

Part No. 1002295

Wi-Fi / BT Single Band Stamped Metal Embedded Antenna

2.4 GHz

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



KYOCERA AVX Stamped Metal antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs. These innovative antennas provide compelling advantages for WLAN enabled devices, media players, routers, and other wireless devices.

Greater Flexibility

KYOCERA AVX first-in-class technology enables you to develop concept designs that are more advanced and that deliver superior performance in reception critical applications.

Stamped Metal Wi-Fi/BT Embedded Antenna

2.400 – 2.485 GHz

KEY BENEFITS

Stay-in-Tune

KYOCERA AVX antenna technology provides superior RF field containment, resulting in less interaction with surrounding components.

Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Reliability

Products are the latest RoHS version compliant.

APPLICATIONS

- Embedded design
- Gateway, Access Point
- Handheld
- Smart Grid
- Tracking
- Telematics
- Healthcare (FDA Class I)
- M2M, Industrial devices
- OBD-II
- Smart Home

Electrical Specifications

Typical performance on 75 x 75 mm PCB

Frequency	2.400 - 2.485 GHz
Peak Gain	4.4 dBi
Average Efficiency	79%
VSWR Match	2.0 :1 max
Feed Point Impedance	50 ohms unbalanced
Polarization	Linear
Power Handling	0.5 Watt CW

Mechanical Specifications & Ordering Part Number

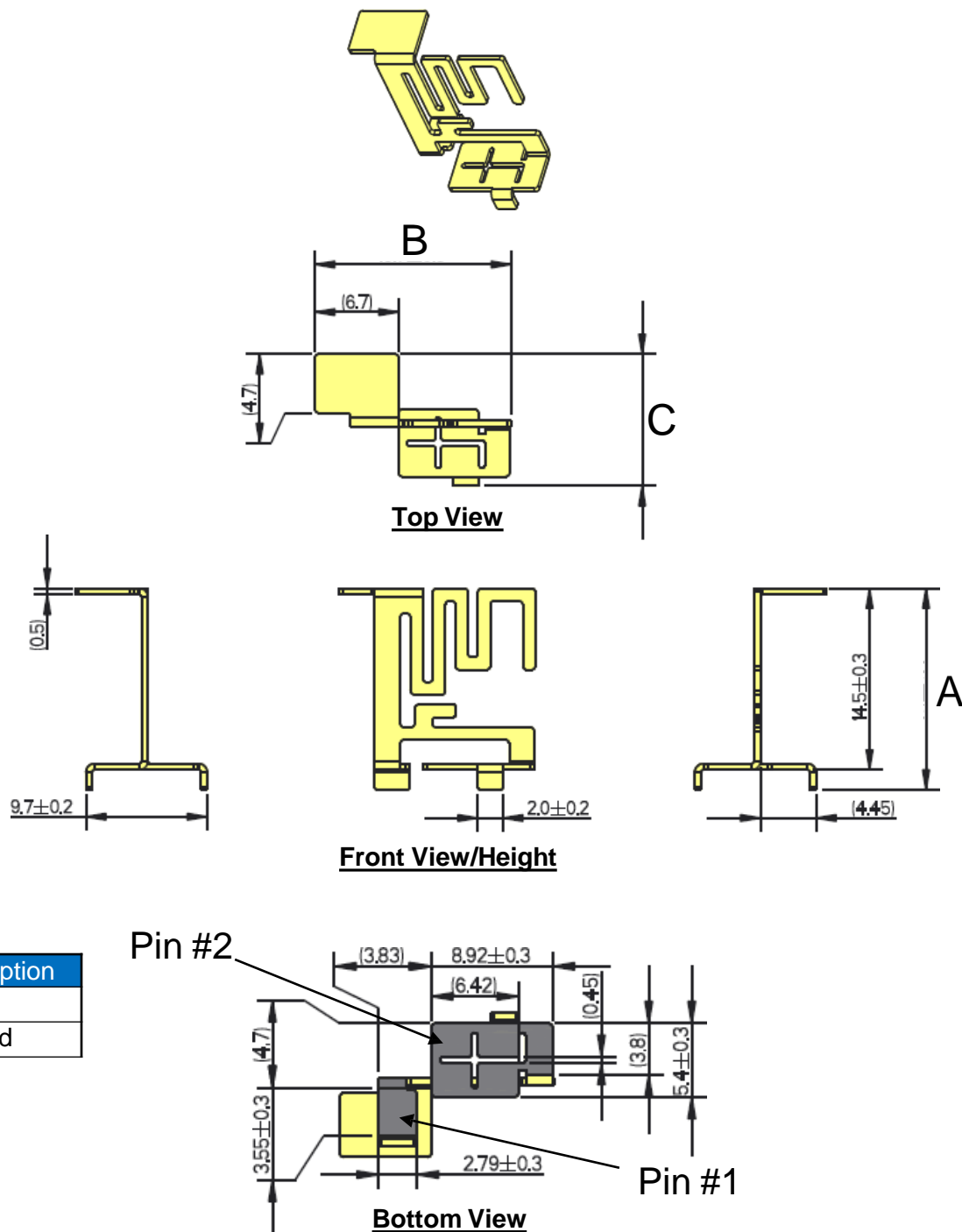
Ordering Part #	1002295
Dimensions (mm)	16.1 x 15.7 x 10.55
Mounting Type	SMT (P&P)
Weight (grams)	0.70
Packaging	Tape & Reel, 150 pcs/Reel
Demo Board	1003666-01
Additional Resources	Download DXF, Gerber and 3D FIT Files

2.4 GHz Stamped Metal KYOCERA AVX Embedded Antenna Specifications
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

Antenna Dimensions

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)
1002295	16.1 ± 0.4	15.7 ± 0.3	10.55 ± 0.4



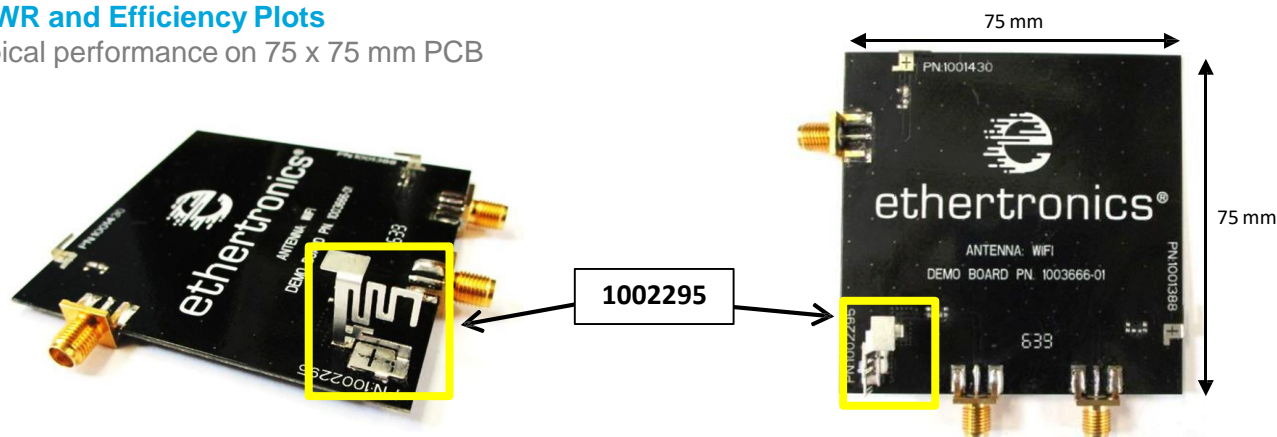
Pin#	Description
1	Feed
2	Ground

2.4 GHz Stamped Metal KYOCERA AVX Embedded Antenna Specifications

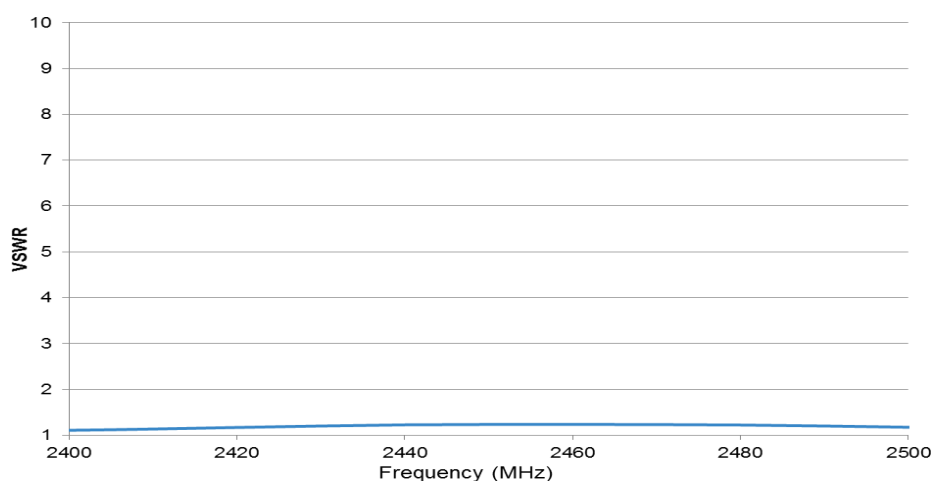
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VSWR and Efficiency Plots

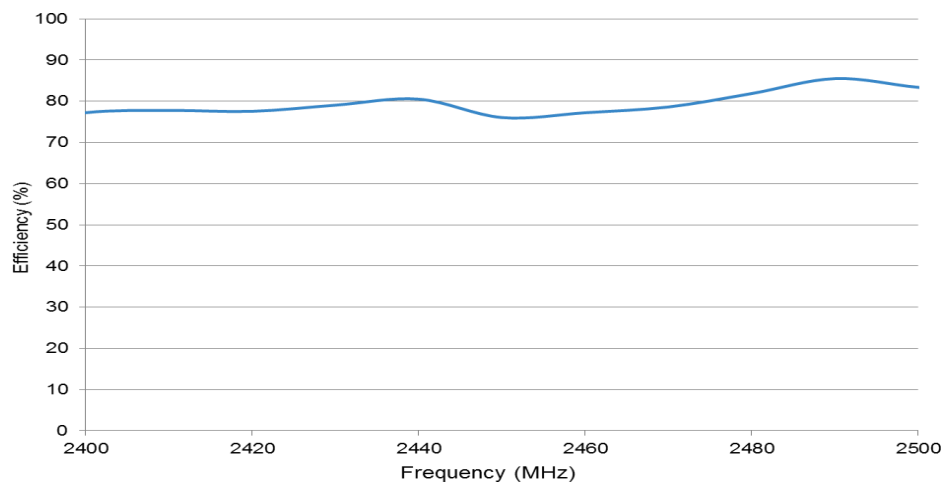
Typical performance on 75 x 75 mm PCB



VSWR



Efficiency



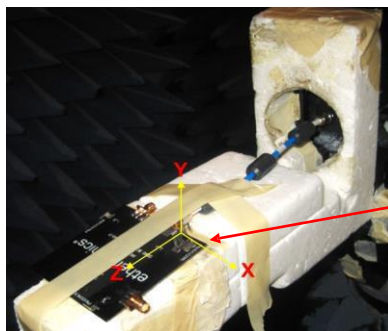
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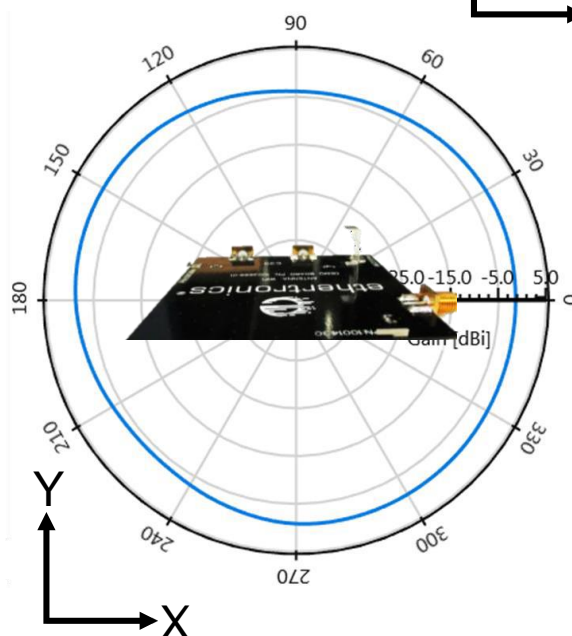
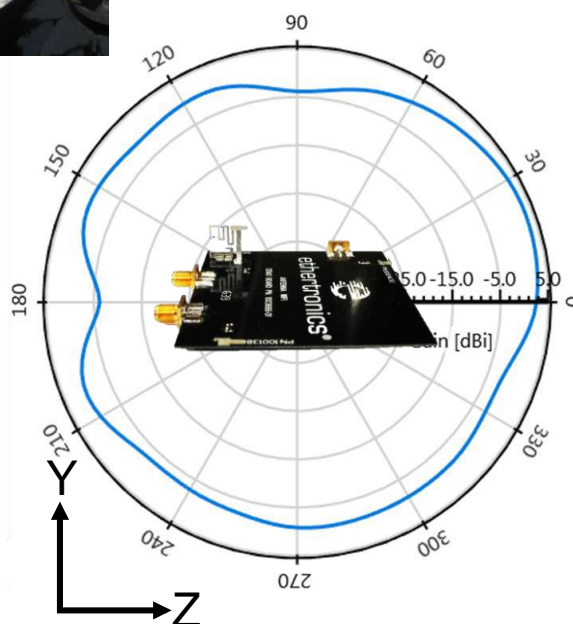
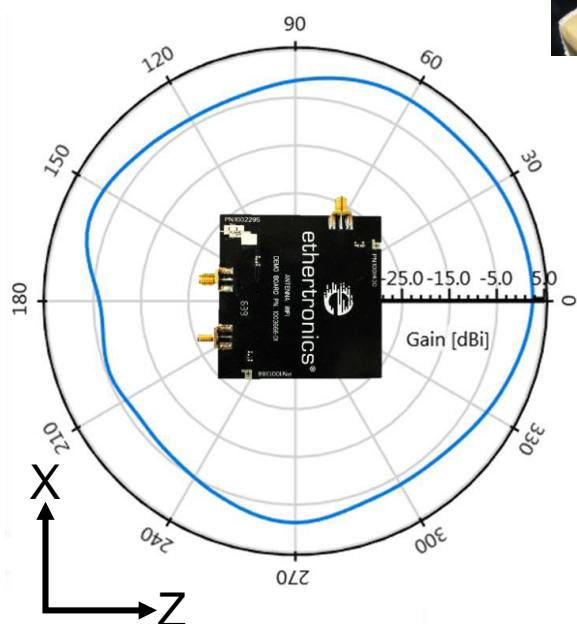
Antenna Radiation Patterns

Typical performance on 75 x 75 mm PCB

Measured at 2450 MHz



1002295

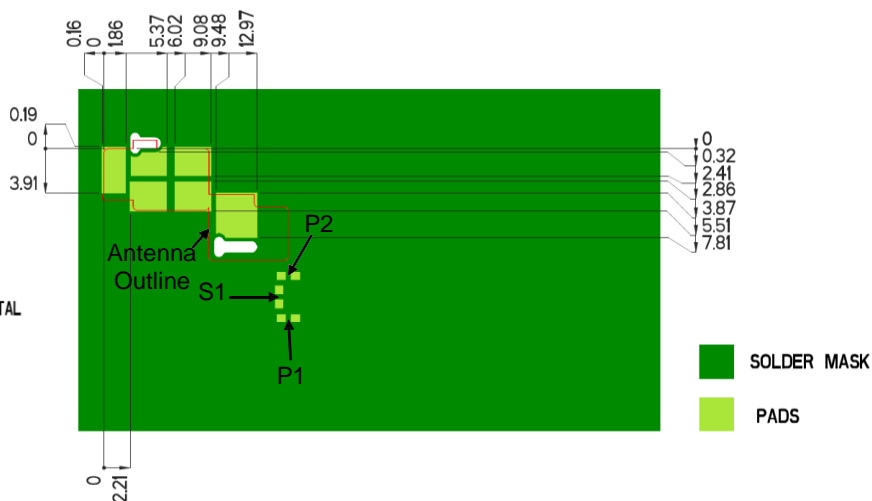
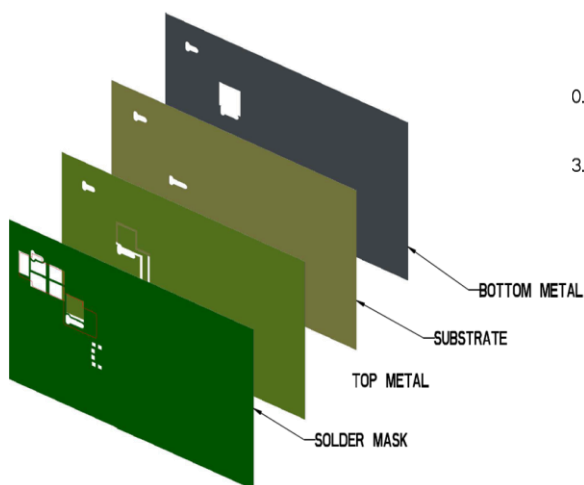


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Antenna Layout

Typical layout dimensions (mm)



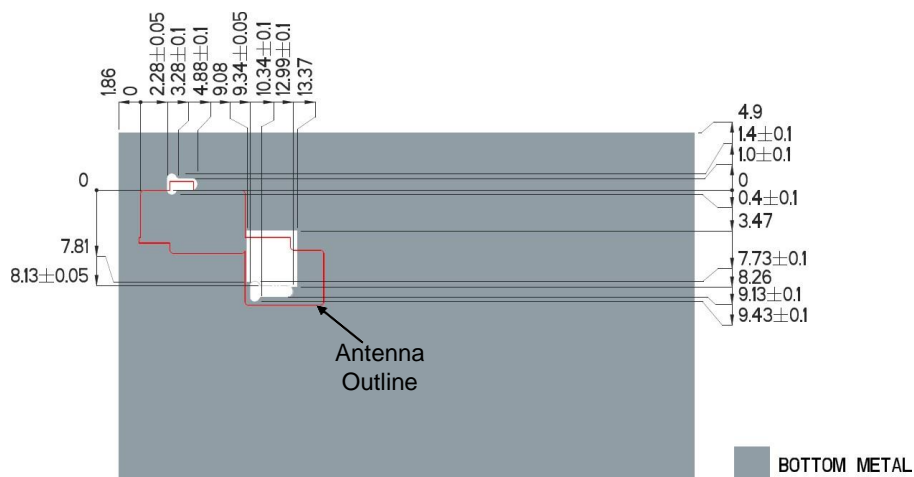
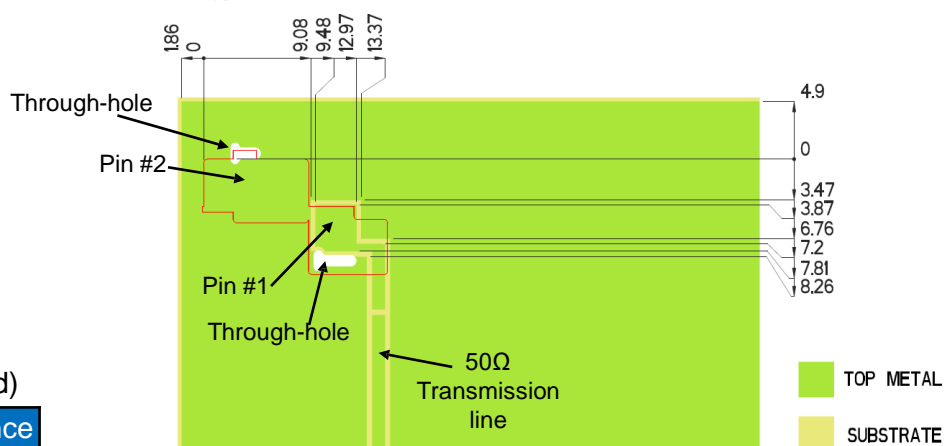
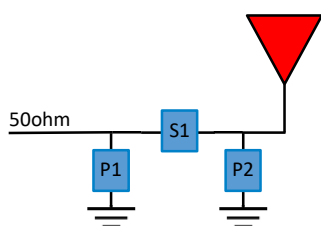
Pin Descriptions

Pin#	Description
1	Feed
2	Ground

Matching Pi Network (Demo Board)

Component	Value	Tolerance
P1	0.5pF	$\pm 0.05\text{pF}$
S1	1nH	$\pm 0.1\text{nH}$
P2	DNI	DNI

*Actual matching values depend on customer design

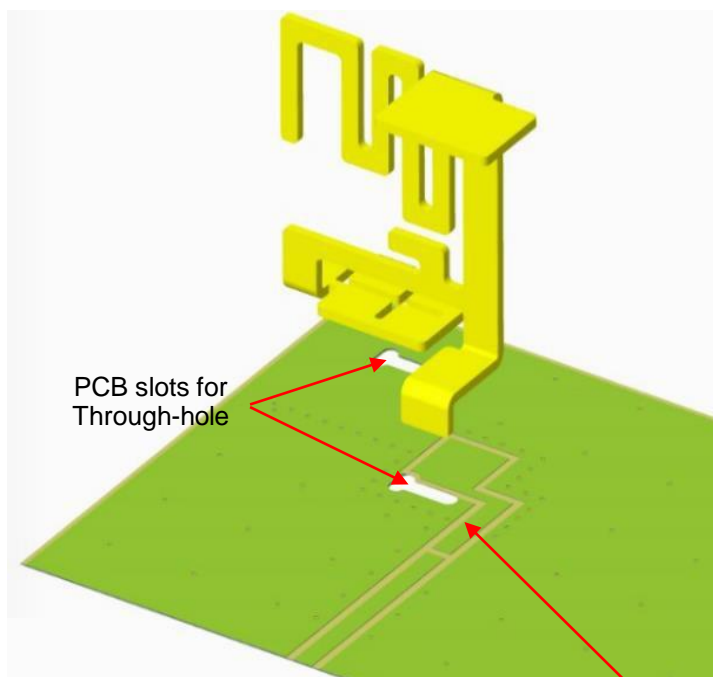


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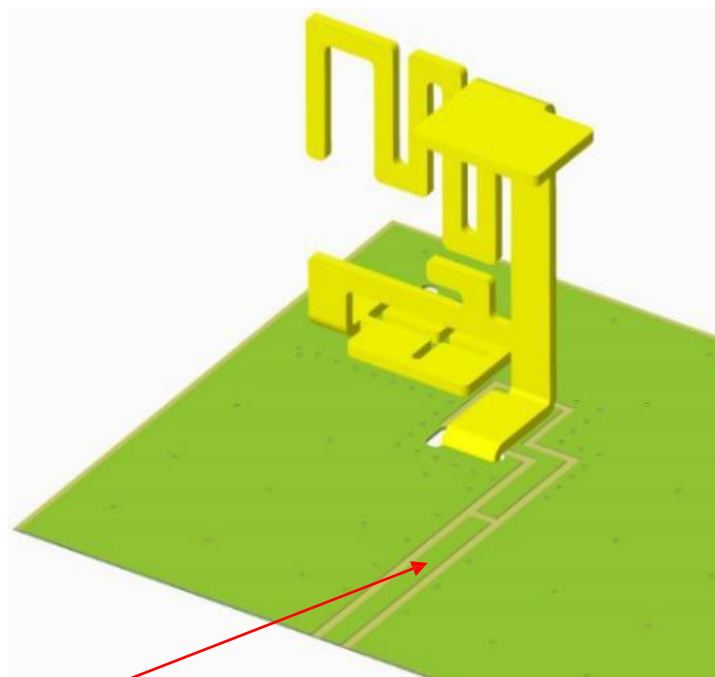
Antenna Layout cont. (SMT Mounting, Through-hole for Stabilization)

Typical layout dimensions (mm)

Exploded View



Assembled View



A 50 ohm transmission line needs to be designed and connected at this location

Bottom View

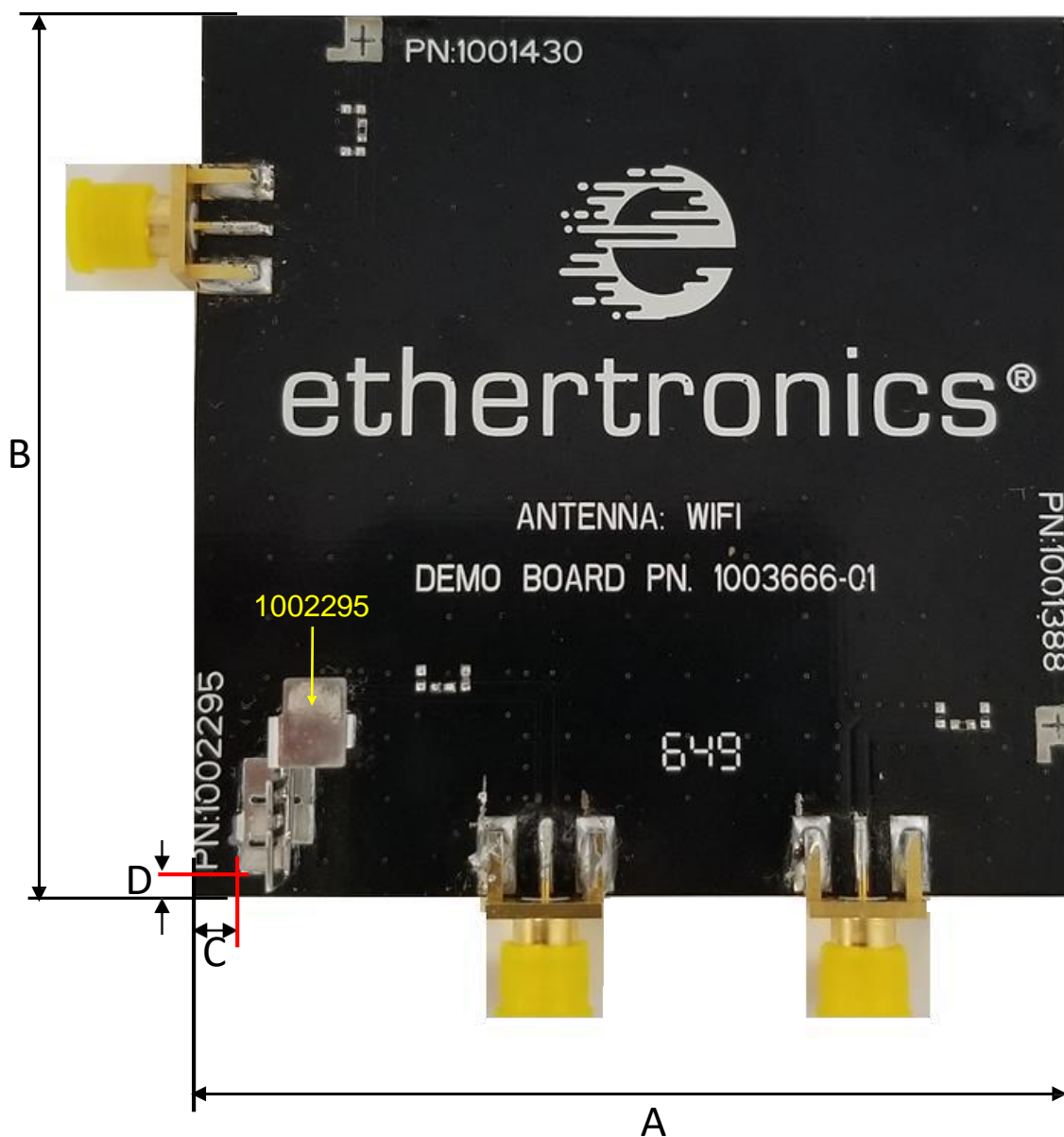


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Antenna Demo Board

Typical layout dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	D (mm)
1000366-01	75.0	75.0	4.9	1.86



2.4 GHz Stamped Metal KYOCERA AVX Embedded Antenna Specifications
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Additional Resources – 1002295

3D FIT File:

https://www.kyocera-avx.com/download/antennas/ME-FIT/1002295_ME_fit.zip

DXF File:

https://www.kyocera-avx.com/download/antennas/3D-DXF/1002295_3D-DXF.zip

Gerber File:

https://www.kyocera-avx.com/download/antennas/GERBER/1002295_GERBERS.zip