



We Connect the World



WLO-15814N

IEEE802.11a/n 5GHz 300Mbps MIMO Wireless Outdoor Bridge / Wireless Backhaul, W/15dBi 2T2R Panel Dual Polarization Antenna Integrated)

5GHz / 300Mbps

EIRP 41dBm

-97dB RX Sensitivity

8 x Multiple SSID

Advanced QoS

IP68 Waterproof,
Die Cast Housing

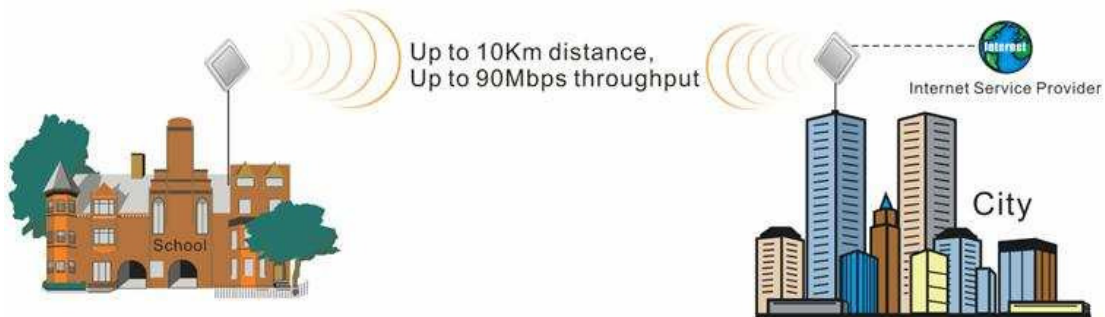
PheeNet WLO-15814N positioned as a Wireless Backhaul to provide up to 10KM distance and 90Mbps throughput. It operates at 5GHz Frequency band, and comply with IEEE802.11n 300Mbps data rate.

Not only can act as the Wireless Backhaul, WLO-15814N equips with CPE and AP mode, which requested by WISP most of time. By integrating Bandwidth management features, WISP can easily control the upstream and downstream bandwidth by the cost end users pay.

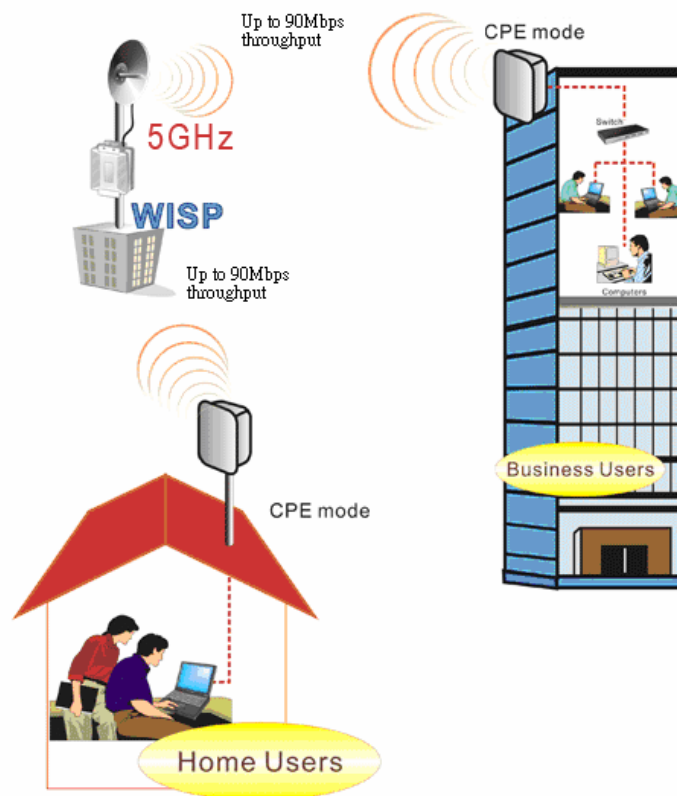
Equips with robust Die Cast housing and IP68 rated waterproof, WLO-15814N extremely satisfy WISP, Telecom Operator, SMB/Enterprise's demands on any kind of Outdoor Wireless application.

Application

WDS :



AP-CPE:



Features

General Features

- IEEE 802.11n draft 2.0 compliance in 2Tx/2Rx design
- Support IEEE 802.11n and 802.11a
- Operates in the 5GHz ISM band
- Enables bandwidth of up to 300Mbps(Tx) , 300Mbps (Rx) link rate
- Over load current protection
- Wide Range Voltage support (12-68VDC)
- Integrated Power over Ethernet (PoE)
- IP68 Rated Weather-Proof Housing, M-13 RJ45 and N-Type Connector

Wireless Features

- Number of ESSID (Virtual AP) : 7
- Number of associated clients per AP : 32
- Setting for max number associated clients
- Number of Max. WDS Setting : 4
- Setting for 802.11a/n mix or 802.11a only
- Setting for transmission speed, Dynamic Wireless Re-transmission
- Channel Selection: Manual or Auto
- Transmission Power Control : 1~100%
- IEEE802.11h – PTC and DFS
- IEEE802.11d – Multi country roaming
- Channel Bandwidth Setting : 20MHz or 20/40MHz
- Wireless Site Survey
- Operation Modes : AP Mode (AP / AP+WDS) , WDS Mode (Bridge / Repeater) , CPE Mode (Router / client), Universal Repeater + Client Bridge Mode
- IEEE802.11f IAPP : to facilitate faster roaming for the stations among different APs nearby
- IEEE 802.11i Preauth (PMKSA Cache)
- HT Tx/Rx Stream selection : 1 or 2
- A-MSDU and A-MPDU support
- Maximal MPDU density for TX aggregation setting
- Short Slot support
- RTS Threshold and Fragment Threshold support

Networking

- Support Static IP, Dynamic IP(DHCP Client) and PPPoE on WAN Connection
- Support VPN Pass Throughput (PPTP , IPSec , L2TP)
- PPPoE Reconnect : Always on , On demand, Manual
- MAC Cloning
- DHCP Server
- 802.3 Bridging
- DHCP Server (for CPE Mode and Client Bridge Mode)
- Masquerading (NAT) (for CPE Mode)

- Proxy DNS
- Dynamic DNS
- NTP Client
- Virtual DMZ
- Virtual Server (Port Forwarding)
- Support MAC Filter
- Support IP Filter
- Bandwidth traffic Shaping

Wireless Security

- Layer 2 User Isolation
- Layer 2 AP Isolation
- Blocks client to client discovery within a specified VLAN
- WEP 64/ 128 Bits
- EAP-TLS + Dynamic WEP
- EAP-TTLS + Dynamic WEP
- PEAP/ MS-PEAP + Dynamic WEP
- WPA (PSK +TKIP)
- WPA (802.1x certification + TKIP)
- 802.11i WPA2 (PSK + CCMP/ AES)
- 802.11i WPA2 (802.1x certification + CCMP/ AES)
- Setting for TKIP/ CCMP/ AES key's refreshing period
- Hidden ESSID support
- Setting for " Deny ANY " connection request
- MAC Address filtering (MAC ACL)
- No. of registered RADIUS servers : 1
- VLAN assignment on BSSID

Quality of Service

- Download and Upload traffic control
- Packet classifications via DSCP (Differentiated Services Code Point)
- Control Policy by IP/IP Ranges/ MAC/ Service
- Layer-7 Protocol Support
- Traffic Analysis and Statistics
- No. of Max. Policy setting : 10
- DiffServ/ TOS
- IEEE802.11p/ COS
- IEEE 802.11Q Tag VLAN priority control
- IEEE802.11e WMM

Management

- Web-Based management & firmware upgrade
- Reset to factory default
- Profile Configuration Backup and Restore
- Remote Link Test – Display connect statistics
- Full Statistics and Status Reporting
- NTP Time Synchronization

- Event Log
- Support SNMP v1, v2c, v3, MIBII
- SNMP Traps to a list of IP address
- CLI access via Telnet and SSH
- Administrative Access: HTTP and HTTPS
- UPnP (Universal Plug and Play)

Specification

Wireless	
Standard	IEEE 802.11n IEEE 802.11a IEEE 802.3u 100Base-TX Fast Ethernet IEEE802.11f IEEE802.11i IEEE802.11d
Frequency Band	IEEE802.11a: 5.15~5.35 & 5.725~ 5.825 GHz for US 4.9~5.25 GHz for Japan 5.15~5.35 & 5.47~5.725 GHz for ETSI IEEE802.11n : 5.15~5.35 & 5.725~ 5.825 GHz for US 4.9~5.25 GHz for Japan 5.15~5.35 & 5.47~5.725 GHz for ETSI
Channel Spacing	IEEE802.11a: 20MHz IEEE802.11n: 20/40MHz
Operating Channels	IEEE802.11a / IEEE802.11n: US: 12 (Ch:36,40,44,48,52,56,60,64,149,153,157,161) Japan: 4 (Ch:34,38,42,46) ETSI: 19(Ch:36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140)
Modulation	IEEE802.11a: OFDM (64QAM, QAM, QPSK, BPSK) IEEE802.11n: BPSK, QPSK, 16QAM, 64QAM
Data Rate	IEEE802.11a: 6/9/12/18/24/36/48/54Mbps (auto sensing) IEEE802.11n(draft 2.0) : 300Mbps(Tx), 300Mbps(Rx)
Security	WEP (64/128Bit) WPA / WPA2 Hidden ESSID User Isolation MAC Address Filter

Receive Sensitivity	-97dBm
Output Power	27dBm (500mW)
Operating Mode	Pure AP AP / WDS Pure WDS Mode (Repeater/Bridge) CPE Mode (Router Client) Universal Repeater
Hardware	
Processor	Ralink 2880 + 2850 (5G RF)
Flash	4MB
SDRAM	32MB
LED Indication	Power, LAN ,Wireless
Ethernet	- 10/100BASE-TX auto-negotiation Ethernet port x 1 (RJ-45 connector) - Power over Ethernet
Antenna Integrated	15dBi Dual Polarization Directional Antenna (2T2R) (H60, E30)
Environment	Operating Temperature: -30 °C ~ 60 °C Storage Temperature: -30 °C ~ 85 °C Humidity: 100%(non condensing)
Power Supply	AC Input : 110 – 220V AC Power DC Output : 48 VDC, 0.4A input (POE Injector)
Power Consumption	9W
Waterproof	IP68 Certificated, Die-Cast aluminum Enclosure
Mounting	Wall Mount, Pole Mount
Dimensions	157 (L) x 96 (W) x 45 (H) mm
Weight	0.68Kg
Certificate	CE, FCC

Appendix

Operating Frequency 5180MHz – 5805MHz									
Transmit Power Variation (dBm)					Receive Sensitivity (dBm)				
Mode	DataRat	CH36	CH100	CH161	Mode	DataRate	CH36	CH100	CH161
11a OFDM	6Mbps	23	23	22.5	11a OFDM	6Mbps	-96	-96	-96
	9Mbps	22	22	21.5		9Mbps	-94	-94	-94
	12Mbps	21	21	20.5		12Mbps	-92	-92	-92
	18Mbps	20	20	19.5		18Mbps	-90	-90	-90
	24Mbps	19	19	18.5		24Mbps	-88	-88	-88
	36Mbps	18	18	17.5		36Mbps	-86	-86	-86
	48Mbps	17	17	16.5		48Mbps	-84	-84	-84
	54Mbps	16	16	15.5		54Mbps	-81	-81	-81
11n 20MHz	MCS0	22	22	21.5	11n 20MHz	MCS0	-95	-95	-95
	MCS1	21	21	20.5		MCS1	-93	-93	-93
	MCS2	20	20	19.5		MCS2	-91	-91	-91
	MCS3	19	19	18.5		MCS3	-89	-89	-89
	MCS4	18	18	17.5		MCS4	-87	-87	-87
	MCS5	17	17	16.5		MCS5	-85	-85	-85
	MCS6	16	16	15.5		MCS6	-83	-83	-83
	MCS7	15	15	14.5		MCS7	-80	-80	-80
	MCS8	22	22	21.5		MCS8	-95	-95	-95
	MCS9	21	21	20.5		MCS9	-93	-93	-93
	MCS10	20	20	19.5		MCS10	-90	-90	-90
	MCS11	19	19	18.5		MCS11	-88	-88	-88
	MCS12	18	18	17.5		MCS12	-86	-86	-86
	MCS13	17	17	16.5		MCS13	-83	-83	-83
	MCS14	16	16	15.5		MCS14	-81	-81	-81
	MCS15	15	15	14.5		MCS15	-78	-78	-78
11n 40MHz	MCS0	22	22	21.5	11n 40MHz	MCS0	-93	-93	-93
	MCS1	21	21	20.5		MCS1	-92	-92	-92
	MCS2	20	20	19.5		MCS2	-90	-90	-90
	MCS3	19	19	18.5		MCS3	-87	-87	-87
	MCS4	18	18	17.5		MCS4	-84	-84	-84
	MCS5	17	17	16.5		MCS5	-81	-81	-81
	MCS6	16	16	15.5		MCS6	-78	-78	-78
	MCS7	15	15	14.5		MCS7	-75	-75	-75
	MCS8	22	22	21.5		MCS8	-93	-93	-93
	MCS9	21	21	20.5		MCS9	-92	-92	-92
	MCS10	20	20	19.5		MCS10	-90	-90	-90
	MCS11	19	19	18.5		MCS11	-87	-87	-87
	MCS12	18	18	17.5		MCS12	-84	-84	-84
	MCS13	17	17	16.5		MCS13	-81	-81	-81
	MCS14	16	16	15.5		MCS14	-78	-78	-78
	MCS15	15	15	14.4		MCS15	-75	-75	-75