Outdoor PoE 1800 Mbps Dual Band 200mW 2x2 + 2x2 Mu-MIMO. 802.11b/g/n/ac/ax

Galgus OX450 delivers the most advanced wireless communications features up to **200mW** high power omnidirectional indoor **802.11ax** environments.

Thanks to its robust aluminum cage and its max gain **6dBi** WIFI antenna, makes this product to be the ideal one for outdoor environment. It is an excellent choice for **outdoor high density multi-scenarios**, such as **large schools, hospitals, coffee shops, hotels, offices and enterprises, indoor events, stadiums, concerts, large meeting/conference halls, Clubs, Shopping malls, Bus/train stations, airports,….** to cover typical usage of **UHD movies, streaming, online gaming,… with wireless security, device location, positioning and other bandwidth-intensive tasks.**

This equipment can be equipped with optional 3/4G or 4/5G modules.

This product admits chaning its default antennas for other antennas, specially of interest when needed directional antennas.

Main features

Antenna	6dBi gain omnidirectional antennas. Up to 23dBm (300mW) RF power. 2,4/5 GHz: 2x2 + 2x2 Mu-MIMO		Hotspot 2.0. LLDP,ACL and aptive Portal supports, Online signup and policy provisioning, Tag VLAN based on SSID WISPr, Multiple SSIDs, Data aggregation, Packet priorities and planning, Statistics reporting, SW updates and configuration through DHCP auto-provisioning DL/UL OFDMA , BPSK,QPSK, 16-QAM, 64-QAM, 128-QAM, 256-QAM and 1024QAM and DSSS = DBPSK, DQPSK, CCK modulations SSID broadcasting, Multi SSID up to 55 (18 SSID in 2.4GHz, 37 SSID in 5GHz). >200 users
Interfaces	1x1Gbps Mbps RJ45 WAN Port + 1x1Gbps RJ45 LAN Port WAN port supports IEEE 802.3at standard PoE Reset button LED: Sys/WAN/LAN USB 3.0 Reset botton		
RF Standard	Wifi 802.11 b, g, n, ac, ax		
PHY Capacity	**2.4 GHz**: 600 Mbps **5 GHz**: 1200 Mbps	**Management & Diagnostics**	Galgus Cloud Manager, Web GUI, RFC 1157 & 2271 – SNMP, RFC 3414 – SNMP v3 HTTP/HTTPS Web Server, Zero Touch Provisioning, Telnet SSH, Network Controller Enhancer. Ping, Traceroute and Ns lookup tools. Syslog and Local Log support, Save and restore settings via Web Interface. Wireless RF status and throughput, TCP/UDP Connections statistics and details. Traffic metrics per interface, Load . Can manage the AP through VLAN ID, Map VLAN IDs to multiple SSID, IEEE 802.1q, Dynamic VLAN with 802.1x, Up to 16 VLAN
QoS capabilities	Profile based packet priorities and planning. Bandwidth restriction for each SSID. VMM parameters modification Calling QoS classification and prioritization for wireless and wired interfaces Traffic congestion management: limitation of per user bandwidth		
Power Supply	IEEE 802.3at PoE+. 12Vdc / 2A power input		
Typical Consumption	<24W		
Humidity	Operating: 5% to 95% (non-condensing)	**IP & Network**	IPv4, IPv6, IEEE 802.1d & 802.1s– STP, IEEE 802.1q – VLANs, RFC 2131 & RFC 2132 – DHCP Client/Server, RFC 1661 PPP, RFC 2516 PPPoE, RFC 2637 PPPtP, RFC 2661 L2TP, Static Leases, Domain whitelist, Firewall, IP filter, URL filter and MAC filter, Can work as: Gateway (PPPOE, static IP, dynamic IP) , Wireless AP, Repeater, WISP, WDS, Ad-Hoc and Pseudo Ad-Hoc, Mesh 802.11s, Monitor, Bridge. DDNS, VPN pass through, Port forwarding and DMZ host. UDP, TCP, DNS, NTP, STP,
Operating Temperature	-20°C (-4°F) to 55°C (131°F)		
Security	WIDS & WIPS CHT, ACL support, IEEE 802.11w RFC 6101 Secure Layer Socket, RFC 5246 Transport Layer Security, RFC 4253 Secure Shell Advanced Firewall with SYN-Flood protection MSS clamping, NAT, Port forwarding, Traffic Rules Support 64/128-bit WEP, 128bit WPA (TKIP/AES), WPA & WPA2 Personal and Enterprise with IEEE 802.1x and VLAN tagging, WPA3 PSK, Local authorization via RADIUS Server, IPsec and L2TP passthrough, Key Management, PSK/TKIP Encryption, AES Encryption, Denial of Service Attack Protection, MAC Filtering (Dynamic Blacklist), Isolate wireless clients, Hide SSID		
		IPv6	RFC 6333 Dual Stack, RFC 4213 IPv6-in-IPv6, RFC 4291/3315: Dynamic Host. DHCPv6
		Dimmensions, Case & Mounting	330 x240 x 90 mm 2200 gr Post/Mast mounting. IP67
WIFI features	IEEE 802.11h (DFS), WMM, Power Save, Tx Beamforming, LDPC, STBC, , IEEE 802.11r/k/v, IEEE 802.11u Hotspot and		

RF Performance Table

2.4G RF Power	802.11b	11M	23±1dBm	1M	23±1dBm
	802.11g	54M	23±1dBm	6M	23±1dBm
	802.11n HT20	MCS7	22±1dBm	MCS0	23±1dBm
	802.11n HT40	MCS7	21±1dBm	MCS0	22±1dBm
	802.11ax HT20	MCS11	20±1dBm	MCS0	21±1dBm
	802.11ax HT40	MCS11	19±1dBm	MCS0	20±1dBm
5.8G RF Power	802.11a	54M	23±1dBm	6M	23±1dBm
	802.11n HT20	MCS7	22±1dBm	MCS0	23±1dBm
	802.11n HT40	MCS7	21±1dBm	MCS0	22±1dBm
	802.11ac HT20	MCS9	21±1dBm	MCS0	22±1dBm
	802.11ac HT40	MCS9	20±1dBm	MCS0	21±1dBm
	802.11ac HT80	MCS9	19±1dBm	MCS0	20±1dBm
	802.11ax HT20	MCS11	20±1dBm	MCS0	21±1dBm
	802.11ax HT40	MCS11	19±1dBm	MCS0	20±1dBm
	802.11ax HT80	MCS11	18±1dBm	MCS0	19±1dBm
2.4G Receive Sensitivity	802.11b	11M	-90dBm	1M	-98dBm
	802.11g	54M	-77dBm	6M	-93dBm
	802.11n HT20	MCS7	-72dBm	MCS0	-92dBm
	802.11n HT40	MCS7	-71dBm	MCS0	-90dBm
	802.11ax HT20	MCS11	-63dBm	MCS0	-93dBm
	802.11ax HT40	MCS11	-60dBm	MCS0	-91dBm
5.8G Receive Sensitivity	802.11a	54M	-77dBm	6M	-95dBm
	802.11n HT20	MCS7	-75dBm	MCS0	-93dBm
	802.11n HT40	MCS7	-72dBm	MCS0	-91dBm
	802.11ac HT20	MCS7	-74dBm	MCS0	-93dBm
	802.11ac HT40	MCS7	-72dBm	MCS0	-91dBm
	802.11ac HT80	MCS9	-62dBm	MCS0	-88dBm
	802.11ax HT20	MCS11	-63dBm	MCS0	-93dBm
	802.11ax HT40	MCS11	-60dBm	MCS0	-90dBm
	802.11ax HT80	MCS11	-56dBm	MCS0	-87dBm
2.4G EVM	802.11b: ≤-10 dB; 802.11g: ≤-25 dB; 802.11n: ≤-28dB ; 802.11ac: ≤-32 dB; 802.11ax: ≤-35 dB				
5G EVM	802.11a: ≤-25 dB; 802.11n: ≤-28 dB; 802.11ac: ≤-32 dB; 802.11ax: ≤-35 dB				

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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, Galgus´ APs 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 Galgus´ APs:

- **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 user´ 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).

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		Features	Standard	Premium	WIFI4EU
1	E A S Y M A N A G E M E N T	Cloud Manager	Y	Y	Y
2		REST API	Y	Y	Y
3		Integration with third party dashboards	Y	Y	Y
4		Mesh with dynamic re-routing	Y	Y	Y
5		Mesh advanced configuration from the Cloud	Y	Y	Y
6		Events and alerts (including DFS and high density)	Y	Y	Y
7		Self configuration	Y	Y	Y
8		Remite SSH access to the APs	Y	Y	Y
9		Zero Touch provisioning (ZTP)	Y	Y	Y
10		Local web interface (Advanced configuration)	Y	Y	Y
11		Intuitive CLI	Y	Y	Y
12		Modular licenses and auto-download	Y	Y	Y
13	N E T W O R K O P T I M I Z A T I O N	No central controller (No bottlenecks/Point of failure)	Y	Y	Y
14		Distributed intelligence without central controller	Y	Y	Y
15		Smart Roaming (Seamless handoff)	Y	Y	Y
16		Automatic Channel assignment	Y	Y	Y
17		Proactive Load Balancing (real-time resource allocation)	Y	Y	Y
18		Prebalancing (Association control)	Y	Y	Y
19		Traffic control (Bandwidth limits for users)	Y	Y	Y
20		Automatic Power Control (interference mitigation)	Y	Y	Y
21		Smart Multicast (Multicast to unicast conversion)	Y	Y	Y
22		Airtime Fairness	Y	Y	Y
23		Dynamic probe management for ultra high density	Y	Y	Y
24		Smart and robust reaction to DFS Events	Y	Y	Y
25		Predictive roaming	Y	Y	Y
26	M A N A G E M E N T	Location of associated and unassociated devices	N	Y	N
27		Heatmap of associated and unassociated devices	N	Y	N
28		Location of devices (preventing random MAC issues)	N	Y	N
29		Heatmap of devices (preventing random MAC issues)	N	Y	N
30		Counting of associated and unassociated devices	N	Y	N
31		Counting of devices (preventing random MAC issues)	N	Y	N
32		Real Time disnal strength heatmap	Y	Y	N
33		Real Time modulation and coding (MCS) heatmap	Y	Y	N
34		Real-time device capabilities heatmap	Y	Y	N
35		Coverage estimation (In both nands)	Y	Y	Y
36		Spectral analysis (In both bands)	Y	Y	Y
37		Device fingerprinting against random MACs	N	Y	N
37		Historic record and visualization of data	N	Y	Y
38		Cloud Location Analytics	N	Y	N
39	I N - D E P T H A N A L Y T I C S	Secured communication between Aps (Eliptic curve)	Y	Y	Y
40		Wireless Intrusion Prevention	N	Y	N
41		Wireless Intrusion Detection	N	Y	N
42		Wireless intrusion Location	N	Y	N
43		Location and tracking of the hacker	N	Y	N
44		WPA/WPA2 personal and Enterprise	Y	Y	N
45		WPA3 personal and Enterprise	Y	Y	N
46		Fast Roaming (802.11r)	Y	Y	Y
47		Client Isolation	Y	Y	Y
48		Shields against DDoS attack	Y	Y	N
49		Internal captive portal	Y	Y	N
50		External captive portal	Y	Y	Y
51		Integration with social login	Y	Y	Y
52		Firewall & Deep Packet Inspection (DPI)	Y	Y	N
53		Dynamic VLANs (credentials-based split of network)	Y	Y	N
54		Radius support	Y	Y	N
55		GDPR compliant	Y	Y	Y
56		Hotspot 2.0 /Passpoint R.3	N	Y	Y

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