

# Part No. W3P35x8W04-U100D3B0A

## Embedded Wi-Fi Antenna

2.4 / 5.0 / 6.0 GHz

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



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

2.4 / 5.0 / 6.0 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
- M2M industrial devices

Ethertronics' W3P35x8W04 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 100mm cable length)

Frequency Band (GHz)	2.40 – 2.48	5.15 – 5.85	5.925 - 7.125
Return Loss	< -15 dB	< -10 dB	<-6 dB
Average Efficiency	70 %	60 %	65 %
Peak Gain	< 2.3 dBi	< 5 dBi	< 2.5 dBi
Feed Point Impedance	50 ohms unbalanced		

#### Mechanical Specifications

Part Number	W3P35x8W04-U100D3B0A
Size (mm)	35.20 ± 0.15 length 8.50 ± 0.15 width 0.40 thickness
*Connector	u.fl Compatible
*Cable length (mm)	100
Weight (grams)	0.3
Adhesive	3M468MP
Packing	Individual PE bags (default) or tray (per request)

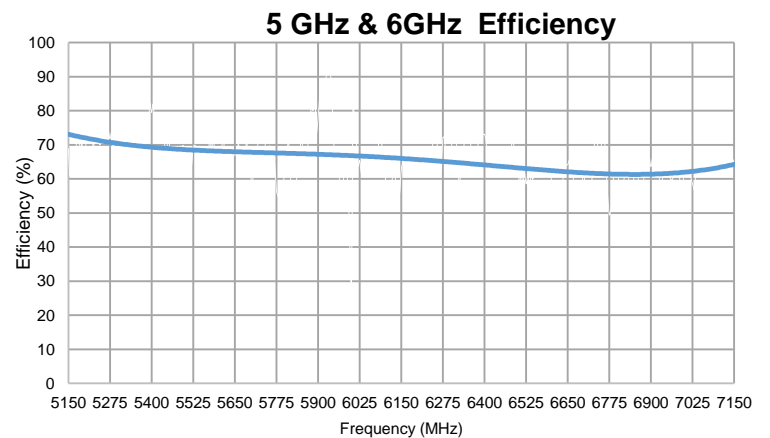
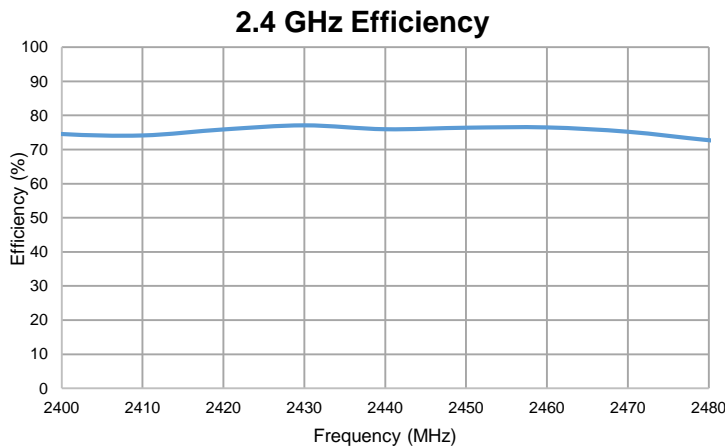
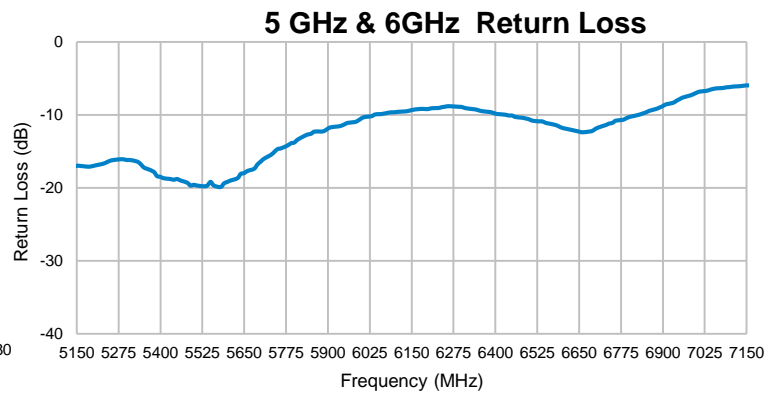
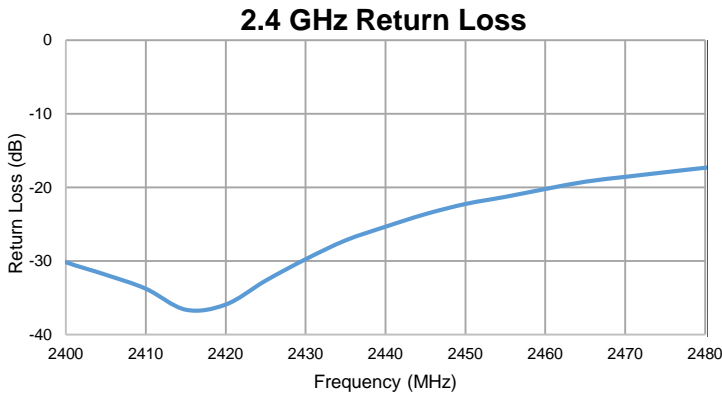
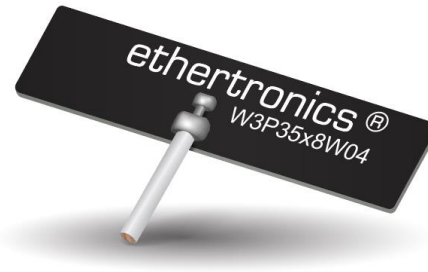
\*Additional variations available in different cable lengths, colors and connectors, refer to Appendix on page 4.



Wi-Fi 2.4 / 5.0 / 6.0 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 100mm cable length

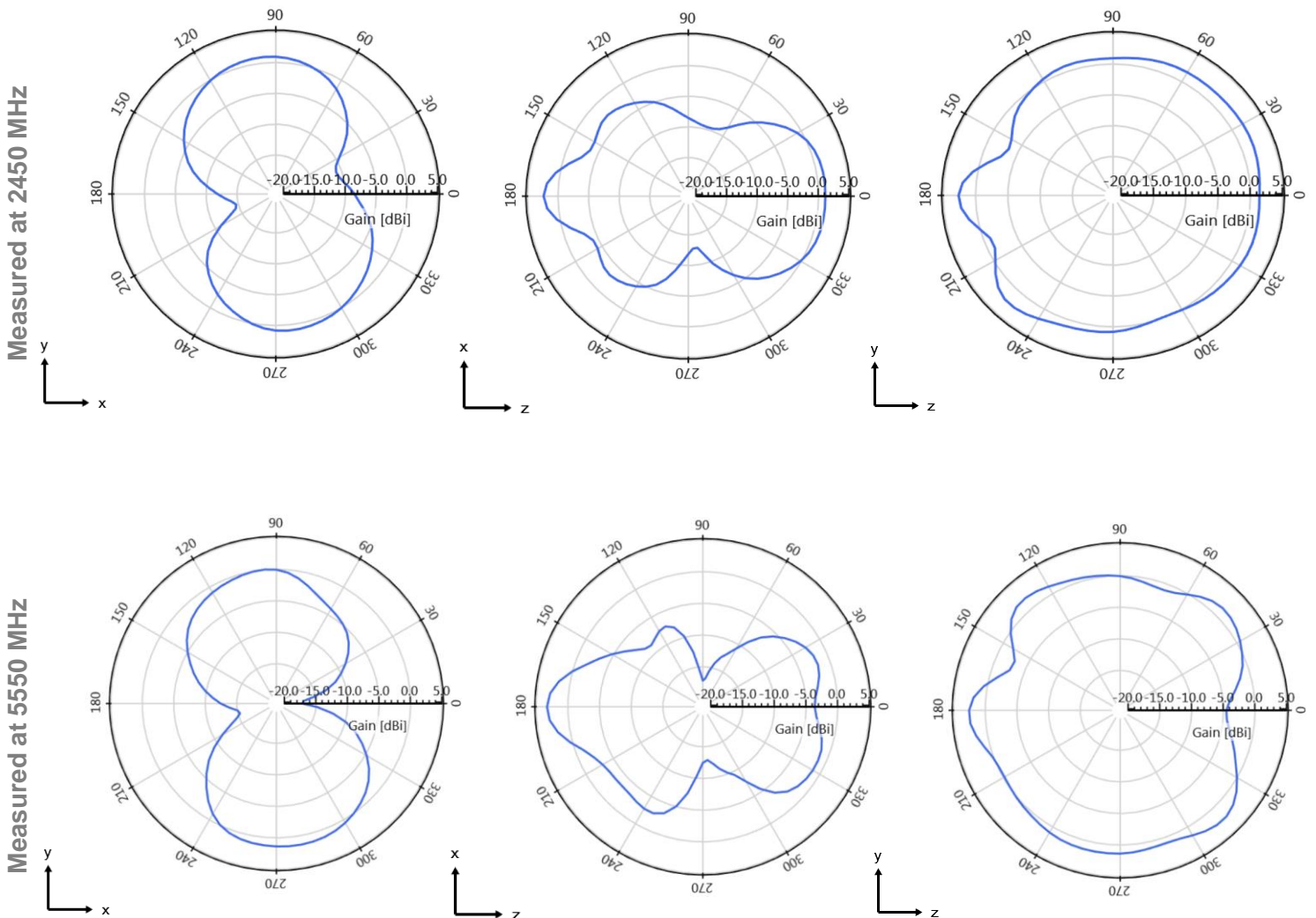
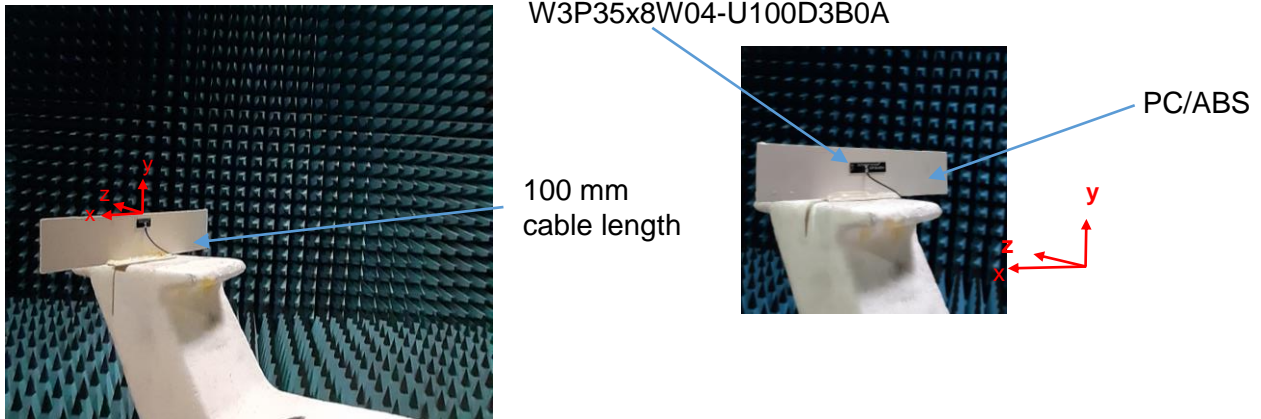




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**Antenna Radiation Patterns**

Typical Performances in reference device housing made in PC/ABS plastic and 100mm cable length

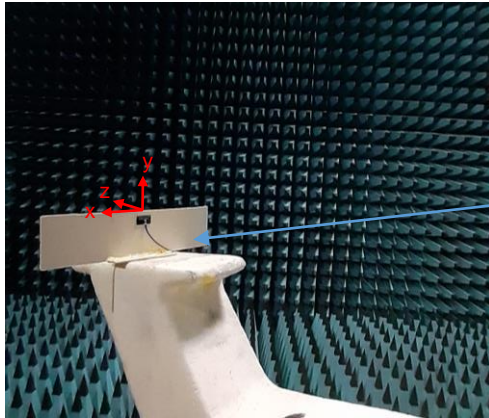




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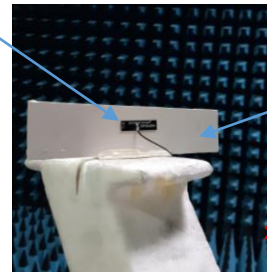
### Antenna Radiation Patterns

Typical Performances in reference device housing made in PC/ABS plastic and 100mm cable length

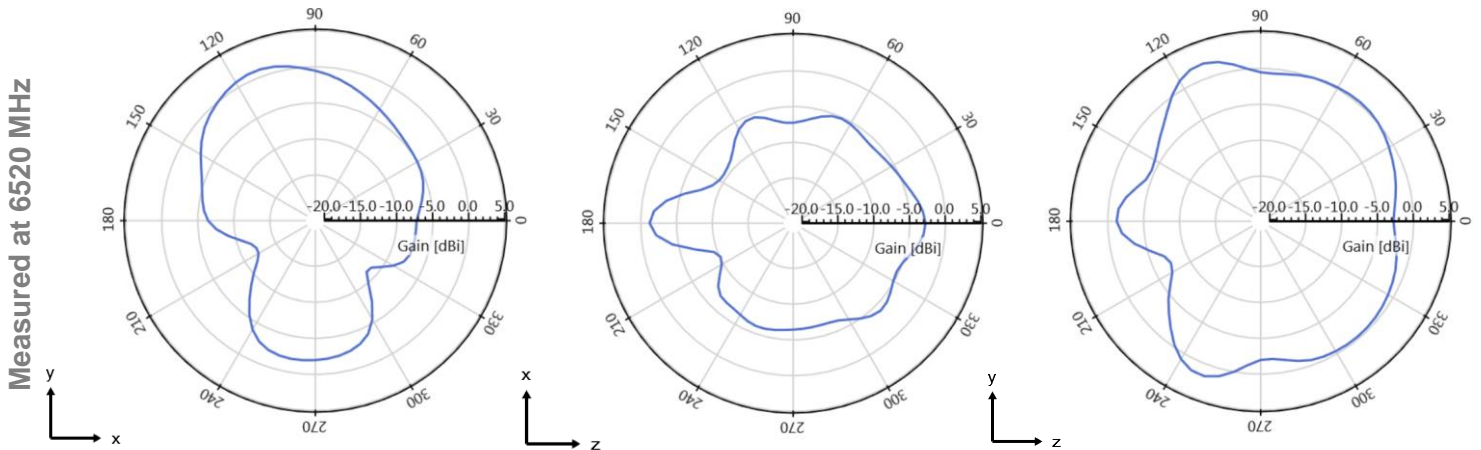


W3P35x8W04-U100D3B0A

100 mm  
cable length



PC/ABS





**Generic Antenna Part Numbers**

Ethertronics produces a wide variety of standard and custom antennas to meet user needs. Below are the generic standard antenna part numbers for Wi-Fi

Example of generic Wi-Fi PN: **W3P35x8W04-U100D3B0A**

**PN Nomenclature**

PCB silk screen number

W	3	P	35x8	W	04
Series	Freq. of operation	Type	Size	Tuning version	PCB thickness
W = Wi-Fi Family	3 = 2.4 / 5.0 / 6.0 GHz	F = FPC P = PCB	35x8 = 35.2x8.5 mm*	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



### Generic Antenna Part Numbers

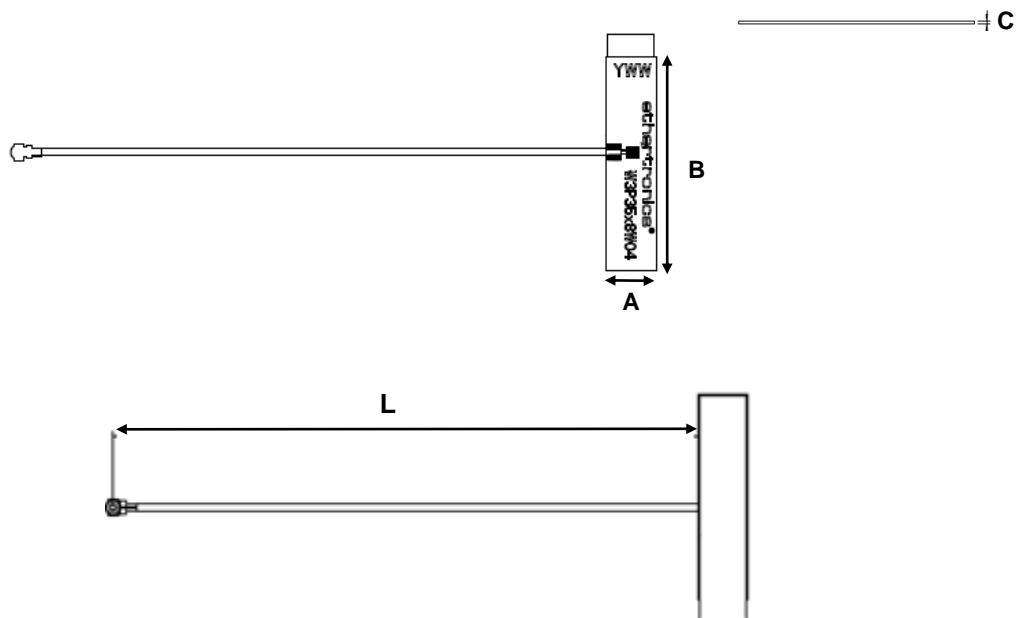
Ethertronics produces a wide variety of standard and custom antennas to meet user needs. Below are the generic standard antenna part numbers for Wi-Fi

### Typical Ordering Part Numbers

Part Number	Type	Tuning version	Connector	Cable length (mm)	Mounting Options	
W3P35X8W04-U050D3B0A	PCB	Tuning on Plastic Wall	u.fl compatible	50	Using Adhesive 3M468MP	
W3P35X8W04-U100D3B0A				100		
W3P35X8W04-U150D3B0A				150		
W3P35X8W04-H100D3B0A		Tuning for foam on plastic wall	MHF4	u.fl compatible	100	Using Adhesive 3M9448A
W3P35X8F04-U050D3B0T					50	
W3P35X8F04-U100D3B0T					100	
W3P35X8F04-U150D3B0T					150	
W3F35X8W01-U100D3B0C	FPC	Tuning on Plastic Wall	u.fl compatible	100	Using Adhesive 3M467	

### Mechanical Dimensions

Part Number	A (mm)	B (mm)	C (mm)	L (mm)	Connector
W3P35X8w04- U100D3B0A	8.50 ± 0.15	35.20 ± 0.15	0.4	100	u.fl compatible



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