

# WiBORNE, INC.

## Outdoor 802.11b/g 2.4 GHz High Power AP/CPE/Bridge/Router with 19dBi or 15dBi Integrated Antenna: CAP-2400 Series



CAP-2419



CAP-2415



CAP-240W

The CAP-2419 / CAP-2415 are specially designed for applications of point-to-point as backhaul, or CPEs for point-to-multipoint to provide a superior performance solution for connecting many locations through wireless, yet flexible to customize for your deployment. It has up to three wireless interfaces for sectors or backhaul. The CAP-2419 / CAP-2415 deliver Internet service to your clients' network for extreme distance. You can use this package to provide high data rates and superior throughput for data-intensive yet up to hundreds of concurrent users for WiFi Citywide project. Multiple sites can share a single, high-speed connection to the Internet. The feature rich radio firmware allows you to apply the most advanced firewall, NAT, bandwidth shaping, cloaking modes, Super G or Turbo modes for up to 108 Mbps of throughput, and other technologies to create a smart and manageable network. You can secure wireless traffic with firewall, VLAN, encryption (WEP/WPA/WPA2) from base to individual clients. Layer 2 Mesh and WDS Spanning Tree Bridging are available for all connected APs and clients in the same SSID group or Multiple SSIDs. QoS with voice / video / gaming priority is available.

CAP-2419 / CAP-2415 come with choice of radio powered up to 800mW. It also offers variety of CPU platforms customized for your deployment that can produce maximum of 50 dBm or 100 Watts EIRP!

Optional channel selections from 2.3-2.7, 2.7-2.9 GHz providing support for both public and licensed bands. While bundle with WiBorne's outdoor AP [HWAP-240H](#) and [HHSB Access Controllers](#), it supports remote management from individual clients to backhaul network management systems for hundreds of base stations with thousands of wireless clients.

CAP-2419 / CAP-2415 are based on state-of-the-art wireless technology with intelligent wireless edge platform enables new revenue generating converged services for IP data, voice (VoIP) and video streaming / conferencing / messaging. The CAP platform is a rugged communications-grade wireless delivery system with superior performance and high reliability to enable cost effective deployment.

### Features:

- Single Atheros high power 400mW radio for 802.11b/g with optional 600mW. Radio sensitivity up to -97dBm
- Super G (hardware compress, aggregation, and bursting)
- 108Mbps Turbo with data throughput up to 40Mbps in real
- Packet Aggregation for improved VoIP and gaming
- Extreme distances, up to 150 km are supported.
- Channel width (Cloaking mode) for 5/10/20/40 MHz
- Channel selections from 2.3-2.7, 2.7-2.9 GHz providing support for both public and licensed bands (optional)
- NEMA 6 Aluminum outdoor case
- Firewall and NAT with stateful packet filtering
- QoS by IP/ protocol / subnet / ports, HTB, PCQ
- VRRP for High Availability
- Layer 2 Mesh, WDS, Nstreme / bonding protocols, AP routing / bridging
- Bridge: spanning tree protocol; multiple bridge interfaces; bridge firewalling, MAC NATting
- 802.11e QoS (WMM) Setting for priority of Video and Voice
- Tools: Device Discovery, Bandwidth, Link Test, Network Monitoring, Neighbor Viewer, Radio/Traffic Statistics
- Client statistics (current signal level/quality, rate TX/RX, bytes TX/RX, radio rate)
- 64/128/152 bits WEP and WPA support.
- IPSec: DES, 3DES, AES-128, AES-192, AES-256 (optional)
- Routing for RIP, BGP, OSPF, static routing
- VLAN: 802.1q, multiple VLANs; VLAN bridging
- Console/Terminal/SSH/Telnet/CLI/SNMP/FTP
- Neighbor Discovery; ping; traceroute; bandwidth test; ping flood; packet sniffer; Dynamic DNS update tool
- Proxy: FTP & HTTP caching proxy server; HTTPS, DNS and HTTP, DNS entries, caching lists, access control lists
- Authentication: PPTP, PPPoE, L2TP, WPA, access control, MSCHAPv1/v2, RADIUS, MPPE encryption
- DHCP server/client/relay, multiple DHCP networks
- Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL
- UPnP, NTP, SNMP/MIB II, Cisco CDP, syslog/SNMP traps
- Monitoring and accounting for traffic, firewall logging
- MiniPCI radio module swappable
- Watchdog for auto and remote reboot

## Long-Range Outdoor High Power AP/CPE/Bridge/Router With 19dBi or 15dBi Integrated Antenna

<b>Model No.</b>	CAP-2419 / CAP-2415 / CAP-240W
<b>Standard</b>	IEEE 802.11b/g (Wireless LAN), IEEE 802.3 (CSMA/CD Ethernet)
<b>Wireless &amp; Wired Security Functions</b>	Secure with WPA, WPA2, 802.1x (EAP, MIC, TKIP and AES), 64/128/152 bits WEP, IPSec/VPN. WPA-PSK, WPA2-PSK, WPA-EAP, EPA-EAP2, EAP-TLS, AES-CCM, 802.11i TKIP, PEAP-MSCHAPv2, PEAP-TTLS Mac Access Control Lists, Custom scan lists to prevent clients from scanning unwanted channels Full firewall, NAT and Bandwidth Management support, Mac Authentication 802.1q VLAN support, multiple VLANs; VLAN bridging client list, DHCP auto-auth configuration Multiple SSID, Multiple Access Points mode, Sniffer detects intrusion attempts (lite IPS)
<b>Operation Functions</b>	Static, dynamic (RIP v1/2, OSPFv2), or policy (source) routing, DHCP Server / Client Super G mode (Hardware compression, aggregation and bursting). Turbo mode for 108Mbps Mesh-WDS / OLSR / RSTP, or Layer 2 Mesh routing Support up to 7 Virtual Access Point mode for single interface that you can create multiple APs with different Service Set Identifier, WDS settings, and even different MAC address Cloaking to reduce interference, dynamic frequency selection (DFS) mode for auto channel Firmware upgradeable LED and audible alignment methods based on signal strength for antenna aiming Beacon real-time traffic monitor, AP association displays, with per-user, and system wide throughput and traffic reporting. Wireless site survey. ACK Timing, RTS Fragmentation Threshold Adjustable transmit power up to 600mW or 800mW 802.11e QoS for Video and Voice Priority, protocol / port / IP / MAC filtering and shaping Layer 2 connectivity: bridge, synchronous, Asynchronous, ISDN, and SDSL
<b>Operation Modes</b>	AP, Bridging, Ethernet to WLAN Bridge, AP Client with Routing function, dynamic WDS, mesh-WDS, High performance learning bridge with optional Spanning Tree Protocol (STP)
<b>Management</b>	SSH-based configuration interface with text / Web GUI, Serial-based CLI, SNMP, Telnet, FTP
<b>Power over Ethernet</b>	802.3af 18, or 24 VDC Passive – depends on hardware platform
<b>Interface</b>	External RJ-45 bulkhead connector – optional, one onboard RS232, one RJ45 NIC. CAP-240W comes with one N-type connector.
<b>Mounting</b>	Pole or wall mount via 2pc clamps(included)
<b>Enclosure</b>	CAP-2419 / CAP-2415: UV stabilized ABS plastic with electronics protected in aluminum for EMF protection; CAP-240W: NEMA 6 housing
<b>Weight</b>	CAP-2419: 3.5 lbs (1.5kg); CAP-2415 : 2.2 lbs (1kg); CAP-240W: 2.65 lbs (1.20 Kg)
<b>Dimension (L x W x H)</b>	CAP-2419: 18.5"x16.8"x 2.5" (470x427x64mm) CAP-2415: 10.75"x10.75"x 2.6" (267x267x67mm) CAP-240W: 10" X 7.1" X 2.25" (254x180x57mm)
<b>Temperature Range</b>	Operating: -35°C to 70°C (-33°F to 158°F). Storage: -40°C to 80°C (-40°F to 176°F)
<b>Relative Humidity</b>	10% to 95% non condensing
<b>Surge Protector</b>	CAP-2419/CAP-2415: PoE surge protector. Citel optional CAP-240W: multi-strike gas discharge tube lighten protector. Polyphaser optional
<b>Platform Characteristics</b>	
<b>Platforms</b>	MIPS architectures started with CPU up to 300MHz.
<b>Memory</b>	Optional for 16/32MB SDRAM, or 64MB DDR RAM
<b>LED</b>	Power, 2 LED pairs for MiniPCI slot(s), 1 user LED
<b>Radio Characteristics</b>	
<b>Radio Scheme</b>	802.11g: OFDM; 802.11b: DSSS
<b>Frequency Range</b>	Standard 2.312 - 2.497 GHz, radio module dependable. Optional 2.7-2.9 GHz
<b>Data Rate</b>	802.11b/g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps, 108Mbps turbo mode
<b>Range</b>	Possible distance up to 35+miles / 56KM, depends on terrain, antenna, and throughput
<b>Output Power (radio)</b>	802.11b/g: standard 400mW, or optional 100mW up to 800mW
<b>Receiver Sensitivity (without antenna)</b>	54Mb@-74dBm. 48Mb@-77dBm, 36Mb@-83dBm, 24Mb@-86dBm, 18Mb@-90dBm, 12Mb@-91dBm, 9Mb@-93dBm, 6Mb@-94dBm, 1Mbps@-97dBm.
<b>Approvals</b>	Radio FCC Part15, Section 15.247, CE