

MIMOMesh Series

Abundant OEM/ODM Module - Wireless MESH/Data Link

RESSCOM
MESH RADIO



5.1×3.0×0.6cm/11g
0.25Watts×2
(Air to G. 3~15KM)



5.8×4.8×1.0cm/27g
0.5Watts×2/1Watts×2
(Air to G. 10~30/20~50KM)



8.7×5.4×1.0cm/43g
1Watts×2/2Watts×2
(Air to G. 20~50/50~100KM)



11.5×5.4×1.3cm/56g
4Watts×2/5Watts×2
(Air to G. 100~150/100~200KM)



10.1×5.4×1.9cm/124g
2Watts×2/4Watts×2/5Watts×2 (7Z030/7Z035)
(Air to G. 20~100/100~150/100~200KM)



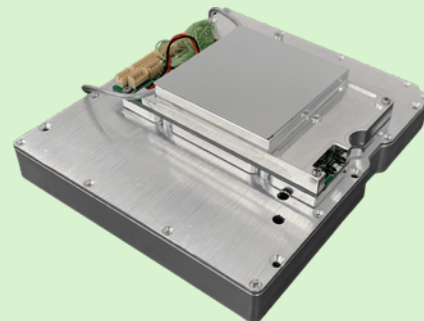
10.1×5.4×1.9cm/127g
2Watts×2/4Watts×2 (7Z100)
(Air to G. 20~100/100~150KM)



12.7×11.0×3.4cm/524g
10Watts×2/20Watts×2
(Air to G. 150~300/250~500KM)



12.7×11.0×3.6cm/575g
10Watts×2/20Watts×2 (7Z030/7Z035)
(Air to G. 150~300/250~500KM)



12.7×11.0×3.6cm/600g
10Watts×2/20Watts×2 (7Z100)
(Air to G. 150~300/250~500KM)

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)	0.25Watts*2; 0.5Watts*2; 1Watts*2; 2Watts*2; 4Watts*2; 5Watts*2; 10Watts*2; 20Watts*2
Single Hop Communication Distance	Air to G. 3-15KM, 0.25Watts*2; 10-30KM, 0.5Watts*2; 20-50KM, 1Watts*2; 50-100KM, 2Watts*2; 100-150KM, 4Watts*2; 100-200KM, 5Watts*2; 150-300KM, 10Watts*2; 250-500KM, 20Watts*2
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.
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) (70M-6GHz/Upper C-X-Ku customizable. Same frequency or different frequency of TDD single-band/dual-band/tri-band of 2T2R)

Bands

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	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		

(Note: RF power, Dimensions, Weight is different)

Mechanical

Size/Weight	5.1×3.0×0.6cm/11g, 0.25Watts*2 5.8×4.8×1.0cm/27g, 0.5Watts*2/1Watts*2 8.7×5.4×1.0cm/40g, 1Watts*2 8.7×5.4×1.0cm/43g, 2Watts*2 11.5×5.4×1.3cm/56g, 4Watts*2/5Watts*2 10.1×5.4×1.9cm/124g, 2Watts*2/4Watts*2/5Watts*2 10.1×5.4×1.9cm/127g, 2Watts*2/4Watts*2 12.7×11.0×3.4cm/524g, 10Watts*2/20Watts*2 12.7×11.0×3.6cm/575g, 10Watts*2/20Watts*2 12.7×11.0×3.6cm/600g, 10Watts*2/20Watts*2
Installation	4 Mounting Holes

Power

Supply Voltage	3.5-5V DC, 0.25Watts*2 9-39V DC, 0.5Watts*2/1Watts*2 12-36V DC, 2Watts*2/4Watts*2/5Watts*2 18-32V DC, 10Watts*2/20Watts*2
Power consumption	Operation 1-2A/Standby 0.5-1A@3.5-5V, 0.25Watts*2 Operation 0.3-0.5A/Standby 0.2-0.3A@12V, 0.5Watts*2 Operation 1-2A/Standby 0.5-0.7A@12V, 1Watts*2/2Watts*2 Operation 2-4A/Standby 0.5-0.7A@12V, 4Watts*2/5Watts*2 Operation 3-6A/Standby 0.7-0.9A@18V, 10Watts*2 Operation 6-10A/Standby 0.7-0.9A@20V, 20Watts*2
Power Selection	Power Supply by MainCable

Interface

Basic interface	2xIPEX/2xMMCX/2xSMP/2xSMA RF, 1-2xRJ45 Ethernet 100/1000BaseT, RS232, DC input. TTL (UART), SBUS, and Bluetooth 1.2-230.4Kbps, Wi-Fi access point, and BD/GPS (GNSS) are available. Supports transparent transmission over Ethernet and serial ports, and all communication protocols, including MAVLink. Selectable service priority
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
Power Indicator	Steady green - Powered on
LINK Indicator	Steady red - The network is not connected Blinking red - Starting/not connected to the network Steady green - The network is connected
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

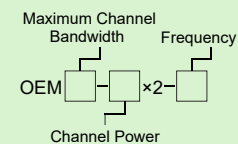
Environmental

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

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

Model Name:

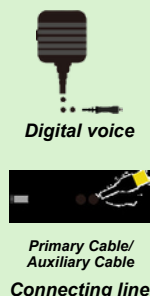
Maximum Channel Bandwidth (MHz)	Channel Power (W)	Frequency (MHz)
20	0.25, 0.5	600, U
40	1, 2	1400, L
80	4, 5	2300, S
	10, 20	4500, C



OEM20-2x2-1400 Express:

Maximum Channel Bandwidth 20MHz, 2Watts*2, 1400MHz OEM/ODM Module.

Accessories:



Options:



Application Diagram:

