



**Model Number: DFOAX4x4-IA**

## Advanced 802.11ax Outdoor Access Point

Dragonfly Wifi access points are the most advanced wireless indoor access point solutions that are available at the most competitive price in the market. Intended for use in verticals such as aviation, rail, bus, enterprise, retail and hospitality, amongst others.

DragonFly Wi-Fi APs are equipped with a number of advanced features that until now were forbidden to affordable Wi-Fi networks, such as automatic network optimization, remote management from the cloud, location, and monitoring of users, detection of hackers, heat mapping, advanced security, analytics, and more.

Wavesight has joined with Galgus, a leading Wi-Fi networking company in Europe, Spain, established 7 years ago and whose mission is to unleash the full potential of Wi-Fi networks. They develop fast, reliable, robust and secure Wi-Fi Technology, providing added value to the network. Galgus currently handle 1 Million users over 48 Projects worldwide.



DragonFly Wifi solutions helps deliver performance, reliable connectivity, and cost-effectiveness that are crucial to modern wireless broadband networks. Our new generation, scalable wireless platform delivers superior performance even in demanding conditions, with the flexibility and with features that assist a wide range of applications. DragonFly Wifi technology combines the best of hardware and software to ensure the best possible network performance.

DragonFly DFOAX4x4-IA 802.11ax outdoor access point delivers the most advanced wireless communication, operating in dual bands 2.4GHz and 5GHz frequencies in a single enclosure. With features up to +23dBm TX power , 4 x 4 MIMO in 2.4GHz and 4 x 4 MIMO in 5GHz band with integrated omnidirectional antenna for outdoor use.

The outdoor unit comes with IP67 rated ABS plastic enclosure makes this product to be the ideal one for outdoor environment.

It is an excellent choice for indoor, very high density , heavy-duty multi-scenarios, such as very large shopping malls, schools, hospitals, coffee shops, hotels, offices and enterprises, indoor events, stadiums, concerts, large meeting/conference halls and airports to cover typical usage of UHD movies, streaming, online gaming, with the usual features e.g. wireless security, device location, positioning, and other features associated with heavy bandwidth-intensive tasks.

## Common Features CHT

Its patented and embedded Cognitive Hotspot Technology (CHT) ensures users of your WiFi network will enjoy supreme performance even in the most adverse conditions. Thanks to its automatic resource optimization and control based on artificial intelligence, DragonFly AP's appropriately suit many different scenarios. In addition, the site administrator will find it easier to operate the network, with a powerful and intuitive optional cloud management system: You can handle your network from a single location and extract more valuable information from your infrastructure.

## A Network with DragonFly AP's

Avoids typical problems from those solutions with centralized controllers or cloud controllers such as lack of adaptability and robustness, single points of potential failure, delays in decision making, bottlenecks traffic efficiency drop.

Drastically reduces operating costs and increase performance, as CHT is responsible for optimizing the network in real-time automatically without human intervention: allocation of radio resources, channels, bandwidth, load balancing and prebalancing, airtime fairness, smart and predictive roaming, traffic congestion management, automatic power control, multicast, multicast to unicast conversion, device location and tracking, etc.

Adds an enormous value to the existing infrastructure (location and tracking of connected users even if they falsify their MAC address, detecting, mitigating, and even locating hacker attacks, generating heat maps in real-time, as well as discovering and exploiting the amendments that support the devices), allowing the owner of the network to use the data obtained without violating the users privacy.

Simplifies administrators life, thanks to its Zero-Touch Provisioning philosophy for immediate deployment and advanced enterprise-grade management features (cloud management, REST API, captive portal, and integration with social login, dynamic VLANs, WPA enterprise with Radius support, and modular licenses with auto-download system).



# Specifications



<b>WiFi Standard</b>	IEEE 802.11a, b, g, n, ac, ax
<b>PHY Capacity</b>	Peak: 5950Mbps - 2.4GHz: 1150Mbps & 5GHz: 4800Mbps
<b>Frequency Bands</b>	2.4GHz (802.11 b/g/n/ax): 2.4GHz - 2.484GHz 5GHz (802.1a/n/ac/ax): 5.150GHz - 5.850GHz
<b>MIMO</b>	2.4GHz: 4x4 MU-MIMO and 5GHz: 4x4 MU-MIMO
<b>Chanel Width</b>	20, 40, 80, 160 MHz
<b>Modulation</b>	DL/UL-OFDMA = BPSK, QPSK, 16-QAM, 64-QAM, 128-QAM, 256-QAM, 1024-QAM DSSS = DBPSK, DQPSK, CCK
<b>TX Power</b>	2.4GHz up to +23dBm RF power and 5GHz up to +23dBm RF power
<b>Antenna</b>	Integrated omnidirectional antenna 5dBi at 2.4GHz and 5dBi at 5GHz. Mu-MIMO: 2.4GHz: 4x4 and 5GHz: 4x4
<b>Interfaces</b>	1x10/100/1000/2500Mbps RJ45 LAN Port / 1x10/100/1000/2500Mbps RJ45 WAN Port (WAN port supports IEEE 802.3at PoE) / LED Indicators
<b>Power Supply</b>	PoE: 48V IEEE 802.3at (PoE injector not included)
<b>Power Consumption</b>	48V PoE 30W (typ) / Supports IEEE 802.3a
<b>Multi SSID</b>	Up to 24 (12 at 2.4GHz and 12 at 5GHz)
<b>Clients/AP</b>	Up to 1024 (may vary depending on environmental conditions)
<b>WiFi features</b>	IEEE 802.11h (DFS) , Tx Beamforming , LDPC, STBC, MSS clamping, IEEE 802.11r/k/v, Power save, WISPr , IP, URL, MAC filtering
<b>IP</b>	IPv4 & IPv6 , DHCP Client/server, Static IP, Dynamic IP
<b>Network</b>	IEEE 802.1s , IEEE 802.1d, VLAN tagging (802.1Q), Supports LACP, LLDP
<b>VLAN</b>	Dynamic VLANs, Port forwarding, Segmentation based on VLANs, Tag VLAN based on SSID
<b>Mesh</b>	802.11s. Up to 2 mesh extenders, Dynamic re-routing, Robust reaction to DFS events
<b>Routing Protocols</b>	VxLAN, IPsec, GRE, L2TP
<b>Security (Advanced features CHT)</b>	WPA/WPA2/WPA3 personal & Enterprise, RADIUS support with dynamic VLANs, Captive portal with social login, IEEE 802.1X, Supports ACL, LDAP integration, Isolated SSIDs, URL filtering, Firewall, SSL / TLS / SSH, Secured communication between APs , WIDS & WIPS, Location and tracking of hackers (Rogue AP or Evil twin), Protects against DDoS attacks
<b>Network Optimisation (Advanced features CHT)</b>	Distributed intelligence with no need for a central controller, Smart Roaming 802.11r (seamless handoff), Automatic channel and bandwidth assignment, Proactive load balancing (real time resource allocation), Pre-balancing, Traffic control, Automatic power control, Smart multicast , Airtime fairness, Smart and robust Mesh, Dynamic probe management for very high density scenarios
<b>Temperature</b>	Operation: -20°C to +55°C / Storage: -20°C to +70°C
<b>Humidity</b>	Operating: 5% to 95% (non-condensing) and Storage: 5% to 95% (non-condensing)
<b>Dimensions &amp; Weight</b>	303 x 180 x 87 mm & 1.1 kg
<b>Protection, Case &amp; Mounting</b>	IP67, plastic enclosure, pole / wall mounted
<b>Certifications</b>	<b>WiFi Alliance:-</b> - Connectivity: 2.4GHz & 5GHz Spectrum capabilities WiFi certified 802.11a/b/g/n/ac/ax - Access: Passpoint® R2 (Hotspot 2.0) - Optimization: WMM® - Security: WPA/WPA2/WPA3 personal & enterprise Protected Management Frames <b>Standards:-</b> CE Mark / RED directive 2014/53/EU <b>Environmental:-</b> ROHS



# RF Performance at 2.4GHz

	Data Rate	TX Power (Per Chain)	TX Power (4 chains)	Tolerance
2.4 GHz 802.11 b	1 Mbps	17 dBm	23 dBm	± 2 dB
	2 Mbps	17 dBm	23 dBm	± 2 dB
	5.5 Mbps	17 dBm	23 dBm	± 2 dB
	11 Mbps	17 dBm	23 dBm	± 2 dB
2.4 GHz 802.11 g	6 Mbps	17 dBm	23 dBm	± 2 dB
	9 Mbps	17 dBm	23 dBm	± 2 dB
	12 Mbps	17 dBm	23 dBm	± 2 dB
	18 Mbps	17 dBm	23 dBm	± 2 dB
	24 Mbps	15 dBm	21 dBm	± 2 dB
	36 Mbps	15 dBm	21 dBm	± 2 dB
	48 Mbps	15 dBm	21 dBm	± 2 dB
	54 Mbps	15 dBm	21 dBm	± 2 dB
2.4 GHz 802.11 n HT20	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	15 dBm	21 dBm	± 2 dB
	MCS 6	15 dBm	21 dBm	± 2 dB
	MCS 7	15 dBm	21 dBm	± 2 dB
2.4 GHz 802.11 n HT40	MCS 0	16 dBm	22 dBm	± 2 dB
	MCS 1	16 dBm	22 dBm	± 2 dB
	MCS 2	16 dBm	22 dBm	± 2 dB
	MCS 3	16 dBm	22 dBm	± 2 dB
	MCS 4	16 dBm	22 dBm	± 2 dB
	MCS 5	14 dBm	20 dBm	± 2 dB
	MCS 6	14 dBm	20 dBm	± 2 dB
	MCS 7	14 dBm	20 dBm	± 2 dB
2.4 GHz 802.11 ax HE20	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	15 dBm	21 dBm	± 2 dB
	MCS 6	15 dBm	21 dBm	± 2 dB
	MCS 7	15 dBm	21 dBm	± 2 dB
	MCS 8	14 dBm	20 dBm	± 2 dB
	MCS 9	14 dBm	20 dBm	± 2 dB
	MCS 10	10 dBm	16 dBm	± 2 dB
	MCS 11	10 dBm	16 dBm	± 2 dB
2.4 GHz 802.11 ax HE40	MCS 0	16 dBm	22 dBm	± 2 dB
	MCS 1	16 dBm	22 dBm	± 2 dB
	MCS 2	16 dBm	22 dBm	± 2 dB
	MCS 3	16 dBm	22 dBm	± 2 dB
	MCS 4	16 dBm	22 dBm	± 2 dB
	MCS 5	14 dBm	20 dBm	± 2 dB
	MCS 6	14 dBm	20 dBm	± 2 dB
	MCS 7	14 dBm	20 dBm	± 2 dB
	MCS 8	14 dBm	20 dBm	± 2 dB
	MCS 9	14 dBm	20 dBm	± 2 dB
	MCS 10	11 dBm	17 dBm	± 2 dB
	MCS 11	11 dBm	17 dBm	± 2 dB

	Data Rate	RX Sensitivity	Tolerance
2.4 GHz 802.11 b	1 Mbps	-102 dBm	± 2 dB
	2 Mbps	-99 dBm	± 2 dB
	5.5 Mbps	-97 dBm	± 2 dB
	11 Mbps	-95 dBm	± 2 dB
2.4 GHz 802.11 g	6 Mbps	-97 dBm	± 2 dB
	9 Mbps	-95 dBm	± 2 dB
	12 Mbps	-93 dBm	± 2 dB
	18 Mbps	-91 dBm	± 2 dB
	24 Mbps	-89 dBm	± 2 dB
	36 Mbps	-87 dBm	± 2 dB
	48 Mbps	-85 dBm	± 2 dB
	54 Mbps	-83 dBm	± 2 dB
2.4 GHz 802.11 n HT20	MCS 0	-95 dBm	± 2 dB
	MCS 1	-93 dBm	± 2 dB
	MCS 2	-90 dBm	± 2 dB
	MCS 3	-87 dBm	± 2 dB
	MCS 4	-85 dBm	± 2 dB
	MCS 5	-82 dBm	± 2 dB
	MCS 6	-80 dBm	± 2 dB
	MCS 7	-73 dBm	± 2 dB
2.4 GHz 802.11 n HT40	MCS 0	-93 dBm	± 2 dB
	MCS 1	-90 dBm	± 2 dB
	MCS 2	-87 dBm	± 2 dB
	MCS 3	-94 dBm	± 2 dB
	MCS 4	-81 dBm	± 2 dB
	MCS 5	-78 dBm	± 2 dB
	MCS 6	-75 dBm	± 2 dB
	MCS 7	-73 dBm	± 2 dB
2.4 GHz 802.11 ax HE20	MCS 0	-95 dBm	± 2 dB
	MCS 1	-93 dBm	± 2 dB
	MCS 2	-91 dBm	± 2 dB
	MCS 3	-89 dBm	± 2 dB
	MCS 4	-86 dBm	± 2 dB
	MCS 5	-84 dBm	± 2 dB
	MCS 6	-82 dBm	± 2 dB
	MCS 7	-80 dBm	± 2 dB
	MCS 8	-77 dBm	± 2 dB
	MCS 9	-75 dBm	± 2 dB
	MCS 10	-72 dBm	± 2 dB
	MCS 11	-69 dBm	± 2 dB
2.4 GHz 802.11 ax HE40	MCS 0	-92 dBm	± 2 dB
	MCS 1	-90 dBm	± 2 dB
	MCS 2	-87 dBm	± 2 dB
	MCS 3	-85 dBm	± 2 dB
	MCS 4	-82 dBm	± 2 dB
	MCS 5	-80 dBm	± 2 dB
	MCS 6	-78 dBm	± 2 dB
	MCS 7	-77 dBm	± 2 dB
	MCS 8	-75 dBm	± 2 dB
	MCS 9	-72 dBm	± 2 dB
	MCS 10	-69 dBm	± 2 dB
	MCS 11	-66 dBm	± 2 dB

# RF PERFORMANCE TABLE 5 GHz

	Data Rate	TX Power (Per Chain)	TX Power (4 chains)	Tolerance
5 GHz 802.11 a	6 Mbps	17 dBm	23 dBm	± 2 dB
	9 Mbps	17 dBm	23 dBm	± 2 dB
	12 Mbps	17 dBm	23 dBm	± 2 dB
	18 Mbps	17 dBm	23 dBm	± 2 dB
	24 Mbps	16 dBm	22 dBm	± 2 dB
	36 Mbps	16 dBm	22 dBm	± 2 dB
	48 Mbps	16 dBm	22 dBm	± 2 dB
	54 Mbps	16 dBm	22 dBm	± 2 dB
5 GHz 802.11 n/ac VHT20	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	16 dBm	22 dBm	± 2 dB
	MCS 6	16 dBm	22 dBm	± 2 dB
	MCS 7	16 dBm	22 dBm	± 2 dB
5 GHz 802.11 n/ac VHT40	MCS 8	15 dBm	21 dBm	± 2 dB
	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	15 dBm	21 dBm	± 2 dB
	MCS 6	15 dBm	21 dBm	± 2 dB
	MCS 7	15 dBm	21 dBm	± 2 dB
	MCS 8	14 dBm	20 dBm	± 2 dB
5 GHz 802.11 ac VHT80	MCS 9	14 dBm	20 dBm	± 2 dB
	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	14 dBm	20 dBm	± 2 dB
	MCS 6	14 dBm	20 dBm	± 2 dB
	MCS 7	14 dBm	20 dBm	± 2 dB
	MCS 8	13 dBm	19 dBm	± 2 dB
MCS 9	13 dBm	19 dBm	± 2 dB	

	Data Rate	RX Sensitivity	Tolerance
5 GHz 802.11 a	6 Mbps	-97 dBm	± 2 dB
	9 Mbps	-95 dBm	± 2 dB
	12 Mbps	-93 dBm	± 2 dB
	18 Mbps	-91 dBm	± 2 dB
	24 Mbps	-89 dBm	± 2 dB
	36 Mbps	-87 dBm	± 2 dB
	48 Mbps	-85 dBm	± 2 dB
	54 Mbps	-82 dBm	± 2 dB
	5 GHz 802.11 n/ac VHT20	MCS 0	-97 dBm
MCS 1		-96 dBm	± 2 dB
MCS 2		-94 dBm	± 2 dB
MCS 3		-92 dBm	± 2 dB
MCS 4		-90 dBm	± 2 dB
MCS 5		-88 dBm	± 2 dB
MCS 6		-85 dBm	± 2 dB
MCS 7		-83 dBm	± 2 dB
MCS 8		-81 dBm	± 2 dB
5 GHz 802.11 n/ac VHT40	MCS 0	-95 dBm	± 2 dB
	MCS 1	-93 dBm	± 2 dB
	MCS 2	-91 dBm	± 2 dB
	MCS 3	-89 dBm	± 2 dB
	MCS 4	-87 dBm	± 2 dB
	MCS 5	-85 dBm	± 2 dB
	MCS 6	-83 dBm	± 2 dB
	MCS 7	-80 dBm	± 2 dB
	MCS 8	-77 dBm	± 2 dB
	MCS 9	-74 dBm	± 2 dB
5 GHz 802.11 ac VHT80	MCS 0	-91 dBm	± 2 dB
	MCS 1	-89 dBm	± 2 dB
	MCS 2	-87 dBm	± 2 dB
	MCS 3	-85 dBm	± 2 dB
	MCS 4	-82 dBm	± 2 dB
	MCS 5	-79 dBm	± 2 dB
	MCS 6	-77 dBm	± 2 dB
	MCS 7	-75 dBm	± 2 dB
	MCS 8	-72 dBm	± 2 dB
	MCS 9	-69 dBm	± 2 dB

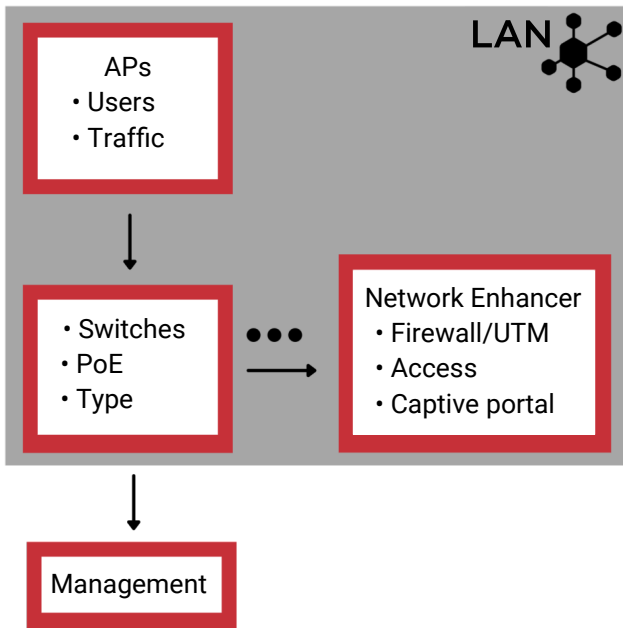


# RF PERFORMANCE TABLE 5 GHz

	Data Rate	TX Power (Per Chain)	TX Power (4 chains)	Tolerance
5 GHz 802.11 ax HE20	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	16 dBm	22 dBm	± 2 dB
	MCS 6	16 dBm	22 dBm	± 2 dB
	MCS 7	16 dBm	22 dBm	± 2 dB
	MCS 8	15 dBm	21 dBm	± 2 dB
	MCS 9	15 dBm	21 dBm	± 2 dB
	MCS 10	12 dBm	18 dBm	± 2 dB
	MCS 11	12 dBm	18 dBm	± 2 dB
5 GHz 802.11 ax HE40	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	15 dBm	21 dBm	± 2 dB
	MCS 6	15 dBm	21 dBm	± 2 dB
	MCS 7	15 dBm	21 dBm	± 2 dB
	MCS 8	14 dBm	20 dBm	± 2 dB
	MCS 9	14 dBm	20 dBm	± 2 dB
	MCS 10	12 dBm	18 dBm	± 2 dB
	MCS 11	12 dBm	18 dBm	± 2 dB
5 GHz 802.11 ax HE80	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	14 dBm	20 dBm	± 2 dB
	MCS 6	14 dBm	20 dBm	± 2 dB
	MCS 7	14 dBm	20 dBm	± 2 dB
	MCS 8	13 dBm	19 dBm	± 2 dB
	MCS 9	13 dBm	19 dBm	± 2 dB
	MCS 10	10 dBm	16 dBm	± 2 dB
	MCS 11	10 dBm	16 dBm	± 2 dB
5 GHz 802.11 ax HE160	MCS 0	17 dBm	23 dBm	± 2 dB
	MCS 1	17 dBm	23 dBm	± 2 dB
	MCS 2	17 dBm	23 dBm	± 2 dB
	MCS 3	17 dBm	23 dBm	± 2 dB
	MCS 4	17 dBm	23 dBm	± 2 dB
	MCS 5	14 dBm	20 dBm	± 2 dB
	MCS 6	14 dBm	20 dBm	± 2 dB
	MCS 7	14 dBm	20 dBm	± 2 dB
	MCS 8	11 dBm	17 dBm	± 2 dB
	MCS 9	11 dBm	17 dBm	± 2 dB
	MCS 10	10 dBm	16 dBm	± 2 dB
	MCS 11	10 dBm	16 dBm	± 2 dB

	Data Rate	RX Sensitivity	Tolerance
5 GHz 802.11 ax HE20	MCS 0	-96 dBm	± 2 dB
	MCS 1	-95 dBm	± 2 dB
	MCS 2	-93 dBm	± 2 dB
	MCS 3	-91 dBm	± 2 dB
	MCS 4	-89 dBm	± 2 dB
	MCS 5	-87 dBm	± 2 dB
	MCS 6	-85 dBm	± 2 dB
	MCS 7	-82 dBm	± 2 dB
	MCS 8	-79 dBm	± 2 dB
	MCS 9	-77 dBm	± 2 dB
	MCS 10	-74 dBm	± 2 dB
	MCS 11	-71 dBm	± 2 dB
5 GHz 802.11 ax HE40	MCS 0	-94 dBm	± 2 dB
	MCS 1	-93 dBm	± 2 dB
	MCS 2	-91 dBm	± 2 dB
	MCS 3	-89 dBm	± 2 dB
	MCS 4	-86 dBm	± 2 dB
	MCS 5	-83 dBm	± 2 dB
	MCS 6	-81 dBm	± 2 dB
	MCS 7	-79 dBm	± 2 dB
	MCS 8	-76 dBm	± 2 dB
	MCS 9	-74 dBm	± 2 dB
	MCS 10	-71 dBm	± 2 dB
	MCS 11	-68 dBm	± 2 dB
5 GHz 802.11 ax HE80	MCS 0	-91 dBm	± 2 dB
	MCS 1	-90 dBm	± 2 dB
	MCS 2	-88 dBm	± 2 dB
	MCS 3	-86 dBm	± 2 dB
	MCS 4	-84 dBm	± 2 dB
	MCS 5	-82 dBm	± 2 dB
	MCS 6	-79 dBm	± 2 dB
	MCS 7	-77 dBm	± 2 dB
	MCS 8	-74 dBm	± 2 dB
	MCS 9	-71 dBm	± 2 dB
	MCS 10	-69 dBm	± 2 dB
	MCS 11	-66 dBm	± 2 dB
5 GHz 802.11 ax HE160	MCS 0	-86 dBm	± 2 dB
	MCS 1	-84 dBm	± 2 dB
	MCS 2	-82 dBm	± 2 dB
	MCS 3	-79 dBm	± 2 dB
	MCS 4	-77 dBm	± 2 dB
	MCS 5	-75 dBm	± 2 dB
	MCS 6	-72 dBm	± 2 dB
	MCS 7	-70 dBm	± 2 dB
	MCS 8	-67 dBm	± 2 dB
	MCS 9	-65 dBm	± 2 dB
	MCS 10	-62 dBm	± 2 dB
	MCS 11	-59 dBm	± 2 dB

Note: These RF performance tables show the maximum capacity provided by the hardware included in the AP (this does not include any gain due to the MIMO configuration or the antenna). The maximum transmitted power can be limited under these levels to ensure compliance of local regulations.



Depending on the Network's needs in terms of size and use, a complete Wavesight's DragonFly solution incorporates different elements:

**Access Points (APs):** The choice of one or another depends on the expected density of users and traffic. All DragonFly APs incorporate CHT®, Galgus distributed intelligence software, which eliminates the need for a central controller.

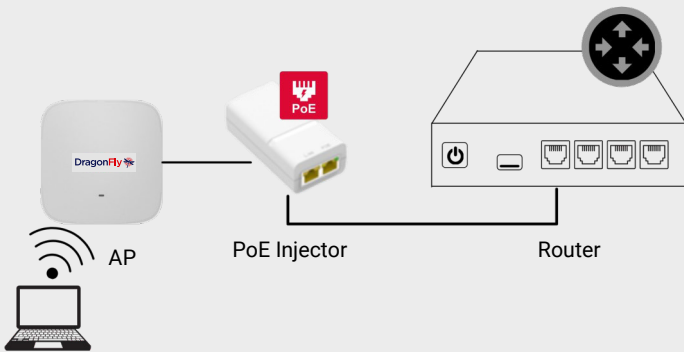
**Network switches:** Manageable or not, with or without PoE. Can be chosen from a wide range to adjust to the needs of the network.

**Network Enhancer (NE):** Used to provide advanced associated services and to offload the AP from certain network functionalities such as Firewall, access control, etc, all managed via web interface.

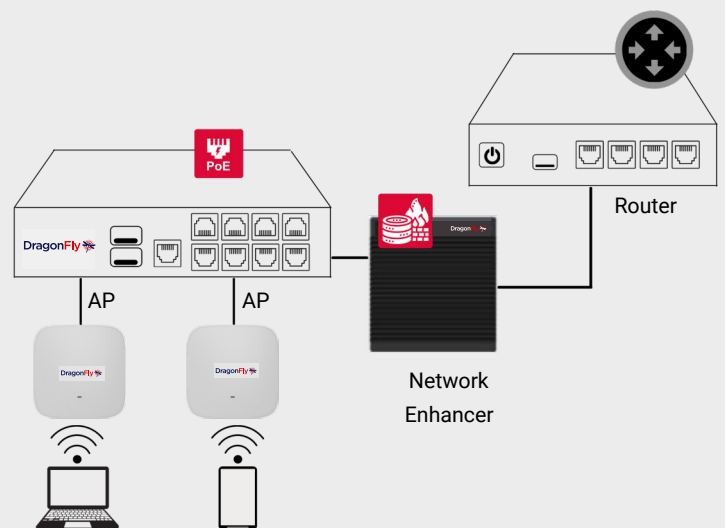
All these elements can be managed through **DragonFly cloud management tools**.

ALL DragonFly access points and networks can incorporate business intelligence tool: **LOCATION ANALYTICS**.

**Network example 1:** The AP is connected to the router directly (very small sites).



**Network example 2:** The APs are connected to a PoE switch, including a firewall before connecting to the router.



# Software Features

## DragonFly Cloud Manager

FAMILY	FEATURE	LICENSE 1. Connectivity projects	LICENSE 2. Location Analytics (license 1 should be included for configuration)
<b>ENHANCED MANAGEMENT</b>	Unified management platform	YES	NO
	Open REST API	YES	NO
	Configurable alerts	YES	NO
	Remote CLI access	YES	NO
	Zero-Touch Provisioning (ZTP)	YES	NO
	Local web interface	YES	NO
	Modular licenses	YES	NO
	Manager updates	YES	NO
<b>NETWORK OPTIMISATION</b>	Distributed intelligence without central controller	YES	NO
	Smart roaming	YES	NO
	Automatic channel and bandwidth assignment	YES	NO
	Proactive load balancing	YES	NO
	Pre-balancing	YES	NO
	Traffic control	YES	NO
	Automatic power control	YES	NO
	Smart multicast	YES	NO
	Mesh	YES	NO
Airtime fairness	YES	NO	
<b>ADVANCED SECURITY</b>	Wireless Intrusion Prevention & Detection (WIPS/WIDS)	YES	NO
	Wireless Intrusion Location	YES	NO
	WPANVPA2/WPA3 Personal & Enterprise	YES	NO
	RADIUS support with dynamic VLANs	YES	NO
	Captive portal support	YES	NO
	Hotspot 2.0 (CERTIFIED Passpoint)	YES	NO
	Client isolation	YES	NO
	URL filtering	YES	NO
	Firewall	YES	NO
	Client details	YES	NO
<b>NETWORK STATISTICS</b>	Real-time network KPIs per location	YES	NO
	Coverage estimation	YES	NO
	Historic record and visualization of network KPIs	YES	NO
	Historic data exportation of network KPIs	YES	NO
	WLAN layout	YES	NO
	Client distribution	YES	NO
	Real-time location of associated devices	YES	NO
	Potential and effective visits	NO	YES
	Visitors by zone	NO	YES
<b>LOCATION ANALYTICS</b>	Average visit duration	NO	YES
	Visitors by total daily visit time	NO	YES
	Visitors by weekday and hour	NO	YES
	Heatmap of associated/unassociated devices	NO	YES
	Counting of associated/unassociated devices	NO	YES
	Mitigation of random MACs distortion *	NO	YES

**Note:**

DragonFly Cloud Manager requires an annual license and offers all the advantages of a Cloud solution (scalability, continuous updates, pay as you grow, reduced operation costs, improved security, immediate availability and increased service availability). This tool allows one to supervise, control, update, troubleshoot and get alerts from the network, in addition to providing all kinds of advanced analytics.