

Part No. W2P15x7W04-U100D3B0A

Embedded 5 & 6 GHz Wi-Fi Antenna

5 GHz, 6 GHz

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



Embedded Wi-Fi Antenna AP, Routers, Gateways

5 & 6 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 Application
- M2M industrial devices

Ethertronics' W2P15x7W04 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) | 5.150 – 5.850 | 5.925 - 7.125 |
|----------------------|--------------------|---------------|
| Return Loss | < -9 .0dB | < -7.3 dB |
| Average Efficiency | 70% | |
| Peak Gain | < 4.3 dBi | < 3.9 dBi |
| Feed Point Impedance | 50 ohms unbalanced | |

Mechanical Specifications

| Part Number | W2P15x7W04-U100D3B0A |
|--------------------|---|
| Size (mm) | 15.90 ± 0.15 length 7.60 ± 0.15 width 0.4 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.

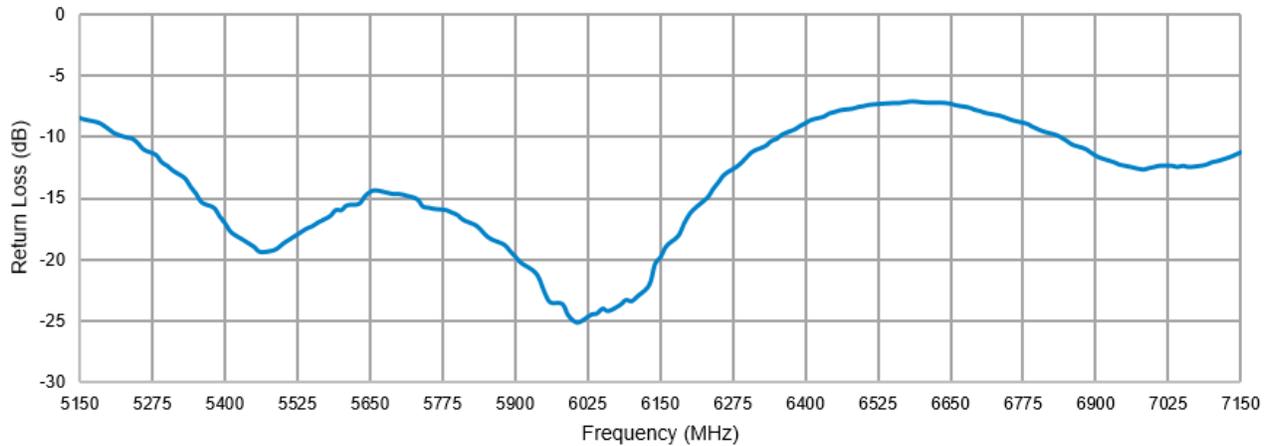


Wi-Fi 5 & 6 GHz Embedded antenna specifications
Ethertronics produces a wide variety of standard and custom antennas to meet user needs

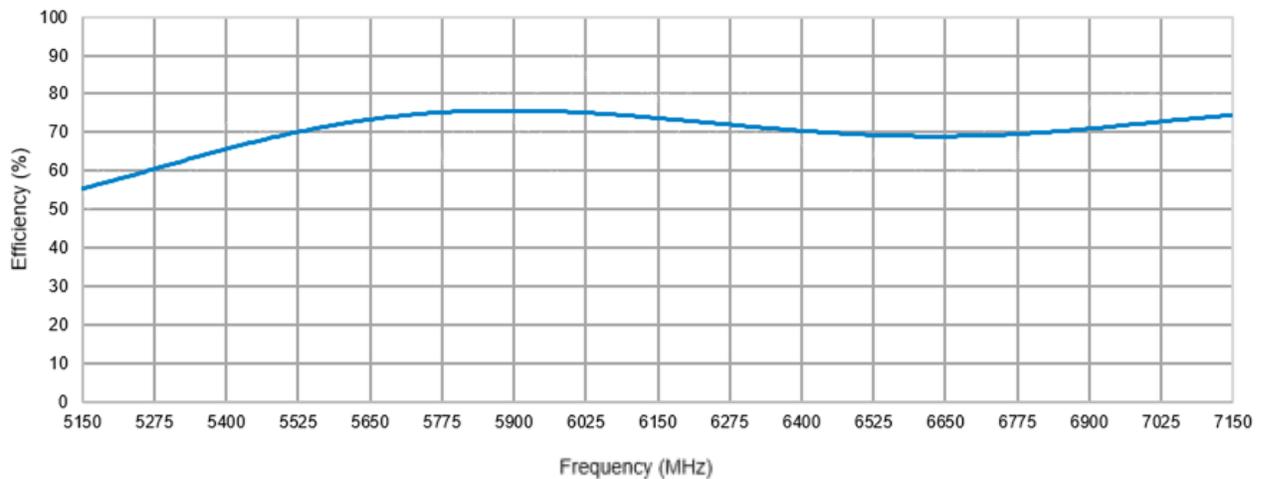
Typical Return Loss & Efficiency Plots

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

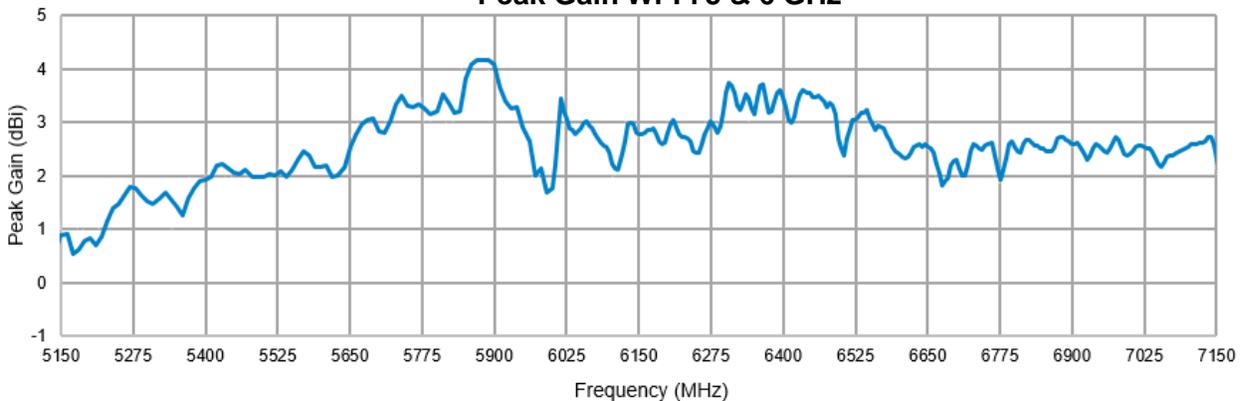
Return Loss Wi-Fi 5 & 6 GHz



Efficiency Wi-Fi 5 & 6 GHz



Peak Gain Wi-Fi 5 & 6 GHz

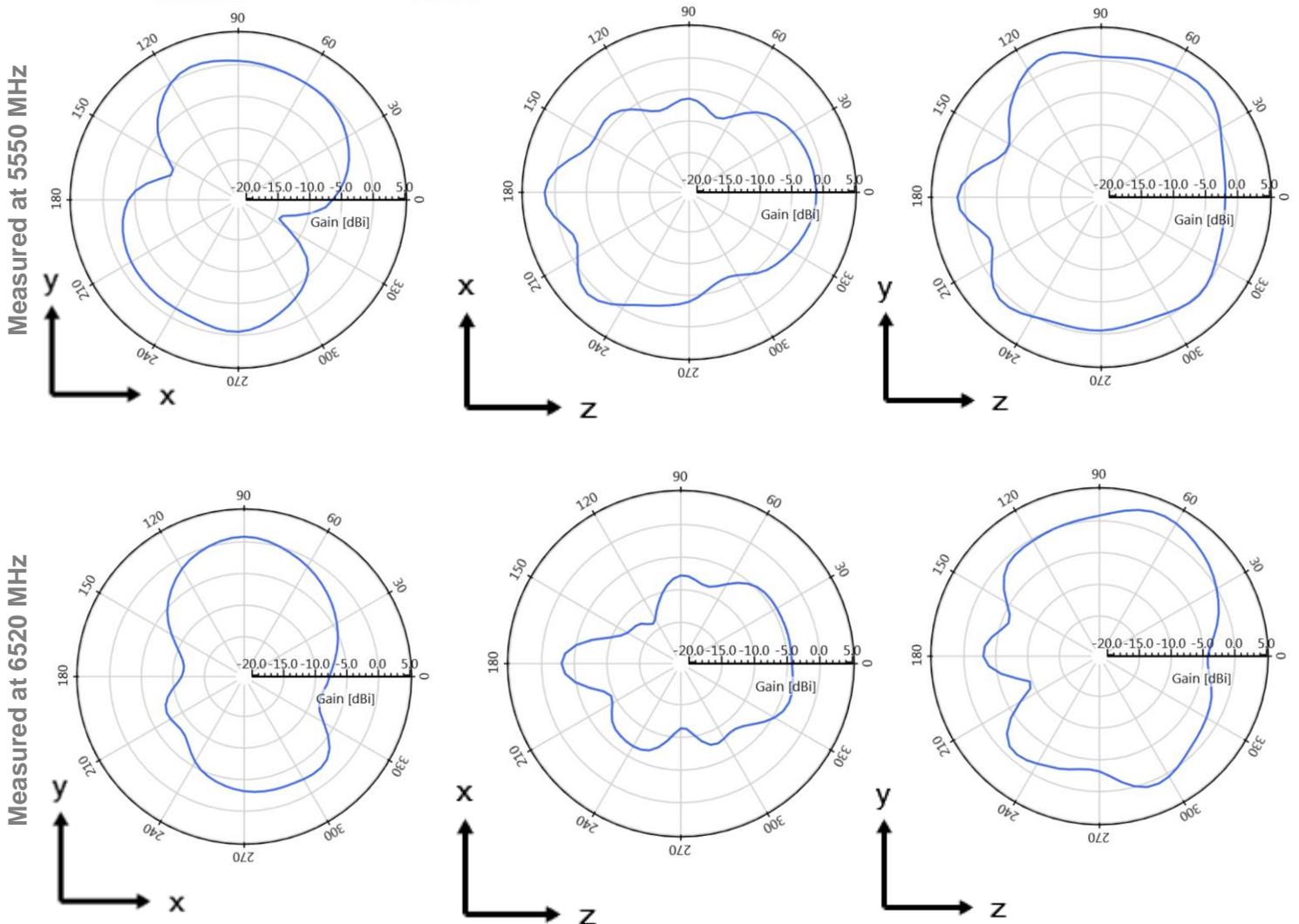
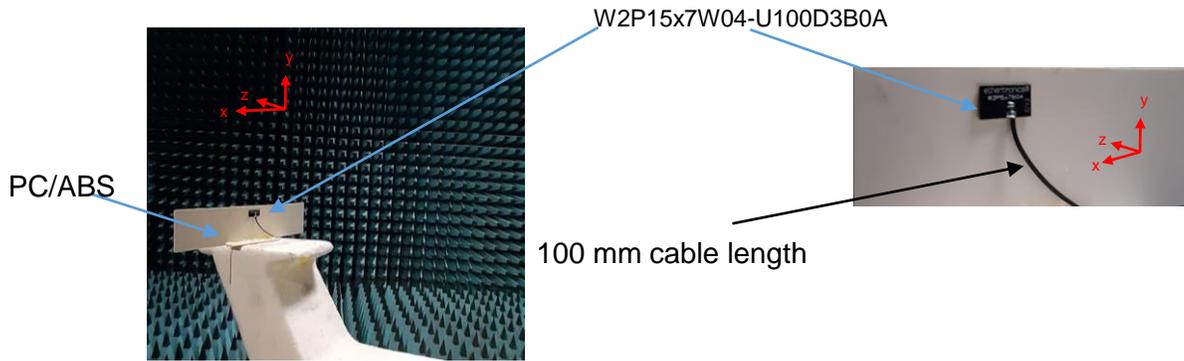




Wi-Fi 5 & 6 GHz embedded antenna specifications
Ethertronics produces a wide variety of standard and custom antennas to meet user needs

Radiation Patterns

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





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: W2P15x7W04-U100D3B0A

PN Nomenclature

PCB silk screen number

| W | 2 | P | 15x7 | W | 04 |
|------------------|--------------------|--------------------|------------------------|---|--|
| Series | Freq. of operation | Type | Size | Tuning version | PCB thickness |
| W = Wi-Fi Family | 2 = 5 & 6 GHz | F = FPC P = PCB | 15x7 mm 15.9x7.6mm* | 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

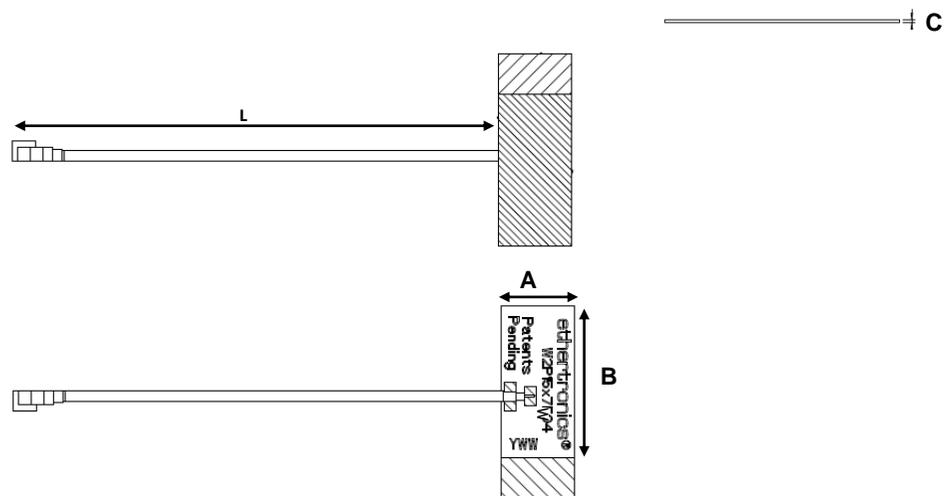
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Typical Ordering Part Numbers

| Part Number | Type | Tuning version | Connector | Cable length (mm) | Mounting Options | |
|----------------------|------|---------------------------------|-----------------|-------------------|------------------------|------------------------|
| W2P15X7W04-U050D3B0A | PCB | Tuning on Plastic Wall | u.fl compatible | 50 | Using Adhesive 3M468MP | |
| W2P15X7W04-U100D3B0A | | | | 100 | | |
| W2P15X7W04-U150D3B0A | | | | 150 | | |
| W2P15X7W04-H100D3B0A | | Tuning for foam on plastic wall | MHF4 | u.fl compatible | 100 | Using Adhesive 3M9448A |
| W2P15x7F04-U050D3B0T | | | | | 50 | |
| W2P15x7F04-U100D3B0T | | | | | 100 | |
| W2P15x7F04-U150D3B0T | | | | | 150 | |
| W2F15X7W01-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 |
|---------------------|------------|--------------|--------|--------|-----------------|
| W2P15x7W04-U1003B0A | 7.60± 0.15 | 15.90 ± 0.15 | 0.4 | 100 | u.fl compatible |



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