

# Part No. W1P35x8F04-U150D3B0A

## Embedded 2.4 GHz Wi-Fi Antenna

**2.4 GHz**

Supports: Wi-Fi applications, Agriculture, Bluetooth, Smart Home, Healthcare, Automotive, Digital Signage, Zigbee, WLAN



Ethertronics' W1P35x8F04 Family PCB antennas include an embedded Wi-Fi Antenna design with foam on the back side to minimize the detuning of the antenna on different surfaces that delivers on the key needs of today's wireless product designers: miniaturized design and superior signal sensitivity.

### Excels in Real-Life Conditions

Meets the ever-growing demand for smaller, thinner product designs by eliminating whip and stub antennas.

### Extensive RF Experience

Ethertronics antennas are supported by documentation, and when needed, by the expertise of RF engineers who have integrated hundreds of antenna designs into wireless devices.

### Global Operations & Design Support

Ethertronics' global operations support an integrated network of design centers that can take projects from concept to production.

### Electrical Specifications

Typical Characteristics (in reference device housing made in PC/ABS plastic and 150 mm cable length)

Frequency band (GHz)	2.40 – 2.48
Return Loss	< -15 dB
Average Efficiency	70%
Peak Gain	< 2.8 dBi
Feed Point Impedance	50 ohms unbalanced

### Mechanical Specifications

Part Number	W1P35x8F04-U150D3B0A
Size (mm)	35.20 ± 0.15 length 8.50 ± 0.15 width 0.40 thickness
*Connector	u.fl compatible
*Cable length	150 mm
Weight (grams)	0.3
Adhesive	3M468MP
Packing	Individual PE bags (default) or tray (per request)

\*Additional variations available in different cable lengths, colors and connectors, refer to Appendix on page 4.

## Embedded Wi-Fi Antenna AP, Routers, Gateways

2.4 GHz

### KEY BENEFITS

#### Quicker Time-to-Market

Standard part means fewer design changes, and simple implementation

#### Superior Network Coverage

Better network coverage means more reliable wireless connections.

#### Faster Data Rates

Improved performance also means faster data rates for downloading e-mail, surfing the internet and watching mobile video.

#### RoHS Compliant

Products are the latest RoHS version compliant.

### APPLICATIONS

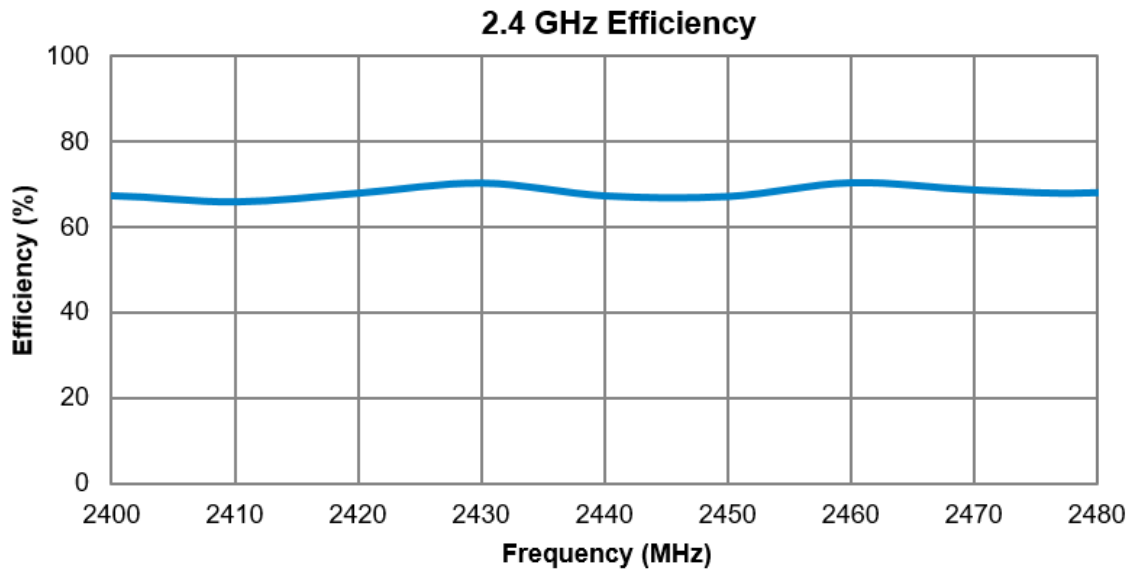
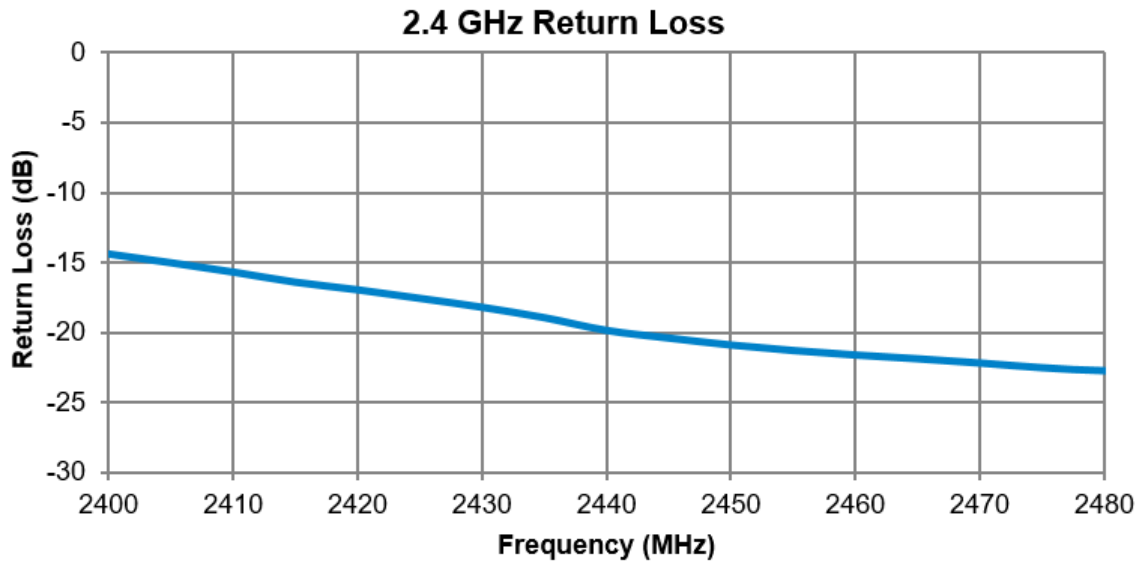
- Access Points and Routers
- Gateways
- Wi-Fi applications
- Embedded design
- M2M Industrial devices



2.4 GHz embedded antenna specifications  
Ethertronics produces a wide variety of standard and custom antennas to meet user needs

### Typical Return Loss & Efficiency Plots

Measured in reference device housing made in PC/ABS plastic and 150 mm cable length



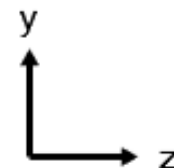
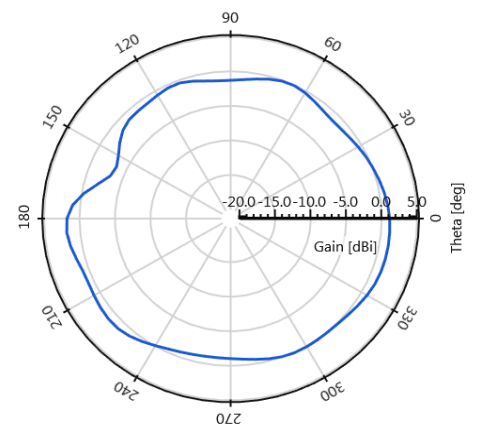
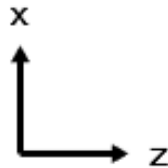
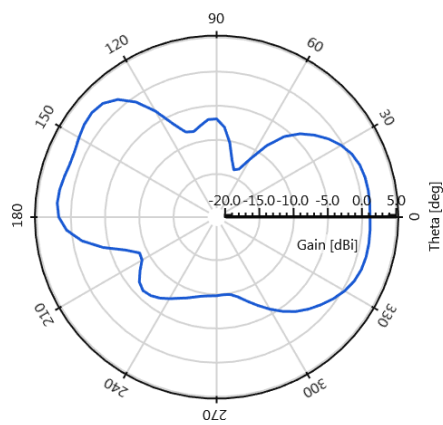
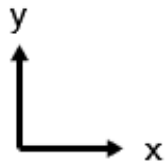
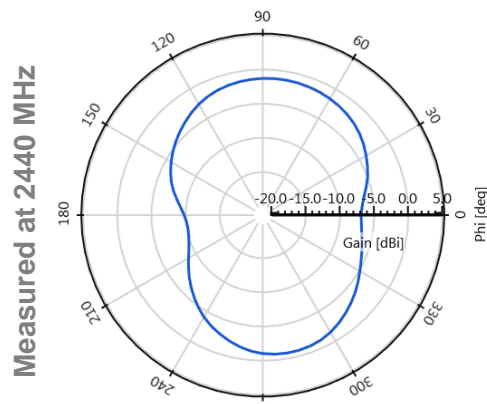
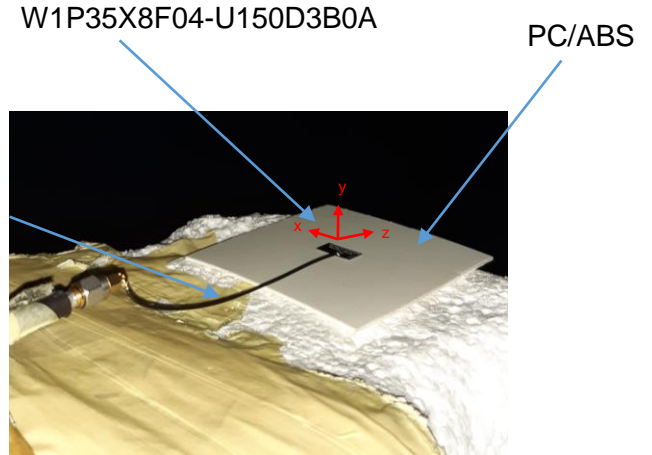
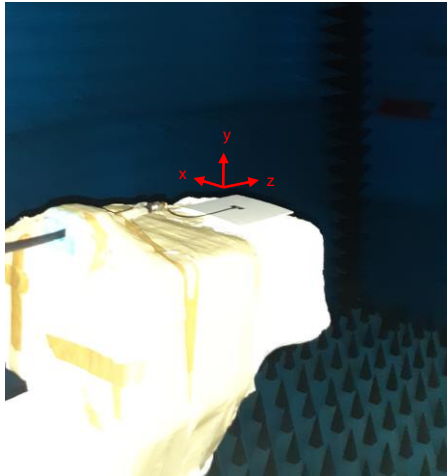


### 2.4 GHz embedded antenna specifications

Ethertronics produces a wide variety of standard and custom antennas to meet user needs

#### Antenna Radiation Patterns

Typical Performances in reference device housing made in PC/ABS plastic and 150 mm cable length





### Generic Antenna Part Numbers

generic standard antenna part numbers for W1- Family

## Example of generic Wi-Fi PN: W1P35x8F04-U100D3B0A

### PN Nomenclature

PCB silk screen number

W	1	P	35X8	F	04
Series	Freq. of operation	Type	Size	Tuning version	PCB thickness
W = Wi-Fi Family	1 = 2.4 GHz	F = FPC P = PCB	35x8 mm 35.2x8.5mm*	W = Tuning on plastic wall F = Tuning for foam on plastic wall R = Tuning with ribs	01 = 0.1mm** 04 = 0.4 mm* 08 = 0.8 mm***

\*Typical thickness for PCB

\*\* Thickness for FPC

\*\*\*Recommended for assembly with ribs

### PN Nomenclature

Second part of the PN

U	100	D	3	B	0	A
Connector type	Cable from connector to PCB edge	Connector orientation compared to PCB silkscreen printing	Cable diameter	Cable color	Ferrite beads	Mounting options
U = u.fl compatible* W = w.fl compatible H = MHF4 N = No connector	050 = 50mm 100 = 100mm* 150 = 150mm	D = Connector down* U = Connector Up L = Left Side R = Right Side N = No connector	1 = 0.81 mm 3 = 1.13mm* 7 = 1.37 mm	B = Black* G = Gray	0 = No* 1 = Yes	N = No adhesive A = using adhesive 3M468MP* C = using adhesive 3M467** T = using adhesive 3M9448A***
*Typical connector	*Typical length	*Typical orientation	*Typical diameter for u.fl	*Typical color	*Default configuration	*Adhesive for PCB **Adhesive for FPC ***Adhesive for PCB + foam



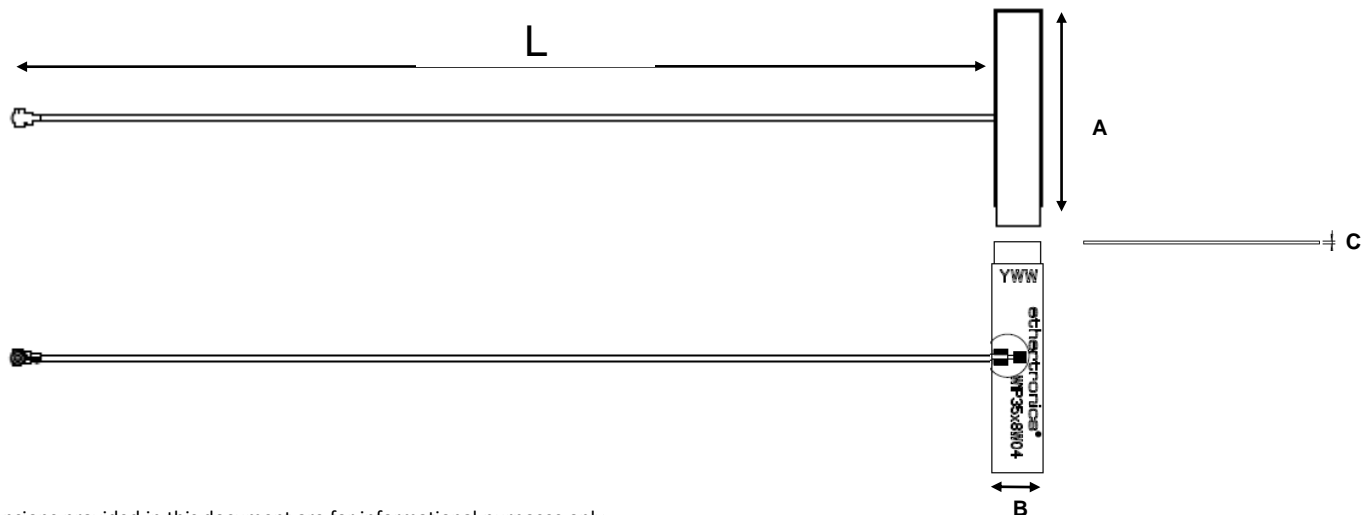
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

### Typical Ordering Part Numbers

Part Number	Type	Tuning version	Connector	Cable length (mm)	Mounting Options	
W1P35X8W04-U050D3B0A	PCB	Tuning on Plastic Wall	u.fl compatible	50	Using Adhesive 3M468MP	
W1P35X8W04-U100D3B0A				100		
W1P35X8W04-U150D3B0A				150		
W1P35X8W04-H100D3B0A		Tuning for foam on plastic wall	MHF4	100		
W1P35X8F04-U050D3B0T				50		Using Adhesive 3M9448A
W1P35X8F04-U100D3B0T				100		
W1P35X8F04-U150D3B0T				150		
W1F35X8W01-U100D3B0C	FPC	Tuning on Plastic Wall	u.fl compatible	100	Using Adhesive 3M467	

### Mechanical Dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	L(mm)	Connector
W1P35X8F04-U150D3B0A	35.20 ± 0.15	8.50 ± 0.15	0.40	150	u.fl Compatible



\*All dimensions provided in this document are for informational purposes only