



Loop-W8110 Outdoor Wireless Access Point/Repeater/Bridge /Professional Vehicle Transceiver

Features:

- Industrial grade IP67 rugged, cast aluminum casing
- Up to 25 Km range with external antenna
- Up to 108 Mbps data rate in Turbo Mode
- 500 mW output power transmission
- Bandwidth control with QoS, VOIP and video
- Power over UTP DC supply
- Wireless isolation between wireless clients
- Professional vehicle transceiver
- IEEE 802.11g compliant up to 54 Mbps
- Up to 250 associations and 50 concurrent users
- Seamless roaming is supported between access points in the same subnet
- Wireless Distribution System (WDS) support
- Dual antenna diversity
- RF power control: Transmit power software adjustable to between 12.5% and 100% of maximum radio power
- Protocol filtering for Internet and Intranet networks
- Web and SNMP management

**CERTIFIED
ISO-9001**

Description

The Loop-W8110 is designed for high data rates. It is a long distance outdoor bridge with high RF output power (up to 500mW). With an external antenna it can be used to establish wireless links up to 25 Km.

Configurable as either an Access Point or a Repeater, it can support up to 250 Client associations and 50 concurrent users in AP mode. As a repeater, it supports one wireless uplink and 20 concurrent wireless downlinks.

The Loop-W8110 comes in an industrial grade (IP67), rugged, cast aluminum casing and is designed with mobility in mind. It is ideal for use in moving vehicles where reliable, long haul wireless communication is critical.

RoHS Compliance Statement






This product complies with **DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the restriction of the use of certain hazardous substances in electrical and electronic equipment, dated 27 January 2003, including ANNEX.**

Ordering Information

To specify options, choose from the list below.

Note: RoHS compliant units are identified by the letter **G** appearing immediately at the end of the ordering code

| Model | Description |
|---------------------------|---|
| W8110-BG-500-EANT-APBR-G | 802.11b/g (2.4GHz to 2.4835GHz) 500mW WLAN Outdoor AP (Turbo G), Repeater, Point to Multi-Points Wireless Bridge (AP & CPE) IP67 Housing, up to 25km range with external antenna LOS. Supports dual external antenna diversity, adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable, dual band omni antenna, N jack metal cover & Quick installation guide. |
| W8110-A-500-EANT-APBR-G | 802.11a (4.9GHz to 5.875GHz) 500mW WLAN Outdoor AP (Turbo A), Repeater, Point to Multi-Points Wireless Bridge (AP & CPE) IP67 Housing, up to 25km range with external antenna LOS. Supports dual external antenna diversity, adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable, dual band omni antenna, N jack metal cover & Quick installation guide. |
| W8110-BG-100-EANT-APB-G | 802.11 b/g (2.4GHz to 2.4835GHz) 100mW WLAN Outdoor AP (Turbo G) & Point to Multi-Points Wireless Bridge (AP & CPE) IP65 Housing, up to 6km range with external antenna LOS. Supports external antenna, adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable, dual band omni antenna, N jack metal cover & Quick installation guide. |
| W8110-A-100-IANT18-APB-G | 802.11a (4.9GHz to 5.875GHz) 100mW WLAN Outdoor Wireless AP (Turbo A) and Client/bridge (CPE) IP65 Housing, up to 8km range, LOS. Built-in internal 18dBi antenna (5.1~5.9GHz), adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable & Quick installation guide. |
| W8110-A-100-IANT18-B-G | 802.11a (4.9GHz to 5.875GHz) 100mW WLAN Outdoor Wireless Client/bridge (CPE) IP65 Housing, up to 8km range, LOS. Built-in internal 18dBi antenna (5.1~5.9 GHz), adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable & Quick installation guide. |
| W8110-BG-100-IANT14-APB-G | 802.11 b/g (2.4GHz to 2.4835GHz) 100mW WLAN Outdoor Wireless AP (Turbo G) and Client/bridge (CPE) IP65 Housing, up to 8km range, LOS. Built-in internal 14dBi antenna, adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable & Quick installation guide. |
| W8110-BG-100-IANT14-B-G | 802.11 b/g (2.4GHz to 2.4835GHz) 100mW WLAN Outdoor Wireless Client/bridge (CPE) IP65 Housing, up to 8km range, LOS. Built-in internal 14dBi antenna, adjustable radio power. Standard package: POE adaptor, AP, Mounting bracket, CD, 3m Ethernet Cable & Quick installation guide. |

| | | |
|--|---|---|
| Accessories/Spare Parts Options | | |
| User's Manual | | |
| Loop-W8110-UM | User's Manual (optional, paper copy). A CD version of the manual is already included as standard equipment. | |
| POE Adapter | | |
| W8110-PUTP-Combiner-06-G | Power Over UTP Combiner (combine 48v DC power and Data) | |
| RF Cable | | |
| W8110-RFC400-010-NN-G | 50 Ohm Low Loss RF Cable (1m) N(M) ~ N(M) | |
| W8110-RFC400-030-NN-G | 50 Ohm Low Loss RF Cable (3m) N(M) ~ N(M) | |
| Lightning Arrestor | | |
| W8110-Arrestor-03-G | Lightning Arrestor for 2.0 to 6.0 GHz | |
| W8110-Arrestor-LP-01-G | Lightning Arrestor for 1.0 to 3.0 GHz | |
| W8110-Arrestor-LP-17-G | Lightning Arrestor for 6.0 GHz | |
| 5.8GHz Series Antenna | | |
| W8110-ANT5-D23-G | Directional Patch Antenna 23dBi (5.150 GHz ~ 5.875 GHz) | |
| W8110-ANT5-DP19-G | Directional Patch Antenna 19dBi (5.15 GHz - 5.85 GHz) | |
| W8110-ANT5U-OD8-G | Omni Antenna 8dBi (5.4 GHz ~ 5.875 GHz) | |
| W8110-ANT5L-OD8-G | Omni Antenna 8dBi (4.9 GHz~5.325 GHz) | |
| W8110-ANT5-OA-5775-08-G | Omni Antenna 8dBi (5.725 GHz to 5.850 GHz) | |
| W8110-ANT5-OA-5775-10-G | Omni Antenna 10dBi (5.725 GHz to 5.850 GHz) | |
| W8110-ANT5-OA-5775-12-G | Omni Antenna 12dBi (5.725 GHz to 5.850 GHz) | |
| W8110-ANT5-PA-5775-16-G | High Performance Panel Antenna 16dBi (5.725 GHz to 5.850 GHz) | |
| W8110-ANT5-PA-5000-18-G | High Performance Panel Antenna 16dBi (5.1 GHz to 5.725 GHz) | |
| W8110-ANT5-GA-5775-24-G | Square Grid Antenna 24dBi (5.725 GHz to 5.850 GHz) | |
| W8110-ANT5-GA-5775-27-G | Square Grid Antenna 27dBi (5.725 GHz to 5.850 GHz) | |
| 2.4GHz Series Antenna | | |
| W8110-ANT2-OA-2450-08-01-G | Omni Antenna for Base Station 8dBi (2.4 GHz to 2.483 GHz) | |
| W8110-ANT2-OA-2450-12-G | Omni Antenna for Base Station 12dBi (2.4 GHz to 2.483 GHz) | |
| W8110-ANT2-OA-2450-15-G | Omni Antenna for Base Station 15dBi (2.4 GHz to 2.5 GHz) | |
| W8110-ANT2-PA-2450-18-G | Panel Antenna 18dBi (2.4 GHz to 2.483 GHz) | |
| W8110-ANT2-PA-2450-20-G | Panel Antenna 20dBi (2.4 GHz to 2.483 GHz) | |
| W8110-ANT2-GA-2450-19-G | Square Grid Antenna 19dBi (2.4 GHz to 2.483 GHz) | |
| W8110-ANT2-GA-2450-24-G | Square Grid Antenna 24dBi (2.4 GHz to 2.483 GHz) | |
| Power Cord for Poe Adapter | | |
| Loop-ACC-PC-USA | AC power cord for Taiwan/America |  |
| Loop-ACC-PC-EU | AC power cord for the EU |  |
| Loop-ACC-PC-UK | AC power cord for the UK |  |
| Loop-ACC-PC-AUS | AC power cord for AUS |  |
| Loop-ACC-PC-CH | AC power cord for China |  |

Loop-W8110 PRODUCT SPECIFICATIONS for 2.4 GHz Radio

RF (Radio Frequency) Specifications

| | |
|--------------------|--|
| Frequency | 2400 to 24835MHz |
| Wireless Data Rate | 54, 48, 36, 24, 12, 11, 9, 6, 5.5, 2, 1 Mbps 108 Mbps for Turbo mode |
| Channels | 11 channels (USA/Canada), 13 channels (Singapore, Europe except France), 14 channels (Japan) |

| | | | | | |
|--------------------------------|--|---------|---------|--------|--------|
| Transmitter Output Power | Up to 27 dBm ± 2 dBm | | | | |
| Nominal Antenna Port Impedance | 50 ohms x 2 (for external antenna connector, if applicable) | | | | |
| Media Access Protocol | Carrier Sense Multi-point Access/Collision detection with acknowledgement (CSMA/CA with ACK) | | | | |
| Modulation Technique | DSS, DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16QAM, 64QAM | | | | |
| Receiver Sensitivity | Bit Rate | 54 Mbps | 11 Mbps | 6 Mbps | 1 Mbps |
| | Error Rate | 10% | 8% | 10% | 8% |
| | Signal | -73 dBm | -86dBm | -88dBm | -91dBm |

Ethernet Functions

Ethernet Port 10/100 Base-T (RJ-45 connector) with auto MDIX

Management Functions

Web-based management
 IP address discovery software (Viper Quick Start)
 Firmware can be upgraded through web-server and Telnet
 Number of client associations supported (AP mode) 250
 Number of concurrent users supported (AP mode) 50
 Number of Wireless uplinks supported (Repeater mode) 1

Security

Static WLAN WEP Max 152 bits
 MAC Address Access Control
 WPA with Radius Server EAP-TLS, EQP-TTLS, PEAP (EAP-GTC) in access point mode
 WPA-PSK AES
 TKIP

Electrical

Power adapter 18~48V DC through RJ45
 Power Consumption: Typical 8.5 Watts, 9.0 Watts Max

Physical and Environmental

Dimensions 121.3 mm x 214.2 mm x 46mm (WxHxD)
 Antenna Connectors Two (2) 50 ohm, N-type (female)

Operating Temperature -35°C ~ +75°C
 Relative Humidity (non-condensing) Max. 95%

Standards and Compliances

| | | |
|----------------------------|-----------------------------------|--------------------------------|
| IEEE Wireless Standard | 802.11 b/g/e | |
| Drop | IEC-68-2-32 | |
| Salt Fog | IEC-68-2-11 | |
| Solar Radiation IEC-68-2-5 | IEC-68-2-5 | |
| Safety | EN 60950 | |
| EMC and RFI | FCC Part 15 C | |
| ESD | IEC 61000-4-2 | |
| Certification | W8110-BG-500-EANT-APBR- G | In approval process |
| | W8110-BG-100-EANT-APB- G | EN 300 328 V1.6.1 (2004-11), |
| | W8110-BG-100-IANT14-APB- G | EN 50385:2002, |
| | W8110-BG-100-IANT14-B- G | EN 301 489-1 V1.4.1 (2002-08), |
| | | EN 301 489-17 V1.21 (2002-08). |

Loop-W8110 PRODUCT SPECIFICATIONS for 5.8 GHz Radio

RF (Radio Frequency) Specifications

| | | | | | | | | | |
|---------------------------------|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Frequency | 4900~5875MHz | | | | | | | | |
| Wireless Data Rate | Maximum 108Mbps with Auto Fall Back | | | | | | | | |
| Transmitter Output Power | Up to 27 dBm | | | | | | | | |
| Channels | Varies according to country code | | | | | | | | |
| Channel Bandwidth | ≤20MHz | | | | | | | | |
| Channel Frequency Step Size | 5MHz | | | | | | | | |
| Radio Power Control (3dB steps) | 5 levels from Max | | | | | | | | |
| Modulation | OFDM, BPSK, QPSK, 16-QAM, 64-QAM | | | | | | | | |
| Receiver Sensitivity | Bit Rate (Mbps) | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 |
| | Signal (dBm) | -88 | -87 | -86 | -84 | -81 | -78 | -75 | -73 |

Ethernet Functions

Ethernet Port 10/100 Base-T (RJ-45 connector) with auto MDIX

Management Functions

| | |
|--|---|
| Auto Associate to AP with same ESSID | |
| DHCP Client | Auto negotiate for IP |
| Seamless Roaming | |
| Static IP | |
| Wireless association status | |
| Firmware upgrade while in use | Will not interfere with operation but you must reboot to start new firmware |
| Web based management | |
| Configurable through Telnet | |
| Can Ping from device via Telnet | |
| Password access controls to configuration | 2 levels |
| Number of client associations supported (AP mode) | 250 |
| Number of concurrent users supported (AP mode) | 50 |
| Number of Wireless uplinks supported (Repeater mode) | 1 |
| Number of concurrent users supported (Repeater) | 30 |
| Uplink and Downlink packets and bytes counters | |
| User pre-set range between BS | |

Security

| | |
|-------------------------------------|---|
| Static WEP | Max 152 bits |
| MAC Access Control | |
| WPA, 802.1x support | IAP mode only |
| WPA-PSK | Pass Phase with TKIP and AEDS cipher |
| Configuration file download | via Telnet |
| Firmware upgrade | |
| Filtering | Broadcast and multicast |
| Multiple FTP pass through | |
| Bandwidth limiting with QoS | When enabled, the data bandwidth is set. The balance of the bandwidth is used for live data such as video and VoIP packets. |
| QoS | Priority for voice and multimedia |
| Wireless client to client isolation | AP mode |
| SNMP | V1, V2C |
| VLAN Transparent | |
| Multiple FTP passthrough | |
| Suppress SSID | |
| Software reset | |

Electrical

Power over Ethernet
Power requirement (estimate) Passive PoE, non-3af compliant
11W max

Physical and Environmental

Dimensions 121.3 mm x 214.2 mm x 48mm (WxHxD)
Weight 1.2 Kg. (module only)
Antenna Type Two ports for receive diversity: Tx/Rx and Rx
Power requirement (estimate) 11W max
Operating Temperature -35°C ~ +60°C(industrial model)
Relative Humidity (non-condensing) Max. 95%
Wind speed support 120km/hr. (Maxi)
Waterproof rating IP67

Standards and Compliances

RoHS compliant
IEEE Wireless Standard 802.11 a/h
IEEE Ethernet Standard 802.3, 802.3ui (CSMA/CD)
Drop IEC-68-2-32
Shock IEC-68-2-11
Random Vibration IEC-68-2-64
Solar Radiation EN 60950
EMC and RFI EN 301893, EN 301489C
ESD IEC 61000-4-2

Certification **W8110-A-500-EANT-APBR-G** In approval process

W8110-A-100-IANT18-APB-G EN 300 328 V1.6.1 (2004-11),
W8110-A-100-IANT18-APB-G EN 301 489-1 V1.4.1 (2002-08),
EN 301 489-17 V1.21 (2002-08),
EN 50385:2002,
EN 60950-1:2001

Transmitter Spectral Masks ETSI EN 301893
Transmitter Spurious Emission ETSI EN 301893

Application Illustrations



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