

5 GHz Outdoor Wireless CPE

N300 20 dBi Customer-premises Equipment



Product Overview

Dahua's DH-PFWB5-10n is 5 GHz CPE-class device that delivers high-performance and stable operation. This product combines an advanced radio core containing MIMO 2 x 2 technology with an integrated, high-gain, dual polarization directional antenna. The feature-rich operating system is optimized for ultra-high performance wireless communications while optionally allowing compatibility with older 802.11 a standard devices.

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

The device is equipped with Dahua's dual firmware image feature that allows remote software upgrades even if a power failure interrupts the process. The device restarts 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 DH-PFWB5-10n meet the IP66 Ingress Protection rating as well as vibration, temperature, drop, salt, fog, and electrical surge standards to ensure a high level of reliability. It is equipped with a grounding lug and a grounded 24-volt PoE to allow a professional installation, resistant to electrical surges.

- Integrated 5 GHz (2 x 2) MIMO Radio
- Recommended for up to 5 km (3.16 miles) PTP/PTMP Wireless Connection (as a station in PTMP link)
- Frequency 5.150 - 5.850 GHz (FCC 5.150 - 5.250 and 5.725 - 5.850 GHz)
- High-performance and Stable Operation
- Improved Noise Immunity
- TDMA for Reliable Communication
- Dual Firmware
- IP66 Ingress Protection
- Built-in tools include: Site Survey, Link Test, Antenna Alignment, Spectrum Analyzer, Ping & Trace for Configuration and Debugging

Technical Specification

Wireless

WLAN Standard	IEEE 802.11 a/n
Radio Mode	MIMO 2x2
Radio Frequency Band	5.150 to 5.850 GHz (FCC 5.150 to 5.250 and 5.725 to 5.850 GHz)
Transmit Power	Up to 29 dBm (country dependent)
Receive Sensitivity	Varying between -97 and -75 dBm depending on modulation
Channel Size	5, 10, 20, 40 MHz
Modulation Schemes	802.11 a/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Data Rates	802.11 n: 300, 270, 240, 180, 120, 90, 60, 30 Mbps 802.11 a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
Error Correction	FEC, Selective ARQ
Duplexing Scheme	Time division duplex
Transmission Distance	0 to 5 km (0 to 3.16 miles) recommended; Maximum: ≥ 7 km (4.35 miles)

Antenna

Type	Integrated directional panel antenna
Gain	20 dBi

Wired

Interface	10/100 Base-T, RJ45
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Software

Wireless Operating Modes	Access Point (auto WDS), Access Point (TDMA2), Access Point (TDMA3), Station (WDS, TDMA2, TDMA3), 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 TDMA
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, Telnet
Tools	Site survey, link test, antenna alignment, spectrum analyzer, ping & trace

Physical

Dimensions (L x W x H)	185.0 mm x 185.0 mm x 80.60 mm (7.28 in. x 7.28 in. x 3.18 in.)
Weight	0.40 kg (0.88 lb)
Mounting	Combination wall / pole mount included

Power

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

Environmental

Operating Temperature	-30° C to +70° C (-22° F to 158° F)
Humidity	0% to 90 % (non-condensing)

Management

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

Electromagnetic Compatibility (EMC)	FCC/CE
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Internal Antenna

Frequency Range	5.1 GHz to 5.9 GHz
Gain	20 dBi
Polarization	Dual linear
Cross-pol Isolation	27 dBi
VSWR	<1.8
Azimuth Beam Width (H pol)	10°
Azimuth Beam Width (V pol)	10°
Elevation Beam Width	10°

Receive Sensitivity (dBm)	802.11n/ TDMA (20/40 MHz)	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		-97	-95	-93	-88	-85	-81	-79	-77
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		-94	-92	-89	-85	-82	-78	-77	-75
802.11a	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps	
	-97	-97	-95	-93	-90	-86	-82	-81	
Output Power (dBm, combined)	802.11n/ TDMA (20/40 MHz)	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		29	28	28	28	27	27	25	24
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		28	28	28	28	26	26	24	23
	802.11a	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
		29	29	29	29	29	27	26	25

Dimensions (mm/in.)

