EnGenius® | DATASHEET

Wireless 802.11 a/b/g Outdoor AP			**EOC5611P**
2.4GHz / 5GHz	**54Mbps**	**802.11 a/b/g**	**24V PoE**

EOC5611P is a long range outdoor wireless Access Point / Client Bridge that operates in both **5GHz and 2.4GHz** frequency. It provides high bandwidth up to 54Mbps and features dual polarization antenna with high transmitted output power as well as superior sensitivity. EOC5611P extends radio coverage, avoids unnecessary roaming between Access Points and ensures a stable wireless connection while reduces the number of required equipments.

EOC5611P provides user friendly interface including user friendly distance control ranges from 1KM up to 30KM and RSSI LED indicator offering real time signal status. It comes with PoE injector for convenient outdoor installation.

EOC5611P enforces transmission security with full support of latest encryption mechanism including 64/128-bit WEP, WPA and WPA2. With 14dBi internal antenna and superior performance, EOC5611P makes an optimal wireless solution for both small and large scale projects.

Package Content
→ 1 x Wireless 802.11a/b/g Outdoor Device(EOC5611P)
→ 1 x PoE Injector (EPE-1212)
→ 1 x Power Adaptor(24V/1A)
→ 1 x CD with User's Manual
→ 1 x QIG
→ 1 x Metal strap
→ 2 x Special screw set

Features

Wireless

- **5GHz / 2.4GHz**   It works in 5GHz / 2.4GHz frequency spectrum
- **High output power**   Transmit output power programmable for different country selections
- **High Data Rate**   High speed transmitting rate up to 54Mbps, supports large payload such as video streaming
- **Multifunction application**   Access Point/Client Bridge/Client Router/WDS AP/WDS CB
- **Long range transmitting**   Transmit power control and distance control (ACK timeout)
- **Signal Strength Display**   LED indicators have the best transmit and receive signal for traffic communication. And RF signal strength status shown LEDs of 3 colors, making network build-up easier
- **Narrow Bandwidth**   Provide 5MHz/10MHz/20MHz bandwidth selection**.**
- **Multiple SSID**   4 SSID supported. Each SSID can set itself wireless or WAN access setting**.**
- **QoS(WMM)**   Enhance performance and density

Networking

- **PPPoE**   Point-to-Point Protocol over Ethernet at Client Router mode. This function will keep trying when failed or disconnected
- **PPTP**   Point-to-Point Tunneling Protocol (PPTP) is a method for implementing virtual private networks
- **VPN Pass Through**

Security

- **802.11i**   WEP, WPA, WPA2 (Encryption support TKIP/AES)
- **MAC address functions**   MAC address filter (AP mode)
- **802.1x**   IEEE802.1x Authenticator
- **Station isolation**   L2 Isolation

Management

- **Firmware Upgrade**   Upgrading firmware via web browser, setting are reserved after upgrade
- **Reset & Backup**   Reset to factory default. User can export all setting into a file via WEB
- **MIB**   MIB I, MIB II(RFC1213), Private MIB
- **SNMP**   V1, V2c

Technical Specifications

Hardware Specification

MCU/RF	Atheros AR2313+AR5112
Memory	32MB SDRAM
Flash	8MB
Physical Interface	1 x 10/100 Fast Ethernet RJ-45 1 x Reset Button 1 x Antenna Switch (Internal and External Switch) 2 x SMA Connector (One is for 2.4GHz and another is for 5GHz)
LED indicators	Power/ Status LAN (10/100Mbps) WLAN (Wireless is up) 3 x Link Quality (Client Bridge mode) • Green: Good Quality • Yellow: Marginally Acceptable Quality • Red: Bad Quality
Power Requirements	Active Ethernet (Power over Ethernet) Proprietary PoE design Power Adapter 24V / 1A DC
Regulation Certifications	FCC Part 15C/15B/15E, EN301 893, EN 300 328, EN 301 489-1/-17, EN60950, IC Certification

RF Specification

Frequency Band	**802.11a =** 5.150~5.350GHz, 5.470~5.725GHz, 5.725~5.825GHz **802.11b/g =** 2.412~2.472GHz		
Modulation Technology	OFDM = BPSK, QPSK, 16-QAM, 64-QAM DSSS = DBPSK, DQPSK, CCK		
Operating Channels	**802.11a =** See the Table1 **802.11b/g =** 11 for North America, 14 for Japan, 13 for Europe		
Receive Sensitivity (Typical)	**802.11a** -92dBm @ 6Mbps, -73dBm @ 54Mbps	**802.11g** -92 dBm @ 6Mbps, -75 dBm @ 54Mbp	**802.11b** -97 dBm @ 1Mbps -91 dBm @ 11Mbps

Available transmit power (Average power)

	FCC		ETSI	
	Frequency	Power	Frequency	Power
	5.150~5.350 GHz **IEEE802.11a**	26dBm@6~24Mbps 24dBm@36Mbps 22dBm@48Mbps 20dBm@54Mbps	5.150~5.350 GHz **IEEE802.11a**	26dBm@6~24Mbps 24dBm@36Mbps 22dBm@48Mbps 20dBm@54Mbps
	5.470~5.725 GHz	26dBm@6~24Mbps 24dBm@36Mbps	5.470~5.725 GHz	26dBm@6~24Mbps 24dBm@36Mbps

* Theoretical wireless signal rate based on IEEE standard of 802.11b, g chipset used. Actual throughput may vary.
Network conditions and environmental factors lower actual throughput rate.
** All specifications are subject to change without notice.   4/27/2010

IEEE802.11a	22dBm@48Mbps 20dBm@54Mbps	**IEEE802.11a**	22dBm@48Mbps 20dBm@54Mbps
5.725~5.825 GHz **IEEE802.11a**	26dBm@6~24Mbps 24dBm@36Mbps 22dBm@48Mbps 20dBm@54Mbps	5.725~5.825 GHz **IEEE802.11a**	26dBm@6~24Mbps 24dBm@36Mbps 22dBm@48Mbps 20dBm@54Mbps
2.412~2.462 GHz **IEEE802.11g**	26dBm@6~24Mbps 24dBm@36Mbps 23dBm@48Mbps 22dBm@54Mbps	2.412~2.472 GHz **IEEE802.11g**	26dBm@6~24Mbps 24dBm@36Mbps 23dBm@48Mbps 22dBm@54Mbps
2.412~2.462 GHz **IEEE802.11b**	27dBm@1~11Mbps	2.412~2.472 GHz **IEEE802.11b**	27dBm@1~11Mbps

Internal Antenna **(Dual Polarization)**	**Antenna Specification**	
	Gain	14dBi
	Radiation	Directional
	Frequency Band Range	5.1-5.8GHz
	Horizontal -3dB Bandwidth	35$^{\text{o}}$
	Vertical -3dB Bandwidth	15$^{\text{o}}$

Antenna Pattern

Horizontal Azimuth	Horizontal Elevation	Vertical Azimuth	Vertical Elevation
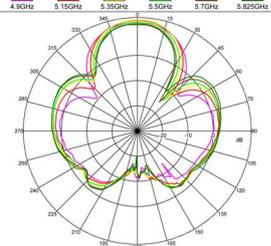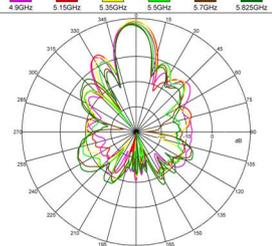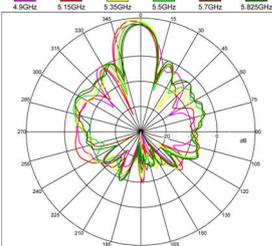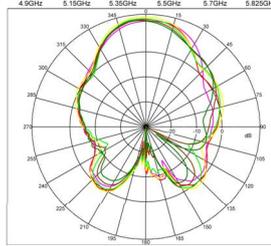
External Antenna	2 x SMA connector (for 2.4GHz and 5GHz individually)

Software Features	
General	
Topology	Infrastructure
Protocol / Standard	IEEE 802.3 (Ethernet) IEEE 802.3u (Fast Ethernet) IEEE 802.11a/b/g (5GHz/2.4GHz WLAN)
Operation Mode	**802.11 a/b/g** Access Point Client Bridge Client Router

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	WDS AP/CB
LAN	DHCP Server
	DHCP Client
VPN	VPN Pass through
Wireless	Channel Selection (Setting varies by countries)
	Transmission Rate
	11 a/b/g：54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps
	Long distance transmission : 1km to 30km (Ack timeout)
	Auto Channel Selection
	Traffic Shaping
	Transmit power table
	AP Detection
	Narrow Bandwidth 5MHz/10MHz/20MHz Support
	Signal Strength indication using LEDs
	PPPoE & PPtP (CR mode)
	Preferred SSID
	MSSID & VLAN Tagging
Security	WEP Encryption-64/128/152 bit
	WPA/WPA2 Personal (WPA-PSK using TKIP or AES)
	WPA/WPA2 Enterprise (WPA-EAP using TKIP)
	802.1x Authenticator
	L2 Isolation
	Hide SSID in beacons
	MAC address filtering, up to 50 field
	Wireless STA (Client) connected list
QoS	WMM
Management	
Configuration	Web-based configuration (HTTP)
Firmware Upgrade	- Upgrade firmware via web-browser
	- Keep latest setting when f/w update
Administrator Setting	Administrator password change
Reset Setting	- Reboot (Press 1 second)
	- Reset to Factory Default (Press 5 seconds)
System monitoring	Status, Event Log
SNMP	V1, V2c
MIB	MIB I, MIB II (RFC1213)
Backup & Restore	Settings through Web
Time setting	NTP (Auto-setting of time)
	Time setting manually

Environment & Mechanical

Temperature Range	Operating -20°C~70°C
	Storage -30°C to 80°C
Humidity (non-condensing)	0%～95% typical
Dimensions	260mm (L) x 84mm (W) x 55mm (H)
Weight	300g

Table1

(Americas (FCC)):
2.412 to 2.462 GHz; 11 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.700 GHz, 8 channels (excludes 5.600 to 5.640 GHz)
5.745 to 5.825 GHz; 5 channels
(China):
2.412 to 2.472 GHz; 13 channels
5.745 to 5.825 GHz; 5 channels
(ETSI):
2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.700 GHz, 11 channels
(Israel):
2.412 to 2.472 GHz, 13 channels
5.180 to 5.320 GHz; 8 channels

(Korea):
2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.500 to 5.620 GHz, 7 channels
5.745 to 5.805 GHz, 4 channels
(Japan2):
2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
(Singapore):
2.412 to 2.472 GHz; 13 channels
5.180 to 5.320 GHz; 8 channels
5.745 to 5.825 GHz; 5 channels
(Taiwan):
2.412 to 2.462 GHz; 11 channels
5.280 to 5.320 GHz; 3 channels
5.500 to 5.700 GHz, 11 channels
5.745 to 5.825 GHz; 5 channels

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