

Part No. W6P15X7W04-U100D3B0A

Wi-Fi 6E/7 Single Band 6GHz Embedded Antenna

5925 MHz – 7125 MHz

Supports: Wi-Fi 6E and 7



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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 applications
- Embedded design
- M2M Industrial devices
- Smart Cities/Home

KYOCERA AVX's W6 Family antennas include an embedded Wi-Fi Antenna design in PCB and FPC solutions. Alternatively, a PCB with foam on the back side is also offered 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.

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.

Electrical Specifications

Typical Characteristics (in reference device housing made in PC/ABS plastic and 100 mm cable length)

Bands (MHz)	5925 – 7125
Peak Gain	5.3 dBi
Average Efficiency	65%
Return Loss Match	< -14 dB
Power handling	2W
Free Point Impedance	50 ohms unbalanced
Polarization	Linear
Radiation Pattern	Omni-directional

Mechanical Specifications

Part Number	W6P15x7W04-U100D3B0A
Overall Size (mm)	15.9 x 7.6 x 0.53
Mounting Type	Adhesive 3M 468MP
Connector(s) / Length	IPEX MHFI / 100 mm
Weight (grams)	0.5
Packaging	PE BAG
Operating Temperature	[- 40 °C ; +85 °C]
Storage Temperature / Humidity	[- 40 °C ; +85 °C]
Variant	FPC, PCB + FOAM
Color	Black

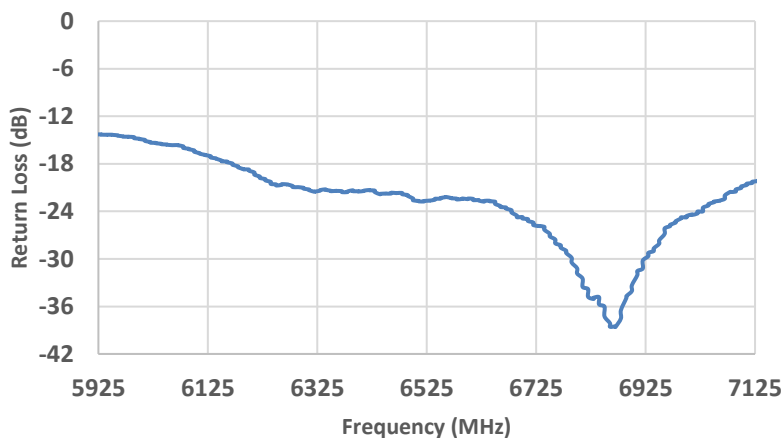
*Additional variations available in different cable lengths, colors and connectors, refer to Appendix on page 4.

Wi-Fi 6E/7 Single Band 6GHz Embedded Antenna Specifications
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

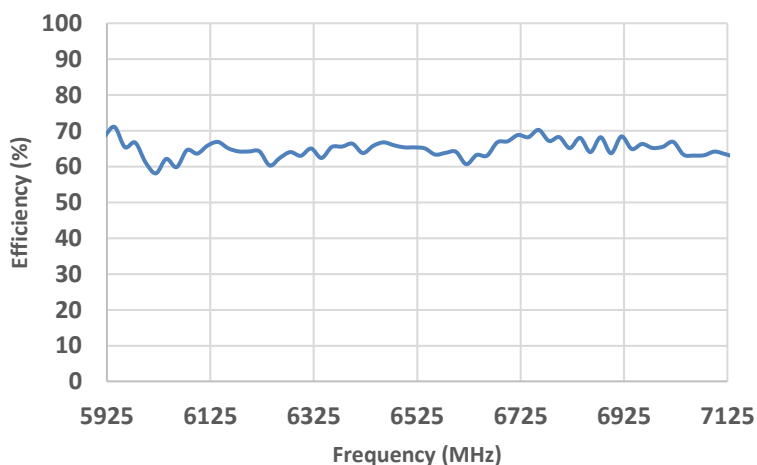
Return Loss, Efficiency and Peak Gain

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

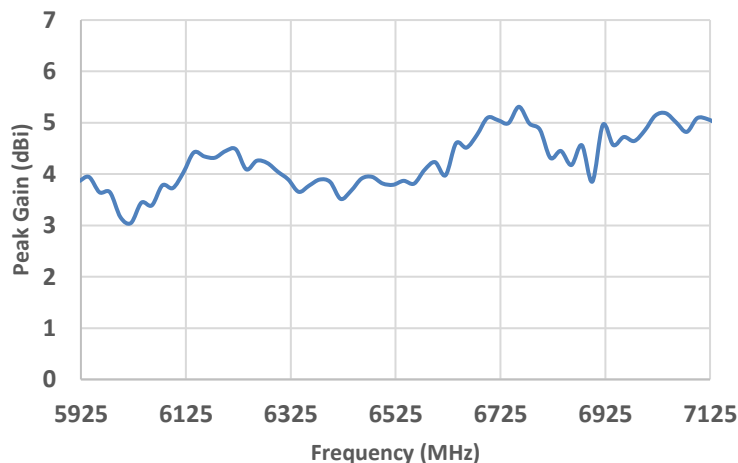
Return loss (5925 - 7125 MHz)



Efficiency (5925 - 7125 MHz)



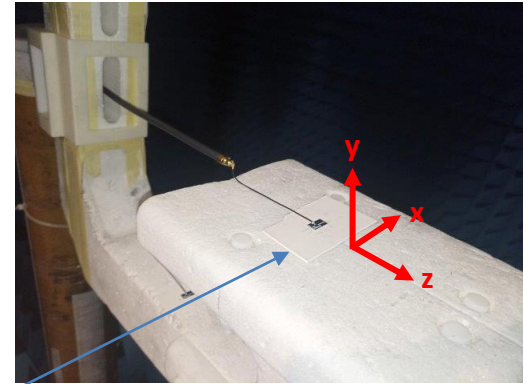
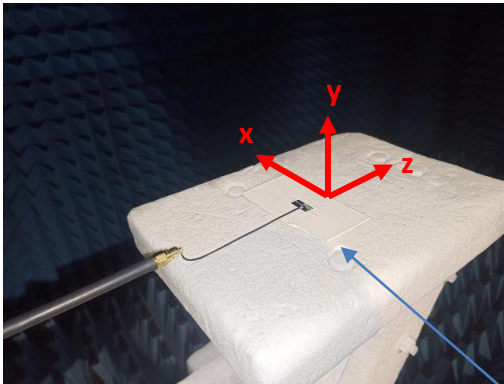
Peak Gain (5925 - 7125 MHz)



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Antenna Radiation Patterns

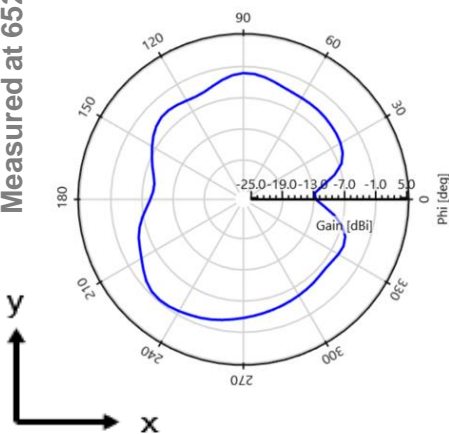
Typical performance in reference device housing made in PC/ABS plastic and 100mm cable length



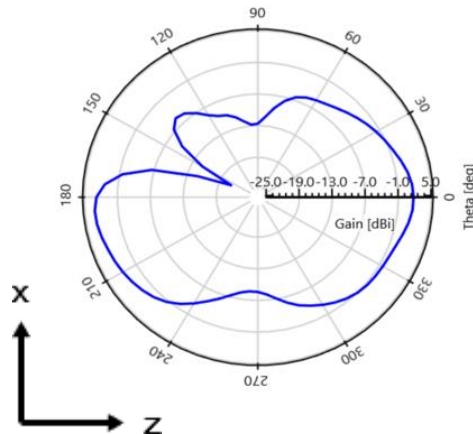
ABS

Measured at 6520 MHz

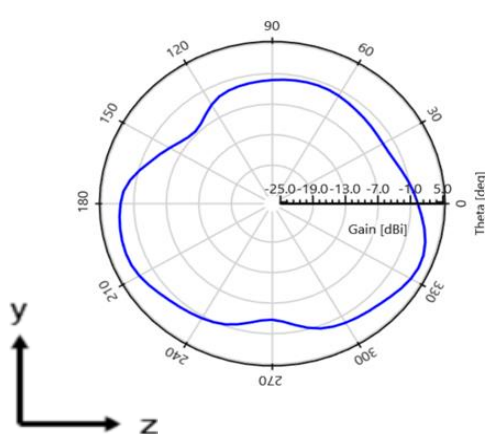
Gain (Total) - $\theta = 90$ deg - 6520 MHz [Plane XY]



Gain (Total) - $\phi = 0$ deg - 6520 MHz [Plane XZ]



Gain (Total) - $\phi = 90$ deg - 6520 MHz [Plane YZ]



Generic Antenna Part Numbers

generic standard antenna part numbers for W6-Family

Example of generic Wi-Fi PN: **W6P15x7W04-U100D3B0A**

PN Nomenclature

PCB silk screen number

W	6	P	15X7	W	04
T	T	T	T	T	T
Series	Freq. of operation	Type	Size	Tuning version	PCB thickness
W = Wi-Fi Family	6 = 6 GHz	F = FPC P = PCB	15x7 =15.9x7.6 mm	W =Tuning on plastic wall F = Tuning for foam on plastic wall	01 = 0.1mm** 04 = 0.4 mm* 08 = 0.8 mm***

PN Nomenclature

Second part of the PN

*Typical thickness for PCB

** Thickness for FPC

***Recommended for assembly with ribs

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 = u.fl compatible* W = w.fl compatible H = MHF4L 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*	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

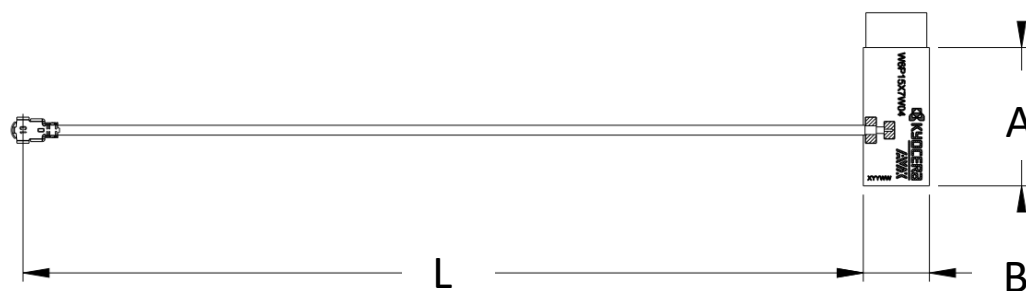
*Default configuration

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

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Mechanical Dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	L(mm)	Connector
W6P15X7W04-U100D3B0A	15.9 ± 0.2	7.6 ± 0.2	0.53	100 ± 3	MHFI (U.FL Compatible)



Top View



Side View



Bottom View

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

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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)		
W6P15X7W04-UXXXD3B0A	PCB	3M 468MP / PLASTIC WALL	15.9	7.6	0.53	MHF I (U.FL compatible)	XXX		
W6P15X7W04-HXXXD3B0A						MHF 4L			
W6P15X7W04-WXXXD1B0A						MHF III (W.FL compatible)			
W6P15X7F04-UXXXD3B0T		3M 9448A / FOAM ON PLASTIC WALL			1.69	MHF I (U.FL compatible)			
W6P15X7F04-UXXXD3B0T						MHF 4L			
W6P15X7F04-WXXXD1B0T						MHF III (W.FL compatible)			
W6F15X7W01-UXXXD3B0C	FPC	3M 467 / PLASTIC WALL						0.14	MHF I (U.FL compatible)
W6F15X7W01-HXXXD3B0C									MHF 4L
W6F15X7W01-WXXXD1B0C									MHF III (W.FL compatible)

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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Mouser Electronics

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