

Part No. WXP3015W08-U100D3B0A

WLAN / BT / Zigbee / Wi-Fi 6E Embedded Antenna

2.4 GHz, 5 GHz, 6 GHz, 7 GHz

Supports: Wi-Fi applications, Bluetooth, Zigbee, WLAN, Matter



KYOCERA AVX WX Family based antennas include an embedded Wi-Fi dipole Antenna design in PCB and FPC solutions.

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.

Global Operations & Design Support

KYOCERA AVX global operations support an integrated network of design centers that can take projects from concept to production

Embedded Wi-Fi Antenna

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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

Environmental Compliance

Products are the latest RoHS version compliant

APPLICATIONS

- Access Points and Routers
- Gateways
- Wi-Fi enabled TV's and monitors
- Smart Home/Cities
- IoT, Industrial devices

Electrical Specifications

Typical Characteristics (with 100 mm cable length)

Frequency (GHz)	2.400 – 2.485	5.150 – 7.125
Peak Gain*	2.90 dBi	5.90 dBi
Average Efficiency*	60%	60%
Return Loss*	< - 8.5 dB	< - 7.0 dB
Feed Point Impedance	50 ohms unbalanced	
Polarization	Linear	
Power Handling	2.0 Watt CW	

*Among all variants

Mechanical Specifications & Ordering Part Number

Part Number	WAP3015W08-U100D3B0A
Size (mm)	30.00 ± 0.15 length 15.50 ± 0.15 width 0.80 ± 0.05 thickness
*Connector	MHF I (U.FL compatible)
*Cable length (mm)	100
Weight (g)	1.2
Operating Temperature (°C)	- 40 to + 85
Packing	PE bags (default)
Variant	FPC, PCB + FOAM

*Additional variations available in different cable lengths, colors and connectors refer to Appendix on [page 7](#)

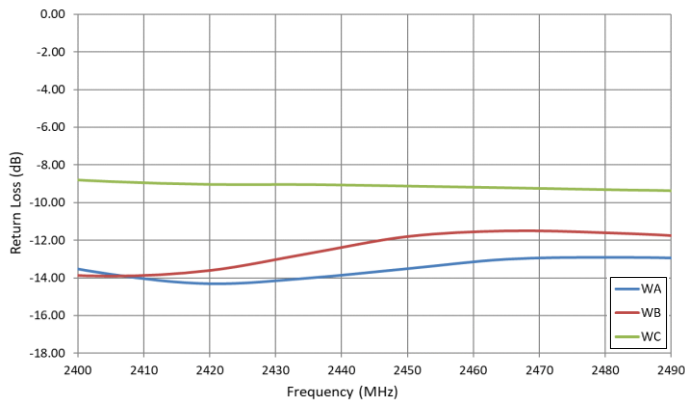
Wi-Fi 6 & Wi-Fi 6E KYOCERA AVX Embedded Antenna Specifications

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

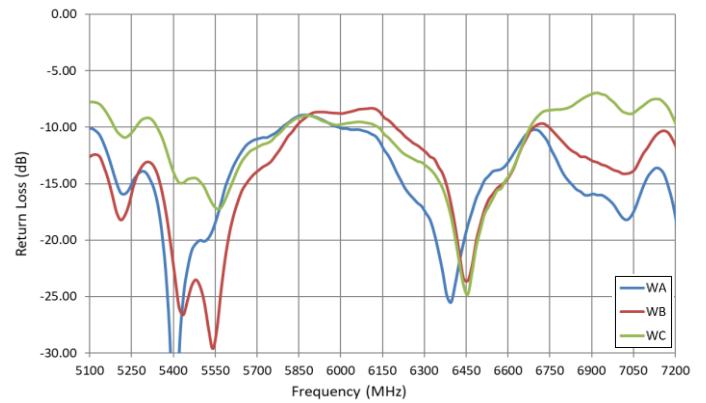
Return Loss, Efficiency, and Peak Gain Plots

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

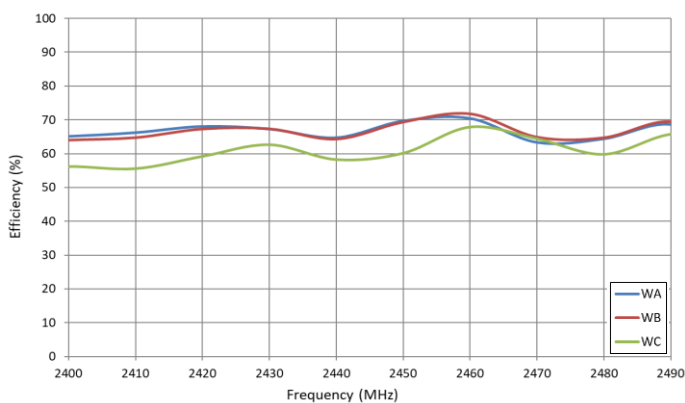
**Return Loss
(2.400 – 2.490) GHz**



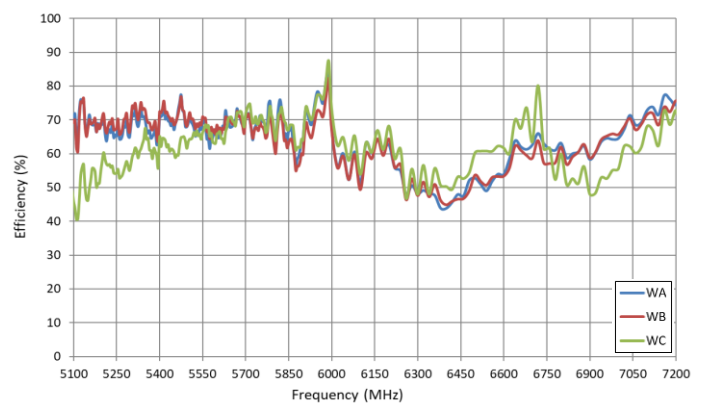
**Return Loss
(5.100 – 7.200) GHz**



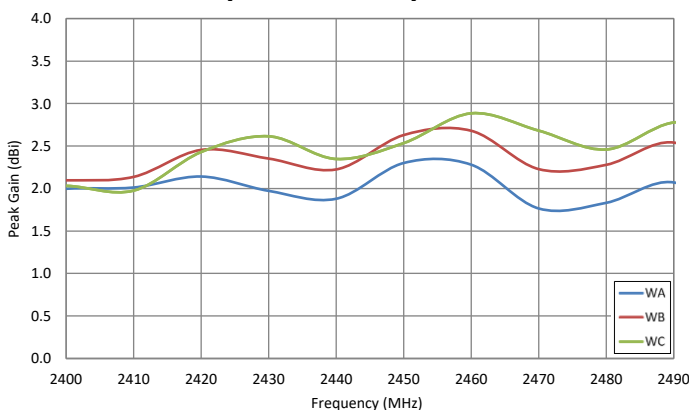
**Efficiency
(2.400 – 2.490) GHz**



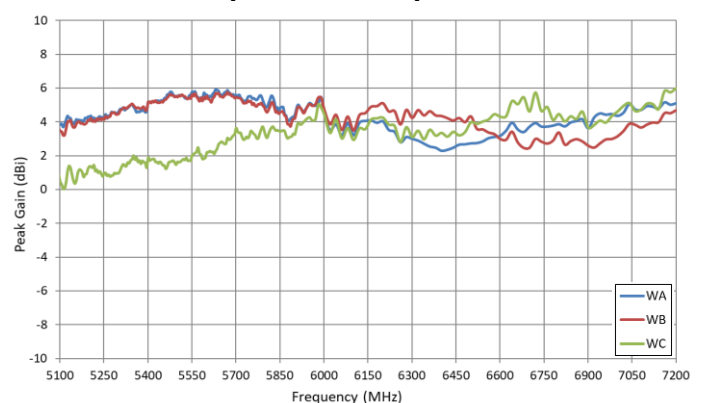
**Efficiency
(5.100 – 7.200) GHz**



**Peak Gain
(2.400 – 2.490) GHz**



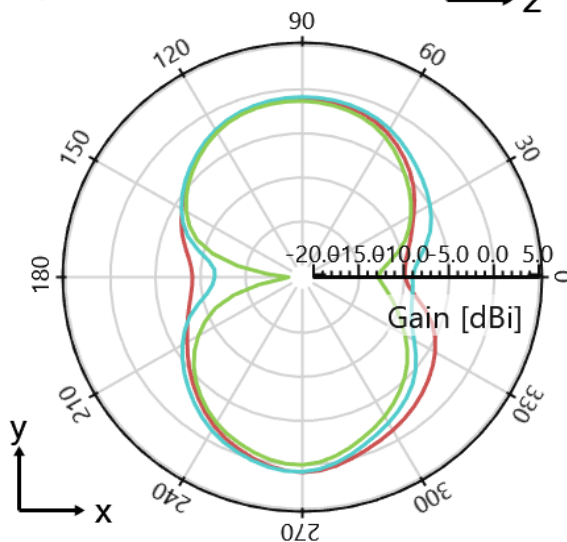
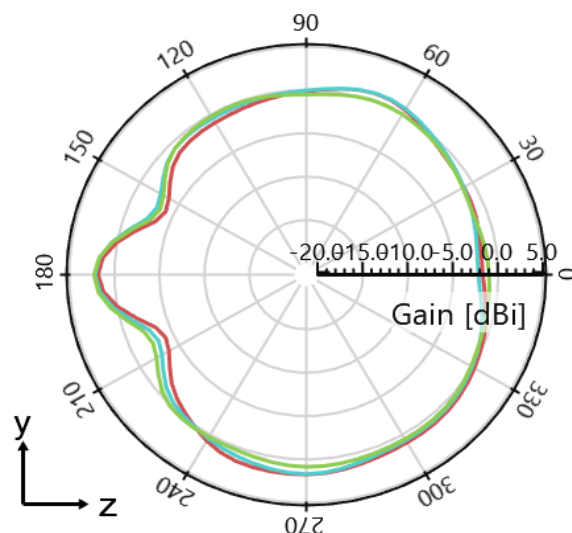
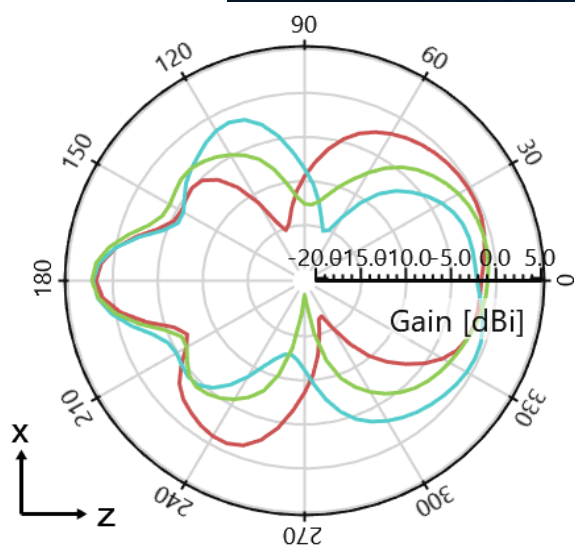
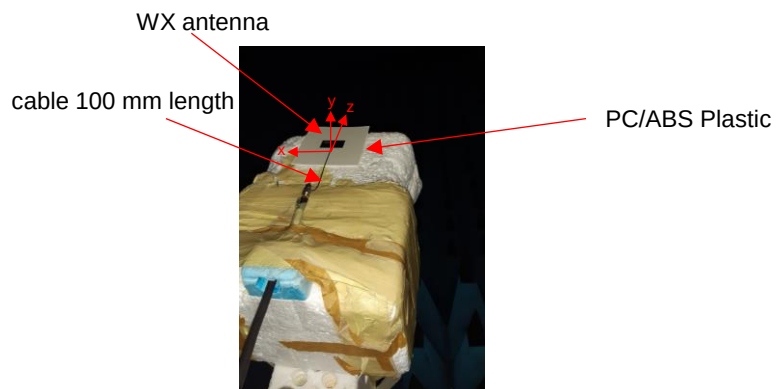
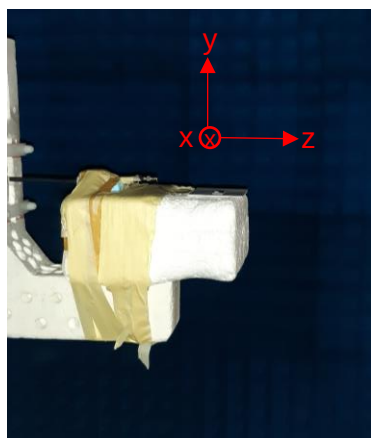
**Peak Gain
(5.100 – 7.200) GHz**



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

Antenna Radiation Patterns (WA, WB, WC)

Typical Performances in reference device housing made in PC/ABS plastic and 100 mm cable length
Measured @ 2.440 GHz

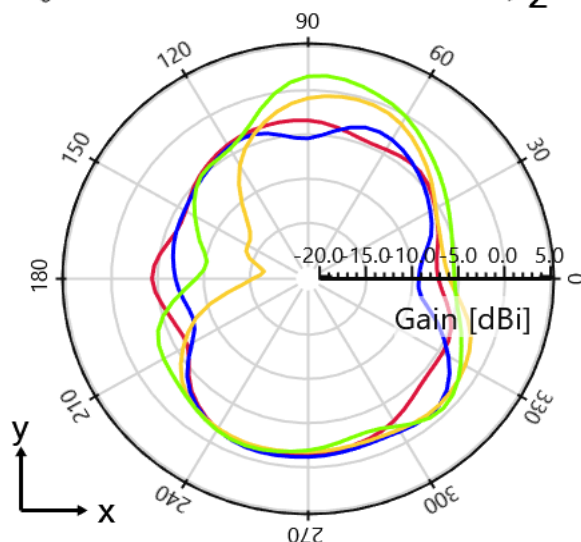
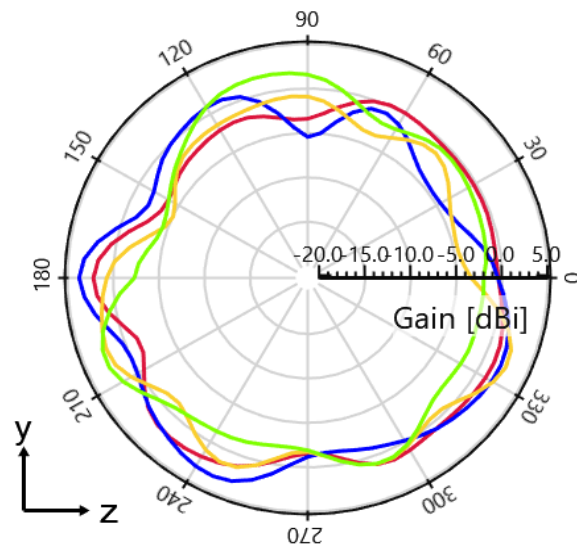
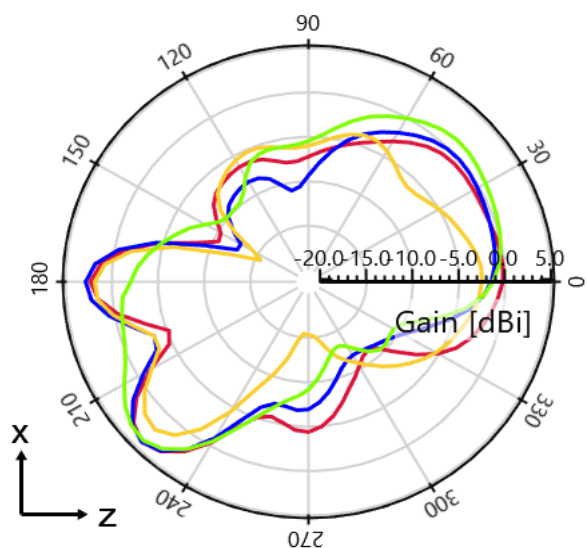
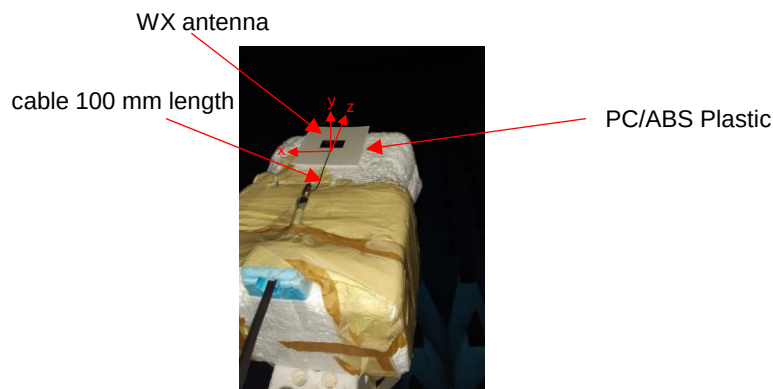
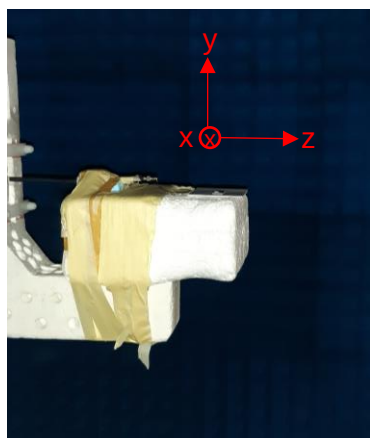


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Antenna Radiation Patterns (WA)

Typical Performances in reference device housing made in PC/ABS plastic and 100 mm cable length
Measured @ 5500, 6000, 6500, 7000 MHz



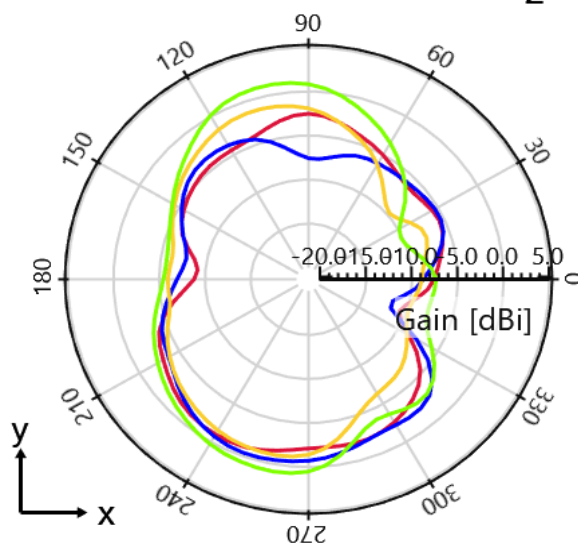
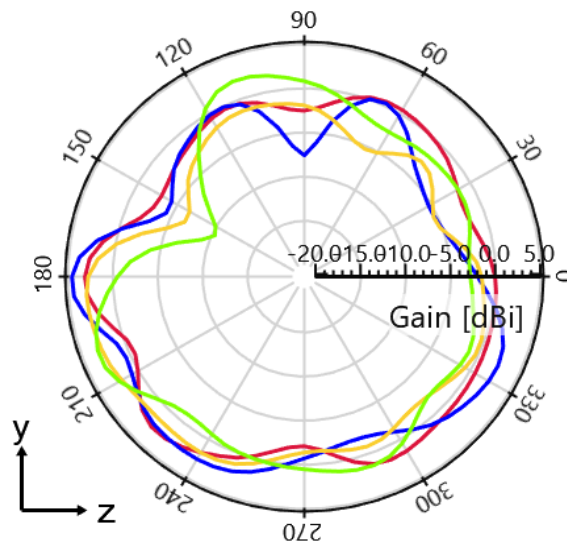
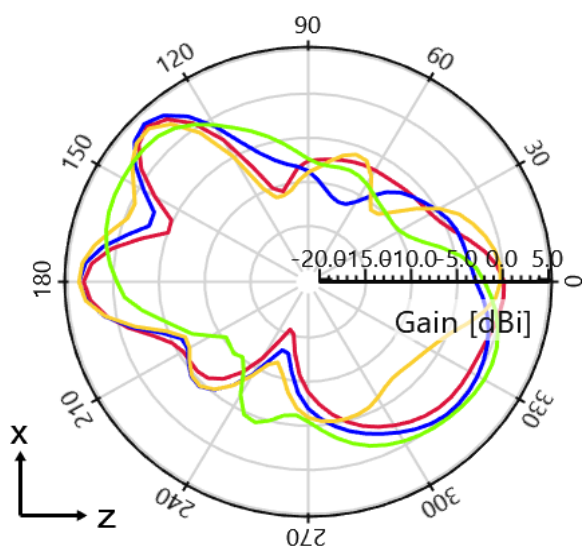
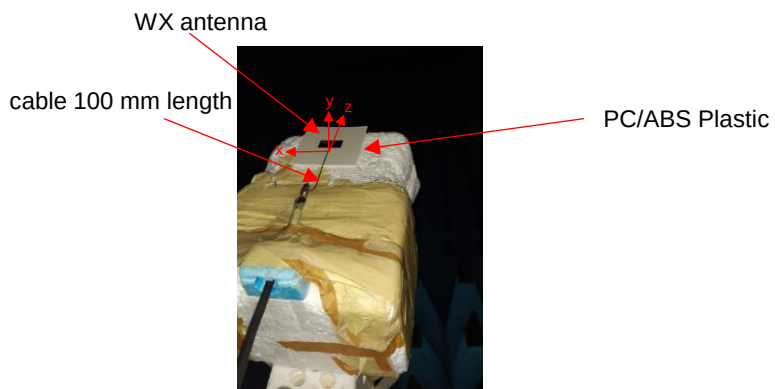
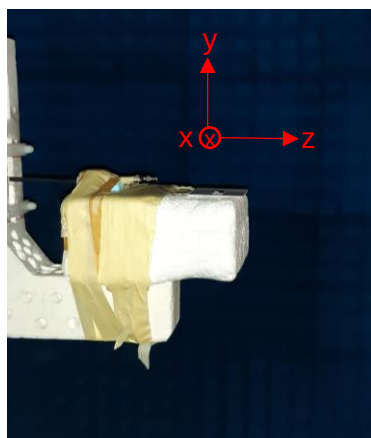
- ☒ 5500 MHz
- ☒ 6000 MHz
- ☒ 6500 MHz
- ☒ 7000 MHz

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Antenna Radiation Patterns (WB)

Typical Performances in reference device housing made in PC/ABS plastic and 100 mm cable length
Measured @ 5500, 6000, 6500, 7000 MHz



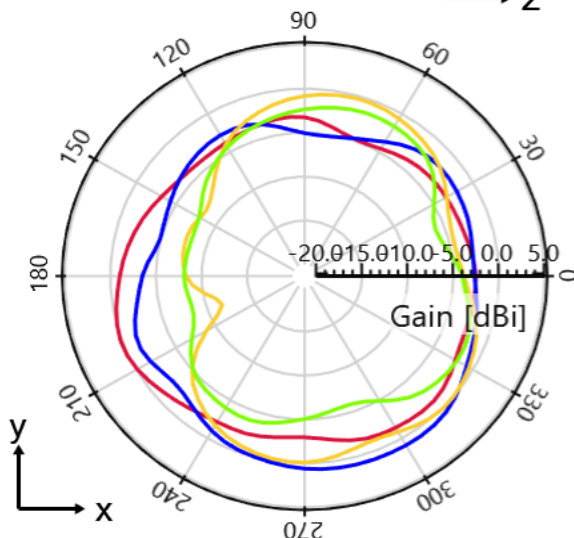
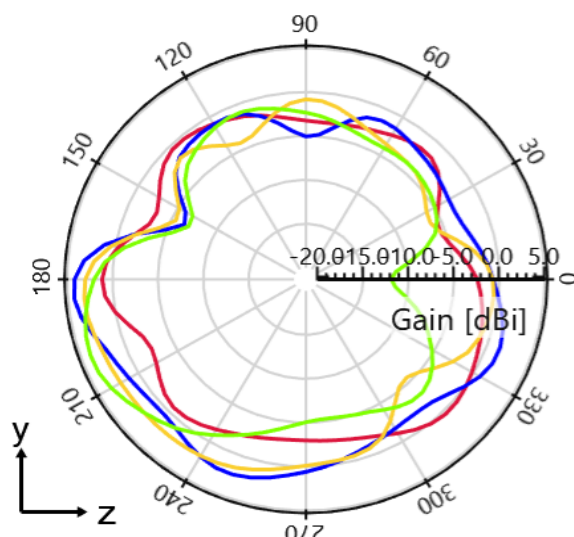
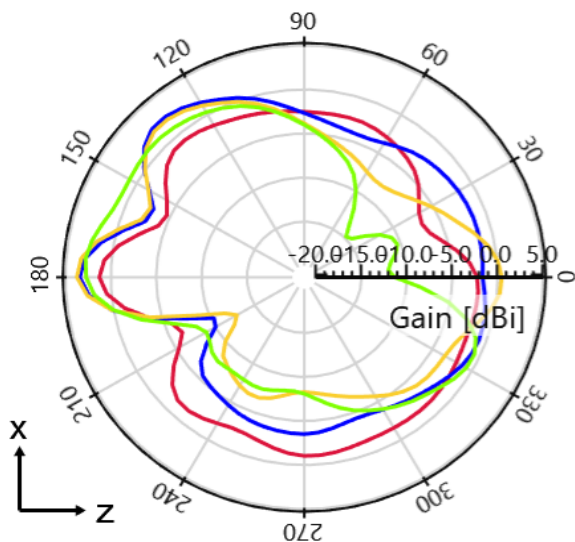
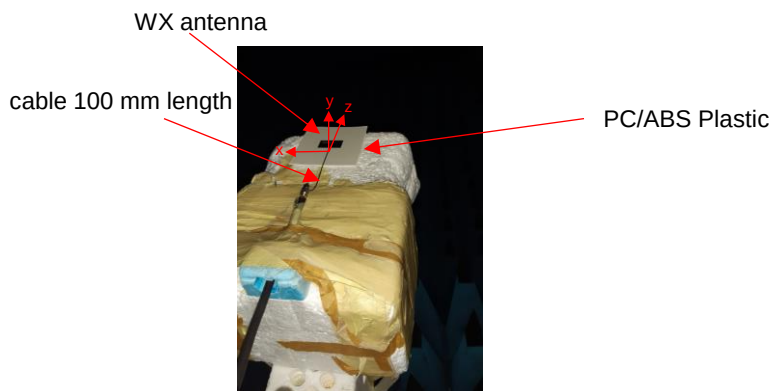
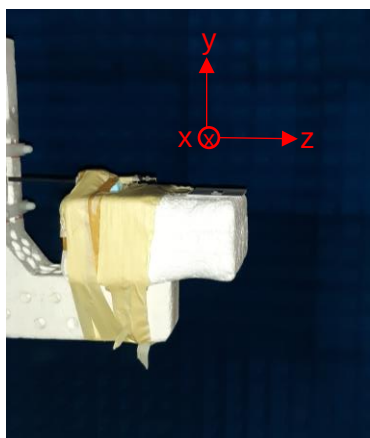
- ☒ 5500 MHz
- ☒ 6000 MHz
- ☒ 6500 MHz
- ☒ 7000 MHz

Wi-Fi 6 & Wi-Fi 6E KYOCERA AVX Embedded Antenna Specifications

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Antenna Radiation Patterns (WC)

Typical Performances in reference device housing made in PC/ABS plastic and 100 mm cable length
Measured @ 5500, 6000, 6500, 7000 MHz



- ☒ 5500 MHz
- ☒ 6000 MHz
- ☒ 6500 MHz
- ☒ 7000 MHz

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Generic Antenna Part Numbers

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Example of generic Wi-Fi PN: **WAP3015W08-U100D3B0A**

PN Nomenclature

PCB silk screen number

W	A	P	3015	W	08
T	T	T	T	T	T
Series	Rad. Pattern orientation	Type	Size	Tuning version	PCB thickness
W = Wi-Fi Family	A = Slant to left (+x) B = Slant to right (-x) C = Straight (aligned with z-axis)	F = FPC P = PCB	3015 = 30x15mm	W = Tuning on plastic wall F = Tuning for foam on plastic wall	01 = 0.1mm** 08 = 0.8 mm*

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 (u.fl compatible)* W = MHFIII (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* 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 u.fl	*Typical color	*Default configuration	*Adhesive for PCB **Adhesive for FPC ***Adhesive for PCB + foam

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Typical Ordering Part Numbers

PN	TYPE	ADHESIVE / TUNING VERSION	A x B x C (mm)	COMPATIBLE CONNECTOR TYPE	L CABLE (mm)
WAP3015W08-UXXXD3B0A WBP3015W08-UXXXD3B0A WCP3015W08-UXXXD3B0A	PCB	3M 468MP / PLASTIC WALL	30 x 15.5 x 0.93	MHF I (U.FL compatible)	XXX
WAP3015W08-HXXXD3B0A WBP3015W08-HXXXD3B0A WCP3015W08-HXXXD3B0A				MHF 4L	
WAP3015W08-WXXXD1B0A WBP3015W08-WXXXD1B0A WCP3015W08-WXXXD1B0A				MHF III (W.FL compatible)	
WAP3015F08-UXXXD3B0T WBP3015F08-UXXXD3B0T WCP3015F08-UXXXD3B0T				MHF I (U.FL compatible)	
WAP3015F08-HXXXD3B0T WBP3015F08-HXXXD3B0T WCP3015F08-HXXXD3B0T		3M 9448A / FOAM ON PLASTIC WALL	30 x 15.5 x 2.09	MHF 4L	
WAP3015F08-WXXXD1B0T WBP3015F08-WXXXD1B0T WCP3015F08-WXXXD1B0T				MHF III (W.FL compatible)	
WAF3015W01-UXXXD3B0C WBF3015W01-UXXXD3B0C WCF3015W01-UXXXD3B0C				MHF I (U.FL compatible)	
WAF3015W01-HXXXD3B0C WBF3015W01-HXXXD3B0C WCF3015W01-HXXXD3B0C		3M 467 / PLASTIC WALL	30 x 15.5 x 0.14	MHF 4L	
WAF3015W01-WXXXD1B0C WBF3015W01-WXXXD1B0C WCF3015W01-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

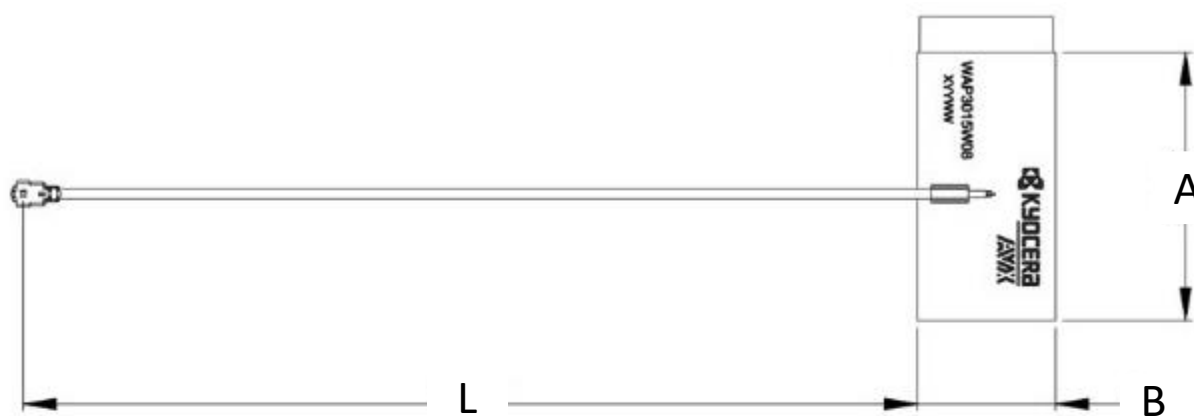
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Mechanical Dimensions

Typical dimensions in mm

Part Number	A (mm)	B (mm)	C (mm)	L (mm)	Connector
WAP3015W08-U100D3B0A	30.00 ± 0.2	15.50 ± 0.2	0.93 ± 0.05	100	MHF I (U.FL compatible)
WBP3015W08-U100D3B0A	30.00 ± 0.2	15.50 ± 0.2	0.93 ± 0.05	100	MHF I (U.FL compatible)
WCP3015W08-U100D3B0A	30.00 ± 0.2	15.50 ± 0.2	0.93 ± 0.05	100	MHF I (U.FL compatible)



Top View



Side View



Bottom View

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