LigoWave

LigoDLB 2-90n

Outdoor Wireless Device

DLB 2-90n

LigoWave's DLB 2-90n delivers the highest performance and stability available in the 2.4GHz Base Station class. This product combines a robust, highly advanced 802.11n radio core containing MIMO 2×2 technology with an integrated, high gain, dual polarized, 100° sector antenna. The device is powered by a reliable, advanced, and feature-rich operating system, allowing the creation of high throughput, stable wireless networks quickly and effectively. Although the DLB 2-90n was designed mainly as a Base Station it also supports client-operating mode, which greatly extends the possible application scenarios.

The smart dynamic polling based protocol (iPoll 3) ensures reliable communication even in congested areas with 64 client devices connected to a base-station.

Equipped with LigoWave's dual firmware image feature, remote software upgrades are assured even if a power failure interrupts the process. The device will restart using the prior firmware in the event of an upgrade failure.

The enclosure is made of polycarbonate plastic with UV inhibitors to provide years of outdoor exposure in direct sunlight without cracking. The DLB 2-90n was designed and tested to meet an IP-65 rating as well as vibration, temperature, drop, salt, fog, and electrical surge standards to ensure a high level of reliability unsurpassed in the industry. It is equipped with a grounding lug and a grounded 24-volt PoE to allow a professional installation, resistant to electrical surges. The mounting bracket permits installation on a wall or a pole and provides up to 30 degrees of down-tilt adjustment.

New form factor

The shape of the enclosure is now smaller, lighter and retains the IP-66 weather protection rating. Smaller packaging reduces freight costs and makes them less obvious. The new LigoDLB 2-90n design has no metal parts, which makes them lighter and corrosion resistant.

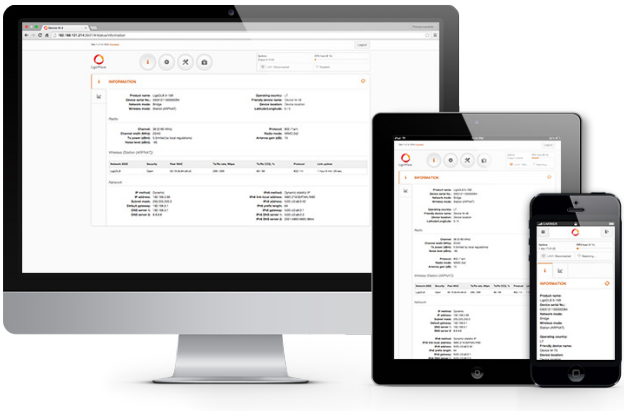
New mounting

The adjustable mounting bracket is very easy to assemble and install. It consists of two easy to connect parts that allow tilting the device up and down when installing on a pole. A metal strap is included to securely tighten the device. This design includes additional reinforcements and thicker materials to ensure survival in extreme climate conditions.

OS

The DLB OS is a highly functional and easy to use operating system. This powerful and flexible operating system ensures flawless operation of all DLB hardware devices and effortless setup for those deploying the networks.

- Smart polling data transmission protocol (iPoll 3)
- Dual-firmware image support
- Responsive HTML 5 based GUI
- 170Mbps capacity
- 80,000 PPS rate
- IPv6 support
- WNMS compatible



Specifications

Product/ Distance Recomendation	PTMP Mode	PTP Mode	PTP Mode (Full Capacity)
DLB 2-90n	10km/ 6.21mi	N/A	N/A

Wireless

WLAN Standard	IEEE 802.11 b/g/n, iPoll (Proprietary)
Radio Mode	MIMO 2×2
Radio Frequency Band	2.402-2.492GHz (FCC 2.412-2.462GHz)
Transmit Power	Up to 31dBm (Country Dependent)
Receive Sensitivity	Varying between -96 and -74 dBm depending on modulation
Channel Size	5, 10, 20, 40MHz
Modulation Schemes	802.11 g/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
	802.11 b: DSS (CCK, DQPSK, DBPSK)
Data Rates	802.11 n: 300, 270, 240, 180, 120, 90, 60, 30Mbps
	802.11 g: 54, 48, 36, 24, 18, 12, 9, 6Mbps
	802.11 b: 11, 5.5, 2, 1Mbps
Error Correction	FEC, Selective ARQ
Duplexing Scheme	Time Division Duplex

Receive Sensitivity (dBm)	802.11N/ iPoll (20/ 40 MHz)	15Mbps	30Mbps	45Mbps	60Mbps	90Mbps	120Mbps	135Mbps	150Mbps
		–95	–93	–91	–88	–83	–80	–78	–77
		30Mbps	60Mbps	90Mbps	120Mbps	180Mbps	240Mbps	270Mbps	300Mbps
		–92	–90	–87	–84	–81	–77	–76	–74
	802.11g	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
		–96	–95	–94	–92	–89	–85	–81	–79
Output Power (dBm - combined)	802.11N/ iPoll (20/ 40 MHz)	15Mbps	30Mbps	45Mbps	60Mbps	90Mbps	120Mbps	135Mbps	150Mbps
		31	30	29	28	27	27	26	25
		30Mbps	60Mbps	90Mbps	120Mbps	180Mbps	240Mbps	270Mbps	300Mbps
		30	29	28	27	27	26	25	24
	802.11g	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
		31	30	29	28	27	27	26	26

Antenna

Type	Integrated Directional Dual-Polarized Panel
Gain	16dBi

Wired

Interface	10/100 Base-T, RJ45

Software

Wireless Operating Modes	Access point (auto WDS), access point (iPoll 3), station (WDS, iPoll 3), station (ARP NAT)
Wireless Techniques	Smart station polling, smart auto-channel, adaptive auto modulation, automatic transmit power control (ATPC)
Wireless Security	WPA/WPA2 personal, WPA/WPA2 enterprise, WACL, user isolation
Wireless QoS	4 queues prioritization on iPoll 3
Network Operating Modes	Bridge, router iPv4, router IPv6
Network Techniques	Routing with and without NAT, VLAN
WAN Protocols	Static IP, DHCP client, PPPoE client
Services	DHCP server, SNMP server, NTP client, router advertisement daemon, ping watchdog
Management	HTTP(S) GUI, SSH, SNMP read, WNMS, Telnet
Tools	Site survey, link test, antenna alignment

Physical

Dimensions	Length 430mm (16.9 ''), Width 150mm (5.9 ''), Height 40mm (1.6 '')
Weight	1000g (2.2lb)
Mounting	Combination wall / pole mount included

Power

Power Supply	12–24VDC passive PoE (24V passive PoE adapter is included in the package)
Power Source	100–240VAC
Max Power Consumption	4.5W

Environmental

Operating Temperature	–40°C (–40°F) ~ +65°C (+149°F)
Humidity	0~90% (Non-Condensing)

Management

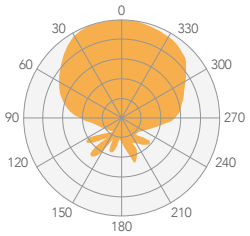
System Monitoring	SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap

Regulatory

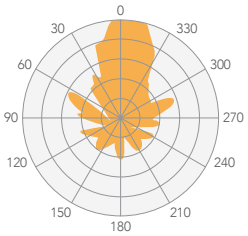
Certification	FCC/IC/CE

Antenna specifications

V Pol

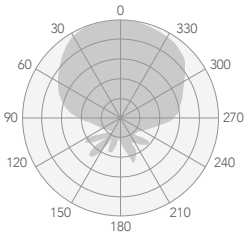


Azimuth

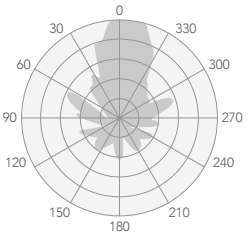


Elevation

H Pol



Azimuth



Elevation

Internal antenna

Frequency range	2.4-2.5GHz
Gain	16dBi
Polarization	Dual linear
Cross-pol Isolation	25dBi
VSWR	1.7:1
Azimuth beamwidth (H pol)	100°
Azimuth beamwidth (V pol)	100°
Elevation beamwidth	30°