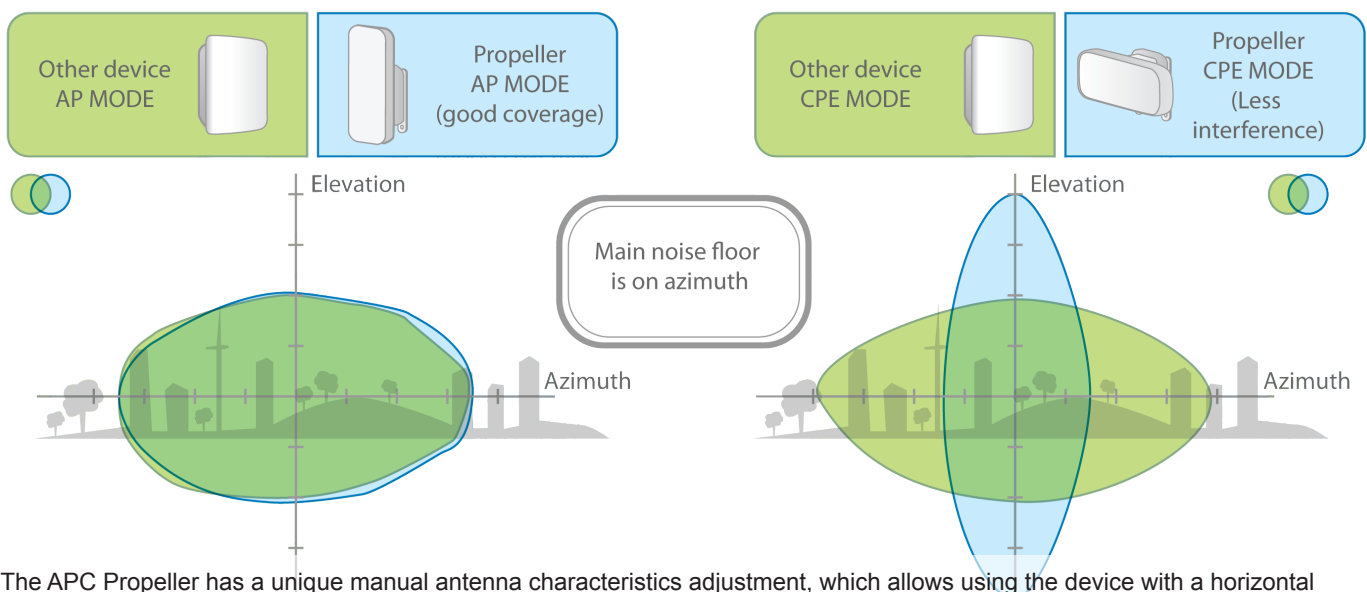The APC Propeller 2 is a new generation wireless device designed for client and small scale base-station applications. It has a unique mechanism to do mechanical antenna parameter shifting and achieve the best performance in different operation modes (patent pending).

This product is equipped with a high output power MIMO radio (up to 23 dBm) and 11 dBi dual-polarized antenna which make the device ideal for short to medium range wireless communication.

Dual firmware image will allow safe software upgrades. The device will restart using the prior firmware in the event of an upgrade failure.

The APC Propeller 2 uses an advanced and feature-rich operating system which supports bridge/router and repeater modes (repeater mode allows the product to operate as an access point and as a station at the same time). Deliberant OS also supports iPoll - proprietary wireless communication technology to increase throughput, packet per second rate and stabilize latency on your network. It has a user-friendly Adobe Flex based GUI with instant reconfiguration without a reboot, includes useful installation tools (site survey, delayed reboot, spectrum analyzer, ping, traceroute) and is compatible with our standalone and cloud based Wireless Network Management System (WNMS) - one of the most advanced management tools on the market.

| Other device AP MODE | Propeller AP MODE (good coverage) | Other device CPE MODE | Propeller CPE MODE (Less interference) |

Elevation

Main noise floor is on azimuth

Azimuth

Elevation

Azimuth

The APC Propeller has a unique manual antenna characteristics adjustment, which allows using the device with a horizontal orientation for client mode. This greatly reduces interference, as the main noise source is on the azimuth. Alignment is easy as only left and right movement of the device is necessary (no need to move it upwards or downwards as the antenna angle on the elevation is wide).

Product/ distance recomendation	PTMP mode	PTP mode	PTP mode (full capacity)
APC Propeller 2	4 km/ 2.49 mi	8 km/ 4.97 mi	1 km/ 0.6 mi

Wireless

WLAN standard	IEEE 802.11 b/g/n, iPoll (proprietary)
Radio mode	MIMO 2x2
Operating modes	Access point (auto WDS), Station, Station WDS, iPoll Access Point, iPoll Station, repeater
Radio frequency band	2.350 - 2.550 GHz
Transmit power	Up to 23 dBm (country dependent)
Receive sensitivity	Varying between -94 and -74 dBm depending on modulation
Channel size	20, 40 MHz
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, 30 Mbps
	802.11 g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
	802.11 b: 11, 5.5, 2, 1 Mbps
Error correction	FEC, Selective ARQ
Duplexing scheme	Time division duplex

Receive sensitivity (dBm)	802.11 N/ iPoll	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		-94	-92	-89	-86	-83	-78	-76	-74
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		-94	-92	-89	-86	-83	-78	-76	-74
	802.11g	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
		-94	-93	-92	-90	-87	-84	-79	-77
Output power (dBm - combined)	802.11 N/ iPoll	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		23	23	22	22	20	20	17	17
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		23	23	22	22	20	20	17	17
	802.11g	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
		23	23	22	22	21	21	19	18

Antenna

Type	Integrated directional dual - polarized panel
Gain	11 dBi

Wired

Interface	10/100 Base-T, RJ45, USB

Networking

Operating modes	Bridge, Router
WAN	Static IP, DHCP client, PPPoE client
NAT	Routing w/ or w/o NAT
Static routing	Supported
DHCP	Client, Server, Relay
Port forwarding	Supported
VLAN	Supported for management and data
Wireless security	WEP, WPA/WPA2 Personal, WPA/WPA2 Enterprise, WMM, WACL
User isolation	Supported

Softwave

General	Ability to define/limit frequency, channel width, EIRP, modulation
Advanced wireless functionality	ATPC (automatic transmit power control), auto-channel, auto-modulation
Operating mode	Router, bridge
Wireless operating modes	AP auto WDS, Station, Station WDS, Virtual radios (VSSID), iPoll access point, iPoll client, repeater
Wireless security	WPA/WPA2 personal, WPA/WPA2 enterprise, WACL, user isolation, UAM (web portal authentication)
Wireless QoS	WMM
WAN protocols	Static IP, DHCP client, PPPoE client
Network	NAT, static routing, firewall, port forwarding, VLAN, traffic shaping
Services	DHCP server, SNMP server, NTP client, alerts, remote syslog, wireless and ethernet statistics, bandwidth limiting
Management	HTTP(S) GUI, SSH CLI, SNMP read, WNMS, troubleshooting file, reset via reset tool
Tools	Site survey, link test, ping, traceroute, spectrum analyzer, delayed reboot

Physical

Dimensions	Length 175 mm (6.89 ''), width 65 mm (2.56 ''), height 29 mm (1.14 '')
Weight	94 g (3.32 oz)
Power supply	12 - 24 VDC passive PoE (18 V passive PoE adapter is included in the package)
Power source	100 – 240 VAC
Power consumption (max)	3.96 W

Environmental

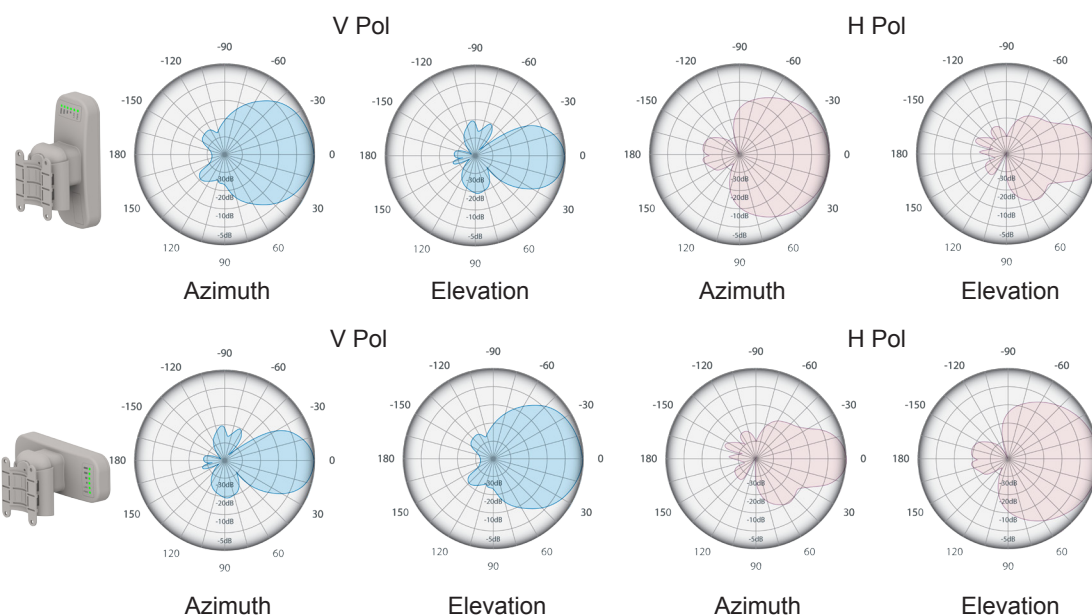|	
Operating temperature	-40°C (-22 F) ~ +65°C (+149 F)
Humidity	0 ~ 90 % (non-condensing)

Management

System configuration	User-friendly web GUI, Command line via SSH, centralized Wireless Network Management System, reset via reset tool
System monitoring	SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap

Regulatory

Certification	FCC/CE/Safety/RoHS compliance

Antenna specifications

V Pol — Azimuth — Elevation
H Pol — Azimuth — Elevation

Frequency range	2.35-2.55 GHz
Gain	11 dBi
Polarization	Dual linear
Cross-pol Isolation	25 dBi
VSWR	<1.5
Azimuth beamwidth (H pol)	70 deg
Azimuth beamwidth (V pol)	70 deg
Elevation beamwidth	35 deg

V Pol — Azimuth — Elevation
H Pol — Azimuth — Elevation

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Cross-pol Isolation	25 dBi
VSWR	<1.5
Azimuth beamwidth (H pol)	35 deg
Azimuth beamwidth (V pol)	35 deg
Elevation beamwidth	70 deg

deliberant

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