802.11b/g/n

Outdoor Long Range Wireless AP/CB

EnGenius Outdoor Long Range CPE designs High Power, High Sensitivity and Strong Reliability Solutions under Harsh Environment

ENS202/ENS202EXT engineered with the powerful independent RF interface that offers bandwidth up to 300Mbps on 2.4GHz band for accommodating heavy traffic services. The high-efficient 5dBi Omni-directional antenna of ENS202EXT and 8dBi directional polarization antenna of ENS202 provides an optimal, widely, extended real outdoor throughput performance in long range distances.

With robust IP55 certified casing, these access points is designed to withstand outdoor environment conditions.

Features

> Single radio 2x2 802.11 b/g/n Access Point with multi-user MIMO (MU-MIMO).

> Support up to 300 Mbps in 2.4GHz frequency band.

> 360° omni-directional antennas to achieve comprehensive coverage for networking client devices under a pervasive environment.

> External antennas interface for connecting with high directional antennas to deliver signal to long-range distance.(ENS202EXT)

> Compliance with Proprietary 24V PoE Input for flexible installation over 100 meters (328 feet).

> Robust housing with IP55 enclosure rated to deploy at extremely weather .

> Choose an operating mode to meet your management and deployment requirement. (AP mode/CB mode/WDS modes)

> Systemic and distributed management over EnGenius ezMaster and EWS Management switch without licensing or subscription fee (July, 2019).

Wireless Management solution is ideal for deployment in these venues:

> Airport Terminals

> Warehouse Operations

> College Campuses

> Corporate Campuses

> Rail Stations

> Petroleum fields

> Seaport

> Shopping Malls

> Resort Properties

> Parks & Campgrounds

> Stadiums & Arena

> Public Lightings

Enterprise Robust Solution

ENS202/ENS202EXT is easily to install anywhere and its internal electronics have been mounted in an **IP55-rated** enclosure, one of the better waterproof and dustproof rating available, designed to withstand harsh environment conditions including serve and prolonged exposure to sunlight, extreme cold, frost, snow, rainfall, hail and humidity .

Scalable and Flexible deployment for Outdoor Installation

With included mounting accessories, ENS202/ENS202EXT provides reliable kits to fix this device on anywhere for delivering wireless signal under outdoor environment. To save the maintenance cost and labors fee on deploying Access Points, ENS202/ENS202EXT built in two Fast Ethernet ports with power over Ethernet (PoE) functions for receiving power source from the included PoE adapter. With scalable extension over PoE mechanism, Access Points can receive power and signal source easily from **100 meters or 328 feet distance**.

Meanwhile, EnGenius ENS202EXT also built in external SMA interfaces for users to connect with other high-gain directional antennas for delivering the wireless signal to long-range distance.

Securable Portals for different purpose

Administrators can also use **Virtual LAN (VLAN)** with **Guest Network** to isolate each client for avoiding an unnecessary touch, leaking sensitive data, and enhancing Internet security and reliability for internal network.

With **VLAN per SSID**, the Integrate VLAN ID with a WLAN service set identifier (SSID) interface will deliver packets to the

Comprehensive Network Protection

With ENS Access Points, your network is protected from attacks at multiple level through advanced wireless encryption standards such as Wi-Fi Protected Access (WPA2) which uses authentication database and IEEE 802.1X with Radius server. EnGenius also offers the advanced encryption standard to encrypt traffic between Access Points and client devices. To isolate the internal client devices and guest devices, client isolation can avoid each client device to see each other under the same WLAN. Once threats or events are detected, built-in **E-mail Alerts** systems will automatically deliver an e-mail notification for administrators to trigger immediate actions on these networks threats.

Restrain Wireless Traffic under a Pervasive Environment

To effective manage the usage of each client devices at a LAN topology, **Traffic Shaping** controls the bottle of bandwidth to offer the limited bandwidth for an individual **SSID** or **each client** per Access Point. This constraint offers the constant bandwidth to perform specific applications like VOIP and video streaming fluently and smoothly without air congestion on each client devices.

Comprehensive Network Protection

With ENS Access Points, your network is protected from attacks at multiple level through advanced wireless encryption standards such as Wi-Fi Protected Access (WPA2) which uses authentication database, IEEE 802.1X with Radius server. EnGenius also offers the advanced encryption standard (AES) to encrypt traffic between Access Points and client devices. To isolate the internal client devices and guest devices, client isolation can avoid each client device to see each other under the same WLAN. Once threats or events are detected, built-in **E-mail Alerts** systems will automatically deliver an e-mail notification for administrators to trigger immediate actions on these networks threats.

Technical Specifications Wireless outdoor long-range Access Point

Wireless Radio Specification

Access Point Type:
Outdoor, IP55, dual radios concurrent, 2.4GHz 802.11 n 2x2 is backwards compatible with 802.11 b/g.

Frequency Radio
2.4GHz: 2400MHz ~ 2835MHz
Support radios and channels will be varied on the configured regulatory domain.

Supported Radio Technology
802.11b: Direct-sequence spread-spectrum (DSSS)
802.11a/g/n: Orthogonal frequency-division multiplexing (OFDM)
802.11n supports high throughput (HT) — HT 20/40 MHz

Supported Modulation Type
802.11b: BPSK, QPSK, CCK
802.11g/n: BPSK, QPSK, 16-QAM, 64-QAM

Transmit Power (Maximum Value)
2.4GHz: 26dBm
Maximum power is limited by regulatory domain

Supported data rates (Mbps)
802.11b: 1, 2, 5.5, 11
802.11g: 6, 9, 12, 18, 24, 36, 48, 54
802.11n: 6.5 to 300 (MCS0 to MCS15)

Power

Maximum Power Consumption
Maximum 10.12W (Peak)

Power Source
Proprietary 24V
Active Ethernet (Power Over Ethernet, PoE)

Antenna

SMA Type interfaces
ENS202EXT:Two(2) 2.4GHz detachable 5.0dBi SMA antennas
ENS202:2.4GHz 8.0dBi directional antenna
Optional Solutions
Alternative solution to compatible with SA2216 and SA5219 sector Antennas. With ENS202EXT.

Interfaces

Networking Interface
Two(2) 10/100 BASE-T RJ-45 Ethernet Ports

LED Indicators
Display system and wireless transmission status

Mounting

Pole Mounting
Assemble a mounting bracket to fix this Access Point on a pole.

Wall Mounting
Mount this Access Point on a flat wall

Mechanical & Environment

Dimensions (Device only)
186 x100 x29 mm(7.32" x 3.94" x 1.14")

Weight
300 g

Operating
Temperature: -20°C~70°C (-4°F~158°F)
Humidity: 0% ~ 90% typical

Storage
Temperature: -40°C~80°C (-40°F~176°F)
Humidity: 0% ~ 90% typical

Environment Protection Level
IP55

Surge Protection
1KV

ESD Protection
Contact: 4KV
Air: 8KV

Compliance Regulatory

FCC
Subpart15 B
Subpart C 15.247

CE
EN 300 328
EN 301 489
EN 50385
EN 55032
EN 55035

CB
IEC 60950-1
IEC 60950-22

IC
RSS-102
RSS-247

Technical Specifications Wireless outdoor long-range Access Point

Operating Mode

Access Point Mode (AP Mode)
Be an Access Point behaves like a central connection for station or clients that support IEEE 802.11 b/g/n network.

Client Bridge Mode (CB Mode)
The Access Point essentially acts as a wireless adapter that connects to an access point to allow a system of wireless access to the network in the client bridge mode.

WDS Modes (WDS AP, WDS BR, WDS Station)
WDS modes uses WDS technology to establish the wireless connection via filling MAC address in both Access Points to enlarge the wireless area.

Exquisite RF Management

ACK timeout (Distance Control)
Set the ACK timeout to assure the proper distance to deliver wireless signal properly

Site Survey
Scan signal level of an environment to provide parameters for performing Auto Transmit power and auto channel.

Auto Transmit Power
Automatically adjust power level

Auto Channel
Automatically assign a clearly channel to perform RF transmission under a pervasive environment.

Fast Roaming (802.11k)
Collect the parameters of neighborhood Access Points to find the optimal AP.

RSSI Threshold
Kick client devices that the signal (RSSI) is above the set value from the AP for reducing the interference and optimize the connecting quality.

Optimize Performance

Quality of Service
Compliance with IEEE 802.11e standard
Prioritizes voice over data for both tagged and untagged traffic
Transmit video, voice and data at the same SSID

Power Save Mode
Support U-APSD

Pre-Authentication
Compliance with 802.11i &11x

PMK Caching
Compliance with 802.11i
If wireless client devices has authenticated to an access point, it does not perform a full authentication exchange when client devices roaming between access points.

Fast Roaming (802.11r)
Use a Fast Transition key to handover between Access Points

Multicast to Unicast Conversion
Using the IGMP protocol, an access Point delivers high definition content to a large number of clients simultaneously.

Easy to Management

Multiple SSIDs
BSSID support
Support 8 SSIDs on 2.4GHz

Guest Network
Isolate each client for avoiding an unnecessary touch, leaking sensitive data, and enhancing Internet security and reliability.

VLAN Tag
Independent VLAN setting can be enable or disable. Any packet that enters the Device without a VLAN tag will have a VLAN tag inserted with a PVID (Ethernet Port VID).

VLAN Pass-through
Broadcast VLAN-tag packets to find the destination and deliver packets over the defined path. The functions allows network topology scalable and flexible.

VLAN Per SSID
Integrate VLAN ID with a SSID interface to forward packets over the defined path. The functions isolate client devices to get more security.

Management VLAN
Feature is enabled with specified VLAN ID, the device will only allow management access with the same specified VLAN ID from remotely location by using protocols such as telnet, SSH, snmp, syslog etc.

Traffic Shaping
Controls the bottle of bandwidth to offer the limited bandwidth for an individual **SSID** or **each client** per Access Point.

MAC Address Filtering
Filter up to 32 sets MAC addresses per SSID

E-Mail Alert
Provides a network monitoring tool for administrators to stay informed the configuration change.

Save Configuration as Users Default
Save the customized configuration as default value for different customer demands.

Wi-Fi Scheduler
Perform a regular reboot on access point at assigned schedule
Perform it to enable or disable 2.4GHz or 5GHz interface from a period time.

SNMP & MIB & CLI
v1/v2c/v3 support
MIB I/II, Private MIB
CLI Supported

RADIUS Accounting
Help operators to offload 3G to Wi-Fi seamlessly

Wireless Clients list
Provide the list to display real status of wireless client devices on this Access Point.

Comprehensive Protection

Wireless Encryption Standard
WPA2-PSK(Personal),WPA2-EAP(Enterprise)

Hide SSID in beacons

Client Isolation
Block/Isolate the communication between the associated clients under the same WLAN.

HTTPS
A secure communication protocol can be enabled to allow secure management web access over a computer network.

SSH Tunnel
A secure communication protocol can be enabled to allow secure remote shell access or command execution.

**RF Performance Specification** Wireless outdoor long-range Access Point

Channel	Data Rate	Transmit Power (Aggregated, dBm)	Receive Sensitivity (Aggregated, dBm)
802.11b 2.4 GHz	1 Mbps	26.0	-95.0
	2 Mbps	26.0	-95.0
	5.5 Mbps	26.0	-93.0
	11 Mbps	26.0	-93.0
802.11g 2.4 GHz	6 Mbps	26.0	-95.0
	54 Mbps	23.0	-75.0
802.11a 5 GHz	6 Mbps	-	-
	54 Mbps	-	-
802.11n HT20 2.4 GHz	MCS 0 / 8	26.0	-95.0
	MCS 7 / 15	22.0	-73.0
802.11n HT40 2.4 GHz	MCS 0 / 8	26.0	-95.0
	MCS 7 / 15	22.0	-73.0
802.11n HT20 5GHz	MCS 0 / 8	-	
	MCS 7 / 15	-	
802.11n HT40 5GHz	MCS 0 / 8	-	
	MCS 7 / 15	-	
802.11ac VHT20 5GHz	MCS0	-	
	MCS8	-	
802.11ac VHT40 5GHz	MCS0	-	
	MCS9	-	
802.11ac VHT80 5GHz	MCS0	-	
	MCS9	-	

*Maximum RF performance of the hardware provided. Maximum transmit power is limited by local regulatory.
*The supported frequency bands are restricted by local regulatory requirements.
*Transmit power is configured in 1.0dBm increments.

Antennas Patterns Wireless outdoor long-range Access Point

2.4GHz H-Plane

2.4GHz E-Plane

Port1:
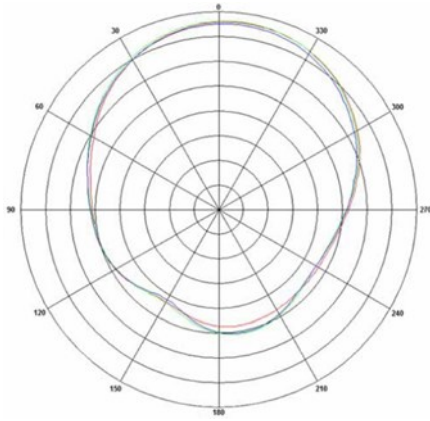
— 2400MHz

— 2450MHz

— 2500MHz
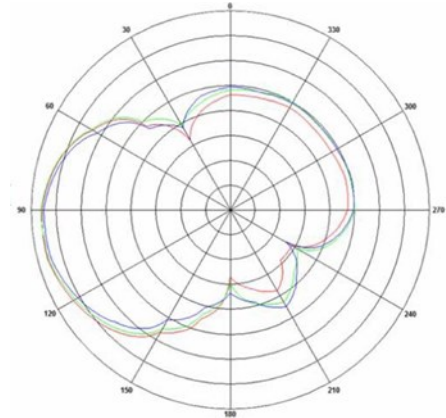
Port2:
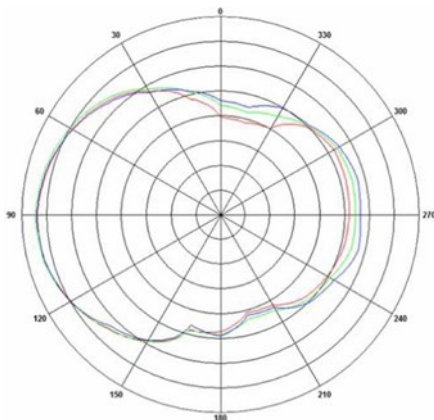
— 2400MHz

— 2450MHz

— 2500MHz

Physical Interfaces

External antenna (SMA Interface) on ENS202EXT

Bottom Cover (UL certified plastic)

Top Cover (UL certified plastic)

LED INDICATORS

2nd Port

Main Port with PoE/LAN (Proprietary 24V PoE Input)
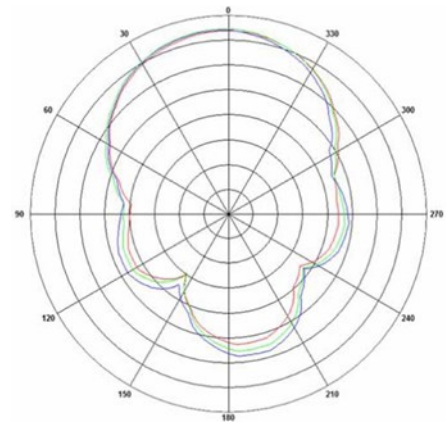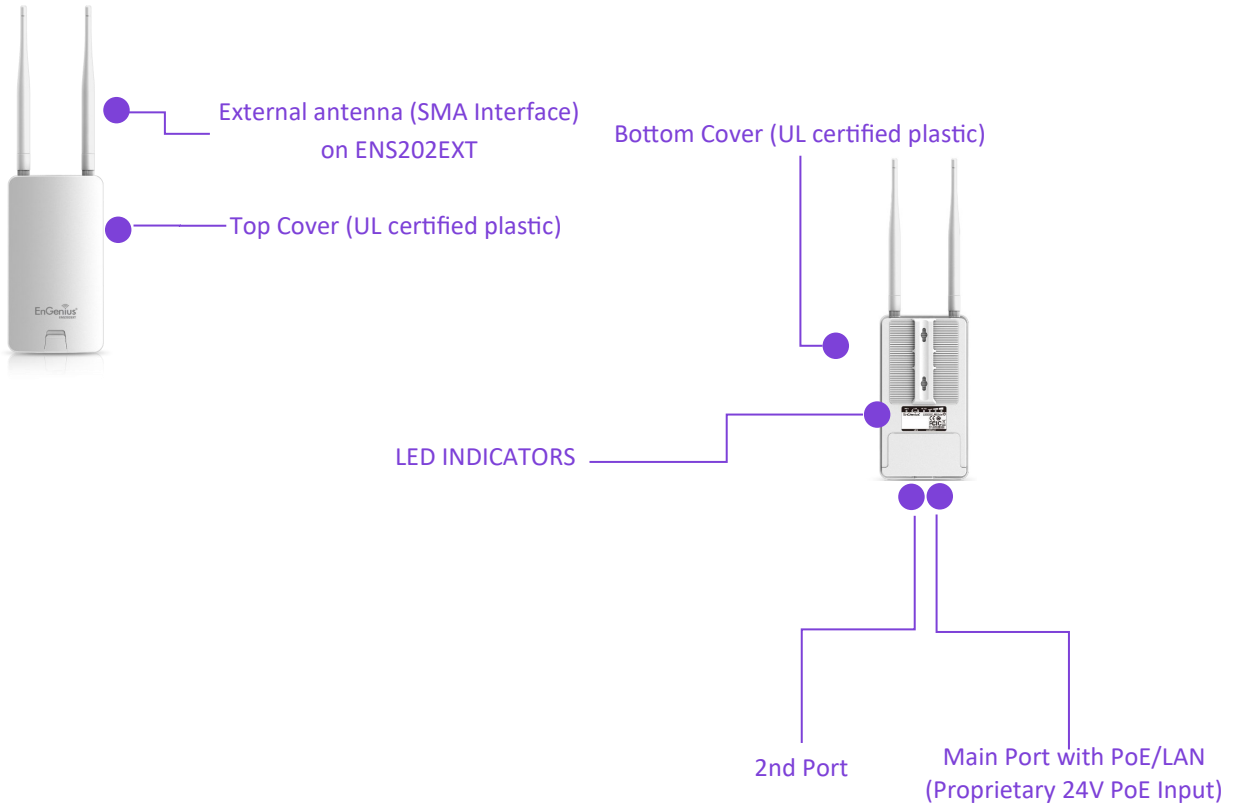
	ENS202EXT	ENS202
Standards	802.11 b/g/n	802.11 b/g/n
Frequency	2.4GHz	2.4GHz
Data Rates	300Mbps	300Mbps
Antennas	5.0dBi	8.0dBi
Physical Interface	2 x 10/100LAN 2 x SMA Connector Interfaces	2 x 10/100LAN
Radio Chains/Streams	2x2: 1	2x2: 1

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