

Part No. W2P15X7F04-U100D3B0T

Embedded 5 GHz Wi-Fi Antenna

5 GHz

Supports: Wi-Fi applications, Wi-Fi 6



KYOCERA AVX's W2P15X7F04 Family PCB antennas include an embedded Wi-Fi Antenna that delivers on the key needs of today's wireless product designers: miniaturized design and superior signal sensitivity.

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

Embedded Wi-Fi Antenna

5.150 – 5.850 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.

Environmental Compliance

Products are the latest RoHS version compliant.

APPLICATIONS

- Access Points and Routers
- Gateways
- Wi-Fi Application
- M2M industrial devices
- Smart Home/Cities

Electrical Specifications

Typical Characteristics (on PC/ABS plastic and 100mm cable length)

Frequency Band (GHz)	5.150 – 5.850
Return Loss	< -9 .0dB
Average Efficiency	70%
Peak Gain	< 4.3 dBi
Feed Point Impedance	50 ohms unbalanced

Mechanical Specifications

Part Number	W2P15X7F04-U100D3B0T
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	3M 468MP
Operating Temperature (°C)	- 40 to 85
Storage Temperature (°C)	- 40 to 85
Packing	Individual PE bags (default) or tray (per request)

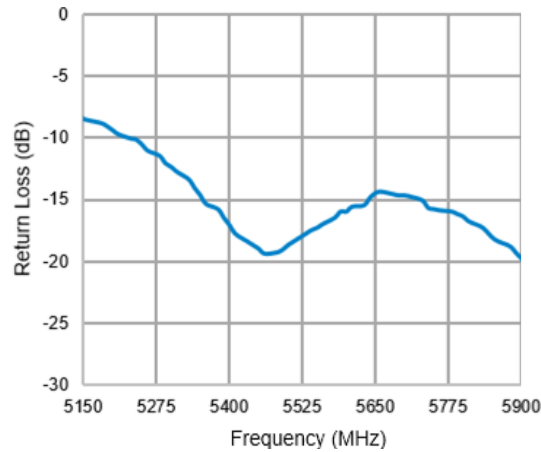
*Additional variations available in different cable lengths, colors and connectors, refer to Appendix on page 4.

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

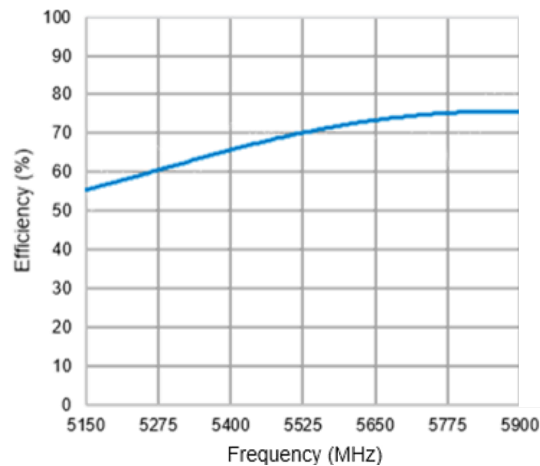
Typical Return Loss & Efficiency Plots

Measured in Free Space on ABS plastic and 100mm cable length

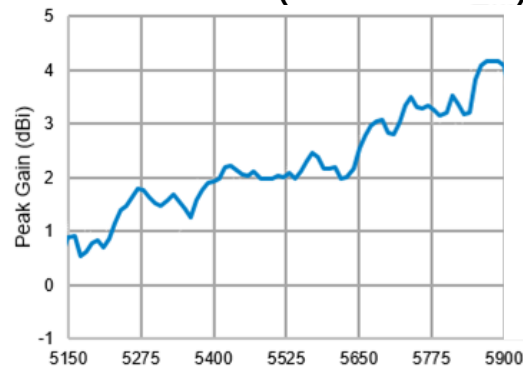
Return Loss Wi-Fi (5.150 – 5.900 GHz)



Efficiency Wi-Fi (5.150 – 5.900 GHz)



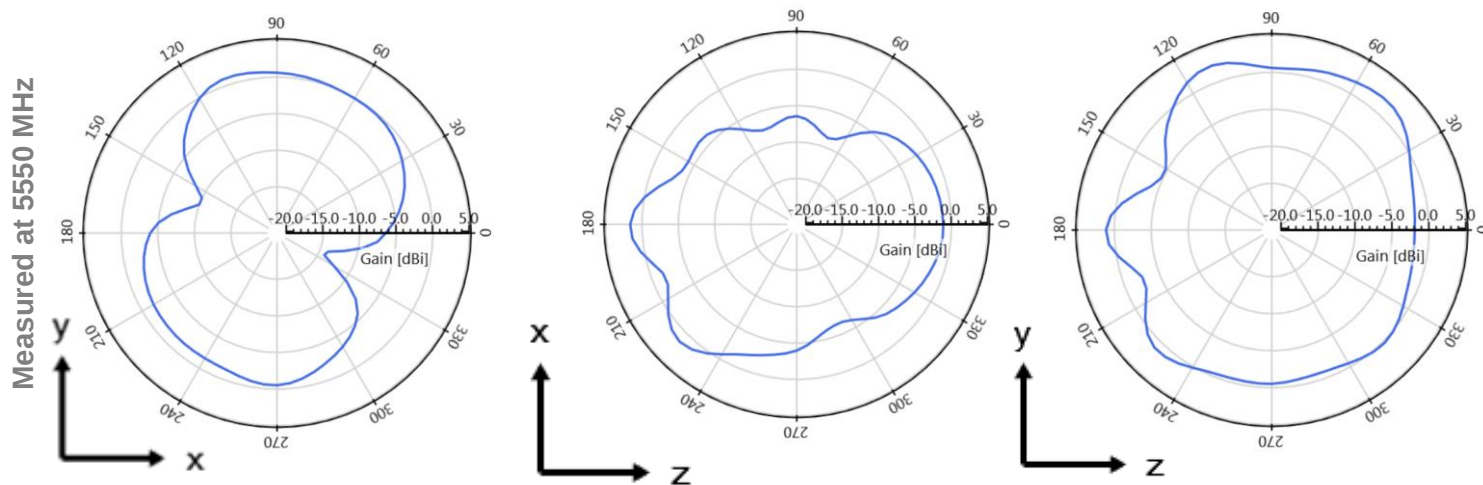
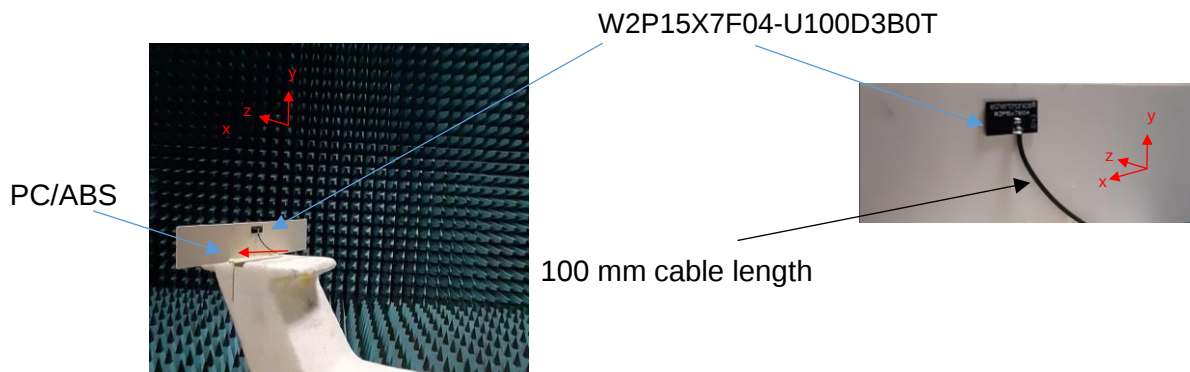
Peak Gain Wi-Fi (5.150 – 5.90 GHz)



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

Radiation Patterns

Typical Performances in Free Space on ABS plastic and 100mm cable length



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: W2P15X7F04-U100D3B0T

PN Nomenclature

PCB silk screen number

W	2	P	15x7	F	04
T	T	T	T	T	T
Series	Freq. of operation	Type	Size	Tuning version	PCB thickness
W = Wi-Fi Family	2 = 5 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
T	T	T	T	T	T	T
Connector type	Cable from connector to PCB edge	Connector orientation compared to PCB silkscreen printing	Cable diameter	Cable color	Ferrite beads	Mounting options
U = MHFI (w.fl compatible)* W = MHFIII (w.fl compatible)** H = MHF4L L = MHFI LK N = No connector	050 = 50mm 100 = 100mm* 150 = 150mm 200 = 200mm 250 = 250mm 300 = 300mm	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
**W.FL is NRND

*Typical length

*Typical orientation

*Typical diameter for w.fl

*Typical color

*Default configuration

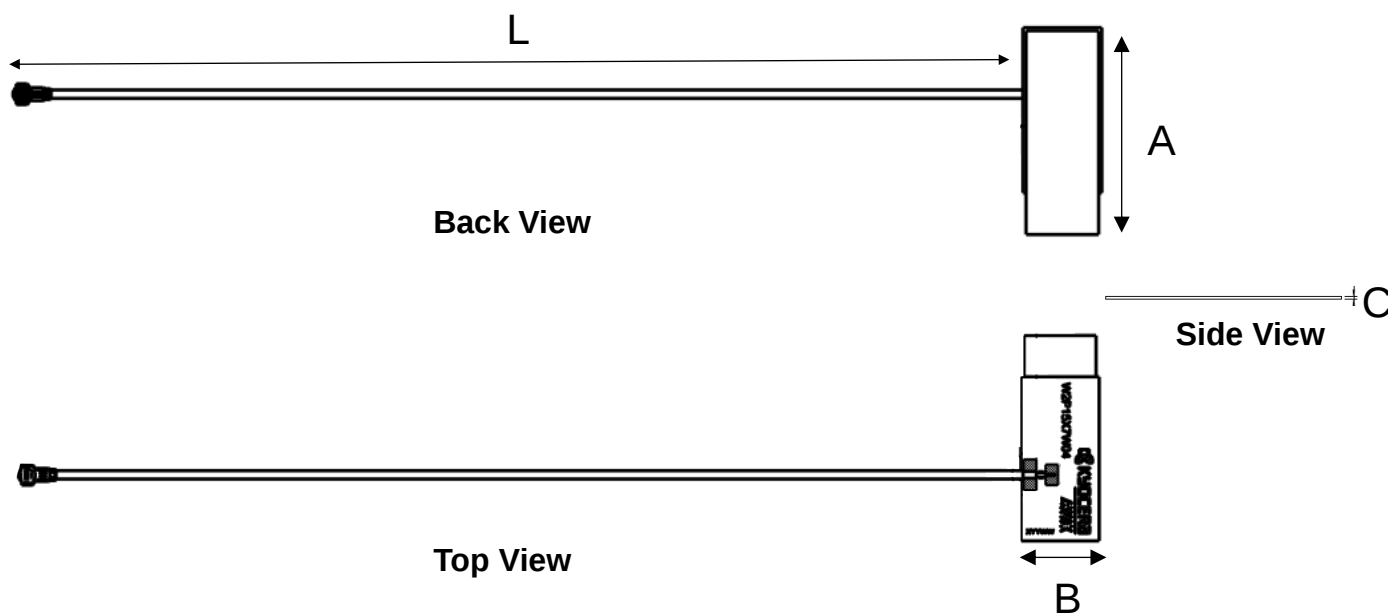
*Adhesive for PCB
**Adhesive for FPC
***Adhesive for PCB + foam

Generic Antenna Part Numbers

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Mechanical Dimensions

Part Number	A (mm)	B (mm)	C (mm)	L (mm)	Connector
W2P15X7F04-U1003B0T	15.90 ± 0.15	7.60± 0.15	0.4	100	MHFI (U.FL compatible)



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

Generic Antenna Part Numbers

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Typical Ordering Part Numbers

PN	TYPE	ADHESIVE / TUNING VERSION	A (mm)	B (mm)	C (mm)	COMPATIBLE CONNECTOR TYPE	L CABLE (mm)
W2P15X7W04-UXXXD3B0A	PCB	3M 468MP / PLASTIC WALL	15.9	7.6	0.53	MHF I (U.FL compatible)	XXX
W2P15X7W04-HXXXD3B0A						MHF 4L	
W2P15X7W04-LXXXD1B0A						MHF I LK	
W2P15X7F04-UXXXD3B0T		3M 9448A / FOAM ON PLASTIC WALL			1.69	MHF I (U.FL compatible)	
W2P15X7F04-HXXXD3B0T						MHF 4L	
W2P15X7F04-LXXXD1B0T						MHF I LK	
W2F15X7W01-UXXXD3B0C	FPC	3M 467 / PLASTIC WALL			0.14	MHF I (U.FL compatible)	
W2F15X7W01-HXXXD3B0C						MHF 4L	
W2F15X7W01-LXXXD1B0C						MHF I LK	

XXX → Cable length on customer request

XXX (mm)	Condition	Tolerance Z
050	XXX < 150	± 3.0
100	XXX < 150	± 3.0
150	150 ≤ XXX < 300	± 4.0
200	150 ≤ XXX < 300	± 4.0
250	150 ≤ XXX < 300	± 4.0
300	300 ≤ XXX ≤ 500	± 5.0
400	300 ≤ XXX ≤ 500	± 5.0
500	500 ≤ XXX ≤ 1000	± 7.0
600	500 ≤ XXX ≤ 1000	± 7.0

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