GALGUS® Access Point CHT Outdoor OC410 (PREVIOUSLY AC1200YCRND)

Outdoor PoE 1167 Mbps Dual Band 2×2 MIMO 802.11a/b/g/n/ac directive antenna

Galgus **OC410** delivers the most advanced wireless communications features up to **500mW high power outdoor 802.11ac environment.**

Thanks to its robust ABS waterproof, dustproof and sunscreen shell cage and its max gain **14dBi** WIFI antenna, makes this product to be the ideal one for outdoor environment. It is an excellent choice for **outdoor medium-high density multi-scenarios, such as schools, hospitals, large coffee shops, small and medium size hotels, offices, restaurants, enterprises, stations, airports, outdoor large events**,.... to cover typical usage of HD movies, streaming, online gaming, wireless security, device location, positioning and other bandwidth-intensive tasks, up to around 500m WIFI range.

Main Features

Antenna	2x2 2,4 GHz + 2x2i 5.8GHz:MIMO.14dBi directional antennas included. TX::500mW(27dBm).
Interfaces	10/100/1000 Mbps RJ45 WAN Port IEEE 802.3af/at standard PoE WAN Port 10/100/1000 Mbps RJ45 LAN Port IEEE 802.3i (10Base-T) , IEEE 802.3u (Fast Ethernet), IEEE 802.3ab (1000Base-T) IEEE 802.3x (Flow Control), IEEE 802.3z GbE, IEEE 802.3ac, Automatic Speed negotiation, Duplex mode negotiation MDI/MDI-X switch-over Reset button
WIFI Standard 802.11	5 GHz: 802.11 a/n/ac Wave 2 2.4 GHz: 802.11 b/g/n Modulation up to 256 QAM
PHY Capacity	2.4 GHz: 300 Mbps 5 GHz: 867 Mbps
QoS capabilities	Profile based packet priorities and planning Bandwidth restriction for each SSID VMM parameters modification, Calling
Power Supply	DC 12V 1.5A Jack Input (Power Injector no included) PoE: IEEE 802.2af/at
Maximum Consumption	<20W
Humidity	Operating: 10% to 95% (non-condensing)
Operating Temperature	-40°C (-40°F) to 55°C (131°F)
Dimensions (H x W x D) Weight, Cage & Mounting	315 x 145 x 80 mm 820gr ABS cage. Pole mounted. IP65.
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 (roadmap) 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
WIFI features	IEEE 802.11h (DFS), WMM, Power Save, Tx Beamforming, LDPC, STBC, , IEEE 802.11r/k/v, IEEE 802.11u Hotspot. 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 OFDM = BPSK,QPSK, 16-QAM, 64-QAM and DSSS = DBPSK, DQPSK, CCK modulations SSID broadcasting, Multi SSID up to 8 (4 SSID in 2.4GHz, 4 SSID in 5GHz)
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
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,
IPv6	RFC 6333 Dual Stack RFC 4213 IPv6-in-IPv6 RFC 4291/3315: Dynamic Host Configuration Protocol para IPv6 (DHCPv6)

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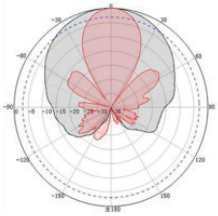
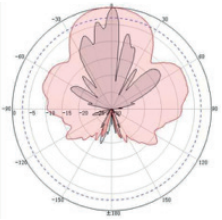
RF Performance Table

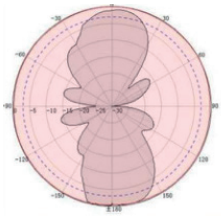
RF Power	2.4G: 11n @MCS7:23±2DB, @MCS0:25±2DB. 11g @54M:24±2DB, @6M:26±2DB. 11b @11M:26±2DB, @1M:28±2DB. 5.8G: 11a @54M:24±2DB, @6M:26±2DB. 11n @MCS7:22±2DB, @MCS0:24±2DB. 11ac @MCS9:21±2DB, @MCS0:23±2DB.
Receive Sensitivity	2.4G: 11n: -70dbm@MCS7, -88dbm@MCS0. 11g: -72dbm@54Mbps, -88dbm@6Mbps. 11b: -85dbm@11Mbps, -94dbm@1Mbps. 5.8G: 11a: -72dbm@54Mbps, -90dbm@6Mbps. 11n: -70dbm@MCS7, -90dbm@MCS0. 11ac:-60dbm@MCS9, -86dbm@MCS0.
EMV	11n: ≤-28 DB 11g: ≤-25 DB 11b: ≤-10 DB 11a: ≤-25 DB
PPM	±20ppm



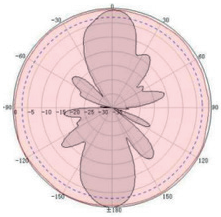
Test frequency：2420MHz Test plane:
Parallel level Peak level: -36.33dB
3dB width: 71.79°
Before and after ratio： 27.65dB
Test frequency：2420MHz
Test plane: Vertical plane Peak level: -35.85dB
3dB width: 28.95°
Before and after ratio： 22.39dB
Gain: 10.97dBi



Test frequency：5800MHz
Test plane: Vertical plane
Peak level: -45.64dB
3dB width: 6.90°
Before and after ratio： 19.39dB
Comparison gain: 12.92dB
Antenna tilt: -0.74°
Test frequency：5800MHz
Test plane:
Parallel plane Peak level: -46.01dB
3dB width: 50.67°
Before and after ratio： 19.23dB
Comparison gain: 12.77dB
Gain: 13.32d



Frequency	5800	5800
Test surface	2450	Horizontal
3dB width	Vertical	360.00
Before and after ratio	24.95	0.21
Comparison gain	-36.69dB	5.09
Gain	-	5.31



Frequency	2450	2450
Test surface	Vertical	Horizontal
3dB width	24.95	360.00
Before and after ratio	-36.69dB	-38.09dB
Comparison gain	-	-
Gain	-	4.86

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** the 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**, as CHT is responsible for optimizing the network in real-time (allocation of radio resources, power, channels, bandwidth, load balancing, airtime fairness, smart and predictive roaming, traffic congestion management, etc.) automatically, without human intervention.

- **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).

Optimization

- Automatic Channel Assignment
- Load Balancing
- Pre-Balancing
- Airtime Fairness
- Multicast-Unicast Conversion
- Automatic Power Control
- Smart Roaming
- Predictive Roaming
- Traffic Congestion Management
- Ultra-High Density Scenarios: Dynamic Probing Frames Management

Management

- Remote Management (Cloud)
- REST API
- Self-configuration
- Advanced Mesh with Self-Healing, Dynamic Re-Routing, QoS and Power Control
- Zero Touch Provisioning
- Captive Portal and Integration with Social Login
- Dynamic VLANs
- WPA Enterprise with Radius Support
- Modular Licenses and Auto-Download Licensing System

Analytics

- Wireless Intrusion Detection
- Wireless Intrusion Prevention
- Wireless Intrusion Location*
- Location, Positioning and Tracking of devices with real or randomized MAC
- Real-time Signal Strength Heatmap
- Unveiling of Randomized MAC Adresses
- Discovery of IEEE 802.11 Amendments Supported by User Devices

(*) Available in future release.

Types of Licences 2020

Features	Standard	Premium
MANAGEMENT		
Cloud Manager	✓	✓
REST API	✓	✓
Integration with third party dashboards	✓	✓
Mesh with self-healing and dynamic re-routing	✓	✓
Self configuration	✓	✓
Remite SSH access to the APs	✓	✓
Zero Touch Provisioning (ZTP)	✓	✓
Local web interface	✓	✓
Intuitive CLI	✓	✓
Modular licenses and auto-download	✓	✓
OPTIMIZATION		
No central controller (No bottlenecks/Point of failure)	✓	✓
Distributed intelligence without central controller	✓	✓
Smart Roaming (Seamless handoff)	✓	✓
Automatic Channel Assignment	✓	✓
Local blancing (Real-Time resource allocation)	✓	✓
Prebalancing (Association control)	✓	✓
Traffic control (Bandwidth limits for users and radios)	✓	✓
Automatic Power Control	✓	✓
Smart Multicast (Multicast to unicast conversion)	✓	✓
Airtime Fairness	✓	✓
Dynamic probe management for ultra high density	✓	✓
Predictive Roaming	✓	✓
ANALYTICS		
Location and tracking of associated devices	✗	✓
Location and tracking of unassociated devies	✗	✓
Location and tracking of devices with random MAC	✗	✓
Real Time signal strength heatmap	✗	✓
Real Time modulation and coding (MCS) heatmap	✗	✓
Resl-time device capabilities heatmap	✗	✓
Coverage estimation	✓	✓
Unveilling of fake MAC address for associated devices	✓	✓
Dicovery of IEEE amendments supported by devices	✓	✓
Device fingerprinting	✓	✓
Spectral analysis	✓	✓
SECURITY		
Secured communication between APs (Eliptic curve)	✓	✓
Wireless Intrusion Prevention	✗	✓
Wireless Intrusion Detection	✗	✓
Wireless intrusion Location	✗	✓
WPA/WPA2 personal and Enterprise	✓	✓
WPA3 personal and Enterprise	✓	✓
Alerts and events	✓	✓
Internal captive portal	✓	✓
External captive portal	✓	✓
Integration with social login	✓	✓
Firewall	✓	✓
Dynamic VLANs	✓	✓
Radius support	✓	✓
GDPR-compliant	✓	✓
Hotspot 2.0	✗	✓