

# 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

KYOCERA AVX' 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

KYOCERA AVX 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

KYOCERA AVX' 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

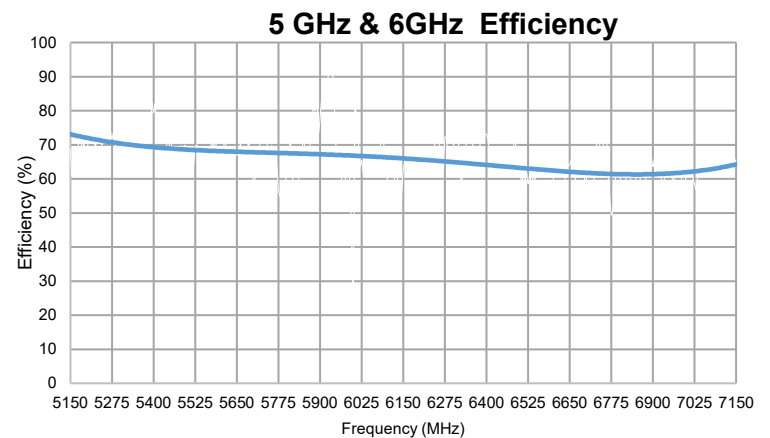
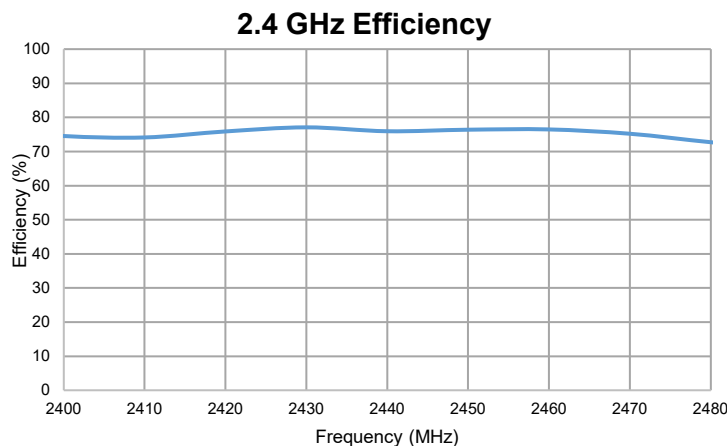
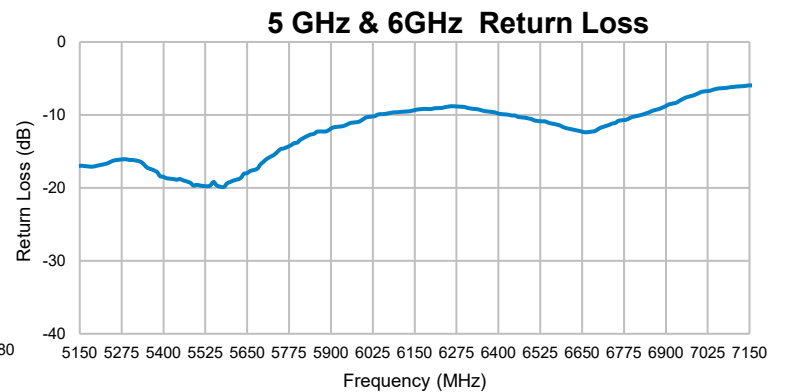
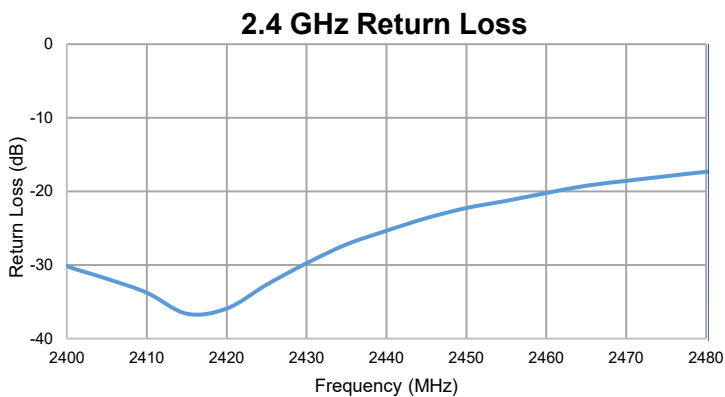
| Part Number        | W3P35x8W04-U100D3B0A                                       |
|--------------------|------------------------------------------------------------|
| Size (mm)          | 35.20 ± 0.15 length<br>8.50 ± 0.15 width<br>0.40 thickness |
| *Connector         | u.fl Compatible                                            |
| *Cable length (mm) | 100                                                        |
| Weight (grams)     | 0.3                                                        |
| Adhesive           | 3M468MP                                                    |
| Packing            | Individual PE bags (default)<br>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  
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

## Typical Return Loss & Efficiency Plots

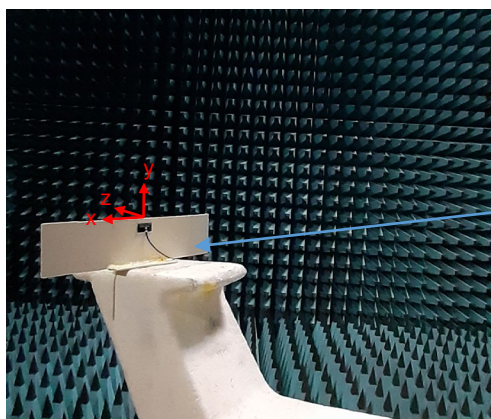
Measured in reference device housing made in PC/ABS plastic and 100mm cable length



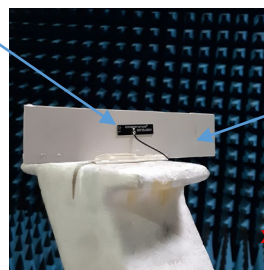
Wi-Fi 2.4 / 5.0 / 6.0 GHz embedded antenna specifications  
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

## Antenna Radiation Patterns

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



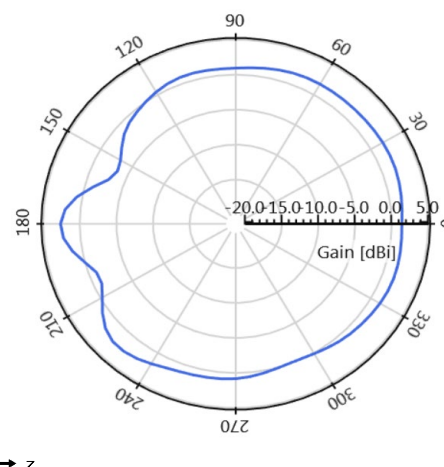
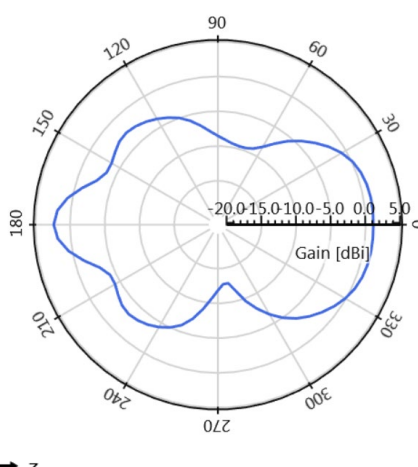
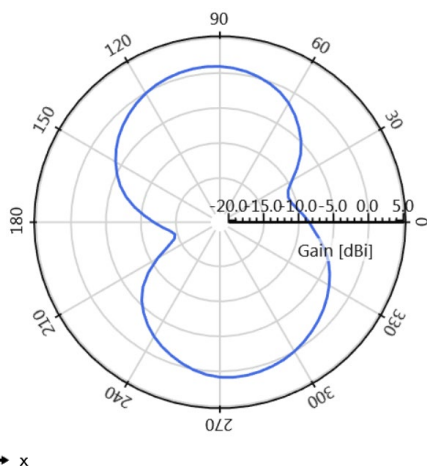
W3P35x8W04-U100D3B0A



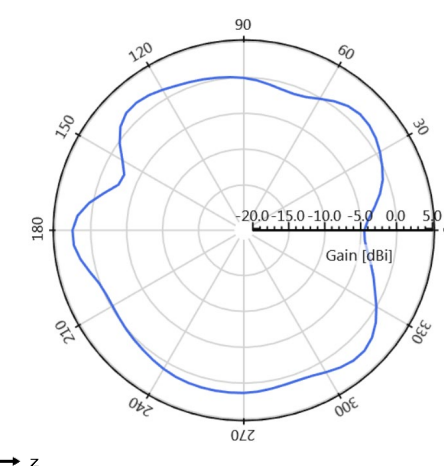
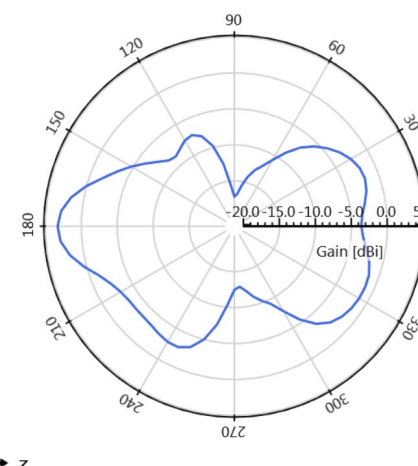
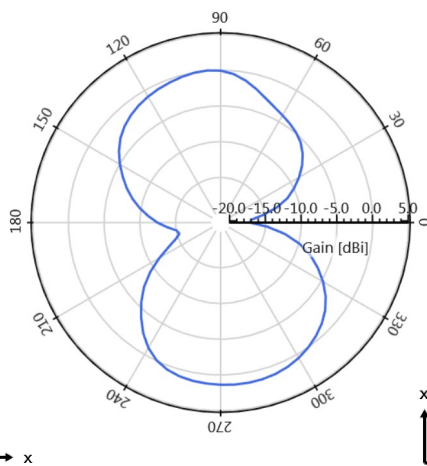
PC/ABS

100 mm  
cable length

Measured at 2450 MHz



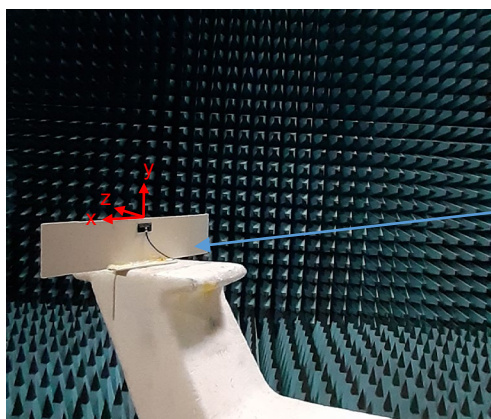
Measured at 5550 MHz



Wi-Fi 2.4 / 5.0 / 6.0 GHz Embedded antenna specifications  
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

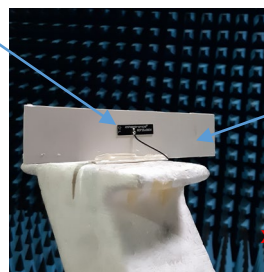
## Antenna Radiation Patterns

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

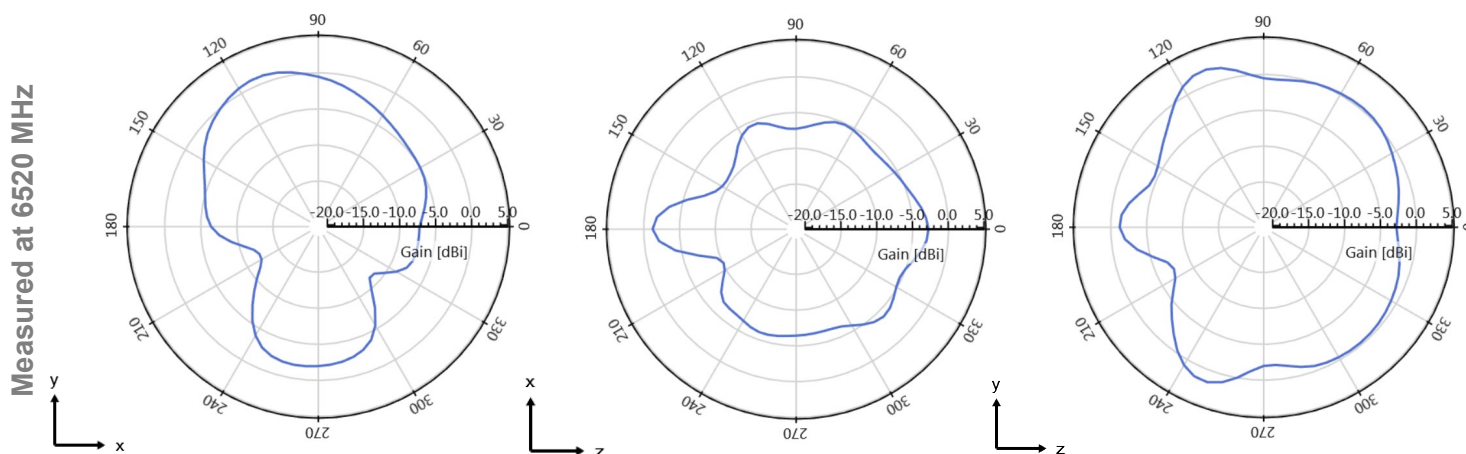


W3P35x8W04-U100D3B0A

100 mm  
cable length



PC/ABS



## Generic Antenna Part Numbers

KYOCERA AVX 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<br>P = PCB | 35x8 = 35.2x8.5 mm* | W = Tuning on plastic wall<br>F = Tuning for foam on plastic wall<br>R = Tuning with ribs | 01 = 0.1mm**<br>04 = 0.4 mm*<br>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*<br>W = w.fl compatible<br>H = MHF4<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*<br>7 = 1.37 mm | B = Black*<br>G = Gray | 0 = No*<br>1 = Yes | N = No adhesive<br>A = using adhesive 3M468MP*<br>C = using adhesive 3M467**<br>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

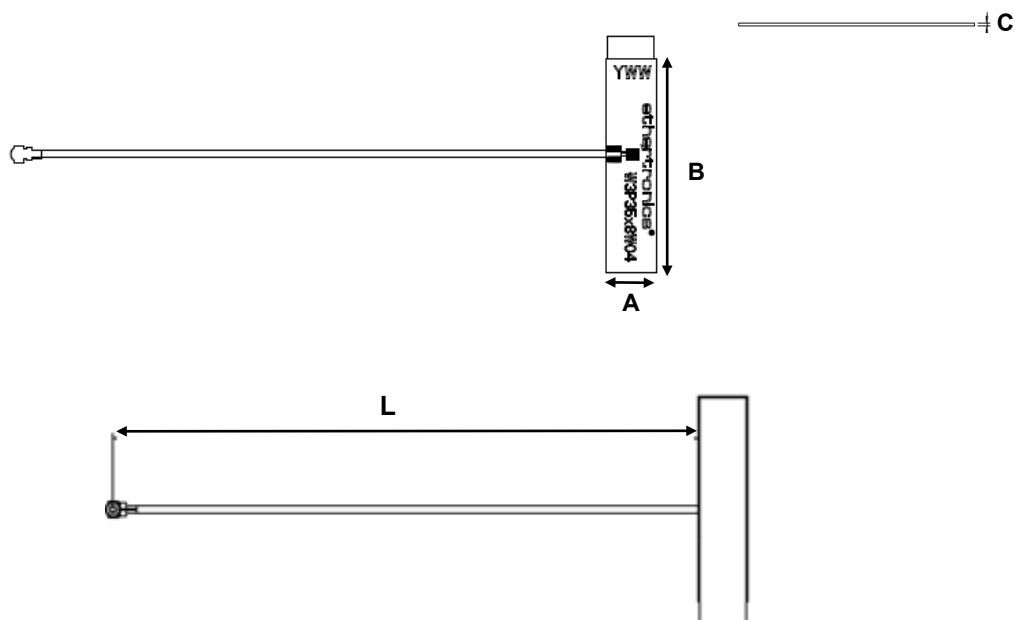
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs. Below are the generic standard antenna part numbers for Wi-Fi

## 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            | 100               | Using Adhesive 3M9448A |
| W3P35X8F04-U050D3B0T |      |                                 | u.fl compatible | 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