

# Solwise Ltd

**150Mbps 2.4GHz  
AP/CPE**



## ZYGMA7

**Affordable Infrastructure**

**ZyGMA7 from Solwise**

**Fighter N2, 802.11 b/g/n 150Mbps High-gain Outdoor Wireless AP/CPE, with 1T1R Built-in 10dbi Panel Antenna, External SMA Antenna Connector, 1LAN + 1WAN, Passive PoE, -30°C ~ 55°C**

### Product Overview

*Fighter N2, 150Mbps  
High-throughput, 2.4GHz  
Band, Long-distance  
Solution with External  
Antenna Connector*

The WiFi technology for outdoor connectivity is very mature and is often now used for last mile internet delivery or for building network connections. Typical applications include deployment of internet services in various environments, like the hospitality sector, campus networking, WISP long-haul communications, etc.

Fighter N2 is a Client CPE or AP, using the 2.4GHz band, to give Wifi communications in the common 2.4GHz band.

The unique high-gain and antenna design with 1T1R 11n gives good throughputs over short to medium distances. The Fighter N2 is easy-to-install with outstanding performance and a cost-effective design that allows users to have the reliable outdoor equipment at the affordable price. The maximum wireless bandwidth can reach up to 150Mbps (theoretical physical rate - see table below for realistic throughputs) to provide the users good link throughput.

Typical application is for local outdoor AP delivering public WiFi. It can also be used as the outdoor CPE for a WISP last mile connection allowing WISPs to deliver internet service to the residential and the business customer where wired broadband internet service can not be delivered.

The Fighter N2 also supports the WDS features and an external antenna connection to make the bridging easier. An AP+Repeater mode is also implemented to facilitate a larger scale of WISP deployment.

### Key Features

- High-gain solution provides long range of wireless application
- Support 2.4GHz IEEE802.11n and IEEE802.11g/b standards, with up to 150Mbps data rate
- Support 20Mbps and 40Mbps bandwidth
- Operation mode between wireless and wired Ethernet interfaces: Bridge, Gateway and Ethernet Converter
- Wireless modes: AP, Client, WDS, AP+WDS
- Low Noise Amplifier(LNA) support
- DHCP Server/Client support
- RF output power adjustable
- Virtual DMZ, Port Forwarding
- Wireless users access control
- Multiple SSID
- Wireless security - 64/128bit WEP, WPA/WPA2, 802.1x, 802.11i and WPS
- Quick setup utility with Web-based configuration
- Passive Power Over Ethernet(PoE)
- Built-in 10dBi panel antenna and external SMA connector for external antenna replacement
- Reset-buttons on PoE injector for easy reset to factory default
- Weather proof case against rugged environment

**Z9024L-BGN-v2  
Feature Descriptions**

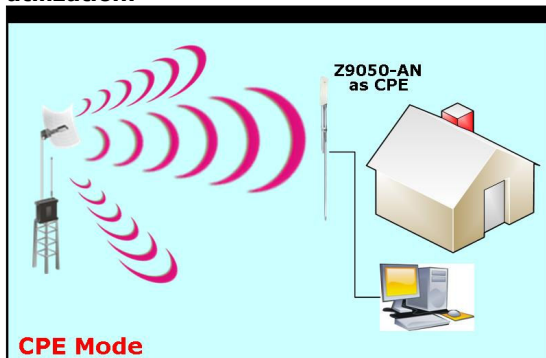
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- Weather proof case against rugged environment
- Reset-buttons on PoE injector for easy reset to factory default: Reset-buttons is on the PoE injector. Simply push the reset-buttons to reset to factory default setting. It simplifies the reset operation for factory default after the device is installed on somewhere that is not easy to reach.

## Applications

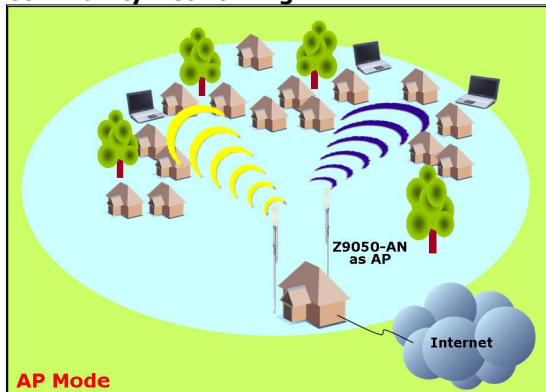
### CPE Mode: Good for WISP

- Using Fighter N2 as CPE at subscriber's home, the WISP operator can deploy 2.4GHz 11b/g/n last-mile equipment to provide a high-bandwidth service network. Burst-mode traffic up to 150Mbps PHY rate (for typical throughput see table below). The bandwidth control (rate-limiting) feature is provided to balance the total network utilization.



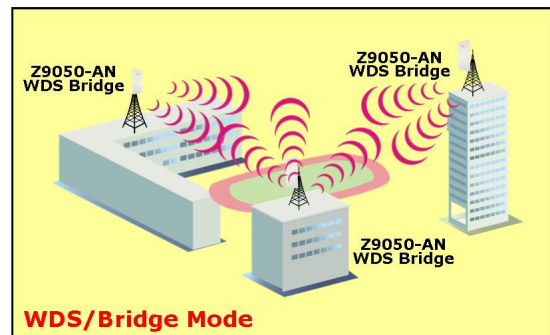
### AP Mode: Used in WISP Deployment or Hospitality Environment

- Setting the Fighter N1 in AP-mode, it can be used as a wireless AP to connect the clients to the internet. It can be used in Hotel Internet provisioning, WISP Deployment or Community Networking.



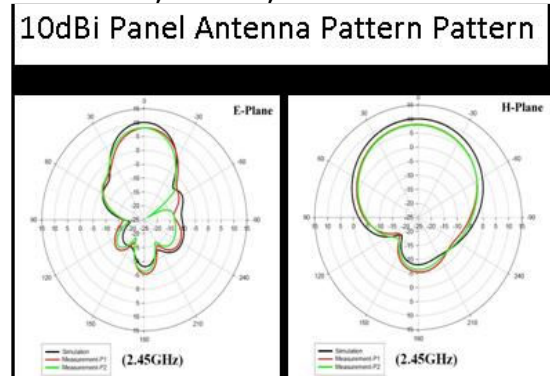
### WDS/Bridge Mode: Used in Campus Networking or WISP Deployment

- Operating in WDS/Bridging mode, the Fighter N2 can exchange the routing information transparently to the users and the network designers. Hence it is ideal for building-to-building network applications.



### Integrated Antenna: 10 dBi directional panel

- Return Loss, H-Plane, V-Plane



## Related Products

PartNo	Stock Code	Model Name	WiFi Standard & Antenna	Operating Temperature	External Antenna	IP Protection
Z9024L-BGN-v2	ZY-FIGHTERN2	Fighter N2	802.11 b/g/n, 1T1R	-30°C ~ 55°C	Yes	IP65
Z9024-BGN	ZY-FEATURAN2	Featura N2	802.11 b/g/n, 1T1R	-20°C ~ 70°C	Yes	IP55
Z9050L-AN	ZY-FIGHTERN5	Fighter N5	802.11 a/n, 1T1R	-30°C ~ 60°C	Yes	IP65
Z9050-AN	ZY-FEATURAN5	Featura N5	802.11 a/n, 2T2R	-20°C ~ 70°C	Yes	IP55

## Typical Distance Throughput

Model Name	Theoretical Max Throughput and Distance at UK legal Band B (30dBm EIRP)*		Theoretical Max Throughput and Distance at UK legal Band C (36dBm EIRP)*	
	MCS7	MCS0	MCS7	MCS0
Fighter N2	150Mbps/0.5Km	15Mbps/4Km	150Mbps/0.5Km	15Mbps/7Km
Featura N2	150Mbps/0.75Km	15Mbps/4Km	150Mbps/0.75Km	15Mbps/10Km
Fighter N5	150Mbps/1Km	15Mbps/6Km	150Mbps/1Km	15Mbps/9Km
Featura N5	300Mbps/500m (at MSC15/HT40)	15Mbps/3Km (at HT40)	300Mbps/750m (at MCS15/HT40)	15Mbps/6Km (at HT40)

**\*Notes:**

Assumes like product at both ends of the link

Distance figures are based upon a System Operating Margin of approximately 10dBm

Actual throughput will depend upon the quality of the WiFi link and restrictions on the LAN connectivity

Distances quoted assume clear line-of-site between the points and correct Fresnel Zone Clearance

Distances are using the CPE built-in antenna

## Specifications

<b>Specifications</b>	
RF Output Power(Typical)	Up to 26 ±1 dBm(11b mode; power adjustable)
Receiver Sensitivity	-95dBm @ 1Mbps
	-87dBm @ 11Mbps
	-74dBm @ 54Mbps
	-70dBm @150Mbps
Antenna	10dBi panel-antenna
Range	8-10 km(Open Free Space)
Mounting	Pole Mounting
	Wall Mounting
Wireless	IEEE 802.11g/b/n, 2.400GHz ~ 2.4835GHz
Access Protocol	CSMA/CA
Number of operation channel	U.S. 1-11
	Japan 1-13,14
	Elsewhere Worldwide 1-13
Working Mode	Ad-Hoc or Infrastructure /AP/WDS/ AP +WDS
Security	64/128bit WEP
	WPA/WPA2/WPA2-MixedWPS
Environmental Protection Rating	IP65
Button	Factory-Default-Reset button on PoE Injector
Humidity	10% ~ 90% (Non-condensing)
Operation & Storage Temp.	Operation: -30°C ~ 55°C
	Storage: -10°C ~ 60°C
Size & Weight	225(H) x 78(L) x 32(D) mm; ?265g
Connector	1 x 10/100 BASE-TX(Cat. 5, RJ-45) WAN port
	1 x 10/100 BASE-TX(Cat. 5, RJ-45) LAN port
	Reset button
	External SMA connector
PoE	Passive PoE, 12V
Power Supply	DC 12V/1A via PoE adaptor
Accessory	Passive PoE Injector
	DC 12V/1A Power Adaptor
	Fixing accessory
	Manual CD
<b>Regulation Compliance</b>	
FCC	Part15 sub B (Lab tested)
	Part15 sub C (Lab tested)
CE	Radio Requirement: ETSI EN 300 328 (v1.7.1, 2006-10)
	EMC Requirement: EN 301 489-1 V1.8.1 (2008-04), EN 301 489-17 V2.1.1 (2009-05)
	EN 60950-1:2006(2nd edition)+A11:2009+A1:2010

The product specifications are subject to change without prior notice.

*Solwise Ltd*

[www.solwise.co.uk](http://www.solwise.co.uk)

[sales@solwise.co.uk](mailto:sales@solwise.co.uk)

**ZyGMA7 Communications Corp.**

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