FireFly

Firefly ac500

Outdoor wireless device

Wavesight Limited 13 Dencora Way, Sundon Business Park, Luton LU3 3HP. United Kingdom. www.wavesight.com

Wavesight

Firefly ac500

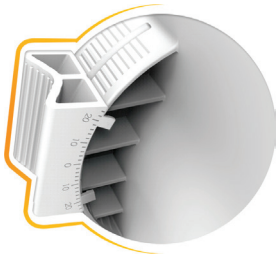
Wavesight's Firefly ac500 delivers the highest performance and stability available in the 5GHz 802.11ac class. The product combines a highly advanced radio core containing MIMO 2×2 technology with an integrated, high-gain, dual polarization directional antenna.

The feature-rich operating system is optimized for ultra-high performance wireless communications, 500+ Mbps throughput - a result of powerful hardware platform with 802.11ac technology based radio and a proprietary data transmission protocol Smart Station Coordination Function (SSCF). Incorporating a QCA 9563 CPU (750 MHz), a QCA 9882 radio and 64 MBytes of RAM and 16 MBytes of flash memory, the Firefly ac500 series devices are an ideal solution for capacity demanding applications.

State of the art RF design with great output power and sensitivity parameters improve range and capacity over the highest modulation - 256 QAM. The 24V Gigabit Ethernet port (passive PoE) allows utilizing the full capacity of the radio when used in a point-to-point or point-to-multipoint network design.

New form factor

The shape of the enclosure is now smaller, lighter but retains the IP-66 weather protection rating. Smaller packaging reduces freight costs and makes them less obvious. The new 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.

Smart Station Coordination Function (SSCF)

Wavesight's multiple client coordination, when the base-station is transmitting, decreases latency. The multi-coordination feature is operating in hybrid mode, when different client groups are divided into categories based on the client activity. More active stations are put in the main scheduler window, which performs a round-robin operation with every active CPE by allocating them a data slot as well as a time-slot for transmission (TDD) which is limited by the downlink/uplink ratio.

Wavesight's hardware accelerated QoS (allows prioritizing mission critical data and delivery of different services). The hardware QoS is realized by re-using the available wireless multimedia extensions (WME) capability available in HCCA and EDCA standards. The lower priority queues, which are usually used for http, ftp, torrent etc. traffic are used only when a connected station receives the permit – token from the AP/BTS, otherwise the data is buffered until the token is received. The higher priority queues, like video or voice, which require low latency and jitter free performance are allowed to transmit data without receiving permission from the AP/BTS.

The dynamic uplink/downlink ratio (improves throughput for high density client scenarios, where downlink is more critical then uplink). The uplink/downlink ratio is controlled by the AP/BTS, which decides based on the amount of active clients in the scheduler, what ratio is appropriate for the current situation.

CloudStreamLite

The Cloud Stream Lite is an intuitive product and network management platform for your devices. It allows easy, simple, and fast network installation, configuration, and control, all of which can be performed using a web browser.

The Cloud Stream Lite also facilitates network maintenance and expansion by automating these processes. The management platform can function as an integrated controller or as an external one (i.e. Cloud Stream Lite), thus serving as an optimal solution for setting up and managing networks of any size.

Wavesight Limited 13 Dencora Way, Sundon Business Park, Luton LU3 3HP. United Kingdom. www.wavesight.com

FireFly

Specifications

Distance Recomendation (max)	PTMP Mode	PTP Mode(Max)
Firefly ac500	10km/ 6.21mi	15km/ 9.32mi

Wireless

WLAN Standard	IEEE 802.11 a/n/ac SSCF
Radio Mode	MIMO 2x2
Radio Frequency Band	5 GHz models: 5.150 - 5.850GHz (FCC 5.150 - 5.250 and 5.725 - 5.850GHz)
Transmit Power	Up to 30dBm (Country Dependent)
Channel Size	5,10, 20, 40, 80 MHz
Modulation Schemes	802.11 a/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK) 802.11 ac: OFDM (256-QAM, 64-QAM, 16-QAM, QPSK, BPSK)
Data Rates	802.11 ac@ 40MHz: 400, 360, 300, 270, 240, 180, 120, 90, 60, 30 Mbps 802.11 ac@ 80MHz: 866, 780, 650, 585, 520, 390, 260, 195, 130, 65 Mbps
Error Correction	FEC, LDPC
Duplexing Scheme	Time Division Duplex

40 MHz	Modulation, Mbps	400	360	300	270	240	180	120	90	60	30
	TX Power, dBm	26	27	28	29	30	30	30	30	30	30
	Receive sensitivity, dBm	-70	-72	-76	-78	-80	-84	-87	-92	-94	-95
80 MHz	Modulation, Mbps	866	780	650	585	520	390	260	195	130	65
	TX Power, dBm	24	25	25	26	27	28	28	29	29	29
	Receive sensitivity, dBm	-64	-66	-70	-72	-74	-78	-81	-85	-88	-90

Antenna

Type	Integrated dual-polarized directional panel antenna
Gain	20dBi

Wired

Interface	10/100/1000 Base-T, RJ45

Wavesight Limited 13 Dencora Way, Sundon Business Park, Luton LU3 3HP. United Kingdom. www.wavesight.com

Wavesight

FireFly

Software

Wireless Operating Modes	Access point (auto WDS), access point, station (WDS), 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
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, 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	216 mm (8.5 ''), 184 mm (7.2 ''), 80 mm (3.1 '')
Weight	413 g (0.91 lb)
Mounting	Pole mounting bracket included

Power

Power Supply	24VDC passive PoE (24V passive PoE adapter is included in the package)
Power Source	100 – 240VAC
Max Power Consumption	10W

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
Configuration	Web UI

Regulatory

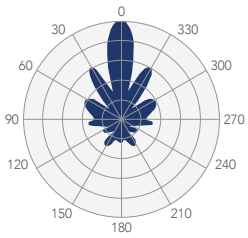
Certification	FCC/IC/CE

Wavesight Limited 13 Dencora Way, Sundon Business Park, Luton LU3 3HP. United Kingdom. www.wavesight.com

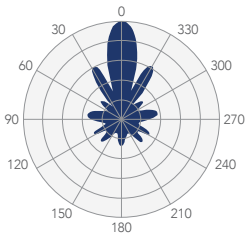
Wavesight

Antenna Specifications

V Pol

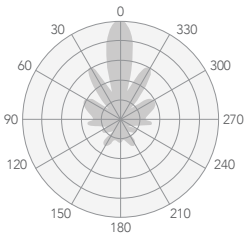


Azimuth

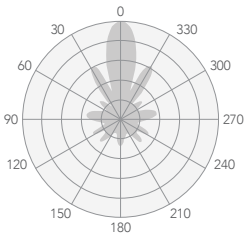


Elevation

H Pol



Azimuth



Elevation

Internal Antenna

Frequency Range	5.1 - 5.9GHz
Gain	20dBi
Polarization	Dual Linear
Cross-pol Isolation	27dB
VSWR	<1.8
Azimuth Beamwidth (H-Pol)	16°
Azimuth Beamwidth (V-Pol)	16°
Elevation Beamwidth	16°

Wavesight Limited 13 Dencora Way, Sundon Business Park, Luton LU3 3HP. United Kingdom. www.wavesight.com