation/Color	4 Mounting Holes, Ears/Black (Iron Gray, Army Green optional)

## Power

Supply Voltage	18-32V DC, 10Watts*2/20Watts*2 28-32V DC, 50Watts*2
Power consumption	Operation 3-6A/Standby 0.7-0.9A@24V, 10Watts*2 Operation 6-7A/Standby 0.7-0.9A@24V, 20Watts*2 Operation 30A/Standby 0.5-1.7A@28-32V, 50Watts*2
Power Selection	Power Supply by Main Cable

## Interface

Basic interface	2xTNC/2xN 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 Optional	Public Network Routing/4G LTE, WB-NB integration, Fiber, Satellite
Video Extension Optional	Low 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
RSSI Indicator	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
Management Interface/ Control Interface	Web-based network management/GUI, API for secondary development interface/ SNMP

## Environmental

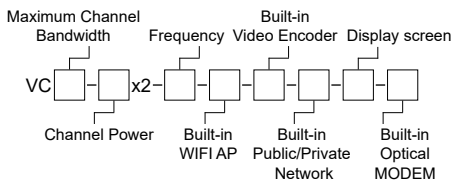
Operation Temperature	-40°C ~+80°C
Protection Level	IP66 (IP67/IP68 Customized)

### Bands (70M-6GHz/Uper C-X-Ku customizable. Same frequency or different frequency of TDD, 2T2R at single band or 1T2R at dual-band)

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*
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*	C Band (GHz)	4.4-5.0/5.25-5.85, 4.2-5.2/5.5-6.0/6.4-7.2*
(Note: RF power, Dimensions, Weight is different)			
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	Channel Power (W)	Frequency (MHz)	Built-in WIFI AP	Built-in Video Encoder	Built-in Public/Private Network	Display Screen	Built-in Optical MODEM
20	2	600, U	0(N)	0(N)	0(N)	0(N)	0(N)
40	4, 5	1400, L	1(Y)	HDMI	4G/5G	2(2")	1(Y)
80	10	2300, S		SDI/AV	4G LTE CPE	3(3.2")	
	20, 40	4500, C				4(4")	

VC20-40x2-1400-1-HDMI-4G/5G-0-0 Express: Maximum channel bandwidth 40MHz, 20Watts\*2, 1400MHz, With WIFI AP, Built-in HDMI Coding, Built-in 4G/5G Public Network Module, Without display screen and without optical MODEM Vehicular/Rack-mounted Radio.

## Accessories:

## Options:



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