MIMOmesh Series of Wireless Broadband MESH

Beamforming/Space Diversity/Spatial Multiplexing, Reach More Than Twice Range and Data Rate
Intelligent Anti-Jamming by Smart Frequency Selection, Adaptive Frequency Hopping
Wide Range Bands, Dual Band Selection, Free To Choose Different Working Frequency Band, Adapt To Complex Terrain Environment And Electromagnetic Environment

Handheld/Backpack
(2Watts×2/4Watts×2, 10Watts×2/20Watts×2)

(Air to G. 50~150/100~200KM)

(Air to G. 150~300/250~500KM)

Airborne
(2Watts×2/4Watts×2, 10Watts×2/20Watts×2)

Vehicle/Rack Mount/Outdoor
(10Watts×2/20Watts×2/40Watts×2)

Dual-band simultaneous operation or Four-band Selection Operate
(2Watts×2/10Watts×2, UHF/L Band/S Band/C Band)

The Latest Generation of MIMOmesh Wireless Broadband MESH

Performance:

- MESH network(self-forming, self-adapting, self-healing), high-speed throughput
- Non-visual urban construction、jungle multi-path transmission terrain, effective connection
- High-speed movement of ground, water and air, effective connection
- Multiple antenna settings, omnidirectional, high gain orientation or mixing
- GPS/BD and Multicast Support

Advantages:

- Increased 4.5 times coverage in densely populated areas
- Increase the range by 2 times in the visible limit environment
- Increase 2-4 times data transmission rate
- The same communication range and transmission data rate, reducing transmission power by 2 times

Significant applications in Non-Line of Sight /Multipath Fading environments, video/data/voice critical communications:

- Robot / Unmanned Vehicle, Reconnaissance / Surveillance / Anti-Terrorism / Monitoring
- Air-to-air & air-to-ground & ground-to-ground, public safety / special operations
- Urban network, emergency support / normal patrol / traffic management
- Inside and outside the building, firefighting / rescue and disaster relief / forest / civil air defense / earthquake
- TV broadcast wireless audio / video / live broadcast
- Marine communication / high speed transmission on the opposite side of the ship
- Low deck wireless network / ship landing
- Mine / tunnel / basement connection

MIMOmesh Series of Wireless Broadband MESH Specifications

General

SDR Platform, Waveform	9361+7Z030/7Z035 or 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、30/40MHz setting; Supports transmission and reception with different channel bandwidths, achieving mixed broadband and narrowband; 80MHz Carrier Aggregation (Dual-antennas with two-frequencies of 40MHz+40MHz for transceiver) optional
Data Rate	1-130Mbps(20MHz BW)/252Mbps (40MHz BW)/350Mbps (40MHz+40MHz of Carrier Aggregation) 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)	2Watts×2/4Watts×2 (Handheld/Airborne/Dual-band Handheld Radio/Module) 10Watts×2 (Airborne/Backpack/Vehicle/Rack Mount/Outdoor/Dual-band Backpack Radio) 20Watts×2 (Airborne/Backpack/Vehicle/Rack Mount/Outdoor Radio) 40Watts×2 (Vehicle/Rack Mount/Outdoor Radio)
Single Hop Communication Distance	100-300 KM (LOS), 1-30 KM (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 10mS (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, GPS/BD/GLONASS 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 bandwidth loss for three hops and above 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)

Bands

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

BAND	Frequency range (MHz)	BAND	Frequency range (GHz)
UHF	430-550/570-700/800-950, 225-400/320-470*	S Band (Note: RF power, Dimensions, Weight is different)	2.0-2.2/2.2-2.5/2.5-2.7/2.7-2.9/3.4-3.6,1.6-2.3/1.9-2.7*
L Band	1000-1200/1300-1500/1600-1800/1800-2000,1200-1700*	C Band (Note: RF power, Dimensions, Weight is different)	4.4-5.0/5.25-5.85, 4.2-5.2/5.5-6.0*
MIIT	336-344/512-592/566-626/606-678/1420-1520/1430-1444		

Environmental

Operation Temperature	-40℃ ~+80℃	Protection Level	IP66, IP67/IP68 Customized

Mechanical

Size/Weight	19.0x6.8x3.8cm/0.769kg (with 11.1V/77.7Wh battery Handheld Radio) 22.0x6.8x3.8cm/0.982kg (with 11.1V/114Wh battery Handheld Radio) 27.5x18.9x6.2cm/4.15kg (with 22.2V/213Wh battery Backpack Radio) 33.6x18.9x6.2cm/5.26kg (with 22.2V/427Wh battery Backpack Radio) 11.7x6.2x3.2cm/0.279kg (2watts×2/4watts x2 Airborne Radio-Iron Gray) 11.7x6.2x3.8cm/0.343kg (2watts×2/4watts x2 Airborne Multi-interface Radio-Black) 14.2x13.6x5.0cm/0.635kg (10watts×2/20watts×2 Airborne Radio-Iron Gray) 19.1x18.6x6.3cm/2.16kg (10watts×2/20watts×2 Vehicle Radio) 48.2x42.0x8.8cm/5.9kg (19-inch 2U Standard Rack Radio) 31.6x29.2x11.0cm/4.35kg (Outdoor Radio) 21.0x6.8x5.2cm/0.972kg (with 11.1V/77.7Wh battery Dual-band Handheld Radio) 22.9x18.9x6.5cm/2.95kg (with 22.2V/427Wh battery Dual-band Backpack Radio)
Installation/Color	4 Mounting Holes/Black、Iron Gray、Army Green Optional

Power

Supply Voltage	9-24/12-28VDC (2Watts×2/4Watts×2 Handheld/Airborne/Dual-band Handheld Radio/Module) 18-24/18-36VDC (10Watts×2/20Watts×2 Airborne/Backpack/Vehicle Rack-mounted/Outdoor/Dual-band Backpack Radio)
Power consumption	Operation 1-2A/Standby 0.4-0.6A@12V (2Watts×2 Handheld/Airborne/Dual-band Handheld Radio/Module) Operation 2-4A/Standby 0.5-0.7A@12V (4Watts×2 Handheld/Airborne/Module) Operation 3-6A/Standby 0.7-0.9A@24V (10Watts×2 Airborne/Backpack/ Vehicle Rack-mounted/Outdoor/Dual-band Backpack Radio) Operation 6-7A/Standby 0.7-0.9A@24V (20Watts×2 Airborne/Backpack/ Vehicular/Outdoor Radio)
Power Selection	Power Supply by Twist-Lock Battery or Main Cable
Batteries	8-10/6-8 hours for 114/77.7Wh (Handheld Radio) 10-12/6-8 hours for 427/213Wh (Backpack Radio) polymer lithium battery

Interface

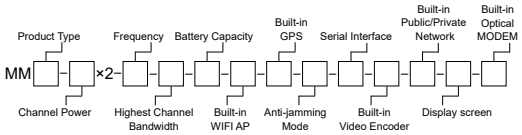
Basic interface	2xTNC RF, 1-3xRJ45 Ethernet 100/1000BaseT, WIFI AP,GPS/BD,RS232/ TTL(UART), Sbus/Bluetooth, 1.2-230.4Kbps, DC Input
Push to talk/Auxiliary interface	MIC, SP, PTT, GND, RS485/422, USB2.0 OTG
Network Extension Optional	Public Network Routing/4G LTE, WB-NB integration, Fiber, Satellite
Video Extension Optional	Low Delay HDMI/SDI/CVBS, 4K/2K/1080P/720P/D1
Link Status Indicator	Steady red - The network is not connected Blinking red - Starting/not connected to the network Steady green - The network is connected Blinking green - Voice PTT is down
RSSI Link 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 or link is down
Management Interface/ Control Interface	Web-based network management/GUI, API for secondary development interface/SNMP

OEM

Size/Weight	10.1x5.4x1.9cm/123.5g
RF	SMP

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

Model Name:



Product Type	Channel Power (W)	Frequency (MHz)	Highest Channel Bandwidth(MHz)	Battery Capacity (Wh)	Built-in WIFI AP	Built-in GPS	Anti-jamming Mode	Serial Interface	Built-in Video Encoder	Built-in Public/ Private Network	Display Screen
HandHeld	2	600,U	20	0(N)	0(N)	0(N)	0(Single Frequency)	0(RS232+ RS485/422)	0(N)	0(N)	0(N)
BackPack	4	1400,L	40	77.7,114	1(Y)	1(Y)	1(Intelligent Frequency Selectting)	1(RS232x2)	HDMI	4G/5G	2(2")
VehiCle	10	2300,S		213,427			2(Frequency Hopping)	2(TTL(3.3V)x2)	SDI/AV	4G LTE CPE	3(3.2")
AirBorne	20	4500,C						3(TTL(3.3V)+ Sbus)			4(4")

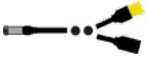
MMHH-2×2-1400-40-77.7-1-1-0-HDMI-4G/5G-0-0 Express: 2W×2, L Band, Maximum Channel Bandwidth 40MHz, With 77.7Wh Battery, With WIFI AP, With Positioning Module, Single Frequency, Built-in HDMI Coding, Built-in 4G/5G Public Network Module Handheld Radio.

MMBP-10×2-600-20-213-1-1-1-SDI-4G LTE-0-0 Express: 10W×2, UHF, Maximum Channel Bandwidth 20MHz, With 213Wh Battery, With WIFI AP, With Positioning Module, With Intelligent Channel Selection, Built-in SDI Coding, Built-in 4G LTE Private Network Module Backpack Radio.

Accessories:

Digital voice

Battery charger



Primary Cable/Auxiliary Cable

Connecting line

HandHeld/Backpack

Antenna

Options:

Command Dispatch Desk (Scheduling software optional)

Smart Helmet

Camera

Deployment Camera

Monitor Station