

# DH-PFWB5-90n

### 5GHz N300 Outdoor Wireless Base Station



#### **Product Overview**

Dahua's DH-PFWB5-90n delivers the highest performance and stability available in the 5 GHz Base Station class. This product combines a highly advanced radio core containing MIMO 2x2 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.

Equipped with Dahua'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 DH-PFWB5-90n was designed and tested to meet an IP-66 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.

#### **Features**

- · Integrated 5 GHz (2x2) MIMO radio
- Frequency 5.150- 5.850 GHz (FCC 5.150- 5.250 and 5.725- 5.850 GHz)
- · High performance and stability
- IP-66 standards rated enclosure
- Improved noise immunity
- TDMA ensures reliable communication
- Powerful OS
- Dual firmware
- Built-in tools including Site Survey, Link Test, Antenna Alignment, Spectrum Analyzer, Ping & Trace help in configuration and debugging
- Recommended as Base Station for 0~5km PTMP wireless connection

Technical Specification					
Model	DH-PFWB5-90n				
Wireless					
WLAN Standard	IEEE802.11 a/n				
Radio Mode	MIMO 2x2				
Radio Frequency Band	5.150 - 5.850 GHz (FCC 5.150 - 5.250 and 5.725 - 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	0-5km (recommended), max≤7km				
Antenna					
Туре	Integrated directional panel antenna				
Gain	18dBi				
Wired					
Interface	10/100 Base-T, RJ45				

Software  Wireless Operating Modes  Access point (auto WDS), access point (TDMAS), Station (ARP NAT) TDMA2,TDMA3), station (ARP NAT)  Wireless Techniques  Smart station polling, smart auto-channel, adaptive auto modulation, automatic transmit power contro (ATPC)  Wireless Security  Wireless Security  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, Teinet  Tools  Site survey, link test, antenna alignment, spectrum analyzer, ping & trace  Physical  Dimensions  383 mm (Length)× 100mm (width )× 98mm (height veight 520 g  Mounting  Power Supply  Power Supply  power Supply  12- 24 VDC passive POE (24 V passive POE adapter is included in the package)  Power Source  100 – 240V AC  Power Consumption (max)  4.5W  Environmental  Operating Temperature  -30°C ~ +70°C  Humidity  0 ~ 90 % (non-condensing)  Management  Frequency Range  SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap  Regulatory  Certification  FCC/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Elevation Beam Width (V pol)  Pores Elevation Beam Vidth (V pol)  Pores Elevation Pores Elevation Beam Vidth (V pol)  Pores Elevation Pores Province Pores Po	Technical Specification					
Wireless Operating Modes  TDMA2,TDMA3, access point (TDMA3, station (WDS, TDMA2,TDMA3), station (ARP NAT)  Wireless Techniques  Wireless Techniques  Wireless Security  WPA/WPA2 personal, WPA/WPA2 enterprise, WACL, user solation  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, PPP0E 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  383 mm (Length)× 100mm (width )× 98mm (height wand)  Weight  520 g  Mounting  Combination wall / pole mount included  Power  Power Supply  12-24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source  100 – 240V AC  Power Consumption (max)  4.5W  Environmental  Operating Temperature  -30°C ~ +70°C  Humidity  0 ~ 90 % (non-condensing)  Management  Frequency Range  SIMP V1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap  Regulatory  Certification  FCC/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°  Azimuth Beam Width (V pol)  90°	Software					
Wireless Techniques (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 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 383 mm (Length) × 100mm (width )× 98mm (height Weight 520 g Mounting Combination wall / pole mount included  Power  Power Supply 12- 24 VDC passive POE (24 V passive POE adapter is included in the package) Power Source 100 – 240V AC Power Consumption (max) 4.5W  Environmental  Operating Temperature -30°C ~ +70°C 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/CE Internal Antenna  Frequency Range 5.1 – 5.9 GHz Gain 18 dBl Polarization Dual linear  Cross-pol Isolation 24dBi VSWR 4.1.7 Azimuth Beam Width (H pol) 90° Azimuth Beam Width (V pol) 90°	Wireless Operating Modes	(TDMA2), access point (TDMA3), station (WDS,				
Wireless Security 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 383 mm (Length)× 100mm (width)× 98mm (height 520 g Mounting Combination wall / pole mount included  Power  Power Supply 12-24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Consumption (max) 4.5W  Environmental  Operating Temperature -30°C ~+70°C Humidity 0 ~ 90 % (non-condensing)  Management  System Monitoring Regulatory  Certification FCC/CE Internal Antenna  Frequency Range 5.1 – 5.9 GHz Gain 18 dBi Polarization Dual linear  Cross-pol Isolation 24dBi VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°  Azimuth Beam Width (V pol) 90°	Wireless Techniques	auto modulation, automatic transmit power contro				
Network Operating Modes  Routing with and without NAT, VLAN  WAN Protocols  Static IP, DHCP client, PPPoE client  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  383 mm (Length)× 100mm (width )× 98mm (height  Weight  520 g  Mounting  Combination wall / pole mount included  Power  Power Supply  12-24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source  100 – 240V AC  Power Consumption (max)  4.5W  Environmental  Operating Temperature  -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°	Wireless Security					
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 383 mm (Length)× 100mm (width )× 98mm (height Weight 520 g Mounting Combination wall / pole mount included  Power  Power  Power Supply 12-24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Consumption (max) 4.5W  Environmental  Operating Temperature -30°C ~+70°C Humidity 0 ~ 90 % (non-condensing)  Management  System Monitoring Regulatory  Certification FCC/CE Internal Antenna  Frequency Range 5.1 – 5.9 GHz Gain 18 dBi Polarization Dual linear  Cross-pol Isolation 24dBi VSWR 4.1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Wireless QoS	4 queues prioritization on TDMA				
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  383 mm (Length)× 100mm (width )× 98mm (height S20 g  Mounting  Combination wall / pole mount included  Power  Power Supply  12-24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source  100 − 240V AC  Power Consumption (max)  Environmental  Operating Temperature  -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range  5.1 − 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  4.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°	Network Operating Modes	Bridge, router iPv4, router IPv6				
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 383 mm (Length)× 100mm (width )× 98mm (height 520 g Mounting Combination wall / pole mount included  Power  Power Supply 12- 24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source 100 – 240V AC  Power Consumption (max) 4.5W  Environmental  Operating Temperature -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (H pol) 90°	Network Techniques	Routing with and without NAT, VLAN				
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  383 mm (Length)× 100mm (width )× 98mm (height  Weight  520 g  Mounting  Combination wall / pole mount included  Power  Power Supply  12- 24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source  100 – 240V AC  Power Consumption (max)  4.5W  Environmental  Operating Temperature  -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°	WAN Protocols	Static IP, DHCP client, PPPoE client				
Tools  Site survey, link test, antenna alignment, spectrum analyzer, ping & trace  Physical  Dimensions  383 mm (Length)× 100mm (width )× 98mm (height 520 g  Mounting  Combination wall / pole mount included  Power  Power Supply  12- 24 VDC passive PoE (24 V passive PoE adapter is included in the package)  Power Source  100 – 240V AC  Power Consumption (max)  4.5W  Environmental  Operating Temperature  -30°C ~+70°C  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/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  4.1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°	Services					
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Mounting Combination wall / pole mount included  Power  Power Supply 12- 24 VDC passive POE (24 V passive POE adapter is included in the package)  Power Source 100 – 240V AC  Power Consumption (max) 4.5W  Environmental  Operating Temperature -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Physical					
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Power Consumption (max)  Environmental  Operating Temperature -30°C ~ +70°C  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/CE  Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Power Supply					
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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/CE  Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Environmental					
Management         System Monitoring       SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap         Regulatory         Certification       FCC/CE         Internal Antenna         Frequency Range       5.1 – 5.9 GHz         Gain       18 dBi         Polarization       Dual linear         Cross-pol Isolation       24dBi         VSWR       <1.7	Operating Temperature	-30°C ~ +70°C				
System Monitoring  SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap  Regulatory  Certification  FCC/CE  Internal Antenna  Frequency Range  5.1 – 5.9 GHz  Gain  18 dBi  Polarization  Dual linear  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)	Humidity	0 ~ 90 % (non-condensing)				
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Certification FCC/CE  Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	System Monitoring					
Internal Antenna  Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Regulatory					
Frequency Range 5.1 – 5.9 GHz  Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Certification	FCC/CE				
Gain 18 dBi  Polarization Dual linear  Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Internal Antenna					
Polarization  Cross-pol Isolation  24dBi  VSWR  <1.7  Azimuth Beam Width (H pol)  90°  Azimuth Beam Width (V pol)  90°	Frequency Range	5.1 – 5.9 GHz				
Cross-pol Isolation 24dBi  VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Gain	18 dBi				
VSWR <1.7  Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Polarization	Dual linear				
Azimuth Beam Width (H pol) 90°  Azimuth Beam Width (V pol) 90°	Cross-pol Isolation	24dBi				
Azimuth Beam Width (V pol) 90°	VSWR	<1.7				
Azimuth Beam Width (V pol) 90°	Azimuth Beam Width (H pol)	90°				
		90°				

Technical Specification											
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)





