

# Part No.WXP3015W08-U100D3BOA

## Embedded Wi-Fi Dual Band Antenna -Multiple Radiation Patterns

### 2.4&5GHz

Supports:Access Points,Routers,Gateways,Wi-Fi enabled TV's and monitors



### Embedded Wi-Fi Antenna

#### AP,Routers,Gateways

Ant Type: FPC / 2.4/5GHz

#### KEY BENEFITS

##### Quicker Time-to-Market

Standard part means fewer design changes Simple implementation

##### Superior Network Coverage

Better network coverage means more reliable wireless connections

##### Single form factor with Three Radiation Patterns

Single mechanical outline with different radiation patterns  
 Easy fine tune to maximize MiMo performance  
 Maximize system throughput  
 Mitigate peak gain issues

##### RoHS Compliant

Products are the latest RoHS version compliant

#### APPLICATIONS

- Access Points and Routers
- Gateways
- Wi-Fi enabled TV's and monitors

Ethertronics WXP3015W08 series FR4 based antennas include an embedded Wi-Fi dipole design that delivers on the key needs of today's wireless product designers:miniaturized design and superior signal sensitivity. This antenna is ideal to rotate the radiation patterns with a single mechanical outline,slightly to the left(WA),to the right (WB)and straight aligned with Z-axis (WC),which allows to maximize system throughput and migrate peak gain issues.

#### 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 PCIABS plastic and 100mm cable length)

| Frequency (GHz)      | 2.4-2.48           | 5.15-5.85 |
|----------------------|--------------------|-----------|
| Return Loss*         | <-8.4 dB           | <8.7 dB   |
| Average Efficiency*  | 65%                | 61%       |
| Peak Gain*           | 2.90 dBi           | 5.90 dBi  |
| Feed Point Impedance | 50 ohms unbalanced |           |

\*Among all variants

#### Mechanical Specifications &Ordering Part Number

| Part Number       | WXP3015W08-U100D3BOA                                         |  |
|-------------------|--------------------------------------------------------------|--|
| Size (mm)         | 30.00±0.15 length<br>15.50±0.15 width<br>0.80±0.05 thickness |  |
| *Connector        | u.fl compatible                                              |  |
| *Cable length(mm) | 100                                                          |  |
| Weight (g)        | N/A                                                          |  |
| 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.



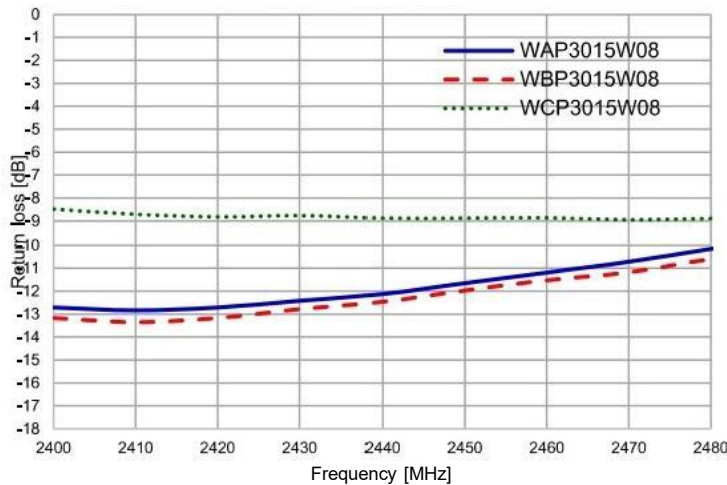
## Wi-Fi 2.4&5 GHz embedded antenna specifications

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

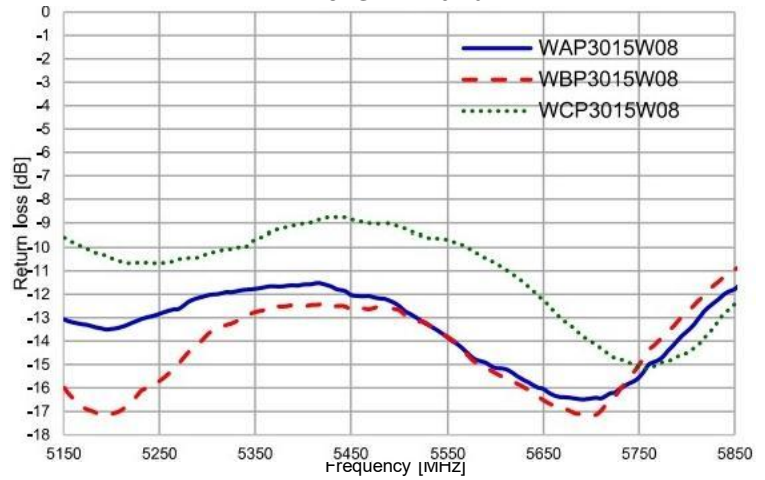
### Return Loss and Efficiency Plots

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

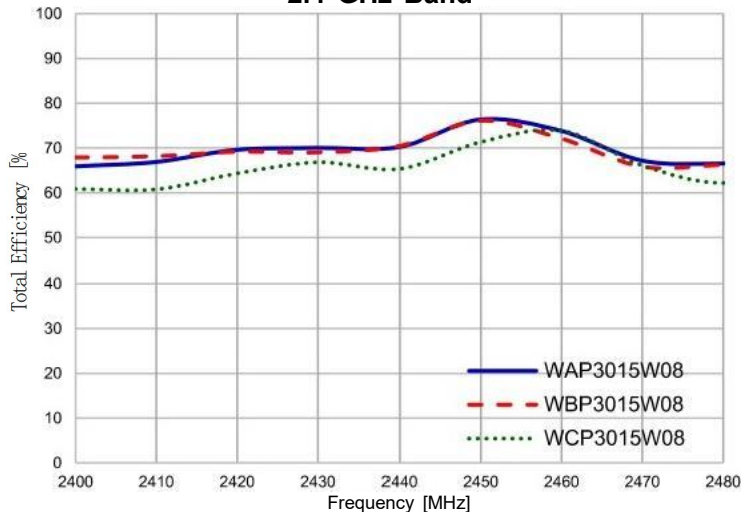
#### 2.4 GHz Band



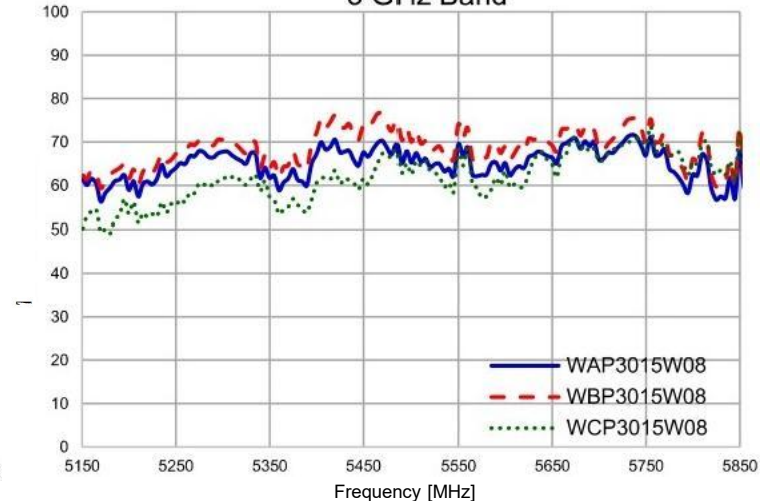
#### 5 GHz Band



#### 2.4 GHz Band



#### 5 GHz Band



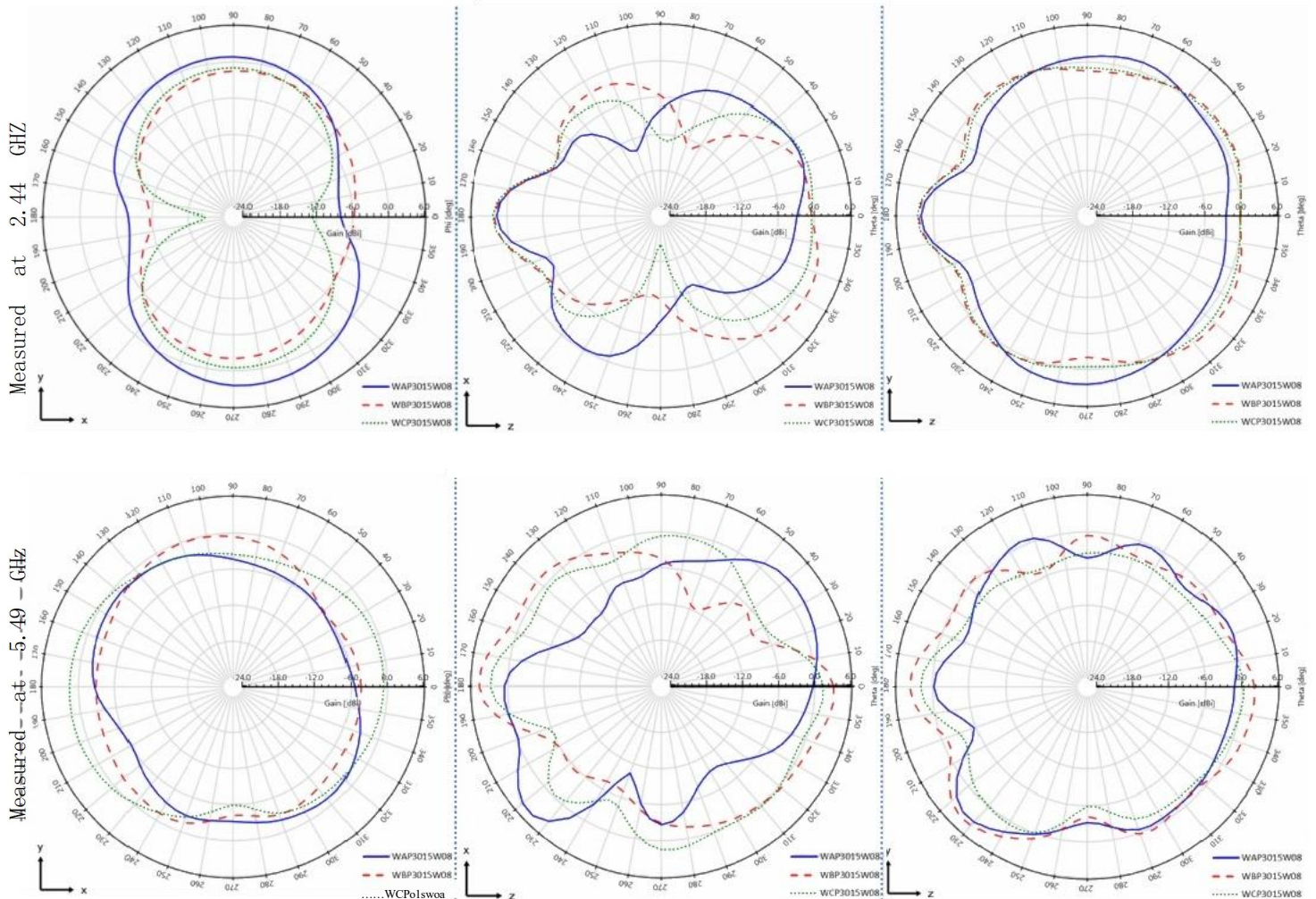
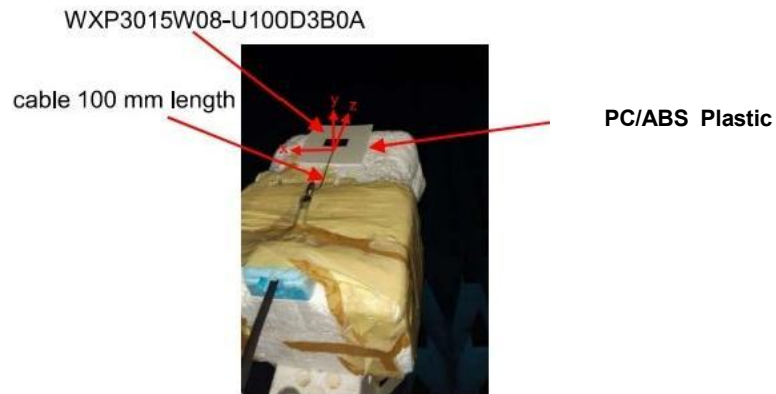
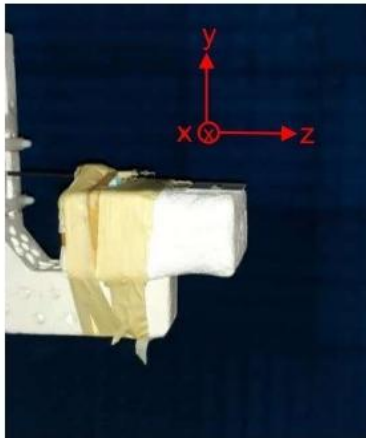


Wi-Fi 2.4&5 GHz embedded antenna specifications

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### Antenna Radiation Patterns plots

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





## Generic Antenna Part Numbers

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## Example of generic Wi-Fi PN:WAP3015W08-U100D3G0A

### PN Nomenclature

PCB silk screen number

| W              | A                                                                               | P     | 3015     | W                        | 08            |
|----------------|---------------------------------------------------------------------------------|-------|----------|--------------------------|---------------|
| T              | T                                                                               | T     |          | T                        | T             |
| Series         | Rad.pattern orientation                                                         | Type  | Size     | Tuning version           | PCB thickness |
| W=Wi-Fi Family | A=Slant to left(+x)<br>B=Slant to right (-x)<br>C=Straight(aligned with Z-axis) | P=PCB | 30x15 mm | W=Tuning on plastic wall | 08=0.8 mm     |

### PN Nomenclature

Second part of the PN

| U                                                                   | 100                                 | D                                                                                    | 3                          | G                  | 0                      | A                                          |
|---------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|----------------------------|--------------------|------------------------|--------------------------------------------|
|                                                                     |                                     | T                                                                                    |                            | T                  | T                      | T                                          |
| Connector type                                                      | Cable                               | Connector orientation                                                                | Cable diameter             | Cable color        | Ferrite beads          | Mounting options                           |
| U=u.fl compatible*<br>W=w.fl compatible<br>H=MH4F<br>N=No connector | 050=50mm<br>100=100mm*<br>150=150mm | D=Connector down*<br>U=Connector Up<br>L=Left Side<br>R=Right Side<br>N=No connector | 1=0.81 mm<br>3=1.13mm*     | B=Black*<br>G=Gray | 0=No*<br>1=Yes         | N=No adhesive<br>A=using adhesive 3M468MP* |
| *Typical connector                                                  | *Typical length                     | *Typical orientation                                                                 | *Typical diameter for u.fl | *Typical color     | *Default configuration | *Adhesive for PCB                          |





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## Typical Ordering Part Numbers

| Part Number          | Type | Tuning version         | Connector        | Cable length (mm) | Mounting Options |
|----------------------|------|------------------------|------------------|-------------------|------------------|
| WAP3015W08-U050D3B0A | PCB  | Tuning on Plastic Wall | u. fl compatible | 50                | Using Adhesive   |
| WAP3015W08-U100D3B0A |      |                        |                  | 100               |                  |
| WAP3015W08-U150D3B0A |      |                        |                  | 150               |                  |
| WAP3015W08-H100D3B0A |      |                        | MHF4             | 100               | 3M468MP          |
| WBP3015W08-U050D3B0A | PCB  | Tuning on Plastic Wall | u. fl compatible | 50                | Using Adhesive   |
| WBP3015W08-U100D3B0A |      |                        |                  | 100               |                  |
| WBP3015W08-U150D3B0A |      |                        |                  | 150               |                  |
| WBP3015W08-H100D3B0A |      |                        | MHF4             | 100               | 3M468MP          |
| WCP3015W08-U050D3B0A | PCB  | Tuning on Plastic Wall | u. fl compatible | 50                | Using Adhesive   |
| WCP3015W08-U100D3B0A |      |                        |                  | 100               |                  |
| WCP3015W08-U150D3B0A |      |                        |                  | 150               |                  |
| WCP3015W08-H100D3B0A |      |                        | MHF4             | 100               | 3M468MP          |



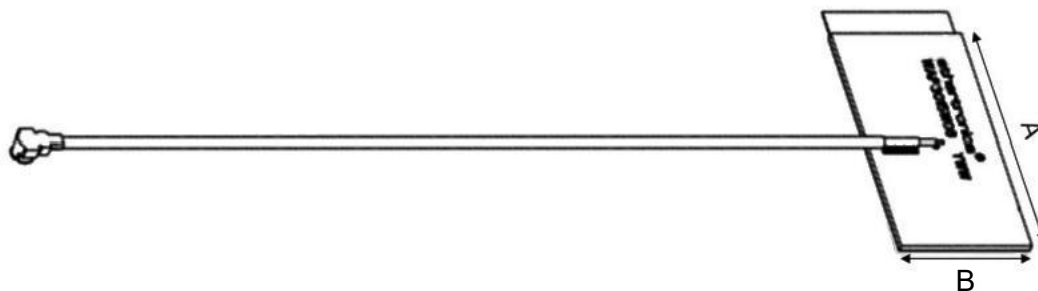
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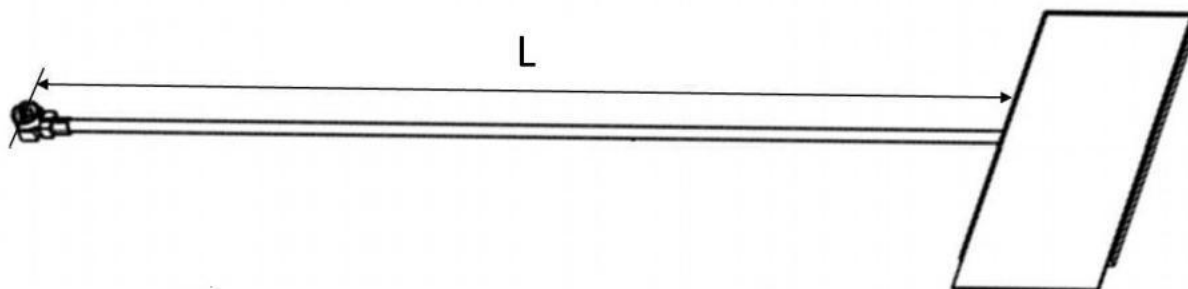
### Mechanical Dimensions

Typical dimensions in mm

| Part Number          | A (mm)           | B (mm)           | C (mm)          | L (mm) | Connector       |
|----------------------|------------------|------------------|-----------------|--------|-----------------|
| WXP3015W08-U100D3B0A | $30.00 \pm 0.15$ | $15.50 \pm 0.15$ | $0.80 \pm 0.05$ | 100    | u.fl compatible |



**Top View**



**Bottom View**

C \_\_\_\_\_

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