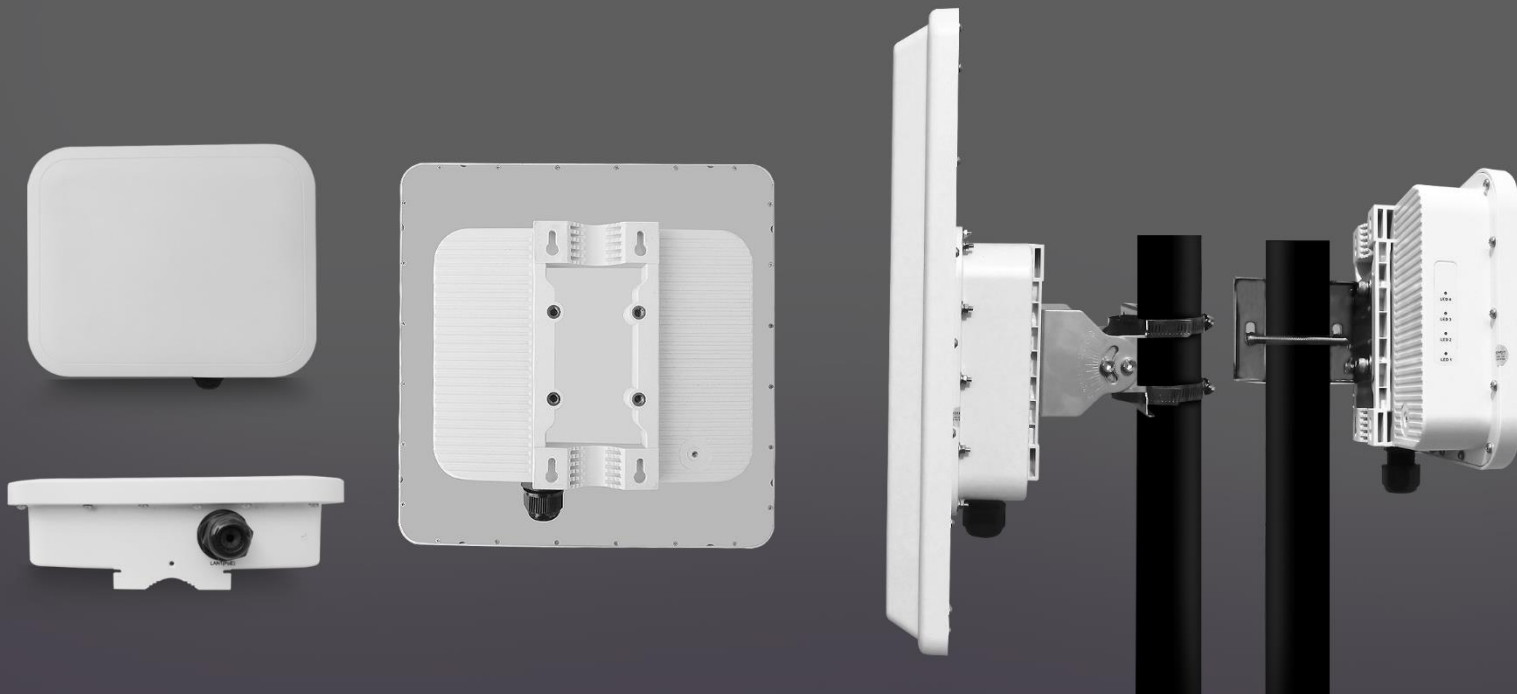# KEYWEST
N E T W O R K S

OR100 Series

GPS Sync

Dedicated Radio for Management

Up to 867 Mbps Data Rate

Hardware Encryption

IP67 Rating

MU-MIMO

Overview

KeyWest Networks radios are designed specifically for smart cities and service provider industry, providing total solution to deploy and manage the wireless networks. These products can serve Point to Point and Point to Multipoint connectivity that deliver low latency, high performance, and uptime under dense RF conditions.

Key Features

- Proprietary polling protocol supporting real time priority-based scheduler
- 5GHz Radio with 2 spatial streams for improved transmission speed and coverage that delivers up to 867 Mbps data rate
- Dedicated 2.4 GHz radio along with smart phone application to install & troubleshoot the PTP/PTMP wireless links
- In-built GPS module with 1PPS pulse to provide real time geo-coordinates, extremely accurate time source, Stratum 1 NTP Server – reliable source of time to synchronize network devices
- Integrated Dying Gasp module triggers real-time alerts in the event of power failures and enables hot-standby
- Rugged outdoor IP67 housings protect against extreme temperatures
- Superior QoS with application aware traffic shaping capability
- Integrated with network monitoring solution (ORNMS) for auto provisioning, troubleshooting and inventory management
- Built in Advanced Spectrum Analyzer with estimation of interference & channel utilization
- AES 256 Hardware Encryption and Radius Authentication for secure links
- Hardware based network packet engine to support service flow based QoS

Product Models	Part Numbers	Descriptions
OR100 Series	OR100-B18	Base Unit – 5GHz 2x2 MIMO with 18 dBi 60^0 sector antenna
	OR100-X00	Base Unit – 5GHz 2x2 MIMO with 2 N-Type RF connectors
	OR100-C18	Subscriber Unit – 5GHz 2x2 MIMO with 18 dBi panel antenna
	OR100-C23	Base PTP Unit – 5GHz 2x2 MIMO with 23 dBi panel antenna
Hardware		
Chip set	Quad-Core CPU, 4x ARM Cortex A7	
Memory	DDR 256 MB, Flash 32 MB	
GPS	On board GPS info via I2C,1PPS pulse, GPS Synchronization	
Dying Gasp	20ms (Max)	
Thermal Sensor	To monitor board temperature	
PoE Injector	Passive 48V, 0.5A, +50C, 6KV Surge Protection	
On Side LEDs	Green colour LEDs – Configurable	
Ethernet Connector	RJ 45 with LEDS	
Enclosure Rating	IP67 Compliant	
Ethernet		
Ethernet	1 x GbE Port, 6KV Surge Protection	
Speed	10/100/1000Mbps, Half/Full Duplex, Auto Negotiation	
Jumbo Frame	9K bytes	
Power source	48V 0.5A	
Cable length	STP Cat5e: Max 130 meters FTP Cat6: Max 180 meters	
Wireless		
MAC Protocol	Proprietary polling-based protocol	
MIMO	2 X 2:2	
Modulation Scheme	BSPK, QPSK, 16Q-AM, 64-QAM, 256-QAM	
Frequency Band	4.9 GHz Public Safety	5.1 GHz - 5.925 GHz Broadband Connectivity	2.4 GHz Radio Management
Channel Bandwidth	20 / 40 / 80 MHz	
Channel Spacing	5 MHz	
Max Transmit Power	Up to 26 dBm (Combined)	
Transmit Power Control	1 - 26 dB, in 1 dB steps. Automatic TPC with configurable EIRP limit	
Dynamic Data Rate Selection	Automatically detect optimal data rate for given link	
Dynamic Channel Selection	Selects optimal channel to operate to maintain SLAs (CIR & MIR)	
Antenna		
Integrated	18 dBi 60^0 sector	18 dBi panel antenna	23 dBi panel antenna	
External	2 N-Type connectors	
Security		
Encryption	AES-256	
Authentication	Internal MAC Address Control List, Radius based Authentication	

QoS	
Asymmetric Bandwidth Control	Asymmetric UL/DL committed and maximum information rate per Service Flow
Packet Classification Capabilities	802.1p priority, IPTOS, VLAN ID, IP addresses, ports, Ethernet addresses, IP protocol, and Ether Type. Support maximum 4 SFC's with maximum 32 PIR's
Scheduling	Real Time priority-based services
Management	
Remote	Telnet, SSH, Web, TFTP, HTTP, HTTPS, Syslog
SNMP	SNMP v1 / v2c / v3, RFC-1213, Private MIB
Smart Phone	Android & IOS based Application for Radio Management
Antenna Alignment	Alignment aid provided via variable audible tone generation algorithm
Network	
Operating Mode	Bridging, Routing (RIPv2, IP Tunnelling)
IP Stack	IPv4, IPv6
Gateway Features	DHCP Server, NAT, IPsec
VLAN	STP, 802.1Q: Management VLAN, Transparent, Access, Trunk, QinQ (Double tag)
MAC-in-MAC	To improve the multicast traffic performance, IGMP Snooping
Ethernet-OAM	Fault Link Management
Packet Filtering	MAC, IP, Protocol, Port
NTP Server	Stratum 1 NTP Server using GPS – less than 1msec accuracy

Physical Specs				
Models	OR100-B18	OR100-X00	OR100-C18	OR100-C23
Dimensions	371.3 x 371.3 x 101.5mm	229.2 x 250 x 80 mm	229.2 x 250 x 80 mm	305.5x305.5x79.5mm
Weight	2.4 kgs/ 5.48 lbs	1 .2Kgs / 2.7 lbs	1.2Kgs / 2.7 lbs	1.68 kgs / 3.7lbs

Environmental				
	Operating Temperature	Storage Temperature	Humidity & IP Rating	Wind loading
	-20 to +65 °C	-50° to +70 °C	95% maximum	180 kmph
		(-58° to 158° F)	Non-Condensing, IP67	

Max Transmit Power	5 GHz		
	20 MHz	40 MHz	80 MHz
BPSK	26 dBm	26 dBm	26 dBm
256-QAM	23 dBm	21 dBm	20 dBm

RX Sensitivity			
	5 GHz		
	20 MHz	40 MHz	80 MHz
BPSK	-85 dBm	-84 dBm	-82 dBm
256-QAM	-61 dBm	-60 dBm	-58 dBm

Package Contents	
	1 Radio
	1 PoE Injector with AC Power Cable
	1 Ethernet Cable Cat5e 1.5 mts
	1 Grounding Cable 1.8 mts AWG10
	1 Pole Mounting Kit or Axis Mounting Kit (Based on the radio model)
	1 Quick Installation Guide

Certification	
	FCC: 47 CFR Part 90, Sections 90.1201 through 90.1217
	FCC: 47 CFR Part 15, Subpart C (Section 15.247)
	FCC: 47 CFR Part 15, Subpart E (Section 15.407)
	FCC: Part 2(Section 2.1091)
	IEC 61000-4-2: 2008, IEC 61000-4-4: 2012, IEC 61000-4-6: 2013
	CISPR 22: 2008 Class A: Radiated Disturbance
	IEC 61000-4-3 Class A: Radiated Susceptibility
	IEC 61000-4-11 Class A: Voltage Dips & Interruption
	IEC 61000-4-5 +/-6kV Class A: Surge Test on AC-Input and PoE data lines
MTBF & Warranty	
	MTBF over 100,000 hours & 1-year warranty

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